

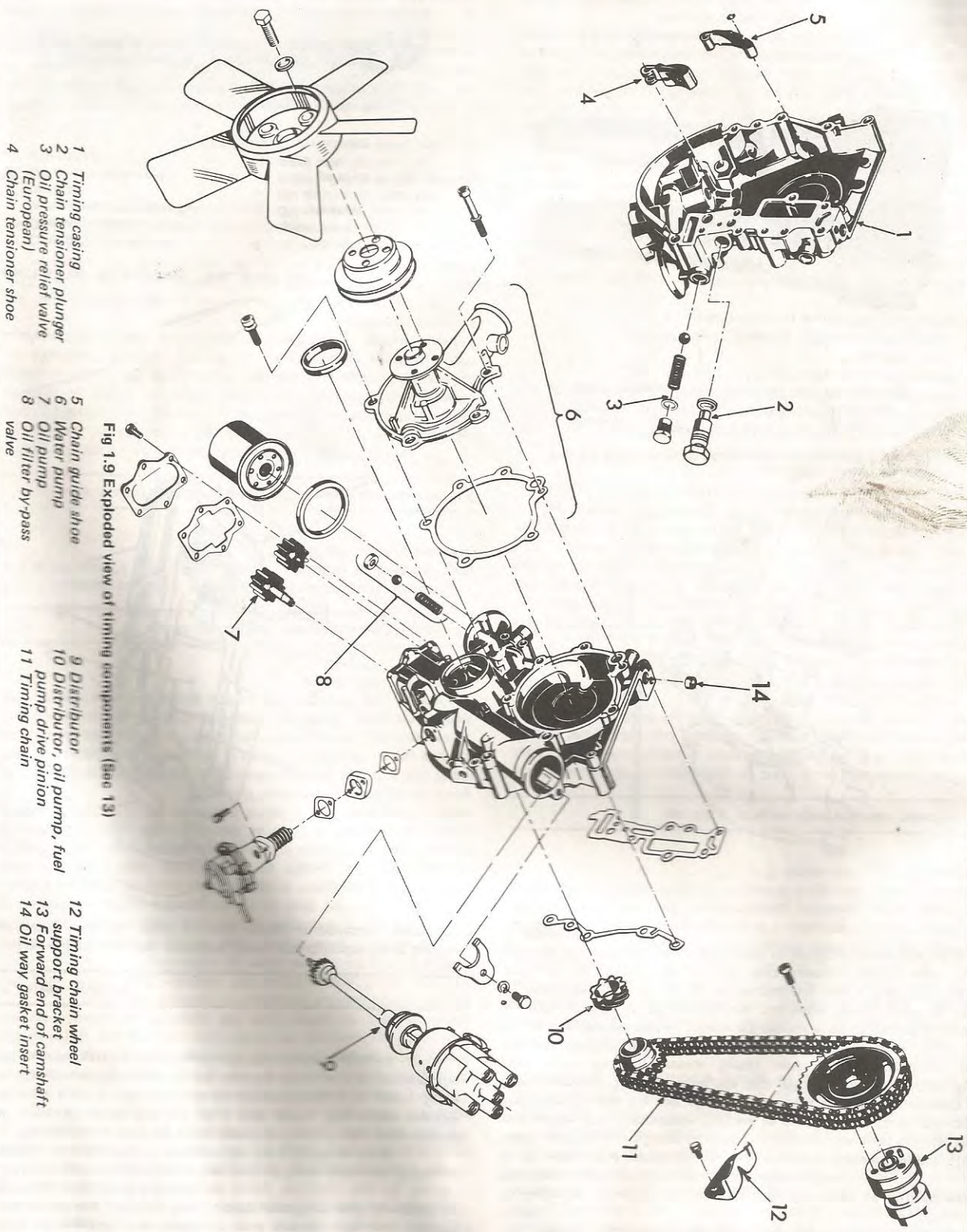
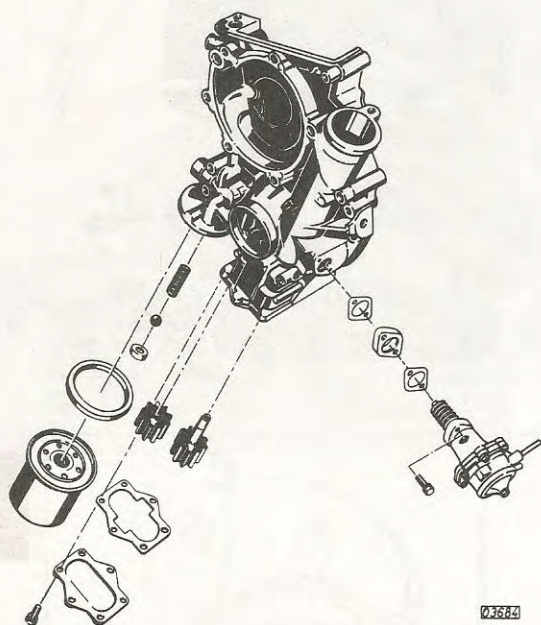


