

CYLINDER HEAD

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MAIN SPECIFICATIONS

DESCRIPTION	mm
Height of heads	127 + 127,2
Valves layout	V of 46°
Diameter of valve guide seats in cylinder head	13,000 + 13,018
Outside diameter of valve guides	13,050 + 13,068
Inside diameter of valve guides pressed into cylinder head (inlet) (exhaust)	8,000 + 8,015 8,000 + 8,015
Valve guides and seats in head : assembling interference	0,032 + 0,068
Diameter of valve stems (inlet) (exhaust)	7,960 + 7,975 7,960 + 7,975
Valve stem and guide coupling: - assembling clearance (inlet) (exhaust)	0,025 + 0,055 0,025 + 0,055
- limit of wear	0,10
Maximum runout between stem and valves head (inlet) (exhaust)	0,02 0,02
Thimble seat diameter	37,015+37,045
Outside diameter of thimble	36,975+36,995
Clearance between thimble and relevant seat: - assembling clearance - limit of wear	0,020+0,070 0,100
Inside diameter of inlet valve seat	36,900+37,100
Inside diameter of exhaust valve seat	33,900+34,100
Valve face angle (inlet) (exhaust)	45° ± 5' 45° ± 5'
Top diameter of inlet valve seat	44,220+44,240

Main Specifications : Cylinder head (continuation)

DESCRIPTION		mm	
Lower diameter of inlet valve seat		44,090+44,110	
Top diameter of exhaust valve seat		41,220+41,240	
Lower diameter of exhaust valve seat		41,090+41,110	
Inlet valve seat housing	(top diameter)	44,060+44,080	
	(lower diameter)	44,000+44,020	
Exhaust valve seat housing	(top diameter)	41,060+41,080	
	(lower diameter)	41,000+41,020	
VALVE SPRINGS		Inside spring	Outside spring
Free length of spring		40,4	42,1
Length with valve closed		35,05	38,65
Length with valve opened		26	29,6
Length of wholly compressed spring		24	25,5
Load with valve closed	kg.	12,3±0,5	16,6±0,6
Load with valve opened	kg.	33,1±1,2	60,3±2,1

CHECKING CYLINDER HEADS

The two cylinder heads are in aluminium alloy with hemispherical combustion chamber and inserted valve seats in cast iron. The seats fitting must be effected after checking of housings and rings diameter; the interference must be of $0,07 \pm 0,11$ mm. on the small diameter side and $0,14 \pm 0,18$ on the bigger diameter side. For inserting rings in seats, heat the heads in a suitable furnace at a temperature of $190^\circ \pm 200^\circ\text{C}$. while the rings will get cooled by means of carbon dioxide keeping them in it for $5' \pm 6'$. All finishing operations regarding seats must be carried out after they have been fitted to the heads. Each valve is provided with two concentric helical springs. It is advisable to replace the springs any time the engine is overhauled and also when they are deformed or with the load reduced of 3-5 kg. with closed valve. When the valve seats wear is of $0,6 \pm 0,7$ mm. they must be replaced. To avoid any damage to head housing, it is necessary to withdraw the seats by boring them.

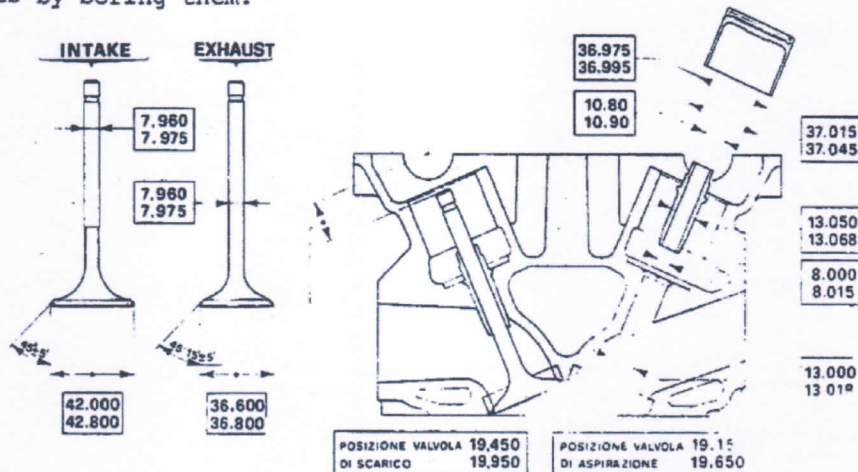


Fig. 9 - MAIN DATA of VALVES and GUIDES.

CLEANING AND CHECKING

Remove carbon deposits from combustion chambers and intake and exhaust pipes. Clean with oil, better if under pressure.

- Check threaded holes for sparking plugs.
- Check that valve seats do not move in proper housing.
- Check the head faces on the crankcase and camshaft housings.
- Check that there are no water leaks (Test pressure 8 ± 10 kg/cm²).
- Check thimble seats.

