R Y T E C

Powerhouse Model SD®

Owner's Manual



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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.

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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—HOW TO USE MANUAL

INTRODUCTION

The information contained in this manual will allow you to install 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, which 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 INSTALL, 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 Customer 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 is used to indicate the potential for personal injury, if the procedure is not performed as described.



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 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: When installing multiple doors of the same model, verify & match the serial numbers of all the components for each door/ kit (i.e. control panel, side columns, head assembly, wind bar, etc.).



Figure 1

SAFETY—GENERAL ARRANGEMENT OF DOOR COMPONENTS

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 view of the door. Left and right are determined when viewing the front side of the door.





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)





• 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, closedelay 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 (OPTIONAL)

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 nonautomatic 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.

OPERATION—PHOTO EYES (OPTIONAL)

PHOTO EYES (STANDARD)

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 or interrupts 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: break- away 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



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

 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.

OPERATION—POWER DRIVE SYSTEM

- 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)





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.

MANUAL DRIVE SYSTEM



The disconnect must be in the OFF position and properly locked and tagged before proceeding and 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 set- tings will not be affected when switching the power off and back on. The door will return to a normal operating mode. (See Figure 7)



PLANNED MAINTENANCE

RECOMMENDED SCHEDULE

NOTE: The following maintenance schedule is recommended for your Rytec Door.

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

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, straps, damage to side columns, lights, excessive wear, loose/damaged/ missing fasteners, etc. (See 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.



Figure 8

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 9)



Figure 9

PLANNED MAINTENANCE—DAILY INSPECTION

Light Curtain Inspection (Optional)

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)





Photo Eye Inspection (STANDARD)

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

- 1. 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.
- 2. Repair or replace items as needed.
- 3. After all work is complete, clean the lens of each photo eye using window cleaner and a soft, clean cloth.

PLANNED MAINTENANCE—DAILY INSPECTION

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



DO NOT stand under the door when per-forming 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.

- Move the door to the open position by pressing the door open (▲) button located on the control panel.
- 2. Press the door close ($\mathbf{\nabla}$) 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)

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.



Figure 13

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.

Windbar Strap Inspection (Optional Feature)

Inspect the Windbar Straps on the door if installed. Each strap should be in good condition with no visible fraying, cuts, or tears. Replace the strap(s) if necessary.

QUARTERLY INSPECTION

AWARNING

The disconnect must be in the OFF position and properly locked and tagged before proceeding and 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 Figures 15 and 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 proceeding and 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)



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

- 1. Turn off power to the door.
- 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



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

- 1. Turn off power to the door.
- 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.



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

- 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.
- Inspect the reversing edge to ensure that it is tightly secured to the bottom bar.



Figure 21

- 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.

Brush Seal Inspection





- 1. Inspect the brush seal for wear or damage. Replace as necessary. (See Figure 22)
- NOTE: The brush seal is mounted on the rear spreader.

Kill Switch Inspection

A kill switch assembly (vibration sensors) have been installed in the breakaway 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:

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



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.

Door Limit Inspection

See the Rytec System 4 Drive & Control Installation & Owner's Manual for the proper procedure for setting the open and close door limits. The open- and close-limit door positions are detailed in the "ADJUSTMENT – DOOR LIMITS" section of this manual, page 14.

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. Manu- ally 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

- 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.

Electrical Connection Inspection



The disconnect must be in the OFF position and properly locked and tagged before proceeding and 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



The disconnect must be in the OFF position and properly locked and tagged before proceeding and 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



Windbar System Inspection (Optional Feature) STRAPPED WINDBAR (IF INSTALLED)

- 1. Move the door panel to the open position.
- 2. Turn off the power to the door.

WARNING

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

3. Inspect all strapped windbars (if installed). When the door is opened, a strapped windbar should be approximately at or just above the top of the door opening. When both front and rear windbars are installed, once the front windbar is properly positioned, the rear windbar should be at the same height. If the Windbars are too low they will be in the open doorway and infringe traffic. (See Figure 28)



Figure 28

- 4. If a strapped windbar is out of position or not level, adjust the windbar. (See "STRAPPED WINDBAR ADJUSTMENT (OPTIONAL FEATURE)" on page 15)
- Inspect each windbar strap for wear and tear, and frayed edges. Replace as required. (See "WIND-BAR STRAP REPLACEMENT" on page 18)
- Check the windbar end rollers. They should each be tightly secured to each end of the windbar. Replace damaged end rollers and any loose snap rings holding the end rollers in place.
- 7. Turn on the power to the door.
- 8. When the door is closed the Windbar should be approximately at the middle of the door.

