44 EN

Removing and Installing Camshaft

General

The 1600 and 1600 S engines are equipped with different camshafts. The cam rise for 1600 engines is 33.2 mm (1.307 in.) and for 1600 S engines 35 mm (1.379 in.). Camshaft gears for both engines are cast light alloy.

Removal

1. Disassemble crankcase (36 EN).
2. Remove camshaft.

Installation

The installation is accomplished in the reverse order of removal observing the following points:

1. Check whether the camshaft gear is secure on the camshaft.
2. Inspect the camshaft bearings and cams for wear (worn lift ramps or uneven contact).
   See Tolerances and Wear Limits pages E 110 and E 111.

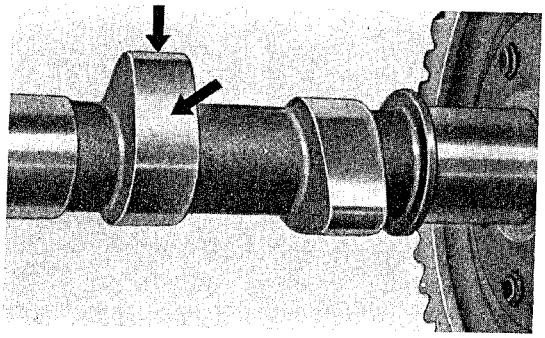

Fig. 219

3. Check the camshaft for trueness.
4. Inspect the camshaft gear for wear and correct gear contact.
5. Install the camshaft so that the gear tooth marked "O" lies between the gear teeth with punch marks.

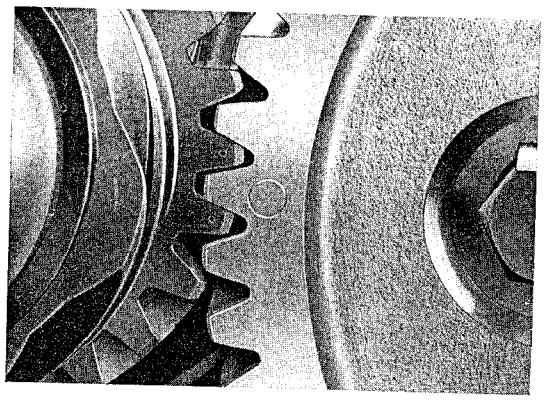

Fig. 220

6. Check the gear tooth clearance around entire circumference of the camshaft gear. The correct clearance between the timing gears is 0.015 to 0.040 mm (.0006 to .0016 in.). This measurement is made using a dial gauge while rotating the camshaft gear back and forth with the crankshaft held stationary.

In order to meet the tolerance requirements, camshaft gears are supplied in five sizes.

Camshaft gears are marked on the cam side −2, −1, 0, +1, +2. This figure indicates how many $^{1}/_{100}$ mm the pitch diameter is greater or smaller than standard size.

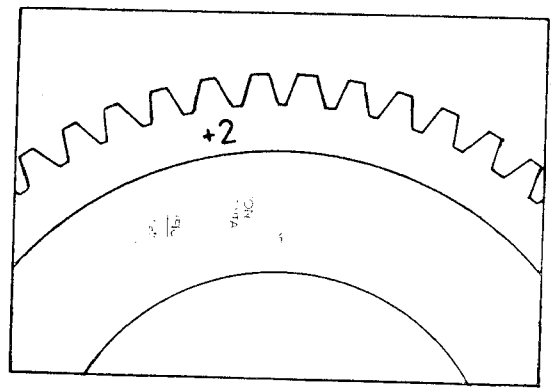

Fig. 221

Size marking on a light alloy camshaft gear. △

Note:

Do not confuse the number "0" with the timing mark "O" on the other side of the gear. The crankshaft gears are available in one size only and have no size marking.