

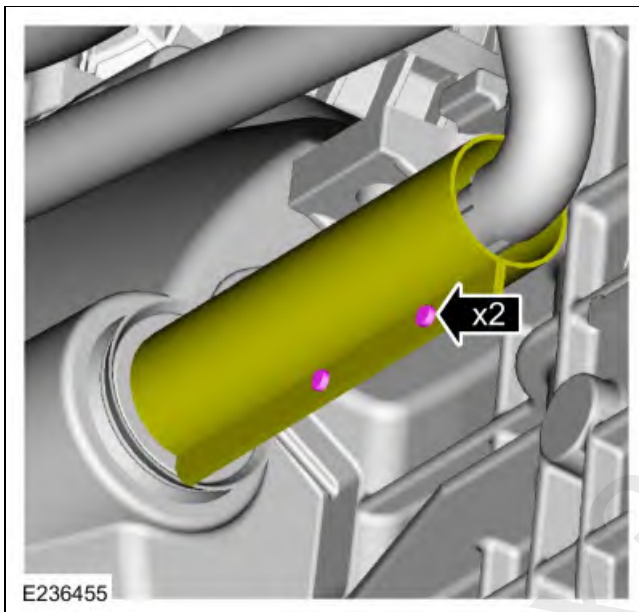
Clutch Master Cylinder

Removal

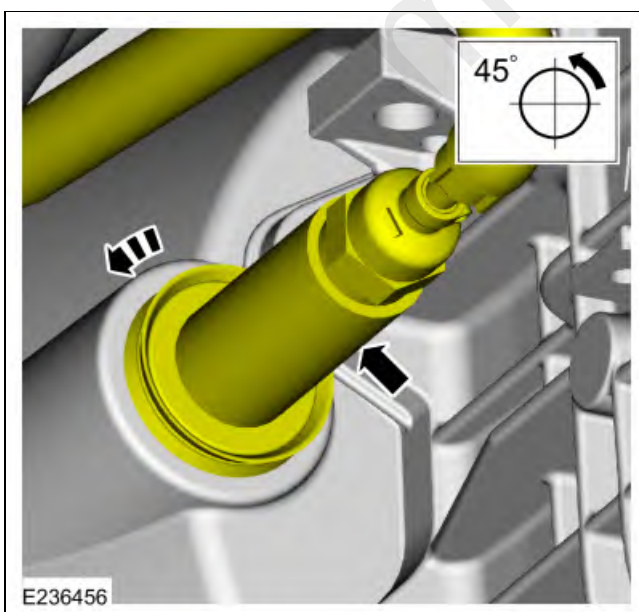
NOTE: Remove the entire clutch hydraulic system from the vehicle as an assembly when installing a new clutch master cylinder assembly. The clutch master cylinder is only serviced in the assembly.

1. With the vehicle in NEUTRAL, position it on a hoist.
Refer to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
2. **NOTE:** The clutch control system has a heat shield that covers most of the tube and clutch slave cylinder.

