FORD 4R70W

LOSS OF EPC PRESSURE

COMPLAINT: The transmission is slipping in all gears as well as during shifts. When line pressure is checked, the gauge indicates little or no line rise. A check of EPC pressure reveals a near zero reading. EPC solenoid amperage is correct and replacement of the EPC solenoid did not cure the complaint.
The long term complaint may be premature failure of the forward clutch should the cause be minimal at the time of overhaul. This would result in a small but steady loss of EPC pressure.

CAUSE: EPC pressure is routed to the Pressure Regulator Valve along side a circuit Ford identifies as the Boost Circuit. These oil passages can be identified in both the valve body and the case as seen in Figures1 and 2.This is illustrated by the hydraulic schematic shown in Figure 3. This circuit is routed back to the inlet side of the pump. When the Pressure Regulator Valve or its bore is worn, (See Figure 4), EPC pressure is allowed to be sucked away by the suction side of the pump (See Figure 5 & 6) preventing any line pressure rise from occurring when the throttle is opened.

A quick test can be performed to verify if this condition exists. Remove the pan and filter. Blow compressed air into the TV pressure port in the case. It is normal to see some leakage around the EPC solenoid, but if you see oil forced out of the filter neck bore by the air pressure, (Refer to Figure 7), PR valve and/or bore wear is the reason.

CORRECTION: Always check the Pressure Regulator Valve and its bore for wear during the repair process. If it is worn use one of the repair kits that are available to repair this condition, or replace the valve body.
It is always a good idea to also check the revere boost valve sleeve for wear, as this is a common wear item.

Many thanks to Chris Colucci from CNS Transmissions in Walnut, MS for his perseverance in solving this mystery.

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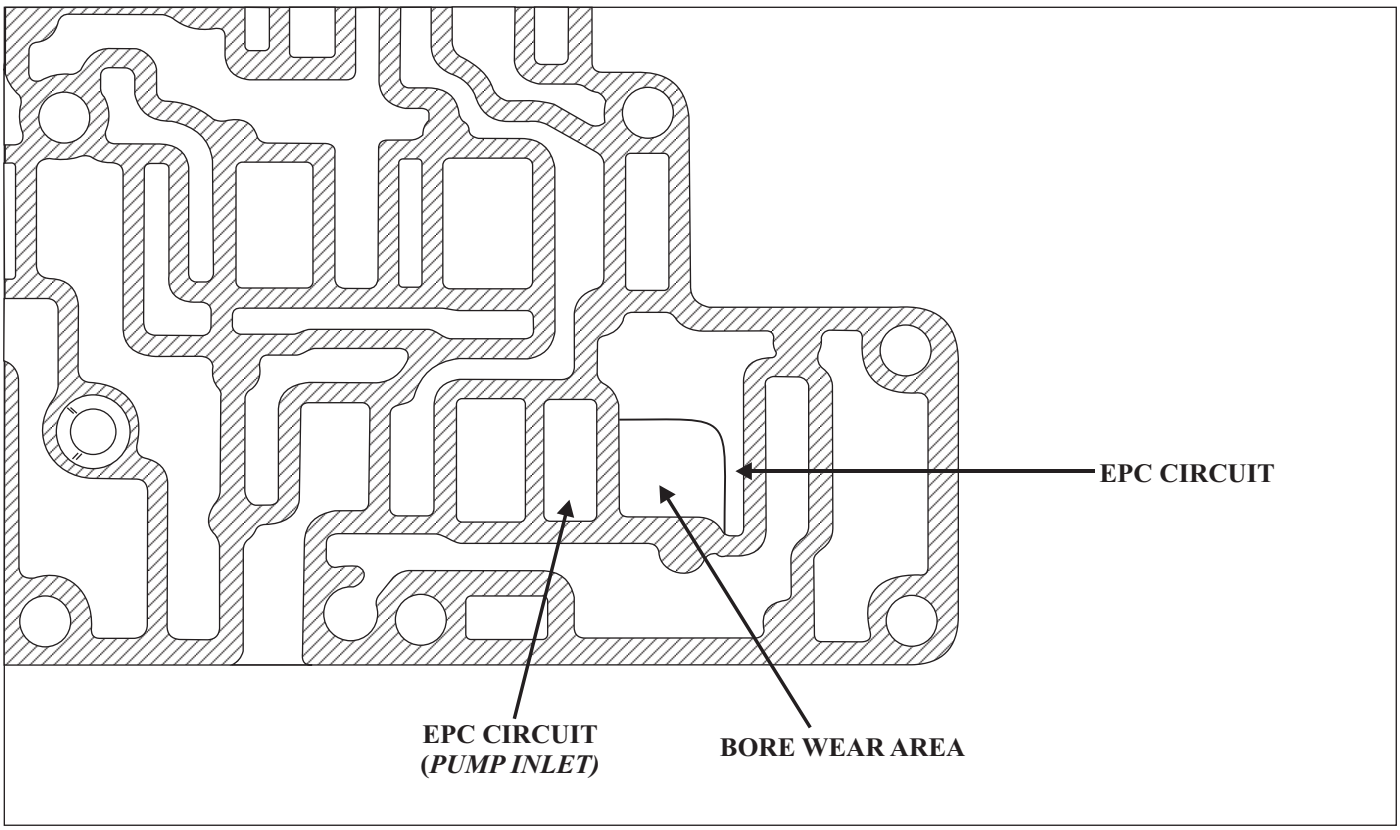

