Operational & Maintenance Manual

Products: Enter Product Category / Model Number

Installation Site

Enter Project Name/Site info

Contractor

Enter Contractor Firm Name here

Architect

Enter Architect Firm Info Here

Distributor

Overhead Door Company of ABC
123 Eagle Street
Eagle Town, TX 75067

Enter Company Name Ex: Overhead Door Company of
Enter Street Address
Enter City, ST zip code

Dear Customer:

Thank you for choosing our company as your custom door installation specialist.

The Operation and Maintenance Manual, which is enclosed, has been supplied by Overhead Door Corporation to meet your needs as our customer. Appropriate information for the products installed has been compiled in this manual for your use. We recommend compliance with all of the safety information provided within the manual.

We strongly recommend implementing a preventative maintenance program. Benefits of properly maintaining your door system include:

- Increased operational efficiency and reliability.
- Extended useful life of your equipment.
- Increased probability of dependable equipment performance.
- Elimination of non-budgeted maintenance cost for door service.

As an Overhead Door distributor, we offer you complete product support for your service and maintenance needs. Do not hesitate to call us for assistance.

We hope that you will also continue to consider our company for your future product and installation needs. We are firmly committed to providing the finest in Overhead Door products, accessories, and a level of customer support unmatched in the industry.

Sincerely,

Enter Company Name Ex: Overhead Door Company of

Operation & Maintenance Manual

Rolling Grilles

Table of Contents

GENERAL INFORMATION

OVERHEAD DOOR CORPORATION

Overhead Door Corporation, based in Dallas, Texas, is a leading single-source manufacturer of integrated door and operator systems for commercial and residential applications.

Overhead Door is the door solutions provider that delivers expert service and the highest level of performance and reliability. Our comprehensive product line encompasses a wide variety of commercial door solutions including: commercial operators, commercial sectional and rolling service doors, advanced performance rolling doors, and security grilles.

With our nationwide network of more than 400 authorized distributors, we are a leading provider of overhead and garage door systems, and we continue to lead the way with reliable solutions and unmatched professional installation, service and support that keeps customers coming back. The brand trusted for over 90 years, Overhead Door gives home and business owners confidence and peace of mind.

To locate a distributor:
From the United States, call 1-800-929-3667 (DOOR)
International: 1-717-248-0131
http://www.overheaddoor.com/Pages/distributor-locator.aspx

Contact Information:
Overhead Door Corporation
2501 S. State Hwy. 121, Suite 200
Lewisville, TX 75067
Telephone: 1-800-275-3290
www.overheaddoor.com

PREVENTATIVE MAINTENANCE

BENEFITS OF PREVENTATIVE MAINTENANCE PROGRAM

- **Increase operational efficiency, safety and reliability**
- **Extend useful life of your equipment**
- **Reduce probability of equipment malfunctioning**
- **Decrease costly downtime**
- **Decrease long-term repair expense**
- **Priority scheduling for service**
- **Establish relationship with experienced, service-oriented professionals**

RECOMMENDED PREVENTATIVE MAINTENANCE

To keep door in good working condition:

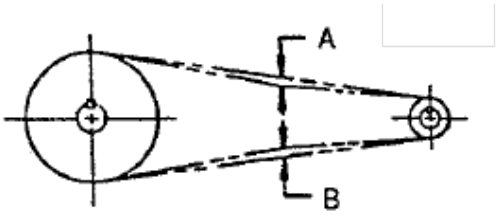
Every three months[1]

- Oil all moving parts except the clutch mechanism on fire doors and the wool pile in the guides on rolling grilles or counter doors. The guides should be lubricated with a paste wax or silicone spray.
- If electrically operated, check the operator gear reducer for oil leakage. If it is necessary to add oil, use Mobile Synthetic Oil (AGMA 7 #SHC 75W90).
- Check the tension of the roller chain between the operator and the door sprocket (see Figure A). If too loose, loosen the operator mounting bolts and slide the operator to tighten the chain (see Figure B). Retighten the operator mounting bolts.
- Oil the interior roller chain on operators without gear reducer.

Every six months[1]

- Oil all exposed roller chains, and on electric operators, dry lube the limit switch shaft threads.
- All bearings provided with grease fittings should be lubricated. If so equipped, find bearings located in the drive bracket and tension end of the counterbalance.
- Fire doors should be drop tested unless more frequent testing is required by other codes. Always use the Drop Test Instructions located inside the tension headplate cover.
- On crank operated doors and grilles, the crank assemblies are sealed with grease and should not require lubrication.

[1] The above frequency of maintenance is for normal operation. Severe duty or unusual operating conditions may require modification of the times between maintenance.



A+B must equal more than ¼”

Figure A

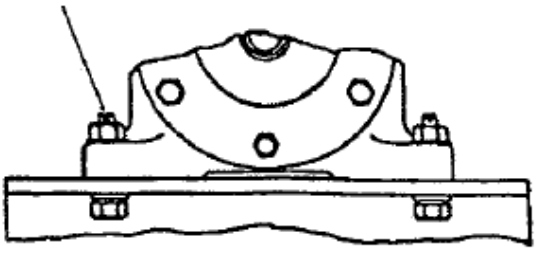


Figure B

TROUBLESHOOTING GUIDE FOR ROLLING SERVICE DOORS

1. DOOR IS HARD TO RAISE BUT EASY TO LOWER.
   SOLUTION: Springs require more turns. Raise door to fully opened position and add spring tension (1/8 turn at a time) until the same resistance is felt lowering the door as is felt raising the door. Adjust tension wheel with steel winding bards 3' long and diameter ½" or ¾".

2. DOOR IS HARD TO LOWER BUT EASY TO RAISE.
   SOLUTION: Springs require fewer turns. Raise door to fully opened position and remove spring tension (1/8 turn at a time) until results listed in example 1 are achieved.

3. DOOR HANGS UP AT ENTRANCE INTO GUIDES.
   SOLUTION:
   a. Bellmouths might be out of position away from the headplate allowing endlocks to wedge. Loosen attachment nut and locate edge of bellmouth snug against headplate and tighten.
   b. Endlocks might have become loose and tilted out of position. Drill out loose fasteners and reattach with suitable fastener.
   c. Curtain might have been bent and damaged enough to wedge in guides. In some cases the bellmouths can be removed from the guide entrance and the curtain lowered outside of the guides and straightened. Be careful not to allow curtain to rapidly unwind off the counterbalance.

4. ELECTRIC OPERATOR STOPS TOO SOON; DOES NOT REACHT THE OPEN OR CLOSED POSITION.
   SOLUTION: Operator limit switch setting has become out of phase with the door. Reset the limit switches. See operator installation instructions for method of resetting limits.

5. OPERATOR DOES NOT RUN.
   SOLUTION:
   a. Verify that electric power is available to the operator.
   b. Verify 24 VAC control voltage form operator transformer.
   c. Verify condition of hoist interlock switch.
   d. Verify condition of slidebolt interlock switch.

SCOPE OF WORK FOR ROLLING DOORS AND ELECTRIC OPERATORS

For the period _____, 20__, through _____, 20__, the following services and inspections will be provided as part of the Preventative Maintenance Program for the rolling door(s) and operator(s):

ROLLING DOORS:

1) Inspect door alignment and level.
2) Inspect slats and endlocks for damage.
3) Inspect guides, bottom bar and hood for damage.
4) Inspect all weather-stripping for wear or damage.
5) Adjust spring and lubricate bearings.
6) Inspect and tighten fasteners.
7) Inspect and lubricate chain hoist.
8) Inspect locks for proper operation.
9) Inspect and tighten all sprockets and shaft collars.
10) Inspect safety labels, placement and condition.

ROLLING FIRE DOORS:

1) Inspect fuse links and replace painted fuse links.
2) Drop test door for proper operation.
3) Check that door is properly reset.
4) Test electric fusible links for continuity (where applicable).
5) Test smoke detector (where applicable).
6) Test hold-open devices and time delays (where applicable).
7) Inspect safety labels, placement and condition.

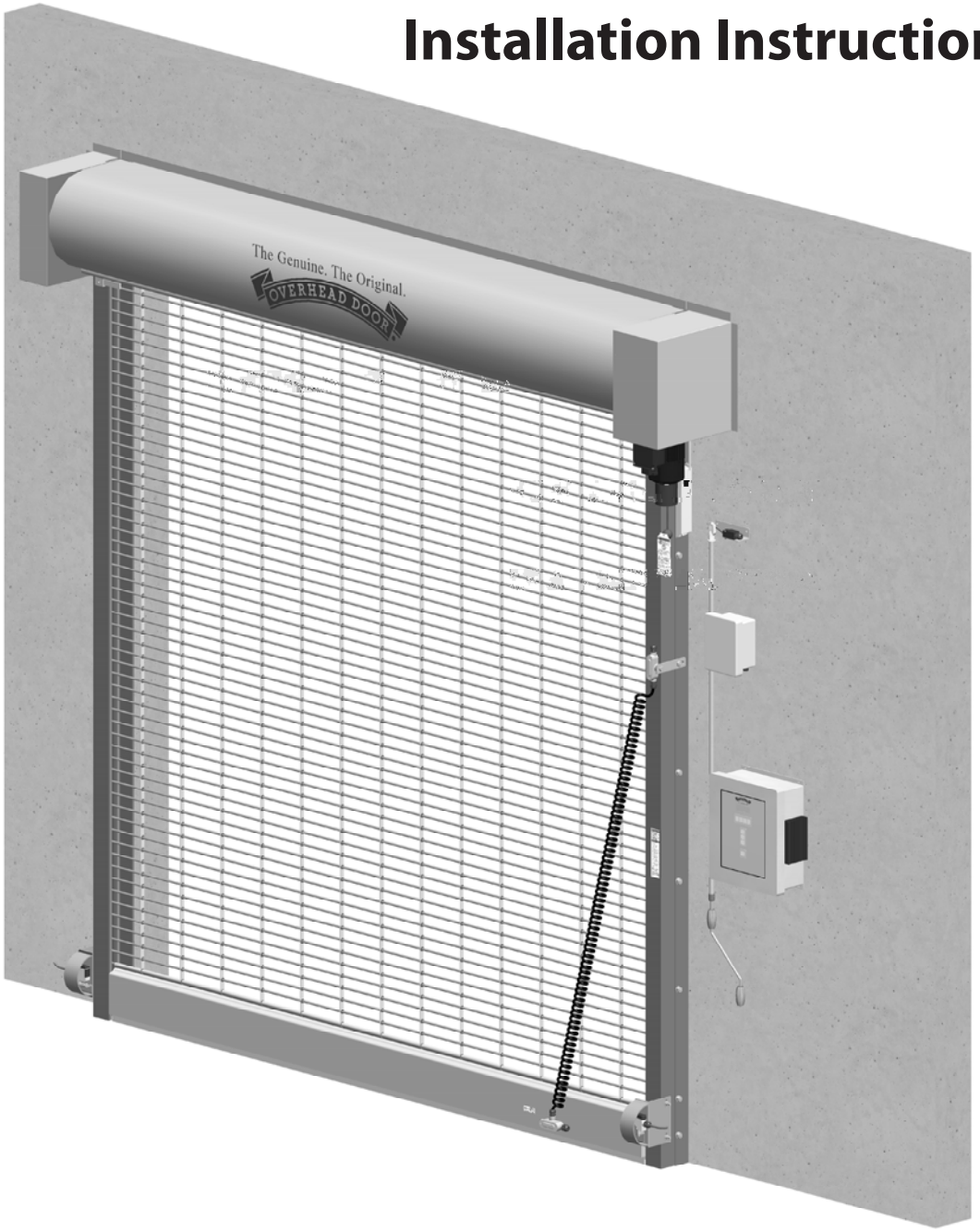
ELECTRIC OPERATORS:

1) Inspect and adjust limit switches.
2) Inspect and adjust belts.
3) Inspect and adjust brake.
4) Inspect gear reducer.
5) Inspect operator mounting.
6) Inspect and test disconnect.
7) Inspect and lubricate roller chain.
8) Inspect and tighten all sprockets.
9) Inspect safety labels, placement and condition.

INSTALLATION INSTRUCTIONS

RapidGrille™ AP Model 676

Installation Instructions



The Genuine. The Original.

OVERHEAD DOOR®

This installation manual provides the trained door technician information required to install, troubleshoot and maintain a RapidGrille AP system.

READ COMPLETE INSTRUCTIONS BEFORE INSTALLING DOORS.

Some installation tasks listed in this document are found in other documents.

Please refer to the appropriate document(s) as directed;

308577 Hilti Kwik Bolt Installation Found on odcexchange.com

Installation, repairs, and adjustments must be made by a trained door system technician using proper tools and instructions.

Table of Contents

Section 1
Safety Information

⚠ WARNING

High performance service grilles are large, heavy objects that move with the help of electric motors. Since moving objects and electric motors can cause injuries, your safety and the safety of others depends on you reading the information in this manual. If you have any questions or do NOT understand the information presented, call your nearest service representative.

In this section and those that follow, the words "**DANGER**", "**WARNING**", and "**CAUTION**" are used to stress important safety information. The word:

- ⚠ **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
- ⚠ **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- ⚠ **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in injury or property damage.

The word **NOTE** *is used to indicate important steps to be followed or important considerations.*

1. Read manual and warnings carefully.
2. Keep the grille in good working condition.
3. This grille is equipped with a sensing edge, check sensing edge operation daily. Make any necessary repairs to keep it functional.
4. All models are equipped with an overcurrent device. This must be manually reset following an overcurrent condition.
5. Keep instructions in a prominent location near the Control Panel.

POTENTIAL HAZARD	EFFECT	PREVENTION
 **MOVING DOOR**	**⚠ WARNING** **Can Cause Serious Injury or Death**	**Do NOT** operate unless the doorway is in sight and free of obstructions. Keep people clear of opening while door is moving. **Do NOT** change control to momentary contact unless an external reversing means is installed. **Do NOT** operate a door that jambs.
 **ELECTRICAL SHOCK**	**⚠ WARNING** **Can Cause Serious Injury or Death**	Turn **OFF** electrical power before removing Control Panel or motor cover. When replacing Control Panel cover make sure wires are **NOT** pinched or near moving parts. Operator must be electrically grounded.

Safety Instructions

Electrical Power Requirements for all RapidGrille AP door models

All High Performance Service Grille models are currently only available in 3-phase voltages, with 208, 240(230) and 480(460) VAC as voltage options. Presently 575 VAC is available only with the use of a three phase, 575 VAC/480 VAC step-down transformer for our RapidGrille AP Model 676. **OVERHEAD DOOR CORPORATION REQUIRES THAT THE INCOMING POWER TO ALL RAPIDGRILLE AP DOOR MODELS HAVE A LOCK-OUT / TAG-OUT EQUIPPED FUSED DISCONNECT SWITCH (TO BE FURNISHED BY OTHERS) WITHIN EYESIGHT OF THE GRILLE'S CONTROL PANEL.** Incoming power wiring must meet all NEC and local building codes, plus be properly sized for the control panel's amperage rating on the nameplate. To reduce the risk of electric shock, the chassis of the control panel must be properly grounded.

⚠ CAUTION

RapidGrille AP door models must be supplied by a grounded Wye voltage supply, e.g. 208 Y/120, 480 Y/277. Ungrounded voltage supply sources must be avoided, e.g. 480 VAC, 240 VAC or 120 VAC Delta systems should **NOT** be used. Voltage unbalance is a common occurrence on Delta supply systems, which power both single phase and three phase loads, which can lead to unequal voltages on each phase leg. Voltage unbalance can cause deterioration of motor performance, such as loss of torque, overheating, decrease the winding insulation life, and can cause motor starter contacts, located in the control panel, to permanently "weld" closed. Voltage unbalance can be caused by inadequate conductor sizing, Delta transformer sizing, excessive single-phase loads, poor grounding, or intermittent high resistance faults (Faults which do NOT generate high – enough fault currents to trip an Over Current Protection device, but will cause the distributed capacitance in an ungrounded three phase system to shift. This shift may cause destructive over-voltages to occur).

Overhead Door Corporation's warranty WILL NOT cover damage caused by failure of the motor, control panel or other electrical components due to the use of an inadequately grounded system.

Section 2
How to Use This Manual

The sections of this Installation Manual provide the information required to install, troubleshoot and maintain the *RapidGrille AP model 676 System*.

- **Section 1 - Safety Information**
  Safety Information and Instructions. Important information related to safety terminology used throughout this manual. Safety related instructions must be followed at all times while performing any steps/tasks/instructions detailed in this manual.
- **Section 2 - How to Use This Manual**
  Provides an overview of component information and how to use this manual.
- **Section 3 - General Information**
  Details pre-installation issues that are recommended to be considered and/or resolved prior to beginning this grille system installation.

⚠ WARNING

Failure to correctly perform all steps in Sections 4–6 can result in serious injury or death. Each section must be followed in step by step order to complete a successful installation.

- **Section 4 - Installation**
  Provides step by step physical installation instructions for this product.
- **Section 5 - Wiring**
  Provides step by step wiring instructions for this product.
- **Section 6 - Grille System Set Up Procedures**
  Provides step by step control set up and programming instructions for this product.
- **Section 7 - Special Grille System Features**
  Optional Exterior Hood Installation.
- **Section 8 - Troubleshooting**
  Details important troubleshooting information for typical installation, operator fault codes for troubleshooting and service, and normal operation codes that may occur.
- **Section 9 - Service and Maintenance**
  Provides related information on service and maintenance items.
- **Section 10 - Illustrated Parts Breakdown**
  Provides an illustrated parts breakdown for this product, including parts identification.
- **Section 11 - Return Goods Policy**
  Provides returned goods policy information.

Component Identification Drawing

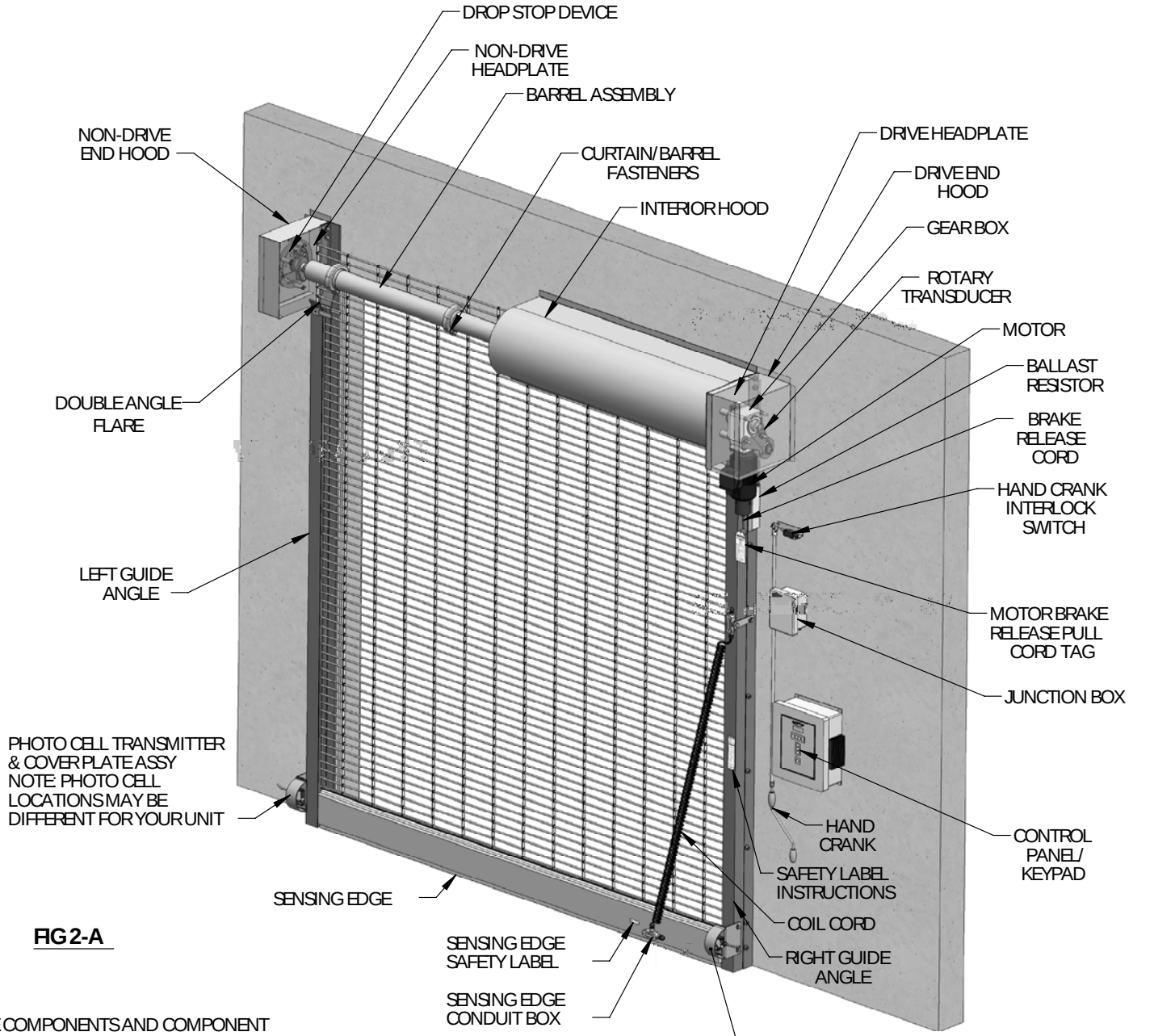


FIG 2-A

PLEASE NOTE COMPONENTS AND COMPONENT LOCATIONS ARE SHOWN HERE FOR **REFERENCE ONLY** YOUR UNIT INSTALLATION AND COMPONENT LOCATIONS MAY BE DIFFERENT.

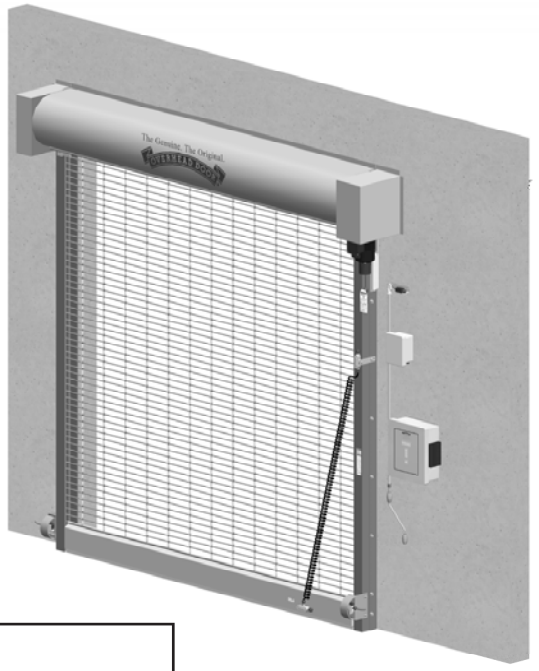
Section 3
General Information
Job Site Issues/Considerations

The following list of items should be considered prior to installing a High Performance Grille.

- Verify the opening measurements, head room, and side room required for this installation.
- Type of grille jamb.
- Availability of a power supply, which side of grille it is on and what the line voltage is.
- Grille system mounting environment. Items to consider include operator location, dampness of location, dustiness of the location and corrosiveness of the location.
- Grille activation needs and requirements. Examples include 3 button control stations, 1 button control stations, radio controls, pull cords, loop detectors, photoelectric controls, key switches, motion detectors, etc.
- Accessory equipment needs and requirements. Examples include sirens, warning lights, etc.

Entrapment Protection

Photobeams and sensing edges are required for all electrically operated High Performance Grille doors. Both photobeams and a sensing edge are standard with these models. Do **NOT** disable them.



Grille Specifications

DOOR MODEL NUMBER : 676
OPENING WIDTH:
OPENING HEIGHT:
MOTOR MOUNTING: ☐INTERIOR or ☐EXTERIOR (check one) ☐LEFT HAND or ☐RIGHT HAND
CURTAIN COLOR:
OPERATOR: HP _____ RATIO_____
OPERATOR VOLTAGE:
"S" DIMENSION _____ "G" DIMENSION_____
HEADROOM REQUIREMENT:
SIDE ROOM: DRIVE_____ NON-DRIVE:_____
GUIDE GAP _____ GUIDE TYPE_____
CURTAIN WEIGHT: _____

Installation Data

NAME PLATE SERIAL NUMBER:
JOB NAME:
DISTRIBUTOR:

NOTE: The ID plate is located on the bottom bar.

Installation Data Sheet

1. INSTALLATION DATA SHEET

A. Your "INSTALLATION DATA SHEET" looks like **Fig. 3–A**. It is found **inside** the grille hardware box. You will need to refer to the data on this sheet during installation. Record the pertinent data on page 7 of this manual as a backup.

B. Verify that the "Factory Order Number" on the grille components matches the one shown on the INSTALLATION DATA SHEET.

2. PRE-INSTALLATION CHECK LIST

Ensure the grille installation can be accomplished before proceeding.

- Check that the wall opening, **Fig. 3–B**, matches the Opening Width and Height shown on the Installation Data Sheet.
- Check that the sill is level and plumb.
- Verify the guides you received are suitable for the jambs. Compare the guide type on the Installation Data Sheet with **Fig. 3–C**.

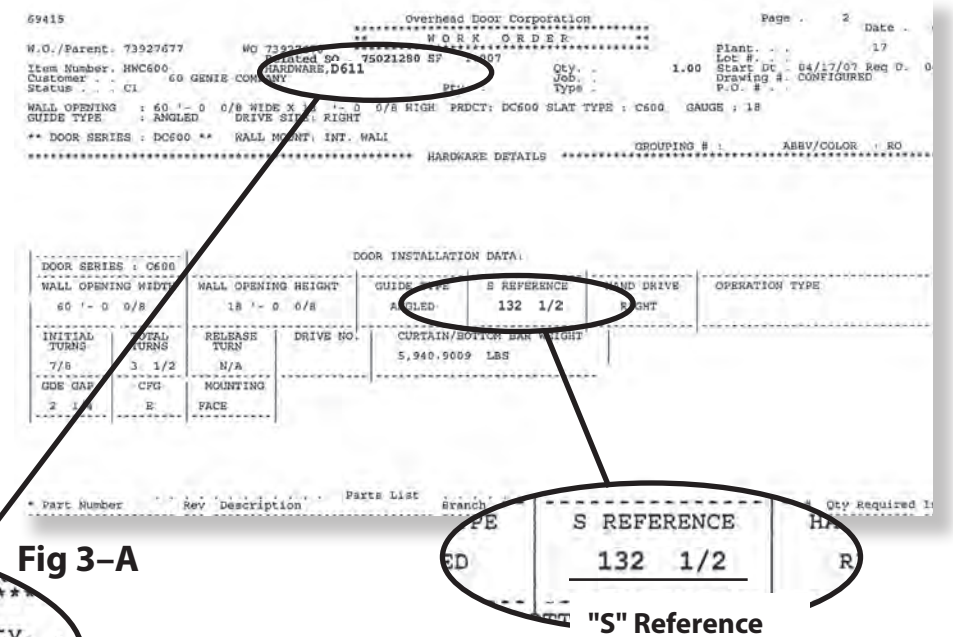
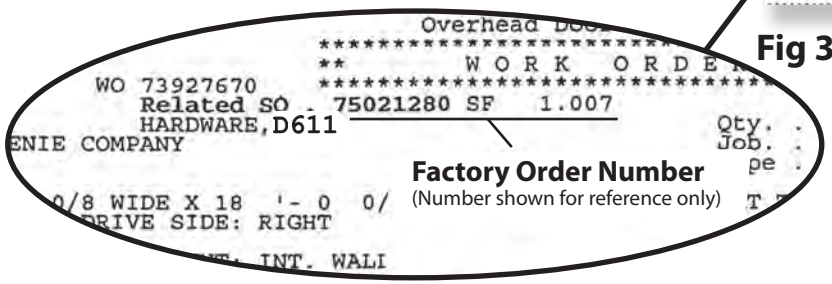


Fig 3–A



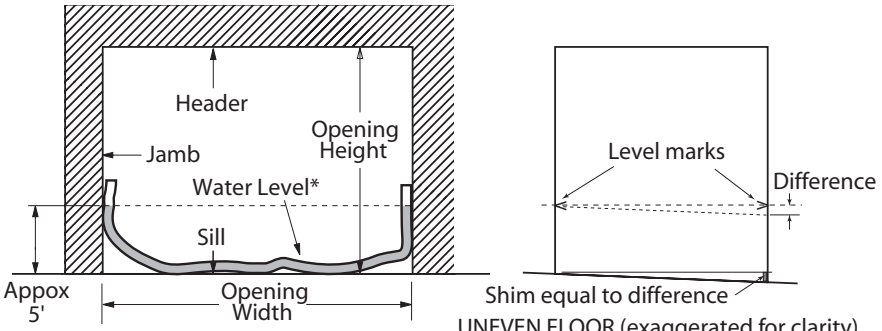


Fig 3–B

* Laser level may also be used.

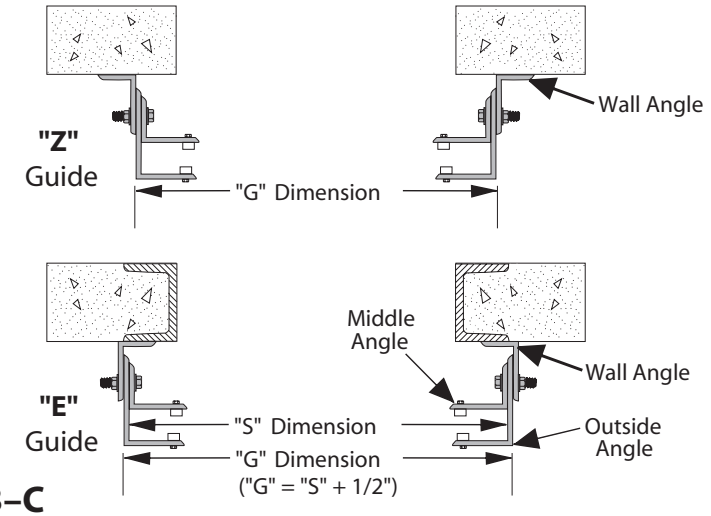


Fig 3–C

Section 4
Installation

1. INSTALL GUIDE WALL ANGLES

NOTE: It is only necessary to disassemble the guides for screw attachment of "E" type guides. Welded "E" assemblies and all "Z" assemblies may be installed as assembled from the factory.

