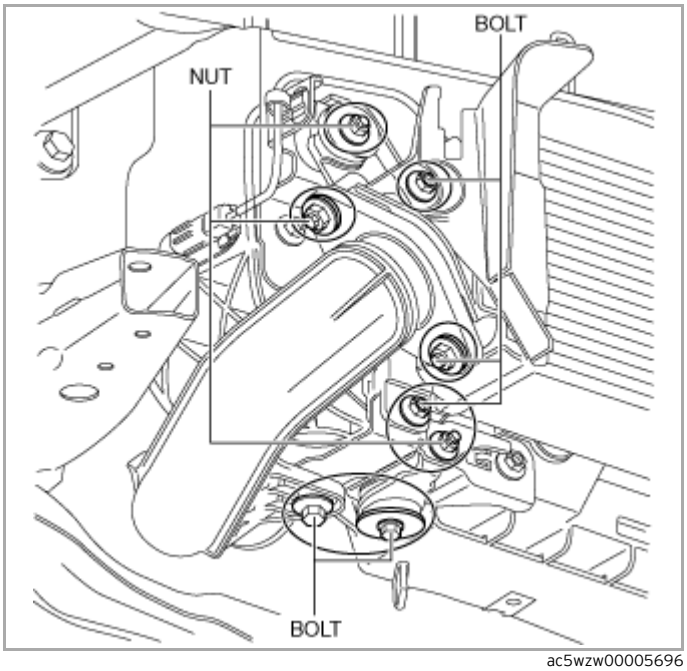
Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

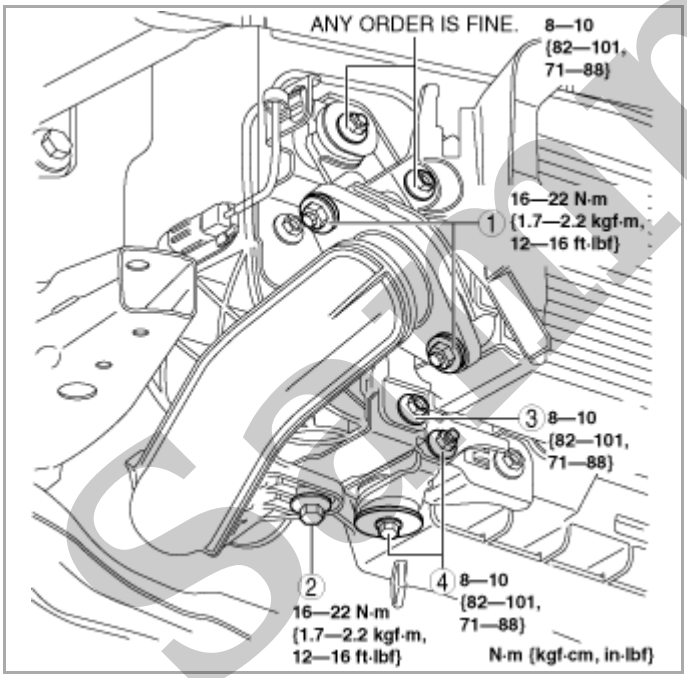
2007 MAZDA 5 / Premacy OEM Service and Repair Workshop Manual

Go to manual page



ac5wzw00005696

4.Tighten the charge air cooler in the order shown in the figure.



ac5wzw00005697

Charge Air Cooler Inlet Pipe Installation Note

1.Clean the seal surface and furrow area of the charge air cooler air inlet pipe.

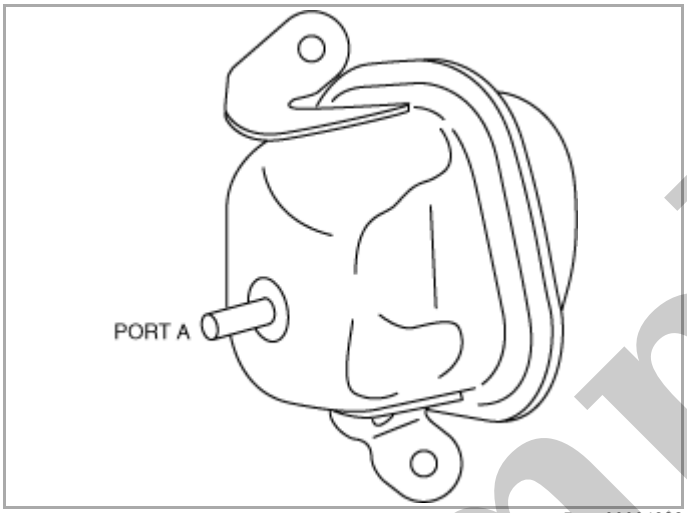
VACUUM CHAMBER INSPECTION [SKYACTIV-D 2.2]

