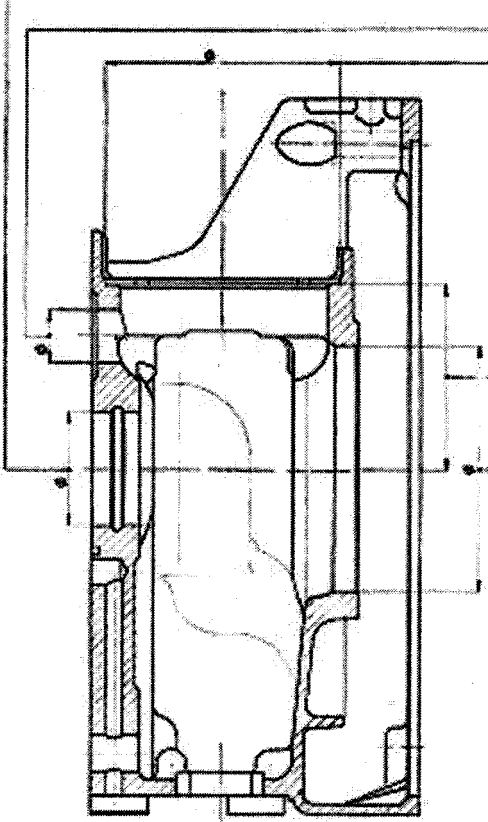
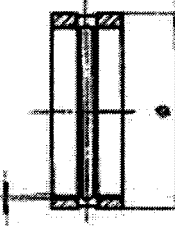


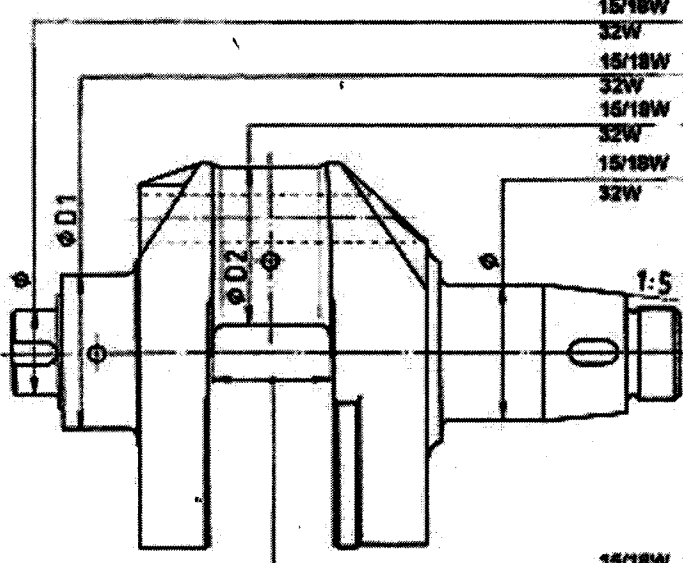
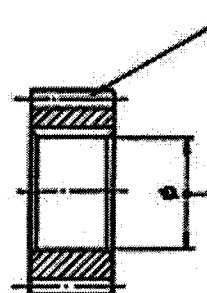
4. MEASUREMENT TABLE- WEARING PARTS