Figure 1

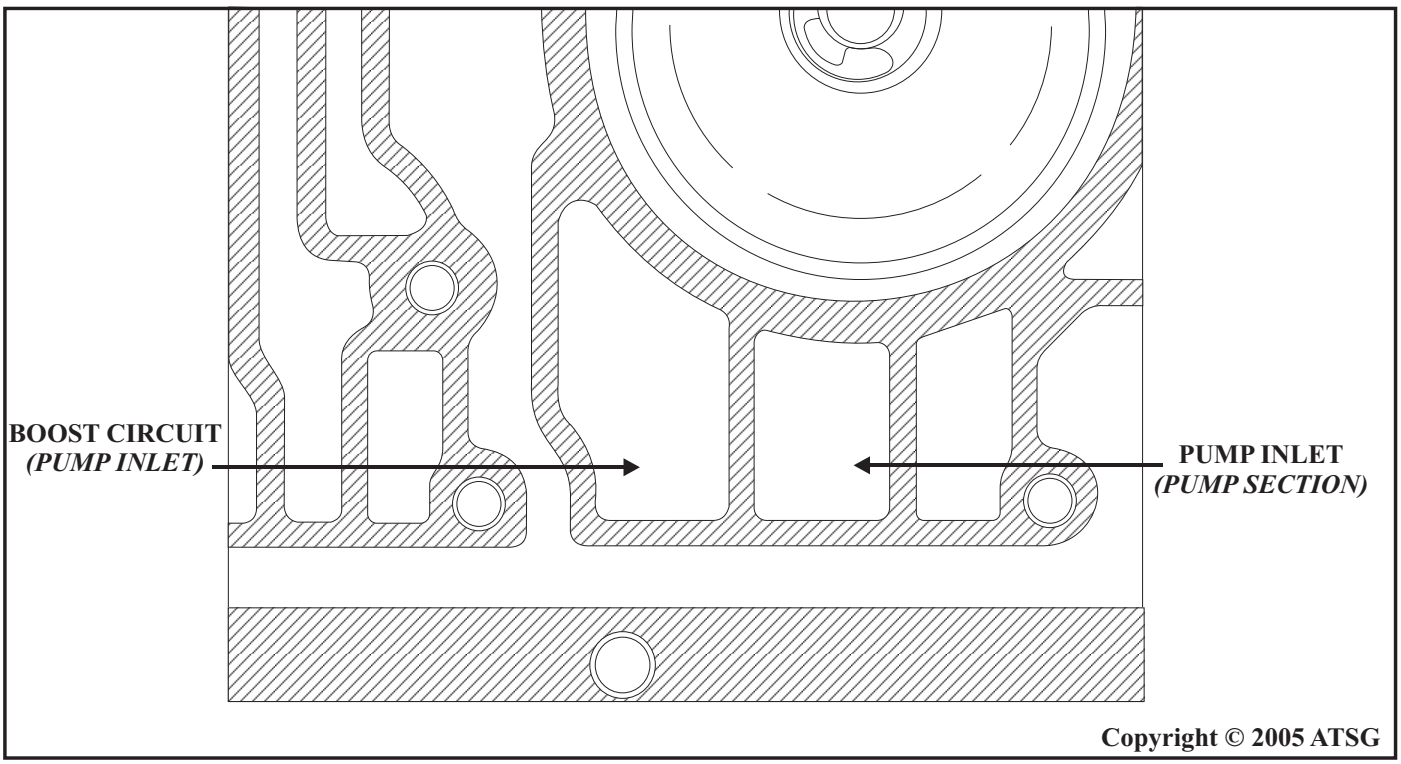

Figure 2

