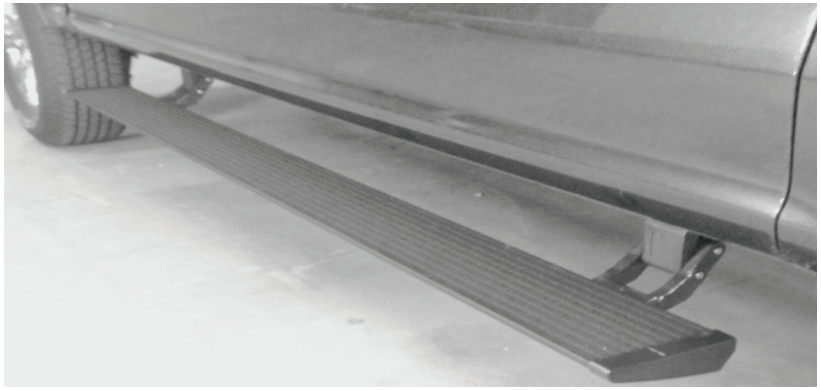
Installation Instructions
PowerBoard®
Automatic Retracting Running Board

Vehicle Application:
Ford F150 Super Crew 2015-Current
Ford Super Duty F250/350/450 Crew Cab 2017-Current
Part Number 75650-15

Installation Tips

Read and follow, precisely, all installation instructions provided when installing this product. Failure to do so may result in a poor fit, and could place occupants of the vehicle in a potentially dangerous situation.



WARNING The manufacturer strongly recommends that this product be professionally installed.

WARNING Failure to carefully follow the electrical installation steps could result in severe electrical shock which could harm the installer and/or damage the vehicle.

WARNING This product is designed primarily to enhance the appearance and comfort of the vehicle. Do not rely in any way on the components of this product to protect the occupants within the vehicle, or to protect against injury or death in the event of an accident. Never operate the vehicle in excess of manufacturer's specifications.

WEAR SEAT BELTS AT ALL TIMES

Tools


5mm Allen Wrench


Safety Glasses


13mm Wrench

CAUTION Safety glasses should be worn at all times when installing this product.

Installation Time


4 Hours

Skill Level

1 2 3 **4**

4 - Difficult

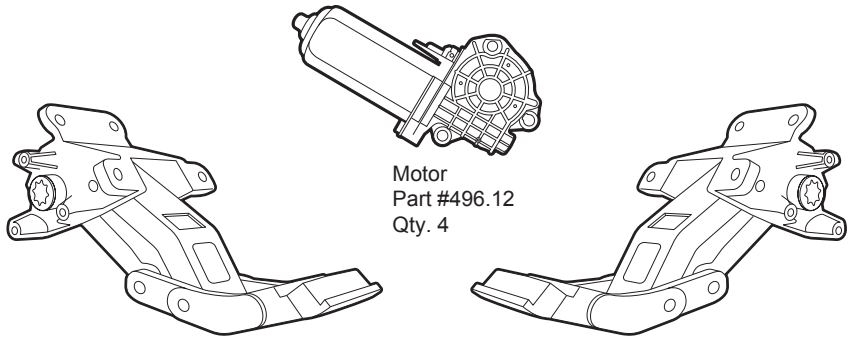
Support

We're here to help!
Go to www.Bestop.com and
click "Ask a Question"

Parts List

- Required parts for installation

Motors and Linkages

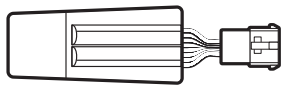


Motor
Part #496.12
Qty. 4

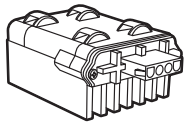
Motor Linkage - Right
Part #518.39
Qty. 2

Motor Linkage - Left
Part #518.38
Qty. 2

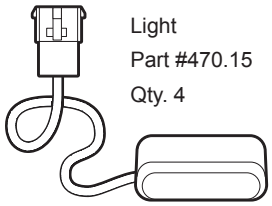
Running Boards, Controller, Receiver, Lights



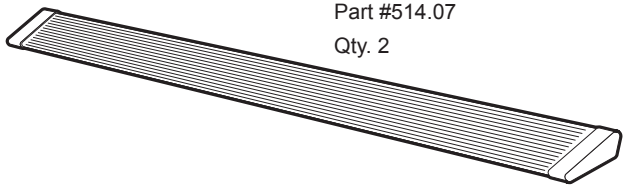
Controller
Part #496.11
Qty. 1



Receiver
Part #491.99
Qty. 1

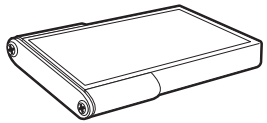


Light
Part #470.15
Qty. 4

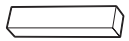


Running Board Assembly
Part #514.07
Qty. 2

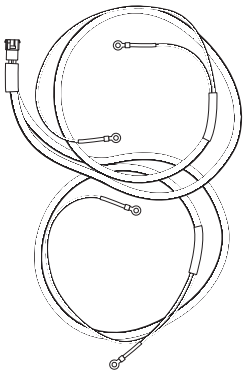
Wiring Harness & Sensors, Cable Ties



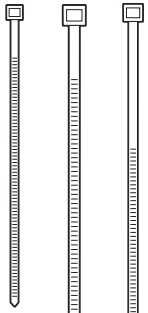
Sensor “Side 1”
Part #518.79
Qty. 2



Magnet
Part #491.97
Qty. 4

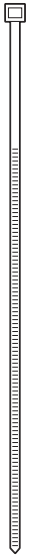


Wiring Harness
Part # 518.74
Qty. 1

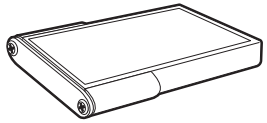


7” Cable Tie
Part #460.99
Qty. 25

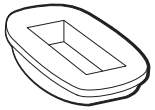
11” Cable Tie
Part #470.02
Qty. 2



17” Cable Tie
Part #492.06
Qty. 2



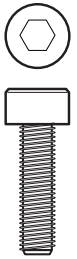
Sensor “Side 2”
Part #518.80
Qty. 2



Magnet Holder
Part #491.98
Qty. 4

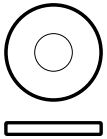
Fasteners

#M6-1.0 x 35
Socket Cap Screw
Part # 460.95
Qty. 12

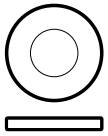


#M6-1.0 x 20
Socket Cap Screw
Part # 470.00
Qty. 8

#M8-1.25
Nylock Nut
Part # 470.06
Qty. 12

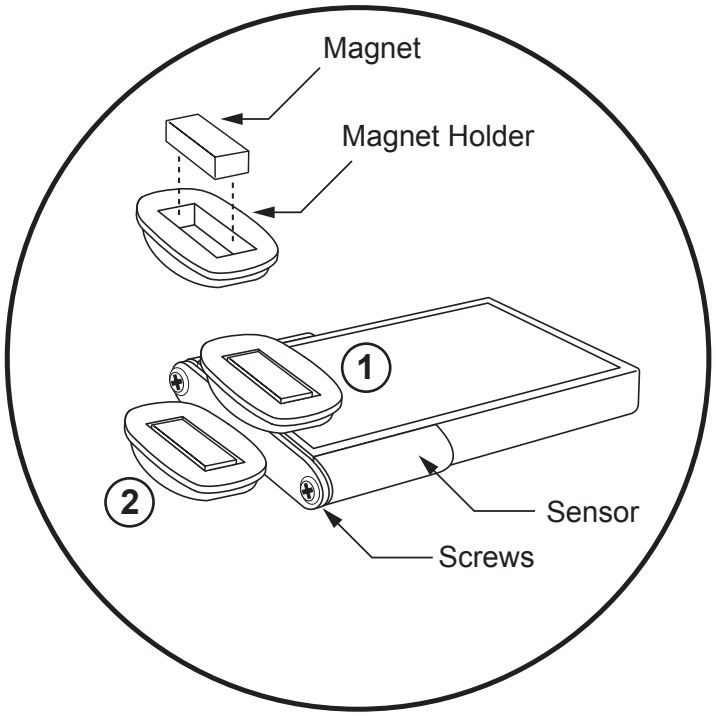


#M6 Flat Washer
Part # 481.96
Qty. 12



#M8 Flat Washer
Part # 470.05
Qty. 12

RF System Overview



The PowerBoards® are activated by Sensors that are to be mounted inside the door openings for each door. The Sensors are off when a magnet is next to the sensor end which has the two screws. The Sensor triggers the PowerBoards® to deploy when the magnet is moved about 3 inches away from the Sensor. The magnet can work in either of the locations shown - Position① or Position② - to signal the PowerBoards® to retract.

