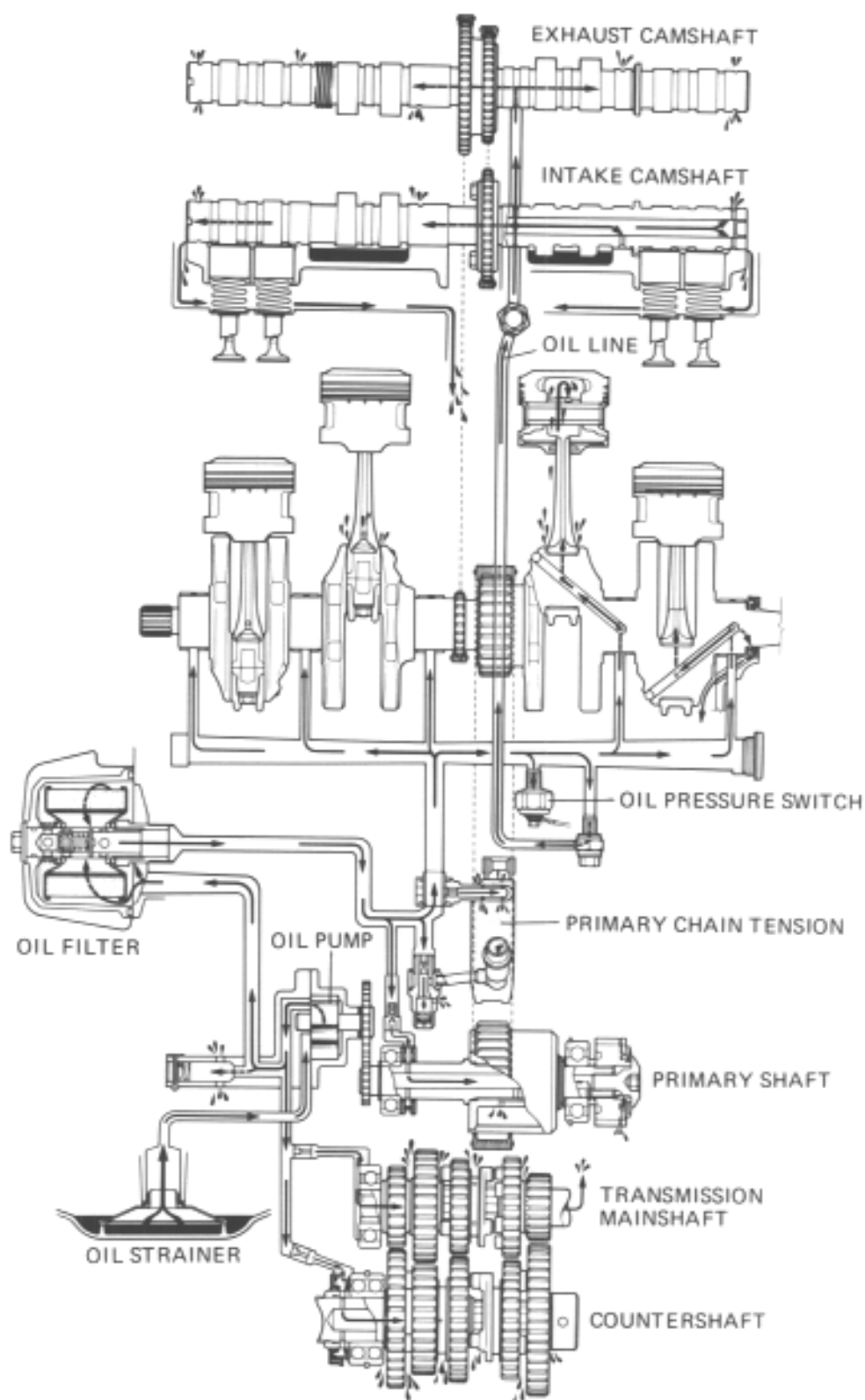




ENGINE LUBRICATION SYSTEM





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<u>ENGINE LUBRICATION</u>		<u>CHASSIS LUBRICATION</u>	
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SERVICE INFORMATION

GENERAL INSTRUCTIONS

Oil pressure relief valve: See Section 12

SPECIFICATIONS

Oil capacity	Approximately 3.5 liter (3.7 US qt) at change 4.5 liter (4.7 US qt) at engine assembly	
Recommended oil	HONDA 4-stroke oil or equivalent General, all temperature Alternate Above 15°C (60°F) -10° to 15°C (15° to 60°F) Above -10°C (15°F) Below 0°C (32°F)	API service classification-SE SAE 10W-40 SAE 30 SAE 20 or 20W SAE 20W-50 SAE 10W
Oil pump delivery	41 liter/min./7,000 rpm (43.4 US qt/min./7,000 rpm)	
Oil pressure (at oil pressure switch)	5.0 kg/cm ² (71 psi)/7,000 rpm	80°C (176°F)

