# Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

## 1982 FORD Capri OEM Service and Repair Workshop Manual

Go to manual page

**Confirm the output of the PID (parameter identification)  test?**

| Yes | True - GO to  A9 |
|-----|------------------|

| No | False - GO to  A2 |
|----|-------------------|

**A2 CHECK THE UPPER ACTIVE GRILLE SHUTTER DEVICE ELECTRICAL FAULT (GRILL_A_ELEC_F) PARAMETER IDENTIFICATION (PID)**

- Using diagnostic scan tool, view PCM (powertrain control module)  PID (parameter identification)  s.
- Using diagnostic scan tool,
  Access the PCM (powertrain control module)  and monitor the GRILL_A_ELEC_F (Grille Shutter Module A - Indicates An Electrical Fault)  PID (parameter identification)

**Does the PID (parameter identification)  test indicate an electrical fault in the upper actuator?**

| Yes | GO to  A9 |
|-----|-----------|

| No | GO to  A3 |
|----|-----------|

**A3 CHECK THE UPPER ACTIVE GRILLE SHUTTER DEVICE LOW SYSTEM VOLTAGE (GRILL_A_UNDRV) PARAMETER IDENTIFICATION (PID)**

- Using diagnostic scan tool, view PCM (powertrain control module)  PID (parameter identification)  s.
- Using the diagnostic scan tool,
  Access the PCM (powertrain control module)  and monitor the GRILL_A_UNDRV (Grille Shutter Module A - Indicates An Under Voltage Condition)  PID (parameter identification)

**Does the upper active grille shutter system detect a fault?**

| Yes | GO to  A9 |
|-----|-----------|

| No | GO to  A4 |
|----|-----------|

Access the PCM (powertrain control module) and monitor the GRILL_A_POS_F (Grille Shutter A Actuator Fault - End Stop Not Found Or Found Where Not Expected) PID (parameter identification)

**Does the PID (parameter identification) test confirm an end stop not found fault?**

| | |
|---|---|
| **Yes** | GO to A9 |

| | |
|---|---|
| **No** | GO to A7 |

**A7 CHECK THE UPPER ACTIVE GRILLE SHUTTER DEVICE STUCK/BLOCKED (GRILL_A_BLCK) PARAMETER IDENTIFICATION (PID)**

- Using diagnostic scan tool, view PCM (powertrain control module) PID (parameter identification) s.
- Using diagnostic scan tool,
  Access the PCM (powertrain control module) and monitor the GRILL_A_BLCK (Grille Shutter A Is Blocked - Unable To Achieve The Commanded Position) PID (parameter identification)

**Does the PID (parameter identification) test indicate a stuck upper active grille shutter actuator?**

| | |
|---|---|
| **Yes** | GO to A9 |

| | |
|---|---|
| **No** | GO to A8 |

**A8 VERIFY THE UPPER GRILLE SHUTTER OPERATION USING THE GRILLE SHUTTER A POSITION - COMMANDED (GRILL_A_CMD) PARAMETER IDENTIFICATION (PID)**

- Perform visual inspection of upper active grille shutter system.
- Put IGNITION in ON to allow for upper active grille shutter calibration to complete.
- Using the diagnostic scan tool, view the PCM (powertrain control module) PID (parameter identification) for Output State.
  Access the PCM (powertrain control module) and monitor the GRILL_A_CMD (Active Grille Air Shutter - A- Position Commanded) (% Open) PID (parameter identification)
  while observing the upper active grille shutter operation from the front of vehicle.
- Monitor the error state DIDs while commanding the upper active grille shutter system.

**Does the upper grille shutter flag any faults while completing the output state control operation?**

| | |
|---|---|
| **Yes** | For GRILL_LOSTCOMM - Lost Communication With Active Grille Shutter Control Module "A" , GO to A9 For GRILL_A_ELEC_F - Grille Shutter Module "A" - Indicates An Electrical Fault, GO to A9 For |

- Ignition OFF.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1766-1 | Ω | Ground |

**Is the resistance less than 3 ohms?**

| **Yes** | GO to A11 |
|---|---|

| **No** | REPAIR the circuit. |
|---|---|

## A11 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

- Disconnect: Upper active grille shutter actuator C1766.
- Disconnect: PCM (powertrain control module)  C1232B (2.7L EcoBoost) or C1233B (3.0 L Duratorq) or C175B (3.5L EcoBoost) or C1551B (3.3L Duratec) or C1381B (5.0L Ti-VCT)
- For vehicles equipped with 2.7L EcoBoost, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1766-2 | Ω | C1232B-49 |