ADJUSTMENT—DOOR LIMITS

ADJUSTMENT

DOOR LIMITS

Setting Limits

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

OPEN LIMIT

Set open door limits with the lower edge of the bottom bar even with the lintel of the door opening. (See Figure 29)

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 29)





CLOSE LIMIT

Set closed door limits so that door travel allows the lower edge of the bottom bar to gently seal against the floor resting lightly on the floor of the door opening. (See Figure 30)

With the door in the closed position, check the reversing edge. It should be in the position shown in Figure 30.

ACAUTION

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 30)



Figure 30

LIGHT CURTAIN (OPTIONAL)



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

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

- 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. (See Figures 31 & 32)
- Re-insert the screw and turn it clockwise $2\frac{1}{2}$ 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.



Figure 31 Vibration Sensor — Top View



Figure 32

2. Retest kill switch.

STRAPPED WINDBAR (OPTIONAL)

- 1. Move the door panel to the open position.
- 2. Turn off the power to the door.



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

3. The windbar(s) should be in the position shown in Figure 33



Figure 33

4. Inspect all strapped windbars (if installed). When the door is opened, a strapped windbar should be approximately at or just above the top of the door opening. When both front and rear windbars are installed, once the front windbar is properly positioned, the rear windbar should be at the same height. If the Windbars are too low they will be in the open doorway and infringe traffic. (See Figure 33)



Keep tension on the windbar straps when adjusting. The windbar is free to fall when windbar straps are not retained by the clamp plates, therefore the windbar must be secured at all times.

5. To adjust the rear windbar, pick up the windbar assembly with a forklift. Make sure the windbar is centered and securely supported on the forklift.

ADJUSTMENT—STRAPPED WINDBAR (OPTIONAL)

- 6. Loosen the rear strap clamp bolts and loosen the straps up or down through the clamps as necessary. Move the Windbar up or down, as required, by raising or lowering the windbar on the forklift. Also make sure the Windbar is level. (See Figure 34)
- 7. Retighten the straps in the strap clamps after properly leveling and adjusting the Windbar height.
- Retighten the clamp bolts when the Windbar is in the correct position and the straps retightened. (See Figure 34)



Figure 34

9. To adjust the front windbar, pick up the windbar assembly with a forklift. Make sure the windbar is centered and securely supported on the forklift.



Figure 35

- 10. Loosen the front strap clamp bolts and loosen the straps up or down through the clamps as necessary. Move the Windbar up or down, as required, by raising or lowering the windbar on the forklift. Also make sure the Windbar is level. (See Figure 35)
- 11. Retighten the straps in the strap clamps after properly leveling and adjusting the Windbar height.
- Retighten the clamp bolts when the Windbar is in the correct position and the straps retightened. (See Figure 35)
- 13. Turn on the power to the door.
- 14. Run the door through four or five complete cycles to verify that the door and Windbar(s) are operating smoothly and efficiently, and that binding or unusual noises do not exist. Readjust as necessary.

REPLACEMENT PROCEDURES—BRUSH SEAL

REPLACEMENT PROCEDURES

BRUSH SEAL(S)



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

1. Open both side column doors.



Figure 36

- 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 37)



Figure 37

5. Remove the serrated flange lock nuts and rear spreader track. (See Figure 38)



Figure 38

- 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.

REPLACEMENT PROCEDURES—BOTTOM BAR WIND STOPS

BOTTOM BAR WIND STOPS

WARNING

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

- 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. (See Figure 39)



Figure 39

- 4. Install 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.

WINDBAR STRAPS

All installation and operating instructions from the Powerhouse Model SD Installation Manual and Owner's Manual apply and must be followed when installing and operating your door with Rear and/or Front Mounted Windbar Assembly.

 Completely unroll the door panel/bottom bar so that you can gain full access to the drum for installation of the front windbar straps. Turn off the door's power. (See Figure 40)



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



Figure 40

2. Pick up the windbar assembly with a forklift. Make sure the windbar is centered and securely mounted on the forklift. Lift the windbar up in the Windbar Tracks mounted on the door's side column assemblies until the straps are loose.