SPECIAL TOOLS

Special Tools

Oil Pressure Gauge 07506-3000000

Oil Pressure Gauge Attachment 07510-4220100

TORQUE VALUES

Oil drain plug	3.5-4.0 kg-m (25-29 ft-lb)	Oil pan bolt	1.0-1.4 kg-m (7-10 ft-lb)
Oil filter bolt	2.8-3.2 kg-m (20-23 ft-lb)	Pressure switch	1.5-2.0 kg-m (11-14 ft-lb)

TROUBLESHOOTING

Oil level too low

1. External oil leaks
2. Worn piston rings
3. Worn valve guide or seal

Oil contamination

1. Oil or filter not changed often enough
2. Head gasket faulty
3. Worn piston rings

Low oil pressure

1. Oil level low
2. Pressure relief valve stuck open
3. Plugged oil pick-up screen
4. Oil pump worn
5. External oil leaks

High oil pressure

1. Pressure relief valve stuck closed
2. Plugged oil filter, gallery, or metering orifice
3. Incorrect oil being used

No oil pressure

1. Oil level low
2. Oil pump drive gear broken
3. Oil pump faulty
4. Internal oil leakage



ENGINE LUBRICATION

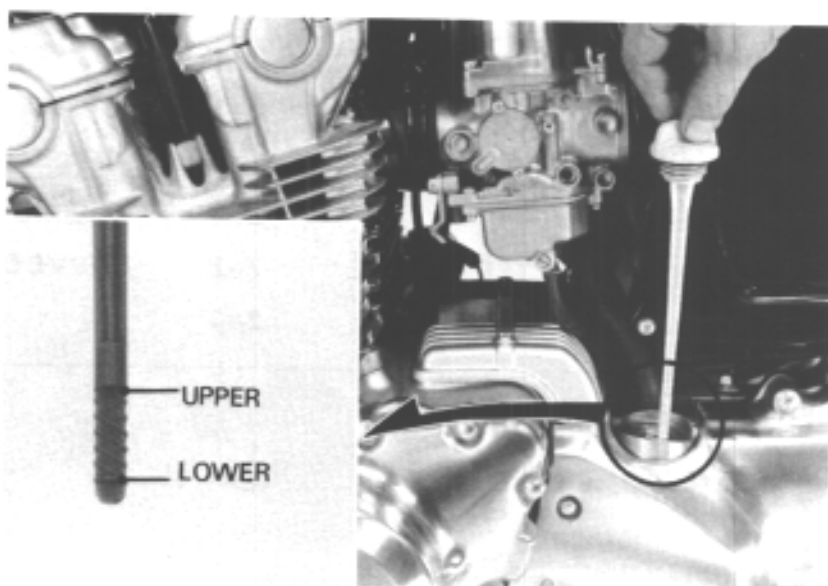
ENGINE OIL LEVEL

Run the engine and allow to idle for a few minutes.

Stop the engine and support the motorcycle on the center stand. Check the oil level with the filler cap dipstick after a few minutes. Do not screw in the cap when making this check. If the level is below the lower level mark on the dipstick, fill to the upper level mark.

Check the oil pressure warning light. This light should go off when the engine starts.

If it does not, check the oil pump function and/or oil circuit.



ENGINE OIL & FILTER CHANGE

Warm the engine to normal operating temperature.

Stop the engine.

Place the motorcycle on its center stand.

Remove the oil filler cap, drain plug and oil filter bolt and drain the oil.

Make sure that the sealing washer on the drain plug and the O-rings on the oil filter bolt and oil filter cover are in good condition.

