Opportunities of Aluminum Auto Body Repair

2015 Aluminum Body Ford F-150 unveiled at the Detroit Auto Show in January of 2014. The production model of the F-150 will be released to dealers in the fall of 2014. The reason for this move is to enable larger vehicles to comply with governmental CAFE standards (Corporate Average Fuel Economy Law). Aluminum body panels enable the 2015 F-150 to have increased fuel efficiency by being 500 - 700 pounds lighter than its 2014 predecessor.

Is this a passing industry fad?

There are several key indicators that using aluminum in vehicle construction is an industry TREND.

**Indicator 1:** Alcoa Expanding Automotive Aluminum Production

**Indicator 2:** Aluminum Use in Existing Vehicles
- Jaguar and Land Rover extensive use of Aluminum
- 2014 Corvette Stingray – Aluminum Frame
- Chevy Silverado Aluminum Hood (Aluminum Body by 2018)
- Chevy SS Aluminum Hood & Deck Lid
- Cadillac CTS Aluminum Front Crush Box
- Cadillac Aluminum Bumper Reinforcement
- Acura RLX Aluminum Door Skins
- Accord PHEV Aluminum Engine Cradle

**Indicator 3:** Insurance companies in many states now requiring repair instead of replacement on Aluminum vehicle parts.

**Bottom Line:**

There is now an incrediable opportunity for autobody repair facilities to be ready to offer exclusive expertise in Aluminum Repair or, at least, to be prepared to properly handle the repair of aluminum vehicle components.

*Are you ready to face the challenges of Aluminum Repair?*
Challenges of Aluminum Auto Body Repair

Aluminum is very different from the various steel products that are used in automotive construction. There are an entirely new set of rules for handling repairs, sanding, grinding, using fasteners, welding and dent pulling. Although working with aluminum has its own set of challenges, there are a number of new solutions to meet these unique needs.

Challenge 1: Galvanic Corrosion
Wikipedia defines Galvanic Corrosion, “… an electrochemical process in which one metal corrodes preferentially to another when both metals are in electrical contact, in the presence of an electrolyte”. In other words, whenever aluminum comes in direct contact with dissimilar metals there is the potential for galvanic corrosion to take place. So sensitive is aluminum to this reaction that tools that have been used to repair steel or other metals can cause this corrosive effect to take place. This requires the repair facility to have a separate set of tools for aluminum repair. There can be NO Cross Contamination of Tools or Equipment. Also there must be complete isolation of aluminum repair areas away from the metallic particles generated by sanding or grinding of steel vehicle parts.

Understanding the potential for galvanic corrosion, New Fastener Technologies are required whenever aluminum vehicle components are joined to steel parts. This understanding is necessary since many manufacturers have chosen to build aluminum-bodied vehicles upon a steel frame. So, in collision repair it is important to use the correct type of fasteners.

Challenge 2: Aluminum Burns Easily
Aluminum powder and dust generated by grinding and sanding operations is easily ignited. Special Care is required to be certain that aluminum dust does not come in contact with an ignition source - special anti-static precautions need to be taken around air hoses and vacuum lines.

Challenge 3: New Vehicle Design
Most modern vehicles are designed with an eye towards collision safety. As a result modern vehicles have “crumple zones” areas of the car that are designed to collapse upon impact to channel stress away from the passengers in the “safety cage” area. Different metals are used in different parts of the vehicle to create various safety zones. It is important to consult OEM (Original Equipment Manufacturer) information to know which metal you are approaching in each vehicle area.

Challenge 4: New Welding Tech
It is also important to consult OEM materials before welding aluminum parts. TIG welding is usually associated with aluminum welding applications. This may not be true in the case of some newer automotive aluminum components.

Challenge 5: Different Rules for Dent Pulling
The material characteristics of aluminum are very different from steel. Aluminum can tear if dents are pulled cold. Surface heating of body panels is required before for dent pulling. A heat source and a UV temperature device are indispensable tools for aluminum dent repairs.

An Important Resource
I-CAR (Inter-Industry Conference on Auto Collision Repair) is a valuable source of information to aid you in your navigation of the brave new world of aluminum repair. I-CAR develops and delivers technical training programs to professionals in all areas of the collision repair industry. They offer certificate level training courses for aluminum repair as well as informational courses that will alert collision repair professionals to upcoming trends in the industry. Their website offers Internet-based resources that give you access to vital OEM information. Visit I-CAR and set up a free user account on their website: www.i-car.com
Challenge Solutions for Aluminum Auto Body Repair

All of the products on this page and the following page offer solutions to the unique challenges associated with aluminum autobody repair.

THE MOST COMPLETE SYSTEM AVAILABLE!

Aluspot® Deluxe Aluminum Repair Station  DF-900DX

Deluxe Version Includes:
• Everything Found in the DF-900A
• Plus Bridge Puller, 3rd Drawer and Dust Cover

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• Hammers
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Tutorials & Resources for Aluminum Repair at:

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Kit Includes: Body Hammer Cover, Dinging Spoon Cover, Heel Dolly Face Cover and Heel Dolly End Cover

• Eliminates the Problem of a Rubber Dolly not Being Heavy Enough to Work Effectively by Allowing a Technician to Add a Cover to the Existing Steel Dolly
• Safe & Uncomplicated Conversion to Work on Aluminum
• Removable Covers Prevent Cross Contamination and Galvanic Corrosion

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MORE Challenge Solutions for Aluminum Auto Body Repair

Contamination Free Coated Hammer & Dolly Kit
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Precision Aluminum Reformation Station
The workbench centralizes all the operator's tools and utilities:
- 110V & 220V electrical outlets.
- Compressed air outlets
- Front and side perforated panels for tool storage
- Heat gun & Cable with supports.
- Sliding drawer & storage shelves.

Protect Your Aluminum Repair Workspace from Contamination with Track & Roller Curtain Partitions

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Helpful Information You Can Use From Your Friends