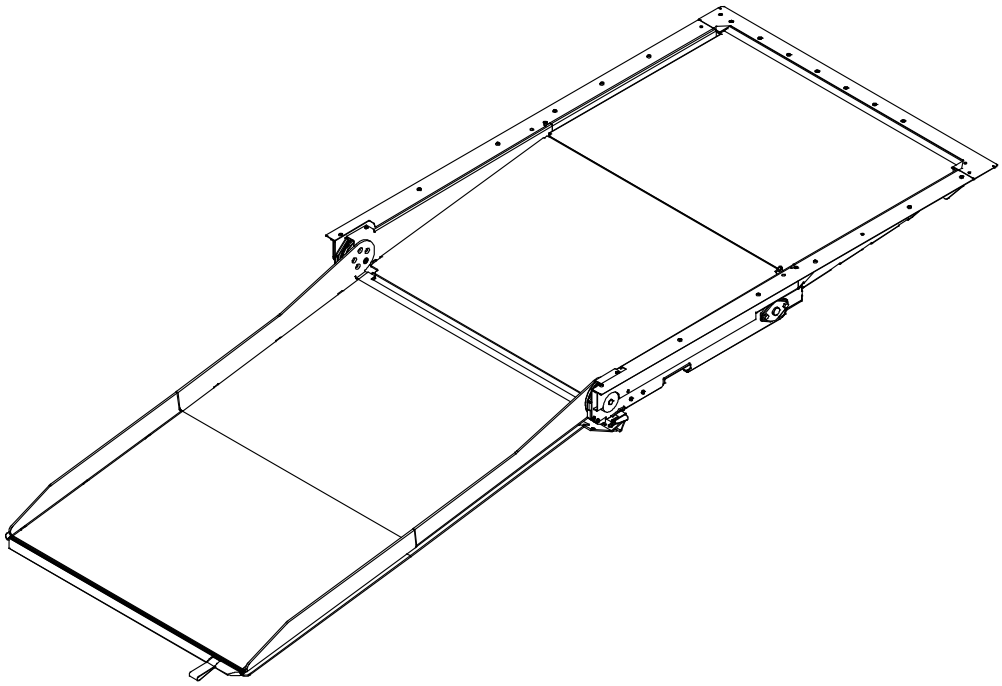
Ricon®
A Wabtec subsidiary

FoldOver ®

621R-Series

1:6 Low-Floor Bus Ramp



Service Manual

08/22/14

32D62102.A.3

This Ricon service manual is only for use by Ricon 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 dealers or qualified service technicians have the training and knowledge to perform maintenance work properly and safely. For the location of a Ricon 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

REV	PAGES	DESCRIPTION OF CHANGE	ECO
32D62102. A.3	Cvr	Update to company logo.	6663
	1-2	Update to company address.	
	1-3	Update to company logo.	
	4-7 thru 4-11	Added Configurations 621R0-CY27631B20 & 621R0-CY27821Y20.	

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I. 621R-SERIES FOLDOVER® 1:6 RAMP INTRODUCTION

This manual applies to the Ricon FoldOver® 621R-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® 621R-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 621R-Series 1:6 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.

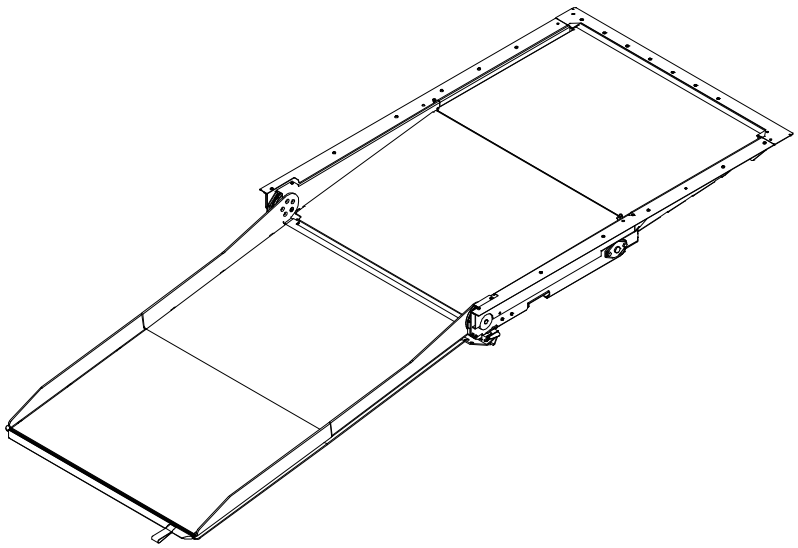

FIGURE 1-1: RICON FOLDOVER 1:6 RAMP

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.

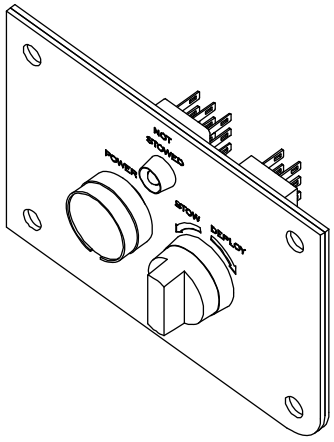

FIGURE 1-2: TYPICAL CONTROL PANEL

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 621R-Series 1:6 Low Floor Bus Ramp.

RICON FOLDOVER® 621R-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 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 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 621R-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.

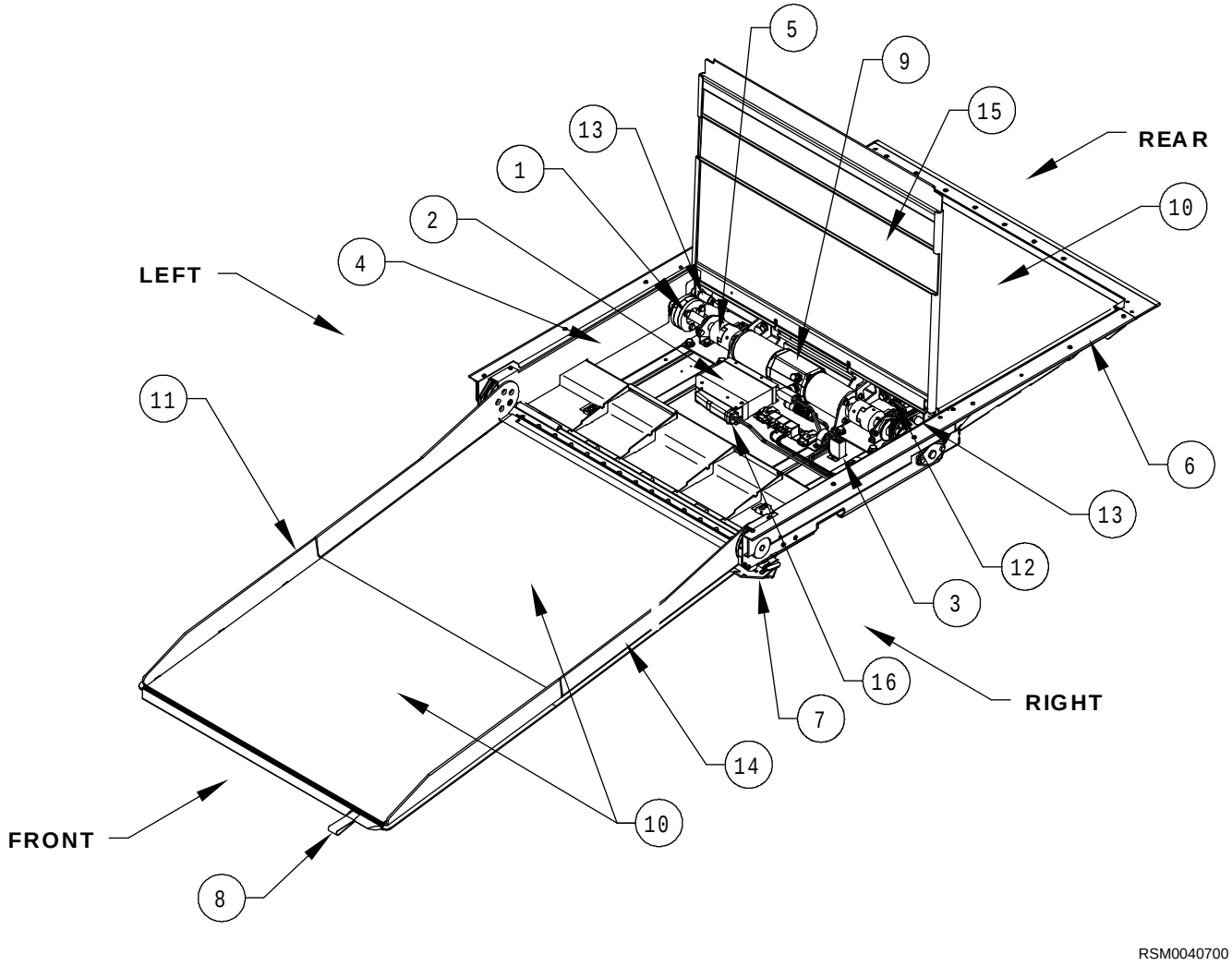


FIGURE 1-3: 621R-SERIES 1:6 RAMP MAJOR RAMP COMPONENTS

TABLE 1-1: MAJOR 621R-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 Assembly
5	Couplings - (Left & Right) Transmits rotary motion and attaches the drive motor shaft assemblies to the dual gearboxes.
6	Flange Kit - Perimeter trim pieces that are installed after the ramp has been installed in vehicle.
7	Front Cover - Front edge of ramp that opens and closes when platform is deployed or stowed.
8	Lifting Strap - Use to assist in manual deploy or stow ramp.
9	Motor Drive System - Electro-mechanical motor-gearbox combination used to operate the ramp.
10	Non-Slip Surface - Flooring over which passengers traverse.
11	Platform Assembly - Area where passengers traverse over to enter and exit vehicle.
12	Positive Connection Block - Connection through which the ramp receives power from vehicle.
13	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).
14	Ramp Tray Barrier - Left and Right side barrier of platform.
15	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.
16	Harness - Integrates conduits, relays, etc.
END OF TABLE	

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 un-obstructed 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.

