

Parking Brake

Symptom Chart(s)

Symptom Chart: Parking Brake and Actuation

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).

Preliminary Inspection

The first indication that something may be wrong in the parking brake system is a change in the feeling through the parking brake control. The parking brake not holding on an incline or dragging after being released are also indicators of system concerns. Check the operation of the parking brake system with the vehicle on a hoist and the parking brake control fully released.

- Verify the customer concern.
- Visually inspect for obvious signs of mechanical damage.
- If an obvious cause for an observed or reported concern is found, correct the cause.
- If the cause is not visually evident, verify the symptom and go to the Symptom Chart below.

Condition	Possible Sources	Actions
The red brake warning indicator is always illuminated	• Parking brake not fully released • Low brake fluid level • Wiring, terminals or connectors • Brake master cylinder inoperative	DIAGNOSE the red brake warning indicator. REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
The parking brake does not apply/hold vehicle	Refer to the Pinpoint Test	GO to Pinpoint Test A
The parking brake will not release	Refer to the Pinpoint Test	GO to Pinpoint Test B

Pinpoint Tests

The Parking Brake Does Not Apply Or Does Not Hold Vehicle

Normal Operation and Fault Conditions

When the parking brake control is pressed, tension is applied to the front parking brake cable. This tension pulls on the RH rear parking brake cable, which is attached to the RH rear parking brake shoe actuator and applies the RH rear brake shoes. At the same time, the tension in the RH rear cable causes the RH rear conduit to attempt to straighten out. This straightening effect causes the RH rear conduit to pull on the LH rear parking brake cable, which is attached to the LH rear parking brake shoe actuator and applies the LH rear brake shoes.

Possible Sources

- Parking brake cable(s)
- Parking brake control
- Parking brake shoes, hardware, actuator levers and backing plates

PINPOINT TEST A : THE PARKING BRAKE DOES NOT APPLY OR DOES NOT HOLD VEHICLE

A1 CHECK THE PARKING BRAKE CONTROL

- Apply the parking brake.

Does the parking brake control move?

Yes	GO to A2
No	GO to A3

A2 CHECK FOR BROKEN CABLES

NOTE: Have an assistant pull and release the parking brake to help isolate disconnected cables or cables that do not move.

- Inspect the following items for damage and correct connections.
 - Front parking brake cable
 - LH rear parking brake cable
 - RH rear parking brake cable
 - Parking brake cable brackets and equalizer

Is any damage found or are any components disconnected?

Yes	GO to A3
No	CONNECT the component(s) or INSTALL new parking brake component(s) as necessary. TEST the system for normal operation.

A3 CHECK THE PARKING BRAKE SHOES, HARDWARE, ACTUATOR LEVERS AND BACKING PLATES

- Remove the rear brake discs.
REFER to: Brake Disc (206-04 Rear Disc Brake, Removal and Installation).

Are the parking brake shoes, hardware, actuator levers and backing plates in good condition?

Yes	GO to A4
No	INSTALL new components as necessary. REFER to: Parking Brake Shoes (206-05 Parking Brake and Actuation, Removal and Installation). TEST the system for normal operation.

A4 CHECK THE PARKING BRAKE SHOE ADJUSTMENT

- Check the parking brake shoe adjustment.
REFER to: Parking Brake Shoe Adjustment (206-05 Parking Brake and Actuation, General Procedures).

Are the parking brake shoes adjusted to specification?

Yes	INSTALL a new parking brake control. REFER to: Parking Brake Control (206-05 Parking Brake and Actuation, Removal and Installation). TEST the system for normal operation.
No	ADJUST the parking brake shoes. REFER to: Parking Brake Shoe Adjustment (206-05 Parking Brake and Actuation, General Procedures). TEST the system for normal operation.

A5 ISOLATE THE PARKING BRAKE CONTROL AND FRONT CABLE

- Disconnect the rear parking brake cable from the rear brake caliper at the affected wheel end(s). Disconnect the front parking brake cable from the RH rear parking brake cable at the cable union.
- Press the parking brake control pedal.

Does the parking brake control pedal move?

Yes	GO to A6
No	GO to A7

A6 ISOLATE THE REAR PARKING BRAKE CABLES

- Disconnect the LH cable from the RH conduit equalizer.
- Disconnect the rear parking brake cables from the parking brake actuating levers.
- While holding the cable conduit, attempt to slide the cable inside the conduit.

Does the cable slide freely inside the conduit?

Yes	INSPECT the parking brake shoes, hardware and backing plate. INSTALL new components as necessary. REFER to: Parking Brake Shoes (206-05 Parking Brake and Actuation, Removal and Installation).
No	INSTALL new rear parking brake cable(s) as necessary. TEST the system for normal operation.

A7 ISOLATE THE FRONT PARKING BRAKE CABLE

- Disconnect the front parking brake cable end from the parking brake control.
- While holding the cable conduit, attempt to slide the cable inside the conduit.

Does the cable slide freely inside the conduit?

Yes	INSTALL a new parking brake control. REFER to: Parking Brake Control (206-05 Parking Brake and Actuation, Removal and Installation). TEST the system for normal operation.
No	INSTALL a new front parking brake cable. TEST the system for normal operation.

Parking Brake Will Not Release

Normal Operation and Fault Conditions

When the parking brake is applied, pressing down on the control pedal again will release the parking brake control and also release the tension on the parking brake cables. The cable conduits, cable springs and parking brake shoe springs provide the force necessary to return the parking brake system to the released position.

Possible Sources

- Parking brake cable(s)
- Parking brake control
- Parking brake shoes, hardware, actuator levers and backing plates

PINPOINT TEST B : PARKING BRAKE WILL NOT RELEASE

B1 ISOLATE THE REAR PARKING BRAKE CABLES

- Disconnect the LH cable from the RH conduit equalizer.
- Disconnect the rear parking brake cables from the parking brake actuating levers.
- While holding the cable conduit, attempt to slide the cable inside the conduit.

Does the cable slide freely inside the conduit?

Yes	GO to B2
No	INSTALL new rear parking brake cable(s) as necessary. TEST the system for normal operation.

B2 CHECK THE PARKING BRAKE SHOES, HARDWARE , ACTUATOR LEVERS AND BACKING PLATES

- Remove the rear brake discs.
REFER to: Brake Disc (206-04 Rear Disc Brake, Removal and Installation).

Are the parking brake shoes, hardware, actuator levers and backing plates in good condition?

Yes	GO to B3
No	INSTALL new components as necessary. REFER to: Parking Brake Shoes (206-05 Parking Brake and Actuation, Removal and Installation). TEST the system for normal operation.

B3 ISOLATE THE FRONT PARKING BRAKE CABLE

- Disconnect the front parking brake cable end from the parking brake control.
- While holding the cable conduit, attempt to slide the cable inside the conduit.

Does the cable slide freely inside the conduit?

Yes	INSTALL a new parking brake control. REFER to: Parking Brake Control (206-05 Parking Brake and Actuation, Removal and Installation). TEST the system for normal operation.
No	INSTALL a new front parking brake cable. TEST the system for normal operation.

