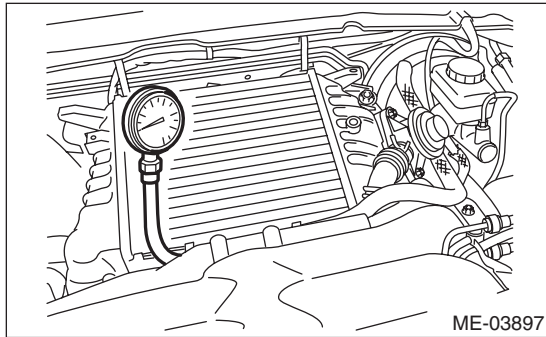


## 5. Intake Manifold Vacuum

### A: INSPECTION

- 1) Warm up the engine.
- 2) Remove the intercooler. <Ref. to IN(H4DOTC)-13, REMOVAL, Intercooler.>
- 3) Disconnect the brake booster vacuum hose from the intake manifold, and install the vacuum gauge.
- 4) Install the intercooler. <Ref. to IN(H4DOTC)-13, INSTALLATION, Intercooler.>
- 5) Keep the engine at idle speed and read the vacuum gauge indication.

By observing the vacuum gauge needle movement, the internal condition of the engine can be diagnosed as described below.



**Intake manifold vacuum (at idling, A/C OFF):**  
**–68.0 kPa (–510 mmHg, –20.08 inHg) or more**  
**(AT model)**  
**–70.6 kPa (–530 mmHg, –20.85 inHg) or more**  
**(MT model)**

Diagnosis of engine condition by measurement of intake manifold vacuum	
Vacuum gauge indication	Possible engine condition
1. Needle is steady but lower than normal position. This tendency becomes more evident as engine temperature rises.	Leakage around intake manifold gasket, or disconnected or damaged vacuum hose
2. Needle intermittently drops to position lower than normal position.	Leakage around cylinder
3. Needle drops suddenly and intermittently from normal position.	Sticky valve
4. When engine speed is gradually increased, needle begins to vibrate rapidly at certain speed, and then vibration increases as engine speed increases.	Weak or broken valve springs
5. Needle vibrates above and below normal position in narrow range.	Defective ignition system