SM2897418

id0113z770570

1.Remove the vacuum chamber. (See VACUUM CHAMBER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

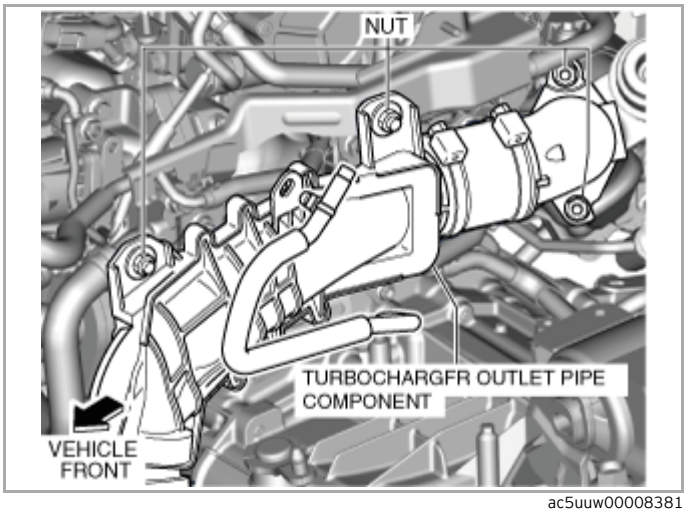
2.Apply negative pressure (-94 kPa {-705 mmHg, -28 inHg}) on the port A for one minute to check for the leakage of negative pressure.



ac5wzw00004892

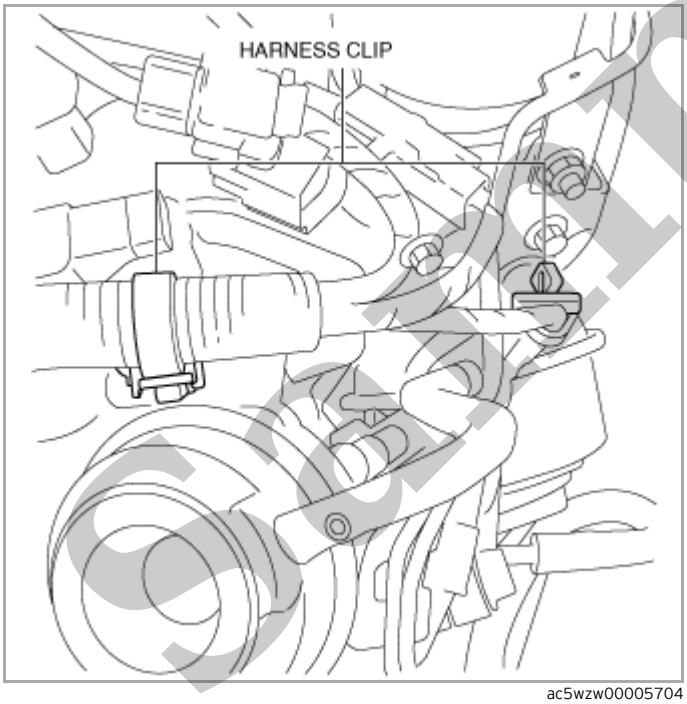
- If there is air leakage, replace the vacuum chamber. (See VACUUM CHAMBER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

10.Remove the nuts and set the turbocharger air outlet pipe component aside. (See INTAKE-AIR SYSTEM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)



ac5uuw00008381

11.Disconnect the wiring harness clips shown in the figure.



