

Z1 350Z / G35 OIL COOLER KIT INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2003-2008	Nissan 350Z
2003-2006	Infiniti G35 Sedan
2003-2007	Infiniti G35 Coupe

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 350Z / G35 Oil Cooler Kit, consult with a Professional Mechanic, or contact Z1 Motorsports for more tech.

Parts Included:

Item	Quantity	Description
1	1	Aluminum SETRAB Bracket w/ Hardware
2	1	Z1 Custom 350Z / G35 SETRAB Upper Bracket
3	1	Z1 SS Oil Cooler Line Set
4	1	Oil Cooler Core (Size and Model dependent on order)
5	2	SETRAB Oil -10 AN Fitting (w/ O-Ring) (Only if SETRAB Core ordered)
6	1	Oil Sandwich Adapter Plate (model dependent on order)
7	1	Mocal Rubber "DOWTY" Sealing Washers
8	2	Mocal (-10 AN to -10 Port) Sandwich Adapter Fittings
9	4	M6 x 1.0 (10mm) Bolts 16mm
10	5	M6 x 1.0 Rivet Nut Insert
11	1	SETRAB Oil Cooler Assembly Instruction Bulletin
12	1	M6 x 1.0 Rivet Nut Installation Tool Kit
13	4	Zip Ties
14	4	Rubber Bonded Washers

Additional Parts Recommended:

- Additional Engine Oil (not included)
- 1 QT Engine Oil (19 & 25 row kits ONLY); 2 QTS Engine Oil (34 row kits ONLY!)
- Additional Zip Ties

TOOLS REQUIRED:

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Assorted Metric Wrenches (10mm-19mm)
- Assorted Metric Sockets (10mm-19mm)
- Assorted Metric Allen Head Wrenches
- Assorted Drill bits
- Assorted Screw Drivers
- 1" Shallow Socket
- Oil Funnel
- Pliers
- Torque Wrench
- Drill
- Silicone Based Lubricant

SAFETY REQUIREMENTS:

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- 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 350Z / G35 Oil Cooler Kit and verify that ALL necessary hardware is present.

It is recommended that you perform the Z1 Motorsports 370Z / G37 Oil Cooler Kit installation at a scheduled interval when your vehicle requires an oil change. This is because the oil filter must be removed, and some engine oil will be lost in order to properly install the kit.

FRONT BUMPER REMOVAL:

1. Assure the car's ignition is in the **OFF** position and the **NEGATIVE (-)** battery terminal is disconnected.
2. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
3. Locate proper jacking points on vehicle's chassis (refer to vehicle's Owner Manual). Raise and support vehicle using jack & jack stands.
4. Raise and support the hood of the vehicle.

NOTE: Removal of the front passenger side wheel is suggested to ease in the removal of the passenger side inner fender liner and for routing the -10 AN oil cooler lines. These tasks can however be achieved without removal of the wheel by simply turning the wheel each time access is needed to either side.

5. Remove both the lower engine splash shield and the passenger side inner fender liner. Refer to *Figure 1* below for the exact location of the fasteners:
6. Remove the fasteners securing the front fascia and grille (G35 only). This is done by using a flat blade screwdriver and gently popping out the center section of the plastic pop clips located under the hood. *Figure 1*.

NOTE: On G35 models, there are two additional "push-in" type fasteners attached to the grille that secure the grille to the fascia. Light pulling force will need to be applied to remove the grille. OEM or aftermarket urethane fascia's can be pried forward slightly to collapse the fasteners in order to remove the grille.

