OIL PUMP

To Remove

Disconnect the battery.

Disconnect the connection to the oil pressure switch.

Note: If required the oil pressure relief valve can be inspected after removal of the plug.

Remove six setscrews and washers securing pump to cylinder block. Remove pump and filter assembly.

Remove the oil filter (Refer to Sub-section A 223).

Remove and discard gasket.

To Refit

Ensure the mating faces of pump and cylinder block are clean.

Fit a new gasket to the pump.

Position the pump to the cylinder block and secure with six setscrews and washers torque tighten to Data figure.

Refit the oil filter (Refer to Sub-section A 223).

Refit the connection to the oil pressure switch.

Reconnect the battery.

To Dismantle

Remove the five setscrews and washers securing the cover.

Remove cover and "0" ring.

Press off drive gear. Support the gear to prevent damage to aluminium body.

Remove inner rotor and shaft.

Remove outer rotor.

Remove oil pressure relief valve plug and washer and lift out spring and valve.

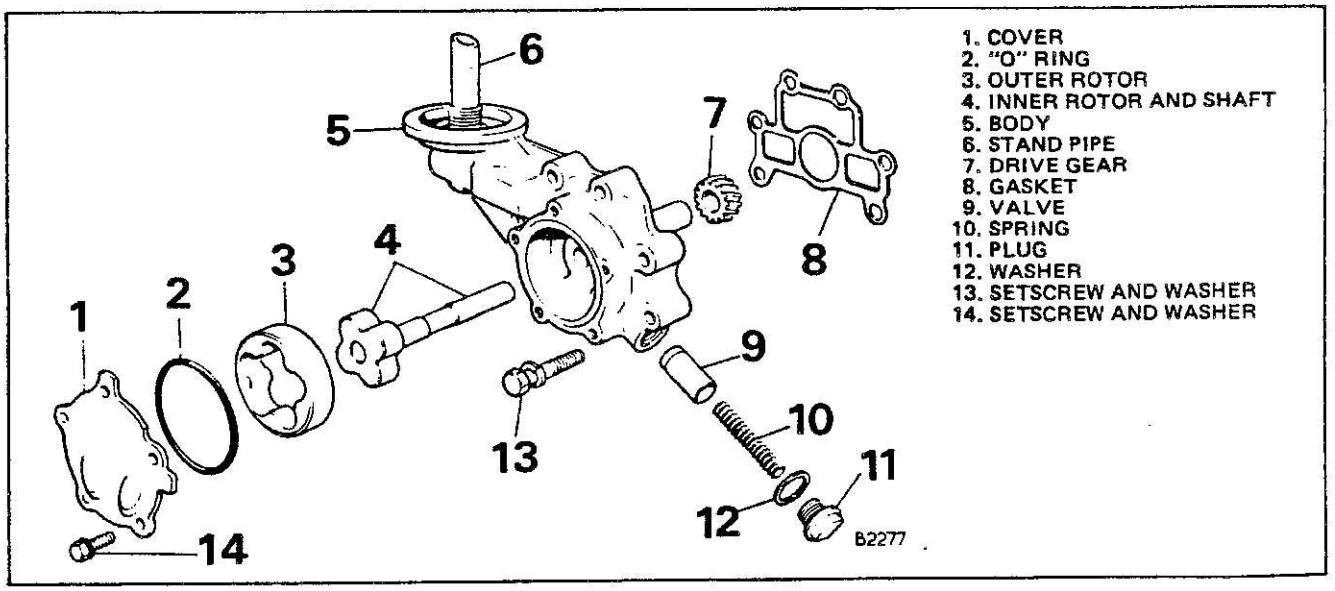
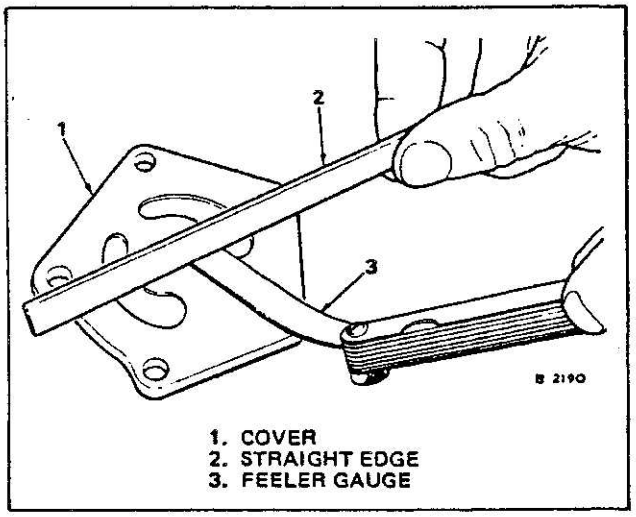


Fig. 1 *Exploded view of oil pump*

Inspection and Overhaul

Clean all parts thoroughly. Mating face of oil pump cover must be smooth. Renew cover if it is scratched or grooved.