A. Remove the middle angles and outside angles from the guide wall angles. (Perform this for "E" non-welded guides only.)

B. Mount guide wall angles to achieve the "S" dimension (on the Installation Data Sheet) plus 1/2" as shown in the illustration on the previous page **Fig. 3–C**. (The extra 1/2" allows for the thickness of the outside angle.)

- The "G" ("S" + 1/2") dimension must be held within 1/8" over the entire height of the wall angle.
- The guides must be on a level plane and plumb.
  - Place shims under the wall angle on the tall side of the opening if necessary to put them on level, **Fig. 3–B**.
  - Check plumb with a level or plumb bob.

2. MOUNTING METHODS

The following instructions use the Z-Guide positioning for the wall angles, use the Z-Guide or E-Guide positioning best suited for your site.

Masonry Jambs

- Hold Z-Guide wall angle against the wall and drill mounting holes through the slots using drill size shown in **Table 4–A**. Install jamb fasteners (**Table 4–A**) on one wall angle. Install second wall angle at "G" distance, refer to **Fig. 3–C** on the previous page. Check for level and plumb. Use spacers between Guide and wall as needed for plumb.

Steel Jambs

Steel jambs (welded or screwed) use "E" guides, all others use "Z".

- SCREW ATTACHMENT OPTION
  - Hold E-Guide wall angle against the jamb and drill holes through the slots using drill size shown in **Table 4–A**. Install all jamb fasteners (**Table 4–A**) on one wall angle, then install second wall angle at "G" ("S" + 1/2") (**Fig. 3–C**) distance. Check for level and plumb.
- WELD ATTACHMENT OPTION
  - Hold E-Guide wall angle against the jamb and tack weld in place. Install second wall angle at "G" ("S" + 1/2") (**Fig. 3–C**) distance. Check for level and plumb. Apply welds as shown in **Fig. 4–B**, using welding electrodes E6010, E6011 or E7014.

JAMB	FASTENER	DRILL SIZE	JAMB FASTENER SPECIFICATIONS
Steel	1/2" self-tapping screw	27/64" diameter	Steel jambs must be minimum 3/8" thick
Concrete	1/2" wedge anchor	1/2" diameter	Drill hole at least 4" from jamb corner per OHD Installation Instruction 308577 available on odcexchange.com.
Filled block	1/2" wedge anchor	1/2" diameter	Drill hole at least 4" from jamb corner per OHD Installation Instruction 308577 available on odcexchange.com..
Wood	1/2" lag screw	3/8" diameter	Drill hole 3" deep
Unfilled block	1/2" thru bolt	9/16" diameter	Install 3" O.D. steel washer on opposite side of wall.

Table 4–A

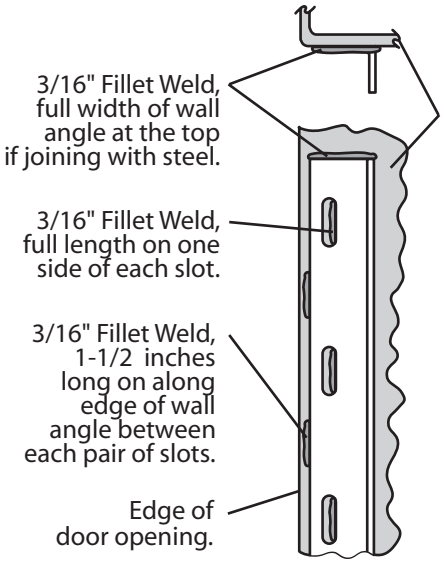


Fig 4–B

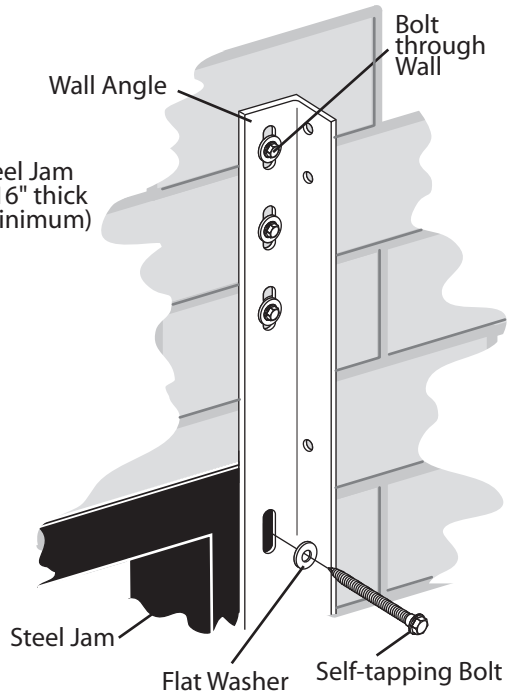


Fig 4–C

NOTE: When the wall angle extends above the steel of the jamb or header, use washers, spacers or shims to fill the gap between the masonry portion of the wall and the wall angle. Use through bolts to fasten the wall angle in the area above steel, **Fig. 4–C.**

Installation (continued)

3. **IDENTIFY HEADPLATE BRACKETS, Fig. 4–D(a)**
   Right hand drive is shown (left hand drive opposite).

4. **IDENTIFY DRIVE END OF BARREL ASSEMBLY, Fig. 4–E**
   Right hand drive is shown (left hand drive opposite). The **drive end** of barrel assembly typically is longer and has a smaller shaft diameter than the non-drive end.

5. **MOUNT MOTOR/GEARMOTOR TO DRIVE END HEADPLATE**
   Attach gearmotor to drive end headplate. Drive end headplate may come with gearmotor and motor already attached.

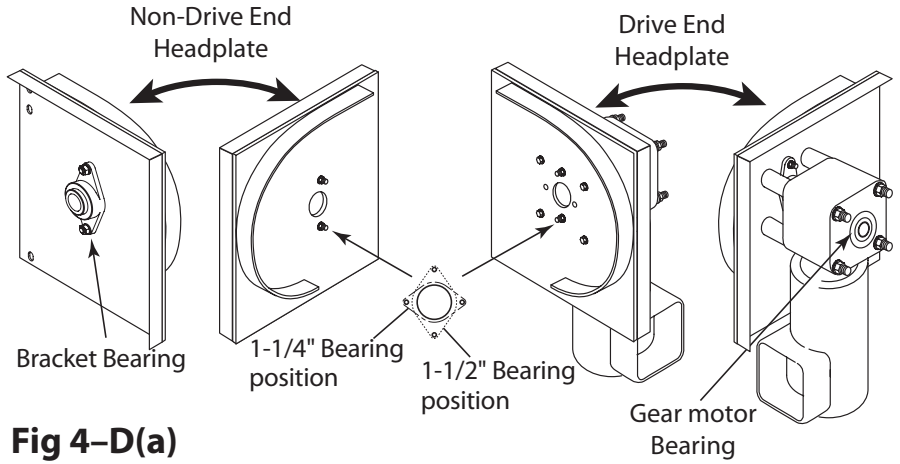


Fig 4–D(a)

⚠ CAUTION

Perform the following installation steps 6A through 6D carefully. The Drop Stop Device MUST BE INSTALLED to protect against rapid closure of the grille which could result in death or serious injury.

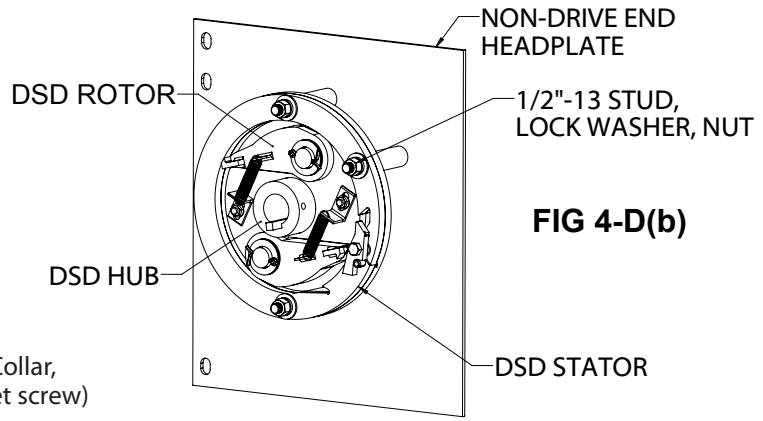


FIG 4-D(b)

6. **LOCATE SET COLLARS, SPACER COLLARS, KEYS, AND DROP STOP DEVICE (DSD), Fig. 4-D(b) AND 4–E**
   in hardware box(s). Confirm drop stop device (DSD) matches the barrel's downward rotational direction.
   - **A.** Slide set collar, small ID (with set screw) onto *drive end shaft* of the *barrel assembly,* **Fig. 4–E. DO NOT** tighten set screw at this time.
   - **B.** Slide spacer collar onto the *drive end shaft* of the *barrel assembly*. The spacer collar separates the set collar from the headplate bearing and has **no** set screws.
   - **C.** Slide set collar, 1-1/2" ID with set screw, onto *non-drive end shaft* of the *barrel assembly*. **DO NOT** tighten set screw at this time.
   - **D.** Slide spacer collar onto the *non-drive end shaft* of the barrel assembly. The spacer collar separates the set collar from the headplate bearing and has **no** set screws.

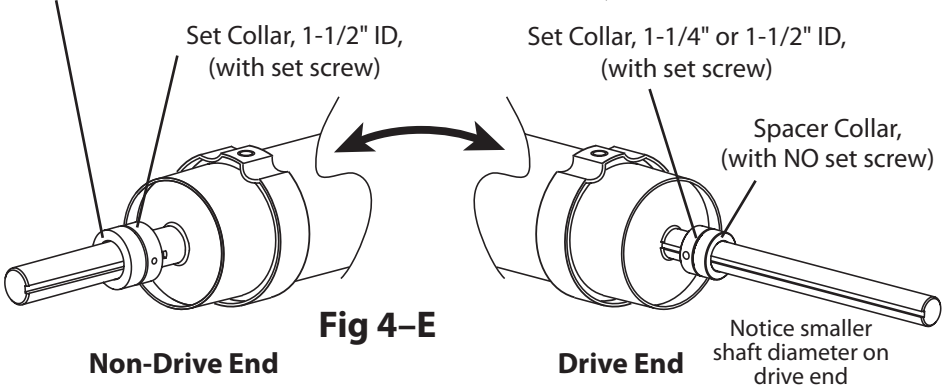


Fig 4–E

Non-Drive End **Drive End**

7. ASSEMBLE BARREL AND HEADPLATE BRACKETS, Fig. 4–G

Apply lubricant (*anti-seize compound (provided)*) to inside of gearmotor bearing.

- **A.** Slide the *drive headplate* bracket bearing and gearmotor/drive bracket onto *drive end of the barrel shaft* (long end).
- **B.** Align keyways and insert supplied key. If possible leave key flush with the shaft end. (It can be used to align drive sprocket.) **Do not trim yet**.
- **C.** Slide the *non-drive headplate* bracket and bearing onto the *non-drive end of the barrel shaft* (short length/large diameter).
- **D.** The Stator assembly is bolted to the bracket assembly with (3) 1/2″ screws with hex nuts at the factory.
- **E.** Align DSD (Drop Stop Device) rotor keyway with non-drive shaft end and insert 3/8″ X 3/8″ X 3″ key into slot on non-drive end shaft
- **F.** Lightly tighten the set screws on the hub of the DSD rotor.
- **G.** The distance between the outside of the headplate brackets should be less than the "S" dimension, **Fig. 3–C.**
- **H.** **Do NOT** tighten bearing or set collars set screws at this time.

NOTE: Do NOT install Rotary Transducer assembly and roller chain at this time.

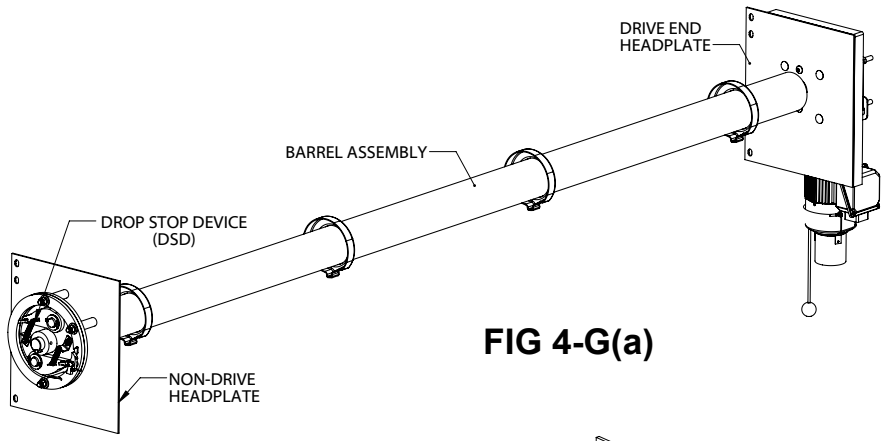


FIG 4-G(a)

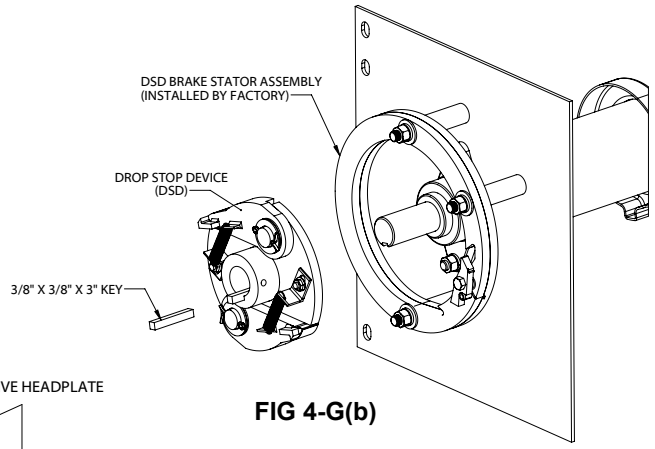


FIG 4-G(b)

⚠ CAUTION

Use proper lifting equipment and correct lifting procedures to avoid injury.

8. MOUNT BRACKETS AND BARREL ASSEMBLY, Fig. 4–F

- **A.** Headplate brackets must be square to the wall and parallel.
- **B.** Use hex bolts, nuts and washers (provided) to fasten headplate brackets to the inside of the wall angles. Use washers under both the bolt head and nut.
- **C.** Bolt heads must be on the inside of the headplate brackets.
- **D.** Use a level to **make sure the barrel is level**.

NOTE: A level barrel is crucial to the correct operation of the curtain. If the barrel is NOT level, the curtain will begin to "telescope" towards the low end and may damage the curtain.

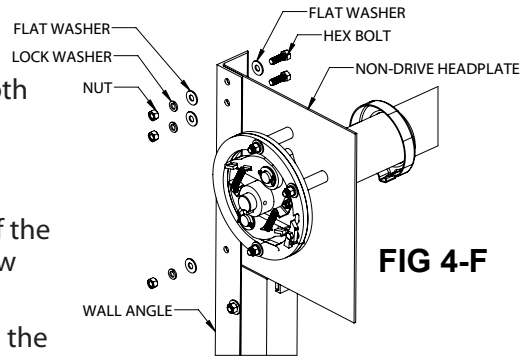


FIG 4-F

- **E.** Position the barrel assembly such that the curtain, mounted on the barrel, will be centered between the headplates, **Fig. 4–H.**
- **F.** Tighten bracket bearing set screws on both headplates to prevent barrel from sliding side to side, **.**
- **G.** Slide inner set collars and spacer collars against headplate bearings and tighten set screw on the set collars. (Spacer collar does not have set screw.)
- **I.** Tighten Drop Stop Device hub set screws.

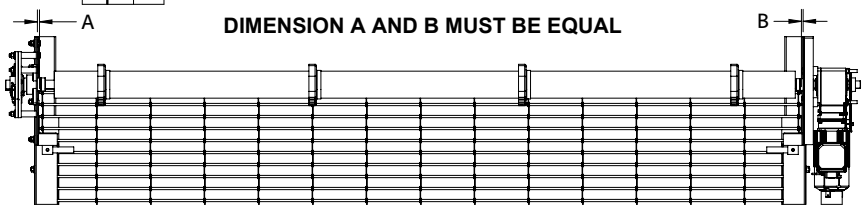


FIG 4-H

Installation (continued)

9. HAND CRANK OPERATION

⚠ WARNING

Do NOT connect power to unit until instructed to do so. The hand crank is for **emergency use only** and should **NOT be used when there is power connected to the grille**. Serious injury or death could result if the grille motor activates while the crank is installed.

NOTE: A factory installed Brake Release Cable Assembly is attached to the motor brake assembly. No installation or adjustment is necessary.

⚠ WARNING

Do NOT pull Cable unless crank handle is engaged with motor eyelet and secured as instructed on the *Hand Crank Safety Instruction* sticker attached to the grille jamb or curtain guide. Safe use requires two (2) people.
Do NOT use Motor Brake Release Pull Cord to allow curtain to free fall. Uncontrolled curtain drop using the Motor Brake Release Pull Cord **will activate DROP STOP DEVICE.**

NOTE: The brake release must remain in the *release* position at ALL TIMES DURING MANUAL OPERATION. If the brake is allowed to re-engage it will become impossible to turn the crank handle.

NOTE: A power interlock switch is located on the hand crank interlock support bracket to prevent accidental motor operation, should the power be restored while the Hand Crank is engaged. Do NOT disconnect power interlock switch.

TO OPERATE: This task requires two (2) people to perform. Installation of the Hand Crank and Interlock Switch occurs in Step 13A on page 16.

A. **Disconnect ALL** electrical power supply.
B. Remove hand crank from the Crank Handle Support Bracket.
– This releases the power interlock switch (a backup protection to insure there is **no power** to the gearmotor).
C. Insert the hook on the crank handle through the eyelet mounted on the bottom (fan end) of the motor, **Fig. 4–I.**
D. Once the hook is securely engaged.
– Firmly secure the crank handle with BOTH hands.
– Have an assistant **pull down** and **HOLD** the brake release cable. You will feel an immediate **increase** in the tension on the handle.
E. Carefully and deliberately turn the crank handle to operate the grille. (During installation you will be turning the barrel assembly.)
F. When desired height or position is reached, **stop** and **hold** hand crank while the assistant releases the brake release ball. **Ensure the brake has re-engaged before releasing the Hand Crank.**
G. Remove Hand Crank from eyelet and replace into Crank Handle Support Bracket.

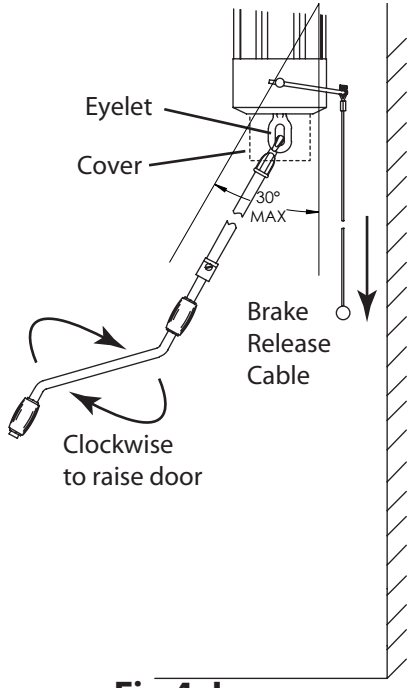


Fig 4–I

⚠ WARNING

After installation is complete, always **disconnect power before** operating hand crank and ensure that hand crank is **properly disengaged** and returned to its Support Bracket before **re-connecting** power.

10. INSTALL CURTAIN ONTO BARREL

NOTE: If guide angles are already installed, cover the bell mouth (flared opening) opening of the guide angles to protect the curtain from being scratched or damaged during these steps.

- **A.** Using the hand crank, rotate the barrel assembly so that the bolt holes or studs on the barrel rings are facing up. Different barrel assembly lengths will have more or less rings/studs, **Fig. 4–K(a)** and **Fig. 4–K(b).**
- **B.** Suspend the curtain below the barrel on two or three slings or ropes rated for the weight of the curtain, **Fig. 4–J.** (Refer to your Installation Data Sheet.)
- **C.** Center the curtain between the headplate brackets and pull the top slat up and over the back side of the barrel.
  - On small grilles, the curtain can be rotated by hand.
  - On large grilles attach the top slat to two slings/ropes and rotate the slings/ropes to bring the top slat into position.

    If the barrel has rings,
    - Pull the curtain up and hold top slat against the rings, **Fig. 4–K(a).**
    - Align the slots in the top slat with the holes in the rings.
    - Fasten the curtain to the rings with 3/8-16 x 5/8" Torx head screw and washers provided.

NOTE: TAKE CARE TO PREVENT STRIPPING SCREW THREADS.

If the barrel has studs,
- Pull the curtain up and hook the slots in the top slat over the studs.
- Fasten at each stud with a 1/4-20 x 3/4" round head screw, flat washer, and two clamp washers (provided), **Fig. 4–K(b).**

- **D.** Coil the curtain completely onto the barrel using the hand crank.
- **E.** Remove bottom slat end lock and attach Sensing Edge.
- **F.** Replace bottom slat end lock.

⚠ WARNING

Do NOT remove the slings or ropes at this time.

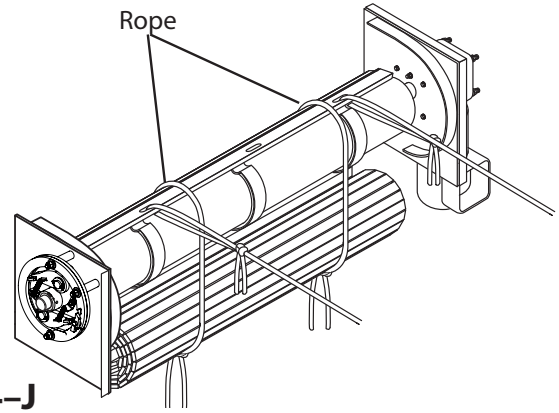


Fig 4–J

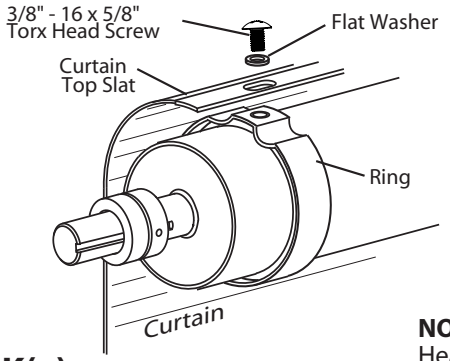


Fig 4–K(a)

NOTE: In figures 4–K(a) & K(b) Headplate and bearing not shown for clarity.

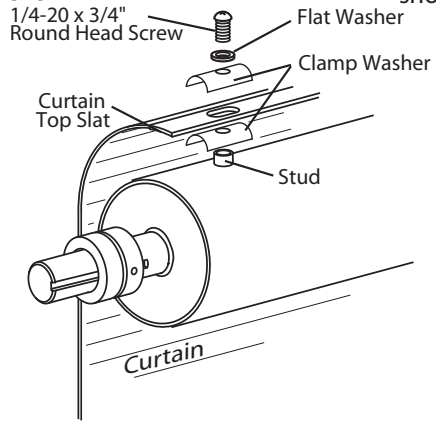


Fig 4–K(b)

Installation (continued)

If you have welded "E" assemblies or "Z" assemblies factory assembled and have already installed them in a previous step, skip Step 10.

11. INSTALL GUIDE ANGLES

Bolt the middle angles and outer angles to the wall angles as shown in **Fig. 4–L**. (Wall angles may be mounted inside or outside based on installation requirements, **Fig. 4–M.**)

- The "Guide Gap" **MUST** be set to the value given on the Installation Data Sheet. Refer also to Grille Specifications on page 7.

⚠ WARNING

Improper use of Hand Crank can cause severe injury or death. Review and UNDERSTAND the operation of the Hand Crank, (see page 12), prior to performing the following installation steps.

⚠ WARNING

In the following step, ensure clamping tools are securely fastened to the guide angles; if clamping tools or locking pliers are NOT secure the curtain may fall to the floor.

12. OVERTRAVEL PREPARATION

A. Place locking pliers or other secure clamping tool on both guides at 2 to 3 inches below the channels on the guide angles as shown in **Fig. 4–N**. (The guides are made up of the middle and outer angles. The pair are referred to as the "Guide Angles".)

B. Create slack in the slings/ropes, then (using the hand crank) slowly lower the curtain and bottom bar in between the Guide Angles and let the bottom bar rest on the locking pliers.

⚠ WARNING

Ensure the slings/ropes are securely fastened after adjusting! Refer to Fig. 4-J

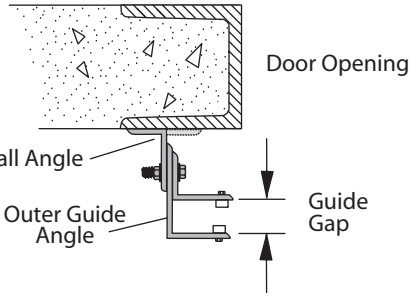


Fig 4–L

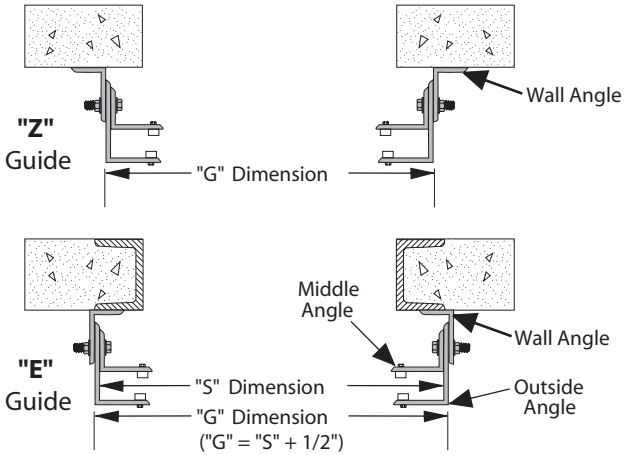


Fig 4–M

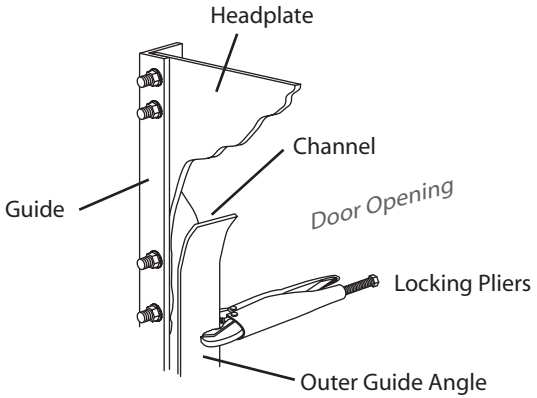


Fig 4–N

⚠ DANGER

LINE POWER should **NOT** be installed at this time. In the following steps electrical components will be physically mounted. Ensure that all incoming power supplies have been de-energized prior to beginning work on attachment of *RapidGrille AP* electrical control systems. Use proper Lock Out/Tag Out procedures.
Do NOT connect components to electrical supply until directed to do so.

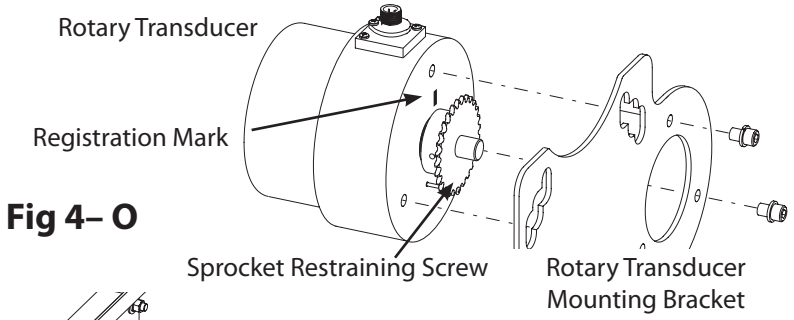


Fig 4– O

13. INSTALL ROTARY TRANSDUCER

Rotary Transducer communicates curtain position and travel to the *RapidGrille AP* control programming.

NOTE: The Rotary Transducer is set at the mid-point of its range by the factory and is restrained by a screw. **Do NOT** remove restraining screw or turn the Input Shaft during installation. If the screw has been removed or you suspect the sprocket has been turned refer to **Section 5, Step 4 - Rotary Transducer Maintenance** in this manual.

A. Assemble Rotary Transducer to mounting bracket, **Fig. 4–O.**
NOTE: Do **NOT** remove the sprocket restraining screw at this time.

B. Insert one shim washer over each lower motor mounting bolt, **Fig. 4–P.**

NOTE: Shim washers may be added or removed to ensure proper final alignment of Rotary Transducer sprocket to Gear Motor Drive sprocket.

