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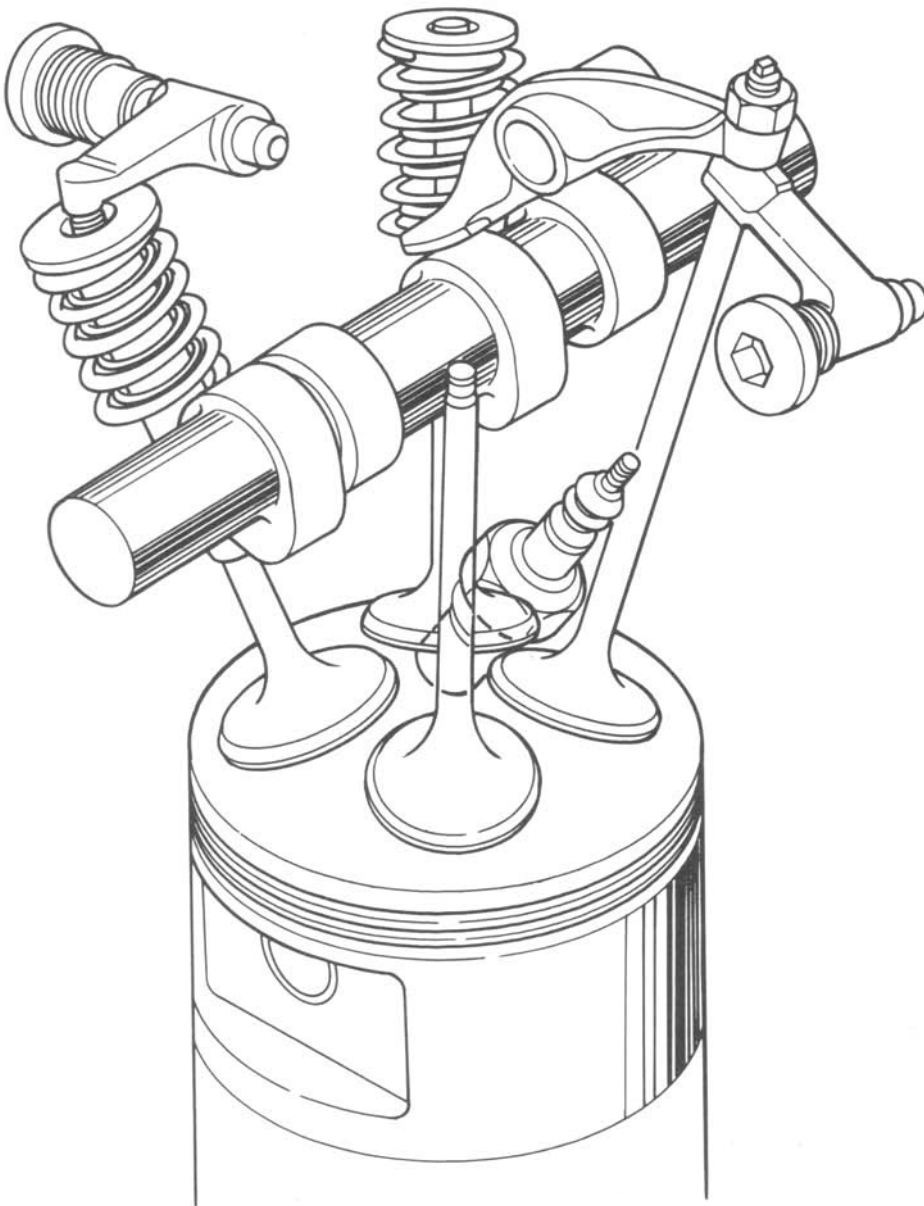
## RFVC (Radial Four Valve Combustion) ENGINE

The RFVC (Radial Four Valve Combustion) engine incorporates a cylinder head which has its two intake and two exhaust valves arranged radially. This design allows the largest possible valves to be used which maximizes intake and exhaust efficiency.

The radial valve arrangement also enables a shallow hemispherical combustion chamber with a centralized spark plug location to be formed. This shape provides a high compression ratio and promotes rapid combustion, both of which increase horsepower and torque.



