

BRAKE SYSTEM – GENERAL INFORMATION

BRAKE SYSTEM BLEEDING – VEHICLES WITH: HIGH PERFORMANCE BRAKES (G1225239)

GENERAL PROCEDURES

 **WARNING:**

If any components upstream of the Hydraulic Control Unit (HCU), including the HCU itself are replaced, the brake system must be bled using Land Rover approved diagnostic equipment. This will ensure that all air is expelled from the new component(s).

 **NOTES:**

- Bleeding of the complete brake system must be carried out using Land Rover approved diagnostic equipment. Where only the primary or secondary brake circuits have been disturbed in isolation, it should only be necessary to bleed that circuit. Partial bleeding of the hydraulic system is only permissible if a brake tube or hose has been disconnected with only minimal loss of fluid.
- Some variation in the illustrations may occur, but the essential information is always correct.

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.

Check that the brake fluid lines are secure and that there are no signs of a brake fluid leak. If a brake fluid leak is detected, investigate and rectify the cause of the leak before bleeding the brakes.

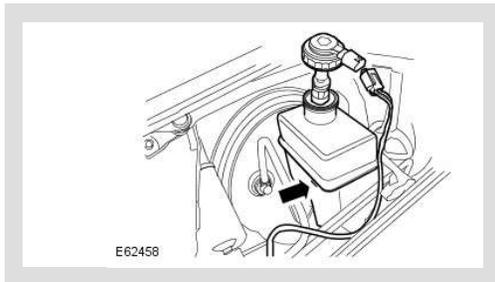
3.

WARNING:

Do not allow dirt or foreign liquids to enter the reservoir. Use only new brake fluid of the correct specification from airtight containers. Do not mix brands of brake fluid as they may not be compatible.

CAUTIONS:

- Brake fluid will damage paint finished surfaces. If spilled, immediately remove the fluid and clean the area with water.
- The brake fluid reservoir must remain full with new, clean brake fluid at all times during bleeding.



Fill the brake fluid reservoir to the MAX mark.

Disconnect the brake fluid reservoir electrical connector.

Remove the brake fluid reservoir cap.

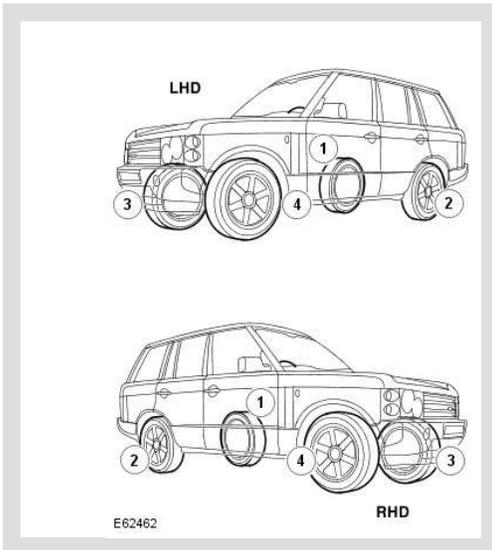
4.

Conduct the bleed procedure with the engine running.

5.

Connect the diagnostic tool to the vehicle, select diagnostic and proceed as directed for bleeding the brake system.

6.



Starting at the brake caliper furthest away from the brake master cylinder, loosen the bleed screw by one-half to three-quarters of a turn.

7. Install the bleed tube to the brake caliper bleed screw and immerse the free end of the bleed tube in a bleed jar containing a small quantity of approved brake fluid.

Hold the bleed container at least 300 mm above the Caliper that is being bled.

8.

⚠ CAUTION:

The brake fluid reservoir must remain full with new, clean brake fluid at all times during bleeding.

With assistance, depress the brake pedal steadily through to 2/3 of its full stroke.

9. With the brake pedal held down, close bleed screw and then return the brake pedal to 1/3 of its full stroke and hold.

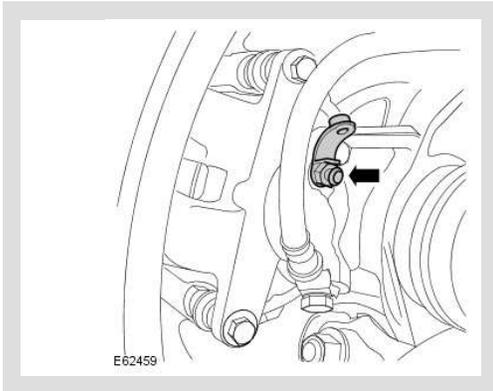
10. Repeat steps 8 and 9, 28 times for the rear brake and 10 times for the front brake.

11. At the end of the bleed process, depress and hold the brake pedal down.

12.

⚠ CAUTION:

Make sure the bleed screw cap is installed after bleeding. This will prevent corrosion to the bleed screw.



With the brake pedal fully depressed, tighten the bleed screw.

Tighten the front caliper bleed screws to 19 Nm (14 lb.ft).

Tighten the rear caliper bleed screws to 10 Nm (7 lb.ft).

13. Fill the brake fluid reservoir to the MAX mark.

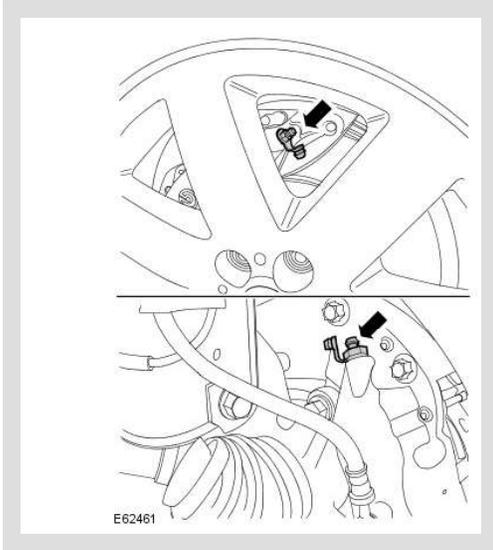
14.

⚠ WARNING:

High performance front brake calipers have two bleed points. The inner bleed point must be bled before the outer bleed point. Braking efficiency may be seriously impaired if an incorrect bleed sequence is used.

⚠ CAUTION:

Make sure the bleed screw cap is installed after bleeding. This will prevent corrosion to the bleed screw.



Repeat the brake bleeding procedure for each front brake caliper, following the above sequence.

If access is restricted to the front caliper outer bleed screws, rotate the road wheels to gain access.

Tighten the bleed screws to 19 Nm (14 lb.ft).

15. Fill the brake fluid reservoir to the MAX mark.

16. Apply the brakes and check for leaks.

17. Install the brake fluid reservoir cap.

Connect the brake fluid reservoir electrical connector.

18. On completion, road test the vehicle and check the brake pedal operation. The pedal travel should be short with a firm feel.