



SERVICE

Bulletin

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MECHANICAL DESIGN CHANGES AND MODIFICATIONS (Engine Oil Pump, Valve Overhead Gear, Clutch Gear Spigot Bearing)

During the month of March a number of mechanical design changes or modifications to existing design will be introduced in Production and apply to the following components or units.

Oil Pump

The oil pump has been re-designed to incorporate helical gears, Fig. 1, and a relief valve with an internal bypass located in the cover and so positioned that when the relief valve opens, the oil passing the valve is directed back into the intake side of the pump, Fig. 2. The helical gears provide for quieter operation, while the design of the relief valve is such that there is little possibility of the valve being held open by foreign matter.

Note: The pump body and cover mating surfaces are in direct contact; no gasket being used on this type pump.

The oil pump screen and cover have also been re-designed with the object of ensuring that all the oil entering the inlet side of the pump must pass through the close woven wire screen, Fig. 3.

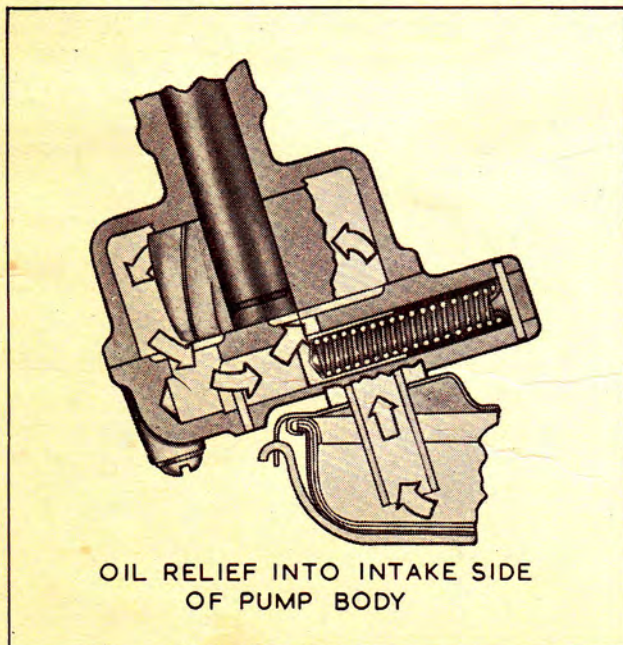


Fig. 2

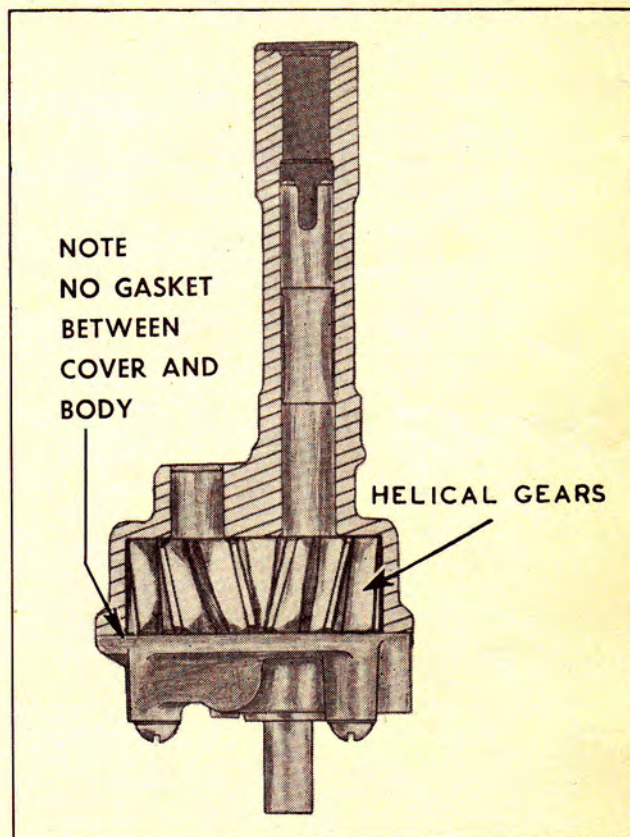


Fig. 1

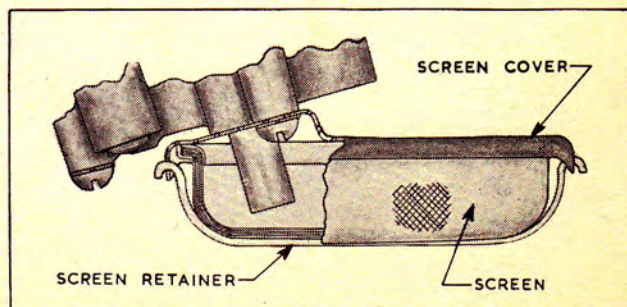


Fig. 3

Cure the Cause not the Effect

Valve Overhead Gear – Improved Oil Distribution

The valve mechanism has been revised to provide a more positive flow of oil to the valve rocker arm and valve stem contact, thereby assisting in reducing valve tappet noise. The components revised or modified to achieve this purpose are:—

1. Camshaft.
2. Valve Rocker Arms.
3. Valve Rocker Arm Shafts.
4. Oil Connector.

1. Camshaft

The oil distribution groove to the valve overhead gear has been reduced in length from approximately $5/6$ ths (295°) of the circumference of the rear intermediate journal, to approximately $1/3$ rd (135°) of the journal, Fig. 4.

