

# **REQUEST FOR PROPOSAL**

**Environmental Services Facility, Facilities Management Services**



**Solicitation No: 2024-04-7731 - REBID**

**Proposal Opening Date: December 3, 2024**

**Proposal Opening Time: 2:00 pm**

**City of Baton Rouge/Parish of East Baton Rouge  
Office of the Mayor-President  
Division of Purchasing**

**November, 2024**

**NOTE TO PROPOSERS:**

- 1) Submit the separate set of Proposal Forms with all required information as your Proposal.
- 2) Retain the complete set of Specifications and Contract Documents for your file.

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***ATTACHMENTS***

*Attachment A – Proposal Forms*

*Attachment B – Sample Contract*

*Attachment C - FACILITY WARRANTY INFORMATION*

*Attachment D - FACILITY OPERATIONS AND MAINTENANCE INSTRUCTIONS*

*Attachment E – LANDSCAPE PLAN*

# REQUEST FOR PROPOSAL

## FOR

### ENVIRONMENTAL SERVICES FACILITY, FACILITIES MANAGEMENT SERVICES

#### PART I – ADMINISTRATIVE AND GENERAL INFORMATION

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##### 1.1 Background

The City-Parish Department of Environmental Services (DES) is one of the largest agencies within City-Parish government and is tasked with overseeing the delivery of some of the most critical and visible public services provided to Baton Rouge residents. These services range from garbage and recycling collection to management of stormwater compliance and the East Baton Rouge Parish wastewater system.

DES occupies a 27,000 square foot operations center located at 12422 Florida Blvd., Baton Rouge, Louisiana, 70815. The facility sits on a 5.05-acre site and recently underwent major renovations which were completed in April 2023. DES took occupancy of the building in May 2023.

The building consists of a standing seam metal-roof with gutters, steel framed, metal sided building, which includes meeting, office, and working space over two floors. The north and west perimeters of the property contain grassy areas. The north, east and west area of the building is lightly landscaped. The property is bordered by a public sidewalk on one side.

##### 1.1.1 Purpose

The purpose of this Request for Proposal (RFP) is to obtain competitive proposals as allowed by City-Parish governing statutes, ordinances, resolutions and policies from bona fide, qualified proposers who are interested in providing facilities management services for the DES operations center.

The service provider will be expected to provide a full range of facilities management services, either directly, or through contracting. These services include but are not limited to:

- Cleaning/janitorial services for staff offices, meeting rooms, washrooms, break-rooms, work areas;
- Heating, ventilating and air conditioning (HVAC) maintenance;
- Fire protection system maintenance;
- Plumbing maintenance;

- Elevator maintenance;
- Window Cleaning;
- Landscaping;
- Parking maintenance;
- Appliance maintenance;
- Crane maintenance;
- Roof maintenance;
- Roll up door maintenance; and
- Safety shower/eye wash station maintenance.

### 1.1.2 Goals and Objectives

City-Parish Department of Environmental Services desires to solicit proposals from interested proposers to satisfy a need for comprehensive facility management services at the Environmental Services Facility. DES intends to award one contract as a result of this RFP.

The intent of this RFP is to solicit proposals for comprehensive facility management services ("Services") – custodial and maintenance of buildings and grounds.

### 1.2 Definitions

- A. Shall – The term “shall” denotes mandatory requirements.
- B. Must – The terms “must” denotes mandatory requirements.
- C. May – The term “may” denotes an advisory or permissible action.
- D. Should – The term “should” denote desirable.
- E. Contractor/Vendor – Any person having a contract with a governmental body.
- F. Agency – Any department, commission, council, board, office, bureau, committee, institution, agency, government, corporation, or other establishment of the City-Parish authorized to participate in any contract resulting from this solicitation.
- G. State – The State of Louisiana.
- H. Department – Department for whom the solicitation is issued.
- I. Director – Director of Purchasing
- J. City-Parish – City of Baton Rouge-Parish of East Baton Rouge.

K. Discussions- For the purposes of this RFP presentation, a formal, structured means of conducting written or oral communications/presentations with responsible Proposers who submit proposals in response to this RFP.

**1.3 Schedule of Events**

<i>Item</i>	<i>Anticipated Schedule</i>
<i>1. RFP emailed to prospective proposers</i>	<i>November 1, 2024</i>
<i>2. Mandatory Pre-Proposal Conference</i>	<i>November 18, 2024 @ 10:00 AM CST</i>
<i>3. Deadline to receive written inquiries</i>	<i>November 22, 2024 5:00 PM CST</i>
<i>4. Deadline to answer written inquiries</i>	<i>November 26, 2024 5:00 PM CST</i>
<i>5. Proposal Opening Date (deadline for submitting proposals)</i>	<i>December 3, 2024 at 2:00 PM CST</i>
<i>6. Oral discussions with proposers</i>	<i>To be scheduled if necessary</i>
<i>7. Notice of Intent to Award to be mailed</i>	<i>To be scheduled (approx 2-4 weeks after # 5-6)</i>
<i>8. Contract Initiation</i>	<i>Upon Issuance of #7</i>

**NOTE: The City-Parish reserves the right to deviate from these dates.**

**1.4 Proposal Submittal**

This RFP is available in PDF format or in printed form by submitting a written request to the RFP Contact. (See Section 1.7.2 for this RFP contact)

All proposals **shall** be received by Purchasing **no later than the date and time shown in the Schedule of Events.**

**Important - Clearly mark outside of envelope, box or package with the following information and format:**

X Proposal Name: **ENVIRONMENTAL SERVICES FACILITY,  
FACILITIES MANAGEMENT SERVICES**

X Solicitation No. **2024-04-7731 - REBID**

X Proposal Opening Date & Time : **December 3, 2024 @ 2:00 PM CST**

**Proposers are hereby advised that the U. S. Postal Service does not make deliveries to our physical location.**

Proposals may be delivered by hand or courier service to our physical location at:

City of Baton Rouge/Parish of East Baton Rouge  
Purchasing Division  
222 Saint Louis Street, Room 826  
Baton Rouge, LA 70802

Proposer is solely responsible for ensuring that its courier service provider makes inside deliveries to our physical location. Purchasing is not responsible for any delays caused by the proposer's chosen means of proposal delivery.

Proposer is solely responsible for the timely delivery of its proposal. Failure to meet the proposal opening date and time **shall** result in rejection of the proposal.

**PROPOSALS SHALL BE OPENED PUBLICLY AND ONLY PROPOSERS SUBMITTING PROPOSALS SHALL BE IDENTIFIED ALOUD. PRICES SHALL NOT BE READ.**

### **1.5 Proposal Response Format**

Proposals should be submitted as one cohesive and well-organized document that includes all of the components listed below. It is important that the document is structured in a way that allows for easy navigation and reference to all the required components. Additionally, please keep in mind the maximum page limit of 30 pages for the proposal response.

However, the stated page limit does not apply to resumes or prior experience examples. Responses should effectively demonstrate the Proposer's capability to complete the Scope of Services outlined in a meaningful and innovative manner, while adhering to the required timeline.

#### ***Table of Contents***

- Include a table of contents organized in the order contained herein.
- Ensure that the headings in the proposal align with the requirements listed for ease of review and scoring.

#### ***Cover Letter***

- Submit a cover letter summarizing the Proposer's ability to perform the services described in the RFP.
- Confirm willingness to perform the services and enter into a contract with the City-Parish.
- Certify compliance with the signature authority required in accordance with Louisiana law.
- The letter **must** be signed by a current corporate officer, partnership member or an individual specifically authorized to submit the proposal as reflected in the appropriate records on file with the secretary of state or provide other acceptable documents indicating authority.
- The cover letter should also include:
  - Identification of the submitting Proposer.
  - Name, title, address, telephone number and email address of each person authorized to contractually obligate the Proposer.
  - Name, address, telephone number and email address of the contact person for technical and contractual clarifications throughout the evaluation period, if different from the above.



### ***Technical Proposal***

**Organizational Capacity and Track Record:** Provide information about the vendor's organizational capacity and successful track record in facility management. Provide the vendor's ability to complete the Scope of Services

**Prior Experience:** Present specific examples of prior engagements where the vendor provided facility management. Highlight how these examples align with the City-Parish's goals and objectives.

**Approach and Methodology:** Describe the vendor's proposed approach and methodology for facility management, tailored to meet the unique needs of the City-Parish.

**Expertise and Qualifications:** Provide resumes summarizing the qualifications and experience of the members of the project team who will be conducting the study and the roles they will serve on the project. Explicitly demonstrate the vendor's expertise, years of experience and qualifications of the proposed personnel, focusing on credentials, experiences, and abilities related to compensation studies and/or job specification and classification analyses.

**Work Designation between Contractors and Subcontractors:** Indicate the anticipated percentage of work to be performed directly by the prime Contractor and to be subcontracted for the following categories: structural, plumbing, HVAC, low-voltage electrical, high-voltage electrical, maintenance engineer, planning and scheduling (includes work reception), grounds. Demonstrate through the use of an organizational chart.

**Small Entrepreneurships (MBE/SBE/WBE) Initiative:** Address how the vendor intends to utilize small entrepreneurships in conducting the study, including any qualifications or certifications related to minority-owned, women-owned, or small business enterprises participating in the proposal as part of the project team. Include the expected portion of the scope of work and budget the small entrepreneurship(s) will perform.

### ***Financial Proposal***

\*This form should be sealed in a separate envelope marked “**Proposed Costs & Fees**” \*

The financial proposal **shall** include any and all costs the Vendor wishes to have considered in the contractual arrangement with the City-Parish.

If quoted as a lump sum, individual rates and itemized costs included in lump sum are to be detailed with proposal submitted. List all pricing details here or in a format similar in nature to this schedule. Include all possible elements of cost, including, but not limited to, Labor & Staffing; Services, Procedures, & Products; and All Other Elements of Cost.

### 1.5.1 Number of Response Copies

Each Proposer shall submit one (1) signed original response marked ORIGINAL, one (1) redacted copy, marked REDACTED if applicable (See Section 1.6), and one electronic copy USB flashdrive in PDF format.

### 1.5.2 Legibility/Clarity

Responses to the requirements of this RFP in the formats requested is desirable with all questions answered in as much detail as practicable. The Proposer's response is to demonstrate an understanding of the requirements. Proposals prepared simply and economically, providing a straightforward, concise description of the Proposer's ability to meet the requirements of the RFP are also desired. Each Proposer is solely responsible for the accuracy and completeness of its proposal.

### 1.6 Confidential Information, Trade Secrets, and Proprietary Information

The designation of certain information as trade secrets and/or privileged or confidential proprietary information shall only apply to the technical portion of your proposal. Your cost proposal will not be considered confidential under any circumstance. Any proposal copyrighted or marked as confidential or proprietary in its entirety may be rejected without further consideration or recourse.

For the purposes of this procurement, the provisions of the Louisiana Public Records Act (La. R.S. 44.1 et. seq.) will be in effect. Pursuant to this Act, all proceedings, records, contracts, and other public documents relating to this procurement shall be open to public inspection. Proposers are reminded that while trade secrets and other proprietary information they submit in conjunction with this procurement may not be subject to public disclosure, protections must be claimed by the proposer at the time of submission of its Technical Proposal. Proposers should refer to the Louisiana Public Records Act for further clarification.

The Proposer must clearly designate the part of the proposal that contains a trade secret and/or privileged or confidential proprietary information as "confidential" in order to claim protection, if any, from disclosure. The Proposer shall mark the cover sheet of the proposal with the following legend, specifying the specific section(s) of his proposal sought to be restricted in accordance with the conditions of the legend:

*"The data contained in pages \_\_\_\_\_ of the proposal have been submitted in confidence and contain trade secrets and/or privileged or confidential information and such data shall only be disclosed for evaluation purposes, provided that if a contract is awarded to this Proposer as a result of or in connection with the submission of this proposal, the City-Parish shall have the right to use or disclose the data therein to the extent provided in the contract. This restriction does not limit the City-Parish's right to use or disclose data obtained from any source, including the proposer, without restrictions."*

Further, to protect such data, each page containing such data shall be specifically identified and marked "CONFIDENTIAL".

Proposers **must** be prepared to defend the reasons why the material should be held confidential. If a competing proposer or other person seeks review or copies of another proposer's confidential data, the state will notify the owner of the asserted data of the request. If the owner of the asserted data does not want the information disclosed, it **must** agree to indemnify the City-Parish and hold the City-Parish harmless against all actions or court proceedings that may ensue (including attorney's fees), which seek to order the City-Parish to disclose the information. If the owner of the asserted data refuses to indemnify and hold the City-Parish harmless, the City-Parish may disclose the information.

The City-Parish reserves the right to make any proposal, including proprietary information contained therein, available to the Purchasing Division personnel, the Office of the Mayor-President, or other City-Parish agencies or organizations for the sole purpose of assisting the City-Parish in its evaluation of the proposal. The City-Parish **shall** require said individuals to protect the confidentiality of any specifically identified proprietary information or privileged business information obtained as a result of their participation in these evaluations.

If your proposal contains confidential information, you should also submit a redacted copy along with your proposal. If you do not submit the redacted copy, you will be required to submit this copy within 48 hours of notification from Purchasing. When submitting your redacted copy, you should clearly mark the cover as such - "REDACTED COPY" - to avoid having this copy reviewed by an evaluation committee member. The redacted copy should also state which sections or information has been removed."

## **1.7 Proposal Clarifications Prior to Submittal**

### **1.7.1 Mandatory Pre-proposal Conference**

A mandatory pre-proposal conference will be held on November 18, 2024, at 10:00 AM. The mandatory pre-proposal conference will be held at the Environmental Services Facility, located at 12422 Florida Blvd, Baton Rouge, LA 70815. The mandatory pre-proposal conference will provide Proposers with the opportunity to submit questions and obtain official responses from the City-Parish concerning this Request for Proposal. In addition, the mandatory pre-proposal conference will allow DES to provide an overview of the facility and grounds that may be informative to the RFP response. (See 1.3 – Schedule of Events). All prospective proposers **must** ensure a representative be in attendance in order to receive an award under this Request for Proposal.

### **1.7.2 Proposer Inquiry Periods**

An initial inquiry period is hereby firmly set for all interested proposers to perform a detailed review of the documents included in this Request for Proposals and to submit any written questions relative thereto. *Without exception*, all questions **MUST** be in writing and received by the close of business on the Inquiry Deadline date set forth in the Calendar of Events (See Section 1.3). Initial inquiries **shall** not be entertained thereafter.

The City-Parish **shall** not and cannot permit an open-ended inquiry period, as this creates an unwarranted delay in the procurement cycle and operations of our departments. The City-Parish

reasonably expects and requires *responsible and interested* proposers to conduct their in-depth proposal review and submit inquiries in a timely manner.

Further, we realize that additional questions or requests for clarification may generate from City-Parish's addendum responses to the inquiries received during the initial inquiry period. Therefore, a final 3-day inquiry period **shall** be granted. Questions relative to the addendum **shall** be submitted by the close of business three working days from the date the addendum is issued (or, posted to the LaPAC website at <https://wwwcfprd.doa.louisiana.gov/osp/lapac/deptbids.cfm>). If necessary, another addendum will be issued to address the final questions received. Thereafter, all proposal documents, including but not limited to the specifications, terms, conditions, plans, etc., will stand as written and/or amended by any addendum issued as a result of the final inquiry period.

Any person aggrieved in connection with the specifications contained therein **shall** submit questions or concerns in writing to Director of Purchasing (see Sect. 1.44) during the bid period. Otherwise, this will be construed as acceptance by the bidders that the intent of the specifications is clear and that competitive proposals may be submitted as specified herein. Protests with regard to the specification documents will not be considered after proposals are opened.

\*Note: The City-Parish has elected to use LaPAC, the state's online electronic bid posting and notification system that is resident on State Purchasing's website <https://wwwcfprd.doa.louisiana.gov/osp/lapac/deptbids.cfm> and is available for vendor self-enrollment. In that LaPAC provides an immediate e-mail notification to subscribing bidders that a solicitation and any subsequent addenda have been let and posted, notice and receipt thereof is considered formally given as of their respective dates of posting dates.

No negotiations, decisions, or actions **shall** be executed by any bidder as a result of any oral discussions with any City-Parish employee or City-Parish consultant. The City-Parish **shall** only consider written and timely communications from proposers.

Inquiries **shall** be submitted in writing by an authorized representative of the proposer, clearly cross-referenced to the relevant solicitation section. Only those inquiries received by the established deadline **shall** be considered by the City-Parish. Answers to questions that change or substantially clarify the solicitations **shall** be issued by addendum and provided to all perspective proposers.

Inquiries concerning this solicitation may be delivered by mail, express courier, e-mail, hand, or to:

Inquiries concerning this solicitation may be delivered by mail, express courier, e-mail, hand, or to:

City of Baton Rouge/Parish of East Baton Rouge  
Attention: Lori Foreman  
Purchasing Division  
222 Saint Louis Street, Room 826  
Baton Rouge, LA 70802  
E-Mail: [Facmgmt2024-04-7731REBID@brla.gov](mailto:Facmgmt2024-04-7731REBID@brla.gov)

Ph: (225) 389-3259

### **1.8 Errors and Omissions in Proposal**

The City-Parish will not be liable for any error in the proposal. Proposer will not be allowed to alter proposal documents after the deadline for proposal submission, except under the following condition: The City-Parish reserves the right to make corrections or clarifications due to patent errors identified in proposals by the City-Parish or the Proposer. The City-Parish, at its option, has the right to require clarification or additional information from the Proposer.

### **1.9 Changes, Addenda, Withdrawals**

The City-Parish reserves the right to change the calendar of events or issue Addenda to the RFP at any time. The City-Parish also reserves the right to cancel or reissue the RFP.

If the proposer needs to submit changes or addenda, such **shall** be submitted in writing prior to the proposal opening, signed by an authorized representative of the proposer, cross-referenced clearly to the relevant proposal section, and submitted in a sealed envelope marked as stated in Section 1.4. Such **shall** meet all requirements for the proposal.

### **1.10 Withdrawal of Proposal**

A proposer may withdraw a proposal that has been submitted at any time up to the proposal closing date and time. To accomplish this, a written request signed by the authorized representative of the proposer **must** be submitted to Purchasing.

### **1.11 Material in the RFP**

Proposals **shall** be based only on the material contained in this RFP. The RFP includes official responses to questions, addenda, and other material, which may be provided by the City-Parish pursuant to the RFP.

### **1.12 Waiver of Administrative Informalities**

The City-Parish reserves the right, at its sole discretion, to waive administrative informalities contained in any proposal.

### **1.13 Proposal Rejection**

Issuance of this RFP in no way constitutes a commitment by the City-Parish to award a contract. The City-Parish reserves the right to accept or reject any or all proposals submitted or to cancel this RFP if it is in the best interest of the City-Parish to do so.

Failure to submit all non-mandatory information requested may result in the City-Parish requiring prompt submission of missing information and/or giving a lower score in the evaluation of the proposal.

#### **1.14 Ownership of Proposal**

All materials (paper content only) submitted timely in response to this request become the property of the City-Parish. Selection or rejection of a response does not affect this right. All proposals submitted timely will be retained by the City-Parish and not returned to proposers. Any copyrighted materials in the response are not transferred to the City-Parish.

#### **1.15 Cost of Offer Preparation**

The City-Parish is not liable for any costs incurred by prospective proposers or consultants prior to issuance of or entering into a Contract. Costs associated with developing the proposal, preparing for oral presentations, and any other expenses incurred by the Proposer in responding to the RFP are entirely the responsibility of the Proposer, and **shall** not be reimbursed in any manner by the City-Parish.

#### **1.16 Non-negotiable Contract Terms**

Non-negotiable contract terms include but are not limited to taxes, assignment of contract, audit of records, EEOC and ADA compliance, record retention, content of contract/order of precedence, contract changes, governing law, claims or controversies, and termination based on contingency of appropriation of funds (if applicable).

#### **1.17 Taxes**

Any taxes, other than state and local sales and use taxes, from which the City-Parish is exempt, **shall** be assumed to be included within the Proposer's cost.

#### **1.18 Proposal Validity**

All proposals **shall** be considered valid for acceptance until such time an award is made, unless the Proposer provides for a different time period within its proposal response. However, the City-Parish reserves the right to reject a proposal if the Proposer's response is unacceptable and the Proposer is unwilling to extend the validity of its proposal.

#### **1.19 Prime Consultant Responsibilities**

The selected Proposer **shall** be required to assume responsibility for all items and services offered in his proposal whether or not he produces or provides them. The City-Parish **shall** consider the selected Proposer to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

### **1.19.1 Corporation Requirements**

Upon the award of the contract, if the consultant is a corporation and not incorporated under the laws of the State of Louisiana, the consultant **shall** have obtained a certificate of authority pursuant to R.S. 12:301-302 from the Secretary of State of Louisiana prior to the execution of the contract.

Upon the award of the contract, if the consultant is a for-profit corporation whose stock is not publicly traded, the consultant **shall** ensure that a disclosure of ownership form has been properly filed with the Secretary of State of Louisiana.

If services are to be performed in East Baton Rouge City-Parish, evidence of a current occupational license and/or permit issued by the City-Parish **shall** be supplied by the successful vendor, if applicable.

### **1.20 Use of Subcontractors**

Each consultant **shall** serve as the single prime consultant for all work performed pursuant to its contract. That prime consultant **shall** be responsible for all deliverables referenced in this RFP. This general requirement notwithstanding, Proposers may enter into subcontractor arrangements. Proposers may submit a proposal in response to this RFP, which identifies subcontract(s) with others, provided that the prime consultant acknowledges total responsibility for the entire contract.

The City of Baton Rouge and Parish of East Baton Rouge has established a Socially and Economically Disadvantaged Business Enterprise (SEDBE) program in accordance with Revised Statute RS 33:2233.4. It is the policy of the Parish to ensure that Eligible Business Enterprises EBE's, certified in accordance with the Parish program, have an equal opportunity to receive and participate in parish contracts.

**For this project the EBR Parish Purchasing office has directed a review of the scope of work and has established a minimum EBE goal of 25% of the contract amount.** All Bidders **shall** achieve this goal or demonstrate good faith efforts to achieve the goal. Good faith efforts include meeting this EBE goal or providing documentation demonstrating that the Bidder made sufficient good faith efforts in attempting to meet this goal. Only EBE firms certified under the Parish SEDBE Certification Program at the time of submittal of the bid will count toward this EBE goal. To be considered responsive, the proposer **must** submit EBE Forms 1, 1A, and 2, and Letters of EBE Certification, with their proposal.

Bidders **must** comply with the SEDBE Program. Copies of SEDBE Program documents are available upon request from City of Baton Rouge and Parish of East Baton Rouge ("City-Parish") Purchasing Division, 222 St. Louis Street, 8th Floor, Room 826, Baton Rouge, LA 70802. For questions or clarification about the Program, please contact the SEDBE Liaison Officer at the Purchasing Division, at (225) 389-3259.

Information required of the prime consultant under the terms of the RFP, is also required for each subcontractor and the subcontractors **must** agree to be bound by the terms of the contract. The prime consultant **shall** assume total responsibility for compliance.

Additional requirements and required forms can be found in Section 3.2.1.

### **1.21 Written or Oral Discussions/Presentations**

Written or oral discussions may be conducted with Proposers who submit proposals determined to be reasonably susceptible of being selected for award. The City-Parish reserves the right to enter into an Agreement without further discussion of the proposal submitted based on the initial offers received.

Any commitments or representations made during these discussions, if conducted, may become formally recorded in the final contract.

Written or oral discussions/presentations for clarification may be conducted to enhance the City-Parish understanding of any or all of the proposals submitted. Neither negotiations nor changes to vendor proposals will be allowed during these discussions. Proposals may be accepted without such discussions.

### **1.22 Acceptance of Proposal Content**

The mandatory RFP requirements **shall** become contractual obligations if a contract ensues. Failure of the successful Proposers to accept these obligations **shall** result in the rejection of the proposal.

### **1.23 Evaluation and Selection (see Part III Evaluation)**

### **1.24 Contract Negotiations**

If for any reason the Proposer whose proposal is most responsive to the City-Parish's needs, price and other evaluation factors set forth in the RFP considered, does not agree to a contract, that proposal **shall** be rejected and the City-Parish may negotiate with the next most responsive Proposer. Negotiation may include revision of non-mandatory terms, conditions, and requirements. Negotiation **shall** also allow price reductions. The final contract form **shall** be reviewed by the Purchasing Division and approved by the Parish Attorney prior to issuance of a purchase order, if applicable to complete the process.

### **1.25 Contract Award and Execution**

The City-Parish reserves the right to enter into an Agreement without further discussion of the proposal submitted based on the initial offers received.

The RFP, any addendums, and the proposal of the selected consultant will become part of any contract initiated by the City-Parish.

In no event is a proposer to submit its own standard contract terms and conditions as a response to this RFP. The proposer needs to address the specific language in the sample contract (Attachment B) and submit with their proposal any exceptions or exact contract deviations that their firm wishes to



negotiate. The terms for both of these documents may be negotiated as part of the negotiation process with the exception of contract provisions that are non-negotiable.

If the contract negotiation period exceeds 30 days or if the selected Proposer fails to sign the contract within **seven (7) calendar** days of delivery of it, the City-Parish may elect to cancel the award and award the contract to the next-highest-ranked Proposer.

Award **shall** be made to the Proposer or Proposers whose proposal, conforming to the RFP, will be the most advantageous to the City-Parish, price and other factors considered.

The City-Parish intends to award to a single Proposer.

### **1.26 Notice of Intent to Award**

Upon review and approval of the evaluation committee's recommendation for award by Purchasing and Metro Council, a Notice of Intent to Award letter to the apparent successful Proposer will be issued. A contract **shall** be completed and signed by all parties concerned on or before the date indicated in the Schedule of Events. If this date is not met, through no fault of the City-Parish, the City-Parish may elect to cancel the Notice of Intent to Award letter and make the award to the next most advantageous Proposer.

Purchasing **shall** notify all unsuccessful Proposers as to the outcome of the evaluation process. The evaluation factors, points, evaluation committee member names, and the completed evaluation summary and recommendation report **shall** be made available to all interested parties after the Intent to Award letter has been issued.

### **1.27 Debriefings**

Debriefings may be scheduled by the participating Proposers after the Intent to Award letter has been issued by contacting Purchasing 72 hours in advance. Contact may be made by phone at (225) 389-3259 or E-mail to [purchasinginfo@brla.gov](mailto:purchasinginfo@brla.gov) to schedule the debriefing. Debriefings will be for the sole purpose of reviewing with the requesting vendor their own proposal scoring results.

If the requesting vendor wishes to view other file documents, a Public Records request in accordance with R.S 44.1 et. seq. **must** be submitted.

### **1.28 Insurance Requirements**

Consultant **shall** furnish the City-Parish with certificates of insurance affecting coverage(s) required by the RFP (see Attachment B). The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received and approved by the City-Parish before work commences. The City-Parish reserves the right to require complete certified copies of all required policies, at any time.

### **1.29 Subcontractor Insurance**

The consultant shall include all subcontractors as insureds under its policies or shall ensure that all subcontractors satisfy the same insurance requirements stated herein for the consultant.

### **1.30 Indemnification**

Service Provider agrees to indemnify, defend, and hold harmless the City-Parish from any and all losses, damages, expenses or other liabilities, including but not limited to connected with any claim for personal injury, death, property damage or other liability that may be asserted against the City-Parish by any party which arises or allegedly agents in performing its obligations under this Agreement.

Service Provider, its agents, employees and insurer (s) hereby release the City-Parish its agents and assigns from any and all liability or responsibility including anyone claiming through or under them by way or subrogation or otherwise for any loss or damage which Service Provider, its agents or insurers may sustain incidental to or in any way related to Service Provider's operations under this Agreement.

### **1.31 Fidelity Bond Requirements (Not Required for this RFP)**

### **1.32 Payment for Services**

Each individual department shall pay consultant in accordance with the Time and Materials set forth. The consultant may invoice the department monthly at the billing address designated by the department. Payments will be made by the City-Parish within approximately thirty (30) days after receipt of a properly executed invoice, and approval by the department. Invoices shall include the contract or purchase order number, using department and product/service provided. Invoices submitted without the referenced documentation will not be approved for payment until the required information is provided.

### **1.33 Termination**

**1.33.1 Termination of this Agreement for Cause** – The City-Parish may terminate this contract for cause based upon the failure of the consultant to comply with the terms and/or conditions of the Agreement, or failure to fulfill its performance obligations pursuant to this Agreement, provided that the City-Parish shall give the consultant written notice specifying the consultant's failure. If within thirty (30) days after receipt of such notice, the consultant shall not have either corrected such failure or, in the case of failure which cannot be corrected in thirty (30) days, begun in good faith to correct such failure and thereafter proceeded diligently to complete such correction, then the City-Parish may, at its option, place the consultant in default and the Agreement shall terminate on the date specified in such notice.

The consultant may exercise any rights available to it under Louisiana Law to terminate for cause upon the failure of the City-Parish to comply with the terms and conditions of this contract; provided that

the consultant **shall** give the City-Parish written notice specifying the City-Parish failure and a reasonable opportunity for the City-Parish to cure the defect.

**1.33.2 Termination of this Agreement for Convenience** – The City-Parish may terminate this Agreement at any time by giving thirty (30) days written notice to the consultant of such termination or negotiating with the consultant an effective date.

The consultant **shall** be entitled to payment for deliverables in progress, to the extent work has been performed satisfactorily.

**1.33.3 Termination for Lack of Appropriated Funds** – Should the RFP result in a multi-year contract, a non-appropriation clause **shall** be made a part of the contract terms as required by state statutes, allowing the City-Parish to terminate the contract for lack of appropriated funds on the date of the beginning of the first fiscal year for which funds are not appropriated.

If the RFP contract services are funded by grant funds, the City-Parish **shall** have the right to terminate the contract or any issued Task Order for which funding is terminated.

#### **1.34 Assignment**

Assignment of contract, or any payment under the contract, requires the advanced written approval of the City-Parish.

#### **1.35 No Guarantee of Quantities**

The quantities referenced in the RFP are used to evaluate the financial proposal. The right is reserved by the City-Parish to increase or decrease the amount, at the Time and Materials value stated in the proposal.

Neither the City-Parish nor Department obligates itself to contract for or accept more than their actual requirements during the period of this agreement, as determined by actual needs and availability of appropriated funds.

#### **1.36 Audit of Records**

The City-Parish or others so designated by the City-Parish, or other lawful entity **shall** have the option to audit all accounts directly pertaining to the resulting contract for a period of five (5) years after project acceptance or as required by applicable Local, State and Federal law. Records **shall** be made available during normal working hours for this purpose.

#### **1.37 Civil Rights Compliance**

The consultant agrees to abide by the requirements of the following as applicable: Title VI and Title VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act

of 1975, the consultant agrees to abide by the requirements of the Americans with Disabilities Act of 1990. Consultant agrees not to discriminate in its employment practices, and will render services under this Agreement and any contract entered into as a result of this Agreement, without regard to race, color, religion, sex, sexual orientation, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by consultant, or failure to comply with these statutory obligations when applicable **shall** be grounds for termination of this Agreement and any contract entered into as a result of this agreement.

### **1.38 Record Retention**

The Vendor **shall** maintain all records in relation to this contract for a period of at least five (5) years.

### **1.39 Record Ownership**

All records, reports, documents, or other material related to any contract resulting from this RFP and/or obtained or prepared by consultant in connection with the performance of the services contracted for herein **shall** become the property of the City-Parish, and **shall**, upon request, be returned by consultant to City-Parish, at consultant's expense, at termination or expiration of this contract.

### **1.40 Content of Contract/Order of Precedence**

In the event of an inconsistency between the contract, the RFP and/or the consultant's proposal, the inconsistency **shall** be resolved by giving precedence first to the final contract, then to the RFP and subsequent addenda (if any) and finally, the consultant's proposal.

### **1.41 Contract Changes**

No additional changes, enhancements, or modifications to any contract resulting from this RFP **shall** be made without the prior approval of Purchasing, Parish Attorney and Metro Council, where applicable.

Changes to the contract include any change in: compensation; beginning/ending date of the contract; scope of work; and/or consultant change through the Assignment of Contract process. Any such changes, once approved, will result in the issuance of an amendment to the contract.

### **1.42 Substitution of Personnel**

The City-Parish intends to include in any contract resulting from this RFP the following condition:

Substitution of Personnel: If, during the term of the contract, the consultant or subcontractor cannot provide the personnel as proposed and requests a substitution, that substitution **shall** meet or exceed the requirements stated herein. A detailed resume of qualifications and justification is to be submitted to the City-Parish for approval prior to any personnel substitution. It **shall** be acknowledged by the consultant that every reasonable attempt **shall** be made to assign the personnel listed in the consultant's proposal.

### **1.43 Governing Law**

All activities associated with this RFP process **shall** be interpreted under applicable Louisiana Law. All proposals and contracts submitted are subject to provisions of the laws of the State of Louisiana including but not limited to L.R.S.38-2211-2296; section 1:701-710 of the City-Parish Code of Ordinances, purchasing regulations; standard terms and conditions; special terms and conditions; and specifications listed in this RFP.

In accordance with the provisions of Louisiana R.S. 38:2212.9 in awarding contracts after August 15, 2010, any public entity is authorized to reject the lowest bid from, or not award the contract to, a business in which any individual with an ownership interest of five percent or more has been convicted of, or has entered a plea of guilty or nolo contendere to any state felony crime or equivalent federal felony crime committed in the solicitation or execution of a contract or bid awarded under the laws governing public contracts under the provisions of Chapter 10 of this Title, professional, personal, consulting, and social services procurement under the provisions of Chapter 16 of Title 39 of the Louisiana Revised Statutes of 1950, or the Louisiana Procurement Code under the provisions of Chapter 17 of Title 39 of the Louisiana Revised Statutes of 1950.

### **1.44 Claims or Controversies**

Any proposer who believes they were adversely affected by the City-Parish's procurement process or award, may file a protest. It **must** be submitted in writing to the Director of Purchasing and specifically state the particular facts which form the basis of the protest and the relief requested. The written protest **must** be received within seven (7) days from the date the basis of the protest was, or should have been known.

The City-Parish will take action on protests within fifteen (15) days of the receipt thereof. The City-Parish may suspend, postpone or defer the proposal process and/or award in whole or in part upon receipt of a protest.

A protest **shall** be limited to issues arising from the procurement provisions of the contact and state or local law. Protests with regard to basic project design will not be considered.

Protests will be reviewed by a committee appointed by the Parish Attorney. The decision of the committee regarding the protest will be given to the proposer in writing within ten (10) days after all pertinent information has been considered. The decision of the Review Committee **shall** be a condition precedent to any other proceedings in connection with a protest and **shall** be considered the administrative remedy available to the protesting bidder.

### **1.45 Proposer's Certification of OMB A-133 Compliance**

Certification of no suspension or debarment. By signing and submitting any proposal for \$100,000 or more, the proposer certifies that their company, any subcontractors, or principals are not suspended or debarred by the General Services Administration (GSA) in accordance with the requirements in OMB Circular A-133.

A list of parties who have been suspended or debarred can be viewed via the internet at <http://www.sam.gov>

## **PART II – SCOPE OF WORK/SERVICES**

### **2.1 Scope of Work/Services**

#### **General Requirements**

The vendor **shall** maintain a local (within 25 miles of 12422 Florida Blvd., Baton Rouge, LA 70815) office, staffed and equipped, so that communications, correspondence, dispatching of employees, handling complaints, and other problems normally related to the Services can be efficiently and effectively provided.

It **shall** be the vendor's sole duty and responsibility to maintain and administer all phases of the Services under the terms of an awarded Contract.

The vendor **shall** employ an individual, in a supervisory capacity, whose primary function will be the supervision of the vendor's employees or anyone directly or indirectly employed by vendor, including subcontractors, or anyone for whose acts vendor may be liable performing services for the facility. This individual will be the primary point of contact with the Department.

The vendor **shall** follow all code regulations; safety regulation recommendations **shall** be followed within relation to any and all work accomplished under this contract.

The vendor **shall** provide management services for all issues related to equipment and associated components of equipment included within the scope of the RFP and monitor any sub-contractor/third party Vendor performance.

The vendor **shall** make every effort to include at least one (1) female custodian on its staff to ensure proper coverage for the female rest rooms and/or locker facilities.

The warranty period for the facility began on May 5, 2023. The vendor is responsible for coordinating with the appropriate vendor/Vendor all replacements/repairs required under the warranty period. A list of the specific warranties is provided as Attachment C. Additionally, the vendor/Vendor contact and product brochures and warranty statements is provided in the OPERATION & MAINTENANCE INSTRUCTIONS.

The OPERATION & MAINTENANCE INSTRUCTIONS is provided as part of this RFP as Attachment D. Any language relative to maintenance in the instructions that conflicts with the RFP **shall** supersede the RFP. As part of the contract, the Vendor **shall** complete all maintenance items required in the instructions, even if they are not wholly stated in the RFP.

## Facility Maintenance Requirements

Vendor **must** supply all tools and equipment for building and operations maintenance, and landscaping maintenance that may be necessary to complete contracted services. Vendor will replace or repair equipment as necessary.

Vendor **must** supply all cleaning supplies and equipment. Vendor **must** supply all custodial equipment to include but not limited to vacuums, floor machines, mops, buckets, ringer, etc. Vendor will replace or repair equipment as necessary.

The vendor **shall** employ staff sufficient in number to ensure the regular and uninterrupted operation of the building for a twelve (12) month work year as required by the following:

### Cleaning/Janitorial:

Includes routine cleaning of the ESF and Offices:

Daily (staffed 7:30 am to 3:30 pm M-F; night and weekend call-outs will be billed under the Emergency Call-out Rate)

- Floors and Door Mat maintenance
- Remove garbage/recyclables. All garbage/recyclables containers **shall** be emptied, new liners **shall** be provided, and the outside of these containers **shall** be cleaned. The inside and outside of these containers **shall** be cleaned as needed so that dirt, stains, and streaks are removed and if odors are apparent.
- All garbage/recyclables **shall** be placed in bags and placed in dumpsters.
- Wash and sanitize the kitchen/break room floor areas with a germicidal disinfectant
- All tabletops and chairs in eating areas **shall** be washed, disinfected and spot cleaned. This task includes spot washing table pedestals and legs and chair legs to remove dirt, dust, scuff marks, spots, and spills.
- Spot cleaning remove spills, hand prints, footprints, smudges, and graffiti
- Cleaning both sides of glass in entrance areas
- Spot clean glass in interior partitions, and vision panels in doors and display case
- Cleaning of rest rooms, locker rooms and showers
  - All toilets, toilet seats, urinals, urinal screens and lavatories **shall** be cleaned using a germicidal cleaner.
  - Rest room walls, shower stalls, and toilet stalls **shall** be spot cleaned with a germicidal cleaner.
  - Towel dispensers, toilet paper, toilet seat covers, and soap dispensers **shall** be restocked
  - Plumbing **shall** be checked for stoppages or leaks. Operational problems **must** be reported immediately.
- Drinking fountains **shall** be cleaned with a disinfectant solution and then polished.
- Window treatments (shades, blinds, etc.) **shall** be adjusted so that all are evenly opened and extended.
- Conference tables in all areas of the facility **shall** be spot cleaned
- Inspect the vestibules, the lobby exterior, and the outside grounds and pick up and dispose of any debris.

Includes periodic cleaning of the ESF and Offices:

#### Weekly

- Dusting horizontal surfaces
- Water plants
- Floor maintenance
- Remove dust and cobwebs from ceilings, grilles, and diffusers
- Remove trash in light fixtures
- Cleaning of rest rooms, locker rooms and showers
  - Stainless steel toilet stalls and urinal screens should be polished. These fixtures **shall** be cleaned so that dirt, scum deposits, stains, streaks are removed.
  - Shower stalls and toilet stalls **shall** be cleaned and disinfected to remove dirt, mildew, and streaks. Plastic shower stalls **shall** be cleaned with a non-abrasive cleaner.
- Glass in interior partitions, and vision panels in doors and display case should be cleaned on both sides
- All window treatments **shall** be dusted
- Conference tables in all areas of the facility **shall** be polished.
- Door knobs, push, pull, and kick plates on all doors **shall** be washed and polished
- Elevator walls **shall** be polished
- Replace burnt lamps or bulbs in light fixtures ten (10) feet in height or less
- In the stairwells, all stairs and landings **shall** be swept and damp mopped. Landings **shall** be buffed with a high-speed buffer. All handrails and stringers **shall** be dusted. Wall light fixtures and vents in the stairwells **shall** be dusted.

#### Bi-annually

- Both sides of all glass that functions as exterior walls should be washed twice per year. This task includes all sashes, storefronts, doors, vision panels, sidelights and windows.
- All window treatments **shall** be completely cleaned in accordance with the manufacturer's specifications.
- Paint touch up and sheetrock repair
- Adjust doors as required

#### Semi-annually

- Floor maintenance

#### Annually

- Floor maintenance
- Clean dirty light fixture lenses
- Dusting of walls

The attached maintenance manuals detail the requirements for the various types of flooring materials as follows:

Porcelain Stone Tile

Daily Maintenance

Luxury Vinyl Tile

Routine/Daily Cleaning



- Periodic/Deep Cleaning
- Vinyl Composition Tile
  - Light Soiling
  - Heavy Soiling
  - Restorative Maintenance
- Terrazzo
  - Daily
  - Weekly
  - Semi-Annually
- Carpet Tile
  - Pile Lifting and vacuuming.
  - Wet or dry spot cleaning
  - Low moisture cleaning or how water extraction

**Cleaning Inspections:**

Minimum of one formal inspection per month of all locations. A formal report thoroughly documenting the inspection shall be delivered to the DES facility contact

**HVAC Maintenance (equipment-specific manufacturers requirements/recommendations shall be followed):**

Vendor shall be responsible for the operation, minor repair, and preventive maintenance for all the heating and cooling systems, subsystems, and components. All heating and cooling equipment shall be operated in accordance with State, local and Federal laws, regulations, and permits.

Exterior units servicing the SCADA offices shall be serviced monthly.

Vendor will provide qualified HVAC Technician(s), with experience in heating, heat transfer, and refrigeration.

Vendor personnel shall be thoroughly knowledgeable of all new EPA regulations regarding reclaiming refrigerant from air conditioning, refrigeration and freezer systems. Company personnel shall provide all minor and routine repair services such as replacing pumps, belts, wall units, thermostats, etc.

**Fire and Safety (equipment-specific manufacturers requirements/recommendations shall be followed):**

Includes inspection and servicing of safety equipment such as fire extinguishers, fire alarm system and emergency lighting as per code requirements. Procure necessary resources to replace major system components.

**Plumbing:**

Includes faucet washer replacements, clearing plumbing blockages within the confines of the building perimeter with plunger or snake devices. Procure necessary resources to clear major blockages, replacement of fixtures and valves.

Floor drains should be monitored and filled as necessary as to not allow the p-traps to dry. Plumbing fixtures shall be checked and tightened as necessary.

Backflow prevention assemblies and methods shall be checked and field tested annually by a Backflow Prevention Assembly Tester who meets ASSE 5110 Professional Qualification Standard, or other individuals holding a testing certificate from a nationally recognized backflow certification organization approved by the state health officer.

**Elevator Maintenance (equipment-specific manufacturers requirements/recommendations shall be followed): Elevator Maintenance (equipment-specific manufacturers requirements/recommendations shall be followed):**

Includes inspection and regular maintenance as per code requirements. Inspections and certifications shall be performed by an ASME Qualified Elevator Inspector or a holder of a Louisiana State Elevator license.

Monthly Tests are required by ASME A17.12000, 8.6.10.1 "All elevators provided with firefighters' emergency operation shall be subjected to monthly Phase I recall by use of the key switch, and a minimum of one floor operation on Phase II. Deficiencies shall be corrected. A record of findings shall be available to elevator personnel and the authority having jurisdiction.

Quarterly inspections as detailed in the attached elevator maintenance manual.

Annual state inspection and certification.

Includes inspection and regular maintenance as per code requirements. Inspections and certifications shall be performed by an ASME Qualified Elevator Inspector or a holder of a Louisiana State Elevator license.

Monthly Tests are required by ASME A17.12000, 8.6.10.1 "All elevators provided with firefighters' emergency operation shall be subjected to monthly Phase I recall by use of the key switch, and a minimum of one floor operation on Phase II. Deficiencies shall be corrected. A record of findings shall be available to elevator personnel and the authority having jurisdiction.

Quarterly inspections as detailed in the attached elevator maintenance manual.

Annual state inspection and certification. Any fees required shall be paid by the Vendor.

**Landscaping:**

Mowing

The season will dictate the frequency of mowing. Vendor will maintain grass at appropriate heights. Included in this task shall be the maintenance of mowing equipment to assure clean and even cutting, prevention of rutting of turf by equipment, avoidance of scalping and the avoidance of damage to trees and shrubs. If clippings are present on paved areas after mowing, paved areas shall be swept or blown.

Trimming

Vendor will trim grass on lawns at the heights and on the frequencies of mowing.

#### Edging

Vendor will edge turf along sidewalks, driveways, and curbs on the same frequencies of mowing. Properly edged turf **shall** not extend over curbs, sidewalks and driveways.

#### Fertilization

Fertilization and pest control, including fire ants, will be the responsibility of the Vendor. Fertilization is to be done on an as needed basis to keep turf and other landscaping plants healthy.

#### Weed Control

Vendor will keep grounds free of weeds by cultural control or timely application of appropriate herbicides, to control grass and weeds on walks, drives and parking lots.

#### Tree, Shrub and Ground Cover Maintenance

All beds and planters containing exposed soil **shall** be cultivated and mulched. Vendor will keep planting beds and tree rings free of weeds by manual removal or by the timely application of herbicides. Vendor **shall** maintain hedges at an appropriate height and **shall** hand prune when necessary to facilitate new growth. Vendor will regularly prune trees and shrubs as required. Work will be accomplished by persons who have been trained by a Vendor Landscaping Technician.

#### Mulch

All beds **shall** be mulched at least once annually or as necessary in order to maintain a fresh, clean bed presentation. Mulch will be provided by Vendor.

#### Gardens and Plantings

The Vendor will maintain the established gardens/landscaping established in Landscape Plan (Attachment E). All major landscaping services and all major grounds projects are Vendor managed. The Vendor will provide and plant perennials, annuals, and bushes. Tree removal will be done within the capabilities of Vendor's on-site staff.

#### **Pest Control:**

The Vendor **shall** furnish all labor, materials, services, skills, supervision and necessary tools and equipment to insure that the Department's facility will be free of pests. Vendor **shall** be required to treat the facility quarterly for pest services.

The Vendor **shall** be responsible for full treatment pest control service including inspection and treatment for roaches, fleas, rats, mice, cockroaches, ants, centipedes, millipedes, moths, crickets, earwigs, silverfish and all other common insects. When necessary to install rodent bait boxes, the Vendor **shall** supply a written report to the Department, which indicates the box location(s), date of installation and removal.

The Vendor is responsible for providing pesticide applicators that have been trained and certified by a properly designated State lead agency as competent to handle and apply the classes of pesticide products necessary to implement the pest control/termite control program. The Vendor is further responsible for full compliance with the applicable federal, state and local pesticide laws and regulations.

**Parking Lot Maintenance**

Vendor will oversee surface parking lot maintenance, which is to include, regular maintenance walk-throughs, replacement of lights, re-striping, spot pressure washing, monthly sweeping, and the annual complete pressure washing.

**Pavements**

Vendor will inspect all paved surfaces regularly and patch or repair as required. Major repair or renovation projects will be approved in advance by DES. All paved areas will be kept clean.

**Leaf Removal**

Vendor will remove leaves from beds, roof tops & gutters and drains as needed.

**Irrigation System**

Monthly irrigation maintenance and repair will be Vendor managed. Vendor will make all repairs needed to lawn irrigation.

**Green Infrastructure (True-Grid) (manufacturers requirements/recommendations shall be followed)**

**Additional Equipment for Preventative Maintenance**

Vendor shall make provisions to complete preventative maintenance on the following items, including but not limited to, as detailed in manufacturers requirements/recommendations and/or Operations and Maintenance manuals.

- Automatic Gate(s)
- Appliances
- Cranes
- Roll up doors
- Safety showers/eye wash stations
- Kitchen Ice Machines
- Main Ice machine

**Other Fee Related Services:**

Annual Maintenance/Asset Management Plan

Review the building assets annually and provide a list for budgeting and planning purposes, of special maintenance projects which will maintain the integrity of the building and improve its life cycle with particular emphasis on energy efficient performance.

**Special Projects:**

Includes assistance with more complex repairs such as roofing, ventilation and interior renovations. Includes providing assistance with project development, costing and supervision. These services would be negotiated separately from the property management services above.

## 2.2 Period of Agreement

This contract shall commence upon the issuance of a Notice to Proceed by the Department representative and shall continue through December 31, 2025. For the purposes of this RFP, the anticipated Notice to Proceed is February 1, 2025. This contract will have the option of four annual renewals for calendar years 2026, 2027, 2028 and 2029, provided all prices, terms, and conditions remain the same, upon mutual agreement of the contracting parties.

## 2.3 Payment

All work performed shall be paid at the Time and Materials cost indicated in the pricing schedule, which shall be full compensation for furnishing all labor, equipment and incidentals necessary to complete the work.

Materials purchased under the Material Allowance will be reimbursed at cost plus a 15% mark-up.

## 2.4 Price Schedule

Prices proposed by the proposers should be submitted on the Proposal Form furnished herein as Attachment A-1. Prices submitted shall be firm for the term of the contract and inclusive of all charges Vendor wishes City-Parish to consider for proposed services.

## 2.5 Proposal Elements

### 2.5.1 Technical

Each Applicant should address how the entity will meet all the requirements of this RFP, with particular attention to:

- a. **Proposer Qualifications:** The Proposer shall demonstrate its qualifications in the proposal with a summary of its commercial history, resumes of team members associated with the project, and a statement that it is capable of meeting the goals and objectives of the program.
- b. **Proposer References:** Proposer shall supply a list of references of programs with a similar scope of service as outlined herein.

### 2.5.1 Financial

Prices proposed by the proposers should be submitted on the Proposal Form furnished herein as Attachment A-1.

## **PART III – EVALUATION**

**The following criteria cited herein will be evaluated when reviewing the proposal. The proposal will be evaluated considering the material and the substantiating evidence presented to City-Parish.**

The evaluation committee will evaluate responsive RFP submissions on the following: background and experience, technical criteria, and cost; award points up to the maximum points allocated; and provide an assessment.

Each Proposer bears sole responsibility for the items included or not included within the response submitted by the Proposer.

This is a Multiple Stage solicitation.

### **3.1 Stage 1: Determination of Responsiveness**

In Stage One of the process, the evaluation committee will review all proposals timely received to determine their responsiveness to the RFP. Non-responsive proposals (proposals that fail to conform to all material aspects of this RFP) will be disqualified from further consideration and will not move on to stage two.

The City reserves the right to disqualify any proposal for:

- a) a violation of a requirement of this RFP, including significant deviations or exceptions;
- b) unlawful or unethical conduct; or
- c) a change in circumstances that, had the change been known at the time the proposal was submitted, would have caused the proposal to be disqualified or not have the highest score.

Proposals determined to be non-responsive (those not conforming to RFP requirements) will be eliminated.

### **3.2 Stage 2: Detailed Technical Evaluation (Possible 75 Points)**

Stage Two will consist of a detailed evaluation of the proposals that have not been disqualified in Stage One. A committee will evaluate proposals against the weighted Technical Criteria identified in the RFP.

Each area of the evaluation criteria **Must** be addressed in detail in the proposal.

**Only those Proposals that achieve 50 points of the possible Total Technical score of 75 points will proceed on to Stage 3: Cost Proposal Evaluation.** Proposals with a score of less than the minimum required technical score will be deemed unacceptable and ineligible for further consideration.

### 3.2.1 Technical Proposal

The following criteria are of importance and relevance to the evaluation of this RFP. Such factors, listed in order of importance, may include but are not limited to the categories listed below. Evaluation criteria dealing with these categories are also listed.

#### **The Technical Proposal will be evaluated as follows:**

**Background and Experience:** Vendor's organizational capacity and successful track record in facility management. This includes the firm's ability to handle projects of this size and complexity. (Possible 25 Points)

**Approach and Methodology:** Vendor's proposed approach and methodology for completing the work outlined in the RFP, including timelines, work breakdown structures, and overall project management. (Possible 25 Points)

**Expertise and Qualifications of the proposed personnel:** This refers to the individual team members, subcontractors, credentials, experiences, and abilities specifically related to facility maintenance. (Possible 20 Points)

#### **Socially and Economically Disadvantaged Business Enterprise Requirements (Possible 5 Points)**

The City of Baton Rouge and Parish of East Baton Rouge's Socially and Economically Disadvantaged Business Enterprise Program ("the Program") is made part of this contract and incorporated hereto as if copied in extensor. Bidders, Respondents, and Proposers **must** comply with the Program. Copies of these documents are available upon request from City of Baton Rouge and Parish of East Baton Rouge ("City-Parish") Purchasing Division, 222 St. Louis Street, 8th Floor, Room 826, Baton Rouge, LA 70802. For questions or clarification about the Program, please contact the SEDBE Liaison Officer at the Purchasing Division, at (225) 389-3259.

#### **PART I – POLICY/ COMPLIANCE**

(A) The City-Parish strongly encourages the acquisition of goods and services from and direct participation of Eligible Business Enterprise ("EBEs"). The term EBE **shall** have the meaning set forth in the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program.

The Program is a race- and gender-neutral program intended to provide additional contracting and procurement opportunities for certified small, disadvantaged, woman-owned, minority-owned, veteran-owned, and service-disabled veteran-owned business enterprises by encouraging contractors who receive City-Parish contracts to use good-faith efforts to utilize such certified entities in the performance of those contracts. The City-Parish desires to achieve, to the greatest extent possible, commercially meaningful and useful participation by EBEs. By providing equitable opportunities for EBEs, the City-Parish derives multiple benefits, including contributing to the economic vitality of our communities and ensuring a broader selection of competitively priced goods and services.

Bidders should present a responsible plan that provides for participation of qualified EBEs. Participation **shall** be counted toward meeting the contract goals only by business entities certified under the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program. The direct participation goal can be achieved through direct ownership, joint venture participation, owner/operator agreements, or subcontract agreements for participation.

The City-Parish may set project goals on a project specific basis as noted on the Public Notice to Bidders or Advertisement for bids. Bidders are encouraged to exceed these goals.

If a Bidder does not meet the full EBE goal, then written documentation **must** be provided showing their good faith efforts to secure EBE participation, the unavailability of potential EBE firms, and provide justification as to why such goals cannot be met that is found to be acceptable to the SEDBE Liaison Officer. Failure to obtain an EBE **shall** not be a determining factor for awarding a contract.

(B) FAILURE TO COMPLY WITH SEDBE REQUIREMENTS: All City-Parish contract performers (Prime Contractors, Subcontractors, etc.) are hereby notified that failure to carry out the EBE obligation, as set forth, **shall** constitute a breach of contract. The breach of contract will be reviewed by City-Parish which may result in termination of the contract or other remedies deemed appropriate for the given situation.

(C) SUBCONTRACTS: All Prime Contractors, and Subcontractors, hereby **shall** include the following clauses in all contracts that offer further subcontracting opportunities.

The Contractor or Subcontractor **shall** not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor **shall** carry out applicable requirements of City-Parish's Socially and Economically Disadvantaged Business Enterprise Program in the award and administration of City-Parish contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient (City-Parish) deems appropriate.

The Prime Contractor agrees to pay each Subcontractor under this contract for satisfactory performance of its contract prior to submitting an invoice to the City-Parish for request for payment. This payment will be documented on the Contractor's Monthly Report form that is submitted with each payment request. The Prime Contractor agrees further to return retainage payments to each Subcontractor within 14 days after the Subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause. This clause applies to both EBE and non-EBE Subcontractor(s).

(D) AWARD OF EBE SUBCONTRACTS: The Contractor **shall**, no later than three (3) business days from the award of a contract, execute formal contracts or purchase orders with the EBE(s) included on Form 1.

(E) COUNTING EBE PARTICIPATION: City-Parish will count EBE participation toward overall and contract goals as provided in City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program"). City-Parish will only count EBE participation by those EBEs performing commercially useful functions. City-Parish Purchasing Division will not count the



participation of EBE Subcontractors toward a Contractor's final compliance with its EBE obligations on a contract until the amount being counted has actually been paid to the EBE.

The Contractor may count its entire expenditure to EBE manufacturers (i.e., a supplier that produces goods from raw materials or substantially alters them before resale). The Contractor may count sixty percent (60%) of its expenditures to EBE suppliers that are not manufacturers, provided that the EBE supplier performs a commercially useful function in the supply process.

A Contractor **shall** not count the value of any payment made to an EBE for work that was further subcontracted out by the EBE to a non-EBE.

## PART II – PROCEDURE TO DETERMINE QUALIFICATION STATEMENT OR PROPOSAL COMPLIANCE

(A) ELIGIBILITY OF SEDBES: To be counted toward the participation Goals pursuant to the Program, an EBE **must** be certified by the City-Parish at the time a bid or proposal is submitted. The fact that an EBE is certified does not necessarily mean that it has the qualifications and experience for the type of work required by any particular Contract. The responsibility for determining whether an EBE has the qualifications and experience for the type of work required by the Contract rests with the Contractor. To be deemed an EBE certified entity, firms **must** complete the City-Parish's certification process. Only EBE certified firms under the City-Parish at the time the Bid opening will count toward the EBE goal.

(B) REPORTING FORMS 1, 1A, AND 2: The following fully completed forms **shall** be furnished to the City-Parish by the proposer with their proposal. Failure to complete the forms properly and completely will constitute the bid as being deemed non-responsive. The forms **shall** have all blank spaces filled in completely and correctly. These forms are as follows:

FORM 1 – EBE RESPONSIVENESS FORM (copy attached): It is the obligation of the Respondent to make good faith efforts to meet the EBE goal. Respondents can demonstrate their good faith efforts either by meeting the contract goal or by documenting good faith efforts taken to obtain EBE participation. The Form 1 **shall** accurately detail the work proposed by the Respondents to be performed by Respondent and all entities participating in the project and, if it is a bid or proposal, the percent value of that work. If a Respondent is unable to fully meet the EBE goal of this contract, the Respondent **shall** submit a Form 2 form and all documentation demonstrating the good faith efforts made to comply with the EBE requirements.

FORM 1A - REQUIRED PARTICIPATION QUESTIONNAIRE FORM (copy attached): Form 1A **shall** accurately detail the work to be performed by each and every firm participating in the project. A Form 1A **must** be submitted for the Contractor and for each Subcontractor included on Form 1. In addition, each participating EBE firm **must** submit a current letter of EBE certification along with its Form 1A.

FORM 2 - Good Faith Efforts (copy attached): Form 2 is only required when the prime firm is unable to fully meet the EBE contract goal. Form 2 **shall** provide documentation of good faith efforts made to obtain EBE participation. Form 2 **must** be accompanied by supporting documentations such as, but

not be limited to, phone logs, facsimiles, and e-mail correspondence with potential EBE firms. Further explanation of good faith efforts may be found in the Instructions for Form 2. It is up to City-Parish or its Designee to make a fair and reasonable judgment whether a Respondent made adequate good faith efforts to achieve the contract goal.

FORM 3 - Monthly Utilization/Participation SEDBE Report (copy attached): Form 3 shall be submitted to the Field Engineer along with monthly payment requests and shall accurately represent the amount paid to EBE Subcontractors during that invoice period. This form must be submitted with every monthly invoice regardless of the amount of payment or lack of payment. The form shall be signed by the Contractor and the SEDBE Subcontractor(s) if payment has been made for that month. SEDBE participations will not be counted toward the Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in withholding of payment or partial payments to the Contractor until the required forms are submitted.

REQUEST FOR REMOVAL AND/OR SUBSTITUTION OF EBE SUBCONTRACTOR (copy attached): The Contractor shall utilize the specific EBEs listed on their Form 1 to perform the work and supply the materials for work listed unless the Contractor obtains the City-Parish's written consent via City-Parish Purchasing Division's Request for Removal and/or Substitution of EBE Subcontractor form. In addition to post-award terminations, this provision applies to per-award deletions of or substitutions for EBE firms put forward by offers in negotiated procurements. Any and all requests for authorization to remove and/or substitute an EBE Subcontractor must be made in writing by the Contractor, or Subcontractor seeking removal or substitution. This includes, but is not limited to, instances in which a Contractor wants to perform work originally designated for an EBE subcontractor with its own forces or those of an affiliate, a non-EBE firm, or with another EBE firm. This request shall document the scope and value of work to be affected. The Contractor making the request must include the name(s) of replacement EBE and non-EBE Subcontractor(s).

Before transmitting to the City-Parish its request to terminate and/or substitute a EBE Subcontractor, the Contractor must give notice in writing to the EBE Subcontractor, with a copy to the City-Parish Purchasing Division, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the EBE five days to respond to the Contractor's notice and advise the City-Parish Purchasing Division and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City-Parish Purchasing Division should not approve the Contractor's action.

If required in a particular case as a matter of public necessity (e.g., safety), the City-Parish Purchasing Division may provide a response period shorter than five days. When an EBE subcontractor is terminated via the City-Parish Purchasing Division written approval or fails to complete its work on the contract for any reason, the City-Parish Purchasing Division requires the Contractor to make Good Faith Efforts to find another EBE subcontractor to substitute for the original EBE. These Good Faith Efforts shall be directed at finding another EBE to perform at least the same amount of work under the contract as the EBE that was terminated, to the extent needed to meet the contract goal established for the procurement.

The Good Faith Efforts shall be documented by the contractor. If the City-Parish Purchasing Division requests documentation regarding Good Faith Efforts on substitutions, the contractor shall submit the

documentation within seven days, which may be extended for an additional seven days if necessary, at the request of the contractor, and the City-Parish Purchasing Division shall provide a written determination to the contractor stating whether or not Good Faith Efforts have been demonstrated. The Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed EBE unless the City-Parish Purchasing Division written consent has been provided via the City-Parish Purchasing Division's Request for Removal and/or Substitution of EBE Subcontractor. Failure by the Contractor to carry out these requirements is a material breach of the contract and may result in the termination of the contract.

## DISADVANTAGED BUSINESS ENTERPRISE INCLUSION

The City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program") is made part of this contract and incorporated hereto as if copied in extensor. For these services, the EBR Parish Purchasing office has directed a review of the scope of work and has established a minimum EBE goal of 25% of the contract amount.

### PART I – POLICY/ COMPLIANCE

(A) The City-Parish strongly encourages the acquisition of goods and services from and direct participation of Eligible Business Enterprise ("EBEs"). The term EBE shall have the meaning set forth in the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program.

The Program is a race- and gender-neutral program intended to provide additional contracting and procurement opportunities for certified small, disadvantaged, woman-owned, minority-owned, veteran-owned, and service-disabled veteran-owned business enterprises by encouraging contractors who receive City-Parish contracts to use good-faith efforts to utilize such certified entities in the performance of those contracts. The City-Parish desires to achieve, to the greatest extent possible, commercially meaningful and useful participation by EBEs. By providing equitable opportunities for EBEs, the City-Parish derives multiple benefits, including contributing to the economic vitality of our communities and ensuring a broader selection of competitively priced goods and services.

Contractor should present a responsible plan that provides for participation of qualified EBEs. Participation shall be counted toward meeting the contract goals only by business entities certified under the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program. The direct participation goal can be achieved through direct ownership, joint venture participation, owner/operator agreements, or subcontract agreements for participation.

If the Contractor does not meet the full EBE goal, then written documentation must be provided showing their good faith efforts to secure EBE participation, the unavailability of potential EBE firms, and provide justification as to why such goals cannot be met that is found to be acceptable to the SEDBE Liaison Officer.

(B) FAILURE TO COMPLY WITH SEDBE REQUIREMENTS: All City-Parish contract performers (Prime Contractors, Subcontractors, etc.) are hereby notified that failure to carry out the EBE obligation, as set forth, shall constitute a breach of contract. The breach of contract will be reviewed by City-Parish which may result in termination of the contract or other remedies deemed appropriate for the given situation.

(C) SUBCONTRACTS: All Prime Contractors, and Subcontractors, hereby shall include the following clauses in all contracts that offer further subcontracting opportunities.

The Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of City-Parish's Socially and Economically Disadvantaged Business Enterprise Program in the award and administration of City-Parish contracts. Failure by the Contractor to carry out these requirements

is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient (City-Parish) deems appropriate.

The Prime Contractor agrees to pay each Subcontractor under this contract for satisfactory performance of its contract prior to submitting an invoice to the City-Parish for request for payment. This payment will be documented on the Contractor's Monthly Report form that is submitted with each payment request. The Prime Contractor agrees further to return retainage payments to each Subcontractor within 14 days after the Subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause. This clause applies to both EBE and non-EBE Subcontractor(s).

(D) AWARD OF EBE SUBCONTRACTS: The Contractor shall, no later than three (3) business days from the award of a contract, execute formal contracts or purchase orders with the EBE(s) included on Form 1.

(E) COUNTING EBE PARTICIPATION: City-Parish will count EBE participation toward overall and contract goals as provided in City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program"). City-Parish will only count EBE participation by those EBEs performing commercially useful functions. City-Parish Purchasing Division will not count the participation of EBE Subcontractors toward a Contractor's final compliance with its EBE obligations on a contract until the amount being counted has actually been paid to the EBE.

The Contractor may count its entire expenditure to EBE manufacturers (i.e., a supplier that produces goods from raw materials or substantially alters them before resale). The Contractor may count sixty percent (60%) of its expenditures to EBE suppliers that are not manufacturers, provided that the EBE supplier performs a commercially useful function in the supply process.

A Contractor shall not count the value of any payment made to an EBE for work that was further subcontracted out by the EBE to a non-EBE.

## **PART II – PROCEDURE TO DETERMINE QUALIFICATION STATEMENT OR PROPOSAL COMPLIANCE**

(A) ELIGIBILITY OF SEDBEs: To be counted toward the participation Goals pursuant to the Program, an EBE must be certified by the City-Parish at the time a bid or proposal is submitted. The fact that an EBE is certified does not necessarily mean that it has the qualifications and experience for the type of work required by any particular Contract. The responsibility for determining whether an EBE has the qualifications and experience for the type of work required by the Contract rests with the Contractor. To be deemed an EBE certified entity, firms must complete the City-Parish's certification process. Only EBE certified firms under the City-Parish at the time the Bid opening will count toward the EBE goal.

(B) REPORTING FORMS 1, 1A, AND 2: The following fully completed forms shall be furnished to the City-Parish on a monthly basis. The forms shall have all blank spaces filled in completely and correctly. These forms are as follows:

FORM 1 – EBE RESPONSIVENESS FORM (copy attached): It is the obligation of the Respondent to make good faith efforts to meet the EBE goal. Respondents can demonstrate their good faith efforts either by meeting the contract goal or by documenting good faith efforts taken to obtain EBE participation. The Form 1 shall accurately detail the work proposed by the Respondents to be performed by Respondent and all entities participating in the project and, if it is a bid or proposal, the percent value of that work. If a Respondent is unable to fully meet the EBE goal of this contract, the

Respondent **shall** submit a Form 2 form and all documentation demonstrating the good faith efforts made to comply with the EBE requirements.

FORM 1A - REQUIRED PARTICIPATION QUESTIONNAIRE FORM (copy attached): Form 1A **shall** accurately detail the work to be performed by each and every firm participating in the project. A Form 1A **must** be submitted for the Contractor and for each Subcontractor included on Form 1. In addition, each participating EBE firm **must** submit a current letter of EBE certification along with its Form 1A.

FORM 2 - Good Faith Efforts (copy attached): Form 2 is only required when the prime firm is unable to fully meet the EBE contract goal. Form 2 **shall** provide documentation of good faith efforts made to obtain EBE participation. Form 2 **must** be accompanied by supporting documentations such as, but not be limited to, phone logs, facsimiles, and e-mail correspondence with potential EBE firms. Further explanation of good faith efforts may be found in the Instructions for Form 2. It is up to City-Parish or its Designee to make a fair and reasonable judgment whether a Respondent made adequate good faith efforts to achieve the contract goal.

FORM 3 - Monthly Utilization/Participation SEDBE Report (copy attached): Form 3 **shall** be submitted to the Field Engineer along with monthly payment requests and **shall** accurately represent the amount paid to EBE Subcontractors during that invoice period. This form **must** be submitted with every monthly invoice regardless of the amount of payment or lack of payment. The form **shall** be signed by the Contractor and the SEDBE Subcontractor(s) if payment has been made for that month. SEDBE participations will not be counted toward the Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in withholding of payment or partial payments to the Contractor until the required forms are submitted.

**CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE**  
**Form 1**  
**EBE Responsiveness Form**  
**INSTRUCTIONS**

Column A. Indicate the firm's role: Contractor, subcontractor, manufacturer, regular dealer/supplier, or broker/agent. Note that only 60% of the value of regular dealer/supplier commissions and fees can be counted toward Socially and Economically Disadvantaged Business Enterprise participation. All firms participating EBE and non-EBE , prime and subs) **must** be included on the form.

Column B. Provide the name and address of the firm.

Column C. Provide the principal contact person and phone number of the firm.

Column D. Describe the work, goods, and/or services to be provided by the firm.

Column E. Indicate the percent value of the amount of work assigned to the firm. Total percent value of work should equal 100% to account for all work being performed on the contract.

Column F. Indicate whether firm is an EBE or non-EBE. EBE-certified means to be certified by the EBRP Socially and Economically Disadvantaged Business Enterprise Program.

**Form 1  
EBE Responsiveness Form**

EBRP Project Title: \_\_\_\_\_ Project No.: \_\_\_\_\_

EBE Contract Goal: \_\_\_\_\_%

A	B	C	D	E	F
FIRM ROLE <i>(Prime, sub-contractor, manufacturer, supplier, etc.)</i>	FIRM NAME AND ADDRESS	PRINCIPAL CONTACT NAME AND PHONE NUMBER	WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED	% VALUE OF WORK / PURCHASES*	EBE or non-EBE
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

**TOTAL VALUE OF PARTICIPATION FROM CONTINUATION PAGES:**

*\*Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

	%	%
<b>Enter Total Bid Amount</b>	Total Must Equal 100%	Total EBE Participation
\$	%	%

**TOTAL VALUE OF PARTICIPATION:**

**⚠** If Total EBE participation is less than the goal, refer to the Good Faith Efforts section of the instructions and attach a Form 2 and all other necessary documentation. Firms must be EBE certified with an authorized agent of the **City of Baton Rouge and Parish of East Baton Rouge Purchasing Division to count participation towards the goal.**

The undersigned prime firm will enter into a formal written agreement with the subcontractors identified herein for work and/or goods and services as shown in this schedule, conditioned upon the execution of a contract with the City of Baton Rouge and Parish of East Baton Rouge. The undersigned agrees to be contractually bound to maintain the level of EBE participation set forth above. Failure to comply with this agreement constitutes breach of contract.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_



**Form 1 EBE Responsiveness Form Continuation Page 1**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>FIRM ROLE</b> <i>(Prime, sub-contractor, manufacturer, supplier, etc.)</i>	<b>FIRM NAME AND ADDRESS</b>	<b>PRINCIPAL CONTACT NAME AND PHONE NUMBER</b>	<b>WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED</b>	<b>% VALUE OF WORK / PURCHASES*</b>	<b>EBE or non-EBE</b>
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
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				%	
				%	
				%	
				%	
				%	
				%	

\* Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.

**TOTAL VALUE OF PARTICIPATION FOR CONTINUATION PAGE 1:**

<b>Total % Value of Work Purchases</b>	<b>Total EBE Participation</b>
%	%

**Form 1**  
**EBE Responsiveness Form**  
**Continuation Page 2**

A	B	C	D	E	F
FIRM ROLE <i>(Prime, subcontractor manufacturer, supplier, etc.)</i>	FIRM NAME AND ADDRESS	PRINCIPAL CONTACT NAME AND PHONE NUMBER	WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED	% VALUE OF WORK / PURCHASES*	EBE or non- EBE
				%	
				%	
				%	
				%	
				%	
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				%	
				%	
				%	

*\* Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

**TOTAL VALUE OF PARTICIPATION FOR CONTINUATION PAGE 2:**

Total % Value of Work Purchases	Total EBE Participation
%	%

**Form 1A  
Required Participation Questionnaire**

**INSTRUCTIONS:** A fully completed Form 1A "Required Participation Questionnaire" must be submitted for the prime firm, each subcontractor, and any other tier or subcontractor, as a condition of responsiveness. This information is to be collected and documented for all City of Baton Rouge and Parish of East Baton Rouge projects as required by the City of Baton Rouge and Parish of East Baton Rouge. All items requested on the form are required, if an item is not applicable, respondents shall enter N/A. Each prime firm participating as a joint venture should complete a separate form and indicate (Item 9) that the response is a joint venture.

1. Project name, project number and date of submittal:	2. Official name of firm:	3. Address of office to perform work:
	Indicate if prime or subcontractor:	
4. Name of parent company, if any:	5. Location of headquarters (city):	6. Age of firm:
7. Name, title, and telephone number of principal contact:	8. Indicate Any Special Status: <input type="checkbox"/> Small business <input type="checkbox"/> SBA certified <input type="checkbox"/> Minority-owned business <input type="checkbox"/> LAUCP DBE certified <input type="checkbox"/> Woman-owned business <input type="checkbox"/> EBE Certified with CITY-PARISH  *A firm participating as a EBE must be certified by the City of Baton Rouge and Parish of East Baton Rouge SEDBE Program by the date of submittal. Current letter of certification shall be attached.	
9. Is this submittal a joint venture (JV)? <input type="checkbox"/> Yes <input type="checkbox"/> No	10. Summary of firm's annual revenues (please insert index number from below): Last Year: _____ 2 Years ago: _____ 3 Years ago: _____	
If so, has the JV worked together before? <input type="checkbox"/> Yes <input type="checkbox"/> No	Ranges of annual revenues received: <u>Index:</u> 1 less than \$500,000                      4 \$2,000,000 to \$4,000,000 2 \$500,000- \$1,000,000                 5 \$5,000,000 to \$6,000,000 3 \$1,000,000 to \$2,000,000             6 \$6,000,000 or greater	

I do solemnly declare and affirm under the penalties of perjury that the contents of this document are true and correct, and that I am authorized on behalf of this firm to make this affidavit.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

**CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE**  
**Form 2**  
**Good Faith Efforts**  
**INSTRUCTIONS:**

If required, attach a completed Form 2 and supporting documents to establish that Good Faith Efforts were undertaken to secure EBE participation:

The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain EBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Conducting market research to identify small business contractors and suppliers and soliciting through all reasonable and available means the interest of all certified EBEs that have the capability to perform the work of the contract. This may include attendance at pre-bid and business matchmaking meetings and events, advertising and/or written notices, posting of Notices of Sources Sought and/or Requests for Proposals, written notices or emails to all DBEs listed in the State's directory of transportation firms that specialize in the areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project. The bidder should solicit this interest as early in the acquisition process as practicable to allow the EBEs to respond to the solicitation and submit a timely offer for the subcontract. The bidder should determine with certainty if the EBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by EBEs in order to increase the likelihood that the EBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example, smaller tasks or quantities) to facilitate EBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible timeframes for performance and delivery schedules in a manner that encourages and facilitates EBE participation.

C. Providing interested EBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation with their offer for the subcontract.

D. Negotiating in good faith with interested EBEs. It is the bidder's responsibility to make a portion of the work available to EBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available EBE subcontractors and suppliers, so as to facilitate EBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of EBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for EBEs to perform the work.

E. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including EBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using EBEs is not in itself sufficient reason for a bidder's failure to meet the

contract EBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from EBEs if the price difference is excessive or unreasonable.

F. Not rejecting EBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal. Another practice considered an insufficient good faith effort is the rejection of the EBE because its quotation for the work was not the lowest received. However, nothing in this paragraph shall be construed to require the bidder or prime contractor to accept unreasonable quotes in order to satisfy contract goals.

G. Contractor's inability to find a replacement EBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original EBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement EBE, and it is not a sound basis for rejecting a prospective replacement EBE's reasonable quote.

H. Making efforts to assist interested EBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

I. Making efforts to assist interested EBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

J. Effectively using the services of available minority/women/veteran community organizations; minority/women/veteran contractors' groups; local, State, and Federal minority/women/veteran business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of EBEs.

**Form 2  
Good Faith Efforts**

If the Respondent cannot fully meet the EBE goal of this Contract, the Respondent shall complete Form 2 **and attach documentation demonstrating the Respondent's good faith efforts**. It is up to City of Baton Rouge and Parish of East Baton Rouge Purchasing Division to make a fair and reasonable judgment whether a Respondent that did not meet the contract goal made adequate good faith efforts.

I, \_\_\_\_\_, certify that on the date(s) below I invited the following proposed EBE subcontractor(s) to respond or propose work items to be performed on:

PROJECT NAME: \_\_\_\_\_

PROJECT NO: \_\_\_\_\_

Date of Request	Name and Address of EBE Firm	Transmittal Type	Work Items Sought	Describe Response and/or Follow-up

I do solemnly declare and affirm under the penalties of perjury that the contents of this document are true and correct, and that I am authorized on behalf of this firm to make this affidavit.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Sporting documentation of Good Faith Efforts is attached (required).

**Form 3**  
**City of Baton Rouge and Parish of East Baton Rouge**  
**Contractor or Consultant Monthly SEDBE Report**

INSTRUCTIONS: This report covers the previous estimate period and shall be submitted to the Project Manager Representative or Project Inspector with the current month's pay estimate. The Prime firm shall prepare one form for each EBE firm participating in the project. Questions should be directed to the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division through the assigned project manager. **Signatures from EBE firms who received payment during the reporting period are required.** No signature is required if no payments were made to the EBE firm during the reporting period. **If actual EBE item of work is different than that approved at the time of award, the Substitution Form must be completed (If you have not already done so).**

PRIME FIRM INFORMATION:

Prime Firm Name		Phone Number	
Project Name			
City Parish Project No.		State Project No.	
Project Start Date		Est. Project Completion Date	
Original Contract Amount \$	Change Orders (count)	Current Contract Value \$	EBE Commitment _____ %
Invoice Number	Report Period Begin Date	Report Period End Date	

SUBCONTRACTOR INFORMATION:

EBE Subcontractor		
EBE Contact		EBE Phone Number
Original Subcontract Amount \$	Original Commitment to Firm _____ %	Current Subcontract Value \$
Amount Paid to Sub This Period \$	Amount Paid to Sub to Date \$	
Scheduled Date of Sub Services (or state ongoing)	Estimated Date of Completion of Sub Services	
Item Number/Description of Work Performed by Sub		

**By signing below, I attest that the information provided is complete accurate, and true to the best of my knowledge.**

Prime Firm's Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print name: \_\_\_\_\_ Title: \_\_\_\_\_

Subcontractor's Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print name: \_\_\_\_\_ Title: \_\_\_\_\_

**I certify that the contracting records and on-site performance of the EBE has been monitored. If actual EBE item of work is different than that approved at the time of award, the Substitution Form must be completed.**

Project Manager Representative/Inspector's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print name: \_\_\_\_\_ Title: \_\_\_\_\_

**EBRP Project Manager or SEDBELO has reviewed this form.**

SEDBELO's or Authorized Owner's Representative's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**City of Baton Rouge and Parish of East Baton Rouge  
Guidance for Removal and/or Substitution of a SEDBE Firm**

Contractor **must** receive prior written consent from the City-Parish before terminating an EBE subcontractor listed in response to the City-Parish solicitation. This includes, but is not limited to, instances in which the Contractor seeks to perform work that was originally designated for a EBE subcontractor, or to another EBE or non-EBE subcontractor. All requests **must** be accompanied by documentation of good faith efforts made to maintain the EBE commitment percentage on the total contract value.

The City-Parish Purchasing Division may provide written consent only if it agrees that the Contractor has good cause to terminate the EBE firm. Good Cause includes the following circumstances:

1. The listed EBE subcontractor fails or refuses to execute a written contract;
2. The listed EBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the EBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;
3. The listed EBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements.
4. The listed EBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
5. The listed EBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings or applicable state law;
6. The City-Parish Purchasing Division has determined that the listed EBE subcontractor is not a responsible contractor;
7. The listed EBE subcontractor voluntarily withdraws from the project and provides to the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division written notice of its withdrawal;
8. The listed EBE is ineligible to receive EBE credit for the type of work required;
9. An EBE owner dies or becomes disabled with the result that the listed EBE contractor is unable to complete its work on the contract;
10. Other documented good cause that the City-Parish Purchasing Division determines compels the termination of the EBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate an EBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the EBE subcontractor was engaged or so that the Contractor can substitute another EBE or non-EBE subcontractor after contract award.



11. Before transmitting to the City-Parish Purchasing Division its request to terminate and/or substitute an EBE subcontractor, the prime contractor **must** give notice in writing to the EBE subcontractor, with a copy to the City-Parish Purchasing Division, of its intent to request to terminate and/or substitute, and the reason for the request.

12. The Contractor **must** give the EBE five days to respond to the prime contractor's notice and advise the City-Parish Purchasing Division and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City-Parish Purchasing Division should not approve the Contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the City-Parish Purchasing Division may provide a response period shorter than five days.

13. In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for EBE firms put forward by offerors in negotiated procurements.

14. After Good Cause is demonstrated by the Contractor and approved by the Purchasing Division, the contractor **must** make good faith efforts to replace an EBE that is terminated with another certified EBE, to the extent needed to meet the contract goal.

15. In this situation, we will require the Contractor to provide copies of new or amended subcontracts, or documentation of good faith efforts. If the contractor fails or refuses to comply in the time the City-Parish Purchasing Division specified, our contracting office will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, the contracting officer may issue a termination for default proceeding.

**use or Convenience; Suspension.** CITY-PARISH may exercise any rights available under Louisiana law to terminate for cause upon the failure of the CONTRACTOR to comply with the terms and conditions of this AGREEMENT, provided that the CITY-PARISH shall give contractor written notice specifying contractor's failure and thirty (30) days to cure the defect.

CITY-PARISH may terminate the AGREEMENT at its convenience at any time for any or no reason by giving thirty (30) days written notice to CONTRACTOR.

Upon termination for cause or convenience, the CONTRACTOR shall be entitled to payment for deliverables in progress through the date of termination, to the extent work has been performed in accordance with the terms and/or conditions of this AGREEMENT or otherwise to the satisfaction of CITY-PARISH, as well as reasonable termination and demobilization costs.

Should the CITY-PARISH find it necessary to suspend the work for lack of funding or other circumstances beyond its control, this may be done by thirty (30) days written notice given by CITY-PARISH to that effect. If the AGREEMENT is suspended for more than thirty (30) consecutive calendar days, the CONTRACTOR shall be compensated for services performed prior to the notice of suspension. In addition, when work under the AGREEMENT resumes, the CONTRACTOR's compensation shall be equitably adjusted to provide for expenses incurred in the interruption and resumption of the CONTRACTOR's services.

2. **Remedies.** If any work performed by the CONTRACTOR fails to meet the requirements of the AGREEMENT, the CITY-PARISH may in its sole discretion:

- a) elect to have the CONTRACTOR re-perform or cause to be re-performed at the CONTRACTOR's sole expense, any of the work which failed to meet the requirements of the AGREEMENT;
- b) hire another subconsultant to perform the work and deduct any additional costs incurred by CITY-PARISH as a result of substituting the Proposer from any amounts due to the CONTRACTOR; or
- c) pursue and obtain any and all other available legal or equitable remedies.

3. **Equal Employment Opportunity.** During the performance of this contract, the CONTRACTOR agrees as follows:

- a) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:
- b) Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- c) The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- d) The CONTRACTOR will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the CONTRACTOR's legal duty to furnish information.
- e) The CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the CONTRACTOR's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

- f) The CONTRACTOR will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- g) The CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- h) In the event of the CONTRACTOR's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- i) The CONTRACTOR will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, The CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any

or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

4. **Davis Bacon Act.** When required by federal program legislation or local program policies all prime construction contracts in excess of \$2,000.00 awarded by non-Federal entities **must** include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144 and 3146-3148).

The CONTRACTOR agrees to comply with the requirements of the Secretary of Labor in accordance with the Davis-Bacon Act (40 U.S.C. 3141-3148) as amended, with the provisions of Contract Work Hours and Safety Standards Act, the Copeland "Anti-Kickback" Act (40 U.S.C. 276a-276a-5, 40 USC 327 and 40 USC 276c) and all other applicable Federal, state and local laws and regulations pertaining to labor standards in so far as those acts apply to the performance of this contract. In accordance with the statute, contractors **must** be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors **must** be required to pay wages not less than once a week. The non-Federal entity **must** place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract **must** be conditioned upon the acceptance of the wage determination. The non-Federal entity **must** report all suspected or reported violations to the Federal awarding agency. The contracts **must** also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor **must** be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity **must** report all suspected or reported violations to the Federal awarding agency. The CONTRACTOR shall maintain documentation which demonstrates compliance with requirements of this part. Such documentation shall be made available to the City-Parish for review upon request.

5. **Compliance with the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708).** All contracts awarded by the non-Federal entity in excess of \$100,000.00 that involve the employment of mechanics or laborers **must** include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Any contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (4) below along with a clause requiring subcontractors to include these clauses in any lower tier subcontracts.

- a) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or

she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- b) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the CONTRACTOR and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
- c) Withholding for unpaid wages and liquidated damages. The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the CONTRACTOR or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
- d) Subcontracts. The CONTRACTOR or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic **must** be required to work in surroundings or under working conditions, which are hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

6. **Rights to Inventions Made Under a Contract or Agreement.** If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient **must** comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

**Clean Water Act/ Federal Water Pollution Control Act.** Contracts and subgrants of amounts in excess of \$150,000.00 **must** contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations **must** be reported to the Federal awarding agency and the Regional Office of Environmental Protection Agency (EPA).

The CONTRACTOR hereby agrees to adhere to the provisions, which require compliance with all applicable standards, orders, or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

- a) The CONTRACTOR agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 7401 et seq.
- b) If this contract is funded by federal dollars, The CONTRACTOR agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the CITY-PARISH, and the appropriate Environmental Protection Agency Regional Office.
- c) If this contract is funded by federal dollars, the CONTRACTOR agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with federal assistance.

8. **Debarment & Suspension.** A contract award **must** not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with OMB guidelines at 2 C.F.R. 180. SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the CONTRACTOR is required to verify that none of the CONTRACTOR's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

The CONTRACTOR **must** comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and **must** include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

This certification is a material representation of fact relied upon by CITY-PARISH. If it is later determined that the CONTRACTOR did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to CITY-PARISH, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.



The CONTRACTOR agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The CONTRACTOR further agrees to include a provision requiring such compliance in its lower tier covered transactions.

The CONTRACTOR shall submit a Federal Debarment Certification to assure compliance with the aforementioned regulation.

9. **Byrd Anti-Lobbying Act.** Contractors that apply or bid for an award exceeding \$100,000.00 **must** file the required certification under the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352).

The CONTRACTOR will be expected to comply with Federal statutes required in the Anti-Lobbying Act. Contractors who apply or bid for an award shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any Agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

10. **Procurement of Recovered Materials (2 C.F.R. 200.322)**. A non-Federal entity that is a state agency or agency of a political subdivision of a state and its CONTRACTOR **must** comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the items exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

11. **Surveillance Services or Equipment.** A non-Federal entity and subrecipients who procure telecommunications and video surveillance services or equipment by obligating or expending loan or grant funds **must** comply with the provisions of 2 C.F.R. §200.216.

Specifically, (a) recipients and subrecipients are prohibited from using grant funds to: (1) Procure or obtain; (2) Extend or renew a contract to procure or obtain; or (3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). (i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities). (ii) Telecommunications or video surveillance services provided by such entities or using such equipment. (iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country. (b) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained. (c) See Public Law 115-232, section 889 for additional information. (d) See also § 200.471.

12. **Domestic Preferences for Procurement.** As appropriate and to the extent consistent with law, the parties should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section **must** be included in all sub awards including all contracts and purchase orders for work or products under this award.

For purposes of this section: (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. (2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

**IN WITNESS WHEREOF**, the **Contractor/Vendor/Sub-Recipient** understands and agrees to the above Federal award provisions.

**CONTRACTOR**

\_\_\_\_\_

BY: \_\_\_\_\_  
(*Authorized Signature, printed name*)

Date: \_\_\_\_\_

**NOTE: THE FOLLOW TERMS APPLY SPECIFICALLY TO CONTRACTS AND PURCHASES MADE WITH OR IN CONJUNCTION WITH CORONAVIRUS STATE AND LOCAL RECOVERY FUNDS (SLFRF, OR FISCAL RECOVERY FUNDS):**

U.S. DEPARTMENT OF THE TREASURY CORONAVIRUS LOCAL FISCAL RECOVERY FUND  
CONTRACTOR TERMS AND CONDITIONS

1. **Use of Funds.**
  - a. CONTRACTOR understands and agrees that the funds disbursed under this award may only be used in compliance with section 603(c) of the Social Security Act (the Act), Treasury’s regulations implementing that section, and guidance issued by Treasury regarding the foregoing.
  - b. CONTRACTOR will determine prior to engaging in any project using this assistance that it has the institutional, managerial, and financial capability to ensure proper planning, management, and completion of such project.
2. **Period of Performance.** The period of performance for this award begins on the date hereof and ends on December 31, 2026. As set forth in Treasury’s implementing regulations, CONTRACTOR may use award funds to cover eligible costs incurred during the period that begins on March 3, 2021, and ends on December 31, 2024.
3. **Reporting.** CONTRACTOR agrees to comply with any reporting obligations established by Treasury as they relate to this award.
4. **Maintenance of and Access to Records.**
  - a. CONTRACTOR shall maintain records and financial documents sufficient to evidence compliance with section 603(c) of the Act, Treasury’s regulations implementing that section, and guidance issued by Treasury regarding the foregoing.
  - b. The Treasury Office of Inspector General and the Government Accountability Office, or their authorized representatives, shall have the right of access to records (electronic and otherwise) of the CONTRACTOR in order to conduct audits or other investigations.
  - c. Records shall be maintained by CONTRACTOR for a period of five (5) years after all funds have been expended or returned to Treasury, whichever is later.
5. **Pre-award Costs.** Pre-award costs, as defined in 2 C.F.R. § 200.458, may not be paid with funding from this award.

6. **Administrative Costs.** CONTRACTOR may use funds provided under this award to cover both direct and indirect costs.
7. **Cost Sharing.** Cost sharing or matching funds are not required to be provided by CONTRACTOR.
8. **Conflicts of Interest.** CONTRACTOR understands and agrees it **must** maintain a conflict of interest policy consistent with 2 C.F.R. § 200.318(c) and that such conflict of interest policy is applicable to each activity funded under this award. CONTRACTOR and SUBCONTRACTORS must disclose in writing to Treasury or the pass-through entity, as appropriate, any potential conflict of interest affecting the awarded funds in accordance with 2 C.F.R. § 200.112.
9. **Compliance with Applicable Law and Regulations.**
  - a. CONTRACTOR agrees to comply with the requirements of section 603 of the Act, regulations adopted by Treasury pursuant to section 603(f) of the Act, and guidance issued by Treasury regarding the foregoing. CONTRACTOR also agrees to comply with all other applicable federal statutes, regulations, and executive orders, and CONTRACTOR shall provide for such compliance by other parties in any agreements it enters into with other parties relating to this award.
  - b. Federal regulations applicable to this award include, without limitation, the following:
    - i. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200, other than such provisions as Treasury may determine are inapplicable to this Award and subject to such exceptions as may be otherwise provided by Treasury. Subpart F – Audit Requirements of the Uniform Guidance, implementing the Single Audit Act, shall apply to this award.
    - ii. Universal Identifier and System for Award Management (SAM), 2 C.F.R. Part 25, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 25 is hereby incorporated by reference.
    - iii. Reporting Subaward and Executive Compensation Information, 2 C.F.R. Part 170, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 170 is hereby incorporated by reference.
    - iv. OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement), 2 C.F.R. Part 180, including the requirement to include a term or condition in all lower tier covered transactions (contracts and

subcontracts described in 2 C.F.R. Part 180, subpart B) that the award is subject to 2 C.F.R. Part 180 and Treasury's implementing regulation at 31 C.F.R. Part 19.

- v. CONTRACTOR Integrity and Performance Matters, pursuant to which the award term set forth in 2 C.F.R. Part 200, Appendix XII to Part 200 is hereby incorporated by reference.
  - vi. Governmentwide Requirements for Drug-Free Workplace, 31 C.F.R. Part 20.
  - vii. New Restrictions on Lobbying, 31 C.F.R. Part 21.
  - viii. Uniform Relocation Assistance and Real Property Acquisitions Act of 1970 (42 U.S.C. §§ 4601-4655) and implementing regulations.
  - ix. Generally applicable federal environmental laws and regulations.
- c. Statutes and regulations prohibiting discrimination applicable to this award include, without limitation, the following:
- i. Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance;

- ii. The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;
  - iii. Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance;
  - iv. The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and
  - v. Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.
10. **Remedial Actions.** In the event of CONTRACTOR's noncompliance with section 603 of the Act, other applicable laws, Treasury's implementing regulations, guidance, or any reporting or other program requirements, Treasury may impose additional conditions on the receipt of a subsequent tranche of future award funds, if any, or take other available remedies as set forth in 2 C.F.R. § 200.339. In the case of a violation of section 603(c) of the Act regarding the use of funds, previous payments shall be subject to recoupment as provided in section 603(e) of the Act.
11. **Hatch Act.** CONTRACTOR agrees to comply, as applicable, with requirements of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328), which limit certain political activities of State or local government employees whose principal employment is in connection with an activity financed in whole or in part by this federal assistance.
12. **False Statements.** CONTRACTOR understands that making false statements or claims in connection with this award is a violation of federal law and may result in criminal, civil, or administrative sanctions, including fines, imprisonment, civil damages and penalties, debarment from participating in federal awards or contracts, and/or any other remedy available by law.
13. **Publications.** Any publications produced with funds from this award **must** display the following language: "This project [is being] [was] supported, in whole or in part, by federal award number [enter project FAIN] awarded to [name of CONTRACTOR] by the U.S. Department of the Treasury."
14. **Debts Owed the Federal Government.**

- a. Any funds paid to CONTRACTOR (1) in excess of the amount to which CONTRACTOR is finally determined to be authorized to retain under the terms of this award; (2) that are determined by the Treasury Office of Inspector General to have been misused; or (3) that are determined by Treasury to be subject to a repayment obligation pursuant to section 603(e) of the Act and have not been repaid by CONTRACTOR shall constitute a debt to the federal government.
- b. Any debts determined to be owed the federal government **must** be paid promptly by CONTRACTOR. A debt is delinquent if it has not been paid by the date specified in Treasury's initial written demand for payment, unless other satisfactory arrangements have been made or if the CONTRACTOR knowingly or improperly retains funds that are a debt as defined in paragraph 14(a). Treasury will take any actions available to it to collect such a debt.

15. **Disclaimer.**

- a. The United States expressly disclaims any and all responsibility or liability to CONTRACTOR or third persons for the actions of CONTRACTOR or third persons resulting in death, bodily injury, property damages, or any other losses resulting in any way from the performance of this award or any other losses resulting in any way from the performance of this award or any contract, or subcontract under this award.
- b. The acceptance of this award by CONTRACTOR does not in any way establish an agency relationship between the United States and CONTRACTOR.

16. **Protections for Whistleblowers.**

- a. In accordance with 41 U.S.C. § 4712, CONTRACTOR may not discharge, demote, or otherwise discriminate against an employee in reprisal for disclosing to any of the list of persons or entities provided below, information that the employee reasonably believes is evidence of gross mismanagement of a federal contract or grant, a gross waste of federal funds, an abuse of authority relating to a federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal contract (including the competition for or negotiation of a contract) or grant.
- b. The list of persons and entities referenced in the paragraph above includes the following:
  - i. A member of Congress or a representative of a committee of Congress;
  - ii. An Inspector General;
  - iii. The Government Accountability Office;
  - iv. A Treasury employee responsible for contract or grant oversight or management;
  - v. An authorized official of the Department of Justice or other law enforcement agency;
  - vi. A court or grand jury; or



- vii. A management official or other employee of CONTRACTOR, contractor, or SUBCONTRACTOR who has the responsibility to investigate, discover, or address misconduct.
  - c. CONTRACTOR shall inform its employees in writing of the rights and remedies provided under this section, in the predominant native language of the workforce.
- 17. **Increasing Seat Belt Use in the United States.** Pursuant to Executive Order 13043, 62 FR 19217 (Apr. 18, 1997), CONTRACTOR should encourage its employees and SUBCONTRACTORS to adopt and enforce on-the- job seat belt policies and programs for their employees when operating company-owned, rented or personally owned vehicles.
- 18. **Reducing Text Messaging While Driving.** Pursuant to Executive Order 13513, 74 FR 51225 (Oct. 6, 2009), CONTRACTOR should encourage its employees and SUBCONTRACTORS to adopt and enforce policies that ban text messaging while driving, and CONTRACTOR should establish workplace safety policies to decrease accidents caused by distracted drivers.

