



## 2010-2013 Mazda 3 & Mazdaspeed 3 Oil Cooler Installation Instructions

### Tooling:

- ✓ Jack and jack stands or a lift
- ✓ Socket wrench and torque wrench
- ✓ 10mm and 14mm sockets
- ✓ 3/16" Allen wrench
- ✓ 10mm wrench
- ✓ Pliers
- ✓ 2 large crescent wrenches
- ✓ Flat head screwdriver
- ✓ Philips head screwdriver

### Included:

- ✓ One (1) oil cooler core
- ✓ Two (2) stainless braided hoses (1 long, 1 short)
- ✓ One (1) sandwich plate and three (3) 1/8" NPT plugs (2 large, 1 Small)
- ✓ One (1) application specific core mounting bracket
- ✓ Two (2) aluminized fiber glass heat shield sleeves
- ✓ Five (5) 6mm nylon insert hex nuts
- ✓ Four (4) 6mm x 16mm stainless hex bolts
- ✓ Two (2) aluminum spacers
- ✓ Seven (7) 6mm stainless flat washers
- ✓ Three (3) 6mm x 35mm stainless hex bolts

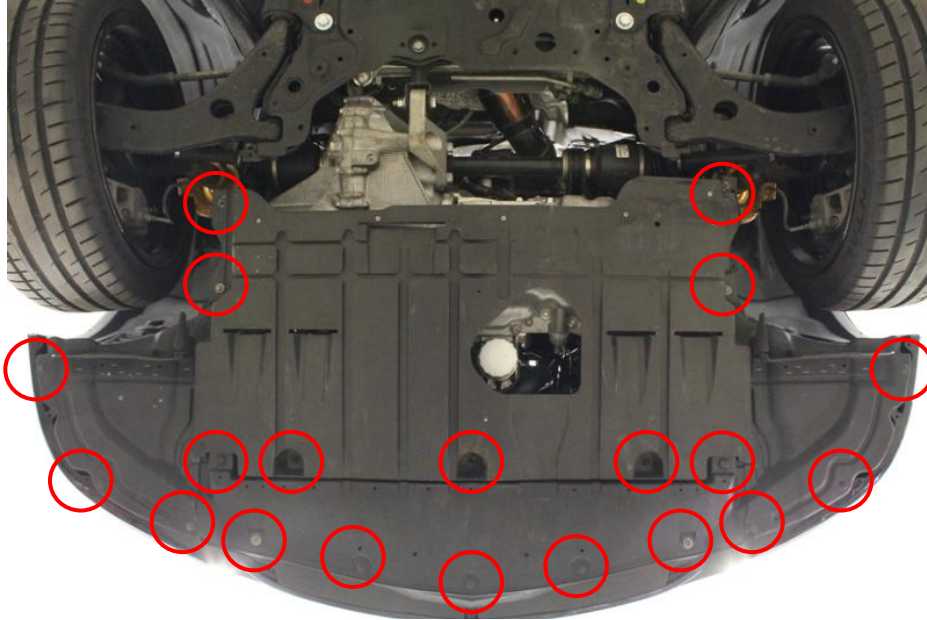
\*\*\*Please be sure to read and understand the instructions thoroughly before beginning.

Begin by parking on a smooth, level surface with the emergency brake engaged. Jack up the front of the vehicle and position jack stands underneath both sides.



Refer to your vehicle owner's manual for proper jack placement and supporting procedures. **Never get under a vehicle without the proper support in place.**

