

MIG 39 BRAZING BASICS

Although popular in global markets, many U.S. collision techs are still unfamiliar with the process

SPECIAL SECTION INSIDE:
ALUMINUM &
ADVANCED MATERIAL REPAIR

TABLE TALK

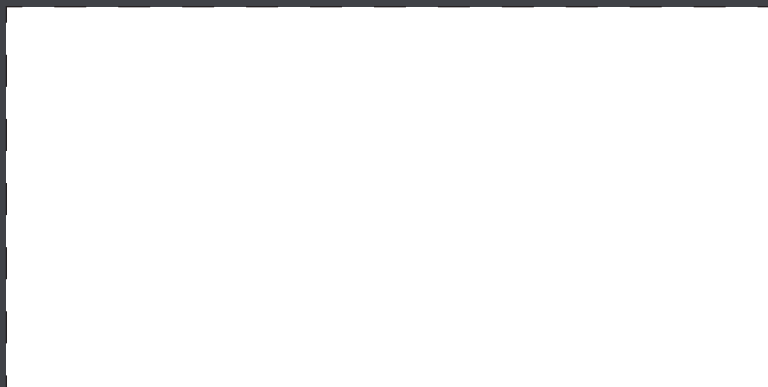
Panel of industry representatives share ideas, perspectives and predictions in annual roundtable

10

NAVIGATING THE ELECTRONIC MAZE

Five steps to solving the most difficult electrical system riddles

46



BUILDING R



AN
★ AMERICAN ★
DELTRON
ORIGINAL ★

EPUTATIONS



ONE COAT AT A TIME.

You do it because you love cars. And you won't accept anything less than your best. So when your shop's good name is on the line, turn to the system with a long, proven track record of color excellence and process efficiency. For Rick Stickland and Bob Winters of South of the Square Collision Center in Medina and North Ridgeville, Ohio, the right choice is the DELTRON® refinish system from PPG.



OPERATIONS

10 TABLE TALK

Panel of industry representatives share ideas, perspectives and predictions in annual roundtable

JOHN YOSWICK // Contributing Editor

18 20 GROUPS AUTHENTICATE THEIR PURPOSE

Regular collaboration leads to positive and consistent results

GREG EISENHARDT // Contributing Editor

24 CULTURE CONVERSATIONS

Encourage discussions about long-term operations improvements for continued success

JEFF PEEVY // Contributing Editor

26 *THE COLLISION EXECUTIVE* OPERATE EFFECTIVELY WITH NO SHOP MANAGEMENT

You can't be everywhere, but that doesn't necessitate multiple managers, either

RYAN CROPPER // Contributing Editor

28 RAVE REVIEWS

Yelp offers tips for improving your shop's online review success

EMILY WASHCOVICK // Contributing Editor

30 LEAVING IT ALL BEHIND

A shop owner's guide to determining an exit strategy

W. SCOTT WHEELER // Contributing Editor

74 *THE LAST DETAIL* RETAINING CUSTOMERS IS VITAL

The value of a single lifetime customer has reached more than \$147,000

SHERYL DRIGGERS // Contributing Editor

NACE
automechanika
ATLANTA

COMMITMENT TO
TRAINING

36 UPGRADE YOUR TITLE FROM EMPLOYEE TO BUSINESS OWNER

Federal Loan program can help employees looking to make the transition

ROB WILSON // Contributing Editor

➤ SOCIAL INSIGHTS, WATCH & LEARN, TRAINING EVENTS



TECHNICAL

39 MIG BRAZING BASICS

Although popular in global markets, many U.S. collision techs are still unfamiliar with the process

JASON BARTANEN // Contributing Editor

46 NAVIGATING THE ELECTRONIC MAZE

Five steps to solving the most difficult electrical system riddles

TIM SRAMCIK // Contributing Editor

SPECIAL SECTION

52 MIXED-MATERIAL VEHICLES

The next collision repair challenge?

JAKE DEMBROSKI // Contributing Editor

58 THE ALUMINUM EVOLUTION

The why and how of repair procedures

DOUGLAS CRAIG // Contributing Editor

64 THE PAST, PRESENT AND FUTURE OF VEHICLES

Technology will continue to change the vehicles and repair procedures, materials and equipment we use

TOM MCGEE // Contributing Editor

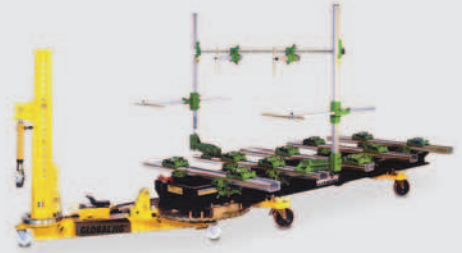
70 NO IFS, ANDS OR BUTS

There are five mandates shops must understand to repair current vehicles

MIKE ANDERSON // Contributing Editor



Quick Pull



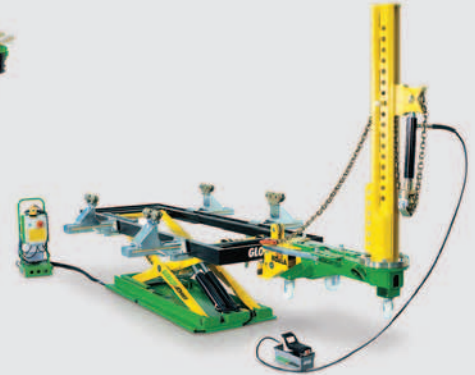
Mobile System



Evolution



Motojig



Koala



Super Rotax

Visit us at
SEMA
Booth
#10122

A NEW BENCHMARK FOR CHIEF.

Experience power and precision with our full line of Globaljig benches.

Who knew a bench could deliver impressive flexibility and performance? We did. That's why your Chief distributor is proud to offer a full line of Globaljig benches. It's just what you need to keep your shop more than a few steps ahead of the competition.

GLOBALJIG PRESENTED BY **CHIEF**

See the full line of Globaljig benches at: chiefautomotive.com/globaljig/abrn

IN EVERY ISSUE



7

7 INDUSTRY NEWS

FITZGERALD COLLISION & REPAIR EXPANSION TO CREATE 220 JOBS

BRIAN ALBRIGHT // Contributing Editor

PREPARING FOR AN ACTIVE SHOOTER IN YOUR SHOP

KRISTA MCNAMARA // Content Channel Director

71 COLLISION PRODUCTS GUIDE

72 MARKETPLACE

73 AD INDEX

SPECIAL SUPPLEMENT

TOYOTA COLLISION PROS

Take a look at the latest edition of Toyota Collision Pros, which is included within the pages of this month's magazine!



WEB EXCLUSIVES // ABRN.COM

WELDING TECHNIQUES FOR TODAY'S SHOPS

From a look at the right equipment to a discussion on aluminum welding techniques, watch this webinar to become a top welder in your shop.

ABRN.COM/WELDTODAY

NITROGEN PLASTIC WELDING

Learn about the additional revenue stream nitrogen plastic welding offers and tips for becoming a pro.

ABRN.COM/NPWWHITEPAPER

FOCUS ON REPAIR SHOP SOPS

Creating and implementing SOPs are the best ways to ensure each employee knows the proper method of performing various jobs throughout the shop.

ABRN.COM/SOPFOCUS

ABRN

AUTO BODY REPAIR NETWORK

WWW.ABRN.COM

24950 Country Club Blvd., Suite 200 // North Olmsted, OH 44070
Phone: (440) 243-8100 // Fax: (440) 891-2675

EDITORIAL

MICHAEL WILLINS

GROUP CONTENT DIRECTOR
michael.willins@ubm.com
(440) 891-2604

KRISTA MCNAMARA

CONTENT CHANNEL DIRECTOR
krista.mcnamara@ubm.com
(440) 891-2646

CHELSEA FREY

SENIOR ASSOCIATE EDITOR
chelsea.frey@ubm.com
(440) 891-2645

STEPH JOHNSON-BENTZ

ART DIRECTOR

STALIN ANNAOURAI

GRAPHIC DESIGNER

CONTRIBUTORS

LARRY MONTANEZ

info@pnlestimology
(718) 891-4018

BRIAN ALBRIGHT

b-albright@sbcglobal.net
(614) 237-6707

MICHAEL GIARRIZZO, JR.

mggiarizzo@dcrsystems.net

RYAN CROPPER

rcropper@ablebodyshop.com
(907)563-3344

JAMES E. GUYETTE

jimguyette2004@yahoo.com
(440) 564-9180

KEITH MANICH

Kmanich@autotraining.net
(888) 471-5800

TIM SRAMCIK

tsramcik@yahoo.com
(330) 475-5969

JOHN YOSWICK

info@crashnetwork.com
(503) 335-0393

EDITORIAL ADVISORY BOARD

PAUL GAGE

FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE

JEFF POOLE

I-CAR

JAKE RODENROTH

COLLISION DIAGNOSTIC SERVICES

BUSINESS

JIM SAVAS

VICE PRESIDENT GENERAL MANAGER

TERRI McMENAMIN

GROUP PUBLISHER

BORIS CHERNIN

MARKETING DIRECTOR

BALA VISHAL

DIRECTOR OF DIGITAL MARKETING

TSCHANEN BRANDYBERRY

SPECIAL PROJECTS EDITOR

DANIEL MELKONYAN

SEO ANALYST/WEB MASTER

JILLENE WILLIAMS

SALES COORDINATOR

DOMESTIC SALES

MIDWEST & WESTERN STATES

MICHAEL PARRA

michael.parra@ubm.com
(704) 919-1931

ILLINOIS, EASTERN & SOUTHERN STATES

PAUL ROPSKI

paul.ropski@ubm.com
(312) 566-9885
Fax: (312) 566-9884

OHIO, MICHIGAN & CALIFORNIA

LISA MEND

lisa.mend@ubm.com
(773) 866-1514

ACCOUNT EXEC./CLASSIFIED SALES

KEITH HAVEMANN

keith.havemann@ubm.com
(818) 227-4469
Fax: (818) 227-4023

PRODUCTION & ADMINISTRATION

KAREN LENZEN

SENIOR PRODUCTION MANAGER

TRACY WHITE

CIRCULATION MANAGER

DAVID PASQUILL

COMMERCIAL FINANCE PARTNER

SOFIA RENTERIA

BUSINESS ANALYST

CUSTOMER SERVICE

SUBSCRIPTION INQUIRIES

(888) 527-7008

(218) 723-9477

REPRINTS

(877) 6525295, ext. 121

bkolb@wrightsmedia.com

Outside US, UK, direct dial:

(281) 419-5725, ext. 121

ABRN (USPS 437970) (Print ISSN: 2166-0751, Digital ISSN: 2166-2533) is published monthly, 12 times per year by UBM LLC 131 West 1st St., Duluth, MN 55802-2065. Periodicals Postage paid at Duluth, MN 55806 and at additional mailing offices. Subscription prices: U.S. one year, \$99; one year Canada, \$74; two year Canada, \$148; one year international, \$104; two year international, \$208. For information, call (888) 527-7008 or (218) 723-9477. POSTMASTER: Send address changes to ABRN, P.O. Box 6018, Duluth, MN 55806-6018. Please address subscription mail to ABRN, P.O. Box 6018, Duluth, MN 55806-6018. Canadian G.S.T. number: R-124213133R1001. PUBLICATIONS MAIL AGREEMENT NO. 40612608. Return Undeliverable Canadian Addresses to: IMEX Global Solutions, P.O. Box 25542, London, ON N6G 6B2, CANADA. PRINTED IN U.S.A.

©2017 UBM. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical including by photocopy, recording, or information storage and retrieval without permission in writing from the publisher. Authorization to photocopy items for internal/educational or personal use, or the internal/educational or personal use of specific clients is granted by UBM for libraries and other users registered with the Copyright Clearance Center, 222 Rosewood Dr., Danvers, MA 01923, 978-750-8400 fax 978-646-8700 or visit <http://www.copyright.com> online. For uses beyond those listed above, please direct your written request to Permission Dept. fax 440-756-5255 or email: mcannon@advertiser.com.