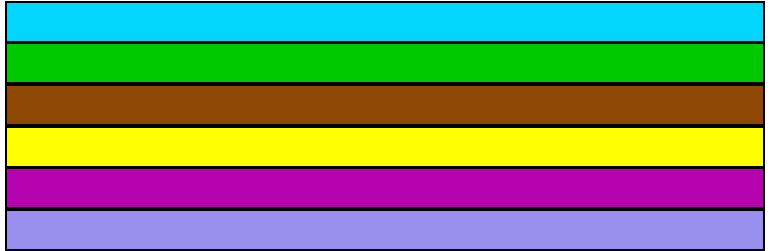
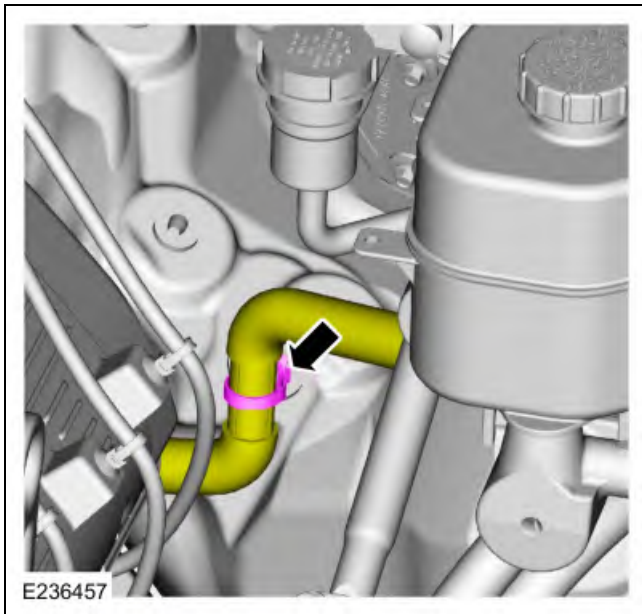
Detach the retainers and slide the heat shield back and off of the slave cylinder.



3. Unlock and remove the clutch slave cylinder from the transmission. Rotate the clutch slave cylinder counterclockwise 45 degrees while pushing inward.

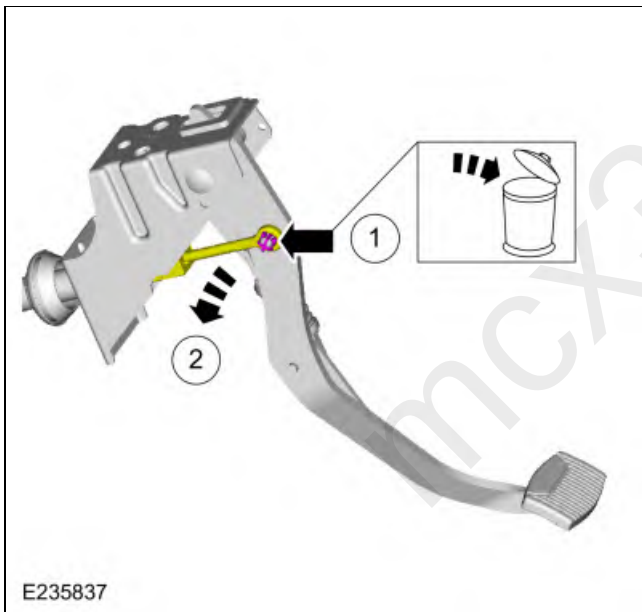


4. Disconnect the clutch hydraulic tube from the floor pan clip and the dash clip. Position the clutch slave cylinder and hydraulic tube forward below the left engine bank.

