TECHNICAL BULLETIN

No: LTB00217
Issue: 1
Date: 20 MAY 2010

CIRCULATE TO: SERVICE ✓ PARTS ✓ WARRANTY ✓ BODY SHOP ✓

THIS BULLETIN SUPERSEDES LA501-12; CHANGES ARE LIMITED TO INSTRUCTING TECHNICIANS TO CARRY OUT THIS REPAIR PROCEDURE IN CONJUNCTION WITH TECHNICAL BULLETIN LTB00218.

SECTION: 501

Passenger Compartment Water Ingress

AFFECTED VEHICLE RANGE:

LR3 (LA) **VIN: 5A000360 - 9A513325**
Model Year: 2005 - 2009

CONDITION SUMMARY:

POSSIBLE CAUSES AND RESOLUTION OF WATER INGRESS

This informational bulletin provides technicians with guidance for identification of possible water ingress causes when water enters the passenger compartment. If a customer complains of water ingress, locate the point of origin and take the appropriate corrective action.

Symptom	Potential Root Cause
Water ingress through headliner in proximity of roof opening panel.	Sealed end valve of the roof opening panel drain tubes. This may affect any one of the four roof opening panel drain tubes on the vehicle.
	Loose roof opening panel Torx screws
	Badly routed, kinked, or twisted roof opening panel drain tubes
	Incorrect lateral position of roof opening panel lateral alignment, causing the seal to leak. **Note:** This will result in substantial water ingress.
Water ingress through headliner in proximity of roof opening panel, predominantly front RH-side of roof opening panel although depending upon inclination of vehicle or acceleration/deceleration, ingress may be evident at other points around the roof opening panel.	Foam sound-deadening pad in RH-side fender air intake blocking the sunroof panel drain tube.
Water ingress to foot well or under second row seats.	Roof opening panel drain tube end not routed through the fender or wheel arch; drain tube end pinched or clogged with debris.
Water ingress to passenger-side foot well; water dripping from the glove compartment area. **Note:** There may be a delay of days between the vehicle being subjected to water and the complaint of water ingress arising due to the time taken for the water to soak through the pollen filter.	Plenum chamber panel not securely clipped, allowing water to pass through the air inlet, positioned on the passenger-side of the vehicle, and collecting in the pollen filter.
Illumination of miscellaneous warning lamps and/or water in foot well	Refer to Technical Bulletin LA501-006.

NOTE: The information in Technical Bulletins is intended for use by trained, professional Technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these Technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by 'do-it-yourselfers'. If you are not a Retailer, do not assume that a condition described affects your vehicle. Contact an authorized Land Rover service facility to determine whether this bulletin applies to a specific vehicle.

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PARTS:

Information only

WARRANTY:

This procedure is issued for information and guidance only. Only those procedures justified by a customer complaint are allowed to be claimed and will be subject to warranty audit.

Normal warranty policy and procedures apply.

REPAIR PROCEDURE

TEST SUNROOF DRAINS

NOTE: If the drain tube has come apart, refer to Technical Bulletin LTB00218, *Water Leak Into Footwell From Roof Opening Panel Drain Tube*, for further repair information.

1. Perform the following test to determine if the sunroof drain tubes are functioning normally or are potentially the water ingress source.

NOTE: The restricted access caused by the roof opening panel glass may require the vehicle to be inclined rearward slightly to pass water down the rear drain holes.

- Place the vehicle on dry level ground.
- Fully open the sunroof panel to gain access to the water trap.
- Carefully pour water into the water traps, one corner at a time so that the water drains into the drain hole and drain hose.
  (Figure 1 [front] and Figure 2 [rear])
- Confirm that water has pooled on the ground at all four drain points under the A-pillar and C-pillars on both sides of the vehicle. (Figures 1 and 2)