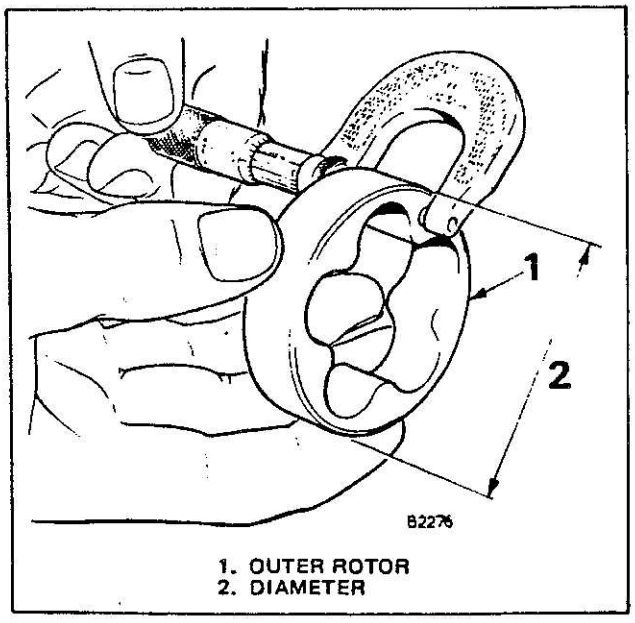
Lay a straight edge across the oil pump cover surface (Fig. 2). If a .038 mm (.0015 in) feeler gauge can be inserted between cover and straight edge, cover should be renewed.



1. COVER
2. STRAIGHT EDGE
3. FEELER GAUGE

Fig. 2 *Measuring oil pump cover flatness*

Measure diameter and thickness of outer rotor. If outer rotor thickness measures less than 16.5 mm (0.649 in) (Fig. 3) and the diameter less than 62.7 mm (2.469 in), renew outer rotor.



1. OUTER ROTOR
2. DIAMETER

Fig. 3 *Measuring outer rotor thickness*

If inner rotor thickness measures less than 16.5 mm (0.649 in) (Fig. 4), renew inner rotor.

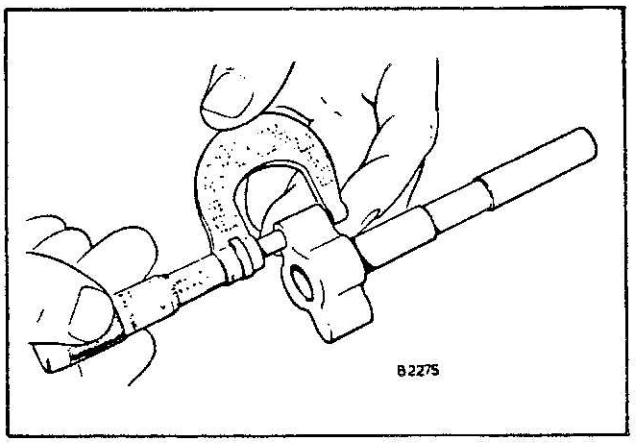
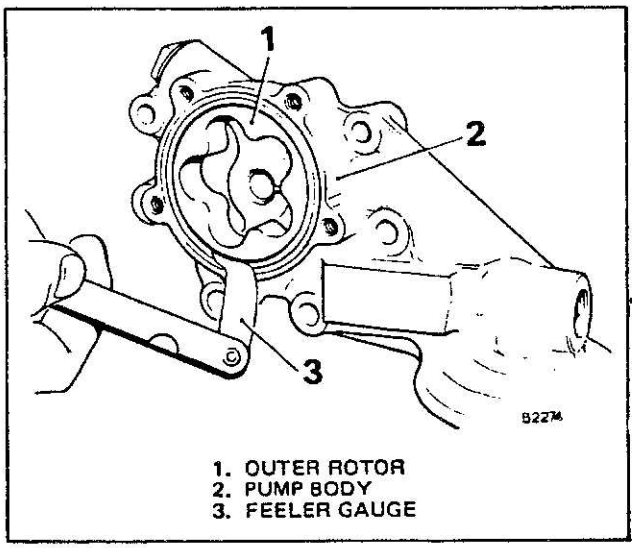