## **FAIR CHANCE ORDINANCE**

**Requires Fair Chance hiring standards for person, corporations, and entities in a contract, cooperative endeavor agreement, or grant with the City of Baton Rouge, Parish of East Baton Rouge by limiting the consideration of criminal history of an applicant, and to provide otherwise with respect hereto.**

### **Section 1**

**A contractor shall not request from the applicant their criminal history before the contractor extends a conditional offer of employment.**

### **Section 2**

**All contracts shall include a certification that the contractor has complied with the provisions of the fair chance ordinance.**

### **Section 3**

**The applicant will acknowledge in writing that a background check will be performed before a final offer of employment.**

### **Section 4**

**Section 1 does not apply if consideration of an applicant's criminal history is required by law.**

### **Section 5**

**The Purchasing department is the enforcing agency and shall establish a procedure for complaint.**

### **Section 6**

**The Fair Chance ordinance shall not apply to the following City Parish departments: Human Resources, Police, Constable, Fire Department, Emergency Medical Services, Juvenile Services, and Metro Airport.**

### **Section 7**

**The ordinance shall be effective May 5, 2023 following adoption and shall apply to contracts executed on or after the effective date EXCLUDING renewals to contracts awarded in response to an Request for Proposal (RFP), a Request for Qualifications (RFQ) or awarded by the Engineers or Architectural Selection Boards. The ordinance shall not apply to any agreements executed before the effective date of this ordinance.**

**The signature below certifies that the signer has carefully examined the above and is in full compliance with the terms listed.**

\_\_\_\_\_  
Date      Authorized Signature

\_\_\_\_\_  
Authorized Name (Printed)

## H2B WORKFORCE REQUIREMENTS

**H2B Workforce Requirements:** If Contractor uses H-2B workers, Contractor will provide services subject to the terms and conditions set forth below. In accordance with applicable laws,

- Contractor will provide each worker with a document explaining the terms and conditions of employment and the worker's rights, and a copy of any applicable H-2B work order by the time periods required by applicable law. A copy of Contractor's H-2B work order shall be provided to Company upon request.
- Contractor will display "Employee Rights Under the H-2B Program" poster, and all other notices and posters required by applicable federal, state and local law. Such notices **must** be provided to employees in English and in a language that each worker can understand.
- Contractor will pay employees at least once every two weeks, or as otherwise required by federal law or the disclosed payday in any applicable H-2B work order.
- Contractor will pay each employee not less than the highest minimum wage rate applicable to its employees, including minimum rates for H-2B laborers (as indicated in Contractor's Application for Temporary Employment Certification, which amount equals or exceeds the highest of the prevailing wage, the promised wage, and the federal, state and local minimum wage), and, if and when applicable, the highest overtime rate required by applicable law for all overtime hours worked by employees. Notwithstanding the foregoing, Contractor shall pay its employees in accordance with applicable H-2B regulations.
- In accordance with H-2B regulations, Contractor shall provide to its H-2B employees, and employees performing the same work, at least 35 hours of work per workweek, and a total number of work hours equal to at least 75% of the guaranteed hours as listed in the job order in each 12-week period (or each 6-week period), or **must** pay such employees the amount they would have earned had they worked for the guaranteed number of workdays.
- Contractor **must** pay its employees for their visa expenses and transportation and subsistence costs for travel to and from the worksite in accordance with H-2B regulations and Contractor's H-2B work order.
- Contractor **must** not seek or receive payments or other compensation from prospective workers, as prohibited by H-2B regulations.
- Contractor agrees to provide housing to its employees to the extent required by applicable H-2B regulations, the Federal Fair Labor Standards Act, and applicable federal, state, and local law.
- Contractor agrees to pay an arrival and return/subsistence and transportation fees for each worker at the beginning and end of each the job order period.
- Contractor **must** notify the U.S. Department of Labor if any H-2B or employee performing similar work separates from the job for any reason before the end of

Contractor's work order. The notification **must** be made in writing and no later than two (2) days after the separation is discovered by Contractor. Contractor **must** also notify the U.S. Department of Homeland Security of any such separation of an H-2B worker.

- Contractor **must** not offer terms, wages, and working conditions to U.S. workers that are less favorable than what Contractor offers or provides to H-2B workers. Further, Contractor **must** not impose restrictions or obligations on U.S. workers that are not imposed on H-2B workers. Contractor **must** not lay off any similarly employed U.S. worker in the occupation and area of intended employment from 120 days before the start of Contractor's job order.
- Contractor using H-2B workforce **must** include a copy of their most recently submitted LOI, Letter of Intent. The U.S. Department of Labor requires this letter in the visa approval process. This letter **must** be signed and dated on company letterhead, with a description of work applicable to the scope, and indicate County/Parish and State where work will be performed: East Baton Rouge Parish, Louisiana.

**City of Baton Rouge and Parish of East Baton Rouge  
Request for Removal and/or Substitution of a EBE Firm**

Project Name		
City Parish Project No.	State Project No.	EBE Commitment
Prime Firm Name		Phone Number
Original Contract Amount	Change Orders (Count)	Current Contract Value
Subcontractor to be removed		
Proposed substitute subcontractor		
Value of current subcontract		Value of proposed subcontract

Reason for removal or substitution (state in detail, attach supporting documentation if necessary):

Describe the good faith efforts made/ in progress to maintain EBE participation in order to continue to meet the EBE commitment:

Prime Firm's Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Type or Print Name: \_\_\_\_\_ Title: \_\_\_\_\_

If only one proposal receives the minimum score of 50 points, the City reserves the right to reduce the minimum score requirement at its discretion. If the City chooses to reduce the minimum score requirement it shall be done in 5 points increments until such time as the purchasing director determines in writing that no further reductions in the minimum score will be conducted. The determination shall include a justification for the reduction and the reason for the cessation of further reductions.

### **3.3 Stage 3: Cost Proposal Evaluation (Possible 25 Points)**

#### **Proposals successful in the Technical Evaluation will advance to Stage 3 Cost Proposal Evaluation as follows:**

The proposed price for calculation is the total annual cost estimate based on the anticipated level of effort to complete scope items detailed in Part II. The number of points earned equals the lowest proposal price divided by the vendor's proposal price and multiplied by 25 for the total number of points earned.

Examples:

Proposer No. 1

TOTAL ANNUAL COST - \$ 100,000

$\$100,000/\$100,000 = 1.00 \times 25 = 25$  points

Proposer No. 2

TOTAL ANNUAL COST - \$ 110,000

$\$100,000/\$110,000 = 0.91 \times 25 = 22.75$  points

Prices proposed by the Proposers should be submitted on the Proposal Forms (or in a similar format) furnished in Attachment A. Prices proposed shall be firm.

**The cost(s) provided in proposal response will be used in the Financial Evaluation Model to calculate lowest evaluated cost.)**

**Please note that prices may be negotiated in the best interest of the City after the scoring is completed.**

Note: The Proposer must include an itemized listing of all expenses or fees (including travel) that are expected to be paid by the Department.

To evaluate all proposals, a committee whose members have expertise in various areas has been selected. This committee will determine which proposals are reasonably susceptible of being selected for award. If required, written or oral discussions may be conducted with any or all of the Proposers to make this determination.

Written recommendation for award shall be made to Purchasing for the Proposer whose proposal, conforming to the RFP, will be the most advantageous to the City-Parish, price and other factors considered.

The committee may reject any or all proposals if none are considered in the best interest of City-Parish.

## **PART IV – PERFORMANCE STANDARDS**

### **4.1 Performance Requirements**

**A. Laws to be Observed:** The consultant shall keep informed of all Federal, State and local laws, ordinances, regulations, and all orders and decrees of bodies of tribunals having any jurisdiction or authority, which affect those employed on the work or which affect the performance of the work. He shall at all times comply with such laws, bylaws, ordinances, codes, regulations, orders, and decrees and shall indemnify the City-Parish and its representatives against any claim or liability arising from violation of any such law, bylaw, ordinance, code, regulation, order, or decree, whether by himself or his employees. It is specifically agreed between the parties executing this Contract that no provision of any part of this Contract is intended to create for the public or any member thereof a third-party beneficiary hereunder, or to authorize anyone not a party to this Contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Contract. The duties, obligations, and responsibilities of the parties to this Contract with respect to third parties shall remain as imposed by the law. Any litigation arising under or related to the Contract or the bidding or award thereof shall be instituted in the 19th Judicial District Court in and for the Parish of East Baton Rouge, State of Louisiana.

**B. Right to Audit:** The City-Parish shall have the right to audit the books and records of the consultant during the hours of the normal workday. The consultant shall maintain his financial records for this work for three years after completion of this contract.

**C. Personal Liability of Public Officials:** In carrying out the provisions of the Contract, or in exercising any power or authority granted thereunder, there shall be no liability upon the City Parish, or their authorized representatives, either personally or otherwise, as they are agents and representatives of the City-Parish.

**D. Contract Dollar Amount:** Expenditures for work which consultant claims extends beyond the terms of the Contract shall not be reimbursed without prior execution of a Supplemental Agreement whereby all parties involved agree to the additional work and its costs.

### **4.2 Performance Measurement/Evaluation**

**A. Authority of Department Representative:** The work will be evaluated by the Department representative, and performed to his satisfaction in accordance with the Scope of Work. The Department representative will decide all questions which may arise as to the quality or acceptability of the work performed, the manner of performance, rate of progress, interpretation of the Scope of Work, and the acceptable fulfillment of the Contract on the part of the consultant.

His decisions will be final, and he will have executive authority to enforce and make effective his decisions and orders that the consultant fails to carry out promptly.

B. Subletting or Assigning of Contract: The consultant shall not be permitted to sub-contract, sublet, assign, sell, transfer, or otherwise dispose of the Contract or any portion thereof, or his rights, title, or interest therein, without the prior written approval of the Department representative. No subcontract will, in any case, relieve the consultant of his responsibility under the Contract and bond. The consultant shall perform with his own organization and with the assistance of workmen under his immediate supervision, work of value not less than fifty percent (50%) of the value of all work embraced in the Contract. Written consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the consultant of any responsibility for the fulfillment of the Contract.

C. Workmen and Equipment: Any person employed by the consultant or a subVendor who, in the opinion of the Department representative, does not perform required work in a proper and skillful manner, or who is disrespectful, intemperate, disorderly, or otherwise objectionable, shall be removed from performing work outlined in this scope of work at the written request of the Department representative.

D. Temporary Suspension of Work: The Department representative shall have authority to suspend the work, wholly or in part, for such period as he may consider necessary. Notice of such suspension with the reason therefore shall be given the consultant in writing. The consultant shall not suspend work without written authority of the Department representative.

E. Failure to Perform or Complete on Time: Should the consultant fail to mobilize within the timeframes specified or fails to complete the work authorized in an acceptable manner and within the time limits specified, the Owner reserves the right to complete the work through other means upon 24-hour notification. Failure of consultant to mobilize on time or failure to complete the work in an acceptable manner and on time for more than three (3) occasions over an annual contract period, shall result in the consultant being placed in default and cancellation of the Contract.





## ATTACHMENT A – PROPOSAL FORMS

*CITY OF BATON ROUGE  
PARISH OF EAST BATON ROUGE*

Sealed proposals will be received until 2:00 PM, Local Time December 3, 2024 by the Purchasing Division, 222 Saint Louis Street, City Hall, Room 826, Baton Rouge, LA 70802.

PROPOSAL OF \_\_\_\_\_

ADDRESS \_\_\_\_\_

DATE \_\_\_\_\_

The Purchasing Director  
City of Baton Rouge  
Parish of East Baton Rouge  
Baton Rouge, Louisiana

The undersigned hereby agrees to furnish all materials, tools, equipment, insurance and labor to perform all services required for the following project:

### **Environmental Services Facility, Facilities Management Services**

as set forth in the following Contract Documents:

1. Notice to Proposers
2. The Specifications (Administrative and General Information, Scope of Work/Services, Evaluation, Performance Standards, Attachments and Appendix.)
3. Proposal Forms with Attachments
4. Agreement
5. The following enumerated addenda: \_\_\_\_\_ receipt of which is hereby acknowledged.

The undersigned declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion of any kind with any other person, firm, association or corporation; that the undersigned has carefully examined the site of the proposed work, and proposes, and agrees, if this proposal is accepted, to do all the work and furnish all the services specified in accordance with the requirements of the Contract Documents and to accept as

full compensation therefore the total amount of the prices herein proposed, subject to any mutually agreed upon amendments.

The undersigned agrees that the proposal is firm until time of award.

The undersigned agrees to execute the Agreement and Affidavit and furnish to the City-Parish all insurance certificates and performance bond (if applicable) required for the project within fifteen (15) calendar days after receiving notice of award from the City-Parish.

The undersigned further agrees that the work will begin on the date specified in the Notice to Proceed, projected to be on or about \_\_\_\_\_ and **shall** be diligently prosecuted at such rate and in such manner as, in the opinion of the City-Parish's Representative is necessary for the prosecution of the work within the times specified in the Agreement, it being understood that time is of the essence.

The price for performance of all services in accordance with the Contract Documents is based on the unit (or other costs) proposed and accepted after contract negotiations.

**NOTE: This financial proposal shall include any and all costs the Consultant wishes to have considered in the contractual arrangement with the City-Parish. If quoted as a lump sum, individual rates and itemized costs included in lump sum are to be included with proposal submittal.**

All supplemental information requested is enclosed or presented in a separate sealed box or envelope.

---

( SIGNATURE)

---

(Typed Name and Title)

**THE ATTACHED PROPOSER'S ORGANIZATION SHEET **MUST BE** COMPLETED TO INDICATE WHETHER BIDDER IS AN INDIVIDUAL, PARTNERSHIP, ETC.**

**PROPOSER'S ORGANIZATION**

PROPOSER IS:

AN INDIVIDUAL

Individual's Name: \_\_\_\_\_

Doing business as: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

A PARTNERSHIP

Firm Name: \_\_\_\_\_

Address: \_\_\_\_\_

Name of person authorized to sign: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_ Email: \_\_\_\_\_

A LIMITED LIABILITY COMPANY

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Name of person authorized to sign: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_ Email: \_\_\_\_\_

A CORPORATION

**IF PROPOSAL IS BY A CORPORATION, THE CORPORATE RESOLUTION **MUST** BE SUBMITTED WITH PROPOSAL.**

Corporation Name: \_\_\_\_\_

Address: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Name of person authorized to sign: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_ Email: \_\_\_\_\_

**IF PROPOSAL IS BY A JOINT VENTURE, ALL PARTIES TO THE PROPOSAL **MUST** COMPLETE THIS FORM.**

**AFFIDAVIT**

**STATE OF LOUISIANA  
PARISH OF EAST BATON ROUGE**

**BEFORE ME**, the undersigned authority, personally came and appeared

---

who, being duly sworn did depose and say:

That he is a duly authorized representative of \_\_\_\_\_  
receiving value for services rendered in connection with:

**Environmental Services Facility, Facilities Management Services**

a public project of the City of Baton Rouge, Parish of East Baton Rouge, Louisiana: that he has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by him whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for him; and that no part of the contract price received by him was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

---

Affiant's Signature

**SWORN TO AND SUBSCRIBED** before me, on this \_\_\_\_\_ day of \_\_\_\_\_, 2024.  
Baton Rouge, Louisiana.

---

**NOTARY PUBLIC**

**CORPORATE RESOLUTION**

A meeting of the Board of Directors of \_\_\_\_\_  
a corporation organized under the laws of the State of \_\_\_\_\_  
and domiciled in \_\_\_\_\_ was held this \_\_\_\_ day \_\_\_\_\_, 2024  
and was attended by a quorum of the members of the Board of Directors.

The following resolution was offered, duly seconded and after discussion was unanimously adopted by said quorum:

**BE IT RESOLVED**, that \_\_\_\_\_  
is hereby authorized to submit proposals and execute agreements on behalf of this corporation with the City of Baton Rouge, and Parish of East Baton Rouge.

**BE IT FURTHER RESOLVED**, that said authorization and appointment shall remain in full force and effect, unless revoked by resolution of this Board of Directors and that said revocation will not take effect until the Purchasing Director of the Parish of East Baton Rouge, shall have been furnished a copy of said resolution, duly certified.

I, \_\_\_\_\_, hereby certify that I am the Secretary of \_\_\_\_\_,  
a corporation created under the laws of the State of \_\_\_\_\_ domiciled in \_\_\_\_\_;  
that the foregoing is a true and exact copy of a resolution adopted by a quorum of the Board of Directors of said corporation at a meeting legally called and held on the \_\_\_\_\_ day of \_\_\_\_\_ 2024, as said resolution appears of record in the Official Minutes of the Board of Directors in my possession.

This \_\_\_\_\_ day of \_\_\_\_\_, 2024

\_\_\_\_\_  
**SECRETARY**

**ATTACHMENT A-1  
 PRICING SCHEDULE  
 CITY OF BATON ROUGE  
 PARISH OF EAST BATON ROUGE**

\*This form should be sealed in a separate envelope marked "Proposed Costs & Fees."

The financial proposal shall include any and all costs the Vendor wishes to have considered in the contractual arrangement with the City-Parish. If quoted as a lump sum, individual rates and itemized costs included in lump sum are to be detailed with proposal submitted. List all pricing details here or in a format similar in nature to this schedule. Include all possible elements of cost, including, but not limited to, Labor & Staffing; Services, Procedures, & Products; and All Other Elements of Cost.

PRICING PROPOSAL OF \_\_\_\_\_

ADDRESS \_\_\_\_\_

DATE \_\_\_\_\_

The undersigned hereby agrees to furnish all materials, tools, equipment, insurance and labor to perform all services required for the following project:

**Environmental Services Facility, Facilities Management Services  
 ANNUAL PRICING SCHEDULE**

Description	Measure	Unit Price	Extension
Facility Management Services	1 ea.		
Emergency Call-out	100 hours		
Material Allocation	1 ea.	\$30,000	\$30,000
<b>Total</b>			

**ATTACHMENT B – SAMPLE CONTRACT**  
**SAMPLE CONTRACT FOR ENVIRONMENTAL SERVICES FACILITY, FACILITIES**  
**MANAGEMENT SERVICES**

**PROFESSIONAL SERVICES AGREEMENT**

This Agreement entered into effective the \_\_\_ day of \_\_\_\_\_, 2025 by and between the **City of Baton Rouge and Parish of East Baton Rouge**, hereinafter referred to as “City-Parish” on behalf of the Department of Environmental Services, and *Service Provider*, hereinafter referred to as “Service Provider”.

**Article I: Term**

This contract **shall** commence upon the issuance of a Notice to Proceed by the Department and **shall** continue through December 31, 2025. This contract will have the option of four annual renewals for calendar years 2026, 2027, 2028 and 2029. Extension of the contract into subsequent time periods **shall** be made by letter on or before the expiration of the contract and is only possible if all prices and conditions remain the same upon mutual agreement of both parties.

**Article II: Scope of Services**

The City-Parish hereby engages the services of Service Provider, with said services to be rendered to the Department of Environmental Services herein referred to as the “DES” as defined per Attachment “A”, attached and made a part of this agreement as authorized by Metropolitan Council resolution ##### dated *Month Day, Year*.

**Article III: Status of Service Provider**

Service Provider is serving as an independent contractor in providing the necessary services and neither the City-Parish nor any of its agents nor assigns **shall** have responsibility for any acts or omissions of Service Provider, its employees, agents or subcontractors. The Agreement **shall** not be construed as an employment contract and neither Service Provider nor any employees, agents or subcontractors of Service Provider **shall** receive benefits afforded by provisions or regulations governing classified or unclassified personnel for the City-Parish and the Service Provider’s representative by signature hereto expressly waives and relinquishes any such rights.

**Article IV: Conflict of Interest and Louisiana Code of Ethics**

In accordance with Louisiana law (La. Rev. Stat. Title 42, Chapter 15), all vendors and service providers to the City-Parish are required to adhere to the ethics standards for public employees (public employee defined at <https://www.legis.la.gov/legis/Law.aspx?d=99214>). As such, third party vendors and service providers **shall** be responsible for determining and ensuring that there will be no conflict or violation of the Louisiana Ethics Code if their company is awarded a contract with the City-Parish. In addition, third party vendors and service providers are responsible for adhering to the Louisiana Code of Governmental Ethics throughout the duration of this contract, to include any additional amendments and/or extensions or renewals. Care **must** be exercised to avoid impropriety.

The Louisiana Board of Ethics is the **only** entity which can officially rule on ethics issues. A link to the Guide for Governmental Ethics can be found at: <http://ethics.la.gov/Pub/Laws/ethsum.pdf>. The Louisiana Board of Ethics website is <http://ethics.la.gov/>.

#### **Article V: Insurance**

Service Provider **shall** carry and maintain at all times during the performance of this contract, insurance coverage with limits of not less than \$1,000,000. A certificate of insurance evidencing the required coverage as noted in Attachment “D” **shall** be provided prior to final execution of the contract and commencement of work.

#### **Article VI: Indemnification**

Service Provider **shall** indemnify, defend, and hold harmless the City-Parish from any and all losses, damages, expenses or other liabilities, including but not limited to punitive and/or exemplary damages connected with any claim for personal injury, death, property damage or other liability that may be asserted against the City-Parish, its officials, employees or agents, by any party which arises from or allegedly arising from the performing its obligations under this agreement.

Service Provider, its agents, employees and insurer(s) hereby release the City-Parish its agents and assigns from any and all liability or responsibility including anyone claiming through or under them by way or subrogation or otherwise for any loss or damage which Service Provider, its agents or insurers may sustain incidental to or in any way related to Service Provider’s operation under this Agreement.

#### **Article VII: Cybersecurity Prerequisites**

Service Provider, including all principals and employees who require access to City-Parish information technology assets, **shall** complete the cybersecurity training required by La. R.S. 42:1267 and furnish the City-Parish proof of said completion prior to being granted access to said assets.

#### **Article VIII: Compensation**

The City-Parish **shall** pay and Service Provider agrees to accept the unit prices in Attachment B as full compensation for the professional services to be performed under this contract. These unit prices are subject to an annual 3% increase beginning in the second year of the contract. The contract amount **shall** not exceed \$###,###.## annually.

This compensation **shall** be payable within thirty (30) days after submission and approval of monthly invoices in the DES invoice portal with appropriate documentation.

#### **Article IX: Inspection of Books and Records**

The Service Provider **shall** permit the authorized representative of the City-Parish to periodically inspect and audit all data and records of the Service Provider relating to performance under this Agreement for the purpose of audit, examination, excerpts, and transcriptions.

#### **Article X: Record Retention**



The Service Provider **must** retain all financial records, supporting documents, statistical records, and all other records pertinent to the grant award for at least 3 years.

#### **Article XI: Complete Agreement**

This is the complete agreement between the parties and supersedes all prior discussions and negotiations. Neither party **shall** rely on any statement or representations made by the other party not embodied in this agreement. This agreement **shall** become effective upon final signature by all parties.

#### **Article XII: Contract Modifications**

No amendment or change to the terms of this agreement **shall** be valid unless made in writing, signed by the parties and approved as required by law. In the event of an inconsistency between this Professional Service Agreement and any Attachments or Exhibits, unless otherwise provided herein, the inconsistency **shall** be resolved by giving precedence first to this Professional Service Agreement.

#### **Article XIII: Termination for Convenience**

The City-Parish may terminate this agreement at any time by giving thirty (30) days written notice to consultant of such termination or negotiating with the contractor an effective date. In the event of early termination of this Agreement, City-Parish **shall** pay all costs accrued by Service Provider as of the date of termination, including all non-cancelable obligations and all non-cancelable contracts. Service Provider **shall** deliver all completed deliverables to the City-Parish granting party at the time of termination.

#### **Article XIV: Termination for Cause**

The City-Parish may terminate this agreement for cause based upon the failure of the Service Provider to comply with the terms and/or conditions of the agreement provided that written notice specifying the failure **shall** be given. Service Provider **shall** have thirty (30) days to correct such failure or, begin a good faith effort to correct the failure and thereafter proceed diligently to complete such correction. If such efforts are not made as defined herein, the City-Parish, may at its option, place the Service Provider in default and the agreement **shall** terminate on the date specified in such notice.

The Service Provider may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of the City-Parish to comply with the terms and conditions of the agreement, provided that the Service Provider **shall** give the City-Parish written notice specifying the City-Parish's failure and a reasonable opportunity for the City-Parish to correct the failure. Should the Service Provider be determined to be in "default" under the terms, conditions and deliverables outlined in this contract, then all costs occurred will be subject to adjustment based on the remaining scope of services. In the event of contract termination, all relevant documents and work product **shall** be considered the property of the City-Parish and returned to the City-Parish.

#### **Article XV: Assignment and Subcontracting**

This agreement is not assignable by the Service Provider without the City-Parish's written consent, which it may withhold at its sole discretion, and any unapproved assignment will be invalid and ineffective. The Service Provider may not subcontract any of its responsibilities under this Agreement to another person without the City-Parish's prior approval.

**Article XVI: Governing Law and Venue**

This agreement shall be governed by and interpreted in accordance with the laws of the State of Louisiana. Venue of any action brought with regard to this Agreement shall be in the Nineteenth Judicial District court, parish of East Baton Rouge, State of Louisiana.

**Article XVII: Federal Clauses**

Attachment “C” contains federal clauses that were included in the RFP for this contract. These federal clauses are mandatory if Federal Funds are utilized. On this particular contract, the most common instance where federal funding would be used is in response to a declared disaster where FEMA reimbursement is requested for damages to City-Parish equipment. By signing this contract, the Service Provider acknowledges the use of and agrees to comply with these federal clauses if this contract is used in response to a declared disaster.

**Article XVIII: SEDBE Program**

The City of Baton Rouge and Parish of East Baton Rouge’s Socially and Economically Disadvantaged Business Enterprise (SEDBE) Program is made part of this contract. The complete requirements of the SEDBE Program are included in Attachment C.

In witness whereof, the parties hereto have executed this Agreement effective as of the date first written above.

**WITNESSES**

*City of Baton Rouge and Parish of East Baton Rouge*

\_\_\_\_\_

By: \_\_\_\_\_

**Sharon Weston Broome  
Mayor-President**

Date: \_\_\_\_\_

*Service Provider*

\_\_\_\_\_

By: \_\_\_\_\_

*Name  
Title*

Date: \_\_\_\_\_

**Approved:**

---

**Adam M. Smith, PE**  
**Interim Environmental Services Director**

**Approved:**

---

**Trina C. Hall, Assistant CAO**  
**Office of the Mayor-President**

**Approved as to form:**

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**Office of the Parish Attorney**

## ***ATTACHMENT A***

### **SCOPE OF SERVICES**

#### **A.1 Scope of Services**

The vendor **shall** maintain a local (within 25 miles of 12422 Florida Blvd., Baton Rouge, LA 70815) office, staffed and equipped, so that communications, correspondence, dispatching of employees, handling complaints, and other problems normally related to the Services can be efficiently and effectively provided.

It **shall** be the vendor's sole duty and responsibility to maintain and administer all phases of the Services under the terms of an awarded Contract.

The vendor **shall** employ an individual, in a supervisory capacity, whose primary function will be the supervision of the vendor's employees or anyone directly or indirectly employed by vendor, including subcontractors, or anyone for whose acts vendor may be liable performing services for the facility. This individual will be the primary point of contact with the Department.

The vendor **shall** follow all code regulations; safety regulation recommendations **shall** be followed within relation to any and all work accomplished under this contract.

The vendor **shall** provide management services for all issues related to equipment and associated components of equipment included within the scope of the RFP and monitor any sub-contractor/third party Vendor performance.

The vendor **shall** make every effort to include at least one (1) female custodian on its staff to ensure proper coverage for the female rest rooms and/or locker facilities.

The warranty period for the facility began on May 5, 2023. The vendor is responsible for coordinating with the appropriate vendor/Vendor all replacements/repairs required under the warranty period. A list of the specific warranties is provided as Attachment C. Additionally, the vendor/Vendor contact and product brochures and warranty statements is provided in the OPERATION & MAINTENANCE INSTRUCTIONS.

The OPERATION & MAINTENANCE INSTRUCTIONS is provided as part of this RFP as Attachment D. Any language relative to maintenance in the instructions that conflicts with the RFP **shall** supersede the RFP. As part of the contract, the Vendor **shall** complete all maintenance items required in the instructions, even if they are not wholly stated in the RFP.

***ATTACHMENT B  
PRICING SCHEDULE***

<b>Description</b>	<b>Measure</b>	<b>Unit Price</b>	<b>Extension</b>
Facility Management Services	1 ea.		
Emergency Call-out	100 hours		
Material Allocation	1 ea.	\$30,000	\$30,000
<b>Total</b>			

***ATTACHMENT C***  
***SEDBE FORMS AND PROCEDURES***

## DISADVANTAGED BUSINESS ENTERPRISE INCLUSION

The City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program") is made part of this contract and incorporated hereto as if copied in extensor. For these services, the EBR Parish Purchasing office has directed a review of the scope of work and has established a minimum EBE goal of 25% of the contract amount.

### PART I – POLICY/ COMPLIANCE

(A) The City-Parish strongly encourages the acquisition of goods and services from and direct participation of Eligible Business Enterprise ("EBEs"). The term EBE **shall** have the meaning set forth in the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program.

The Program is a race- and gender-neutral program intended to provide additional contracting and procurement opportunities for certified small, disadvantaged, woman-owned, minority-owned, veteran-owned, and service-disabled veteran-owned business enterprises by encouraging contractors who receive City-Parish contracts to use good-faith efforts to utilize such certified entities in the performance of those contracts. The City-Parish desires to achieve, to the greatest extent possible, commercially meaningful and useful participation by EBEs. By providing equitable opportunities for EBEs, the City-Parish derives multiple benefits, including contributing to the economic vitality of our communities and ensuring a broader selection of competitively priced goods and services.

Contractor should present a responsible plan that provides for participation of qualified EBEs. Participation **shall** be counted toward meeting the contract goals only by business entities certified under the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program. The direct participation goal can be achieved through direct ownership, joint venture participation, owner/operator agreements, or subcontract agreements for participation.

If the Contractor does not meet the full EBE goal, then written documentation **must** be provided showing their good faith efforts to secure EBE participation, the unavailability of potential EBE firms, and provide justification as to why such goals cannot be met that is found to be acceptable to the SEDBE Liaison Officer.

(B) FAILURE TO COMPLY WITH SEDBE REQUIREMENTS: All City-Parish contract performers (Prime Contractors, Subcontractors, etc.) are hereby notified that failure to carry out the EBE obligation, as set forth, **shall** constitute a breach of contract. The breach of contract will be reviewed by City-Parish which may result in termination of the contract or other remedies deemed appropriate for the given situation.

(C) SUBCONTRACTS: All Prime Contractors, and Subcontractors, hereby **shall** include the following clauses in all contracts that offer further subcontracting opportunities.

The Contractor or Subcontractor **shall** not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor **shall** carry out applicable requirements of City-Parish's Socially and Economically Disadvantaged Business Enterprise Program in the award and administration of City-Parish contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient (City-Parish) deems appropriate.

The Prime Contractor agrees to pay each Subcontractor under this contract for satisfactory performance of its contract prior to submitting an invoice to the City-Parish for request for payment. This payment will be documented on the Contractor's Monthly Report form that is submitted with each payment request. The Prime

Contractor agrees further to return retainage payments to each Subcontractor within 14 days after the Subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause. This clause applies to both EBE and non-EBE Subcontractor(s).

(D) AWARD OF EBE SUBCONTRACTS: The Contractor shall, no later than three (3) business days from the award of a contract, execute formal contracts or purchase orders with the EBE(s) included on Form 1.

(E) COUNTING EBE PARTICIPATION: City-Parish will count EBE participation toward overall and contract goals as provided in City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program"). City-Parish will only count EBE participation by those EBEs performing commercially useful functions. City-Parish Purchasing Division will not count the participation of EBE Subcontractors toward a Contractor's final compliance with its EBE obligations on a contract until the amount being counted has actually been paid to the EBE.

The Contractor may count its entire expenditure to EBE manufacturers (i.e., a supplier that produces goods from raw materials or substantially alters them before resale). The Contractor may count sixty percent (60%) of its expenditures to EBE suppliers that are not manufacturers, provided that the EBE supplier performs a commercially useful function in the supply process.

A Contractor shall not count the value of any payment made to an EBE for work that was further subcontracted out by the EBE to a non-EBE.

## **PART II – PROCEDURE TO DETERMINE QUALIFICATION STATEMENT OR PROPOSAL COMPLIANCE**

(A) ELIGIBILITY OF SEDBEs: To be counted toward the participation Goals pursuant to the Program, an EBE must be certified by the City-Parish at the time a bid or proposal is submitted. The fact that an EBE is certified does not necessarily mean that it has the qualifications and experience for the type of work required by any particular Contract. The responsibility for determining whether an EBE has the qualifications and experience for the type of work required by the Contract rests with the Contractor. To be deemed an EBE certified entity, firms must complete the City-Parish's certification process. Only EBE certified firms under the City-Parish at the time the Bid opening will count toward the EBE goal.

(B) REPORTING FORMS 1, 1A, AND 2: The following fully completed forms shall be furnished to the City-Parish on a monthly basis. The forms shall have all blank spaces filled in completely and correctly. These forms are as follows:

FORM 1 – EBE RESPONSIVENESS FORM (copy attached): It is the obligation of the Respondent to make good faith efforts to meet the EBE goal. Respondents can demonstrate their good faith efforts either by meeting the contract goal or by documenting good faith efforts taken to obtain EBE participation. The Form 1 shall accurately detail the work proposed by the Respondents to be performed by Respondent and all entities participating in the project and, if it is a bid or proposal, the percent value of that work. If a Respondent is unable to fully meet the EBE goal of this contract, the Respondent shall submit a Form 2 form and all documentation demonstrating the good faith efforts made to comply with the EBE requirements.

FORM 1A - REQUIRED PARTICIPATION QUESTIONNAIRE FORM (copy attached): Form 1A shall accurately detail the work to be performed by each and every firm participating in the project. A Form 1A must be submitted for the Contractor and for each Subcontractor included on Form 1. In addition, each participating EBE firm must submit a current letter of EBE certification along with its Form 1A.



FORM 2 - Good Faith Efforts (copy attached): Form 2 is only required when the prime firm is unable to fully meet the EBE contract goal. Form 2 **shall** provide documentation of good faith efforts made to obtain EBE participation. Form 2 **must** be accompanied by supporting documentations such as, but not be limited to, phone logs, facsimiles, and e-mail correspondence with potential EBE firms. Further explanation of good faith efforts may be found in the Instructions for Form 2. It is up to City-Parish or its Designee to make a fair and reasonable judgment whether a Respondent made adequate good faith efforts to achieve the contract goal.

FORM 3 - Monthly Utilization/Participation SEDBE Report (copy attached): Form 3 **shall** be submitted to the Field Engineer along with monthly payment requests and **shall** accurately represent the amount paid to EBE Subcontractors during that invoice period. This form **must** be submitted with every monthly invoice regardless of the amount of payment or lack of payment. The form **shall** be signed by the Contractor and the SEDBE Subcontractor(s) if payment has been made for that month. SEDBE participations will not be counted toward the Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in withholding of payment or partial payments to the Contractor until the required forms are submitted.

## **Appendix A SEDBE Forms and Procedures**

### **CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE**

#### **Form 1**

#### **EBE Responsiveness Form**

#### **INSTRUCTIONS**

Column A. Indicate the firm's role: Contractor, subcontractor, manufacturer, regular dealer/supplier, or broker/agent. Note that only 60% of the value of regular dealer/supplier commissions and fees can be counted toward Socially and Economically Disadvantaged Business Enterprise participation. All firms participating EBE and non-EBE , prime and subs) **must** be included on the form.

Column B. Provide the name and address of the firm.

Column C. Provide the principal contact person and phone number of the firm.

Column D. Describe the work, goods, and/or services to be provided by the firm.

Column E. Indicate the percent value of the amount of work assigned to the firm. Total percent value of work should equal 100% to account for all work being performed on the contract.

Column F. Indicate whether firm is an EBE or non-EBE. EBE-certified means to be certified by the EBRP Socially and Economically Disadvantaged Business Enterprise Program.

## Form 1A Required Participation Questionnaire

**INSTRUCTIONS:** A fully completed Form 1A "Required Participation Questionnaire" must be submitted for the prime firm, each subcontractor, and any other tier or subcontractor, as a condition of responsiveness. This information is to be collected and documented for all City of Baton Rouge and Parish of East Baton Rouge projects as required by the City of Baton Rouge and Parish of East Baton Rouge. All items requested on the form are required, if an item is not applicable, respondents shall enter N/A. Each prime firm participating as a joint venture should complete a separate form and indicate (Item 9) that the response is a joint venture.

1. Project name, project number and date of submittal:	2. Official name of firm:    Indicate if prime or subcontractor:	3. Address of office to perform work:						
4. Name of parent company, if any:	5. Location of headquarters (city):	6. Age of firm:						
7. Name, title, and telephone number of principal contact:	8. Indicate Any Special Status: <table style="width: 100%; margin-top: 10px;"> <tr> <td><input type="checkbox"/> Small business</td> <td><input type="checkbox"/> SBA certified</td> </tr> <tr> <td><input type="checkbox"/> Minority-owned business</td> <td><input type="checkbox"/> LAUCP DBE certified</td> </tr> <tr> <td><input type="checkbox"/> Woman-owned business</td> <td><input type="checkbox"/> EBE Certified with CITY-PARISH</td> </tr> </table> <p>*A firm participating as a EBE must be certified by the City of Baton Rouge and Parish of East Baton Rouge SEDBE Program by the date of submittal. Current letter of certification shall be attached.</p>		<input type="checkbox"/> Small business	<input type="checkbox"/> SBA certified	<input type="checkbox"/> Minority-owned business	<input type="checkbox"/> LAUCP DBE certified	<input type="checkbox"/> Woman-owned business	<input type="checkbox"/> EBE Certified with CITY-PARISH
<input type="checkbox"/> Small business	<input type="checkbox"/> SBA certified							
<input type="checkbox"/> Minority-owned business	<input type="checkbox"/> LAUCP DBE certified							
<input type="checkbox"/> Woman-owned business	<input type="checkbox"/> EBE Certified with CITY-PARISH							
9. Is this submittal a joint venture (JV)? <input type="checkbox"/> Yes <input type="checkbox"/> No	10. Summary of firm's annual revenues (please insert index number from below):  Last Year: _____ 2 Years ago: _____ 3 Years ago: _____							
If so, has the JV worked together before? <input type="checkbox"/> Yes <input type="checkbox"/> No	Ranges of annual revenues received:  <u>Index:</u> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1 less than \$500,000</td> <td style="width: 50%;">4 \$2,000,000 to \$4,000,000</td> </tr> <tr> <td>2 \$500,000- \$1,000,000</td> <td>5 \$5,000,000 to \$6,000,000</td> </tr> <tr> <td>3 \$1,000,000 to \$2,000,000</td> <td>6 \$6,000,000 or greater</td> </tr> </table>		1 less than \$500,000	4 \$2,000,000 to \$4,000,000	2 \$500,000- \$1,000,000	5 \$5,000,000 to \$6,000,000	3 \$1,000,000 to \$2,000,000	6 \$6,000,000 or greater
1 less than \$500,000	4 \$2,000,000 to \$4,000,000							
2 \$500,000- \$1,000,000	5 \$5,000,000 to \$6,000,000							
3 \$1,000,000 to \$2,000,000	6 \$6,000,000 or greater							

I do solemnly declare and affirm under the penalties of perjury that the contents of this document are true and correct, and that I am authorized on behalf of this firm to make this affidavit.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

**Form 2**  
**Good Faith Efforts**  
**INSTRUCTIONS:**

If required, attach a completed Form 2 and supporting documents to establish that Good Faith Efforts were undertaken to secure EBE participation:

The following is a list of types of actions which you should consider as part of the Contractor's good faith efforts to obtain EBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

- A. Conducting market research to identify small business contractors and suppliers and soliciting through all reasonable and available means the interest of all certified EBEs that have the capability to perform the work of the contract. This may include attendance at pre-bid and business matchmaking meetings and events, advertising and/or written notices, posting of Notices of Sources Sought and/or Requests for Proposals, written notices or emails to all DBEs listed in the State's directory of transportation firms that specialize in the areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project. The Contractor should solicit this interest as early in the acquisition process as practicable to allow the EBEs to respond to the solicitation and submit a timely offer for the subcontract. The Contractor should determine with certainty if the EBEs are interested by taking appropriate steps to follow up initial solicitations.
- B. Selecting portions of the work to be performed by EBEs in order to increase the likelihood that the EBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example, smaller tasks or quantities) to facilitate EBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible timeframes for performance and delivery schedules in a manner that encourages and facilitates EBE participation.
- C. Providing interested EBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation with their offer for the subcontract.
- D. Negotiating in good faith with interested EBEs. It is the Contractor's responsibility to make a portion of the work available to EBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available EBE subcontractors and suppliers, so as to facilitate EBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of EBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for EBEs to perform the work.
- E. A Contractor using good business judgment would consider a number of factors in negotiating with subcontractors, including EBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using EBEs is not in itself sufficient reason for a Contractor's failure to meet the contract EBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the Contractor of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from EBEs if the price difference is excessive or unreasonable.

- F. Not rejecting EBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal. Another practice considered an insufficient good faith effort is the rejection of the EBE because its quotation for the work was not the lowest received. However, nothing in this paragraph shall be construed to require the Contractor to accept unreasonable quotes in order to satisfy contract goals.
- G. Contractor's inability to find a replacement EBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original EBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement EBE, and it is not a sound basis for rejecting a prospective replacement EBE's reasonable quote.
- H. Making efforts to assist interested EBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
  - I. Making efforts to assist interested EBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - J. Effectively using the services of available minority/women/veteran community organizations; minority/women/veteran contractors' groups; local, State, and Federal minority/women/veteran business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of EBEs.

**ATTACHMENT D**  
**CONTRACTOR'S AND SUB CONTRACTOR'S INSURANCE**

Service Provider and any subcontractor shall carry and maintain at least the minimum insurance as specified below until completion and acceptance of the work. Service Provider shall not commence work under this contract until certificates of insurance have been approved by the City-Parish Purchasing Division. Insurance companies listed on certificates must have industry rating of A-, Class VI or higher, according to Best's Key Rating Guide. Service Provider is responsible for assuring that its subcontractors meet these insurance requirements.

**A. General Liability Insurance**

General Liability insurance, endorsed to provide coverage for explosion, collapse and underground damage hazards to property of others; Contractual Liability, Products and Completed Operations (for a minimum of two year after acceptance of the Work), **Additional Insured and Waiver of Subrogation in favor of Contractor and Owner.**

General Aggregate	\$2,000,000
Products-Completed Operations	\$1,000,000
Personal & Adv Injury	\$1,000,000
Per Occurrence	\$1,000,000
Damage to Premises Rented to You	\$ 100,000
Medical Payments	\$ 5,000

**B. Automobile Liability Insurance**

**Automobile Liability Insurance which shall include coverage for all owned, non-owned and hired and shall be endorsed to include a Waiver of Subrogation and Additional Insured in favor of Contractor and Owner. Bodily Injury and**

Property Damage \$1,000,000 Combined Single Limit Each Occurrence (Minimum)

**C. Worker Compensation and Employers Liability Insurance**

Subcontractor agrees to comply with Workers Compensation laws of the state where the Work is performed, and to maintain a Workers Compensation and Employers Liability policy. **The policy shall include a Waiver of Subrogation endorsement in favor of the Contractor and Owner. Full statutory liability for State of Louisiana with Employer's Liability Coverage.**

Workers Compensation Statutory  
Employer's Liability \$1,000,000 Each Accident (Minimum)  
\$1,000,000 Disease Each Employee

**D. Excess Umbrella Liability Coverage**

**Excess/Umbrella Liability insurance shall be follow form the primary coverages and shall be endorsed to include a Waiver of Subrogation and Additional Insured in favor of Contractor and Owner.**

Bodily Injury and  
Property Damage \$1,000,000 Combined Single Limit Each Occurrence (Minimum)

**E. The City of Baton Rouge and Parish of East Baton Rouge must be named as additional insured on all general liability policies described above.**

**F. Waiver of subrogation in favor of City of Baton Rouge and Parish of East Baton Rouge is required from Workers Compensation Insurer.**

G. Certificates must provide for thirty (30) days written notice to Certificate Holder prior to cancellation or change.

H. **The Certificate Holder should be shown as:**

**City of Baton Rouge and Parish of East Baton Rouge  
Attn: Purchasing Division  
222 St. Louis Street  
8th Floor Room 826  
Baton Rouge, LA 70802**

Revised 11-22

**STANDARD FEDERAL AWARD  
CONTRACTOR TERMS AND CONDITIONS  
COMPLIANCE WITH THE CODE OF FEDERAL REGULATIONS  
(2 C.F.R. § Pt. 200, App. II)**

**CHECK HERE TO CONFIRM THAT NO U.S. TREASURY CORONAVIRUS LOCAL FISCAL RECOVERY FUNDS ARE BEING USED FOR THIS CONTRACT/PROFESSIONAL SERVICE AGREEMENT**

1. **Termination for Cause or Convenience; Suspension.** CITY-PARISH may exercise any rights available under Louisiana law to terminate for cause upon the failure of the CONTRACTOR to comply with the terms and conditions of this AGREEMENT, provided that the CITY-PARISH shall give contractor written notice specifying contractor's failure and thirty (30) days to cure the defect.

CITY-PARISH may terminate the AGREEMENT at its convenience at any time for any or no reason by giving thirty (30) days written notice to CONTRACTOR.

Upon termination for cause or convenience, the CONTRACTOR shall be entitled to payment for deliverables in progress through the date of termination, to the extent work has been performed in accordance with the terms and/or conditions of this AGREEMENT or otherwise to the satisfaction of CITY-PARISH, as well as reasonable termination and demobilization costs.

Should the CITY-PARISH find it necessary to suspend the work for lack of funding or other circumstances beyond its control, this may be done by thirty (30) days written notice given by CITY-PARISH to that effect. If the AGREEMENT is suspended for more than thirty (30) consecutive calendar days, the CONTRACTOR shall be compensated for services performed prior to the notice of suspension. In addition, when work under the AGREEMENT resumes, the CONTRACTOR's compensation shall be equitably adjusted to provide for expenses incurred in the interruption and resumption of the CONTRACTOR's services.

2. **Remedies.** If any work performed by the CONTRACTOR fails to meet the requirements of the AGREEMENT, the CITY-PARISH may in its sole discretion:

- d) elect to have the CONTRACTOR re-perform or cause to be re-performed at the CONTRACTOR's sole expense, any of the work which failed to meet the requirements of the AGREEMENT;
- e) hire another subconsultant to perform the work and deduct any additional costs incurred by CITY-PARISH as a result of substituting the Proposer from any amounts due to the CONTRACTOR; or
- f) pursue and obtain any and all other available legal or equitable remedies.

3. **Equal Employment Opportunity.** During the performance of this contract, the CONTRACTOR agrees as follows:

- j) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex,



sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- k) Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- l) The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of he CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- m) The CONTRACTOR will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the CONTRACTOR's legal duty to furnish information.
- n) The CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the CONTRACTOR's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- o) The CONTRACTOR will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- p) The CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- q) In the event of the CONTRACTOR's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- r) The CONTRACTOR will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, The CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

4. **Davis Bacon Act.** When required by federal program legislation or local program policies all prime construction contracts in excess of \$2,000.00 awarded by non-Federal entities **must** include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144 and 3146-3148).

The CONTRACTOR agrees to comply with the requirements of the Secretary of Labor in accordance with the Davis-Bacon Act (40 U.S.C. 3141-3148) as amended, with the provisions of Contract Work Hours and Safety Standards Act, the Copeland "Anti-Kickback" Act (40 U.S.C. 276a-276a-5, 40 USC 327 and 40 USC 276c) and all other applicable Federal, state and local laws and regulations pertaining to labor standards in so far as those acts apply to the performance of this contract. In accordance with the statute, contractors **must** be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors **must** be required to pay wages not less than once a week. The non-Federal entity **must** place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract **must** be conditioned upon the acceptance of the wage determination. The non-Federal entity **must** report all suspected or reported violations to the Federal awarding agency. The contracts **must** also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor **must** be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity **must** report all suspected or reported violations to the Federal awarding agency. The CONTRACTOR shall maintain documentation which demonstrates compliance with requirements of this part. Such documentation shall be made available to the City-Parish for review upon request.

5. **Compliance with the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708).** All contracts awarded by the non-Federal entity in excess of \$100,000.00 that involve the employment of mechanics or laborers **must** include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Any contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (4) below along with a clause requiring subcontractors to include these clauses in any lower tier subcontracts.

- e) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- f) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the CONTRACTOR and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
- g) Withholding for unpaid wages and liquidated damages. The (write in the name of the Federal agency or the loan or grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the CONTRACTOR or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
- h) Subcontracts. The CONTRACTOR or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic **must** be required to work in surroundings or under working conditions, which are hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

6. **Rights to Inventions Made Under a Contract or Agreement.** If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient **must** comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

. **Clean Water Act/ Federal Water Pollution Control Act.** Contracts and subgrants of amounts in excess of \$150,000.00 **must** contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations **must** be reported to the Federal awarding agency and the Regional Office of Environmental Protection Agency (EPA).

The CONTRACTOR hereby agrees to adhere to the provisions, which require compliance with all applicable standards, orders, or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

- d) The CONTRACTOR agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 7401 et seq.
- e) If this contract is funded by federal dollars, The CONTRACTOR agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the CITY-PARISH, and the appropriate Environmental Protection Agency Regional Office.
- f) If this contract is funded by federal dollars, the CONTRACTOR agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with federal assistance.

8. **Debarment & Suspension.** A contract award **must** not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with OMB guidelines at 2 C.F.R. 180. SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the CONTRACTOR is required to verify that none of the CONTRACTOR's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

The CONTRACTOR **must** comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and **must** include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

This certification is a material representation of fact relied upon by CITY-PARISH. If it is later determined that the CONTRACTOR did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to CITY-PARISH, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

The CONTRACTOR agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The CONTRACTOR further agrees to include a provision requiring such compliance in its lower tier covered transactions.

The CONTRACTOR shall submit a Federal Debarment Certification to assure compliance with the aforementioned regulation.

9. **Byrd Anti-Lobbying Act.** Contractors that apply or bid for an award exceeding \$100,000.00 **must** file the required certification under the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352).

The CONTRACTOR will be expected to comply with Federal statutes required in the Anti-Lobbying Act. Contractors who apply or bid for an award shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any Agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

10. **Procurement of Recovered Materials (2 C.F.R. 200.322).** A non-Federal entity that is a state agency or agency of a political subdivision of a state and its CONTRACTOR **must** comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the items exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

11. **Surveillance Services or Equipment.** A non-Federal entity and subrecipients who procure telecommunications and video surveillance services or equipment by obligating or expending loan or grant funds **must** comply with the provisions of 2 C.F.R. §200.216.

Specifically, (a) recipients and subrecipients are prohibited from using grant funds to: (1) Procure or obtain; (2) Extend or renew a contract to procure or obtain; or (3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). (i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities). (ii) Telecommunications or video surveillance services provided by such entities or using such equipment. (iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country. (b) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained. (c) See Public Law 115-232, section 889 for additional information. (d) See also § 200.471.

12. **Domestic Preferences for Procurement.** As appropriate and to the extent consistent with law, the parties should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section **must** be included in all sub awards including all contracts and purchase orders for work or products under this award.

For purposes of this section: (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. (2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

**IN WITNESS WHEREOF**, the **Contractor/Vendor/Sub-Recipient** understands and agrees to the above Federal award provisions.

**CONTRACTOR**

\_\_\_\_\_

**BY:** \_\_\_\_\_  
*(Authorized Signature, printed name)*

**Date:** \_\_\_\_\_



**NOTE: THE FOLLOW TERMS APPLY SPECIFICALLY TO CONTRACTS AND PURCHASES MADE WITH OR IN CONJUNCTION WITH CORONAVIRUS STATE AND LOCAL RECOVERY FUNDS (SLFRF, OR FISCAL RECOVERY FUNDS):**

U.S. DEPARTMENT OF THE TREASURY CORONAVIRUS LOCAL FISCAL RECOVERY FUND  
CONTRACTOR TERMS AND CONDITIONS

**Use of Funds.**

- c. CONTRACTOR understands and agrees that the funds disbursed under this award may only be used in compliance with section 603(c) of the Social Security Act (the Act), Treasury's regulations implementing that section, and guidance issued by Treasury regarding the foregoing.
- d. CONTRACTOR will determine prior to engaging in any project using this assistance that it has the institutional, managerial, and financial capability to ensure proper planning, management, and completion of such project.

**Period of Performance.** The period of performance for this award begins on the date hereof and ends on December 31, 2026. As set forth in Treasury's implementing regulations, CONTRACTOR may use award funds to cover eligible costs incurred during the period that begins on March 3, 2021, and ends on December 31, 2024.

**Reporting.** CONTRACTOR agrees to comply with any reporting obligations established by Treasury as they relate to this award.

**Maintenance of and Access to Records.**

- d. CONTRACTOR shall maintain records and financial documents sufficient to evidence compliance with section 603(c) of the Act, Treasury's regulations implementing that section, and guidance issued by Treasury regarding the foregoing.
- e. The Treasury Office of Inspector General and the Government Accountability Office, or their authorized representatives, shall have the right of access to records (electronic and otherwise) of the CONTRACTOR in order to conduct audits or other investigations.
- f. Records shall be maintained by CONTRACTOR for a period of five (5) years after all funds have been expended or returned to Treasury, whichever is later.

**Pre-award Costs.** Pre-award costs, as defined in 2 C.F.R. § 200.458, may not be paid with funding from this award.

**Administrative Costs.** CONTRACTOR may use funds provided under this award to cover both direct and indirect costs.

**Cost Sharing.** Cost sharing or matching funds are not required to be provided by CONTRACTOR.

**Conflicts of Interest.** CONTRACTOR understands and agrees it **must** maintain a conflict of interest policy consistent with 2 C.F.R. § 200.318(c) and that such conflict of interest policy is applicable to each activity funded under this award. CONTRACTOR and SUBCONTRACTORS **must** disclose in writing to Treasury or the pass-through entity, as appropriate, any potential conflict of interest affecting the awarded funds in accordance with 2 C.F.R. § 200.112.

**Compliance with Applicable Law and Regulations.**

- d. CONTRACTOR agrees to comply with the requirements of section 603 of the Act, regulations adopted by Treasury pursuant to section 603(f) of the Act, and guidance issued by Treasury regarding the foregoing. CONTRACTOR also agrees to comply with all other applicable federal statutes, regulations, and executive orders, and CONTRACTOR shall provide for such compliance by other parties in any agreements it enters into with other parties relating to this award.
- e. Federal regulations applicable to this award include, without limitation, the following:
  - i. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200, other than such provisions as Treasury may determine are inapplicable to this Award and subject to such exceptions as may be otherwise provided by Treasury. Subpart F – Audit Requirements of the Uniform Guidance, implementing the Single Audit Act, shall apply to this award.
  - ii. Universal Identifier and System for Award Management (SAM), 2 C.F.R. Part 25, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 25 is hereby incorporated by reference.
  - iii. Reporting Subaward and Executive Compensation Information, 2 C.F.R. Part 170, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 170 is hereby incorporated by reference.
  - iv. OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement), 2 C.F.R. Part 180, including the requirement to include a term or condition in all lower tier covered transactions (contracts and subcontracts described in 2 C.F.R. Part 180, subpart B) that the award is subject to 2 C.F.R. Part 180 and Treasury's implementing regulation at 31 C.F.R. Part 19.
  - v. CONTRACTOR Integrity and Performance Matters, pursuant to which the award term set forth in 2 C.F.R. Part 200, Appendix XII to Part 200 is hereby incorporated by reference.
  - vi. Governmentwide Requirements for Drug-Free Workplace, 31 C.F.R. Part 20.

- vii. New Restrictions on Lobbying, 31 C.F.R. Part 21.
  - viii. Uniform Relocation Assistance and Real Property Acquisitions Act of 1970 (42 U.S.C. §§ 4601-4655) and implementing regulations.
  - ix. Generally applicable federal environmental laws and regulations.
- f. Statutes and regulations prohibiting discrimination applicable to this award include, without limitation, the following:
- i. Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance;

- ii. The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;
- iii. Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance;
- iv. The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and
- v. Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.

**Remedial Actions.** In the event of CONTRACTOR's noncompliance with section 603 of the Act, other applicable laws, Treasury's implementing regulations, guidance, or any reporting or other program requirements, Treasury may impose additional conditions on the receipt of a subsequent tranche of future award funds, if any, or take other available remedies as set forth in 2 C.F.R. § 200.339. In the case of a violation of section 603(c) of the Act regarding the use of funds, previous payments shall be subject to recoupment as provided in section 603(e) of the Act.

**Hatch Act.** CONTRACTOR agrees to comply, as applicable, with requirements of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328), which limit certain political activities of State or local government employees whose principal employment is in connection with an activity financed in whole or in part by this federal assistance.

**False Statements.** CONTRACTOR understands that making false statements or claims in connection with this award is a violation of federal law and may result in criminal, civil, or administrative sanctions, including fines, imprisonment, civil damages and penalties, debarment from participating in federal awards or contracts, and/or any other remedy available by law.

**Publications.** Any publications produced with funds from this award **must** display the following language: "This project [is being] [was] supported, in whole or in part, by federal award number [enter project FAIN] awarded to [name of CONTRACTOR] by the U.S. Department of the Treasury."

**Debts Owed the Federal Government.**

- c. Any funds paid to CONTRACTOR (1) in excess of the amount to which CONTRACTOR is finally determined to be authorized to retain under the terms of this award; (2) that are determined by the Treasury Office of Inspector General to have been misused; or (3) that are determined by Treasury to be subject to a repayment obligation pursuant to section

603(e) of the Act and have not been repaid by CONTRACTOR shall constitute a debt to the federal government.

- d. Any debts determined to be owed the federal government **must** be paid promptly by CONTRACTOR. A debt is delinquent if it has not been paid by the date specified in Treasury's initial written demand for payment, unless other satisfactory arrangements have been made or if the CONTRACTOR knowingly or improperly retains funds that are a debt as defined in paragraph 14(a). Treasury will take any actions available to it to collect such a debt.

**Disclaimer.**

- c. The United States expressly disclaims any and all responsibility or liability to CONTRACTOR or third persons for the actions of CONTRACTOR or third persons resulting in death, bodily injury, property damages, or any other losses resulting in any way from the performance of this award or any other losses resulting in any way from the performance of this award or any contract, or subcontract under this award.
- d. The acceptance of this award by CONTRACTOR does not in any way establish an agency relationship between the United States and CONTRACTOR.

**Protections for Whistleblowers.**

- d. In accordance with 41 U.S.C. § 4712, CONTRACTOR may not discharge, demote, or otherwise discriminate against an employee in reprisal for disclosing to any of the list of persons or entities provided below, information that the employee reasonably believes is evidence of gross mismanagement of a federal contract or grant, a gross waste of federal funds, an abuse of authority relating to a federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal contract (including the competition for or negotiation of a contract) or grant.
- e. The list of persons and entities referenced in the paragraph above includes the following:
  - i. A member of Congress or a representative of a committee of Congress;
  - ii. An Inspector General;
  - iii. The Government Accountability Office;
  - iv. A Treasury employee responsible for contract or grant oversight or management;
  - v. An authorized official of the Department of Justice or other law enforcement agency;
  - vi. A court or grand jury; or
  - vii. A management official or other employee of CONTRACTOR, contractor, or SUBCONTRACTOR who has the responsibility to investigate, discover, or address misconduct.
- f. CONTRACTOR shall inform its employees in writing of the rights and remedies provided under this section, in the predominant native language of the workforce.

**Increasing Seat Belt Use in the United States.** Pursuant to Executive Order 13043, 62 FR 19217 (Apr. 18, 1997), CONTRACTOR should encourage its employees and SUBCONTRACTORS to adopt

and enforce on-the- job seat belt policies and programs for their employees when operating company-owned, rented or personally owned vehicles.

**Reducing Text Messaging While Driving.** Pursuant to Executive Order 13513, 74 FR 51225 (Oct. 6, 2009), CONTRACTOR should encourage its employees and SUBCONTRACTORS to adopt and enforce policies that ban text messaging while driving, and CONTRACTOR should establish workplace safety policies to decrease accidents caused by distracted drivers.

## **FAIR CHANCE ORDINANCE**

**Requires Fair Chance hiring standards for person, corporations, and entities in a contract, cooperative endeavor agreement, or grant with the City of Baton Rouge, Parish of East Baton Rouge by limiting the consideration of criminal history of an applicant, and to provide otherwise with respect hereto.**

### **Section 1**

**A contractor shall not request from the applicant their criminal history before the contractor extends a conditional offer of employment.**

### **Section 2**

**All contracts shall include a certification that the contractor has complied with the provisions of the fair chance ordinance.**

### **Section 3**

**The applicant will acknowledge in writing that a background check will be performed before a final offer of employment.**

### **Section 4**

**Section 1 does not apply if consideration of an applicant's criminal history is required by law.**

### **Section 5**

**The Purchasing department is the enforcing agency and shall establish a procedure for complaint.**

### **Section 6**

**The Fair Chance ordinance shall not apply to the following City Parish departments: Human Resources, Police, Constable, Fire Department, Emergency Medical Services, Juvenile Services, and Metro Airport.**

### **Section 7**

**The ordinance shall be effective May 5, 2023 following adoption and shall apply to contracts executed on or after the effective date EXCLUDING renewals to contracts awarded in response to an Request for Proposal (RFP), a Request for Qualifications (RFQ) or awarded by the Engineers or Architectural Selection Boards. The ordinance shall not apply to any agreements executed before the effective date of this ordinance.**

**The signature below certifies that the signer has carefully examined the above and is in full compliance with the terms listed.**

\_\_\_\_\_  
Date      Authorized Signature

\_\_\_\_\_  
Authorized Name (Printed)

## H2B WORKFORCE REQUIREMENTS

**H2B Workforce Requirements:** If Contractor uses H-2B workers, Contractor will provide services subject to the terms and conditions set forth below. In accordance with applicable laws,

- Contractor will provide each worker with a document explaining the terms and conditions of employment and the worker's rights, and a copy of any applicable H-2B work order by the time periods required by applicable law. A copy of Contractor's H-2B work order shall be provided to Company upon request.
- Contractor will display "Employee Rights Under the H-2B Program" poster, and all other notices and posters required by applicable federal, state and local law. Such notices **must** be provided to employees in English and in a language that each worker can understand.
- Contractor will pay employees at least once every two weeks, or as otherwise required by federal law or the disclosed payday in any applicable H-2B work order.
- Contractor will pay each employee not less than the highest minimum wage rate applicable to its employees, including minimum rates for H-2B laborers (as indicated in Contractor's Application for Temporary Employment Certification, which amount equals or exceeds the highest of the prevailing wage, the promised wage, and the federal, state and local minimum wage), and, if and when applicable, the highest overtime rate required by applicable law for all overtime hours worked by employees. Notwithstanding the foregoing, Contractor shall pay its employees in accordance with applicable H-2B regulations.
- In accordance with H-2B regulations, Contractor shall provide to its H-2B employees, and employees performing the same work, at least 35 hours of work per workweek, and a total number of work hours equal to at least 75% of the guaranteed hours as listed in the job order in each 12-week period (or each 6-week period), or **must** pay such employees the amount they would have earned had they worked for the guaranteed number of workdays.
- Contractor **must** pay its employees for their visa expenses and transportation and subsistence costs for travel to and from the worksite in accordance with H-2B regulations and Contractor's H-2B work order.
- Contractor **must** not seek or receive payments or other compensation from prospective workers, as prohibited by H-2B regulations.
- Contractor agrees to provide housing to its employees to the extent required by applicable H-2B regulations, the Federal Fair Labor Standards Act, and applicable federal, state, and local law.
- Contractor agrees to pay an arrival and return/subsistence and transportation fees for each worker at the beginning and end of each the job order period.
- Contractor **must** notify the U.S. Department of Labor if any H-2B or employee performing similar work separates from the job for any reason before the end of Contractor's work order. The notification **must** be made in writing and no later than two (2) days after the separation is discovered by Contractor. Contractor **must** also notify the U.S. Department of Homeland Security of any such separation of an H-2B worker.



- Contractor **must** not offer terms, wages, and working conditions to U.S. workers that are less favorable than what Contractor offers or provides to H-2B workers. Further, Contractor **must** not impose restrictions or obligations on U.S. workers that are not imposed on H-2B workers. Contractor **must** not lay off any similarly employed U.S. worker in the occupation and area of intended employment from 120 days before the start of Contractor's job order.
- Contractor using H-2B workforce **must** include a copy of their most recently submitted LOI, Letter of Intent. The U.S. Department of Labor requires this letter in the visa approval process. This letter **must** be signed and dated on company letterhead, with a description of work applicable to the scope, and indicate County/Parish and State where work will be performed: East Baton Rouge Parish, Louisiana.

**ATTACHMENT C**  
**FACILITY WARRANTY INFORMATION**

**EBR Environmental Services**  
**12422 Florida Boulevard - Baton Rouge, Louisiana 70815**  
**Warranties**

<u>Section</u>	<u>Section Title</u>	<u>Warranty</u>		<u>Page Number</u>
		<u>Period</u>	<u>Warranty Description</u>	
01 00 00	General Requirements	1-Year	All workmanship, materials, and equipment shall be guaranteed for a period of one year from the date of the official acceptance of the Contract, unless a longer period is stated in the specifications or in the manufacturer's literature.  When items of equipment or material fail to perform or to give satisfactory service during this warranty period, the Owner may require that corrections be made even to the extent of installing new equipment or materials. When this becomes necessary, the warranty period shall extend for a period of one year from the date of acceptance of the new installation. The extended warranty period shall apply only to those items which have not performed satisfactorily.	7
06 40 00 - Part 1	Interior Architectural Woodwork	5-Year	Manufacturer's warranty against defects in materials. Warranty shall provide material and labor to repair or replace.  A. Specially fabricated custom casework, wood or high pressure decorative laminate finish B. Specially fabricated custom countertops, solid surfacing fabrications (undermount lavatory bowls by others) and high pressure decorative laminate finish C. Hardware typically furnished by the woodwork manufacturer: 1. Cabinet door hinges 2. Cabinet door and drawer pulls, when specified in this section 3. Drawer glides 4. Cabinet door and drawer locks, when specified in this section 5. Adjustable shelf standards and/or support brackets or clips 6. Grommets D. Specially fabricated custom wood paneling and related trim. E. Specially fabricated custom running trim F. Conversion varnish shop-finish of all stained millwork paneling, cabinets, and shelving. G. Installation of work furnished under this section	109  110
06 40 00 - Part 2		10-Year	For improper and/or defective installation.	112
07 16 00 - Part 1	Crystalline Waterproofing	5-Year	Warrants that, upon completion of the work, surfaces treated with crystalline waterproofing will be and will remain free of water leakage resulting from defective workmanship or materials. (From date of Substantial Completion)  Warranty excludes leaks or other defects due to causes beyond the installer's control, including but not limited to structural failure, movement of the structure, fire, earthquakes, tornadoes, and hurricanes.	115
07 27 26 - Part 1	Fluid Applied Membrane Air Barriers	MSW	Manufacturer's standard warranty	127
07 41 13 - Part 1	Preformed Metal Standing Seam Roof	20-Year	<i>Coating Warranty</i> - Covering checking, crazing, peeling, chalking, fading, and adhesion.  20-Year <i>Metal Roof Warranty</i> - No Dollar Limit Weathertightness Warranty. Coverage includes roof panels, roof flashing, roof penetrations and roof curbs.  2-Year <i>Contractor's RFG Guarantee</i>	133
07 42 00 - Part 1	Metal Wall Panels - Aluminum	20-Year	Manufacturer's warranty in which manufacturer agrees to repair finish or replace wall panels that show evidence of deterioration of factory-applied finish and/or rupture, structural failure or perforation due to corrosion, within specified warranty period.  2-Year Applicator shall furnish written warranty covering repairs required to maintain panel system in watertight condition.	141
07 42 00 - Part 3			The definition of the system which are to be specified and guaranteed in the appropriate Section of the Specifications includes the materials and methods used from the surface of the sheathing. Items included in the warranty shall include end and termination pieces, closures, etc. (all items necessary to prevent water, weather, and pest infiltration).	
07 42 10 - Part 1	Metal Wall Panels - Steel	20-Year	Manufacturer's warranty in which manufacturer agrees to repair finish or replace wall panels that show evidence of deterioration of factory-applied finish and/or rupture, structural failure or perforation due to corrosion, within specified warranty period.  20-Year Exposed Panel Finish Warranty - Color fading and Chalking. Cracking, checking, peeling or failure of paint to adhere to a bare metal.  5-Year Weathertightness  2-Year Applicator shall furnish written warranty of building covering repairs required to maintain panel system in watertight condition.	145
07 42 15 - Part 1	Metal Wall Panels - Horizontal	20-Year	Manufacturer's warranty in which manufacturer agrees to repair finish or replace wall panels that show evidence of deterioration of factory-applied finish and/or rupture, structural failure or perforation due to corrosion, within specified warranty period.  20-Year Exposed Panel Finish Warranty - Color fading and Chalking. Cracking, checking, peeling or failure of paint to adhere to a bare metal.  5-Year Weathertightness  2-Year Applicator shall furnish written warranty of building covering repairs required to maintain panel system in watertight condition.	149

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**12422 Florida Boulevard - Baton Rouge, Louisiana 70815**  
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<u>Section</u>	<u>Section Title</u>	<u>Warranty</u>		<u>Page Number</u>
		<u>Period</u>	<u>Warranty Description</u>	
07 42 43 - Part 1	Composite Metal Wall Panel Systems	MSW	Manufacturer's standard warranty against defective materials.  Panel system requirements include the following components: Aluminum faced composite panels with mounting system and wet-sealed joints. Panel mounting system including anchorages, shims, furring, fasteners, for exterior application.	153
07 60 00 - Part 1	Flashing and Sheet Metal	2-Year	Material and labor covering all defects in materials and workmanship within warranty period. To be combined with roofing warranty	155
		5-Year	Fluoropolymer coatings warranty against cracking, fading, crazing, peeling, loss of cohesion and/ or adhesion, and chalking.	
07 92 00 - Part 1	Joint Sealers	5-Year	Full material & labor against failures in material & workmanship .	161
08 11 13 - Part 1	Steel Doors and Frames	1-Year	Warrant the work specified herein for one (1) year against becoming unserviceable or causing an objectionable appearance resulting from either defective or non-conforming materials and workmanship.  Defects shall include, but not be limited to: Use of incorrect materials in opening, Incorrect labeled, components installed within opening, Noisy, rough or difficult operation, Failure to meet specified quality assurance requirements.	166
08 14 16 - Part 1	Flush Wood Doors	Lifetime	Life of installation against delaminating, telegraphing of core components, warp/twist.	171
08 41 13 - Part 1	Aluminum Entrances and Storefronts	5-Year	Correct defective. Includes coverage for complete system for failure to meet specified requirements. And provides manufacturer warranty for glazed units.	174
08 44 13 - Part 1	Glazed Aluminum Curtainwalls	10-Year	Manufacturer agrees to repair or replace components of glazed aluminum curtain-wall systems that do not comply with requirements or that deteriorate as defined in this Section within specified warranty period. 1. Failures include, but are not limited to, the following: a) Structural failures including, but not limited to, excessive deflection, b) Noise or vibration caused by thermal movements, c) Deterioration of metals and other materials beyond normal weathering, d) Water leakage.	178
????	Door Hardware - For Swinging Doors	1-Year	Standard Warranty	185-186
		10-Year	For extra heavy duty cylindrical (bored) locks and latches.	
		5-Year	For exit hardware.	
		25-Year	For manual overhead door closer bodies.	
		5-Year	For motorized electric latch retraction exit devices.	
		2-Year	For electromechanical door hardware.	
			Door hardware includes, but is not necessarily limited to, the following: 1) Mechanical door hardware & 2) Electromechanical door hardware	
08 80 00 - Part 1	Glazing	5-Year	Include faulty tempering for tempered glass.	212
09 29 16 - Part 1	Gypsum Board Assemblies	1-Year	Against becoming unserviceable or causing an objectionable appearance resulting from either defective or nonconforming materials or workmanship.	215
		5-Year	Exterior Sheathing warranty against manufacturing defects.	
		5-Year	Impact Resistant Panel warranty against manufacturing defects.	
		20-Year	Cement Tile Backer warranty against manufacturing defects.	
09 51 23 - Part 1	Suspended Acoustical Ceilings		Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. Failures include, but are not limited to: 10-Year 1. Acoustical Panels: Sagging and warping as a result of defects in materials or factory workmanship. 10-Year 2. Grid System: Rusting and manufacturer's defects. 30-Year 3. Acoustical Panels with BioBlock Plus or designated as inherently resistive to the growth of micro-organisms: Visible sag and will resist the growth of mold/mildew and gram positive and gram negative odor and stain causing bacteria.  The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.	225
09 65 00 - Part 1	Resilient Flooring	5-Year	Manufacturer's Warranty	229
09 65 10 - Part 1	LVT Flooring	20-Year	Material	231
		10-Year	Pro-rated on labor	
09 68 13 - Part 1	Carpet Tile	2-Year	Provide special project warranty, signed by contractor, installer and manufacturer (Carpet Mill), agreeing to repair or replace defective materials and workmanship of carpeting work.	237
		1-Year	Warranty by Carpet Manufacturer agreeing to replace defective materials.	
09 90 00 - Part 1	Painting and Coating	2-Year	Against becoming unserviceable or causing an objectionable appearance resulting from either defective or nonconforming materials and workmanship.  Defects shall include, but not limited to, the following: 1. Discoloring, 2. Mildewing, 3. Peeling, cracking, blistering, alligating or releasing from substrate, 4. Chalking or dusting, 5. Changing sheen in irregular fashion, 6. Softening or becoming tacky, 7. Bubbling.  In the event of damage, immediately make all repairs and replacements necessary for approval of the Project Manager and at no additional cost of the Owner.	242

**EBR Environmental Services**  
**12422 Florida Boulevard - Baton Rouge, Louisiana 70815**  
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<u>Section</u>	<u>Section Title</u>	<u>Warranty Period</u>	<u>Warranty Description</u>	<u>Page Number</u>
10 14 19 - Part 1	Dimensional Letter Signage	Project Warranty	Comply with requirements of Division 1: 1. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays. 2. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact. 3. Store products protected from weather, temperature, and other harmful conditions as recommended by supplier. 4. Handle products in accordance with manufacturer's instructions. Specifically excludes letter mounting substrate.  Manufacturer's Warranty - specifically excludes letter mounting substrate.	248
10 14 63 - Part 1	Electronic Message Center	1-Year 5-Year	Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship, warranty includes parts and labor.	251
10 43 73 - Part 1	Interior Modular Signage	Project Warranty	Comply with requirements of Division 1: 1. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays. 2. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact. 3. Store products protected from weather, temperature, and other harmful conditions as recommended by supplier. 4. Handle products in accordance with manufacturer's instructions. Specifically excludes letter mounting substrate.  Manufacturer's Warranty - specifically excludes letter mounting substrate.	266
10 50 50 - Part 1	Lockers	1-Year Lifetime	Locker manufacturer shall warrant the lockers for the LIFETIME use of the original purchaser from date of shipment. Warranty shall include all defects in material and workmanship, excluding finish, vandalism and improper installation.	269
11 30 00 - Part 1	Appliances	MSW	Provide manufacturer's standard written warranty for each type of appliance specified.	271
12 20 00 - Part 1	Window Treatments	Limited Lifetime Warranty	Specific product warranties available from manufacturer or its authorized agent.	273
13 34 19 - Part 1	Metal Building Systems	5-Year MSW	Fabrics Provide manufacturer's standard warranty.	277
01 37 00 - Part 1	Access Controls	MSW	Manufacturer's Standard Warranty	283
14 24 23 - Part 1	Hydraulic Elevator	1-Year Limited 2-Year Limited	Access Control System Telephone Entry/Access and Perimeter Control System	288
21 13 13 - Part 1	Wet Pipe Sprinkler Systems	No Longer than 2-Years	Warranty covers defective material and workmanship. Warranty excludes: ordinary wear and tear, improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.	304
21 13 16 - Part 1	Dry Pipe Sprinkler Systems	1-Year	Sprinkler contractor shall warrant the materials and workmanship of the sprinkler installation.	309
22 34 00 - Part 1	Fuel-Fired, Domestic-Water Heaters	3-Year 2-Year	Storage Tank Controls and Other Components  Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fuel-fired, domestic-water heaters that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to: a) Structural failures including storage tank and supports, b) Faulty operation of controls, c) Deterioration of metals, metal finishes, and other materials beyond normal use.	426
23 55 33.16 - Part 1	Gas-Fired Unit Heaters	2-Year	Manufacturer agrees to repair or replace heat exchanger of gas-fired unit heater that fails in materials or workmanship within specified warranty period.	594
23 81 29 - Part 1	Variable-Refrigerant-Flow HVAC Systems	5-Year	Manufacturer agrees to repair or replace equipment and components that fail(s) in materials or workmanship within specified warranty period.  Failures include, but are not limited to, the following: a) Structural failures, b) Faulty operation, c) Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.  Warranty period includes Compressor, Parts, Including Controls and Labor	602
26 09 23 - Part 1	Lighting Control Devices	2-Year	Manufacturer and Installer agree to repair or replace lighting control devices that fail(s) in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following: a) Faulty operation of lighting control software, b) Faulty operation of lighting control devices.	695
26 24 16 - Part 1	Panelboards	18-Month 5-Year	Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship. Manufacturer agrees to repair or replace SPD that fails in materials.	703

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<u>Section</u>	<u>Section Title</u>	<u>Warranty</u>		<u>Page Number</u>
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26 28 16 - Part 1	Enclosed Switches and Circuit Breakers	1-Year	Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.	720
26 29 23 - Part 1	Variable-Frequency Motor Controllers	5-Year	Manufacturer agrees to repair or replace VFCs that fail in materials or workmanship within specified warranty period.	730
26 51 19 - Part 1	LED Interior Lighting	5-Year	Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.	744
26 52 13 - Part 1	Emergency and Exit Lighting	2-Year	Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.	760
			Manufacturer's standard form in which manufacturer of battery-powered emergency lighting unit agrees to repair or replace components of rechargeable batteries that fail in materials or workmanship within specified warranty period.	
		5-Year	<i>Emergency Power Unit Batteries:</i> Full warranty shall apply for first year and prorated warranty for the remaining four years.	
		7-Year	<i>Self-Powered Exit Sign Batteries:</i> Full warranty shall apply for first year and prorated warranty for the remaining six years.	
26 56 00 - Part 1	Exterior Lighting	10-Year	Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.	770
			1) Fixture, including the LEDs, drivers, and electrical components, 2) for housing paint and finish, 3) Color Retention, 4) Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period	
28 13 00 - Part 2	Access Control Software and Database Management	10-Year	Backup Battery: Premium, valve-regulated, recombinant-sealed, lead-calcium battery; spill proof; with a full one-year warranty and a pro rata 9-year warranty. With single-stage, constant-voltage-current, limited battery charger, comply with battery manufacturer's written instructions for battery terminal voltage and charging current recommendations for maximum battery life.	836
28 20 00 - Part 1	Video Surveillance	3-Year	Manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.	866
28 31 11 - Part 1	Fire Alarm System	1-Year	Fire Alarm contractor shall warrant the materials and workmanship of the Fire Detection and Alarm System installation for a period of one year from the date of final acceptance.	874
			Detector sensitivity for all smoke detectors shall be field verified between eleven (11) and twelve (12) months after final acceptance.	
31 31 16 - Part 1	Termite Control	5-Year <i>non-prorated</i>	Includes coverage for damage and repairs to building and building contents caused by termites. Repair damage. Re-treat where required and infested areas at no additional cost.	882
			Inspect and report annually to Owner in writing.	
			Include optional renewal policy on annual basis after fifth year; fee shall be equitable and agreed upon by applicator and the Owner.	
32 31 00 - Part 1	Electric Gate Operators	5-Year		902
32 31 19 - Part 1	Decorative Metal Fences and Gates	20-Year	B. Finish: 20 years	909
32 84 00 - Part 1	Planting Irrigation		Complete warranty information and mail to manufacturer and provide copies to the Owner.	916
32 92 00 - Part 1	Turf and Grasses	1-Year	Installer agrees to repair or replace Turf Grass Sod and accessories that fail in materials, workmanship, or growth within specified warranty period. Failures include, but are not limited to, the following: a) Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control Include the following remedial actions as a minimum: a) Immediately remove dead sod and replant bare or eroded areas to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation, b) A limit of one replacement of each sodded area will be required except for losses or replacements due to failure to comply with requirements, c) Provide extended warranty for period equal to original warranty period, for replaced plant material.	925

**EBR Environmental Services**  
**12422 Florida Boulevard - Baton Rouge, Louisiana 70815**  
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<u>Section</u>	<u>Section Title</u>	<u>Warranty</u>	<u>Page</u>
<u>Period</u>		<u>Warranty Description</u>	<u>Number</u>
32.93.00 - Part 1	Plants	Special Warranty Photographs of all selected trees taken by grower with a scale figure shown so that size and character of tree can be analyzed by Landscape Architect five (5) days prior to shipping.	930 & 932
		1-Year Trees, Shrubs, Vines, and Ornamental Grasses / Ground Covers, Biennials, Perennials, and Other Plants	
		3-Month Annuals	
		Failures include, but are not limited to, the following: a) Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control, b) Structural failures including plantings falling or blowing over, c. Faulty performance of tree stabilization.	
		Include the following remedial actions as a minimum: a) Immediately remove dead plants and replace unless required to plant in the succeeding planting season, b) Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period, c) A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements	

**ATTACHMENT D**  
**FACILITY OPERATIONS AND MAINTENANCE INSTRUCTIONS**



**06 40 00 – INTERIOR ARCHITECTURAL  
WOODWORK**

**JJ'S CONCEPTS DBA SUPERIOR MILLWORK  
(225)928-9436**



## GENERAL CARE AND MAINTENANCE

VICOSTONE Quartz Surfaces are extremely low maintenance material that is not easily damaged. To keep your VICOSTONE products looking NEW and BEAUTIFUL, follow these simple steps:

- ✓ Use only mild detergent and tap water for daily routine cleaning, and rinse thoroughly after cleaning.
- ✓ For stubborn spots, instead of mild detergent apply a household mild, non-abrasive cleanser with neutral pH (pH is between 5 and 9) on a damp, moisten soft cloth or non-abrasive sponge, and rinse thoroughly after cleaning.
- ✓ For dried residue, use a flat object such as a plastic putty knife to gently scrape-off foreign material, and then soak the spot(s) of residue dirt with warm water to soften it before cleaning.
- ✓ Although VICOSTONE Quartz is extremely hard material and hence is scratch resistant, it is NOT scratch proof. **DO NOT** cut or chop directly on your countertop. Always use a cutting board.
- ✓ Always use a hot pad or trivet when setting down hot pans or cooking plates on your VICOSTONE countertops. Direct contact with extreme high heat can cause damage to your countertop surface.
- ✓ Avoid contact of strong, harsh chemicals on your countertops. Chemicals such as paint stripper, bleaches, pipes cleaners etc. can cause damage to the quartz surfaces.
- ✓ Honed, Brushed surfaces can show more signs of daily life activities such as finger prints, hard water residues, etc. Hence these surfaces will require more frequent cleaning and maintenance. The cleaning and care instructions are as above.

Please download Cleaning Manual for your VICOSTONE Quartz Products from website [www.vicostoneus.com](http://www.vicostoneus.com) , in section Products/Care and Maintenance

**06 40 00 – INTERIOR ARCHITECTURAL  
WOODWORK**

**JJ'S CONCEPTS DBA SUPERIOR MILLWORK  
(225)928-9436**



## Care & Maintenance

Your decision to purchase Wilsonart® Laminate will bring you years of quality performance.

Everyday cleaning of our products is as simple as a quick wipe with a damp sponge. All resist muddy fingerprints, coffee spills and so much more.

Be sure to read and follow the recommended care and cleaning procedures.

### ROUTINE CARE

To clean the surface, use a damp cloth or sponge and a mild soap or detergent. Rinse thoroughly with warm water and wipe dry.

Difficult stains such as coffee or tea can be removed using a mild household cleaner/detergent and a soft bristled brush, repeating as necessary.

If a stain persists, use a paste of baking soda and water and apply with a soft bristled brush. Light scrubbing for 10 to 20 strokes should remove most stains. Although baking soda is a low abrasive, excessive scrubbing or exerting too much force could damage the decorative surface, especially if it has a gloss finish.

Stubborn stains that resist any of the above cleaning methods may require the use of undiluted household bleach or nail polish remover. Apply the bleach or nail polish remover to the stain and let stand no longer than two minutes. Rinse thoroughly with warm water and wipe dry. This step may be repeated if the stain appears to be going away and the color of the laminate has not been affected. **WARNING:** Prolonged exposure of the laminate surface to bleach will cause discoloration.

Hot pans and heat-producing appliances (such as electric skillets), when set directly upon countertops, can mar the product's beauty. Always use a heat shield, hot pad or trivet.

### A FEW NOTES OF CAUTION

- Acidic or abrasive cleaners can damage laminate surfaces; do not use them.
- Drain cleaners containing lye will permanently damage any Wilsonart® Laminate surface. If you spill a drain cleaner, wipe it up immediately and rinse several times with water.
- Hair, textile and food dyes can cause permanent stains. If dye should happen to spill, wipe it up immediately with dishwashing detergent or an all-purpose cleaner.
- Never place pots or dishes directly from the oven or burner on an unprotected laminate surface; such extreme heat can cause cracking or blistering.
- Do not work with oven cleaners on an unprotected countertop. Wipe spills away promptly and rinse several times with water.
- Rust removers contain harsh chemicals which will quickly cause permanent damage. If a spill occurs, wipe off all residue immediately, wash thoroughly with soapy water and rinse several times.
- Steel wool and other abrasive pads will damage Wilsonart® Laminate. Don't use them for cleaning and don't store steel wool pads on your countertop; the metal can rust and leave stains.
- Toilet bowl cleaners contain harsh chemicals that can cause permanent damage. If spills occur, wipe up immediately, wash surface with soapy water and rinse several times.

### RECOMMENDED HOUSEHOLD CLEANERS

- Windex®
- Glass Plus®
- Fantastik®
- Mr. Clean®
- Formula 409®
- Isopropyl Alcohol (Isopropanol)

\*Prolonged exposure to bleach will cause discoloration. When cleaning Wilsonart Laminate, DO NOT use products that contain the following ingredients:

CHEMICAL INGREDIENT	SYNONYMOUS NAMES
Hydrochloric Acid	Muriatic Acid Hydrogen Chloride
Sulfuric Acid	Oleic Acid Oil of Vitriol Oleum
Hydrofluoric Acid	Rust Remover
Phosphoric Acid	Rust Remover
Sodium Hydroxide	Caustic Soda Caustic Lye Soda Lye
Pumice (abrasive)	N/A



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www.wilsonart.com

## Wilsonart® Laminate Care & Maintenance

**07 41 13 – METAL ROOF PANELS**

**ROOFING SOLUTIONS, LLC**

**(225)402-4056**

# CLEANING AND MAINTENANCE GUIDE OF SHERWIN-WILLIAMS FLUOROPOLYMER COATINGS

The molecules on the surface of Sherwin-Williams Coil Coatings fluoropolymer coating systems are so tightly bound together that it makes them resistant to many elements found in the environment such as air pollution, acid rain and general airborne dirt.

Although Sherwin-Williams Coil Coatings factory-applied finishes are extremely durable, a periodic cleaning to remove build-ups of resins and other residue is a good idea to extend coating life. A variety of methods for removal of surface deposits are available. Simple washing with plain water using hoses or pressure spray equipment is usually adequate. When heavy deposits of dirt or other contaminants dull surfaces, stronger methods may be needed.

## PRECAUTIONS

1. **Proper Equipment:** Do not use wire brushes, abrasives or similar cleaning tools which will mechanically abrade the coatings surface.
2. **Test:** Always test the cleaning agents listed below in an inconspicuous area before use on a large scale.
3. **Disposal:** Please make sure you dispose of cleaning solutions in an environmentally manner.

## GROUP A: HOT OR COLD DETERGENT SOLUTIONS

A 5% solution in water of commonly used commercial (non-industrial) detergents will not have any deleterious effect on a paint surface. These solutions should be followed by an adequate rinse of water. Use a cloth or a soft brush for application.

## GRAFFITI REMOVAL SERVICES PRODUCTS

GRS solutions are environmentally friendly, non-toxic and water soluble. Easy application process, use a soft brush to apply and wet cloth to remove. Use only Sherwin-Williams approved products from GRS. To purchase approved product contact them at 503-231-1414, [product@grssupplies.com](mailto:product@grssupplies.com) or [grssupplies.com/collections/sherwinwilliams](http://grssupplies.com/collections/sherwinwilliams).

## GROUP B: SOLVENTS

Most organic solvents are flammable and/or toxic, and must be handled accordingly. Read the manufacturer's Material Safety Data Sheet (MSDS) on solvent used. Keep away from open flames, sparks and electrical motors. Use adequate ventilation, protective clothing, and goggles. Solvents may be used to remove on-water soluble deposits such as tar, grease and oil paint.

- Isopropyl (rubbing alcohol)

### GROUP C: PETROLEUM SOLVENTS AND TURPENTINE

(no permanent effect on surfaces)

- VM&P naphtha
- Mineral spirits

### CHEMICAL SOLUTIONS

Mildew: In areas subjected to high humidity levels, dirt and spore deposits can permit mildew growth to occur. The following solution is recommended to remove mildew when necessary.

- 1/3 cup dry powdered laundry detergent (ex. Tide™)
- 1 qt sodium hypochlorite 5% solution (ex. Clorox™)
- 3 qts water

Rust Stains: Hydrochloric, citric or muriatic acid, diluted with ten volumes of water, may assist in removing rust stains from fluoropolymer surfaces. Limit contact to five minutes. Oxalic acid solutions or acetic acid (vinegar) may be used for the same purpose. Flush with water.

CAUTION: Acid solutions are corrosive and toxic. Flush all surfaces with copious amounts of water after use.

### GRAFFITI

Graffiti presents a special problem because of the many possible agents used, generally aerosol paints. Sherwin-Williams has approved Graffiti Removal Services solutions as our approved graffiti removal product. GRS solutions are environmentally friendly, non-toxic and water soluble. Easy application process, use a soft brush to apply and wet cloth to remove. Use only Sherwin-Williams approved products from GRS. To purchase approved product contact them at 503-231-1414, [product@grssupplies.com](mailto:product@grssupplies.com) or [grssupplies.com/collections/sherwinwilliams](http://grssupplies.com/collections/sherwinwilliams).

### WARRANTY

Misuse or abuse of any of the cleaning agents listed above will result in a voiding of warranty for the surface affected.

### FLUOROPOLYMER COATINGS

- Fluorpon® Family
- Fluorothane® Family
- Fluorospar® Family
- Valflon®

### AT YOUR SERVICE

Do you have a unique application? We'll work with you to find a solution. Want a unique color? We'll create it for you. Need a quick turnaround? Talk to us, and we'll help you get your project completed on time. We're here to help. In fact, with our availability at coating and service centers throughout the country, we're there for you. Give us a call and see how we can help with your next project.

### COIL:

(888) 306-2645 or [coilhelp@sherwin.com](mailto:coilhelp@sherwin.com)

### EXTRUSION:

(866) 351-6900 or [extrusionhelp@sherwin.com](mailto:extrusionhelp@sherwin.com)

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**07 42 00 – METAL ROOF PANELS –  
ALUMINUM**

**ROOFING SOLUTIONS, LLC**

**(225)402-4056**



# CLEANING AND MAINTENANCE GUIDE OF SHERWIN-WILLIAMS FLUOROPOLYMER COATINGS

The molecules on the surface of Sherwin-Williams Coil Coatings fluoropolymer coating systems are so tightly bound together that it makes them resistant to many elements found in the environment such as air pollution, acid rain and general airborne dirt.

Although Sherwin-Williams Coil Coatings factory-applied finishes are extremely durable, a periodic cleaning to remove build-ups of resins and other residue is a good idea to extend coating life. A variety of methods for removal of surface deposits are available. Simple washing with plain water using hoses or pressure spray equipment is usually adequate. When heavy deposits of dirt or other contaminants dull surfaces, stronger methods may be needed.

## PRECAUTIONS

1. **Proper Equipment:** Do not use wire brushes, abrasives or similar cleaning tools which will mechanically abrade the coatings surface.
2. **Test:** Always test the cleaning agents listed below in an inconspicuous area before use on a large scale.
3. **Disposal:** Please make sure you dispose of cleaning solutions in an environmentally manner.

## GROUP A: HOT OR COLD DETERGENT SOLUTIONS

A 5% solution in water of commonly used commercial (non-industrial) detergents will not have any deleterious effect on a paint surface. These solutions should be followed by an adequate rinse of water. Use a cloth or a soft brush for application.

## GRAFFITI REMOVAL SERVICES PRODUCTS

GRS solutions are environmentally friendly, non-toxic and water soluble. Easy application process, use a soft brush to apply and wet cloth to remove. Use only Sherwin-Williams approved products from GRS. To purchase approved product contact them at 503-231-1414, [product@grssupplies.com](mailto:product@grssupplies.com) or [grssupplies.com/collections/sherwinwilliams](http://grssupplies.com/collections/sherwinwilliams).

## GROUP B: SOLVENTS

Most organic solvents are flammable and/or toxic, and must be handled accordingly. Read the manufacturer's Material Safety Data Sheet (MSDS) on solvent used. Keep away from open flames, sparks and electrical motors. Use adequate ventilation, protective clothing, and goggles. Solvents may be used to remove on-water soluble deposits such as tar, grease and oil paint.

- Isopropyl (rubbing alcohol)

### GROUP C: PETROLEUM SOLVENTS AND TURPENTINE

(no permanent effect on surfaces)

- VM&P naphtha
- Mineral spirits

### CHEMICAL SOLUTIONS

Mildew: In areas subjected to high humidity levels, dirt and spore deposits can permit mildew growth to occur. The following solution is recommended to remove mildew when necessary.

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- 1 qt sodium hypochlorite 5% solution (ex. Clorox™)
- 3 qts water

Rust Stains: Hydrochloric, citric or muriatic acid, diluted with ten volumes of water, may assist in removing rust stains from fluoropolymer surfaces. Limit contact to five minutes. Oxalic acid solutions or acetic acid (vinegar) may be used for the same purpose. Flush with water.

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**WINDOWS**  
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**BLOUNT GENERAL CONTRACTORS, LLC**  
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# Storage, Handling, Finishing, Installation and Maintenance Instructions

## Storage and Handling

1. Store doors on a flat, level surface in a dry, well-ventilated building.
2. Covering should protect the doors from dirt, water, and abuse while allowing for air circulation under and around the stack.
3. Doors should be handled with clean hands or while wearing clean gloves.
4. When moving doors, do not drag one door across the surface of the next door. Lift and carry each door to its new location.
5. Cherry, Mahogany, Walnut, and certain other species of wood will discolor if exposed to sunlight or some artificial light sources. Doors must be covered with opaque wrap that doesn't allow exposure to artificial or natural light.
6. Do not subject doors to extremes of temperature and/or humidity; exposure may cause damage. Conditions for proper storage and installation are 30 to 50 percent relative humidity and 50 to 90 degrees Fahrenheit.
7. Do not store or install doors in buildings with excessively dry or moist environments. HVAC systems should be operating and balanced.
8. Oak and some other species of wood contain acids that react with ferrous metals, producing dark blue/black stains. Do not use steel wool on the raw wood.

