

## Diagnostic Information and Procedures

### Engine Mechanical Symptom Diagnosis

BENJ18K61404001

Refer to "Engine Symptom Diagnosis" in Section 1A (Page 1A-10).

### Compression Pressure Check

BENJ18K61404002

The compression pressure reading of a cylinder is a good indicator of its internal condition.

The decision to overhaul the cylinder is often based on the results of a compression test. Periodic maintenance records kept at your dealership should include compression readings for each maintenance service.

#### NOTE

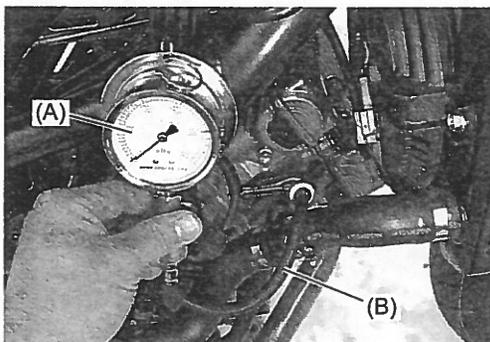
- Before checking the engine for compression pressure, make sure that the cylinder head bolts are tightened to the specified torque values and the valves are properly adjusted.
- Make sure that the battery is in fully-charged condition.

- 1) Warm up the engine.
- 2) Disconnect the all spark plug caps and remove the outside spark plug (Front side and rear side).  
☞ (Page 1H-7)
- 3) Install the compression gauge and adapter in the spark plug hole. Make sure that the connection is tight.

#### Special tool

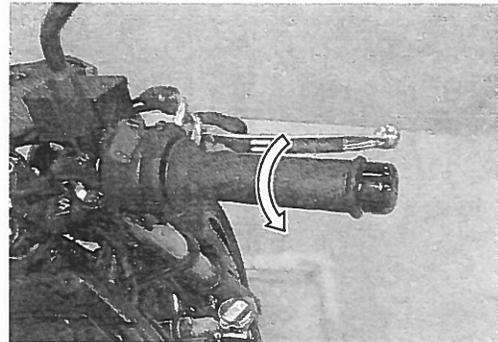
(A): 09915-64512

(B): 09915-63311



IH18K1140002-02

- 4) Keep the throttle grip in the fully-opened position.



IH18K1140003-01

- 5) Press the starter switch and crank the engine for a few seconds. Record the maximum gauge reading as the cylinder compression.
- 6) Repeat this procedure with the other cylinder.

#### Compression pressure

[Standard]: 1300 – 1700 kPa (13.3 – 17.3 kgf/cm<sup>2</sup>, 188 – 246 psi)

[Limit]: 1100 kPa (11.2 kgf/cm<sup>2</sup>, 159 psi)

#### Compression pressure difference

[Limit]: 200 kPa (2 kgf/cm<sup>2</sup>, 28 psi)

If compression pressure is less than the service limit, it is considered any of the following reasons:

- Excessively worn cylinder walls
- Worn piston or piston rings
- Piston rings stuck in grooves
- Poor valve seating
- Ruptured or otherwise defective cylinder head gasket

#### Overhaul the engine in the following cases:

- Compression pressure in one of the cylinder is 1100 kPa (11.2 kgf/cm<sup>2</sup>, 159 psi) or less.
  - Compression pressures of all cylinders are 1300 kPa (13.3 kgf/cm<sup>2</sup>, 188 psi) or less.
  - Compression pressure difference between 2 cylinders is more than 200 kPa (2 kgf/cm<sup>2</sup>, 28 psi).
- 7) After checking the compression pressure, install the removed parts.