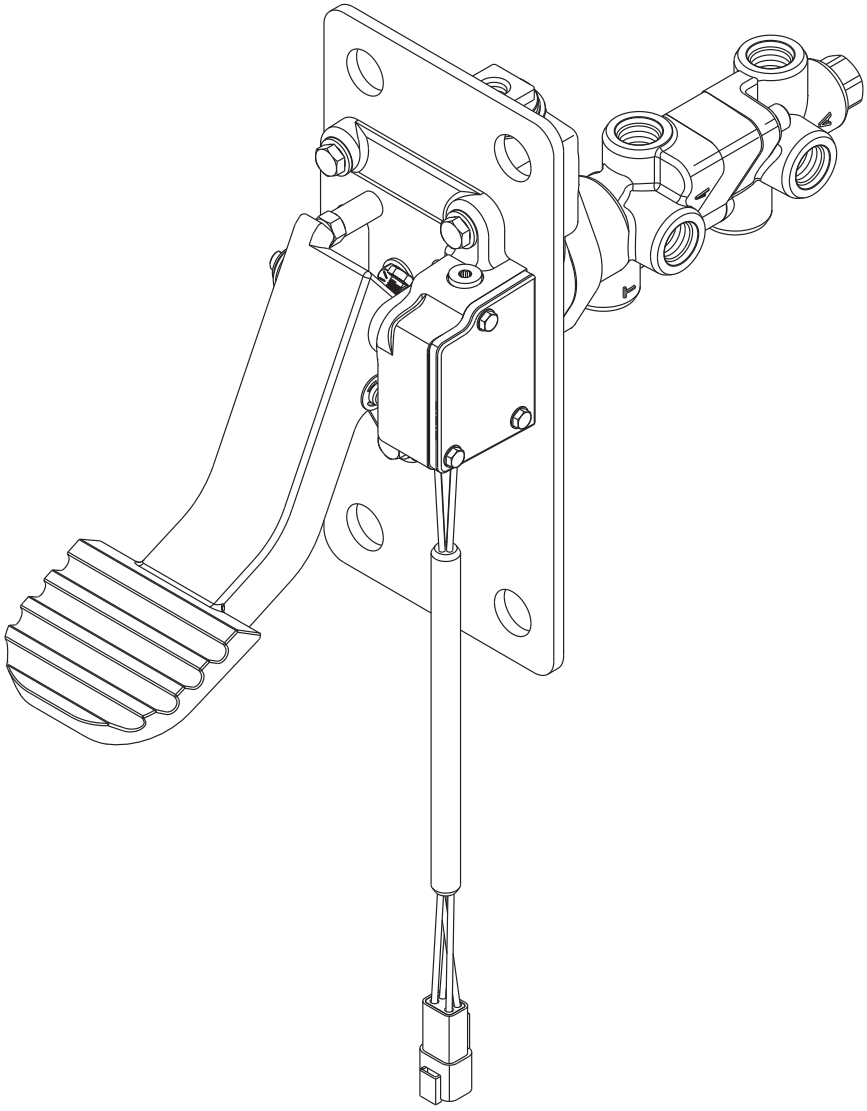
Pedal Assembly for Power Brake Valves

Service Instructions

TABLE 1

Caterpillar Part Number	Pedal and Base Assembly Part number	Repair Kit Number
351-0628	352-6567	357-9364
373-4532	379-1040	357-9364
374-5787	379-1040	357-9364
444-7046	379-1040	357-9364
492-2795	479-6664	479-6665
492-2796	479-6664	479-6665



DISASSEMBLY

(Refer to Figure 1)

NOTE: To prevent contamination to the valve or hydraulic system, thoroughly clean pedal assembly, valve and surrounding area of all dirt, grease, oil, etc. before servicing.

1. Remove machine screws (1), cover (2) and seal (3) from base (7).
2. Remove screw (13) and e-ring (9) from end of shaft assembly (4).
3. Carefully remove shaft assembly (4) while separating pedal (8) from base (7). **NOTE: Spring on shaft assembly (4) must be partially compressed while removing shaft assembly (4). Be extremely careful not to damage switches.**
4. Remove one e-ring (9) from pin (12) and remove pin (12) and cam (11) from pedal (8). See Figure 1a.
5. Remove bushing (10) from cam (11).
6. Remove bushing (14) from base (7).
7. Using a pointed tool, remove o-ring (6) from groove in base (7). See Figure 1b.
8. Bushing (5) was assembled with Loctite on the outside diameter of bushing. It may be necessary to apply heat to the bushing in order to soften the Loctite for disassembly. Carefully work bushing (5) from bore in base (7). Carefully clean the bore of excess Loctite. **NOTE: Protect the harness wires in base (7) from damage while heating bushing (5).**
9. Remove plug (15) from base (7). Remove o-ring (16) from plug (15).

