

[CB-23, CB-61 & CB-80]

SECTION 9 TURBOCHARGER SYSTEM

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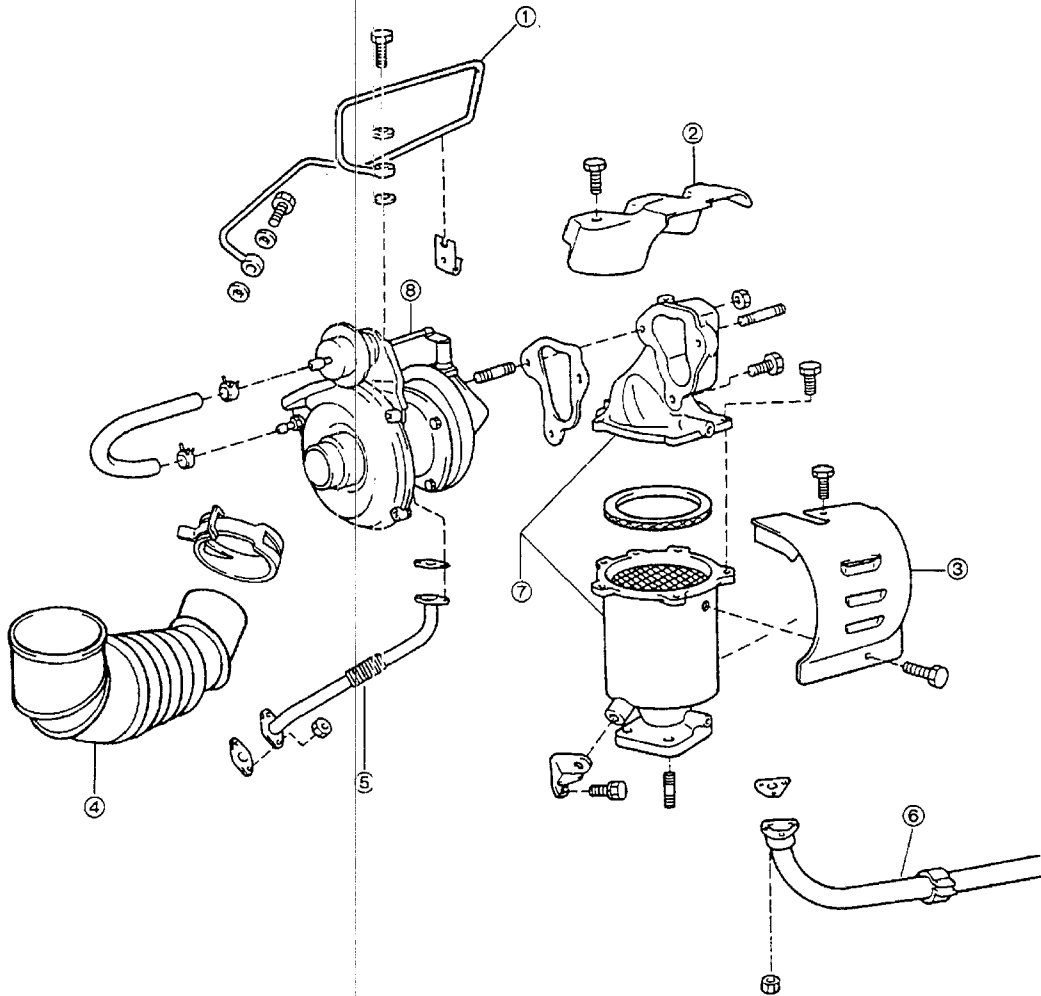
WM-09001

TURBOCHARGER SYSTEM

TURBOCHARGER

COMPONENTS OF TURBOCHARGER [CB-61 & CB-80 Engines]

NOTE:
The removal of the turbocharger should be performed only after the temperature of the turbocharger has dropped sufficiently.



