



SI B 61 13 06
General Electrical Systems

February 2009
Technical Service

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This Service Information bulletin supersedes SI B61 13 06 **dated July 2008.**

NEW designates changes to this revision

SUBJECT

Various Electrical Problems Caused by Water Ingress

MODEL

E60 (5 Series)

SITUATION

Water ingress into the luggage compartment may cause various electrical problems or faults associated with the MPM (Micro Power Module); PDC (Park Distance Control); M-ASK (Multi-Audio System Controller); CCC (Car Communication Computer); CID (Control Information Display); TCU (Telematics Control Unit); LOGIC-7 (Top Hi-Fi); RDC (Tire Pressure Monitor) or SDARS (Satellite Radio Receiver) control modules. In most cases, the water collects in the spare wheel recess.

CAUSE

Insufficient sealing may allow water to enter the luggage compartment due to the vacuum generated while driving.

PROCEDURE

1. Replace damaged components.

- a. Replace all water-damaged components in the spare tire well and perform applicable electrical repairs to wires and/or connectors.

NOTE: If any of the modules to be replaced requires TeileClearing authorization, this Service Information does not negate the need for this authorization.

The following steps will help identify the cause of the water leak and prevent a reoccurrence.

2. Inspect for Water Leaks.

- a. Remove the trunk carpet and trim panels.
- b. Thoroughly water test the vehicle to allow for an adequate inspection for points of water ingress.
 - o Due to the fact that this leak may only be present while driving in the rain, weather conditions allowing, the vehicle should be road tested if it is raining and then inspected upon returning to the workshop.
 - o If the vehicle has been leaking intermittently for an extended period of time, mineral deposits should define the water path.

- c. Check the following locations for potential water leaks. If any of these areas appears to be the cause, replace the defective seal or repair seams with brushable seam sealer Wurth Article # 0890 1021.
- d. Check:
- Sunroof drains for being loose on the rear of the sunroof or clogged
 - Seam sealer on the body, leading to the left or right trunk air extractors (rear bumper needs to be removed for access to this area)
 - Seam sealer around the bumper mounts and spare tire well
 - Trunk air extractors for being properly seated in the body openings (this can be seen from inside the trunk)
 - Trunk air extractors for being seated but not creating a good seal against the body
 - Seal the extractor to the body using silicone sealant
 - Plastic rivet on the trim piece near the trunk hinge (left or right side) for being loose or missing
 - Trunk lid seal:
 - Ensure that the trunk is making consistent contact with the trunk seal and no damage to the seal is present.
 - Adjust the trunk and/or striker as necessary.
 - Missing wire harness grommet leading into the trunk, just behind the rear window
 - Body plugs on the interior sides of the trunk missing or poorly sealed
 - License plate light gasket for damage
 - Remove both tail lamps and ensure that the seal is not damaged on either.
 - Reinstall both tail lamps and ensure the fasteners are properly torqued.
 - Whether license plate screw grommets are poorly seated
 - Whether trunk lock cylinder seal is damaged
 - Whether trunk lid switch seal is damaged
 - Incorrect welding in the spare wheel recess
- e. If no suspect areas for water ingress are found in the previous visual inspection or water test,

continue with the following smoke test.

3. Smoke Test

NOTE: The following smoke test should be performed with the interior trunk trim removed, the rear bumper cover removed, and the vehicle on a lift. The VACUTECH® Smoke Machine or equivalent may be used for this procedure.

- a. Fold down one side of the split folding rear seat; insert the smoke machine nozzle into the trunk, and then fold the seatback up.
- b. Turn the smoke machine on and allow the trunk to fill with smoke.
- c. After 5-10 minutes, the trunk will be completely filled; if any water paths exist, they should be visible on the outside of the vehicle.
 - o NOTE: Disregard the small amount of smoke which will come out of the air extractors.
- d. Closely inspect the areas around the following:
 - o Trunk lid
 - o Quarter panels
 - o Lower rear tail panel around the bumper supports
 - o Side panels around the air extractors
 - o Floor pan up to the front of the rear sub-frame
- e. Repair the leaking area as necessary.
- f. If no leaks are found after smoke testing the trunk, continue with the following repair.

4. No Leaks Identified

- a. Relocate the RDC module to the left-hand side of the trunk per Repair Instruction RA 36 11...
- b. In the bottom of the trunk are 4 stamped openings in the sheet metal which are filled with seam sealer. Drill a 1-2mm one hole through the center of each of the forward 2 stamped openings only.

NOTE: The drilled holes should only penetrate the seam sealer and not the steel floor pan.

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c. Install a warning label (PN 71 24 6 777 721) on the right side of the tool kit cover (1). The customer should be notified of the label and the fact that liquids should not be present on or under the trunk insulation, due to the sensitive nature of the electronic control units located in the spare tire well.

PARTS INFORMATION

Part Number	Description	Quantity
71 24 6 777 721	Trunk warning label	1 – if necessary
NEW 36 20 6 788 234	RDC Bracket (Procedure step 4)	1 – if necessary
NEW 61 12 9 193 968	RDC Repair harness (Procedure step 4)	1 – if necessary
NEW 51 45 1 949 950	Body nut (Procedure step 4)	1 – if necessary
NEW 07 11 9 901 176	Screw (Procedure step 4)	1 – if necessary

The VACUTECH[®] Smoke Machine 625-522B-BMW may be used for this procedure (step 2) and is available through the BMW Equipment Program. This device automatically converts air to high purity nitrogen, using Pressure Swing Absorption (PSA) nitrogen technology. Orders for the VACUTECH[®] Smoke Machine 625-522B-BMW can be placed by calling the BMW Equipment Program at 1 888 222 7997.

This smoke machine utilizes an UltraTraceUV[®] smoke solution. The smoke solution incorporates an ultraviolet dye which helps pinpoint the leak with an ultraviolet residue surrounding the leak area. Determining the source of the leak is made easy when the included Hi-Density True UV LED light and incandescent white light are used.

WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty.

Defect Code: **Refer to KSD**

Labor Operation: **Labor Allowance:** **Description:**

51 99 000*	Refer to KSD	Work time allowance for performing the steps outlined above
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*Main Work - use this labor operation number when this is the only repair being performed, or if this is the main repair when performed along with other repairs at the same time. If this is not the main repair, refer to KSD for the associated (+) labor operation code.

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