

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	Mocal 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	M6-1.0 x 16mm (10mm) Bolts
10	5	M6-1.0mm Rivet Nut Insert
11	1	SETRAB Oil Cooler Assembly Instruction Bulletin
12	1	M6-1.0mm 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

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.

Installation Note #1:

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 that some engine oil will be lost in order to properly install the kit.

PROCEDURE:

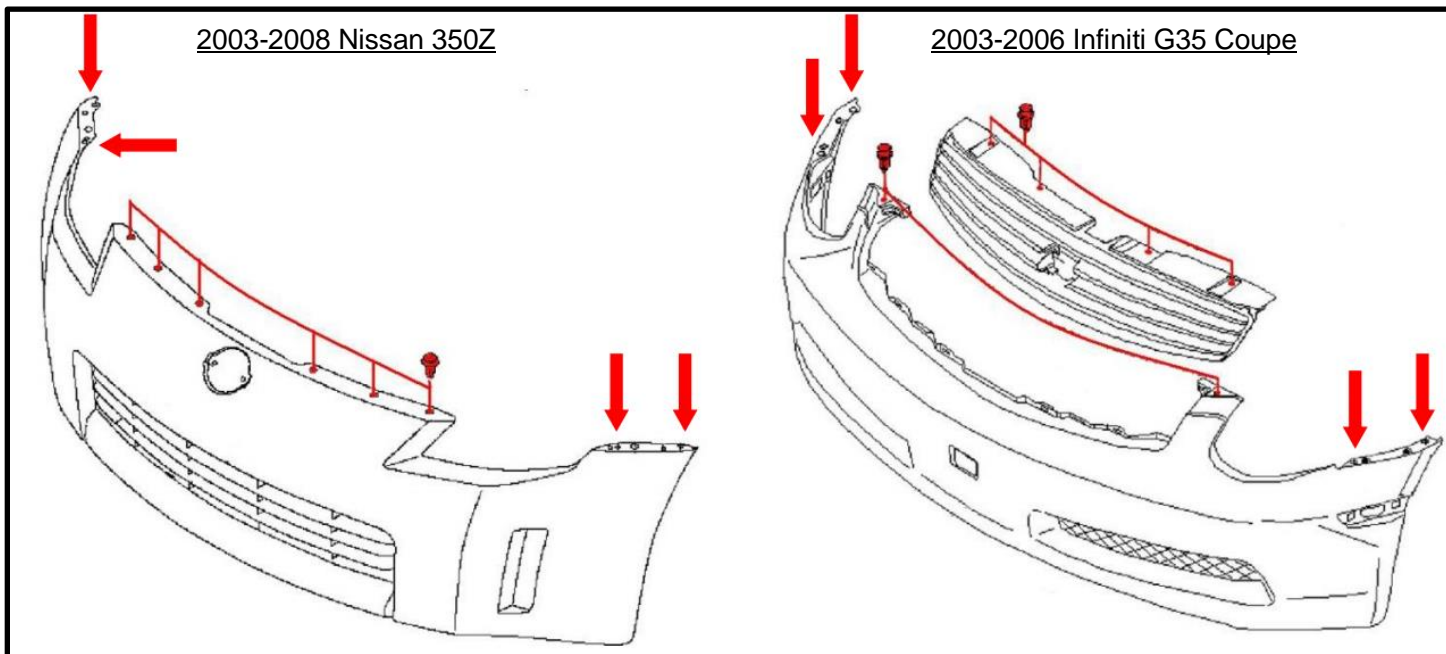
1. Assure the car's ignition is in the OFF position and the NEGATIVE (-) battery terminal is disconnected.
2. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
3. Locate proper jacking points on vehicle's chassis (refer to vehicle's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

Installation Note #2:

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 the images 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.

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 in order to remove the grille. OEM or aftermarket urethane fascia's can be pried forward slightly in order to collapse the fasteners in order to remove the grille.



Remove the four 10mm plastic screws located in the corners of fascia, just behind the front fender liners (refer to **ARROWS** above). These are accessible by reaching into the fascia through the fender wells or from beneath the vehicle following the removal of the fender liners.