- For vehicles equipped with 3.0L Duratorq, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1766-2 | Ω | C1233B-30 |

- For vehicles equipped with 3.3L Duratec, measure:

| | | |
|---|---|---|
| C1766-2 | Ω | Ground |

**Is the resistance greater than 10,000 ohms?**

| | |
|---|---|
| **Yes** | GO to A13 |

| | |
|---|---|
| **No** | REPAIR the circuit. CLEAR the DTC (diagnostic trouble code)  s. REPEAT the self-test. |

**A13 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE**

- Ignition ON.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1766-2 | $\overline{\overline{V}}$ | Ground |

**Is 8-9v voltage present?**

| | |
|---|---|
| **Yes** | GO to A14 |

| | |
|---|---|
| **No** | If voltage measured is 0v, this means that there is an open or short to GND on the LIN (local interconnect network)  circuit. REPAIR the circuit. |

**A14 CHECK THE UPPER ACTIVE GRILLE SHUTTER FOR OBSTRUCTIONS AND/OR MECHANICAL BINDING CONCERNS**

- Ignition OFF.
- Remove the upper active grille shutter actuator.
  REFER to:  Active Grille Shutter Actuator(501-02 Front End Body Panels, Removal and Installation).
- Manually open and close the upper active grille shutter, removing any obstructions which can inhibit operation of the upper active grille shutter or linkage. The upper active grille shutter should open and

| No | The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues. |
|----|---|

## PINPOINT TEST B : THE LOWER ACTIVE GRILLE SHUTTER IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

Refer to Wiring Diagrams Cell 33for schematic and connector information.

**Normal Operation and Fault Conditions**  REFER to:  Active Grille Shutter - System Operation and Component Description

(501-02 Front End Body Panels, Description and Operation).

**DTC Fault Trigger Conditions**

| DTC (diagnostic trouble code) | Description | Fault Trigger Condition |
|---|---|---|
| PCM (powertrain control module) U0285:00 | Lost Communication with Active Grille Air Shutter Module 'B': No Sub Type Information | When the PCM (powertrain control module)  does not receive communication from the lower active grille shutter actuator for a predetermined amount of time, the PCM (powertrain control module)  sets this DTC (diagnostic trouble code) . |
| PCM (powertrain control module) P05B1:00 | Active Grille Air Shutter 'B' Control Circuit/Open: No Sub Type Information | When the lower active grille shutter actuator senses open circuit, it sends a message to the PCM (powertrain control module)  via the LIN (local interconnect network) . The PCM (powertrain control module)  sets this DTC (diagnostic trouble code)  when the fault is communicated for a predetermined amount of time. |
| PCM (powertrain control module) P05B6:00 | Active Grille Air Shutter 'B' Supply Voltage Circuit Low: No Sub Type Information | When the lower active grille shutter actuator senses low voltage, it sends a message to the PCM (powertrain control module)  via the LIN (local interconnect network) . The PCM (powertrain control module)  sets this DTC (diagnostic trouble code)  when the fault is communicated for a predetermined amount of time. |
| PCM (powertrain | Active Grille Air Shutter Module 'B' Over Temperature: | This DTC (diagnostic trouble code)  sets when the lower active grille shutter actuator detects excessive internal |

Access the PCM (powertrain control module) and monitor the GRILL_B_LSTCOM (Lost Communication with Active Grille Air Shutter Module B) PID (parameter identification)

**Confirm the output of the PID (parameter identification) test?**

| | |
|---|---|
| **Yes** | GO to B9 |

| | |
|---|---|
| **No** | GO to B2 |

**B2 CHECK THE LOWER ACTIVE GRILLE SHUTTER DEVICE ELECTRICAL FAULT (GRILL_B_ELEC_F) PARAMETER IDENTIFICATION (PID)**

- Using diagnostic scan tool, view PCM (powertrain control module) PID (parameter identification) s.
- Using diagnostic scan tool,
  Access the PCM (powertrain control module) and monitor the GRILL_B_ELEC_F (Active Grille Air Shutter Module B Indicates An Electrical Fault) PID (parameter identification)

