

# Valve Block to Front Stabilizer Bar Actuator Pipe Assembly

## Special Service Tools



Ball joint separator  
205-754 (LRT-54-027)

## Removal



**CAUTION:** Dynamic Response system components are manufactured to very precise tolerances. It is therefore essential that absolute cleanliness is observed when working with these components. Always install blanking plugs to any open orifices or lines. Failure to follow this instruction may result in foreign matter ingress to the Dynamic Response system.

1



**WARNING:** Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

Raise and support the vehicle.

2. Remove the rear bumper cover.  
For additional information, refer to [Rear Bumper Cover \(76.22.74\)](#)
3. Remove the spare wheel and tire.
4. Remove the engine undershield.  
For additional information, refer to [Engine Undershield \(76.10.50\)](#)

5



**CAUTION:** Before disconnecting or removing the components, ensure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.



**CAUTION:** Make sure the actuator fluid lines are not damaged or kinked during removal or installation.

### NOTE:

Some fluid spillage is inevitable during this operation.

Disconnect the fluid lines from the actuator.

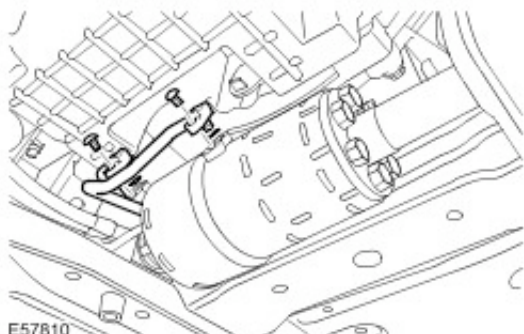


Position container to collect fluid loss.



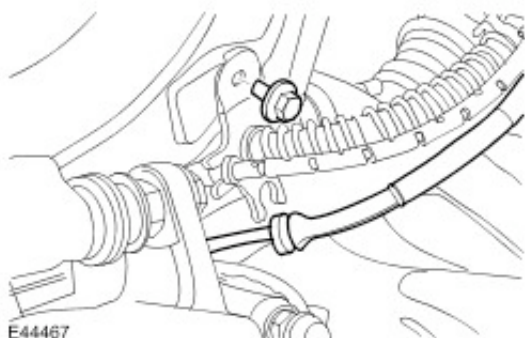
Remove the 2 bolts.


- ▶ Remove and discard the O-ring seals.
- ▶ Remove and discard the plastic spacer washers.
- ▶ Install blanking caps to the exposed ports.



- 6 . Remove the front wheels and tires.
- 7 . RH front: Remove the shock absorber and air spring assembly.  
For additional information, refer to [Front Shock Absorber and Air Spring Assembly \(60.21.01.99\)](#)
- 8 . Release the brake hose bracket from the wheel knuckle.

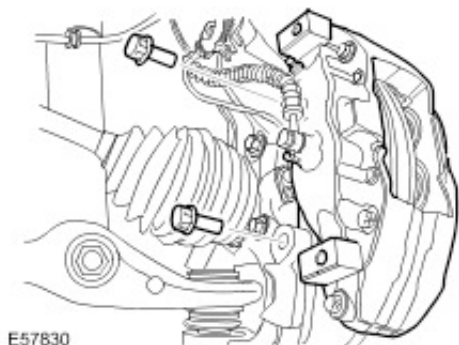
- ▶ Remove the retaining bolt.



- 9 .  **CAUTION: Do not allow the brake caliper to hang on the brake hose.**

Release the brake caliper from the wheel knuckle.

- ▶ Remove the 2 retaining bolts.
- ▶ Tie the brake caliper aside.

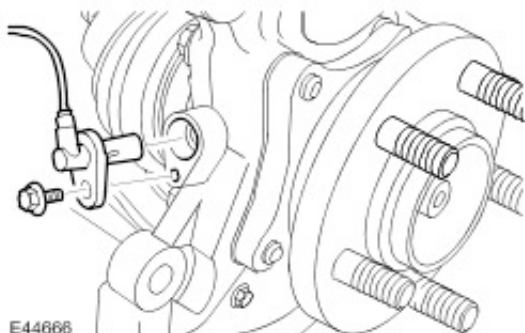


10 . **NOTE:**

The brake disc is shown removed for clarity.

Release the wheel speed sensor from the wheel knuckle.

 Remove the bolt.



11




**CAUTION:** Note the position of the hardened steel washer. The hardened steel washer must be installed between the stabilizer bar link and the upper arm. Failure to follow this instruction may result in damage to the vehicle.



**CAUTION:** Use a Torx socket to prevent the ball joint rotating whilst removing the nut.

Remove the stabilizer bar link nut.

 Discard the nut.


12



**CAUTION:** To prevent the wheel knuckle falling outwards and disconnection of the halfshaft inner joint, support the wheel knuckle.