Figure 1; RH-Front Side Shown

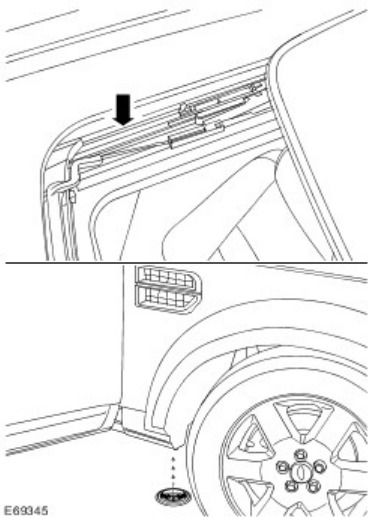
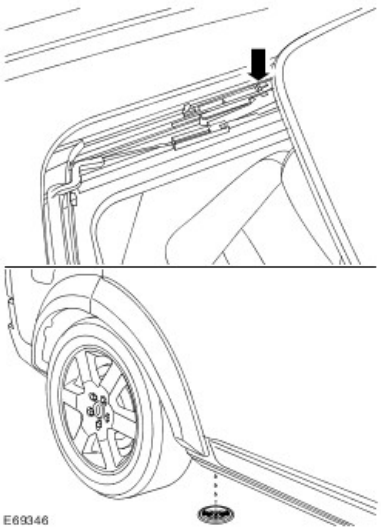


Figure 2; RH-Rear Side Shown



RIGHT FRONT DRAIN CORRECTION PROCEDURE

NOTE: This procedure should be followed if there is no water found coming from the RH-side A-Pillar during testing.

CAUTION: Care should be taken when removing the fender air intake grill to prevent damage to retaining clips.

1. Remove the fender air intake grill by first pulling up to release the two lower clips and then pulling down and outward to release the two upper clips. (Figure 3)
2. Remove the duct and foam insulation pad to gain access to the roof opening panel drain tube.
3. Verify that the drain tube is protruding through the hole in the body. (Figure 4)
4. If the tube is not protruding through the hole in the body perform the following steps to correctly route the roof opening panel drain tube:
   - Connect and secure the drain tube through the hole in the body
   - Verify the valve of the roof opening panel drain tube can be fully opened. (Figure 4)
   - If the valve does not open, cut as required to permit full opening. (Figure 5)

NOTE: If both the routing of the roof opening panel drain tubes are correct and the valve of the roof opening panel drain tube cannot be faulted, the foam insulation pad may be the cause. The foam sound-deadening pad may have been installed in such a way as to block the roof opening panel drain tube.

5. Remove and then reinstall the foam sound-deadening pad, taking care to ensure that the roof opening panel drain tube valve locates in the indent in the foam insulation pad to avoid crimping the tube.
6. Confirm free-flow of water by repeating the **TEST SUNROOF DRAINS** procedure for the right front drain.
7. If satisfactory test is completed install the duct and fender air intake grill.
8. If satisfactory test is NOT completed, blow out the drain tube with compressed air and test again.

NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

9. If satisfactory test is still NOT completed, refer to Workshop Manual (GTR) Section 501-05, *Interior Trim and Ornamentation*, and remove the headliner.

Figure 3

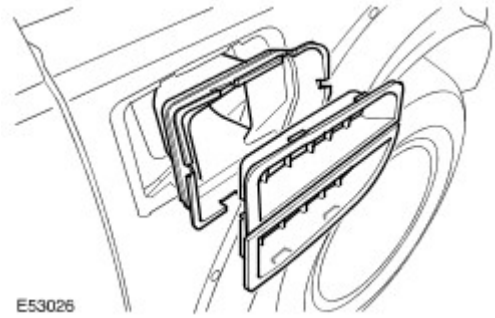
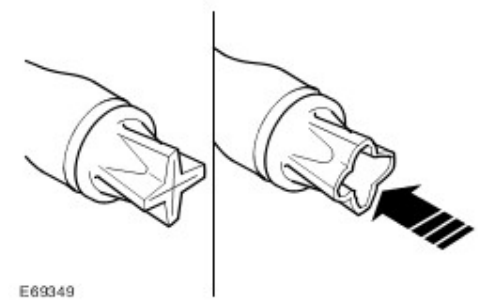


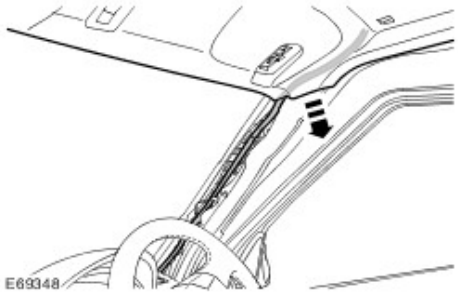
Figure 4

Figure 5



10. Inspect for misrouting or kinking of the roof opening panel drain tube and inspect for: (Figure 6)
    - Collapsed elbow joints.
    - Pinched tube.
    - Inclined routing.

