



Z1 Motorsports 2877 Carrollton Villa Rica Hwy Carrollton GA 30116 770.838.7777

Z1 Motorsports 300zx Full Flow Oil Cooler Kit Installation Manual



Standard Parts Included:

- 1 **Oil Cooler Core** (Size and model dependent on Oil Cooler Core Ordered)
- 1 **Z1 Motorsports Custom Oil Cooler Mounting Bracket w/ Hardware**
- 1 **Z1 Motorsports SS Oil Cooler Line Set** (Model dependent)
- 1 **Mocal Oil Sandwich Adapter Plate** (Model dependent)
- 2 **SETRAB Oil - 8 AN Fittings (W/ O-Ring)**
- 2 **Mocal (-8 AN to 1/2" Port) Sandwich Adapter Fittings** (Pre-installed)
- 2 **Mocal Rubber Sealing Washers** (Pre-installed)
- 4 **Re-usable Zip Ties**
- 1 **Z1 Motorsports Installation Sheet**

** Other parts included depending on model variations, please see below:*

[i.e., Twin Turbo, Non Turbo or Non Turbo → Twin Turbo Conversion]

Additional Model Specific Parts Included:

Twin Turbo:

- 1 Z1 Motorsports Twin Turbo By-Pass Supplemental Kit**

Non Turbo:

- 1 Threaded Rivet Nut Installation Tool w/ Instructions Sheet**
- 5 M6-1.00mm Threaded Rivet Nuts**
- 4 M6-1.00mm Bolts**

Non Turbo → Twin Turbo Conversion:

- 1 Z1 Motorsports Twin Turbo By-Pass Supplemental Kit**
- 1 Threaded Rivet Nut Installation Tool w/ Instruction Sheet**
- 5 M6-1.00mm Threaded Rivet Nuts**
- 4 M6-1.00mm Bolts**

** This assumes that you are reusing the Twin Turbo Oil Filter Tree and Block. If you are not, please contact the Z1 Motorsports Parts Department for more information as other parts may be necessary.*

Suggested Tools *:

Assortment of Metric Wrenches (10 – 21mm)

Assortment of Standard Wrenches (1/8” – 1”)

10 & 12mm Sockets

Ratchet

3” & 6” Socket Extensions

Phillips Head Screw Driver

Pliers

Oil Catch Tray

Oil Filter Wrench

** Other tools may be necessary outside what is listed above. No specialty tools are required for a proper installation of this kit. Any local hardware or auto parts store will have any additional tools needed.*

Installation (FOR ALL MODELS!!):

WARNING! Extreme caution should be taken when performing ANY 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 the installation of the various components included with the Z1 Motorsports 300zx Full Flow Oil Cooler Kit, please consult with a Professional Mechanic or contact Z1 Motorsports for more information.

Installation Note #1:

It is recommended that you perform the installation of the Z1 Motorsports 300zx Full Flow Oil Cooler Kit at the scheduled Oil Change interval. This due to the fact that the Oil Filter and the some Engine Oil must be removed in order to properly install the kit.

***BEFORE YOU BEGIN!**

Remove all contents from the Z1 Motorsports 300zx Full Flow Oil Cooler Kit and verify that ALL necessary hardware is present.

1. Properly raise and support your 300zx using jack stands and the proper jacking points on your vehicle's chassis (Refer to vehicle's Owner's Manual)
2. Apply the Parking Brake
3. Raise the vehicle's Hood
4. Disconnect the NEGATIVE (--) Battery Terminal
5. Remove Front Wheels (Only necessary on Non-Turbo Models)
6. Remove both the Engine and Front Bumper Splash Shields (There are multiple 10mm and/or Phillips head screws securing these panels)
7. Remove the Front Nose Panel (Between Headlights).
8. Remove the factory Air Box Assembly or Aftermarket Air Intake Filter.

Installation Note #2:

Removal of the front fascia is not necessary, however it will allow for more room to work on the vehicle with less stress.

9. Drain engine oil and remove engine oil filter (Dispose on engine oil properly and clean up any spills or leaks)
10. Locate the supplied Mocal Oil Sandwich Plate Adapter Assembly provided in this kit. This assembly should have both -8 AN – 1/2" Port Fittings and Mocal Sealing Washers installed.

Installation Note #3:

The two supplied fittings and Mocal Sealing Washers have NOT been torqued down. Be sure to do this during the appropriate step below!

11. With the oil filter removed, install the sandwich plate adapter so that the rubber o-ring seals against the factory oil filter tree. The threaded adapter bolt (supplied with the Mocal Sandwich Plate Adapter) will secure the sandwich plate adapter in place. Hand tighten the adapter bolt. ***DO NOT TIGHTEN DOWN THE ADAPTER BOLT YET AS SOME "CLOCKING" OF THE SANDWICH PLATE ADAPTER WILL BE NECESSARY!***

All further installation instructions are model specific. Please see the appropriate section based on the version of the kit you have ordered:

Twin Turbo Kit:

12a: Remove the factory 300zx Twin Turbo Oil Cooler Kit and associated hardware. This includes the following items:

- 1) Oil Cooler Core**
- 2) Oil Cooler Bracket** (Keep the four M6 x 1.00mm bolts as they will be reused)
- 3) 4x Rubber Oil Cooler Lines**
- 4) Formed Metal Oil Cooler Lines** (Near Radiator/Condenser Assembly)
- 5) Plastic Filler Panel** (Used to finish around the OEM Formed Metal Oil Cooler Lines. Between the Passenger Side Frame Rail and the Radiator/Condenser Assembly.)

12b: Locate the supplied Z1 Motorsports Custom Oil Cooler Bracket and Hardware Kit.

12c: Using the factory M6 x 1.00mm bolts, secure the Z1 Motorsports Oil Cooler Bracket in place of the factory bracket.

12d: Locate the supplied Oil Cooler Core and both Setrab – 8 AN Fittings.

Installation Note #4:

It is highly recommended that the oil cooler core be pre-filled with fresh engine oil before installation. This will prevent the possibility of a dry start up when cranking the engine and will limit the time the engine will be without oil while the oil cooler lines are primed.

12e: Using a suitable lubricant, apply a thin coat of lubricant to the AN Fittings' O-rings, install the fittings onto the oil cooler core.

12f: Install the pre-filled oil cooler core onto the previously installed Oil Cooler Bracket. Use the supplied hardware to do so. Be sure not to tip over or spill any oil while installing the oil cooler core. This step is achieved by dropping the oil cooler core down thru the nose panel (if the front fascia has not been removed).

12g: Locate the Z1 SS - 8 Twin Turbo Oil Cooler Line Set included in this kit.

12h: Beginning at the oil cooler, begin routing the oil cooler lines thru the chassis. Be sure to route the lines between the frame rail and the radiator/condenser assembly. The shorter of the two lines will attach to the Passenger side fitting on the Oil Cooler Core while the longer hose will attach to the Driver Side. Please refer to Installation Note #5 and #6 regarding line routing procedures.

Installation Note #5:

It is highly recommended that you plug off [seal] the ends of the hose being passed thru the chassis. This will prevent any dirt or debris from entering the lines and contaminating the engine oil. Use the supplied plastic bags and zip ties if necessary.

Installation Note #6:

Be sure to route the oil cooler lines so that the fittings are arranged in the pattern below:

Passenger Side of Oil Cooler	=	120° Fitting
Driver Side of Oil Cooler	=	90° Fitting
Sandwich Plate Adapter (Both)	=	120° Fitting (x2)

- 12i:** Route the oil cooler line along the passenger side frame rail. Be sure to route the lines as far away from belts, pulleys and the turbo chargers as possible.
- 12j:** Connect the remaining 120° fittings to the previously installed sandwich plate adapter. You will have to “Clock” the sandwich plate adapter to help aim the oil cooler line around the engine without damaging the lines.
- 12k:** Once the position of the lines and sandwich plate adapter has been determined. Tighten down all fittings and secure the adapter bolt on the sandwich plate adapter.
- 12l:** Re-install the oil filter (New preferably). Be sure to pre-fill the oil filter before installing it on the engine.
- 12m:** Use the supplied Zip Ties to keep the SS Oil Cooler Lines routed neatly.
- 12n:** Refer to the supplied Z1 Motorsports Full Flow Oil Cooler By-Pass Supplemental Instructions before proceeding to step 12o.
- 12o:** Re-fill the engine with oil. Keep in mind, the oil capacity will be increased by about 0.5 ~ 0.75 Quarts. (It is safer to add about 3.5 qt when doing this installation to begin with.)
- 12p:** Start the engine and ensure that the oil pressure returns to NORMAL. Once it has done so, turn the engine back off and inspect for any possible oil leaks.
- 12q:** Re-check the engine oil level.
- 12r:** Re-install any previously removed hardware or panels.
- 12s:** Perform a final test drive of the vehicle. Make sure you periodically check for any oil leaks until you are satisfied.

This completes the installation of the 300zx Twin Turbo version of the Z1 Motorsports Full Flow Oil Cooler Kit.

Non Turbo Kit:

12a: Locate the following supplied items:

- a. Threaded Rivet Nut Installation Tool w/ Instruction Sheet.
- b. Threaded Insert Rivets (x5)
- c. M6-1.00mm Bolts (x4)
- d. Z1 Motorsports Custom Oil Cooler Mounting Bracket w/ Hardware

12b: Located under the nose panel, just in front of the A/C Condenser Fan, there are 4 pre-drilled holes that mark where the factory Nissan Oil Cooler Kit is placed on the Twin Turbo models. These holes are not tapped and will not accept any bolts. Following the instruction sheet supplied in the Threaded Rivet Nut Tool, install four of the Threaded Rivet Nuts into these four holes. A fifth threaded rivet nut is supplied in the event a rivet nut is damaged during installation.

12c: Using the four M6-1.00mm bolts, attach the Z1 Motorsports Custom Oil Cooler Mounting Bracket to the lower core support.

12d: Locate the supplied Oil Cooler Core and both Setrab – 8 AN Fittings.

Installation Note #4:

It is highly recommended that the oil cooler core be pre-filled with fresh engine oil before installation. This will prevent the possibility of a dry start up when cranking the engine and will limit the time the engine will be without oil while the oil cooler lines are primed.

12e: Using a suitable lubricant on the AN Fittings' O-rings, install the fittings onto the oil cooler core.

12f: Install the filled oil cooler core onto the previously installed Oil Cooler Bracket. Use the supplied hardware to do so. Be sure not to tip over or spill any oil while installing the oil cooler core. This step is achieved by dropping the oil cooler core down thru the nose panel (if the front fascia has not been removed).

12g: Locate the Z1 SS - 8 Non-Turbo Oil Cooler Line Set included in this kit.

12h: Beginning at the oil cooler, begin routing the oil cooler lines thru the chassis. The shorter of the two lines will attach to the Passenger side fitting on the Oil Cooler Core while the Longer hose will attach to the Driver Side. Please refer to Installation Note #5 thru #7 regarding line routing procedures.

Installation Note #5:

There are multiple paths in which the Z1 SS Oil Cooler Lines can be routed. Please refer to the suggested routing method below as a guide:

- a. Oil Cooler Core →
- b. Underneath Passenger Side Headlight Bucket (Opening between the headlight bucket and frame rail) →
- c. Along the Passenger Side Frame Rail (2+2 and '94+ models will have to route the lines around the Windshield Washer Bottle).
- d. Route the lines through the opening between the frame rail and the tension rod bracket. This opening is just large enough to route both lines through. It is easier to route one line thru first, then to feed the second once completed. →
- e. Route the lines along the passenger side frame rail, terminating at the Oil Filter Tree near the transmission. Make sure you “clock”, or rotate the oil filter sandwich plate so that the lines are routed as far from the exhaust manifolds as possible. -- END

Installation Note #6:

It is highly recommended that you plug off [seal] the ends of the hose being passed thru the chassis. This will prevent any dirt or debris from entering the lines and contaminating the engine oil. Use the supplied plastic bags and zip ties if necessary.

Installation Note #7:

Be sure to route the oil cooler lines so that the fittings are arranged in the pattern below:

Passenger Side of Oil Cooler	=	90° Fitting
Driver Side of Oil Cooler	=	90° Fitting
Sandwich Plate Adapter (Both)	=	120° Fitting (x2)

- 12i: Route the oil cooler lines along the passenger side frame rail. Be sure to route the lines as far away from belts, pulleys and the exhaust manifolds as possible.
- 12j: Connect the remaining 120° fittings to the previously installed sandwich plate adapter. You will have to “Clock” the sandwich plate adapter to help aim the oil cooler line around the engine without damaging the lines.
- 12k: Once you are pleased with the position of the lines and sandwich plate adapter. Tighten down all fittings and secure the adapter bolt on the sandwich plate adapter.
- 12l: Re-install the oil filter (New preferably). Be sure to pre-fill the oil filter before installing it on the engine to prevent dry starting the engine.
- 12m: Use the supplied Zip Ties to keep the SS Oil Cooler Lines routed neatly.

- 12n: If you drained the engine of oil, be sure to re-fill the engine with oil. Keep in mind, the oil capacity will be increased by about 0.5 ~ 0.75 Quarts. (It is safer to add about 3.5 qt when doing this installation to begin with.)**
- 12o: Start the engine and ensure that the oil pressure returns to NORMAL. Once it has done so, turn the engine back off and inspect for any possible oil leaks.**
- 12p: Re-check the engine oil level.**
- 12q: Re-install any previously removed hardware or panels.**
- 12r: Perform a final test drive of the vehicle. Make sure you periodically check for any oil leaks until you are satisfied.**

This completes the installation of the 300zx Twin Turbo version of the Z1 Motorsports Full Flow Oil Cooler Kit.

Non Turbo → Twin Turbo Conversion Kit:

Installation of the 300zx Full Flow Oil Cooler Kit onto a Non-Turbo → Twin Turbo Conversion Vehicle is a hybridization of both the Non-Turbo and the Twin Turbo Oil Cooler versions of this kit. Please refer to the following sections below for complete installation details:

- Begin with **steps 1 – 11** of the generic Z1 Motorsports 300zx Full Flow Oil Cooler Kit.
- Once completed, jump to **steps 12a - 12f** in the **NON-TURBO Kit**.
- Complete the installation with **steps 12a – 12r** in the **Twin–Turbo Kit**.

This completes the installation of the 300zx Non Turbo→Twin Turbo Conversion of the Z1 Motorsports Full Flow Oil Cooler Kit.

For further information and *MORE* full color pictures and installation suggestions, follow the installation instructions link on the Z1 Motorsports 300zx Full Flow Oil Cooler Kit product page at Z1Motorsports.com