Loosen the upper arm retaining nut.

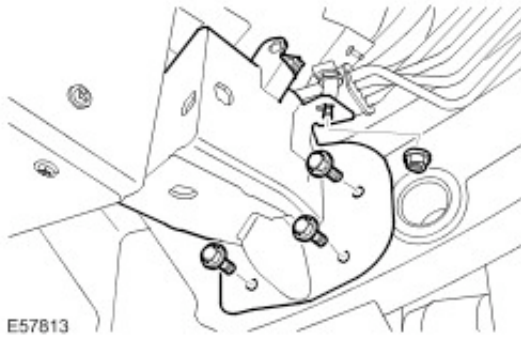
13 . Using the special tool, release the upper arm ball joint.

 Remove and discard the retaining nut.




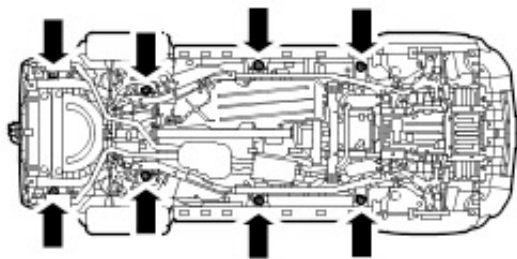
14 . Remove the integrated body frame bracket.

 Remove the 3 bolts and 1 nut.



15 . Remove the body mount retaining bolts.

 Remove the 8 bolts.




16 .

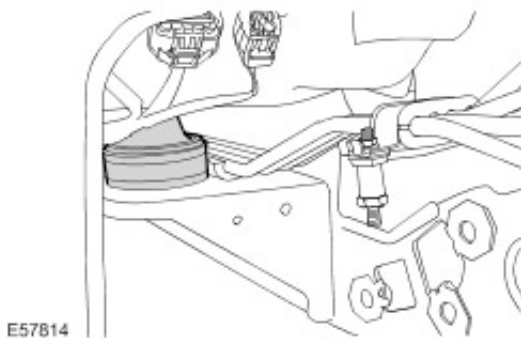


**CAUTION: Only raise the body sufficiently to remove the body mount.**

Raise the body.

 Using suitable stands, raise the body to release the body mounts.

17 . Remove the body mount.



18 .



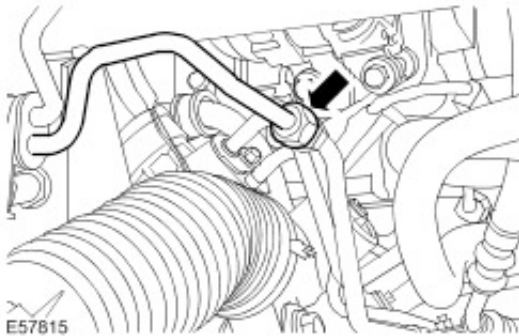
**CAUTION: Before disconnecting or removing the components, ensure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.**

**NOTE:**


Some fluid spillage is inevitable during this operation.

Disconnect the high pressure line.

- ▶ Position a container to collect the fluid spillage.
- ▶ Install blanking caps to the exposed ports.

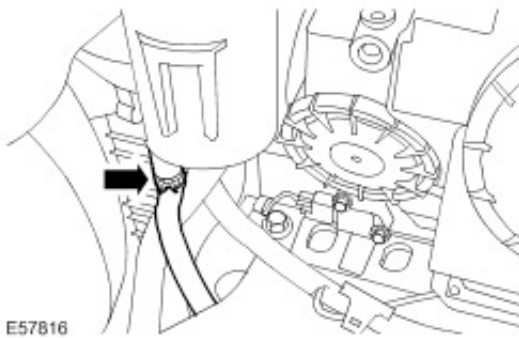


- 19 . Remove the air cleaner assembly.  
For additional information, refer to [Air Cleaner \(19.10.01\)](#)

- 20 .  **CAUTION:** Before disconnecting or removing the components, ensure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.

**NOTE:**  
Some fluid spillage is inevitable during this operation.

- Disconnect the fluid return line from the reservoir.
- ▶ Position a container to collect the fluid spillage.
  - ▶ Reposition the fluid line into the wheel arch area.



- 21 . Release the valve block to front stabilizer bar actuator pipe assembly mountings.
- ▶ Remove the 2 nuts and 1 bolt.



