

Crankshaft with bearings

The crankshaft is cast alloy. It is carried in four main bearings. No. 2 bearing functions as thrust bearing for taking up end thrust. Oil seal rings and bearing journals are key connected rods. The crankshaft has oil seal passages for lubricating oil.

The replaceable bearing shells for both the big end and main bearings are steel backed and faced with bearing metal.

Camshaft

The camshaft is manufactured of special alloy cast iron and is located between the two banks of cylinders, where it is supported in five steel backed ball bearings. It is driven by an outside pusher type chain. The camshaft gear is a nylon type ring gear. The camshaft gears are made of steel.

Valve lifters

The valve system is fitted with hydraulic valve lifters which are located in holes in the block above the camshaft and are connected directly to the camshaft. See Fig. 14.

Oil is fed to all the valve lifters through galleries in the engine lubricating system. As oil enters the lifter from under the lifter plunger. See Fig. 5. When the lifter presses the push rod upwards, the check ball closes and the plunger then seals against the oil cushion which rises in the same time. A damping function against cushioning impacts. At rest position, a spring presses the lifter body against the cam on the cam shaft and the plunger on the push rod. The small quantity of oil which leaks out between the body and the plunger is replaced in the resting position, when the engine oil pressure opens the check valve. In this way, the valve lifters eliminate all lost clearance in the valve mechanism even during different operating

conditions and temperatures. No adjustment of the valves' push needles is to be carried out.

The movement of the valve lifters is transmitted to the rocker arms on the push rods. The arms are made of die cast aluminium and have main holes in the contact surfaces for the push rods and valve stems.

Connecting rods, pistons and piston rings

The connecting rods are made of dropped forged steel. The piston pins are mounted in the pistons and are a press fit in the upper end of the connecting rods.

The pistons are made of aluminium alloy and each has two compression rings and an expanding oil control ring. The top compression ring is chromium plated, the bottom the steel on the cylinder

Lubricating system

The engine is equipped with a force feed lubricating system. Pressure for discharging the oil comes from a gear driven pump, which is operated by the distributor shaft gear and is located in the timing gear cover. Oil is drawn from the sump through filter holes in the crankcase and the timing gear cover by the pump and is then conveyed under pressure to the moving parts of the engine.

The oil filter is fitted in a nipple on the pump housing and is replaceable as a complete unit. Both the inlet valve and the outlet valve are located in the pump. The inlet valve opens if the oil filter becomes blocked, so that oil flows on from the sump into the engine.

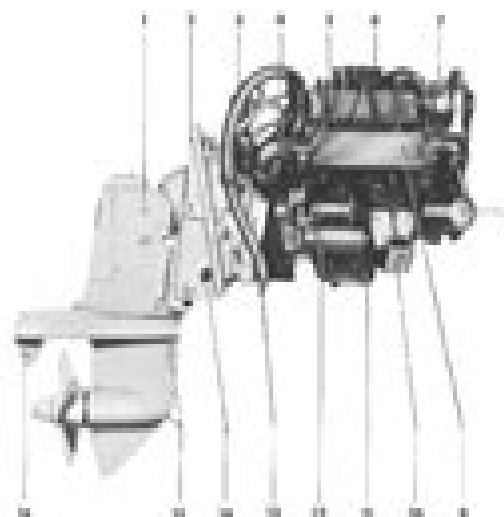


Fig. 2 AQ125 AQ130, viewed from the starboard side

- | | |
|--|--|
| 1. Cylinder block | 11. Water coolant pump housing |
| 2. Thrust plate | 12. Timing gear housing |
| 3. Oil separator for cooling water | 13. Sump |
| 4. Distributor housing drive shaft cover | 14. Distributor |
| 5. Thrust plate cover | 15. Distributor oil separator |
| 6. Water pump | 16. Substratum for expanding |
| 7. Oil filter | 17. Cooling water inlet |
| 8. Camshaft | 18. Crankshaft cooling water and oil return gear cover |

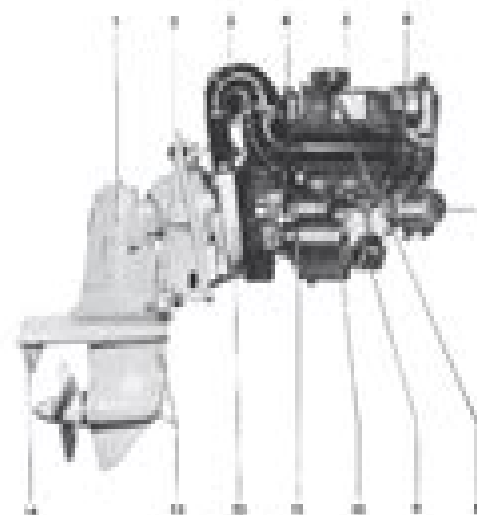


Fig. 3 AQ130 AQ130, viewed from the starboard side

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|--|--|
| 1. Cylinder block | 11. Water coolant pump housing |
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Volvo Penta Aq 120b Manual

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