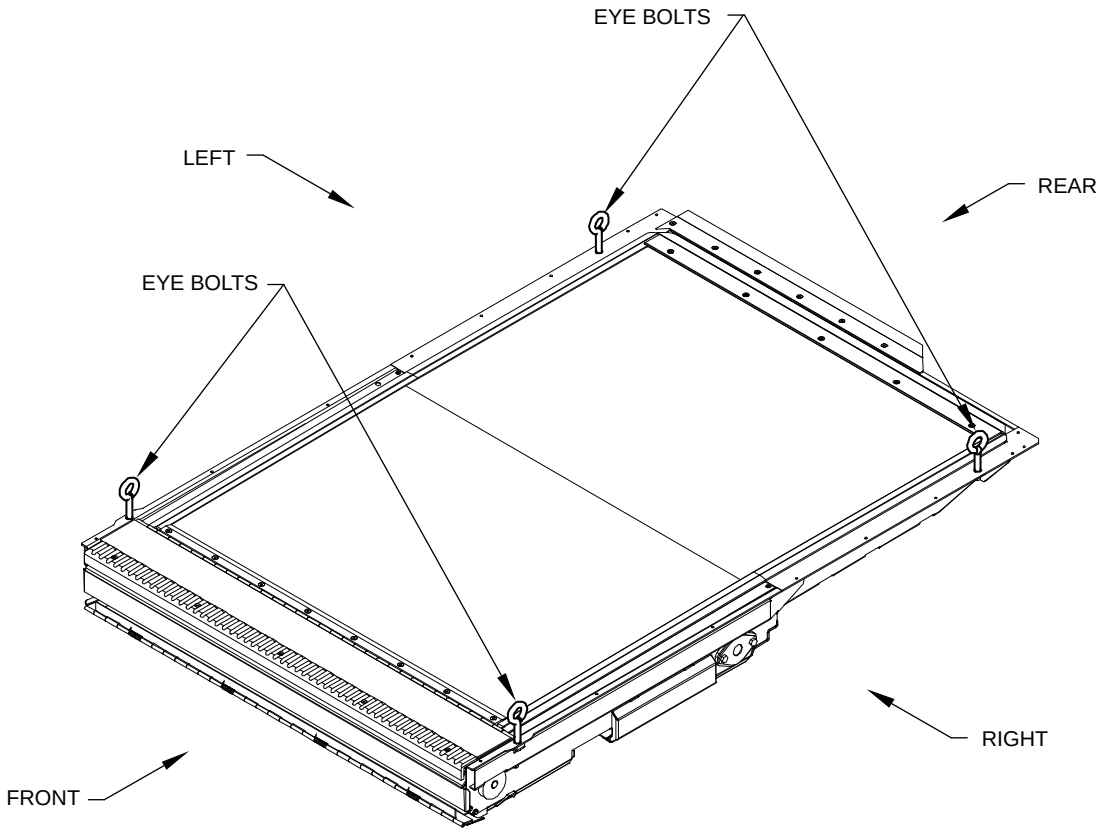


FIGURE 2-1: RAMP LIFTING EYE BOLTS

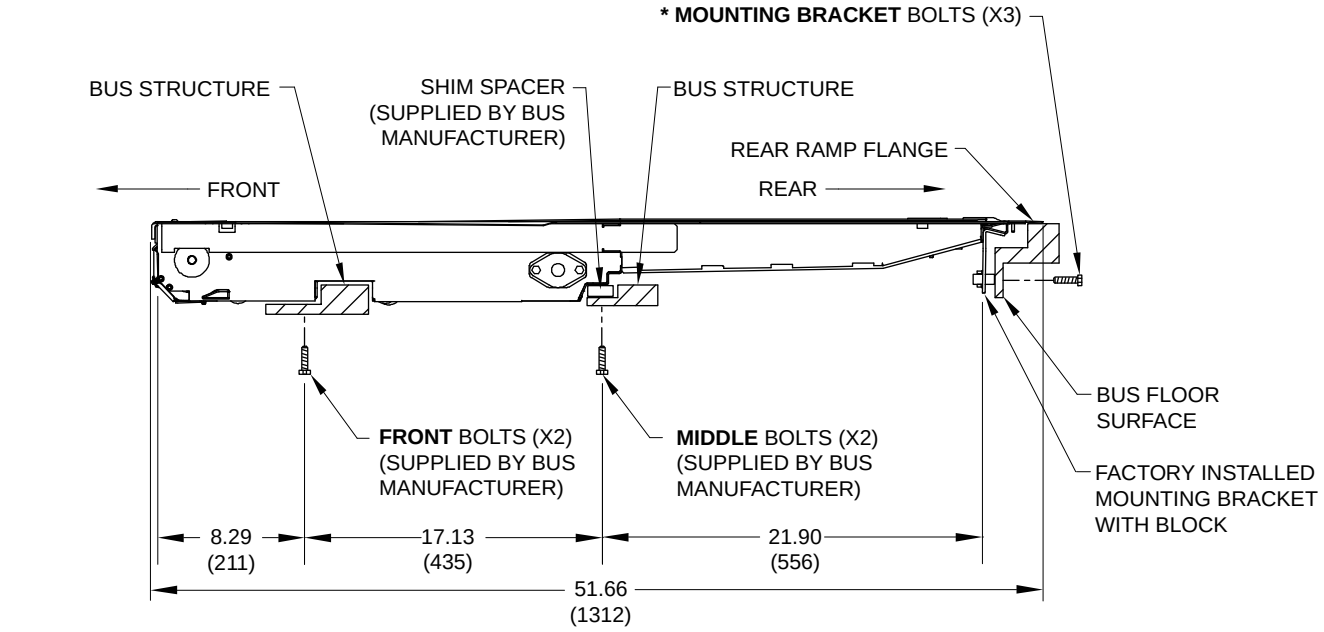
⚠ WARNING!

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

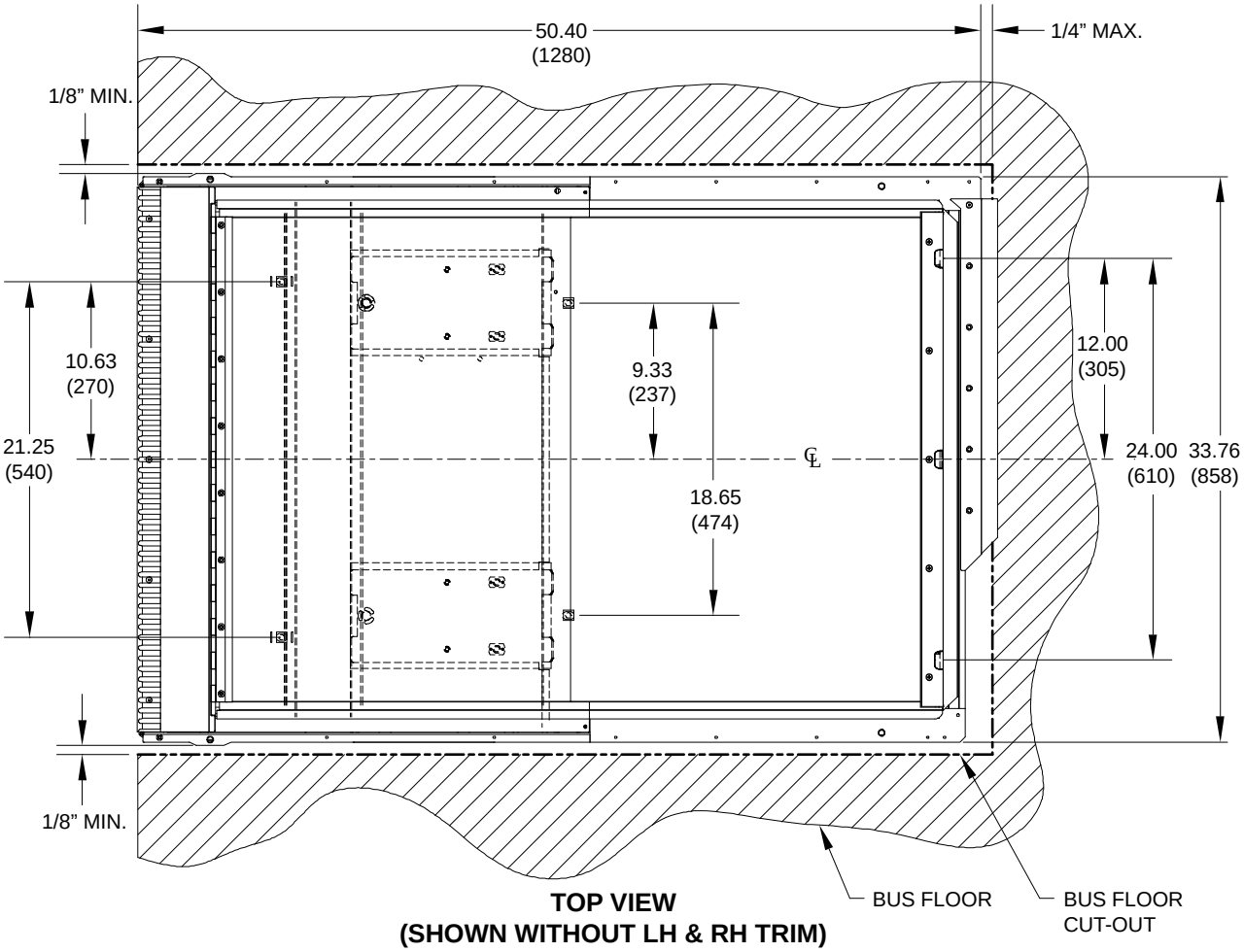
b. Refer to **Figure 2-1**. Attach lifting device hooks to pre-installed eye bolts.

c. Use lifting device to place ramp into bus.

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



RIGHT SIDE VIEW



TOP VIEW
(SHOWN WITHOUT LH & RH TRIM)

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

RSM0021502

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.

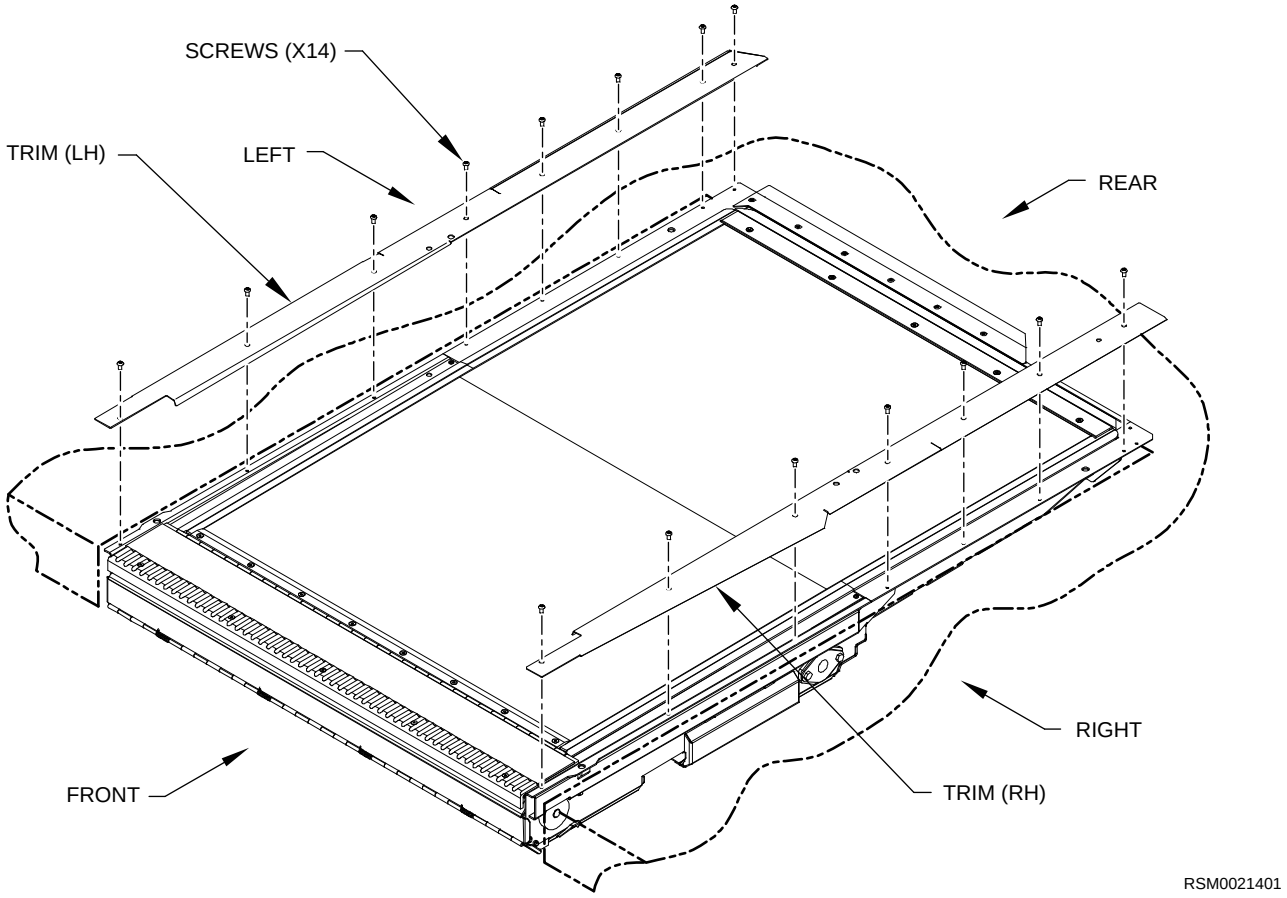


FIGURE 2-3: RAMP TRIM INSTALLATION

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 REMOVAL

Removal and installation of the chain assembly may be necessary. Unequal tension on the chain assembly 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.

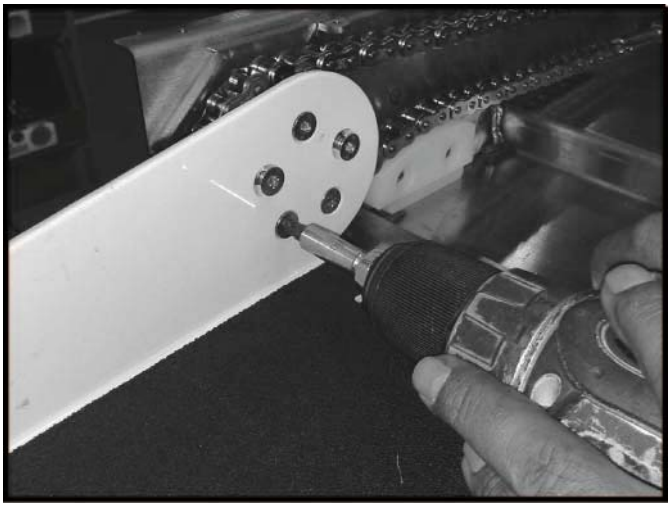


FIGURE 2-4: REMOVE RAMP TRAY

⚠ CAUTION

Secure and position ramp tray onto work bench before attempting to detach ramp tray from ramp enclosure.

⚠ WARNING!

TAKE EXTREME CARE WHEN DETACHING RAMP TRAY FROM ENCLOSURE. BE SURE TO FOLLOW PROPER OPERATION AND SAFETY INSTRUCTIONS WHEN LIFTING RAMP TRAY.

b. Remove and retain Front Gate Cable, Spring and Anchor for re-installation.

c. Refer to **Figure 2-5**. Remove LH and RH Front Chain Cover. Retain screw and cover.

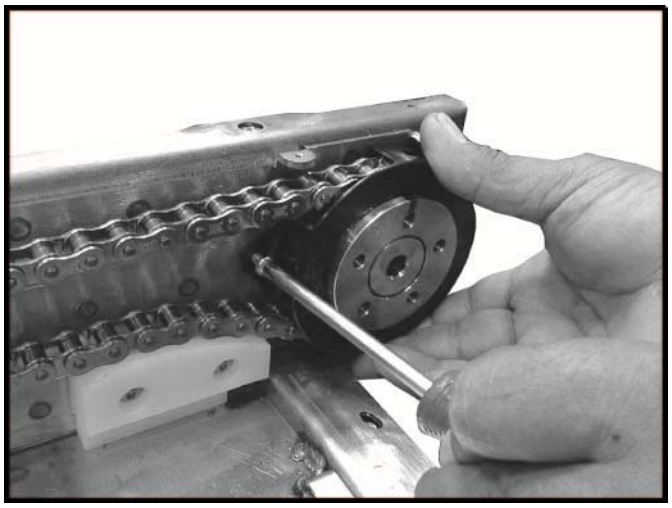


FIGURE 2-5: REMOVE LH and RH Front Chain Cover

d. Refer to **Figure 2-6**. Identify Chain and Sprocket alignment marks on LH and RH chain assemblies.