## Preparation for Finishing

1. Insure the building atmosphere is at a normal, interior relative humidity of 30 to 50 percent and temperature of 50 to 90 degrees Fahrenheit.
2. Sand and finish the door in a horizontal position.
3. Remove all handling marks, raised grain, and other unwanted blemishes by block sanding all surfaces with a 100 to 150 fine grit abrasive.
4. Apply a solution of solvent and sanding sealer; allow door to dry. This will uniformly raise the wood grain.
5. Sand the surface of the door using 120 to 180 grit sandpaper to promote uniformity of subsequent stain coats.

### Notes:

- a) Be sure the door surface is satisfactory and prepared properly before applying sealers, stains or topcoats.
- b) Always sand in the same direction as the grain. Do not use steel wool. Do not spot sand. Failure to properly prepare the surface will result in blotchy appearance.
- c) The species/finish combination should be tested prior to finishing the doors. Notify the finish supplier and door supplier immediately if an undesirable reaction is noticed. Do not continue with finishing until the problem is resolved.
- d) In order not to induce warp, avoid extremely dark stains or dark colored paints on door surfaces exposed to direct sunlight.
- e) To prevent blemish magnification, avoid extremely dark stains on light colored wood species.
- f) Water-based sealers or prime coats should not be used. Water-based top coats should be used only over surfaces that have been completely sealed with a non-water-based sealer or primer.
- g) High gloss finishes are not recommended or warranted.

## Installation

1. The utility or structural strength of the door must not be impaired in 1] fitting the door to the opening, 2] preparation and application of hardware, or 3] preparation and application of lights, louvers, plant-ons or other detailing.
2. On all solid core doors, use a minimum of one hinge for each 30" of door height. When using three or more hinges, they shall be equally spaced.
3. Pilot holes must be drilled for all screw applications; drill 5/32" diameter pilot holes for No. 12 screws. Self-tapping or combination wood/metal screws are not to be used on wood doors.
4. All hardware locations, preparations and methods of attachment must be appropriate for the specific door construction.
5. Doors shall be completely finished and prepped for hardware prior to installation.
6. Trimming and fitting must be compliant to WDMA I.S. 1A and NFPA 80.
7. Installation of prefinished door shall constitute acceptance.

### Additionally, specific to Fire Doors:

- a) A fire door bearing Graham's certification label has been prepared for installation per the conformance authorities granted by Warnock Hersey International and under label service; it must be installed per label instructions, with the certification label on the hinge stile at approximately eye level.
- b) Removal or tampering with the fire label will void the fire rating of the door.
- c) Unless otherwise identified, certified labeled fire doors installed in pairs must have metal edges or metal meeting edges with an astragal.
- d) Job site modification of certified labeled fire doors is restricted to 1] function holes for mortise locks, preparations for surface or applied hardware, and holes for labeled viewers, none of which shall exceed 1" in diameter, 2] a maximum undercut of 3/4" from nominal height, and 3] manufacturer's restrictions for protection plate type and surface area.

## Maintenance

1. Insure that 1] the doors have been finished and installed properly, 2] the doors continue to swing freely and do not bind the frame, and 3] all hardware is well maintained and remains functional.
2. Protect doors and hardware from abuse.
3. Periodic care and cleaning of the door finish is recommended. Care should be taken to not use chemical cleaners or polishes which will react unfavorably with the finish materials.
4. Inspect finish on doors at least once every two years to confirm doors are still being protected by the finish. In some cases, repair or refinishing may be necessary.
5. A repair or replacement of the finish should be done with materials which are compatible with the original materials used. Follow the instructions under "Preparation for Finishing."

*Doors are CARB 93120 Phase 1 Compliant*

Customer: \_\_\_\_\_ Job Name: \_\_\_\_\_  
GMC#: \_\_\_\_\_ PO#: \_\_\_\_\_  
INV#: \_\_\_\_\_ Date: \_\_\_\_\_



Brian Buckles - General Manager

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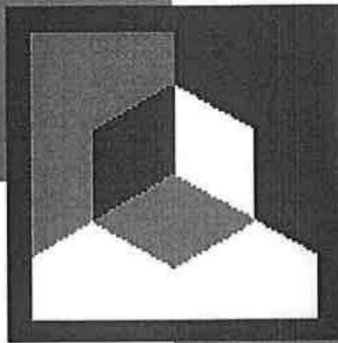
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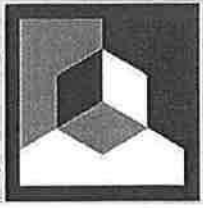
**AAMA 609 & 610-09**  
*(editorially revised)*

Cleaning and Maintenance  
Guide for Architecturally  
Finished Aluminum



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**MANUFACTURERS ASSOCIATION**



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## **1.0 SCOPE**

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1.1 This guide outlines methods, equipment, and materials applicable for cleaning architecturally finished aluminum after construction and for subsequent periodic maintenance.

1.2 The methods outlined herein are intended for use on anodized or painted architectural products whether rolled or extruded shapes, including window and door frames, store fronts and entrances, curtain walls, mullions, columns, panels, hand rails, flag poles and hardware.

1.3 Types of architectural finishes are anodic coatings, thermoplastic and thermosetting organic coatings.

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## **2.0 PURPOSE**

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This information is intended as a guide for architects, owners, building managers, contractors and others in the building industry who are interested in the proper care and maintenance of finished architectural aluminum. Herein are described safe, practical methods for cleaning, maintenance, and protection of finished architectural aluminum.

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## **3.0 GENERAL**

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### **3.1 ANODIZED ALUMINUM**

As with any finished building material, anodized aluminum requires reasonable care prior to and during installation and periodic cleaning and maintenance after installation. Although anodized aluminum possesses exceptional resistance to corrosion, discoloration and wear, its natural beauty can be marred by harsh chemicals, rough conditions, or neglect. Such conditions usually affect only the surface finish and do not reduce the service life of the aluminum. However, the marks resulting from such mistreatment may be permanent. For example, mortar, cement, and other alkaline materials will quickly corrode anodic coatings if allowed to dry on the metal surface.

### **3.2 PAINTED ALUMINUM**

Organic coatings on aluminum do not normally show an appreciable amount of dirt collection. In many atmospheres, dirt or soil would not indicate a detrimental risk to the coating, but cleaning and surface care may be desirable for the sake of appearance. Cleaning may become desirable in areas where heavy industrial deposits have dulled the surface, where materials from construction processes have soiled the surface or where cleaner run-down from other surfaces should be removed.

3.3 Both painted and anodized surfaces, exposed to the atmosphere, collect soil and dirt, the amount of which may vary depending on geographic area, environmental conditions, finish, and location on the building. Local atmospheric conditions as well as the building location within a geographical area, quite naturally have an effect on cleanliness.

More frequent cleaning will be required in heavy industrialized areas compared to rural areas. Seasonal rainfall can affect washing frequency by removing water soluble deposits and less adherent soil. In foggy coastal regions, frequent cycles of condensation and drying can create a heavy build-up of atmospheric salts and dirt which may adhere tenaciously. In climates where rainfall is low, the opportunity for atmospheric washing of the surface is minimal. Los Angeles, for example, has a unique combination of limited rainfall, temperature fluctuation, smog, and condensation. This situation requires that cleaning be done more frequently than in other metropolitan areas where rainfall is more frequent.

In both wet and dry climates, recessed and sheltered areas usually become more heavily soiled because of the lack of rain washing. Frequent and longer periods of condensation also occur in protected areas increasing the adhesion of the soil. This is particularly true of soffit areas on some overhangs, bottom areas of fascia panels, sheltered column covers and the like. Periodic maintenance inhibits long-term accumulation of soil which, under certain conditions, can accelerate weathering of the finish. The more frequently aluminum is cleaned, the easier and less costly succeeding maintenance is. It is recommended the finish supplier be consulted for proper cleaning schedule.

3.4 In any case, the aluminum cleaning schedule is to be integrated with other cleaning schedules for efficiency and economy. For example, both the glass and the aluminum curtain wall on the same building can be cleaned at the same time. If automatic wall cleaning equipment is to be used on a building, a test should be made early in equipment design to ensure that the cleaning solutions, brushes, as well as the frequency of cleaning have no detrimental effect on the coating.

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## 4.0 CLEANING PROCEDURES AND CARE AFTER INSTALLATION

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Construction soils, including concrete or mortar, etc., should be removed as soon as possible. The exact procedure for cleaning will vary depending on the nature and degree of soil. When selecting a method of cleaning and type of cleaner, consideration should be given to all other materials that may be adversely affected by the wash of the cleaning process. Try to restrict cleaning to mild weather. Cleaning should be done on the shaded side of the building or ideally on a mild, cloudy day.

### 4.1 REMOVAL OF LIGHT SURFACE SOIL ON ORGANIC AND ANODIC COATINGS

Removal of light surface soil may be accomplished by alternative methods as described in Sections 4.1.1, 4.1.2, 4.1.3 and 4.1.4. Only trial and error testing employing progressively stronger cleaning procedures can determine which will be most effective. Begin the cleaning process at the top of the building by rinsing an area the width of the stage or scaffolding to the ground level in continuous drop with forceful water spray. This should be done at the beginning and the end of each drop regardless of the final cleaning materials employed.

4.1.1 The simplest procedure is to flush the surface with water using moderate pressure to dislodge the soil. If soil is still adhering after drying, then a mild detergent will be necessary.

4.1.2 When mild detergent or mild soap is necessary for removal of soil, it should be used with brushing or sponging. The washing should be done with uniform pressure, cleaning first with a horizontal motion and then with a vertical motion. Apply cleaners only to an area that can be conveniently cleaned without changing position. The surface must be thoroughly rinsed with clean water. It may be necessary to sponge the surface while rinsing, particularly if cleaner is permitted to dry on the surface. The rinsed surface is permitted to air dry or is wiped dry with a chamois, squeegee, or lint-free cloth.

4.1.3 Run-down of cleaner (from any operation) to the lower portions of the building should be minimized and these areas should be rinsed as soon as and as long as necessary to lessen streaking, etc., from unavoidable rundown, lower areas should be kept wet or flooded with water. Do not allow cleaning chemicals to collect on surfaces or to "puddle" on horizontal surfaces, crevices, etc. These should be flushed with water and dried. Always clean coated surfaces down from top to bottom and follow with a thorough rinsing with clean water. (With one-story or low elevation buildings, it is recommended to clean from bottom up and rinse from top down.)

4.1.4 Mild soaps or detergents ruled safe for bare hands should be safe for coated aluminum. Stronger detergents should be carefully spot tested and may necessitate rubber gloves, long handled brushes, etc. With any soap or detergent, the finish should be thoroughly rinsed with clean water and dried. Some mild cleaning solutions, comprised of selected wetting agents in water solution, are available for automatic building-washing machines. These machines would have built-in brush agitation, squeegee, filtration and re-circulation; in some, a fresh water connection may be provided.

### 4.2 REMOVAL OF MEDIUM TO HEAVY SURFACE SOIL ON ANODIC COATINGS

4.2.1 If surface soil still adheres after using procedures under 4.1, cleaning with the assistance of a cleaning pad can be employed. Hand-scrub the metal surface using a palm-sized nylon cleaning pad. Thoroughly wet pad with clean water or a mild detergent cleaner or pumice powder. Start across the top and work down, rubbing the metal surface in the direction of the metal grain with uniform pressure. After scrubbing, the metal surface should be rinsed thoroughly with clean water to remove all residues. It may be necessary to sponge the surface while rinsing, particularly if the cleaner is permitted to dry on the surface. Solvents may be used to remove non-water-soluble deposits. Extreme care must be exercised when solvents are used since they may damage organic sealants, gaskets, and painted finishes. If solvents are used, rinse the surface completely with clean water and allow the surface to air dry or wipe dry with a chamois, squeegee, or lint-free cloth.

**CAUTION:** *These procedures must not be used on surfaces with a factory applied clear organic protective coating unless the clear coating has deteriorated and should be removed. Many organic solvents are flammable and or toxic. Refer to MSDS for proper handling.*

4.2.2 Use of power cleaning tools may be necessary for removal of unusually heavy soils from large areas including panels and column covers. In such cases an air driven reciprocating machine fitted with abrasive pads can be employed. During this operation, the surface being cleaned must be continually wetted with clean water or mild detergent cleaning solution to provide lubrication and a medium for carrying away the dirt. The cleaning solution may be applied to the panels by sponging or brushing. Water may be applied in the same manner by spraying from a hose or by utilizing the water connection on the cleaning machine. The machine is moved over the metal by the operator with a sufficient number of overlapped passes to effect maximum cleaning. The direction of travel with the cleaning machine is dependent largely up on the geometric

configuration of the surface being cleaned. However, when possible, the machine strokes should be made first in one direction and then in a direction perpendicular to the first; (e.g., horizontal passes followed by vertical passes). Areas which are not accessible with the machine must be manually cleaned as in paragraph 4.2.1.

After an area has been machined scrubbed, it must be rinsed with clean water and thoroughly scrubbed with a fairly stiff bristle brush. While still wet, a final water rinse without brushing completes this cleaning operation. The rinsed surface should be either permitted to air dry or wiped dry with a squeegee, chamois or lint-free cloth. It is important to promptly remove any cleaner runoff from the uncleaned lower portions of the building to avoid staining.

### **4.3 REMOVAL OF MEDIUM TO HEAVY SURFACE SOIL ON ORGANIC COATINGS**

**4.3.1** A mild solvent such as mineral spirits may be used to remove grease, sealant, or caulking compounds. Stronger solvent or solvent containing cleaners may have a deleterious or softening effect on paints. To prevent harm to the finish, these types of solvent or emulsion cleaners should be spot tested and preferably the coating manufacturer should be consulted. Care should be taken to assure that no marring of the surface is taking place in this manner since this could give an undesirable appearance at certain viewing angles. Cleaners of this type are usually applied with a clean cloth and removed with a cloth. Remaining residue should be washed with mild soap and rinsed with water. Use solvent cleaners sparingly.

**4.3.1.1** It may be possible for solvents to extract materials from sealants which could stain the painted surface or could prove harmful to sealants; therefore, these possible effects must be considered. Test a small area first.

**4.3.2** If cleaning of heavy surface soil has been postponed or in the cases of an especially tenacious soil, stubborn stains, etc., a more aggressive cleaner and technique may be required. Cleaner and technique should be matched to the soil and the painted finish. Some local manual cleaning may be needed at this point. Always follow the recommendations of the cleaner manufacturer as to proper cleaner and concentration. Test clean a small area first. Cleaners should not be used indiscriminately. Do not use excessive, abrasive rubbing as such may alter surface texture or may impart a "shine" to the surface.

**4.3.2.1** Concrete spillage that has dried on the painted surface may become quite stubborn to remove. Special cleaners and/or vigorous rubbing with non-abrasive brushes or plastic scrapers may be necessary. Diluted solutions of Muriatic Acid (under 10%) may be effective in removing dried concrete stains; however, a test area should be tried first. Proper handling precautions must be exercised for safety reasons. Also, effective proprietary cleaners for concrete and mortar staining are available.

**4.3.3** Never mix cleaners together. The mixing of cleaners may not only be ineffective, but also very dangerous. For example, mixing of chlorine containing materials such as bleaches, with other cleaning compounds containing ammonia, can result in poison gas emission.

**4.3.4** Always rinse after removal of any surface soil.

### **4.4 INSPECTION**

It is suggested that the building owner provide an engineer or representative to inspect the cleaning work to ensure satisfactory clean appearance of the building.

**4.4.1** Metal seams, crevices, sills, and any other area that may trap water, cleaner or dirt must be cleaned and thoroughly dried. These "trap" areas must be hand-wiped with absorbent towels or cloths to prevent runoff streaks or "puddling" which will later cause discoloration.

**4.4.2** Inspect metal surfaces for any discoloration or stains not removed during cleaning operations. Soil or discolorations still remaining should be manually cleaned in accordance with sections 4.1, 4.2 and 4.3 until a satisfactory appearance is achieved. Stubborn surface soils should be scrubbed in a uniform direction using a nylon cleaning pad and cleaner solution.

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## **5.0 CLEANING PRECAUTIONS**

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Here's a common sense summary of cleaning recommendations for architectural aluminum finishes.

**5.1** Correctly identify the aluminum finish to be cleaned when selecting an appropriate cleaning method. Check specifications and/or "as-built" drawings if in doubt as to the finish.



5.2 Never use aggressive alkaline or acid cleaners on aluminum finishes. Do not use cleaners containing trisodium phosphate, phosphoric acid, hydrochloric acid, hydrofluoric acid, fluorides, or similar compounds on anodized aluminum surfaces. Strong solvents or abrasive cleaners can cause damage to painted surfaces. Always follow the cleaner manufacturer's recommendations as to the proper cleaner and concentration. Test-clean a small area first. Different cleaners should not be mixed.

5.3 It is preferable to clean the metal when shaded. Do not attempt to clean hot, sun-heated surfaces since possible chemical reactions on hot metal surfaces will be highly accelerated and non-uniform. Also, avoid cleaning in freezing temperatures or when metal temperatures are sufficiently cold to cause condensation. Surfaces cleaned under these adverse conditions can become so streaked or tainted that they cannot be restored to their original appearance.

5.4 Apply the cleaning solution only to an area that can be conveniently cleaned without changing position. Thoroughly rinse the surface with clean water before applying cleaner. Minimize cleaner rundown over the lower portions of the building and rinse such areas as soon as practical.

5.5 Strong cleaners should not be used on windows and other building accessories where it is possible for the cleaner to come in contact with the aluminum. Solutions of water and mild detergents should be tried first. If an aggressive cleaner is required for some other component of the building, care must be taken to prevent the cleaner from contacting the aluminum finish.

**NOTE:** Care should be taken to avoid over spray or run off of cleaner onto other buildings components such as glazing materials, weatherstripping sealants, etc.

5.6 Do not use excessive abrasive rubbing to remove stubborn stains. Such procedures can produce an undesirable appearance or adversely affect the finish.

5.7 The type and frequency of cleaning and coating will vary with the amount of atmospheric soil and dirt accumulated on the surfaces and the owners desires regarding appearance. Periodic re-application and wipe on surface protectants will assist in maintaining the appearance and reduce the cleaning required.

**08 80 00 – GLASS AND GLAZING**

**ACE GLASS, INC**

**(985)809-7317**



## **Proper Procedures for Cleaning Architectural Glass Products**

Architectural glass products play a major role in the comfort of living and working environment of today's homes and commercial office spaces. By providing natural daylight, views of the surroundings, thermal comfort and design aesthetics, glass usage and condition often affect our selection of where we live, work, shop, play and seek education.

Architectural glass products must be properly cleaned during construction activities and as a part of routine maintenance in order to maintain visual and aesthetic clarity. Since glass products can be permanently damaged if improperly cleaned, glass producers and fabricators recommend strict compliance with the following procedures for properly cleaning glass surfaces.

As dirt and residue appear, interior and exterior glass surfaces should be thoroughly cleaned. Concrete or mortar slurry which runs down (or is splashed on) glass can be especially damaging and should be washed off as soon as possible. Before proceeding with cleaning, determine whether the glass is clear, tinted or reflective. Surface damage is more noticeable on reflective glass as compared with the other glass products. If the reflective surface is exposed, either on the exterior or interior, special care must be taken when cleaning, as scratches to the reflective glass surface can result in coating removal and a visible change in light transmittance. Cleaning tinted and reflective glass surfaces in direct sunlight should be avoided, as the surface temperature may be excessively hot for optimum cleaning. Cleaning should begin at the top of the building and continue to the lower levels to reduce the risk of leaving residue and cleaning solutions on glass at the lower levels. Cleaning procedures should also ensure that the wind is not blowing the cleaning solution and residue onto already cleaned glass.

Cleaning during construction activities should begin with soaking the glass surfaces with clean water and soap solution to loosen dirt or debris. Using a mild, non-abrasive commercial window washing solution, uniformly apply the solution to the glass surfaces with a brush, strip washer or other non-abrasive applicator. Immediately following the application of the cleaning solution, a squeegee should be used to remove all of the cleaning solution from the glass surface. Care should be taken to ensure that no metal parts of the cleaning equipment touch the glass surface and that no abrasive particles are trapped between the glass and the cleaning materials. All water and cleaning solution residue should be dried from window gaskets, sealants and frames to avoid the potential for deterioration of these materials as the result of the cleaning process.

It is strongly recommended that window washers clean a small area or one window, then stop and examine the surface for any damage to the glass and/or reflective coating. The ability to detect certain surface damage, i.e. light scratches, may vary greatly with the lighting conditions. Direct sunlight is needed to properly evaluate a glass surface for damage. Scratches that are not easily seen with a dark or gray sky may be very noticeable when the sun is at a certain angle in the sky or when the sun is low in the sky.

The glass industry takes extreme care to avoid glass scratches by protecting all glass surfaces during glass manufacturing and fabrication, as well as during all shipping and handling required to deliver the glass to the end user. A large percentage of damaged glass results from non-glass trades working near glass. This will include painters, spacklers, ironworkers, landscapers, carpenters and others who are part of the construction process. They may inadvertently lean tools against the glass, splash materials onto the glass and/or clean the glass incorrectly, any of which can permanently damage glass.

One of the common mistakes made by non-glass trades people, including glass cleaning contractors, is their use of razor blades or other scrapers on a large portion of the glass surface. Using 2, 3, 4, 5 inch and larger blades to scrape a window clean carries a large probability for causing irreparable damage to glass.

The entire industry of glass manufacturers, fabricators, distributors, and installers neither condones nor recommends widespread scraping of glass surfaces with metal blades or knives. Such scraping will often permanently damage or scratch the glass surfaces. When paint or other construction materials cannot be removed with normal cleaning procedures, a new 1" razor blade may need to be used only on non-coated glass surfaces. The razor blade should be used on small spots only. Scraping should be done in one direction only. Never scrape in a back and forth motion as this could trap particles under the blade that could scratch the glass. This practice may cause hairline concentrated scratches, which are not normally visible when looking through the glass, but may be visible under certain lighting conditions.

Jobsite storage and construction conditions can lead to stains on the glass surface. Cleaning and removal of such stains may require the use of a more aggressive cleaning solution and procedure. If conditions are found that cannot be cleaned using the above procedures, contact the glass supplier for guidelines on stain removal.

Members of the Glass Association of North America (GANA) publish information relating to jobsite protection and cleaning of architectural glass products. In order to ensure long-term performance of the glass in a building, GANA encourages glazing contractors, general contractors, building management and owners to be aware of conditions that can damage glass and to follow the handling and cleaning guidelines provided by their glass producer and fabricator.

*The Glass Association of North America (GANA) has produced this Glass Information Bulletin solely to provide general information as to basic proper procedures for cleaning architectural glass products. The Bulletin does not purport to state that any one particular type of glass cleaning process or procedure should be used in all applications or even in any specific application. The user of this Bulletin has the responsibility to ensure the cleaning instructions from the glass supplier are followed. GANA disclaims any responsibility for any specific results relating to the use of this Bulletin, for any errors or omissions contained in the Bulletin, and for any liability for loss or damage of any kind arising out of the use of this Bulletin.*

## **Quick-Reference Guide to Cleaning Architectural Glass Products**

The following "Do's" and "Do Not's" are offered as a supplement to the Glass Association of North America (GANA) Glass Informational Bulletin – *Proper Procedures for Cleaning Architectural Glass Products*:

### **The following are things to DO:**

- DO clean glass as soon as dirt and residue appear visibly
- DO determine if coated glass surfaces are exposed
- DO exercise special care when cleaning coated glass surfaces

- DO avoid cleaning tinted and coated glass surfaces in direct sunlight
- DO start cleaning at the top of the building and continue to lower levels
- DO soak the glass surface with a clean water and soap solution to loosen dirt and debris
- DO use a mild, non-abrasive commercial window cleaning solution
- DO use a squeegee to remove all of the cleaning solution
- DO dry all cleaning solution from window gaskets, sealants and frames
- DO clean one small window area and check to see if procedures have caused any damage
- DO be aware of and follow the glass supplier's specific cleaning recommendations
- DO caution other trades against allowing other materials to contact the glass
- DO watch for and prevent conditions that can damage the glass
- DO read the entire GANA bulletin on glass cleaning before starting to clean glass

**The following are things to NOT do:**

- DO NOT start cleaning without reading the entire GANA bulletin on glass cleaning
  - DO NOT use scrapers of any size or type for cleaning glass
  - DO NOT allow dirt and residue to remain on glass for an extended period of time
  - DO NOT begin cleaning glass without knowing if a coated surface is exposed
  - DO NOT clean tinted or coated glass in direct sunlight
  - DO NOT allow water or cleaning residue to remain on the glass or adjacent materials
  - DO NOT begin cleaning without rinsing excessive dirt and debris
  - DO NOT use abrasive cleaning solutions or materials
  - DO NOT allow metal parts of cleaning equipment to contact the glass
  - DO NOT trap abrasive particles between the cleaning materials and the glass surface
  - DO NOT allow other trades to lean tools or materials against the glass surface
- DO NOT allow splashed materials to dry on the glass surface

**09 30 00 – TILE**

**O'BRIEN FLOORING, INC**

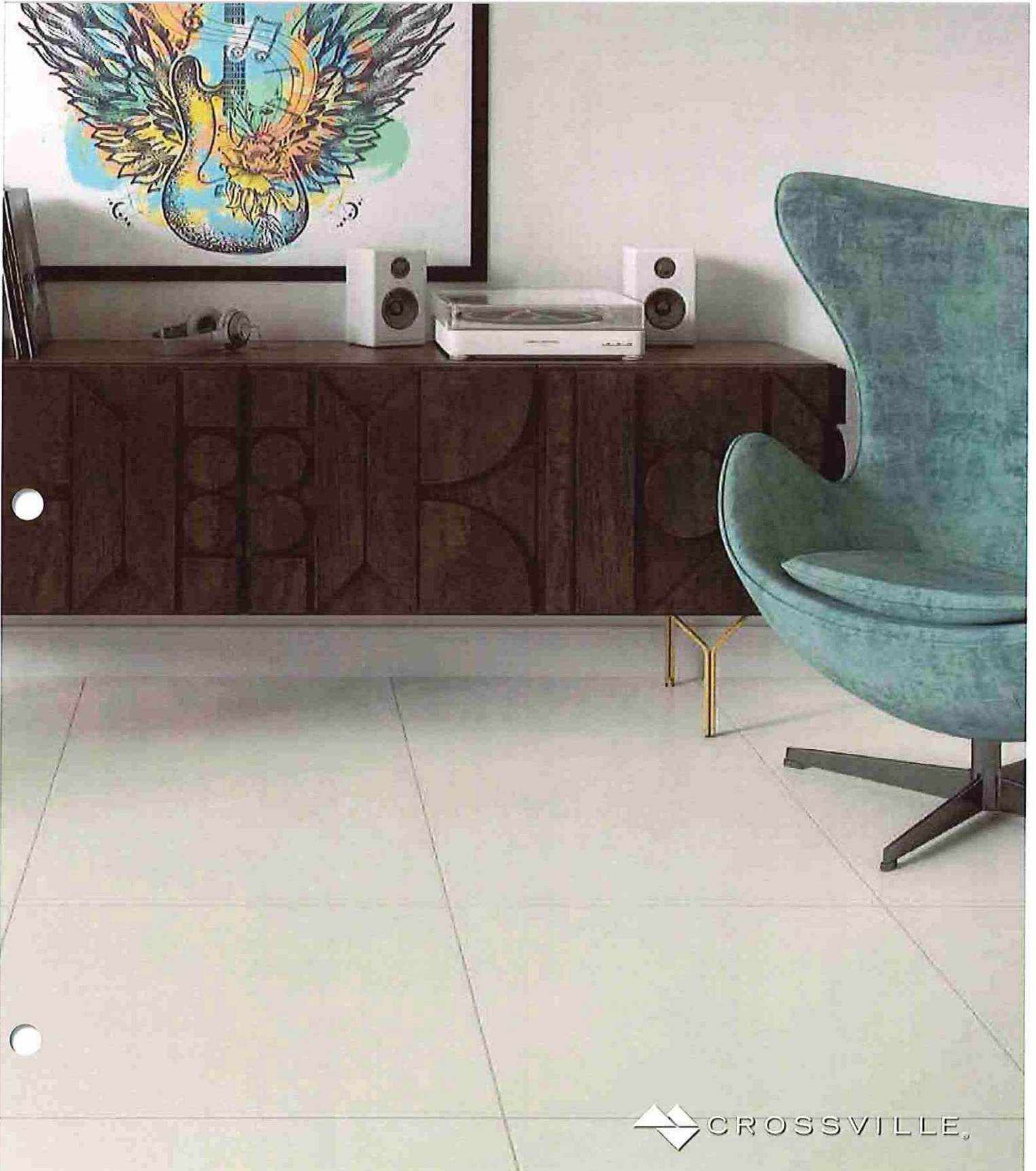
**(985)726-5190**

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# Care & Maintenance Guide

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Porcelain Stone®



# Cleaning & Maintenance For Porcelain Stone® Tile Products

## Crossville Quality

Our Porcelain Stone® tile is produced utilizing the most advanced equipment under very extensive and exacting process controls. Quality begins with the finest raw materials available in the United States. The ball clays, feldspar and kaolin combined with our innovative research and development program assures every Crossville user of the finest porcelain tile available.

Crossville is focused on maintaining its commitment to quality so our products meet and exceed your expectations. As with every interior surfacing material, our products require nominal care in order to maintain a satisfactory appearance and acceptable sanitation. These guidelines have been prepared so your particular Crossville installation will look beautiful for years.

## Initial Cleaning And Maintenance

The single-most important step for future daily maintenance involves the complete removal of grout and construction dirt after Crossville products have been installed. Grout manufacturers print instructions for proper mixing, curing, and cleaning of grout on each container. These directions must be followed. In most cases, Crossville Porcelain Stone can be cleaned successfully by scrubbing the installation with hot water and a neutral detergent, followed by a thorough rinsing, then removing the rinse water with a wet vacuum or dry toweling. If grout residue still remains, further cleaning of the tile should be accomplished in consultation with the grout manufacturer and Crossville.

Some grout manufacturers distribute proprietary products which they recommend for the removal of their particular grout from the surface of tile. These products can be diluted for removal of light deposits of grouting materials with the possibility of using stronger concentrations when more aggressive cleaning is required.

Equipment recommended for more aggressive cleaning are floor scrubbers or floor buffing machines equipped with a nylon pad or brush. A wet vacuum should be used to pick up suspended grout residue and construction dirt completely. Acid washing is rarely recommended, and is not usually necessary to successfully clean a new installation if the cleaning is done in a timely fashion. Caution should be exercised when using acid, or acid-based cleaners as they can adversely affect the grout.

If a customer insists on use of an acid cleaning the installation, he or she should be cautioned to use sulfamic acid or phosphoric acid mixed in a solution according to manufacturers' instructions. It is important that before the acid solution is placed on the floor, the grout joints be thoroughly saturated with water first. Grouts which contain latex can actually bond more strongly to the tile surfaces if cleaned with acid. Latex or polymer modified grouts should be cleaned with a solution recommended by the grout manufacturer.

Contractors or installers should also wait until the grout joint has fully cured, usually 7 to 10 days before using acidic cleaners.

Once the initial cleaning has been thoroughly completed, our daily maintenance procedures can be followed for continuous and long-lasting beauty.

Crossville recommends a two-bucket mopping approach as exemplified by the WaveBrake® mopping system offered by Rubbermaid®. For specific details call (800) 347-9800 or go to [www.rubbermaidcommercial.com/wavebrake](http://www.rubbermaidcommercial.com/wavebrake)

## Special Grouting Situations

Over the last several years significant changes have occurred to the grout products available in the marketplace.

- polymer enriched grouts
- epoxy grouts
- one-component grouts
- polyurethane based grouts
- micro particle technology finely grained sand and glass spheres

Due to these and other factors some rethinking on the traditional non-recommendation of sealer/impregnator applications has become necessary.

This reappraisal has prompted a specific examination of today's new generation of grouts that are integral to all tile installations. Current grouting materials combine very small particle size with adhesion based polymers and resins that provide:

- very effective joint/void filling
- very strong bonding agents

The resulting grout film if allowed to remain on the tile surface can be very difficult to remove!

- These films come at the end of the installation
- Very often this film collects and holds the full variety of construction dirt and debris.
- The "New" tile floor can have a dull appearance.
- Light colored tile, will appear dirty from the start.
- This condition will only get worse, until such films are removed, or better yet, kept from becoming established in the first place.

Before grouting, regardless of the grout color chosen, Crossville strongly recommends that a test patch be done by the contractor to determine if the grout or grout pigment will contaminate the surface of the tile.

If the test patch shows a tendency for staining or difficulty of removal when following the grout manufacturer's instructions (particularly if the tile is light in color and the grout material is in contrast to the color of the tile or composed of urethanes, epoxies or epoxy emulsions) the application of a penetrating sealer/grout release (Ex: Miracle Sealants 511 Impregnator 800-350-1901 or Aqua Mix Ultra-Solv

877-278-2311) is recommended.

- Some combinations of polished porcelain tile

(micro pores) and these highly formulated/ hybrid grouts should be small scale tested and may require more than one coating of protective sealer before proceeding to the entire floor!

- Install the sealer/grout release prior to the grouting process as outlined in the manufacturer's written product usage instructions. Some key points:

Allow adequate cure period typically 1 to 4 hours.

- All excess sealer (do not allow to pond) must be removed at the time of application by wiping or buffing with a clean dry cloth. This is very important for impervious porcelain surfaces.
- After the grout achieves its set, clean the floor with a solution similar to Aqua Mix Heavy Duty Tile and Grout Cleaner or Miracle Porcelain and Ceramic Tile Cleaner or a product recommended by the grout release manufacturer.

Due to the surface texture of CROSS-SLATE®, CROSS-TREAD®, and other highly textured Crossville Porcelain tile, it is advisable to use a grout release, if only to improve the cleanability of the grout from the surface of the tile.

Properly applied, these methods will provide a clean tile installation free of grout residue while providing significant time savings to the clean-up and maintenance process on polished and unpolished porcelain tile surfaces.

Of course, these are general recommendations. Any specific recommendations suggested by the individual manufacturers should be followed.

In the event grout residue or build-up does happen to occur on newly installed unprotected tile, reclamation of the floor through a timely and aggressive cleaning effort is necessary. Please note the recommended methods and materials listed below:

- Employ a heavy (75 to 90 lb. head weight) swing type floor scrubber
- Equip the unit with a heavy duty Green floor stripping pad
- Grout manufacturer's recommended grout haze remover used in conjunction with the floor machine
- Make note of areas where significant grout residue is visible
- Work the floor in smaller more manageable sections
- Allow the grout haze cleaner adequate dwell (10 to 15 minutes) time prior to floor scrubbing activity
- Using the floor cleaning equipment, thoroughly scrub the section, repeat of this process may be necessary
- Follow promptly with the removal of the dirty slurry through the use of a wet vacuum. DO NOT MOP as this will only serve to redistribute the dirty slurry on the floor
- The cleaned section should now be thoroughly rinsed and revacuumed possibly twice to insure all dirty slurry and cleaning residue has been removed



- Dry buff the finished floor to a dry uniform finish, using the floor scrubber with a soft white pad or fleece pad.

### **Penetrating Sealers**

For polished tiles, the use of a penetrating type sealer is required prior to grouting. A penetrating sealer is one that does not leave a coating on top of the tile. Rather, these sealers assist in filling the microscopic surface pores.

The grinding involved in the polishing process produces microscopic surface pores on all polished tile products. Penetrating sealers can fill these pores, making the tile even more impervious to surface staining, resulting in easier maintenance. Penetrating sealers do not alter the appearance of our Crossville products since they are designed only to fill the microscopic pores and not to coat the tile. Slip resistance also should not be affected.

Proper application of penetrating sealers is important. Follow the manufacturer's application guidelines. If you have questions prior to application, contact the manufacturer directly. The following is a suggested application procedure for a penetrating sealer:

1. Surface must be thoroughly clean and free of any foreign matter that may prevent the sealer from penetrating.
2. Apply in a circular motion using a clean rag, an applicator or a dense sponge, working sealer tightly into tile surface.
3. One thin application should be sufficient.
4. Completely remove excess sealer from the surface within 3 to 4 minutes using a clean cotton cloth, rag or absorbent paper towels. Penetrating-type sealers must not be allowed to dry on tile surface.

Penetrating sealers are applied only once, and generally do not require constant maintenance through reapplication.

### **Top Finishes and Waxes**

Crossville's dense, low-absorptive, porcelain body inhibits the penetration of contaminants and, therefore, is a tile that is easy to maintain. The low absorptive nature of our porcelain tile not only inhibits dirt and stains, but also prevents top finishes and most chemicals from penetrating the surface.

Top finishes, those that become a coating over the tile and grout joints, are not recommended by Crossville for its Porcelain Stone tile. They will change the appearance of the tile by coating the surface and giving matte finished tiles a shiny finish. When a particular type of tile is selected for the coefficient of friction values, the values can be changed by the application of the finish. Rather than improving the ability to maintain the surface, top finishes will increase the maintenance requirement. Top coating finishes also will show traffic patterns as the finish becomes scratched

or wears away. Some finishes may even peel off in spots.

Problems most frequently encountered with the use of top coating finishes are

1. Wear patterns are easily developed over time.
2. Finish applied to a floor which has not been properly cleaned will cause the floor to look hazy.
3. Finishes applied to textured surfaces will wear unevenly on the raised areas as compared to the low areas.
4. Improperly applied finishes can turn a milky white color.
5. Multiple coats of top finish can cause discoloration of the tile surface.

When problems such as these occur, the finish must be stripped off of the tile and a new coat of finish reapplied. This is a costly and unnecessarily repetitive procedure.

### **Proper Care During Construction**

Since Crossville products are considered to be a finish material, they should not be installed until all heavy construction is completed.

Between the installation and putting the floor into service, it is imperative to properly protect the tile and grout in order to avoid construction-related cleaning problems. Generally, there is a build-up of dirt and debris on every construction site. This dirt and debris may cause the grout, and sometimes the tile, to be adversely affected.

Crossville recommends that a protective cover be put over the tile surface to safeguard the appearance. The cover could include uncolored Kraft paper, cardboard, plywood, or any other clean covering that will not damage the integrity of the installation. Do not use plastic as it may not allow the grout and thin-set to properly cure, and it also may become extremely slippery as construction dust settles. Proper and diligent care must be used to maintain the protective cover during construction. This will insure a quality appearance when the floor is opened for continuous use.

### **Chemical Resistance**

Crossville tiles are chemical resistant to both strongly acidic and strongly alkaline chemical products, with the exception of **hydrofluoric acids or compounds containing fluoride salts and derivatives. Hydrofluoric acid** is the only acid which will attack our tiles, due to their molecular structure.

### **Daily Maintenance**

In keeping with Crossville's long-standing position on sustainability we highly recommend the use of low VOC, non-hazardous, and non-polluting products for cleaning and maintaining your tile and grout.

General maintenance and cleaning of Crossville Porcelain Stone tile will vary depending on the surface texture and soil load. General cleaning should be performed first by sweeping or vacuuming to remove loose soil or other surface contaminants. Depending on the soil load, a more tailored cleaning process may be required. Select the type of cleaner based on the type of soil on the floor. After using a cleaning solution follow with a thorough rinsing. Please refer to the Cleaning Chart for suggested cleaners/detergents.

There are six steps that are critical and should always be remembered for the successful maintenance of porcelain tiles:

1. All spills should be cleaned as quickly as possible. Use damp mopping to clean up spills. Damp mopping uses approximately 1 gallon of cleaning solution (mixture of water and detergent) per 600 square feet. An easy way to prepare for damp mopping is to wring out the mop prior to use.
2. Use wet mopping daily to clean the floors. Wet mopping uses approximately 1 gallon of cleaning solution (mixture of water and detergent) per 300 square feet. An easy way to prepare for wet mopping is to NOT wring out the mop prior to use.
3. Use only the recommended dilution of detergent. More is not always better; higher concentrations of detergent in the cleaning solution will only make it more difficult to rinse.
4. Allow the proper dwell (remain on the floor) time. The detergent solution must be given time to act on the soil load. Generally 5-10 minutes is sufficient.
5. Always agitate the floor when wet mopping to ensure soils are removed. Use a nylon pad, bristle brush, or deck brush after the cleaning solution has been applied.
6. Rinse thoroughly with clean, clear water to remove the dirty detergent solution and emulsified soil. Rinsing is a critical step in the maintenance procedure. Remove the rinse water with a wet vacuum, dry mop or toweling. If dirty detergent solution is not removed and is allowed to dry on the surface, a coating will form which is very difficult to remove.

In addition to the above steps, slightly different cleaning techniques should be administered for each of the surface textures offered by Crossville: Unpolished Matte Finish, Polished, CROSS-SLATE®, CROSS-TREAD®, CROSS-SHEEN®.

The use of auto-scrubbers and/or wet extraction machinery can make routine cleaning easier and more efficient.

### **CROSS-SHEEN® and Unpolished Matte Finish Tile**

Crossville's CROSS-SHEEN® finish is not a glaze, but rather a special surface preparation sprayed on the tile before firing. CROSS-SHEEN® closes the pores, resulting in a permanent surface finish that has a high degree of stain resistance.

The following represents a simple procedure for maintaining CROSS-SHEEN® and unpolished matte finish tile floors with a moderate soil load. For best results:

1. Sweep or vacuum the floor of all loose dirt and other foreign materials.
2. Saturate the floor with a mild cleaning solution and hot water, agitate, and allow it to dwell (remain on the floor) 5-10 minutes. Do not allow cleaning solutions to dry. It may be best to complete small areas at a time.
3. Remove the dirty cleaning solution and rinse the surface with clean, clear water.
4. Buff with a dry mop or towel.

If the Crossville CROSS-SHEEN® or unpolished finish product is extremely dirty, a more aggressive cleaning method may be necessary:

1. Sweep or vacuum the floor of dirt and other foreign material.
2. If there are difficult-to-remove contaminants on the surface of the tile, first attempt to identify the specific spill or contaminant. Different surface contaminants require different cleaning methods and chemicals (see chart).
3. Saturate the floor with cleaning solution and hot water, agitate, and allow it to dwell (remain on the floor) 5-10 minutes. After the dwell time, scrub the cleaning solution with a floor machine equipped with a nylon pad or bristle brush. For residential applications and small areas, use a hand brush or nylon pad.
4. Remove the dirty cleaning solution and rinse the surface with clean, clear water. This can be accomplished with a mop or a wet vacuum. It may be necessary to rinse the tile several times to thoroughly remove the cleaning agent from the surface.

### **Polished Tile**

For Crossville polished porcelain tiles, please follow these instructions for general cleaning:

1. Sweep or vacuum the floor of loose dirt. An untreated, dry dust mop may be more effective than a soft-bristle broom.
2. Mop with a mild cleaning solution. Use 50% less detergent concentrate than one would use on an unpolished floor.
3. Rinse the floor thoroughly with clean, clear water.
4. Dry thoroughly with a soft buffing pad cloth to increase the shine and prevent water spots.

### **Satin/Leather/Honed/Semi-polished**

These finishes do not generally require a grout release or sealing prior to grouting. Instructions for Cross-sheen maintenance is applicable for these finishes as well.

Grouts should always be small scale tested before proceeding to the entire floor or wall.

### **Porcelain Tile Panels**

Porcelain Tile Panels have all the same features and benefits as Crossville's other porcelain tile. Based on the finish and texture of the selected tile panel, the cleaning and maintenance portions of this document apply to tile panels as well.

Some exceptions follow:

- Polished and Satin finishes of tile panels require a penetrating sealer prior to grouting.
- Filo collection contains metal in the glaze and is therefore more susceptible to scratching so abrasive or scouring powder cleansers should not be used.

### **Stone Look Tile and CROSS-SLATE®**

Crossville's natural stone-look and CROSS-SLATE® tile has a subtle textured surface. The cleaning and maintenance procedures for stone-look tile are the same as for CROSS-SHEEN® and unpolished matte finished tile.

The use of cleaning machines and wet- extraction equipment can be used on our various tiles and textures

### **CROSS-TREAD®**

When public safety and insurance factors are a concern, Crossville offers its CROSS-TREAD tile for improved slip resistance. While these tiles are adeptly suited for their requirements, it is necessary to pay additional attention and take adequate care when cleaning these textures. The undulation of the surface makes it necessary to clean the entire surface, including the low points, which necessitates some additional, practical dirt removal procedures. Standard damp-mopping may not effectively clean these finishes. Also, it is necessary to thoroughly rinse the tile to completely remove all dirty cleaning solution.

For cleaning of CROSS-TREAD surfaces, please follow these instructions (this procedure is also applicable to any heavily textured porcelain tile products):

1. Sweep or vacuum floor debris. If sweeping, use a soft-bristle broom. Sweep in two directions. First, follow the direction of the tile, then sweep diagonally to the tile to ensure complete removal of all foreign material.
2. Saturate the surface with a neutral detergent cleaning solution and hot water and agitate. Looped-end, tail-banded mops, such as the Super Stitch Blend Mop from Rubbermaid

(800-347-9800), are the most durable for textured surface tile. Allow the cleaning solution to remain on the floor for 5-10 minutes. Scrub the floor with a brush in a circular motion. Dual-surface floor scrub brushes with side bristles by Carlisle SMP (800-654-8210, carlisleSMP.com) are ideal for cleaning textured floor tile and cove base.

3. Rinse the floor with clean, clear water to suspend contaminants and completely remove any soiled cleaning solution.
4. Remove rinse water with a wet vacuum or dry toweling.

In high-traffic areas, or areas where the surface is exposed to a heavy soil load, it may be necessary to scrub the floor once a day and damp-mop at intervals during the business day.

When occasional deep cleaning is required for particularly dirty or stained areas, the use of a wet vacuum in conjunction with a stiff bristled deck brush is recommended (XTRACT melamine floor pads as a replacement for standard floor scrubbing pads on an orbital machine also work well – www.americomfg.com).

There is also an array of power washing and auto scrubbing equipment by that can greatly improve the speed and efficiency of cleaning large commercial, exterior or transitional surface areas available from:

- Windsor (800) 444-7654 – windsorind.com
- Betco (888) 462-3826 – betco.com
- Tornado (800) VACUUMS – tornadovac.com
- IPC Eagle (800) 486-277 – ipceagle.com

# Suggested Cleaners

In keeping with Crossville's long-standing position on sustainability, we highly recommend the use of low VOC, non-hazardous, and non-polluting products for cleaning and maintaining tile and grout (for specific problem stains, please use the following stain removal chart).

These products are used by tile and maintenance professionals and may not be readily available in all areas. Most household cleaners are sufficient to clean common stains as long as they conform to the standards set forth in the Daily Maintenance Section. In the case where stain removal becomes a problem, contact a cleaning and maintenance product supplier or your local tile distributor for professional suggestions.

In keeping with its commitment to quality, Crossville\* will offer its Technical Service Department for individualized assistance. This department can assist you in the proper installation and maintenance of all Crossville\* Porcelain Stone\* tiles. Contact Crossville Technical Services at 931.484.2110.

Crossville\* recommends the use of professional cleaning and maintenance products. If additional information or assistance is required on a contaminant not listed, or if you need to find out where the products are sold, please call us, or contact one of the companies to the right.

**Custom Building Products, Tilelab & Aqua Mix**  
Sata Fe Springs, CA 90670  
800.272.8786  
custombuildingproducts.com  
aquamix.com

**Fila Chemicals USA Corp.**  
10800 NW 21<sup>st</sup> St. # 170  
Miami, FL 33172  
305.513.0708  
www.filasolutions.com

**Miracle Sealants Co.**  
12318 Lower Azusa Rd.  
Arcadia, CA 91006-5872  
800.350.1901 ext. 3013  
miraclesealants.com

	STAIN	FILA	CUSTOM	AQUA MIX	MIRACLE SEALANTS	COMMON
<b>Food Groups</b>	Mustard Ketchup Mayonnaise Tea Bags Ice Cream Beer/Wine Orange Juice Grape Juice Coffee Coke Soy Sauce	PS87 or SR95 or KITCHENKARE	TileLab Grout & Tile Cleaner	Concentrated Stone & Tile Cleaner or Grout Deep Clean	Porcelain & Ceramic Tile Cleaner or Tile & Stone Cleaner or Liquid Poultice or Heavy Duty Acid Cleaner (HDAC)	Mr. Clean* Neutral Floor Cleaner* 409* Spic and Span* Fantastic* Comet* Windex* Lysol* Soft Scrub* Mr. Clean Magic Eraser* Bar Keepers Friend*
<b>Oil &amp; Grease</b>	Vegetable Mineral Petroleum Wax Sealer Meat Grease Hydraulic Oil Trans. Fluid Linseed Oil Lipstick Rubber Shoe Polish Paint (Oil Based)	PS87 or No Spot    PS87 or PROSTRIP	TileLab Heavy Duty Stripper & Cleaner	Heavy-Duty Tile & Grout Cleaner	Porcelain & Ceramic Tile Cleaner or Tile & Stone Cleaner or Liquid Poultice or Heavy Duty Acid Cleaner (HDAC)	Mr. Clean Neutral Floor Cleaner 409 Spic and Span Fantastic Comet Windex Lysol Soft Scrub Mr. Clean Magic Eraser Bar Keepers Friend
<b>Markers/Graffiti</b>	Felt Tip Ink Water Marker Permanent Fluorescent Pencil Crayon	PS87 or SR95  PS87	TileLab Heavy Duty Stripper & Cleaner	Sealer & Coating Remover	Porcelain and Ceramic Tile Cleaner or Heavy Duty Acid Cleaner (HDAC)	Comet Soft Scrub Mr. Clean Neutral Floor Cleaner ZUD* Mr. Clean Magic Eraser Bar Keepers Friend
<b>Water-Based Agents</b>	Water Base Paint or Stain	PS87 or Deterdek	TileLab Heavy Duty Stripper & Cleaner	Sealer & Coating Remover	Porcelain & Ceramic Tile Cleaner or Heavy Duty Acid Cleaner (HDAC) or Tile & Stone Cleaner	Mr. Clean Neutral Floor Cleaner Comet Mr. Clean Magic Eraser Bar Keepers Friend
<b>Tile Grout</b>	Cement Latex Polymer  Epoxy	Deterdek or PS87  EPOXYOFF	TileLab Sulfamic Acid Cleaner or Grout Haze Remover	Sulfamic Acid Crystals or Cement Grout Haze Cleaner or Grout Haze Clean-Up* Sealer & Coating Remover	Heavy Duty Acid Cleaner (HDAC) or Phosphoric Acid or Epoxy Grout Film Remover	White Vinegar Lime-A-Way Mr. Clean Magic Eraser Bar Keepers Friend

\*For problem stains, it may be necessary to use an abrasive powder compound in conjunction with the above cleaners; With Heavy-Duty Tile & Grout Cleaner or Grout Haze Clean-Up, use Aqua Mix Poultice. Please be careful to follow manufacturers recommended procedures when using any cleaning product. To download a copy of "How to Care for Porcelain Stone" tile, be sure to visit our web site at CrossvilleInc.com.

# Care & Maintenance Guide

Crossville, Inc.

PO Box 1168  
Crossville, TN  
38557

Phone 931.484.2110  
Fax 931.456.2956  
E-Mail [Crossc@CrossvilleInc.com](mailto:Crossc@CrossvilleInc.com)  
Web [CrossvilleInc.com](http://CrossvilleInc.com)

## Crossville Cross-Sheen®

Cross-Sheen® is a unique proprietary finish that is not a glaze. It is a special surface preparation that is sprayed on to the tile surface prior to firing. The dense porcelain tiles are then fired at 2,200 degree Fahrenheit, the treatment actually lowers the melt point on the top layer (1mm) closing and fusing the surface pores, giving the tiles a permanent and integral surface finish.

Cross-Sheen® (UPS) is an intergrated finish that greatly enhances the protection of Crossville tile from the majority of scuffs, stains, and even most graffiti. By creating an advanced, easier-to-clean tile surface. Cross-Sheen allows for fast removal of unsightly marks using only mild cleaners, resulting in hassle-free cleaning and long-term performance of your Crossville Tile. Cross-Sheen® is recommended for interior floors and walls and exterior walls, including high-traffic areas and areas where a low level of maintenance is desired. Cross-Sheen® is not recommended for exterior paving.

Please check individual series for usage areas.



Cross-Sheen® is recommended for interior floors and walls and exterior walls.

**09 65 10 – LVT FLOORING**

**O'BRIEN FLOORING, INC**

**(985)726-5190**



## LUXURY VINYL TILES AND PLANKS MAINTENANCE INSTRUCTIONS

Contour, Event, iD Latitude, and Resolve

### INTRODUCTION

These instructions are written as a guide to be used by professionals for the proper care and maintenance of the floor. Utilizing these guidelines, with the cleaning products listed below, will ease the maintenance process and provide the customer with a product that will perform to its intended purpose. Always visit [www.tarkettna.com](http://www.tarkettna.com) for the most current installation and maintenance instructions. Technical videos and tip sheets are also available. Contact Tarkett Technical Services at (800)-899-8916 with any questions.

### POST INSTALLATION / INITIAL CLEANING

Job site conditions will cause grit and dirt to accumulate. Initial cleaning must not be performed until 72 hours after installation. However, it is necessary the floor be swept and protected until maintenance begins.

1. Thoroughly sweep or vacuum the flooring to remove all loose dirt and grit.
2. Prepare a cleaning solution using one of the recommended pH neutral cleaners identified on the reference chart below.
3. The dilution ratio depends on light to heavy soil conditions. Follow the manufacturer's label instructions.
4. Apply the cleaning solution with a nylon or rayon mop, or pump type sprayer. **DO NOT FLOOD THE FLOOR.**
5. Let the cleaning solution dwell for 5 to 15 minutes (dwell time is based on soil conditions of the floor). **DO NOT ALLOW THE SOLUTION TO DRY.**
6. Scrub the flooring using a single disc rotary machine (175 – 350 RPM) equipped with a 16 to 24 gauge nylon bristle brush, or a 3M 5100 red pad or equivalent. In small areas, use a deck brush attached to a handle. **DO NOT USE BROWN OR BLACK PADS.**
7. Remove the cleaning solution using a wet vacuum or a mop.
8. Rinse the floor thoroughly with clean water.
9. Allow the flooring to dry completely.  
**NOTE: The cleaning process may need to be repeated on heavily soiled floors.**

### PREVENTIVE CARE

1. An effective barrier matting system should be installed at all entrances to reduce cleaning costs and extend the life of the floor.
2. Protect the flooring from damage by using good quality protective glides and casters for chairs, tables, and other furniture using products designed for resilient floors. Caster or wheel damage, in work stations or similar environments, can be avoided with the use of chair pads.
3. Do NOT use steel wool, strong solvents (gasoline, turpentine, and acetone), or all-purpose cleaners (Lestoil, Top Job, etc. and similar products).
4. Do NOT use sweeping compounds or mops treated with petroleum solvents, silicone compounds or loose abrasives that damage the flooring.
5. Do NOT use disinfectant cleaners and insecticide sprays containing oil or solvents that may settle on the floor in sufficient quantity to discolor, cause slipperiness, and harm the flooring.

### ROUTINE / DAILY CLEANING

It is very important to clean the flooring at a frequency consistent with the amount and type of traffic and soil conditions. Daily cleaning is recommended.

1. Thoroughly sweep or vacuum the flooring to remove all loose dirt and grit.
2. Prepare a cleaning solution using one of the recommended pH neutral cleaners identified on the reference chart below.
3. The dilution ratio depends on light to heavy soil conditions. Follow the manufacturer's label instructions.
4. Damp mop the cleaning solution onto the floor with a nylon or rayon mop. Be sure to wring the mop between each application. Or, use an auto scrubber equipped with a 16 to 24 gauge nylon bristle brush, or a 3M 5100 red pad or equivalent. **DO NOT FLOOD THE FLOOR.**
5. Allow the flooring to dry completely.
6. Remove minor stains and scuffs in conjunction with the damp mopping. Use a white or red pad if required.

### PERIODIC / DEEP CLEANING

When Routine / Daily Cleaning no longer provides adequate results, a more aggressive deep cleaning is required to thoroughly clean the floor.

1. Thoroughly sweep or vacuum the flooring to remove all loose dirt and grit.
2. Prepare a cleaning solution using one of the recommended pH neutral cleaners identified on the reference chart below.
3. The dilution ratio depends on light to heavy soil conditions. Follow the manufacturer's label instructions.
4. Apply the cleaning solution with a nylon or rayon mop, or pump type sprayer. **DO NOT FLOOD THE FLOOR.**
5. Let the cleaning solution dwell for 5 to 15 minutes (dwell time is based on soil conditions of the floor). **DO NOT ALLOW THE SOLUTION TO DRY.**
6. Scrub the flooring using a single disc rotary machine (175 – 350 RPM) equipped with a 16 to 24 gauge nylon bristle brush, or a 3M 5100 red pad or equivalent. In small areas, use a deck brush attached to a handle. **DO NOT USE BROWN OR BLACK PADS.**
7. Remove the cleaning solution using a wet vacuum or a mop.
8. Rinse the floor thoroughly with clean water.
9. Allow the flooring to dry completely.  
**NOTE: The cleaning process may need to be repeated on heavily soiled floors.**

Flooring may be maintained by following a conventional floor finish maintenance system if desired. Conventional floor finish maintenance systems require periodic stripping of the floor finish. Always follow the manufacturer's label instructions for proper application and use.

### MAINTENANCE PRODUCT REFERENCE CHART

NOTE: Always follow the manufactures label for proper mixing ratios and use.

	Initial Cleaning	Daily Cleaning	Deep Cleaning
Buckeye www.buckeyeinternational.com 1-800-321-2583	Straight Up	Crossroads	Crossroads
Diversey www.diversey.com 1-800-558-2332	Profi	Profi	Profi
	GP Forward	GP Forward	GP Forward
	Prominence	Prominence	Prominence
Certified Green Products		Stride	Stride
Spartan Chemical www.spartanchemical.com 1-800-537-8990	Tribase	Tribase	Tribase
		Damp Mop	Damp Mop
Certified Green Products	Green Solutions Industrial Cleaner	Green Solutions All Purpose Cleaner	Green Solutions All Purpose Cleaner
XL North www.xlnorth.com 1-888-530-2259	XL APC All Purpose Cleaner	XL APC All Purpose Cleaner	XL APC All Purpose Cleaner

**Tarkett North America**

Technical Services Department  
30000 Aurora Road  
Solon, OH 44139  
800.899.8916 Fax 440.632.5643  
info@tarkettna.com

**www.tarkettna.com**

## Vinyl Composition Tile & Bio-Based Tile Maintenance Instructions

Following a regular and well-planned maintenance program will ensure a beautiful floor and increase its service life.

### Helpful Tips

- Always use proper safety signage while working, especially during wet maintenance.
- Use walk-off mats at every entrance to help control grit and soil; clean walk-off mats regularly. We recommend mats without latex or rubber backing since these backings can cause permanent discoloration.
- Protect the floor with plywood or Kraft paper during construction and while moving equipment and furniture.
- Select proper non-staining furniture rests and casters; the contact area should be smooth, flat, and firmly on the floor at all times.
- After removing loose dirt and debris, use a damp mop and a properly diluted cleaner for daily maintenance. Do not use an excessive amount of liquid.
- When using disinfectants, always follow manufacturer's instructions for use to avoid slippery conditions and possible discoloration.
- Protect your floor by avoiding the use of brown and black pads, or stiff-bristled, highly abrasive brushes.

### Immediately After Installation

- Newly installed flooring should not be exposed to rolling load traffic for at least 72 hours after installation to allow the adhesive to dry.
- Do not wet wash, machine scrub, or strip the floor for at least five days after installation. Excess moisture can interfere with the adhesive and/or seam treatments.
- When performing wet maintenance, always use proper signage and prohibit traffic until the floor is completely dry.
- Remove any adhesive residue with a clean, white cloth dampened with denatured alcohol.
- Sweep, dust mop or vacuum the floor to remove loose dust, dirt, and debris.
- Damp mop the floor with a properly diluted cleaner, like S-485 Commercial Floor Cleaner.
- Apply at least two coats of a high-quality commercial floor polish, like S-480 Commercial Floor Polish to temporarily protect the floor until regular maintenance procedures can begin.
- In areas where the flooring will be exposed to heavy traffic and/or staining agents, we recommend applying 1 or 2 coats of a stain resistant sealer, like S-495 Commercial Floor Sealer, prior to the application of polish.

### Preparation for Commercial Traffic



- Scrub the floor using a rotary machine or auto scrubber (300 rpm or less) with a properly diluted cleaner
  - Use a 3M® red pad, or equivalent, for a light scrub
  - Use a 3M blue pad, or equivalent, for a deep scrub
- Thoroughly scrub the floor, passing slowly in each direction.
- If the floor is badly soiled and/or scratched, strip it using the procedure above but use a properly diluted stripping solution in place of the cleaner.
- **PLEASE NOTE:** The use of aggressive strippers such as mop-on/mop-off, no-scrub and no-rinse strippers is not recommended on tile floors less than two years old because they may affect the adhesive bond.
- Rinse the floor with fresh, clean water and allow the floor to dry.
- Apply 3 to 5 coats of high-quality floor polish, like S-480 Commercial Floor Polish.
- In areas where the flooring will be exposed to heavy traffic and/or staining agents, we recommend applying 1 or 2 coats of a stain resistant sealer, like S-495 Commercial Floor Sealer, prior to the application of polish.
- When using disinfectant/germicidal cleaners, always follow manufacturer's instructions for use to avoid slippery conditions and possible discoloration. We recommend a pH neutral disinfectant.



**09 65 00 – RESILIENT FLOORING**

**O'BRIEN FLOORING, INC**

**(985)726-5190**

## Vinyl Composition Tile & Bio-Based Tile Maintenance Instructions

Following a regular and well-planned maintenance program will ensure a beautiful floor and increase its service life.

### Helpful Tips

- Always use proper safety signage while working, especially during wet maintenance.
- Use walk-off mats at every entrance to help control grit and soil; clean walk-off mats regularly. We recommend mats without latex or rubber backing since these backings can cause permanent discoloration.
- Protect the floor with plywood or Kraft paper during construction and while moving equipment and furniture.
- Select proper non-staining furniture rests and casters; the contact area should be smooth, flat, and firmly on the floor at all times.
- After removing loose dirt and debris, use a damp mop and a properly diluted cleaner for daily maintenance. Do not use an excessive amount of liquid.
- When using disinfectants, always follow manufacturer's instructions for use to avoid slippery conditions and possible discoloration.
- Protect your floor by avoiding the use of brown and black pads, or stiff-bristled, highly abrasive brushes.

### Immediately After Installation

- Newly installed flooring should not be exposed to rolling load traffic for at least 72 hours after installation to allow the adhesive to dry.
- Do not wet wash, machine scrub, or strip the floor for at least five days after installation. Excess moisture can interfere with the adhesive and/or seam treatments.
- When performing wet maintenance, always use proper signage and prohibit traffic until the floor is completely dry.
- Remove any adhesive residue with a clean, white cloth dampened with denatured alcohol.
- Sweep, dust mop or vacuum the floor to remove loose dust, dirt, and debris.
- Damp mop the floor with a properly diluted cleaner, like S-485 Commercial Floor Cleaner.
- Apply at least two coats of a high-quality commercial floor polish, like S-480 Commercial Floor Polish to temporarily protect the floor until regular maintenance procedures can begin.
- In areas where the flooring will be exposed to heavy traffic and/or staining agents, we recommend applying 1 or 2 coats of a stain resistant sealer, like S-495 Commercial Floor Sealer, prior to the application of polish.

### Preparation for Commercial Traffic



- Scrub the floor using a rotary machine or auto scrubber (300 rpm or less) with a properly diluted cleaner
  - Use a 3M® red pad, or equivalent, for a light scrub
  - Use a 3M blue pad, or equivalent, for a deep scrub
- Thoroughly scrub the floor, passing slowly in each direction.
- If the floor is badly soiled and/or scratched, strip it using the procedure above but use a properly diluted stripping solution in place of the cleaner.
- **PLEASE NOTE:** The use of aggressive strippers such as mop-on/mop-off, no-scrub and no-rinse strippers is not recommended on tile floors less than two years old because they may affect the adhesive bond.
- Rinse the floor with fresh, clean water and allow the floor to dry.
- Apply 3 to 5 coats of high-quality floor polish, like S-480 Commercial Floor Polish.
- In areas where the flooring will be exposed to heavy traffic and/or staining agents, we recommend applying 1 or 2 coats of a stain resistant sealer, like S-495 Commercial Floor Sealer, prior to the application of polish.
- When using disinfectant/germicidal cleaners, always follow manufacturer's instructions for use to avoid slippery conditions and possible discoloration. We recommend a pH neutral disinfectant.

### Sweep & Damp Mop in Areas with Light Soiling

- Sweep, dust mop or vacuum the floor to remove loose dust, dirt, and debris.
- Damp mop the floor with a properly diluted cleaner, like S-485 Commercial Floor Cleaner, on a regular or daily basis.

### Machine Scrub for Heavy Soiling and Corrective Cleaning



- When necessary, after sweeping, dust mopping or vacuuming, scrub the floor using a rotary machine or auto scrubber (300 rpm or less) with a properly diluted cleaner
  - Use a 3M® red pad, or equivalent, for a light scrub
  - Use a 3M blue pad, or equivalent, for a deep scrub
- Thoroughly scrub the floor, passing slowly in each direction
- Rinse the floor with fresh, clean water and allow the floor to dry.
- If needed, additional coats of floor polish may be applied. If there is sufficient base of polish remaining (3 to 5 coats), buff, spray buff or burnish to restore gloss.

### Restorative Maintenance – Stripping Existing Floor Polish

- Mix stripping solution to the appropriate dilution, depending on floor finish buildup.
- Cordon off areas to be stripped and apply liberal amounts of solution uniformly on floor with mop.
- Let stripping solution soak for the appropriate amount of time recommended by the stripper manufacturer.
- Keep areas to be stripped wet. Rewet if necessary.
- Machine scrub the floor (300 rpm or less) with a 3M blue pad or equivalent to break up the polish film. Do not allow stripping solution to dry on the floor.
- Remove dirty stripping solution with a wet vacuum or mop.
- Rinse the floor with fresh, clean water and allow the floor to dry.
- Apply 3 to 5 coats of high-quality floor polish, like S-480 Commercial Floor Polish.
- In areas where the flooring will be exposed to heavy traffic and/or staining agents, we recommend applying 1 or 2 coats of a stain resistant sealer, like S-495 Commercial Floor Sealer, prior to the application of polish.
- When using disinfectant/germicidal cleaners, always follow manufacturer's instructions for use to avoid slippery conditions and possible discoloration. We recommend a pH neutral disinfectant.

**FEATURE TILE™:** Like solid-colored floors of any composition, shows scratches and soiling more readily than patterned materials. They have been designed for use as decorative bands, borders and spot accent colors in combination with VCT products. Feature Tile is not suitable for us as an overall floor color and is not recommended for this use. When first installed, the plain-colored surface may reveal a light dusty or powdery film and some directional surface markings. These are common to the production of this type of product, but the markings will be eliminated with regular cleaning and polishing, and they will not affect the performance of the floor.

**STONETEX®:** Although Stonetex presents a monolithic or solid-colored image, the speckled pattern enables it to look better longer than Feature Tile or other non-patterned vinyl composition tile. Stonetex may require more frequent maintenance than a typical vinyl composition tile with a more prominent pattern.

We recommend using the following accessories and equipment as part of a regular and well-planned maintenance program to ensure a beautiful floor and increase its service life.

- Wet mops (microfiber, cotton, synthetic blend)
- Dry mops (microfiber, rayon, polyester, acrylic)
- Polish applicators (optional)



• Use a 3M® 5100 red pad or equivalent brush or pad for a light scrub



• Use a 3M 5300 blue pad or equivalent brush or pad for a deep scrub



• S-480 Commercial Floor Polish



• S-485 Commercial Floor Cleaner



• S-495 Commercial Floor Sealer

### Guidelines for Floor Protection Devices

- The contact area should be smooth, slightly rounded and large enough to distribute the load evenly without damaging the floor.
- Floor contact devices should be manufactured from non-staining materials.
- Felt glides are recommended on smooth, hard surface. They must be kept clean and properly maintained.
- Nylon glides are recommended on heavily embossed or textured surfaces.
- When using rolling casters, we recommend double wheel options. To avoid damage under the casters, use a non-staining chair mat.
- Furniture, appliances, and equipment should be leveled so that all flooring protection devices rest fully and firmly on the floor.



• Slip-Over® Floor Saver from Expanded Technologies



• Flexi-Felt® Sled Base

# ArmstrongFlooring™

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Flexi-Felt® is a registered trademark of IEG.

Slip-Over® is a registered trademark of Expanded Technologies Corp.



For more information about establishing your maintenance program, scan here.

**09 66 23 – EPOXY TERRAZZO FLOORING**

**D & T TILE & TERRAZZO COMPANY, INC**

**(985)626-3380**

## **CUSTODIAN'S GUIDE**

Follow these instructions to keep your terrazzo floor clean and long lasting. These are minimum maintenance suggestions:

### **CAUTION:**

Before deviation from the instructions, contact your local Terrazzo Contractor for advice. Always keep rinse water, mops & pails clean!

### **Daily:**

Sweep using yarn-wick brush treated with sweeping compound. Hand work stubborn stains and scuff marks with neutral cleaner diluted in warm water.

### **Weekly:**

Damp mop lightly soiled floors with neutral cleaner. Heavily soiled floors should be scrubbed with a mechanical buffing machine and neutral cleaner. Mop up residue with clean water before it dries. Allow to dry and buff with a dry brush.

NOTE: Allow your neutral cleaner, once applied to the terrazzo surface, time to react. It is designed to loosen foreign matter. Several minutes should be adequate, but do not allow solution to dry on the surface.

### **Semi-Annually:**

Strip all old sealer and any finish coats. Reseal clean floor.

### **WARNING!!**

It is important that any sealer or dressing be listed by underwriter's laboratories for slip resistance.

The preceding minimum maintenance suggestions have proven over time to provide the owner with the lowest maintenance cost of any floor system.

### **Some options to the above include the following:**

Apply high luster finishes on top of the sealer to the desired sheen. These normally require the added expense of spray-buffing to maintain the sheen. Terrazzo, unlike other floors, does not require this for wear protection.

There is another process that would produce a sheen without the application of sealers. As you clean your floors with the neutral cleaner / water solution, your final mop picks up the majority of this cleaner, but still some remains on the surface. After several such procedures, the residue of cleaner will become buffable and result in a sheen with buffing after each washing. This method of

achieving a sheen never requires the stripping action, thus, reducing your maintenance costs. This is not recommended in areas exposed to staining materials.

As of late, some owners have been testing new technologies from the marble and granite industries to produce super high gloss finishes without day to day recoating. These include diamond pads for mechanical honing and polishing as well as crystallization/vitrification products. As of this time the long term maintenance cost of these systems is not known by this Association.

Note: In the event that your floor becomes heavily soiled, consult with your local terrazzo contractor or this association for directions before using any miracle cleaner suggested by someone not familiar with terrazzo. Ignoring this warning could prove harmful to your floor surface.

## Owner's Guide

### **MAINTENANCE PRECAUTIONS:**

Harsh cleaners and sealers can damage Terrazzo; thus, only materials that are neutral with a PH Factor between 7 and 10 should be used when scrubbing or mopping floors. Avoid all-purpose cleaners or soaps containing water soluble, inorganic, or crystallizing salts, harmful alkali or acids. Sweeping compounds contain oil, which is not only a fire hazard, but will penetrate and could permanently discolor your floor. Many of these compounds contain sand, which is hard to sweep, and can abrade your floor if not removed. Most owners want to see a high sheen on their floors. Since safety in all buildings is a concern, use a water-based sealer in the acrylic family especially designed for Terrazzo use. The Underwriters Laboratories classification of this sealer should include a slip resistance with a coefficient of friction rating of minimum 0.5. Solvent-based sealers have a tendency to discolor with age and pose a removal problem for the user, especially when wear patterns develop or discoloration dictates stripping the surface. This Association sells no product and uses generic terms in our suggestions. We do recommend acrylic water based sealers mopped on, in one or more coats, in accordance with the instructions of the manufacturer. This can also be followed by an acrylic water-based finish for daily or weekly buffing if a high sheen is desired.

### **CLEANING PROCEDURES:**

Neutral cleaners are designed to react only in solution with clean water, mixed in accordance to the manufacturer instructions, and allowed to remain on the floor surface for several minutes. This provides the necessary time for the grime dissolving action to take place. Then rinse the dirt-laden solution from the surface by squeegee, vacuum, or mopping. Rinse with ample clean water. It is important to keep the floor wet during this entire cleaning process so the dirt does not reabsorb in the floor. The frequently asked question, "How often must we sweep or scrub this floor?" is answered by the amount of traffic that moves across the floor daily. But, it is normal that daily dust mopping is a requirement in most public buildings. Daily dust mopping removes both the dust and the grit tracked into the building. The grit acts as an abrasive on your hard surface.

### **ATTENTION!!! TAKE THE NECESSARY TIME TO LEARN WHICH TERRAZZO SYSTEM YOU ARE MAINTAINING.**

There are three types of binders used to anchor marble chips or other aggregate in your Terrazzo Floor. One is a Portland Cement product; the second is a Polyacrylic modified Portland Cement which includes an acrylic additive. The third is an Epoxy or Polyester system, often referred to as a resinous thin-set system. Although each system has the role of anchoring the aggregate into the topping, the treatment of each does vary. Terrazzo floors have ease of maintenance, but this does not mean that **NO CARE IS REQUIRED**. Once you understand the care requirements in the early stages of a new Terrazzo floor,



you avoid possible problems, and recognize the economy of care and the aesthetic values of this product.

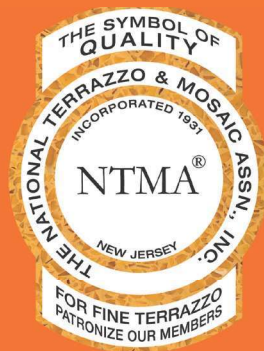
#### **PORTLAND CEMENT SYSTEMS:**

A Terrazzo surface has a minimum 70% density marble chip surface exposure. The marble chips have a low porosity of absorption; thus, the portion of this floor system that needs protection is the Portland Cement binder that has 30% or less surface exposure. This is why our specification requires a penetrating type sealer applied to this surface immediately following the final polishing. This helps inhibit the penetration of spilled materials upon initial contact with the Terrazzo floor. Spills must be cleaned up immediately in order to prevent stains caused by repeated or long-term exposure. Even standing water can dissolve some sealers. Since it is a penetrating liquid material, it is not expected to produce a high gloss sheen to the floor surface. Once the owner occupies the building, he must strip and re-seal the surface, and if desired, apply finish coats to produce a higher sheen.

#### **RESINOUS TYPE TERRAZZO SYSTEMS (Epoxy and Polyester):**

Since the matrix in these systems becomes a non-porous surface, no penetrating-type sealer is used on this floor. Use only surface sealers, as mentioned in the contents of these instructions.

# TERRAZZO MAINTENANCE GUIDE




NATIONAL TERRAZZO AND  
MOSAIC ASSOCIATION

**Terrazzo** floors have ease of maintenance, but this does not mean that no care is required. Once you understand the care requirements in the early stages of a newly installed terrazzo floor, you lessen the possibility of future problems and recognize the economy of maintenance of this product. Following these instructions will get your new or existing floor to look its best and will help to realize the long-term benefits of the low-maintenance cost of caring for a terrazzo floor.

To help prevent stains and damage to terrazzo, spills should be cleaned up as quickly as possible.

The following are minimum recommendations; however please note that each situation will be different.

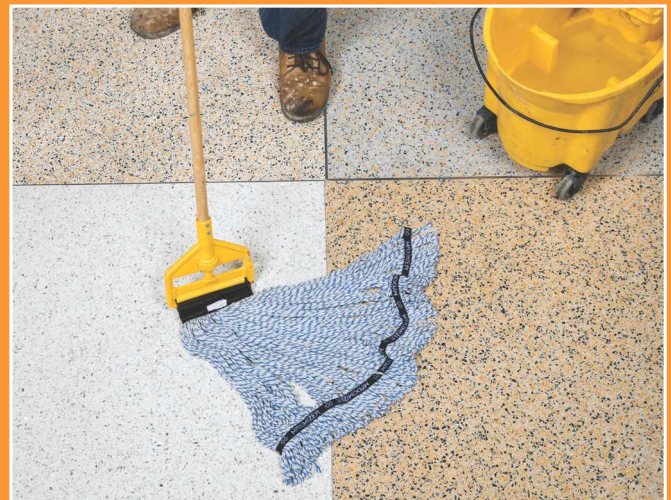
-  1 Dust Mopping
-  2 Wet Mopping
-  3 Floor Scrubber
-  4 Spray Buffing
-  5 Control Joint, Expansion Joint or Isolation Joint
-  6 Stripping
-  7 Sealer Application
-  8 Scuff, Scratch Stain Removal
-  9 Treads, Risers, Cove
-  10 Other

# 1 - Dust Mopping



- Dust, dirt or other grit can lead to scratching of the finish which reduces gloss and cleanability
- Dust mopping should be done daily; sprays may be added to dust mop to facilitate pick up
- Keep dust mop clean
- Change dust mop head when dirty

# 2 - Wet Mopping

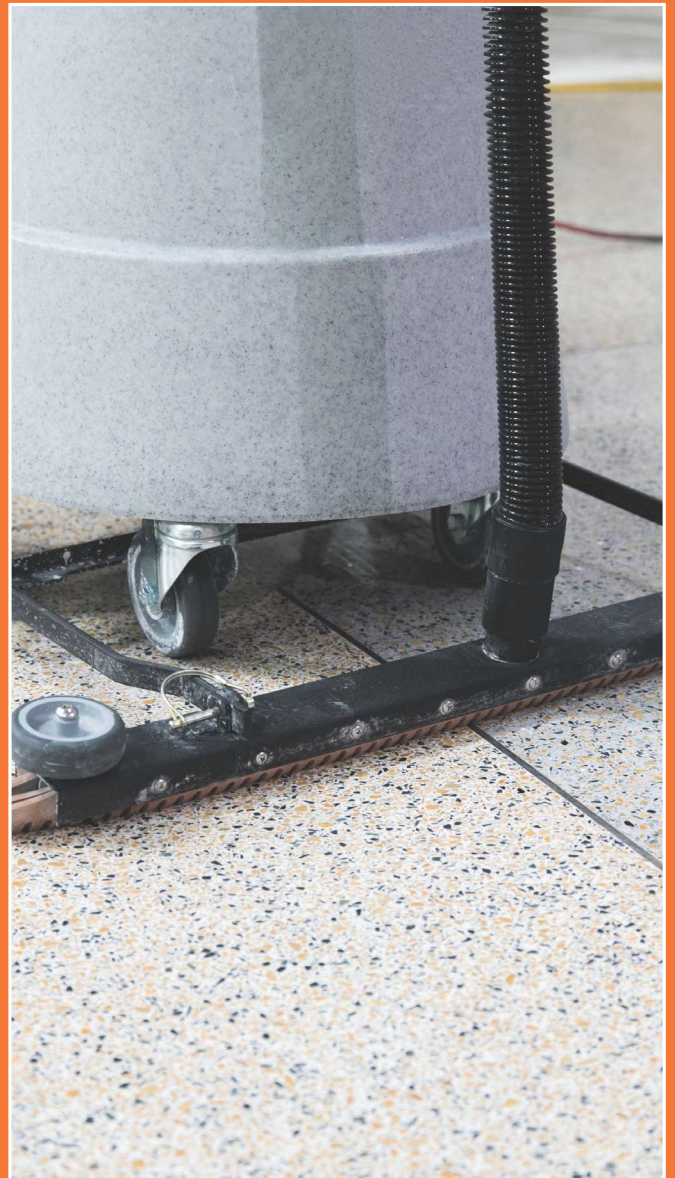


- Wet mopping is used to remove surface dirt and liquid spills
- It is important to use clean water; change water when it becomes cloudy
- Clean mop often
- Mop in semicircle walking backwards

# 3 - Floor Scrubber

- Floor should be scrubbed at least once a week
- Use clean water
- Use scrubber with white pad
- Use of diamond impregnated pads is not recommended
- Vacuum





## 4 - Spray Buffing

- Use to restore gloss lost due to traffic
- Use products specifically designed for this purpose
- Follow all directions from supplier



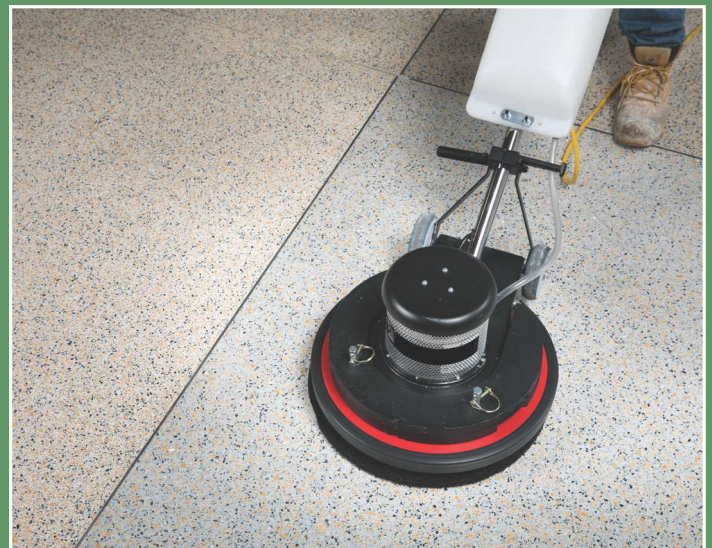
## 5 - Control Joint, Expansion Joint or Isolation Joint

- Due to concave shape or the hardness of material, joints may require extra attention
- Hand clean with pad and neutral cleaner recommended by manufacturer of joint material



## 6 - Stripping

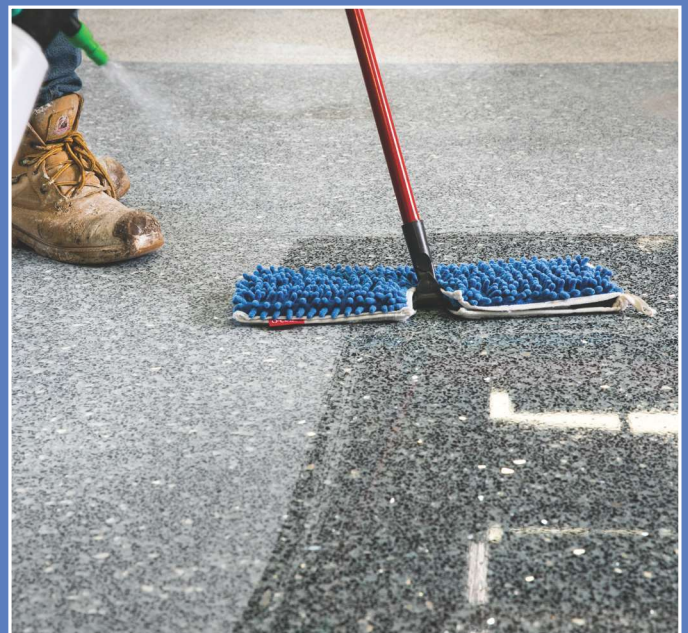
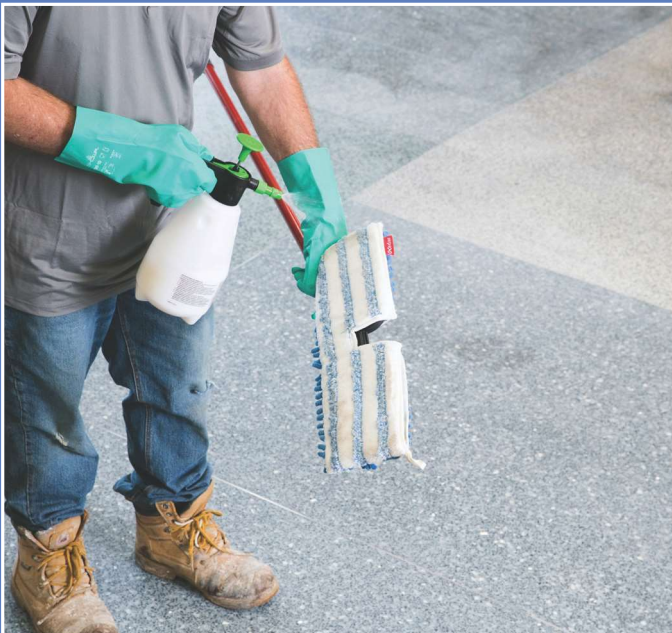
- Properly maintained floors rarely need stripping
- Use only products designed to strip floors
- Know what sealer you have on the floor
- Not all sealers are strippable; check with sealer supplier
- Strip floors per manufacturer's recommendation; caution: the use of aggressive black pads may unintentionally sand or grind the floor
- All old sealers must be completely removed
- All residue must be completely removed





# 7 - Sealer Application

- Apply only sealers recommended for terrazzo; instructions of sealer supplier must be followed explicitly
- Be sure floor is clean before applying sealer
- Most sealers are best applied with microfiber pad
- Thin coats are better than one heavy coat
- Allow a coat of sealer to dry before placing another
- Gloss is the result of polish and sealer; do not expect sealer to provide all the gloss



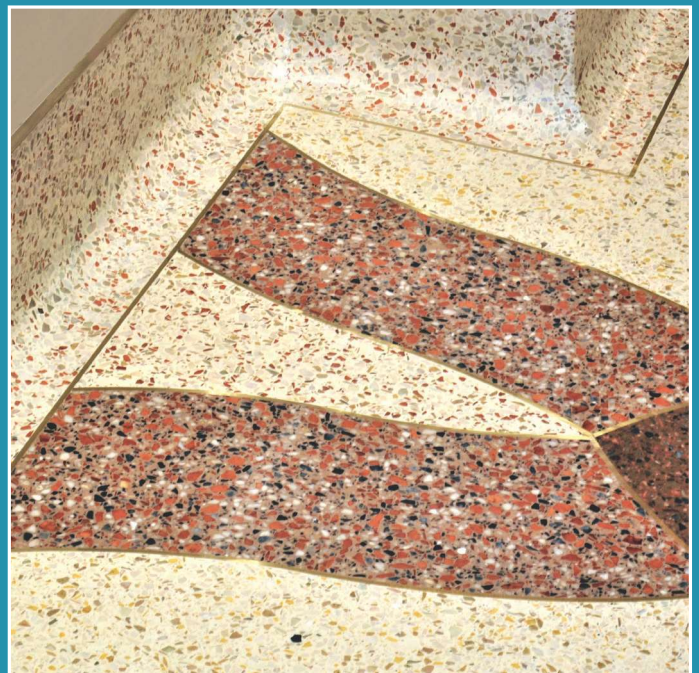
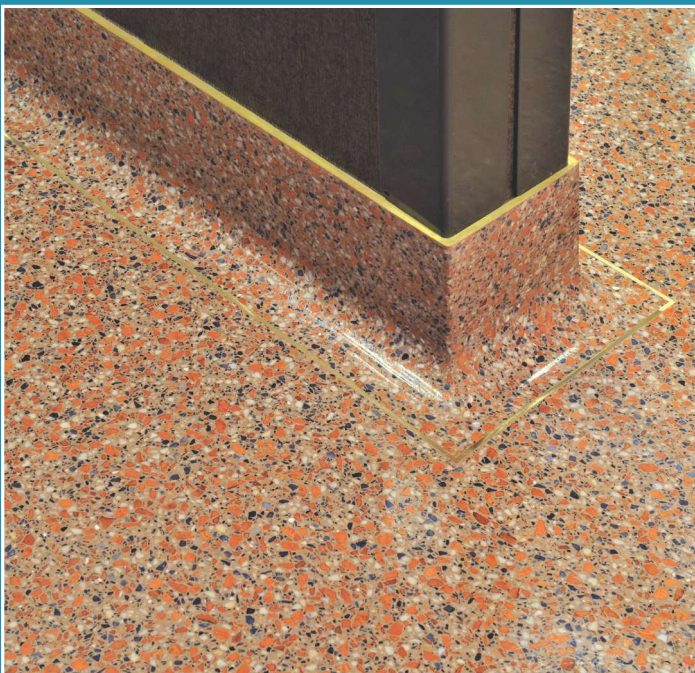
## 8 - Scuff, Scratch Stain Removal

- If dust mopping and wet mopping are completed, stain and scratch removal will need to be infrequent
- Remove damage such as scratches and stain by the use of fine grit (100) diamond pad
- If (100) diamond pads do not remove stains or scratches, call your NTMA terrazzo contractor
- Do not overuse diamond pads



# 9 - Treads, Risers, Cove

- Some areas will not be easily maintained with power equipment; however, these must be maintained as often as the field of the floor
- These areas should be maintained by hand



# 10 - Other

- Use maintenance products designed specifically for terrazzo
- Follow the instructions of all of your NTMA product suppliers explicitly
- Qualified suppliers can be found at: [www.ntma.com](http://www.ntma.com)
- Do not make judgements based on recommendations to buy a product without consulting an NTMA supplier or contractor member
- Call your local NTMA terrazzo contractor if the floor needs to be grouted

**09 68 13 – TILE CARPENTING**

**O'BRIEN FLOORING, INC**

**(985)726-5190**

COMMERCIAL CARPET CARE & MAINTENANCE GUIDE

THE MOHAWK GROUP . COM



# CARPET CARE 101

PREVENTIVE MAINTENANCE	SEC. 1.0
VACUUMING	SEC. 2.0
SPOT REMOVAL	SEC. 3.0
INTERIM CLEANING	SEC. 4.0
RESTORATIVE DEEP CLEANING	SEC. 5.0

Commercial carpet is a sizeable investment. Naturally, you want your carpet to remain attractive and highly functional long after it is installed. A well programmed maintenance schedule will extend your carpet's performance, appearance and life. When problems arise from accidents that affect the floor, immediately address the problem. Ignoring a spill will likely create a greater problem later for your maintenance staff unless you have one of The Mohawk Group's stain resistant systems—Duracolor®, ColorShield® or EverSet®. These systems allow 96% of all stains to be removed with water only, making it much easier and cost effective to maintain and sustain your carpet investment. If everyone in your company takes extra care and treats the carpet as if it were their own, everyone benefits. Your company benefits financially and everyone enjoys a nicer, more professional working environment.

#### **AN ENVIRONMENTAL NOTE**

The Mohawk Group, a subsidiary of Mohawk Industries Inc., is committed to manufacturing processes that have the least impact on our environment. We practice energy conservation and recycle by-products of manufacturing—thus reducing landfill waste. Protect your investment and be environmentally conscious. The proper maintenance program will keep your carpet looking newer longer and provide a healthier environment in which to work.

#### **CLEAN AIR**

The cleaner the carpet, the better the air. Properly maintained carpet can act as a filter, improving the air in your work environment, resulting in better performance and morale.

#### **WARNING!**

Do not use chlorinated cleaning solutions, quaternary solutions, oil based defoamers, petroleum distillates, and toxic or flammable solvent based cleaners or citrus cleaning solutions on any Mohawk carpet. Cleaning products should have a pH level below 10 for nylon and between 5.5 and 8.5 for wool. Water temperature should never exceed 160 degrees.

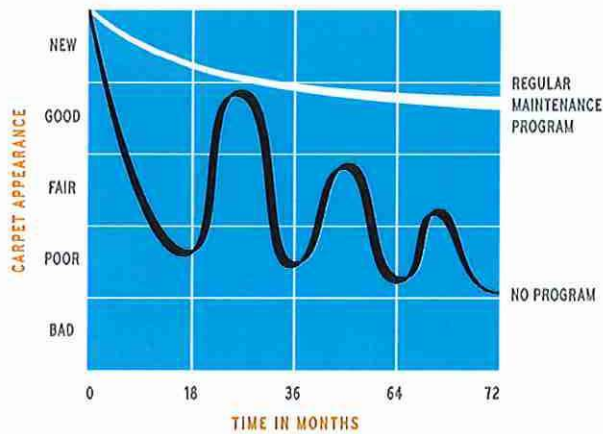
## PROPER CARPET CARE CAN SAVE YOU MONEY

### THE LONGER CARPET LASTS THE LESS IT COSTS

To be truly cost-effective, maintenance must be carried out with systematic frequency over the life of the carpet, however today's carpets are engineered to disguise soils and stains. This sometimes masks the need to vacuum and clean on a regular basis. A consistent and effective maintenance program can dramatically extend the life of your carpet. Remember, there are many factors that can affect the appearance of carpet including color, pattern, and yarn fiber and of course maintenance.

It takes more than magic to keep carpet clean. Machines, chemicals and a proper maintenance plan only assist in the process, but PEOPLE clean carpet! And the quality of your maintenance plan depends on the people who are doing the work. The Mohawk Group has designed carpet that is easily maintained, but if you don't maintain it, you can't expect it to stay clean.

### AN EFFECTIVE MAINTENANCE PROGRAM WILL PROTECT YOUR CARPET INVESTMENT.



#### CARPET APPEARANCE

With and without a planned maintenance program



THE FIVE KEYS TO EFFECTIVE MAINTENANCE

1.0

**PREVENTIVE MAINTENANCE**

Dirt is everywhere. Keeping it out of buildings is easier and less expensive than removing it.



2.0

**VACUUMING**

Regular vacuuming is the most important part of any maintenance program.



3.0

**SPOT REMOVAL**

Spots are inevitable, but they don't have to be permanent. Remove a spill quickly and there is less chance it will become a stain.



4.0

**INTERIM CLEANING**

Scheduled pile lifting, vacuuming, spot removal and low moisture cleaning can help the carpet retain appearance and improve performance.



5.0

**RESTORATIVE DEEP CLEANING**

No matter how conscientiously you work at it regularly scheduled maintenance will still leave some soil behind. Periodic deep cleaning, using hot water extraction, is most effective at removing any embedded abrasive soil.



**KEEP THE DIRT OUT**

One of the best ways to protect any flooring finishes in your facility is to incorporate an appropriate entry system. The Mohawk Group manufactures walk-off tiles that are specifically engineered to remove and capture soil and moisture before they can make it into the main areas of the building where they can cause accelerated, premature wear. The use of walk-off tiles will significantly reduce your maintenance costs. They trap soil and make it easier to keep soil out, which is less expensive than removing it.



All of The Mohawk Group brands offer a variety of quality walk-off systems.

**WALK-OFF TILES**

- Place walk-off tiles outside, in the vestibule and inside for best results.
- Today walk-off tiles and removable grates are available to fit any type of entrance situation.
- It has been estimated that removing a pound of dirt, once inside a building, costs more than \$500.
- Up to 24 pounds of dirt can be tracked in by just 1,000 people coming through an entrance over a 20-day work period.
- An effective walk-off tile system is essential to improve the appearance of your entire building and help reduce maintenance costs.
- Consult your local TMG representative to review our line of walk-off tiles.

**NOTE:** A 15 foot long walk-off tile area can effectively remove about 80% of soil and moisture before it reaches the carpet.

**CHAIR MATS**

- Use of chair mats prevents casters from grinding soil into the carpet and breaking down the carpet's fibers.
- The Mohawk Group recommends the use of protective chair mats for optimal carpet appearance retention.

VACUUMING



**NOTE:**

Proper vacuuming is the single most important part of any maintenance program.

**THE MOST IMPORTANT TASK**

Vacuuming is the single most effective way to remove soil. How often you vacuum is influenced by soil type and traffic patterns. Soiling at entry areas and ground floors has high levels of dirt and sand, while executive offices generally are not as heavily traveled and will require less frequent vacuuming. Please refer to frequency chart on the next page for effective vacuuming schedules.

**TRAINING PERSONNEL ON PROPER VACUUMING METHODS AND TECHNIQUES****METHOD**

- A slow pass against the carpet pile is more effective than several quick strokes. Vacuum with slow, deliberate passes, forward and backward.
- Heavy traffic areas will require multiple passes (forward and backward) to sufficiently extract embedded soil.
- A vacuum brush will open up the tufts.
- Agitation will loosen the soil.
- Slow movement allows time for air to circulate through the face yarn and extract soil.

**RECOMMENDED EQUIPMENT**

- Dual Motor Upright Vacuum with a beater bar or double row of brushes.
- Proper vacuum set up should have the brushes in contact with the carpet pile.
- Periodically check brushes for wear.
- For maximum efficiency, change the disposable bag when it is 75% full. When a vacuum bag is over 75% full the vacuum loses much of its effectiveness.



