

## REMOVING - REFITTING : HYDRAULIC CLUTCH CONTROL

*BVM6 OR BVM5*

**URGENT** : Observe the safety and cleanliness recommendations ⓘ .

**URGENT** : Whenever you send any components of the hydraulic clutch control to the guarantee return centre, plug the openings of the components removed, so as to aid the analysis (Use the plugs that are on the new components) . There are 2 systems for linking the clutch pedal transmitter: cylindrical link ; ball-joint link.

### 1. Preliminary operation

Put the vehicle on a hoist.

Disconnect the battery.

Remove parts as necessary for removing the component(s) of the hydraulic clutch control.

### 2. Drain : Clutch control circuit

**CAUTION** : Mark the level of brake fluid in the reservoir before carrying out the operation.

There is more than one bleed system :

- Double-clip bleed system
- Screw bleed system

#### 2.1. Double-clip bleed system

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe keeping it straight and do not lever it to prevent any break.

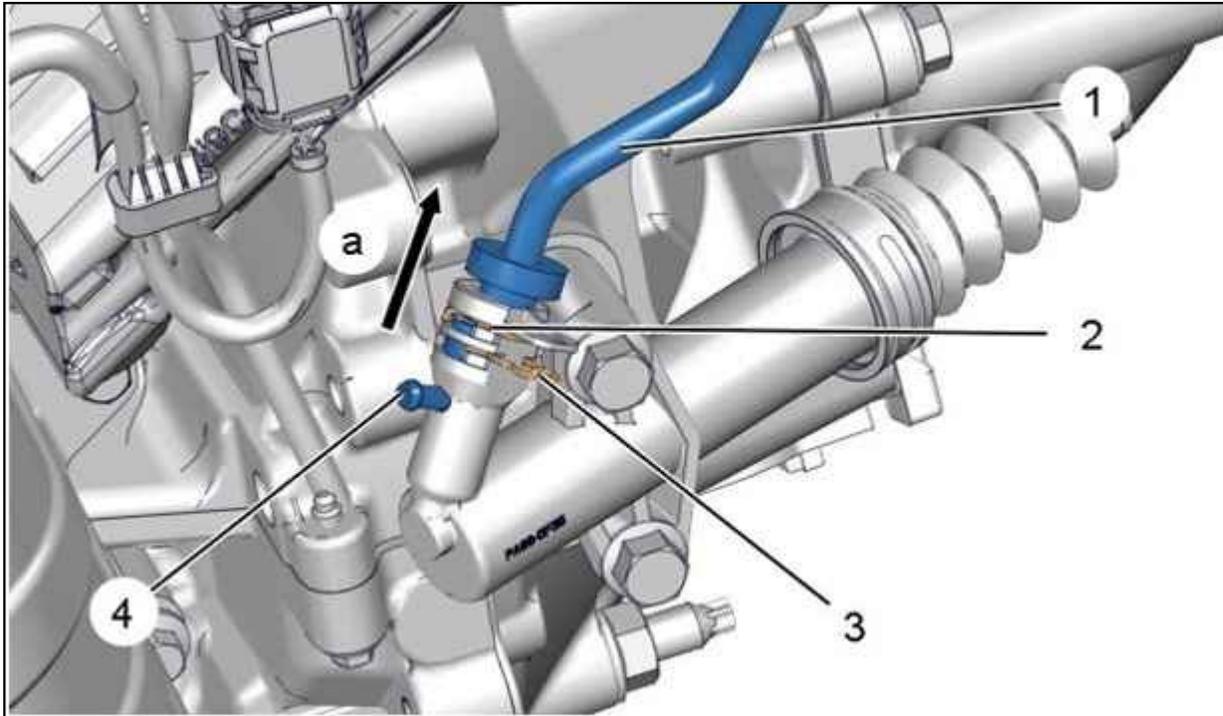


Figure : B2BG007D

Remove the protection cap from the bleed orifice (4).  
 Store the protection cap in a clean place.  
 Couple a transparent pipe onto the bleed orifice (4).

**CAUTION :** The end of the transparent pipe must be submerged into the brake fluid.

Clamp the clip (2).

**CAUTION :** The clip (2) must always remain clipped in position on the hydraulic clutch slave cylinder during the bleed.

Unclip the clip (3).  
 Pull on the hydraulic pipe (1) to free the bleed aperture (4) (following the arrow "a").  
 Allow the brake fluid to flow out by gravity.  
 Clamp the clip (3).  
 Push down on the hydraulic pipe (1) to block the bleed aperture (4) (In the opposite direction to the arrow).  
 Unclip the clip (2) (without removing it).  
 Uncouple the transparent pipe.  
 Refit the protection cap on the bleed aperture (4).

## 2.2. Screw bleed system (Quarter turn system)

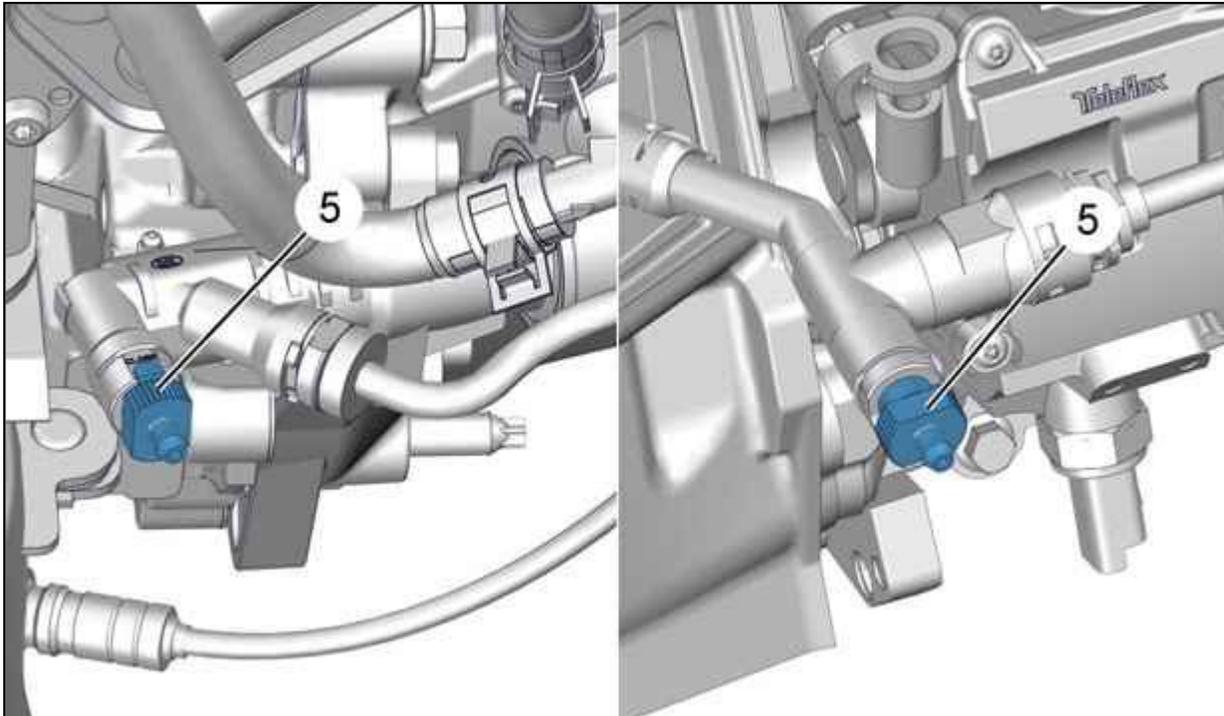


Figure : B2BG00ED

Remove : The protection cap on the bleed screw (5).  
Store the protection cap in a clean place.  
Couple a transparent tube on the bleed screw (5).

**CAUTION :** The end of the transparent pipe must be submerged into the brake fluid.

Rotate the bleed screw (5) a quarter turn (Clockwise).  
Allow the brake fluid to flow out by gravity.  
Close the bleed screw (5) (Anti-clockwise).  
Uncouple the transparent pipe.  
Refit the protection cap on the bleed screw (5).

### **2.3. Screw bleed system (6-sided screw system)**

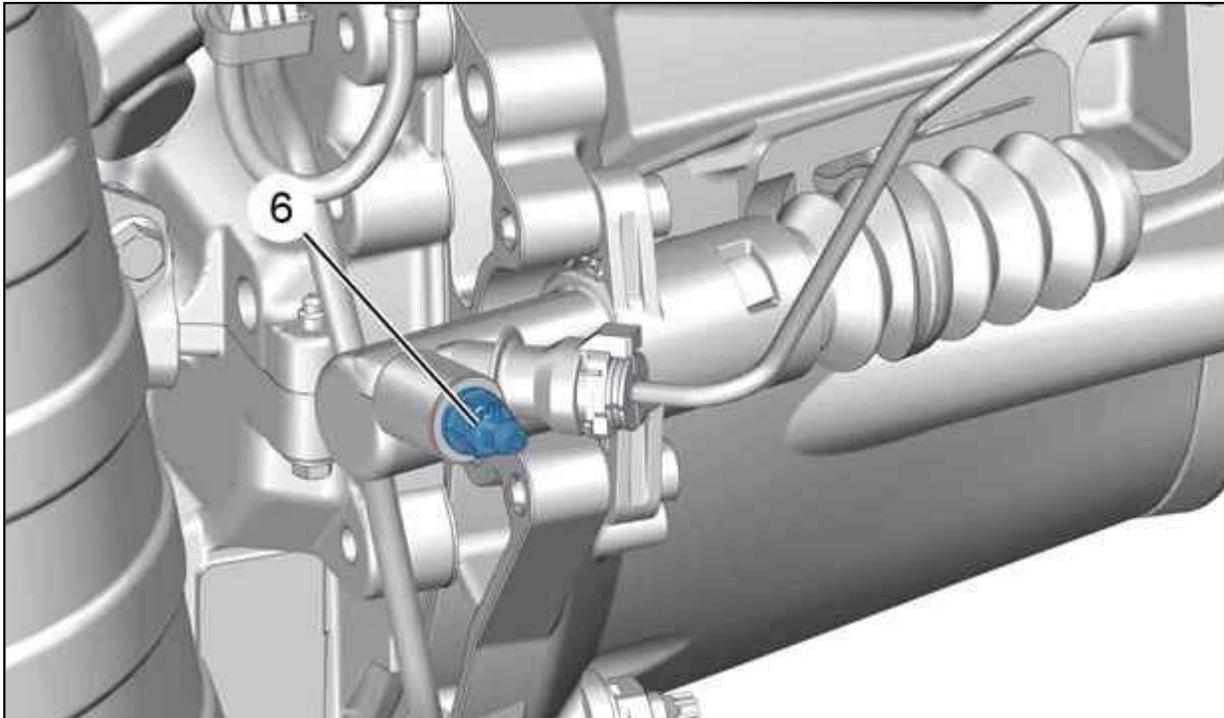


Figure : B2BG00FD

Remove : The protection cap on the bleed screw (6).  
Store the protection cap in a clean place.  
Couple a transparent tube on the bleed screw (6).