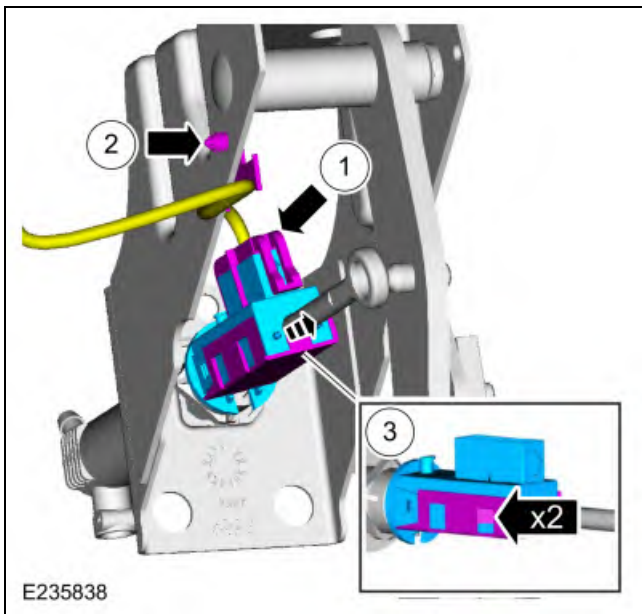


5. **NOTE:** *The clutch pedal is under spring tension.*

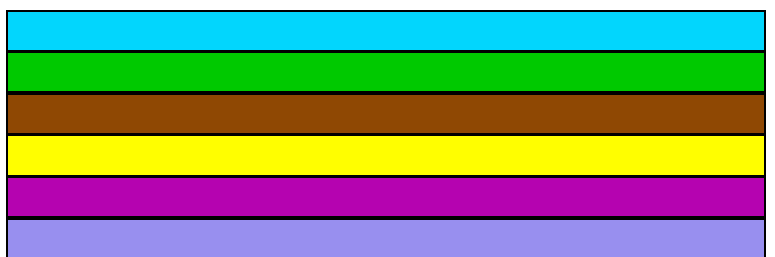
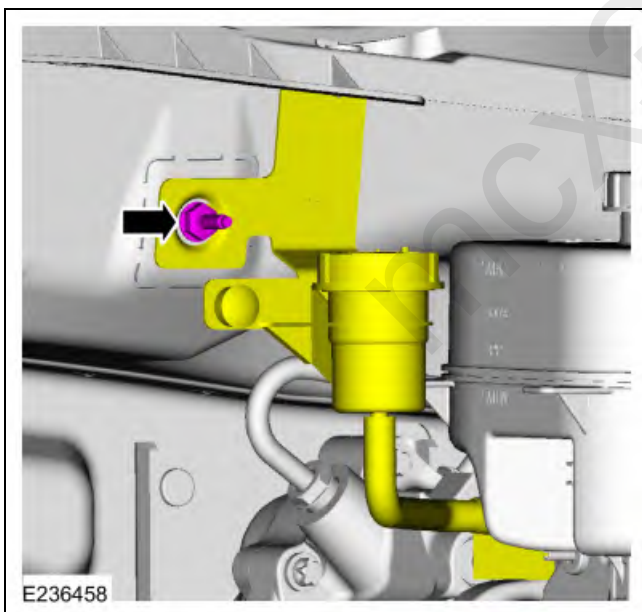
1. Unlock the push rod retaining clips, remove and discard the clutch master cylinder push rod bushing.
2. Separate and position aside the clutch master cylinder push rod from the clutch pedal.



6.
 1. Disconnect the CPP switch electrical connector.
 2. Remove the wiring harness retainer and position aside the wiring harness.
 3. Pull outward the CPP switch, release the clips and remove the CPP switch cover. Remove the CPP switch from the clutch master cylinder push rod.