REPLACEMENT PROCEDURES—WINDBAR STRAPS (OPTIONAL)



- Figure 43
- 4. Loosen the existing panel/drum mounting fasteners (screws and washers) within the area of the mounting strap that is directly over, and adjacent to, the windbar straps as well as between the strap clamps. Loosen them just enough to allow removing and installing the straps. (See Figure 43)
- 5. Loosen the strap clamps securing them in place. Take note of how the straps are routed on the assembly.
- 6. Remove the old straps from the clamps and drum.
- 7. Replace the new straps onto the drum/panel assembly by routing them the same as the ones removed.

For the FRONT WINDBAR STRAP's:

- a. Place a Windbar Strap on the front side of the door panel and pull one end up, between the panel and drum, **between** the two clamps. (See Figures 43 and 44)
- b. Wrap the strap one (1) full wrap around the drum, pulling the strap end **under** both clamps. (See Figures 43 and 44)

REPLACEMENT PROCEDURES—WINDBAR STRAPS (OPTIONAL)

 c. Pull the strap end back between the two clamps in the opposite direction and under the strap. Leave approximately 6" of excess strap pulled through the clamps. (See Figures 43 and 44)



For the REAR WINDBAR STRAP's:

a. Place a Windbar Strap on the rear side of the door panel and pull one end up and over the panel and drum, then **between** the two clamps. (See Figure 43)





b. Wrap the strap one (1) additional full wrap around the drum, pulling the strap end under the panel and drum and **under** both clamps. (See Figures 43 and 45)

- c. Pull the strap end back **between** the two clamps in the opposite direction and **under** the strap and panel. Leave approximately 6" of excess strap pulled through the clamps. (See Figures 43 and 45)
- 8. Adjust the straps so they are nearly straight. Also adjust them so they are evenly and symmetrically placed on the drum and in the clamps. (See Figures 43, 44, and 45)
- 9. Securely fasten the straps in the strap clamps by tightening the clamp screws. (See Figures 43, 44, and 45)
- 10.Retighten the panel/drum mounting screws. (See Figure 43)



Do not strip the tapped hole threads.

11. Route the Windbar Straps down from the panel drum between the Windbar and Panel, under the Windbar, and back up on the other side of the Windbar to the Front or Rear Strap Clamp assemblies on either side of the Head Assembly Front Truss as shown. Make sure not to twist the straps, route them symmetrically, and along the shortest distance between the drum mount and the respectively mounted strap clamp assemblies. (See Figure 46)



Figure 46

REPLACEMENT PROCEDURES—WINDBAR STRAPS (OPTIONAL)

- 12. Pull both the Windbar Straps taught. Secure the straps in the front mounted Strap Clamp Assemblies as shown. (See Figures 41 and/or 42)
- 13. Check that the Windbar is level and approximately Dim "E" from the floor to the Windbar centerline ("E" = Door Height / 2). Adjust the straps as required. (See Figure 46)
- 14. After the Windbar is positioned correctly in the door closed position, tighten all the fasteners.
 - IMPORTANT: Windbar Straps length must be equal when fully installed. If this is not done, Door and Windbar performance will be affected and may result in door operation failure or damage.
- 15. Take the extra length of Windbar Strap and roll it up in a tight roll. Zip tie the strap roll to the taught strap by the clamp assembly. Do not cut off the strap ends. Further adjustment may be necessary in the future.
- 16. Remove the forklift from under the windbar.
- 17.Re-energize the door's power supply.
- 18.Jog the door up to the full open position and check that the windbar is above the door lintel and in front of the bottom bar when the door is in the fully open position. Also check that the windbar moves smoothly and doesn't hang up at all while traveling in the tracks. (See Figure 47)



Figure 47

19. Inspect all strapped windbars (if installed). When the door is opened, a strapped windbar should be approximately at or just above the top of the door opening. When both front and rear windbars are installed, once the front windbar is properly positioned, the rear windbar should be at the same height. If the Windbar(s) are too low they will be in the open doorway and infringe traffic. (See Figure 47)



Keep tension on the windbar straps when adjusting. The windbar is free to fall when windbar straps are not retained by the clamp plates and must be secured at all times.

