



**CRE-2110E
OUTDOOR
ELITE CURVE
CUSTOM CURVED RAIL STAIRLIFT**

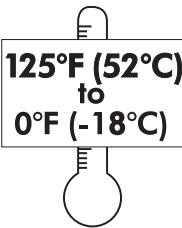
**INSTALLATION MANUAL
03-15-2019
P/N 2110E-I**

The warranty for the Outdoor Elite Curve - Custom Curved Rail Stairlift is *rendered null and void* if the unit is installed or maintained by anyone other than an authorized Bruno dealer.

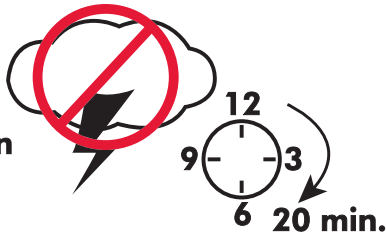
This outdoor stairlift has been tested to perform within the operating temperature range of **0°F (-18°C) to 125°F (52°C)**.

Scratches to paint during handling, installation or normal use should be retouched using paint available through the Bruno Technical Service Department. Inspect painted surfaces for scratches upon receipt, after installation, and once a year. Failure to touch up scratches that cause limited rusting may void the warranty.

Do not operate stairlift outside of normal operating temperature range: 0°F (-18°C) to 125°F (52°C).



Do not use stairlift within 20 minutes of the last indication of lightning.



This stairlift is not a toy. It must be used under adult supervision.



Slippery when wet or icy.



OPERATING GUIDELINES

DEC-00507

IMPORTANT SAFETY NOTES!

1. Always turn the carriage circuit breaker **OFF** and ground your body to bare metal before plugging in any wire harness to the PC board or when touching the PC board. Static charge can damage electronic components.
2. Always turn the carriage circuit breaker **OFF** when working around the drive gear to prevent accidental entanglement.



ATTENTION!

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

Before touching anything inside the carriage assembly, ground yourself by touching an unpainted metal surface on the unit such as an exposed bolt, or one of the mounting screws on the electrical panel. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

Electra-Ride™ is a trademark of Bruno Independent Living Aids, Inc.® The Electra-Ride® III, #5,967,265, is covered by one or more U.S. Patents and/or has U.S. Patents Pending

Velcro® is a registered trademark of Velcro Industries B.V.

Vise-Grip® is a registered trademark of Irwin® Industrial Tools.

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REGULATORY INFORMATION

REGULATORY LISTINGS



This lift is intended to be installed in accordance with the current edition of:

- ASME A18.1:2014 Safety Standard for Platform Lifts and Stairway Chairlifts
- CAN/CSA-B613-00 (R2005) - Private Residence Lifts for Persons With Physical Disabilities
- ASME A17.5/CSA B44.1 - 2014 Elevator and Escalator Electrical Equipment
- NFPA 70: National Electrical Code®
- CSA C22.1 Canadian Electrical Code

Verify applicable local codes with the appropriate regulatory authorities.

INSTALLING DEALER RESPONSIBILITIES

The installing dealer has responsibility to report any malfunctions, safety concerns or events to the manufacturer in a timely manner. The installing dealer also has the responsibility to ensure that the users are properly trained in the use and operation of the unit.

Bruno stairway elevators shall be put into service and regularly serviced by a Bruno authorized dealer in accordance with the information provided in installation documents provided with the device.

FCC REGULATIONS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 Subpart B of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the of the following measures:

- Reorient or relocate receiving antenna.
- Increase separation between equipment and receiver.
- Consult your dealer.

THIS DEVICE COMPLIES WITH FCC RULES PART 15.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE AND,
- (2) THIS DEVICE MUST ACCEPT INTERFERENCE THAT MAY BE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

MATERIAL SAFETY DATA SHEETS

Material safety data sheets (MSDS) on materials used on this unit may be requested through the Bruno Technical Service Department.

SPECIFICATIONS

- Weight Capacity:**400 lbs. (181 kg)
- Speed:**maximum 25 feet per minute (0 to 8.5 m/min)
- Power Source:**two (2) 12-volt sealed, maintenance-free batteries with 24-volt continuous-duty charger
- Motor:**24 VDC, 2-pole, 0.68 hp
- Drive:**Self-locking gearbox, rack-and-pinion drive
- Control:**constant pressure (armrest and 2 transmitters)
- Braking:**dynamic motor braking through the motor controller, self-locking worm gear, and electro-mechanical motor brake.
- Maximum incline:**45 degrees
- Rail:**custom fabricated steel with integral drive gear rack
- Seat Swivel:**0, 60 and 90 degrees at the top;
45 degrees at the bottom
- Power Supply:**24 VDC battery charger powered by 105-230VAC wall outlet

Torque Specifications

<i>GRADE 10.9 (Metric)</i> (Roughly equivalent to US Grade 8)		
M8	Grade 10.9	25 lb.-ft
M10	Grade 10.9	47 lb.-ft
M12	Grade 10.9	83 lb.-ft
M14	Grade 10.9	133 lb.-ft

NOTE: Bruno recommends the use of an appropriate anti-seize compound with stainless steel hardware.

CARTON CONTENTS AND TOOLS

CARTON CONTENTS

The **CRE-2110E** is shipped in three (3) main cartons plus separately-wrapped rail sections. Before beginning an installation, check the carton contents against the packing list to be sure you have all the components.

Also, check the carton contents for shipping damage upon receipt. Damage claims must be filed promptly by the Dealer, not the Manufacturer.

Bruno Independent Living Aids cannot be responsible for shipping damage.

CARRIAGE BOX

- complete carriage assembly with covers
- remote control box

INSTALLATION BOX

- rail standfeet
- tube of grease, charge cable kit
- dielectric grease
- charge contact blocks (2)
- final limit assembly
- antenna kit
- charger extension cable
- shims, screws, nuts/bolts/washers, rail joint hardware kit, nut bars

FOOTREST BOX

- footrest assembly
- cover kits
- footrest tool with pin

SEAT BOX

- seat assembly
- seat installation kit
- battery charger assembly

RAIL SECTIONS WRAPPED SEPARATELY

TOOLS

Be sure you have all necessary parts and tools before traveling to installation site.

- ***FIX-00525 rail clamp (recommended - available from Bruno)***
- Angle locator/protractor
- Digital level
- 20-foot tape measure
- Flashlight
- Metric sockets (10 mm, 13 mm, 17 mm and 19)
- Metric and U.S. open ended box wrenches (7 mm, 10 mm, 13 mm, 17 mm, 19 mm, plus 9/16 in., 5/8 in.)
- Soft-faced or dead-blow hammer, or hard rubber or rawhide mallet
- Ratchet, 3/8 in. with 6 in. extension
- Magnetic Phillips screwdrivers
- Flat-head screwdriver
- Torque wrench (open end, and one that handles 50-80 ft.lb./68-108 Nm)
- Metric Allen wrenches (#2, #2.5, #5 and #6)
- Magnetic socket, 3/8" (Bruno recommends use with an 18" extension)
- Needle-nose pliers
- Utility knife
- Vise grips and C-clamp vise grips
- Drill driver with *MINIMUM* 18 in. extension
- Drill bits: appropriate for floor (eg. concrete, hardwood); 3/8", min. 6" long
- Extension cords
- Scratch awl
- Multimeter



PREPARATION FOR INSTALLATION

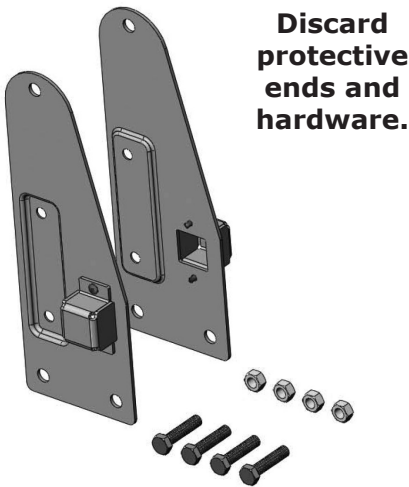
Refer to the rail/clamp chart for the correct rail-to-step nosing position.

Note: The information on the installation drawing is intended as a guide for the installer. Rail placement may vary according to conditions found at the installation site.

Rails are numbered on the bottom side near the end of the rail.

The number indicates rail placement on the staircase.

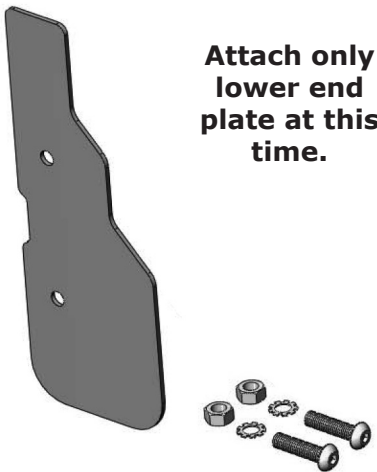
- Rail #1 is the first rail at the bottom of the stairs.
- Rail #2 is the next rail as you go up the stairs, and so on.



Discard protective ends and hardware.

Remove the protective ends shipped on the upper and lower rails.

DISCARD THE PROTECTIVE ENDS AND HARDWARE.



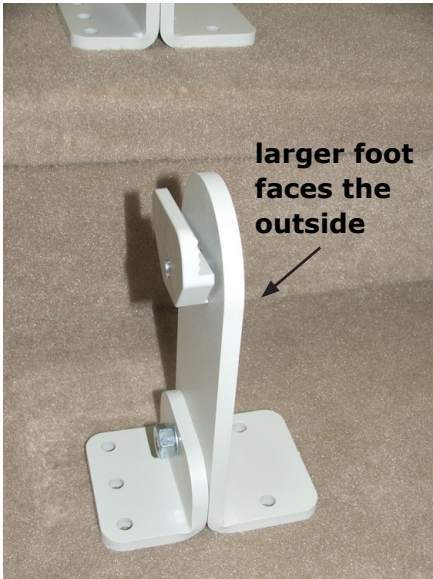
Attach only lower end plate at this time.

Attach the **lower** rail end plate and charge bracket to the lower rail section *before* placing the rail on the stairs. See photo to the left.

Do NOT attach the **upper** end plate or charge contact at this time.

INSTALLATION

CLAMP PLACEMENT AND RAIL INSTALLATION



1. Set the clamps on the steps, as indicated on the Application Drawing.

NOTE: Larger clamp faces the outside (chair side of rail).

2. **Referring to the Application Guide**, position clamps to ensure correct step nose clearance.



3. Begin rail placement with rail section no. one.



4. Position and attach the rail clamps to the lower rail assembly as shown on the application drawing.

NOTE: Rail clamps vary in size. Verify size and installation location on the installation drawing.

5. Verify:

- the **step nose-to-rail dimension** (measured perpendicular to the rail bottom);
- the **rail angle**.

CLAMP PLACEMENT AND RAIL INSTALLATION



6. Install rail section no. two to rail section no. one using (2) M10 x 1.5 x 70 mm hex head cap screws to join the rails.

NOTE: It may be necessary to install a screw into one of the rear holes on the clamp assembly to prevent the rail from sliding.

7. Install the remaining lower section(s), if applicable, and add clamps as shown on the installation drawing.

Check the angle of each section before installing the next section!

8. Install the upper rail section(s), adding clamp assemblies with each section.

NOTE: Do not install the end plate and charge bracket at this time.

9. Position the rail as close to the application drawing measurements as possible.
10. Secure the rail with one or two screws.

NOTE: You may need to shim the rail to ensure proper placement.

For example, if the rail is leaning forward, shim the front of the clamp until the unit is level.

******VERY IMPORTANT******

The degree of slope of the rail is critical. To locate the degree at which each rail piece should be installed, use the ELEVATION VIEW drawings ***specific to your job*** and inserted in this manual. Place the angle finder on the guide strip on the front of the rail to obtain the *correct angle*.

The *correct angle* should be observed within 1/2 degree, every (2) feet of linear rail travel.



Check the rail angle every (2) feet of linear travel.

NOTE!

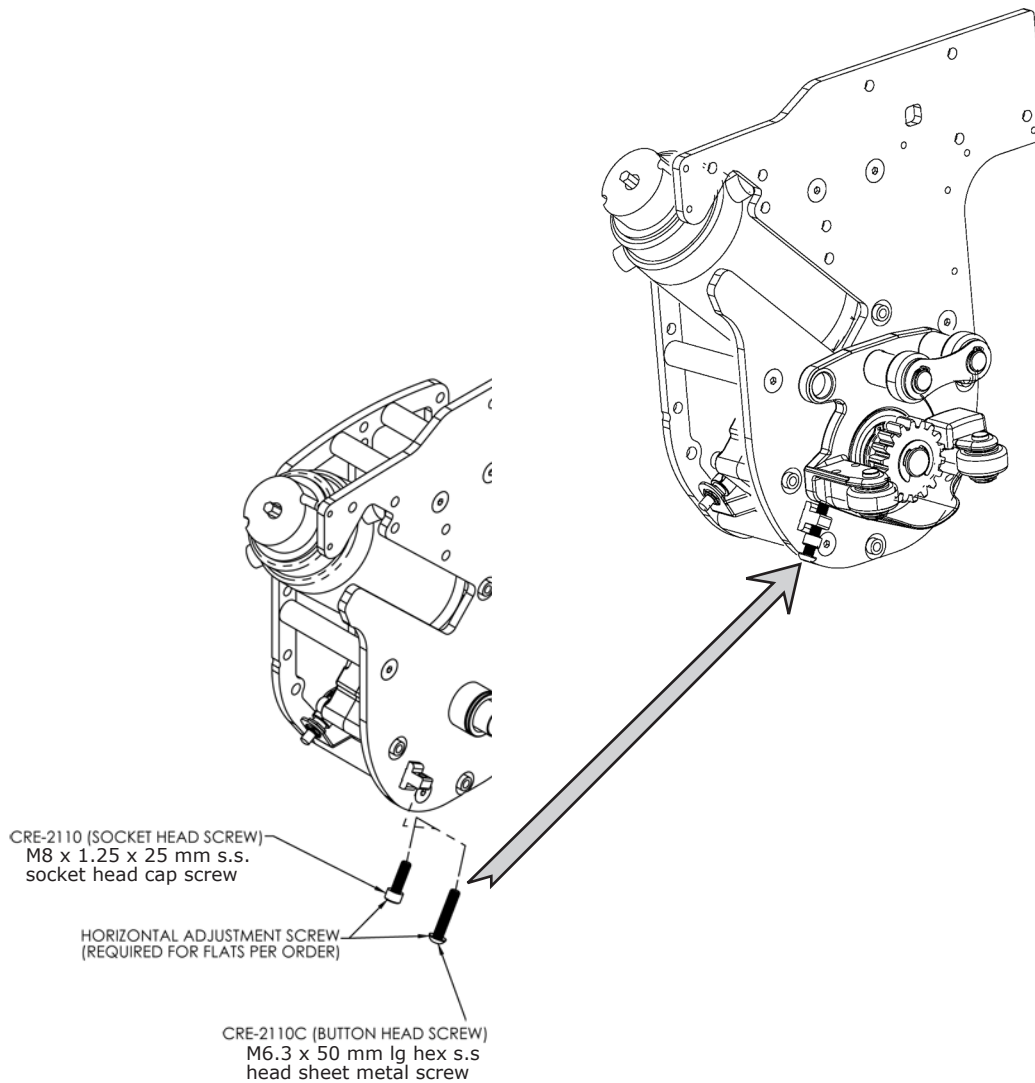
To ensure a safe and secure installation, you must use mounting hardware appropriate for the surface on which the stairlift is to be installed. Any shims used to install the stairlift must be made of material suitable for outdoor installations.

INSTALLATION

ZERO-DEGREE SLOPE

The CRE-2110E is equipped with a horizontal adjustment screw to accommodate stairways which include a portion with zero-degree slope.

This screw is factory set. **Do not adjust** it without contacting a Bruno representative for instructions.



MOUNTING LEAD IN CABLE CHANNEL



The rail is shipped with the adhesive-backed cable channel mounted on the back of the rail.

1. Insert the power cable into the channel.

CARRIAGE and FOOTREST



NOTICE:

Before touching anything inside the carriage assembly, ground yourself by touching an unpainted metal surface on the unit such as an exposed bolt, or one of the mounting screws on the electrical panel.

While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.



1. Partially (manually) slide the carriage onto the rail.

2. Turn on the circuit breaker.

3. Using the remote, power the carriage onto the rail until all of the carriage wheels are on the rail.

4. Mount the footrest as follows:

- Remove the (2) **hex head** bolts from the front of the carriage.

- Secure the footrest (***middle hole of footrest***) to the carriage using (2) stainless steel hex head bolts (see left). **Torque to 50 ft-lb (68 Nm)**.



- Insert the pin in the gas spring (see left).

- Fold the footrest to approximately 45°.



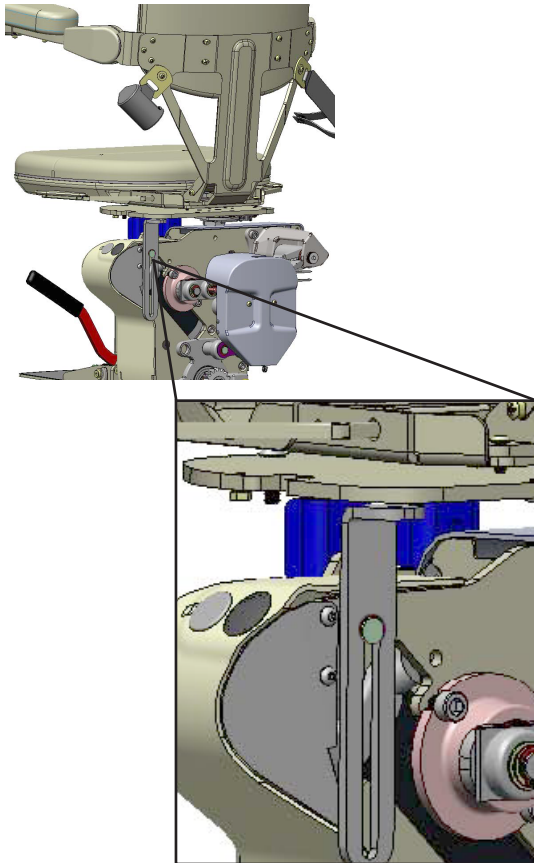
- As you rotate the tool downward, gently push the pin into the notches on the gas shock bracket (see left).

- Remove the pin insertion tool and set aside.



