



TECHNICAL FEATURE

Nuts and bolts, tips and tricks from our resident industry experts.

BY LARRY MONTANEZ III, CDA
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STRUCTURAL REALIGNMENT CHANGES

Through our visits to repair facilities and in our training classes, we have seen and heard some troubling things. Many shops are still using structural realignment (frame equipment) apparatus that may belong in the Smithsonian. Many in our industry (both insurers and shops) are misguided on how to actually affix/anchor the vehicle to the apparatus, and many think that sill “pinch weld” clamps are the norm and still acceptable. This article is will hopefully clear up some of these misconceptions, misunderstandings and/or misinformation in our industry.

For many years, we have known that most German vehicles cannot be anchored by the sill/pinch welds. This was due to the configuration of the rocker panel mating flanges, which include adhesives that can be damaged. In addition, rocker panel flanges are not designed to withstand the forces the way they are applied during mounting. We have seen over the past few years that high-end German engineering designs are being utilized in lower-priced vehicles. For example, the 2014 Dodge Dart and Jeep Grand Cherokee are now utilizing the Compact US Wide platform design, which does not support jacking or anchoring at the rocker panel mating flanges/sill panels (pinch welds). Although you will have to affix the vehicle to the realignment apparatus by the sill clamps, Dodge/Jeep states that you may anchor the vehicle by the sills. However, you must anchor in at least two other areas, such as the front or rear suspension mounting areas. Otherwise, you can cause damage to the sill areas during pulling procedures. Generally, this will mean you will need to anchor a fixture or jig to the engine cradle or rear suspension cradle mounting areas. This will require the removal of the mounting bolts and/or removal of the cradle. Some manufacturers state in their repair procedures that

there is adhesive in the sill mating flanges, and anchoring in these areas will destroy the adhesive bond, weakening the area.

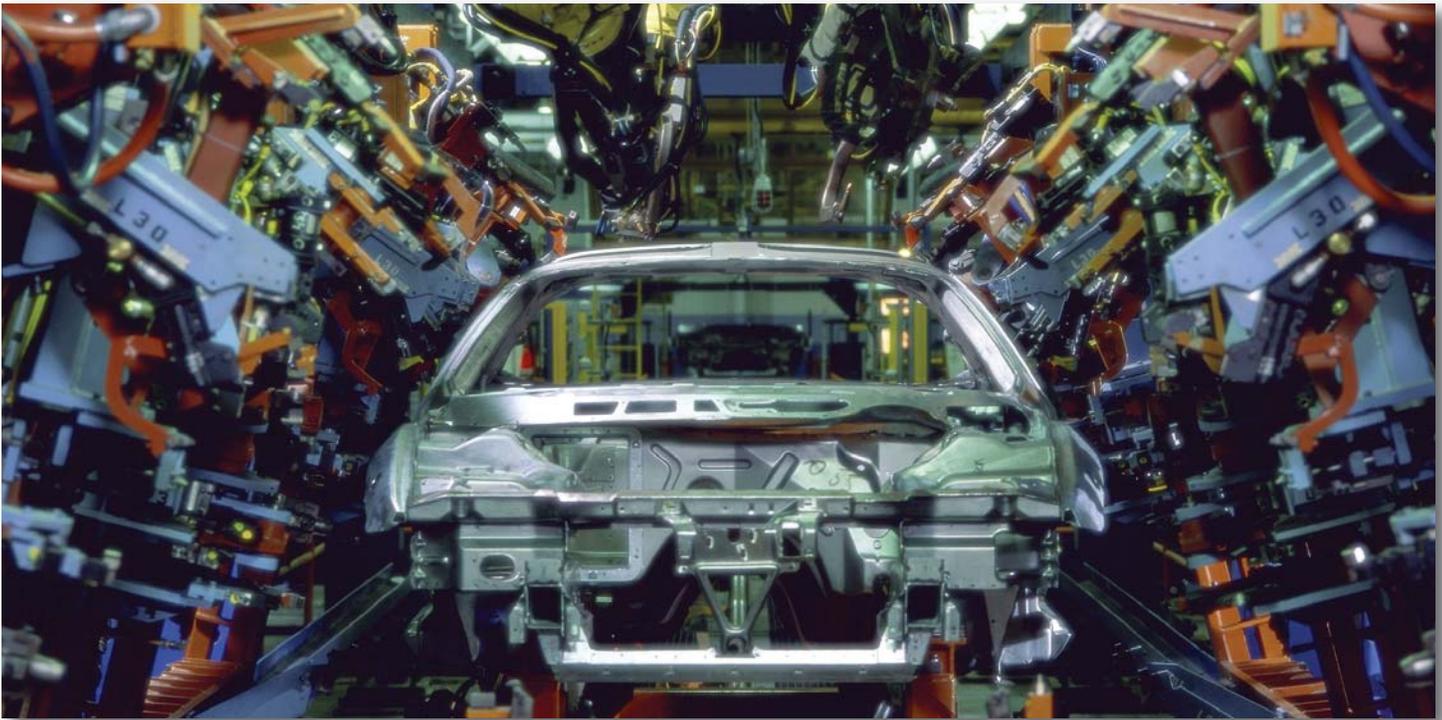
Unless you are using a Celette Bench or a universal fixture system (which anchor and measure the vehicle in multiple areas), most late-model vehicles require additional anchoring. These types of systems affix a jig fixture/universal fixture to the machine and to the vehicle to support and hold other areas on it for measuring and realignment procedures. Many shops have an issue because their equipment is antiquated and not designed for the anchoring and repairing of late-model vehicles. Many times, we see vehicles with chains hooked into areas on the undercarriage or into uni-rails. This will cause damage to these areas because they were not designed to have force applied to them. Additionally, we must all understand that electronic measuring or fixture measuring is the only correct way to realign a collision-damaged vehicle.