ASSEMBLY

(Refer to Figure 1)

1. Lubricate new o-ring (6) with light oil and install in base (7). See Figure 1b.
2. Apply a small amount Loctite 609 or equivalent to outside diameter of bushing (5). Carefully work new bushing (5) into bore. See Figure 1b.
3. Carefully work new bushing (14) into bore.
4. Evenly install new bushing (10) in cam (11).
5. Install pin (12) and cam (11) on pedal (8). Install new e-ring (9) on pin (12). See Figure 1a.
6. Carefully install new shaft assembly (4). Note the direction of shaft assembly (4). Make sure spring on shaft assembly (4) is properly positioned and does not impede seating of shaft assembly. Spring on shaft assembly (4) must remain in slot of the cam on shaft assembly (4) during assembly. See Figure 1c. **NOTE: Be extremely careful not to damage switches.**
7. Be sure pedal assembly is equally spaced between ears of base (7), moves freely and is in an upright position. Install new e-ring (9) on end of shaft assembly (4). Install new screw (13) so it contacts the flat on shaft assembly (4) and torque 7.0-7.7 N·m (62-68 lb·in). See Figure 1c.
8. Install new seal (3), cover (2) and machine screws (1). Torque machine screws 1.1-1.7 N·m (10-15 lb·in).
9. Install new o-ring (16) on plug (15). Install plug (15) in base (7) and torque 13.6-19.0 N·m (10-14 lb·ft).

