

CorkSport Quick-Release Rear Chassis Brace 2004 - 2011 Mazdaspeed 3 & Mazda 3

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Parts List:

- 1. (Qty 4) Black Anodized AL Bars with Silver CorkSport Logo
- 2. (Qty 4) Rod Ends
- 3. (Qty 4) Spherical Rod Ends
- 4. (Qty 2) Push-Button Quick-Release Pins
- 5. (Qty 2) Black Powdercoated Brackets
- 6. (Qty 2) Mounting Brackets With Hardware

Hardware Bag Contents:

- 7. (Qty 2) M10 x 1.25 x 35mm Bolts
- (Qty 4) M10 x 1.25mm x 50mm Bolts
- (Qty 8) Large M10 Washers
- (Qty 2) M10 Lock Washers
- (Qty 16) Small M10 Washers

Kit Assembled by: _____ Assy Date: _____

For help with installation, call 360-260-CORK (2675)





CorkSport Rear Chassis Brace Set 2004 - 2011 MazdaSpeed3 & Mazda 3



WARNING: You will be removing several fasteners from the vehicle. Be sure to place them in a safe place, as you will be reusing them.



WARNING: Installation requires you to trim a small amount of molding from the interior of the rear of the vehicle. If you are not comfortable with that, then this part will not be able to be successfully installed.



NOTE: When working on your car, you should be wearing mechanics gloves or other form of hand protection as well as ANSI Approved Safety Glasses.



NOTE: These instructions were written for reference only on a 2010 model year and the use of a factory service manual is recommended. Please read these instructions thoroughly prior to starting installation. If you have a different model year, the pictures and steps may vary slightly, but the overall installation process will remain the same.

Part Number: Ax1-3-022 Time Estimate: 75-90 min. Wrench Rating: 2/5	Model Mazda 3	Year 2004 - 2011+	Trim Hatchback (including MazdaSpeed 3)
TOOLING LIST: 3/8 Drive Ratchet 10mm Socket 17mm Long Socket 17mm Wrench 14mm Wrench 8mm Allen Wrench 22mm Wrench (or Crescent Wrench) Phillips Screwdriver	Flathead Screwdriver Utility Knife Duct Tape Magnet Optional: Drill & 10mm Drill Bit	PARTS LIST: 4x CorkSport Black Anodized Aluminum Bars (2 long & 2 short) 2x Right Hand & Left Hand Thread Bar End Pair (4 total bar ends) 2x Right Hand & Left Hand thread Spherical Rod End Pair (4 total Rod ends) 2x Quick Release Pins 2x Black Powdercoated Brackets 2x M10 x 1.25mm x 35mm Bolts 4x Large M10 Washers 2x M10 x 1.25mm nuts 4x M10 x 1.25mm x 50mm Bolts	16x Small M10 Washers 2x M10 Lock Washers 2x Black brackets 2x Rod End Fasteners (bolt & nut)

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Installation Instructions:

CorkSport Rear Chassis Brace Set

2004 - 2011 MazdaSpeed 3 & Mazda 3

How the Instructions Work

To best cover all of our customers experience levels and familiarity with the systems on their Mazda, we have broken our instructions down into numbered steps, each of which has the core information in the header with additional detail as needed depending on your experience. If you have a high level of experience, you can just use the checklist below and then skip to the step number where you need help or assistance. Video assistance may also be available for certain steps and is indicated by the HD icon:  Areas where there is a safety concern are indicated by the warning icon:  Cautionary areas (where parts are fragile, etc) are indicated by the caution icon:  Key tips are indicated with the light bulb icon: 

Overview/Checklist:

This is an overview of each of the steps of the build. You can use this as a reference and a checklist as you button up the work on the car.




