

CorkSport Mazdaspeed 3 Catted Downpipe

2007+ Mazdaspeed 3



Thank you for purchasing the CorkSport Mazdaspeed 3 Catted Downpipe. Designed to replace the restrictive catalyst in the stock downpipe and deliver improved exhaust flow for significant power gains, noticeable improvements in turbo response time, and reduced backpressure. You can expect up to a 21 WHP improvement over the stock set-up with the CorkSport Mazdaspeed 3 Downpipe installed. Please let us know your feedback by submitting a review at <http://www.corksport.com/corksport-mazdaspeed-3-downpipe.html>

Pre-Installation Notes:



Make sure your vehicle is completely cooled down prior to starting installation. If you are going to work on your car within an hour or two of having driven it, use a fan to cool off the car.



These instructions were written for reference only and the use of a factory service manual is recommended. Please read these instructions thoroughly prior to starting installation



How our instructions work: To best cover all of our customers experience levels, we have included an overview checklist for the more technically advanced users along with step-by-step instructions for customers that require additional detail.



These installation instructions were written using a 2010 Mazdaspeed 3. Other year Mazdaspeed3 models will be similar.

Materials and Time:



General Info.

Part #: Axl-6-112
Time Est: 4-5 hours
Wrench Rating: 3/5



Tooling List

10mm Socket 1/2" Drive Ratchet
12mm Socket Swivel Socket
14mm Socket 12" Extension
17mm Socket O2 Sensor Socket
14mm Wrench Penetrating Fluid
3/8" Drive Ratchet Anti-Seize



Parts List

One (1) CorkSport Catted Downpipe
One (1) O2 Extension
Two (2) O2 Bung Plugs
One (1) Hardware Set
Two (2) Donut Gasket (Optional 80mm Fitment)

Need Help With Your Installation?

Call (360) 260-CORK

Checklist

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

1. Getting to the Downpipe



These instructions were made using a US market 2010 Mazdaspeed3.

- 1a)** Remove two (2) 10mm hex bolts securing the intercooler cover
- 1b)** Loosen the clamps on the inlet and outlet of the top mount intercooler and the clamps on the bypass valves hoses. Remove the hoses from the bypass valve
- 1c)** Remove the intercooler by removing the three (3) 12mm intercooler mounting bolts
- 1d)** Remove the rear intercooler mount bracket by removing the two (2) 12mm headed nuts
- 1e)** Remove the heat shield by removing the five (5) 8mm headed bolts
- 1f)** Remove the O2 sensor from the downpipe, you may leave it plugged in
- 1g)** Remove the three (3) 10mm headed bolts securing the downpipe heat shield

2. Remove the Factory Downpipe and Catalyst

- 2a)** Remove the five (5) nuts from the downpipe to the turbo manifold
- 2b)** Remove the 10mm headed bolt and O2 sensor wiring harness loom from the downpipe
- 2c)** Jack up the front of the car
- 2d)** Remove the front chassis cross member by removing the four (4) 14mm bolts, two (2) 14mm nuts, and one (1) 10mm bolt
- 2e)** Remove the eight (8) 12mm bolts from the mid-chassis support and slide the support out of the car
- 2f)** Remove the 14mm locking nuts from the spring loaded studs at the back of the factory catalyst pipe
- 2g)** Remove the two (2) 14mm spring loaded hex bolts from the front flange of the factory catalyst pipe
- 2h)** Remove the factory catalyst pipe by removing it from the exhaust hangers
- 2i)** Unplug the upper and lower O2 harnesses from the car
- 2j)** Remove the two 14mm headed bolts holding the downpipe bracket to the engine
- 2k)** Check the stock turbo to downpipe gasket and make sure it is in good shape, if not, replace
- 2l)** Remove the factory donut gasket from the end of the factory catalyst pipe, if you purchased a stock fitment downpipe, to reuse for installation. If you purchased an 80mm downpipe, you may skip this step