- ① Turbo oil inlet pipe
- ② Exhaust manifold heat insulator No. 1
- ③ Exhaust manifold heat insulator No. 2
- ④ Air cleaner hose

- ⑤ Turbo oil outlet pipe
- ⑥ Exhaust front pipe
- ⑦ Exhaust manifold case
- ⑧ Turbocharger

Fig. 9-1

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TURBOCHARGER SYSTEM

INSTRUCTIONS ON TURBOCHARGER-RELATED OPERATIONS

1. The turbocharger is a precision component whose assembly requires special attention and equipment. Hence, never try to disassemble it.
2. When turbocharger is removed or installed:
 - (1) When the turbocharger has been removed, special care must be exercised as to the removed turbocharger.
 - (2) When the turbocharger is removed and installed, the oil inlet and outlet ports of the turbocharger and its inlet and outlet ports of intake air and exhaust gases should be plugged using adhesive tape, etc. in order that no dust or foreign particle may enter into the turbocharger.
 - (3) When the intake system, exhaust system or lubrication system is disassembled, make sure that no dust or foreign particle be permitted to enter into the turbocharger.
Furthermore, ensure that the tightening torque specifications are strictly observed during the installation of the turbocharger so that the turbocharger may exhibit no leakage.
 - (4) When the engine is started after the turbocharger has been replaced, be sure to run the engine idly for at least 10 seconds. If the engine revolution speed is increased too sharply, the bearings of the turbocharger may be damaged.
Also, make sure that no oil is leaking from the oil pipe.

3. Never try to lift the turbocharger by holding the waste gate valve rod or the similar parts.

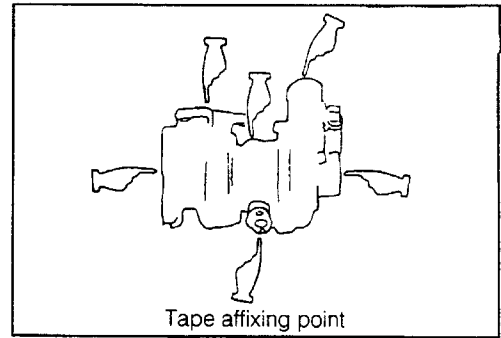


Fig. 9-2

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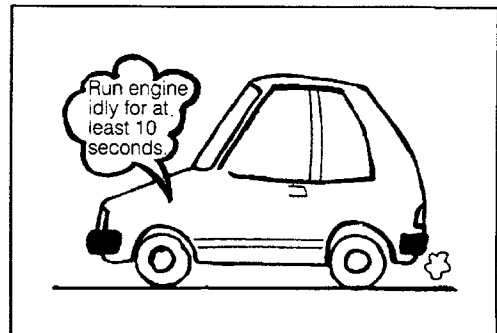


Fig. 9-3

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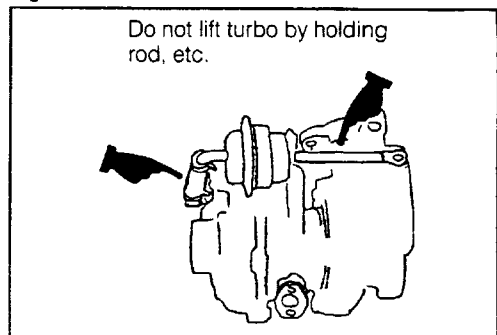


Fig. 9-4

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TURBOCHARGER SYSTEM

4. Be very careful not to drop the turbocharger, for it is a precision component.
5. Never try to wipe off the residual oil completely from the bearing.
(Here, the residual oil refers to such a degree of sticking oil which appears after the natural flowing.)
6. Be sure not to touch the turbocharger immediately after the engine operation or during the engine operation.
(Failure to observe this caution may incur a burn.)
7. Do not run the engine with the intake pipe, intake hose, or exhaust manifold case, etc. disconnected.
(This notice is important to prevent the ingress of any foreign matter.)

INSPECTION

Checking of Lubrication System

1. Remove the union bolt for turbocharger lubrication use. Check to see if the orifice is restricted. If the orifice exhibits any restriction, clean the orifice, using compressed air.

