

## TURBOCHARGER TROUBLE SHOOTING

| CONDITION & POSSIBLE CAUSE  | CONDITION & POSSIBLE CAUSE  |
|---|---|
| <p><b>Excessive Charge Pressure</b></p> <ul style="list-style-type: none"> <li>● Leak at exhaust pressure line connection.</li> <li>● Clogged exhaust pressure line.</li> <li>● Damaged diaphragm in charge pressure regulator.</li> <li>● Charge pressure regulator valve stuck closed.</li> <li>● Ice formation in exhaust line.</li> <li>● Charge pressure regulator set wrong.</li> </ul> <p><b>Engine Knocking</b></p> <ul style="list-style-type: none"> <li>● Excessive charge pressure.</li> <li>● Fuel octane too low.</li> <li>● Ignition setting too far advanced.</li> </ul> <p><b>Oil Leakage At Turbo Shaft<br/>(Oil Fumes in Exhaust)</b></p> <ul style="list-style-type: none"> <li>● Poor oil return flow from turbocharger.</li> <li>● Turbocharger seals damaged.</li> </ul> <p><b>Lack of Power</b></p> <ul style="list-style-type: none"> <li>● Low cylinder compression.</li> <li>● Incorrect valve timing and/or clearance.</li> <li>● Incorrect ignition timing.</li> <li>● Restricted air cleaner element.</li> <li>● Insufficient fuel supply.</li> <li>● Fuel enrichment system not operating.</li> </ul> <p><b>Detonation<br/>With No Boost</b></p> <ul style="list-style-type: none"> <li>● Low grade fuel.</li> <li>● Ignition timing too far advanced.</li> <li>● Rough edge or foreign object in cylinder.</li> </ul> | <p><b>Detonation<br/>With Normal Boost</b></p> <ul style="list-style-type: none"> <li>● Low grade fuel.</li> <li>● Ignition timing too far advanced.</li> <li>● Insufficient fuel supply.</li> <li>● Fuel enrichment system not working.</li> </ul> <p><b>Detonation<br/>With Excessive Boost</b></p> <ul style="list-style-type: none"> <li>● Wastegate signal actuator line leaking.</li> <li>● Actuator tampered with.</li> <li>● Wastegate or actuator tampered with.</li> </ul> <p><b>Excessive Fuel Consumption<br/>(Black Exhaust Smoke)</b></p> <ul style="list-style-type: none"> <li>● Engine out of tune.</li> <li>● Intake air flow restricted.</li> <li>● Air delivery hoses kinked or collapsed.</li> <li>● Cold start valve or injectors leaking.</li> <li>● Fuel enrichment system will not shut off.</li> </ul> <p><b>Excessive Oil Consumption<br/>(Blue, Gray or White Exhaust Smoke)</b></p> <ul style="list-style-type: none"> <li>● Incorrect type of oil.</li> <li>● Extended oil change interval.</li> <li>● Clogged air cleaner element.</li> <li>● Excessive engine wear.</li> <li>● Internal leakage at seals in turbocharger.</li> <li>● Crankcase emission check valve stuck open or installed wrong.</li> </ul> |