

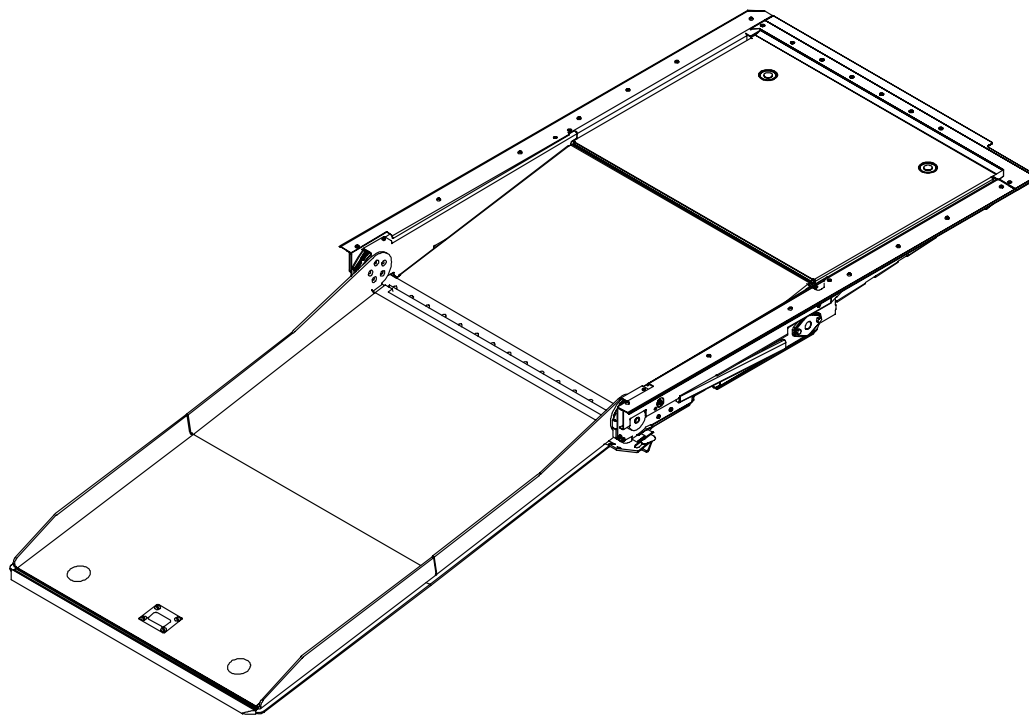


Ricon®

A **Wabtec** company

FoldOver®
ER7-Series 1:6
Low-Floor Bus Ramp

PRINT



Service Manual

This Ricon service manual is only for use by Ricon authorized dealers or qualified service technicians, and is not intended for use by non-professionals. The manual provides essential instructions and reference information, which supports qualified technicians in the correct installation and maintenance of Ricon products.

Ricon authorized dealers or qualified service technicians have the training and knowledge to perform maintenance work properly and safely. For the location of a Ricon authorized dealer or qualified service technician in your area, call Ricon Product Support at 1-800-322-2884 or visit our website at www.riconcorp.com.

Customer Name: _____
Installing Dealer: _____
Date Installed: _____
Serial Number: _____

REVISION RECORD

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I. ER7-SERIES FOLDOVER 1:6 RAMP INTRODUCTION

This manual applies to the Ricon FoldOver ER7-Series 1:6 Low Floor Bus Ramp when installed in transit vehicles. The chapters in this service manual contain a product description, maintenance instructions, and a spare parts list. The descriptions in this chapter apply to the Ricon FoldOver ER7-Series 1:6 Low Floor Bus Ramp when installed in transit vehicles. The FoldOver ramp is installed in transit vehicles to accommodate persons with disabilities using mobility-aid equipment or who cannot easily climb steps. The electro-mechanically powered ramp folds into the vehicle vestibule flooring when not in use.

All ER7-SERIES 1:6 RAMPS-series ramps have a 1000 lb. (453kg) load limit. Passengers must use the ramp one at a time; **do not overload ramp**. Be certain that persons with mobility-aid equipment fit between the left- and right-side ramp barriers without any interference before allowing use of ramp.

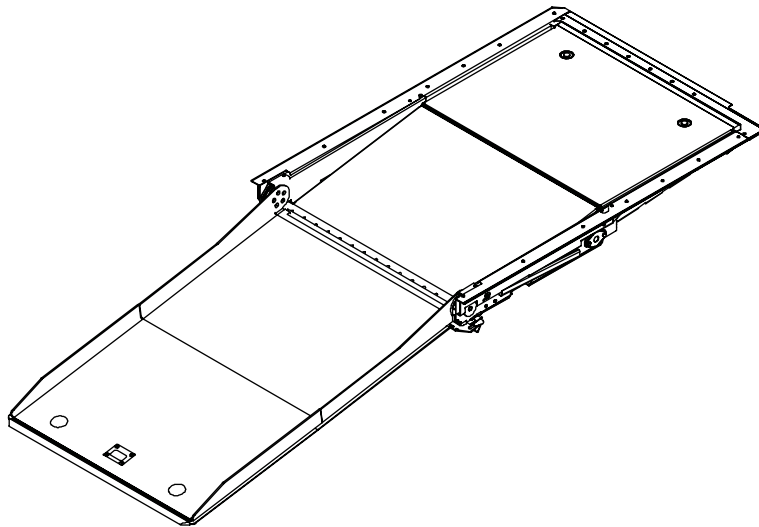


FIGURE 1-1: RICON FOLDOVER 1:6 RAMP

A. RAMP FEATURES

1. INTERLOCK SUPPORT

The ramp electronics can interface with the vehicle interlock circuitry to prevent vehicle departure when ramp is deployed. The ramp interlock circuitry senses the position of the ramp (stowed or deployed) and makes this information available by the controller and through the 55-pin amp harness connector. A vehicle interlock circuit typically requires that the following conditions be met before operating power is supplied to ramp:

- Park vehicle and set parking brake.
- Place transmission in neutral.
- Open vehicle door adjacent to ramp.

2. AUDIBLE ALERT

NOTE: This feature is optional and may not have been connected during ramp installation.

The ramp supports an audible alert device that sounds while the ramp is in motion.

3. RAMP CONTROL PANEL

Refer to **Figure 1-2**. Ricon typically does not provide a control panel. However, the ramp can be operated with one similar to that shown (the actual panel appearance will vary between transit authorities and vehicles). The control panel is normally installed in the driver area. It should have a power ON/OFF switch, a power on indicator light, and a spring-loaded, three-position ramp control switch (center-off). The ramp receives power from the vehicle when the interlock conditions are met and the power on/off switch is ON. The control panel can then be used to transmit deploy or stow signals to the ramp.

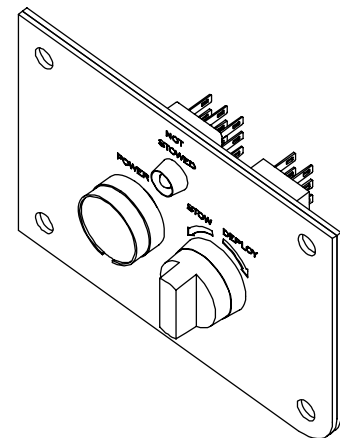


FIGURE 1-2: TYPICAL CONTROL PANEL

B. RICON PRODUCT SUPPORT

If you have questions about this manual, or you need additional copies, please contact Ricon Product Support at the locations listed. Also, refer to the Ricon website at: www.riconcorp.com

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C. RICON TWO-YEAR LIMITED WARRANTY

The following warranty provides two years of limited coverage for the Ricon FoldOver ER7-Series 1:6 Low Floor Bus Ramp.



RICON FOLDOVER ER7-SERIES 1:6 LOW FLOOR BUS RAMP TWO-YEAR LIMITED WARRANTY

Ricon Corporation (Ricon) warrants to the original purchaser of this product that Ricon will repair or replace, at its option, any parts that fail because of defective material or workmanship as follows:

- Repair or replace parts for a period of two years starting from the date ramp is put into service. Obtain a complete list of parts covered by this warranty from Ricon Product Support.
- Labor costs for specified parts replaced under this warranty for a period of two years from the date put into service. A Ricon rate schedule determines parts covered and labor allowed.

This Warranty Does Not Cover:

- Malfunction or damage of product parts caused by accident, misuse, lack of proper maintenance, neglect, improper adjustment, modification, alteration, mechanical condition of vehicle, road hazards, overloading, failure to follow operating instructions, or acts of nature (i.e., weather, lightning, flood).

NOTE: Ricon recommends this product be inspected by a Ricon authorized dealer or qualified service technician at least once every six months, or sooner if necessary. Perform required maintenance at this time.

 **WARNING!**

THIS PRODUCT HAS BEEN DESIGNED AND MANUFACTURED TO EXACT SPECIFICATIONS. ANY MODIFICATION OF THIS PRODUCT CAN BE HAZARDOUS.

This Warranty is Void If:

- The product is not installed and maintained by a Ricon authorized dealer or qualified service technician.
- The product is modified, in any respect from its original design, without written authorization from Ricon.

Ricon disclaims liability for any personal injury or property damage that results from operation or use of a Ricon product that is modified from the original Ricon design. No person or company is authorized to change the design of this Ricon product without written authorization from Ricon.

Ricon obligation under this warranty is exclusively limited to the repair or exchange of parts that fail within the applicable warranty period.

Ricon assumes no responsibility for expenses or damages, including incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply.

Important: The warranty registration card must be completed and returned to Ricon within 20 days after product installation to validate this warranty. The warranty is not transferable.

The warranty gives specific legal rights. There may be other rights that vary in each state.

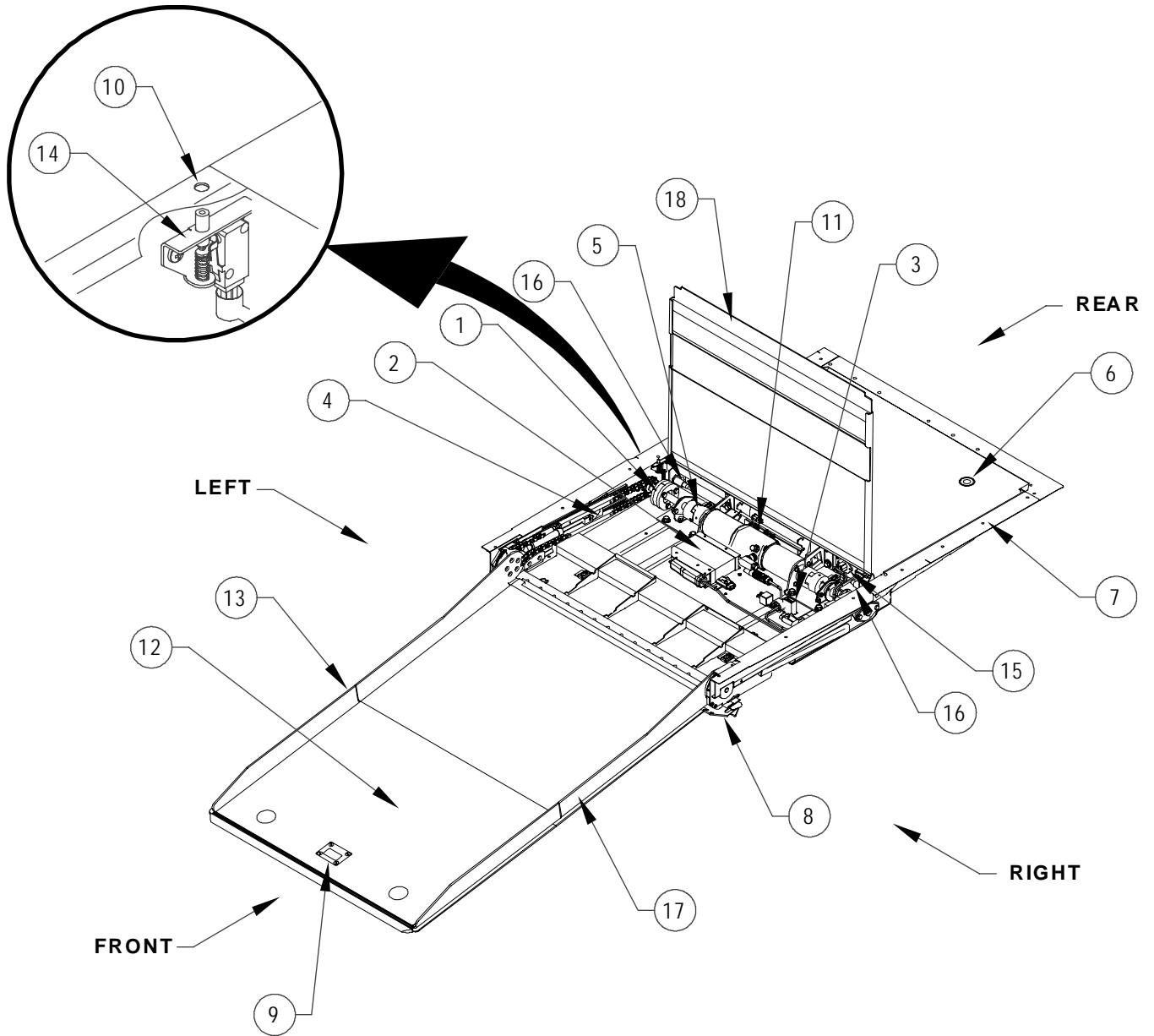
D. SHIPPING INFORMATION

- When the product is received, unpack the product and check for freight damage. Claims for any damage should be made to the carrier immediately.
- Be sure the ramp assembly contains all items listed on the included bill of material. Please report any missing items immediately to Ricon Product Support. Save bill of material for later reference. Return the completed warranty and owner registration cards to Ricon within 20 days to validate warranty.