20. Repeat steps 18 and 19 several times or until performance is consistent.



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

21. If adjustments are necessary place the forklift under the windbar for support and adjust the windbar and straps as required.

REPLACEMENT PROCEDURES—WINDBAR (OPTIONAL)

WINDBAR

All installation and operating instructions from the Powerhouse Model SD Installation Manual and Owner's Manual apply and must be followed when installing and operating your door with Rear and/or Front Mounted Windbar Assembly.

1. Close the door panel/bottom bar so the panel bottom bar is in full contact w/ the floor. Turn off the door's power. (See Figure 46)



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

- 2. Pick up the windbar assembly with a forklift. Make sure the windbar is centered and securely mounted on the forklift. Lift the windbar up in the Windbar Tracks mounted on the door's side column assemblies and/or pullout assemblies until the windbar straps are loose.
- 3. Remove the front and/or rear strap clamp bolts in the Windbar Strap Clamp Assembly that are securing the Windbar Straps. (See Figures 41 and/or 42)
- 4. Remove the strap from around the windbar.

 Remove the ³/₄" fasteners securing the windbar tracks to the side columns and/or pullouts. (See Figure 48)



Figure 48

- 6. Lower and remove the windbar from the windbar track.
- Reinstall the new windbar(s) in accordance with the Powerhouse Model SD Installation Manual's "Front" and/or "Rear Windbar Strap Final Assembly Mounting" sections.

PARTS LIST

PARTS ORDERING INFORMATION

How to Order Parts

- 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 800-628-1909 or 262-677-2058 (fax). Rytec Corporation also has an on-line store at <u>WWW.Rytecparts.com</u> access to this on-line store requires an invitation from Rytec. The online store is open 24/7, 365 days. Some items are available to ship next day. Not all Rytec parts are carried in the on-line store.
- 3. To ensure the correct parts are shipped, please include the serial number of your door with the order. The serial number is located inside both the left and right side columns on the covers @ about eye level, on the drive motor gearbox in the head assembly, or on the door of the System 4 Control Panel. All these numbers should match. (See Figure 49)

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 accompanied by a Return Merchandise Authorization (RMA) form.

Before returning any parts, you must first contact the Rytec Technical Support Department to obtain authorization and an RMA number.

IMPORTANT: Obtain an incident number from the Rytec Technical Support Technician.



Figure 49

RYTEC TECHNCIAL KNOWLEDGE CENTER

At <u>WWW.Rytecdoors.com</u> under the "Contact Us" pull down tab a link to the Rytec Technical Knowledge Center can be found by selecting the "Customer Support" option. You will be directed to the Customer Support webpage. Within the "Technical Documents and Manuals" section you will find the link "Rytec Technical Knowledge Center". This knowledge center contains on-line manuals, service bulletins, and video presentations of various Rytec models and repair information.

RYTEC ON-LINE WEBSTORE

Rytec Corporation in partnership with Amazon have developed on on-line webstore for purchasing Rytec replacement parts.

Access to the Rytec webstore is by invitation only. Invitations are processed through the following e-mail address, webstore@Rytecdoors.com . Please include name and contact information (account holder). All inquiries will be reviewed however, Rytec maintains the authority to grant or deny access to the webstore at all times. The Rytec webstore is open 24/7/365. Parts available on-line require a credit card for purchase. Items in stock routinely ship the same day. The account is strictly for the account holder. All ship to, bill to and ordering information is the responsibility of the account holder. Currently, over one hundred Rytec parts are available at the on-line store. Shipping rates for the products on line are the lowest rates available.

RETURNS POLICY FOR ON-LINE WEBSTORE

Customer may return new, unopened items with 30 days of delivery for a full refund.

Items should be returned in their original packaging. The buyer will need to pay for the return shipments; return shipping costs will be refunded if the return is a result of merchant or Amazon error.

All refunds go to the original purchaser. A full refund will be due provided the return is received within the return window.

Replacements and exchanges are not supported; customers can return their original order for a refund and create a new order for the replacement.

Items classified as hazardous are not returnable. Please contact merchant; concerning these items.

WEBSTORE ITEM RETURN INSTRUCTIONS:

- 1. Visit return center within your account to create a return merchandise authorization.
- 2. Print the returns slip and the shipping label.
- 3. Include the returns slip inside the box and affix the shipping label to the box.
- 4. Ship package.

Prices are subject to change.

