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SERVICE MANUAL

NISSAN CEDRIC

MODEL 31 SERIES



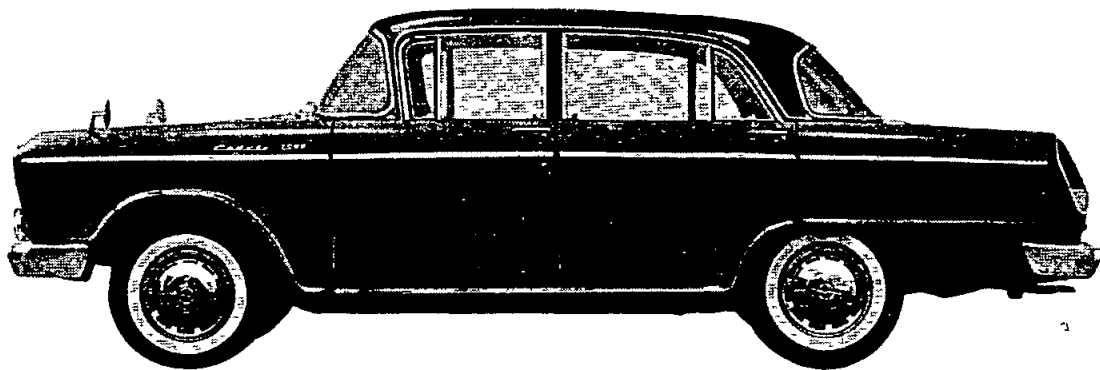
NISSAN MOTOR CO., LTD.

**OTEMACHI BLDG., OTEMACHI, CHIYODA-KU,
TOKYO, JAPAN**

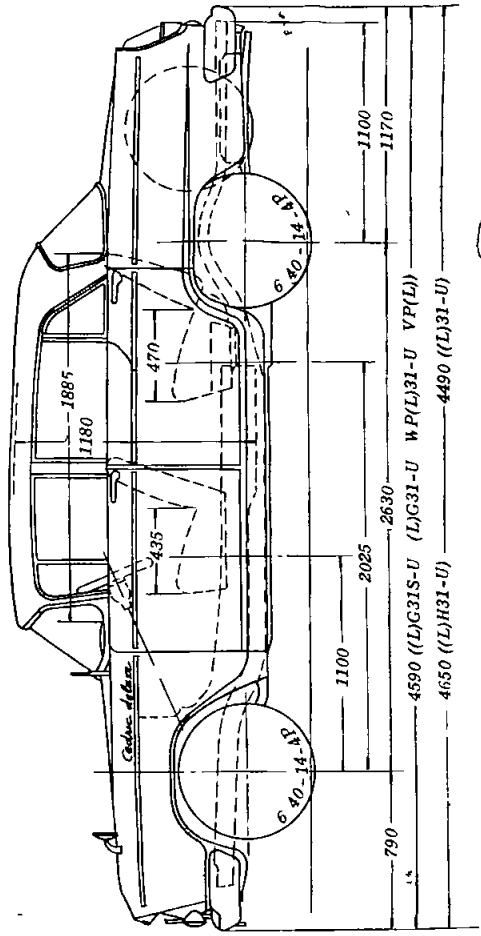
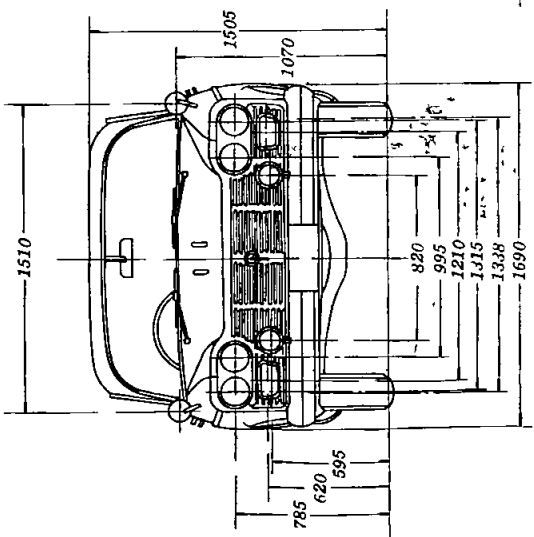
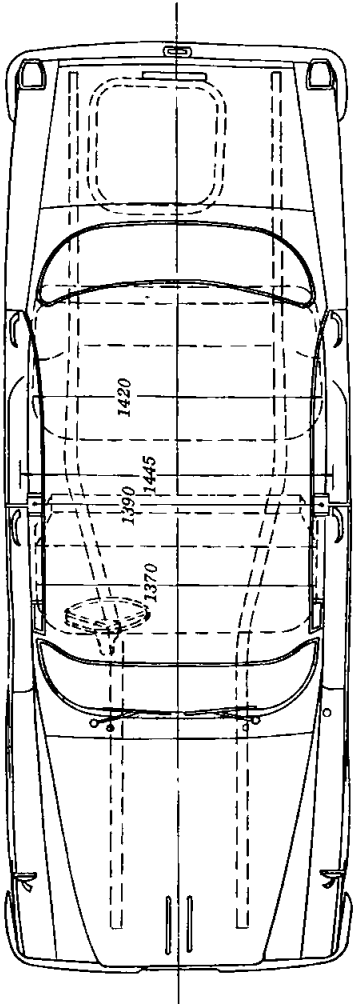
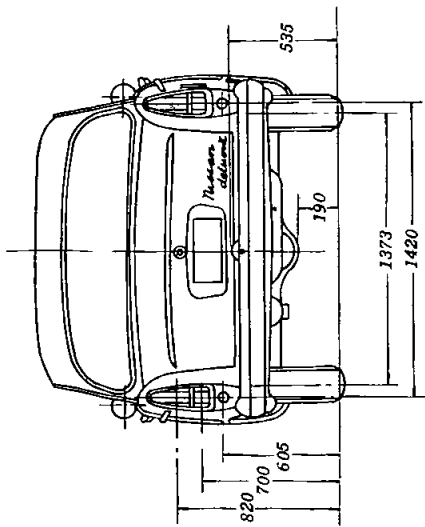
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STATE OF ILLINOIS



