



Installation Instructions

PowerBoard® NX

Automatic Retracting Running Board

Patent Pending

Vehicle Application

- Dodge Ram 1500 Crew Cab
2009 - Current
Part Number: 75638-15

- Dodge Ram 1500 Quad Cab
2009 - Current
Part Number: 75643-15

- Dodge Ram 2500/3500 Mega Cab
2010 - Current
Part Number: 75638-15

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INSTALLATION TIME 3 Hours		SKILL LEVEL 3 - Moderately Difficult	
TOOLS			
Tape Measure 	Wrench 10mm, 13mm and 19mm	Socket 10mm and 13mm	Ratchet
Extension 	Allen Wrench 5mm	Hammer 	Flat-Head Screwdriver
Torque Wrench 	Safety Glasses 		



! 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 Do not rely in any way on the components of this product 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

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

PowerBoard® NX – Installation Instructions

Parts List and Hardware Identification

Running Board Assembly, Qty - 2
 72" - Part Number 514.08
 79" - Part Number 514.07

Motor Linkage, Right (Shown) - Part Number 475.54, Qty - 1
Left - Part Number 475.55, Qty - 1

Idle Linkage, Right (Shown) - Part Number 475.52, Qty - 1
Left - Part Number 475.53, Qty - 1

Front Support Bracket - Lt, Part Number 509.31, Qty - 1
Front Support Bracket - Rt, Part Number 509.30, Qty - 1

Rear Support Bracket - Lt, Part Number 508.11, Qty - 1
Rear Support Bracket - Rt, Part Number 508.10, Qty - 1

Blind Rivet, Part Number 474.80, Qty - 4

7" Cable Ties, Part Number 460.99, Qty - 25
11" Cable Ties, Part Number 470.02, Qty - 2

Wiring Harness, Part Number 495.56, Qty - 1

Light, Part Number 470.15, Qty - 4

Roll Pin, Part Number 475.12, Qty - 8

Motor (for use with Blue Controller), Part Number 496.12, Qty - 2

Bracket Insert, Part Number 507.23, Qty - 4

M6 Flat Washer, Part Number 481.96, Qty - 8

Blue Controller, Part Number 496.11, Qty - 1

Reinforcement Bracket, Part Number 494.62, Qty - 4

Wireless Component Kit

- Sensor - Driver Side Front, Part Number 492.01, Qty - 1
- Sensor - Passenger Side Front, Part Number 492.00, Qty - 1
- Receiver, Part Number 491.99, Qty - 1
- 17" Nylon Zip Tie, Part Number 492.06, Qty - 2
- Sensor - Driver Side Rear, Part Number 492.03, Qty - 1
- Sensor - Passenger Side Rear, Part Number 492.02, Qty - 1
- Magnet, Part Number 491.97, Qty - 5
- Magnet Holder, Part Number 491.98, Qty - 5

M8-1.25 Rivet Nut, Part Number 473.75, Qty - 8

Rivet Nut Tool, Part Number 473.76, Qty - 1

M6-1.0 x 15 Socket Cap Screw, Part Number 481.93, Qty - 4

M6-1.0 x 35 Socket Cap Screw, Part Number 460.95, Qty - 6

M6-1.0 x 30 Hex Bolt, Part Number 474.36, Qty - 4

M8-1.25 x 30 Hex Bolt, Part Number 473.18, Qty - 12

M6-1.0 x 20 Socket Cap Screw, Part Number 470.00, Qty - 8

8 mm Washer, Part Number 470.05, Qty - 10

8 mm Fender Washer, Part Number 470.07, Qty - 4

M8-1.25 x 15 Flange Bolt, Part Number 473.81, Qty - 2

75643 Quad Cab Only

- M8-1.25 Nylock Nut, Part Number 470.06, Qty - 1
- Brake Cable Bracket, Part Number 473.78, Qty - 1
- 8mm Washer, Part Number 470.07, Qty - 1
- M8-1.25 x 25 Hex Bolt, Part Number 460.46, Qty - 1

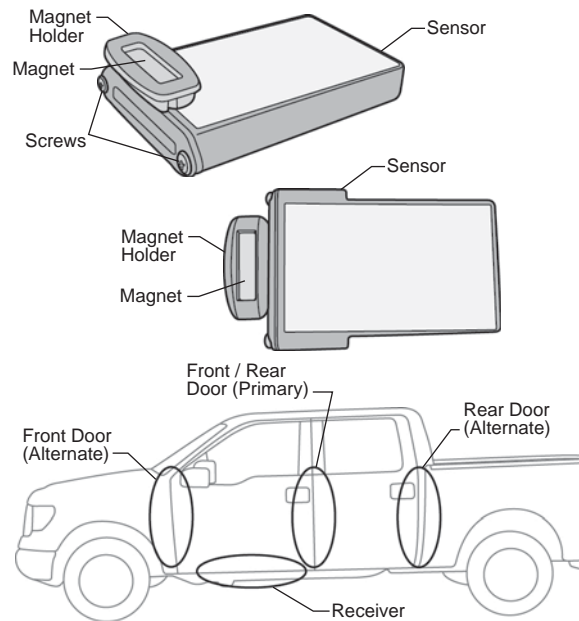
PowerBoard® NX – Installation Instructions

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 that 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 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 at the end of the instructions.