HEAD ASSEMBLY



	OTV	DADT #	DESCRIPTION
		PARI #	
-	1	R1600040-XX	Head Assembly, Powerhouse SD
1	1	R1600034-XX	Assembly, Drum, Powerhouse SD
2	1	R1600243-1X	Assembly, Head Bearing Plate, LH, X-size Head, Powerhouse SD
3	1	R1600243-2X	Assembly, Head Bearing Plate, RH, X-size Head, Powerhouse SD
4	1	R1600608-X	Assembly, Motor/Gearbox, Powerhouse SD
5	1	R1600072-0X00	Assembly, Front Truss, X-size Head, , Powerhouse SD
6	1	R1600139-1X00	Weldment, Bottom Cover, Side Plate, X-size Head, LH
7	1	R1600139-2X00	Weldment, Bottom Cover, Side Plate, X-size Head, RH
8	1	R1600232-0	Spreader, Head Shipping, Powerhouse SD
9	REF.	R1600094-0	Assembly, Antenna Bracket, Powerhouse SD
10	1	R1600037-0X	Assembly, Guide Roller, X-size Diameter, Powerhouse SD
11	2	R1600382-0Z01	Spacer, Shaft
12	2	R5550124-0Z01	Collar, Shaft, Split
13	2	R5550125-0Z01	Collar, Shaft, Split
14	CF	R5550126-0Z01	Shim
15	CF	R5550127-0Z01	Shim
16	CF	CF	Fastener Hardware

CF = Consult Factory

HEAD ASSEMBLY

PARTS LIST – SIDE COLUMN ASSEMBLY

SIDE COLUMN ASSEMBLY



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

SIDE COLUMN ASSEMBLY				
ITEM	QTY.	PART #	DESCRIPTION	
	1	CF	Side Column Assembly, LH, Powerhouse SD	
-	I	CF	Side Column Assembly, RH, Powerhouse SD	
1	1	CF	Weldment, LH Side Column, Powerhouse SD	
	1	CF	Weldment, RH Side Column, Powerhouse SD	
2	6	R0550330	Screw, ¾-16 x 1.00 Cap, Hex Flanged, GR5.2 ZN	
3	1	R1600540-2	Assembly, Bottom Stop with Extended Flange, RH	
4	1	R1600540-1	Assembly, Bottom Stop with Extended Flange, LH	
5	1	R0904030	Cable Clip, Ø%	
6	1	R0553103	Nut, ¼-20 Hex Flanged Lock ZN	
7	A/R	R5550052-0Z04	Screw, #4-0.7 x 16mm, SS	
8	A/R	R1600615-0A00	Light Curtain, Emitter, 2000 mm Water Tight (Optional)	
	A/R	R1600616-0A00	Light Curtain, Receiver, 2000 mm Water Tight (Optional)	
9	4	R5550128-0Z01	Washer, Ø%	
10	4	R0554120	Washer, Ø% Lock	
11	4	R5550109-0Z01	Screw, ‰-11 x 1.50 Hex Cap	
12	A/R	R0012869	Cable, Micro Connector, Female	
13	1	R00142010	LED, Split Connector, Turck BVRS 4-2PSG	
14	2	R1600140-0	LED (Light Emitting Diode) Assembly	
15	A/R	R5550145-0Z01	Screw, ¾-16 x 1.00 Cap, Hex, GR8 ZN	
16	A/R	R5550140-0Z01	Washer, Ø%	
17	A/R	R0554225	Washer, Ø% Split Lock	
18	A/R	1600633-0	Wire Protector, Powerhouse	

CF = Consult Factory

A/R = As Required

PARTS LIST – HOOD ASSEMBLY (OPTIONAL)

HOOD ASSEMBLY (OPTIONAL)



