

2008 BRAKES

Hydraulic Brake Actuation - Mustang

SPECIFICATIONS

MATERIAL SPECIFICATIONS

Item	Specification	Fill Capacity
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1-C (US); CPM-1-C (Canada)	WSS-M6C62-A	714 ml (1.50 pt)

TORQUE SPECIFICATIONS

Description	Nm	lb-ft	lb-in
Brake booster nuts	25	18	-
Brake fluid proportioning valve	25	18	-
Brake fluid reservoir pin	8	-	71
Brake master cylinder nuts	15	11	-
Brake pedal bracket bolts	25	18	-
Brake tube fittings	17	13	-

DESCRIPTION AND OPERATION

HYDRAULIC BRAKE ACTUATION

The hydraulic brake actuation system consists of the following components:

- ABS components
- Brake master cylinder
- Brake pedal (fixed or adjustable)
- Brake tubes and hoses
- Front disc brake calipers
- Rear disc brake calipers

The brake pedal is connected to the power brake booster, which is connected to the brake master cylinder. When the brake pedal is pressed, brake fluid is pushed through the double-walled steel tube and flexible hoses to the front and rear disc brake calipers. The brake fluid enters the disc brake calipers, forcing the caliper pistons and brake pads outward against the brake disc friction surface, slowing or stopping rotation. When the brake pedal is released, brake fluid pressure is relieved, returning the front and rear disc brake caliper pistons and brake pads to the unapplied position.

DIAGNOSTIC TESTS

HYDRAULIC BRAKE ACTUATION

Refer to BRAKE SYSTEM - GENERAL INFORMATION article.

REMOVAL AND INSTALLATION

BRAKE MASTER CYLINDER

Material

Item	Specification
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1-C (US); CPM-1-C (Canada)	WSS-M6C62-A

NOTE: Automatic transmission and ABS shown in illustration, all others similar.

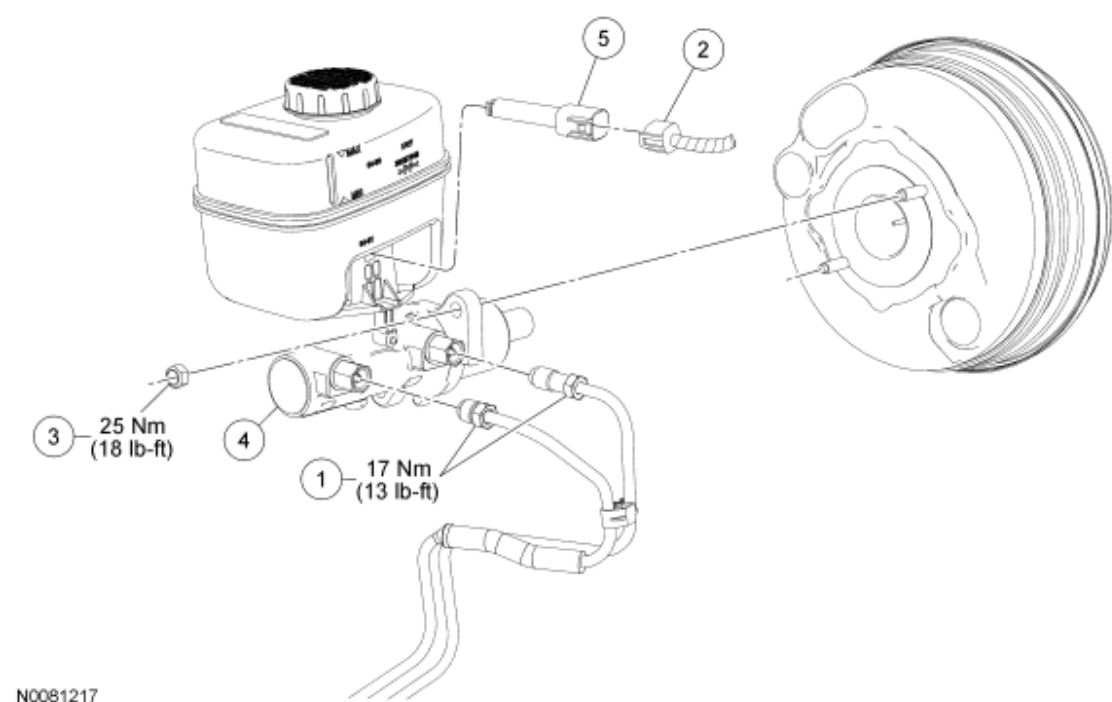


Fig. 1: Brake Master Cylinder Components With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Brake tube fittings (part of 2269)
2	-	Brake fluid level sensor electrical connector (part of 12A581)
3	W520011	Brake master cylinder nut (2 required)

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4	2140	Brake master cylinder
5	2C251	Brake fluid level sensor

