

DIAGNOSIS AND TESTING (Continued)

Refrigerant System Pressure and Clutch Cycle Timing Evaluation Chart—Fixed Orifice Tube/Clutch Cycling Pressure Switch

REFRIGERANT SYSTEM PRESSURE AND CLUTCH CYCLE TIMING EVALUATION CHART FOR FIXED ORIFICE TUBE CYCLING CLUTCH SYSTEMS

NOTE: System test requirements must be met to obtain accurate test readings for evaluation. Refer to the normal refrigerant system pressure/temperature and the normal clutch cycle rate and times charts.

HIGH (DISCHARGE) PRESSURE	LOW (SUCTION) PRESSURE	CLUTCH CYCLE TIME (b)			COMPONENT — CAUSES
		RATE	ON	OFF	
HIGH	HIGH	CONTINUOUS RUN			CONDENSER — Inadequate Airflow Refrigerant overcharge
HIGH	NORMAL TO HIGH				ENGINE OVERHEATING
NORMAL TO HIGH	NORMAL				REFRIGERANT OVERCHARGE (a) AIR IN REFRIGERANT HUMIDITY OR AMBIENT TEMP. VERY HIGH (b)
NORMAL	HIGH				FIXED ORIFICE TUBE — Missing O-Rings Leaking/Missing
NORMAL	NORMAL	SLOW OR NO CYCLE	LONG OR CONTINUOUS	NORMAL OR NO CYCLE	MOISTURE IN REFRIGERANT SYSTEM EXCESSIVE REFRIGERANT OIL
NORMAL	LOW	SLOW	LONG	LONG	CLUTCH CYCLING SWITCH — Low Cut-Out
NORMAL TO LOW	HIGH	CONTINUOUS RUN			Compressor — Low Performance
NORMAL TO LOW	NORMAL TO HIGH				A/C SUCTION LINE — Partially Restricted or Plugged (c)
NORMAL TO LOW	NORMAL	FAST	SHORT	NORMAL	EVAPORATOR - Low or Restricted Airflow
			SHORT TO VERY SHORT	NORMAL TO LONG	CONDENSER, FIXED ORIFICE TUBE, OR A/C LIQUID LINE — Partially Restricted or Plugged
			SHORT TO VERY SHORT	SHORT TO VERY SHORT	LOW REFRIGERANT CHARGE
			SHORT TO VERY SHORT	LONG	EVAPORATOR CORE — Partially Restricted or Plugged
NORMAL TO LOW	LOW	CONTINUOUS RUN			A/C SUCTION LINE — Partially Restricted or Plugged. (d) CLUTCH CYCLING SWITCH — Sticking Closed
ERRATIC OPERATION OR COMPRESSOR NOT RUNNING		—	—	—	CLUTCH CYCLING SWITCH — Dirty Contacts or Sticking Open. POOR CONNECTION AT A/C CLUTCH CONNECTOR OR CLUTCH CYCLING SWITCH CONNECTOR. A/C ELECTRICAL CIRCUIT ERRATIC — See A/C Electrical Circuit Wiring Diagram A/C Cut Out -- By Engine Control Assembly (ECA)
ADDITIONAL POSSIBLE CAUSE COMPONENTS ASSOCIATED WITH INADEQUATE COMPRESSOR OPERATION					
<ul style="list-style-type: none"> • COMPRESSOR DRIVE BELT — Loose • COMPRESSOR CLUTCH — Slipping • CLUTCH COIL Open — Shorted, or Loose Mounting • CONTROL ASSEMBLY SWITCH — Dirty Contacts or Sticking Open • CLUTCH WIRING CIRCUIT — High Resistance, Open or Blown Fuse • COMPRESSOR OPERATION INTERRUPTED BY ENGINE COMPUTER 					
ADDITIONAL POSSIBLE CAUSE COMPONENTS ASSOCIATED WITH A DAMAGED COMPRESSOR					
<ul style="list-style-type: none"> • CLUTCH CYCLING SWITCH - Sticking Closed or Compressor Clutch Seized • SUCTION ACCUMULATOR DRIER — Refrigerant Oil Bleed Hole Plugged • REFRIGERANT LEAKS 					
<p>(a) Compressor may make noise on initial run. This is slugging condition caused by excessive liquid refrigerant</p> <p>(b) Compressor clutch may not cycle in ambient temperatures above 80 °F depending on humidity conditions.</p> <p>(c) Low pressure reading will be normal to high if pressure is taken at accumulator and if restriction is downstream of service access valve.</p> <p>(d) Low pressure reading will be low if pressure is taken near the compressor and restriction is upstream of service access valve.</p>					

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