INSTALLATION

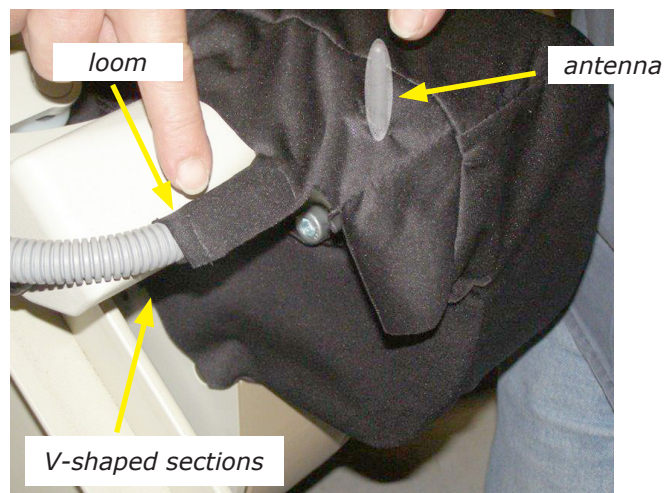
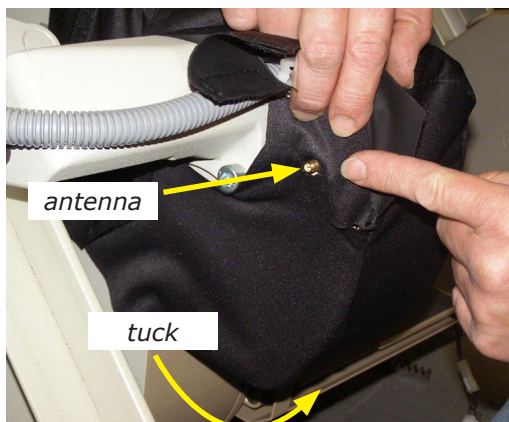
SEAT



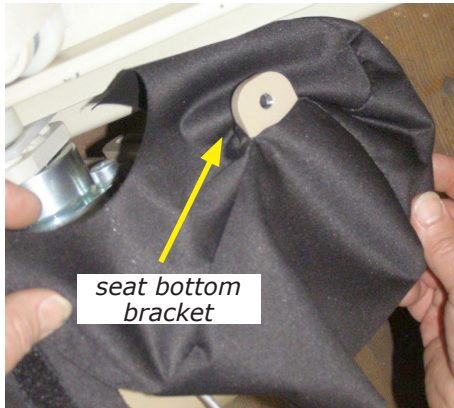
1. Mount the rear seat support bracket (see left) using a stainless steel M-10 bolt and safety lock-washer. **Do not tighten at this time.**

2. Mount the bottom cloth control panel cover. *This is the larger of the two cloth covers.*

- a. Hold the **larger** cover over the control panel side.
- b. Align the 7 1/2" Velcro on the cover with the Velcro strip on the footrest and press the two strips together (see left).
- c. Tuck the bottom of the cover under the control panel housing.
- d. Find the small flap with a bottom hole in it and slide it over the antenna jack (see bottom left).
- e. Screw the antenna onto the antenna jack.
- f. Slip the antenna through the second bottom hole.
- g. Wrap the wire loom with the Velcro flaps.
- h. Press together the V-shape Velcro sections on the back of the carriage.



SEAT (continued)



3. Mount the bottom cloth motor cover.
This is the smaller of the two cloth covers.
 - a. Hold the **smaller** cover over the motor housing.
 - b. Align the 5-1/2" Velcro on the cover but do not attach at this time.
 - c. Locate (2) holes **in the back seam** of the cover.
 - d. Through the outside hole, insert the seat bottom bracket (upper left)
 - e. Through the inside hole, insert the second seat wire harness (see left).
 - f. Fit cover around the housing (lower left).
 - g. Attach the 5-1/2" Velcro to the footrest (lower left).
 - h. Connect the smaller cover to the larger cover at the top and back of carriage.

4. To mount the seat on the carriage, tilt the seat slightly forward, and set into the notches of the adjustable seat bracket.

5. Connect the (3) wiring harnesses:
 - 3-pin: footrest
 - 6-pin: seat swivel (rocker switch)
 - 12-pin: seat swivel (diagnostic board).

6. Insert (2) stainless steel hex head bolts and washers through the front seat bracket holes to **loosely** secure the seat.



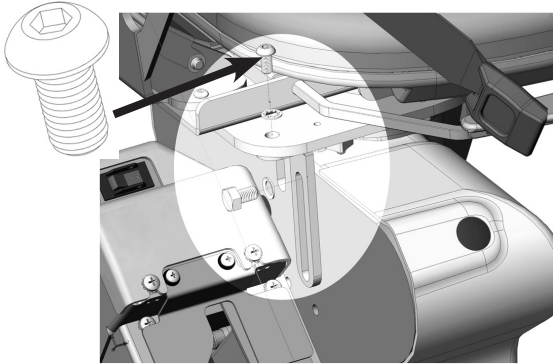
Tilt seat and set into notches.



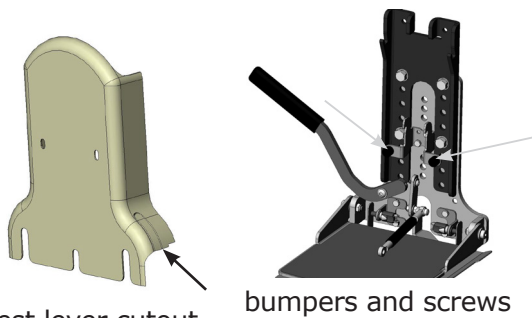
Loosely secure with 2 bolts.

INSTALLATION

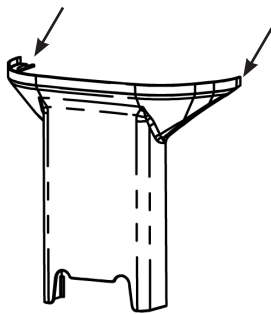
SEAT (continued)



Insert buttonhead Allen screw from top.



footrest lever cutout
(one on each side)



Slide top footrest cover under screws.

7. Rotate the seat to gain access to the Allen head screw hole above the seat bracket (see left).
8. Insert and tighten the Allen head screw.
9. While pulling the seat back slightly forward, fully tighten the seat support bracket bolt (see Step 1).
10. To mount the footrest cover:
 - remove the cutout for the footrest lever;
 - remove the (2) footrest bumpers;
 - place the lower footrest cover against the bracket;
 - reinsert the bumpers and screws;
 - tighten the screws.
11. Loosen (**but do not remove**) the (2) top stainless steel 10mm footrest top shroud screws (see bottom left).
12. Mount the top footrest cover by sliding it under the screws loosened in Step 10.
13. Tighten the (2) top screws.
14. Turn on the circuit breaker.
15. Lower the footrest.
16. Using the arm rocker switch, run the seat and carriage down the rail to check for proper clearances (*footrest-to-step nose and seat-to-wall/obstruction*). Adjust as needed.
17. If the clearances are correct, secure the remaining stand feet to the stairs.

Always secure the back screws of the stand feet first! Be sure the bottom edge of the rail is fully supported by the stand foot (no air gaps). Torque to 225 lb-in (25 Nm).

WARNING

RISK OF INJURY!

Do NOT ride the stairlift until all stand feet are properly secured.

Failure to observe this warning could result in injury or damage to equipment.

FINAL LIMIT, END CAP AND CHARGE CONTACT



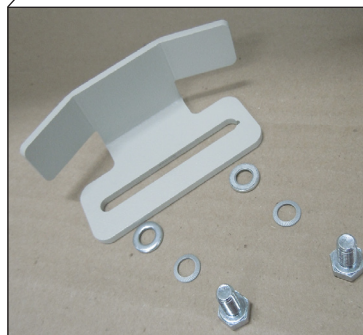
1. upper end cap
(back of rail)



2. upper final limit
(back of rail)



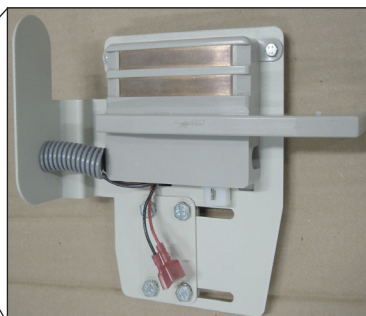
2b. upper final limit
limit (complete)
(back of rail)



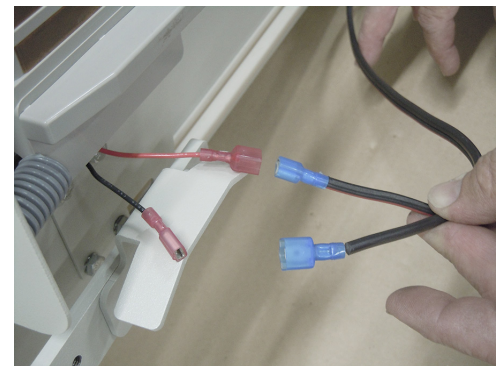
2a. upper final limit
(back of rail)



3. upper charge contact
(back of rail)



3a. upper charge contact
(back of rail)



4. upper charge contact wire connections black to black and red to red (back of rail)
(continued on next page)

INSTALLATION

FINAL LIMIT, END CAP AND CHARGE CONTACT



5. upper charge contact
tuck wire connections
(back of rail)



6. lower charge contact
no final limit
(back of rail)



7. lower charge contact
and end cap
no final limit

MOUNTING THE BATTERY CHARGER

1. Position the charger in a suitable permanent location **where it will not create a tripping hazard.**

NOTES:

- The charger must be located indoors (operating range of 0°C (32°F) to 40°C (104°F)).
 - A 10-foot battery charger output extension cord is included with the unit.
 - If either the input or output battery charger cords is extended beyond the standard length, charging time may increase.

2. Secure the charger by inserting (2) screws (provided) through the mounting holes in the charger base.

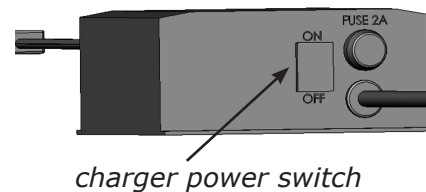
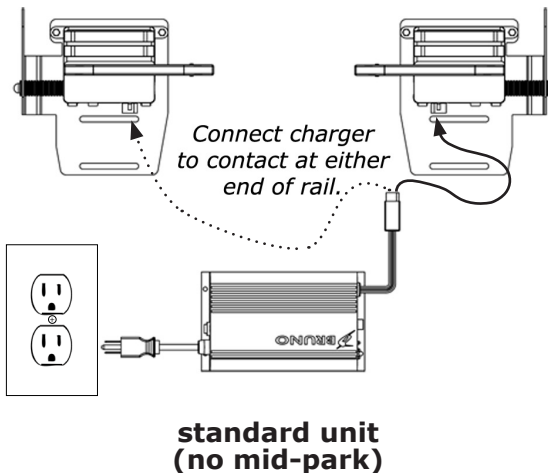
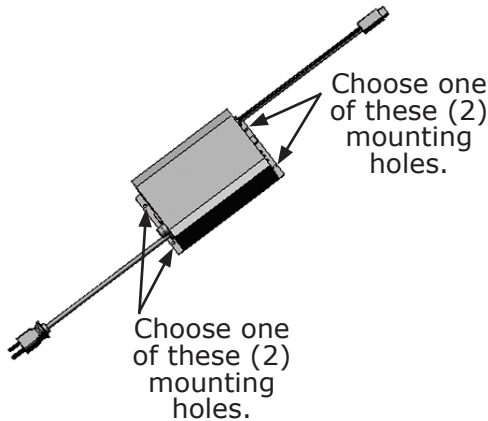
NOTE: There are (2) mounting holes on each side of the charger base. Choose one of the two on each side.

3. Connect the charger power cord to the nearest wall or floor outlet.

4. Connect the charger wiring harness to the elevator charge contacts. **Use dielectric grease!**

5. Bundle together loose wires.

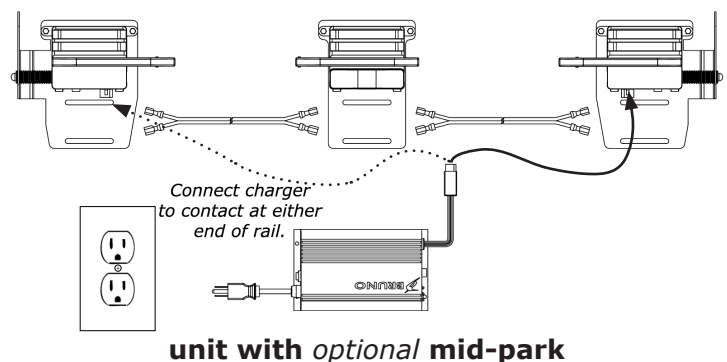
6. Turn ON the charger power switch.



Leave charger plugged into a household outlet at all times!



charger connection to charge contact



INSTALLATION

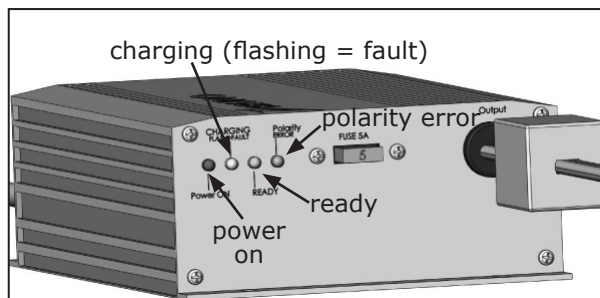
IMPORTANT CHARGING NOTES



- The elevator is designed so that the batteries will be charged when the carriage is at a designated charging point.
- It is imperative that the carriage be “parked” at the end of the rail (or at the mid-park position, if applicable) when it is not in use to maintain full battery charge.
- Frequently check that the LED charging indicator is ON (see left).
- If the stairway elevator cannot be parked at one end of the rail (for example, on stairways with a door at the top), use the remote call/send transmitter to send the carriage to the other end (or to the mid-park position, if applicable). In this way, the carriage will properly engage the charging contacts, ensuring that the batteries will remain fully charged.

Note: If the charger AC power plug and wire are located in a vulnerable location, use of a plug lock is recommended to prevent accidental unplugging. Plug locks are available at hardware and department stores.

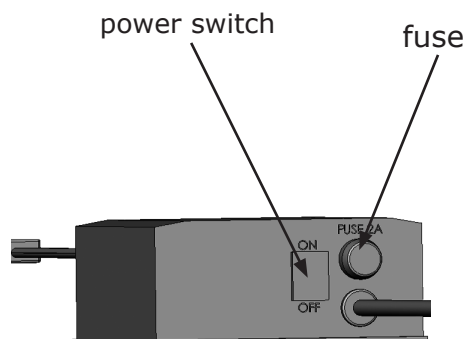
BATTERY CHARGER LED'S



6) LED indicators (status and color):

STATUS	RED	YELLOW	GREEN	blue	COMMENT	
AC Power On without any battery connected	ON	ON (< 1 sec.) OFF	OFF	OFF	Charger has not been connected to any batteries.	
AC Power On	ON (< 5 sec.)	ON (< 5 sec.)	ON (< 5 sec.)	OFF	This feature detects any battery disconnect situation and has a 5 sec. delay until yellow & green are completely off.	
Event battery disconnect	ON	OFF	BLINK (5 sec.)	OFF		
	ON	OFF	OFF	OFF		
Bulk Charge (Constant current)	ON	ON	OFF	OFF	At this stage the charger is delivering max current (2.2 A)	
Constant Voltage	ON	ON	OFF	OFF	At this stage the charger has reached maximum voltage and current continues to drop.	
Float Charge	ON	OFF	ON	OFF	At this stage batteries are fully charged. The Yellow LED turns occasionally off.	
Abnormal Conditions:				OFF	This feature indicates that the battery voltage is not climbing to acceptable level	
Low Voltage Indication	ON	BLINKS ALTERNATELY	BLINKS ALTERNATELY			
Bad Battery/Sulfation	BLINKS ALTERNATELY	BLINKS ALTERNATELY	OFF			This feature indicates that the batteries are heavily sulfated or defective.
Bad contact / Partial battery sulfation	ON	OFF	FAST BLINK			This feature indicates a partially open circuit. Bad contact or battery sulfation
Battery connector reverse				ON		

BATTERY CHARGER FUSE REPLACEMENT



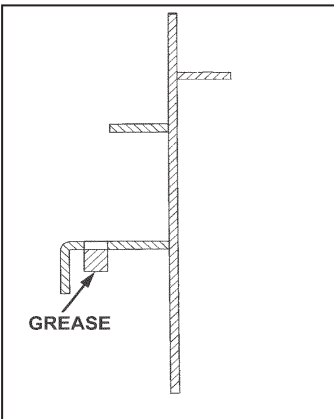
If the charger is subject to a power line surge, the AC input fuse may blow. Refer to the illustration to the left for fuse location.

To replace fuse:

1. Turn OFF the battery charger power switch.
2. Remove power cord from wall outlet.
3. Twist the fuseholder cap and pull out to remove the fuse.
4. Replace with the same size and type:
(Bussmann GMD-2A or equivalent) 2A, Slo-Blow, 5x20 mm.

INSTALLATION

RAIL LUBRICATION



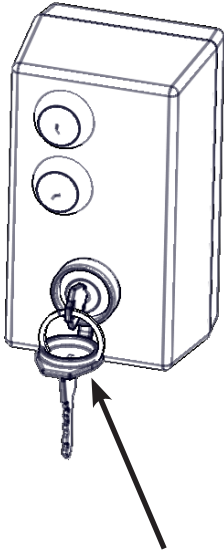
First-time lubrication:

1. Run the stairway elevator up and down several times.
2. Wipe the rail clean.
3. Apply a thin layer of *white lithium grease* to the gear rack teeth only.

RAIL CLEANING

1. Regular cleaning of the rail is important to ensure proper operation of the rail and elevator components.
2. Develop the practice of frequent rail cleaning, especially if the stairway elevator is used in harsh environments.
3. Approximately once per year, regrease the gear rack teeth **ONLY** with white lithium grease.

MOUNTING THE STANDARD RF CALL/SEND TRANSMITTERS



Close the switch cover when the unit is not in used to prevent moisture from entering the key switch.

Install the key-controlled call/send transmitters as shown below.

The key switch location should measure approximately 48" (1.2 m) from the floor.

