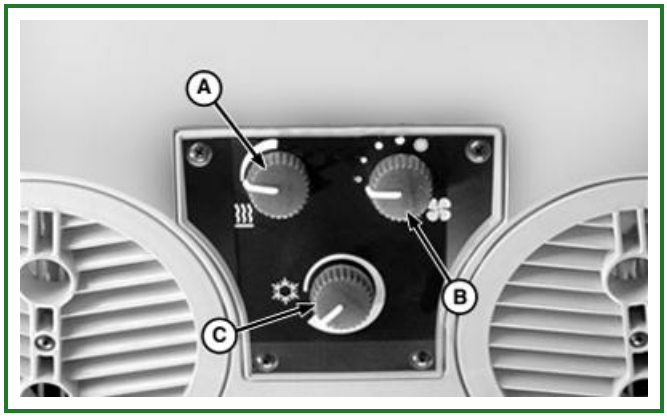
HVAC Compressor Clutch Engagement and Cycle Test

Reference

1 Clutch Cycle Check

Action:



LV12391-UN: A/C Controls

LEGEND:

A - Heater Temperature Control Knob

B - Blower Switch

C - A/C Temperature Control Knob

1. Cab door and windows CLOSED: Operate engine at 2000 rpm.

   NOTE:

   If discharge pressure is 2600—2900 kPa (26—29 bar) (380—420 psi) and compressor stops operating, return to diagnosis in progress.

2. Put blower switch (B) at PURGE and A/C temperature control knob (C) at MAX cooling (CW).
3. Operate system for 10 minutes. Check length of time compressor clutch is ON. It should be ON a minimum of 25 seconds at 21—27 °C (70—80 °F). It also may cycle more frequently at temperatures below 21 °C (70 °F).

Record of Actual Results:

Result:

OK:
Return to diagnosis in progress.

NOT OK:
Incorrect cycling.

GO TO 2.

NOT OK:
Compressor clutch will not engage.

GO TO 5.

2 Causes for Improper Clutch Cycling

Action:

1. Dirty evaporator.
2. Fresh air and recirculating filters dirty.
3. Low charge of refrigerant.
4. Blower motor inoperative.
5. Temperature control switch temperature range set too cold.

Record of Actual Results:

Result:

OK:
Return to diagnosis in progress.

NOT OK:
Item 1 or item 2 is the problem. Repair as needed.

GO TO 1.

NOT OK:
Item 3 is the problem.

GO TO 3.

NOT OK:
Item 4 is the problem. Perform Air Conditioning Operational Checks (Section 290, Group 10) to check blower motor operation.

NOT OK:
Item 5 is the problem.

GO TO 7.

3 Leak Checks

Action:

> **⚠ CAUTION:**
>
> ***This procedure may reveal a leak in the system. Wear appropriate safety equipment when working with refrigerant.***

1. Use JT02081 — Halogen Leak Detector , an equivalent electronic leak detector or a 50-50 mix of soap and water to check all components, fittings and connections for leakage.
2. Check low and high sides with engine OFF. Repeat check on high side with engine running and compressor operating.

> *NOTE:*
>
> *Any spot on connections, hoses, or components that is damp with oil and is collecting dust is an indication of refrigerant leak.*