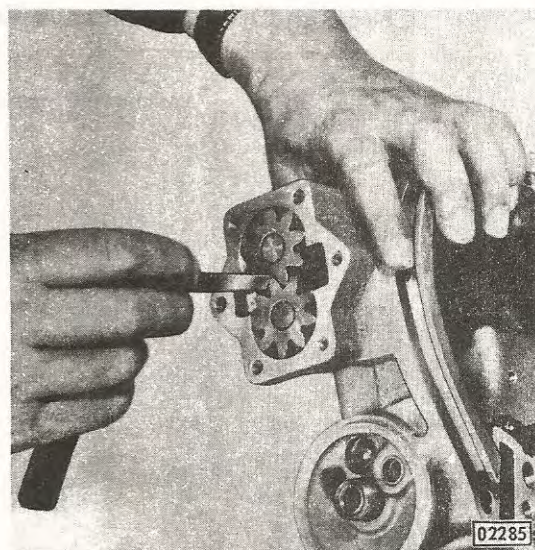
Fig 1.9 Exploded view of timing components (See 1.3)

Overhauling Oil Pump

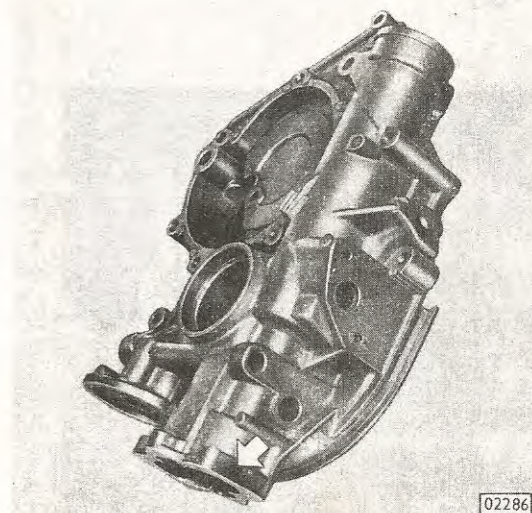


Check end clearance of gears. To do this, individually place gears without oil into pump and measure end clearance using a straightedge and a feeler gauge. Permissible clearance exists, if gear faces protrude 0 to .004 in. (0.10 mm) over cover contacting surface. Pump cover worn by gears must be replaced.

With feeler gauge check gear backlash.
It should be between .004 in. (0.10 mm)
and .008 in. (0.20 mm).

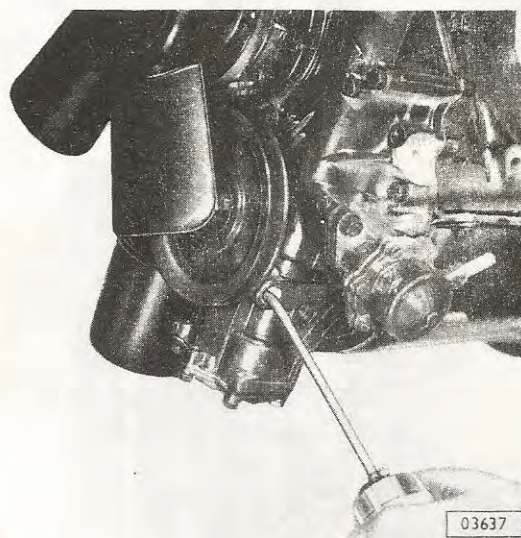


When overhauling oil pump, it has to be borne in mind that in individual cases timing cases are installed in production in which the bores for gears and shafts have .008 in. (0.2 mm) oversize. This may apply to both gears but also to one gear. Such an oversize can be identified by a "02" which is stamped into the straight web of the pump housing on the right or left side or on the right and left side.



