



Fig. 36. Inlet valve guide oil seal details

rings are fitted between the steel caps on which the valve spring lower ends rest, and the top of the valve guides. Joints are also fitted between the bottom of each inlet valve cover and cylinder head.

The rubber seals and joints prevent oil being drawn down the inlet valve guides.

Inlet valve springs must not be compressed beyond the amount needed to remove the cotters. Over compression may damage the inlet valve seal cover cap.

Examination of valves, valve guides, springs and seats

Valves

Valves that are in anyway suspect due to signs of stem wear, and pitting of valve head, should be renewed. Normal refacing is permissible.

Inlet valve seals and joints

The four inlet valve oil seals should be renewed. They can be fitted either way up. The joints should also be renewed.

Valve guides

Valve guide wear can be checked by trying a new valve for fit in the guide.

Stem clearance is given in the Data Section.

Valve springs

Valve springs. If possible the load required to compress the valve springs to their fitted heights should be checked. The required load and length to compress the springs is given in the Data Section under "Valves". The use of a dial type valve spring tester is strongly recommended.

An alternative method is to check the used valve springs by comparing them with new springs. Place them end to end on a long bolt and compress them in a hand press. Any loss will then be apparent as the weaker spring will close up first.

Valve springs should be renewed if the engine has covered a large mileage.

Valve seatings

Valve seatings may be refaced by normal valve seat cutters or by grinding. The latter is preferable.

Valve guides—To renew

The cylinder head must be heated to 200°C (390°F) for 30 minutes before the valve guide can be driven out with the Churchill brass drift RG357, which must be inserted at the valve seat end of the guide.

Remove thermostat before heating the cylinder head.

A circlip fits in a groove around the valve spring end of the guide and the guide position in the cylinder head is correct when the circlip comes against the cylinder head.

Valve guides **MUST NOT** be driven out of a cold cylinder head.