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Active Stabilization System Bleeding (60.60.13)

Special Service Tools

Dynamic Response Bleed Bottle
204-591-01

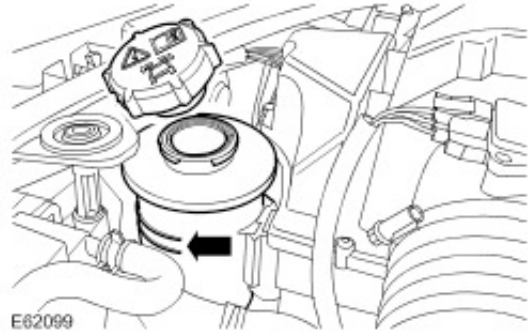
Dynamic Response Control Box
204-591-02

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.

NOTE:

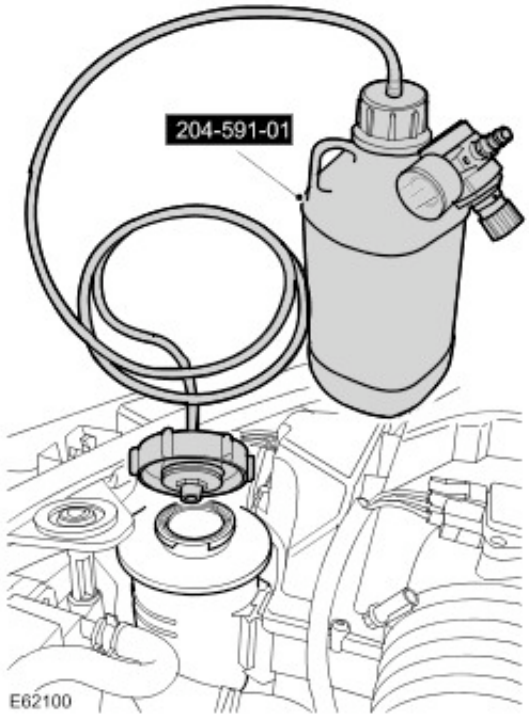
This procedure should be carried out if the following components have been removed or replaced: front or rear stabilizer bar, front or rear valve block to actuator bar pipe assemblies, or the valve block. It is possible to bleed only the front or rear of the system if only a stabilizer bar or pipe assembly has been removed. If the valve block has been removed, the complete system must be bled.

1. Check and top-up the dynamic response system fluid reservoir.
   - Top-up the fluid level to the mid-way mark on the reservoir.



2. Install the special tool to the dynamic response reservoir.
   - Completely fill the reservoir with fluid.

- Make sure the pressure regulator on the special tool is turned OFF.
- Fill the special tool bottle approximately three-quarters full with fluid.
- Connect the special tool to a suitable workshop air supply.



3.

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.

4. Remove the wheels and tires.
   - Remove the RH front wheel.
   - Remove the rear wheels and tires.

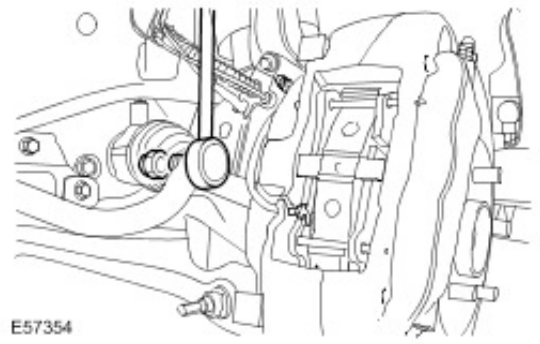
5.