NOTE: The Sales or Service personnel must review the Warranty and this Operator Manual with the user to be certain that they understand how to safely operate the product. Instruct the user to follow the operating instructions without exception.

E. CUSTOMER ORIENTATION

1. **Figure 1-3** shows major components of the ER7-Series FoldOver 1:6 ramp. A description of each component is provided in **Table 1-1**. Refer to Chapter IV "Parts Diagrams and Lists" for more details.



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FIGURE 1-3: ER7-SERIES 1:6 RAMP MAJOR RAMP COMPONENTS

TABLE 1-1: MAJOR ER7-SERIES FOLDOVER 1:6 RAMP COMPONENTS

ITEM	DESCRIPTION
Front, Rear, Left and Right	Reference point from outside the vehicle looking inward.
1	Adjustable Coupler - Use for adjustment and alignment of chain sprocket.
2	Controller – Translates electrical commands from bus control panel into signals that control ramp electro-mechanical components. Monitors ramp position and drives counter.
3	Counter – Counts each cycle.
4	Chain Spring Actuator Assembly - (Left & Right) Mechanism that assists in the Deploy and Stow of platform.
5	Couplings - (Left & Right) Transmits rotary motion and attaches the drive motor shaft assemblies to the dual gearboxes.
6	Electromagnets - Magnets that lock the ramp when ramp is fully stowed.
7	Flange Kit - Perimeter trim pieces that are installed after the ramp has been installed in vehicle.
8	Front Cover - Front edge of ramp that opens and closes when platform is deployed or stowed.
9	Hatch Handle - Use to assist in manual deploy or stow ramp.
10	Manual Deployment Hole – Location for tool to manually activate plunger switch.
11	Motor Drive System - Electro-mechanical motor-gearbox combination used to operate the ramp.
12	Non-Slip Surface – Flooring over which passengers traverse.
13	Platform Assembly - Area where passengers traverse over to enter and exit vehicle.
14	Plunger Switch - Switch that sends a signal to the ramp controller to disengage electromagnets and manually operate platform. Plunger Switch is activated when a tool is inserted and engages sensor through the Manual Deployment hole.
15	Positive Connection Block – Connection through which the ramp receives power from vehicle.
16	Proximity Sensors - Magnetic sensor devices that send signals to the ramp controller to indicate when the ramp is fully stowed (locks electromagnets) or deployed (unlocks electromagnets).
17	Ramp Tray Barrier - Left and Right side barrier of platform.
18	Slanted Floor Plate (Access Cover) - Portion of ramp that passenger traverses over to enter and exit vehicle which also provides access to electro-mechanical ramp components.
END OF TABLE	

F. RAMP PART NUMBERS

Refer to **Table 1-2** for an explanation of the ER7-Series ramp part number. Among other things, use of the table can determine whether your ramp is equipped with a mounting kit or the type of flooring material used. The table also provides ramp dimensions that can help to determine which mobility equipment fits safely on the ramp.

TABLE 1-2: ER7 –SERIES 1:6 RAMP PART NUMBER EXPLANATION								
ER7	00	0	0	0	000	0	0	0
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
								<u>Heating (Option)</u> 0 – None 1 – Mat
							<u>Mounting Kit</u> 0 – None 1 – Gillig 2 – NABI 3 – Orion 4 – New Flyer	
							<u>Trim Finish</u> B – Black Wrinkle Coat W – White Wrinkle Coat Y – Yellow Wrinkle Coat	
							<u>Trim Style</u> A – Long Cutout B – Short Cutout C – No Cutout 1 – No Cut/Flat 2 – Brush Clearance Cutout 3 – Small Pedestal	
							<u>Flooring</u> XXXX – ALTRO META-BLACK TFM2789 2730 – ALTRO TFCR2730 - CHROMA - MINERAL 2733 – ALTRO TFCR2733 - CHROMA - ZEAL 2761 – ALTRO TFCR2761 - CHROMA-CAYMAN 2702 – ALTRO TFM2702 - META – GENOME 2706 – ALTRO TFM2706 - META-RADIAL 2747 – ALTRO TFM2747 - META – BISON 2789 – ALTRO TFM2789 - META – BLACK 7903 – ALTRO TFM27903 - META - STORM 2012 – ALTRO TS2012 – TIMBERSAFE – RUSTIC PINE XBLK – RCA TRBLK – BLACK X166 – RCA LGF166 – STRATO X452 – RCA TR452 - ROYAL BLUE X466 – RCA TR466 – Charcoal X604 – RCA TR604 X628 – RCA TR628 – ROYAL BLUE X753 – RCA TR753 – FOREST GREEN X766 – RCA TR766 – GRAY X852 – RCA TR852 – ROYAL BLUE X860 – RCA TR860 - PREM MARBELIZED 8805 – TARABUS HELIOS	
							<u>Nosing (Gate Assy)</u> Y – RCA Yello Step Edge w/ATRO EP Strip W – RCA White Step Edge w/ALTRO White Strip	
							<u>Flooring Manufacturer and Type</u> C – ALTRO Chroma M – ALTRO Meta W – ALTRO Timbersafe R – RCA H – TARABUS HELIOS	
							<u>Ramp Size</u> 0 – Deployed 30"W x 70.8L 2 - Deployed 30"W x 67.8"L	
							<u>Interface Connection</u> 0 – 12-Pin Connector & Studs for Power/Ground 1 – 12-Pin Connector 4-Pin Connector for Power & Ground	

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II. FOLDOVER 1:6 RAMP INSTALLATION

A. INSTALLATION GUIDELINES

Careful installation of the Ricon FoldOver 1:6 ramp contributes to proper and safe operation. Use the electrical wiring diagram in Chapter III, Figure 3-4 to supplement this section.

1. LOCATING MOUNTING BRACKETS ON BUS FRAME

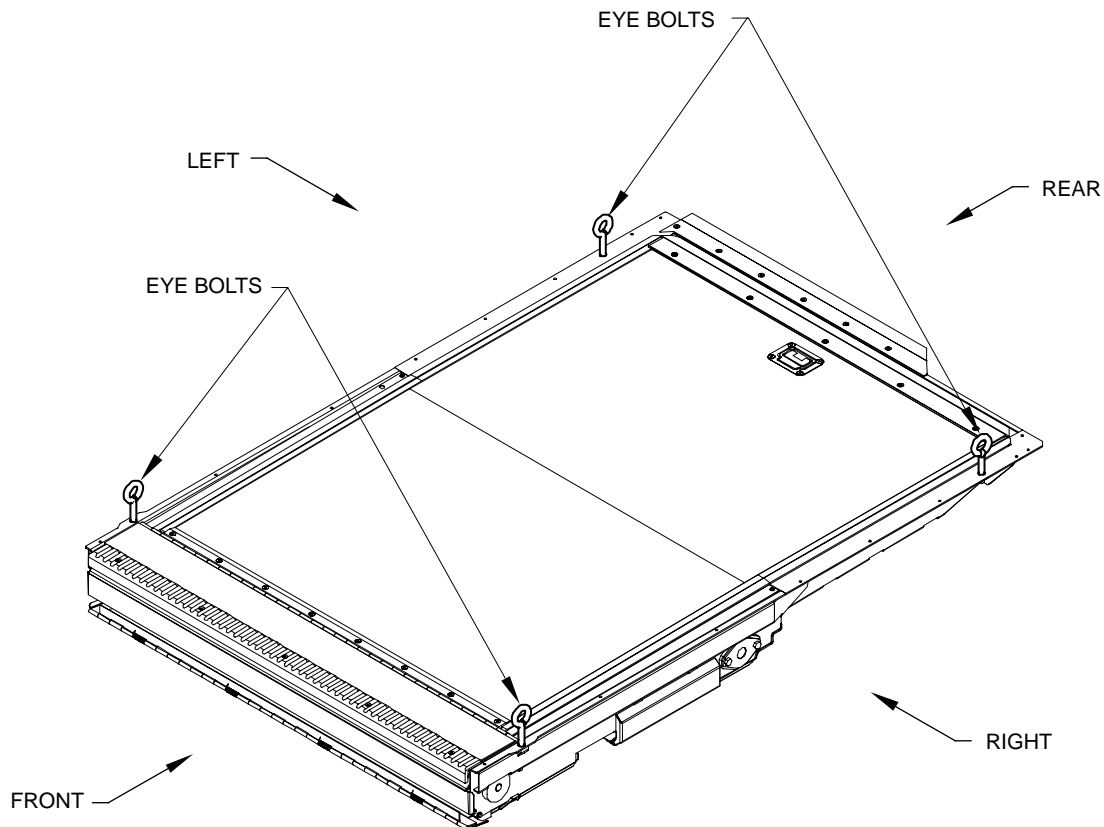
Use a rigid fixture that substitutes for the ramp assembly when positioning ramp mounting brackets on bus frame. If the ramp assembly is used to position mounting brackets, verify that it is correctly located relative to the vehicle floor, etc. Accurate positioning of brackets prevents twisting or warping of ramp frame when installing and tightening mounting hardware. A warped frame may cause the ramp motion to be erratic. Set height of ramp flooring surface flush to surrounding floor structure to prevent a tripping hazard.

2. INSTALLING 1:6 RAMP IN FLOOR

The location of the ramp depends on its path of motion. The ramp must be positioned so it can move unobstructed through its required range of travel.

- a. Trim away floor material to allow ramp assembly to drop into floor opening.

NOTE: Do Not install ramp trim (flange kit) until ramp is installed in bus. The ramp trim overlaps the perimeter gap between the sides of the enclosure and bus structure. The typical gap between the sides of the enclosure and the bus structure is 1/8 inch. Use shims to fill gap.



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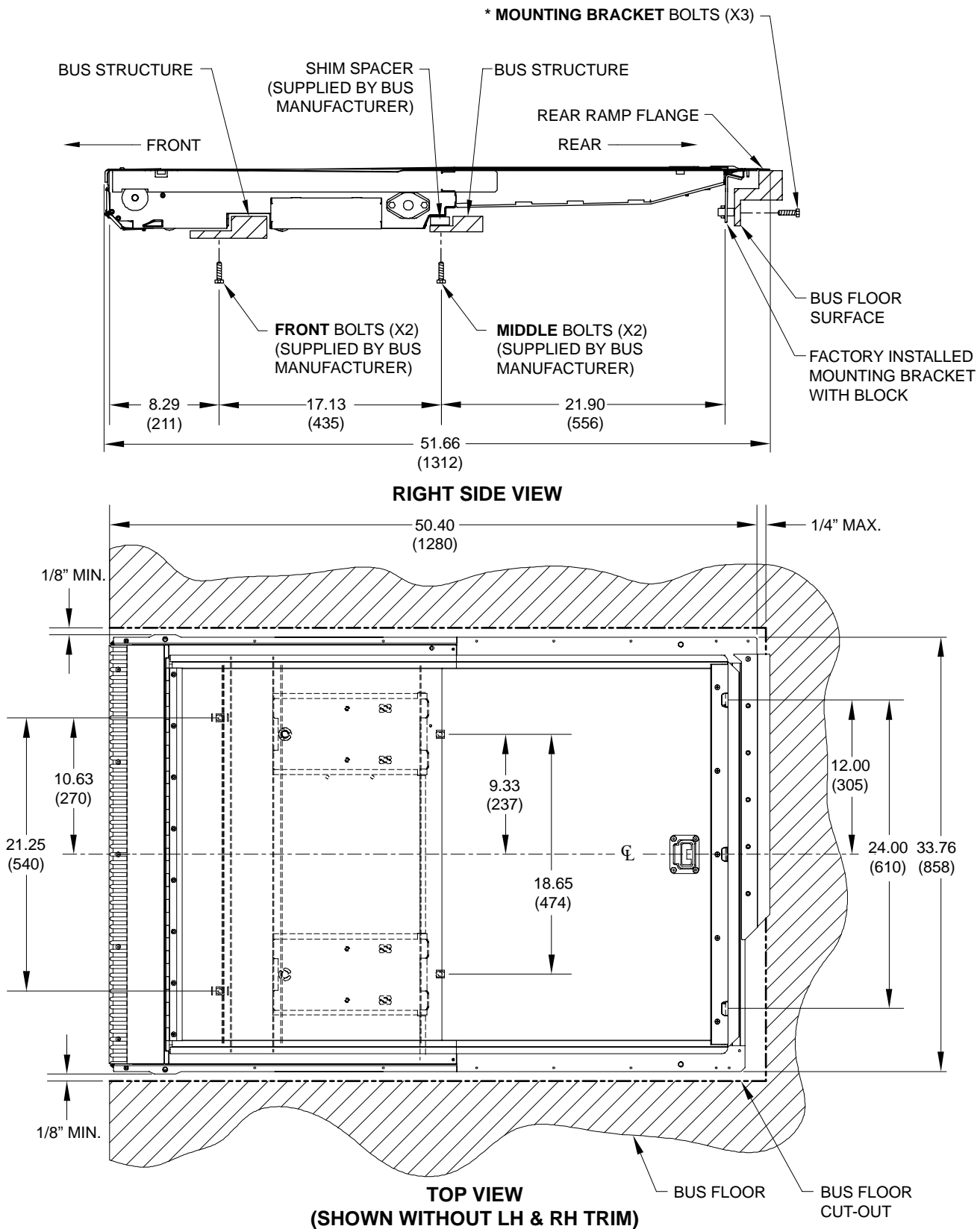
FIGURE 2-1: RAMP LIFTING EYE BOLTS

! WARNING!

TAKE EXTREME CARE WHEN POSITIONING RAMP INTO BUS. BE SURE TO FOLLOW PROPER OPERATION AND SAFETY INSTRUCTIONS WHEN USING LIFTING DEVICE.