22



**CAUTION:** Always plug any open connections to prevent contamination.






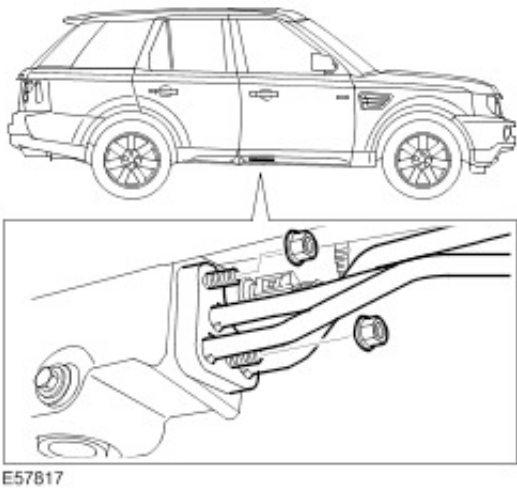
**CAUTION:** Before disconnecting or removing the components, ensure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.

**NOTE:**

Some fluid spillage is inevitable during this operation.

Disconnect the front actuator pipes from the valve block.




-  Position a container to collect the fluid spillage.
-  Remove and discard the 2 nuts.
-  Install blanking caps to the exposed ports.



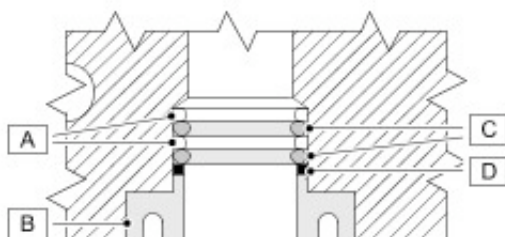
23 . Remove the valve block to front stabilizer bar actuator pipe assembly.

## Installation

1 . Check the valve block O-rings and plastic spacer washers are correctly installed.


-  A: Backing rings (white)
-  B: Outer clamping ring
-  C: O-ring seals

 D: Outer backing ring (Black)





E58627


2 . Install the valve block to front stabilizer bar actuator pipe assembly.

 Clean the components.


3 . Connect the front actuator pipes to the valve block.

 Remove the blanking caps from the ports.


 Install 2 new nuts and tighten to 22 Nm (16 lb.ft).

 Remove the container.


4 . Attach the valve block to front stabilizer bar actuator pipe assembly mountings.

 Tighten the 2 nuts and 1 bolt to 9 Nm (7 lb.ft).

5 . Connect the fluid line to the reservoir.

 Reposition the fluid line from the wheel arch area.

 Install the clip.

 Remove the container.


6 . Install the air cleaner assembly.

For additional information, refer to [Air Cleaner \(19.10.01\)](#)

7 . Connect the high pressure line.


 Remove the blanking caps from the ports.

 Tighten the union to 21 Nm (15 lb.ft).


 Remove the container.

8 . Install the body mount.


9 . Lower the body.

 Remove the stands.


10 . Install the body mount retaining bolts.

 Tighten the 8 retaining bolts to 133 Nm (98 lb.ft).


11 . Install the integrated body frame bracket.

 Install the 3 bolts and tighten to 40 Nm (30 lb.ft).



 Tighten the nut to 9 Nm (7 lb.ft)


12 . Connect the upper arm and wheel knuckle.

 Install a new nut and tighten to 70 Nm (52 lb.ft).


13 . Install the wheel speed sensor.

 Tighten the bolt to 9 Nm (7 lb.ft).


 Connect the electrical connector.

 Secure the wiring harness in the clips.

14 . Secure the brake caliper to the wheel knuckle.

 Tighten the bolts to 275 Nm (203 lb.ft).

15 . Secure the brake hose retaining bracket to the wheel knuckle.

 Tighten the bolt to 23 Nm (17 lb.ft).

16 . Install the shock absorber and air spring assembly.

For additional information, refer to [Front Shock Absorber and Air Spring Assembly \(60.21.01.99\)](#)

17



**CAUTION: Make sure the actuator fluid lines are not damaged or kinked during removal or installation.**



**CAUTION: Care must be taken to avoid damage to the plastic spacer washers and O-ring seals during installation of the fluid lines to the actuator.**

**NOTE:**

Some fluid spillage is inevitable during this operation.

Connect the fluid lines to the actuator.

 Clean the component mating faces.

 Remove the blanking caps from the ports.

 Install new plastic spacer washers and O-ring seals.

 Tighten the 2 bolts to 22 Nm (16 lb.ft).

18 . Bleed the front of the Dynamic Response system using T4.

19 . Install the engine undershield.

For additional information, refer to [Engine Undershield \(76.10.50\)](#)

20




**CAUTION: Make sure the hardened steel washer is installed between the stabilizer bar link and the upper arm. Failure to follow this instruction may result in damage to the vehicle.**




**CAUTION: Use a Torx socket to prevent the ball joint rotating whilst installing the nut.**

Secure the stabilizer bar link.



 Install a new nut and tighten to 175 Nm (129 lb.ft).

21 . Install the front wheels and tires.

 Tighten the wheel nuts to 140 Nm (103 lb.ft).

22 . Install the spare wheel and tire.

23 . Install the rear bumper cover.

For additional information, refer to [Rear Bumper Cover \(76.22.74\)](#)