

# Z1 Q50/Q60 3.0T OIL COOLER INSTALLATION MANUAL



This Installation Manual is intended for the following models:

2016+	Infiniti Q50 (3.0T)
2017+	Infiniti Q60 (3.0T)

## PROLOGUE:

Study these instructions completely before proceeding to assembly. The installer must have a thorough knowledge of automotive systems operation. If unfamiliar with any of the concepts outlined in this instruction, we recommend the installation be completed by a qualified professional.

## WARNING!

Extreme caution should be taken when performing maintenance or performance upgrades to your vehicle. Please observe and abide by any Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding installation or the various components included with the Z1 Motorsports Q50/Q60 3.0T Oil Cooler, consult with a Professional Mechanic, or contact Z1 Motorsports for more information.

## **PARTS INCLUDED:**

Item	Quantity	Description
1	2	Oil Cooler Bracket, Part A
2	2	Oil Cooler Bracket, Part B
3	1	Oil Cooler Bracket, Part C
4	1	Oil Cooler Line – Short
5	1	Oil Cooler Line – Long
6	4	Rubber Isolating Mount
7	4	Isolating Mount Insert
8	1	Oil Filter Adapter
9	1	-206 O-Ring
10	1	Oil Filter Housing Adapter O-Ring – Large (37mm)
11	1	Oil Filter Housing Adapter O-Ring – Small (30mm)
12	1	Oil Filter Stud
13	1	Nylon Straight Coupler – 1/2" Barb
14	14	M6 x 16mm SEMS Screw
15	4	M6 x 35mm SEMS Screw
16	4	M6 Locking Nut
17	1	Oil Cooler Core
18	3	M22 to -10 AN Straight Fitting
19	1	Oil Cooler Sandwich Plate
20	6	Riv-Nut (Non-Redsport Models)
21	1	Riv-Nut Installation Tool
22	5	8" Reusable Zip Tie

## **TOOLS REQUIRED:**

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Wrenches
- Assorted Metric Sockets
- Torque Wrench
- Pliers
- Funnel

## **SAFETY REQUIREMENTS:**

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Only operate drivetrain in safe space and well-ventilated areas.

## **BEFORE YOU BEGIN:**

Remove contents from the Z1 Motorsports Q50/Q60 3.0T Oil Cooler and verify that ALL necessary hardware is present.

It is recommended to perform this installation during a scheduled Oil Change, as there will be a loss of oil during the installation.

Models equipped with Adaptive Cruise Control may require the removal of the Adaptive Cruise Control Module for installation. If this Module is moved, reprogramming may be required. Installation of this kit may be possible without removing the Adaptive Cruise Control Module, but specific related instructions are not provided.

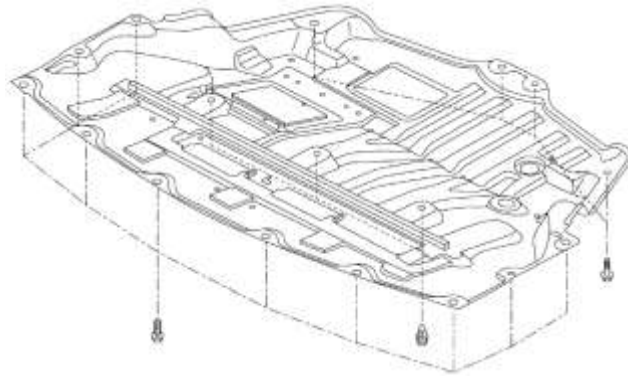
Redsport models will need to remove the factory Oil Cooler which requires removal of:

- Oil Filter Housing
- Oil Cooler Lines
- Oil Cooler and attached Shroud

*Figure 13* shows the Factory Service Manual (FSM) Diagram showing what needs to be removed, but this guide does not cover the removal process of these parts.