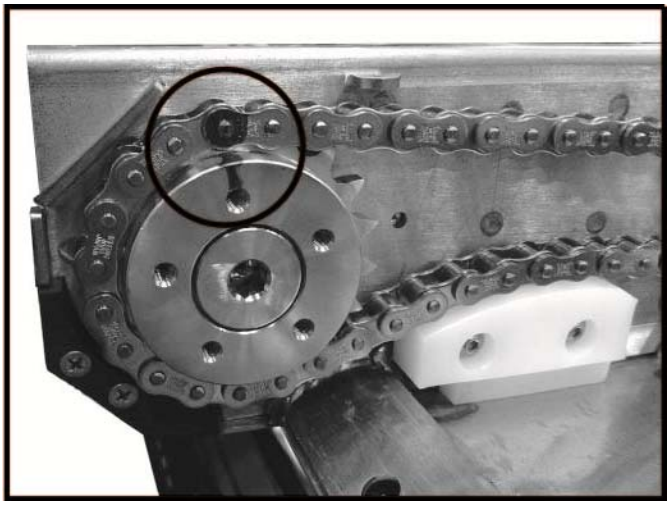


FIGURE 2-6: IDENTIFY LINK ALIGNMENT (RH SIDE SHOWN)

e. Refer to **Figure 2-7**. Release tension on chain assembly by unscrewing nut then loosen chain stud from chain bar.

NOTE: Release stiffness from chain assembly before removing platform pivot screw.

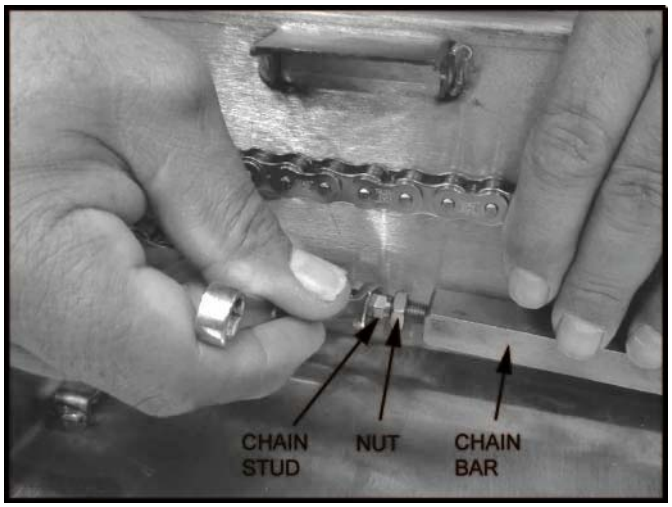


FIGURE 2-7: RELEASE TENSION ON CHAIN ASSEMBLY (LH SIDE SHOWN)

f. Refer to **Figure 2-8**. Unscrew platform pivot screw.

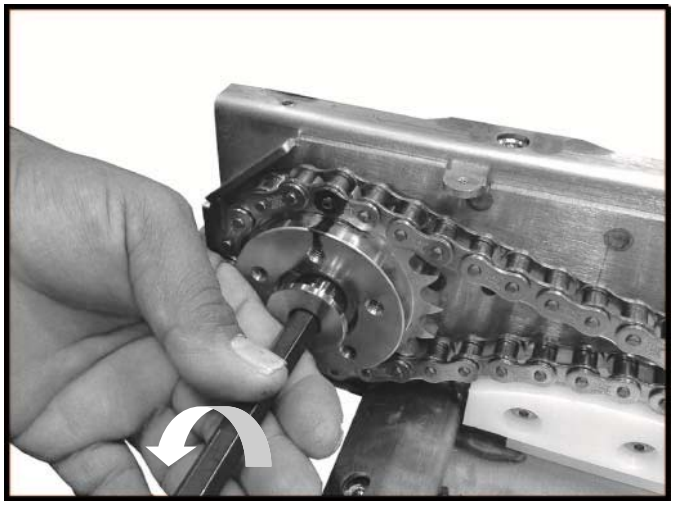


FIGURE 2-8: PLATFORM PIVOT SCREW (LH SIDE SHOWN)

g. Remove Chain Assembly.

NOTE: LH Chain Assembly shown.

2. CHAIN ASSEMBLY INSTALLATION

Unequal tension on the chain assembly may cause different torques on ramp tray sprockets and will possibly cause ramp tray asymmetry error. Ensure equal stiffness on left and right hand chain assembly after installation.

a. Refer to **Figure 2-9**. Replace and install left hand or right hand chain guides as necessary when chain assembly has been removed.

NOTE: For preventative maintenance replace chain guides if signs of wear are visible.

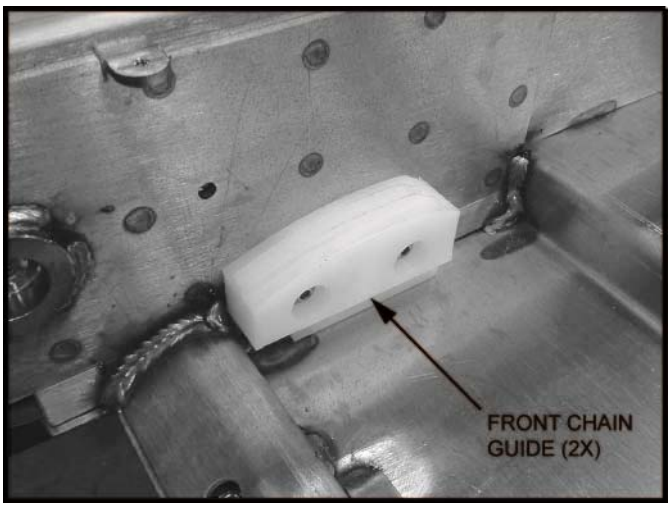


FIGURE 2-9: LH AND RH CHAIN ACTUATOR GUIDE (LH SIDE SHOWN)

b. Refer to **Figure 2-10**. 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.

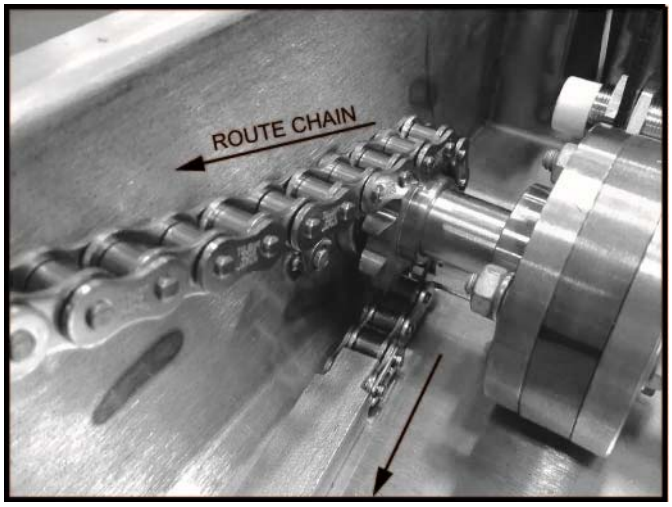


FIGURE 2-10: ROUTE CHAIN ACTUATOR ASSEMBLY (LH SIDE SHOWN)

c. Refer to **Figure 2-11 and 2-12**. Replace and install spacer onto drive shaft then install self aligning bearing as necessary.

NOTE: For preventative maintenance replace self aligning bearing or spacer if signs of wear are visible.

d. Install two washers and two bolts then tighten.

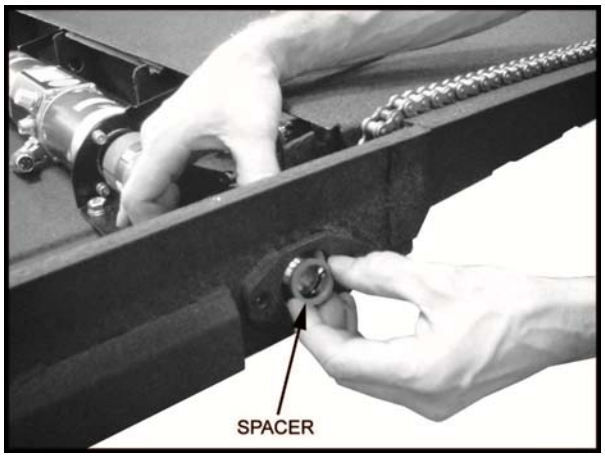


FIGURE 2-11 AND 2-12: SPACER AND SELF ALIGNING BEARING (RH SIDE SHOWN)

e. Refer to **Figure 2-13**. Locate chain link alignment identified on chain assembly.

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

FIGURE 2-13 IDENTIFY LINK ALIGNMENT ON CHAIN (RH SIDE SHOWN)

f. Refer to **Figure 2-14**. Locate and mark link alignment on sprocket.

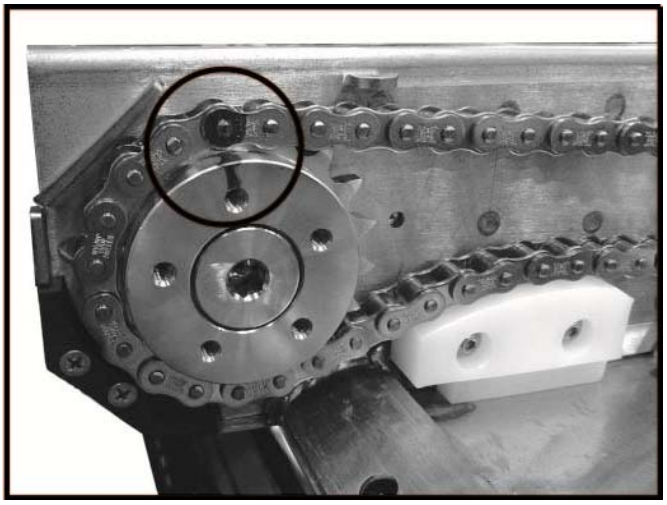


FIGURE 2-14 IDENTIFY LINK ALIGNMENT ON CHAIN (RH SIDE SHOWN)

g. Refer to **Figure 2-15**. Install Sprocket onto enclosure with platform pivot screw.

NOTE: Factory built models receive pre-marked alignments. Kits may require marking if received without any alignment marks.

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

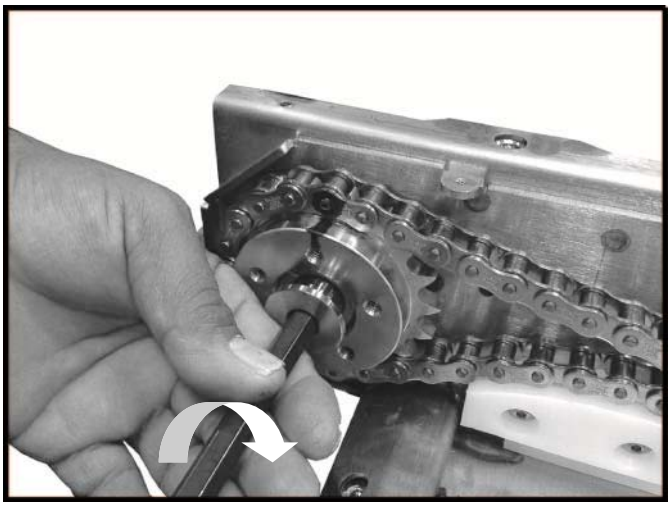


FIGURE 2-15: PLATFORM PIVOT SCREW (LH SIDE SHOWN)

h. Ensure that sprocket maintains 0° inboard reference.

i. Refer to **Figure 2-16**. Insert chain stud into chain bar then turn chain stud clockwise to tighten.

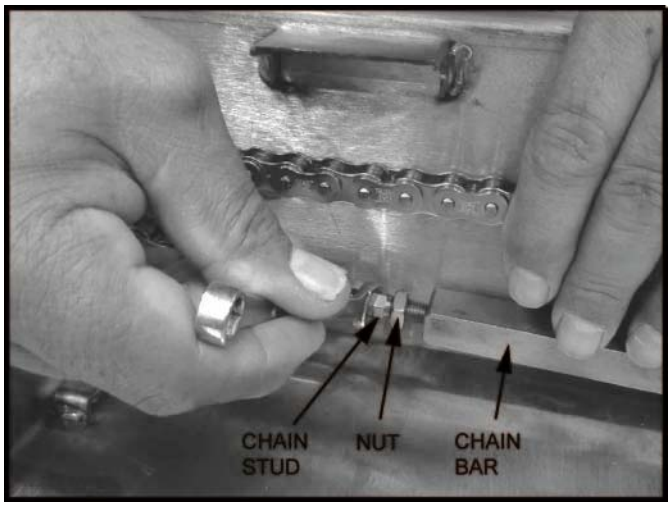


FIGURE 2-16: INSERT AND TIGHTEN CHAIN STUD WITH CHAIN BAR (LH SIDE SHOWN)

j. Refer to **Figure 2-16**. Tighten stud to adjust stiffness on chain assembly.

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

k. Repeat installation for RH side Chain Assembly as necessary.

l. Reinstall Front Chain Cover with screw.

m. Verify and ensure equal tension on left and right hand chain assemblies. Adjust stiffness on chain assembly by loosening or tightening chain stud with chain bar.

n. Secure chain bar with chain stud by tightening nut.

o. Reinstall Front Gate Cable, Spring and anchor onto Chain Assembly.

3. 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.