CAMSHAFT OIL DISTRIBUTION GROOVE TO OVER-HEAD VALVE GEAR

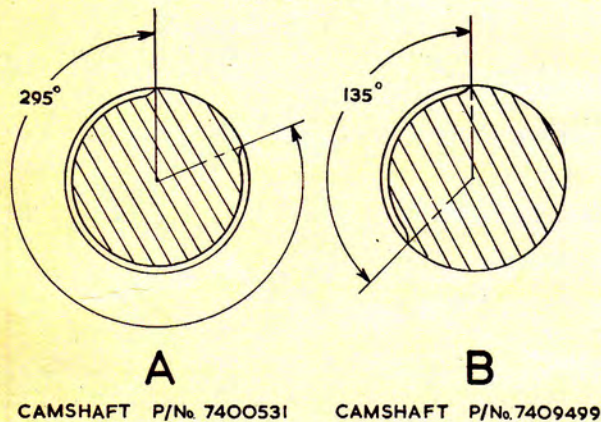


Fig. 4

2. Valve Rocker Arms

The valve rocker arms have been modified by re-positioning the oil bleed hole to allow more oil to flow to the rocker arm and valve stem contact, Fig. 5.

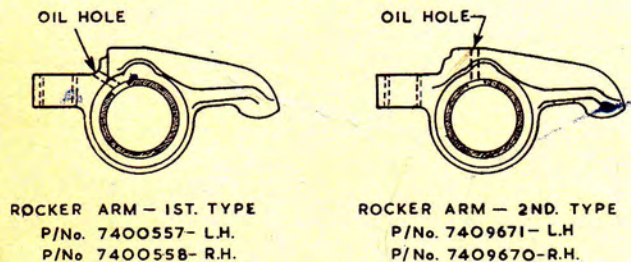


Fig. 5

NOTE: The new type rocker arms should only be fitted to engines which are equipped with valve seals and the 2nd type camshaft (smaller oil groove), otherwise excessive oil consumption may be experienced due to excess oil passing down valve guides.

3. Valve Rocker Arm Shafts

The diameter of the bore at the open end of the rocker arm shaft into which the oil connector fits, has been reduced in size by approximately $1/16$ in.

4. Rocker Arm Oil Connector

The rocker arm shaft oil connector, which bridges and distributes oil to the rocker shafts, is now of one-piece construction and so formed that its outer ends enter the inner diameter of both the front and rear shafts, Fig. 6.

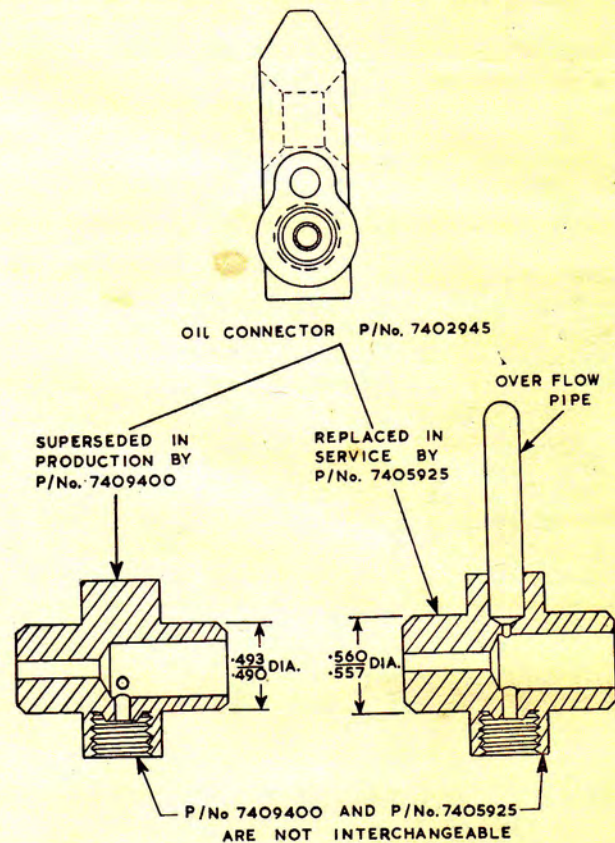


Fig. 6

Oil flowing to the rear rocker arm shaft is metered by a drilled passage in the connector.

NOTE: The oil connector must always be fitted with the small metered hole to the rear rocker arm shaft so as to ensure correct distribution of oil to the valve overhead gear.

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To prevent oil leakage, rubber seals are employed between the ends of the shafts and machined faces on the connector body.

The 2nd type oil connector is not suitable for engines prior to approximately engine No. 197338 and as the 1st type connector will not be serviced when existing stocks are exhausted, a service oil connector, Part No. 7405924, will be made available, which is of the same simplified design as the new connector but varies dimensionally to accommodate larger openings in the ends of the 1st type rocker arm shafts. The service connector is readily identified by a short oil flow return pipe fitted to the body, Fig. 6.

Clutch Gear Spigot Bearing

The transmission clutch gear spigot bearing, which is located in the flywheel, has been superseded in production by a sintered bronze bushing, Part No. 412562. The bronze bushing is of the oil absorbent type and only requires attention by provision of a few drops of S.A.E. 90 gear oil whenever the transmission assembly is removed from the engine.

Interchangeability: The bronze bushing can be used in service to replace the roller bearing; however, the roller type must not be used to replace the bushing type pilot bearing as the crankshaft receiving bore finish is not suitable for the roller bearing, and also the counter bore, into which the roller bearing retainer fitted, is deleted.

SERVICE MANAGER – IMPORTANT

This Bulletin contains important service information on GM-H vehicles.

Each subject should be cross-referenced in the space provided at the end of each section in the Shop Manual. **Be sure and cover every point with your entire organization.**

Each service man should sign in the space below after he has read and understands the information in this Bulletin.

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