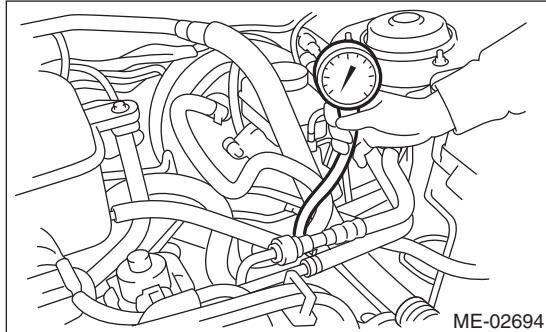


## 5. Intake Manifold Vacuum

### A: INSPECTION

- 1) Warm-up the engine.
- 2) Disconnect the brake vacuum hose from intake manifold, and then install the vacuum gauge.
- 3) Keep the engine at idle speed and read the vacuum gauge indication.

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



**Vacuum pressure (at idling, A/C “OFF”):**  
**–60.0 kPa (–450 mmHg, –17.72 inHg) or more**

| 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.                                     | Air leakage around intake manifold gasket, disconnection or damage of 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                                                         |