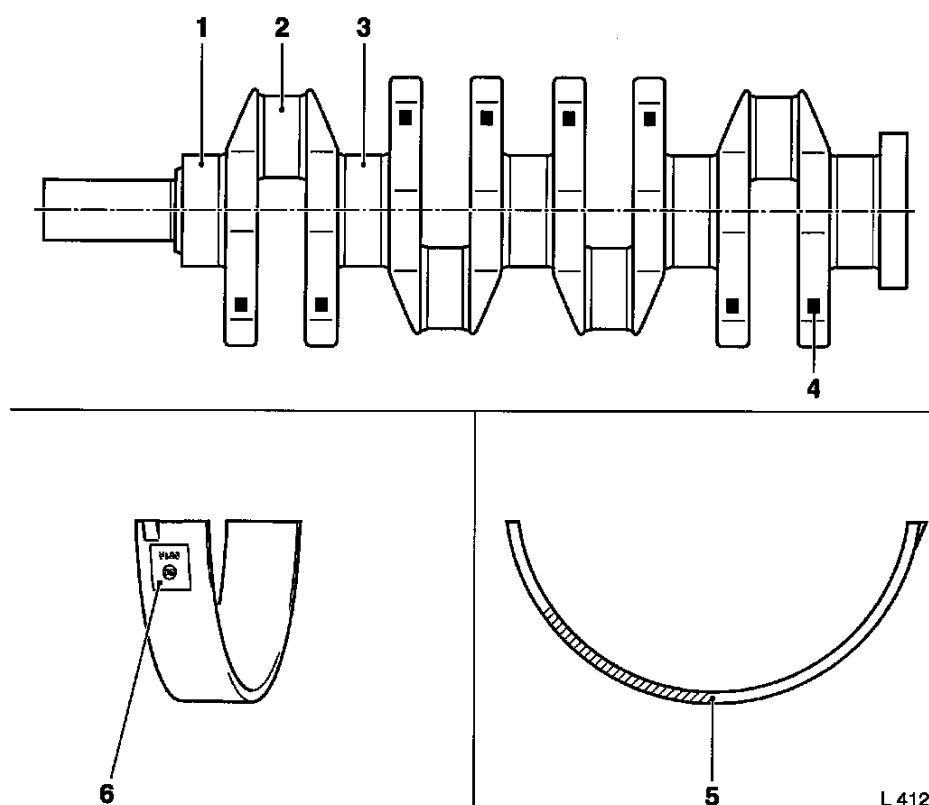


Crankshaft Drive, Cylinder Block (Z 22 SE)

Illustration

- 1 Main bearing journal
- 2 Connecting rod bearing journal
- 3 Main bearing journal no.2 (pilot bearing)
- 4 Crankshaft colour markings
- 5 Colour markings on bearing shells
- 6 Identification of bearing shells



L 4120

Engine		Z 22 SE	
Crankshaft dimensions		Main bearing journal dia. 1 – 5	Colour marking
Standard size	mm	55,994 – 56,008	
Undersize (0.25)	mm	55,744 – 55,758	
Undersize (0.50)	mm	55,494 – 55,508	
		Connecting rod bearing journal dia. 1 – 4	
Standard size	mm	49,000 – 49,014	
Undersize (0.25)	mm	48,750 – 48,764	
Undersize (0.50)	mm	48,500 – 48,514	
		Width of main bearing journal no. 2 (pilot bearing)	
Standard size	mm	26,500 – 26,552	
Undersize (0.25)	mm	26,250 – 26,302	
Undersize (0.50)	mm	26,000 – 26,052	

Engine		Z 22 SE		
Crankshaft bearings 1,3,4,5		Crankshaft bearing lower shells		
		Colour code identification	Thickness	Identification
Standard size	mm		4,030 – 4,037	
Undersize (0.25)	mm		4,155 – 4,162	
Undersize (0.50)	mm		4,280 – 4,287	
		Upper crankshaft bearing shell		

Standard size	mm	4,030 – 4,037
Undersize (0.25)	mm	4,155 – 4,162
Undersize (0.50)	mm	4,280 – 4,287
Permissible crankshaft bearing clearance	mm	0,007 – 0,014
Permissible crankshaft end float	mm	0,092 – 0,24
Permissible radial run-out	mm	0,03