**CAUTION** : The end of the transparent pipe must be submerged into the brake fluid.

Turn the bleed screw (6) (Anti-clockwise).  
Allow the brake fluid to flow out by gravity.  
Close the bleed screw (6) (Clockwise).  
Uncouple the transparent pipe.  
Refit the protection cap on the bleed screw (6).

### 3. Hydraulic control master cylinder with cylindrical link on the clutch pedal

#### 3.1. Removing

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe keeping it straight and do not lever it to prevent any break.

**CAUTION** : Do not break the lugs on the end of the rod of the clutch hydraulic control master cylinder.

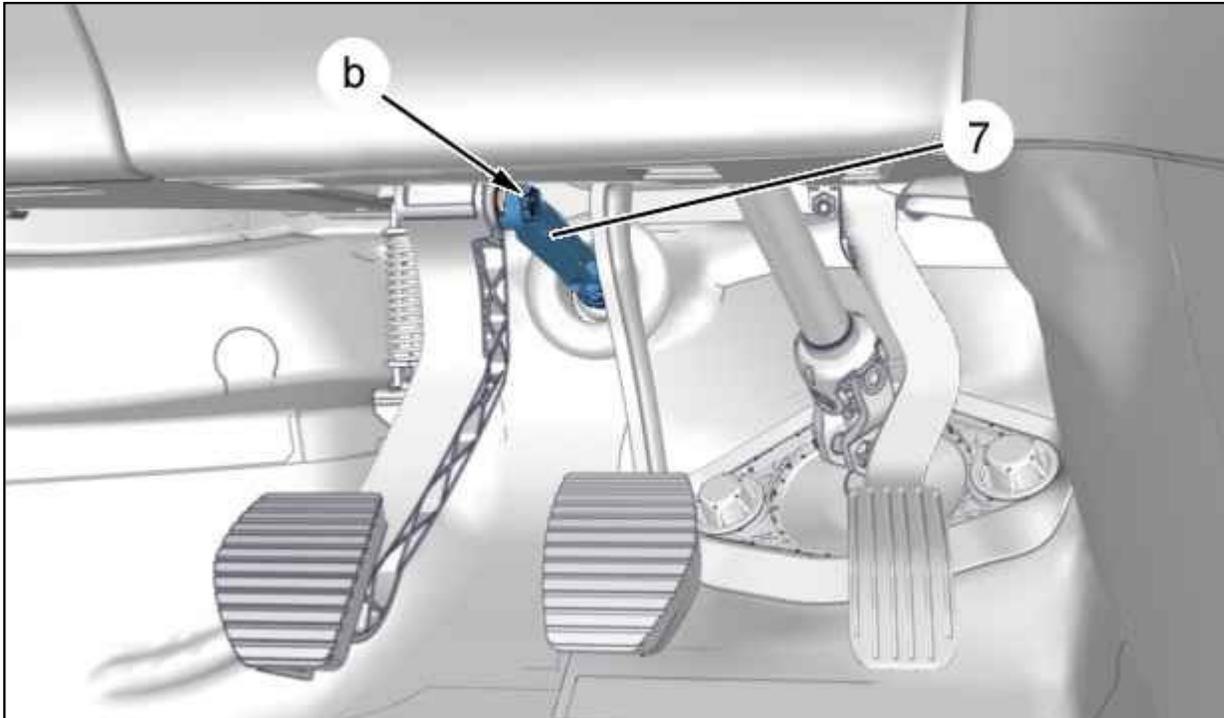


Figure : B2BG00GD

Unclip the rod (7) from the hydraulic clutch master cylinder (at "b").

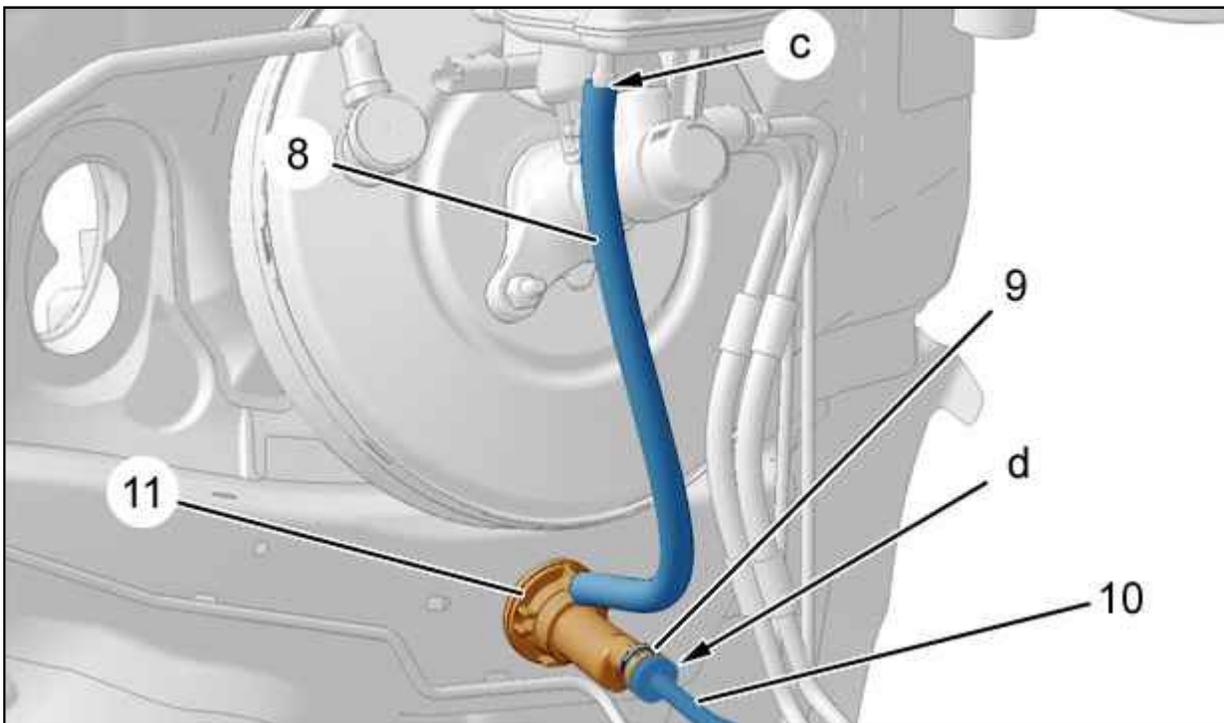


Figure : B2BG00HD

**CAUTION** : Prepare for the flow of brake fluid. Use a cloth.

Uncouple : The supply pipe (8) (at "c").

Plug the opening of the brake fluid reservoir (at "c") ; With a clean cap.

Unclip the clip (9).

Uncouple the hydraulic pipe (10) (at "d").

Unlock the hydraulic clutch control master cylinder (11) (Rotate an eighth turn clockwise).

Remove the hydraulic clutch control master cylinder (11).

### 3.2. Refitting

**CAUTION :** When coupling it, handle the hydraulic pipe (10) keeping it straight and not levering it to prevent any break.

Lightly lubricate the connection between the rod (7) of the hydraulic clutch master cylinder (11) and the pedal bracket ; Using G7 grease.

Refit the hydraulic clutch control master cylinder (11).

Lock the hydraulic clutch control master cylinder (11) (Rotate an eighth turn anti-clockwise).

Clamp the clip (9).

Couple up :

- The hydraulic pipe (10) (at "d")
- The supply pipe (8) (at "c")

Clip the rod (7) of the hydraulic clutch master cylinder (11) (at "b").