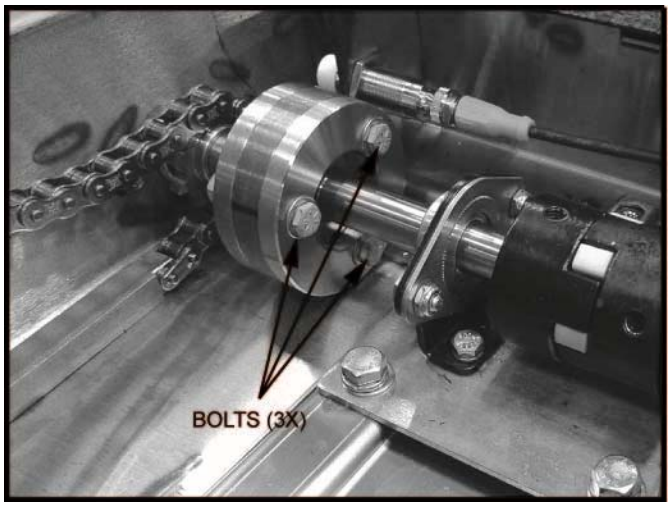


FIGURE 2-17: ADJUSTABLE COUPLER

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 2-18**. Torque each of three coupler nuts to 143-inch lbs. ± 6.

FIGURE 2-18: TORQUE EACH NUT

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.

4. 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 2-19**. Align ramp tray hole with sprocket hole pattern.

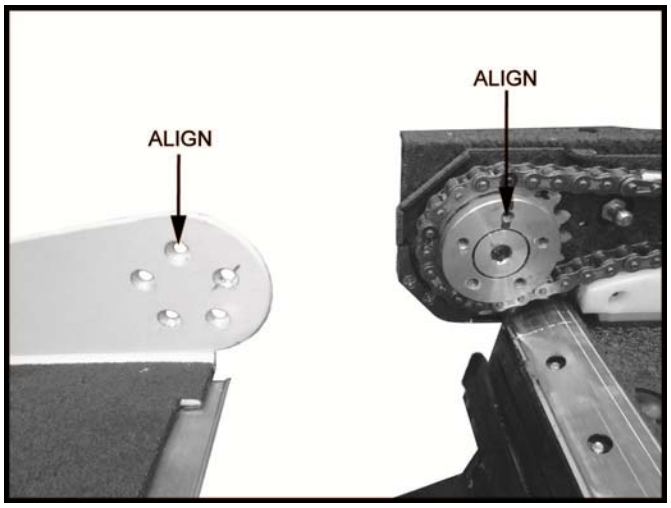


FIGURE 2-19: RAMP TRAY ALIGNMENT (LH SIDE SHOWN)

b. Refer to **Figure 2-20**. Attach ramp tray and install screw through aligned holes.

FIGURE 2-20: RAMP TRAY INSTALLATION (RH SIDE SHOWN)

c. Tighten five screws to securely fasten ramp to enclosure.

d. Repeat procedure for left hand side.

e. Refer to **Figure 2-21**. Reinstall Front Gate Cable, Spring and Anchor.

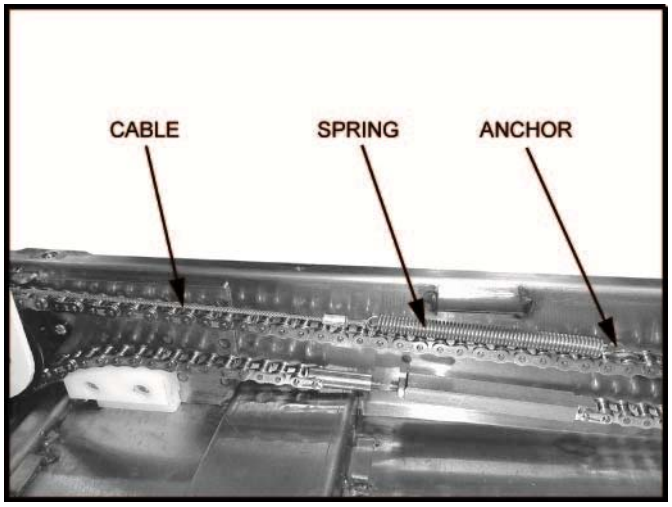


FIGURE 2-21: FRONT GATE CABLE, SPRING AND ANCHOR (LH SIDE SHOWN)

5. 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 0.06" ±0.03" (gap is set on inside of ramp tray barrier). Do not allow sensor to contact target. Tighten jam nuts and recheck gap.

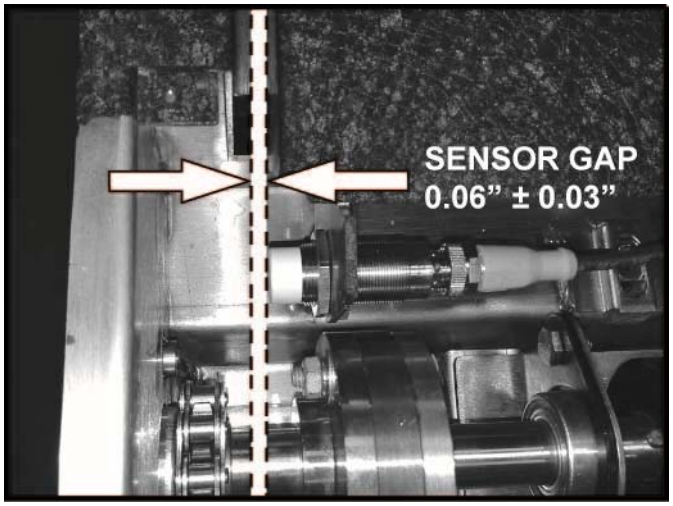


FIGURE 2-24: SENSOR GAP ADJUSTMENT (LH SIDE SHOWN)

6. 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.

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III. FOLDOVER® 1:6 RAMP MAINTENANCE

The maintenance information in this chapter applies to the Ricon 621R-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 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 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	• 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	• 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 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 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	• 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 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 ASSEMBLY

Two factory adjusted chain 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.

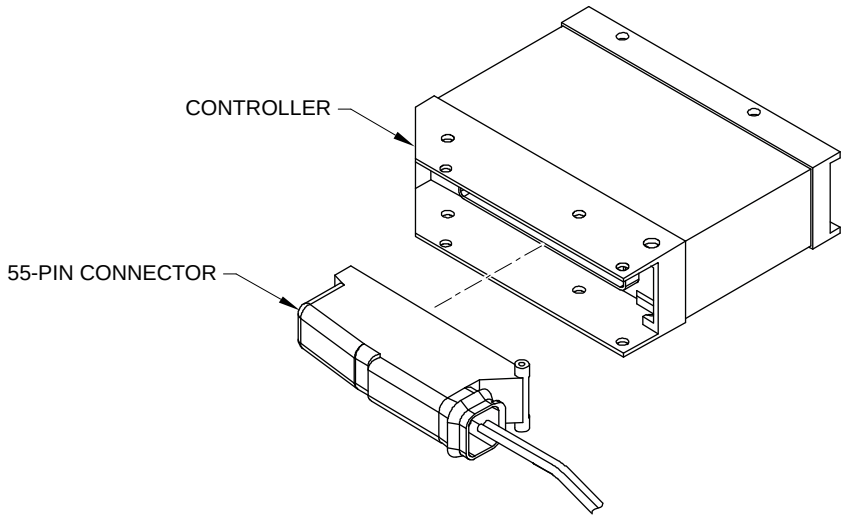

FIGURE 3-1: CONTROLLER

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.