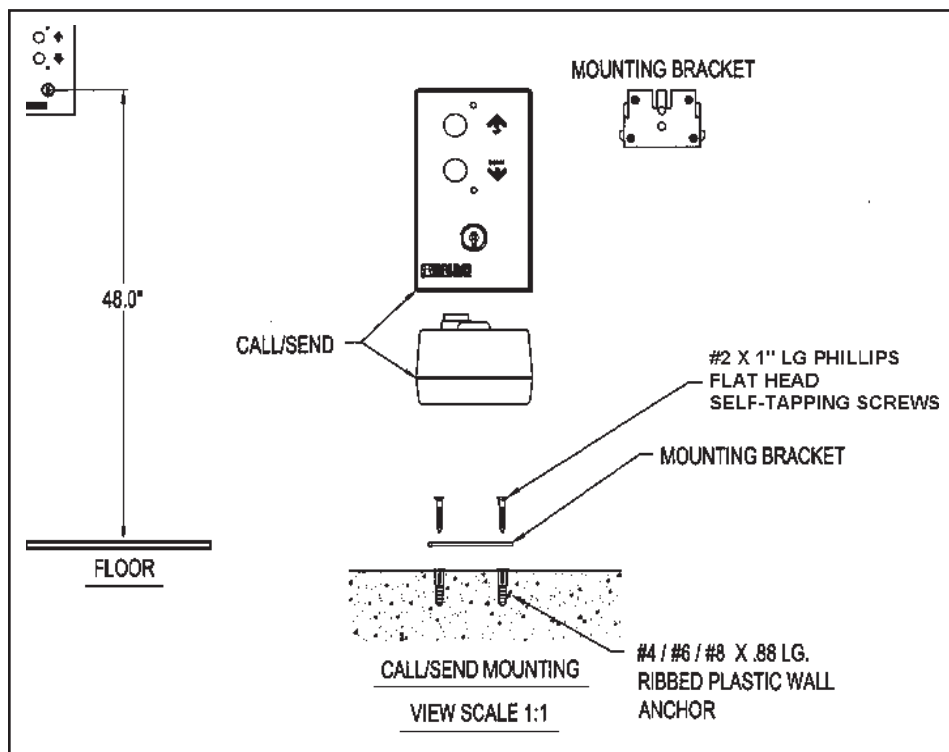
Install one transmitter at the top of the stairs, and one at the bottom.

NOTES:

Installation of call/send transmitters may vary by local code.

Please consult local codes for installation guidelines.

Uses (1) 9V alkaline battery.



INSTALLATION

TESTING THE CALL/SEND TRANSMITTER



This Stairway Elevator includes equipment that is subject to FCC Regulation. Any changes or modifications to the call/send transmitter or receiver, unless expressly approved by Bruno Independent Living Aids, Inc. (the party responsible for the equipment meeting FCC compliance), could void the user's permission to operate the equipment.

While using the remote call/send transmitters, some intermittence may be experienced.

It may be a minor inconvenience, but in no way damages or interferes with the operation of the Stairway Elevator.

You should experience NO intermittent operation while using the rocker switch on the armrest.

Radio interference can occur if more than one radio control (or other radio device) is operating on the same frequency.

This could cause incorrect operation of the call/send function.

For optimal performance, maintain a distance from radio control devices on the same frequency.

Radio interference can also occur near high voltage electrical wires, reinforced concrete buildings or CB radios.

1. Using the rocker switch on the seat armrest, run the unit up and down the rail.

NOTE: The unit should travel noticeably faster going up than down.

2. Check for smooth operation and travel.
3. Now, using one of the remote call/send transmitters, run the unit up and down the rail.
4. Repeat Step 3 with the other transmitter.
5. Check for smooth operation and travel.

Soft Start Feature

The controller includes a *soft start* feature which causes a *short delay* between the time the rocker switch on the armrest is depressed and the initiation of carriage movement.

This is normal!

TESTING THE UNIT COMPONENTS

1. When the installation is complete, test the operation of the following components:

- a. rocker switch
- b. armrest key switch (if applicable)*

***In the OFF position, the key switch will disable both the unit and the remotes.**

- c. footrest safety switches
- d. carriage limit switches
- e. seat safety switch.

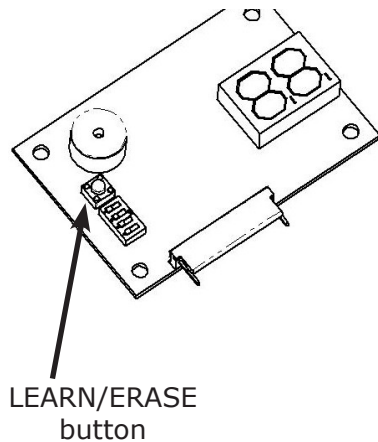
CUSTOMER EDUCATION

Before leaving the installation site, be sure that the customer fully understands the correct and safe operation of the stairway elevator.

Have the customer operate the unit while you are there to answer any questions or concerns.

Remind the customer to always use the seat positioning belt.

LEARNING THE REMOTE TRANSMITTER (not necessary when installing unit for the first time)



The operating channel of the two (2) RF transmitters included with the CRE-2110E is pre-set at the Bruno factory.

Reasons for relearning transmitters:

- you have to replace transmitters.

To relearn a transmitter:

1. Turn the circuit breaker OFF.
2. Remove the seat hinge plate cover to expose the interface PCB.
3. Remove the carriage control cover to allow you to see the learn/erase LED on the main control PCB. (See drawings at the back of this manual for cover removal.)
4. Turn the circuit breaker ON, wait for the 'power-up' beep.
5. Locate the LEARN/ERASE button on the interface PCB (see left).
6. **Clear the memory:**
 - Hold down the LEARN/ERASE button until the LED on the main Control PCB goes out (approximately 12 seconds).
7. Press and hold the LEARN/ERASE button (LED on the main control PCB is on). As you continue to press the LEARN/ERASE button, press either of the call/send transmitter buttons until the LED goes out (approximately 2-5 sec.).
8. Release both buttons (LEARN/ERASE and transmitter). The remote is now "learned".
9. **Test the transmitter operation** by pressing either of the transmitter buttons.

If the carriage moves, the new configuration has been accepted and the transmitter is learned.

If the carriage does not move, repeat Steps 6 through 9.
10. Turn the circuit breaker OFF.
11. Remount the control enclosure cover(s) and the seat hinge plate cover.
12. Turn the circuit breaker ON, and verify operation of all functions.

ELECTRICAL

CIRCUIT BOARD DIAGNOSTICS

The circuit board provided on the CRE-2110E is equipped with (4) diagnostic modes that continuously monitor the unit's operation. This choice of operational modes allows the CRE-2110E to respond to the requirements of a wide variety of installations.

NOTE : The CRE-2110E is shipped in the MULTI-USER/DIAGNOSTIC MODE.

MULTI-USER/DIAGNOSTIC MODE

Provides full range of Audio diagnostic notices:

- ***Circuit Board Power Up:** Chirp
- ***Safety Device Activated:** Chirp
- ***Elevator Stopped Off Charge Bumper:** 5 Beeps (4 short and 1 long)
Repeats every 3 minutes until the Elevator is returned to the bumper.
- ***Seat Safety Disengaged:** Chirp repeats every 3 seconds until seat safety switch is re-engaged.
- ***Battery Voltage Drop:** 5 Beeps (3 short and 2 long)
Repeats every 4 minutes until seat safety switch is disengaged, the battery voltage increases, or the switch is pressed.
- ***Battery Voltage Critical:** 5 Beeps (2 short and 3 long)
Repeats once a minute until the voltage exceeds 16V or the switch is pressed.
- ***Switch Active During Power Up:** 2 Beeps / Pause /5 Beeps (long beeps indicate which switches are active)
Repeats beeps every 5 seconds until all switches are off.
- ***More Than One Switch Active:** 2 Beeps / Pause /5 Beeps (long beeps indicate which switches are active)
Repeats every 30 seconds until all switches are off.
- ***Transmitter ID Memory Full:** 3 Beeps (1 short and 2 long)

SINGLE-USER MODE

Provides the same audio diagnostic notices as the Multi-User/Diagnostic Mode, except for the Seat Safety Disengaged notice.

QUIET MODE

In the QUIET mode, none of the Audible Warning Messages is active.

BATTERY WARNINGS ONLY MODE

Provides battery audio diagnostic only.

- ***Elevator Stopped Off Charge Bumper:** 5 Beeps (4 short and 1 long)
Repeats every 3 minutes until Elevator is returned to the bumper.
- ***Battery Voltage Drop :** 5 Beeps (3 short and 2 long)
Repeats once every 4 minutes until the seat safety switch is disengaged or the battery voltage increases.
- ***Battery Voltage Critical:** 5 Beeps (2 short and 3 long)
Repeats once a minute until voltage is above 16 V.

CIRCUIT BOARD DIAGNOSTICS



NOTICE:

Before touching anything inside the carriage assembly, ground yourself by touching an unpainted metal surface on the unit such as an exposed bolt, or one of the mounting screws on the electrical panel. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

AUDIO REFERENCE	
Chirp	0.25 seconds
Short Beep	0.50 seconds
Long Beep	1.50 seconds
Pause	1.00 second

Changing the PCB Diagnostic Mode

1. Turn the circuit breaker OFF.
2. Fold up the seat. Remove the screws securing the seat hinge plate cover to provide access to the interface PCB.
3. The unit is shipped in the Multi-User Diagnostic Mode. Changes are made via the #1 and #2 positions on the 4-Ganged DIP Switch (see chart below).
4. Remount the seat hinge plate cover.
5. Turn the circuit breaker ON, wait for the 'power-up' beep.

4 GANGED DIP SWITCH

DIAGNOSTIC MODE	DIP SWITCH POSITION	
	#1	#2
Multi-User	OFF	OFF
Single-User	OFF	ON
Quiet	ON	OFF
Battery Warnings Only	ON	ON

ELECTRICAL

DIAGNOSTIC CODES (under seat)

The CRE-2110E includes a visual diagnostic display to aid troubleshooting. The table below shows the code displayed and a description of the code indication.

1/31/2013

Borg Visual-Audio Diagnostics For Service 1-30-2013.xlsx

Readout/Diagnostic Group (Group Indicator)	S - Solid = 'Normal' Condition CF - Continuous Flash = Diagnostic Fault	VISUAL		AUDIBLE				VISUAL		AUDIBLE				AUDIBLE	
		Segment 1	Segment 2	Mode 1 S1 Off S2-Off	Mode 2 S1-Off S2-On	Mode 3 S1-On S2-Off	Mode 4 S1-On S2-On	Segment 1	Segment 2	Mode 1 S1 Off S2-Off	Mode 2 S1-Off S2-On	Mode 3 S1-On S2-Off	Mode 4 S1-On S2-On	Multi-User	Single User
		NEW SRE-2010 (PCB-00133)													
Charge/Battery Condition Group (C)															
Charging (Charger detected)	S	C	1	None	None	None	None	C	1	None	None	None	None	None	None
Off-Charge (running w/rocker or remote)	S	C	2	None	None	None	None	C	2	None	None	None	None	None	None
Off-Charge and Not-Parked (fault condition)	CF	C	3	BBBBL	BBBBL	None	None	NA	NA	NA	NA	NA	NA	NA	NA
Parked and Charger Not Detected	CF	C	4	BBBBL	BBBBL	None	None	C	4	BBBBL	BBBBL	None	None	None	None
Battery Voltage Critical (~16V)	CF	C	5	BBBBL	BBBBL	None	None	C	5	BBBBL	BBBBL	None	None	None	None
Battery Voltage Low (<18V)	CF	C	6	None	None	None	None	C	6	None	None	None	None	None	None
Motorized Swivel Moving (Prior to SW Rev. 2.7 only-see A6)	S	C	7	None	None	None	None	NA	NA	NA	NA	NA	NA	NA	NA
Motorized Footrest Moving (Prior to SW Rev. 2.7 only-see A7)	S	C	8	None	None	None	None	NA	NA	NA	NA	NA	NA	NA	NA
Limit/Switch Input Group (L)															
SSS open	S	L	1	S,M,C,PPPP	S,M	None	None	L	1	S,M,C,PPPP	S,M	None	None	S,M,C,PPPP	S,M
Up Limit Switch Open	S	L	2	S,M	S,M	None	None	L	2	S,M	S,M	None	None	S,M	S,M
Down Limit Switch Open	S	L	3	S,M	S,M	None	None	L	3	S,M	S,M	None	None	S,M	S,M
Keyswitch Closed (not currently used)	S	L	4	M,PPCC	M	None	None	NA	NA	NA	NA	NA	NA	NA	NA
Seat Fold Switch Open (not currently used)	S	L	5	M	M	None	None	NA	NA	NA	NA	NA	NA	NA	NA
Mid-Rail Park Active	S	L	6	S	S	None	None	L	6	S	S	None	None	S	S
Brake Input switch	S	L	7	M	M	None	None	NA	NA	NA	NA	NA	NA	NA	NA
Soft Stop Switch	S	L	8	None	None	None	None	L	8	None	None	None	None	None	None
Operation Switch Group (O)															
Rocker Up	S	O	1	None	None	None	None	O	1	None	None	None	None	None	None
Rocker Down	S	O	2	None	None	None	None	O	2	None	None	None	None	None	None
Learn Switch	S	O	3	None	None	None	None	O	3	None	None	None	None	None	None
Remote Up	S	O	4	None	None	None	None	O	4	None	None	None	None	None	None
Remote Down	S	O	5	None	None	None	None	O	5	None	None	None	None	None	None
Diagnostics Group (d)															
Speed Pot Fail (open)	CF	d	1	None	None	None	None	d	1	None	None	None	None	None	None
Transmitter ID Memory Full	CF	d	2	BLL	BLL	None	None	d	2	BLL	BLL	None	None	BLL	BLL
Program Memory Bad CheckSum	CF	d	3	None	None	None	None	d	3	None	None	None	None	None	None
Over Current Fault	CF	d	4	CCCC	CCCC	None	None	d	4	CCCC	CCCC	None	None	CCCC	CCCC
Over Temperature Fault	CF	d	5	CCC	CCC	None	None	d	5	CCC	CCC	None	None	CCC	CCC
Speed Over Ride on High Temperature.	CF	d	6	None	None	None	None	d	6	None	None	None	None	None	None
Low Voltage Stop	CF	d	7	CCCCC	CCCCC	None	None	d	7	CCCCC	CCCCC	None	None	CCCCC	CCCCC
Unlearned Remote Unit	CF	d	8	None	None	None	None	d	8	None	None	None	None	None	None
Relay FET Fault Group (F)															
Drive FET Shorted	CF	F	1	None	None	None	None	F	1	None	None	None	None	None	None
Safety Relay Shorted	CF	F	2	None	None	None	None	F	2	None	None	None	None	None	None
H-Bridge Relay Fault	CF	F	3	None	None	None	None	F	3	None	None	None	None	None	None
Safety Circuit Faulted	CF	F	4	None	None	None	None	F	4	None	None	None	None	None	None
Test Input High (Internal Failure, should never happen)	CF	F	5	None	None	None	None	F	5	None	None	None	None	None	None
Test Input Low (Internal Failure, should never happen)	CF	F	6	None	None	None	None	F	6	None	None	None	None	None	None
Aux Current Measurement Failure (Prior to SW Rev. 2.7 only-see A9)	CF	F	7	None	None	None	None	F	7	None	None	None	None	None	None
Unknown Relay Fault (should never happen)	CF	F	8	None	None	None	None	F	8	None	None	None	None	None	None

1/31/2013

Borg Visual-Audio Diagnostics For Service 1-30-2013.xlsx

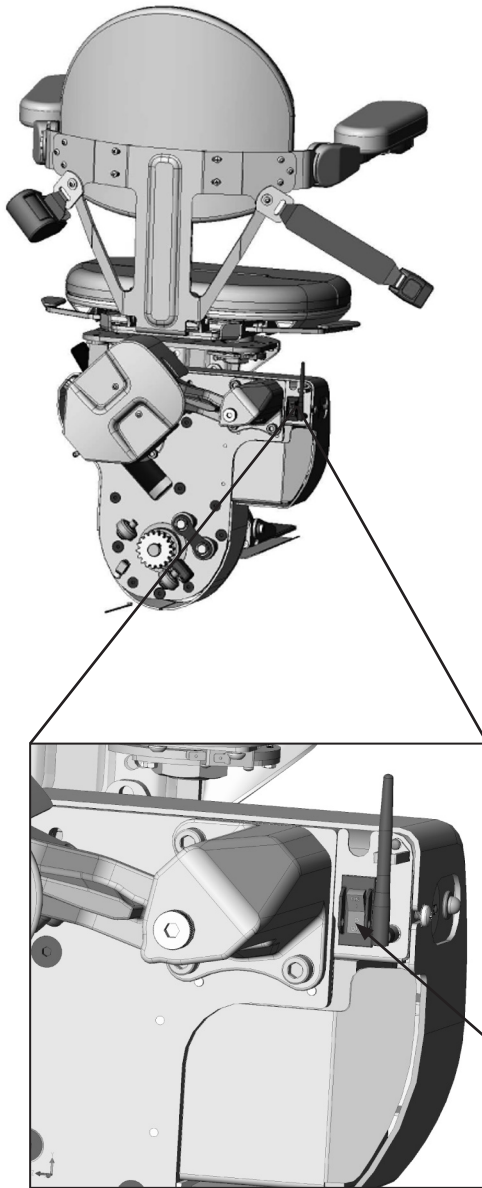
Readout/Diagnostic Group (Group Indicator)	S - Solid = 'Normal' Condition CF - Continuous Flash = Diagnostic Fault	VISUAL		AUDIBLE				VISUAL		AUDIBLE				AUDIBLE	
		Segment 1	Segment 2	Mode 1 S1 Off S2-Off	Mode 2 S1-Off S2-On	Mode 3 S1-On S2-Off	Mode 4 S1-On S2-On	Segment 1	Segment 2	Mode 1 S1 Off S2-Off	Mode 2 S1-Off S2-On	Mode 3 S1-On S2-Off	Mode 4 S1-On S2-On	Multi-User	Single User
AUX Group															
NEW SRE-2010 (PCB-00133)															
CRE & SRE															
Swivel Enable	S	A	1	None	None	None	None	A	1	None	None	None	None	None	None
Seat Fold Switch Closed	S	A	2	None	None	None	None	A	2	None	None	None	None	None	None
Swivel Limit Open	S	A	3	None	None	None	None	A	3	None	None	None	None	None	None
Footrest Up Limit Open	S	A	4	None	None	None	None	A	4	None	None	None	None	None	None
Footrest Down Limit Open	S	A	5	None	None	None	None	A	5	None	None	None	None	None	None
Swivel Actuator Blocked	S	A	6	None	None	None	None	A	6	None	None	None	None	None	None
Footrest Actuator Blocked	S	A	7	None	None	None	None	A	7	None	None	None	None	None	None
Aux Actuator Active	S	A	8	None	None	None	None	A	8	None	None	None	None	None	None
Aux Actuator Fault	CF	A	9	None	None	None	None	A	9	None	None	None	None	None	None
Aux Communication Fault	CF	A	0	None	None	None	None	A	0	None	None	None	None	None	None
Power Rail Group															
Rail Up Limit	S	P	1	None	None	None	None	P	1	None	None	None	None	None	None
Rail Down Limit	S	P	2	None	None	None	None	P	2	None	None	None	None	None	None
Rail Disable	S	P	3	None	None	None	None	P	3	None	None	None	None	None	None
Reserved		P	4	None	None	None	None	P	4	None	None	None	None	None	None
Reserved		P	5	None	None	None	None	P	5	None	None	None	None	None	None
Reserved		P	6	None	None	None	None	P	6	None	None	None	None	None	None
Rail Actuator Blocked	S	P	7	None	None	None	None	P	7	None	None	None	None	None	None
Rail Actuator Active	S	P	8	None	None	None	None	P	8	None	None	None	None	None	None
Rail Actuator Fault	CF	P	9	None	None	None	None	P	9	None	None	None	None	None	None
Rail Communication Failure	CF	P	0	None	None	None	None	P	0	None	None	None	None	None	None
Run Time in seconds (No display, 4 bytes in EEPROM)	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
B = 0.5 second tone L = 1 second tone C = 0.25 second tone P = 1 second no tone S = 0.25 second tone when opened M = 0.25 second tone when movement requested															
Additional Audible Codes															
Multiple Buttons Pressed at Power-up	Normal Button Codes			BBP?????	BBP?????	None	None			BBP?????	BBP?????	None	None	BBP?????	BBP?????
Multiple Buttons Pressed	Normal Button Codes			BBP????	BBP????	None	None			BBP????	BBP????	None	None	BBP????	BBP????
				Question marks designate a LONG BEEP. The long beep indicates which switch is active at power-up or if multiple switches are pressed (in this order): Left rocker, Right Rocker, Learn Switch, Remote Up, Remote Down						Question marks designate a LONG BEEP. The long beep indicates which switch is active at power-up or if multiple switches are pressed (in this order): Left rocker, Right Rocker, Learn Switch, Remote Up, Remote Down					

CIRCUIT BREAKER

The on/off switch is built into the circuit breaker which is provided to protect the battery, controller and motor circuits in the Stairway Elevator carriage.