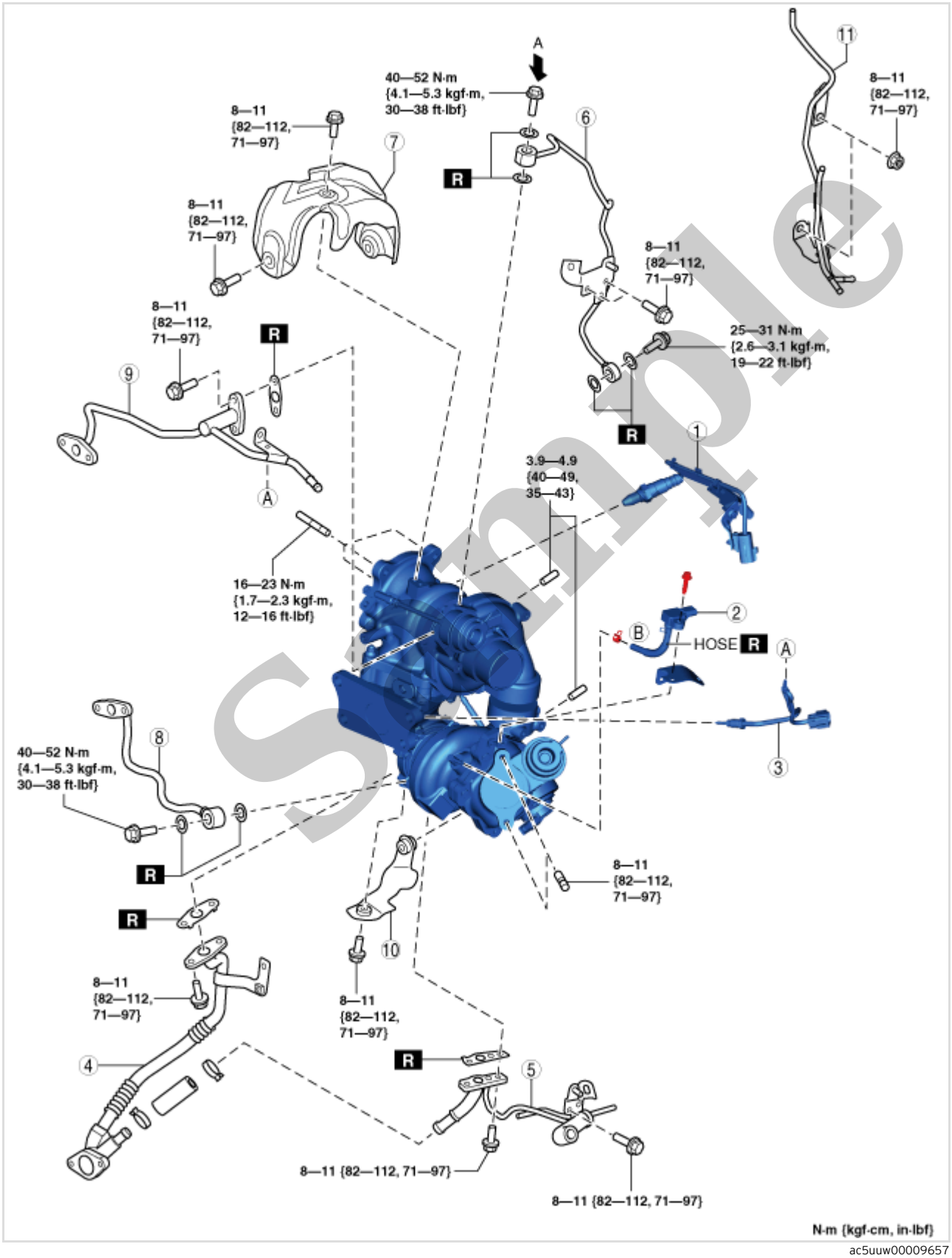
ac5wzw00005704

12.Disconnect the regulating valve position sensor connector.

13.Disconnect the wiring harness clips shown in the figure.

7	Water pipe No.3 installation bolt
8	Turbocharger insulator No.2
9	Oil pipe No.1
10	Oil pipe No.2 installation bolt
11	Turbocharger component (See Turbocharger component installation note.) (See Operation After Replacing or Removal/Installation Turbocharger.)