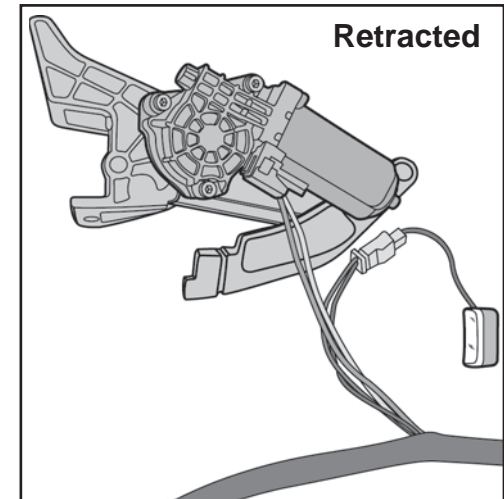
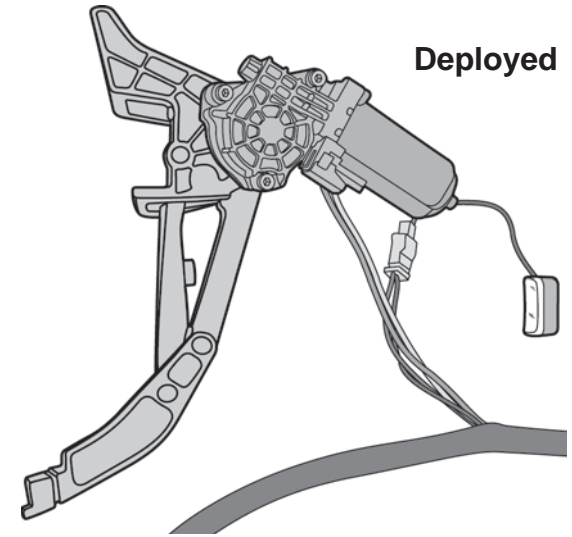
See Steps 31 – 37 for detailed instructions.



1 System Initialization

- Remove fuse from the PowerBoard® wire harness and connect the red lead to the battery positive and the black lead to negative.
- Layout the harness so the long leg crosses the engine compartment towards the drivers side and the short leg is on the passenger side.
- Attach a motor to each motor link with 3 M6-1.0 x 35mm Socket Cap Screws.
- Plug the Controller, Receiver, Motors and Lights into the harness.
- Plug the fuse back into the harness. After a one second delay the linkages will retract as shown.
- Lay out all four sensors as they would be installed on the vehicle with the drivers side to your left and the passengers side to your right. Place a magnet next to each sensor as shown in the overview above.
- Move the magnet more than 4 inches away from the driver front sensor. All four lights will come on and the drivers side linkage will deploy.
- Move the magnet back to the sensor and after a three second delay the lights will turn off and the linkage will retract.
- Repeat with the remaining sensors and the lights and corresponding linkage will operate in the same manner.
- Remove the motors to continue with the installation.

If the system does not operate as stated above see the Troubleshooting and Battery Replacement sections at the end of the instructions or go to our web site at <http://www.bestop.com/support>.

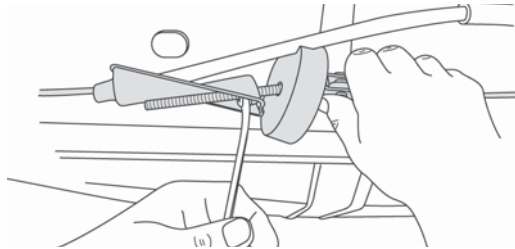


PowerBoard® NX – Installation Instructions

NOTE Steps 2 through 5 are for Quad Cab Vehicles only. If you have Crew Cab, skip to Step 6.

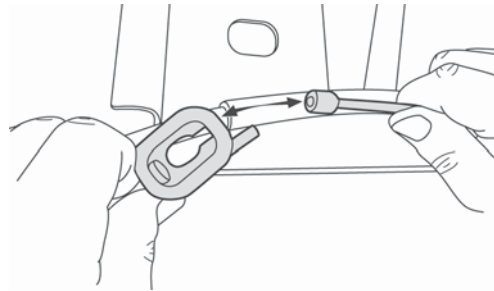
2 Install Brake Cable Bracket - Quad Cab Only

Locate the brake cable adjustment nut on the driver's side of the frame toward the rear. Mark the position of the nut. Hold the adjustment nut with a 13mm wrench and loosen the cable to create some slack.



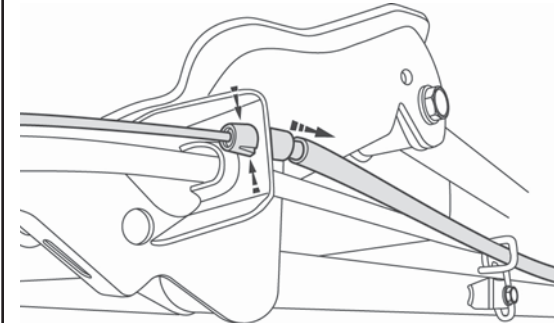
3 Install Brake Cable Bracket - Quad Cab Only

Once you have enough slack, detach the brake cable just behind the brake cable adjustment nut.



4 Install Brake Cable Bracket - Quad Cab Only

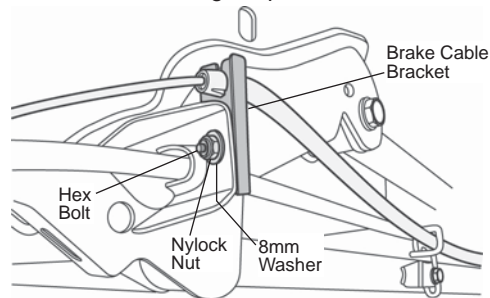
Depress the locking tabs on the brake cable guide and slide it out through the hole in the frame. Unthread the brake cable from the frame mount.



5 Install Brake Cable Bracket - Quad Cab Only

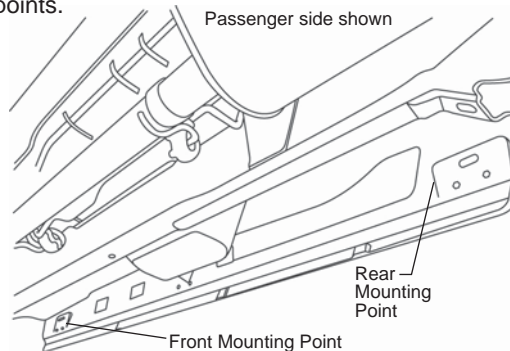
Slide the brake cable guide into the Brake Cable Bracket provided in the parts kit. Use the Hex Bolt, 8mm Washer and Nylock Nut from the kit to mount the Brake Cable Bracket to the frame.