It is unlikely that this circuit breaker will ever trip in normal use. However, should the Elevator fail to operate, check the circuit breaker as a first troubleshooting step, and reset it if necessary.

It is also recommended that you determine the reason that the breaker tripped, and correct the situation. Two most frequent causes of a tripped circuit breaker: (1) foreign object jamming the rail or gear rack and (2) exceeding the rated load capacity leading to circuit overload of the Elevator.

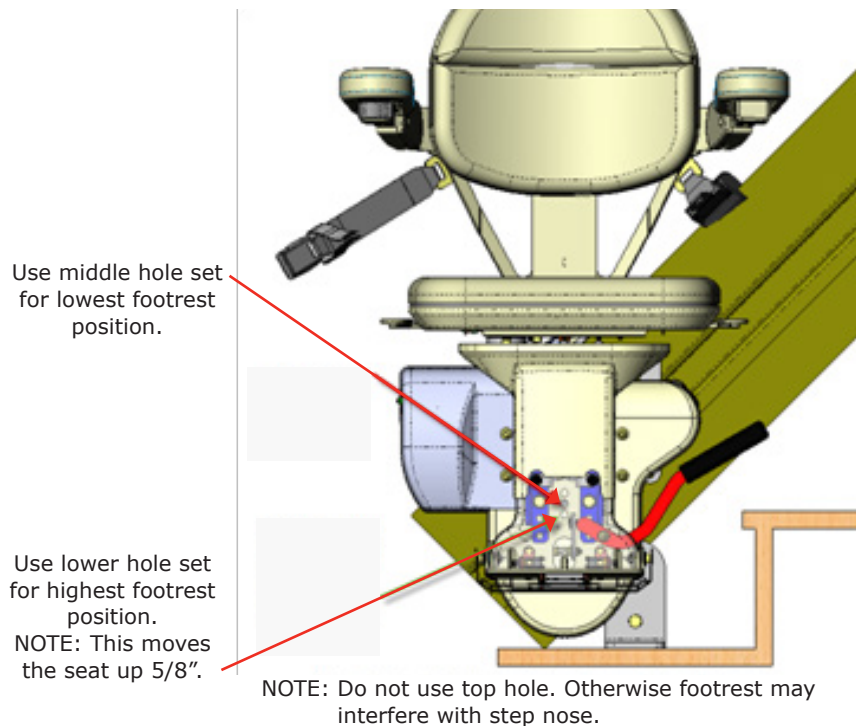


circuit breaker

FOOTREST HEIGHT ADJUSTMENT

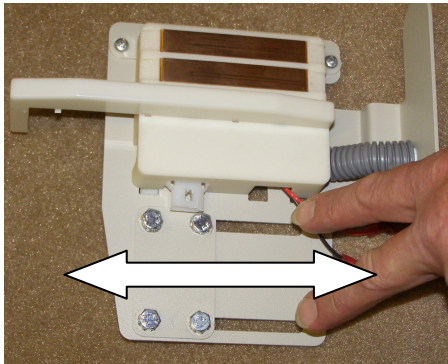
	<i>Seat Height Position with Standard Bracket (total seat height in inches)</i>			
Footrest Position	0	1	2	3
0	21.75	22.75	23.75	24.75
0.63	22.38	23.38	24.38	25.38

1. Remove all (4) M10 x 16mm stainless steel bolts.
2. Loosen the seat support bracket bolt (M10) connecting the seat to the carriage.
3. Slide the seat up or down.
4. Line up the holes on the seat post with the holes on the footrest mounting plate at the desired height.
5. Reinsert the M10 x 16mm bolts and corresponding washers.
6. Tighten.
7. Retighten the seat support bracket bolt connecting the seat to the carriage.



ADJUSTMENT

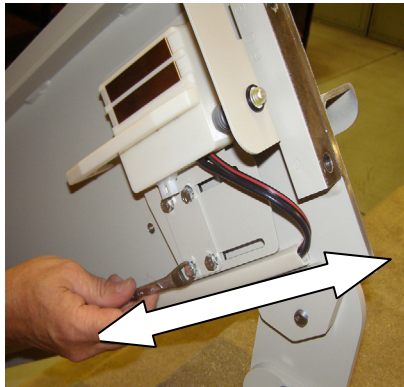
CHARGE CONTACT POSITION ADJUSTMENT



You may adjust the charge contact position vertically and horizontally, if necessary.

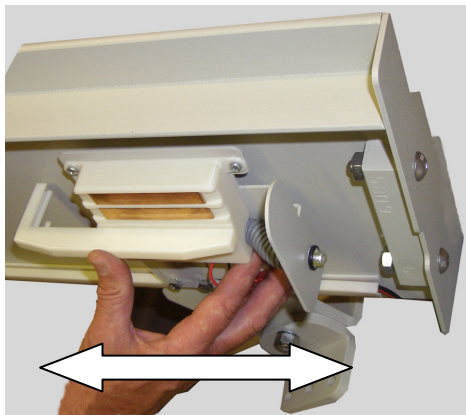
Horizontal adjustment

1. Loosen the (4) bolts (see left).
2. Slide the charge contact horizontally to the desired position.
3. Tighten the (4) bolts.

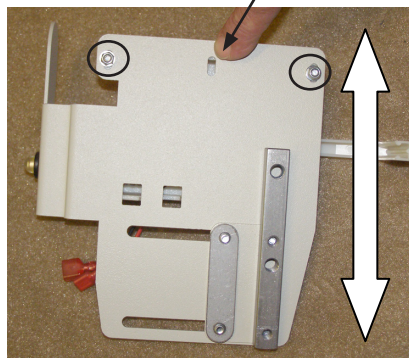


Vertical adjustment

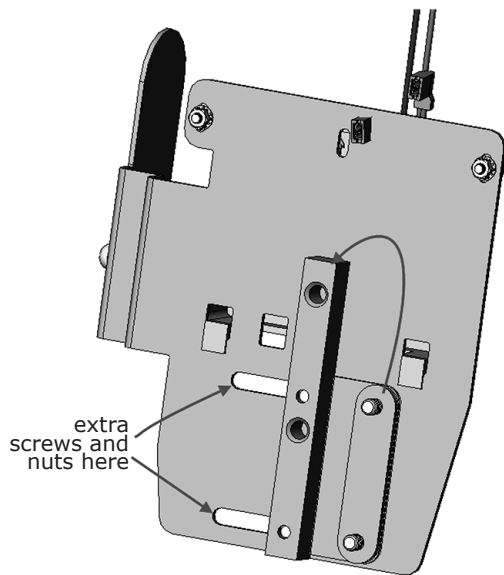
1. Loosen the (2) Phillips head screws (see bottom left).
2. Slide the charge contact vertically to the desired position.
3. Tighten the (2) Phillips head screws.



Slot like this is behind Phillips head screws.



rear of charge contact



SERVICE TIP

Proximity Charge Assembly
(#2 hand shown)

For maximum travel extension and seat height position (maximum height on the upper landing and minimum height on the lower landing), be sure to switch the mounting bar with the oval nut plate.

For the lower landing, you may add two M6x1x16mm or 1/4-20x5/8 screws with jam nuts (not provided in the kit) for increased bracket stability.

Cautions:

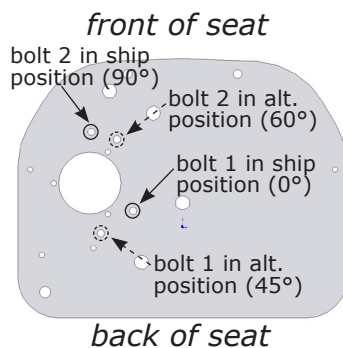
- Be sure the wheels do not contact the end cap when using the maximum setting.
- Be sure that the final limit switch is not in intermittent contact at the top landing when using the maximum setting.
- Adjust the contact position as required to prevent the occurrence of these conditions.

SEAT SWIVEL STOP ADJUSTMENT

NOTE: There are two bolts that prevent the seat from over rotating in the forward and back directions. **Bolt 1** stops the seat from swiveling too far back. **Bolt 2** stops it from swiveling too far forward.

CAUTION! Changing Bolt 1 to the 45-degree position may allow the seat to rotate into the wall!

left-hand orientation shown
(top view)



1. Remove the lower seat hinge plate cover.
2. Remove bolts 1 and 2, ship position.
3. Pivot the seat to expose the holes for bolts 1 and 2, alternate position.
4. Apply Loctite 242 (blue) to bolts 1 and 2, insert and tighten to the appropriate torque.
5. Remount the lower seat hinge plate and secure with its (2) screws.

ADJUSTMENT

ARM EXTENSION



1. Remove the arm swivel cover.



2. Cut the wire tie.



3. Remove the (3) arm bracket screws.



4. Slide the arm out to the position that best fits the user (3 possible settings).

5. Insert and tighten the (3) arm bracket screws.

6. Wind the wire into a service loop (no wire tie needed).

7. Remount the arm swivel cover and secure with its screw.

- ***Do not overtighten!***
- ***Make sure the wire sits in the cover slot as shown.***

8. Repeat the procedure for the opposite side (units without a keyswitch).



**RECYCLE
BATTERIES IN
ACCORDANCE WITH
REGULATIONS IN
FORCE IN YOUR AREA.**



The CRE-2110E is designed to give you many years of reliable service with minimal required maintenance.

To ensure the best service life:

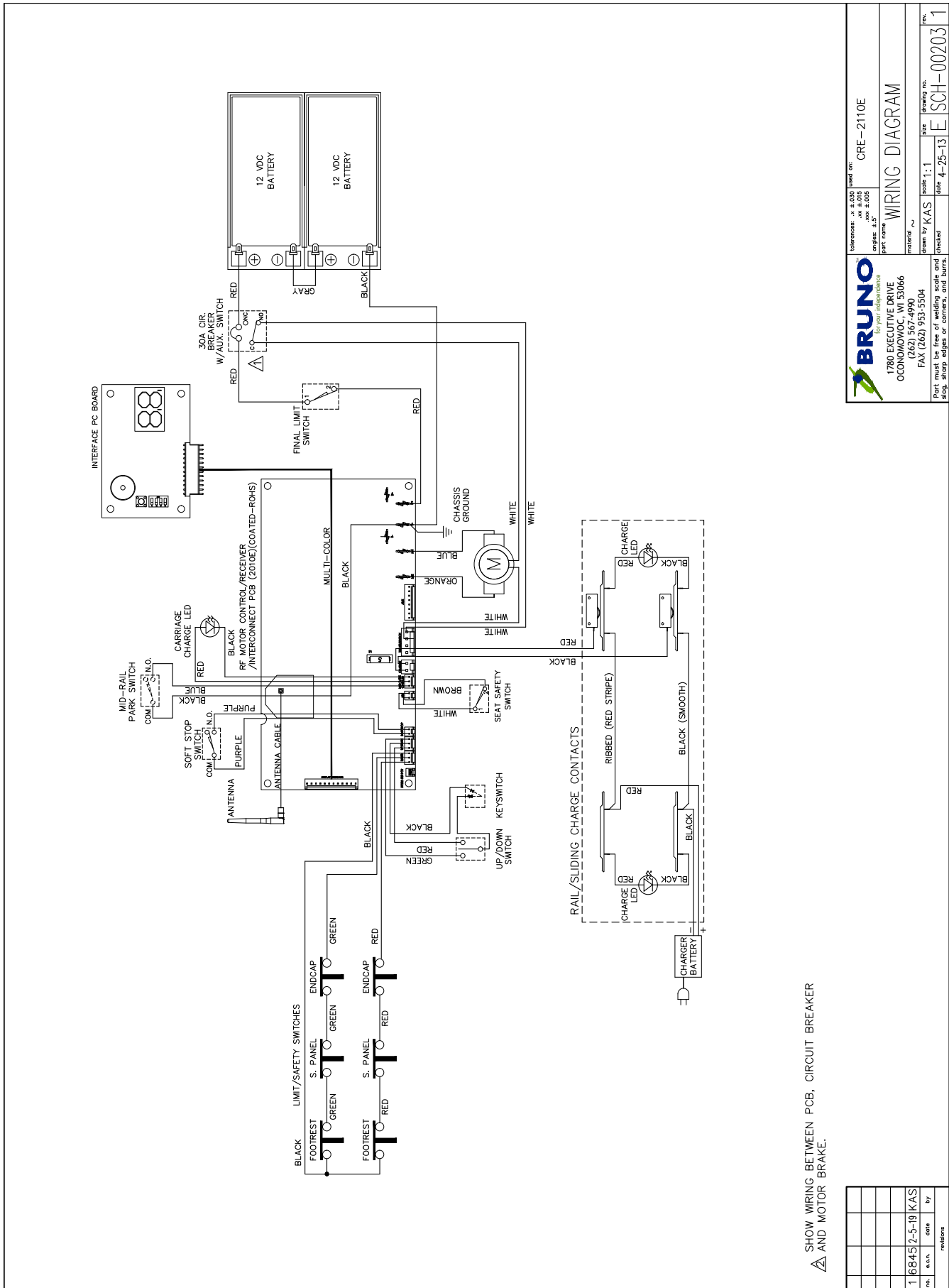
1. Keep the stair rail channel clean and free of debris.
2. Park the carriage at one end of the stair rail so that the batteries charge when not in use.
3. Keep the battery charger plugged into a "live" outlet.
4. Have a qualified service technician clean, check, and grease the unit at least once a year (see maintenance list below).

Gear rack lubrication instructions appear earlier in this manual.

YEARLY MAINTENANCE OPERATIONS

- Clean rails, racks and wheels. Regrease.
- Check rail wear.
- Clean charging contacts (both carriage and rail ends) with Scotch Brite®.
- Check battery voltage (load test).
- Check safety switches (footrest, carriage, seat).
- Check armrest switch.
- Check battery charger output:
 - Load test using remote controls: check voltage while carriage is traveling up.
 - Test with carriage against contacts.
 - Test with carriage away from contacts.
 - Check contacts and lights.
- Check speed.
- Check seat belt for wear and proper operation.
- Examine exposed wiring. Are there any cuts or abrasions?
- Verify operation of seat swivel mechanism. Does it move easily and lock in place correctly?
- Check that all hardware is properly tightened.