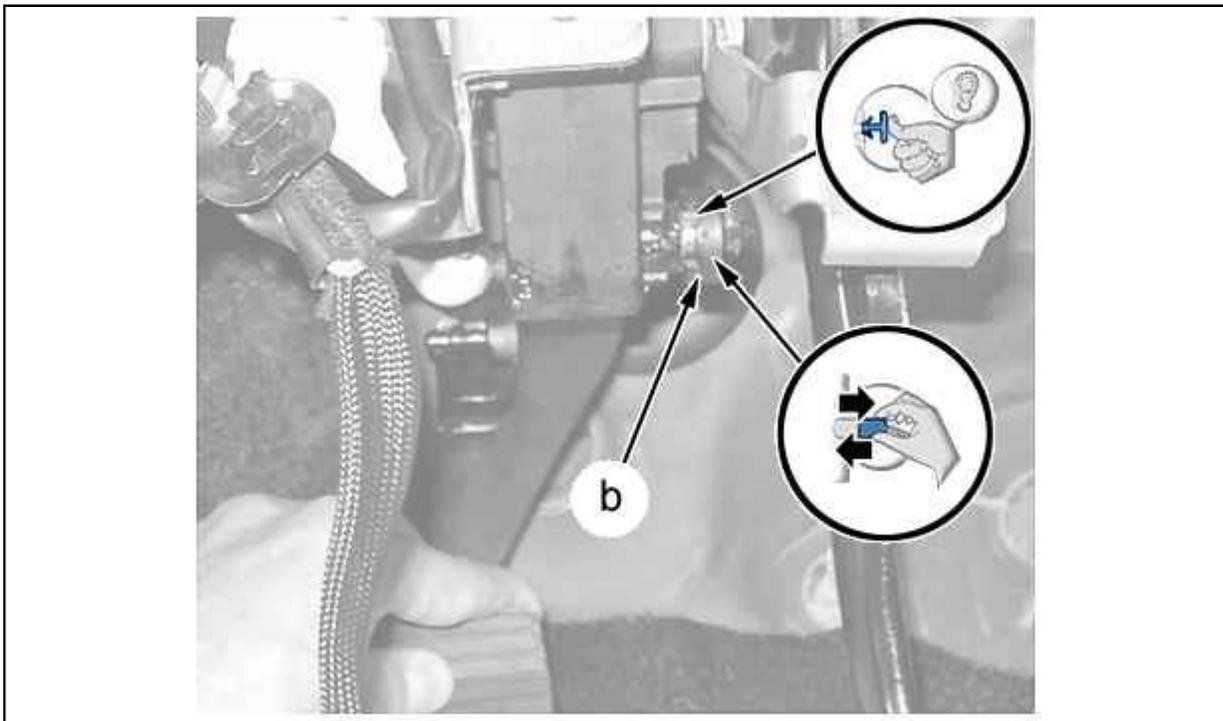


Figure : B2BG00ID

Clip the rod (7) of the hydraulic clutch master cylinder (11) (at "b").

Check the clipping of the rod (7) of the hydraulic clutch control master cylinder (11) (at "b") (Pull-push).

## 4. Hydraulic control master cylinder with ball-joint link on the clutch pedal

### 4.1. Removing

**N.B. :** First assembly.

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe (10) keeping it straight and do not lever it to prevent any break.

**CAUTION** : Do not break the lugs on the end of the rod of the clutch hydraulic control master cylinder (11).

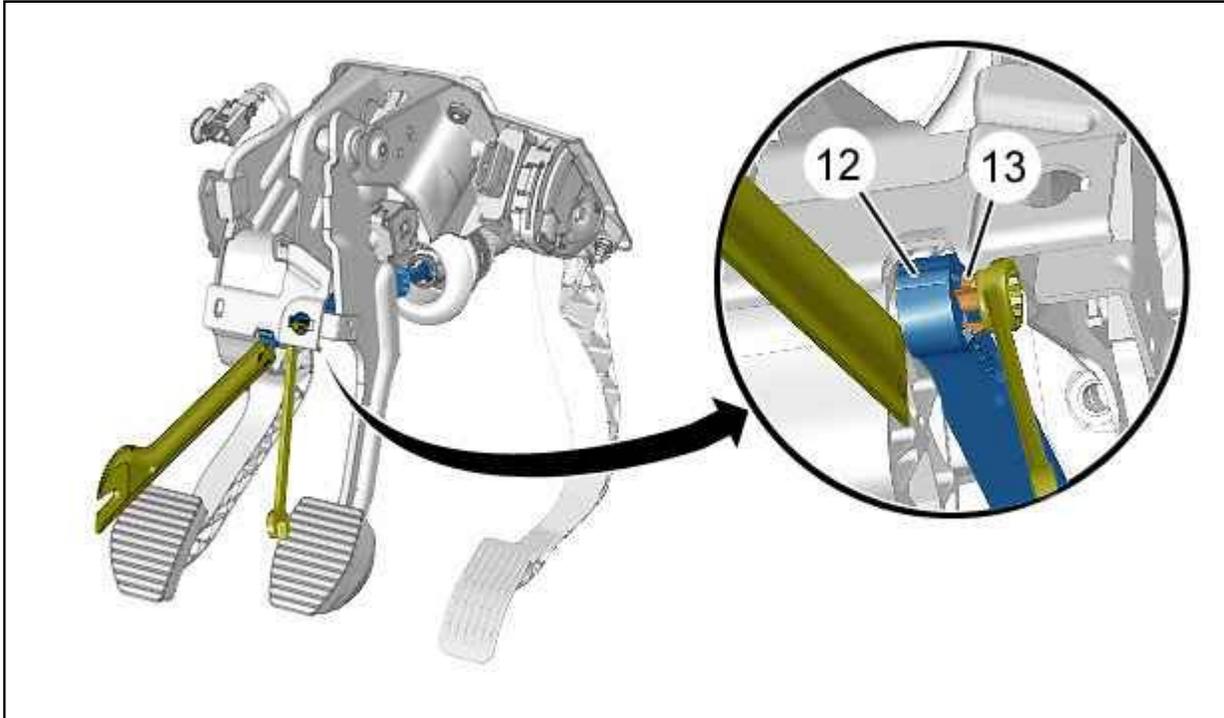


Figure : B2BG00JD

Carry out the following operations simultaneously :

- Pinch together the lugs of the locking clip (13) ; Using a ring spanner no. 10
- Move aside the rod (12) from the pedal gear ; Using a plastic pallet

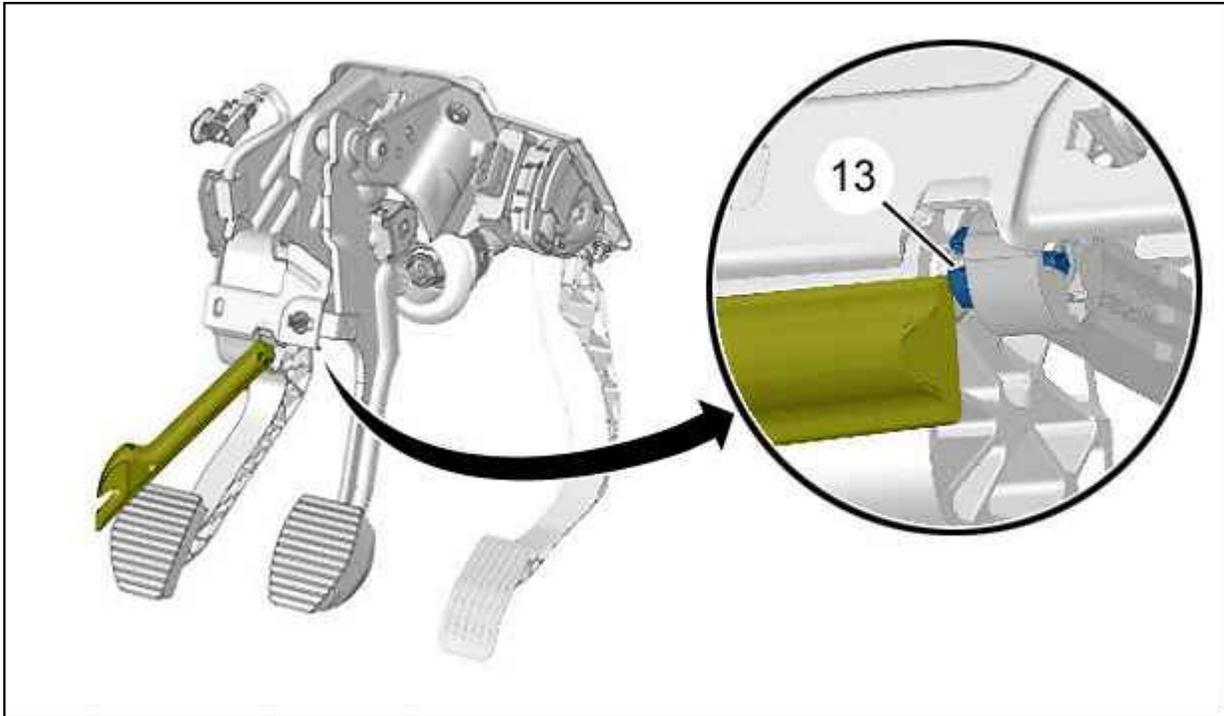


Figure : B2BG00KD

Release the locking clip (13) from the pedal bracket ; Using a plastic pallet.