LOSS OF EPC PRESSURE

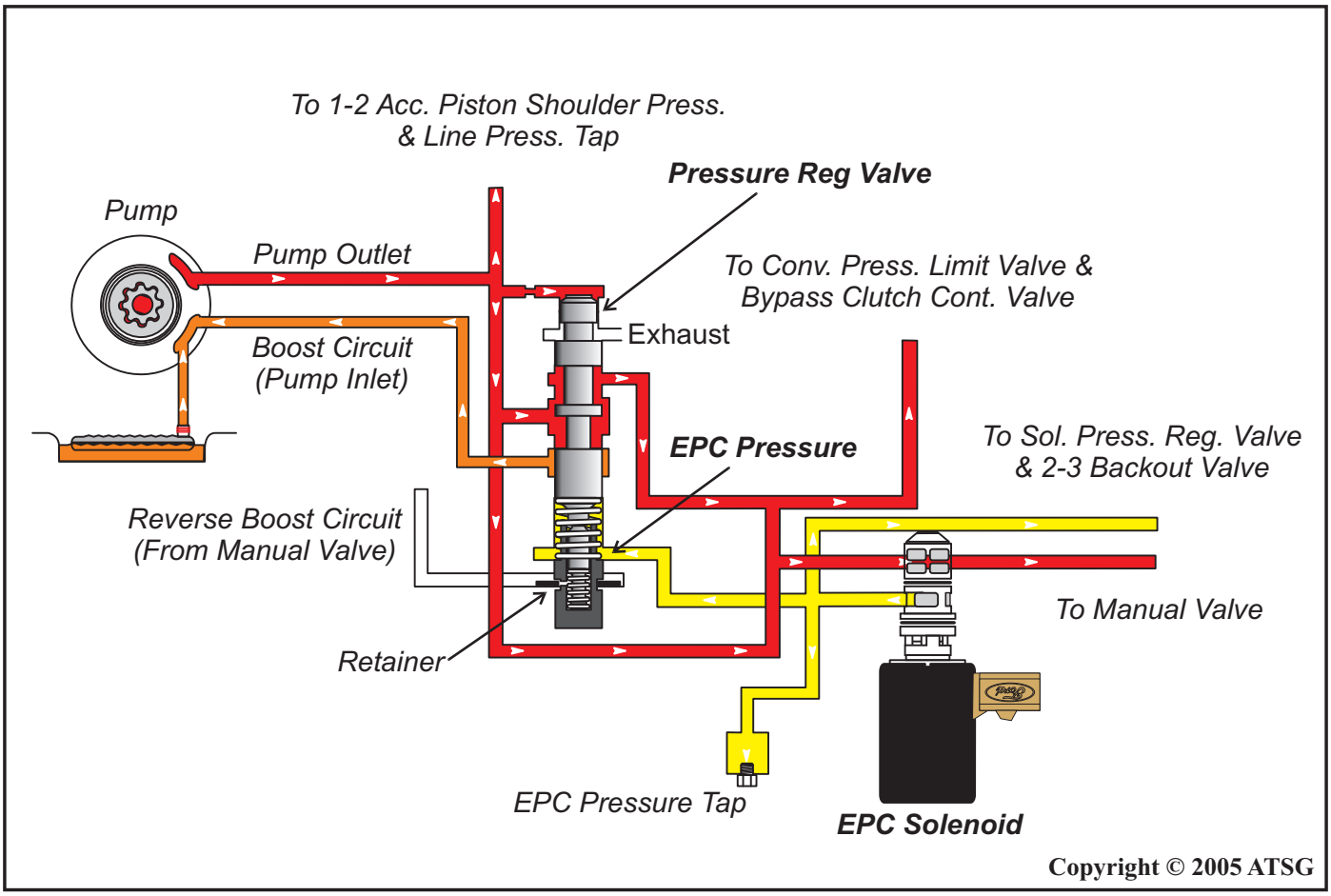

Figure 3

