

AUTOMATIC TRANSMISSION EXPLANATIONS

Bearing/Gear = Chrome + Iron

When **Chrome** and **Iron** are found in automatic transmission fluid, one or more of the bearings has worn, causing wear to the gear that runs on that bearing.

Bearings = Chrome

When an elevated level of **Chrome** is detected, one or more of the many needle/ball bearings may be showing signs of wear.

Clutch Disc Pack = Lead + Copper (Iron)

Automatic transmissions work based on friction in the clutch packs. Much the same way the friction in your brakes stop your car/truck, friction in your transmission makes your vehicle move. **Lead** and **Copper** gather in your transmission's fluid as you drive and needs to be serviced at regular intervals to be removed. The longer between services, the more contamination you will find in the fluid. When there is an abnormal amount of **Iron** present with **Lead** and **Copper** it is a good idea to have your transmission specialist do additional diagnostics. *On new (under 30,000 miles) or recently rebuilt transmissions, it is normal for break-in material to be found.*

Clutch Pack Bearings/Thrust Washer = Copper + Lead + Tin

Rotating internal transmission parts have lubricated bearings and thrust washers. **Lead** and **Tin** make up the surface of these bearings and when **Lead** plus **Tin** plus **Copper** are found together in transmission fluid, it indicates the beginning of bearing wear. Have your transmission specialist do further diagnostics to determine if or what services are suggested.

Torque Converter = Aluminum Only

The torque converter in your automatic transmission is what lets you sit stopped at a traffic light and allows your engine stay running. It is a steel housing with **Aluminum** fins inside that push the fluid that makes your vehicle move. High normal **Aluminum** indicates minor wear. Do a transmission service and monitor for any increases in **Aluminum** content. Abnormal **Aluminum** indicates moderate wear and may be accompanied by vibrations.

Dirt/Seal Material = Silicon

Silicon can come from **Dirt** getting into your transmission from vent areas or worn seals. It can also come from coolant mixing with your transmission fluid from a defective oil cooler in the radiator. Abrasive dirt, **Silicon** with low levels of **Aluminum**, can cause serious damage if it is not removed with a transmission service. **Silicon**, *by itself*, can also come from recently replaced seals and gaskets.

Gear = Iron Only

There are many gears in an automatic transmission. Fluid pressure in the clutch packs select the gear you are in. When there is **Iron only**, one or more of the gears is showing signs of wear. If **Iron only** is found, have your transmission specialist do further diagnostics to determine if or what services are suggested.