NISSAN CEDRIC Model 31



DIMENSIONS OF NISSAN CEDRIC

INTRODUCTION

This manual has been compiled for purpose of assisting our distributors and dealers for effective service and maintenance of the model 31 Series. Each assembly of the major components is described in detail. In addition, comprehensive instructions are given for complete dismantling, assembling, and inspection of these assemblies

It is emphasised that only genuine Spare Parts should be used as replacements

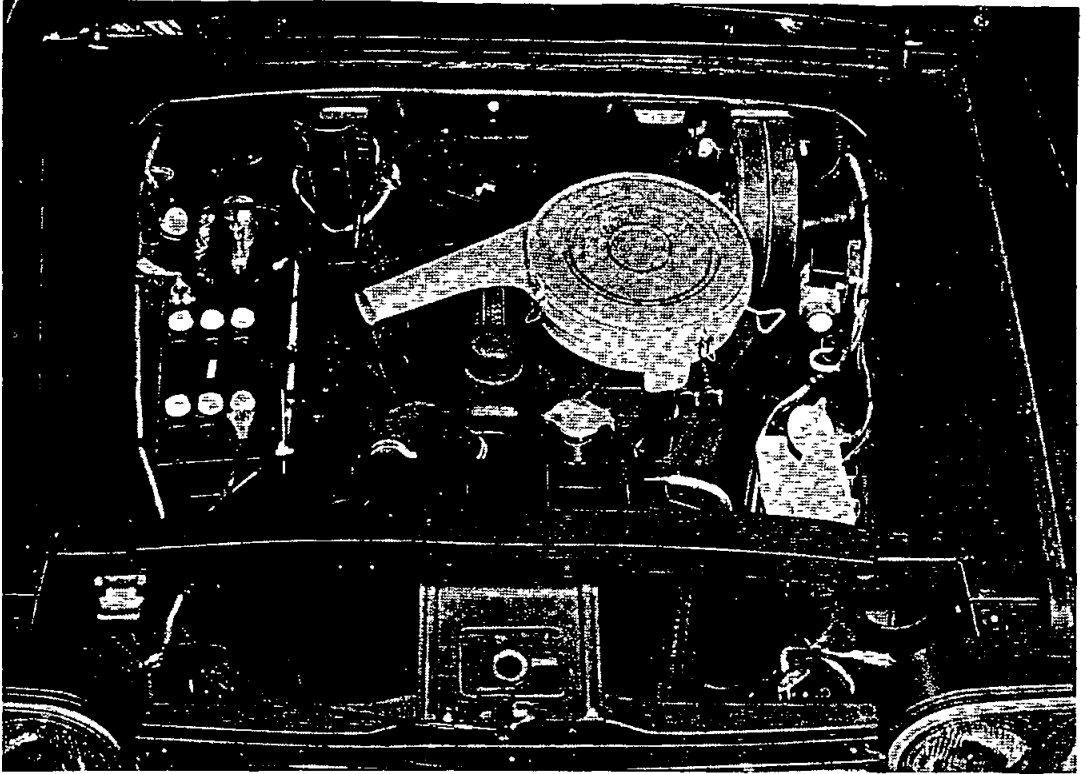
GENERAL SPECIFICATION

DIMENSIONS	(L)G31S-U *((L)G31-U Delux	L31-U	WP(L)31-U **((VP(L)31-U)	(L)H31-U
Overall length	4590mm.	4490mm.	4690mm.	4650mm.
Overall width	1690mm.	1690mm.	1690mm.	1690mm.
Overall height	1505mm.	1505mm.	1520mm. (**1530mm.)	1505mm.
Wheel base	2630mm.	2530mm.	2530mm.	2690mm.
Tread, front	1338mm.	1338mm.	1338mm.	1338mm.
Tread, rear	1373mm.	1373mm.	1373mm.	1373mm.
Road clearance (Room or Rear Body)	190mm.	190mm.	190mm. (200mm.)	190mm.
Interior length	1885mm.	1785mm.	2730mm. *(1750/990mm.) (3 persons (6 persons +500kg.) +400kg)	1945mm.
Interior width	1390mm.	1390mm.	1390mm.	1390mm.
Interior height	1180mm.	1180mm.	1185mm. (950mm.)	1180mm.
WEIGHT				
Vehicle weight	1210kg. (*1240kg.)	1180kg.	1350kg. **((1315kg.)	1260kg.
