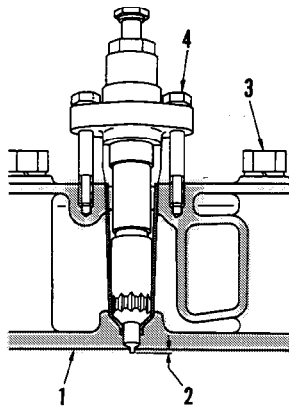
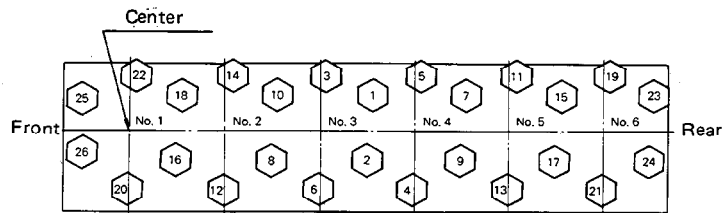


ENGINE BODY CYLINDER HEAD



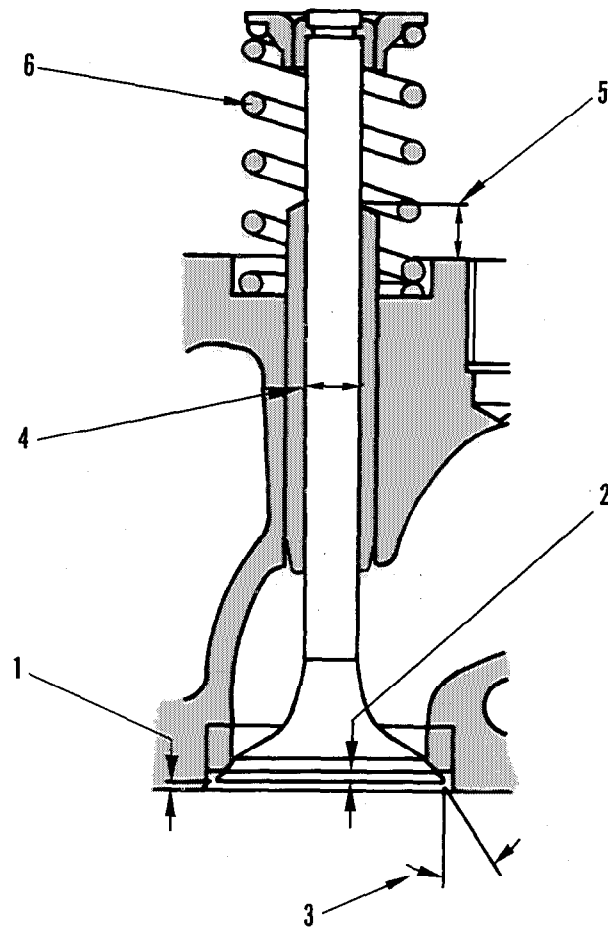
6136F034



6136F035

Unit: mm							
No.	Check item	Criteria				Remedy	
1	Deformation of cylinder head mounting surface	Tolerance		Repair limit		Grind or replace	
		0 - 0.09		0.12			
2	Protrusion of nozzle	Engine No.		Standard		Replace nozzle sleeve	
		10001 - 49999		0.79 - 1.71			
		50001 and up		1.29 - 2.21			
3	Tightening torque of cylinder head mounting bolt (Coat thread with molybdenum sulphide or engine oil)	Order	Molybdenum sulphide		Engine oil		Tighten in order shown above
			Target (kgm)	Range (kgm)	Target (kgm)	Range (kgm)	
		1st	9	8 - 10	9	8 - 10	
		2nd	13	12 - 14	13	12 - 14	
3rd	18	17.5 - 18.5	20	19.5 - 20.5			
4	Tightening torque of nozzle holder mounting bolt	Target (kgm)		Range (kgm)		Tighten	
		1.75		1.5 - 2.0			

