



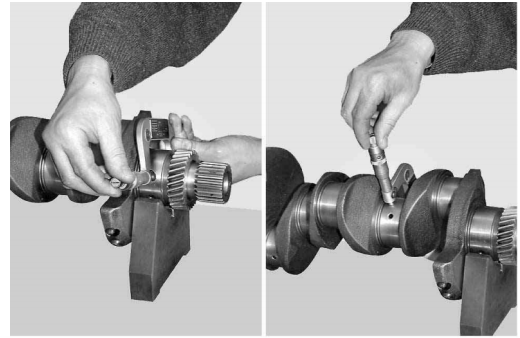
Crankshaft checks

Check the diameter of the main bearing journals and crankpins with the micrometer gauge.



NOTE

Check at various points and **all** around the circumference to detect also taper and out of round.



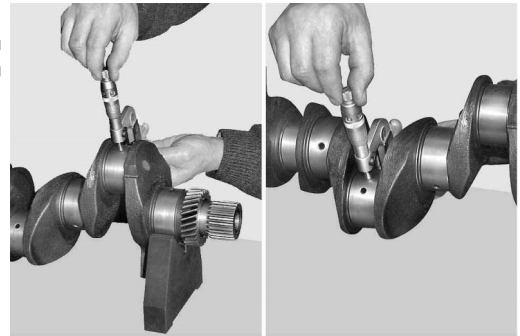
1.

If dimensional and geometrical errors exceed the tolerances specified in "TECHNICAL DATA AND DIMENSIONS" (even on a single crankpin or main journal), grind the entire crankshaft, reducing the diameters of the main journals and crankpins to one of the possible undersize diameters indicated.



NOTE

If the crankshaft is reground, the main bearings and crank bushes must be replaced.



2.

Only if necessary

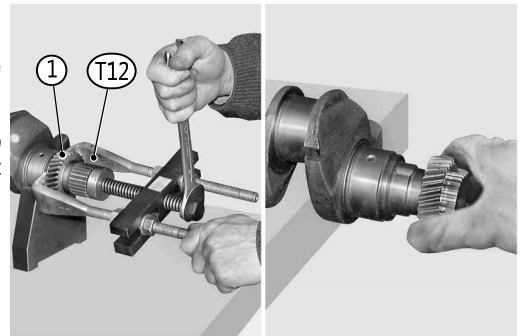
Using puller T12 (P/N 5.9030.008.4/10) to remove timing gear (1) from the crankshaft.

Heat the new gear on a thermostatic hotplate to approx. 100°C and fit it to the crankshaft, making sure that it is located **fully** home against the thrust washer.



NOTE

Check the condition of the key.



3.

6-cylinder version

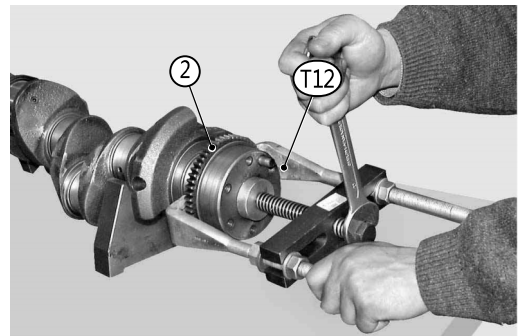
If necessary, renew the lubrication oil pump drive gear.

Using puller T12 (P/N 5.9030.008.4/10), remove oil pump drive gear (2).



NOTE

Remove sealant residues from the crankshaft.




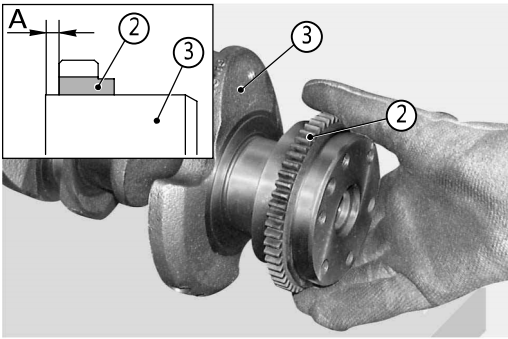
4.

Heat the new gear on a thermostatic hotplate to a temperature approx. 100°C above the crankshaft temperature.

Apply sealant to the area of the crankshaft that will receive the gear.


Fit gear (2) on crankshaft (3) at distance "A" from crankshaft thrust surface (3).

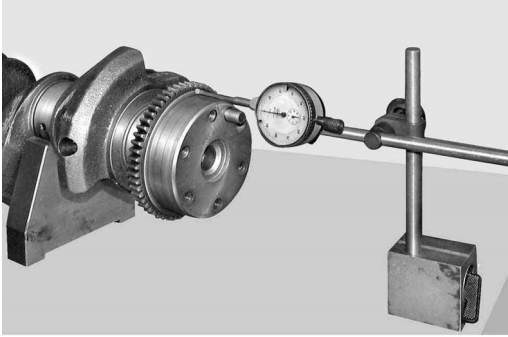
 **NOTE**
A = 0.2...0.5 mm (0.079...0.197 in.).



5.

After cooling the gear, remove excess sealant and check that lateral oscillation of the gear does not exceed 0.1 mm (0.004 in.) at a height of the 116 mm diameter (4.56 in.).

 **NOTE**
If lateral oscillation exceeds 0.1 mm (0.004 in.), use a punch made of soft metal (copper, aluminium, brass) to return the gear to within tolerance.



6.



Flywheel checks

1. The checks relative to the flywheel are as follows:

- o Visual inspection of ring gear conditions.
- o Check radial runout (post-assembly check).
- o Check face runout (post-assembly check).

If the ring gear is damaged, remove it using a puller.



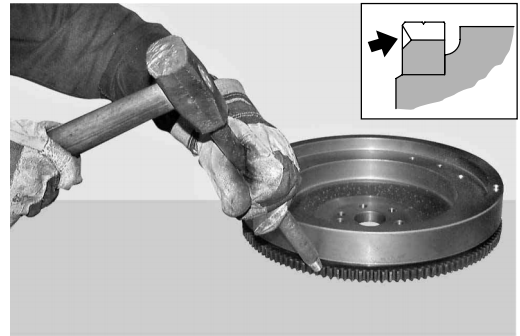
NOTE

Tap the ring gear all the way around until removing it.



NOTE

Note the direction of assembly of the ring gear; The bevelled side of the teeth must face outwards.



2.

Clean the seat with care, heat the new ring gear on a thermostatic hotplate to approx. 100°C and then fit it to the flywheel, making sure that it is fully seated.



3.

After having fitted the flywheel to the crankshaft and tightened down the retaining bolts, use a dial gauge with magnetic stand to check the radial and face runout.



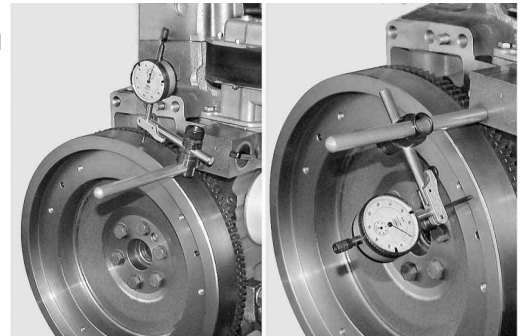
NOTE

The max. permissible error is 0.10 mm (0.004 in.).



NOTE

For the tightening torque, see "ENGINE ASSEMBLY".



4.

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