R Y T E C

Powerhouse
SD®

Owner's Manual

P. O. Box 403, One Cedar Parkway, Jackson, WI 53037
Phone: 262-677-9046 Fax: 262-677-2058

POWERHOUSE® SD LIMITED WARRANTY

Rytec Corporation ("Seller"), an Illinois corporation with its principal place of business at One Cedar Parkway, PO Box 403, Jackson, WI 53037, warrants to the original registered end-user commercial purchaser ("Buyer") that the Powerhouse SD ("Product") sold to the Buyer will be free of defects in materials and workmanship (ordinary wear and tear excepted) for the time periods set forth below:

- **Mechanical components** for a period of **Two (2) Years** from the date of shipment of the Product from the Seller's plant ("Shipment").
- **Electrical components** for a period of **Two (2) Years** from Shipment.
- **Standard door panel**, including SBR, **lifetime limited warranty** is limited to only SBR panel material.
- **Optional door panel**, including EPDM, for a period of **Two (2) Years** from Shipment.
- **Panel wind locks, vertical panel seams/stripes, bottom edge rubber, loop seal, wireless mobile unit battery**, are considered wear items and are not covered under this Limited Warranty.
- **Aftermarket parts, accessories and assemblies** for a period of ninety (90) days from the date of Shipment.

Remedies. Seller's obligation under this Limited Warranty is limited to repairing or replacing, at Seller's option, any part which is determined by Seller to be defective during the applicable warranty period. Such repair or replacement shall be the Seller's sole obligation and the Buyer's exclusive remedy under this Limited Warranty.

Labor. Except in the case of aftermarket parts, accessories and assemblies, labor is warranted for one year. This means that Seller will provide warranty service without charge for labor in the first year of the warranty period. Thereafter, a charge will apply in to any repair or replacement under this Limited Warranty. In the case of aftermarket parts, accessories and assemblies, Seller will provide replacement parts only.

Claims. Claims under this Limited Warranty must be made (i) within 30 (thirty) days after discovery and (ii) prior to expiration of the applicable warranty period. Claims shall be made in writing delivered to the Seller at the address provided in the first paragraph of this warranty. Buyer must allow Seller and Dealer, or their agents, a reasonable opportunity to inspect any Product claimed to be defective and shall, at Seller's option, either (x) grant Seller and Dealer or their agents access to Buyer's premises for the purpose of repairing or replacing the Product or (y) return of the Product to the Seller, f.o.b. Seller's factory.

Original Buyer. This Limited Warranty is made to the original Buyer of the Product and is not assignable or transferable. This Limited Warranty shall not be altered or amended except in a written instrument signed by Buyer and Seller.

Not Warranted. Seller does not warrant against and is not responsible for, and no implied warranty shall be deemed to cover, damages that result directly or indirectly from: (i) the unauthorized modification or repair of the Product, (ii) damage due to environmental conditions such as ice and frost on the Product, (iii) damage due to misuse, neglect, accident, failure to provide necessary maintenance, or normal wear and tear of the Product, (iv) failure to follow Seller's instructions for installation, operation or maintenance of the Product, (v) use of the Product in a manner that is inconsistent with Seller's guidelines or local building codes, (vi) movement, settling, distortion, or collapse of the ground, or of improvements to which the Products are affixed, (vii) fire, flood, earthquake, elements of nature or acts of God, riots, civil disorder, war, or any other cause beyond the reasonable control of Seller, (viii) improper handling, storage, abuse, or neglect of the Product by Buyer or by any third party.

DISCLAIMERS. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, AND THE SELLER EXPRESSLY DISCLAIMS AND EXCLUDES ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PURPOSE. SELLER SHALL NOT BE SUBJECT TO ANY OTHER OBLIGATIONS OR LIABILITIES, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES OF LAW, WITH RESPECT TO THE PRODUCTS SOLD OR SERVICES RENDERED BY THE SELLER, OR ANY UNDERTAKINGS, ACTS, OR OMISSIONS RELATING THERETO.

LIMITATION OF LIABILITY. IN NO EVENT WILL 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, personal injury, damage to property, loss of goodwill, loss of profits, loss of use, cost of cover with any substitute product, interruption of business, or other similar indirect financial loss.

Product Descriptions. Any description of the Products, whether in writing or made orally by the Seller or the Seller's agents, including specifications, samples, models, bulletins, drawings, diagrams, engineering or similar materials used in connection with the Buyer's order, are for the sole purpose of identifying the Product and shall not be construed as an express warranty. Any suggestions by the Seller or the Seller's agents regarding the use, application, or suitability of the Product shall not be construed as an express warranty unless confirmed to be such in writing by the Seller.

Limited Warranty Void. This Limited Warranty shall be void in its entirety if:

a) The Product is modified in a manner not approved in writing by Seller; or
b) Buyer fails to maintain the Product in accordance with instructions contained in the Owner's Manual for the Product.

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INTRODUCTION

The information contained in this manual will allow you to maintain your Rytec Powerhouse SD® Door in a manner that will ensure maximum life and trouble-free operation.

Any unauthorized changes to these procedures, or failure to follow the steps as outlined, will automatically void the warranty. Any changes to the working parts, assemblies, or specifications as written, that are not authorized by Rytec Corporation, will also cancel the warranty. The responsibility for the successful operation and performance of this door lies with the owner.

DO NOT OPERATE OR PERFORM MAINTENANCE ON THIS DOOR UNTIL YOU READ AND UNDERSTAND ALL THE INSTRUCTIONS IN THIS MANUAL.

If you have any questions, contact your Rytec representative or call the Rytec Technical Support Department at 1-800-628-1909. Always refer to the serial number of the door when calling your representative or Technical Support. The location of the serial number is on the left side of the head assembly.

The wiring connections and schematics in this manual are for general information purposes only. The actual schematic for your custom installation is located in the crate when the door is delivered.

HOW TO USE MANUAL

Throughout this manual, the following key words are used to alert the reader to potentially hazardous situations, or situations where additional information to successfully perform the procedure is presented:

⚠ WARNING

WARNING is used to indicate the potential for personal injury, if the procedure is not performed as described.

⚠ CAUTION

CAUTION is used to indicate the potential for damage to the product or property damage, if the procedure is not followed as described.

IMPORTANT: ***IMPORTANT is used to relay information that is CRITICAL to the successful completion of the procedure.***

NOTE: NOTE is used to provide additional information to aid in the performance of the procedure or operation of the door, but not necessarily safety related.

DOOR SERIAL NUMBER

The door serial number is located halfway up the left side column.

IMPORTANT: Verify the serial number in the head assembly, when multiple doors of the same model but in different sizes are installed.

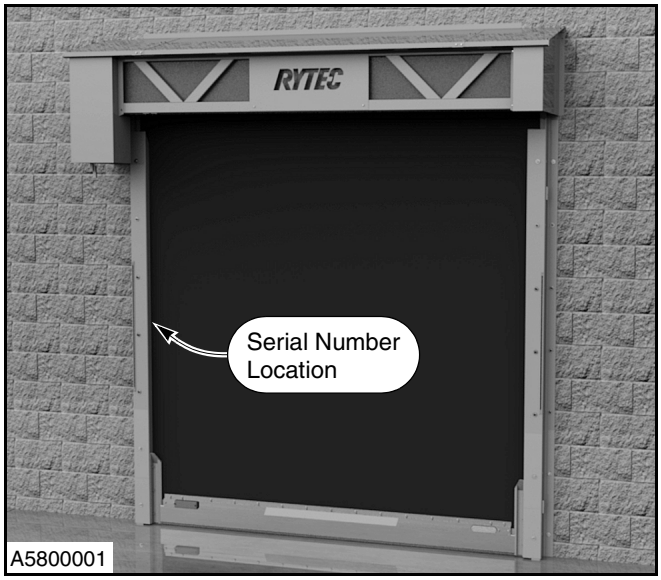

Figure 1

GENERAL ARRANGEMENT OF DOOR COMPONENTS

Figure 2 shows the location of the major components of the door and the general placement of the associated sub-assemblies for a typical installation.

NOTE: Figure 2 shows the front of the door. Left and right are determined when viewing the front of the door.

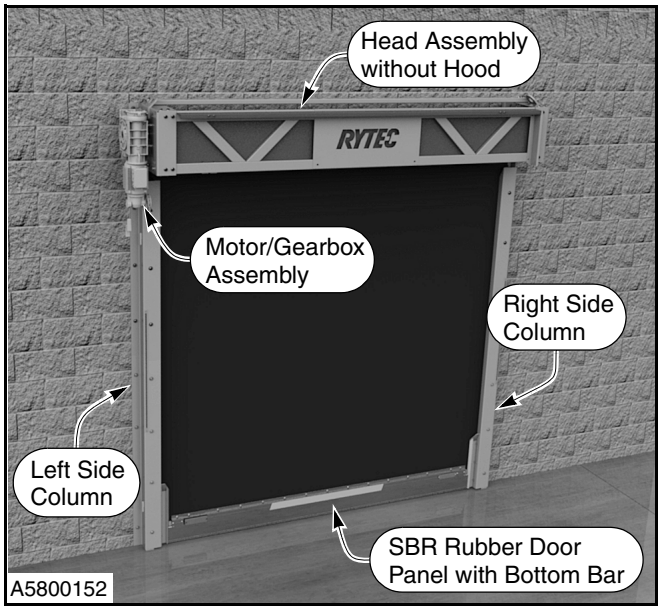

Figure 2

SAFETY

MECHANICAL

- This is a breakaway, partially self-repairable door. Upon impact, the door panel will pop out of the side column guide(s) and will need to be operated to the fully open position to allow the door to reset. The door panel has an edge that may bind in the side column if not completely broken away. Therefore, the motor may stall while trying to operate the door to the fully open position. If you are unable to get the door to the fully open position using the control panel, you may have to open the side column cover(s) to allow the panel to travel. (See Figure 3.)

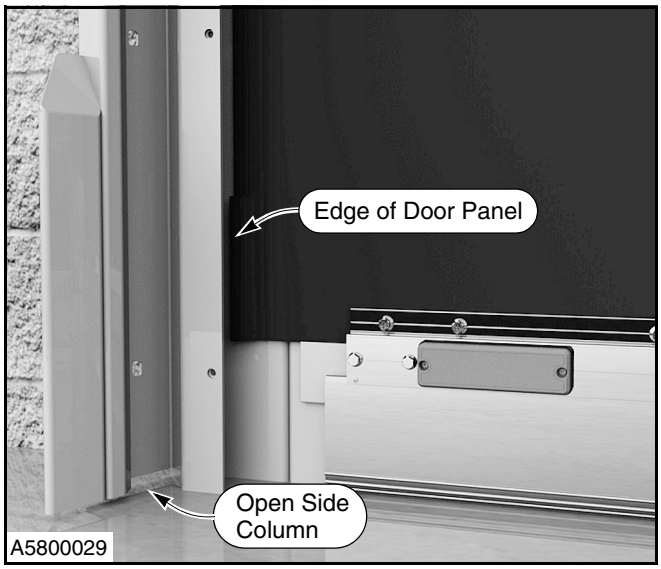

Figure 3

- This is a partially self-repairable door. If the door panel has popped out of the side column(s) an operator must open the door to the fully open position in order to reset the door.

OPERATION

CONTROL PANEL

The Powerhouse SD Door is equipped with the Rytec System 4 Drive & Control, a solid-state, microprocessor-based control system designed exclusively to operate Rytec high-performance doors. It provides connections for multiple activators, close-delay timers, and status indicators. All command functions to operate the drive and control system are software controlled. For information on control panel operation, see the Rytec System 4 Drive & Control Installation & Owner's Manual.

LIGHT CURTAIN (STANDARD)

The Rytec Powerhouse SD Door is equipped with a pair of light curtains for monitoring the door, an emitter module and a receiver module. The purpose of these light curtains is to hold the door open or, if the door is closing, reverse the direction of the door if a person or object breaks the beam of light between the light curtains. After the obstruction breaking the beam of light is removed:

- If the door was originally opened by an automatic activator, the door will close automatically.
- If the door was originally opened by a non-automatic activator, the door will remain open until it is closed by the non-automatic activator.

NOTE: The light curtains are not intended to be used as a door activator and will not open the door when it is closed.

PHOTO EYES (Optional)

Your Powerhouse SD is optioned with two sets of photo eyes, one set mounted on the front and another set installed on the back of the door. The purpose of these photo eyes is to hold the door open or, if the door is closing, reverse the door to the open position if a vehicle, person, or any object is in the path of the photo eye beam.

The photo eye is not active when the door is closed. After the obstruction breaking the photo eye beam is removed:

- The door will remain open if it was originally opened by a non-automatic activator until it is closed by a non-automatic activator.
- The door will close automatically if it was originally opened with an automatic activator.

BOTTOM BAR ASSEMBLY

The bottom bar assembly provides two functions: breakaway capability and reversing edge.

Breakaway Capability

IMPACT

End tabs mounted at each end are narrower than the door opening. The end tabs enter the wind locks at the bottom of the side column when the door reaches the closed position. The wind locks and raised edge on the end of the panel prevent the door from being blown out due to wind pressure. When the door is open above the wind locks the end tabs ride within the opening of the door and only the raised area on the edges hold the panel in place during that time. A kill switch assembly is mounted in the bottom bar which will turn off electrical power (via the mobile unit) to the door if the bottom bar is if bottom bar is impacted. This feature helps prevent the bottom bar from being bent or damaged if struck by a vehicle or load. (See Figure 4.)

NOTE: If the bottom bar has been impacted, F:060 DOOR AJAR will appear on the display. The informational message I:060 AJAR REPAIR may also appear. This is expected, and the DOOR AJAR error places the door into a "JOG ONLY" mode.