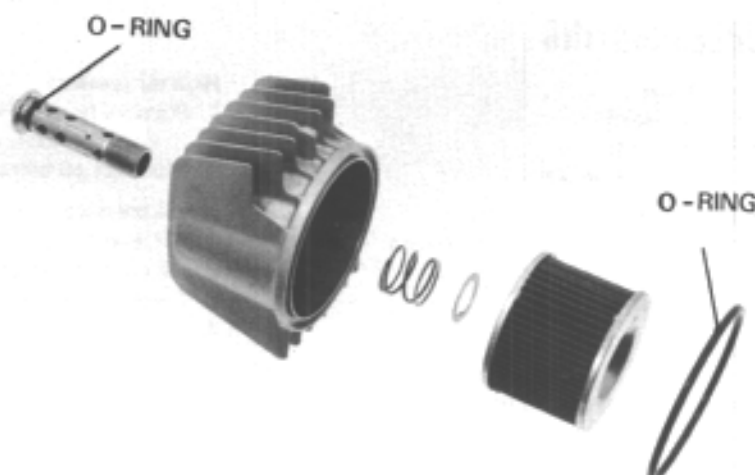
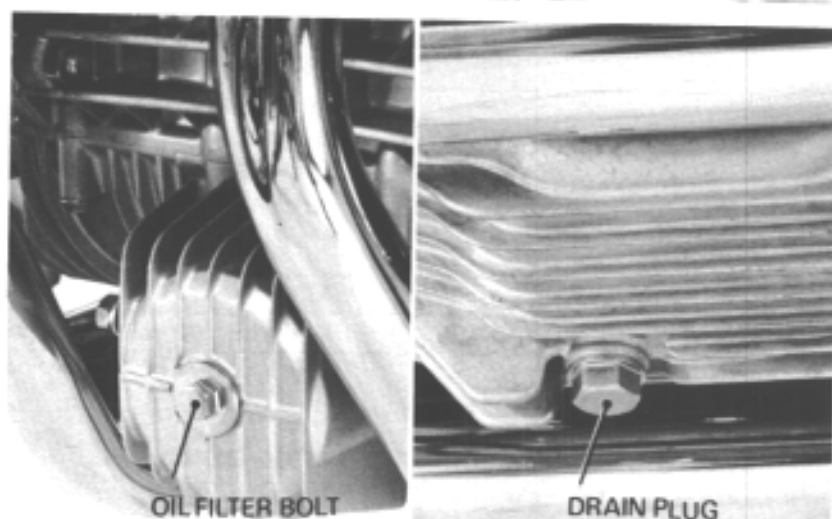
After completely draining, replace the oil filter and install the oil filter bolt and drain plug.

Fill the crankcase with 3.5 lit (3.7 US qt) of the recommended oil.

Reinstall the oil filler cap.

Start the engine and let it idle for 2-3 minutes. Stop the engine.

Add the recommended oil to the upper level. Make sure that there are no oil leaks.



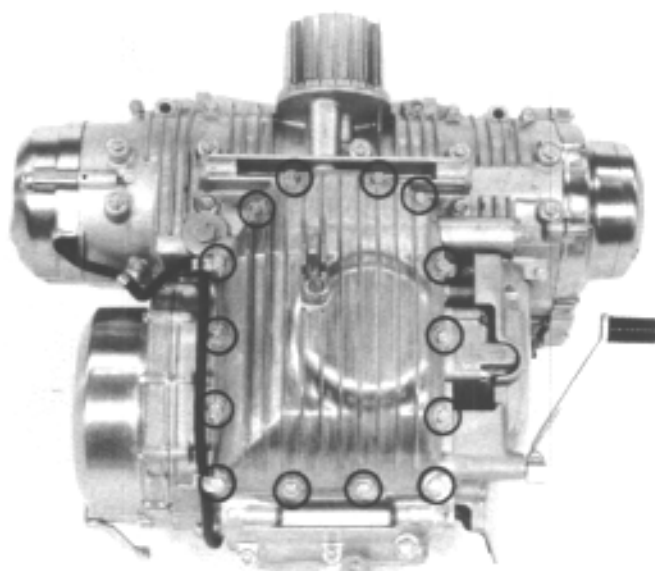


OIL STRAINER CLEANING

The oil strainer can be removed with the engine mounted in the frame.

Remove the oil filler cap, drain plug and oil filter bolt.

Remove the oil pan bolts and oil pan.