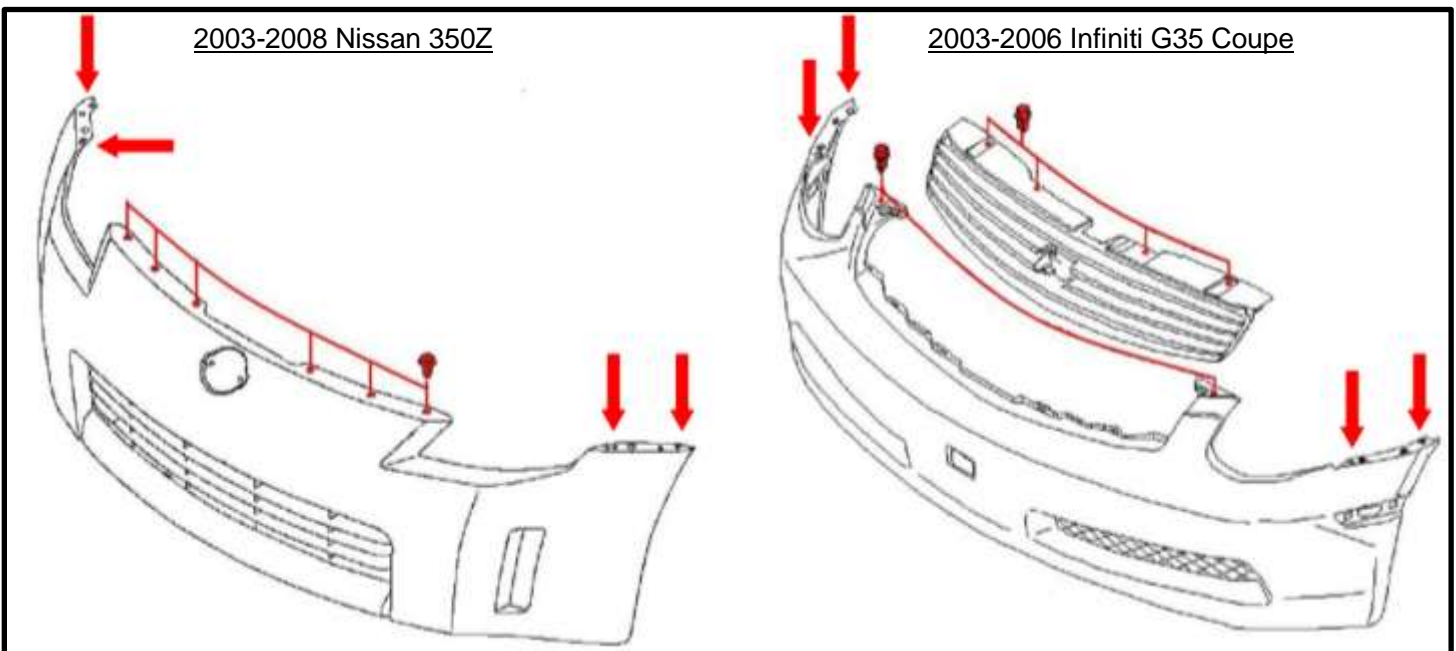


Figure 1

7. Remove the four 10mm plastic screws located in the corners of fascia, just behind the front fender liners (refer to **ARROWS** above in *Figure 1*). These are accessible by reaching into the fascia through the fender wells or from beneath the vehicle following the removal of the fender liners.
8. Gripping the sides of fascia, pull the ends of the fascia downward. A plastic alignment tab is located on each side of the fascia and is designed to align it with the fenders during assembly. Once free, carefully remove the fascia from the chassis and set aside.

NOTE: When removing the fascia, remove one side at a time. When doing so, be extremely careful NOT to allow the fascia to rub against the fenders. If allowed to do so, damage to the painted surfaces will result.

9. Remove the foam bumper reinforcement bar and aluminum crash bar. (4) Four 12mm bolts and (4) four 12mm nuts are used to secure the crash bar onto the chassis. *Figure 2*.



Figure 2

OIL COOLER ASSEMBLY

1. Assemble the SETRAB oil cooler assembly using the supplied hardware and brackets by following the instructions below:
2. Locate the Oil Cooler Core (Size dependent on the oil cooler core ordered), Aluminum SETRAB Bracket with Hardware, and the Z1 Upper Oil Cooler Bracket. *Figure 3.*



Figure 3

3. Using the aluminum SETRAB bracket and its supplied hardware, attach the bracket to the bottom of the Oil Cooler (opposite of the end with the fittings). The bracket can be oriented either way. *Figure 4.*

NOTE: If you are using a Z1 Procooler and not a Setrab Cooler, use the (4) four supplied Nuts and Bolts to secure the Cooler to the Bracket.



