

## MISHIMOTO 03-06 NISSAN 350Z OIL COOLER

### REMOVAL INSTRUCTIONS

**Please note:** Oil cooler kits should only be installed by a highly trained professional mechanic. Serious engine damage can occur from improper installation of an oil cooler. Average installation time is approximately 3 hours.

1. Jack up the front of the vehicle and support securely on jack stands or lift. Locate the 6 push pin clips that run across the top of the bumper just below the hood line in the highlighted area below. Remove these clips using a panel tool or flat head screw driver.



2. Remove the splash panels and attachment bolts that run across the bottom of the front bumper.



3. Peel the wheel well splash guard out from behind the front bumper near the fenders and remove the (3) 10mm head bolts inside on both sides of the front bumper. (See picture)



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### REMOVAL INSTRUCTIONS (CONT.)

4. Remove the front bumper cover and foam piece attached to the metal front bumper exposing the front end of the vehicle.



5. Locate the oil filter and remove. Do not remove the factory oil cooler from the engine block.



6. Unpack the Mishimoto oil cooler kit from its box and lay out all the parts in order to organize the parts of the kit.



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### INSTALLATION INSTRUCTIONS

1. Install the small rubber o-rings supplied with the kit onto all the fittings that screw into the oil outlet and inlet ports (threaded). Every connection to the oil filter sandwich block will require a rubber o-ring gasket. Do not use any thread sealer or Teflon tape on any of the fittings to the oil filter, block, cooler, or cooler lines. If you are installing an oil temperate gauge or aftermarket oil pressure gauge, please use Teflon tape on these sensors **ONLY**. If no aftermarket gauges are being installed at this time, use Teflon tape on the plugs that are supplied with the kit.



2. Locate the oil filter adapter plate fittings that came with the Mishimoto oil cooler. Use the factory oil filter to locate the correct oil filter thread for your car. Screw the fittings in as shown and make sure you use the fitting that screws into the oil filter without **ANY** play in the threading. There are 3 main thread sizes for oil filters and they are very close to each other. Take extra care to select the correct fitting. Two of these fittings will not be used.



3. Install the oil filter adapter block on top of the factory oil cooler. Lube the o-ring on the oil filter with engine oil prior to installing the Mishimoto oil cooler adapter onto the factory oil filter location. Use the fitting that fits the oil filter and screw the block down.



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### INSTALLATION INSTRUCTIONS (CONT.)

4. Use a torque wrench and 27mm socket to tighten down the oil filter block. Torque the oil filter adapter block to 14ft/lb while securing the block from moving while tightening.



5. Install the oil block off fittings as pictured. Remember, Teflon tape is only to be used on the NPT fittings in the end of the block-off caps. Rubber o-rings should be between the block-off bolt (24mm) and the oil filter block. Torque the 24mm hex head block-off fittings to 25ft/lbs and install the 1/8in NPT pipe thread caps with Teflon tape.



6. Install the oil cooler line fittings with O-Rings into the oil filter block and torque to 25ft/lbs.



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### INSTALLATION INSTRUCTIONS (CONT.)

7. Locate the oil cooler core and mark the bottom of the front bumper on the left (driver's side) of the car. The oil cooler core should be located as far back on the bottom of the front bumper as possible to avoid any damage in a front end collision or from road debris. Mark holes, pre-drill and install pan head self tapping sheet metal screws to affix the cooler core to the front bumper support. Make sure to use all 4 holes for mounting. If the oil cooler core comes loose it can cause serious engine damage.



8. Locate the longer of the 2 oil cooler lines and install the longer line with the 90 degree fitting **LOOSELY** onto the bottom of the oil cooler core on the further of the 2 fittings. Install the shorter steel braided cooler line to the fitting closest to the oil filter block. Route the cooler lines towards the windshield washer tank on the car along the front end of the car. Use a dremel or de-burring tool to cut a 2-inch x 1.5-inch rectangular hole in the air diversion plate as pictured below.



9. Cut another 2-inch x 1.5-inch hole in the inner air diversion plate inside the engine bay directly behind the lower radiator support as shown below. Feed the oil lines around and through both holes to the oil filter block.





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### INSTALLATION INSTRUCTIONS (CONT.)

10. Make sure lines are not pinched and are away from any moving parts of the car. Attach the lines (using plastic zip ties) to the OEM power steering cooler on the bottom of the lower radiator support.



11. Attach the lines to the oil filter block. The oil cooler connections do not have to be installed on any specific port. Use a wrench to hold the fitting oil filter block and to keep it from spinning and tighten the fitting on the oil cooler line. Install the oil filter at this time. The cooler lines should be above the connection for the lower control arm. Lines that are lower than this should be re-located to prevent possible damage from road debris.



12. Hold the nut that is welded to the cooler core with a wrench and tighten the 90 degree fitting going to the oil cooler core. Failure to hold the nut on the cooler core will damage the core and oil leaks will be a problem. The oil cooler core is made of very thin metal to promote the heat transfer of the oil to air. Do not use any Teflon tape or thread sealer on ANY of the oil cooler line fittings. Serious engine damage and leaks may result from doing so.



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### INSTALLATION INSTRUCTIONS (CONT.)

13. \*Optional (but highly recommended) since the oil cooler core and lines are currently dry it's best to prime the engine with oil before firing for the first time with your new oil cooler. \*\*\***MAKE SURE THE CAR IS IN NEUTRAL** and emergency brake is on if you are working on jack stands. (Make sure the key is in the off position before continuing). \*\*\* To do this locate the starter Solenoid harness on the side of the transmission and attach a jumper lead to the starter side of the harness. Touch the jumper lead to the positive terminal coming from the battery to manually run the starter. Run the starter at (3) twenty second intervals to prime the oiling system.



14. Visually check all fittings for leaks during priming. If any leaks are found, tighten fittings. Plug the starter harness back into the chassis harness and start the engine. Verify that after no more than 5 seconds of running time you have oil pressure as read on the factory oil pressure gauge. Oil viscosity and temperature will affect oil pressure readings.



15. While engine is warming up **DO NOT** rev the engine. Double check the oil cooler lines and fittings for leaks during the warm up process.
16. Install the front bumper reversing the instructions above. Once the car has warmed up all the way, shut it off and add 1.5 quarts of oil to the system to make up for the added oil capacity. Test drive the car and check for leaks one last time.
17. With the addition of the Mishimoto oil cooler system to your car you can enjoy more longevity from the engine and better oil life. Oil changes should still be performed at manufacturer intervals.

#### Notes about oil coolers:

- Cars with aftermarket oil coolers should not be revved at all until the oil has had sufficient time to warm up. Oil pressure when the engine is cold can be well above 120psi and revving the engine while the oil is cold can damage the engine and the cooler.

- Lines and fittings should be checked for leaks on a regular basis. If your vehicle is street driven we recommend you check the cooler lines and fittings daily for leaks for one week. Over time the lines and sandwich block may loosen and require re-tightening. After the one week period has passed the oil cooler lines and fittings should be checked with every oil change. Neglect to do so can cause serious engine damage.