Step 2



ac5uuw00009657

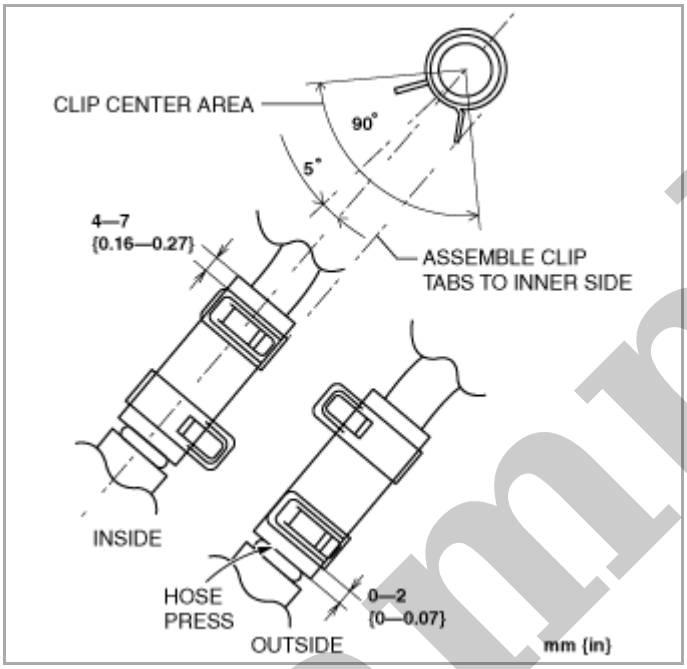
2.Tighten the oil pipe No.4.

Oil pipe No.4 tightening torque

40–52 N·m {4.1–5.3 kgf·m, 30–38 ft·lbf}

Oil pipe No.2 installation note

1.Install the oil pipe No.2 as shown in the figure.

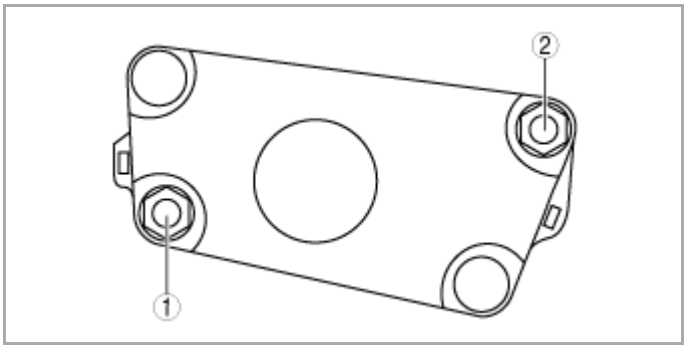


ac5wzw00006723

Turbocharger component installation note

1.Install the turbocharger component using the following procedure.

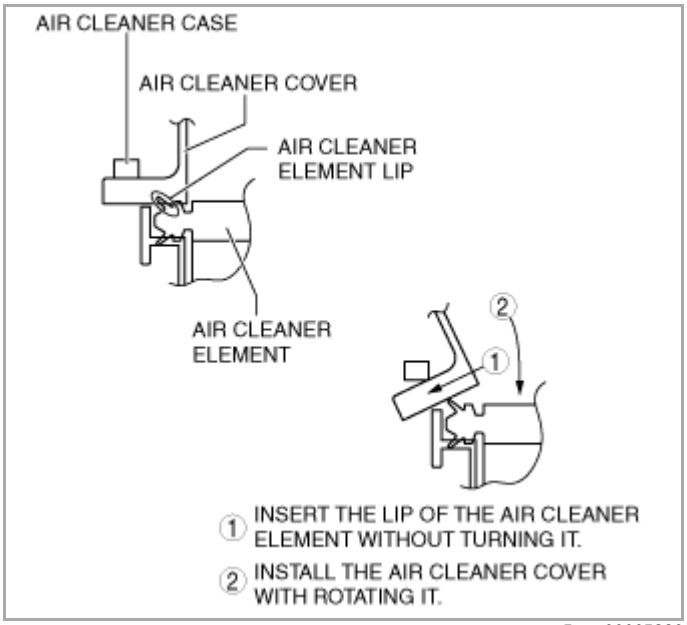
(1)Temporarily tighten nuts in the order shown in the figure.



