SI B41 04 08
Body

October 2009
Technical Service

This Service Information bulletin supersedes SI B41 04 08 **dated August 2009**.

NEW designates changes to this revision

## SUBJECT
**Rear Axle Support Repair Procedure**

## MODEL
E46 (3 Series)

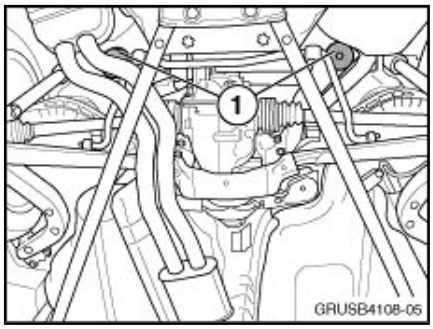
## SITUATION
Under certain circumstances, a fracture in the steel body structure could form in the area around one of the rear axle carrier mounting points. As a result, a distinct clicking noise can be heard from the area of the rear axle carrier during certain driving conditions. Specifically, the noise may be heard during load reversals on the rear axle, such as when starting from a stop, engaging forward or reverse gears, or when rapidly changing gears.

A repair procedure has been developed to repair damage to the rear axle support where the rear axle carrier is secured to it. This repair procedure is not included in the repair manual in the Technical Information System (TIS).

If damage is found in the area of the left rear of the rear axle support, the following procedure should be used to determine the appropriate repair procedure.

## CAUSE
Details surrounding these repair procedures are not included in TIS.

## PROCEDURE
The following procedures apply only to cracks found at or around the left rear mounting point for the rear axle carrier.




Visually inspect the left rear mounting point for the rear axle carrier (left leader for #1 illustrated). If a fracture in the sheet metal is present, the length of the crack must be measured. If multiple cracks are present, measure the longest one.

The damage identified must be documented with a clear digital photo, printed out, and included in the vehicle's file.

- If the length is 20mm or **less** and the vehicle was produced **prior to** 10/2004, proceed to Procedure A.
- If the length is 20mm or **less** and the vehicle was produced **from** 10/2004, proceed to Procedure B.
- If the length is **greater** than 20mm, proceed to Procedure B.

For technical assistance with either of the following repairs, please contact your Regional Technical Engineer.

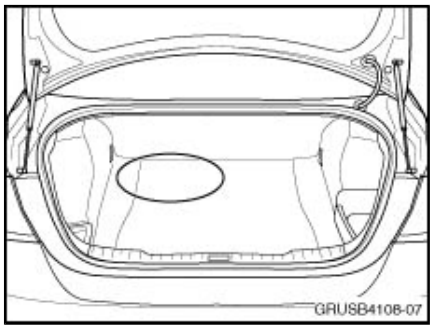
**A. Crack 20mm or less in length (structural epoxy):**

The following procedure is to be followed to fill the cavity above the left rear mounting point for the rear axle carrier with structural epoxy. This structural epoxy will both reinforce the affected area, as well as help prevent future damage to it.

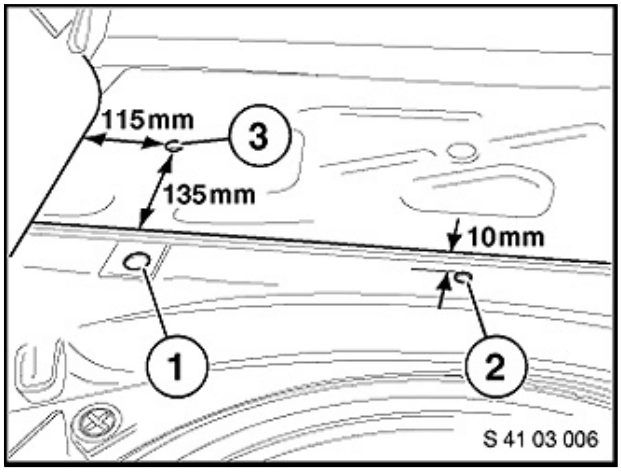
NOTE: The following procedure is for an E46 coupe, but can be used on all variants knowing that there may be some minor deviations. In addition, the following procedure should be performed with the vehicle in a location where it can stay for 24 hours following the repair, to allow the epoxy to cure.

