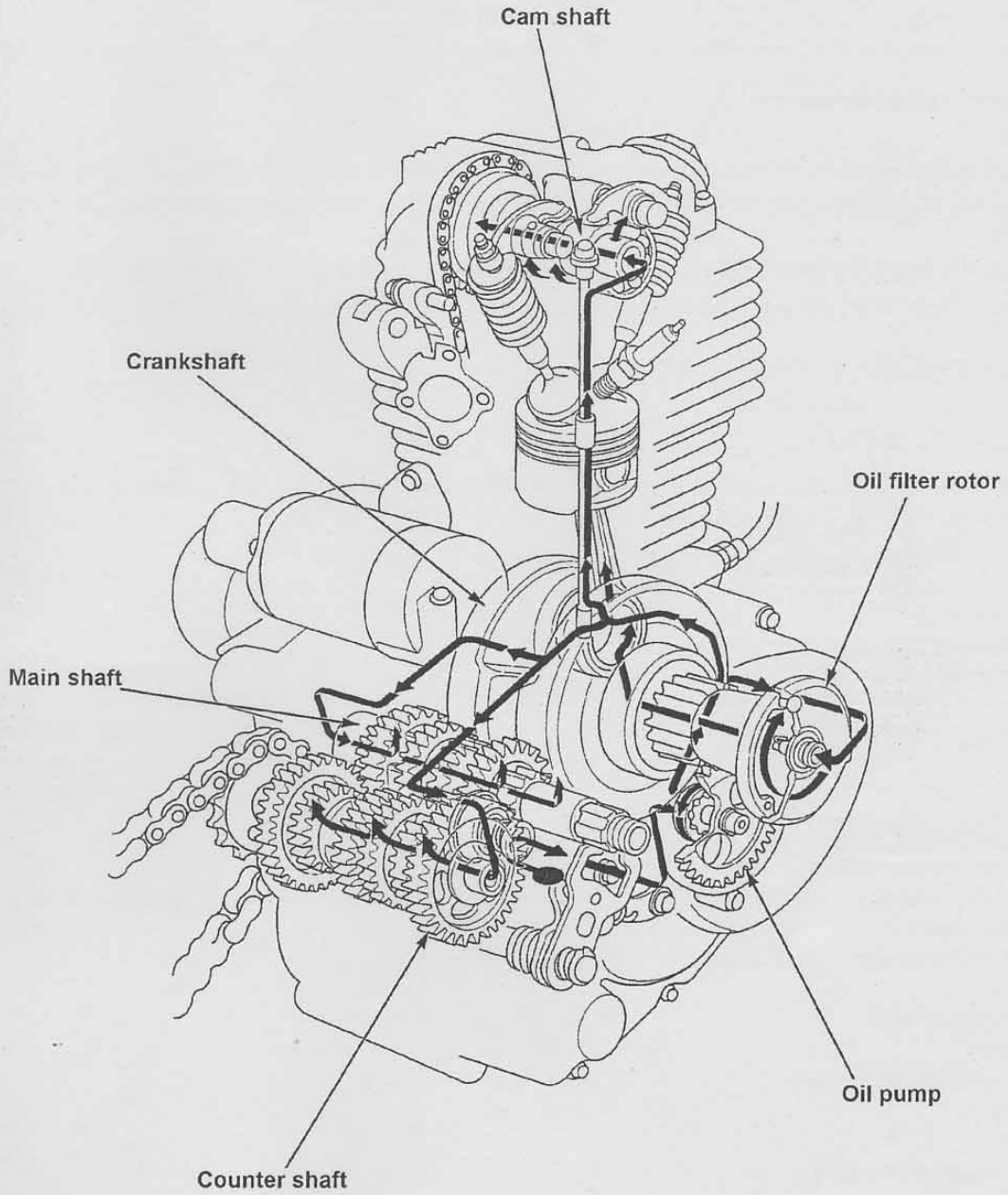


• Lubrication Diagram



Lubrication Diagram.....	4 - 0	Oil filter rotor cleaning.....	4 - 2
Service Information.....	4 - 1	Oil filter rotor.....	4 - 3
Troubleshooting.....	4 - 1	Oil pump.....	4 - 4

◆ Service Information

General

- There is no need to unmount the engine for the service works described in this chapter.
- If the measured values for the oil pump are out of limitations, replace whole oil pump Assy.
- When mounting/dismounting the oil pump, prevent debris going into the engine.
- When assembling the oil pump, apply clean engine oil to each part before installing them.
- After installing the oil pump, inspect for oil leak.

