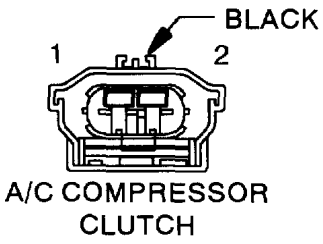
Component Procedures: Compressor Clutch Coil

Table of Contents

Component Procedures: Compressor Clutch Coil

Connector Views (itype_47)



A/C COMPRESSOR CLUTCH - BLACK 2 WAY

CAV	CIRCUIT	FUNCTION
1	C3 20DB/BK	A/C COMPRESSOR CLUTCH RELAY OUTPUT
2	Z1 20BK	GROUND

A/C Clutch Coil Test (Article 2049424)

1. Connect an ammeter (
0 to 10 ampere
scale) in series with the clutch coil terminal. Use a voltmeter (
0 to 20 volt
scale) with clip-type leads for measuring the voltage across the battery and the
compressor clutch coil
.
2. With the heater-A/C
mode control switch
in any A/C mode, and the
blower motor switch
in the lowest speed position, start the engine and run it at normal idle.
3. The
compressor clutch
coil voltage should read within two volts of the battery voltage. If there is voltage at the clutch coil, but the reading is not within two volts of the battery voltage, test the clutch coil feed circuit for excessive voltage drop and repair as required. If there is no voltage reading at the clutch coil, use a DRB scan tool and the proper Diagnostic Procedures for testing of the
compressor
clutch circuit. The following components must be checked and repaired as required before you can complete testing of the clutch coil:
- Fuses in the junction block and the Power Distribution Center (PDC)
- Heater-A/C mode control switch
-
Compressor clutch relay
- High pressure cut-off switch
- Low pressure cut-off switch
- Powertrain Control Module (PCM).
4. The compressor clutch coil is acceptable if the current draw measured at the clutch coil is
2.0 to 3.9 amperes
with the electrical system voltage at
11.5 to 12.5 volts
. This should only be checked with the work area temperature at
21° C (70° F)
. If system voltage is more than
12.5 volts,
add electrical loads by turning on electrical accessories until the system voltage drops below
12.5 volts
a. If the clutch coil current reading is four amperes or more, the coil is shorted and should be replaced.
b. If the clutch coil current reading is zero, the coil is open and should be replaced.