Seating capacity (persons)	6	6	8 (3 6)	6
Max. loadage	-	-	- (500/400kg)	-
Gross vehicle weight	1540kg. (*1570kg)	1510kg.	1790kg **((1980/2045kg.)	1590kg.
PERFORMANCE				
maximum speed	140km/h (88m/h)	130km/h (81m/h)	140km/h (130m/h)	140km/h
Fuel consump- tion	15km/liter	17km/liter	- (**15.5km/liter)	15km/liter
Grade ability (sin θ)	0.506 (*0.496)	0.420	0.433 (**0.370)	0.490
Minimum turning radius	5.6m.	5.4m.	5.4m.	5.7m.
Stopping distance (Initial speed 50 km/h)	14.3mm.	14.3m	14.3m.	14.3m.

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ENGINE



ENGINE

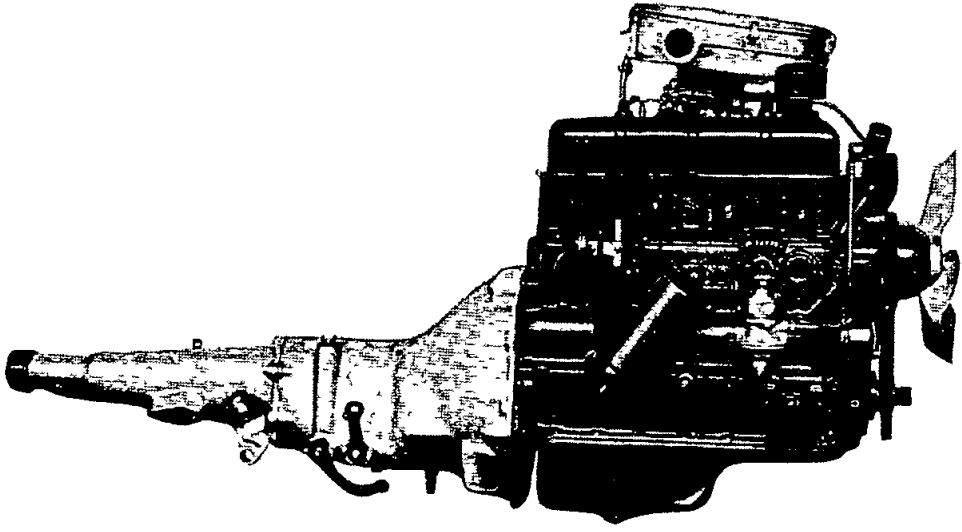
The engine is of monobloc construction, and is fitted with overhead valves operated by rockers and push rods from the camshaft. Oil seals are fitted to the valves. Three steel backed bearings support the camshaft which is chain driven.

The oil pump and distributor are driven from the camshaft, each component having its own drive shaft.

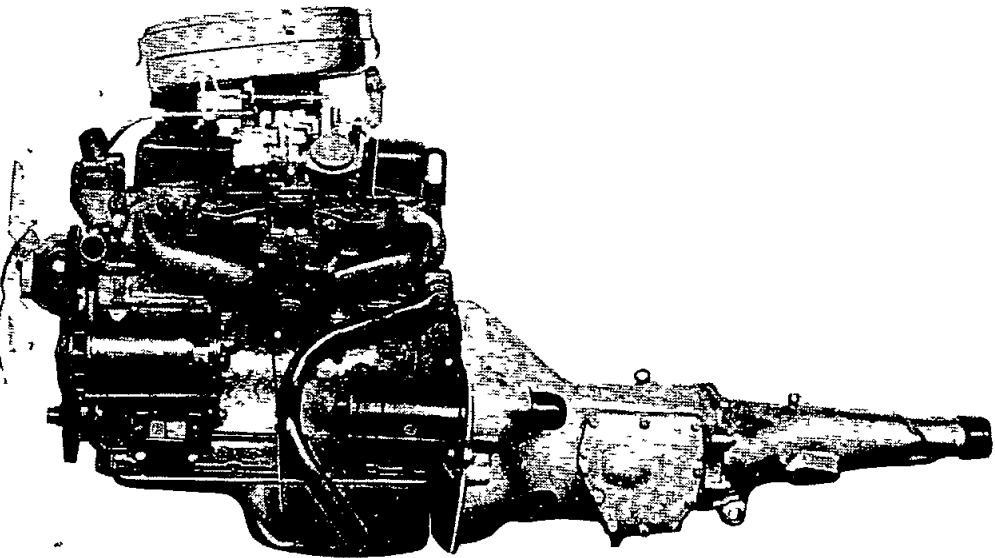
The pistons are each fitted with two compression rings and a slotted oil control ring. Bearings of the thin shell preformed type are fitted to the connecting rod big ends and to the main bearings. A counter-blanced crankshaft is fitted. The centrifugal water pump and cooling fan are driven by the dynamo belt.

