

# INJECTION PUMP TEST SPECIFICATIONS

191000-7387

<b>INJECTION PUMP</b>	191000-738# (ND-PE6NF100A321RND738)	<b>MANU-FACTURER</b>	HINO
<b>GOVERNOR</b>	091300-286# (R801)	<b>ENGINE TYPE</b>	H07D-A
<b>TIMER</b>	091800-274# (SA1)	<b>VEHICLE MODEL</b>	TRUCK

## 1. INJECTION TIMING

- |                       |                                    |                           |  |
|-----------------------|------------------------------------|---------------------------|--|
| 1) Rotation           | : Clockwise viewed from drive side | 4) Pre-stroke             | : 3.77 – 3.83 mm<br>(No. 1 cylinder)<br>: 3.75 – 3.85 mm<br>(No. 2 – 6 cylinder) |
| 2) Injection Order    | : 1 – 4 – 2 – 6 – 3 – 5            | 5) Tappet Clearance       | : More than 0.2 mm   |
| 3) Injection Interval | : 60° ± 15'                        | 6) Locked Timing Location | : —  |

## 2. ADJUSTMENT OF DELIVERY QUANTITY

Test Conditions

- |                            |                                 |                       |                             |
|----------------------------|---------------------------------|-----------------------|-----------------------------|
| 1) Nozzle                  | : 093400 – 2370<br>(DN12SD12A)  | 4) Feed Pressure      | : 2.0 kgf/cm <sup>2</sup>   |
| 2) Nozzle Opening Pressure | : 175 – 180 kgf/cm <sup>2</sup> | 5) High Pressure Pipe | : ø2 x ø6 x 600 mm          |
| 3) Test Oil                | : SAE J967 (ISO4113)            | 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
850	13.7	200	17.0 – 17.4	1.0	
1450	14.55	200	18.7 – 19.3	1.0	
250	Approx. 10.7	500	9.0 – 10.0	1.0	

Overflow valve opening :— kgf/cm<sup>2</sup>

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

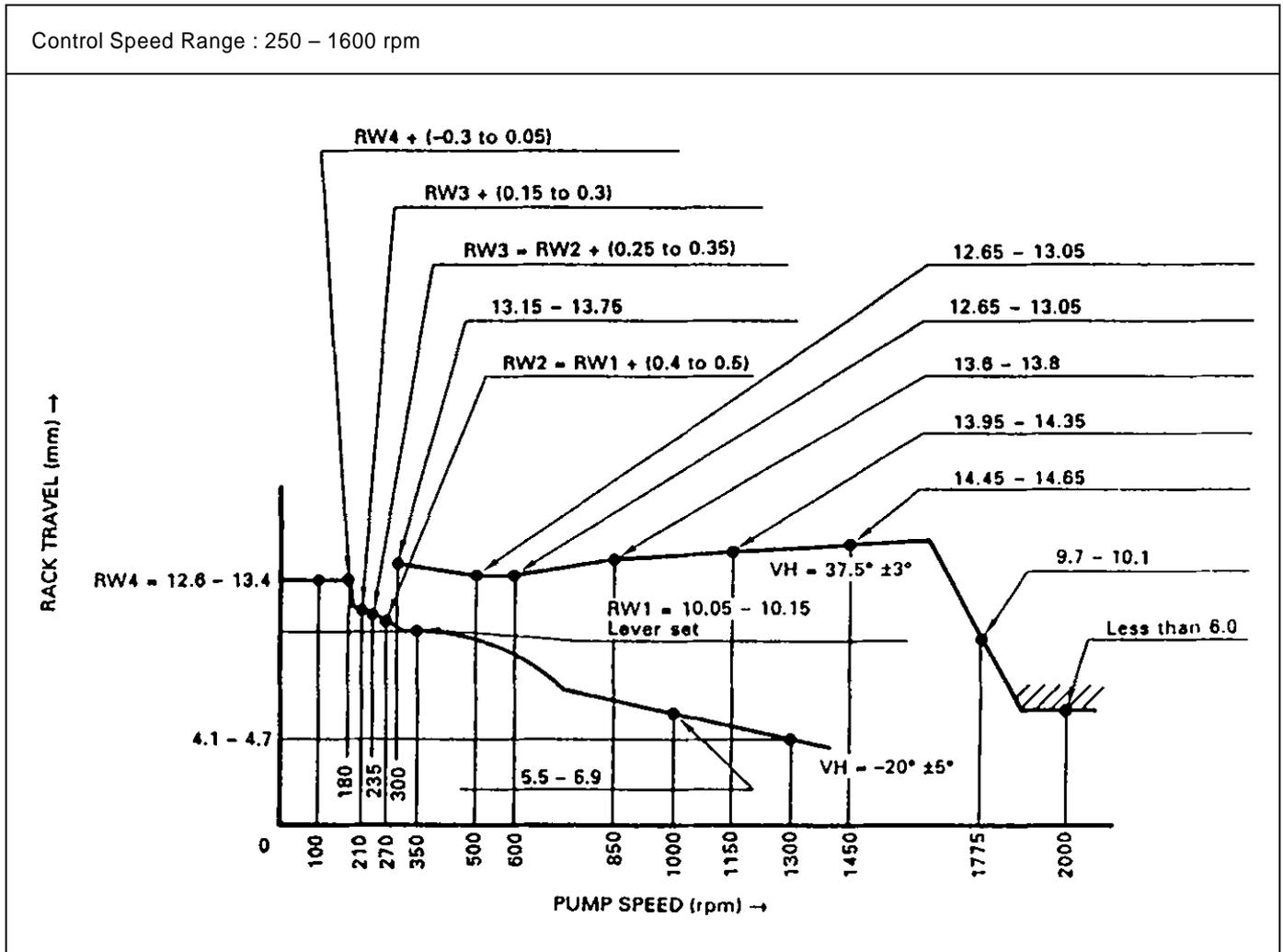
## 4. ADJUSTMENT OF PUMP WITH GOVERNOR OPERATION