One of the main issues we see is damage assessors (estimators) unfamiliar with the proper equipment and procedure for affixing a vehicle to the realignment apparatus. In addition, we hear all too often, “We only get paid 2.0 hours to set up and measure.” We also hear technicians say, “I ain’t got time to set it up, cause we didn’t get paid for it.” This way of thinking needs to change. We cannot arbitrarily skip repair procedures because we didn’t get

Procedure and Description: Car-O-Liner

Labor

Pre-measure vehicle: This will determine the extent of damage and if structural realignment is necessary (or remove and replace the component)	1.0 Frame
Measure suspension components: This will determine if the suspension sustained any damage.	1.0 Frame
Set Up on Realignment Apparatus: This would include assembling clamps, installing the vehicle, affixing the clamps, removal of the vehicle and clamps, cleaning and replacement of the clamps.	3.0 Frame
EVO Anchoring left front uni-rails (upper and lower): This operation is to ensure that the rails are held in the correct position during the replacement procedures. (Three are required at 0.5 Frame per)	1.5 Frame
Check measurements during the repair process	1.0 Frame
Repair Anchoring Locations	1.5 Body
Refinish Anchoring Locations	1.2 Refinish
Add for Clearcoat	0.4 Refinish
Acid Etch/Epoxy/Primer Anchoring Locations	0.8 Refinish
Mask Underside for Primer and Paint	\$15/0.6 Body
R&I All Four Wheels	0.4 Mech
Trial Fit Weld-On/Bolt-On for Replacement	3.0 Body
Collision Access Time	1.5 Body
Totals	\$15.00 7.5 Frame 6.6 Body 2.4 Refinish 0.4 Mech



paid for them. Those operations still need to be performed.

Surprisingly, it can take upwards of two hours to set a vehicle up on a realignment apparatus and another two hours to clean and replace all of the anchoring clamps/fixtures. That would be four hours to set up the vehicle, and that may or may not include measuring. We know too many of us have been fooled into thinking that 2.0 hours for set-up and measure is the norm. Although it may have been at some point in the past, it is no longer

enough time (nor is it published anywhere) that studies have established that using 2.0 hours is normal and customary. Then there are the many procedures and operations to affix the vehicle to the realignment apparatus that many of you perform without realizing they are not included. For example, let's use a 2014 Toyota Camry with a frontal impact. The vehicle requires a left lower front uni-rail (frame rail) and a left upper front uni-rail. Let's look at the setup procedures for structural repairs on a Car-O-Liner system and on a Celette Bench. The procedures and labor times in the charts at left and on page 24 are **for example only** and in no way a suggestion of procedures and labor times for each operation.

As you can see, there are a lot of procedures to structural realignment that your techs are performing without a charge. Remember that each vehicle repair is slightly different, but structural repair on collision-damaged vehicles generally remains the same, based on the type of structural realignment equipment utilized. Please keep in mind that measuring and diagnosing is the most important step to any structural repair. Also understand that we did not include realignment time/pull time, as we could not show the damage in an article. In some cases, no realignment would be required, due to the fact that all the damage is being changed at a mating area

Procedure and Description: Celette		Labor
Pre-measure vehicle: This will determine the extent of damage and if structural realignment is necessary (or remove and replace the component)		1.0 Frame
Measure suspension components: This will determine if the suspension sustained any damage.		1.0 Frame
Set Up on Realignment Apparatus: This would include affixing the fixture Towers and MZ Plus, installing the vehicle, affixing the fixtures to the vehicle, removal of the vehicle and fixtures, cleaning and replacement of the fixtures and hardware. Eight Locations (four front and four rear)		4.0 Frame
Additional fixtures left front uni-rails (upper and lower): This operation is to ensure that the rails are held in the correct position during the replacement procedures. (Two are required at 0.5 Frame per)		1.0 Frame
Check measurements during the repair process		1.0 Frame
Repair Anchoring Locations		1.5 Body
Refinish Anchoring Locations		1.2 Refinish
Add for Clearcoat		0.4 Refinish
Acid Etch/Epoxy/Primer Anchoring Locations		0.8 Refinish
Mask Underside for Primer and Paint		\$15/0.6 Body
R&I All Four Wheels		0.4 Mech
Trial Fit Weld-On/Bolt-On for Replacement		3.0 Body
Collision Access Time		1.5 Body
Totals	\$15.00	8.0 Frame 6.6 Body 2.4 Refinish 0.4 Mech

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that is undamaged. It is always important to keep upgrading your equipment and stay up to date on training. Vehicles are changing every single year, and newer types of substrates are just around the corner. Remember that our industry has grown from panel beaters and "heavy guys" to repair technicians and structural technicians to para-engineers.

We hope this article has helped the industry to better understand the changes to structural realignment and why upgrading your equipment is so important. Feel free to contact us if you have any questions.

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Executive Director's Thoughts

Larry and Jeff's message that "thinking needs to change" applies to many aspects of collision repair for many of the repairers of today. You can't fix today's cars with yesterday's processes, and the expectation to do so is ignorance of grand proportions.

- Jordan Hendler