1. Remove the floor trim from the luggage compartment

2. Perform all applicable safety precautions when working with seam sealer and structural epoxy.

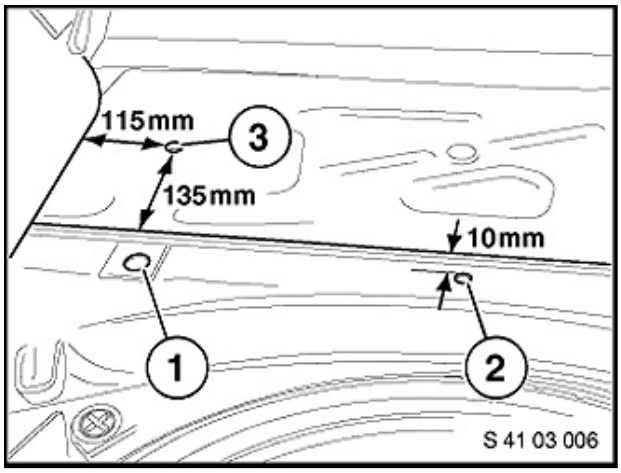



3. This illustration identifies the area inside the trunk where the following procedure will take place.

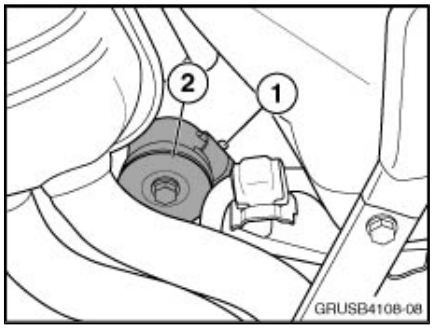



4. Identify the following 3 points which will be used in this repair. This area is located above the left rear mounting point for the rear axle carrier. Holes (2) and (3) will be filled with urethane seam sealer to create a barrier and thus a sealed cavity.
Hole (1) will be filled with 2 complete cartridges of structural epoxy.
These 3 holes will be referenced by number throughout this procedure.

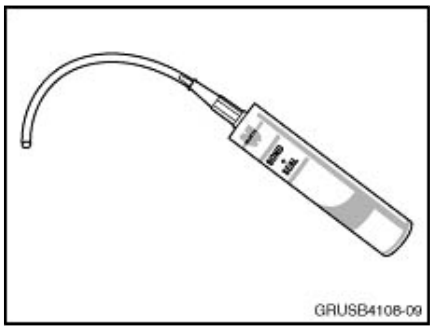
5. Hole (1) is present and is sealed with a body plug.
Hole (2) is not present and must be drilled. It should be drilled halfway between Hole (1) and the similar hole on the right side of the luggage compartment. A 10mm stepped drill bit should be used.
Hole (3) is present but is covered by



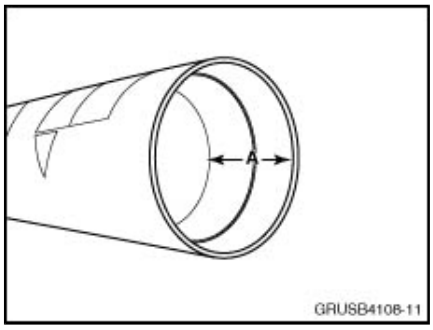

the anti-vibration liner. Locate the hole using the dimensions provided and expose the hole using suitable tools.




6. Use a length of tape or a body plug to seal the hole (1) from the underside of the vehicle if it is present on the vehicle.
This hole is located immediately to the right side of the left rear mount for the rear axle support (2).

