

## Standard Duty Oil Filter Relocation Kit (OC-3)



Read all of the instructions before beginning work. Following the instructions in the proper sequence will ensure the best and easiest installation.

Maximum Motorsports Modular Engine Oil Filter Relocation Kit moves the oil filter from the OE location to inside the driver fender behind the bumper support. This kit is required for all Modular DOHC and SOHC engines with OE oil coolers when installing Maximum Motorsports Tubular K-member. Installation of this kit mandates the use of a larger volume FL-1 series oil filter (or equivalent).

### WARNING

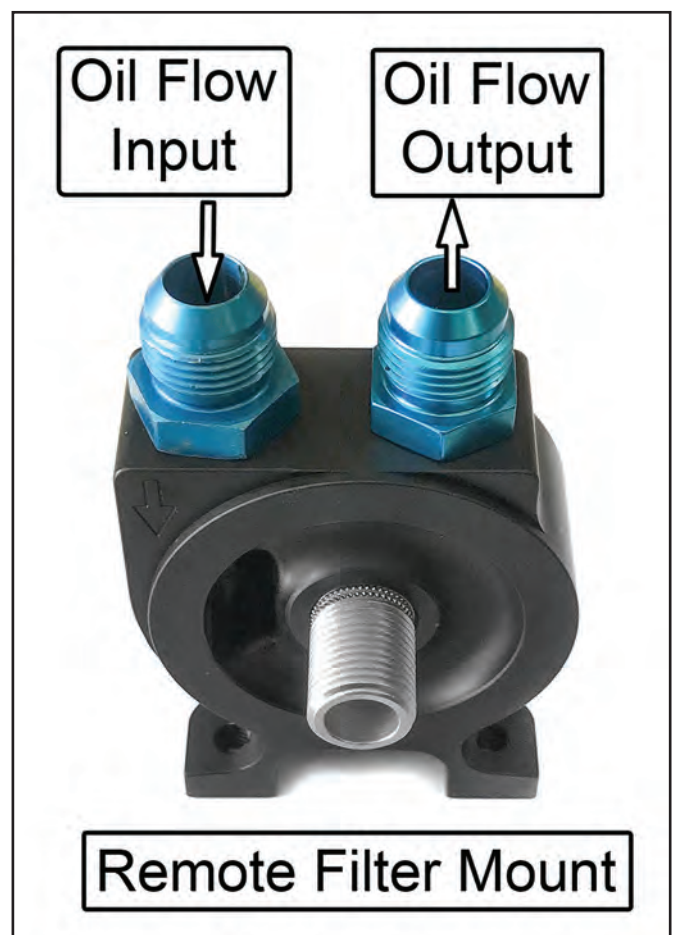
It's **extremely important** to connect the hoses to the correct ports of the Engine Block Adapter and the Remote Filter Mount. Connecting hoses to the incorrect ports will cause **engine failure** because oil will not flow through the filter in the opposite direction of normal. No oil = engine bearing failure.

Study the illustrations carefully, take care when installing the hoses, and then double check your finished installation with the illustrations to confirm proper hose connections. Only this *exact* hose to port orientation provides the proper flow of oil through the filter.

Before starting your engine for the first time, refer to the illustration on the last page of the instructions to verify all hoses are routed correctly upon finishing the installation.

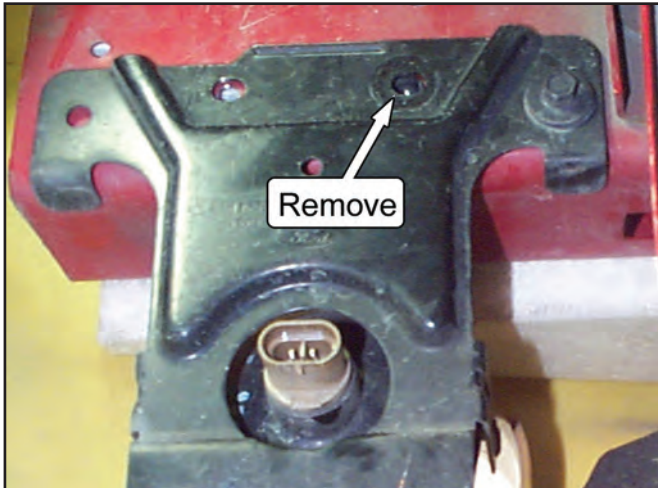
1. Check the oil level and add oil, if necessary.
2. Jack up the front of the car and support securely on jack stands.
3. Remove the driver side wheel.