◆ Specifications

Item		Standard	Service limit
Engine oil capacity	At oil change	1.0ℓ	-
	Total capacity	1.2 ℓ	-
Recommended oil Select corresponding viscosity to riding area temperature.		<ul style="list-style-type: none"> • Genuine Honda Ultra U (4 stroke motorcycle) SAE10W-30 or Honda Ultra GP (4 stroke motorcycle) SAE10W-30, 20W-50. • API classification grade SE or SF 	-
Oil pump rotor	Tip clearance	0.15mm	0.20mm
	Body clearance	0.15 - 0.21mm	0.35mm
	Side clearance	0.03 - 0.12mm	0.15mm

◆ Torque Settings

Oil filter rotor cover screw	5N.m (0.5kgf-m)
Oil filter rotor lock nut	83N.m (8.5kgf-m) apply engine oil to the threads and the seats
Oil pump screw	10N.m (1.0kgf-m)
Oil pump plate screw	3N.m (0.3kgf-m)

◆ Special tools

Gear holder	07724-0010100
Lock nut wrench 20x24mm	07716-0020100
Extension bar	07716-0020500

◆ Troubleshooting

Insufficient Oil

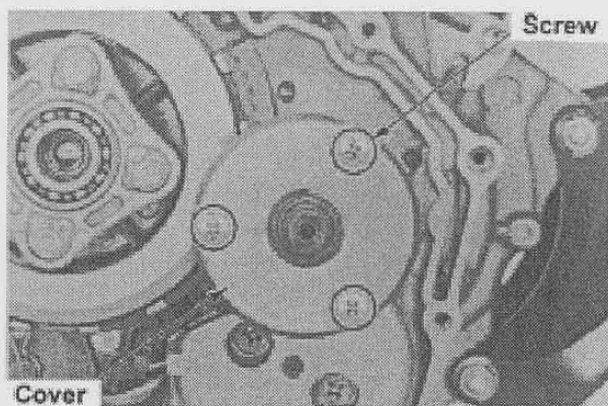
- Normal oil consumption
- Oil leak
- Piston ring wear, poor attachment
- Valve guide / seal wear
- Cylinder wear

Dirty Oil

- Oil has not been changed or the strainer has not been cleaned.
- Piston ring wear

◆ Oil filter rotor cleaning

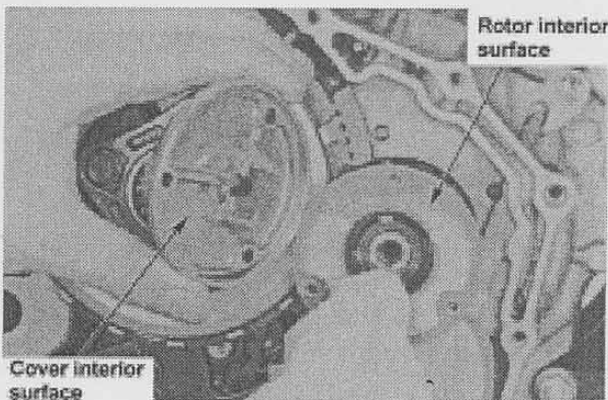
Drain engine oil (3-15).
Remove a right crankcase cover (9-3).
Unscrew to remove the oil filter rotor cover.



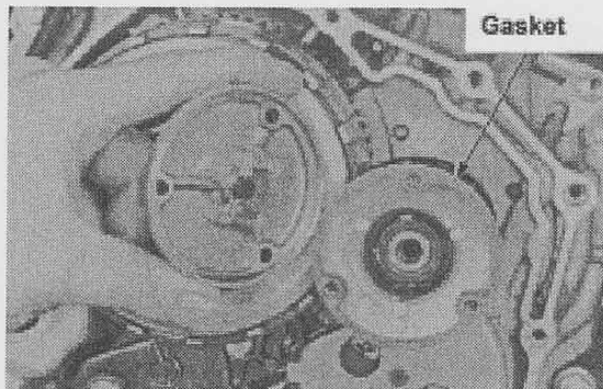
Clean the interior surfaces of the oil filter rotor and the rotor cover with a cloth.



Do not use compressed air to prevent debris entering the oil path or the crankshaft.



