

Engine Adjusting Data

Adjustment of Ignition timing

Adjustment of ignition timing except for Types 300 SEL/8 6.3 and 600 at 800 rpm.

Type	Compr. ratio	Ign. distributor Bosch No. (MB Part No.)	Adjusting value of ign. timing with stroboscope at 800 rpm with vacuum	Ign. timing at starting speed with spark plugs ²⁾ installed	Specifications when measuring w. stroboscope at engine speeds in rpm without load				Direction of vacuum adjustment in distributor
					1500	3000	4500	4500	
					Vacuum adjustment				
					with	with	with-out	with	
220/8	9.0 : 1	0 231 111 086 (001 158 32 01)	5° after TDC	5° before TDC	4-12°	23-31°	41-45°	-	retard
250/8 Lim. 250/8 Cp. (114.023) 280/S 8	9.0 : 1	0 231 142 003 (001 158 29 01)	4° after TDC	6° before TDC	1-9°	31-39°	33-37°	41-49°	retard and advance
280 SE/8 300 SEL/8	9.5 : 1	0 231 116 061 (001 158 28 01)	8° after TDC	10° before TDC	0-5°	25-30°	-	-	retard
280 SL/8		0 231 116 062 (001 158 31 01)							
300 SEL/8 6.3 600	8.1 : 1	0 231 128 003 (001 158 26 01)	refer to values for 3,000 rpm	4° after TDC	5-8°	32° ¹⁾	-	-	none
				-	-	58° ± 2° ¹⁾	-	-	

1) Measured on cylinder 1 = 32° before TDC and cylinder 5 = 58° ± 2° after TDC.

2) The adjusting value for installation of ignition distributor with test lamp at ignition point is approx. 1-2° later than the checking value at starting speed.

Valve Timing Specifications for Test Measurements, with a 0.4 mm Valve Lift

Type	Code No. of camshaft	Intake valve		Exhaust valve	
		opens before TDC	closes after BDC	opens before BTC	closes after TDC
220/8	61	11°	47°	48°	16°
250/8 Lim. 250/8 cp. (114.023) 280 S/8 280 SE/8 280 SL/8 300 SEL/8	01	16°	46°	53°	15°
300 SEL/8 6.3 600	16/17 ⁴⁾	for engines having been operated over approx. 12 000 miles ³⁾			
		2.5°	52.5°	37.5°	18°
		for new engines or engines with new timing chains			
		5°/7°	50°/48°	40°/42°	15.5°/13.5°

3) To compensate for the changes in timing due to lengthening of the timing chain, the timing on new engines or engines with new chains is set different to engines with chains having been operated for approx. 12 000 miles or more.

4) 16 = left cam shaft
17 = right cam shaft