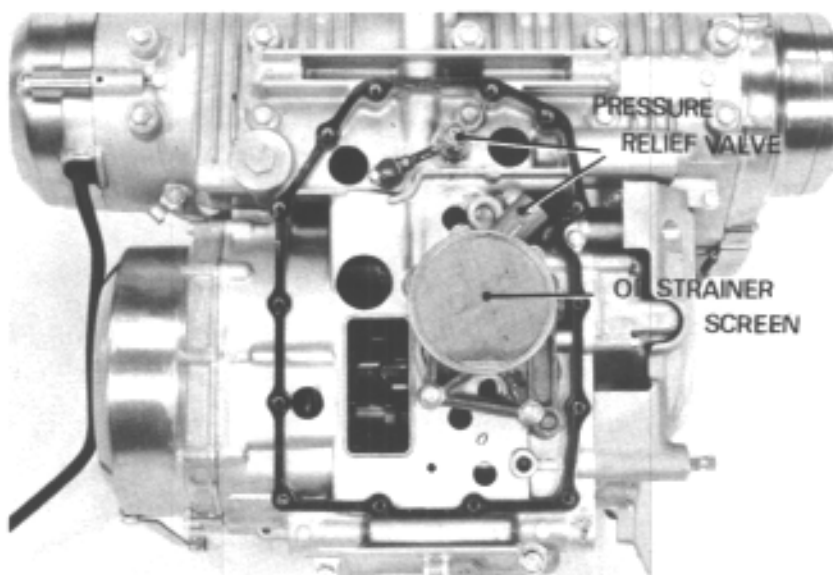


Remove and clean the oil strainer.

Install the oil strainer and oil pan.

Fill the crankcase with recommended oil (Page 2-2).

Check the operation of the pressure relief valves.



OIL PRESSURE

Warm the engine up to normal operating temperature (approximately 80°C=176°F) stop the engine.

Remove the oil pressure switch.

Connect an oil pressure gauge to the pressure switch hole.

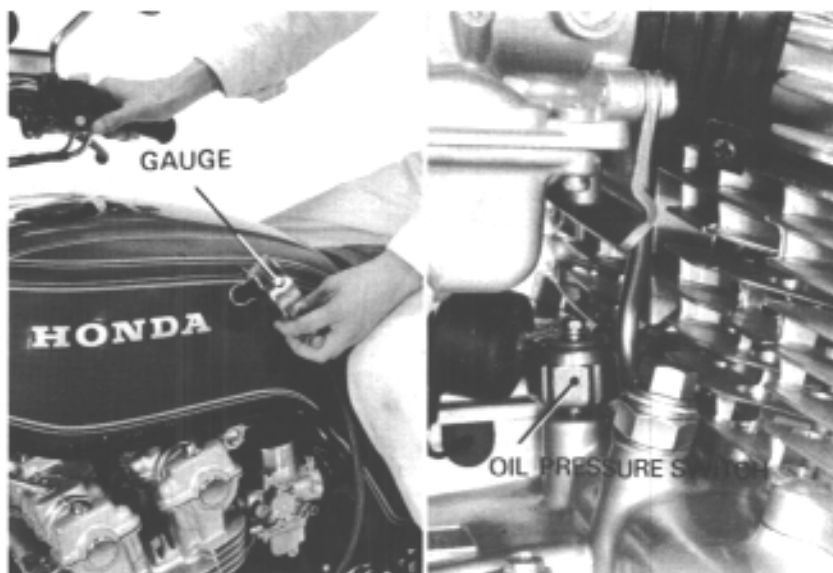
Check the oil level.

Check the oil pressure at 7,000 rpm.

STANDARD: 5.0 kg/cm² (71 psi) at 7,000 rpm 80°C (176°F)

Apply a liquid sealant to the pressure switch threads and install.

Check that the oil pressure warning light goes out. If the oil pressure warning light stays on, stop the engine immediately and determine the cause.





