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**Service Information**

**SUBJECT: CORRECTING DRIVEABILITY COMPLAINTS DUE TO EXCESSIVE LINE PRESSURE**

**ISSUE: 06/89-1151**

**APPLICATION: ALL 9000 MODELS, 1988- 900 MODELS**

On vehicles with the fuel return line check valve integrated into the fuel line at the tank (Figure 1), it is possible for the rubber flap that acts as the check valve to become detached and block the return line or the ejector pump. A blocked or restricted fuel return line will cause driveability complaints due to excessive line pressure. This complaint can be diagnosed by measuring the fuel system pressure with a pressure gauge or the LH Tester. To prevent this, a revised check valve has been introduced into early-M89 production. The redesigned check valve consists of a new lower housing to the return line fitting and a valve core insert (Figure 2). This check valve may also be used to correct earlier cars.

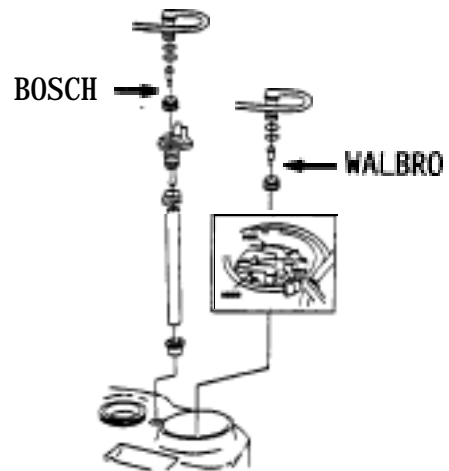
**Parts Required:**

|               |               |
|---------------|---------------|
| Valve housing | P/N 89 77 779 |
| Valve insert  | P/N 89 77 761 |
| O-ring (2)    | P/N 93 84 280 |

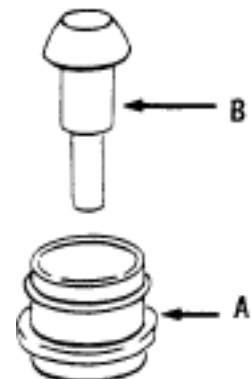
**Check Valve Replacement Procedure****WARNING!**

**ALWAYS OBSERVE THE FOLLOWING SAFETY PRECAUTIONS WHEN WORKING ON THE FUEL SYSTEM:**

- NO SMOKING.
- DISCONNECT NEGATIVE LEAD FROM THE BATTERY AND COVER THE TERMINAL POST.
- HAVE A FIRE EXTINGUISHER NEARBY.
- WEAR EYE PROTECTION.
- WORK IN A WELL VENTILATED AREA (USE VAPOR EXTRACTION EQUIPMENT IF AVAILABLE).
- AVOID PROLONGED SKIN CONTACT WITH FUEL AND WEAR SUITABLE GLOVES.



**Figure 1.** The return fuel line check valve located at the fuel tank.



**Figure 2.** The new check valve consists of a lower housing (A) and a valve core insert (B).

1. First inspect the return line in the car. If there is a yellow dot on top of the return line fitting (Figure 3), a new design check valve has already been installed on the production line. Check to see that it has been installed correctly (Figure 5). If so, driveability problems are not related to this S.I..

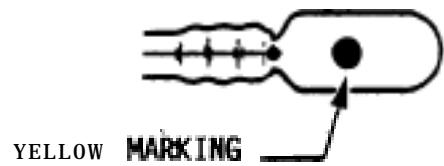


Figure 3. A yellow mark at the return line fitting indicates the new design check valve has been installed on the production line.

2. For cars that have no yellow dot, disconnect the return line fitting from the fuel tank (cars with Bosch fuel pump) or from the fuel pump cover (cars with Walbro fuel pump). If the rubber flap on the check valve is intact then driveability problems are not related to a damaged check valve.

3. If the rubber flap is missing from the old-design check valve (Figure 4), it will be necessary to follow one of the steps (4A or 4B) listed below to remove any remnants of the flap.

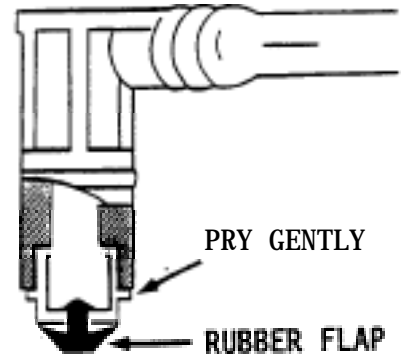


Figure 4. Old-design check valve with rubber flap.

4. Remove the existing lower valve housing by prying gently at the joint with a screwdriver (Figure 4).

A) On cars with Walbro pumps, see the ejector cleaning procedure in the 900 Service Manual Section 0, "News" for 1989, p. 36-37. (For Warranty repairs, add labor operation for "R & R Walbro Feed Pump").

B) On cars with Bosch pumps, remove the fuel tank fitting for the return line and clean it with compressed air. Inspect and replace the return line grommet if necessary.

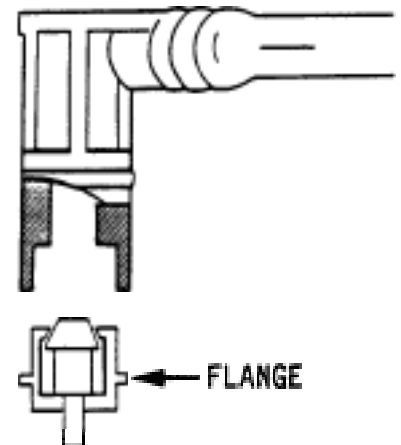


Figure 5. Install the valve core insert into the housing. Install the check valve assembly into the return line fitting.

5. Insert the new check valve insert into the new check valve housing. Install this check valve assembly into the return line housing. (Figure 5). The collar of the new housing should engage the groove in the return line fitting when the flange is flush against the bottom of the fitting (Figure 5).

6. Fit new O-rings (P/N 93 84 280) on the return line fitting.
7. Re-install the return line fitting into the fuel tank (Bosch pump) or the fuel pump (Walbro pump).

**Warranty Information:** For warranty claims, use. Failure Coding 24141-71-0-01-05. Time allowance is Labor Operation Number 24141 (0.5 hour). Note: Add this operation to your 900 (page 2-29) and 9000 (page 2-21) Failure. Code/Flat Rate Manuals. DCS Dealers; Add to Operation Number Table.