[www.hxl.it](http://www.hxl.it)

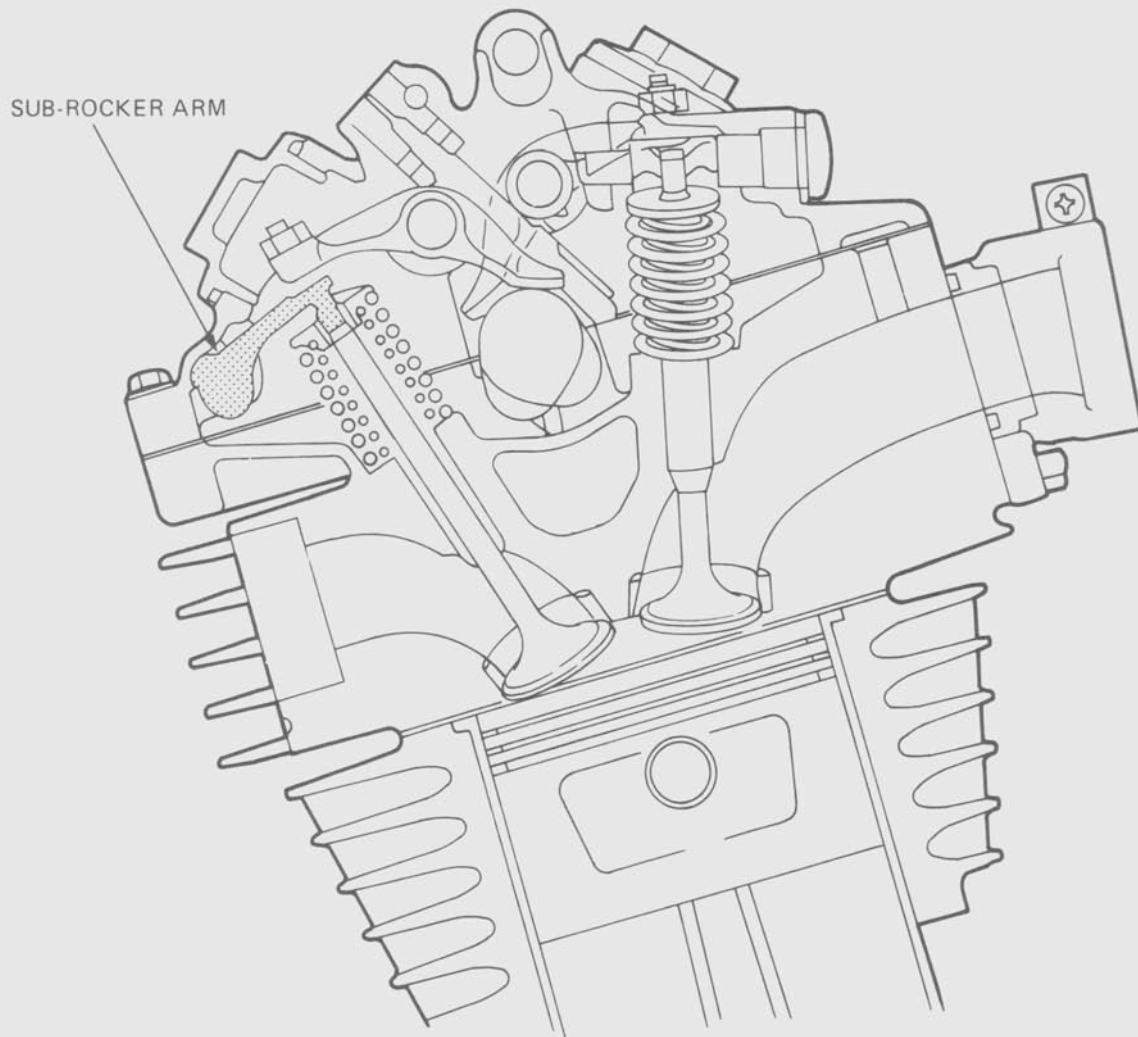




**TECHNICAL INFORMATION**

To ensure positive and reliable valve operation, sub-rocker arms are used in conjunction with conventional rocker arms to open the radially arranged valves.

The sub-rocker arms minimize side loads on the valve stems during operation.