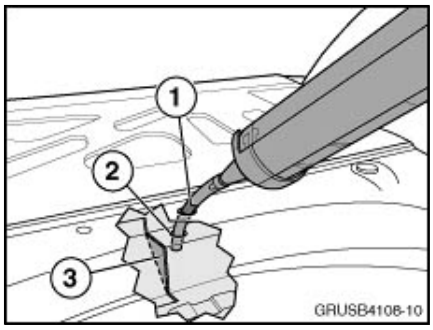



7. Prepare to install the seam sealer into Holes 2 and 3 from Step 4 by placing a 250mm (10") length of 3/8" clear flexible tubing (locally sourced) onto the nozzle of an open cartridge.




8. Looking at the bottom of the seam sealer cartridge, measure and record the distance to the plunger (A).
This is necessary to ensure the correct amount of seam sealer has been injected since it's a blind operation.

9. Place a tape line on the tube 120mm (4 3/4") from the open end. Insert the tube (1) into Hole 2 up to the tape line. Directly below Hole 2 is an existing




hole (2) of similar diameter. The plastic tube must go through this hole and reach the bottom of the cavity. This illustration shows a cutaway view to illustrate the triangular shape (3) of the cavity which is to be filled.

10. Inject the seam sealer while slowly pulling back on the plastic tube to create a vertical barrier in the cavity. The amount of material that must be injected is the equivalent of 12mm of travel of the cartridge plunger.

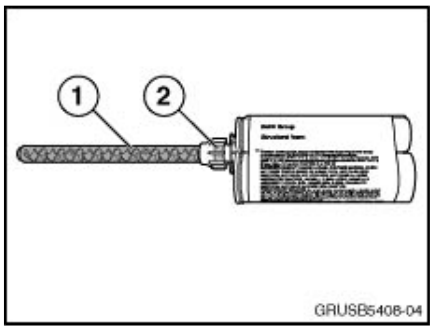
11. Once the seam sealer has been installed, measure the position of the plunger again to ensure that it has traveled 12mm from the position previously recorded in Step 8.

12. Measure and record the position of the plunger similar to Step 8. The area under Hole 3 will be filled next and is much smaller than Hole 2. Therefore the plunger in the seam sealer cartridge only needs to be depressed by 2mm.

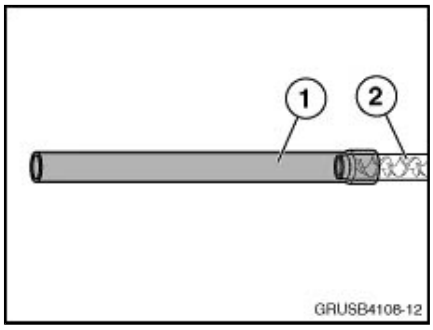
13. Insert the plastic tube into Hole 3 (identified in Step 4) and fill the cavity with seam sealer.

14. Once the seam sealer has been installed, measure the position of the plunger again to ensure that it has traveled 2mm.

15. Wait at least 10 minutes for the seam sealer to set before continuing with the next step, structural epoxy installation.




16. Remove the fastening nut and sealing plug from the structural epoxy cartridge. Next, install the mixing nozzle (1) onto the cartridge pack and secure it with the fastening nut (2), both of which are supplied with the cartridge pack.

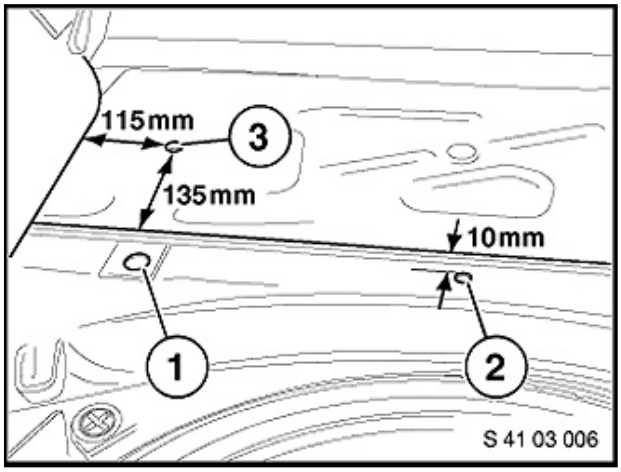



17. Install the included extension tube (1) over the end of the mixing tube (2).

18. Due to the high viscosity of the two part structural epoxy, it must be warmed in order to flow out of the

cartridge pack properly, and into the void it is intended to fill. Two cartridge packs are required for this repair. Place both cartridges packs under hot running water or in a large pail of hot water for 15-20 minutes to heat the contents thoroughly.

