

leakage. Then kick the engine over hard several times for maximum compression gauge reading. If there is more than 14 lbs/sq in (1.0 kg/cm<sup>2</sup>) difference between any two cylinders, or if compression is less than 70% of the specified value, piston, piston rings or cylinder is worn.

**Table 6 Compression**

Model	Standard	
H1, H2	142 lb/sq in (10 kg/cm <sup>2</sup> )	engine kicked hard several times

#### f. Boring · Honing

If the cylinder gets out of tolerance due to wear or to damage from piston seizure, it can be restored to a usable condition by boring and honing. When honing, all cylinder diameter measurements must be within .0004 inch (0.01 mm) of each other. Oversize pistons are available in two sizes: 0.5 and 1.0 mm (.0197 and .0394 in.) oversize.

**CAUTION:** When the cylinder is bored, or when a new cylinder and piston are installed, the engine must be properly broken in, in the same manner as for a new vehicle.

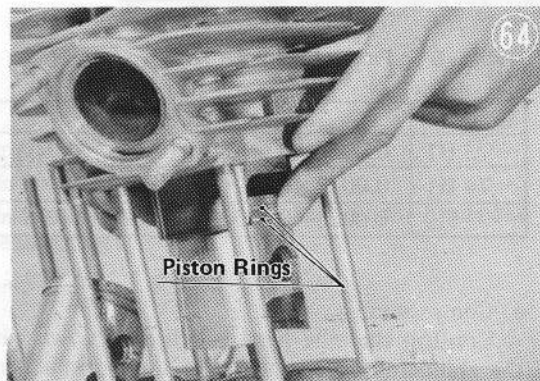
#### 4) Assembly

This is the reverse of disassembly.

#### NOTE:

1. When inserting the piston into the cylinder, align the ring opening with the knock pin in the ring groove, and hold the ring down in the groove to prevent its hanging up on the edge of the cylinder.

2. Spark plug installation torque is 18.0 – 22.0 ft.lbs (2.5 – 3.0 kg-M).



#### 3. PISTON · PISTON PIN

While the engine is running, the piston is constantly subjected to the high temperature of the burning gasoline, and being a difficult part to cool, becomes extremely hot. Due to differences in temperature, there is a difference in the amount

of expansion of the piston top as compared to the skirt portion, and again a difference between front/rear expansion and side to side expansion.

Calculating these expansion differences beforehand, the piston is made elliptical in shape with an inward taper toward the top (Fig. 65.), so that under normal running conditions its shape becomes almost perfectly cylindrical, and thus piston seizure due to piston expansion is averted.

The piston is cast of light-weight, high-strength aluminum/silicon alloy with an extremely low heat expansion coefficient, and high resistance to heat and wear.

The piston pin is made of high-strength chrome molybdenum steel, and its surface is heat-treated for hardening.

The ends of the piston pin support the piston, and the center of the pin holds the small end of the connecting rod. All parts are fitted in a floating type arrangement, the piston pin being held by two circlips to prevent side movement.

The pin is offset .020 in. (0.5 mm) toward the inlet side of the piston to minimize piston slap that occurs near bottom dead center of the combustion cycle.

#### Piston Construction

(65)