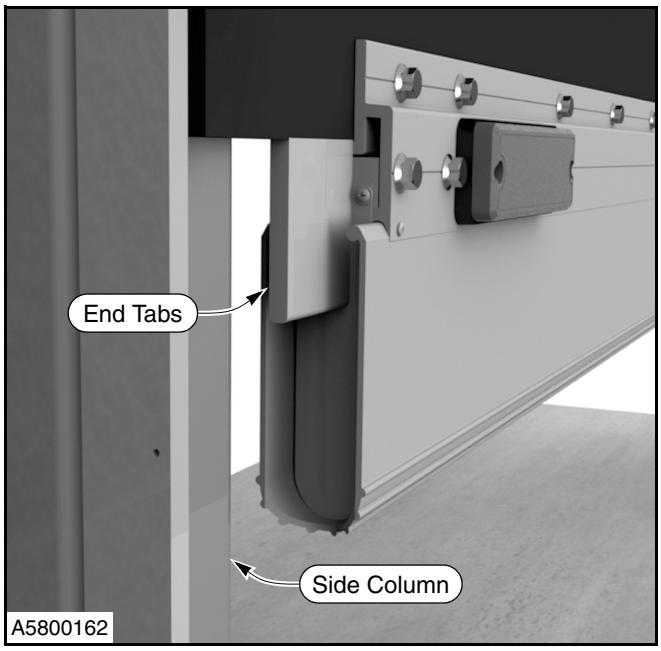

Figure 4

RESET BOTTOM BAR ASSEMBLY

⚠ CAUTION

If the bottom bar or door panel assembly has been damaged, remove door from service.

1. Position the end tabs of the bottom bar in front of the side column where the angled guide plate is located on the side column. (See Figure 5.)

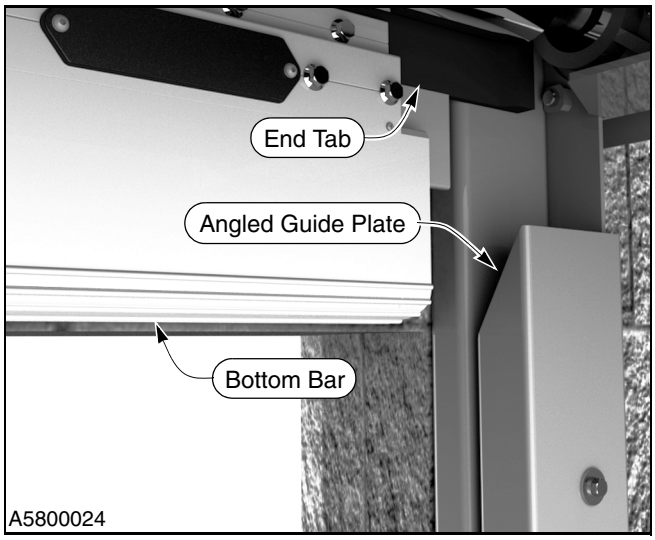

Figure 5

2. Press and hold the up arrow on the control panel until the door is in the full-open position.

3. Press the down arrow and the door will close in automatic mode and be ready for service.

NOTE: Check to make sure that the fabric is inside each channel.

4. Check operation of door.

Reversing Edge

The door is equipped with a electric reversing edge mounted at the bottom of the bottom bar assembly. If an object is left in the path of the door panel as it closes, the pressure-sensitive edge will sense the contact with the object and automatically reverse the door to the open position, thus preventing damage to the bottom bar. (See Figure 6.)

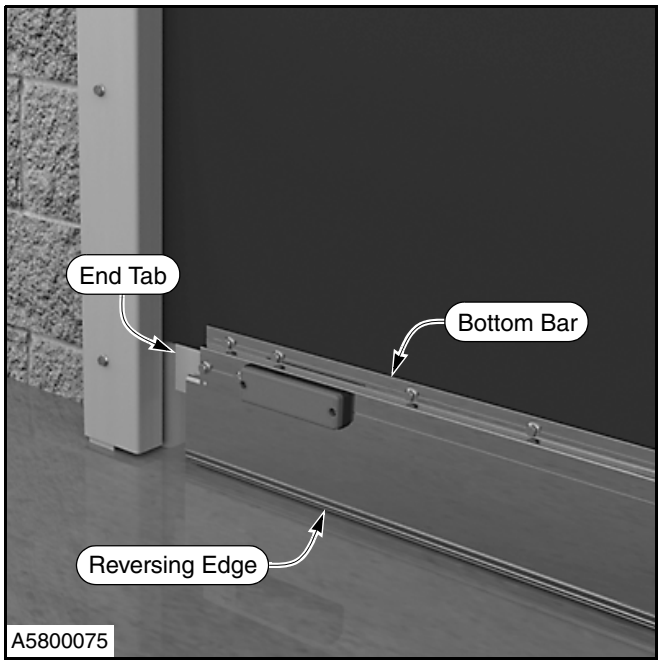

Figure 6

POWER DRIVE SYSTEM

The Powerhouse SD power drive system consists of an electric motor/brake assembly, reduction gear assembly, and encoder. The standard Powerhouse SD is equipped with a variable-speed controller. The control system will vary the door speed depending on door position. The power drive system can be mounted on either the right or left end of the fabric roll.

The power drive incorporates an electric brake used as a parking brake to prevent door movement when electrical power to the door is shut off. A manual brake release is provided for manual opening or closing of the door should there be a power failure, or when routine maintenance needs to be performed with the power disconnected.

An encoder, mounted to the bottom of the gearbox, generates signals as the door panel moves. These signals are used by the control system to monitor the position of the door.

MOVE THE DOOR MANUALLY

⚠WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

DO NOT stand under the door panel when moving the door.

The drive motor has red and green handles hanging from the bottom of the motor. When the green handle is pulled or in the lowest position, the drive motor is engaged to run on electrical power. When the red handle is pulled or in the lowest position, electrical power has been disengaged and manual door operation is required using the chain. Also, when the red handle is pulled, a sensor is engaged and will not allow electrical power to the door.

Electrical power can be shut off anytime to operate the electric motor in manual mode. Control panel limit settings will not be affected when switching the power off and back on. The door will return to a normal operating mode. (See Figure 7.)

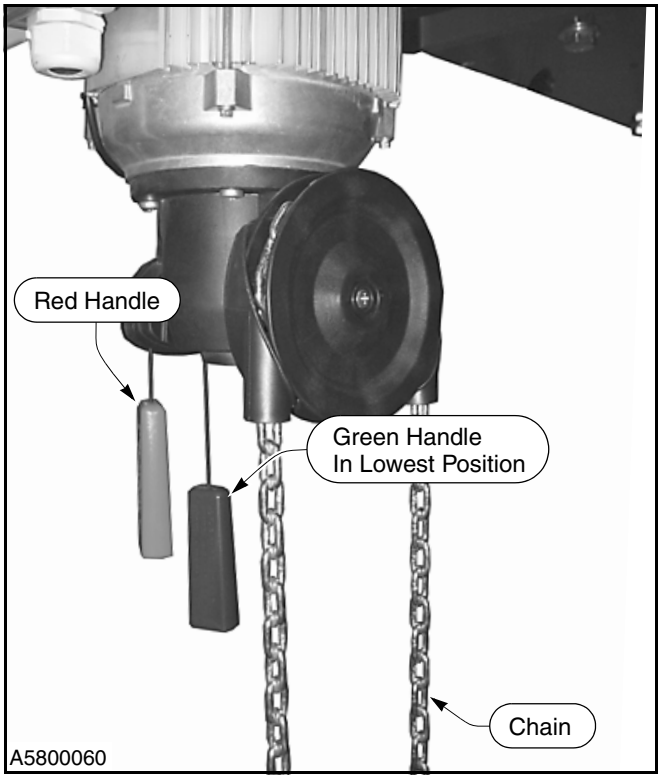

Figure 7

PLANNED MAINTENANCE

RECOMMENDED SCHEDULE

NOTE: The following maintenance schedule is recommended for the Rytec Cycle-Plus maintenance program.

	Daily	Quarterly
Visual Damage Inspection	■	
Check Door Operation	■	
LED Inspection	■	
Light Curtain Inspection	■	
Optional Photo Eye Inspection	■	
Reversing Edge Inspection	■	
Hardware Inspection		■
Wall Anchor Inspection		■
Welds (If Applicable)		■
Fabric Inspection		■
Bottom Bar Inspection		■
Brush Seal Inspection		■
Kill Switch Inspection		■
Motor Brake Inspection		■
Activator and Control Panel Inspection		■
Electrical Connection Inspection		■
Lubrication		■
Safety Decals		■

DAILY INSPECTION

Visual Damage Inspection

Visually inspect the door to see that components have not been damaged. Examples: bent bottom bar assembly, torn fabric panel, damage to side columns, etc. (See Figure 8.)

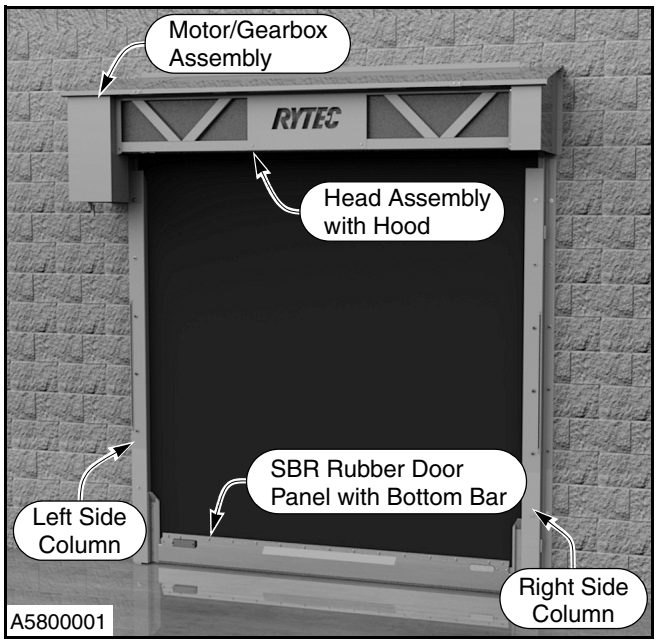

Figure 8

Head Assembly: Inspect for dents or damage that may prevent the door from opening or closing properly.

Door Panel: Inspect panel for holes, tears, and worn areas.

Side Columns: Inspect for damage that may prevent the door from operating properly.

Bottom Bar: Inspect the bottom bar for damaged, missing, or loose hardware. Inspect the yellow vinyl seal along the lower edge of the bottom bar for tears and holes. Inspect the edge itself.

Check Door Operation

Run the door through four or five complete cycles to verify that the door is operating smoothly and efficiently, and that binding or unusual noises do not exist. DO NOT continue to operate the door if it is not running properly, as this could compound the damage.

LED (Light Emitting Diode)

Inspect the lens of each LED for damage or dirt that may prevent the lights from working properly — clean or replace as required. (See Figure 10.)

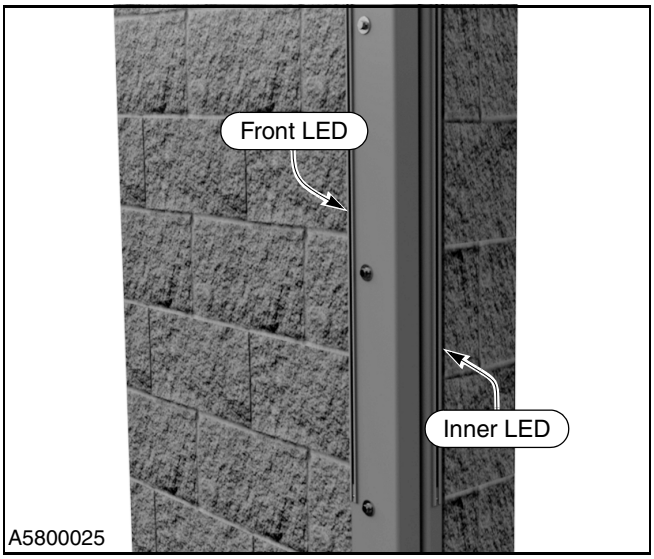

Figure 9

Light Curtain Inspection

NOTE: Light curtains act as a safety device to prevent the door from closing if an object or person is within either light curtain beam. The light curtains are not meant to be used as door activators.

Once power is applied, both the emitter and receiver modules are powered up. To inspect light curtain operation, activate the door and allow the door panel to open. As the door panel lowers, place an object in the path of the light curtain beam. The door should stop immediately and reverse direction. If this procedure fails, remove the door from service and troubleshoot the problem. The door is now deemed a hazard to human safety. (See Figure 10.)

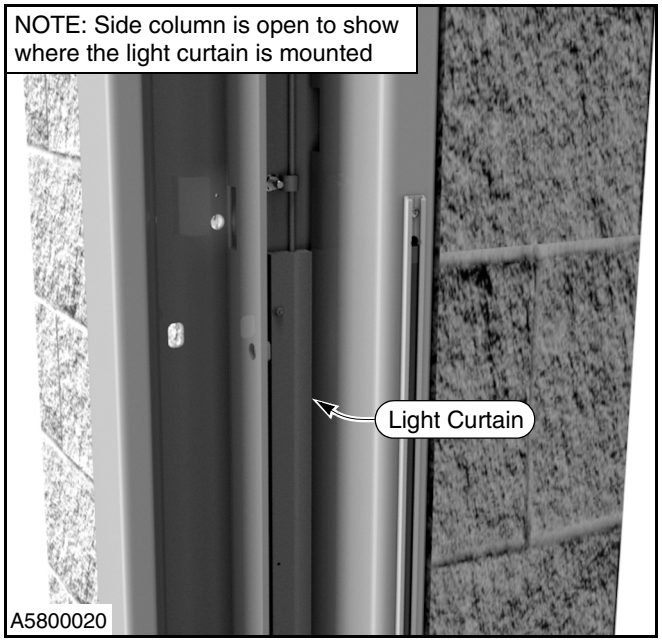

Figure 10

Optional Photo Eye Inspection

The photo eyes are provided as a safety feature. If the photo eyes are installed correctly, any object in the path of the photo eye beam while the door is closing will cause the door to reverse direction and remain in the fully open position until the obstruction is removed.

The transmitter and receiver can be identified in two ways. The transmitter is designated SMT 3000 on the white label or by a single green light that comes on at the clear end of the transmitter. (See Figure 11.) The receiver is designated SMR 3215 on the white label or by a yellow light that illuminates only when it is in proper alignment with the transmitter. (See Figure 12.)

NOTE: When the cable is connected to the photo eye, there is only a ¼-inch window to see the green or yellow LED light.