19. ct the recommended pneumatic applicator to a shop air supply. A pneumatic applicator is recommended as a manual applicator can make it difficult to fully fill the necessary cavity. The recommended applicator is the same one previously recommended for use in SI B54 04 08.




20. Feed the flexible extension tube into Hole (1). About 10mm below this hole is another hole which this tube must be fed through.

21. Inject the entire contents into the cavity. The red line on the side of the applicator will display how much has been injected. If the material begins to flow too slowly, warm the cartridge pack with an electric heat gun (set to low heat) to improve the flow.

NOTE: Take appropriate safety precautions when using a heat gun, and be sure not to heat the cartridge too aggressively as the plastic cartridge container could melt.

22. Remove the flexible tube and repeat steps 19 – 20 with a second, already warmed cartridge pack.

23. Remove any protruding structural epoxy while it's still flexible and seal the holes with body plugs.

24. Reassemble the vehicle and allow the epoxy to cure for a minimum of 24 hours.

NOTE: The vehicle must not be moved until the structural epoxy is fully cured.

**B. Crack greater than 20mm in length (replace rear axle carrier support):**

1. Replace the replacement rear axle support per the attached copy of repair instruction RA41 11 400.
    - NOTE: No modifications to the repair part are required or recommended.
    - NEW For a list of jobs/labor operations needed for this repair, as stated in **KSD**, please refer to the attached document, **FR Description 0054198. This document is an example for a specific E46 variant; therefore, some variation may exist based on the variant in question.**
    - NEW For **a list of** jobs/labor operations needed for this repair, as well as labor allowances **that may be claimed via sublet, refer to the attached document B410408 Sublet Labor Operations.pdf. In addition, this document separates Labor types (Body vs. Mechanical).**
2. Depending on which straightening bench is used, some additional procedures in addition to those listed in

RA4111400 may need to be performed in order to properly mount the vehicle on the straightening bench.

NOTE: This repair should be performed by a BMW operated or BMW recommended body shop.

3. On cars produced prior to 3/99, the two studs located above the fuel tank which retain the brake and fuel lines, are in a different location to that of the replacement rear axle support. If the car was produced up to 3/99:

    a. Cut off the two studs on the replacement part.

    b. After installing the replacement rear axle support, position the brake and fuel lines to the floor pan, using the same clip previously removed. Clean the surface and mark the center hole in the clip that holds them in place.

    c. Weld on two new studs (locally sourced) at this marked location.

    d. Prime and undercoat the cleaned area around the studs.

4. When performing this repair on an M3 or any Convertible model, the forward mounting brackets (located under the rocker panels), which the v-support secures to, must not be removed. It is not necessary to remove them for this repair, and replacement brackets are not available as a spare part.

5. Replace fasteners and small items as necessary.

6. It is necessary to perform a four wheel alignment following this repair. If the alignment cannot be brought into specification due to damaged or worn suspension components, the customer can opt to have these replaced at their cost.

## PARTS INFORMATION

Procedure A - Structural Epoxy:

| Part Number | Description | Quantity |
|---|---|---|
| 83 19 0 445 721 | Structural Epoxy Pack (includes two cartridge packs, enough for one vehicle) | 1 |
| 51 71 1 906 001 | Body plug – 10mm | 1 |
| 07 14 7 127 539 | Body plug – 12mm | 1 |
| Locally sourced | 3/8" clear plastic tubing | Approximately 10" |
| Art# 0890 1003 | Wurth AdhesiveFlex Seam Sealer | 1 |

For more information on this Wurth product, refer to www.wurthusa.com

Procedure B - Rear axle carrier support:

| Part Number | Description | Quantity |
|---|---|---|
| 41 11 7 000 246 | Rear axle carrier support | 1 |

| | | |
|---|---|---|
| Locally sourced | Weld on threaded studs | 2 – if necessary |