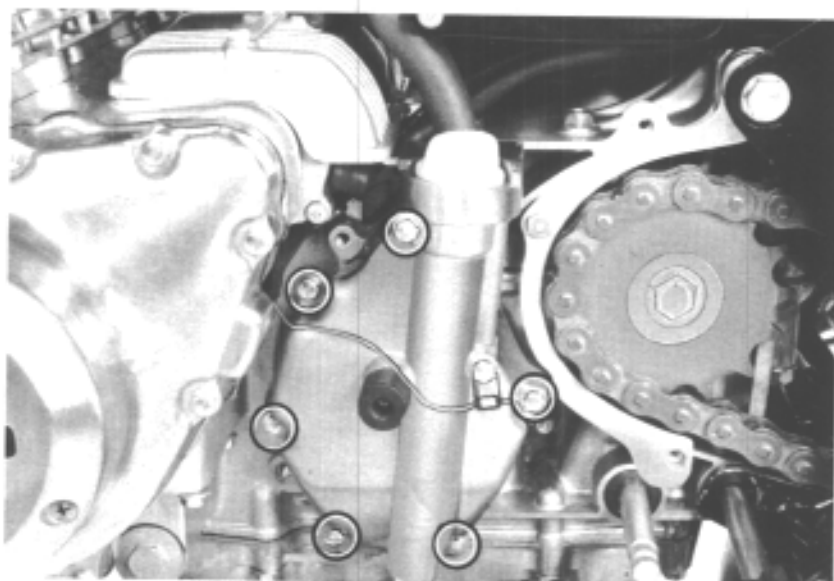
OIL PUMP

OIL PUMP REMOVAL

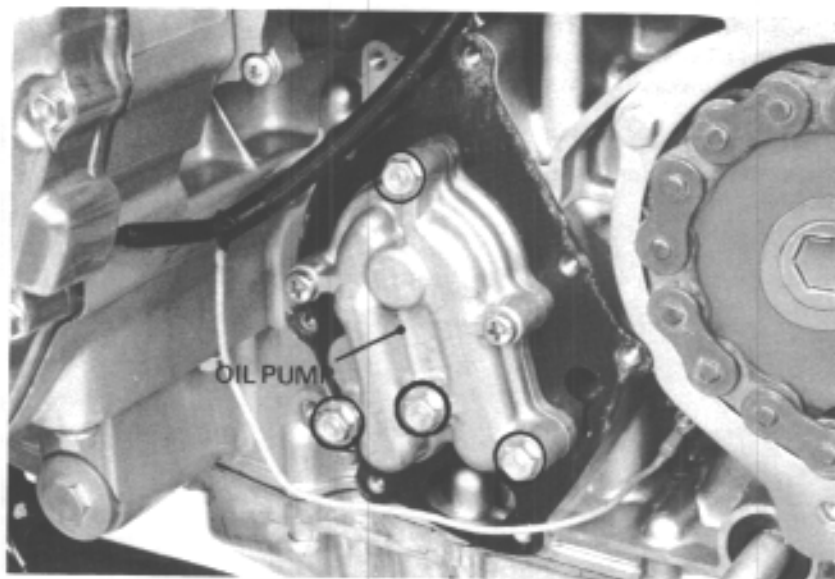
NOTE

The oil pump can be removed with the engine mounted in the frame.

Remove the foot pegs and gearshift pedal.
Remove the left crankcase rear cover.
Remove the oil pump cover.

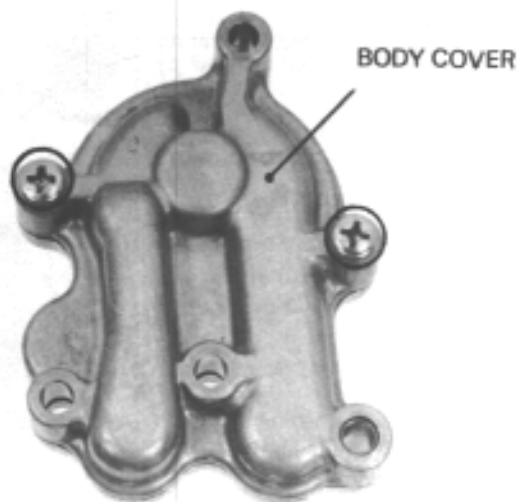


Remove the oil pump.



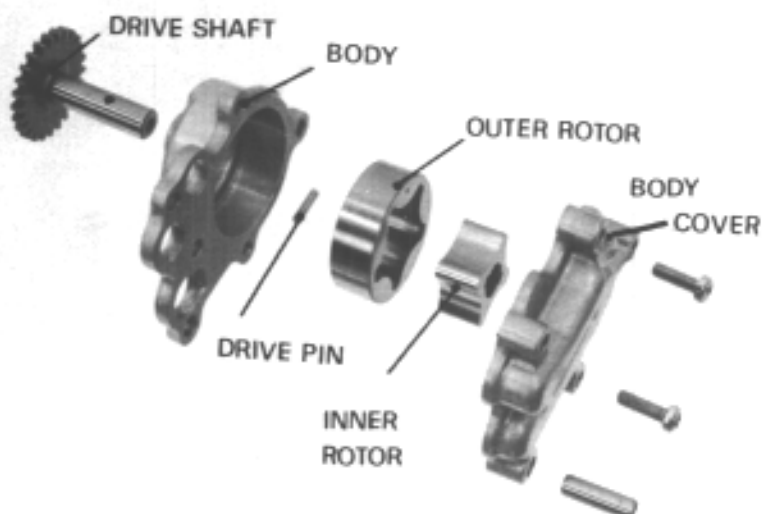
OIL PUMP DISASSEMBLY

Remove the oil pump body cover.