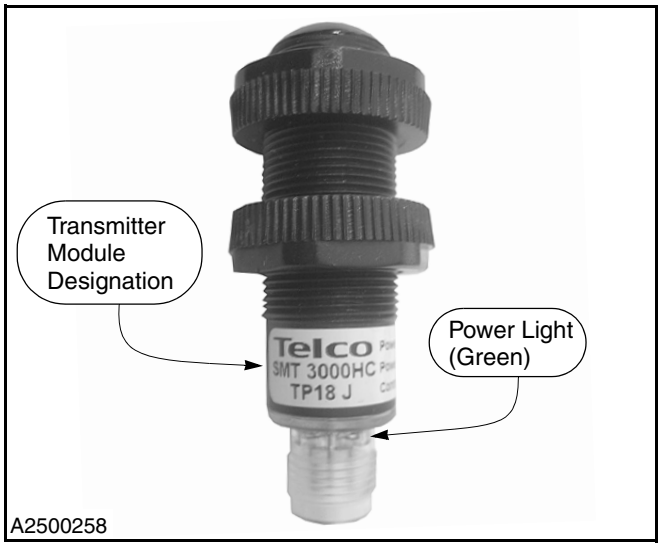

Figure 11

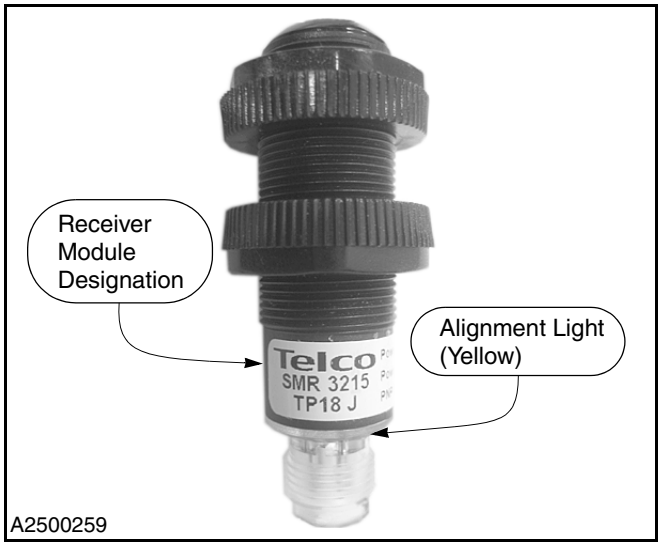

Figure 12

5. Check the front and rear photo eye assemblies for:
   a. Good wire cable connections at the photo eye.
   b. Secure and solid mounting bracket.
   c. Photo eye installed properly in the mounting bracket.
   d. Check for green and yellow lights.
   e. Cracked photo eye housing.
   f. Clean photo eye lens.
6. Repair or replace items as needed.
7. After all work is complete, clean the lens of each photo eye using window cleaner and a soft, clean cloth.

TESTING PHOTO EYES

With the power on, the green light on the transmitter indicates that the photo eye module is powered up. When the yellow light on the receiver module is also lit, the transmitter and receiver modules are properly aligned.

Placing your hand in front of the receiver breaks the light path and causes the yellow light to go out. Removing your hand causes the yellow light to go back on.

Reversing Edge Inspection

⚠WARNING

DO NOT stand under the door when performing the following test. If the reversing edge sensor is not working properly, the door could strike the person performing the procedure. DO NOT use the door if the sensor is not working properly.

1. Move the door to the open position by pressing the door open (▲) button located on the control panel.
2. Press the door close (▼) button.
3. When the door is a few feet from the fully closed position, hit the rubber reversing edge that runs along the bottom edge of the door. Stand outside the photo eyes to avoid activating the photo eye circuit. (See Figure 13.)

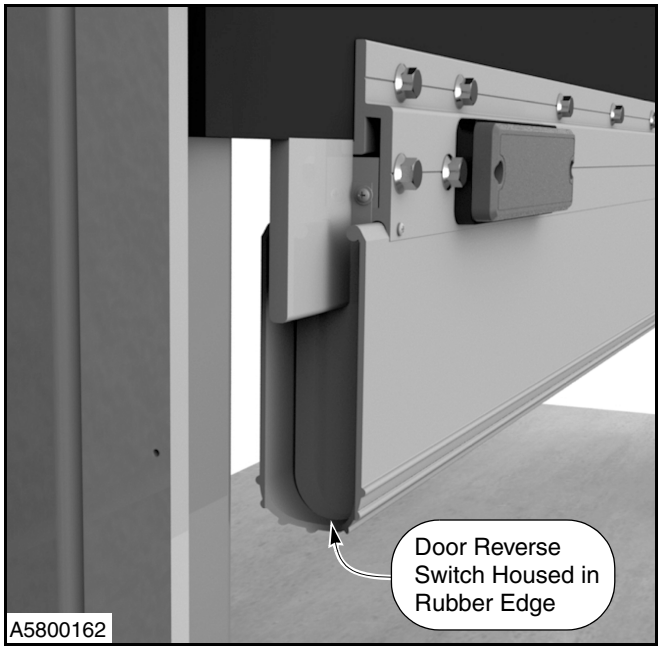

Figure 13

While the door is running through the down cycle, strike the bottom of the reversing edge. If the reversing edge is operating properly, the door should immediately reverse and run to the full-open position. Press the control panel down key to close the door after the inspection is complete.

If the reversing edge sensor is not working properly, the control system will only allow the door to open and the control panel will display the associated error code.

NOTE: A normal resistance measurement across the reversing edge sensor will read approximately 8.2 k-ohms. With the rubber edge compressed, the resistance will drop to about zero ohms.

4. Check the mobile unit assembly. Make sure that it is tight and secure. Inspect terminal block for damage and replace any missing or damaged hardware. (See Figure 14.)

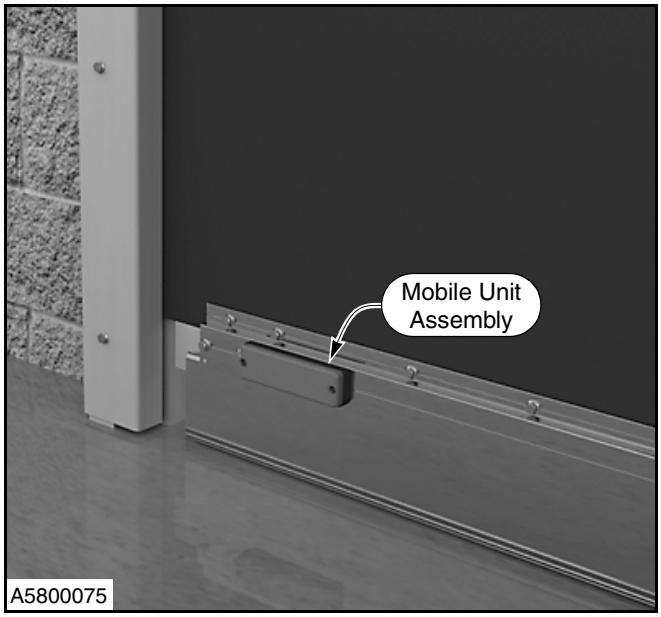

Figure 14

5. Inspect the rubber reversing edge. It should be in good condition with no visible holes, cracks, or tears. Replace the rubber reversing edge if necessary.

QUARTERLY INSPECTION

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

Hardware Inspection

Make sure all nuts, bolts, set screws, and anchors are tight throughout the door. Examples: motor mounting bolts, wall mounting hardware, floor anchors, set screws, etc. (See Figure 16.)

HEAD ASSEMBLY

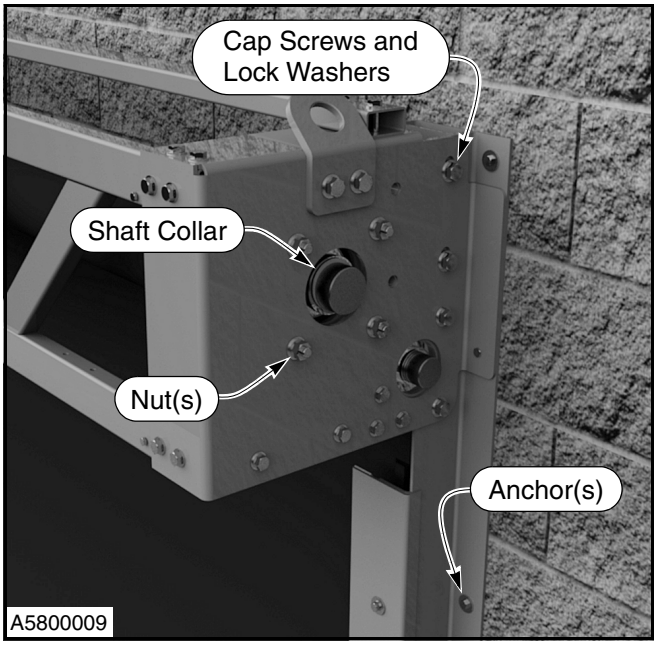

Figure 15

REAR SPREADER

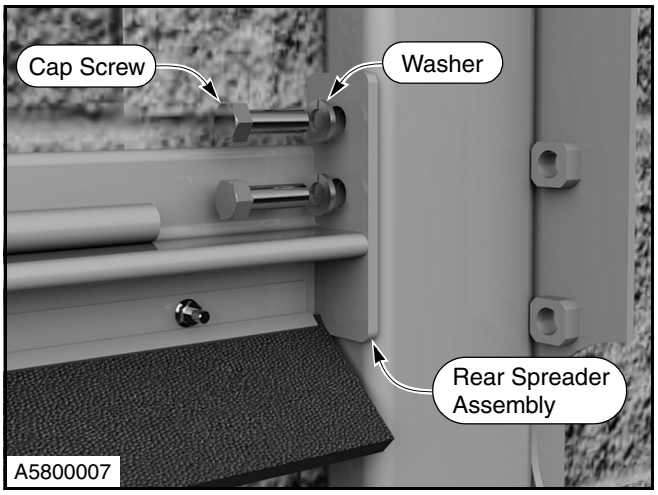

Figure 16

Wall Anchor Inspection

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

1. Turn off power to the door.
2. Gain access to wall and rear spreader anchors.

3. Inspect for loose or worn anchor(s). (See Figure 17 and Figure 18.)

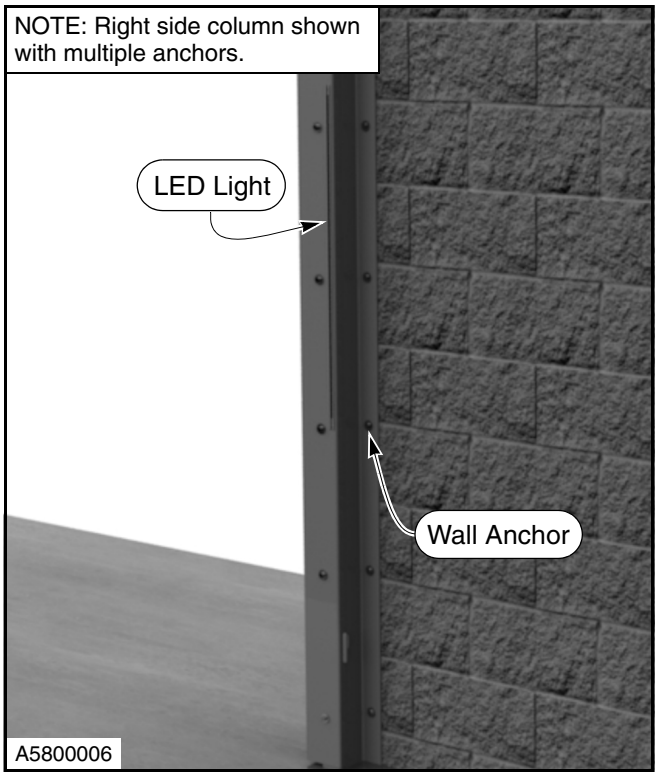

Figure 17

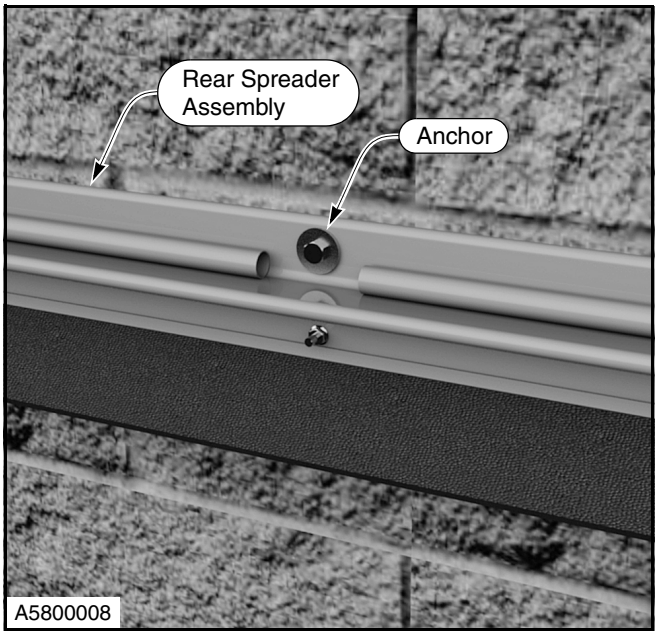

Figure 18

4. Tighten, repair, or replace anchor(s) as needed.

NOTE: Remove door from service if any repairs are needed. All repairs must be done in accordance with municipal building codes.

5. Restore power and return the door to service.

Welds (If Applicable)

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

1. Turn off power to the door.
2. Inspect for broken or cracked welds on side column assemblies. Rework the welds as needed. (See Figure 19.)

NOTE: The door assembly, walls, and building structure MUST BE properly grounded.

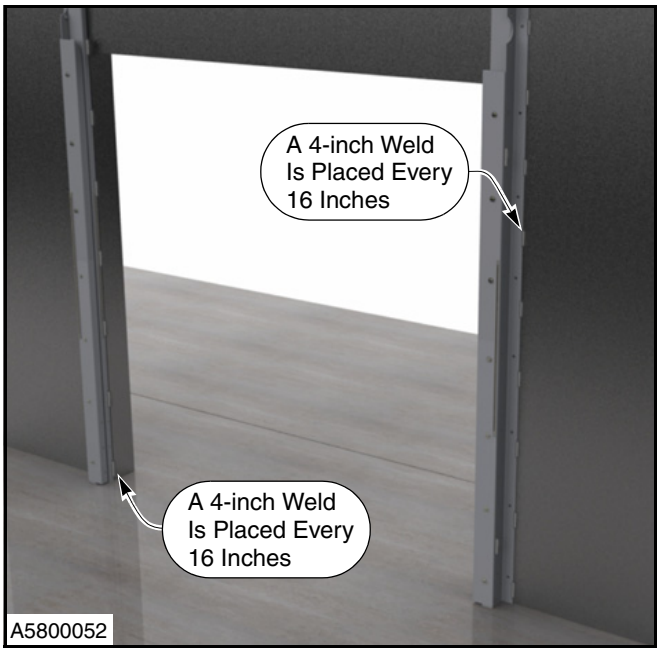

Figure 19

Fabric Inspection

1. Turn off power to the door.

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

2. Check the fabric for holes, tears, and worn areas. Repair or replace as required.
3. If your door panel is equipped with windows, clean as needed.

