

Front brake disc minimum thickness-vehicles with 6 piston brake caliper	1.244in (31.6mm)
Rear brake disc minimum thickness-solid	0.390in (9.9mm)
Rear brake disc minimum thickness-vented	0.925in (23.5mm)
Brake pad minimum thickness	0.118in (3mm)
Brake pad maximum taper wear (in any direction)	0.118in (3mm)

DIAGNOSIS AND TESTING > BRAKE SYSTEM > SYMPTOM CHART(S)

Symptom Chart: Brake System

Diagnostics in this service information assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: Diagnostic Methods .

Condition	Possible Sources	Actions
The red brake warning indicator and the yellow ABS warning indicator are illuminated	Diagnostic Trouble Codes (DTCs) in the ABS	CHECK for ABS diagnostic trouble codes (DTCs). REFER to: Anti-Lock Brake System (ABS) and Stability Control .
The red brake warning indicator is always/never on	Brake fluid level switch Parking brake switch Wiring, terminals or connectors IPC BCM	REFER to: Instrumentation, Message Center and Warning Chimes .
Vehicle pulls or drifts during braking	Brake calipers and/or guide pins Brake flexible hose Brake pads Brake discs	INSPECT the brake system components. INSTALL new components as necessary.
	Tires	REFER to: Wheels and Tires .
	Suspension component(s) and/or wheel alignment	REFER to: Suspension System .
Brake pedal goes down fast or eases down slowly	Brake fluid leaks and/or air in the system	INSPECT the system for leaks. REPAIR as necessary. BLEED the system. REFER to: Brake System Pressure Bleeding .
	Brake master cylinder	CARRY OUT the Component Test-Brake Master Cylinder - Bypass Condition .
	HCU	REFER to: Anti-Lock Brake System (ABS) and Stability Control .

	Brake pedal	INSPECT the brake pedal simulator spring, cam and interface-to-booster. INSTALL a new brake pedal and bracket as necessary.
Brakes lock up under light brake pedal force	Brake pads Brake flexible hose Brake disc Brake calipers and/or guide pins	INSPECT the brake system components. INSTALL new components as necessary.
	ABS	REFER to: Anti-Lock Brake System (ABS) and Stability Control .
Excessive brake pedal travel (low/spongy pedal)	Brake fluid leaks and/or air in the system	INSPECT the system for leaks. REPAIR as necessary. BLEED the system. REFER to: Brake System Pressure Bleeding .
	Brake master cylinder	CARRY OUT the Component Test-Brake Master Cylinder - Bypass Condition .
	Brake calipers and/or guide pins	INSPECT the brake calipers and guide pins. INSTALL new components as necessary.
	Brake flexible hose	INSPECT the brake flexible hoses during brake application. INSTALL a new brake hose as necessary. REFER to: Front Brake Flexible Hose . REFER to: Rear Brake Flexible Hose .
Erratic brake pedal travel	Brake pedal	INSPECT the brake pedal for binding, obstructions and correct interface to booster rod. REPAIR as necessary. CHECK the brake pedal fasteners for correct torque. REFER to: Brake Pedal and Bracket - 6-Speed Manual Transmission - 3160/6-Speed Manual Transmission - MT82 . REFER to: Brake Pedal and Bracket - 6-Speed Automatic Transmission - 6R80 .
	ABS	REFER to: Anti-Lock Brake System (ABS) and Stability Control .
Brake drag	Parking brake component	INSPECT the parking brake system. INSTALL new components as necessary.

	Brake caliper and/or guide pins Brake flexible hose Brake booster	INSPECT the brake system components. INSTALL new components as necessary.
	Brake master cylinder	CARRY OUT the Component Test- Brake Master Cylinder - Compensator Port .
	Hydraulic Control Unit (HCU)	REFER to: Anti-Lock Brake System (ABS) and Stability Control .
	Stoplamp switch	VERIFY correct installation of the stoplamp switch. REFER to: Stoplamp Switch .
Excessive brake pedal effort	Insufficient vacuum for brake booster operation Brake booster manifold vacuum hose Brake booster Brake booster check valve Brake booster vacuum pump	CARRY OUT the Component Test- Brake Booster .
	Brake pads	INSPECT the brake pads. INSTALL new components as necessary. REFER to: Brake Pads - Vehicles With: 2-Piston Brake Caliper . REFER to: Brake Pads - Vehicles With: 4-Piston Brake Caliper . REFER to: Brake Pads - Vehicles With: 6-Piston Brake Caliper . REFER to: Brake Pads .

Symptom Chart: NVH

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Condition	Possible Sources	Actions
Vibration when the brakes are applied	Brake disc(s)/ Suspension components	GO to Pinpoint Test A
Brake vibration/shudder - occurs when the brake pedal is released	Brake drag	REFER to Symptom Chart: Brake System in Symptom Chart(s)
Rattling noise	Caliper guide pins or guide pin bolts Missing or damaged anti-rattle clips or springs Loose brake disc shield	INSPECT the caliper guide pins and guide pin bolts. INSTALL new components as necessary. INSPECT the brake pads for missing clips or broken springs. INSTALL new components as necessary. TIGHTEN the brake disc shield