ITEM	QTY.	PART #	DESCRIPTION
		R1600202-1X	Hood Assembly, Fully Enclosed X-Size Head, LH, Powerhouse SD
-	1	R1600202-2X	Hood Assembly, Fully Enclosed X-Size Head, RH, Powerhouse SD
1	2	R1600204-0Z01	Hood, Top, Cut, Powerhouse SD
2	2	R1600214-0Z01	Seam, Hood Cap
3	4	R0550187	Screw, ½-13 x 1.00 Serrated Flange Hex
4	A/R	R0551041	Screw, ¼-20 x 1.00 TEK
5	A/R	R1600251-0	Clip, Hood
6	1	R1600276-0	Weldment, Hood Spreader
7	1	R1600203-0Z01	Hood, Top, Full
8	A/R	R0021048	Screw, ¼-20 x ½ Hex Serrated Flanged
9	A/R	R0553103	Nut, ¼-20 Flanged Lock
10	1	R1600211-2X00	Weldment, End Cover RH, Drive Side, X-Size Head
10		R1600212-2X00	Weldment, End Cover RH, Non-Drive Side, X-Size Head
11	A/R	R5550209-0Z01	Screw, ¼ -20 x ½ Hex Serrated Drilling
12	1	R1600206-0X01	Hood, Front Cut, X-Size Head
13	1	R1600205-0X01	Hood, Front Full, X-Size Head
14	1	R1600211-1X00	Weldment, End Cover LH, Drive Side, X-Size Head
14		R1600212-1X00	Weldment, End Cover LH, Non-Drive Side, X-Size Head

NOTE: If the door has a top seal, then bracket #R1650026-1, #R1650026-2, and hardware are included with top seal assembly and not included in hood assembly.

A/R = As Required

HOOD ASSEMBLY (OPTIONAL)

REAR SPREADER ASSEMBLY



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1600078-0	Assembly, Rear Spreader, Powerhouse SD
1	4	R5550129-0Z01	Washer, ؽ Flat
2	4	R0554121	Washer, ؽ Split Lock
3	4	R0550018	Screw, ½-13 x 1.50 Cap Hex
4	1	R1600079-0	Weldment, Rear Spreader
5	1	R1600081-0	Track, Rear Spreader
6	1	R1600082-0	Brush, Rear Spreader
7	A/R	R0553103	Nut, ¼-20 Flanged Lock

A/R = As Required

PARTS LIST – DRUM AND DOOR PANEL ASSEMBLY

DRUM AND DOOR PANEL ASSEMBLY



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

ITEM	QTY.	PART #	DESCRIPTION
	4	R1600034-1X	Assembly, Drum LH, X-Size Head, Powerhouse SD
-		R1600034-2X	Assembly, Drum RH, X-Size Head, Powerhouse SD
1	1	CF	Drum Weldment
2	1	CF	Assembly, Panel
3	1	CF	Assembly, Bottom Bar
4	A/R	R550135-0Z01	Washer, ؾ Finish
5	A/R	R5550185-0Z01	Screw, 5/16-18 x 2.00 Hex Self Tapping

A/R = As Required

CF = Consult Factory

BOTTOM BAR ASSEMBLY



BOTTOM BAR ASSEMBLY				
ITEM	QTY.	PART #	DESCRIPTION	
	1	CF	Assembly, Bottom Bar LH, Powerhouse SD	
-	I	CF	Assembly, Bottom Bar RH, Powerhouse SD	
1	1	CF	Extrusion, Bottom Bar, Powerhouse SD	
2	A/R	R0553229	Nut, ¾-16, Hex, Flanged Lock	
3	1	CF	Clamp, Bottom Bar	
4	A/R	R0550261	Screw, ¾-16 x 1.25, Hex, Serrated Flange	
5	1	CF	Weight, Bottom Bar	
6	1	CF	Assembly, Reversing Edge	
7	1	R1600265-0D00	Extrusion, Bottom Loop	
8	2	R1600198-0Z01	Spacer, Front End Bracket	
9	1	R1600199-0Z01	Spacer, Rear End Bracket	
10	2	R1600200-0Z01	End Bracket	
11	4	R0021709	Screw, 3/8-16 x 1.75 Hex Serrated Flange	
12	2	R0550235	Screw, #6-32 UNC x % Pan Head Self Tapping	
13	1	R00111193	Battery, 3.6 Volt Lithium	
14	1	R1070625-0	Gasket, Wireless Cover	
15	1	R1060117-0	Assembly, Mobile Unit Cover	
16	4	RS021793	Screw, ¼ -20 x 1-50 Button Head Cap, SS	
17	1	R1600230-0	Gasket, Vibration Switch Assembly	
18	1	R1060061-0Z01	Cover, Bottom Bar	

