**CT7-2E INCREMENTAL CHANGE**

Release Notification Date: 03/04/2021

**MM 72-00-00, FAULT ISOLATION 001**
**FADEC FAULT ISOLATION (CT7-2E1)**

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## HIGHLIGHTS

| HIGHLIGHT REFERENCE | DESCRIPTION OF CHANGE |
|---|---|
| tk72-00-00-810-809 | Technical Change: Added Labels 003-15 and 004-15 to the List of FADEC Messages in Table 101 for CT7-2E1 Modified to SB 74-0004. Also added Labels 003-25 and 003-26 to List of Status Word Messages in Table 102 for CT7-2E1 Modified to SB 74-0004. |

*** * * FOR CT7-2E1**

TASK 72-00-00-810-809

1. General Information.
   A. This section gives instructions to isolate fault conditions that result in the FADEC sending a fault message.
   B. Fault isolation procedures in this maintenance manual cover the latest FADEC software version.
   **NOTE:** Two basic things are assumed in these procedures:
   * You must follow the current operating procedures.
   * A single failure or malfunction causes the fault isolation.
   C. Get as much information as possible from the flight crew that reports the problem. In many cases, this information will describe the fault completely. If possible, a ground test run should confirm the fault, if there is no danger to cause damage to the engine.
   D. Troubleshoot the fault:
      (1) Fault Message Troubleshooting.
      Go to when a fault message is sent by a FADEC.
      (2) Many faults, particularly if intermittent and not corrected by the procedures in paragraph G, are best isolated by swapping suspect parts with known good parts to another engine, one at a time. When fault follows suspect part onto known good engine, isolation is assured.
   E. Use the following procedural guidelines when doing fault isolation:
      (1) If possible, confirm the reported fault with a ground test run.
      (2) Troubleshoot according to the symptoms.
      (3) Complete the checks required (TEST).

(4) Confirm fault has been fixed with a ground test run.

F. Any fluctuation of engine related parameters, such as Ng speed, Np speed, torque, or TGT, may be due to dirty or inadequately secured electrical connectors. Contamination, moisture or looseness is particularly suspect when fault is intermittent. Such engine and airframe electrical connectors should be disconnected, inspected (74-00-00, INSPECTION), and cleaned ( 74-00-00, CLEANING) prior to next engine test and prior to any line replaceable unit (LRU) component removal.

2. How To Use Instructions.

**NOTE:** Record all fault messages before you perform maintenance on the engine, or before the engine is removed from the aircraft. Note the engine and FADEC message.

A. These procedures are used to isolate fault conditions that result in the FADEC sending a fault message.

B. Organization of the FADEC fault isolation tables

(1) Each table checks for specific fault isolation messages.

(2) Fault Descriptions. The FADEC message (Label-Bit) is listed with a description of the fault.

(3) Instructions. Specific symptoms are listed and a question is asked that can be answered by either a yes or no.

(4) Possible Faulty Components. For each fault message, the possible faulty components are listed.

(5) Electrical Check. If an electrical check is required, measure the resistance of the applicable connectors and pins to be checked. If the resistance falls within the listed value, the answer to the component fault found is no.

(6) Component Fault Found. Provides the direction to next symptom to be checked depending on whether the question was answered yes or no or corrects the problem.

C. Engine Electrical Troubleshooting Procedures:

The following is the guideline to troubleshoot an anomaly in the engine electrical system by fault message sent by the FADEC.

(1) To prevent electrical shock, unless specified, be sure electrical power is off before working on the helicopter.

(2) Use a hand held multimeter for all electrical component checks.

(3) Use of a megger tester of less than 500 VDC to check insulation resistance is only permitted on certain electrical components: harnesses, sensors, PMA, FMU and switches. DO NOT megger test the EECU, this will damage the control.

(4) Disconnect, inspect, clean and reconnect all electrical connectors during troubleshooting, ensure all connectors are secure and no bent pins. Connector cleaning agents must be per the following recommended specification or equivalent:

| Specification No./Part No. | Nomenclature |
|---|---|
| M39029/4-110 | Pin, Contact |
| M39029/4-111 | Pin, Contact |

(5) When you make continuity checks, make sure component circuit is isolated.

(6) At completion of checkout procedure, inspect all replaceable assembly and connectors removed and replaced during checkout procedure. All replaceable assembly and connectors shall be secure and free of foreign object damage (FOD).

(7) A sensor's resistance can be influenced by extreme temperature ranges. For extreme heat and cold conditions, resistance values may vary up to 20%.

TABLE 101. LIST OF FADEC MESSAGES

| LABEL | DESCRIPTION | TABLE |
|---|---|---|
| 001-14 | OTAT Fault CH A | Table 109 |
| 001-15 | SIF Fault CH A | Table 158 |
| 001-16 | Engine Out Signal Fault CH A Fault | Table 160 |
| 001-17 | Overspeed System Test #3 CH A Fault | Table 187 |
| 001-18 | Overspeed System Test #2 CH A Fault | Table 189 |
| 001-19 | Overspeed System Test #1 CH A Fault | Table 187 |
| 001-20 | VG System CH A Fault | Table 144 |
| 001-21 | Wf System CH A Fault | Table 156 |
| 001-22 | Anti-Ice System CH A Fault | Table 138 |
| 001-23 | Anti-Ice Output CH A Fault | Table 136 |
| 001-24 | Vapor Vent Output CH A Fault | Table 131 |
| 001-25 | Wf Output CH A Fault | Table 154 |
| 001-26 | VG Output CH A Fault | Table 139 |
| 001-27 | Ignition Output CH A Fault | Table 132 |
| 001-28 | Start Output CH A Fault | Table 162 |
| 001-29 | Ignition, Starter, or Engine Out Relay Fault CH A | Table 178 |
| 002-14 | OTAT Fault CH B | Table 109 |
| 002-15 | SIF Fault CH B | Table 159 |


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| | | |
|---|---|---|
| 002-16 | Engine Out Signal Fault CH B Fault | Table 161 |
| 002-17 | Overspeed System Test #3 CH B Fault | Table 188 |
| 002-18 | Overspeed System Test #2 CH B Fault | Table 189 |
| 002-19 | Overspeed System Test #1 CH B Fault | Table 188 |
| 002-20 | VG System CH B Fault | Table 144 |
| 002-21 | Wf System CH B Fault | Table 156 |
| 002-22 | Anti-Ice System CH B Fault | Table 138 |
| 002-23 | Anti-Ice Output CH B Fault | Table 137 |
| 002-24 | Altitude Fault CH B | Table 109 |
| 002-25 | Wf Output CH B Fault | Table 155 |
| 002-26 | VG Output CH B Fault | Table 140 |
| 002-27 | Ignition Output CH B Fault | Table 133 |
| 002-28 | Start Output CH B Fault | Table 163 |
| 002-29 | Ignition, Starter, or Engine Out Relay Fault CH B | Table 179 |
| 003-14 | Overspeed System Test Not Complete CH A Fault | Table 190 |

*** * * FOR CT7-2E1 MODIFIED TO SB 74-0004**

| | | |
|---|---|---|
| 003-15 | Cross-Channel Not Operational | Table 103 |

*** * * FOR CT7-2E1**

| | | |
|---|---|---|
| 003-18 | EECU Isolation Flag CH A | Table 104 |
| 003-20 | EECU CH A Fault #2 | Table 103 |
| 003-21 | EECU CH A Fault #1 | Table 103 |
| 003-22 | Cross Engine Bus Tx CH A Fault | Table 164 |
| 003-23 | ARINC TX1 CH A Fault | Table 164 |
| 003-24 | ARINC RX2 CH A Fault | Table 165 |
| 003-25 | ARINC RX1 CH A Fault | Table 165 |
| 003-26 | EECU CH A Fault #8 | Table 103 |
| 003-27 | EECU CH A Fault #7 | Table 103 |
| 003-28 | Alternator Power CH A Fault | Table 128 |
| 003-29 | 28 VDC CH A Fault | Table 166 |
| 004-14 | Overspeed System Test Not Complete CH B Fault | Table 190 |

*** * * FOR CT7-2E1 MODIFIED TO SB 74-0004**

| | | |
|---|---|---|
| 004-15 | Cross-Channel Not Operational | Table 103 |

*** * * FOR CT7-2E1**

| | | |
|---|---|---|
| 004-18 | EECU Isolation Flag CH B | Table 104 |
| 004-20 | EECU CH B Fault #2 | Table 103 |
| 004-21 | EECU CH B Fault #1 | Table 103 |
| 004-22 | Cross Engine Bus Tx CH B Fault | Table 164 |
| 004-23 | ARINC TX1 CH B Fault | Table 164 |
| 004-24 | ARINC RX2 CH B Fault | Table 165 |
| 004-25 | ARINC RX1 CH B Fault | Table 165 |
| 004-26 | EECU CH B Fault #8 | Table 103 |
| 004-27 | EECU CH B Fault #7 | Table 103 |
| 004-28 | Alternator Power CH B Fault | Table 129 |
| 004-29 | 28 VDC CH B Fault | Table 167 |
| 005-14 | PS3 Fault CH A | Table 115 |
| 005-15 | P0 Fault | Table 113 |
| 005-16 | Test Cell PAL Fault A | Table 181 |
| 005-17 | Collective Fault A | Table 191 |
| 005-18 | Wf LVDT Fault CH A | Table 151 |
| 005-19 | VG LVDT Fault A | Table 141 |


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| | | |
|---|---|---|
| 005-20 | Oil Temperature Fault | Table 126 |
| 005-21 | Fuel Temp Fault CH A | Table 148 |
| 005-22 | ITT Fault CH A | Table 118 |
| 005-23 | T1 Fault CH A | Table 110 |
| 005-24 | EECU CH A Fault #5 | Table 103 |
| 005-25 | EECU CH A Fault #4 | Table 103 |

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 005-26 | Torque Fault CH A | Table 121 |

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 005-26 | Torque Fault CH A | Table 194 |

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 005-27 | Np Fault CH A | Table 121 |

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 005-27 | Np Fault CH A | Table 121A |

*** * * FOR CT7-2E1**

| | | |
|---|---|---|
| 005-28 | Ng FMU Fault A | Table 145 |
| 005-29 | Ng Alternator Fault A | Table 128 |
| 006-14 | PS3 Fault CH B | Table 116 |
| 006-15 | Oil Pressure Fault | Table 127 |
| 006-16 | Test Cell PAL Fault B | Table 182 |
| 006-17 | Collective Fault B | Table 191 |
| 006-18 | Wf LVDT Fault CH B | Table 152 |
| 006-19 | VG LVDT Fault B | Table 142 |
| 006-20 | Chip Detector Fault | Table 135 |
| 006-21 | Fuel Temp Fault CH B | Table 149 |
| 006-22 | ITT Fault CH B | Table 119 |
| 006-23 | T1 Fault CH B | Table 111 |
| 006-24 | EECU CH B Fault #5 | Table 103 |
| 006-25 | EECU CH B Fault #4 | Table 103 |

