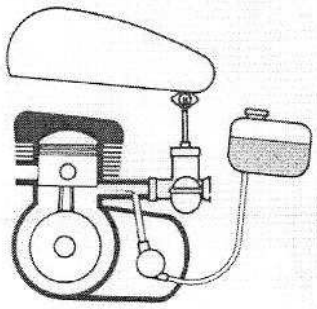
LUBRICATION SYSTEM

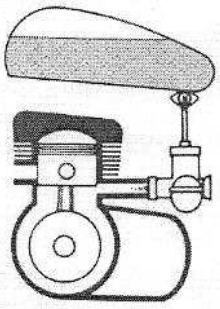
1. LUBRICATION SYSTEM OF 2-CYCLE ENGINE

Two-cycle crankcase scavenged engines have no storage space to hold the oil that is to be circulated (wet sump).
The lubricating system most commonly used on two-cycle crankcase scavenged engines may be dependent on "mixed" lube oil with fuel or on oil supplied through an independent channel into the crankcase.
Honda NC50 employs the separate lubrication in that all bearings and moving parts are supplied with oil fed into the crankcase from a separate tank.



(1) SEPARATE LUBRICATION

All bearings and moving parts gain lubrication by oil fed into the crankcase from an independent oil tank.
Oil pumps are used to force oil from the oil tank into the crankcase and to control the amount delivered.

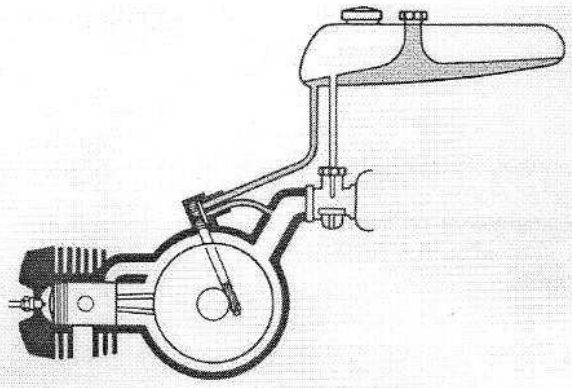


(2) "MIXED" LUBRICATION

Lube oil is mixed with fuel in the fuel tank in a designated proportion (usually 15:1 to 25:1). The above mixture then encounters and mixes with air moving through the carburetor to form the final air-fuel mixture. The mixture containing air is forced into the crankcase and goes through the crankcase bearings, connecting rod large ends and cylinder, thereby lubricating each component.