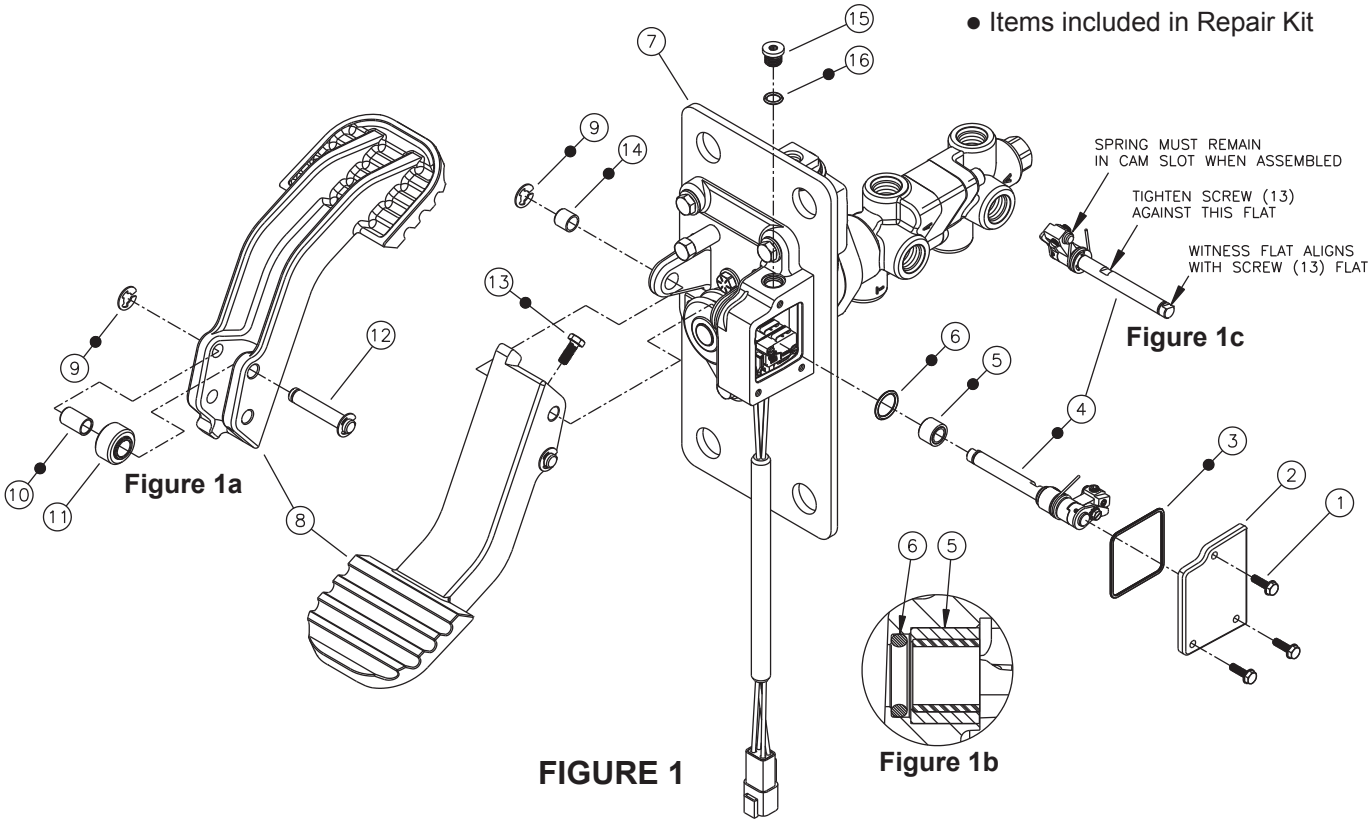


FIGURE 1

#1 Switch Adjustment

(Refer to Figure 2)

NOTE

The adjustment for the #1 switch has been correctly preset at the factory. However, the following procedure should be used if the switch requires service.

NOTE

Both the #2 switch and the #1 switch are positioned immediately next to each other in the pedal assembly. Both switches share the same mounting screws and therefore, both switches must be installed when making an adjustment to either switch. The #1 switch is located nearest to cover (3).

1. Disconnect connector (6) from the wire harness assembly.
2. Connect an ohmmeter (or continuity tester) to Pin 2 and Pin 3 of receptacle assembly (6). With pedal assembly (1) in the retracted position (fully released), the the ohmmeter should indicate an open (infinite resitance) circuit condition.
3. Depress the pedal assembly until dimension “A” is obtained. Dimension “A” should be approximately 1.25 mm (0.50 in).
4. The ohmmeter should now indicate a closed (shorted) circuit condition, and an audible “click” should be heard which indicates the switch has been actuated.

NOTE

Do NOT make the mistake of only listening for the audible “click” sound because both the #2 switch and #1 switch make the same sound and should be set to actuate at approximately the same time.

If the previous steps do not indicate a closed circuit, proceed with the following steps.

5. Remove three screws (2) and cover (3).
6. Loosen screw (4) and rotate cam (5) approximately one-half degree and retighten screw (4).

NOTE

Rotating cam (5) clockwise increases dimension “A”. Rotating cam (5) counterclockwise decreases dimension “A”.

7. Repeat steps 3, 4, and 6, until the desired result is obtained. **NOTE: When switch is adjusted properly, a continuity check between pins 2 and 3 should show an open circuit with dimension “A” of 0.50 mm (0.02 in).**
8. Torque screw (4) 1.13-1.70 N·m (10-15 lb·in) after adjustment is made.
9. Replace cover (3) and three screws (2). Torque screws (2) 1.13-1.70 N·m (10-15 lb·in).