The Mohawk Group recommends CRI equipment that has been approved for this application.

The CRI Seal of Approval program identifies effective carpet cleaning solutions and equipment that clean carpet right the first time and protect a facility's carpet investment. Not all products clean well enough to earn the Seal of Approval distinction, so look for the blue and green CRI Seal of Approval as proof that you are purchasing or using a quality product. For more information about CRI Seal of Approval products, you can visit the CRI website at: [www.carpet-rug.org](http://www.carpet-rug.org)

## VACUUMING

### CLEANING FREQUENCIES

AREA TYPE	TRAFFIC CONDITION	VACUUMING FREQUENCY
Entry	Heavy	Daily
Ground Floor Halls	Heavy	Daily
Above Ground Halls	Medium	3 per week
Administrative Offices	Medium	3 per week
Classrooms	Medium	3 per week
General Office Areas	Medium	3 per week
Hospital/School Corridors	Medium	3 per week
Conference Rooms	Medium	3 per week
Nursing Stations	Medium	3 per week
Patient Rooms*	Medium	3 per week
Executive Offices	Light	Weekly
Boardrooms	Light	Weekly

\* Occupancy and biological spills also determine frequency.

### HEAVY COMMERCIAL TRAFFIC

The classification of heavy commercial traffic refers to public spaces such as main corridors, lobby and entrance areas, vending machine areas, airports, casinos, assisted living and retail facilities.

### MEDIUM COMMERCIAL TRAFFIC

Medium Commercial areas are those that must withstand high foot traffic such as school corridors and classrooms, administrative and general office areas.

### LIGHT COMMERCIAL TRAFFIC

Light traffic areas include executive offices, boardrooms and cubicles. Traffic is minimal, thus reducing the soil in this area.

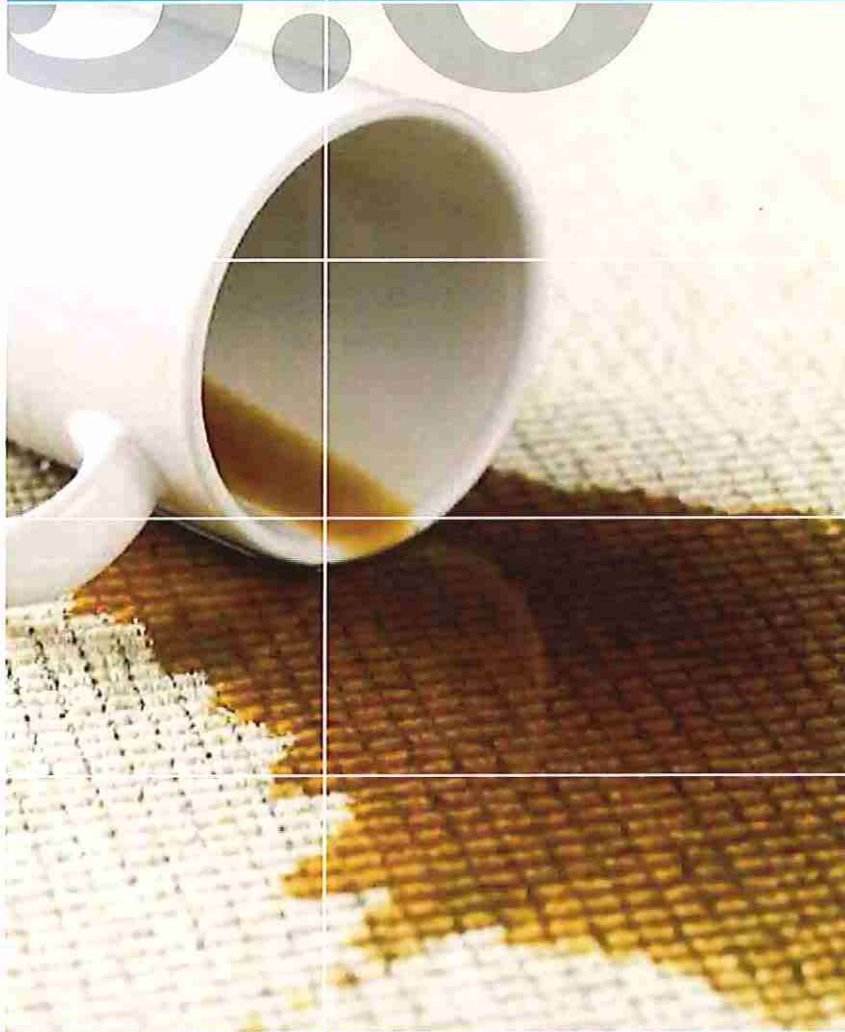
INTERIM CLEANING FREQUENCY	DEEP CLEANING FREQUENCY
1 per week	9 times per year
1 per week	9 times per year
2 per month	6 times per year
2 per month	6 times per year
2 per month	6 times per year
2 per month	6 times per year
2 per month	6 times per year
2 per month	6 times per year
2 per month	6 times per year
2 per month	6 times per year
1 time per month	3 times per year
1 time per month	3 times per year



2.1 VACUUMING

Corporate office cleaning frequencies

SPOT REMOVAL



**NOTE:**

When cleaning a stain never scrub, it may spread the stain or distort the fibers.

### EFFECTIVE SPOT REMOVAL STARTS WITH THE PROPER PRODUCT SPECIFICATION

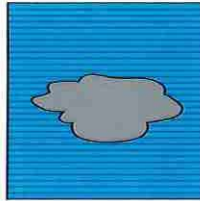
If you specify one of TMG's stain resistant systems—Duracolor, ColorShield or EverSet—you are specifying the best stain resistant systems available. These products allow 96% of all stains to be removed with water only, ensuring that your carpet will last longer, look new longer, be less expensive and more environmentally friendly to maintain.

### TAKE IMMEDIATE ACTION

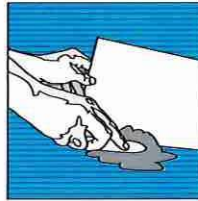
Spills should be extracted or blotted up with a white absorbent towel or paper towel and rinsed with water immediately. Spotters should then be applied and rinsed thoroughly with clear water. Always work from the edge towards the center of the spill. Never rub, it may spread the stain or distort the fibers.

### THE MECHANICS OF SPOT REMOVAL

The spot removal instructions shown below will work on a majority of the spots and stains you may encounter.



1. Identify the spill



2. Blot or scrape up the substance (Do Not Scrub)



3. Rinse with water\*



4. Apply cleaning solution\*\*



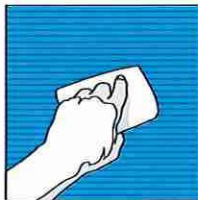
5. Agitate gently—start at the edge and work inward



6. Blot or extract



7. Rinse with water



8. Blot or extract the water

\* For carpets with Duracolor, ColorShield, or EverSet stain resistant systems water is the only spot removal solution necessary.

\*\* For carpets without The Mohawk Group stain resistant systems apply recommended cleaning solutions as needed.



## SPOT REMOVAL

### TYPES OF STAINS & HOW TO REMOVE

---

#### CATEGORY "A" STAINS

Water based stains such as catsup, fruit juice, etc.

**STEP 1:** Blot or extract to remove substance. Rinse thoroughly with clear water. Apply a mild carpet spotter cleaning solution sparingly and gently agitate the stained area. Blot or extract to remove substance. Rinse thoroughly with clear water to remove residue. Blot or extract to remove excess moisture.

**STEP 2:** Repeat if necessary.

#### CATEGORY "B" STAINS

Petroleum based stains such as grease, oil, shoe polish, etc.

**STEP 1:** Blot or extract to remove substance. Try implementing cleaning procedure for Category "A" stains using a mild carpet spotter.

**STEP 2:** Blot or extract to remove substance. Apply only enough cleaning fluid to dampen the stained area. Gently agitate. Blot or extract to remove substance. Rinse thoroughly with clear water. Repeat as long as the stain continues to transfer from the carpet to the towel. Rinse thoroughly with clear water. Blot or extract to remove remaining excess moisture.

**STEP 3:** Apply a specific POG (Paint, Oil and Grease) Dry Solvent Cleaner sparingly to a clean white towel or paper towel and apply to the stained area. Gently agitate. Blot or extract to remove substance. Rinse thoroughly with clear water. Blot or extract to remove excess moisture.

#### CATEGORY "C" STAINS

Coffee and tea based stains.

**STEP 1:** Blot or extract to remove substance. Rinse thoroughly with clear water. Apply coffee stain remover according to manufacturer's recommendations. Rinse thoroughly with clear water to remove residue. Blot or extract to remove excess moisture.

#### CATEGORY "D" STAINS

Biological stains such as blood, urine, vomit, etc.

**STEP 1:** Blot or extract to remove substance. Rinse thoroughly with clear water. Apply an alkaline disinfectant type cleaner (below 10 pH) according to manufacturer's recommendations. Rinse thoroughly with clear water to remove residue. Blot or extract to remove excess moisture.

**NOTE:** Recent studies have shown no increase in the incidence of healthcare-associated infections in the presence of carpet as compared to other surfaces in general patient care areas or public areas. (Healthcare Design Magazine, March 2007)

**NOTE:** The Mohawk Group's stain resistant systems—Duracolor, ColorShield and EverSet—allow 96% of all stains to be removed with water only, making it much easier and cost effective to maintain and sustain your carpet investment.

**MOST COMMON STAINS AND THEIR CATEGORIES**

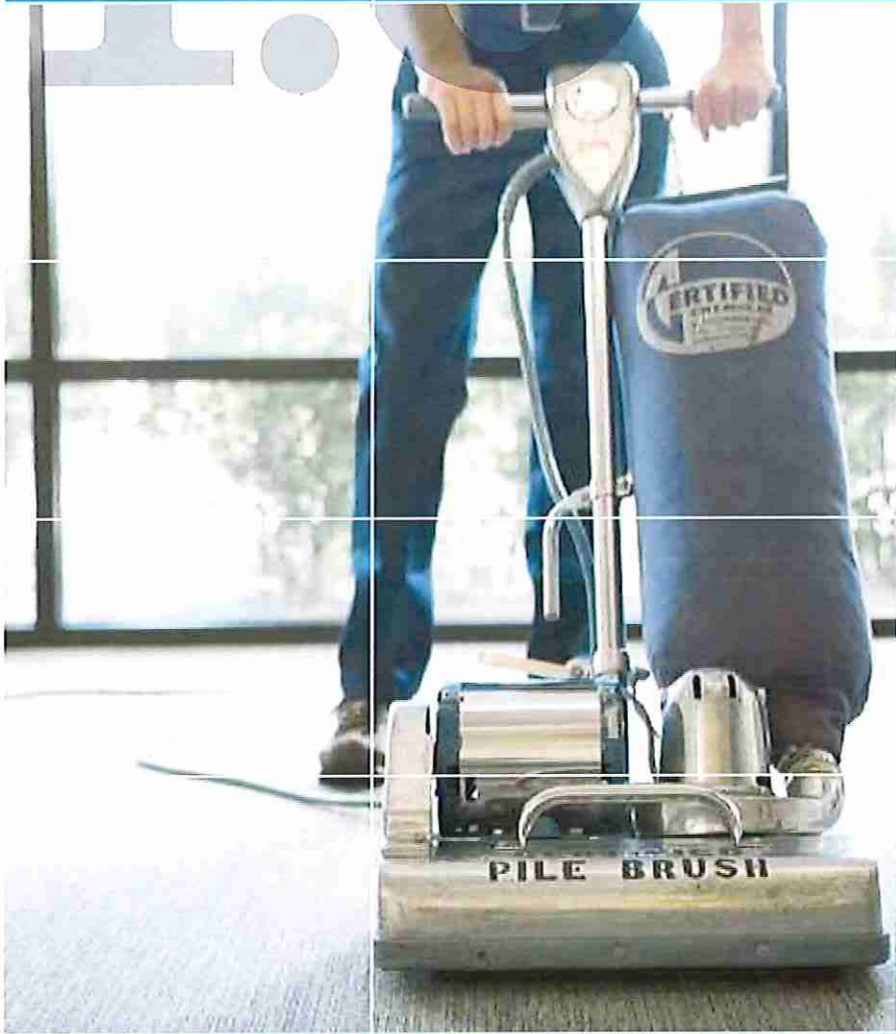
Asphalt *	B	Copier Toner	Vacuum only
Ball Point Pen	A	Cosmetics	B
Beer	A	Glue, Latex	B
Bleach	A	Grass	A
Blood	D	Grease *	B
Brass Stain	A	Ink, Copying	B
Betadine *	B	Ink, Permanent	B
Butter	B	Iodine *	B
Calcium Chloride (De-Icer)	A	Mildew	A
Candle	B	Oil *	B
Candy	A	Paint, Latex	A
Carbolic Acid (Disinfectant)	A	Paint, Oil *	B
Carbon, Black	B	Peanut Butter	A
Catsup	A	Perfume	A
Cement, Building	A	Salad Dressing	B
Cement, Contact	B	Shoe Polish	B
Chewing Gum	A	Soy Sauce	B
Children's Drink Mix	A	Tea *	C
Chocolate	A	Tomato Juice	A
Cigarette Burn	A	Tomato Paste	A
Clay	A	Urine	D
Coke	A	Vomit	D
Coffee *	C	Wine	A

3.1 SPOT REMOVAL

\* These difficult stains must be treated immediately to ensure removal of the stain.

**NEED ASSISTANCE?** Contact The Mohawk Group Technical Department at **800.833.6954** for any further information.

INTERIM CLEANING



**CAUTION:**

The Mohawk Group does not recommend the use of a spin bonnet, as it can damage the fibers in your carpet. Use will void any warranties.

**MARK IT ON YOUR CALENDAR**

A well-planned maintenance program includes regular interim and deep cleaning methods.

**EFFECTIVE INTERIM CLEANING INCLUDES:**

- Pile lifting & vacuuming
- Wet or dry spot cleaning
- Low Moisture cleaning or hot water extraction in high traffic areas

**METHOD**

For interim cleaning The Mohawk Group recognizes that there are many low moisture cleaning methods available in the marketplace. We suggest that you analyze several methods for effectiveness and cost, to determine which best suits your facility.

An effective low moisture cleaning method involves the application of a low moisture cleaning substance that dissolves and absorbs both water and oil based soils, holding them until they are removed by vacuuming. The cleaning agent contacts all surfaces of the soiled carpet fibers, breaking down the bond that causes the soil to stick to the carpet fibers.

- Thoroughly pre-vacuum all areas, paying particular attention to the heavily soiled areas.
- Apply cleaner only to soiled areas.
- Brush the cleaner gently through the carpet to remove stains and soil.
- Vacuum up the loose soil and the cleaning agent.

**LOW MOISTURE METHOD**

The Low Moisture Method utilizes a cleaning solution that encapsulates soil and grime for easy removal from the carpet fiber. It can be used to keep traffic lanes clean between water extraction cleaning, and where constant traffic doesn't allow ample drying time for a wet system. Closely follow the manufacturer's user instructions for low moisture extraction system. As with other systems, low moisture extraction improperly carried out can lead to poorly maintained and damaged carpet.

**PLEASE SEE SECTION 2.1 FOR PROPER INTERIM CLEANING SCHEDULE**

RESTORATIVE DEEP CLEANING



**CAUTION:**

The Mohawk Group does not recommend the use of a spin bonnet, as it can damage the fibers in your carpet. Use will void any warranties.

**DEEP CLEANING**

Deep Cleaning is restoring the carpet's appearance by extracting soil and substances that can damage your carpet. The Mohawk Group recommends hot water extraction as the most effective method to give restorative deep cleaning results.

**METHOD**

Hot water extraction is the industry's most frequently used method of deep cleaning. A hot water and light cleaning solution, in the manufacturer's recommended mix, is sprayed into the carpet. This solution mixes with the soil as powerful extraction removes the solution and the loosened soil in the process.

**NOTE: Caution must be used with this method to avoid over-wetting.**

- ▶ Test the cleaning chemical to be sure it dries without stickiness or residue; otherwise, it can cause rapid re-soiling. Simply put some detergent in a saucer and allow to dry. If sticky to the touch, do not use.
- ▶ Use only detergents that have a pH factor below 10 and contain low levels of volatile organic compounds (VOCs).
- ▶ With proper hot water extraction equipment, carpet should be dry within 4-6 hours. Extractors incorporating a brush between the water jet and vacuum are recommended.
- ▶ If a pre-spray is needed to address spots prior to deep cleaning, use a product specifically formulated to remove detergent residue and mineral deposits.

**RECOMMENDED EQUIPMENT**

- ▶ 120 PSI (pounds per square inch) or more of water delivery.
- ▶ 150 inches of mercury lift or more vacuum.
- ▶ Must be able to reach all carpeted areas.

**NOTE: During extraction, it is essential to extract as much moisture as possible with dry passes. Enhance the drying time by using air movers allowing three to four hours drying time after the last extraction before traffic is allowed on the carpet.**

**PLEASE SEE SECTION 2.1 FOR PROPER DEEP CLEANING SCHEDULE**

## ADDITIONAL MAINTENANCE FACTORS



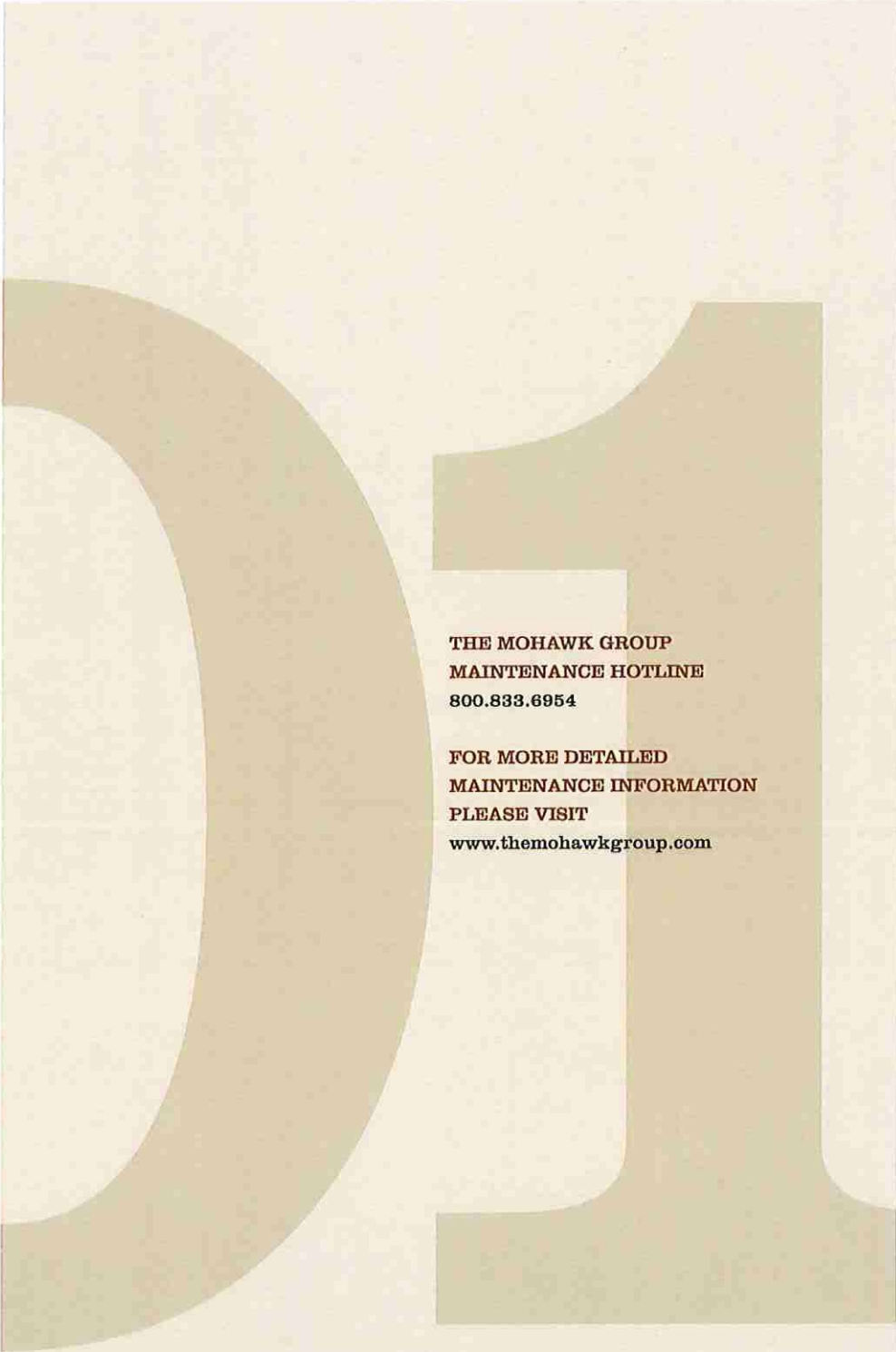
### CARE OF WOOL CARPET

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- The most important elements of maintaining your wool carpet investment includes the steps of thorough vacuuming, interim low moisture cleaning in high traffic areas and deep cleaning with warm (not hot) water.
- Vacuuming of wool cut pile carpets is most effective with the use of a rotary beater bar/ brush. For loop pile constructions, a suction only vacuum should be used to prevent fuzzing.
- There are many cleaning agents, both dry and wet, that are suitable for use on wool carpet. Consult your local cleaning professional when selecting an approved cleaning agent for wool carpet. Your last step in deep cleaning must include a rinse with clear water.
- Do not apply stain repellent treatments that contain silicone because they will significantly accelerate soiling.
- Care must be taken to not over-wet wool carpet.
- Immediate attention to spills will prevent the development of a stain. Remove the solid spill and use a white absorbent cloth/towel to absorb all of the spilled substance. Apply spot cleaning agent sparingly as defined in the spot removal section of this maintenance guide. Work from the edge towards the center of the spill. Never rub, as it may spread the stain.
- Test all spot and cleaning agents in an inconspicuous area to be sure it will not remove the carpet color.

**CAUTION: Mohawk does not recommend the use of a spin bonnet, as it can damage the fibers in your carpet. Use will void any warranties.**


**NEED ASSISTANCE?** Contact The Mohawk Group Technical Department at **800.833.6954** for any further information.



**THE MOHAWK GROUP  
MAINTENANCE HOTLINE  
800.833.6954**

**FOR MORE DETAILED  
MAINTENANCE INFORMATION  
PLEASE VISIT  
[www.themohawkgroup.com](http://www.themohawkgroup.com)**

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**10 43 73 – INTERIOR MODULAR SIGNAGE**

**ARNOLD AND ASSOCIATES, LLC**

**(225)343-2702**

# CLEANING GUIDELINES



## INTERIOR SURFACES

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### KORAD SURFACES:

**Routine maintenance...**Use a mild cleanser (such as hand soap or dish detergent) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois.

**Special maintenance...**To remove heavier dirt or grease, use Janitor in a Drum or Cascade for maximum effectiveness (see additional recommendations below).

Stains may be removed with rubbing alcohol (45% isopropanol). A higher concentration of rubbing alcohol will dull the film surface, but may be restored with Simonize wax. Other recommended waxes include Aero Wax and Glo-Coat. Recommended cleaning agents for tougher dirt and stains include:

- Top Job with Amonia
- Johnson's Pledge
- Wisk detergent
- Fantastik
- Cascade
- Mr. Clean
- Handy Andy
- Formula 409
- Spic and Span
- Joy detergent
- Calgonite
- All detergent powders
- Isopropanol (45%)

Light scratches can be removed with Simonize paste wax. Deeper scratches may be removed by lightly buffing with a fine grade of rubbing compound.

Polish with a clean cotton flannel or jersey cloth. After polishing, wipe gently with a damp cloth to ground any electrostatic charges which may attract dust.

Graffiti may be removed by wiping the affected area with a 1:1 mixture of mineral spirits and undiluted household cleanser such as Mr. Clean or Top Job.

### Do not...

- Use cloths containing grit or abrasive particles.
- Subject Korad laminates to hard, direct blows.
- Use boiling water or strong solvents because they will soften the plastic.

### Never use...

- Wisk
- Liquid All
- Dynamo
- Cold Power Liquid
- Endust
- Lestoil
- Pine-sol
- Gain
- Halogenated Hydrocarbons
- Ketones
- Cellusolve Acetate
- Aromatic Hydrocarbons
- Tetrahydrofuran
- Butyl Cellosolve
- Methanol
- Lighter fluid
- Ethanol
- Isopropanol (90% & 70% commercial)
- Gasoline
- Brake Fluid
- Kerosene
- Isopar K
- Hexane
- Spot Cleaner
- Dupont No. 7 (rubbing compound)
- Abrasive cleaners...
  - Trichlorethane
  - Trichlorethylene
  - Perchlorethylene
- Waxes...
  - Plasti Shine
  - Carnu
  - Turtle Wax
  - Body Sheen
  - Johnson's Pride

# CLEANING GUIDELINES



## INTERIOR SURFACES

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### PAINTED SURFACES:

**Routine maintenance...**Use a mild cleanser (such as hand soap or dish detergent) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois.

**Do not...**

- Scrub
- Use strong cleaners or bleach, as these cleaning agents may discolor the finish or effect the gloss.

### LAMINATE SURFACES:

**Routine maintenance...**Use a mild cleanser (such as hand soap or dish detergent) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois.

**NOTE:** Always rinse laminates thoroughly with clean water. Failure to rinse after cleaning is the greatest cause of damage to laminate.

To dust, use a non-oily furniture spray. Clean off the spray periodically to prevent build-up.

**Special maintenance...**To remove difficult stains, 1) use a mild cleanser with a soft bristled brush, or 2) apply a paste of baking soda and water applied using a soft bristled brush – scrub lightly.

**Do not...**

- Use acidic or abrasive cleaners.

### LEXAN SURFACES:

**Routine maintenance...**Use a mild and diluted cleanser (such as hand soap) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois.

**Do not...**

- Use petroleum based solvents or general household cleaners, or cleaners with abrasives, acids, or alkalis.

### ANODIZED ALUMINUM SURFACES:

**Routine maintenance...**Use a mild cleanser (such as hand soap or dish detergent) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois.

**Special maintenance...**Remove stubborn smudges with a thin, clean oil, such as sewing machine oil. Apply a small amount of oil on a soft cloth, and rub gently. Other recommended oils include 3-in-1 oil and air tool oil.

**Do not...**

- Use general household cleaners, or those with abrasives, acids, or alkalis.

### SOLID POLISHED BRASS SURFACES:

**Routine maintenance...**Use a glass cleaner that is free of ammonia, petroleum, or acetone products.

**Special maintenance...**For touch up, use “Fill’n Glaze” (available at automotive stores) and a quality automotive wax for touch up. Apply according to manufacture’s instructions.

# CLEANING GUIDELINES



## EXTERIOR SURFACES/SIGNS

---

### MONUMENT AND/OR DIRECTIONAL IDENTIFICATION SIGNS:

**Routine maintenance...**Use a mild cleanser (DO NOT USE DISH DETERGENT, DO NOT POWER WASH, most automobile wash products: Meguiar's, Armor All, etc. are suitable.) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois. Graffiti may be removed with Mineral Spirits and a soft lint free cloth. Rub gently and thoroughly. Test first in an inconspicuous area for effectiveness on your particular coating(s).

**Do not...**

- Scrub
- Use strong cleaners or bleach, as these cleaning agents may discolor the finish or effect the gloss.

**Components:**

- Ballasts: Magnetic 277v Ballast
- Routine Maintenance: Not Applicable (Replace as necessary)
- Fluorescent Lamps: T12 High Output Daylight Lamps/Bulbs
- Routine Maintenance: Not Applicable (Replace as necessary)

### DIMENSIONAL LETTERS AND/OR LOGOS:

**Routine maintenance...**Use a mild cleanser (DO NOT USE DISH DETERGENT, DO NOT POWER WASH, most automobile wash products: Meguiar's, Armor All, etc. are suitable.) and lukewarm water. Wipe with a sponge or soft cloth. After washing and rinsing, blot dry with a soft cloth or chamois. Graffiti may be removed with Mineral Spirits and a soft lint free cloth. Rub gently and thoroughly. Test first in an inconspicuous area for effectiveness on your particular coating(s).

**Do not...**

- Scrub
- Use strong cleaners or bleach, as these cleaning agents may discolor the finish or effect the gloss.

**Components:**

- Ballasts: Multi-Volt Electronic Ballasts, Input voltage ranging from 120v to 277v maximum.
- Routine Maintenance: Not Applicable (Replace as necessary)
- Lamps/Lighting: USLED Bright White LED's
- Routine Maintenance: Clean sign faces annually using steps outlined above.

**10 50 00 – LOCKERS**

**ELITE STORAGE PRODUCTS, LLC**

**(901)367-3930**



P.O. Box 208  
Como, MS 38619  
Phone: (662) 338-4340  
Email: [sales@lockersmfg.com](mailto:sales@lockersmfg.com)  
[www.lockersmfg.com](http://www.lockersmfg.com)

## Operations and Maintenance Manual for All Locker Products

Thank you for choosing Lockers MFG metal lockers for your product. This manual is important reference tool in maintaining your lockers. Lockers MFG lockers are built to require minimal maintenance because of improvements in materials, design and fabrication techniques.

**Painted Finish:** The high-quality paint finishes used on our metal lockers will maintain their appearance and protective value for a long time if properly maintained. It must be kept dry and free from exterior environmental invasion of the paint. To clean the product, use a damp cloth with a mild soap solution if required, and immediately wiped thoroughly dry.

**Abrasive, acidic, or harsh cleaners/detergents shall NOT be used.**

**Touch Up Painting:** Field touch up paint used to repair scratches is not as durable as the original factory applied finish, but will provide satisfactory service if properly applied. The touch up paint may fade at a faster rate than factory applied paint so it is important to use as little touch up paint as possible; this will minimize the color difference as the paint ages. For best results, do not apply touch up paint when surface to be coated is wet or when temperatures are below 55 degrees F or above 90 degrees F. Touch up paint will usually dry in 2-5 hours after application. One coat is sufficient for most applications.

Locker rooms must be well ventilated to reduce humidity, especially locker rooms associated with swimming pools. Airborne corrosives like chlorine fumes are extremely detrimental to the finish on lockers, pedestals or any metal surface.

**Safety Inspection:** Periodic inspections of materials shall be made maintaining or replacing missing inoperable, Broken, bent or loose parts including locks and locking mechanisms. Anchoring must be again confirmed to be certain it is firm and has not been compromised.

### Replacing Doors:

**Continuous Hinge:** Drill out hinge rivets on the frame leaving the hinge attached to the door and replace the door by riveting its hinge back onto the frame. On lockers with welded hinges, the welds need to be ground off or drilled out and the hinge reattached to the door frame using rivets.

**11 30 00 – APPLIANCES**  
**BLOUNT GENERAL CONTRACTORS, LLC**  
**(225)664-3520**



# Product Manual for Ice Machine Model DCE33





# DCE33 User's Manual

## MAINTENANCE AND CLEANING

### What shouldn't be done?

Never keep anything in the ice storage bin that is not ice; objects like wine or beer bottles are not only unsanitary, but the labels may slip off and plug up the drain.

Never allow the machine to operate without regular cleaning. The machine will last longer if it is kept clean. Regular cleaning should happen at least once per year, and preferably twice. Some water conditions will dictate even more frequent cleaning of the ice making section, and some carpets or pets will dictate more frequent cleaning of the condenser.

### What should be kept clean?

There are 5 things to keep clean:

1. The outside cabinet & door.
2. The ice storage bin.
3. The condenser.
4. The ice making system.
5. The ice scoop.

### How to clean the cabinet.

Wipe off any spills on the surface of the door and handle as they occur. If anything spilled on the door or gasket dries onto the surface, wash with soap and warm water to remove.

### How to clean the ice storage bin.

The ice storage bin should be sanitized occasionally. It is usually convenient to sanitize the bin after the ice making system has been cleaned, and the storage bin is empty.

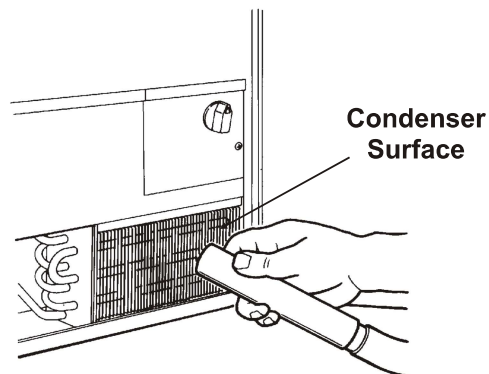
A sanitizing solution can be made of 1 ounce of household bleach and two gallons of hot (95°F. - 115°F.) water. Use a clean cloth and wipe the interior of the ice storage bin with the sanitizing solution, pour some of the solution down the drain. Allow to air dry.

**Note: To use after winterizing, reconnect pump hose and water line. Repeat Initial Start Up.**

### How to clean the condenser.

The condenser is like the radiator on a car, it has fins and tubes that can become clogged. To clean:

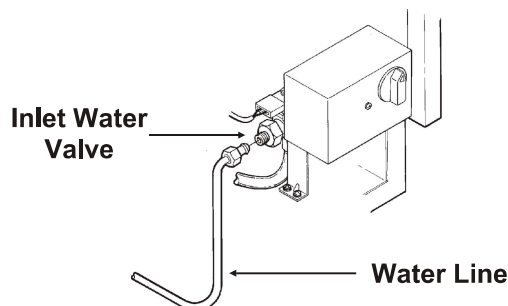
1. Remove the kickplate.
2. Locate the condenser surface.
3. Vacuum the surface, removing all dust and lint. Caution: Do not dent the fins.



4. Replace the kickplate.

### Winterizing

1. Clean the machine as explained on the next page.
2. Turn off the water supply.
3. Drain the water reservoir. See page 24, Spray Pump Repair and follow the instructions to remove the pump hose (step 2, bottom hose only).
4. Disconnect the incoming water line at the inlet water valve.



5. Remove control box cover and turn the timer into the harvest cycle.
6. With the machine operating, blow air through the inlet water valve; a tire pump could do the job.
7. Drain pump models should have about ½ gallon of RV antifreeze (propylene glycol) poured into the ice storage bin drain.

Note: Automotive antifreeze must **NOT** be used.

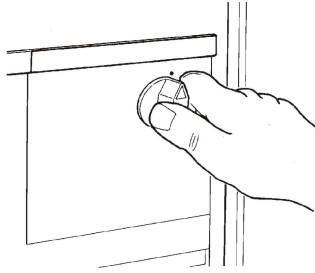
8. Replace control box cover. Switch off and unplug the machine.

# DCE33 User's Manual

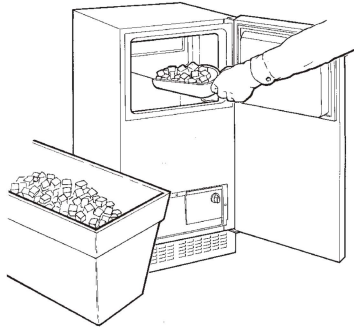
## CLEANING

### How to clean the ice making system.

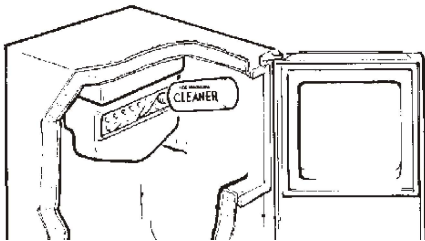
1. Open the door and turn the ice machine control knob to off.



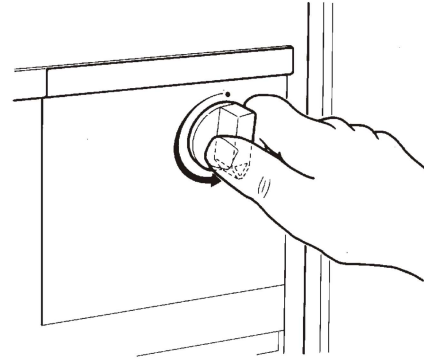
2. Scoop out all of the ice, either discard it or save it in a ice chest or cooler.



3. Pour 4 ounces of Scotsman Clear 1 Ice Machine Cleaner (available from a local Scotsman Distributor or Dealer), into the ice machine reservoir.



4. Turn the ice machine control to ON.



5. Allow the machine to operate for about 2 hours.

6. Pour hot (95°F. - 115°F.) water into the bin to melt the ice that has formed. That ice will likely be white and frosty looking.

7. Clean the bin liner of mineral scale by mixing some ice machine cleaner and hot water, and using that solution to scrub the scale off of the liner.

8. Rinse the liner with hot water.

9. Sanitize the bin interior.

10. Replace the ice removed in step 2.

The ice scoop should be washed regularly, wash it just like any other food container.

Note: Over time biofilm can grow inside the drain system which can affect the ability for the drain system to evacuate the drain water. On the pump models this can also drive a erratic pump operation. Including the pump cycling rapidly or running all the time. Biofilm and pump cycling issues will eventually lead to low production and standing water in the bin. To ensure that this does not become an issue frequent bin sanitizing may be required.

### **⚠️ WARNING**



Scotsman Ice Machine Cleaner contains acids. These compounds may cause burns.

If swallowed, DO NOT induce vomiting. Give large amounts of water or milk. Call Physician immediately. In case of skin contact, flush with water. Keep out of the reach of children.

# DCE33 User's Manual

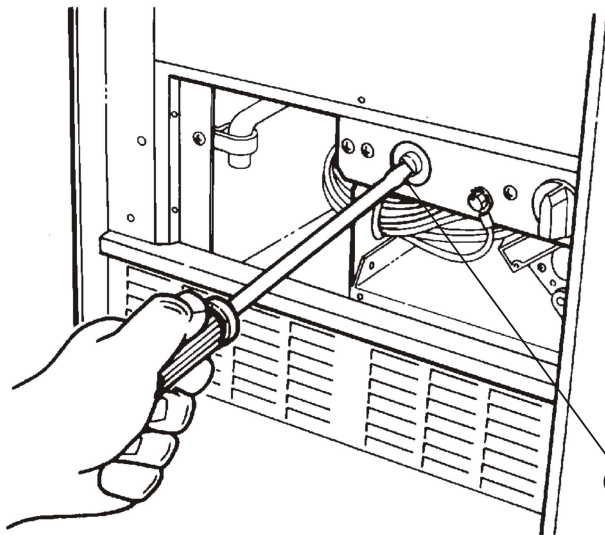
## ADJUSTMENTS

There are three items that may be adjusted: Cube Size, Harvest Time, and Bin Level. Note: Cube Size and Harvest Time adjustments should only be done by a qualified service person.

### Cube size control.

The cube size control should only be adjusted to bring the cubes to the correct shape, the overall size cannot be adjusted. Try to adjust the cube size control when the ice machine is in the harvest cycle, or in the first 10 minutes of the freeze cycle.

1. Open the door and remove the control box cover.
2. Locate the cube size adjustment screw, and to make fuller cubes, turn the screw clockwise about



CUBE SIZE ADJUSTMENT

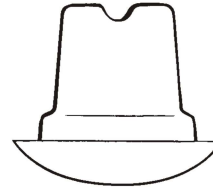
1/4 turn. This will make the freezing cycle longer.

3. To shorten the freezing cycle and make cubes that are not as full, turn the adjustment screw 1/4 turn counterclockwise.

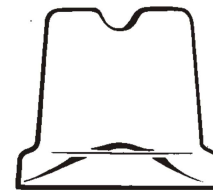
4. After the next freezing cycle, the cubes should have responded to the adjustment, if another adjustment is required, do it early in the freeze cycle.

### SIDE VIEW OF CUBES

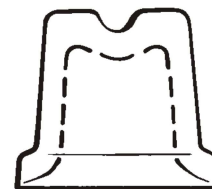
TOO  
BIG



CORRECT  
SIZE



TOO  
SMALL



# DCE33 User's Manual

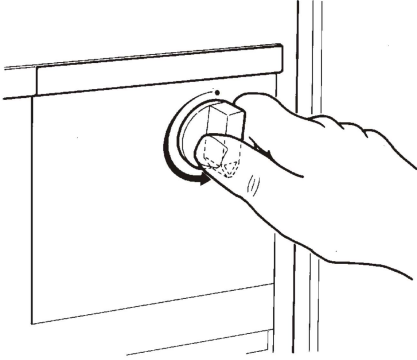
## ADJUSTMENTS

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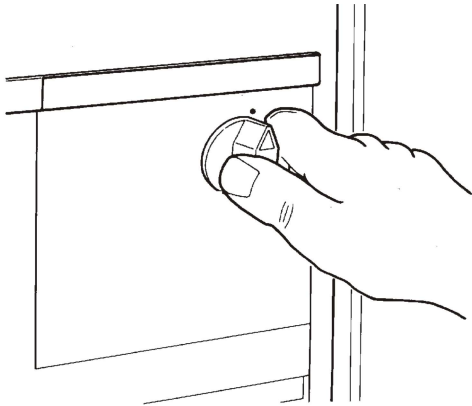
### Bin's ice level.

When the ice machine shuts off the ice level in the bin should be even with the metal tube inside the bin. If the ice in the bin is too high or low, turn the ice machine control knob to adjust the bin thermostat.

1. To lower the ice level, turn the knob counterclockwise. Usually a 1/8 turn will be enough.



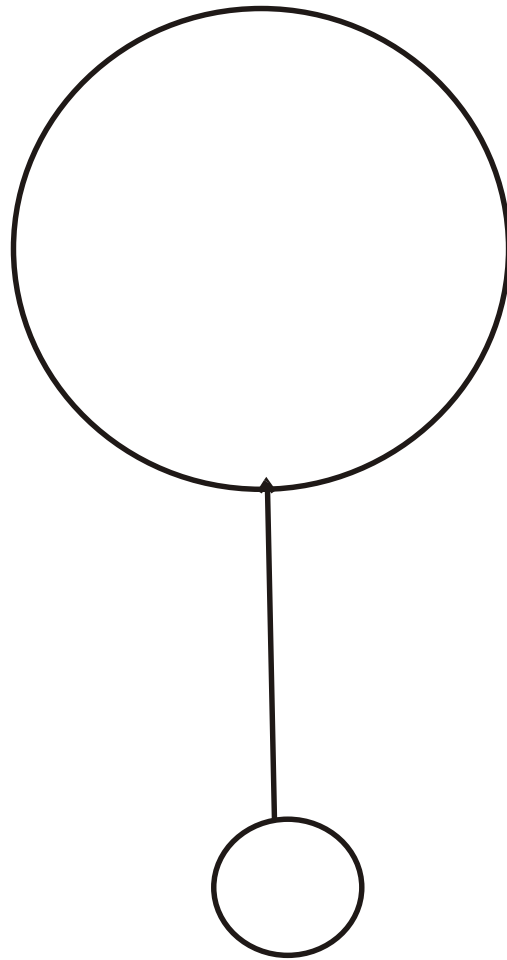
2. To increase the ice level, turn the knob clockwise. Usually a 1/8 turn will be enough.



### Harvest Time Adjustment

The harvest time can be adjusted so that all the ice is released during the harvest period, with a few seconds extra for a safety margin. The adjustment range is between 2 to 5 minutes.

There is an adjustment screw on the surface of the electronic timer. Rotate the screw CCW to reduce harvest time, and CW to increase it. It should be set to match the machine's performance. If the machine takes 2 and a half minutes to release the ice, the harvest time should be set to about 3 minutes.



# DCE33 User's Manual

## SERVICE DIAGNOSIS

PROBLEM	POSSIBLE CAUSE	PROBABLE CORRECTION
No ice falling in bin, but machine operates	Ice may be stuck in the evaporator and the unit is "frozen up".	Check water supply - filter may be restricted
		Check inlet water valve - screen may be restricted, or valve does not operate.
		Hot gas valve may not operate - check and repair/replace.
		Harvest time set too short - timer needs adjustment.
	Too much heat load.	Inlet water valve leaks thru, needs to be replaced.
	No water spray	Water pump does not work, replace it.
		Water leak from reservoir, locate and repair.
	Cube size control will not close	See "Too much heat load" or "not enough refrigerant"
Control defective - must be replaced.		
No airflow	Fan motor not turning, needs to be replaced.	
	Fan blade broken, needs to be replaced.	
	Condenser completely blocked up, needs cleaning.	
Standing water in the bin	Drain line restriction or drain pump maintenance required	Remove restriction or contact service provider to check drain pump operation

**11 30 00 – APPLIANCES**

**BLOUNT GENERAL CONTRACTORS, LLC**

**(225)664-3520**



# MICROWAVE OVEN

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## OWNER'S MANUAL

PEB9159  
CEB1599

Write the model and serial numbers here:

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

You can find them on a label when the door is open.

### ESPAÑOL

Para consultar una version en español de este manual de instrucciones, visite nuestro sitio de internet [GEAppliances.com](http://GEAppliances.com).

# Care and Cleaning

---

## Helpful Hints

An occasional thorough wiping with a solution of baking soda and water keeps the inside fresh.

**Be certain the oven control is turned off before cleaning any part of this oven.**



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## How to clean the Inside

### Walls, Floor, Inside Window, Metal and Plastic Parts on the Door

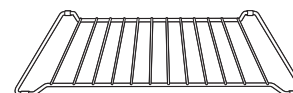
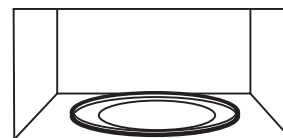
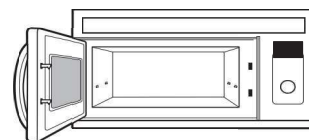
Some spatters can be removed with a paper towel, others may require a damp cloth. Remove greasy spatters with a sudsy cloth, then rinse with a damp cloth. Do not use abrasive cleaners or sharp utensils on oven walls.

To clean the surface of the door and the surface of the oven that come together upon closing, use only mild, non-abrasive soaps or detergents using a sponge or soft cloth. Rinse with a damp cloth and dry.

Never use a commercial oven cleaner on any part of your microwave.

### Removable Turntable and Turntable Support

To prevent breakage, do not place the turntable into water just after cooking. Wash it carefully in warm, sudsy water or in the dishwasher. The turntable and support can be broken if dropped. Remember, do not operate the oven without the turntable and support in place.





# Care and Cleaning

---

## How to clean the Outside

Do not use cleaners containing ammonia or alcohol on the microwave oven. Ammonia or alcohol can damage the appearance of the microwave.

### Case

Clean the outside of the microwave with a sudsy cloth. Rinse with a damp cloth and then dry. Wipe the window clean with a damp cloth.

### Control Panel and Door

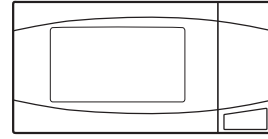
Wipe with a damp cloth. Dry thoroughly. Do not use cleaning sprays, large amounts of soap and water, abrasives or sharp objects on the panel—they can damage it. Some paper towels can also scratch the control panel.

### Door Surface

It is important to keep the area clean where the door seals against the microwave. Use only mild, non-abrasive detergents applied with a clean sponge or soft cloth. Rinse well.

### Power Cord

If the cord becomes soiled, unplug and wash with a damp cloth. For stubborn spots, sudsy water may be used, but be certain to rinse with a damp cloth and dry thoroughly before plugging cord into outlet.



---

## Stainless Steel

### Do not use a steel-wool pad; it will scratch the surface.

To clean stainless steel surfaces, use a hot, damp cloth with a mild detergent suitable for stainless steel surfaces. Use a clean, hot, damp cloth to remove soap. Dry with a dry, clean cloth.

If food soil remains, try a general kitchen cleaner, such as Fantastik®, Simple Green® or Formula 409®.

For hard-to-clean soil, use a standard stainless-steel cleaner, such as Bon-Ami® or Cameo®.

Apply cleaner with a damp sponge. Use a clean, hot, damp cloth to remove cleaner. Dry with a dry, clean cloth. Always scrub lightly in the direction of the grain.

After cleaning, use a stainless-steel polish, such as Stainless Steel Magic®, Revere Copper and Stainless Steel Cleaner® or Wenol All Purpose Metal Polish®. Follow the product instructions for cleaning the stainless-steel surface.

**11 30 00 – APPLIANCES**

**BLOUNT GENERAL CONTRACTORS, LLC**

**(225)664-3520**



# Top-Freezer REFRIGERATORS

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## OWNER'S MANUAL & INSTALLATION INSTRUCTIONS

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## ENGLISH/FRANÇAIS/ESPAÑOL

Write the model and serial numbers here:

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

Find these numbers on a label on the left side, near the middle of the refrigerator compartment.

# Care And Cleaning

## Cleaning the Outside

**FINGERPRINT RESISTANT STAINLESS STEEL\*, BLACK STAINLESS, SLATE, DARK SLATE, PAINTED - Outside surfaces, door handles, and trim**

**⚠ DO NOT use Stainless Steel cleaners on the door surfaces. ⚠**

**IMPORTANT:** The use of incorrect products may damage the outer finish of Fingerprint Resistant Stainless models. Please follow these instructions and use only the appropriate items below to clean your appliance surfaces.

DO USE	DO NOT USE
<p><i>On all models:</i> Soft, clean cloth or sponge</p>	Abrasive cloths, scrubbing sponges, scouring or steel wool pads
<p><i>On fingerprint resistant* and painted models:</i> Mild detergent mixed with warm water</p>	<p>Abrasive powders, liquids, or sprays Window sprays, ammonia, or bleach Citrus or plant oil based cleaners Acidic or vinegar based cleaners</p> <p>Oven cleaners Alkaline cleaners Stainless steel cleaners</p>
<p><i>On stainless steel models:</i> Mild detergent mixed with warm water Approved stainless steel cleaners; Visit the GE Appliances parts store for approved stainless steel cleaners: <b>GEAppliancesparts.com</b> or call <b>877.959.8688</b>  Cleaners with oxalic acid such as Bar Keepers Friend Soft Cleanser™ can be used to remove surface rust, tarnish and small blemishes on stainless steel surfaces only.</p>	<p>Abrasive powders or sprays Window Sprays or Ammonia Citrus or plant oil-based cleaners Acidic or vinegar-based cleaners Oven cleaners Cleaners containing acetone (propanone) Any cleaner with WARNING about plastic contact</p>

\*Easily wipe away smudges and fingerprints.

**NOTE: DO NOT** allow stainless steel cleaner to come in contact with any plastic parts such as trim pieces, handle hardware and liners. If unintentional contact of cleaners with plastic parts does occur, clean plastic part with a sponge and mild detergent mixed with warm water.

## Cleaning the Inside

To help prevent odors, leave an open box of baking soda in the fresh food and freezer compartments.

Unplug the refrigerator before cleaning. If this is not practical, wring excess moisture out of sponge or cloth when cleaning around switches, lights or controls.

Use warm water and baking soda solution—about a tablespoon (15 ml) of baking soda to a quart (1 liter) of water. This both cleans and neutralizes odors. Rinse and wipe dry.

After cleaning the door gaskets, apply a thin layer of petroleum jelly to the door gaskets at the hinge side. This helps keep the gaskets from sticking and bending out of shape.

**⚠ CAUTION** Do not clean glass shelves or covers with warm water when they are cold. Glass shelves and covers may break if exposed to sudden temperature changes or impact such as bumping or dropping. Tempered glass is designed to shatter into many small pieces if it breaks. Do not wash any plastic refrigerator parts in the dishwasher.

## Moving the Refrigerator

Be careful when moving the refrigerator away from the wall. All types of floor coverings can be damaged, particularly cushioned coverings and those with embossed surfaces.

Turn the leveling legs at each front corner of the refrigerator counterclockwise until the rollers support the refrigerator. Pull the refrigerator straight out and return it to position by pushing it straight in. Moving the refrigerator in a side direction may result in damage to the floor covering or refrigerator.

When pushing the refrigerator back, make sure you don't roll over the power cord or ice maker supply line (on some models). After rolling the refrigerator back into place, turn the legs clockwise until the legs again bear the weight of the refrigerator.

## Replacing the Lights

LED lighting is located at the top center of the fresh food compartment.

An authorized technician will need to replace the LED light.

If this assembly needs to be replaced, call GE Appliances Service at 1.800.432.2737 in the United States or 1.800.561.3344 in Canada.

## Preparing for Vacation

For long vacations or absences, remove food and unplug the refrigerator. Move the temperature control dial to the OFF position, and clean the interior with a baking soda solution of one tablespoon (15 ml) of baking soda to one quart (1 liter) of water. Leave the doors open.

Move the switch to the OFF position on the power switch model, and shut off the water supply to the refrigerator.

If the temperature can drop below freezing, have a qualified servicer drain the water supply system (on some models) to prevent serious property damage due to flooding.

## Preparing to Move

Secure all loose items such as grille, shelves and drawers by taping them securely in place to prevent damage. To prevent the doors from opening while moving, secure them to the case with tape. Be sure the refrigerator stays in an upright position during moving.

**12 24 13 – HYDRAULIC ELEVATORS**

**OTIS ELEVATOR COMPANY, LLC**

**(504)390-9031**

# Care and Maintenance

**OTIS**

1 Care and Maintenance Fact  
Sheets

# Care and Maintenance

○

Otis finishes have been selected to complement and enhance every interior design scheme. With proper care, they will provide a lasting impression of elegance to tenants and visitors alike.

## **Stainless Steel - Satin Finish**

### **Cleaning**

This soft, contemporary finish should be dusted frequently and washed with mild soap and warm water. Blemishes caused by oil, tar or grime can be removed with Simple Green® or a similar nonabrasive household cleaner by rubbing in the direction of the grain with a soft cloth to avoid scratches.

### **On-Site Protection: Waxing and Oiling**

On non-lacquered stainless steel, a light coat of silicone or furniture wax can be used to prevent fingerprints.

### **Polishing**

This grained finish can be polished with a Scotchbrite® type-A pad soaked with lemon or mineral oil and rubbed lightly in the direction of the grain or sanding lines. The surface should be wiped dry using a soft, clean cloth.

### **Scratch Removal**

If normal cleaning does not remove scratches, it may be necessary to resort to sanding. This work is best performed by a metal finishing professional. Sandpaper with grits of #80, #120 and #180 may be used with mineral oil. Start with the finest grit, #180, and proceed to the coarsest required to remove the scratch. Then revert to the finest grit, followed by Scotchbrite® and oil finishing as described above. Always rub with the grain.

### **Stainless Steel - Mirror Finish**

#### **Cleaning**

This highly reflective, contemporary finish should be dusted frequently and washed with mild soap and warm water. Blemishes caused by oil, tar or grime can be removed with a cleaner by rubbing with a soft cloth to avoid scratches.

#### **On-site protection**

On non-lacquered, stainless-steel finishes, you can use a light coat of silicone or furniture wax to prevent fingerprints.

#### **Polishing**

This finish should be buffed using a soft, clean cloth with a vertical movement only, not circular.

#### **Scratch removal**

Scratches should be removed by professionals only.





# Care and Maintenance

## Plastic Laminate

### Cleaning

This flexible, attractive finish, available in a variety of colors and simulated wood grains, should be dusted frequently and washed with mild soap and warm water to remove grime. Washed surfaces should be rinsed and dried thoroughly. Hard rubbing or abrasive material should not be used. Waxing and oiling is not recommended, particularly on textured surfaces, as they will build up to present an unattractive appearance.

## Baked Enamel

### Cleaning

This rugged, attractive finish is available in a wide variety of colors and should be dusted frequently and washed with mild soap and warm water. Oil, tar and grime can be removed with a cleaner by rubbing with a soft cloth to avoid scratches.

### Touch up

Touch-up paint can be obtained by contacting the Otis factory through your account manager. Paint is supplied in half-pint cans for any baked enamel color furnished by Otis. Surfaces should be thoroughly cleaned and dried before applying paint.

## Wall Fabric

### Cleaning

Weekly cleaning with a soft cloth and periodic cleaning with warm water and mild soap are usually sufficient to remove superficial dust and dirt. For stubborn areas, such as finger marks, smudges, etc., the use of a soft bristle brush is recommended.

Most liquid cleaners and detergents available on the market today, when used according to their labels, have been found to be safe and effective for Otis standard fabric cleaning. In all cases, however, rinsing with a clean, damp cloth is recommended to ensure no residue remains in the fabric. Since abrasive cleaners could mark or dull fabrics, these should not be used. Use of a flammable cleaner may void the flame tests required for A17.1 code compliance.

**CAUTION:** Prior to using any chemical (e.g., cleaning agent, paint, solvent) review the Material Safety Data Sheet (MSDS) which comes with the product and the product label. Follow these written instructions to avoid all hazards associated with these materials.



## Care and Maintenance

### Easy-to-order accessories available to owners

Please call 1-800-888-3820 to speak with an Otis representative.



#### Spare Keys

Can't find your keys or need more? We have replacement keys for firefighters' service, independent service, and priority service.

#### Security System

Restrict unauthorized access to your building elevator. Using a keypad, card reader or proximity detector, Otis security systems help protect tenants from intruders.



#### Emergency-Power and Emergency-Return Operation

Prevent passengers from being trapped during a power outage. Otis emergency-power systems allow the elevator to operate during a power loss.

#### Elevator Cab Protective Pads

Protect your investment. Purchase protective pads to prevent damage to your elevator-cab interior from wheelchairs, mail carts, stretchers, or misuse. The pads can be installed easily using hooks from the wall panels.



# Owner's Information Manual

# HydroFit™



HydroFit Elevators

**Otis Elevator Company**

## HYDROFIT™ Owner's Information Manual

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Publisher: Technical Publications Department, Otis Elevator Company

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## Chapter 4: Maintaining Your HydroFit™/HydroAccel Elevator

It is in your best interest as an owner to ensure your elevator system is well maintained. This will minimize the incidence, inconvenience, and cost of unexpected breakdown. This chapter should serve as a guide to understanding the maintenance recommended by the Otis Elevator Company. This chapter is not intended as a guide or instruction manual for performing elevator maintenance. Some of the routines listed may not be relevant to your particular installation, based on the specific features chosen.

Failure to use genuine Otis parts may invalidate any guarantee and may adversely affect the safety of your elevator. Refer to Otis Elevator Company for further information.

*For safety reasons, only a trained elevator maintenance technician may perform the operations listed in this chapter. The elevator must be removed from normal service and warning signs displayed. Safety barriers must be used if doors are opened without the car present.*

### From Inside the Car

1. Inspect car interior for damage and repair sharp and protruding edges.
2. Observe starting and stopping for signs of deterioration or malfunctions.
3. Observe floor leveling to ensure it is within tolerance.
4. Check operation of car and landing doors and ensure all reversal devices function properly.
5. Check operation of all controls within the car, especially alarm devices.
6. Check operation of normal and emergency car lighting.

### Controller

*The cabinet contains high voltage equipment. Power must be off unless suitable live working methods are employed.*

Settings of resistors and other adjustable components should not be altered without a full understanding of their function. If in doubt, contact Otis Elevator Company. Fault finding must not be performed without the correct diagram and a full knowledge of the equipment.

1. Check all electrical connections for tightness.

2. Ensure ventilation fans and grills are clean and functioning.
3. Keep all parts clean.
4. Ensure cabinet doors are locked shut after inspection.

### **Landing Fixtures**

*Turn off power before working on any fixtures.*

1. Check the operation of all fixtures.
2. Ensure correct operation of the fire service switch and any other special service switches.

### **Landing Entrances**

*Do not open doors without a barrier in place if the car is not present.  
Turn off power or place the car on inspection operation and activate the stop switch before any inspection.*

1. Clean landing door tracks.
2. Check doors for free operation.
3. Check that the doors close due to gravity or spring force.
4. Check correct lock engagement and contact wipe.
5. Check for excessive play in bottom door guides (gibs).
6. Check the condition of the air cords or other coupling devices.
7. Check that all bolts are tight.
8. Check the condition of the panels for damage.
9. Check the correct setting of upthrust devices.
10. Check the condition of the tracks and the sills.

### **Guide Rails**

1. Check the condition of all hardware, rail fastenings, and brackets.
2. Remove any debris or dust.

## Car Entrance and Operator

*Do not ride on the car top unless the cart is on inspection operation. Whenever the car is stopped, immediately activate the emergency stop switch. When working on the car doors, ensure the main power is off.*

1. Clean the car door track of any debris.
2. Check the condition of all hardware.
3. Check the condition and adjustment of the door coupling mechanism.
4. Check the door gibs for excessive movement.
5. Check the upthrust rollers for recommended clearance.
6. Check electrical cables for signs of damage.
7. Check the security of all door tracks.
8. Check the clearances between door panels and returns.
9. Ensure correct operation of the door locking mechanism.
10. Check the door closing speed and force.
11. Check the operation of the door open button and all other reversal devices.

## Hoistway Switches

*Do not make adjustments without a full understanding of any item.*

1. Clean the switches and check the arms and rollers for free movement.
2. Check the function of all terminal switches.
3. Check the running clearance of the inductors and vanes.

## Car Frame Equipment

*Lock off power at the mains before inspection.*

1. Clean off lint and dust.
2. Check the condition of all hardware.



3. Investigate any unusual noise, heat, or vibration.
6. Check the condition and adjustment of the cab steadier devices.
7. Check the traveling cables for correct hang and signs of damage.

### **Pit Equipment**

*Do not enter the pit without the power switched off or the pit stop switch activated.*

1. Clean pit of debris.
2. Check the condition of the buffer.
3. Check the condition of the buffer (hydraulic or spring type).
4. Check pit can and drip line.
5. Check and inspect to/from line.
6. Clean car bottom of lint and dust.

### **Cleaning**

*For safety reasons, the elevator must be immobilized for cleaning operations. Do not operate any electrical appliance inside the elevator car using a trailing power cord to an external power source, unless automatic elevator operation has been overridden and the car is safely parked with doors open. Do not leave car unattended while power cords pass through the door opening. The car is a confined space. Do not use cleaning agents that require good ventilation.*

The car top must be kept clean of oil, lint, and debris to minimize the risk of fire. The pit floor and its equipment must be kept clean, dry, and free of debris to minimize the risk of fire.

### **Car Interior Surfaces**

The interior of your elevator car, including the doors and frames, are designed to retain their finish and to last for many years. To ensure that they do, follow these instructions:

Clean the surfaces regularly in accordance with the following advice.

Protect all vulnerable surfaces from damage, especially when an elevator is used for moving furniture or equipment or similar non-passenger activities. Protective pads may be obtained from Otis to protect your elevator.

Otis Elevator Company recommends the following cleaning techniques:

***Glass***

Clean with a non-abrasive glass cleaner and a soft lint-free cloth.

***Stainless Steel***

Use a soft lint-free cloth with a reputable stainless steel cleaner. Follow the grain of brushed stainless steel. Do not use any other types of cleaning powders or creams or any grade of steel wool.

***Bronze-Tinted Stainless Surfaces***

Use a soft lint-free cloth dampened with soap and water and finish with a soft dry cloth. Do not use any cleaning agents designed for un-lacquered brass or abrasive materials.

***Laminated Surfaces***

Use a soft lint-free cloth dampened with soap and water. Do not use any cleaning powders, creams, or sprays.

***Painted Surfaces***

Use a soft lint-free cloth dampened with soap and water. Do not use any cleaning powders or creams.

***Landing Doors and Frames***

Landing doors and frames should be cleaned in accordance with the preceding recommendations and protected against damage when necessary.

***Car and Landing Door Sills***

It is essential to regularly clean all debris from the car and landing door sill grooves. First immobilize the elevator (see note below) with the doors open at a convenient landing.

Then carefully brush out accumulated dirt and extract with a vacuum cleaner.

Use your independent service keyswitch or other supervisory system control lock (i.e., recall to the lobby) to immobilize the elevator. If you are unsure about carrying out the task safely, please call Otis first.

## Inspection Requirements

### *Controllers*

**Wires.** Examine all wiring for breaks, loose lugs, or loose connections.

**Resistance Tubes.** Inspect for loose connections. Examine tubes for breaks in the enamel. Replace broken resistance tubes with tubes of equal value.

### *Motors*

**Connections.** Tighten all motor connections. Be sure to check all grounds and the bonding of all conduits, and the controller frame, etc.

### *Car*

**Flooring.** Inspect for worn or loose flooring.

**Emergency Exits.** Check operation of top exit and switch.

**Lighting and Fans.** Check for cleanliness, burnt out lamps, and for lubrication. Be sure that globes are fastened.

**Fixture Jewels and Lenses.** Replace if any are cracked or broken. Glass used in the car should be in accordance with codes.

### *Car Operating Devices*

**Pushbuttons.** Buttons should not stick and should work properly. Replace worn buttons and switches.

### *Indicators*

**Position Indicators.** Position Indicators should be tested for proper operation and checked for burnt out lamps.

### *Car Door*

**Fastenings.** Examine fastenings and check the door opening range. Examine for broken springs and loose connections.

**Hangers.** Check for worn tracks and rollers, making certain that the door cannot come out of its guides or jam at any point.

**Bottom Guides (Gibs).** Examine for wear, looseness, or the possibility of the guides coming out of the threshold.

### ***Car Top***

**Fastenings.** Check and tighten the fastenings if required.

**Cab Steadier Plates.** Check and tighten cab steadier plates if needed.

**Roller Guides.** Check the roller guides for wear, proper clearances, and adjustments.

**Plungers.** Check seals for leaking.

### ***Doors and Door Operators***

**Wear.** Examine thoroughly the doors and door operator for wear, friction, or obstructions that may prevent proper operation.

**Adjustment.** Clean, align, and adjust the door operator for quiet operation and proper opening and closing speed. Test and observe operation.

### ***Safety Operated Switch***

**Adjustment.** Be sure that safety operated switch will function if the governor trips.

### ***Traveling Cables***

**Fastenings.** Check the supportive device fastenings.

**Condition.** Examine the outside coverings for wear. Look for any abrasion from concrete or steel supports.

### ***Hoistway Door and Operation***

**Adjustment.** Examine each door carefully. Check for structural defects. Examine the doors to see if they can be opened without releasing the interlock. If the lock is worn or the door has sagged so that interlock does not engage properly, arrange for repairs at once. Clean, lubricate and inspect all pins, bushings, guides, etc. as needed. Be sure that bumpers are in place and in good condition.

**Hangers.** Examine the hangers for proper operation, wear, upthrust adjustment, and condition of the guides (gibs) in the bottom of the doors. Check tracks for wear and alignment, and tighten all fastenings if needed.

**Interlocks.** It is extremely important that all lock failures be repaired immediately. Check contacts and the point at which they close. Try to pull the door open with the car outside the range of the lock. Carefully check clearances and tightness of bolts and screws to avoid future shutdowns.

**Conduit**

Check the fastenings and ensure the conduit has not pulled out of the fittings and that the duct is securely fastened to the wall.

**Limit Switches and Cams**

**Rollers.** Check the roller guides for wear and replace if they do not engage cams properly.

**Wiring.** Be sure that all wiring connections are tight.

**Test Operation.** See that all switches and cams are in correct alignment. Check the operation of final limits.

**Rails**

Check the brackets, rail fastenings, and fishplates for loose bolts. Tighten and clean when required.

**Buffers and Springs**

**Operation.** Run the car at slow speed onto the buffers. Fastenings—Check for loose nuts and bolts and tighten if needed.

**Clearances**

**Hall Buttons.** Check for broken or sticking buttons, and ensure that all screws are in place and the plates are properly fastened. If lights are used, inspect for proper operation.

**Emergency Door Opening Keys.** Check the operation of keys on doors arranged for their use. Use by people unfamiliar with elevators may result in an accident if the door is opened when the car is not at that floor. Emergency keys should be stored securely in compliance with all elevator codes.

**Traveling Cables**

Check traveling cables for signs of wear and ensure the attachment points at the car and hoistway are secure.

**Escape/Evacuation Procedures**

Occasionally passengers may become trapped in an elevator that has stalled due to power failures or other conditions. This section briefly outlines the process for emergency evacuation of passengers from a stalled elevator.

**Manual Rescue Operation**

Qualified personnel can use the manual lowering valve function to move the elevator when main power is lost, by opening the manual lowering port on the control valve.

Manual Rescue Operation is to be used only after all other means to evacuate trapped passengers have been considered.

### ***Basic Escape/Evacuation Rules***

These rules apply in all cases and must be followed with any type of evacuation.

***Never attempt an evacuation on your own. Immediately call an experienced elevator mechanic to the site to perform an evacuation. Passengers need to be removed as quickly as possible but never with the risk of injury to the passengers, building personnel, or mechanics.***

A trained elevator mechanic must perform these basic rules, which include:

- **Lock out and tag the main line before removing passengers from any exit (except under normal operation). This rule applies even if there has been a power failure.**
- Do not open the doors unless someone is at the landing to assist the passengers when they are exiting the elevator.
- Communicate with passengers. Identify yourself and reassure passengers that they are safe and that steps are being taken to evacuate them from the car. Ask questions:
  - How many passengers are in the car?
  - Are any passengers ill, injured, or do any require special assistance?
  - Are the lights on in the elevator car?
  - Are the car doors open or closed?
  - What were the conditions leading up to the entrapment?
  - How long have passengers been trapped?
- Keep passengers informed of the steps being taken throughout the evacuation process:
  - Instruct the passengers to stay away from front door.
  - Instruct the passengers not to touch any buttons unless asked to do so.
- Return the car to normal operation (if possible).
- Ask passengers to:
  - Check that the car Emergency Stop Switch is in the “RUN” position.
  - Try pushing the door open button.
  - Check car doors to make sure they are fully closed.

- A trained mechanic should perform a quick diagnostic check from the machine room to:
  - Check for power.
  - Check for blown fuses.
  - Check for tripped overload.
  - Check for contact(s) not making.
  - Check that the safety circuit (“safety chain”) is closed.
- Restore normal operation (if possible) and ensure that passengers exit safely.

*Do not open the doors unless someone is at the landing to assist the passengers when they are exiting the elevator. If the car is more than 30 cm (1 ft.) from floor level, a ladder should be used. In many cases, an additional rescue person is needed—one person in the car and the other at the landing—to assist the passengers. Have the ladder available before opening door; passengers will not wait for the ladder once doors are opened.*

**21 10 00 – FIRE PROTECTION SYSTEM**

**LOUISIANA FIRE EXTINGUISHER, INC**

**(225)927-2421**



## Model AMD-1 Automatic Air Maintenance Device Pressure Reducing Type with Field-Adjustable Pressure Regulator

### General Description

The TYCO Model AMD-1 Automatic Air Maintenance Device is an automatic, field-adjustable, pressure reducing device. It is used to control the pressure in a dry pipe sprinkler system, pre-action system, or dry pilot line system of a dry pilot actuated deluge or preaction valve.

The Model AMD-1 Device is utilized in applications where there is a compressed air (or nitrogen) source controlled at a higher pressure than the desired system pressure. Pressure sources include plant air supplies with their own automatic compressor controls or nitrogen supplies with single-stage, cylinder-mounted pressure regulators.

The Model AMD-1 Automatic Air Maintenance Device is a re-designation for the Central Model D-2, Gem Model F324, and Star Model S460.

#### NOTICE

*The Model AMD-1 Automatic Air Maintenance Devices described herein must be installed and maintained in compliance with this document and with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.*

*Owners are responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or sprinkler manufacturer should be contacted with any questions.*

### Technical Data

#### Approvals

UL and C-UL Listed  
FM Approved  
NYC Approved under MEA 206-02-E

#### Maximum Inlet Air (or Nitrogen)

##### Supply Pressure

200 psi (13,8 bar)

#### Field-Adjustable Outlet Pressure Range

5 to 70 psi (0,4 to 4,8 bar)

#### Assembly

Major components illustrated in Figure 1 are factory assembled with galvanized steel nipples and malleable iron pipe fittings.

### Operation

The By-Pass Valve in the Model AMD-1 Automatic Air Maintenance Device is opened to quickly fill the system during initial pressurization. Once the required system pressure has been reached, the By-Pass Valve is closed and the Air Supply Control Valve is left open to place the Model AMD-1 Device in automatic operation.

When there is a small leak in the system, the Pressure Regulator automatically maintains system pressure at the preset level. The 3/32 in. (2,4 mm) orifice in the Restrictor Check Valve limits the flow of air from the Pressure Regulator into the system to a value significantly less than that exhausted by the operation of a 5.6 K-factor sprinkler.



### Installation

The TYCO Model AMD-1 Automatic Air Maintenance Device should be installed in the horizontal position as shown in Figure 1, as well as in accordance with the following instructions:

#### NOTICE

*Moisture build-up can adversely affect performance. Suitable consideration must be given to the removal of excessive moisture from the compressed air supply.*

1. Make connections a minimum of 1/2 in. (DN15) pipe size between the inlet air supply and the Model AMD-1 Device, as well as between the Model AMD-1 Device and the system to pressurize.
2. Place a 1/2 in. (DN15), non-spring loaded, rubber-faced, swing-type check valve between the Model AMD-1 Device and the system to pressurize. A check valve of this type is provided in the air supply trim of TYCO dry pipe and preaction valves.

#### IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

## Care and Maintenance

The TYCO Model AMD-1 Automatic Air Maintenance Device must be maintained and serviced in accordance with the following instructions, in addition to any specific requirements of the NFPA. Any impairment must be immediately corrected.

### **NOTICE**

*Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.*

It is recommended that accumulated moisture be removed from air supply moisture filtration equipment at least quarterly. More frequent inspections may be necessary in particularly humid environments.

After placing a fire protection system in service, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.

Responsibility lies with owners for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (for example, NFPA 25), in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national code.

The Model AMD-1 Device must be inspected quarterly in accordance with the following instructions:

1. Verify that the By-Pass Valve is closed.
2. Close the Model AMD-1 Air Supply Control Valve and clean out the 1/4 in. Strainer located at the inlet to the Restrictor Check Valve. Be sure to reinstall the strainer screen and tighten the cap securely.
3. Open the Model AMD-1 Air Supply Valve and verify that the control valve in the air supply trim to the system to pressurize is open.
4. Verify that the system pressure is essentially the same as the previously established requirement. If not, adjust the system pressure as follows:
  - a. Close the system's main control valve and open the main drain valve. If the system is so equipped, close the Accelerator Control Valve.
  - b. Follow Steps 1 to 14 in the Setting Procedure section.
  - c. Slowly open the Accelerator Control Valve, as applicable.
  - d. Slowly open the main control valve. After water begins to flow, slowly close the main drain valve, then completely open the main control valve. The Model AMD-1 Automatic Air Maintenance Device is now ready for service.

## Limited Warranty

For warranty terms and conditions, visit [www.tyco-fire.com](http://www.tyco-fire.com).

## Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name, including description and Part Number (P/N).

### **Model AMD-1 Device**

Specify: Model AMD-1 Automatic Air Maintenance Device, P/N 52-324-2-002

### **Replacement Parts**

Specify: (description), P/N (specify per Figure 1)

**21 10 00 – FIRE PROTECTION SYSTEM**

**LOUISIANA FIRE EXTINGUISHER, INC**

**(225)927-2421**

## Model DPV-1 Dry Pipe Valve External Resetting

### General Description

The TYCO Model DPV-1 Dry Pipe Valves are differential valves used to automatically control the flow of water into dry pipe fire protection sprinkler systems upon operation of one or more automatic sprinklers. The DPV-1 also provides for actuation of fire alarms upon system operation. The Model DPV-1 features are as follows:

- External reset.
- 250 psi (17,2 bar) pressure rating.
- Unique offset single clapper design enabling a simple compact valve to minimize installation labor.
- Ductile iron construction to ensure a lightweight valve to minimize shipping cost.
- A variety of inlet and outlet connections.
- Compact, Pre-Trimmed, and Semi-Assembled, easy to operate valve trim.
- Simple reset procedure through the elimination of priming water.

Dry pipe sprinkler systems are used in unheated warehouses, parking garages, store windows, attic spaces, loading docks, and other areas exposed to freezing temperatures, where water filled pipe cannot be utilized. When set for service, the dry pipe sprinkler system is pressurized with air (or nitrogen). The loss of pressure through an operated automatic sprinkler in response to heat from a fire permits the DPV-1 Dry Pipe Valve to open and allow a flow of water into the sprinkler system piping. Table B establishes the minimum required system air pressure that includes a safety factor to help prevent false operations that might occur due to water supply fluctuations.

#### IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.



Available Sizes and End Connections

End Connection	Nominal Valve Size			
	2-1/2 in. (DN65)	3 in. (DN80)	4 in. (DN100)	6 in. (DN150)
Flange x Flange	N/A	N/A	•	•
Flange x Groove	N/A	N/A	•	•
Groove x Groove	•	•	•	•

• = Available  
N/A = Not Available

#### NOTICE

The Model DPV-1 Dry Pipe Valves described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

### Technical Data

**Approvals**  
UL and C-UL Listed  
FM Approved  
NYC Approved

#### Dry Pipe Valve

The TYCO Model DPV-1 Dry Pipe Valves shall be installed in the vertical orientation only (supply at bottom flowing upward) and are rated for use at a maximum service pressure of 250 psi (17,2 bar). Valve and trim dimensions are shown in Figure 6.

Flanged connections are available and drilled per ANSI, ISO, AS, and JIS specifications (Ref. Table A). The grooved outlet connections, as applicable, are cut in accordance with standard groove specifications for steel pipe. They are suitable for use with grooved end pipe couplings that are listed or approved for fire protection system service. Available combinations of inlet and outlet connections are described in the Ordering Procedure section and in the Available End Connection and Sizes table on page 1.

Trim port connections of valves having flanges drilled to ANSI, AS, or JIS spec-

## Care and Maintenance

The following procedures and inspections should be performed as indicated, in addition to any specific requirements of the NFPA, and any impairment must be immediately corrected.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and notify all personnel who may be affected by action.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any authority having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

The operational test procedure and waterflow pressure alarm test procedure will result in operation of the associated alarms. Consequently, notification must first be given to the owner and the fire department, central station, or other signal station to which the alarms are connected.

### Annual Operation Test Procedure

**Note:** Unless otherwise noted, refer to Figure 3, 4, or 5 to identify functional trim components.

Proper operation of the DPV-1 Valve (i.e., opening of the DPV-1 Valve during a fire condition) should be verified at least once a year as follows:

**Step 1.** If necessary, prevent water from flowing beyond the riser by:

- Close the Main Control Valve
- Open the Main Drain Valve
- Open the Main Control Valve one turn beyond the position at which water just begins to flow from the Main Drain Valve
- Close the Main Drain Valve

**Step 2.** Open the system Inspector's Test Connection.

**Step 3.** Verify that the DPV-1 Valve has operated, as indicated by the flow of water into the system and that all waterflow alarms operate properly.

**Step 4.** Close the system Main Control Valve.

**Step 5.** Reset the DPV-1 Valve in accordance with the Valve Setting Procedure.

**Note:** It is recommended that the requirement of NFPA 25 to annually inspect the inside of the valve be performed at this time and prior to resetting the DPV-1 Valve. Refer to the Automatic Drain Valve Inspection subsection Steps 2 through 5 for instructions with regard to the inspection of the Clapper Facing.

### Quarterly Waterflow Alarm Test Procedure

Testing of the system waterflow alarms should be performed quarterly. To test the waterflow alarm, open the Alarm Test Valve, which will allow a flow of water to the Waterflow Pressure Alarm Switch and/or Water Motor Alarm. Upon satisfactory completion of the test, close the Alarm Test Valve.

### Water Pressure Inspection

The Water Pressure Gauge is to be inspected monthly (per NFPA 25) to ensure that normal system water pressure is being maintained.

### Air Pressure Inspection

The Air Pressure Gauge is to be inspected monthly (per NFPA 25) to ensure that normal system air pressure is being maintained.

### Automatic Drain Valve Inspection

The Automatic Drain Valve should be inspected monthly (per NFPA 25) by depressing the plunger and checking to ensure that the Automatic Drain Valve is not discharging water and/or air. A discharge of water and/or air is an indication that the air and/or water seats are leaking, which could subsequently cause a false operation should the intermediate chamber become inadvertently pressurized.

If leakage is present, take the DPV-1 Valve out of service (i.e., close the main control valve, open the main drain valve, close the air supply control valve, remove the Dry Pipe Valve Accelerator from service, as applicable, in accordance with its Technical Data Sheet (Refer to TFP1105 for the VIZOR or TFP1112 for the ACC-1), and open the Inspector's Test Connection to relieve the system air pressure to 0 psig as indicated on the System Air Pressure

Nominal Valve Sizes in. (DN)	Torque lb-ft (N·m)
2-1/2 (DN65)	30 (41)
3 (DN80)	30 (41)
4 (DN100)	30 (41)
6 (DN150)	55 (75)

**TABLE C**  
**HANDHOLE COVER BOLTS**  
**MAXIMUM TORQUE**

Gauge), and then after removing the Handhole Cover, perform the following steps:

**Step 1.** Make sure that the Seat Ring is clean and free of any nicks or significant scratches.

**Step 2.** Remove the Clapper Assembly from the valve by first pulling out the Hinge Pin.

**Step 3.** Disassemble the Clapper Facing Retainer from the Clapper so that the Clapper Facing can be removed and inspected. Make sure that the Clapper Facing does not show signs of compression set, damage, etc. Replace the Clapper Facing if there is any signs of wear.

**Step 4.** Clean the Clapper Facing, Clapper, and Clapper Facing Retainer, and then reassemble the Clapper Assembly.

**Step 5.** Reinstall the Clapper Assembly with its Hinge Pin.

**Step 6.** Install Handhole Cover:

- a. Align Handhole Cover Gasket and Handhole Cover in proper orientation with valve body (Ref. Figure 1) and hold in place
- b. Apply LOCTITE No. 242 (or equivalent) to Hex Bolt threads
- c. Insert Hex Bolts through Handhole Cover Gasket and Handhole Cover, hand-tighten into valve body
- d. Using crossdraw sequence to assure uniformity, wrench-tighten Hex Bolts to appropriate torque values (Ref. Table C)
- e. Inspect to assure all Hex Bolts are securely tightened

**21 10 00 – FIRE PROTECTION SYSTEM**

**LOUISIANA FIRE EXTINGUISHER, INC**

**(225)927-2421**

# Reliable®

## Models F1 Series Standard Response Sprinklers

### Model F156 Sprinkler Types

Standard Upright  
Standard Pendent  
Conventional  
Vertical Sidewall  
Horizontal Sidewall

### Model F156 Recessed Sprinkler Types

Pendent/F1/F2/FP  
Horizontal Sidewall

### Model F142, F1XLH & F128 Sprinkler Types

Standard Upright  
Standard Pendent

### Model F142, F1XLH & F128 Recessed Sprinkler Types

Pendent/F1/F2/FP

### Approval Organizations

1. Underwriters Laboratories Inc. and certified for Canada (cULus)
2. Factory Mutual Approvals (FM)
3. Loss Prevention Council (LPCB, UK)
4. VdS Schadenverhütung GmbH
5. EC Certificate: 0786-CPD-40237 (RA1314)  
0786-CPD-40253 (RA1325)  
0786-CPD-40254 (RA1375)

### UL Listing Category

Sprinklers, Automatic & Open (VNIV)

### Product Description

The F156, F142, F1XLH & F128 Series Glass Bulb Sprinkler combines the durability of a standard sprinkler with the attractive low profile of a decorative sprinkler. Whether installed on exposed piping or in an office ceiling, it is functional and attractive.

Beautifully versatile is the description for the Reliable Models F156, F142, F1XLH & F128 Series Recessed glass bulb sprinkler. Recessing the F156, F142, F1XLH & F128 Series enhances its already low profile decorative appearance, and facilitates a rapid and perfect installation.

The recessed escutcheon of the Models F156, F142, F1XLH & F128 are highly adjustable. The two piece construction makes field installation a very easy and rapid task. This also allows ceiling panels to later be removed without shutting down the fire protection system, thus facilitating maintenance of above ceiling services.



The F156, F142, F1XLH & F128 Series Automatic Sprinkler utilizes a 5.0 mm frangible glass bulb. The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule. This glass bulb is specially constructed to provide fast thermal response.

At normal temperatures, the glass bulb contains the fluid in both the liquid phase and in the vapor phase. The vapor phase can be seen as a small bubble. As heat is applied, the liquid expands forcing the bubble smaller and smaller as the liquid pressure increases. Continued heating forces the liquid to push out against the bulb, causing the glass to shatter, opening the waterway and allowing the deflector to distribute the discharging water.

The F156, F142, F1XLH & F128 Series Sprinkler temperature rating is identified by the color of the glass bulb capsule as well as frame color where applicable.

## Application

Model F156, F142, F1XLH, F128 & Model F156, F142, F1XLH & F128 Recessed sprinklers are used in fixed fire protection systems: Wet, Dry, Deluge or Preaction. Care must be exercised that the orifice size, temperature rating, deflector style and sprinkler type are in accordance with the latest published standards of the National Fire Protection Association or the approving Authority Having Jurisdiction Installation.

## Installation

Model F156, F142, F1XLH & F128 Series sprinklers are standard response sprinklers intended for installation as specified in NFPA 13. They must also be installed with the Model W2 Sprinkler Wrench specifically designed by Reliable for use with these sprinklers.

The Model F156, F142, F1XLH & F128 Recessed Sprinklers are to be installed with a maximum recess of 3/4 inch (19mm). The Model F1, F2, and FP Escutcheon illustrated are the only recessed escutcheon to be used with the Model F156, F142, F1XLH & F128 Recessed Sprinklers. The use of any other recessed escutcheon will void all approvals and negate all warranties. When installing Model F156, F142, F1XLH & F128 Recessed Sprinklers use the Model W4 Sprinkler Wrench. Any other type of wrench may damage these sprinklers.

**Note:** A leak tight 1/2" NPT (R1/2) sprinkler joint can be obtained with a torque of 8 - 18 ft-lbs (11 - 24 N-m). Do not tighten sprinklers over maximum recommended torque. It may cause leakage or impairment of the sprinklers.

Glass bulb sprinklers have orange covers to protect the bulb during the installation process. REMOVE THIS PROTECTION ONLY AFTER THE SYSTEM HAS BEEN HYDROSTATICALLY TESTED AND, WHEN APPLICABLE, THE ESCUTCHEONS HAVE BEEN INSTALLED. RASCO wrenches are designed to install sprinklers when covers are in place.

## Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Nominal K-Factor
4. Temperature Rating
5. Sprinkler Finish
6. Thread Type: [1/2" NPT] [ISO 7-1R1/2]
7. Escutcheon Finish (where applicable)

**Note:** When Models F156, F142, F1XLH & F128 Recessed Sprinklers are ordered, the sprinklers and escutcheons are packaged separately.

## Maintenance

The Model F156, F142, F1XLH & Model F156, F142, F1XLH & F128 Recessed Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluid. Replace any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in the original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

## Temperature Ratings

Classification	Sprinkler Temperature		Max. Ambient Temp.	Bulb Color
	°C	°F		
Ordinary	57	135	100°F (38°C)	Orange
Ordinary	68	155	100°F (38°C)	Red
Intermediate	79	175	150°F (66°C)	Yellow
Intermediate	93	200	150°F (66°C)	Green
High <sup>(1)</sup>	141	286	225°F (107°C)	Blue
Extra High <sup>(1)</sup>	182	360	300°F (149°C)	Mauve
Ultra High <sup>(1) (2)</sup>	260	500	475°F (246°C)	Black

<sup>(1)</sup> Not available for recessed Sprinklers.

<sup>(2)</sup> cULus listed for SIN RA1325 and RA1314 only.

## Maximum Working Pressure

175 psi (12 bar)

SIN RA1325 & RA1314 cULus listed for 250 psi (17 bar)

100% Factory tested hydrostatically to 500 psi (34.5 bar)

## Finish<sup>(1)</sup>

Standard Finishes	
Sprinkler	Escutcheon
Bronze	Brass
Chrome	Chrome
Polyester Coated <sup>(6)(7)(9)</sup>	White Painted
Special Application Finishes	
Sprinkler	Escutcheon
Electroless Nickel PTFE <sup>(3)(10)(11)</sup>	Electroless Nickel PTFE
Bright Brass <sup>(2)</sup>	Bright Brass
Black Paint <sup>(3)(9)</sup>	Black Paint
Off White <sup>(3)(9)</sup>	Off White
Chrome Dull	Chrome Dull
Lead Plated <sup>(3)(4)(8)</sup>	
Wax Coated <sup>(3)(4)(5)(8)</sup>	
Wax Over Lead <sup>(3)(4)(5)(8)</sup>	

<sup>(1)</sup> Other colors and finishes are available on special order. Consult factory for details. Custom color painted sprinklers may not retain their UL Corrosion resistance listing.

<sup>(2)</sup> 200°F (93°C) maximum.

<sup>(3)</sup> UL and ULC listed only.

<sup>(4)</sup> 155°F to 200°F (68°C to 93°C) ratings only.

<sup>(5)</sup> 286°F (141°C) sprinklers may be coated for ambient conditions not exceeding 150°F (66°C).

<sup>(6)</sup> cULus listed "corrosion resistant" applies to SIN Number RA1325 (Upright) RA1323 (upright), RA1321(Upright), RA1335 (HSW), RA1385(VSW) and RA1314 (Pendent) in standard black or white. Corrosion resistance in other polyester colors is available upon request.

<sup>(7)</sup> FM Approved finish as "Polyester Coated" applies to SIN number RA1314, RA1335 & RA1325 in standard black or white.

<sup>(8)</sup> FM Approved finish applies only to SIN number RA1335 & RA1385.

<sup>(9)</sup> LPCB and VdS Approved finish applies only to RA1325, RA1314 and RA1375.

<sup>(10)</sup> cULus Listed Corrosion Resistant for to SIN RA1325, RA1314, RA1323, RA1313, RA1321, RA1311, RA1385 and RA1335.

<sup>(11)</sup> FM Approved Corrosion Resistant for SIN RA1314, RA1325, RA1335, and RA1385.



**21 10 00 – FIRE PROTECTION SYSTEM**

**LOUISIANA FIRE EXTINGUISHER, INC**

**(225)927-2421**

# Reliable®

## Model F1FR Series Quick Response Glass Bulb Sprinklers

### Model F1FR56 Sprinkler Types

Standard Spray Upright  
Standard Spray Pendent  
Conventional Upright/Pendent  
Vertical Sidewall  
Horizontal Sidewall

### Model F1FR56 Recessed Sprinkler Types

Standard Spray Pendent  
Horizontal Sidewall

### Model F1FR56 Concealed Sprinkler Types

Standard Spray Pendent

### Model F1FR42, F1FRXLH & F1FR28 Sprinkler Types

Standard Spray Upright  
Standard Spray Pendent

### Model F1FR40 Sprinkler Types

Standard Spray Pendent

### Model F1FR42, F1FR40, F1FRXLH & F1FR28 Recessed Sprinkler Types

Standard Spray Pendent

### Model F1FR56LL & F1FR42LL Low Lead Sprinkler Types

Standard Spray Pendent with less than 0.25% Lead Content

### Listing & Approvals

The following organizations provide Listings or Approvals for various Model F1FR series sprinklers. See the Design and Installation table in this Bulletin for information on specific listings and approvals applicable to each sprinkler.

1. Underwriters Laboratories Inc. and Certified for Canada (cULus) in accordance with ANSI/UL199.
2. FM Approvals (FM)
3. Loss Prevention Certification Board (LPCB)
4. VdS Schadenverhütung GmbH (VdS)
5. Underwriters Laboratories Inc. and Underwriters Laboratories of Canada Certified for Health Effects to NSF/ANSI Standard 61 Annex G (ULH)
6. EC Certificate: 0786-CPD-40239 (RA1414), 0786-CPD-40251 (RA1425), 0786-CPD-40252 (RA1475) (EC)

### UL Listing Category

Sprinklers, Automatic & Open (VNIV)  
Quick Response Sprinkler



Upright

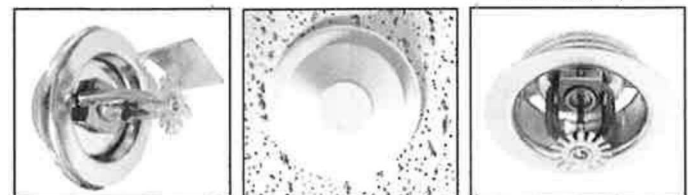
Pendent

Conventional



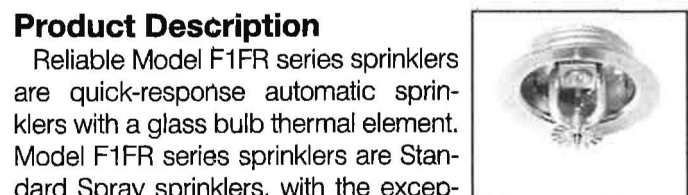
Vertical Sidewall

Horizontal Sidewall

Recessed  
Pendent/F1/F2Recessed  
Horizontal SidewallConcealed  
PendentRecessed  
Pendent/FP

XLH Upright

XLH Pendent

XLH Recessed  
Pendent F1/F2XLH Recessed  
Pendent FP

### Product Description

Reliable Model F1FR series sprinklers are quick-response automatic sprinklers with a glass bulb thermal element. Model F1FR series sprinklers are Standard Spray sprinklers, with the exception of the Model F1FR56 Conventional sprinkler which is an Old-style/Conventional sprinkler.

The Model F1FR Series automatic sprinklers utilize a 3.0 mm frangible glass bulb. These sprinklers have demonstrated response times in laboratory tests which are five to ten times faster than standard response sprinklers. This quick response enables the Model F1FR Series sprinklers to apply water to a fire faster than standard-response sprinklers of the same temperature rating.

The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule. This glass bulb is specially constructed to provide fast thermal response.

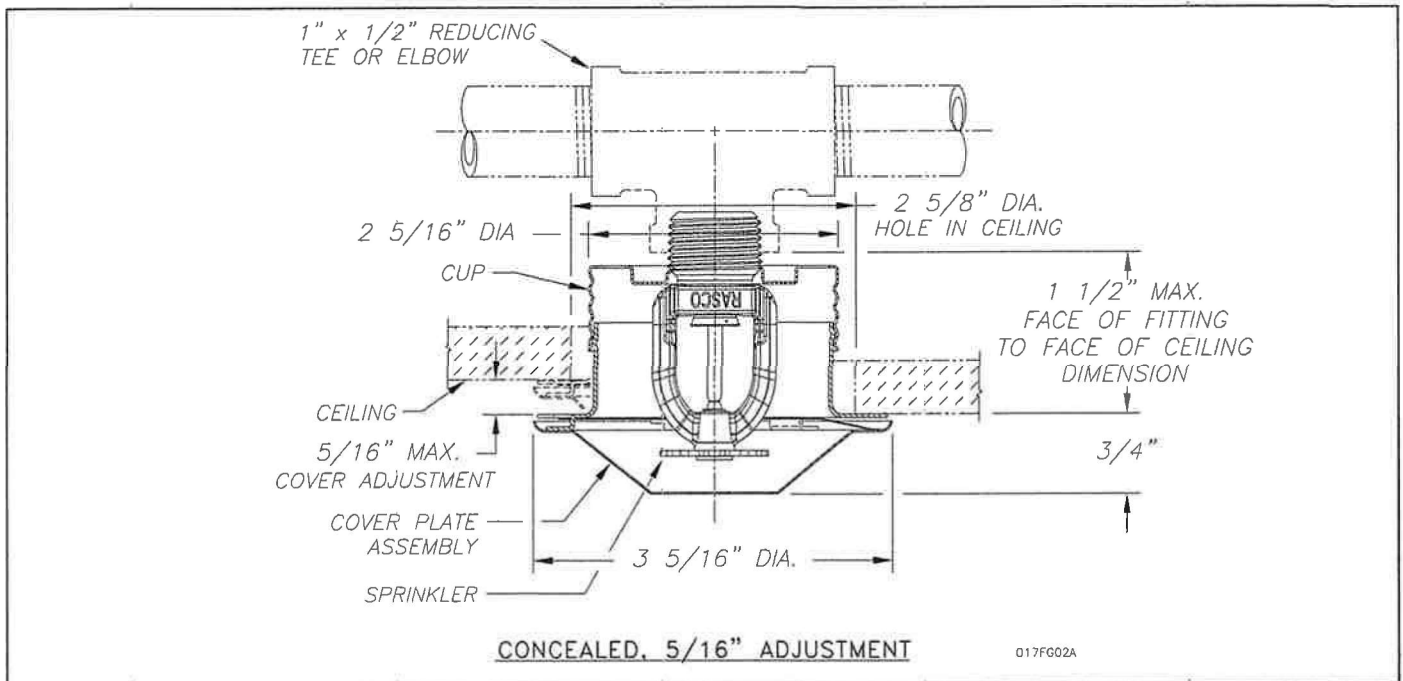


Fig. 5 - Model F1FR56/F1FR56LL Concealed Pendent sprinkler with low profile 5/16-inch (8.0mm) adjustment - Model CCP cover plate

## Maintenance

The Model F1FR Series sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Replace any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers.