4.1 CRANKCASE

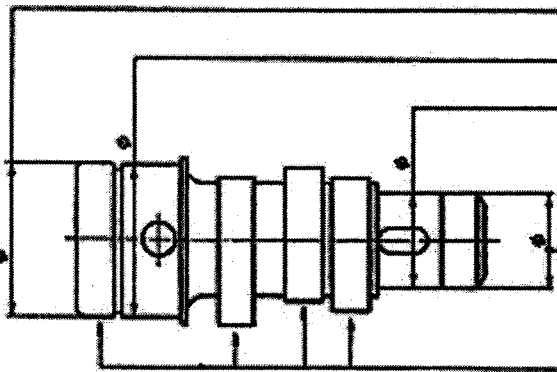
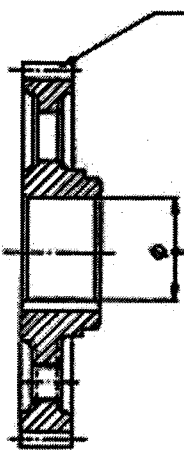
Part. Description		Dimension		
		Original max. mm	min. mm	max. Limit mm
Crankcase 	15/18W	45.971	45.355	45.985
	32W	46.016	46.000	46.030
		22.020	21.990	22.990
	15/18W	95.035	95.000	
	32W	104.100	104.100	
	15/18W	75.050	74.950	74.900
	32W	92.050	91.950	91.900
	15/18W	100.004	99.982	
	32W	128.004	127.979	
Main bearing bush 	15/18W	46.105	46.065	
	32W	46.075	46.035	
	15/18W	inner diameter not fixed can only be checked when bush is pressed into crankcase via the bearing play, radial play:		
	32W	0.02	0.04	0.09
		0.02	0.06	0.09
		Bearing bush will have to be replaced when galvani- cally applied Layer "R" wears off (recognisable on shiny gold bronze color) and/or when scoring appears around circumference. The inner diameter should not be used to determinate wear, only the radial bear- ing play is important.		

MEASUREMENT TABLE, WEAR

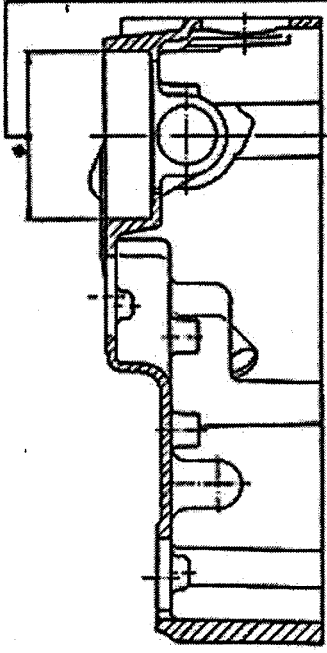
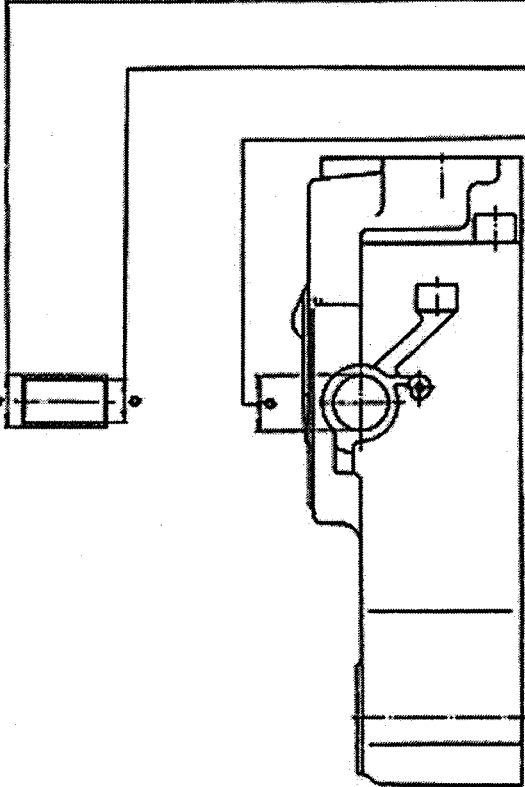
4.2 CRANKSHAFT