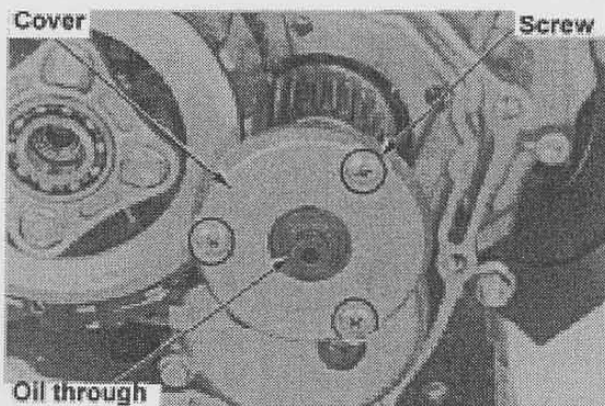
Check the status of an oil filter rotor cover gasket.
Replace it as required.



Set the oil filter rotor cover and tighten the screws.

Torque: 5N.m (0.5kgf-m)

Check smooth operation of the oil thrower.
Install the right crankcase cover (9-14).
Fill engine oil and check for oil leak (3-15).



◆ Oil filter rotor

• Removal

Remove the oil filter rotor cover (4-2).
Remove the oil pump (4-4).
Fix the primary drive gear and the primary driven gear with a gear holder to remove the lock nut and the lock washer.

• Special tools

Gear holder	07724-0010100
Lock nut wrench	20x24mm
Extension bar	07716-0020500

Uninstall the oil filter rotor.
Remove a B-clip and remove the oil thrower and a spring.
Clean the oil through with compressed air.
Clean the oil filter rotor (4-2).

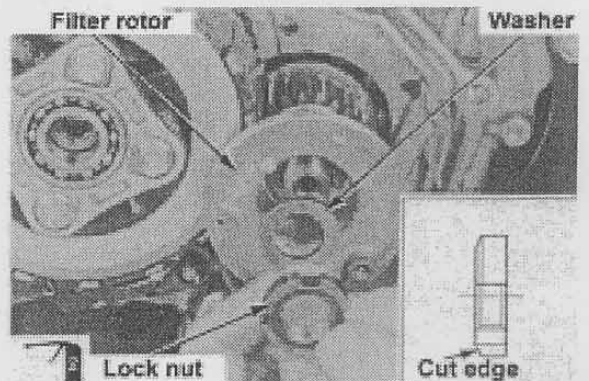
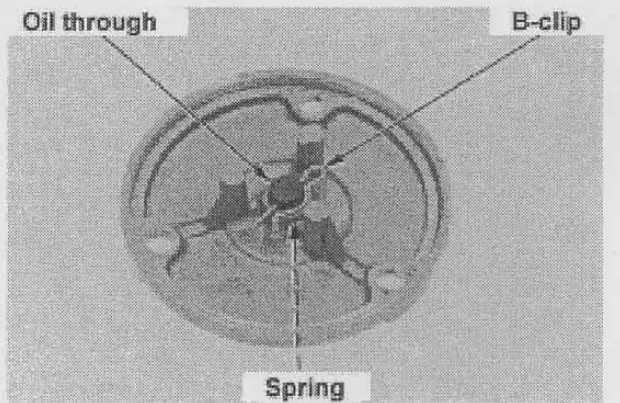
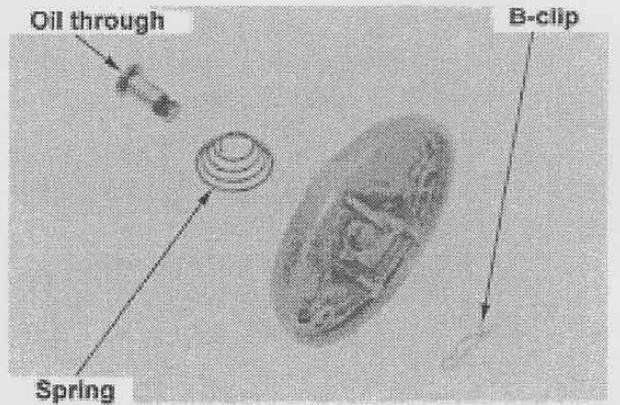
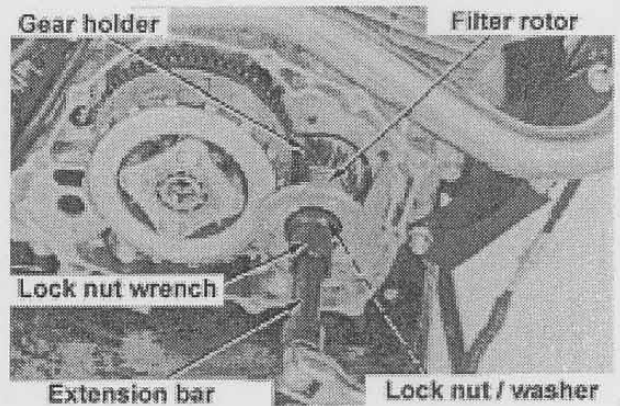
• Installation