**N.B. :** Second assembly.

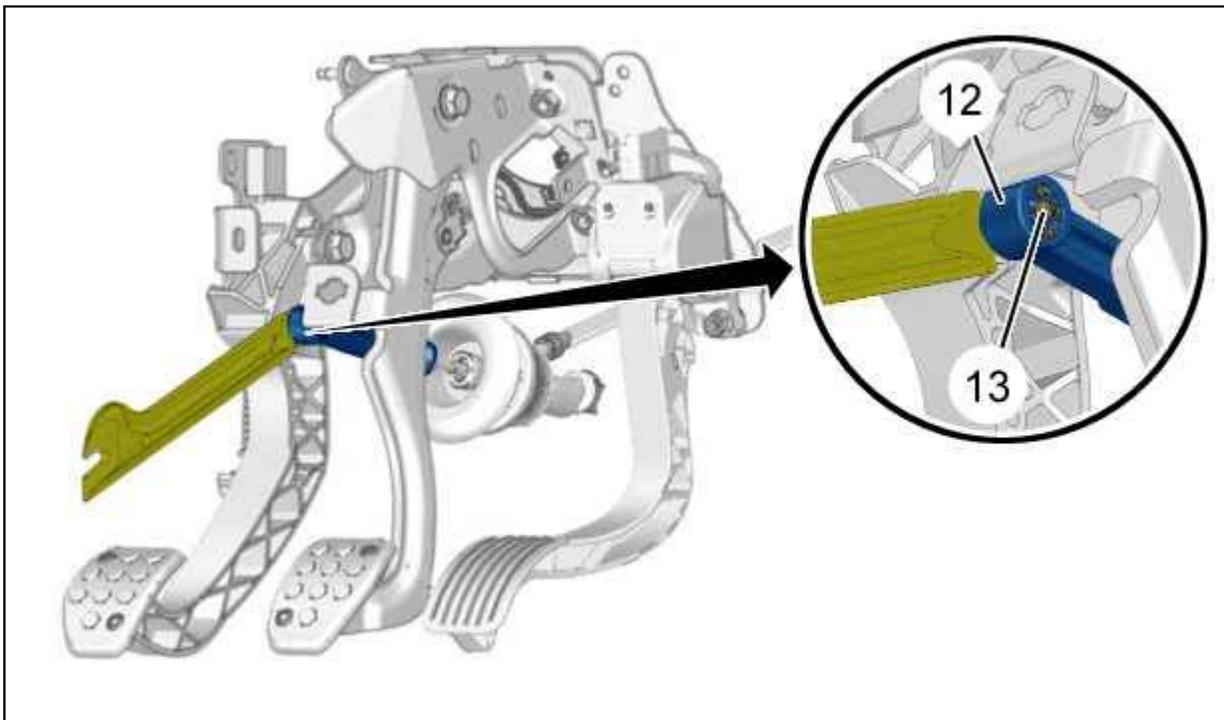


Figure : B2BG05RD

Press on the locking clip (13).

Disconnect the rod (12) of the hydraulic clutch control master cylinder from the pedal bracket ; Using a plastic pallet.

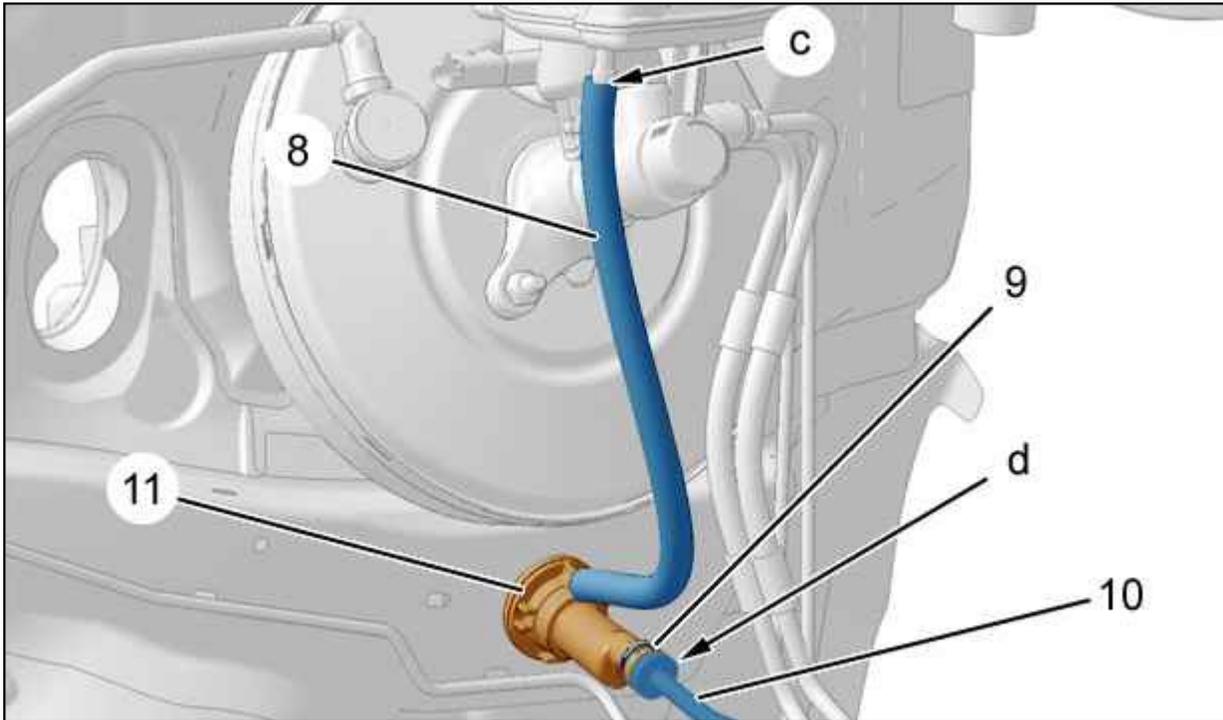


Figure : B2BG00HD

**CAUTION** : Prepare for the flow of brake fluid. Use a cloth.

Uncouple : The supply pipe (8) (at "c").

Plug the opening of the brake fluid reservoir (at "c") ; With a clean cap.

Unclip the clip (9).

Uncouple the hydraulic pipe (10) (at "d").

Unlock the hydraulic clutch control master cylinder (11) (Rotate an eighth turn clockwise).

Remove the hydraulic clutch control master cylinder (11).

## 4.2. Refitting

**CAUTION** : When coupling it, handle the hydraulic pipe (10) keeping it straight and not levering it to prevent any break.

Refit the hydraulic clutch control master cylinder (11).

Lock the hydraulic clutch control master cylinder (11) (Rotate an eighth turn anti-clockwise).