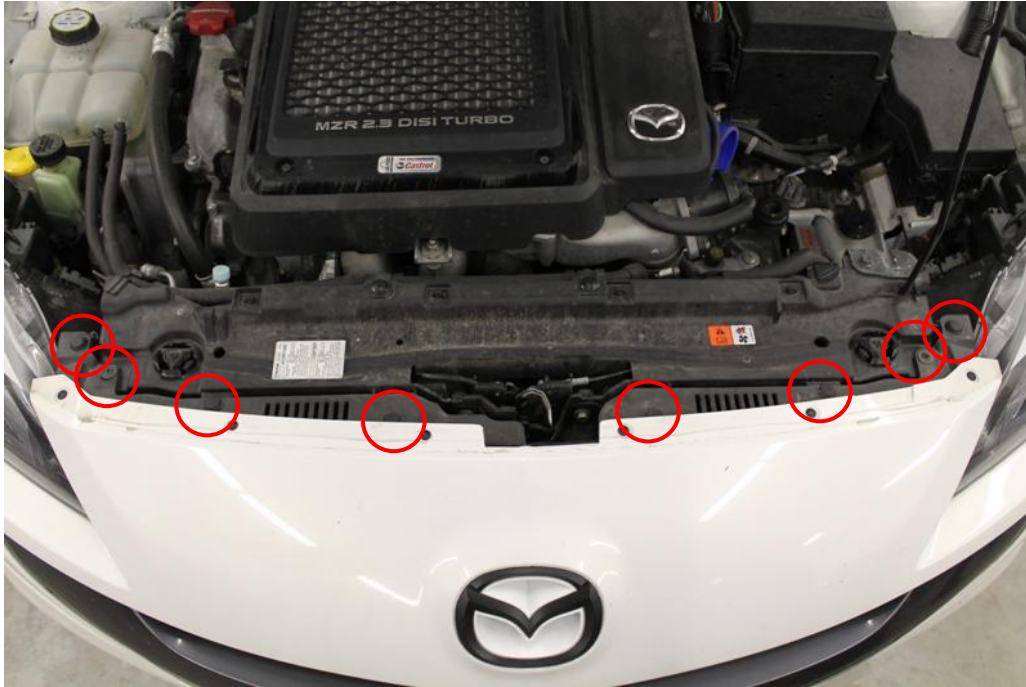
1. Remove the belly pan and lower the radiator cover using a 10mm socket and a Philips head screwdriver.



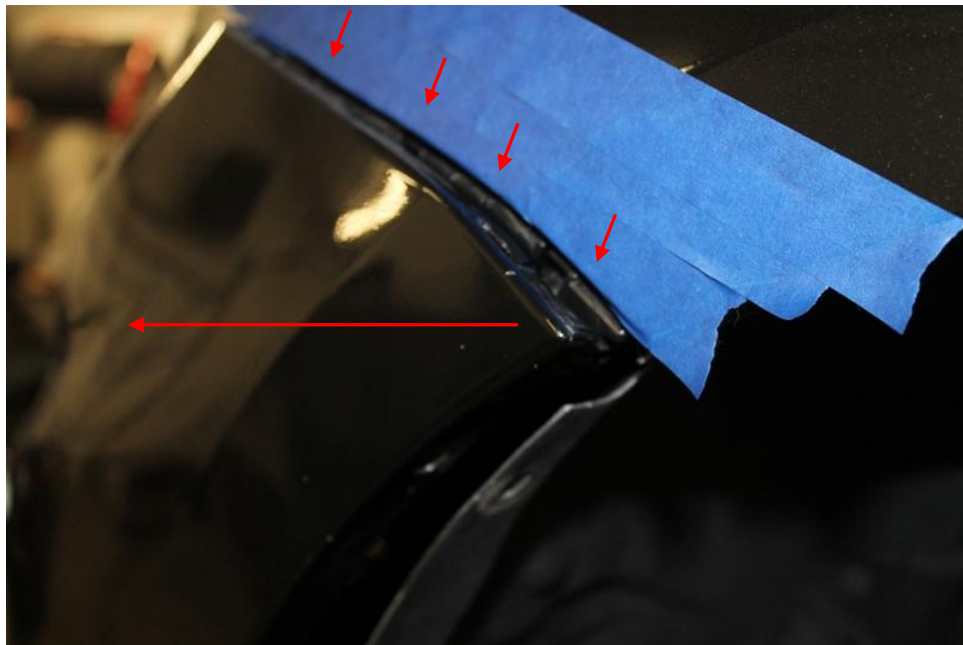
2. Remove the three push pins and one Philips head screw on both the driver's side and passenger side fender liner.