Part. Description	Dimension																																									
	max. mm	Original min. mm	max. Limit mm																																							
Crankshaft																																										
	15/18W 22.029	22.008	*																																							
	32W 22.029	22.008	*																																							
	15/18W 40.080	40.060	*																																							
	32W 41.010	39.990	*																																							
	15/18W 40.030	40.020	*																																							
	32W 47.960	47.940	*																																							
	15/18W 35.023	35.015	*																																							
	32W 45.020	45.009	*																																							
	15/18W 30.200	30.130	30.300																																							
	32W 30.250	30.160	30.350																																							
Radial Bearing play	D1 0.020	0.050	0.080																																							
	D1 0.020	0.060	0.090																																							
	D2 0.030	0.060	0.110																																							
	D2 0.030	0.060	0.120																																							
Regrind Stages The crank pin and journal can be reground in 2 stages of 0.25 mm each and fitted with under size bearings																																										
	<table><tr><th></th><th>ø D1</th><th>ø D2</th><th>D1 corresponding bearing</th><th>D2 corresponding bearing</th><th></th></tr><tr><td rowspan="2">1</td><td>39.830</td><td>39.780</td><td rowspan="2">775.033.4</td><td rowspan="2">470.009.4</td><td rowspan="2">15/18W</td></tr><tr><td>39.810</td><td>39.770</td></tr><tr><td rowspan="2">2</td><td>39.580</td><td>39.530</td><td rowspan="2">775.034.4</td><td rowspan="2">470.012.4</td><td rowspan="2"></td></tr><tr><td>39.560</td><td>39.520</td></tr><tr><td rowspan="2">1</td><td>40.985</td><td>47.710</td><td rowspan="2">775.035.4</td><td rowspan="2">470.019.4</td><td rowspan="2">32W</td></tr><tr><td>39.740</td><td>47.460</td></tr><tr><td rowspan="2">2</td><td>40.735</td><td>47.690</td><td rowspan="2">775.036.4</td><td rowspan="2">470.020.4</td><td rowspan="2"></td></tr><tr><td>39.490</td><td>47.460</td></tr></table>		ø D1	ø D2	D1 corresponding bearing	D2 corresponding bearing		1	39.830	39.780	775.033.4	470.009.4	15/18W	39.810	39.770	2	39.580	39.530	775.034.4	470.012.4		39.560	39.520	1	40.985	47.710	775.035.4	470.019.4	32W	39.740	47.460	2	40.735	47.690	775.036.4	470.020.4		39.490	47.460			
	ø D1	ø D2	D1 corresponding bearing	D2 corresponding bearing																																						
1	39.830	39.780	775.033.4	470.009.4	15/18W																																					
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	39.490	47.460																																								
Crankshaft gear		22.000	19.970	Tooth edges smooth, no scoring and wear.																																						
Heat gear to 90-100°C to obtain shrink-fit.																																										


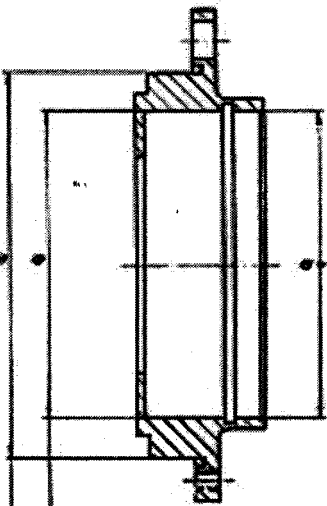

4.3 CAMSHAFT

Part. Description	Dimension		
	Original max. mm	min. mm	max. Limit mm
Camshaft 	34.850	34.800	34.750
	35.018	35.002	
	22.031	22.022	
	21.930	21.910	21.860
			renew if scored
Camshaft gear 			Tooth edges smooth, no scoring and wear.
	22.000	21.980	
	Heat gear to 90-100°C to obtain shrink-fit.		