C. Attach the Rotary Transducer mounting bracket to the lower motor mounting bolts. Tighten mounting nuts.

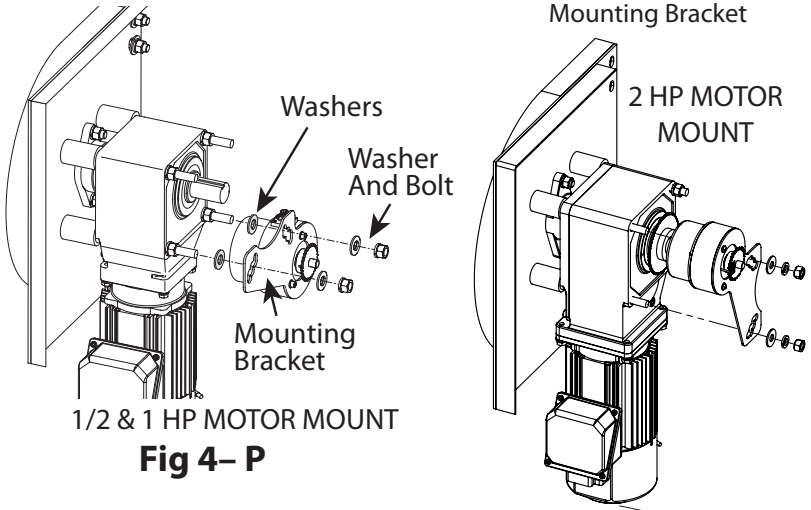


Fig 4– P

⚠ CAUTION

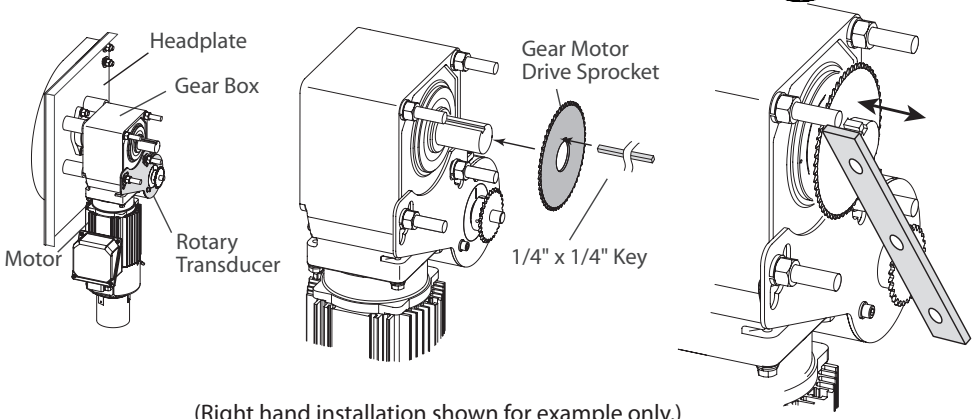
The chain sprockets must be directly in line with each other to prevent sprocket wear and Rotary Transducer damage.

D. Install Gear Motor Drive sprocket onto the door shaft. Ensure the drive sprocket is aligned with the Rotary Transducer sprocket.

E. **Do NOT** install Rotary Transducer chain at this time. Chain will be installed during door set up after the control system is installed and electric power is available.

F. Route the cable from the Rotary Transducer to the future location of the Junction Box. This 7-pin connector cable will be attached to the Junction Box after the box is mounted.

G. Remove locking pliers or other secure clamping device.



(Right hand installation shown for example only.)

Fig 4–Q

Installation (continued)

⚠ DANGER

LINE POWER should **NOT** be installed at this time. In the following steps electrical components will be physically mounted. Ensure that all incoming power supplies have been de-energized prior to beginning work on attachment of *RapidGrille AP* electrical control systems. Use proper Lock Out/Tag Out procedures.
Do NOT connect components to electrical supply until directed to do so.

14. MOUNTING AND CONNECTING/WIRING STANDARD ELECTRICAL COMPONENTS

This step encompasses the installation and wiring of several components;

- Crank Handle Support Bracket and Switch,
- Junction Box,
- Control Panel,
- Photo Eye,
- Ballast Resistor, and
- Sensing Edge.

A. Install **Crank Support Bracket** and **Interlock Switch**. The top end of the hand crank will mount onto the Crank Handle Support Bracket and be held vertically in place to the wall using the provided clips and fasteners. The switch will be connected to the Junction Box in a later step.

NOTE: Ensure the finished position of the Hand Crank hangs vertically above the floor and where the crank handle will not interfere with anything.

1. Find a suitable location for mounting the Crank Handle Support Bracket, Hand Crank Interlock Switch, and Hand Crank components that are near the motor and does **NOT** interfere with the operation or installation of other components, **Fig. 4–R.**
2. Using appropriate fasteners and pre-drilled holes, mount the Crank Handle Support Bracket to the wall.
3. Using appropriate fasteners, mount the Hand Crank Interlock Switch to the Crank Handle Support Bracket.
4. Place hook end of Hand Crank onto the Support Bracket and verify hook rests on top of and **engages the Interlock Switch actuator**. Make adjustments as required.

   NOTE: Proper engagement of the Interlock Switch actuator is important!
5. Route the Interlock Switch cable from the switch to the future location of the Junction Box. This cable will be connected after the Junction box is mounted.
6. Using appropriate fasteners, mount the Hand Crank to the wall.
7. Hang the Hand Crank on the Support Bracket.

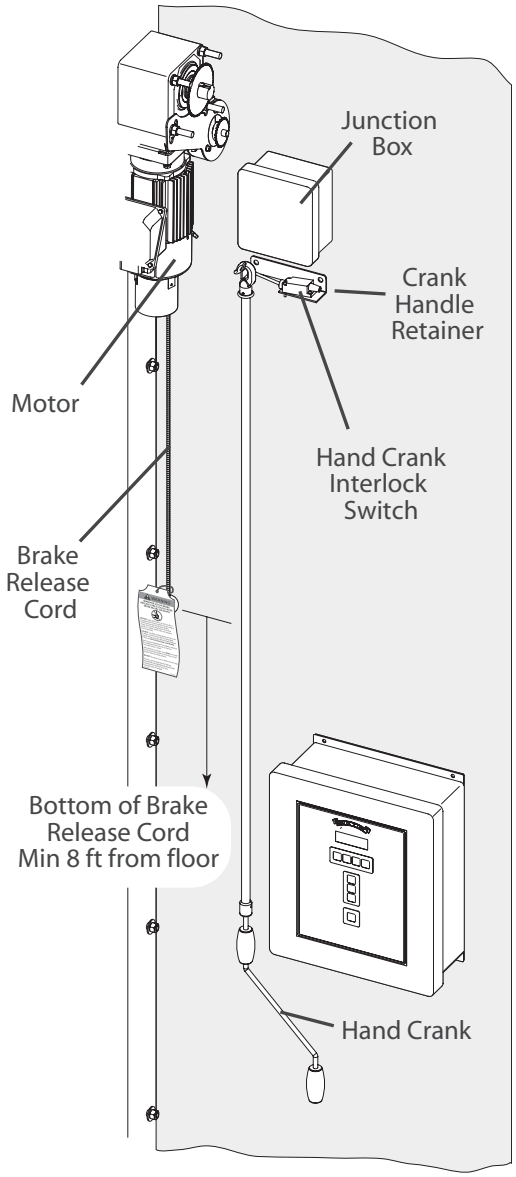


Fig 4–R

14. MOUNTING ... *(continued)*

B. Find a suitable and easily accessible location for the **Junction Box**, **Fig. 4–S(a).**

- Locate Junction Box on the wall near Rotary Transducer, Overtravel Switch, and Motor, but OUTSIDE the end cover and its full open swing range. Verify component cables will reach before mounting Junction Box and that the end cover full open swing range does not interfere with access to Junction Box.
- Away from heat sources.
- With no interference of moving parts of the grille system.
- Where cables can be well secured while preventing unnecessary strain.
- Use the Junction Box exterior mounting fixtures to mount to wall. (Fasteners not provided.)

1. Attach the Hank Crank Interlock switch cable and the Rotary Transducer cable to the Junction box. See **Fig. 5–J** on page 28.

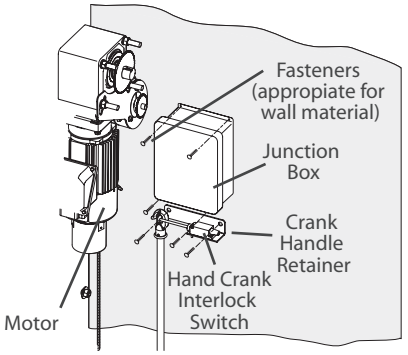


Fig 4–S(a)

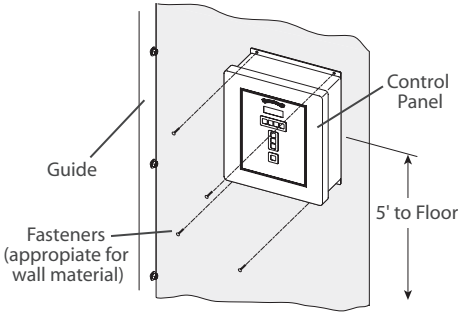


Fig 4–S(b)

C. Find a suitable and easily accessible location for the **Control Panel**, **Fig. 4–S(b).**

- Adjacent to the grille, on the wall, about 5 feet above the floor at the center of the panel (roughly eye level). It may be mounted higher in commercial applications to reduce tampering, although the control panel keys can be turned OFF and the panel locked. Use the Control Panel exterior mounting fixtures to mount to wall. (Fasteners not provided.)
- Where all moving parts of the grille system are visible while at the control panel.
- Away from heat sources and where air is free to flow around the panel's heat sink assembly.
- With no interference of moving parts of the grille system.
- Where cables can be well secured while preventing unnecessary strain.

D. **Photo Eye** assemblies are factory mounted to their protective shields. Attach to guides as follows, **Fig. 4–S(c).**

1. Mount the Photo Eye Receiver (pre-wired 6-pin cable) to the lowest guide assembly bolt so that the Photo Eye is aimed toward the opposite guide. Route the cable up and plug into the matching socket at the far left on the bottom of the Control Panel, **Fig. 4–S(d).**

2. Mount the Photo Eye Transmitter (long 2-conductor wire) to the lowest guide assembly bolt on the opposite guide, directly across from the receiver. Route the wire up the guide and over the header and through the water-tight fitting on the right-hand side of the bottom of the Junction Box.

– Be sure to completely route and secure the wire (adhesive wire mounts provided) before trimming to length. Attach red wire to 24V terminal, black wire to COM terminal, see **Fig. 5–H** on page 26.

3. Photo Eyes will be aligned later, when power is applied to the Control Panel. See page 29 Photo Eye Adjustment.

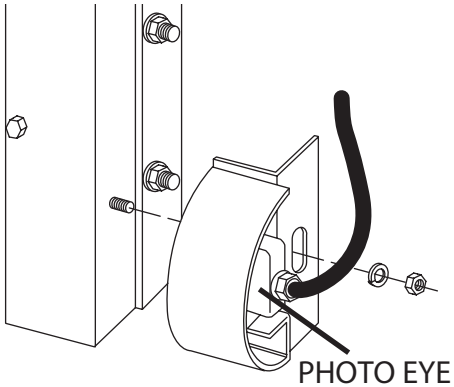
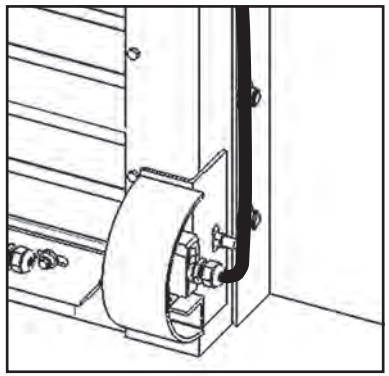


Photo Eyes are attached to their protective shields at the factory and must be mounted to the guides using the hardware provided.

Fig 4–S(c)



For parking garage applications, Photo Eyes may be mounted higher to prevent the beam from shooting beneath vehicles.

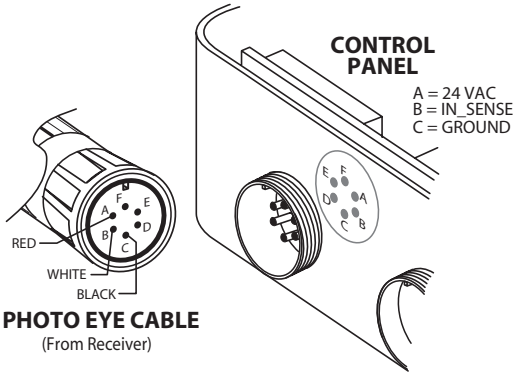


Fig 4–S(d)

Installation (continued)

14. MOUNTING ... *(continued)*

E. The **Ballast Resistor** is required to absorb and dissipate electrical energy from the control panel's VS (Variable Speed) drive as the grille closes.

⚠ CAUTION

Ballast Resistor may become hot during heavy grille use and should be mounted out of reach of the general public.

1. Place the Ballast Resistor on the side of the guide angle nearest the Control Panel, at 8 ft. or 9 ft. above the floor, **Fig. 4–T(a).** Using the resistor as a template, mark and drill pilot holes for mounting.
– Attach the resistor using the self-tapping screws provided.

NOTE: Be sure the Ballast Resistor is making firm, even, metal to metal contact with the guide angle to provide good heat transfer and dissipation.

NOTE: The Ballast Resistor must be oriented as shown, single slot up, dual slots down and with conduit exiting downward.

2. Route water-tight conduit from Ballast Resistor to the bottom far right fitting on the Control Panel and feed the 2-conductor cable through the water-tight conduit.
– Be sure to secure conduit with self-adhesive wire mounts (provided) before trimming to length.

3. Connect the Ballast Resistor wiring to the top 2 terminals on the Output Block directly below the Inverter or Variable Speed Motor Drive) (also see page 25, **Fig. 5–G**). Either wire can connect to either terminal.

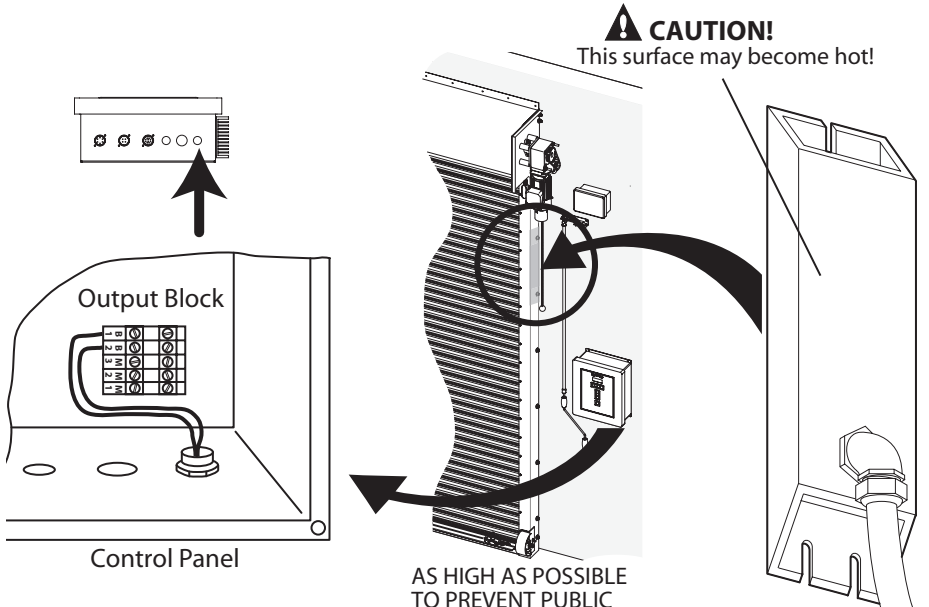


Fig 4–T(a)

F. Sensing Edge conduit box mounting

Sensing Edge was attached to grille curtain on page 13, Step 10E.

2. If not factory installed, connect the coil cord to the sensing edge inside the sealed bottom bar mounted conduit box.

3. Fasten the coil cord conduit box to the **drive-side guide**, using the *supplied bracket* and *accessible* guide assembly bolt at approx. 2/3 of grille opening height **Fig. 4–T(b).**

4. Route coil cord to conduit box mounted on guide rail. Ensure that **coil cord** remains free from tangling on other components or fixtures.

5. Route **2-conductor cable** (supplied) from guide mounted conduit box behind motor to main junction box, **Fig. 4–T(b)**.

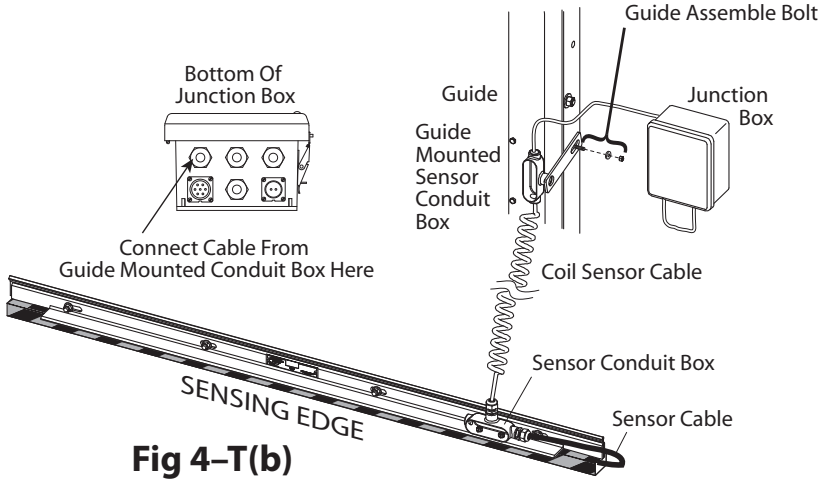


Fig 4–T(b)

15. LOW VOLTAGE WIRING

Factory wired connections.

- Connections to the grille are completed by attaching the three screw-in cables to the control panel's base, **Fig. 5–I.**
  1. **6 pin cable connects**
     - Photo Eye Receiver
     - 24 VAC for Photo Eye
  2. **4 pin cable connects**
     - Grille Positioner (1K Ohm)
  3. **Multi-pin Cable connects**
     - 24 VAC to sensors
     - Open Actuator
     - Microwave Entrapment Protection Device (optional)
     - Up grille STOP limit
     - (This pin not in use)
     - Grille Edge Entrapment Protection Device
     - Hand Crank Interlock Switch
     - Pull cord

4. **Optional Items may be field wired by the installer.**
   - Radio Remote to main board
   - Floor loop to loop module
   - Motion Detector to Junction Box
   - Wall mounted push button stations to Connector Board, **Fig. 5–F, 5–G & 5–H** on pages 24-26.

⚠ WARNING

If installing wall push buttons, remove any jumpers placed between Stop 1 and/ or Stop 2 to Common during the installation. Leaving these jumpers in place will render Stop push buttons inoperative. Refer to **Fig. 5-F** page 24.

16. MOTOR & POWER WIRING (HIGH VOLTAGE) (These tasks are also diagrammed in **Fig. 5–D, 5–G & 5–H** on pages 24-26.)

A. Route **Motor Power Cable** (provided, factory wired to motor) through water-tight fitting in the SECOND hole from right side of Control Panel bottom.

- Connect the lighter gauge, twisted pair wires to the **Motor Brake** terminals directly above the Line Filter terminal block. Either wire can connect to either terminal.
- Connect the green and yellow ground wire, the braided cable shield and the non-insulated ground wire together to the Ground Terminal between the Line Filter terminal block and the Output Block, **Fig. 5–G** on page 25.
- Connect the 3 phase wires to Terminals M1, M2 and M3 on the Output Block. The order doesn't matter since the motor rotation can be changed using the internal programming during Set-up in **Section 6**.

⚠ WARNING

Before beginning this phase of installation, ensure POWER SUPPLY is disconnected!

A licensed electrician must perform the following step.

B. Route **Main Power Cable** (not provided) through a water-tight fitting (not provided) in the THIRD hole from the right side of the Control Panel bottom.

- Connect 3-phase power lines to the line filter. The GROUND wire from the line filter to the ground lug is factory wired.

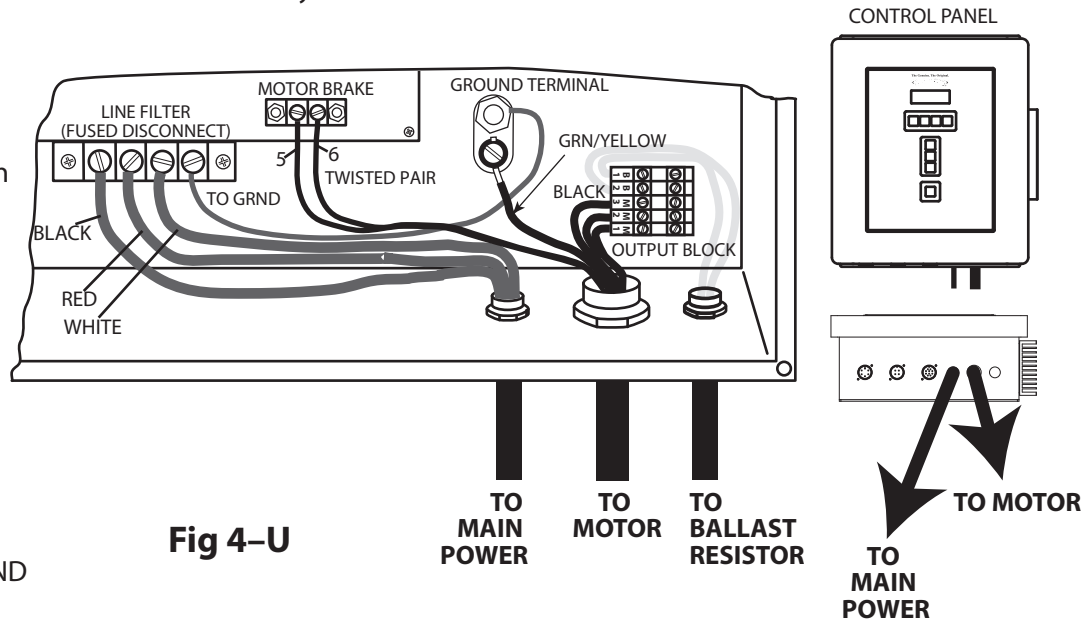


Fig 4–U

Installation (continued)

17. INSTALL SAFETY LABELS, Fig. 4–V

Product safety labels must be installed.

- **A.** Find Safety Labels in hardware box.
- **B.** Attach **Motor Brake Release Pull Cord Tag** to the motor pull cord.
- **C.** Attach **Sensing Edge** Safety Label to the bottom bar.
- **D.** Place remaining Safety Label at a readable height on grille drive side guide or jamb.

NOTE: Product safety labels should be periodically inspected and cleaned by the product user as necessary to maintain good legibility. Order replacement safety labels from the grille manufacturer as required to maintain legibility.

18. PRE-HOOD CHECK LIST

⚠ WARNING

Improper use of Hand Crank can cause severe injury or death. Use extreme care when operating the grille manually using the hand crank. Read and follow the **HAND CRANK OPERATION** instructions on page 12 and supplied Safety Labels before attempting to operate the grille.

- **A.** Remove the ropes/slings holding the curtain.
- **B.** Operate the grille manually several times. Make sure the endlocks or windlocks are not rubbing endplates through the entire travel of grille.
- **C.** Check that the bottom bar is level at top and bottom and the curtain is not binding against the back of the guides.
  - – If curtain is level at bottom but not at top, place shims between the curtain and barrel on the low side.
- **D.** Verify good mechanical connection and tightness of fasteners, i.e., guides, headplates, set screws.
- **E.** Position the grille at the half open position.

NOTE: Hood and Brush Seal installation can be delayed until the last step to allow easy access to curtain during wiring set-up and final adjustments.

19. INSTALL HOOD (interior*)

- **A.** Pre-drill the hood flange at 18" spacing for wall mounting screws. Hole diameter is dependant on the size wall fasteners (not provided) used to attach hood to wall.
- **B.** Place the hood over the hood bands or straps on the headplates (and, if provided, hood supports) and **against** the wall, **Fig. 4–W.**
- **C.** Fasten the hood to the hood bands or straps.
  - – At top, bottom and middle of the bands, drill 3/16" diameter holes through the hood and hood bands or straps on the headplates. Fasten the hood to the hood bands with self-tapping screws (provided).
- **D.** Fasten the hood to the wall.
  - – Place fasteners using the pre-drilled holes (wall fasteners not included).

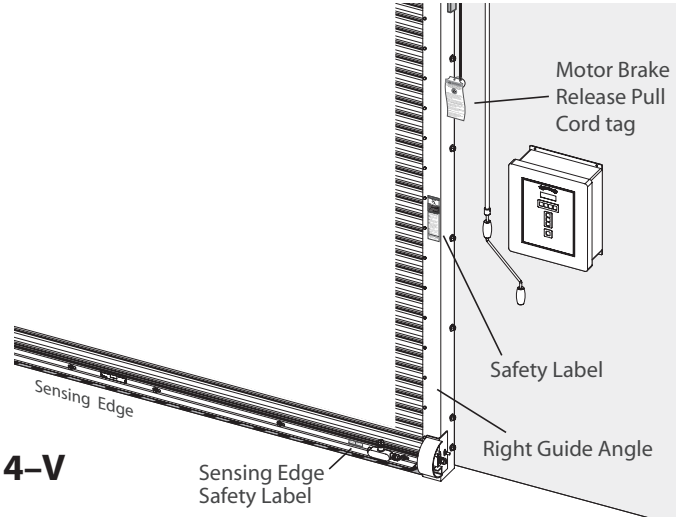


Fig 4–V

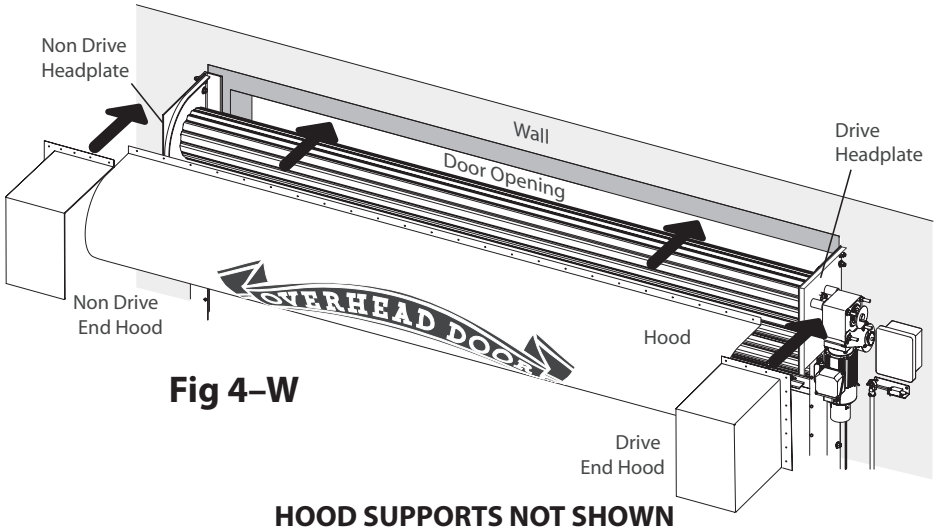


Fig 4–W

HOOD SUPPORTS NOT SHOWN

NOTE: Install hood supports (if provided) at even intervals across header. Number and placement of hood supports will vary with hood type and width.

* For EXTERIOR hood installation see Section 7: Special Grille System Features, Exterior Hood Installation on page 43.

20. INSTALL MOTION SENSOR (optionally purchased)

Motion Sensor is an optional component purchased separately and does **not** come with grille.

A. Follow the installation instructions accompanying the Motion Sensor.

B. Install wiring per wiring diagram on page 29.

Installation Check List

After completing the instructions contained in this section, the grille assembly, Guide Angles, Motor, Junction Box, Rotary Transducer, Edge Sensor, Ballast Resistor, Photo Eyes, Stop Lock Brake, Hand Crank and Interlock Switch, and Control Panel should be mounted to the structure.

⚠ CAUTION

Making the checks outlined below will help to ensure that the *RapidGrille AP* and operator are installed properly.

CHECK

– Is the grille level, square and plumb?
– Are all the bolts tightened?
– Are limit switch sprockets properly aligned?
– Is the Stop Lock Brake installed with the correction rotation?
– ARE ALL BEARING AND SET COLLARS POSITIONED, ARE SET COLLARS AND BEARING SET SCREWS TIGHTENED?
– Has all the rigging equipment, ropes, straps, locking pliers, etc. been removed?
– Are all safety labels and tags in place?

Section 5

Wiring

All *RapidGrille AP* models are currently available only in 3-phase voltages, with 208, 240(230), or 480(460) VAC as voltage options. Presently 575 VAC is available only with the use of a 3-phase, 575V/480V step-down transformer for our Rapi*dGrille AP model 676*. **OVERHEAD DOOR CORPORATION REQUIRES THAT THE INCOMING POWER TO ALL *RAPIDGRILLE AP* MODELS HAVE A LOCK-OUT / TAG-OUT EQUIPPED FUSED DISCONNECT SWITCH (TO BE FURNISHED BY OTHERS) WITHIN EYESIGHT OF THE GRILLE'S CONTROL PANEL.**

Incoming power must meet all NEC and local building codes, plus be properly sized for the control panel's amperage rating on the nameplate. To reduce the risk of electrical shock, the chassis of the control panel must be properly grounded.

⚠ CAUTION

RapidGrille AP Door Models must be supplied by a grounded Wye voltage supply, e.g. 208 Y/120, 480 Y/277. Ungrounded voltage supply sources must be avoided, e.g. 480 VAC, 240 VAC or 120 VAC Delta systems should **NOT** be used. Voltage unbalance is a common occurrence on delta supply systems, which power both single and 3-phase load. This can lead to unequal voltages on each phase leg. Voltage unbalance can cause deterioration of motor performance such as, loss of torque, overheating, decrease the winding insulation life and can cause motor starter contacts, located in the control panel, to permanently "weld" closed. Voltage unbalance can be caused by inadequate conductor sizing, delta transformer sizing, excessive single phase loads, poor grounding or intermittent high resistance faults (faults which do not generate high enough fault currents to trip an over current protection device, but will cause the distributed capacitance in an ungrounded 3-phase system to shift). This shift may cause destructive over-voltages to occur. If a 240 VAC 3-phase delta system must be used, it is strongly recommended that this voltage be transformed to a 208V grounded wye system. Any single phase loads should be evenly distributed as much as possible between the 3 phases. Consult your a licensed electrician if you have any questions.

Overhead Door Corporation's warranty will not cover damage caused by failure of the motor, control panel or other electrical components due to the use of an inadequately grounded system.

240V Motor Wiring

FACTORY WIRED, these steps and illustration are for reference only!

NOTES:
1. Slide the three black motor wires through the LARGE suppression core (800358-0002).
2. Slide each black motor wire individually through one SMALL EMI suppression core (800358-0001).
3. Make wiring connections as shown.

