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## 2002 FORD Crown Victoria OEM Service and Repair Workshop Manual

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- Note: If not learned PCM (powertrain control module) will respond with NRC (Conditions not correct) AAD (active air dam) actuators will perform learning, send command again to command position.
- Visual inspection of AAD (active air dam) actuators to ensure both sides actuated down.
- Use OSC (output state control)
  - Access the PCM (powertrain control module) and monitor the AAD\_CMD (Active Air Dam Position - Commanded) (%) PID (parameter identification) to command AAD (active air dam) actuators UP (0%)
- Visual inspection AAD (active air dam) actuators UP.

**Does the AAD (active air dam) actuators cycle from DOWN to UP position when commanded by the diagnostic scan tool?**

<b>Yes</b>	The AAD (active air dam) system is operating correctly at this time. The concern may have been caused by debris, mud, snow or ice.
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<b>No</b>	GO to <a href="#">A25</a>
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**A25 CHECK ERROR STATUS PID (PARAMETER IDENTIFICATION) 'S**

- Using a diagnostic scan tool, view PCM (powertrain control module) Parameter Identifications (PIDs).
- Using a diagnostic scan tool, select the PCM (powertrain control module) PID (parameter identification) 's
  - Access the PCM (powertrain control module) and monitor the AAD\_NOT\_CALIB (Active Air Dam Not Calibrated Up Or Down) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_CALIB\_UP (Active Air Dam Calibrated Up) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_CALIB\_UPDOWN (Active Air Dam Calibrated Up And Down) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_ALLOW (The Active Air Dam Device Is Indicating That It Has been Commanded To Allow Movement) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_OVER\_V (The Active Air Dam Device Is Indicating An Over Voltage Condition) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_UNDER\_V (The Active Air Dam Device Is Indicating An Under Voltage Condition) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_STUCK (The Active Air Dam Device Is Indicating A Blocked/Stuck Condition) PID (parameter identification)
  - Access the PCM (powertrain control module) and monitor the AAD\_ELEC\_F (The Active Air Dam Device Is Indicating An Electrical Fault) PID (parameter identification)



Guided Routine available in the on-line Workshop Manual.

**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.

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Sample

PCM (powertrain control module)	C0630:00	Active Air Dam Stuck: No Sub Type Information	<a href="#">GO to Pinpoint Test A</a>
PCM (powertrain control module)	U0645:00	Lost Communication With Active Air Dam Module: No Sub Type Information	<a href="#">GO to Pinpoint Test A</a>

## Symptom Chart(s)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#)

(100-00 General Information, Description and Operation).

Condition	Action
The AAD (active air dam) blade is inoperative or does not operate correctly	<a href="#">GO to Pinpoint Test A</a>

## Pinpoint Tests

### PINPOINT TEST A : THE ACTIVE AIR DAM (AAD) BLADE IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

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

**Normal Operation and Fault Conditions** REFER to: [Active Air Dam \(AAD\) - System Operation and Component Description](#)

(501-19 Bumpers, Description and Operation).

#### DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) C0601:00	Active Air Dam Control Circuit/Open: No Sub Type Information	This DTC (diagnostic trouble code) sets when the AAD (active air dam) actuator control circuit H-Bridge is overheated or if a short to ground or open is detected in the actuator control circuit for either the lead ( RH (right-hand) actuator) or follower ( LH (left-hand) actuator) actuators. The PCM (powertrain control module) sets this DTC (diagnostic trouble code) when the condition is present for a predetermined amount of time.

- LIN (local interconnect network) communication error

### Visual Inspection and Pre-checks

- AAD (active air dam) blade stuck
- Physical damage
- For Diesel (3.0L Lion) - Check the MIL (malfunction indicator lamp) will be ON (Engine lamp is illuminated)
- Debris or obstructions
- Electrical connectors
- Verify BJB (battery junction box) fuse 8 (10A) is OK
- Verify BJB (battery junction box) fuse 8 (20A) is OK (for HEV (hybrid electric vehicle) only)

### A1 CHECK THE ACTIVE AIR DAM (AAD) DEVICE LOST COMMUNICATION (AIRDAM\_LOSTCOMM) PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view PCM (powertrain control module) Parameter Identifications (PIDs).
- Using a diagnostic scan tool,  
Access the PCM (powertrain control module) and monitor the AIRDAM\_LOSTCOMM (Lost Communication With Active Air Dam Control Module) PID (parameter identification)

#### Does the PID (parameter identification) test indicate lost communication symptom?

<b>Yes</b>	GO to <a href="#">A10</a>
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<b>No</b>	GO to <a href="#">A2</a>
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### A2 CHECK THE ACTIVE AIR DAM (AAD) DEVICE LOW SYSTEM VOLTAGE (AAD\_UNDER\_V) PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view PCM (powertrain control module) Parameter Identifications (PIDs).
- Using a diagnostic scan tool,  
Access the PCM (powertrain control module) and monitor the AAD\_UNDER\_V (The Active Air Dam Device Is Indicating An Under Voltage Condition) PID (parameter identification)

#### Does the actuator indicate under voltage ?

<b>Yes</b>	GO to <a href="#">A10</a>
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**Does the AAD (active air dam) device learned UP and DOWN successfully ?**

<b>Yes</b>	GO to <a href="#">A9</a>
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<b>No</b>	GO to <a href="#">A6</a>
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**A6 PERFORM THE ACTIVE AIR DAM (AAD) USING THE ACTIVE AIR DAM (AAD) POSITION - COMMANDED (AAD\_CMD) PID (PARAMETER IDENTIFICATION)**

- Ignition ON.
- Engine is ON.
- Using a diagnostic scan tool, access and monitor the AAD\_CMD PID (parameter identification) to run the Active Air Dam through its positions.  
Access the PCM (powertrain control module) and monitor the AAD\_CALIB\_UPDOWN (Active Air Dam Calibrated Up And Down) PID (parameter identification) and monitor the positions of the Active Air Dam.