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 006-26 | Torque Fault CH B | Table 122 |

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 006-26 | Torque Fault CH B | Table 195 |

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 006-27 | Np Fault CH B | Table 122 |

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

| | | |
|---|---|---|
| 006-27 | Np Fault CH B | Table 122A |

*** * * FOR CT7-2E1**

| | | |
|---|---|---|
| 006-28 | Ng FMU Fault B | Table 146 |
| 006-29 | Ng Alternator Fault B | Table 129 |
| 007-14 | Cross Engine Bus B CH B Fault | Table 168 |
| 007-15 | NR Fault CH B | Table 191 |


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| | | |
|---|---|---|
| 007-16 | Oil Filter Bypass Fault | Table 124 |
| 007-17 | Altitude Fault CH A | Table 109 |
| 007-18 | Engine ID Fault CH B | Table 107 |
| 007-20 | Wf On/Off Discrete Fault CH B | Table 170 |
| 007-21 | Cross Engine Bus A CH B Fault | Table 168 |
| 007-22 | Cross Engine Bus B CH A Fault | Table 168 |
| 007-23 | NR Fault CH A | Table 191 |
| 007-24 | Fuel Filter Bypass Fault | Table 134 |
| 007-25 | Low Oil Pressure Fault | Table 125 |
| 007-26 | Engine ID Fault CH A | Table 106 |
| 007-28 | Wf On/Off Discrete Fault CH A | Table 169 |
| 007-29 | Cross Engine Bus A CH A Fault | Table 168 |
| 008-14 | AI Position FB Disagreement | Table 171 |
| 008-16 | PS3 Disagree Fault | Table 117 |
| 008-17 | P0 Disagree Fault | Table 114 |
| 008-18 | Test Cell PAL Disagree Fault | Table 180 |
| 008-19 | Collective Disagree Fault | Table 172 |
| 008-20 | Wf LVDT Disagree Fault | Table 153 |
| 008-21 | VG LVDT Disagree Fault | Table 143 |
| 008-22 | Fuel Temp Disagree Fault | Table 150 |
| 008-23 | ITT Disagree Fault | Table 120 |
| 008-24 | T1 Disagree Fault | Table 112 |
| 008-25 | EECU Fault #9 | Table 103 |
| 008-26 | Torque Disagree Fault | Table 123 |
| 008-27 | Np Disagree Fault | Table 123 |
| 008-28 | NG FMU Disagree Fault | Table 147 |
| 008-29 | Ng Alternator Disagree Fault | Table 130 |
| 009-14 | Engine ID Disagreement Between Engines | Table 108 |
| 009-16 | EECU Software Version Miscompare Fault | Table 105 |
| 009-18 | Crank Signal Disagree Fault | Table 183 |
| 009-19 | WOW Fault | Table 109 |
| 009-20 | Local Engine Channel A AEO Limit Selection Fault | Table 173 |
| 009-21 | Local Engine Channel B AEO Limit Selection Fault | Table 174 |
| 009-22 | SIF Disagreement | Table 175 |
| 009-23 | AI Request Disagreement | Table 176 |
| 009-24 | Training Input Disagreement | Table 177 |
| 009-25 | Aircraft Data Fault | Table 109 |
| 009-26 | Load Share Selection Switch Local Engine Disagree Fault | Table 186 |
| 009-27 | OEI Limits Select Switch Fault | Table 157 |
| 009-28 | Load Share Selection Switch Disagree Between Engines Fault | Table 185 |
| 009-29 | Nr Signal Disagree Fault | Table 184 |

TABLE 102. LIST OF STATUS WORD MESSAGES

| Label | Description | Table |
|---|---|---|
| 001-25 | EECU Exceeds Temperature Limit | Table 192 |
| *** * * FOR CT7-2E1 MODIFIED TO SB 74-0004** | | |
| 003-25 | Power Check Step Change Indication | Refer to SPECIAL PROCEDURES, Paragraph 13 |
| 003-26 | Power Check No Margin Indication | Refer to FAULT ISOLATION 002, Figure 128 |
| *** * * FOR CT7-2E1** | | |
| 001-29 | Overspeed Test Not Completed | Table 193 |


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TABLE 103. 003-21 - EECU CH A Fault #1 003-20 - EECU CH A Fault #2 005-25 - EECU CH A Fault #4005-24 - EECU CH A Fault #5 003-27 - EECU CH A Fault #7 003-26 - EECU CH A Fault #8 004-21 - EECU CH B Fault #1 004-20 - EECU CH B Fault #2 006-25 - EECU CH B Fault #4 006-24 - EECU CH B Fault #5 004-27 - EECU CH B Fault #7 004-26 - EECU CH B Fault #8 008-25 - EECU Fault #9 003-15 - Cross-Channel Not Operational 004-15 - Cross-Channel Not Operational

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Restart the EECU. Is the fault corrected? | EECU | | | | (c) | (b) |
| (b) Replace the EECU. | | | | | | |
| (c) Continue to Operate. | | | | | | |

TABLE 104. 003-18 - EECU ISOLATION FLAG CH A 004-18 - EECU ISOLATION FLAG CH B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Will not appear as a single fault. Clear all other faults to complete troubleshooting. | | | | | | |

TABLE 105. 009-16 - EECU SOFTWARE VERSION MISCOMPARE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check software version installed on all 4 channels to determine which channel does not have the proper software version installed. | | | | | | |
| (b) Reload the software where needed. | | | | | | |
| (c) Continue to Operate. | | | | | | |

TABLE 106. 007-26 - ENGINE ID FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check aircraft harnesses in CH A for proper wiring. Is it wired correctly? | Aircraft Harness | P1 | 33 to 34 | Engine 1 open circuit. Engine 2 closed circuit. | (c) | (b) |
| (b) Replace faulty aircraft harness. | | | | | | |
| (c) Replace | | | | | | |


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the EECU.

TABLE 107. 007-18 - ENGINE ID FAULT CHANNEL B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check aircraft harnesses in CH B for proper wiring. Is it wired correctly? | Aircraft Harness | P2 | 6 to 7 | Engine 1 open circuit. Engine 2 closed circuit. | (c) | (b) |
| (b) Replace faulty aircraft harness. | | | | | | |
| (c) Replace the EECU. | | | | | | |

TABLE 108. 009-14 - ENGINE ID DISAGREEMENT BETWEEN ENGINES

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check aircraft harnesseses in CH A and CH B on both engines for proper wiring. Is it wired correctly? | Aircraft Harness | P1<br>P2 | 33 to 34<br>6 to 7 | Engine 1 open circuit. Engine 2 closed circuit. | (c) | (b) |
| (b) Replace faulty aircraft harness. | | | | | | |
| (c) Replace the EECU. | | | | | | |

TABLE 109. 009-25 - AIRCRAFT DATE FAULT 007-17 - ALTITUDE FAULT CH A 002-24 - ALTITUDE FAULT CH B 002-14 - OTAT FAULT CH B 001-14 - OTAT FAULT CH A 009-19 - WOW FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Troubleshoot according to the applicable Aircraft Maintenance Manual. | | | | | | |
| (b) Continue to Operate. | | | | | | |

**NOTE:** WOW fault indicates inconsistent WOW inputs from aircraft or bad BITPACK A transmission or off-ground indicated with rotor speed <65%.
ADF fault indicates faulty transmission of bitpack B, airspeed, or horsepower extraction signal. (For v3.0 software, this bit is always set and no fault is implied).

TABLE 110. 005-23 - T2 FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plugs at the EECU and FMU for tightness. | Blue Cable | P1<br>P19 | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| Any loose connectors found? | | | | | | |
| (b) Tighten loose connectors. Is fault cleared? | | | | | (h) | (c) |
| (c) Disconnect blue cable connector P1 at EECU. Measure T2 sensing circuit resistance through blue cable. Is the resistance correct? | EECU<br>Blue Cable<br>FMU | P1 | 40 to 39 | 50-200 ohms | (f) | (d) |
| (d) Disconnect FMU at P19 and measure the resistance. Is the resistance correct? | FMU | P19 | 5 to 6 | 50-200 ohms | (e) | (g) |
| (e) Replace the blue cable. | | | | | | |
| (f) Replace the EECU. | | | | | | |
| (g) Replace the FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 111. 006-23 - T2 FAULT CH B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plugs at the EECU and FMU for tightness. Any loose connectors found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connectors. Is fault cleared? | | | | | (h) | (c) |
| (c) Disconnect green cable connector P2 at EECU. Measure T2 sensing circuit resistance through green cable. Is the resistance correct? | EECU<br>Green Cable<br>FMU | P2 | 70 to 55 | 50-200 ohms | (f) | (d) |
| (d) Disconnect FMU at P18 and measure the resistance. Is the resistance correct? | FMU | P18 | 5 to 6 | 50-200 ohms | (e) | (g) |
| (e) Replace the green cable. | | | | | | |


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(f) Replace the EECU.

(g) Replace the FMU.

(h) Continue to Operate.

TABLE 112. 008-24 - T2 DISAGREE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green and blue cables connector plugs at the EECU and FMU for tightness. Any loose connectors found? | Green Cable<br>Blue Cable | | | | (b) | (c) |
| (b) Tighten loose connectors. Is fault cleared? | | | | | (e) | (c) |
| (c) Swap FMU with known functioning FMU. Does the fault clear? | FMU | | | | (e) | (d) |
| (d) Replace the EECU. | | | | | | |
| (e) Continue to Operate. | | | | | | |

TABLE 113. 005-15 - P0 FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check the blue cable connector plug at EECU and P0 sensor for tightness. Any loose connector found? | Blue Cable | P1<br>J31 | | | (b) | (c) |
| (b) Tighten loose connector plug. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect blue cable connector at P1. Measure resistance through blue cable for the following. Is the resistence correct? | Blue Cable<br>P0 Sensor<br>EECU | | | | (g) | (d) |
| - P0 sensor excitation | | P1 | 74 to 63 | 1700-2000 ohms | | |
| - P0 sensor output signal | | P1 | 59 to 58 | 2200-2500 ohms | | |
| (d) Disconnect P31 connector plug at the P0 | P0 Sensor | | | | (e) | (f) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| sensor. Measure resistance of the following: Is the resistance correct? | | | | | | |
| - P0 sensor excitation | | J31 | 1 to 2 | 1700-2000 ohms | | |
| - P0 sensor output signal | | J31 | 3 to 4 | 2200-2500 ohms | | |
| (e) Replace faulty cable. | Blue Cable | | | | | |
| (f) Replace P0 sensor. | P0 Sensor | | | | | |
| (g) Replace EECU. | EECU | | | | | |
| (h) Continue to operate. | | | | | | |

TABLE 114. 008-17 - P0 DISAGREE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check the blue cable connector plug at EECU and P0 sensor for tightness. Any loose connector found? | Blue Cable | P1<br>J31 | | | (b) | (c) |
| (b) Tighten loose connector plug. Fault cleared? | | | | | (j) | (c) |
| (c) Swap suspect P0 sensor on engine 1 with known functioning sensor. Does the fault clear? | P0 Sensor | | | | (h) | (d) |
| (d) Swap suspect P0 sensor on engine 2 with known functioning sensor. Does the fault clear? | P0 Sensor | | | | (h) | (e) |
| (e) Swap suspect EECU on engine 1 with known functioning EECU. Does the fault clear? | EECU | | | | (i) | (f) |
| (f) Swap suspect EECU on engine 2 with known functioning EECU. Does the fault clear? | EECU | | | | (i) | |
| (g) Replace the blue | | | | | | |


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cable.

