

2000 Ford Mustang V6-3.8L VIN 4
Vehicle > Technical Service Bulletins

BRAKES - VIBRATION/INSPECTION SERVICE TIPS

Article No.

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BRAKES - GUIDELINES FOR BRAKE VIBRATION
REPAIR, BRAKE INSPECTION, AND FRICTION
MATERIAL REPLACEMENT - SERVICE TIP

FORD:

1993 FESTIVA

1993-1994 TEMPO

1993-1997 PROBE, THUNDERBIRD

1993-1999 ESCORT

1993-2000 CROWN VICTORIA, MUSTANG, TAURUS

1994-1997 ASPIRE

1995-2000 CONTOUR

1998-2000 ESCORT ZX2

2000 FOCUS

1993-1996 BRONCO

1993-1997 AEROSTAR

1993-1998 F SUPER DUTY

1993-2000 ECONOLINE, EXPLORER, F-250 LD, RANGER

1995-2000 WINDSTAR

1997-2000 EXPEDITION

1999-2000 SUPER DUTY F SERIES

LINCOLN:

1993-1998 MARK VIII

1993-2000 CONTINENTAL, TOWN CAR

2000 LS

1998-2000 NAVIGATOR

MERCURY:

1993-1994 TOPAZ

1993-1997 COUGAR

1993-1999 TRACER

1993-2000 GRAND MARQUIS, SABLE

1995-2000 MYSTIQUE

1999-2000 COUGAR

1993-2000 VILLAGER

1997-2000 MOUNTAINEER

ISSUE

This TSB serves as a guideline for servicing and diagnosing brake vibration, brake inspection, and brake friction material replacement.

ACTION

Refer to the following text and illustrations for servicing brakes.

SERVICE PROCEDURES AND RELATED LABOR OPERATIONS	
Diagnosis	<ul style="list-style-type: none"> • Verify concern. Brake vibration concerns are caused by uneven disc wear or lining transfer and should be verified with a test drive (refer to Workshop Manual, NVH Section 100-04-1) since these conditions are difficult properties to measure with available shop tools. • Check OASIS and TSBs for vehicle-specific brake concerns.
Inspect (2001B)	<ul style="list-style-type: none"> • Remove wheel/tire. • Remove caliper. • Inspect linings, replace if thickness is below specification or if cracks wide enough to see through down to the backing plate are present. Use Labor Operation 2001B1 for replacement. • Inspect rotors. <ul style="list-style-type: none"> — Replace if cracked. — Resurface if diagnosis has revealed vibration in the steering wheel, seat or pedal while braking. Heavily scored rotors, similar to that caused by linings worn down to the backing plate, should also be turned. • Measure rotor thickness and record measurement. Replace if below the minimum thickness specification. • Perform other repairs as necessary (i.e., turning, caliper replacement, etc.). • Reinstall pads and calipers. • Install wheels using impact guns equipped with Rotunda AccuTorq[®] sockets. NOTE: USING AN IMPACT TOOL WITHOUT AN ACCUTORQ[®] SOCKET WILL LEAD TO UNEVENLY TORQUED LUG NUTS. THIS CAUSES ROTOR ON-VEHICLE LATERAL RUNOUT (LRO) AND EVENTUALLY DISC THICKNESS VARIATION (DTV) AND BRAKE ROUGHNESS. • Check brake operation before returning vehicle to customer.
Pad/Shoe Replacement (2001B1)	<ul style="list-style-type: none"> • Retrieve new pads/shoes from part crib.
Turning (2001B2 or 2001B3)	<ul style="list-style-type: none"> • For rotors that require machining, replace rotor if thickness is less than 0.60mm (0.024") above the minimum thickness specification cast in the rotor, this will insure that the rotor will be above minimum thickness after turning. Do not machine new rotors. • For vehicles with two-piece hub/rotor: <ul style="list-style-type: none"> — Mark rotor and wheel stud for proper indexing during re-assembly. — Remove rotor. • Remove corrosion from wheel mounting surface, both rotor mounting surfaces, and hub mounting surface. A die grinder with a Scotchbrite[®] surface conditioning disc is recommended. CAUTION: DO NOT USE AN ABRASIVE SANDING DISC SINCE IT WILL REMOVE PAINT/PROTECTIVE FINISH FROM WHEEL AND/OR METAL FROM MOUNTING SURFACES, THUS ADVERSELY AFFECTING CORROSION PROTECTION AND ROTOR LATERAL RUNOUT. • For vehicles with two-piece hub/rotor, reinstall rotor onto hub, aligning with marks from Step 6a. • Machine rotors using Rotunda Hub-Mount Brake Lathe/Pro-Cut (201-00002). NOTE: READ THE ENTIRE OPERATING MANUAL AND VIEW THE VIDEO SHIPPED WITH THE LATHE BEFORE INSTALLING, OPERATING, OR SERVICING THE LATHE. <ul style="list-style-type: none"> — Install hub adapter and silencer belt (where applicable). — Install cutting lathe. — Adjust lathe oscillation using a dial indicator. NOTE: TOTAL INDICATED READING (TIR) TARGET IS 0.000mm, MAXIMUM IS 0.08mm (0.003"). <ul style="list-style-type: none"> — Center cutting head, adjust cutting bits, and install chip deflector. NOTE: DEPTH OF CUT SHOULD BE BETWEEN 0.10 AND 0.20mm (0.004 AND 0.008"). LIGHTER CUTS WILL CAUSE THE BIT TO HEAT UP AND WEAR FASTER. HEAVIER CUTS WILL CAUSE POOR ROTOR SURFACE FINISH. <ul style="list-style-type: none"> — Machine rotor. — Remove lathe and silencer belt. • Remove adapter. • Remove metal shavings. • For vehicles with two-piece hub/rotor: <ul style="list-style-type: none"> — Remove rotor from hub. — Remove metal shavings from hub and rotor mounting surfaces and from ABS sensors. — Apply High Temperature Nickel Anti-Seize Lubricant (F6AZ-9L494-AA) to hub mounting surface to prevent future corrosion. — Match marks on rotor and hub and assemble rotor to hub.

