

## WARNING ON ALUMINUM REPAIR: DON'T BELIEVE THE HYPE! – PART 2



Last month, we addressed some common misconceptions and misinformation about aluminum repair. For this issue, we'd like to continue our discussion on aluminum repair by focusing on the equipment and training necessary to do a proper job.

To be on any one of the many aluminum collision repair programs, you will need to invest in equipment and training. Generally, the repair facility will need to send at least two technicians to do the following:

- Attend a specific set of I-CAR classes and/or I-CAR online courses (for an average of eight classes)
- Pass the I-CAR Steel and Aluminum Welding qualification test
- Pass the ASE certification tests for their job position (B2-B5)
- Pass the OEM online training classes prior to attending a specific course
- Pass the specific OEM aluminum welding certification test, ISO 9606-2 Aircraft Aluminum welding certification test.

Please note that this is not a "how-to" article. **WE WILL NOT DISCUSS OR EXPLAIN ALUMINUM WELDING PROCEDURES AND PROCESSES. ALTHOUGH LARRY MONTANEZ IS A CERTIFIED ALUMINUM WELDER AND TECHNICIAN WITH MULTIPLE OEMs, WE WILL NOT DISCUSS THE PROCESS. THIS IS DUE TO THE FACT THAT, WHEN REQUIRED TO WELD ALUMINUM, THE REPAIR FACILITY MUST BE ON AN OEM REPAIR PROGRAM. EACH OEM PROGRAM THAT ALLOWS ALUMINUM WELDING HAS ITS OWN PROPRIETARY WELDING CERTIFICATION TEST - ALTHOUGH ONE OEM HAS BROKEN THAT RULE, AND WE WILL DISCUSS THIS ISSUE IN THIS ARTICLE. ADDITIONALLY, THIS ARTICLE IS NOT A TRAINING GUIDE OR HOW-TO MANUAL; IT IS FOR INFORMATIONAL PURPOSES ONLY. IT IS A GENERALIZATION OF MULTIPLE DISCIPLINES OF OEM REPAIR PROCEDURES AND REQUIREMENTS.**

@thinkstockphoto.com/Edward White

Some OEMs require re-testing every six months, annually or bi-annually. Currently, there is no reciprocity between the OEMs for the ISO 9606-2 test. Most of the testing is performed in the USA, but some are performed in Europe. These tests are extremely difficult, can be very expensive and are time-consuming. The shortest test is 4 days and the longest is 10 days. Recertification tests are one to three days, depending on the OEM.

Technicians should be fully trained on the basic physical properties of aluminum, as well as be able to:

- Understand aluminum properties, characteristics and their differences;
- Be able to identify vehicle part design (i.e. sheet, cast and extrusion);
- Analyze and identify damage to aluminum exterior panels;
- Analyze and identify damage to aluminum structural parts;
- Identify the OEM repair procedures and understand repair considerations;
- Understand the considerations around making repair versus replace decisions; and
- Understand how to perform test welds visually and destructively.

The repair facility will be required to purchase the following equipment:

1. **Specific structural realignment equipment.** Currently, Celette is the most popular required equipment maker, followed by CarO-Liner and CarBench. Global Jig also has a few approvals. Lately, there has been some information from Ford that Chief and Spanesi have approvals for the F-150 Program.
2. **Aluminum Pulse Welders.** These machines can be expensive, and in some cases have specific OEM computerized settings that are loaded in the equipment's software. Fronius, Migatronik and Wieländer Schill are the most popular required welders. One program lists specific Miller and Lincoln welders in addition to the ones mentioned here.

3. Curtained-off clean area, clean room or a dedicated "aluminum only" repair building.
4. Specific rivet guns, hand tools, glass tools, OEM-specific specialty tools, dedicated aluminum body repair tools and miscellaneous tools.
5. Subscriptions to the OEM-specific website for repair information.

Additionally, the shop is subject to surprise inspections by the certifying body.

As you can see, aluminum repair requires a very specific set of tools, training and a commitment by not only the repair facility, but by the technicians, too. The average cost to start on one of these programs can be around \$70,000 for the simpler programs to more than \$250,000 for the high-requirement programs. Once you are on one of the programs, other programs might be easier to get on and in turn be less expensive, as there may be duplicate equipment requirements. Another option is to make a deal with a certified shop. This may be your best option, as you retain your customer, ensure the proper repairs were performed and have a certified repair facility's invoice to guarantee the workmanship.

So should you or should you not invest in aluminum repair? We would recommend that you make a move towards the investment. The 2015 Ford F-150 is already constructed with an aluminum upper body structure. GM recently announced that the GMC 1500 and Chevrolet Silverado will be aluminum in 2018, as well. How long before we see aluminum Mustangs, Focuses, Impalas, Cadillacs and other American vehicles? Being ahead of the learning curve is important. We all must remember that aluminum repair requires much more skill and technique than steel.

Besides I-CAR classroom training, there are other training options. P&L Consultants offers a six-hour, hands-on aluminum outer body panel repair workshop. We know this is not what everyone wants to hear, but it is what it is. If you do not invest in the training and equipment, you may not be in business anymore as you *will* be left behind.

Opting to repair cosmetic damage only is really *not* an option, as many times the repairs require some structural work. Not only do the

technicians require new tools, equipment and knowledge, but the damage assessors will require the same training to understand all the procedures and precautions. A three-hour dent repair to a steel panel may be eight to 10 hours or even unrepairable on an aluminum panel with the same damage severity. Being able to understand what it takes to repair aluminum components will be paramount in six years; you need to invest in education *now*.

We hope this article has helped the industry to better understand some of the prevalent issues involved in repairing aluminum cosmetically and structurally, and the commitment necessary to get involved with an OEM aluminum repair program. As always, please feel free to contact us if you have any questions. **H&D**

**Larry Montanez, CDA** is co-owner of P&L Consultants with Peter Pratti Jr. P&L Consultants works with collision repair shops on estimating, production and proper repair procedures. P&L conducts repair workshops on MIG & resistance welding, measuring for estimating and advanced estimating skills. P&L also conducts investigations for insurers and repair shops for improper repairs, collision repairability and estimating issues. P&L can be reached by contacting Larry at (718) 891-4018 (office), (917) 860-3588 (cell), (718) 646-2733 (fax) or via email at [info@PnLEstimology.com](mailto:info@PnLEstimology.com). The P&L website is [www.PnLEstimology.com](http://www.PnLEstimology.com).

**Jeff Lange, PE** is president of Lange Technical Services, Ltd. of Deer Park, NY. Jeff is a Licensed New York State Professional Engineer who specializes in investigating vehicle and component failures. Lange Technical Services, Ltd. is an investigative engineering firm performing forensic vehicle examinations and analysis for accident reconstruction, products liability and insurance issues. Jeff can be reached at (631) 667-6128 or by email at [Jeff.Lange@LangeTech.net](mailto:Jeff.Lange@LangeTech.net). The Lange Technical Services, Ltd. website is [www.LangeTech.net](http://www.LangeTech.net).

## Executive Director's Thoughts

With the advancement of all-aluminum structures in America's most popular vehicles, repairers will need to address those repairs *now*. Will you make the investment into properly fixing these cars and trucks, or will you have to turn away repairs to someone who has? - Jordan Hender