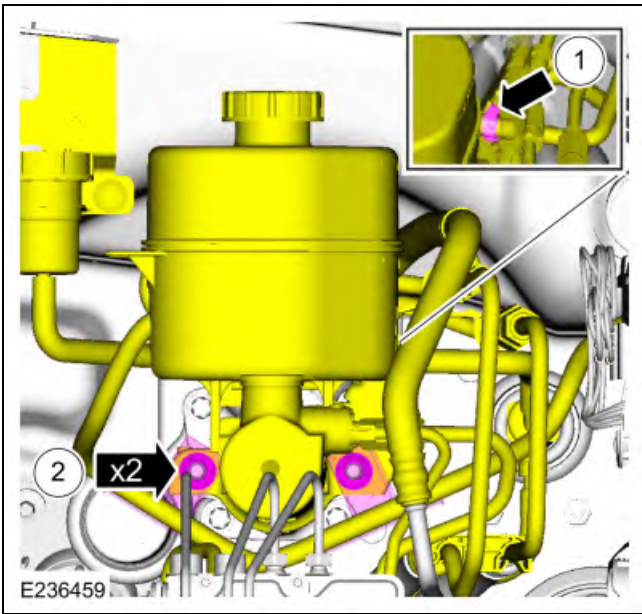


7. Remove the stud bolt and position the clutch master cylinder reservoir aside.

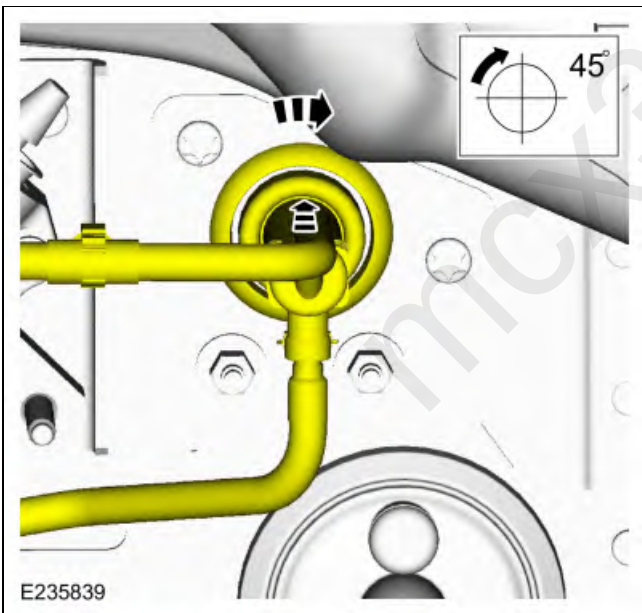


8.

1. Disconnect the clutch hydraulic tube clip from the brake master cylinder bracket.
2. Remove the bolt covers, wiring harness retainers and the nuts. Position the brake master cylinder aside.



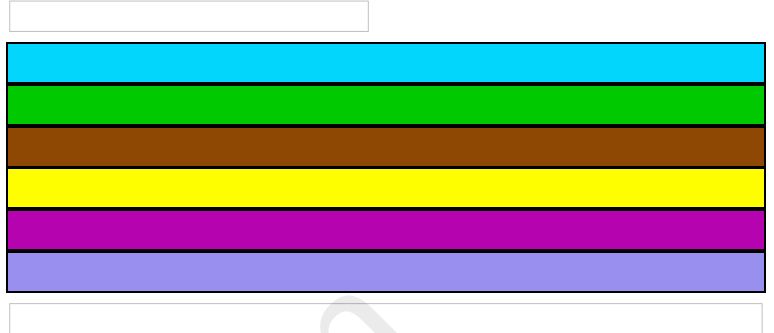
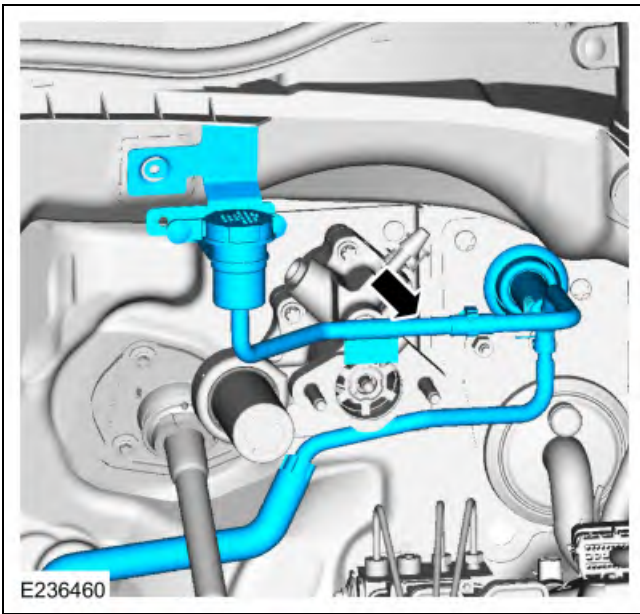
9. Unlock and remove the clutch master cylinder from the clutch pedal and support bracket.
- Push inward and twist the clutch master cylinder clockwise 45 degrees to unlock it from the clutch pedal and support bracket.



10. **NOTICE:** Carefully read cautionary information on product label. For emergency medical information seek medical advice. In the USA or Canada on Ford/Motorcraft products call the Poison Control Center at: 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.

