Test Specifications for Injection Pump and Governor

Injection Pump	with Governor	DAI Sheet
PES 4 A 50 B 410 RS 144	EP/MZ 60 A 93 d	1,8 I dated: Dec. 10th 1956 and/or Aug. 1st 1959

A. Adjustment Data of the Injection Pump

Feed Begin at a Pre-stroke of 1.7 + 0.1 mm (from BDC)

1	2	3	4	5	6
Speed r.p.m.	Control Rod Travel mm	Feed Quantity cm³/100 strokes	Feed Quantity Differental cm³/100 strokes	Feed Quantity Drop (between 1000 and 200 r.p.m.) cm³/100 strokes	Pre-tension of Spring (Adaptation Valve) mm
1000	9	0.9–1.5			
	12	2.3–2.8	0.2		
	18	4.6–5.3			
200	9	0.7–1.2			

Adjust delivery of equal quantities within outlined [ ] limits

B. Adjustment Data of the Governor

1	2	3	4	5	6	7	8	9	10	11
Travel of Adaptation mm	Leak-proof Test: Vacuum Drop mm Water Col.	Leak-proof Test: Time Min. sec.	Point of Adjustment Control Rod Travel Limit: Vacuum mm Water Col.	Point of Adjustment Control Rod Travel Limit: Control Rod Travel mm	Control Rod Travel Test: with Governor Design		Control Rod Travel Test: Vacuum mm Water Col.	Control Rod Travel Test: Control Rod Travel mm	Adaptation: Vacuum mm Water Col.	Adaptation: Control Rod Travel mm
0.6±0.1	500–480	10	430	13.0	—	—	* 470 500 600 2000	13.0 11 –12.6 7.5– 9.4 4.9– 5.5	200 250 320	13.5–13.7 13.4–13.7 13.1–13.4

* Exactly adjust these values by placing washers WMS 22 S 18 . . . 19 × below the control spring.

For Testing Control Rod Travel (column 4–11) n = 500 r.p.m.

C. Adjustment of Injection Pump with Mounted Governor

0	1	2	3	4	5	6	7	8	9
Injection Pump	Adjustment of Full-Load Stop Screw r.p.m.	Adjustment of Full-Load Stop Screw Vacuum mm Water Col.	Adjustment of Full-Load Stop Screw cm³/1000 strokes	Testing of Feed Quantity Characteristics r.p.m.	Testing of Feed Quantity Characteristics Vacuum mm Water Col.	Testing of Feed Quantity Characteristics cm³/1000 strokes	Adjustment of Idling Stop r.p.m.	Adjustment of Idling Stop Vacuum mm Water Col.	Adjustment of Idling Stop Control Rod Travel from Full-Load to Idling mm
RS 144	1600	430	29–30	1200 900 250	270 175 app. 580	29–31 29–31 7–9 *	0	0	6.0–6.3

* feed quantity differential max. 1.5

After full-load adjustment, repeat check according to section B, clumns 8, 9 and 2, 3!

The values in col. 3 and 6 are obtained by dividing the total quantity through the number of pump elements