DISMANTLING AND CHECKING VALVES

Use the tool AV-508 to remove the valves.

- Check valve stem wear with a micrometer caliper.
- Check wear and flat surface at the stem end.
- Make sure of the perfect concentricity between valves and seats; check also the clearance between valves and guides.
- Check inner size and ovalization of valve guides.
- Check that valve guide hole surface is not scored or seized.
- Check with plug gauge 152-CS-7431 the inner size and ovalization of of thimble seats.
- Make sure that oil seals on valve guides are in perfect conditions.

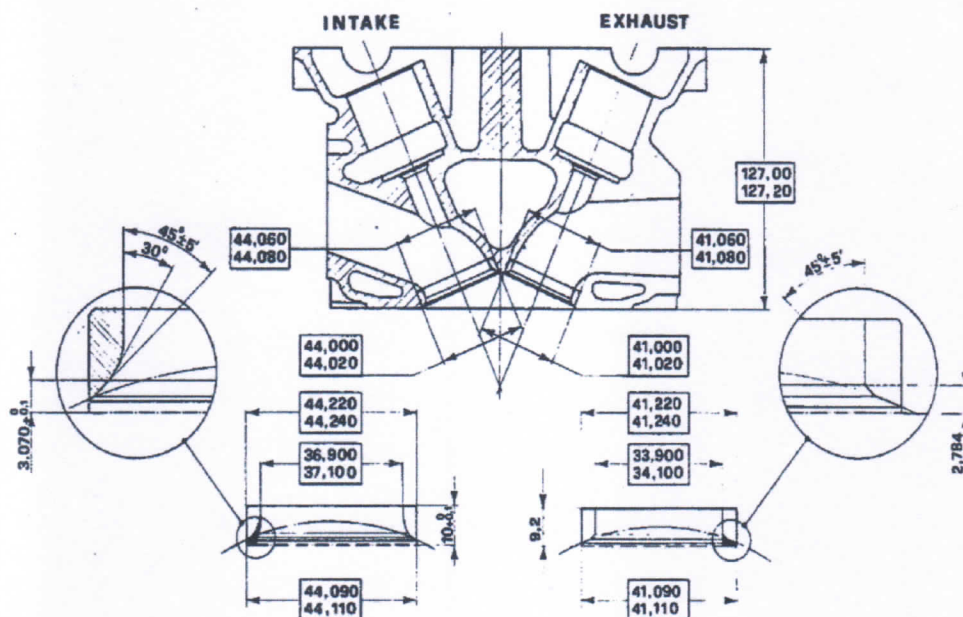


Fig. 10 - MAIN DATA of VALVE SEATS

CHECKING VALVE SPRINGS

Make sure that springs are neither cracked nor weak.

Check the spring load with the suitable tester; compare the load and elastic deformation data found with those given for new spring that are shown in fig. 11.

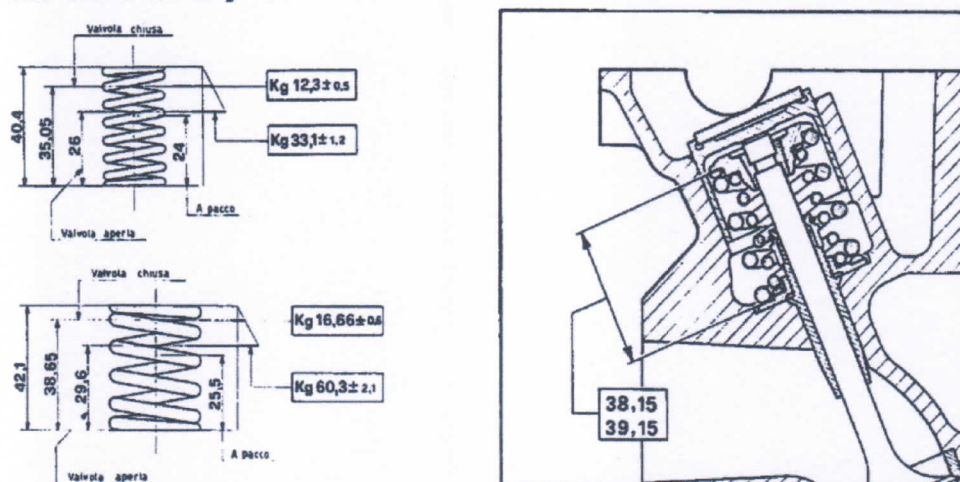


Fig. 11 - MAIN DATA of VALVE SPRINGS

Warning : Before assembling the springs, check that distance from lower face to face on upper shim is of 38,65 mm.

Should this distance exceed of 0,5 mm. this value, make it correct by putting a steel washer of suitable thickness under the lower shim.