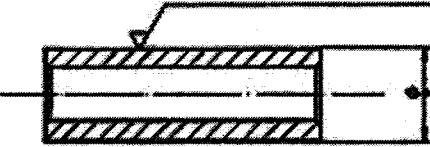
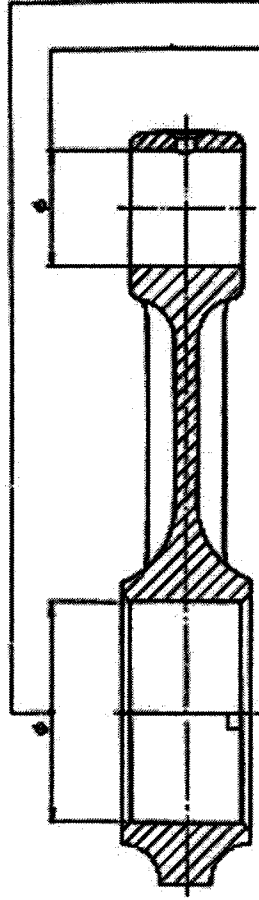
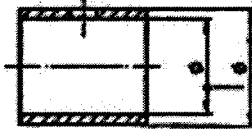
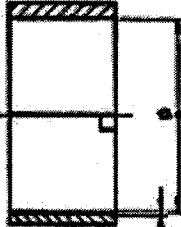
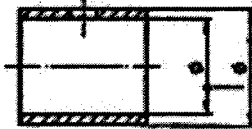
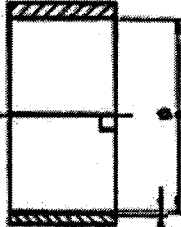
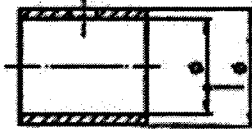
4.4 GEAR COVER

Part. Description	Dimension		
	max. mm	Original min. mm	max. Limit mm
<p>Gear cover</p>  	61.991	61.961	
	20.074	20.054	
	16.142	16.092	
	when pressed into gearcover		
	16.100	16.080	16.150
	20.020	20.010	

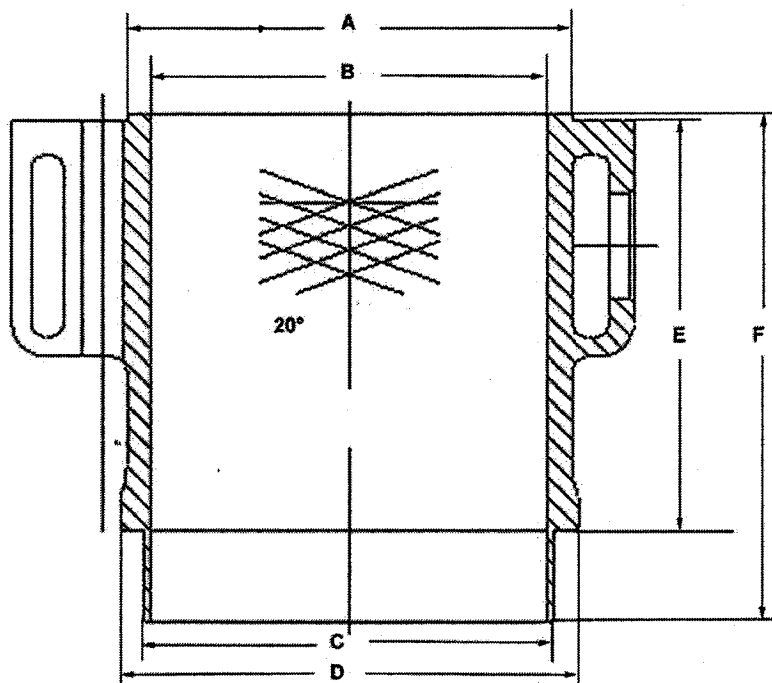
4.5 SHAFTS, BEARINGS

Part. Description	Dimension		
	Original max. mm	min. mm	max. Limit mm
Excentric shaft 	16.056	16.045	16.000
Main bearing housing 	15/18W 32W	80.046 99.982	80.000 99.967
	15/18W 32W	79.986 99.982	79.967 99.967
	15/18W 32W	100.035 128.027	100.013 128.008
Angle ring 	15/18W 32W	60.000 65.000	59.810 64.810
			renew if scored