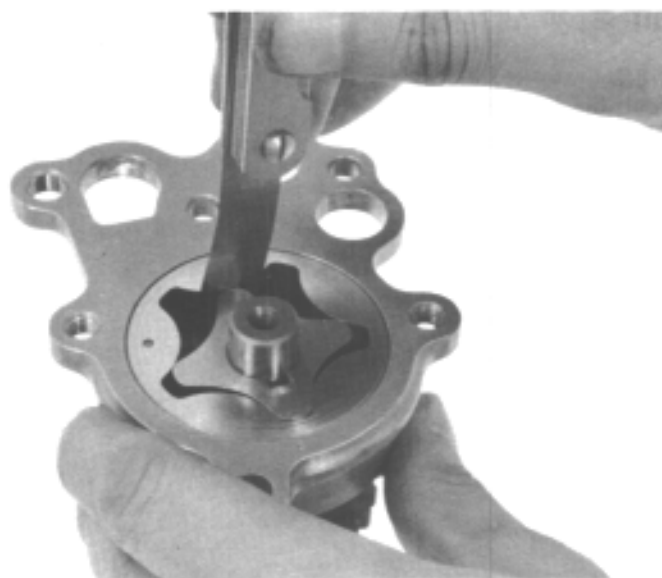
Remove the inner and outer rotors.
Remove the drive pin and drive shaft.



OIL PUMP INSPECTION

Measure the rotor tip clearance.

SERVICE LIMIT: 0.15 mm (0.006 in)



Measure the pump body clearance.

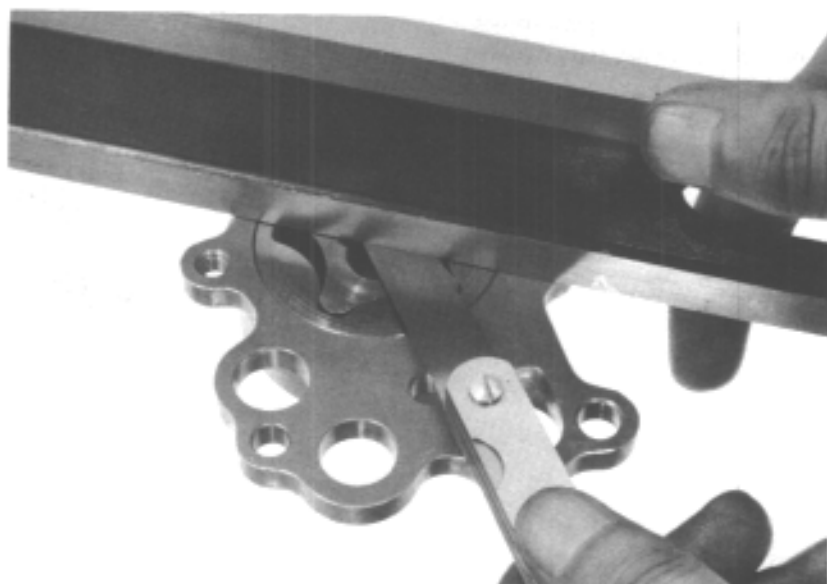
SERVICE LIMIT: 0.35 mm (0.014 in)





Measure the pump end clearance.

SERVICE LIMIT: 0.1 mm (0.004 in)

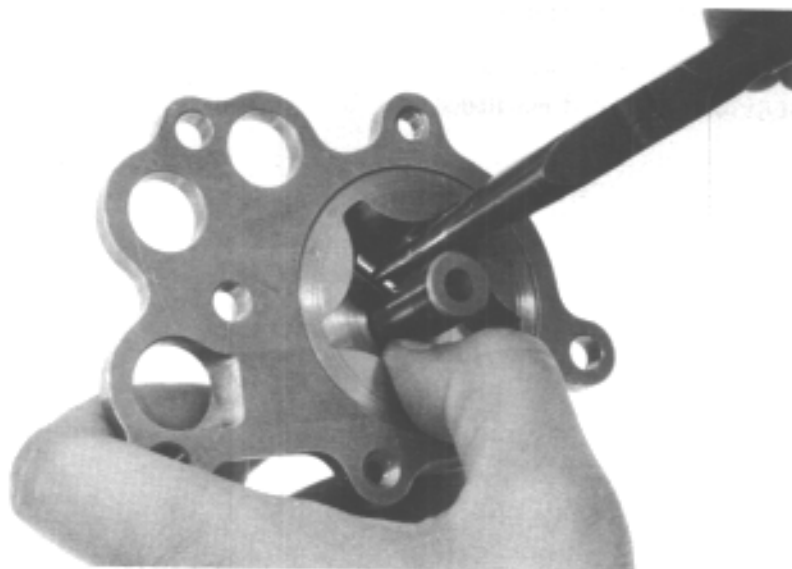


OIL PUMP ASSEMBLY

Install the outer rotor into the body.