Fig. 4 *Measuring inner rotor thickness*

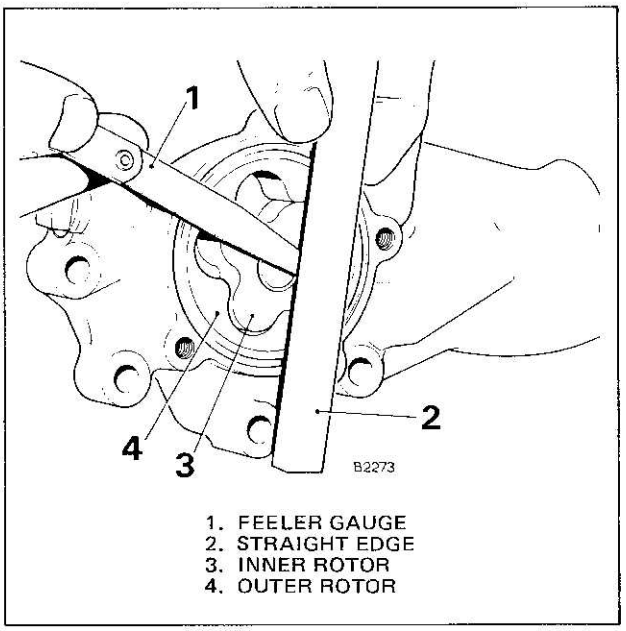
Install outer rotor into pump body, pressing to one side with fingers and measure clearance between outer rotor and pump body (Fig. 5). If measurement is more than .36 mm (.014 in) renew oil pump body.



1. OUTER ROTOR
2. PUMP BODY
3. FEELER GAUGE

Fig. 5 *Measuring outer rotor clearance*

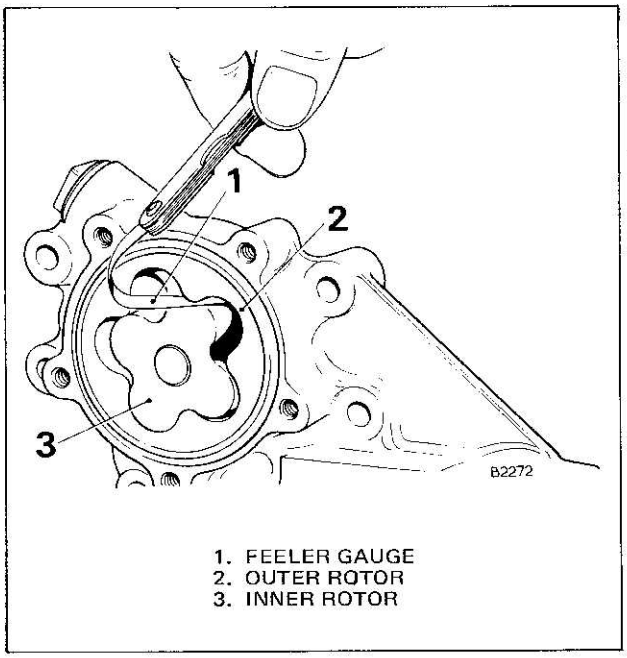
Install inner rotor into pump body and place a straight edge across face between bolt holes (Fig. 6). If a feeler gauge of more than .1016 mm (0.004 in) can be inserted between the rotors and straight edge, renew the pump body.



1. FEELER GAUGE
2. STRAIGHT EDGE
3. INNER ROTOR
4. OUTER ROTOR

Fig. 6 *Measuring clearance over rotors*

If clearance between inner and outer rotor (Fig. 7) is more than .25 mm (0.01 in) renew inner and outer rotors.



1. FEELER GAUGE
2. OUTER ROTOR
3. INNER ROTOR

Fig. 7 *Measuring clearance between rotors*

Examine oil pump relief valve plunger for scoring and for free operation in its bore. Small scores may be removed with 400 grit wet or dry paper.