Lever Position (deg)	Pump Speed (rpm)	Number of Strokes	Delivery Quantity (cc/cyl.)	Remarks
FULL	850	1000	85.0 – 87.0	
	1150	1000	90.0 – 94.0	
	1450	1000	93.0 – 97.0	
	100	1000	140.0 – 160.0	

## 5. ADJUSTMENT OF TIMER

N.A. : Not Applicable

Pump Speed (rpm)	850	1150	1450			
Advance Angle (deg)	Less than 0.3 <1/4 load>	Less than 1.3 <3/4 load>	5.2 – 5.8 <4/4 load>			



6. ADJUSTMENT OF BOOST COMPENSATOR (Full lever position)

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

NOTE:

- (1) Adjusting Lever Angle  
Setting position 0° to be at vertical position.
- (2) Stop Lever Operation  
Rack travel must be less than 6.0 mm when the stop lever is pulled at pump speed 0 rpm.
- (3) Temporary Adjustment of Stop Cam  
L1 = 30.50 mm L2 = 30.50 mm L3 = 25.55 mm
- (4) No Injection Check  
The rack travel should be 6.0 mm or less when the adjusting lever is at the full position with the pump speed at 2000 rpm.
- (5) Blow-Up Characteristic Check when Engine Cold  
With the pump speed at 0 rpm, turn the adjusting g lever from -20° to set it at the full position, then check that the delivery quantity is 25.0 cc/200 st-cyl. or more when the pump speed is increased to 500 rpm. Increase the pump speed further, and check that the rack travel is 6.0 mm or less when the pump speed is 2000 rpm.
- (6) Responsiveness Check and Lever Set for Idle
  - 1) Insert an adjusting shim for idle set bolt with the adjusting lever angle at 0.5', and set the delivery quantity at 18 – 20 cc/1000 st-cyl. when the pump speed is 250 rpm.
  - 2) Pull out the shim and check that the rack travel is within 0.1 – 0.3 mm.
  - 3) Loosen the idle set bolt for the shim, and do a final set of the fuel delivery at a 18 – 20 cc/1000 st-cyl.