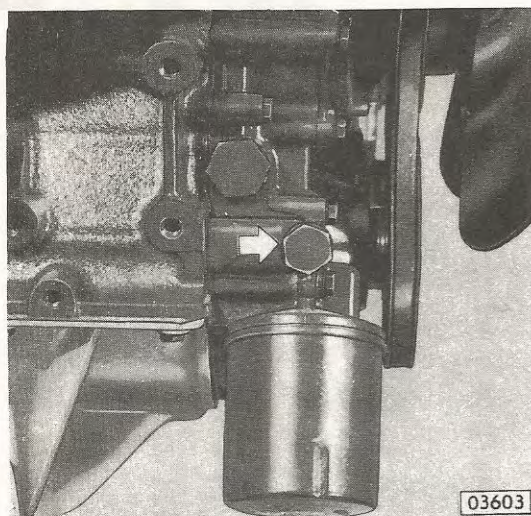
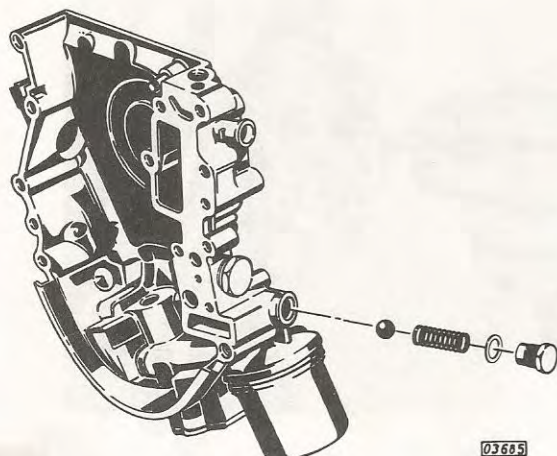
Liberal oil gears and install them together with cover and new gasket.

Remove plug from oil pump housing and prior to starting engine fill pump with engine oil.



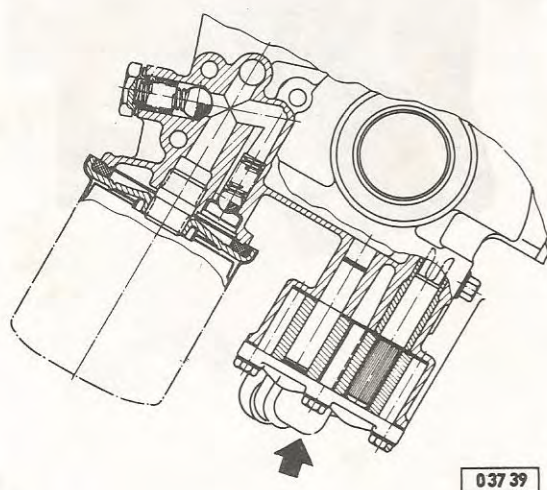
Checking Oil Pump Pressure Regulator Valve For Proper Operation

In case of symptoms caused by insufficient oil pressure - oil pressure indicator lamp lights up - always check oil pump pressure regulator valve for proper operation.



Unscrew plug and check spring and valve ball for free operation and dirt particles. If required, clean and free valve ball.

On assembly lightly tap ball - old or new one - onto ball seat, using a brass drift, to allow ball to seat itself properly.



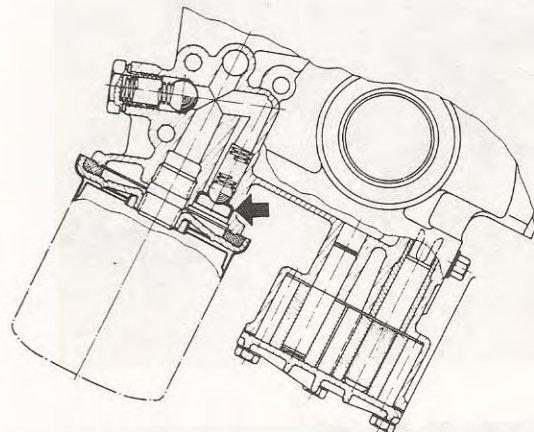
The oil pump pressure regulator valve of the 1.9 ltr. US-engines is located in the oil pump cover. If the oil pump cover was removed, make sure on reinstallation that the plug points to vehicle rear end.

Replacing Oil Filter Pressure Relief Valve

Remove and install oil filter element.

With a suitable drift remove valve sleeve located below attaching flange. Make sure that sealing area for filter element is not damaged.

Clean bore and passage with compressed air. Insert new spring and valve ball and with a suitable drift drive in new valve sleeve so that open sleeve side faces downwards.



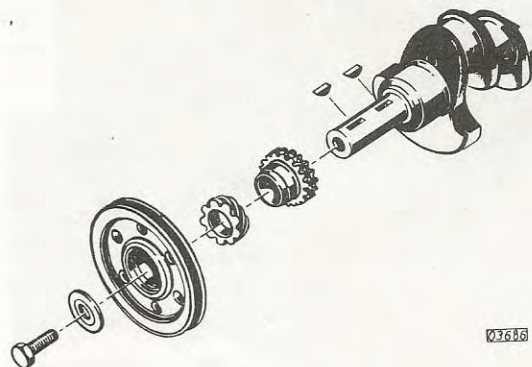
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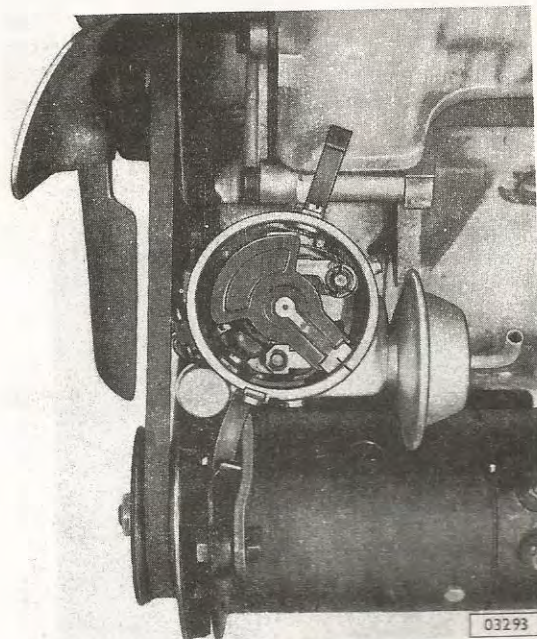
Replacing Distributor Drive Gear

Remove distributor cap and condenser plate.

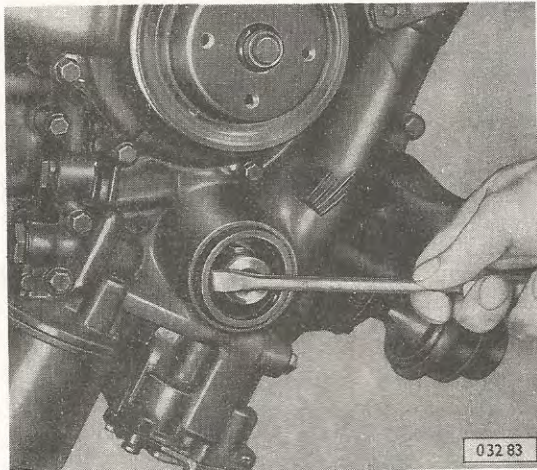
Turn crankshaft until notch on rotor tip aligns with notch on distributor housing.



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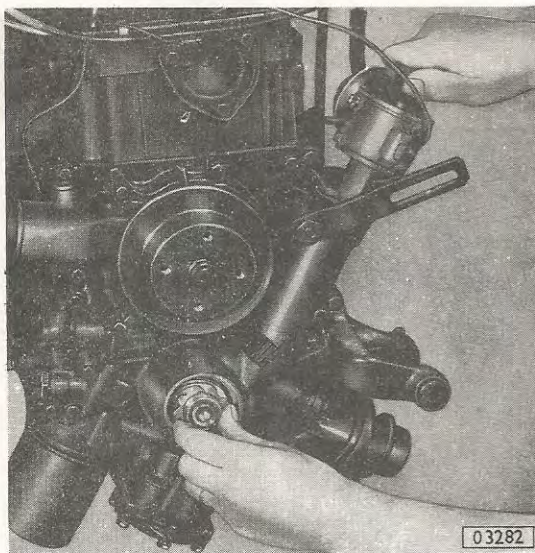


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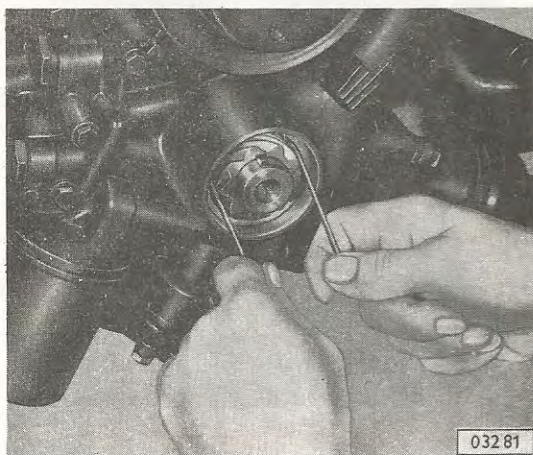
Remove crankshaft pulley.

With a screwdriver remove oil seal from timing case. Oil seal cannot be reused and has to be replaced.



By turning rotor of distributor counter-clockwise push helical gear on crankshaft journal outward, so that it can be pulled out by hand (helical gear has a sliding fit).

Should it not be possible to move the helical gear by turning the rotor, prepare two hooks from 3 mm welding rod bending them at one end approx. 5 mm at right angles. With these hooks pull helical gear off crankshaft journal.



As soon as the helical gear is no longer in mesh with the distributor driven gear, leave distributor rotor in this position (for easier installation). After installation of the new helical gear the distributor rotor must be in the same position as before, i.e. the notch on the rotor tip must be in alignment with the notch on distributor housing. Should this initial position not be obtained, remove helical gear from its seat again and stagger distributor driven gear one tooth by turning rotor accordingly. Check as to whether proper position has been obtained.