(h) Replace P0 sensor.

(i) Replace EECU.

(j) Continue to Operate.

TABLE 115. 005-14 - PS3 FAULT CH A

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plugs at the EECU and P3 sensor for tightness, and check the two P3 tubes for damage or leakage. Any loose connectors or damage found? | Blue Cable<br>P3 Tubes | | | | (b) | (c) |
| (b) Tighten loose connector plugs or replace P3 tubes. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure the resistance through the blue cable for the following. Is the resistance correct? | EECU<br>P3 Sensor<br>Blue Cable | | | | (f) | (d) |
| - P3 sensor A excitation | | P1 | 79 to 78 | 1700-2000 ohms | | |
| - P3 sensor A output signal | | P1 | 73 to 72 | 2200-2500 ohms | | |
| (d) Disconnect the P3 sensor at P25 and measure the resistance for the following. Is the resistance correct? | P3 Sensor | | | | (e) | (g) |
| - P3 sensor A excitation | | J25 | 1 to 2 | 1700-2000 ohms | | |
| - P3 sensor A output signal | | J25 | 3 to 4 | 2200-2500 ohms | | |
| (e) Replace blue cable. | | | | | | |
| (f) Replace EECU. | | | | | | |
| (g) Replace P3 sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 116. 006-14 - PS3 FAULT CH B


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**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plugs at the EECU and P3 sensor for tightness, and check the two P3 tubes for damage or leakage. Any loose connectors or damage found? | Green Cable<br>P3 Tubes | | | | (b) | (c) |
| (b) Tighten loose connector plugs or replace P3 tubes. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure the resistance through the green cable for the following. Is the resistance correct? | EECU<br>P3 Sensor<br>Green Cable | | | | (f) | (d) |
| - P3 sensor A excitation | | P2 | 72 to 73 | 1700-2000 ohms | | |
| - P3 sensor A output signal | | P2 | 71 to 78 | 2200-2500 ohms | | |
| (d) Disconnect the P3 sensor at P26 and measure the resistance for the following. Is the resistance correct? | P3 Sensor | | | | (e) | (g) |
| - P3 sensor A excitation | | J26 | 1 to 2 | 1700-2000 ohms | | |
| - P3 sensor A output signal | | J26 | 3 to 4 | 2200-2500 ohms | | |
| (e) Replace green cable. | | | | | | |
| (f) Replace EECU. | | | | | | |
| (g) Replace P3 sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 117. 008-16 - PS3 DISAGREE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green and blue cables connector plugs at the EECU and FMU | Green Cable<br>Blue Cable<br>EECU | | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| for tightness. Any loose connectors found? | | | | | | |
| (b) Tighten loose connectors. Is fault cleared? | | | | | (f) | (c1) |
| (c1) Swap CH A P3 Sensor P3 sensor with known functioning P3 sensor. Does the fault clear? | | | | | (d) | (c2) |
| (c2) Swap CH B P3 Sensor P3 sensor with known functioning P3 sensor. Does the fault clear? | | | | | (d) | (e) |
| (d) Replace the faulty P3 sensor | | | | | | |
| (e) Replace the EECU. | | | | | | |
| (f) Continue to Operate. | | | | | | |

TABLE 118. 005-22 - ITT FAULT CH A

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable and ITT connectors for tightness. Any loose connectors found? | Blue Cable<br>ITT Harness | P1<br>P15 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure the resistance. Is the resistance correct? | EECU<br>ITT Harness<br>Blue Cable | P1 | 14 to 13 | 0.2-1.0 ohms | (f) | (d) |
| (d) Disconnect P15 connector at ITT harness. Measure ITT harness resistance. | ITT Harness | J15 | A to B | 0.2-1.0 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace EECU. | | | | | | |
| (g) Replace ITT harness. | | | | | | |
| (h) Continue to Operate. | | | | | | |

**NOTE:** Resistances are given for room temperature and may vary significantly if ITT harness is hot or cold.


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TABLE 119. 006-22 - ITT FAULT CH B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable and ITT connectors for tightness. Any loose connectors found? | Blue Cable<br>ITT Harness | P1<br>P15 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure the resistance. Is the resistance correct? | EECU<br>ITT Harness<br>Blue Cable | P1 | 11 to 10 | 0.2-1.0 ohms | (f) | (d) |
| (d) Disconnect P15 connector at ITT harness. Measure ITT harness resistance. | ITT Harness | J15 | C to D | 0.2-1.0 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace EECU. | | | | | | |
| (g) Replace ITT harness. | | | | | | |
| (h) Continue to Operate. | | | | | | |

**NOTE:** Resistances are given for room temperature and may vary significantly if ITT harness is hot or cold.

TABLE 120. 008-23 - ITT DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable and ITT connectors for tightness. Any loose connectors found? | Blue Cable<br>ITT Harness | P1<br>P15 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure the resistance. Is the resistance correct? | EECU<br>ITT Harness<br>Blue Cable | P1 | 14 to 13<br>11 to 10 | 0.2-1.0 ohms<br>0.2-1.0 ohms | (f) | (d) |
| (d) Disconnect P15 connector at ITT harness. | ITT Harness | J15 | A to B<br>C to D | 0.2-1.0 ohms<br>0.2-1.0 ohms | (e) | (g) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| Measure ITT harness resistance. | | | | | | |
| (e) Replace blue cable. Does the fault clear? | | | | | (h) | (g) |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace ITT harness. | | | | | | |
| (h) Continue to Operate. | | | | | | |

**NOTE:** Resistances are given for room temperature and may vary significantly if ITT harness is hot or cold.

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

TABLE 121. 005-27 - NP FAULT CH A 005-26 - TORQUE FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| **NOTE:** To check if fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check blue cable and Np sensor coil for tightness. Any loose connectors found? | Blue Cable | | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Np sensor coil resistance through blue cable. Is the resistance correct? | EECU<br>Np Sensor<br>Blue Cable | P1 | 16 to 17 | 13.5-21.5 ohms | (f) | (d) |
| (d) Disconnect Np sensor connector plug P17. Measure resistance of Np sensor at connector pins. Is the resistance correct? | Blue Cable<br>Np Sensor | J17 | A to C<br>B to D | 13.5-21.5 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Np sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

TABLE 121A.. 005-27 - NP FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| **NOTE:** To check if fault is cleared, it is necessary to motor the engine. | | | | | | |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (a) Check blue cable and Np sensor coil for tightness. Any loose connectors found? | Blue Cable | | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Np sensor coil resistance through blue cable. Is the resistance correct? | EECU<br>Np Sensor<br>Blue Cable | P1 | 16 to 17 | 13.5-21.5 ohms | (f) | (d) |
| (d) Disconnect Np sensor connector plug P17. Measure resistance of Np sensor at connector pins. Is the resistance correct? | Blue Cable<br>Np Sensor | J17 | A to C<br>B to D | 13.5-21.5 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Np sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

*** * * FOR CT7-2E1 NOT MODIFIED TO SB 72-0013**

TABLE 122. 006-27 - NP FAULT CH B 006-26 - TORQUE FAULT CH B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable and Np sensor coil for tightness. Any loose connectors found? | Green Cable | | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Np sensor coil resistance through green cable. Is the resistance correct? | EECU<br>Np Sensor<br>Green Cable | P2 | 50 to 27 | 13.5-21.5 ohms | (f) | (d) |
| (d) Disconnect Np sensor | Green Cable<br>Np Sensor | J16 | A to C<br>B to D | 13.5-21.5 ohms | (e) | (g) |


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connector plug P16. Measure resistance of Np sensor at connector pins. Is the resistance correct?

(e) Replace green cable.

(f) Replace faulty EECU.

(g) Replace Np sensor.

(h) Continue to Operate.

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

TABLE 122A.. 006-27 - NP FAULT CH B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| **NOTE:** To check if fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable and Np sensor coil for tightness. Any loose connectors found? | Green Cable | | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Np sensor coil resistance through green cable. Is the resistance correct? | EECU<br>Np Sensor<br>Green Cable | P2 | 50 to 27 | 13.5-21.5 ohms | (f) | (d) |
| (d) Disconnect Np sensor connector plug P16. Measure resistance of Np sensor at connector pins. Is the resistance correct? | Green Cable<br>Np Sensor | J16 | A to C<br>B to D | 13.5-21.5 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Np sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

*** * * FOR CT7-2E1**

TABLE 123. 008-27 - NP DISAGREE FAULT 008-26 - TORQUE DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |


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**NOTE:** To check if fault is cleared, it is necessary to motor the engine.

| | | | |
|---|---|---|---|
| (a) Check green cable and Np sensor coil for tightness. Any loose connectors found? | Green Cable<br>Blue Cable | (b) | (c1) |
| (b) Tighten loose connector plugs. Fault cleared? | | (f) | (c1) |
| (c1) Swap the CH A Np Sensor with a known functioning sensor. Does the fault clear? | Np Sensor | (d) | (c2) |
| (c2) Swap the CH B Np Sensor with a known functioning sensor. Does the fault clear? | Np Sensor | (d) | (e) |
| (d) Replace Np sensor. | | | |
| (e) Replace the EECU. | | | |
| (f) Continue to Operate. | | | |

TABLE 124. 007-016 - OIL FILTER BYPASS FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and Oil filter bypass switch. Any loose connector found? | Green Cable | P2<br>P4 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure oil filter bypass switch resistance through green cable. Is the resistance correct? | EECU<br>Oil Filter Bypass Switch Green Cable | P2 | 48 to 25 | 0.5-2.0 ohms | (f) | (d) |
| (d) Disconnect oil filter bypass switch connector at P4 Measure resistance of oil filter bypass switch | Green Cable<br>Oil Filter Bypass Switch | J4 | 1 to 2 | 0.2 ohms max | (e) | (g) |


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at connector pins. Is the resistance correct?

(e) Replace green cable.

(f) Replace faulty EECU.

(g) Replace Oil Filter Bypass Switch.