GENERAL SPECIFICATIONS

Model	H (Engine)	G (Engine)
Type	Over head valve 4 cly. 4 cycle	
Bore x Stroke	85 x 83 mm (3.35 x 3.27 in)	80 x 74 mm
Total piston displacement	1.883 cc	1.488 cc
Compression ratio	8.5 : 1	8.0 : 1
Brake horse power	88/4800 (PS) 95/5000 ((SAE))	71/5000 (PS) 77/5200 ((SAE))
Max. torque	15.6 kg(113.7 lb. ft / 3200 rpm (PS)) 16.6 kg(120 lb. ft ((SAE))	11.5 kg(83 lb. ft / 3200 rpm (PS)) 12.0 kg(87 lb. ft / 3600 ((SAE))
Firing order	1 - 3 - 4 - 2	1 - 3 - 4 - 2
Compression	12.0 kg/cm ² (172 lb/in ²) 300 rpm	11.0 kg/cm ² (158 lb/in ²) 300 rpm



Engine-Right Side



Engine-Left Side

Draining the Oil

The oil pan is a metal pressing with the drain plug.

On new and reconditioned engines the oil must be drained and refilled with new oil after the first 1,000 km, and subsequently at intervals of 5,000 km.

Drain the oil when the engine is hot since warm oil flows freely and takes with it any sludge or sediment which may have accumulated.

Never use petrol or paraffin for flushing purposes. Such cleaning mediums are never completely dispersed from the engine lubrication system and will remain to contaminate any fresh oil. This may cause premature bearing failure.

Oil Pressure

The normal operating oil pressure is 1 kg/cm²/550 rpm (14.22 lb/in²/550 rpm) at idling speed, and 3.4 kg/cm²/2000 rpm (26.56.8 lb/in²/2000 rpm).

Refilling

When refilling the sump do not pour the oil in too quickly, as it may overflow from the filler orifice and mislead the operator as to the quantity of lubricant in the engine.

Before testing the level of the oil, ensure that the vehicle is as near level as possible. Always wipe the dipstick clean with a non-fluffy cloth before taking the reading. It should be remembered that time must be allowed for new oil to reach to sump before reading the dipstick.

Check for Low Oil Pressure

The oil pressure gage is installed at the instrument panel. The ignition switch is turned on and when the engine started firing and the oil pressure increase normally as before mentioned.

Should it keep normal pressure during the engine running, it is result of the oil pressure down too low or the shortage of oil in the oil pan. Check the level of oil in the oil pan by means of the level gage and top up if necessary. If the pressure is still too low after refilling the oil, switch

off and ascertain that the strainer is clean and not choked with sludge, also that no air leakage exists at the strainer union on the suction side of the pump.

In the case of oil pump being defective, remove the unit to rectify the fault

If the engine bearings are worn the oil pressure will be reduced. A complete bearing overhaul and the fitting of replacement parts is the only remedy, necessitating the removal of the engine from the chassis

LUBRICATION

Circulation

Pressure lubrication is used throughout the unit and is provided by gear pump nondraining

The oil pump is bolted under the crankcase, and is driven from the camshaft gear by a short vertical shaft. Oil drawn into the pump through the strainer and is delivered through internal oil ways

The flow then passes through drillings in the crankshaft. The connecting rod linds are drilled for jet lubrication to the cylinder walls. From the rear camshaft bearing the oil passes upward through a drilling in the cylinder block and the rear rocker shaft bracket, to lubricate the rockers, and then drains back into the oil pan via the push rod apertures

Oil from the center camshaft bearing enters a gallery on the left-hand side of the engine and lubricates the tappets through individual drillings

As the camshaft rotates, groove in the front journal register with a small hole in the camshaft locating plate thus all owing a small amount of oil to pass into the timing case during each revolution of the camshaft to provide lubrication for the timing chain and gears

From the timing case the oil returns via a drain hole back to the oil pan.

