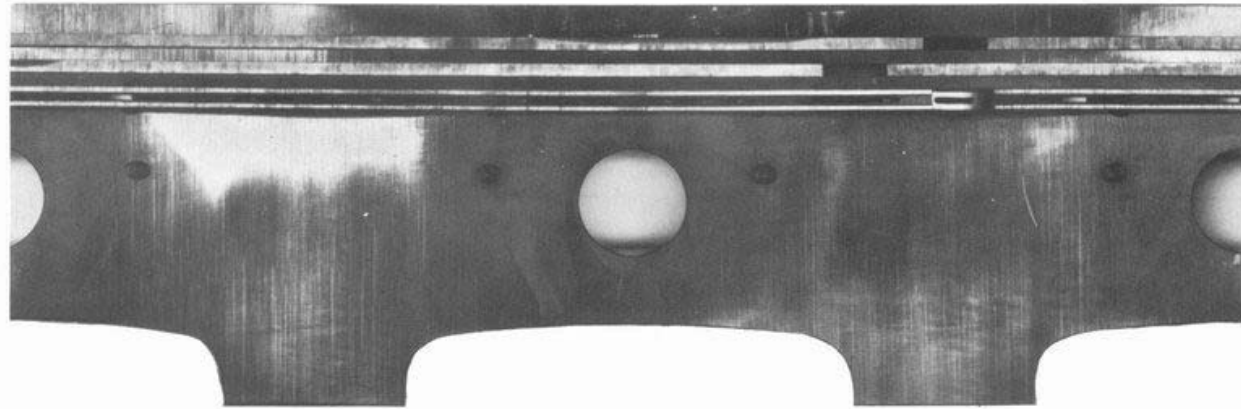


### 2.1.1



## 2 Ring Belt

### 2.1.1 Damage caused by jammed rings (oblique running)

**Symptoms** Around their periphery, the piston rings have striated score marks, to a certain extent showing annealing colours. The piston in the illustration exhibits one-sided hard bearing on the cylinder at the top land and first ring land in the direction of the gudgeon pin..

**Cause and Effect** Rings which have jammed because of oblique running of the piston (see also 1.5) lose their sealing effect. Hot combustion gases can blow past the rings, destroying the oil film. The rings run dry and seize on the cylinder wall. The heat produced by this causes the annealing colours previously mentioned. Further damage includes seizures at the ring belt and upper piston skirt caused by overheating of the piston with simultaneous destruction of the oil film.

Jamming of the rings, with the same consequences, may also be caused by oil carbon or dirt, or, in the case of incorrect assembly, by metal chips and damaged pistons (ring lands).

**Remedy** Before fitting the piston, check that the rings can rotate freely. Check the angular position of the connecting rod before fitting or, after fitting, check the piston gap in the direction of the gudgeon pin by using a feeler gauge at TDC and BDO.