Reattach the brake cable and adjust the brake cable adjustment nut to its original position.



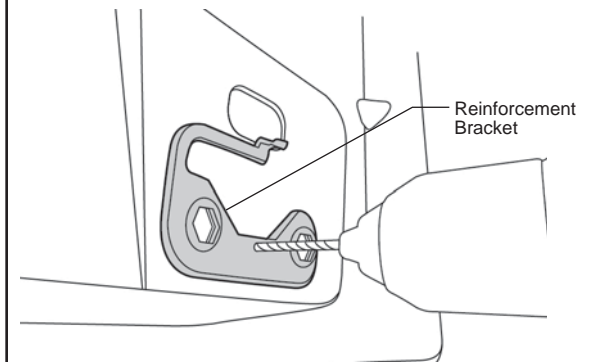
6 Locate Linkage Mounting Points

Locate the mounting points for the Idler and Motor Linkages. The Motor Linkage mounts in the front and the Idler Linkage mounts in the rear. Remove the tape from the sill drain hole at both mounting points.



7 Install Reinforcement Bracket

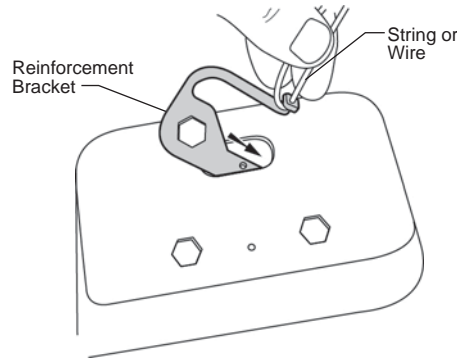
Set a Reinforcement Plate in place and position with the Rivet Nuts. Use the bracket as a template to drill a 1/8" hole.



PowerBoard® NX – Installation Instructions

8 Install Reinforcement Bracket

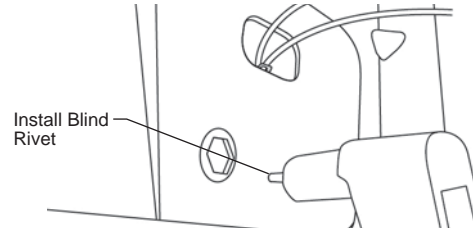
Once the hole is drilled, insert a piece of string or wire through the hole in the Reinforcement Bracket. Set the bracket into position.



9 Install Blind Rivet

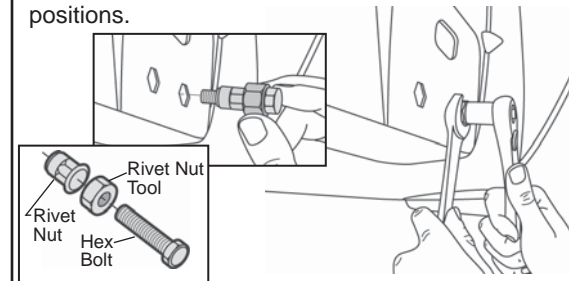
Set the Rivet Nuts into place for alignment. Make sure the Reinforcement Bracket is flush to the body of the vehicle. Insert the Blind Rivet through the hole in the Reinforcement Bracket and secure in place. When the rivet is installed, remove the string or wire from the bracket.

NOTE Make sure the Reinforcement Bracket is flush with the body before securing Blind Rivet.



10 Install Rivet Nuts

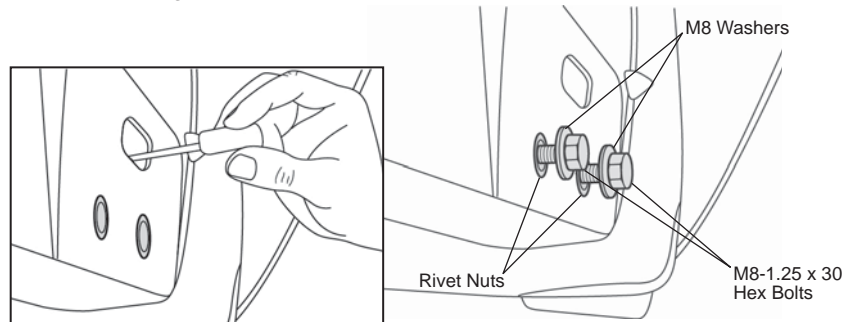
Assemble a Hex Bolt, Rivet Nut Tool and Rivet Nut. Place the assembly into the cutout in the sill. Hold the Rivet Nut Tool with a 19 mm wrench and tighten the bolt until the Rivet Nut deforms and secures to the sheet metal (15 ft. lbs.). Hold the Rivet Nut Tool with a wrench and remove the bolt and tool. Repeat for all Rivet Nuts in the four linkage mounting positions.



11 Secure Reinforcement Bracket

Once the Rivet Nuts are in place, use a screwdriver to push the tab on the Reinforcement Bracket back into the hole to avoid interference with the Linkage Mount.

Install M8-1.25 x 30 Hex Bolts and Washers in the Rivet Nuts. Leave about 1/2" of thread showing. Make sure that the M8 Washers are flush to the bolt head.

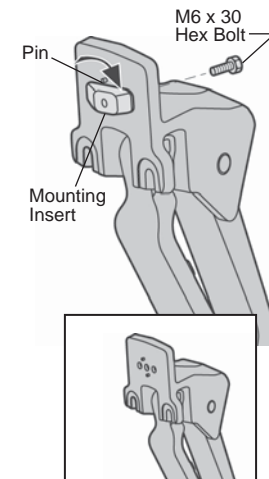


12 Orient Mounting Insert on Linkage

Vehicles except Quad Cab: Tap a Roll Pin in the small upper hole in the Linkage. Hold the Linkage firmly and use an M6 x 30 Hex Bolt to install the Mounting Insert in the center hole in the Linkage. Make sure the insert is oriented properly.