## Finishes <sup>(1)</sup>

Standard Finishes		
Sprinkler	Escutcheon	Cover plate <sup>(1)</sup>
Bronze	Brass	Chrome
Chrome Plated	Chrome Plated	White
Polyester Coated <sup>(4)(5)(6)</sup>	White Painted	
Special Application Finishes		
Sprinkler	Escutcheon	Cover plate <sup>(1)</sup>
Electroless Nickel PTFE <sup>(7)</sup>	Electroless Nickel PTFE	Bright Brass
Bright Brass <sup>(3)</sup>	Bright Brass	Black Plating
Black Plated	Black Plated	Black Paint
Black Paint <sup>(2)(6)</sup>	Black Paint	Off White
Off White <sup>(2)(6)</sup>	Off White	Satin Chrome
Chrome Dull	Chrome Dull	

<sup>(1)</sup> Other finishes and colors are available on special order. Consult the factory for details. Custom color painted sprinklers may not retain their UL Corrosion resistance listing. Coverplate custom paint is semi-gloss, unless specified otherwise.

<sup>(2)</sup> cULus Listed only.

<sup>(3)</sup> 200°F (93°C) maximum.

<sup>(4)</sup> cULus listed "corrosion resistance" applies to SIN Numbers RA1435 (HSW), RA1485(VSW), RA1425 (Upright), RA1414 (Pendent) and RA1415 (Pendent) in standard black or white. Corrosion resistance in other polyester colors is available upon request.

<sup>(5)</sup> FM Approvals finish as "Polyester coated" applies to SIN Number RA1414, RA1435 and RA1425 in standard black or white.

<sup>(6)</sup> LPCB and VdS Approved finish applies only to RA1425, RA1414, RA1418 (VdS) and RA1475.

<sup>(7)</sup> cULus listed Corrosion Resistant

Material Data	
<b>Frame:</b>	DZR Brass, QM Brass, or Low Lead Brass
<b>Deflector:</b>	CDA Alloy 220, 260, or 510
<b>Load Screw/Pintle:</b>	CDA Alloy 360 or 544
<b>Cup:</b>	CDA Alloy 651 or 693
<b>Washer:</b>	Nickel Alloy 440 or 360, coated with PTFE Adhesive Tape
<b>Bulb:</b>	Glass

## Ordering Information

### Specify:

- Sprinkler Model: [F1FR28][F1FR40][F1FR42][F1FR42LL][F1FRXLH][F1FR56][F1FR56LL]
- Sprinkler Deflector/Orientation: [Pendent][Recessed Pendent][Upright][Conventional][Horizontal Sidewall][Recessed Horizontal Sidewall][Vertical Sidewall]
- Sprinkler threads: [1/2-inch NPT][ISO 7-R1/2]
- Sprinkler Temperature Rating: [135°F (57°C)][155°F (68°C)][175°F (79°C)][200°F (93°C)][286°F (141°C)]
- Sprinkler Finish
- Escutcheon Model: [F1][F2][FP]
- Escutcheon Finish (where applicable)
- Cover plate Model: [standard profile CCP 1/2-inch (12.7mm) adjustment][low profile CCP 5/16-inch (8.0mm) adjustment]
- Cover plate Temperature Rating: [135°F (57°C) for use with Ordinary Temperature sprinklers][165°F (74°C) for use with Intermediate Temperature sprinklers]
- Cover plate Finish

**Note:** When Model F1FR Series Recessed sprinklers are ordered, the sprinklers and escutcheons are packaged separately.

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**LOUISIANA FIRE EXTINGUISHER, INC**

**(225)927-2421**

# Reliable®

## F1FR80 Series Quick-Response Sprinklers

K-factor 8.0 (115)

### Features

- Standard coverage quick-response sprinklers
- Upright and pendent orientations
- Low profile, compact design
- Available in a wide variety of finishes
- Available as Intermediate Level sprinklers

### Product Description

Reliable Model F1FR80 series sprinklers are quick-response standard spray automatic fire sprinklers utilizing a sensitive 3mm glass bulb thermal element.

Pendent sprinklers may be installed exposed, or surface mounted using escutcheons such as the Reliable Models B, C, or HB (reference Technical Bulletin 204). When installed recessed, the Model F1FR80 series sprinklers are specifically listed with and may only be installed with listed Reliable recessed escutcheons. Refer to the technical information on the following pages for specific listings for recessed installations and refer to Figure 3 for dimensional information.

When fitted with an approved Reliable water shield, these sprinklers may be considered intermediate sprinklers for use in racks, below grated walkways, and other areas where intermediate level sprinklers are required.

Table A provides a summary of the approvals and availability of specific Model F1FR series sprinkler configurations. Additional technical information for each sprinkler model is provided on the following pages.



Model F1FR80  
Upright Sprinkler



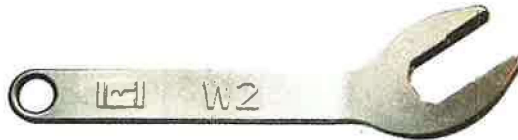
Model F1FR80 Pendent Sprinkler

### F1FR80 Series Sprinklers Summary

Table A

Sprinkler Model	K-Factor gpm/psi <sup>1/2</sup> (lpm/bar <sup>1/2</sup> )	Max. Working Pressure psi (bar)	Listings & Approvals	Orientation	Sprinkler Identification Number (SiN)
F1FR80	8.0 (115)	175 (12) 250 (17) (cULus only)	cULus, FM, LPCB, VdS, CE	Upright	RA6322
				Pendent	RA6312

## Wrenches



Model W2 (upright, pendent)



Model J (with guard installed)



Model W4  
(recessed pendent)

## Finishes<sup>(1)(2)</sup>

Table B

Standard Finishes		Special Application Finishes	
Sprinkler	F1, F2 and FP <sup>(3)</sup> Escutcheons	Sprinkler	F1, F2 and FP <sup>(3)</sup> Escutcheons
Bronze	Brass	Electroless Nickel PTFE <sup>(4)(5)</sup>	Bright Brass
Chrome Plated	Chrome Plated	Bright Brass <sup>(6)</sup>	Black Paint
White Polyester <sup>(4)</sup>	White Polyester	Black Paint <sup>(7)</sup>	Off White
		Off White <sup>(7)</sup>	Chrome Dull
		Chrome Dull	

### Notes:

1. Other finishes and colors are available on special order. Consult your Reliable sales representative for details.
2. Paint or any other coating applied over the factory finish will void all approvals and warranties.
3. The Model FP and CCP assemblies consist of a sprinkler mounted in a galvanized steel cup with a finished trim ring or cover plate.
4. cULus Listed as corrosion resistant.
5. FM Approved as corrosion resistant.
6. For 200°F (93°C) maximum temperature rated sprinklers only.
7. cULus Only.

## Installation

Model F1FR Series sprinklers must be installed in accordance with NFPA13 and the requirements of all applicable authorities having jurisdiction. Model F1FR Series sprinklers must be installed with the Reliable sprinkler installation wrench identified in this Bulletin. Any other wrench may damage the sprinkler. The Models W2 and W4 wrenches have two sets of jaws. Use the smallest set of jaws that fit on the wrench flats of the sprinkler. A leak tight sprinkler joint can be obtained with a torque of 8 to 18 lb-ft (11 to 24 N-m). Do not tighten sprinklers over the maximum recommended installation torque. Exceeding the maximum recommended installation torque may cause leakage or impairment of the sprinkler.

Glass bulb sprinklers have orange bulb protectors or protective caps to minimize bulb damage during shipping, handling and installation. Reliable sprinkler installation wrenches are designed to install sprinklers with bulb protectors in place. Remove the bulb protector at the time when the sprinkler system is placed in service for fire protection. Removal of the bulb protector before this time may leave the bulb vulnerable to damage. Remove bulb protectors by undoing the clasp by hand. Do not use tools to remove bulb protectors.

## Maintenance

Reliable Model F1FR series sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

**21 10 00 – FIRE PROTECTION SYSTEM**

**LOUISIANA FIRE EXTINGUISHER, INC**

**(225)927-2421**

## Series DS-1 Dry-Type Sprinklers 5.6K Pendent, Upright, and Horizontal Sidewall Quick Response, Standard Coverage

### General Description

TYCO Series DS-1 Dry-Type Sprinklers, 5.6K Pendent, Upright, and Horizontal Sidewall, Quick Response (3 mm bulb) and Standard Coverage are decorative glass bulb automatic sprinklers designed for commercial use. Dry-type sprinklers are typically used where:

- pendent sprinklers are required on dry pipe systems that are exposed to freezing temperatures for example, sprinkler drops from unheated portions of buildings
- sprinklers and/or a portion of the connecting piping are exposed to freezing temperatures; for example, sprinkler drops from wet systems into freezers, sprinkler sprigs from wet systems into unheated attics, or horizontal piping extensions through a wall to protect an unheated areas such as loading docks, overhangs, and building exteriors
- sprinklers are used on systems that are seasonally drained to avoid freezing for example, vacation areas

#### NOTICE

The Series DS-1 Dry-Type Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), in addition to the standards of any

#### IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information. Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

The Series DS-1 Dry-Type Sprinklers must only be installed in fittings that meet the requirements of the Design Criteria section.

### Sprinkler Identification Numbers (SINs)

3/4 in. NPT:  
TY3935 - Pendent  
TY3735 - Horizontal Sidewall

1 in. NPT:  
TY3235 - Pendent  
TY3135 - Upright  
TY3335 - Horizontal Sidewall

### Technical Data

#### Approvals

UL and C-UL Listed  
FM Approved  
NYC Approved under MEA 352-01-E

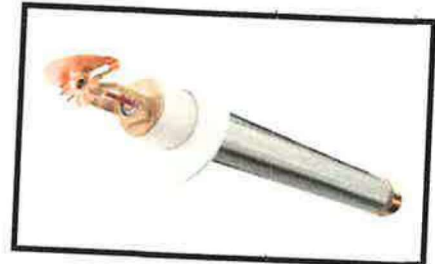
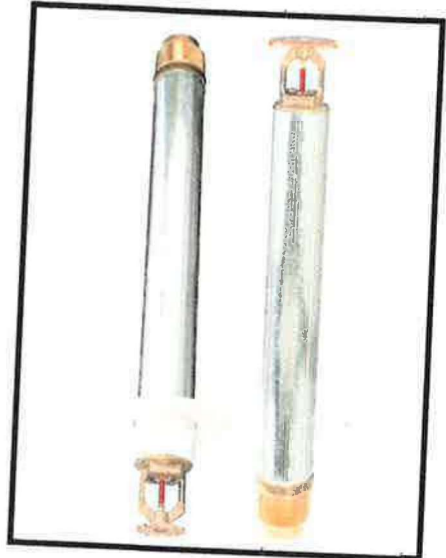
Previous New York City Approval and MEA certification numbers apply to product as shown in this data sheet. In accordance with Section BC 3502 of the Construction Code, current NYC Approvals for use in the City of New York apply to all products that contain UL or FM Approvals and Listings; therefore, not all products currently Approved for use in the City of New York will carry an actual MEA Certification number.  
See Tables A and B.

**Maximum Working Pressure**  
175 psi (12,1 bar)

**Inlet Thread Connections**  
3/4 in. NPT

1 in. NPT or ISO 7-R 1

**Discharge Coefficient**  
K=5.6 gpm/psi<sup>1/2</sup> (80,6 lpm/bar<sup>1/2</sup>)



**Temperature Ratings**  
See Tables A and B

#### Finishes

Sprinkler: Natural Brass, Chrome Plated, or Signal White  
Escutcheon: Signal White, Chrome Plated, or Brass Plated

#### Physical Characteristics

Inlet	.....	Copper
Plug	.....	Copper
Yoke	.....	Stainless Steel
Casing	.....	Galvanized Carbon Steel
Insert	.....	Bronze
Bulb Seat	.....	Stainless Steel
Bulb	.....	Glass
Compression Screw	.....	Bronze
Deflector	.....	Bronze
Frame	.....	Bronze
Guide Tube	.....	Stainless Steel
Water Tube	.....	Stainless Steel
Spring	.....	Stainless Steel
Plug Spring*	.....	Stainless Steel
Sealing Assembly	.....	Beryllium Nickel w/TEFLON
Escutcheon	.....	Carbon Steel or Stainless Steel

\* For 3/4 in. NPT only



**Note:** If sprinkler removal becomes necessary, remove the sprinkler using the same wrenching method noted above. Sprinkler removal is easier when a non-hardening sealant was used and torque guidelines were followed. After removal, inspect the sprinkler for damage.

**Step 4.** After installing the ceiling or wall and applying a ceiling finish, slide on the outer piece of the escutcheon until it comes in contact with the ceiling or wall. Do not lift the ceiling panel out of its normal position.

When using the Deep Escutcheon, hold the outer piece in contact with the mounting surface (ceiling or wall). Then rotate the inner piece approximately 1/4 turn with respect to the outer piece, to hold the Deep Escutcheon firmly together.

## Care and Maintenance

The TYCO Series DS-1 Dry-Type Sprinklers, 5.6K Pendent, Upright, and Horizontal Sidewall, Quick Response (3 mm bulb) and Standard Coverage must be maintained and serviced in accordance with this section.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection systems from the proper authorities and notify all personnel who may be affected by this action.

Absence of the outer piece of an escutcheon, which is used to cover a clearance hole, can delay the time to sprinkler operation in a fire situation.

A Vent Hole is provided in the Bulb Seat (see Figures 1 and 2) to indicate if the Dry-Type Sprinkler is remaining dry. Evidence of leakage from the Vent Hole indicates potential leakage past the Inlet seal and the need to remove the sprinkler to determine the cause of leakage for example, an improper installation or an ice plug. Close the fire protection system control valve and drain the system before removing the sprinkler.

Sprinklers which are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage to the sprinklers before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. See the Installation Section.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION, such as NFPA 25, in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

## Limited Warranty

For warranty terms and conditions, visit [www.tyco-fire.com](http://www.tyco-fire.com).

## Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

### DS-1 Dry-Type Sprinklers

When ordering TYCO Series DS-1 Dry-Type Sprinklers, 5.6K Pendent, Upright, and Horizontal Sidewall, Quick Response (3 mm bulb) and Standard Coverage, specify the following information:

- **SIN:**
  - Pendent – TY3935 or TY3235
  - Sidewall – TY3735 or TY3335
  - Upright – TY3135
- 5.6 K-factor
- **Deflector Style:**
  - Upright, Pendent, or Horizontal Sidewall
- Quick Response, Standard Coverage, Dry-Type Sprinkler
- **Order Length:**
  - Dry-Type Sprinklers are furnished based upon Order Length as measured per Figures 3 through 10. After taking the measurement, round it to the nearest 1/4 in. increment.
- **Inlet Connections:**
  - 3/4 in. NPT, 1 in. NPT, or ISO 7-R 1
- Temperature Rating
- Sprinkler Finish
- Escutcheon Style and Finish, as applicable
- Part Number (P/N) from Table D

The Upright Sprinkler without an Escutcheon (TY3135) is available in 1 in. NPT only.

Part Numbers are for 3/4 in. and 1 in. NPT standard order sprinklers. Orders for all other sprinkler assemblies must be accompanied by a complete description. Refer to the Price List for a complete listing of Part Numbers.

### Sprinkler Wrench

Specify: W-Type 7 Sprinkler Wrench, P/N 56-850-4-001

### Sprinkler Boot

Specify: Model DSB-2 Dry Sprinkler Boot, P/N 63-000-0-002

This Part Number includes one (1) Boot, two (2) Strap Ties, and 1/3 oz of Adhesive (a sufficient quantity for installing one boot).

**22 00 00 – PLUMBING**

**LOUIS MECHANICAL CONTRACTORS, LLC**

**(225)927-6520**

# AQUASPEC<sup>®</sup> FAUCETS

## MODEL - Z83100-XL WIDESPREAD SERIES



### TECHNICAL INFORMATION

**FLOW:** 2.2 GPM [8.3 L] PRESSURE COMPENSATING AERATOR \*

**MAXIMUM PRESSURE:** 125 PSI

**MAXIMUM TEMPERATURE:** 180 °F

**HANDLE NUT TORQUE:** 15-20 FT - LBS.

**CARTRIDGE STYLE:** QUARTER TURN CERAMIC DISK

\* OTHER AERATORS AVAILABLE BY REQUEST

**⚠ WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**⚠ ADVERTENCIA:** Cáncer y daño reproductivo - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**⚠ AVERTISSEMENT:** Cancer et effets néfastes sur la reproduction - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### \* INSTALLATION INSTRUCTIONS

#### Z83100 (SEE FIGURE 1)

1. PLACE GASKET (ITEM #3D) ONTO SHANK OF BASE (ITEM #4). PLACE BASE THROUGH CENTER HOLE OF SINK AND SECURE TO SINK USING WASHER (ITEM #3E), LOCKWASHER (ITEM #3F) AND FLANGED MOUNTING NUT (ITEM #3G).
2. REMOVE BODY (ITEMS #7, #8, & #9) FROM PACKAGING AND PLACE WASHER (ITEM #3C) ONTO END FITTINGS, SCREW NUTS ALL THE WAY DOWN ON THREADS.
3. PLACE BODY (ITEM #9) INTO SINK FROM UNDERSIDE AND PLACE WASHER (ITEM #3B) AND RETAINING RING (ITEM #3A) ONTO SHANKS ABOVE SINK TOP.
4. HAND TIGHTEN NUTS (ITEM #9A) TO SECURE ASSEMBLY TO SINK. **DO NOT OVERTIGHTEN.**
5. PLACE GASKET (ITEM #7A) BETWEEN TEE (ITEM #7D) & SHANK. SECURE TEE TO SHANK WITH NUT (ITEM #7C).
6. TIGHTEN ESCUTCHEONS (ITEM #1) ONTO CARTRIDGE CAP (ITEM #2) TO SECURE BODY TO SINK.
7. INSTALL SPOUT INTO BASE AND TIGHTEN NUT (SEE VIEWS FOR SWING/RIGID CONNECTION). SCREW HANDLES ONTO CARTRIDGE STEMS (ITEMS #5 AND #6) AND INSERT INDEX BUTTONS.
8. PROCEED TO "FINISHING INSTALLATION" ALL MODELS SECTION

#### Z83100-ICT (SEE FIGURE 2)

1. PLACE GASKET (ITEM #3D) ONTO SHANK OF BASE (ITEM #4). PLACE BASE THROUGH CENTER HOLE OF SINK AND SECURE TO SINK USING WASHER (ITEM #3E), LOCKWASHER (ITEM #3F) AND FLANGED MOUNTING NUT (ITEM #3G).
2. REMOVE BODY (ITEM #8) FROM PACKAGING AND PLACE WASHER (ITEM #3C) ONTO END FITTINGS, SCREW NUTS ALL THE WAY DOWN ON THREADS.
3. PLACE SHANK NUT (ITEM #3J) ONTO CENTER POST OF BODY (ITEM #8). PLACE FRICTION WASHER (ITEM #3i) INTO NUT (ITEM #3J). INSERT SHANK SEAL (ITEM #3H) AROUND CENTER POST WITH LARGE DIAMETER FIRST UNTIL SEAL BOTTOMS OUT.
4. PLACE BODY INTO SINK FROM UNDERSIDE AND PLACE WASHER (ITEM #3B) AND RETAINING RING (ITEM #3A) ONTO SHANKS ABOVE SINK TOP.
5. HAND TIGHTEN NUTS (ITEM #7A) TO SECURE ASSEMBLY TO SINK. **DO NOT OVERTIGHTEN.**
6. TIGHTEN ESCUTCHEONS (ITEM #1) ONTO CARTRIDGE CAP (ITEM #2) TO SECURE BODY TO SINK, ALSO TIGHTEN SHANK NUT (ITEM #3J) ONTO THREADS OF BASE (ITEM #4).
7. INSTALL SPOUT INTO BASE AND TIGHTEN NUT (SEE VIEWS FOR SWING/RIGID CONNECTION). SCREW HANDLES ONTO CARTRIDGE STEMS (ITEMS #5 AND #6) AND INSERT COLOR CODED INDEX BUTTONS.
8. PROCEED TO "FINISHING INSTALLATION" ALL MODELS SECTION

#### Z83103 (SEE FIGURE 3)

1. PLACE GASKET (ITEM #3D) ONTO SHANK OF BASE (ITEM #4). PLACE BASE THROUGH CENTER HOLE OF SINK AND SECURE TO SINK USING WASHER (ITEM #3E), LOCKWASHER (ITEM #3F) AND FLANGED MOUNTING NUT (ITEM #3G).

2. REMOVE BODY (ITEMS #7, #8, & #9) FROM PACKAGING, REMOVE CARTRIDGE CAP (ITEM #1) AND PLACE WASHER (ITEM #3C) ONTO END FITTINGS, SCREW NUTS ALL THE WAY DOWN ON THREADS.
3. PLACE BODY (ITEM #9) INTO SINK FROM UNDERSIDE AND PLACE WASHER (ITEM #3B) AND RETAINING RING (ITEM #3A) ONTO SHANKS ABOVE SINK TOP.
4. REASSEMBLE CARTRIDGE CAP (ITEM #1) TO BODY (ITEM #9).
5. HAND TIGHTEN NUTS (ITEM #9A) TO SECURE ASSEMBLY TO SINK. **DO NOT OVERTIGHTEN.**
6. PLACE GASKET (ITEM #7A) BETWEEN TEE (ITEM #7D) & SHANK. SECURE TEE TO SHANK WITH NUT (ITEM #7C).
7. TIGHTEN ESCUTCHEONS (ITEM #2) BODY (ITEM #9) TO SECURE BODY TO SINK.
8. INSTALL SPOUT INTO BASE AND TIGHTEN NUT (SEE VIEWS FOR SWING/RIGID CONNECTION). SCREW HANDLES ONTO CARTRIDGE STEMS (ITEMS #5 AND #6) AND INSERT INDEX BUTTONS.
9. PROCEED TO "FINISHING INSTALLATION" ALL MODELS SECTION

## Z83100-HS (SEE FIGURE 4)

1. FULLY THREAD MOUNTING NUT (ITEM #7C) ONTO DIVERTER TEE (ITEM 6D). PLACE WASHER (ITEM #7B) AND FRICTION GASKET (ITEM #7A) ONTO DIVERTER TEE (ITEM #6D).
2. PLACE DIVERTER TEE (ITEM #6D) INTO SINK FROM UNDERSIDE AND THREAD ESCUTCHEON (ITEM #6A) ON SO THERE'S APPROXIMATELY 1" OF THREADS STICKING OUT ABOVE ESCUTCHEON (ITEM #6A).
3. REMOVE BODY ASSEMBLY (ITEM #9) FROM PACKAGING AND PLACE WASHER (ITEM #3C) ONTO END FITTINGS, SCREW NUTS ALL THE WAY DOWN ON THREADS.
4. PLACE BODY (ITEM #9) INTO SINK FROM UNDERSIDE AND PLACE WASHER (ITEM #3B) AND RETAINING RING (ITEM #3A) ONTO SHANKS ABOVE SINK TOP.
5. HAND TIGHTEN NUTS (ITEM #9A) TO SECURE ASSEMBLY TO SINK. **DO NOT OVERTIGHTEN.**
6. TIGHTEN ESCUTCHEONS (ITEM #1) ONTO CARTRIDGE CAP (ITEM #2) TO SECURE BODY TO SINK.
7. INSTALL SPOUT INTO DIVERTER TEE AND TIGHTEN NUT (SEE VIEWS FOR SWING/RIGID CONNECTION). SCREW HANDLES ONTO CARTRIDGE STEMS (ITEMS #4 AND #5) AND INSERT INDEX BUTTONS.
8. BACK OFF ESCUTCHEON (ITEM #6A) UNTIL SNUG AGAINST SPOUT NUT. TIGHTEN MOUNTING NUT (ITEM #7C) TO SECURE DIVERTER TEE ASSEMBLY (ITEM #6) ON SINK.
9. REMOVE HOSE SPRAY ASSEMBLY (ITEM #11) FROM PACKING. INSERT LOOSE WASHER INTO END OF HOSE. ASSEMBLE HOSE AND SPRAY ESCUTCHEON (ITEM #11A) ONTO SINK. INSERT HOSE AND SPRAY (ITEM #11B) THROUGH ESCUTCHEON (ITEM #11A) FROM TOP OF SINK AND ATTACH TO DIVERTER TEE (ITEM #6D).
10. PROCEED TO "FINISHING INSTALLATION" ALL MODELS SECTION

## "FINISHING INSTALLATION" ALL MODELS

1. ATTACH LAVATORY SUPPLIES TO FAUCET USING COUPLING NUT (ITEM #10).
2. OPTIONAL - POP-UP (-P) / GRID STRAINER (-G) / HANDICAP OFFSET GRID DRAIN (-GH) (*NOT AN OPTION FOR Z80000-HS*) INSTALL POP-UP OR GRID STRAINER IN SINK OUTLET AND PLUMB WASTE CONNECTION.
3. INSTALL AERATOR ONTO SPOUT END AND HAND TIGHTEN. IT MAY BE NECESSARY TO UNSCREW AND CLEAN AERATOR AT START-UP.
4. TURN WATER SUPPLY ON AND OPERATE FAUCET CHECKING FOR LEAKS.
5. IT MAY BE NECESSARY TO SHUT WATER OFF AND REMOVE CARTRIDGES TO CLEAN SUPPLY LINES. CARTRIDGES CAN BE REMOVED BY FIRST REMOVING THE HANDLES. COLOR INDEXES CAN BE REMOVED BY INSERTING A PIN INTO THE HOLE ON THE UNDERSIDE OF THE HANDLE. AFTER THE HANDLES HAVE BEEN REMOVED, UNSCREW ESCUTCHEONS (ITEM #1) AND REMOVE THE CARTRIDGE CAPS (ITEM #2). PULL UP ON THE CARTRIDGE.
6. REPLACE CARTRIDGES IN BODY AND HAND TIGHTEN CARTRIDGE CAPS. PLACE HANDLES ON THE CARTRIDGE STEM AND LOCATE THEM AS DESIRED. TIGHTEN CARTRIDGE CAPS.
7. REPLACE HANDLE SCREWS AND COLOR INDEX BUTTONS.

## MAINTENANCE

1. YOUR ZURN AQUASPEC FAUCET HAS A HIGHLY POLISHED NICKEL CHROME PLATED FINISH. CLEAN WITH SOAP AND WATER OR A MILD CLEANER WHICH IS SAFE FOR CHROME PLATING. DO NOT USE ACIDS OR TOILET BOWL CLEANER AS THEY WILL DAMAGE THE FINISH.
2. AQUASPEC FAUCETS CONTAIN CERAMIC DISK CARTRIDGES WHICH REQUIRE NO MAINTENANCE. TO REMOVE THE CARTRIDGE, SHUT THE WATER OFF, LOOSEN THE HANDLE NUTS AND PULL UP ON THE CARTRIDGE.

## REPLACEMENT PARTS

COLD WATER CARTRIDGE	59517007
HOT WATER CARTRIDGE	59517008
INDEX BUTTONS	G60500

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**Trouble Shooting**

Problem	Solution
Faucet leaks from under the handle. All supplies are on.	Remove faucet handle. Tighten retaining nut. Do not over tighten. Tighten until nut is snug.
No water comes out of faucet spout. All supplies are on.	Aerator is clogged. Remove aerator. Remove debris and reinstall aerator.
Water deflects at an angle from the faucet spout.	Aerator has debris. Remove aerator. Remove debris and reinstall aerator.
Faucet leaks from inlet supplies.	Aerator is loose. Water way may leak from aerator and appear under sink. Tighten aerator.
The faucet does not shut off and or it leaks from under the handle.	Check the chrome escutcheon nut and retaining ring.
The faucet exhibits a decrease in the flow of water.	Remove the aerator, flush out the debris and reassemble.

**Care Instructions**

Assuming proper care, your faucet will provide you with years of trouble free service. Care in cleaning is important. The finish can be damaged with the use of harsh abrasive cleaners or polishes. To clean the faucet, gently wipe with damp cloth and blot dry with a soft towel.

**TEMP-GARD LIMITED WARRANTY**

**LIMITED WARRANTY:** All goods sold here under are warranted to be free from defects in material and factory workmanship for a period of three (3) years from the date of purchase. We will replace at no cost, goods that prove defective provided we are notified in writing of such defect and the goods are returned to us prepaid at Falconer, New York with evidence that the valves have been properly maintained and used in accordance with instructions. WE SHALL NOT BE RESPONSIBLE FOR ANY LABOR CHARGES OR ANY LOSS, INJURY OR DAMAGES WHATSOEVER, INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES. The sole and exclusive remedy shall be limited to the replacement of the defective goods. Before installation and use, the purchaser shall determine the suitability of the product for its intended use and the purchaser assumes all risk and liability whatsoever in connection therewith, where permitted by law. THE IMPLIED WARRANTY OF MERCHANTABILITY IS LIMITED TO A PERIOD OF THREE (3) YEARS AND SHALL BE LIMITED SOLELY TO THE REPLACEMENT OF THE DEFECTIVE GOODS.

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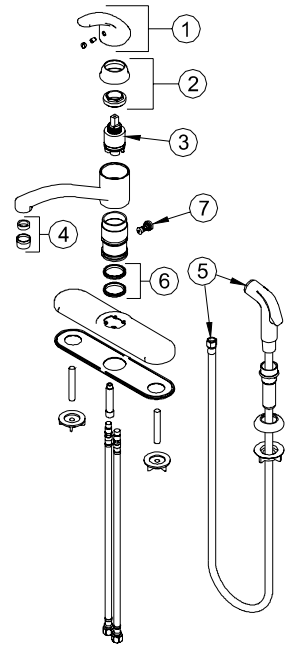
Form# CF1431 Date: 1/12/11 Product No.: IS7872C-XL  
C.N. No.: 127282 Rev. C Sheet 4 of 4

**TEMP-GARD™** Z7872C-XL & Z7870C-XL **ZURN**

Single Handle Kitchen Faucet With Ceramic Control Cartridge

 Installation  Maintenance Instructions  Replacement Kits
**KITCHEN FAUCET PARTS**

ITEM	PART NO.	DESCRIPTION	QTY
1	RK7872C-XL-6	<b>Lever Handle Assy.</b> Lever handle handle set screw color button red/blue	1 1 1
2	RK7872C-XL-3	<b>Cartridge Retaining Assy.</b> Retaining nut Chrome Escutcheon Nut	1 1
3	RK7872C-XL-CART	<b>Ceramic Control Cartridge Assembly</b>	1
4	RK7872C-XL-94	<b>Aerator Std. 2.2GPM</b> Aerator washer	1 1
	RK7872C-XL-SO	<b>1.0GPM Spray Outlet</b> Aerator washer	1 1
	RK7872C-XL-94LA	<b>2.2GPM Laminar Flow Outlet</b> Aerator washer	1 1
	RK7872C-XL-94FC	<b>0.5GPM Vandal-Resistant Aerator</b> Aerator washer	1 1
	RK7872C-XL-94VP	<b>2.2GPM Vandal-Resistant Aerator</b> Aerator washer	1 1
5	RK7872C-XL-21	<b>Spray hose &amp; handset Assy. (Model Z7872C-XL only)</b> spray hose spray handset	1 1
6	RK7872C-XL-QR	<b>Quad Ring Seal Repair Kit</b> Quad Ring	2
7	RK7872C-XL-DV	<b>Diverter Assy. (Model Z7872C-XL Only)</b>	1



Spray hose & handset Assy.  
(Model Z7872C-XL only)

**The Plumbing Warehouse**  
LIER

Form# CF1431 Date: 1/12/11 Product No.: IS7872C-XL  
C.N. No.: 127282 Rev. C Sheet 1 of 4

3377392

## Installation Instructions

1. Shut off the hot and cold water supplies. Remove the old faucet.
2. Place the plastic base plate on the sink deck above the holes.  
**In some installations, a sealant may be required to make a water tight seal between the faucet base plate and the mounting surface. The installer should verify the compatibility of the selected sealant with the mounting surface manufacturer. Both plumber's putty and silicone sealants are compatible with Zurn faucets and fixtures. Consult the mounting surface manufacturer for their recommendation of sealant.**
3. Insert the mounting studs and stainless steel supply hoses through the holes in the sink deck. Secure the faucet to the sink deck by threading on the faucet mounting nuts on to the mounting studs.  
  
Caution: Do not over tighten the faucet mounting nuts.
4. Connect the hot and cold water supplies. (While looking at the faucet viewed from the front of the faucet) Connect the hot supply to the left faucet hose. Connect the cold water supply to the right faucet hose. The faucet hose connections are 3/8" female compression fittings.
5. Remove the faucet aerator and fully open the faucet water supply valves. Turn on the Hot and Cold water supplies and flush supply lines of debris. Turn off the faucet valves and check for leaks at all connections. Replace the aerator and hand tighten to prevent leaks. For additional grip you can wrap the aerator with a rubber band.
6. Spray hose & handset Assembly (**Model Z7872C-XL only**) unit installation. Install the plastic handset holder with shank into the mounting flange and hole in the sink. Attach mounting nut to shank and tighten to secure to sink. Slide the fitting end of the spray hose through the handset holder and attach the fitting onto the male threaded end of the faucet housing. Tighten until snug. Slide the hose down through the handset holder until the spray unit rests flush with the sink. Check for leaks. Tighten fitting if necessary.

## Maintenance Instructions (ceramic control cartridge replacement)

**Helpful Hint:** Before working on the faucet, cover the drain with sheets of newspaper or cardboard material. This will keep the small parts from falling through the drain.

1. Turn off the water supplies.
2. Remove the color red/blue button. Loosen the handle set screw.
3. Pull off the lever handle. Loosen the chrome bonnet nut by turning counter clockwise.
4. Unscrew the chrome escutcheon nut. Unscrew and remove the brass retaining nut counterclockwise.
5. Pull out the ceramic control cartridge. If necessary use small pliers to grab the valve stem. Do not use a screw driver to pry up the ceramic cartridge. Damage of the cartridge can result if prying is performed.
6. Check the interior of the bore for debris. At the bottom of the housing bore area check the three holes for debris. Clean if necessary. If the parts look fine re-install the ceramic cartridge assembly. Use a silicone base lubricant on the o-ring of the cartridge before re-installation.
7. When installing the ceramic control cartridge assembly, make sure that the two smaller o-rings on the bottom are properly installed within the o-ring grooves of the cartridge. Lightly install the cartridge into the faucet housing so that the pins of the cartridge line up with the small dowel holes at the bottom of the faucet housing. The alignment holes will appear at the 5 and 7 o'clock positions at the base of the faucet housing. Push the control cartridge all the way down until it is fully seated into the alignment dowel holes. Proper installation will allow about 1/8" of threads showing above the cartridge assembly.
8. Re-install the brass retaining nut into the faucet housing by turning the nut in a clockwise rotation.
9. Re-install the chrome escutcheon nut until snug.
10. Turn on the water supply. Check for leaks. Re-adjust the retaining nut if necessary. Reinstall the lever handle. Reinstall the color button

If a new ceramic control cartridge is required use: **RK7872C-XL-CART**

Always use Zurn parts when performing routine maintenance. The use of non-Zurn parts will void your warranty. After any maintenance is performed on the valve, flush the system as noted in the Faucet Test and Adjustment section of the instructions.

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Form# CF 1431 Date: 1/12/11 Product No.: J37872C-XL  
C.N.No. 127282 Rev. C Sheet 2 of 4

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C.N.No. 127282 Rev. C Sheet 3 of 4

3377392

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**LOUIS MECHANICAL CONTRACTORS, LLC**

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**OilTector**<sup>®</sup>

Operation and Maintenance Manual

**Liberty Pumps**<sup>®</sup>**Maintenance**

1. The preset level control must be kept clean and free of rust, mud, soap or any conductive material.
2. Every year clean probes keeping them free of debris, calcium or iron deposits.
3. Fuses in control panel are 5mm X 20mm 1 amp for F1  
(Spare fuses are included for your convenience)
4. Every year replace 9 Volt Battery in Remote Alarm.

**Trouble Shooting**

Symptom	Possible Cause	Action
Pump does not run	Panel Power Cord Unplugged Pump not plugged into panel Defective Contactor Loose level sensor wires Pump failure	Plug in Outlet, Check Power Plug pump to panel plug Replace Contactor Tighten connections Replace pump
Pump turns off before bottom probe	Poor pump ground or system ground	Check grounding system
Pump Runs Continuously	Make Sure the Preset Level Sensor cable and the power cord from the pump are separated by at least 2" in the tank and 2" apart running into the control panel.	

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**Liberty Pumps**<sup>®</sup>

**22 00 00 – PLUMBING**

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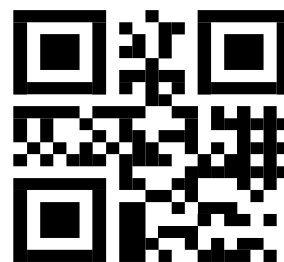
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# INSTRUCTION MANUAL

P2003557 Rev A



3907230



# ecocirc<sup>®</sup> 19-16

 **Bell & Gossett**  
a xylem brand



# 6 Maintenance

## 6.1 Precautions



---

**Electrical Hazard:**

Disconnect and lock out electrical power before installing or servicing the unit.

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**WARNING:**

- Always wear protective gloves when handling the pumps and motor. When pumping hot liquids, the pump and its parts may exceed 40°C (104°F).
  - Maintenance and service must be performed by skilled and qualified personnel only.
  - Observe accident prevention regulations in force.
- 

## 6.2 Disassemble the pump

1. Shut off supply and drain lines.  
If there are no shut-off valves installed, drain the system so that the fluid level drops below the pump suction level.
2. Loosen and remove the screws with an allen key.
3. Pull the motor out of the pump housing.  
Residual water may leak out of the motor cavity. Protect the pump's electrical connections from getting wet.
4. Pull the rotor/impeller upwards by hand and remove it.  
The pump body can be left connected to the system.
5. Clean any foreign objects or impurities and reinsert the rotor/impeller.  
If the rotor/impeller does not move freely or if there are wear marks visible, that is an indication of bearing failure. Replace the pump.
6. Replace the motor in the pump housing.
7. Replace the screws.
8. Reopen supply and drain lines and fill system.

See [Figure 7: Maintenance](#) on page 25 for more information.

3907230

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**LOUIS MECHANICAL CONTRACTORS, LLC**

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# ELKAY®

## INSTALLATION AND USE MANUAL

Manual de instalación y uso  
Manuel d'installation et utilisation

### EZTL™ & LZTL™ Series Versatile Bi-Level Water Coolers

EZTL™ & LZTL™ Serie versátil bi-nivel enfriadores de agua  
EZTL™ & LZTL™ Série versatile refroidisseurs d'eau à deux niveaux

1801597



Versatile Cooler Models EZSTL8L and LZSTL8L configuration as shipped



Versatile Cooler Models EZSTL8L and LZSTL8L alternate installation

**HANGER BRACKETS INSTALLATION**

- 1) Remove hanger brackets fastened to back of cooler by removing one (1) screw.
- 2) Mount the hanger brackets as shown in Figure 2 or 3.

**NOTE:** Hanger Bracket **MUST** be supported securely. Add fixture support carrier if wall will not provide adequate support. Anchor hanger securely to wall using all six (6) 1/4 in. dia. mounting holes.

**INSTALLATION OF COOLER**

- 3) Hang the cooler on the hanger bracket. Be certain the hanger bracket is engaged properly in the slots on the cooler back as shown in Figure 2 and 3.
- 4) Remove the four (4) screws holding the lower front panel at the bottom of cooler. Remove the front panel by pulling straight down and set aside.
- 5) Connect water inlet line--See Note 4 of General Instructions.
- 6) Install trap. Remove the slip nut and gasket from the trap and install them on the cooler waste line making sure that the end of the waste line fits into the trap. Assemble the slip nut and gasket to the trap and tighten securely.

**IMPORTANT:** If it is necessary to cut the drain, loosen the screw at the black rubber boot and remove tube, check for leaks after re-assembly.

- 7) Plug in electrical power. Unit must have electrical power to have water flow.

**START UP****Also See General Instructions**

- 8) Stream height is factory set at 35 PSI. If supply pressure varies greatly from this, adjust screw located on the right knee clearance area. CW adjustment will raise stream and CCW adjustment will lower stream. For best adjustment, stream should hit basin approximately 6-1/2" (165mm) from bubbler on the downward slope of the basin.

**NOTE:** If continuous flow occurs at the end of the compressor cycle, turn cold control counterclockwise 1/4 turn.

- 9) Replace the front panel ensuring that the metal wrapper is secured inside of the upper shroud. Replace all four screws previously removed.

**CLEANING**

Warm, soapy water or mild household cleaning products can be used to clean the exterior panels of the EZ coolers. Extra caution should be used to clean the mirror finished stainless steel panels. They can be easily scratched and should only be cleaned with mild soap and water or Windex glass cleaner and a clean, soft cloth. Use of harsh chemicals or petroleum based or abrasive cleaners **will void the warranty.**

**INSTALACIÓN DE SOPORTES PARA COLGAR**

- 1) Retire el soporte fijador que se encuentra conectado a la parte posterior del enfriador sacando un (1) tornillo.
- 2) Monte el soporte fijador de la manera descrita en Fig. 2 y 3.

**NOTA:** Es necesario que el soporte fijador sea apoyado seguramente. Agregue un portador al soporte fijador si la pared no aporta soporte adecuado. Amarre el soporte colgante seguramente a la pared. Usando todos los seis (6) agujeros de montaje de ¼ pulg. (6.35 mm) de diám.

**INSTALACIÓN DEL ENFRIADOR**

- 3) Cuelgue el enfriador en el soporte colgante. Asegúrese que el soporte colgante está enganchado adecuadamente en las ranuras en la parte posterior del enfriador según descrito en Figura 2 y 3.
- 4) Retire los cuatro (4) tornillos que sujetan el panel frontal inferior en el pie del enfriador. Retire el panel frontal al jalarlo hacia abajo y póngalo al lado.
- 5) Conecte la tubería de entrada de agua -- Consulte la Nota 4 de la Instrucciones Generales.
- 6) Instale el purgador. Retire la tuerca deslizante y el obturador del purgador e instáloselos en la tubería de descarga del enfriador, asegurándose de que el extremo de la tubería de descarga encaje en el purgador. Ensamble la tuerca deslizante y el obturador en el purgador y apriete firmemente.

**IMPORTANTE:** Si llega a ser necesario cortar la tubería de descarga, afloje el tornillo en el fuelle negro de goma y retire la tubería, después del reensamblaje, compruebe que no haya pérdidas.

- 7) Enchufe la alimentación eléctrica.

**INICIO****También consulte las Instrucciones Generales**

- 8) La altura del chorro viene predefinida de la fábrica en 35 psi. Si la presión de la fuente varía grandemente de esto, ajuste el tornillo situado en el lado izquierdo debajo de la barra del empuje ass'y. en la barra transversal. Un ajuste en el sentido de las manecillas del reloj alzará al chorro y un ajuste en el sentido contrario a las manecillas del reloj bajará el chorro. Para lograr el mejor ajuste, el chorro debe caer al estanque aproximadamente un 6-1/2 pulg. (165 mm) del grifo en la inclinación hacia abajo del estanque.

**NOTA:** Si ocurre un flujo continuo al fin del ciclo del compresor, gire el control del agua fría una cuarta vuelta en el sentido contrario a las manecillas del reloj.

- 9) Reemplace el panel frontal asegurando que la envoltura metálica está bien sujeta dentro de la cubierta superior. Reemplace todos los cuatro tornillos previamente retirados.

**LIMPIEZA**

Se puede usar agua tibia enjabonada o un producto no abrasivo de limpieza para limpiar los paneles exteriores de los enfriadores EZ. Debe usar mucho cuidado al limpiar los paneles de acero inoxidable de acabado espejo. Es muy fácil rayarlos y únicamente debe limpiarse con jabón no abrasivo y agua o con el limpiador de vidrios Windex y un paño limpio y suave. El uso de productos químicos o limpiadores abrasivos o aquellos basados en petróleo **anulará la garantía.**

**SUPPORTS DE CROCHET DE SUSPENSION  
INSTALLATION**

- 1) Retirez le support de suspension fixé au dos du refroidisseur en retirant une (1) vis.
- 2) Montez le support de suspension comme indiqué dans la figure 2 et 3.

**REMARQUE:** Le support de suspension doit être accroché sûrement. Renforcez le soutien du mur par l'ajout d'un élément porteur fixe si le mur ne peut pas, à lui tout seul, offrir un soutien suffisant. Fixez le support au mur en utilisant des trous de fixation de 6 pouces ¼ de diamètre.

**INSTALLATION DU REFRIGÉRISEUR**

- 3) Pendez le refroidisseur au support de suspension. Assurez-vous que le support est correctement inséré dans les emplacements au dos du refroidisseur, comme indiqué dans la figure 2 et 3.
- 4) Retirez les four (4) vis maintenant en place le panneau frontal au bas du refroidisseur. Retirez le capot inférieur en tirant vers le bas et mettez-le de côté.
- 5) Reliez l'alimentation en eau -- Référez-vous à la remarque 4 des Instructions Générales.
- 6) Mettez en place le siphon. Retirez l'écrou coulissant et le joint statique du siphon et installez-les sur la conduite résiduaire du refroidisseur en vérifiant bien que l'extrémité de la conduite résiduaire entre dans le siphon. Installez l'écrou coulissant et le joint statique au siphon et serrez fortement.

**IMPORTANT:** Au cas où il serait nécessaire de couper le drain, désérrez la vis située sur la gaine noire en caoutchouc et retirez le tube, puis vérifiez qu'il n'y a pas de fuites avant de remonter.

- 7) Branchez l'alimentation électrique.

**DEMARRAGE****Voir également le chapitre Instructions Générales**

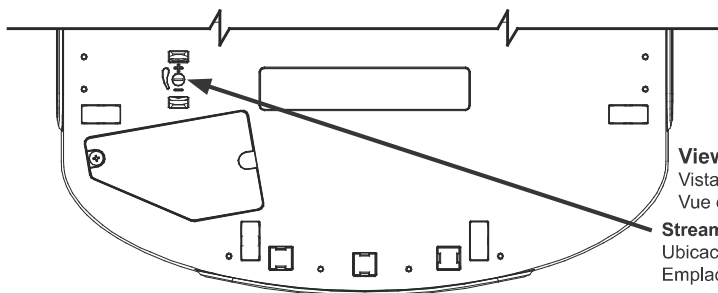
- 8) La pression de la vapeur a été réglée en usine à 35 psi. Si la pression d'alimentation change considérablement de ceci, ajustez la vis plac du côté gauche au-dessous de la barre de poussée ass'y. sur la barre transversale Le réglage dans le sens des aiguilles d'une montre augmente le jet, et dans le sens inverse le diminue. Pour un meilleur réglage, le jet doit frapper le bassin à une distance d'environ 6 pouces et demi (165 mm) du barboteur sur la pente descendante du bassin.

**REMARQUE:** Si un flot continu se déclenche à la fin du cycle de compression, tournez le Contrôle de refroidissement d'un quart de tour dans le sens inverse des aiguilles d'une montre.

- 9) Remettez le panneau frontal en place en vérifiant que le couvre-joint métallique est bien installé à l'intérieur de l'enveloppe de protection supérieure. Révissez les four vis otées précédemment.

**ENTRETIEN**

Utiliser de l'eau tiède savonneuse ou des produits de nettoyage domestiques doux pour nettoyer les panneaux extérieurs des refroidisseurs EZ. Une prudence supplémentaire est requise lors du nettoyage du miroir ou des panneaux inox. Ces éléments peuvent se rayer facilement et doivent être uniquement nettoyés à l'aide de savon doux et d'eau ou de liquide nettoyant pour vitres Windex et d'un chiffon doux et propre. L'utilisation de produits chimiques corrosifs et de nettoyeurs abrasifs ou dérivés du pétrole **annulera la garantie constructeur.**

**View of Underside of Basin Shroud**

Vista de la parte inferior de la cuenca cubierta  
Vue de dessous du bassin du Saint-Suaire

**Stream Height Adjustment Location**

Ubicación de ajuste de altura de corriente  
Emplacement de réglage hauteur Stream

## Service Instructions

### Lower and Upper Shroud

To access the refrigeration system and plumbing connections, remove four screws from bottom of cooler to remove the lower shroud. To remove the upper shroud for access to the pushbars, regulator, solenoid valve or other components located in the top of the unit, remove lower shroud, disconnect drain, remove four screws from tabs along lower edge of upper shroud, unplug two wires and water tube.

### Bubbler

To remove the bubbler, first disconnect the power supply. The underside of the bubbler can be reached through the access panel (Item 15 in Fig.1) on the underside of the upper shroud (Item 2 in Fig.4). Remove the access panel by removing the retaining screw. To remove the bubbler, loosen locknut from the underside of the bubbler and remove the tubing from the quick connect fitting per the Operation Of Quick Connect Fittings section in the General Instructions. After servicing, replace the access panel and retaining screw.

### Switches Behind the Push Bar

The regulator in an EZ cooler is always held fully open by the use of a single regulator nut (See Fig. 4). Water is not dispensed until the pushbar is depressed to activate a switch which then opens a solenoid valve. When installing the regulator nut, the regulator spring must be depressed while turning the nut.

To remove sidebars, from the inside compress the flared tabs and pull out carefully. To reinstall side pushbars, the front of the pushbar is inserted first. While keeping the switch depressed, snap the rear of the pushbar into position.

## Atienda a Instrucciones

### Las cubiertas inferiores y superiores

Para obtener acceso al sistema de refrigeración y las conexiones de plomería, retire cuatro tornillos de la parte inferior del enfriador para así poder retirar la cubierta inferior. Para retirar la cubierta superior para obtener acceso a las barras tope de empuje, regulador, la válvula del solenoide u otros componentes ubicados en la parte superior de la unidad, retire la cubierta inferior, desconecte el tubo de desagüe, retire cuatro tornillos de las lengüetas a lo largo del borde inferior de la cubierta superior, desenchufe dos cables y la tubería de agua.

### Burbujeador

Para quitar el burbujeador, primero hay que desconectar la alimentación. Se puede obtener acceso a la parte inferior del burbujeador a través del panel de acceso (Elemento 15 en la figura 1) en la parte inferior de la cubierta superior (Elemento 2 en la figura 4).

Quite el panel de acceso sacando el tornillo de retención. Para retirar el burbujeador, suelte la contratuerca de la parte inferior del burbujeador y saque la tubería del accesorio de conexión rápida según descrito en la sección Funcionamiento de los Accesorios de Conexión Rápida en las Instrucciones Generales. Después de realizar el servicio, reemplace el panel de acceso y el tornillo de retención.

### Interruptores detrás de la barra tope de empuje

El enfriador EZ es parecido a un sensor fotoeléctrico en que el regulador siempre está completamente abierto pero no surte el agua hasta que la barra tope se empuje (figura 4). Se escuchará un sonido de chasquidos al activar el interruptor y la válvula del solenoide. Una sola tuerca del regulador mantiene abierto el regulador en todo momento. Al instalar la tuerca, es necesario presionar el resorte del regulador mientras gira la tuerca.

Para retirar las barras laterales, desde el interior, hay que contraer las lengüetas acampanadas y retire cuidadosamente. Para reinstalar las barras tope laterales, se debe introducir la parte frontal de las barras primero. Con el interruptor presionado, encaje con un chasquido la parte posterior de la barra tope en la posición correcta.

## Entretien des Instructions

### Enveloppes de Protection Supérieure et Inférieure

Pour accéder au système de réfrigération et aux raccords de plomberie, retirez les four vis situées au bas du refroidisseur pour retirer l'enveloppe inférieure.

Pour retirer l'enveloppe supérieure afin d'avoir accès aux boutons-poussoir, au régulateur, à l'électrovanne ou à tout autre composant situé au sommet de l'unité, retirez l'enveloppe inférieure, déconnectez le drain, retirez les quatre vis des pattes situées le long de l'arête inférieure de l'enveloppe supérieure, et débranchez les deux câbles ainsi que le raccordement en eau.

### Barboteur

Pour déposer le barboteur, débranchez d'abord l'alimentation électrique.

Le dessous du barboteur est accessible par le biais du panneau d'accès (Élément 15 de la fig 1) sur la face inférieure du collecteur d'air (Élément 2 de la fig 4). Déposez le panneau d'accès en retirant la vis de retenue. Pour déposer le barboteur, desserrez l'écrou de blocage du dessous du barboteur et retirez la tubulure à partir du raccord rapide conformément à la section Utilisation des raccords rapides dans les instructions générales. Une fois le travail terminé, remplacez le panneau d'accès et la vis de

### Interrupteurs derrière le bouton-poussoir

Le refroidisseur EZ a un fonctionnement similaire à celui d'un capteur photo-électrique, dans le sens où le réglage est toujours complètement ouvert mais ne dispense de l'eau que lorsque l'on presse le bouton-poussoir (composant 4). Un cliquetis se produit quand l'interrupteur et l'électrovanne se mettent en marche. Un seul écrou de réglage maintient le réglage en position ouverte en permanence. Lors de l'installation de l'écrou, le ressort de détente doit être en position relâchée pendant le réglage de l'écrou.

Afin de retirer les barres latérales, pressez les pattes évasées de l'intérieur et tirez doucement. Pour réinstaller les barres latérales, la partie avant est d'abord insérée. En gardant l'interrupteur relâché, encastrez l'arrière du bouton-poussoir en position.

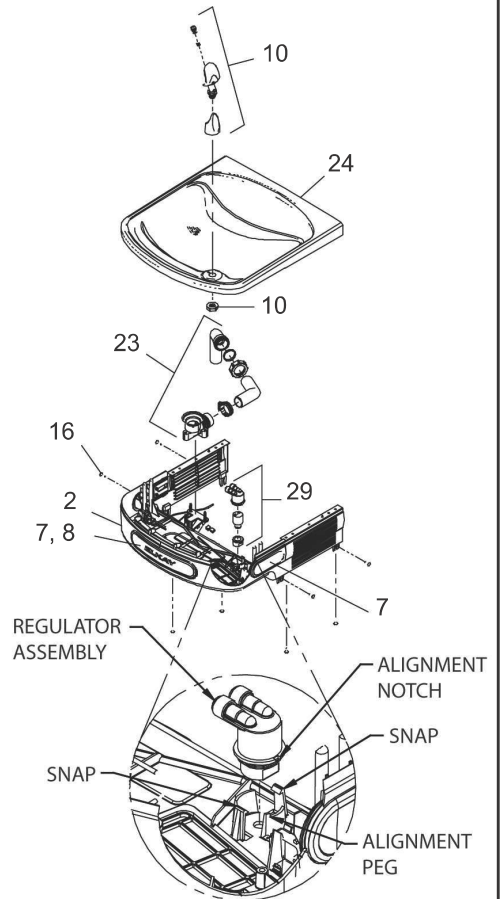
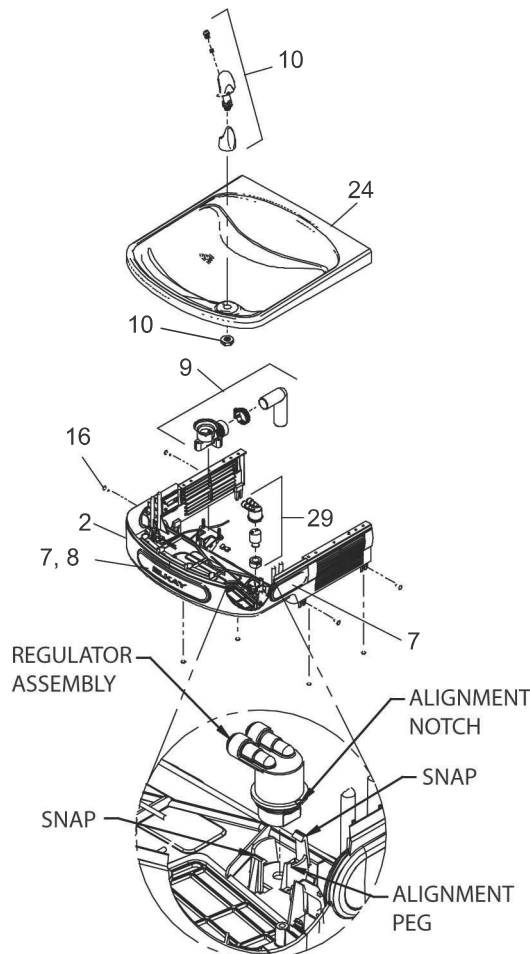


FIG. 4



1801597



**22 00 00 – PLUMBING**

**LOUIS MECHANICAL CONTRACTORS, LLC**

**(225)927-6520**

# AdvantagePlus Sealed-Combustion Gas-Fired Commercial Water Heaters



AdvantagePlus  
products manufactured  
after 5/31/2009



**No Chimney Required**

**Vents Up To 40 Feet Using 3" Schedule 40 PVC or CPVC Pipe**

**100,000 BTU and 130,000 BTU Models Are Certified To Vent With 2" Schedule 40 PVC, or CPVC Pipe**

**Warranty:**

**3 year storage tank and 2 years parts and components.**



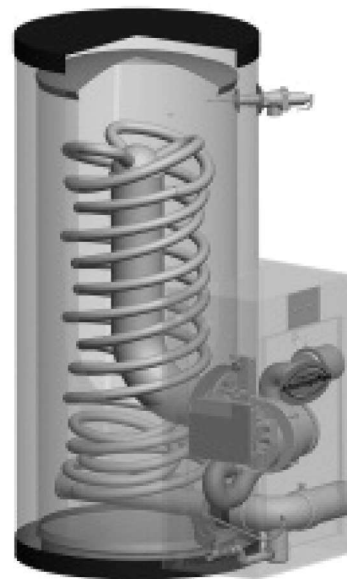
**Available in Sizes Ranging From 55 - 119 Gallon Models**

▶ **100,000 BTU/Hr. thru 199,000 BTU/Hr.**

**Rheem-Ruud AdvantagePlus™** Gas Commercial Water Heaters are specifically designed to provide customers with maximum savings on operation, space and installation. Designed with the most advanced technology available, these products optimize efficiency and operating reliability.

### Construction Features:

- 316L stainless steel tank construction (requires no anode rods).
- No chimney required; direct vent using plastic pipe.
- Thermal efficiency of 95% dramatically reduces operating costs.
- 85 equivalent feet of vent length.
- Low NO<sub>x</sub> emissions. Meets SCAQMD Rule 1146.2.
- High impact plastic jacket eliminates dents.
- 2" of non-CFC, polyurethane foam insulation.
- Less than 1/2 degree per hour heat loss (R17).
- Corrosion resistant, high efficiency 90/10 cupronickel heat exchanger.
- Self-diagnostic electronic control with digital readout for water temperature, set point and differential.
- Removable front cover allows easy access to equipment (24" service clearance recommended).
- Temperature range from 70°F to 160°F (maximum temperature setting of 180°F available on HE55-160 and HE55-199 booster models only).
- Zero clearance to all combustible surfaces.
- Factory installed AGA/ASME rated T&P relief valve.
- Booster installation kit provided with HE55-160 and HE55-199 booster models.



### Certifications and Ratings:

The water heaters are UL/ULC listed and exceed the minimum efficiency and standby loss requirements of current ASHRAE standards. All water heaters are supplied with an AGA/ASME rated temperature and pressure relief valve. The control panel is an integrated solid state temperature and ignition control device with integral diagnostics, LED fault display capability and a digital display of temperature settings. All models are North Carolina Code compliant. Meet all safety and construction requirements of ANSI Z21.10.3.

**CERTIFIED FOR A 150 PSI MAXIMUM WORKING PRESSURE.**

2538592

# Maintenance

Properly maintained, this water heater will provide years of dependable, trouble free service. It is strongly suggested that a regular routine maintenance program be established and followed by the owner. It is further recommended that a periodic inspection of the relief valve and venting system should be made by service technicians qualified in gas appliance repair.

## 1. ROUTINE PREVENTIVE MAINTENANCE

- A. **PRESSURE SWITCH** — Inspect the inlet to the pressure switch and the tubing for debris or blockage. Clean out the tubing periodically to prevent buildup of debris.
- B. **COLLECTOR PAN** — Remove any particles.
- C. **CONDENSATE TRAP** — Check for blockages.
- D. **ELECTRICAL CONNECTIONS** — Periodic inspection of all electrical connections and wiring conditions.

### CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

### CAUTION

#### VERIFY PROPER OPERATION AFTER SERVICING !

Make certain all power to the water heater is turned "OFF" before performing any maintenance or inspection work on this water heater.

Before manually operating the relief valve, make certain no one will be exposed to the danger of coming in contact with the hot water released by this valve. The water may be hot enough to create a SCALD hazard. The water released should be directed to a suitable drain to prevent injury or damage.

**NOTICE: If the temperature and pressure relief valve on the water heater discharges periodically, this may be due to thermal expansion in a "closed" water system. Contact the water supplier or local plumbing inspector on how to correct this. DO NOT plug the relief valve outlet.**

- E. **TANK**— Good maintenance requires that the tank be cleaned of deposits. Unless the water supply is soft (0 to 5 grains hardness), scale or lime deposits will accumulate in the tank. Hard water scale is deposited at an increasingly high rate in proportion to increased water temperature. Accumulation of these deposits may reduce efficiency, and shorten the life of the water heater.

Any new installation should have a tank inspection program set up initially for frequent inspection. The first inspection should be within a six month period. Once the scaling tendencies have been established, the inspection program can be modified to suit the water conditions. Cleaning should be performed if the scale has accumulated above the drain valve opening.

A wet-dry shop vac with a nozzle fashioned from 1" and/or 3/4" polyethylene pipe makes a good tool for scraping and removing scale.

#### TO CLEAN OR INSPECT TANK:

1. Shut off gas valve and drain tank.
2. Remove the tank clean-out cover on the jacket and, with a pocket knife, cut and remove a circular plug of insulation the full size of the jacket opening.
3. Loosen the nut on the seal plate assembly enough to twist the yoke sideways. Hold the assembly securely and push inward, then remove the assembly from the tank.
4. Remove as much built-up scale from the flue tubes and the tank bottom as practical. Do not allow the cleaning tool to damage the glass lining.
5. Clean the seal plate and install a new gasket. Wipe clean the interior surface of the tank that contacts the gasket. Reinstall the seal plate and tighten in position. Fill the tank with water and check for leaks. If no leaks are found, install the insulation plug and clean-out cover on the jacket and re-light the water heater.

If chemical lime dissolving cleaners are preferred, cautiously follow the instructions supplied with the cleaner. **DO NOT** use a muriatic or hydrochloric acid (HCl) base cleaner.

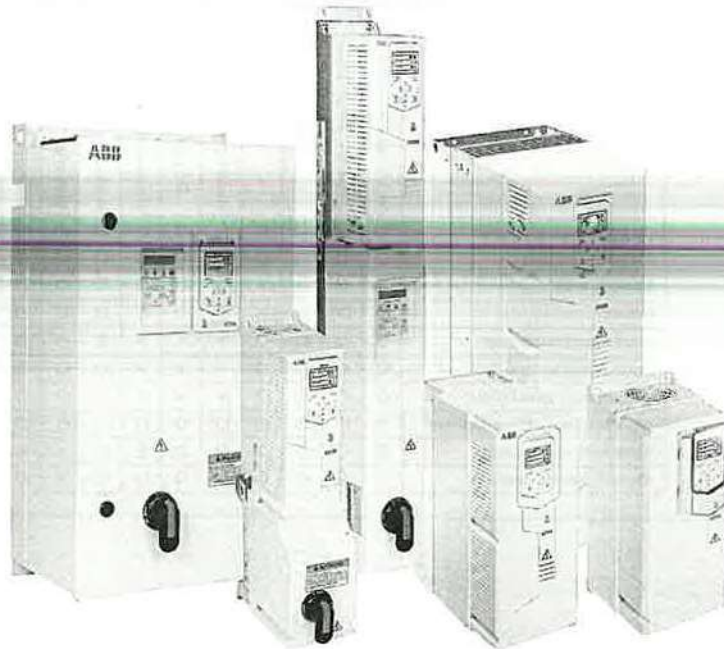
2. **SEASONAL OPERATION** - If the water heater is to remain idle for an extended period (60 days or more) the heater should be turned off. The water heater and piping should be drained if they might be subjected to freezing temperatures. It is recommended that the water heater's operation is thoroughly checked (by a qualified service technician) before it is placed back in service. **NOTICE:** Refer to the Hydrogen Gas caution notation on page 32.
- F. **VENTING SYSTEM** — Inspect the venting system at least yearly to make certain the passageways are free and unobstructed, and that the vent connector from the water heater's blower assembly is properly positioned and securely attached. Remove any obstructions in the vent connector or vent terminal.

3980131

**23 00 00 – HVAC**  
**TEMPERATURE CONTROLS, INC**  
**(225)644-8525**

## ACH580

**Installation, Operation and Maintenance Manual (I, O & M)**  
**ACH580-01 HVAC Drives (0.75...250 kW, 1...350 HP)**  
**ACH580-BCR/BDR/VCR/VDR E-Clipse Bypass Drives**  
**(0.75...150 kW, 1...200 HP)**  
**ACH580-PCR/PDR Packaged Drives with Disconnect**  
**(0.75...150 kW, 1...200 HP)**



**ABB**

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## Maintenance

### Maintenance intervals

If installed in an appropriate environment, the drive requires very little maintenance. This table lists the routine maintenance intervals recommended by ABB for ACH580 enclosures in addition to the intervals on page 81.

Maintenance	Configuration	Interval	Instruction
Check/replace hinged door wall mount enclosure inlet air filter	Hinged door wall mount UL (NEMA) Type 12 enclosures	Check every 3 months. Replace as needed.	Enclosure air filter replacement B3 – UL (NEMA) Type 12 hinged door wall mount enclosures on page 150.

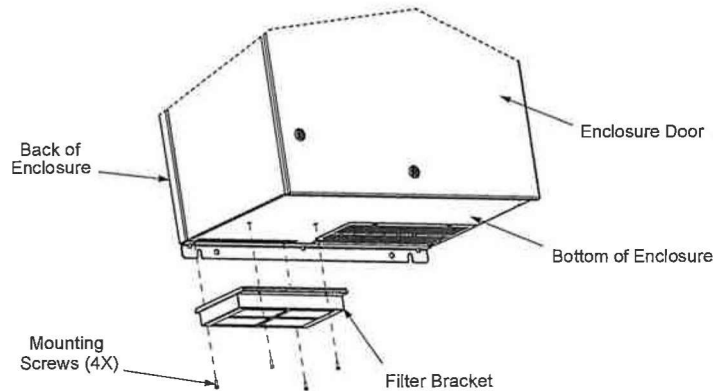
### Enclosure air filter replacement B3 – UL (NEMA) Type 12 hinged door wall mount enclosures

#### Filter material

Material	Filter Type
American Air Filter (358-35-06A-12A)	POLYKLEON WHITE 12.7mm (1/2 in.) X 152.4mm (6 in.) X 304.6mm (12 in.) stk.

This procedure applies to drive with input disconnect configurations in UL (NEMA) Type 12 hinged door wall mount enclosures. This filter is located at the bottom of the enclosure. Use the following procedure to check and replace filters.

1. On the enclosure, remove the screws holding the filter bracket in place.
2. Remove the filter kit from the enclosure.



3. Lift the filter out of the filter bracket and replace as appropriate.
4. With the filter in the filter bracket, reinstall filter kit onto enclosure.
5. Replace the mounting screws. Tighten to the recommended torque of 2 N·m (1.47 ft-lbs) per installation instruction 3AXD50000221370.

## Diagnostics

Refer to the *Diagnostics* instructions on page 57.

**23 00 00 – HVAC**  
**TEMPERATURE CONTROLS, INC**  
**(225)644-8525**



## OPERATION MANUAL

# VRV System air conditioner

### MODEL

REYQ72XATJU	REYQ72XAYDU	REYQ72XAYCU
REYQ96XATJU	REYQ96XAYDU	REYQ96XAYCU
REYQ120XATJU	REYQ120XAYDU	REYQ120XAYCU
REYQ144XATJU	REYQ144XAYDU	REYQ144XAYCU
REYQ168XATJU	REYQ168XAYDU	REYQ168XAYCU
REYQ192XATJU	REYQ192XAYDU	REYQ192XAYCU
REYQ216XATJU	REYQ216XAYDU	REYQ216XAYCU
REYQ240XATJU	REYQ240XAYDU	REYQ240XAYCU
REYQ264XATJU	REYQ264XAYDU	REYQ264XAYCU
REYQ288XATJU	REYQ288XAYDU	REYQ288XAYCU
REYQ312XATJU	REYQ312XAYDU	REYQ312XAYCU
REYQ336XATJU	REYQ336XAYDU	REYQ336XAYCU
REYQ360XATJU	REYQ360XAYDU	REYQ360XAYCU
REYQ384XATJU	REYQ384XAYDU	REYQ384XAYCU
REYQ408XATJU	REYQ408XAYDU	REYQ408XAYCU
REYQ432XATJU	REYQ432XAYDU	REYQ432XAYCU
REYQ456XATJU	REYQ456XAYDU	

English

Français

Español

Read these instructions carefully before installation.  
Keep this manual in a handy place for future reference.  
This manual should be left with the equipment owner.

Regarding the operation procedures of the remote controller,  
refer to the manual included to the corresponding remote controller.

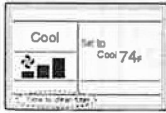


# Maintenance

## Reset Filter Indicator

### Operation

1



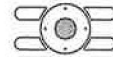
• When it is time to clean or replace the filter, one of the following messages will appear on the bottom of the basic screen.

- “Time to clean filter”
- “Time to clean filter & element”
- “Time to clean element”

• Wash, clean, or replace the filter or element.  
For details, refer to the Operation Manual supplied with the indoor unit.

2

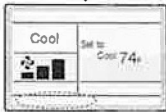
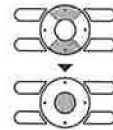
- Reset the filter indicator when the filter or element is cleaned or replaced.
- Press Menu/OK button.  
The main menu screen will appear.



3



- Press ▼▲ buttons to select **Reset Filter Indicator** on the main menu screen and press Menu/OK button.



- The message shown in illustration 1 will disappear from the basic screen when the filter sign is reset.

## Maintaining the Unit and LCD Display

- Wipe the LCD and surface of the remote controller with a dry cloth when they become dirty.
- If the dirt on the surface cannot be removed, soak the cloth in neutral detergent diluted with water, squeeze the cloth tightly, and clean the surface. Wipe the surface with a dry cloth.

### Note

- Do not use any paint thinner, organic solvent, or strong acid.

## Optimum Operation

Observe the following precautions to ensure the system operates properly.

- Prevent direct sunlight from entering a room during cooling operation by using curtains or blinds.
- Do not leave doors and windows open. If the doors and windows remain open, air will flow out of your room causing a decrease in the cooling or heating effect.
- Do not use other heating devices directly beneath the indoor unit.  
If you do, they might get deformed by the heat.
- Never place objects near the air inlet or the air outlet of the unit. It may cause deterioration in the effect or stop the operation.
- Adjust the room temperature properly for a comfortable environment. Avoid excessive heating or cooling.
- Ventilate often.  
Extended use requires special attention to ventilation.
- Keep the indoor unit and remote controller at least 3.5 ft. (1 m) away from televisions, radios, stereos, and other similar equipment.  
Failing to do so may cause static or distorted pictures.
- Turn off the main power supply switch to the unit when the unit is not used for longer periods of time. If the switch is on, it uses electricity. Before restarting the unit, turn on the main power supply switch 6 hours before operation to ensure smooth running. (Refer to the chapter "Maintenance" in the indoor unit manual.)
- Fully use the function of air flow direction adjust.  
Cold air gathers on the floor, and warm air gathers in the ceiling.  
Set the air flow direction parallel during cooling or dry operation, and set it downwards during heating operation.  
Do not let the air blow directly to a person.
- It takes time for the room temperature to reach the set temperature.  
We recommend starting the operation in advance using schedule operation.

## Seasonal Maintenance

### Caution

- Do not touch the air inlets or aluminum fins of the outside or indoor units.  
Touching them may result in injury.
- Do not wash the outside or indoor units with water.  
An electric shock or fire may result.
- Watch your steps at the time of air filter cleaning etc.  
If the scaffold is unstable, you may fall or topple down, thus causing injury.
- Be sure to stop the operation, and turn the breaker off before cleaning.  
This may cause electric shock and injury.
- Consult with the dealer for cleaning the interior of the indoor units.  
Incorrect cleaning may damage the plastic parts and cause failures, such as water leakage, and an electric shock may result.

### ■ At the beginning of the season

#### Check

- Are the indoor and outdoor unit intake and outlet vents blocked?  
Remove anything that might be blocking them.

#### Clean the exterior.

- See the Operation Manual included with the indoor unit for details on how to clean it.

#### Turn the power on.

- When the power comes on, the characters in the remote controller display appear.  
(To protect the unit, turn the power on at least 6 hours before operating it. This makes operation smoother.)

### ■ At the end of the season

#### On a clear day, use fan operation for around half a day to thoroughly dry out the interior of the unit.

- This step is performed to prevent buildup of mold and other harmful organisms.

#### Turn off the power.

- When the power is shut off, the characters in the remote controller display disappear.
- When the power is on, the unit consumes up to several dozen Watts of power.  
Turn off the power to conserve energy.

#### Clean the exterior.

- See the Operation Manual included with the indoor unit for details on how to clean it.

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**TEMPERATURE CONTROLS, INC**  
**(225)644-8525**

**DAIKIN**



# OPERATION MANUAL

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## ***VRV*** SYSTEM Inverter Air Conditioners

---

### MODELS

#### Ceiling-mounted Duct type

FXMQ07PBVJU  
FXMQ09PBVJU  
FXMQ12PBVJU  
FXMQ15PBVJU  
FXMQ18PBVJU  
FXMQ24PBVJU  
FXMQ30PBVJU  
FXMQ36PBVJU  
FXMQ48PBVJU  
FXMQ54PBVJU

English

Français

Español

## NAME OF PARTS

Refer to figure 1 on page [1]

1. Air outlet (Field supply)
2. Exhaust duct (Field supply)
3. Drain pipe
4. Connection piping
5. Transmission wiring
6. Remote controller (Field supply)
7. Drain discharge device (built-in)  
Discharges indoor moisture removed during cooling operation.
8. Power line
9. Ground wiring  
This wire releases electricity from the indoor unit to the ground in order to prevent electric shock or fire.
10. Air filter (inside filter chamber) (Field supply)
11. Suction filter chamber (Field supply)
12. Suction duct (Field supply)
13. Machine nameplate  
The nameplate is imprinted with the machine name and specifications.
14. Suction grille (Field supply)

## MAINTENANCE

### WARNING

- Only a qualified person is allowed to perform maintenance without daily maintenance.
- Before touching any of connection wirings, be sure to turn off all power supply switches.
- Do not use flammable materials (e.g., hairspray or insecticide) near the product.  
Do not clean the product with organic solvents such as paint thinner.  
The use of organic solvents may crack the product, or cause electric shocks or fire.
- Contact professional personnel about attachment of accessories and be sure to use only accessories specified by the manufacturer.  
If a defect results from your own workmanship, it may result in water leaks, electric shock, or fire.

### CAUTION

- Before cleaning, be sure to stop unit operation, turn the breaker off or remove the power cord.  
Otherwise, an electric shock and injury may result.
- Do not wash the air conditioner with water, as this may result in electric shocks or fire.
- Consult your dealer regarding cleaning the inside of the air conditioner.  
Improper cleaning may cause breakage of plastic parts, water leakage, electric shocks and other damages.
- Watch your step at the time of air filter cleaning or inspection.  
Working is required in high areas, so extra caution must be exercised.  
If the scaffold is unstable, you may fall or topple down, thus causing injury.

## HOW TO CLEAN THE AIR FILTER

(The air filter is a field supply.)

Clean the air filter when the message **Time to clean filter** is displayed.

- This message is displayed once the unit has operated for a certain amount of time.
- Always clean the air filter at the beginning of the heating or cooling season.  
Dust and dirt in the air filter reduce airflow, lowering the unit's capacity.
- Clean the air filter more frequently when using the unit in an environment with a higher content of pollution.

### NOTES

- Do not remove the air filter for other than cleaning purposes. Doing so may cause damage to the unit.  
(The unit does not include an air filter as standard equipment.)
  - Do not install any object other than a proper air filter in the suction inlet (for example, a paper towel). Doing so may result in degraded performance and cause freezing or water leakage.
1. Reset the filter message when the filter is cleaned or replaced.  
The **Time to clean filter** message turns OFF.  
Refer to the operation manual provided with the Remote controller for the positions of the **Time to clean filter** message and how to reset the message.

## HOW TO CLEAN AIR OUTLET AND OUTSIDE PANELS (Field supply)

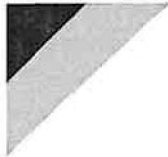
1. Clean with soft cloth.
2. When it is difficult to remove stains, use water or neutral detergent.

### NOTES

- Do not use gasoline, benzene, thinner, polishing powder, liquid insecticide. It may cause discoloring or warping.
- Do not let the indoor unit get wet. It may cause an electric shock or a fire.
- Do not use hot water of 122°F (50°C) or higher, as doing so may result in discoloration or deformation.

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# OPERATION MANUAL

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## ***VRV* SYSTEM Inverter Air Conditioners**

---

MODELS

Ceiling Mounted Cassette type (Multi Flow)

FXZQ05TAVJU

FXZQ07TAVJU

FXZQ09TAVJU

FXZQ12TAVJU

FXZQ15TAVJU

FXZQ18TAVJU

English

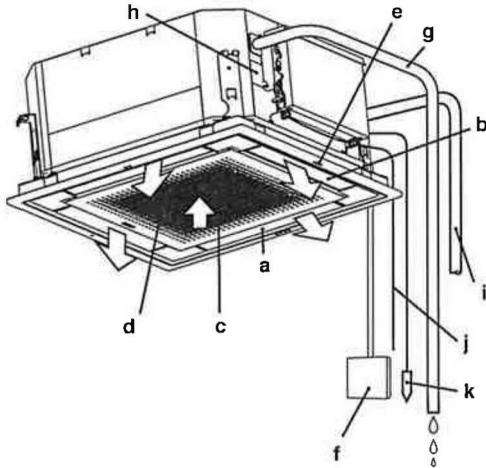
Français

Español

## CONTENTS

SAFETY CONSIDERATIONS.....	[i] [ii]
1. NAMES AND FUNCTIONS OF PARTS.....	1
2. MAINTENANCE (FOR SERVICE PERSONNEL).....	1

### 1. NAMES AND FUNCTIONS OF PARTS



a	Air outlet Fan airflow can be set to auto (Note) or 1 of 3 settings from the remote controller. (Note) Auto fan speed control is only available when using the BRC1E73 remote controller.
b	Horizontal blade (inside air outlet) Vertical airflow direction can be set to auto, swing, or 1 of 5 settings from the remote controller.
c	Suction grille (Refer to "2. MAINTENANCE")
d	Air filter (inside suction grille) (Refer to "2. MAINTENANCE")
e	Air outlet identification mark (□, □□, □□□, □□□□) Use this mark as a reference for setting the airflow direction. (only for BRC1E73)
f	Remote controller (optional part) The remote controller may not be needed depending on the system configuration.
g	Drain piping
h	Draining pump (built-in) It drains moisture in the room removed during the cooling operation.
i	Refrigerant piping
j	Transmission wiring (field installed) Power supply wiring (field installed)

k	Ground wiring (Note) (Note) Ground wiring allows electricity flow from the indoor unit to the ground for prevention of electric shocks or a fire in case of emergency.
---	---

### 2. MAINTENANCE (FOR SERVICE PERSONNEL)

#### ONLY A QUALIFIED SERVICE PERSON IS ALLOWED TO PERFORM MAINTENANCE

##### ⚠ WARNING

- Do not use flammable gas (such as hair sprays and insecticides) near the air conditioner.
- Do not wipe the air conditioner with benzine or thinner. It may cause cracks, electric shocks or a fire.
- Never put your fingers or rods in the air inlet, air outlet or horizontal blade. The fan is rotating at high speed, so you would get injured.

##### ⚠ CAUTION

- Do not wash the air conditioner with water. It may cause electric shocks or a fire due to leakage.
- Make sure to turn off the air conditioner when taking care of the air conditioner and disconnect the power supply breaker.  
Unless the power supply is disconnected, it may cause electric shocks and injuries.
- When working at a high place, give caution to your footing.  
If the scaffold is unstable, it may cause injuries due to fall and stumbling.

##### NOTE

- Do not remove the air filter except for cleaning. Operating the unit without an air filter may result in failure.
- Do not attach substances (such as paper towels) other than the specified air filter to the air inlet. The performance may drop and cause freeze-up/water leakage.

#### HOW TO CLEAN THE AIR FILTER

When the remote controller indicates "Time to clean filter", clean the air filter.

- The indication is made after the system runs for a defined period of time.

##### NOTE

- You may change the time of indication "Time to clean filter". If the indoor unit is used in a space where the air is more contaminated, ask your local dealer for solution.

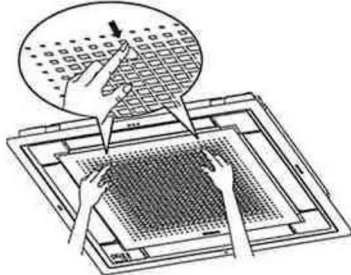
Dust level	Time until indication is displayed
Normal	2500 hours (equivalent to one year)
More contaminated	1250 hours (equivalent to a half year)

- If it becomes difficult to remove dust from the air filter, replace the air filter.  
(The replacement air filter is an optional accessory.)



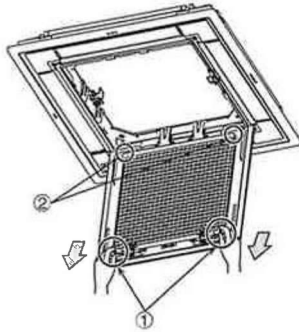
**1. Open the suction grille.**

Push the two tabs and slowly let the suction grille down.

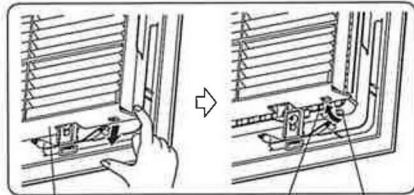


**2. Take out the air filter.**

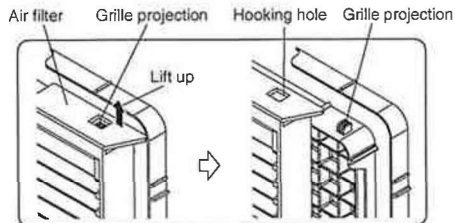
Carry out the work in the order mentioned below.



① Pull the air filter end inclined downward and unhook the hooking hole of the air filter from the projection of the grille. (both right and left)



② Lift the air filter and unhook the hooking hole of the air filter from the projection at the grille upper part. (both left and right)



**3. Clean the filter.**

Clean the dust with a vacuum cleaner or wash it with water.

If the air filter is extremely dusty, wash it with neutral detergent using a soft brush.



After dewatering, dry the air filter in the shade.

**NOTE**

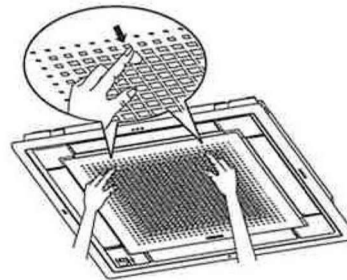
- Do not wash the air filter with hot water of 122°F (50°C) or higher. It may cause decolorization and deformation.
- When drying the filter, do not heat it with fire. It may cause burning.
- Do not use chemicals such as gasoline, benzene, thinner, polishing powder and liquid insecticide sold in the market. It may cause discoloration and deformation.

**4. Attach the air filter.**

Attach the air filter in the reverse order mentioned in step 2 (page 2).

**5. Close the suction grille.**

Slowly push up the suction grille, and finally while pushing the two tabs, securely fix the suction grille to the decoration panel.



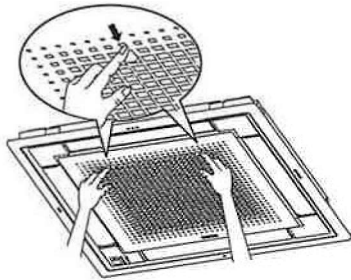
**6. Turn off the indication "Time to clean filter" displayed on the remote controller after turning on the power.**

- For details, refer to the operation manual attached to the remote controller. The indication can be turned off whether in operation or at stop.

## HOW TO CLEAN THE SUCTION GRILLE

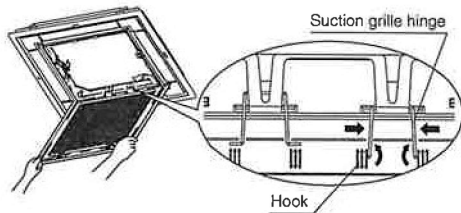
### 1. Open the suction grille.

Push the two tabs and slowly let the suction grille down.



### 2. Remove the suction grille.

Open the suction grille to roughly a 90° angle, and while holding the suction grille with one hand, squeeze the suction grille hinge in the direction of the arrows and out of the hooking holes and remove the suction grille. (2 locations)



### 3. Take out the air filter.

Refer to step 2 of "HOW TO CLEAN THE AIR FILTER". (page 2)

### 4. Clean the suction grille.

Wash the suction grille with neutral detergent using a soft brush and then de-water.



When the suction grille is extremely dusty

- Spray a detergent for ventilating fans and ranges directly on to the suction grille, and allow it to penetrate for about 10 minutes.  
After that, carefully wash the suction grille with water.

#### NOTE

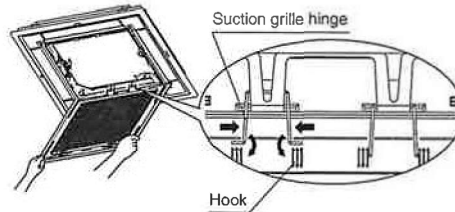
- Do not wash the suction grille with hot water of 122°F (50°C) or higher.  
It may cause discoloration and deformation.
- When drying the suction grille, do not heat it with fire. It may cause burning.
- Do not use chemicals such as gasoline, benzene, thinner, polishing powder and liquid insecticide sold in the market.  
It may cause discoloration and deformation.

### 5. Attach the air filter.

Refer to step 4 of "HOW TO CLEAN THE AIR FILTER". (page 2)

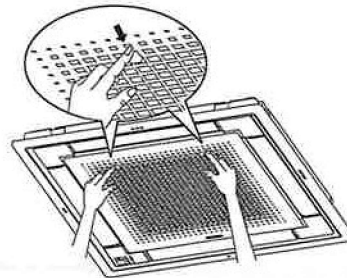
### 6. Attach the suction grille.

Position the suction grille to a roughly 90° angle, and while holding the suction grille with one hand, squeeze the suction grille hinge in the direction of the arrows and hook them into the hooking holes. (2 locations)



### 7. Close the suction grille.

Slowly push up the suction grille, and finally while pushing the two tabs, securely fix the suction grille to the decoration panel.



## HOW TO CLEAN OUTSIDE PANELS AND REMOTE CONTROLLER

- Wipe them with a dry soft cloth.
- If the stain cannot be wiped off, dip the cloth in the neutral detergent diluted with water and twist the cloth.  
After wiping off stain with this cloth, wipe them with dry cloth.

#### NOTE

- Do not use chemicals such as gasoline, benzene, thinner, polishing powder and liquid insecticide sold in the market.  
It may cause discoloration and deformation.
- Do not wash them with hot water of 122°F (50°C) or higher.  
It may cause discoloration and deformation.

## ■ CLEANING BEFORE AND AFTER SEASONAL USE

### WHAT TO DO WHEN STARTING UP AFTER A LONG PERIOD OF NO USE

#### Confirm the following.

- Check that the air inlet and outlet of indoor and outdoor unit are not blocked.  
Remove any obstacle.  
Obstacles decrease the fan speed, and cause performance decrease and may damage the unit.

#### Clean the air filter.

- After cleaning the air filter, make sure to reinstall it.  
(Refer to "2. MAINTENANCE" on page 1.)  
For information on how to install, remove, or clean the optional air filter, refer to the installation manual attached to the air filter.
- Turn off the indication "Time to clean filter" displayed on the remote controller after turning on the power.
- For details, refer to the operation manual attached to the remote controller.  
The indication can be turned off whether in operation or at stop.

#### Turn on the power circuit breaker at least 6 hours before operation.

- This is required in order to activate the air conditioner smoothly, and to protect the air conditioner.
- The display on the remote controller will be shown when the power circuit breaker is turned on.

#### HEATING OPERATION within 6 hours after power is supplied to the air conditioner.

Some model series perform the following operation to protect the equipment.

If the HEATING OPERATION is performed within 6 hours after power is supplied to the air conditioner, the indoor fan stops for about 10 minutes during the outdoor unit operation to protect the equipment.

The above operation is performed not only for installation, but every time the power circuit breaker is turned off/on.

For comfortable use, do not turn off the power circuit breaker during seasonal use of the HEATING OPERATION.

### WHAT TO DO WHEN STOPPING THE AIR CONDITIONER FOR A LONG PERIOD

#### Turn on FAN OPERATION for a half day on a nice day and dry the indoor unit.

- This can prevent the causes of mold.

#### Turn off the power circuit breaker.

- When the power circuit breaker is on, some electricity is used even if the air conditioner is not operating.  
Turn off the power circuit breaker to save energy.
- When the power circuit breaker is off, there is no longer a display on the remote controller.

#### Clean the air filter.

- Be sure to reinstall the air filter after cleaning.  
(Refer to "2. MAINTENANCE" on page 1.)  
For information on how to install, remove, or clean the optional air filter, refer to the installation manual attached to the air filter.

#### NOTE

The inside of the air conditioner may become dusty after several seasons of use, potentially causing performance degradation and water leakage.

Ask your local dealer for details on cleaning the inside of the indoor unit. This operation requires a qualified service person.

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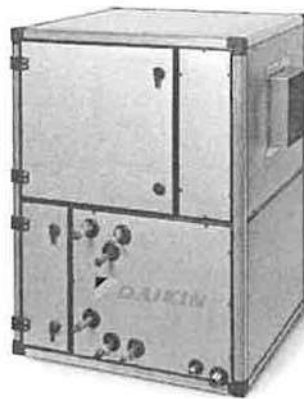
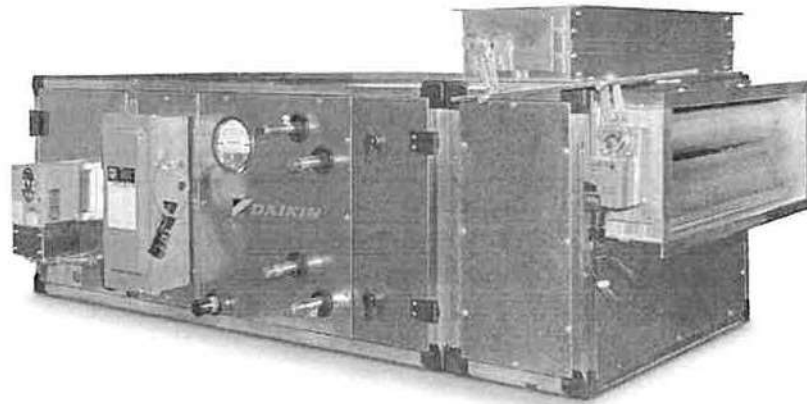
**Destiny™ Indoor Air Handler**

Group: Applied Air

Part Number: IM 782

Date: March 2012

Sizes 002 through 030



## Service and Maintenance

### Periodic Service and Maintenance

- 1 Check all moving parts for wear every six months.
- 2 Check bearing collar, sheave, and wheel hub setscrews, sheave capscrews, and bearing hold-down bolts for tightness every six months.

### Ball Bearing Lubrication

- 1 Motor bearings—All ball bearings are prelubricated and do not require additional grease during installation. However, periodic cleaning out and renewal of grease is necessary. Exercise extreme care when cleaning to prevent foreign matter from entering the bearing. It is also important to avoid over greasing. Only use a high grade, clean mineral grease with the following characteristics.
  - a Melting point preferably over 302°F (150°C).
  - b Does not separate by oil and soap under operating and storage conditions.
  - c Free of abrasive matter, acid, alkali, and moisture.
  - d Specific greasing instructions are located on a label attached to the fan section door.
- 2 Fan shaft bearings—All ball bearings are prelubricated and do not require additional grease during installation. Periodic greasing is necessary. Bearings are accessible in the fan section. A grease fitting is located on each side of the fan shaft. **Do not over lubricate.** Wipe off any excess grease to prevent overheating. The lubrication interval varies with the period of operation and temperature of the ambient air. Use the guidelines in the table below:

Table 35: Bearing Operating Temperature Range

Operation	Bearing operating temperature range		
	To 130°F (54°C)	To 150°F (66°C)	Over 150°F (66°C)
Continuous operation	6 months	4 months	2 months
12-hr/day operation	12 months	12 months	6 months

Figure 47: Fan Shaft Bearing Grease Fitting

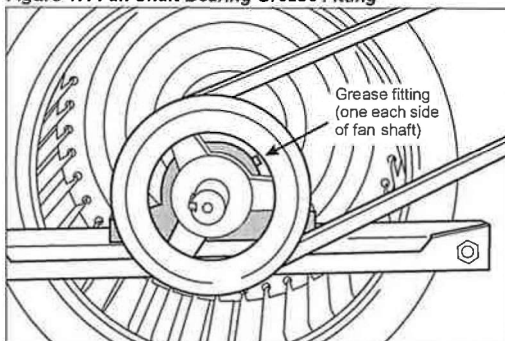


Table 36: Lubricants Recommended for Fan Shaft Ball Bearings

Manufacturer	Product name	Temperature range	
		°F	°C
Texaco Lubricants Company	Premium RB	-30 to 300	-34 to 149
Keystone Ind. Lubricants	81EP-2	0 to 250	-18 to 121
Mobil Oil Corporation	Mobilith SCH100	-40 to 350	-40 to 177
Exxon Company, U.S.A.	Ronex MP	-40 to 300	-40 to 149
Shell Oil Company	Alvania No. 2	-20 to 240	-29 to 116

Note: Note: Temperature ranges over 225°F are shown for lubricants only. High temperature applications are not suitable for standard air handler components.

### Fan Drive Adjustments

**⚠ WARNING**

**ROTATING FAN can cause severe injury or death.** Before servicing fans, lockout and tag out power. Do not open the hinged access door and access panels while the unit is operating. Moving parts and strong suction forces can cause severe personal injury or death. Before entering any fan section, make sure the electrical power source to the fan motor is disconnected, locked out and tagged out.

**⚠ AVERTISSEMENT**

**PIÈCES MOBILES DANGEREUSES.** Avant de réparer ou entretenir les ventilateurs, coupez l'alimentation électrique de cet appareil et bloquez le commutateur à OFF.

Upon completion of the air balance, replace the variable pitched motor sheave with a properly sized, fixed sheave. A matching fixed sheave provides longer belt and bearing life and vibration-free operation. Initially, it is best to have a variable pitched motor sheave for the purpose of air balancing. Once the balance is achieved, fixed sheaves maintain balancing and alignment more effectively. Replace the adjustable sheaves with fixed sheaves.

With the electrical power disconnected, locked and tagged out, measure the diameter of the V-belt outer surface where it passes around the sheave (pitch diameter). Calculate fan speed from the motor nameplate rpm.

$$\text{Fan rpm} = \text{Motor rpm} \times \frac{\text{Measured diameter at motor sheave}}{\text{Measured diameter at fan sheave}}$$

### VM and VP Variable Pitch Key Type Sheaves

#### Mounting:

- 1 Mount all sheaves on the motor or driving shaft with the setscrews **A** toward the motor.
- 2 Verify that both driving and driven sheaves are in alignment and that shafts are parallel.

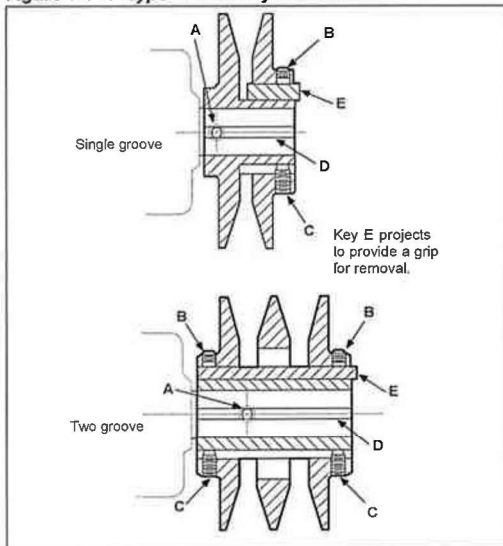
## Service and Maintenance

- 3 Fit internal key **D** between sheave and shaft and lock setscrew **A** securely in place.