NOTICE: Do not spill brake fluid on painted or plastic surfaces or damage to the surface may occur. If brake fluid is spilled onto a painted or plastic surface, immediately wash the surface with water.

Remove the clutch hydraulic system from the vehicle.



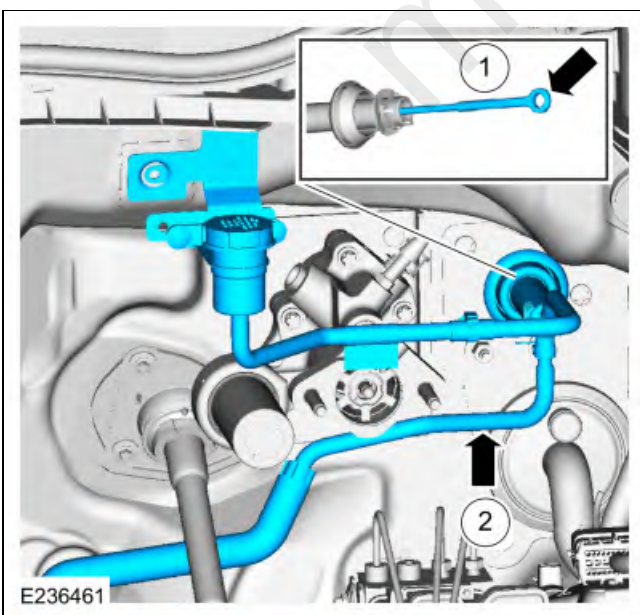
Installation

1. **NOTICE:** Carefully read cautionary information on product label. For emergency medical information seek medical advice. In the USA or Canada on Ford/Motorcraft products call the Poison Control Center at: 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.

NOTICE: Do not spill brake fluid on painted or plastic surfaces or damage to the surface may occur. If brake fluid is spilled onto a painted or plastic surface, immediately wash the surface with water.

NOTICE: The push rod is not removable after installing it in the clutch master cylinder.

1. Install the new push rod in the clutch master cylinder.
2. Install the clutch hydraulic system in the vehicle.



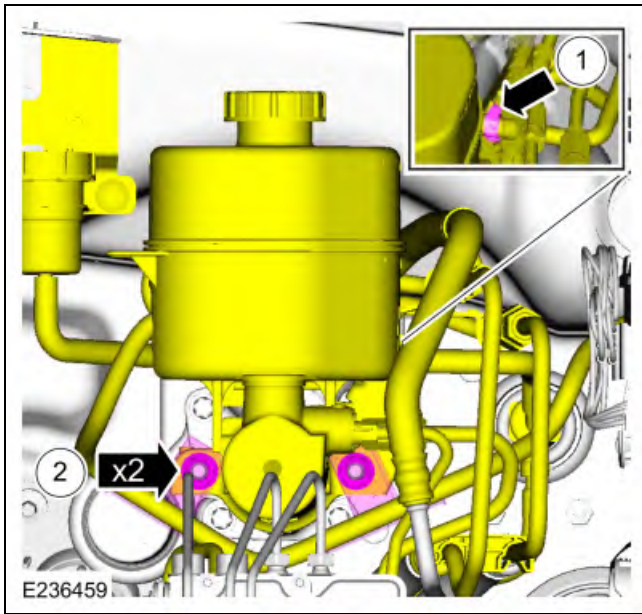
2. Lock the clutch master cylinder to the clutch pedal and support bracket.
 - Push inward and twist the clutch master cylinder counterclockwise 45 degrees to lock it to the clutch pedal and support bracket.



The diagram consists of a horizontal bar divided into six equal-width segments of different colors: cyan, green, brown, yellow, magenta, and light blue. Above the bar is a small white rectangle, and below it is a larger white rectangle.