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.

Installation Note #2:

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.

Remove the foam bumper reinforcement bar and aluminum crash bar. Four 12mm bolts and four 12mm nuts are used to secure the crash bar onto the chassis.



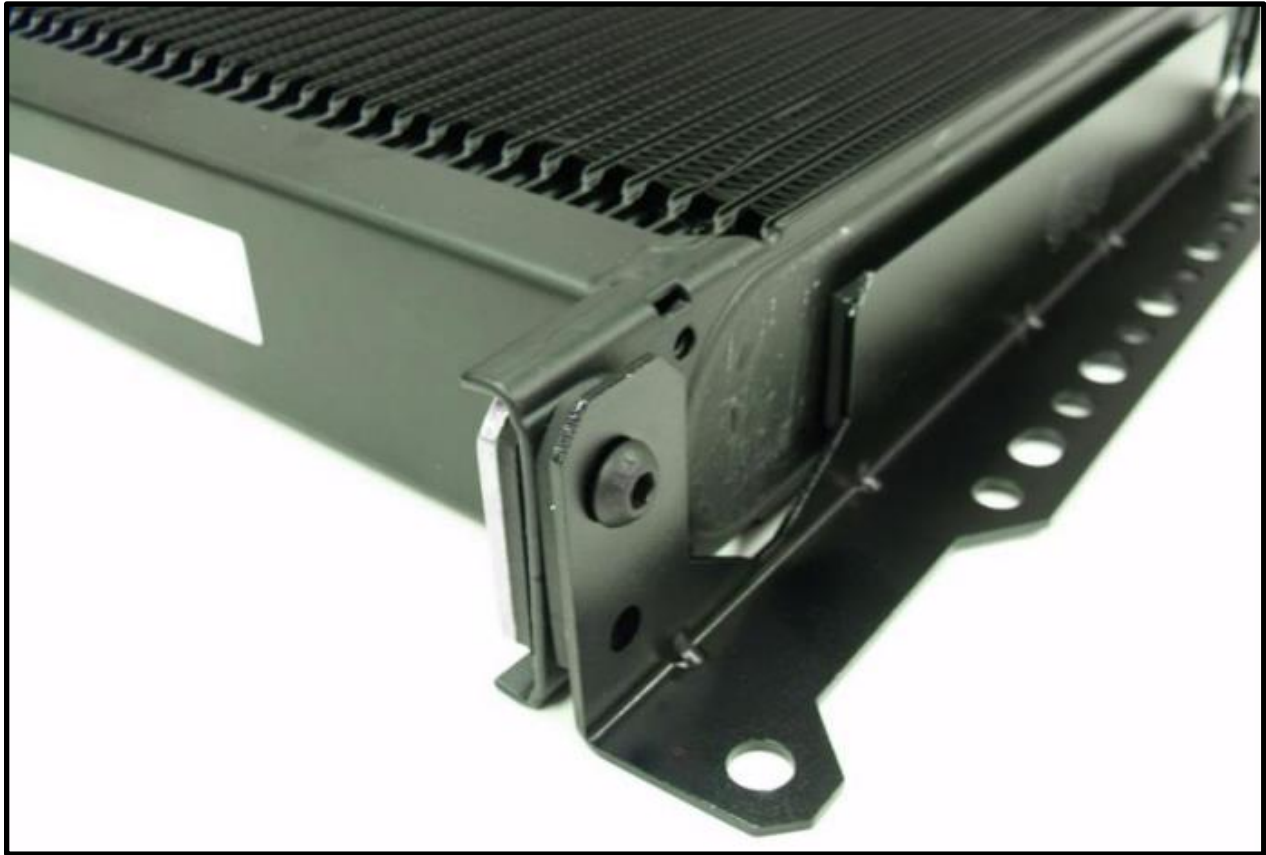
7. Assemble the SETRAB oil cooler assembly using the supplied hardware and brackets by following the instructions below:

Locate the following parts:

