A/T - Cooler/Line Flushing When Replacing A/T
NO: 43-56
DATE: 4-21-08
MODEL: All
MODEL YEAR: All
CHASSIS: N/A
SUBJECT:
Automatic Transmission Cooler/Lines Flushing
REFERENCE: VIDA, TNN 43-08, TNN 43-48

Note! If this is a printed version of a TNN, first check for the latest online version.

Description:
The purpose of this Tech Net Note is to work as a guideline for technicians when an automatic
transmission is being replaced. In order for modern automatic transmissions to properly adapt to
transmission wear while maintaining comfortable shift quality, the pressure control is closely
monitored. For this reason, the automatic transmission fluid (ATF) must meet the transmission
manufacturer's specifications.

A faulty transmission often has debris in the ATF, the coolers, the lines, and throughout the
transmission. This debris must be properly flushed out before a new transmission is installed.
Flushing the ATF using the transmission oil pump of the newly installed transmission will not
suffice and can possibly cause damage to the new unit. Depending on the condition of the ATF,
the transmission coolers and lines may need to be replaced. The information below is copied
directly from VIDA.

Service:
Once a transmission is properly diagnosed to be faulty and needs to be replaced, it is important
that the proper procedures are followed for flushing out the used ATF from the ATF coolers and
lines. Note that some vehicles have two coolers; the cooler in the side of the radiator and the
auxiliary cooler.

When an automatic transmission is replaced, follow TNN 43-08 to properly fill out the
Automatic Transmission Diagnostic Sheet and follow VIDA to reset adaptive memory. Simply
disconnecting the TCM (Transmission Control Module) or power from the TCM does not reset
adaptive memory!

On all vehicles, always flush the radiator, coolers, and lines before installing the new
transmission. The guidelines and procedures for flushing vary with each model.

There is a procedure for flushing coolers and lines found in a hyperlink in the VIDA
transmission/gearbox installation procedure called Transmission, preparations before installing
for AW (Aisin Warner) 5- and 6- speed automatics and in the VIDA transmission replacement
procedure for the AW 4-speed automatic.

The guidelines for flushing coolers on a GM 4165 4-speed automatic are in
VIDA/Information/Repair/Transmission, removing and there is a hyperlink in
VIDA/Information/Repair/Transmission, installing for a flushing procedure called Oil cooler;
flush cleaning. The guidelines for the 1999-2005 S80 will be updated to match the XC90. More details about these guidelines can be found below.

On a GM 4165 (2003-2005 XC90 16 and 1999-2005 580 6-cyl), if there is:

^ glycol in the transmission fluid (refer to TNN 43-48 for more information on checking for glycol contamination), this would indicate an internal leak in the radiator requiring radiator replacement and flushing of the auxiliary cooler (if applicable) and cooler lines.

^ metal in the transmission fluid, this would indicate an internal transmission problem.

**Note!** Metal in the ATF is nearly impossible to flush out completely. In order to be rid of all metal particles, complete replacement of the ATF cooling system (radiator, auxiliary cooler [if applicable], and cooler lines) is required. See photo. Black sediment on the pan magnet is normal. See photo.
dirty oil or oil that has surpassed its temperature limits, this would indicate friction component (band or clutch disc) breakdown and in order to be sure all of the debris is out of the ATF cooling system, complete replacement of the ATF cooling system (radiator, auxiliary cooler [if applicable], and cooler lines) is required. See photo.

Labor operation code 43720 should be used when the oil pan is removed for diagnostic purposes. Labor operation code 49115 should be used when the ATF cooling system is flushed, not replaced.

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<th>WARRANTY CLAIM INFORMATION</th>
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<th>LABOR DESCRIPTION</th>
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<tr>
<td>43720</td>
<td>Sump automatic gearbox remove-install</td>
<td>See VSTG</td>
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<tr>
<td>49115</td>
<td>Oil cooler and piping clean</td>
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