ac5wzw00005703

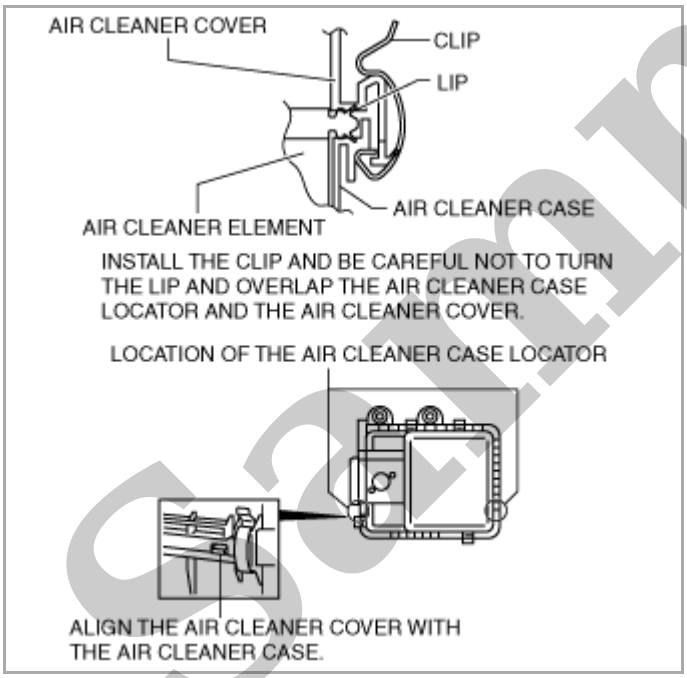
Tightening torque

23–27 N·m {2.4–2.7 kgf·m, 17–19 ft·lbf}



ac5wzw00005280

2.Secure the air cleaner cover and the air cleaner case with the clip.



ac5wzw00005281

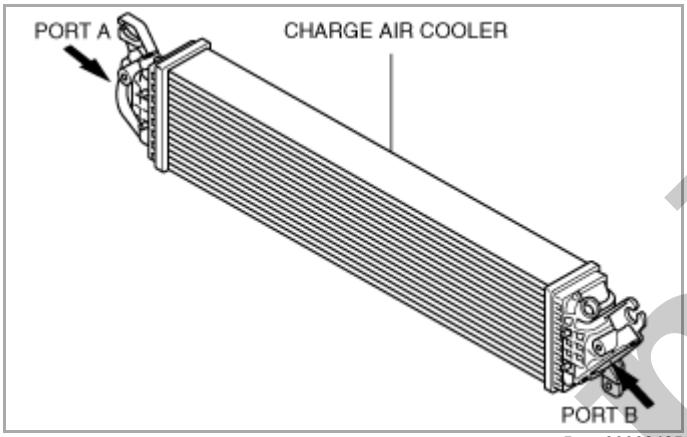
CHARGE AIR COOLER INSPECTION [SKYACTIV-D 2.2]

SM2897423

id0113z780090

1.Remove the charge air cooler. (See CHARGE AIR COOLER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

2.Plug port A.



ac5wzw00008625

3.Apply pressure from port B and verity that there is no airflow.

- If there is airflow, replace the charge air cooler. (See CHARGE AIR COOLER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

3.Connect the M-MDS to the DLC-2.

4.Display PID MAP and BARO using the data logger function.

5.Depress the accelerator pedal and verify the MAP and BARO value when the engine rotation speed rises to 3,500 rpm or more.

Difference between MAP and BARO is less than 10 kPa {75 mmHg, 3.0 inHg}

• Perform charging deficiency inspection for large-type turbocharger. (See Large-type turbocharger charging deficiency inspection.)