NOTE

1. Be sure to replace the union bolt washer with a new part.
2. Apply engine oil to the union bolt during the assembly.

Checking of Turbocharger

1. Check the blades of the turbine and compressor for any evidence of damage.
2. When the blades are turned by your finger, ensure that the turbine and compressor rotate smoothly.
3. Make sure that neither the turbine side nor the compressor side exhibits oil leakage.

IN-VEHICLE INSPECTION

Checking of Operation of Waste Gate Valve

1. Disconnect the waste gate actuator hose at the actuator side.
2. Connect a turbocharger pressure gauge and apply a pressure of 0.65 kg/cm^2 (9.2 psi) [CB-61, 80]. Ensure that the rod and link are functioning properly.

Turbocharger pressure gauge:
SST [0992-87703-000]

When the pressure is released, ensure that the rod and link return to the original position without any binding.

3. Check to see if the hose exhibits cracks or damage.

NOTE:

If any pressure in excess of 0.7 kg/cm^2 (10.0 psi) is applied to the waste gate actuator, there is a possibility that the diaphragm may be damaged.

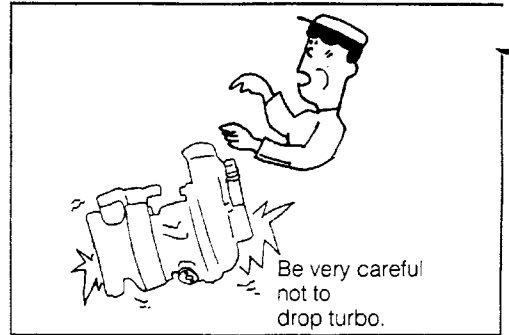


Fig. 9-5

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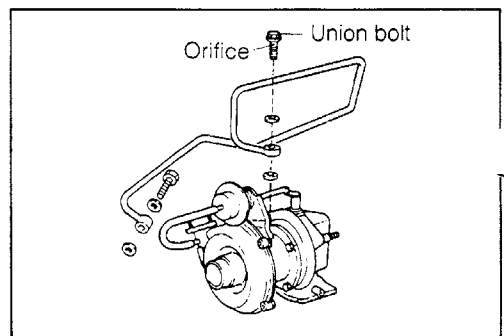


Fig. 9-6

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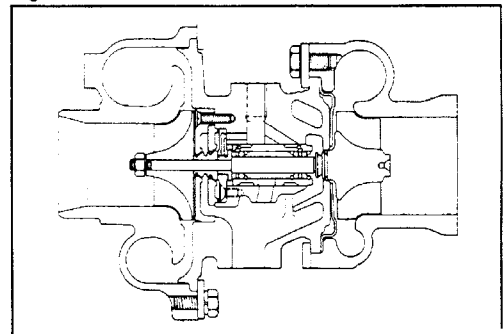


Fig. 9-7

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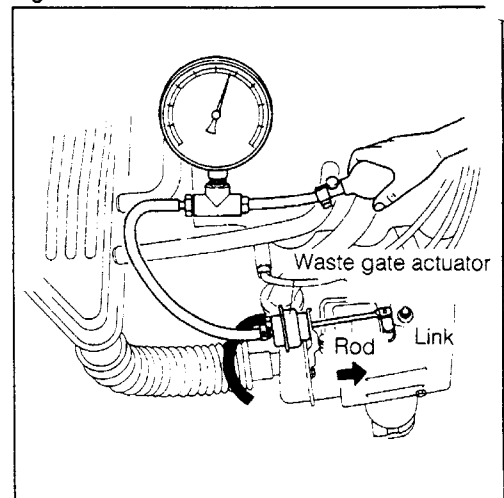


Fig. 9-8

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TURBOCHARGER SYSTEM

Checking of Supercharging Pressure of Turbocharger (Running Test)

NOTE:

This running test should be carried out in a test site where the acceleration running with the secondary valve fully opened and the transmission placed in the second gear may be performed safely. Moreover, conduct this running test with two persons riding on the test vehicle.