- b. Refer to **Figure 2-1**. Attach lifting device hooks to pre-installed eye bolts.
- c. Use lifting device to place ramp into bus.

d. Lower ramp onto bus floor. Ensure that rear ramp flange rests on bus floor.




NOTES: DIMENSIONS IN INCHES
MILLIMETERS IN PARENTHESES.
* REFERENCE MOUNTING BRACKET KIT
(P/N 43936 OR 46446) PER SPECIFIED APPLICATION.

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FIGURE 2-2: RAMP INSTALLATION

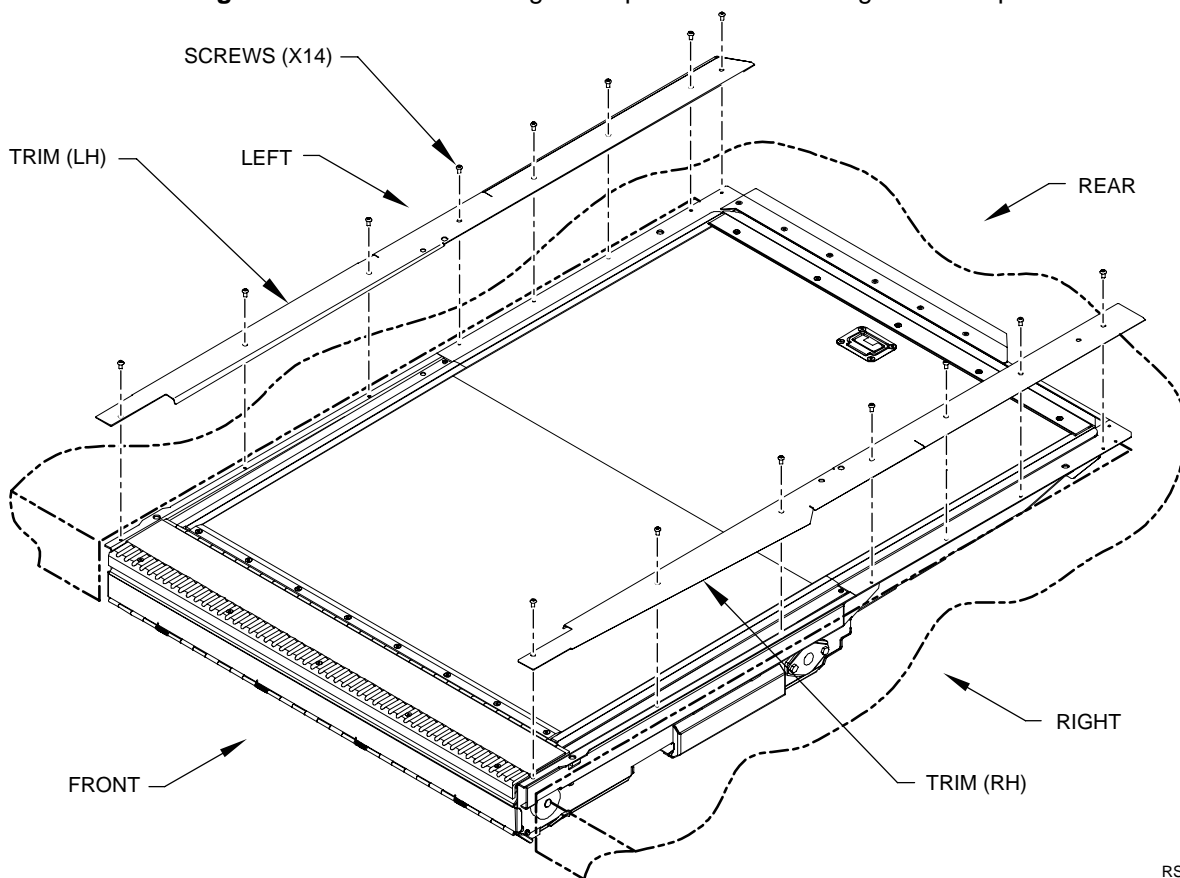
NOTE: Refer to **Figure 2-2**. Ramp should sit securely and level on bus structure. If ramp does not sit level on bus structure, install appropriate shim spacers accordingly.

 CAUTION!
FOLLOW SEQUENCE FOR SECURING RAMP ONTO BUS STRUCTURE. DEVIATION FROM THE INSTALLATION SEQUENCE CAN CAUSE RAMP WARPAGE.

- e. Refer to **Figure 2-2**. Install and tighten two (2) **front** bolts.
- f. Refer to **Figure 2-2**. Install and tighten three (3) **rear mounting bracket** bolts.

NOTE: Mounting bracket kit is pre-installed at the factory and is configured according to bus manufacturer. Refer to mounting bracket kit (i.e. Kit P/N 43936, Kit P/N 46446) part number for vehicle installation.

- g. Inspect middle hardware installation. If space is present between the ramp frame and bus structure, install appropriate shim spacer then install and tighten two (2) **middle** bolts.
- h. Refer to **Figure 2-3**. Install left and right trim pieces with attaching hardware provided.



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FIGURE 2-3: RAMP TRIM INSTALLATION

3. INSTALLING VEHICLE WIRING HARNESS

Route wiring harness from vehicle ramp controls to rear of ramp. Use the supplied electrical installation kit to connect vehicle control wiring to the ramp interface connector (Ricon P/N 47100). See **Table 2-1** for 12-pin Deutsch connector pin and signal descriptions.

- a. Disconnect vehicle battery.

 CAUTION
Be sure that harness does not interfere with any moving parts, or binds against any parts, or is pinched in any way.

- b. Install Main Circuit Breaker Kit (P/N 36267). Avoid installing near a heat source.
- c. Refer to Chapter III Electrical Diagram, Figure 3-4. Route and install black ground cable (P/N 43929) to ground connection and red power cable (P/N 43928) to positive connection block.
- d. Route and install ramp interface harness (supplied by bus manufacturer) to ramp interface connection.

Table 2-1: 12-PIN DEUTSCH CONNECTOR SIGNAL DESCRIPTION	
Pin	Description
1	STOW Signal
2	STOW Input
3	Ground
4	NOT STOWED Signal
5	DEPLOY Input
6	Battery Power
7	Ramp Enable
8	Counter Input

- e. Cycle ramp a few times to ensure ramp is working properly.

B. FOLDOVER 1:6 RAMP ADJUSTMENTS

1. CHAIN ASSEMBLY INSTALLATION AND ADJUSTMENT FOR MOTOR DRIVE SYSTEM

Removal and installation of the chain assembly may be necessary. Unequal tension on the springs may cause different torques on ramp tray sprockets and will possibly cause ramp tray asymmetry error.

- a. Refer to **Figure 2-4**. Remove ramp tray assembly from enclosure to gain access to chain assembly.



FIGURE 2-4: INSTALLED MOTOR DRIVE ASSEMBLY

- b. Refer to **Figure 2-5**. Loosen motor drive assembly before installing chain spring assembly.

NOTE: Do not completely tighten bolts for motor drive system to allow some movement when installing chain assembly. Bolts will be tightened after chain assembly is installed.



FIGURE 2-5: INSTALLED MOTOR DRIVE ASSEMBLY

- c. Refer to **Figure 2-6**. Install left hand and right hand chain guides.

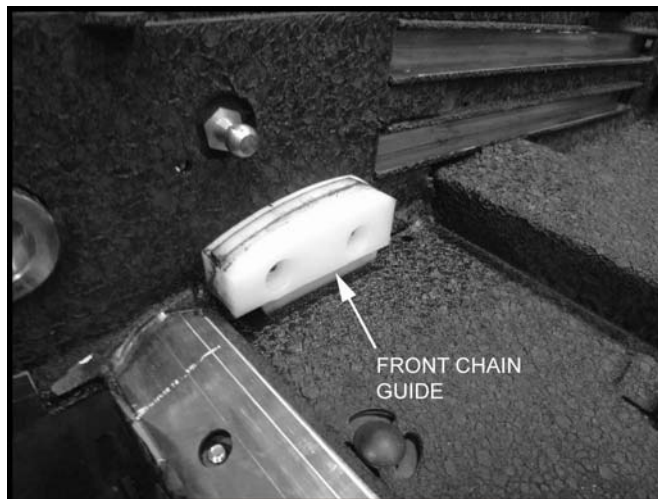


FIGURE 2-6: LH AND RH CHAIN ACTUATOR GUIDE (LH SIDE SHOWN)

- d. Refer to **Figure 2-7**. Install pre-assembled chain assembly by routing onto small sprocket of motor drive assembly.

NOTE: Pull chain assembly until chain is flush against chain support.

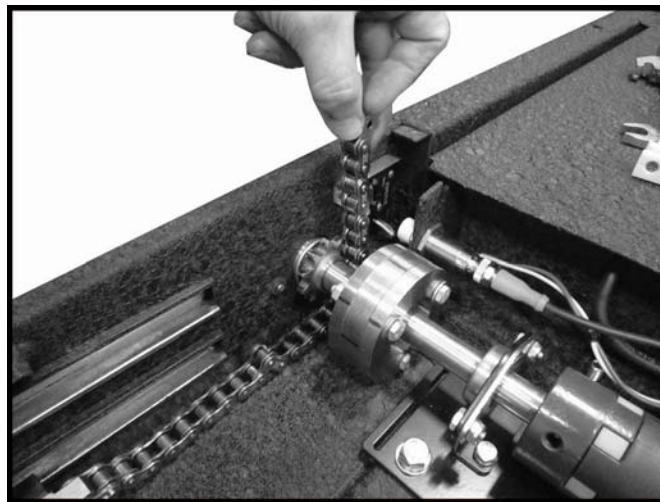


FIGURE 2-7: ROUTE CHAIN ACTUATOR ASSEMBLY (LH SIDE SHOWN)

- e. Refer to **Figure 2-8 and 2-9**. Install spacer onto drive shaft then install self aligning bearing.
f. Install two washers and two bolts then tighten.

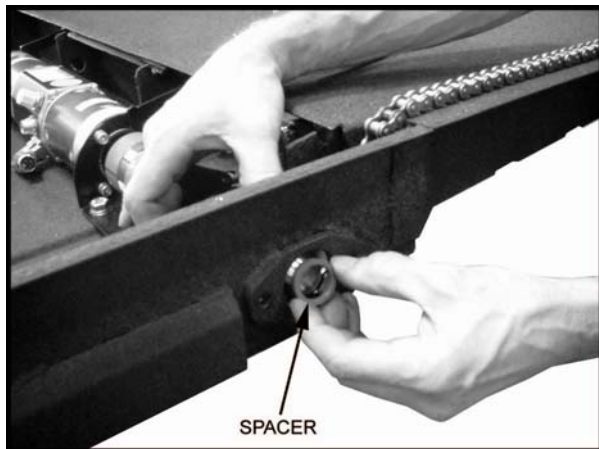


FIGURE 2-8 AND 2-9: SPACER AND SELF ALIGNING BEARING (RH SIDE SHOWN)

- g. Refer to **Figure 2-10 and 2-11**. Locate and mark an alignment mark sixth chain link of chain assembly and sprocket.

NOTE: Sprocket will be aligned vertically for ramp hole pattern alignment and installation.

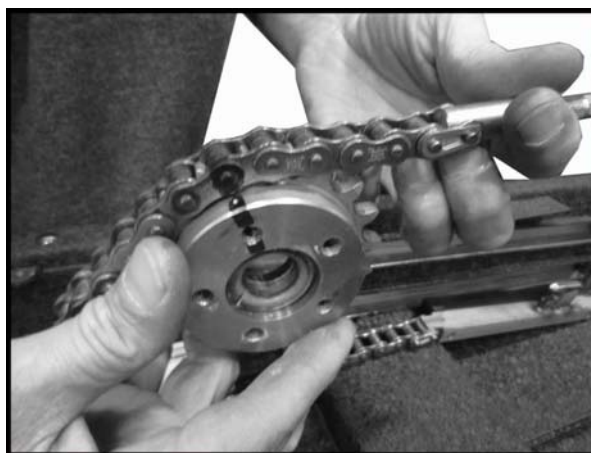


FIGURE 2-10 and 2-11: IDENTIFY LINK ALIGNMENT (LH SIDE SHOWN)

- h. Refer to **Figure 2-12 and 2-13**. Install Sprocket onto enclosure with platform pivot screw.

NOTE: Maintain alignment mark at 0 degrees and leave a little slack on chain assembly.

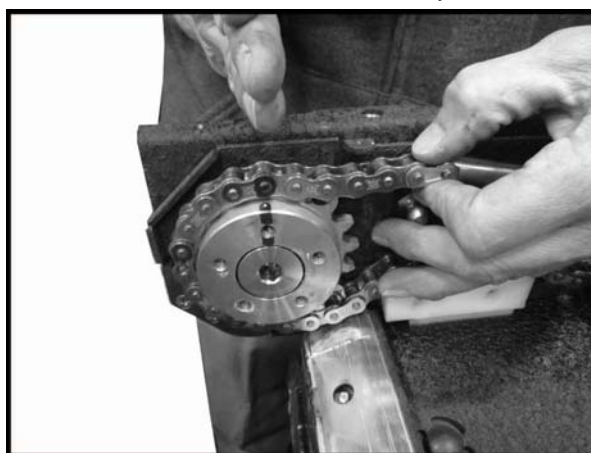


FIGURE 2-12 and 2-13: LARGE SPROCKET ALIGNMENT (LH SIDE SHOWN)

- i. Refer to **Figure 2-13**. Ensure that sprocket maintains 0° inboard reference.
- j. Refer to **Figure 2-14**. Install master link onto chain assembly.