WIRING DIAGRAM



		tolerance: ± 0.005 length: ± 0.5 angle: ± 5°	name: CRE-2110E part name: WIRING DIAGRAM
1780 EXECUTIVE DRIVE OCONOMOWOC, WI 53066 (262) 567-4990 FAX (262) 953-5504		scale: 1:1 size: 4-25-13 E	drawing no.: SCH-00203 rev.: 1

no.	date	by	revisions
1	6845-2-5-19	KAS	

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OUTDOOR 'ELITE' CURVE - CUSTOM RAIL STAIRLIFT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	CRE-00850	LAP BELT TETHER ASSY
2	1	CRE-00893E	FRONT SEAT POST COVER ASSEMBLY (EXTERIOR)
4	1	CRE-00995	TOP SEAT COVER ASSY (2110E)
7	1	CRE-00999	BAG COVER ASSEMBLY (2110E)
8	1	CRE-K-2106T	SEAT INSTALLATION KIT (TAN)
9	1	CRE-K-2112	FOOTREST CYLINDER INSTALLATION KIT
11	1	SRE-20602E	FOOT REST COVER (EXTERIOR)
12	1	SRE-21084	FOOTREST ASSEMBLY (EXTERIOR)
13	2	VHK-10000	7" LG 1" WIDE VELCRO HOOK w/ADHESIVE BACKING

SEAT FRAME ASSEMBLIES
w/TAN VINYL UPHOLSTERY (STD.)...
CRE-00945 STD.
△ CRE-01051 XL

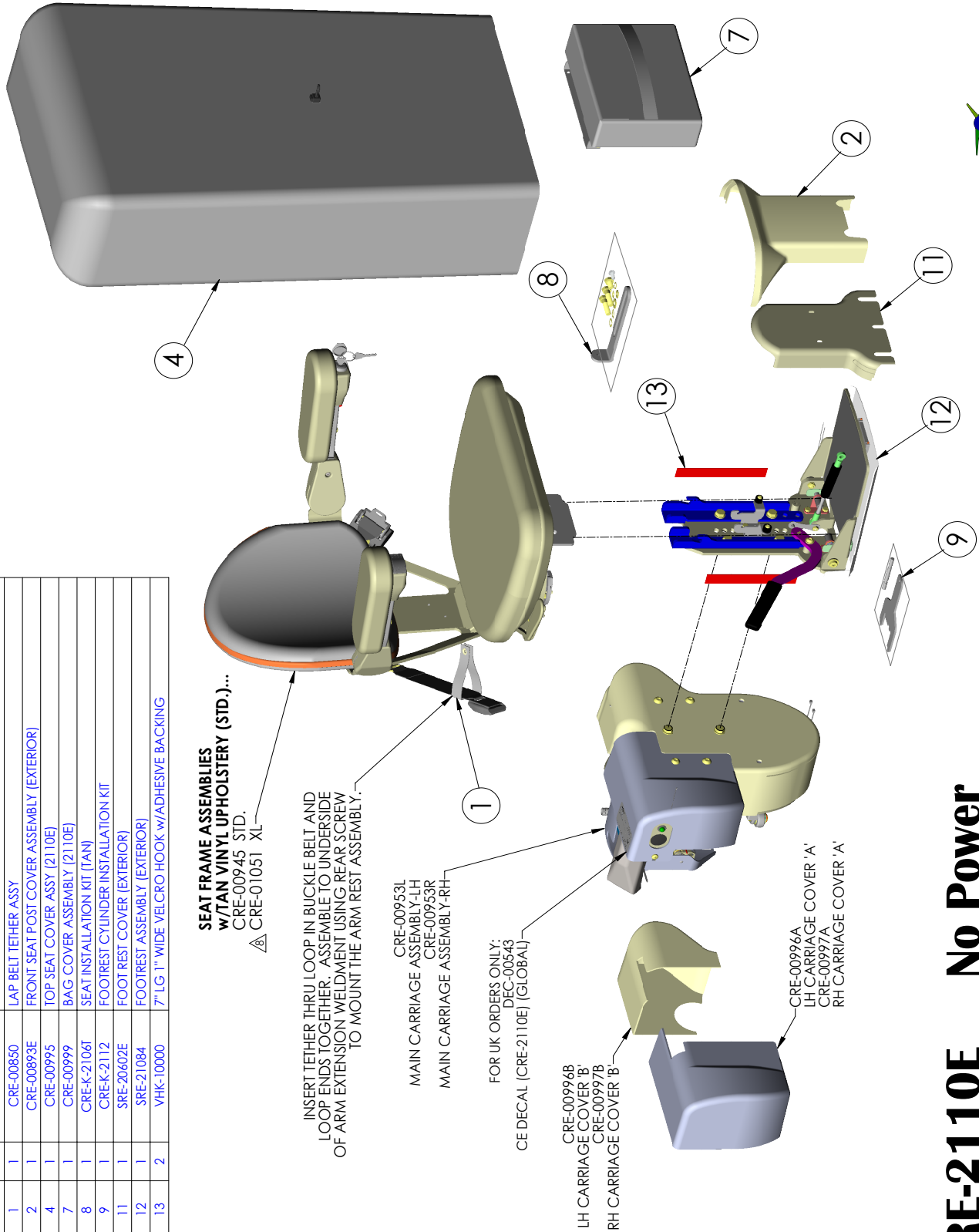
INSERT TETHER THRU LOOP IN BUCKLE BELT AND LOOP ENDS TOGETHER. ASSEMBLE TO UNDERSIDE OF ARM EXTENSION WELDMENT USING REAR SCREW TO MOUNT THE ARM REST ASSEMBLY.

CRE-00953L
MAIN CARRIAGE ASSEMBLY-LH
CRE-00953R
MAIN CARRIAGE ASSEMBLY-RH

FOR UK ORDERS ONLY:
DEC-00543
CE DECAL (CRE-2110E) (GLOBAL)

CRE-00996B
LH CARRIAGE COVER 'B'
CRE-00997B
RH CARRIAGE COVER 'B'

CRE-00996A
LH CARRIAGE COVER 'A'
CRE-00997A
RH CARRIAGE COVER 'A'

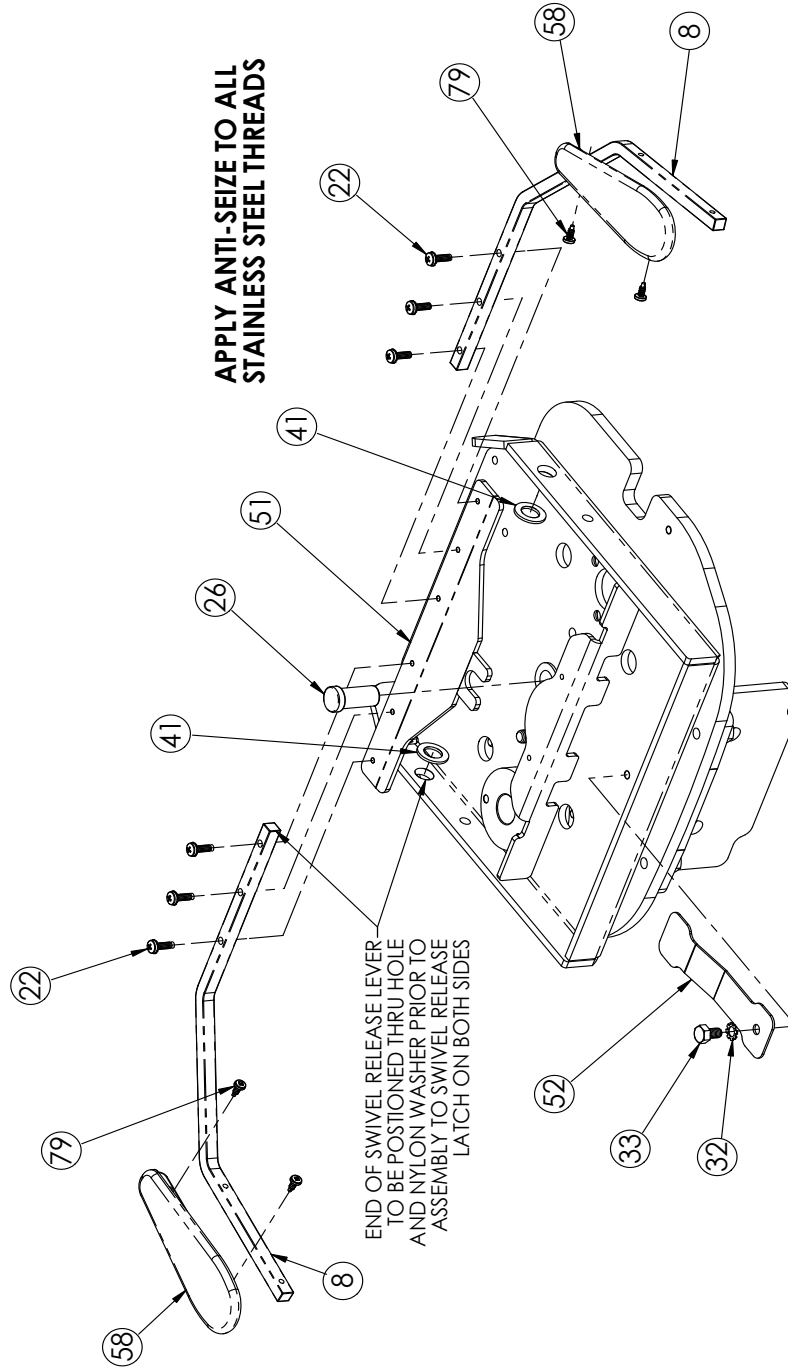


CRE-2110E No Power
SHEET 2 OF 2
REV. 8 (6828)(3/4/2019)(RJH)

EXPLODED VIEW

SEAT ASSEMBLY (2110E)

ITEM NO.	EXPLD2/ QTY.	PART NO.	DESCRIPTION
8	2	CRE-00815T	SWIVEL RELEASE LEVER (TAN)
22	6	MSEM-04701	M4 X .7 X 12mm LG PHILLIPS PAN HEAD SEMS MACHINE SCREW
26	1	PIN-50004	1/2" DIA SWIVEL LOCK PIN
32	1	SMETW-06001	M6 EXTERNAL TOOTH WASHER (SS)
33	1	SMHCSA-06004	M6 X 1 X 10MM LG HEX HEAD CAP SCREW (SS) W/ ANTISEIZE
41	2	SNW-44302	NYLON WASHER (.443" ID X .75" OD X .063" THK)
51	1	SRE-20593	SWIVEL RELEASE LATCH
52	1	SRE-20594	SWIVEL LATCH SPRING CLIP
58	2	SRE-20644E	SWIVEL RELEASE HANDLE (EXTERIOR)
79	4	SSDS-06001	#6-20 X .38" LG PAN HEAD SQ. DRIVE SELF DRILLING SCREW (SS)

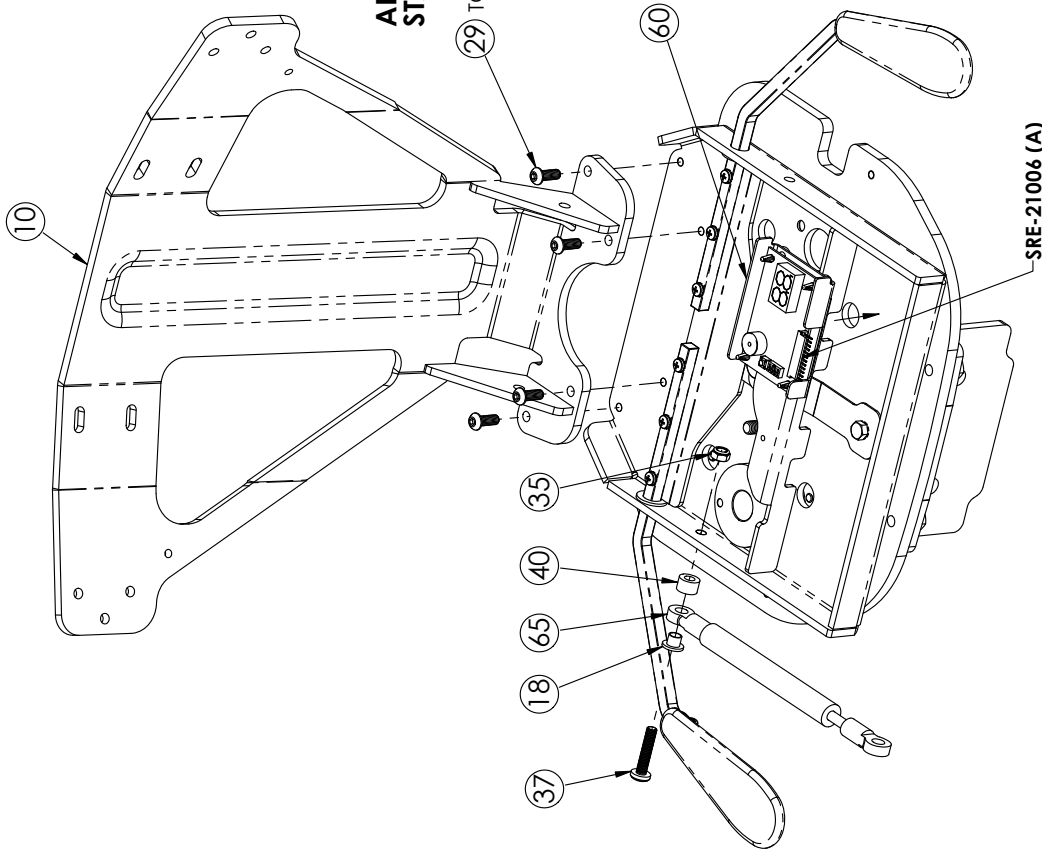


ASSEMBLY SHOWN FOR RIGHT HAND UNIT

CRE-00945
SHEET 2 OF 7
REV. 0 (ISSUED)(4/11/13)(DPG)

SEAT ASSEMBLY (2110E)

ITEM NO.	EXPLD3/QTY.	PART NO.	DESCRIPTION
10	1	C-RE-00848T	SEAT BACK SUPPORT WELDMENT (TAIN)
18	1	MIS-26001	SCREW INSULATOR
29	4	SMBHC-06001	M6 X 1 X 14MM LG. SOCKET BUTTON CAP SCREW (SS)
35	1	SMNSN-06100	M6 X 1 NYLON INSERT LOCK NUT (SS)
37	1	SMPPMA-06003	M6 X 1 X .30MM PHILLIPS PAN HEAD MACHINE SCREW (SS) W/ANTI-SEIZE
40	1	SNS-25702	NYLON SPACER .257 ID X .500 OD X .313 LG
60	1	SRE-20772	INTERFACE PCB ASSEMBLY-EXTERIOR
65	1	SRE-20769	GAS SPRING ASSEMBLY (30 LB. CYLINDER)
69	1	SRE-21005	SEAT CONTROL HARNESS (KEYED-POS. BREAK)
70	1	SRE-21006	SEAT INTERFACE PCB HARNESS



APPLY ANTI-SEIZE TO ALL STAINLESS STEEL THREADS

29 TORQUE TO 85 IN. LBS.

REMOVE BACKING FROM VELCRO AND PRESS ASSEMBLY DOWN ON SURFACE AS SHOWN

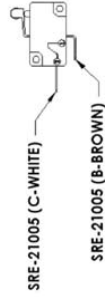
APPLY DIELECTRIC GREASE TO ALL ELECTRICAL CONNECTIONS EXCEPT INTERFACE PCB

SRE-21006

SRE-21005

ASSEMBLY SHOWN FOR RIGHT HAND UNIT

SEAT SAFETY SWITCH CONNECTION DETAIL

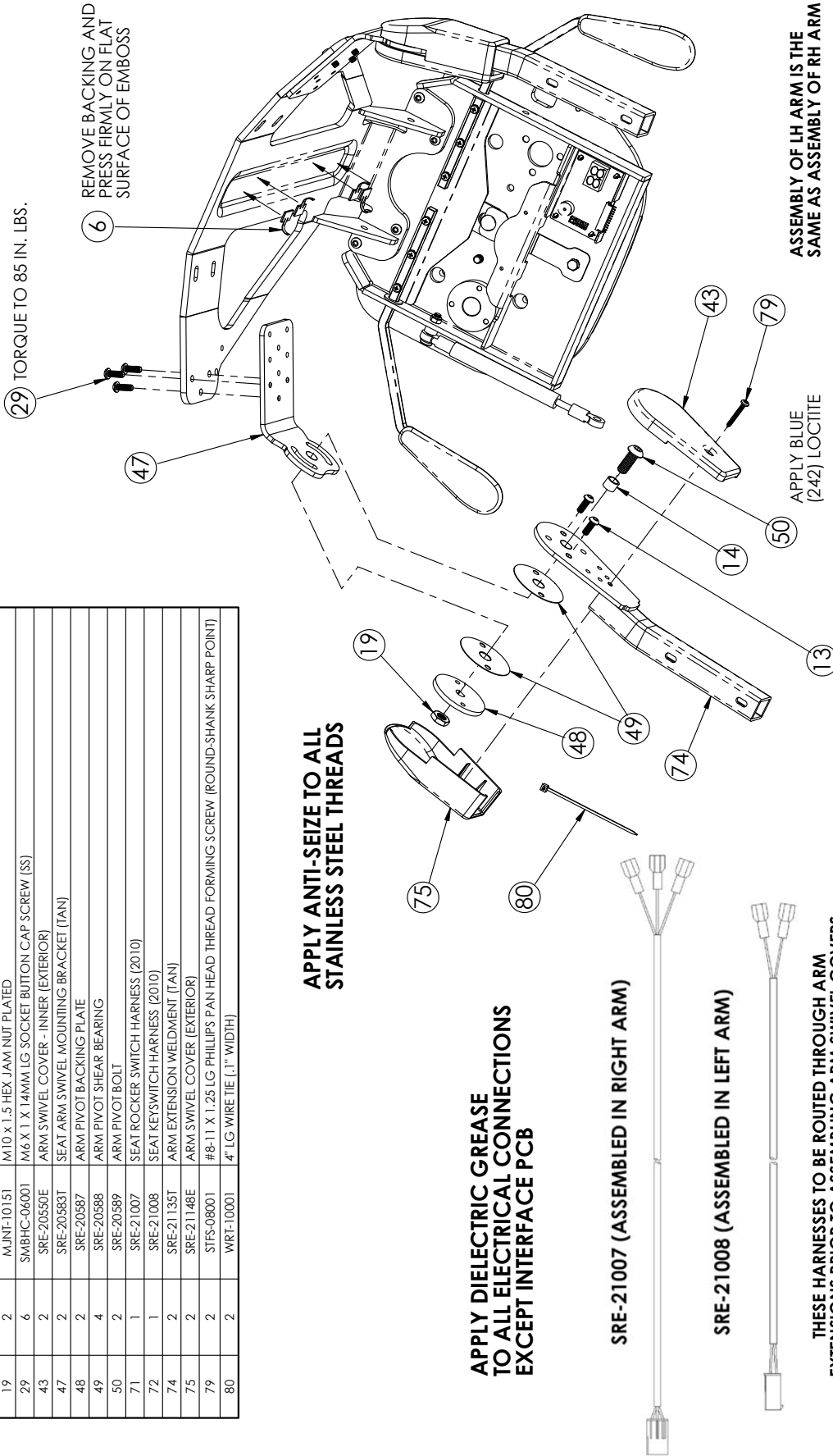


CRE-00945
SHEET 3 OF 7
REV. 0 (ISSUED)(4/11/13)(DPG)

EXPLODED VIEW

SEAT ASSEMBLY (2110E)