### Adjusting:

- 1 Loosen setscrews **B** and **C** in moving parts of sheave and pull out external key **E**. (This key projects a small amount to provide a grip for removing.)
- 2 Adjust sheave pitch diameter for desired speed by opening moving parts by half or full turns from closed position.  
**Do not open more than five full turns for A belts or six full turns for B belts.**
- 3 Replace external key **E** and securely tighten setscrews **B** over key and setscrews **C** into keyway in fixed half of the sheave.
- 4 Put on belts and adjust belt tension.  
**Do not force belts over grooves.** See "Fan Drive Belt Adjustment" on page 28.
- 5 Make future adjustments by loosening the belt tension and increasing or decreasing the pitch diameter of the sheave by half or full turns as required. Readjust belt tension before starting drive.
- 6 Adjust both halves of two-groove sheaves the same number of turns from closed position to provide the same pitch diameter.
- 7 Verify that all keys are in place and that all setscrews are tight before starting drive. Check setscrews and belt tension after 24 hours service.

Figure 48: VP Type Sheave Adjustment



### LVP Variable Speed Sheaves

#### Mounting:

- 1 Slide sheave on motor shaft so that the side of the sheave with setscrew **A** is next to the motor, when setscrew **A** is in the hub or barrel of the sheave.
- 2 When setscrew **A** is at an angle in the center flange **B**, mount it away from the motor so the outer locking ring and flange can be removed to get to the setscrew.
- 3 To remove the flange and locking ring:
  - a Loosen setscrews **D**.
  - b Loosen but **do not remove** capscrews **E**.
  - c Remove key **F**. (This key projects a small amount to provide a grip for removing.)
  - d Rotate the flange counterclockwise until it disengages the threads on the sheave barrel.
- 4 Verify that the driving and driven sheaves are in alignment and the shafts are parallel. When aligning two-groove sheaves, allow room between the sheave and motor to get to capscrews **E**.
- 5 Insert key **C** between the sheave and the shaft and tighten setscrew **A** securely.
- 6 If flange and locking ring have been removed, when replacing them make sure that the inner and outer flanges are open from the closed position by the same amount as the other flange. Determine this by accurately measuring the top width of the grooves.
- 7 Insert key **F**.
- 8 Tighten setscrews **D** and capscrews **E**.
- 9 Put on belts and adjust belt tension. **Do not force belts over grooves.** See "Fan Drive Belt Adjustment" on page 28.
- 10 Be sure that all keys are in place and all setscrews and all capscrews are tight before starting the drive. Check and retighten all screws and retension belts after approximately 24 hours of service.

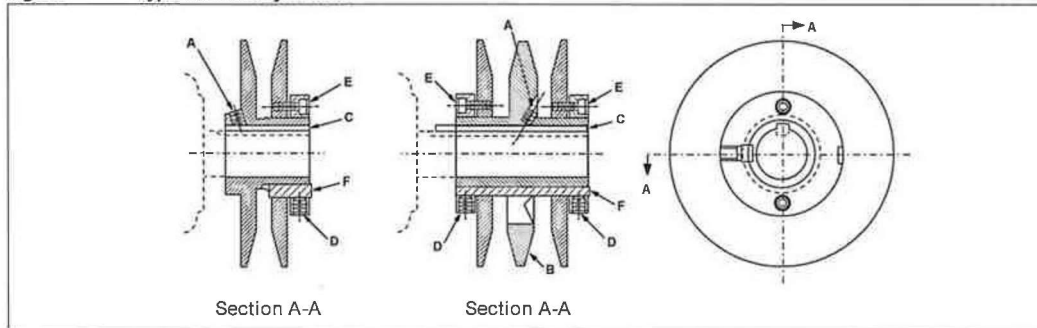
#### Adjusting:

- 1 Slack off belt tension if belts have been installed.
- 2 Loosen setscrews **D**.
- 3 Loosen but **do not remove** capscrews **E**.
- 4 Remove key **F**. (This key projects out a small amount to provide a grip for removing.)
- 5 Adjust pitch diameter by opening or closing the movable flanges by half or full turns. (Two-groove sheaves are supplied with both grooves set at the same pitch diameter.) **Move both movable flanges the same number of turns to provide the same pitch diameter for satisfactory operation. Do not open sheaves more than five turns for A belts or six turns for B belts.**
- 6 Replace key **F**.

## Service and Maintenance

- 7 Tighten setscrews **D** and capscrews **E**.
- 8 If belts have been installed, readjust belt tension. If belts have not been installed, install them and adjust belt tension. **Do not force belts over grooves.** See Fan Drive Belt Adjustment, page 52.
- 9 Verify that all keys are in place and all setscrews and all capscrews are tight before starting the drive. Check and retighten all screws and retention belts after approximately 24 hours of operation.

**Figure 49: LVP Type Sheave Adjustment**



### MVP Variable Speed Sheaves

#### Mounting:

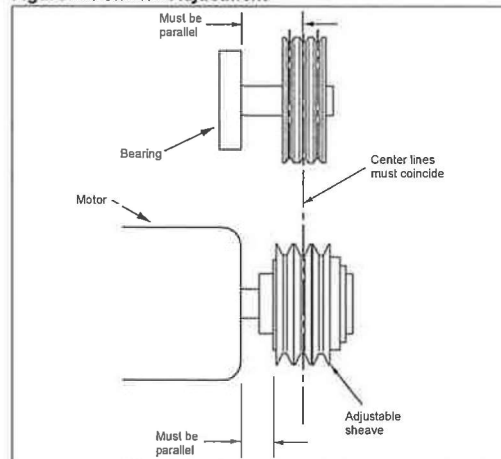
- 1 Verify that both driving and driven sheaves are in alignment and the shafts are parallel. The centerline of the driving sheave must be in line with the centerline of the driven sheave. See Sheave Adjustment.
- 2 Before starting drive, verify that all setscrews are torqued to the values shown in Table 37, page 51. Check setscrew torque and belt tension after 24 hours of service.

#### Adjusting:

- 1 Adjust motor base forward to release belt tension. For easier adjustment, remove the belts.
- 2 Loosen, but do not remove both of the locking setscrews **A** in the outer locking ring by using a hex key or torque wrench with a hex bit.
- 3 Adjust sheave to desired pitch diameter by turning the outer locking ring. Use a spanner wrench or drift inserted into the three holes that are located 120° apart on the ring.
- 4 Any pitch diameter can be obtained within the sheave range. One complete turn of the outer locking ring changes the pitch diameter 0.233".
- 5 Do not open sheaves more than the following amounts:
  - Do not open **B** sheaves more than 4 3/4 turns for the **A** belts or 6 turns for the **B** belts.
  - Do not open **C** sheaves more than 9 1/2 turns.
  - Do not open **5V** sheaves more than 6 turns.

- Do not open **8V** sheaves more than 8 turns.
- 6 Before operating the drive, tighten BOTH locking screws **A** in the outer locking ring. Use a torque wrench and tighten to the value shown in Table 37, page 51.
  - 7 Replace belts and adjust the motor base to tension the belts properly. See Fan Drive Belt Adjustment, page 52.
  - 8 Do not loosen any screws other than the two locking screws **A** in the outer locking ring when adjusting the sheave pitch. Do not operate the drive until the locking screws are set to the torque specifications.

**Figure 50: Sheave Adjustment**



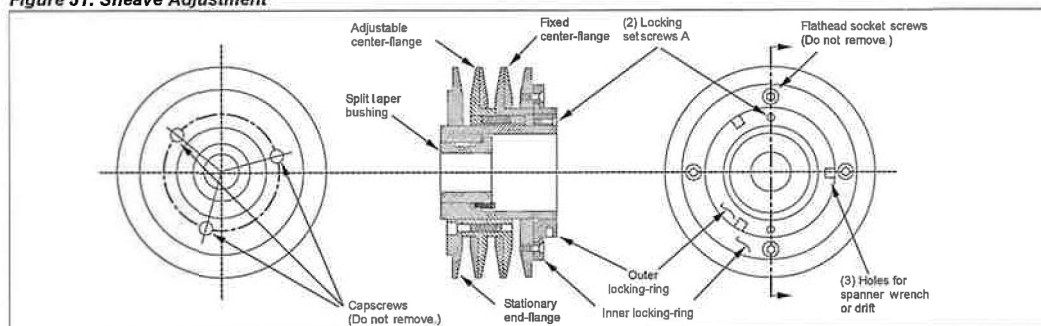


## Service and Maintenance

**Table 37: Screw Torque Values**

Nominal screw size (dia-thds/in)	Socket head cap screws		Flat head socket screws	Hollow head setscrews only			
	Seating torque			Lengths equal or greater than diameter		For lengths (L) less than diameter	
	(in-lbs)	(ft-lbs)	(in-lbs)	(in-lbs)	(ft-lbs)	Length (L) (in)	Seating torque (in-lbs)
1/4-20NC	150	12.5	100	87	7.3	3/16	50
5/16-11NC	305	25.4	200	165	13.8	1/4	90
3/8-16NC	545	45.4	350	290	24.2	1/4, 5/16	150, 250
1/2-13NC	1300	108.3	N/A	620	51.7	N/A	N/A
5/8-11NC	N/A	N/A	N/A	1225	102.1	N/A	N/A

**Figure 51: Sheave Adjustment**



## Service and Maintenance

### Fan Drive Belt Adjustment

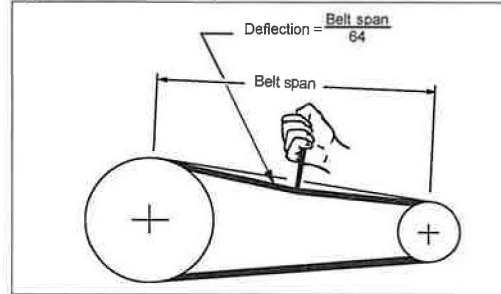
#### General Rules of Tensioning

- 1 The ideal tension is the lowest tension at which the belt does not slip under peak load conditions.
- 2 Check tension frequently during the first 24 to 48 hours of operation.
- 3 Over tensioning shortens belt and bearing life.
- 4 Keep belts free from foreign material, which may cause slippage.
- 5 Make V-drive inspection on a periodic basis. Adjust tension if the belt is slipping. Do not apply belt dressing. This may damage the belt and cause early failure.

#### Tension Measurement Procedure

- 1 Measure the belt span. See Figure 52.
- 2 Place belt tension checker squarely on one belt at the center of the belt span. Apply force to the checker, perpendicular to the belt span, until the belt deflection equals belt span distance divided by 64. Determine force applied while in this position.
- 3 Compare this force to the values in Table 38.
- 4 Adjust to the minimum value. If the belts slip, add tension.

Figure 52: Drive Belt Adjustment



#### WARNING

Moving belt and fan can cause severe personal injury or death. During installation and filter maintenance:

- Lock and tag out fans to prevent accidental start up.
- Do not enter the filter compartment until the fan is completely stopped.
- Use approved equipment for reaching filters located above normal reach. Do not step on filter frames or unit components.
- Floor surfaces must be dry and free of oil or grease.

Table 38: Belt Deflection Force

Cross section	Sheave diameter (inches)		Deflection force (lbs)/belt deflection force			
	Smallest sheave diameter range	rpm range	Cross section A, B, 5V		Cross section AX, BX, 5VX	
			Min	Max	Min	Max
A, AX	3.0 to 3.6	1000 to 2500	2.8	5.5	3.0	6.1
		2501 to 4000	2.1	4.2	2.5	5.0
	3.8 to 4.8	1000 to 2500	3.4	6.8	3.7	7.4
		2501 to 4000	2.4	5.7	3.2	6.4
	5.0 to 7.0	1000 to 2500	4.0	8.0	4.7	9.4
		2501 to 4000	3.5	7.0	3.8	7.6
B, BX	3.4 to 4.2	850 to 2500	—	—	3.6	7.2
		2501 to 4000	—	—	3.1	6.2
	4.4 to 5.6	860 to 2500	4.0	7.9	5.2	10.5
		2501 to 4000	3.3	6.7	4.5	9.1
	5.8 to 8.6	860 to 2500	4.7	9.4	6.3	12.6
		2501 to 4000	4.5	8.9	5.4	10.9
5V, 5VX	4.4 to 6.7	500 to 1749	—	—	7.6	15.2
		1750 to 3000	—	—	6.6	13.2
		3001 to 4000	—	—	4.2	8.5
	7.1 to 10.9	500 to 1740	9.5	18.9	11.0	22.1
		1741 to 3000	8.3	16.7	10.0	20.1
	11.8 to 16.0	500 to 1740	11.7	23.4	12.7	25.5
1741 to 3000		10.5	21.8	12.5	25.0	

## Service and Maintenance

### Coil Maintenance

#### CAUTION

**SHARP EDGES AND COIL SURFACES** are a potential injury hazard. Avoid contact with them.

#### ATTENTION

Les bords tranchants et les surfaces des bobines sont un risque de blessure. Ne les touchez pas.

- 1 For maximum performance, the coil must be clean. Check once a year under normal operating conditions and brush or vacuum clean if necessary. Use a chemical coil cleaner on multiple row coils. Read and follow the chemical cleaner's instructions since some cleaners may contain harsh chemicals. Take care not to damage fins while cleaning.
- 2 Drain pans in any air conditioning unit may have some moisture. Algae and other organisms can grow due to airborne spores and bacteria. Clean periodically to prevent build-up from plugging the drain and causing the drain pan to overflow. Keep drain pans clean to prevent the spread of disease. Cleaning should be performed by qualified personnel.
- 3 Dirt and lint can clog the condensate drain, especially with dirty filters. Inspect twice a year to help avoid overflow.

#### WARNING

Clean drain pan regularly so mold does not develop.

#### AVERTISSEMENT

Pour éviter la moisissure Nettoyer régulièrement le bassin de récupération.

### Component Removal and Replacement

#### Panel Removal

Remove the screws located along the sides of the panel. Pull the panel out using the pocket pull handles. If the panel does not have a pull handle, remove the adjacent panel with a pocket pull or door and pop out the panel from the inside.

#### Fan Section Removal

The fan shaft, motor, and any drive components are removable through the access door or panel opening.

If fan replacement is required, the entire fan assembly can be pulled out the side of the cabinet. The fan assembly includes the fan housing, the bearing support, and the fan base.

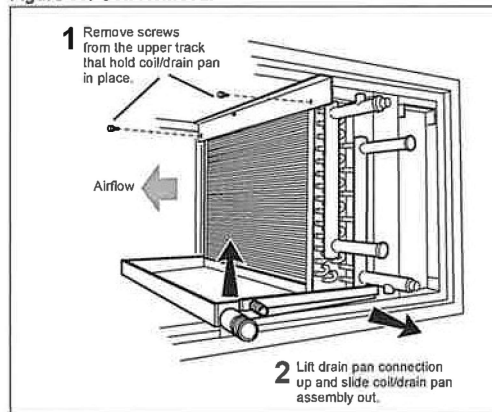
- 1 To remove the fan assembly, remove the side panels (follow instructions for side panel removal).
- 2 Disconnect the neoprene bulkhead seal that is attached to the fan discharge. Then disconnect the fan sled from each of the corner mounts and pull the entire assembly out the side of the unit.
- 3 Loosen the fan bearings and pull out the shaft. Disconnect the fan housing from the fan sled and bearing support by removing the attaching bolts.
- 4 Replace the new fan, reconnect the shaft and bearings and put the fan assembly in the cabinet. Replace panels and fasteners.

### Coil Removal and Replacement

Before removing the coil, disconnect all piping.

- 1 Remove exterior panels from both sides of the coil section. Remove screws that secure the top of the leaving coil face to the upper track on the inside top of the unit.
- 2 Lift drain pan condensate connection above the unit frame flange and slide drain pan, coil(s), and baffles out of unit.
- 3 Slide the coil, blockoffs, and drain pan assembly back into unit the same way it was removed. Check the installation for an airtight fit.
- 4 Reinstall screws that secure the top of the leaving coil face to the upper track on the inside top of the unit.

Figure 53: Coil Removal



**OVERHEAD CRANE**  
**LOUISIANA CRANE & ELECTRICAL SERVICES**  
**(337)839-9711**

**BINDER “C”**

English

Original instructions



# OWNER'S MANUAL

## SX30410032P25FAL0S

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## 8 MAINTENANCE

### 8.1 Why You Must Care About Maintenance


- It is the **product owner's responsibility** to organize proper regular inspections maintenance to ensure long-term safety, reliability, durability, operability and warranty for the product. Keep this manual in a safe, accessible location during the whole lifetime of the product.
- The owner must keep a record (log book) of all maintenance activities and usage relating to the product.
- Different maintenance actions must be carried out at different intervals and by different persons, all of whom must be qualified and authorized to perform the checks which relate to them.
- Daily checks and minor lubrication must be carried out by operators. These checks are very important to catch small faults before they become major faults.
- Maintenance actions, excluding the daily actions performed by operators, must be done by service personnel who are authorized by the manufacturer or manufacturer's representative.
- The owner shall ensure that replacement parts and materials meet the specifications defined by the product manufacturer.


 <b>WARNING</b>	<p><b>Do not modify the product without the manufacturer's permission. Any modifications to the product structures or performance values must only be made after they have been approved by the product's manufacturer.</b></p>
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<b>NOTICE</b>	<p>Modifying the product without the manufacturer or manufacturer's representative approval can invalidate the guarantee. Furthermore, the manufacturer does not accept responsibility for accidents which happen as a consequence of unauthorized modifications.</p>
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<b>NOTICE</b>	<p>The height of lift is 6.0 m. Ensure that the equipment used for maintenance work is suitable for this height. Two persons are required for the maintenance work.</p>
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 <b>WARNING</b>	<p><b>Failure to regularly and properly maintain the product can result in death, injury or damage.</b></p>
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 <b>WARNING</b>	<p><b>Do not allow the product to be used if it is not in proper condition. Contact a service agent authorized by the manufacturer or manufacturer's representative immediately in case of doubts! The usage of a defective product can result in serious damage, injury or death.</b></p>
--	--

 <b>CAUTION</b>	<p><b>Only use genuine spare parts, materials and lubricants approved by the product's manufacturer or manufacturer's representative. Consult your spare parts catalog for further information.</b></p>
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Before maintenance the owner must see the instructions in chapter “*Safety first*”

## 8.2 Service Personnel

Only authorized service personnel or an experienced service technician authorized by the manufacturer or manufacturer's representative may perform the detailed examinations necessary for scheduled maintenance. Such examinations must be performed in accordance with the inspection and maintenance plan provided by the product's manufacturer. The original manufacturer or manufacturer's representative has approved authorized service personnel to maintain its products.

The owner or operator of the product must perform the daily checks and, if required, daily lubrication. Service personnel authorized by the owner may also lubricate the product at the necessary intervals.



**Note:** Mechanical and electrical maintenance work requires special skills and tools to ensure safe and reliable operation of the product. Maintenance work shall be carried out only by authorized service personnel or an experienced service technician authorized by the product's manufacturer or manufacturer's representative.

## 8.3 Log Book

The crane log book is supplied in the interest of accident prevention. It is an integral part of the equipment and shall be kept up-to-date and with equipment all the times. Do not remove or discard any parts of the log book for any reason. The log book records the complete maintenance history of the equipment and it must be transferred to the new owner when ownership of the equipment changes.



**Note:** The owner (who has the primary responsibility), operators and service personnel must ensure that the log book is kept up to date.

### The log book consists of the following items:

- Product reference data: details of the product, its ownership and persons who are qualified to work with it.
- Faults noticed in daily inspections, together with corrective actions.
- Records of service inspections and lubrication.
- Records of repairs.
- Records of condition monitoring unit or hour counter.
- Calculations of safe working period and remaining lifetime.

According to the standard ISO 12482-1, if applicable, records of the crane usage must be kept, so that the usage can be compared to the supplier's design principles and design limits. Records shall also be kept for all maintenance, inspections, unusual occurrences (for example, unexpected loads from operational error, extreme climatic conditions, and so on), breakdowns, repairs, and modifications.

If complete records are not available, the inspection shall be carried out in accordance with Annex A of standard ISO 9927-1, if applicable, and any requirements as a result of that inspection shall be carried out before further use of the equipment.

## 8.4 Inspections

The operator/owner of a product shall carry out regular inspections to ensure the safe operation. The product's owner shall also keep record of the inspections and findings.



Periodic inspections must be carried out by authorized service personnel or experienced service technician authorized by the product's manufacturer or manufacturer's representative. Inspections must be carried out according to manufacturer's instructions.




**Note:** If the working environment or product usage changes, the inspection and maintenance intervals may need to be revised.



**Note:** Products used under harsh conditions may require shorter service intervals. Consult with the manufacturer or manufacturer's representative for a tailored service agreement.



**Note:** Periodic inspections SHALL be carried out in accordance with local regulations.

 <p><b>CAUTION</b></p>	<p><b>Any defects or abnormalities which are detected during the inspections must be investigated and corrected in accordance with the instructions relevant to component in question.</b></p>
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### 8.4.1 Daily Inspections

Daily inspection items are listed in chapter "Instructions for the operator". In most cases these checks will be performed by operators.

### 8.4.2 Periodic Inspections



**Note:** Periodic inspections are normally performed every twelve months but must be performed every time the product's Safe working period (SWP)% has reduced 10%.

#### Inspections every 12 months



**Note:** Any defects or abnormalities which are detected during the inspections must be investigated and corrected in accordance with the instructions relevant to the component in question.

#### Hoist

Component	Objective	Method
General	Visually check the general condition and accumulation of dust or dirt. Clean off all dust and dirt. Visually check that covers are not damaged. Check paint coating and rust. Test by hand that all covers are fixed.	Visual/Test
Gearbox	Check the oil level. Check for loose or missing fittings. Check that the breather is clean. Listen while driving for abnormal sounds or vibrations.	Visual/Aural/Test
Electric motor	Check that the connections are in a good condition. Check the encoder condition. Check for loose or missing fittings. Listen for abnormal sounds.	Visual/Aural/Test
Air gap measuring	Measure the brake disc air gap.	Test

Brake disc friction material	Measure the brake friction material's thickness.	Test
Rope drum hub	Check for loose or missing fittings. Look for possible cracks or deformations.	Visual/Test
Rope presser	Check for loose or missing fittings. The gap between rope and presser roll shall be 5mm maximum. The rope should not touch the presser roll in normal operation.	Visual/Test
Rope drum grooves	Measure an unworn section of the drum to determine the baseline to establish the acceptable wear measurements.	Test
Wire rope	Check the wire rope for broken threads and bending.	Visual

### Trolley power supply

Component	Objective	Method
Cables	Check the condition of the cables.	Visual
Cable trolleys	Check the condition of the cable trolleys.	Visual/Test
Cable support rails	Check the fastenings, condition and cleanliness of the cable support rails.	Visual
Cable seals	Check the condition of the cable seals.	Visual/Measure
Wiring	Check the condition of the wiring and its connections.	Visual/Test
Delay relays	Check the operation of the delay relays.	Visual/Aural

### Limiting devices

Component	Inspection and maintenance task
Trolley buffers	Check condition of trolley buffers and buffer end stops. Check condition of rail sweeps if applicable.
Trolley traveling limit switches	Check visually that traveling limit switches are operating in correct position. Check wiring.
Hoisting limit switches	Check visually the condition of hoisting limit switches. Test the operation of limit switch.
Ultimate hoisting limit switch (optional)	Check condition of ultimate hoisting limit switch. Check wiring. Test the proper operation of ultimate hoisting limit switch.
Overload protection	Check condition and free movements of mechanical parts. Conduct operation test of overload device according to local regulations if required. Clean and lubricate lever mechanism if applicable.

### Electrics

Component	Objective	Method
Current collectors	Check the condition of the crane current collectors.	Visual
Overcurrent protectors	Check the adjustment of overcurrent protectors.	Visual/Test
Emergency stop	Check the operation and condition of the emergency stop button. Check that the emergency stop button is clean and not damaged.	Visual/Test
Main isolation switches	Check the operation and condition of the main isolation switches.	Visual/Test
Main switch for hoist	Check that the main switch is clean, clearly marked, and there are no visible damages. Test manually that the main switch will switch off the hoist.	Visual/Test

Wiring	<p>Check the condition of the wiring and its connections and the terminal connections.</p> <p>Follow the power supply and visually check potential areas for damages.</p> <p>Check wiring for any signs of wear, crushing, breaks, or cuts.</p> <p>Check visually that the cable bushings are tight.</p> <p>Check visually that the connectors are not damaged.</p> <p>Test by hand that the cable bushings and connectors are tight.</p> <p>Check the tightness of screws at terminal blocks and the connections of other components randomly.</p>	Visual/Test
Limit switches	Check the operation of the limit switches.	Visual/Test
Cubicle	<p>Check cleanliness, security, and fastenings of the cubicle. Check air conditioning and filters if any.</p> <p>Check the security of the fastenings in the electrical cubicle.</p>	Visual/Test
Contactors	<p>Check the operation and condition of the contactors.</p> <p>Check visually that the contactors are clean and there are no visible damages.</p> <p>Check the hoisting operation counters on condition monitoring unit.</p>	Visual/Aural/Test
Fuses	<p>Check the condition of the fuses.</p> <p>Check visually that the fuse holder and fuses are clean and there are no visible damages.</p> <p>Check correct amperage rating.</p>	Visual
Braking resistors	Check that the braking resistors are clean and that the wires are securely fastened.	Visual
Stickers	Check that the stickers are readable.	Visual
Load display	Check the operation and condition of the load display.	Visual/Test
Braking resistors (with some frequency converter model)	Clean all dust or dirt from braking resistors.	Visual/Test
Hoisting inverter	<p>Check that the wires are securely fastened.</p> <p>Check the fault code records.</p> <p>Check the operation and cleanliness of the cooling fan.</p>	Visual/Test
Traveling inverter	<p>Check that the wires are securely fastened.</p> <p>Check the fault code records.</p> <p>Check the operation and cleanliness of the cooling fan.</p>	Visual/Test
Condition monitoring unit	<p>Check the operation mode.</p> <p>Check the fault code records.</p> <p>Lift a known load and verify that the unit reads the load within 5% of the load.</p>	Visual/Test


## Motors and gears

Component	Inspection and maintenance task
Traveling motor	<p><b>Check that the cooling-ribs surface is clean.</b></p> <p>Check visually that all motor connection screws are tight and motor is properly on it position.</p> <p>Drive and check that the traveling motor operates properly.</p> <p>Check for any excessive noise, vibration and/or heat.</p> <p>Check that the cooling fan is working properly if any.</p>
Hoisting motor	<p>Check that the cooling-ribs surface is clean.</p> <p>Check visually that all motor connection screws are tight and motor is properly on it position.</p> <p>Drive and check that the hoisting motor operates properly when loaded.</p> <p>Check for any excessive noise, vibration and/or heat.</p> <p>Check that the cooling fan is working properly.</p>
Traveling brake	<p>Check that there is no visible damage.</p> <p>Check that the outside surface of the brake is clean.</p> <p>Test that brake operates smoothly and braking time and distance is acceptable.</p> <p>Measure the air gap, clean and adjust the brake if needed.</p>
Hoisting brake	<p><b>Check that there is no visible damage.</b></p> <p>Check that the outside surface of the brake is clean.</p> <p>Test that lifting and lowering will brake smoothly and braking time and distance is acceptable.</p> <p>If needed inspect and clean the brake disk.</p> <p>For more information on hoisting brake, see "Appendix: Hoisting Brake".</p>

Component	Inspection and maintenance task																																							
Manual brake release for hoisting motor (optional)	Check that manual brake release tools are available. Check that operating instructions are available.																																							
Manual crank for hoisting motor (optional)	Check that manual crank and brake release tools are available. Check that operating instructions are available.																																							
Second brake (optional)	<b>Check that there is no visible damage.</b> Check that the outside surface of the brake is clean. Test that second brake operates after the main brake. Lifting and lowering will brake smoothly and braking time and distance is acceptable. If needed inspect the brake disk and clean the brake.																																							
Drum brake (optional)	Check cleanliness of drum brake. Check visually the brake condition: <ul style="list-style-type: none"> <li>• Brake bands are on correct position.</li> <li>• Cam spring is good.</li> <li>• Actuator mechanism is clean and moves freely.</li> <li>• Test that the cam operates correctly when lifting and lowering.</li> <li>• Test that electric switch will stop the motions.</li> <li>• Lubricate the actuator and cam mechanism if needed.</li> </ul>																																							
Traveling gear	Check visually the gearbox fastenings. Check the gearbox visually for leakage. Check visually torque support mounting and rubber bushing if any. Test the running sound and vibrations with load. Check that breather-plug breaths freely. Check oil level if oil filled traveling gear. Lubricate the open transmission if any.																																							
Hoisting gears	Check visually the gearbox fastenings. Check the gearbox visually for leakage. Test the running sound and vibrations with load. Check that breather-plug breaths freely. Check oil level if oil filled hoisting gear.																																							
Motor/Gear coupling	Investigate the condition of coupling between motor and gear. Lubricate and replace.  Interval is SWP% reduction or calendar months, whichever limit is reached first.  <b>The coupling must be replaced if there is any visible damage or rust inside the coupling or if the O-rings have any visible damage or signs of aging.</b> <b>Lubricate the coupling and motor splines carefully.</b> <table border="1"> <thead> <tr> <th colspan="3">Interval for normal operating temperature</th> </tr> <tr> <th>Hoist classification</th> <th>M5/M6</th> <th>M3/M4</th> </tr> </thead> <tbody> <tr> <td colspan="3">Hoists with condition monitoring unit</td> </tr> <tr> <td>SWP% reduction</td> <td>40%</td> <td>80%</td> </tr> <tr> <td>Calendar period. Years</td> <td>8</td> <td>8</td> </tr> <tr> <td colspan="3">Hoists without condition monitoring unit</td> </tr> <tr> <td>Calendar period. Years</td> <td>5</td> <td>5</td> </tr> </tbody> </table> <p><b>Note! Low or high temperatures may accelerate the degradation of lubricant properties. In temperatures out of the operating temperature range from -10 to +40°C, see the following table.</b></p> <table border="1"> <thead> <tr> <th>Hoist classification</th> <th>M5/M6</th> <th>M3/M4</th> </tr> </thead> <tbody> <tr> <td colspan="3">Hoists with condition monitoring unit</td> </tr> <tr> <td>SWP% reduction</td> <td>40%</td> <td>80%</td> </tr> <tr> <td>Calendar period. Years</td> <td>4</td> <td>4</td> </tr> <tr> <td colspan="3">Hoists without condition monitoring unit</td> </tr> <tr> <td>Calendar period. Years</td> <td>4</td> <td>4</td> </tr> </tbody> </table>	Interval for normal operating temperature			Hoist classification	M5/M6	M3/M4	Hoists with condition monitoring unit			SWP% reduction	40%	80%	Calendar period. Years	8	8	Hoists without condition monitoring unit			Calendar period. Years	5	5	Hoist classification	M5/M6	M3/M4	Hoists with condition monitoring unit			SWP% reduction	40%	80%	Calendar period. Years	4	4	Hoists without condition monitoring unit			Calendar period. Years	4	4
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## Mechanical component

Component	Inspection and maintenance task
Rope drum	<p>Check condition and cleanliness of rope drum.</p> <p>Check the grooves of the drum.</p> <p>Check visually that connection rods are straight and fixing screws are tight.</p> <p>Check condition of axial locking part if any.</p> <p>Check proper rotation of drum and condition of bearings. Pay attention to running sound of rope drum bearings and check that the rope drum does not touch with machinery end plates or other parts.</p> <p>Check the operation of axial locking part if any.</p> <p>Lubricate the drum surface.</p> <p>Lubricate drum bearings if not life time lubricated.</p> <p>Inspect visually and lubricate the gear rim on drum if any.</p>
Rope guide	<p>Check condition of the rope guide.</p> <p>Check for loose or missing fittings.</p> <p>Check pressure bearing condition if any.</p> <p>Test proper operation of the rope guide.</p> <p>Lubricate the rope guide.</p> <p>Clean the rope guide guiding rod.</p>
Rope reeving	<p>Lift the hook up and lower down. Pay attention to:</p> <ul style="list-style-type: none"> <li>• Does the hook block try to rotate.</li> <li>• Can the reeving balancing tilt freely (two rope systems, if any).</li> <li>• Does the rope move smoothly over all sheaves and trough the rope guide.</li> <li>• Is the rope tight on drum grooves.</li> </ul> <p>Remove rotation and reassemble the end fixing if needed.</p>
Rope clamp	<p>Check condition and correct fastening of rope clamp.</p> <p>Check that the rope clamp bolts are tight.</p> <p>Ensure that there are the friction turns when the hook is at the lowest position.</p> <p>Make sure the rope end protrudes from the last clamp a specified distance.</p>
Rope anchorage	<p>Check condition and correct position of rope anchorage.</p> <p>Ensure that the rope is assembled inside the rope anchorage correctly.</p> <p>Check that the rope clamp nuts are tight.</p> <p>Ensure that the rope has not slipped in the rope anchorage by comparing to nominal measures.</p> <p>Make sure the rope end protrudes from the rope anchorage as specified.</p> <p>Check the condition of the wire rope near the rope anchorage.</p> <p>Check the anchorage shaft locking.</p> <p>Lubricate the pivot bearing surfaces of rope anchorage if needed.</p>
Wire rope	<p>Check condition of the rope.</p> <p>Inspect the rope(s).</p> <p>Lubricate the rope.</p>
Hook block	<p>Check operation and condition of hook block.</p> <p>Check visually that:</p> <ul style="list-style-type: none"> <li>• Stickers exist and are readable.</li> <li>• Covers are not damaged and do not touch to sheaves or rope.</li> <li>• Hook hangs perpendicularly.</li> </ul> <p>Lift empty hook and test that:</p> <ul style="list-style-type: none"> <li>• Hook does not rotate.</li> <li>• Empty hook do not tilt.</li> </ul> <p>Test that rope runs smoothly on sheaves with and without load.</p>
Cross bar	<p>Check condition of cross bar hinge if any by tilting the hook forging.</p> <p>Check condition of hook forging pressure bearing by rotating the hook forging.</p> <p>Insert grease to cross bar hinge grease nipple if any.</p> <p>Open the cross bar and lubricate the pressure bearing if needed.</p>
Hook safety latch	<p>Test by hand that safety latch is not damaged and spring keeps it closed.</p>

 <p><b>WARNING</b></p>	<p><b>STRONG MAGNETIC FIELD!</b></p> <p><b>Magnets can impact the functioning of pacemakers, implanted heart defibrillators, and hearing aids.</b></p> <p><b>If you wear these devices, follow precautions associated to magnetic forces.</b></p>
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Hook latch trigger (magnet operated)	Test the operation of the latch trigger. Adjust the trigger play (movement) with the adjustment screw if necessary. <b>Clean the magnet when dirty.</b>
Hook forging	Check condition of hook forging. Measure the hook forging opening if needed.
Rope sheaves	<b>Check condition of sheaves. Inspect the measures if wear.</b> Check condition of rope sheave support structure. Check that the sheave support shafts are correctly in their slots and correctly locked. Replace the support shaft by latest construction/parts if not done yet (some Low Headroom Trolley models). Test by driving the smooth rotation of the rope sheaves.
Trolley wheels	<b>Check condition and cleanliness of trolley wheels.</b> Visually check the wear of trolley wheel surfaces and flanges if any. Check adjustment of rail width or rail gauge –measure. Test trolley wheel operation. Pay attention to running sound of bearings. If needed lift the trolley and test by hand the free and smooth rotation of trolley wheels. Check that wheels are correctly aligned and check possible wear caused by misalignment. Lubricate the bearings if needed and possible.
Load carrying structure	Check condition of bolted joints and load carrying structures. Visually check bolted and welded connections of securing and back up components like mounting of derailment catch if any.

### Controls

Component	Inspection and maintenance task
Pendant	Check condition and functionality of push buttons and switches. Check all markings and signs that they are readable. Drive all movements. Test all functions.
Radio	Check condition and functionality of push buttons and switches. Check all markings and signs that they are readable. Drive all movements. Test all functions.

### Options



**Note:** The product may have options which also require inspection. Make sure that all components are inspected.

## 8.5 Lubrication

### 8.5.1 General Lubrication Instructions










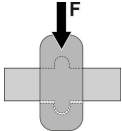

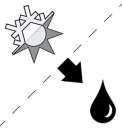

**Note:** Most of the bearings in the product have lifetime lubrication. There is no need to add lubricant to the life time lubricated bearings under normal operating conditions.



**Note:** If transmission oil has to be topped up, make sure that the lubricant being added is compatible. If transmission oil has to be replaced, flush out the gearbox before refilling.

The following table provides advice on the lubrication procedures which should be followed.

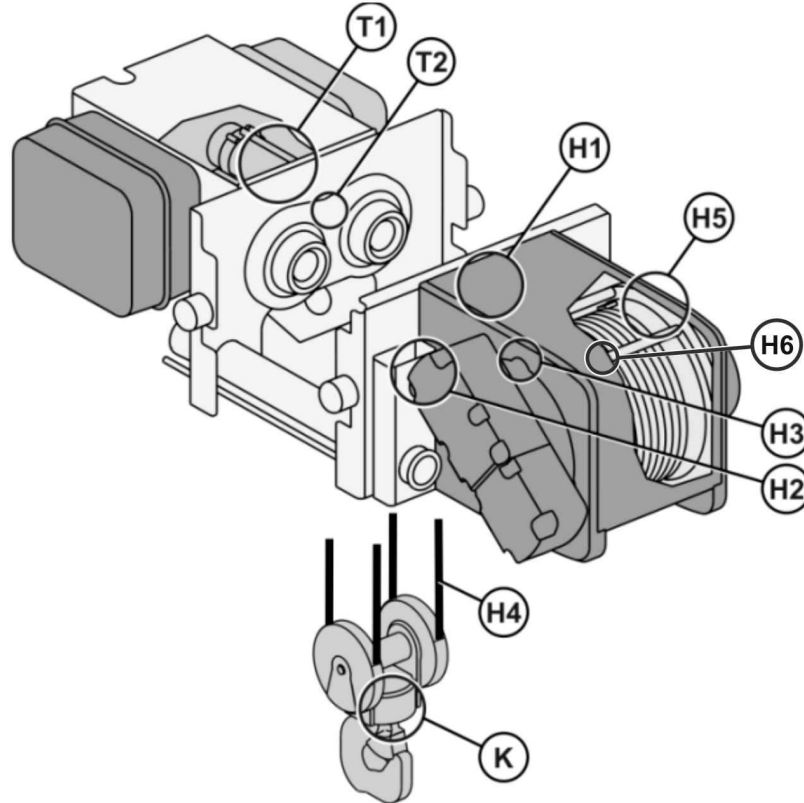
<p><b>1</b></p>	<p>Usage of a low grade or incompatible lubricant can damage the gearing or bearings. Use only lubricants recommended by the product's manufacturer. See the lubricant tables for more information.</p> <p>Use only fresh oil/grease. Different kinds of lubricants shall not be mixed.</p> <p>Information about each chemical's safe handling , risks and handling as waste are described in the Safety Data Sheet that is available from manufacturer of the lubricant.</p> <p><b>Note:</b> equipment may have synthetic lubricant as a factory installed lubricant. Please refer to order confirmation.</p>	
<p><b>2</b></p>	<p>Handle lubricants carefully. Prevent leakages to waters, sewers, cellars and other closed places.</p>	
<p><b>3</b></p>	<p>Keep lubricants away from heat and open fires. Do not smoke when handling lubricants.</p>	
<p><b>4</b></p>	<p>Avoid contact with skin. Protection gloves and safety goggles shall be worn when handling lubricants. Hands shall be washed thoroughly after lubrication.</p>	
<p><b>5</b></p>	<p>Keep lubricants away from food and drink. Do not inhale any fumes or swallow lubricants.</p>	
<p><b>6</b></p>	<p>Used lubricant shall be handled as hazardous waste following local legal requirements.</p> <p>Store used lubricant in containers indicated for the purpose and dispose by a licensed company.</p>	
<p><b>7</b></p>	<p>Keep grease nipples clean.</p>	

8	All slide bearings must be depressurised for the grease to be able to penetrate.	
9	While lubricating, check the functioning of the bearings and observe whether there is any bearing slackness.	
10	The specified lubrication periods apply in favourable conditions and normal use. More frequent lubrication is recommended in more demanding conditions and in heavy use, particularly of the slide bearings.	
11	Verify that the gear teeth of the open gear transmission are entirely lubricated.	



**Note:** Do not use excessive lubricant. Excessive grease may cause bearing to overheat and reduces the lifetime of the bearings.

### 8.5.2 Lubrication Charts (Low headroom trolley)



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Pos.	Component	Intervals
H1	Rope anchorage	Annual



<b>H2</b>	Hoisting gear	Lifetime lubricated
<b>H3</b>	Drum gear rim	Annual
<b>H4</b>	Rope	Monthly-Annual
<b>H5</b>	Rope drum bearings	Annual if not life time lubricated
<b>H6</b>	Rope guide	Annual
<b>K</b>	Hook thrust/slide bearings	Annual if not life time lubricated
<b>T1</b>	Traveling gear	Lifetime lubricated
<b>T2</b>	Traveling transmission	Annual

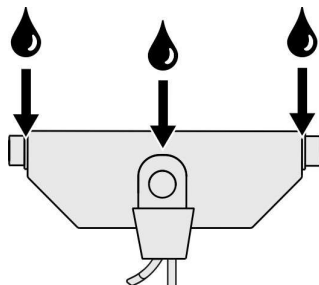


**Note:** Lubricate only instructed components. Other parts are lifetime lubricated.

**H1** **Rope anchorage**

- Lubricate the pivot joint of the lever mechanism, the suspension support of the rope anchorage and the rocker bushings of the support beam with suitable thin oil.

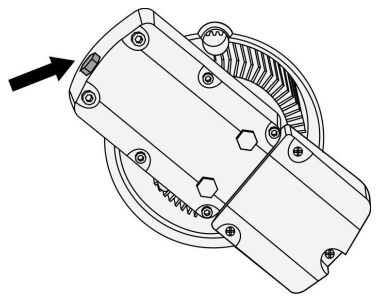
Installation	Trade name and number
Factory installed	Mobilith SHC460
Alternative	Shell Gadus S5 V220
Alternative	Neste Synlix
Alternative	Castrol S



**H2** **Hoisting gear**

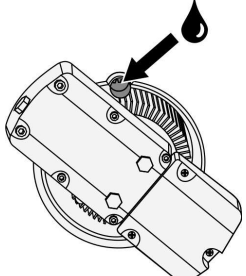
- Check magnetic plug for metallic particles. Check that breather is functional. If any abnormalities, contact service.

Installation	Trade name and number
Factory installed	Mobilux EP 004
Alternative	Shell Alvania EP00
Alternative	Shell Tivela Compound A
Alternative	Neste Center Grease 00 EP
Alternative	Castrol EPL 00
Alternative	Mobilith SHC 007



**H3** **Drum gear rim**

Installation	Trade name and number
Factory installed	Almagard 3752
Alternative	Shell Gadus S3 High Speed Coupling Grease
Alternative	Neste Avora

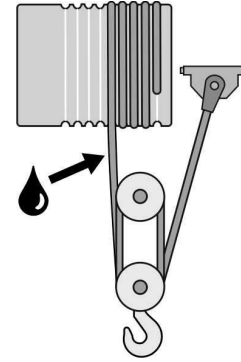


## H4

### Rope

- To extend rope lifetime, lubrication is recommended.
- Lubrication interval varies from one month to one year depending on usage.
- Lubrication shall be done before signs of corrosion or dryness.
- Lubricate the rope with suitable lubrication. Lubricant for wire rope shall be water resistant, non-adhesive, transparent thin oil, which is able to penetrate into the rope.
- Only lubricate the rope lightly, excessive lubrication may cause dribbling

Installation	Trade name and number
Factory installed	-
Alternative	Elaskon 30
Alternative	Lubriplate
Alternative	ORAPI Nanolubricant

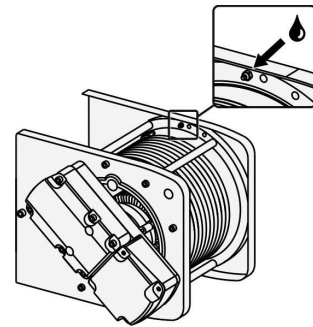


## H5

### Rope drum bearings

- Lubricate only the greasing points A (upper points) or B (lower points), but not both.
- During lubrication, the drum MUST rotate at least two complete rounds.
- Do not use excessive grease, as that may damage the bearings. Approximately two pumps of grease will suffice.

Installation	Trade name and number
Factory installed	Mobilith SHC460
Alternative	Shell Gadus S5 V220
Alternative	Neste Synlix
Alternative	Castrol S

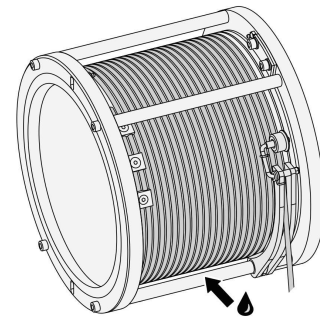


## H6

### Rope guide for hoist frame size SX2, SX3, SX4, SX5

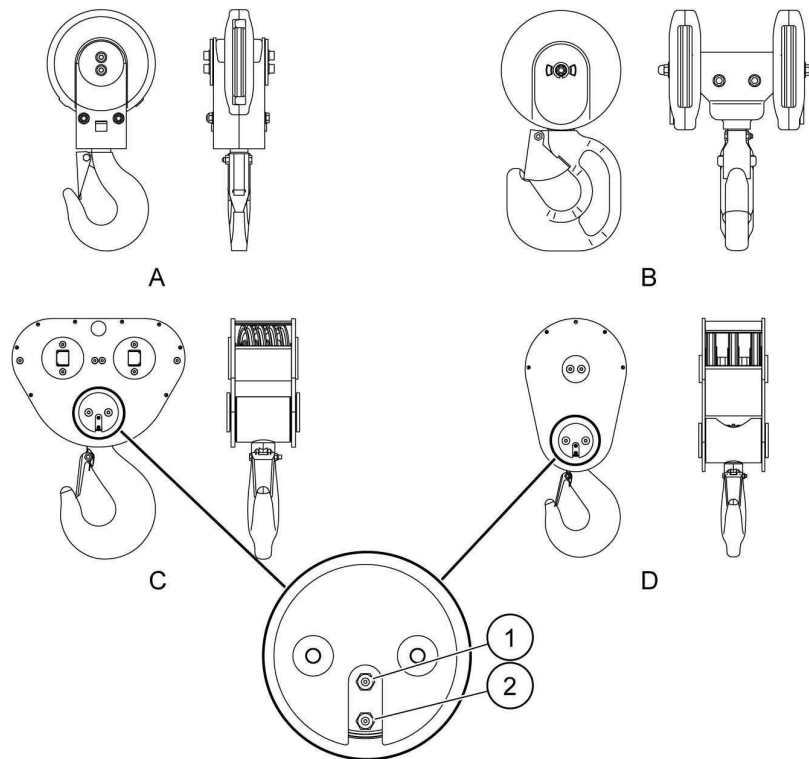
- Lubricate the connector rod.

Installation	Trade name and number
Factory installed	Mobilith SHC460
Alternative	Shell Gadus S5 V220
Alternative	Neste Synlix
Alternative	Castrol S



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### K Hook thrust/slide bearings



1. Grease nipple for thrust bearing
2. Grease nipple for slide bearings

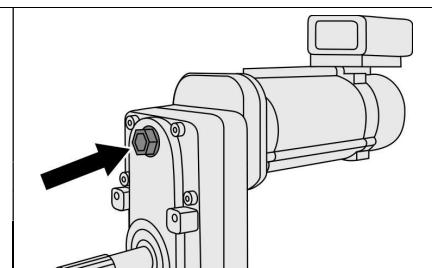
Hook block model	Lubrication
Figure A and B	These hook blocks include a thrust bearing, but no slide bearings. Hook block disassembly is always needed for lubricating the thrust bearing.
Figure C and D	These hook blocks include a thrust bearing and two slide bearings. The grease nipples for slide bearings (2) can be found at both ends of the cross bar. The grease nipple for the thrust bearing (1) can be found only on one end of the cross bar, just above the grease nipple for slide bearings. Some hook models do not include a grease nipple for the thrust bearing. You can identify such hook models by the number of grease nipples, that is, if there is only one grease nipple at each end of the cross bar, then the hook block must be disassembled for lubricating the thrust bearing.

Installation	Trade name and number
Factory installed	Mobilith SHC460
Alternative	Shell Gadus S5 V220
Alternative	Neste Synlix
Alternative	Castrol S

### T1 Traveling gear

- Travelling machinery is grease lubricated and no oil changes are required. The breather plug can be used as a filling hole if it becomes necessary to top up the grease.

Installation	Trade name and number
Factory installed	Mobilux EP 004
Alternative	Shell Gadus S1 Low Speed Coupling Grease




	Alternative	Shell Gadus S2 V220	
	Alternative	Shell Gadus S5 V142W	
	Alternative	Neste Center Grease 00 EP	
	Alternative	Castrol EPL 00	
	Alternative	Mobilith SHC 007	

**T2 Travelling transmission**

- Remove the plug and grease open transmission.

Installation	Trade name and number
Factory installed	Almagard 3752
Alternative	Shell Gadus S3 High Speed Coupling Grease
Alternative	Neste Avora



### 8.5.3 Lubricant volumes, hoisting gears

Rope drum diameter mm	Gear type	Volume	
		ml	fl oz [imperial]
243	GEN0	300	10.6
303	GEN1	600	21.1
355	GEN2	900	31.7
406	GEN3	1400	49.3
608	GEN4	2500	88.0

### 8.5.4 Lubricant volumes, drum gear rim

Rope drum diameter mm	Volume	
	ml	fl oz [imperial]
243	50	1.8
303	70	2.5
355	100	3.5
406	150	5.3
608	500	17.6

### 8.5.5 Lubricant volumes, traveling gears

Hoist trolley type	Rope drum diameter mm	Gear type	Volume	
			ml	fl oz [imperial]
Low headroom Normal headroom	all	GEK1	20	0.7
Double girder	303	DS2/DS3	400	14.1
Double girder	355/406/608	GES3	250	8.8
Double girder	608	GES4	500	17.6
Double girder	608	GES5	1000	35.2



**Note:** If you are unsure of the gear type, refer to the hoist certificate.


## 8.6 Approaching Theoretical Calculated Lifetime


To ensure safe operation, the proper working and operational condition shall be maintained according to standard ISO 9927. This requirement covers also special assessments that are carried out by an expert engineer at regular intervals to check the remaining Safe Working Period (SWP) of the hoist as stated in standard ISO 12482.


If the hoist is not equipped with a condition monitoring unit, use the method that is explained in the APPENDIX: SAFE WORKING PERIOD (SWP) CALCULATION to calculate the remaining SWP%. If the hoist is equipped with a condition monitoring unit, see the instructions of the condition monitoring unit.

### 8.6.1 General Overhaul

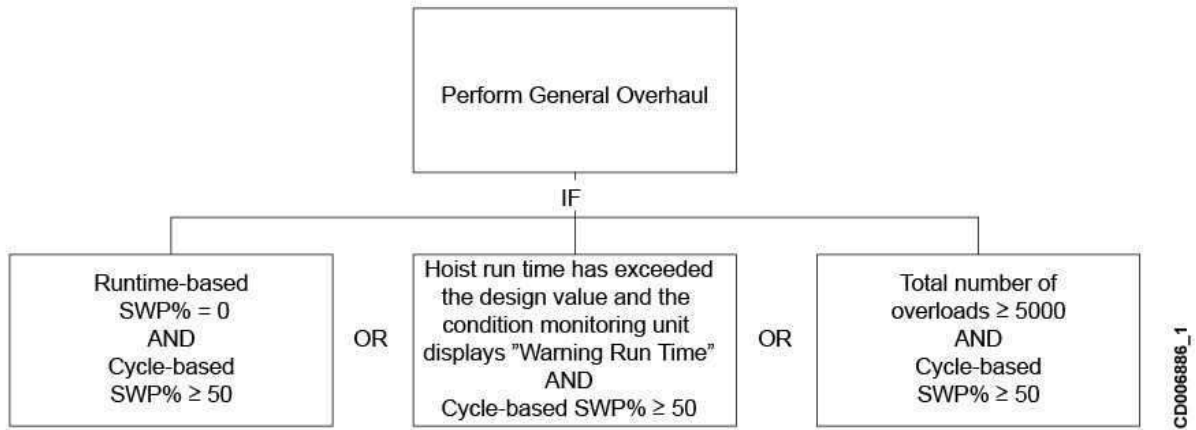
In the GO service, the product is assigned with a new, runtime-based SWP, provided that it is safe to continue the operation. The runtime-based SWP means the lifetime of the interchangeable rotating components of the hoist like hoisting gear, hoisting motor, and rope sheaves. Note that in case of hoists with a smaller drum size, it is often more cost-efficient to replace the hoist with a new one.

 <b>WARNING</b>	<p><b>MACHINE MALFUNCTION HAZARD</b></p> <p>Using a defective product can result in malfunctions that could cause death, serious injury, or property damage.</p> <p>When the SWP has decreased to zero or is counting in the negative, do not use the hoist before a GO service has been conducted. Alternatively, replace the hoist with a new one.</p>
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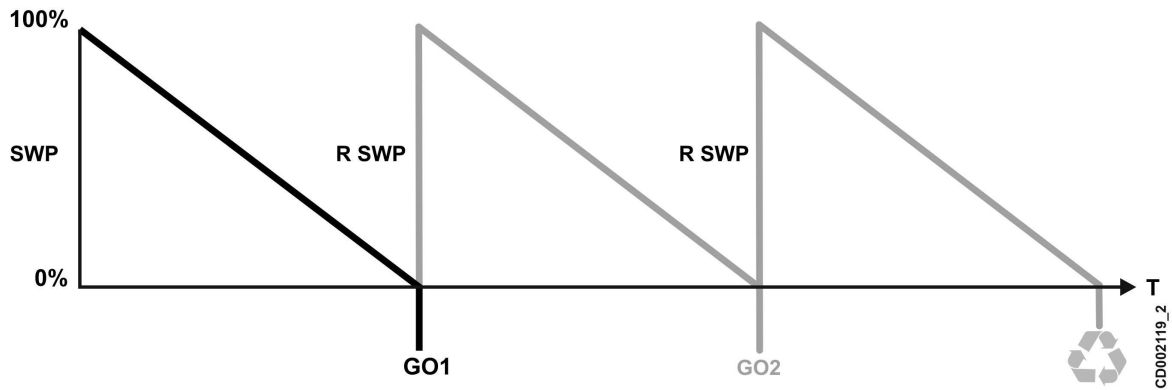
 <b>WARNING</b>	<p><b>SPECIALIST SKILLS REQUIRED</b></p> <p>Incompetent maintenance can result in unsafe and unreliable operation of the product that could cause death, serious injury, or property damage.</p> <p>Only authorized service personnel or an experienced service technician who is authorized by the manufacturer or manufacturer representative may conduct the general overhaul.</p>
--	---

 <b>WARNING</b>	<p><b>MACHINE MALFUNCTION HAZARD</b></p> <p>Unauthorized changes or modifications can result in malfunctions that could cause death, serious injury, or property damage.</p> <p>When performing the general overhaul, do not change the construction of the hoist or repair the supporting structures without permission of the manufacturer. If there are any deformations, cracks, or corrosion in the supporting structures of the hoist, replace or repair the parts according to the instructions that are given by the manufacturer.</p>
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The following figure summarizes the conditions based on which General Overhaul can be performed.



The same hoisting machinery can undergo no more than two GOs before it must be replaced completely:

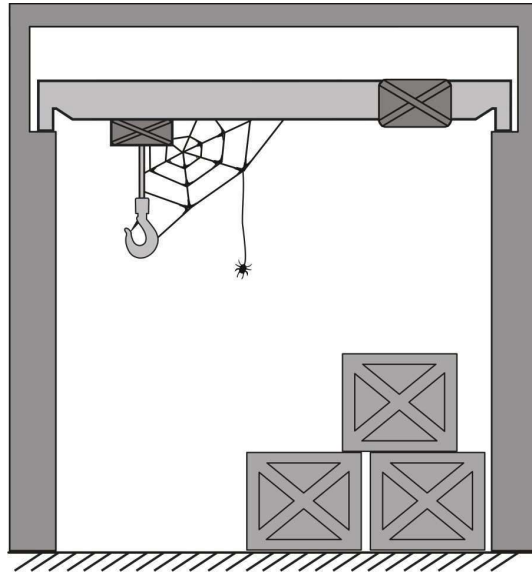


SWP = Safe Working Period  
 RSWP = Runtime-based Safe Working Period  
 GO1 = First General Overhaul  
 GO2 = Second General Overhaul  
 T = Time

## 8.7 Returning the Product to Use after a Long Period Out of Service



**Note:** These actions should also be carried out if the product has been exposed to extreme weather conditions.



For storing conditions refer to the Appendix “Transportation and storing the product”.

When taking the product into use after a long period, checks must be done according to chapter “Checks to be done before every working shift”.

Before returning the product to use, carry out the relevant checks listed in the “General safety”, “Safety during installation and disassembly” and “Safety during maintenance”.

### NOTICE

Before using the equipment, proper commissioning shall be carried out. Commissioning procedure is instructed in “Installation and Commissioning Instructions for Hoist”.



**OVERHEAD CRANE**  
**LOUISIANA CRANE & ELECTRICAL SERVICES**  
**(337)839-9711**

**BINDER “C”**

# OPERATING AND MAINTENANCE INSTRUCTIONS

FREQUENCY CONVERTER SX30410032P25FAL0S

Serial number 10000478643



ORIGINAL INSTRUCTIONS

08 June 2022

Document ID: DOC0634873 / 1 / en-US

Manufacturer's sales order: 01602677940010

Customer reference: BRD\_SO001187

Crane number: BRD\_SO00118



**R&M**  
MATERIALS HANDLING

Only competent persons are allowed to carry out operation and other tasks. The responsibility of the owner is to:

- Provide training and orientation
- Validate training methods
- Verify competence and skills
- Monitor and evaluate user performance regularly

### 2.2.2 Preventive maintenance

Scheduled inspections and preventive maintenance are essential for keeping the product in safe working condition. Here are some general guidelines for preventive maintenance.

- It is the **product owner's responsibility** to organize proper regular inspections maintenance to ensure long-term safety, reliability, durability, operability, and warranty for the product.
- Owner must keep a record (log book) of all maintenance activities and usage relating to the product.
- Different maintenance actions must be carried out at different intervals and by different persons who are qualified and authorized to perform these checks.
- Daily checks and minor lubrication must be carried out by operators or maintenance personnel. These checks are important for catching small faults before they become major faults.
- Maintenance actions, excluding the daily actions that are performed by operators, must be done by service personnel who are authorized by the owner of the product.
- Owner shall ensure that replacement parts and materials meet the specifications that are defined by the product manufacturer.
- Keep this information in a safe, accessible location during the whole lifetime of the product.

#### **WARNING! MACHINE MALFUNCTION HAZARD**

Failure to regularly and properly maintain the product can cause death, serious injury, or property damage.



Do not allow the product to be used if it is not in proper condition or if it has not been maintained correctly.

Contact a service agent that is authorized by the manufacturer or manufacturer's representative immediately in case of doubt.

#### **RISK OF PROPERTY DAMAGE**

#### **NOTICE**

Only use genuine spare parts, materials, and lubricants that are approved by the product manufacturer or manufacturer's representative. For more information, see the product spare part catalog.

### 2.2.3 Personal protective equipment

#### **NOTE**

*This section proposes personal protective equipment to ensure the operator's safety. Follow the local regulations and requirements of the working environment. Use only approved and accepted personal protective equipment.*

For safety, the operator or others near the product are required to wear personal protective equipment (PPE). Various types of PPE are available as listed below and must be selected according to the requirements of the working environment.

- Hard hat
- Eye-protector
- Hearing protectors
- Safety shoes
- Respirator
- Safety gloves

**32 31 00 – ELECTRIC GATE OPERATORS**

**&**

**32 31 19 – DECORATIVE METAL  
FENCES/GATES**

**SCOTT FENCE USA, LLC**

**(225)752-7772**



## SCOTT FENCE USA, LLC

245 Highlandia Drive, Baton Rouge, LA 70810

Phone: (225) 752-7772 Fax: (225) 752-9336

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### LETTER OF WARRANTY

Date: 05/12/2023

Contractor: Blount General Contractors, LLC  
13566 Arnold Rd  
Walker, LA 70785

Project: EBR Department of Environmental Services  
12422 Florida Blvd  
Baton Rouge, LA 70815

Scott Fence USA, LLC hereby warrants the workmanship and/or materials that we have provided for this project for one year. Any work or materials we have performed or supplied on this site in warranted for one year from the substantial completion date of \_\_\_\_\_ for the entire project.

5/12/23  
Date

  
Signature

Brandon Scott  
Printed Name

Vice President  
Title

# Warranty

## LIFTMASTER® LIMITED WARRANTY FOR THE UNITED STATES AND CANADA

The Chamberlain Group LLC ("Seller") warrants to the first retail purchaser of this product, for the residence in which this product is originally installed (except where prohibited by applicable law (which may include the Province of Quebec)), that it is free from defects in materials and/or workmanship for the applicable warranty period stated for the product (the "Warranty Period"). The warranty period commences from the date of purchase.

The proper operation of this product is dependent on your compliance with the instructions regarding installation, operation, and maintenance and testing. The warranty does not cover damage(s) or defect resulting from the failure to comply strictly with those instructions. If, during the limited warranty period, this product appears to contain a defect covered by this limited warranty, call (800) 528-5880 for residential products and (800) 528-2806 for commercial products toll free, before dismantling this product. You will be advised of disassembly and/or shipping instructions when you call. Then send the product or component, pre-paid and insured, as directed to our service center for warranty repair. Please include a brief description of the problem and a dated proof-of-purchase receipt with any product returned for warranty repair. Products returned to Seller for warranty repair, which upon receipt by Seller are confirmed to be defective and covered by this limited warranty, will be repaired or replaced (at Seller's sole option) at no cost to you and returned pre-paid. Defective parts will be repaired or replaced with new or factory-rebuilt parts at Seller's sole option. You are responsible for any costs incurred in removing and/or reinstalling the product or any component.

ALL IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE APPLICABLE LIMITED WARRANTY PERIOD SET FORTH ABOVE FOR THE RELATED COMPONENT(S), AND NO IMPLIED WARRANTIES WILL EXIST OR APPLY AFTER SUCH PERIOD. SOME STATES AND PROVINCES (WHICH MAY INCLUDE THE PROVINCE OF QUEBEC) DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Because Seller cannot control the quality of products sold by unauthorized sellers, this limited warranty applies only to Products that were purchased from Seller or an authorized reseller in the United States or Canada, unless otherwise prohibited by law. Seller reserves the right to reject warranty claims from purchasers for Products purchased from unauthorized sellers, including unauthorized Internet sites.

THIS LIMITED WARRANTY DOES NOT COVER NON-DEFECT DAMAGE, DAMAGE CAUSED BY IMPROPER INSTALLATION, OPERATION OR CARE (INCLUDING, BUT NOT LIMITED TO ABUSE, MISUSE, FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE, UNAUTHORIZED REPAIRS OR ANY ALTERATIONSTO THIS PRODUCT), LABOR CHARGES FOR REINSTALLING A REPAIRED OR REPLACED UNIT, REPLACEMENT OF CONSUMABLE ITEMS (E.G., BATTERIES IN REMOTE CONTROLTRANSMITTERS AND LIGHT BULBS), OR UNITS INSTALLED FOR NON-RESIDENTIAL USE. THIS LIMITED WARRANTY DOES NOT COVER ANY PROBLEMS WITH, OR RELATING TO, THE GARAGE DOOR OR GARAGE DOOR HARDWARE, INCLUDING BUT NOT LIMITED TO THE DOOR SPRINGS, DOOR ROLLERS, DOOR ALIGNMENT OR HINGES. THIS LIMITED WARRANTY ALSO DOES NOT COVER ANY PROBLEMS CAUSED BY INTERFERENCE. UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH USE, OR INABILITY TO USE, THIS PRODUCT. IN NO EVENT SHALL SELLER'S LIABILITY FOR BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR STRICT LIABILITY EXCEED THE COST OF THE PRODUCT COVERED HEREBY. NO PERSON IS AUTHORIZED TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS PRODUCT.

The disclaimers, exclusions, and limitations of liability under this warranty will not apply to the extent prohibited by applicable law (which may include the Province of Quebec).

SOME STATES AND PROVINCES (WHICH MAY INCLUDE THE PROVINCE OF QUEBEC) DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE AND PROVINCE TO PROVINCE.

Effective Date: September 1, 2022

# COMMERCIAL DC VEHICULAR SLIDE GATE OPERATOR

## INSTALLATION MANUAL

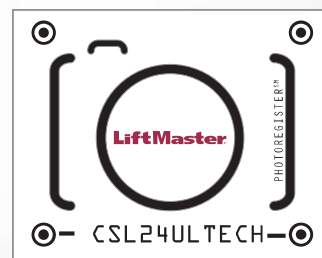
Model CSL24UL



OPERATOR REQUIRES A  
LIFTMASTER EXTERNAL  
MONITORED ENTRAPMENT  
PROTECTION DEVICE BE  
INSTALLED IN ALL  
ENTRAPMENT ZONES

- THIS PRODUCT IS TO BE INSTALLED AND SERVICED BY A TRAINED GATE SYSTEMS TECHNICIAN ONLY.
- This model is for use on vehicular passage gates ONLY and not intended for use on pedestrian passage gates.
- This model is intended for use in Class I, II, III and IV vehicular slide gate applications.
- Visit LiftMaster.com to locate a professional installing dealer in your area.
- This gate operator is compatible with MyQ® and Security+ 2.0® accessories.

Access installation and technical support guides or register this product



1. Take a photo of the camera icon including the points (⊙).
2. Send it in by texting the photo to 71403.



LiftMaster  
300 Windsor Drive  
Oak Brook, IL 60523

**LiftMaster**  
ELITE SERIES®



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## SAFETY

### Safety Symbol and Signal Word Review

When you see these Safety Symbols and Signal Words on the following pages, they will alert you to the possibility of **Serious Injury or Death** if you do not comply with the warnings that accompany them. The hazard may come from something mechanical or from electric shock. Read the warnings carefully.

When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your gate and/or the gate operator if you do not comply with the cautionary statements that accompany it. Read them carefully.

#### IMPORTANT NOTE:

- *BEFORE attempting to install, operate or maintain the operator, you must read and fully understand this manual and follow all safety instructions.*
- *DO NOT attempt repair or service of your gate operator unless you are an Authorized Service Technician.*


 **WARNING**

MECHANICAL

 **WARNING**

ELECTRICAL

 **CAUTION**

 **WARNING:** This product can expose you to chemicals including lead, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# SAFETY

## Usage Class

### Class I - Residential Vehicular Gate Operator

A vehicular gate operator (or system) intended for use in garages or parking areas associated with a residence of one-to four single families.

### Class II - Commercial/General Access Vehicular Gate

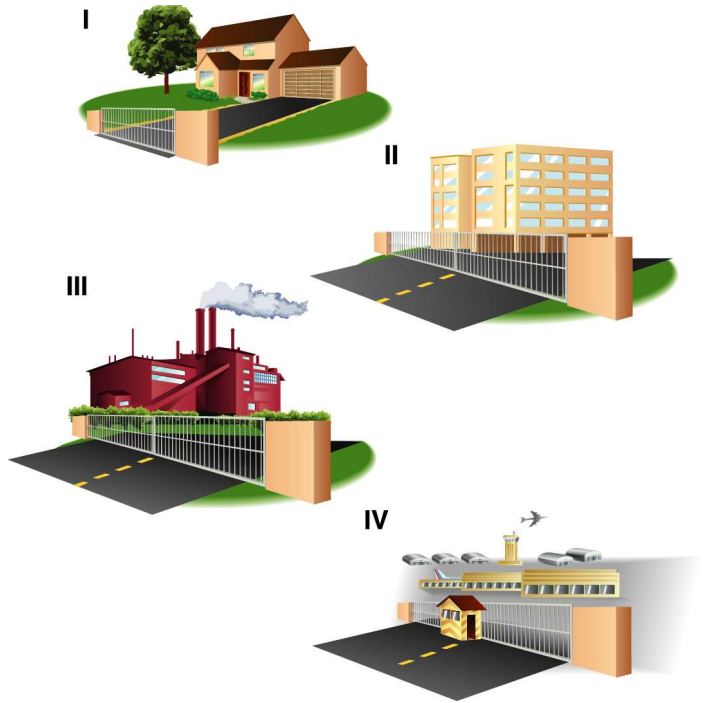
A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units), hotel, garages, retail store, or other buildings accessible by or servicing the general public.

### Class III - Industrial/Limited Access Vehicular Gate

A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory or loading dock area or other locations not accessible by or intended to service the general public.

### Class IV - Restricted Access Vehicular Gate Operator

A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.



## UL325 Entrapment Protection Requirements

- A **minimum of two** independent\* monitored entrapment protection devices are required to be installed at each entrapment zone
- Every installation is unique. It is the responsibility of the installer to install external monitored entrapment protection devices in **each entrapment zone**
- This vehicular slide gate operator will operate only after installation of a **minimum of two** independent\* monitored entrapment protection devices in each direction; two in the open direction and two in the close direction.
- Entrapment protection device types include inherent (built into the operator), monitored external photoelectric sensors or monitored external edge sensors
- This operator is provided with an inherent entrapment protection device built into the operator that serves as one of the two independent devices

\* Independent - the same type of device shall NOT be used for both entrapment protection devices.

## IMPORTANT SAFETY INSTRUCTIONS

### ⚠ WARNING

To reduce the risk of INJURY or DEATH:

- READ AND FOLLOW ALL INSTRUCTIONS.
- NEVER let children operate or play with gate controls. Keep the remote control away from children.
- ALWAYS keep people and objects away from the gate. NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.
- Test the gate operator monthly. The gate MUST reverse on contact with an object or reverse when an object activates the noncontact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of INJURY or DEATH.
- Use the emergency release ONLY when the gate is not moving.
- KEEP GATES PROPERLY MAINTAINED. Read the owner's manual. Have a qualified service person make repairs to gate hardware.
- The entrance is for vehicles ONLY. Pedestrians MUST use separate entrance.

• **SAVE THESE INSTRUCTIONS.**

## Safety Installation Information

1. Vehicular gate systems provide convenience and security. Gate systems are comprised of many component parts. The gate operator is only one component. Each gate system is specifically designed for an individual application.
2. Gate operating system designers, installers and users must take into account the possible hazards associated with each individual application. Improperly designed, installed or maintained systems can create risks for the user as well as the bystander. Gate systems design and installation must reduce public exposure to potential hazards.
3. A gate operator can create high levels of force in its function as a component part of a gate system. Therefore, safety features must be incorporated into every design. Specific safety features include:
  - Edges Sensors (contact)
  - Guards for Exposed Rollers
  - Photoelectric Sensors
  - Screen Mesh
  - Vertical Posts
  - Instructional and Precautionary Signage
4. Install the gate operator only when:
  - a. The operator is appropriate for the construction and the usage class of the gate.
  - b. All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 6 feet (1.8 m) above the ground to prevent a 2-1/4 inches (6 cm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position.
  - c. All exposed pinch points are eliminated or guarded, and guarding is supplied for exposed rollers.
5. The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. Locate the gate such that persons will not come in contact with the vehicular gate during the entire path of travel of the vehicular gate.
6. The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment.
7. The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
8. Permanently mounted access controls intended for users to activate, must be located at least 6 feet (1.8 m) away from any moving part of the gate and where the user is prevented from reaching over, under, around or through the gate to operate the controls. Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use. Exception: Emergency access controls only accessible by authorized personnel (e.g. fire, police) may be placed at any location in the line-of-sight of the gate.
9. The Stop and/or Reset (if provided separately) must be located in the line-of-sight of the gate. Activation of the reset control shall not cause the operator to start.
10. A minimum of two (2) WARNING SIGNS shall be installed in the area of the gate. Each placard is to be visible by persons located on the side of the gate on which the placard is installed.
11. For a gate operator utilizing a non-contact sensor:
  - a. Reference owner's manual regarding placement of non-contact sensor for each type of application. See Install Entrapment Protection section.
  - b. Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving.
  - c. One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.
12. For a gate operator utilizing a contact sensor such as an edge sensor:
  - a. One or more contact sensors shall be located where the risk of entrapment or obstruction exists, such as at the leading edge, trailing edge and post mounted both inside and outside of a vehicular horizontal slide gate.
  - b. A hard wired contact sensor shall be located and its wiring arranged so the communication between the sensor and the gate operator is not subject to mechanical damage.
  - c. A wireless device such as one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless device shall function under the intended end-use conditions.

## Gate Construction Information

Vehicular gates should be installed in accordance with ASTM F2200: Standard Specification for Automated Vehicular Gate Construction. For a copy, contact ASTM directly at 610-832-9585 or [www.astm.org](http://www.astm.org).

### 1. General Requirements

- 1.1 Gates shall be constructed in accordance with the provisions given for the appropriate gate type listed, refer to ASTM F2200 for additional gate types.
- 1.2 Gates shall be designed, constructed and installed to not fall over more than 45 degrees from the vertical plane, when a gate is detached from the supporting hardware.
- 1.3 Gates shall have smooth bottom edges, with vertical bottom edged protrusions not exceeding 0.50 inches (12.7 mm) when other than the exceptions listed in ASTM F2200.
- 1.4 The minimum height for barbed tape shall not be less than 8 feet (2.44 m) above grade and for barbed wire shall not be less than 6 feet (1.83 m) above grade.
- 1.5 An existing gate latch shall be disabled when a manually operated gate is retrofitted with a powered gate operator.
- 1.6 A gate latch shall not be installed on an automatically operated gate.
- 1.7 Protrusions shall not be permitted on any gate, refer to ASTM F2200 for Exceptions.
- 1.8 Gates shall be designed, constructed and installed such that their movement shall not be initiated by gravity when an automatic operator is disconnected, in accordance with the following.
  - 1.8.1 Vehicular horizontal slide gate. Shall not result in continuous, unimpeded movement in either lineal direction of its travel.
  - 1.9 For pedestrian access in the vicinity of an automated vehicular gate, a separate pedestrian gate shall be provided. The pedestrian gate shall be installed in a location such that a pedestrian shall not come in contact with a moving vehicular access gate. A pedestrian gate shall not be incorporated into an automated vehicular gate panel.

### 2. Specific Applications

- 2.1 Any non-automated gate that is to be automated shall be upgraded to conform to the provisions of this specification.
- 2.2 This specification shall not apply to gates generally used for pedestrian access and to vehicular gates not to be automated.
- 2.3 When the gate operator requires replacement, the existing gate shall be upgraded to conform to the provisions of this specification.
- 2.4 When the gate of an automated gate system requires replacement, the new gate shall conform to the provisions of this specification.

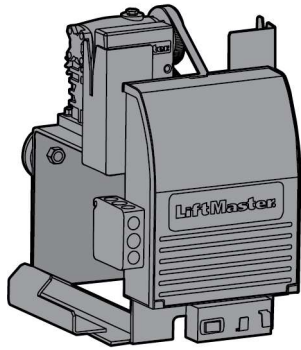
### 3. Vehicular Horizontal Slide Gates

- 3.1 The following provisions shall apply to Class I, Class II and Class III vehicular horizontal slide gates:
  - 3.1.1 All weight bearing exposed rollers 8 feet (2.44 m), or less, above grade shall be guarded or covered.
  - 3.1.2 All openings shall be designed, guarded, or screened from the bottom of the gate to the top of the gate or a minimum of 6 ft. (1.83 m) above grade, whichever is less, to prevent a 2 1/4 in. (57 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position. The gate panel shall include the entire section of the moving gate, including any back frame or counterbalance portion of the gate.
    - 3.1.3 A gap, measured in the horizontal plane parallel to the roadway, between a fixed stationary object nearest the roadway, (such as a gate support post) and the gate frame when the gate is in either the fully open position or the fully closed position, shall not exceed 2 1/4 inches (57 mm). Exception: All other fixed stationary objects greater than 16 in. (406 mm) from the gate frame shall not be required to comply with this section.
    - 3.1.4 Positive stops shall be required to limit travel to the designed fully open and fully closed positions. These stops shall be installed at either the top of the gate, or at the bottom of the gate where such stops shall horizontally or vertically project no more than is required to perform their intended function.
    - 3.1.5 All gates shall be designed with sufficient lateral stability to assure that the gate will enter a receiver guide, refer to ASTM F2200 for panel types.
  - 3.2 The following provisions shall apply to Class IV vehicular horizontal slide gates:
    - 3.2.1 All weight bearing exposed rollers 8 feet (2.44 m), or less, above grade shall be guarded or covered.
    - 3.2.2 Positive stops shall be required to limit travel to the designed fully open and fully closed positions. These stops shall be installed at either the top of the gate, or at the bottom of the gate where such stops shall horizontally or vertically project no more than is required to perform their intended function.

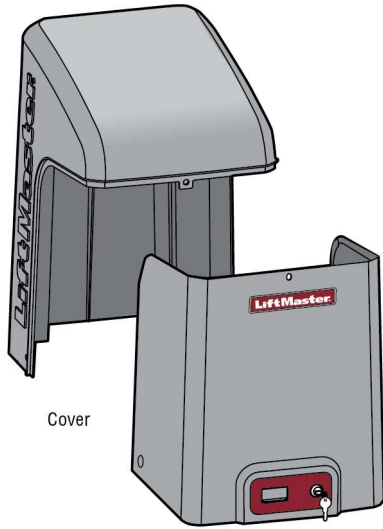
# INTRODUCTION

## Carton Inventory

**NOT SHOWN:** Documentation Packet, Chain #41 - 30 feet, Eye Bolt Kit



Operator

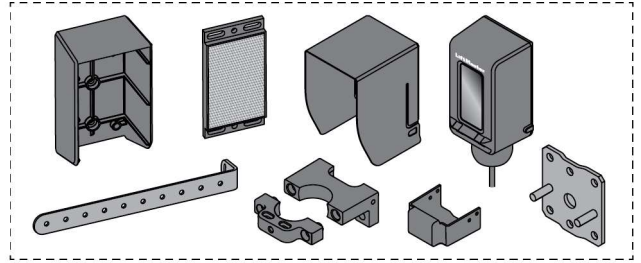


Cover

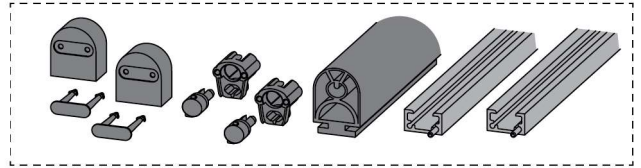


Warning Signs (2)  
and Warranty Card

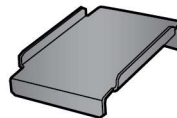
Warranty Card



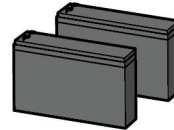
LiftMaster Monitored Retro-Reflective Photoelectric Sensor Model LMRRUL



5 ft. Edge sensor kit



Battery Tray



Battery 12 Vdc 7AH (2)

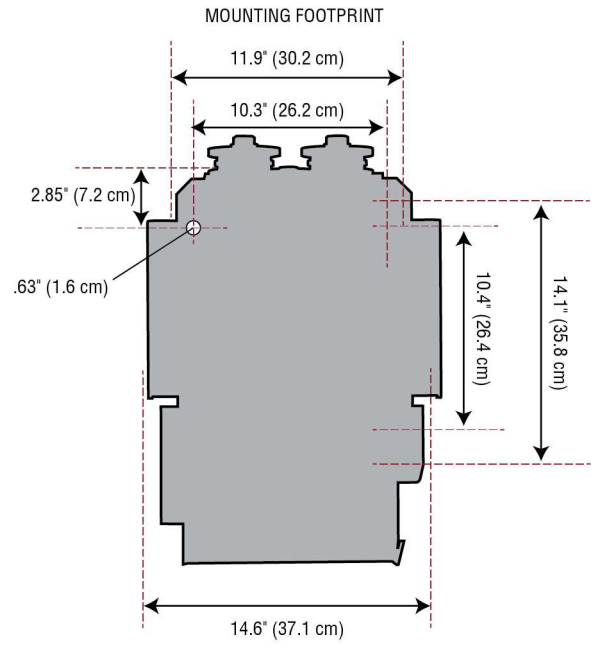
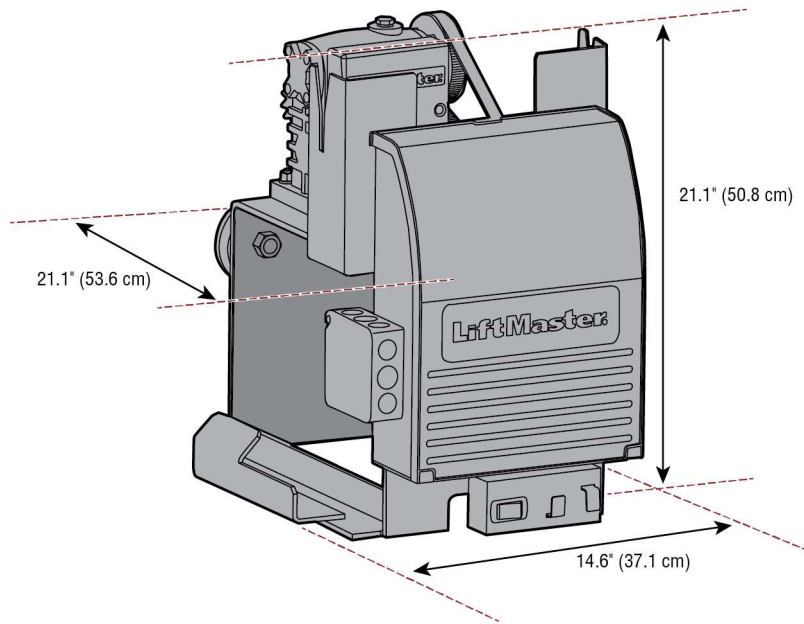


Key (2)

# INTRODUCTION

## Operator Specifications

<b>Usage Classification</b>	Class I, II, III, & IV
<b>Main AC Supply</b>	120 Vac, 4 Amps (10 Amps including Accessory Outlets) <b>OR</b> 240 Vac, 2 Amps When Optional Transformer Kit Model 3PHCONV is installed in the field, operator is rated 208/240/480/575 VAC, 4.8/4.2/2.1/1.7 A, 60 Hz, 1 PH
<b>System Operating Voltage</b>	24 Vdc Transformer Run / Battery Backup
<b>Accessory Power</b>	24 Vdc, 500mA max. for ON + SW (switched)
<b>Solar Power Max</b>	24 Vdc at 60 watts max.
<b>Maximum Gate Weight</b>	1500 lbs. (680.4 kg)
<b>Minimum Gate Travel Distance</b>	4 feet (1.2 m)
<b>Maximum Gate Travel Distance</b>	50 feet (15.24 m)
<b>Maximum Gate Travel Speed</b>	1 foot/second
<b>Maximum Daily Cycle Rate</b>	Continuous
<b>Maximum Duty Cycle</b>	Continuous
<b>Operating Temperature</b>	Without Heater: -20°C to 60°C (-4°F to 140°F) With Optional Heater: -40°C to 60°C (-40°F to 140°F)
<b>Expansion Board</b>	Provided
<b>External Entrapment Protection Device Inputs (non-contact and/or contact)</b>	Main board - up to 2 close entrapment protection devices and 1 open entrapment protection device. Expansion board - up to 3 entrapment protection devices configurable to either close or open and up to 4 edge sensors using wireless edge sensor kit model LMWEKITU .



# INTRODUCTION

## Site Preparation

Check the national and local building codes **BEFORE** installation.

### Conduit and Concrete Pad

Trench and install conduit. Before trenching, contact underground utility locating companies. Conduit must be UL approved for low and high voltage. Consider the operator placement **BEFORE** installing the pad or post.



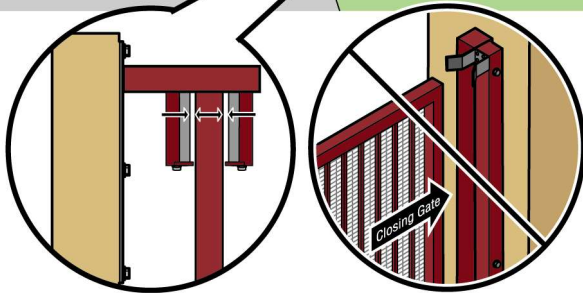
### Safety

Entrapment protection devices are required to protect against any entrapment or safety conditions encountered in your gate application. Install a warning sign (two provided) on the inside and outside of the property, where easily visible.



### Gate

Gate must be constructed and installed according to ASTM F2200 standards (refer to page 4). Gate must fit specifications of operator (refer to specifications).

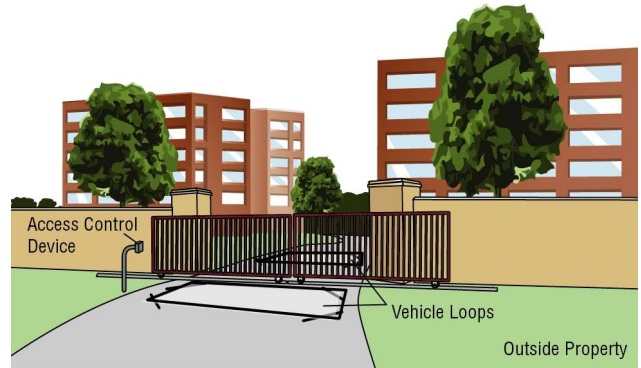


**SAFETY CATCH ROLLERS**  
Install catch rollers with safety covers on the side of a post or wall with a minimal distance of half an inch between the rollers and gate

**DO NOT** use a gate catch post. Because the coasting distance may vary due to changes in temperature, it is **NOT** recommended to install a catch post in front of the gate's path. To do so will cause the gate to hit the post in certain instances.

### Additional Accessories

The vehicle loops allow the gate to stay open when vehicles are obstructing the gate path. Suggested for vehicles 14 feet (4.27 m) or longer. Vehicle loops are not required but are recommended. Before installing your Access Control Device(s) be sure to complete a site survey and determine the best device for your site needs.



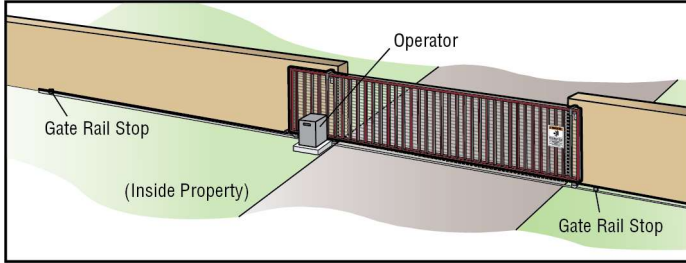
# INSTALLATION

## ⚠ CAUTION

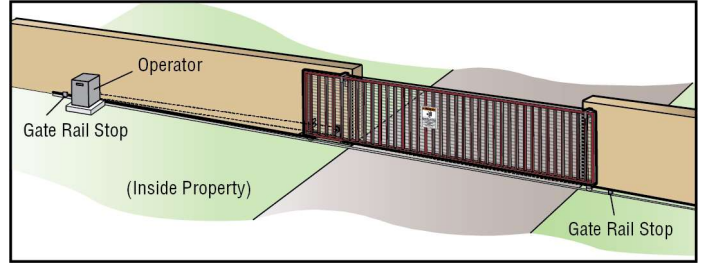
- To AVOID damaging gas, power or other underground utility lines, contact underground utility locating companies BEFORE digging more than 18 inches (46 cm) deep.
- ALWAYS wear protective gloves and eye protection when changing the battery or working around the battery compartment.

### Types of Installations

#### Standard Installation



#### Rear Installation





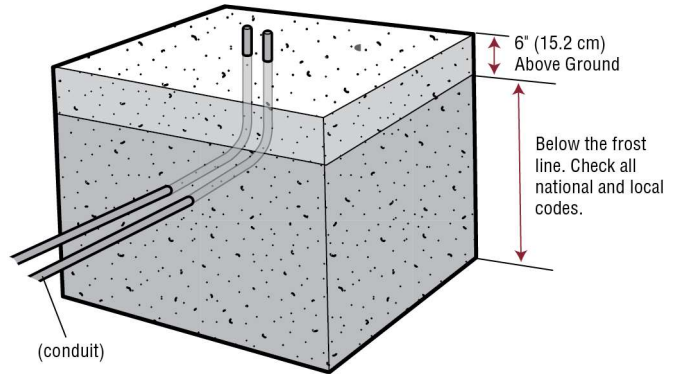
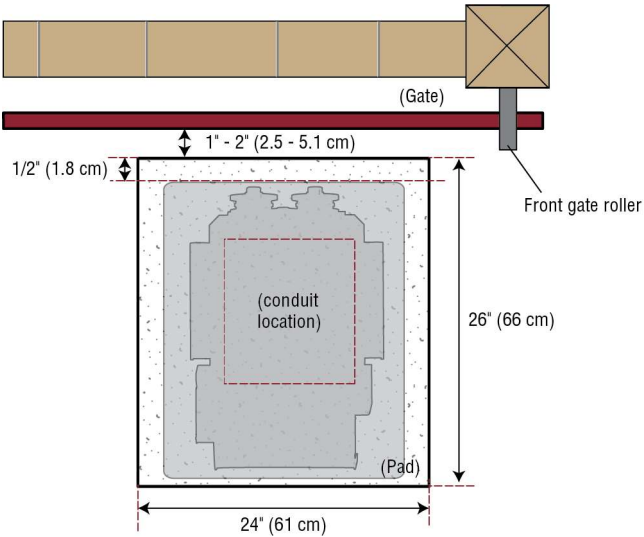
# INSTALLATION

## Step 1 Determine Location for Operator

Check the national and local building codes before installation.

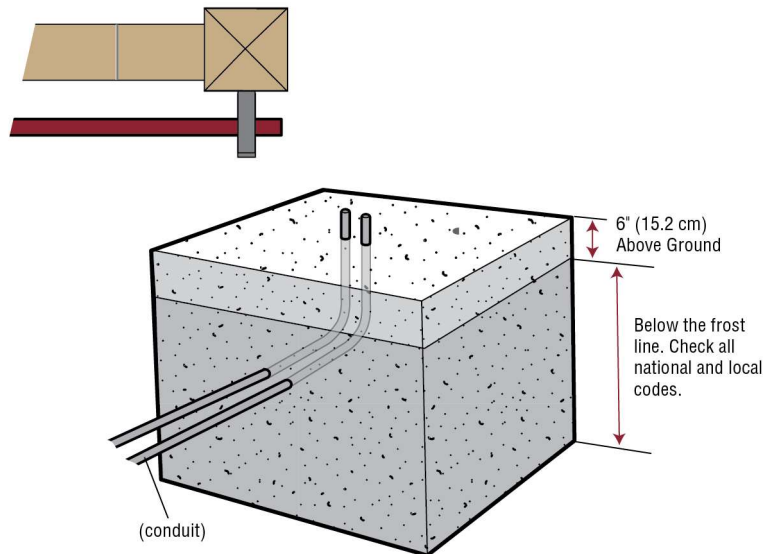
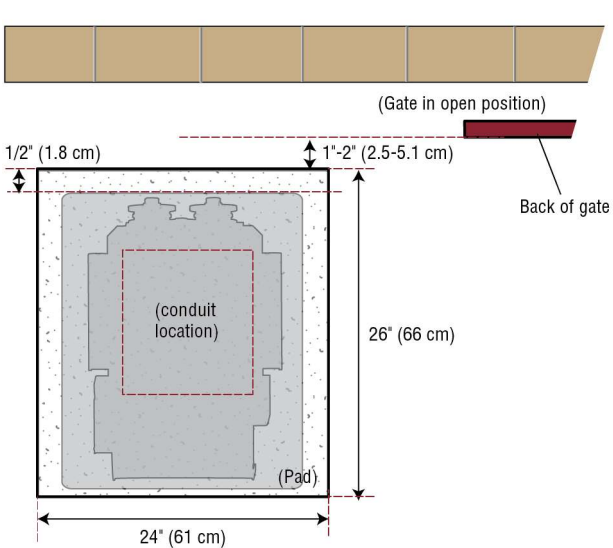
### Standard Installation

1. The gate operator should be installed near the front roller of the gate. Lay out the concrete pad.
2. Install the electrical conduit.
3. Pour a concrete pad (reinforced concrete is recommended).



### Rear Installation

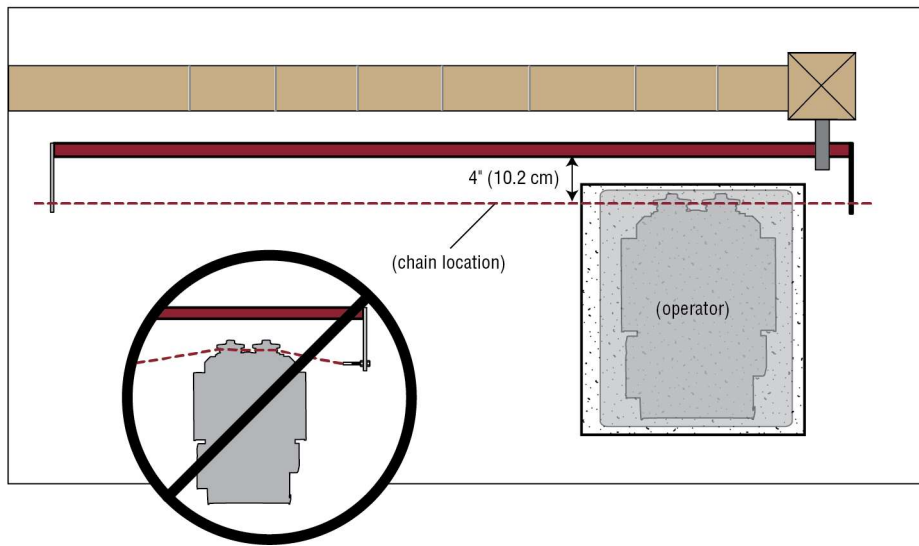
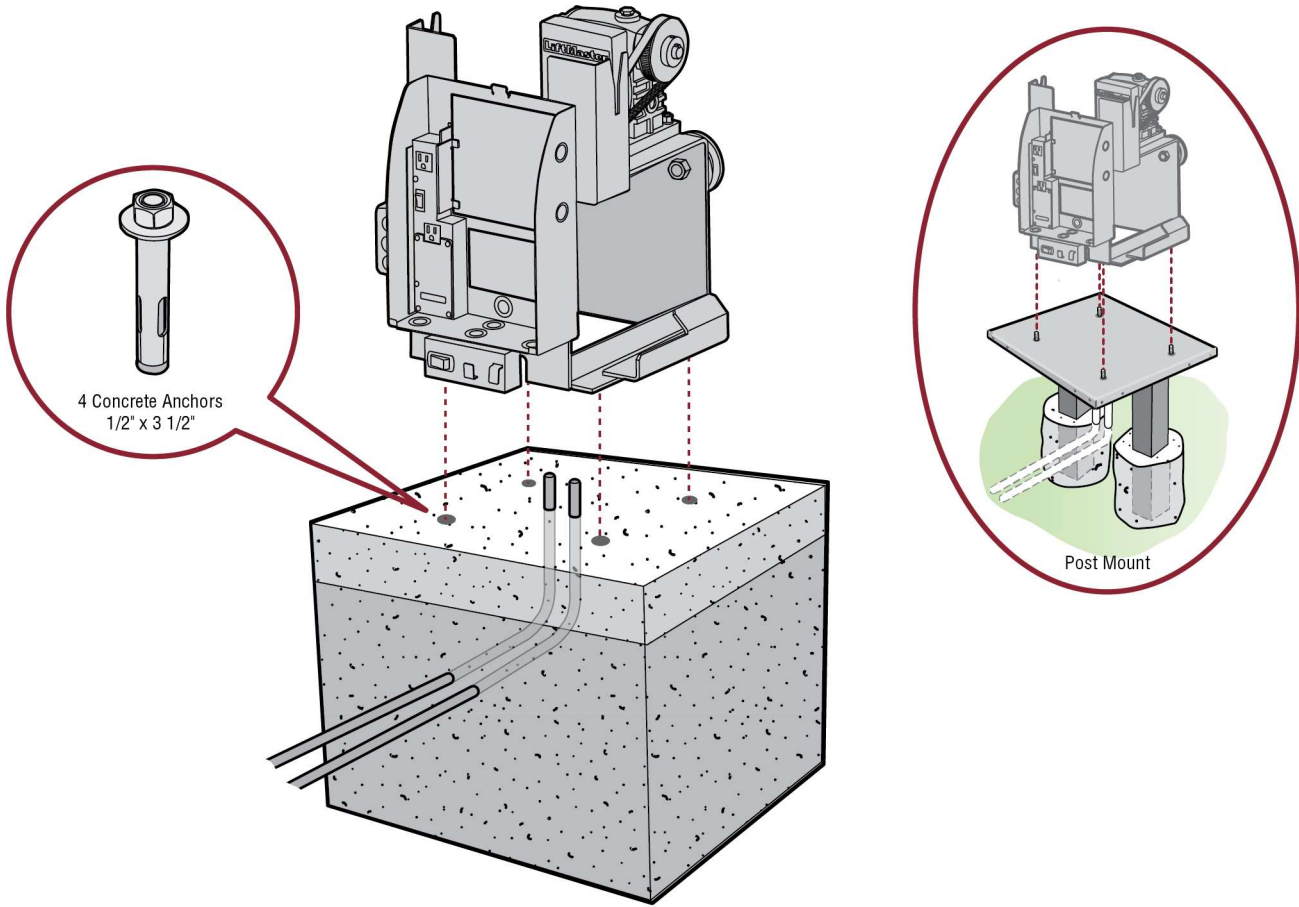
1. The gate operator should be installed near the back of the gate in the OPEN position. Lay out the concrete pad.
2. Install the electrical conduit.
3. Pour a concrete pad (reinforced concrete is recommended).