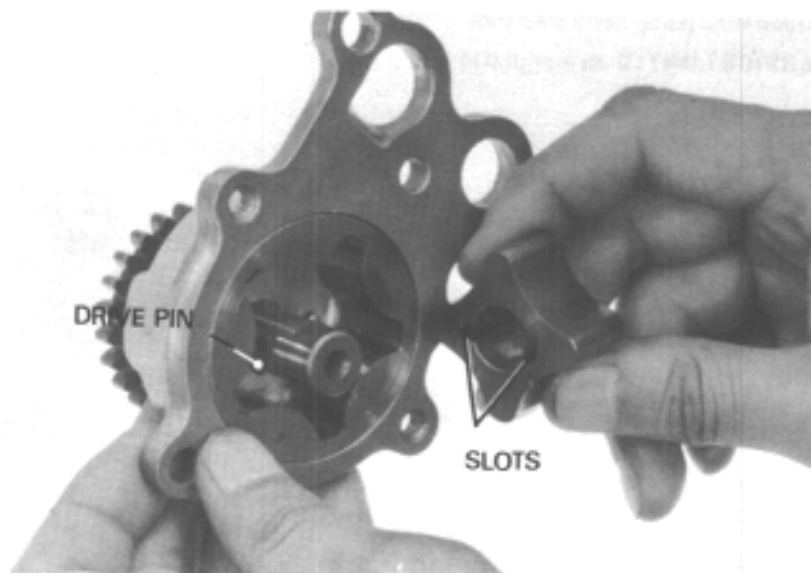
Insert the drive shaft.

Insert the drive pin into the drive shaft.



Align the slots in the inner rotor with the drive pin.

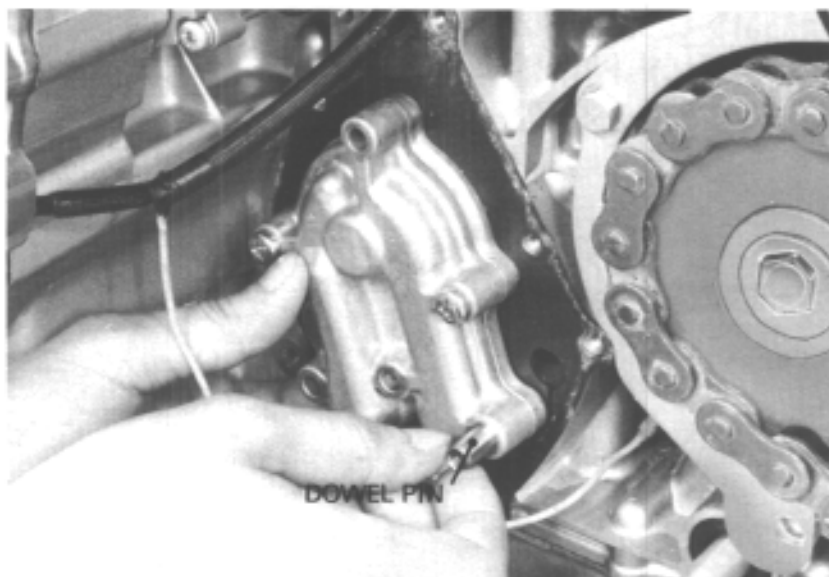
Install the body cover.



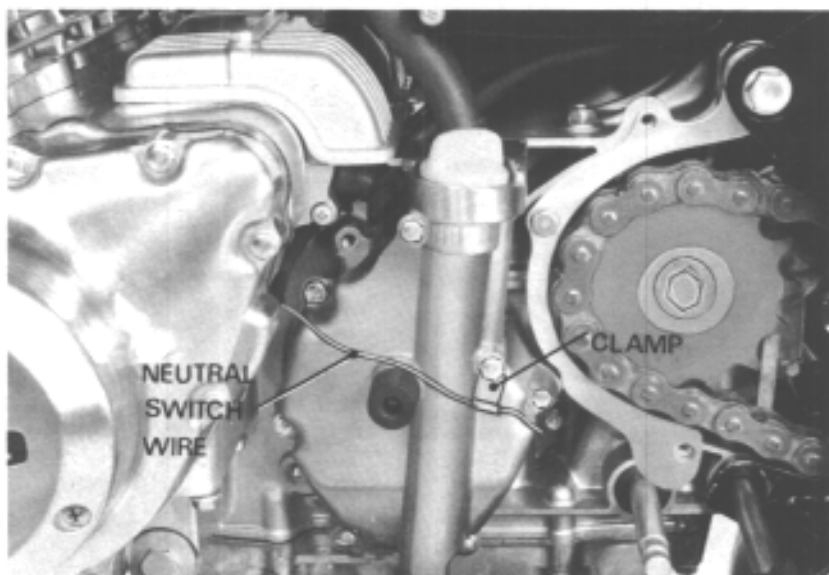


OIL PUMP INSTALLATION

Install a new gasket.
Engage the oil pump drive and driven gears.
Install the dowel pin.



