

INJECTION PUMP TEST SPECIFICATIONS

ECD

MANUFACTURER	HINO	INJECTION PUMP	094000-0190,1,2,3,4
ENGINE TYPE	J05C	PUMP SELECT SWITCH No. (Engine cylinders)	4
VEHICLE MODEL	BUS		

1. TEST CONDITIONS

Rotation	Counterclockwise viewed from drive side	1st cylinder	Drive Side
G1 Sensor	On the left viewed from the drive shaft	Common Rail Volume	40 cm ³
Sensor Air Gap	0.4 $\begin{smallmatrix} + \\ - \end{smallmatrix}$ 0.20 $\begin{smallmatrix} \text{mm} \\ \text{mm} \end{smallmatrix}$	Rated Voltage	28 \pm 0.2 V
PCV 1	On the drive side	Test Oil	SAE J967 (ISO4113)
High Pressure Pipe	$\varnothing 2 \times \varnothing 6 \times L600$ mm (PCV - Nozzle)	Fuel Temperature	40 - 45 °C (104 - 113°F)
	$\varnothing 4 \times \varnothing 8 \times L500$ mm (PCV - Pressure Regulator)	Test Nozzle	093400-0540 (DN12SD12A)
	$\varnothing 4 \times \varnothing 8 \times L900$ mm (Pressure Regulator - Joint)	Lubrication Oil	10W30
Nozzle Opening Pressure	17.5 \pm 0.3 MPa (177.5 \pm 2.5 kgf/cm ²)		

2. FEED PUMP CHECK (Suction)

	Condition	Pump Speed		Measured Value
		(rpm)	(st/min)	
Priming Pump	Head = 1 m	0	approx. 60	Less than 55 stroke
Feed Pump	Suction pipe = $\varnothing 8$, L4.5 m	150	—	Less than 30 seconds

Note : Before testing, make sure that there is no fuel in the pipe and priming pump completely.

3. FEED PUMP CHECK (Feed Quantity)

Pump Speed (rpm)	Injection Quantity Command		Measured Value
	TFD	TFE	
400 \pm 1	260	180	More than 6.0 cm ³ /rev (120 cc/20st)

4. G SENSOR OUTPUT CHECK

Pump Speed (rpm)	Injection Quantity Command		Output Voltage (V)	Remarks
	TFD	TFE		
130 \pm 1	260	180	0.38 - 1.5	

5. G SENSOR NOISE CHECK

Pump Speed (rpm)	Injection Quantity Command		Measured Value
	TFD	TFE	
1300 \pm 1	260	180	Noise voltage : less than 0.288 (V)

6. PCV OPERATION CHECK

Pump Speed (rpm)	Injection Quantity Command		Measured Value	
	TFD	TFE	Voltage (V)	(msec)
100 \pm 1	440	061	16	4.2 - 4.6

7. PUMPING QUANTITY CHECK AT HIGH PRESSURE

Using Nozzle : 0 MPa Nozzle (with out Nozzle tip)

Pump Speed (rpm)	Injection Quantity Command		C/R Pressure (MPa)		Measured Value		Remarks
	TFD	TFE	(MPa)	(kgf/cm ²)	(mm ³ /st)	(cc/100st)	
1450 ± 1	260	070	120 ± 4	1223.7 ± 40.8	350.0 - 450.0	70.0 - 90.0	Pumping Quantity must be within standard at each measuring point, and max. spread in pumping quantity must be within 30 mm ³ /st (9.0 cc/100st)

