



## STRUCTURAL REPAIR REQUIREMENTS

New information provided by this revision is preceded by this symbol .

This Service Information bulletin replaces SI B41 01 04 dated **October 2007**.

### What's New:

- F series vehicles and newer added
- Repair stages 1, 2, and 3 defined
- Anchoring setups for structural repairs are clarified

### MODEL

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|---------------------|
| All except E52 (Z8) |
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### SITUATION

All BMW models use advanced materials and fastening technologies. Materials such as High Strength Steels and Weld Bonding attachment methods require the use of unique repair procedures, processes, and tools.



### PROCEDURE

#### All E series vehicles, except E52-Z8

BMW E series vehicles have specific repair procedures and fixed tolerances. BMW requires the use of an approved repair bench and measuring system when replacing any structural component of an E series BMW vehicle.

BMW defines the structure of a vehicle as the components that comprise the body shell that are weld-bonded, rivet-bonded or welded on.

Currently the only approved bench repair systems are:

- Car Bench - Manta, Piranha, Muraena, or Octopus repair benches in conjunction with dedicated fixtures, mini-jigs or universal fixtures. The Contact electronic measuring system is also approved.
- Celette - dedicated bench system with fixtures, or the NAJA electronic measuring system with positioning tool NA.1000.
- Car-O-Liner bench system and Car-O-Tronic Vision electronic measuring system used in conjunction with:
  - A. Car-O-Flex or EVO 3 Universal fixture system
  - B. B66, B76-B77 side support, or EVO 1 and 2 support system- Any one (1) of these three (3) is required.



#### F series vehicles and newer

Refer to ISTA / AIR for repair stage information shown for the VIN. The repair information will indicate the repair stage.

BMW requires the use of an approved repair bench and measuring system when replacing any structural components of a BMW F series and newer vehicle when identified in the service procedure found in ISTA / AIR as a Stage 3 Repair.



Repair stages are defined as:

Repair Stage 1: All work as part of which screwed body components must be replaced, and all procedures during which repairs are to be done on the outer skin and glass.

Repair Stage 2: Repairs that are carried out by bonding and riveting and/or welded with MAG welder without the use of a straightening bench.

Repair Stage 3: Repairs that are carried out by bonding, riveting, and/or welding with the use of a straightening bench.

Car Bench, Celette, and Car-O-Liner work closely with BMW in designing and building fixtures within BMW specifications, which not only provide accurate component locations, but also provides safe and proper anchoring of the vehicle.

#### **BMW separates the different repair bench setups into three types:**

- **Diagnostic setup** – A fixture setup used for identifying structural misalignment. This setup is not designed to anchor the vehicle in any way, but only supports the weight of undamaged areas in order to maintain a proper datum reference plane. This setup may require removal of exhaust systems, suspension components, splash shields, etc. The benefit is accurate dimensioning and diagnosis with minimal disassembly. This set up is typically used during the blueprinting stage of the repair to develop an accurate repair plan.
-  **Anchoring setup** – A fixture setup is used for securely holding a vehicle while making the appropriate structural repairs. This setup uses a minimum of six (6) anchoring points. The six (6) anchoring points must include the four (4) rocker clamps / jacking points and two (2) additional fixtures securely bolted to the body and bench in close proximity to the damaged area. This set up is common with universal type repair benches because of the limited holding capacity of a universal system. Depending on the damage the vehicle may require more anchoring points which is determined by a trained BMW Collision Repair Technician, but six (6) is the minimum for any vehicle requiring corrective pulls. With a dedicated repair bench, more holding points are necessary in the area requiring corrective pulls.
- **Combination setup** – Utilization of both diagnostic and anchoring setup for repair (i.e. Diagnostic setup in rear for the undamaged area of vehicle and anchoring setup in front for the damaged area of the vehicle). The advantages are labor time savings and less removal and installation of components. This setup may only be used in conjunction with rocker / jack clamps. To determine if this setup can be utilized, a trained BMW Collision Repair Technician must create a repair plan to ensure proper anchoring can be accomplished.

This equipment can be purchased through the BMW Equipment Program, which offers special pricing and payment/financing options. For more information on the Equipment Purchase Program contact 1-888-222-7997 or visit [www.bmwcentersolutions.com](http://www.bmwcentersolutions.com).

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