TECHNICAL FEATURE

WHAT IS THE TRUTH ABOUT AUTO REPAIRS?

At the 2017 NACE Automechanika show in Chicago, Collision Hub and I-CAR devoted a REPAIR U live show to debunking some of the foolish statements posted on certain social media sites. The show was titled "I-CAR Says" and dispelled the most popular myths running rampant through the industry. The general driving public is potentially at risk, due to the uneducated and misinformed collision repairers quoting these "technical procedures" incorrectly. The John Eagle Collision Center lawsuit over the Honda roof replacement – and the statements made by Boyce Willis, the collision director of John Eagle during deposition (see the story in this issue of *Hammer & Dolly*) – is a great example of this. Kristen Felder, owner of Collision Hub, and Jason Bartanen from I-CAR went live to set the record straight on multiple issues. You can see the video at tinyurl.com/yc96lyl9, and I have chosen some of the more important topics for this article.

I-CAR Repair Procedures vs. OEM Procedures

I-CAR does not make up repair procedures; they combine multiple similar OEM procedures to teach the industry a common way of thinking. The Uniform Procedures for Collision Repair (UPCRs) were created when no OEM procedures were available, but now almost every OEM publishes very descriptive and thorough instructions on how to repair their vehicles. The UPCRs are obsolete – and, in many cases, incorrect — for commonly understood procedures. Bartanen said that OEM procedures are service specifications, *not* recommendations, and they must be followed. I-CAR's position is that repair facilities should first follow OEM repair procedures; if none exist, the repair professional should look if any OEM position statements or other documentation exist for guidance. Additionally, they say that if there are no OEM options available, then use their "published best practice."

Well, I'm sorry, but I must disagree with this. We as collision repair professionals must force the OEMs to produce repair procedures for their vehicles; when no repair procedures exist, either total the vehicle or let it go to another shop and let them risk their liability. It is not worth it – look at the John Eagle case. Making up your own repair procedures is not only foolish, but can create liability and cost you a lot of money in defense; if you are defeated in court, the losses could be crippling.

Junkyard Used Weld-On Components

Bartanen stated that I-CAR says "no" to recycled outer quarter panels with rolled hem flanges. In their view, a technician wouldn't put a recycled door skin on, and the same logic applies to outer quarter panels with rolled hem flanges. While it might not be as much of a safety issue as a workmanship and quality one, it still shouldn't happen. I would agree with this position, but I disagree with limiting it to only quarter panels with hem flanges. My opinion is that any and all weld-on components should never be obtained from junkyards. The amount of tempering from the removal, preparation and re-welding of the panel is not recommended, as micro-cracking will occur. Additionally, most OEMs are now using bonding adhesive on the outer wheel well opening to the backside of the quarter panel. Heating this area and the prying applications distort the wheel opening area, flange and feature lines. Using other weld-on components – such as (but not limited to) uni-rails (frame rails), A-pillar, B-pillar, rocker panel assemblies, etc. – is not only foolish, but it could be deemed criminal in a court of law (negligence) due to the amount of deliberate disregard of the specific OEM procedures and the nonscientific and unproven sectioning and attachment methods utilized. (In other words, you made it up on your own.)

BY LARRY MONTANEZ III, CDA

Full Body Sectioning a.k.a. "Clipping"

In the video, Bartanen states that I-CAR says to follow the OEM on sectioning or don't do it – and don't ever clip a vehicle. I-CAR says if no OEM repair procedures exist, do not section.

The complete I-CAR statement reads: "If there are no published sectioning procedures available from the vehicle maker, do not section; the complete part should be replaced at factory seams, unless the OEM allows for partial part replacement at a factory seam."

Full-body sectioning, or "clipping," was originally an acceptable repair option and listed not only in the I-CAR UPCRs, but also mentioned in multiple I-CAR classes in the 1980s and 1990s. It has been rendered impossible since the early 2000s due to the restrictions contained in specific repair procedures from the OEMs for their vehicles. However, the practice continues, as seen on multiple social media groups in multiple posts from untrained and/or unprofessional technicians who only demonstrate how they destroy vehicles – as well as attempt to place the vehicle owners and occupants in a precarious situation. (Remember Boyce Willis and the John Eagle Collision Center Honda Fit repair.) This practice is so widespread that it led I-CAR to declare clipping "should not be done, under any circumstances" for late-model vehicles. (In the video, Felder and Bartanen indicated this means all vehicles dating back to sometime in the 1990s.)

Kink vs. Bend

Per Bartanen, I-CAR deems the "kink versus bend" rule obsolete due to the higher-strength advanced steels utilized in vehicle construction. I-CAR's new position is that if there are no OEM statements supporting (or warning against) straightening, then it should *not* be done on steel parts above 600 MPa/87,022.62psi. When an OEM states that a certain metal or component shouldn't be straightened, then that component should be replaced – even if there is only a visible bend to the component.

Always follow the OEM. When in doubt, replace; it is your liability. Facility owners, technicians, consultants and even the *clown-sultants* really have no say in the matter. (If we're going to include them, we should add McDonald's, Burger King, Starbucks, 7-11 and all the other industries not important to collision repair in this new way of thinking.) If a structural component sustained visible and/or displaced damage (not within specifications +/- 0.0mm), then the component must be replaced unless the OEM has specific procedures to attempt a repair. When high-strength, ultra-high-strength and advanced-high-strength steel components bend, it is generally not going to be possible to restore that original state and shape to the component without causing damage to it and/or adjacent components at the attachment joining points. In some rare situations, you might get the shape back ("it looks good"), but the state of that component is no longer restored to its original strength. Heat exposure from applications of heat and even cold straightening will alter the properties of those components.