Figure 4

- To install the Z1 Custom Upper Bracket, assemble the bracket to the Oil Cooler Core as shown below in *Figure 5*. Note that the mounting flange on the Oil Cooler Core **MUST** be lying flat as shown. In this position, the upper bracket will be affixed to the left side of the Oil Cooler Core.

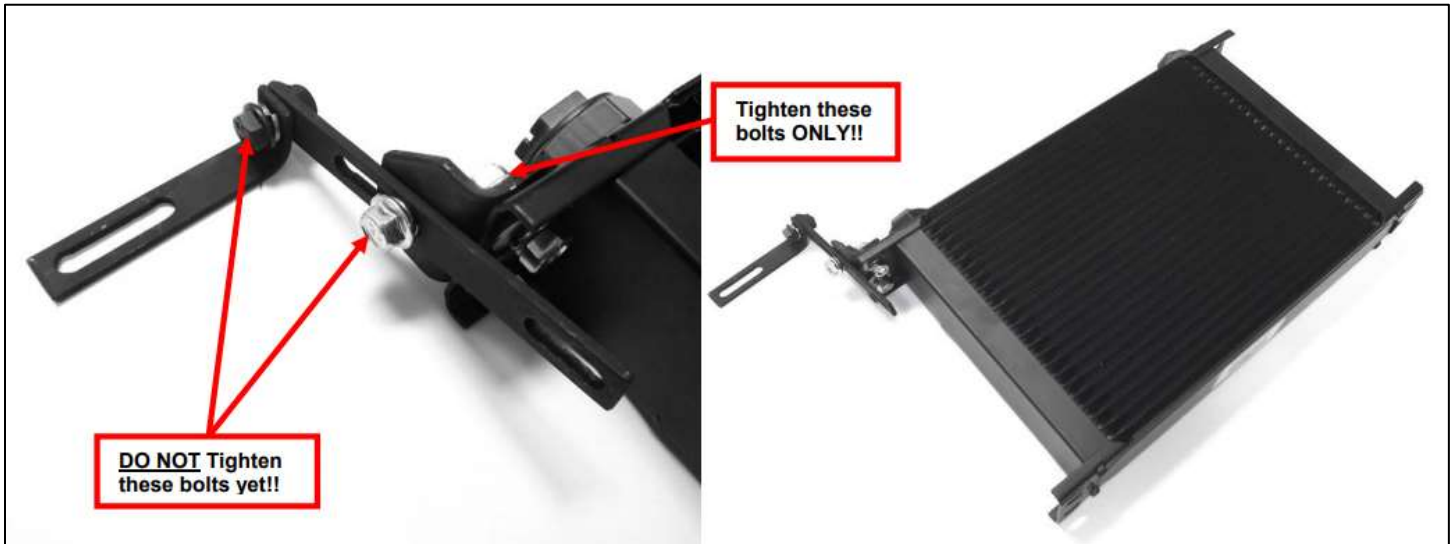


Figure 5

- Locate (4) four supplied M6 x 1.0 Rivnuts, the Rivnut Tool, and (3) three M6 x 1.0 bolts.
- Carefully mark and drill (2) two holes using a 5/16" drill bit in the Core Support indicated below in *Figure 6*.

NOTE: Be cautious, as the back side of the core support **IS NOT** flat. For added strength, diagonal braces are formed into the Core Support. The holes must be drilled between the diagonal braces. Verify marks by looking at the backside of the Core Support.

The Oil Cooler core should be positioned as close to the center of the Driver Side Core Support opening as possible.

Make sure that when the Oil Cooler Core is mounted, it will be level in relation to the Radiator. Use the Radiator Cross Tubes as a visual reference.