Checklist

3. CorkSport Catted Downpipe Installation

- 3a) Install the factory donut gasket (for stock fitment) or the provided gasket (for 80mm fitment) onto the end of the CorkSport Downpipe
- 3b) Install the CorkSport downpipe from the bottom of the car onto the studs of the turbo and install the bottom-forward nut while installing the downpipe, leave loose (See [Figure 3a](#))
- 3c) Install the exhaust hangers into the factory exhaust hanger bushings
- 3d) Install the remaining four 14mm headed nuts and tighten in a criss-cross pattern to 39-46ft-lbs, hand thread all the nuts before tightening them down
- 3e) Install the factory fasteners back into the rear flange of the downpipe/cat-back connection
- 3f) Connect the provided O2 sensor extension to the factory wire harness
- 3g) Reinstall the lower O2 sensor using anti-seize and connect it using the provided O2 sensor extension
- 3h) Reinstall the front chassis brace, torque the 14mm nuts and bolts to 22-28ft-lbs and the 10mm nut to approximately 10ft-lbs
- 3i) Reinstall the center chassis brace
- 3j) Reinstall the upper O2 sensor, relocate the wiring coil that holds the O2 wire to the firewall and reconnect the sensor plug to the wiring harness
- 3k) Reinstall the exhaust manifold heat shield

4. Reinstalling the Top Mount Intercooler

- 4a) Reinstall the rear intercooler bracket by reinstalling the two (2) 12mm headed nuts (see [Figure 2d](#))
- 4b) Reinstall the intercooler into the hot and cold charge couplers and over the mounting studs, tighten the hose clamps and reinstalling the three (3) 12mm headed nuts to secure the intercooler.
- 4c) Install the recirculation valve hose and vacuum line, and reinstall the hose clamps
- 4d) Reinstall the intercooler cover using the two (2) 10mm hex head bolts



This completes the installation of your Downpipe. Lower the car and start it. Check for any visible or audible leaks in the system. If there is a leak a flange may have been over tightened or misaligned. Check out our [knowledgebase](#) for additional install information

What's Next:



Dramatically improve cooling efficiency and performance with the CorkSport MazdaSpeed 3 2010+ Front Mount Intercooler Kit designed for use with an Short Ram Intake. Available in two aluminum core sizes with custom cast end tanks and 2.25" aluminum mandrel bent piping with bead rolled ends, the CorkSport FMIC for SRI has been developed and tested to integrate seamlessly with the CorkSport Power Series Short Ram Intake.

<http://www.corksport.com/corksport-2010-mazdaspeed-3-fmic-kit-for-short-ram-intake.html>

Need Help With Your Installation?

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Detailed Instructions

These instructions are made for all 2007+ Mazdaspeed 3. Please contact us if you have questions about the fitment for your specific application.

1. Getting to the Factory Downpipe

- A. Remove the two (2) 10mm Hex Bolts holding the intercooler cover to the intake manifold as shown in **Figure 1a**. Slide the intercooler cover off the back of the intercooler and out of the engine compartment.
- B. Loosen the hose clamps on the inlet and outlet of the top mount intercooler as shown by the **red arrows** in **Figure 1b**. Use pliers to loosen the hose clamps on the recirculation valve (shown by the **green circles** **Figure 1b**) and pull the recirculation hoses free of the valve.
- C. Remove the intercooler by removing the three (3) 12mm intercooler mounting bolts circled in **Figure 1c**. Pull the intercooler up off of the stud at the rear of the engine compartment, then rotate it off of the hot-charge hose at the back of the engine compartment. Pull the intercooler off the two front studs and out of the cold-charge hose in the front of the engine compartment. Place the intercooler in a safe place where the fins will not be damaged.
- D. Remove rear intercooler mount bracket by removing the two (2) nuts circled in **Figure 1d** using a 12mm socket.
- E. Remove the heat shield by applying penetrating oil, allowing to soak for a few minutes and remove all five (5) 8mm hex head bolts from the upper heat shield on the exhaust manifold, marked with **red arrows** on **Figure 1e**. Remove the heat shield from the vehicle.