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Figure 1

Several service procedures relating to brake vibration, system inspection, and pad/shoe replacement have been revised. Detailed descriptions of the service procedures are shown in Figure 1.

Please note the changes for turning brake rotors. Criteria for sufficient rotor thickness before turning has been

added to reduce the number of rotors that are replaced or turned to a dimension below the minimum thickness specification.

Final Lateral Runout (LRO) and disc thickness measurements have also been deleted since proper rotor measurement and machine adjustment will insure that these dimensions are within specification.

COMPREHENSIVE LIST OF NEW BRAKE LABOR OPERATIONS

Operation Description			Current	Revised
Brake Shoes/Pad Assemblies – Hydraulic (2001/2007/2200) – Inspect Includes removal and reinstallation of wheels, calipers, and pads or drums; clean, measure rotor or drum; inspect and install	Disc/Drum	Front	2001AF	2001BF
	Disc/Drum	Rear	2001AB	2001BB
	Disc/Drum	All	2001AT	2001BT
	Disc/Disc	Front	2001AFA	2001BFA
	Disc/Disc	Rear	2001ABB	2001BBB
	Disc/Disc	All	2001ACT	2001BCT
Brake Shoes/Pad Assemblies – Hydraulic (2001/2007/2200) – Replace	Disc/Drum	Front	2001A1F	2001B1F
	Disc/Drum	Rear	2001A1B	2001B1B
	Disc/Drum	All	2001A1T	2001B1T
	Disc/Disc	Front	2001A1FA	2001B1FA
	Disc/Disc	Rear	2001A1BB	2001B1BB
	Disc/Disc	All	2001A1CT	2001B1CT
Disc Brake Rotor Front Machine on Vehicle (1102/2C026/2C027/1126) – Machine Pro-Cut		One	2001A25P	2001B2P
		Both	2001A25PT	2001B2PT
Disc Brake Rotor Rear Machine on Vehicle (2211/2C027/2212) – Machine Pro-Cut		One	2001A26P	2001B3P
		Both	2001A26PT	2001B3PT
SUPPLEMENTS Extra time to disconnect driveshaft for vehicles with limited slip axles.			2001A26ZE	2001B3ZE
Brake Drum (1126) – Machine		One	2001A7	2001B4
		Both	2001A7T	2001B4T
Disc Brake Rotor (1102/1014) – Replace	Front	One	2001A5F	2001B5F
		Both	2001A5FT	2001B5FT
	Rear	One	2001A5B	2001B5B
		Both	2001A5BT	2001B5BT
		All	2001A5T	2001B5T
Brake Drum – Rear (1126) – Replace		One	2001A24	2001B6
		Both	2001A24AT	2001B6T
Caliper Assembly – Disc Brake (2B120/2B121/2552/2553) – Overhaul Includes disconnecting brake line and component bleed. Do not use with Operation 2001A10.	Front	One	2001A9F	2001B7F
		Both	2001A9FT	2001B7FT
	Rear	One	2001A9B	2001B7B
		Both	2001A9BT	2001B7BT
		All	2001A9T	2001B7T
Caliper Assembly – Disc Brake (2B120/2B121/2552/2553) – Replace Includes disconnecting brake line and component bleed.	Front	One	2001A10F	2001B8F
		Both	2001A10FT	2001B8FT
	Rear	One	2001A10B	2001B8B
		Both	2001A10BT	2001B8BT
		All	2001A10T	2001B8T
Rear Wheel Cylinder (1102/1014) – Replace Includes component bleed.		One	2001A2	2001B9
		Both	2001A2T	2001B9T
Shoe Assembly – Parking Brake (2N712/2140) – Remove, Install, Adjust or Replace			2001A16	2001B10
			Deleted	Use
Disc Brake Rotor – Front (1102/1125) – Replace			1102B	2001B5
Disc Brake Rotor – Front Machine on Vehicle (1102/1125) – Machine			1102F	2001B2
Disc Brake Rotor – Rear Machine on Vehicle (1102/2C026/2C027) – Machine			1102G	2001B3
Brake Drum – Rear (1126) – Replace			1126A	2001B6
Brake Drum – Rear (1126) – Machine			1126B	2001B4

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Figure 2

As part of this change, all car and light truck repairs will now be sequenced under labor operation 2001B, labor operation 2001A will remain in effect for medium and heavy duty truck applications. A unique labor operation for brake pad/shoe replacement, 2001B1, was added along with a consolidation of all turning operations into two labor operations, 2001B2xx and 2001B3xx. A comprehensive list of brake labor operations are listed in Figure 2. These new codes will be in the October Service Labor Time Standards release.

OTHER APPLICABLE ARTICLES: NONE

WARRANTY STATUS: INFORMATION ONLY

OASIS CODES: 301000