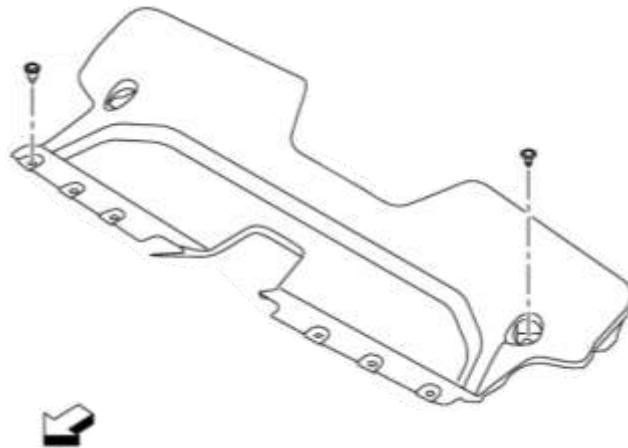
## **PROCEDURE:**

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Locate proper jacking points on vehicle's chassis (refer to vehicle's Owner Manual). Raise and support the vehicle using jack and jack stands.
3. Raise and support the hood of the vehicle.
4. Remove the Lower Engine Splash Shield or Undershroud if equipped. The OE Splash Shield will be secured with a combination of plastic clips and bolts. *Figure 1.*



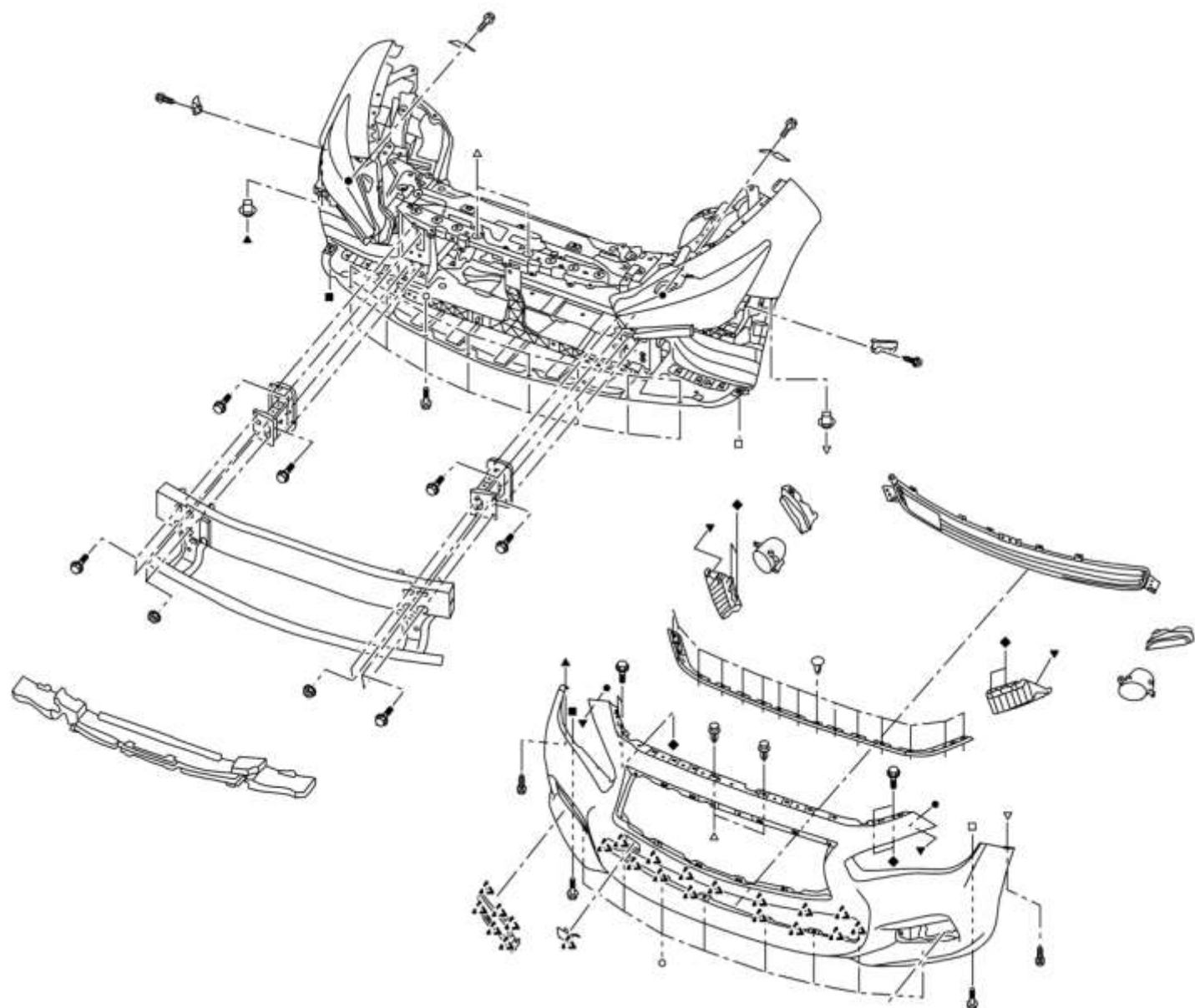
*Figure 1*

5. Remove the (8) eight plastic panel clips that secure the Radiator Air Guide on the top of the Front Bumper. Remove the Air Guide and set aside. *Figure 2.*



*Figure 2*

Use *Figure 3* below as a reference for the following Steps:



*Figure 3*

6. Remove the Front Bumper Side Bracket Bolt on each side of the vehicle under the Plastic Panels. Remove the Bumper Bracket. *Figure 4.*



*Figure 4*

7. Remove the bolts securing the Bumper Trim to the Front Bumper and set aside. *Figure 5.*



*Figure 5*

8. In each front Fender Well, remove the plastic clips securing the splash guard to the vehicle. Remove the Splash Guard from the Front Bumper. *Figure 6.*



*Figure 6*

9. Remove the Bumper Securing Bolt on each side of the vehicle in the Fender Well. *Figure 7.*



*Figure 7*



10. With the help of a partner, pull the Front Bumper towards the sides of the vehicle to disengage the Bumper from the vehicle.
11. With the Bumper removed, disconnect all of the Electrical Connectors and set the Front Bumper aside.  
*Figure 8.*



*Figure 8*

12. Remove and set aside the Foam Impact Absorber.
13. Remove the (4) four nuts and (4) four bolts that secure the Crash Bar to the vehicle and remove the Crash Bar. *Figure 9.*



*Figure 9*



14. Remove the Radiator Side Air Guides from the vehicle and retain all hardware. *Figure 10.*



*Figure 10*

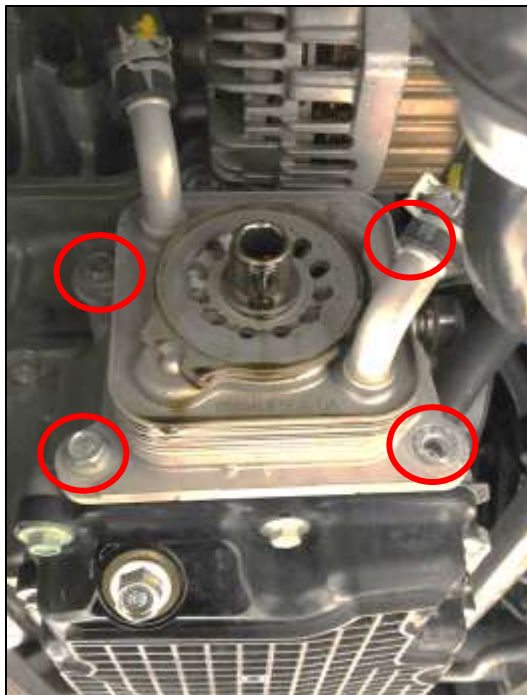
15. If you are performing an Oil Change during the installation, drain and collect the Engine Oil. If not, remove the Oil Filter and collect Oil.

16. **NON REDSPORT MODELS:** Loosen the Hose Clamps and remove both Coolant Hoses from the OEM Water to Oil Heat Exchanger. *Figure 11.*



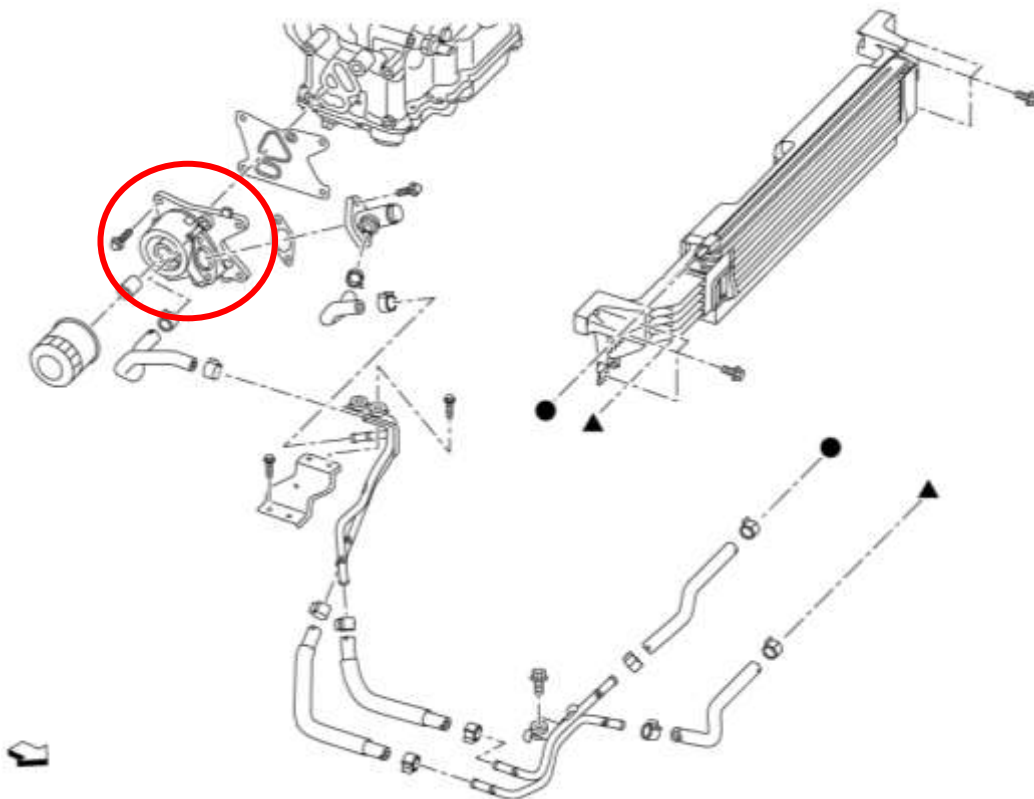
*Figure 11*

17. Remove the (4) four bolts securing the OEM Heat Exchanger to the Engine and remove the Heat Exchanger. Retain the (4) four bolts as they will be reused. *Figure 12.*



*Figure 12*

**NOTE:** Redsport Models will have an Oil Filter Housing that looks different than shown, but it will still need to be removed. The rest of the system will need to be removed as well, refer to the Factory Service Manual (FSM) for instructions. *Figure 13.*



*Figure 13*

18. **NON REDSPORT MODELS:** Locate the Nylon Straight Coupler – 1/2" Barb. Connect the (2) two Hoses disconnected in *Step 16* and secure with the OE Hose Clamps.
19. Locate the Z1 Oil Filter Adapter Plate, -206 O-Ring, 37mm O-Ring and the 30mm O-Ring. Install the O-Rings onto the backside of the Z1 Oil Filter Adapter Plate. *Figure 14.*



*Figure 14*

20. Use a small amount of fresh Engine Oil to lubricate the O-Rings installed in *Step 19*.
21. Install the Oil Filter Adapter Plate onto the engine using the OE Hardware removed in *Step 17*. Torque the bolts in a crisscross pattern to **16 ft-lbs.** *Figure 15.*



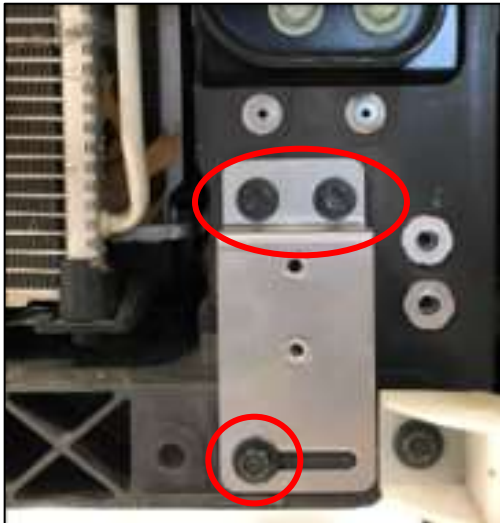
*Figure 15*

22. **NON REDSPORT MODELS:** Locate (6) six Riv-Nuts and the Riv-Nut installation tool. Install (3) three Riv-Nuts on each side of the bottom of the Core Support in the preexisting holes shown below. *Figure 16.*



*Figure 16*

23. Locate the Part A Brackets and (6) six M6 x 1.0 Hex Head Bolts, 16mm. Place them over the Riv-Nuts installed in *Step 20* and secure with (3) three M6 x1.0 Bolts per bracket. *Figure 17.*



*Figure 17*

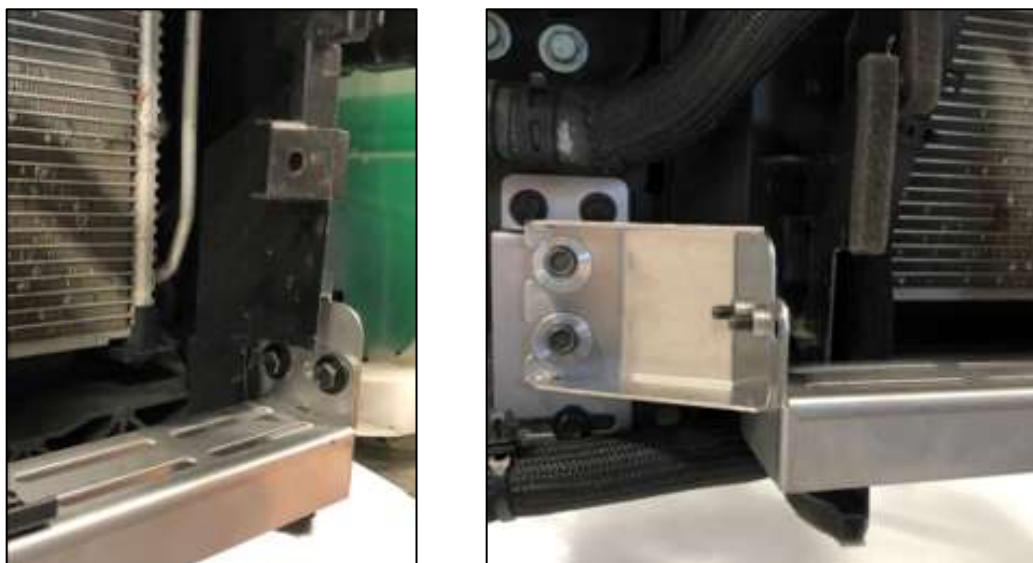


24. Locate both Part B Brackets. Install (2) two Rubber Isolating Mounts and (2) two Mount Inserts into each Bracket. *Figure 18.*
25. Position the Part B Brackets onto the Part A Brackets and secure with (2) two M6 x 1.0 Bolts, 35mm per Bracket. *Figure 18.*



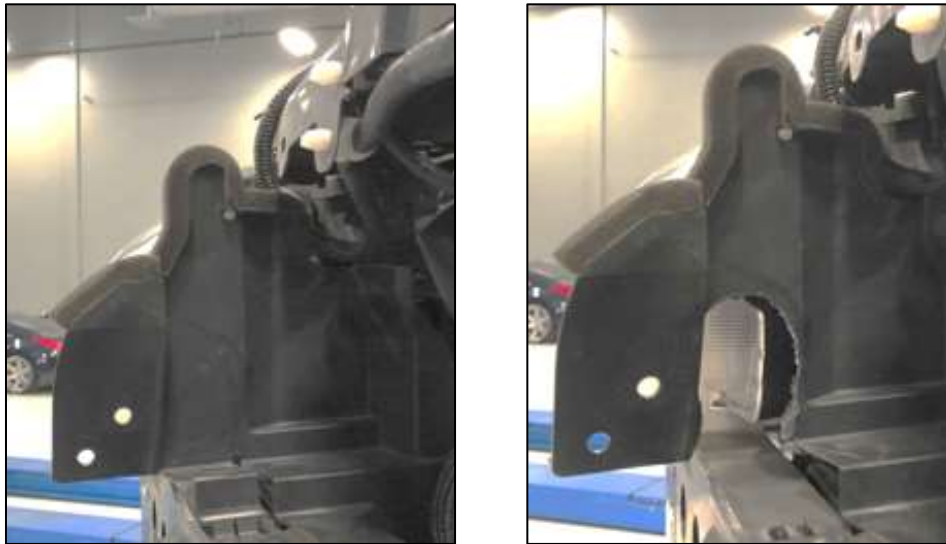
*Figure 18*

26. Locate the Part C Bracket and (4) four M6 x 1.0 Hex Head Bolts, 16mm. Secure the Part C Bracket between the Part B Brackets with the M6 Bolts. *Figure 19.*



*Figure 19*

27. Locate the Radiator Air Guides removed in *Step 14*. Mark and trim the Air Guides to clear the Part C Bracket installed in *Step 24*. The Front Lower sections of each Air Guide will need to be removed. They are secured with (2) two plastic clips each. More may need to be trimmed for the Oil Cooler Lines in the coming steps. *Figure 20*.



*Figure 20*

28. Mount the Procooler to the center of the Part C Bracket with (4) four M6 x 1.0 Hex Head Bolts, 16mm and (4) four M6 Locknuts. *Figure 21*.



*Figure 21*

29. Prefill the Oil Cooler with fresh Engine Oil until full. This is a necessary step to prevent the engine from momentarily running with no oil flow.
30. Locate (2) two M22 to -10 AN Fittings. Lubricate the O-Rings on the Fittings with a Silicone Based Lubricant then install (1) one fitting into each port of the Procooler.
31. Locate both Oil Cooler Lines. Attach the Longer Line to the Driver Side of the Procooler and the Shorter Line to the Passenger Side of the Oil Cooler. Do not tighten the fittings yet.

32. Route the lines across the front of the vehicle to the passenger side, through the trimmed Radiator Air Guides, under the passenger side horn and towards the Engine Bay. Pull the Lines through and position them underneath the Alternator. *Figure 22.*



*Figure 22*

33. *Attach the Oil Line* Locate the Oil Cooler Sandwich Plate and (1) one M22 to -10 AN Straight Fitting. Attach the fitting to the Sandwich Plate on the threaded hole circled below. *Figure 23.*



*Figure 23*

34. Attach the Oil Line fitting with the Female Threads to the -10 AN Fitting installed in *Step 33*. Do not fully tighten the fitting yet.
35. Attach the Oil Line Fitting with Male Threads to the other threaded hole in the Sandwich Plate. Do not fully tighten the fitting yet.



36. Clean the mounting surface of the Oil Filter Adapter for the new Oil Cooler Sandwich Plate.
37. Lubricate the Sandwich Plate Rubber Gasket with fresh Engine Oil.
38. Locate the Oil Sandwich Plate Bolt. Position the Sandwich Plate onto the Oil Filter Adapter and loosely secure with the Sandwich Plate Bolt. Do not tighten the bolt all the way yet.
39. Rotate the Sandwich Plate to make sure there is no contact or binding of the Oil Cooler Lines and that there are smooth bends and no kinks of the oil lines. Once positioned, remove the Sandwich Plate and tighten all of the Oil Cooler Line Fittings, do not overtighten as it can damage the seals. *Figure 24.*



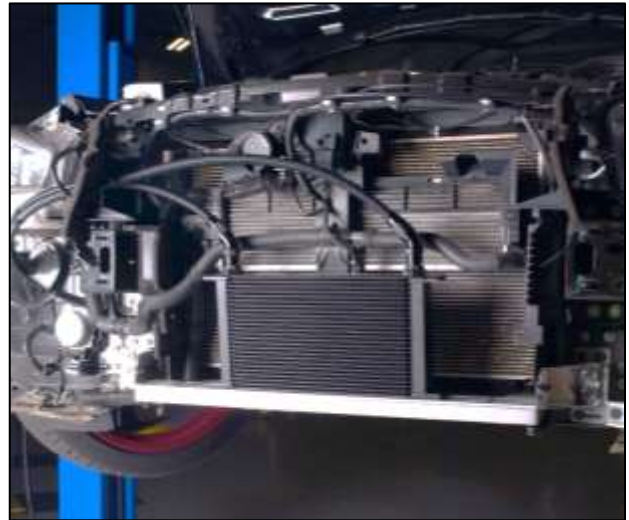
*Figure 24*

40. Reinstall the Sandwich Plate and Bolt. Torque the Oil Sandwich Plate Bolt to **25 ft-lbs.**
41. Secure the Oil Cooler Lines with Zip Ties to keep them together and prevent them from rubbing against anything. *Figure 25.*



*Figure 25*

42. Install a new Oil Filter onto the Sandwich Plate.
43. Refill the engine with oil and check level.
44. Start the engine and check the Oil Cooling System for any leaks. Tighten fittings as necessary.
45. Check oil level again.
46. Follow *Steps 4-13* in reverse to reinstall Crash Bar, Bumper and Exterior Trim.
47. Take vehicle for a test drive. Check Oil level after driving.



**END**

**Additional Technical Support:**  
Contact Z1 Motorsports at [info@z1motorsports.com](mailto:info@z1motorsports.com)  
Or call 770-838-7777 between 9am and 6pm ET