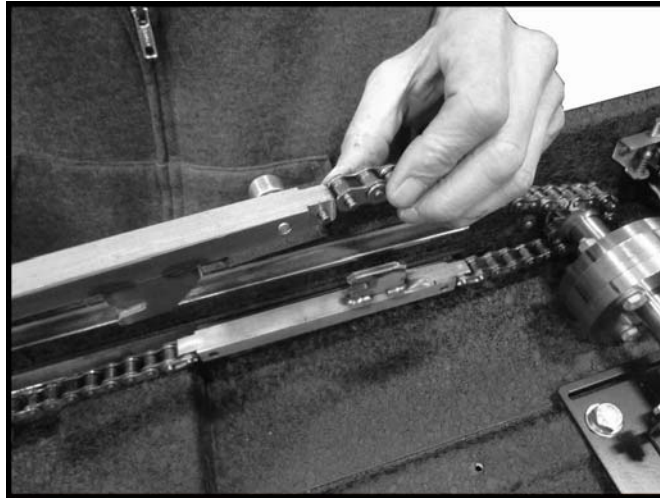


FIGURE 2-14: INSTALL MASTER LINK (LH SIDE SHOWN)

- k. Refer to **Figure 2-15**. Tighten bolts to secure drive module.



FIGURE 2-15: MOTOR DRIVE SYSTEM BOLTS (RH SIDE SHOWN)

- l. Refer to **Figure 2-16**. Tighten turnbuckle to adjust stiffness on chain assembly.

NOTE: Turn CCW (counter-clockwise) to tighten. Ensure a little slack on chain.



FIGURE 2-16: TURNBUCKLE INSTALLATION (LH SIDE SHOWN)

- m. Refer to **Figure 2-17**. Lift Ramp Tray to align chain actuator.
n. Refer to **Figure 2-18**. Insert Gas Spring into actuator bar weldment then snap onto stud.

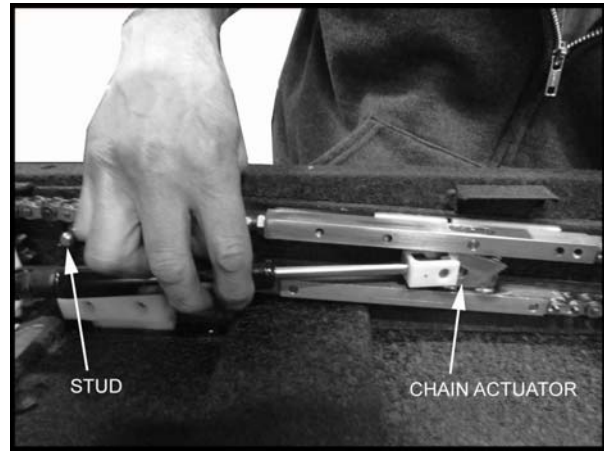


FIGURE 2-17 and 2-18: GAS SPRING INSTALLATION (LH SIDE SHOWN)

- o. Repeat installation for RH side Chain/Spring Assembly.

2. COUPLER ADJUSTMENT

As noted in the Chain Assembly Installation, unequal tension on the springs may cause different torques on ramp tray sprockets and will possibly cause ramp tray asymmetry error. The adjustable coupler will allow for adjustment and alignment of chain assembly.

- a. Refer to **Figure 2-17**. Loosen three bolts and nuts of the adjustable coupler.



FIGURE 2-19: ADJUSTABLE COUPLER

NOTE: Do not completely remove bolts and nuts. Only loosen enough to be able to adjust coupler. Nuts will need to be torque adjusted before completing procedure.

- b. Adjust Chain Assembly to align and balance chain tension.
- c. Set torque wrench to 143-inch lbs.

NOTE: Ensure the torque wrench is calibrated before each use.

- d. Refer to **Figure 2-20**. Torque each of three coupler nuts to 143-inch lbs. \pm 6.

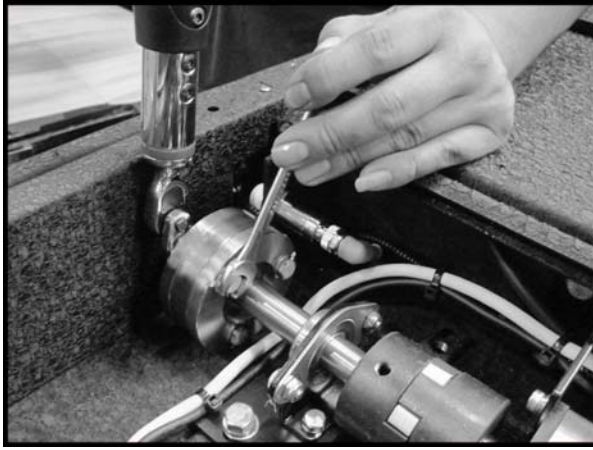


FIGURE 2-20: TORQUE EACH NUT



FIGURE 2-21: TORQUE VALUE

NOTE: Secure bolt with a box end wrench to prevent bolt from rotating while torque is applied.

- e. Use a black fine point marker and write torque value near each of three nuts that have been torque as shown in **Figure 2-21**.

3. RAMP TRAY ADJUSTMENT.

Removal and installation of the chain assembly must be completed without the presence of the ramp tray. Re-installation of the ramp tray must be installed as follows.

- a. Refer to **Figure 2-22**. Align ramp tray hole with sprocket hole pattern.

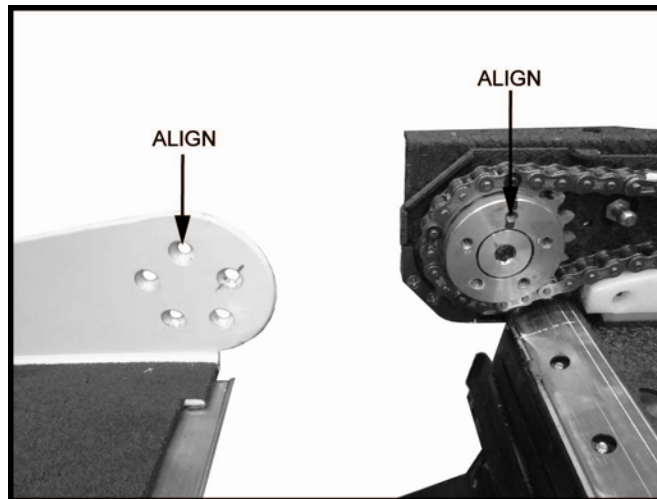


FIGURE 2-22: RAMP TRAY ALIGNMENT (LH SIDE SHOWN)

- b. Refer to **Figure 2-23**. Attach ramp tray and install screw through aligned holes.

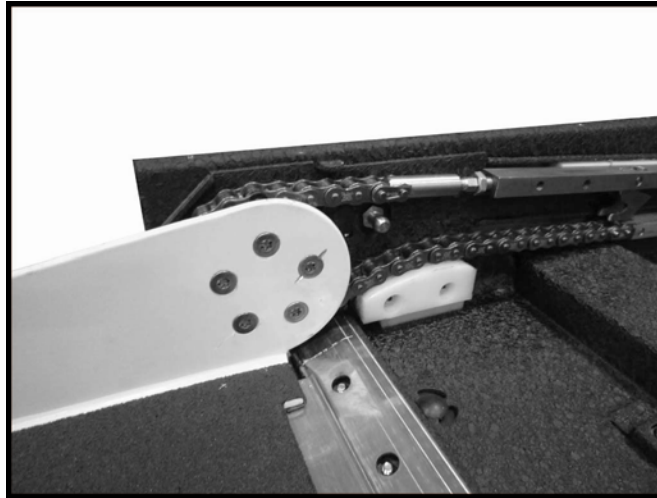


FIGURE 2-23: RAMP TRAY INSTALLATION (LH SIDE SHOWN)

- c. Tighten five screws to securely fasten ramp to enclosure.
- d. Repeat procedure for right hand side.

4. SENSOR TARGET ADJUSTMENT FOR POSITION AND GAP

- a. Verify that the ramp is completely stowed. This establishes a reference position for ramp during target adjustment.

NOTE: Use a straightedge as an artificial target to simulate ramp tray barrier when fully stowed.

- b. Refer to **Figure 2-24**. Loosen jam nuts on sensor body. Adjust position of both nuts to achieve a gap between nose of sensor and outside diameter of target that is $.060'' \pm .030''$ (gap is set on inside of ramp tray barrier). Do not allow sensor to contact target. Tighten jam nuts and recheck gap.

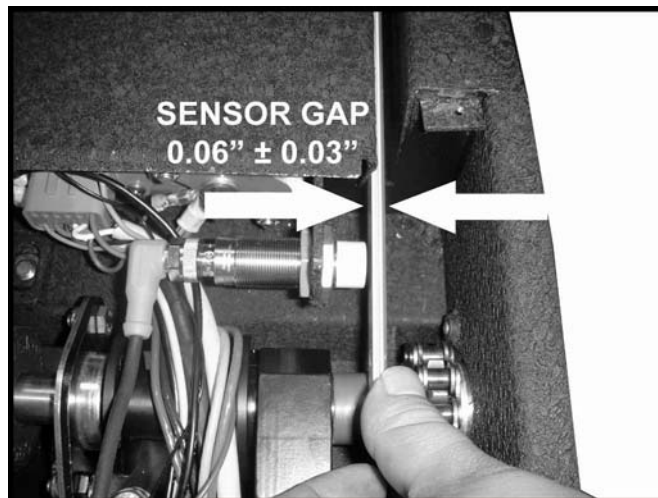


FIGURE 2-24: SENSOR GAP ADJUSTMENT
(RIGHT SIDE VIEW)

5. FINAL INSPECTION

- a. Visually inspect ramp for loose or missing hardware and fittings, and confirm that pockets are free of debris.
- b. Verify that slanted plated cover is secure and closed on ramp.
- c. Verify that non-skid flooring is clean, functional, and securely fastened.
- d. Verify that manual operation strap is undamaged.

III. FOLDOVER 1:6 RAMP MAINTENANCE

The maintenance information in this chapter applies to the Ricon ER7-Series FoldOver 1:6 ramp when installed in transit vehicles. The information consists of safety precautions, a maintenance schedule, component information, and diagrams for the electrical system. This chapter is intended to supplement related sections of the vehicle manufacturer Owner Manual and Quick-Start Guide.

A. GENERAL SAFETY PRECAUTIONS



WARNING!

THIS RAMP IS DRIVEN WITH AN ELECTRO-MECHANICAL MOTOR DRIVE SYSTEM. USE EXTREME CAUTION WHEN DOING MAINTENANCE AND REPAIRS. DO NOT DISCONNECT ELECTRICAL CABLES OR FITTINGS WHEN RAMP IS IN MOTION OR WHEN POWER IS APPLIED TO THE RAMP.

Follow these safety precautions during service of the Ricon FoldOver 1:6 ramp:

- Under no circumstances is maintenance, repair, or adjustment of the FoldOver 1:6 ramp to be performed without the presence of an individual capable of giving aid.
- Give immediate attention to all injuries, and administer first-aid or seek medical attention as necessary.
- Protective eye shields and clothing should be worn during maintenance, repair, and adjustment of the FoldOver 1:6 ramp.
- The user must be cautious when operating the ramp. Be certain that hands, feet, legs, and clothing are not in the path of ramp movement.
- Batteries contain acid that can burn. Wear protective clothing and eye protection at all times. If acid comes in contact with skin, immediately flush affected area with water and wash with soap. Do not place anything electrically conductive on top of battery. Do not smoke or use an open flame near battery.
- Work in a properly ventilated area.
- Read and understand all instructions before attempting to operate the FoldOver 1:6 ramp.
- Inspect the ramp before use for unsafe conditions, unusual noises, or erratic movements. Do not use ramp if any of these are present, and arrange to have a Ricon authorized dealer or qualified service technician inspect ramp.
- Keep others clear of the ramp while it is operating.
- Ricon strongly recommends that the vehicle be parked on level ground when using ramp. Using the ramp when vehicle is sloped may result in a ramp angle that is too steep for safe use. In addition, the sloped vehicle may not allow the ramp to make complete contact with the ground.
- The FoldOver 1:6 ramp and other system components require periodic maintenance. Ricon recommends a thorough vehicle inspection by a Ricon authorized dealer or qualified service technician at least once every six months. To maximize safety, the ramp and related components should be maintained at their highest level of performance.
- Read and comply with warning labels attached to ramp.

B. DAILY INSPECTION

Check ramp daily, following the Daily Inspection outlined in **Table 3-1**. Meet all inspection criteria before allowing passengers on ramp.

TABLE 3-1: DAILY INSPECTION	
INSPECTION POINT	CHECK
Ramp controller	<ul style="list-style-type: none"> • Power ON/OFF switch operates correctly. • Power On indicator illuminates when Power ON/OFF switch is ON. • DEPLOY and STOW switches operate correctly. • No unusual noises or erratic movements when ramp is deploying or stowing.
Ramp and surrounding area	Vestibule area is free of loose objects and trim pockets are free of debris.
Ramp non-slip surfaces	<ul style="list-style-type: none"> • Surface is clean and free of slippery or sticky substances that could compromise user safety. • Surface is intact and secure, and loose edges, if present, cannot create a stumbling hazard.
END OF TABLE	

C. MAINTENANCE SCHEDULE

Regular maintenance and inspection of the Ricon FoldOver 1:6 ramp provides optimum performance and reduces the need for repairs. Maintain the ramp as directed in **Table 3-2**. Perform ramp maintenance more frequently during heavy use (more than 20 cycles per day).

⚠ CAUTION!
~ This Ricon Product Is Complex ~
Required warranty period maintenance and repairs must be done at a Ricon authorized dealer or qualified service facility. Improper maintenance, use of non-Ricon replacement parts, or product modification will void warranty and can result in unsafe operating conditions. We recommend that a Ricon authorized dealer or qualified service facility continue maintenance inspections when warranty ends.