Quad Cab Idler Linkages Only: Install the Mounting Insert in the rear hole and tap a Roll Pin in the small lower hole.

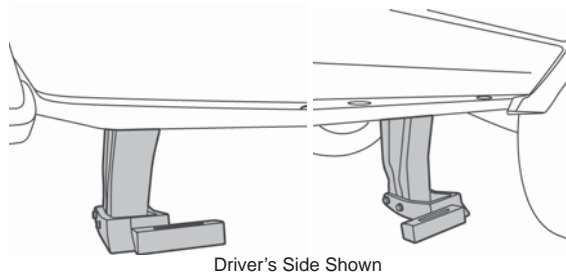
All other applications: Tap a Roll Pin in both small holes.



PowerBoard® NX – Installation Instructions

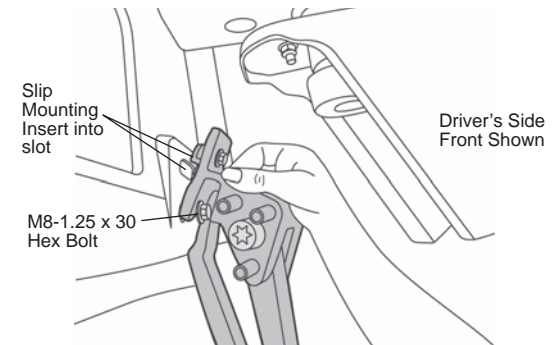
13 Orient Linkages

Orient the Linkages on the vehicle with the Idler Linkages to the rear and the Motor Linkages to the front. The feet on the Linkages should face each other on each side of the vehicle.



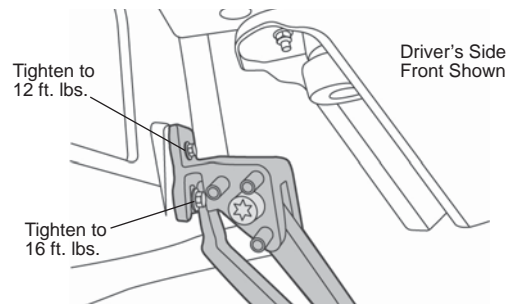
14 Install Linkages

Retract the Linkage part way and make sure the Mounting Insert is in the proper position. Tilt the Linkage and slide the mounting slots over the bolts installed in Step 7. Rotate the Linkage until the Mounting Insert slips into the slot in the sheet metal.



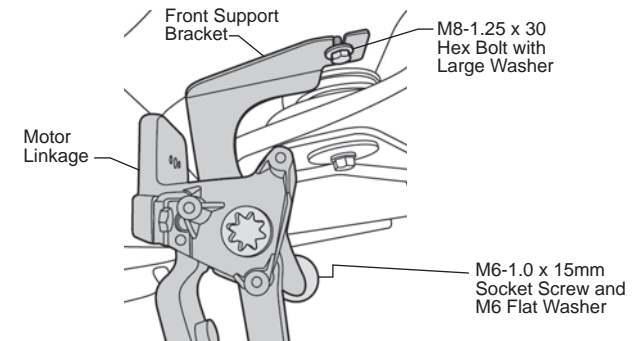
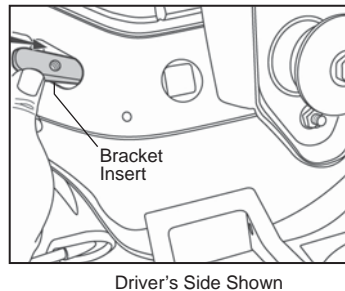
15 Install Linkages

Use a 10mm wrench to tighten the M6 Flange Hex Bolt to 12 ft. lbs. Do not allow the bolt to rotate counter-clockwise which may disengage the Mounting Insert. Then tighten the lower Hex Bolts to 16 ft. lbs. Repeat for all Linkages



16 Install Front Support Bracket

Slide a Bracket Insert into the access hole in the body support member above the front Motor Link. Push it forward and over to the hole next to the body mount. Thread an M8-1.25 x 30 Hex Bolt with a Large Washer into the insert. Hook the Left Front Support Bracket over the Large Washer and attach it to the bottom front and outboard bosses and on the Motor Linkage with the M6-1.0 x 15mm Socket Screws and M6 Flat Washers. Tighten all fasteners and repeat on other side.

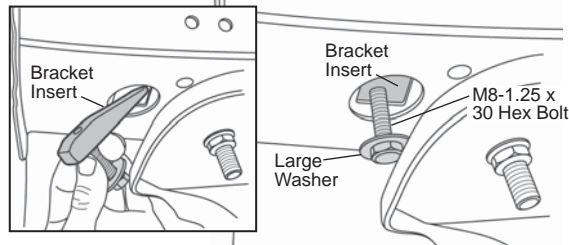


PowerBoard® NX – Installation Instructions

17 Install Bracket Insert

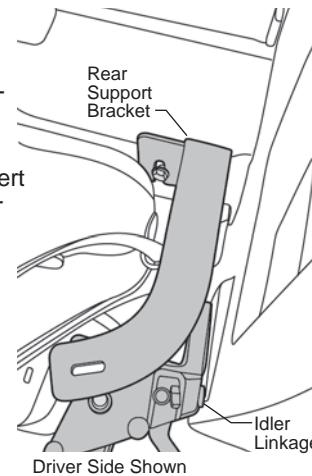
Thread an M8-1.25 x 30 Hex Bolt and Large Washer into a Bracket Insert. Slide the Bracket Insert assembly into the body support member above the Idler Linkage. Orient the Bracket Insert with the long end pointing toward the center of the vehicle. Leave enough threads showing to install the Support Bracket.