Set the spring and the oil through and fix them with the B-clip.

Set the oil filter rotor to the crankshaft.
Apply engine oil to the lock nut thread and the seat.
Install the lock washer and the lock nut.

Note:

Cut edge side of the lock nut should be towards the lock washer.



Fix the primary drive gear and the primary driven gear with the gear holder to tighten the lock nut.

- **Special tools**

Gear holder	07724-0010100
Lock nut wrench	
20x24mm	07716-0020100
Extension bar	07716-0020500

Torque: 83N.m (8.5kgf-m)

Install the oil filter rotor cover (4-2).
Install the oil pump (4-7).
Check smooth operation of the oil thrower.

- **Oil Pump**

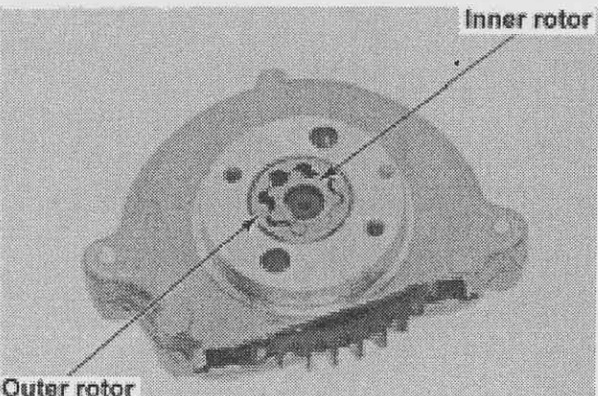
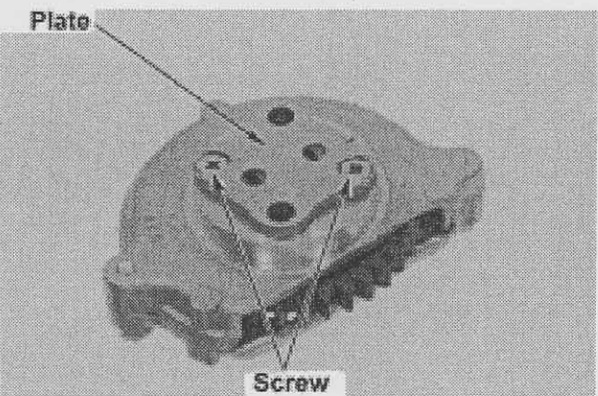
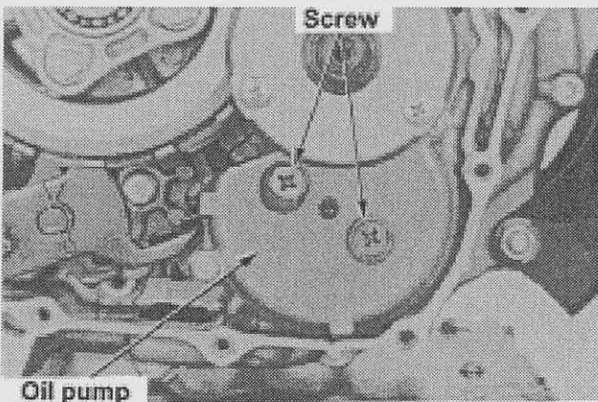
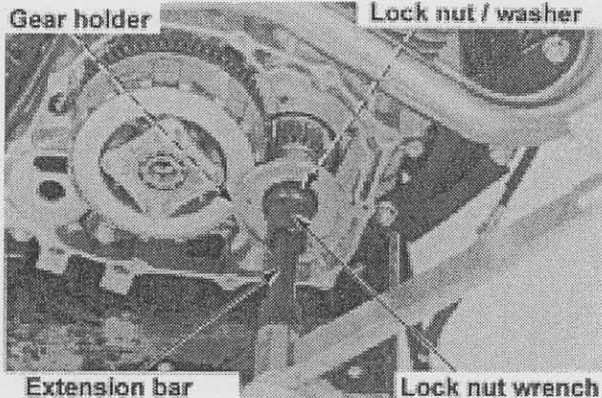
- **Removal**