2. NC50 LUBRICATION SYSTEM

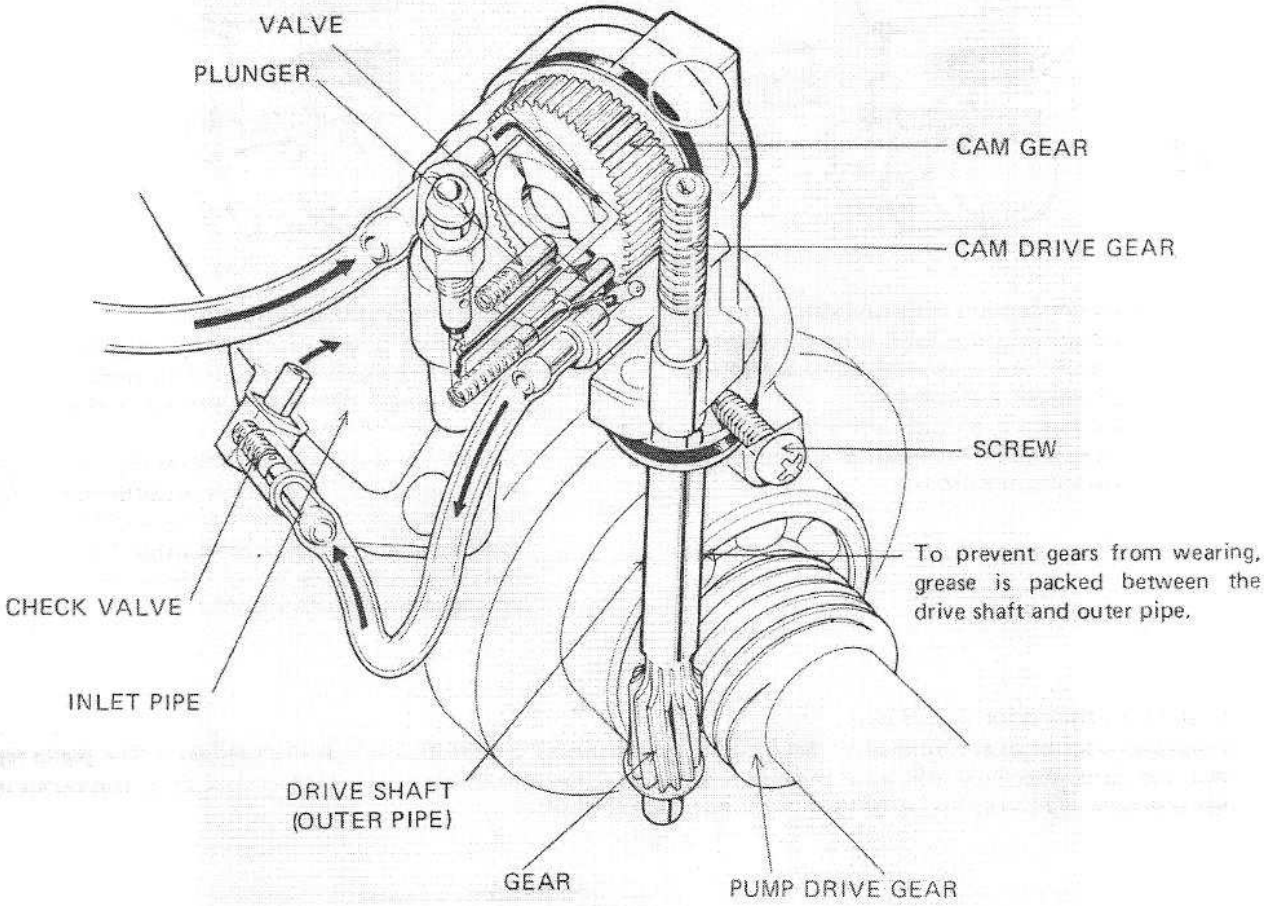
The separate lubrication system used on the NC50 is operated by a crankshaft driven plunger pump. The pump forces oil from the oil tank into the crankcase in exact proportion to the engine speeds and loads of the engine. This means reduced oil consumption and less carbon build-up in the combustion chamber.



3. OIL PUMP

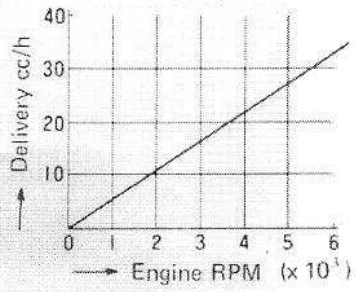
The pump is mounted at top of the crankcase with a screw. The pump drive gear, which is press fitted to the engine crankshaft, rotates the drive shaft (Reduction ratio: 1/4). The cam drive gear at the other end of the drive shaft rotates the cam gear with a reduction ratio of 1/22.

The pump itself consists of a plunger, a valve, a pump body and springs. Two stage cams, inside and outside, are formed on the side surface of the cam gear. The inside cam is for the plunger and the outside for the valve. (See next page for detail). The valve and plunger are held against the cam surfaces by means of the springs so that they move up and down in the pump body as the cams rotate according to the rotation of the cam gear.