**Does the AAD (active air dam) actuators cycle from DOWN to UP position when commanded by the diagnostic scan tool ?**

<b>Yes</b>	GO to <a href="#">A7</a>
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<b>No</b>	GO to <a href="#">A9</a>
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**A7 CHECK THE ACTIVE AIR DAM (AAD) DEVICE ACTUATOR FAULT (AAD\_ACTUATOR\_F) PID (PARAMETER IDENTIFICATION)**

- Using a diagnostic scan tool, view PCM (powertrain control module) Parameter Identifications (PIDs).
- Using a diagnostic scan tool,  
Access the PCM (powertrain control module) and monitor the AAD\_ACTUATOR\_F (The Active Air Dam Device Is Indicating An Actuator Fault) PID (parameter identification)

**Does the PID (parameter identification) test indicate a fault in the actuator ?**

<b>Yes</b>	Remove the device and make visual inspection for damage. If damage found, replace the complete AAD (active air dam) system. REFER to: <a href="#">Active Air Dam (AAD) Actuator</a> (501-19 Bumpers, Removal and Installation).
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- Visual inspection AAD (active air dam) actuators UP.

**Does the AAD (active air dam) actuators cycle from DOWN to UP position when commanded by the diagnostic scan tool?**

<b>Yes</b>	The AAD (active air dam) system is operating correctly at this time. Clear the DTC (diagnostic trouble code) 's.
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<b>No</b>	GO to <a href="#">A25</a>
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**A10 CHECK THE VOLTAGE SUPPLY TO THE ACTIVE AIR DAM (AAD) ACTUATOR**

- Ignition OFF.
- Disconnect: RH (right-hand) AAD (active air dam) actuator C1968.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1968-3	V	Ground

**Is the voltage greater than 11 volts?**

<b>Yes</b>	GO to <a href="#">A11</a>
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<b>No</b>	<p>VERIFY BJB (battery junction box) fuse 8 (10A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the cause of the circuit short.</p> <p>For HEV (hybrid electric vehicle) , VERIFY BJB (battery junction box) fuse 8 (20A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the cause of the circuit short.</p>
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**A11 CHECK THE ACTIVE AIR DAM (AAD) ACTUATOR GROUND CIRCUIT FOR AN OPEN**

- Ignition OFF.

Positive Lead	Measurement / Action	Negative Lead
C1968-2	$\Omega$	C1551B-49

- For vehicles equipped with 3.5L, measure:

Positive Lead	Measurement / Action	Negative Lead
C1968-2	$\Omega$	C175B-49

- For vehicles equipped with 5.0L, measure:

Positive Lead	Measurement / Action	Negative Lead
C1968-2	$\Omega$	C1381B-49

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

<b>Yes</b>	GO to <a href="#">A13</a>
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<b>No</b>	REPAIR the circuit.
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### **A13 CHECK THE LOCAL INTERCONNECT NETWORK (LIN) CIRCUIT FOR A SHORT TO VOLTAGE**

- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1968-2	$\bar{V}$	Ground



## A15 CHECK THE LOCAL INTERCONNECT NETWORK (LIN) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1968-2	$\Omega$	Ground

Is the resistance greater than 10,000 ohms?

<b>Yes</b>	GO to <a href="#">A17</a>
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<b>No</b>	GO to <a href="#">A16</a>
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## A16 CHECK THE LOCAL INTERCONNECT NETWORK (LIN) CIRCUIT FOR A SHORT TO GROUND WITH THE GENERATOR DISCONNECTED

- For vehicles with 2.7L, 3.0L, 3.3L or 3.5L disconnect Generator C102A.
- For vehicles with 5.0L, disconnect Generator C1104A.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1968-2	$\Omega$	Ground

Is the resistance greater than 10,000 ohms?

<b>Yes</b>	INSTALL a new generator. REFER to: <a href="#">Generator - 2.7L EcoBoost (238kW/324PS)</a> (414-02 Generator and Regulator, Removal and Installation). REFER to: <a href="#">Generator - 3.3L Duratec-V6</a> (414-02 Generator and Regulator, Removal and Installation). REFER to: <a href="#">Generator - 3.5L EcoBoost (BM)</a>
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C1967-3		Ground
C1967-1		Ground

**Is any voltage present?**

<b>Yes</b>	REPAIR the affected circuit.
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<b>No</b>	GO to <a href="#">A19</a>
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**A19 CHECK THE RH (RIGHT-HAND) ACTIVE AIR DAM (AAD) AND THE LH (LEFT-HAND) ACTIVE AIR DAM (AAD) CIRCUITS FOR A SHORT TOGETHER**

Sample