**Does the PID (parameter identification) test indicate an electrical fault in the lower actuator?**

| | |
|---|---|
| **Yes** | GO to B9 |

| | |
|---|---|
| **No** | GO to B3 |

**B3 CHECK THE LOWER ACTIVE GRILLE SHUTTER DEVICE LOW SYSTEM VOLTAGE (GRILL_B_UNDRV) PARAMETER IDENTIFICATION (PID)**

- Using diagnostic scan tool, view PCM (powertrain control module) PID (parameter identification) s.
- Using the diagnostic scan tool,
  Access the PCM (powertrain control module) and monitor the GRILL_B_UNDRV (Active Grille Air Shutter Module B Indicates An Under Voltage Condition) PID (parameter identification)

**Does the active grille shutter system detect a fault?**

| | |
|---|---|
| **Yes** | GO to B9 |

| | |
|---|---|
| **No** | GO to B4 |

Access the PCM (powertrain control module) and monitor the GRILL_B_POS_F (Active Grille Air Shutter B Actuator Fault End Stop Not Found Or Found Where Not Expected) PID (parameter identification)

**Does the PID (parameter identification) test confirm an end stop not found fault?**

| Yes | GO to B9 |
|-----|----------|

| No | GO to B7 |
|----|----------|

**B7 CHECK THE LOWER ACTIVE GRILLE SHUTTER DEVICE STUCK/BLOCKED (GRILL_B_BLCK) PARAMETER IDENTIFICATION (PID)**

- Using diagnostic scan tool, view PCM (powertrain control module) PID (parameter identification) s.
- Using diagnostic scan tool,
  Access the PCM (powertrain control module) and monitor the GRILL_B_BLCK (Active Grille Air Shutter B Is Blocked Unable To Achieve The Commanded Position) PID (parameter identification)

**Does the PID (parameter identification) test indicate a stuck lower active grille shutter actuator?**

| Yes | GO to B9 |
|-----|----------|

| No | GO to B8 |
|----|----------|

**B8 VERIFY THE LOWER GRILLE SHUTTER OPERATION USING THE GRILLE SHUTTER A POSITION - COMMANDED (GRILL_B_CMD) PARAMETER IDENTIFICATION (PID)**

- Perform visual inspection of lower active grille shutter system.
- Put IGNITION in ON to allow for lower active grille shutter calibration to complete.
- Using the diagnostic scan tool, view the PCM (powertrain control module) PID (parameter identification) for Output State.
  Access the PCM (powertrain control module) and monitor the GRILL_B_CMD (Active Grille Air Shutter - B- Position Commanded) (% Open) PID (parameter identification)
  while observing the grille shutter operation from the front of vehicle.
- Monitor the error state DIDs while commanding the active grille shutter system.

**Does the lower active grille shutter flag any faults while completing the output state control operation?**

| No | VERIFY BJB (battery junction box) fuse is OK - for GAS 8 (10A) and HEV 8 (20A). If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the cause of the circuit short. |
|---|---|

## B10 CHECK THE LOWER ACTIVE GRILLE SHUTTER ACTUATOR GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1767-1 | $\Omega$ | Ground |

**Is the resistance less than 3 ohms?**

| Yes | GO to B11 |
|---|---|

| No | REPAIR the circuit. |
|---|---|

## B11 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

- Disconnect: Lower active grille shutter actuator C1767.
- Disconnect: PCM (powertrain control module) C1232B (2.7L EcoBoost) or C1233B (3.0 L Duratorq) or C175B (3.5L EcoBoost) or C1551B (3.3L Duratec) or C1381B (5.0L Ti-VCT)
- For vehicles equipped with 2.7L EcoBoost, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1767-2 | $\Omega$ | C1232B-49 |

- For vehicles equipped with 3.0L Duratorq, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|

- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1767-2 | $\Omega$ | Ground |

**Is the resistance greater than 10,000 ohms?**

| Yes | GO to B13 |
|---|---|

| No | REPAIR the circuit. CLEAR the DTC (diagnostic trouble code) s. REPEAT the self-test. |
|---|---|

**B13 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE**

- Ignition ON.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1767-2 | $\overline{\overline{V}}$ | Ground |

**Is any voltage present?**

| Yes | GO to B14 |
|---|---|

| No | GO to B15 |
|---|---|

**B14 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR SHORT TO VOLTAGE WITH THE GENERATOR DISCONNECTED**

- Ignition OFF.