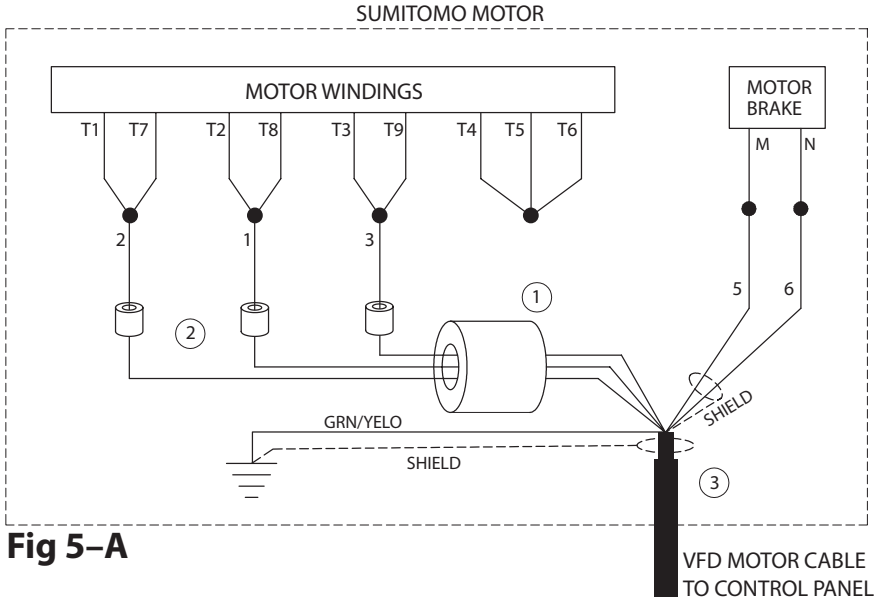


Fig 5–A

480V Motor Wiring

FACTORY WIRED, these steps and illustration are for reference only!

NOTES:
1. Slide the three black motor wires through the LARGE suppression core (800358-0002).
2. Slide each black motor wire individually through one SMALL EMI suppression core (800358-0001).
3. Make wiring connections as show

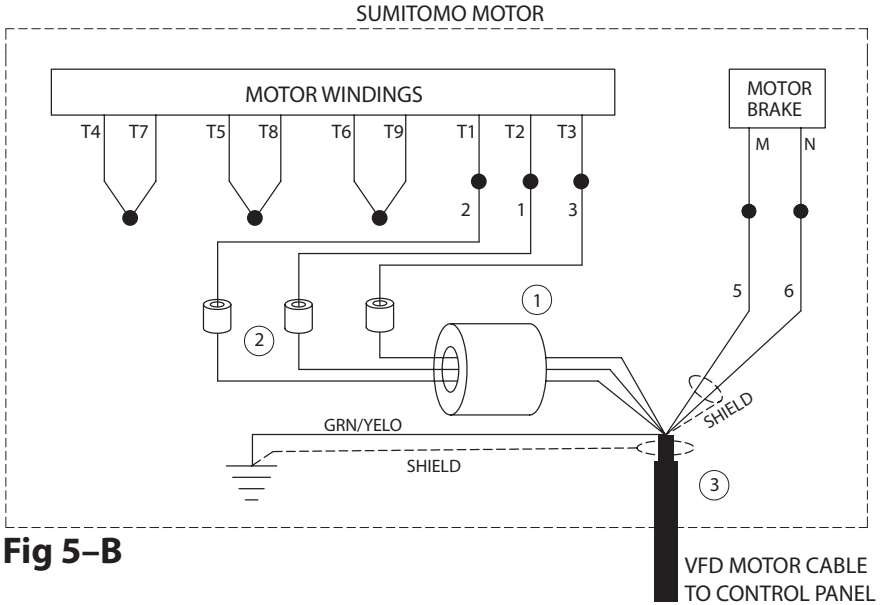
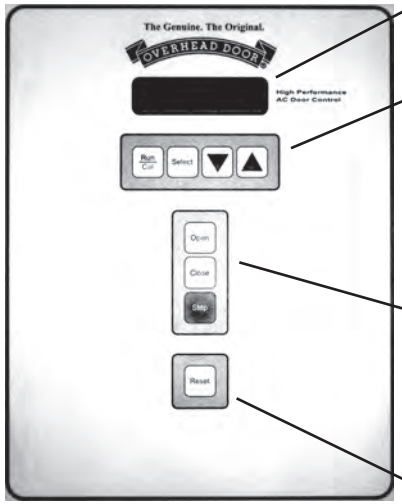


Fig 5–B

1. MAIN COMPONENT OVERVIEW, Fig. 5–C, 5–D, 5–E, & 5–F

Fig 5–C Control Panel Front Cover



TWO LINE LCD DISPLAY

MENU KEYS

Run Cal — RUN/CAL (MODE)

Select — SELECT

▼ — NEXT/ DECREASE

▲ — PREVIOUS/ INCREASE

DOOR MOTION KEYS

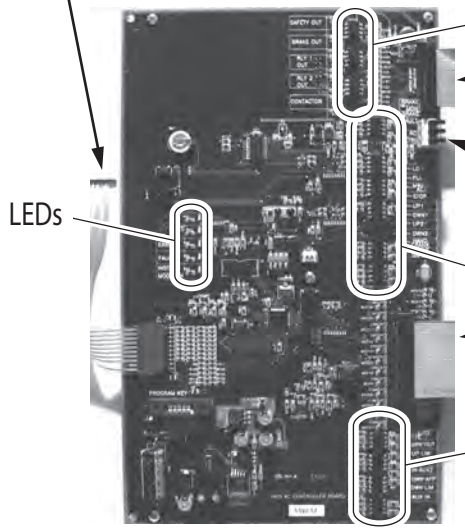
Open — OPEN

Close — CLOSE

Stop — STOP

RESET KEY

Fig 5–E Logic Board (Inside front cover of Control Panel)



RIBBON CABLE TO KEY PAD

LEDs

RIBBON CABLE (26 WIRE) TO MOTOR BOARD

LOW VOLTAGE OPTIONAL RADIO TERMINALS

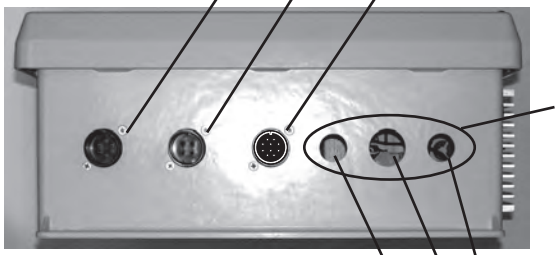
LEDs

LEDs

RIBBON CABLE (34 WIRE) TO CONNECTOR BOARD

LEDs

Fig 5–D Control Panel Bottom/Wiring Access



6 - PIN PHOTO EYE CABLE

4 - PIN ROTARY TRANSDUCER CABLE

MULTI-WIRE SIGNAL CABLE

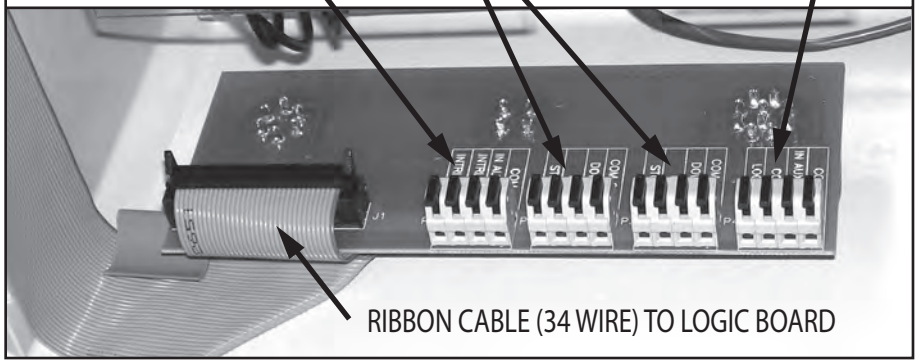
HOLES FOR POWER FOR:
MAIN POWER
MOTOR CABLE
BALLAST RESISTOR

BALLAST RESISTOR

MOTOR CABLE

MAIN POWER (FROM DISCONNECT)

Fig 5–F Connector Board for Low Voltage In/Out of Control Panel



AUX IN/INTERLOCK OUT

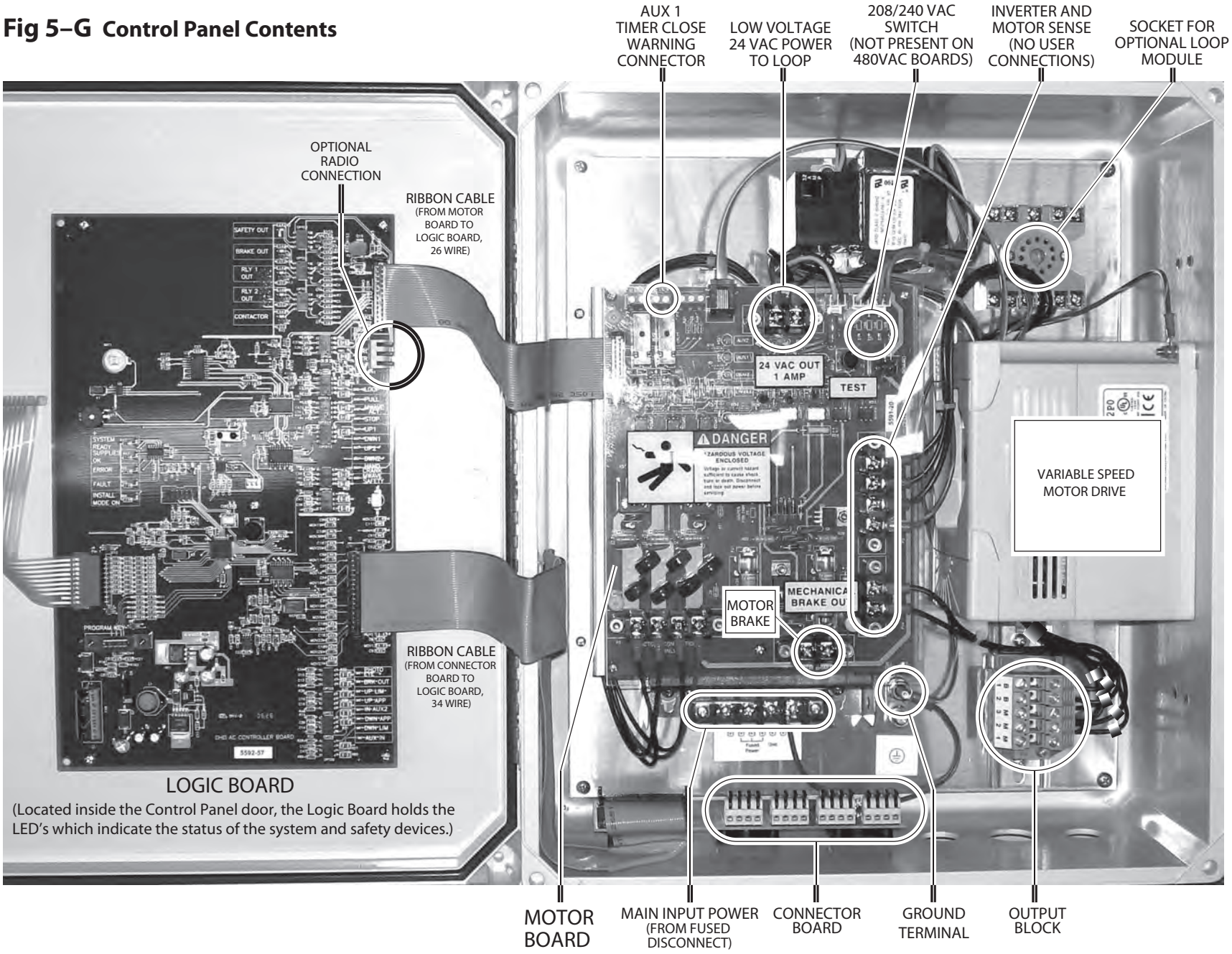
WALL STATIONS IN

LOOP MODULE IN/AUX IN2

RIBBON CABLE (34 WIRE) TO LOGIC BOARD

Wiring Overview (continued)

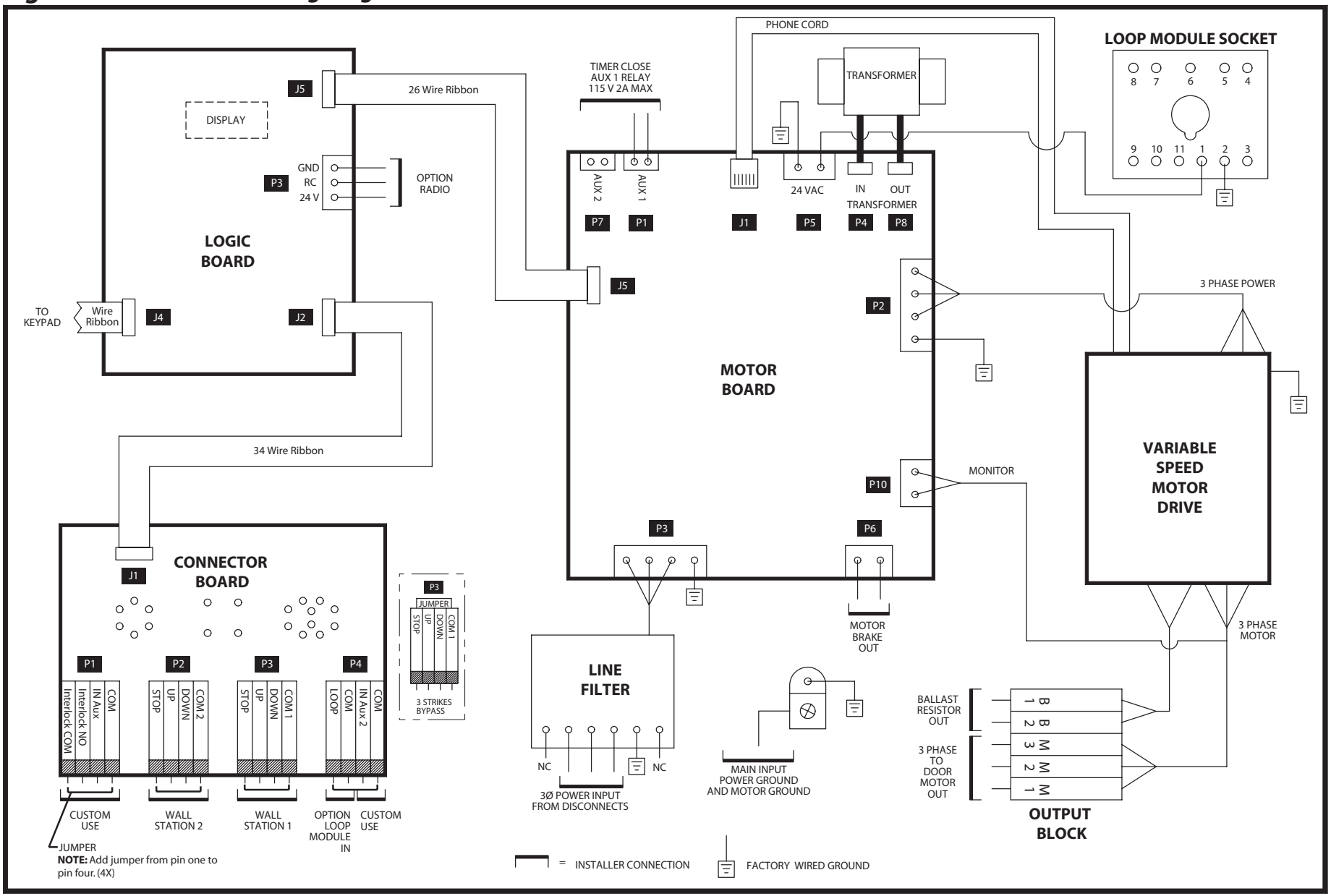
Fig 5–G Control Panel Contents



LOGIC BOARD

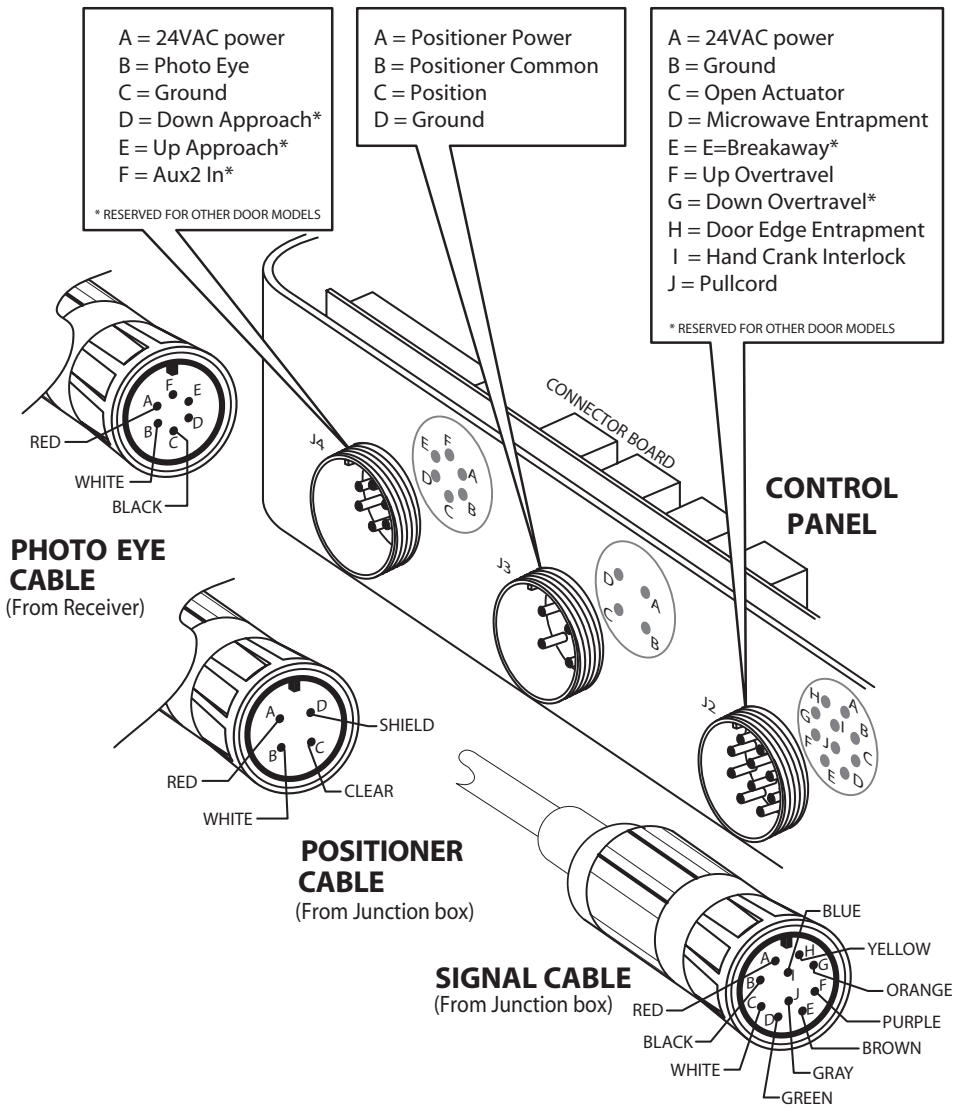
(Located inside the Control Panel door, the Logic Board holds the LED's which indicate the status of the system and safety devices.)

Fig 5–H Control Panel Wiring Diagram



Wiring Overview (continued)

Fig 5–I Control Panel - Cables to Connector Board



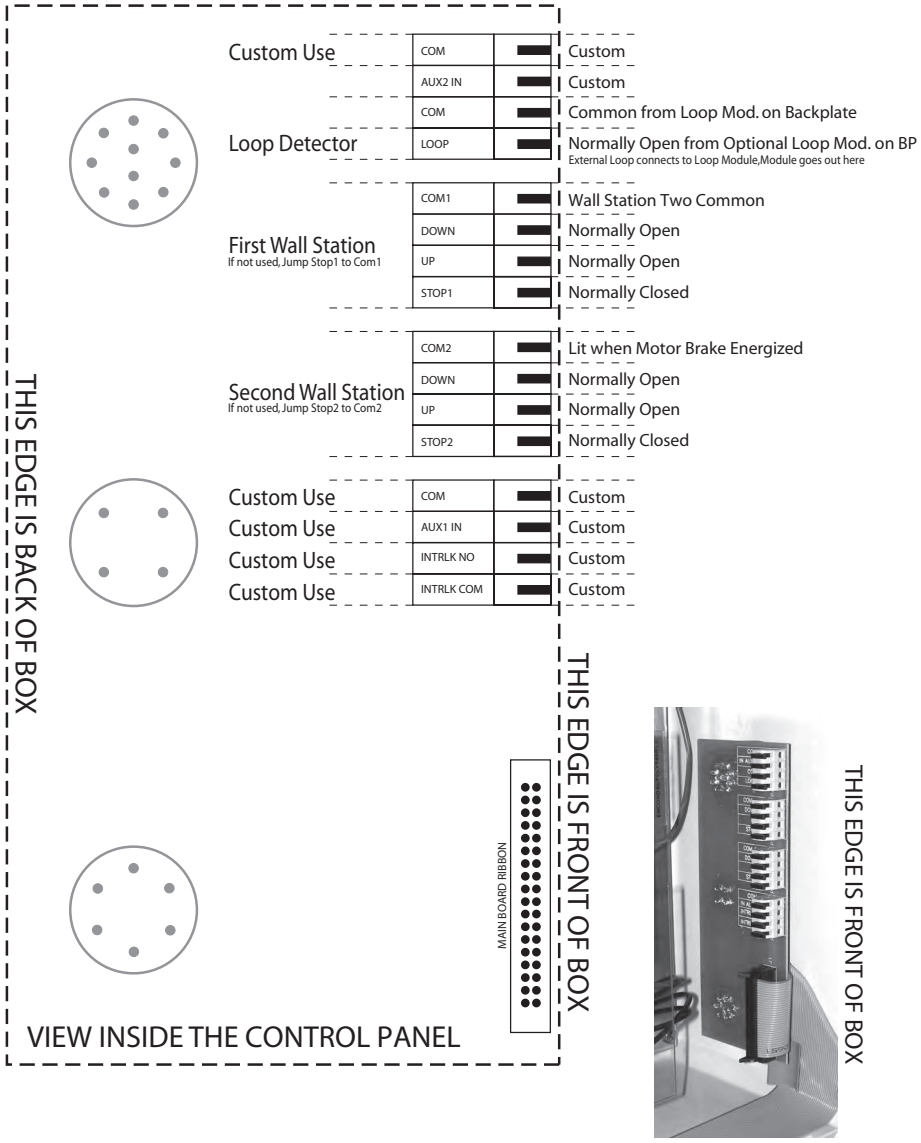
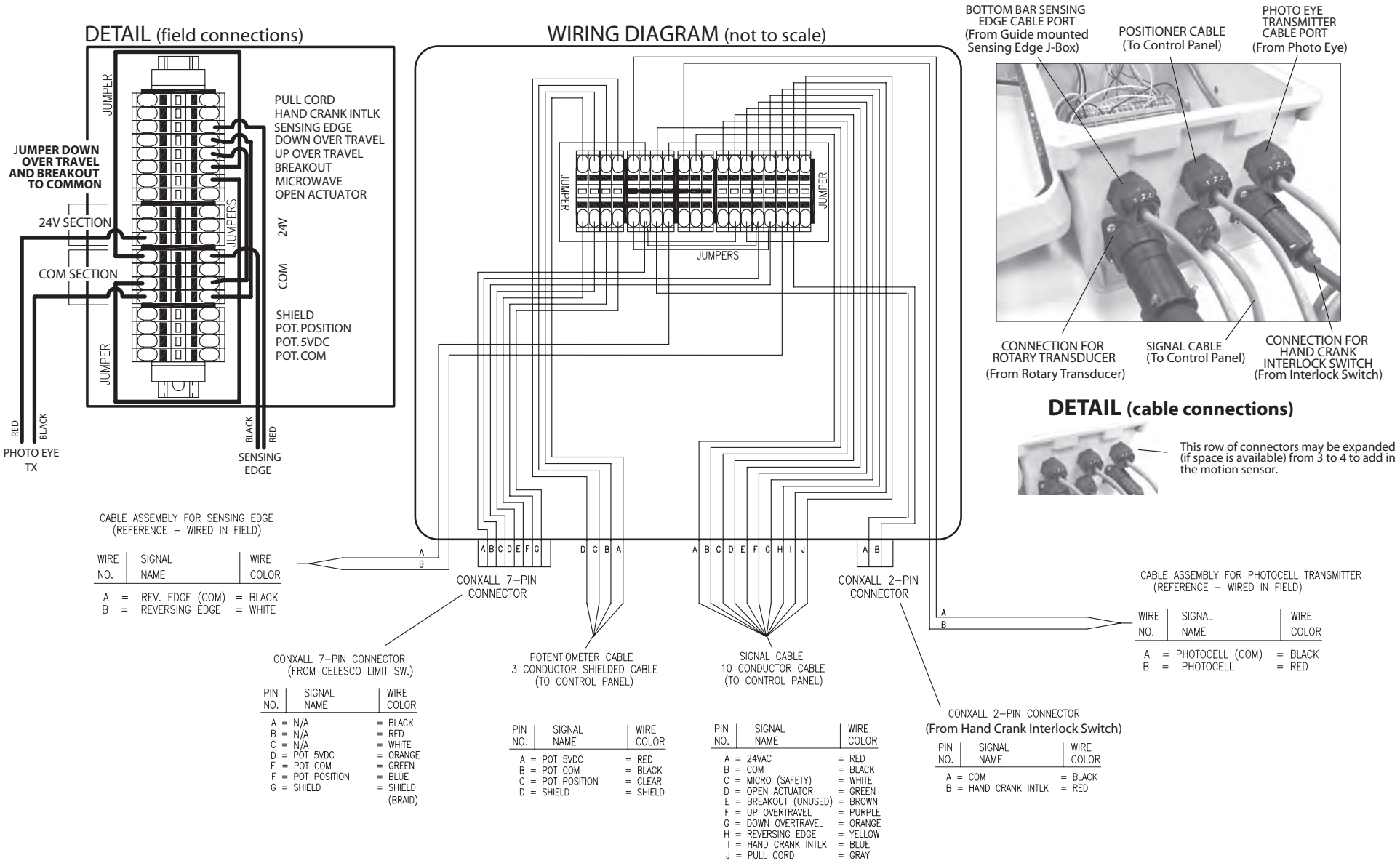


Fig. 5–J JUNCTION BOX WIRING
Connections for most factory wired external control functions.

⚠ CAUTION

Ensure all openings into junction box are weather tight to prevent leakage.



Wiring

2. PHOTO EYE ADJUSTMENT

Photo Eye wiring connections were completed in a previous step (Mounting Electrical components on page 17).

- Final adjustment of the Photo Eyes will be made **after power is supplied to the grille system**.
  - Loosen the mounting screws on the Photo Eyes and adjust position until the yellow LED on the receiver (connected to the Control Panel) stays ON steady. The transmitter (connected to Junction Box) has green LED which indicates power **ON**.
  - Lock the mounting screws down, being sure not to move the Photo Eyes out of alignment.

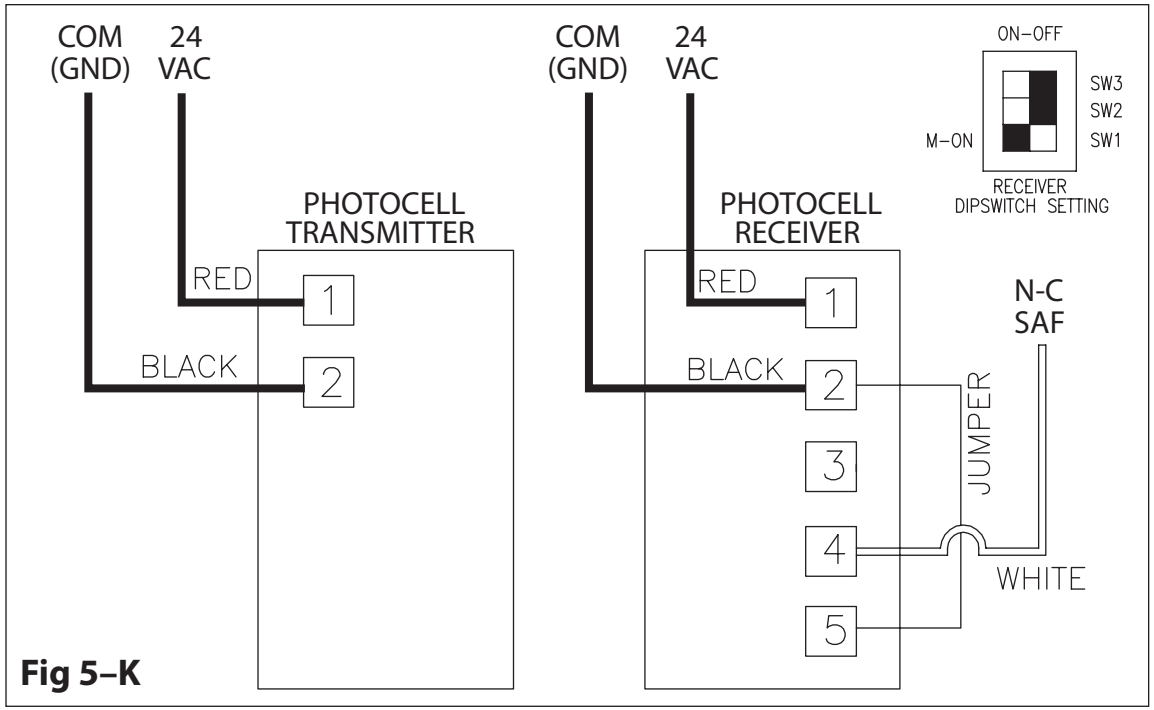


Fig 5–K

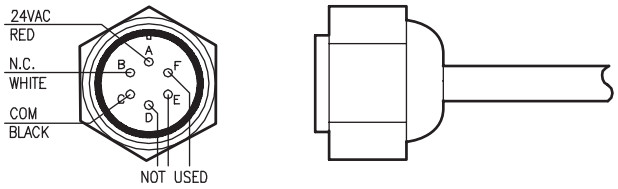


Photo Eye Receiver Cable (pre-wired) connects to control panel.

