

INJECTION PUMP TEST SPECIFICATIONS

191000-9052

MANUFACTURER	TOYOTA	INJECTION PUMP	191000-905#
ENGINE TYPE	1DZ	GOVERNOR	ND-PES4A70D410RND905
VEHICLE TYPE	FORK LIFT	TIMER	190800-2930 (RSV)

1. INJECTION

Rotation : Clockwise viewed from drive side	Pre - stroke : 1.7 ± 0.05 mm (Rw = Less than 10.0 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

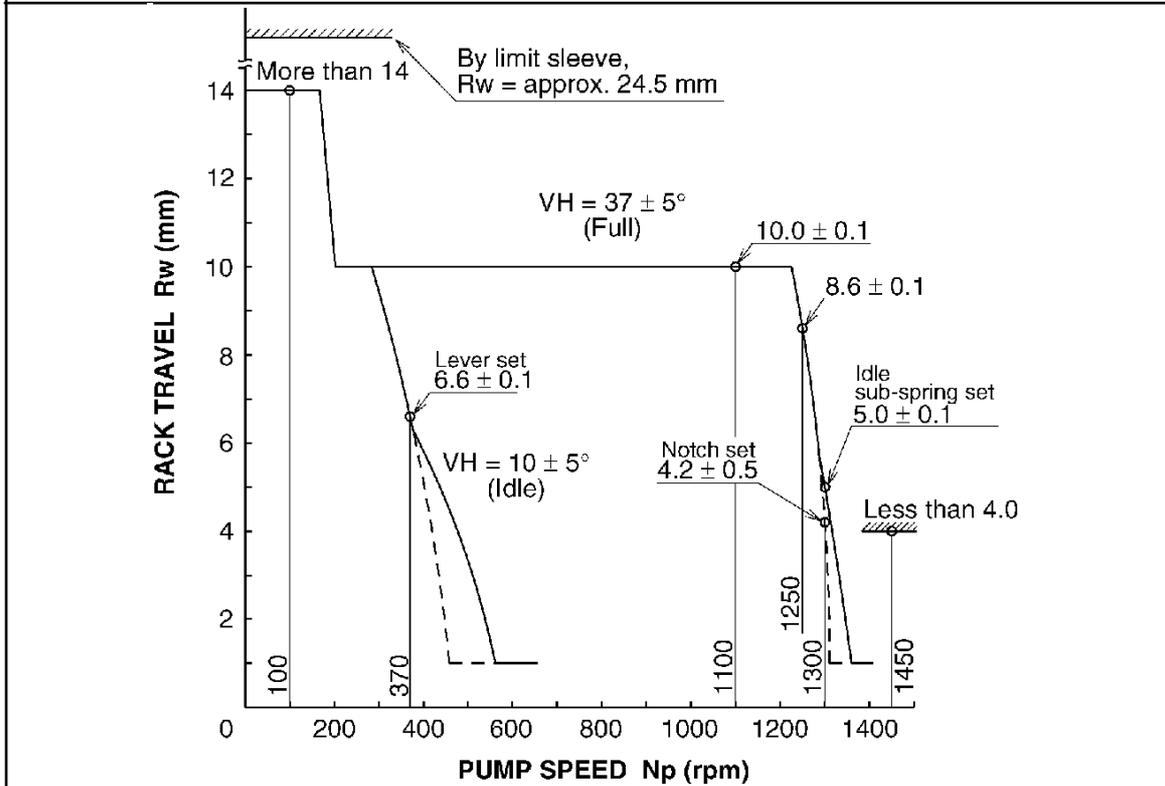
Nozzle : 093400-0540 (DN12SD12A)	Feed Pressure : 2.0 kg/cm ²
Nozzle Opening Pressure : 177.5 ± 2.5 kg/cm ²	High Pressure Pipe : $\varnothing 2 \times \varnothing 6 \times 600$ mm
Test Oil : SAE J967 (ISO4113)	Fuel Temperature : 40 - 45°C (104 - 113°F)
Overflow valve opening : 1.6 ± 0.1 kg/cm ²	

3. ADJUSTMENT OF DELIVERY QUANTITY

Pump Speed (rpm)	Rack Travel (mm)	Number of Strokes	Delivery Quantity (cc/cyl.)	Max. Spread in Delivery (cc)	Remarks
1100	10.0	200	8.0 ± 0.3	0.6	
370	6.6	500	3.5 ± 1.0	1.0	

4. ADJUSTMENT OF GOVERNOR

Control Speed Range : 370 - 1100 rpm	X = approx. 2.75
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5. ADJUSTMENT OF BOOST COMPENSATOR						--- : Not applicable
Lever Position (deg)	Pump Speed (rpm)	Positive Pressure (mmHg)	Rack Travel (mm)	Delivery Quantity (cc/200st)	Remarks	
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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	1100	---	1000	40.0 ± 1.0		
7. ADJUSTMENT OF TIMER						--- : Not applicable
Pump Speed (rpm)	—					
Advance Angle (deg)	—					
8. RACK SENSOR OUTPUT VOLTAGE CHECK						--- : Not applicable
Lever Position (deg)	Pump Speed (rpm)	Rack Travel (mm)	Output Voltage (V)	Remarks		
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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 40° to be at vertical position.
3. Check
Advanced angle should be $3^\circ \pm 45'$ at $R_w = 14$ mm after setting pre-stroke.
4. Stop Lever Operation
Rack travel must be less than 4.0 mm when the stop lever is pulled at pump speed 1100 rpm in full lever position.

