

INJECTION PUMP TEST SPECIFICATIONS

190000-1203

INJECTION PUMP	190000-120# (ND-PES4A70C320RND120)	MANUFACTURER	TOYOTA
GOVERNOR	090700-012# (Combined Governor)	ENGINE TYPE	B
TIMER	—	VEHICLE MODEL	DYNA

1. INJECTION TIMING

1) Rotation	: Clockwise viewed from drive side	4) Pre-stroke	: 1.90 – 2.00 mm
2) Injection Order	: 1 – 3 – 4 – 2	5) Tappet Clearance	: More than 0.2 mm
3) Injection Interval	: 90° ± 30'	6) Locked Timing Location	: —

2. ADJUSTMENT OF DELIVERY QUANTITY

Test Conditions

1) Nozzle	: 093400 – 0050 (ND-DN4SD24A)	4) Feed Pressure	: 0.5 kgf/cm ²
2) Nozzle Opening Pressure	: 120 kgf/cm ²	5) High Pressure Pipe	: ø2.0 x ø6 x 600 mm
3) Test Oil	: —	6) Fuel Temperature	: 40 – 45 °C (104 – 113 °F)

Pump Speed (rpm)	Rack Travel (mm)	Number of Strokes	Delivery Quantity (cc/cyl.)	Max. Spread in Delivery (cc)	Remarks
100	16.0	200	14.0 – 16.0	1.2	
1100	12.0	200	10.6 – 11.2	0.4	
1000	8.6	200	4.6 – 5.6	0.4	
300	6.5	500	2.5 – 4.5	1.0	

Overflow valve opening : — kgf/cm²

3. ADJUSTMENT OF GOVERNOR...Refer to the right side of this sheet.

4. ADJUSTMENT OF PUMP WITH GOVERNOR OPERATION

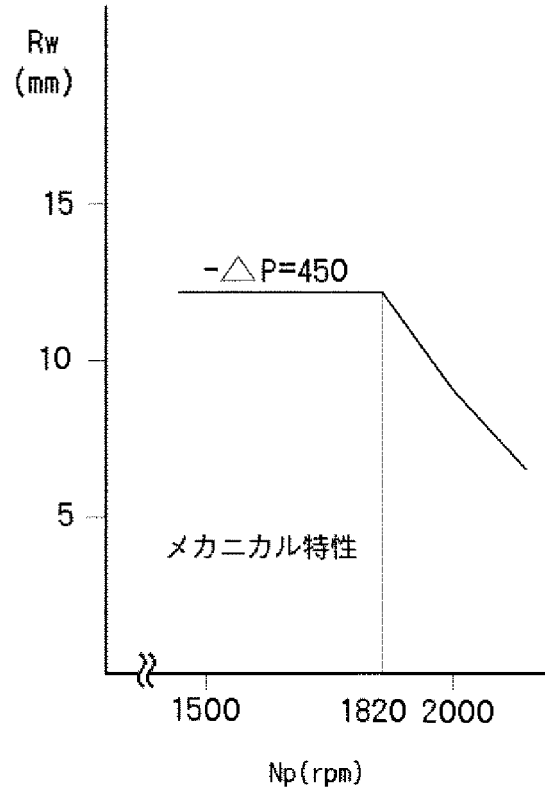
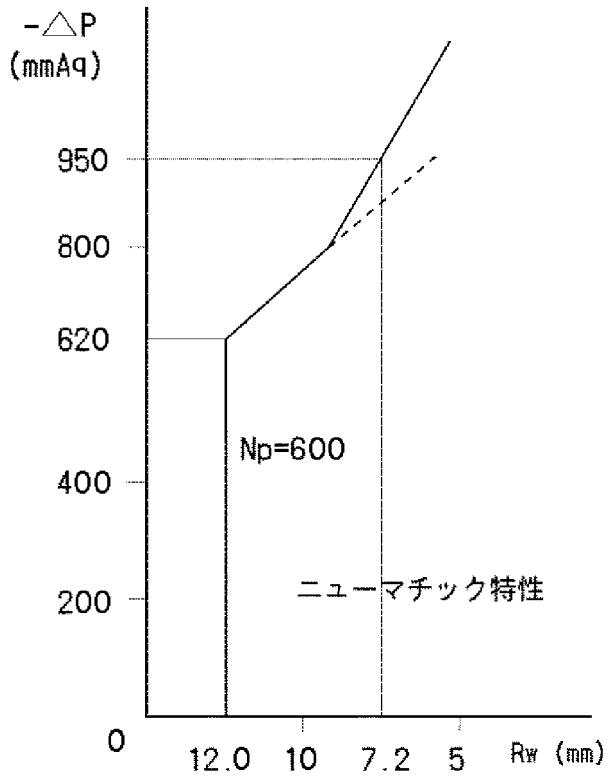
Lever Position (deg)	Pump Speed (rpm)	Number of Strokes	Delivery Quantity (cc/cyl.)	Remarks
FULL	1100	200	10.6 – 11.0	PB = -120mmAq

5. ADJUSTMENT OF TIMER

N.A. : Not Applicable

Pump Speed (rpm)	500	700	900	1200	1600	1700
Advance Angle (deg)	0 – 0.5	2.0 – 3.0	4.5 – 5.5	6.0 – 7.0	8.0 – 9.0	8.0 – 9.0

Control Speed Range : — rpm



6. ADJUSTMENT OF BOOST COMPENSATOR (Full lever position)

Negative pressure must drop from 500mmAq to 480mmAq in more than 10 seconds.

Pump Speed (rpm)	Boost Pressure (mmHg)	RW (mm)	Delivery Quantity (cc/200st)
N.A.	N.A.	N.A.	N.A.