UBM provides certain customer contact data (such as customers' names, addresses, phone numbers, and e-mail addresses) to third parties who wish to promote relevant products, services, and other opportunities that may be of interest to you. If you do not want UBM to make your contact information available to third parties for marketing purposes, simply call toll-free 866-529-2922 between the hours of 7:30 a.m. and 5 p.m. CST and a customer service representative will assist you in removing your name from UBM's lists. Outside the U.S., please phone 218-740-6477. ABRN does not verify any claims or other information appearing in any of the advertisements contained in the publication, and cannot take responsibility for any losses or other damages incurred by readers in reliance of such content. ABRN welcomes unsolicited articles, manuscripts, photographs, illustrations and other materials but cannot be held responsible for their safekeeping or return. To subscribe, call toll-free 888-527-7008. Outside the U.S. call 218-740-6477.

Heat Management: Proven Welding Techniques

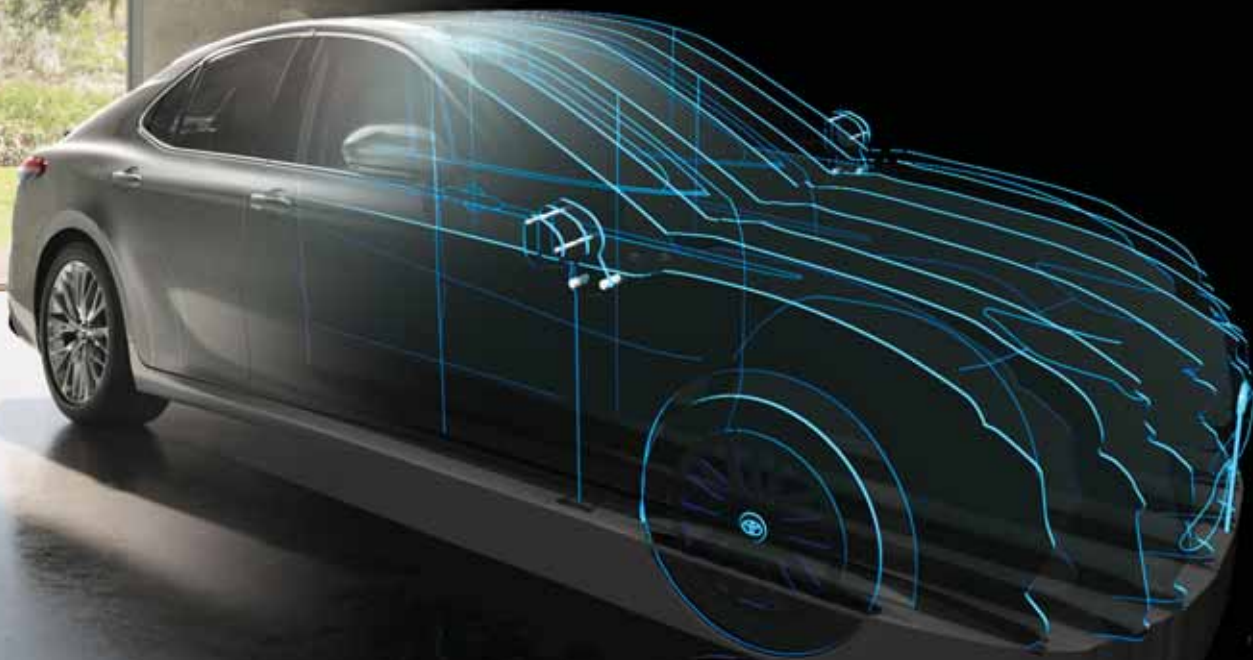
Keep best practices top of mind, minimize heat-affect and improve repair results.

PAGE 4

Blueprinting the Future

A more efficient repair process leads to better results and increased profits.

PAGE 6



THE ALL-NEW 2018 Camry

A total transformation delivers more performance and style for an exciting owner experience.

PAGE 8

Blind Spot Monitor Sensor Installation

An updated class reveals the details to a successful repair.

PAGE 10



Contributors to *Collision Pros*: (from left to right) Scott Nunez, Rod Amezcua, Ruben De Loera, Eric Mendoza, Dave Pyle, Ryan Bacsafrá and Steve Brodie; James Meyer; Agustin Diaz



The Art of Continuous Improvement

At Toyota, our commitment to industry-leading customer safety is driven by continuous improvement: start with the best and make it better. From sharing best practices to championing continuing education, *Collision Pros* magazine is a critical part of that effort.

In this issue of *Collision Pros*, you'll find continuous improvement to be a common theme. You'll discover how the eighth-generation Camry has been totally transformed offering more excitement, performance and style in "The Best-Selling Car in America Is Better than Ever." You'll learn how Lexus' new Repair Planning Process gives even the best dealers a rare opportunity to raise the bar and firmly establish industry leadership in Collision Repair. Even the most experienced repair technicians can benefit from a quick refresher on best practices; in this issue, you'll find new information about how to properly install a Blind Spot Monitor Sensor as well as tips on welding heat management. And finally, by using Genuine Toyota Parts in your repairs you'll ensure a perfect fit—see what your peers have to say about the new Genuine Toyota Radiator and Condenser product line that gives them a perfect fit at a perfect price.

Look to *Collision Pros* magazine for the most up-to-date recommended repair procedures, new model updates, Toyota technical training information and Genuine Toyota Parts news. It's our goal to share the Collision Repair knowledge you need to make the best even better.

EDITOR:
Ryan Bacsafrá

MANAGING EDITOR:
Elisa Liehr

COPYWRITING AND DESIGN:
Liehr, Inc.

CONTRIBUTING DEPARTMENTS:
Toyota Collision Repair & Refinish
Lexus Collision Repair & Refinish
Toyota Certified Collision Centers
Toyota Genuine Parts
University of Toyota, Lexus College
Toyota Technical Education Network
Toyota Wholesale Parts & Collision Department

REFER ALL CORRESPONDENCE TO:
Collision Pros
Toyota Motor North America, Inc.
6565 Headquarters Drive
Plano, TX 75024
info@collisionprosmagazine.com

TECHNICAL WEBSITES
www.crrtraining.com
Get Toyota, Lexus and Scion Collision Repair & Refinish Training information

www.opstrax.com
Efficiently order, track and procure Genuine Toyota Parts at competitive prices

www.autopartsbridge.com
Order all Toyota and Scion parts and components—clips, fasteners and decals—needed for a repair

www.techinfo.toyota.com
Get vital information you'll need to effectively service most Toyota, Lexus and Scion vehicles

www.toyotapartsandservicehub.com
Search and order Genuine Toyota Parts right from your computer

Collision Pros is published four times a year by the Toyota Marketing Division. Contents may be reprinted with permission.

©2017 Collision Pros.
MDC# 00117-00601-AUG17



FREE ELECTRONIC SUBSCRIPTION OF COLLISION PROS MAGAZINE?—email your request to info@collisionprosmagazine.com. Please provide your name, email address and body shop name.



CONTACT YOUR GENUINE TOYOTA WHOLESALE PARTS DEALER FOR MORE INFORMATION AND MAKE AFTERMARKET COMPARISONS A THING OF THE PAST!

NEW

Radiators and Condensers

Product Line Wows Repair Shops & Customers

Repair shops nationwide are touting the benefits of Toyota's new Genuine Radiator and Condenser product line. Now they can ensure their repairs meet Toyota standards for fit, function and reliability at "better than aftermarket" prices! You too will quickly discover the benefits of a perfect fit and competitive prices to strengthen your bottom line. Contact your Genuine Toyota Wholesale Parts dealer for more information and make aftermarket comparisons a thing of the past! 📞

Success Stories from the Front Line

"The new Radiator and Condenser product line has saved me quite a few times," commented Jared Crane, Assistant Manager of The Toy Shop of Cypress in Cypress, California. "Customers are excited when they see the Genuine Toyota Boxes—it reaffirms that they are getting top quality. No time wasted on aftermarket comparisons! The price is as perfect as the fit!"

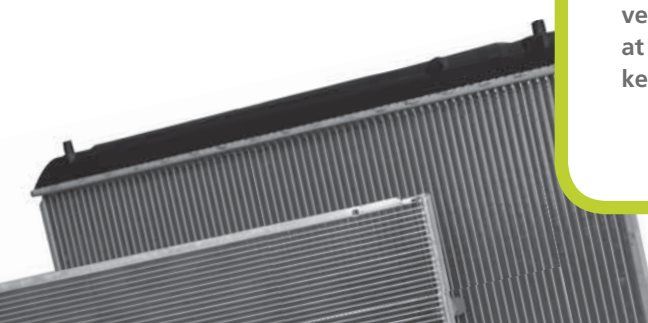
Crane explained that the new product line eliminates fit and quality issues, and helps ensure that the vehicle is fixed right the first time. "We built our name on using only Genuine OEM parts," continued Crane. "The new Genuine Toyota Radiator and Condenser product line helps us easily continue that tradition."

— Jared Crane, Assistant Manager
The Toy Shop of Cypress, Cypress, CA

Toyota owners in the Greater Austin, Texas area are also reaping the benefits of the new product line. "Finding replacement parts that satisfy our shop's commitment to quality at an exceptional price is often a challenge," stated Joe Henry Hernandez, Manager of Masters Auto Craft in Pflugerville, Texas. "Many aftermarket parts just don't fit; your repair times suffer and productivity tanks."

"Toyota's new Radiator and Condenser product line really makes the repair go smooth as glass," continued Hernandez. "The customers are happy because their vehicle is repaired on time with Genuine Toyota Parts at a great price. With price no longer an obstacle, keeping their Toyota a Toyota just got easier."

— Joe Henry Hernandez
Masters Auto Craft, Pflugerville, TX



HEAT MANAGEMENT

Proven Welding Techniques

MANAGING HEAT DURING THE GAS METAL ARC WELDING (GMAW) PROCESS IS A CRITICAL, BUT OFTEN OVERLOOKED, PART OF PROPER WELDING TECHNIQUES. This oversight can result in heat-affect, a term commonly used to describe the negative changes to the metal from welding such as reduced strength and corrosion resistance. The extent of these reductions depends greatly on the amount of heat generated.

While best practice methods may be familiar to technicians skilled at welding, the temptation to get the job done faster can often eclipse the important benefits of heat management. A quick review of proper butt-welding and plug-welding heat management techniques will help keep those best practices top of mind.



BUTT-WELDING HEAT MANAGEMENT

On Toyota vehicles, the vast majority of butt-welding specifications apply to steel with strength ratings of 440 MPa and less. Be sure to review the model- and component-specific welding specifications to know for sure.

Once your welder is dialed in, your next step in heat control is stitch welding. Your stitch welds should also be dialed in during practice as mentioned above. You can use the auto "Stitch" mode on your welder, if so equipped, or manually perform a series of short continuous or tack welds.

Depending on the total length of your butt-weld, you may decide to skip around or start in the center of the span and alternate directions of travel. Either way, use the lowest welder setting that will achieve fusion and allow time for heat dissipation between welds. This helps to reduce heat-affect and the chance of warping.



Practice Makes Perfect

Before you begin working on your customer's vehicle, it is important to practice on an identical sample of metal with an identical root gap. Dial the welder in to the lowest setting that will achieve proper fusion and melt-through. This preparation work will help to ensure optimal heat management without "practicing" on your customer's vehicle!

MENT

to Minimize Heat-Affect

PLUG-WELDING HEAT MANAGEMENT

Heat-affect from plug-welding can also be managed with methods similar to butt-welding. For most mild steel 1mm or less in thickness, typically a quarter panel, a 5mm plug-weld hole will provide enough fusion surface area for a strong weld. Many technicians believe an 8mm plug-weld hole size is appropriate for most welding situations. However, the 5mm plug-weld hole diameter is just as strong, is faster to perform and produces less heat-affect than the 8mm plug-weld on mild-steel sheet metal.