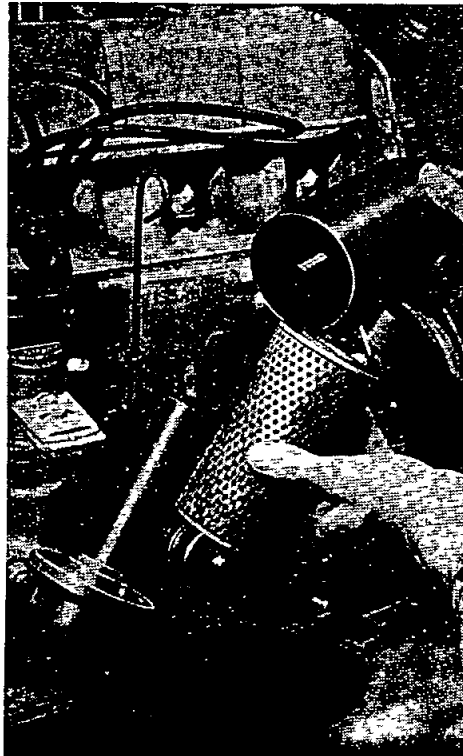


Fig 1

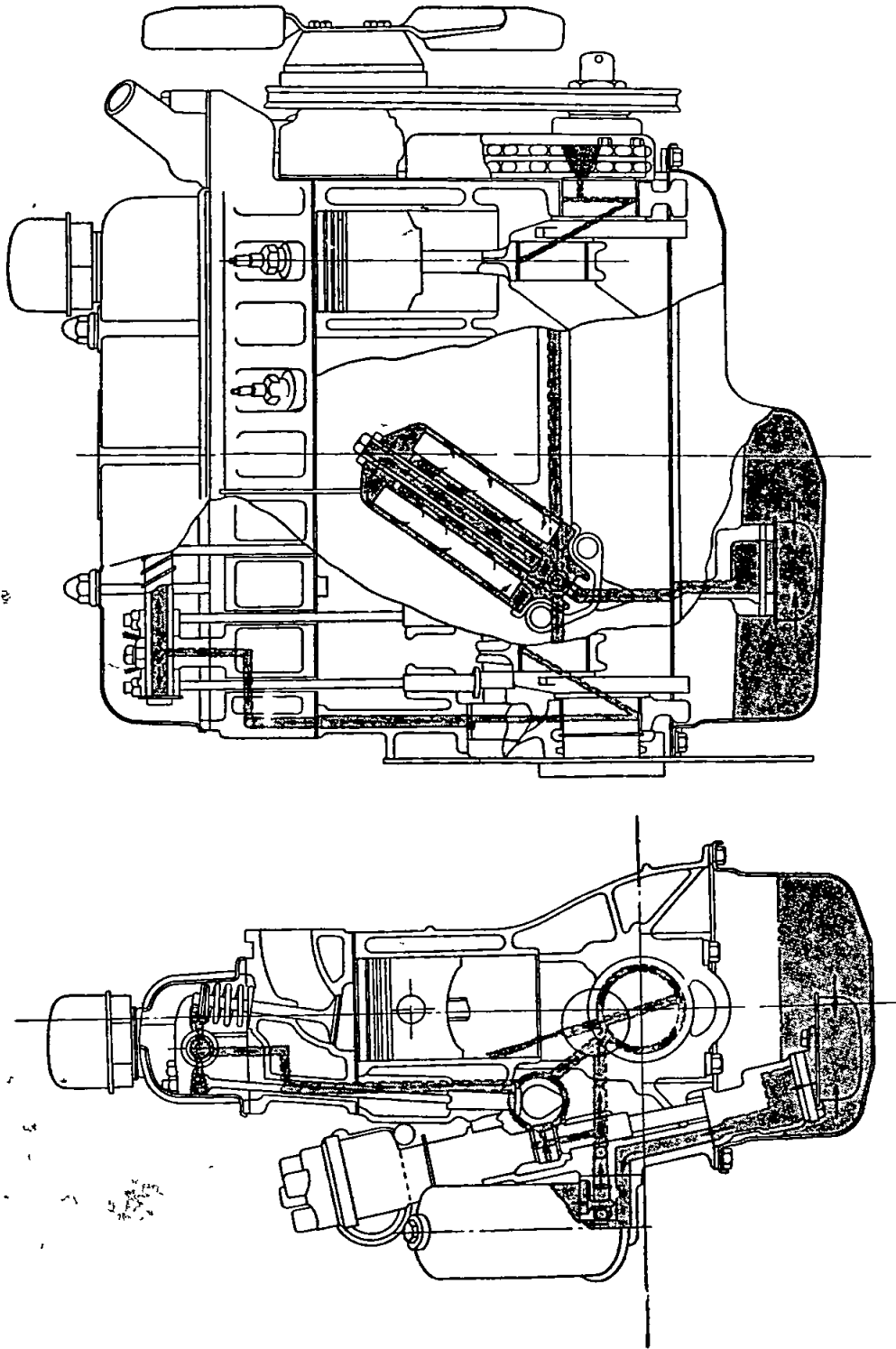


Fig 2 Oil Lubrication System

This illustrates the flow of oil from the oil pan through the oil pump to the main gallery, bearing and overhead rocker arm.