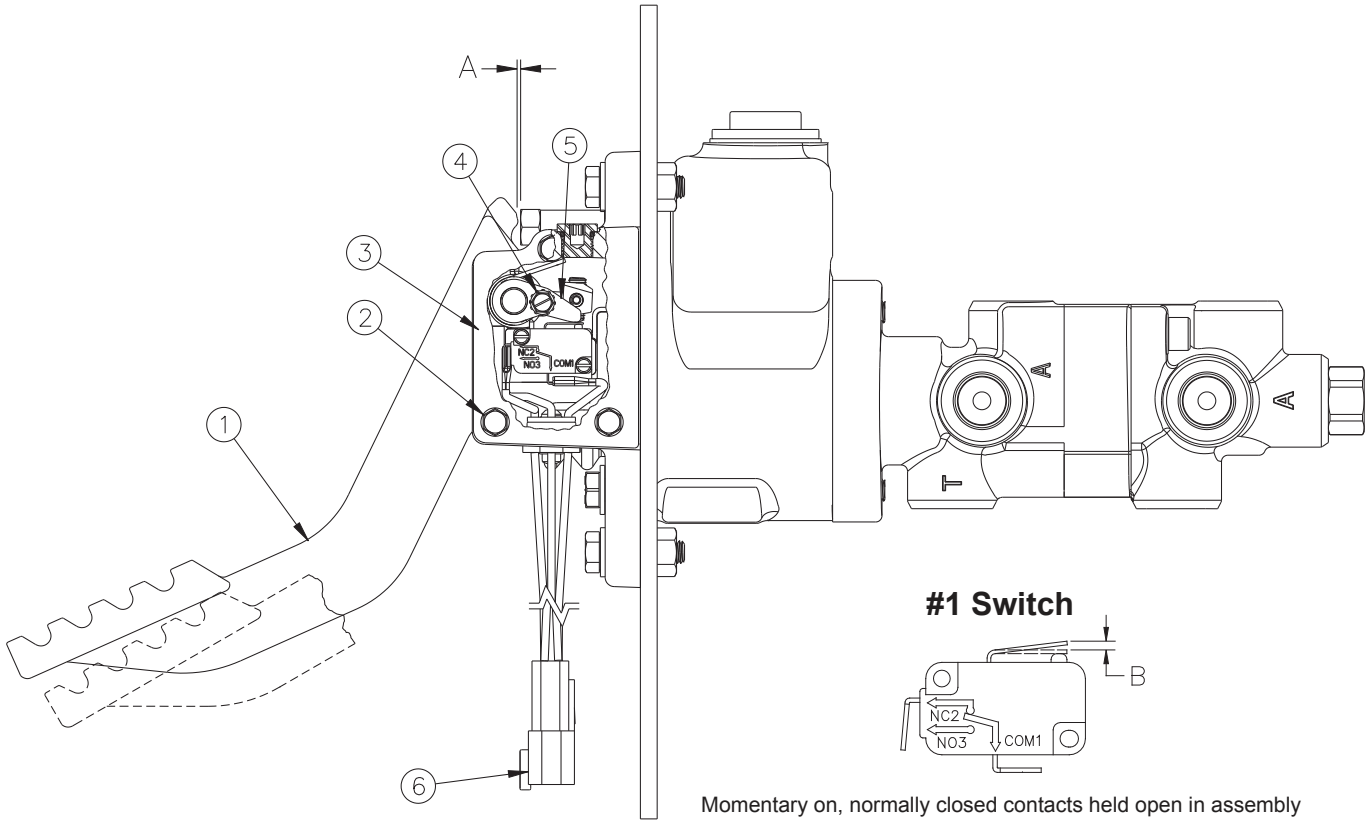


FIGURE 2

Momentary on, normally closed contacts held open in assembly
Distance to actuate switch (dimension “B”) .....1.52 mm (0.06 in) maximum
Actuating force .....1.60 N (0.36 lb)

#2 Switch Adjustment

(Refer to Figure 3)

NOTE

The adjustment for the #2 switch has been correctly preset at the factory. However, the following procedure should be used if the switch requires service.

1. Disconnect connector (4) from the attached wire harness assembly (not shown).
2. Connect an ohmmeter (or continuity tester) to Pin 1 and Pin 4 of receptacle assembly (4). With pedal assembly (1) in the retracted position (fully released), the ohmmeter should indicate an open (infinite resistance) circuit condition.
3. Depress the pedal assembly until dimension “C” is obtained. Dimension “C” should be approximately 1.25 mm (0.50 in).
4. The ohmmeter should now indicate a closed (shorted) circuit condition and an audible “click” should be heard which indicates the switch has been actuated.

NOTE

Do NOT make the mistake of only listening for the audible “click” sound because both the #2 switch and #1 switch make the same sound and should be set to actuate at approximately the same time.

If the previous steps do not indicate a closed circuit, proceed with the following steps.

5. Remove plug (2) and insert a 3.13 mm (0.125 in) hex wrench in screw (3).

NOTE

Rotating screw (3) clockwise increases the value of dimension “C”. Rotating screw (3) counterclockwise decreases the value of dimension “C”.