Fig 5–L

* Photo Eye Receiver is wired at the factory with a 6-pin connector. wire colors are for reference, **NO FIELD WIRING REQUIRED.**

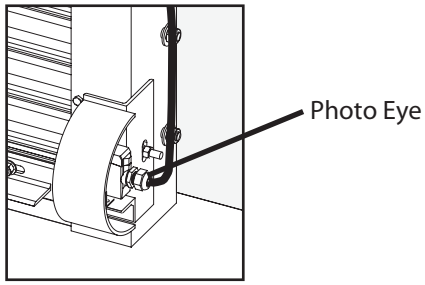


Fig 5–M

Photo Eyes are attached to their protective shields at the factory and must be mounted to the guides using the hardware provided.
Refer to page 17.

3. CONTROL WIRING (LOW VOLTAGE)

Overview of factory wired connections.

- Many control devices are pre-wired at the factory. They are connected to the main board through ribbon cables and do not use terminal connections. **Fig. 5–H & 5–K** on pages 26 & 29.
- Connections to the grille are completed by attaching the three screw-in cables to the panel's base. **Fig, 5–I & 5–J** on pages 27-28.

1. **6 pin cable connects**
   - Photo Eye Receiver
   - 24 VAC for Photo Eye
2. **4 pin cable connects**
   - Grille Positioner (1K Ohm)
3. **Multi-pin Cable connects**
   - 24 VAC to sensors
   - Open Actuator
   - Microwave Entrapment Protection Device (optional)
   - Up grille Stop Limit ??
   - (This pin not in use)
   - Grille Edge Entrapment Protection Device
   - Hand Crank Interlock Switch
   - Pull cord
4. **Optional Items may be field wired by the installer.**
   - Radio Remote to main board.
   - Floor loop to loop module.
   - Wall mounted push button stations to Connector Board, **Fig. 5–F, 5–G & 5–H** on pages 24-26.

⚠ WARNING

If installing wall push buttons, remove any jumpers placed between Stop 1 and/or Stop 2 to Common earlier in the installation. Leaving these jumpers in place will render Stop push buttons inoperative. Refer to **Fig. 5-F** page 24.

NOTE: The LED's marked by an "**X**" indicate which ones should be lit during an initial startup (page 33) when the system is functioning normally if the door is idle. A display other than this indicates a problem.

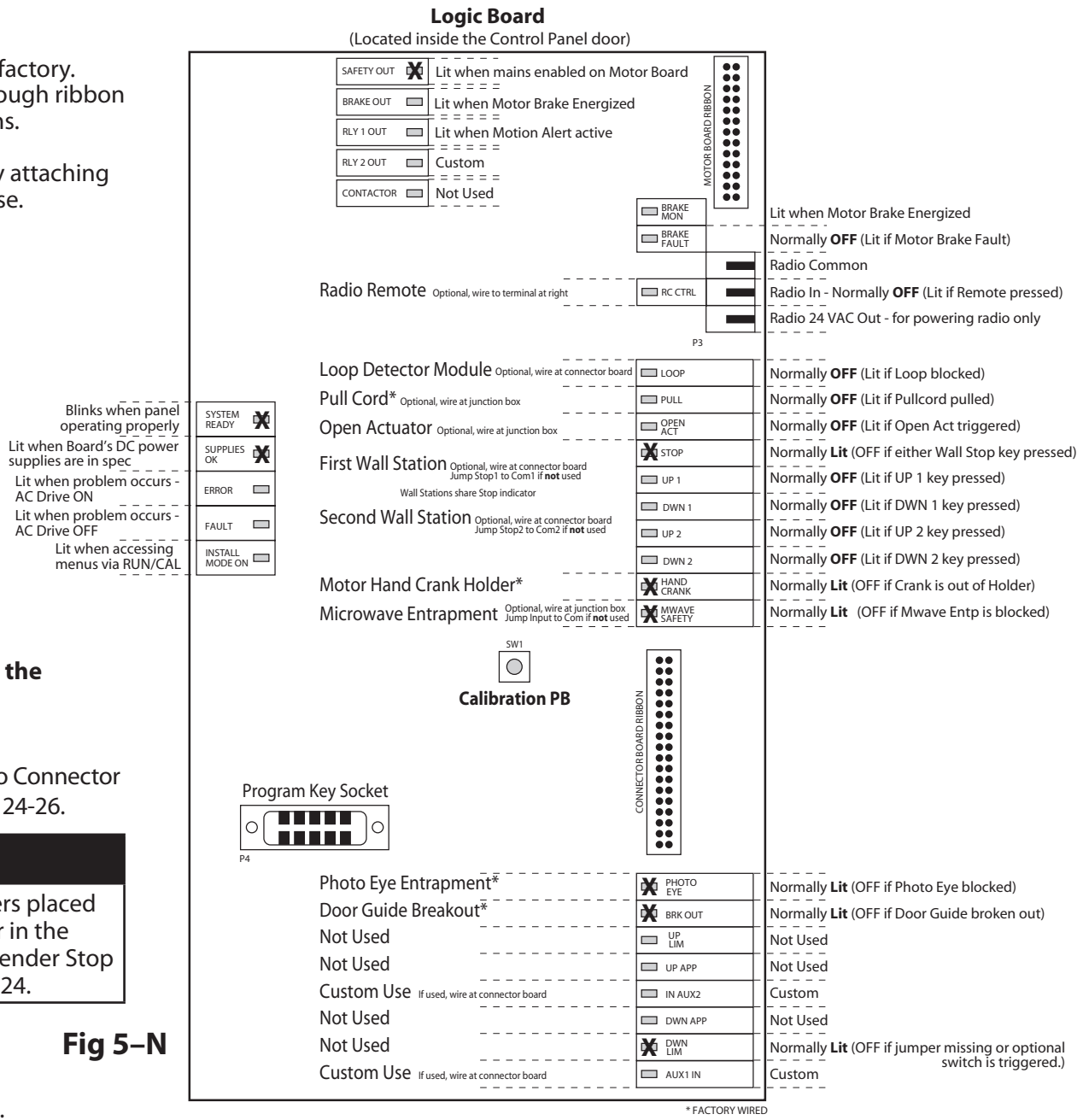


Fig 5–N

Wiring (continued)

4. ROTARY TRANSDUCER WIRING CONNECTIONS AND SETTINGS

- The Rotary Transducer system is pre-wired at the factory.
  - The Rotary Transducer and bracket were mounted to the face of the Motor/Gearbox in **Section 4, Step 12**. (See page 15)

NOTE: The Rotary Transducer is set at the mid-point of its range by the factory. **Do NOT** turn the input shaft during installation.

A) Remove the sprocket restraining screw.
B) Attach the chain to the Motor and Rotary Transducer sprockets.
C) Attach the cable to the Rotary Transducer.
D) Attach the cable to the Junction Box.

NOTE: If the Rotary Transducer sprocket has been rotated prior to this assembly step it must be reset to its midpoint.

RESTORING ROTARY TRANSDUCER TO MIDPOINT SETTING

If the Rotary Transducer chain has been attached, disconnect it now.
If the Rotary Transducer cable has been attached, disconnect it now.

A) Using an ohm meter, ohm across pins 1 and 3, **Fig. 5–O(a)**.
- Slowly rotate sprocket. Monitor the ohm reading as the sprocket rotates.
- When the ohm reading is at its highest, mark the sprocket near the score. (There is a score on the Rotary Transducer housing near the sprocket shaft.)
- Slowly rotate sprocket in the opposite position. When the ohm reading at its lowest, mark the sprocket near the score.
- Rotate the sprocket to the midpoint ohm reading.

B) Lower the grille using the hand crank to approximately half-closed. (See page 12 for Hand Crank operation.)
C) Confirm sprocket restraining screw is removed and attach the chain.
D) Attach the cable to the Rotary Transducer.
E) Attach the cable to the Junction Box.

Continue with Rotary Transducer wiring inside the Junction box.

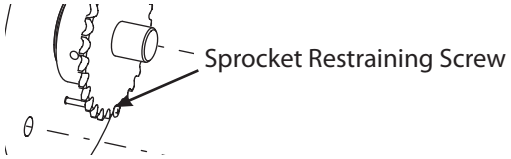


Fig (new) Sprocket Restraining Screw

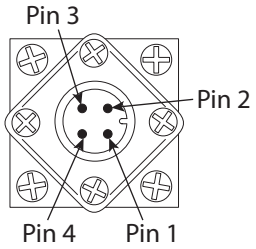


Fig 5–O(a) Rotary Transducer Pins

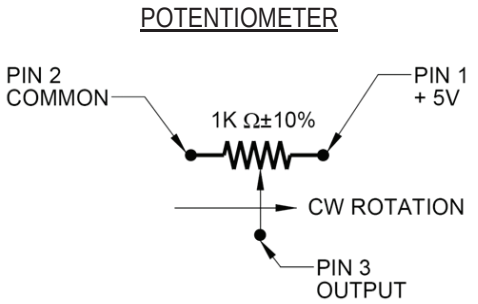


Fig (new) Potentiometer Wiring Schematic

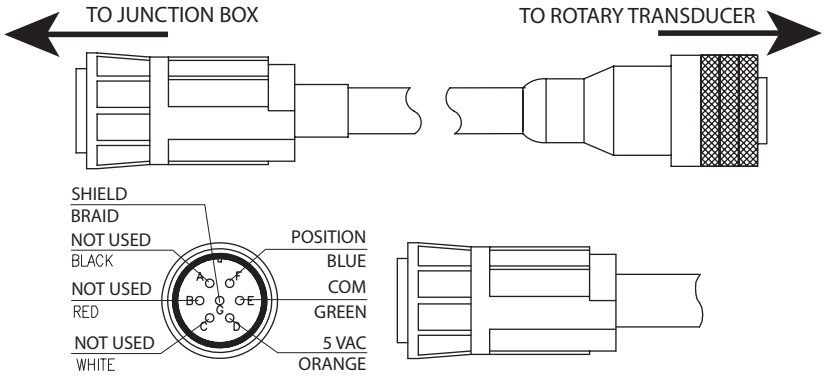


Fig 5–O(b) Rotary Transducer Cable

Wiring (continued)

Installed wire routing for example only.

REFERENCE: CONVENTIONAL WIRE ROUTING

NOTE:
Components/ component locations are shown here for reference only.

Your unit installation and wire routing may be different.

Fig. 5–P(a) and **Fig. 5–P(b)** are sample illustrations only to represent wiring. Not all components are positioned as they should be for your particular installation.

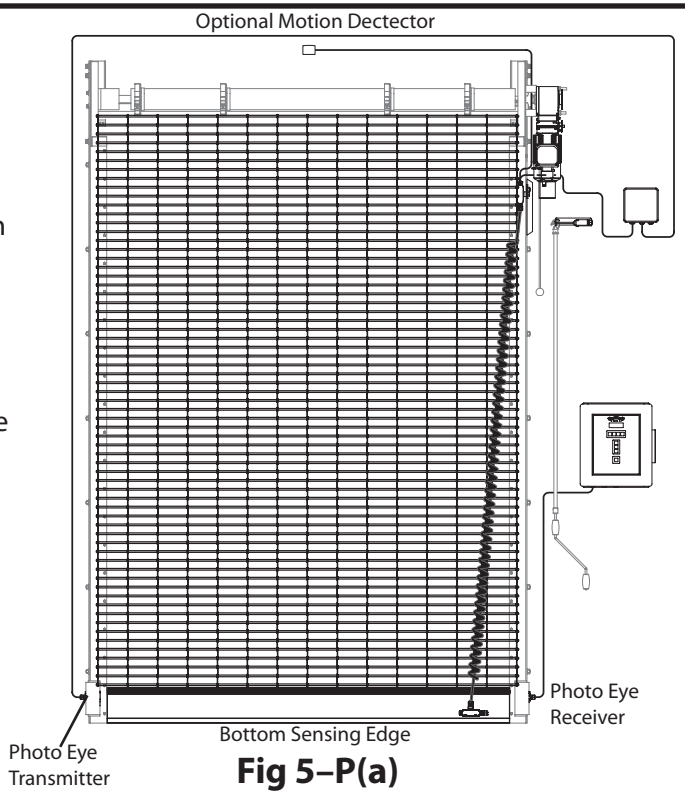


Fig 5–P(a)

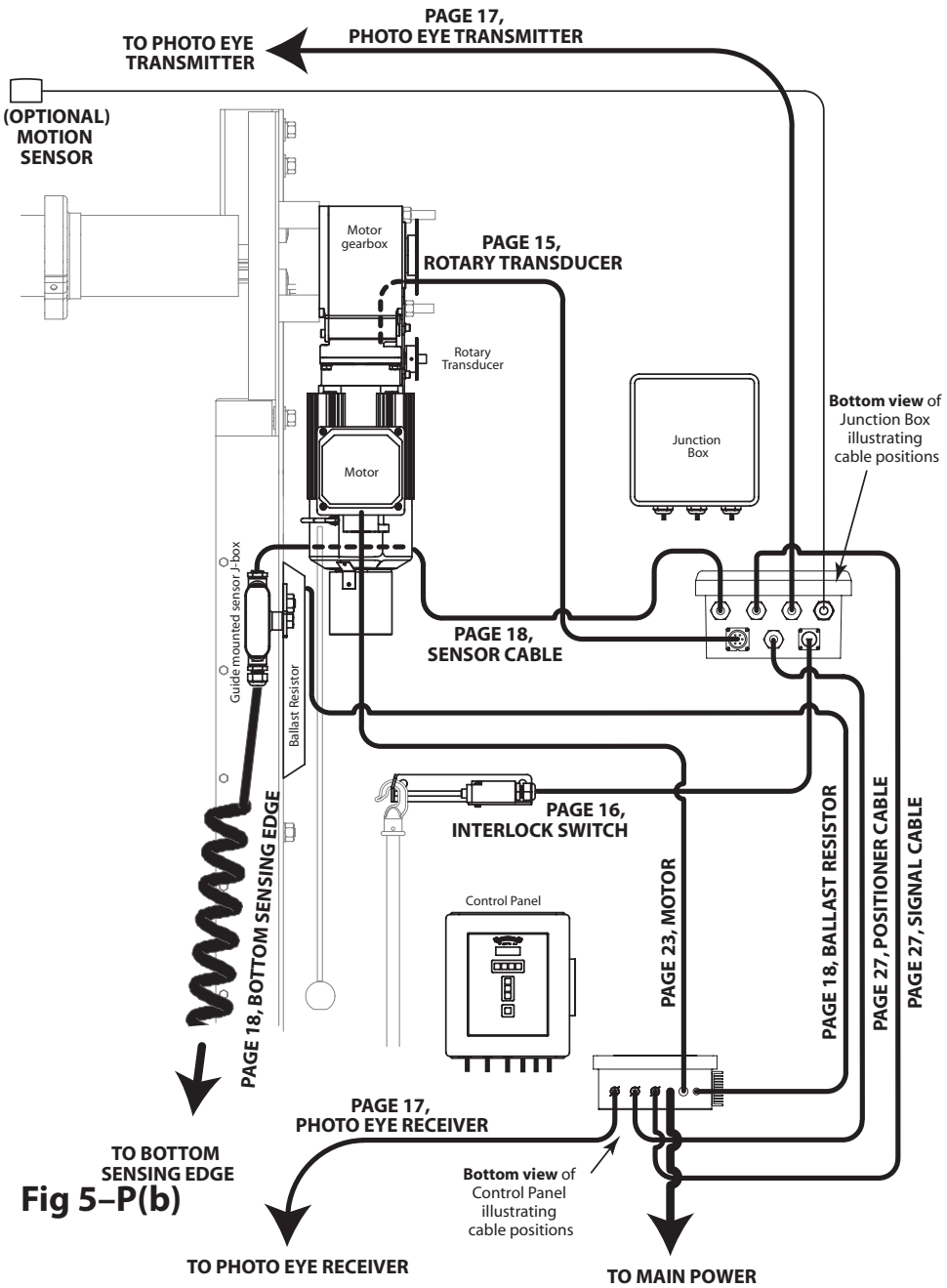


Fig 5–P(b)

Wiring Check List

After completing the instructions contained in this section, check:

⚠ WARNING

Making the checks outlined below will help to ensure that the *RapidGrille AP* unit is wired properly.

CHECK
- Double check all connections are tight.
- Check all cables are secured (not hanging loose where they might become interference).
- Ensure there are no loose tools or materials inside the Control Panel or Junction Box.

Section 6

Grille System Set Up Procedures

Calibration and Set Up

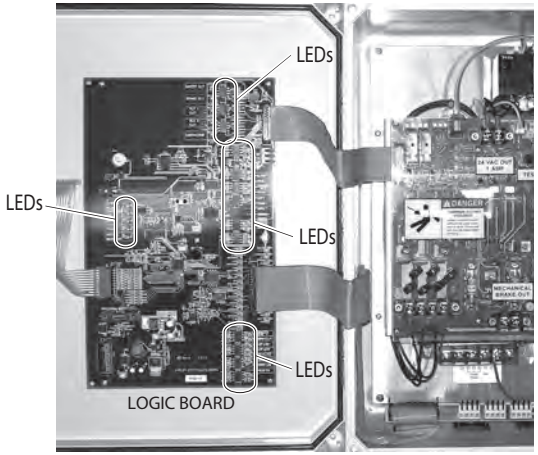
INITIAL STARTUP PROCEDURE

1. APPLY POWER (LINE VOLTAGE)

Open the Control Panel, examine the Logic Board on the *inside* of the Control Panel Door and verify the following LEDs (marked with an **X**) are **ON**:

- Safety Out
- Stop
- Hand Crank
- Mwave Safety
- Brake out
- Photo Eye
- Down Limit
- System Ready (quick blink)

If any of these LED(s) are **NOT** ON, refer to *Troubleshooting, Section 8*.



Logic Board (Inside front cover of Control Panel)

Fig 6–A

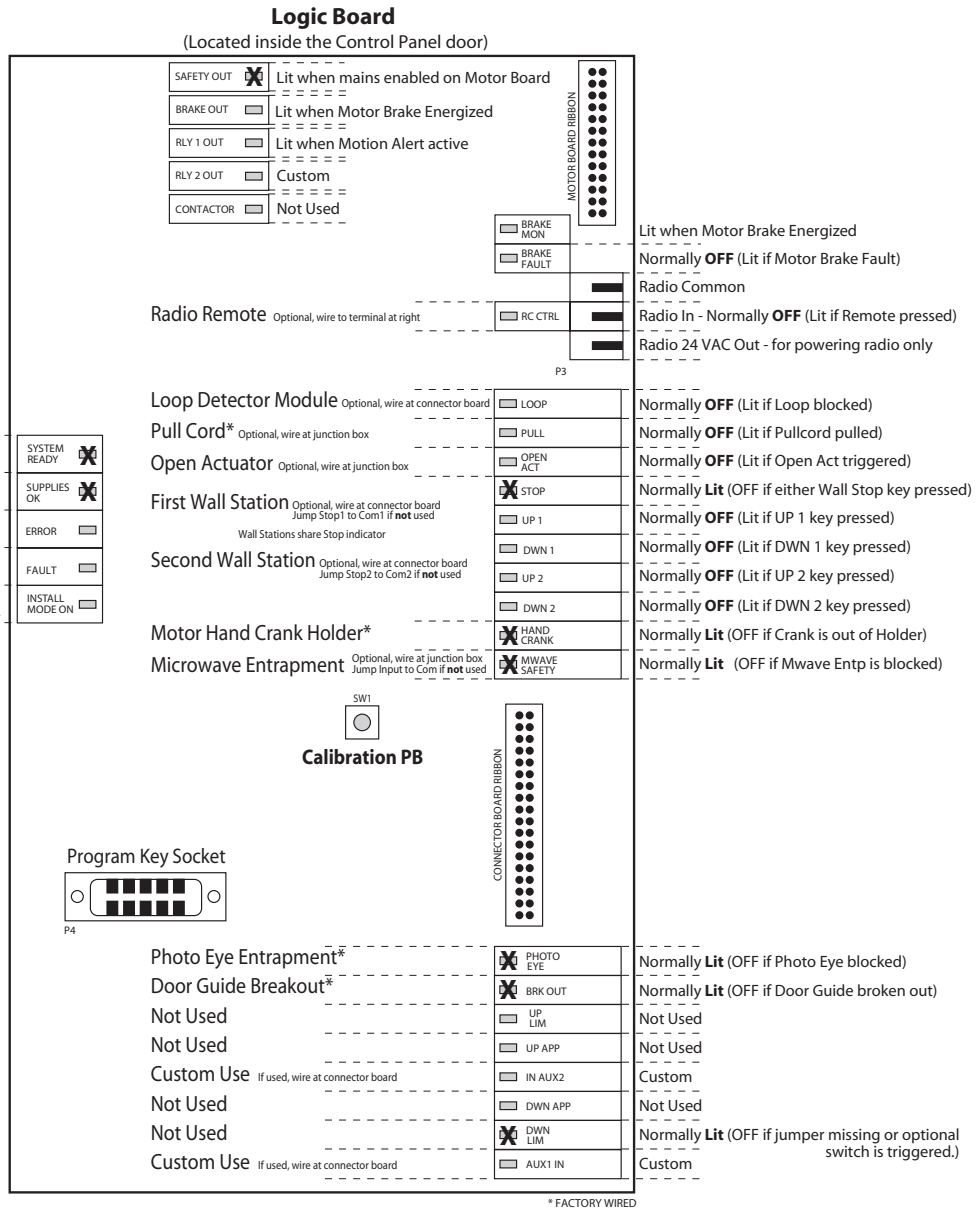


Fig 6–B

2. VERIFY PHOTO EYE ALIGNMENT

A. Verify the GREEN LED is steady ON, on the Photo Eye *Transmitter*. If the GREEN LED is **NOT** ON refer to *Troubleshooting, Section 8*

B. Verify the YELLOW LED is steady ON, on the Photo Eye *Receiver*. If the YELLOW LED is **NOT** ON loosen the mounting screws and adjust the Photo Eye positions until the YELLOW LED is steady ON. Tighten the mounting screws. If the YELLOW LED does **NOT** come ON review the Photo Eye installation steps on page 17. Refer also to *Troubleshooting, Section 8*.

INITIAL SET UP MENU

The Control Panel display consists of two lines. The top line shows the name of the parameter. The bottom line shows the value of that parameter.

– Use the **ARROW** ▲ or ▼ key to *Change* the value of the parameter.

– Use the **SELECT** Select key to *Lock* the new parameter setting.

You can scroll to another selection (ARROW key) in that list of items or, back out of **CAL** mode (one level at a time) using the **RUN/CAL** Run Cal key.

*** See WARNING below**

NOTE: There are History Menus for Operational Events and Shutdowns along with System Information and Input Status. See page 42.

NOTE: Once in Jog Mode, it may be necessary to press the RESET key if "Jog Inoperative" is displayed.

NOTE: Use Up **ARROW** ▲ key to go backward from Item 1 to Item 12. Use Down **ARROW** ▼ key to loop back from Item 12 to Item 1.

⚠ WARNING

All Entrapment Protection Devices are **OFF** in the Jog Mode and the Limits are **NOT SET**. Devices **OFF** while in Jog Mode include: Edge Contact, Photo Eye, Microwave Entrapment Protection Device, Wall push buttons, Radio Control, Limit Sensors, Loop Detector, Auxiliary Inputs or any motion sensor used as either an actuator or an Entrapment Protection Device. Only Hoist Interlock remains active.
Jog Mode is the manual control for momentary operation of grille via ARROW buttons on the keypad.
USE CAUTION! WHILE SETTING UP THE GRILLE IN THIS MODE. Do NOT use Jog Mode for general grille operation.

DISPLAYS	DEFAULT SET	MIN	MAX	STEP	DESCRIPTION
1) Jog/Pot Value* OFF/	–––––––	––	––	––	Allows jog (slow) grille speed even with error or entrapment warning
2) Keypad RUN/CAL Yes	OFF	OFF	ON	––	Entry to calibration menus, after 5 second delay, using RUN/CAL key.
3) Panel Rating ___ VAC	240 VAC	208	480	––	Voltage level of incoming mains: 208, 240, 480 VAC.
4) Motor Rating ___ HP	1 HP	0.5	2	––	Horsepower rating of attached motor: 0.5, 1, 2 HP.
5) Door Height ___ inches	54	60	300	6	Grille height in inches, used in limit and roll calculations.
6) Left Hand Drive NO	OFF	OFF	ON	––	Direction of position pot rotation.
7) Reverse Motor Spin NO	OFF	OFF	ON	––	Reverses direction of motor rotation.
8) Beep If Overtravel NO	OFF	OFF	ON	––	Beep in Jog Mode if Overtravel Limit is violated.
9) Button Mode Up momentary	Cont	Cont	Mom	––	Push button Mode: Momentary or Constant-Stop.
10) Button Mode Dn momentary	Cont	Cont	Mom	––	Push button Mode: Momentary or Constant-Stop or Constant Reverse.
11) Edge Disable NO	OFF	OFF	ON	––	Disable Edge Detector and correspondingly changes grille closing speed.
12) Photo Eye Disable NO	OFF	OFF	ON	––	Disable Photo Eye and correspondingly changes grille closing speed.

Calibration and Set Up (continued)

INITIAL SET UP PROCEDURE

3. ENTER CALIBRATION MODE

Operator is *normally* in RUN Mode. To make **changes** to system settings, you must *switch* to CAL Mode.

- To enter **CAL** mode for the *first* time.
  - Press the Calibration push button on the Logic Board inside the Control Panel, **Fig. 6–C**. This accesses the four calibration menus "INITIAL SET UP", "MOTION SET UP", "FINAL SET UP", and "PANEL RESETS". **NOTE:** The RUN/CAL mode is **NOT** enabled for entering CAL mode during ***first time*** set up.

4. CLOSE THE CONTROL PANEL COVER TO ACCESS THE TOUCH PAD AND VIEW DISPLAY

A. Access "INITIAL SET UP" Menu. Use the **ARROW** ▲ or ▼ keys on the front panel to scroll display to show "INITIAL SET UP - SHOW OPTIONS" and press the **SELECT** Select key. This accesses a list of menu items and displays "**Jog/Pot Value - OFF**".

B. Verify Panel VAC Rating. Use the ARROW keys to scroll display to show "**Panel Rating - *** VAC**".
– Verify the *** VAC rating matches the panel label located **inside** the Control Panel front cover.
If they match, proceed.
If the ratings do **NOT** match:
1. Press SELECT.
2. Press an ARROW key and scroll to the VAC rating matching the panel label.
3. Press SELECT to lock in the new VAC rating.

C. Verify Motor Rating. Use the ARROW keys to scroll display to show "**Motor Rating - *.* hp**".
– Verify the *.* hp rating matches the motor installed on this grille. If they match, proceed.
If the ratings do **NOT** match:
1. Press SELECT.
2. Press an ARROW key and scroll to the hp rating matching the motor.
3. Press SELECT to lock in the new hp rating.

D. Verify the Door Height. Use the ARROW keys to scroll display to show "**Door Height - 000 inches**".
– Press SELECT.
– Enter the door height by pressing the ARROW key until the correct door height (in inches) is displayed.
– Press SELECT to lock in the door height value.

E. Verify the Drive-side. Use the ARROW keys to scroll display to show "**Left Hand Drive - OFF**". If the motor-gearbox is mounted on the *right* side of the door (viewed from coil-side) the "Left Hand Drive" option should be **OFF**. If the motor-gearbox is mounted on the *left* side of the door (viewed from coil-side) the "Left Hand Drive" option should be **ON**.
1. Press SELECT.
2. Press an ARROW key to toggle ON/OFF for the drive mounted on this door.
3. Press SELECT to lock in the **ON** or **OFF** rating.

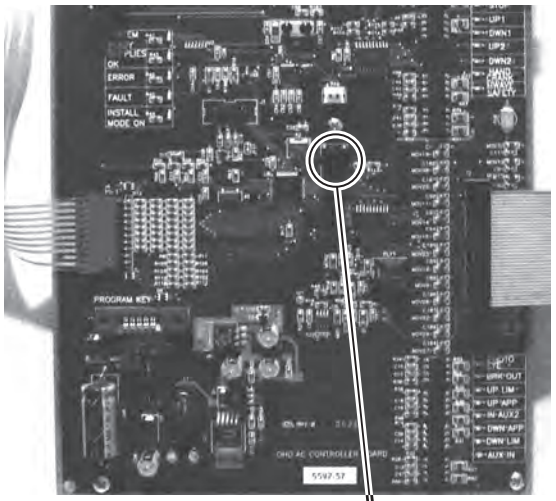


Fig 6–C

INITIAL SET UP MENU *(Details on page 34)*

Includes settings for 12 items:

1	- Jog/Pot Value	**7**	- Reverse Motor Spin
2	- Keypad RUN/CAL	**8**	- Beep IfOverTravel
3	- Panel Rating	**9**	- Button Mode Up
4	- Motor Rating	**10**	- Button Mode Dn
5	- Door Height	**11**	- Edge Disable
6	- Left-Hand Drive	**12**	- Photo Eye Disable

NOTE: To prevent unauthorized changes, keypad Calibrate should normally be turned **OFF**. To **change** the status of keypad Calibrate, follow these steps.

– Use the ARROW keys to scroll to the "INITIAL SET UP" Menu.
– Press SELECT to open the menu list of items.
– Using the ARROW key scroll to Item #2 (keypad RUN/CAL).
A. Using the SELECT key to access the parameter.
B. Press an ARROW key to change the parameter.
C. Press SELECT to lock your setting.