CF = Consult Factory

PARTS LIST – BEARING PLATE ASSEMBLY

BEARING PLATE ASSEMBLY



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

ITEM	QTY.	PART #	DESCRIPTION
	4	CF	Assembly, Bearing Plate LH, Powerhouse SD
-	I	CF	Assembly, Bearing Plate RH, Powerhouse SD
1	1	CF	Bearing Plate LH
I	I	CF	Bearing Plate RH
2	2	R1600119-0	Lifting Lug
3	2	R1600043-0	Bearing, Drum
4	2	R1600044-0	Bearing, Idler
5	2	CF	Cover, Bottom Side Plate
6	4	R5550111-0Z01	Screw, ‰-11 x 2.25 Hex Head Cap
7	10	R5550128-0Z01	Washer, Ø% ID Flat
8	3	R0553096	Nut, ½-13, Hex
9	5	R0554121	Washer, ؽ Split Lock
10	8	R5550129-0Z01	Washer, ؽ Flat
11	2	R0550303	Screw, ½-13 x 1.25 Serrated Hex Cap
12	3	R5550130-0Z01	Screw, ½-13 x 1.75 Hex Cap
13	6	R0554120	Washer, Ø% Split Lock
14	4	R0553092	Nut, %-11 Hex
15	2	R5550110-0Z01	Screw, %-11 x 1.75 Hex Cap

CF = Consult Factory

BEARING PLATE ASSEMBLY

PARTS LIST – MOTOR GEARBOX ASSEMBLY

MOTOR GEARBOX ASSEMBLY



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

MOTOR GEARBOX ASSEMBLY				
ITEM	QTY.	PART #	DESCRIPTION	
	4	R1600608-1	Assembly, Motor/Gearbox LH, Powerhouse SD	
-	1	R1600608-2	Assembly, Motor/Gearbox RH, Powerhouse SD	
1	1	R1600604-0	Assembly, Motor & Wiring, SD	
2	4	R1600053-1Z01	Bracket, Motor Mount, LH	
2	I	R1600053-2Z01	Bracket, Motor Mount, RH	
3	2	R1600054-0	Pad, Motor Mount	
4	4	R1600152-0A01	Key, Drive 1.50in Shaft Motor	
4	1	R1600152-0B01	Key, Drive 55mm Shaft Motor	
5	1	R1600524-0	Assembly, Chain Hoist (Chain and Link)	
6	2	R5550110-0Z01	Screw, ‰-11 x 1.75 Hex Cap	
7	A/R	R5550111-0Z01	Screw, %-11 x 2.25 Hex Head Cap	
8	A/R	R5550128-0Z01	Washer, Ø% ID Flat	
9	6	R0554120	Washer, Ø⁵% Split Lock	
10	A/R	R5550190-0Z01	Nut, %-11 Hex Lock	
11	A/R	R5550223-0Z01	Screw, 7/16-14 x 2.00 Hex Cap	
12	A/R	R0554231	Washer, Ø7/16 Flat	
13	A/R	R0553095	Nut, 7/16-14, Hex Lock	
14	1*	R00141086	Encoder Cable Female, A, 8 Pin, 15	
15	1*	R1600094-0	Assembly, Antenna Bracket	
16	1*	R00142019	Cable, Brake, Non-Shielded, SEOOW Type 4 Conductor	
17	1*	R1210342-0	Cord Grip, M25 x 1.5	
18	1*	R00142018	Cable, Motor, Shielded, 4 Conductor, SEOOW	
19	1*	R00142058	Encoder	

A/R = As Required

*Reference-Part/Sub-assembly contained within higher level assembly

PARTS LIST – STRAPPED WINDBAR (OPTIONAL)

DOOR WITH STRAPPED WINDBAR KIT ASSEMBLIES (OPTIONAL)



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

FRONT WINDBAR KIT ASSEMBLY (OPTIONAL)



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

PARTS LIST – STRAPPED WINDBAR (OPTIONAL)



FRONT WINDBAR KIT ASSEMBLY (OPTIONAL)



PARTS LIST - STRAPPED WINDBAR (OPTIONAL)

REAR WINDBAR KIT ASSEMBLY (OPTIONAL)



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

PARTS LIST - STRAPPED WINDBAR (OPTIONAL)



PARTS LIST – STRAPPED WINDBAR (OPTIONAL)

REAR WINDBAR KIT ASSEMBLY (OPTIONAL)