ITEM NO.	EXPLD#/QTY.	PART NO.	DESCRIPTION
6	4	CCL-23001	.23 ID X .67 W A ADJUSTABLE ADHESIVE BACKED WIRE CLIP (ALUM.)
13	4	MBHCL-06006	M6 X 1 X 1.6MM LG. BUTTON HEAD SOCKET CAP SCREW w/SRV/CBL THDLKR
14	2	MBUS-10001	BUSHING, TEFLON COMPOSITE (10MM ID X 12MM OD X 10MM LG)
19	2	MJNT-10151	M10 X 1.5 HEX JAM NUT PLATED
29	6	SMBHC-06001	M6 X 1 X 14MM LG. SOCKET BUTTON CAP SCREW (SS)
43	2	SRE-20550E	ARM SWIVEL COVER - INNER (EXTERIOR)
47	2	SRE-20583T	SEAT ARM SWIVEL MOUNTING BRACKET (TAN)
48	2	SRE-20587	ARM PIVOT BACKING PLATE
49	4	SRE-20588	ARM PIVOT SHEAR BEARING
50	2	SRE-20589	ARM PIVOT BOLT
71	1	SRE-21007	SEAT ROCKER SWITCH HARNESS (2010)
72	1	SRE-21008	SEAT SWITCH HARNESS (2010)
74	2	SRE-21135T	ARM EXTENSION WELDMENT (TAN)
75	2	SRE-21148E	ARM SWIVEL COVER (EXTERIOR)
79	2	STFS-08001	#8-11 X 1.25 LG PHILLIPS PAN HEAD THREAD FORMING SCREW (ROUND-SHANK SHARP POINT)
80	2	WRT-10001	4" LG WIRE TIE (.1" WIDTH)



ASSEMBLY OF LH ARM IS THE SAME AS ASSEMBLY OF RH ARM

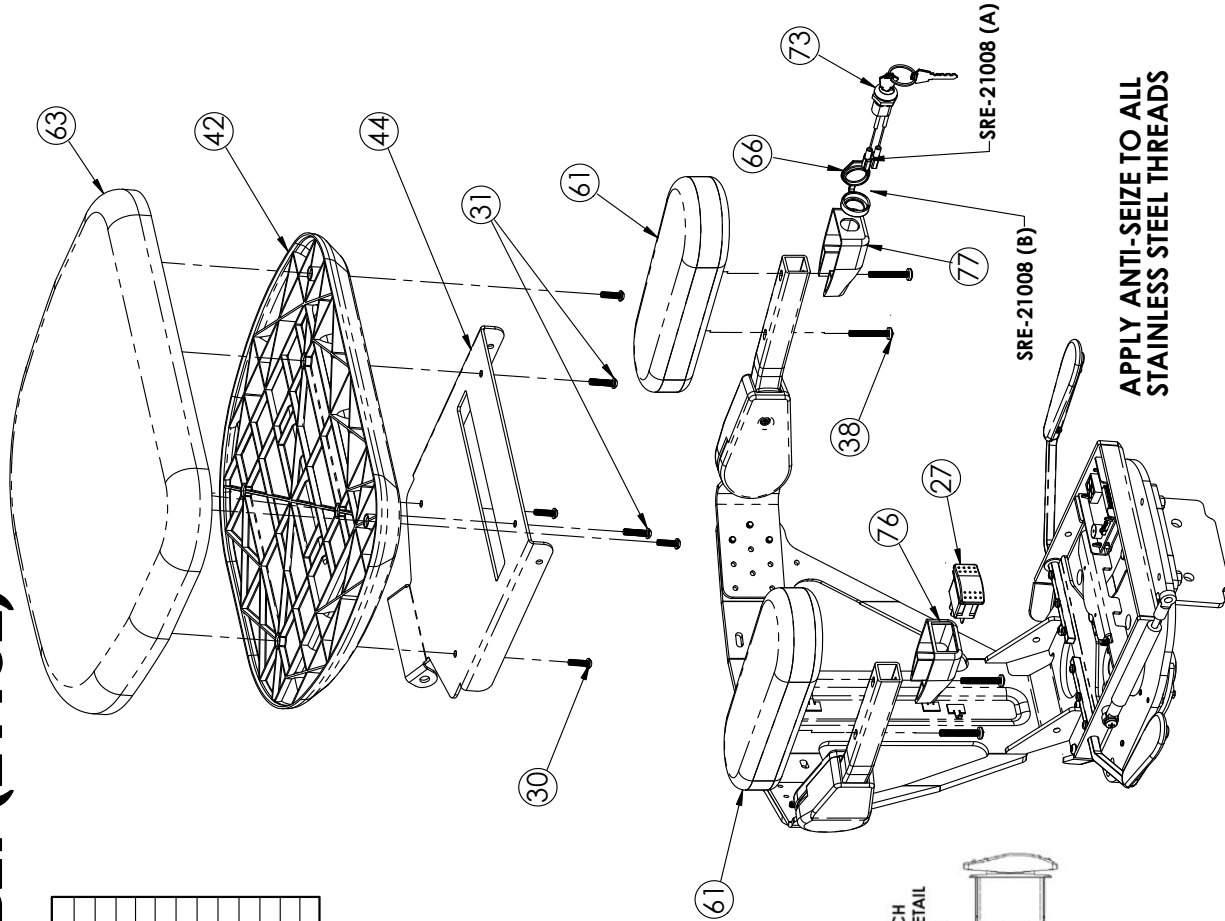
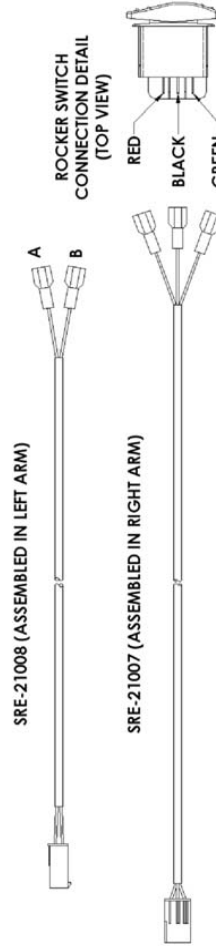
CRE-00945
SHEET 4 OF 7
REV. 0 (ISSUED)(4/11/13)(DPG)

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SEAT ASSEMBLY (2110E)

ITEM NO.	EXPLD5/QTY.	PART NO.	DESCRIPTION
27	1	RSW-00104	SPDT MOMENTARY ROCKER SWITCH
30	4	SMBHC-06002	M6 X 1 X 20MM LG SOCKET BUTTON HEAD CAP SCREW (SS)
31	2	SMBHC-06003	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (SS)
38	4	SMPPWA-06004	M6 X 1 X 40MM PHILLIPS PAN HEAD MACHINE SCREW (SS) W/ANTI-SEIZE
42	1	SRE-20547E	SEAT BOTTOM COVER (EXTERIOR)
44	1	SRE-20573T	SEAT UPPER HINGE PLATE (TAN)
61	2	SRE-20753ETV	ARM REST ASSEMBLY (EXTERIOR TAN VINYL)
63	1	SRE-20755ETV	SEAT BOTTOM ASSEMBLY (EXTERIOR TAN VINYL)
66	1	SRE-20777	KEYSWITCH COVER
73	1	SRE-21077	KEYSWITCH ASSEMBLY (CRE/SRE)
76	1	SRE-27224E	ROCKER SWITCH COVER (EXTERIOR)
77	1	SRE-27231E	SWITCH HOUSING (EXTERIOR)

APPLY DIELECTRIC GREASE TO ALL ELECTRICAL CONNECTIONS EXCEPT INTERFACE PCB



APPLY ANTI-SEIZE TO ALL STAINLESS STEEL THREADS

CRE-00945
SHEET 5 OF 7
REV. 0 (ISSUED)(4/11/13)(DPG)

ASSEMBLY SHOWN FOR RIGHT HAND UNIT

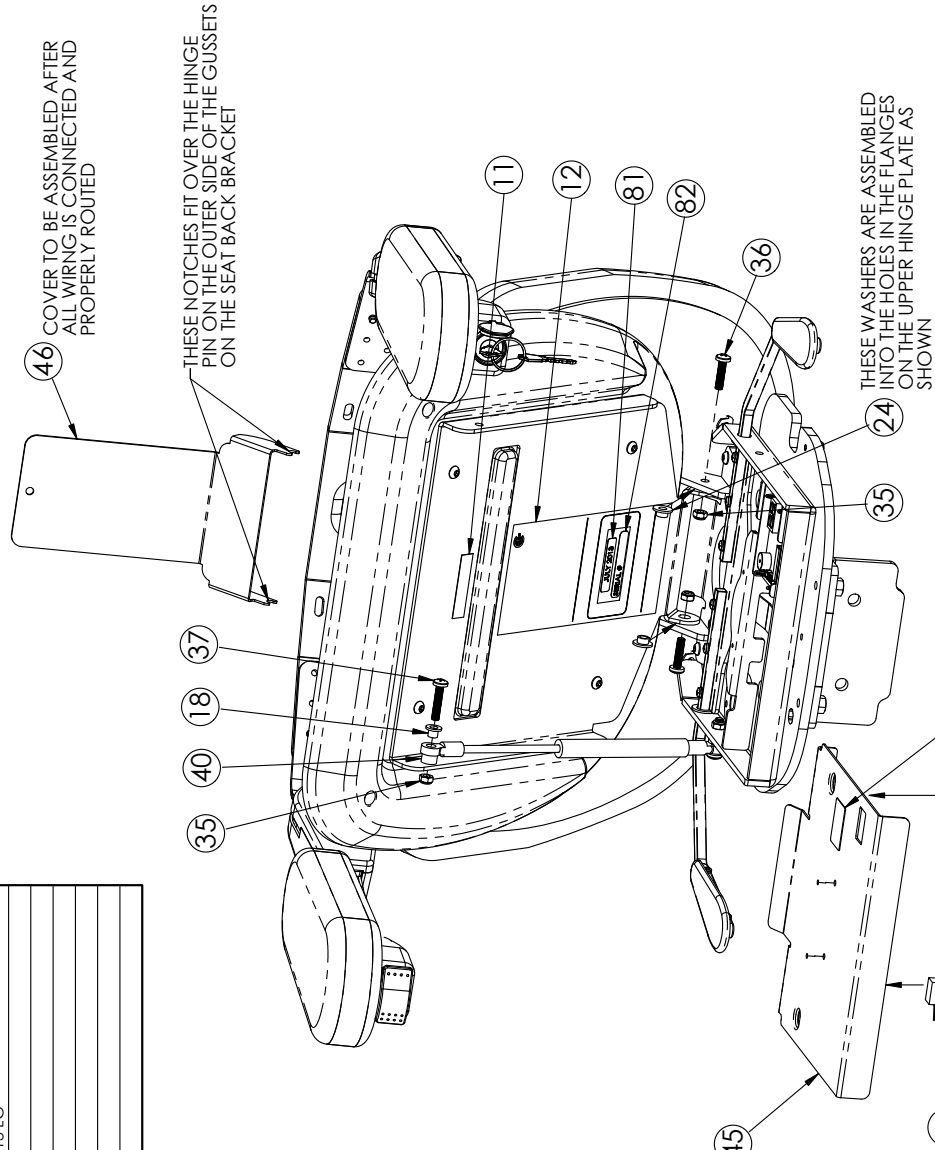
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EXPLODED VIEW

EXPLODED VIEW

SEAT ASSEMBLY (2110E)

ITEM NO.	-QTY.-	PART NO.	DESCRIPTION
11	1	DEC-00321	(ADHESIVE) TSSA COMPLIANCE DECAL
12	1	DEC-00400	DATA PLATE (CRE-2110/C/E, SRE-2010/C/E C-US)
18	1	MIS-26001	SCREW INSULATOR
24	2	NSW-25401	Ø.254" NYLON SHOULDER WASHER
35	3	SMNSN-06100	M6 X 1 NYLON INSERT LOCK NUT (SS)
36	2	SMPPM-06002	M6 X 1 X 25MM PHILLIPS PAN HEAD MACHINE SCREW (SS)
37	1	SMPPMA-06003	M6 X 1 X 30MM PHILLIPS PAN HEAD MACHINE SCREW (SS) W/ANTISEIZE
40	1	SNS-25702	NYLON SPACER .257" ID X .500" OD X .313" LG
45	1	SRE-20580T	SEAT HINGE PLATE COVER (TAN)
46	1	SRE-20582T	SEAT BACK COVER (TAN)
64	2	SRE-20751	HANDLE DAMPENING FOAM PAD
68	1	SRE-20991	DISPLAY WINDOW (CRE/SRE)
81	1	~	DATE LABEL
82	1	~	SERIAL NO. LABEL (SMALL)



APPLY ANTI-SEIZE TO ALL STAINLESS STEEL THREADS

COVER TO BE ASSEMBLED AFTER ALL WIRING IS CONNECTED AND PROPERLY ROUTED

THESE WASHERS ARE ASSEMBLED INTO THE HOLES IN THE FLANGES ON THE UPPER HINGE PLATE AS SHOWN

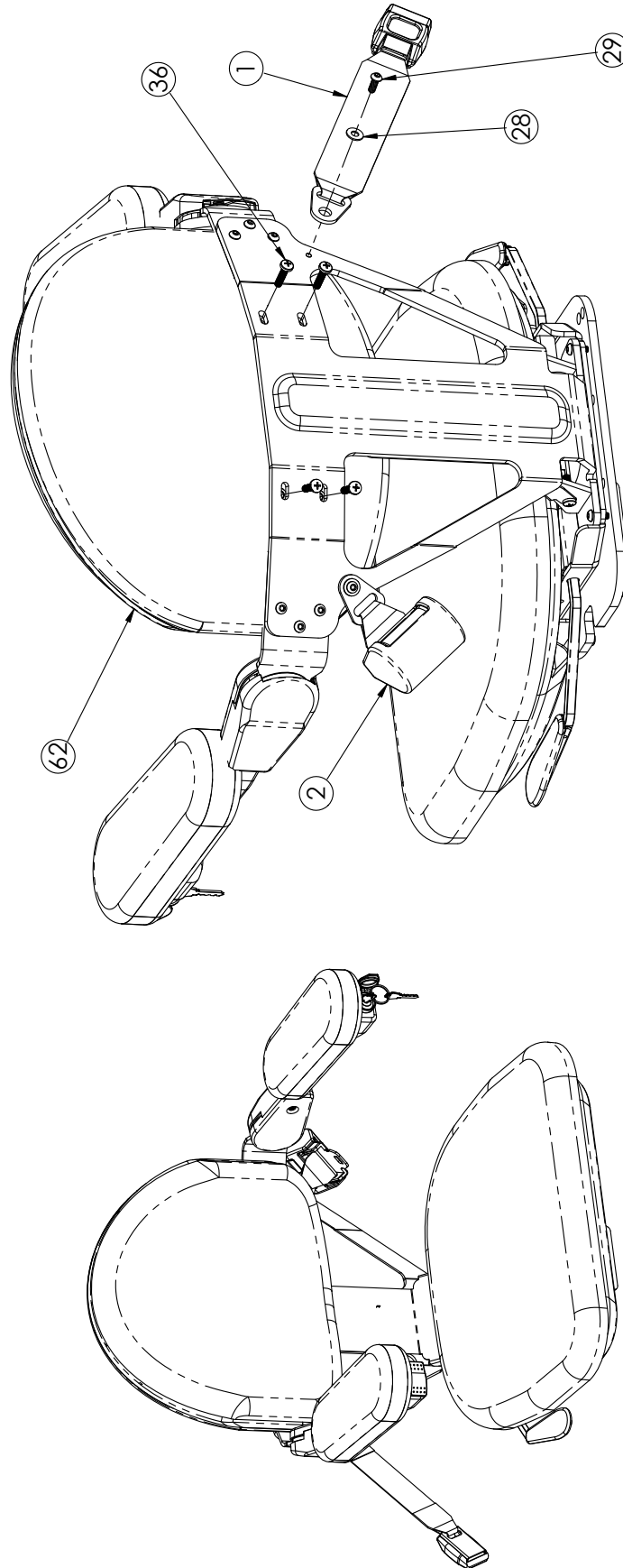
ASSEMBLY SHOWN FOR RIGHT HAND UNIT

CRE-00945
SHEET 6 OF 7
REV. 0 (ISSUED)(4/11/13)(DPG)

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SEAT ASSEMBLY (2110E)

ITEM NO.	EXPLDZ/ QTY.	PART NO.	DESCRIPTION
1	1	BLT-00005	RETRACTABLE LAP BELT (BUCKLE END)
2	1	BLT-00005	RETRACTABLE LAP BELT (RETRACTOR SIDE)
28	2	SFSW-25001	1/4" S.S. FLAT WASHER L625 OD X .281 ID X .05 THK
29	2	SMBHC-06001	M6 X 1 X 14MM LG. SOCKET BUTTON CAP SCREW (SS)
36	4	SNPPM-06002	M6 X 1 X 25MM PHILLIPS PAN HEAD MACHINE SCREW (SS)
62	1	SRE-20754ETV	SEAT BACK ASSEMBLY (TEXTORIAN VINYL)



TORQUE TO 85 IN./LBS.