The recommended applicator for the structural epoxy is the MIXPAC® pneumatic applicator; model number DP 400-85-01. This applicator may be obtained from Conveniently Packaged Adhesives (CPA) by:

- Calling (401) 946-5508
- Faxing the attached order form (B410408Applicator_Order_Form.pdf) to (401) 946-5526
- Emailing info@forcpa.com

For additional information on this product or how to order it, please visit the CPA website at: www.forcpa.com

## WARRANTY INFORMATION

Covered under the terms of the associated proposed class action lawsuit settlement outline in SI B41 02 09.

**Defect Code:** **41 11 91 01 00**

**PROCEDURE A**

| **Labor Operation:** | **Labor Allowance:** | **Description:** |
|---|---|---|
| 00 54 196 | 11 FRU | Install structural epoxy into the rear axle support |
| +00 54 847 | 9 FRU | Install structural epoxy into the rear axle support |

**PROCEDURE B**

| | | |
|---|---|---|
| 00 54 198 | Refer to KSD | Replace the rear axle carrier support – when all work is performed by a BMW center owned facility |
| + 00 54 849 | Refer to KSD | Replace the rear axle carrier support – when all work is performed by a BMW center owned facility |
| Or | | |
| Sublet code 3 | Actual amount, up to $4000* | Replace the rear axle carrier support – if the work is outsourced (mechanical, body, and paint) |

**Rental Reimbursement**

Reimbursement for rental costs associated with repair (Procedure B) can be submitted through the Field Authorization System for Area team review/approval using the following defect code:

11009999SF Rental Reimbursement for Rear Axle Support Repair

Sublet code 4 Rental costs

An explanation of the sublet charges, including the total days and cost, must be provided in the comments section of the warranty claim with invoice copies retained in the vehicle file. With the exception of the 5-day limit, all normal policies and procedures relating to rental reimbursement apply as outlined in the Warranty Policy and Procedures Manual.

**NOTES:**

- If the aforementioned paint and body repair is outsourced, it may be claimed under the same defect code and the entire claim NEW (labor/materials) should be charged to **sublet code 3**.
- *If the sublet amount exceeds $4,000, the actual amount should still be claimed under sublet code 3, and as in all cases, the invoice must be available for review if it should be requested.
- NEW When Repair B: Rear Axle Carrier Support is claimed via **KSD**, Paint and Refinishing materials required should be charged to **sublet code 4**. Documentation to support the costs of these items must be attached to the vehicle's repair order and retained in the vehicle's file.
- When performing the above-noted paint and body repair under this bulletin only, market team approval is not required.
- A hard copy of the requested photos must be attached to the affected vehicle's repair order and retained with the vehicle's file.
- Failure to retain the requested photos could result in a delayed or refused warranty claim payment.

| | | |
|---|---|---|
| Sublet Code 4** | $15 | ** Reimbursement of up to the amount listed may be charged to sublet code 4 for the Wurth Seam Sealer (Art# 0890 1003) and plastic tubing required to perform NEW **Repair A: Structural Epoxy** . Claiming this part number outside of sublet code 4 will result in a delayed or denied claim payment. |
| Sublet Code 4** | Actual Amount | ** Reimbursement of up to the amount listed may be charged to sublet code 4 for the Paint and refinishing materials required to perform **Repair B: Rear Axle Carrier Support** . This sublet claim applies when Repair B is performed in house. Claiming these materials outside of sublet code 4 will result in a delayed or denied claim payment. |

Claiming any parts under warranty that were not required for the above noted repair, such as worn or damaged suspension components will result in a denied warranty claim.

Photos must be taken of the damage and must be included with vehicle file. Failure to do so may result in a denied claim payment.

**ATTACHMENTS**

view PDF attachment **B410408Applicator_Order_Form**.
view PDF attachment **B410408RA4111400_05-09**.
view PDF attachment **B410408FR_Description_0054198**.
view PDF attachment **B410408LO_41_11_400_description**.
view PDF attachment **B410408Labor_Operations**.