The relief valve spring has a free length of 57.15 mm (2.25 in) and should test 10.1 to 10.5 kg (22.3 to 23.3 lb) when compressed to 40.48 mm (1.59 in). Renew spring that fails to meet specification.

To Refit

Refitment is a reversal of the removal procedure noting the following:

Fit new "0" ring between cover and body.

Torque tighten setscrews to Data figure.

OIL PICK-UP TUBE AND FILTER

To Remove

Disconnect the battery.

Remove the sump (Refer to Sub-section A 221).

Unscrew pick-up tube from cylinder block.

Inspection and Overhaul

Thoroughly clean the tube and filter.

Examine the tube and filter for damage, renew as necessary.

To Refit

Screw the pick-up tube into the cylinder block until the filter is positioned as shown in Fig. 8.

Hold a steel rule against the flat surface inside the cylinder block and measure from the edge of rule to the edge of filter.

The measurement should be 54.0 mm (2.125 in) with the filter properly positioned. When the sump is fitted, the strainer and pick-up tube must be tensioned by the inside of the sump.

Refit the sump (Refer to Sub-section A 221).

Reconnect the battery.

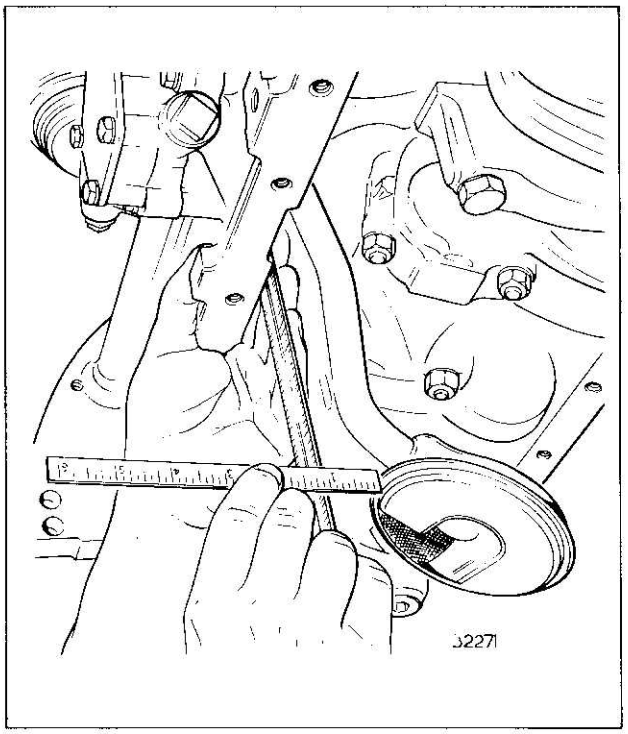
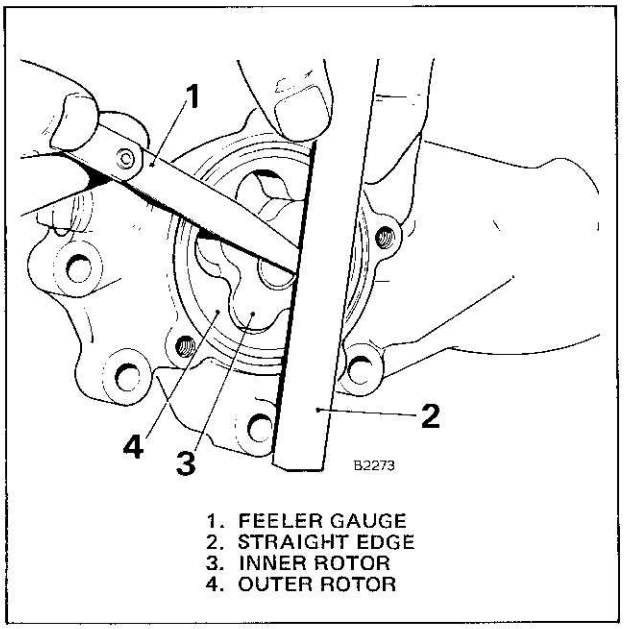