APPLY ANTI-SEIZE TO ALL
STAINLESS STEEL THREADS

ASSEMBLY SHOWN FOR RIGHT HAND UNIT

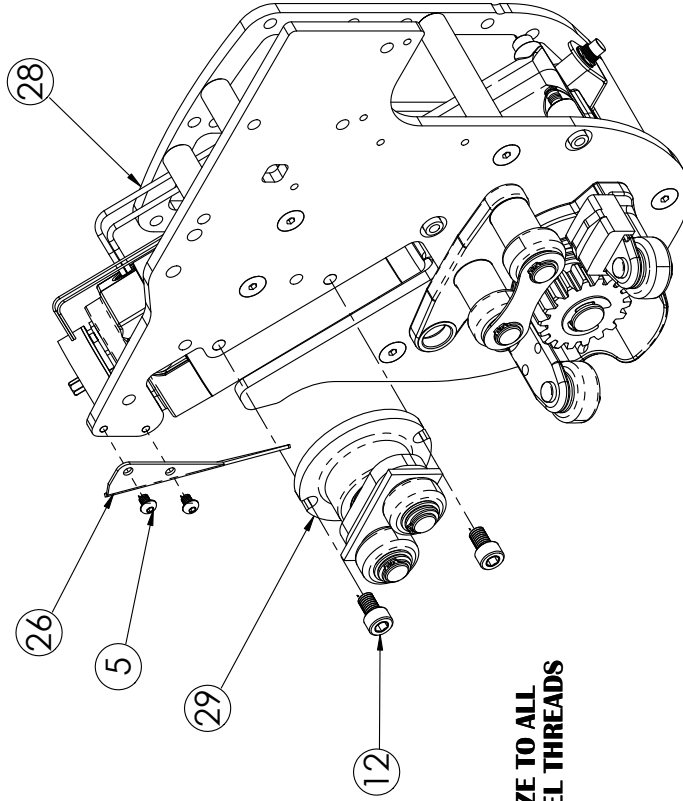
CRE-00945
SHEET 7 OF 7
REV. 0 (ISSUED)(4/11/13)(DPG)

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EXPLODED VIEW

MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)

ITEM NO.	Exp'd/1/ QTY.	PART NO.	DESCRIPTION
5	2	SMBHC-06005	M6 X 1 X 8MM LG SOCKET BUTTON HEAD CAP SCREW (SS)
12	2	SMSHS-10001	M10 X 1.5 X 16MM LG SOCKET HEAD CAP SCREW (SS)
14	1	SSL-S-63001	Ø5/8" X 1.5" LG SOCKET HEAD SHOULDER SCREW [1/2"-13 THREAD] (SS)
26	1	CRE-00843LT	MOTOR COVER PLATE-LEFT (TAN)
28	1	CRE-00948L	DRIVE ASSEMBLY-LH (EXTERIOR)
29	1	CRE-00949	LEVELING CAM ASSEMBLY (EXTERIOR)

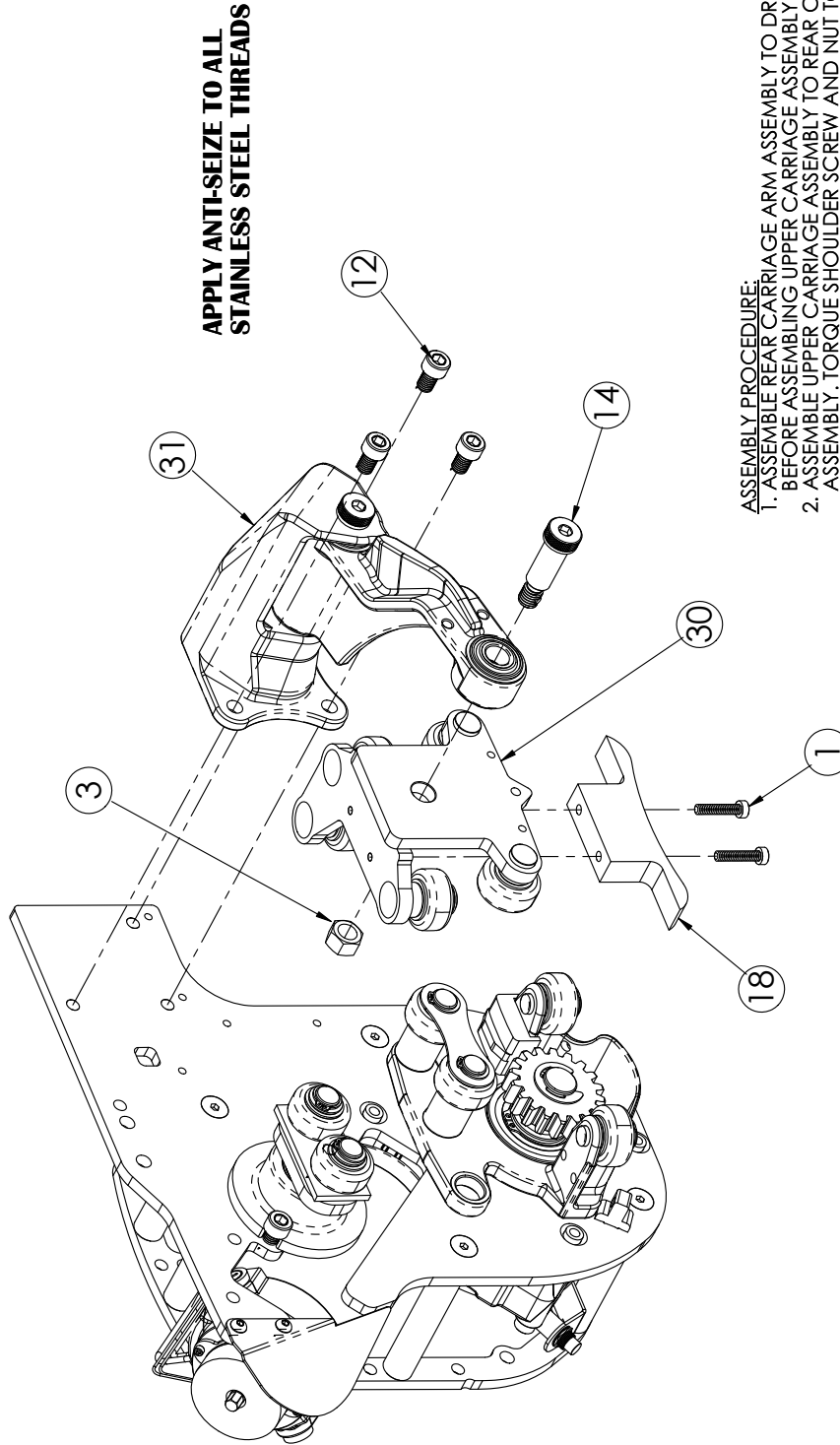


**APPLY ANTI-SEIZE TO ALL
STAINLESS STEEL THREADS**

CRE-00953L
SHEET 1 OF 7
REV. 2 (5456)(8/1/13)(RJH)

MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)

ITEM NO.	Expld/2/ QTY.	PART NO.	DESCRIPTION
1	2	MPLM-06006	M6 X 1 X 30mm LG PHILLIPS FILLISTER HEAD MACHINE SCREW
3	1	NPL-50131	1/2-13 HEX NUT (PLATED)
12	3	SMSHS-10001	M10 X 1.5 X 16MM LG SOCKET HEAD CAP SCREW (SS)
14	1	SSLS-63001	Ø5/8" X 1.5" LG SOCKET HEAD SHOULDER SCREW (1/2"-13 THREAD)(SS)
18	1	CRE-00526	REAR GUIDE
30	1	CRE-00950L	UPPER CARRIAGE ASSEMBLY-LH (EXTERIOR)
31	1	CRE-00951L	REAR CARRIAGE ARM ASSEMBLY-LH (EXTERIOR)

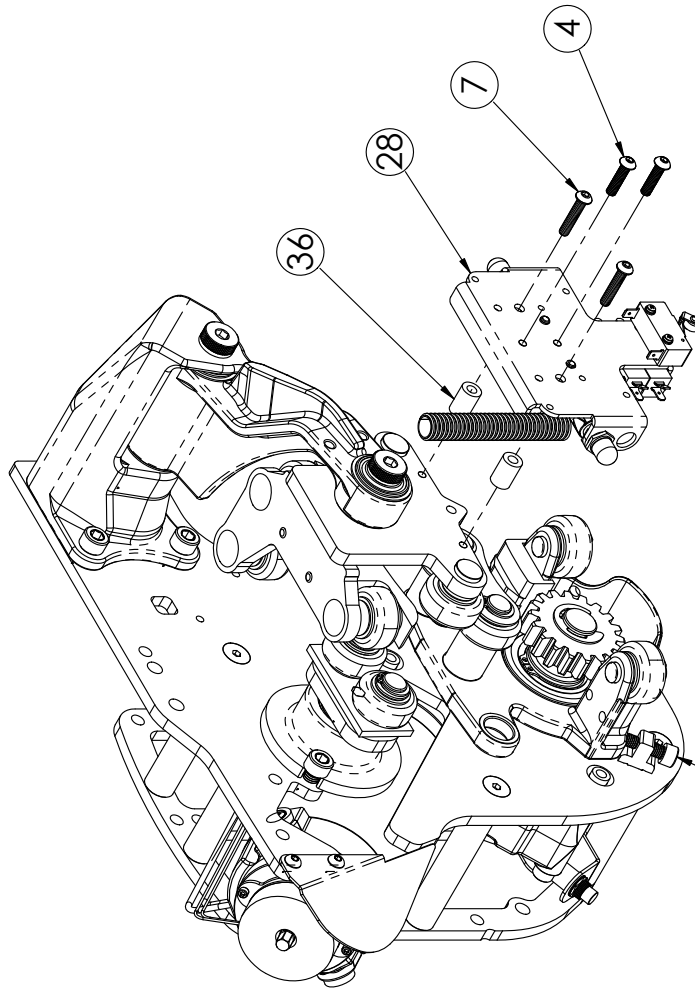


- ASSEMBLY PROCEDURE:**
1. ASSEMBLE REAR CARRIAGE ARM ASSEMBLY TO DRIVE ASSEMBLY BEFORE ASSEMBLING UPPER CARRIAGE ASSEMBLY.
 2. ASSEMBLE UPPER CARRIAGE ASSEMBLY TO REAR CARRIAGE ARM ASSEMBLY. TORQUE SHOULDER SCREW AND NUT TO 7-10 FT. LBS.
 3. ASSEMBLE REAR GUIDE.

CRE-00953L
SHEET 2 OF 7
REV. 2 (5456)(8/1/13)(RJH)

MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)

ITEM NO.	-QTY.-	PART NO.	DESCRIPTION
4	2	SMBHC-06003	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (SS)
7	2	SMBHC-06007	M6 X 1 X 30MM LG BUTTON HEAD CAP SCREW (SS)
28	1	CRE-00946L	CHARGE CONTACT ASSY-LH (POS. BREAK)(EXTERIOR)
36	2	SNS-25703	SPACER .25ID X .50D X .75 LG



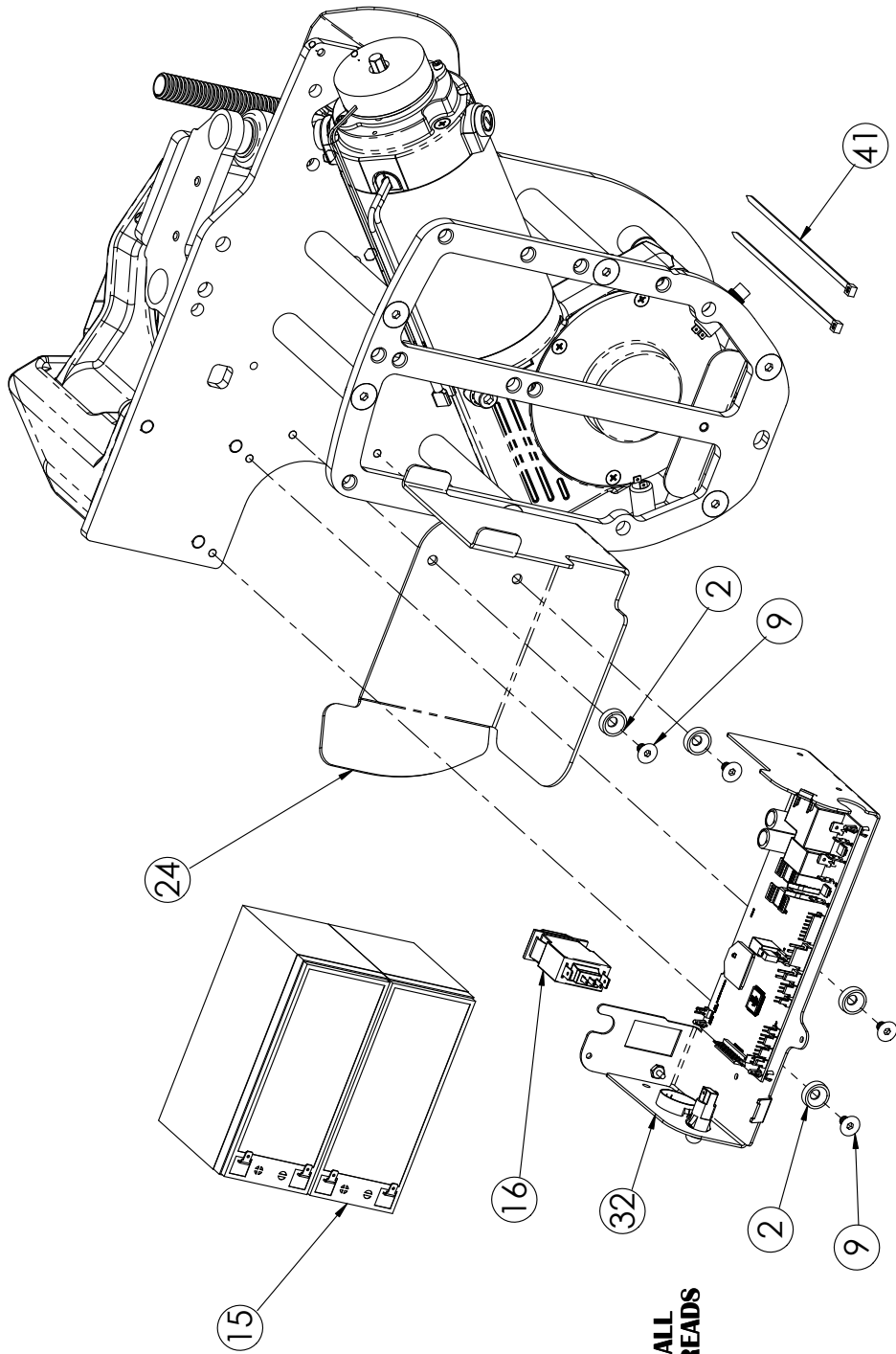
APPLY ANTI-SEIZE TO ALL STAINLESS STEEL THREADS

SEE SHEET 6 FOR "STICK-OUT" BOLT SPECIFICATIONS

CRE-00953L
SHEET 3 OF 7
REV. 2 (5456)(8/1/13)(RJH)

MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)

ITEM NO.	EXP/G4/ QTY.	PART NO.	DESCRIPTION
2	4	NFW-26001	.260" ID X .638" OD X .180" THK NYLON FINISHING WASHER (NATURAL)
9	4	SMFHS-06004	M6 X 1.0 X 10MM LG FLAT SOCKET HEAD CAP SCREW (SS)
14	1	SSL5-43001	ø5/8" X 1.5" LG SOCKET HEAD SHOULDER SCREW (1/2"-13 THREAD) (SS)
15	2	BTR-12002	12V 6/6-5/7 AH BATTERY (MAINTENANCE FREE)
16	1	C8K-30004	30A CIRCUIT BREAKER W/AUX. SWITCH (ROCKER)
24	1	CRE-00811IT	BATTERY MTG BRACKET-LEFT (TAN)
32	1	CRE-00952L	RF CONTROL PANEL ASSEMBLY (LH) (EXTERIOR)
41	2	WRT-14401	6" LG WIRE TIE (.144" WIDTH)



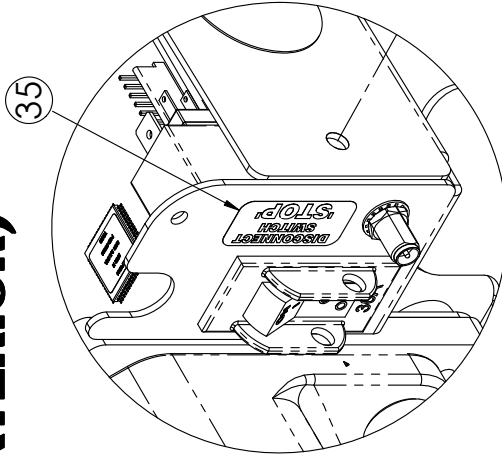
APPLY ANTI-SEIZE TO ALL
STAINLESS STEEL THREADS

CRE-00953L
SHEET 4 OF 7
REV. 2 (5456)(8/1/13)(RJH)

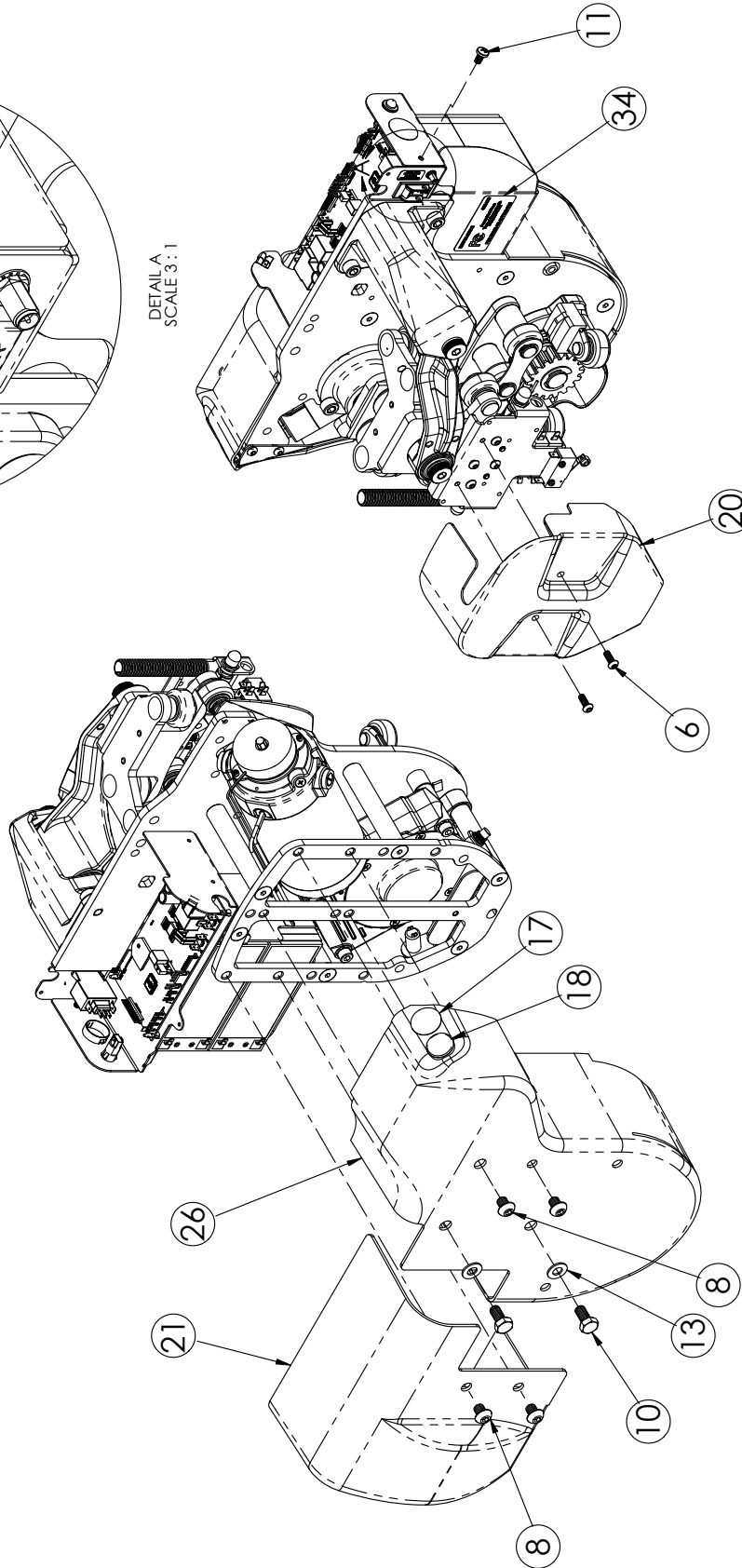
EXPLODED VIEW

MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)