LOSS OF EPC PRESSURE

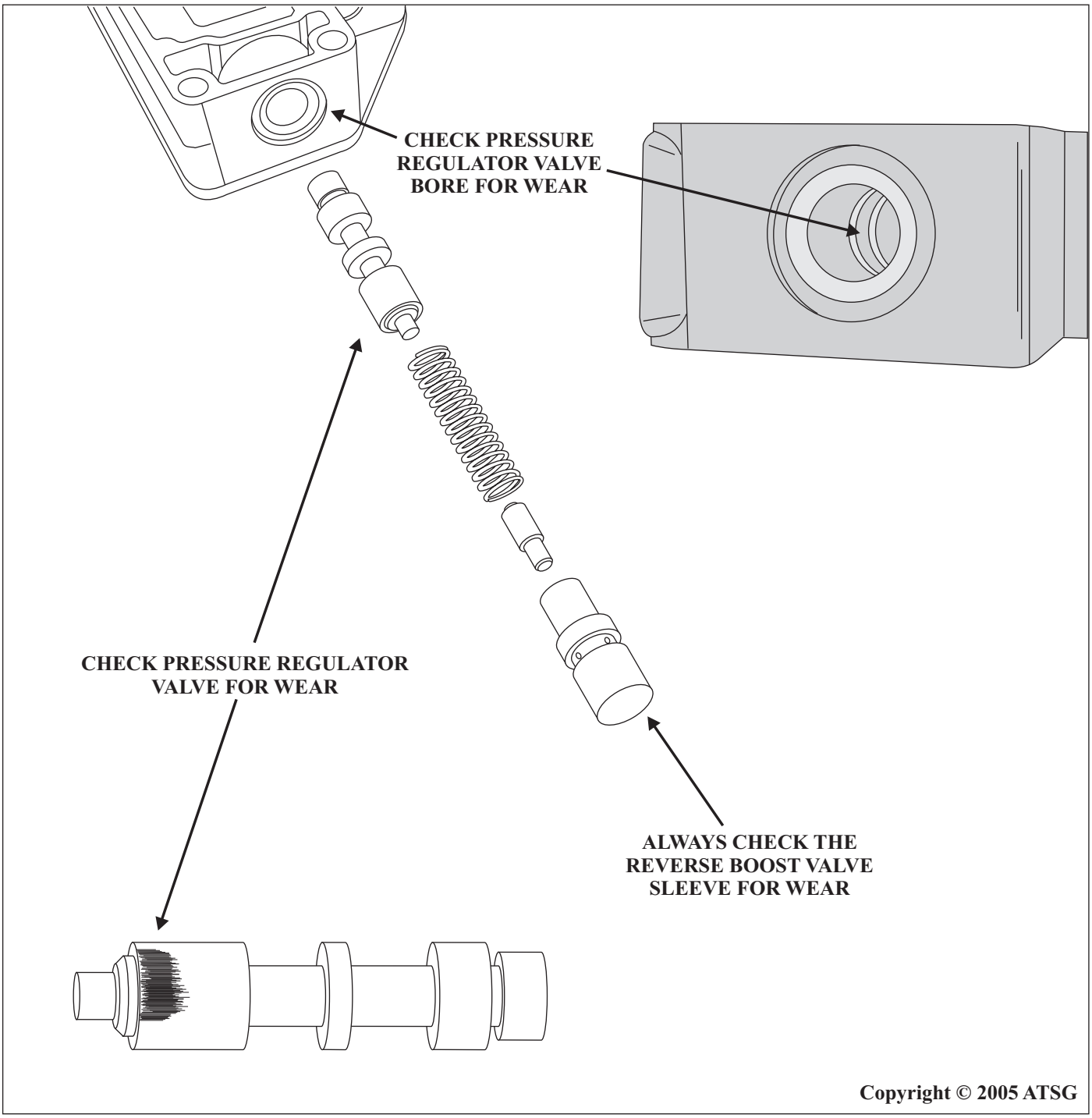