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

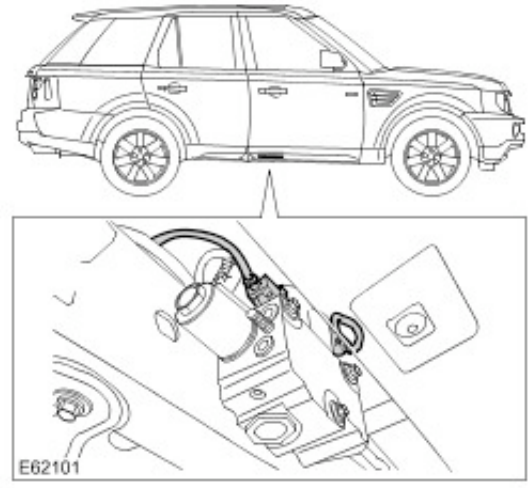
CAUTION: Note the position of the hardened steel washer. The hardened steel washer must be installed between the stabilizer bar link and the stabilizer bar. Failure to follow this instruction may result in damage to the vehicle.

RH front: Disconnect the stabilizer bar link.

- Remove and discard the nut.



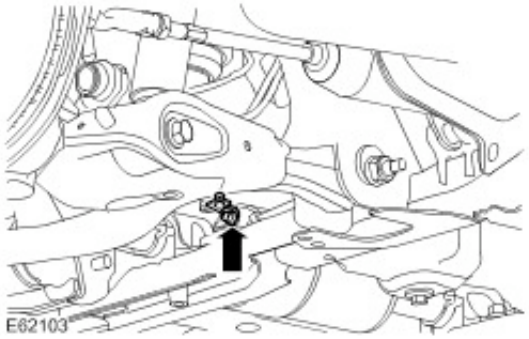
6. Disconnect the two valve block actuator control valve electrical connectors.



7. Connect the special tool electrical connectors to the valve block.
   - Connect the special tool power supply leads to the vehicle battery.

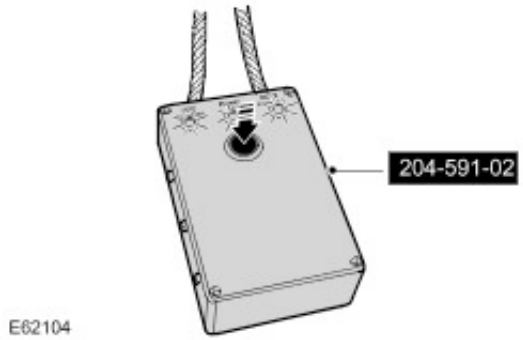
8. Remove the engine undershield.
[Engine Undershield (76.10.50)]

9. Connect the special tool to the front stabilizer bar bleed screws.
   - Remove the bleed screw covers.



10. Loosen the front actuator RH bleed screw by one-half of a turn.

11. Using the special tool, open both actuator control valves.



12.

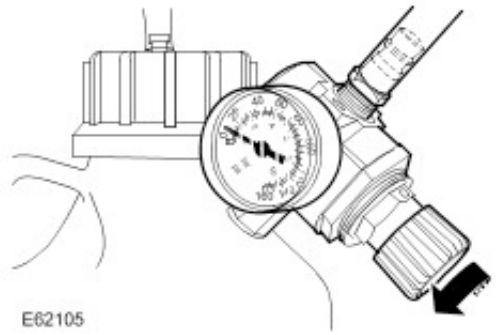
CAUTION: The Dynamic Response bleed tool fluid reservoir must remain full with new, clean fluid, at all times during bleeding.

NOTE:

It may be necessary to operate the switch several times to help pulse the air out of the actuator.

Bleed the dynamic response system until a flow of clean, air-free fluid, is being pumped into the bleed jar.

- Using the special tool pressure regulator, carefully increase the air pressure to approx. 5 - 10 PSI / 0.3 - 0.7 kPa, until air/fluid is being expelled from bleed screw.

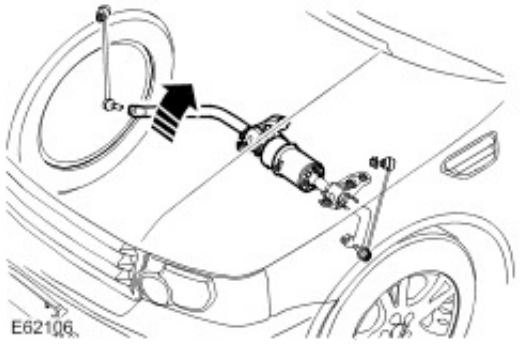


13.

