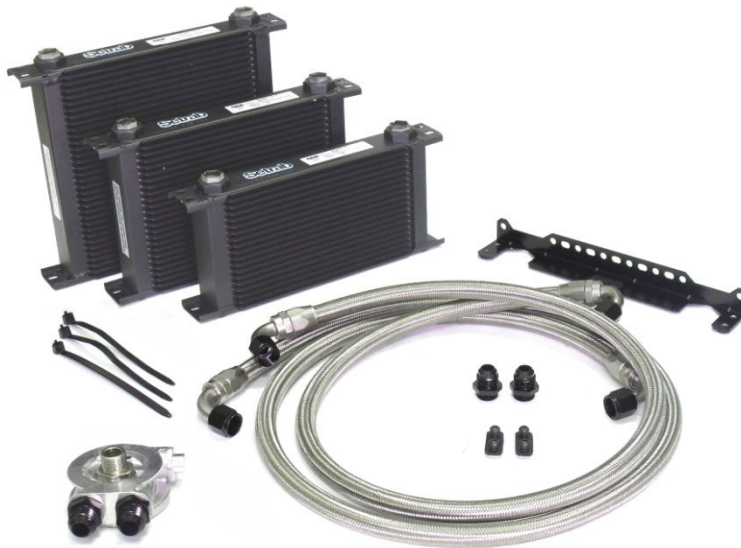




Z1 Motorsports 2877 Carrollton Villa Rica Hwy Carrollton GA 30116 770.838.7777

## Z1 Motorsports 350Z/G35 Oil Cooler Kit Installation Manual



### For 19, 25 and 34 Row Oil Cooler Kits

#### Parts Included:

- 1 SETRAB Oil Cooler Core (Size dependent on Oil Cooler Core Ordered)
- 1 Aluminum SETRAB Bracket w/ Hardware
- 1 Z1 Motorsports Custom 350Z/G35 SETRAB Upper Bracket
- 1 Z1 SS Oil Cooler Line Set
- 1 Mocal Oil Sandwich Adapter Plate (Model dependent)
- 2 SETRAB Oil -10 AN Fittings (w/ O-Ring)
- 2 Mocal (-10 AN to -10 Port) Sandwich Adapter Fittings
- 4 M6 x 1.00 mm x 20mm (10mm) Bolts
- 4 M6 x 1.00 mm Rivet Nut Insert
- 2 Mocal Rubber "DOWTY" Sealing Washers
- 1 SETRAB Oil Cooler Assembly Instruction Bulletin
- 1 M6 x 1.00 mm Rivet Nut Installation Tool Kit
- 4 Reusable Zip Ties
- 6 Flat Shim Washers

## **Additional Parts Recommended:**

**Additional Quart (1 Liter) of Engine Oil (Not Included)**  
(1 QT (19 & 25 Row Kits ONLY); 2 QTS Engine Oil (34 Row Kits ONLY!))

**Additional Zip Ties**

## **Tools Required:**

- Assorted Metric Wrenches (10mm – 19mm)
- Assorted Metric Allen Head Wrenches
- Assorted Screw Drivers
- Floor Jack
- Tire removal tools
- Oil Funnel
- Assorted Drill Bits
- Assorted Metric Sockets (10mm – 19mm)
- Ratchet
- Pliers
- Jack Stands (Minimum of 2)
- Torque Wrench
- Drill (Corded or Cordless)

***! Space Intentionally Left Blank – Continue to the following page !***

## Installation:

**WARNING!** Extreme caution should be taken when performing ANY maintenance or performance upgrades to your vehicle. Please observe and abide by any and all Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding the 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 information.

### Installation Note #1:

*It is recommended that you perform the Z1 Motorsports 350Z/G35 Oil Cooler Kit installation at a scheduled interval when your vehicle requires an Oil Change. This due to the fact that the Oil Filter must be removed and that some Engine Oil will be lost in order to properly install the kit.*

### **\*\* BEFORE YOU BEGIN! \*\***

Remove all contents from the Z1 Motorsports 350Z/G35 Oil Cooler Kit and verify that ALL necessary hardware is present. *This is critical to prevent any loss in time or usage of your vehicle in the event that a part is either damaged or missing.*

1. Apply the Parking Brake
2. Properly raise and support your Z / G using jack stands and the proper jacking points on your vehicle's chassis (Refer to vehicle's Owner's Manual)
3. Raise the vehicle's Hood
4. Disconnect the NEGATIVE (-) Battery Terminal