(h) Continue to Operate.

TABLE 125. 007-25 LOW OIL PRESSURE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and Low Oil Pressure switch. Any loose connector found? | Blue Cable | P1<br>P8 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure low oil pressure switch resistance through blue cable. Is the resistance correct? | EECU<br>Low Oil Pressure Switch<br>Blue Cable | P1 | 72 to 56 | 0.5-3 ohms | (f) | (d) |
| (d) Disconnect low oil pressure switch connector at P8 Measure resistance of low oil pressure switch at connector pins. Is the resistance correct? | Blue Cable<br>Low Oil Pressure Switch | J8 | 1 to 2 | 0.5-3 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace low oil pressure Switch. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 126. 005-20 OIL TEMPERATURE FAULT

**Electrical Check**


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| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and Oil Temperature Sensor. Any loose connector found? | Blue Cable | P1<br>P6 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Oil Temperature Sensor resistance through blue cable. Is the resistance correct? | EECU<br>Oil Temperature Sensor<br>Blue Cable | P1 | 38 to 37 | Within limits of resistance versus temperature curve (TEST) | (f) | (d) |
| (d) Disconnect Oil Temperature Sensor connector at P6 Measure resistance of Oil Temperature Sensor at connector pins. Is the resistance correct? | Blue Cable<br>Oil Temperature Sensor | J6 | 1 to 2 | Within limits of resistance versus temperature curve (TEST) | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Oil Temperature Sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 127. 006-15 OIL PRESSURE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and Oil Pressure Sensor. Any loose connector found? | Green Cable | P2<br>P9 | | | (b) | (c) |
| (b) Tighten loose connector | | | | | (h) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| plugs. Fault cleared? | | | | | | |
| (c) Disconnect P2 green cable connector at EECU. Measure Oil Pressure Sensor resistance through green cable. Is the resistance correct? | EECU<br>Oil Pressure Sensor<br>Green Cable | P2 | 74 to 79<br>75 to 77 | 1600 ohms min.<br>2500 ohms max. | (f) | (d) |
| (d) Disconnect Oil Pressure Sensor connector at P9 Measure resistance of Oil Pressure Sensor at connector pins. Is the resistance correct? | Green Cable<br>Oil Pressure Sensor | | | | (e) | (g) |
| - Oil pressure sensor excitation circuit | | J9 | 1 to 3 | 1600 ohms min. | | |
| - Oil pressure sensor output circuit | | J9 | 2 to 4 | 2500 ohms max. | | |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Oil Pressure Sensor. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 128. 003-28 ALTERNATOR POWER CH A FAULT 005-29 NG ALTERNATOR FAULT A

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if Ng Alternator fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable connector plug for looseness at EECU and Alternator. Any loose connector found? | Green Cable | P2<br>P30 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Alternator Winding A resistance through green cable. Is the resistance correct? | EECU<br>Alternator Green Cable | P2 | 7 to 8<br>7 to 9 | 1-3.7 ohms<br>1-3.7 ohms | (f) | (d) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (d) Disconnect Alternator connector at P30 Measure resistance of Alternator Winding A at connector pins. Is the resistance correct? | Green Cable Alternator | J30 | 3 to 11<br>3 to 12 | 1-3.7 ohms<br>1-3.7 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Alternator. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 129. 004-28 ALTERNATOR POWER CH B FAULT 006-29 NG ALTERNATOR FAULT B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if Ng Alternator fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable connector plug for looseness at EECU and Alternator. Any loose connector found? | Green Cable | P2<br>P30 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Alternator Winding B resistance through green cable. Is the resistance correct? | EECU<br>Alternator Green Cable | P2 | 11 to 12<br>11 to 13 | 1-3.7 ohms<br>1-3.7 ohms | (f) | (d) |
| (d) Disconnect Alternator connector at P30 Measure resistance of Alternator Winding B at connector pins. Is the resistance correct? | Green Cable Alternator | J30 | 6 to 1<br>6 to 7 | 1-3.7 ohms<br>1-3.7 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Alternator. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 130. 008-29 NG ALTERNATOR DISAGREE FAULT

**Electrical Check**


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| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if Ng Alternator fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable connector plug for looseness at EECU and Alternator. Any loose connector found? | Green Cable | P2<br>P30 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (f) | (c) |
| (c) Swap Alternator with known good alternator. Does the fault clear? | Alternator<br>EECU | | | | (e) | (d) |
| (d) Replace faulty EECU. | | | | | | |
| (e) Replace Alternator. | | | | | | |
| (f) Continue to Operate. | | | | | | |

TABLE 131. 001-24 VAPOR VENT OUTPUT CH A FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure FMU Vapor Vent circuit resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 5 to 6 | 675-1075 ohms | (f) | (d) |
| (d) Disconnect Vapor Vent connector at P19 Measure resistance of Vapor Vent circuit at connector pins. Is the resistance correct? | Blue Cable<br>FMU | J19 | 27 to 28 | 675-1075 ohms | (e) | (g) |
| (e) Replace | | | | | | |


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blue cable.

(f) Replace faulty EECU.

(g) Replace FMU.

(h) Continue to Operate.

TABLE 132. 001-27 IGNITION OUTPUT CH A FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and Ignition Exciter Any loose connector found? | Green Cable | P2<br>P20 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Ignition Exciter resistance through green cable. Is the resistance correct? | EECU<br>Ignition Exciter Green Cable | P2 | 37 to 38 | 540-660 ohms | (f) | (d) |
| (d) Disconnect Ignition Exciter connector at P20. Measure resistance of Ignition Excitor circuit at connector pins. Is the resistance correct? | Green Cable<br>Ignition Exciter | J20 | 4 to 5 | 540-660 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace faulty Ignition Exciter. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 133. 002-27 IGNITION OUTPUT CH B FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and | Green Cable | P2<br>P20 | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| Ignition Exciter Any loose connector found? | | | | | | |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Ignition Exciter resistance through green cable. Is the resistance correct? | EECU Ignition Exciter Green Cable | P2 | 35 to 36 | 540-660 ohms | (f) | (d) |
| (d) Disconnect Ignition Exciter connector at P20. Measure resistance of Ignition Excitor circuit at connector pins. Is the resistance correct? | Green Cable Ignition Exciter | J20 | 2 to 7 | 540-660 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace faulty Ignition Exciter. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 134. 007-24 FUEL FILTER BYPASS FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and Fuel Filter Bypass Switch. Any loose connector found? | Blue Cable | P1<br>P3 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Fuel Filter Bypass Switch resistance through blue cable. Is the | EECU Fuel Filter Bypass Switch Blue Cable | P1 | 75 to 76 | <5 ohms | (f) | (d) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| resistance correct? | | | | | | |
| (d) Disconnect Fuel Filter Bypass Switch connector at P3 Measure resistance of Fuel Filter Bypass Switch circuit at connector pins. Is the resistance correct? | Blue Cable Fuel Filter Bypass Switch | J3 | 1 to 2 | <5 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Fuel Filter Bypass Switch. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 135. 006-20 CHIP DETECTOR FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check green cable connector plug for looseness at EECU and Chip Detector Any loose connector found? | Green Cable | P2<br>P5 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Chip Detector resistance through green cable. Is the resistance correct? | EECU<br>Chip Detector Green Cable | P2 | 65 to 66 | 1000-1020 ohms | (f) | (d) |
| (d) Disconnect Chip Detector connector at P5 Measure resistance of Chip Detector circuit at connector pins. Is the resistance correct? | Green Cable Chip Detector | J5 | 1 to 2 | 1000-1020 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Chip Detector. | | | | | | |
| (h) Continue to Operate. | | | | | | |


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TABLE 136. 001-23 ANTI-ICE OUTPUT CH A FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plug for looseness at EECU and Anti-Icing Start Bleed Valve Any loose connector found? | Blue Cable | P1<br>PY | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Anti-Icing Start Bleed Valve resistance through blue cable. Is the resistance correct? | EECU<br>Anti-Icing Start Bleed Valve<br>Blue Cable | P1 | 3 to 4 | 20-56 ohms | (f) | (d) |
| (d) Disconnect Anti-Icing Start Bleed Valve connector at PY. Measure resistance of Anti-Icing Start Bleed Valve circuit at connector pins. Is the resistance correct? | Blue Cable<br>Anti-Icing Start Bleed Valve | JY | 1 to 2 | 20-56 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Anti-Icing Start Bleed Valve. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 137. 002-23 ANTI-ICE OUTPUT CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check green cable connector plug for looseness at EECU and Anti-Icing Start Bleed Valve Any loose connector found? | Green Cable | P1<br>PX | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Anti-Icing Start Bleed Valve resistance through green cable. Is the resistance correct? | EECU<br>Anti-Icing Start Bleed Valve Green Cable | P2 | 21 to 22 | 20-56 ohms | (f) | (d) |
| (d) Disconnect Anti-Icing Start Bleed Valve connector at PX. Measure resistance of Anti-Icing Start Bleed Valve circuit at connector pins. Is the resistance correct? | Green Cable<br>Anti-Icing Start Bleed Valve | JX | 1 to 2 | 20-56 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace Anti-Icing Start Bleed Valve. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 138. 001-22 ANTI-ICE SYSTEM CH A FAULT 002-22 ANTI-ICE SYSTEM CH B FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and Anti-Icing Start Bleed Valve Any loose connector found? | Green Cable | | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (f) | (c) |
| (c) Replace valve with known functioning valve. Does the fault clear? | FMU<br>Anti-Icing Start Bleed Valve | | | | (e) | (d) |
| (d) Replace FMU. | | | | | | |
| (e) Replace Anti-Icing | | | | | | |


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Start Bleed Valve.

(f) Continue to Operate.

TABLE 139. 001-26 VG OUTPUT CH A FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure VG step motor resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 24 to 48<br>25 to 26 | 35-45 ohms<br>35-45 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P19. Measure resistance of VG step motor circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 23 to 24<br>25 to 26 | 35-45 ohms<br>35-45 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 140. 002-26 VG OUTPUT CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable | EECU<br>FMU | P2 | 30 to 3<br>1 to 2 | 35-45 ohms<br>35-45 ohms | (f) | (d) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| connector at EECU. Measure VG step motor resistance through green cable. Is the resistance correct? | Green Cable | | | | | |
| (d) Disconnect FMU connector at P18. Measure resistance of VG step motor circuit at connector pins. Is the resistance correct? | Green Cable<br>FMU | J18 | 23 to 24<br>25 to 26 | 35-45 ohms<br>35-45 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 141. 005-19 VG LVDT FAULT A

**Electrical Check**

| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure VG LVDT resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 31 to 32<br>53 to 69<br>54 to 69 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P19. Measure resistance of VG LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 14 to 15<br>16 to 17<br>18 to 17 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |


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(h) Continue to Operate.