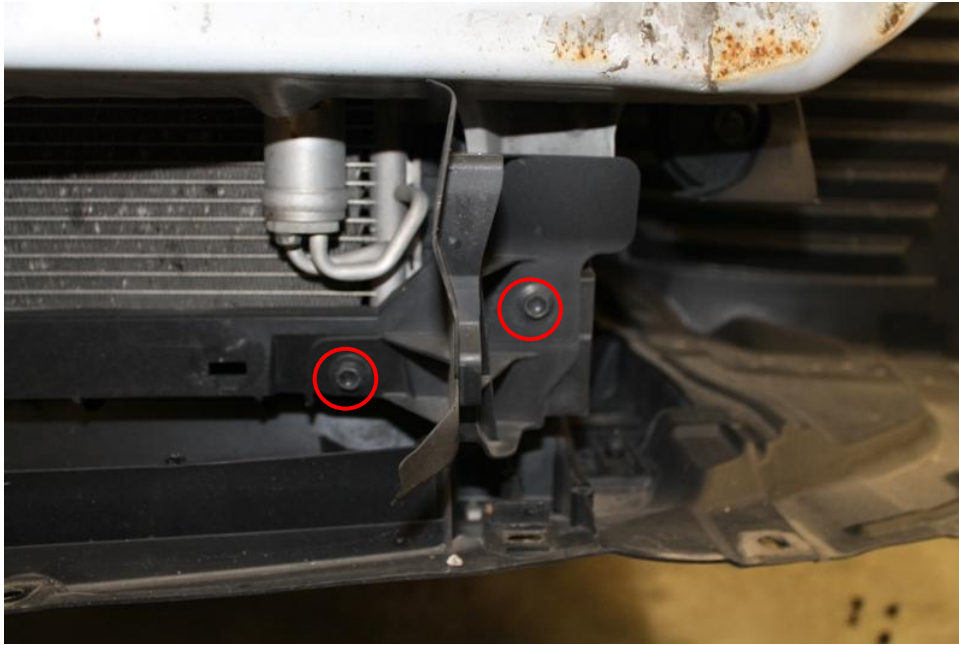
3. Remove two Philips head bolts and all push pins securing the top portion of the bumper cover.



4. Unsnap the bumper cover out from under the fender on each side of the car. Once each side of the bumper is detached from the fender, remove the bumper slowly by pulling forward. Rotate the bumper cover towards the passenger side of the car and carefully lay it out of the way on a blanket.
  - Removing the wiring harness that runs along the front of the bumper cover to the fog lights makes storing the cover while working much easier. Painters tape will protect the fender during removal and reinstallation.



- Using a 10mm socket, remove the two bolts securing the radiator ducting on the driver's side of the radiator.





Now the fun part...