**N.B.** : First assembly.

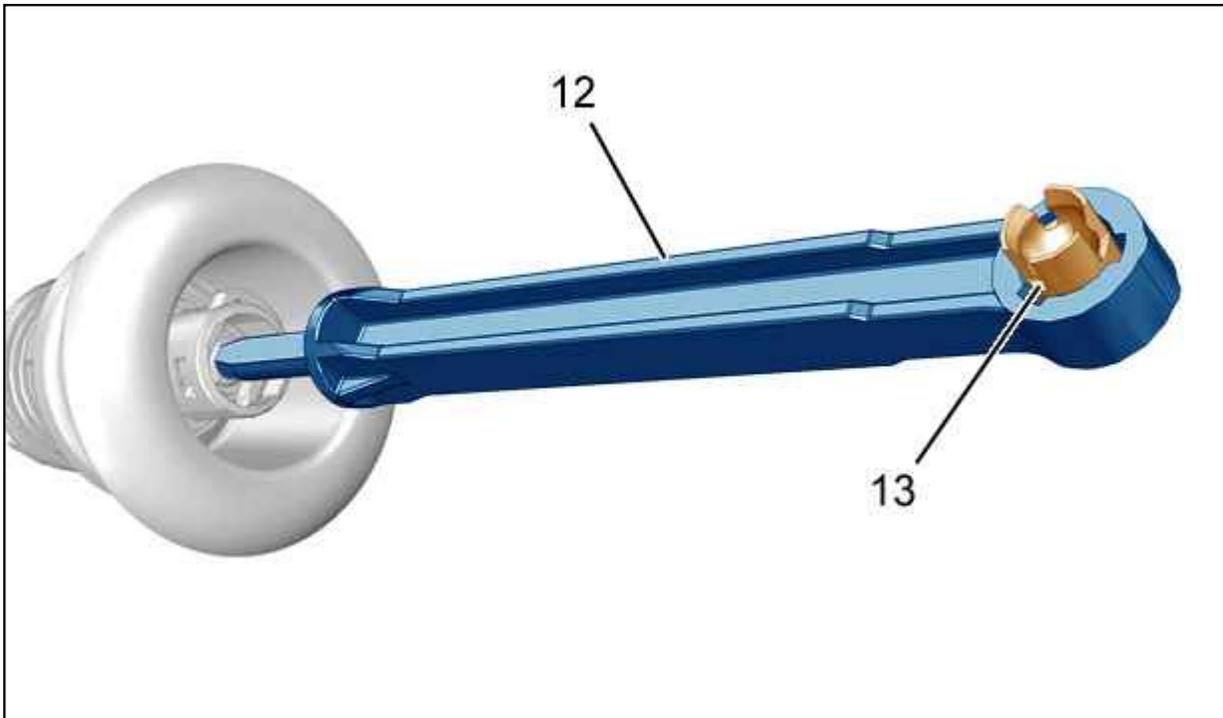


Figure : B2BG00ND

**N.B.** : Check that the locking clip (13) of the new clutch hydraulic master cylinder (11) is in the position above.

**N.B.** : Second assembly.

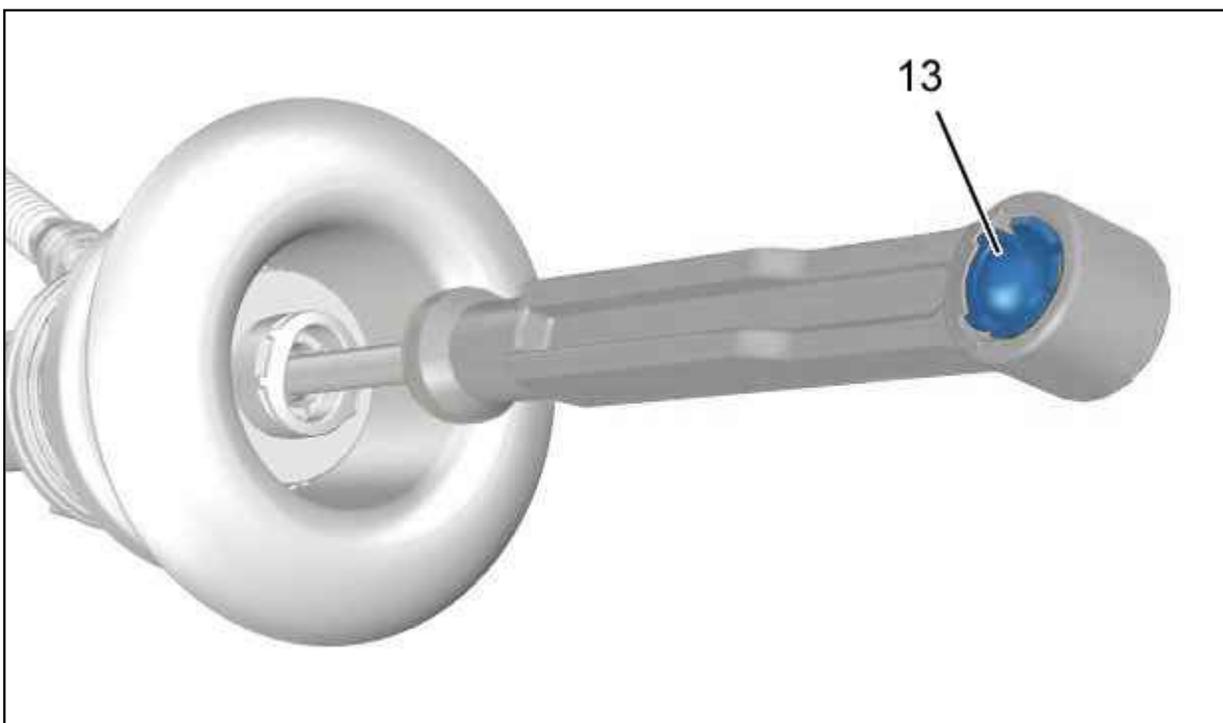


Figure : B2BG05TD

**N.B.** : Check that the locking clip (13) on the new hydraulic clutch control master cylinder is in the position above.

Clamp the clip (9).

Couple up :

- The hydraulic pipe (10) (at "d")
- The supply pipe (8) (at "c")

Clip :

- The locking clip (13) on the pedal bracket
- The rod (12) of the clutch hydraulic master cylinder (11) onto the locking clip (13)

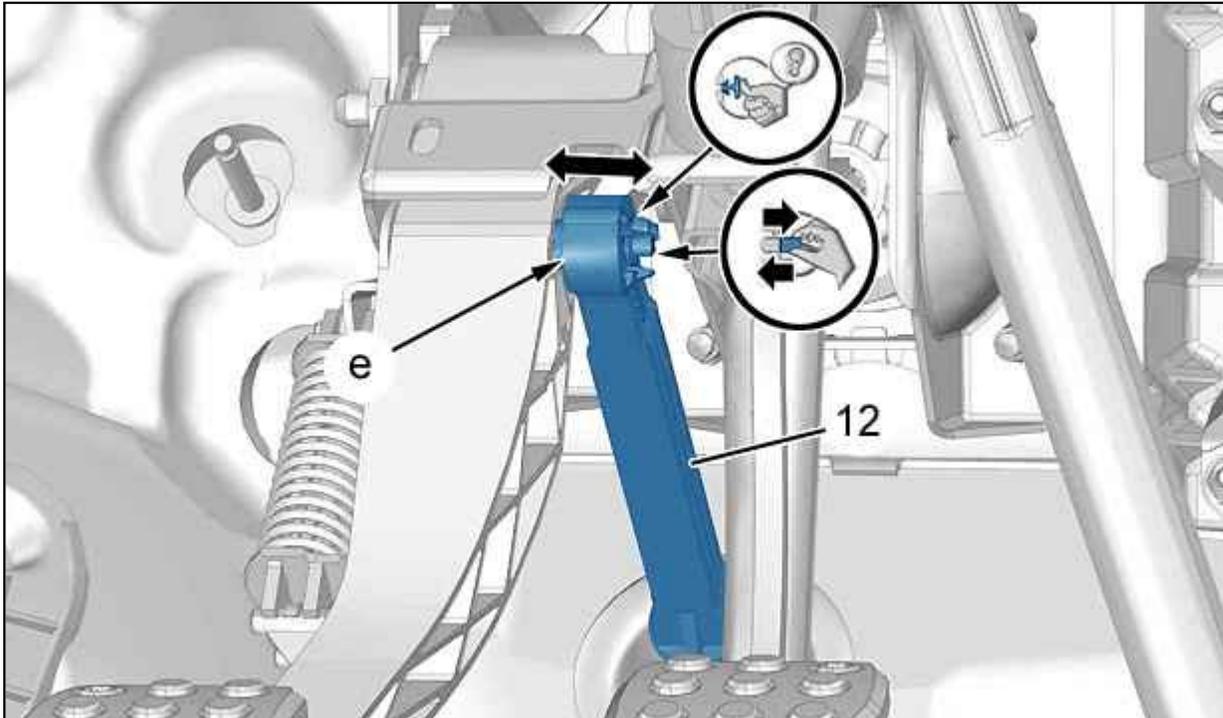


Figure : B2BG00QD

Check the clipping of the rod (12) of the hydraulic clutch control master cylinder (11) (at "e") (Pull-push).

## 5. Hydraulic clutch control slave cylinder (Double-clip bleed system)

### 5.1. Removing

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe (1) keeping it straight and do not lever it to prevent any break.

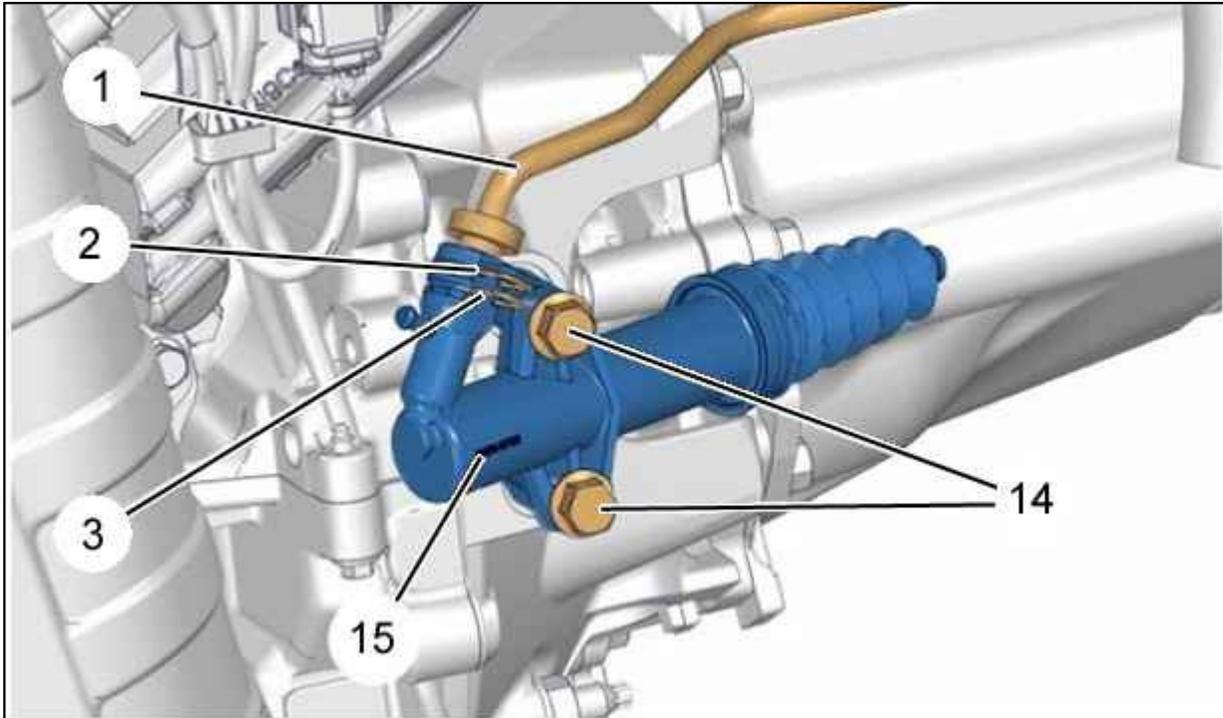


Figure : B2BG00UD

**CAUTION** : Prepare for the flow of brake fluid. Use a cloth.

Unclip the clips (2), (3) (Without removing).

Uncouple the hydraulic pipe (1).

Remove :

- The 2 bolts (14)
- The hydraulic clutch control slave cylinder (15)

## 5.2. Refitting

**CAUTION** : Adhere to the tightening torques.

**CAUTION** : When coupling it, handle the hydraulic pipe (1) keeping it straight and not levering it to prevent any break.

Lightly lubricate the connection between the rod of the hydraulic clutch slave cylinder (15) and the clutch fork ; Using G12 grease.

Fit :

- The hydraulic clutch control slave cylinder (15)
- The 2 bolts (14) (New bolts)

Refit the clips (2), (3).

Connect the hydraulic pipe (1).

