



Fig. 37. Cylinder head bolt tightening sequence

A new gasket should be used. Gaskets are ready for use and no jointing compound should be put on them. The word TOP is stamped on the gasket upper face, and the gasket should be fitted with this face uppermost.

A NEW SMALL RUBBER JOINT RING THAT SEALS THE OIL FEED HOLE TO THE CAMSHAFT BEARINGS SHOULD BE PUT IN PLACE. A dummy stud can be used to locate the cylinder head gasket which tends to move away from its position due to the sloping position of the cylinder block face. The dummy stud should have a screwdriver slot in it, so that it can be removed after the cylinder head bolts locate the cylinder head and gasket.

Turn engine so that pistons are half-way down the cylinder bores. This is to allow the valves to open without touching the piston crowns when the camshaft is rotated for checking the valve clearances, before replacing the timing chain.

The timing chain is fed through the cylinder head and allowed to lay over the cylinder head edge.

The cylinder head bolt threads MUST be dipped in Shell Ensis 256 oil before the bolts are put in place.

Replace cylinder head and tighten cylinder head bolts 1 to 10 to correct torque given in the Data Section in the order shown in Fig. 37. The nuts A and B are tightened last of all to 15 lbs.ft. (2.07 kg.m).

Replace tappet housing.

Replace tappet shims.

Replace tappets.

Replace the camshaft and camshaft sprocket wheel so that the camshaft can be turned for checking valve clearances.

Cylinder head bolt tightness should be rechecked when the engine is COLD after the first 500 miles of running in all the following instances:—

1. On all new cars.
2. On all replacement engines.
3. After fitting a new cylinder head gasket.

The Churchill special spanner RG355, shown in use in Fig. 38, allows this to be done without removing the camshaft and tappet housing.



Fig. 38. Churchill spanner RG355 for tightening cylinder head bolts with camshaft in position

**IMPORTANT NOTE**

WHEN CHECKING CYLINDER HEAD BOLT TIGHTNESS EACH CYLINDER HEAD BOLT SHOULD BE SLACKENED OFF SLIGHTLY, AND RE-TIGHTENED TO THE CORRECT TORQUE, **ONE AT A TIME**, IN THE ORDER SHOWN IN FIG. 37. THIS ENSURES