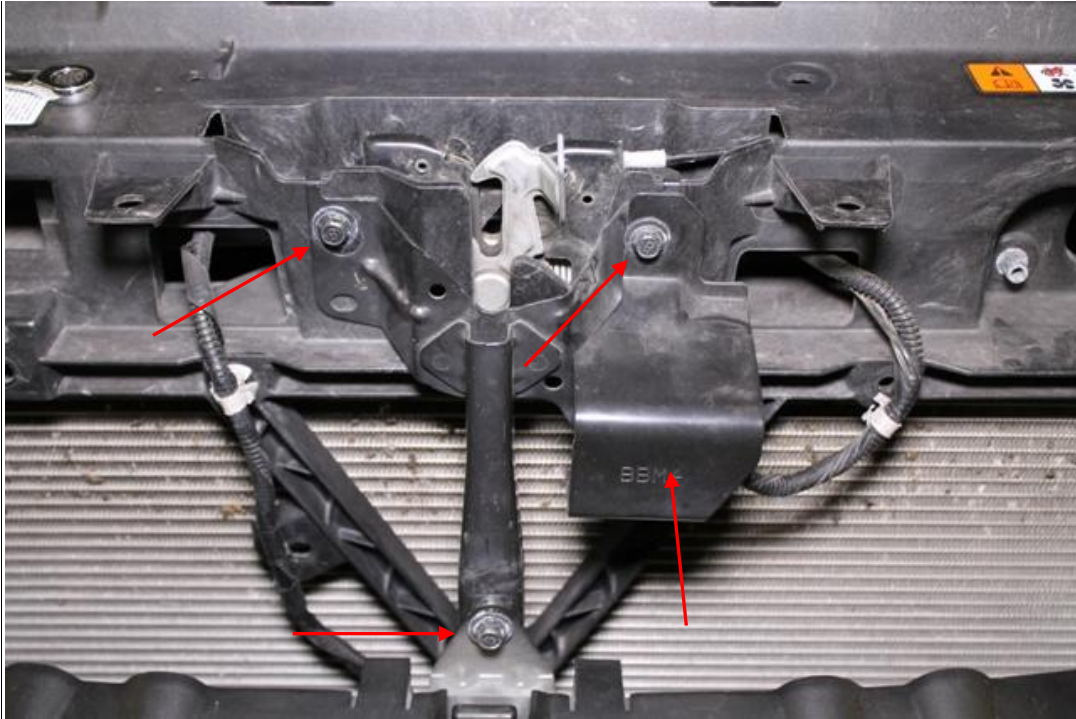
6. Assemble the oil cooler core mounting bracket as shown using four 6mm x 16mm bolts, four 6mm flat washers and four 6mm nylon insert hex nuts provided in your kit. Tighten with a 10mm socket and a 10mm wrench.
  - There is no front or back to the core.



7. Using 2 large crescent wrenches, install and tighten the braided lines on to the core. The lines must be tightened parallel to the core as shown with the longer of the two on the left.
  - The second wrench must be used to prevent internal twisting of the core. Leaks in the lower left and or right corners will result if only a single wrench is used and they are not covered under warranty.



- Using a 10mm socket remove the three hood latch bolts and sensor cover.