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1. (CB-61 Engine)
Disconnect the surge tank hose. Connect a three-way joint and turbocharger pressure gauge. Place the pressure gauge in the vehicle interior.

Turbocharger pressure gauge:
SST [09992-87703-000]

(CB-80 Engine)
Disconnect the vacuum hose of the VSV (for controlling the supercharging pressure). Attach a three-way joint between the VSV and the vacuum switch (turbo indicator). Measure the supercharging pressure, using a pressure gauge.

Turbocharger pressure gauge:
SST [09992-87703-000]

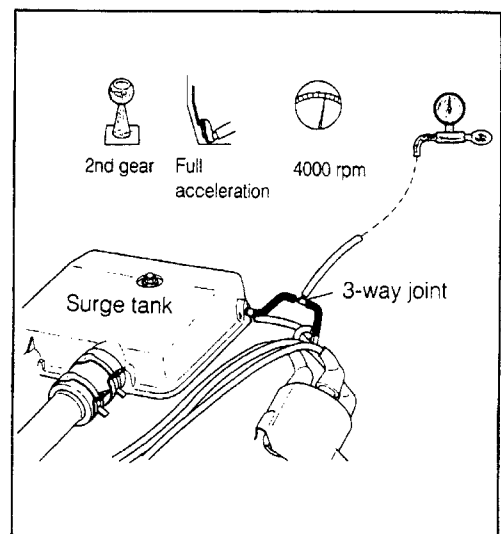


Fig. 9-9

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2. After warming-up the engine, perform a full acceleration running test with the transmission place in the second gear, until the engine revolution speed reaches 4000 rpm.

Check the pressure at the time when the engine revolution speed reaches 4000 rpm.

Specified Pressure: CB-61 Engine 0.4 - 0.6 kg/cm² (5.7 - 8.5 psi)

CB-80 Engine 0.6 kg/cm² (8.5 psi) or more

If the pressure fails to conform to the specification, replace the turbocharger assembly.

NOTE:

Be sure not to perform the adjustment or disassembly of the turbocharger.

