

INJECTION PUMP TEST SPECIFICATIONS

093000-6161

MANUFACTURER	HYUNDAI	INJECTION PUMP	093000-616#
ENGINE TYPE	D4AL	GOVERNOR	ND-PES4NB110C321RND616
VEHICLE TYPE	BUS, TRUCK	TIMER	091300-6510 (R901)
			091800-4040 (SB0)

1. INJECTION TIMING

Rotation : Clockwise viewed from drive side	Pre - stroke : 3.2 ± 0.05 mm
Injection Order : 1 - 3 - 4 - 2	Tappet Clearance : More than 0.2 mm
Injection Interval : $90^\circ \pm 30'$	Locked Timing Location : —

2. TEST CONDITIONS

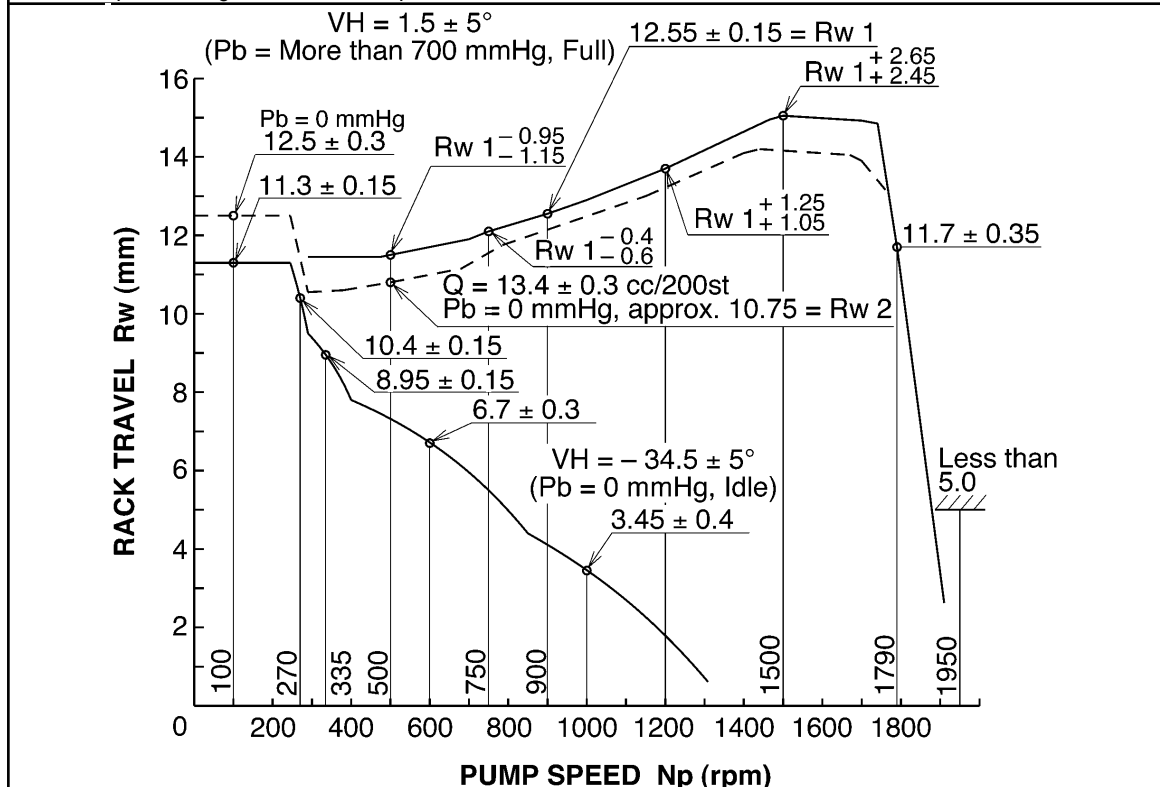
Nozzle : 093400-0540 (DN12SD12A)	Feed Pressure : 1.6 kg/cm ²
Nozzle Opening Pressure : 177.5 ± 2.5 kg/cm ²	High Pressure Pipe : $\varnothing 2 \times \varnothing 6 \times 600$ mm
Test Oil : SAE J967 (ISO4113)	Fuel Temperature : 40 - 45°C (104 - 113°F)
Overflow valve opening : 2.6 kg/cm ²	

3. ADJUSTMENT OF DELIVERY QUANTITY

Pump Speed (rpm)	Rack Travel (mm)	Number of Strokes	Delivery Quantity (cc/cyl.)	Max. Spread in Delivery (cc)	Remarks
900	12.55	200	22.5 ± 0.5	2.0	
1500	15.1	200	30.2 ± 1.1	2.0	
335	approx. 9.15	500	5.0 ± 2.0	1.5	
1790	11.7	200	approx. 12.9	1.2	

4. ADJUSTMENT OF GOVERNOR

Control Speed Range : 335 - 1500 rpm X = —



5. ADJUSTMENT OF BOOST COMPENSATOR					
Lever Position (deg)	Pump Speed (rpm)	Positive Pressure (mmHg)	Rack Travel (mm)	Delivery Quantity (cc/200st)	Remarks
Full	500	0	approx. 10.75 = $R_w \cdot 2$	13.4 ± 0.3	
	500	260	($R_w \cdot 2 + 0.2$) ± 0.15	—	
	500	337	($R_w \cdot 2 + 0.4$) ± 0.2	—	
	100	0	12.5 ± 0.3	—	
6. ADJUSTMENT OF PUMP WITH GOVERNOR OPERATION					
Lever Position (deg)	Pump Speed (rpm)	Positive Pressure (mmHg)	Number of Strokes	Delivery Quantity (cc/cyl.)	Remarks
Full	900	More than 700	1000	112.5 ± 1.0	
	750	More than 700	1000	approx. 106.0	
	1500	More than 700	1000	approx. 151.0	
	500	More than 700	1000	approx. 97.0	
	1200	More than 700	1000	approx. 136.0	
	1600	More than 700	1000	approx. 150.0	
7. ADJUSTMENT OF TIMER					
Pump Speed (rpm)	950 - 1050	1200 - 1450			
Advance Angle (deg)	0.5	3.0			
8. RACK SENSOR OUTPUT VOLTAGE CHECK					
Lever Position (deg)	Pump Speed (rpm)	Rack Travel (mm)	Output Voltage (V)	Remarks	
—	—	—	—	—	
Adjust the thickness of shims within the range of 0 - 1.0 mm so that the output voltage of the rack sensor becomes as specified in the table below .					

NOTE :

1. The 1st cylinder is on the drive side.
2. Adjusting Lever Angle (fig. 1)
Setting position 0° to be at vertical position.
3. Stop Lever Operation
Rack travel must be 2.0 ± 0.2 mm when the stop lever is pulled at pump speed 500 rpm, then fuel delivery must be less than 0.9 cc/200 st, 1 cyl.
4. Positive pressure must drop from 1000 mmHg to 980 mmHg in more than 10 seconds.
5. Temporary Adjustment of Stop Cam (fig. 2)
L1 = 23.5 mm L2 = 23.5 mm L3 = 33.5 mm

