

Component Procedures: Low Pressure Sensor / Switch

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Component Procedures: Low Pressure Sensor / Switch

Parts and Labor (itype_189)

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Replace	Low Pressure Cut-Off Switch	B	0.5	0.2

Low Pressure Cut-Off Switch (Article 2035465)

Freeze-Up Control = Low Pressure cycling cutout switch = accumulator mounted

SYSTEM DESCRIPTION

Low Pressure Cycling Clutch Switch

The low pressure cycling clutch switch

is located on the side near the top of the accumulator. The switch is screwed onto an accumulator fitting that contains a Schrader-type valve, which allows the switch to be serviced without discharging the refrigerant

system. The accumulator fitting is equipped with an O-ring to seal the switch connection.

The low pressure cycling clutch switch is connected in series electrically with the high pressure cut-off switch and the heater-A/C controls, between ground and the Powertrain Control Module (PCM)

. The switch contacts open and close causing the PCM to turn the compressor clutch

on and off. This regulates the refrigerant system pressure and controls evaporator

temperature. Controlling evaporator temperature prevents condensate water on the evaporator fins from freezing and obstructing

air conditioning

system air flow.

The low pressure cycling clutch switch contacts will open when the suction pressure is about 141 kPa (20.5 psi)

or lower. The switch contacts will close when the suction pressure rises to about

234 to 262 kPa (34 to 38 psi)

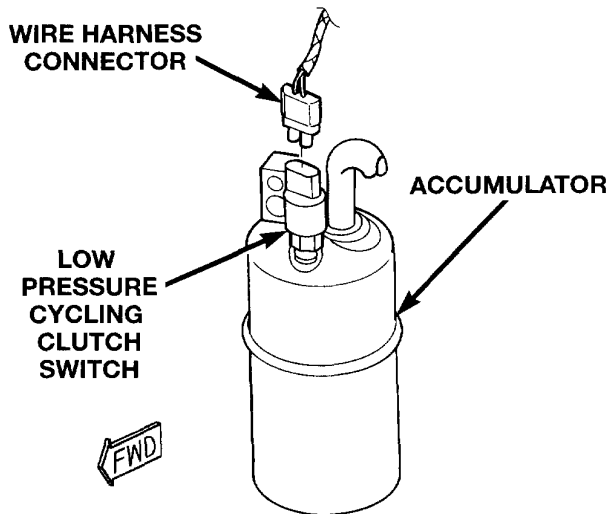
or above. Lower ambient temperatures, below about

-1° C (30° F)

, will also cause the switch contacts to open. This is due to the pressure/temperature relationship of the refrigerant in the system.

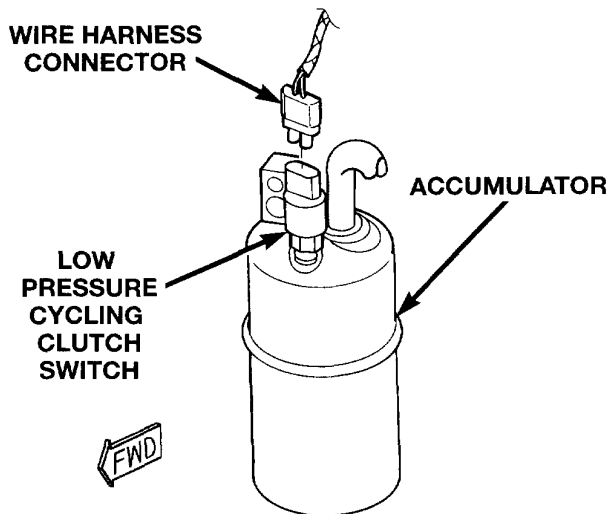
The low pressure cycling clutch switch is a factory-calibrated unit. It cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

Low Pressure Cycling Clutch Switch (Article 2034834)



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Low Pressure Cycling Clutch Switch Replacement (Article 2035436)



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Low Pressure Cycling Clutch Switch (Article 2035420)

Before performing diagnosis of the low pressure cycling clutch switch

, be certain that the switch is properly installed on the accumulator fitting. If the switch is too loose it may not open the Schrader-type valve in the accumulator fitting, which will prevent the switch from correctly monitoring the refrigerant system pressure.

Also verify that the refrigerant system has the correct refrigerant charge. See Refrigerant System Charge for the procedures.

1. Disconnect and isolate the battery negative cable.
2. Unplug the low pressure cycling clutch switch wire harness connector from the switch on the accumulator fitting.
3. Install a jumper wire between the two cavities of the low pressure cycling clutch switch wire harness

connector.

4. Connect a manifold gauge set to the refrigerant system service port

s. See Refrigerant System Service Equipment for the procedures.

5. Connect the battery negative cable.

6. Place the heater-A/C mode control switch

knob in any A/C position and start the engine.

7. Check for continuity between the two terminals of the low pressure cycling clutch switch. There should be continuity with a suction pressure reading of

262 kPa (38 psi)

or above, and no continuity with a suction pressure reading of

141 kPa (20.5 psi)

or below. If OK, test and repair the A/C switch sense circuit as required. If not OK, replace the faulty switch.