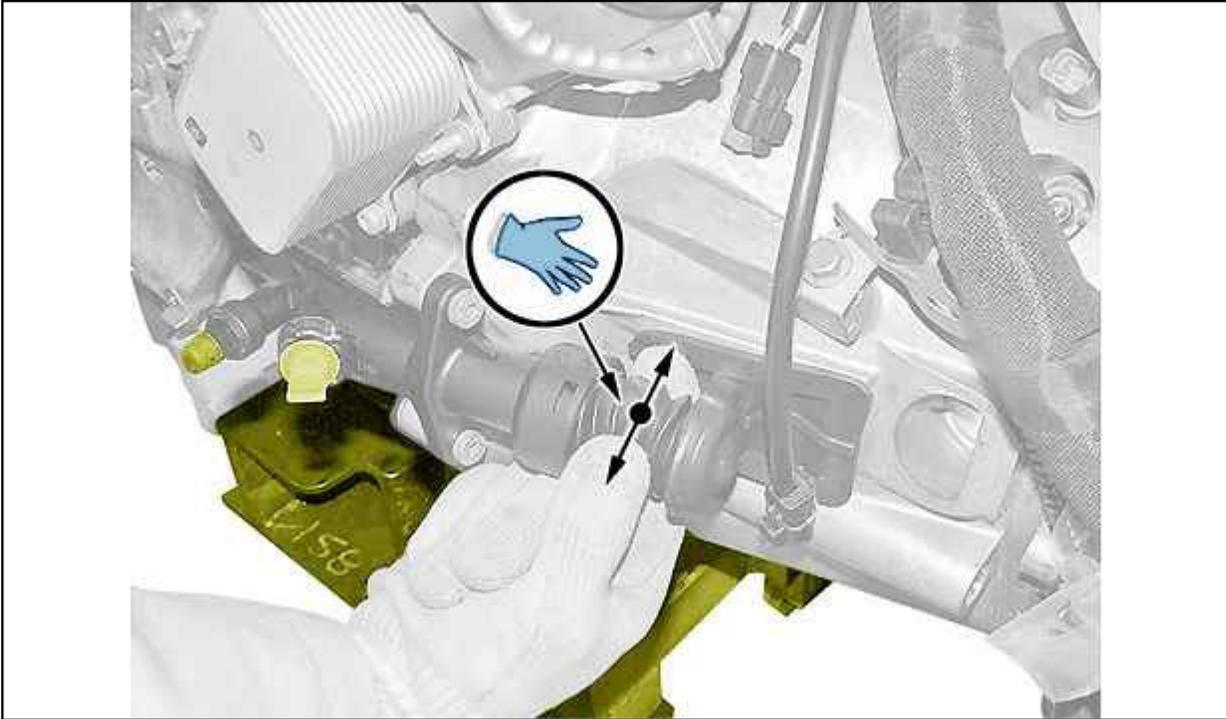


Figure : B2BG00VD

Check the position of the rod of the hydraulic clutch slave cylinder (15) in the clutch fork.

## 6. Hydraulic clutch control slave cylinder (Screw bleed system)

### 6.1. Removing

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe keeping it straight and do not lever it to prevent any break.

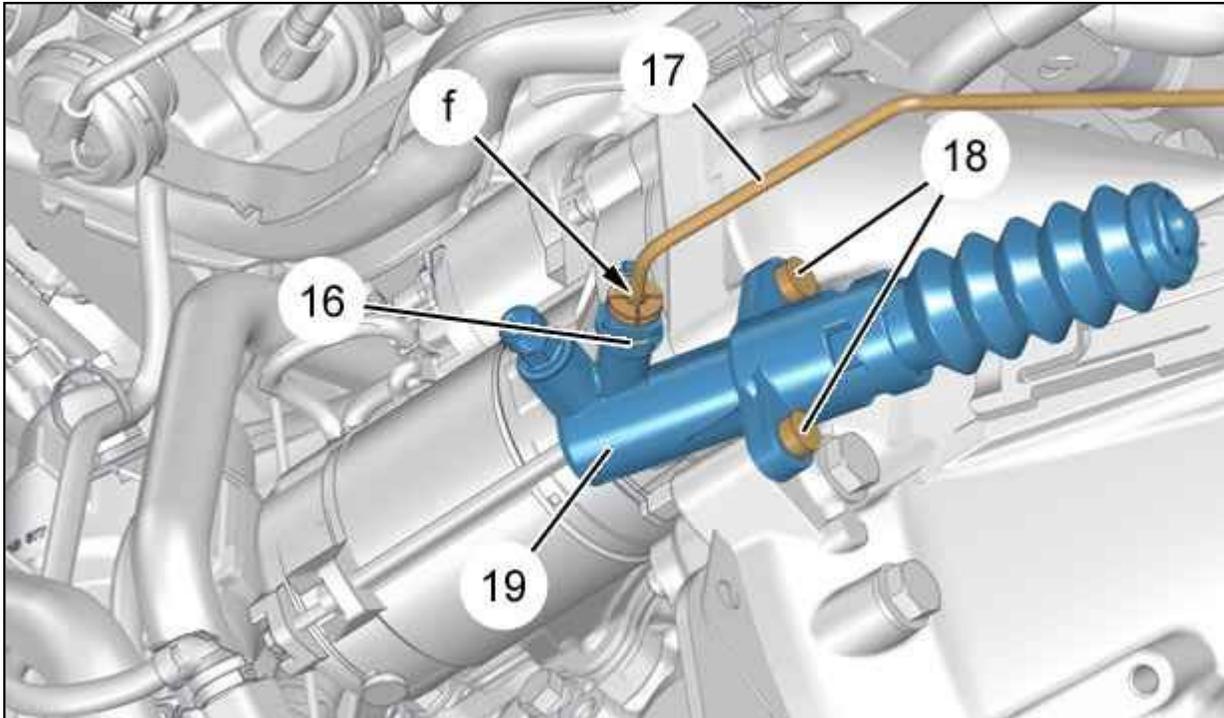


Figure : B2BG00WD

**CAUTION** : Prepare for the flow of brake fluid .Use a cloth.

Unclip the clip (16) (Without removing).  
 Uncouple the hydraulic pipe (17) (at "f").  
 Remove :

- The 2 bolts (18)
- The hydraulic clutch control slave cylinder (19)

## 6.2. Refitting

**CAUTION** : Adhere to the tightening torques.

**CAUTION** : When coupling it, handle the hydraulic pipe (17) keeping it straight and not levering it to prevent any break.

Lightly lubricate the connection between the rod of the hydraulic clutch slave cylinder (19) and the clutch fork ; Using G12 grease.

Fit :

- The hydraulic clutch control slave cylinder (19)
- The 2 bolts (18) (New bolts)

Clamp the clip (16).  
 Connect the hydraulic pipe (17) (at "f").

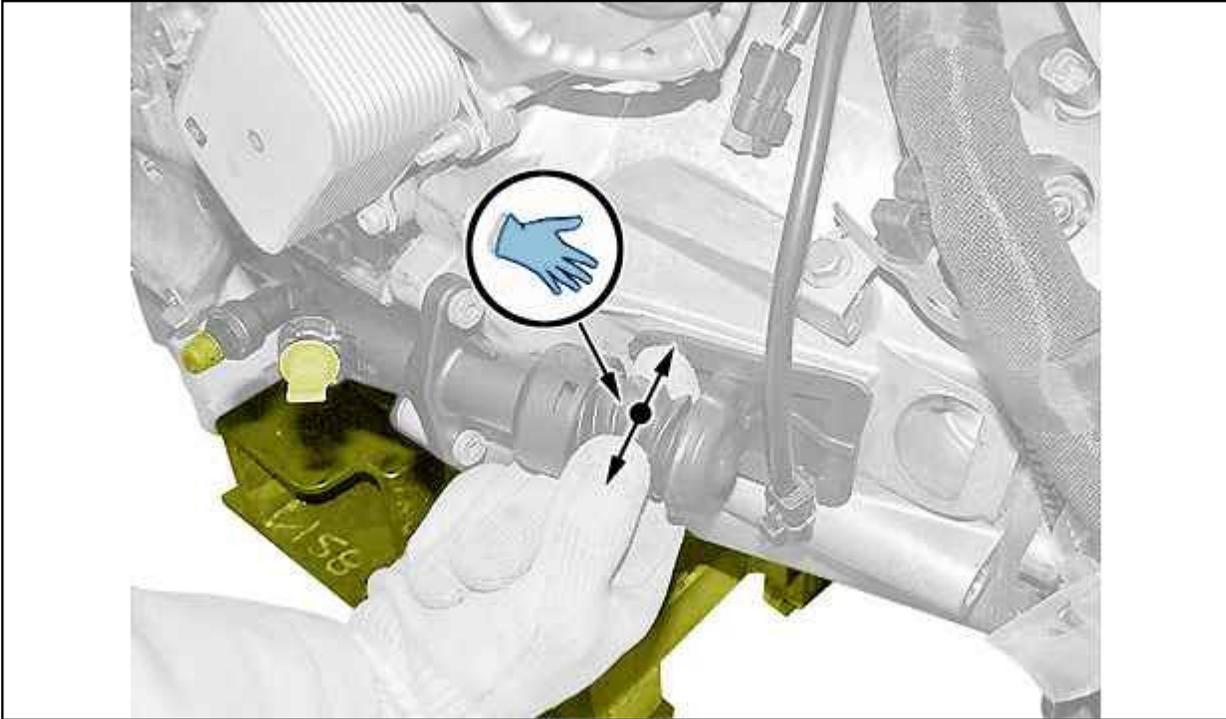


Figure : B2BG00XD

Check the position of the rod of the hydraulic clutch slave cylinder (19) in the clutch fork.

## 7. Fitting with hydraulic stop

### 7.1. Removing

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe keeping it straight and do not lever it to prevent any break.