TABLE 142. 006-19 VG LVDT FAULT B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure VG LVDT resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 61 to 62<br>42 to 41<br>60 to 41 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P18. Measure resistance of VG LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Green Cable | J18 | 14 to 15<br>16 to 17<br>18 to 17 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 143. 008-21 VG LVDT DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P2<br>P19<br>P18 | | | (b) | (c1) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (j) | (c1) |
| (c1) Disconnect P1 blue cable connector at EECU. Measure | EECU<br>FMU<br>Blue Cable | P1 | 31 to 32<br>53 to 69<br>54 to 69 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (h) | (c2) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| VG LVDT resistance through blue cable. Is the resistance correct? | | | | | | |
| (c2) Disconnect P2 green cable connector at EECU. Measure VG LVDT resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 61 to 62<br>42 to 41<br>60 to 41 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (h) | (d1) |
| (d1) Disconnect FMU connector at P19. Measure resistance of VG LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 14 to 15<br>16 to 17<br>18 to 17 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (d2) | (i) |
| (d2) Disconnect FMU connector at P18. Measure resistance of VG LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Green Cable | J18 | 14 to 15<br>17 to 17<br>18 to 17 | 70-105 ohms<br>135-175 ohms<br>135-175 ohms | (e1) | (i) |
| (e1) Measure continuity of blue cable for VG LVDT circuit pin resistance. Is the resistance correct? | Blue Cable | P1<br>P19 | 31 to 14<br>32 to 15<br>53 to 16<br>69 to 17<br>54 to 18 | <2 ohms<br><2 ohms<br><2 ohms<br><2 ohms<br><2 ohms | (e2) | (f) |
| (e2) Measure continuity of green cable for VG LVDT circuit pin resistance. Is the resistance correct? | Green Cable | P2<br>P18 | 61 to 14<br>62 to 15<br>42 to 16<br>41 to 17<br>60 to 18 | <2 ohms<br><2 ohms<br><2 ohms<br><2 ohms<br><2 ohms | (i) | (g) |
| (f) Replace blue cable. Is the fault cleared? | | | | | (j) | (i) |
| (g) Replace green cable. Is the fault cleared? | | | | | (j) | (i) |
| (h) Replace faulty EECU. | | | | | | |
| (i) Replace faulty FMU. | | | | | | |
| (j) Continue to Operate. | | | | | | |

TABLE 144. 001-20 VG SYSTEM CH A FAULT 002-20 VG SYSTEM CH B FAULT

**Electrical Check**

| **Possible Faulty** |
|---|


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| Instructions | Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check VG actuating linkage for mechanical damage, looseness or being stuck. If damaged, repair VG actuating linkage. Fault cleared? | VG Actuating Linkage | | | | (d) | (b) |
| (b) Replace AISBV. Fault cleared? | AISBV | | | | (d) | (c) |
| (c) Replace FMU. | FMU | | | | | |
| (d) Continue to Operate. | | | | | | |

TABLE 145. 005-28 NG FMU FAULT A

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if the fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure FMU Ng resistance through blue cable. Is the resistance correct? | EECU<br>FMU Blue Cable | P1 | 19 to 44 | 500-2000 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P19. Measure resistance of FMU Ng circuit at connector pins. Is the resistance correct? | FMU Blue Cable | J19 | 1 to 2 | 500-2000 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 146. 006-28 NG FMU FAULT B

**Electrical Check**

| | Possible Faulty |
|---|---|


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| Instructions | Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if the fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure FMU Ng resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 26 to 49 | 500-2000 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P18. Measure resistance of FMU Ng circuit at connector pins. Is the resistance correct? | FMU<br>Green Cable | J18 | 1 to 2 | 500-2000 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 147. 008-28 NG FMU DISAGREE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if the fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | P2<br>P18 | | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (d) | (c) |
| (c) Replace FMU. | | | | | | |
| (d) Continue to Operate. | | | | | | |

TABLE 148. 005-21 FUEL TEMP FAULT CH A

**Electrical Check**

| Instructions | Possible Faulty |
|---|---|


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| Instructions | Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Ng T-Fuel resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 36 to 57 | 66-178 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P19. Measure resistance of Ng T-Fuel circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 7 to 8 | 66-178 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 149. 006-21 FUEL TEMP FAULT CH B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Ng T-Fuel resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 67 to 76 | 66-178 ohms | (f) | (d) |
| (d) Disconnect | FMU | J18 | 7 to 8 | 66-178 ohms | (e) | (g) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| FMU connector at P18. Measure resistance of Ng T-Fuel circuit at connector pins. Is the resistance correct? | Green Cable | | | | | |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 150. 008-22 FUEL TEMP DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plug for looseness at EECU and FMU Any loose connector found? | Blue Cable | P1<br>P2<br>P19<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Is the fault cleared? | | | | | (e) | (c) |
| (c) Replace the FMU. Is the fault cleared? | FMU | | | | (e) | (d) |
| (d) Replace the EECU. | EECU | | | | | |
| (e) Continue to Operate. | | | | | | |

TABLE 151. 005-18 WF LVDT FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Wf LVDT resistance through blue cable. Is the | EECU<br>FMU<br>Blue Cable | P1 | 51 to 52<br>67 to 77<br>68 to 77 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (f) | (d) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| resistance correct? | | | | | | |
| (d) Disconnect FMU connector at P19. Measure resistance of Wf LVDT circuit at connector pins. Is the resistance correct? | FMU Blue Cable | J19 | 9 to 10<br>11 to 12<br>13 to 12 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 152. 006-18 WF LVDT FAULT CH B

**Electrical Check**

| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
|---|---|---|---|---|---|---|
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Wf LVDT resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 14 to 39<br>40 to 15<br>59 to 15 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P18. Measure resistance of Wf LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Green Cable | J18 | 9 to 10<br>11 to 12<br>13 to 12 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 153. 008-20 WF LVDT DISAGREE FAULT

**Electrical Check**

| | **Possible** |
|---|---|


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| Instructions | Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable<br>Green Cable | P1<br>P2<br>P19<br>P18 | | | (b) | (c1) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (j) | (c1) |
| (c1) Disconnect P1 blue cable connector at EECU. Measure VG LVDT resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 51 to 52<br>67 to 77<br>68 to 77 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (h) | (c2) |
| (c2) Disconnect P2 green cable connector at EECU. Measure VG LVDT resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 14 to 39<br>40 to 15<br>59 to 15 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (h) | (d1) |
| (d1) Disconnect FMU connector at P19. Measure resistance of VG LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 9 to 10<br>11 to 12<br>13 to 12 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (d2) | (i) |
| (d2) Disconnect FMU connector at P18. Measure resistance of VG LVDT circuit at connector pins. Is the resistance correct? | FMU<br>Green Cable | J18 | 9 to 10<br>11 to 12<br>13 to 12 | 66-100 ohms<br>240-500 ohms<br>240-500 ohms | (e1) | (i) |
| (e1) Measure continuity of blue cable for VG LVDT circuit pin resistance. Is the resistance correct? | Blue Cable | P1<br>P19 | 51 to 9<br>52 to 10<br>67 to 11<br>77 to 12<br>68 to 13 | <2 ohms<br><2 ohms<br><2 ohms<br><2 ohms<br><2 ohms | (e2) | (f) |
| (e2) Measure continuity of green cable for VG LVDT circuit pin resistance. Is the resistance correct? | Green Cable | P2<br>P18 | 14 to 9<br>39 to 10<br>40 to 11<br>15 to 12<br>59 to 13 | <2 ohms<br><2 ohms<br><2 ohms<br><2 ohms<br><2 ohms | (i) | (g) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (f) Replace blue cable. Is the fault cleared? | | | | | (j) | (i) |
| (g) Replace green cable. Is the fault cleared? | | | | | (j) | (i) |
| (h) Replace faulty EECU. | | | | | | |
| (i) Replace faulty FMU. | | | | | | |
| (j) Continue to Operate. | | | | | | |

TABLE 154. 001-25 WF OUTPUT CH A FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check blue cable connector plug for looseness at EECU and FMU. Any loose connector found? | Blue Cable | P1<br>P19 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P1 blue cable connector at EECU. Measure Wf step motor resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 22 to 46<br>23 to 47 | 37-75 ohms<br>37-75 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P19. Measure resistance of Wf step motor circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 19 to 20<br>21 to 22 | 37-75 ohms<br>37-75 ohms | (e) | (g) |
| (e) Replace blue cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 155. 002-25 WF OUTPUT CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check green cable connector plug for looseness at EECU and | Green Cable | P2<br>P18 | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| FMU. Any loose connector found? | | | | | | |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (h) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Wf step motor resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2 | 32 to 5<br>31 to 4 | 37-75 ohms<br>37-75 ohms | (f) | (d) |
| (d) Disconnect FMU connector at P18. Measure resistance of Wf step motor circuit at connector pins. Is the resistance correct? | Green Cable<br>FMU | J18 | 19 to 20<br>21 to 22 | 37-75 ohms<br>37-75 ohms | (e) | (g) |
| (e) Replace green cable. | | | | | | |
| (f) Replace faulty EECU. | | | | | | |
| (g) Replace FMU. | | | | | | |
| (h) Continue to Operate. | | | | | | |

TABLE 156. 001-21 WF SYSTEM CH A FAULT 002-21 WF SYSTEM CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Check green cable connector plug for looseness at EECU and FMU. Any loose connector found? | Green Cable | P2<br>P18 | | | (b) | (c) |
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (d) | (c) |
| (c) Replace FMU. | FMU | | | | | |
| (d) Continue to Operate. | | | | | | |

TABLE 157. 009-27 OEI LIMITS SELECT SWITCH FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Disconnect aircraft P1 connector at EECU of both engines. Depress switch on pilot | EECU<br>Aircraft Wiring | Aircraft P1 | 45 to 9 | <150 ohms | (b) | (e) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| collective and while depressed check between pins 45 and 9 on both engines. Measure the resistance. Is the resistance correct? | | | | | | |
| (b) Release the switch and check pins. Open circuit? | EECU Aircraft Wiring | Aircraft P1 | 45 to 9 | >100K ohms | (c) | (e) |
| (c) Replace the EECU on Engine 1. Does the fault clear? | | | | | (d) | (f) |
| (d) Replace the EECU on Engine 2. | | | | | | |
| (e) Troubleshoot aircraft circuit for faulty engine. | | | | | | |
| (f) Replace faulty EECU permanently and continue to operate. | | | | | | |

TABLE 158. 001-15 SIF FAULT CH A

**Electrical Check**

| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
|---|---|---|---|---|---|---|
| (a) Pull the circuit breakers on both channels of the FADEC. Put the SIF switch into the STOP position. At Aircraft P1 looking toward the aircraft, measure the resistance in the STOP, IDLE and FLY circuits. Are both IDLE and FLY open circuits and STOP closed circuit? | Aircraft EECU | Aircraft P1 | 31 to 79<br>77 to 79<br>78 to 79 | <150 ohms<br>>100K ohms<br>>100K ohms | (b) | (d) |
| (b) Put the SIF switch into the IDLE Position. Measure the resistance in the STOP circuit and IDLE circuit. Is STOP open and IDLE closed? | Aircraft EECU | Aircraft P1 | 31 to 79<br>77 to 79 | >100K ohms<br><150 ohms | (c) | (d) |
| (c) Put the SIF switch | Aircraft EECU | Aircraft P1 | 78 to 79 | <150 ohms | (e) | (d) |


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into the FLY Position. Measure the resistance in the FLY circuit. Is it closed?