INITIAL SET UP PROCEDURE *(continued)*

F. Set UP Control Action. Use the ARROW keys to scroll display to show "**Button Mode UP - *********"**.

– Verify display reads "**Constant-Stop**". If it displays "**Constant-Stop**", proceed. If it does **NOT** display "**Constant-Stop**":

1. Press SELECT.
2. Press an ARROW key and scroll display until it shows "**Constant-Stop**".
3. Press SELECT to lock in the new setting.

G. Set DN Control Action. Use the ARROW keys to scroll display to show "**Button Mode DN - *********"**.

– Verify display reads "**Constant-Stop**". If it displays "**Constant-Stop**", proceed. If it does **NOT** display "**Constant-Stop**":

1. Press SELECT.
2. Press an ARROW key and scroll display until it shows "**Constant-Stop**".
3. Press SELECT to lock in the new setting.

H. Test Operator Rotation. Use the ARROW keys to scroll display to show "**Jog/Pot Value - OFF**".

– Press SELECT.
– Press an ARROW key to toggle the value from OFF to ON.
– Press SELECT to verify display reads "**Jog/Pot Value - ON**".
– Press and release the **OPEN** Open key. Verify the door moves in the **open** direction.
– If the door moves in the *open* direction, press SELECT and verify display reads "**Jog/Pot Value - OFF**".

Initial Set Up tasks are complete, proceed to Motion Set Up Procedure, Step I on page 38.

If the door moves in the *close* direction:

1. Verify display reads "**Jog/Pot Value - ON**".
2. Use the ARROW keys to scroll display to show "**Reverse Motor Spin - OFF**".
3. Press SELECT.
4. Press the ARROW key to toggle the value from OFF to ON.
5. Press SELECT to lock in the new setting.
6. Press an ARROW key until display reads "**Jog/Pot Value - ON**".
7. Press and release the OPEN key. Verify the door moves in the **open** direction. If the door moves in the *open* direction, press SELECT and verify display reads "**Jog/Pot Value - OFF**".

Initial Set Up tasks are complete, proceed to Motion Set Up Procedure, Step I on page 38.

INITIAL SET UP MENU *(Details on page 34)*

Includes settings for 9 items:

1	- Jog/Pot Value	**7**	- Reverse Motor Spin
2	- Keypad RUN/CAL	**8**	- Beep IfOverTravel
3	- Panel Rating	**9**	- Button Mode Up
4	- Motor Rating	**10**	- Button Mode Dn
5	- Door Height	**11**	- Edge Disable
6	- Left-Hand Drive	**12**	- Photo Eye Disable

Calibration and Set Up (continued)

MOTION SET UP MENU

The Control Panel display consists of two lines. The top line shows the name of the parameter. The bottom line shows the value of that parameter.

– Use the **ARROW** ▲ or ▼ keys to *Change* the value of the parameter.

– Use the **SELECT** Select key to *Lock* the new parameter setting.

You can scroll to another selection (ARROW key) in that list of items or, back out of **CAL** mode (one level at a time) using the **RUN/CAL** Run Cal key.

*** See WARNING below**

**Changes to these parameters will cause the *RapidGrille AP* to re-measure Timeouts.

NOTE: Once in jog mode, it may be necessary to press the RESET key if "Jog Inoperative" is displayed.

NOTE: Use Up **ARROW** ▲ key to go backward from Item 1 to Item 12. Use Down **ARROW** ▼ key to loop back from Item 12 to Item 1.

⚠ WARNING

All Entrapment Protection Devices are **OFF** in the Jog Mode and the Limits are **NOT SET**. Devices **OFF** while in Jog Mode include: Edge Contact, Photo Eye, Microwave Entrapment Protection Device, Wall push buttons, Radio Control, Limit Sensors, Loop Detector, Auxiliary Inputs or any motion sensor used as either an actuator or an Entrapment Protection Device. Only Hoist Interlock remains active.
Jog Mode is the manual control for momentary operation of grille via ARROW buttons on the keypad.
USE CAUTION! WHILE SETTING UP THE GRILLE IN THIS MODE. Do NOT use Jog Mode for general grille operation.

DISPLAYS	DEFAULT SET	MIN	MAX	STEP	DESCRIPTION
1) Jog/Set Up Limit* OFF / ___ %	0	5.00	95.00	0.02	Enable jog mode and record Up Limit.
2) Jog / Set MidLimit* OFF / ___ %	0	5.00	95.00	0.02	Enable jog mode and record Mid Limit.
3) Jog / Set Dn Limit* OFF / ___ %	0	5.00	95.00	0.02	Enable jog mode and record Down (Dn) Limit.
4)** Up App -> UpLmt ___ inches	12 inch	4	20	1	Distance between Up Limit and point the approach deceleration starts.
5)** Up App Decel Ramp Fast	fast	soft	faster	–––	Open cycle's deceleration rate to approach speed.
6)** Dn App -> DnLmt ___ inches	8 inch	4	16	1	Distance between Down Limit and point where approach speed deceleration starts.
7)** Dn App Decel Ramp Fast	fast	soft	faster	–––	Close cycle's deceleration rate to approach speed.
8)** Up Accel Fast	fast	soft	faster	–––	Open cycle's acceleration rate from rest to full speed.
9)** Dn Accel Fast	fast	soft	faster	–––	Close cycle's acceleration rate from rest to full speed.
10) Midway Stop OFF	OFF	OFF	ON	–––	Activates Mid Limit Stop feature.
11) Edge Cutoff Below ___ inches	3 inch	2	4	1	Distance interval from floor over which Edge is ignored.
12) Photo Cutoff Below ___ inches	0 inch	0	6	1	*Not used* on *RapidGrille AP.*

MOTION SET UP PROCEDURE

Verify the grille is in the *half open* position before beginning the Motion Set Up tasks.

NOTE: Avoid passing above the Overtravel Switch when setting the Up Limit.
ALWAYS set the **UP Limit** by moving **from** the *closed* **to** the *open* direction.
ALWAYS set the **DOWN Limit** by moving **from** the *open* **to** the *closed* direction.

I. Access "MOTION SET UP" Menu. Use the **ARROW** ▲ or ▼ keys to scroll display to show "MOTION SET UP - SHOW OPTIONS" and press the **SELECT** Select key. This accesses a list of menu items and displays "**Jog/Set Up Limit - OFF/**.**%**".

- Press SELECT *again* to verify display reads "**Jog/Set Up Limit - ON/**.**%**".
- Press and *hold* the **OPEN** Open key until the grille is in the desired open position, then release the key.
- Press SELECT to lock in the new Up position limit.
- Press the ARROW key to scroll display until it shows "**Jog/Set Dn Limit - OFF/**.**%**".
- Press SELECT to verify display reads "**Jog/Set Dn Limit - ON/**.**%**".
- Press and *hold* the **CLOSE** Close key until the grille is in the desired closed position, then release the key.
- Press SELECT to lock in the new Down position limit.

J. Set Timeouts: Down Limit - Measuring Timeouts (between limits). Press the **RUN/CAL** Run Cal key twice to scroll display until it shows "**Idle: Down Limit - Measuring Timeouts**".

- Press and hold the OPEN key until the grille stops at the Set Open position, release the key.
- Press and hold the CLOSE key until the grille stops at the Set Closed position, release the key.
- Verify display reads "**Idle: Down Limit - DnLmt--> UpLmt RunRead**".

K. Set UP Control Action. Press the Calibration push button on the Logic Board inside the Control Panel, **Fig. 6–C** (page 35), and use the ARROW key to select the "Initial Set Up" Menu.

- Verify display reads "**Jog/Pot Value - OFF**".
- Press the ARROW key to scroll display until it shows "**Button Mode UP - Constant-Stop**".
- Press SELECT.
- Press the ARROW key until desired control action displays (**Constant-Stop** or **Momentary**).
- Press SELECT to lock in the selection.
- Press the ARROW key to scroll display until it shows "**Button Mode DN - Constant-Stop**".
- Press SELECT.
- Press the ARROW key until desired control action displays (**Constant-Stop, Constant-Rev** or **Momentary**).
- Press SELECT to lock in the selection.
- Press the RUN/CAL key until reads "**Idle: Down Limit - DnLmt--> UpLmt RunRead**".

This completes the Initial Set Up and Motion Set Up steps of the *RapidGrille AP* System.
Begin Final Set Up steps on the next page.

MOTION SET UP MENU

Includes settings for 12 items:

1 - Jog/Set Up Limit
2 - Jog/Set MidLimit
3 - Jog/Set Dn Limit
4 - Up App -> UpLmt
5 - Up App Decel Ramp
6 - Dn App -> DnLmt
7 - Dn App Decel Ramp
8 - Up Accel
9 - Dn Accel
10 - Midway Stop
11 - Edge Cutoff Below
12 - PhotoCutoff Below

Calibration and Set Up (continued)

FINAL SET UP MENU & PROCEDURE

1. Press the Calibration push button on the Logic Board inside the Control Panel, **Fig. 6–C** (page 35) and close the Control Panel. Verify the front panel displays "INITIAL SET UP - SHOW OPTIONS".
2. Use the **ARROW** ▲ or ▼ keys to scroll display to show "FINAL SET UP - SHOW OPTIONS" and press the **SELECT** Select key. This accesses a list of menu items and displays "**Timed Close Delay ** seconds**".
3. Press SELECT.
4. Press the ARROW key until desired time delay (in seconds) displays. (2 to 300 seconds)
5. Press SELECT.

*** See WARNING below**

NOTE: Use Up **ARROW** ▲ key to go backward from Item 1 to Item 12.
Use Down **ARROW** ▼ key to loop back from Item 12 to Item 1.

DISPLAYS	DEFAULT SET	MIN	MAX	STEP	DESCRIPTION
1) Timed Close Delay ___ seconds	10 seconds	2	300	1	Pause between prior Up motion and autoclose.
2) Up Key T Close - OFF	OFF	OFF	ON	–––	Timed close after keypad initiated Open.
3) Up Button T Close - OFF	OFF	OFF	ON	–––	Timed close after wall station initiated Open. (A wall station control is also required.)
4) Pull Cord T Close - OFF	OFF	OFF	ON	–––	Timed close after pull cord initiated Open. (A pull cord control is also required.)
5) Radio T Close - OFF	OFF	OFF	ON	–––	Timed close after radio initiated Open. (A radio control is also required.)
6) Loop T Close - OFF	OFF	OFF	ON	–––	Timed close after loop initiated Open. (A sensor loop control is also required.)
7) Open Act T Close - OFF	OFF	OFF	ON	–––	Timed close after Open Actuator input.
8) Alert Before TC ___ seconds	2 seconds	2	10	1	Activates AUX 1 relay contact "x" (0-9) seconds prior to timed close.
9) Alert if Opening - OFF	OFF	OFF	ON	–––	Activates AUX 1 relay contact when grille is opening.
10) Alert if Closing - OFF	OFF	OFF	ON	–––	Activates AUX 1 relay contact when grille is closing.
11) Beep on SHTDN - OFF	OFF	OFF	ON	–––	Beep when either an alert or shutdown occurs.
12) KeypadUpDnDisable - OFF	OFF	OFF	ON	–––	Prevents OPEN or CLOSE keys from initiating motion.

⚠ WARNING

All Entrapment Protection Devices are **OFF** in the Jog Mode and the Limits are **NOT SET**. Devices **OFF** while in Jog Mode include: Edge Contact, Photo Eye, Microwave Entrapment Protection Device, Wall push buttons, Radio Control, Limit Sensors, Loop Detector, Auxiliary Inputs or any motion sensor used as either an actuator or an Entrapment Protection Device. Only Hoist Interlock remains active.
Jog Mode is the manual control for momentary operation of grille via ARROW buttons on the keypad.
USE CAUTION! WHILE SETTING UP THE GRILLE IN THIS MODE. Do NOT use Jog Mode for general grille operation.

Items #2-7 are toggle OFF or ON. Their default is OFF.
To select these features: (Example below is using the **Radio to set the Timer**)

– Press the ARROW key to scroll display until it shows "**Radio T Close - OFF**".
– Press SELECT and press the ARROW key to scroll display until it shows "**Radio T Close - ON**".
– Press SELECT and this option will now activate timer to close door.

6. (**Item #8**) **Alert Before TC ___ seconds**. Use the ARROW keys to scroll display to item #8.
   – Press the ARROW key until desired time delay (in seconds) displays. (2 to 10 seconds)
   – Press SELECT.

Items #9-12 are toggle OFF or ON. Their default is OFF.
To select these features: (Example to the right is using the **Alert if Opening**)

– Press the ARROW key to scroll display until it shows "**Alert if Opening - OFF**".
– Press SELECT and press the ARROW key to scroll display until it shows "**Alert if Opening - ON**".
– Press SELECT and this option will now activate AUX 1 contacts while opening the door.

7. Press the **RUN/CAL** Run Cal key until it reads "**Idle: Down Limit - Cycles ------ ****".

This completes the Final Set Up of the *RapidGrille AP* System.

PANEL RESETS MENU & PROCEDURE

Verify the grille is in the **closed position** before beginning the Panel Resets tasks.

TO ENTER THE "PANEL RESETS" MENU

1. Press the Calibration push button on the Logic Board inside the Control Box, **Fig. 6–C** (page 35), and close the Control Box. Verify the front panel displays "INITIAL SET UP - SHOW OPTIONS".
2. Use the **ARROW** ▲ or ▼ keys to scroll display to show "PANEL RESET - SHOW OPTIONS" and press the **SELECT** Select key. This accesses a list of menu items (shown below).

*** See WARNING below**

NOTE: Use Up **ARROW** ▲ key to go backward from Item 1 to Item 4. Use Down **ARROW** ▼ key to loop back from Item 4 to Item 1.

⚠ WARNING

All Entrapment Protection Devices are **OFF** in the Jog Mode and the Limits are **NOT SET**. Devices **OFF** while in Jog Mode include: Edge Contact, Photo Eye, Microwave Entrapment Protection Device, Wall push buttons, Radio Control, Limit Sensors, Loop Detector, Auxiliary Inputs or any motion sensor used as either an actuator or an Entrapment Protection Device. Only Hoist Interlock remains active.
Jog Mode is the manual control for momentary operation of grille via ARROW buttons on the keypad.
USE CAUTION! WHILE SETTING UP THE GRILLE IN THIS MODE. Do NOT use Jog Mode for general grille operation.

DISPLAYS	DEFAULT SET	MIN	MAX	STEP	DESCRIPTION
1) Re-record Timeout Timeout Test Pending	Pending	–––	–––	–––	Initiate recording of Up and Down duration.
2) Re-record Overspeed ___ in/sec	Pending	–––	–––	–––	Initiate recording of max speed for use in overspeed calcs.
3) Fix and Validate Panel Settings	–––	–––	–––	–––	Attempt to repair current calibration settings.
4) Re-send Inverter Panel Settings	–––	–––	–––	–––	Attempt to re-transmit settings to inverter.
5) Update Maint/Serv ___ cycles	–––	–––	–––	–––	This can only be updated at **50,000 or more** cycles. Advances the Maintenance and Service cycle point to the next interval
6) Diagnostic Link	–––	–––	–––	–––	Activates panel's RS232 link

To Re-record Timeout(s): ***(Ensure grille is fully closed)***

3. Use the ARROW keys to scroll display to show "**Re-record Timeout - Up xx.xs Dn xx.xs**".
4. Press SELECT. Display reads "**Re-record Timeout - Are You Sure**".
5. Press SELECT.
6. Press **RUN/CAL** Run Cal key until the display reads "**Idle Down Limit - Measuring Timeouts**".
7. Press the Up ARROW and run the grille to the Open limit.
8. Press the Down ARROW and run the grille to the Close limit.
9. Verify display reads "**Idle Down Limit - ** Cycles**".

To Re-record Over-speed: ***(Ensure grille is fully closed)***

3. Use the ARROW keys to scroll display to show "**Re-record Overspeed - xx in/sec**".
4. Press SELECT. Display reads "**Re-record Overspeed - Are You Sure**".
5. Press SELECT.
6. Press RUN/CAL key until the display reads "**Idle Down Limit - Dmlmt->Uplmt runreqd**".
7. Press the Up ARROW and run the grille to the Open limit.
8. Press the Down ARROW and run the grille to the Close limit.
9. Verify display reads "**Idle Down Limit - ** Cycles**".

Calibration and Set Up (continued)

PANEL RESETS MENU & PROCEDURE *(continued)*

To Fix/Validate Panel Settings: *(Ensure grille is fully closed)*

3. Use the ARROW keys to scroll display to show "**Fix and Validate Panel Setting**".
4. Press SELECT. Display reads "**Fix and Validate - Are You Sure**".
5. Press SELECT. Display reads "**Fix and Validate - Panel Setting**".
6. Press RUN/CAL key until the display reads "**Idle Down Limit - ** Cycles**".

To Re-send Inverter Panel Settings: *(Ensure grille is fully closed)*

3. Use the ARROW keys to scroll display to show "**Re-send Inverter Panel Setting**".
4. Press SELECT. Display reads "**Re-send Inverter - Are You Sure**".
5. Press SELECT. Display reads "**Re-send Inverter - Working**", then will refresh to read "**Re-send Inverter Panel Setting**".
6. Press RUN/CAL key until the display reads "**Idle Down Limit - ** Cycles**".

To Update Maintenance/Service: *(Ensure grille is fully closed)*

NOTE: Maintenance/Service can only be Updated at 50,000 or more cycles.

3. Use the ARROW keys to scroll display to show "**Update Maint/Serv - **,000**".
4. Press SELECT. Display reads "**Update Maint/Serv - Are You Sure**".
5. Press SELECT.
6. Press RUN/CAL key until the display reads "**Idle Down Limit - ** Cycles**".

NOTE: At a maintenance message notification (at 280K, 580K, 880K & etc. cycle counts) the system can only be reset **one** (1) time using the **Update Maintenance/Service** feature to allow another 5000 grille cycles. After expiration of the 5000 cycle grace period, the maintenance message will re-display and can only be cleared from the display by your distributor.

If the grille is run after the **second** maintenance message notification and no maintenance has been performed, at the end of that 5000 cycle count the grille will close at a reduced speed until service is performed.

This completes the PANEL RESET of the *RapidGrille AP* System.

INFORMATION MENUS

1. How to use the keypad to retrieve operation events, fault/shutdown messages, and system status
(Also see Section 8—Troubleshooting)

- **With the unit idle in NORMAL RUN mode —**
  - Press the **SELECT** [Select] key to enter the "System Review" group of sub-menus.
  - Use the **ARROW** [▲] or [▼] keys to scroll through the list of choices until you reach the menu you want ("Event Messages", "Shutdown Messages", or "System Information").
  - Press the SELECT key to enter the list of menu items.
  - Use the ARROW keys to scroll through the list until you reach the information you're looking for.
  - Press the SELECT key to display the message.
  - Press the **RUN/CAL** [Run Cal] key to exit the menus and return to RUN mode.

NOTE: The items in the Event and Shutdown Message Menus are listed in reverse chronological order with number zero (0) being the most recent and the highest number being the oldest.

- If NO keys are pressed for 150 seconds, display will revert to RUN display.
- Motion can occur and panel responds normally to inputs while in the Information Menus.
- A power loss to the panel will clear Event Messages, however, Shutdown Messages are retained.

EVENT MESSAGES

DISPLAYS

Event History—00: *Current Event*
Event History—01: *Event prior to above (00)*
Event History—02: *Two Events ago*
Event History—03: *Three Events ago*
Event History—04: *Four Events ago*
⇓
Event History—35: *35 Events ago*

SHTDN MESSAGES

DISPLAYS

Alarm History—01: *Most Recent Alarm*
Alarm History—02: *Alarm prior to above (01)*
Alarm History—03: *Three Alarms ago*
Alarm History—04: *Four Alarms ago*
Alarm History—05: *Five Alarms ago*
⇓
Alarm History—20: *Twenty Alarms ago*

SYSTEM INFORMATION

DISPLAYS

System Info 01: *Software v_____*
System Info 02: *Cycles_____*
System Info 03: *Service Due _____*
System Info 04: *Door Type*
System Info 05: *Power Ups _____*
System Info 06: *Program Key Info*

INPUT STATUS

DISPLAYS

Input Status 01: *Pot_____%*
Input Status 02: *Edge In____v*
Input Status 03: *IW__X__Y__Z__*

Calibration and Set Up Check List

⚠ CAUTION

Check ALL items below to ensure that the Control Panel is installed and operating properly.

CHECK

- The grille operates using all installed control devices.
- The grille runs to its full open and full closed positions.
- The Entrapment Protection Device(s) will reverse a closing grille when actuated.
- The proper Actuator selections are made to activate "Timer-Close" timer.
- The Hand Crank interlock switch prevents motor/grille movement when the hand crank is lifted OFF its support bracket.

Once all wiring is completed and the Control Panel is programmed and operating properly, close and latch the grille on the Control Panel. If the panel is in a location where public access is possible, disable the Control Panel keypad and install a means to limit access to the inside of the panel.

Section 7
Special Grille System Features

Exterior Hood Installation

1. PRE-HOOD CHECK LIST

⚠ WARNING

Improper use of Hand Crank can cause severe injury or death. Read and understand the Hand Crank Operation instructions on page 12 and instruction labels before attempting to operate grille.

For exterior installations only!

- **A.** Remove the ropes/slings holding the curtain.
- **B.** Operate the grille manually several times. Make sure the endlocks or windlocks are not rubbing the endplates through the entire travel of grille.
- **C.** Check that the bottom bar is level at top and bottom and the curtain is not binding against the back of the guides.
  - – If curtain is level at bottom but not at top, place shims between the curtain and barrel on the low side.
- **D.** Verify good mechanical connection and tightness of fasteners, i.e., guides, headplates, set screws.
- **E.** Position the grille at the half open position.

NOTE: If optional Brush Seal was purchased and is not installed at this time, stop and install before continuing.

2. INSTALL EXTERIOR HOOD

- **A.** Measure locations of motor/gearbox and headplate to ensure Exterior Hood will adequately cover these components.
- **B.** Attach the motor cover end cap to the hood using rivets. End cap fits **inside** the hood with the mounting flange to the outside, **Fig. 7–A.** Install hood supports (if provided) at this time.
- **C.** Pre-drill the hood and end cap flanges at 18" spacing for wall mounting screws. Hole diameter is dependant on the size wall fasteners (not provided) used to attach hood to wall.
- **D.** Place the hood assembly **over** the headplates and motor/gearbox and **against** the wall, **Fig. 7–A.**
- **E.** Fasten the hood assembly to the wall.
  - – Place fasteners using the pre-drilled holes (wall fasteners not included). Hood to wall joint sealant (not provided) is optional.

⚠ CAUTION

Extra care must be taken when installing optional accessories. Optional accessories must be installed in such a way that they do not compromise the weather tightness of electrical components and enclosures.

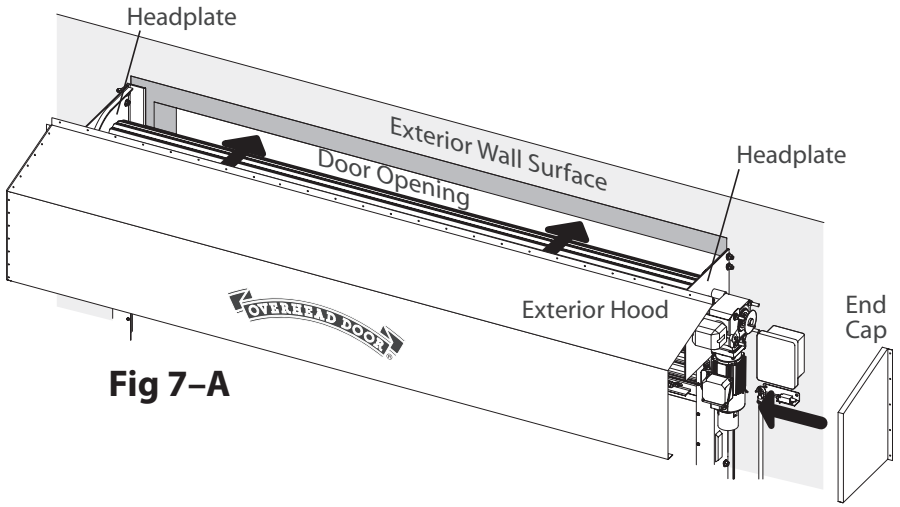


Fig 7–A

HOOD SUPPORTS NOT SHOWN

NOTE: Install hood supports (if provided) at even intervals across header. Number and placement of hood supports will vary with hood type and width.

Section 8

Troubleshooting

Logic Board Illustration

Logic Board LED's and Indications

NOTE: The LED's marked by an "**X**" indicate which ones should be lit during an initial startup (page 33) when the system is functioning normally if the grille is idle. A display other than this indicates a problem.

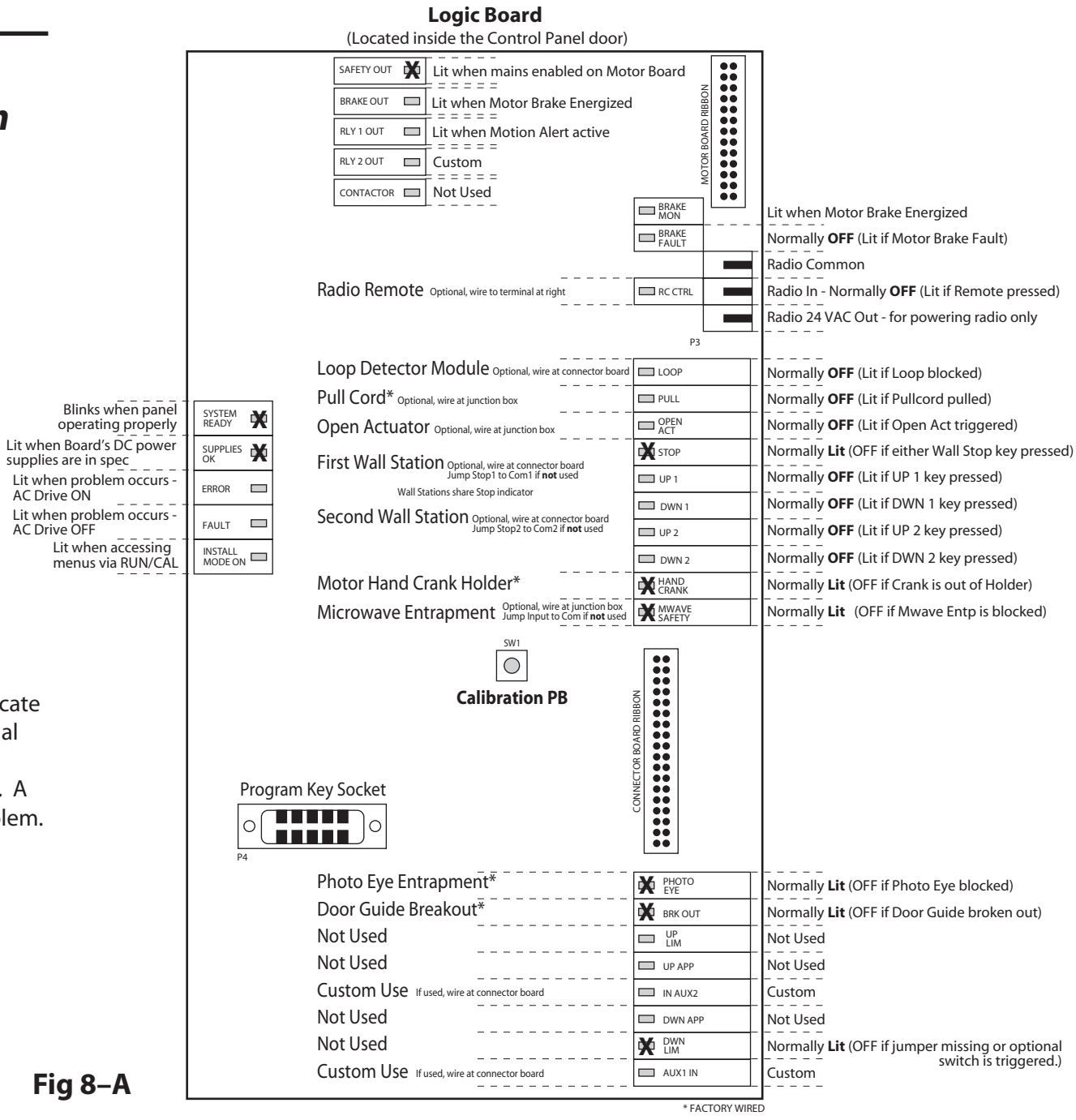


Fig 8–A

DROP STOP DEVICE ACTIVATION INDICATIONS

The Stop Lock Brake is intended for emergency use ONLY and the operational life on this unit has a limited number of activations.

⚠ WARNING

The Drop Stop Device is limited to three (3) activations before requiring replacement. Record **ANY** Drop Stop Device activation.
Stop Lock Brake **MUST** be reset/replaced by a trained door technician using proper tools and instructions when an activation has occurred. Contact a service representative.

TROUBLE	POTENTIAL CAUSE	NOTES / CORRECTIVE ACTION
STOP key has NOT been pressed and door is stopped inside open limits. AND Error messages appear on Control Panel display OR Control Panel display is blank.	Drop Stop Device activation	Test door to confirm Drop Stop Device activation. Test 1 A. Note and clear error messages from Control Panel. (Do NOT press OPEN key.) B. Press CLOSE key. If door does NOT close, Drop Stop Device has been activated. Contact service representative. If door closes, Drop Stop Device has NOT been activated. Refer to error messages originally displayed. Contact a service representative to take corrective action. C. Press OPEN key. Test 2 A. Note and clear error messages from Control Panel. (Do NOT press OPEN key.) B. Disconnect ALL power to Control Panel. C. Use Hand Crank Operation instructions, page 12, to LOWER door. (Do NOT attempt to RAISE or OPEN door.) If door does NOT lower, Drop Stop Device has been activated. Contact service representative. If door closes, Drop Stop Device has NOT been activated. Refer to error messages originally displayed. Contact a service representative to take corrective action. D. Press OPEN key.

