

ABS LONG BRAKE PEDAL TRAVEL 1993-94 FORD TAURUS / MERCURY SABLE

Some owners of the above mentioned vehicles that are equipped with anti-lock brake systems have complained of long brake pedal travel. In many cases, it has been found that air has been ingested into the hydraulic system at the master cylinder and/or the anti-lock valve block.

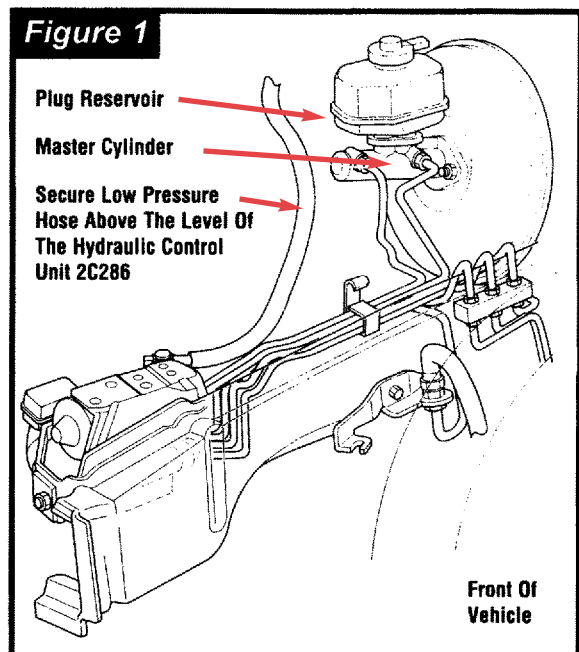
When a customer complains of this symptom, verify the complaint and then thoroughly inspect

the hydraulic system for leaks. If no leaks are found, bleed the entire system per the Wagner Brake Bleeding Sequence Guide. Road test to verify the repair. If the ABS brake pedal feels like it has extra travel, a bypass condition may exist.

To determine which component is at fault, perform the following test:

NOTE: IT IS NECESSARY THAT THE FAULT BE REPRODUCIBLE FOR THIS TEST TO PINPOINT THE FAULTY COMPONENT.

1. Remove the low pressure feed hose at the master cylinder and plug the reservoir feed to prevent brake fluid from leaking onto painted surfaces and wiring (use fabricated plugs). See Figure 1.
2. Secure the low pressure hose above the level of the Hydraulic Control Unit (HCU), Figure 1.
3. Have an assistant apply the brake pedal and watch for the brake fluid level to rise in the low pressure hose while the pedal travels excessively.
4. If the brake pedal travel is excessive and brake fluid is flowing out of the low pressure hose, replace the valve block (2C266), Figure 2. Refer to VALVE BLOCK REMOVAL PROCEDURE listed below.



5. If brake pedal travel is excessive and brake fluid is not flowing out of the low pressure hose, replace the master cylinder assembly (2140), *Figure 1*.
6. If brake pedal travel is not excessive, the problem is intermittent and the faulty component cannot be pinpointed until the fault is reproducible.

VALVE BLOCK REMOVAL PROCEDURE:

NOTE: The Hydraulic Control Unit (HCU) must be removed before replacing the valve block.

- a. Using brake parts cleaner, clean all dirt and foreign material from the HCU assembly to prevent contamination into the system when the valve block is removed.
- b. Dry components thoroughly with shop air.
- c. Using a light clamping force, hold the HCU assembly in a vise, valve block facing up.
- d. Remove the three valve block-to-pump attachment bolts using a T-40 torx driver and remove the valve block from the pump/motor assembly, *Figure 3*.

NOTE: DO NOT DISASSEMBLE THE VALVE BLOCK. ONLY THE THREE BOLTS SHOWN IN FIGURE 3 NEED TO BE REMOVED FOR COMPONENT REPLACEMENT.

- e. Install a new metal gasket (Ford Part No. FODZ-2C254-A), observing the correct location of the gasket locating tab (tab toward the wheel port side), *Figure 3*.

WARNING:

Install the metal gasket only as shown. Failure to install the metal gasket correctly will result in brake fluid loss and/or poor brake performance.

- f. Position the new valve block on the pump/motor assembly and install the attachment bolts.
- g. Tighten attachment bolts to 29N-m (21.4 ft. lbs.).
- h. Reinstall the HCU into the vehicle by reversing the removal procedure.
- i. Using the anti-lock brake adapter (T90P-50-ALA) or equivalent, bleed all the air from the brake system per the service manual.

NOTE: According to Ford Motor Company, the master cylinder and hydraulic control unit must be bled using the anti-lock brake adapter T90P-50-ALA or equivalent.

Figure 2

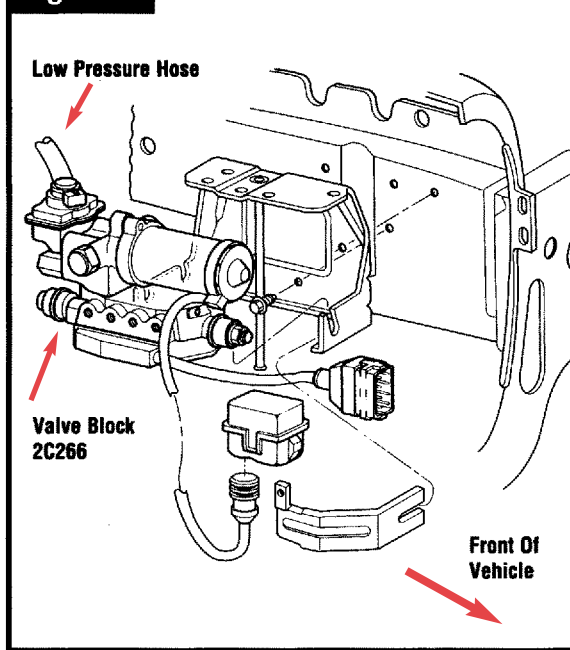
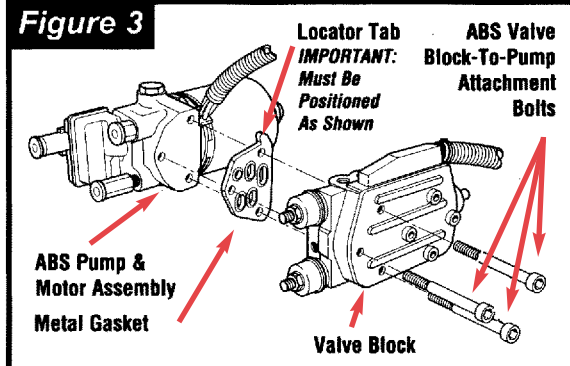


Figure 3



lent. If this procedure is not followed, air will be trapped in the hydraulic control unit which will eventually lead to a spongy brake pedal.

FORD PART NUMBERS

PART NAME	PART NUMBER	CLASS
Master Cylinder Assembly 1993-94 Taurus/Sable W/ABS (Except SHO)	F1VY-2140-B	C
Master Cylinder Assembly 1993-94 Taurus/Sable W/ABS (Except SHO)	F3DZ-2140-A	C
Valve Block 1993 Taurus/Sable W/19 Pin Connector	F2DZ-2C266-A	B
Valve Block 1994 Taurus/Sable W/16 Pin Connector	F4DZ-2C266-A	B
Gasket Valve Block-To-Pump Body	F0DZ-2C254-A	B