1. Remove the Factory Hatch Interior Panels

- 1a) Remove the rear deck lid from the cargo area as shown in [Figure 1A](#)
- 1b) Remove the hatch carpet and foam molding panels as shown in [Figure 1B](#)
- 1c) Remove the rear plastic molding as shown in [Figures 1B & 1C](#)
- 1d) Remove the four (4) cargo hooks from the cargo area as shown in [Figure 1C & 1D](#)
- 1e) Remove the scew holding the side panel on as shown in [Figure 2A](#). Repeat for passenger's side
- 1f) Fold down the rear seats and remove the clip as shown in [Figure 2B](#). Repeat for the passenger side
- 1g) Remove the passenger clip next to the seatbelt as shown in [Figure 2C](#). Repeat for the driver's side
- 1h) Remove the drivers side door panel as shown in [Figure 2D](#). Repeat for the passenger's side
- 1i) Remove the clip shown in [Figure 2E](#). Repeat for the passenger's side
- 1j) Remove the hatch light as shown in [Figures 3A & 3B](#).
- 1k) Remove the driver's side panel from the vehicle as shown in [Figures 3C](#). Repeat for the other side

2. Install the Black Powdercoated Brackets


- 2a) Remove the two (2) driver's side strut support bolts as shown in [Figure 4A](#). Repeat for the other side
- 2b) Assemble both brackets as shown in [Figure 4B](#).
- 2c) Install the driver's side bracket as shown in [Figure 4C](#). Repeat for the passenger's side

3. Trimming the Interior Panels

-  Note: Measure twice, and cut once. Also, the template is for reference only.
- 3a) Trim the driver's side panel as shown in [Figure 5A](#). Repeat for the passenger's side panel
- 3b) Fit the panel in to place as shown in [Figure 5B](#). Trim if needed. Repeat for the passenger's side

4. Installing the Quick-Release Chassis Brace

- 4a) Insert the driver's side rod end as shown in [Figure 6A](#). Repeat for the passenger side rod end
Thread the rod end in or out so the holes line up if needed
- 4b) Twist the top of the bar towards the back of the vehicle until it is tight
- 4c) Tighten the rod end bolts up to the bar to secure the bar in place

-  Note: Twist the top of the bar towards the back of the car to make the rear end of the car stiffer. Twist the top of the bar towards the front of the car to decrease stiffness.







Installation Instructions:

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2004 - 2011 MazdaSpeed 3 & Mazda 3

How the Instructions Work



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Overview/Checklist:

This is an overview of each of the steps of the build. You can use this as a reference and a checklist as you button up the work on the car.



5. Installing the Side & Rear Chassis Braces

- 5a) Thread on one of the short bars to the spherical rod end as shown in [Figure 7A](#).
-  Note: One end is LHT and the other is RHT. Please be sure you thread in the correct rod end.
- 5b) Repeat step 5a for the passenger side.
- 5c) Install the lower driver's side mounting bracket as shown in [Figure 7B](#).
-  Note: Small fingers and patients work best here. Also a magnet and duct tape are suggested.
- 5d) Install the rear lower trunk brace to the rod end as shown in [Figure 7C](#). Leave loose for now.
- 5e) Install the bottom lower cross brace as shown in [Figure 7D](#). Then tighten the 17mm bolt.
- 5f) Install the passenger's side rear lower bracket by threading the rod end into the lower rear bar and then install it into the chassis and tighten.
- 5g) Repeat step 5E for the passenger's side bracket (shown in [Figure 7E](#)).
- 5h) Double check that all hardware is tight and secure. Then twist each bar so that the rod ends push outward on the mount points. The tighter the bars, the stiffer the rear of your chassis becomes.
- 5i) Flip over the rear cargo carpet and remove the protrusion as shown in [Figure 7F](#) this will not affect function, but will allow for the carpet to slide in and out without having to remove any braces.

6. Reinstall the Remaining Interior Panels

- 6a) Reinstall the two (2) cargo hooks (see [Figure 1D](#))
- 6b) Reinstall the rear plastic panel as shown by the [red arrow](#) in [Figure 1C](#)
- 6c) Reinstall the driver's side plastic panel clip shown in [Figure 2E](#) and repeat for the passenger side
- 6d) Reinstall the driver's side door jam panel as shown in [Figure 2D](#) and install the clip as shown in [Figure 2C](#). Repeat for the passenger side panel
- 6e) Reinstall the hatch light as shown in [Figure 3A](#)
- 6f) Reinstall the hatch rear deck lid as shown in [Figure 1A](#)
- 6g) Reinstall the hatch foam molding as shown in [Figure 1B](#)
- 6h) Reinstall the hatch carpet with the newly modified foam underside.
- 6i) To remove the bar, twist the top of the bar towards the front of the car and pull the quick-release pins once the bar is loose.
- 6j) Reinstall the bar by following steps 4A - 4C if needed



Installation Instructions:

CorkSport Rear Chassis Brace Set

2004 - 2011 MazdaSpeed 3 & Mazda 3

1: Remove the Factory Hatch Interior Panels

A) Remove the two (2) plastic cable clips holding the rear deck lid to the hatch (shown by the red arrows in Figure 1A). Then unclip the deck lid by sliding it back and out of the car (shown by the green arrows in Figure 1A).



Figure 1A

B) Remove the hatch carpet and foam molding panels as shown in Figure 1B.

C) Remove the rear plastic molding by unclipping the two (2) clips shown by the red arrows in Figure 1B and 1C by using a flathead screwdriver. Then pull up and out of the vehicle.



Figure 1B

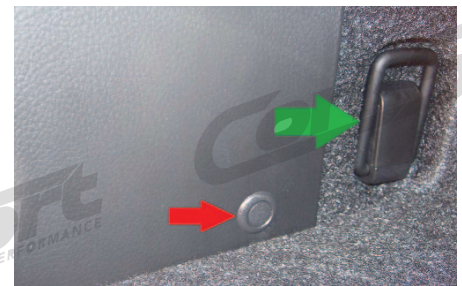


Figure 1C

D) Remove the four (4) cargo hooks located in the four corners of the cargo area by opening the cover and removing the 10mm hex head bolt using a ratcheting wrench and 10mm socket (cargo hooks shown in Figure 1C& 1D).



Figure 1D

E) Remove the screw holding on the driver's side plastic side panel using the phillips head screwdriver (shown in Figure 2A by the red arrow). Repeat on the passenger side.



Figure 2A

F) Fold down the rear seats and remove the one (1) driver's side lock pin (shown in Figure 2B by the red arrow). Repeat on the passenger side.



Figure 2B

G) Remove the passenger lock pin next to the rear seatbelt as shown in Figure 2C by the red arrow). Repeat on the driver's side.



Figure 2C

H) Remove the driver's side door panel (shown in Figure 2D) by pulling out on the panel. It will come loose at the top first, and then work your way down the door jam. Repeat on the passenger's side.



Figure 2D

Installation Instructions:

CorkSport Rear Chassis Brace Set

2004 - 2011 MazdaSpeed 3 & Mazda 3

1: Remove the Factory Hatch Interior Panels (Continued)

I) Once the door jam panel is out of the vehicle, remove the clip shown in **Figure 2E** and remove the plastic panel covering the seatbelt recoil as shown in **Figure 2F**. Repeat this for the other side.



Figure 2E



Figure 2F

J) Remove the panel below the hatch light as shown in **Figure 3A** and remove the light from the panel as shown in **Figure 3B**.

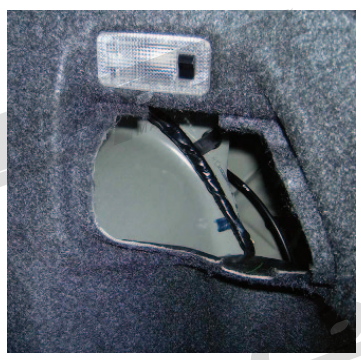


Figure 3A



Figure 3B

K) Remove the driver's side panel from the vehicle as shown in **Figure 3C**. Repeat this step for the passenger side panel.



Figure 3C

2: Install the Black Powdercoated Brackets

A) Remove the two (2) driver's side bolts from the strut support using a ratcheting wrench and 17mm socket. Bolts are shown by the **red arrows** in **Figure 4A**. Repeat this step for the driver's side.



Figure 4A

B) Assemble both brackets as shown in **Figure 4B** using two (2) 17mm hex head bolts (one short & one long) and four (8) 10mm washers per bracket (4 large & 4 small). The order from the bolt head down goes: spherical rod end, 3 small washers, 1 large washer, bracket, and 1 large washer. The other side goes: 1 large washer, bracket, & 1 large washer.



Figure 4B

Note: The rod ends face the back of the car. You may also choose to wait to install the rod end until the carpet panel is reinstalled.



Figure 4C

C) Install the driver's side bracket as shown in **Figure 4C** by hand tightening both bolts to ensure that they are both fully threaded into the strut tower bracket. Then using the ratcheting wrench and 17mm socket, tighten the bolts so the bracket is secure. Repeat this for the passenger's side bracket.

Installation Instructions:

CorkSport Rear Chassis Brace Set

2004 - 2011 MazdaSpeed 3 & Mazda 3

3: Trimming the Interior Panels

Note: When trimming the interior panels, measure at least twice before cutting. Also note that these instructions are for reference only. Your vehicle may differ slightly in hole location. Always wear proper safety equipment:

A) Locate the rectangle stamped into the back of the driver's side interior panel (shown as a **green rectangle** in **Figure 5A**). Measure up 1.25" from the bottom left corner of the rectangle. This will be the bottom left point of your cut. The cut will be 1.75" tall and 1.375" wide as shown by the **red rectangle** in **Figure 5A**. Using a utility knife or similar, carefully cut out the rectangle and discard the piece. Cut round hole as shown by the **green circle**. Repeat the mirror image of this on the passenger side panel.

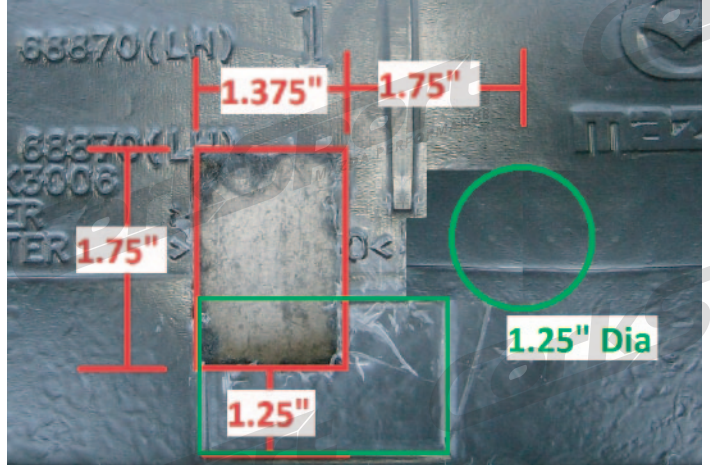


Figure 5A

B) Fit the panel over the bracket and back in to its stock location as shown in **Figure 5B**. If it does not fit, remove the panel and trim any excess material needed to make the panel fit over the bracket. Once fitted properly, reinstall the plastic panel over the top and reinstall the screw (hole location shown by the **red arrow** in **Figure 5B**). Repeat for the passenger side panels.



Figure 5B

4: Installing the Quick-Release Chassis Brace

A) Insert the driver's side rod end (CorkSport logo on the strut tower bar in the upright position as shown in **Figure 6A**) in to the bracket and insert the quick-release pin through the bracket as well as the rod end. Repeat this for the passenger's side of the bar. If the rod end does not line up, thread the rod end further in to or out of the bar until the holes line up on the rod end and bracket.



Figure 6A

B) Once the bar is installed, twist the top of it towards the back of the vehicle by hand until it is tight.

C) Using a 17mm end wrench to hold the bar and a 22mm end wrench (or Crescent wrench) to tighten the rod end nuts, snug the rod end nuts up to the end of the bar (both ends). The nut and bolt assembly can be seen in **Figure 7D** holding the upper bar in place.

Note: Twisting the top of the bar towards the back of the car will increase stiffness of the rear end. Twisting it toward the front of the car will decrease stiffness.

5: INSTALLING THE SIDE & REAR CHASSIS BRACES

A) If you have not already installed the rod end with the bolt and washers, please do so now. Then thread on one of the short black anodized bars as shown. Your bracket should look like **Figure 7A** to the right (RSTB not shown in the picture).

Note: One bar is a LHT and one is a RHT, please be sure to thread the correct bar to the correct rod end.

B) Repeat this process for the passenger side.

C) Locate the where the rear factory cargo hook was as shown in **Figure 7B**. You will need to use a .5in drill bit to enlarge the hole to install the RivNut fitting. Refer to page for detailed instructions on installing the RivNut fitting.

D) Install the rear lower trunk brace to the rod end as shown in **Figure 7C** using one of the 15mm head bolts, and 3 washers on the bracket side of the rod end leaving the bolt loose so that the bracket can rotate freely. Repeat this step for the other side.

E) Install the bottom part of the side cross brace as shown in **Figure 7D** using an 8mm allen wrench and a 14mm wrench. Once the cross brace is installed and tight, tighten down the 17mm bolt holding the bracket to the chassis.



Figure 7A



Figure 7B



Figure 7C



Figure 7D

Installation Instructions:

CorkSport Rear Chassis Brace Set

2004 - 2011 MazdaSpeed 3 & Mazda 3

5: Installing the Side & Rear Chassis Braces - Continued

F) Install the passenger's side rear lower bracket in the same fashion as the driver's side bracket (step 5C), except the rod end will need to be threaded into the rear lower bar before being bolted to the chassis (shown in **Figure 7E**).

G) Repeat step 5E for the passenger's side bracket (shown in **Figure 7E**).

H) Once all the bars are bolted in place, double check that all hardware is tight and secure. Once everything is secure, rotate each bar until they are pushing outward on the respective mounting points. The tighter you twist the bars, the less rear chassis flex you will have.

I) Flip over the rear cargo carpet and remove the protruding foam using a utility knife or similar as shown in **Figure 7E**. This will not affect function, but will allow the pad to slide under the rear bar for easy installation and removal of the spare tire.



Figure 7E

6: Reinstall the Remaining Interior Panels

A) Reinstall the front two (2) cargo hooks (see **Figure 1D**) using the ratcheting wrench and 10mm socket.

B) Reinstall the rear plastic panel (carefully slide it under the lower rear bar that you just installed) and reinstall the two (2) plastic clips (driver's side shown by **red arrow** in **Figure 1C**) by pushing them into the hole in the plastic and carpet panels.

C) Reinstall the driver's side plastic panel clip shown in **Figure 2E** and repeat for the passenger side panel.

D) Reinstall the driver's side door jam panel as shown in **Figure 2D** and install the clip as shown in **Figure 2C**. Repeat for the passenger's side door jam panel.

E) Reinstall the hatch light as shown in **Figure 3A**.

F) Reinstall the hatch rear deck lid as shown in **Figure 1A** by clipping the bottom front in (shown by **green arrows**) and attaching the hatch door cable clips (shown by **red arrows**).

G) Reinstall the hatch foam molding as shown in **Figure 1B**.

H) Reinstall the hatch carpet with the newly modified foam underside.

I) Should you ever need to remove the top bar to make room for large items in your vehicle, simply hand twist the bar (top towards the front of the car) and pull the quick release pins by pushing the button in and pulling out on the pin.

J) Reinstall the bar by following steps 4A - 4C if needed.

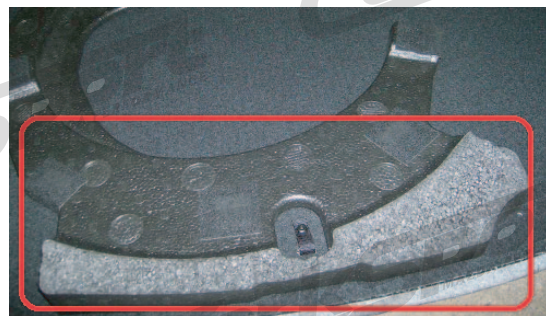


Figure 7F

7: Detailed Installation of RIV Nuts.

- a. Figure 3a shows a cross section of the RIV nut and RIV nut installation tool. First, place the RIV nut on the RIV nut installation tool. Then, place the entire assembly with socket wrench and end wrench into the desired hole. Figure 3b shows the end that will be going into the body of the vehicle. We need to use these RIV nuts in areas that are not accessible with traditional nuts.



Figure 3b

- b. Hold the end wrench while you start to tighten the socket wrench. Some of the larger RIV nuts may require a breaker bar or larger socket wrench. Tighten the RIV nut until it is secure to the body.
- c. Once the RIV nut is secure, you can pull out the RIV nut installation tool. Reverse the socket wrench and undo the bolt. Make sure to hold the end wrench while pulling loosening the installation tool as well.
- d. Figure 3c and Figure 3d show how each end will look once you are finished. The end shown on Figure 3c generally will not be visible.



Figure 3a



Figure 3c



Figure 3d