



By-Pass Filter Installation

1994 Dodge Caravan 3.3L

AMSOIL Single Remote By-Pass Filtration System

Submitted by Gary Mintz

Components Used:

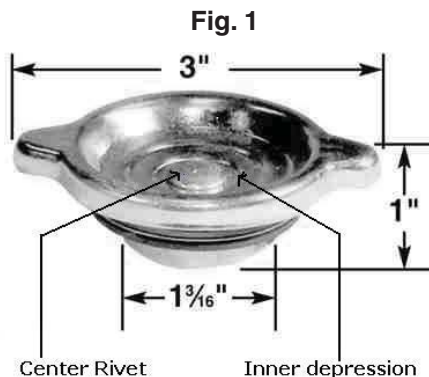
- AMSOIL Single Remote By-Pass Filtration System (BMK11)
- AMSOIL EaBP90 By-Pass Filter
- AMSOIL EaO15 Full-Flow Filter
- Oil Return Swivel Fitting (BP89)
- Brass pipe fitting, 1.38" nipple and hex plug (purchased separately)
- Stant® part #10066 [3" oil filler cap (1 3/16" x 1" cam twist)] (purchased separately)

Recommended Tools:

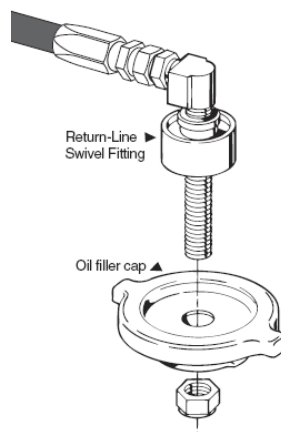
- Adjustable wrench
- Torque wrench drill
- 7/16" wrench
- 1/2" wrench
- 9/16" wrench
- 5/8" wrench
- 11/16" wrench
- Side cutter
- 5/16" & 3/8" drill bits
- Utility knife
- Center punch
- Adjustable filter wrench
- Hammer
- Oil drain pan
- Vice
- Dremel® tool w/grinding wheel
- Hacksaw

The Stant oil filler cap was modified to accept the Oil Return Swivel Fitting (BP89), which eases removal of the oil filler cap. This entailed removing the center rivet with a Dremel tool. The rivet (Fig. 1) is similar to a 1/8" square carriage bolt, so care is required while grinding.

When finished, gently tap out the rivet.



Next, tap the inner depression flat so the sealing washer seats properly. Ream the square holes in the cap and the inner cam twist to 3/8", exercising care to avoid catching the drill and damaging the inner cam twist. Remove any burrs left behind. Shorten the Oil Return Swivel Fitting a minimum 1/2", but no more than 5/8", to prevent it from protruding too far inside the valve cover. Performing this step prior to installing the BP89 on the oil filler cap makes thread clean up easier.



To attach the oil line to the oil pressure sending unit, I used a brass pipe fitting and a 1.38" nipple (Fig. 2). To provide the correct clearance, I removed about half of the shoulder on the middle tee (Fig. 3).

Fig. 2



Fig. 3



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Once installed on the engine, I backed it off a quarter of a turn to install the size adapter and the 90-degree elbow, then tightened it again so the EaO15 filter would clear.

The best place to mount the BMK11 By-Pass Filtration System is on the driver's side under the battery box.



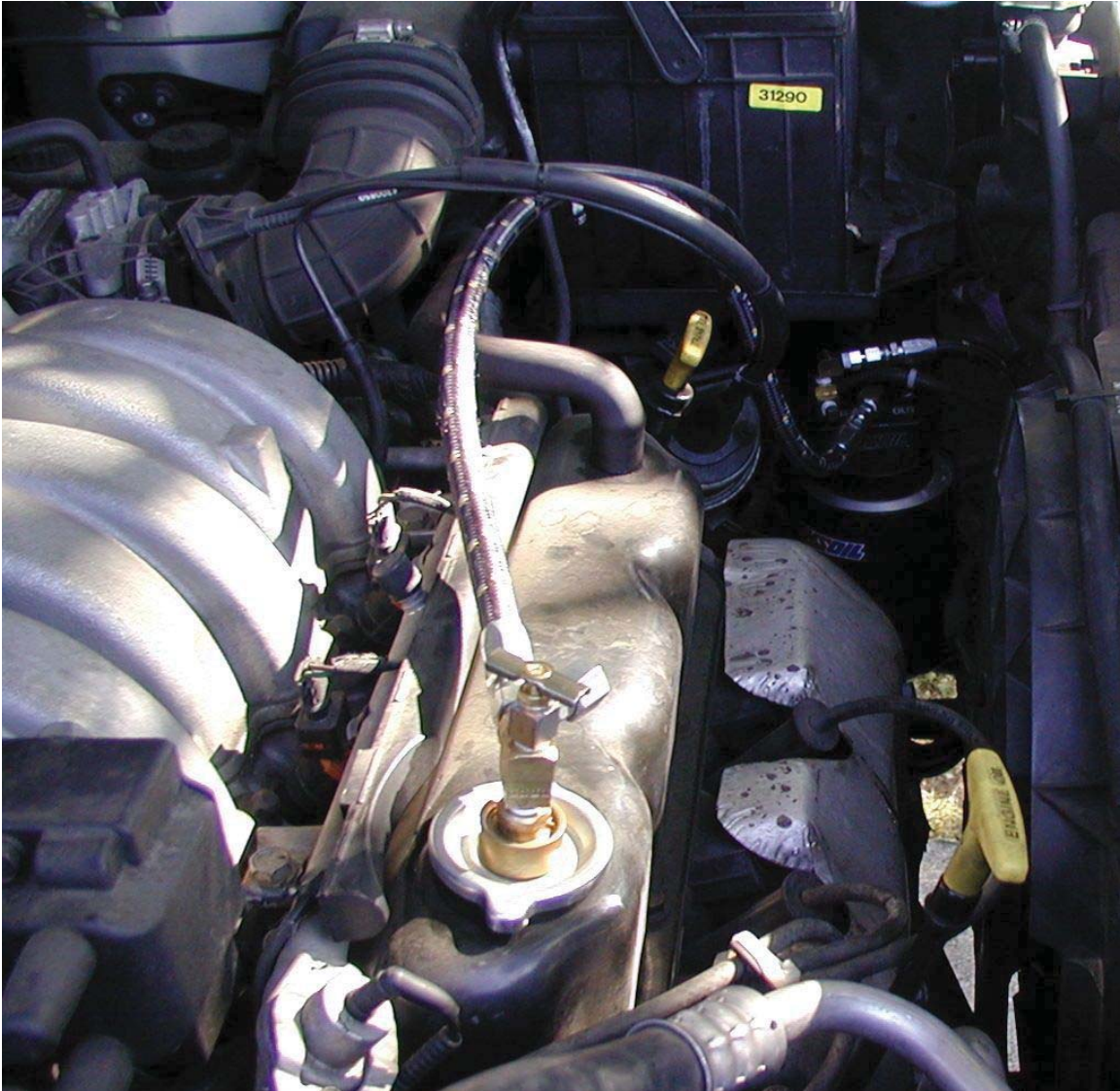
The configuration of the hoses required using a Street Tee (BP33) and hex plug on the IN port and a 90-degree Elbow (BP52) to clear the OUT port. I also installed a By-Pass Petcock Valve (BP67) on the oil filler cap for taking oil samples.



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An additional one to two quarts of oil was necessary following installation. This was actually an easy install for this application because everything is relatively close together and all of the hoses are in view.



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