Be sure to mount the Sensors in a location that will allow removal of the screws for battery replacement. See Battery Replacement on page 33 of these instructions.

Initialize the System

A. Remove fuse from the PowerBoard® wire harness and connect the red lead to the battery positive and the black lead to negative.

B. Layout the harness so the long leg (Side 2) crosses the engine compartment towards the vehicle side opposite to where the battery is mounted. Sensors labeled Side 2 will be mounted on this side of the vehicle.

C. Attach a Motor to each Motor Link with three (3) M6-1.0 x 35mm Socket Cap Screws.

D. Plug the Controller, Receiver, Lights and the Front Motor from each side into the harness. Leave magnets and sensors in the carton.

E. Plug the fuse back into the harness. After a one second delay the Front Linkages will extend.

F. Remove the fuse. DISCONNECT THE HARNESS FROM THE FRONT MOTORS. Connect the harness to the REAR motors and reinstall the fuse. After a one second delay, The REAR linkages will extend.

G. Reconnect the front motors to the harness.

H. Lay out all four sensors as they would be installed on the vehicle with the sensors labeled "Side1" on the same side as the harness leg labeled "Side 1". Repeat on the opposite side with the parts labeled "Side 2". Place a magnet next to each sensor as shown in the "RF System Overview". Both front and rear linkages should retract.

I. If the Linkages are operating opposite from what is stated above, the motor leads must be reversed, so that blue connects to yellow, and yelow to blue, as shown below:

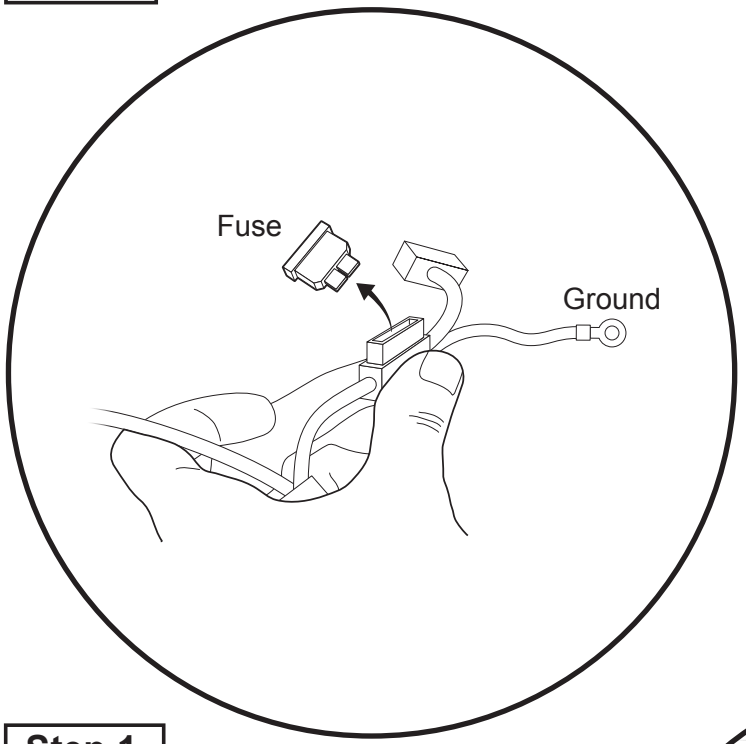
J. Move all of the magnets away from the sensors. All four linkages should be extended.

K. With the linkages extended, Remove the fuse and disconnect all four motors.

*If the system does not operate as stated above see the Troubleshooting and Battery Replacement sections on page 33 of the instructions or go to our web site at:

http://www.bestop.com/support.

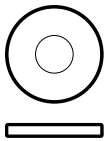
Step 1



Step 1

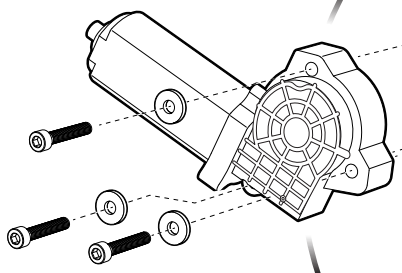
WARNING

Remove the fuse from the wiring harness. Failure to do so could result in severe electrical shock which could harm the installer and/or damage the vehicle.



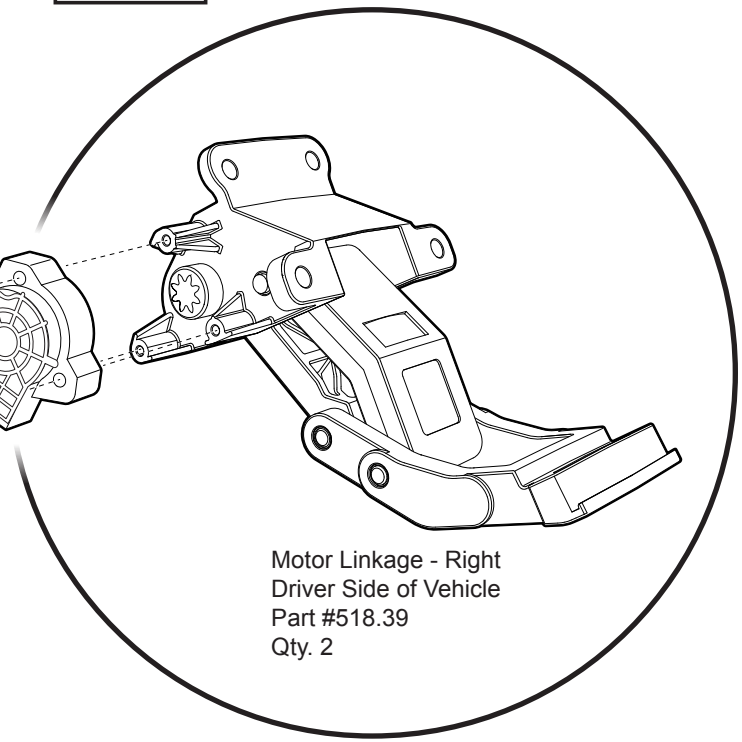
#M6 Flat Washer
Part # 481.96
Qty. 12

Motor
Part #496.12
Qty. 4



#M6-1.0 x 35
Socket Cap Screws
Part # 460.95
Qty. 12

Step 2



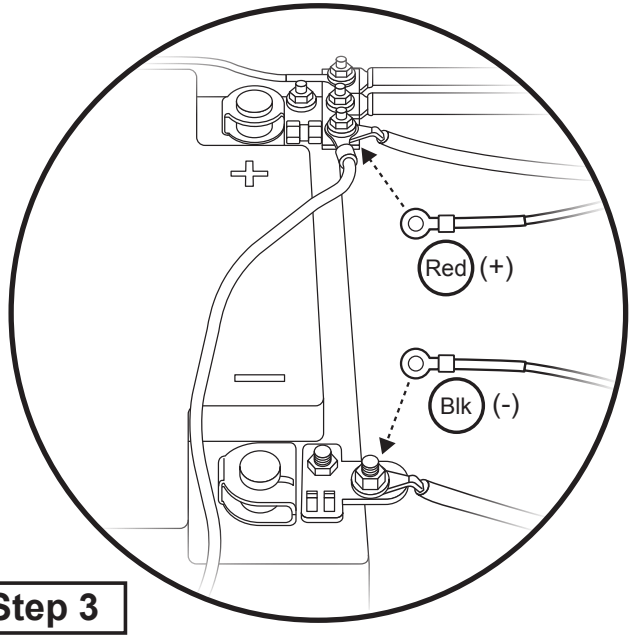
Motor Linkage - Right
Driver Side of Vehicle
Part #518.39
Qty. 2

Step 2

Attach a Motor to each Motor Linkage with three (3) M6-1.0 x 35mm Socket Cap Screws.