TABLE 3-2: MAINTENANCE SCHEDULE	
INSPECTION POINT	ACTION
– 6,000 MILE INSPECTION –	
Electrical System	<ul style="list-style-type: none"> • Check all electrical cables and fittings; tighten or replace as necessary • Check chain spring assembly for wear or missing parts.
Cover Fasteners	Check all threaded fasteners for looseness, and retighten as necessary.
Non-slip surface	Visually check for damage to surface, and for loose or missing non-slip material.
Ramp Interior	Visually check ramp interior area and remove accumulated dirt and debris.
Decals	Visually check for illegibility or damage, replace as necessary.
– 12,000 MILE INSPECTION –	
Wiring harnesses	Check wiring insulation for heavy abrasions, and connectors for looseness. Replace as necessary.
Fasteners	Check all threaded fasteners for tightness and retighten as necessary.

TABLE 3-2: MAINTENANCE SCHEDULE	
INSPECTION POINT	ACTION
Non-slip surfaces	Check non-slip surface for excessive wear or damage (rips, tears, peeling, etc.), and replace as necessary.
– 24,000 MILE INSPECTION –	
Chain Drive Assembly	Grease or oil to lubricate parts is NOT recommended. Keep components clean and free of debris. Refer to installation section for chain drive assembly replacement.
END OF TABLE	

D. RAMP COMPONENT INFORMATION

Ricon FoldOver 1:6 Ramp uses electrical power from the host vehicle to deploy and stow the ramp. Vehicle electrical power is converted to mechanical force, which is used to move the ramp. Electrical components are described below. Please refer to **Figures 3-4** for electrical diagram.

1. MOTOR DRIVE SYSTEM

The ramp employs an electro-mechanical motor drive system (contained within the ramp enclosure). Settings are programmed in the motor drive system and is preset at Ricon.

The motor drive system provides mechanical force to the chain/spring actuator assembly when either the DEPLOY or STOW switch is activated. Ricon recommends operating the ramp while the vehicle engine is running in order to minimize current drain on the vehicle battery.

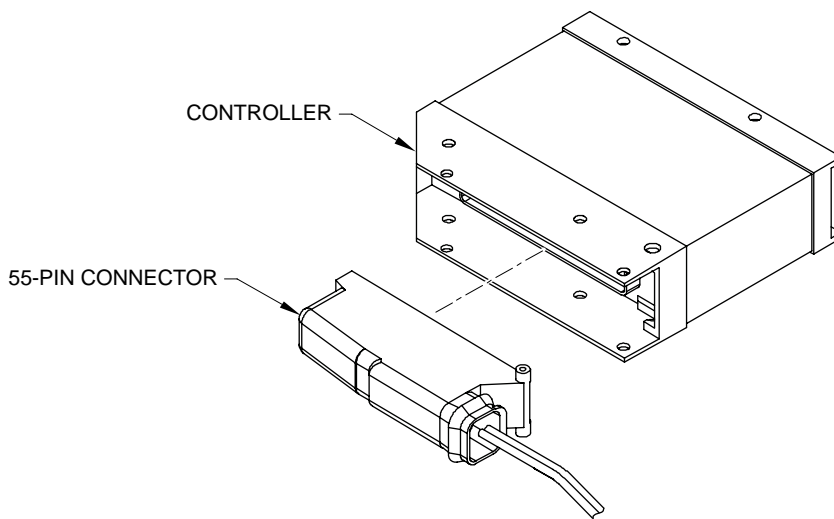
2. CHAIN/SPRING ACTUATOR ASSEMBLY

Two factory adjusted chain/spring actuator assemblies control the Stow and Deploy motion of the FoldOver 1:6 ramp. Their adjustment determines the degree to which the ramp will rotate opened or closed.

3. ELECTRONIC CONTROLLER

The electronic controller interprets DEPLOY and STOW requests and controls ramp functions. It contains integrated circuits (ICs), relays, fuses, and associated parts. The ICs cannot be accessed externally. The 55-pin ramp connector receives 24V to power the controller and sends 24V to power the motor drive system.

Refer to **Figure 3-1** for connector and controller connection. Controller only requires one 55-pin connector connection.



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FIGURE 3-1: CONTROLLER

NOTE: Voltage levels are 24 to 28 VDC in this application.

4. SENSOR LIGHT ACTIVITY DURING RAMP MOVEMENT

The FoldOver 1:6 ramps has two ramp positions that are monitored by the controller. This position is fully stowed to deployed position. The ramp must be in the fully stowed area before the electrical interlock output signal will turn on (24VDC). This is done to reduce the possibility of a passenger tripping on the front edge of the ramp when it is not stowed completely as well as preventing the bus from operating or moving when ramp is deployed.

Refer to **Table 3-3**. The status of the sensor lights (on or off) and the interlock output (0VDC or 24VDC) occur when the ramp is either STOWED or DEPLOYED. Note that the interlock output has both a normal and an inverted output. This table applies to the normal output.

TABLE 3-3: SENSOR LIGHT AND INTERLOCK OUTPUT STATUS			
POSITION	DEPLOY LIGHT	STOW LIGHT	INTERLOCK OUTPUT
STOWED	OFF	OFF	0VDC
DEPLOYED	ON	OFF	24VDC
End of Table			

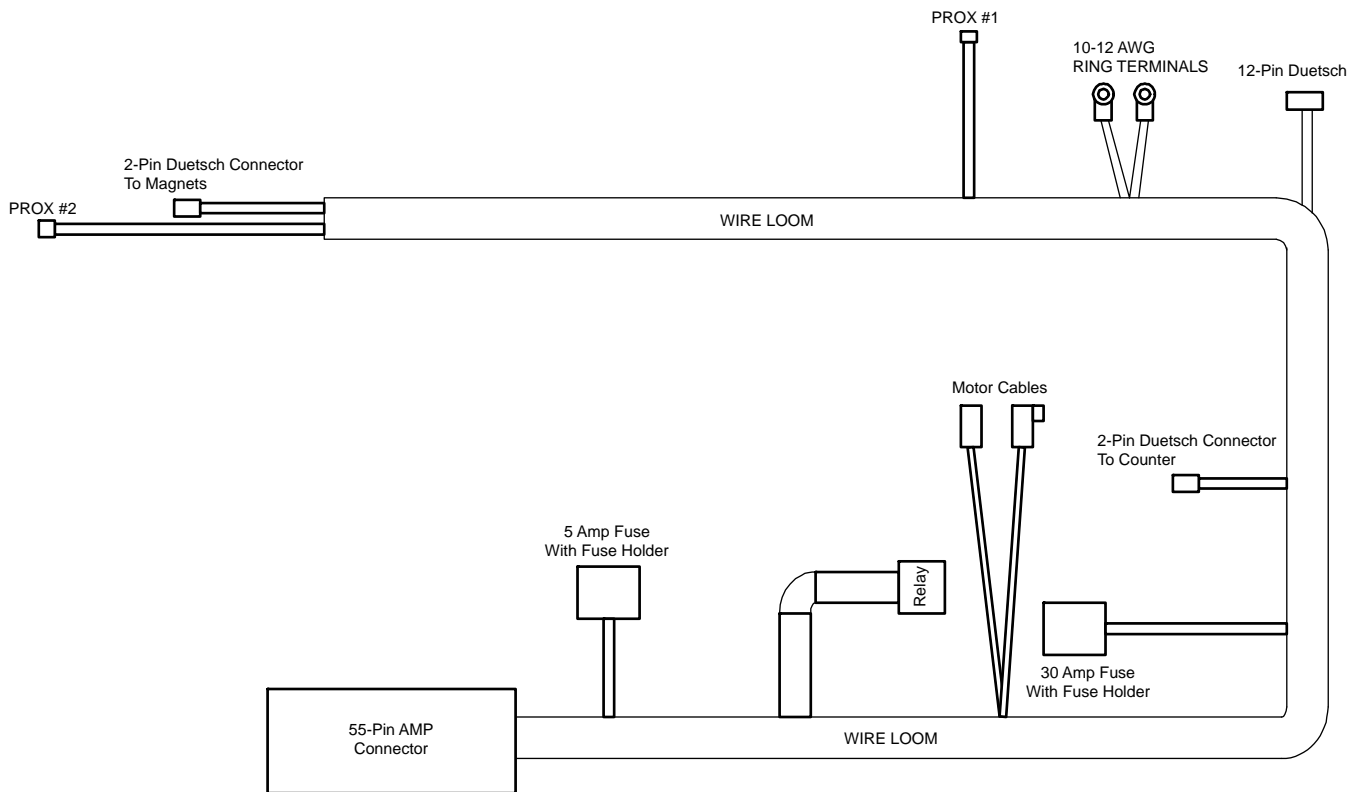
5. CIRCUIT BREAKERS AND FUSES

The bus builder installs a 50-amp circuit breaker for 24V applications to protect ramp control circuits. Refer to **Table 3-4** for harness fuses.

6. ELECTRICAL DIAGRAMS

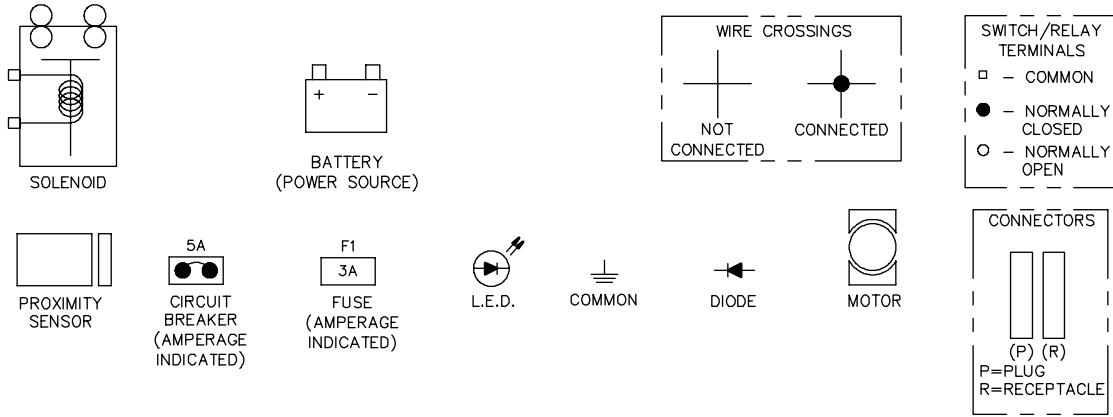
Refer to **Figure 3-2** for a description of plug and receptacle designations used on schematic.

Refer to **Figure 3-4** for an overall wiring diagram of the ramp system. The wiring diagram is located at the end of this chapter.



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FIGURE 3-2: CONNECTOR CONFIGURATION

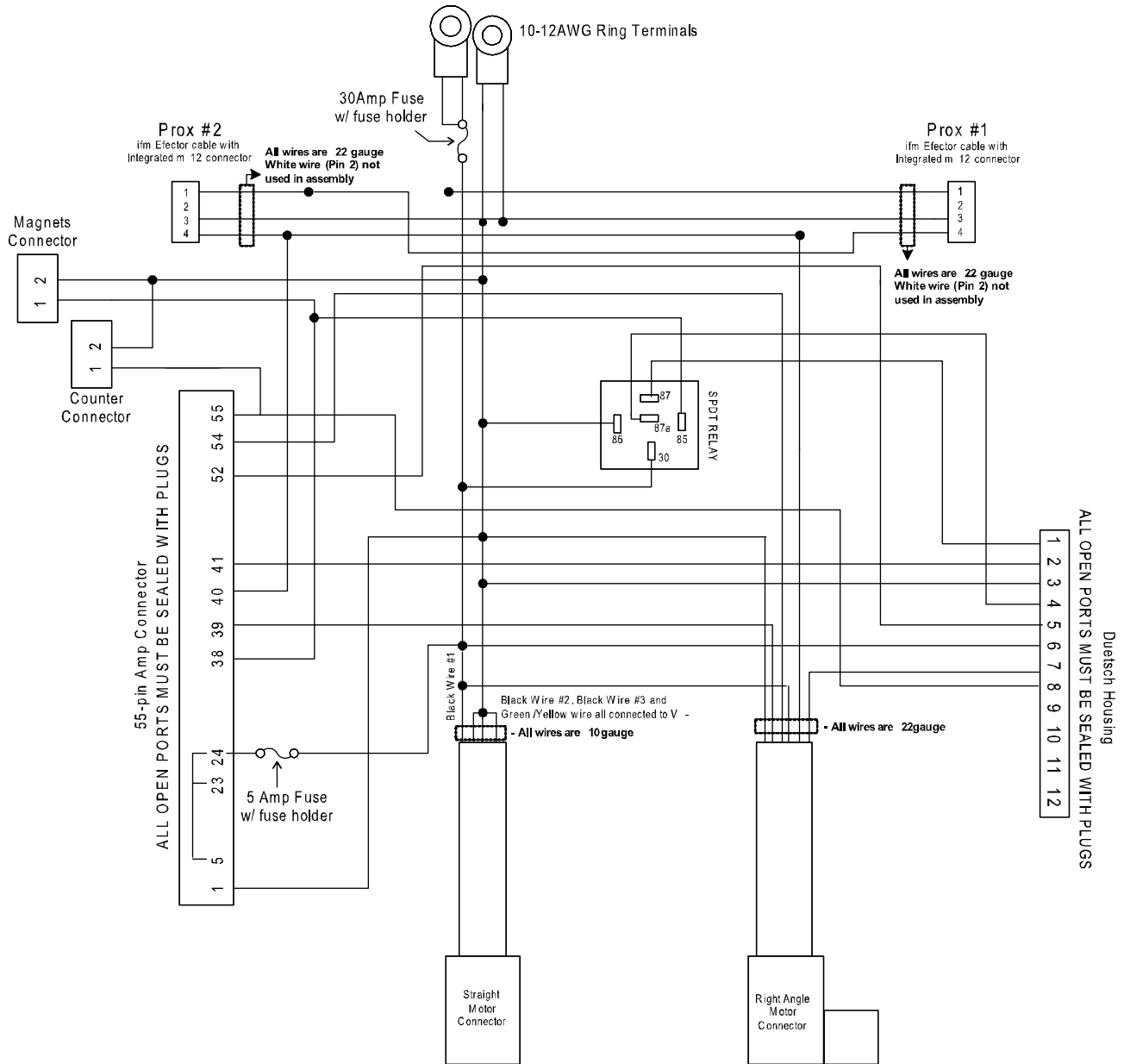


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FIGURE 3-3: SCHEMATIC SYMBOLS