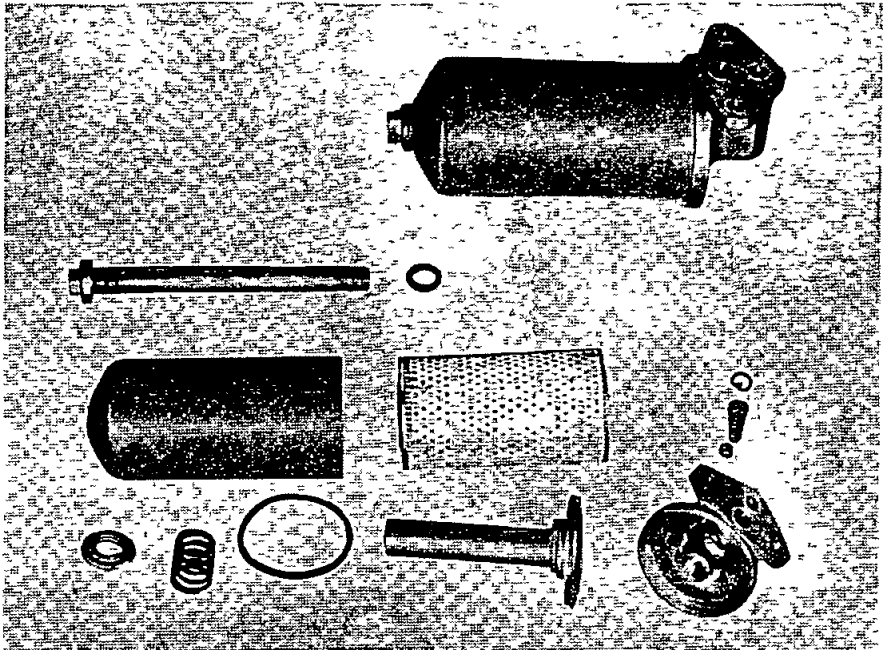


Fig 3 Component of oil filter

Removing the By-pass Filter

A new filter element should be fitted every 15,000 km

The filter forms part of the main oil gallery of the engine. To remove the filter it is only necessary to unscrew the center bolt when the bowl can be removed from the crankcase, complete with the element. Take care not to lose the rubber sealing ring. Remove the element and note the assembly of the components.

Wash out the bowl with petrol, so that it is clean. It is important to thoroughly dry the bowl to obviate any contamination of the lubricating oil.

Replacing the Filter

With the center bolt, the washer and the spring together with the collar in position in the bowl, insert a new element. Place the distance piece over the center bolt with the flanged end towards the element. The bowl of filter must now be filled with oil. Offer up the complete assembly to the engine and secure into position by means of the center bolt.

Removing the Oil Pan

The sump capacity is 3.1 litres. Drain the oil and replace the drain plug.

Remove the set screw bolts which are inserted from the underside of the securing flange, and the lower bolts from the bottom edge of the bell housing. Lower the oil pan from the engine, taking care not to damage the joint washers in the process.

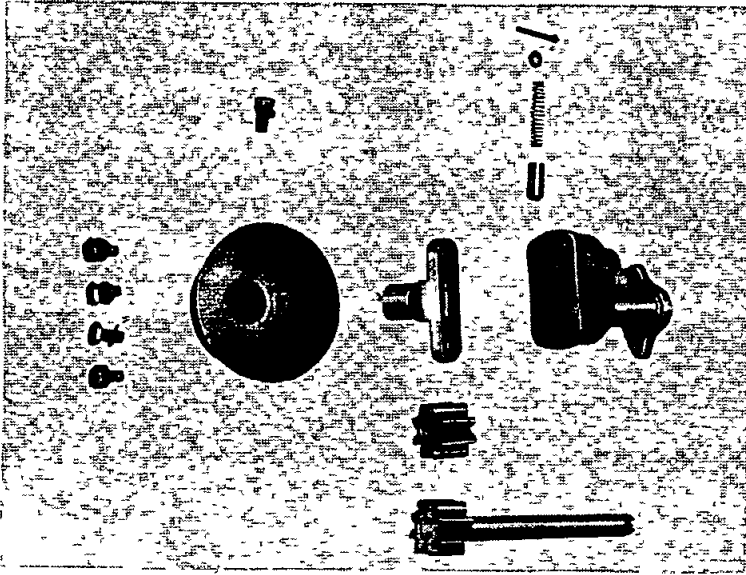


Fig. 4

Removing the Oil Pump

Remove the oil pan and pick up strainer. The bolts securing the oil pump bottom cover are long enough to secure the pump to the crankcase. Fig 4 illustrates the pump in exploded form. Unscrew the bolts and remove the pump with its drive shaft.

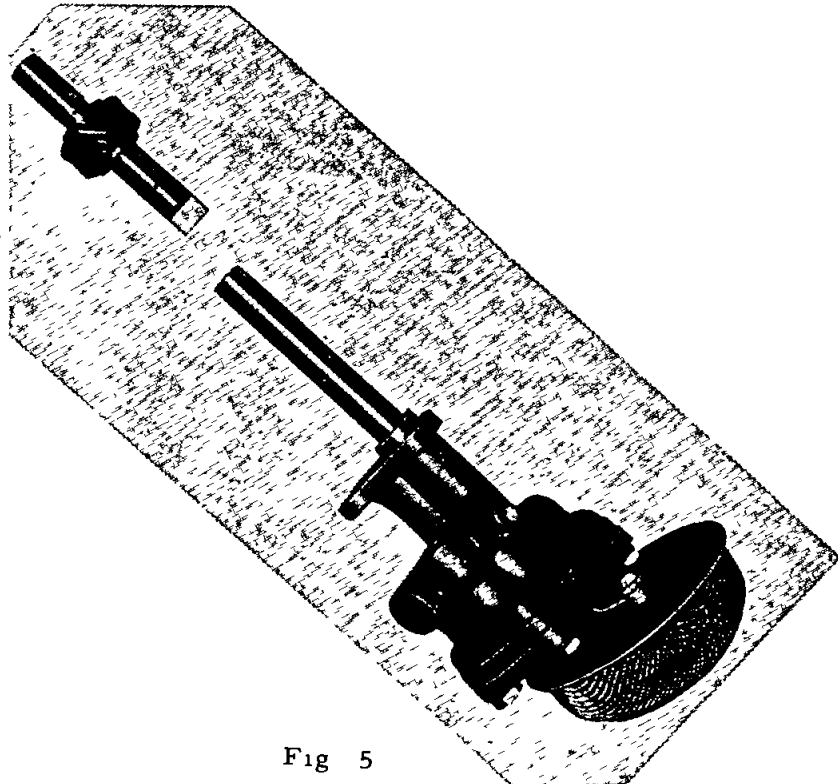


Fig 5

Dismantling the Oil Pump

Remove the setscrews and spring washers which secure the cover to the body and take off the cover. On tilting the body upside down the drive gear and its drive shaft with a gear.