4.6 CONNECTING ROD

Part. Description	Dimension		
	max. mm	Original min. mm	max. Limit mm
Piston pin			renew if scored
	22.000 26.000	21.996 25.996	
Connecting rod with bearings			renew if scored
	15/18W 32W	43.666 51.619 43.650 51.600	
	15/18W 32W	24.986 29.013 24.974 29.000	
	15/18W 32W	25.075 29.075 25.035 29.035	
	15/18W 32W	22.050 26.109 22.030 26.045	
	15/18W 32W	0.030 0.030 0.060 0.060	
	15/18W 32W	0.110 0.120	
inner diameter only to be checked via radial bearing play:			
Both bearing shells will have to be renewed when the galvanically applied layer "B" wears off (recognisable on shiny gold-bronze color) and/or when scoring appears around circumference.			

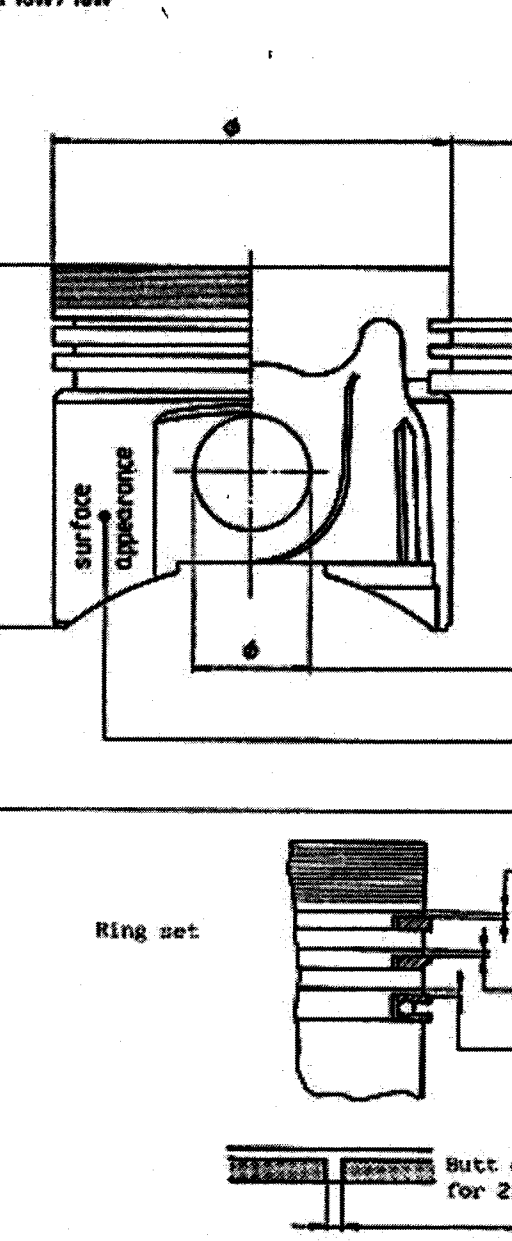
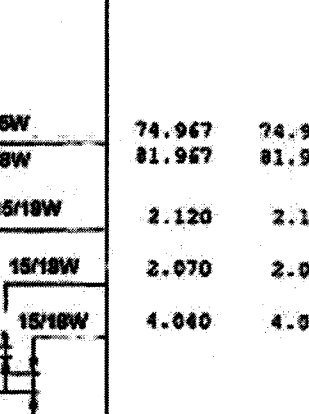
4.7 CYLINDER LINER



Dimensions :

	15W	18W	32W
A	92 -0,05	92 -0,05	109,2 -0,1
B	75,050 - 75,030	82,050 - 82,030	95,040 - 95,020
C	78,8 -0,1	85,0 -0,2	100,5 -0,2
D	95 -0,036 / -0,071	95 -0,036 / -0,071	117 -0,1 / -0,15
E	86,75 -0,025	86,75 -0,025	111,2 -0,025
F	105,75 -0,1	105,75 -0,1	138,2