(d) Troubleshoot using Aircraft Maintenance Manual.

(e) Replace the EECU.

TABLE 159. 002-15 SIF FAULT CH B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the circuit breakers on both channels of the FADEC. Put the SIF switch into the STOP position. At Aircraft P2 looking toward the aircraft, measure the resistance in the STOP, IDLE and FLY circuits. Are both IDLE and FLY open circuits and STOP closed circuit? | Aircraft EECU | Aircraft P2 | 31 to 27<br>55 to 27<br>11 to 27 | <150 ohms<br>>100K ohms<br>>100K ohms | (b) | (d) |
| (b) Put the SIF switch into the IDLE Position. Measure the resistance in the STOP circuit and IDLE circuit. Is STOP open and IDLE closed? | Aircraft EECU | Aircraft P2 | 31 to 27<br>55 to 27 | >100K ohms<br><150 ohms | (c) | (d) |
| (c) Put the SIF switch into the FLY Position. Measure the resistance in the FLY circuit. Is it closed? | Aircraft EECU | Aircraft P2 | 11 to 27 | <150 ohms | (e) | (d) |
| (d) Troubleshoot using Aircraft Maintenance Manual. | | | | | | |
| (e) Replace the EECU. | | | | | | |

TABLE 160. 001-16 ENGINE OUT SIGNAL FAULT CH A FAULT

| | | Electrical Check |
|---|---|---|
| | **Possible Faulty** | |


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| Instructions | Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the circuit breakers on both channels of the FADEC. At Aircraft P1 looking toward the aircraft, measure the resistance of the Engine Out circuit. Is the resistance correct?<br>(b) Replace the EECU.<br>(c) Troubleshoot using Aircraft Maintenance Manual. | Aircraft EECU | Aircraft P1 | 3 to 4 | 310-625 ohms | (b) | (c) |

TABLE 161. 002-16 ENGINE OUT SIGNAL FAULT CH B FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the circuit breakers on both channels of the FADEC. At Aircraft P2 looking toward the aircraft, measure the resistance of the Engine Out circuit. Is the resistance correct?<br>(b) Replace the EECU.<br>(c) Troubleshoot using Aircraft Maintenance Manual. | Aircraft EECU | Aircraft P2 | 4 to 5 | 310-625 ohms | (b) | (c) |

TABLE 162. 001-28 START OUTPUT CH A FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the circuit breakers on both channels of the FADEC. At Aircraft P1 looking toward the aircraft, measure the resistance of the Start Output circuit. Is the resistance correct?<br>(b) Replace the EECU.<br>(c) Troubleshoot | Aircraft EECU | Aircraft P1 | 5 to 6 | 310-625 ohms | (b) | (c) |


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using Aircraft Maintenance Manual.

TABLE 163. 002-28 START OUTPUT CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the circuit breakers on both channels of the FADEC. At Aircraft P2 looking toward the aircraft, measure the resistance of the Start Output circuit. Is the resistance correct?<br>(b) Replace the EECU.<br>(c) Troubleshoot using Aircraft Maintenance Manual. | Aircraft EECU | Aircraft P2 | 2 to 3 | 310-625 ohms | (b) | (c) |

TABLE 164. 003-22 CROSS ENGINE BUS TX CH A FAULT 003-23 ARINC TX1 CH A FAULT 004-23 ARINC TX1 CH B FAULT 004-22 CROSS ENGINE BUS TX CH B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Replace the EECU. | EECU | | | | | |

TABLE 165. 003-25 ARINC RX1 CH A FAULT 004-25 ARINC RX1 CH B FAULT 003-24 ARINC RX2 CH A FAULT 004-24 ARINC RX2 CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the circuit breakers on both channels of the FADEC. Do both ARINC RX1 faults display? | Transmission from AMMC 1 - Aircraft | | | | (g) | (b) |
| (b) Do both ARINC RX2 faults display? | Transmission from AMMC 2 - Aircraft | | | | (g) | (c) |
| (c) Does only one RX1 or RX2 display on channel A? | EECU Aircraft | | | | (d) | (e) |
| (d) Leave EECU aircraft connector A11P1 or A12P1 connected for engine 1 or engine 2 respectively, at EECU. Disconnect aircraft | EECU Aircraft | Aircraft P265 or P266 for engine 1 or engine 2 respectively | 51 to 67<br>53 to 68 | <50 ohms or >100K ohms | (f) | (g) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| connector P265 or P266, for engine 1 or engine 2 respectively, on engine side firewall. Looking toward the EECU, measure the resistance. Is the resistance correct? | | | | | | |
| (e) One RX1 or RX2 displays on channel B. Leave EECU aircraft connector A11P2 or A12P2 connected for engine 1 or engine 2 respectively, at EECU. Disconnect aircraft connector P267 or P268, for engine 1 or engine 2 respectively, on engine side of LPU or firewall. Looking toward the EECU, measure the resistance. Is the resistance correct? | EECU<br>Aircraft | Aircraft P267 or P268 for engine 1 or engine 2 respectively | 58 to 71<br>59 to 72 | <50 ohms or >100K ohms | (f) | (g) |
| (f) Replace the EECU. | | | | | | |
| (g) Troubleshoot aircraft using Aircraft Maintenance Manual. | | | | | | |

TABLE 166. 003-29 28 VDC CH A FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the breakers on both FADEC channels and disconnect EECU at Aircraft P1. Put the breakers back on and looking toward the aircraft, measure the voltage. Disconnect the breaker again. Is the voltage correct? | EECU<br>Aircraft | Aircraft P1 | 21 to 22 | 28 volts | (b) | (c) |
| (b) Replace the EECU. | | | | | | |
| (c) | | | | | | |


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Troubleshoot the aircraft using the Aircraft Maintenance Manual.

TABLE 167. 004-29 28 VDC CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the breakers on both FADEC channels and disconnect EECU at Aircraft P2. Put the breakers back on and looking toward the aircraft, measure the voltage. Disconnect the breaker again. Is the voltage correct? | EECU Aircraft | Aircraft P2 | 12 to 13 | 28 volts | (b) | (c) |
| (b) Replace the EECU. | | | | | | |
| (c) Troubleshoot the aircraft using the Aircraft Maintenance Manual. | | | | | | |

TABLE 168. 007-22 CHANNEL A DETECTS FAULT IN BUS FROM CHANNEL B OF THE OTHER ENGINE 007-21 CHANNEL B DETECTS FAULT IN BUS FROM CHANNEL A OF THE OTHER ENGINE 007-14 CHANNEL B DETECTS FAULT IN BUS FROM CHANNEL B OF THE OTHER ENGINE 007-29 CHANNEL A DETECTS FAULT IN BUS FROM CHANNEL A OF THE OTHER ENGINE

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Does only one fault appear alone? | | | | | (g) | (b) |
| (b) Are fault word 7 bits 21 and 29 present? | | | | | (c) | (d) |
| (c) Pull the breakers on both channels of the FADEC on the engine that saw the fault. At Aircraft P1 looking towards the aircraft, measure the resistance. Is the resistance correct? | EECU Aircraft | Aircraft P1 | 58 to 71 | 158-202 ohms | (g) | (e) |
| (d) Fault word 7 bits 22 and 14 are present. Pull the breakers | EECU Aircraft | Aircraft P2 | 10 to 37 | 158-202 ohms | (g) | (f) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| on both channels of the FADEC on the engine that saw the fault. At Aircraft P2 looking towards the aircraft, measure the resistance. Is the resistance correct? | | | | | | |
| (e) On the other engine, disconnect at Aircraft P1 looking towards the aircraft and measure the resistance. Is the resistance correct? | EECU Aircraft | Aircraft P1 | 58 to 71 | 158-202 ohms | (g) | (h) |
| (f) On the other engine, disconnect at Aircraft P2 looking towards the aircraft and measure the resistance. Is the resistance correct? | EECU Aircraft | Aircraft P2 | 10 to 37 | 158-202 ohms | (g) | (h) |
| (g) Replace the faulty EECU. | | | | | | |
| (h) Troubleshoot using Aircraft Maintenance Manual. | | | | | | |

TABLE 169. 007-28 WF ON/OFF DISCRETE FAULT CH A

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the breakers on both channels of the FADEC. Set SIF switch to STOP. At Aircraft P1 looking toward the aircraft, measure the resistance. Is fuel OFF closed circuit and Fuel ON open circuit? | EECU<br>Aircraft | Aircraft P1 | 31 to 79<br>32 to 79 | <150 ohms<br>>100K ohms | (b) | (e) |
| (b) Set SIF switch to IDLE. Is fuel OFF an open circuit and Fuel ON a closed circuit? | EECU<br>Aircraft | Aircraft P1 | 31 to 79<br>32 to 79 | >100K ohms<br><150 ohms | (c) | (e) |
| (c) Set SIF switch to IDLE. Is fuel | EECU<br>Aircraft | Aircraft P1 | 31 to 79<br>32 to 79 | >100K ohms<br><150 ohms | (d) | (e) |


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OFF an open circuit and Fuel On a closed circuit?

(d) Replace the EECU.

(e) Troubleshoot the aircraft using Aircraft Maintenance Manual.