# INSTALLATION

## Step 2 Install the Operator

Attach the operator to the concrete pad with appropriate fasteners. The gate operator should be installed near the front roller of the gate or near the back of the gate (in the OPEN position). The space between the gate and the output sprocket must be a minimum of 4 inches (10.2 cm). **NOTE:** An alternative to a concrete pad is to post mount the operator (refer to Accessories).



# INSTALLATION

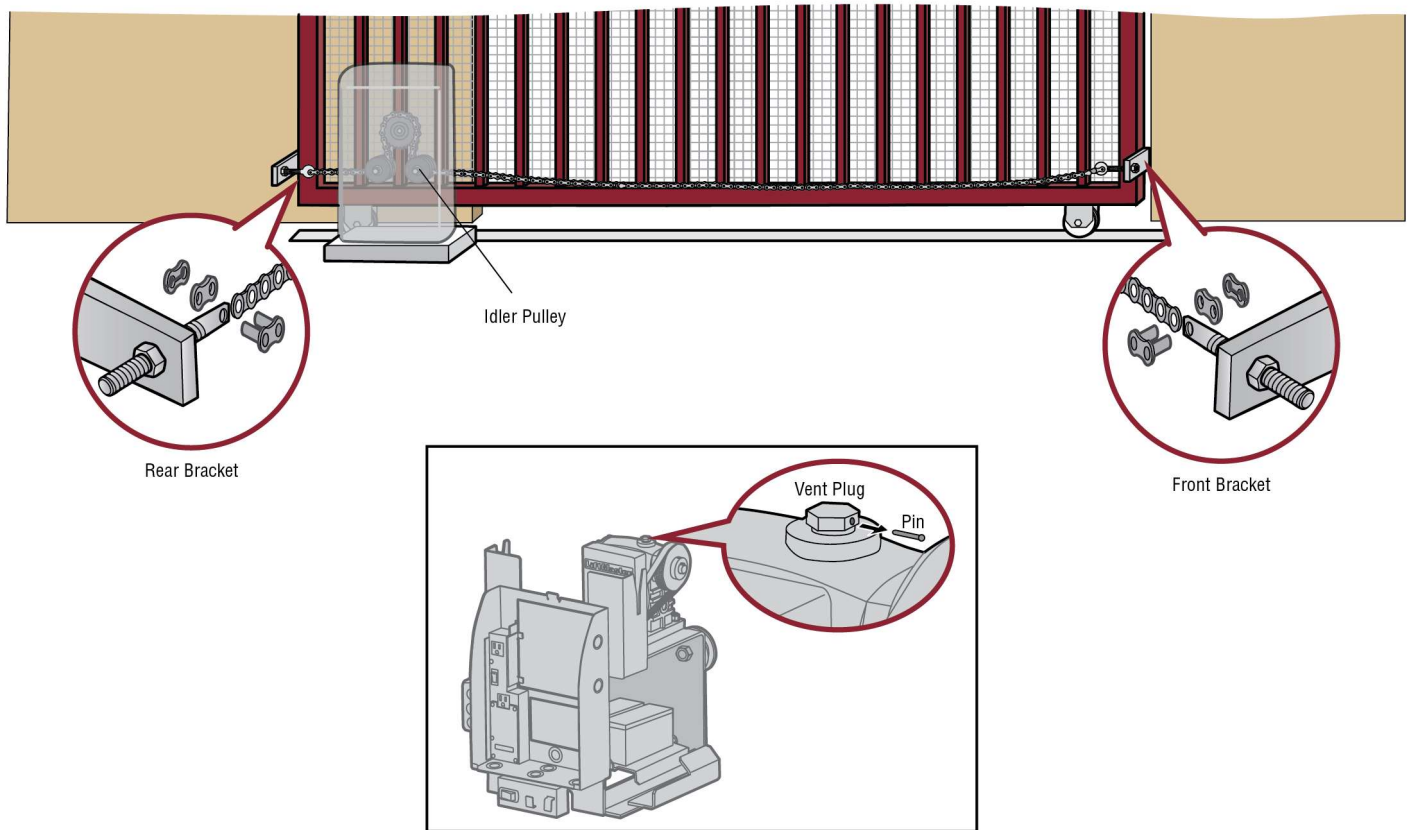
## Step 3 Attach the Chain

### Standard Installation

**DO NOT run the operator until instructed.**

1. Manually open the gate and line up the front bracket so the chain will be level with the idler pulley and parallel to the ground. Weld the front bracket in this position.
2. Manually close the gate and line up the rear bracket so the chain will be level with the idler pulley and parallel to the ground. Weld the rear bracket in this position.
3. Route the chain through the operator.
4. Connect the chain to the brackets using the eye bolt hardware. Chain should not be too tight or have excessive slack.
5. Remove the pin from the vent plug on the gear box.

**NOTE:** The chain should have no more than 1 inch (2.5 cm) of sag for every 10 feet (3 m) of chain length.



# INSTALLATION

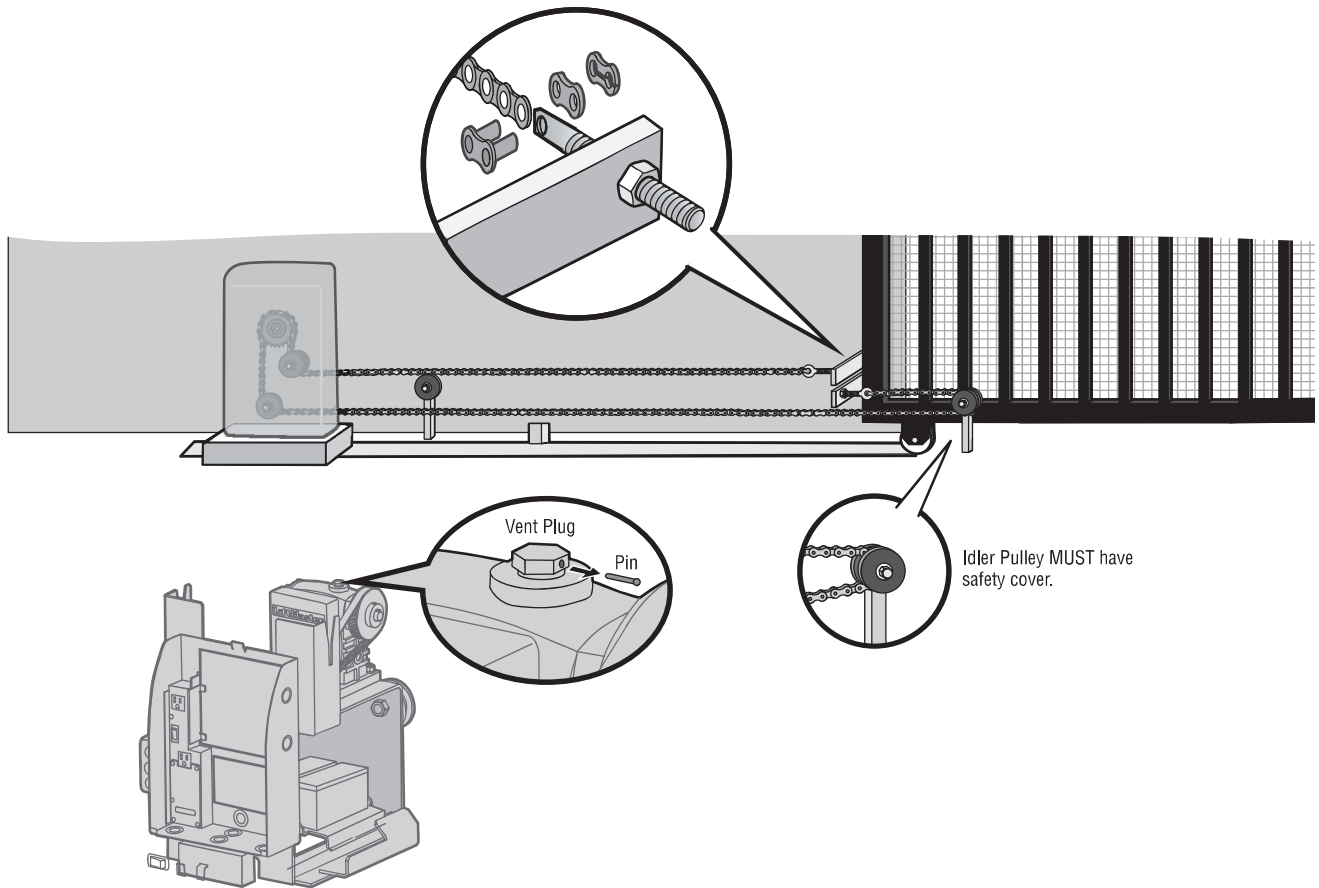
## Rear Installation

**DO NOT run the operator until instructed.**

**NOTE:** This installation will require two extra idler pulleys. Make sure all exposed pinch points are guarded. Refer to Gate Construction Information on page 4.

1. Move the back pulley to the bottom hole in the operator.
2. Manually close the gate and align the bottom bracket so the chain will be level with the bottom idler pulley and parallel to the ground. Weld the bottom bracket in this position.
3. Align the top bracket so the chain will be level with the top idler pulley and parallel to the ground. Weld the upper bracket in this position.
4. Route the chain through the operator.
5. Connect the chain to the brackets using the eye bolt hardware. Chain should not be too tight or have excessive slack.
6. Remove the pin from the vent plug on the gear box.

**NOTE:** The chain should have no more than 1 inch (2.5 cm) of sag for every 10 feet (3 m) of chain length.



# INSTALLATION

## ! WARNING

To prevent **SERIOUS INJURY** or **DEATH** from a moving gate:

- ALL gate operator systems **REQUIRE** two independent entrapment protection systems for each entrapment zone.
- Entrapment protection devices **MUST** be installed to protect anyone who may come near a moving gate.
- Locate entrapment protection devices to protect in **BOTH** the open and close gate cycles.
- Locate entrapment protection devices to protect between moving gate and **RIGID** objects, such as posts, walls, pillars, columns, or operator itself.

## Step 4 Install Entrapment Protection

Entrapment protection **MUST** be installed according to the following UL 325 requirements:

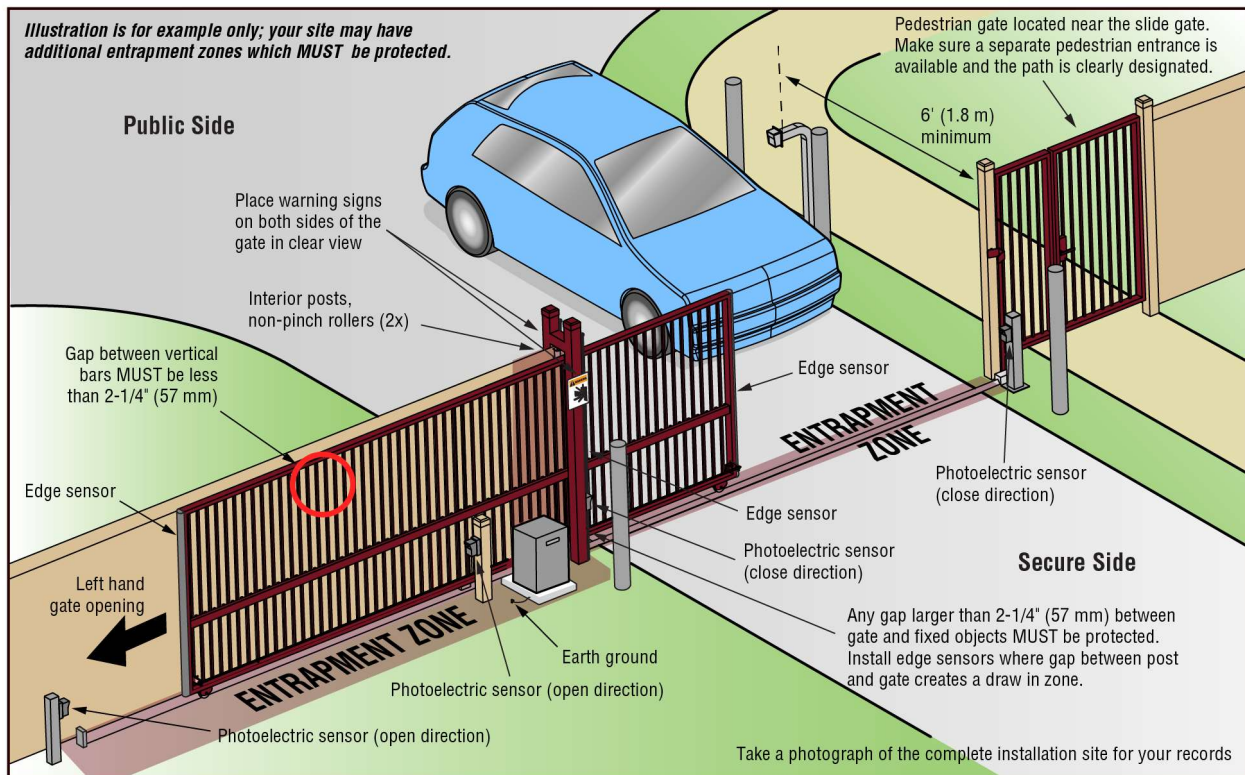
- Slide gate operators require a **minimum of two** external monitored entrapment protection devices to function; one in the open direction and one in the close direction.
- Every installation is unique. It is the responsibility of the installer to ensure that **ALL** entrapment zones are protected with an external monitored entrapment protection device, protecting both the open and close gate cycles.
- **LiftMaster** monitored external entrapment protection devices **MUST** be used with **LiftMaster** operators to meet UL325 requirements, see **Accessories**.
- Test **ALL** entrapment protection devices after completing installation of the operator. For testing instructions, refer to the manual provided with your entrapment protection device.

### Definitions

**ENTRAPMENT:** The condition when a person is caught or held in a position that increases the risk of injury.

**SLIDE GATE ENTRAPMENT ZONE:** An entrapment zone exists if at any point during travel, the gap between the gate and any opposing fixed edge or surface such as posts, walls, pillars, columns or operator itself, is less than 16" (406 mm) in a location up to 6 ft. (1.8 m) above grade.

*Illustrations provided by DASMA Gate Systems Safety Guide*



# INSTALLATION

## Wire Entrapment Protection Devices

There are three options for wiring the entrapment protection devices depending on the specific device and how the device will function. Refer to the specific entrapment protection device manual for more information. These entrapment protection device inputs are for monitored devices, which include pulsed photoelectric sensors, resistive edge sensors, and pulsed edge sensors. **Only one monitored entrapment protection device may be wired to each input.** Additional entrapment protection devices may be wired to the expansion board.

### Control Board

#### CLOSES EYES/INTERRUPT

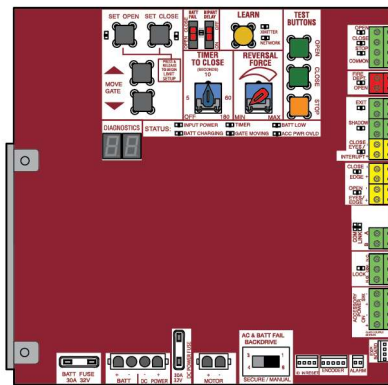
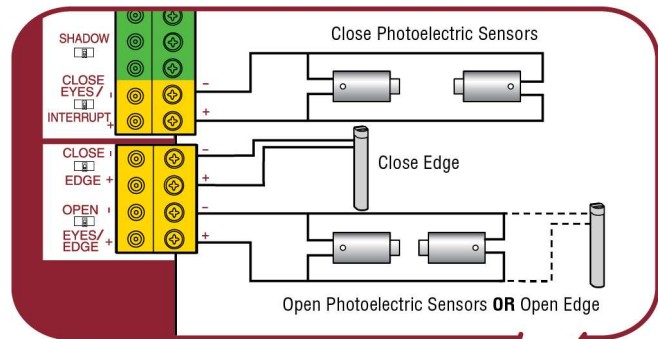
(2 Terminals) The CLOSE EYES/INTERRUPT input is for photoelectric sensor entrapment protection for the close direction. When an obstruction is sensed during gate closing the gate will open to the full open position and resets the Timer-to-Close. This input will be disregarded during gate opening.

#### CLOSE EDGE

(2 Terminals) The CLOSE EDGE input is for edge sensor entrapment protection for the close direction. When an obstruction is sensed during gate closing the gate will reverse to the full open position, disengaging the Timer-to-Close. This input will be disregarded during gate opening.

#### OPEN EYES/EDGE

(2 Terminals) The OPEN EYES/EDGE input is for photoelectric sensor or edge sensor entrapment protection for the open direction. When an obstruction is sensed during gate opening the gate will reverse for 4 seconds then stop. This input will be disregarded during gate closing.



### Expansion Board

#### EYE ONLY and COM

Open or Close Direction Photoelectric Sensors, the functionality is based on the switch settings (located next to the terminals)

**Switch set to CLOSE:** gate reverses fully when an obstruction is sensed

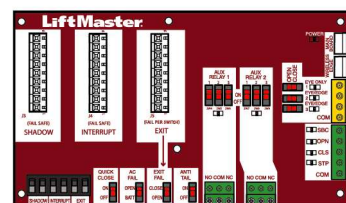
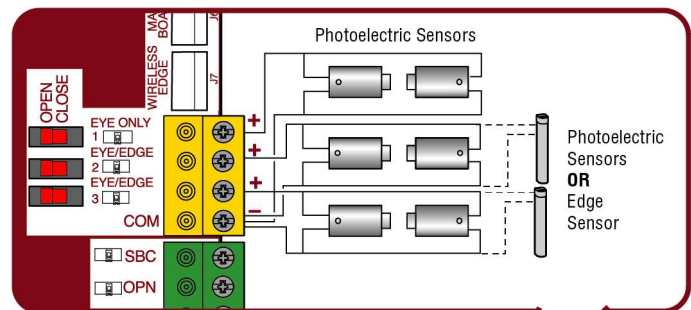
**Switch set to OPEN:** gate reverses 4 seconds when an obstruction is sensed

#### EYE/EDGE and COM

Open or Close Direction Photoelectric Sensors or Edge Sensor, the functionality is based on the switch settings (located next to the terminals)

**Switch set to CLOSE:** gate reverses fully when an obstruction is sensed

**Switch set to OPEN:** gate reverses 4 seconds when an obstruction is sensed



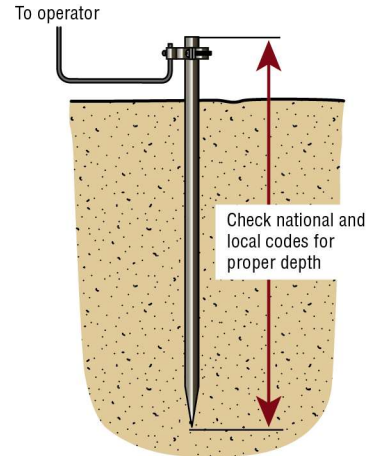
# INSTALLATION

## Step 5 Earth Ground Rod

Use the proper earth ground rod for your local area. The ground wire must be a single, whole piece of wire. Never splice two wires for the ground wire. If you should cut the ground wire too short, break it, or destroy its integrity, replace it with a single wire length.

1. Install the earth ground rod within 3 feet (.9 m) of the operator.
2. Run wire from the earth ground rod to the operator.

**NOTE:** If the operator is not grounded properly the range of the remote controls will be reduced and the operator will be more susceptible to lightning and surge damage.



## Step 6 Power Wiring

### **WARNING**

To reduce the risk of SEVERE INJURY or DEATH:

- ANY maintenance to the operator or in the area near the operator MUST NOT be performed until disconnecting the electrical power (AC or solar and battery) and locking-out the power via the operator power switch. Upon completion of maintenance the area MUST be cleared and secured, at that time the unit may be returned to service.
- Disconnect power at the fuse box BEFORE proceeding. Operator MUST be properly grounded and connected in accordance with national and local electrical codes. **NOTE:** The operator should be on a separate fused line of adequate capacity.
- ALL electrical connections MUST be made by a qualified individual.
- DO NOT install ANY wiring or attempt to run the operator without consulting the wiring diagram.
- ALL power wiring should be on a dedicated circuit and well protected. The location of the power disconnect should be visible and clearly labeled.
- ALL power and control wiring MUST be run in separate conduit.

The operator can be wired for either 120 Vac or 240 Vac or a solar panel (not provided). Follow the directions according to your application. An optional Transformer Kit (Model 3PHCONV) can be used to change the input voltage (208/240/480/575 Vac) to an output voltage of 120 Vac (refer to Accessories). For dual gate applications, power will have to be connected to each operator. Main power supply and control wiring MUST be run in separate conduits.

**SOLAR APPLICATIONS:** For solar applications refer to *Solar Panels* section in the Appendix. Follow the directions according to your application.

**NOTE:** If using an external receiver use shielded wire for the connections and mount the receiver away from the operator to avoid interference from the operator.

MAXIMUM WIRE LENGTH							
AMERICAN WIRE GAUGE (AWG)	STANDARD OPERATOR			OPERATOR + ACCESSORIES POWERED BY TRANSFORMER KIT			
	120 VAC, 10A (includes fully loaded outlets)	120 VAC, 4A	240 VAC, 2A	208 VAC, 4.8A	240 VAC, 4.2A	480 VAC, 2.1A	575 VAC, 1.7A
14	100 (30.5 m)	250 (76.2 m)	1,000 (304.8 m)	360 (109.7 m)	480 (146.3 m)	1,900 (579.1 m)	2,800 (853.4 m)
12	160 (48.8 m)	400 (121.9 m)	1,600 (487.7 m)	570 (173.7 m)	750 (228.6 m)	3,000 (914.4 m)	4,500 (1,371.6 m)
10	250 (76.2 m)	630 (192 m)	2,500 (762 m)	900 (274.3 m)	1,200 (365.8 m)	4,800 (1,463 m)	7,100 (2,164.1 m)
8	400 (121.9 m)	1,000 (304.8 m)	4,000 (1,219.2 m)	1,400 (426.7 m)	1,900 (579.1 m)	7,600 (2,316.5 m)	11,300 (3,444.2 m)
6	636 (193.9 m)	1,600 (487.7 m)	6,400 (1,950.7 m)	2,300 (701 m)	3,000 (914.4 m)	12,100 (3,688.1 m)	18,000 (5,486.4 m)
4	1,000 (304.8 m)	2,500 (762 m)	10,100 (3,078.5 m)	3,700 (1,127.8 m)	4,800 (1,463 m)	19,300 (5,882.6 m)	28,500 (8,686.8 m)

Chart assumes: copper wire, 65°C, 5% drop

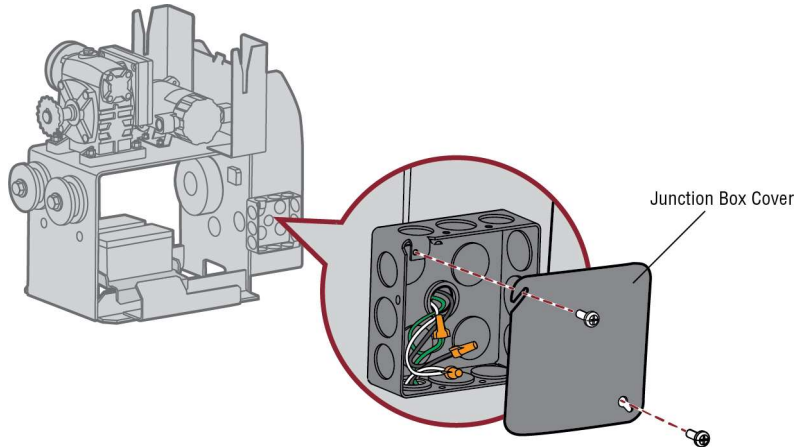
# INSTALLATION

All control wiring used to connect external devices to Class 2 circuits of the operator must be (QPTZ) Power-Limited Circuit Cables, Type CL2, CL2P, CL2R, or CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings.

## 240 VAC only

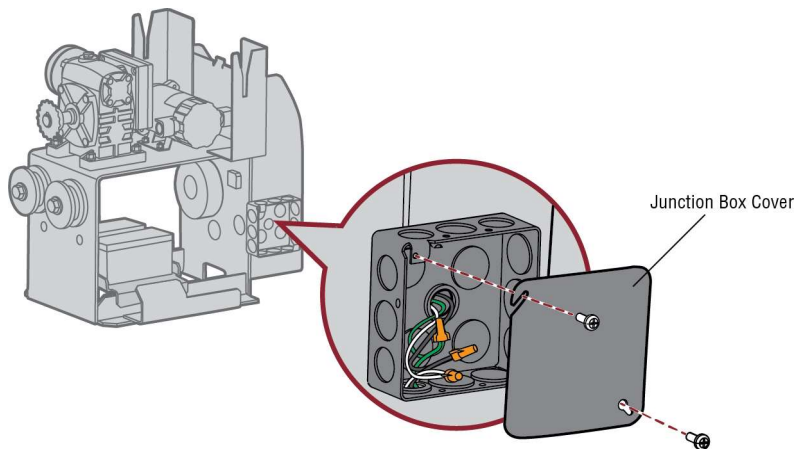
The accessory outlet is disabled and cannot be used with the 240 Vac option.

1. Remove the outlet housing from the electrical box by removing the screws (2).
2. Pull the outlet housing out and locate the power wiring connector on the EMI board.
3. Unplug the power wiring connector from the 120 Vac socket (factory default location) and plug it into the 240 Vac socket.
4. Replace the outlet housing by securing with the screws. The operator is now set for 240 Vac operation.



## 120 VAC and 240 VAC

1. Turn off the AC power from the main power source circuit breaker.
2. Run the AC power wires to the operator.
3. Remove the junction box cover.
4. Connect the green wire to the earth ground rod and AC ground using a wire nut. **NOTE:** The earth ground rod can be grounded to the chassis.
5. Connect the white wire to NEUTRAL using a wire nut.
6. Connect the black wire to HOT using a wire nut.
7. Replace the junction box cover. Ensure the wires are not pinched.

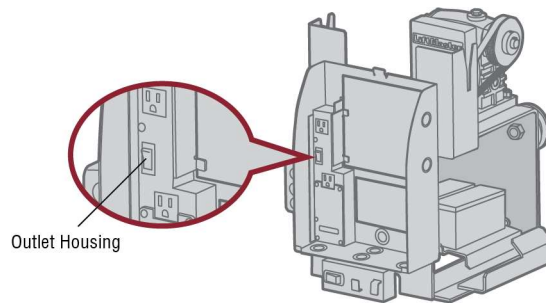




# INSTALLATION

## AC power switch

The AC Power switch on the operator will turn the incoming 120/240 Vac power ON or OFF. The operator's AC Power switch ONLY turns off AC power to the control board and DOES NOT turn off battery power.

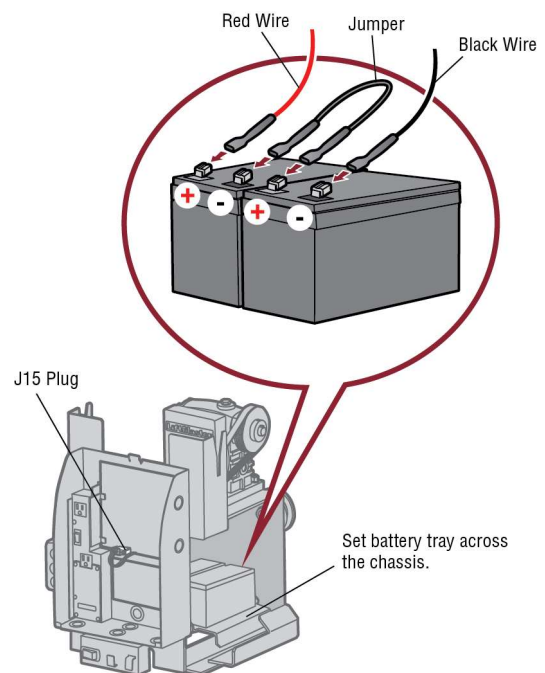


## Step 7 Connect Batteries

### 7AH battery

The batteries are charged in the circuit by the integrated transformer. The batteries are for battery backup.

1. Turn OFF AC power to the operator.
2. Unplug the J15 plug labeled BATT on the control board by squeezing the plug and pulling it from the control board. This disconnects the ac/dc power to the control board.
3. Connect a jumper between the positive (+) terminal of one battery to the negative terminal (-) of the other battery.
4. Connect the red wire from the J15 plug to the positive (+) terminal of the battery.
5. Connect the black wire from the J15 plug to the negative (-) terminal of the battery.
6. Plug the J15 plug back into the control board. This will power up the control board. **NOTE:** You may see a small spark when plugging the J15 plug into the board.
7. Turn ON AC power to the operator.
8. Turn ON the AC power switch on the operator.

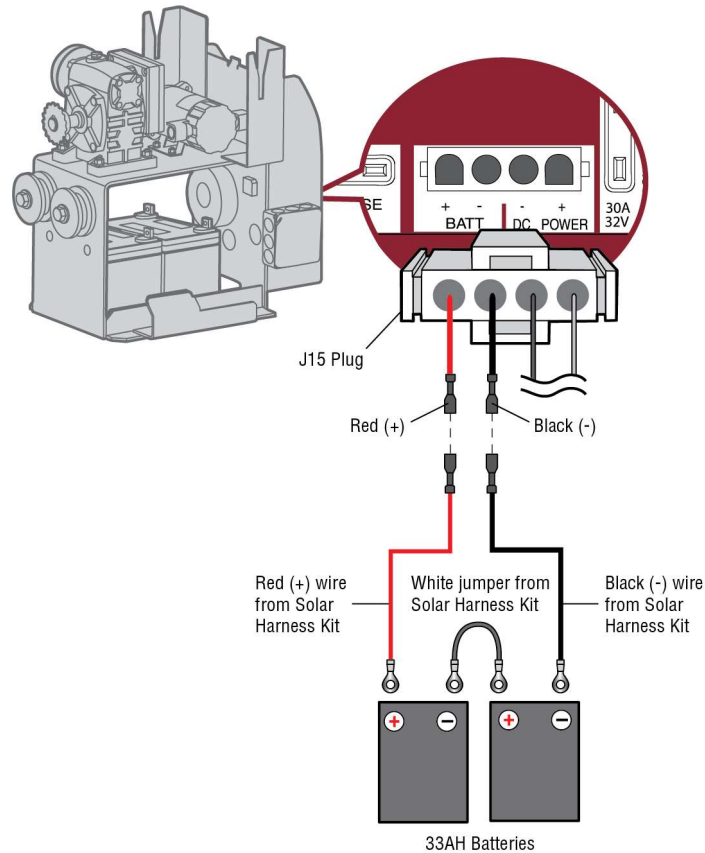


# INSTALLATION

## 33AH battery

The batteries are charged in the circuit by the integrated transformer. The batteries are for battery backup or solar installation. The 33AH application requires the Solar Harness Kit (Model K94-37236) and an additional battery tray (Model K10-34758-2).

1. Locate the J15 plug on the control board and disconnect it.
2. Connect the white jumper from the Solar Harness Kit between the positive (+) terminal of one battery and the negative (-) terminal of the other battery.
3. Connect one end of the red (+) wire from the Solar Harness Kit to the red wire from the J15 plug as shown. Connect the other end of the red (+) wire to the positive (+) terminal on the battery as shown.
4. Connect one end of the black (-) wire from the Solar Harness Kit to the black wire from the J15 plug as shown. Connect the other end of the black (-) wire to the negative (-) terminal on the battery as shown.
5. Turn ON AC power to the operator.
6. Turn ON the AC power switch on the operator.
7. Reconnect the J15 plug to the control board. **NOTE:** You may see a small spark when plugging the J15 plug into the board.



# INSTALLATION

## Step 8 Dual gate setup

There are two options for dual gate communication: wired or wireless. Follow the directions according to your application. Do not use wired and wireless communication simultaneously. Wired dual gate applications will have a longer battery standby time than wireless applications.

### Wireless setup

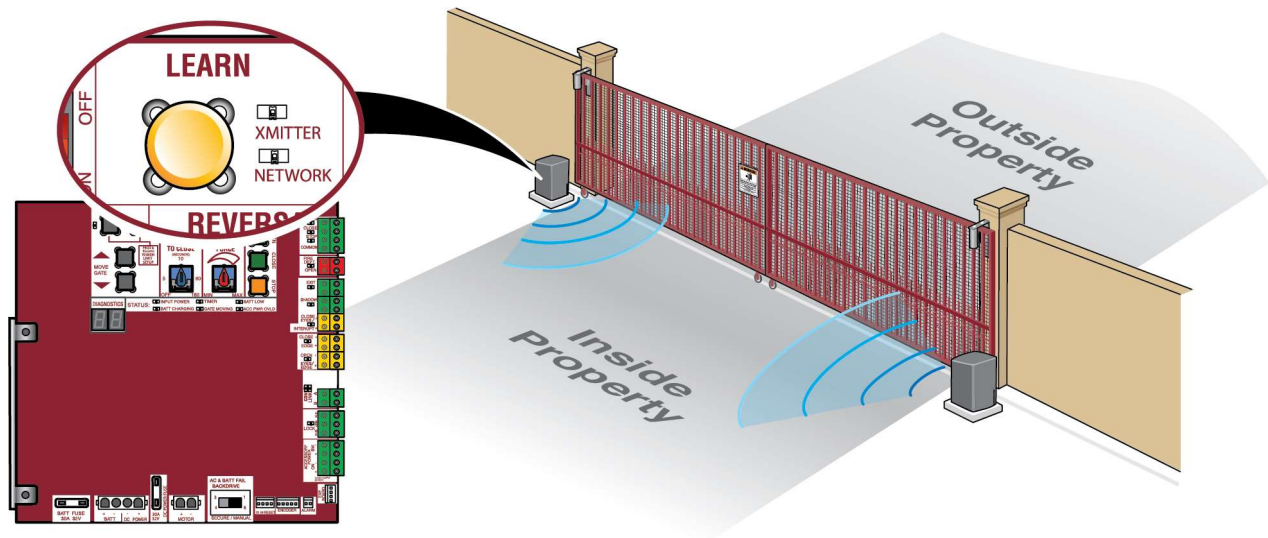
To activate the wireless feature:

1. Choose an operator to be the network primary operator. All wireless accessories will need to be programmed to the primary operator. **NOTE:** We recommend that all accessories and board configurations are set on the primary operator.
2. Press and release the LEARN button on the primary operator. The green XMITTER LED will light. **NOTE:** The operator will time out of programming mode after 180 seconds.
3. Press and release the LEARN button again on the primary operator. The yellow NETWORK LED will light.
4. Press and release the OPEN test button to assign this operator as network primary.
5. Press and release the LEARN button on the second operator. The green XMITTER LED will light.
6. Press and release the LEARN button again on the second operator. The yellow NETWORK LED will light.
7. Press and release the CLOSE test button to assign this operator as network second.

Both operators will beep and the yellow NETWORK LEDs will turn off indicating programming is successful.

To deactivate the wireless feature:

1. Press and release the LEARN button on either operator. The green XMITTER LED will light.
2. Press and release the LEARN button again on the same operator. The yellow NETWORK LED will light.
3. Press and hold the LEARN button for 5 seconds. The yellow NETWORK LED will blink (operator will beep) then turn off indicating successful deactivation.
4. Repeat the steps for the other operator.



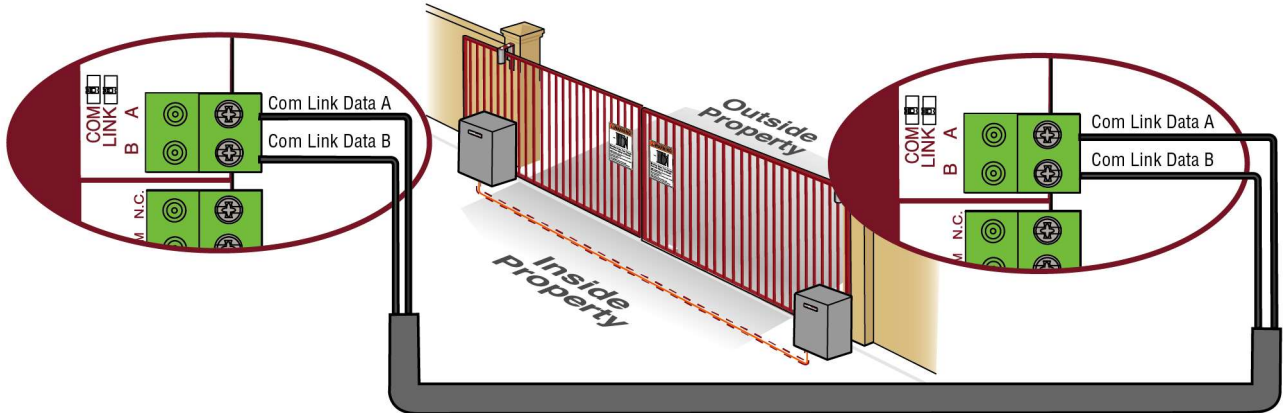
# INSTALLATION

## Wired setup

Before digging, contact local underground utility locating companies. Use PVC conduit to prevent damage to cables.

1. **Disconnect ALL power to the operator and unplug the J15 plug from the control board.**
2. Trench across driveway to bury the shielded twisted pair cable.
3. Connect the wires from the shielded twisted pair cable to the Com Link terminals on the primary gate operator control board. **NOTE:** We recommend that all accessories and board configurations are set on the primary operator.
4. Route the shielded twisted pair cable to the secondary gate operator's control board.
5. Connect the wires from the shielded twisted pair cable to the Com Link terminals on the secondary control board (Com Link A to Com Link A and Com Link B to Com Link B). Ground the shield of the cable to the chassis ground of one operator.
6. **Connect ALL power to the operator and plug the J15 plug into the control board.**

DUAL GATE WIRE TYPE (SHIELDED TWISTED PAIR CABLE)	
22AWG up to 200 feet (61 m)	18AWG - 200-1000 feet (61-305 m)
<b>Wire must be rated at 30 Volt minimum</b>	



## Bipart delay/synchronized close

The LOCK/BIPART DELAY switch is used only with dual gate applications and serves two functions:

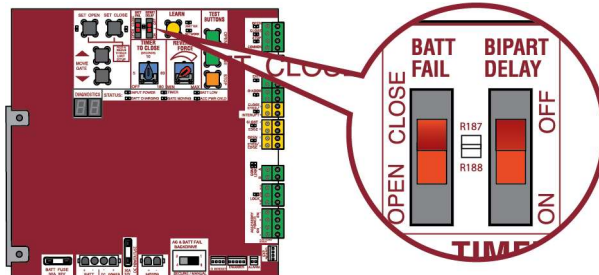
### • BIPART DELAY

**SWING GATE APPLICATIONS:** The BIPART DELAY is used in applications where a mag-lock, solenoid lock, or decorative overlay would require one gate to close before the other. The operator with the LOCK/BIPART DELAY switch ON will delay from the close limit when opening and be the first to close from the open limit.

**SLIDE GATE APPLICATIONS:** Not applicable, set to OFF.

### • SYNCHRONIZED CLOSE

The BIPART DELAY is also used in applications where one gate travels a longer distance than the other. To synchronize the closing of the gates, set the LOCK/BIPART DELAY switch to ON for both operators.



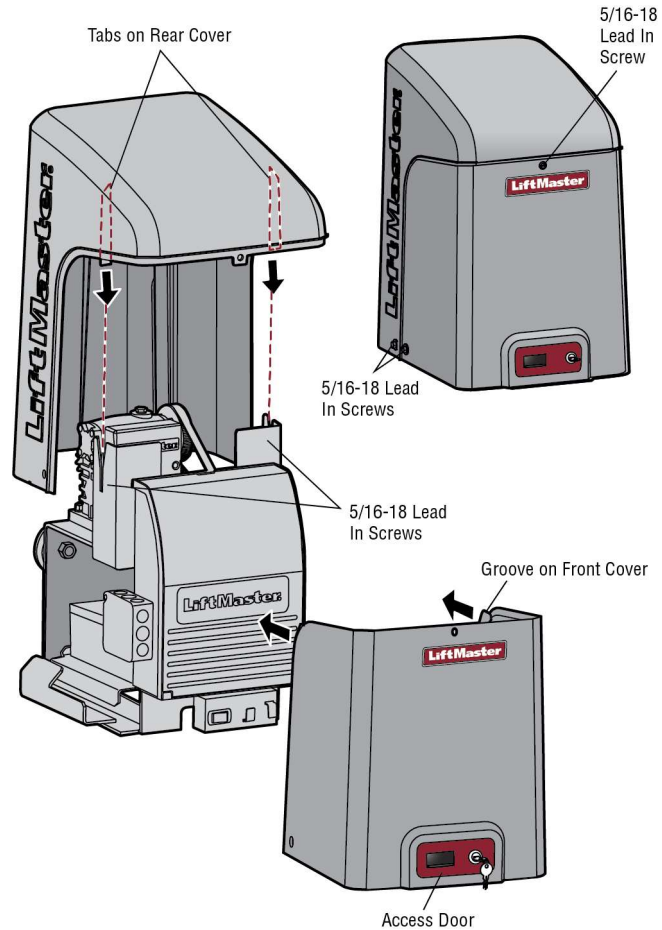
# INSTALLATION

## Step 9 Install the cover

*Before installing the cover, follow the instructions in the Adjustment section to adjust the limits and force.*

The operator cover consists of two pieces: a rear cover and a front cover. The front cover can easily be removed to access the electrical box. To access the reset switch slide the access door up. The front cover and access door can be locked with the key.

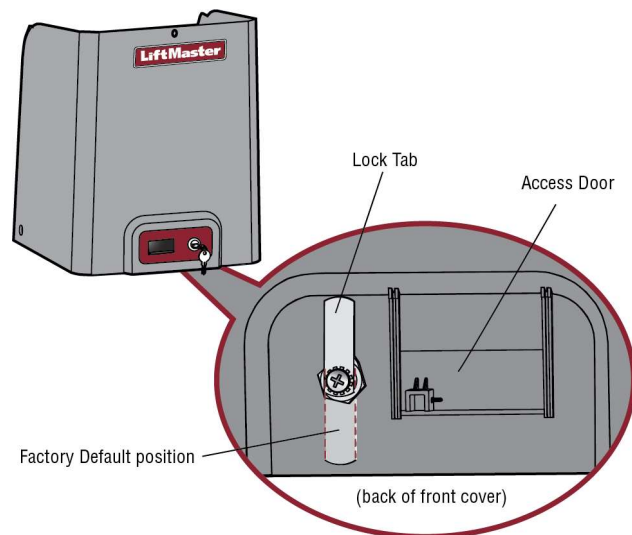
1. Align the tabs on the rear cover with the slots on the chassis and place the cover over the operator.
2. Secure both sides of the rear cover to the chassis with two 5/16-18 lead in screws.
3. Align the front cover with the back cover, making sure the grooves line up.
4. Secure the front cover to the chassis with two 5/16-18 lead in screws.
5. Secure the front cover to the rear cover using the 5/16-18 lead in screw.



### To Lock the Access Door

From the factory the access door for the reset switch will not be locked. To lock the access door follow the steps below:

1. Locate the lock tab on the back of the front cover and remove the screw securing the tab to the cover.
2. Turn the tab 180 degrees, then secure with the screw. The access door can now be locked.



The basic installation is complete.

# ADJUSTMENT

## Limit and Force Adjustment

### ! WARNING

To reduce the risk of SEVERE INJURY or DEATH:

- Without a properly installed safety reversal system, persons (particularly small children) could be SERIOUSLY INJURED or KILLED by a moving gate.
- Too much force on gate will interfere with proper operation of safety reversal system.
- NEVER increase force beyond minimum amount required to move gate.
- NEVER use force adjustments to compensate for a binding or sticking gate.
- If one control (force or travel limits) is adjusted, the other control may also need adjustment.
- After ANY adjustments are made, the safety reversal system MUST be tested. Gate MUST reverse on contact with an object.

### Introduction

Your operator is designed with electronic controls to make travel limit and force adjustments easy. The adjustments allow you to program where the gate will stop in the open and close position. The electronic controls sense the amount of force required to open and close the gate. The force is adjusted automatically when you program the limits but should be fine tuned using the REVERSAL FORCE dial on the control board (refer to *Fine Tune the Force* section) to compensate for environmental changes. The limit setup LEDs (located next to the SET OPEN and SET CLOSE buttons) indicate the status of the limits, refer to the table to the right.

The limits can be set using the control board (below) or a remote control (refer to *Limit Setup with a Remote Control* in the Appendix). Setting the limits with a remote control requires a 3-button remote control programmed to OPEN, CLOSE, and STOP.

**NOTE:** The TEST buttons on the control board will not work until the limits have been set and the required entrapment protection devices are installed.

LIMIT SETUP LEDS			
SET OPEN LED	SET CLOSE LED	OPERATOR MODE	EXPLANATION
OFF	OFF	NORMAL MODE	Limits are set
BLINKING	BLINKING	LIMIT SETTING MODE	Limits are not set
BLINKING	ON	LIMIT SETTING MODE	Open limit is not set
ON	BLINKING	LIMIT SETTING MODE	Close limit is not set
ON	ON	LIMIT SETTING MODE	Limits are set

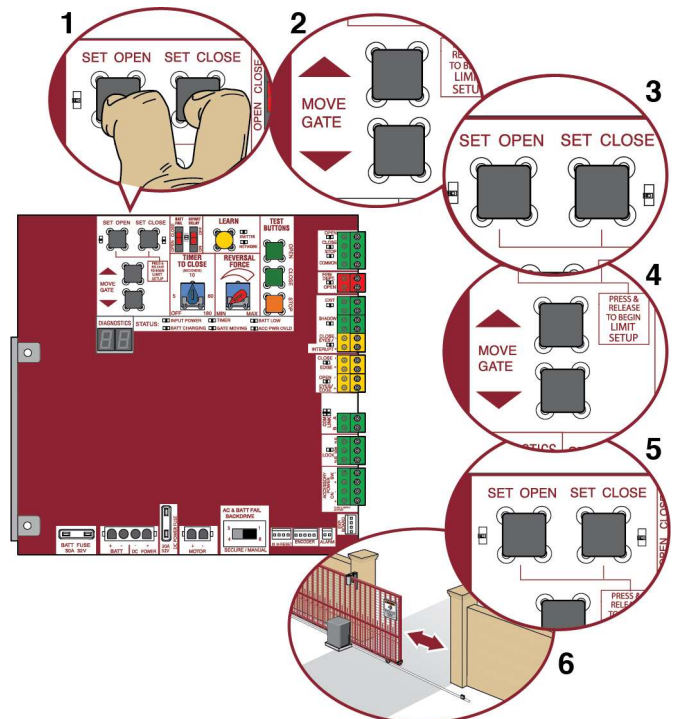
### Initial Limits and Force Adjustment

For dual gate applications the limits will have to be set for each operator. The gate MUST be attached to the operator before setting the limits and force.

For slide gate applications the open limit and closed limit MUST be set at least four feet apart.

- Press and release the SET OPEN and SET CLOSE buttons simultaneously to enter limit setting mode.
- Press and hold one of the MOVE GATE buttons to move the gate to the open or close limit.
- Press and release the SET CLOSE or SET OPEN button depending on which limit is being set.
- Press and hold one of the MOVE GATE button to move the gate to the other limit.
- Press and release the SET CLOSE or SET OPEN button depending on which limit is being set.
- Cycle the gate open and close. This automatically sets the force.

When limits are set properly the operator will automatically exit limit setting mode.



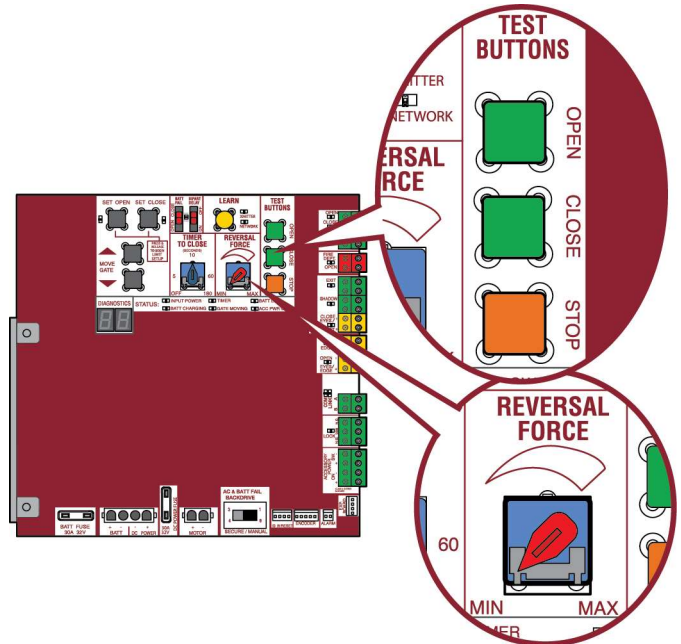
# ADJUSTMENT

## Fine Tune the Force

Once the initial limits have been set, the REVERSAL FORCE DIAL on the control board is used for fine tuning the force where wind or environmental changes may affect the gate travel. The REVERSAL FORCE DIAL is set to minimum at the factory.

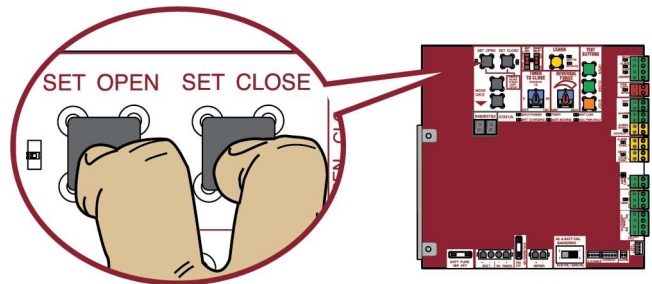
Based on the length and weight of the gate it may be necessary to make additional force adjustments. The force setting should be high enough that the gate will not reverse by itself nor cause nuisance interruptions, but low enough to prevent serious injury to a person. The force setting is the same for both the open and close gate directions.

1. Open and close the gate with the TEST BUTTONS.
2. If the gate stops or reverses before reaching the fully open or closed position, increase the force by turning the force control slightly clockwise.
3. Perform the "Obstruction Test" after every limit and force setting adjustment (see below).



## Adjust the Limits

After both limits are set and the operator is ready to run, one limit can be adjusted independently from the other by following steps 1-3 of the Initial Limit and Force Adjustment section.

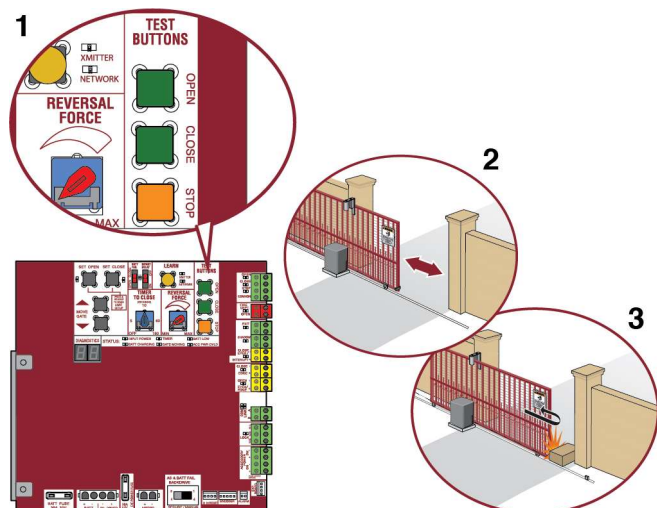


## Obstruction Test

The operator is equipped with an inherent (built in to the operator) obstruction sensing device. If the gate encounters an obstruction during motion, the operator will reverse direction of the gate and then stop. The following procedure will test ONLY the inherent (built in to the operator) obstruction sensing device:

1. Open and close the gate with the TEST BUTTONS, ensuring that the gate is stopping at the proper open and close limit positions.
2. Place an object between the open gate and a rigid structure. Make sure that any external entrapment protection devices will NOT be activated by the object.
3. Run the gate in the close direction. The gate should stop and reverse upon contact with the object. If the gate does not reverse off the object, reduce the force setting by turning the force control slightly counter-clockwise. The gate should have enough force to reach both the open and close limits, but MUST reverse after contact with an object.
4. Repeat the test for the open direction.

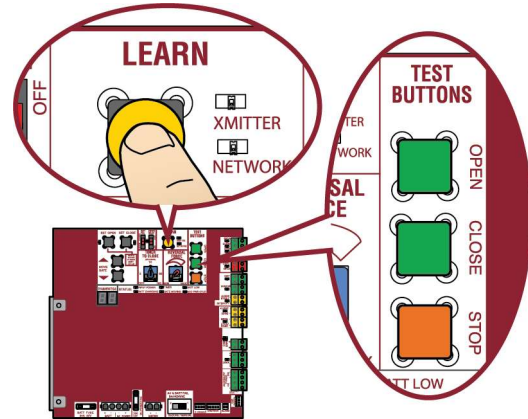
**Test the operator after any adjustments are made.**



# PROGRAMMING

## Remote Controls (Not Provided)

A total of 50 Security+ 2.0® remote controls or KPW250 keypads and 2 keyless entries (1 PIN for each keyless entry) can be programmed to the operator. When programming a third keyless entry to the operator, the first keyless entry will be erased to allow the third keyless entry to be programmed. When the operator's memory is full it will exit the programming mode and the remote control will not be programmed. The memory will need to be erased before programming any additional remote controls. **NOTE:** If installing an 86LM to extend the range of the remote controls DO NOT straighten the antenna.



There are 3 different options for programming the remote control depending on how you would like the remote control to function. Choose a programming option:

OPTION	DESCRIPTION	PROGRAMMING STEPS
Single button as OPEN only	Program a single button on the remote control for open only. The Timer-to-Close can be set to close the gate.	<ol style="list-style-type: none"> <li>1. Press and release the LEARN button (operator will beep and green XMITTER LED will light). <b>NOTE:</b> The operator will time out of programming mode after 30 seconds.</li> <li>2. Press the OPEN button.</li> <li>3. Press the remote control button that you would like to program.</li> </ol>
Single button (SBC) as OPEN, CLOSE, and STOP	Program one remote control button as an open, close, and stop.	<ol style="list-style-type: none"> <li>1. Press and release the LEARN button (operator will beep and green XMITTER LED will light). <b>NOTE:</b> The operator will time out of programming mode after 30 seconds.</li> <li>2. Press the remote control button that you would like to program.</li> </ol>
Three separate buttons as OPEN, CLOSE, and STOP	Program each remote control button as an open, close, and stop.	<ol style="list-style-type: none"> <li>1. Press and release the LEARN button (operator will beep and green XMITTER LED will light). <b>NOTE:</b> The operator will time out of programming mode after 30 seconds.</li> <li>2. Press the OPEN, CLOSE, or STOP button, depending on the desired function.</li> <li>3. Press the remote control button that you would like to program.</li> </ol>

The operator will automatically exit learn mode (operator will beep and green XMITTER LED will go out) if programming is successful. To program additional Security+ 2.0® remote controls or remote control buttons, repeat the programming steps above.

### Entering programming mode using external reset button or 3-button control station:

1. Make sure gate/door is closed.
2. Give the operator an OPEN command.
3. Within 30 seconds, when the gate/door is at the open limit press and release the RESET/STOP button twice to put the operator into programming mode. **NOTE:** The operator will time out of programming mode after 30 seconds.

NOTICE: This device complies with Part 15 of the FCC rules and Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device must be installed to ensure a minimum 20 cm (8 in.) distance is maintained between users/bystanders and device.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules and Industry Canada ICES standard. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



# PROGRAMMING

## LiftMaster Internet Gateway (not provided)

To program the operator to the LiftMaster Internet Gateway:

### Using the learn button on the operator's control board

1. Connect the ethernet cable to the LiftMaster Internet Gateway and the router.
2. Connect power to the LiftMaster Internet Gateway.
3. Create an online account by visiting [www.myliftmaster.com](http://www.myliftmaster.com).
4. Register the LiftMaster Internet Gateway.
5. Use an internet enabled computer or smartphone to add devices. The LiftMaster Internet Gateway will stay in learn mode for three minutes.
6. Press the Learn button twice on the primary operator (the operator will beep as it enters learn mode). The LiftMaster Internet Gateway will pair to the operator if it is within range and the operator will beep if programming is successful.

### Using the reset button on the operator

1. Connect the ethernet cable to the LiftMaster Internet Gateway and the router.
2. Connect power to the LiftMaster Internet Gateway.
3. Create an online account by visiting [www.myliftmaster.com](http://www.myliftmaster.com).
4. Register the LiftMaster Internet Gateway.
5. Use an internet enabled computer or smartphone to add devices. The LiftMaster Internet Gateway will stay in learn mode for three minutes.
6. Ensure gate is closed.
7. Give the operator an OPEN command.
8. Within 30 seconds, when the gate is at the open limit press and release the reset button 3 times (on primary gate) to put primary operator into High Band Learn Mode (the operator will beep as it enters learn mode). The LiftMaster Internet Gateway will pair to the operator if it is within range and the operator will beep if programming is successful.

The status as shown by the LiftMaster Internet Gateway app will be either "open" or "closed". The gate operator can then be controlled through the LiftMaster Internet Gateway app.

## Erase All Codes

1. Press and release the LEARN button (operator will beep and green XMITTER LED will light).
2. Press and hold the LEARN button again until the green XMITTER LED flashes and then release the button (approximately 6 seconds). All remote control codes are now erased.

## Erase Limits

1. To erase the limits, press and hold the SET OPEN and SET CLOSE buttons simultaneously (5 seconds) until both the SET OPEN and SET CLOSE LEDs blink rapidly and the operator beeps.
2. Release the buttons and the SET OPEN and SET CLOSE LEDs will blink slowly indicating the limits will need to be set.

## Constant Pressure Override (CPO)

Constant Pressure Override is for use with KPW5 and KPW250 keypads (not provided). The KPW5/KPW250 wireless commercial keypads are security keypads and can only be programmed to ONE gate operator (see the KPW5/KPW250 manual for complete programming instructions).

The Constant Pressure Override feature is intended to temporarily override a fault in the entrapment protection system, in order to operate the gate until the external entrapment protection device is realigned or repaired. Use the feature only in line of sight of the gate when no obstructions to travel are present. External entrapment protection devices include LiftMaster monitored photoelectric sensors and LiftMaster monitored wired and wireless edge sensors. Be sure to repair or replace these devices promptly if they are not working properly.

### To use Constant Pressure Override:

1. Enter a valid 4-digit PIN.
2. Press and hold # for 5 seconds to enter CPO. Continue to hold # to keep the operator in motion. A continuous tone will sound until limit is met and/or # is released.
3. The operator will stop when either the operator reaches a limit or the user releases #.

## Gate Hold Open Feature

The gate hold open feature will disable the timer and keep the gate at the open limit. The gate hold open feature can be activated through the Reset Button as described on Page 29 or through the KPW5 and KPW250 keypads (not provided).

### To use the gate hold open feature:

1. Enter a valid 4-digit PIN when the gate is at the Open Limit and the timer is running
2. The Operator will chirp indicating the timer is canceled.

### To restart the gate:

1. Re-enter the 4-digit PIN
2. Activate a Hard input or a programmed remote

## To Remove and Erase Monitored Entrapment Protection Devices

1. Remove the entrapment protection device wires from the terminal block.
2. Press and release the SET OPEN and SET CLOSE buttons simultaneously. The SET OPEN and SET CLOSE LEDs will turn on (entering learn limit mode).
3. Press and release both SET OPEN and SET CLOSE buttons again to turn off the SET OPEN and SET CLOSE LEDs (exiting learn limit mode).

# OPERATION

## Gate operator setup examples

The following are example setups for the gate operator. Your specific site requirements may be different. Always setup the operator system to the site requirements, including all necessary entrapment protection devices.

**RESIDENTIAL:** One to four residential homes sharing a gated entrance/exit, allowing vehicle access trumps security concerns

**COMMERCIAL/GENERAL ACCESS:** A residential community (more than four homes) having one or more gated entrances/exits, allowing vehicle access trumps security concerns

**COMMERCIAL:** Business site where security (gate closed) is important

**INDUSTRIAL:** Large business site where security is required

SETTING	RESIDENTIAL	COMMERCIAL/GENERAL ACCESS	COMMERCIAL	INDUSTRIAL
<b>Quick Close switch setting</b>	Normally set to OFF. Normal gate close (timer or control).	Normally set to OFF. Normal gate close (timer or control).	Normally set to OFF. Normal gate close (timer or control).	Set to ON, so that gate closes immediately after vehicle passes CLOSE EYES/Interrupt loop.
<b>AC Fail Open switch setting</b>	Normally set to BATT. Run on battery if AC power fails.	Normally set to BATT. For local jurisdiction requirement, set to OPEN so that the gate will open approximately 15 seconds after AC power fail.	Normally set to BATT. Run on battery if AC power fails.	Normally set to BATT. Run on battery if AC power fails.
<b>Low Battery switch setting</b>	Normally set to OPEN. If powered from battery and battery is low, gate automatically opens and stays open.	Normally set to OPEN. If powered from battery and battery is low, gate automatically opens and stays open.	Normally set to CLOSE. If powered from battery and battery is low, gate stays closed.	Normally set to CLOSE. If powered from battery and battery is low, gate stays closed.
<b>Anti-Tail switch setting</b>	Normally set to OFF. CLOSE EYES/Interrupt loop reverses a closing gate.	Normally set to OFF. CLOSE EYES/Interrupt loop reverses a closing gate.	Set to ON. In attempt to prevent vehicle tail-gating, CLOSE EYES/Interrupt loop pauses a closing gate.	Set to ON. In attempt to prevent vehicle tail-gating, CLOSE EYES/Interrupt loop pauses a closing gate.
<b>Bipart Delay switch setting</b>	For DUAL-GATE site, set to ON for gate that delays upon opening.	For DUAL-GATE site, set to ON for gate that delays upon opening.	For DUAL-GATE site, set to ON for gate that delays upon opening.	For DUAL-GATE site, set to ON for gate that delays upon opening.
<b>Aux Relay Out – Open Limit Switch</b>	Typically not required.	Use with SAMS (Sequence Access Management System).	1. Use with SAMS (Sequence Access Management System). 2. Connect "Gate Open" indicator (e.g. light).	1. Use with SAMS (Sequence Access Management System). 2. Connect "Gate Open" indicator (e.g. light).
<b>Aux Relay Out – Close Limit Switch</b>	Typically not required.	Typically not required.	Connect "Gate Close/Secure" indicator (e.g. light).	Connect "Gate Close/Secure" indicator (e.g. light).
<b>Aux Relay Out – Gate Motion</b>	Attach alert signal (audible or visual alert system).	Attach alert signal (audible or visual alert system).	Attach alert signal (audible or visual alert system).	Attach alert signal (audible or visual alert system).
<b>Aux Relay Out – Pre-Motion Delay</b>	Attach alert signal (audible or visual alert system).	Attach alert signal (audible or visual alert system).	Attach alert signal (audible or visual alert system).	Attach alert signal (audible or visual alert system).
<b>Aux Relay Out – Power</b>	Attach visual alert to know when system is charging batteries (i.e. not running on batteries).	Attach visual alert to know when system is charging batteries (i.e. not running on batteries).	Attach visual alert to know when system is charging batteries (i.e. not running on batteries).	Attach visual alert to know when system is charging batteries (i.e. not running on batteries).
<b>Aux Relay Out – Tamper (Slide Gates Only)</b>	Attach alert signal (audible or visual alert system) to indicate if gate is manually tampered with by being pushed off of close limit.	Attach alert signal (audible or visual alert system) to indicate if gate is manually tampered with by being pushed off of close limit.	Attach alert signal (audible or visual alert system) to indicate if gate is manually tampered with by being pushed off of close limit.	Attach alert signal (audible or visual alert system) to indicate if gate is manually tampered with by being pushed off of close limit.
<b>Cycle Quantity Feedback</b>	Use during servicing only to determine operator cycles.	Use during servicing only to determine operator cycles.	Use during servicing only to determine operator cycles.	Use during servicing only to determine operator cycles.
<b>Fire Dept Open Input</b>	Typically not required.	Connect emergency access system (Knox box switch, SOS system, etc.).	Typically not required.	Typically not required.
<b>Heater Accessory (Model HTR)</b>	The heater keeps the gearbox and batteries at a suitable temperature when the outside temperature is below -4°F. The thermostat MUST be set between 45°F and 60°F to ensure proper gate operation.	The heater keeps the gearbox and batteries at a suitable temperature when the outside temperature is below -4°F. The thermostat MUST be set between 45°F and 60°F to ensure proper gate operation.	The heater keeps the gearbox and batteries at a suitable temperature when the outside temperature is below -4°F. The thermostat MUST be set between 45°F and 60°F to ensure proper gate operation.	The heater keeps the gearbox and batteries at a suitable temperature when the outside temperature is below -4°F. The thermostat MUST be set between 45°F and 60°F to ensure proper gate operation.

# OPERATION

## Control Board Overview

**1 SET OPEN Button:** The SET OPEN button sets the OPEN limit. See *Adjust Limits* section.

**2 SET CLOSE Button:** The SET CLOSE button sets the CLOSE limit. See *Adjust Limits* section.

**3 MOVE GATE Buttons:** The MOVE GATE buttons will either open or close the gate when the operator is in Limit setting mode. See *Adjust Limits* section.

### 4 BATT FAIL:

- When AC power is OFF and battery voltage is critically low the gate will latch at a limit until AC power is restored or batteries voltage increases.
- Option select switch set to OPEN forces gate to automatically open and then latch at the OPEN limit until AC power is restored or battery voltage increases.
- Option select switch set to CLOSE forces gate to latch at CLOSE limit if at CLOSE limit or on next CLOSE command until AC power restored or battery voltage increases.
- Constant pressure on a hard command input overrides to open or close the gate.
- Critically low battery is less than 23 V

**5 BIPART DELAY Switch:** The LOCK/BIPART DELAY switch is used only for dual gates. See *Bipart Delay* section.

**6 LEARN Button:** The LEARN button is for programming remote controls and the network.

**7 TIMER-TO-CLOSE dial:** The TIMER-TO-CLOSE (TTC) dial can be set to automatically close the gate after a specified time period. The TTC is factory set to OFF. If the TTC is set to the OFF position, then the gate will remain open until the operator receives another command from a control. Rotate the TIMER-TO-CLOSE dial to the desired setting. The range is 0 to 180 seconds, 0 seconds is OFF. **NOTE:** Any radio command, single button control, or CLOSE command on the control board prior to the TTC expiring will close the gate. The TTC is reset by any signals from the open controls, loops, close edges, and close photoelectric sensors (IR's).

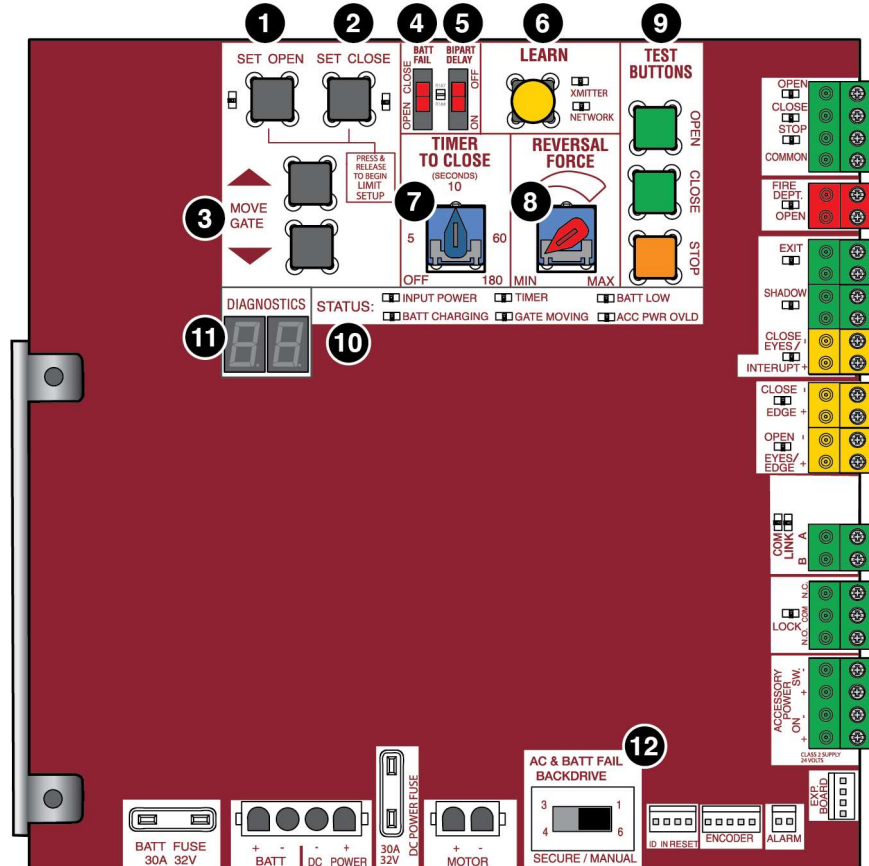
**8 REVERSAL FORCE dial:** The REVERSAL FORCE dial fine tunes the force. See *Force Adjustment* section.

**9 TEST BUTTONS:** The TEST BUTTONS will operate the gate (OPEN, STOP and CLOSE).

**10 STATUS LEDs:** The STATUS LEDs indicate the status of the operator. See *Status LED Chart* in the *Troubleshooting* section.

**11 DIAGNOSTICS Display:** The diagnostics display will show the operator type, firmware version, and codes. The operator type will display as "SL" followed by a "24" which indicates the operator type as CSL24UL. The firmware version will show after the operator type, example "1.2".

**12 BACKDRIVE Switch:** Set to MANUAL will allow the gate to be manually pushed open or closed if there is a loss of AC and battery power. Set to SECURE makes the gate difficult to push open or closed if there is a loss of AC and battery power.



# OPERATION

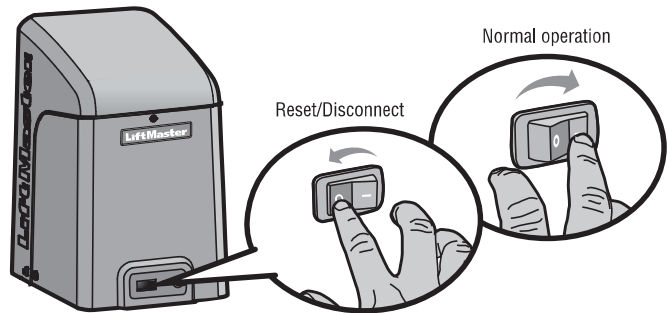
## Manual Disconnect

Press the reset switch to RESET/DISCONNECT. Release the handle on the operator arm to allow the gate to be opened and closed manually. On a dual gate application the handle must be released on both operators. To resume normal function tighten the handle by pushing it down.

## Reset Switch

The reset switch is located on the front of the operator and serves several functions.

Toggling the reset switch will stop a moving gate during a normal open/close cycle, like a stop button. The operator does not need to be reset after doing this. The reset switch will disable the gate in the present position and will energize the solenoid lock for two minutes and disable the maglock for two minutes.



## Operator Alarm

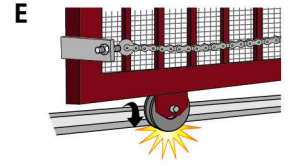
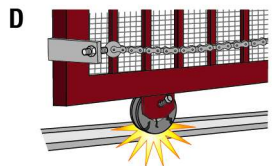
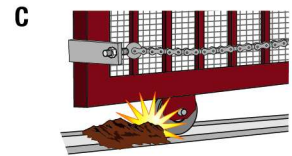
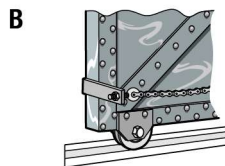
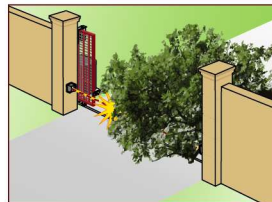
If a contact sensor detects an obstruction twice consecutively the alarm will sound (up to 5 minutes) and the operator will need to be reset.

When the inherent force of the operator (RPM/current sensor) detects the following (twice consecutively) the alarm will sound (up to 5 minutes) and the operator will need to be reset.

- A. The gate is hitting a wall or vehicle.
- B. The gate does not meet specifications.
- C. Debris is on the gate's track such as mud, rocks, dirt, etc.
- D. The gate has one or more broken axles or wheels.
- E. The gate wheel is off the gate rail.

Remove any obstructions. Press the reset button to shut off the alarm and reset the operator. After the operator is reset, normal functions will resume.

The operator alarm will beep 3 times with a command if the battery is low.



## Remote control

### Single Button Control (SBC) Functionality

Once the remote control has been programmed the operator will operate as follows:

When gate is in the closed position, activation of the remote control button will open the gate. During the open cycle another activation of the remote control will stop the gate and the next activation of the remote control will close the gate.

When the gate is in the open position, activation of the remote control button will close the gate. If the remote control is activated while the gate is closing, the gate will stop and the next activation will open the gate.

# ACCESSORY WIRING

All control wiring used to connect external devices to Class 2 circuits of the operator must be (QPTZ) Power-Limited Circuit Cables, Type CL2, CL2P, CL2R, or CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings.

## External control devices

### EXIT (2 Terminals)

This input is a soft open command (maintained switch does not override external safeties and does not reset alarm condition). Used for exit probe, telephone entry, external exit loop detector, or any device that would command the gate to open.

- Opens a closing gate and holds open an open gate, if maintained, pauses Timer-to-Close at OPEN limit.

### SHADOW (2 Terminals)

This input is used for external loop detector when loop is positioned under the swing of the gate.

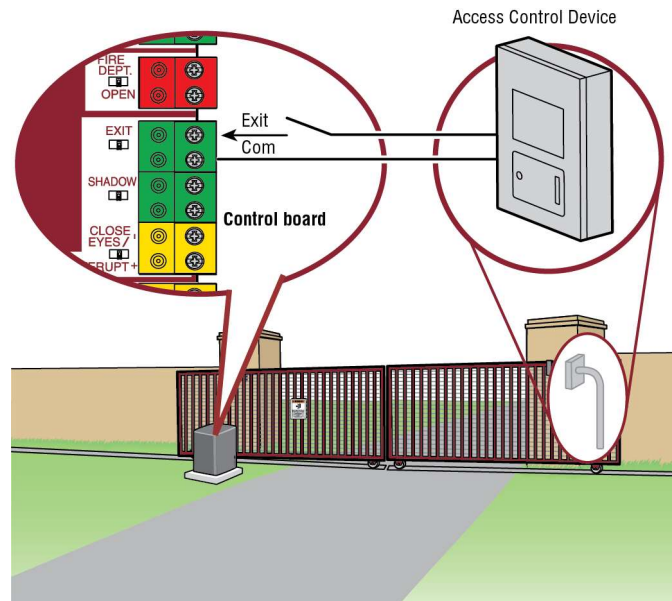
- Holds open gate at open limit
- Only active when the gate is at the OPEN limit, disregarded at all other times
- Pauses Timer-to-Close at OPEN limit

### INTERRUPT (2 Terminals)

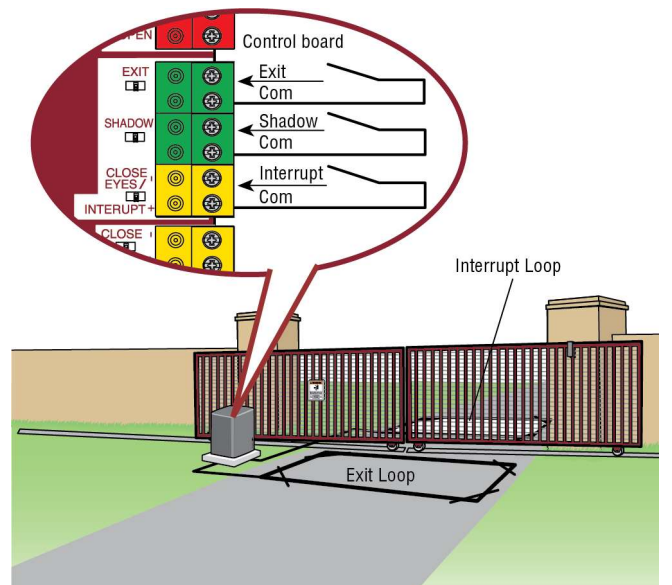
This input is used for photoelectric sensors and external interrupt loop detector when loop is on the outside of the gate.

- Holds open gate at open limit
- Stops and reverses a closing gate to open limit
- Pauses Timer-to-Close at OPEN limit, activates quick close and anti-tailgate features when enabled on the expansion board

Access control device wiring



Loop wiring

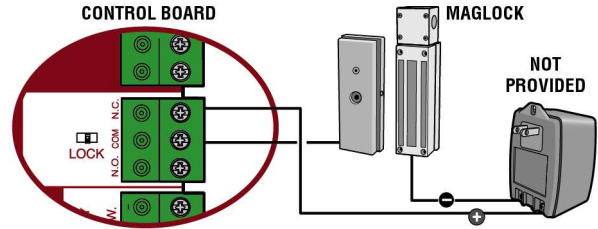


# ACCESSORY WIRING

## Locks

### Maglock (2 Terminals, N.C. and COM)

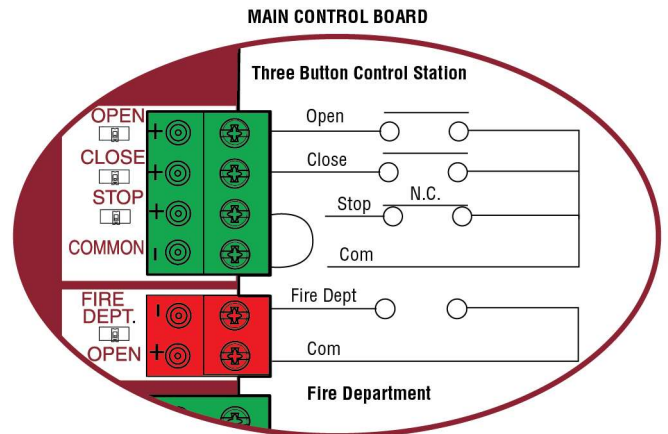
Relay contact output, Normally - closed (N.C.) output for maglocks.  
Relay activates prior to motor activation and during motor run. Relay is off when motor is off.



## Miscellaneous wiring

### Three button control station (4 Terminals)

- OPEN and COM: Opens a closed gate. Hard open (maintained switch overrides external safeties and resets alarm condition). If maintained, pauses Timer-to-Close at OPEN limit. Opens a closing gate and holds open an open gate (within line-of-sight).
- CLOSE and COM: Closes an open gate. Hard close (maintained switch overrides external safeties and resets alarm condition within line-of-sight)
- STOP and COM: Stops a moving gate. Hard stop (maintained switch overrides Open and Close commands and resets alarm condition). If maintained, pauses Timer-to-Close at OPEN limit. Overrides Open and Close commands (within line-of-sight).



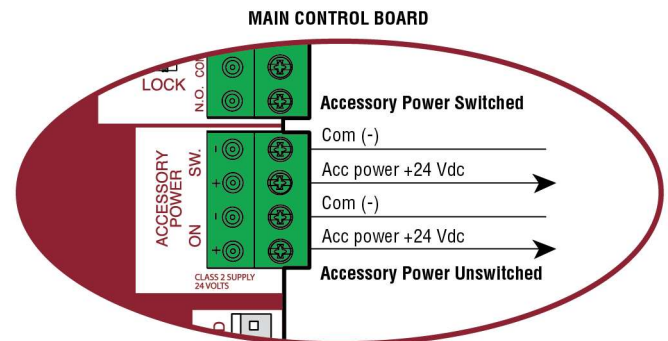
### Fire department open input (2 Terminals)

Acts as hard open.

Maintained input overrides (ignores) external safeties (photoelectric sensor and edge), pauses Timer-to-Close momentary input logic as single button control and safeties remain active, re-enables Timer-to-Close.

### Accessory power 24 VDC, MAX 500 mA (4 Terminals)

- SWITCHED: Switched ON with gate motion and at the open limit when Timer-to-Close is active. Turns off 5 seconds after motion.
- UNSWITCHED: 24 Vdc voltage out to power accessories, always ON.



# EXPANSION BOARD

## CAUTION

- To AVOID damaging the circuit board, relays or accessories, DO NOT connect more than 42 Vdc (32 Vac) to the AUX relay contact terminal blocks.

### Expansion board overview

#### 1. QUICK CLOSE switch:

OFF: No change to the gate's normal operation.  
ON: When CLOSE EYES/Interrupt loop is deactivated it causes an opening or a stopped gate to close (ignores the Timer-to-Close).

#### 2. AC FAIL switch:

OPEN: Loss of AC power will cause the gate to open approximately 15 seconds after AC power fail and remain OPEN until AC power is restored (enabling the Timer-to-Close).

BATT: With loss of AC power, gate will remain in present position and operator is powered from batteries.

#### 3. EXIT FAIL switch:

When set to OPEN, if the EXIT plug-in loop detector (Model LOOPDETLM) detects a fault, then the gate will open and remain open until fault is cleared. When set to CLOSE, then plug-in EXIT loop detector faults are ignored (EXIT loop is faulted and inoperative).

#### 4. ANTI-TAIL switch:

OFF: When CLOSE EYES/Interrupt loop is activated it causes a closing gate to stop and reverse.

ON: When CLOSE EYES/Interrupt loop is activated it causes a closing gate to pause. Once the vehicle is clear the gate will continue to close.

#### 5. AUX RELAY switches:

Set the AUX RELAY switches as needed to obtain the desired function as shown on the following page.

#### 6. EYE/EDGE switches:

Set the EYE/EDGE switches as needed to obtain the desired OPEN or CLOSE functionality.

#### 7. 1, 2, and 3 LEDs:

LEDs indicating the status of the EYE/EDGE inputs. Also used to check the firmware version of the expansion board:

- Locate the 1, 2, and 3 LEDs on the expansion board.
- Disconnect AC/DC power to the main control board for 15 seconds.
- Connect power. The 1, 2, and 3 LEDs will flash in sequence until the main control board firmware revision is displayed. When the green POWER LED glows solid the LED 1 will flash the version number, then stop, then the LED 2 will flash the revision number (for example: For version 5.1 when the green POWER LED is solid the LED 1 will flash 5 times, then stop, then the LED 2 will flash once).

#### 8. MAIN BOARD input:

Input Connection for the main board connector.

#### 9. Input LEDs:

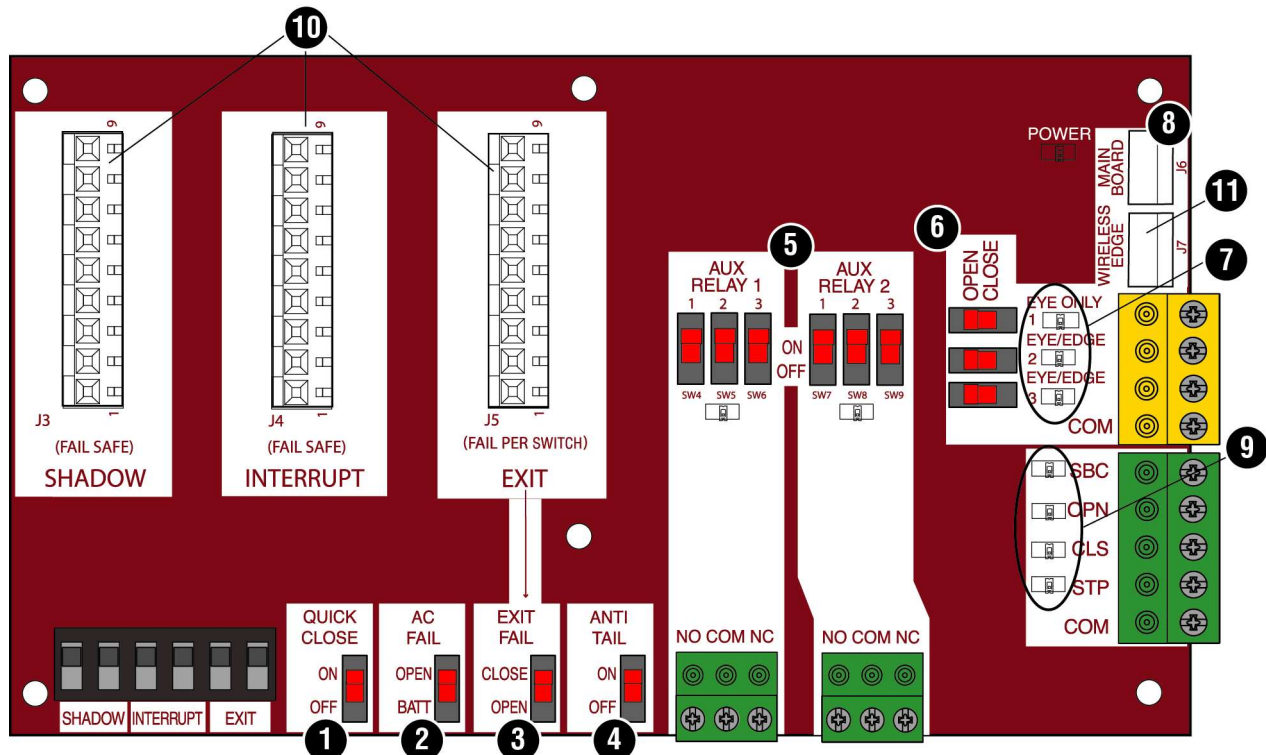
LEDs indicating the status of the SBC, OPN, CLS, and STP inputs.

#### 10. Loop detector inputs:

Inputs for the Plug-In Loop Detectors (Model LOOPDETLM)

#### 11. Wireless edge input:

Input for the Wireless Edge Kit (Model LMWEKITU)



# EXPANSION BOARD

## Auxiliary relay 1 and 2

Normally Open (N.O.) and Normally Closed (N.C.) relay contacts to control external devices, for connection of Class 2, low voltage (42 Vdc [34 Vac] max 5 Amps) power sources only. Function of relay contact activation determined by switch settings.

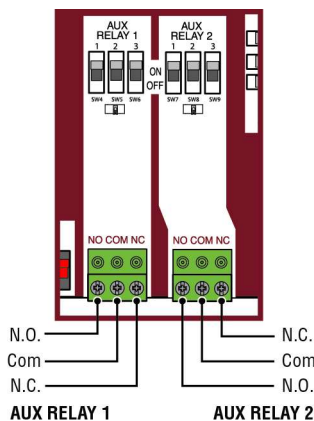
AUX RELAY SETTING	SWITCH SETTINGS			AUX RELAY 1	AUX RELAY 2
	1	2	3		
<b>Off (no feature selected)</b>	OFF	OFF	OFF	Relay always off. Use this Aux Relay setting to conserve battery power.	
<b>Open Limit Switch</b>	OFF	OFF	ON	Energizes at open limit. Use with SAMS (Sequenced Access Management System, jointly with barrier gate).	
<b>Close Limit Switch</b>	OFF	ON	OFF	Energizes when not at close limit. For an additional audible or visual display, connect an external light (low voltage).	
<b>Gate Motion</b>	OFF	ON	ON	Energizes when motor is on (gate in motion). For an additional audible or visual display, connect an external buzzer or light (low voltage).	
<b>Pre-Motion Delay</b>	ON	OFF	OFF	Energizes 3 seconds before gate motion and remains energized during gate motion. The onboard alarm will sound. For an additional audible or visual display, connect an external buzzer or light (low voltage).	Energizes 3 seconds before gate motion and remains energized during gate motion. For an additional audible or visual display, connect an external buzzer or light (low voltage).
<b>Power</b>	ON	ON	OFF	Energizes when AC power or solar power is present. There is approximately a 10-12 second delay before relay cutoff, after AC shutdown.	Energizes when on battery power. There is approximately a 10-12 second delay before relay cutoff, after AC shutdown.
<b>Tamper</b>	ON	OFF	ON	Energizes if gate is manually tampered with by being pushed off of close limit. For an additional audible or visual display, connect an external buzzer or light (low voltage).	
<b>Cycle Quantity Feedback*</b>	ON	ON	ON	The 1, 2, and 3 LEDs will blink out the cycle count (cycle count is stored on the control board). See below.	Red/green light functionality, see below.

### \* Cycle count

First, note the current Aux Relay switch positions. To determine the actual cycles that the gate operator has run (in thousands), set all three Aux Relay switches to the ON setting for Aux Relay 1. The Expansion Board's 1, 2, and 3 LEDs will blink out the cycle count, with 1 LED blinking 1000's, 2 LED blinking 10,000's, 3 LED blinking 100,000's, and simultaneously all three LED's blink 1,000,000's (e.g. 1 LED blinks 3 times, 2 LED blinks 6 times, and 3 LED blinks once. Cycle count is 163,000.). Cycle count displayed is between 1,000 and 9,999,000 cycles. After servicing, set Aux Relay switches back to their appropriate positions. Cycle count cannot be reset or changed. If under 1,000 cycles the 1, 2, and 3 LEDs will turn on for 10 seconds, then turn off.

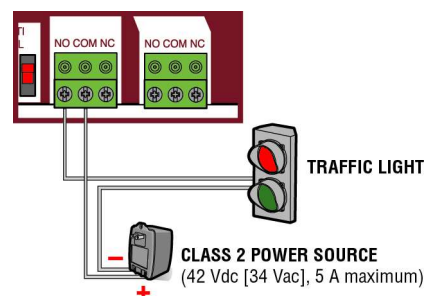
**NOTE:** The expansion board will flash the cycle count 3 times then all the LEDs will turn on solid for 10 seconds then turn off.

### Auxiliary relay wiring example



RED/GREEN LIGHT FUNCTIONALITY						
Red light wired to AUX RELAY 1. Green light wired to AUX RELAY 2.						
GATE STATE	AUX RELAY 1 SWITCHES			AUX RELAY 2 SWITCHES		
	1 OFF	2 OFF	3 OFF	1 ON	2 ON	3 ON
<b>Closed</b>	Red light OFF*			Green light OFF		
<b>Opening</b>	Red light ON/Flash			Green light OFF		
<b>Open</b>	Red light OFF			Green light ON		
<b>Closing</b>	Red light ON/Flash			Green light OFF		
<b>Defined Mid Stop</b>	n/a			n/a		
<b>Undefined Mid Stop</b>	Red light ON			Green light OFF		
<b>Timer more than 5 seconds</b>	Red light OFF			Green light ON		
<b>Timer less than 5 seconds</b>	Red light ON/Flash			Green light OFF		

\* For red light ON when gate is closed, set switch 1 on AUX RELAY 1 to ON



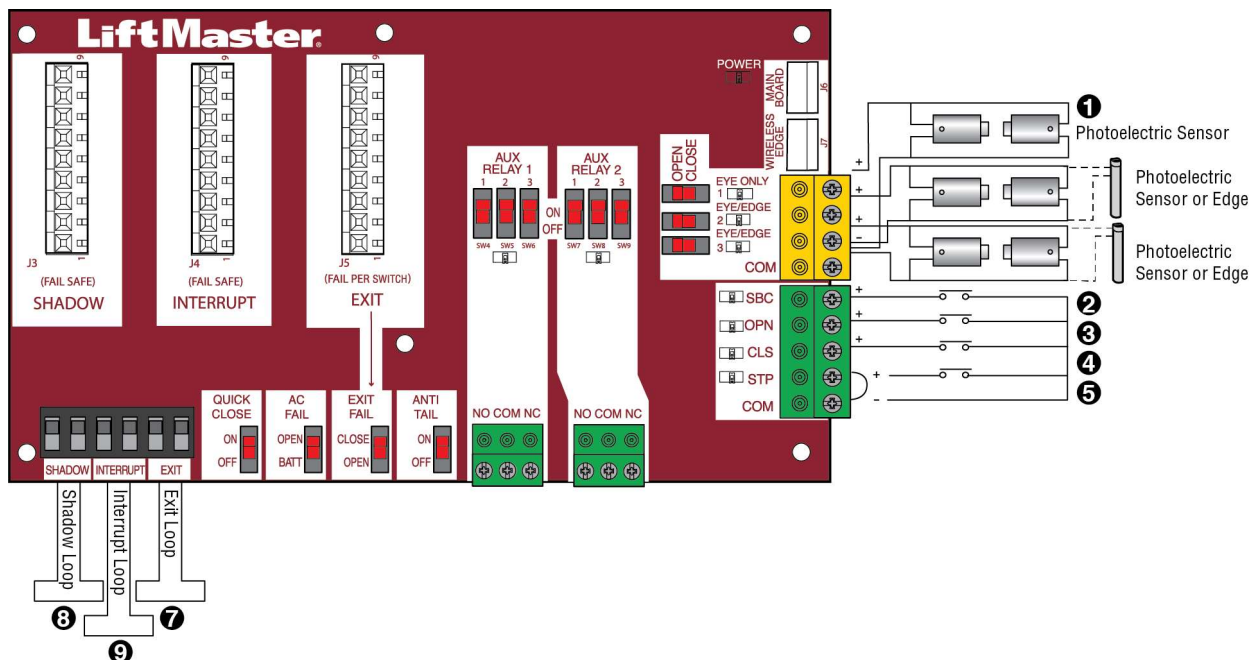


# EXPANSION BOARD

## Wiring accessories to the expansion board

Refer to the chart below and the corresponding image for a description of the expansion board inputs.