Toyota provides a reference chart in Collision Damage repair manuals for selecting the proper plug-weld hole size depending on the thickness of the metal.



Panel Thickness at the Welded Portion mm (in.)	Plug-Welding Hole Diameter mm (in.)
Less than 1.0 (0.039)	ø5 (0.20) or more
1.0 (0.039) up to 1.6 (0.063)	ø6.5 (0.26) or more
1.6 (0.063) up to 2.3 (0.091)	ø8 (0.31) or more
2.3 (0.091) or more	ø10 (0.39) or more

Similar to butt-welding, your GMAW welder should be on the lowest setting that will achieve fusion and melt-through for plug-welding the steel you are working with. And, just like butt-welding, you should skip around to allow for heat dissipation when performing a plug-weld.

ATTENTION STATE FARM SELECT SERVICE® REPAIRERS

As of April 2017, State Farm™ requires specific welding certification to qualify as a participant in its Select Service® Program. The company has made this change so that more of the industry, and ultimately every technician, has the knowledge and skills to perform proper repairs.

Here is a list of Toyota and Lexus welding certification programs that will satisfy this requirement:

SELECT SERVICE® PROGRAM	TOYOTA/LEXUS WELDING CERTIFICATION PROGRAMS
Steel GMA (MIG) Welding Skills Verification (WCS03) 	Toyota T300 - Welding Techniques for Collision Repair
	Lexus L300 - Welding Techniques for Collision Repair
Steel Sectioning Skills Verification (SPS05) 	Toyota T460 - Structural Body Repair Techniques
	Lexus L460 - Structural Body Repair Techniques




Good to Know

Unless published, Toyota does not approve of butt-welding steel with strength ratings higher than 440 MPa, and does not approve of butt-welding with a backing (sleeve) in any welding situation. Backing a butt-weld joint is more work than backing an open-butt-joint, it creates corrosive hot spots between the backing and the outer panel that can't be treated with corrosion preventive materials, and a backing alters crash energy management designed into the component and the vehicle. Toyota's position on these topics is reinforced in Collision Repair Information Bulletin #176 titled Approved Collision Repair Methods.



Minimize Heat-Affect, Maximize Repair Quality

Proper heat management during welding is critical to minimizing negative changes to metal. Whether you are butt-welding or plug-welding, be sure to:

- 1) Review model- and component-specific welding specifications
- 2) Practice on an identical sample of metal with identical root gap
- 3) Dial in your welder to the lowest setting that will achieve proper fusion and melt-through
- 4) Skip around to allow for heat dissipation 

Blueprinting the Future

LEXUS REPAIR PLANNING PROCESS



NEED MORE INFORMATION?

- For more on Collision Repair, visit the Collision Repair and Refinishing Training website, www.crrtraining.com.
- You can also visit Mike Anderson's site, www.CollisionAdvice.com for helpful videos, links and collision advice.



After adopting this process, we were amazed at just how much more profit you can get from the same shop volume."

**— Brian Martin
Director of Auto Collision
Lexus of Pembroke Pines and Lexus of Miami**

FURTHER CEMENTING LEXUS AS A LEADER IN BRAND RECOGNITION AND LOYALTY, the Lexus Repair Planning Process represents the future and your opportunity to help establish industry leadership in collision repair.

Industry leadership, customer satisfaction and continuous improvement were the driving factors behind the initial rollout and validation of the Lexus Repair Planning Process.

"When developing the Lexus Repair Planning Process, our goal was to establish leadership in collision repair not only from the dealer level, but also at the corporate level," said Launce Bennett, a Senior Analyst for Lexus. "That's why we've put so much effort into the Lexus Repair Planning Process."

The plan is a case study in continuous improvement. Every step of the repair process was broken down, analyzed and refined to create the most efficient and profitable business model in the industry today.

"Because Lexus has such a high manufacturing standard, coupled with equally high customer expectations, we knew developing a finely tuned repair process was paramount," said Mike Anderson, acclaimed collision consultant and Accredited Automotive Manager (AAM). "So far, Toyota and Lexus are the only manufacturers who have asked for help from industry experts in developing a standardized, exclusive repair planning process, and the results have been very impressive."

Just like the development of a new vehicle, the Lexus Planning Repair Process was tested and validated before it was introduced. Lexus of Pembroke Pines agreed to be the first to test the process, which required a commitment from the entire team.

"We were skeptical at first," said Brian Martin, Director of Auto Collision at Lexus of Pembroke Pines and Lexus of Miami. "People resist change, but we had a lot of faith in Mike, and we had a clear commitment from the top. Our GM, Craig Zinn was not only willing to make the financial commitment, he was able to see the value of the process, and what that meant to the future of the dealership."

Anderson and his crew started with a one-day assessment, working with Martin and his staff to establish a baseline, and to get a feel for the culture of the shop. Shortly after that meeting, Anderson and his crew returned, and they put the entire shop through an intense, two-day "boot camp" that touched every aspect of the shop, and every employee.

"We focus on four key issues," Anderson said. "One is scheduling, two is reducing administrative bottlenecks, three is Blueprinting which includes a true, 100 percent disassembly to identify all items needed up front, and four is getting the right part the first time."

The Blueprinting component is about more than disassembly, it's also about researching and understanding the specifics of the OEM process, knowing exactly what can be reused, and what must be replaced.

Process change at this level is a big deal, and nothing this worthwhile is ever easy.

But Martin and his team stuck to the plan, embracing the change from top to bottom.

"The biggest challenge was finding out what 100 percent disassembly really meant," Martin noted, "but the best part was finally seeing exactly what we were leaving off the estimate, and clearly seeing the profit we were losing."

"After just a couple of months, supplements are down, cycle times are down, and we are seeing improvements in the Customer Satisfaction Index (CSI)," Martin said. "Yes, we are seeing an increase in profit, but it's much more than that," he stressed. "The real dividends come from the improvement in work flow, the elimination of stress and less frustration with parts ordering. It's a more efficient process that positively impacts the culture of the shop."

Embracing the Lexus Repair Planning Process requires a daily commitment from every employee. "After adopting this process, we were amazed at just how much more profit you can get from the same shop volume," Martin stated.

Prior to adopting the process, the Pembroke Pines and Miami shops were performing quite well.

"A lot of shops don't think they are doing anything wrong," said Anderson, "But it's not an issue of fixing something that's broken, instead it's a commitment to excellence and continuous improvement."

Often, it's little things that make the biggest difference. "By simply asking our parts people to double check all parts on arrival, we avoid part delays, frustration, the back and forth and all that un-billable time," Martin points out. "All in all, we've experienced shorter cycle times, reduced supplements, increased touch time, improved customer and employee satisfaction and greater shop efficiency."

Much more than an exercise in increased profit, the Lexus Repair Planning Process is a demonstration of Lexus discipline: a rare opportunity to raise the bar and firmly establish industry leadership in collision repair. If you're ready to make the commitment, contact your paint supplier or an industry expert to arrange an in-depth consultation that will help your shop push profits and customer satisfaction to the next level. 🍷

THE ALL-NEW 2018 CAMRY

The Best-Selling Car in America Is Better than Ever

Toyota's engineers and designers were faced with a daunting challenge: Take the best-selling car in America and make it even more appealing, attractive and functional, all while integrating cutting-edge safety and technology. The eighth-generation Camry has undergone a total transformation that delivers more excitement, performance and style, reestablishing itself as the standard in the mid-size sedan category.

The new Camry employs a TNGA (Toyota New Global Architecture) design platform, so it retains all of Toyota's traditional values of superlative build quality and safety while adding an exciting owner experience that appeals to the senses.

- The 2018 Camry is available in five grades: L, LE, XLE, SE and XSE.
- The 2018 Camry Hybrid is available in three grades: LE, SE and XLE.

EXTERIOR

The Camry's lower, wider stance and sensual athletic image take it in a futuristic new direction.

- Camry sport trim levels are instantly recognizable as different from the other models from as far as 200 yards away.
- Front end styling is accented by a mixture of LED and halogen beam headlights, with full LED lighting available on select models.
- Rear styling is accented by dramatic taillights, with LED taillights available on select models.
- Three new, vibrant exterior colors are available: Wind Chill Pearl (089), Brownstone (4X7) and Galactic Aqua Mica (221).



INTERIOR

The redesigned interior provides a sporty cockpit-type environment that's functional and futuristic with bold character lines and a unique mix of tones and hues.

The interior provides the driver with access to information via three interlinked displays:

- 10-inch color Head-Up Display (HUD)
- 7-inch multi-information display within the instrument cluster
- 8-inch audio/navigation/HVAC control panel integrated into the center console

The new Camry has an Electric Parking Brake that's controlled by the Skid Control ECU. If the parking brake cannot be released electronically, use a 6-mm hex wrench to release the brake manually (refer to the repair manual for details).

POWERTRAINS

Three new powertrains are available:

- All-new 2.5-liter inline-four-cylinder D-4S Fuel Injection
 - 206 hp and 186 lb.-ft. of torque
 - EPA estimate of 29 mpg city/41 mpg highway/34 mpg combined – a 26 percent improvement for combined mpg over the previous model
- New 3.5-liter V6 with D-4S Fuel Injection
 - 301 hp and 267 lb.-ft. of torque
 - EPA estimate of 22 mpg city/33 mpg highway/26 mpg combined – an 8 percent improvement for combined mpg over the previous V6
- Next-generation Toyota Hybrid System (THS II) pairs the 2.5-liter, four-cylinder D-4S engine (176 hp and 163 lb.-ft. of torque) with two electric motors and a continuously variable transmission (CVT)
 - Best-in-class fuel economy for the LE: EPA-estimate of 51 mpg city/53 mpg highway/53 mpg combined – a 30 percent improvement for combined mpg over the previous model
 - SE and XLE: EPA estimate of 44 mpg city/47 mpg highway/46 mpg combined – an increase of 21 percent for combined mpg.
- New variable cooling system includes an electric water pump, full variable oil pump, and a cooled Exhaust Gas Recirculation (EGR) system; this system uses Toyota Genuine SLLC (Super Long-Life Coolant)
- Non-hybrid models have a new Direct Shift 8-speed automatic transmission
- Air conditioning system uses HFO-1234yf refrigerant (same as the Tacoma)
- Battery: LN2/LN3 (EN Type) is similar to LN1 on Prius
- Rack-assist Electronic Power Steering

TECHNOLOGY

Every 2018 Camry comes standard with Toyota Safety Sense™ P (TSS-P), with the "P" standing for Pedestrian detection. This system includes:

- Pre-Collision System with Pedestrian Detection (PCS w/PD)
- Dynamic Radar Cruise Control (DRCC)
- Lane Departure Alert with Steering Assist (LDA w/SA)
- Automatic High Beams (AHB)

Select models are also available with Intelligent Clearance Sonar (similar to Prius), and also include Rear Cross Traffic Braking (RCTB) system:

- Eight ultrasonic sensors (four front, and four rear) detect obstacles up to 13 feet away
- Intelligent Clearance Sonar (ICS) controls engine output and brake force to minimize low-speed collisions (under 10 mph)
- RCTB has two (left and right rear) sensors that detect approaching vehicles from the sides and controls engine output and brake force to minimize low-speed collisions (under 10 mph)

BODY TALK

To reduce weight, the all-new Camry uses more high-tensile-strength sheet metal along with an aluminum hood, and thinner body panels for the roof, hood, trunk lid, front and rear doors and front fenders (compared to the previous model). Although lighter, this new platform features a 30-percent increase in torsional rigidity over its predecessor. To increase joint rigidity, Laser Screw Welding (LSW) is used. And, to enhance body rigidity, special high-rigidity urethane adhesive is applied to the windshield and rear window where it meets the body.

Camry XSE models offer a Midnight Black Metallic roof option mated to a choice of Blue Streak Metallic (2QO), Celestial Silver (2PT), or Wind Chill Pearl (2PS) body colors.

When repainting a model with two-tone paint, refer to the opposite side to dimensionally match the paint scheme (visit www.crrtraining.com for additional details).