Remove the right crankcase cover (9-3).
Rotate the crankshaft until the oil pump screw and the oil pump drive gear hole align.
Remove the oil pump screw to uninstall the oil pump Assy.
Remove the O-Ring from the crankcase.

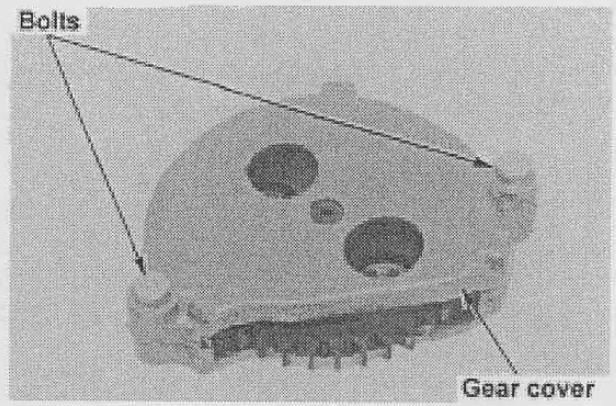
- **Disassembly**

Unscrew oil pump plate screws to remove the plate.

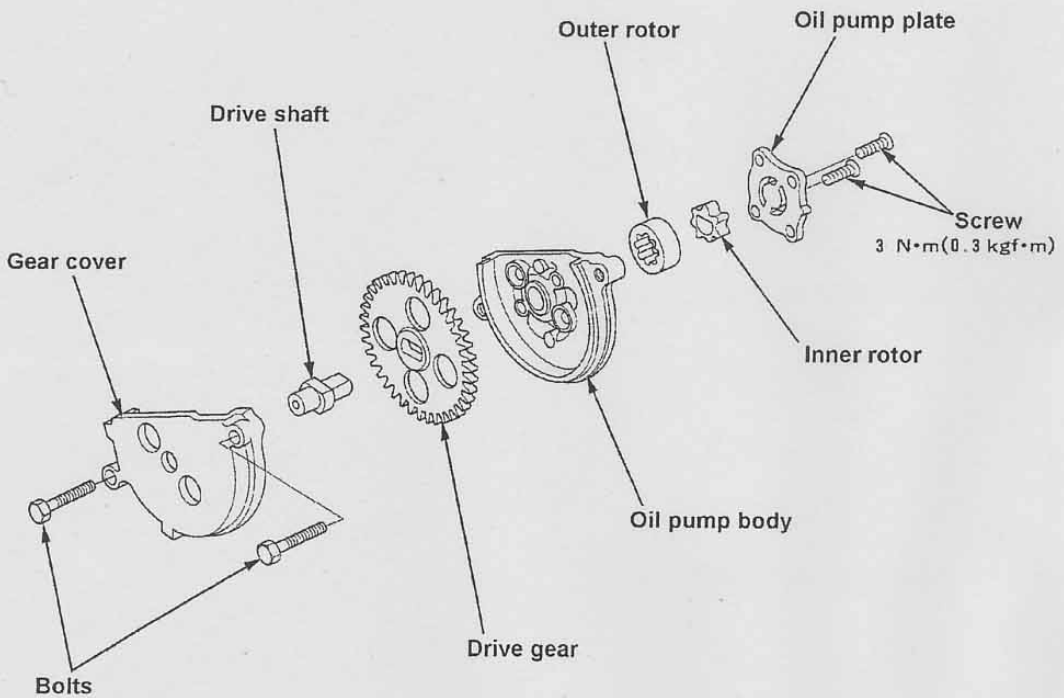
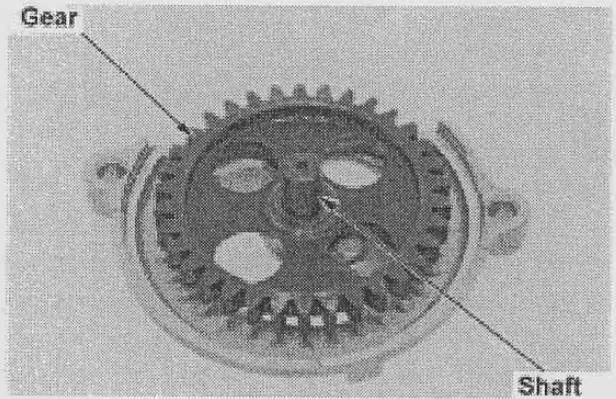
Remove the inner rotor and outer rotor.