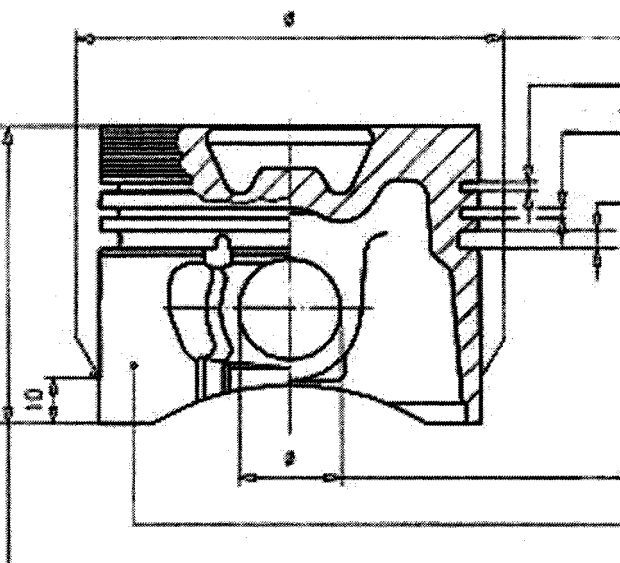
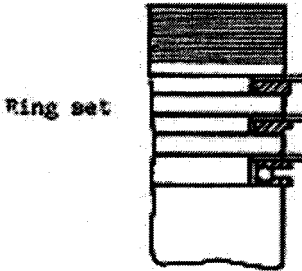


4.8 PISTON 15/18W

Part. Description	Dimension		
	max. mm	Original min. mm	max. Limit mm
Piston 15W / 18W 	74.967	74.953	
	81.967	81.953	
	2.120	2.100	
	2.070	2.050	
	4.040	4.020	
	22.010	22.004	
	64.200	64.800	renew if longitudinally scored
	0.145	0.110	0.17
	0.092	0.060	0.14
	0.065	0.030	0.11
Ring set 	0.500	0.300	1.0
	0.500	0.250	1.0

Butt clearance are caused by piston ring wear and wear of cylinder liner surface. We recommend always to exchange cylinder liner, piston and rings together.