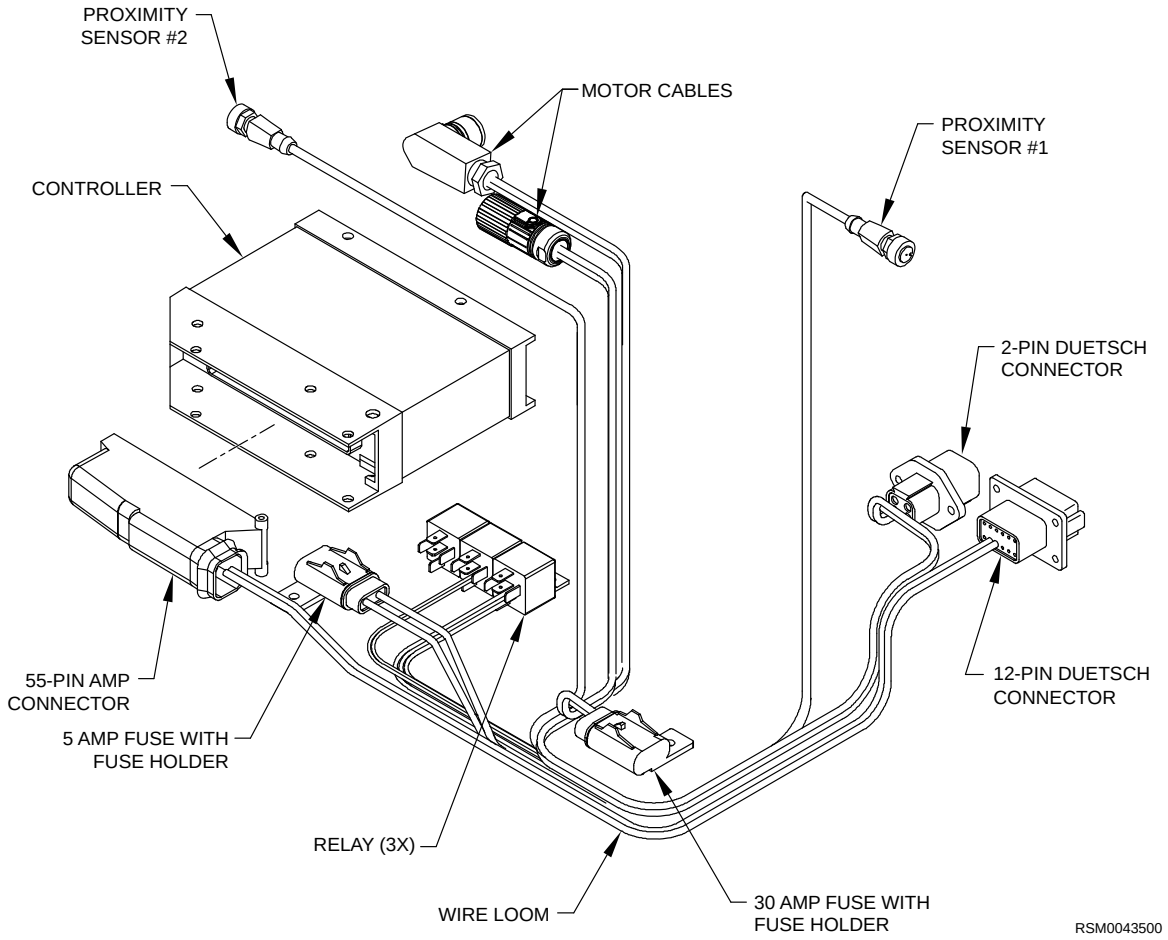

FIGURE 3-2: CONNECTOR CONFIGURATION

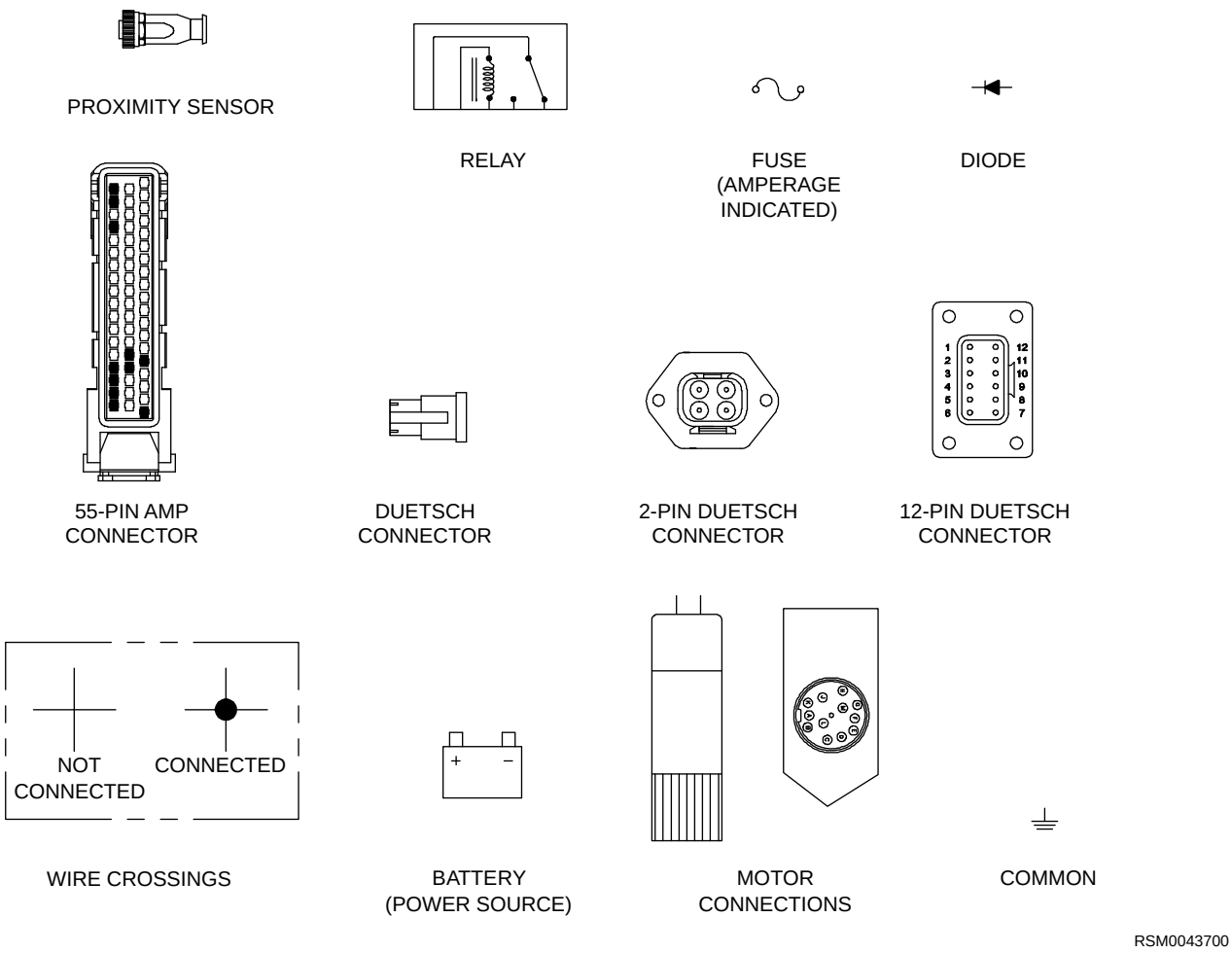

FIGURE 3-3: SCHEMATIC SYMBOLS

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

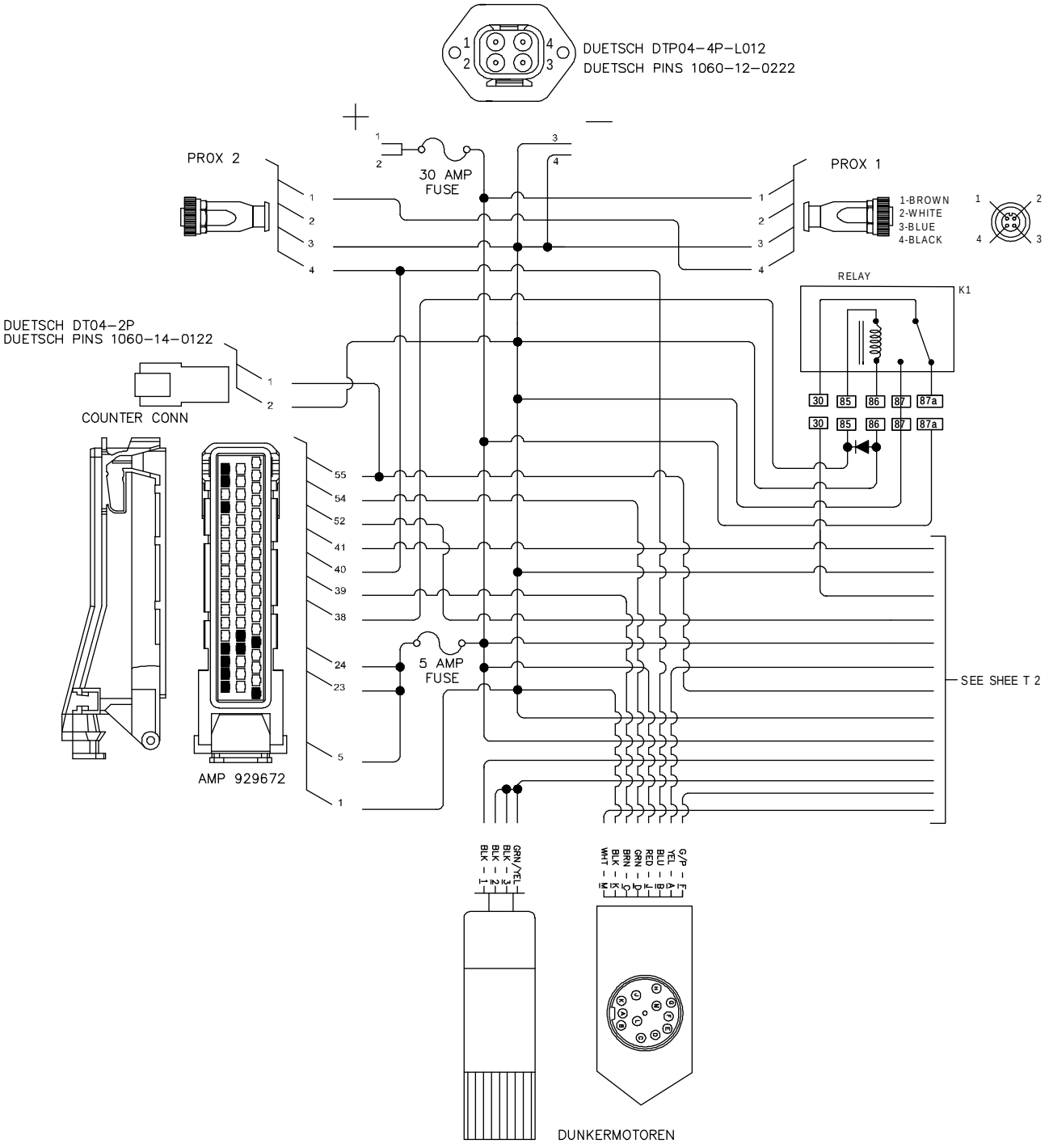

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FIGURE 3-4: 621R-SERIES 1:6 RAMP HARNESS DIAGRAM (SHEET 1 OF 2)

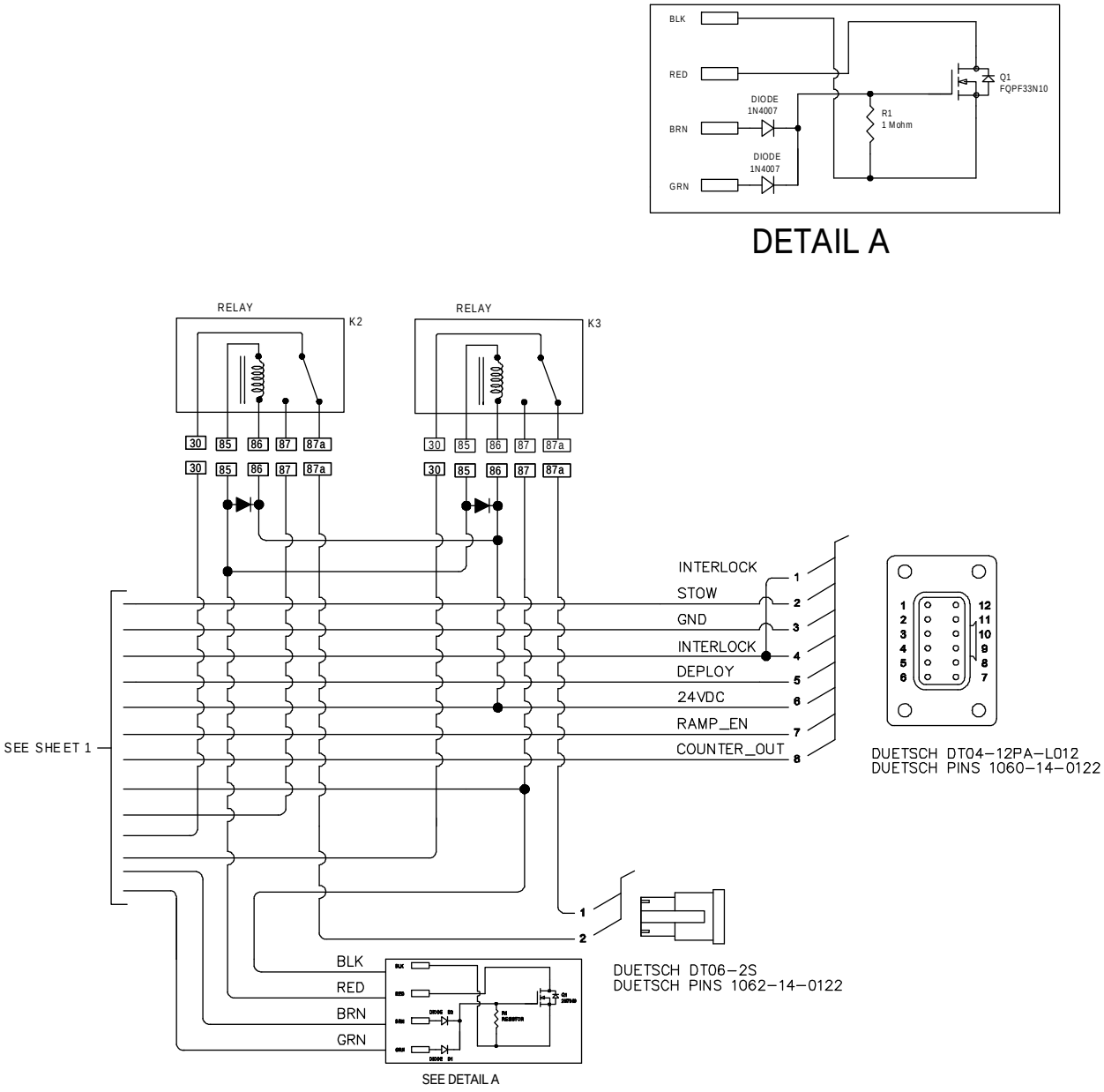

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FIGURE 3-4: 621R-SERIES 1:6 RAMP HARNESS DIAGRAM (SHEET 2 OF 2)

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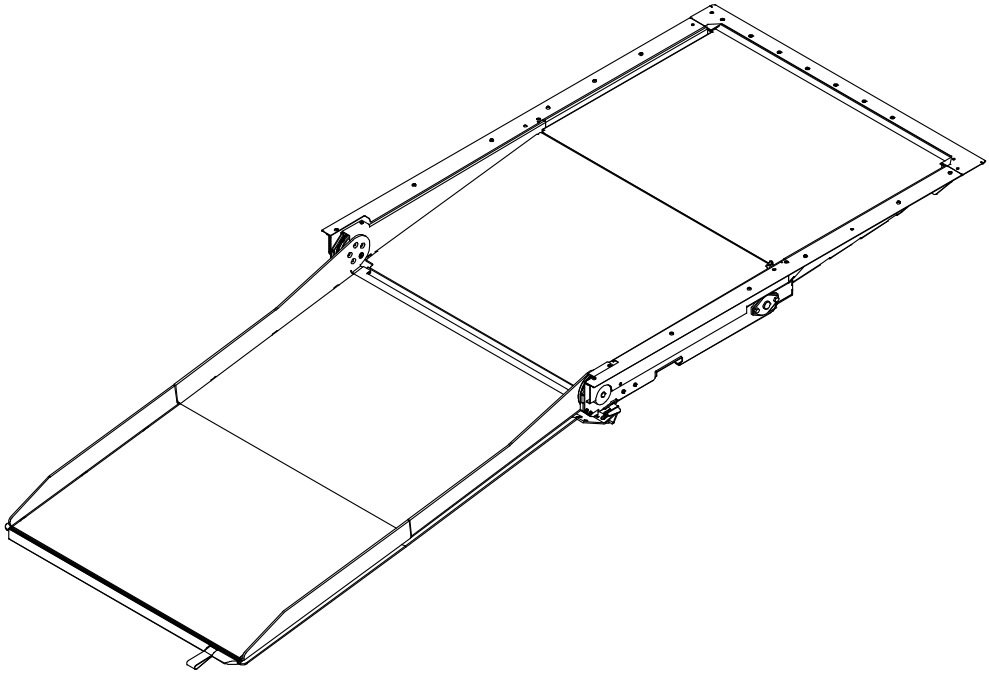
IV. FOLDOVER® 621R-SEIRES 1:6 RAMP SPARE PARTS

The parts layouts and lists in this chapter apply to the Ricon 621R-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 (621R00, 621R01, etc).



PARTS DIAGRAMS **PAGE**

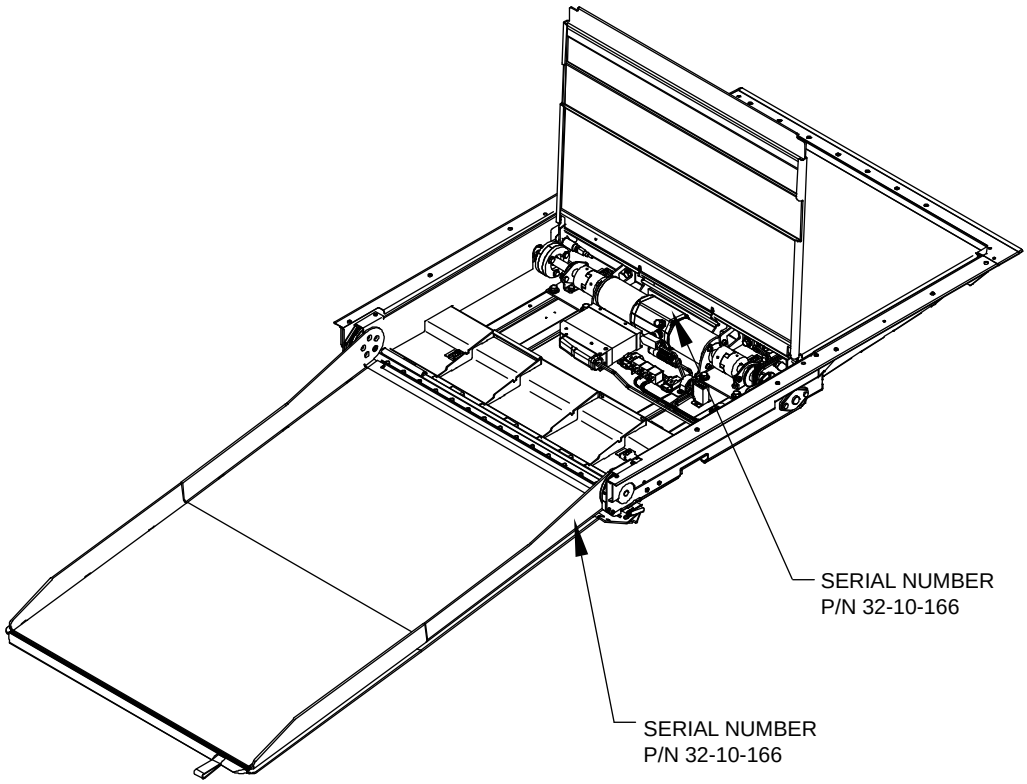


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FIGURE 4-1: 621R DECAL LOCATIONS