### Remote Filter Mount Installation

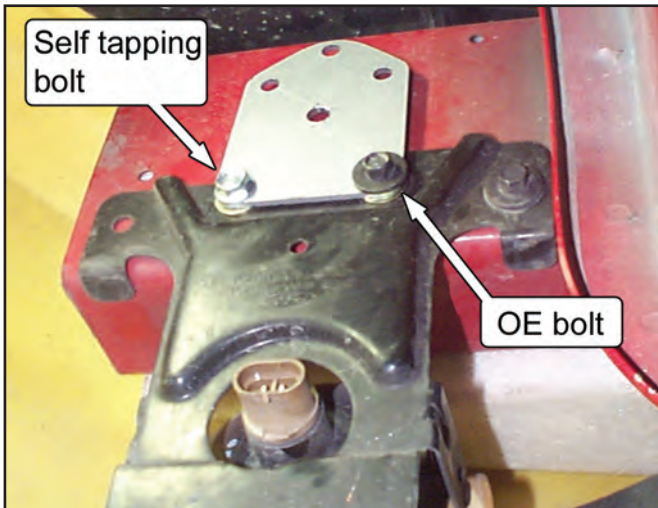


4. Remove the driver side electrical connector from the fog light. Position the connector up and out of the way.

5. Remove the outboard OE fog light bracket bolt.



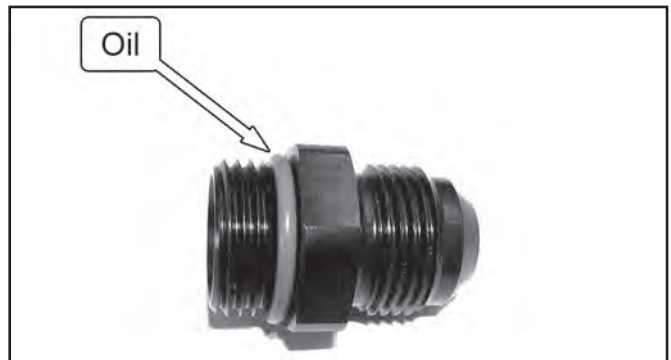
6. Temporarily attach the Adapter Plate to the bumper support using the bolt removed at Step 5 in its original position. Thread one of the provided self-tapping bolts at the unused hole in the bumper cover support behind the fog light bracket. The Adapter Plate is now used as a template for locating the position of a third mounting hole for the Adapter Plate.



7. Mark the location of the center hole of the Adapter Plate on the bumper support.



8. Remove the Adapter Plate.
9. Drill a 1/4" hole at the location marked in Step 7. The bumper support is made of a steel alloy that is difficult to drill. Use high-quality, sharp drill bits. Start by drilling a 1/8" pilot hole. Then enlarge using a 3/16" drill bit, followed by a 1/4" drill bit. The use of multiple drill bit sizes simplifies this step greatly. When drilling, the front lip of the plastic fender liner may be pushed out of the way to provide additional access for the drill.
10. Tighten one of the self-tapping bolts into the hole drilled in Step 9 and then remove the bolt. This step forms threads in the hole.
11. Apply a light coat of motor oil to the O-ring of the two Straight Thread O-ring to -10AN fittings.



12. Place the Remote Filter Mount into a vise with “soft jaws” and install each of the two Straight Thread O-ring to -10AN fittings into the two ports of the filter adapter. Tighten the adapter nipples to 35 ft-lbs.



13. Attach the Adapter Plate to the Remote Filter Mount using the three supplied 5/16” bolts. Torque the three bolts to 19 ft-lb.



14. Insert one of the self-tapping bolts through the center hole in the Adapter Plate from the filter side of the Adapter Plate.

15. Place the 1/4” thick washer on the self-tapping bolt. The washer spaces the Adapter Plate away from the bumper support, providing clearance for the bolt heads installed in Step 13.

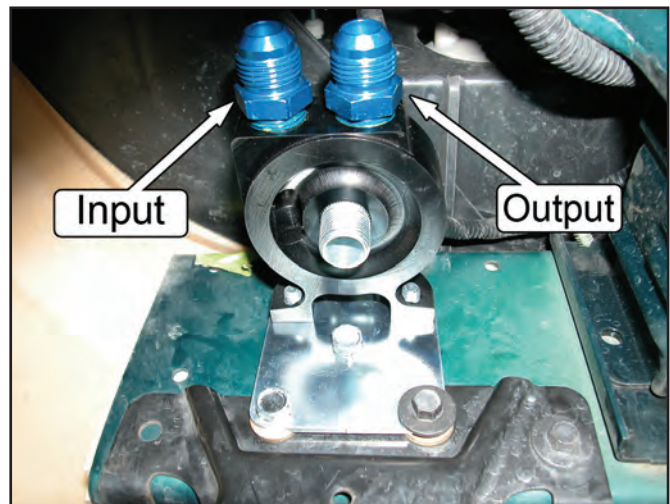


16. Attach the Adapter Plate to the bumper support by inserting the self-tapping bolt into the hole drilled at Step 9. Leave the self-tapping bolt loose.

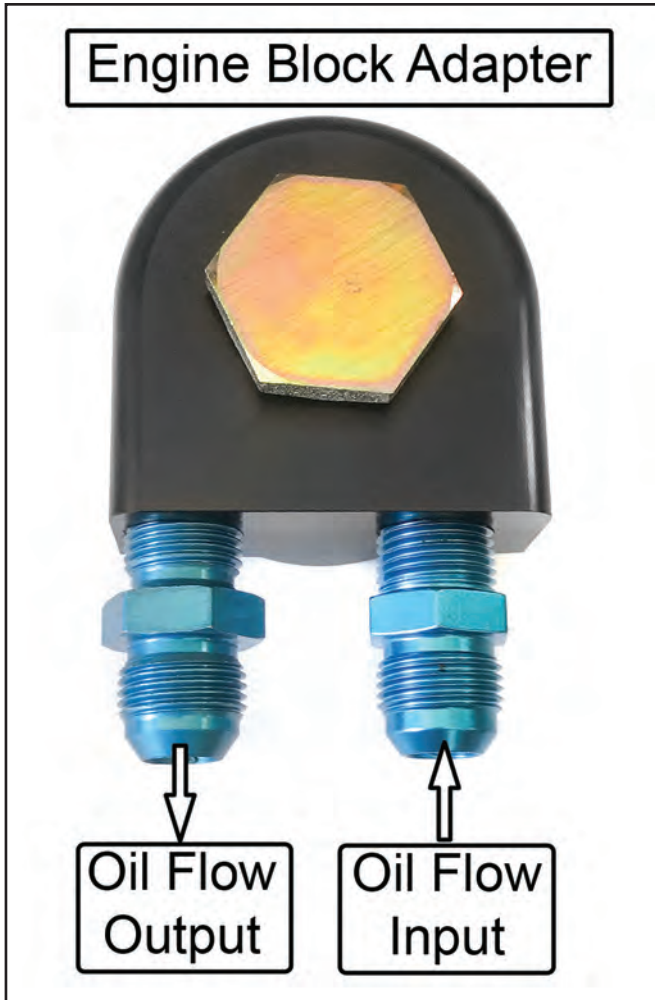
17. Place a thin 3/8” washer between the Adapter Plate and the fog light bracket at the hole where the OE fog light bracket bolt was removed. While holding the washer in place, insert the OE fog light bracket bolt through the Adapter Plate and loosely tighten it back into the original hole.

18. Place a thin 3/8” washer between the Adapter Plate and the fog light bracket at the opposite corner of the Adapter Plate. While holding the washer in place, insert the remaining self-tapping bolt through the hole in the Adapter Plate and into the OEM-provided hole in the bumper support.

19. Tighten all three Adapter Plate bolts to 9 ft-lb.



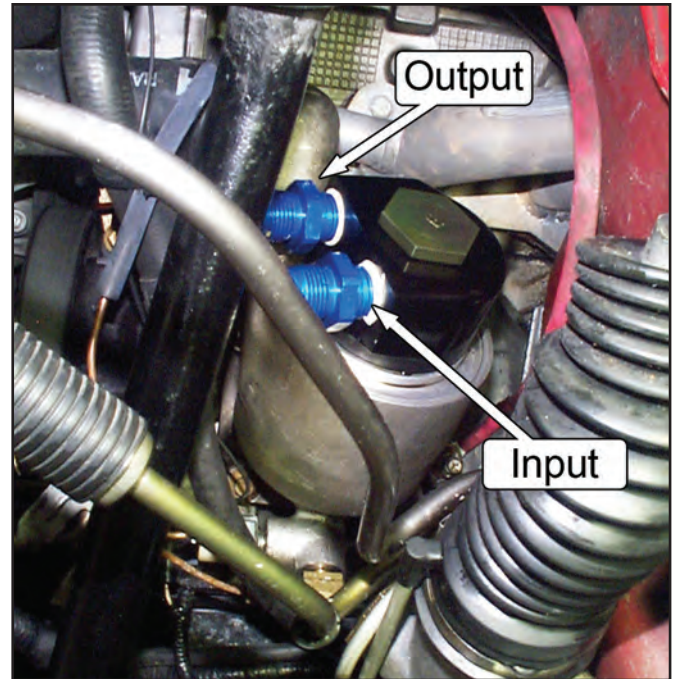
## Engine Block Adapter Installation



20. Coat the tapered pipe threads of the two 1/2" NPT to -10 AN fittings with the supplied Loctite Thread Sealant. Do NOT coat the leading thread. Place the Engine Block Adapter into a vise with "soft jaws" and install each of the two adapter fittings into one of the ports of the Engine Block Adapter. Tighten the adapter fittings. The tapered pipe threads form a wedge and the fittings do not bottom. Do not over-tighten, or damage will result.



21. Lube the Engine Block Adapter gasket with motor oil.
22. Place a drain pan under the oil filter and remove the oil filter. Be sure the filter gasket is removed with the filter.
23. Loosely attach the Engine Block Adapter at the OE filter location on the block. Rotate the Engine Block Adapter such that the adapter nipples face toward the front of the car.



## Oil Line Fabrication And Installation

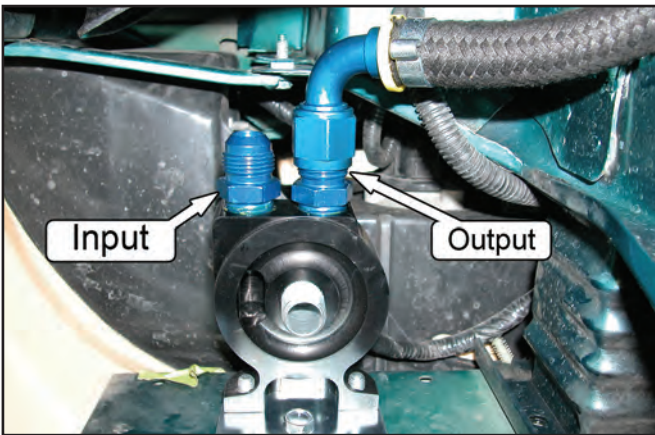
24. Inspect the ends of the supplied oil line hose. Choose the end of the hose that is in best condition, this is the first end that you will install a 90° fitting into. Lubricate the barbs on the fitting and the ID of the hose with engine oil. Press the fitting into the hose. The fitting is completely installed when the hose just contacts the plastic yellow hose end cover.



- Slide a hose clamp over the end of the hose that does not have a fitting. Position the hose clamp next to the yellow hose end cover and then use a slotted screwdriver to tighten the clamp until snug. The hose clamp provides extra security in high heat and pressure applications.



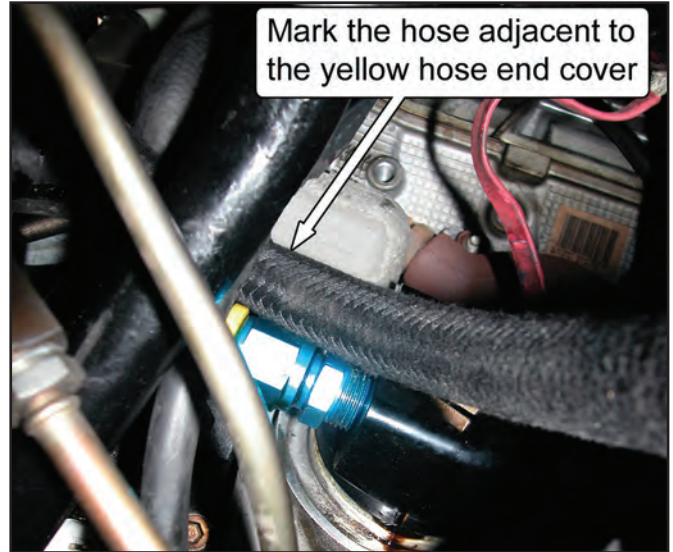
- Hand tighten the attached 90° fitting onto the Remote Filter Mount adapter fitting marked “Output” in the photo below (the adapter fitting closest to the radiator support). This will be your “Return Line”



- Route the hose under the frame rail, over the anti-sway bar and to the Engine Block Adapter. The specific routing should be based on your personal preference and vehicle configuration.

NOTE: It is important to understand that each one of the Remote Filter Mount ports must be connected to the correct port of the Engine Block Adapter. Specifically, the inboard port of the Remote Filter Mount “Output” must be attached to the lower port of the Engine Block Adapter “Input”. The outboard port of the Remote Filter Mount “Input” must be attached to the upper port of the Engine Block Adapter “Output”. This port orientation provides proper flow of oil through the filter.

- Thread one of the Straight Hose Fittings onto the lower adapter fitting of the Engine Block Adapter marked “Output”, do not tighten the fitting.
- Leaving a slight amount of slack for engine movement, hold the hose against the straight fitting and use a felt-tip or paint pen to mark the hose at the yellow hose end cover on the fitting.

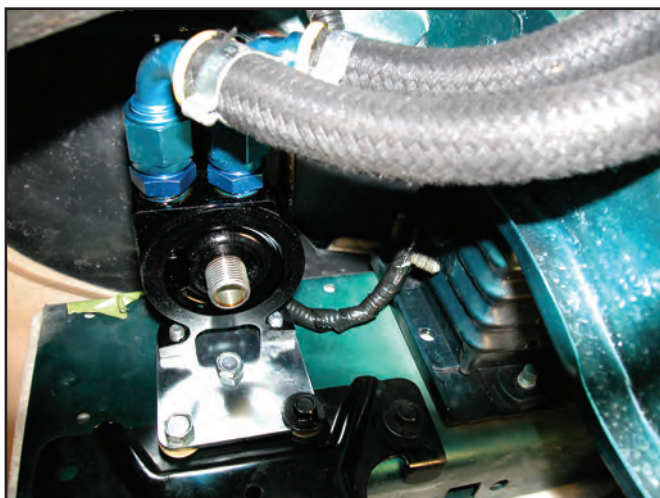


- Remove the Return Line from the Remote Filter Mount and remove the hose from the car. Remove the straight fitting from the Engine Block Adapter.
- Use a pair of hose cutters or a sharp razor knife to cut the hose at the location of your mark.



- Slide a Hose Clamp onto the hose.
- Lube the barbs on the straight fitting and the ID of the hose. Install the fitting in the hose. Again make sure the hose is just touching the yellow hose end cover.
- Position the Hose Clamp about 1/4” from the yellow hose end cover and then tighten the clamp.

35. For reference, apply a piece of tape on this oil line. The tape will designate the "Return Line" oil line should be attached between the inboard port of the Remote Filter Mount "Output" and the lower port of the Engine Block Adapter "Input".
36. Repeat steps 24-35 to make the "Feed Line" to attach between the outboard port of the Remote Filter Mount "Input" and the upper port of the Engine Block Adapter "Output".
37. Attach the 90° fitting of the Feed Line oil line onto the outboard adapter fitting of the Remote Filter Mount, and tighten to 15 ft-lb. If possible, use a crow foot socket and a small torque wrench. If you cannot locate a crow foot socket, or your torque wrench is too big to fit in the required space, do your best to estimate 15 ft-lb.
38. Route the Feed Line under the frame rail, and over the anti-sway bar and clutch cable to the Engine Block Adapter. Do not attach the Feed Line to the Engine Block Adapter yet.
39. Attach the 90° fitting of the Return Line to the inboard adapter fitting "Output" of the Remote Filter Mount, and tighten to 15 ft-lb.
40. Route the Return Line under the frame rail, and over the anti-sway bar and clutch cable to the Engine Block Adapter.



41. Attach the STRAIGHT fitting of the Feed Line to the upper adapter nipple of the Engine Block Adapter and tighten to 15 ft-lb.
42. Attach the STRAIGHT fitting of the Return Line to the lower adapter nipple of the Engine Block Adapter and tighten to 15 ft-lb.

43. Fine tune the orientation of the Engine Block Adapter in order to give the best oil line routing. Tighten the Engine Block Adapter retaining bolt to 32 ft-lbs.

### **Finishing The Installation**

#### **WARNING**

Before starting your engine for the first time, refer to the illustration on the last page of the instructions to verify all hoses are routed correctly upon finishing the installation.

44. Fill the provided oil filter with oil. Lubricate the rubber filter seal with a small amount of oil, and hand tighten the filter on the Remote Filter Mount until the seal contacts the Remote Filter Mount. Tighten the oil filter 1/2 turn further.



45. Re-attach the fog light connector to the fog light.
46. Start the engine and examine all of the oil lines and oil line connections carefully to ensure that everything is tight and that there are no leaks. Turn off the engine after examining the oil lines and oil line connections.
47. Re-attach the driver side wheel. Torque the lug nuts to the appropriate wheel or vehicle manufacturer's specification.
48. Lower the front of the car to the ground.
49. After letting the engine sit for a short period of time, recheck the oil level. Add oil, if necessary.

This kit includes the following:

- 1 Engine Block Adapter
- 1 Remote Filter Mount
- 1 Filter Adapter Mounting Plate
- 1 50" Textile Oil Line Hose
- 2 90° Hose Fitting
- 2 Straight Hose Fitting
- 2 1/2" NPT to -10 AN Adapter
- 2 Straight Thread O-ring to -10 AN Adapter Fitting
- 4 Hose Clamps
- 1 Motorcraft FL-1A Oil Filter
- 3 5/16" Bolt
- 2 5/16" Self-Tapping Bolt
- 1 1/4" Thick Washer
- 2 13/16" G8 Washer
- 1 Loctite Thread Sealant



Engine Block Adapter

Feed Line

Oil feeds into the filter and returns to the engine

Return Line



Remote Filter Mount