Figure 4

LOSS OF EPC PRESSURE

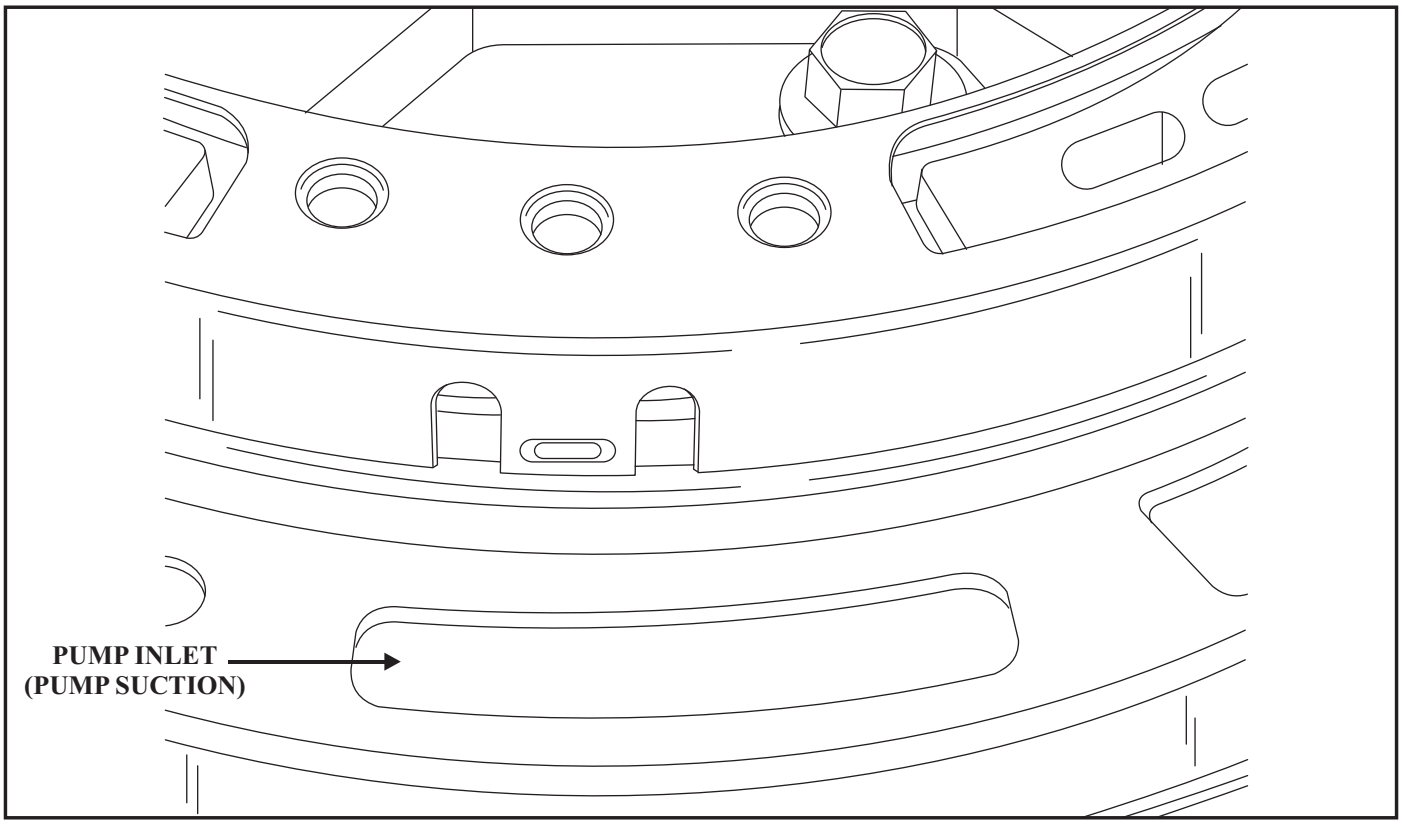