TABLE 170. 007-20 WF ON/OFF DISCRETE FAULT CH B

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the breakers on both channels of the FADEC. Set SIF switch to STOP. At Aircraft P2 looking toward the aircraft, measure the resistance. Is fuel OFF closed circuit and Fuel ON open circuit? | EECU<br>Aircraft | Aircraft P2 | 31 to 27<br>32 to 27 | <150 ohms<br>>100K ohms | (b) | (e) |
| (b) Set SIF switch to IDLE. Is fuel OFF an open circuit and Fuel ON a closed circuit? | EECU<br>Aircraft | Aircraft P2 | 31 to 27<br>32 to 27 | >100K ohms<br><150 ohms | (c) | (e) |
| (c) Set SIF switch to IDLE. Is fuel OFF an open circuit and Fuel On a closed circuit? | EECU<br>Aircraft | Aircraft P2 | 31 to 27<br>32 to 27 | >100K ohms<br><150 ohms | (d) | (e) |
| (d) Replace the EECU. | | | | | | |
| (e) Troubleshoot the aircraft using Aircraft Maintenance Manual. | | | | | | |

TABLE 171. 008-14 AI POSITION FB DISAGREEMENT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Disconnect engine P1 blue cable connector at EECU. Measure the AISBV resistance through the blue cable. Is the resistance correct? | EECU<br>AISBV | P1 | 41 to 42 | >100K ohms | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (b) Disconnect engine P2 green cable connector at EECU. Measure the AISBV resistance through the green cable. Is the resistance correct? | EECU AISBV | P2 | 57 to 58 | <50 ohms | (f) | (c) |
| (c) Disconnect AISBV at PY and measure the resistance. Is the resistance correct? | AISBV Harness | JY | 3 to 4 | >100K ohms | (d) | (e) |
| (d) Disconnect AISBV at PX and measure the resistance. Is the resistance correct? | AISBV Harness | JX | 3 to 4 | <50 ohms | (g) | (e) |
| (e) Replace the AISBV. | | | | | | |
| (f) Replace the EECU. | | | | | | |
| (g) Replace the harness. | | | | | | |

TABLE 172. 008-19 COLLECTIVE DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| Collective signals to CHA and CHB do not agree. Check aircraft maintenance manual and calibration. | Aircraft | | | | | |

TABLE 173. 009-20 LOCAL ENGINE CHANNEL A AEO LIMIT SELECTION FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the breakers on both channels of the FADEC. Depress AEO button and check pins. Is the circuit closed? | EECU Aircraft | Aircraft P1 | 8 to 9 | <150 ohms | (b) | (d) |
| (b) Release AEO button and check pins. Is the circuit open? | EECU Aircraft | Aircraft P1 | 8 to 9 | >100K ohms | (c) | (d) |
| (c) Replace the EECU. | | | | | | |
| (d) Troubleshoot the aircraft using Aircraft Maintenance Manual. | | | | | | |


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TABLE 174. 009-21 LOCAL ENGINE CHANNEL B AEO LIMIT SELECTION FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the breakers on both channels of the FADEC. Depress AEO button and check pins. Is the circuit closed? | EECU Aircraft | Aircraft P2 | 38 to 24 | <150 ohms | (b) | (d) |
| (b) Release AEO button and check pins. Is the circuit open? | EECU Aircraft | Aircraft P2 | 38 to 24 | >100K ohms | (c) | (d) |
| (c) Replace the EECU. | | | | | | |
| (d) Troubleshoot the aircraft using Aircraft Maintenance Manual. | | | | | | |

TABLE 175. 009-22 SIF DISAGREEMENT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| SIF input from one engine does not agree with SIF input to other engine. Troubleshoot aircraft maintenance manual. | Aircraft | | | | | |

TABLE 176. 009-23 AI REQUEST DISAGEEMENT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull the breakers on both channels of the FADEC. Set anti-ice switch to OFF and check pins. Is the circuit closed? | | Aircraft P1<br>Aircraft P2 | 37 to 52<br>28 to 1 | <150 ohms | (b) | (d) |
| (b) Set anti-ice to ON and check pins. Is the circuit open? | | Aircraft P1<br>Aircraft P2 | 37 to 52<br>28 to 1 | >100K ohms | (c) | (d) |
| (c) Replace EECU. | | | | | | |
| (d) Troubleshoot aircraft using aircraft maintenance manual. | | | | | | |

TABLE 177. 009-24 TRAINING INPUT DISAGREEMENT


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**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the breakers on both FADEC channels. With the training switch depressed, on engine 1 disconnect at connector aircraft P1. Check pins. Is it a closed circuit? | Aircraft | Aircraft P1 | 35 to 36 | <150 ohms | (b) | (g) |
| (b) With the training switch depressed, on engine 2 disconnect at connector aircraft P1. Check pins. Is it a closed circuit? | Aircraft | Aircraft P1 | 57 to 36 | <150 ohms | (c) | (g) |
| (c) With the training switch released, on engine 1 disconnect connector at aircraft P1. Check pins. Is it a closed circuit? | Aircraft | Aircraft P1 | 35 to 36 | >100K ohms | (d) | (g) |
| (d) With the training switch released, on engine 2 disconnect connector aircraft P1. Check pins. Is it a closed circuit? | EECU Aircraft | Aircraft P1 | 57 to 36 | >100K ohms | (e) | (g) |
| (e) Replace EECU on engine 1. Fault cleared? | EECU Aircraft | | | | (h) | (f) |
| (f) Replace the EECU on engine 2. Fault cleared? | EECU Aircraft | | | | (h) | (g) |
| (g) Troubleshoot aircraft via aircraft maintenance manual. | | | | | | |
| (h) Replace EECU. | | | | | | |

TABLE 178. 001-29 IGNITION, STARTER, OR ENGINE OUT RELAY FAULT CH A

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Is fault | EECU | | | | (h) | (b) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| accompanied by EECU Isolation Flag CH A fault? | | | | | | |
| (b) Disconnect P2 green cable connector at EECU. Measure ignition circuit resistance through the green cable. Is the resistance correct? | EECU Ignition Exciter Green Cable | J2 | 38 to 37<br>38 to connector shell | >100K ohms<br>>100K ohms | (f) | (c) |
| (c) Disconnect ignition exciter at P20. Measure resistance of exciter at connector pins. Is the resistance correct? | Ignition Exciter Green Cable | J20 | 4 to 5<br>4 to connector shell | >100K ohms<br>>100K ohms | (d) | (e) |
| (d) Replace the green cable. | | | | | | |
| (e) Replace the ignition exciter. | | | | | | |
| (f) Pull the breakers for both FADEC channels. At aircraft P1 looking toward the aircraft, measure the resistance of the starter circuit. Is the resistance correct? | EECU Aircraft | Aircraft P1 | 6 to 5<br>6 to connector shell | >100K ohms<br>>100K ohms | (g) | (i) |
| (g) With the breakers still pulled, measure the engine out circuit on aircraft P1. Is the resistance correct? | EECU Aircraft | Aircraft P1 | 4 to 3<br>4 to connector shell | >100K ohms<br>>100K ohms | (h) | (i) |
| (h) Replace the EECU. | | | | | | |
| (i) Troubleshoot aircraft using aircraft maintenance manual. | | | | | | |

TABLE 179. 002-29 IGNITION, STARTER, OR ENGINE OUT RELAY FAULT CH B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Is fault accompanied by EECU Isolation Flag CH B fault? | EECU | | | | (h) | (b) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (b) Disconnect P2 green cable connector at EECU. Measure ignition circuit resistance through the green cable. Is the resistance correct? | EECU<br>Ignition Exciter Green Cable | J2 | 36 to 35<br>36 to connector shell | >100K ohms<br>>100K ohms | (f) | (c) |
| (c) Disconnect ignition exciter at P20. Measure resistance of exciter at connector pins. Is the resistance correct? | Ignition Exciter Green Cable | J20 | 2 to 7<br>2 to connector shell | >100K ohms<br>>100K ohms | (d) | (e) |
| (d) Replace the green cable. | | | | | | |
| (e) Replace the ignition exciter. | | | | | | |
| (f) Pull the breakers for both FADEC channels. At aircraft P2 looking toward the aircraft, measure the resistance of the starter circuit. Is the resistance correct? | EECU<br>Aircraft | Aircraft P2 | 2 to 3<br>2 to connector shell | >100K ohms<br>>100K ohms | (g) | (i) |
| (g) With the breakers still pulled, measure the engine out circuit on aircraft P2. Is the resistance correct? | EECU<br>Aircraft | Aircraft P2 | 4 to 5<br>4 to connector shell | >100K ohms<br>>100K ohms | (h) | (i) |
| (h) Replace the EECU. | | | | | | |
| (i) Troubleshoot aircraft using aircraft maintenance manual. | | | | | | |

TABLE 180. 008-18 TEST CELL PAL DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| Troubleshoot the test cell and calibration of the PAL. | Test Cell | | | | | |

TABLE 181. 005-16 TEST CELL PAL FAULT A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| | **Possible Faulty** | | | | | |


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| Instructions | Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the breakers for both FADEC channels. Disconnect EECU at aircraft P1 and looking toward the aircraft, measure the resistance. Is the resistance correct? | EECU Test Cell | Aircraft P1 | 29 to 28<br>1 to 2<br>30 to 2<br>29 to connector back-shell<br>28 to connector back-shell<br>1 to connector back-shell<br>2 to connector back-shell<br>30 to connector back-shell | 150-100K ohms<br>150-100K ohms<br>150-100K ohms<br>>100K ohms<br>>100K ohms<br>>100K ohms<br>>100K ohms<br>>100K ohms | (b) | (c) |
| (b) Change the EECU. | | | | | | |
| (c) Troubleshoot the test cell. | | | | | | |

TABLE 182. 006-16 TEST CELL PAL FAULT B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the breakers for both FADEC channels. Disconnect EECU at aircraft P2 and looking toward the aircraft, measure the resistance. Is the resistance correct? | EECU Test Cell | Aircraft P2 | 65 to 76<br>29 to 51<br>30 to 51<br>65 to connector back-shell<br>76 to connector back-shell<br>29 to connector back-shell<br>51 to connector back-shell<br>30 to connector back-shell | 150-100K ohms<br>150-100K ohms<br>150-100K ohms<br>>100K ohms<br>>100K ohms<br>>100K ohms<br>>100K ohms | (b) | (c) |
| (b) Change the EECU. | | | | | | |
| (c) Troubleshoot the test cell. | | | | | | |

TABLE 183. 009-18 CRANK SIGNAL DISAGREE FAULT

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Pull the breakers for both FADEC channels. Hold the SIF switch in the crank position. Looking toward the aircraft, measure the resistance on aircraft P1 and P2. Are the resistances correct? | EECU<br>Aircraft | Aircraft P1<br>Aircraft P2 | 56 to 79<br>47 to 27 | <150 ohms<br><150 ohms | (b) | (d) |
| (b) Release the SIF from | EECU<br>Aircraft | Aircraft P1<br>Aircraft P2 | 56 to 79<br>47 to 27 | >100K ohms<br>>100K ohms | (c) | (d) |


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the crank position. Measure the resistance on aircraft P1and P2. Are the resistances correct?

(c) Replace EECU.

(d) Troubleshoot the aircraft.

TABLE 184. 009-29 NR SIGNAL DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| Two Nr channels from the aircraft to the EECU disagree. Troubleshoot the aircraft. | Aircraft | | | | | |

TABLE 185. 009-28 LOAD SHARE SELECTION SWITCH DISAGREE BETWEEN ENGINES FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| Load share switch signal disagrees from aircraft to engines. Troubleshoot aircraft. | Aircraft | | | | | |

TABLE 186. 009-26 LOAD SHARE SELECTION SWITCH LOCAL ENGINE DISAGREE FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Pull breakers for both FADEC channels. Put the load share switch in the torque position. Looking toward the aircraft, measure the resistance at aircraft P2. Are the resistances correct? | | Aircraft P2 | 63 to 14<br>46 to 14 | <150 ohms<br>>100K ohms | (b) | (d) |
| (b) Put the load share switch in the ITT position. Measure the resistance at aircraft P2. Are the resistances correct? | | Aircraft P2 | 63 to 14<br>46 to 14 | >100K ohms<br><150 ohms | (c) | (d) |
| (c) Replace the EECU. | | | | | | |
| (d) Troubleshoot | | | | | | |


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aircraft using the Aircraft Maintenace Manual.