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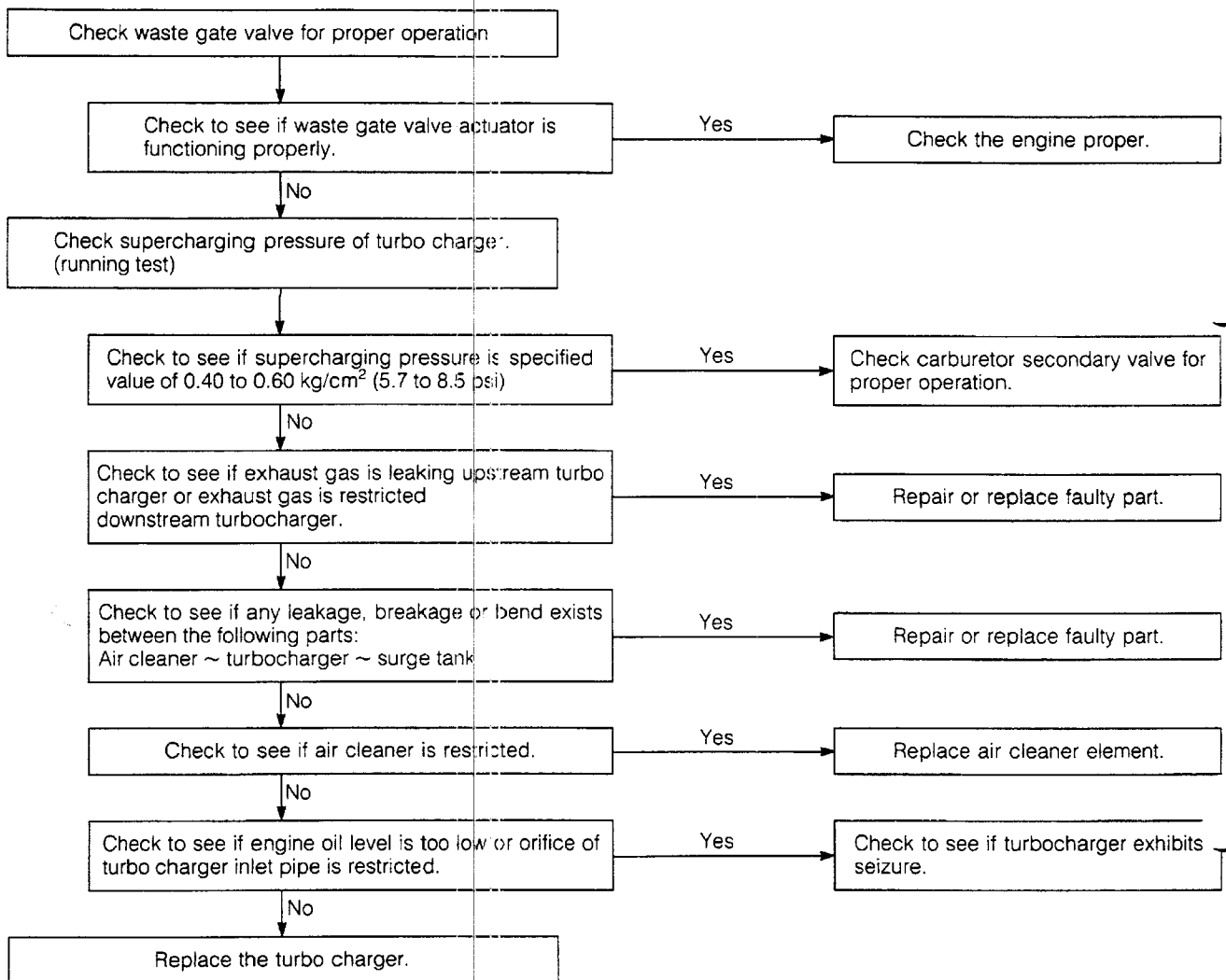
TURBOCHARGER SYSTEM

TROUBLE SHOOTING (CB-61)

NOTE:

1. Prior to starting the trouble shooting, make sure that the engine has been tuned-up properly and the idling adjustment has been performed to the specification.
2. Also, ensure that the engine is warmed up thoroughly.

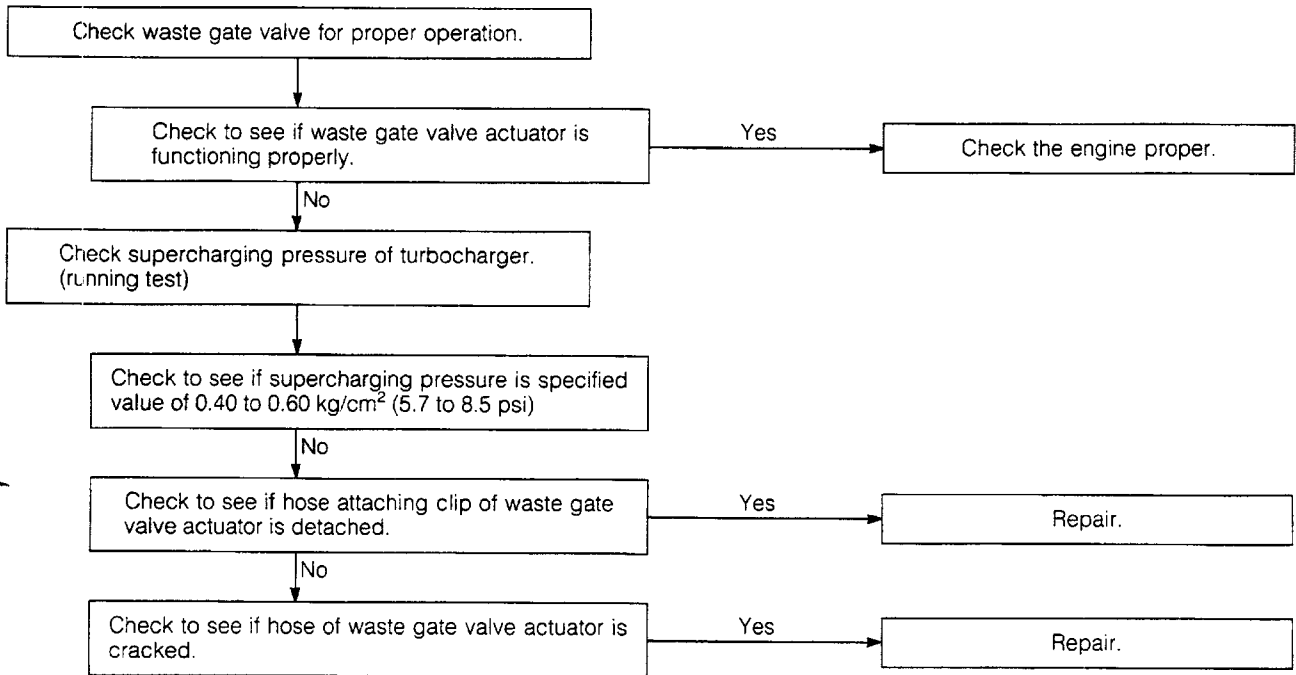
1. Engine fails to deliver sufficient engine output.