Additionally, there is a new removal procedure for the shift knob (refer to the repair manual), and the combination switch – headlight dimmer – has been revised for easier replacement.

Camry's wiper and washer system offer several new features:

- When not in use, the wiper arms rest below the hood. To put the wipers in service position: hold the windshield wiper switch in MIST for two seconds or longer within 45 seconds after turning off the engine
- If the blade is stuck, the ECU can reverse the motor direction
- When either door is opened, the wipers stop automatically to prevent splashing (in AUTO position)
- To protect the wipers, failsafe conditions limit wiper operation in response to overheating, snow and excessive load
- Diagnostic Trouble Codes (DTCs) are available for communication faults 📌

Blind Spot Monitor Sensor

INSTALLATION CONDITION INSPECTION

Toyota Class 301 has been updated to help you repair the Blind Spot Monitor Sensor (BSMS) bracket to OEM specifications. Whenever you repair the BSMS, it is critical that the rear Blind Spot Monitor Sensor is properly oriented to ensure a successful repair. If you have previously taken this class, retaking it will ensure you benefit from the new repair information. Follow the steps below to properly repair the BSMS.



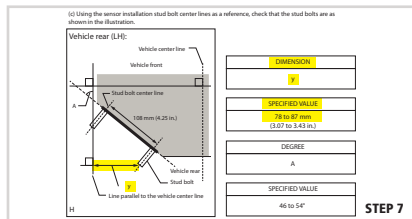
- STEP 1:** From the center of the emblem on the rear bumper, hang a weight with a pointed tip. Mark the rear center point of the vehicle on the ground (mark "A").
- STEP 2:** From the center of the emblem on the front bumper, hang a weight with a pointed tip. Mark the front center point of the vehicle on the ground (mark "B").



- STEP 3:** Use a string to draw a center line that passes through marks "A" and "B." Lightly flick the string several times to confirm that it is aligned with marks "A" and "B."
- STEP 4:** Hang a string with a weight from the Blind Spot Monitor Sensor (BSMS) bracket (front and rear studs) and mark the positions on the ground.



- STEP 5:** At a 90-degree angle, measure from the centerline of the vehicle (string) to the marked positions on the ground.
- STEP 6:** Using masking tape, write the measurements on the marks on the ground. Measurements must be done in millimeters.



STEP 7: Compare the measurements to the “Specified Value” in the repair manual illustration.

Example: Front of the bracket 800 mm
Rear of the bracket −715 mm
 85 mm

The “Specified value” in the repair manual (on position “Y”) is 78 to 87 mm. Illustration shows the view from above.

STEP 8: Perform a “Blind Spot Monitor Sensor Installation Condition Inspection” to confirm that the sensor is perpendicular to the floor (+/- 5 degrees). Using a jig, confirm the sensor is 46 to 54 degrees from the line parallel to the vehicle centerline. 📸

↓

FOR MORE INFORMATION

- Find class 301: Non-Structural with Blind Spot Monitor Sensor Installation Condition Inspection Repair Procedures at Toyota’s training website—
www.crrtraining.com.
- Find all the specific procedures and measurements to repair the BSMS in the Toyota repair manual.

The Toyota Collision Repair & Refinish Training Calendar SEPTEMBER — NOVEMBER 2017

WEST CALDWELL, NJ

09/12	601	Hybrid Collision Repair
09/19	300	Welding Techniques For Collision Repair
09/20	301	Non-Structural Body Repair Techniques
09/26	101	Paint Finish Repair
10/03	602	Advanced Hybrid Collision Repair
10/04	503	Steering & Suspension Analysis & Repair
10/10	460	Structural Body Repair Techniques
10/17	250	Advanced Painting Techniques
11/07	200/201	Color Matching For Painters
11/14	601	Hybrid Collision Repair
11/15	301	Non-Structural Body Repair Techniques

JACKSONVILLE, FL

09/11	601	Hybrid Collision Repair
09/12	300	Welding Techniques For Collision Repair
09/13	301	Non-Structural Body Repair Techniques
09/18	602	Advanced Hybrid Collision Repair
09/19	503	Steering & Suspension Analysis & Repair
09/20	460	Structural Body Repair Techniques
10/02	601	Hybrid Collision Repair
10/03	300	Welding Techniques For Collision Repair
10/04	301	Non-Structural Body Repair Techniques
10/23	200/201	Color Matching For Painters
10/25	250	Advanced Painting Techniques
11/06	601	Hybrid Collision Repair
11/07	300	Welding Techniques For Collision Repair
11/08	301	Non-Structural Body Repair Techniques
11/13	602	Advanced Hybrid Collision Repair
11/14	503	Steering & Suspension Analysis & Repair
11/15	460	Structural Body Repair Techniques

TORRANCE, CA

09/12	460	Structural Body Repair Techniques
09/14	503	Steering & Suspension Analysis & Repair
09/19	300	Welding Techniques For Collision Repair
09/20	602	Advanced Hybrid Collision Repair
09/25	200/201	Color Matching For Painters
09/27	250	Advanced Painting Techniques
09/29	101	Paint Finish Repair
10/03	601	Hybrid Collision Repair
10/04	602	Advanced Hybrid Collision Repair
10/09	300	Welding Techniques For Collision Repair
10/10	301	Non-Structural Body Repair Techniques
10/12	460	Structural Body Repair Techniques
10/17	602	Advanced Hybrid Collision Repair
10/18	908	ISC Retractable Hard Top
10/24	300	Welding Techniques For Collision Repair
10/25	503	Steering & Suspension Analysis & Repair
11/07	301	Non-Structural Body Repair Techniques
11/09	101	Paint Finish Repair
11/14	300	Welding Techniques For Collision Repair
11/15	460	Structural Body Repair Techniques

For a complete training schedule and the latest information on Toyota’s Collision Repair & Refinish Training, visit www.crrtraining.com.

CHECK US OUT ON FACEBOOK AND TWITTER!

You’ll also find the latest information on tools, classes and repair procedures on our social media sites.

Toyota Collision Repair Training
 @ToyotaCRR

NEW GENUINE TOYOTA
**RADIATOR &
CONDENSER**
PRODUCT LINE



WholesaleParts
Where the Pros Go for Genuine Toyota Parts

THE PRICE IS AS PERFECT AS THE FIT

▶ 70% OFF CONDENSERS AND UP TO 50% OFF RADIATORS*



**Price reduction based upon pricing for prior generation Genuine Toyota Radiators & Condensers*

There are so many reasons to choose Genuine Toyota Radiators & Condensers

**SUPERIOR
TOYOTA
QUALITY**

Manufactured to
OEM Specifications

**COMPETITIVELY
PRICED**

Ask Your Toyota
Wholesale Dealer

**READY
TO INSTALL**

All Factory
Fitments Attached

AVAILABLE

For Most
Toyota Models

**EXCLUSIVELY AVAILABLE AT YOUR
TOYOTA WHOLESALE DEALER**

CALL TODAY!

www.toyotapartsandservice.com






BREAKING NEWS

SHOP SAFETY

PREPARING FOR AN ACTIVE SHOOTER IN YOUR SHOP

KRISTA MCNAMARA //

Content Channel Director

 The news peppers us with more stories every day of lives destroyed by active shooters.

You can't predict when and where this may happen, but you can prepare your business.

The ALICE Training Institute offers a way for shop owners to train themselves and their employees on how to respond, react, and most importantly, stay alive in these scenarios.

Developed in the aftermath of the school shooting at Columbine High School in Columbine, Colo., in 1999, ALICE training has proven effective in helping keep people alive, says Joseph Hendry, a trainer at the Institute. Lt. Hendry, a 27-year veteran of the Kent State University Police Department, who was named an expert consultant to the Ohio Department of Homeland

>> **PREP CONTINUES ON PAGE 8**

NEW JOBS

FITZGERALD COLLISION & REPAIR EXPANSION TO CREATE 220 JOBS

BRIAN ALBRIGHT // Contributing Editor

 Repairing commercial trucks is a complex undertaking that requires a lot of space, which is why there aren't a lot of shops that specialize in big rig work. Rickman, Tenn.-based Fitzgerald Collision & Repair has successfully taken an assembly-line approach to fleet repair—and is poised to continue its rapid growth.

Earlier this year, Fitzgerald announced a major expansion that will eventually create 220 new jobs in Tennessee. The company will invest \$9

million to expand an existing facility in Rickman, Tenn., and also establish new operations in Sparta. The expansion was made possible, in part, through incentives from the state Department of Economic and Community Development.

Fitzgerald also announced a new vocational program and partnership with Tennessee College of Applied Technology, which will offer students training in commercial truck maintenance and repair.

"Fitzgerald Collision & Repair is a homegrown success story that plays an

>> **JOBS CONTINUES ON PAGE 8**

TRENDING

GM TO LAUNCH CERTIFICATION PROGRAM IN EARLY 2018

General Motors' Customer Care and Aftersales division announced it will launch a collision certification program in 2018 that will be built on training and tools.

ABRN.COM/GMCERTIFY

NAGY'S COLLISION HOSTING FREE TRAINING

Nagy's Collision in Orville, Ohio will host two free, live continuing education courses for insurance agents as part of its commitment to repair vehicles efficiently with the highest quality.

ABRN.COM/FREECE

REPAIRERS FEEL MORE INSURER INFLUENCE

The 2017 Collision Shop Study — administered by ABRN sister publication *Aftermarket Business World* — reported respondents feel more pressure from insurance company influences this year.

ABRN.COM/STUDY17

IS THERE A SKILLS GAP IN COLLISION REPAIR?

For years, studies have shown a growing shortage of skilled automotive techs in the industry, which is becoming a huge problem for collision repair shops. Is there anything that can be done to correct this issue?

ABRN.COM/SKILLGAP

SCRS CAREER CENTER PARTNERS WITH GOOGLE

The Society of Collision Repair Specialists' Career Center has been integrated into Google's new job search engine, helping job seekers to search for and find career opportunities online.

ABRN.COM/GOOGLEJOB

>> **JOBS CONTINUED FROM PAGE 7**

important role in Tennessee's growing transportation sector," said community development commissioner Bob Rolfe.

The Fitzgerald family has a long history in Tennessee and is one of the leading providers of glider kits in the U.S. The collision business is relatively new, and was established in 2014 to provide rapid repair services for commercial fleets across the U.S.

According to founder and CEO Robert Fitzgerald, one of the company's biggest fleet customers, U.S. Express, suggested that the company's rapid, assembly-line approach to glider kits could be ported over to repairing commercial truck fleets. "That idea stuck in my head, and a year and a half later I ran across an empty building," Fitzgerald says.

Speed has been the key to the company's success. "For a large fleet, every day a truck is working is worth about \$650 in revenue. Most truck body shops take 28 to 58 days per repair, and that's a lot of lost revenue for a big company that might

have a lot of wrecks," Fitzgerald said.

Fitzgerald focused on the most common truck — the Freightliner Cascadia — and designed a highly efficient repair process using an assembly-line approach. At the time, Fitzgerald had no experience repairing wrecked trucks. "For the first six months, it was just me and a small team perfecting this process and streamlining it," Fitzgerald says.

Teams of technicians focus on one specific repair job or area (one team is dedicated to frames, another to mechanical, and so forth). "By setting it up like that, we took the turnaround times down to as quick as five days," Fitzgerald says. The average turnaround time is between six and ten days, depending on the severity of the wreck.


Fitzgerald's approach also simplified training. "You don't have to train technicians on the whole truck," Fitzgerald says. "They just learn a small part of the truck, so we can pull people in that don't have experience and train them quickly and

give them a good job."

Most major fleet customers are self-insured, but Fitzgerald also works with all of the major insurers. "For self-insured customers, we have a coordinator in house that deals with the fleet maintenance coordinators, and we take care of transporting the trucks to our facility and then delivering them where they want them," Fitzgerald says. The company can pick up and deliver trucks anywhere in the U.S.