NOTE The Support Bracket is not used on Mega Cab vehicles. Skip to Step 19.



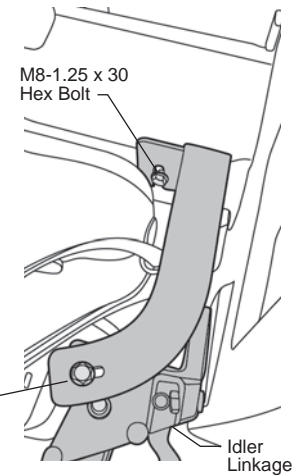
18 Install Rear Support Bracket

Slide the slotted end of the Rear Support Bracket over the M8-1.25 x 30 Hex Bolt and Large Washer from the Bracket Insert Assembly. The lower part of the bracket should rest against the front of the Idler Linkage.



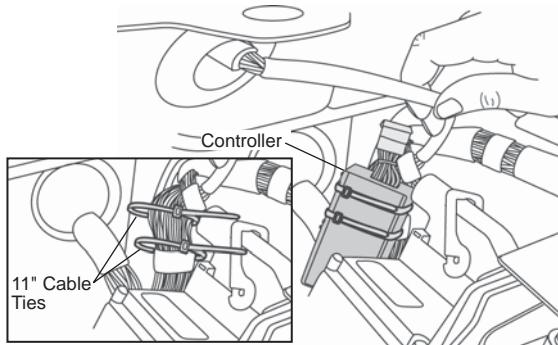
19 Secure Rear Support Bracket

Align the lower hole in the Support Bracket with the threaded hole in the Idler Linkage. Loosely tighten the M8-1.25 x 30 Hex Bolt. Then insert an M8 Flange Bolt. Check that the Support Bracket is square with the Linkage and the vehicle. Tighten the Hex Bolt and the Flange Bolt to 16 ft. lbs.



20 Install Controller

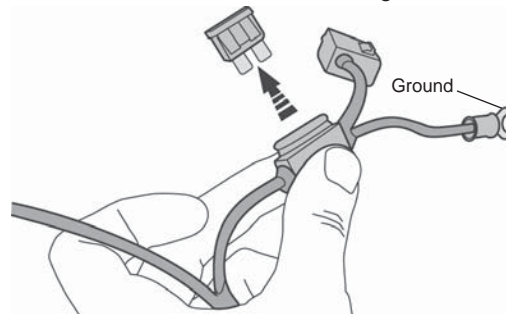
Loosely wrap 11" Cable Ties around the large bundle of wires behind the battery in engine compartment. Slide the Controller through the Cable Ties and tighten.



! WARNING Remove the fuse from the Wiring Harness.

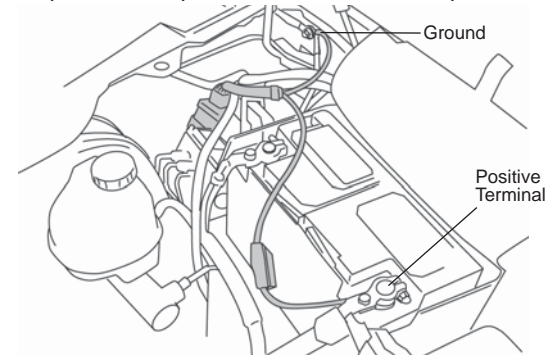
21 Remove Fuse from Wiring Harness

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.



22 Attach Power Leads

Attach the Wiring Harness to the Controller. Connect the red power lead to the positive battery terminal and black lead to the body ground. Skip to next step if still attached from Step 1.



PowerBoard® NX – Installation Instructions

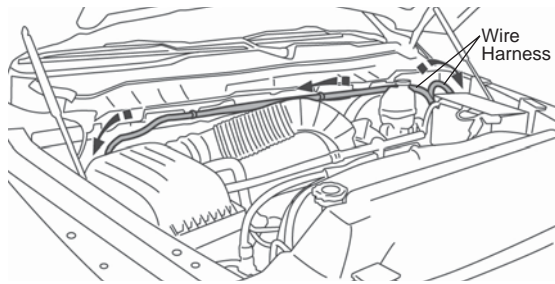


CAUTION

Do Not install on or near hot surfaces.

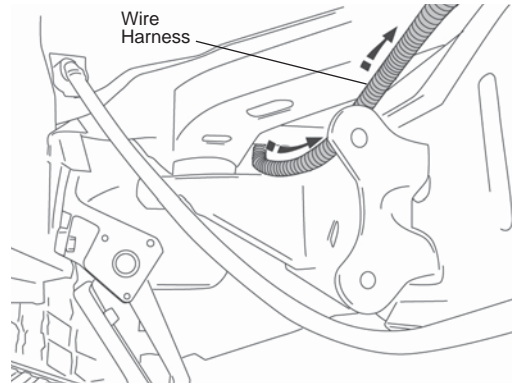
23 Route Wiring Harness

Route the long leg of the Wire Harness across the engine compartment to the passenger side wheel well. Route the short leg to the driver's side. Secure them with 7" Cable Ties.



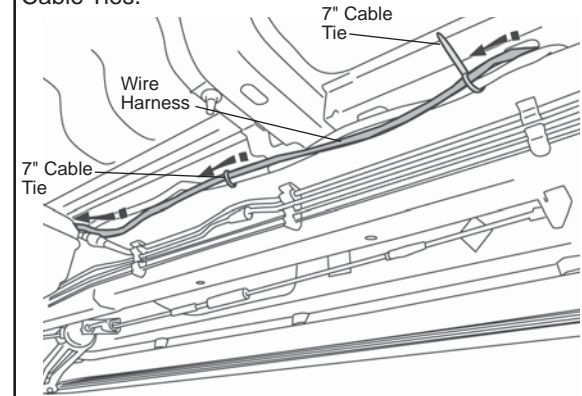
24 Route Wiring Harness – Driver's Side

On the driver's side route the Wire Harness down along the underside of the floor and the frame. Secure it with 7" Cable Ties.



