

Aluminum Repair Tips & Techniques in Preparation for Ford F-150

by **Stacey Phillips**, Assistant Editor

With Ford's new F-150 soon to be on the road, collision repair shops across the country are preparing for its release. During an SCRS seminar at SEMA, **Larry Montanez** of *P&L Consultants* discussed some of the new procedures and techniques shops will need to learn in order to repair this aluminum-bodied truck.

Based in New York, P&L Consultants offers training programs for the collision and insurance industries. "Our mission is to make sure that everybody in the collision repair industry can work together towards making sure the vehicle is prepared properly," said the company's co-owner Montanez. "There's truly only one standard, which is what the manufacturer puts out."

He advised shops to learn about the new requirements that will be necessary to repair aluminum and to refer to the manuals provided by the dealer.

During the seminar Montanez discussed the training options available for those in the industry, including vocational technical schools, third-party vendors, OEM training and the highest level of training in the au-

tomotive field – OEM welding certification.

In a room filled with collision repair shop owners and technicians, he gave an overview of the types of steel and aluminum currently being used to manufacture vehicles. As a certified collision damage analyst and ISO certified aluminum welder, Montanez said, "It's a different repair process with aluminum than it is with steel. Aluminum is not as forgiving."

Aluminum melts at a much lower temperature than steel, 1,200 degree F versus 2,732 F, which he said changes the repair procedures with a vehicle.

He stressed the importance of keeping the aluminum heated at the proper range. "Not staying within the repair heating range will cause the properties of the aluminum alloys to be lost and can anneal the component," said Montanez. "Annealing is the process of heating the aluminum to the point that it is permanently softened and cannot be returned to its original state."



Larry Montanez of P&L Consultants

After teaching more than 40 classes over the past year, Montanez has found that most of the dents on a vehicle can be removed at a temperature of 200 to 300 degrees using MAP gas. He said that temperature-heating indicators, such as heat monitoring strips or a digital non-contact thermometer, should be used for measurement.

Aluminum doesn't change color like steel; instead it will just disappear, he said. "You can't heat shrink a panel like you can with steel."

Due to aluminum softening at elevated temperatures, Montanez explained it allows the deformed areas to be straightened more easily. "Aluminum can be as strong as steel in a much thinner area."

He highlighted some of the other advantages of aluminum, such as its durability, strength, corrosion resistance, weight, recyclability and availability.

Unlike steel, aluminum can be heated multiple times provided that the temperature remains within the heating range. He noted that quenching the panel with water or compressed air should be avoided and the panel should be allowed to cool naturally. Otherwise, there is a risk of crystallizing the

panel, which can lead to cracking.

Regarding the heating equipment used on aluminum, Montanez said there are several options available, including a MAP torch, an oxyacetylene torch, an induction heater and a heat gun. He recommended the MAP torch due to its ease of use but advised against using propane gas.

"Propane gas can only be used on a panel that is painted," said Montanez. "The problem with propane gas is it will apply moisture to bare aluminum and can cause corrosion."

When working with aluminum, he recommended allocating a certain area or room to avoid cross contamination with steel. Ideally, shops should have a designated set of hand and power tools as well as separate equipment such as sandpaper and saw blades. In addition, shops will need vacuum extractors and a fan in the room that is explosion-proof.

More information about P&L's aluminum repair workshop can be found by contacting Larry Montanez at P&L Consulting: 917-860-3588 or info@pnlestimology.com

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CHECK IT OUT!

Ford Begins Building All-New F-150 Truck

Ford began building their all-new F-150 truck as the first one rolled off the line on Nov. 11 at the historic Ford Rouge Center in Dearborn, Michigan.

Interest in the new Ford F-150 has steadily grown since the truck was revealed in January at the 2014 North American International Auto Show. More than 225,000 truck enthusiasts submitted their contact information for updates about the



The new **Ford F-150** goes on sale in December in the United States

vehicle, and more than 250,000 customers have built and priced their own unique version of the all-new F-150 online – a record through 13 generations. The new model will be in showrooms in December.

"The all-new F-150 continues to advance my great-grandfather's vision of building vehicles we can

be proud of and our customers can depend on," said **Bill Ford**, Executive Chairman, Ford Motor Company.

He said both the historic Ford Rouge Center and the all-new Ford F-150 are hallmarks of innovation. Throughout the 20th and 21st centuries, Rouge has represented Henry Ford's vision for lean, flexible and sustainable manufacturing. The 2015 F-150 – the first mass-produced truck in its class featuring a high-strength, military-grade, aluminum-alloy body and bed.

"The all-new F-150 is a showcase of innovation and class-leading capability for truck customers," said **Mark Fields**, Ford's President and CEO. "It underscores the product excellence and innovation we are delivering in every part of our business as we accelerate our pace of progress toward profitable growth."

F-150 is part of the Ford F-Series truck lineup. Now in its 66th year, the F-Series has been the best-selling truck in America for 37 consecutive years and the best-selling vehicle in America for 32 consecutive years.



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