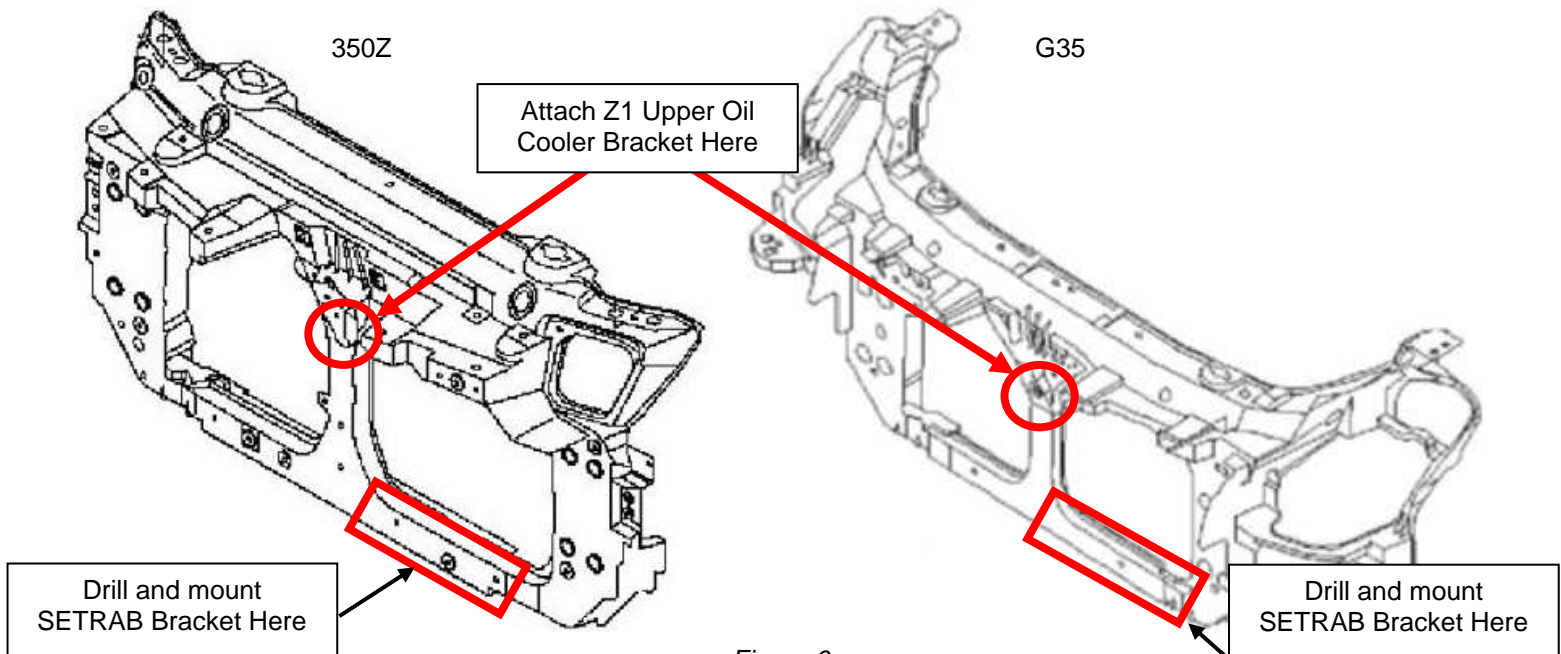


Figure 6

7. Following the instructions supplied with the M6 Threaded Rivnut Tool, set the M6 Rivnuts in the holes drilled in *Step 6* until they have fully seated against the backside of the Core Support and **DO NOT** spin free. In that the event that a Rivnut is damaged during the installation, a spare is included. *Figure 7.*



Figure 7

8. Locate the (4) four Rubber Bonded Washers and hardware included with the SETRAB Bracket. Due to the fact that the Core Support is not perfectly flat, the supplied SETRAB Oil Cooler Core Bracket will not bolt directly to the Core Support. Use one Rubber Washer per bolt behind the bracket with the Rubber facing the Core Support. This will give enough clearance so that the Oil Cooler Core is mounted parallel to the Radiator/Condenser. *Figure 9.*



Figure 8

9. Mount the Z1 Upper Oil Cooler Bracket, refer to the vehicle specific notes and *Figure 9* below:

- Infiniti G35: The Core Support has a threaded M6 Rivnut already installed from the factory that is circled in *Figure 6*. Use one of the supplied M6 Bolts to secure the Upper Bracket to the Core Support.
- Nissan 350Z: A custom mounting provision will need to be created following the same procedures as *Steps 5-7*. Once the hole has been marked, drill the appropriate hole using a 5/16" Drill Bit.

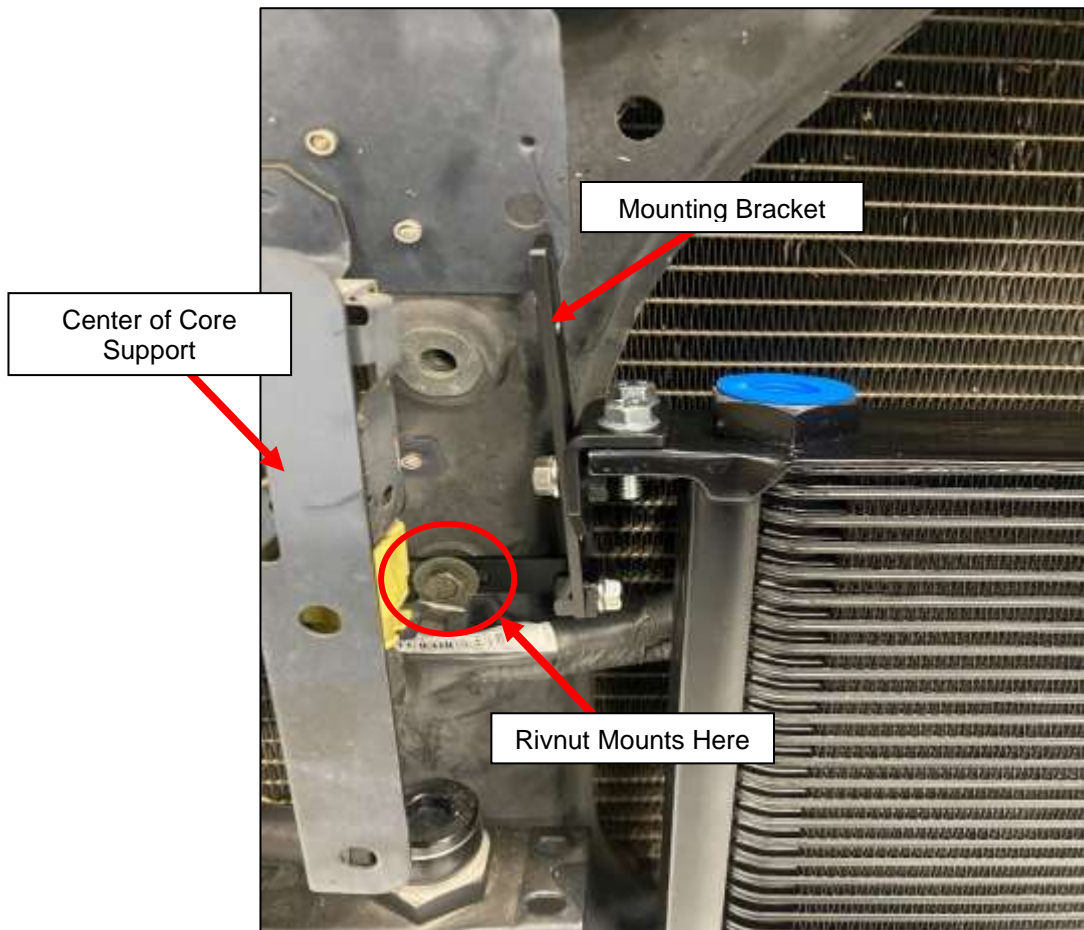


Figure 9

- To adjust the Bracket Arm, loosen the (3) three 10mm bolts to allow movement and adjust. Depending on the application and core size, the Middle Arm may need to be unbolted and reattached to use the middle adjustment slot.

10. Locate the (2) two SETRAB Oil Cooler Core Fittings. Using a suitable Silicone Lubricant, apply a thin layer of lube to the threads of the fittings and O-Rings.

11. Install (1) one fitting into the Oil Cooler port. **DO NOT** overtighten.

12. Using Fresh Engine Oil, pre-fill the Oil Cooler Core before continuing with the installation. This will prevent a dry start scenario and will prime the Oil Cooler faster during the initial start-up. Check the port without the fitting to determine when the Oil Cooler is full.

13. After the Oil Cooler is filled, install the second Oil Cooler Fitting into the Oil Cooler Core. **DO NOT** overtighten. Use a Silicone Lubricant on the threads and O-Rings of the Fitting.

14. Locate the Z1 Motorsports SS Line Set. Attach the lines in the following order:

- **LONG HOSE**: Attach the 90° Fitting to the Driver Side SETRAB Fitting on the Oil Cooler Core.
- **SHORT HOSE**: Attach the 90° Fitting to the Passenger Side SETRAB Fitting on the Oil Cooler Core.

NOTE: Failure to attach the Oil Cooler Lines as listed above may result in insufficient line length in later steps. In addition, customers who choose to have the pre-wrapped option will have the protective wrapping located in the wrong position. *Figure 10.*

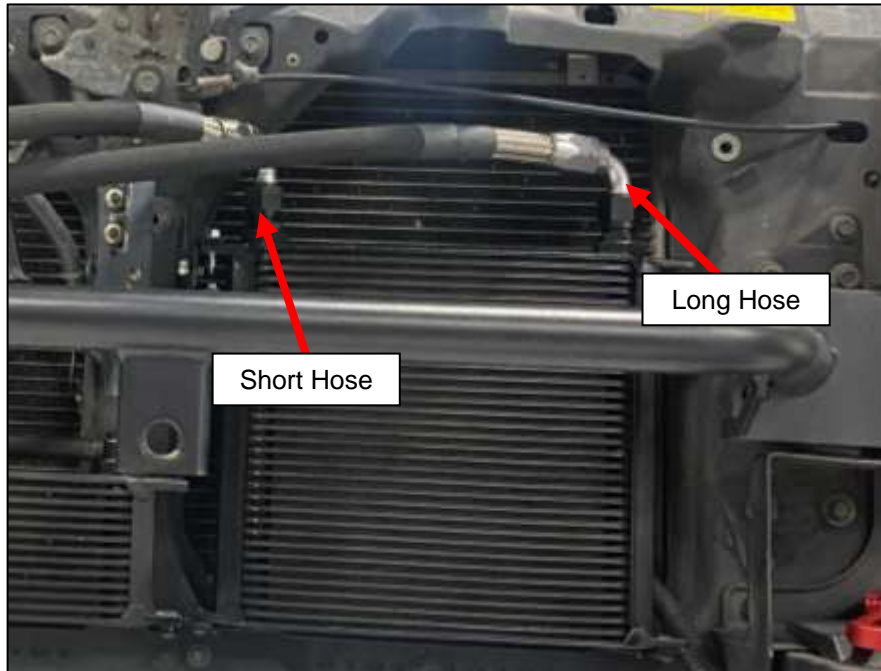


Figure 10

15. Route the Lines across the front of the vehicle to the passenger side. They may need to be routed around aftermarket parts if applicable. Use Zip ties to keep lines away from sharp or abrasive edges. *Figure 11.*

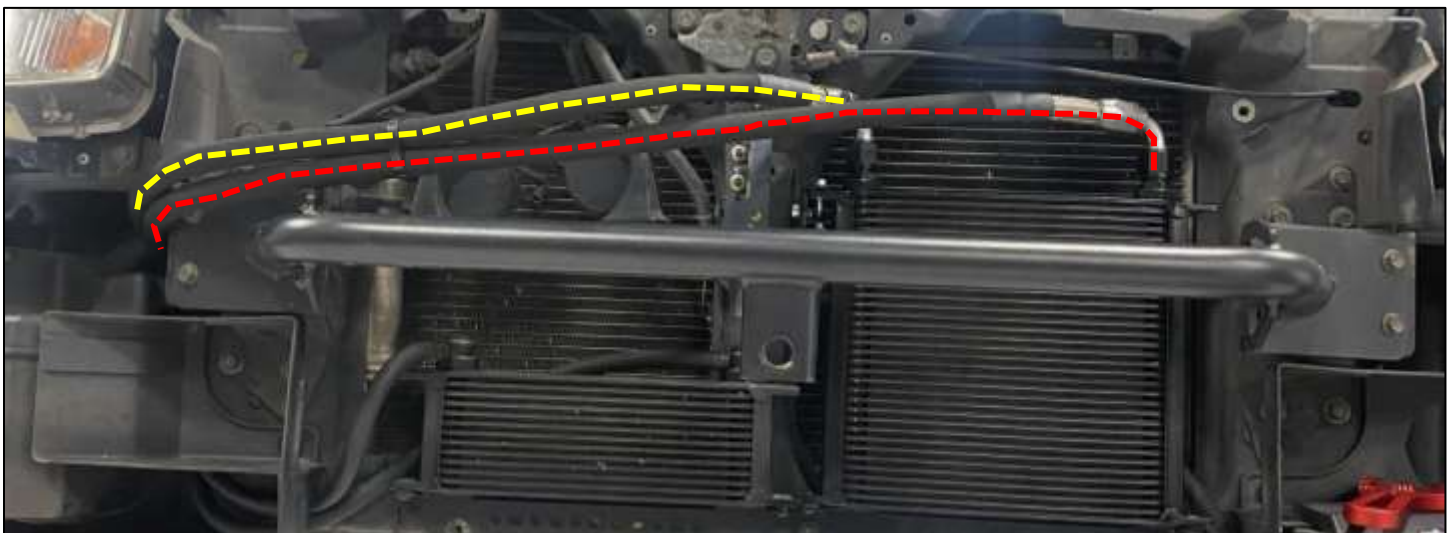


Figure 11

16. Route the lines through the opening between the Passenger Side Frame Rail and the Front Subframe.
Figure 12.



Figure 12

17. If you are planning on changing the engine oil during the installation of the Z1 Motorsports Oil Cooler Kit, remove the Engine Oil Drain Plug and drain the engine oil. If you are not changing oil, continue to *Step 18*.
18. Remove the Engine Oil Filter.

19. The OE Oil Warmer/Cooler can optionally be removed here. The Z1 Oil Cooler will still work with the OE Oil Cooler. If you choose to remove the OE Oil Warmer/Cooler, remove the nut securing it to the engine. Disconnect (2) two Coolant hoses, and route them together to keep the OE Line Routing. *Figure 13.*

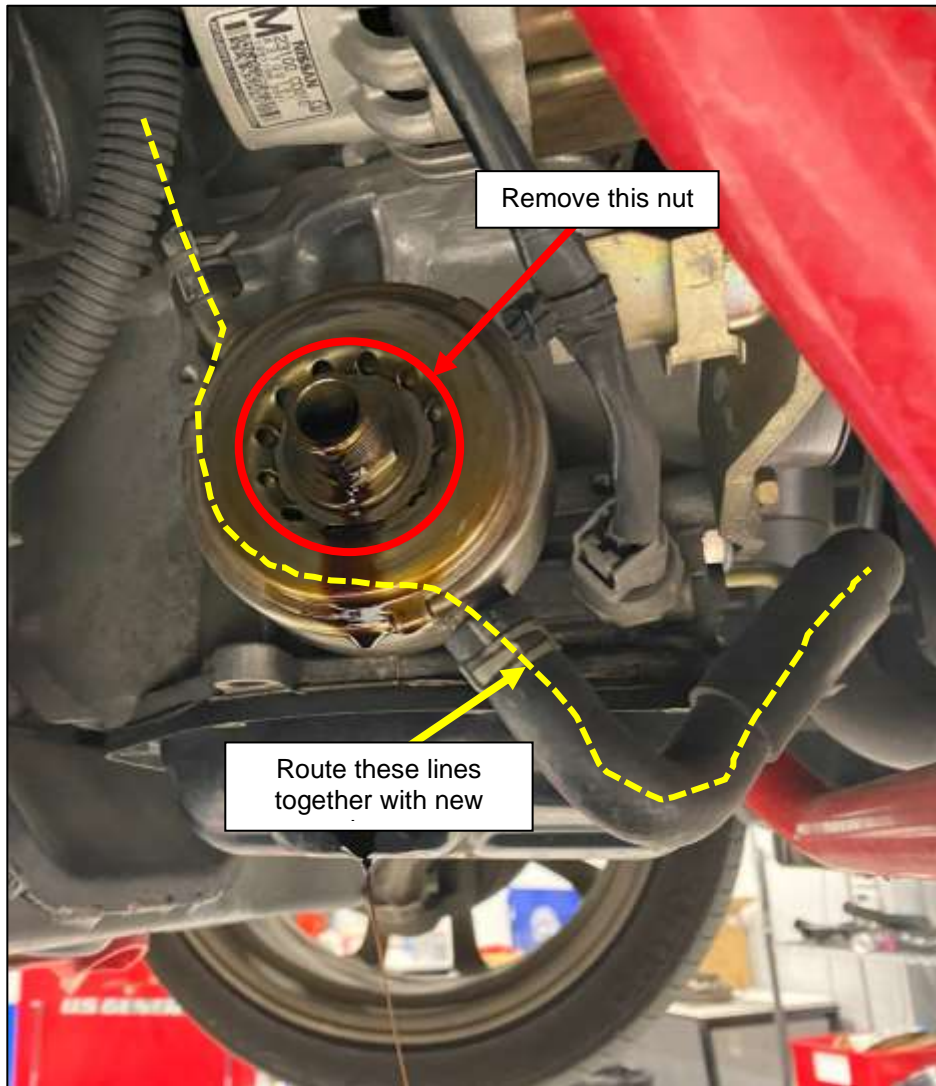


Figure 13

20. Locate the Sandwich Adaptor. This unit should already have two fittings (-10AN to -10 Port) and the two rubber sealing washers installed. Remove the fittings and use a small amount of Silicone Lubricant on the AN Fitting O-Rings.
21. Reinstall and tighten the AN Fittings into the Sandwich Plate, but **DO NOT** overtighten them.
22. Using Fresh Engine Oil, place a small amount on the Rubber Seal of the Sandwich Plate as you would on an Oil Filter.
23. Position the Sandwich Adaptor with the large Rubber O-Ring facing the engine, but do not fully install yet.
24. Attach the (2) two -10AN Oil Cooler Lines to the Oil Sandwich Plate. Do not tighten the lines yet.

25. Place the Oil Sandwich Plate Assembly onto the engine. You will need to rotate the Sandwich Plate so the the 180° Fittings are centered between the Alternator and the Motor Mount. This will result in the Sandwich Plate being rotated to about the 10 o'clock position. *Figure 14.*



Figure 14

26. With the Sandwich Plate in place and oriented properly, angle the fittings so that they clear any and all brackets, while creating a smooth bend and applying the least amount of stress to the lines as possible.
27. Tighten the fittings as best as possible without overtightening, and secure with zip ties if necessary.
28. Once lines are tightened and oriented correctly, install the Oil Adaptor Securing bolt. Torque the securing bolt to **25 ft-lbs**. This will secure the Sandwich plate to the Engine.
29. Install a new engine Oil Filter. *Figure 15.*



Figure 15

30. Refill engine with new oil to FSM specified capacity, if applicable.
31. Crank the engine and inspect for any leaks.
32. Follow *Steps 1-6, Front Bumper Removal*, in reverse to reinstall all bumpers and hardware. While reinstalling, make sure that the Oil Cooler Lines are neatly routed behind the panels, and not pushing on any of the body panels.
33. Perform a short test drive of the vehicle.
34. Check Engine Oil level after driving and inspect for any more leaks.