Pullout, Rear Windbar Assy. Powerhouse SD Ref. Part: 1600888-XX Screw, 3/4-10 x 0 2-1/4 Hex Ref. Part: #R5550270-0Z01 X Nut, 3⁄4"-10 Hex Lock Ref. Part: . #R0553094 Windbar Track Assembly: reinforcement must face away from door panel Washer, ؾ" Flat Ref. Part: #R1600856-0 Ref. Part: #R0555287 LH Installation Shown

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

PHOTO EYE ASSEMBLY



ITEM	QTY.	PART #	DESCRIPTION
-	1	R1600794-0X00	Assembly, Extended Photoeye & Bracket
1	1	R1600796-0	Weldment, Extended Photoeye Bracket, XL
2	1	R1210353-0	Caplug
3	2	R0551041	Screw, ¼-20 x 1.00 Cap Hex
4	1	R00141087	Photoeye, Telco 3000, TX
		R0014066	Photoeye, Telco SMT7000, TX
		R00141088	Photoeye, Telco 3215, RX
		R0014067	Photoeye, Telco SMR7620, RX
5	2	R0011990	Dome Plug, ؾ Hole

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

PARTS LIST – REAR WINDBAR HOOD ASSEMBLY (OPTIONAL)

REAR WINDBAR HOOD ASSEMBLY (OPTIONAL)



PARTS LIST – STRAPPED WINDBAR (OPTIONAL)

REAR WINDBAR HOOD ASSEMBLY (OPTIONAL)

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1600876-XX	Hood Assembly, Windbar Fully Enclosed
1	1	R1600877-0X00	Weldment, Hood Spreader for Windbar, Powerhouse SD
2	CF	R1600879-0X00	Hood, Top Full, Windbar, Powerhouse SD
3	2	R1600880-0X00	Hood, Top Cut, Windbar, Powerhouse SD
4	CF	R1600205-0X01	Hood, Front Full, X-size Head
5	1	R1600206-0X01	Hood, Front Cut, X-size Head
6	1	R1600211-XX00	Weldment, End Cover, Drive Side, X-size Head, LH/RH
7	1	R1600212-XX00	Weldment, End Cover, Non-Drive Side, X-size Head, RH/LH
8	CF	R1600251-0	Hood Clip
9	CF	R1600882-0X00	Cap, Hood Seam for Windbar, Powerhouse SD
10	1	R1600885-XX00	Spacer, End Cover Drive Side LH/RH, X-size for Windbar, Powerhouse SD
11	1	R1600886-XX00	Spacer, End Cover Non-Drive Side RH/LH, X-size for Windbar, Powerhouse SD
12	CF	R0553103	Nut, ¼-20 Hex Flanged, Lock
13	CF	R0021048	Screw, ¼-20 x ½" Hex Flanged Socket
14	CF	R5550209-0Z01	Screw, ¼-14 x 1.00" Hex Drill w/ Rubber Washer
15	6	R0550187	Screw, ½-13 x 1.00" Serrated Flange
16	2	R553100	Nut, ½-13 Serrated Hex

CF = Consult Factory

PARTS LIST: Common Spare Parts

Common Miscellaneous Parts

PART #	Description
R00111193	Battery Wireless
R00141087*	Photo Eye, Telco 3000, Transmitter
R00141088*	Photo Eye, Telco 3215, Receiver
R0014066*	Photo Eye, Telco SMT7000, TX, Transmitter
R0014067*	Photo Eye, Telco SMR7620, RX Receiver
R1600615-0A00*	Light Curtain, Emitter, 2000 mm Water Tight (Optional)
R1600616-0A00*	Light Curtain, Receiver, 2000 mm Water Tight (Optional)
R00142058	Encoder Wireless Extended Range 36" Antenna
R00142057	Mobile Unit, Transmitter, Extended Range
R1600140-0	Pathwatch™ LED Warning Strip
R1600107-0	Vibration Switch
R1600864-0	Windbar Strap, requires length or door serial # for order.
R1600082-0	Brush for Rear Spreader, Requires length or door serial # for order.
R0012242*	Falcon Motion Detector*
R0012867*	IS40 Motion/Presence Detector*
R0012145*	BEA Universal Remote*
R0012210*	Pull Cord/Wall Switch*
R00121002*	Pushbutton, Black Mushroom*
R00122000*	Loop Module, System 4*

* Items used where applicable.