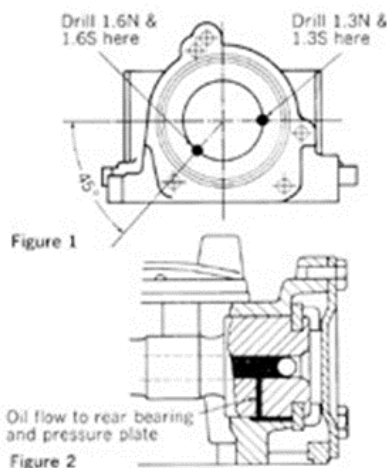


# Special Fitting Instructions when replacing Opel/Vauxhall, AE Camshafts CAM316

**Opel Kadett D & E / Vauxhall Astra & Cavalier, 13S 1297cc O.H.C.**

Prior to engine numbers 13S-814742 and 16S-95245 the engine manufacturer recommends drilling an additional oil channel within the rear camshaft housing. Engines after the above serial numbers already incorporate this modification. Where modification is necessary proceed as follows:-

- Remove the camshaft and carrier from cylinder head. Remove pressure plate and position the old camshaft within the housing so that the camshaft face is flush with the inner face of the rear camshaft journal. Now clamp the camshaft in this position.
- Centre punch on the journal circumference in position shown in figure 1 using a long slim punch.
- Drill a 4mm (.157") diameter x 16mm (.630") deep hole into the camshaft and housing parallel to the camshaft axis using a suitable drill stop or depth mark.

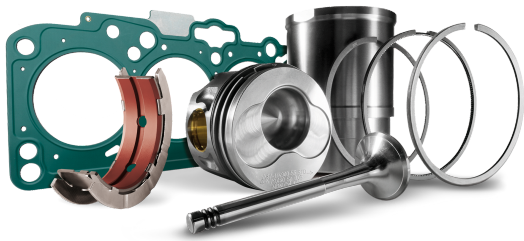


**NEVER DRILL THE HOLE THROUGH THE FULL WIDTH OF THE JOURNAL.**

- Remove drill swarf with compressed air. Withdraw the camshaft and carefully de-burr. Clean the camshaft housing, removing all traces of swarf.
- Figure 2. Illustrates the newly formed oil routing from the camshaft towards the rear camshaft journal and pressure place.
- Figure 2. Illustrates the newly formed oil routing from the camshaft towards the rear camshaft journal and pressure place.

**TAKE THE FOLLOWING PRECAUTIONS BEFORE INSTALLING THE NEW CAMSHAFT AND FOLLOWERS, IRRESPECTIVE OF ENGINE NUMBER**

- a) Replace all of the hydraulic valve lifters
- b) Correctly install the valve spring bed washers. Incorrect installation reduces the valve spring height by 2.6mm (.100"). This causes coil binding which results in excessive follower-to-camshaft pressure.
- c) Cold starting and cold driving behaviour has a significant influence on "running in" of the valve train mechanism due to oil dilution. This is particularly so where an engine has suffered previous camshaft failure. Check the automatic choke device fitted and if necessary, correct in accordance with the manufacturer's workshop manual.



# SERVICE ENGINEERING BULLETIN

## SB2128.1

### Installation

- Coat bearing surfaces of camshaft lobes and followers liberally with molybdenum disulphide paste (MoS<sub>2</sub>).
- Install the new camshaft and followers into the camshaft carrier and re-assemble to the cylinder head. Torque the camshaft pulley to 45NM (32.5 ft/lbs.)
- Drain engine oil. Replace engine oil filter and fill with new engine oil.

### Do not overfill.

Note: Use only SAE15W-40, API classification SF/CC or SAE15W-50, API classification SF/CC. Oil filters for 1300cc engines feature imperial threads and 1600cc engines a metric threads.

### Running in Procedure

To prevent premature camshaft and follower wear the new camshaft assembly requires a careful running in period. It is essential not to allow the engine to idle for extended periods. Adhere to the following schedule for all circumstances: -

STAGE 1:	60 SECONDS AT 2000 RPM
STAGE 2:	60 SECONDS AT 1500 RPM
STAGE 3:	60 SECONDS AT 3000 RPM
STAGE 4:	60 SECONDS AT 2000 RPM

### IMPORTANT

It is essential to change the Engine oil after the initial 1000 km/600 miles service.

Replacing the engine oil filter is unnecessary.

**Do not overfill above the "max" dipstick mark.**