SERVICE UPDATE

WELDED SHEET METAL REPAIRS AND REPLACEMENTS

THIS BULLETIN DISCUSSES THE RECOMMENDED WELD PROCESSES WHEN REPLACING A PANEL THAT HAS BEEN WELDED TO THE VEHICLE.

NUMBER: 31-007-12
GROUP: Collision Bulletin
DATE: Aug. 14, 2012

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Regardless of the cause of vehicular damage, the repairer's moral obligation is to repair the vehicle to the original design intent relative to safety, NVH, comfort, durability and corrosion protection by duplicating the original construction as closely as possible by following all manufacturer's guidelines. With the increasing use of advanced high-strength steels in body construction, and their susceptibility to degraded material properties from welding heat, the approved process for installation of replacement panels has changed.

Chrysler has previously approved the use of "weld bonding," where squeeze type resistance spot welding (STRSW) is combined with an approved structural adhesive, as one of the acceptable methods to install welded panels while maintaining the original appearance and corrosion protection.

High quality and capable STRSW equipment, which was a rare shop tool in the collision repair industry, has now become the norm and with this, it is now important to state that **weld bonding of replacement panels is the *recommended installation method* to utilize when repairing Chrysler, Jeep®, Dodge, Ram, SRT® or FIAT® vehicles**.

GAS METAL ARC WELDING (GMAW or MIG) SHOULD ONLY BE USED IN THE FOLLOWING SPECIAL CIRCUMSTANCES:

- Proper weld access cannot be attained utilizing STRSW equipment with any of the available accessory arms.
- Utilize 6-8 mm ring fillet welds for exterior panels and 8-10 mm for all others.
- Adhesives need to be kept 25 mm from a ring fillet weld due to their flammability.
- A Chrysler publication explicitly calls out GMAW as the proper repair method.
- The original attachment was GMAW.

ALL OF THE FOLLOWING GUIDELINES MUST BE ADHERED TO:

- DO NOT use heat to straighten sheet metal unless the panel will be replaced.
- If weld-on pulling studs are used, their use must be minimal and the backside of the repaired panel must also be repaired to restore the original corrosion protection.

CHARACTERISTIC OF ACCEPTABLE STRSW EQUIPMENT:

- Must utilize 220 volt (or greater), three-phase power supply.
- Must utilize inverter technology.
- Must have the capability to provide a minimum of 10,000 amps of output.
- Must have the capability to provide 600 lbs. of tip force (267 daN) with the longest arms.
- Should utilize "smart" technology which helps eliminate errors in equipment set-up.

STRSW EQUIPMENT MEETING THE CRITERIA INCLUDES:

- Car-O-Liner CTR12000
- Cebotech Tecna Smart-Plus 3664+
- Elektron Multispot® MI-100 Control
- Pro Spot i5

  NOTE: Where a three-phase power supply is not available, then the recommended solution is the Pro-Spot Hybrid Welder, the new model number PHS-101.
- ONLY Lord Fusor #112B or 3M #08116 have been approved by Chrysler for weld bonding. These materials provide corrosion protection in the vulnerable weld zone. Joint sealers should be applied after welding is complete and appropriate primers have been applied (if needed).
- Only remove e-coat from the new panel at the weld-bond mating location.
- Minimize removal of galvanized/galvanneal coating.
- Solvent wipe with suitable product before application of adhesive.
- Initial application of adhesive should be spread from the bare metal onto the e-coat to provide a continuous corrosion barrier.

THE REPLACEMENT STRSW WELDS SHOULD DUPLICATE THE ORIGINAL WELDS IN:

- Size, quantity and location.
- Never use "weld-thru" primer.
- Completing all welded panel replacements requires applying a coating of creeping rust inhibitive material in all areas where any welds were made, even where weld-bonded.
- Replacement panels must be installed as provided, and by utilizing the methods described in this bulletin, unless additional guidelines are made in another Chrysler Collision Repair Bulletin, Chrysler Body Repair Manual, or other Chrysler-approved publication. Failure to follow these repair guidelines will result in a vehicle which may not duplicate the original design intent in terms of function, safety and durability.

NOTE: Replacement welds should be within ¼-inch of the original location while trying to avoid placing new welds over old welds. Where replacing only the exterior panel in a 3T situation, the new weld should be placed about 3/8-inch away to avoid shunting and re-establish a 3T weld.