Unscrew bolts to remove the gear cover.

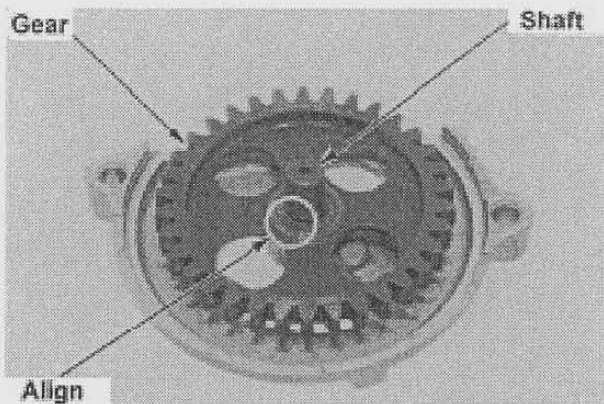


Remove the oil pump drive gear and the drive shaft.

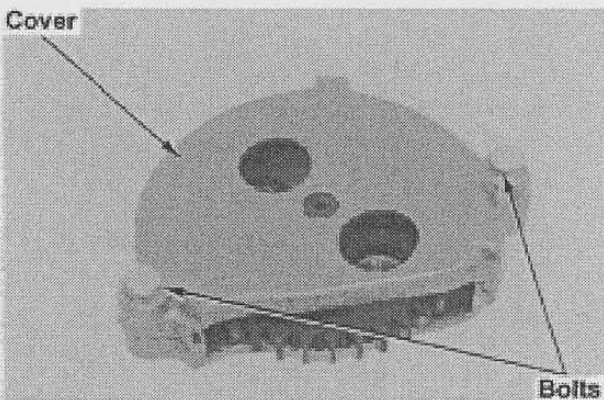


Set the oil pump drive shaft to the oil pump body.

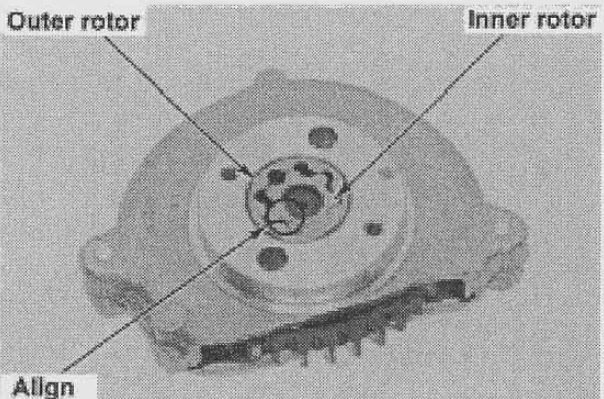
Align the slot of the drive gear with the oil pump drive shaft to set the drive gear.



Install the gear cover and tighten the bolts.



Align the slot of the drive shaft with the inner rotor to install the inner rotor to the oil pump body.
Install the outer rotor.

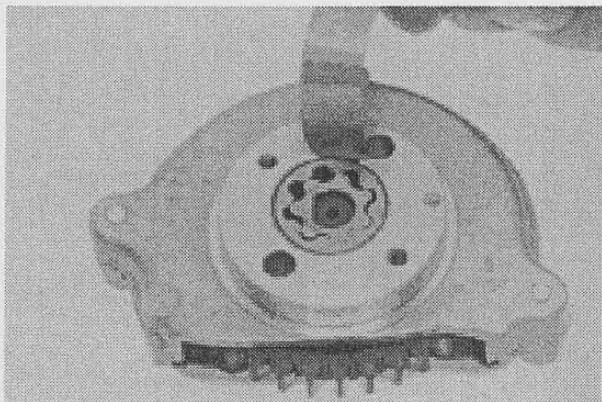


• **Inspection**

- **Notes:**
- Measure at multiple points and take the maximum value.
- If the measured values on each part of the oil pump are beyond the limit, replace whole oil pump Assy.