DROP STOP DEVICE ACTIVATION LIST

DATE ACTIVATED	ACTIVATION CAUSE	CORRECTIVE ACTION	SERVICE PERFORMED
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO

DSD (Drop Stop Device) Function

⚠ WARNING

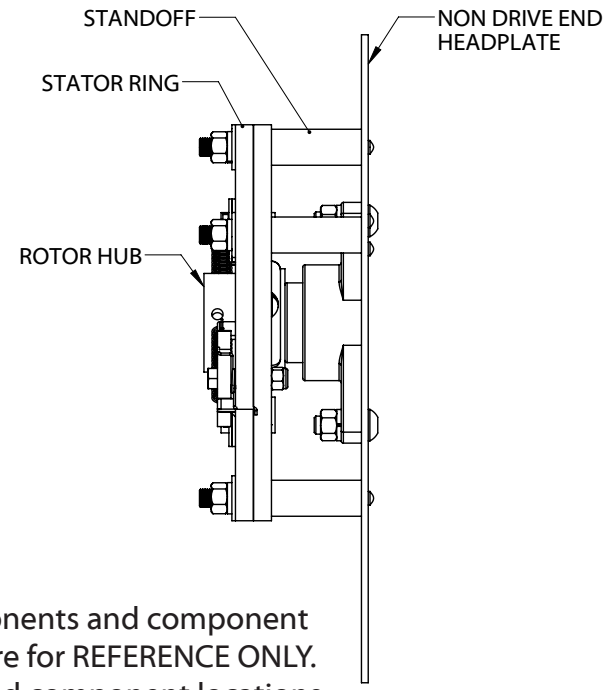
The Drop Stop Device (DSD) must be adjusted when making motor operator connections. Failure to adjust properly may result in serious injury or death. The door installer must be present with the Drop Stop Device (DSD) Installation Manual in possession when the door is first operated electrically. Carefully perform all tests set forth below and make any adjustments..

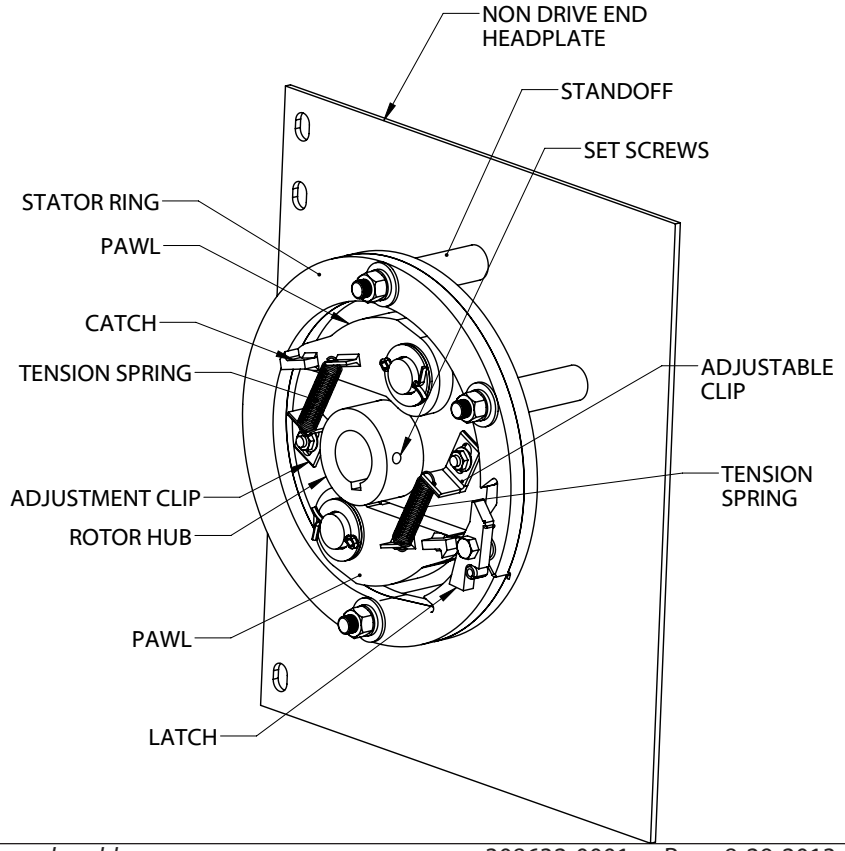
Drop Stop Device (DSD) Function

The function of the Drop Stop Device (DSD) is to minimize the risk of the grille closing without control of the motor. The correct spring tension of the pawl of the Drop Stop Device (DSD) is critical to the functionality of the Drop Stop Device (DSD) and is adjustable. The spring tension must be adjusted tight enough such that normal operation of the grille (with or without a motor operator) will not engage the pawl into the stator ring, yet loose enough so that rapid rotation **will** engage the pawl.

Component Identification

DSD (DROP STOP DEVICE) FRONT VIEW





Please note that components and component locations are shown here for REFERENCE ONLY. Your unit installation and component locations may be different.

DSD (DROP STOP DEVICE) FUNCTION CONTINUED...

- After completing electrical connections with the operator, the door-closing test must be conducted with special care.

⚠ CAUTION

The pawl may engage the stator during grille operation if Drop Stop Device (DSD) is improperly adjusted in the factory. When testing, keep your finger ready to push the STOP button instantly in the event that the pawl engages the stator. If pawl engages, push the STOP button immediatley! If the Drop Stop Device (DSD) engages and the motor is not stopped immediatley, severe damage may occur to the grille, the Drop Stop Device (DSD), or the motor operator.

To disengage the pawl from the stator ring, refer to reset procedure below.

⚠ WARNING

If the grille has incurred damage, you must secure the grille before disengaging the Drop Stop Device (DSD). Otherwise serious injury or death may occur.

⚠ CAUTION

The door installer should be present when the door is first run electrically. Keep your finger ready to push the STOP button in the event that the Pawl engages the stator.

Pawl reset Procedures

NOTE: The latch will prevent the pawl from back rolling if the grille bounces when engaging, as shown in **Fig. 8-B**.

To disengage the Pawl, the operation will need two (2) persons, one to unlock the latch and another to press "OPEN" button on the control panel to disengage the Pawl.

- To unlock the Latch, press the bottom of the Latch with the forefinger, and the elbow of the Latch is resting on the stopper pin as shown. Finger must **NOT** touch the pawl or enter the stator ring, as shown in **Fig. 8-C**.
- Hold still while the second person presses the "OPEN" button to open the grille.
- When opening the grille to disengage the Pawl, continue pressing the bottom of Latch to ensure the Latch is out of the way of the catch.
- Release finger only after the Pawl is completely out of the notch of the Stator.

If the Catch gets locked by the Latch when disengaging the Pawl, press "CLOSE" button to unlock latch, and then press "STOP" immediately.

Repeat the steps described above until the Pawl is disengaged, as shown in **Fig. 8-D**.

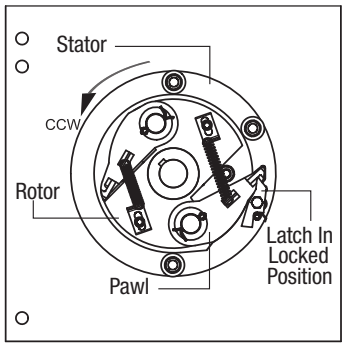


Fig 8–B

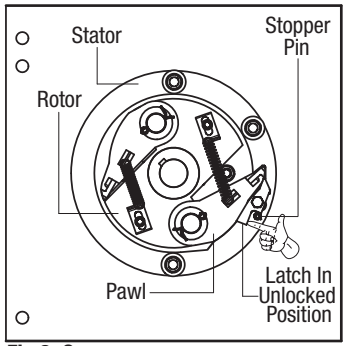


Fig 8–C

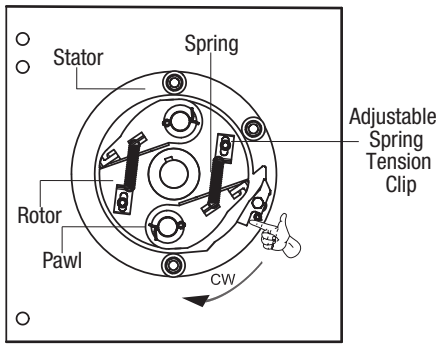


Fig 8–D

DSD (Drop Stop Device) Spring Tension Adjustments

1. Adjust the Drop Stop Device (DSD) spring tension as follows:
   - Is spring tension sufficient?

Test engaging of pawl / stator

A. Carefully rotate the rotor until pawl is at the bottom of the stator with the tip of the pawl directly above and behind the front lower notch in the stator, as shown in **Fig 8-E.**

B. Push downward on the tip of the pawl with your fingertip until the body of the pawl contacts the stator.

C. Release the pawl. The pawl should rotate upward and contact the flat surface of the rotor.

Adjust

If it does not rotate up far enough to make contact with the rotor, spring tension is too low. Loosen the 5/16" hex nut and slide the slotted adjustable spring tension clip forward and upward until the pawl will rotate upward and contact the roter when released as described in test above.

-Is spring tension excessive?

Test for half-swing with dead weight

D. With the rotor and pawl remaining in the position shown in **Fig 8-E.** Six standard steel 3/4" bolt washers (13/16" ID X 2" OD X .145" thick) will make about 10 ounces.

E. The 10 ounce weight should rotate the pawl to the position shown in **Fig 8-F.**

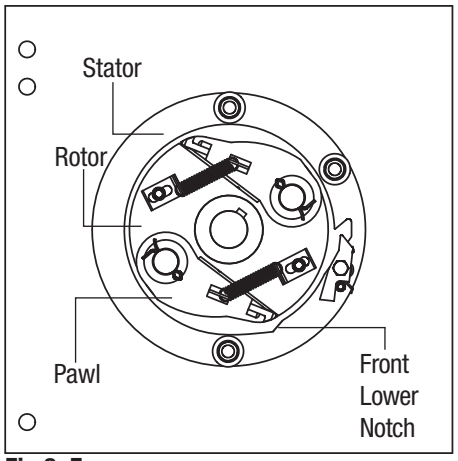


Fig 8–E

Adjust

If the pawl is heigher than this position, spring tension is too high. move the spring clip to loosen the spring until the pawl does lower to align, as shown in **Fig 8-F.** If, however, the pawl bottoms on the stator, spring tension is too loose. Move the clip to stretch the spring until the pawl raises up align as shown in **Fig 8-F.**

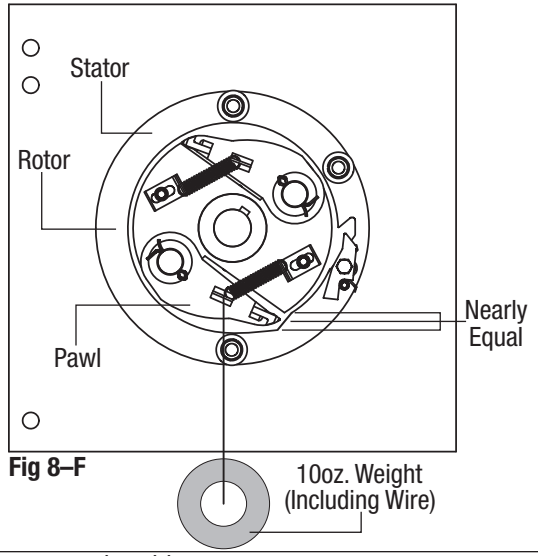


Fig 8–F

Test for full-swing with dead weight

F. With the rotor and pawl remaining in the position shown in **Fig 8-F** press down on the pawl until it contacts the stator, as shown in **Fig 8-G**

G. Release the pawl. The pawl should not return when released but rather, due to weight of the washers, remain in the stator contact position.

NOTE: If however the pawl moves up when released, spring tension is too high. Reduce spring tension as mentioned in prior test. Repeat test.

When all tests can be conducted with success, that is, without any adjustments required, the DSD is ready for service.

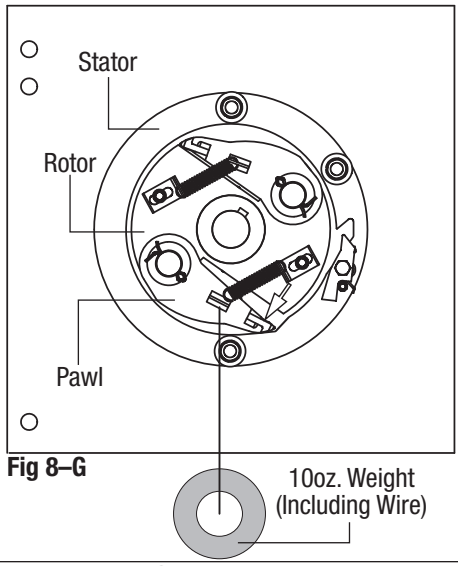


Fig 8–G

LOGIC BOARD INDICATIONS

TROUBLE	POTENTIAL CAUSE	NOTES / CORRECTIVE ACTION
LINE ENABLE–is OFF	Control Panel has turned OFF power to AC Drive and motor brake. The panel is likely in shutdown.	Check keypad display and History Menus for cause of shutdown. Correct problem and reset panel.
BRAKE OUT–is ON	Motor brake is energized or active.	If this occurs in idle conditions, contact service representative.
RELAY 1 OUT–is ON	Alert of pending motion.	If this occurs in idle conditions, TC not active, contact service representative.
RELAY 2 OUT–is ON	Custom.	Custom.
CONTRACTOR	*Not used*.	*Not used*.
BRAKE MON–is ON	Motor brake energized.	If unit is in idle, contact service representative.
BRAKE FAULT–is ON	No motor voltage with brake energized.	Power down Panel for 10 seconds to reset. If LED stays on, contact service representative.
RC CONTROL–is ON	Radio Control is requesting motion, or wiring problem exists.	Confirm RC contacts are normally open.
LOOP–is OFF	Indicates an obstruction.	Confirm Loop contacts are normally closed.
PULL–is ON	Pull cord is requesting motion, or wiring problem exists.	Confirm Pull cord contacts are normally open.
OPEN ACT–is ON	Open Actuator is requesting motion, or wiring problem exists.	Confirm Open Actuator contacts are normally open.
STOP–is OFF	A STOP input or push button is open, or wiring problem exists.	Confirm STOP key contacts are normally closed. If not using wall station(s), confirm jumper(s) on connector board from STOP to COM 1 and/or STOP to COM 2 as appropriate.
UP 1 or UP 2–is ON	An Up push button is requesting motion, or wiring problem exists.	Confirm Up push button contacts are normally open.
DN 1 or DN 2–is ON	A Down push button is requesting motion, or wiring problem exists.	Confirm Down push button contacts are normally open.
HAND CRANK–is OFF	Hand crank is out of holder, or interlock switch is not making proper contact.	Check position of hand crank and switch.
MWAVE SAFETY–is OFF	Microwave Entrapment Detector is preventing motion, or No Microwave is being used and the contacts have not been jumpered, or wiring problem exists.	Check grille opening. Check jumper installed if no Microwave from Mwave Safety input to COM. Confirm Microwave Safety contacts are normally closed.
PHOTO EYE–is OFF	Photo Eye has detected an obstruction, or Photo Eyes are not aligned or wiring problem exists.	Check grille opening. Check Photo Eyes properly aligned. Confirm Photo Eye contacts are normally closed.
BRAKE OUT–is OFF	Brake Out not used and input has not been jumpered out.	Confirm jumper from Brake Out input to COM.
UP LIM–is OFF	Grille opened too far and triggered overtravel switch.	Reset panel and jog grille down passed overtravel switch and confirm switch is properly contacting grille.
UP APP–	*Not used*.	*Not used*.
DWN APP	*Not used*.	*Not used*.
DWN LIM–is OFF	Custom.	Custom.
AUX2 IN	*Not used*.	*Not used*.
SYSTEM READY–is OFF (not blinking)	Panel not operating properly.	Contact service representative.
SUPPLIES OK–is OFF	Panel on-board power supplies not working properly.	Contact service representative.
SHTDN–is ON	Panel is in Shutdown Mode.	Check " Shutdown" Menu for the cause. Press RESET key.

LOGIC BOARD INDICATIONS (continued)

TROUBLE	POTENTIAL CAUSE	NOTES / CORRECTIVE ACTION
INSTALL MODE ON–is ON	Panel is in CAL Mode.	Press RUN/CAL key on the front panel repeatedly to return to Run Mode.
ALERT–is ON	Panel is indicating there is a problem.	Check panel display for required action.

GENERAL

TROUBLE	POTENTIAL CAUSE	NOTES / CORRECTIVE ACTION
Grille will not jog in Jog Mode	Grille may be in Shut Down mode.	Press RESET key.
	Check "Final Set Up" Menu, item #12 "KeypadUpDnDisable" OFF.	Toggle "Keypad Disable" to "ON".
Timed Close not functioning	Actuator(s) expected to initiate Timed Close has (have) not been enabled for Timed Close.	Check actuators installed to see if they are activated in the "Final Set Up" Menu. If NOT, toggle to "ON".
	Either Constant-Stop Down mode or Constant-Rev Down mode has been selected.	Under "Initial Set Up" Menu: Item #10 -"Button Mode Dn". Set to momentary mode.
Loop Function not working	Make sure incoming signal from the Floor Loop is not going direct to the Panel's Loop Input on the Connector Board.	Connect the incoming signal from the Floor Loop to the Panel installed Loop Module (optional). The modules output should then be wired to the Panel's Loop Input.
	Constant-Stop Up has been selected.	Under "Initial Set Up" Menu: Item #9 -"Button Mode Up". Set to momentary mode.
Open Actuator not working	Constant-Stop Up has been selected.	Under "Initial Set Up" Menu: Item #9 - "Button Mode Up". Set to momentary mode.
On key release, grille stops or reverses	Grille is in Constant Stop Mode or Constant Reverse Mode.	Under "Initial Set Up" Menu: Item #10 -"Button Mode Dn". Set to momentary mode.
		Under "Initial Set Up" Menu: Item #9 - "Button Mode Up". Set to momentary mode.
	Grille is measuring max speed.	Lower grille to Down Limit, run grille uninterrupted to Up Limit using constant contact on Up ARROW key.
Timed Close quits after a few reverses	After a factory set number of failed attempts, usually three, the grille will stop attempting to Time Close after a reversal. This is normal grille function.	Only an Open Actuator input will reverse a Timed Closed grille without counting the reversal as a failed attempt. NOTE: If Entrapment Prevention Inputs cause reversals in the meanwhile, the reversals will continue to count as failed attempts and stop the close timer after three tries.
Grille is ignoring Mid Limit Stop	If "Measuring Timeouts" is displayed. Grille must be allowed travel full distance to properly measure timeouts.	Lower grille to Down Limit, run grille uninterrupted to Up Limit.
	"DnLmt -> UpLmt Run Req'd" displayed. Grille must be allowed to travel full distance to properly measure upward grille speed.	Set up steps were not completed, from Down Limit, run grille uninterrupted to Up Limit.
	Midway Stop has not been enabled.	Enable Midway Stop under "Motion Set Up" Menu, item #10.
Open Cancel: Stop PB	Up request ignored, Wall Station Stop PB also pressed.	If Wall Station 1 not being used: Jumper COM 1 to STOP on Connector Board P3. If Wall Station 2 not being used: Jumper COM 2 to STOP on Connector Board P2.

CONTROL PANEL STATUS MESSAGES

TROUBLE	POTENTIAL CAUSE	NOTES / CORRECTIVE ACTION
Frequent false Overspeed Shutdowns	Panel not recognizing actual speed.	Re-measure grilles top speed using Item #2/Re-Record Overspd in "Panel Resets" Menu.
Service Due: XXXXX	Routine service interval has elapsed.	Consult manual for required service, advance to next interval under "Final Resets" Menu, item #5.
Maint Req'd XXXXX	Required maintenance interval has elapsed.	Contact distributor for required maintenance.

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
- - - - - - - - - - - -	Displayed if no message code is present in the Event or Error Log.	Contact service representative.
Attempting To Reset	Panel is trying to reset, assuming problem has been fixed.	No action required.
STATUS - IDLE		
Idle: Down Limit	Grille at rest in Down Limit.	Displayed when grille is motionless in Idle. Grille stopped using the STOP key. * These messages showing grille position detail are only displayed if the option "Beep if Over Travel" is set to ON under "Initial Set Up" Menu, item #8. They are designed to assist in installation and should be turned OFF after installation is complete.
Idle: Down Set-In	Grille at rest in Down Set in zone.*	
Idle: Edge Off Zone	Grille at rest in Edge disabled zone.*	
Idle: Photo Off Zone	Grille at rest in Photo Eye disabled zone.*	
Idle: Down Approach	Grille at rest in Down Approach zone.	
Idle: Mid Approach	Grille at rest in Mid Approach zone.	
Idle: Mid Set-In:	Grille at rest in Mid Set in zone.*	
Idle: Mid Limit	Grille at rest in Mid Limit.	
Idle: Up Approach	Grille at rest in Up Approach zone.	
Idle: Up Set-In	Grille at rest in Up Set in zone.*	
Idle: Up Limit	Grille at rest in Up Limit.	
Idle: Partially Open	Grille at rest partway up.	
Idle: In Menus	Not normally displayed but will appear in Event Log.	
STATUS - IDLE TIMING		
Timing to Close:	Grille at rest and counting down to timed close.	Time remaining in seconds is also displayed.
STATUS -OPENING		
Opening: Up PB	Grille opening from Wall Station Up PB.	Displayed while grille is opening from activation of one of the listed actuators.
Opening: Up Key	Grille opening from Up ARROW key.	
Opening: Radio	Grille opening from Radio Control.	
Opening: Pull cord	Grille opening from Pull cord.	
Opening: AuxIn	Grille opening from custom Aux input.	
Opening: Loop	Grille opening from Loop Detector.	
Opening: Open Act	Grille opening from Open Actuator.	

CONTROL PANEL STATUS MESSAGES (continued)

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
STATUS - CLOSING		
Closing: Down PB	Grille closing from Wall Station Down PB.	Displayed while grille is closing from activation of one of the listed actuators.
Closing: Down Key	Grille closing from Down ARROW key.	
Closing: Radio	Grille closing from Radio Control.	
Closing: Pull cord	Grille closing from Pull cord.	
Closing: AuxIn	Grille closing from custom Aux input.	
Closing: Timed Close	Grille closing from Timed Close sequence.	
STATUS - HALT		
Halted: Stop PB	Grille stopping from Wall Station STOP PB.	Displayed while grille is stopping from activation of one of the listed actuators.
Halted: Stop Key	Grille stopping from STOP key.	
Halted: AuxIn	Grille stopping from custom Aux input.	
Halted: Pull cord	Grille stopping from Pull Cord.	
Halted: PB Release	Grille stopping from Wall Station PB release (Constant-Stop mode).	Displayed while grille is stopping from release of one of the listed actuators.
Halted: Key Release	Grille stopping from key release (Constant-Stop mode).	
Halted: PullC Release	Grille stopping from Pull cord release (Constant-Stop mode).	
Halted: Down Limit	Grille stopping from Down Limit.	Displayed while grille is stopping because it has activated one of the listed installer programmed limit settings.
Halted: Mid Limit	Grille stopping from Midway Limit.	
Halted: Up Limit	Grille stopping from Up Limit.	
STATUS - REVERSING		
Reversing: Up PB	Grille reversed by Wall Station Up PB.	Displayed while closing grille is reversing from activation of one of the listed actuator inputs.
Reversing: Up Key	Grille reversed by Up ARROW key.	
Reversing: Radio	Grille reversed by Radio Control.	
Reversing: Pull cord	Grille reversed by Pull cord.	
Reversing: AuxIn	Grille reversed by Custom Aux input.	
Reversing: Loop	Grille reversed by Loop Detector.	
Reversing: OpenAct	Grille reversed by Open Actuator.	
Reversing: MwaveEnt	Grille reversed by Microwave Entrapment device.	
Reversing: Photo Eye	Grille reversed by Photo Eye Entrapment device.	
Reversing: Edge	Grille reversed by Edge Bottom Bar Reversing edge.	
Reversing: EdgeLoss	Grille reversed by Edge Bottom Bar Signal Loss.	

CONTROL PANEL STATUS MESSAGES (continued)

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
Reversing: PB Release	Grille reversed from Wall Station PB release (constant-revmode).	Displayed while closing grille is reversing by release of one of the listed closing actuators before grille is fully closed.
Reversing: Key Release	Grille reversed from keypad release (constant-rev mode).	
Reversing: PullC Release	Grille reversed from Pull cord release (constant-rev mode).	
STATUS - CANCEL TC		
TC Cancel: Stop PB	Pending Timed Close canceled by Wall Station STOP PB.	Displayed when a pending Timed Close is cancelled by activation of one of the listed inputs or actions.
TC Cancel: Stop Key	Pending Timed Close canceled by STOP key.	
TC Cancel: Reset Key	Pending Timed Close canceled by RESET key.	
TC Cancel: NotMidLmt	Pending Timed Close canceled by moving out of Mid Limit.	
TC Cancel: NotUpLmt	Pending Timed Close canceled by moving out of Up Limit.	
TC Cancel: Max Retry	Pending Timed Close canceled by Max retries attempts. Retry limit exceeded.	Displayed when a pending Timed Close is cancelled for the third time. Must correct issue and fully close grille to allow reset of counter and reactivation of Timer-Close timer.
TC Cancel: AutoSets	Pending Timed Close canceled because user is setting up timeouts.	Displayed when a pending Timed Close is cancelled by activation of one of the listed inputs or actions.
TC Cancel: ConstntDn	Pending Timed Close canceled because PB in Constant-Stop.	
TC Cancel: User Down	Pending Timed Closed canceled because user pressed down.	
STATUS - NO UP		
Open Cancel: Stop PB	Up request ignored Wall Station STOP PB also pressed.	If wall Station 1 not being used, jumper COM 1 to STOP on Connector Board P3.
		If wall Station 2 not being used, jumper COM 2 to STOP on Connector Board P2.
Open Cancel: Stop Key	Up request ignored STOP key also pressed.	Displayed when an Open request is suppressed by activation of one of the listed conflicting inputs.
Open Cancel: Reset On	Up request ignored RESET key also pressed.	
Open Cancel: AuxIn	Up request ignored custom Aux also activated.	
Open Cancel: Mid Lmt	Up request ignored grille is in mid limit with Mid Stop feature enabled.	Only the Up ARROW key and Up from an operator station can open a grille past Mid Stop and then only when grille is stopped at or above Mid Stop.
Open Cancel: Up Limit	Up request ignored grille is in Up Limit.	

CONTROL PANEL STATUS MESSAGES (continued)

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
STATUS - NODN		
Close Cancel: Stop PB	Down request ignored Stop Wall Station PB also pressed.	Displayed when a CLOSE request is suppressed by one of the listed conflicting inputs.
Close Cancel: Stop Key	Down request ignored STOP key also pressed.	
Close Cancel: Reset On	Down request ignored RESET key also pressed.	
Close Cancel: Pull cord	Down request ignored Pull cord also activated.	
Close Cancel: Loop	Down request ignored Loop detector also activated.	
Close Cancel: InAux	Down request ignored custom Aux also activated.	
Close Cancel: Up PB	Down request ignored Wall Station Up PB also pressed.	
Close Cancel: Up Key	Down request ignored Up ARROW key also pressed.	
Close Cancel: Radio	Down request ignored Radio Control also activated.	
Close Cancel: OpenAct	Down request ignored Open Actuator is activated.	
Close Cancel: DownLmt	Down request ignored grille is in Down Limit.	Displayed when an Open request is denied due to a limit setting.
Close Cancel: Photo Eye	Down request ignored Photo Eye detection.	Displayed when an Open request is denied due to one of the listed entrapment inputs.
Close Cancel: Edge	Down request ignored Bottom Bar Edge detection.	
Close Cancel: EdgeLoss	Down request ignored Bottom Bar Edge loss.	
Close Cancel: MwaveSaf	Down request ignored Microwave Safety detection.	
STATUS - NOTC		
TC Holding: Loop	Timed Close timer reset by Loop Detector.	Displayed while the Timed Close countdown is suspended due to one of the listed inputs.
TC Holding: AuxIn	Timed Close timer reset by custom Aux.	
TC Holding: Up PB	Timed Close timer reset by Wall Station Up PB.	
TC Holding: Up Key	Timed Close timer reset by Up ARROW key.	
TC Holding: Radio	Timed Close timer reset by Radio Control.	
TC Holding: Pull cord	Timed Close timer reset by Pull cord.	
TC Holding: Photo Eye	Timed Close timer reset by Photo Eye.	Check for obstructions.
TC Holding: OpenAct	Timed Close timer reset by Open Actuator.	
TC Holding: MwaveSaf	Timed Close timer reset by Microwave Entrapment Protection Device.	
TC Holding: Edge	Timed Close timer reset by Edge.	