Figure 6



LEFT FRONT DRAIN CORRECTION PROCEDURE

NOTE: This procedure should be followed if there is no water found coming from the LH-side A-Pillar during testing.

1. Turn the wheels to the fully left lock position.

NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

2. Refer to Workshop Manual (GTR) Section 501-08, *Exterior Trim and Ornamentation*, and partially release the LH front fender molding.
3. Partially release the LH front wheel arch lining, to gain access to the roof opening panel drain tube. (Figure 7)
4. Verify that the drain tube is protruding through the hole in the body.
5. If the roof opening panel drain tube is not protruding perform the following:

Figure 7

NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

- Refer to Workshop Manual (GTR) Section: 418-00, *Module Communications Network*, and remove the CJB to gain access to the sunroof panel drain tube.
- Connect and secure the drain tube through the hole in the body
- Check the valve of the roof opening panel drain tube can be fully opened.
- If the valve does not open, cut as required to permit full opening.

6. Confirm free-flow of water by repeating the **TEST SUNROOF DRAINS** procedure for the left front drain.
7. If the concern has not been corrected, blow out drain tube with compressed air and retest.

NOTE: GTR lookup sequence is as follows:
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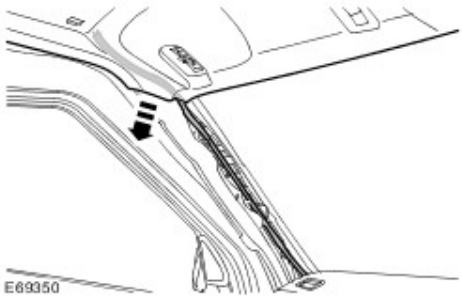
8. If the concern has still not been corrected unresolved, refer to Workshop Manual (GTR) Section 501-05, *Interior Trim and Ornamentation*, and remove the headliner to gain access.
9. Inspect for misrouting or kinking of the roof opening panel drain tube, paying particular attention to: (Figure 8)
   - Collapsed elbow joints.
   - Pinched tube.
   - Inclined routing.
10. Install the CJB.
11. When testing is satisfactorily completed, refer to Workshop Manual (GTR) Section 501-08, *Exterior Trim and Ornamentation*, and install the LH front wheel arch lining and LH front wheel arch molding.

Figure 8



RIGHT REAR DRAIN CORRECTION PROCEDURE

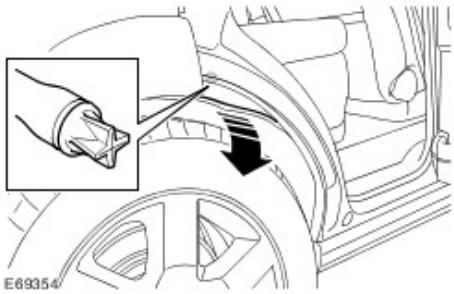
NOTE: This procedure should be followed if there is no water found coming from the RH-side C-Pillar during testing.

1. Open the RH rear door.
2. Pull the fender splash shield down to access roof opening panel drain tube. (Figure 9)
3. Verify that the roof opening panel drain tube is protruding through the hole in the body.
4. If the tube is not protruding perform the following:

NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

   - Refer to Workshop Manual (GTR) Section 501-05, *Interior Trim and Ornamentation*, and release the RH-side C-pillar lower trim panel to gain access to the roof opening panel drain tube.
   - Connect and secure the drain tube through the hole in the body.
5. Check that the valve of the drain tube can be fully opened.
6. If the valve does not open, cut as required to permit full opening.
7. Confirm free-flow of water by repeating the **TEST SUNROOF DRAINS** procedure for the right rear drain.
8. If the concern has not been corrected, blow out drain tube with compressed air and retest.

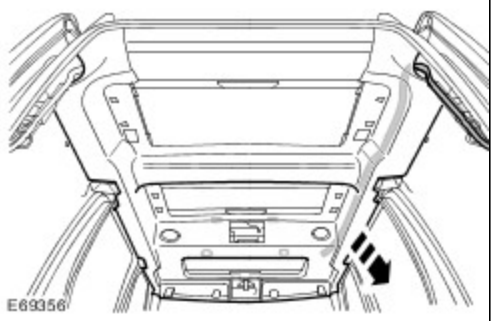
Figure 9



NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

9. If the concern has still not been corrected refer to Workshop Manual (GTR) Section 501-05, *Interior Trim and Ornamentation*, and remove the headliner to gain access. (Figure 10)
10. Inspect for misrouting or kinking of the roof opening panel drain tube, paying particular attention to:
    - Collapsed elbow joints.
    - Pinched tube.
    - Inclined routing.
11. If removed, install the headliner.
12. Install the C-pillar lower trim panel.
13. Install the fender splash shield removed to access roof opening panel drain tube.