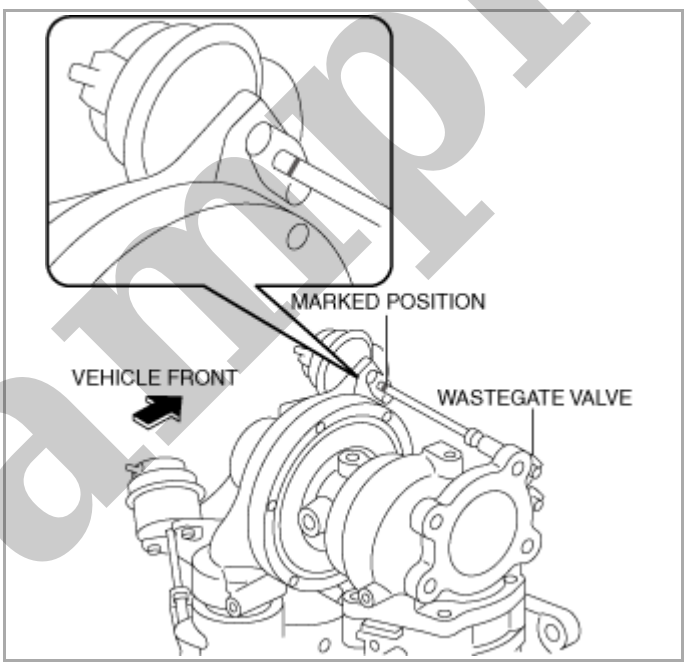
Difference between MAP and BARO is 10 kPa {75 mmHg, 3.0 inHg} or more

• Perform charging deficiency inspection for small-type turbocharger. (See Small-type turbocharger charging deficiency inspection.)

Large-type turbocharger charging deficiency inspection

Possible cause

MALFUNCTION OCCURRENCE LOCATION		PHENOMENON	CAUSE	INSPECTION ORDER
Large-type compressor side	Large-small compressor connection pipe	Pressurization leak	Connection looseness or disconnection of large-small compressor connection pipe	1
	Compressor bypass valve	Pressurization leak	Crack in compressor bypass valve outlet	2
		Small valve opening angle	Valve sticking Rod link deformity Vacuum malfunction in compressor bypass solenoid valve	6
Large-type turbine side	Between turbine inlet and cylinder head Regulating valve Between turbine outlet and catalytic converter	Exhaust gas leakage	Cracks Gasket deterioration	3, 11
Regulating valve		Small valve opening angle	Valve sticking Rod link deformity, deviation, interference Vacuum malfunction in regulating solenoid valve	4, 13
		Exhaust gas leakage	Cracks	12
Wastegate valve		Large valve opening angle	Valve sticking Rod link deformity Vacuum malfunction in wastegate solenoid valve	5
		Exhaust gas leakage	Valve deformity Foreign matter adhering to seal surface	10

STEP	INSPECTION	RESULTS	A
5	WASTEGATE VALVE OPENING ANGLE INSPECTION • Perform the following inspections: — Move the wastegate valve rod by hand in the axial direction. • Does it move normally? **Caution** **• Do not apply excessive load to the rod.** **• Do not use a tool.** — Remove the wastegate valve vacuum pipe, and inspect the lift amount using the vacuum pump. • Starting with a change in lift amount of approx. -6 kPa {-45 mmHg, -2 inHg}, is the maximum lift (approx. 6 mm {0.2 in}) at a rate of approx. -20 kPa {-150 mmHg, -5.9 inHg} while conforming smoothly to the vacuum amount? — After marking the rod with the engine stopped, mark the rod again while the engine is idling. Then, turn off the engine and measure the distance between the two marked locations. • Is the distance between the marks 5−8 mm {0.2−0.3 in}?  ac5wzw00005907 • Is there any malfunction in the inspection results?	Yes	Re tu r. (S TU RC RI NS OI [S D
		No	Go ne
6	COMPRESSOR BYPASS VALVE OPENING ANGLE INSPECTION • Perform the following inspections: — Is the compressor bypass valve link deviated? — Remove the air pipe of the compressor outlet and verify that the compressor bypass valve closes normally and that there are no gaps. — Remove the compressor bypass valve vacuum pipe, and verify the lift amount with a vacuum pump. Starting with a change in lift amount of approx. -30 kPa {-225 mmHg, -8.9 inHg}, is the maximum lift amount (approx. 11 mm {0.43 in}) at approx. -60 kPa {-450 mmHg, -18 inHg}? • Is there any malfunction in the inspection results?	Yes	Re tu r. (S TU RC RI NS OI [S D
		No	Go ne