Linkages #518.38 - Mount to Passenger Side of the vehicle.

Linkages #518.39 - Mount to Driver Side of vehicle.

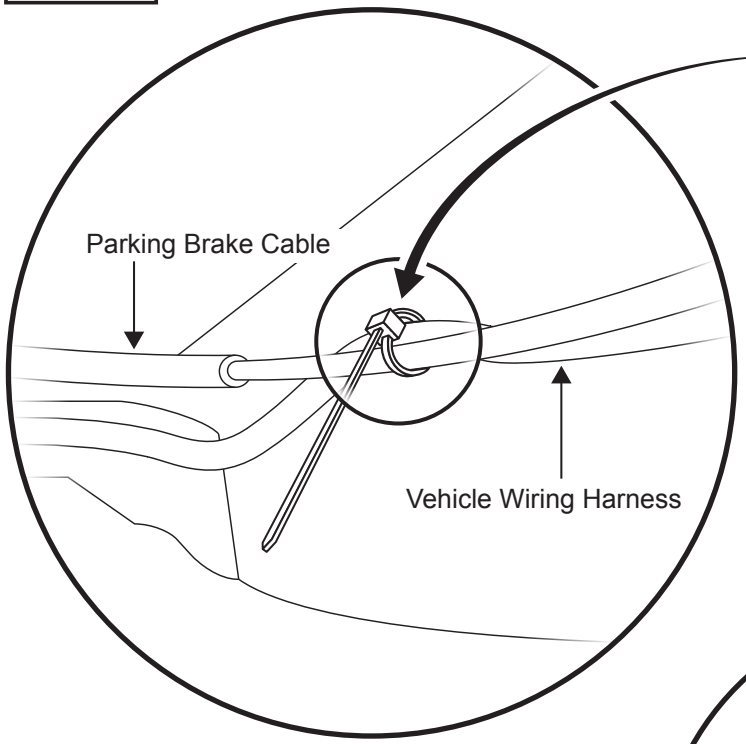


Step 3

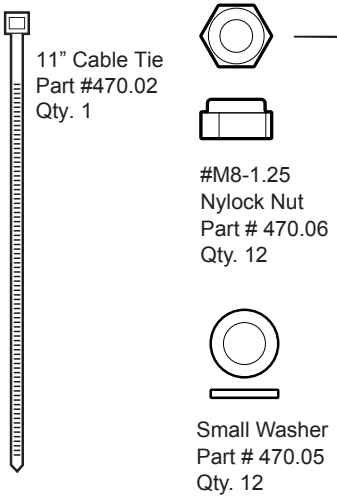
Step 3

Connect the red lead from the wiring harness to the battery positive and the black lead to the battery negative.

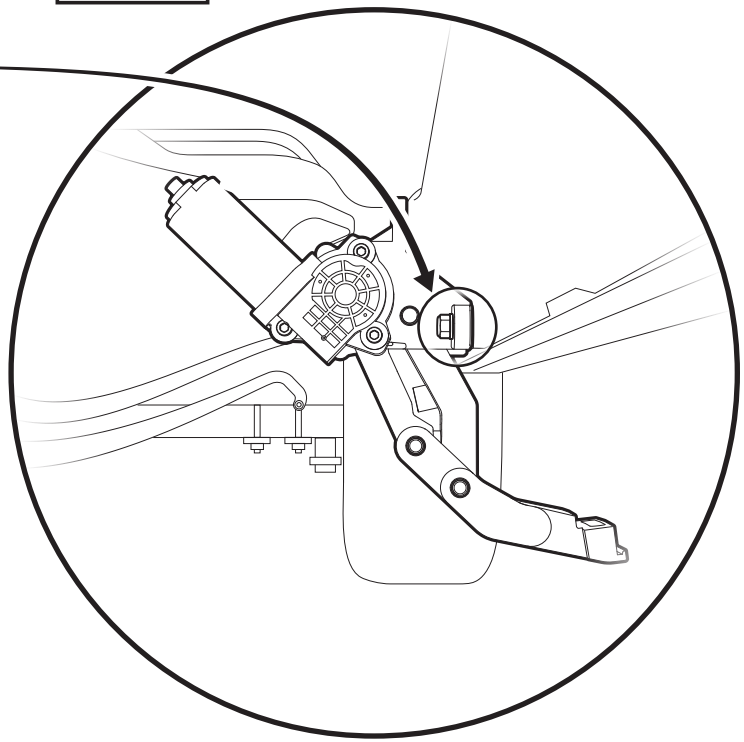
Step 1

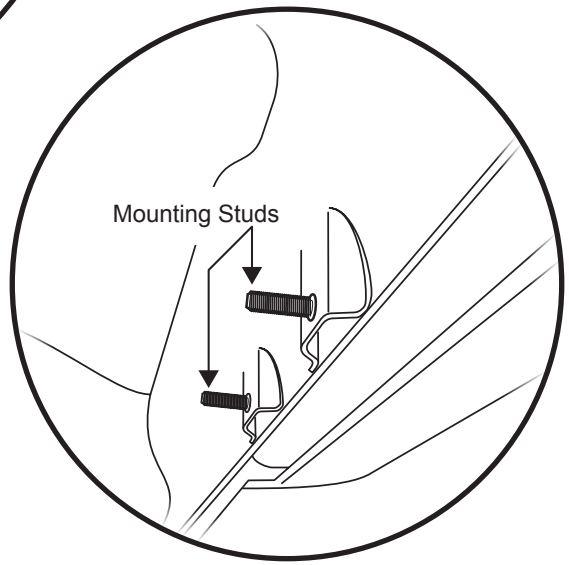


Hardware



Step 2





Step 1

Before attaching the driver side front motor-linkage assembly to the mounting studs, secure the parking brake cable to the vehicle wiring harness with an 11” cable tie to prevent wear to the parking brake cable.

Step 2

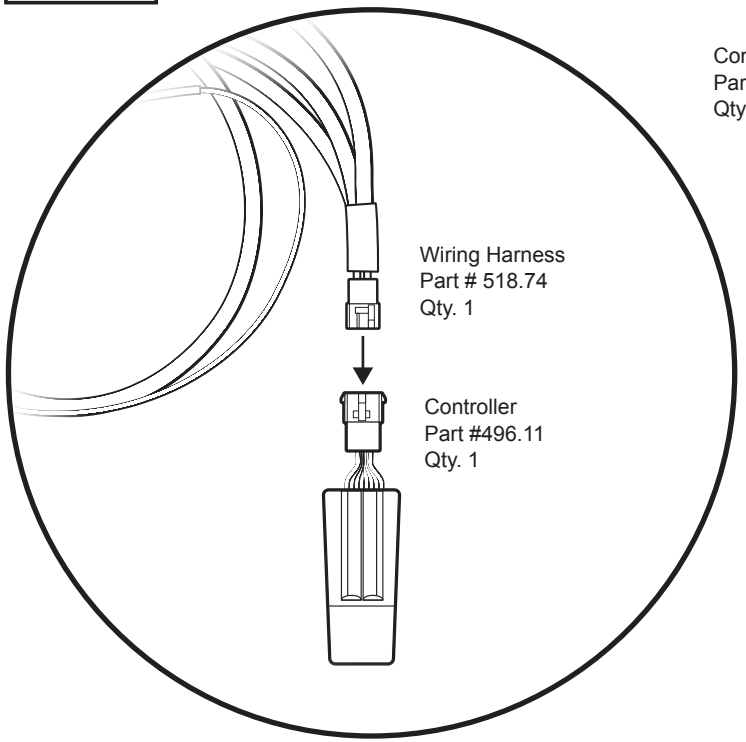
Locate the farthest forward and farthest rearward mounting studs on the inside rocker panels of the vehicle.

Install the 4 motor-linkage assemblies on the mounting studs using the M8-1.25 Nylock nuts and #470.05 small washers.