Figure 5

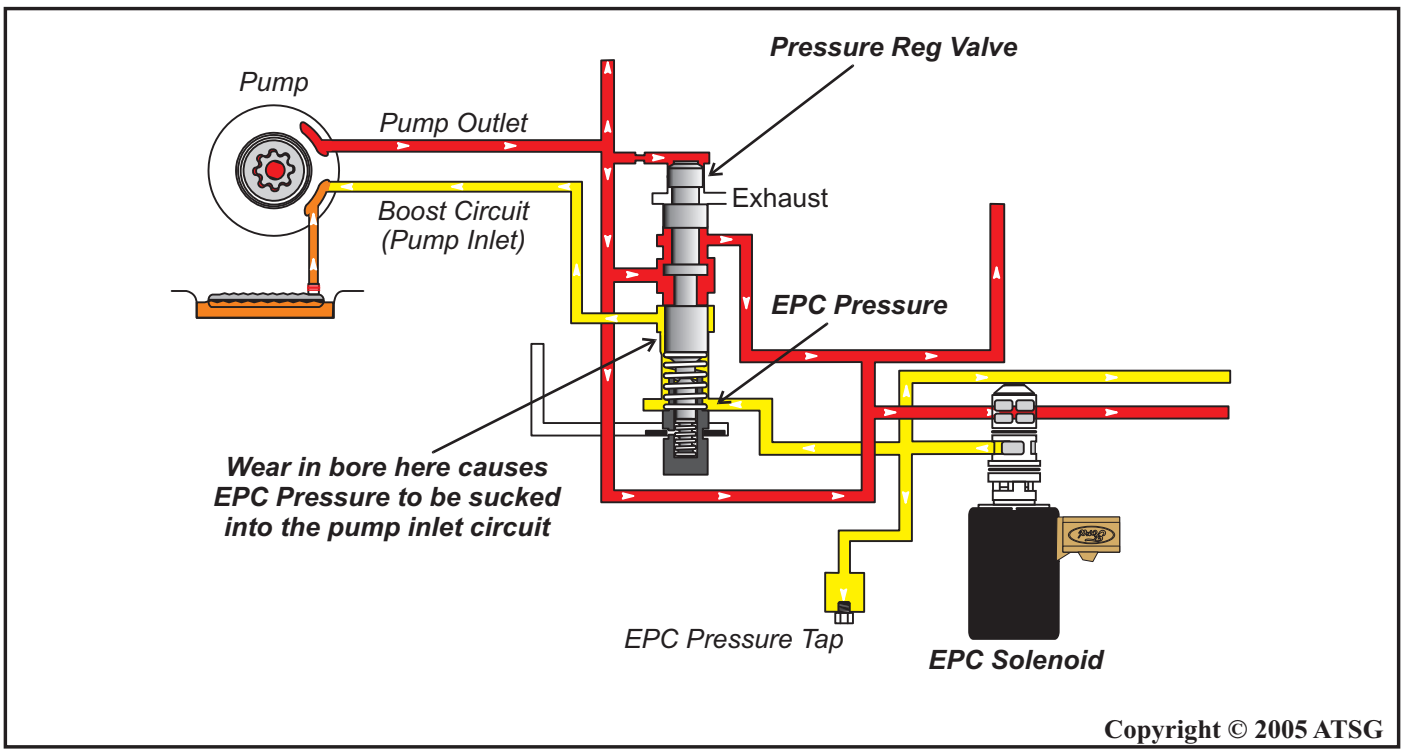

Figure 6