IMPORTANT: Use any good brand of window cleaner to clean the windows. DO NOT use abrasive cleaners or petroleum-based solvents.

4. Ensure the panel is securely fastened to the bottom bar assembly. Tighten or replace loose or damaged mounting hardware as required. (See Figure 20.)

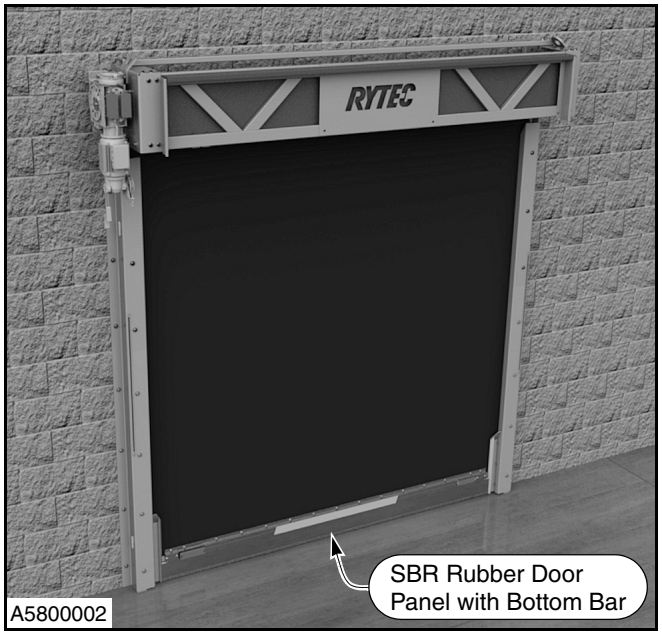

Figure 20

Bottom Bar Inspection

1. Move the bottom bar of the door to a convenient height for inspection and turn off power.

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

2. Inspect the hardware used to secure the breakaway assembly to the bottom bar. Tighten or replace hardware as required.
3. Check all hardware. Tighten or replace loose or damaged mounting hardware as required.
4. Check for a bent or damaged bottom bar.
5. Check the hardware on the mobile unit and vibration sensor. Both assemblies should be mounted solid and sturdy, especially the vibration sensor. Any excess movement will give a false reading and send an error code to the control panel.
6. Inspect the reversing edge to ensure that it is tightly secured to the bottom bar.
7. Inspect the sealed reversing edge for tears or abrasions. An improper seal will make the door malfunction and not change direction upon impact. (See Figure 21.)

NOTE: Remove the door from service until repairs have been performed.

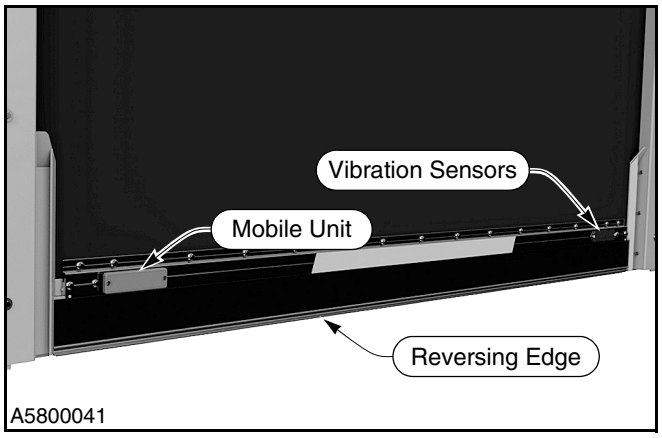

Figure 21

Brush Seal Inspection

NOTE: The brush seal is mounted on the rear spreader.

1. Inspect the brush seal for wear or damage. Replace as necessary. (See Figure 22.)

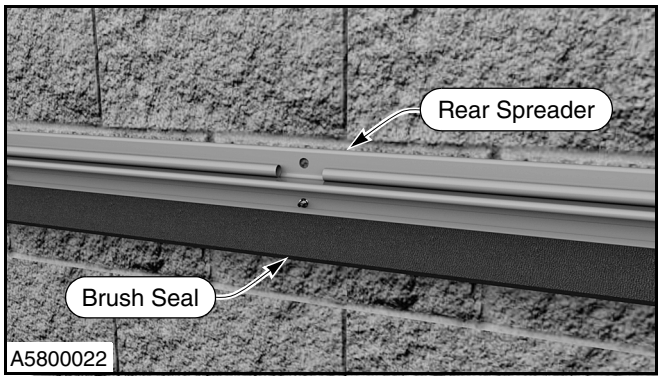

Figure 22

Kill Switch Inspection

A kill switch assembly (vibration sensors) have been installed in the break away bottom bar. The purpose of this assembly is to prevent he door from being operated if the bottom bar is impacted during either opening or closing.

To check the kill switch assembly, proceed as follows:

⚠ WARNING

Take precautions to prevent the door from being opened or closed while performing the following procedure.

1. Lower the door to approximately head or chest height, and stop the door.

NOTE: It should not be possible to automatically operate the door until the door is reset by manually jogging (using System 4 Control Panel) the door to the full open position. F:060 AJAR REPAIR should be displayed during the reset process.

2. Using a rubber mallet and with a hard blow, strike the bottom bar in the middle.

NOTE: Pushing the bottom bar out of the side column will not activate the vibration sensors. (See Figure 23.) *This test should be performed from both sides of the bottom bar. (Figure 24.)*

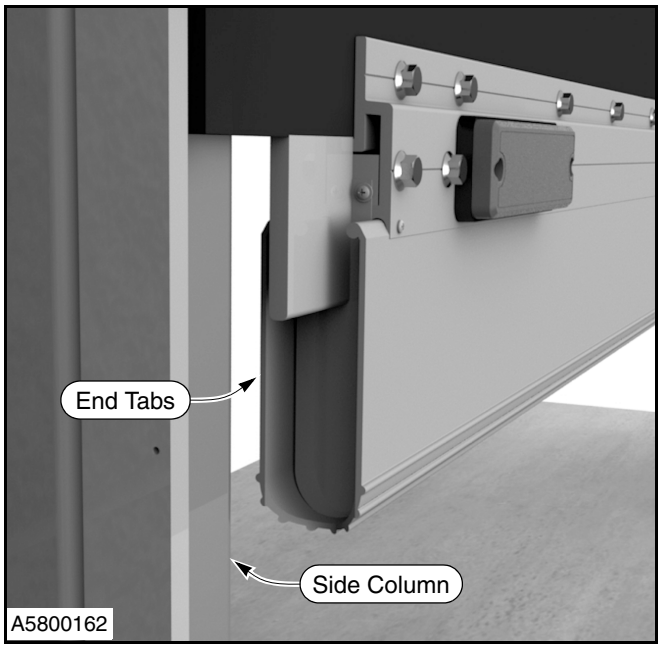

Figure 23

3. Upon impact, the control panel should display "F:060 door ajar repair".

NOTE: The vibration sensors are set for a very heavy impact. If the sensor is too sensitive, turn the screw clockwise to make the switch less sensitive. See "KILL SWITCH" on page 15 in the adjustment section for the proper procedure.

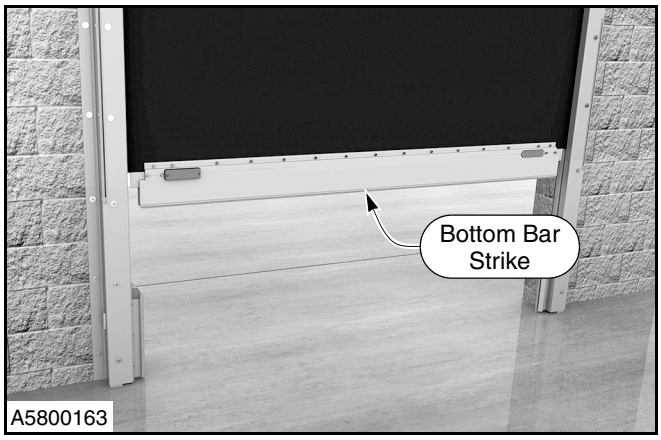

Figure 24

4. If the kill switch did not operate properly: Check the switch for damage. Replace if required. Check all switch wiring. Correct if required. Adjust if required.
5. Retest and adjust kill switch to desired effect.

IMPORTANT: Rytec doors are installed in various climate conditions. Air pressure can cause the door kill switch (vibration sensors) to go off if the sensor is adjusted with a light sensitivity.

Motor Brake Inspection

The power drive brake assembly is designed to act as a parking brake when electrical power is turned off to the motor. If the limit switches are set properly and the door drifts past the set limits, the brake should be replace.

MANUAL DOOR OPERATION

With door power turned off, pull the red handle to the motor/gearbox to engage chain drive operation. Manually move the door panel up and down, making sure the operation is smooth and friction free. Pull the green handle to re-engage electrical operation. Restore power to the system and perform, operations check.

Control Panel and Activator Inspection

1. Inspect all warning and safety labels. All labels should be intact, clean, and clearly legible. Replace any label when necessary.
2. Operate the door five or six complete open and close cycles with each activator installed with the door. Make any necessary adjustments or repairs. Refer to the associated manual supplied with each activator installed with your door.

   Typical activators may include a floor loop, pull cord, push button, mag card, motion detector, radio control, or photo eye. The door open cycle is controlled by the activator. The door close cycle can be controlled by an activator or by a timer internal to the control panel.

Electrical Connection Inspection

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

1. Turn off power to the door.
2. Inspect all electrical connections to the power drive system. All connections must be secure and tight.
3. Inspect the electrical connections in the junction box located near the head assembly. All connections must be secure and tight.
4. For the proper door operator electrical connection, see the wire diagram or schematic that came with the door.
5. Clean or replace weak connection points.

Lubrication

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

The Rytec Powerhouse SD Door is maintenance free when it comes to lubrication. Although a visual inspection should be performed to analyze any mechanical problems that have gone unnoticed. Operate the door and observe any unusual noises or erratic operation. If a sealed bearing has gone bad, it will have a tendency to make a grinding or growling noise. This is a good indication that the bearing needs to be replaced.

Bearing Block: The drum and idler are supported by a bearing block located at each end. The bearings are normal duty, self-aligning, and sealed prelubricated steel cage cast iron housings. Depending on temperature and environment, lubricating commendations for a clean environment and up to 122° F (50° C) grease every 12 months. A dirty environment would increase intervals to every 6 months. (See Figure 25.)

IMPORTANT: Use Shell Alvania® RL3 or equivalent:

- NLGI Consistency: 3
- Soap Type: Lithium Hydroxystearate
- Base Oil: Mineral
- Temperature Range: -22°F (-30°C) to 266°F (+130°C)
- Kinematic Viscosity:
  @104°F (40°C) cSt: 100
  @212°F (100°C) cSt 10.0
- Cone Penetration Worked @77°F (25°C): 220-250
- Dropping Point °F(°C): 190

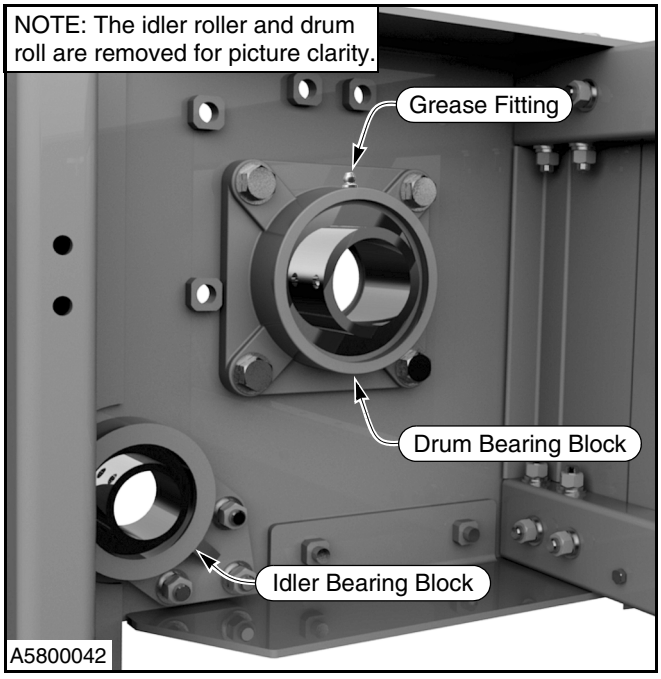

Figure 25

Drive Motor Assembly : The motor assembly is a sealed unit and does not require any lubrication of oil or grease.

NOTE: Do not lubricate the chain drive.

Safety Decal Inspection

Safety decals are vital to the door. This is to inform the owner and operators of procedures, proper operation, and possible hazardous situations. See Figure 26 and Figure 27 for a sample of how a safety decal should look at all times.

1. Check text on safety decals. It must be clear and readable. Replace as necessary.
2. Check for worn-out safety decals. No rips, tears, or missing information is allowed in an instructional area. Replace as necessary.

NOTE: Notify building maintenance of any safety decal discrepancies.

