

1990 Corvette: Service Bulletin: L98 and LT5: Revised Air Conditioning Control Circuit Diagnosis

Subject: REVISED AIR CONDITIONING CONTROL CIRCUIT DIAGNOSIS

Model and Year: 1990 CORVETTE WITH 5.7L L98 AND LT5 ENGINES

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THIS BULLETIN CANCELS AND SUPERSEDES DEALER SERVICE BULLETIN NO. 91-400-6E. THE BULLETIN NUMBER HAS BEEN CORRECTED. ALL COPIES OF 91-400- 6E SHOULD BE DISCARDED.

Revised A/C Control Circuit Diagnosis

The following information updates the A/C clutch circuit diagnostic chart and facing page information found on pages 6E3-C10-4 and 6E3-C10-5 in Section 6E3 "Driveability And Emissions" for the 1990 "Y" 5.7L L98 (VIN 8) and LT5 (VIN J) Corvette Service Manual.

Specific information within this bulletin will be identified as follows:

L98 - "(8)" LT5 - "(J)"

The "Scan" tool diagnostics in this bulletin apply only with the use of a Tech 1 "Scan" Tool and the 1987-1990 or 1987-1991 Tech 1 ECM Cartridge.

CHART C-10

(Page 1 of 2) A/C CLUTCH CIRCUIT DIAGNOSIS 5.7L (VIN 8) & 5.7L (VIN J) "Y" CARLINE (PORT)

Circuit Description:

The A/C clutch control relay is ECM controlled to delay A/C clutch engagement after the A/C is turned "ON." This allows the ECM to adjust engine rpm before the A/C clutch engages.

The ECM will engage the A/C clutch any time A/C has been requested unless any of the following conditions exist.

- o High coolant temperature.
- o Wide open throttle.
- o High oil temperature.
- o Sustained high vehicle speeds (LT5).
- o High engine rpm.

The ECM can determine A/C request by sending a voltage signal to the A/C control head. When the A/C control switch is closed, the A/C request voltage signal is grounded. This is shown on the Tech 1 as A/C request "YES" (8) or A/C clutch "ON" (J).

When a request for A/C has been detected by the ECM, the ECM will ground the A/C clutch control relay drive circuit, the relay contacts will close and energize the compressor clutch portion of the circuit. If the system is properly charged, the circuit will be complete to the A/C compressor clutch.

When A/C request has been detected by the ECM, the cooling fan(s) will be turned "ON" unless vehicle speed is too

high.

Test Description:

Number(s) below refer to circled number(s) on the diagnostic chart.

1. Refer to ELECTRICAL DIAGNOSIS (SECTION 8A) "FUSE BLOCK DETAILS" for fuse circuit power distribution.
2. Checks the ECM's ability to control the A/C clutch control relay.
3. Checks to determine if the ECM is capable of detecting the A/C request signal being grounded.
4. Before replacing C68 A/C control components," refer to ELECTRONIC AUTOMATIC AIR CONDITIONING (SECTION 1C1) for further A/C diagnostics.

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