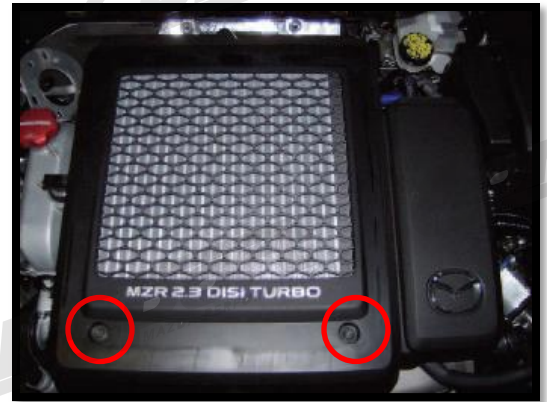


Figure 1a

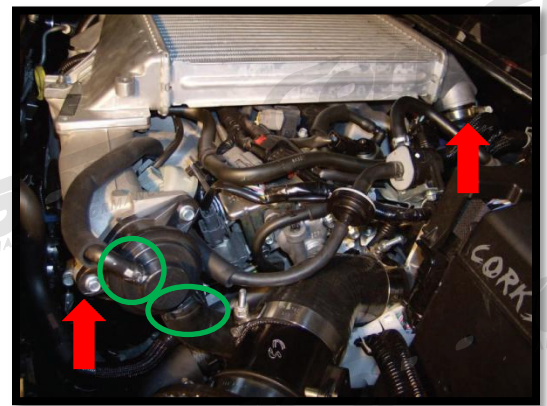


Figure 1b



Figure 1c

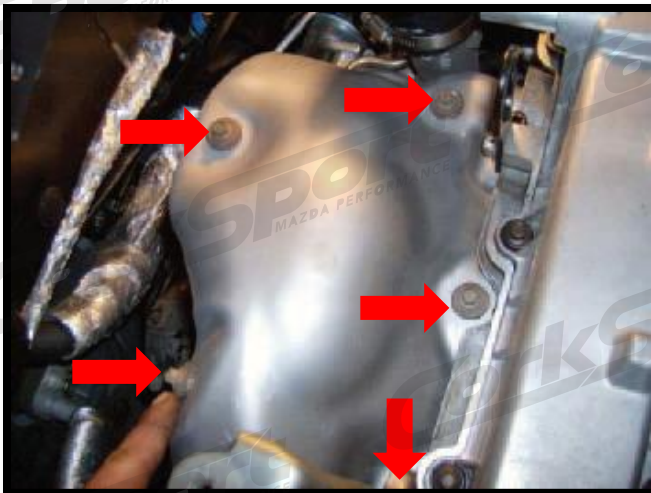


Figure 1e

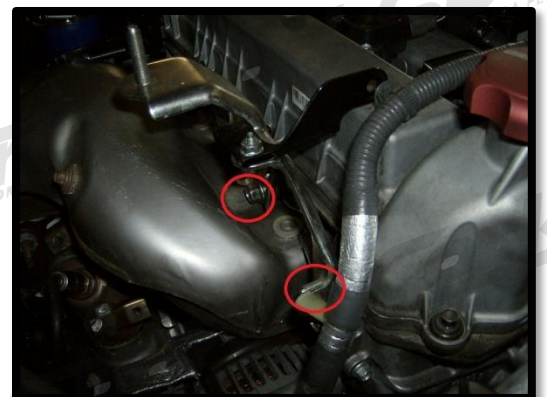


Figure 1d

Need Help With Your Installation?
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1. Getting to the Factory Downpipe Continued

- F. Remove the upper O2 sensor by applying penetrating oil and allowing to soak for a few minutes. Remove the sensor using an O2 Sensor wrench. Once it breaks free, re-spray it and turn it back in, then back out to allow penetrating spray to infiltrate all of the threads. Make sure not to twist the wiring harness up when removing the sensor. You can disconnect it at the plug if necessary.
- G. Remove the three (3) 10mm headed bolts securing the downpipe heat shield.

2. Remove the Factory Downpipe and Catalyst

- A. Remove the five (5) nuts securing the downpipe by spraying penetrating oil on them (4 nuts shown w/ red arrows in Figure 2a, the fifth nut is underneath the downpipe). Let them soak for several minutes then remove the nuts. They are a factory locking style nut so they may be difficult to remove. A medium length 14mm socket, breaker bar, universal joint, and 12" extension are the best tools for removing the nuts.

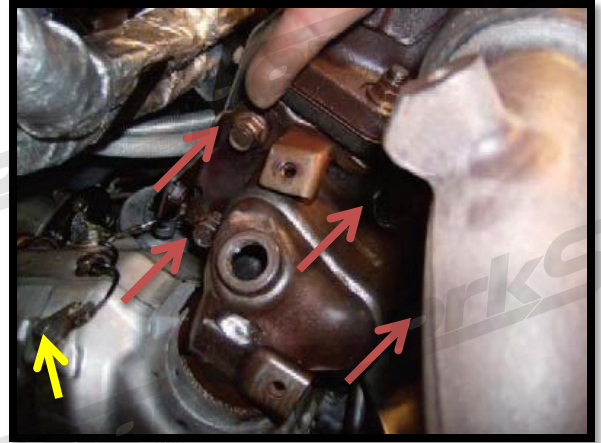



Figure 2a

- B. Remove 10mm hex head bolt and O2 sensor wiring harness loom from downpipe shown with a yellow arrow in Figure 2a. It will be reused to secure the Factory O2 sensor wiring harness.
- C. Using a floor jack and jack stands, bring the front of the car up in the air enough to access the underside of the chassis.
 -  Always refer to the floor jack and jackstand manufacturers instructions as well as the factory owners manual for your vehicle to determine jacking points and support points. Alternately, use an automotive lift to gain access to the underside of the vehicle. Redundant support mechanisms are recommended.
- D. Remove the front chassis cross member by removing the fasteners shown in Figure 2b: 4x 14mm bolts, 2x 14mm nuts and 1x 10mm bolt holding brake line shield to the chassis.

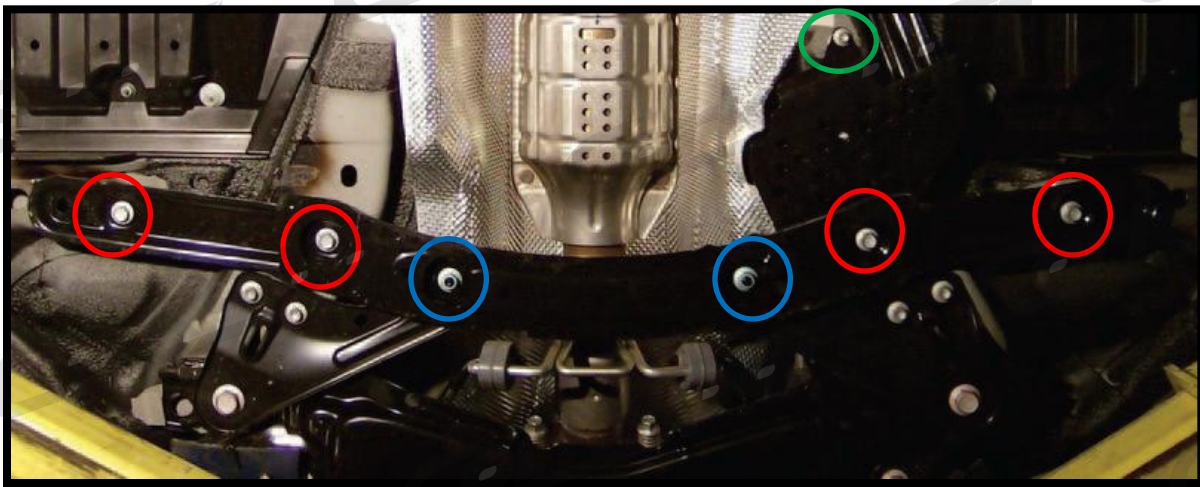


Figure 2b

2. Remove the Factory Downpipe and Catalyst

- E) Remove eight (8) 12mm Bolts from center chassis support member shown in **Figure 2c**. Slide the support member hooks out of the floor pan and set aside.
- F) Remove the 14mm locking nuts shown by the **red** arrows in **Figure 2d**, from spring loaded studs on the rear flange of the catalyst pipe by spraying them with penetrating fluid and removing them with a 14mm socket and 3/8" drive ratchet. These are extremely tight. Realistically, you'll probably end up unthreading the studs out of the weld nuts on the factory cat pipe.
- G) Remove 2x 14mm spring loaded hex bolts shown by the **blue** arrows in **Figure 2d** from the front flange connecting the factory cat pipe to the factory downpipe by spraying them with penetrating spray and using a 14mm socket.
- H) Remove the catalyst pipe by removing from the exhaust hangers shown by the **green** arrows in **Figure 2d**. Spray the hangers liberally with silicone spray. Remove the pipe from the exhaust hangers. Remove the catalyst pipe from the vehicle.
- I) Follow the O2 Sensor Harnesses and unplug both O2 sensor connectors shown in **Figures 2e** and **2f** from the main harness. The upper O2 sensor is a 2 plug style with one black and one grey connector. The lower O2 sensor is a single grey plug. Once the lower O2 sensor is unplugged remove it from the factory downpipe. Make sure the O2 wires are completely free before removing them from the vehicle.

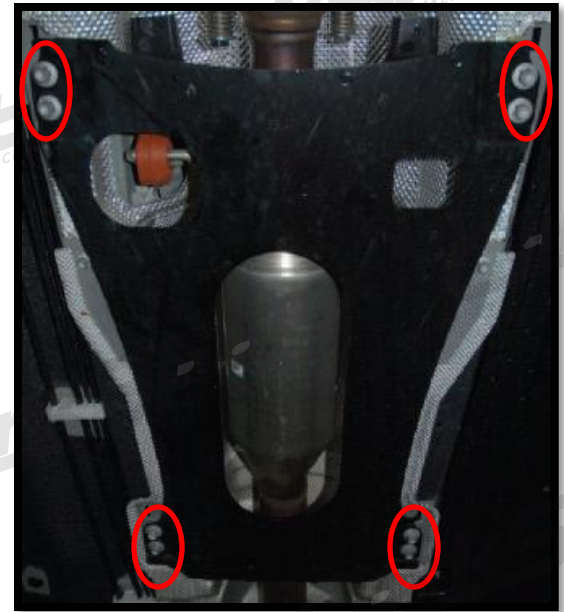


Figure 2c



Figure 2d



Figure 2e



Figure 2f

2. Remove the Factory Downpipe and Catalyst Continued

- J) Remove the two 14mm headed bolts which hold the downpipe bracket to the engine. These two bolts are on the passenger upper side of the bracket, and cannot be seen from below or above with the catalyst in the car. You can get a nearly straight connection on it with a long extension coming in from above and behind the transmission cross member. Remove the bracket from the vehicle. Remove the factory downpipe out the bottom of the car.
- K) Check and make sure the stock turbo to downpipe gasket is in good shape. If it has damage or looks like it has been leaking replace it. Factory Part Number L3F2-13-490.
- L) Remove the factory donut gasket from the factory catalyst pipe. Be careful not to damage it during removal. You can skip this step if you purchased an 80mm fitment downpipe.

3. CorkSport Catted Downpipe Installation

A) Install the factory donut gasket (for stock fitment) or the provided donut gasket (for 80mm fitment) onto the end of the CorkSport Downpipe.

B) From the bottom of the car install the new CorkSport downpipe onto the studs of the turbo with the original or new gasket. Put some anti seize on the studs to make installation of the nuts easier. Once the downpipe is on the studs, install one nut on the lower-forward stud shown in **Figure 3a**. YOU MUST install this nut before tightening the rest or there will not be enough clearance between the downpipe and stud to insert the nut. Leave the nut a little loose to give you some room to continue installing the downpipe.

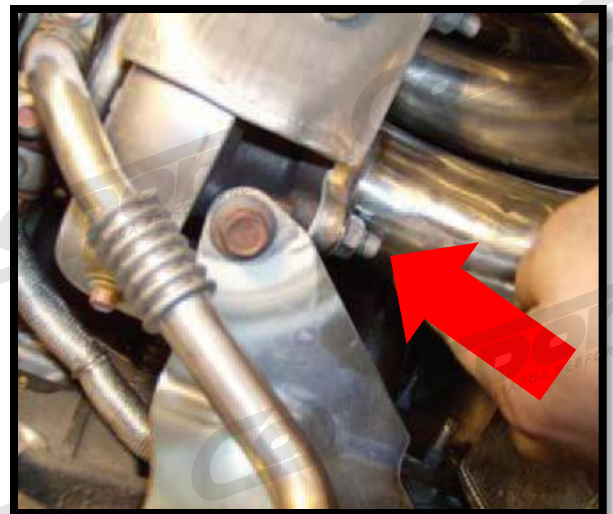


Figure 3a

C) Slide the exhaust hangers into the factory exhaust hanger bushings.

D) Install the remaining four 14mm headed nuts and tighten all of the nuts in a crisscross pattern to 39-46 ft/lbs.

E) Install the provided M10 bolts and washers into the rear flange of the catted down pipe, reusing the factory springs, and tighten them. See **Figure 3b** for an illustration of the hardware stack up. Tighten the springs so there is a 1mm gap between the coils. This allows the exhaust to flex and absorb engine movement.

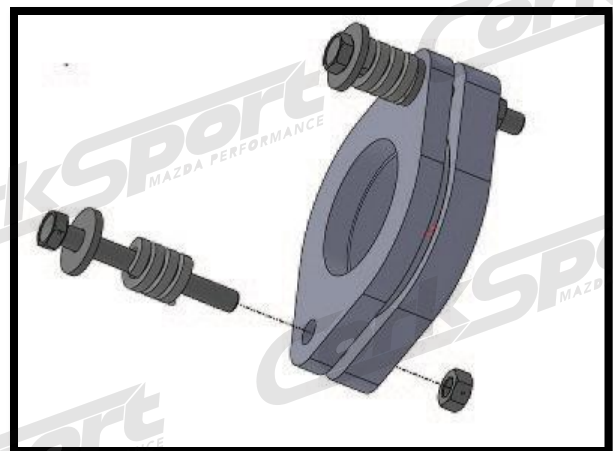


Figure 3b

F) Install the O2 sensor extension into the lower O2 plug on the factory wiring harness.

G) Install the lower O2 sensor by putting a small amount of anti-seize on the threads and slowly threading it into the bung. Install the O2 sensor into the bung that is located after the catalytic converter. Connect the lower O2 sensor plug into the O2 sensor extension.

3. CorkSport Catted Downpipe Installation Continued

- H) Reinstall the front chassis brace by reinstalling the four (4) 14mm Head Hex Bolts, two (2) 14mm Nuts, one (1) 10mm (see **Figure 2b** for bolt location reference). Torque the 14mm Bolts & Nuts to 22-28 Lb Ft. Tighten the 10mm hand tight (~10 Lb Ft).
- I) Reinstall Center Chassis Brace eight (8) 12mm Bolts and torque to 22-28 Lb Ft.
- J) Reinstall the upper O2 sensor by putting a small amount of anti-seize on the threads and slowly threading it into the downpipe. Re-route the wire harness as shown in **Figure 3c** by connecting the wiring coil which was earlier removed from the factory downpipe into the available hole on the firewall shown by the red arrow in **Figure 3c**. Reconnect the O2 sensor plug to the wiring harness.
- K) Reinstall the exhaust manifold heat shield to keep the heat from the downpipe and turbo away from your top mount intercooler. Torque them hand tight (10 foot pounds).

4. Reinstalling the Top Mount Intercooler

- A) Reinstall the rear intercooler mount bracket by reinstalling the two (2) 12mm headed nuts (see **Figure 2d**).
- B) Reinstall the intercooler into the hot and cold charge couplers and over the mounting studs. Tighten the coupler hose clamps and pull on intercooler to test tightness of fit. If the intercooler can pull out or move, it's not tight enough. Install the 12mm nuts over the studs and tighten to ~20 ft-lb of torque.
- C) Install the recirculation valve hose and reinstall the hose clamp. Install recirculation vacuum line and reinstall hose clamp.
- D) Install the intercooler cover, ensuring that the clasp in the back is firmly latched over the feature on the intercooler and reinstall the two (2) 10mm Hex Head bolts. Tighten to hand tight.



Figure 3c

! This completes the installation of your Downpipe. Bring the car down off the jack stands and start the car. Use a flashlight to check under the car to ensure that no visible exhaust is leaking and listen for leaks (usually a whispering tick sound at the flange). Look at the connection that you made under the vehicle and also at the turbocharger. If there are leaks, 99% of the time a flange has been over tightened or is misaligned. There may be a burning off smell as the downpipe is heated for the first time. This smell will go away after some driving. The Catted Downpipe should not trigger a Check Engine Light (CEL). If a CEL occurs, verify that the O2 sensors are installed properly. Check out our [knowledgebase](#) for additional install information

What's Next:

[CorkSport Mazdaspeed 3 FMIC Kit for Short Ram Intake](#)



Dramatically improve cooling efficiency and performance with the CorkSport Mazdaspeed 3 Front Mount Intercooler Kit designed for use with an Short Ram Intake. Available in two aluminum core sizes with custom cast end tanks and 2.25" aluminum mandrel bent piping with bead rolled ends, the CorkSport FMIC for SRI has been developed specifically for the 2010+ Mazdaspeed 3 and designed and tested to integrate seamlessly with the CorkSport Power Series Short Ram Intake. This kit can be purchased standalone to compliment your current Short Ram Intake or can be purchased with a CorkSport Power Series Short Ram Intake for additional savings and power gains.

[CorkSport Mazdaspeed 3 Cat Back Exhaust](#)

The CorkSport Power Series Exhaust for the 2010+ Mazdaspeed 3 provides noticeable power gains and solid value in an attractive and stylish part. Peak power gains for the exhaust system are 14 wheel horsepower. The CorkSport exhaust features 80mm exhaust piping, a straight through high flow muffler, and a 4 inch rolled stainless steel exhaust tip which all combine to give the Mazdaspeed 3 a powerful presence. The exhaust produces a very distinct, deep sound from the 2.3 DISI Turbo engine used in the 2010+ Mazdaspeed 3.



[CorkSport DISI Silicone Bypass Valve Hose](#)



CorkSport now offers the Power Series Bypass Valve Hose specifically designed and tested for the Mazda MZR DISI Turbo engine. The hose is a clamp-in replacement for the stock non-reinforced rubber hose. Install the hose to complete your engine bay colors and match the CorkSport SRI silicone connectors and Boost Tubes. The bypass hose is a 5 layer silicone part that contains 4 layers of reinforcement for a strong, yet flexible connection which allows for ideal flow from the bypass valve to the turbo inlet pipe.