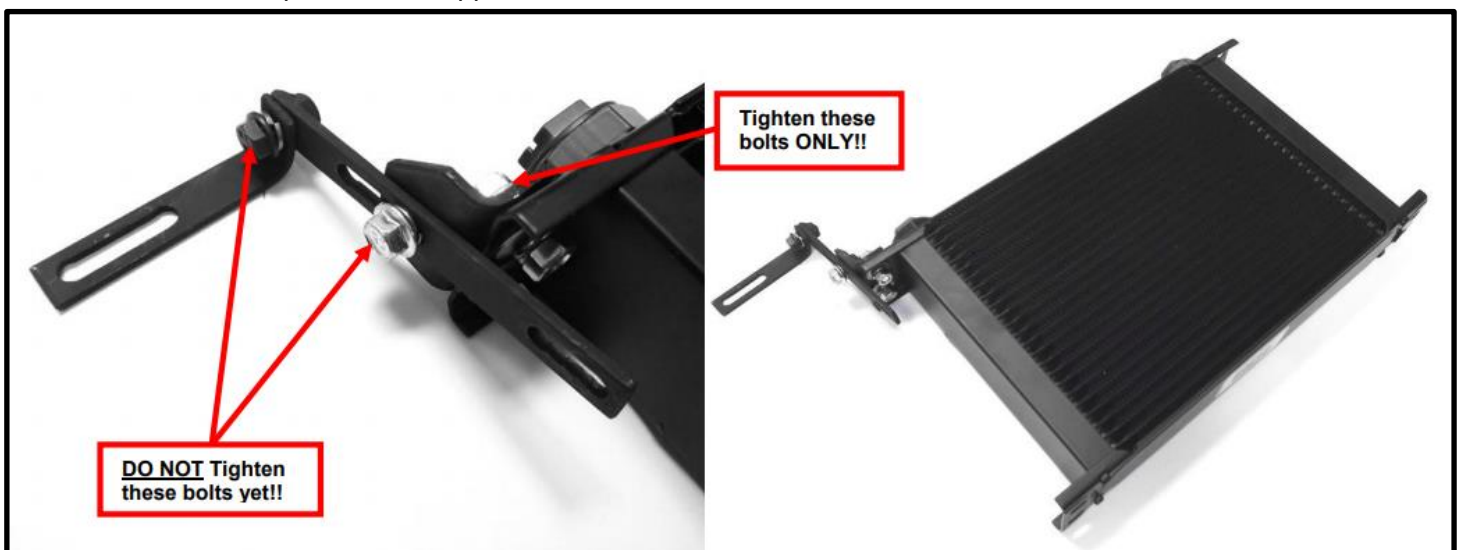
- 1 SETRAB Oil Cooler Core (size dependent on oil cooler core ordered)
- 1 Aluminum SETRAB Brackets w/ Hardware
- 1 Z1 Custom Upper Oil Cooler Bracket



- a. 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 rotation of the bracket does not matter. Refer to the image below:



- b. To install the Z1 Custom Upper Bracket, assemble the bracket to the core as shown below. Please note that the mounting flange on the SETRAB core **MUST** be laying flat as shown in the image in 7a. In this position, the upper bracket will be affixed to the left side of the oil cooler core.

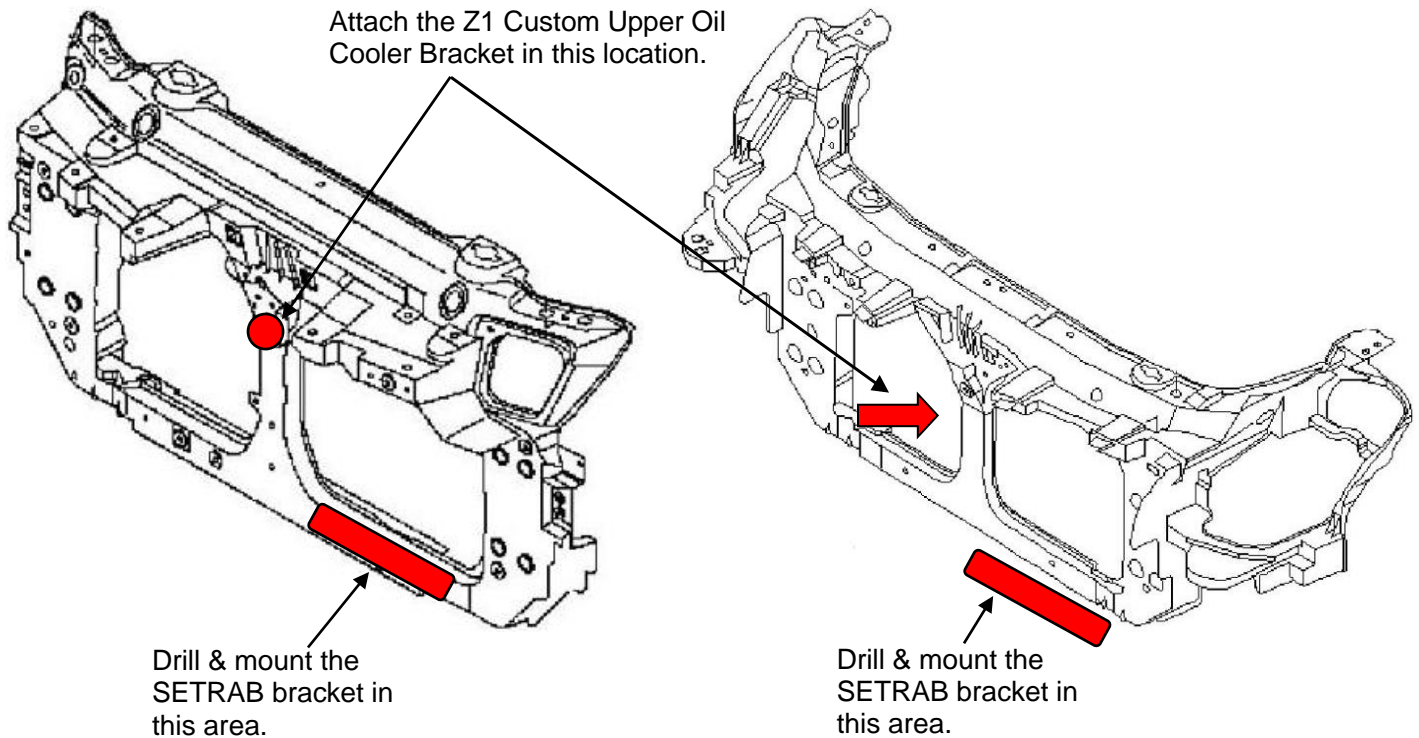


- c. Locate (4) supplied M6-1.0 rivet nuts, M6 threaded rivet nut tool and three M6-1.0 (10mm) bolts.
- d. Carefully mark and drill two holes (using 5/16" drill bit) in the core support (along the area indicated below). A few things to note about drilling into the fiberglass core support are:

- Be cautious of the fact that the back side of the fiberglass core support IS NOT FLAT. For added strength, there are diagonal braces formed into the fiberglass. The holes required must be drilled in between the diagonal braces. This can be verified by looking at the backside of the core support.
- The oil cooler core should be positioned as close to center of the driver side core support opening as possible.
- Make sure that the oil cooler core, when mounted, will be level in relation to the radiator. Use the radiator cross tubes as a visual reference.

Nissan 350Z

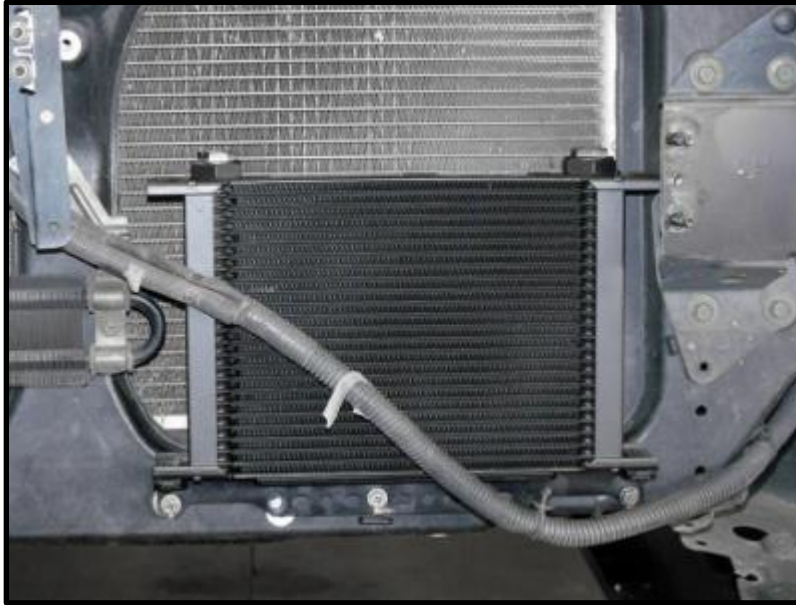
Infiniti G35



- e. Following the instructions supplied with the M6 threaded rivet nut tool, set the M6 rivet nuts until they have fully seated against the backside of the fiberglass core support and DO NOT free spin. In the event that a M6 rivet nut is damaged during the installation, a spare is included in the kit for this very reason.



- f. 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. Locate the supplied rubber bonded washers included in the kit. Use one washer per bolt behind the bracket with the rubber facing the core support. This should supply enough clearance so that the core is mounted parallel to the radiator / condenser.



- g. To mount the Z1 Custom Upper Oil Cooler Bracket, refer to the following vehicle specific notes:
Infiniti G35 – The core support has a threaded M6 rivet nut already installed from the factory in the spot indicated by the LARGE arrow above. 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 discussed in steps 7c-7e. Once the holes have been marked, drill the appropriate holes using a 5/16" drill bit.

To adjust the arm, simply loosen the (3) 10mm bolts and allow movement. Depending on the application and core size, the mid-arm may need to be unbolted and reattached in order to use the middle adjustment slot.

- h. Locate the two SETRAB oil cooler core fittings. (These will be the only 2 loose fittings supplied with the kit. DO NOT remove the fittings from the oil sandwich plate to complete this step!!)
- i. Using a suitable lubricant, apply a thin layer of lubricant to the threads of the fitting and O-Rings. Only install ONE fitting at this time.
- j. Using fresh engine oil, it is HIGHLY recommended that oil cooler core be pre-filled completely before moving forward in the installation. This will prevent a dry start scenario and will help prime the oil cooler FASTER during the initial start-up!
- k. With the oil cooler filled, you may now install the second SETRAB fitting to the oil cooler core.

8. Locate the Z1 Motorsports SS Line Set.

- a. Attach the oil cooler lines in the following pattern:
- 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.

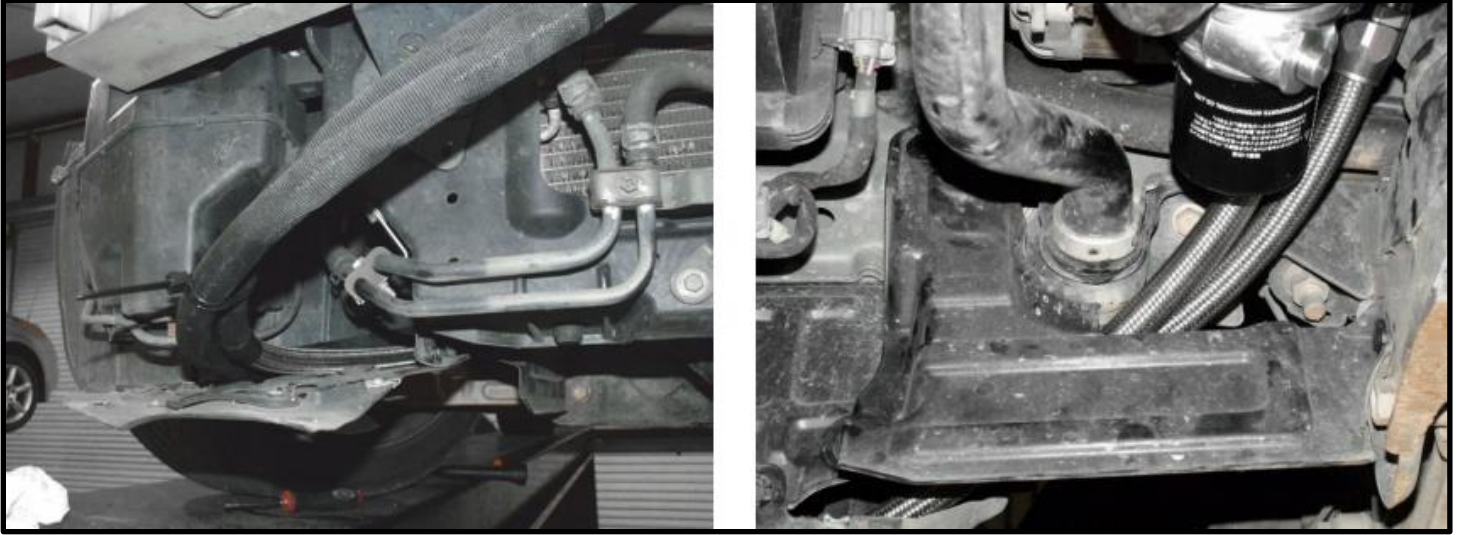
**Failure to attach the oil cooler lines as listed above may result in insufficient line length in later steps. In addition, customers who choose the pre-wrapped option will have the protective wrapping located in the wrong position.*

- b. Route the line set across the front of the vehicle. You may have to route the lines around aftermarket parts that have been installed.

Installation Note #2:

The use of zip ties is suggested in order to keep the SS line sets neat and pulled away from sharp, abrasive edges.

- c. Referring to the following image, route the lines through the opening between the passenger side frame rail and the front subframe.



9. If you are planning on changing the engine oil during the installation of the Z1 Motorsports Oil Cooler Kit, remove engine oil drain plug and drain the engine oil. If you are not planning on performing this step, continue to STEP #16.
10. Remove the engine oil filter.
11. Locate the supplied Mocal sandwich adapter. This unit should already have the two (-10AN to -10 Port) fittings and the two rubber sealing washers installed. Be sure to properly tighten these fittings before continuing.
12. Position the Mocal sandwich adapter with the large rubber O-Ring facing the engine. DO NOT INSTALL YET!
13. Attach the two -10 AN oil cooler lines to the Mocal oil sandwich plate.
14. Place the oil sandwich plate assembly onto the engine. You will need to rotate the sandwich plate so that the 180° fittings are centered between the alternator and the motor mount (refer to the image at right). This will result in the oil sandwich plate being rotated to about the 10 o'clock position.
15. With the sandwich plate in place and oriented properly, angle the fittings so that they clear any and all brackets and create a smooth bend, applying the least amount of stress to the -10 SS lines as possible. Tighten the fittings as best as possible. Use zip ties to secure the line together.



16. Remove the oil sandwich plate assembly carefully. Be careful not to disturb the angle of the fittings. Once removed, tighten down the fittings.
17. Re-install the oil sandwich plate adapter and securing bolt. Tighten down the sandwich adapter bolt and torque it to 25ft-lbs. This will secure the Mocal Sandwich Adapter to the engine in the proper orientation listed above.
18. Install the engine oil filter (new preferably).
19. Refill the engine with oil.
20. Crank the engine and inspect for any leaks.
21. Re-install the previously removed hardware, fascia, and inner fender liners. When installing the various pieces for the passenger side inner fender liners, be sure that the oil cooler lines are routed neatly behind the panels so that they DO NOT bulge out. This can (and will) eventually break the plastic pop clips, causing the panel to come loose.
22. Perform a final test drive of vehicle.

BE SURE TO CHECK THE ENGINE OIL LEVEL AFTER TEST DRIVING!

END

Additional Technical Support:

Contact Z1 Motorsports at info@z1motorsports.com
Or call 770 838 7777 between 9am and 6pm ET