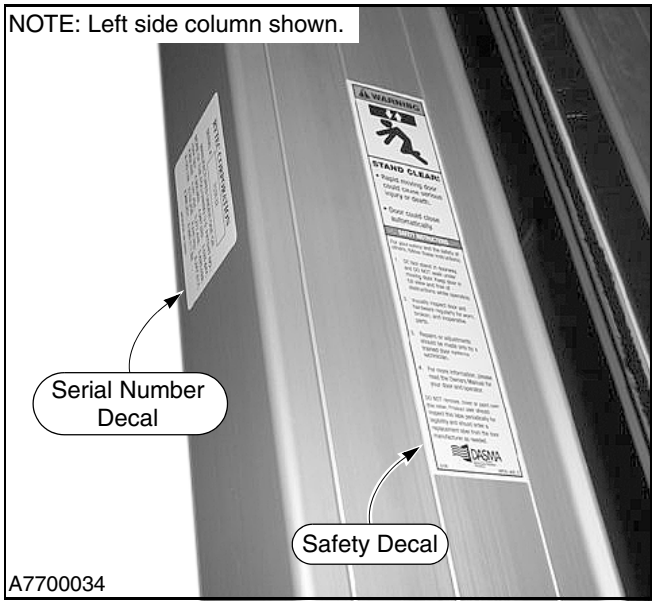

Figure 26

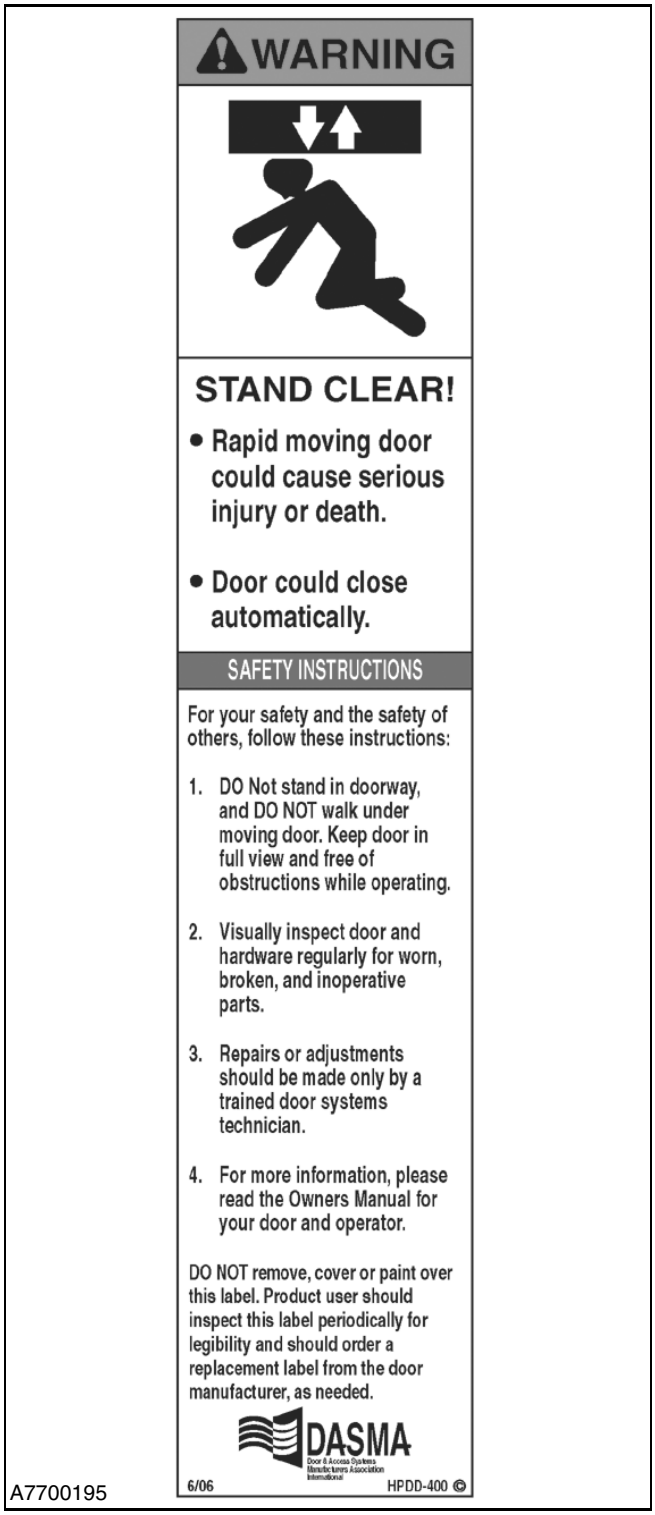

Figure 27

ADJUSTMENT

DOOR LIMITS

Setting Limits

⚠ CAUTION

Damage to the rubber reversing edge or other bottom bar parts can occur if the door seal is allowed to seal too tightly against the floor. (See Figure 29.)

See the System 4 Drive & Control RY-WI System Installation and Owner's Manual for setting door limits.

Set open door limits with the lower edge of the bottom bar even with the lintel of the door opening. (See Figure 28.)

OPEN LIMIT

The open-limit position should be adjusted so that the door travel allows the bottom bar assembly to stop even with the lintel. (See Figure 28.)

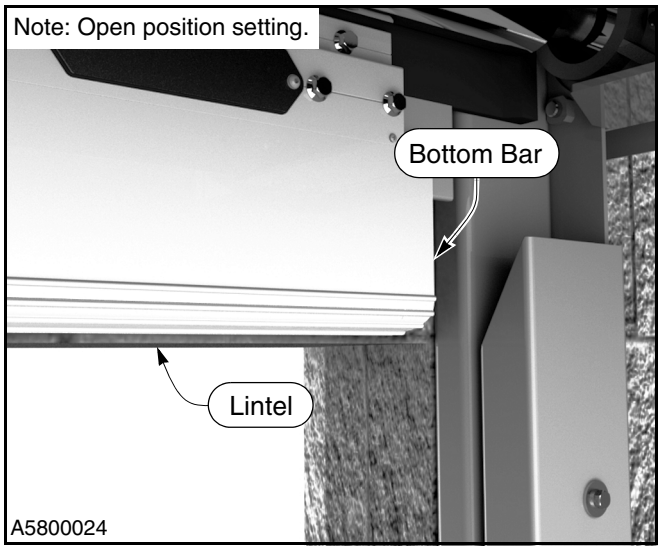

Figure 28

CLOSE LIMIT

With the door in the closed position, check the reversing edge. It should be in the position shown in Figure 29.

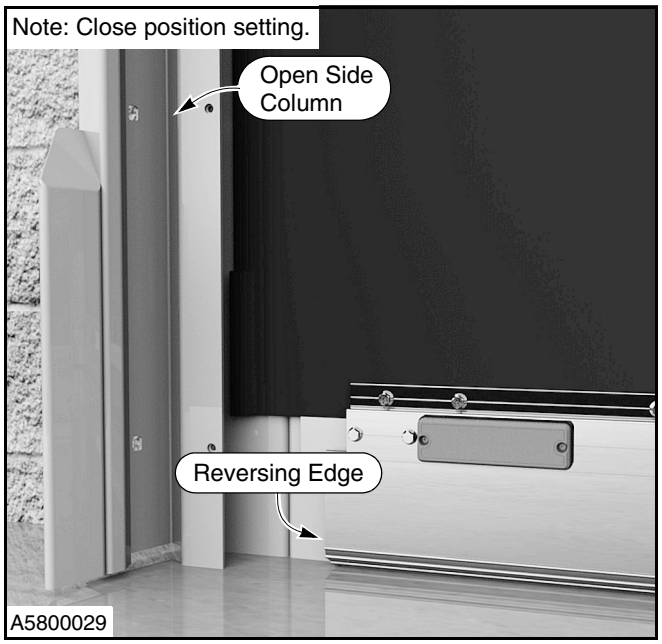

Figure 29

LIGHT CURTAIN

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

Both the emitter and receiver light curtains have been installed at the factory. These are non-adjustable. If there is an issue with the light curtains:

1. Check for damage. This is a highly sensitive instrument and the slightest crack will cause it to malfunction.
2. Check the hardware. Make sure it is straight and tight. Bent, loose, and sagging hardware will cause a misalignment. Replace hardware as needed.
3. Make sure the lens is clean. Use a mild detergent and water moistened cloth and wipe clean with a lint-free cloth.
4. Check the light curtain cable. Make sure it has a solid connection and is free of damage of any kind.
5. Check the settings. See the System 4 Drive & Control RY-WI System Installation and Owner's Manual.

NOTE: The door will not operate until the light curtains are in alignment.

KILL SWITCH

To adjust the switch:

1. Remove the slotted screw.
   - Re-insert the screw and turn it clockwise 2½ to 3 full turns.
   - Operate the door and bump the bottom bar during travel. The door should continue to run. If the door stops and goes into “F:060 Door ajar repair”, turn the slotted screw in another ½ turn clockwise and test again. The door is designed to be impacted very hard before “F:060 door ajar repair” is initiated.

NOTE: The vibration sensors are set for a very heavy impact. To test vibration sensors, use a rubber mallet and with a hard blow strike the bottom bar in the middle. This test should be performed from both sides of the bottom bar. If the sensor is too sensitive, turn the screw clockwise to make the switch less sensitive.

Vibration Sensor — Side View

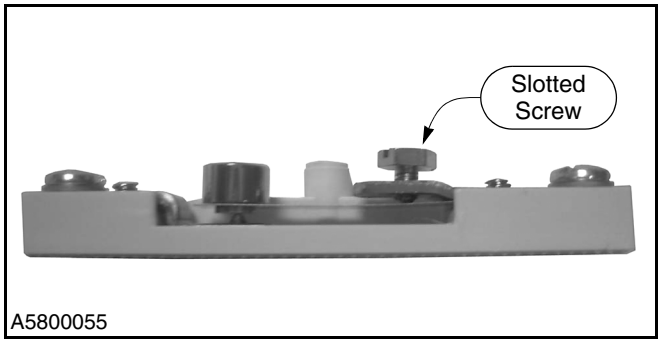

Figure 30

Vibration Sensor — Top View

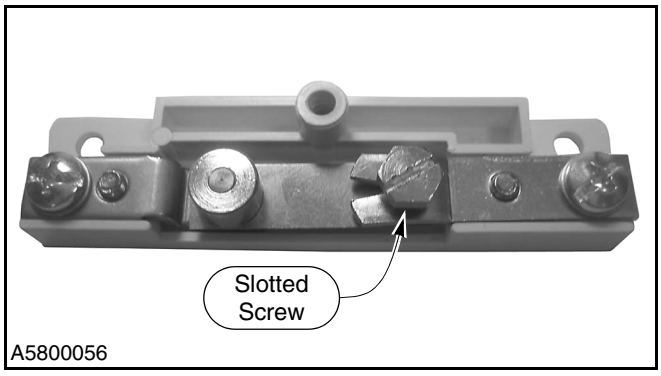

Figure 31

2. Retest kill switch.

REPLACEMENT PROCEDURES

BRUSH SEAL(S)

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

1. Open both side column doors.

Figure 32

2. Raise the door panel and leave it in the half-open position. Turn off power to the door.
3. Use a forklift or other lifting device to support the weight of the bottom bar.
4. Gain access to the rear spreader by moving the door panel away from the wall. (See Figure 33.)

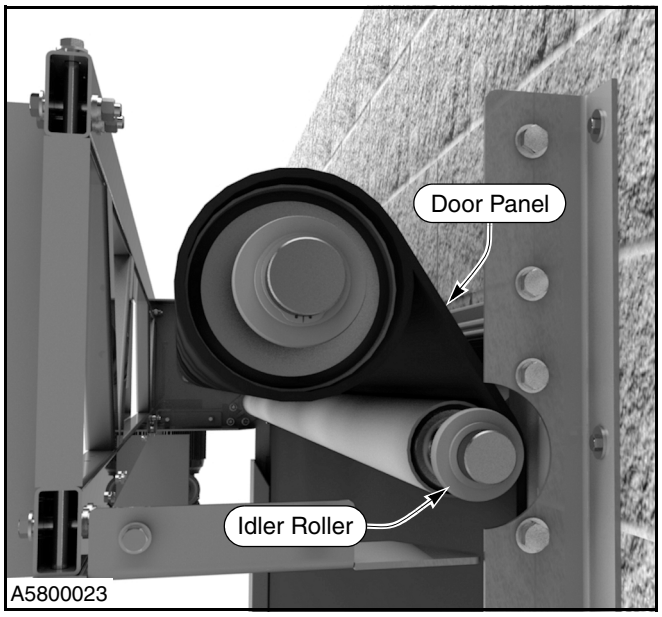

Figure 33

5. Remove the serrated flange lock nuts and rear spreader track. (See Figure 34.)

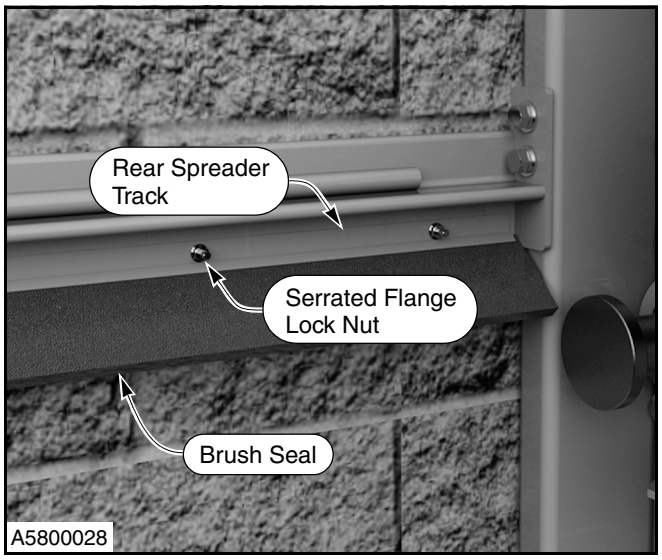

Figure 34

6. Remove the old brush seal and replace with a new one.
7. Install the rear spreader track and serrated flange lock nuts.
8. Detach the bottom bar from the lifting device and place the bar gently back into the side columns.
9. Close the side column doors.
10. Restore power to the door.

NOTE: The door panel will reset itself after the power has been restored.

11. Perform an operations check. Adjust door limits as needed.

BOTTOM BAR WIND STOPS

⚠ WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

1. Make sure the door is in the open position.
2. Turn off power.
3. Remove the cap screws, lock washers, and bottom bar stop.

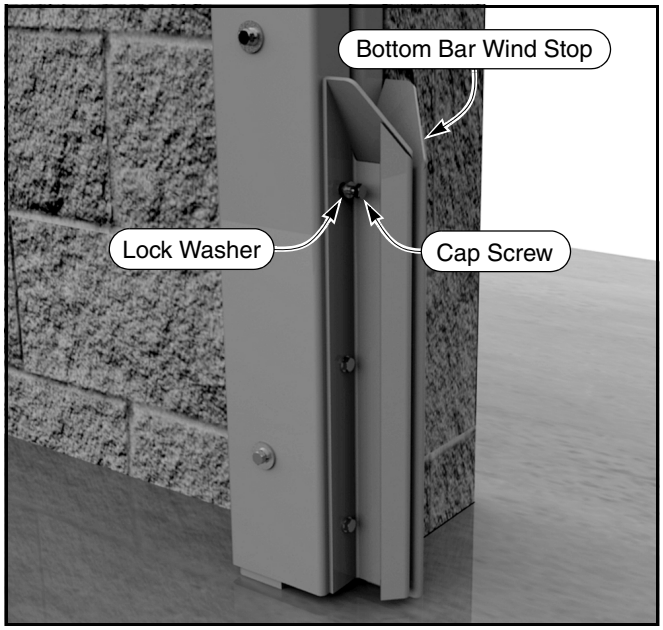

Figure 35

4. Install a new bottom bar wind stops. Use the hardware that was previously removed.

NOTE: The mounting holes are elongated on the bottom bar wind stops. The stops must be installed and adjusted so the gap is as large as possible to accept the SBR rubber panel and end brackets. Failure to do so may cause binding of the door panel in the wind stops.