CAUTION: Move the stabilizer bar in the stated direction of travel only. Failure to follow this instruction may result in air being drawn back in to the actuator.

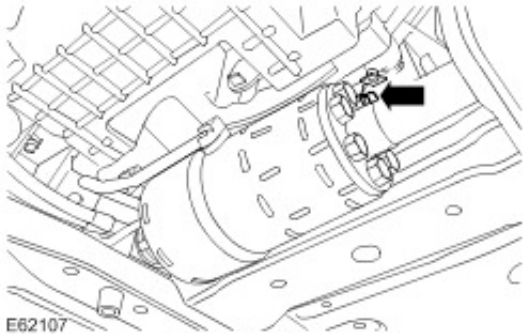
With the actuator control valves still open, operate the stabilizer bar upwards through its full travel, to release any trapped air

from the actautor.

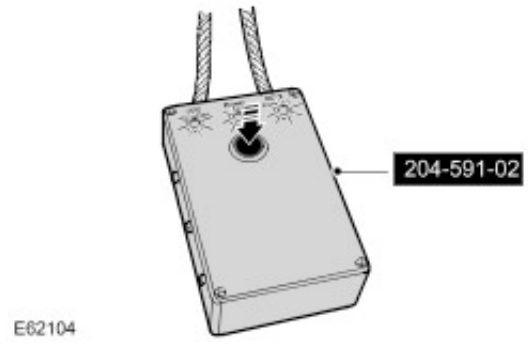


14. When a steady flow of clean air free fluid is running from the bleed point, tighten the bleed screw to 15 Nm (11 lb.ft).
    - Release the switch on the special tool to switch off the actuator control valves.

15. Loosen the front actuator LH bleed screw by one-half of a turn.



16. Using the special tool, open both actuator control valves.



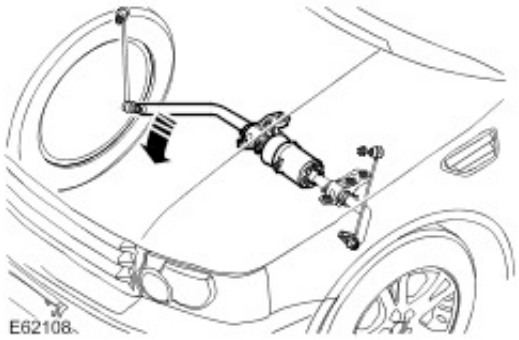
17. **NOTE:**
    It may be necessary to operate the switch several times to help pulse the air out of the actuator.

Bleed the dynamic response system until a flow of clean, air-free fluid, is being pumped into the bleed jar.

18.

CAUTION: Move the stabilizer bar in the stated direction of travel only. Failure to follow this instruction may result in air being drawn back in to the actuator.

With the actuator control valves still open, operate the stabilizer bar downwards through its full travel, to release any trapped air from the actuator.



19. When a steady flow of clean air free fluid is running from the bleed point, tighten the bleed screw to 15 Nm (11 lb.ft).
    - Release the switch on the special tool to switch off the actuator control valves.

20. Repeat the front stabilizer bar bleed procedure, from steps 9 to 19, a further two times, to make sure all air is removed from the actuator.

21. Disconnect the special tool from the front stabilizer bar bleed screws.
    - Install the bleed screw covers.
    - Discard the fluid from the bleed jar.

22. Install the engine undershield.
Engine Undershield (76.10.50)

23.

CAUTION: Make sure the hardened steel washers are installed between the stabilizer bar link and the stabilizer bar, and 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.

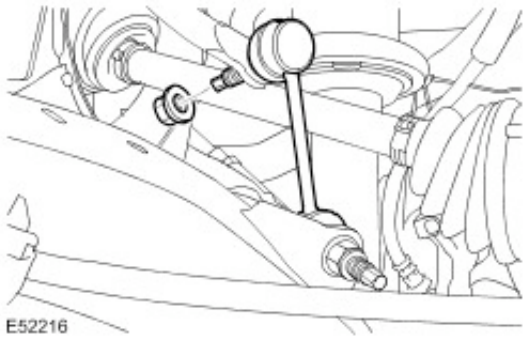
RH front: Connect the stabilizer bar link.
- Install a new nut and tighten to 175 Nm (129 lb.ft).