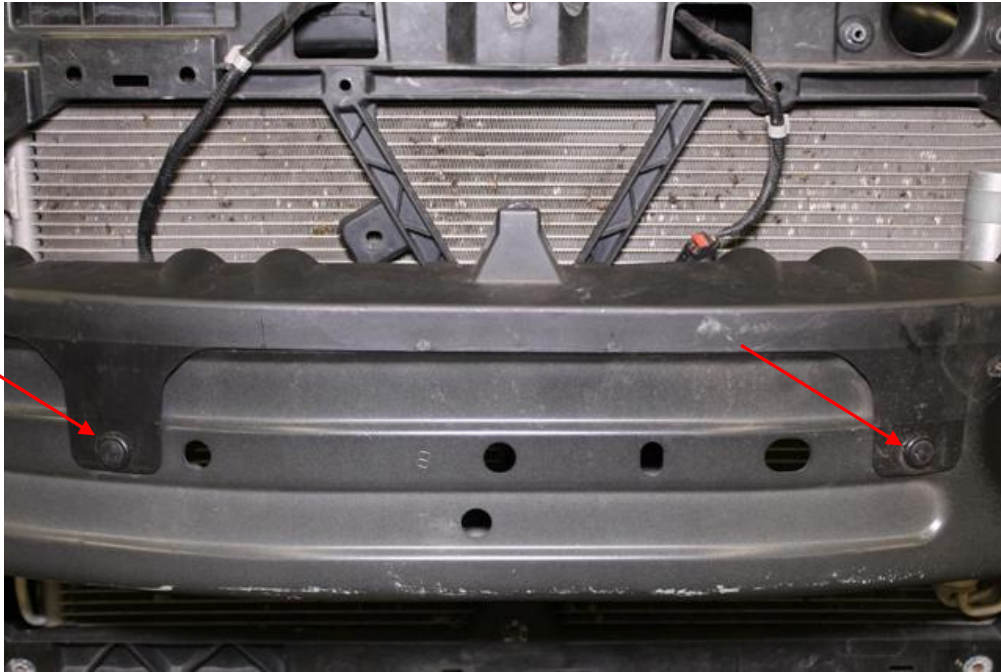


- Again, using a 10mm socket, remove the bolt securing the sensor to the angle bracket and remove the angle bracket from the vehicle.





10. Remove the two push pins securing the black cover on the OEM crash bar. Then, remove the cover from the vehicle.



11. Bend the two metal tabs on the crash bar down.

➤ Optionally, you may choose to remove the triangle mounting bracket.



12. Tighten the large plug with a 14mm socket and install the small plug into the opposite side of the sandwich plate adapter using a 3/16" Allen wrench as shown below.



13. Remove the oil filter and install the sandwich plate adapter using the male/female bolt provided. Leave loose.

- Apply some oil to the adapter o-ring.





14. Using a pair of pliers, remove the clamp securing the coolant hose leading to the OEM oil cooler. Then, insert a flat head screwdriver into the metal fitting and carefully bend the fitting towards the front of the vehicle about a 1/2". It will move very easily. Reconnect the hose when finished.



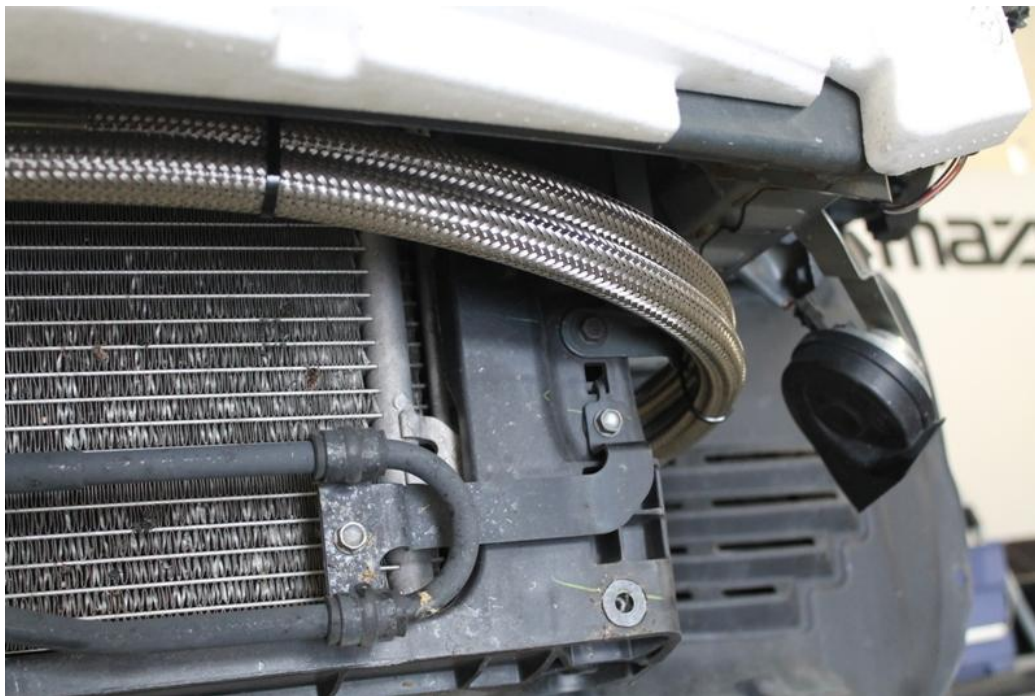
15. Using two 6mm x 35mm bolts, two flat washers and two spacers, install the oil cooler core, hose and mounting bracket assembly where the two bolts in step 9 were removed as shown below. Tighten the two bolts with a 10mm socket.



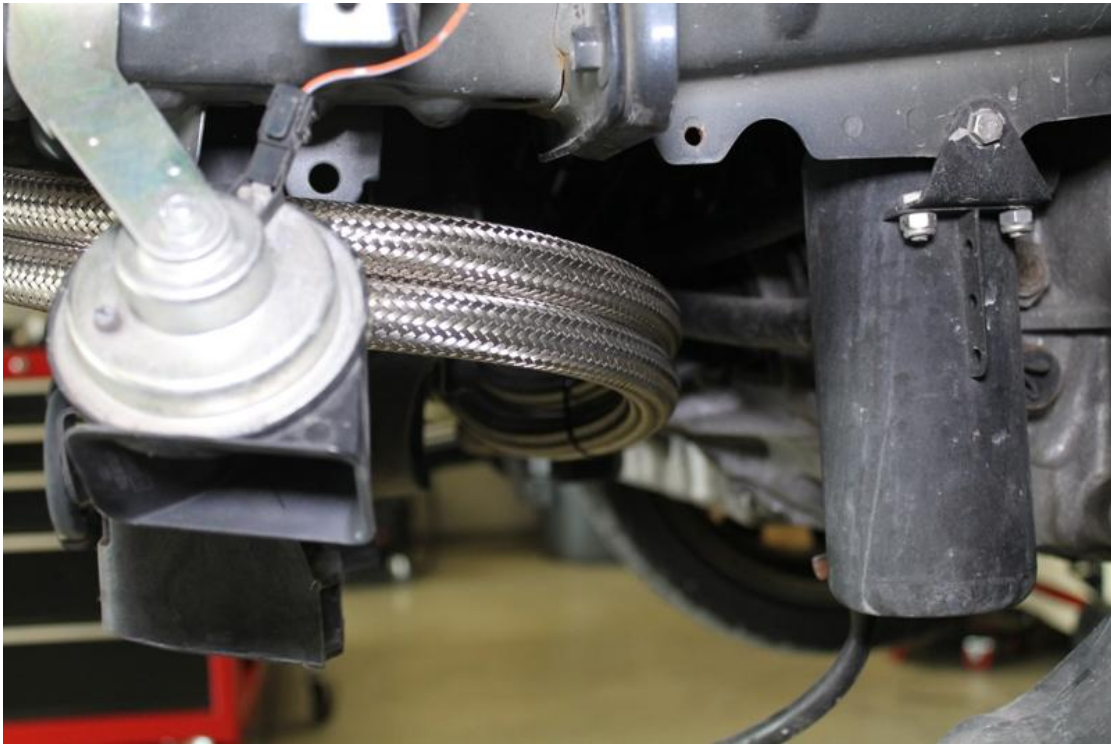
- Using the remaining 6mm x 35mm bolt, flat washer and nut, reinstall the sensor removed in step 10 to the hole in the core mounting bracket and tighten with a 10mm socket and wrench.



- Route the hoses around the radiator core support.







18. Slip the heat shielding covers over the braided lines and place in the area near the lower radiator hose and behind the radiator.





19. Install the braided lines onto the adapter and tighten with a crescent wrench.
  - Install the longer braided line closest to the motor first and tighten; then the other.
20. Orient the sandwich plate adapter so the braided lines are not touching the motor or the radiator fan/shroud and tighten the male/female bolt to 35 ft/lbs.



21. Re-install the oil filter.
  - Apply some oil to the filter o-ring.



22. Re-assemble the vehicle checking your work along the way.
23. Add a ½ qt. of oil, start the vehicle, let it run to full operating temperature and check for leaks.
24. Check the oil again and add more if necessary.
25. Top off coolant if necessary.
26. Put a few hundred miles on the vehicle and check again for leaks.

**Congratulations!!**  
**You've completed the installation of your new**  
**JBR Oil Cooler Kit!!**