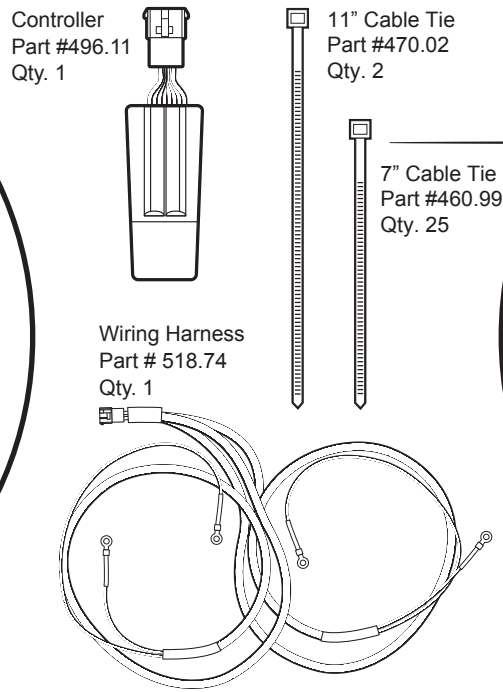
NOTE: For F250/350/450, The Rear Motor Linkage must be installed so that the motor is on the side of the linkage facing toward the front of the vehicle.

DO NOT TIGHTEN THESE FASTENERS AT THIS TIME.

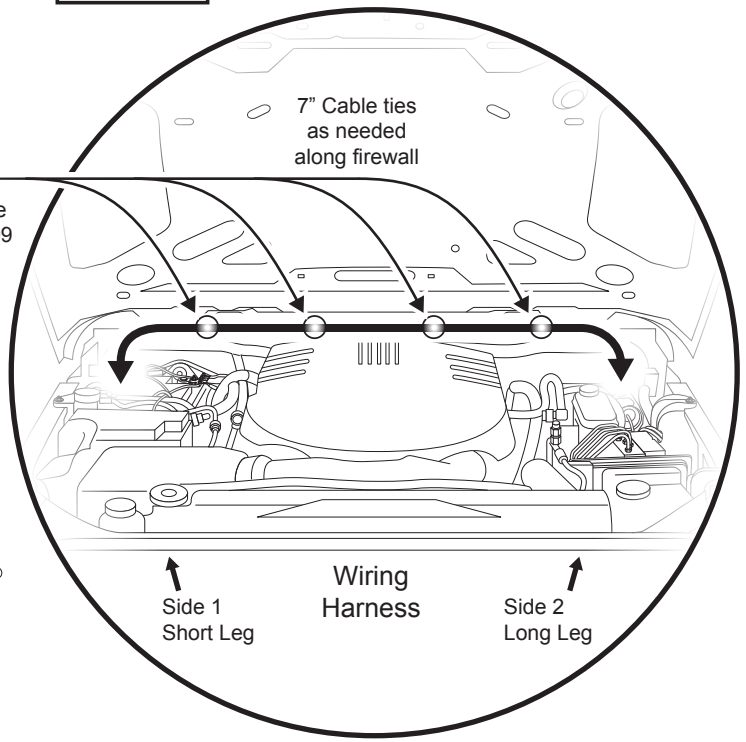
Step 1



Hardware



Step 2

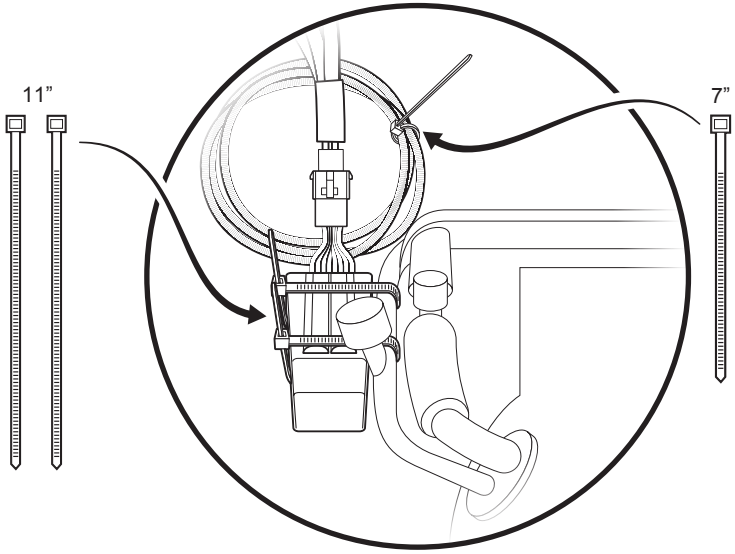


Step 1

Connect the Wiring Harness to the Controller. Make sure that the locating tabs are fully engaged.

Secure the Controller to the factory conduits with two 11” Cable Ties.

Coil excess wire harness and secure to the firewall with 7” Cable Ties.

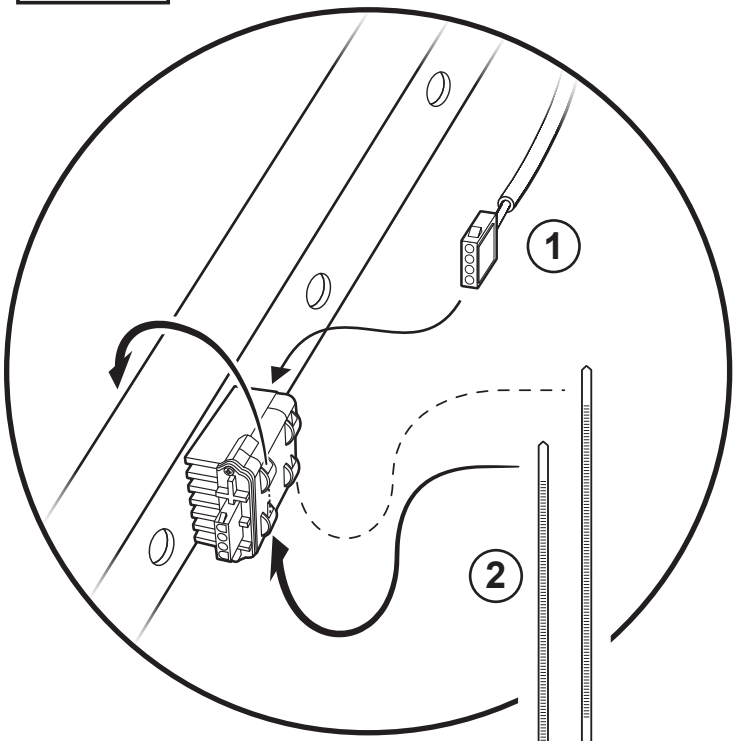


Step 2

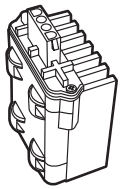
Route the short leg of the Wiring Harness (labeled “Side 1”) down the firewall and along the frame rail of the vehicle. Keep the harness away from heat and exhaust system. Secure the harness to the frame using the #460.99 7” cable ties.

Route the long leg of the Wiring Harness (labeled “Side 2”) along the firewall and down the opposite side of the vehicle from the battery location. Secure the harness to the firewall and frame using the #460.99 7” cable ties.