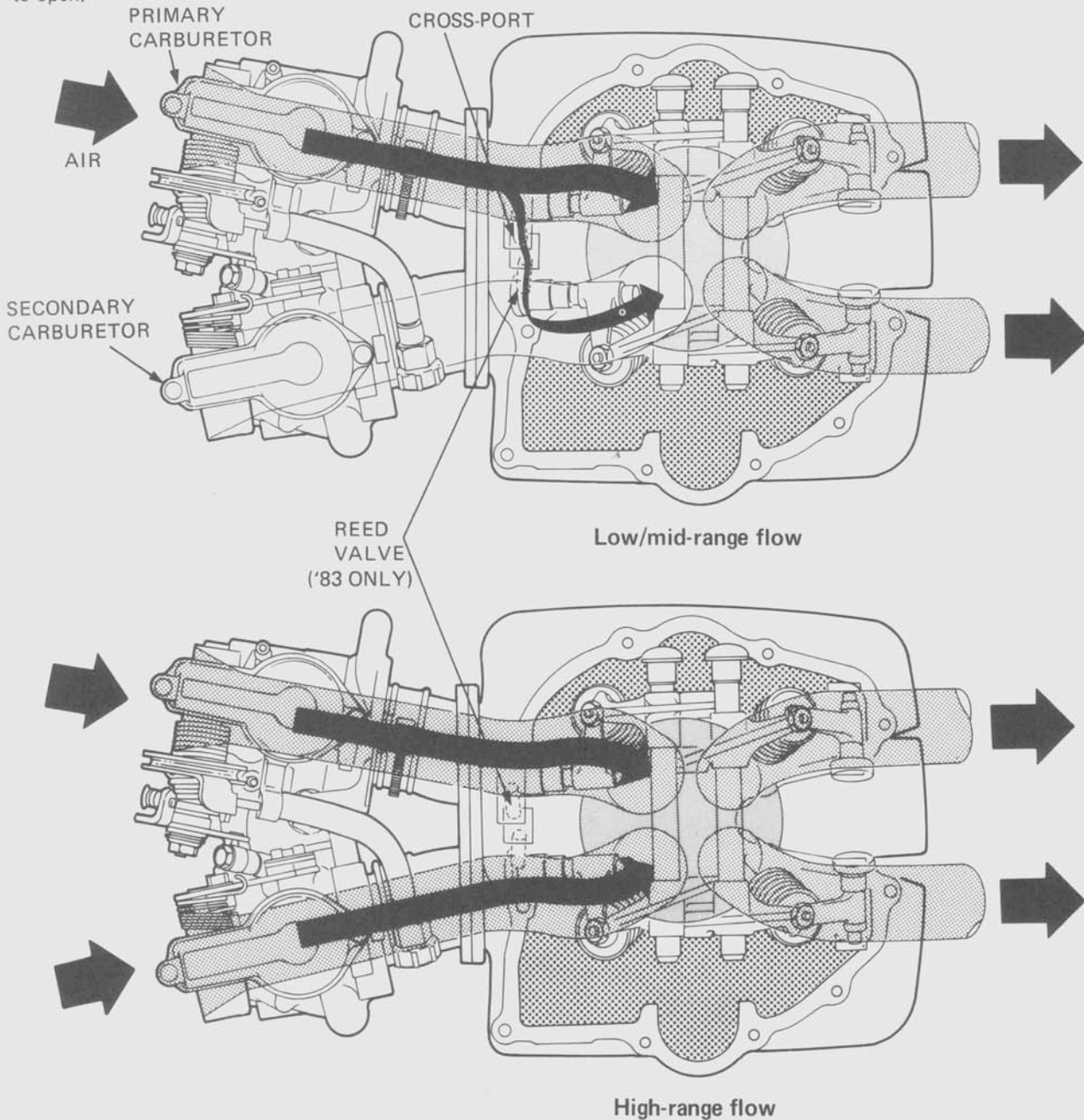


## DUAL CARBURETORS

The XL600R is equipped with dual carburetors to provide the large single with smooth drivability and precise throttle response at low speeds and the best carburetion for maximum power delivery at high speeds. Something that has often been a compromise on large single cylinder 4-stroke engines equipped with only one carburetor.

The primary carburetor is used for low to mid-range operation. The secondary carburetor is not used until the throttle is opened to about 1/3 to 1/2 when it begins to aid the primary carburetor. This allows high air velocity through the primary carburetor for smooth throttle response from 0 to 1/3 throttle. Both carburetors reach full opening simultaneously to provide the necessary fuel-air mixture for maximum power.

Each carburetor has its own intake tract into the cylinder head. These ports are connected by a cross-port in the cylinder head. This cross-port allows some fuel mixture to cross from the primary port to the secondary port to cool and lubricate the secondary intake port's valve. The cross-port has a reed valve on the 1983 model only, that closes as the secondary carburetor begins to open.





## DRY SUMP LUBRICATION SYSTEM

### LUBRICATION SYSTEM

The engine uses a dry sump in that the main frame is used as an oil tank. Oil in the main frame is sucked down by a trochoid type oil pump and is directed under pressure up into the cylinder head to cool and lubricate the valves, rocker arms and rocker arm shafts. Part of the oil from the oil pump is directed through an oil pipe into the transmission housing to lubricate the transmission gears and shafts. After lubricating the valves, gears and shafts, the oil is returned into the main frame via the oil pump. The design contributes to the compact, lightweight engine and greater ground clearance of the motorcycle. The separate oil tank also reduces deterioration of the engine oil to the minimum through improved cooling.