VALVE AND VALVE GUIDE

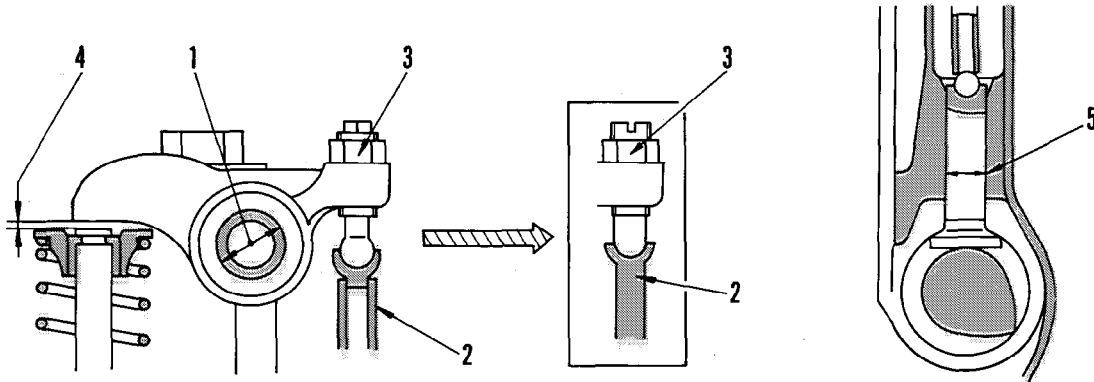


6136F036

Unit: mm

No.	Check item	Criteria					Remedy
		Engine No.	Valve	Standard size	Tolerance	Repair limit	
1	Sinking of valve	10001 – 49999	Intake valve	1.5	±0.24	2.6	Replace valve or valve seat
			Exhaust valve	1.5	±0.28	2.6	
		50001 and up	Intake, exhaust valves	0	±0.1	1.1	
2	Thickness of valve lip	Valve		Standard size	Repair limit		Replace valve
		Intake valve		2.10	1.7		
		Exhaust valve		1.50	1.2		
3	Angle of valve seat			Intake valve	Exhaust valve		Repair or replace valve or valve seat
		Standard		30°	45°		
4	O.D. of valve stem	10001 – 49999	Intake valve	10	-0.040 -0.060		Replace valve
			Exhaust valve	10	-0.065 -0.085		
		50001 and up	Intake, exhaust valves	9	-0.030 -0.045		
4	I.D. of valve guide	10001 – 49999	Intake, exhaust valves	10	+0.025 -0.005		Replace valve guide
		50001 and up	Intake, exhaust valves	9	+0.030 +0.010		
	Clearance between valve guide and stem	10001 – 49999	Intake valve	0.035 – 0.085		0.22	Replace valve or valve guide
			Exhaust valve	0.060 – 0.110		0.24	
		5001 and up	Intake, exhaust valves	0.040 – 0.075		0.20	
	Curvature of valve stem	Repair limit: 0.02 (total variation of indicator, per 100 mm)					Replace
5	Height of valve guide when knocked in	Engine No.		Standard	Tolerance		Repair
		10001 – 49999		19	±0.2		
		50001 and up		25.9	±0.25		
6	Free length of valve spring	Engine No.		Standard size	Repair limit		Replace valve spring
		10001 – 49999		59.4	58		
		50001 and up		63.8	62.4		
	Installed length of valve spring	Installed length		Standard load	Repair limit		
50.1		29.0 ± 1.3 kg	26.0 kg				
	Out-of straight of valve spring	Repair limit 2° (at both ends)					

ROCKER ARM, PUSH ROD AND TAPPET



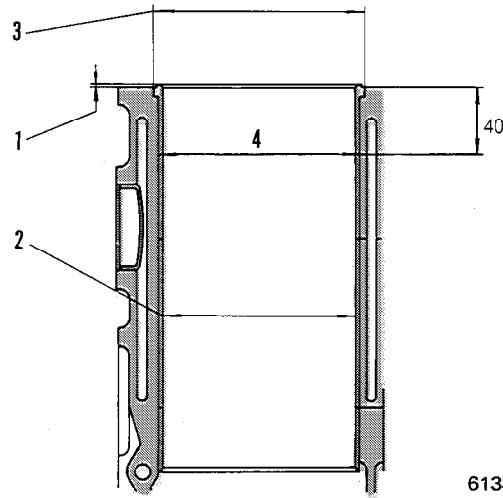
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6136F038

Unit: mm

No.	Check item	Criteria			Remedy	
1	O.D. of rocker arm shaft	Standard size		Tolerance	Replace rocker arm shaft	
		19		-0.010 -0.030		
	I.D. of rocker arm shaft hole	Engine No.	Standard clearance	Clearance limit	Replace rocker arm	
		10001 - 49999	19	+0.030 +0.010		
Clearance between rocker arm shaft and rocker arm shaft hole	Standard clearance		Clearance limit	Replace rocker arm or rocker arm shaft		
	0.020 - 0.060		0.13			
	Curvature of rocker arm shaft	Repair limit: 0.20 (total variation of indicator)			Replace rocker arm shaft	
2	Curvature of push rod	Repair limit: 0.30 (total variation of indicator)			Replace push rod	
3	Tightening torque of lock nut for rocker arm adjustment screw	Target (kgm)		Range (kgm)	Tighten	
		3.15		2.8 - 3.5		
4	Valve clearance (when cold)	Engine No.	Valve	Standard	± 0.02	Adjust
		10001 - 49999	Intake side	0.35		
			Exhaust side	0.65		
		50001 and up	Intake side	0.25		
Exhaust side	0.45					
	O.D. of tappet	Standard size		Tolerance	Replace tappet	
		18		-0.015 -0.035		
5	I.D. of tappet hole	Standard size		Tolerance	Replace cylinder head	
		18		+0.020 0		
	Clearance between tappet and tappet hole	Standard clearance		Clearance limit	Replace tappet or cylinder head	
		0.015 - 0.055		0.20		

CYLINDER LINER



Unit: mm

No.	Check item	Criteria				Remedy
1	Protrusion of cylinder liner	Permissible range: 0.05 – 0.13				Replace cylinder liner or cylinder block
2	Inside diameter of cylinder liner	Standard size	Tolerance		Repair limit	Replace cylinder liner
		110	+0.035 0		110.20	
	Roundness of cylinder liner	Repair limit: 0.15				
	Cylindricity of cylinder liner	Repair limit: 0.08				
3	Outside diameter of cylinder liner (Counter bore)	Standard size		Tolerance		
		120		0 -0.08		
	Clearance between cylinder block and cylinder liner (Counter bore)	Standard clearance: 0.10 – 0.28				Replace cylinder liner or cylinder block
4	Interference between cylinder liner and cylinder block	Standard size	Mark	Tolerance		Standard interference
		115	A	Liner O.D.	Block I.D.	
			B	+0.0300 +0.0175	+0.0125 0	0.005 – 0.030
			+0.0425 +0.0300	+0.0250 +0.0125		