5. Restore power and return the door to service.

PARTS LIST

PARTS ORDERING INFORMATION

How to Order Parts

1. Identify the parts required by referring to the following pages for part numbers and part descriptions.
2. To place an order, contact your local Rytec representative or the Rytec Technical Support Department at 1-800-628-1909 or 1-262-677-2058 (fax). Emails may be sent to: parts@rytecdoors.com.
3. To ensure the correct parts are shipped, please include the serial number of your door with the order.

*NOTE: Your **DOOR SERIAL NUMBER** information can be found halfway up the left side column. (See Figure 1.)*

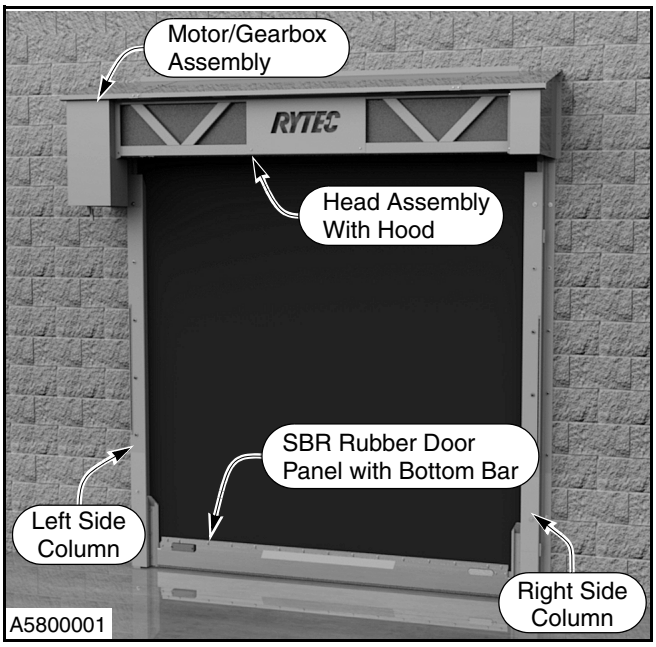

Figure 1

Substitute Parts

Due to special engineering and product enhancement, the actual parts used on your door may be different from those shown in this manual.

Also, if a part has been improved in design and bears a revised part number, the improved part will be substituted for the part ordered.

Return of Parts

Rytec will not accept the return of any parts unless they are labeled with a Return Merchandise Authorization (RMA) or incident number.

Before returning any parts, you must first contact the Rytec Technical Support Department and obtain a Return Merchandise Authorization (RMA) and an incident number.

HEAD ASSEMBLY

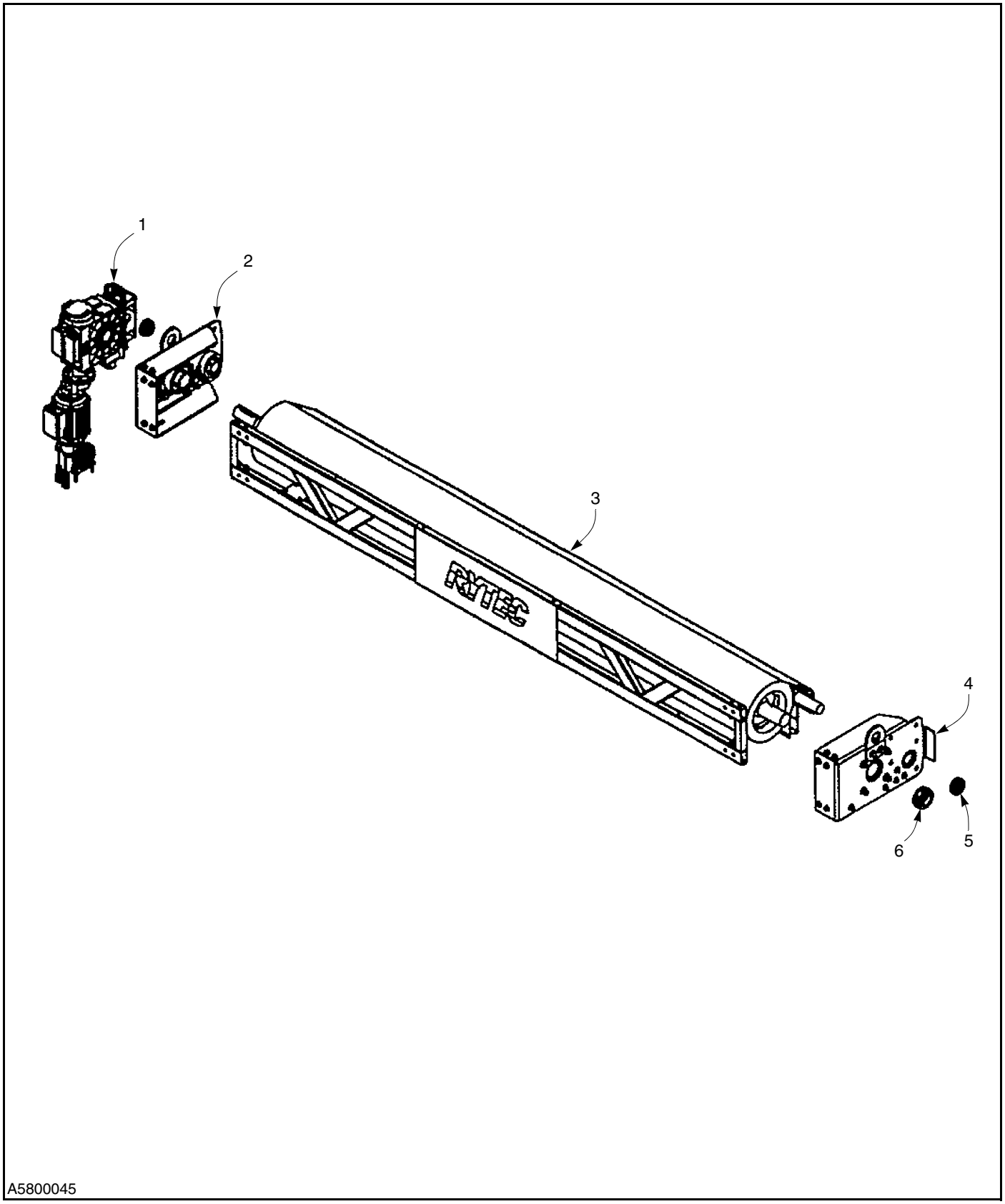

Figure 2

ITEM	QTY.	PART #	DESCRIPTION
1	1	Consult Factory	Motor/Gearbox Assembly
2	1	Consult Factory	Bearing Plate Assembly, Left Hand
3	1	Consult Factory	Door Panel Assembly
4	1	Consult Factory	Bearing Plate Assembly, Right Hand
5	2	5550125-0Z01	Shaft Collar, Split, 3.00 OD x 2.00 ID x 0.69
	6	5550127-0Z01	Shim, 3.00 OD x 2.00 ID x 0.13
6	2	5550124-0Z01	Shaft Collar, Split 4.00 OD x 2.75 ID x 0.88
	3	5550126-0Z01	Shim, 3.75 OD x 2.75 ID x 0.19

SIDE COLUMN ASSEMBLY

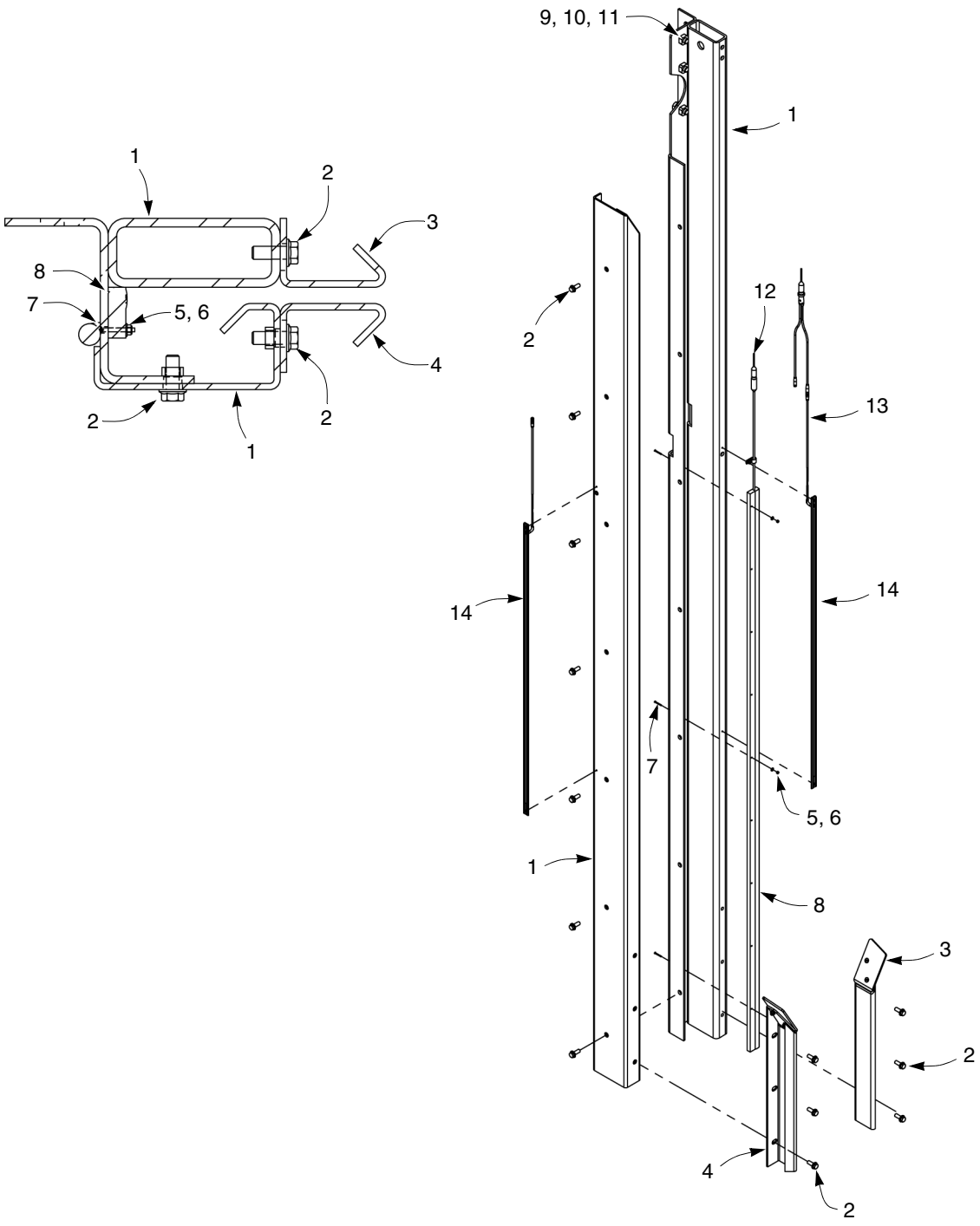

Figure 3

ITEM	QTY.	PART #	DESCRIPTION
1	1	Consult Factory	Weldment, LH Side Column
	1	Consult Factory	Weldment, RH Side Column
2	A/R	5550155-0Z01	Cap Screw, Hex Head, 3/8-16 x 1.00 GR8.2 ZN
3	1	1600540-2	Assembly, Bottom Stop with Extended Flange, RH*
4	1	1600540-1	Assembly, Bottom Stop with Extended Flange, LH*
5	3	0021005	Washer, Flat, #4 SS
6	3	5550062-0	Nut, Nylock, #4 SS
7	3	5550133-0Z01	Screw, #4-40 x 1.00, STL ZN
8	1	1600543-0A00	Light Curtain, Emitter, 2000 mm
	1	1600097-0A00	Light Curtain, Receiver, 2000 mm
9	4	5550128-0Z01	Washer, 0.625 I.D.
10	4	0554120	Washer, 5/8-in. Lock
11	4	5550109-0Z01	Cap Screw, Hex Head, 5/8-11 x 1.50
12	2	0012869	Cable, Micro Connector, Female
13	1	00142010	LED, Split Connector, Turck VBRS 4-2PSG
14	4	1600140-0	LED (Light Emitting Diode) Assembly

