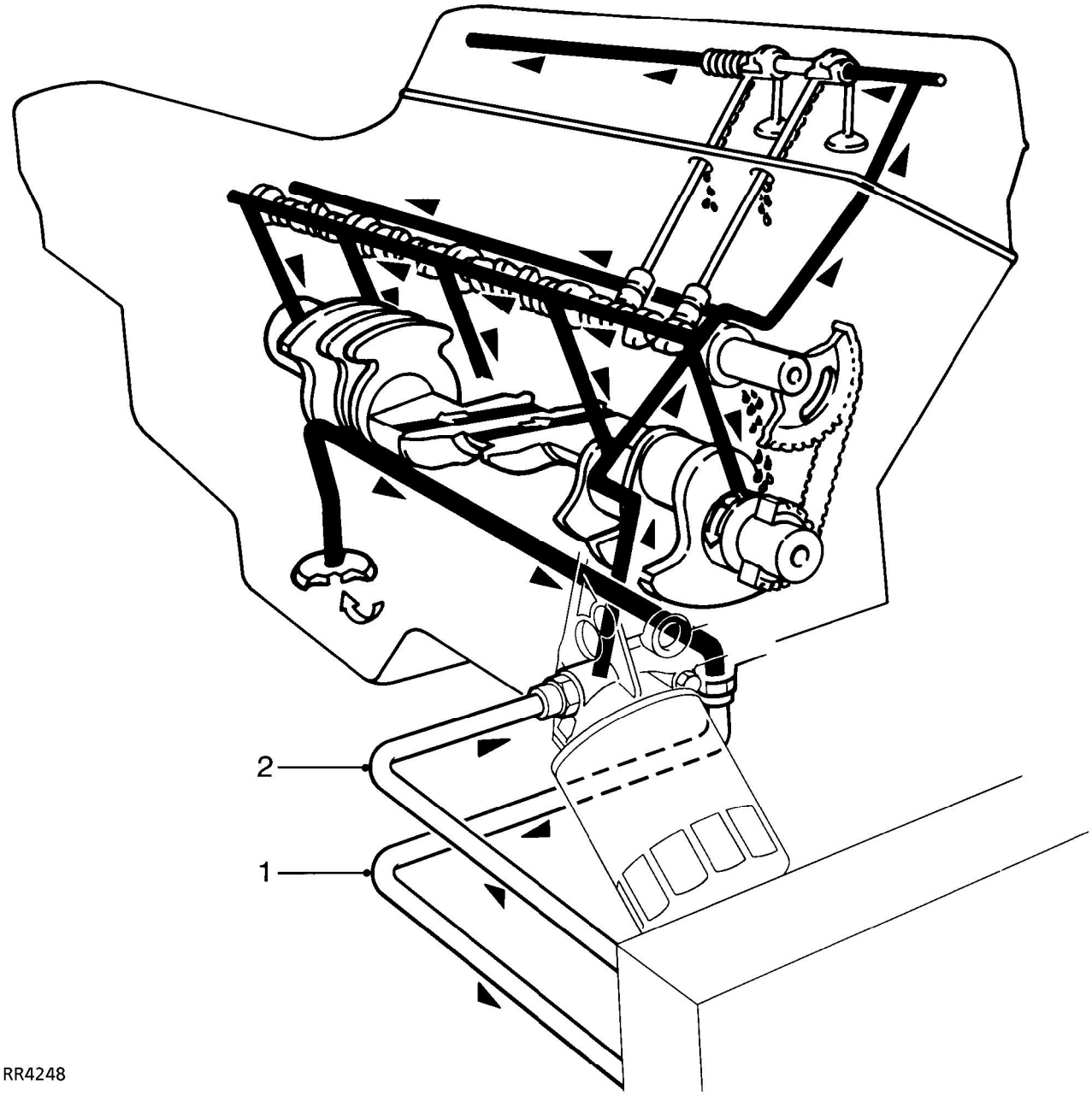
Lubrication system

The V8i full flow lubrication system uses a gear type oil pump which is driven from the front of the crankshaft. The oil pump gears are housed in the front cover and the pressure relief valve, warning light switch and filter are also fitted to the front cover.

Oil drawn through the centrally located steel gauze strainer in the sump, is pumped under pressure through oil cooler located in the lower half of the main coolant radiator. The cooled oil then passes through the filter, before being distributed from the main gallery via drillings, to the various components in the engine.

Lubrication to the thrust side of the cylinders is by oil grooves machined in each connecting rod big end joint face, which are timed to align with holes in the big end journals on the power and exhaust strokes.



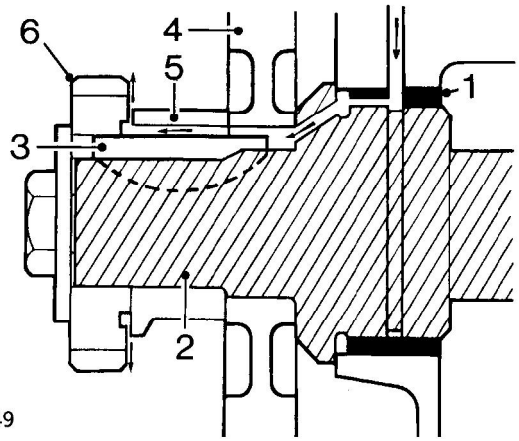
RR4248

Lubrication system

1. Oil to cooler
2. Oil from cooler

Distributor and timing chain lubrication

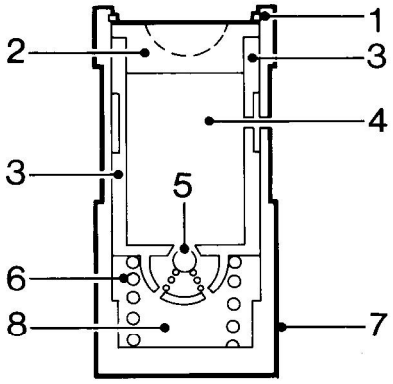
The distributor and timing chain are lubricated from the camshaft front bearing. The feed to the timing chain is channelled along the camshaft sprocket, key and spacer where it sprays onto the chain.



RR4249

1. Bearing
2. Camshaft
3. Key
4. Camshaft timing chain sprocket
5. Spacer
6. Distributor drive gear

Hydraulic tappets



RR4250

1. Clip
2. Pushrod seat
3. Inner sleeve
4. Upper chamber
5. Non-return ball valve
6. Spring
7. Outer sleeve
8. Lower chamber - high pressure

The purpose of the hydraulic tappet is to provide maintenance free and quiet operation of the inlet and exhaust valves. It achieves its designed purpose by utilizing engine oil pressure to eliminate the mechanical clearance between the rockers and the valve stems.

During normal operation, engine oil pressure present in the upper chamber 4, passes through the non-return ball valve 5 and into the lower (high pressure) chamber 8.

When the cam begins to lift the outer sleeve 7, the resistance of the cylinder valve spring felt through the pushrod seat 2, causes the inner sleeve 3, to move downwards inside the outer. This slight downward movement of the inner sleeve closes the ball valve 5 and increases the hydraulic pressure in the high pressure chamber, sufficient to ensure that the push rod opens the valve fully.

As the tappet assembly moves off the peak of the cam the ball valve 5 opens to equalize the pressure in both chambers which ensures that the valve fully closes when the tappet is on the back of the cam.