TABLE 3-4: HARNESS FUSES		
FUSE	RATING	CIRCUIT
F1	5 AMP	Lift Enable (Ramp Switch)
F2	30 AMP	24V High Voltage (Motor Power)
END OF TABLE		

E. WIRING DIAGRAM



RSM0030700

FIGURE 3-4: ER7-SERIES 1:6 RAMP WIRING DIAGRAM

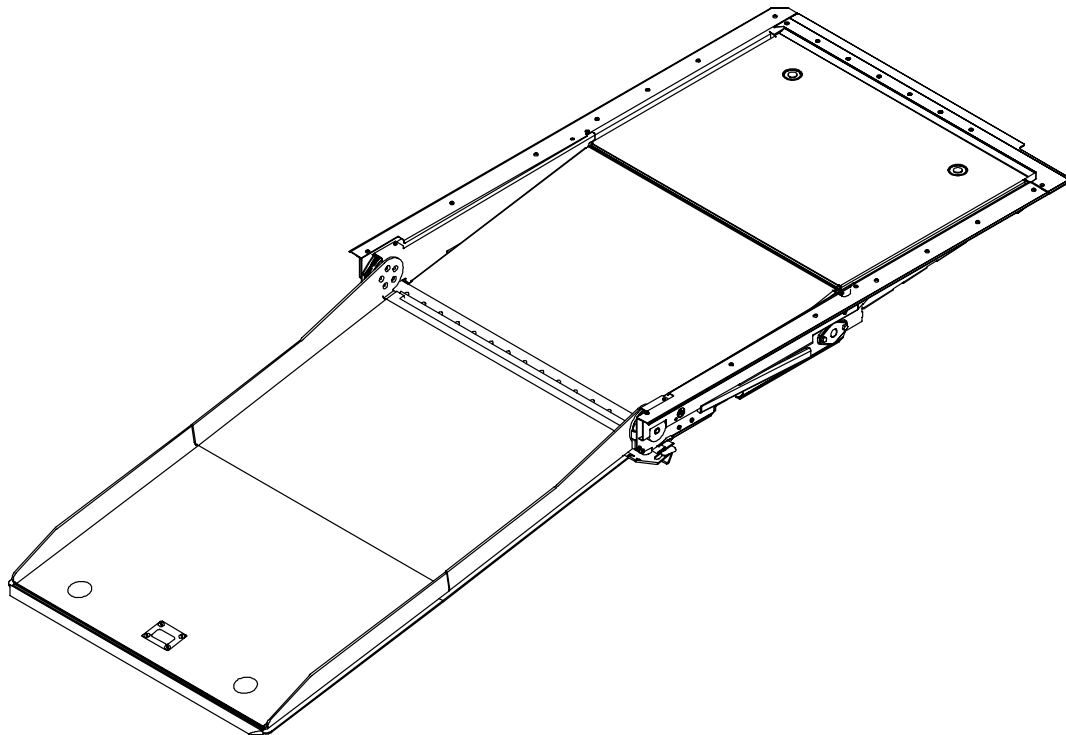
IV. ER7-SEIRES FOLDOVER 1:6 RAMP SPARE PARTS

The parts layouts and lists in this chapter apply to the Ricon ER7-Series FoldOver 1:6 ramp when installed in a transit vehicle. Replaceable ramp parts are illustrated in exploded views of major lift assemblies, which show smaller assemblies and components with reference numbers. Each associated parts list contains reference numbers, parts descriptions, and Ricon part numbers.

Each accompanying parts list contains figure item numbers, part descriptions, quantities used, configurations and the Ricon part number. To order parts, locate part on an appropriate diagram and note the figure item number. Find the figure item number on the accompanying parts list and use the part number in the far right column. Note that parts identified with (REF) in the QTY column of the spare parts list are for reference purposes only and are not sold for spare parts.

NOTE:

- Most items that are described as “kits” contain a single part (plus hardware). Therefore, you may need to order more than one kit if the part is used more than once on the assembly shown.
- Small, inexpensive hardware items are supplied in a minimum quantity of ten, and are packaged in a bag. A single bag may provide more parts than you need, or you may need multiple bags when working on a large assembly. The QTY column indicates how many individual parts are used on the assembly shown; you will need to determine the number of bags required for your task.
- The reference numbers for some parts have more than one part number listed. This occurs when variations of a part are used on different ramp models. These parts are followed by a model designation (ER700, ER701, etc).



PARTS DIAGRAMS

PAGE

FIGURE 4-1: ER7-SERIES DECAL PART NUMBERS AND LOCATIONS.....4-2

FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY4-4

FIGURE 4-3 ER7-SERIES MOTOR DRIVE ASSEMBLY 4-10

FIGURE 4-4: ER7-SERIES ELECTRICAL HARNESSSES AND COMPONENTS..... 4-12

LIFT SPECIFICATIONS4-15

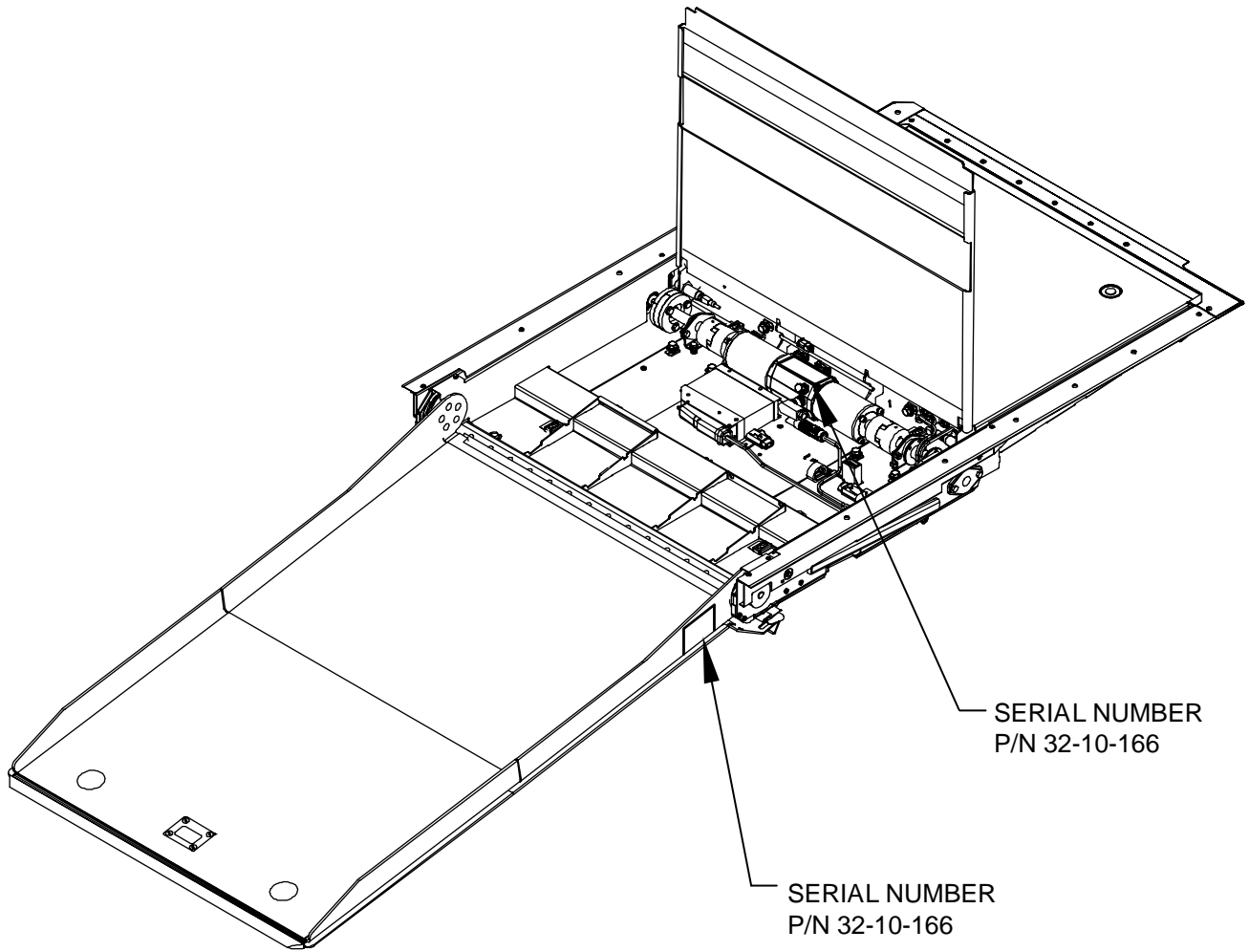


FIGURE 4-1: ER7 DECAL LOCATIONS

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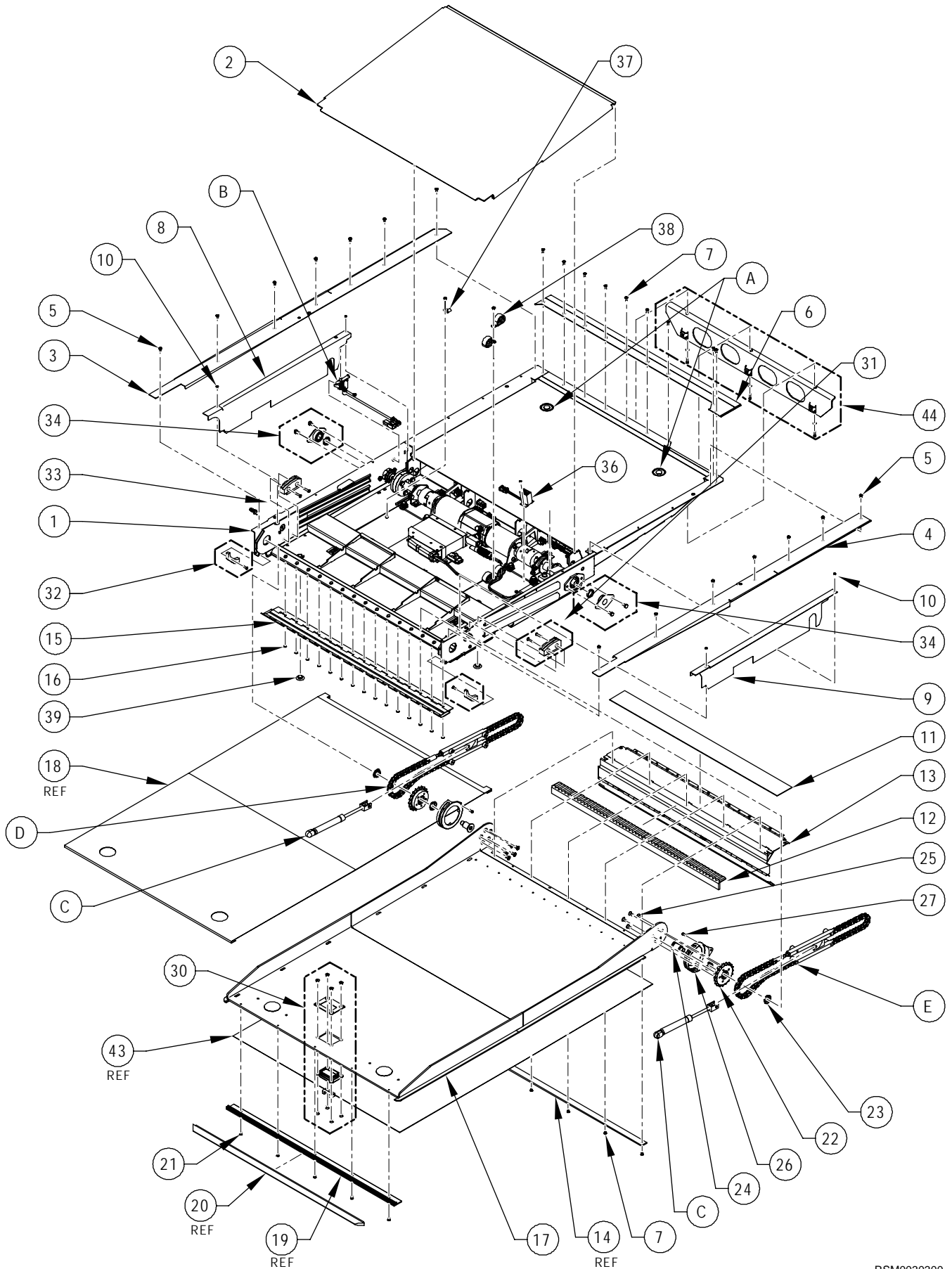


FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY (SHEET 1 OF 2)