The company currently repairs 60 to 70 trucks every 30 days. The expansion could double or triple that number.

As part of the expansion, the company will add another 100,000 square feet to its repair facility in Rickman, along with a new facility in Sparta, which is now open, and will work on Peterbilt and Kenworth trucks.

In Livingston, the company will grow from eight bays to 40 bays. Ground-breaking on that facility will occur later this summer. 

>> **PREP CONTINUED FROM PAGE 7**

Security for civilian response to active shooter incidents.

ALICE — which stands for Alert, Lockdown, Inform, Counter and Evacuate — is a flexible acronym, Hendry says. The steps can go in any order; you respond based on the scenario.

Hendry breaks down the steps:

ALERT: "We teach people what the alerts are that they should be looking for: what they see, hear. If there is an announcement, picking up on sounds, and the things happening around them," he says. This helps people to decide how to react to the scenario.

LOCKDOWN: "Lockdown is part of it — where you lock the doors and turn off the lights — but not the traditional response. We teach barricading, how to prepare a room, or set it up during an event, but that is all a secondary response," he says.

INFORM: "During an incident we

want to keep people aware of what is going on. If police are clearing the building, if you should stay where you are, or it could be updates on where the gunman is so you can make decisions on how to react," Hendry says.


COUNTER: "It is not fighting the gunman. Counter is a last resort. Movement, noise and distraction are things that all human beings can do," he says. It is difficult for a person to focus on a specific task in the midst of many distractions. "For a shooter, this task is shooting. If you have many people moving and throwing things, it makes it difficult for a person to focus on what they are doing. There is an order to action: Observe, Orient, Decide and Act. If a shooter is constantly observing and orienting, they are not pulling the trigger, which increases survival."

EVACUATION: "Evacuation is the goal — to get everyone out of and away from the facility."

The ALICE Institute conducts training all over the world. It starts with eLearning, which provides a baseline for the ALICE method. Trainers can also come to a facility for a 4-8 hour course, which includes a review of the elearning principles and then running live scenarios to reinforce the training learned.

Get training at your shop

There is also a separate facility assessment process. The ALICE Institute has an online tool shop owners can use to provide information about their building that can help trainers to develop plans of action during a potential incident, Hendry says.

Active shooter response training does fall under OSHA as a general duties clause, Hendry says. "It used to be considered low probability, high impact, but the probability is going up. Not having a plan puts you under more liability. Plus, it is just good business." 



HIGH QUALITY PRODUCTS FOR THE COLLISION PROFESSIONAL

WHEN PERFORMANCE COUNTS

GOOD HIT-7000

MULTI-PURPOSE CLEAR

High gloss

32.21% LOW SOLIDS

4:1 MIX RATIO



BEST HIT-77125

HIGH SOLIDS GLAMOUR CLEAR

Premium high gloss

48.98% HIGH SOLIDS

2:1 MIX RATIO



BETTER HIT-7100

HIGH GLOSS UNIVERSAL CLEAR

Excellent gloss

37.77% MEDIUM SOLIDS

4:1 MIX RATIO



LIFETIME WARRANTY & GUARANTEED PERFORMANCE

The first spray is as good as the last... guaranteed!

FREE INTRODUCTORY OFFER BELOW!

FIND A LOCAL HIGH TECK DISTRIBUTOR AT WWW.HIGHTECK.COM



BUY (1) GALLON OF **BEST** HIT-77125 AND RECEIVE (1) QUART ACTIVATOR & (1) HIGH TECK HAT **FREE!**

FREE Activator: (circle one) **77152** **77150** **77160**
fast medium slow

Business Name: _____
Contact Name: _____
Address: _____
City/State/Zip: _____
Email: _____



TERMS AND CONDITIONS: To Customer: Limit one FREE activator and hat per coupon. Coupon holds no cash value. Coupon must be completely filled out to be valid. Coupon must be surrendered at time of purchase. While supplies last. No substitutions. Please allow 2-4 weeks for delivery of free hat. To High Teck Distributor: Upon receipt of this coupon, please provide selected activator and mail coupon and copy of purchase invoice to: High Teck Products, P.O. Box 24631, West Palm Beach, Florida 33416. Once coupon and invoice is received and verified, the High Teck Distributor will be credited back full amount for activator. Promo good through 11/30/17. Promo code HITAR1709A.



BUY (1) GALLON OF **BETTER** HIT-7100 AND RECEIVE (1) HIGH TECK HAT **FREE!**



Business Name: _____
Contact Name: _____
Address: _____
City/State/Zip: _____
Email: _____



TERMS AND CONDITIONS: Coupon holds no cash value. Coupon must be completely filled out to be valid. To receive FREE High Teck hat, coupon and copy of HIT-7100 purchase receipt must be mailed to: High Teck Products, P.O. Box 24631, West Palm Beach, Florida 33416. Please allow 2-4 weeks for delivery of free hat. While supplies last. Promo good through 11/30/17. Promo code HITAR1709B.

TABLE TALK

Panel of industry representatives share ideas, perspectives and predictions in annual roundtable

JOHN YOSWICK // Contributing Editor



What do you get when you bring together seven collision industry executives to talk about what's happening in the industry now and what might happen in the future?

Interesting ideas and discussion.

For the eighth year in a row, *ABRN* convened a panel (see sidebar, "Who Was At The Table?," page 14) to discuss some of the key issues facing collision repairers — and offer some predictions on what may lie ahead.

Here are some of the highlights of this year's roundtable discussion. (Some responses were edited for length or clarity.)

ABRN: Say you've been invited to speak to a classroom of teenagers about careers in the industry. What

would be the one or two key messages you would have for them? What if they had concerns about the impact that anti-crash technology or self-driving vehicles will have on the industry 10-15 years into their career?

Dan: Often when people talk about the automotive industry, it's all about being a technician or a shop manager. But there are so many careers that tie

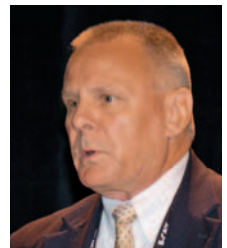


Dan Risley

into this. You can go work for a paint company, an information provider or an insurance company. There's unlimited potential if you get

into this space. Another key point is that cars aren't going away. There are some people who will absolutely refuse to give up driving their vehicle. I'm one of those people. Autonomous vehicles aren't going to eliminate jobs. If anything, I think they're going to create a bunch of parallel industries on the technical side.

Mark: The industry dynamics are changing. The really sweet spot for [young people] is the fact that what's happening plays into what they've grown up with: technology, software, that sort of thing. The



Mark Woirol

NEW GENUINE TOYOTA
**RADIATOR &
CONDENSER**
PRODUCT LINE



WholesaleParts
Where the Pros Go for Genuine Toyota Parts

THE PRICE IS AS PERFECT AS THE FIT

▶ 70% OFF CONDENSERS AND UP TO 50% OFF RADIATORS*



**Price reduction based upon pricing for prior generation Genuine Toyota Radiators & Condensers*

There are so many reasons to choose Genuine Toyota Radiators & Condensers

▶ **SUPERIOR
TOYOTA
QUALITY**

Manufactured to
OEM Specifications

▶ **COMPETITIVELY
PRICED**

Ask Your Toyota
Wholesale Dealer

▶ **READY
TO INSTALL**

All Factory
Fitments Attached

▶ **AVAILABLE**

For Most
Toyota Models

**EXCLUSIVELY AVAILABLE AT YOUR
TOYOTA WHOLESALE DEALER**

CALL TODAY!

www.toyotapartsandservice.com



More than paint. Partnership.

At Axalta Coating Systems, our job is helping you do your job. With technology that gets it done the way you want it done. Training that helps your people get the most out of our products and tools. And ongoing support whenever and wherever you need it.

Take advantage of a partnership with Axalta.

axalta.us/partnership



skillsets needed have shifted, and understanding technology will be key to the future. They're in a position to maximize those skillsets they have to get a great career.

Chad: We've had trouble in our industry getting new technicians for a number of years now,

and the increasing technology may be an avenue we can use to increase the number of people potentially interested in our



Chad Smith

industry. If you're talking to teenagers, they probably all have their phones on and aren't paying attention to you. But if you start talking about the technology that's involved in these cars, perhaps that may spur an interest in something they've never thought of before.

Amber: The positions now are so challenging and so highly technical and creative. I don't think [many people] realize how as a mechanical technician, you may do the same thing over and over. But on our side, there's so many things that can appeal to people. I think in 10-15 years, there's still going to be people driving cars. And



Amber Alley

as long as that's the case, regardless of how safe they are, you're still going to have people behind the wheel and therefore accidents will still be happening.

ABRN: What are some of the biggest challenges you see related to pre- or post-repair scanning of vehicles? What changes would you like some segments of the industry (OEMs, insurers, shops) to make related to scanning?

Dominic: We were asked to leave a direct repair program about three years

ago because we were scanning vehicles. The representative from that company told me we were the only one in Illinois that was scanning vehicles. I said, "If I'm the only one, then you should be concerned, because you may have a lot of customers' vehicles out there right now that may not be safely repaired." Three years later we are pre- and post-scanning every single vehicle. I think OEMs need to educate their



Dominic Martino

customers at the point of purchase regarding having their vehicle repaired by an OEM-certified collision repair facility. At the [new-car] sales level, no one wants to talk about when you get in an accident. I understand that. It's bad karma. But the reality is [the shop is] left holding the bag, trying to mitigate what perhaps an insurance representative may be telling a customer. And at the end of the day, insurance companies are going to have to get used to it becoming more expensive to repair these vehicles properly.

Mark: I will say this: For the insurance side and the repairer side, it's a new technology that people really don't understand...and are trying to get their arms around. Dominic, you said you scan everything. We can agree to disagree. I'm not necessarily aligned with the fact that I have to scan every car that comes through my shop because the vehicle manufacturer has a position statement that says that's what you have to do. I will agree that [for vehicles] with the new technologies that are out there, the advanced driver assistance systems, absolutely. But I don't think the OEMs have really done us a favor here. Some of them have come out and said, "Okay, you need to do this," but they haven't given direction or said why they want it done. I think that's created a lot of friction points out there. Our position is that: If there's

WHO WAS AT THE TABLE?

Amber Alley is the general manager of Barsotti's Body & Fender in San Rafael, Calif., and is on the national board of the Society of Collision Repair Specialists (SCRS).

Jim Guthrie is the owner of Car Crafters, which operates seven shops with 200 employees in New Mexico.

Dominic Martino is co-owner of Gold Coast Auto Body, a 50,000-square-foot shop in downtown Chicago.

Dan Risley is the executive director of the Automotive Service Association (ASA).

Aaron Schulenburg is the executive director of the SCRS.

Chad Smith is co-owner of Smith Bros. Collision Centers, which operates three shops in southern Mississippi.

Mark Woirol is the senior manager of Tech-Cor, an Illinois-based subsidiary of Allstate that conducts collision repair and research.

a good reason behind it, and the vehicle manufacturer has laid out why it needs to be done, we're going to support it.

Chad: We all know you don't know the necessity of it until you do the scan to prove that it's a necessity. You lay too much out there on the line if you don't make a stand for yourself, as a facility, and just scan, even if you know you're not going to get reimbursed. You scan because it's what's right to do at the end of the day for yourself as a company and for your customer.

Jim: By the end of the first quarter of this year we'd scanned 3,000 cars. We'll do between 1,200 and 1,400 cars a month



THE NAME ON THE PART MATTERS AS MUCH AS THE NAME ABOVE YOUR DOOR.

Mopar® Collision Parts outperform the aftermarket in fit and finish.

Made with high-quality O.E. materials, Mopar Collision Parts provide the original fit the first time. Choose Mopar and see why the best fitting and performing parts have a positive impact on your reputation—and your bottom line.