HOOD ASSEMBLY

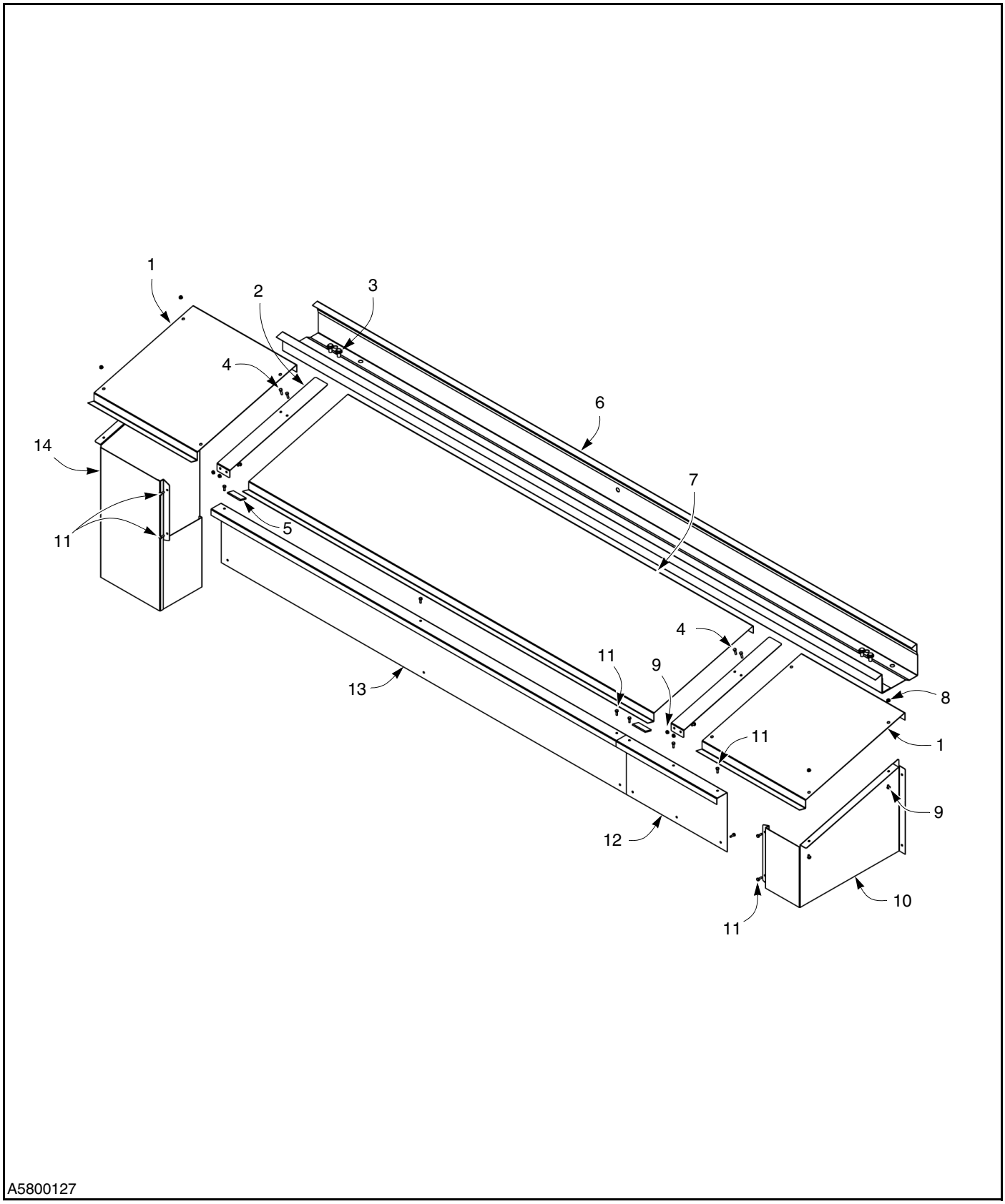

Figure 4

ITEM	QTY.	PART #	DESCRIPTION
1	2	1600204-0	Hood, Top, Cut*
2	2	1600214-0	Cap, Hood Seam*
3	4	0550187	Screw, Serrated Flange, 1/2-13 x 1
4	A/R	0551041	Screw, TEK, 1/2 x 1
5	A/R	1600251-0	Clip, Hood
6	1	1600276-0	Weldment, Hood Spreader*
7	1	1600203-0	Hood, Top, Full*
8	A/R	0021048	Hex Flanged Serrated Machine Screw, 1/4-20 x 1/2, GR5.2
9	A/R	0553103	Nut, Flange Lock, 1/4-20
10	1	1600212-2A00	End Cover, Non-Drive Side, A-Size*
		1600212-2B00	End Cover, Non-Drive Side, B-Size*
		1600212-2C00	End Cover, Non-Drive Side, C-Size*
		1600211-2A00	End Cover, Drive Side, A-Size*
		1600211-2B00	End Cover, Drive Side, B-Size*
		1600211-2C00	End Cover, Drive Side, C-Size*
11	A/R	5550209-0Z01	HWSDS, , 1/4-20 x 1/2, 410 SS
12	1	1600206-0A00	Hood, Front Cut, A-Size*
		1600206-0B00	Hood, Front Cut, B-Size*
		1600206-0C00	Hood, Front Cut, C-Size*
13	1	1600205-0A00	Hood, Front Full, A-Size*
		1600205-0B00	Hood, Front Full, B-Size*
		1600205-0C00	Hood, Front Full, C-Size*
14	1	1600211-1A00	End Cover, Drive Side, A-Size*
		1600211-1B00	End Cover, Drive Side, B-Size*
		1600211-1B00	End Cover, Drive Side, C-Size*
		1600212-1A00	End Cover, Non-Drive Side, A-Size*
		1600212-1B00	End Cover, Non-Drive Side, B-Size*
		1600212-1C00	End Cover, Non-Drive Side, C-Size*

NOTE: If the door has a top seal, then bracket 1650026-1, 1650026-2, and hardware are included with top seal assembly and not included in hood assembly.

*All cover pieces require a door serial number and are made specific to each door assembly.

REAR SPREADER ASSEMBLY

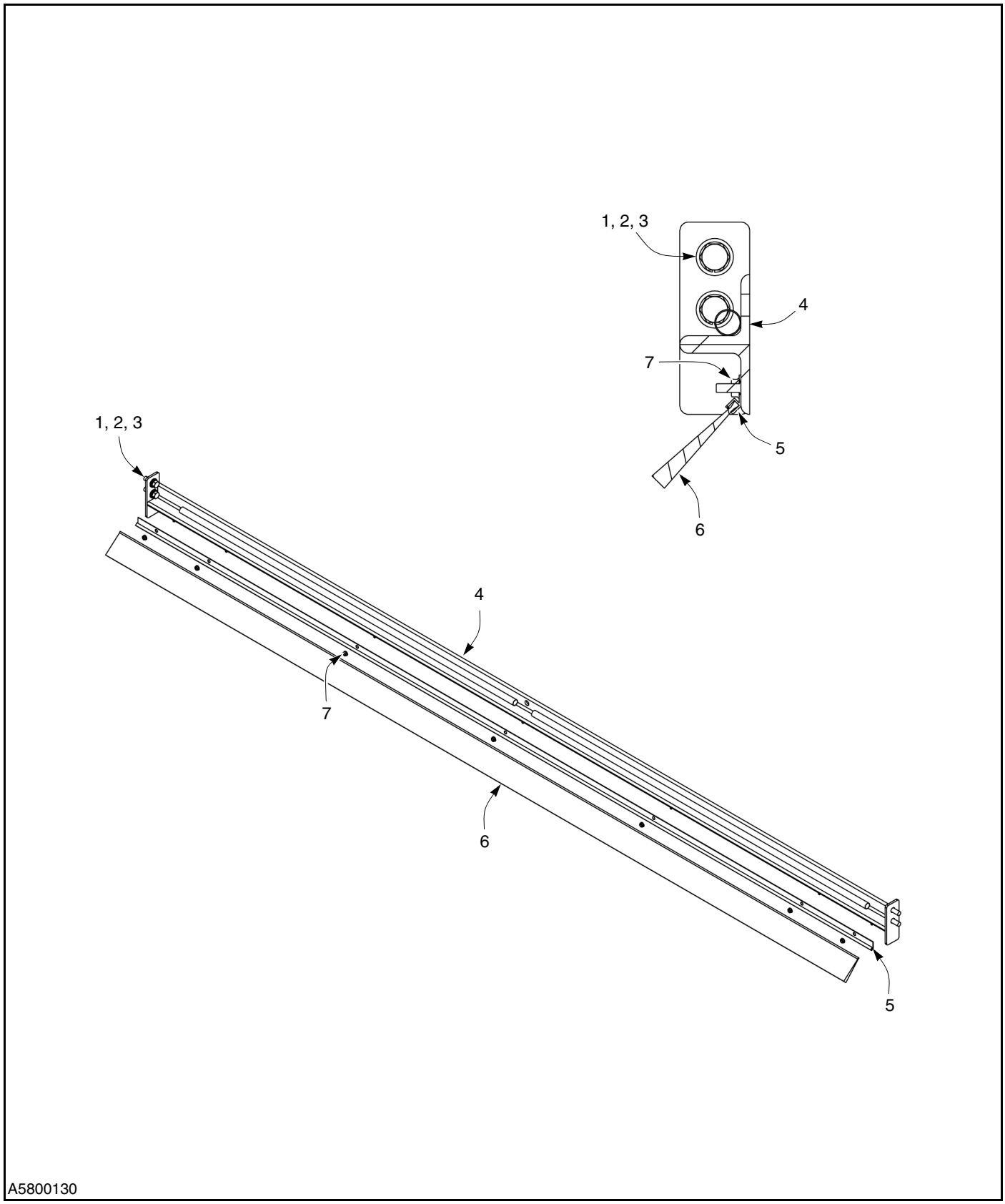

Figure 5

ITEM	QTY.	PART #	DESCRIPTION
1	4	5550129-0Z01	Washer, 0.50 ID
2	4	0554121	Washer, Split Lock, 1/2-in.
3	4	0550018	Capscrew, Hex Head, 1/2-13 x 1 1/2
4	1	1600079-0	Weldment, Rear Spreader*
5	1	1600081-0	Track, Rear Spreader*
6	1	1600082-0	Brush, Rear Spreader*
7	A/R	0553103	Lock Nut, 1/4-20, Hex Serrated Flange, STL ZN

* Requires door serial number

DRUM AND DOOR PANEL ASSEMBLY

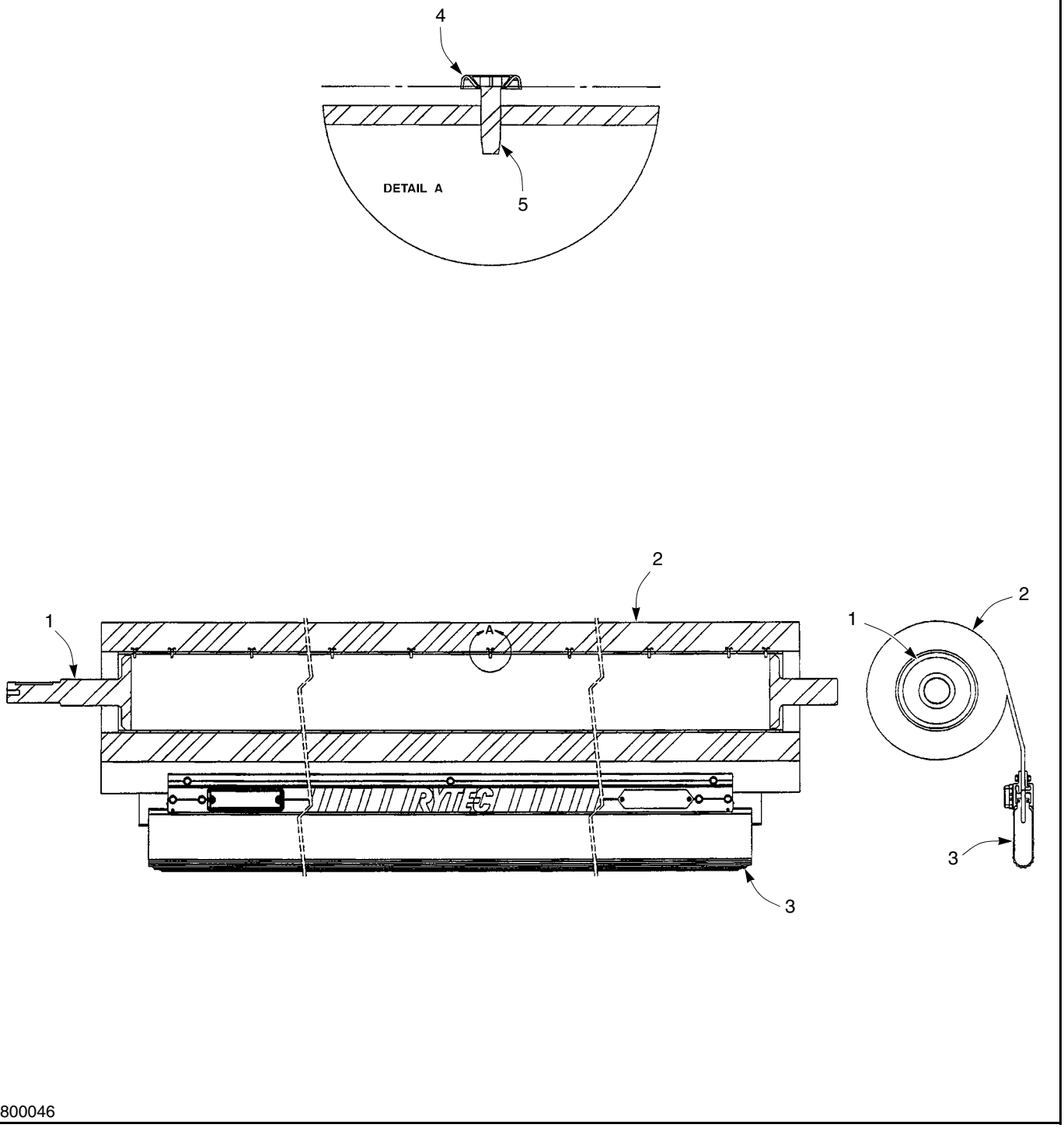

Figure 6

ITEM	QTY.	PART #	DESCRIPTION
1	1	Consult Factory	Drum Weldment
2	1	Consult Factory	Panel Assembly
3	1	Consult Factory	Bottom Bar Assembly
4	A/R	5550135-0Z01	Washer, Finish 3/8-in.
5	A/R	5550185-0Z01	Screw, Self Tapping 5/16-18 x 2.00