6. Rotate the wrench in one-quarter turn increments and repeat steps 3 and 4 until the desired result is obtained. **NOTE: When switch is adjusted properly, a continuity check between pins 1 and 4 should show an open circuit with dimension “C” of 0.50 mm (0.02 in).**
7. Install plug (2) and torque 5.65-7.91 N·m (50-70 lb·in).

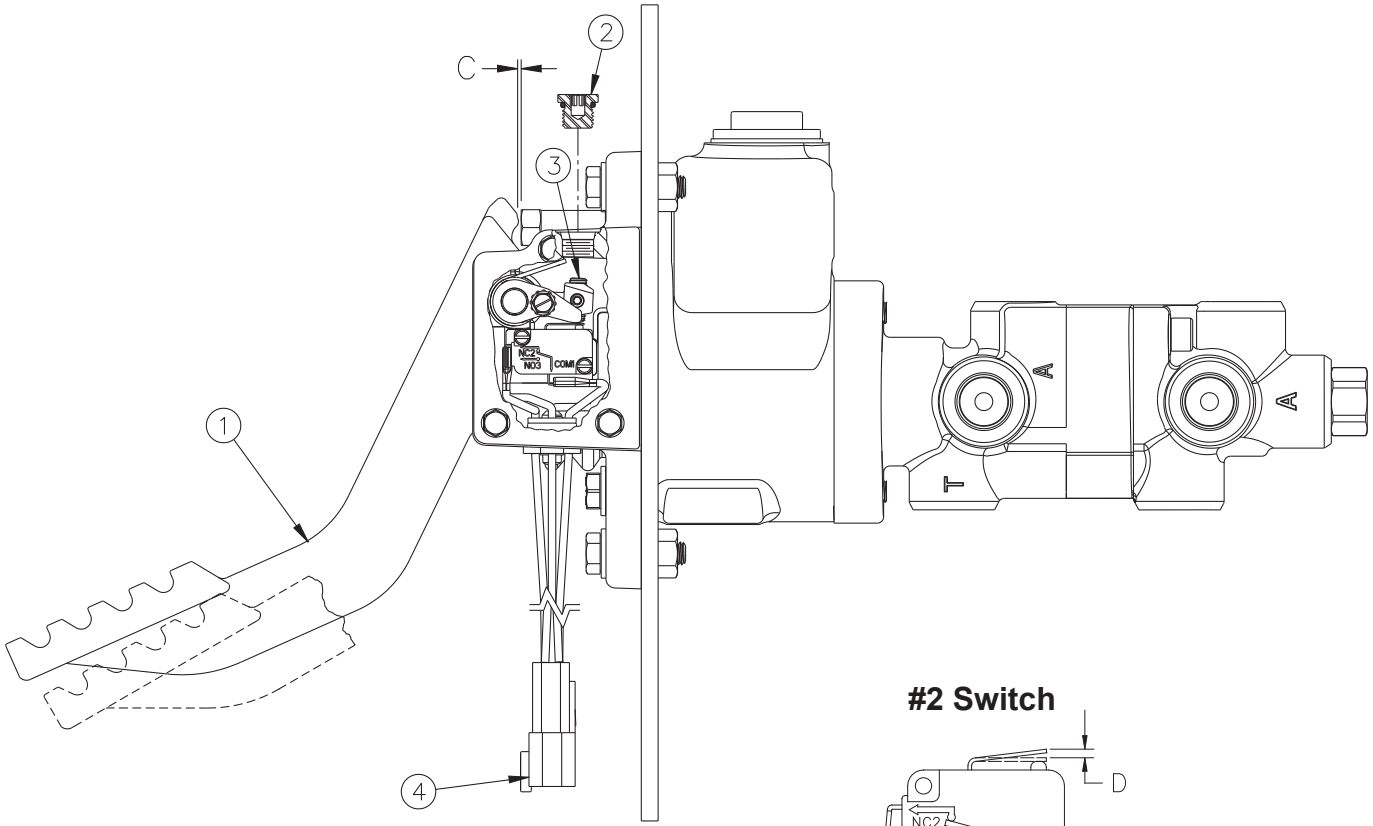


FIGURE 3

#2 Switch

Momentary on, normally closed contacts held open in assembly
Distance to actuate switch (dimension “D”) .....1.52 mm (0.06 in) maximum
Actuating force .....1.60 N (0.36 lb)