

POWER STEERING EXPLANATIONS

Dirt/Seal Material = Silicon

Silicon can come from dirt getting into your power steering system from a loose or missing pump cap or worn seals on the power steering pump, steering gear or steering rack. Abrasive dirt, **Silicon**, with low levels of **Aluminum**, can cause serious damage if it is not removed with a power steering service. **Silicon**, *by itself*, can also come from recently replaced seals and gaskets or a fluid additive.

Corrosion/Rust = Iron + Water

When **Iron** gets together with **Water**, the **Iron** will rust. Rust corrosion causes pitting that will damage seals. Damaged seals will cause power steering fluid leaks and rough steering. Additionally, abrasive rust particles act like sand paper and can damage power steering pumps and steering gears. Oxidized or nitrated (*Acid build-up*) power steering fluid together with water and iron can rapidly damage your power steering system.

Power Steering Pump/Steering Gear = Iron or Aluminum (Copper)

Power steering pumps are made from **Iron** and/or **Aluminum**. Steering gears are made of **Iron**. Some pumps have some internal parts made of **Copper**. An elevated level of any of these materials indicates a problem in the making. Servicing your power steering system regularly can prevent costly repairs.

Steering Rack = Aluminum

Most power steering rack and pinion housings are made of **Aluminum**. When seals get hard from worn out power steering fluid or varnish build-up, they will scratch and wear out the rack and pinion housing, detected by elevated **Aluminum** in the fluid. See your service provider for suggested repairs.

OIL CONDITION

Oil Condition = Oxidation/Nitration

Varnish is formed when air is mixed with hot fluid in your power steering system. Varnish can make power steering fluid valves sticky and cause rough steering. It is suggested that you should change your fluid on a regular schedule to avoid this varnish build-up. High **Oxidation** and **Nitration** (*Acid build-up*) are signs of going too long between fluid changes. **Oxidation** reduces your power steering fluid's ability to properly lubricate and can lead to early power steering component failure. High **Nitration** is corrosive to power steering parts. Catching this condition early can save a major repair bill and replacing expensive power steering parts.

Water Contamination = Water in oil

Low levels of **Water** can come from condensation caused by short drives or extremely wet driving conditions. Abnormally high levels of **Water** could come in from an outside source such as being in a flood. Servicing your power steering fluid and doing further diagnostics are suggested to locate the source of the contamination.