TABLE 187. 001-19 OVERSPEED SYSTEM TEST #1 CH A FAULT 001-17 OVERSPEED SYSTEM TEST #3 CH A FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Are any other fault codes present? | | | | | (b) | (c) |
| (b) Correct other faults. Run engine on ground to idle and shutdown. Does the fault clear? | | | | | (j) | (c) |
| (c) Check EECU, blue cable, and FMU for loose connectors. Loose connectors found? | EECU<br>FMU<br>Blue Cable | P1<br>P19 | | | (d) | (e) |
| (d) Tighten loose connectors. Fault cleared? | EECU<br>FMU<br>Blue Cable | P1<br>P19 | | | (j) | (e) |
| (e) Disconnect P1 blue cable connector at EECU. Measure Overspeed Solenoid resistance through blue cable. Is the resistance correct? | EECU<br>FMU<br>Blue Cable | P1 | 1 to 2 | 7.8-21.8 ohms | (h) | (f) |
| (f) Disconnect FMU connector at P19. Measure resistance of Overspeed Solenoid circuit at connector pins. Is the resistance correct? | FMU<br>Blue Cable | J19 | 3 to 4 | 7.8-21.8 ohms | (g) | (i) |
| (g) Replace blue cable. | | | | | | |
| (h) Replace faulty EECU. | | | | | | |
| (i) Replace FMU. | | | | | | |
| (j) Continue to Operate. | | | | | | |

TABLE 188. 002-19 OVERSPEED SYSTEM TEST #1 CH B FAULT 002-17 OVERSPEED SYSTEM TEST #3 CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Are any | | | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| other fault codes present? | | | | | | |
| (b) Correct other faults. Run engine on ground to idle and shutdown. Does the fault clear? | | | | | (j) | (c) |
| (c) Check EECU, green cable, and FMU for loose connectors. Loose connectors found? | EECU<br>FMU<br>Green Cable | P2<br>P18 | | | (d) | (e) |
| (d) Tighten loose connectors. Fault cleared? | EECU<br>FMU<br>Green Cable | P2<br>P18 | | | (j) | (e) |
| (e) Disconnect P2 greencable connector at EECU. Measure Overspeed Solenoid resistance through green cable. Is the resistance correct? | EECU<br>FMU<br>Green Cable | P2<br>P18 | 19 to 20 | 7.8-21.8 ohms | (h) | (f) |
| (f) Disconnect FMU connector at P18. Measure resistance of Overspeed Solenoid circuit at connector pins. Is the resistance correct? | FMU<br>Green Cable | J18 | 3 to 4 | 7.8-21.8 ohms | (g) | (i) |
| (g) Replace green cable. | | | | | | |
| (h) Replace faulty EECU. | | | | | | |
| (i) Replace FMU. | | | | | | |
| (j) Continue to Operate. | | | | | | |

TABLE 189. 001-18 OVERSPEED SYSTEM TEST #2 CH A FAULT 002-18 OVERSPEED SYSTEM TEST #2 CH B FAULT

**Electrical Check**

| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
|---|---|---|---|---|---|---|
| (a) Check EECU, green cable, blue cable, and FMU for loose connectors. Loose connectors found? | EECU<br>Blue Cable<br>Green Cable<br>FMU | P1<br>P2<br>J18<br>J19 | | | (b) | (c) |
| (b) Tighten loose connectors. Fault cleared? | EECU<br>Blue Cable<br>Green Cable<br>FMU | P1<br>P2<br>J18<br>J20 | | | (e) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (c) Replace the FMU. Run engine on ground to idle and shutdown. Does the fault clear? | EECU<br>FMU | | | | (e) | (d) |
| (d) Replace the EECU. | | | | | | |
| (e) Continue to Operate. | | | | | | |

TABLE 190. 003-14 OVERSPEED SYSTEM TEST NOT COMPLETE CH A FAULT 004-14 OVERSPEED SYSTEM TEST NOT COMPLETE CH B FAULT

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Are any other fault codes present? | | | | | (b) | (c) |
| (b) Correct other faults. Run engine on ground to idle and shutdown. Does the fault clear? | | | | | (g) | (c) |
| (c) Check EECU, green cable, blue cable, and FMU for loose connectors. Loose connectors found? | EECU<br>FMU<br>Blue Cable<br>Green Cable | P1<br>P2<br>P18<br>P19 | | | (d) | (e) |
| (d) Tighten loose connectors. Run engine on ground to idle and shutdown. Fault cleared? | EECU<br>FMU<br>Blue Cable<br>Green Cable | P1<br>P2<br>P18<br>P19 | | | (g) | (e) |
| (e) Replace FMU. Run engine on ground to idle and shutdown. Fault Cleared? | FMU<br>EECU | | | | (g) | (f) |
| (f) Replace EECU. | | | | | | |
| (g) Continue to Operate. | | | | | | |

TABLE 191. 005-17 COLLECTIVE FAULT A, 006-17 COLLECTIVE FAULT B, 007-15 NR FAULT CH B, 007-23 NR FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Troubleshoot using Aircraft Maintenance Manual. Is the resistance correct? | | | | | | (b) |
| (b) Replace the EECU. | | | | | | |

TABLE 192. 001-25 EECU EXCEEDS TEMPERATURE LIMIT

**Electrical Check**


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| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| (a) Are any other fault codes present? | | | | | (c) | (b) |
| (b) Did fault occur while engine was operating? | | | | | (f) | (c) |
| (c) Permit EECU to cool. Correct other faults. Run engine on ground to idle and shutdown. Does the fault clear? | | | | | (h) | (e) |
| (d) Permit EECU to cool. Run engine on ground to idle and shutdown. Does the fault clear? | | | | | (h) | (e) |
| (e) Replace EECU. | | | | | | |
| (f) Is IPS Blower shaft sheared? | | | | | (g) | (e) |
| (g) Replace IPS Blower, fault cleared? | | | | | (h) | (e) |
| (h) Added Table 191, Table 192, and Table 193. | | | | | | |

TABLE 193. 001-29 OVERSPEED TEST NOT COMPLETED

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| (a) Follow troubleshooting for fault word 003-14 ( Table 190). | Overspeed Test Not Completed | | | | | |

*** * * FOR CT7-2E1 MODIFIED TO SB 72-0013**

TABLE 194. 005-26 TORQUE FAULT CH A

| | | Electrical Check | | | | |
|---|---|---|---|---|---|---|
| **Instructions** | **Possible Faulty Component** | **Conn.** | **Pins** | **Value** | **YES** | **NO** |
| **NOTE:** To check if fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check blue cable and Np sensor coil for tightness. Any loose connectors found? | Blue Cable | | | | (c) | (b) |
| (b) Check green cable and torque ID plug for tightness. Any loose connectors found? | Green Cable | | | | (c) | (d) |
| (c) Tighten | | | | | (m) | (d) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| loose connector plugs. Fault cleared? | | | | | | |
| (d) Disconnect P1 blue cable connector at EECU. Measure Np sensor coil resistance through blue cable. Is the resistance correct? | EECU Np Sensor Blue Cable | P1 | 16 to 17 | 13.5-21.5 ohms | (i) | (e) |
| (e) Disconnect Np sensor connector plug P17. Measure resistance of Np sensor at connector pins. Is the resistance correct? | Blue Cable Np Sensor | J17 | A to C<br>B to D | 13.5-21.5 ohms | (h) | (j) |
| (f) Disconnect P2 green cable connector at EECU. Measure torque ID plug resistance through the green cable. Is the resistance correct? | Green Cable Torque ID Plug | P2 | 68 to 69 | 70-80 ohms for "-" plug;<br>90-110 ohms for "0" plug;<br>140-160 ohms for "+" plug | (i) | (g) |
| (g) Disconnect torque ID plug P34. Measure resistance of torque ID plug at connector pins. Is the resistance correct? | Green Cable Torque ID Plug | J34 | A to B | 70-79 ohms for "-" plug;<br>95-105 ohms for "0" plug;<br>142-158 ohms for "+" plug | (k) | (l) |
| (h) Replace blue cable. | | | | | | |
| (i) Replace EECU. | | | | | | |
| (j) Replace Np sensor. | | | | | | |
| (k) Replace green cable. | | | | | | |
| (l) Replace torque ID plug. | | | | | | |
| (m) Continue to Operate. | | | | | | |

TABLE 195. 006-26 TORQUE FAULT CH B

**Electrical Check**

| Instructions | Possible Faulty Component | Conn. | Pins | Value | YES | NO |
|---|---|---|---|---|---|---|
| **NOTE:** To check if fault is cleared, it is necessary to motor the engine. | | | | | | |
| (a) Check green cable, torque ID plug, and Np sensor coil for tightness. Any loose connectors found? | Green Cable | | | | (b) | (c) |


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| | | | | | | |
|---|---|---|---|---|---|---|
| (b) Tighten loose connector plugs. Fault cleared? | | | | | (k) | (c) |
| (c) Disconnect P2 green cable connector at EECU. Measure Np sensor coil resistance through green cable. Is the resistance correct? | EECU Np Sensor Green Cable | P2 | 50 to 27 | 13.5-21.5 ohms | (d) | (f) |
| (d) Disconnect P2 green cable connector at EECU. Measure torque ID plug resistance through the green cable. Is the resistance correct? | Green Cable Torque ID Plug | P2 | 68 to 69 | 70-80 ohms for "-" plug; 90-110 ohms for "0" plug; 140-160 ohms for "+" plug | (h) | (e) |
| (e) Disconnect torque ID plug P34. Measure resistance of torque ID plug at connector pins. Is the resistance correct? | Green Cable Torque ID Plug | J34 | A to B | 70-79 ohms for "-" plug; 95-105 ohms for "0" plug; 142-158 ohms for "+" plug | (g) | (i) |
| (f) Disconnect Np sensor connector plug P16. Measure resistance of Np sensor at connector pins. Is the resistance correct? | Green Cable Np Sensor | J16 | A to C<br>B to D | 13.5-21.5 ohms | (g) | (j) |
| (g) Replace green cable. | | | | | | |
| (h) Replace EECU. | | | | | | |
| (i) Replace torque ID plug. | | | | | | |
| (j) Replace Np sensor. | | | | | | |
| (k) Continue to Operate. | | | | | | |

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