Rotomaster™

THE TURBOCHARGER AND COMPONENT SPECIALISTS

TECH TIP

HEAT: The Silent Turbo Killer

Application

All turbocharger equipped vehicles.

Problem

Premature failure of turbochargers used in extreme or prolonged operating conditions that cause engine overheating.

Cause

Repeated hot shut down after strenuous engine use causes turbo oil to overheat and breakdown. This leads to a couple of different fatal problems:

1. The turbo continues to spin-down even after engine shut off. But with no engine oil pressure and the extreme unit temperatures, the protective oil film needed for the next start up is completely burned off by the time the rotating turbines stop.
2. Hardening or caking of the oil in the turbo oil supply lines that eventually restricts or blocks oil flow to the turbo, resulting in failure.
3. On the newer VGT (Variable Geometry Turbo) or VNT (Variable Nozzle Technology) turbos, the elevated temperatures cause coking (from exhaust gasses) and gumming up (from oil) of the moving parts of the VGT/VNT mechanism. This causes the turbo nozzle or vanes to jam in some random position. The result is unsatisfactory performance and drivability issues.

Solution

After strenuous, high temperature engine use, such as mountainous driving, pulling a load, or racing, the engine should be allowed to idle for at least 3 minutes before shutting down. This lets the engine, its components, and the oil cool to normal operating temperatures. This will allow the internal turbo components to be properly lubricated, insuring proper operation and avoiding damage during the next start-up.

Note

Please note this bulletin is provided for your technical reference and is not authorization for repair.