1	Wireless edge	Connection for wireless edge receiver
2	Entrapment Protection Device Inputs (4 terminals total), Open or Close Direction based on switch setting next to inputs	EYES ONLY Input: Open or Close Direction Photoelectric Sensors, Close: reverses fully, Open: reverses 4 seconds EYES/EDGE Input(s): Open or Close Direction Photoelectric Sensors, Infra-red detector wired or Edge Sensor, reverses 4 seconds
3	Single Button Control, SBC (2 terminals)	Gate command sequence - Open, Stop, Close, Stop, ... Soft Open ,Soft Close, Soft Stop (maintained switch does not override external safeties and does not reset alarm condition)
4	Open Input (& common) (3-Button Control Station, 4 terminals total)	Open command - opens a closed gate. Soft open (maintained switch does not override external safeties and does not reset alarm condition) If maintained, pauses Timer-to-Close at OPEN limit. Opens a closing gate and holds open an open gate.
5	Close Input (& common) (3-Button Control Station, 4 terminals total)	Close command - closes an open gate. Soft close (maintained switch does not override external safeties and does not reset alarm condition).
6	Stop Input (& common) (3-PB station, 4 terminals total)	Stop command - stops a moving gate. Hard stop (maintained switch overrides Open and Close commands and resets alarm condition) If maintained, pauses Timer-to-Close at OPEN limit. Overrides an Open or Close command.
7	Exit Loop Input (2 terminals)	Loop wire connection for plug-in loop detector when loop is inside secured area near gate. Open command - opens a closed gate. Soft open (maintained switch does not override external safeties and does not reset alarm condition) If maintained, pauses Timer-to-Close at OPEN limit. Opens a closing gate and holds open an open gate.
8	Shadow Loop Input (2 terminals)	Loop wire connection for plug-in loop detector when loop is positioned under the gate. <ul style="list-style-type: none"> <li>• Holds open gate at open limit</li> <li>• Disregarded during gate motion</li> <li>• Pauses Timer-to-Close at Open Limit</li> </ul>
9	Interrupt Loop Input (2 terminals)	Loop wire connection for plug-in loop detector when loop is along the side of the gate. <ul style="list-style-type: none"> <li>• Holds open gate at open limit</li> <li>• Stops and reverses a closing gate</li> <li>• Pauses Timer-to-Close at Open Limit</li> </ul>



# MAINTENANCE

## IMPORTANT SAFETY INSTRUCTIONS

### ⚠ WARNING

To reduce the risk of SEVERE INJURY or DEATH:

- READ AND FOLLOW ALL INSTRUCTIONS.
- ANY maintenance to the operator or in the area near the operator MUST NOT be performed until disconnecting the electrical power (AC or solar and battery) and locking-out the power via the operator power switch. Upon completion of maintenance the area MUST be cleared and secured, at that time the unit may be returned to service.
- Disconnect power at the fuse box BEFORE proceeding. Operator MUST be properly grounded and connected in accordance with national and local electrical codes. **NOTE: The operator should be on a separate fused line of adequate capacity.**
- NEVER let children operate or play with gate controls. Keep the remote control away from children.
- ALWAYS keep people and objects away from the gate. NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.
- The entrance is for vehicles ONLY. Pedestrians MUST use separate entrance.
- Test the gate operator monthly. The gate MUST reverse on contact with an object or reverse when an object activates the noncontact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of INJURY or DEATH.
- Use the manual disconnect release ONLY when the gate is NOT moving.
- KEEP GATES PROPERLY MAINTAINED. Read the owner's manual. Have a qualified service person make repairs to gate hardware.
- ALL maintenance MUST be performed by a LiftMaster professional.
- Activate gate ONLY when it can be seen clearly, is properly adjusted and there are no obstructions to gate travel.
- To reduce the risk of FIRE or INJURY to persons use ONLY LiftMaster part 29-NP712 for replacement batteries.

• SAVE THESE INSTRUCTIONS.

### ⚠ CAUTION

- ALWAYS wear protective gloves and eye protection when changing the battery or working around the battery compartment.

## Maintenance Chart

**Disconnect all power (AC, solar, battery) to the operator before servicing.** The operator's AC Power switch ONLY turns off AC power to the control board and DOES NOT turn off battery power. ALWAYS disconnect the batteries to service the operator.

DESCRIPTION	TASK	CHECK AT LEAST ONCE EVERY		
		MONTH	6 MONTHS	3 YEARS
Entrapment Protection Devices	Check and test inherent (built into the operator) and external devices for proper operation	X		
Warning Signs	Make sure they are present and replace if worn or broken, see <i>Accessories</i>	X		
Manual Disconnect	Check and test for proper operation		X	
Sprockets and Chains	Check for excessive slack and lubricate		X	
Gate	Inspect for wear or damage; ensure it still complies with ASTM F2200, see page 5	X		
Accessories	Check all for proper operation		X	
Electrical	Inspect all wire connections		X	
Chassis Mounting Bolts	Check for tightness		X	
Operator	Inspect for wear or damage		X	
Batteries	Replace			X

**NOTES:**

- Severe or high cycle usage will require more frequent maintenance checks.
- Limits may have to be reset after any major drive chain adjustments.
- If lubricating chain, use only lithium spray. Never use grease or silicone spray.
- It is suggested that while at the site voltage readings be taken at the operator. Using a digital voltmeter, verify that the incoming voltage to the operator is within ten percent of the operator's rating.

# MAINTENANCE

## Batteries

Batteries will degrade over time depending on temperature and usage. The operator alarm will beep 3 times with a command if the battery is low. Batteries do not perform well in extremely cold temperatures. For best performance, the batteries should be replaced every 3 years. Use only LiftMaster part 29-NP712 for replacement batteries. The batteries contain lead and need to be disposed of properly.

The operator comes with two 7AH batteries. Two 33AH batteries (A12330SGLPK), with Solar Harness Kit (K94-37236) may be used in place of the 7AH batteries.

## Drive Train

Over time, the drive chain on the operator will stretch and need to be tightened. To tighten the drive chain adjust either of the two chain eye bolts. **NOTE:** *The chain should have no more than 1 inch of sag for every 10 feet of chain length.*

# TROUBLESHOOTING

## ⚡ WARNING

To protect against fire and electrocution:

- DISCONNECT power (AC or solar and battery) BEFORE installing or servicing operator.

For continued protection against fire:

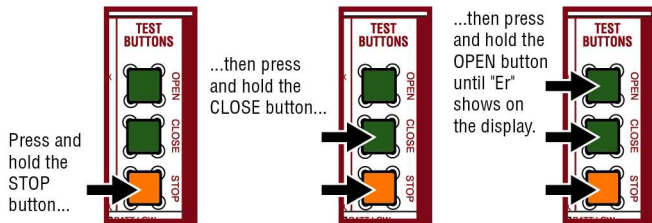
- Replace ONLY with fuse of same type and rating.

## Diagnostic Codes

**NOTE:** When cycling or disconnecting power (ac/dc) to the control board, it is recommended that you unplug the J15 plug.

### To View the Codes

The codes will show on the diagnostic display.



The operator will show the code sequence number followed by the code number:

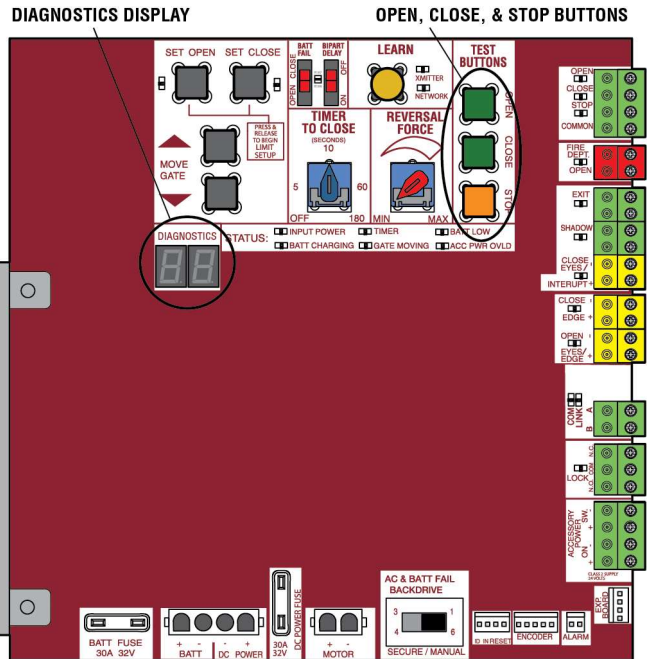
#### CODE SEQUENCE NUMBER

The first number shown is the most recent code (example: "01"). The display will show the sequence of codes that occurred starting with "01" and going up to code "20".

#### A SECOND LATER....

#### CODE NUMBER

The second number shown after the code sequence number is the code itself (31-99, example "31"). Refer to the chart on the following page for an explanation of each code.



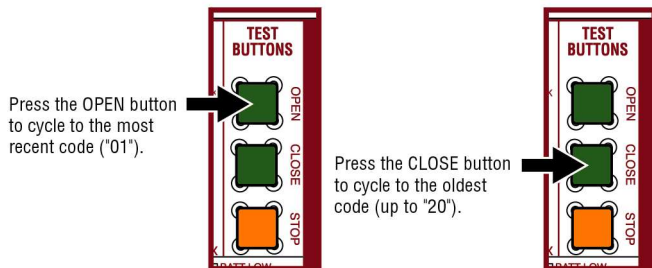
### To Exit

Press and release the STOP button to exit. The display will also time out after two minutes of inactivity.

### To Reset the Code History

1. Press and hold the STOP button for six seconds. The display will show "Er" then "CL" alternately for six seconds.
2. Release the STOP button. The code history has now been reset and the display will show "--" until a new code occurs.
3. Press and release the STOP button to exit.

### To Scroll Through the Saved Codes



The operator will only keep track of up to 20 codes, then will start saving over the oldest codes as new codes occur.

# TROUBLESHOOTING

## Diagnostic Codes Table

Some codes are saved in the code history and some are not. If a code is not saved it will briefly appear on the display as it occurs, then disappear.

LiftMaster System    
  Installed System    
  Informational    
  External Entrapment Protection    
  Inherent Entrapment Protection

Code	Meaning	Solution	Saved
31	Main control board has experienced an internal failure.	Disconnect all power, wait 15 seconds, then reconnect power (reboot). If issue continues, replace main control board.	NO
34	Absolute Position Encoder Error, not getting position information from encoder	Check APE assembly and wiring connections. Replace the APE assembly if necessary.	YES
35	Max-Run-Time Exceeded Error	Check for an obstruction, then reprogram the limits.	YES
36	Product ID Error	Was the control board just replaced? If so, erase limits, enter limit setup mode and set limits. If not, disconnect all power, wait 15 seconds, then reconnect power before changing product ID harness.	YES
37	Product ID Failure	Unplug product ID harness then plug back in. Disconnect all power, wait 15 seconds, then reconnect power before replacing product ID harness.	YES
38	Hard Stop Limit (Arm 1)	Limit may be set too tightly against a non-resilient hard stop (re-adjust limit). Operator may be at end of travel (re-adjust mounting).	NO
40	Battery overvoltage	Too much voltage on the battery. Check harness. Make sure there is NOT a 24V battery on a 12V system.	YES
41	Battery overcurrent	Possible short of the battery charge harness. Check harness. Make sure you do NOT have a 12V battery on a 24V system.	YES
42	No battery at boot up	Check battery connections and installation. Replace batteries if depleted to less than 20V on a 24V system or less than 10V on a 12V system. Make sure there is NOT a single 12V battery on a 24V system.	YES
43	Exit Loop Error	Failure or missing loop (SHORT or OPEN - LiftMaster Plug-in Loop Detector only) Check loop wiring throughout connection. May be a short in the loop, or an open connection in the loop.	YES
44	Shadow Loop Error		
45	Interrupt Loop Error		
46	Wireless edge battery low	Replace batteries in wireless edge.	YES
50	Run-Distance Error	The limits are less than the minimum requirement or longer than what was learned. Check limit positions and proper switch function. Run-distance can be re-learned by setting the handing again.	YES
53	Brownout occurred	AC/DC board supply dipped below allowable level. Review power supply and wiring. If rebooting, ensure enough time for discharge of power to force a fresh boot.	YES
54	Wireless Second Operator Communication Error	Check the second operator for power. If OFF, restore power and try to run the system. If powered, deactivate the wireless feature and then re-learn the second operator.	YES
60	Minimum number of monitored entrapment protection devices not installed.	Review monitored entrapment protection device connections. Slide gate operators require a minimum of two external safety devices; one in the close and one in the open direction.	NO
61	CLOSE EYE/INTERRUPT held more than 3 minutes	Check wired input on main control board; check for alignment or obstruction.	YES
62	CLOSE EDGE held more than 3 minutes		
63	OPEN EYE/EDGE held more than 3 minutes		
64	CLOSE EYE/INTERRUPT held more than 3 minutes	Check wired input on expansion board; check for alignment or obstruction.	YES
65	CLOSE EYE/EDGE held more than 3 minutes		
66	OPEN EYE/EDGE held more than 3 minutes		
67	Wireless edge triggered more than 3 minutes	Check wired input for wiring issue or obstruction.	YES
68	Wireless edge loss of monitoring	Check wireless edge inputs.	YES

## TROUBLESHOOTING

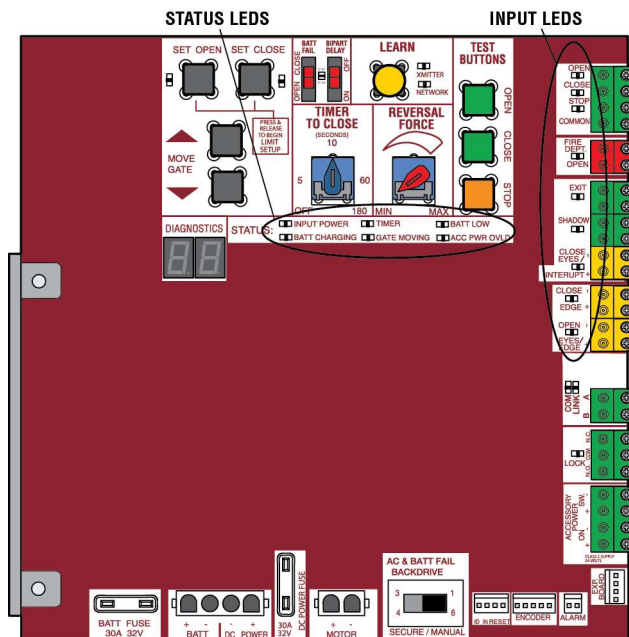
Code	Meaning	Solution	Saved
69	Wireless edge triggered	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check inputs and wiring.	NO
70	CLOSE EYE/INTERRUPT triggered, causing reversal, preventing close, or resetting TTC	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check alignment, inputs, and wiring on main control board	NO
71	CLOSE EDGE triggered, causing reversal, NO preventing close, or canceling TTC		
72	OPEN EYE/EDGE triggered, causing reversal or preventing opening		
73	CLOSE EYE/INTERRUPT triggered, causing reversal, preventing close, or resetting TTC	IF an obstruction occurred, no action required. If an obstruction did NOT occur, check alignment, inputs, and wiring on expansion board.	NO
74	CLOSE EYE/EDGE triggered, causing reversal and preventing close or canceling TTC		
75	OPEN EYE/EDGE triggered, causing reversal or preventing opening		
80	Close input (EYE/EDGE) communication fault from other operator	Check inputs and communication method between operators, either wired bus or radio. Ensure operator is powered. May have to erase the wireless communication and reprogram the two operators.	YES
81	Open input (EYE/EDGE) communication fault from other operator		
82	Close input (EYE/EDGE) communication fault (expansion board)	Check the connections between the main board and the expansion board.	YES
83	Open input (EYE/EDGE) communication fault (expansion board)		
84	Non-monitored device detected on the wireless safety system	Non-monitored contact closure devices are not supported. Make sure connected devices are monitored. Check edges for proper orientation and resistive end cap connection.	YES
91	Force Reversal (Operator 1)	Check for obstruction. If no obstruction, check that the mechanical assembly is engaged and free to move. See section on Limit and Force Adjustment, and Obstruction Test.	YES
93	RPM / STALL Reversal (Operator 1)	Check for obstruction. If no obstruction, check the operator wiring and that the mechanical assembly is engaged and free to move. Replace APE assembly.	YES
99	Normal Operation	No action required	YES

# TROUBLESHOOTING

## Control Board LEDs

STATUS LEDS		
<b>INPUT POWER</b>	OFF	OFF state
	ON	AC charger or Solar power available
<b>BATT CHARGING</b>	OFF	Not charging
	ON	Three stage battery charging
<b>TIMER</b>	OFF	The timer is disabled
	ON	The timer is enabled
	MEDIUM BLINK (1 blink per second)	The timer is running
	FAST BLINK (2 blinks per second)	The timer is paused
	FASTEST BLINK (8 blinks per second)	The timer is canceled
<b>GATE MOVING</b>	OFF	The gate is stopped
	ON	The gate is opening or closing
	MEDIUM BLINK (1 blink per second)	Operator is in E1 (single entrapment)
	FASTEST BLINK (8 blinks per second)	The operator is in E2 (double entrapment)
<b>BATT LOW</b>	OFF	No battery error
	ON	Battery low
	MEDIUM BLINK (1 blink per second)	Battery critically low
<b>ACC PWR OVLD</b>	OFF	Accessory power is okay
	ON	Accessory overload protector opened

INPUT LEDS		
<b>OPEN, CLOSE, STOP INPUT</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>FIRE DEPT INPUT</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>EXIT</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>SHADOW</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>CLOSE EYES/INTERRUPT</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>CLOSE EDGE</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>OPEN EYES/EDGE</b>	OFF	Input inactive
	ON	Input active
	BLINK	Input active on other operator
<b>LOCK</b>	OFF	Maglock relay inactive
	ON	Maglock relay active



# TROUBLESHOOTING

## Troubleshooting Chart

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
<b>Operator does not run and diagnostic display not on.</b>	<ul style="list-style-type: none"> <li>a. No power to control board</li> <li>b. Open fuse</li> <li>c. If on battery power only, low or dead batteries</li> <li>d. Defective control board</li> </ul>	<ul style="list-style-type: none"> <li>a. Check AC and battery power</li> <li>b. Check fuses</li> <li>c. Charge batteries by AC or solar power or replace batteries</li> <li>d. Replace defective control board</li> </ul>
<b>Control board powers up, but motor does not run.</b>	<ul style="list-style-type: none"> <li>a. Reset switch is stuck</li> <li>b. Stop button active or jumper not in place for stop circuit</li> <li>c. If on battery power only, low or dead batteries</li> <li>d. Open or Close input active</li> <li>e. Entrapment Protection Device active</li> <li>f. Vehicle loop detector or probe active</li> <li>g. Defective control board</li> </ul>	<ul style="list-style-type: none"> <li>a. Check reset switch</li> <li>b. Check Stop button is not “stuck on”, or verify that the stop button is a normally closed circuit, or put a jumper on the stop circuit.</li> <li>c. Charges batteries by AC or solar power or replace batteries</li> <li>d. Check all Open and Close inputs for a “stuck on” input</li> <li>e. Check all Entrapment Protection Device inputs for a “stuck on” sensor</li> <li>f. Check all vehicle detector inputs for a “stuck on” detector</li> <li>g. Replace defective control board</li> </ul>
<b>Gate moves, but cannot set correct limits.</b>	<ul style="list-style-type: none"> <li>a. Gate does not move to a limit position</li> <li>b. Gate is too difficult to move</li> <li>c. Limits are set too close (slide gate applications only)</li> </ul>	<ul style="list-style-type: none"> <li>a. Use manual disconnect, manually move gate, and ensure gate moves easily limit to limit. Repair gate as needed.</li> <li>b. Gate must move easily and freely through its entire range, limit to limit. Repair gate as needed.</li> <li>c. Ensure the gate moves at least four feet between the OPEN limit and the CLOSE limit.</li> </ul>
<b>Gate does not fully open or fully close when setting limits.</b>	<ul style="list-style-type: none"> <li>a. Gate does not move to a limit position</li> <li>b. Gate is too difficult to move</li> </ul>	<ul style="list-style-type: none"> <li>a. Use manual disconnect, manually move gate, and ensure gate moves easily limit to limit. Repair gate as needed.</li> <li>b. Gate must move easily and freely through its entire range, limit to limit. Repair gate as needed.</li> </ul>
<b>Operator does not respond to a wired control/command (example: Open, Close, SBC, etc.)</b>	<ul style="list-style-type: none"> <li>a. Check Open and Close command input LEDs</li> <li>b. Stop button is active</li> <li>c. Reset button is stuck</li> <li>d. If on battery power only, low or dead batteries</li> <li>e. Entrapment Protection Device active</li> <li>f. Vehicle loop detector or vehicle probe active</li> </ul>	<ul style="list-style-type: none"> <li>a. Check all Open and Close inputs for a “stuck on” input</li> <li>b. Check Stop button is not “stuck on”</li> <li>c. Check Reset button</li> <li>d. Charges batteries by AC or solar power or replace batteries</li> <li>e. Check all Entrapment Protection Device inputs for a “stuck on” sensor</li> <li>f. Check all vehicle detector inputs for a “stuck on” detector</li> </ul>
<b>Operator does not respond to a wireless control or transmitter</b>	<ul style="list-style-type: none"> <li>a. Check XMITTER LED when wireless control is active</li> <li>b. Stop button is active</li> <li>c. Reset button is stuck</li> <li>d. Poor radio reception</li> </ul>	<ul style="list-style-type: none"> <li>a. Activate wireless control and check XMITTER LED is on. Re-learn wireless control/transmitter to control board. Replace wireless control as needed.</li> <li>b. Check Stop button is not “stuck on”</li> <li>c. Check Reset button</li> <li>d. Check if similar wired control operates correctly. Check if wireless controls works properly when within a few feet of operator. Check operator’s antenna and antenna wire. Check other wireless controls or devices.</li> </ul>
<b>Gate stops during travel and reverses immediately.</b>	<ul style="list-style-type: none"> <li>a. Control (Open, Close) becoming active</li> <li>b. Vehicle loop detector active</li> <li>c. Low battery voltage</li> </ul>	<ul style="list-style-type: none"> <li>a. Check all Open and Close inputs for an active input</li> <li>b. Check all vehicle detector inputs for an active detector</li> <li>c. Battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries</li> </ul>



# TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
<b>Gate opens, but will not close with transmitter or Timer-to-Close.</b>	<ul style="list-style-type: none"> <li>a. Open control active</li> <li>b. Vehicle loop detector active</li> <li>c. Loss of AC power with AC FAIL set to OPEN</li> <li>d. Low battery with LOW BATT set to OPEN</li> <li>e. Fire Dept input active</li> <li>f. Timer-to-Close not set</li> <li>g. Close Entrapment Protection Device active</li> </ul>	<ul style="list-style-type: none"> <li>a. Check all Open inputs for an active input</li> <li>b. Check all vehicle detector inputs for an active detector</li> <li>c. Check AC power and AC Fail option setting</li> <li>d. Check if AC power is available. If no AC power, then running on batteries and battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries.</li> <li>e. Check Fire Dept input</li> <li>f. Check Timer-to-Close (TTC) setting</li> <li>g. Check all Entrapment Protection Device inputs for an active sensor</li> </ul>
<b>Gate closes, but will not open.</b>	<ul style="list-style-type: none"> <li>a. Vehicle loop detector active</li> <li>b. Low battery with LOW BATT option set to CLOSE</li> </ul>	<ul style="list-style-type: none"> <li>a. Check all vehicle detector inputs for an active detector</li> <li>b. Check if AC power is available. If no AC power, then running on batteries and battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries.</li> </ul>
<b>Exit loop activation does not cause gate to open.</b>	<ul style="list-style-type: none"> <li>a. Exit vehicle detector setup incorrectly</li> <li>b. Defective Exit loop detector</li> <li>c. Low battery with LOW BATT option set to CLOSE</li> </ul>	<ul style="list-style-type: none"> <li>a. Review Exit loop detector settings. Adjust settings as needed.</li> <li>b. Replace defective Exit loop detector.</li> <li>c. Check if AC power is available. If no AC power, then running on batteries and battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries.</li> </ul>
<b>Interrupt loop does not cause gate to stop and reverse.</b>	<ul style="list-style-type: none"> <li>a. Vehicle detector setup incorrectly</li> <li>b. Defective vehicle loop detector</li> <li>c. Anti-tail set to ON</li> </ul>	<ul style="list-style-type: none"> <li>a. Review Interrupt loop detector settings. Adjust settings as needed.</li> <li>b. Replace defective Interrupt loop detector.</li> <li>c. Set anti-tail to OFF.</li> </ul>
<b>Shadow loop does not keep gate at open limit.</b>	<ul style="list-style-type: none"> <li>a. Vehicle detector setup incorrectly</li> <li>b. Defective vehicle loop detector</li> </ul>	<ul style="list-style-type: none"> <li>a. Review Shadow loop detector settings. Adjust settings as needed.</li> <li>b. Replace defective Shadow loop detector.</li> </ul>
<b>Obstruction in gate's path does not cause gate to stop and reverse.</b>	<ul style="list-style-type: none"> <li>a. Force adjustment needed</li> </ul>	<ul style="list-style-type: none"> <li>a. Refer to the Adjustment section to conduct the obstruction test and perform the proper force adjustment that is needed.</li> </ul>
<b>Photoelectric sensor does not stop or reverse gate.</b>	<ul style="list-style-type: none"> <li>a. Incorrect photoelectric sensor wiring</li> <li>b. Defective photoelectric sensor</li> </ul>	<ul style="list-style-type: none"> <li>a. Check photoelectric sensor wiring. Retest that obstructing photoelectric sensor causes moving gate to stop, and may reverse direction.</li> <li>b. Replace defective photoelectric sensor. Retest that obstructing photoelectric sensor causes moving gate to stop, and may reverse direction.</li> </ul>
<b>Edge Sensor does not stop or reverse gate.</b>	<ul style="list-style-type: none"> <li>a. Incorrect edge sensor wiring</li> <li>b. Defective edge sensor</li> </ul>	<ul style="list-style-type: none"> <li>a. Check edge sensor wiring. Retest that activating edge sensor causes moving gate to stop and reverse direction.</li> <li>b. Replace defective edge sensor. Retest that activating edge sensor causes moving gate to stop and reverse direction.</li> </ul>
<b>Alarm sounds for 5 minutes or alarm sounds with a command.</b>	<ul style="list-style-type: none"> <li>a. Double entrapment occurred (two obstructions within a single activation)</li> </ul>	<ul style="list-style-type: none"> <li>a. Check for cause of entrapment (obstruction) detection and correct. Press the reset button to shut off alarm and reset the operator.</li> </ul>
<b>Alarm beeps three times with a command.</b>	<ul style="list-style-type: none"> <li>a. Low battery</li> </ul>	<ul style="list-style-type: none"> <li>a. Check if AC power is available. If no AC power, then running on batteries and battery voltage must be 23.0 Vdc or higher. Charge batteries by AC or solar power or replace batteries</li> </ul>
<b>On dual-gate system, incorrect gate opens first or closes first.</b>	<ul style="list-style-type: none"> <li>a. Incorrect Bipart switch setting</li> </ul>	<ul style="list-style-type: none"> <li>a. Change setting of both operator's Bipart switch settings. One operator should have Bipart switch ON (operator that opens second) and the other operator should have Bipart switch OFF (operator that opens first).</li> </ul>
<b>Alarm beeps when running.</b>	<ul style="list-style-type: none"> <li>a. Expansion board setting</li> <li>b. Constant pressure to open or close is given</li> </ul>	<ul style="list-style-type: none"> <li>a. Pre-warning is set to "ON"</li> <li>b. Constant pressure to open or closed is given</li> </ul>

## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
<b>Expansion board function not controlling gate.</b>	<ul style="list-style-type: none"> <li>a. Defective main board to expansionboard wiring</li> <li>b. Incorrect input wiring to expansion board</li> <li>c. Defective expansion board or defective main board</li> </ul>	<ul style="list-style-type: none"> <li>a. Check main board to expansion board wiring. If required, replace wire cable.</li> <li>b. Check wiring to all inputs on expansion board.</li> <li>c. Replace defective expansion board or defective main board</li> </ul>
<b>Maglock not working correctly.</b>	<ul style="list-style-type: none"> <li>a. Maglock wired incorrectly</li> </ul>	<ul style="list-style-type: none"> <li>a. Check that Maglock is wired to N.C. and COM terminals. Check that Maglock has power (do not power maglock from control board accessory power terminals). If shorting lock's NO and COM wires does not activate Maglock, then replace Maglock or Maglock wiring (refer to Wiring Diagrams).</li> </ul>
<b>Solenoid lock not working correctly.</b>	<ul style="list-style-type: none"> <li>a. Solenoid wired incorrectly</li> </ul>	<ul style="list-style-type: none"> <li>a. Check that Solenoid is wired to N.O. and COM terminals. Check that Solenoid has power (do not power solenoid from control board accessory power terminals). If shorting lock's NC and COM wires does not activate Solenoid, then replace Solenoid lock or Solenoid wiring (refer to Wiring Diagrams).</li> </ul>
<b>Switched (SW) Accessory power remaining on.</b>	<ul style="list-style-type: none"> <li>a. In limit setup mode</li> </ul>	<ul style="list-style-type: none"> <li>a. Learn the limits</li> </ul>
<b>Accessories connected to Switch (SW) Accessory power not working correctly, turning off, or resetting.</b>	<ul style="list-style-type: none"> <li>a. Normal behavior</li> </ul>	<ul style="list-style-type: none"> <li>a. Move accessory to accessory power "ON"</li> </ul>
<b>Accessories connected to Accessory power not working correctly, turning off, or resetting.</b>	<ul style="list-style-type: none"> <li>a. Accessory power protector active</li> <li>b. Defective control board</li> </ul>	<ul style="list-style-type: none"> <li>a. Disconnect all accessory powered devices and measure accessory power voltage (should be 23 – 30 Vdc). If voltage is correct, connect accessories one at a time, measuring accessory voltage after every new connection.</li> <li>b. Replace defective control board</li> </ul>
<b>Quick Close not working correctly.</b>	<ul style="list-style-type: none"> <li>a. Quick Close setting incorrect</li> <li>b. Interrupt loop detector</li> <li>c. Defective Expansion board</li> </ul>	<ul style="list-style-type: none"> <li>a. Check that Quick Close setting is ON</li> <li>b. Check operation of Interrupt Loop detector</li> <li>c. Replace defective Expansion board</li> </ul>
<b>Anti-Tailgating not working correctly.</b>	<ul style="list-style-type: none"> <li>a. Anti-Tail setting incorrect</li> <li>b. Interrupt loop detector</li> <li>c. Defective Expansion board</li> </ul>	<ul style="list-style-type: none"> <li>a. Check that Anti-Tail setting is ON</li> <li>b. Check operation of Interrupt Loop detector</li> <li>c. Replace defective Expansion board</li> </ul>
<b>AUX Relay not working correctly.</b>	<ul style="list-style-type: none"> <li>a. AUX Relay setting incorrect</li> <li>b. AUX Relay wiring incorrect</li> <li>c. Defective Expansion board</li> </ul>	<ul style="list-style-type: none"> <li>a. Check AUX Relay switches settings</li> <li>b. Check that wiring is connected to either N.O. and COM or to N.C. and COM.</li> <li>c. Set AUX Relay to another setting and test. Replace defective expansion board.</li> </ul>
<b>Solar operator not getting enough cycles per day.</b>	<ul style="list-style-type: none"> <li>a. Insufficient panel wattage</li> <li>b. Excessive accessory power draw</li> <li>c. Old batteries</li> <li>d. Solar panels are not getting enough sunlight</li> </ul>	<ul style="list-style-type: none"> <li>a. Add more solar panels</li> <li>b. Reduce the accessory power draw by using LiftMaster low power accessories</li> <li>c. Replace batteries</li> <li>d. Relocate the solar panels away from obstructions (trees, buildings, etc.)</li> </ul>
<b>Solar operator, insufficient standby time.</b>	<ul style="list-style-type: none"> <li>a. Insufficient panel wattage</li> <li>b. Excessive accessory power draw</li> <li>c. Battery capacity too low</li> </ul>	<ul style="list-style-type: none"> <li>a. Add more solar panels</li> <li>b. Reduce the accessory power draw by using LiftMaster low power accessories</li> <li>c. Use batteries with higher amp hour (AH) rating</li> </ul>

## Step 6 Solar Panel(s)

SOLAR PANELS ARE NOT PROVIDED. SEE ACCESSORIES

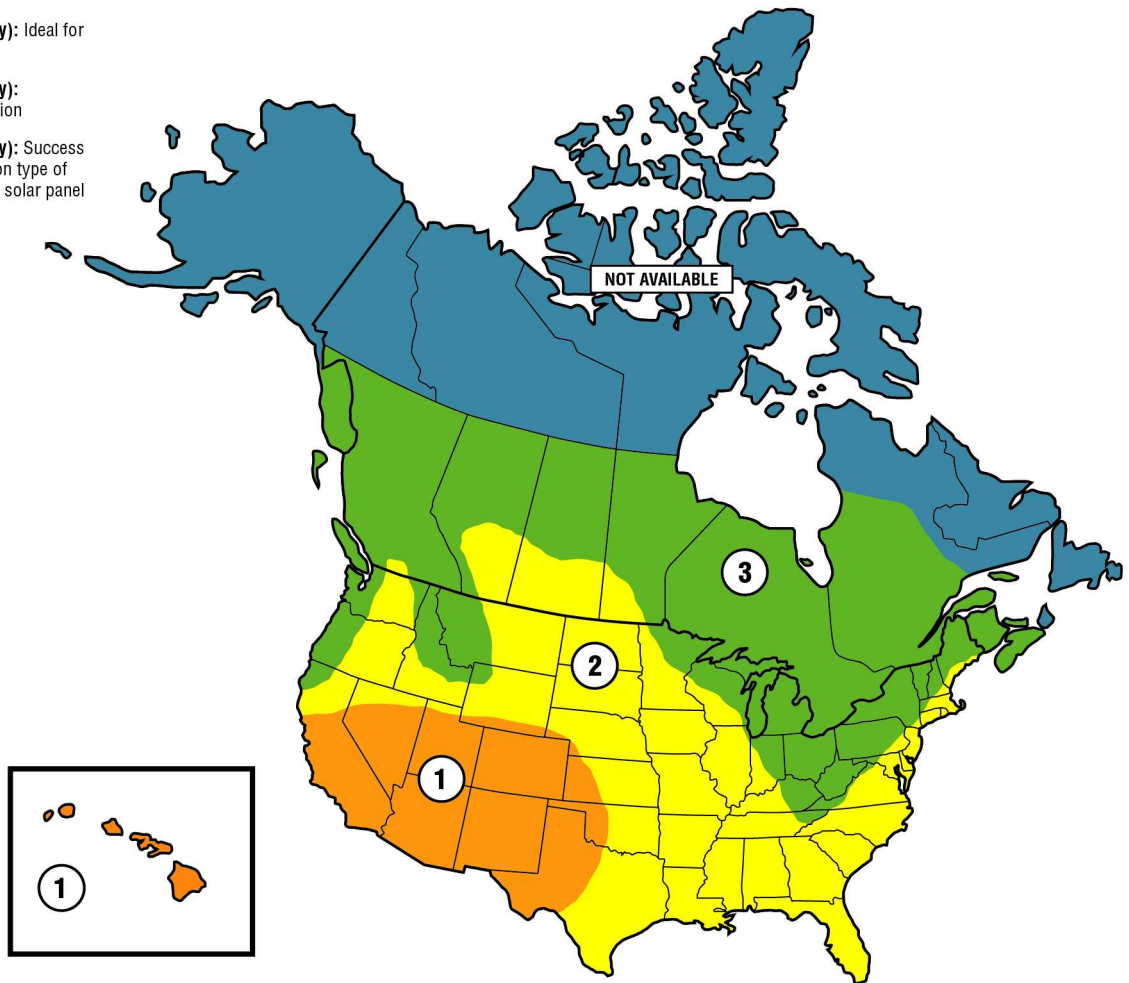
### Solar Application Requirements

- A minimum of two 10W solar panels in series (Model SP10W12V).
- A maximum of six 10W solar panels (Model SP10W12V).
- Solar Harness Kit (Model K94-37236).
- A heater cannot be used with a solar application.

### Solar Zones

Solar panel recommendations are based upon the average solar radiation and the temperature effects on batteries in the given zones as shown on the map below. Local geography and weather conditions may require additional solar panels. Solar powered gate operator installations are not supported in northern climates due to cold weather and a reduced number of hours of sunlight during the winter months. The cycles/day ratings are approximations. Ratings vary based on gate construction, installation, and temperature. Solar panels cannot be installed in areas that experience long periods of heavy fog, lake effect snow, or rain.

- 1** ZONE 1 (6 Hours of Sunlight/Day): Ideal for solar application
- 2** ZONE 2 (4 Hours of Sunlight/Day): Recommended for solar application
- 3** ZONE 3 (2 Hours of Sunlight/Day): Success of solar application will depend on type of gate operator and location of the solar panel
- NOT AVAILABLE



# APPENDIX

## Solar usage guide

Typical System Standby Battery Current Consumption (mA)	
System voltage	24V
Main board with no radios programmed	2.7 mA
One or more LiftMaster® remote controls programmed	+1 mA
MyQ® device or wireless dual gate programmed	+2.4 mA
Expansion board	+11.1 mA
Per loop detector LOOPDETLM (up to 3 loop detectors can be plugged in to the expansion board)	+3.8 mA
Add up current draw by feature and accessory to determine total current draw	

**NOTE:** The use of photoelectric sensor heaters (models LMRRUL and LMTBUL) is NOT recommended in solar applications.

SOLAR GATE CYCLES PER DAY							
	BATTERY CURRENT DRAW (mA)	ZONE 1		ZONE 2		ZONE 3	
		7AH batteries	33AH batteries	7AH batteries	33AH batteries	7AH batteries	33AH batteries
<b>10W SOLAR PANEL</b>	5	26	28	15	17		
	15	22	24	12	13		
	20	20	22		11		
	40	12	14				
	60						
<b>20W SOLAR PANEL</b> (Two 10W 12V panels in series)	5	57	67	34	40	14	16
	15	52	62	30	36	10	12
	20	50	60	28	33		11
	50	36	45	15	20		
	100	15	23				
<b>40W SOLAR PANEL</b> (Two 20W 12V panels in series)	5	108	152	65	92	27	38
	15	103	147	60	87	23	34
	20	100	144	58	84	21	32
	100	58	99	21	44		
	200	14	47				
<b>60W SOLAR PANEL</b>	5	134	240	81	146	34	61
	15	128	234	76	140	29	56
	20	125	231	73	137	27	54
	100	82	181	34	92		18
	250	12	95		20		

# APPENDIX

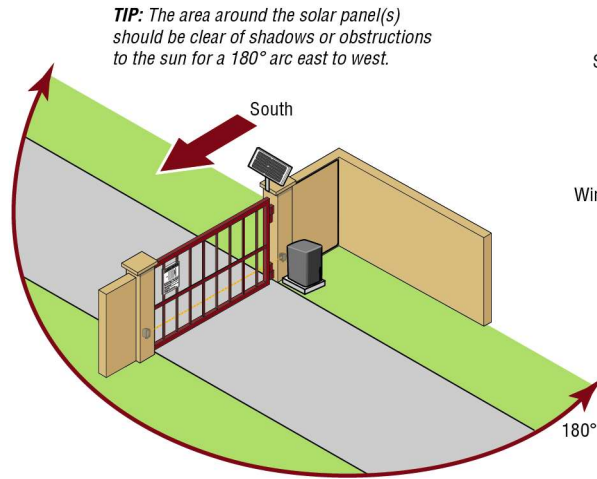
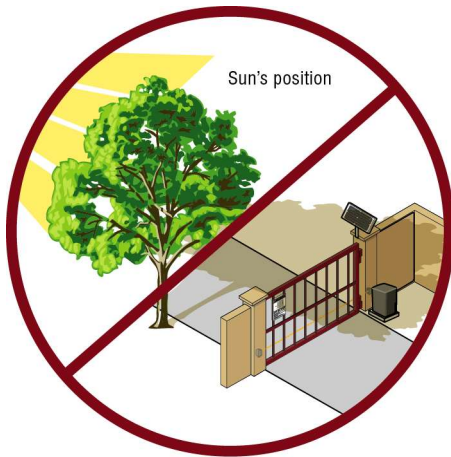
## Position

The location of the panel(s) is critical to the success of the installation. In general, the panel(s) should be mounted using the provided angle bracket facing **due south**. The solar panel(s) should be mounted in an area clear of all obstructions and shade from buildings and trees. If the panel(s) is not casting a shadow, the battery is not being charged.

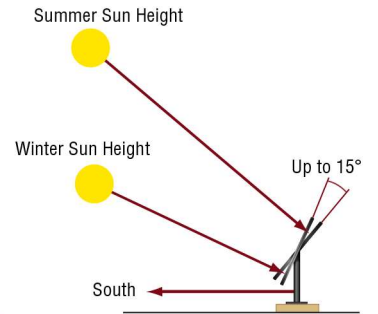
**NOTE:** Tall trees or buildings that do not shade the solar panel(s) in the summer could shade the solar panel(s) during the winter months when the sun sits lower in the sky.

MAXIMUM WIRE LENGTH			
AMERICAN WIRE GAUGE (AWG)	20 WATTS OF PANELS	40 WATTS OF PANELS	60 WATTS OF PANELS
16	235 (71.6 m)	115 (35.1 m)	80 (24.4 m)
14	375 (114.3 m)	190 (57.9 m)	125 (38.1 m)
12	600 (182.9 m)	300 (91.4 m)	200 (61 m)
10	940 (286.5 m)	475 (144.8 m)	315 (96 m)

*Chart assumes: copper wire, 65°C, 5% drop, 30V nominal*



**TIP:** The area around the solar panel(s) should be clear of shadows or obstructions to the sun for a 180° arc east to west.

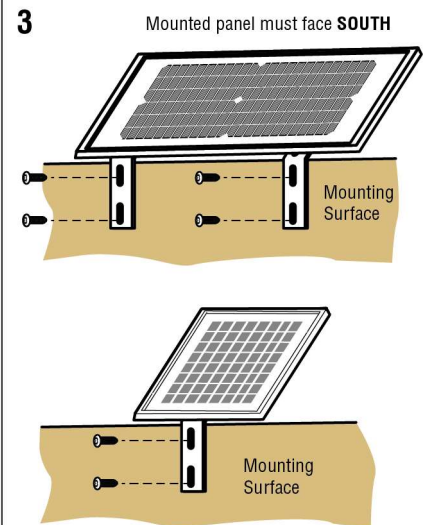
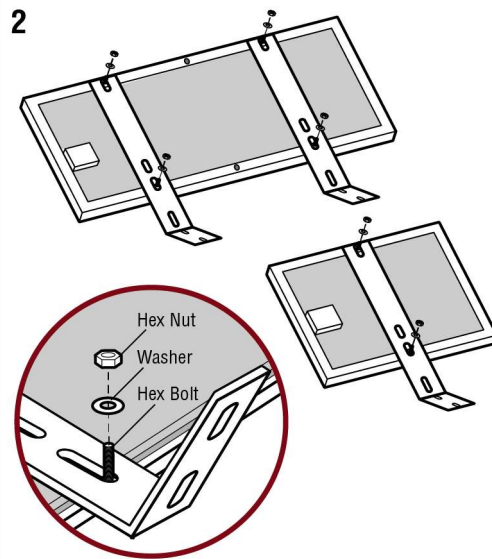
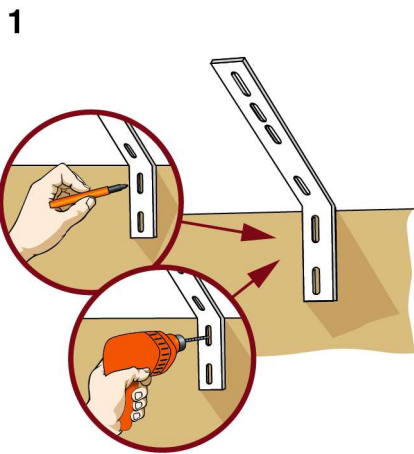


**TIP:** To optimize the system for winter operation the angle can be increased an additional 15° (solar panel(s) sits more vertical).

## Installation

Solar panel(s) **MUST** be installed facing south. Use a compass to determine direction. Below are general instructions for installing the solar panel(s). Your installation may vary slightly depending on the solar panel purchased.

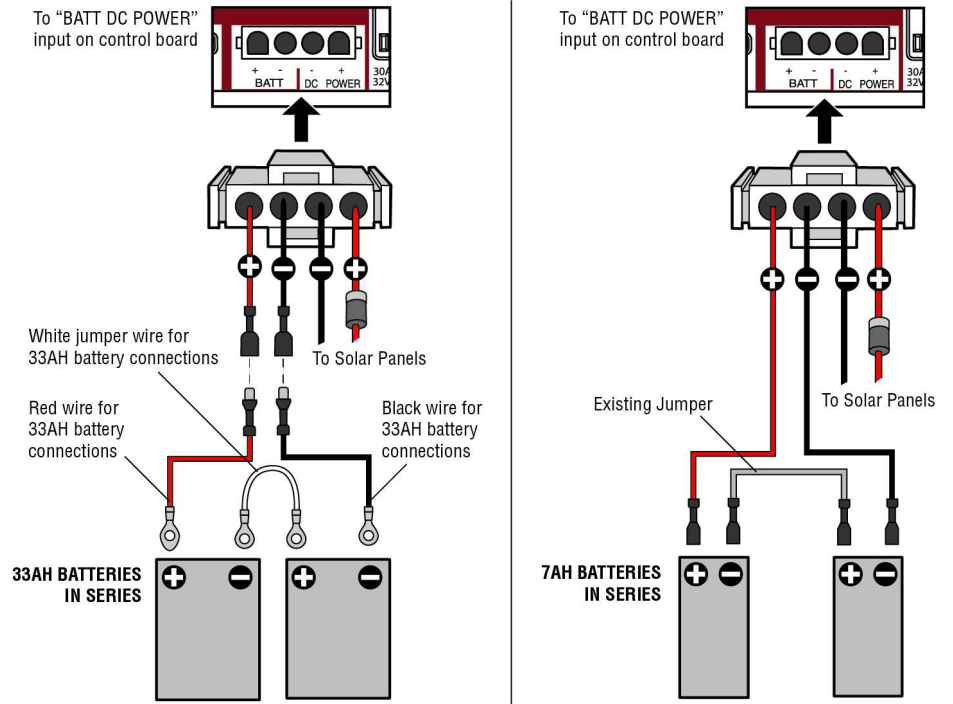
1. Position the mounting bracket on the mounting surface. Mark and drill holes.
2. Secure the solar panel to the mounting bracket using the hex bolts, hex nuts and washers provided.
3. Secure the solar panel to the mounting surface using lag screws provided.



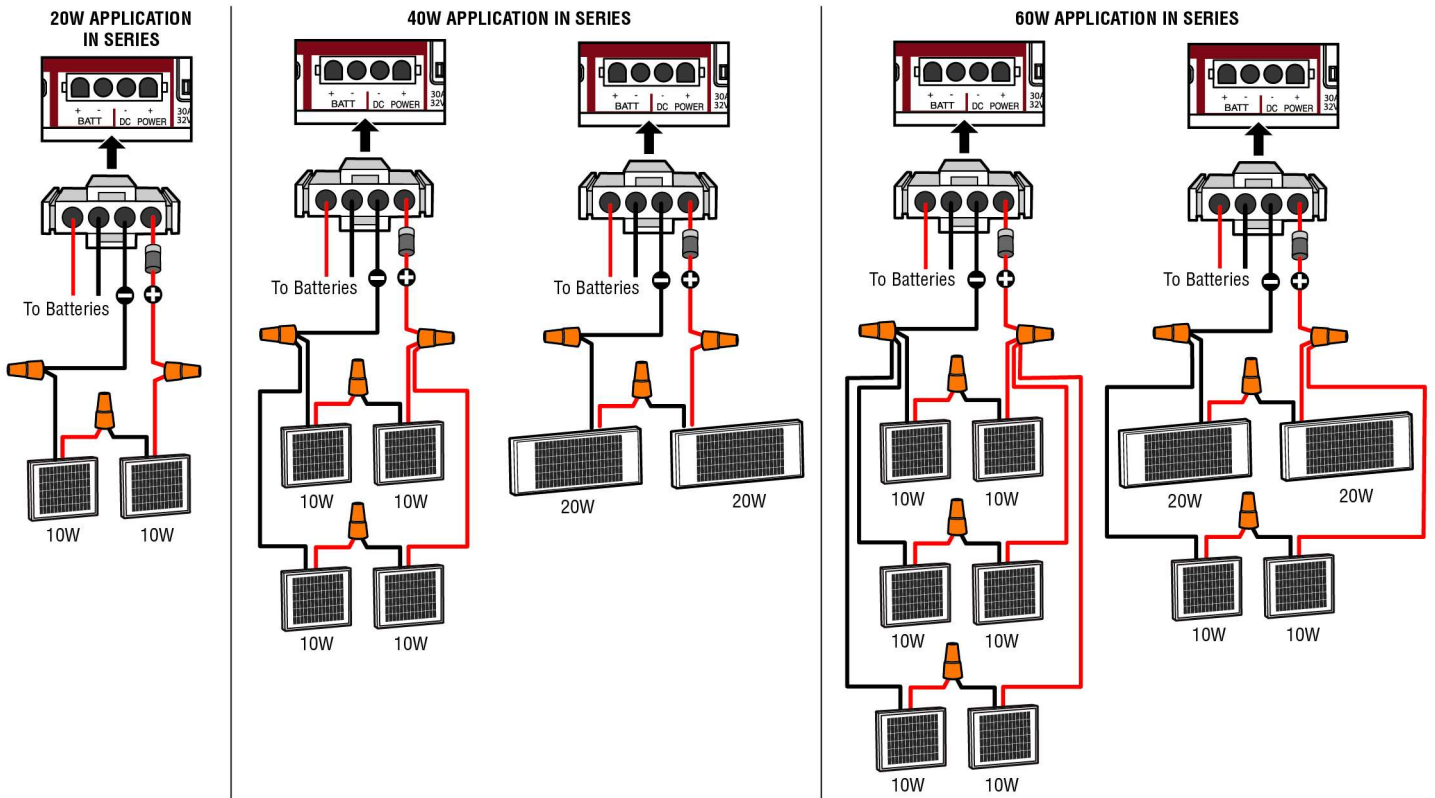
# APPENDIX

## Wire the Batteries

Solar panel applications require the Solar Harness Kit model K94-37236, see *Accessories*.



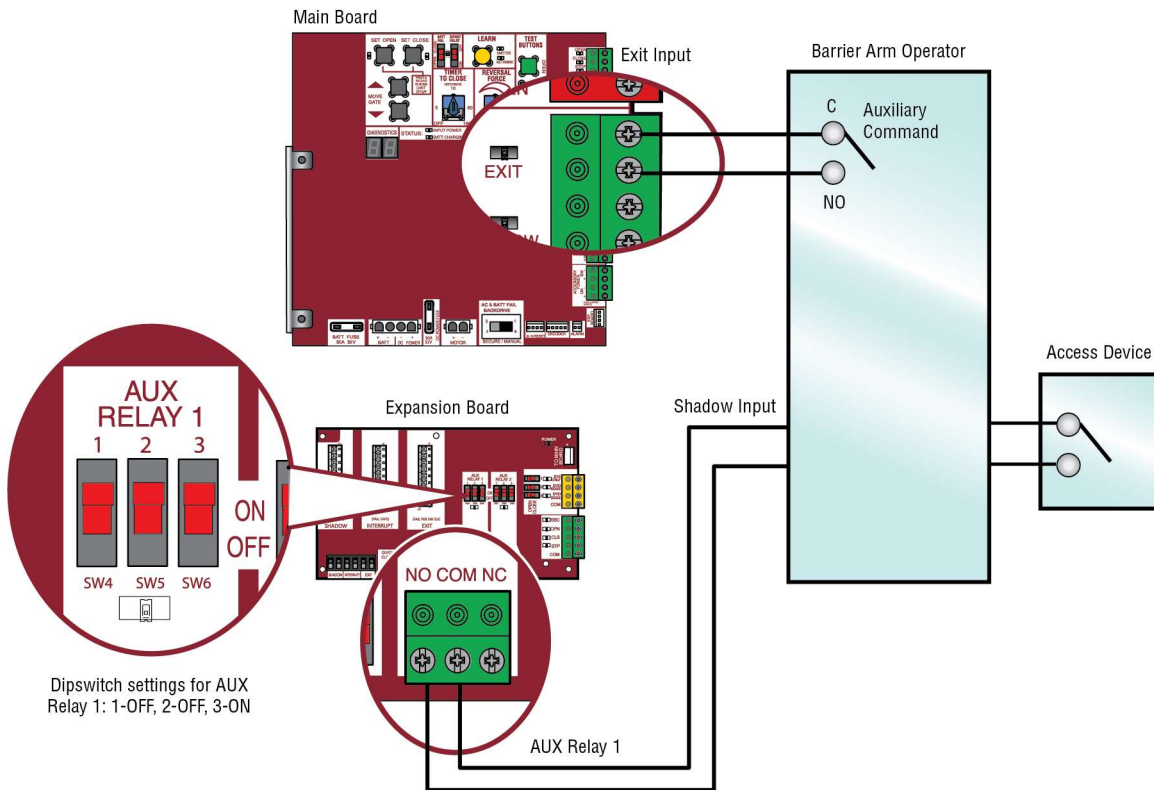
## Wire the solar panels



Proceed to the Dual Gate section (if applicable) or proceed to the Adjustment section.

# APPENDIX

## SAMS wiring with relays not energized



## Dual Gate Settings

**NOTE:** We recommend that all accessories and board configurations are set on the primary operator.

### Main control board

FEATURE	PRIMARY OPERATOR	SECONDARY OPERATOR
Timer-to-Close	Set the TTC dial to desired setting	OFF
Bi-Part Delay Switch	Bi-Part Delay: ON (will open last and close first) Tandem Mode: OFF Synchronized Close: ON	Bi-Part Delay: OFF (will open first and close last) Tandem Mode: OFF Synchronized Close: ON

### Expansion board

FEATURE	PRIMARY OPERATOR	SECONDARY OPERATOR
QUICK CLOSE Switch	ON	OFF
ANTI-TAIL Switch	ON	OFF
LOW BATT Switch	Battery Fail OPEN: OPEN Battery Fail CLOSE: CLOSE	Battery Fail OPEN: OPEN Battery Fail CLOSE: CLOSE
AC FAIL OPEN/BATT Switch	OPEN	OPEN

### Accessories

ACCESSORY	PRIMARY OPERATOR	SECONDARY OPERATOR
Remote Controls	Program remote controls 1 to 50 to the primary operator.	Program remote controls 51 to 100 to the secondary operator
LiftMaster Internet Gateway	Program to primary operator.	
Garage and Gate Monitor	Program to primary operator.	

## Limit Setup with a Remote Control

To set the limits using a remote control, first you will need a 3-button remote control that has been programmed for OPEN, CLOSE, and STOP. Refer to the Programming section.

### Initial Limits and Force Adjustment

**For dual gate applications the limits will have to be set for each operator. The gate MUST be attached to the operator before setting the limits and force.**

Ensure the gate is closed.

1. Press and release the SET OPEN and SET CLOSE buttons simultaneously to enter limit setting mode.
2. Press and hold the OPEN or CLOSE button on the remote control until the gate reaches the desired open position. The gate can be jogged back and forth using the OPEN and CLOSE buttons on the remote control.
3. Once the gate is in the desired open position, press and release the STOP button on the remote control.
4. Press and release the OPEN button on the remote control again to set the open limit.
5. Press and hold the CLOSE or OPEN button on the remote control until the gate reaches the desired close position. The gate can be jogged back and forth using the OPEN and CLOSE buttons on the remote control.
6. Once the gate is in the desired close position, press and release the STOP button on the remote control.
7. Press and release the CLOSE button on the remote control again to set the close limit.
8. Cycle the gate open and close. This automatically sets the force.

When limits are set properly the operator will automatically exit limit setting mode.

Refer to the *Adjustment* section and follow the instructions for *Fine Tune the Force* and *Obstruction Test*. Perform the "Obstruction Test" after every limit and force setting adjustment.

### Adjust the limits

If the limits have already been set the operator will exit the limit setting mode after resetting each limit.

#### Set the Close Limit Only

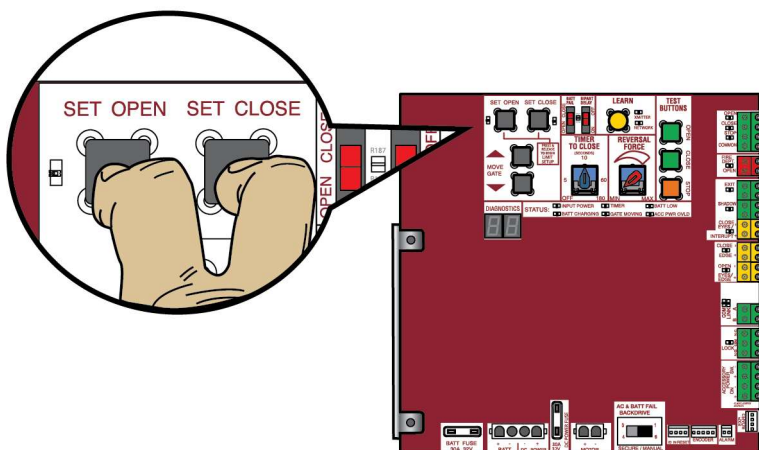
1. Press and release the SET OPEN and SET CLOSE buttons simultaneously to enter limit setting mode.
2. Press and hold the CLOSE button on the remote control until the gate reaches the desired close position. The gate can be jogged back and forth using the OPEN and CLOSE buttons on the remote control.
3. Once the gate is in the desired close position, press and release the STOP button on the remote control.
4. Press and release the CLOSE button on the remote control again to set the close limit.

When the close limit is set properly the operator will automatically exit limit setting mode.

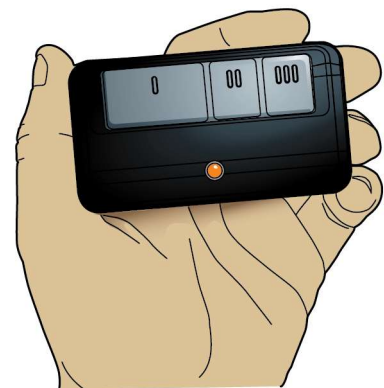
#### Set the Open Limit Only

1. Press and release the SET OPEN and SET CLOSE buttons simultaneously to enter limit setting mode.
2. Press and hold the OPEN button on the remote control until the gate reaches the desired open position. The gate can be jogged back and forth using the OPEN and CLOSE buttons on the remote control.
3. Once the gate is in the desired open position, press and release the STOP button on the remote control.
4. Press and release the OPEN button on the remote control again to set the open limit.

When the open limit is set properly the operator will automatically exit limit setting mode.



3-Button Remote Control programmed for OPEN, CLOSE, and STOP





# WIRING DIAGRAM

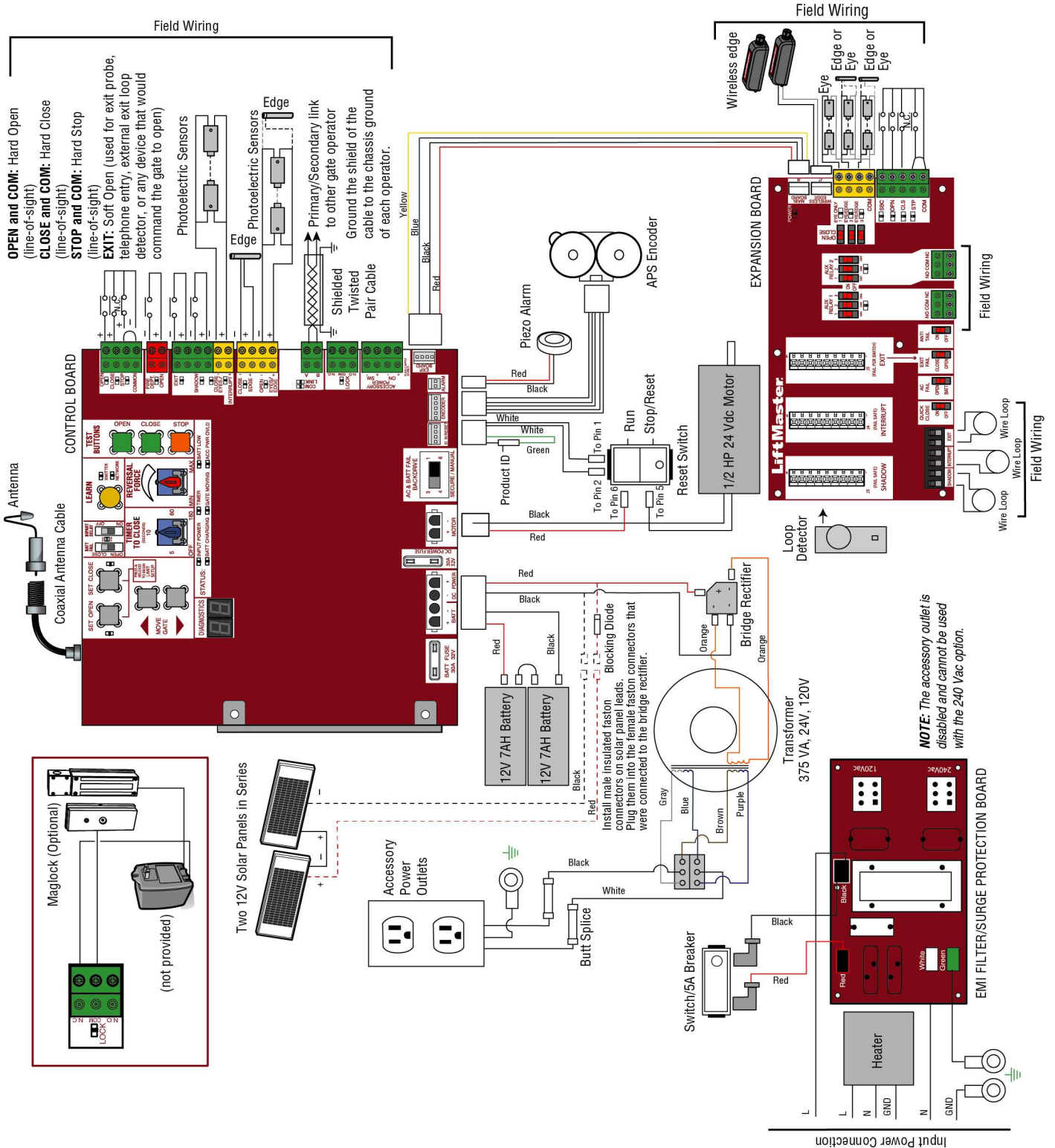
## ⚠ WARNING

To protect against fire and electrocution:

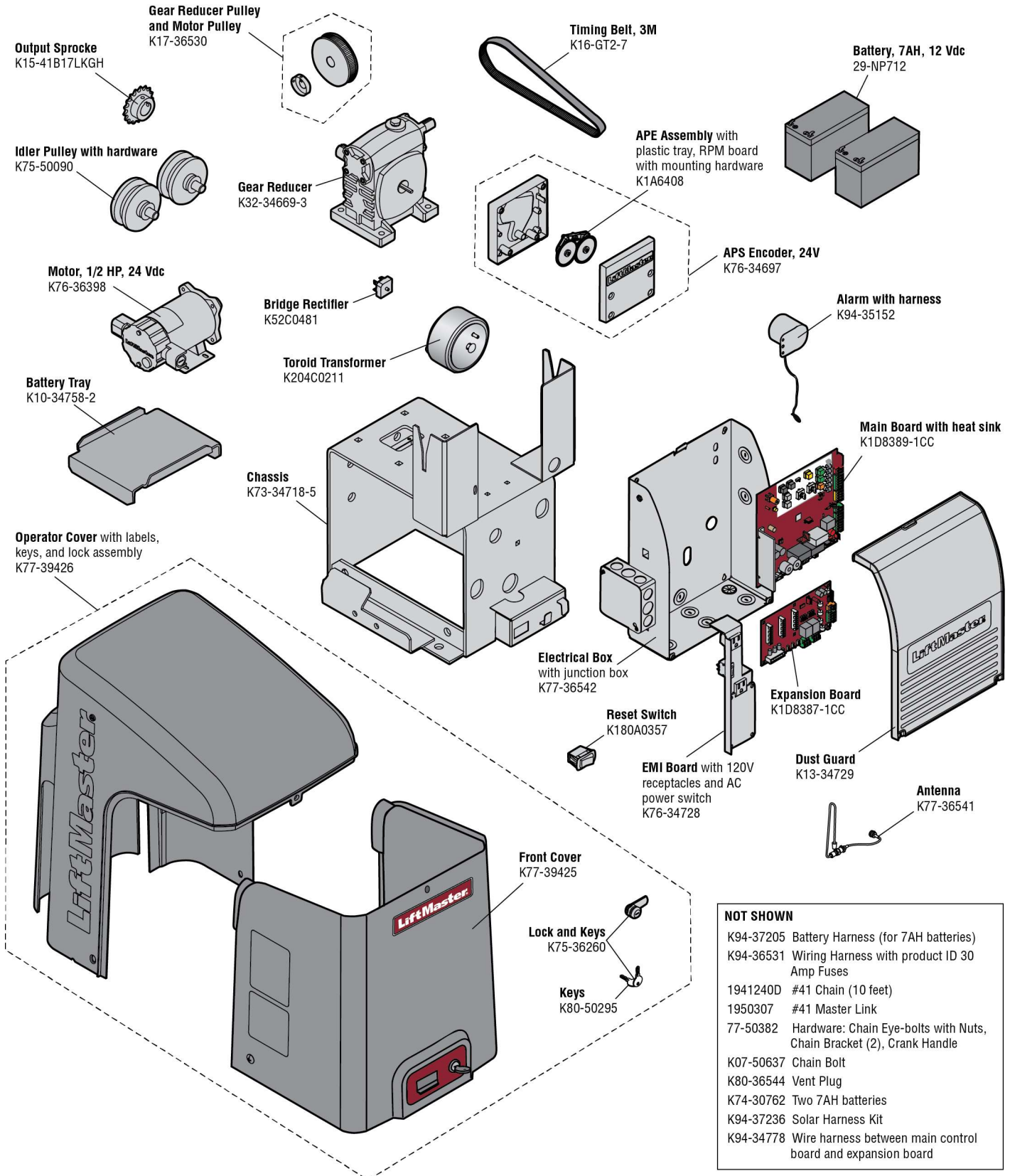
- DISCONNECT power (AC or solar and battery) BEFORE installing or servicing operator.

For continued protection against fire:

- Replace ONLY with fuse of same type and rating.



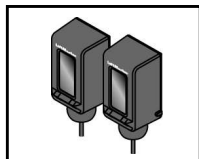
# REPAIR PARTS



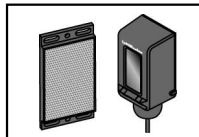
- NOT SHOWN**
- K94-37205 Battery Harness (for 7AH batteries)
  - K94-36531 Wiring Harness with product ID 30 Amp Fuses
  - 1941240D #41 Chain (10 feet)
  - 1950307 #41 Master Link
  - 77-50382 Hardware: Chain Eye-bolts with Nuts, Chain Bracket (2), Crank Handle
  - K07-50637 Chain Bolt
  - K80-36544 Vent Plug
  - K74-30762 Two 7AH batteries
  - K94-37236 Solar Harness Kit
  - K94-34778 Wire harness between main control board and expansion board

# ACCESSORIES

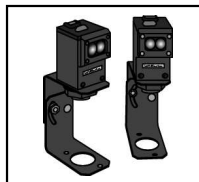
## Entrapment Protection



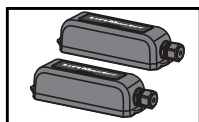
**LiftMaster monitored through beam photoelectric sensor**  
Model LMTBUL



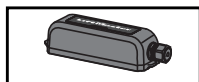
**LiftMaster monitored retro-reflective photoelectric sensor**  
Model LMRRUL



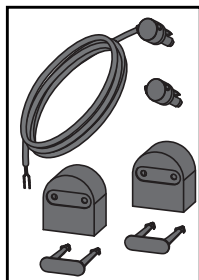
**LiftMaster Monitored Commercial Protector System®**  
Models CPS-UN4 and CPSUN4G



**LiftMaster monitored wireless edge kit (transmitter and receiver)**  
Model LMWEKITU



**LiftMaster monitored wireless edge transmitter**  
Model LMWETXU



**Large profile monitored edge (82 ft. roll)**  
Model L50

**Large profile ends kit (10 pair)**  
Model L50E

**Small profile monitored edge (82 ft. roll)**  
Model S50

**Small profile ends kit (10 pair)**  
Model S50E

### Plastic channel

8 ft. (2.4 m) for both small and large profile edges (pack of 10).  
Model L50CHP

### Aluminum channel

10 ft. (3.1 m) for both small and large edge profiles (pack of 8).  
Model L50CHAL

### LiftMaster large profile monitored edges (4ft., 5ft., 6ft.)

Model L504AL, L505AL, L506AL

### Wraparound round monitored edge (4 ft., 5 ft., 6 ft.)

Models WR4, WR5, WR6

### Wraparound square monitored edge (4 ft., 5 ft., 6 ft.)

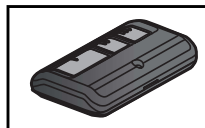
Models WS4, WS5, WS6

### Edge cutting tool

Model ETOOL

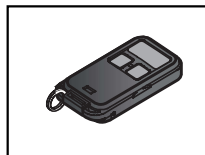
## Remote Controls

*LiftMaster offers a variety of LiftMaster remote controls to satisfy your application needs. Single-button to 4-button, visor or key chain. The following remote controls are compatible with operators manufactured by LiftMaster after 1993. Contact your authorized LiftMaster dealer for additional details and options.*



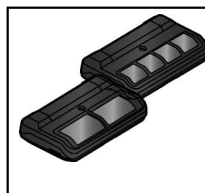
### 3-button remote control

The 3-button remote control can be programmed to control the operator. Includes visor clip.  
Model 893MAX



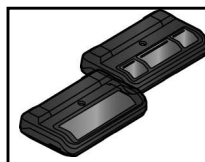
### 3-button mini-remote control

The 3-button remote control can be programmed to control the operator. Includes key ring and fastening strip.  
Model 890MAX



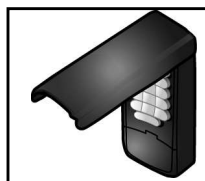
### Security+ 2.0® learning remote controls

One button can control a gate operator and the other (s) can control garage door(s). It can also be programmed to Security+® or Security+ 2.0® code format.  
Models 892LT and 894LT



### Universal single and 3-button remote controls

Ideal for applications requiring a large number of remote controls.  
Models 811LM and 813LM



### Keyless entry

Enables homeowner to operate gate operator from outside by entering a 4-digit code on a specially designed keypad.  
Model 877MAX



### Wireless commercial keypad

Durable wireless keypad with blue LED backlight metal keypad, zinc-alloy metal front cover and 5 year 9V lithium battery. Security+ 2.0® compatible.  
Model KPW250

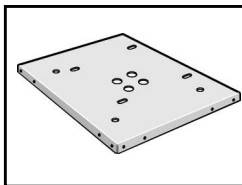


### Commercial access control receiver

Access control receiver for up to 1,000 devices (any combination of remote controls and wireless keyless entries).  
Model STAR1000

# ACCESSORIES

## Miscellaneous



### Post-mounting plate

For post-mounting models CSL24UL, CSW24UL CSW200UL and SL3000UL commercial gate operators. Posts not included.

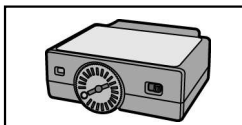
Model MPEL



### Remote antenna extension kit

The remote antenna extension kit allows the antenna to be remotely installed.

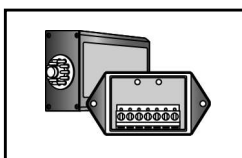
Model 86LM



### Plug-in loop detector

Low power. Conveniently plugs into existing control board.

Model LOOPETLM



### Loop Detector

Low power loop detectors mounted and wired separately inside control box. LiftMaster low power accessory.

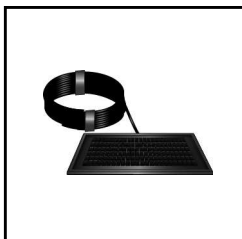
Model LD7LP



### Vehicle sensing probe

The vehicle sensing probe is buried in the ground and can detect a car as it approaches and will then open the gate.

Model CP3



### Solar panel kit

This kit is to replace or add a solar panel to the operator application. 60W maximum for 24 Vdc operators and 30W maximum for 12 Vdc operators. Requires a 33AH battery harness.

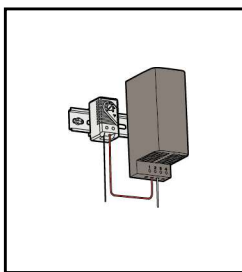
Models SP10W12V (10 Watt, 12V) and SP20W12V (20 Watt, 12V)



### Magnetic gate lock

Outdoor magnetic lock, transformer, junction box, mounting plate and hardware. Not for use with Solar Applications. Must be powered separately.

Model MG1300



### Heater

The heater keeps the gearbox and batteries at a suitable temperature when the outside temperature is below -4°F (-20°C). The thermostat MUST be set between 45°F and 60°F (7°C and 15.5°C) to ensure proper gate operation. The heater can be powered by 110 to 250 Vac.

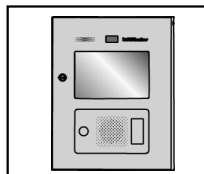
Model HTR



### LiftMaster® internet gateway

Internet enabled accessory which connects to the computer and allows you to monitor and control gate operators and lighting accessories enabled by MyQ® technology.

Model 828LM



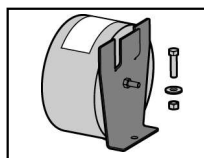
### LiftMaster Cloud™ connected access protocol - high capacity

Model CAPXL



### Warning sign

Model 40-39235



### Transformer kit

Changes input voltage (208/240/480/575 Vac) to an output voltage of 120 Vac. Rated 208/240/480/575 Vac, 4.8/4.2/2.1/1.7 A, 60 Hz, 1 PH

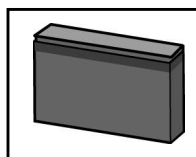
Model 3PHCONV

### Solenoid lock harness kit

Model K77-37972

## Batteries

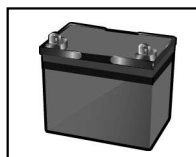
Gate access system batteries replace or upgrade the gate operator batteries. Two identical 12 Vdc batteries are required for each gate operator. Do not mix 7AH and 33AH batteries within a gate operator.



### 7AH batteries

Standard 7 AMP-Hour Battery, 12 Vdc, to replace original batteries provided with operator. Reuse existing harnesses.

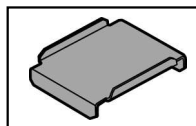
Models 29-NP712 (1) and K74-30762 (2)



### 33AH batteries

Upgrade 33 AMP-Hour Battery, 12 Vdc. Ideal for solar applications and extended battery backup. Two required.

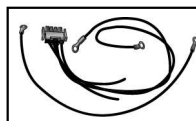
Model A12330SGLPK



### Battery tray

Two required for 33AH applications.

Model K10-34758-2



### Universal solar wire harness kit

For 7AH and 33AH applications.

Model K94-37236

# WARRANTY

## LiftMaster 7 year residential / 5 year commercial Limited Warranty

LiftMaster ("Seller") warrants to the first purchaser of this product, for the structure in which this product is originally installed, that it is free from defect in materials and/or workmanship for a period of 7 year residential / 5 year commercial from the date of purchase [and that the CSL24UL is free from defect in materials and/or workmanship for a period of 7 year residential / 5 year commercial from the date of purchase]. The proper operation of this product is dependent on your compliance with the instructions regarding installation, operation, maintenance and testing. Failure to comply strictly with those instructions will void this limited warranty in its entirety.

If, during the limited warranty period, this product appears to contain a defect covered by this limited warranty, call **1-800-528-2806**, toll free, before dismantling this product. Then send this product, pre-paid and insured, to our service center for warranty repair. You will be advised of shipping instructions when you call. Please include a brief description of the problem and a dated proof-of-purchase receipt with any product returned for warranty repair. Products returned to Seller for warranty repair, which upon receipt by Seller are confirmed to be defective and covered by this limited warranty, will be repaired or replaced (at Seller's sole option) at no cost to you and returned pre-paid. Defective parts will be repaired or replaced with new or factory-rebuilt parts at Seller's sole option.

**ALL IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE 7 YEAR RESIDENTIAL / 5 YEAR COMMERCIAL LIMITED WARRANTY PERIOD SET FORTH ABOVE [EXCEPT THE IMPLIED WARRANTIES WITH RESPECT TO THE CSL24UL, WHICH ARE LIMITED IN DURATION TO THE 7 YEAR RESIDENTIAL / 5 YEAR COMMERCIAL LIMITED WARRANTY PERIOD FOR THE CSL24UL, AND NO IMPLIED WARRANTIES WILL EXIST OR APPLY AFTER SUCH PERIOD. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. THIS LIMITED WARRANTY DOES NOT COVER NON-DEFECT DAMAGE, DAMAGE CAUSED BY IMPROPER INSTALLATION, OPERATION OR CARE (INCLUDING, BUT NOT LIMITED TO ABUSE, MISUSE, FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE, UNAUTHORIZED REPAIRS OR ANY ALTERATIONS TO THIS PRODUCT), LABOR CHARGES FOR REINSTALLING A REPAIRED OR REPLACED UNIT, OR REPLACEMENT OF BATTERIES.**

**THIS LIMITED WARRANTY DOES NOT COVER ANY PROBLEMS WITH, OR RELATING TO, THE GATE OR GATE HARDWARE, INCLUDING BUT NOT LIMITED TO THE GATE SPRINGS, GATE ROLLERS, GATE ALIGNMENT OR HINGES. THIS LIMITED WARRANTY ALSO DOES NOT COVER ANY PROBLEMS CAUSED BY INTERFERENCE. ANY SERVICE CALL THAT DETERMINES THE PROBLEM HAS BEEN CAUSED BY ANY OF THESE ITEMS COULD RESULT IN A FEE TO YOU.**

**UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH USE, OR INABILITY TO USE, THIS PRODUCT. IN NO EVENT SHALL SELLER'S LIABILITY FOR BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR STRICT LIABILITY EXCEED THE COST OF THE PRODUCT COVERED HEREBY. NO PERSON IS AUTHORIZED TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS PRODUCT.**

Some states do not allow the exclusion or limitation of consequential, incidental or special damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



300 Windsor Drive  
Oak Brook, IL 60523  
**LiftMaster.com**

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01-39381B

**AMERISTAR® PASSPORT® WELDED ROLL GATE  
LIMITED WARRANTY**

PassPort® Welded Roll Gates by AMERISTAR® are manufactured from the highest quality materials by skilled craftsmen to meet the highest standards of workmanship in the industry.

Ameristar Fence Products hereby certifies that its gates are free from defects in material or workmanship and all gate components and hardware are guaranteed against such defects for a one (1) year period from the original date of purchase. (Note: Accidental damages, defects resulting from improper installation techniques, and damage from abuse or vandalism are not included herein).

Additionally, the powder coated surface on PassPort® Welded Roll Gates, including all gate components and hardware, is guaranteed under normal and proper usage, against cracking, peeling, chipping, blistering or corroding for a period of one (1) year from the original purchase date. Normal and proper usage does not include physical damage, abrasion or exposure to salty environments to the protective coating.

Should any PassPort® Welded Roll Gate or gate component manufactured by Ameristar Fence Products fail in accordance with any of the above conditions, Ameristar Fence Products warrants to the original purchaser their redemption through replacement or renewal. The decision as to which method of redemption is allowed is solely at the discretion of Ameristar. Notice of failure under the conditions of this warranty shall be sent to Ameristar Fence Products or its authorized representative, in writing, together with proof of purchase and shall specify the nature of the defect and when it was first observed. Should the gate be improperly assembled or installed, Ameristar Fence Products shall not be responsible for guaranteed performance or appearance of the material. Neither does this guarantee apply when failure or damage is due to improper use or application, abuse or misuse, vandalism or acts of God. Ameristar Fence Products reserves the right to inspect the material to determine validity of the claim.

Upon validation of the claim by Ameristar Fence Products or its authorized representative, redemption by replacement or renewal shall be made by Ameristar Fence Products. Reimbursement for the costs of removal and installation of materials are not included in the guarantee, nor will Ameristar Fence Products provide those services.

The above constitutes the complete warranty by the manufacturer. No other agreement, written or implied, is valid. Ameristar Fence Products does not authorize any other person or agent to make any other express warranties. Ameristar Fence Products neither assumes, nor authorizes any other person or agent to assume, any other liability in connection with PassPort® Welded Roll Gates. Some jurisdictions do not allow limitations on how long an implied warranty lasts, nor do they allow an exclusion or limitation of incidental or consequential damages; therefore, the limitations and exclusions noted herein may not apply.

PURCHASE DATE 2/1/23

DEALER SIGNATURE *Branford*



P. O. BOX 581000  
TULSA, OKLAHOMA 74158-1000



**ROLL UP DOOR**  
**SOUTHEASTERN OVERHEAD DOOR, LLC**  
**(225)753-1595**

## Cleaning Your Garage Door

Like any other exterior surface, Wayne Dalton garage doors will have dirt exposure from atmospheric conditions. Ordinarily, the cleaning action of rainfall will be adequate to wash the door, or the door can be washed periodically by hosing with a garden hose and clear water (in particular) for the areas not accessible to rain. If you desire to do a more thorough cleaning, or where soil collection conditions occur, follow these simple instructions.

1. To clean acrylic glazings wash with plenty of nonabrasive soap or detergent and water. Use the bare hand to feel and dislodge any caked dirt or mud. A soft, grit-free cloth, sponge or chamois may be used to wipe the surface. Do not use hard or rough cloth that will scratch the acrylic glazing. Dry with a clean damp chamois.

2. Grease and oil may be removed with kerosene or a good grade of naphtha (No aromatic content.). Users of these solvents should become familiar with their proper ties to handle them safely.

Mild solutions of detergents or household ammonia will aid in the removal of most dirt, and the following are recommended levels:

One cup of Tide™, or other common detergents, which contain less than 0.5% phosphate, dissolved into five gallons of warm water.

**NOTE:** The use of detergents containing greater than 0.5% phosphate is not recommended for use in general cleaning of garage doors. NEVER BLEND CLEANSERS OR DETERGENTS WITH BLEACH.

3. Do not use: Window cleaning fluids, scouring compounds, gritty cloths, leaded or ethyl gasoline, or solvents such as alcohol, acetone, carbon tetrachloride, etc.

This cleaning and maintenance information is suggested in an effort to be of assistance; however, manufacturer cannot assume responsibility for results obtained which are dependent on the cleaning solution and method of application.

### FINISH AND FINISHING MAINTENANCE INSTRUCTIONS:

As with any pre-finished steel product (such as your car) general maintenance to prolong the life of the finish is recommended. On a yearly basis these procedures are to be followed for cleaning the surface of the door.

Dirt, chalk and mildew can be removed by using a mild detergent OR a diluted solution of common bleach at a concentration of one (1) cup in five (5) gallons of warm water. Rinse with clear water after washing and allow drying completely.

**CAUTION**  
NEVER MIX CLEANSERS AND BLEACH.

For added protection of a pre-painted door, the application of wax suitable for automotive use is recommended at annual intervals.

## Surface Preparation For Painting

### SURFACE PREPARATION FOR PAINTING:

Dirt, chalk and mildew can be removed by using a mild detergent OR a diluted solution of common bleach at a concentration of one (1) cup in five (5) gallons of warm water. Rinse with clear water after washing and allow drying completely.

**CAUTION**  
NEVER MIX CLEANSERS AND BLEACH.

Wax on the surface must be removed or paint peeling/flaking will result. Remove wax by wiping surface with a clean rag saturated with Xylene (Xylol). OBSERVE CAUTIONS ON SOLVENT CONTAINER.

Surface scratches which have not exposed the metal substrate can be lightly buffed or sanded with 0000 steel wool or No. 400 sand paper to create a smoother surface.

Care must be taken to not expose the substrate under the paint (see Note No. 2). Once this exposed condition exists, the likelihood for rusting is greatly increased. See the following paragraph if the metal substrate is observed.

Exposed substrate must be treated to prevent rust from forming (see Note No. 2). Sand the exposed area lightly and paint with high quality metal primer to protect from corrosion. Follow drying time on primer can label before applying topcoat.

The surface to be re-coated must not be to smooth or the repaint material will not adhere to it (See Note No. 2). It is advisable to test a representative area to evaluate adhesion. If poor adhesion is observed, the surface must be abraded by sanding or buffing using grades mentioned above. Care must be taken to not expose the substrate under the paint.

## Painting Your Garage Door

After the surface has been properly prepared it must be allowed to dry thoroughly, then coated immediately with a premium quality latex house paint. Follow the paint label directions explicitly. Oil base paint is not recommended. Please note that if substrate is exposed, painting with latex paint may cause accelerated rusting of steel.

### NOTES:

1. Re-painting of finish painted steel doors cannot be warranted as this condition is totally beyond door manufacturer's control.
2. If the steel door surface has a finish painted textured surface representing wood grain, stucco, etc., this step should not be attempted as danger of exposing substrate is greatly increased.
3. Consult a professional coatings contractor if in doubt about any of the above directions.
4. Follow directions explicitly on the paint and solvent container labels for proper applications of coatings and disposal of containers. Pay particular attention to those directions involving acceptable conditions in which to paint.

### ACRYLIC GLAZING CLEANING INSTRUCTIONS:

1. To clean acrylic glazing, wash with plenty of nonabrasive soap or detergent and water. Use the bare hand to feel and dislodge any caked dirt or mud. A soft, grit-free cloth, sponge or chamois may be used to wipe the surface. Do not use hard or rough cloth that will scratch the acrylic glazing. Dry with a clean damp chamois.
2. Grease and oil may be removed with kerosene or a good grade of naphtha (No aromatic content.). Users of these solvents should become familiar with their properties to handle them safely.
3. **Do not use:** Window cleaning fluids, scouring compounds, gritty cloths, leaded or ethyl gasoline, or solvents such as alcohol, acetone, carbon tetrachloride, etc.

## Operation And Maintenance

### OPERATING YOUR GARAGE DOOR:

Before you begin, read all warning labels affixed to the door and the installation instructions and owner's manual. When correctly installed, your Wayne Dalton door will operate smoothly. Always operate your door with controlled movements. Do not slam your door or throw your door into the open position, this may cause damage to the door or its components. If your door has an electric opener, refer to the owner's manual to disconnect the opener before performing manual door operation below.

### MANUAL DOOR OPERATION:

For additional information on manual garage door operations go to [www.dasma.com](http://www.dasma.com) and reference TDS 165.

**IMPORTANT:** DO NOT PLACE FINGERS OR HANDS INTO SECTION JOINTS WHEN OPENING AND/OR CLOSING A DOOR. ALWAYS USE LIFT HANDLES / SUITABLE GRIPPING POINTS WHEN OPERATING THE DOOR MANUALLY.

Opening a Door: Make sure the lock(s) are in the unlocked position. Lift the door by using the lift handles / suitable gripping points only. Door should open with little resistance.

Closing a Door: From inside the garage, pull door downward using lift handles / gripping points only or a high friction area only. If you are unable to reach the lift handles/ suitable gripping points only, use pull down rope affixed to the side of door. Door should close completely with little resistance.

### USING AN ELECTRIC OPERATOR:

**IMPORTANT:** PULL DOWN ROPES MUST BE REMOVED AND LOCKS MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION.

When connecting a drawbar (trolley type) garage door operator to this door, a drawbar operator and or drawbar operator bracket must be securely attached to the top section of the door, along with any struts provided with the door. Always use the drawbar operator and or drawbar operator bracket supplied with the door. To avoid possible damage to your door, Wayne Dalton recommends reinforcing the top section with a strut (may or may not be supplied). The installation of the drawbar operator must be according to manufacturer's instructions and force settings must be adjusted properly. Refer to the owner's manual supplied with your drawbar operator for complete details on installation, operation, maintenance and testing of the operator.

### MAINTAINING YOUR GARAGE DOOR:

Before you begin, read all warning labels affixed to the door and the installation instructions and owner's manual. Perform routine maintenance steps once a month, and have the door professionally inspected once a year. Review your Installation Instructions and Owner's Manual for the garage door. These instructions are available at no charge from Wayne Dalton, a division of Overhead Door Corporation, P.O. Box 67, Mt. Hope, OH., 44660, or at [www.Wayne-Dalton.com](http://www.Wayne-Dalton.com). For additional information on garage door/operator maintenance go to [www.dasma.com](http://www.dasma.com) and reference TDS 151, 167 and 179.

### MONTHLY INSPECTIONS:

**1. Visual Inspection:** Closely inspect jambs, header and mounting surface. Any wood found not to be structurally sound must be replaced. Inspect the springs, counterbalance lift cables, track rollers, pulleys, rear back hangs and other door hardware for signs of worn or broken parts. Tighten any loose screws and/or bolts. Check exterior surface of the door sections for any minor cracks. Verify door has not shifted right or left in the opening. If you suspect problems, have a trained door system technician make the repairs.

## **WARNING**

**GARAGE DOOR SPRINGS, COUNTERBALANCE LIFT CABLES, BRACKETS, AND OTHER HARDWARE ATTACHED TO THE SPRINGS ARE UNDER EXTREME TENSION, AND IF HANDLED IMPROPERLY, CAN CAUSE SEVERE OR FATAL INJURY. ONLY A TRAINED DOOR SYSTEMS TECHNICIAN SHOULD ADJUST THEM, BY CAREFULLY FOLLOWING THE MANUFACTURER'S INSTRUCTIONS.**

## **WARNING**

**NEVER REMOVE, ADJUST, OR LOOSEN THE BOLTS, SCREWS AND/OR LAG SCREWS ON THE COUNTERBALANCE (END OR CENTER BEARING BRACKETS) SYSTEM OR BOTTOM CORNER BRACKETS OF THE DOOR. THESE BRACKETS ARE CONNECTED TO THE SPRING(S) AND ARE UNDER EXTREME TENSION. TO AVOID POSSIBLE SEVERE OR FATAL INJURY, HAVE ANY SUCH WORK PERFORMED BY A TRAINED DOOR SYSTEMS TECHNICIAN USING PROPER TOOLS AND INSTRUCTIONS**

**Torsion Springs:** The torsion springs (located above the door) should only be adjusted by a trained door systems technician. DO NOT attempt to repair or adjust torsion springs yourself.

**Extension Springs:** A restraining cable or other device should be installed on the extension spring (located above the horizontal tracks) to help contain the spring if it breaks.

**2. Door Balance:** Periodically test the balance of your door. If you have a garage door drawbar operator, use the release mechanism so you can operate the door by hand when doing this test. Start with the door in the fully closed position. Lift the door to check its balance. Adjust Extension spring(s), if door lifts by itself (hard to pull down) or if door is difficult to lift (easy to pull down). DO NOT attempt to repair or adjust Torsion Springs yourself. To adjust Extension spring(s), refer to your installation instructions and owner's manual. If in question about any of the procedures, do not perform the work. Instead, have it adjusted by a trained door systems technician.

**3. Lubrication:** The door should open and close smoothly. Ensure the door track rollers are rotating freely when opening and closing the door. If track rollers do not rotate freely, clean the door tracks, removing dirt and any foreign substances. Clean and lubricate (use a non-silicon based lubricant) graduated end hinges, center hinge(s), steel track rollers, bearings and torsion spring(s) (torsion spring coil surfaces). DO NOT lubricate plastic idler bearings, nylon track rollers, door track, DO NOT oil a cylinder lock, if actuation is difficult use a graphite dust to lubricate.

**TRUE GRID**

**BLOUNT GENERAL CONTRACTORS, LLC**  
**(25)664-3520**

## **TRUEGRID – Maintenance Guide**

TRUEGRID typically requires very little maintenance. Most silt and sediment will decay and pass naturally through the system as tested and documented in the Brattebo and Booth 2003 study<sup>1</sup>. Here are some maintenance suggestions to ensure high permeability for the life of your TRUEGRID site.

### **Leaves & Garbage:**

Excessive leaves and/or garbage should be raked, or air blown being careful not to remove the gravel. Small organic particles will decay naturally and pass through the system.

### **Sediment:**

TRUEGRID may be hosed down with water or carefully power washed to move excess sediment through the system. Care should be taken to not wash gravel out during this process. TRUEGRID is a modular system. If needed, any area can be pulled up and infill or base material can be replaced. The same TRUEGRID can then be reused.

### **Snowplowing:**

TRUEGRID can be plowed using standard truck-mounted snowplow blades with small riser skids on the corners of the blades to keep the bottom of the blade off the surface of the grid by roughly 1".

### **Tree or plants watering:**

Adjacent trees or plants next to or part of the TRUEGRID site can be watered directly through the permeable TRUEGRID system either manually or with irrigation. TRUEGRID paving helps protect the tree roots from damage from heavy vehicles and traffic.

### **Grass Infill**

TRUEGRID grass infill applications should be treated the same as regular grass maintenance. Water and feed grass, as needed. Mow grass appropriately. Apply seed to bare spots, as needed. Aerate grass, as needed.

<sup>1</sup>Long-term stormwater quantity and quality performance of permeable pavement systems

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### **Abstract**

This study examined the long-term effectiveness of permeable pavement as an alternative to traditional impervious asphalt pavement in a parking area. Four commercially available permeable pavement systems were evaluated after 6 years of daily parking usage for structural durability, ability to infiltrate precipitation, and impacts on infiltrate water quality. All four permeable pavement systems showed no major signs of wear. Virtually all rainwater infiltrated through the permeable pavements, with almost no surface runoff. The infiltrated water had significantly lower levels of copper and zinc than the direct surface runoff from the asphalt area. Motor oil was detected in 89% of samples from the asphalt runoff but not in any water sample infiltrated through the permeable pavement. Neither lead nor diesel fuel were detected in any sample. Infiltrate measured 5 years earlier displayed significantly higher concentrations of zinc and significantly lower concentrations of copper and lead.

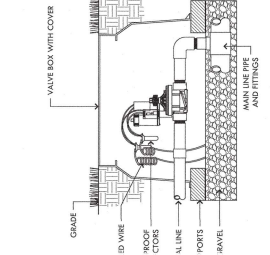
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**ATTACHMENT E**  
**LANDSCAPE PLAN**





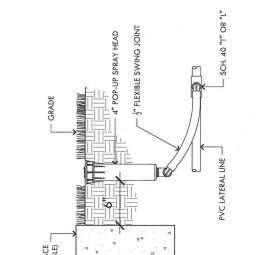
**A** 12" POP-UP HEAD  
 DETAIL N.T.S.



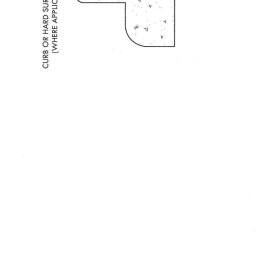
**B** 4" POP-UP HEAD  
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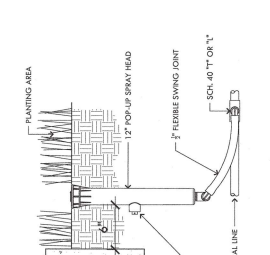
**C** ZONE VALVE  
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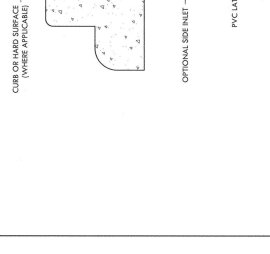
**D** BACKFLOW PREVENTER  
 DETAIL N.T.S.



**E** CONTROLLER  
 DETAIL N.T.S.



**F** QUICK COUPLING VALVE  
 DETAIL N.T.S.



**G** TRENCHING  
 DETAIL N.T.S.

**NOTE:**  
 1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.  
 2. BACKFLOW SHALL HAVE INSULATED ENCLOSURE  
 3. MIN. OF 12" ABOVE GRADE

**NOTE:**  
 1. POWER SUPPLY CONDUIT, CONNECT PER LOCAL CODES  
 2. MINIMUM CLEARANCE FOR GOOD CIRCULATION  
 3. HUNTER-CORE OR APPROVED EQUAL CONTROL WIRE IN THE SIZE AND TYPE PER LOCAL CODE  
 4. 1/2" POWER SUPPLY CONDUIT, CONNECT PER LOCAL CODES  
 5. 1-1/2" HUNTER-CORE OR APPROVED EQUAL CONTROL WIRE IN THE SIZE AND TYPE PER LOCAL CODE

**NOTE:**  
 1. 1/2" BRASS CARTRIDGE-BOLT EMBEDDED IN CONCRETE, MINIMUM 18" FROM EACH SILENT LOCATION  
 2. 2" WASHED GALV. BASE FOR SETTING BOX  
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**\*NOTE:**  
 COORDINATE ROADWAY/ DRIVEWAY SLEEVES W/  
 GENERAL CONTRACTOR PRIOR TO CONCRETE POURS.

**SLEEVE - TYPICAL**  
 DETAIL N.T.S.

**CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES IN REFERENCE TO LOW VOLTAGE WIRING AND THE INSTALLATION OF PVC PIPING.**

**DO NOT CUT TREE ROOTS LARGER THAN 2" DIAMETER, TUNNEL UNDER ROOTS, HAND DIG OR ERODE WITHIN DRIP LINE**

**TE A LOOSE 20' LOOP WIRING AT ALL CHANGES OF DIRECTION GREATER THAN 30'. LINE ALL LOOPS AND CONNECTIONS HAVE BEEN COMPLETED**

**ALL 120 VOLT WIRING IN ACCORDANCE WITH LOCAL CODE**

**DO NOT CUT TREE ROOTS LARGER THAN 2" DIAMETER, TUNNEL UNDER ROOTS, HAND DIG OR ERODE WITHIN DRIP LINE**

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