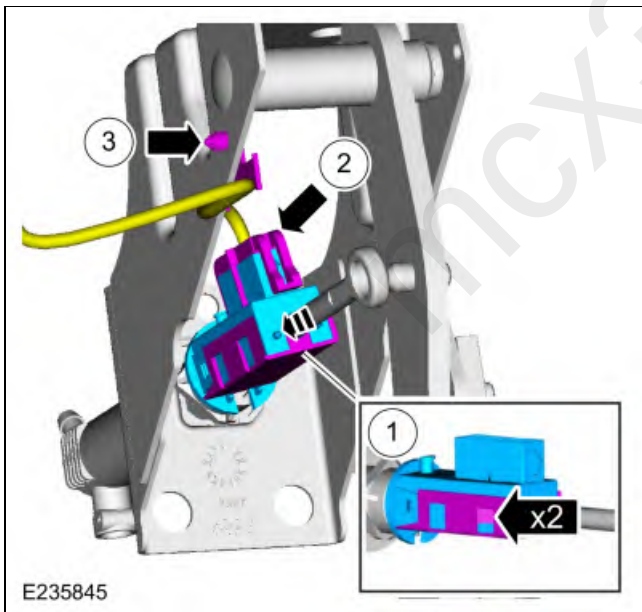
5.

1. Connect the clutch hydraulic tube clip to the brake master cylinder bracket.
2. Install the brake master cylinder. Install the bolts, wiring harness retainers and the bolt covers.
Torque: 22 lb.ft (30 Nm)



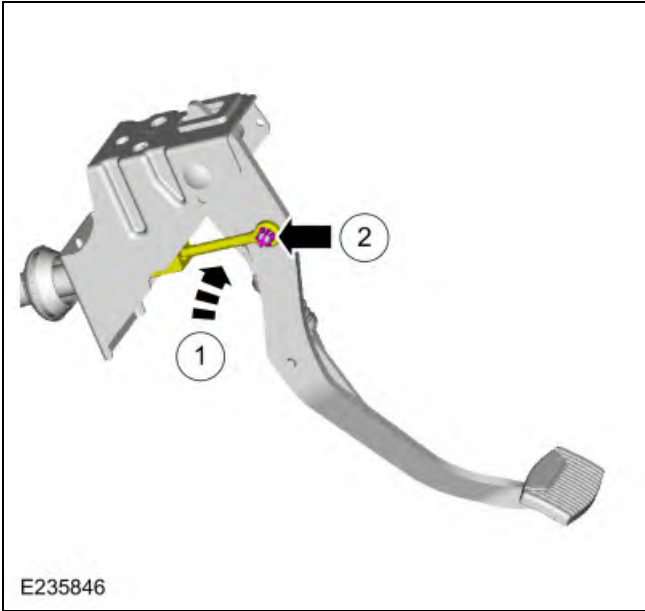
6. **NOTICE:** When installed correctly, the flat side of the CPP switch must face the tab protruding from the clutch master cylinder and the switch wiring connector must be in the 12 o'clock position. Incorrect installation will damage the CPP switch and cause insufficient clutch pedal travel.

1. Install the CPP switch on the clutch master cylinder push rod and install the cover. Pull inward the CPP switch.
2. Install the CPP switch electrical connector.
3. Install the wiring harness retainer and position the wiring harness.