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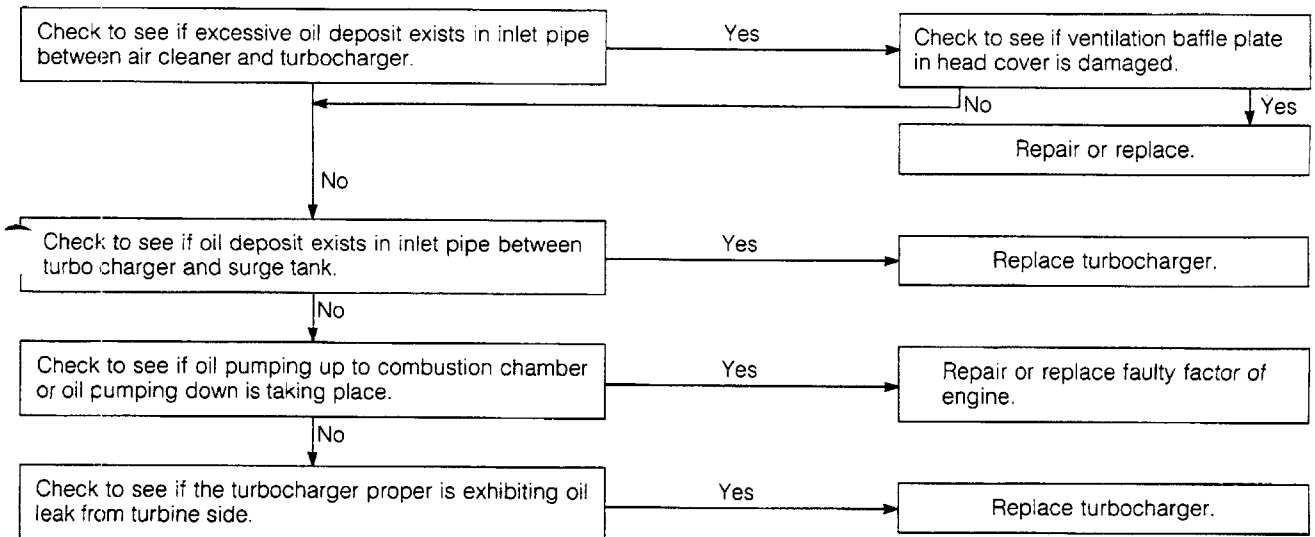
TURBOCHARGER SYSTEM

2. **Knocking or hunting occurs when engine runs at 3000 to 4000 rpm with throttle valve opened fully and with transmission place in second gear.**



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3. **Engine emits whitish exhaust gas or oil is emitted from tail pipe.**



WM-09015