HP3 Supply Pump
Feed Pump HP3 (Trochoid type)

1. Outer rotor
2. Inner rotor
3. Suction port
4. Discharge port

from Fuel tank

to pomp chamber
Regulating Valve (HP3 Supply pump)
Suction Control Valve (HP3 Supply pump)

Feed pump
Regulator valve
SCV

When SCV opening is small
When SCV opening is large
HP3 Pump body Construction

1. Eccentric cam
2. Ring cam
3. Plunger
4. Drive shaft
Construction & Operation of Delivery Valve

1. Element
2. Check ball
3. Spring
4. Holder
5. Plunger
Supply pump Operation HP3

1. SCV (Suction Control Valve)
2. Check valve
3. Eccentric cam
4. Ring cam
Pressure Discharge Valve Common Rail HP3

Operation when fuel pressure is higher than target injection pressure

Operation when fuel pressure is identical to target injection pressure
HP3 Supply Pump Inspection Procedure
Fuel line diagram HP3 on Test bench
ECD Controller set up HP3 on Test bench

2.3 ECD Controller Hard Wiring Diagram

NOTE: Do not use these connectors. (Only HP2)

- To pressure sensor on pressure regulator housing
- To SCV (for 12V)
- To SCV (for 24V)
- To fuel temp. sensor
- To ground

Stabilized power supply

HP3 controller assembly
DST-1 set up HP3

[1] Screen Display

[2] Explanation

<table>
<thead>
<tr>
<th>Displayed Part</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Displays the current screen title.</td>
</tr>
<tr>
<td>②</td>
<td>When ▲, ▼, and ◇ are displayed, it means that undisplayed parts still remain. Undisplayed parts may be viewed by using the DST-1 arrow keys to scroll across the screen. ▲▼◇: scroll one column up or down. ←→: scroll one screen to the left or right.</td>
</tr>
<tr>
<td>③</td>
<td>SEL: the DST-1 key to the right of this can be used to select items.</td>
</tr>
<tr>
<td>④</td>
<td>EXEC: the DST-1 key to the right of this can be used to execute selected items.</td>
</tr>
<tr>
<td>⑤</td>
<td>The arrow keys are used to display selected areas.</td>
</tr>
</tbody>
</table>
DST-1 Test procedure flow HP3

Offset Input Procedure

1. FUEL DELIVERY INSPECTION
   (1) CALIBRATION
   (2) FULL, HI-SPD
   (3) NO FUEL DELIVERY
   (4) OVER FLOW (LO-SPD)
   (5) FULL, LO-SPD
   (6) OVER FLOW

2. WRITE OFFSET DATA TO CARD

1. RUNNING

2. FUEL TEMP. SENSOR CHECK

3. FUEL DELIVERY INSPECTION
   (1) CALIBRATION
   (2) FULL, HI-SPD
   (3) NO FUEL DELIVERY
   (4) FULL, LO-SPD
   (5) OVER FLOW (LO-SPD)
   (6) OVER FLOW

**NOTE:**
The offsets must be input for each part number.

**NOTE:**
Unless the offsets have been input, it is not possible to proceed with the inspection procedure.
Always input off set data first (From ETSI Website!)
Same as HP2.
DST-1 Test procedure HP3

Always reduce the fuel pressure before stopping the pump!! If not HP3 can be damaged.

NOTE:
When opening the valves, always turn ③ completely to the left first, then turn ② to the left, and then turn ① last.

NOTE:
If the valves are turned to the left with excessive force, they may be damaged.
• At this moment only repairable p/n 294000-001# (Toyota Hiace/Hilux)
• Always Check ETSI for latest version of Test specifications!
• Always test with safety cover closed.