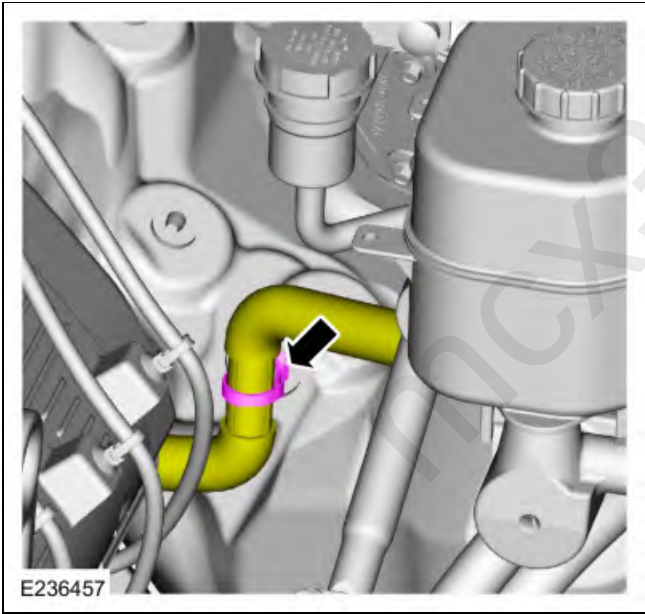


7. **NOTE:** The clutch pedal is under spring tension.

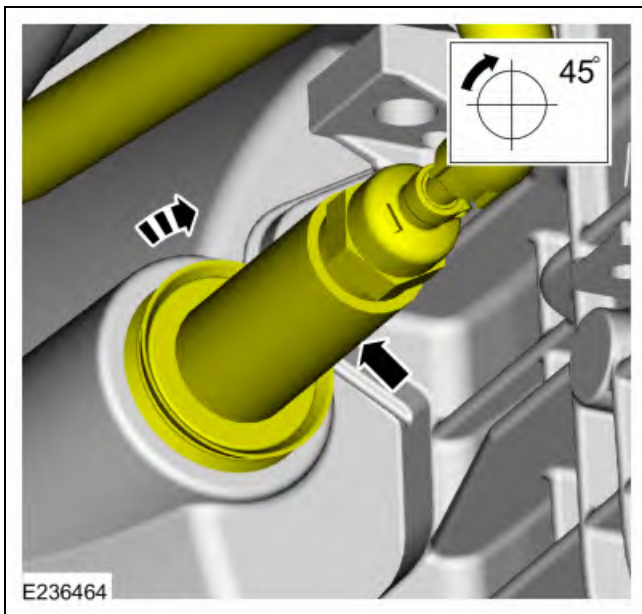
1. Position the clutch master cylinder push rod to the clutch pedal.
2. Using a new master cylinder push rod bushing lock the clutch master cylinder push rod to the clutch pedal.



8. Connect the clutch hydraulic tube to the floor pan clip and the dash clip.

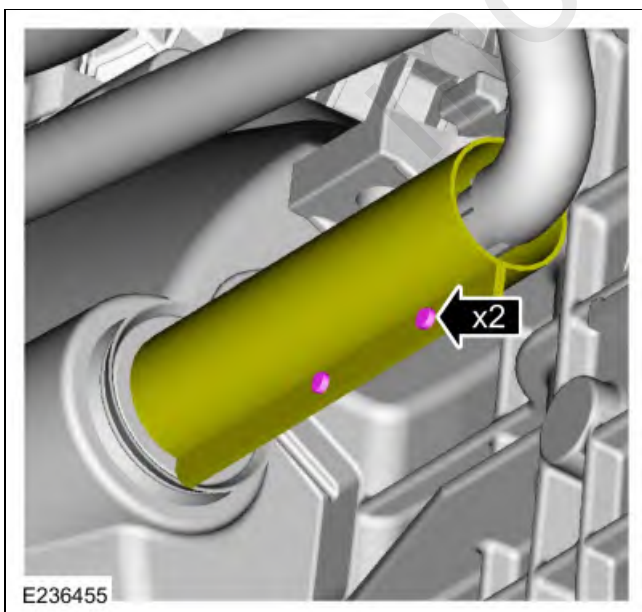


9. Install the clutch slave cylinder. Push in and rotate clockwise 45 degrees to the lock position.



10. **NOTE:** The clutch control system has a heat shield that covers most of the tube and clutch slave cylinder. Make sure to slide the heat shield forward and over the slave cylinder until it contacts the transmission case.

Slide the heat shield over the slave cylinder and attach the retainers.



11. Bleed the clutch hydraulic system.
Refer to: Clutch System Bleeding (308-02 Clutch Controls, General Procedures).
12. Test the system for normal operation.