24. Check and top-up the special tool fluid reservoir.

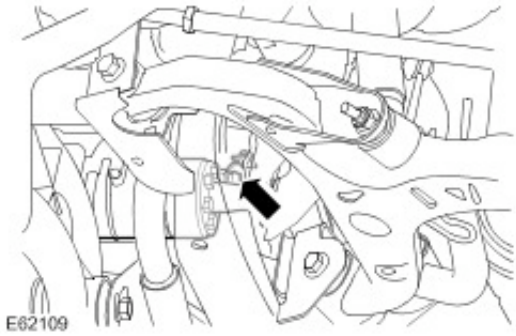
25.

CAUTION: Use a wrench on the hexagon provided to prevent the ball joint rotating.

LH rear: Disconnect the stabilizer bar link.
- Remove and discard the nut.

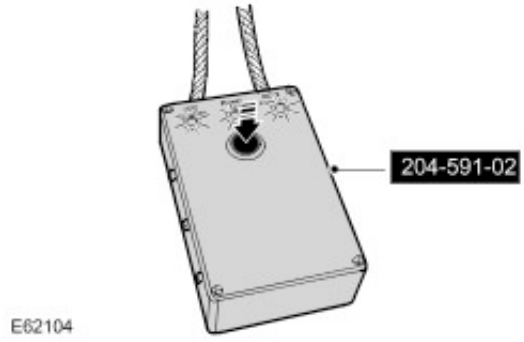


26. Connect the special tool to the rear stabilizer bar bleed screws.
    - Remove the bleed screw covers.



27. Loosen the rear actuator RH bleed screw by one-half of a turn.

28. Using the special tool, open both actuator control valves.



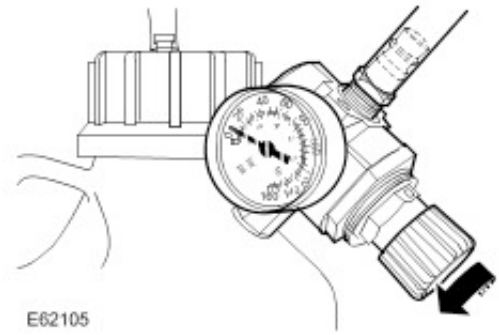
29.

CAUTION: The Dynamic Response bleed tool fluid reservoir must remain full with new, clean fluid, at all times during bleeding.

NOTE:

It may be necessary to operate the switch several times to help pulse the air out of the actuator.

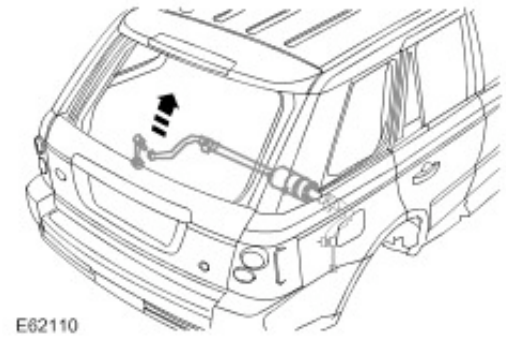
Bleed the dynamic response system until a flow of clean, air-free fluid, is being pumped into the bleed jar.



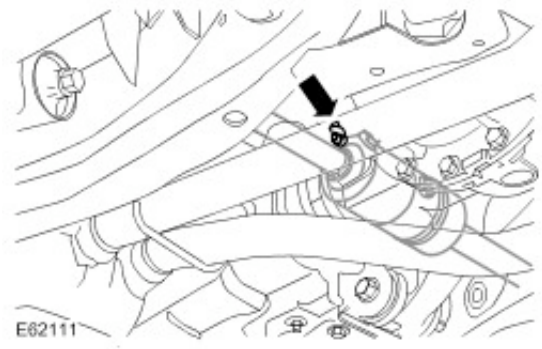
30.

