

# INJECTION PUMP TEST SPECIFICATIONS

096000-7042

<b>INJECTION PUMP</b>	096000-704# (VE4/12F1800RND704)		<b>MANU-FACTURER</b>	TOYOTA
<b>Governor Type</b>	All speed		<b>ENGINE TYPE</b>	14B
<b>Rated Voltage</b>	12V		<b>VEHICLE MODEL</b>	DYNA
<b>Rotation</b>	Clockwise viewed from drive side		Dimension (mm) MS : 0.20 – 0.40	
<b>Injection Order</b>	A – B – C – D		Dimension (mm) K : 3.20 – 3.40	
<b>Injection Interval</b>	90° ±30'		Dimension (mm) KF : 5.80 – 6.00	
<b>1. TEST CONDITIONS</b>				
1) Nozzle : 093400-0540 (DN12SD12A)      4) Feed Pressure : 0.2 kgf/cm <sup>2</sup> 2) Nozzle Opening Pressure : 145 – 155 kgf/cm <sup>2</sup> 5) High Pressure Pipe : ø2 x ø6 x 840 mm 3) Test Oil : SAE J967 (ISO4113)      6) Fuel Temperature : 40 – 45°C (104 – 113°F)				
<b>NOTE:</b> Apply 6 volts DC across the fuel cut solenoid during adjustment.				
<b>2. PRE-ADJUSTMENT</b> (at full lever position)				
	<b>Pump Speed (rpm)</b>	<b>Fuel Delivery (cc/200st· 1cyl.)</b>	<b>Remarks</b>	
<b>Full Load</b>	1100	11.16 – 12.04	By full load setting screw	
<b>High Speed</b>	2075	3.40 – 5.80	By max. speed setting screw	
Load Sensing Timer: Adjust the governor shaft so that the dimension "L" between the housing flange and the end of the governor shaft is about 2.5 mm.				
<b>3. ADJUSTMENT OF PUMP INTERNAL PRESSURE</b> (at full lever position)				
	<b>Pump Speed (rpm)</b>	<b>Internal Pressure (kgf/cm<sup>2</sup>)</b>	<b>Remarks</b>	
	400	2.2 – 2.8	By the regulating valve	
	1700	6.8 – 7.4		
<b>4. OVERFLOW QUANTITY CHECK</b> (at full lever position)				
	<b>Pump Speed (rpm)</b>	<b>Overflow Quantity (cc/1000st)</b>	<b>Remarks</b>	
	1700	380.0 – 640.0	The overflow valve belonging to the pump should be used for checking.	
<b>5. ADJUSTMENT OF TIMER</b> (at full lever position)				
<b>Pump Speed (rpm)</b>	1000	1550	1700	
<b>Piston Travel (mm)</b>	0.40 – 1.20	4.60 – 5.40	5.76 – 6.24	
<b>NOTE:</b> Hysteresis at each pump speed is less than 0.3 mm.				

6. ADJUSTMENT OF FUEL DELIVERY					
Lever Position	Pump speed (rpm)	Fuel Delivery (cc/200st, 1cyl)	Max. Spread In Delivery (cc)	Boost Pressure Absolute Pressure (mmHg)	Remarks
FULL	1100	11.36 – 11.84	0.6	—	By full load setting screw
	2075	3.60 – 5.60	—	—	By max. speed setting screw
	2250	Less than 0.4	—	—	
	100	13.00 – 17.00	1.4	—	By governor sleeve plug
	500	9.50 – 10.50	0.6	—	
	700	10.70 – 11.70	0.6	—	
900	11.60 – 12.60	0.6	—		
	1700	9.60 – 10.60	0.6	—	
	—	—	—	—	
7. SETTING OF LOAD SENSING TIMER <span style="float: right;">N.A. : Not Applicable</span>					
	Pump Speed (rpm)	Fuel Delivery (cc/200st, 1cyl)	Remarks		
Start of Load Sensing	N.A.	N.A.			
End of Pressure Drop	N.A.	N.A.			
8. SETTING OF ADJUSTING LEVER AT LOW SPEED					
Lever Position	Pump Speed (rpm)	Fuel Delivery (cc/500st, 1cyl)	Max. Spread In Delivery (cc)	Remarks	
IDLE	350	10.00 – 11.00	—	Dash pot fully unscrewed	
	350	10.50 – 12.00	—	Dash pot screwed	
	350	3.75 – 6.75	1.0		
9. ADJUSTMENT OF BOOST COMPENSATOR <span style="float: right;">N.A. : Not Applicable</span>					
Pump Speed (rpm)	Boost Pressure (mmHg)	Fuel Delivery (cc/1000st, 1cyl)	Remarks		
N.A.	N.A.	N.A.			
10. ADJUSTMENT OF T.C.V. <span style="float: right;">N.A. : Not Applicable</span>					
Pump Speed (rpm)	Boost Pressure (mmHg)	Piston Stroke (mm)			
N.A.	N.A.	N.A.			

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<b>11. ADJUSTMENT OF THROTTLE POSITION SENSOR</b> (Applying 5.0 ±0.005V to sensor.)				N.A. : Not Applicable
	<b>Pump Speed (rpm)</b>	<b>Condition</b>		<b>Sensor Output Voltage</b>
<b>Set point</b>	N.A.	N.A.		N.A.
<b>Check point</b>	N.A.	N.A.		N.A.
<b>12. CHARACTERISTIC OF A.C.S.D.</b>				
				N.A. : Not Applicable
<b>Lever Position</b>	<b>Pump Speed (rpm)</b>	<b>Fuel Temperature (°C)</b>	<b>Measuring Value</b>	<b>Remarks</b>
IDLE	N.A.	N.A.	N.A.	
	N.A.	N.A.	N.A.	
<b>13. ADJUSTMENT OF POWER CONTROL</b>				N.A. : Not Applicable
<b>Lever Position</b>	<b>Pump Speed (rpm)</b>	<b>Boost Pressure (mmHg)</b>	<b>Fuel Delivery (cc/200st. 1cyl)</b>	<b>Remarks</b>
FULL	N.A.	N.A.	N.A.	
<b>14. ADJUSTMENT OF DASH POT</b>				N.A. : Not Applicable
<b>Pump Speed (rpm)</b>	<b>Boost Pressure (mmHg)</b>	<b>Fuel Delivery (cc/500st)</b>	<b>Remarks</b>	
N.A.	N.A.	N.A.		
<b>15. FINAL CHECK AFTER ADJUSTMENT</b>				
<p>(1) Range of lever angle between idle and full lever position is 43° ±5°.</p> <p>(2) Resistance of pick-up tachometer must be 650 – 970 ohms.</p>				