Pistons

The piston is one of the most important units in the engine, and its condition has much to do with the performance of the engine. Its function is to receive the force of the combustion pressure and transmit it to the connecting rod and crankshaft. The escape of combustion pressure past the piston is prevented by the piston rings. The fit of the piston and rings in the sleeve must be close enough to prevent the escape of combustion gases but must be free enough to keep friction to its working minimum.

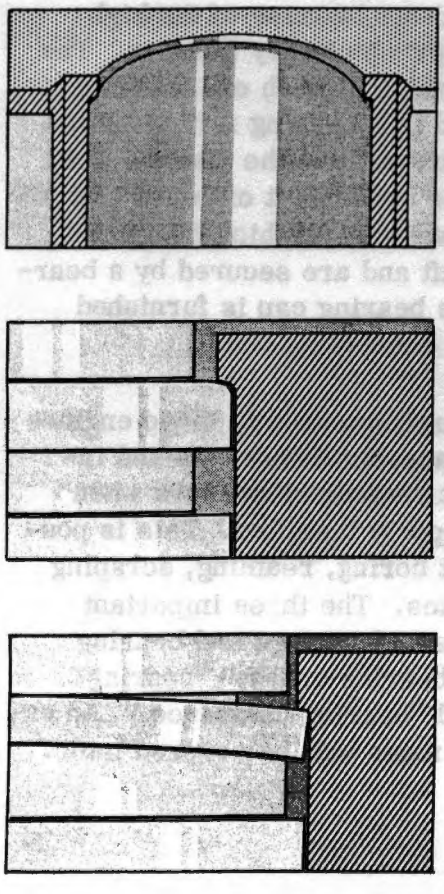
Piston Rings

The pistons are fitted with three piston rings. One oil regulating ring is fitted to each piston. The oil regulating ring provides an even circulation of lubricating oil and, therefore, an all over lubricating and cooling action for the piston and crankcase cylinder. Excess oil is wiped by the rings, back down to the crankcase. The remaining rings are compression rings. Rings should be installed on a piston so that the gaps are 90 degrees from the thrust side of the piston and 180 degrees from one gap to another.

Piston Pins

The piston pin is made of steel and is cylindrical in shape. Its purpose is to anchor the piston to the connecting rod. The pin is retained in the piston by retainer rings that lock into grooves of the piston pin bore. The pin is allowed to float in its bushing in the upper end of the rod. It is usually necessary to heat the piston in order to remove the pin.

Removal



1. Remove the cylinder head. (Refer to page 1-13.)

2. Remove the drain plug and drain the engine lubricating oil from the crankcase oil pan. Replace the drain plug.

3. Remove the cap screws securing the oil pan, and remove the oil pan and gasket.

IMPORTANT: Before proceeding with piston and connecting rod removal, the ridge, existing on the cylinder wall at the upper end of the ring travel, must be removed by using a ridge reamer. This prevents damage to the piston ring lands during removal of pistons, and prevents damage to new top piston rings after the installation of new rings.