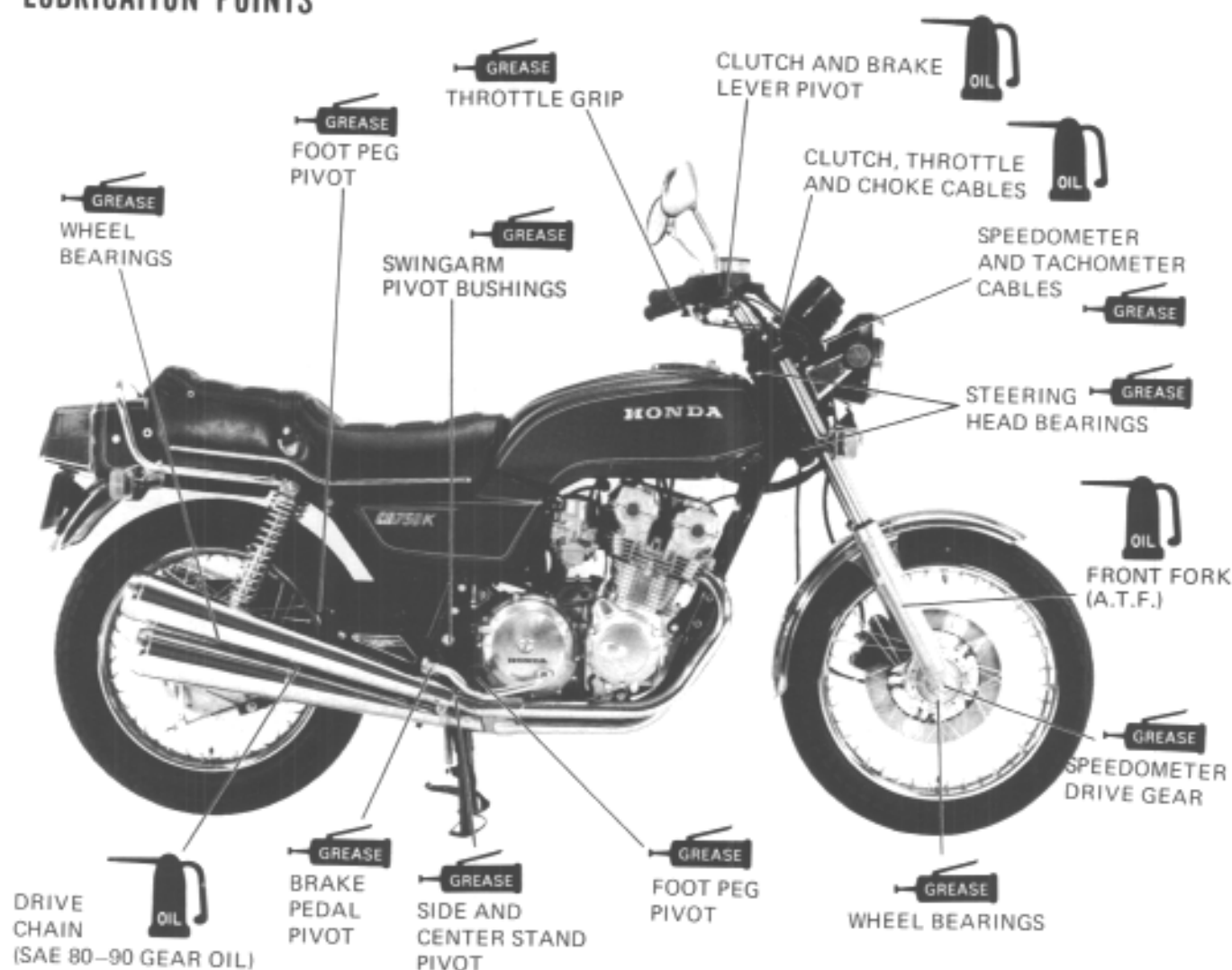
Install the oil pump cover.
Route the neutral switch wire as shown.
Install the left rear crankcase cover, gearshift pedal and foot pegs.





CHASSIS LUBRICATION

LUBRICATION POINTS



DRIVE CHAIN

Clean the drive chain with kerosene and wipe dry.

CAUTION

Do not use a steam cleaner, high pressure washers or solvents as these will damage the O-rings.

Lubricate the drive chain with SAE 80 or 90 gear oil.

CAUTION

Do not use commercial aerosol chain lubricants. They contain solvents which could damage the O-rings.