ITEM NO.	-QTY.-	PART NO.	DESCRIPTION
6	2	SMBHC-06006	M6 X 1 X 16MM LG SOCKET BUTTON CAP SCREW (SS)
8	4	SMBHC-10001	M10 X 1.5 X 12MM SOCKET BUTTON HEAD CAP SCREW (SS)
10	2	SMHCSA-10002	M10 X 1.5 X 20MM LG HEX HEAD CAP SCREW (SS) W/ ANTISEIZE
11	1	SMPPM-06007	M6 X 1 X 12MM PHILLIPS PAN HEAD MACHINE SCREW (SS)
13	2	SSAE-38001	3/8" SAE WASHER (SS)
17	1	CPP-10002	1" HEYCO DOME CAP PLUG
18	1	CPP-88003	7/8" DIA. "PRY-OUT" CAP PLUG (BLACK)
20	1	CRE-007591E	SENSORS COVER-LH (EXTERIOR)
21	1	CRE-007601E	CRE CONTROL COVER - LEFT (EXTERIOR)
26	1	CRE-008411E	DRIVE COVER - LEFT (CRE-2110E)
34	1	DEC-00393	FCC COMPLIANCE LABEL (CRE-2110)
35	1	LBL-00140	DISCONNECT SWITCH/STOP LABEL



DETAIL A
SCALE 3:1

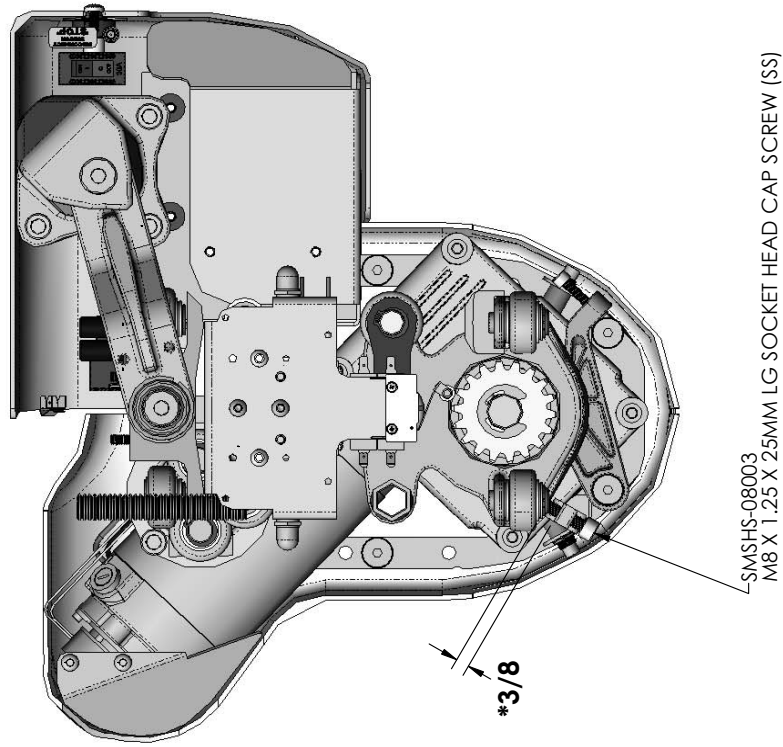


APPLY ANTI-SEIZE TO ALL
STAINLESS STEEL THREADS

CRE-009531
SHEET 5 OF 7
REV. 2 (5456)(8/1/13)(RJH)

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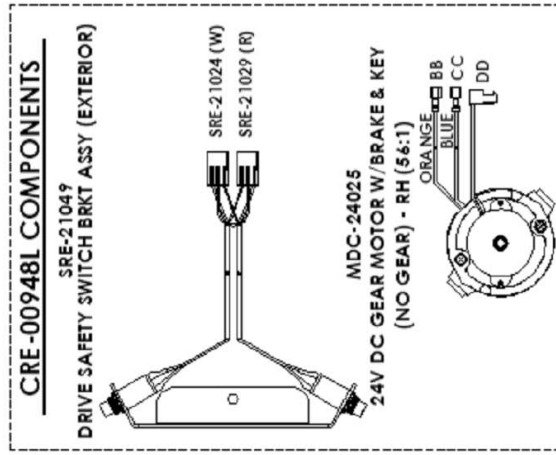
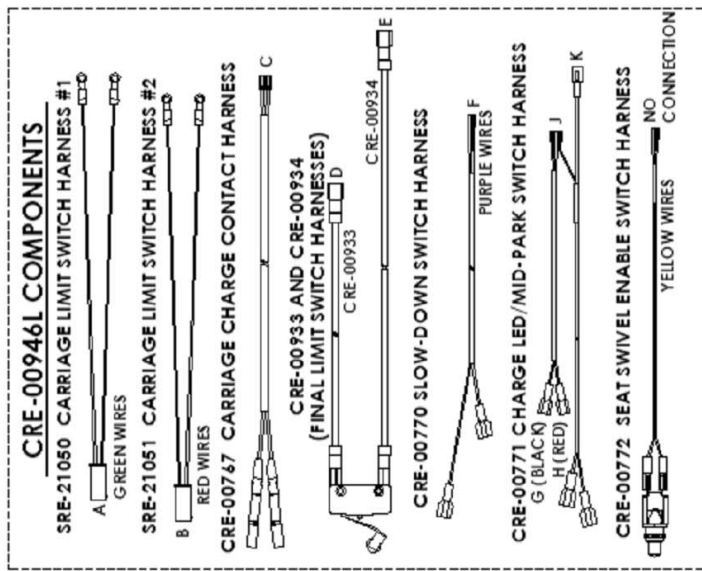
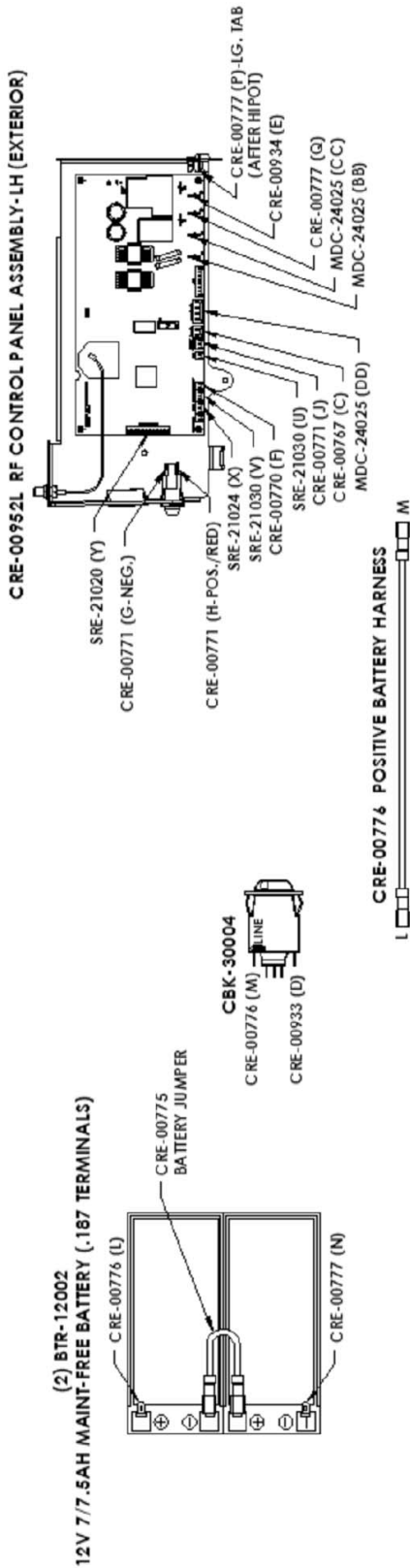
MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)



*UNLESS SPECIFIED OTHERWISE BY CRE FABRICATION
(HARDWARE IS SPECIFIED ON cfg-CRE JOB TRAVELER BASED ON MODEL NO.)

CRE-00953L
SHEET 6 OF 7
REV. 2 (5456)(8/1/13)(RJH)

MAIN CARRIAGE ASSEMBLY-LH (EXTERIOR)



CRE-00953L
SHEET 7 OF 7
REV. 2 (5456)(8/1/13)(RJH)

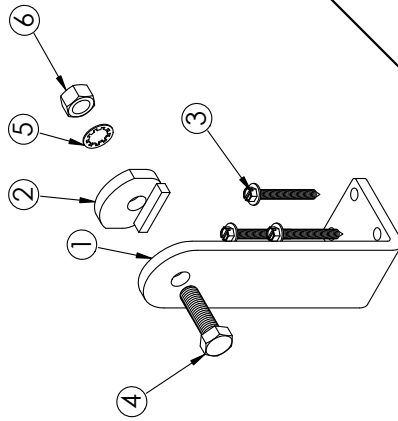


CRE-2110E SPIRAL STAND ASSEMBLIES (TAN)

CRE-00865T 'G' SPIRAL STAND ASSEMBLY (TAN)

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	CRE-00560	'G' SPIRAL STAND
2	1	CRE-00543	CLAMP LOCK WELDMENT
*	4	MSSM-63001	M6.3 X 50mm LG SLOTTED HEX HEAD SHEET METAL SCREW
*	4	SMHCS-12004	M12 X 1.75 X 40MM HEX HEAD CAP SCREW (GRADE 10.9)(SS)
*	1	SMTIW-12001	M12 INTERNAL TOOTH WASHER (SS)
*	6	SMNUP-12175	M12 X 1.75 HEX NUT (SS)

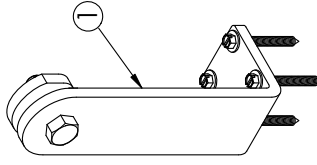
*INDICATES ITEMS THAT ARE PART OF
CRE-K-210SS SPIRAL STAND HARDWARE KIT



CRE-00867T 'I' SPIRAL STAND ASSEMBLY (TAN)

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	CRE-00560	'G' SPIRAL STAND
2	1	CRE-00543	CLAMP LOCK WELDMENT
*	3	MSSM-63001	M6.3 X 50mm LG SLOTTED HEX HEAD SHEET METAL SCREW
*	4	SMHCS-12004	M12 X 1.75 X 40MM HEX HEAD CAP SCREW (GRADE 10.9)(SS)
*	1	SMTIW-12001	M12 INTERNAL TOOTH WASHER (SS)
*	6	SMNUP-12175	M12 X 1.75 HEX NUT (SS)

*INDICATES ITEMS THAT ARE PART OF
CRE-K-210SS SPIRAL STAND HARDWARE KIT



CRE-00866T 'H' SPIRAL STAND ASSEMBLY (TAN)

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	CRE-00560	'G' SPIRAL STAND
2	1	CRE-00543	CLAMP LOCK WELDMENT
*	3	MSSM-63001	M6.3 X 50mm LG SLOTTED HEX HEAD SHEET METAL SCREW
*	4	SMHCS-12004	M12 X 1.75 X 40MM HEX HEAD CAP SCREW (GRADE 10.9)(SS)
*	1	SMTIW-12001	M12 INTERNAL TOOTH WASHER (SS)
*	6	SMNUP-12175	M12 X 1.75 HEX NUT (SS)

*INDICATES ITEMS THAT ARE PART OF
CRE-K-210SS SPIRAL STAND HARDWARE KIT

CRE-00865T - 867T
SHEET 1 OF 1
REV. 0 (ISSUED)(4/11/13)(DPG)

EXPLODED VIEW

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BRUNO GOLD LIMITED WARRANTY FOR STAIRLIFT 5 Years Major Components — 2 Year Parts

Bruno Independent Living Aids, Inc. is so confident in our USA-designed and -built units that we provide every original buyer with the following "Industry Leading" warranty for your peace of mind.

The quality of parts we use and the care our employees take allow Bruno to provide the original buyer of its Bruno Stairlift with a **2-year warranty** that all parts are free of defects in material and workmanship.

Because of the reliability found in Bruno's Stairlift product Bruno is able to provide the original buyer with an extended **5-year warranty** of the Major Components of the product, to include the motor/gearbox drive train and rail system. Bruno's warranty periods begin with **the date of the installation** of the Bruno Stairlift.

Bruno Authorized Dealers are trained to evaluate your unique situation and then install the best Bruno product to meet your needs. The trained installation and service technicians employed by an Authorized Dealer have the appropriate equipment and resources needed to correctly install and maintain your new stairlift and are the first contact for any warranty or service needs.

SPECIFICS OF THE WARRANTY COVERAGE:

- ◇ All Parts are free of defects in material and workmanship for a period of two years after the date of installation.
- ◇ All MAJOR COMPONENTS are free of defects in material and workmanship for a period of five years after the date of installation.
- ◇ All labor to address any product defect by a Bruno Authorized Dealer is covered for the first 30 days after installation.

WHAT IS NOT WARRANTY COVERAGE:

- ◇ Damage to units caused by misuse, abuse, accidents, neglect or modifications NOT made by a Bruno Authorized Dealer.
- ◇ Consumable items such as remote batteries.
- ◇ All labor by a Bruno Authorized Dealer after the first 30 days since installation.
- ◇ Reasonable wear and tear.

ADDITIONAL NOTES:

All Service and Warranty issues are handled through the Bruno Authorized Dealer that installed the unit.

- ◇ In no event shall Bruno be responsible for indirect, incidental or consequential damages, whether such damages arise based on claims based on contract, warranty, tort (including negligence, strict liability or product liability).
- ◇ Bruno reserves the right to replace, repair or, if not commercially practical and/or feasible, to elect to refund the purchase price at its sole discretion.
- ◇ This warranty gives the original buyer specific legal rights, and you may also have other rights which vary from state to state. Bruno specifically does not authorize any person to extend the time or scope of this warranty.

For further information regarding this limited warranty, please contact Bruno by using the contact information shown below:

In North America

Bruno Independent Living Aids, Inc.®
Attn: Service Department
1780 Executive Drive
Oconomowoc, Wisconsin 53066
United States
Tel. 1-800-882-8183 toll free

In the UK and Europe

Bruno
Unit 5, Millennium Court,
Clayhill Industrial Park
Neston, Wirral CH64 3UZ
United Kingdom
Tel. 0151 559 0732



CE DECLARATION OF CONFORMITY CERTIFICATE

We:

Bruno Independent Living Aids, Inc.®

Headquartered at :

1780 Executive Drive
Oconomowoc, WI 53066 USA

An ISO-9001:2008 registered company

EU Facility:

Unit 5, Millennium Ct
Clayhill Industrial Park
Neston, Wirral, CH64 3UZ UK

Declare that under our sole responsibility, our manufactured product:

MODEL: CRE-2110E

Serial Number: Data for the section to the left are applied at the factory on the date of manufacture by the assembly line.

Date of Manufacture:

has been designed and tested to meet (where applicable) the following laws, directives, specifications and standards pertaining to the Machinery Directive:

DIRECTIVES

2004/108/EC Electromagnetic Compatibility Directive
2006/42/EC Machinery Directive
2006/95/EC Low Voltage Directive

STANDARDS

EN 60204 Part 1:2006 EN ISO 12100-1:2003 + AI:2009
EN 60335 Part 1:1994 EN 61000
EN ISO 12100-2:2003 CISPR 11

When installed in accordance to the manufacturer's specifications and operated in accordance with manufacturer's operating instructions.

We hereby appoint:

Bruno
Unit 5, Millennium Count
Clayhill Industrial Park
Neston, Wirral CH64 3UZ
United Kingdom

To act as Responsible Manufacturer's Representative and holder of Technical Files.

Date of Issue:

02 April 2018

Location:

Oconomowoc, WI USA

Neston, United Kingdom

BY:

William W. Belson, III
Director of Engineering

Robert J. Hambleton
General and Technical Manager

REVISION:

BY:



CERTIFICAT DE DÉCLARATION DE CONFORMITÉ CE

Nous:

Bruno Independent Living Aids, Inc.®

dont le siège social se situe à :

1780 Executive Drive
Oconomowoc, WI 53066 É.-U.

Entreprise certifiée selon ISO 9001:2008

Facilité UE:

Unit 5, Millennium Ct
Clayhill Industrial Park
Neston, Wirral, CH64 3UZ R.-U.

déclarons que sous notre seule responsabilité, notre produit fabriqué:

MODÈLE: CRE-2110E

Numéro de série: Les données de la section à gauche sont apposées en usine à la date de fabrication sur la chaîne de fabrication.

Date de fabrication:

a été conçu et testé afin de répondre (le cas échéant) aux lois, directives, caractéristiques et normes suivantes ayant trait à la Directive Machines:

DIRECTIVES

2004/108/EC Directive relative à la compatibilité
électromagnétique
2006/42/EC Directive relative aux machines
2006/95/EC Directive relative à la basse tension

NORMES

EN 60204 Part 1:2006 EN ISO 12100-1:2003 + AI:2009
EN 60335 Part 1:1994 EN 61000
EN ISO 12100-2:2003 CISPR 11

lorsqu'il est installé conformément aux indications du fabricant et que l'on le fait fonctionner en conformité avec les instructions de fonctionnement du fabricant.

Nous désignons par les présentes :

Bruno
Unit 5, Millennium Count
Clayhill Industrial Park
Neston, Wirral CH64 3UZ
Royaume-Uni

d'agir en qualité de représentant autorisé du fabricant et de détenteur de fiches techniques.

Date de délivrance: 02 avril 2018

Lieu: Oconomowoc, WI É.-U.

Neston, Royaume-Uni



PAR: William W. Belson, III
Directeur de l'ingénierie

Robert J. Hambleton
Directeur général et technique

RÉVISION:

PAR:



Innovative solutions

for your indoor and outdoor lifestyle



Indoor Stairlifts



Outdoor Stairlifts



Scooter/Powerchair Lifts



Vertical Platform Lifts



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All illustrations and specifications in this brochure are based on the latest product information available at the time of publication.

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