Visit MoparRepairConnection.com or contact your local FCA US LLC dealer today to source genuine Mopar Collision Parts.



at our seven shops with 200 employees. We've written off nearly \$70,000 in unpaid scans. Of those, a high percentage of them had something wrong with the vehicle. The reason I spent \$70,000 is because I've got 200 families I protect. As a result of doing that for the last few years, and writing off dollar after dollar, I am now being paid by every insurance company that we ask for a scan. We are currently scanning about 90 percent of our vehicles. Not all need it, but we don't know which ones don't. I'm cutting my liability down by 90 percent and just hoping the 10 percent doesn't bite me.

Dan: I think we need from the car manufacturers very specific year-make-model specific requirements. And I'll add one layer on there: We need all the options that come with the build sheet. If we had those, I think it would drive a lot of the other things that we need to do to get paid for what we do, or, in some cases, not get paid to do it because we might not have to do a scan.

Aaron: There's a portion of the shops that are doing what's necessary as per the documented OEM repair procedure, and there's a large portion who are not. It gives insurers an argument to make as why they would



Aaron Schulenberg

be responsible for something that so many [shops] aren't currently doing. That doesn't make it right, but it's [why] for the industry I represent, I'd love to see greater understanding and adherence to the OEM documented procedures. Because it doesn't matter whether Mark agrees or I agree or anybody else agrees on whether it's necessary. If it's documented that it must be done, it's a liability issue if I decide to disregard that documentation.

ABRN: Which do you see posing a bigger challenge for your organization (or the industry): ready-access

THEIR FUTURE VEHICLES

How likely would this year's *ABRN* Collision Industry Roundtable participants be — on a scale of 1 (highly unlikely) to 10 (very likely) — to buy an autonomous vehicle if it was available (and not outrageously priced) five years from now in 2022?

Amber Alley seemed the most likely (a "6"), saying she is "intrigued by the technology" but probably would "wait for a second or third generation unless there are rebates or tax incentives." Jim Guthrie also gave it a "6," but said as a professional racer, he still enjoys driving.

The others rated the odds as a '1.' Dominic Martino said he wants to wait for the technology to be "100 percent vetted," and like Guthrie, Chad Smith and Dan Risley also said they enjoy driving.

Aaron Schulenburg also gave it a "1," though for a different reason.

"I drive a 2003 Honda Accord, so I'm not really at the cutting-edge in terms of vehicle purchases," he said.

So what feature or function would they like to have on their next vehicle? Alley said she'd like a WIFI hotspot, and Mark Woirol said more "interactive heads-up display systems with voice activation." Smith said his current 2015 GMC 2500 already has "everything I want or could need."

The two association executives couldn't be further apart in their preferred future transportation. Schulenburg said all he wants his next vehicle to have is "a pick-up bed," while Risley is "looking forward to the day my car flies."

to adequate technical training or ready-access to repair procedures/information at the time of the repair?

Dominic: It depends on the OEM. Audi and Porsche are two of the most outstanding programs. Tesla, when it was factory-based training, was incredible. Now that they have gone to an online-based training, I am not as confident at all. I'm so concerned that we hired a technician's son, who is a professional welder, to come in and teach aluminum welding to some of our younger technicians to supplement the training.

Chad: I agree that some of the factory training is spot-on, and that's why it's spot-on: because it's factory training. It's not through a third party. I think that's where we're lacking as an industry. Somehow the OEMs are going to have to get more involved.

Aaron: I think both training and information are a challenge. It comes down to consistency and accessibility. Across

the OEMs, a lot of them have information, but it's inconsistent in how you access it and what you can get. Many times you have to use multiple resources. That often puts a doubt in a shop's mind on whether they have accessed everything that's out there.

Jim: Good point. And I think that information should be provided to the information providers so that it is in the estimating system. That is where we need to know what the procedures are for a proper repair.

ABRN: We always end the ABRN Collision Industry Roundtable with your predictions, something that you think will have happened in the industry three years from now, by mid-2020.

Dan: At least one estimating system provider is going to add a new labor category. So you will have body, refinishing, mechanical and then "advanced diagnostic labor." The work that's being done now will not fall under the "mechanical

labor” category. It’s a completely different skill set. I also think three of the Top Five insurance carriers are going to require welding certification, and I predict that at least two insurance companies will have a requirement of pre- and post-scanning. They will come up with a flat-fee amount they pay for that, but they will allow and require that as part of their DRP.

Jim: I think the “first notice of loss” (FNOL) and who owns that data is the key to the future. As long as drivers don’t sign up for all those insurance plug-ins and usage-based insurance, the OEMs are going to own that FNOL. If that’s the case, then why don’t they have their own insurance company and offer insurance [that includes use of] OEM parts and certified shops?

Amber: I agree. I think in three years we’re going to be in the midst of a power struggle between the insurance industry and the OEMs. I think we’re going to start to see some elimination of traditional direct repair programs as we know them now. I don’t think three years is enough time to fully see how it’s going to turn out, but I definitely think we’ll be in the middle of a storm on who’s going to win on that front. They both obviously have a huge investment and interest in it going one way or the other.

Aaron: I’ll explore a curiosity more than a prediction. If you look outside the industry, technologies like Google and Facebook are free to use because the value of the data generated from those free-to-use systems is what generates the revenue for the companies. I’m curious if technology companies in the collision space down the road are going to start looking at platform shifts that incentivize use of free services in order to collect and generate data that then becomes more of the revenue-generator. ■



JOHN YOSWICK is a freelance writer based in Portland, Ore., who has been writing about the automotive industry since 1988.
jjoswick@spiritone.com

SHIFTING MINDSETS

Paving the road for success.

We have shifted from a mindset of customer service and satisfaction to customer success – reviewing processes from research and development to the delivery of our products. Our organization knows that true success depends on our customers being successful – not just satisfied.

We are building partnerships that support our customers ongoing goals, working toward account renewal and paving the road for their success.

**Get to know us better.
Visit us at chemspecpaint.com**

***Unyielding Performance and Incomparable Value -
The Winning Combination!***



**New Mindset – New Results.™
Next Generation Paint and Coatings™**

1.800.328.4892

20 GROUPS AUTHENTICATE THEIR PURPOSE



SHERWIN-WILLIAMS annually recognizes a winning Vision Group based on progress and growth. Above is the 2016 honored Vision Group.

Regular collaboration leads to positive and consistent results

GREG EISENHARDT //
Contributing Editor

I can't because..." This beginning is one of the most dangerous starts to a sentence. Yet, it has become common language for many owners and managers of independent and dealership collision centers.

Changing vehicle technologies, debates on pre- and post-repair scanning of vehicles, finding good technicians, recruiting office personnel to handle files, keeping customers and paying for expensive training are just a few of the burning topics in the minds of owners and managers. These issues are compounded by increasing customer demands from all parties — OEMs, insurance companies, dealerships, fleets and self-pay customers. All of these cus-

tomers types combined create an environment that turns sane owners and managers into survivalists.

Some of the larger organizations with multiple locations can manage through the chaos because they can share the work, while smaller companies are constantly looking for the answer to the question, "How do I compete?"

Twenty groups, also known as performance groups or vision groups, provide solutions to these challenges, which owners and managers of dealership and independent shops face every day. For example, the Sherwin-Williams Vision Groups meet on a quarterly basis to share and discuss ideas, opportunities, business trends and strategic directions of their businesses. The meeting topics are customer-driven and provide ideas and solutions that remove the road-

blocks prohibiting owners and managers from moving forward.

The group's members represent various levels of experience from some of the top collision centers and dealerships in North America. Selected based on performance measures and geographic location, each member lends their time, talent and insight to strengthen the performance of the entire group.

The development of these businesses is largely contributed to expert facilitation and meeting moderation. Also, many of these groups have financial help from other business stakeholders to help ease the burden on their customers.

It's a fact that sales growth and net profit improvements of independent and dealership shops in 20 groups continually outpace the growth of the industry.

Brandon Gary, owner of Champions

Having the Right Parts is **WHERE IT STARTS.**



But it's **MORE** Than Just the Right Parts.

For today's vehicles, you need quality parts, accurate repair information, tools and training to deliver complete and proper repairs. That is why, in addition to Honda and Acura Genuine parts that provide proper fit, function and reliability, we are committed to providing shops with current and complete information through **Service Express™**, and support **I-CAR®** training and **VeriFacts** coaching. Today's Honda and Acura automobiles are highly technical and sophisticated. Consumers need a properly repaired vehicle. Shops need an edge to help them make those repairs.

When it comes to getting it right, the best repairs begin and end with Honda and Acura brands, your trusted source for parts and information, and expert industry resources that help you deliver a complete repair.



HONDA
Genuine Parts



ACURA
Genuine Parts

HONDA
Service Express™



Collision Center in Houston adds, "Our business is a reflection of everyone in our 20 group with ideas and processes that enable us to be at an advantage over our competitors. When you join our group you are joining a family that will not let you down. The resilience

and persistent entrepreneurial spirit of participants, partnered with industry consulting expertise, produces an ideal environment for success and continuous improvement."

DeLee Powell, president, Baker's Collision Repair in Mansfield, Ohio, says,

"I decided to join a 20 group because it holds me accountable for positive results. Secondly, the group provides great interaction with top performers within the industry that are willing to help you utilize the data provided to make smart business decisions. The impact a group makes on an individual's business can be unbelievable if one is willing to apply the information."

Twenty groups have been well documented and are prevalent in the independent body shop world. While fewer in number, 20 groups dedicated exclusively to dealership body shops also take a similar approach to a different set of challenges.

According to Greg McVicker, body shop manager, Budd Bear Collision Center, Washington, Pa., "Our dealership 20 group has given me access to bright minds fighting the same fight I do every day. Having the chance to hear their solutions and feedback gives you a chance to solve challenges in your dealer facility with ideas that would be difficult to sometimes think up on your own."

There are significant differences between the challenges and priorities of a dealer shop setting and that of an independent. Many standard fixed-ops 20 groups, while certainly informative and beneficial to the overall bottom line of dealerships, often focus on sales and service first. In dealership collision repairer 20 groups, the focus is on how to make the body shop a sustainable profit center. Although some dealerships are starting to see the retention of customers benefit their business by providing this collision repair solution, many others choose to send their customers down the road to someone else.

Dealership groups address considerations that do not apply to independent collision repair facilities — obtaining management buy-in, sharing expenses and occasional "turf wars" between sales/service/parts and the body shop. As a result, all dealership 20 group members

AFTER A COLLISION, IT PAYS TO USE HYUNDAI GENUINE PARTS.



Non-OEM Part



Hyundai Genuine Part

2011 Sonata subject to NCAP protocol testing at an independent facility.

Your company's reputation is priceless. So why risk damaging it, and your future, by using counterfeit collision parts that simply can't deliver the same look, fit, reliability and warranty coverage as the originals? Using Hyundai Genuine Parts consistently protects your reputation and virtually guarantees a satisfied customer. So spec Hyundai Genuine Parts instead. And prevent far worse damage from happening after an accident.

For more information on Hyundai's Consumer awareness campaign and a crash course in collision, go to HyundaiUSA.com/ConsumerAwareness.