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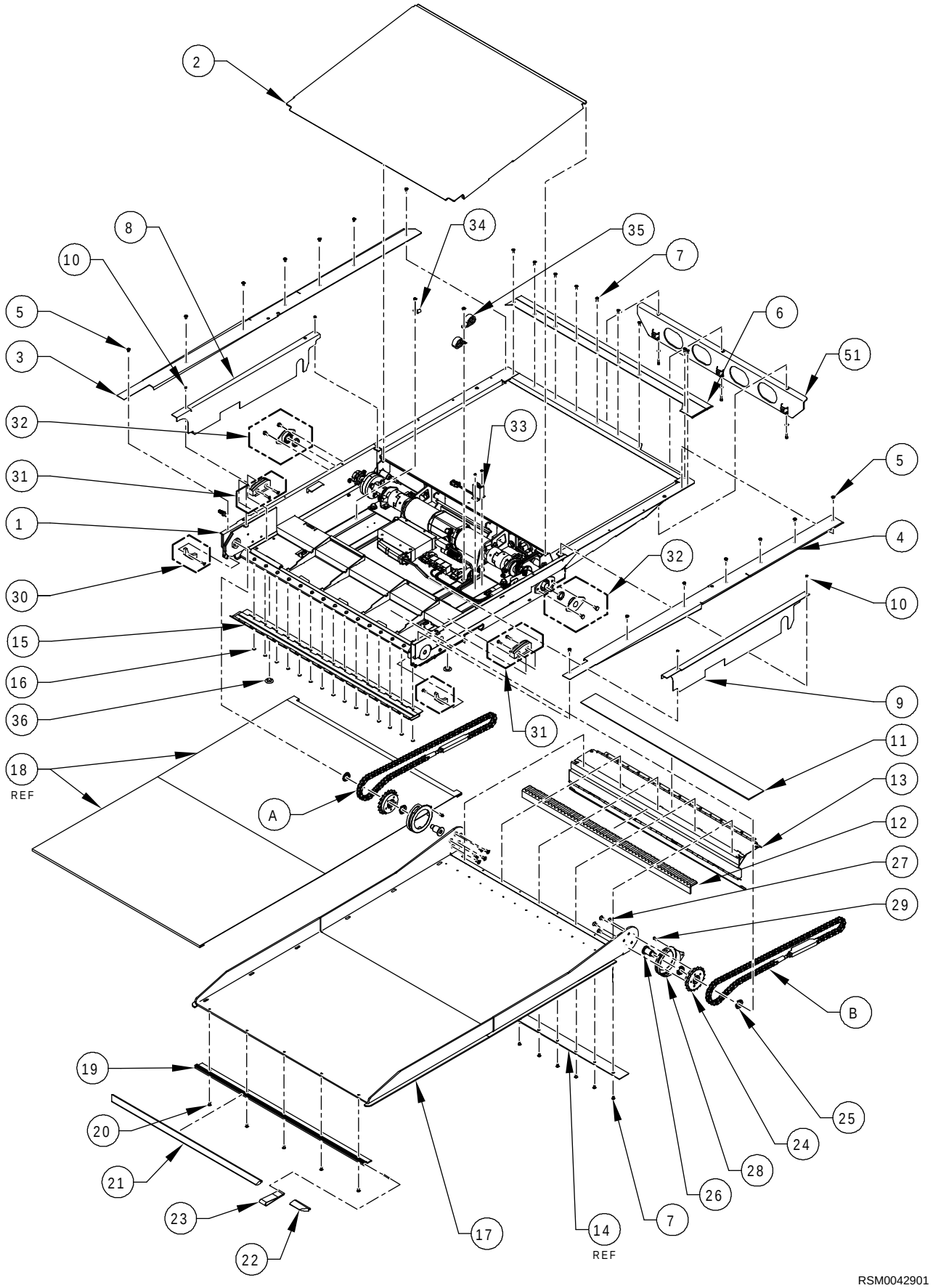

FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY (SHEET 1 OF 2)

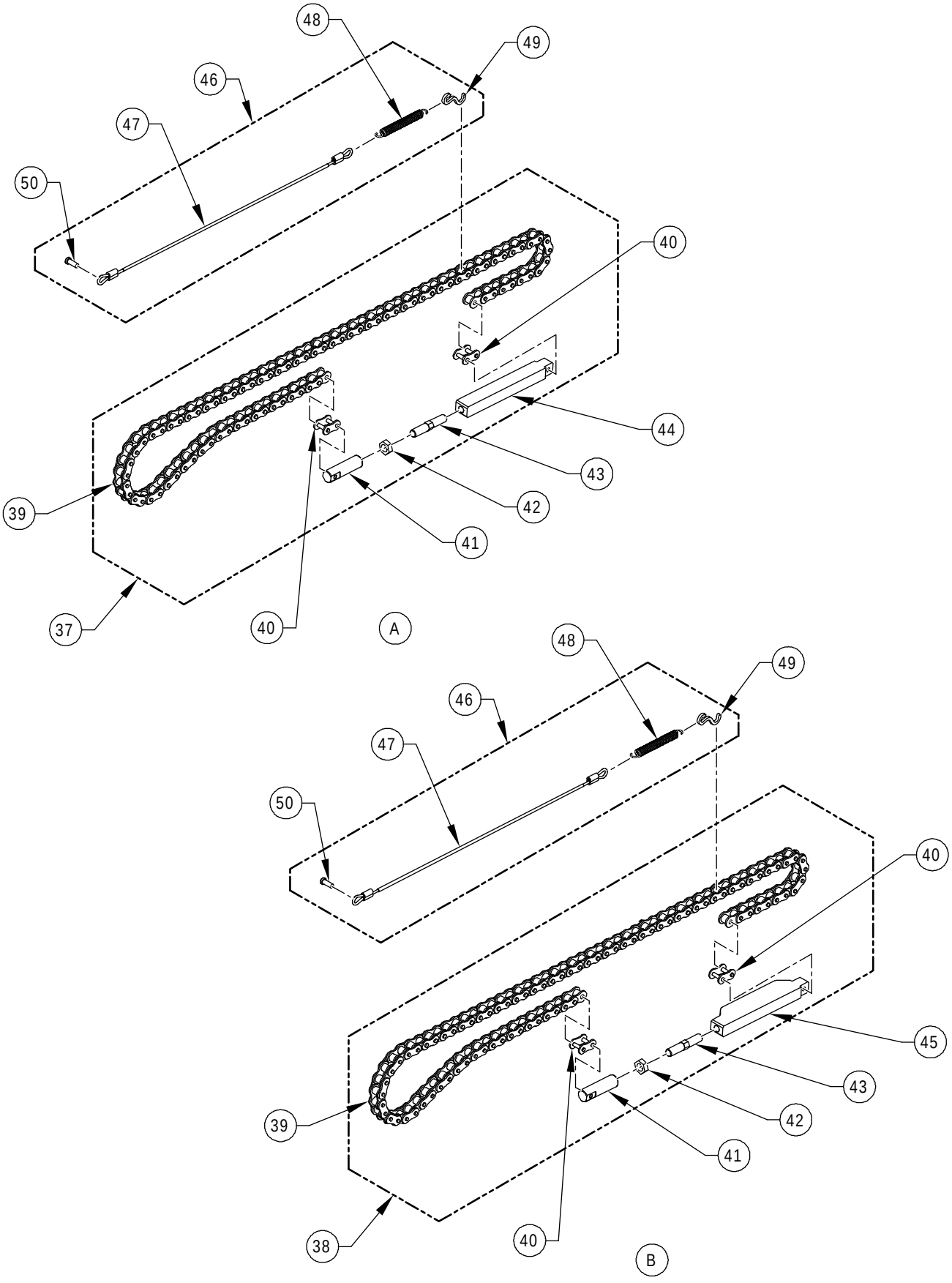

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FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY (SHEET 2 OF 2)

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FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY

FIG. ITEM		DESCRIPTION	QTY	CONFIG.	PART NO.
1		ENCLOSURE WLDT, RAMP	REF	621R0-CY27021B20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY2730BY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY27601Y20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY27611Y20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY27631B20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY2778CY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY27821Y20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY7404BY12	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-CY74051B50	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY27021B20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY2702AY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY2702CY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY27061B20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY27061B50	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY2706BY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY27292Y10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-MY7903BY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RWX766BY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX452AY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX452BY10	47855
		ENCLOSURE WLDT, RAMP *(DISCONTINUED)*	REF	621R0-RYX4523Y30	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX604AY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX7661Y20	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX7661Y50	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX766AY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-RYX852AY10	47855
		ENCLOSURE WLDT, RAMP	REF	621R0-XYXXXX2Y10	47855
1A	*	ENCLOSURE WLDT, 32" WIDE RAMP	REF	621R1-CY27332Y63	47855
	*	ENCLOSURE WLDT, 32" WIDE RAMP	REF	621R1-MY27021B20	48428
2		FLOOR WLDT, HINGED	1	621R0-CY2730BY10	43948
		FLOOR WLDT, HINGED	1	621R0-CY27601Y20	43948
		FLOOR WLDT, HINGED	1	621R0-CY27611Y20	43948
		FLOOR WLDT, HINGED	1	621R0-CY27631B20	43948
		FLOOR WLDT, HINGED	1	621R0-CY2778CY10	43948
		FLOOR WLDT, HINGED	1	621R0-CY27821Y20	43948
		FLOOR WLDT, HINGED	1	621R0-CY7404BY12	43948
		FLOOR WLDT, HINGED	1	621R0-CY74051B50	43948
		FLOOR WLDT, HINGED	1	621R0-MY27021B20	43948
		FLOOR WLDT, HINGED	1	621R0-MY2702AY10	43948
		FLOOR WLDT, HINGED	1	621R0-MY2702CY10	43948
		FLOOR WLDT, HINGED	1	621R0-MY27061B20	43948
		FLOOR WLDT, HINGED	1	621R0-MY27061B50	43948
		FLOOR WLDT, HINGED	1	621R0-MY2706BY10	43948
		FLOOR WLDT, HINGED	1	621R0-MY27292Y10	43948

NOTE: (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.
NOTE: * Item or configuration not shown.
NOTE: * * Some applications require alternate flange trim for alternate applications. Refer to Config. Column for alternate applications.

FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY (CONT'D)

FIG. ITEM		DESCRIPTION	QTY	CONFIG.	PART NO.
2		FLOOR WLDT, HINGED	1	621R0-MY7903BY10	43948
		FLOOR WLDT, HINGED	1	621R0-RWX766BY10	43948
		FLOOR WLDT, HINGED	1	621R0-RYX452AY10	43948
		FLOOR WLDT, HINGED	1	621R0-RYX452BY10	43948
		FLOOR WLDT, HINGED *(DISCONTINUED)*	1	621R0-RYX4523Y30	43948
		FLOOR WLDT, HINGED	1	621R0-RYX604AY10	43948
		FLOOR WLDT, HINGED	1	621R0-RYX7661Y20	43948
		FLOOR WLDT, HINGED	1	621R0-RYX7661Y50	43948
		FLOOR WLDT, HINGED	1	621R0-RYX766AY10	43948
		FLOOR WLDT, HINGED	1	621R0-RYX852AY10	43948
		FLOOR WLDT, HINGED	1	621R0-XYXXXX2Y10	43948
2A	*	FLOOR WLDT, HINGED, 32" WIDE RAMP	REF	621R1-CY27332Y63	48475
2A	*	FLOOR WLDT, HINGED, 32" WIDE RAMP	REF	621R1-MY27021B20	48475
3	**	FLANGE, TRIM, LH	1	621R0-CY2730BY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-CY2778CY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-CY7404BY12	43962*
	**	FLANGE, TRIM, LH	1	621R0-MY2702AY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-MY2706BY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-MY7903BY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-RWX766BY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-RYX452AY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-RYX452BY10	43962*
	**	FLANGE, TRIM, LH	1	621R0-RYX604AY10	43962*
3A	**	FLANGE, TRIM, LH, FLAT *(DISCONTINUED)*	1	621R0-RYX4523Y30	46493*
3B	**	FLANGE, TRIM, LH, FLAT	1	621R0-CY27601Y20	44913*
	**	FLANGE, TRIM, LH, FLAT	1	621R0-CY27611Y20	44913*
	**	FLANGE, TRIM, LH, FLAT	1	621R0-CY27821Y20	44913*
	**	FLANGE, TRIM, LH, FLAT	1	621R0-RYX7661Y20	44913*
	**	FLANGE, TRIM, LH, FLAT	1	621R0-RYX7661Y50	44913*
3C	**	FLANGE, TRIM, LH, FLAT, BLACK	1	621R1-MY27021B20	46298*
	**	FLANGE, TRIM, LH, FLAT, BLACK	1	621R0-CY27631B20	46298*
3D	**	FLANGE, TRIM, LH, FLAT, DOOR BRUSH CLEARANCE	REF	621R0-MY27292Y10	46567*
4	**	FLANGE, TRIM, RH, FLAT, BLACK	1	621R0-CY27021B20	46297
	**	FLANGE, TRIM, RH, FLAT, BLACK	1	621R0-CY74051B50	46297
	**	FLANGE, TRIM, RH, FLAT, BLACK	1	621R0-CY27631B20	46297
	**	FLANGE, TRIM, RH, FLAT, BLACK	1	621R0-MY27021B20	46297
	**	FLANGE, TRIM, RH, FLAT, BLACK	1	621R0-MY27061B20	46297
	**	FLANGE, TRIM, RH, FLAT, BLACK	1	621R1-MY27021B20	46297
4A	**	FLANGE, TRIM, RH, CUT	1	621R0-CY2730BY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-CY7404BY12	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-MY2702AY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-MY2706BY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-MY7903BY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-RWX766BY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-RYX452AY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-RYX452BY10	43985*
	**	FLANGE, TRIM, RH, CUT	1	621R0-RYX604AY10	43985*

FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY

FIG. ITEM		DESCRIPTION	QTY	CONFIG.	PART NO.
4B	**	FLANGE, TRIM, RH, FLAT *(DISCONTINUED)*	1	621R0-RYX4523Y30	46494*
4C	**	FLANGE, TRIM, RH, FLAT	1	621R0-CY27601Y20	44912*
	**	FLANGE, TRIM, RH, FLAT	1	621R0-CY27611Y20	44912*
	**	FLANGE, TRIM, RH, FLAT	1	621R0-CY27821Y20	44912*
	**	FLANGE, TRIM, RH, FLAT	1	621R0-RYX7661Y20	44912*
	**	FLANGE, TRIM, RH, FLAT	1	621R0-RYX7661Y50	44912*
4D	**	FLANGE, TRIM, RH, FLAT, DOOR BRUSH CLEARANCE	REF	621R0-MY27292Y10	46566*
5		SCREW, BHT #10-32, SST (BAG OF 10)	14		44235
6	**	FLANGE, REAR, FLAT, BLACK	1	621R0-CY27021B20	46296
	**	FLANGE, REAR, FLAT, BLACK	1	621R0-CY74051B50	46296
	**	FLANGE, REAR, FLAT, BLACK	1	621R0-CY27631B20	46296
	**	FLANGE, REAR, FLAT, BLACK	1	621R0-MY27021B20	46296
	**	FLANGE, REAR, FLAT, BLACK	1	621R0-MY27061B20	46296
	**	FLANGE, REAR, FLAT, BLACK	1	621R1-MY27021B20	46296
6A	**	FLANGE, REAR, LONG CUT-OUT	1	621R0-MY2702AY10	43973*
	**	FLANGE, REAR, LONG CUT-OUT	1	621R0-RYX452AY10	43973*
	**	FLANGE, REAR, LONG CUT-OUT	1	621R0-RYX604AY10	43973*
6B	**	FLANGE, REAR, SHORT CUT-OUT	1	621R0-CY2730BY10	43977*
	**	FLANGE, REAR, SHORT CUT-OUT	1	621R0-CY7404BY12	43977*
	**	FLANGE, REAR, SHORT CUT-OUT	1	621R0-MY2706BY10	43977*
	**	FLANGE, REAR, SHORT CUT-OUT	1	621R0-MY7903BY10	43977*
	**	FLANGE, REAR, SHORT CUT-OUT	1	621R0-RWX766BY10	43977*
	**	FLANGE, REAR, SHORT CUT-OUT	1	621R0-RYX452BY10	43977*
6C	**	FLANGE, REAR, FLAT *(DISCONTINUED)*	1	621R0-RYX4523Y30	44911*
	**	FLANGE, REAR, FLAT	1	621R0-CY27601Y20	44911*
	**	FLANGE, REAR, FLAT	1	621R0-CY27611Y20	44911*
	**	FLANGE, REAR, FLAT	1	621R0-CY27821Y20	44911*
	**	FLANGE, REAR, FLAT	1	621R0-MY27292Y10	44911*
	**	FLANGE, REAR, FLAT	1	621R0-RYX7661Y20	44911*
	**	FLANGE, REAR, FLAT	1	621R0-RYX7661Y50	44911*
6D	**	FLANGE, REAR, FLAT, WRNKL BLK, 32" WIDE RAMP	REF	621R1-MY27021B20	48482*
7		RIVET, POP, 3/16 X 3/8 AL FLUSH HD (BAG OF 10)	9		36293
8		COVER, CHAIN, LH	REF		47864
9		COVER, CHAIN, RH	REF		47865
10		SCREW, PHP, 6-32 X 1/4 MS SST (BAG OF 10)	4		14427
11		STRIP, ALTRO, FRONT GATE	1		43912
12		STEP EDGE, RCA, YELLOW	1		43916
13		FRONT COVER ASSEMBLY	1		44703
14		BAR, TRANSITION, RCA FLOORING OPTION	1	621R0-RWX766BY10	43900
		BAR, TRANSITION, RCA FLOORING OPTION	1	621R0-RYX452AY10	43900
		BAR, TRANSITION, RCA FLOORING OPTION	1	621R0-RYX452BY10	43900
		BAR, TRANSITION, RCA FLOORING OPTION *(DISCONTINUED)*	1	621R0-RYX4523Y30	43900
		BAR, TRANSITION, RCA FLOORING OPTION	1	621R0-RYX604AY10	43900

NOTE: (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.
NOTE: * Item or configuration not shown.
NOTE: *** Some applications require alternate floor coverings. Refer to Config. Column for alternate applications. Consult Ricon Product Sup port if your covering is not listed.
NOTE: **** Refer to Platform Assembly. Flooring and extruded parts are assembled in the factory.

FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY

FIG. ITEM		DESCRIPTION	QTY	CONFIG.	PART NO.
14		BAR, TRANSITION, RCA FLOORING OPTION	1	621R0-RYX7661Y20	43900
		BAR, TRANSITION, RCA FLOORING OPTION	1	621R0-RYX7661Y50	43900
14A	*	BAR, TRANSITION	1	621R0-CY27021B20	43150
	*	BAR, TRANSITION	1	621R0-CY2730BY10	43150
	*	BAR, TRANSITION	1	621R0-CY27601Y20	43150
	*	BAR, TRANSITION	1	621R0-CY27611Y20	43150
	*	BAR, TRANSITION	1	621R0-CY27631B20	43150
	*	BAR, TRANSITION	1	621R0-CY2778CY10	43150
	*	BAR, TRANSITION	1	621R0-CY27821Y20	43150
	*	BAR, TRANSITION	1	621R0-CY74051B50	43150
	*	BAR, TRANSITION	1	621R0-MY27021B20	43150
	*	BAR, TRANSITION	1	621R0-MY2702AY10	43150
	*	BAR, TRANSITION	1	621R0-MY27061B20	43150
	*	BAR, TRANSITION	1	621R0-MY27061B50	43150
	*	BAR, TRANSITION	1	621R0-MY2706BY10	43150
	*	BAR, TRANSITION	1	621R0-MY27292Y10	43150
	*	BAR, TRANSITION	1	621R0-MY7903BY10	43150
	*	BAR, TRANSITION	1	621R0-XYXXXX2Y10	43150
14B	*	BAR, TRANSITION, ALTRO OPTION, 32" WIDE RAMP	REF	621R1-MY27021B20	48474
15		PLATE WLDT, HINGED FRONT COVER	1		43137
16		SCREW, FHP, 10-24 X 1/4 UNDERCUT SST (BAG OF 10)	15		15936
17		RAMP REPLACE, 621, W/RCA RIBBED FLRG, SLATE	1	621R0-RWX766BY10	45512
		RAMP REPLACE, 621, W/RCA RIBBED FLRG, SLATE	1	621R0-RYX7661Y20	45512
		RAMP REPLACE, 621, W/RCA RIBBED FLRG, SLATE	1	621R0-RYX7661Y50	45512
17A	***	RAMP, REPLACE, 621, W/ALTRO, META, FLG, RADIAL	1	621R0-MY27061B20	45513
	***	RAMP, REPLACE, 621, W/ALTRO, META, FLG, RADIAL	1	621R0-MY27061B50	45513
	***	RAMP, REPLACE, 621, W/ALTRO, META, FLG, RADIAL	1	621R0-MY2706BY10	45513
17B	***	RAMP, REPLACE, 621, W/ALTRO TFM-2702, GENOME	1	621R0-MY27021B20	48484
	***	RAMP, REPLACE, 621, W/ALTRO TFM-2702, GENOME	1	621R0-MY2702AY10	48484
17C	***	RAMP, REPLACE, 621R, YEL ANOD, W/ALTRO TFCR27404	1	621R0-CY7404BY12	53004
17D	***	RAMP, REPLACE, 621, W/ALTRO, TFCR NEPTUNE	1	621R0-CY74051B50	55222
17E	***	PLATFORM ASSEMBLY *(REFERENCE ONLY)*	REF		47875
17F	***	PLATFORM ASSEMBLY, 32" WIDE RAMP	REF	621R1-MY27021B20	48440
18	****	SAFETREAD, 4FT X 60FT, BLK, 3M #31	REF		17792
19	****	EXTRUSION, ALUMINUM, 29.50" LONG	1		39883
19A	****	EXTRUSION, ALUMINUM, 31.50" LONG	REF	621R1-MY27021B20	48443
20		SCREW, FHP, 10-24 X 3/8, SST (BAG OF 10)	5		15982
21	****	RUBBER EXTRUSION, LH	1		43197
21A	****	RUBBER EXTRUSION, LH, 32"W RAMP	REF	621R1-MY27021B20	48444
22		RUBBER EXTRUSION	1		43910
23		KIT, MANUAL LOOP, RAMP TRAY	1		45314
24		SPROCKET, NO.40, 19 TEETH, MACHINED	2		39896
25		KIT FLANGE BEARING, 3/4 ID (BAG OF 10)	4		19576
26		SCREW, PLATFORM, PIVOT	2		39857
27		SCREW, FHT 1/4-20 X 5/8, SST	10		44717
28		COVER, CHAIN, FRONT	2		43626
29		SCREW, PHP, 10-24 X 0.500 SST	2		16058

FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
30	KIT, FRONT GATE GUIDE (DELRIN)	2		44223
31	KIT, CHAIN GUIDE, FRONT (DELRIN)	2		46510
32	KIT, SELF ALIGNING BEARING	2		44221
33	KIT, COUNTER	1		44219
34	KIT, CLAMP, CABLE W/HARDWARE	1		18660
35	KIT, DUAL CLAMP, CABLE W/HARDWARE	1		44209
36	KIT, DRAIN PLUG	1		44208
37	KIT, CHAIN ASSY, LH	1		47852
38	KIT, CHAIN ASSY, RH	1		47853
39	CHAIN, #40, SST, 41.5" LONG	2		47854
40	40AS "600" CONN LINK SC TYPE	2		45313
41	SHAFT, ROD, SPRING	2		43024
42	NUT, JAM 5/16-24, SST 316	2		45331
43	STUD 5/16-24, LH & RH	2		45311
44	BAR, CHAIN, BOTTOM (FOR USE ON LH CHAIN ASSY)	1		47846
45	BAR, CHAIN, SWITCH (FOR USE ON RH CHAIN ASSY)	1		47847
46	KIT, CABLE SPRING	2		46564
47	KIT, CABLE ASSY, W/SLEEVE	2		43113
48	KIT, SPRING, FRONT GATE	2		42724
49	KIT, ANCHOR, SPRING	2		42723
50	SCREW ,PHP, 10-24 X 0.500 SST (BAG OF 10)	2		45820
51	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY27021B20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY2730BY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY27601Y20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY27611Y20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY27631B20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY2778CY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY27821Y20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-CY7404BY12	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-MY27021B20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-MY2702AY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-MY27061B20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-MY2706BY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-MY27292Y10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-MY7903BY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-RWX766BY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-RYX452AY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-RYX452BY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-RYX604AY10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-RYX7661Y20	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R0-XYXXXX2Y10	43936
	KIT, MOUNTING BRACKET & BLOCK,W/HARDWARE	1	621R1-MY27021B20	43936

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

NOTE: * Item or configuration not shown.