25 Route Wiring Harness – Driver's Side

Continue to route the Wire Harness along the inside and top of the driver's side frame. Secure it with 7" Cable Ties.

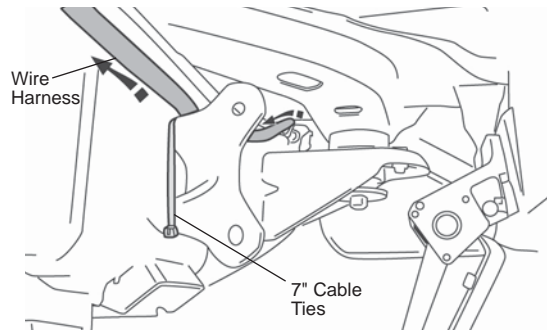


26 Route Wiring Harness – Passenger's Side

Route the Wire Harness down to the wheel well on the Passenger side and along the top of the frame rail. Secure it with 7" Cable Ties.

NOTE

You may have to combine Cable Ties to create longer ties.

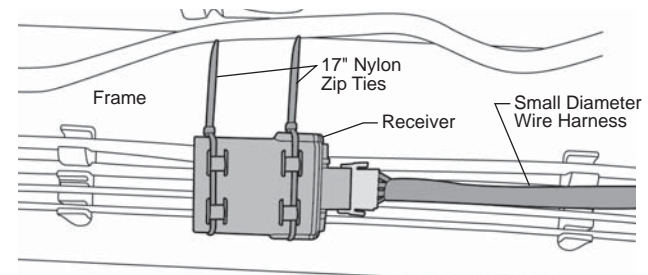


27 Install Receiver

Route the small diameter wire harness along the side of the frame. Find a location that is protected but is not surrounded by dense metal. Plug in the Receiver and insert 17" Nylon Zip Ties through the loops on the Receiver. Mount the Receiver with the stand off ribs against the vehicle.

NOTE

Due to vehicle variations, installation may differ from that shown.



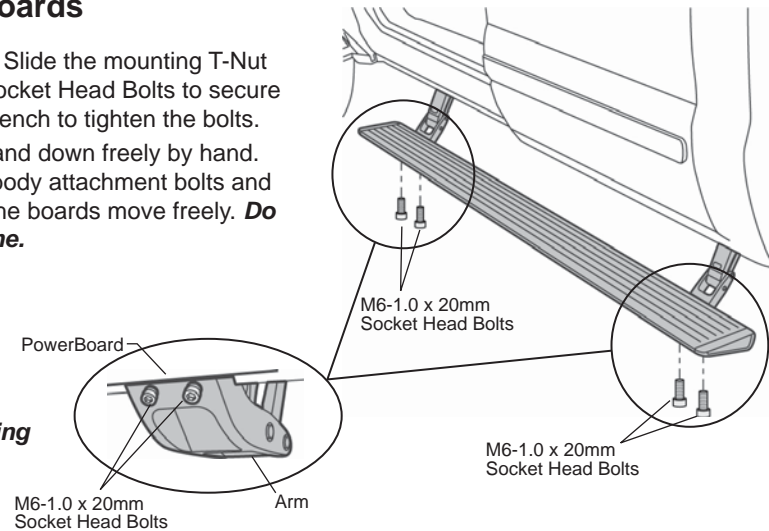
PowerBoard® NX – Installation Instructions

28 Install Running Boards

Mount the Steps to the linkages. Slide the mounting T-Nut into position. Install M6-1.0 x 20mm Socket Head Bolts to secure the boards. Use a 5mm Allen Wrench to tighten the bolts.

Make sure the board moves up and down freely by hand. If it binds, loosen the linkage to body attachment bolts and adjust the linkage position until the boards move freely. **Do not tighten the bolts at this time.**

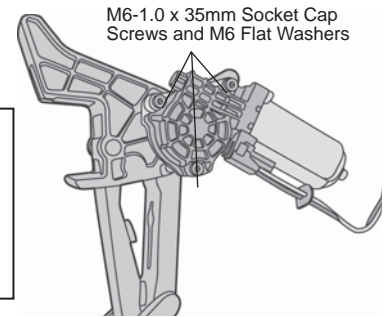
NOTE *Tightening the fasteners before cycling the step several times may create a bind, causing a squeaking sound and preventing the boards from retracting completely and evenly.*



29 Install Motor

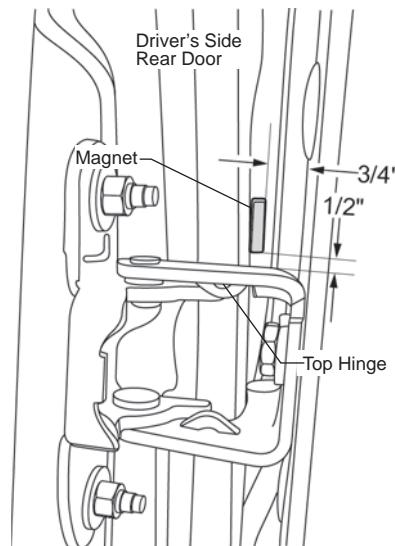
Slide Motor assembly onto drive shaft and mounting bosses of Motor Linkage assembly. Use three (3) M6-1.0 x 35mm Socket Cap Screws and M6 Flat Washers to secure Motor. Plug female connector into Motor.