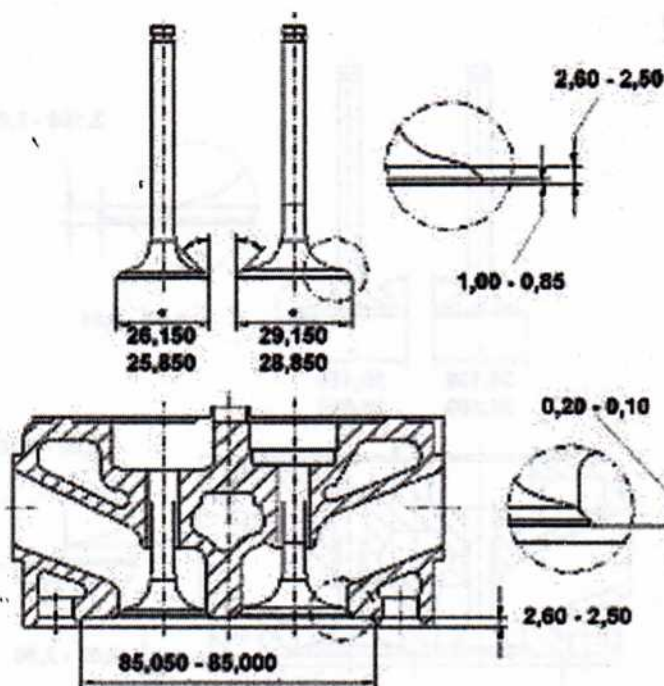
MEASUREMENT TABLE, WEAR

4.9 PISTON 32W

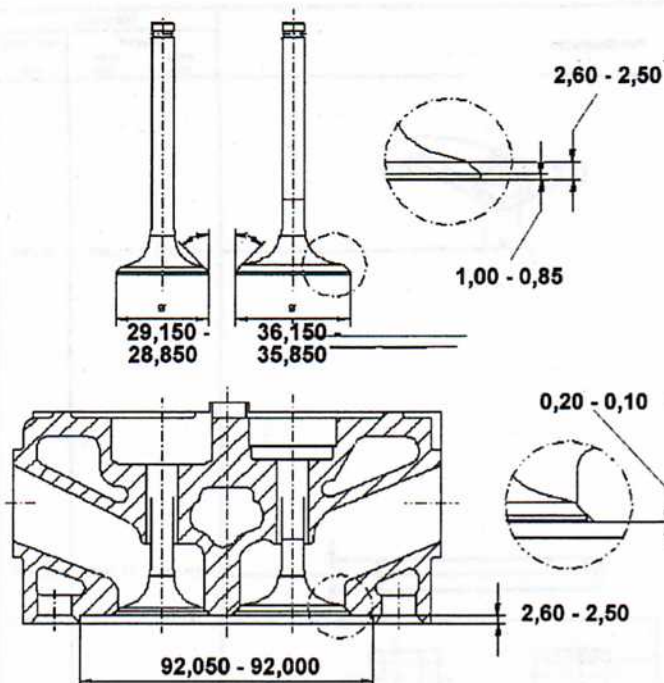
Part. Description	Dimension		
	max. mm	Original min. mm	max. Limit mm
Piston 32W    	94.947	94.933	
	2.100	2.080	
	2.060	2.040	
	4.060	4.040	
	26.008	26.003	
	79.250	79.795	renew if longitudinally scored
	0.125	0.080	0.15
	0.085	0.050	0.13
	0.085	0.050	0.13
	0.650	0.400	1.1
	0.450	0.250	1.1
Butt clearance are caused by piston ring wear and wear of cylinder liner surface. We recommend always to exchange cylinder liner, piston and rings together.			

4.10 CYLINDER HEAD 15/18W

Cylinder head 15W

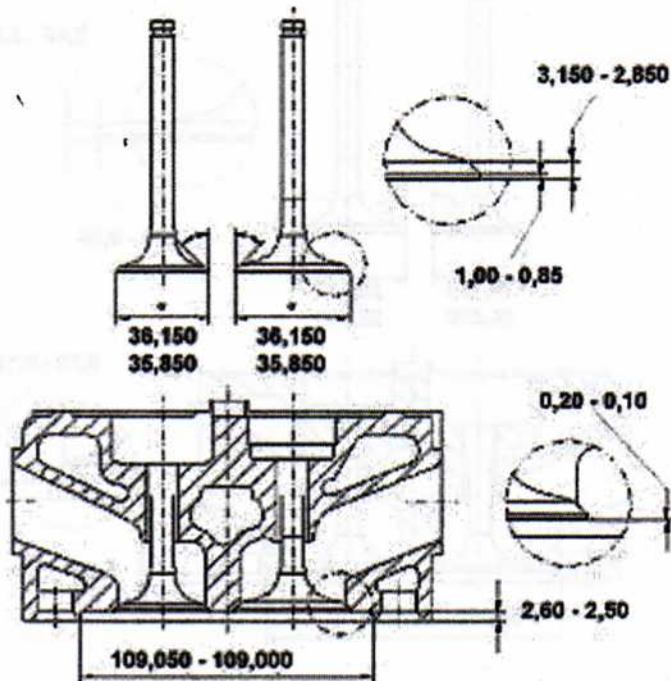


Cylinder head 18W

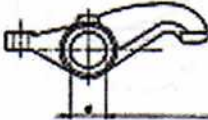

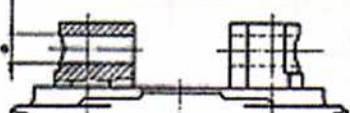


4.11 CYLINDER HEAD 32W

Cylinder head 32W



Rocker arm 15/18/32W

Part Description	Dimension		
	Original max. mm	min. mm	max. Limit mm
	12,018	12,000	12,090
	11,988	11,955	11,982
	12,018	12,000	12,090