

## Clutch Fluid: Service and Repair

### Bleeding - Clutch Master Cylinder

1. Install clutch master cylinder in a vise.

**NOTE:** When bleeding a dry replacement clutch master cylinder, remove clutch master cylinder-to-clutch slave cylinder tubing from vehicle and install to new master cylinder.

2. Fill master cylinder reservoir with High Performance DOT 3 Brake Fluid C6AZ-19542-AA or equivalent DOT 3 fluid meeting Ford specification ESA-M6C25-A.
3. Insert clutch slave cylinder end of tube in a waste container to prevent fluid from leaking.
4. Push the master cylinder push rod all the way in. While holding the push rod in, plug the end of the tube to prevent air from entering the tube and master cylinder. Perform this step several times until all air has been bled from the clutch master cylinder.

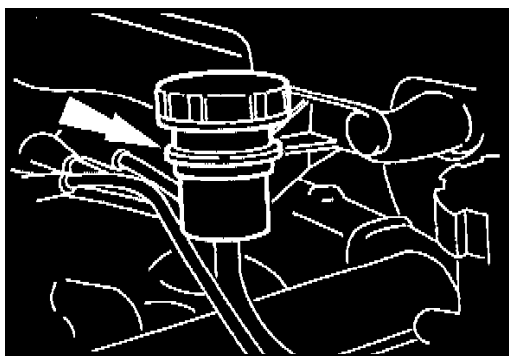
**NOTE:** Be sure to keep clutch master cylinder reservoir full during this operation to prevent additional air from entering the master cylinder.

5. When all air is expelled from the clutch master cylinder (no bubbles come out of the tube), install the clutch master cylinder and tubing to the vehicle.

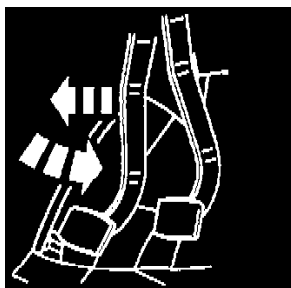
### Bleeding - Clutch Hydraulic System

#### Clutch Hydraulic System Bleeding

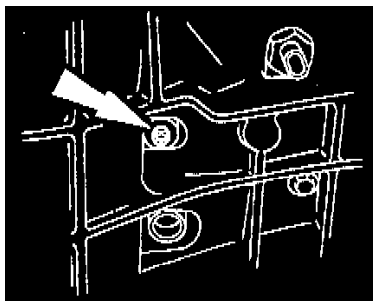
**NOTE:** Be sure to keep the clutch master cylinder reservoir full to prevent air from entering the clutch master cylinder.



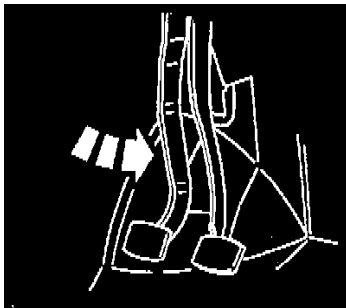
1. Fill clutch master cylinder reservoir to full line.
  - Use Ford High Performance DOT 3 Brake Fluid or DOT 3 equivalent meeting Ford specification ESA-M6C25-A.



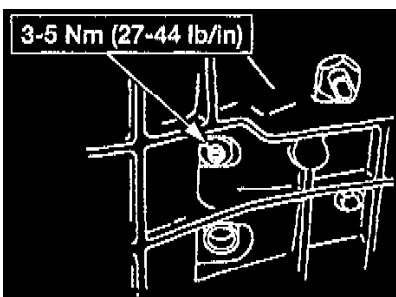
2. Depress the clutch pedal rapidly for five to ten strokes.
3. Wait one to three minutes.
4. Repeat steps 2 and 3 more times.



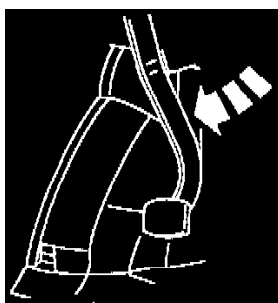
5. Loosen bleed screw.



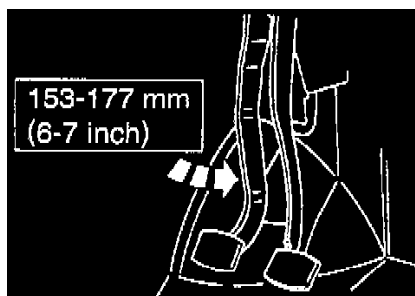
6. Fully depress clutch pedal and hold.



7. Tighten bleed screw.



8. Release clutch pedal.



9. Apply pressure to clutch pedal.
  - If clutch pedal travel is within specification, procedure is complete.
  - If the clutch pedal is out of specification, repeat bleeding procedure.

## Bleeding - Clutch Slave Cylinder

### Clutch Hydraulic System Bleeding, Concentric Cylinder Clutch Slave

1. If bleeding a dry replacement clutch master cylinder, refer to Bench Bleed Procedure, Clutch Master Cylinder. See: Clutch Master Cylinder/Service and Repair
2. Disconnect the coupling at the transmission with Coupling Disconnect Tool T88T-70522-A or equivalent by sliding the white plastic sleeve toward the clutch slave cylinder while applying a slight tug on the clutch tube.

**CAUTION:** Make sure hydraulic tube connection is free of contamination prior to disconnecting it.

3. Remove cap and diaphragm and fill reservoir to the step with High Performance DOT 3 Brake Fluid C6AZ-19542-AA or equivalent DOT 3 fluid meeting Ford specification ESA-M6C25-A.

**CAUTION:**

- Clean dirt and grease from around the reservoir cap.
- Brake fluid must be certified to DOT 3 specification.

4. Apply 10-15 pounds of pressure to clutch pedal.
5. Using a small screwdriver, press the internal mechanism of the male coupling to open the valve. While continuing to hold the valve open, slowly depress the clutch pedal to the floor and hold.
6. Remove the screwdriver from the coupling, closing the valve.
7. Release the clutch pedal.
8. Refill reservoir to level at step.

**CAUTION:** The reservoir must be kept full at all times to make sure there will be no additional introduction of air into the system.

9. Repeat Steps 4 through 7.
10. Close reservoir. Reconnect the coupling to the clutch slave cylinder. Check that the connection is secure by applying a slight tug to the clutch tube.
11. Stroke the clutch pedal as rapidly as possible for five to ten strokes.
12. Wait one to three minutes.
13. Repeat Steps 11 and 12 three more times.
14. Loosen bleed screw (located in the slave cylinder body next to the inlet connection).
15. Depress and hold clutch pedal while tightening bleed screw **3-5 Nm (27-44 inch lbs.)**.
16. Refill the reservoir to level at step.
17. The hydraulic system should now be fully bled and should properly release the clutch.