Torque
5-7 ft. lbs.
(6.78-9.49 Nm /
60-84 in. lbs.)
Do not exceed 7
ft. lbs. of torque



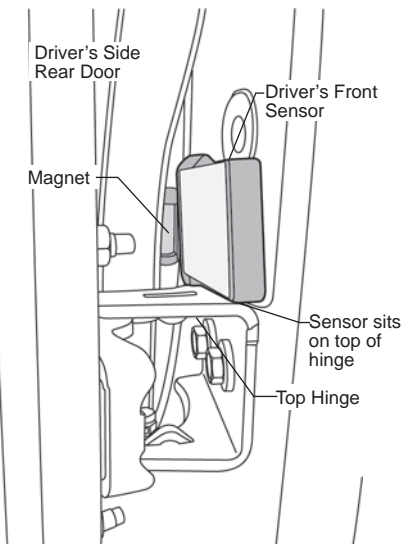
30 Install Magnet

Open the back door on the driver's side and clean the area where the magnet and sensor will be installed with a 50/50 solution of water and alcohol. Stick a magnet to the back side of the front door as shown. Hold the Drivers Front Sensor against the door pillar and position the magnet so it is directly in front of the sensor.



31 Install Driver's Side Front Sensor

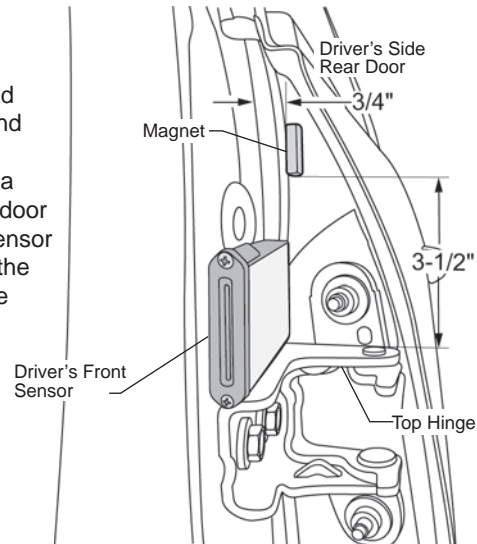
Peel the liner off of the Drivers Side Front Sensor. Position it on the door pillar so it is about 1/6" away from the magnet. Press firmly on the Sensor to stick it to the pillar.



PowerBoard® NX – Installation Instructions

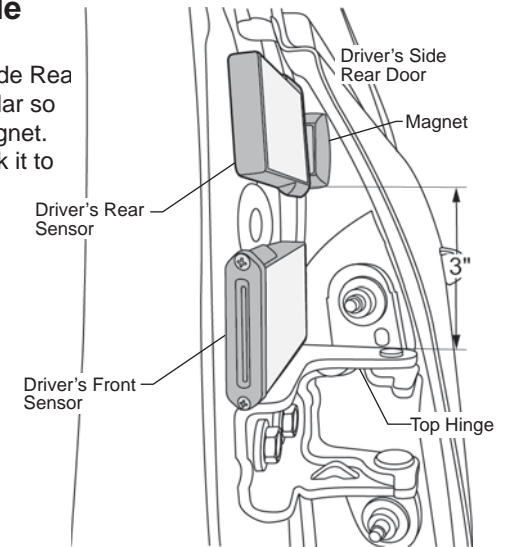
32 Install Magnet

Open the front driver's side door and clean the area where the magnet and sensor will be installed with a 50/50 solution of water and alcohol. Stick a magnet to the front side of the rear door as shown. Hold the Drivers Rear Sensor against the door pillar and position the magnet so it is directly in front of the sensor.



33 Install Driver's Side Rear Sensor

Peel the liner off of the Drivers Side Rea Sensor. Position it on the door pillar so it is about 1/6" away from the magnet. Press firmly on the Sensor to stick it to the pillar.

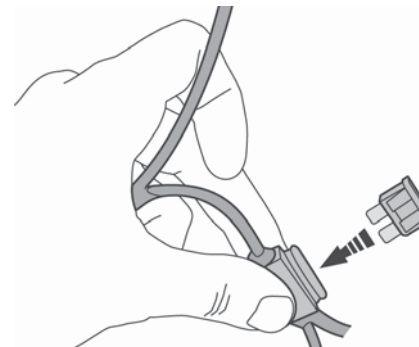


34 Install Passenger Side Sensors and Magnets

Repeat Steps 30 through 33 on the passenger side of the vehicle.

35 Reinstall Fuse

Reinstall fuse in PowerBoard® wire harness.



PowerBoard® NX – Installation Instructions

36 Test Doors and PowerBoards®

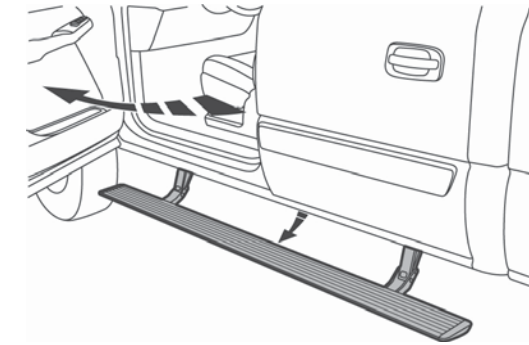
Open and shut each door to make sure the PowerBoards® deploy and retract. There is a slight delay in the board deployment so make sure they are fully down before stepping on them. There is also a 3-4 second delay in board retraction after the door is shut. This gives you time to open another door with out cycling the board again. **Cycle the boards several times and then fully tighten all of the fasteners.**



CAUTION

Never force the board up or down. Use the motors to cycle the board.