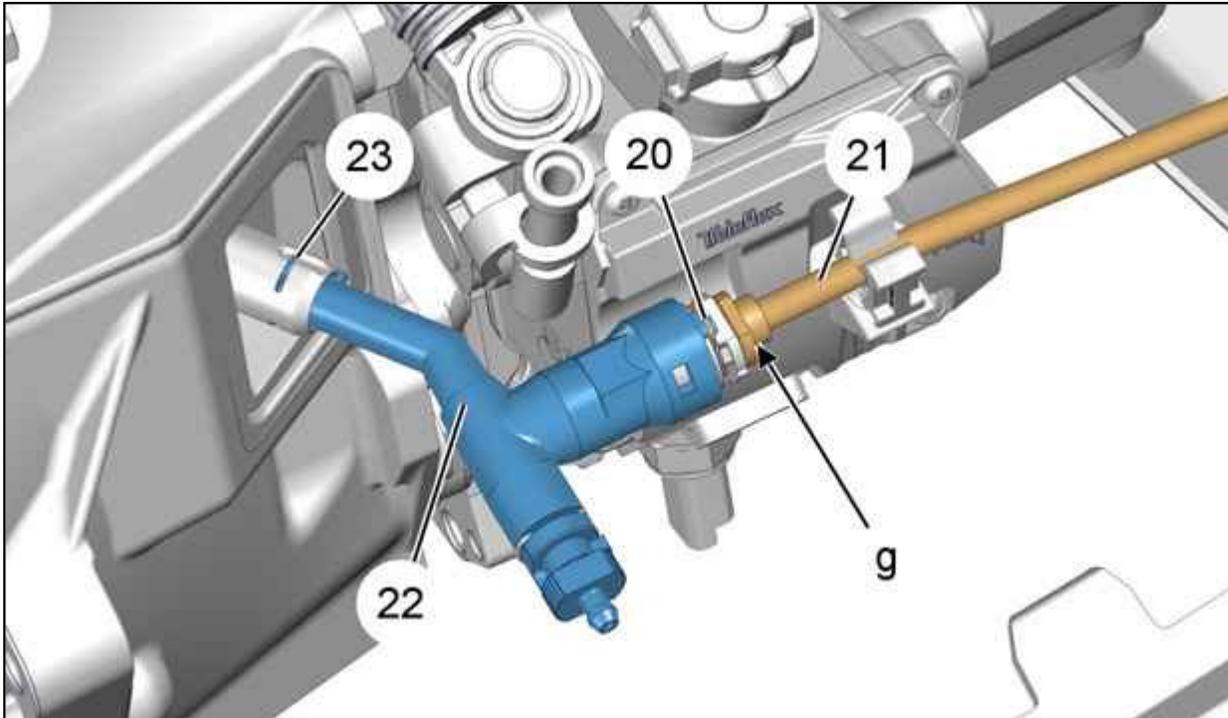


Figure : B2BG00ZD

Unclip the clip (20) (Without removing).  
Uncouple the hydraulic pipe (21) (at "g").

Remove :

- The clip (23)
- The bleed union (22)
- The gearbox

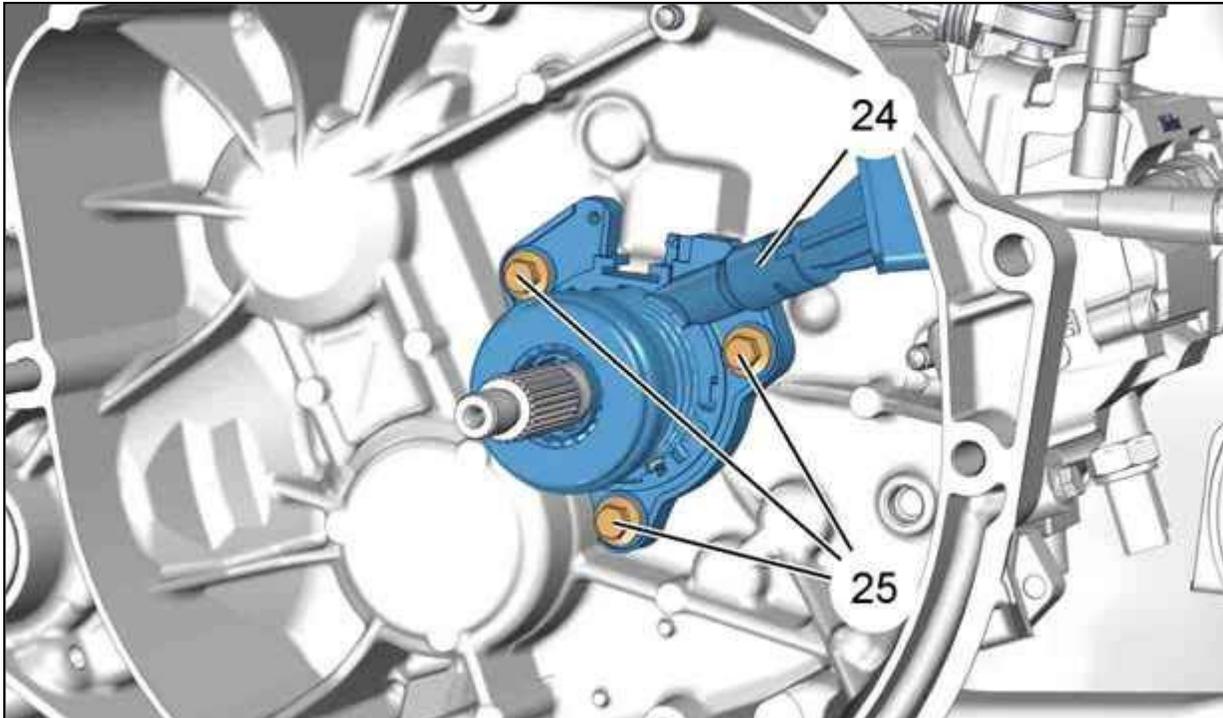


Figure : B2BG010D

Remove :

- The bolts (25)
- The hydraulic stop (24)

## 7.2. Refitting

**CAUTION** : Adhere to the tightening torques.

**CAUTION** : When coupling it, handle the hydraulic pipe (21) keeping it straight and not levering it to prevent any break.

Fit :

- The hydraulic stop (24)
- The bolts (25)
- The gearbox
- The bleed union (22)
- The clip (23)

Clamp the clip (20).

Connect the hydraulic pipe (21) (at "g").

## 8. Hydraulic clutch pipe

**CAUTION** : When reconnecting and disconnecting it, handle the hydraulic pipe (10) keeping it straight and do not lever it to prevent any break.

**N.B.** : There are 2 connection systems between the hydraulic pipe (10) and the hydraulic clutch slave cylinder (11).

### 8.1. Removing : Hydraulic clutch control master cylinder end

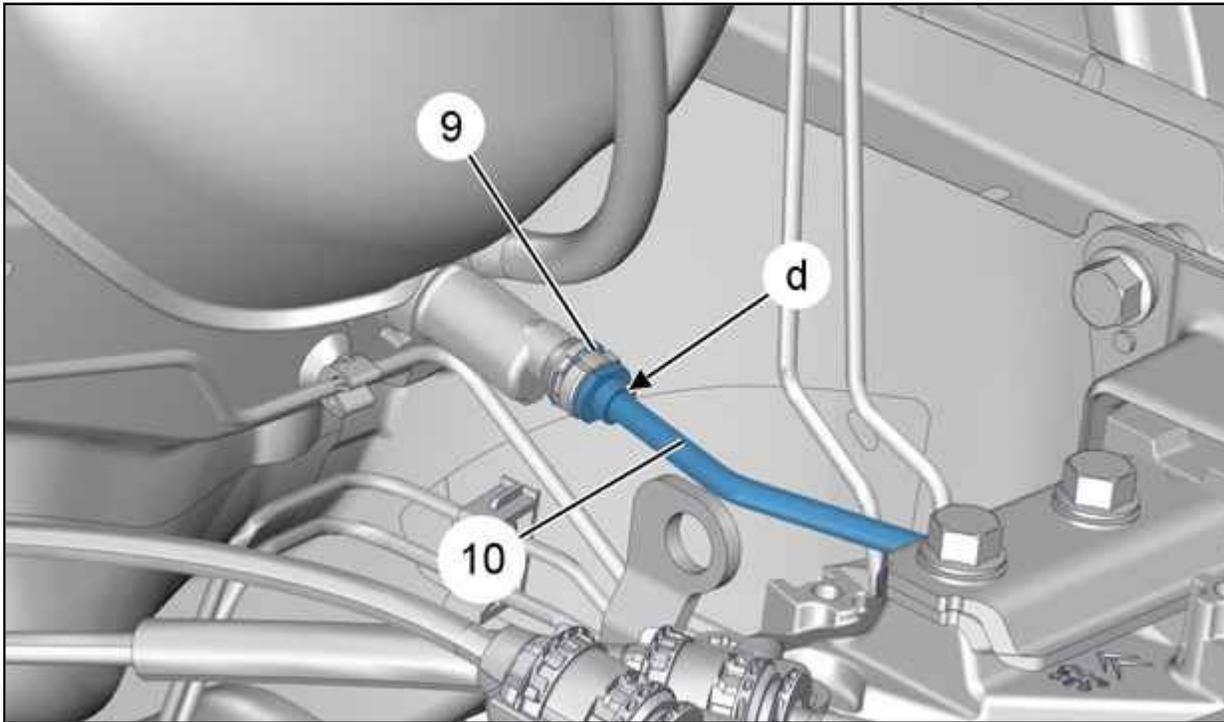


Figure : B2BG011D

Unclip the clip (9) (Without removing).  
Uncouple the hydraulic pipe (10) (at "d").