• **Body clearance**

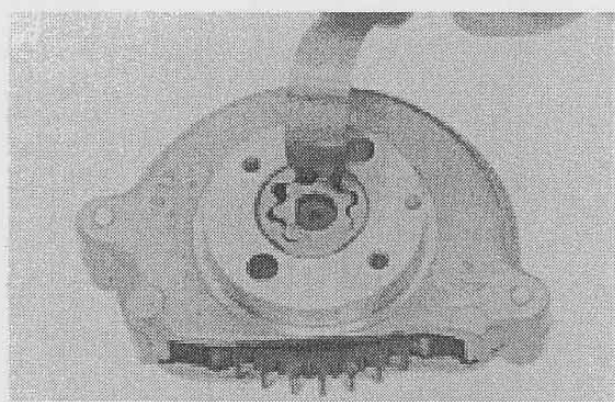
Measure the gap between the body and the outer rotor with a thickness gauge.
Service limit: 0.35mm or above ∪ replace.



- **Tip Clearance**

Measure the gap between an inner rotor and an outer rotor by using a thickness gauge.

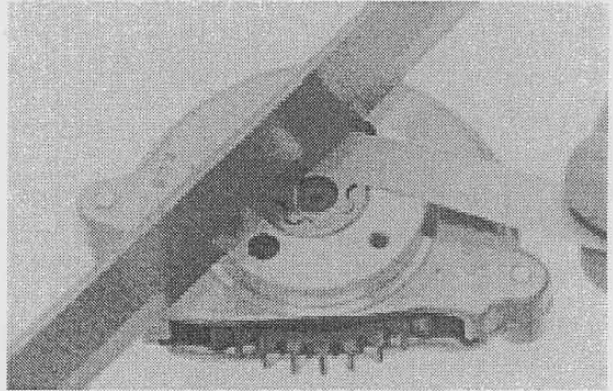
Service limit: 0.20mm or above ▽ replace.



- **Side Clearance**

Measure the gap between both inner and outer rotors and the pump body edge by using a thickness gauge and a straight edge.

Service limit: 0.15mm or above ▽ replace.

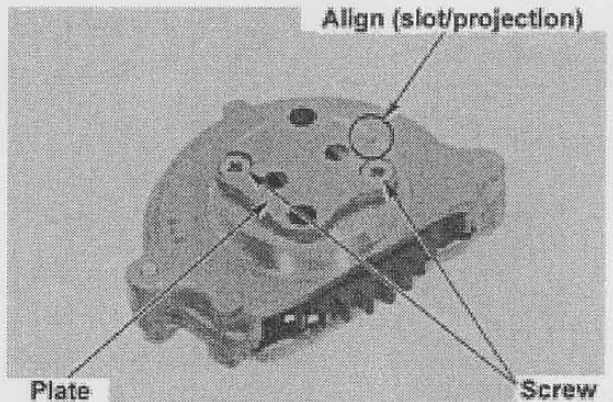


Set the oil pump plate to the pump body by aligning the plate projection to the pump body slot.

Tighten the plate screws.

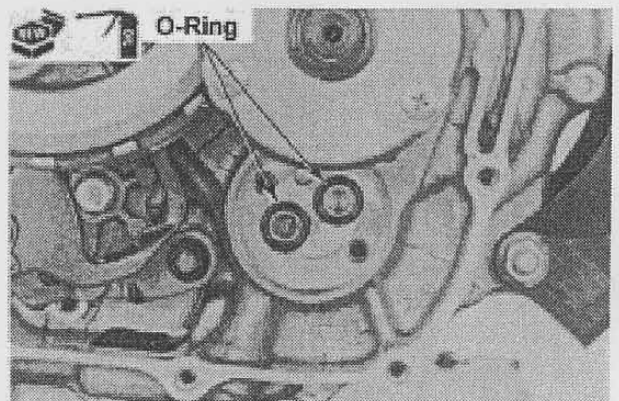
Torque: 3N.m (0.3kgf-m)

After assembling, rotate the drive gear and check for smooth rotation.



- **Installation**

Apply engine oil to the new O-Ring and install it to the crankcase.



DTA

Install the oil pump to the crankcase.
Set and tighten the oil pump screws.

Torque: 10N.m (1.0kgf-m)

Install a right crankcase cover (9-14).