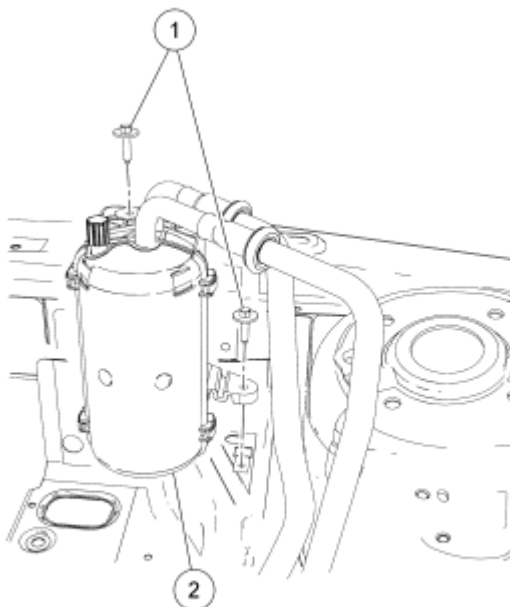
REMOVAL AND INSTALLATION

WARNING: Do not use any fluid other than clean brake fluid meeting manufacturer's specification. Additionally, do not use brake fluid that has been previously drained. Following these instructions will help prevent system contamination, brake component damage and the risk of serious personal injury.

WARNING: Carefully read cautionary information on product label. For **EMERGENCY MEDICAL INFORMATION** seek medical advice. In the USA or Canada on Ford/Motorcraft products call: 1-800-959-3673. For additional information, consult the product Material Safety Data Sheet (MSDS) if available. Failure to follow these instructions may result in serious personal injury.

CAUTION: Brake fluid is harmful to painted and plastic surfaces. If brake fluid is spilled onto a painted or plastic surface, immediately wash it with water.

1. Position the A/C suction accumulator aside.
 1. Remove the 2 bolts.
 2. Position the accumulator aside.



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Fig. 2: Identifying A/C Suction Accumulator Bolts

Courtesy of FORD MOTOR CO.

2. Disconnect the brake fluid sensor electrical connector.
3. If equipped with a manual transmission, remove the clutch hose clamp and disconnect the clutch hose from the brake fluid reservoir.
4. Disconnect the 2 brake tube fittings from the master cylinder.
 - To install, tighten to 17 Nm (13 lb-ft).
 - Cap the brake lines and plug the master cylinder ports.
5. Remove and discard the 2 nuts and remove the brake master cylinder.
 - To install, tighten the new nuts to 15 Nm (11 lb-ft).
6. To install, reverse the removal procedure.
 - Bleed the master cylinder. For additional information, refer to **BRAKE SYSTEM - GENERAL INFORMATION** article for component bleeding.
 - If equipped with a manual transmission, bleed the clutch master cylinder. For additional information, refer to **MANUAL TRANSAXLE/TRANSMISSION AND CLUTCH - GENERAL INFORMATION** article for Clutch System Bleeding.

BRAKE FLUID RESERVOIR

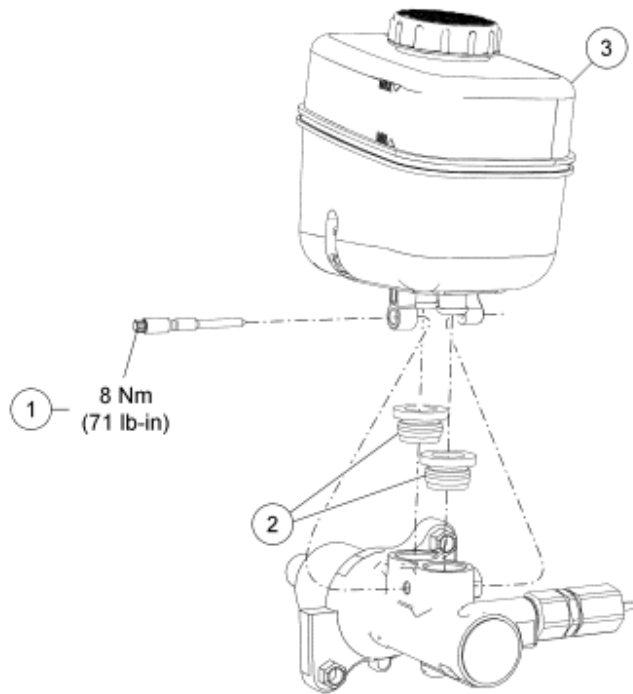
Material

Item	Specification
High Performance DOT 3 Motor Vehicle Brake Fluid PM-1-C (US); CPM-1-C (Canada)	WSS-M6C62-A

NOTE: Automatic transmission shown in illustration, all others similar.