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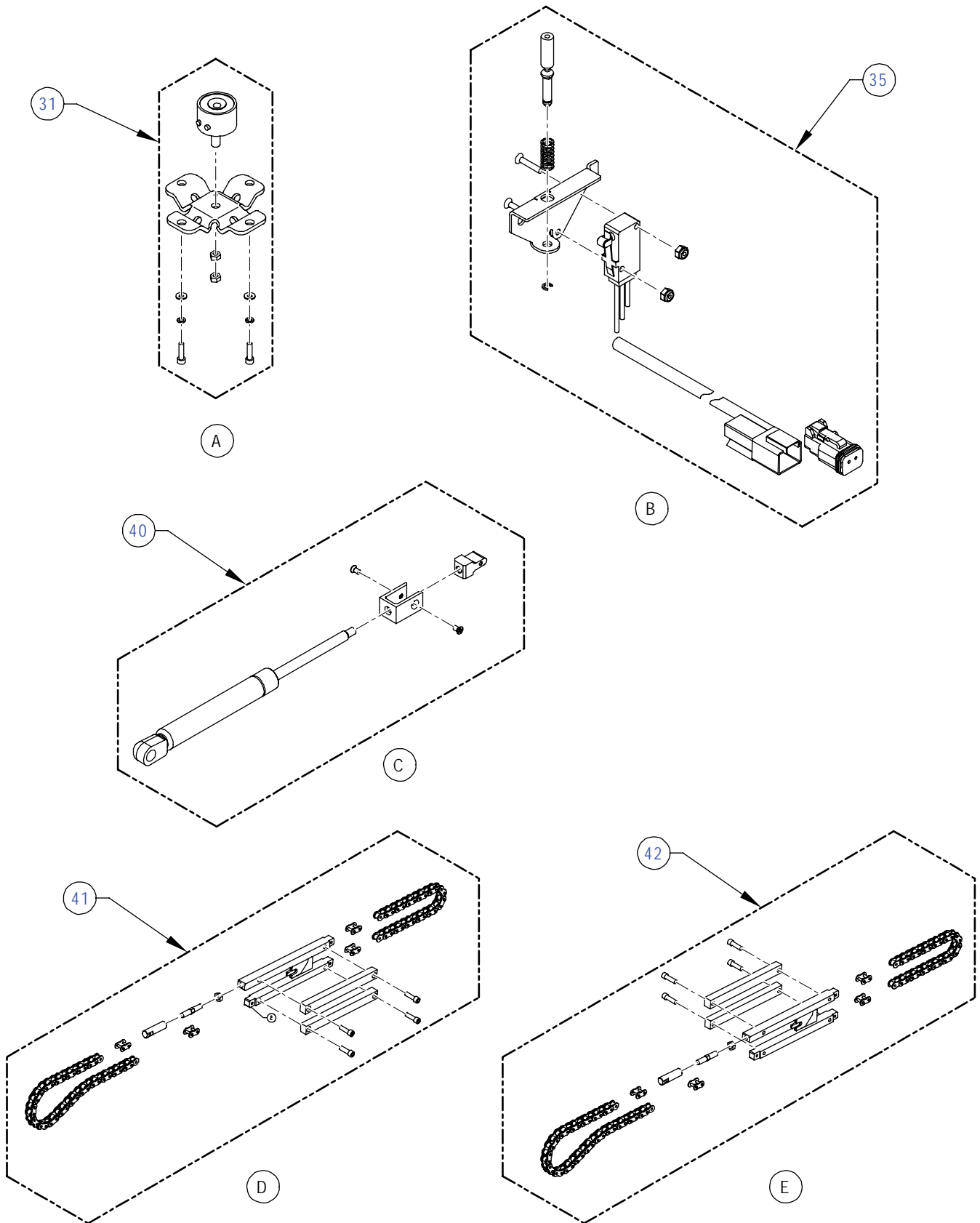


FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY (SHEET 2 OF 2)

RSM0030400

FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	ENCLOSURE WLDT, RAMP	REF	ER700	46402
1A*	ENCLOSURE WLDT, RAMP	REF	ER710	46402
2	FLOOR WLDT, HINGED	1		43948
3**	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-CY2730BY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-CY2733BY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-HY8804BY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-HY8805BY13	43962
	FLANGE, TRIM, LH (LARGE NOTCH)	1	ER700-MY2702AY10	43962
	FLANGE, TRIM, LH (NO NOTCH)	1	ER700-MY7892CY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-RWX766BY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-RYX452BY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-RYX466BY10	43962
	FLANGE, TRIM, LH (LARGE NOTCH)	1	ER700-RYX766AY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-RYX766BY10	43962
	FLANGE, TRIM, LH (LARGE NOTCH)	1	ER700-RYX852AY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-RYX852BY10	43962
	FLANGE, TRIM, LH (SHORT CUTOUT)	1	ER700-WY2012BY10	43962
	FLANGE, TRIM, LH (NO CUTOUT)	1	ER710-RYX766CY10	43962
3A**	FLANGE, TRIM, LH (FLAT)	1	ER700-CY27611Y20	44913*
	FLANGE, TRIM, LH (FLAT)	1	ER700-MY27061Y20	44913*
3B**	FLANGE, TRIM, LH, FLAT (WRINKLE BLACK)	1	ER700-MY27061B20	46298*
3C**	FLANGE, TRIM, LH, FLAT (SMALL PEDASTAL)	1	ER700-RYX4523Y12	46493*
4	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-CY2730BY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-CY2733BY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-HY8804BY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-HY8805BY13	43985
	FLANGE, TRIM, RH (LARGE NOTCH)	1	ER700-MY2702AY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-RWX766BY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-RYX452BY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-RYX466BY10	43985
	FLANGE, TRIM, RH (LARGE NOTCH)	1	ER700-RYX766AY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-RYX766BY10	43985
	FLANGE, TRIM, RH (LARGE NOTCH)	1	ER700-RYX852AY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-RYX852BY10	43985
	FLANGE, TRIM, RH (SHORT CUTOUT)	1	ER700-WY2012BY10	43985
4A**	FLANGE, TRIM, RH (FLAT)	1	ER700-CY27611Y20	44912*
	FLANGE, TRIM, RH (FLAT)	1	ER700-MY27061Y20	44912*
4B**	FLANGE, TRIM, RH, FLAT, FLAT (WRINKLE BLACK)	1	ER700-MY27061B20	46297*
4C**	FLANGE, TRIM, RH (NO NOTCH)	1	ER700-MY7892CY10	43963*
	FLANGE, TRIM, RH (NO NOTCH)	1	ER710-RYX766CY10	43963*
4D**	FLANGE, TRIM, RH, FLAT (SMALL PEDASTAL)	1	ER700-RYX4523Y12	46494*
5	SCREW, BHT #10-32, SST (BAG OF 10)	2		44235
6	FLANGE, REAR (SHORT CUTOUT)	1	ER700-CY2730BY10	43977
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-CY2733BY10	43977
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-HY8804BY10	43977
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-HY8805BY13	43977
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-RWX766BY10	43977

FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY (CONT'D)

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.		
6	FLANGE, REAR (SHORT CUTOUT)	1	ER700-RYX452BY10	43977		
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-RYX466BY10	43977		
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-RYX766BY10	43977		
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-RYX852BY10	43977		
	FLANGE, REAR (SHORT CUTOUT)	1	ER700-WY2012BY10	43977		
6A**	FLANGE, REAR (LONG CUTOUT)	1	ER700-MY2702AY10	43973*		
	FLANGE, REAR (LONG CUTOUT)	1	ER700-RYX766AY10	43973*		
	FLANGE, REAR (LONG CUTOUT)	1	ER700-RYX852AY10	43973*		
6B**	FLANGE, REAR, (FLAT)	1	ER700-CY27611Y20	44911*		
	FLANGE, REAR, (FLAT)	1	ER700-MY27061Y20	44911*		
6C**	FLANGE, REAR, FLAT, (WRINKLE BLACK)	1	ER700-MY27061B20	46296*		
6D**	FLANGE, REAR (NO CUTOUT)	1	ER710-MY7892CY10	43976*		
	FLANGE, REAR (NO CUTOUT)	1	ER710-RYX766CY10	43976*		
6E**	FLANGE, REAR, TRIM (SMALL PEDASTAL)	1	ER700-RYX4523Y12	46486*		
7	RIVET, POP, 3/16 X 3/8 AL FLUSH HD (BAG OF 10)	1		36293		
8	COVER, CHAIN, LH	1		46414		
9	COVER, CHAIN, RH	1		46415		
10	SCREW, PHP, 6-32 X 1/4 MS SST (BAG OF 10)	1		14427		
11	STRIP, ALTRO, FRONT GATE	1		43912		
12	STEP EDGE, RCA, YELLOW	1		43916		
13	FRONT COVER ASSEMBLY	1		44703		
14	BAR, TRANSITION	REF	ER700-CY2730BY10	43150		
		REF	ER700-CY2733BY10	43150		
		REF	ER700-CY27611Y20	43150		
		REF	ER700-MY2702AY10	43150		
		REF	ER700-MY27061B20	43150		
		REF	ER700-MY27061Y20	43150		
		REF	ER700-MY7892CY10	43150		
		REF	ER700-WY2012BY10	43150		
		14A*	BAR, TRANSITION, RCA FLOORING OPTION	REF	ER700-HY8804BY10	43900
				REF	ER700-RWX766BY10	43900
REF	ER700-RYX4523Y12			43900		
REF	ER700-RYX452BY10			43900		
REF	ER700-RYX466BY10			43900		
REF	ER700-RYX766AY10			43900		
REF	ER700-RYX766BY10			43900		
REF	ER700-RYX852AY10			43900		
REF	ER700-RYX852BY10			43900		
REF	ER710-RYX766CY10			43900		
14B*	BAR, TRANSITION, YELLOW ANODIZED	REF	ER700-HY8805BY13	46234		
15	PLATE WLDT, HINGED FRONT COVER	1		43137		
16	SCREW, FHP, 10-24 X 1/4 UNDERCUT SST (BAG OF 10)	2		15936		
17	PLATFORM ASSEMBLY	1	ER700-CY2730BY10	43953		
	PLATFORM ASSEMBLY	1	ER700-CY2733BY10	43953		
	PLATFORM ASSEMBLY	1	ER700-CY27611Y20	43953		
	PLATFORM ASSEMBLY	1	ER700-HY8804BY10	43953		
	PLATFORM ASSEMBLY	1	ER700-MY2702AY10	43953		

FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY (CONT'D)

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
17	PLATFORM ASSEMBLY	1	ER700-MY27061B20	43953
	PLATFORM ASSEMBLY	1	ER700-MY27061Y20	43953
	PLATFORM ASSEMBLY	1	ER700-MY7892CY10	43953
	PLATFORM ASSEMBLY	1	ER700-RWX766BY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX452BY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX466BY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX766AY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX766BY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX766BY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX852AY10	43953
	PLATFORM ASSEMBLY	1	ER700-RYX852BY10	43953
	PLATFORM ASSEMBLY	1	ER700-WY2012BY10	43953
	PLATFORM ASSEMBLY	1	ER710-RYX766CY10	43953
17A*	PLATFORM ASSEMBLY	1	ER700-RYX4523Y12	43934
17B*	PLATFORM ASSEMBLY	1	ER700-RHY8805BY13	46232
18****	SAFETREAD, 4FT X 60FT, BLK, 3M #31	REF		17792
19****	EXTRUSION, ALUMINUM, 29.50" LONG	REF		39883
20****	RUBBER EXTRUSION, LH	REF		43197
21	SCREW, FHP, 10-24 X 3/8, SST (BAG OF 10)	1		15982
22	SPROCKET, NO.40, 19 TEETH, MACHINED	1		39896
23	KIT FLANGE BEARING, 3/4 ID (BAG OF 10)	1		19576
24	SCREW, PLATFORM, PIVOT	2		39857
25	SCREW, FHH, 1/4-20 X 5/8" SST (BAG OF 10)	1		19739
26	COVER, CHAIN, FRONT	2		43626
27	SCREW, PHP, 10-24 X 0.500 SST	2		16058
28	CHAIN/SPRING ACTUATOR ASSEMBLY, LH	1		46219
29	CHAIN/SPRING ACTUATOR ASSEMBLY, RH	1		46224
30	KIT, HATCH HANDLE	1		30962
30A*	KIT, MANUAL LOOP, RAMP TRAY	1	ER700-RYX4523Y12	45314
31	KIT, ELECTROMAGNET	2		44222
32	KIT, FRONT GATE GUIDE (DELTRIN)	2		44223
33	KIT, CHAIN GUIDE, FRONT (DELTRIN)	2		46510
34	KIT, SELF ALIGNING BEARING	2		44221
35	KIT, SWITCH ASSY, PLNGR TAPPED	1		44218
36	KIT, COUNTER	1		44219
37	KIT, CLAMP, CABLE W/HARDWARE	1		18660
38	KIT, DUAL CLAMP, CABLE W/HARDWARE	1		44209
39	KIT, DRAIN PLUG	1		44208
40	KIT, GAS SPRING	2		46513
41	KIT, CHAIN/SPRING ACTUATOR, LH	1		46511
42	KIT, CHAIN/SPRING ACTUATOR, RH	1		46512
43A***	FLOORING, ALTRO, CHROMA, 2730 (MINERAL)	REF	ER700-CY2730BY10	44929*
43B***	FLOORING, ALTRO, CHROMA, ZEAL	REF	ER700-CY2733BY10	43924*
43C***	FLOORING, ALTRO, CHROMA 2761 (CAYMAN)	REF	ER700-CY27611Y20	44993*
43D***	FLOORING, TARABUS SELENIUM 8804	REF	ER700-HY8804BY10	46276*
43E***	FLOORING, TARABUS HELIOS 8805	REF	ER700-HY8805BY13	46231*
43F***	FLOORING, ALTRO, META, GENOME	REF	ER700-MY2702AY10	43923*

FIGURE 4-2: ER7-SERIES RAMP ASSEMBLY (CONT'D)