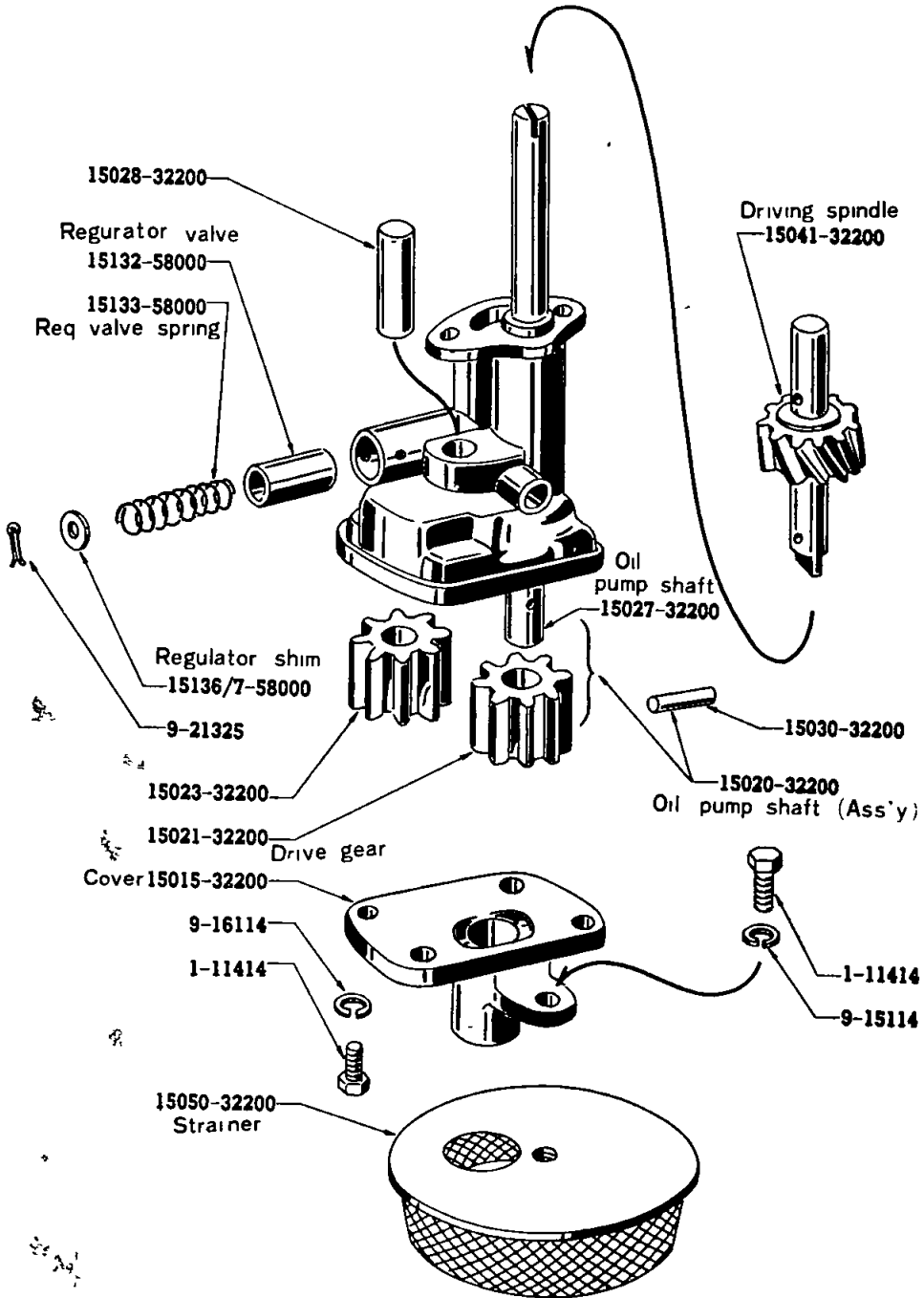
Refitting the Oil Pan

Clean out the oil pan by washing it with gasoline, the care to remove any traces of the sediment before refitting the oil pan to the engine. Pay particular attention to the oil pan and crankcase joint faces, and remove any traces of old jointing material. Examine the joint washer and renew it if necessary. The old joint washer can be used again if it is sound, but it is advisable to fit a new one. Smear the faces of the joint with grease and fit the joint washer. Lift the oil pan into position and insert the setscrews into the flange tightening them up evenly.

