

# Test Specifications Fuel Injection Pumps and Governors

En

PES 4 M 55 C 320 RS 60

EP/MN 60 M 46 DR (1)

EP/MN 60 M 42 DR (2)

EP/MN 60 M 51 DR (3)

EP/MN 60 M 43 DR (4)

supersedes

11.76

company

Daimler-Benz

engine

OM 616

(1/3-Pkw)

(2/4-Transporter)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

## A. Fuel Injection Pump Settings

Port closing at prestroke

1,70-1,80 mm (from BDC)  
(1,65-1,85)

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Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm <sup>3</sup> /100 strokes 3	Difference cm <sup>3</sup> /100 strokes 4	Control rod travel mm 5	Fuel delivery cm <sup>3</sup> /100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
2250	13,7	3,9-4,1	0,2(0,25)			
	(+0,1)					
250	9,0-9,2	0,4-1,0	0,15(0,2)			
1600/1000	Sect. C.	col. 4-6	0,25(0,3)			

Adjust the fuel delivery from each outlet according to the values in [ ]

## B. Governor Settings

Torque control travel mm 1	Leakage			Control-rod travel limitation breakaway*		Control rod travel test		Auxiliary spring auxiliary cam**		Torque control	
	Vacuum pressure drop mm water col. 2	Time at least s 3		Vacuum mm w.c. 4	Control rod travel mm 5	Vacuum mm w.c. 6	Control rod travel mm 7	Vacuum mm w.c. 8	Control rod travel mm 9	Vacuum mm w.c. 10	Control rod travel mm 11
1,1+0,1	500-480	10		520	13,7	580	9,2-13,7	675	9,2-10,2	150	14,8-14,9
						615	6,2-10,7	850	7,7- 8,7	250	14,4-14,8
				550-580*		675	3,2- 7,2			350	13,9-14,3
										520	13,7-13,8

control rod travel test (cols. 4-11)  
= rotational speed 500 rev/min.  
adjust breakaway (cols. 4-5) by means of shims\*  
cam adjustment (B 8-9 - C 7-8) by means of shims\*\*

## C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp. 40°C (104°F)			Fuel delivery characteristics			idle (stop)** idle (imbalance)		Control rod travel from full-load to idle mm cm <sup>3</sup> /1000 strokes 8
rev/min 1	Vacuum mm wat. col. 2	cm <sup>3</sup> /1000 strokes 3	rev/min 4	Vacuum mm wat. col. 5	cm <sup>3</sup> /1000 strokes 6	rev/min 7	Vacuum mm wat. col. 8	
2250	520	39,7-40,7 (38,7-41,7)	1600	360	38,9-40,5 (37,9-41,5)	500	600	3,2- 4,2
			1000	140	38,2-39,7 (37,2-40,7)	250	ca.880	4,5-10,5

Checking values in brackets

8.77

**BOSCH**

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Notes:

1. Sliding-sleeve idle travel =  $6.75 \pm 0.25$  mm
2. Advance angle in idle - full load range =  $34 - 42^\circ$
3. \*\* 3 At this engine speed, exceed control-rod travel by  $0.4 \pm 0.1$  mm; idle delivery must not be affected!
4. \*\*\*- "12.4 mm" - is the full-load control-rod travel set in Section A, 1-3.

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