CONTROL PANEL ALERT MESSAGES

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
ALERTS -MISCELLANEOUS		
In Menus - No Motion		Not normally displayed, but will appear in Event Log.
CHK DoorJamBreakout	Door mounted switch has detected door has broken out of jam (Fabric Door only).	Check a jumper has been placed from "breakout" to common in the Junction Box.
ALERTS - STUCK INPUTS		
Up PB Stuck	Wall Station Up PB pressed and won't initiate motion until released.	Check contacts normally open. Check for stuck key.
Up Key Stuck	Up ARROW key pressed and won't initiate motion until released and pressed again.	Check for input from another source. Find out why and repair/replace. Press stuck key again. Schedule maintenance for component. Check condition of contacts.
Radio Stuck	Remote Control activated and won't initiate motion until released and pressed again.	
Pull cord Stuck	Pull cord activated and won't initiate motion until released and re-activated.	
AuxIn Stuck	Custom Aux activated and won't initiate motion until released and reactivated.	
Loop Blocked	Loop Detector blocked and won't initiate motion until released and reactivated.	
Mwave Blocked	Open Actuator activated and won't initiate motion till released and reactivated.	
Dn PB Stuck	Wall Station Down PB pressed & won't initiate motion until released and pressed again.	
Dn Key Stuck	Down ARROW key pressed and won't initiate motion until released and pressed again.	
ALERTS - SET UP		
CHK Door Size Setting	Error grille size not yet set.	Has grille size in inches been entered? See "Initial Set Up", page 35.
CHK Limit Settings	Error grille Up, Mid, and/or Down Limits not set.	Have Limit positions been set? See "Motion Set Up", page 38.
DnLmt->UpLmt RunReqd	Panel is in process of measuring maximum speed.	Grille must run from fully closed to fully open for measurement.
Measuring Timeouts	Panel is in process of measuring timeout periods.	Has grille run from full closed to full open to full closed again?
CHK Settings	A menu setting is out of range.	Check "Panel Resets" Menu, item #3 "Fix and Validate Settings".
SoftKey In Backwards	Optional Program and/or Access key is upside down in socket.	Reverse Access key.
ALERT - STATUS	*(Check two or more override causes listed below.)*	
Entrapment Override	Overriding Multiple Entrapment.	Is the Microwave Entrapment Protection Device input indicator lit? Grille will close in constant reverse mode at reduced speed. Check condition/status of contacts. Check for jumper installed in Junction Box if not using a microwave detector.
Mwavesaf Override	Overriding Microwave Entrapment.	
Photo Eye Override	Overriding Photo Eye.	Grille will close in constant reverse mode at reduced speed. Is the Photo Eye LED on? Is the beam obstructed or out of alignment?
Edge Override	Overriding Edge Sensor.	Grille will close in constant reverse mode at reduced speed. Is the Edge connected properly? Does the Edge have between 6.6 VDC and 11.4 VDC across it?
OverTravLmt Override	Grille opened too far and triggered overtravel switch.	Check limit wiring and overtravel switch contact to grille.
Photo Eye Disable ON	One entrapment device has been defeated.	Grille will only close at reduced speed.
Edge Disable ON	One entrapment device has been defeated.	Grille will only close at reduced speed.

CONTROL PANEL SHUTDOWN (FAULT) MESSAGES

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
Photo & Edge Disable ON*	One entrapment device has been defeated.	Grille will close in constant reverse mode at reduced speed.

*Only if both are disabled will grille be in constant reverse.

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
FAULTS -NON- VSD -SHUTDOWN		
SHTOFF Door Breakout	Door jam breakout.	If displayed, check if Breakout input is jumpered to COM in the Junction Box.
SHTOFF Edge Signal	Signal From Bottom Bar Edge lost or intermittent.	Check connections to Edge including coil cord assembly.
FAULTS – LOGICBOARD		
SHTDN Write Error	Main board flash failed to write.	Not field serviceable-contact service representative.
SHTDN EPROM Error	Main board flash failed checksum.	Not field serviceable-contact service representative.
SHTDN RAM Error	Main board memory failed checksum.	Not field serviceable-contact service representative.
SHTDN Self Test Fail	System self test failed.	Not field serviceable-contact service representative.
SHTDN Panel uP 3.6V	Main board Unreg 30 VDC power supplies out of spec.	Not field serviceable-contact service representative.
SHTDN Panel PCB 5V	Main board 5 VDC power supplies out of spec.	Not field serviceable-contact service representative.
SHTDN Power In Low	Incoming voltage (main's) is too low.	Measure main's voltage, contact service representative if low.
SHTDN uP Occ Loss	Hardware error detected with uP clock.	Not field serviceable-contact service representative.
FAULTS - INVERTER		
SHTDN Inv Amps High	Inverter fault from over current.	Check grille for binding during operation.
SHTDN Inv DC Bus Hi	Inverter fault from over voltage.	Check Ballast Resistor for possible failure.
SHTDN Inv Too Hot	Inverter fault from excessive heat.	Check grille for binding during operation.
SHTDN Inv Overload	Inverter fault from motor overload.	Check grille for binding during operation or ballast resistor for failure.
SHTDN Inv Ext Fault	Inverter fault from external fault.	Not field serviceable-contact service representative.
SHTDN Inv CPU Error	Inverter fault from it's CPU failure.	Not field serviceable-contact service representative.
SHTDN Inv AccelStall	Inverter fault from stall while accelerating.	Adjust acceleration speed to next lower (softer) setting under "Motion Set Up" Menu, items #8 and #9.
SHTDN Inv DecelStall	Inverter fault from stall while decelerating.	Adjust deceleration speed to next lower (softer) setting under "Motion Set Up" Menu, items #5 and #7.
SHTDN Inv Run Stall	Inverter fault from a stall in run.	Check grille for binding and low incoming Amperage.
SHTDN Inv Grd-Fuse	Inverter fault from ground or fuse problem.	Contact service representative.
SHTDN Inv MainsInLow	Inverter fault from under voltage.	Check for low incoming line voltage.
SHTDN Inv Lost 3 Phz	Inverter fault from loss of three phase.	Check incoming power for voltage balance between legs.
SHTDN Inv Reject Cmd	Inverter fault from illegal modbus request.	Not field serviceable-contact service representative.

CONTROL PANEL FAULT+ MESSAGES

MESSAGE DISPLAYED	CAUSE	NOTES / CORRECTIVE ACTION
FAULTS - INVERTER COMM		
SHTDN Inv UnExpt Run	Inverter was unexpectedly running or unexpectedly stopped.	Check Communication Cable (phone cable) between Motor Board and Inverter, contact service representative.
SHTDN Inv UnExpt Stop		
SHTDN InvVolt Not Set	Inverter input voltage not set.	Set Voltage in "Initial Set Up" Menu, item #3.
SHTDN Inv HP Not Set	Inverter output horsepower not set.	Set Horsepower in "Initial Set Up" Menu, item #4.
SHTDN Wrong Inv Spec	Inverter voltage spec not in allowable range.	Check incoming power, contact service representative if voltage mismatch.
SHTDN InvWrongReply	Inverter gave wrong response after receiving an instruction.	Check Communication Cable (phone cable) between Motor Board and Inverter, contact service representative.
SHTDN Inv Shrt Reply		
SHTDN Inv No Reply	Inverter did not give any response after being sent an instruction.	Check Communication Cable (phone cable) between Motor Board and Inverter, contact service representative.
SHTDN RunwNoAmps	Inverter reported no motor current when motor asked to run.	Check motor connections at control panel and motor.
FAULTS - IMPROPER MOTION		
SHTDN Down Backroll	Grille unexpectedly rolled downward.	Check motor brake for wear. Check motor direction setting and reverse.
SHTDN Up Backroll	Grille unexpectedly rolled upward.	
SHTDN Up Overspeed	Grille is opening faster than expected.	Reset Max Speed using "Panel Resets" Menu, item #2, contact service representative.
SHTDN Up Underspeed	Grille is opening slower than expected.	Check pot housing and Junction Box for moisture.
SHTDN Dn Overspeed	Grille is closing faster than expected.	Reset Max Speed using "Panel Resets" Menu, item #2, contact service representative.
SHTDN Dn Underspeed	Grille is closing slower than expected.	Check pot housing and Junction Box for moisture.
SHTDN BrakeMonitor	Monitor detected brake on with no motor voltage.	Reset and retry, inspect motor brake wiring, contact service representative.
SHTDN Pos-Pot Loss	Pot Positioner signal has been lost.	Pot may be in dead area, follow instruction to center pot and reset RESET Limits. Check pot wiring.
SHTDN Open Timed Out	Grille exceeded maximum allowed opening time.	Reset using "Panel Resets" Menu, item #1.
SHTDN CloseTimed Out	Grille exceeded maximum allowed closing time.	Reset using "Panel Resets" Menu, item #1.
SHTDN BRAKE wo MOTOR	Brake applied without motor voltage applied.	Select "Initial Set Up" Menu, item #1 "jog", press RESET key, move grille down.
FAULTS – OTHER		
SHTDN Hand Crank Out	Manual Grille Hand Crank is not in holder.	Replace Hand Crank in Holder, inspect Interlock Switch.

Section 9
Service and Maintenance

Table 9–A provides a schedule of Service and Maintenance items.
Below is a list of service and maintenance highlights.

⚠ CAUTION

Failure to perform specified service and maintenance may result in an unsafe condition, will void limited warranty, and may result in premature failure of the unit. Service and Maintenance are necessary to ensure safe operation of the grille.

Service Interval Message
- When cycles indicate service is required, the panel will display which service interval has been reached.
- Once service is completed, clear the service message by advancing the panel to the next service interval. See "Panel Resets" Menu, Item #5 **Update Maintenance/Service** on pages 40 and 41.

Maintenance Interval Message
- Upon reaching 280,000 grille cycles (580,000 & 880,000, etc.), the panel will display which maintenance interval has been reached.
- Contact your distributor to have required maintenance performed.
- A maintenance message can be cleared for a single grace period of 5000 cycles. See "Panel Resets" Menu, Item #5 **Update Maintenance/Service** on pages 40 and 41.

General Inspection
- Visually inspect wiring conduit and cables.
- Inspect fixtures such as: Bearings, Ballast Resistor, conduit boxes, hood, gear box (for oil leakage), motor.
- Inspect safety labels, placement and condition.
- Lubricate guides with paste wax or silicone spray.

Limit Switch Chain Tension and Alignment
- Check sprocket alignment.
- Check chain tension, max sag is 1/2", **Fig. 9–B.**
- Lubricate chain.

Manual Operation of Grille
- Inspect grille alignment and level.
- Inspect slats and endlocks for damage.
- Inspect guides, sensing edge and hood for damage.

Mounting Bolt Tightness
- Check fasteners anchoring headplates and grille guides to wall.

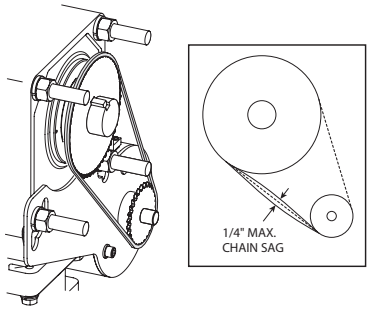


Fig 9–B

INSTALLATION DATE:_____INSTALLER INITIAL:_____

SERVICE ITEM	SERVICE INTERVAL (frequency)		
	EVERY DAY	EVERY 6 MOS. or 50,000 CYCLES	EVERY 12 MOS. or 100,000 CYCLES
General Inspection		•	
Limit Switch Chain Tension and Alignment		•	
Manual Operation of Door		•	
Sensing Edge & Photo Eye systems	•		
Mounting Bolt Tightness			•
Motor Brake Gap and Motor			•
Check Limit Position		•	
Check Emergency Brake Activation List		•	

Table 9–A

Sensing Edge & Photo Eye systems
- Test sensing edge activation daily.
  - Place a solid object, higher than 12", on floor and close grille. Sensing edge should reverse grille direction on contact with object.
- Test Photo Eye activation daily.
  - Obstruct the Photo Eye beam with a solid object. Photo Eye should reverse grille direction.

Motor Brake Gap and Motor
- Observe and listen to motor and gearbox in operation.
- Check fasteners anchoring motor bearing, motor, gearbox for tightness.
- See Brake Gap Inspection and Adjustment on next page.

Check Limit Position
- Verify the grille stops at correct open position.
- Verify that grille closes fully without excessive "stacking" of curtain in guides.
- Verify approach speeds provide for smooth starts and stops.
- Adjust the upper/lower limit of grille bottom bar if the grille is streatched and sagging when the bottom bar is resting on the floor in the grille closed position.

Check Stop Lock Brake
- If the Stop Lock Brake has been activated replace the Stop Lock Brake.

Keep records of all service and maintenance.

Brake Gap Inspection and Adjustment

1. Fully **close grille**, **remove power**.
- Use proper lock out/tag out procedures.

2. Remove Winding Eye cover, **Fig. 9–C.**
- **A.** Remove E-clip from the mechanical brake release handle.
- **B.** Remove mechanical brake release handle.
- **C.** Pull the mechanical release lever out of the brake assembly.
- **D.** Remove three screws from the Winding Eye Cover and slide the Cover off.

3. Pull the rubber band seal down and insert a gap gage between the Stationary Core and Armature plate to measure the gap, **Fig. 9–D.**
- Adjustment is needed if the gap is close to the allowable limit shown on the Gap Chart below.
  - Gap measurements should be taken at 3 points, 120° apart.

Gap Chart

Motor HP	Gap Value	
	Specification	Allowable Limit
1/2 HP	0.006 - 0.010	0.020
1 HP	0.008 - 0.012	0.020
1 HP	0.008 - 0.012	0.020

  - If the measured gap is within specifications, replace the Winding Eye cover, hex head screws, mechanical brake release handle and E-clips.

4. When the measured gap is out of specification:
- **A.** Remove screw and nut from Winding Eye and remove Winding Eye" **Fig. 9–E.**
- **B.** Remove Allen screws and mechanical release supports.
- **C.** Remove three Phillips head screws and dust cover including the rubber shaft seal, **Fig. 9–F.**
- **D.** Remove the rubber band seal.
  FOR 1/2 HP MOTOR ONLY; Loosen restraining bolt, rotate brake shoe one complete turn counterclockwise and retighten restraining bolt.
  Re-measure gap.
- **E.** Slowly loosen the Allen retaining screws on the brake shoe. Alternate between screws so that spring pressure is released evenly.
  - When spring pressure is released, carefully remove the retaining screws, making sure to keep the spacers and gap adjusting sleeves, **Fig. 9–G.**
- **F.** Remove spacers from the retaining screws and remove gap adjusting shims necessary to achieve proper gap, **Fig. 9–H.**

5. Reassembly is the reverse of disassembly.

NOTE: When replacing the rubber band seal, be careful to line up the holes in the seal with the holes in the mechanical release supports. Alignment must be "dead on" or the mechanical release levers will not properly reinstall, **Fig. 9–I.**

NOTE: When replacing the manual operation yoke, line up the pin with the hole through the motor shaft and press into place.

NOTE: When finished with reassembly double check to ensure the mechanical release handle is resting on the bottom of the stopper. **Fig. 9-J**

Fig 9–C


Fig 9–D

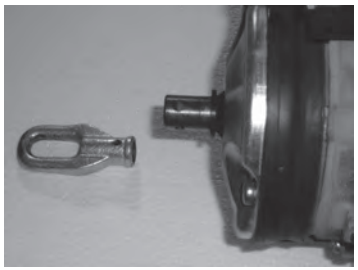


Fig 9–E

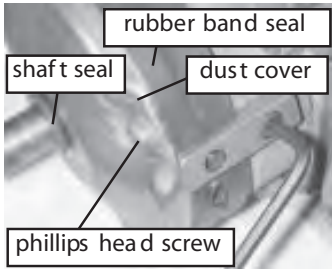


Fig 9–F

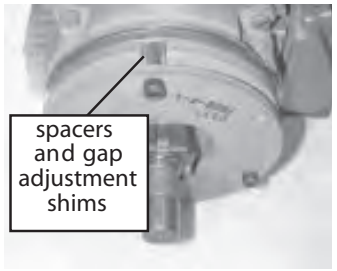


Fig 9–G

Fig 9–H


Fig 9–I

Fig 9–J

Section 10

Illustrated Parts Breakdown

Parts Drawing

NOTE: Fasteners and some parts not shown for clarity. Check the Parts List for any parts.

NOTE: Components and component locations are shown here for reference only. Your unit installation and component locations may be different.

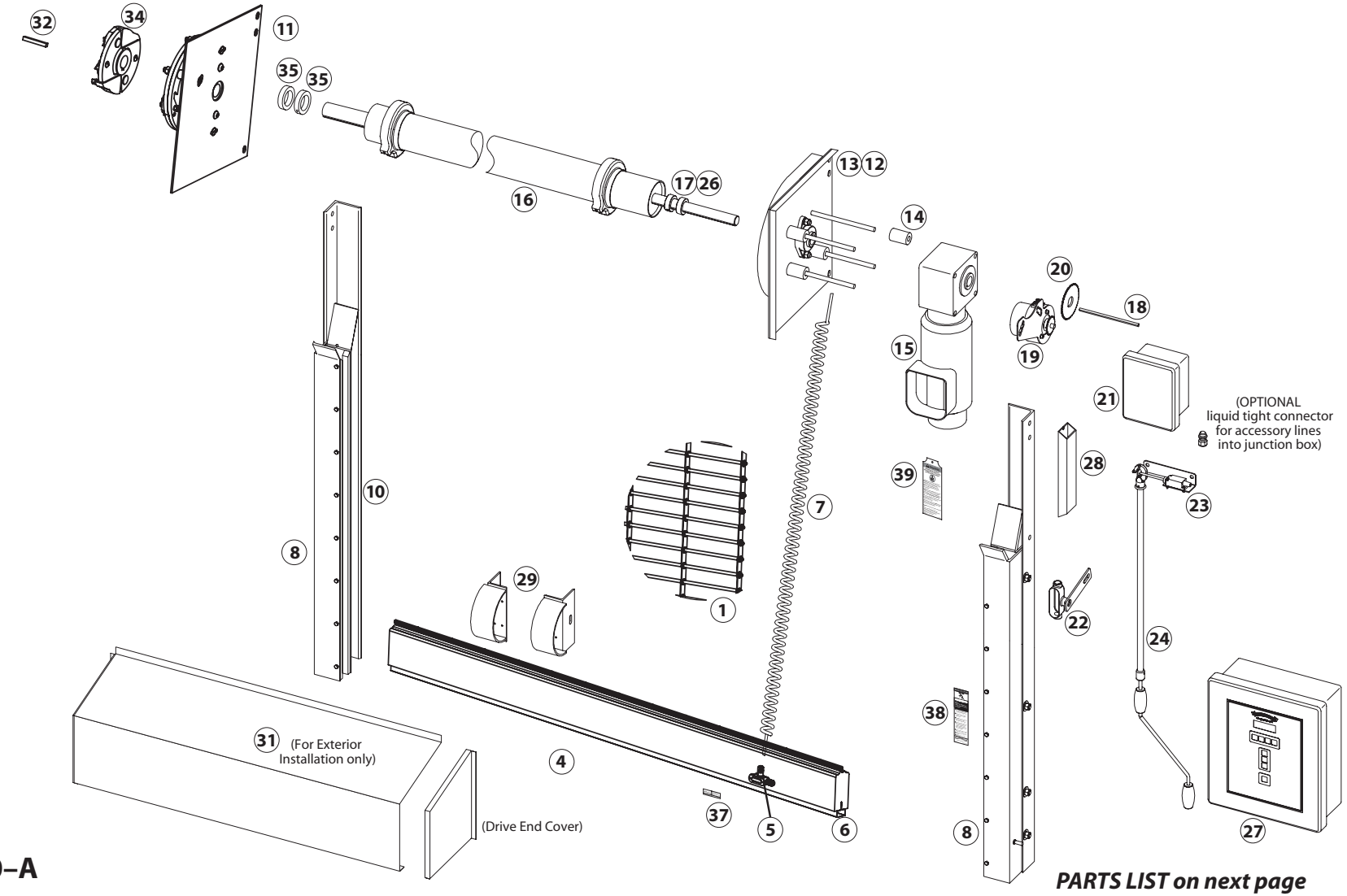


Fig 10–A

PARTS LIST on next page

Illustrated Parts Breakdown (continued)

Table of Part Numbers

BEFORE ORDERING PARTS
LOCATE YOUR ORIGINAL DOOR NUMBER
Found on the Nameplate Attached to your Bottom Bar

Item	Description	Reference Part Number	Built to Order?
1	Grille Assembly, Complete	Inquire	Yes
2	Not Used		
3	Not Used		
4	Complete Bottom Bar Assembly	307678	Yes
5	Junction Box Assembly, Bottom Bar, with fittings		Yes
6	Sensing Edge, 2-Wire Failsafe Type	086896	Yes
7	Coil Cord, Spring Assist, RapidSlat	810210	
8	Guide Assembly, RapidSlat	308156	Yes
10	(non-standard) RapidSlat Hi-Use Option Wear Strip, Polyurethane, Green	607116	
	Guide Weatherstrip, Blade type (not shown)	086695	
	Weatherstrip Retainer, Aluminum (not shown)	086620	
11	Headplate Assembly, Non-Drive	810167	Yes
12	Headplate Assembly, Drive	810167	
13	Bearing, Flange	600261	Yes
14	Spacer, Motor	810158	
15	Gearmotor, Hyponic Drive	810173	
	Brake Overtravel Limit Strap, Gearmotor (not shown)	810177	
	Winding Eye, Handcrank (not shown)	605402	
16	Barrel Assembly, RapidSlat	810168	Yes
17	Set Collar, Locking - small ID	604297	
18	Keystock, 1/4" x 1/4" x 9" Long	082090	
19	Rotary Transducer Assembly, VFD, with cable and sprocket	810172	
a	Rotary Transducer Mounting Bracket	810205	
b	Chain, Limit Drive, #25 (not shown)	086565	
c	Link, Connecting, #25 Chain (not shown)	080884	
20	Limit Drive Sprocket, VFD	810182	
21	Junction Box Assembly, with Cables (cables not shown)	800344	Yes
	Cable Assy, Signal (not shown)	800345	
	Cable Assy, Potentiometer (not shown)	800346	
22	Coil Cord Junction Box, Guide Mounted	810186	
23	Crank Interlock Assembly, with cable	810191	
24	Hand Crank Assembly		Yes

Item	Description	Reference Part Number	Built to Order?
26	Spacer Collar	604297	
27	Control Panel, VFD	800355	Yes
	Board, Motor Control (not shown)		
	Board, Communications (not shown)		
	Cable Package (various internal cables) (not shown)		
	Transformer, Class 2, 24VAC (not shown)		
	Fuses (each) (not shown)	Inquire	
	VFD Motor Cable, 7 Conductor (not shown)	800362	
28	Ballast Resistor, VFD, with conduit fittings	800363	
29	Photo eye Assembly, pair	810187	
	Transmitter, non-drive side	800356	
	Receiver, Drive Side, with cable	800357	
	Receiver Cable to Control Panel	800350	
30	Hood Assembly, Service Door	Inquire	Yes
	Hood Logo, Service Doors (not shown)		
31	Exterior Hood Assembly, Service Door	Inquire	Yes
	Hood Logo, Service Doors (not shown)		
32	Keystock, 3/8" x 3/8" x 2-1/2" Long	082090-0008	
33	Brake Bearing	600261-0027	
34	Drop Stop Device	800383	
35	Set Collar, Locking - 1-1/2" ID	604297-1150	
36	Not Used		
37	Sensing Edge Safety Label	607873	
38	Safety Label	800372	
39	Motor Brake Release Tag	810220	
	OPTIONAL ACCESSORIES		
	Loop Module, 24VAC	Inquire	
	Motion Detector, BEA Falcon	Inquire	
	Remote Control, BEA Sensors (for easy setup	Inquire	
	Pushbutton Station, NEMA4, O.C.S.	Inquire	
	Pull Cord Station	Inquire	
	Radio Controls	Inquire	
	Secondary Photo-eyes	Inquire	
	Liquid Tight Fitting (JUNCTION BOX)	Inquire	

Table 10–B

"Built to Order" parts are specific to each door manufactured, and may be subject to manufacturer's standard lead-times.

Return Procedure for RapidGrille AP System Model 676

The Overhead Door Rolling Steel Division will only accept returned materials in accordance with the terms of the limited product warranty. Products being returned must be accompanied by a Return Authorization (RA) Tag. To obtain a RA Tag please use the following guidelines;

- Complete Grille Systems will not be replaced without prior approval from an Rolling Steel Division Commercial Technician. Every attempt will be made to correct the malfunction to the installed product in the field.
- To return a defective part, the authorized Overhead Door Distributor must contact the Customer Service Group of the Rolling Steel Division at 1-800-929-4692. The following information is required; Grille System Model Number, Date Code, Voltage, Phase and Horsepower, and a description of the malfunction. The Customer Service Group will issue, via mail, an RA Tag for the defective part.
- Upon receipt of the defective part, the Rolling Steel Division will evaluate the part for a manufactured defect in material and/or workmanship. If it is determined there is a defect, the Overhead Door Distributor will be credited the cost of the part. If it is determined there is not a defect in material and/or workmanship, no credit will be issued.

The Genuine. The Original.

OVERHEAD DOOR®

RapidGrille™ Advanced Performance Security Grille Limited Warranty

The Distributor of Overhead Door Corporation products whose name appears below ("Seller") warrants to the original purchaser of RapidGrille™ Advanced Performance Security Grille Model 676 (“Product”), subject to all of the terms and conditions hereof, that the Product and all components thereof will be free from defects in materials and workmanship under normal use for the following period, measured from the date of installation:

- **MOTOR – Seller warrants the motor for a period of 60 MONTHS.**
- **COMPONENTS – Seller warrants all other components for a period of 24 MONTHS or 300,000 cycles*, whichever occurs first.**

Seller’s obligation under this warranty is specifically limited to repairing or replacing, at its option, any part which is determined by Seller to be defective during the applicable warranty period. Repair or replacement labor is included for one (1) year from the date of installation or 300,000 cycles, whichever occurs first. After that, any labor charges are excluded and will be the responsibility of the purchaser.

This warranty is made to the original purchaser of the Product only, and is not transferable or assignable.
This warranty does not apply to any unauthorized alteration or repair of the Product, or to any Product or component which has been damaged or deteriorated due to misuse, neglect, accident, failure to provide necessary maintenance, normal wear and tear, or acts of God or any other cause beyond the reasonable control of Seller. This warranty does not apply to any damage or deterioration caused by door curtain rubbing together as the door rolls up upon itself or caused by exposure to salt water, chemical fumes or other corrosive or aggressive environments, whether naturally occurring or man-made, including, but not limited to, environments with a high degree of humidity, sand, dirt or grease.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SELLER BE RESPONSIBLE FOR, OR LIABLE TO ANYONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, even if Seller has been advised of the possibility of such damages. Such excluded damages include, but are not limited to, loss of goodwill, loss of profits, loss of use, cost of any substitute product, interruption of business, or other similar indirect financial loss.

Claims under this warranty must be made promptly after discovery, within the applicable warranty period, and in writing to the Seller or to the authorized distributor or installer whose name and address appear below. The purchaser must allow Seller a reasonable opportunity to inspect any Product claimed to be defective prior to removal or any alteration of its condition. Proof of the purchase and/or installation date, and identification as the original purchaser, may be required.

ORIGINAL PURCHASER _____

INSTALLATION ADDRESS _____

SELLER: _____

SELLER’S ADDRESS: _____

FACTORY ORDER #: _____

DATE OF INSTALLATION: _____

SIGNATURE OF SELLER: _____

* The number of cycles referred to herein shall be measured by an integrated cycle counter contained in or attached to the Product. If the cycle counter is rendered inoperable, Seller shall use other reasonable means to determine the cycle count.

C900-987

Thank you for your purchase.

Contact your local Overhead Door Ribbon Distributor. To find your local Overhead Door Ribbon Distributor, visit our online Distributor Locator at www.OverheadDoor.com or call 1-800-929-DOOR (3667).

AFTER INSTALLATION IS COMPLETE, FASTEN THIS MANUAL NEAR GARAGE DOOR FOR EASY REFERENCE.

WARRANTY

The Genuine. The Original.

OVERHEAD DOOR®

RapidGrille™ Advanced Performance Security Grille Limited Warranty

The Distributor of Overhead Door Corporation products whose name appears below ("Seller") warrants to the original purchaser of RapidGrille™ Advanced Performance Security Grille Model 676 (“Product”), subject to all of the terms and conditions hereof, that the Product and all components thereof will be free from defects in materials and workmanship under normal use for the following period, measured from the date of installation:

- **MOTOR – Seller warrants the motor for a period of 60 MONTHS.**
- **COMPONENTS – Seller warrants all other components for a period of 24 MONTHS or 300,000 cycles*, whichever occurs first.**

Seller’s obligation under this warranty is specifically limited to repairing or replacing, at its option, any part which is determined by Seller to be defective during the applicable warranty period. Repair or replacement labor is included for one (1) year from the date of installation or 300,000 cycles, whichever occurs first. After that, any labor charges are excluded and will be the responsibility of the purchaser.

This warranty is made to the original purchaser of the Product only, and is not transferable or assignable. This warranty does not apply to any unauthorized alteration or repair of the Product, or to any Product or component which has been damaged or deteriorated due to misuse, neglect, accident, failure to provide necessary maintenance, normal wear and tear, or acts of God or any other cause beyond the reasonable control of Seller. This warranty does not apply to any damage or deterioration caused by door curtain rubbing together as the door rolls up upon itself or caused by exposure to salt water, chemical fumes or other corrosive or aggressive environments, whether naturally occurring or man-made, including, but not limited to, environments with a high degree of humidity, sand, dirt or grease.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SELLER BE RESPONSIBLE FOR, OR LIABLE TO ANYONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, even if Seller has been advised of the possibility of such damages. Such excluded damages include, but are not limited to, loss of goodwill, loss of profits, loss of use, cost of any substitute product, interruption of business, or other similar indirect financial loss.

Claims under this warranty must be made promptly after discovery, within the applicable warranty period, and in writing to the Seller or to the authorized distributor or installer whose name and address appear below. The purchaser must allow Seller a reasonable opportunity to inspect any Product claimed to be defective prior to removal or any alteration of its condition. Proof of the purchase and/or installation date, and identification as the original purchaser, may be required.

ORIGINAL PURCHASER _____

INSTALLATION ADDRESS _____

SELLER: _____

SELLER’S ADDRESS: _____

FACTORY ORDER #: _____

DATE OF INSTALLATION: _____

SIGNATURE OF SELLER: _____

* The number of cycles referred to herein shall be measured by an integrated cycle counter contained in or attached to the Product. If the cycle counter is rendered inoperable, Seller shall use other reasonable means to determine the cycle count.

C900-987

Overhead Door Corporation
2501 S. State Hwy 121 Bus., Suite 200
Lewisville, TX 75067
1-800-929-3667(DOOR)
www.overheaddoor.com