Felder said that many on social media will claim why shape matters and that they can just apply body filler (which should never be applied to a structural component). Felder also brought up the popular "the customer's not going to see it" argument, which comes up a lot. Not only is this bad customer service, but performing this type of repair could affect the energy transfer during a subsequent collision. (Again, remember Boyce Willis and the John Eagle Collision Center Honda Fit.) OEM engineers design vehicles with lighter materials, such as aluminum and carbon fiber, in addition to much higher-strength steels to protect the occupants and direct the applied collision impact forces and energy around the passenger cell. Vehicles are designed with different grades of steels and sometimes aluminum to create sacrificial areas to absorb the applied forces. These are known as "crumple zones," which disperse some of the energy and direct the leftover undispersed energy to the stronger structural components. (Think of the roll cage.) This is done for two reasons: One, to lighten up the vehicle for fuel economy, and two: it keeps the passengers far safer in a collision than they were in the past, limiting injuries and death.

One of the I-CAR slides stated that most vehicle makers do not recommend straightening UHSS parts that are above 600 MPa due to the potential of cracking and tearing the part and the possible damage structural pulling can do to adjacent panels and other parts of the vehicle structure. Some vehicle makers will allow cold straightening on steels above 600-800 MPa, but this is limited.

Bartanen said he didn't know of any OEM that allows even cold straightening over 800 MPa, later commenting that state is really what's important for energy transfer. The "kink versus bend" guidance has grown more restrictive to reflect such new technology; this combined with further OEM straightening restrictions – which supersede I-CAR – seem to make the concept of straightening largely irrelevant.

This statement alone should make you immediately rethink what you have been doing. *STOP IT NOW* and begin to retrain your technicians and estimators and retool your facility. If you don't, you could be the next Boyce Willis and the next John Eagle Collision Center mentioned in the media. Kristen Felder and I have received a lot of calls from lawyers about consulting, training and expert analysis regarding incorrectly repaired vehicles for potential lawsuits.

The Collision Hub Repair U presentation was intended to dispel the incorrect and misquoted positions about I-CAR's statements and teachings being made by many in the collision repair industry – which includes insurance company personnel and even some I-CAR instructors. In the presentation, Collision Hub CEO Kristen Felder suggested that some of these misrepresentations might come from those who took an I-CAR class decades ago but haven't had training since. Felder and Bartanen also volleyed some the statements, questions and even comments posted on the social media groups. Here's an example (with some slight edits):

Felder: "I can't just apply a lot of undercoating?"
Bartanen: "You're not supposed to do that anymore."
Felder: "I can't have my torch, and my undercoat, like gunslingers attached when I walk into the stall?"
Bartanen: "No, you're not supposed to heat it up anymore, either."
Felder: "I'm done," she joked. "My body days are over, Jason."

All joking aside, there are a few good points brought up here. The first is that undercoating is not an acceptable product for a professional repair facility. Even if the OEM has procedures where heat is acceptable (of which there are only two that I can actually think of), they will have a specific maximum temperature and the cumulative number of times heat can be applied. There is no reason for a professional collision repair facility to have a set of torches in the facility; it will only assist in making bad decisions and incorrect repairs.

Experience level does not overrule OEM procedures. Consultants, tool salesmen, equipment salesmen, product salesmen (of adhesive products, for example) and your opinion are irrelevant in a court of law. The insurance company cannot give an opinion on repair times, replacement components or what is repairable and what is not. To recap, remember these hot tips:

- If the OEM states that a certain type of metal or component shouldn't be straightened, then that part should be replaced (even if it's only bent).
- It is also advised that even when an OEM allows straightening at 600 MPa or above, a dye penetrant should be used to ensure no micro-cracking has occurred. If micro-cracking has occurred, it should be replaced. That's an important process that shops that primarily repair steel vehicles must understand. Aluminum repair facilities should have already implemented this operation into their damage analysis and repair processes.
- Visible fractures (cracks or tears) in the metal are a permanent area of deformation and cannot be returned to the original state and shape. They also cannot be welded to make them look good; it must be replaced.

If a component only looks bent and not kinked, identify the material/strength/classification, as it may not be repairable and/or may not be able to be straightened without cracking.

It's sad to even have to mention this, but straightening is not an option when a bumper beam, door intrusion beam or component that is classified as a crush zone has sustained damage.

- Damage to curved or highly formed areas is more difficult to straighten. Bends to these areas may not return to their original state and shape and warrant replacement.
- Aluminum structural components cannot be straightened and require replacement as per the OEM.
- Every vehicle must have a pre-repair diagnostic scan to know what systems are operational and which are not (and which trouble codes are related to the claim and which are not). Post-diagnostic scans must be performed to ensure the vehicle systems are operational. This will assist in protecting your liability.
- Every vehicle must be pre-measured. Panel gaps, your eyes or your opinion cannot see minor displacement and misalignment.

Always look up the OEM repair information and the OEM website, as they are the most up-to-date information. Having trouble finding that information or even interpreting it? I will be teaching a RDE class at this year's SEMA Show in Las Vegas. Sign up for it and other great classes at scrs.com/rde.

As always, if you have any questions please feel free to contact me. **H&D**

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Executive Director's Thoughts

There is just so much importance to safety and procedure, even if the customer never even knows. The liability of what kind of information is available now to defend a victim is endless. It's just not worth keeping a job, or "figuring it out," just to have something bite you straight in the butt later. - *Jordan Hendler*