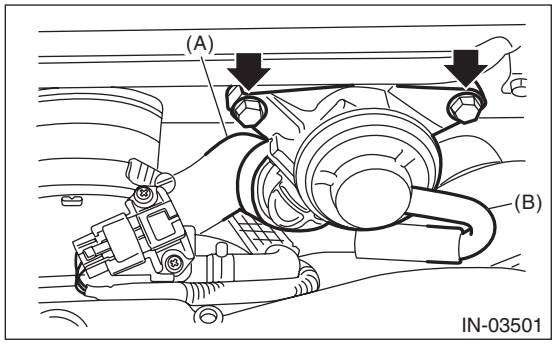
8. Air By-pass Valve

A: REMOVAL

Remove the air by-pass valve from the intercooler, and then disconnect air by-pass hose (A) and vacuum hose (B) from the air by-pass valve.



B: INSTALLATION

Install in the reverse order of removal.

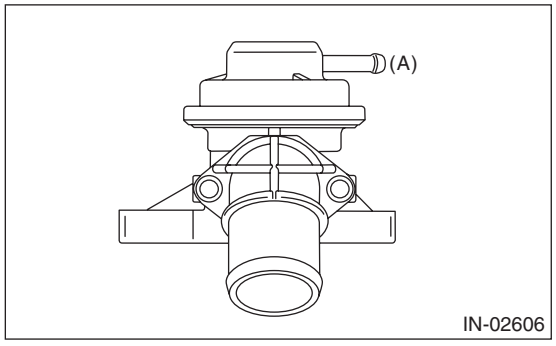
NOTE:
Use a new gasket.

Tightening torque:
16 N·m (1.6 kgf-m, 11.8 ft-lb)

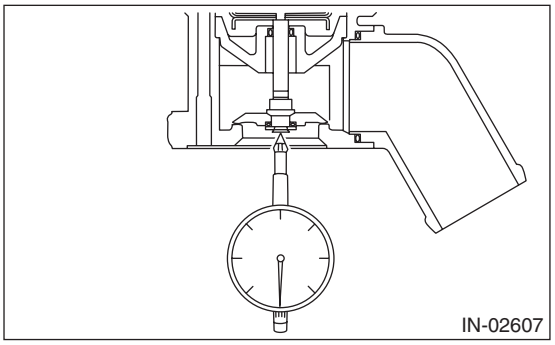
C: INSPECTION

1. AIR BY-PASS VALVE

1) Check that the air by-pass valve has no deformation, cracks or other damages.
2) Connect the Mighty Vac to the nipple (A) of the air by-pass valve.



3) Using the Mighty Vac, generate the vacuum pressure to –93.3 kPa (–0.95 kg/cm^2, –13.5 psi). Check that the Mighty Vac gauge needle indication holds 10 seconds without dropping down to lower than –92.6 kPa (–0.94 kg/cm^2, –13.4 psi).
4) Set a dial gauge to the end of valve rod of the air by-pass valve.



5) Slowly generate vacuum pressure with the Mighty Vac and check the pressure when the needle of the dial gauge (valve stroke) becomes 0.5 mm (0.02 in). If it is not within the standard, replace the air by-pass valve.

Opening pressure (valve stroke 0.5 mm (0.02 in)):
Standard
–62.7 — –70.7 kPa (–0.64 — –0.72 kg/cm^2, –9.09 — –10.3 psi)

6) Increase vacuum pressure more than 5) and check the pressure when the needle of the dial gauge (valve stroke) becomes 7.5 mm (0.3 in). If it is not within the standard, replace the air by-pass valve.

Full open pressure (valve stroke 7.5 mm (0.3 in)):
Standard
–102.7 — –117.3 kPa (–1.05 — –1.20 kg/cm^2, –14.9 — –17.0 psi)

2. OTHER INSPECTIONS

Check that the vacuum hose and air by-pass pipe have no cracks, damage or loose part.