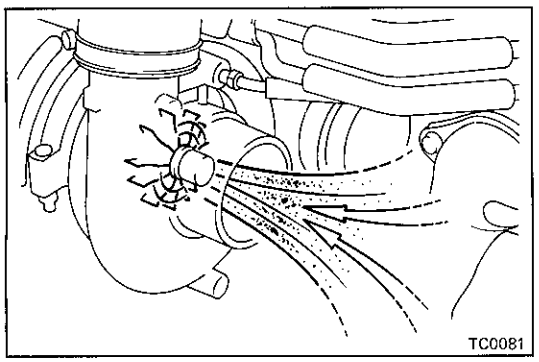


11. **If the engine is running with the air cleaner, case cover and hose removed, foreign particles entering will damage the wheels which run at extremely high speed.**

TROUBLESHOOTING

HINT: Before troubleshooting the turbocharger, first check the engine itself. (Valve clearance, engine compression, injection timing etc.)

INSUFFICIENT ACCELERATION, LACK OF POWER OR EXCESSIVE FUEL CONSUMPTION

(Possible Cause)	(Check Procedure and Correction Method)
1. TURBOCHARGING PRESSURE TOO LOW	Check turbocharging pressure. (See page TC-8) **Turbocharging pressure:** **0.50 – 0.65 kg/cm^2** **(7.1 – 9.2 psi, 49 – 64 kPa)** If the pressure is below specification, begin diagnosis from item 2.
2. RESTRICTED INTAKE AIR SYSTEM	Check intake air system, and repair or replace parts as necessary. (See page TC-8)
3. LEAK IN INTAKE AIR SYSTEM	Check intake air system, and repair or replace parts as necessary. (See page TC-8)
4. RESTRICTED EXHAUST SYSTEM	Check exhaust system, and repair or replace parts as necessary. (See page TC-8)
5. LEAK IN EXHAUST SYSTEM	Check exhaust system, and repair or replace parts as necessary. (See page TC-8)
6. ERRATIC TURBOCHARGER OPERATION	Check rotation of impeller wheel. If it does not turn or turns with a heavy drag, replace the turbocharger assembly. Check plays of turbine shaft. (See page TC-12) **Axial play: 0.13 mm (0.0051 in.) or less** **Radial play: 0.18 mm (0.0071 in.) or less** If not within specification, replace the turbocharger assembly.

ABNORMAL NOISE

(Possible Cause)	(Check Procedure and Correction Method)
1. TURBOCHARGER INSULATOR RESONANCE	Check for loose, improperly installed or deformed insulator mount bolts and nuts, and repair or replace as necessary.
2. EXHAUST PIPE LEAKING OR VIBRATING	Check for exhaust pipe deformation, loose mount bolts or a damaged gasket, and repair or replace as necessary.
3. ERRATIC TURBOCHARGER OPERATION	Refer to item 6 of INSUFFICIENT ACCELERATION, LACK OF POWER OR EXCESSIVE FUEL CONSUMPTION.

EXCESSIVE OIL CONSUMPTION OR WHITE EXHAUST

(Possible Cause)	(Check Procedure and Correction Method)
FAULTY TURBOCHARGER OIL SEAL	Check for oil leakage in exhaust system. • Remove the turbine elbow from the turbocharger and check for excessive carbon deposits on the turbine wheel. Excessive carbon deposits would indicate a faulty turbocharger. Check for oil leakage in intake air system. • Check for plays in turbine shaft, and replace the turbocharger if necessary. (See page TC-12) **Axial play: 0.13 mm (0.0051 in.) or less** **Radial play: 0.18 mm (0.0071 in.) or less**