Figure 10



LEFT REAR DRAIN CORRECTION PROCEDURE

NOTE: This procedure should be followed if there is no water found coming from the LH-side C-Pillar during testing.

1. Open the LH rear door, and pull the fender splash shield down to access the roof opening panel drain tube. (Figure 11)
2. Verify that the drain tube is protruding through the hole in the body.
3. If the tube is not protruding, perform the following:

NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

- Refer to Workshop Manual (GTR) Section 501-05, *Interior Trim and Ornamentation*, and release the LH-side C-pillar lower trim panel to gain access to the roof opening panel drain tube. (Figure 12)
- Connect and secure the drain tube through the hole in the body.

4. Check that the valve of the drain tube can be fully opened.
5. If the valve does not open, cut as required to permit full opening.
6. Confirm free-flow of water by repeating the **TEST SUNROOF DRAINS** procedure for the left rear drain.
7. If the concern has not been corrected, blow out drain tube with compressed air and retest.

Figure 11

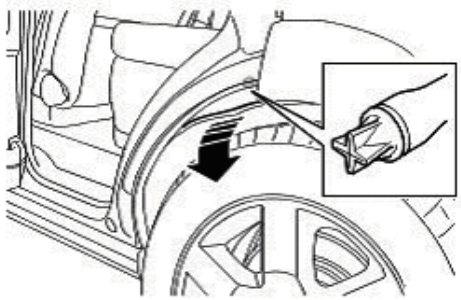


Figure 12

NOTE: GTR lookup sequence is as follows:
GTR Home > NAS > LA - LR3 > Service Information > Model Year > Workshop Manual

8. If the concern has still not been corrected, refer to Workshop Manual (GTR) Section 501-05, *Interior Trim and Ornamentation*, and remove the headliner to gain access.
9. Inspect for misrouting or kinking of the roof opening panel drain tube, paying particular attention to:
   - Collapsed elbow joints.
   - Pinched tube.
   - Inclined routing.
10. If removed, install the headliner.
11. Install the C-pillar lower trim panel.
12. Install the fender splash shield removed to access roof opening panel drain tube.

LOOSE TORX SCREWS AS POTENTIAL LEAK SOURCE

NOTE: When all of the drain tubes are confirmed as functioning correctly the Torx screws securing the glass roof panel can be tested as a leak source.

1. Determine if loose Torx screws securing the roof opening panel glass are the cause of the water ingress as follows:
   - Open the roof opening panel blind, leaving the sunroof panel closed.
   - Verify that all six Torx bolts are correctly located and tightened to a torque of **6Nm (4lb.ft.)**
   - Tighten Torx screws if loose.
2. Visually check alignment of the roof opening panel as follows
   - Verify that the glass is centered in its opening with equal distances from the glass to the opening border in all directions.
   - Verify that the front edge is set flush or up to 1.0 mm (0.040 in) below the roof line.
   - Verify that the rear edge is set flush or up to 1.0 mm (0.040 in) higher than the roof line.

WATER INGRESS TO GLOVE COMPARTMENT OR PASSENGER FOOT WELL

NOTE: If the previous steps have been carried out and both the roof opening panel drain tubes and the alignment/fasteners of the roof opening panel are correctly functioning without the need for corrective action, this final check may reveal a footwell leak source.

1. Confirm that the plenum chamber panel is securely clipped as follows:
   - Inspect and verify that there is no visible gapping.
   - Gently but firmly applying pressure across the panel to confirm it is seated.
   - Listen for a click sound, indicating that a clip has engaged (if not already engaged).

A-PILLAR / DRAIN TUBE WATER LEAK TO FOOT WELL

1. If a customer reports illumination of miscellaneous warning lamps or water in the footwell area, refer to Technical Bulletins LA501-006, *A-Pillar Water Leak*, and LTB00218, *Water Leak Into Footwell From Roof Opening Panel Drain Tube*, for further repair information.