### 8.2. Removing : Hydraulic clutch control slave cylinder end (Double-clip bleed system)

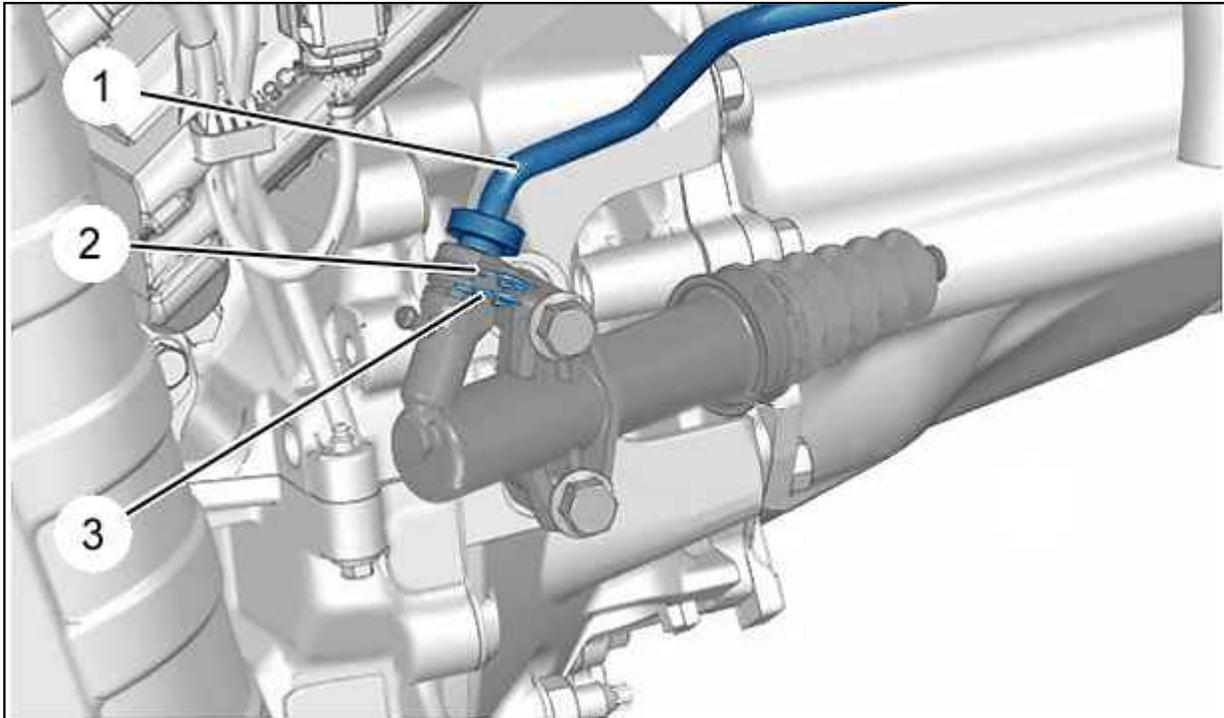


Figure : B2BG012D

**CAUTION** : Prepare for the flow of brake fluid. Use a cloth.

Unclip the clips (2), (3) (Without removing).  
Uncouple the hydraulic pipe (1).

### **8.3. Removing : Hydraulic clutch control slave cylinder end (Screw bleed system)**

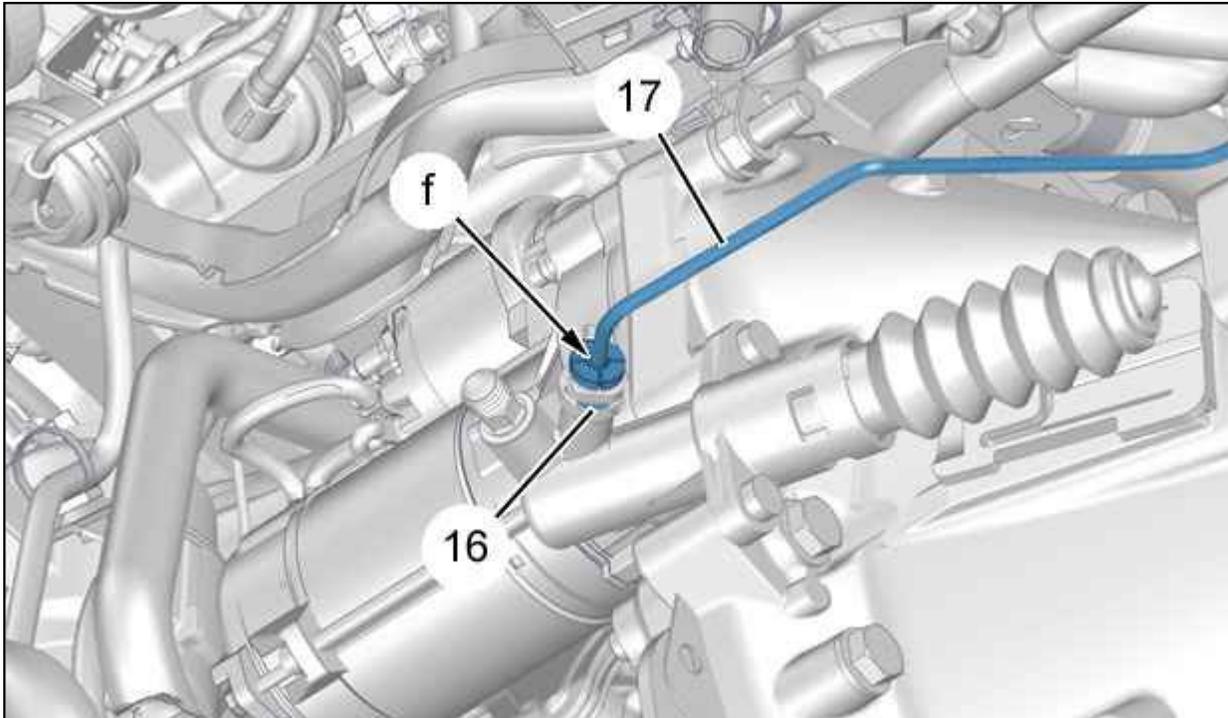


Figure : B2BG013D

**CAUTION** : Prepare for the flow of brake fluid. Use a cloth.

Unclip the clip (16) (Without removing).  
Uncouple the hydraulic pipe (17) (at "f").

#### **8.4. Removing : Hydraulic stop bleed union end**

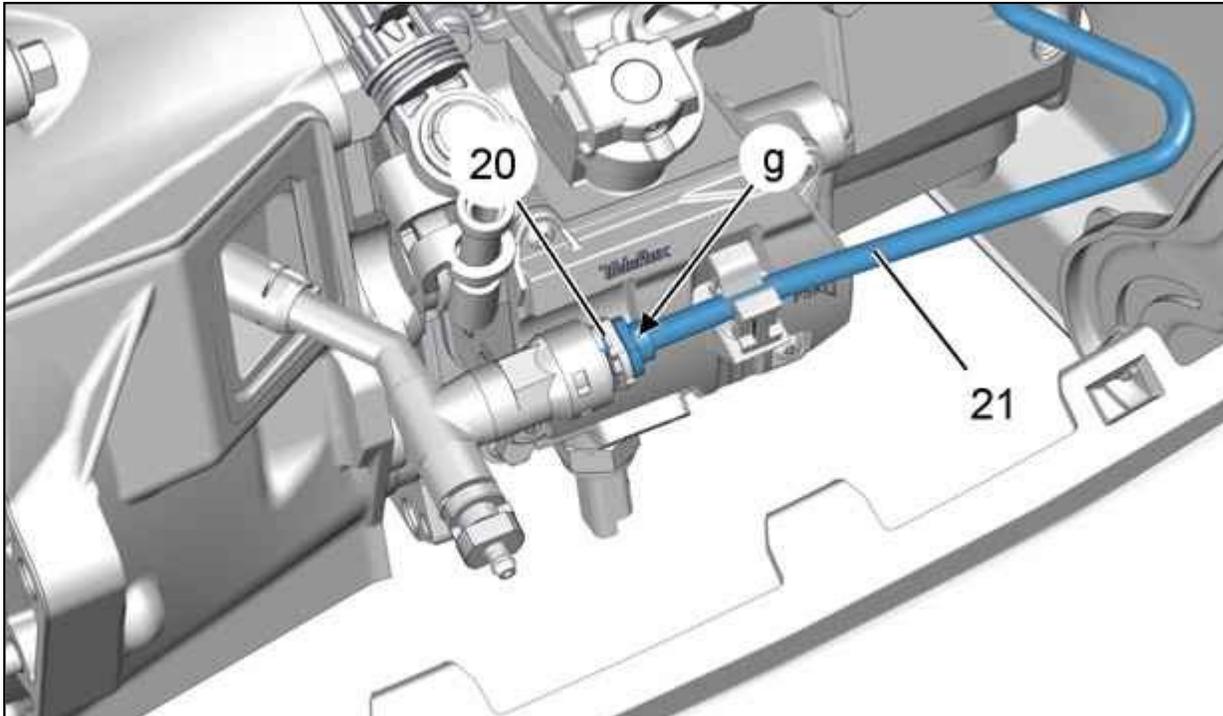


Figure : B2BG014D

Unclip the clip (20) (Without removing).  
 Uncouple the hydraulic pipe (21) (at "g").

### 8.5. Refitting

**CAUTION :** When coupling it, handle the hydraulic pipe (21) keeping it straight and not levering it to prevent any break.

On the bleed union for hydraulic stop (24) :

- Clamp the clip (20)
- Connect the hydraulic pipe (21) (at "g")

Hydraulic clutch control slave cylinder end (22) (Screw bleed system) :

- Clamp the clip (16)
- Connect the hydraulic pipe (17) (at "f")

Hydraulic clutch control slave cylinder end (15) (Double-clip bleed system) :

- Clamp the clip (3)
- Connect the hydraulic pipe (1)

Hydraulic clutch control master cylinder end (11) :

- Clamp the clip (9)
- Connect the hydraulic pipe (10) (at "d")

### 9. Refitting (Continued)

Bleed the clutch hydraulic control.

Refit the parts that were removed for removal of the component(s) of the hydraulic clutch control.

Return the vehicle to its wheels.

**CAUTION** : Perform the operations to be carried out following reconnection of the battery.

Connect the battery.

**CAUTION** : Check that the bleed opening is correctly closed by operating the clutch pedal several times and checking that there are no leaks or seeping (risk of vehicle fire in the event of a leak).