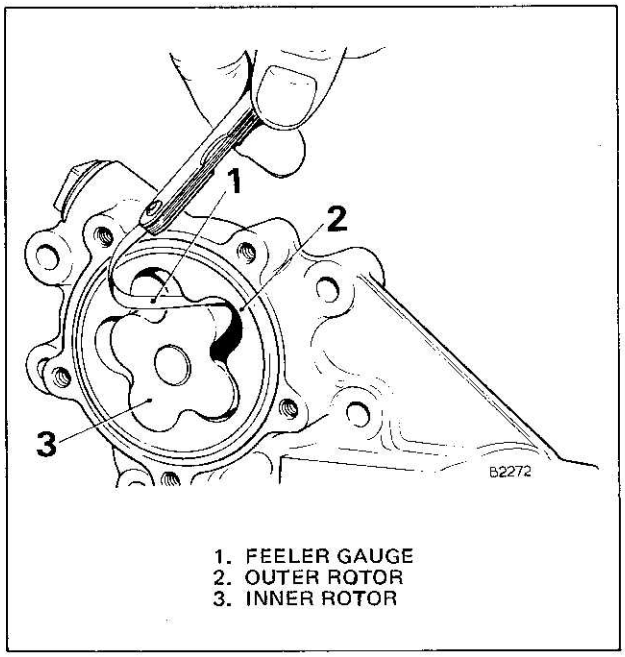
Fig. 8 *Positioning oil pick-up tube and strainer*



1. FEELER GAUGE
2. STRAIGHT EDGE
3. INNER ROTOR
4. OUTER ROTOR

Fig. 6 *Measuring clearance over rotors*

If clearance between inner and outer rotor (Fig. 7) is more than .25 mm (0.01 in) renew inner and outer rotors.



1. FEELER GAUGE
2. OUTER ROTOR
3. INNER ROTOR

Fig. 7 *Measuring clearance between rotors*

Examine oil pump relief valve plunger for scoring and for free operation in its bore. Small scores may be removed with 400 grit wet or dry paper.

The relief valve spring has a free length of 57.15 mm (2.25 in) and should test 10.1 to 10.5 kg (22.3 to 23.3 lb) when compressed to 40.48 mm (1.59 in). Renew spring that fails to meet specification.

To Refit

Refitment is a reversal of the removal procedure noting the following:

Fit new "0" ring between cover and body.

Torque tighten setscrews to Data figure.

OIL PICK-UP TUBE AND FILTER

To Remove

Disconnect the battery.

Remove the sump (Refer to Sub-section A 221).

Unscrew pick-up tube from cylinder block.

Inspection and Overhaul

Thoroughly clean the tube and filter.

Examine the tube and filter for damage, renew as necessary.

To Refit

Screw the pick-up tube into the cylinder block until the filter is positioned as shown in Fig. 8.

Hold a steel rule against the flat surface inside the cylinder block and measure from the edge of rule to the edge of filter.

The measurement should be 28.6 mm (1.125 in) with the filter properly positioned. When the sump is fitted, the filter and pick-up tube must be tensioned by the inside of the sump.

Refit the sump (Refer to Sub-section A 221).

Reconnect the battery.

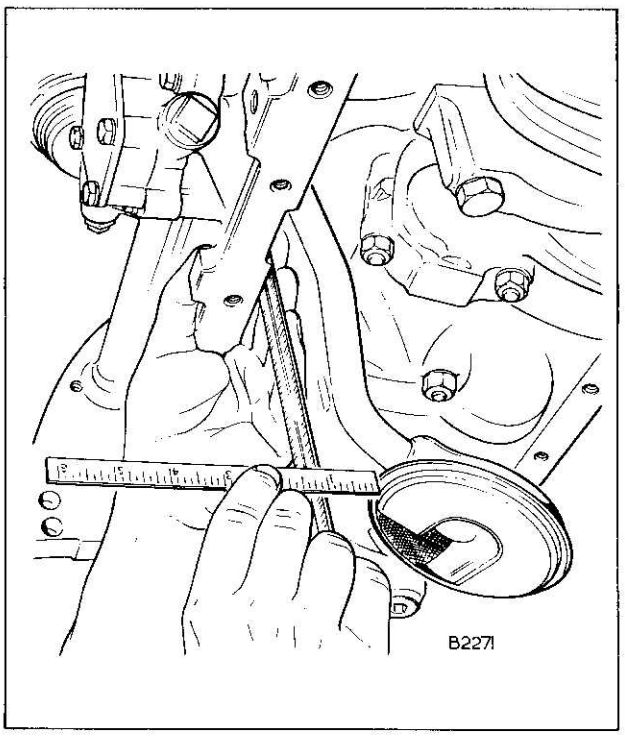


Fig. 8 *Positioning oil pick-up tube and filter*