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Fig. 3: Identifying Brake Fluid Reservoir With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	2462	Brake fluid reservoir pin
2	-	Brake fluid reservoir seals (2 required) (part of 2422)
3	2422	Brake fluid reservoir

REMOVAL AND INSTALLATION

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WARNING: Carefully read cautionary information on product label. For EMERGENCY MEDICAL INFORMATION seek medical advice. In the USA or Canada on Ford/Motorcraft products call: 1-800-959-3673. For additional information, consult the product Material Safety Data Sheet (MSDS) if available. Failure to follow these instructions may result in serious personal injury.

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1. Using a suitable tool, remove the brake fluid from the brake fluid reservoir.
2. If equipped with a manual transmission, release the clamp and disconnect the clutch hose from the brake fluid reservoir.
3. Remove the brake fluid reservoir pin.
 - To install, tighten to 8 Nm (71 lb-in).

NOTE: **Use new seals provided with a new brake fluid reservoir.**

4. Remove the brake fluid reservoir.
 - When installing the brake fluid reservoir, lubricate the new seals with brake fluid.
5. To install, reverse the removal procedure.
 - Bleed the brake system. For additional information, refer to **BRAKE SYSTEM - GENERAL INFORMATION** article.
 - If equipped with a manual transmission, bleed the clutch master cylinder. For additional information, refer to **MANUAL TRANSAXLE/TRANSMISSION AND CLUTCH - GENERAL INFORMATION** article for Clutch System Bleeding.

BRAKE PEDAL AND BRACKET

NOTE: **Manual transmission pedal assembly shown in illustration, automatic transmission pedal assembly similar.**

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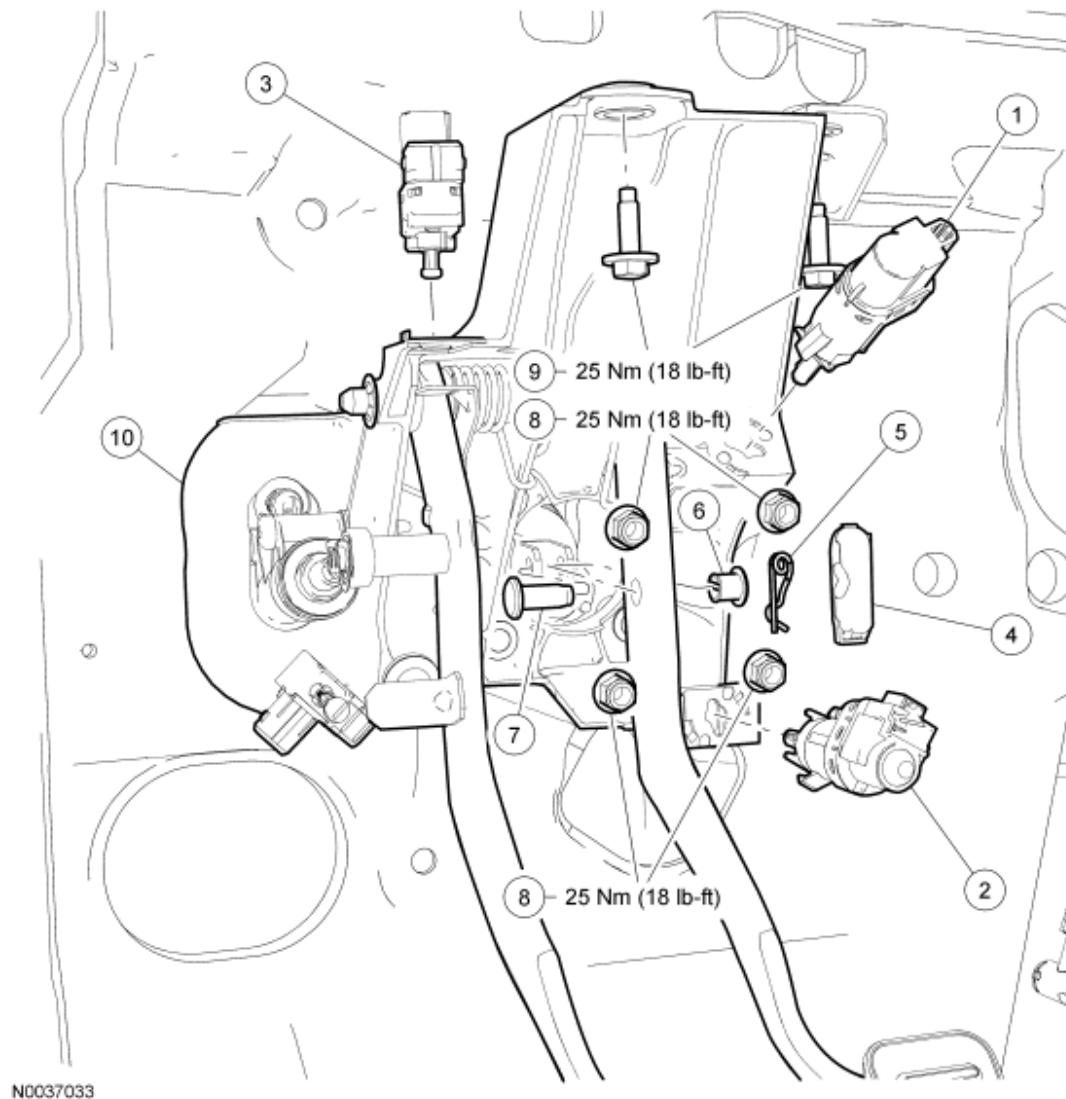