HYUNDAI

HyundaiUSA.com

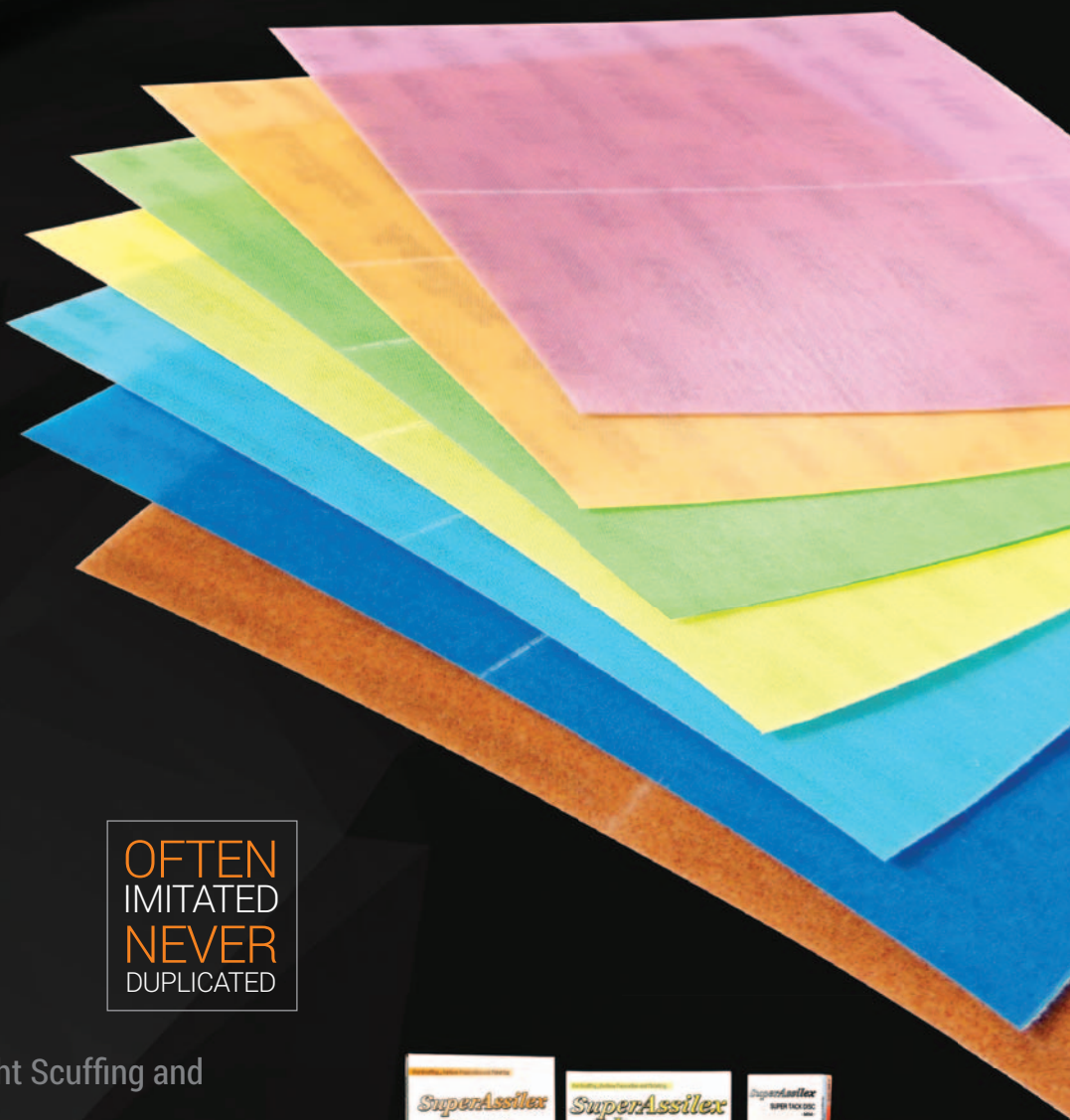
Hyundai and Hyundai model names are registered trademarks of Hyundai Motor Company and Hyundai Motor America. All rights reserved. © 2016 Hyundai Motor America.

INNOVATION

THAT WORKS...

SuperAssilex

by **KOVAX**



Awarded
The First SEMA
Best New
Collision Repair
and
Refinish Product



SuperAssilex

- Fast Sanding Speed.
- No Deep Scratches.
- Extremely Uniform.
- Perfect for Blending, Light Scuffing and Primer Finishing.
- Time saving of 50% or more, thus greatly improves productivity.

OFTEN
IMITATED
NEVER
DUPLICATED



Eagle Abrasives, Inc. USA.
www.EagleAbrasives.com



Come visit us at SEMA 2017, Booth #10831



INDUSTRY EXPERTS present to Vision Group attendees during a conference in 2017 (above) and in 2016 (below).

share the exact same challenges and their members work with each other to successfully navigate them.

Billy Coleman, body shop manager of Gullo Ford in Conroe, Texas, says, “Our dealership 20 group gives managers a chance to network with people that understand what we go through to stay competitive and profitable. We can analyze our numbers

together and ask questions on how someone is doing well in an area that we may be struggling with, and we also challenge each other to make changes and get better.”

Within collision repair, it’s challenging to continually come up with every idea necessary to take a business to the next level year after year. These groups allow their members to share with

EXPLORE YOUR UNLIMITED PROFIT POTENTIAL

REDUCE COSTLY DOWNTIME. UTILIZE THE INFINITY 3D LASER MEASURING SYSTEM AS A DIAGNOSTIC TOOL DURING THE DISCOVER PROCESS.

ULTRA ACCURATE LASER MAPPING WITH INTELLIGENT TARGETS MEASURE THROUGHOUT THE TOTAL REPAIR PROCESS—SAVING TIME AND MONEY!

- Enhanced target design for greater accuracy
- Color-coded LEDs on each target provide a constant, real-time 3D display of the damage and corrective action
- Visual display shows degree of structural change on every target location
- Measures damage in height, width and length
- Automated compensation for vehicle and scanner tilt/attitude



**\$24,500 FOR COMPLETE 12 TARGET XMS² SYSTEM
NO HIDDEN ADD-ON COSTS!**




MADE IN THE USA
U.S. Patent No. 8,381,409 | U.S. Patent No. 8,997,361

**CALL 877.392.6092
or VISIT infinity3Dlaser.com**

INFINITY
3D LASER MEASURING



their peers — all overachievers who speak the same language — and collectively combine to review financial performance, discuss process implementation, build marketing plans and better define their business goals and objectives. The result is success for all shop members involved.

A 20 group is an exclusive group of dealer and independent collision repair specialists who reflect the industry’s highest standards. They are part of a leading value-added program combining comprehensive business solutions to help them improve customer service, employee growth, insurance relationships, process refinement, productivity and profitability. 



GREG EISENHARDT is the Manager of Sales Excellence at Sherwin-Williams Automotive Finishes. He is responsible for helping North American independent and dealership collision centers achieve success through the teamwork, adaptability and innovation within the Vision Groups

provided by Sherwin-Williams. gregory.h.eisenhardt@sherwin.com

TOTAL SOLUTIONS IN COLLISION REPAIR



WELDING & JOINING • STRUCTURAL ALIGNMENT BENCH • ELECTRONIC MEASURING & DATA

CAR-O-LINER®

www.car-o-liner.com • 1-844-833-9419



CULTURE CONVERSATIONS

Discuss long-term operations, improvements for continued business success

JEFF PEEVY // Contributing Editor

One thing that stood out to me as we worked with shops in past studies on the impact of training was the quality of the conversations, or should I say lack of quality, between management and staff. In many instances, there was a gap in those conversations. For one, they were not necessarily ongoing. By this I mean a topic was not carried on over time and developed. The gap I refer to was the lack of discussion about improving the operational efficiency and profitability of the business and the application of learning.

Most conversations were focused on

the current or next repair order. It was short-sighted and focused on the present or very near future as it related to a vehicle being repaired. From there the conversations tended to jump to personal topics related to family or hobbies. What rarely happened was an open discussion about the topic of making things better for the business, driven by the understanding that improved operations and profitability could or should mean better working conditions, more income and stability for all.

For many years, my team and I identified a management approach within our industry; we referred to it as an Industrial-Age Management Mindset. This management philosophy is simply a remnant from our country's success as

an industrial world power beginning in WW1. It has impacted and influenced our management style ever since and though it may have served us well for many years as an industrial world power, today it doesn't. This management approach sees employees simply as workers, who use their strength of back and hands to accomplish a task. They are not seen or engaged as thinkers who can improve the business and operation they work in. Unfortunately, many repair businesses work under this approach. Even worse, they do not realize it and seem unaware there is a more informed approach and mindset that could radically improve their operation. Making the shift to engaging employees at a cognitive level


requires a willingness to be more open about the business's operation and the challenges it faces that are often seen as management issues.

To make these ongoing conversations happen, they must be encouraged. To make them productive, learning and sharing knowledge must be expected. Within the context of a business culture, learning on purpose and with purpose drives business success. A business culture that does this will reap the benefits from the one single thing that sustains a competitive advantage — learning.

Make sure the conversations within your business are not just focused on the present situation. Encourage deeper, longer-term discussions about operational improvements. Establish the value of different perspectives. Let it be understood not every idea will be implemented or even acted on, but considered. Discuss

the power of collective perspectives and how they ultimately ensure accurate operational actions.

Look for things that may interfere with learning and sharing knowledge. This could include apologizing for sending an employee to a training class or an ego-driven environment that silently says that admitting you learned something is an admittance you did not know something you should have known. Openly encourage learning and in fact make it understood that it is expected. When sending someone to a training opportunity or faced with a mistake or challenge, set the learning expectation upfront and that a discussion on what was learned will take place afterward. Tie accountability to the need to constantly be learning, to ensure every action, as an individual in a role and as a business operation, is a knowledgeable one.

The success of your business is based on its ability to learn and have ongoing, meaningful conversations. That means the power of every employee learning constantly and on purpose and collectively sharing with one another with purpose. That is the one element that catapults a business ahead of its local competitors for the long term, every time. The American philosopher, Eric Hoffer was quoted as saying, "In times of change, learners inherit the earth while the learned find themselves beautifully equipped to deal with a world that no longer exists." 



JEFF PEEVY is the president of the Automotive Management Institute. Jeff has been involved in industry training and education for more than 20 years.
jpeevey@amionline.org

New Product FLEXIBLE SHEETS & DISCS

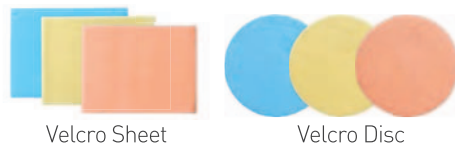
Sunmight
ABRASIVES

High Flexibility with a Soft Feel

Sunmight FLEXIBLE PRODUCTS

Sunmight Flexible Sheets and Discs are made with highly flexible resin and film backing to provide fast cutting and best finishing.

Available



Velcro Sheet

Velcro Disc

- Good for contour and concave surface sanding



- Flexible resin and backing prevents deep scratches and over-sanding problem

- Much faster cutting than conventional abrasive products

Operate effectively with no shop management

You can't be everywhere, but that doesn't necessitate multiple managers, either

I hear about more and more of my colleagues in the industry adding a second or third (or even more) shop as a way of growing their business or "owning" their market.

For those of you who haven't made that plunge, I can tell you without a shadow of a doubt that having multiple locations is totally different than having just one. Even if you had a behemoth of a shop, cranking out as much work as a two- or three-shop business, I can almost guarantee you would still be surprised by the curve balls that operating multiple facilities throws at you. It's a whole different beast.

Think about it: How do you ensure production is flowing smoothly through different facilities? How do you make sure the staff at each facility is acting the same and portraying the same vision you have to their local market area? How do you create one culture among staff in different locations?

Take some of the even relatively simple changes you have made to your single-location business, like adding a new insurance company relationship or a new production team. When you are right there, keeping your thumb on things every day, it's much easier than if you're trying to get it accomplished from across town.

That means the speed of implementing change gets slowed down a little bit with multiple locations. I tell my staff that this is a very big ship, and because of that, we turn slowly. There are reasons for that. I don't want to make any knee-jerk reactions to anything, and I realize I — and we — can only do things so fast.

That's part of the reason I am glad — despite some initial hesitation — to have been switched into a 20 group that's only for multi-shop operators. The issues and challenges we face with two or three or four locations are just different. Not necessarily harder, but very much different. I get that now. So it's good to learn and work through those issues with others facing the same challenges.

One issue with multiple locations, for example, is determining what structure of management you need. I may do



WHEN YOU PILE MANAGEMENT ON TOP OF PEOPLE, IT TAKES POWER AWAY FROM THE PEOPLE WHO ARE MOST IN TUNE WITH WHAT NEEDS TO BE DONE.

things a little differently than some multi-location operators. I once had production managers and sales managers who were in charge of multiple locations, along with a general manager. But we got away from all that. In essence I have zero managers.