CAUTION: Move the stabilizer bar in the stated direction of travel only. Failure to follow this instruction may result in air being drawn back in to the actuator.

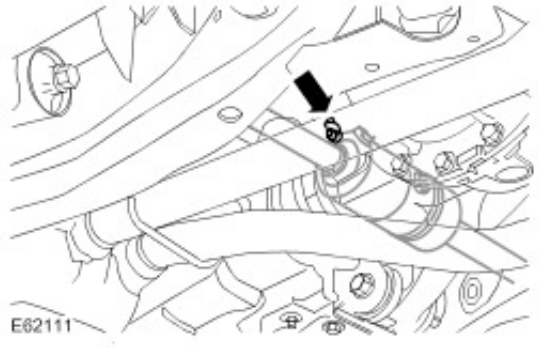
With the actuator control valves still open, operate the stabilizer bar upwards through its full travel, to release any trapped air from the actautor.



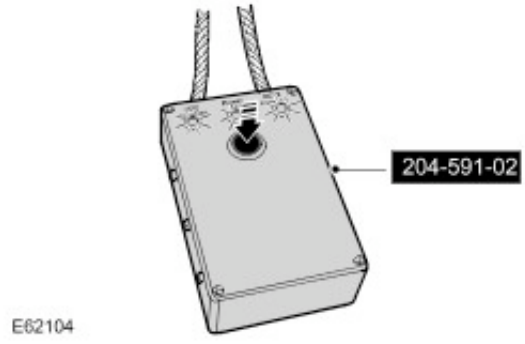
31. When a steady flow of clean air free fluid is running from the bleed point, tighten the bleed screw to 15 Nm (11 lb.ft).
    - Release the switch on the special tool to switch off the actuator control valves.



32. Loosen the rear actuator LH bleed screw by one-half of a turn.



33. Using the special tool, open both actuator control valves.



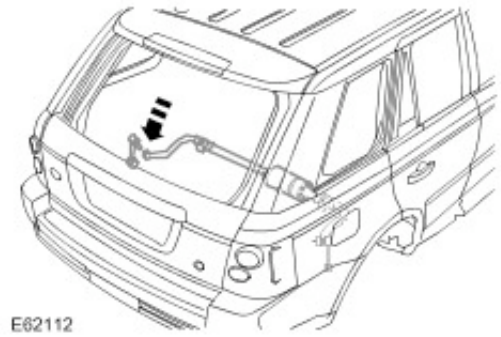
34. **NOTE:**
    It may be necessary to operate the switch several times to help pulse the air out of the actuator.

Bleed the dynamic response system until a flow of clean, air-free fluid, is being pumped into the bleed jar.

35.

CAUTION: Move the stabilizer bar in the stated direction of travel only. Failure to follow this instruction may result in air being drawn back in to the actuator.

With the actuator control valves still open, operate the stabilizer bar downwards through its full travel, to release any trapped air from the actuator.



36. When a steady flow of clean air free fluid is running from the bleed point, tighten the bleed screw to 15 Nm (11 lb.ft).
    - Release the switch on the special tool to switch off the actuator control valves.

37. Repeat the rear stabilizer bar bleed procedure, from steps 27 to 36, a further two times, to make sure all air is removed from the actautor.

38. Disconnect the special tool from the rear stabilizer bar bleed screws.
    - Discard the fluid from the bleed jar.
    - Install the bleed screw covers.

39.

CAUTION: Use a wrench on the hexagon provided to prevent the ball joint rotating.

LH rear: Connect the stabilizer bar link.

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

40. Disconnect the special tool from the valve block.
    - Connect the valve block electrical connectors.

41. Install the wheels and tires.
    - Tighten the wheel nuts to 140 Nm (103 lb.ft).

42.

WARNING: The special tool is still pressurised when the source air pressure is removed. Release air pressure within special tool slowly before removing.

Remove the special tool from the dynamic response system reservoir.

- Remove the special tool.
- Top-up the fluid level to the mid-way mark on the reservoir.

43. Using T4, check the operation of the dynamic response system.

44. If necessary, repeat the above procedure.