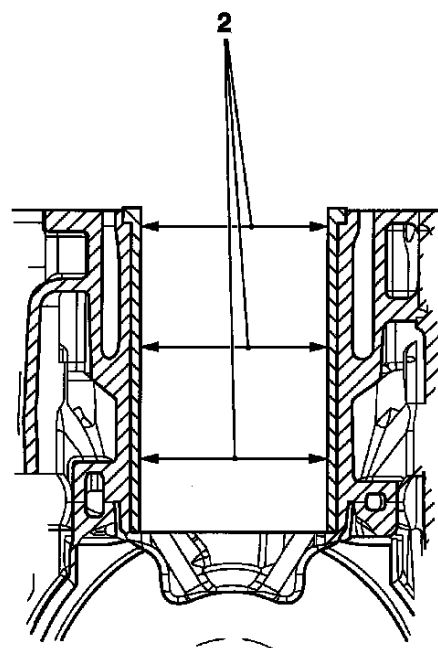
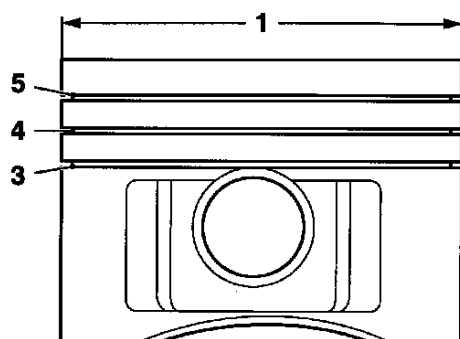
Engine		Z 22 SE		
Crankshaft bearings 2 (pilot bearing)		Crankshaft bearing lower shells		
		Colour marking	Thickness	Code
Standard size	mm		4,036 – 4,043	
Undersize (0.25)	mm		4,161 – 4,168	
Undersize (0.50)	mm		4,268 – 4,293	
		Upper crankshaft bearing shell		
Standard size	mm		4,036 – 4,043	
Undersize (0.25)	mm		4,161 – 4,168	
Undersize (0.50)	mm		4,286 – 4,293	

Engine		Z 22 SE		
Width of crankshaft bearing no. 2 (pilot bearing)		Colour code identification	Width	Identification
Standard size	mm		26,26 – 26,46	
Undersize (0.25)	mm			
Undersize (0.50)	mm			

Engine		Z 22 SE		
Connecting rod bearings		Lower big-end bearing shell		
		Colour marking	Thickness	Code
Standard size	mm		1,539 – 1,545	
Undersize (0.25)	mm		1,664 – 1,670	
Undersize (0.50)	mm		1,795 – 1,798	
		upper connecting rod bearing shell		
Standard size	mm		1,539 – 1,545	
Undersize (0.25)	mm		1,664 – 1,670	
Undersize (0.50)	mm		1,795 – 1,798	
Permissible connecting rod bearing clearance	mm	0,041 – 0,043		

Illustration

- 1 Piston diameter
- 2 Cylinder bore
- 3 Oil control ring with annular spring
- 4 Napier ring or double-trapezoid ring
- 5 Rectangular-section ring



L 4081

Engine		Z 22 SE
Cylinder bore dia.		
Standard size	mm	85,992 – 86,008
Oversize	mm	86,117 – 86,133
Piston dia.		
Standard size	mm	85,967 – 85,982
Oversize	mm	86,092 – 86,107
Piston clearance	mm	0,025 – 0,026
Piston protrusion	mm	0

Engine		Z 22 SE
Piston rings		
Rectangular-section ring		
Height	mm	1,17 – 1,19
Ring gap	mm	0,20 – 0,40
Clearance in groove	mm	0,06
Napier ring		
Height	mm	1,471 – 1,490
Ring gap	mm	0,35 – 0,55
Clearance in groove	mm	0,05
Oil scraper ring		
Height	mm	2,348 – 2,477
Ring gap	mm	0,25 – 0,76
Clearance in groove	mm	0,063 – 0,172
Ring gap arrangement ¹⁾	°	120

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Engine		Z 22 SE
Piston pin		
Length	mm	62,59 – 63,09
Diameter	mm	19,995 – 20,000
Retention		Floating fit
Clearance		
in piston	mm	0,007
in connecting rod	mm	0,012 – 0,021

Engine		Z 22 SE
Bore for adapter KM–412–27, right–hand side		
Bore diameter	mm	6,75
Bore depth	mm	23,5
Thread depth	mm	18,5
Thread	mm	M8 x 1,25

1) Offset the gap of the upper oil scraper ring 25 to 50 mm to the left, and the gap of the lower one 25 to 50 mm to the right of the gap in the middle ring.