

#1898A
Page 1 of 2

SUBJECT: Water and/or Ethylene Glycol in Transmission Oil

EQUIPMENT AFFECTED: All Allison Transmission Models

The presence of water and/or ethylene glycol coolant mixtures in the transmission oil is detrimental to the reliability and durability of the internal components. Contaminated oil has a deteriorating effect on transmission components. Frictional capacity of drive clutch plates can be greatly reduced as a result of surface film or impregnation and the presence of glycol will physically deteriorate clutch plate material.

Should the user suspect contamination, an oil sample should be obtained when transmission fluid is at normal operating temperature to assure contaminate, if present, is thoroughly dispersed in the oil as sampled. The analysis of oil sample (by the oil supplier or any qualified laboratory) will provide the degree of contaminate and possibly a clue as to its source. A minimal amount of water may be due to uncovered oil drums or an open transmission filler tube; or, in the case of glycol, the use of an all-purpose fill container or a defective transmission oil cooler. Oil containing greater than 0.2% **water** by volume, regardless of whether it contains glycol or not, is considered contaminated and should be not be used.

Any trace of Glycol or greater than 0.2% water contamination requires a complete disassembly and cleanup of the transmission and replacement of seals, gaskets, clutch plates, and bearings. In the case of AT or 1000/2000 Series transmissions, the torque converter must also be replaced since it cannot be completely drained or disassembled. If the transmission is equipped with solenoids, measure solenoid resistance and compare to specification. Solenoids not within specification must be replaced. Transmission components that exhibit rust must be replaced. The vehicle cooling system should be pressure tested as a possible source of contamination.

Nelco Company offers a kit that detects presence of Ethylene Glycol in Oil. The kit is identified as "GLY-TEK" Test Kit and can be obtained from:

Nelco Company
1047 McKnight Road South
Saint Paul, Minnesota 55119
Telephone Number: 651.738.2014

SG/mmww

Allison Transmission, Inc.
Indianapolis, Indiana 46206-0894

Copyright 2007 Allison Transmission, Inc. All Rights Reserved.

Some conditions that may indicate water and/or glycol in the oil are:

- Rust or pitted transmission parts.
- Oil spewing out of transmission breather.
- Oil in radiator.
- Gaskets blistered or wrinkled in uncompressed areas.
- Appearance of oil. Presence of water in oil when dispersed is a cloudy or gray, pink, or strawberry color.
- Steam from breather.

Reference Material:

For additional information on field analysis refer to: **ATD Technicians Guide Automatic Transmission Fluid (GN2055EN)**. This can be used to reference testing methods and limits for Water/Glycol content.