

Service Manual: BRAKE SYSTEM - GENERAL INFORMATION

SPECIFICATIONS > SPECIFICATIONS > LUBRICANTS, FLUIDS, SEALERS AND ADHESIVES

	Specifications
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / PM-20	WSS-M6C65-A2

SPECIFICATIONS > SPECIFICATIONS > TORQUE SPECIFICATIONS

Item	Nm	lb-ft	lb-in
Front caliper bleeder screw	10	-	89
Rear caliper bleeder screw	10	-	89
Primary master cylinder brake tube fitting	27.5	20	-
Secondary master cylinder brake tube fitting	20	-	177

SPECIFICATIONS > SPECIFICATIONS > GENERAL SPECIFICATIONS

Item	Specification
Front brake disc minimum thickness	1.260in (32mm)
Rear brake disc minimum thickness (vehicles with electronic parking brake)	0.787in (20mm)
Rear brake disc minimum thickness (vehicles with mechanical parking brake)	0.906in (23mm)
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 visible signs of brake fluid leakage. REPAIR as necessary. BLEED the system. REFER to: BRAKE SYSTEM PRESSURE BLEEDING . If no visible signs of leakage are found, INSPECT for brake master cylinder fluid leakage into the brake booster. If there is evidence of fluid in the brake booster, INSTALL a new brake master cylinder and brake booster. REFER to: Brake Master Cylinder . REFER to: Brake Booster . Also, for vehicles equipped with an EcoBoost engine, INSPECT for evidence of brake fluid in the vacuum tube. If there is evidence of brake fluid in the vacuum tube, INSTALL a new vacuum tube and brake vacuum pump. REFER to: Brake Vacuum Pump - 2.7L EcoBoost (238kW/324PS) . REFER to: Brake Vacuum Pump - 3.5L EcoBoost (272kW/370PS) .
	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 and bracket assembly. INSTALL a new brake pedal and bracket as necessary. REFER to: Brake Pedal and Bracket .
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 visible signs of brake fluid leakage. REPAIR as necessary. BLEED the system. REFER to: BRAKE SYSTEM PRESSURE BLEEDING . If no visible signs of leakage are found, INSPECT for brake master cylinder fluid leakage into the brake booster. If there is evidence of fluid in the brake booster, INSTALL a new brake master cylinder and brake booster. REFER to: Brake Master Cylinder . REFER to: Brake Booster . Also, for vehicles equipped with an EcoBoost engine, INSPECT for evidence of brake fluid in the vacuum tube. If there is evidence of brake fluid in the vacuum tube, INSTALL a new vacuum tube and brake vacuum pump. REFER to: Brake Vacuum Pump - 2.7L EcoBoost (238kW/324PS) . REFER to: Brake Vacuum Pump - 3.5L EcoBoost (272kW/370PS) .
	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 Inner Flexible Hose . REFER to: Rear Brake Outer 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 .
	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 . REFER to: Brake Pads - Vehicles Without: Electronic Parking Brake (EPB) . REFER to: Brake Pads - Vehicles With: Electronic Parking Brake (EPB) .

Symptom Chart: NVH

Diagnostics in this service information assume a certain skill level and knowledge of Ford-specific