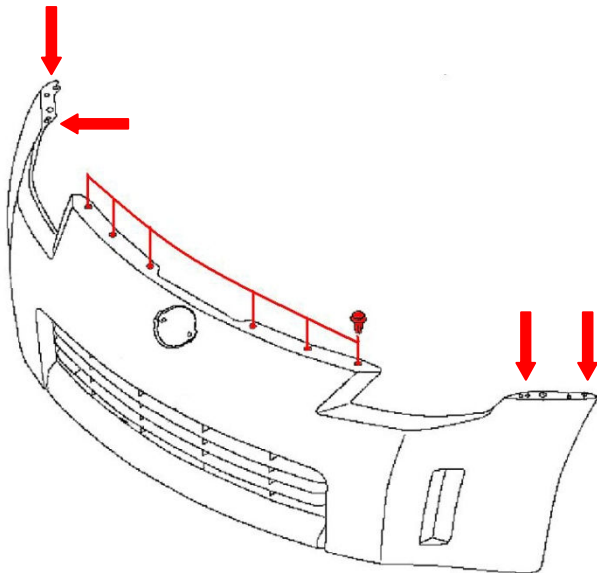
### Installation Note #2:

*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.*

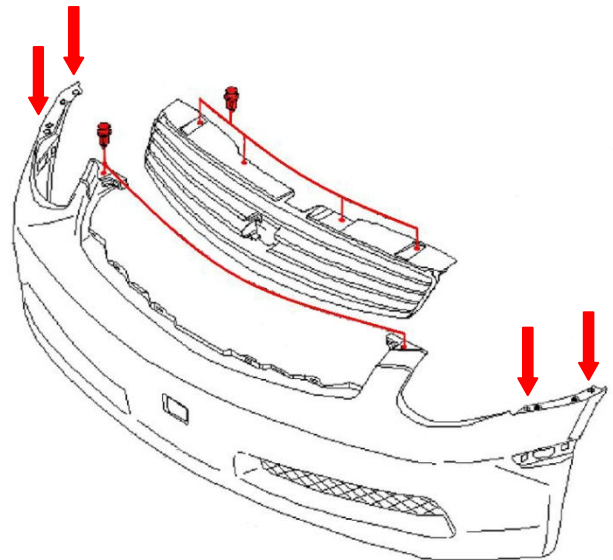
5. Remove both the Lower Engine Splash Shield and the Passenger Side Inner Fender Liner. Refer to the images below for the exact location of the fasteners:
6. Remove the fasteners securing the front fascia and Grille (G35 only!). This is done by using a flat blade screw driver and gently popping out 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 fascias can be pried forward slightly in order to collapse the fasteners in order to remove the grille.

### 2003 – 2009 Nissan 350Z



### 2002 – 2006 Infiniti G35 Coupe



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 thru 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 #3:

*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:

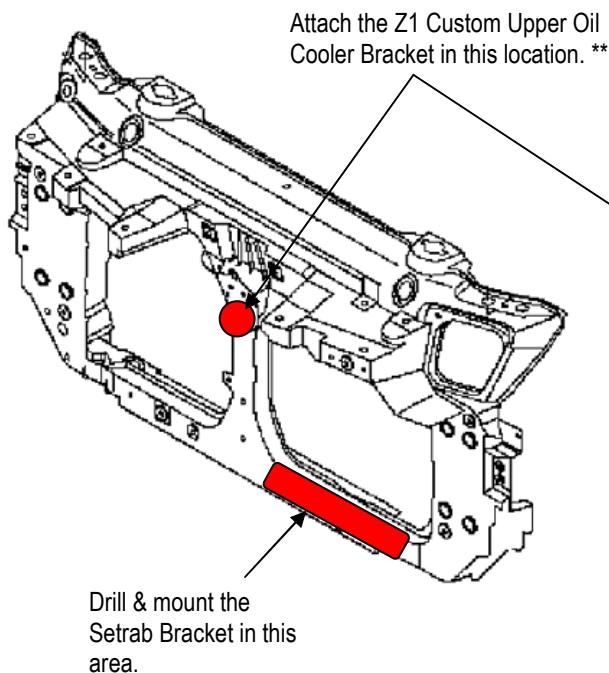


- b. To install the Z1 Custom Upper Bracket, assemble the bracket to the core as shown below. Please note that the mounting flange on the Setrab Core MUST be laying flat as shown in the image in 7a. In this position, the upper bracket will be affixed to the left side of the oil cooler core.

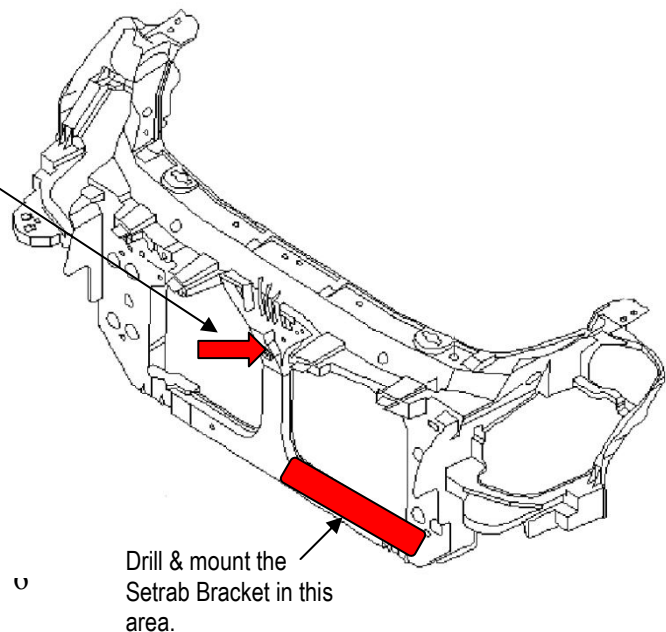


- c. Locate the four supplied M6 x 1.00mm Rivet Nuts, M6 Threaded Rivet Nut Tool and three M6 x 1mm (10mm) Bolts.
- d. Carefully mark and drill two holes (using a 5/16" Drill Bit) in the core support (along the area indicated below). A few things to note about drilling into the fiberglass core support 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**



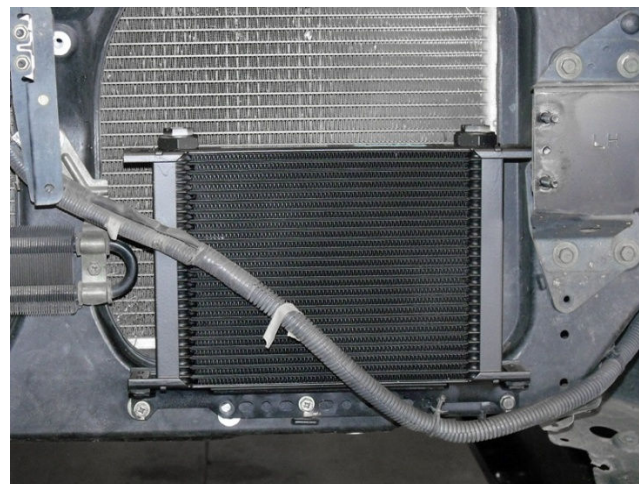
**Infiniti G35**



- 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 flat shim washers included in the kit. Using your best judgment, stack the appropriate amount of washers between the Setrab bracket and the core support so that the Oil Cooler Core itself is parallel to the radiator. To verify parallelism, measure the distances between the oil cooler and the radiator core.



- 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.

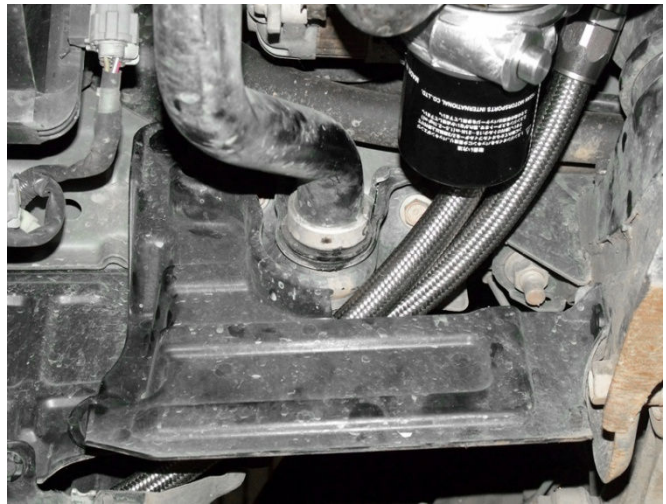
To adjust the arm, simply loosen the three 10mm bolts and allow movement. Depending on the application and core size, the mid-arm may need to be unbolted and reattached in order to use the middle adjustment slot.

- 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 #4:

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 below). 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 on the -10 SS lines as possible. Tighten the fittings as best as possible. Use Zip Ties to secure the lines 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 25 ft/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 the vehicle.

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

For further information and *MORE* full color pictures and installation suggestions, follow the installation link on the Z1 Motorsports 350Z/G35 Oil Cooler Kit product page at [Z1Motorsports.com](http://Z1Motorsports.com)