(FEATURES)

- Least affected by changes in oil viscosity (temperature), assuring steady delivery over the entire range of engine speeds and loads of the engine through use of small diameter plunger and valve
- Long, trouble-free life due to use of sintered cams on cam gear
- Compact and lightweight construction



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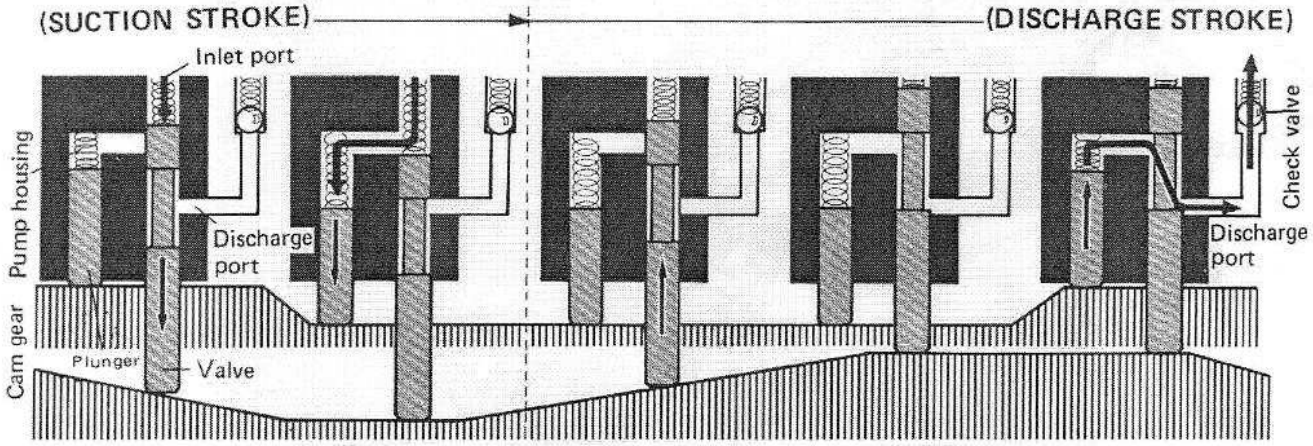
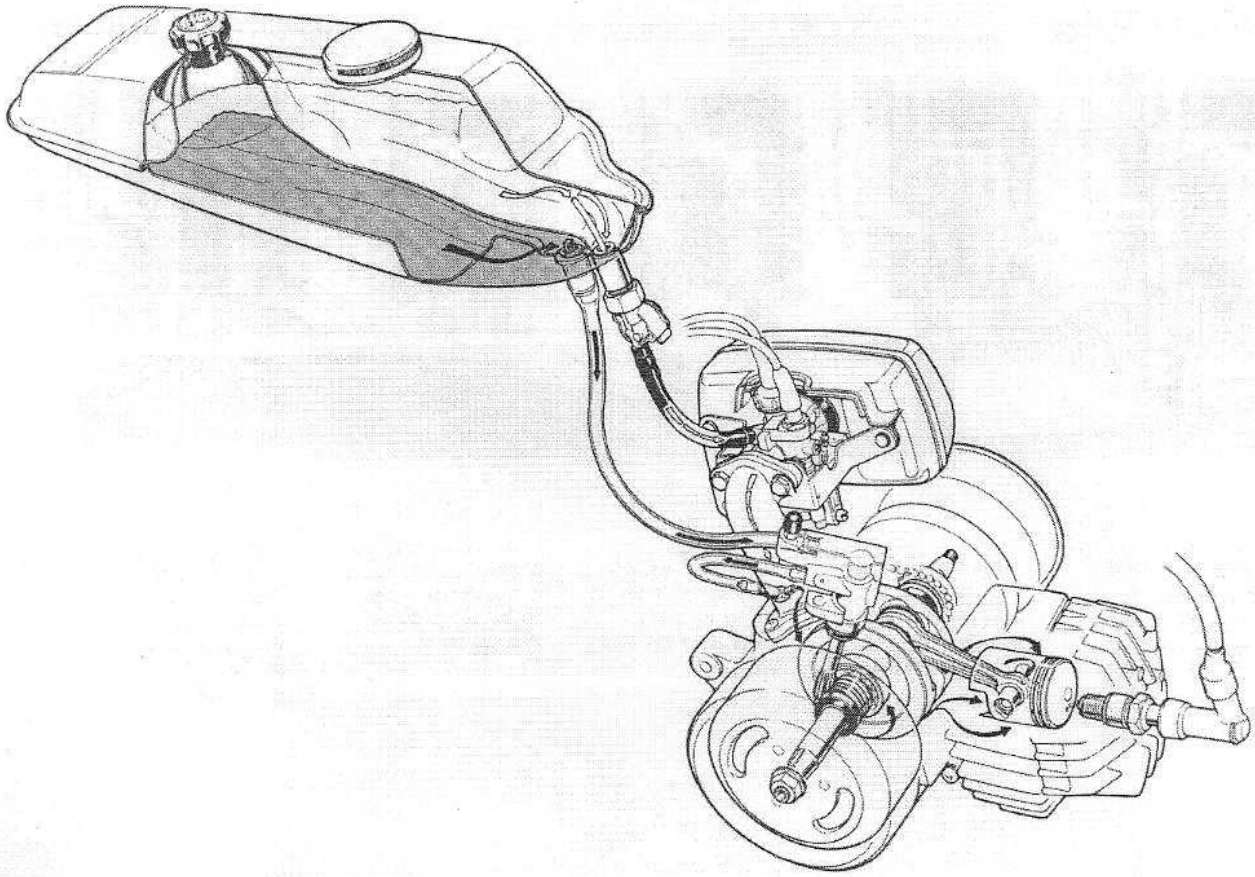
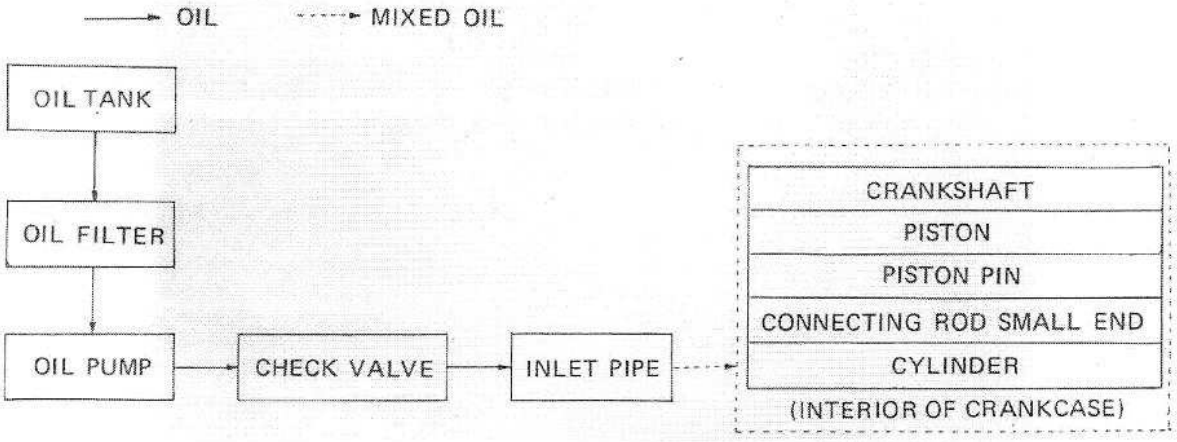
– OPERATION –