LOSS OF EPC PRESSURE

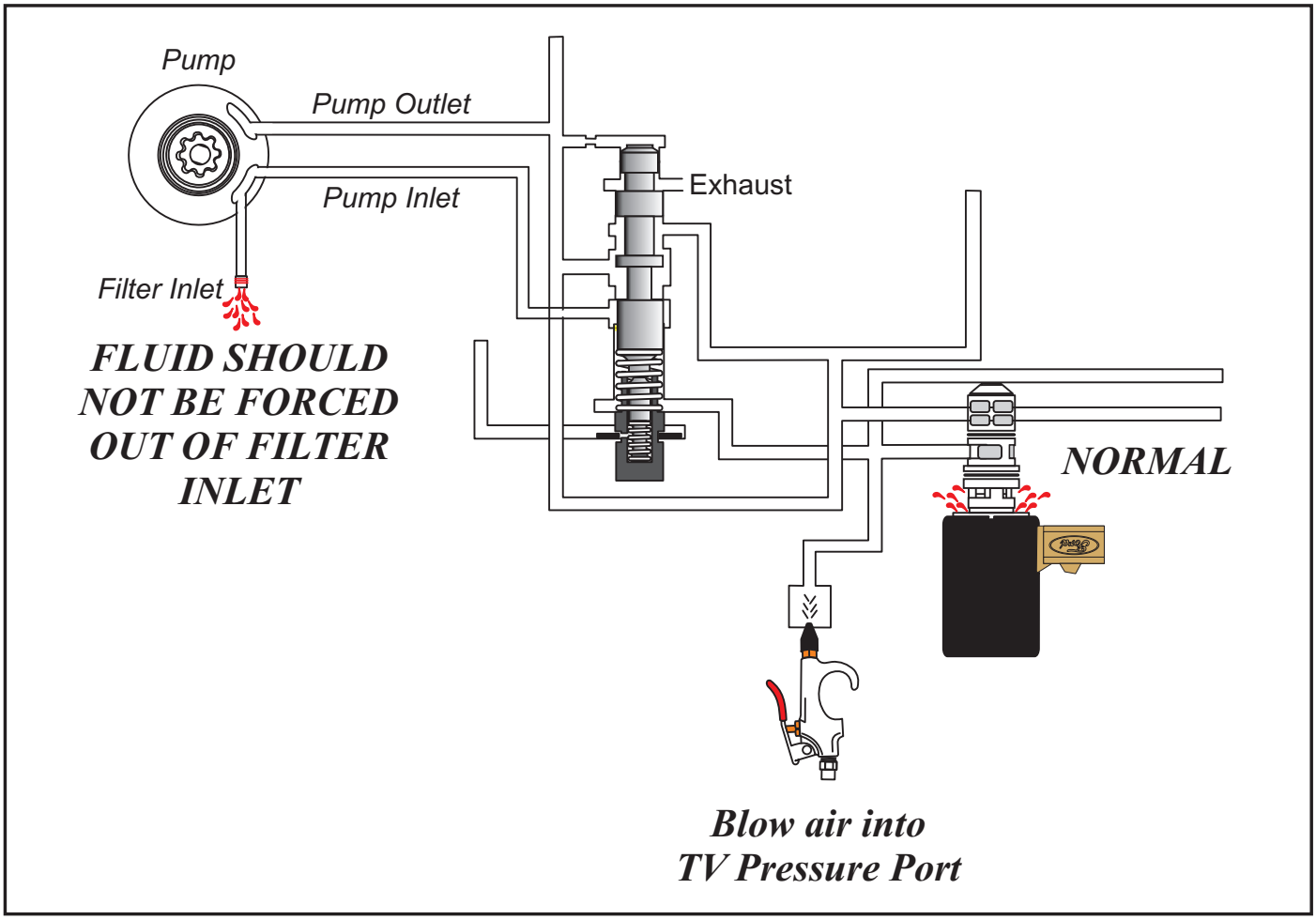

Figure 7