Fig. 4: Identifying Brake Pedal and Bracket With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	9C872	Speed control deactivator switch (brake)
2	13480	Stoplamp switch
3	7C534	Speed control deactivator switch (clutch)
4	2475	Redundant self-locking clip cover
5	380699	Self-locking clip
6	2A309	Brake booster rod bushing
7	2N513	Brake booster rod pin
8	W520112	Brake booster nuts (4 required)
9	W701834	Brake pedal bracket bolts (2 required)
10	2450	Brake pedal bracket

REMOVAL AND INSTALLATION**All vehicles**

CAUTION: Do not service the brake pedal or brake booster without first removing the stoplamp switch and speed control deactivator switch. These switches must be removed with the brake pedal in the at-rest position. Switch plungers must be compressed for the switch to rotate in the bracket. Attempting to remove the switch when the plunger is extended (during pedal apply) will result in damage to the switch.

1. Remove the stoplamp switch and, if equipped, the speed control deactivator switch (brake).
2. Remove the redundant self-locking pin cover and the self-locking pin.
3. Remove the booster rod pin and bushing from the brake pedal.

Manual transmission vehicles

CAUTION: The clutch pedal must be connected to the clutch master cylinder actuation rod and in the at rest position before removing or installing the speed control deactivator switch. Failure to follow this instruction will damage the switch.

4. Remove the speed control deactivator switch (clutch) and position it aside.
5. Disconnect the clutch pedal interlock switch electrical connector.
6. Disconnect the clutch pedal low pressure hydraulic hose from the master cylinder reservoir.

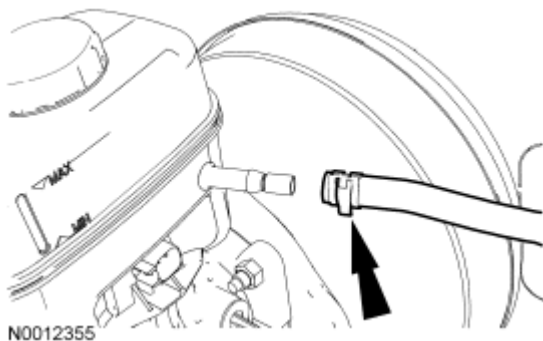


Fig. 5: Locating Clutch Pedal Low Pressure Hydraulic Hose
Courtesy of FORD MOTOR CO.

NOTE: The clutch master cylinder is self-bleeding. Pump the clutch pedal until all the air is forced back into the brake master cylinder reservoir.

7. Remove the hairpin clip and disconnect the clutch pedal high pressure hydraulic hose from the clutch master cylinder.

- Install the hairpin clip into the clutch master cylinder.

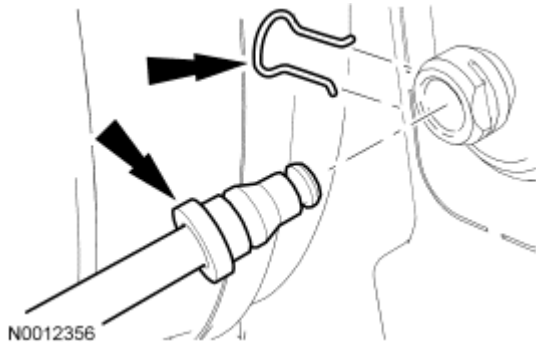


Fig. 6: Locating Hairpin Clip And Clutch Pedal High Pressure Hydraulic Hose
Courtesy of FORD MOTOR CO.

All vehicles

8. Remove the 4 brake booster nuts
 - To install, tighten to 25 Nm (18 lb-ft).
9. Remove the top 2 bolts from the brake pedal bracket assembly.
 - To install, tighten to 25 Nm (18 lb-ft).
10. Remove the brake pedal bracket assembly from the vehicle.

CAUTION: Do not press, pull or otherwise move the brake pedal while installing the stoplamp switch or the speed control deactivator switch. These switches must be installed with the booster push rod attached to the brake pedal and with the brake pedal in the at-rest position. Installing these switches with the brake pedal in any other position will result in incorrect adjustment and may damage the switches.

11. To install, reverse the removal procedure.