BOTTOM BAR ASSEMBLY

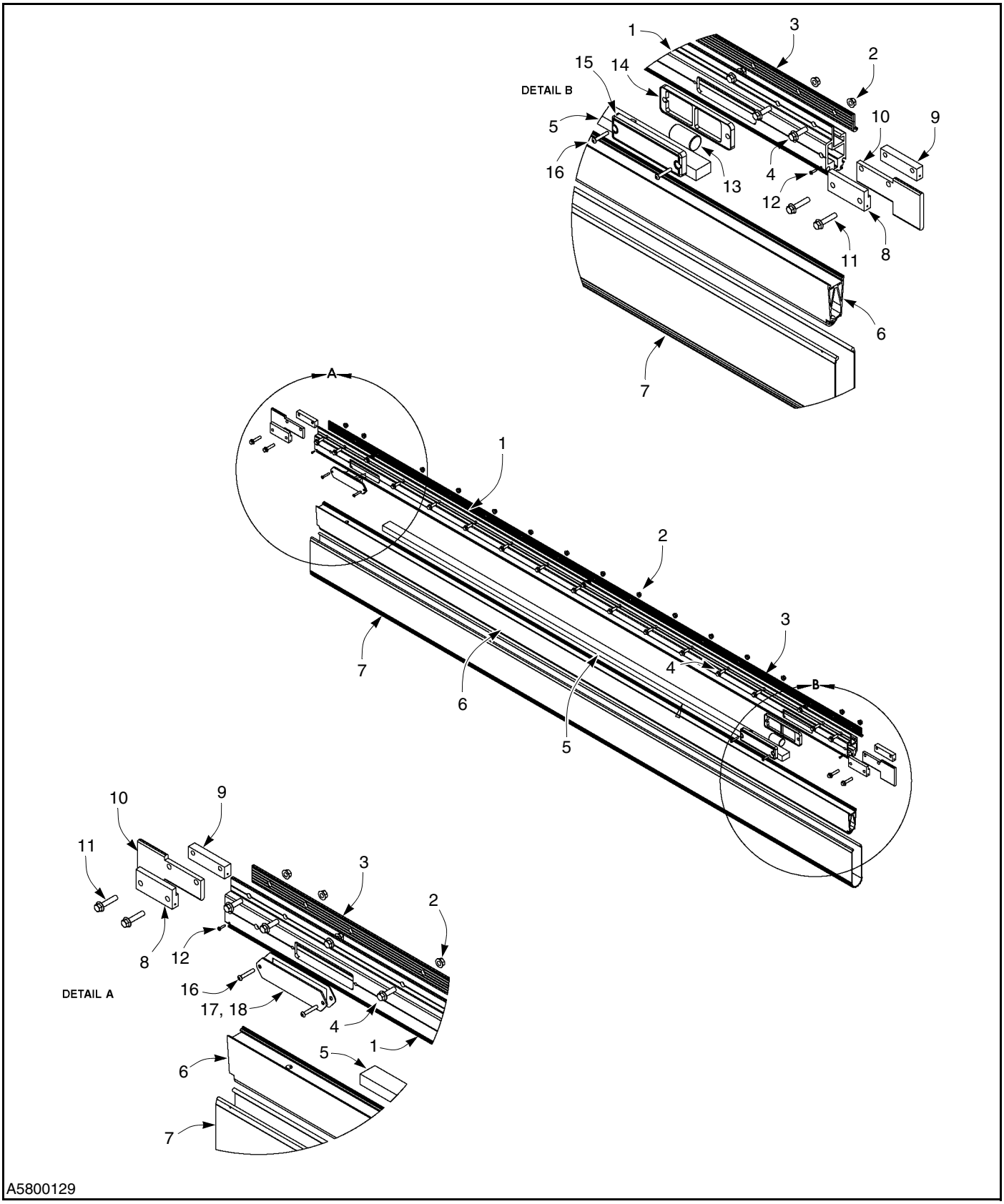

Figure 7

ITEM	QTY.	PART #	DESCRIPTION
1	1	Consult Factory	Bottom Bar Extrusion
2	A/R	0553229	Hex Lock Nut Serrated Flange, 3/8-16
3	1	Consult Factory	Clamp, Bottom Bar
4	A/R	0550261	Screw, 3/8-16 x 1 1/4, Hex Serrated Flange, GR5.2
5	1	Consult Factory	Weight, Bottom Bar
6	1	Consult Factory	Reversing Edge Assembly
7	1	1600265-0D00	Bottom Loop Extrusion
8	2	1600198-0 1600198-0Z01	Spacer, Front End Bracket
9	2	1600199-0 1600199-0Z01	Spacer, Rear End Bracket
10	2	1600200-0Z01	End Bracket
11	4	0021709	Screw, 3/8-16 x 1 3/4, Hex Serrated Flange, GR5.2
12	2	0550235	Screw, #6-32 UNC x 5/8 Pan Head Self Tapping
13	1	00111193	Battery, 3.6 Volt Lithium
14	1	1070625-0	Gasket, Wireless Cover
15	1	1060117-0	Cover Assy, Mobile Unit
16	4	S021793	Screw, 1/4-20 x 1 1/2, SS
17	1	1600230-0	Gasket, Vibration Switch Assembly
18	1	1060061-0Z01	Cover Bottom Bar

BEARING PLATE ASSEMBLY

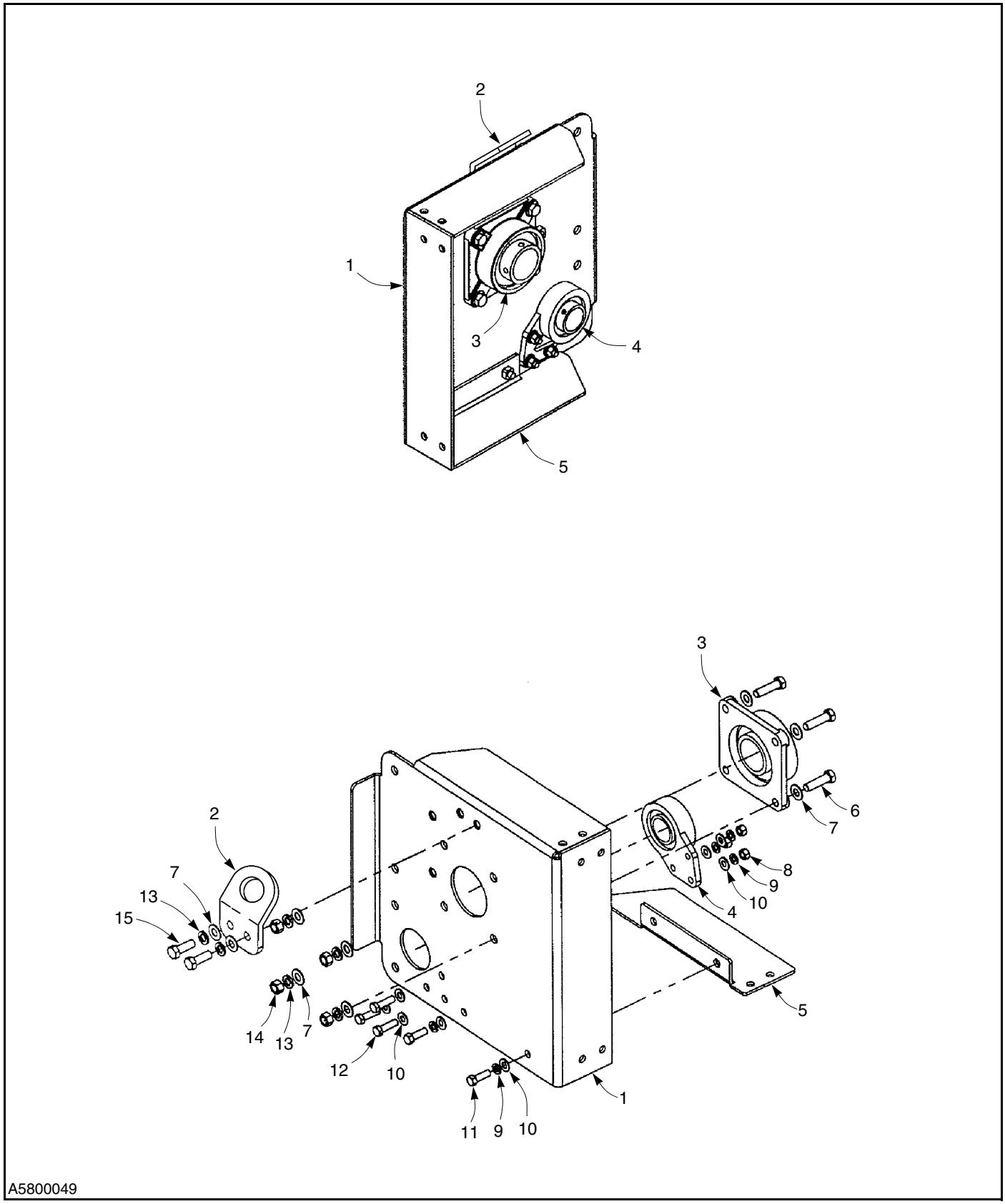

Figure 8

ITEM	QTY.	PART #	DESCRIPTION
1	1	Consult Factory	Bearing Plate, LH Bearing Plate, RH
2	2	1600119-0	Lifting Lug
3	2	1600043-0	Bearing, Drum
4	2	1600044-0	Bearing, Idler
5	2	Consult Factory	Bottom Cover, Side Plate
6	4	5550111-0Z01	Screw, 5/8-11 x 2 1/4, Hex Head Cap Screw, GR8 ZY
7	10	5550128-0Z01	Washer, 5/8-in. ID STL ZN
8	3	0553096	Nut, 1/2-13 UNC, Hex ZN
9	5	0554142	Washer, 1/2-in. Split Lock, ZN
10	8	5550129-0Z01	Washer, 1/2-in. ID, STL ZN
11	2	0550018	Nut, 1/2-13 UNC x 1 1/2, STL ZN
12	3	5550130-0Z01	Screw, 1/2-13 x 1 3/4, Hex Head Cap Screw, GR8 ZY
13	6	0554120	Washer, 5/8-in., Lock
14	4	0553092	Nut, 5/8 UNC, Hex, STL ZN
15	2	5550110-0Z01	Screw, 5/8-11 x 1 3/4, Hex Head Cap Screw, GR8 ZY

MOTOR GEARBOX ASSEMBLY

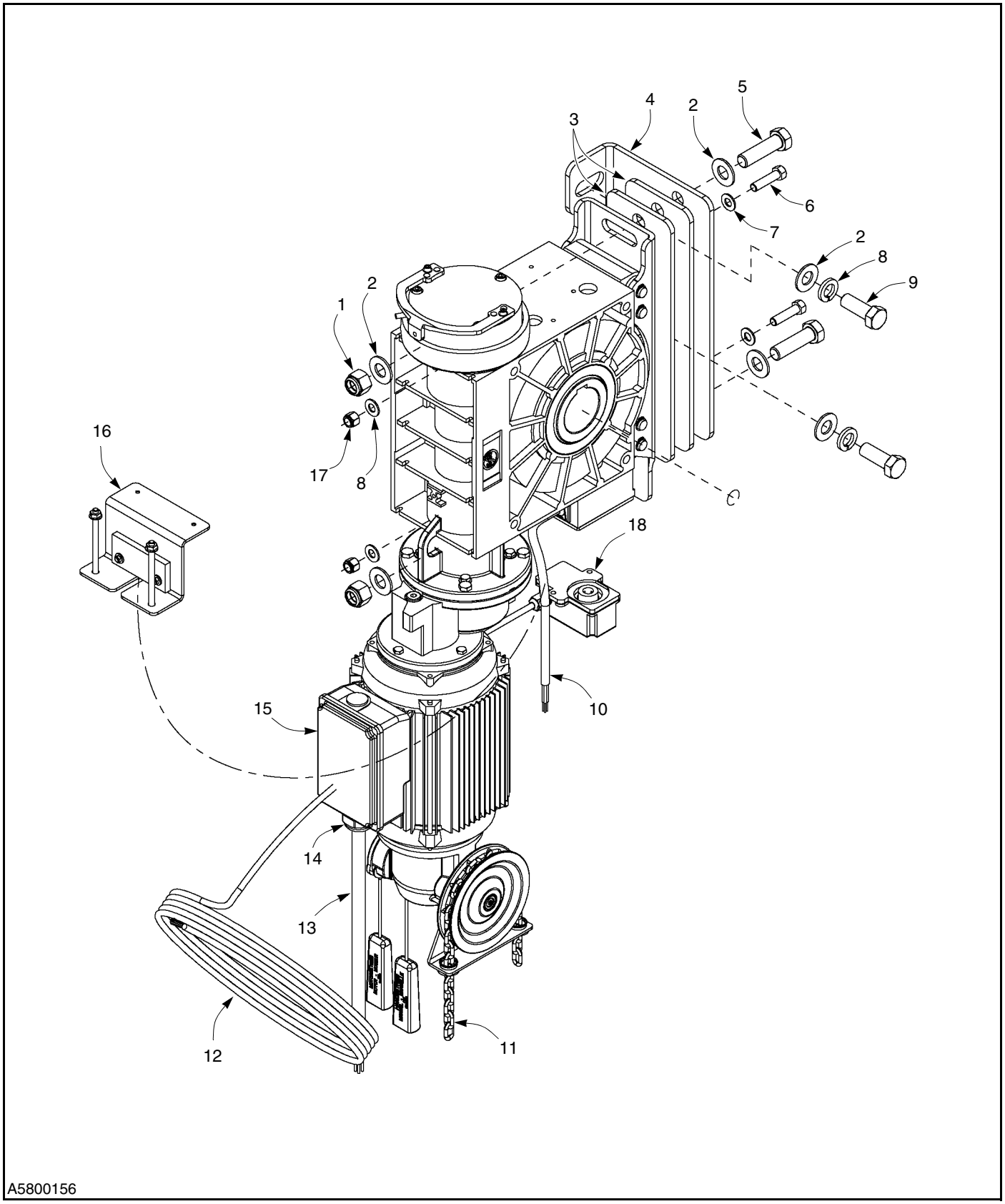

Figure 9

ITEM	QTY.	PART #	DESCRIPTION
1	2	5550190-0Z01	Hex Lock Nut Nylon Insert, 5/8-11, STL ZN
2	6	5550128-0Z01	Washer, 5/8 ID, STL ZN
3	2	1600054-0	Pad, Motor Mount
4	1	1600053-2	Bracket, Motor Mount, RH
	1	1600053-1	Bracket, Motor Mount, LH
5	2	5550111-0Z01	Hex Head Cap Screw, 5/8-11 x 2 1/4, GR8 ZY
6	2	0021069	Screw, HHC, 3/8-16 x 1 1/2, GR5
7	4	0555146	Washer, Flat, 3/8
8	2	0554120	Washer, Lock, 5/8
9	2	5550110-0Z01	Hex Head Cap Screw, 5/8-11 x 1 3/4, GR8 ZY
10	1	00142019	Cable, Brake, Non Shielded, SEOOW Type 4 Conductor
11	1	1600524-0	Chain Hoist Assembly
12	1	00141086	Encoder Cable Female, A, 8 Pin, 15
13	1	00142018	Cable, Motor, Shielded, 4 Conductor, SEOOW
14	1	1210342-0	Cord Grip, M25 x 1.5
15	1	Consult Factory	Motor-Gearbox Assembly
16	1	1600094-0	Antenna Bracket Assembly
17	1	0553315	Hex Nylock Nut, 3/8-16 UNC
18	1	00141057	Encoder

NOTES