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

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

FIGURE 4-2: 621R-SERIES RAMP ASSEMBLY				
FIG. ITEM	**DESCRIPTION**	**QTY**	**CONFIG.**	**PART NO.**
51A *	KIT, MOUNTING NFLYER CTA, BLOCKS *(DISCONTINUED)*	1	621R0-RYX4523Y30	46446
51B *	KIT, REAR MTG BRKT, HORIZONTAL MOUNT	1	621R0-CY74051B50	53045
*	KIT, REAR MTG BRKT, HORIZONTAL MOUNT	1	621R0-MY27061B50	53045
*	KIT, REAR MTG BRKT, HORIZONTAL MOUNT	1	621R0-RYX7661Y50	53045

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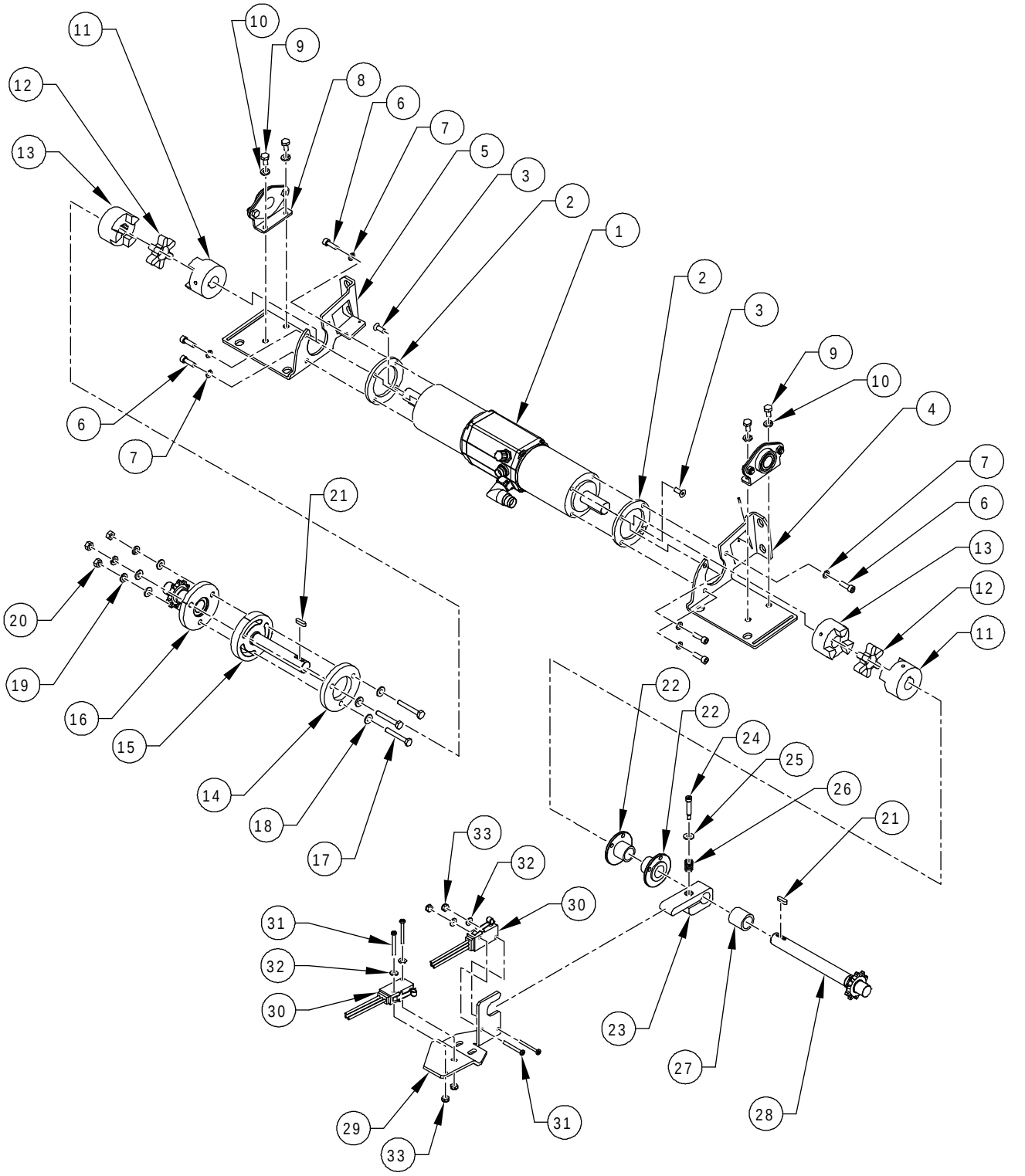

FIGURE 4-3: 621R-SERIES MOTOR DRIVE ASSEMBLY

FIGURE 4-3: 621R-SERIES MOTOR DRIVE ASSEMBLY

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	MOTOR ASSY, DUAL GEARBOX, 621R PROGRAMMED	1		57707
2	SPACER, GEAR MOTOR	REF		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
6	SCREW, SHC, M6-1.0 X 20MM LNG, SST (BAG OF 10)	6		45846
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" (BAG OF 10)	4		45815
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 (BAG OF 10)	6		45747
18	NUT, ESN, 1/4-20 THIN, SST (BAG OF 10)	2		13339
19	WASHER, SPL, 1/4" (BAG OF 10)	6		45815
20	NUT, HEX, 1/4-20, 8 GRADE (BAG OF 10)	6		45848
21	KEY, PARALLEL, 3/16 X 3/16 X .726	2		39877
22	BUSHING, CABLE	2		43984
23	SWITCH, DIRECTION	1		47850
24	SCREW, SSS, 1/4” X 1.00” SST (BAG OF 10)	1		19750
25	WASHER, FLT, .281 X .625 X .065 SST (BAG OF 10)	1		13398
26	SPRING, CLAMP, RAMP	REF		47679
27	SPACER, SHAFT, RH	1		43907
28	SHAFT ASSY, RH	1		43044
29	BRACKET, MOTOR MOUNT, RH	REF		47867
30	SWITCH, LIMIT ROLLER, SPDT, 15A MAX	2		264104
31	SCREW, PHP, 4-40 X 1.00 (BAG OF 10)	4		36247
32	WASHER, FLT, .128 X .313 X .032	4		28265
33	NUT, NYLON INSERT, 4-40, SST (BAG OF 10)	4		19742

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

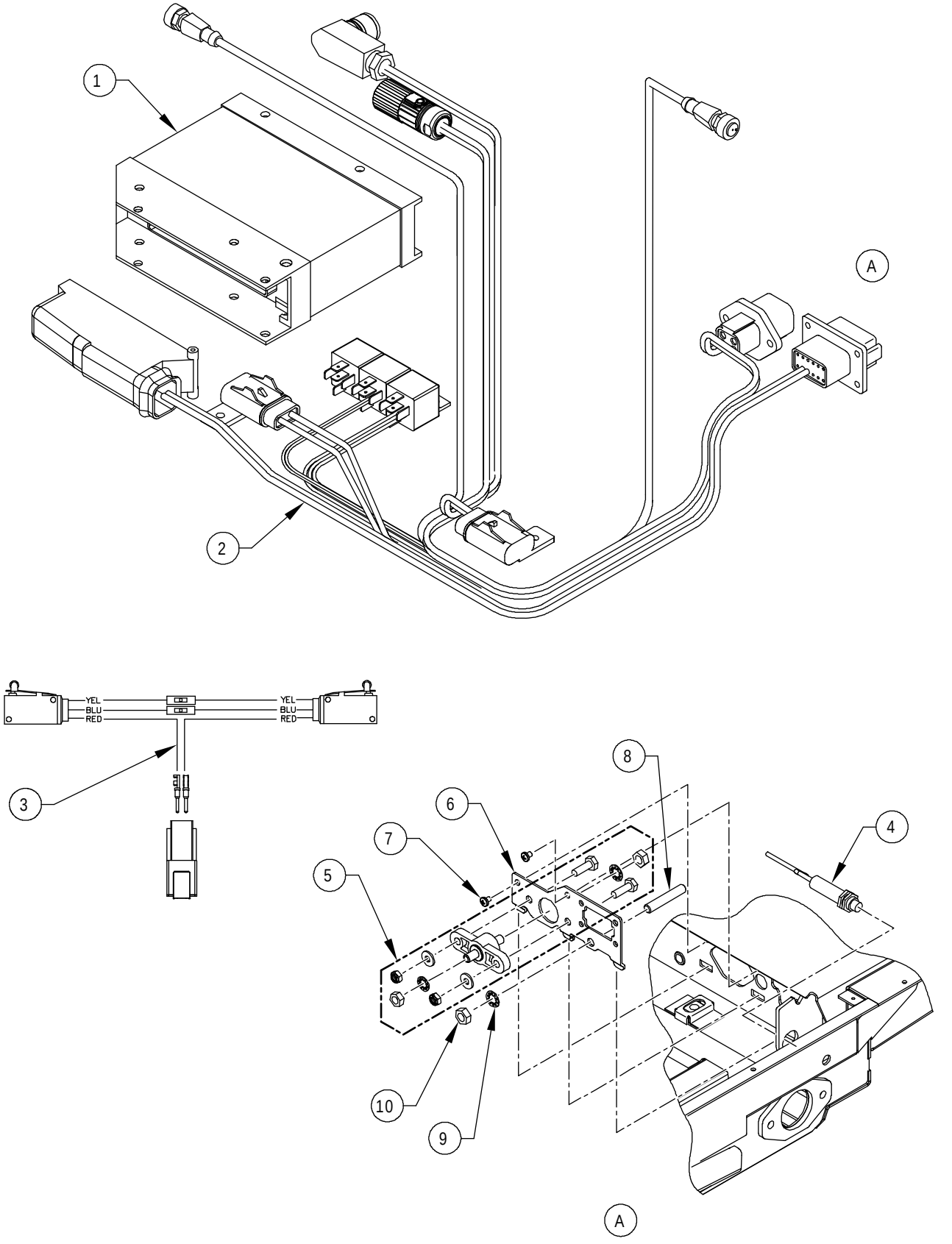

FIGURE 4-4: 621R-SERIES ELECTRICAL HARNESSES AND CONNECTORS

FIGURE 4-4: 621R-SERIES ELECTRICAL HARNESSES AND CONNECTORS				
FIG. ITEM	**DESCRIPTION**	**QTY**	**CONFIG.**	**PART NO.**
1	CONTROLLER	1		45336
2	HARNESS FOR STUDS, IFM CONTROLLER CR2500	1		47884
3	HARNESS, POSITION/DIRECTION	1		47888
4	INDUCTIVE PROXIMITY SENSOR	2		43951
5	KIT, BLOCK, POSITIVE CONNECTION	1		46514
6	PLATE, ELECTRICAL	1		45390
7	SCREW, PHP, 10-24 x 1/4" SST (BAG OF 10)	2		25633
8	STUD, 5/16-18 x 1.75” (BAG OF 10)	1		19759
9	WASHER, ISL, 5/16 X .61 X .03 BRZ (BAG OF 10)	1		28965
10	NUT, HEX, 5/16-18 SST (BAG OF 10)	2		19703

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

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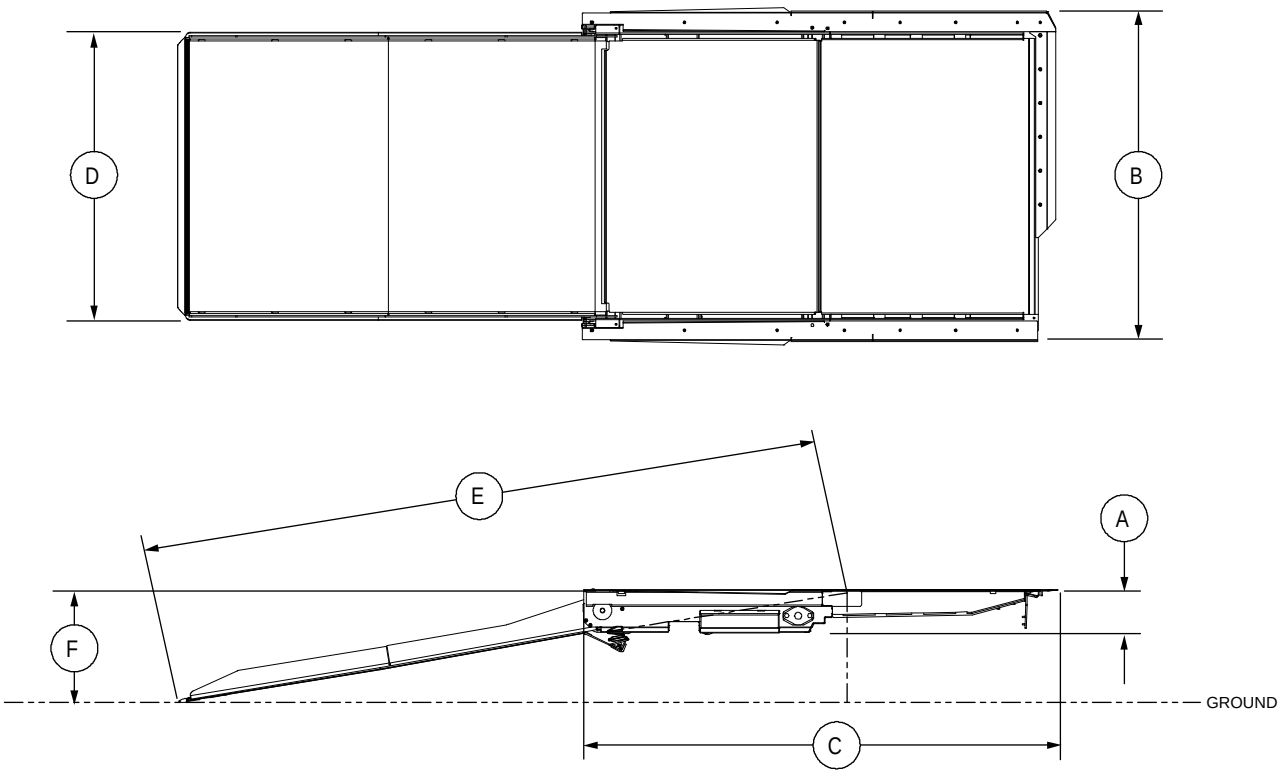
APPENDIX 1

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

Power System .....Electro-mechanical motor drive system
Power Requirements:
Electric ..... 24 VDC
Continuous Current ..... 1.5 amps
Operating Current ..... 1.5 amps Rated Load Capacity
Ramp Weight ..... 210 lbs. (95kg)



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
621R0	4.5 (114)	33.8 (859)	51.6 (1311)	30 (762)	72.3 (1836)	12 (305)
621R1	4.5 (114)	35.8 (909)	51.6 (1311)	32 (813)	72.3 (1836)	12 (305)

END OF TABLE

NOTE: Ramp may be configured to meet specific requirements.
NOTE: * The effective ramp length takes into account the allowable vertical transitions. Actual length will be slightly shorter.
NOTE: ** In applications where the vertical height exceeds the specified amount, the length of the unit must be increased to maintain 1:6, rise over run.

NOTES: