



INSTALLATION INSTRUCTIONS OIL COOLER BYPASS KIT 1985-1989 Toyota MR2

**WARNING! RISK OF ELECTRIC SHOCK AND/OR FIRE.
DISCONNECT BATTERY NEGATIVE CABLE BEFORE PROCEEDING!**

A NOTE ON SAFETY: YOU are responsible for safely and correctly installing and using any items purchased. Please read and follow these installation instructions carefully. Observe all safety precautions. Use jackstands or ramps, chock your wheels, wear eye protection and protective gloves, and use common sense.

**PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING ANY WORK.
ALLOW ENGINE AND EXHAUST SYSTEM TO COOL BEFORE WORKING ON THE CAR.**

OVERVIEW: In this operation, you will be removing the oil bypass valve housing and oil filter bracket from the engine. These parts will be replaced by a threaded union which will allow you to install a remote oil filter adapter or sandwich plate, or install the oil filter directly on the engine cylinder block.

ABOUT THE OIL COOLER: The factory installed oil cooler is heated by engine coolant. Only a small portion of the engine oil is actually sent to the cooler, and only at very high RPM. It is not a very effective system, and removing it has a very minor impact on oil temperatures. For track use or high performance driving, or road driving in extremely high temperature areas, installation of an appropriate high-quality aftermarket oil cooler is recommended.

COMPONENT CHECKLIST: This operation requires the following parts:

- Toyota oil filter union 90404-19001, supplied with EX140S header
- M12x1.25 oil drain plug and sealing washer, supplied with EX140S header
- New oil filter and motor oil, **not included**
- Optional: remote oil filter adapter, external oil cooler, sandwich plate, oil hose, etc., **not included**

1. Drain engine oil into a clean drain pan for recycling, then reinstall the engine oil drain plug.

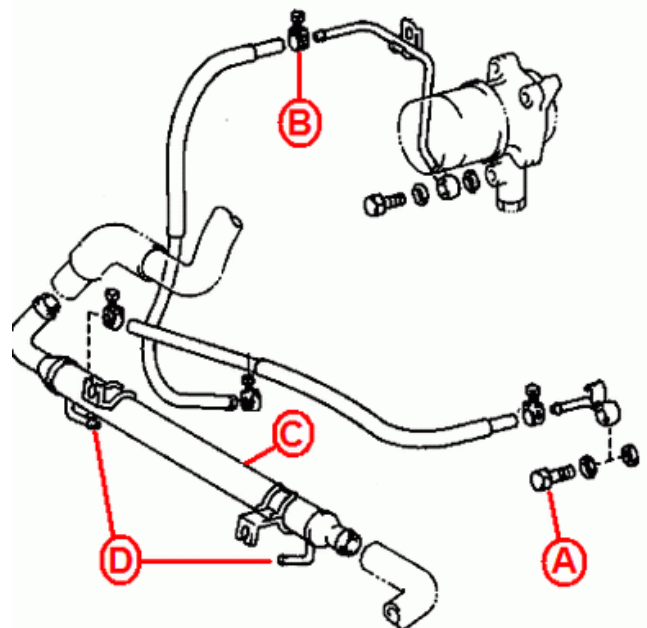
NOTE: More oil may spill from other parts as they are disconnected and removed. Be sure to catch this oil in the drain pan as well. Clean any spilled oil from the engine and vehicle as you work.

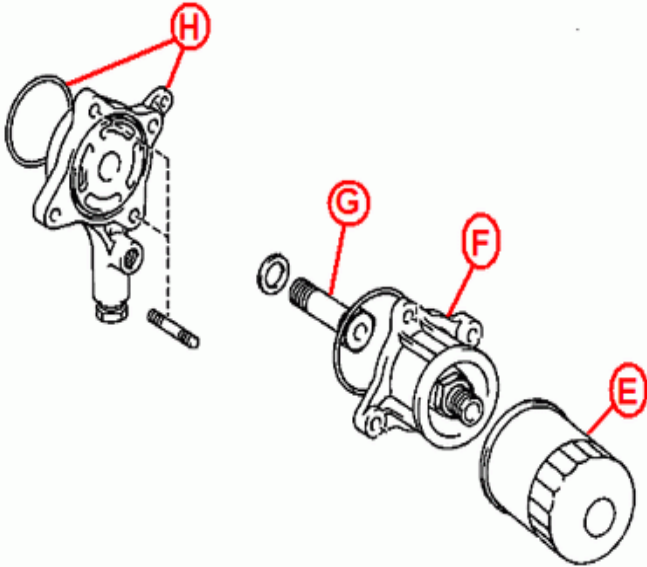
Oil spilled on the exhaust system is a fire hazard.

2. Remove banjo bolt 'A' and replace with supplied M12x1.25 plug and sealing washer. Torque the new plug to 18 ft-lb (25 N-m).

3. Loosen hose clamp 'B' and disconnect the oil cooler supply hose from the steel pipe on the oil filter bracket (engine side of hose).

4. Cap hose fittings on oil cooler. The factory oil cooler is integrated into **coolant pipe 'C'** on the firewall, forward of the engine. You can remove the hoses from the oil cooler and cap off the **hose fittings 'D'** with rubber caps, or simply loop one of the redundant oil cooler hoses from one fitting to another. If you use hose, be sure it is kept away from the exhaust system to minimize the risk of fire. Secure all caps or hoses with hose clamps.





5. Remove oil filter 'E'.

6. Remove the two nuts and two bolts that retain the outer (forward) portion of the two-piece aluminum **oil filter bracket 'F'**, then remove the outer bracket.

7. Remove center bolt 'G' and its gasket, then remove the inner portion of the **filter bracket 'H'**, along with its **O-ring**, from the engine block.

8. Thread the oil filter union (supplied with header) into the block in place of bolt 'H' that you just removed. It should thread in easily. Start it by hand and take care not to cross-thread the union. **Do not use sealant or thread locking compound on the union.** The new union has an internal 12mm hex fitting; you can thread it in with a 12mm Allen key, or thread an M8 nut onto a bolt, and use the nut/bolt combo as a hex bit to thread the union into the block. Torque the union to 33 ft-lb (44 N-m).

9. Clean the filter mounting pad on the engine block. Remove any dirt, residue, sealant, or gasket material.

10. If installing a remote oil filter adapter, sandwich plate, and/or oil cooler, complete the installation of these parts at this time. Follow the instructions provided by the manufacturer(s) of all parts you are installing.

11. Install the oil filter. Verify that the filter seals snugly against the block.

SAFETY CHECK: Make sure all components are mounted securely. Verify that all hoses, cables, wires, etc. are kept safely away from any part of the exhaust system, battery, battery terminals and cables, starter motor, and any other potential hazards. Make sure all metal parts, including braided oil hoses, are kept safely away from battery and other electrical hazards. Remove any spilled oil.

11. Refill engine oil. If you have installed any hoses, coolers, remote filters, etc, you may need to add more oil than specified to reach the FULL mark on the engine oil dipstick.

12. Reconnect battery negative cable. Start the engine, verify that there are no oil leaks, and check for correct oil pressure. Verify that there are no exhaust leaks, rattles, or unusual sounds. Run the engine for several minutes, then shut it off and check your oil level on the dipstick. Make a note of how much oil was required to reach the full mark.

If everything looks good, you can now test drive the vehicle.

SUPPORT: Most questions can be answered by reviewing the FAQ and/or the product installation instructions included with your order. Please contact SV3Power Products via www.sv3power.com with any other installation questions or concerns. Please share any questions or suggestions you have to help improve this product and/or other products you would like to see developed for the first generation MR2.

Thank you for your purchase and for supporting the MR2 community!