

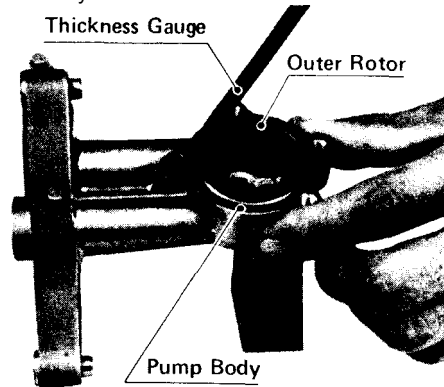
## MAINTENANCE 149

**Table 81 Rotor Side Clearance  
(with cover  
gasket fitted)**

Standard	Service Limit
0.02 ~ 0.07 mm	0.12 mm

### **Outer rotor/pump body clearance**

Measure the clearance between the outer rotor and the pump body with a thickness gauge. If the clearance exceeds the service limit, replace either the pump body or the rotors depending on which is excessively worn.



**Table 82 Outer Rotor/Pump Body  
Clearance**

Standard	Service Limit
0.15-0.21 mm	0.30 mm

### **Oil Filter**

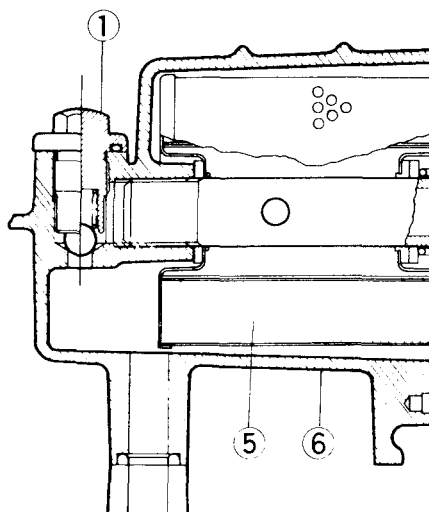
The oil filter, located in the upper left part of the crankcase, remove impurities from the oil.

As the filter element becomes dirty and clogged, its filtering efficiency is impaired. If it becomes so clogged that it seriously impedes oil flow, a pressure-activated bypass valve in the crankcase opens so that sufficient oil will still reach the parts of the engine needing lubrication. When the filter becomes clogged such that the oil pressure difference between the inlet and outlet for the filter reaches 3.0 ~ 4.0 kg/cm<sup>2</sup> (43~57 psi), the oil on the inlet side pushing on the valve spring opens the valve, allowing oil to flow to the main oil passage, bypassing filtration.

Since any metal particles or other foreign matter in the oil reaching the crankshaft and transmission accelerate wear and shorten engine life, the oil filter should never be neglected.

Replace the filter element in accordance with the Periodic Maintenance Chart (Pg. 195) since it becomes clogged with metal filings from the engine and transmission especially during break in. After break-in, replace the element at every other oil change. When the filter is removed for element replacement, wash it in a high flash-point solvent and check the condition of the rings are worn or deteriorated, replace them to avoid oil leakage.

## Oil Filter



1. Bypass Valve

2. Filter Cover

3. Filter Bolt

4. O Ring

5. Filter Element

6. Filter Body

7. O Ring

## Oil Breather

The oil breather is located on the top of the crankcase. The underside of the breather opens to the crankcase, while the upper part connects through the breather hose to the air cleaner. Its function is to minimize crankcase pressure variations caused by crankshaft and piston movement and to recycle blowby gas.

Gas blowby is the combustion chamber gas escaping past the rings into the crankcase. A small amount is unavoidable, but gas blowby increases as cylinder wall and piston ring wear progresses. If not efficiently removed, blowby gas will seriously contaminate the engine oil.

Recycling blowby gas means more efficient combustion, but the oil mist resulting from transmission gear movement must first be removed. The mixture of blowby gas and oil mist passes through a maze in the breather, which separates most of the oil from the gas. The oil which is separated from the gas returns to the bottom of the crankcase. The gas is drawn through the breather hose into the air cleaner housing, and is drawn through the carburetors into the engine.

If the breather hose or the parts inside the breather become clogged, pressure may build up in the crankcase and cause oil leaks.

**NOTE;** If the engine is overfilled with engine oil, mist from the excess oil will go through the oil breather to clog the air cleaner and cause carburetion trouble. This is not the fault of the oil breather.

## ENGINE OIL SEALS

The engine oil seals are listed in Table 83. The crankshaft oil seal in the right engine cover forms a seal between the crank chamber and the contact breaker point cavity. If this seal is damaged, oil will leak into the contact breaker point cavity, and foul the contact breaker points. Any damaged, hardened, or otherwise defective oil seal will allow oil to leak.