①	②	③	④	⑤
Valve is at bottom dead denter. Discharge port and pump port are blocked by valve.	Intake port opens. Oil flows into pump housing due to vacuum as plunger goes down.	At end of intake stroke, valve starts rising in body. Inlet port is blocked.	As valve rises further, pump housing is open to discharge port.	Plunger is pushed up by cam. Oil is forced into inlet pipe overcoming check valve spring force.

(LUBRICATING OIL FLOW)





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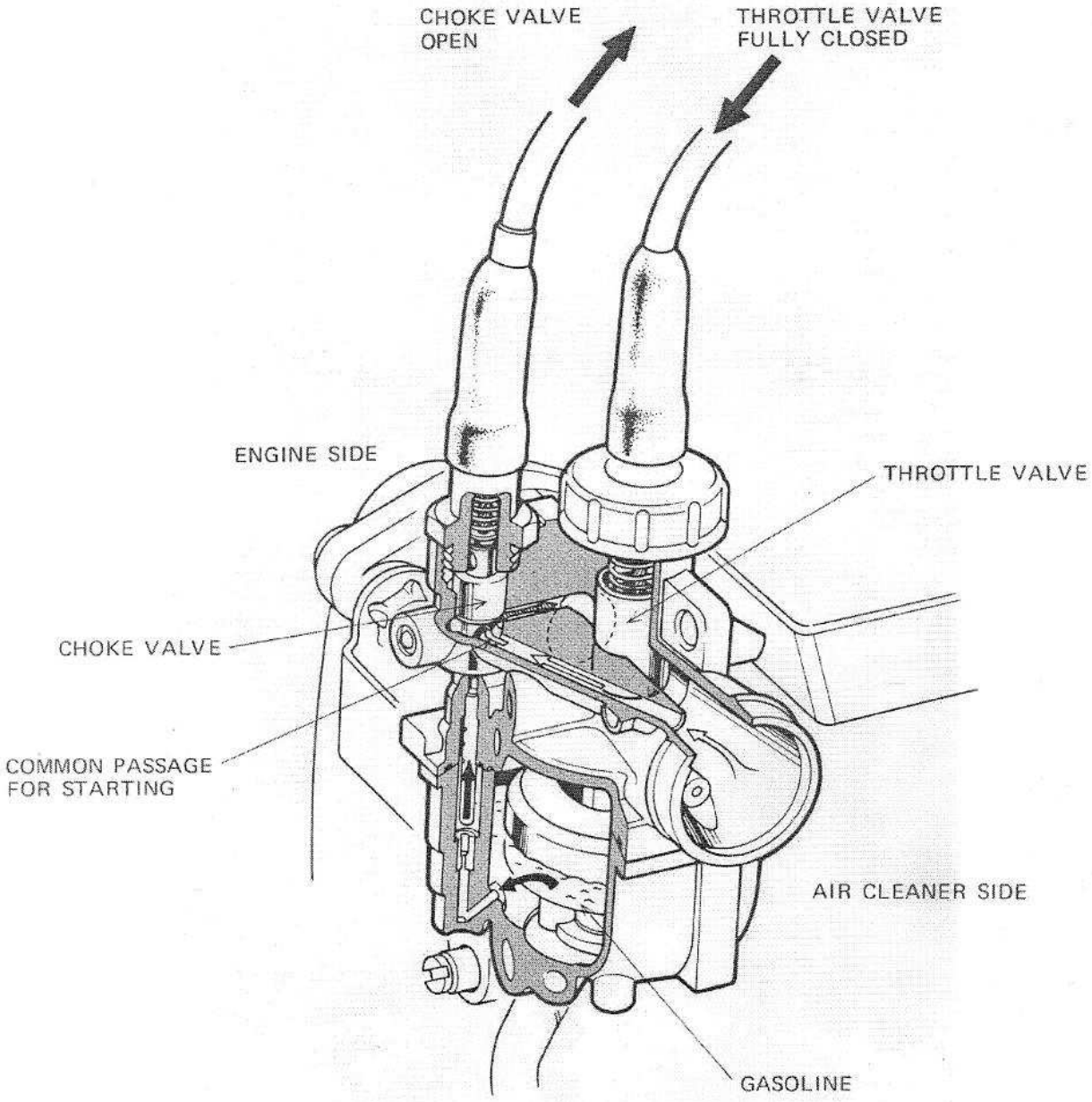
CARBURETOR

The carburetor is of a piston type that is equipped with a choke valve. The choke valve provides a very rich mixture when the engine is being cranked.

(CHOKE CIRCUIT)

Pulling the choke lever in causes the choke valve to open. Thus, when the engine is cranked with the throttle valve fully closed, a high vacuum is developed in the air horn on the engine side of the throttle valve. This vacuum causes the choke valve to discharge a heavy stream of fuel to produce the rich air-fuel mixture needed for starting the engine.



MEMO

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