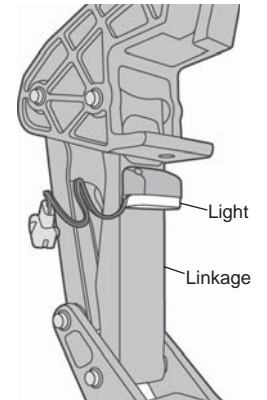
Order to tighten screws:
Board to Linkage 1st
Linkage to Body 2nd



Torque
5-7 ft. lbs.
(6.78-9.49 Nm / 60-84 in. lbs.)
Do not exceed 7 ft. lbs. of torque

37 Install Lights

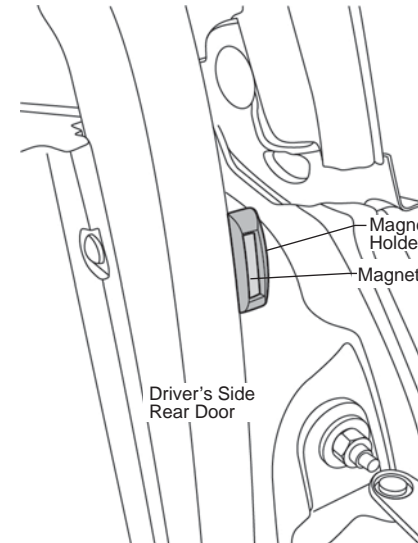
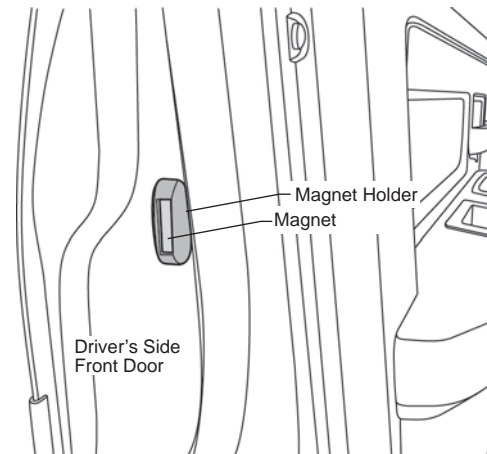
Clean the outboard surface of the of the Linkage below the bottom mounting bolt. Peel the adhesive liner off the back of the Light and firmly press it 1/8" below the mounting bolt. Plug the light into the connector with the black and orange wires in the wire harness. Repeat with the other three lights. Secure loose wires with Cable Ties.



38 Install Magnet Holders

Peel the liner off the back of a magnet holder and place it around the magnet. Be careful not to move the magnet. Press firmly on the holder to stick it to the door.

Repeat for all Magnets.



PowerBoard® NX – Installation Instructions

PowerBoard® NX Troubleshooting

Issue:

- Possible cause

Boards do not operate:

- Bad ground
- Bad battery connection
- Fuse burned
- Magnet is too far away from Sensor
- Bad receiver connection
- Sensor battery low

Board creaks or squeaks during operation:

- Gear shaft wedge bolt is loose
- Loosen mounting bracket and board attachment screws. Adjust linkages so they are parallel to each other and the noise is gone. Tighten all fasteners.

Intermittent operation:

- Bad battery connection
- Bad ground
- Magnet is too far away from Sensor
- Bad receiver connection
- Sensor battery low

Boards operate randomly:

- Wire connections not secure
- Magnet is too far away from Sensor
- Bad receiver connection
- Sensor battery low

Board stays down all the time and can be moved by hand:

- Gear shaft wedge screw is missing or loose

Board shakes and or shutters during operation:

- Bad ground
- Wire connections not secure
- Bad battery connection
- Links misaligned

Delay in board operation or boards operate after doors are shut:

- Magnet is too far away from Sensor
- Sensor battery low

Board hits body

- Install supplied adhesive bumper per the installation instructions.

Board does not fully retract or deploy

- The board is designed to stop travel when the system senses a load. Misalignment can cause the board to stop early. Remove the motor and adjust the linkage alignment until the board moves up and down freely without resistance by hand.

Board retracts when doors are left open for a long period of time.

- This is normal to save sensor battery life.

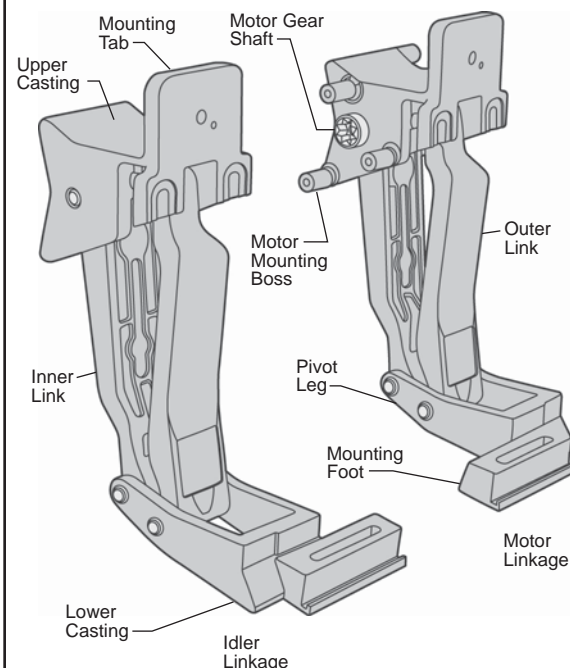
PowerBoard® NX Service Tips

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, remove running board and motor. Loosen mounting brackets. Adjust linkages parallel to each other. Shift the running board on linkages 1/8" in either direction and carefully set board on linkages. Start only a few threads of the allen head bolts – do not tighten yet. Lift running board to retracted position. Tighten allen head bolts that attach running board to linkage. Last, tighten linkages to body. Cycle running board by hand without motor and confirm zero resistance. Install motor and test.

Linkage Component Identification



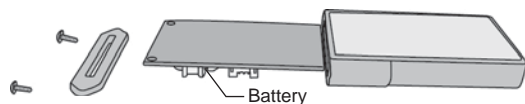
PowerBoard® NX – Installation Instructions

Battery Replacement

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 car 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 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 doors(s) to check for normal operation.

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.



This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two 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 licence. 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.

PowerBoard® NX – Installation Instructions

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 surface.

Attention!

TrekStep™ 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 FOR 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.



For further information or request for warranty work, please contact:

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