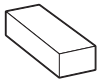
Step 1



Hardware

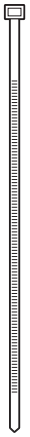


Receiver
Part #491.99
Qty. 1

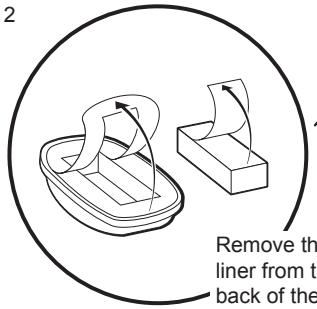


Magnet
Part #491.97
Qty. 5

Magnet Holder
Part #491.98
Qty. 5

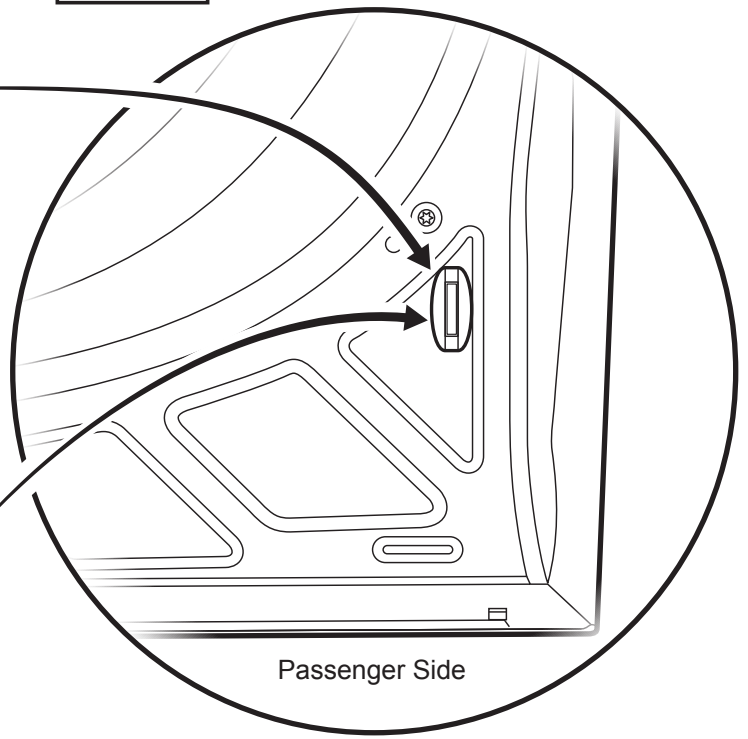


17" Cable Tie
Part #492.06
Qty. 2

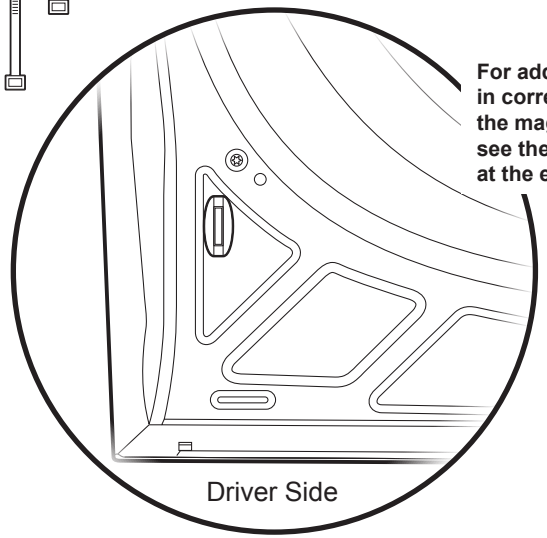


Remove the liner from the back of the Magnet and Magnet Holder

Step 2



Passenger Side



Driver Side

For additional help in correctly placing the magnet holders, see the templates at the end of this guide.

Step 1

Locate the 4-pin connector on the Short Leg-Side 1 portion of the wiring harness. Plug this connector into the Receiver #491.99.

Find a location nearby on the frame that is protected, but not surrounded by dense metal. Strap the Receiver to the frame in this location, using the two #492.06 17" Cable Ties.

Make sure that the molded ribs on the Receiver are against the frame of the vehicle, as shown above.

Step 2

Clean the paint surfaces with a 50/50 mix of water and isopropyl alcohol before attaching magnet holders.

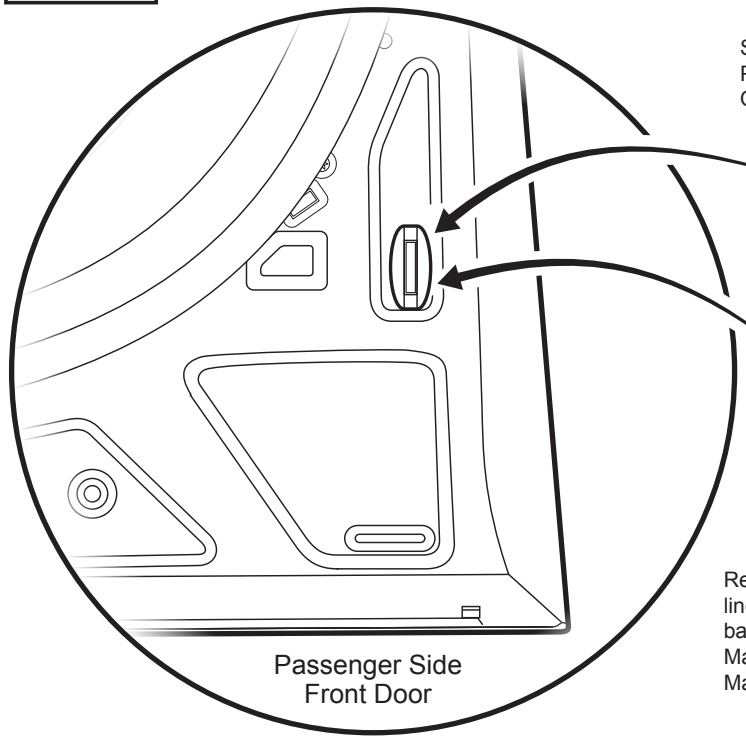
Remove the adhesive liner from the back of the magnet holder, and locate it on the inside of the rear door as shown above.

Adhesive is very aggressive - be sure to locate the magnet holder precisely.

After the magnet holder is firmly located, remove the adhesive liner from the back of the magnet, and place the magnet in the pocket in the magnet holder.

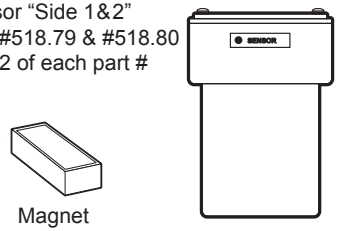
Repeat for driver and passenger side doors.

Step 1



Hardware

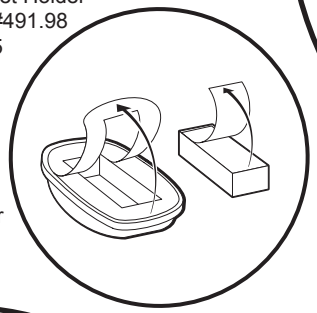
Sensor “Side 1&2”
Part #518.79 & #518.80
Qty. 2 of each part #



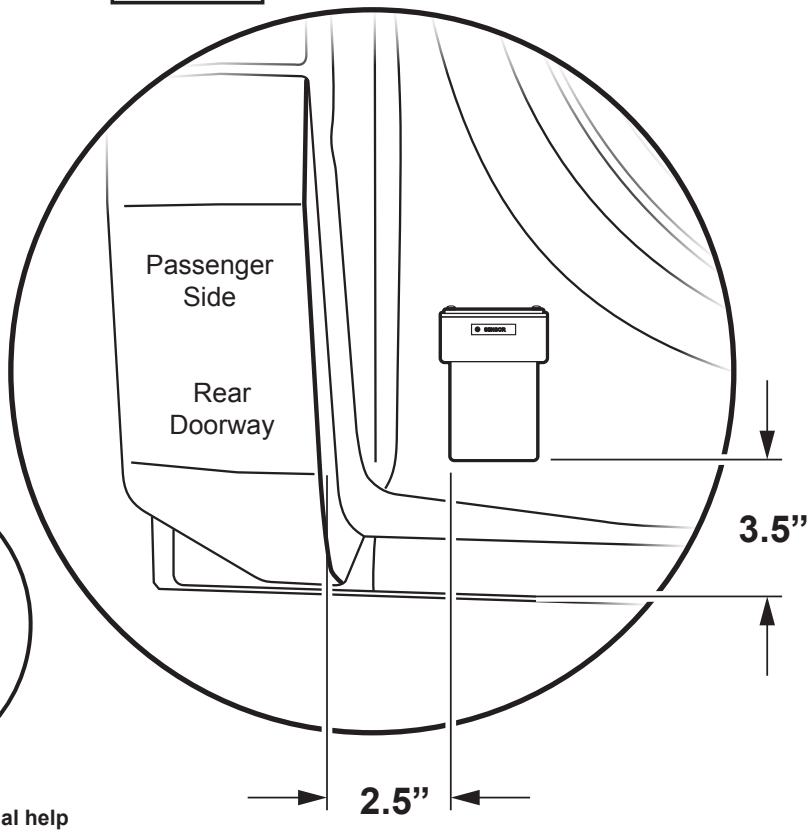
Magnet
Part #491.97
Qty. 5

Magnet Holder
Part #491.98
Qty. 5

Remove the liner from the back of the Magnet and Magnet Holder



Step 2



Step 1

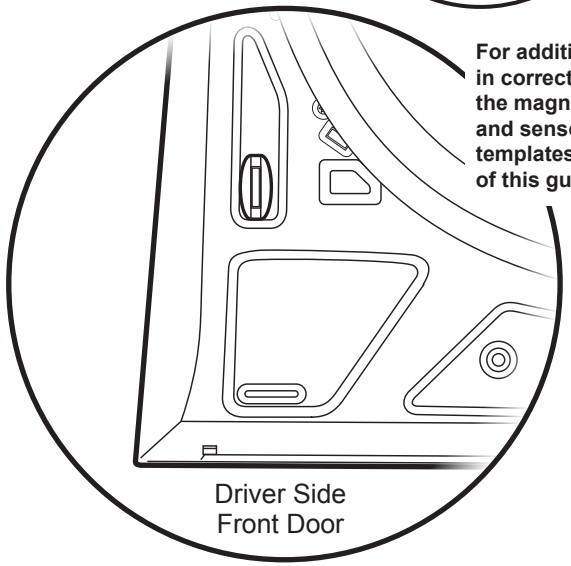
Clean the paint surfaces with a 50/50 mix of water and isopropyl alcohol before attaching magnet holders.

Remove the adhesive liner from the back of the magnet holder, and locate it on the inside of the rear door as shown above.

Adhesive is very aggressive - be sure to locate the magnet holder precisely.

After the magnet holder is firmly located, remove the adhesive liner from the back of the magnet, and place the magnet in the pocket in the magnet holder.

Repeat for driver and passenger side doors.



For additional help in correctly placing the magnet holders and sensors, see the templates at the end of this guide.

Step 2

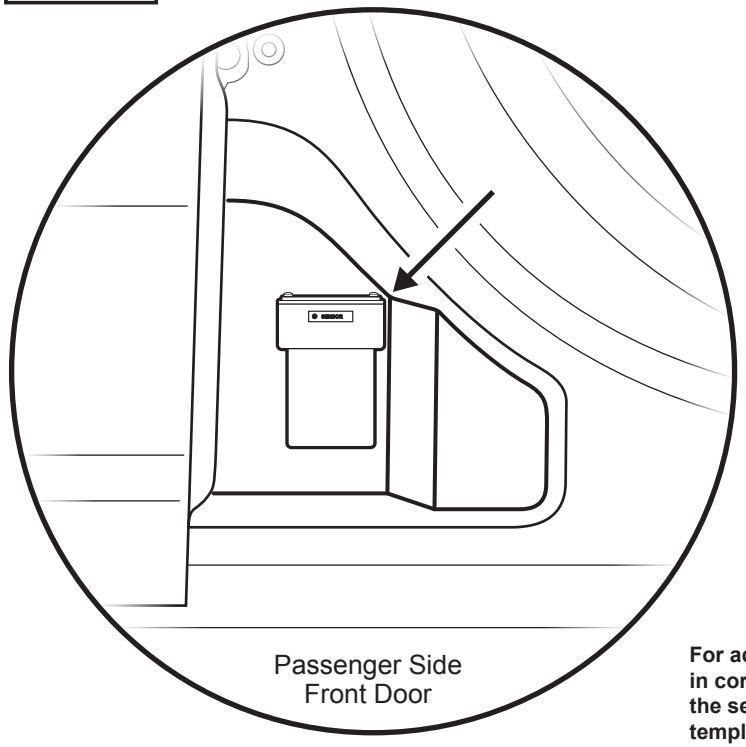
Clean the paint surfaces with a 50/50 mix of water and isopropyl alcohol before attaching sensors.

Remove the adhesive liner from the back of the sensor, and locate it on the inside of the rear doorway as shown above. 3.5” up from the bottom of the rubber door seal and 2.5” from the projecting door frame.

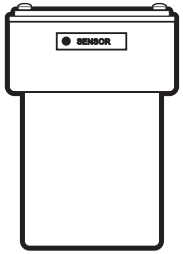
Adhesive is very aggressive - be sure to locate the sensor precisely.

Repeat for driver and passenger side doorways.

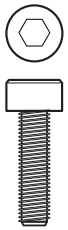
Step 1



Hardware

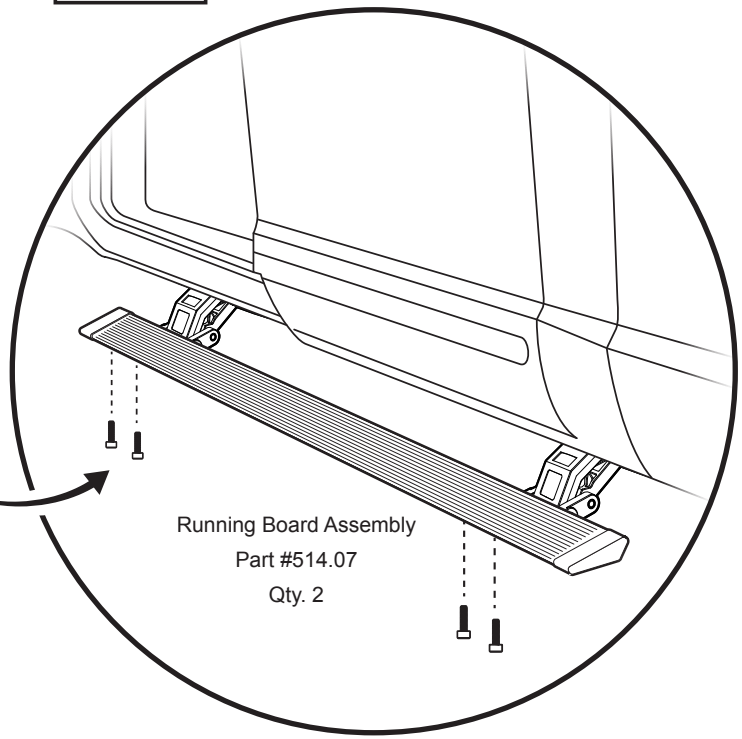


Sensor “Side 1&2”
Part #518.79 & #518.80
Qty. 2 of each part #

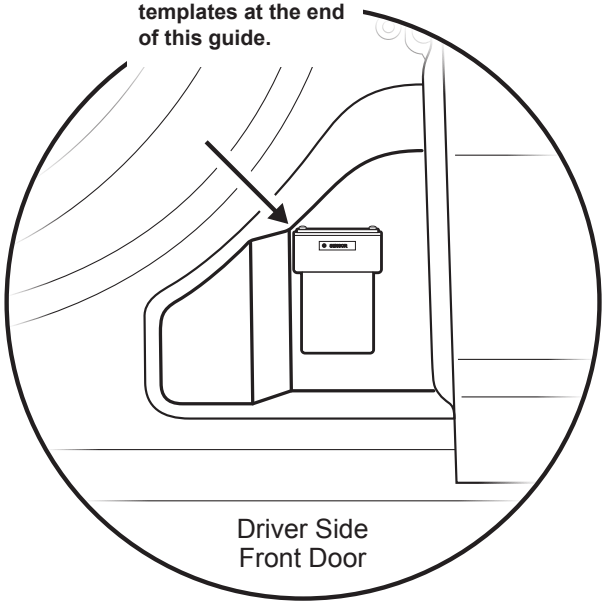


#M6-1.0 x 20
Socket Cap Screw
Part # 470.00
Qty. 8

Step 2



For additional help in correctly placing the sensors, see the templates at the end of this guide.



Step 1

Clean the paint surfaces with a 50/50 mix of water and isopropyl alcohol before attaching sensors.

Remove the adhesive liner from the back of the sensor, and locate it on the inside of the rear doorway as shown above. Align the top corner of the sensor with the corner of the raised body stamping as shown.

Adhesive is very aggressive - be sure to locate the sensor precisely.

Repeat for driver and passenger side doorways.

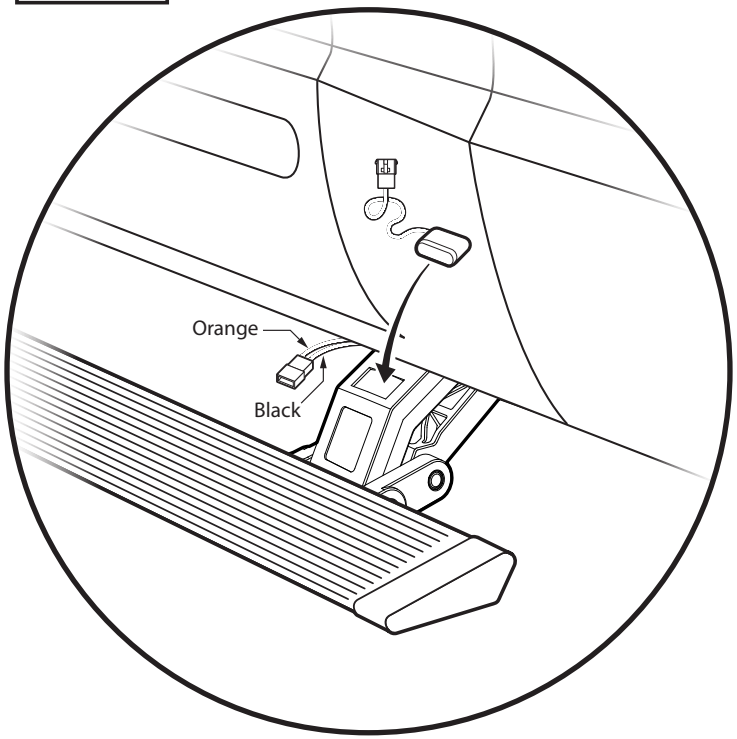
Step 2

Mount the Running Boards to the linkages. Slide the T-Nuts on the bottom of each Running Board into position, and install 4 M6-1.0 x 20mm Socket Cap Screws on each side to secure the Running Boards to the linkages.

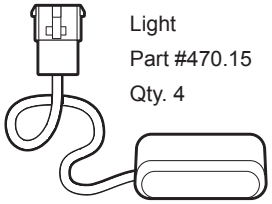
Use a 5mm Allen wrench to tighten the screws.

NOTE Make sure that both linkages are in the fully extended position before attaching the running boards to prevent binding.

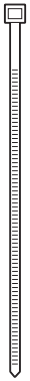
Step 1



Hardware

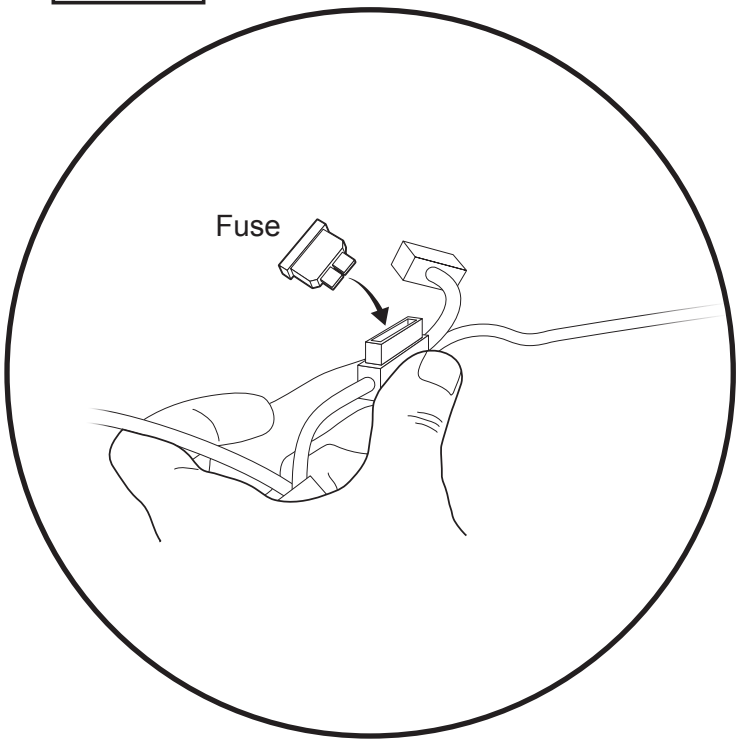


Light
Part #470.15
Qty. 4



7” Cable Tie
Part #460.99
Qty. 25

Step 2



Step 1

Clean the mounting surface of the Linkage with a 50/50 mix of isopropyl alcohol and water.

Remove the adhesive liner from the bottom of the light, and firmly press it into place in the recessed area on the linkage as shown above.

Adhesive is very aggressive - be sure to locate the light precisely.

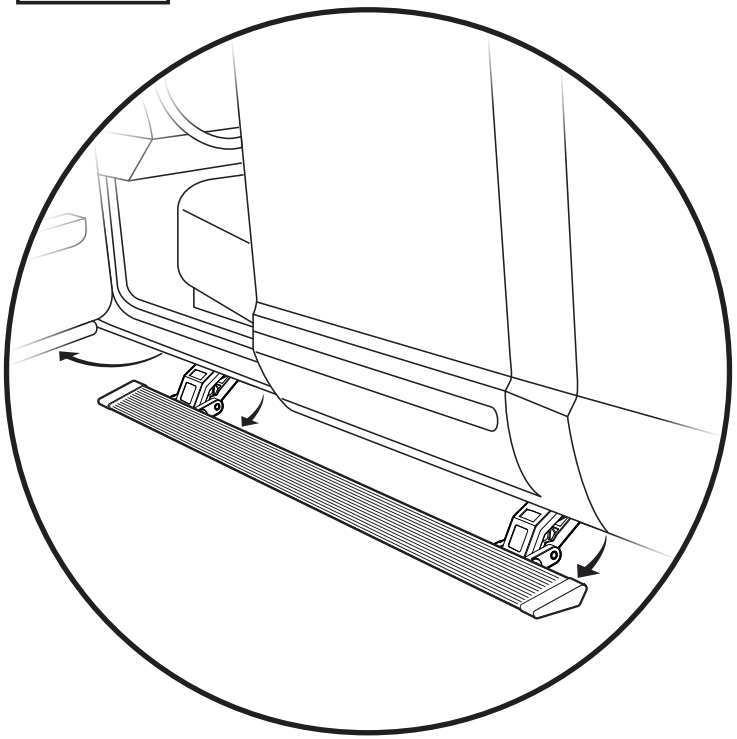
Plug the pigtail from the light into the connector on the wire harness with the black and orange wires.

Repeat for all 4 linkage locations. Secure loose wires with 7” Cable Ties as necessary.

Step 2

Re-install the fuse in the PowerBoard® Wire Harness, which was removed at the beginning of the installation process.

Step 1



Step 1

Open and shut each door to make sure that the PowerBoards® deploy and retract properly.

There is a slight delay in the board deployment so make sure that the board is fully down before stepping onto it.

There is also a 3-4 second delay in board retraction after a door is closed. This gives you time to open another door without cycling the board again.

Cycle the PowerBoards® several times and then tighten all the fasteners:
- PowerBoard® to Linkage screws
- Linkage to vehicle body

⚠ WARNING

Never force the PowerBoard® up or down. Use the motors to cycle the boards.

Never step on the PowerBoard® until it is fully deployed.

Tighten the screws in the following order:
1. Board to Linkage
2. Linkage to Vehicle Body

Torque fasteners to the following specification:
5-7ft-lbs.
(6.79-9.40Nm - 60-84 in-lbs.)

Do not exceed 7 lb-ft. of torque.

POWERBOARD® NX TROUBLESHOOTING

Problem: Boards do not operate
Possible Causes:
• Bad Ground
• Bad Battery Connection
• Fuse Burned
• Magnet is too far away from sensor
• Bad receiver connection
• Sensor battery low

Problem: Intermittent operation
Possible Causes:
• Bad battery connection
• Bad ground
• Magnet is too far away from Sensor
• Bad receiver connection
• Sensor battery low

Problem: Boards operate randomly
Possible Causes:
• Wire connections not secure
• Magnet is too far away from Sensor
• Bad receiver connection
• Sensor battery low

Problem: Board shakes and/or shudders during operation
Possible Causes:
• Bad ground
• Wire connections not secure
• Bad receiver connection
• Links misaligned

Problem: Delay in board operation or boards operate after doors are shut
Possible Causes:
• Magnet is too far away from Sensor
• Sensor battery low

Problem: Board retracts when doors are left open for a long period of time
• This is normal to save sensor battery life

POWERBOARD® NX SERVICE TIPS

Adjusting Linkage Alignment:

The board is designed to stop travel when the system senses a load. Misalignment can cause the board to stop early.
To adjust, loosen the boards from the linkages. Loosen the linkages from the vehicle. Cycle the boards up and down a few times.
With the linkages extended, re-tighten the boards to the linkages.
Cycle the boards again then re-tighten the linkages to the vehicle.

ATTENTION: DO NOT REMOVE THE FASTENERS

Replacing the Sensor Battery:

Each sensor is powered by a CR2450 3-volt battery that may periodically need to be replaced.

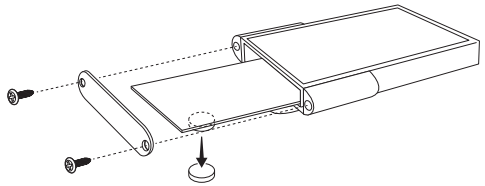
1. Remove the PowerBoard® wire harness fuse that is next to the vehicle battery.

2. Remove the two screws and the cover plate on the sensor. Slide out the circuit board and note the orientation of the board. Replace the battery and slide the circuit board back into the housing with its original orientation. Leave the vehicle door or doors open.

3. Reinstall the PowerBoard® fuse and wait 30 seconds. The sensor is reprogramming its address during this time.

4. Shut the door(s). Open and close the door(s) to check for normal operation.

5. If opening a door fails to operate the PowerBoard®, open the appropriate door and remove the PowerBoard® fuse. Wait 30 seconds and the reprogramming will repeat. Reinstall the fuse and check for normal operation.



CR2450 Battery

Website: www.Bestop.com

CARE AND MAINTENANCE:

The step pad surface and linkage arms should be washed with mild soap and water using a soft brush or sponge to dislodge any mud, dirt or accumulated road grime. Rinse with fresh water and avoid spraying the motors directly. After it is dry, lubricate the hinge with 3-In-One Oil. To prevent slipping, avoid applying waxes, lubricants, or protectants like Armor All® to the step surfaces.

ATTENTION PowerBoard® should always be stowed in the retracted position when driving.

LIMITED WARRANTY

We warrant our product to be free from defects in material and workmanship, for the terms specified below, provided there has been normal use and proper maintenance. This warranty applies to the original purchaser only. All remedies under this warranty are limited to the repair or replacement of any item or items found by the factory to be defective within the time period specified.
If you have a warranty claim, first you must call our factory at the number below for instructions. You must retain proof of purchase and submit a copy with any items returned for warranty work. Upon completion of warranty work, if any, we will return the repaired or replaced item or items to you freight prepaid. Damage to our products caused by accidents, fire, vandalism, negligence, misinstallation, misuse, Acts of God, or by defective parts not manufactured by us, is not covered under this warranty.

THE WARRANTY TIME PERIOD IS AS FOLLOWS: ALL PowerBoards® MANUFACTURED BY OUR COMPANY: THREE YEARS/36,000 MILES FROM DATE OF PURCHASE. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE CREATED HEREBY ARE LIMITED IN DURATION TO THE SAME DURATION AND SCOPE AS THE EXPRESS WRITTEN WARRANTY. OUR COMPANY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

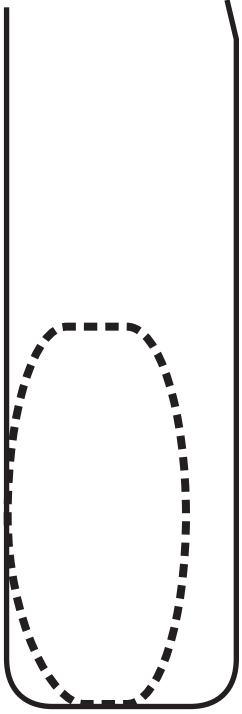
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de license. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

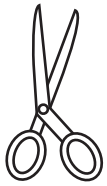
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

For further information or request for warranty work, please contact:
Bestop Inc., Customer Service
Toll-Free: (800) 845-3567
Main: (303) 465-1755
E-mail: csbestop@Bestop.com
Website: www.Bestop.com

Template - 75650-15 Rev. D 1116





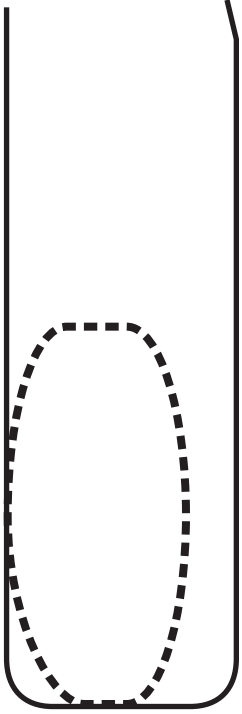
Cut along the dashed line.
When page is aligned properly, remove the adhesive liner and place the magnet holder in the cut-out area of the page.
Adhesive is very aggressive - be sure to locate the magnet holder precisely.

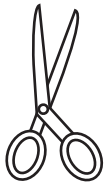
Template for installing Magnet Holder part #491.98 on the Front Doors.

Align this corner of the template with the lower left corner of the driver side door.
Using the reverse side of this template, align this corner to the lower right corner of the passenger side door.

Align the bottom edge of the page with the bottom edge of the door

Template - 75650-15 Rev. D 1116





Cut along the dashed line.
When page is aligned properly, remove the adhesive liner and place the magnet holder in the cut-out area of the page.
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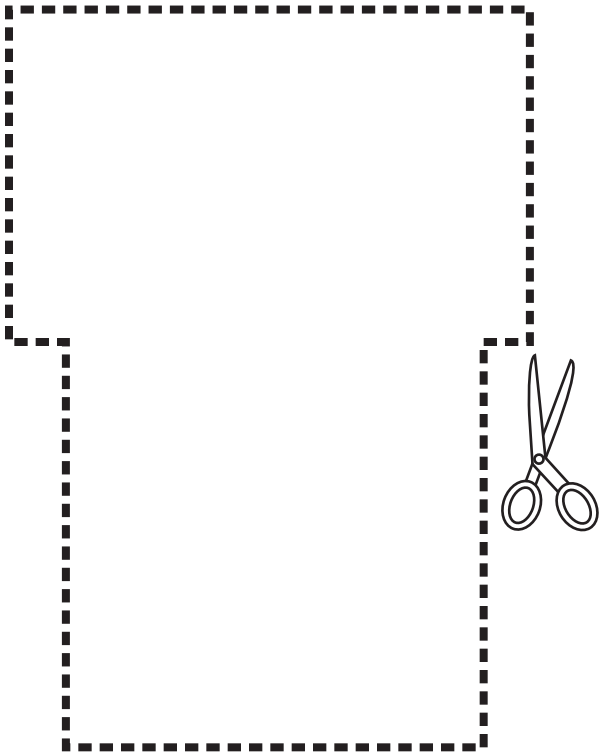
Template for installing Magnet Holder part #491.98 on the Front Doors.

Align this corner of the template with the lower left corner of the driver side door.
Using the reverse side of this template, align this corner to the lower right corner of the passenger side door.

Align the bottom edge of the page with the bottom edge of the door

Template for installing Sensor part #518.80 on the Front Doors.

Cut along the dashed line.
When page is aligned properly,
remove the adhesive liner and
place the sensor in the
cut-out area of the page.
Adhesive is very aggressive -
be sure to locate the sensor precisely.



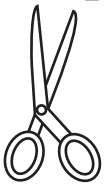
Align this printed line with the
edge of the body stamping on the driver side door.
Using the reverse side of this template, align the printed
line with the edge of the body stamping on the passenger side door.

Align the bottom edge of the page
with the bottom edge of the weatherstrip.

Template for installing Sensor part #518.80 on the Rear Doors.

Align the right edge of the template with the inner edge of the door frame on the driver side.
Using the reverse side of this template, align the the left edge of the template with the inner edge of the door frame on the passenger side.

Cut along the dashed line.
When page is aligned properly, remove the adhesive liner and place the sensor in the cut-out area of the page.
Adhesive is very aggressive - be sure to locate the sensor precisely.



Align this corner of the page withthe lower right corner of the weatherstrip on the driver side.
Using the reverse side of this template, align this corner with the lower left corner of the weatherstrip on the passenger side.

Align the bottom edge of the page with the bottom edge of the weatherstrip

Template - 75650-15 Rev. D 1116