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
43G***	FLOORING, ALTRO, META, RADIAL	REF	ER700-MY27061B20	43922*
	FLOORING, ALTRO, META, RADIAL	REF	ER700-MY27061Y20	43922*
43H***	FLOORING, ALTRO, META, BLACK	REF	ER700-MY7892CY10	43921*
43J***	FLOORING, RCA, RIBBED, SLATE 766	REF	ER700-RWX766BY10	44915*
		REF	ER700-RYX766AY10	44915*
		REF	ER700-RYX766BY10	44915*
		REF	ER710-RYX766CY10	44915*
43K***	FLOORING, RCA, RIBBED 452 (ROYAL BLUE)	REF	ER700-RYX4523Y12	44758*
		REF	ER700-RYX452BY10	44758*
43L***	FLOORING, RCA, RIBBED, GRANITE 466	REF	ER700-RYX466BY10	44972*
43M***	FLOORING, RCA, RIBBED, TR852 (BLUE W/ FLEK)	REF	ER700-RYX852AY10	45471*
		REF	ER700-RYX852BY10	45471*
43N***	FLOORING, ALTRO, TIMBERSAFE TS2012 (PINE)	REF	ER700-WY2012BY10	45463*
44	KIT, MOUNTING BRACKET & BLOCK, W/HARDWARE	1	ER700-CY2730BY10	43936
		1	ER700-CY2733BY10	43936
		1	ER700-CY27611Y20	43936
		1	ER700-HY8804BY10	43936
		1	ER700-HY8805BY13	43936
		1	ER700-MY2702AY10	43936
		1	ER700-MY27061B20	43936
		1	ER700-MY27061Y20	43936
		1	ER700-MY7892CY10	43936
		1	ER700-RWX766BY10	43936
		1	ER700-RYX452BY10	43936
		1	ER700-RYX466BY10	43936
		1	ER700-RYX766AY10	43936
		1	ER700-RYX766BY10	43936
1	ER700-RYX852AY10	43936		
1	ER700-RYX852BY10	43936		
1	ER700-WY2012BY10	43936		
1	ER710-RYX766CY10	43936		
44A*	KIT, MOUNTING NFLYER CTA, BLOCKS, W/ HARDWARE	1	ER700-RYX4523Y12	46446

NOTE: (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

* Not shown.

** Some applications require alternate flange trim for alternate applications. Refer to Config. Column for alternate applications.

*** Some applications require alternate floor coverings. Refer to Config. Column for alternate applications. Consult Ricon Product Support if your covering is not listed.

**** Refer to Platform Assembly. Flooring and extruded parts are assembled in the factory.

FIGURE 4-3: ER7-SERIES MOTOR DRIVE ASSEMBLY

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	MOTOR, DUAL GEAR BOX ASSY	1		43054
2	SPACER, GEAR MOTOR	2		43960
3	SCREW, FHH, M6-1 X 16MM SST	2		19217
4	BRACKET, MOTOR MOUNT LEFT HAND	1		43958
5	BRACKET, MOTOR MOUNT RIGHT HAND	1		43957
	ATTACHING HARDWARE			
6	SCREW, SHC, M6-1.0 X 20MM LNG, SST	6		43991
7	WASHER, SPL, M6 X 11.8MM X 1.6MM THK SST (BAG OF 10)	1		20921
8	BEARING ASSY	2		43043
9	SCREW, HEX, 1/4-20 X 1/2 GR5 (BAG OF 10)	1		34518
10	WASHER, SPL, 1/4"	4		28274
11	COUPLING, TYPE L, 19MM ID, 6MM KEYWAY	2		43048
12	SPIDER COUPLING	2		43049
13	COUPLING, TYPE L, .750 ID	2		43051
14	WASHER, COUPLER	1		43981
15	SHAFT, CLUTCH ASSY	1		43983
16	SHAFT ASSY	1		43982
17	SCREW, HEX, 1/4-20 X 1 3/4 GRADE 8 COATED	6		43087
18	NUT, ESN, 1/4-20 THIN, SST (BAG OF 10)	2		13339
19	WASHER, SPL, 1/4"	6		28274
20	NUT, HEX, 1/4-20, 8 GRADE	6		42716
21	KEY, PARALLEL, 3/16 X 3/16 X .726	2		39877
22	BUSHING, CABLE	2		43984
23	BLOCK, BRAKE	1		43167
24	BEARING, BRAKE, MODIFIED	1		43168
25	SPACER, SHAFT, RH	1		43907
26	SHAFT ASSY, RH	1		43044
27	SCREW, SHC 5/16-24 X 1.25L, CORRO RESIST	1		36280
28	WASHER, FLT, .32 X .59 X .06 SST	1		28630
29	PLATE, BEARING, KEEPER	1		43196
30	ROLLPIN, 3/32 X 1/2	1		28349

NOTE: (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

* Not shown.

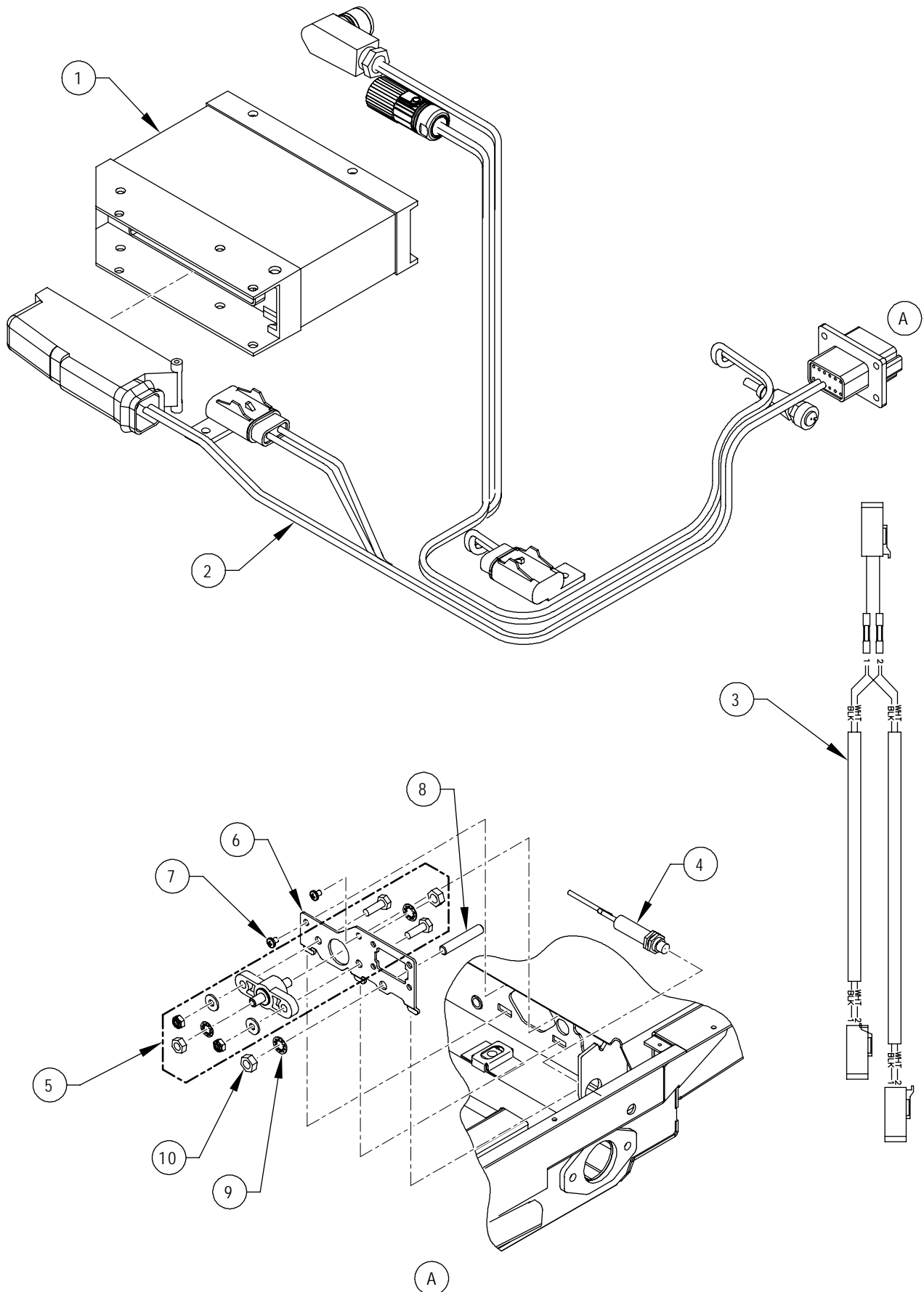


FIGURE 4-4: ER7-SERIES ELECTRICAL HARNESSES AND CONNECTORS

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FIGURE 4-4: ER7-SERIES ELECTRICAL HARNESSES AND CONNECTORS

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	CONTROLLER	1		45336
2	HARNESS FOR STUDS, IFM CONTROLLER CR2500	1		47100
2A*	HARNESS FOR STUDS, IFM CONTROLLER CR2500	1	ER710-RYX766CY10	45337
3	HARNESS, ELECTROMAGNET TO SWITCH	1		43935
4	INDUCTIVE PROXIMITY SENSOR	2		43951
5	KIT, BLOCK, POSITIVE CONNECTION	1		46514
6	PLATE, ELECTRICAL, INTERFACE	1		46429
6A*	PLATE, ELECTRICAL, INTERFACE ATTACHING HARDWARE	1	ER710-RYX766CY10	45390
7	SCREW, PHP, 10-24 x 1/4" SST	2		281049
8	STUD, 5/16-18 x 1.75"	1		14-60-050
9	WASHER, ISL, 5/16 X .61 X .03 BRZ	1		28965
10	NUT, HEX, 5/16-18 SST	2		283135

NOTE: (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

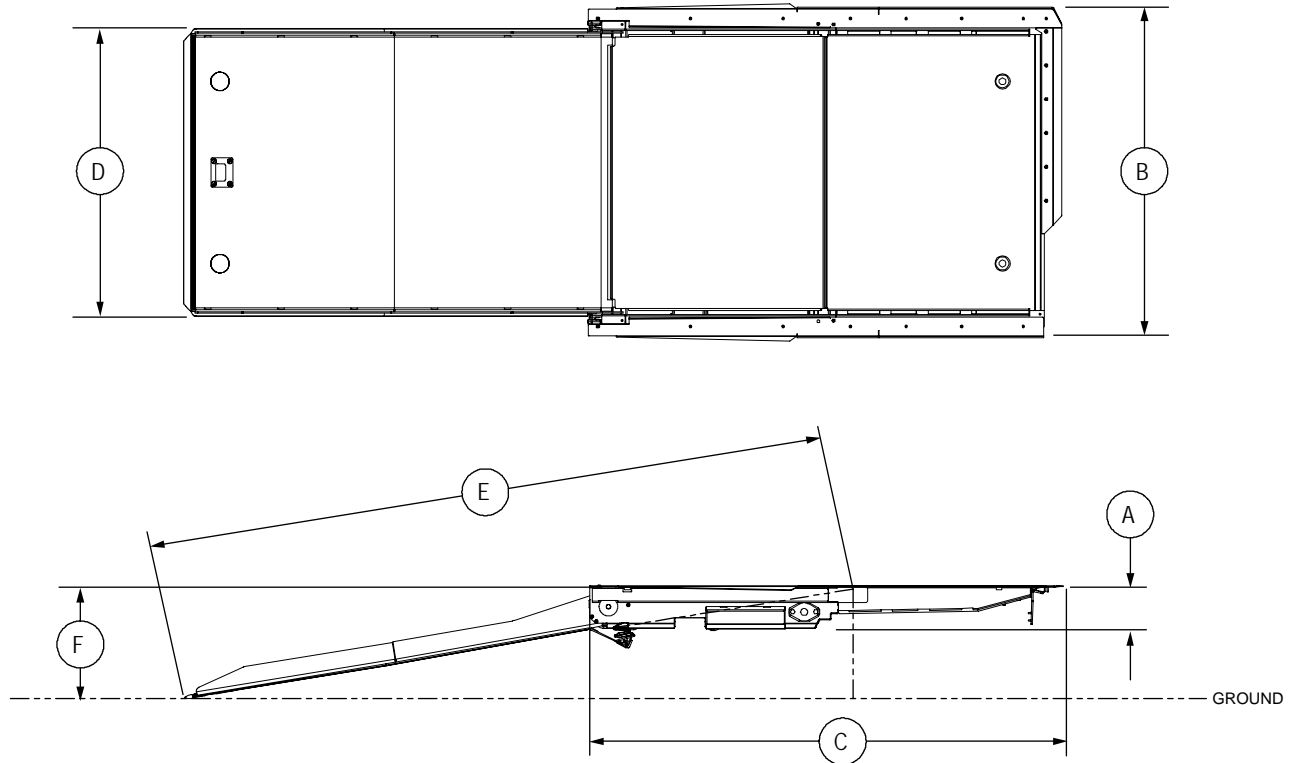
* Not shown.

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APPENDIX 1

TABLE 2-4: RICON LOW-FLOOR-VEHICLE ACCESS 1:6 RAMP SPECIFICATIONS

Power System	Electro-mechanical motor drive system
Power Requirements:	
Electric *	24 VDC
Maximum Current Draw *	1.5 amps
Rated Load Capacity	660 lbs. (300kg)
Ramp Weight	210 lbs. (91 kg)



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DIMENSIONS – Inches (MM)

	A	B	C	D	E	F
MODEL	Ramp Frame Height	Ramp Trim Width	Ramp Trim Length	Useable Platform Width	Sloped Surface Length	Floor-To-Ground Travel
ER700	4.5 (114)	33.8 (859)	51.6 (1311)	30 (762)	71 (1803)	12 (305)
ER710	4.5 (114)	33.8 (859)	51.6 (1311)	30 (762)	71 (1803)	12 (305)

END OF TABLE

NOTES: