

## CorkSport Mazdaspeed 3 Aluminum Radiator

2010-2013 Mazdaspeed 3, 2010-2013 Mazda 3 2.5,  
2010-2013 Mazda 3 2.0 (non SkyActiv)



**Thank you for purchasing the CorkSport Mazdaspeed 3 Aluminum Radiator.** designed as a direct OEM replacement, allowing you to provide excellent cooling for your Mazda3 on and off the track. Please let us know your feedback by submitting a review at: <http://www.corksport.com/corksport-mazdaspeed-3-aluminum-radiator.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 2013 Mazdaspeed 3.** Other year Mazda 3 models will be similar.

### Materials and Time:



#### General Info.

Part #: Axl-6-701  
Time Est: 1.5 hours  
Wrench Rating: 3/5



#### Tooling List

10mm Socket  
1/4" Drive Ratchet  
21mm Wrench  
Flat Head Screw Driver  
Phillips Head Screw Driver  
Long Needle Nose Pliers  
Bucket or Drain Pan  
New BGallon of Antifreeze  
Filtered or Distilled Water



#### Parts List

One (1) CorkSport Aluminum Radiator

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



These instructions are made for 2010-2013 Mazdaspeed 3.

### 1. Remove the Factory Radiator



a) Use a floor jack and jackstands to gain access to the underside of the vehicle. Support the car on jack stands or car lift.



Always refer to the floor jack and jack stand 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.



b) Remove the splash tray. Remove the seven (7) 10mm bolts and pry out the two (2) push clips with a flat blade screw driver (Figure 1a).



c) Remove the coolant reservoir cap (Figure 1b).



d) Place a container suitable for holding two gallons of coolant underneath the radiator. Remove the petcock screw (Figure 1c) and drain the coolant.



The antifreeze in the coolant solution is toxic to animals and humans. Please dispose of used coolant properly at your local recycling center.



e) Use a Phillips head screwdriver to remove the two (2) screw clips (red circles in Figure 1d).



f) Pry out the two upper radiator mounts by pushing all three (3) tabs in and pulling upward (Figure 1e).



g) Remove the intake snorkel by pulling it out towards the driver's side (Figure 1f).



If the factory air filter box is still present, it may be necessary to remove the upper half to remove the intake snorkel.



h) Remove the wiring harness from the white clip located on the drivers side of the fan housing (Figure 1g).



i) Unplug the electrical connection to the fan control module (Figure 1g).



j) Unplug the white electrical connector (green arrow in Figure 1g).



k) Disconnect the Driver's side lower radiator hose (Figure 1h).



l) Disconnect the radiator bleed line (shown removed and circled in green in Figure 1h).



m) Disconnect the Passenger's side lower radiator hose (Figure 1i). Squeeze the hose clamp together with a pair of pliers.

## Checklist

### 1. Remove the Factory Radiator (continued)

- n) **Unplug the electrical connection** to the radiator temp sensor. (located above the lower radiator hose on the passenger side of the radiator in **Figure 1j**).
- o) **Remove the radiator fan shroud**. Push in the locking tabs on both sides of the radiator and push the shroud upward to unhook it (**Figure 1k**).
- p) **Guide the fan shroud downward** and remove it from the car.
- q) **Pry the rubber isolators along with the radiator** out of both sides of the core support (**Figure 1l**).
- r) **Gently pull the radiator toward the engine** to gain access to the AC Condenser core.
- s) **By hand, reach up and slide the AC core out of the radiator tabs** (**red circles** in **Figure 1m**).
- t) **Remove the radiator from the car** by guiding it downwards, out of the engine bay.

### 2. Install the CorkSport Aluminum Radiator

- a) **Swap the rubber isolators** from the old radiator to the CorkSport aluminum radiator (**Figure 2a**).
- b) **Use a 21mm wrench to remove the temperature sensor from the old radiator**. Hand thread the sensor completely into the Aluminum radiator and tighten with a quarter turn (**green arrows** in **Figure 2b**).
- c) **Hand tighten the petcock** (**Figure 2c**).
- d) **Place the upper portion of the radiator up into the core support**.
- e) **Guide the A/C condenser tabs into the hooks in the front of the radiator** (**Figure 2d**). There are two (2) mounting hooks on each side of the aluminum radiator to hold the A/C condenser.
- f) **Push the assembled radiator/AC forward** until the lower pegs with rubber isolators drop into their holes in the core support (**Figure 2e**).
- g) **Guide the fan housing up into the engine bay** and hook it's four (4) tabs into the holding tabs welded to the radiator (**Figure 2f**).
- h) **Connect the harness plug to the temperature sensor** on the passenger side of the radiator (**Figure 2g**).
- i) **Connect the passenger side lower radiator hose**. Remove the rubber shipping cap. Squeeze the clamp together and push the hose onto the radiator (**Figure 2h**).

## 2. Install the CorkSport Aluminum Radiator

- j) **Connect the Driver's side lower radiator hose (Figure 2i).** Squeeze the hose clamp together with a pair of pliers and push the hose onto the radiator.
- k) **Connect the radiator bleed line (Figure 2i).**
- l) **Connect the white electrical connector (Figure 2i).**
- m) **Connect the harness plug to the fan control module (Figure 2i).**
- n) **Replace the wiring harness to the white clip located on the drivers side of the fan housing (Figure 2i).**
- o) **Replace the two (2) upper mounts into the core support.** "FR" points toward the front of the car (Figure 2j).
- p) **Replace the intake snorkel (if still using the factory air filter box).** Guide it back into place above the radiator (Figure 2k).
- q) **Replace the two plastic screw clips fastening the intake snorkel to the core support (Figure 2l).**
- r) **Replace the splash tray.** Fasten it back into place with the seven (7) 10mm bolts and two (2) push clips (Figure 2m).
- s) **Refill the cooling system** using new coolant and filtered water. Replace the coolant expansion tank cap (Figure 2n).



This completes the installation of your CorkSport Aluminum Radiator. After filling the cooling system, start the car and turn on the heater to full temp to bleed the air from the heater core. Bring the car up to full operating temp and check for coolant leaks at the radiator connections. After letting the car cool down for two hours add coolant if necessary. Check out our [knowledgebase](#) for additional install information.



## Detailed Instructions



These installation instructions were written using a 2013 Mazdaspeed 3. Other year Mazda 3 models will be similar.

### 1. Remove the Factory Radiator

- a) Use a floor jack and jackstands to gain access to the underside of the vehicle. Support the car on jack stands or car lift high enough to slide the radiator out from under the car.



Always refer to the floor jack and jack stand 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.

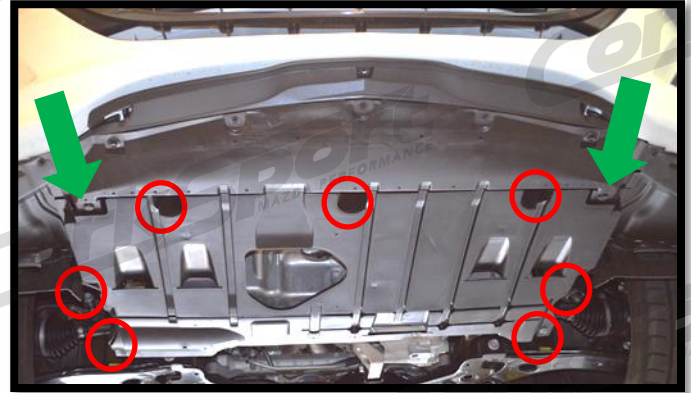


Figure 1a

- b) Remove the splash tray. Use a 10mm socket wrench w/ short extension to remove the seven (7) bolts (red circles) and pry out the two (2) push clips with a flat blade screw driver (green arrows in Figure 1a).



- c) Remove the coolant reservoir cap (blue arrow in Figure 1b).



Figure 1c

- d) Place a container suitable for holding two gallons of coolant underneath the radiator. Use a large flat blade screw driver to remove the petcock screw (Figure 1c) and drain the coolant.



The antifreeze in the coolant solution is toxic to animals and humans. Please dispose of used coolant properly at your local recycling center.

**1. Remove the Factory Radiator (continued)**

- e) Use a Phillips head screwdriver to remove the two (2) screw clips (red circles in Figure 1d).

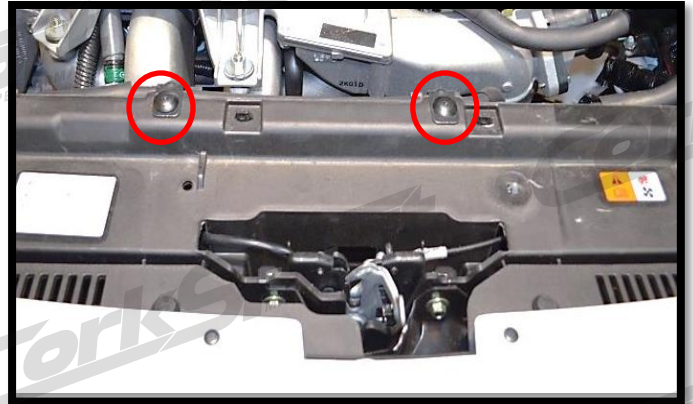


Figure 1d

- f) Pry out the two upper radiator mounts by pushing all three (3) tabs in and pulling upward (Figure 1e).

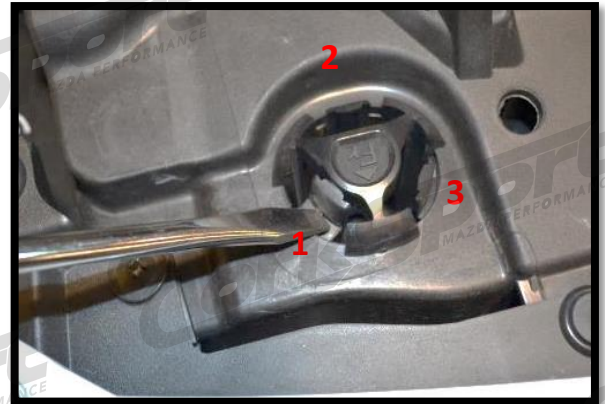


Figure 1e

- g) Remove the intake snorkel by pulling it out towards the driver's side (Figure 1f).



If the factory air filter box is still present it may be necessary to remove the upper half to remove the intake snorkel.



Figure 1f



**1. Remove the Factory Radiator (continued)**

h) Remove the wiring harness from the white clip (blue arrow) located on the drivers side of the fan housing (Figure 1g).

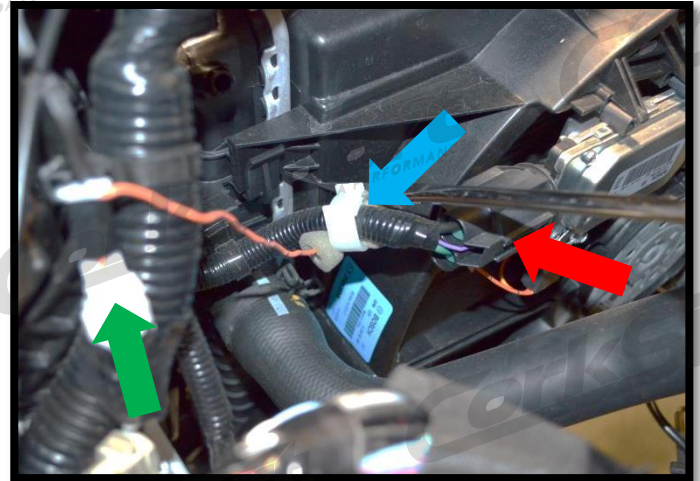


Figure 1g

i) Unplug the electrical connection to the fan control module (red arrow in Figure 1g).

j) Unplug the white electrical connector (green arrow in Figure 1g).

k) Disconnect the Driver's side lower radiator hose (Figure 1h). Squeeze the hose clamp together with a pair of long needle nose pliers.

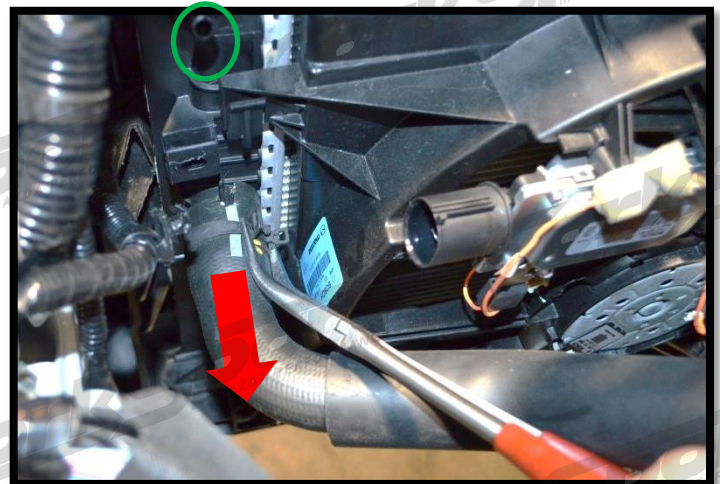


Figure 1h

l) Disconnect the radiator bleed line (shown removed and circled in green in Figure 1h).

**1. Remove the Factory Radiator (continued)**

m) **Disconnect the passenger side lower radiator hose (Figure 1i).** Squeeze the hose clamp together with a pair of pliers.



Figure 1i

n) **Unplug the electrical connection to the radiator temp sensor.** (located above the lower radiator hose on the passenger side of the radiator) (red arrow in Figure 1j).

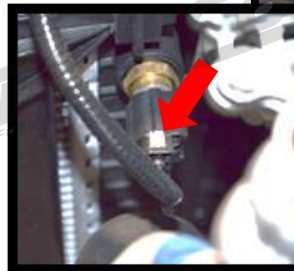


Figure 1j

o) **Remove the radiator fan shroud.** Push in the locking tabs on both sides of the radiator (red arrow in Figure 1k) and push the shroud upward to unhook it.

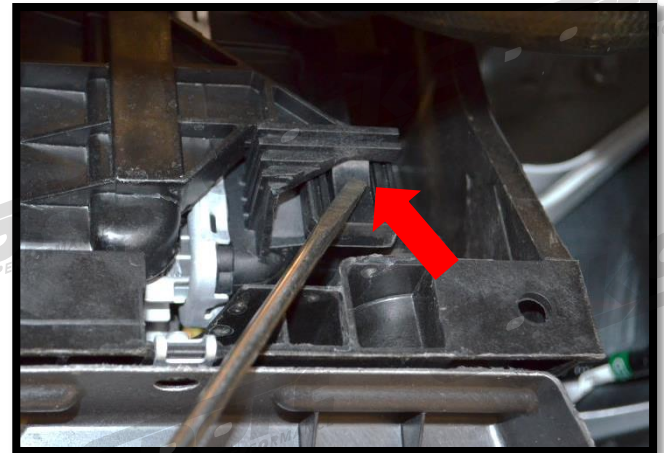


Figure 1k

p) **Guide the fan shroud downward** and remove it from the car.

q) **Pry the rubber isolators along with the radiator out of both sides of the core support (Figure 1l).**



Figure 1l



**1. Remove the Factory Radiator (continued)**

- r) Gently pull the radiator toward the engine to gain access to the AC Condenser core.
- s) By hand, reach up and slide the AC core out of the radiator tabs (red circles in Figure 1m).
- t) Remove the radiator from the car by guiding it downwards, out of the engine bay.

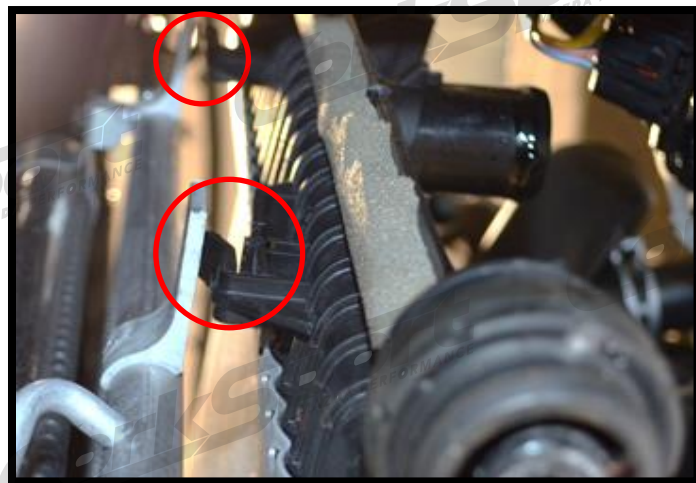


Figure 1m

**2. Install the CorkSport Aluminum Radiator**

- a) Swap the rubber isolators (red arrows) from the old radiator to the CorkSport Aluminum Radiator (Figure 2a).
- b) Use a 21mm wrench to remove the temperature sensor from the old radiator. Hand thread the sensor completely into the Aluminum Radiator. Then tighten the sensor with the wrench one quarter turn (green arrows in Figure 2b).
- c) Hand tighten the drain petcock (red arrow in Figure 2c).



Figure 2a

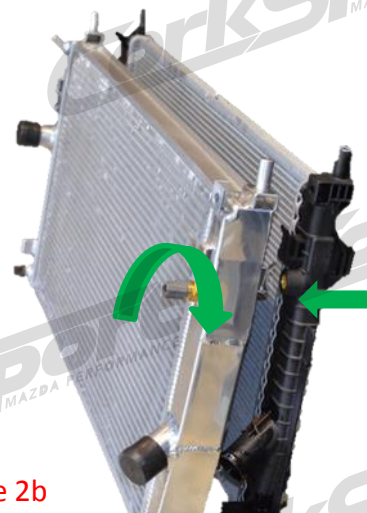


Figure 2b

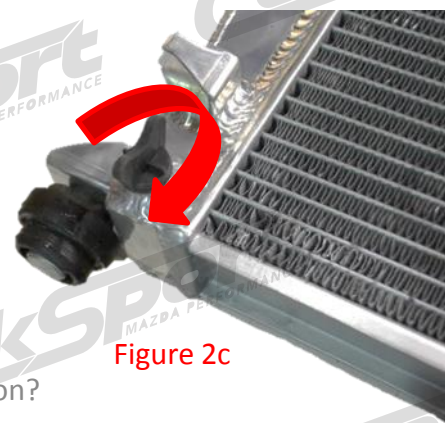


Figure 2c

## 2. Install the CorkSport Aluminum Radiator (continued)

d) Guide the Aluminum Radiator back up into the engine bay. Place the upper portion of the radiator up into the core support.

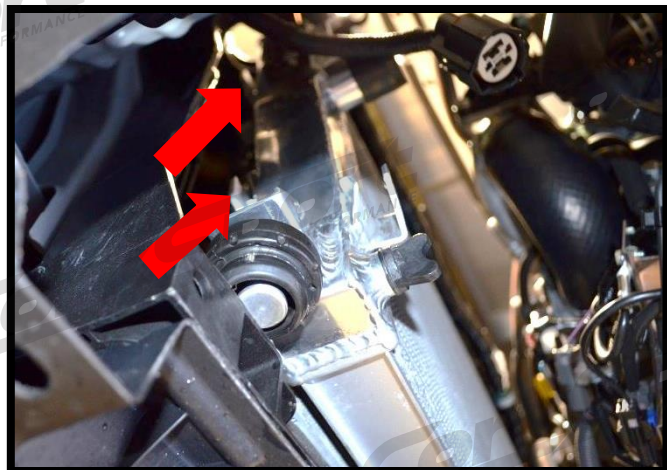


Figure 2d

e) Guide the A/C condenser tabs into the hooks in the front of the radiator (red arrows in Figure 2d). There are two (2) mounting hooks on each side of the aluminum radiator to hold the A/C condenser.

f) Push the assembled radiator/AC foreword until the lower pegs with rubber isolators drop into their holes in the core support (properly seated rubber isolator shown in Figure 2e).

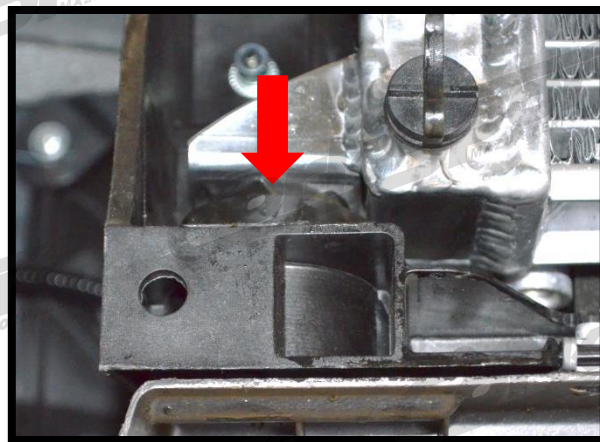


Figure 2e

g) Guide the fan housing up into the engine bay and hook it's four (4) tabs into the holding tabs welded to the radiator (red arrows in Figure 2f).

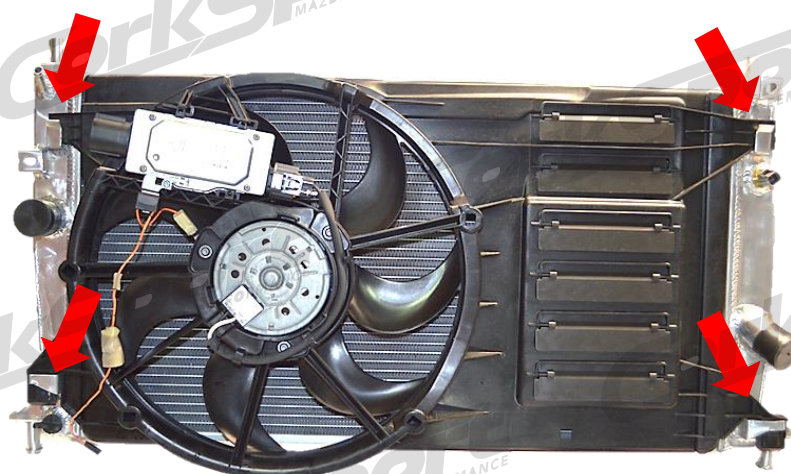


Figure 2f



## 2. Install the CorkSport Aluminum Radiator (continued)

h) Connect the harness plug to the temperature sensor on the passenger side of the radiator (red arrow in Figure 2g).

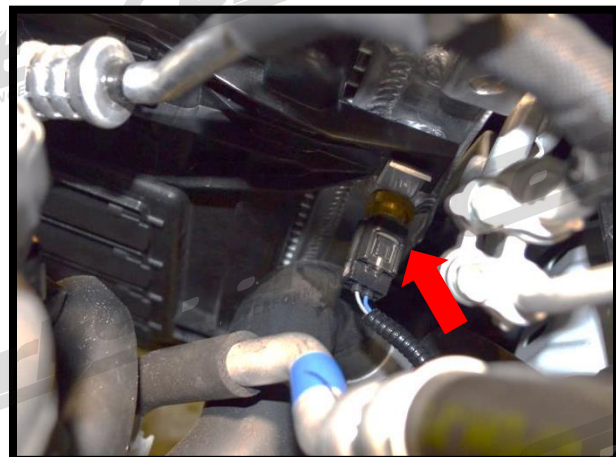


Figure 2g

i) Connect the passenger side lower radiator hose. Remove the rubber shipping cap. Squeeze the clamp together (red arrows) with a pair of pliers and push the hose (green arrow) onto the radiator (Figure 2h).

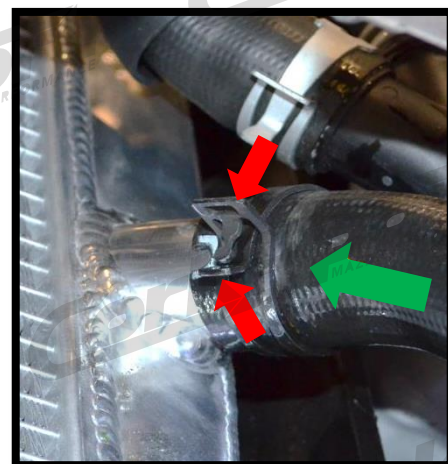


Figure 2h

j) Connect the Driver's side lower radiator hose (Figure 2i). Squeeze the hose clamp together with a pair of pliers and push the hose onto the radiator.

k) Connect the radiator bleed line (shown removed and circled in red in Figure 2i).

l) Connect the white electrical connector (green arrow in Figure 2i).

m) Connect the harness plug to the fan control module (red arrow in Figure 2i).

n) Replace the wiring harness to the white clip (blue arrow) located on the drivers side of the fan housing (Figure 2i).

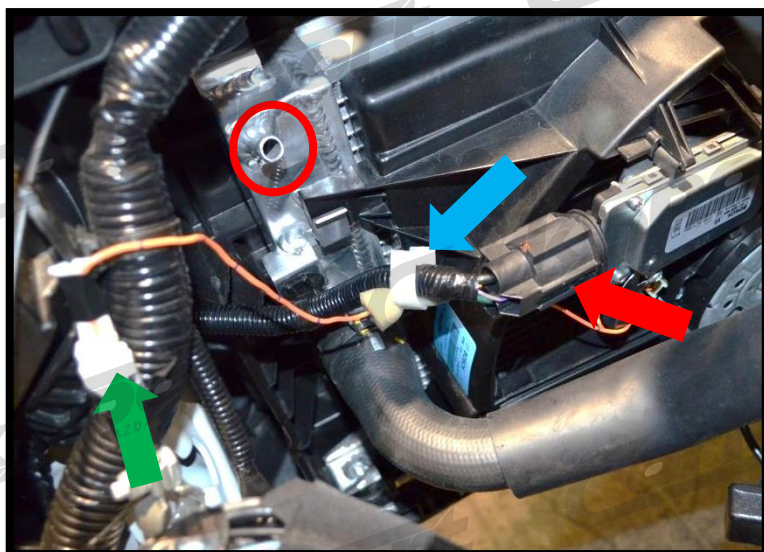


Figure 2i

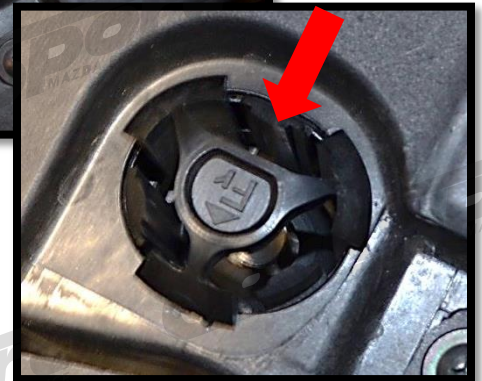


**2. Install the CorkSport Aluminum Radiator (continued)**

- o) Replace the two (2) upper mounts into the core support. "FR" points toward the front of the car (Figure 2j).**



Figure 2j



- p) Replace the intake snorkel (if still using the factory air filter box). Guide it back into place above the radiator (as shown in Figure 2k).**



Figure 2k

- q) Replace the two plastic screw clips fastening the intake snorkel to the core support (red circles in Figure 2l).**

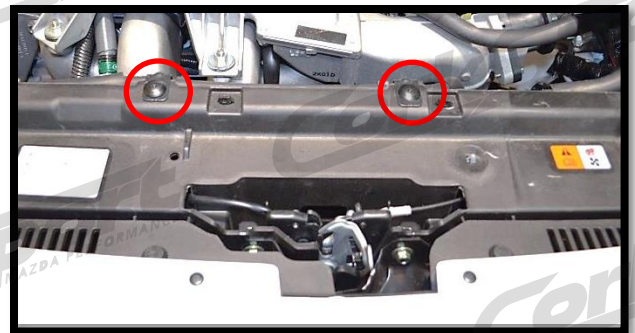


Figure 2l

## 2. Install the CorkSport Aluminum Radiator (continued)

- r) **Replace the splash tray.** Fasten it back into place with the seven (7) 10mm bolts (red circles) and two (2) push clips (green arrows in Figure 2m).

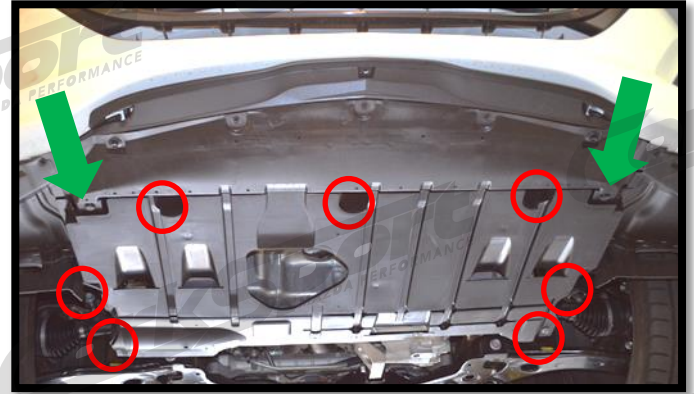


Figure 2m

- s) **Refill the cooling system** using new coolant and filtered water. Replace the coolant expansion tank cap (Figure 2n).



Figure 2n

**!** This completes the installation of your CorkSport Aluminum Radiator. After filling the cooling system, start the car and turn on the heater to full temp to bleed the air from the heater core. Bring the car up to full operating temp and check for coolant leaks at the radiator connections. After letting the car cool down for two hours add coolant if necessary. 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.