

The four hexagon socket screws M 8 at the front of the cylinder head should be tightened by hand.

**After tightening the cylinder head screws check whether the camshaft can be turned easily by hand.**

**For the final tightening of the cylinder head screws on the warm engine proceed as follows:**

Warm up the engine under slight load until the cooling water temperature reaches 80° C. Run the engine for another 5 minutes at this cooling water temperature and then tighten the cylinder head screws to **9 mkg** in the sequence indicated above.

After a road test or after a mileage of no more than 20 km check the tightening torque of the cylinder head screws (9 mkg.) Do not force the engine during the road test.

After the road test also check all unions for leakage and all screws for tightness and, if necessary, retighten.

Finally check the tappet clearance once more with the **engine cold**.

After the car has run a further 500 km carry out a third check on the tightening torque of the cylinder head screws with the engine at normal running temperature; the tightening torque must be **9 mkg**.

## **D. Removal and Installation of Generator and Starter**

a) **Removal and Installation of Generator, see Job No. 15-11.**

b) **Removal and Installation of Starter, see Job No. 15-0.**

## **E. Removal and Installation of Water Pump with Fan**

Repair procedures see Job No. 20-5.

On Models 180 a, 180 b, 190 SL, 220 a, 219, 220 S, and 220 SE, with the exception of the pump on Model 190 SL, the removal and installation procedures are the same as for Model 190.

The usual by-pass line (8) (Fig. 01-4/40) is not installed in Model 190 SL, since the line heating the intake pipe also serves as a by-pass line. The threaded union (10) in the water pump housing has been replaced by a screw plug (Fig. 01-4/41). Furthermore, the hub pressed onto the water pump shaft and to which the pulley and the fan are fixed has four threaded bores, whereas on all other models pulley and fan are fastened with only three screws.

The water pumps of Models 180 a, 180 b, 190, 220 a, 219, 220 S, and 220 SE with the same capacity are interchangeable, whereas the pulleys vary in size (see table).

### **Pulley for Water Pumps**

| Model                          | 180 a, 180 b, 190, 190 b,<br>220 S | 190 SL | 220 a, 219,<br>220 SE |
|--------------------------------|------------------------------------|--------|-----------------------|
| External diameter<br>of pulley | 138                                | 125    | 149                   |