Reassembling the Oil Pump

OIL PUMP

Performance test	22 ltr (5.8 US. Gal.) minute at 2000 rpm (pump) Pressure 4 kg/cm ² (5.89 lb/in ²) Engine oil SAE 20, temperature 70°C (158°F) Regulator valve locked Vacuum 3.94 in Hg (100 mm Hg)
Gear back lash	0.25-0.3 mm (0.010-0.012 in)
Clearance between gear & cover	0.04-0.11 mm (0.0016-0.0043 in)



Oil Pump & Strainer Assembly

(Part No 15010-32200)

SERVICE OPERATIONS WITH ENGINE IN POSITION

Removing Starting Nut and Pulley

Remove the radiator. Slacken the dynamo attachment bolts and remove the fan belt.

Bend back the tab on the starting bolt locking washer. Unscrew the starting nut by using heavy duty "Shock type" spanner.

A few sharp blows in an anti-clockwise direction will slacken the nut.

Pull off the crankshaft pulley

Removing the Timing Cover

The timing cover is secured by set-screw bolts, each having a shakeproof washer.

The spring washers are immediately below the bolt heads.

Take out the set-screw bolts, remove the cover and its joint washer. Care should be taken not to damage the washer when breaking the joint. If damage does occur fit a new washer, cleaning of the faces of the joint surfaces beforehand.

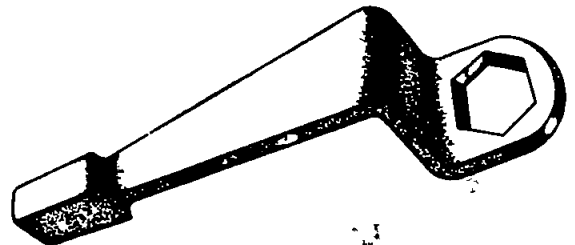


Fig. 1

Heavy duty "Shock type" Spanner

Removing the Timing Gear

The timing chain is endless, and it is necessary to remove both the crankshaft and camshaft gears together. Before doing this, notice the timing marks on both gears and their relationship to each other.

Draw off both the gears a little at a time, first removing the crankshaft gear retaining nut.

As the gears are withdrawn care must be taken not to lose the packing washers from behind the crankshaft gear. Between the camshaft gear teeth, is a rubber ring which acts as a tensioner, and ensures silent operation of the chain drive. Examine the felt washer and renew it if oil has been lost by seepage.

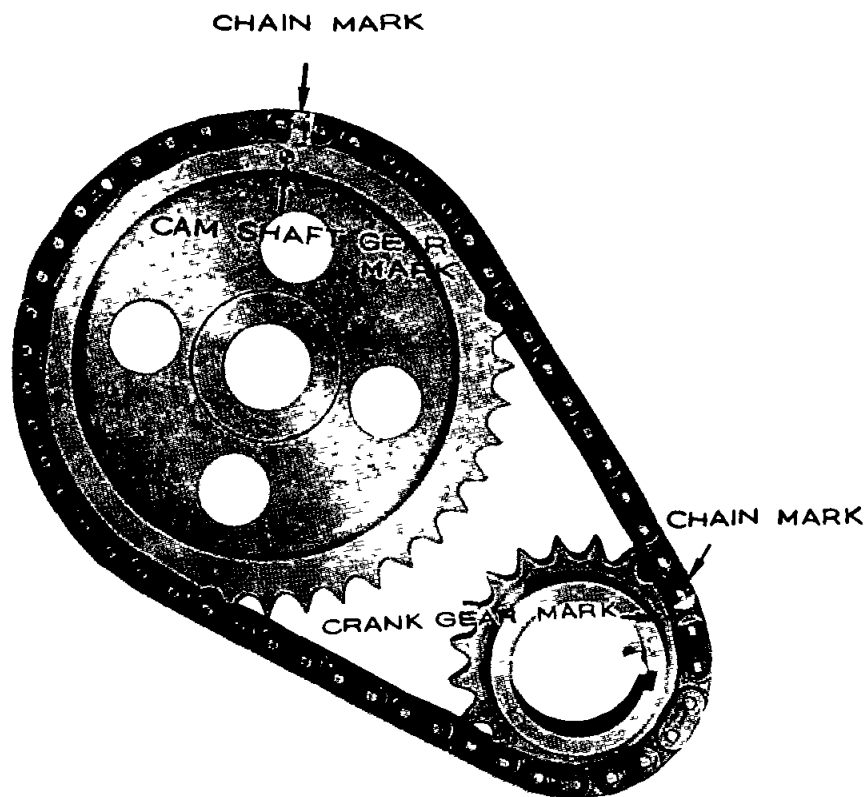


Fig. 2 Position of refitting gears with the chain

Refitting the Timing Gear

Replacing the components of the timing gear is largely a reversal of the dismantling process, but special attention should be paid to the following points.

Turn the engine crankshaft until the keyway is at T.D.C and the camshaft with its keyway

Fit the crankshaft and camshaft gears into their respective shafts finding the key ways against each position of key as shown in Fig. 2. Ensure the timing marks are opposite along in line.

Place the gears into position, ensuring that the keys are present in keyways on the shafts. Ensure again that the timing marks on the gears are opposite to each other and in line.

The same number of shims taken from front of the crankshaft must be replaced unless a new crank or camshaft has been fitted. In this case the alignment of the gear faces and measuring the alignment with a feeler gauge. To adjust the alignment it will be necessary to vary the number of shims