Why? Because the staff at each location knows what to do. They know what's right and wrong. When you pile a bunch of management on top of them, it just takes the power away from the people who are really most in tune with what actually needs to be done.

So each location has a team lead, but no one has a manager's title or office. That lead employee is the person who, when I'm not at that location, can make any decisions another employee is struggling with. I coach these people, and they sometimes come to 20 group meetings to improve their understanding of the company's overall goals and performance. So they have management skills but just have other jobs.

For instance, the leader at one of my locations is our head body man. He works on cars all day long. But if there's an issue with a customer, for example, he's the guy who cleans himself up and goes to deal with it. Everyone in the shop knows he's there to help them when it's really needed.

But I also believe empowering all of your staff improves the trust and culture throughout the company. My people all know, for example, if we've screwed up and we should put a customer into a rental car. The customer service representatives don't have to ask if that's the right thing to do. They know. They don't need a guy at a desk in his own office to say, "Okay, I agree, we'll cover that rental car."

The types of management you need varies based on whether you have one shop or three shops or 10 shops or 15. At our current size, my people are their own best managers. 📌

RYAN CROPPER owns Able Body Shops, with two locations in Anchorage, Alaska, as well as Total Truck Accessory Center. rcropper@ablebodyshop.com

OUR COMMITMENT TO EXCELLENCE IS THE SUM OF OUR PARTS.

Kia is the highest ranked brand in initial quality for two years in a row.
Let's keep it going with Genuine Kia Parts.



2017 KIA CADENZA
"Highest Ranked Large Car In Initial Quality by J.D. Power"



2017 KIA FORTE
"Highest Ranked Compact Car In Initial Quality by J.D. Power"



2017 KIA NIRO
"Highest Ranked Small SUV In Initial Quality by J.D. Power"



2017 KIA SOUL
"Highest Ranked Compact Multi-Purpose Vehicle In Initial Quality by J.D. Power"



2017 KIA SORENTO
"Highest Ranked Midsize SUV In Initial Quality by J.D. Power"

The Kia Cadenza, Kia Forte, Kia Niro, Kia Sorento, and Kia Soul received the lowest number of problems per 100 vehicles reflecting higher quality in their respective segments in the J.D. Power 2017 U.S. Initial Quality (IQS) Study, based on 77,419 total responses, evaluating 189 models, and measures the opinions of new 2017 vehicle owners after 90 days of ownership, surveyed in February-May 2017. Your experiences may vary. Visit jdpower.com/cars.



Genuine Parts



RAVE REVIEWS

EMILY WASHCOVICK //
Contributing Editor

A Bright Local study found that 92 percent of consumers read online reviews to determine if a local business is a good business. People are overwhelmingly using Yelp as their review site of choice. As an auto repair shop owner, you have the power to claim your free Yelp for Business Owner's Account and update some of your business information. You can also engage with your listing in a way that draws more attention and helps

generate more natural review content for your business.

Consumers likely do not do a search on Yelp for an auto repair shop just for fun. Similarly, your loyal customers don't go to Yelp when they're in need of new parts to beef up their ride. They pick up the phone and call you! A potential client who is searching on Yelp for a repair shop or mechanic is generally new to the area, has never had problems with their car, or is unhappy with their previous auto repair shop. This is a great opportunity for you to get your business in front of them and highlight why they should try you for their auto service needs.

Every business owner has the ability to claim their free Yelp For Business Owners account and start attracting new clients. Between working on cars, managing your staff, and building your brand, there's not a lot of time left! Here are five tips for making the most of your free Yelp tools to attract new customers:

Tip 1: Complete your listing

First, claim your Yelp for Business Owners Account by visiting biz.yelp.com. Then you will walk through the steps to verify your hours, website, address, and phone number. From there

you'll want to add a specialties section that describes what sets you apart and the specific services you offer.

All Yelp users search differently. Some may search 'auto repair' while others search for 'mechanic.' Make sure to include details about your services and special offerings so you can be found more often! If you also provide moving services, you should add that to your profile to give you an edge.

Visuals are also a great selling point for businesses. You can upload an unlimited number of photos, so start taking pictures of your facility, staff and those staff members in action, performing the services you offer. Make sure to add captions that describe the photo, as those terms can be used to your advantage. Photos of happy customers are always great, too.

Tip 2: Check-in offers

You can set up a Check-In Offer or Yelp Deal through your Yelp for Business Account in a few quick clicks. Check-In Offers engage mobile users of Yelp. These users are searching on-the-go and tend to take action faster. Check-In Offers can be anything from a free item, a percentage off their bill, or even a free add-on service like a car wash or brake test. The best thing about Check-In Offers? Consumers are prompted to leave you a review the next time they log into Yelp after checking in at your business. It helps grow your brand across social platforms like Facebook and Twitter and engages customers beyond just leaving a review or visiting your business.

Setting up Yelp Deals is another great way to grab a customer for the first time. You select the value of your Yelp Deal through your account, and you can turn it on or off whenever you choose.

Tip 3: Respond to reviews

You can respond to reviews publicly or privately through Yelp for Business Owners. Remember, when responding to your reviews, it is important to remain professional, thank the reviewer for their feedback, and share any updates that have been made to your business as a result. Consumers see a response to a negative review as the business valuing the customer's experience and showing a desire to engage with consumers on a personal level. Sending a short, private message to a positive review also shows those happy clients that you appreciate their business!


Tip 4: Download the mobile app for business owners

The first step to keeping all the Yelp tools right in your pocket is to visit the iTunes or Google Play store to download the free Yelp for Business Owners App. Remember: It's blue, not red! Once you log in to your account, you will stay logged in on your device. This is great for faster access. You will notice multiple features available to you, including the ability to

check your activity, respond to reviews and upload photos.

Tip 5: Spread the word

When you have a great review, you want people to see it! You can now log in to Yelp for Business Owners and share your reviews on other platforms such as Facebook, Twitter, or via email. We've even seen businesses print their reviews and frame them on their walls! Beyond just telling your patrons they can find your business on Yelp, you can also make it visible in your offices or on your website. You can always request a "Find Us On Yelp" sticker. Visit Yelp.com/brand to see all of our approved stickers, signage and hyperlinks to include Yelp in your email signature or on your website.

Don't take my word for it! There are owners all around the world growing their business through Yelp. If you have questions about any of the resources mentioned or available to you on Yelp, you can always visit our support center for Business Owners. 



EMILY WASHCOVICK is a Business Outreach Manager at Yelp. She hosts informational sessions with local business owners across North America to educate them on best practices for navigating the world of online reviews.

MOTOR GUARD INTRODUCES UNIQUE LINE OF FLEXIBLE SANDING BLOCKS



In Three Shapes, These Firm and Flexible Bars Handle Detail Sanding Applications



MOTOR GUARD has introduced a first of its kind line of flexible sanding bars for detail sanding applications. These new blocks are constructed of a dense yet flexible compound that allows bending to suit body profiles while maintaining a firm and durable backing for highly effective sanding.

The new blocks are available in three styles, the **Rectangular Block (FB-1)** for flat sanding and tight corners, the **Double D Block (FB-2)** with radiused sides for sanding inside contours, and the **Curved Block (FB-3)** for complex body lines and details. Also available in a see-through pegboard display of all three, the **AP-6 Flexi-Block™**

www.motorguard.com

800.227.2822



LEAVING IT ALL BEHIND

A shop owner's guide to determining an exit strategy

W. SCOTT WHEELER // Contributing Editor

Do you remember all the excitement and enthusiasm you had when you first started your repair shop? Maybe it was when you got your business cards. Shiny, new, freshly printed with your official company name on them! Or maybe it was when you had your company sign installed on your building? Or perhaps the freshly printed stack of new company checks? All the activity, the work, the unfulfilled dreams — that was then. But this is now!

Now, after however many years of running your operation, you're ready to call it quits. Whether you've been wildly successful or have just been able to keep the bills paid and the customers happy, you're still ready to call it a day. If you're at that point, please pay attention; you'll learn some basic strategies to help you navigate the waters ahead. In preparation for writing this article, I interviewed quite a few independent shop owners and was dismayed to hear that not many of them had given any thought as to how they

might one day "cash out."

The first and most important aspect of getting out is to determine what the business is worth, or valuation.

Scenario 1: You own the property, the real estate and the building.

This example is much more complicated, and most certainly will require the assistance of either a real estate agent, banker, or perhaps a business broker. The options here are almost limitless! You may



GARMAT.com

The RIGHT TOOL for the JOB

Upgrade to Downdraft



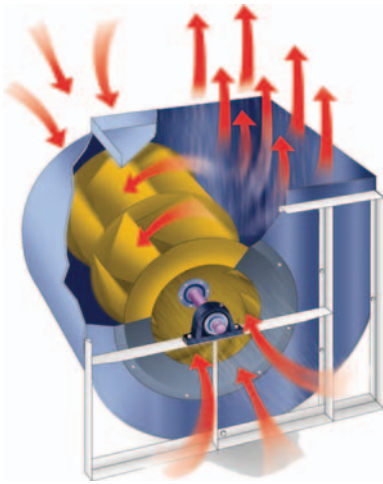
Frontier - Modified Downdraft
(U.S. Patent - US 6,533,654 B2)

Garmat offers a full line of **Downdraft** and **Modified Downdraft** Paint Spray Booths to fit your shops production needs. From single, 3-row and custom designed pits in our full Downdraft Models, to the patented air flow methods in our Modified Downdraft Models.

Upgrade to the Downdraft Airflow you need for...

- **Increased Production**
- **Improved Cure Times**
- **Cleaner Finishes**

... while spending less time in the detail area.



All Garmat USA standard line of Spray Booths features Dual Inlet Reverse Incline Fans with Airfoil Blades on exhaust for optimal air flow and performance.



3000 Series Full Downdraft

SPRAY BOOTHS, CTOF's, PREP AREAS, MOBILE SOLUTIONS & more...

Sales@Garmat.com



Garmat USA | 1401 W. Stanford Ave. | Englewood, Co. 80110 | 800-442-7628 | www.garmat.com

decide to sell only the “business entity itself,” i.e. the name, equipment, all contents, and most importantly — the customer database. The beauty of this approach may not be self-evident. When a prospective buyer is reviewing his options, he only has a couple. He can do as you did, and start from scratch. He can buy some land, which is properly zoned, get the necessary permits, erect a building, buy many tens of thousands of dollars in equipment, hire the staff, and so on. He would then do the necessary advertising to get the first paying customer in the door. But why would he do that? After all, your cash register is already ringing! Theoretically, you both could close on the sale of your business on a Friday, and he could start earning profits come Monday morning. When negotiating with a serious buyer, it’s crucial you point this out.

You could sell only the actual business, business name, customer database, and equipment. You could then choose to lease the building and property back to the new owner. This is smart for a number of reasons, which a prudent real estate agent or broker can help you to realize. Demographic analysis and market studies will tell you if the values of commercial property are trending up or down. If it’s trending up, it might be wiser to maintain control over the property. If analysis indicates otherwise, it might be best to “cut and run.”

Scenario 2: You do not own the dirt or the building.

In many ways, this is a much simpler sale, requiring transfers of tenancy, responsibility of all utilities, etc. Should this be the case, the new owner will most certainly have to qualify and agree to the landlord’s requirements for occupancy. Should the new owner wish to change the name of the business (generally not a good idea unless there is negativity surrounding the existing business name), they’ll have to get concurrence on it, at least from the city or county, as well as the landlord.

What is my business worth?

How it works:

1. Add up the value of all the assets such as cash, stock, plant and equipment, and receivables.
2. Add up liabilities, such as any bank debts and payments due.
3. Subtract the liabilities from the assets to get the net asset value.

Similar to bond or real estate valuations, the value of a business can be expressed as the present value of expected future earnings.

There are a lot of ways to value a business. There’s no “right” way, though you could probably come up with several wrong ones. Ultimately, the business is worth whatever you think it’s worth, based on the criteria you set forth. But you can make your estimation by using several different ways to value the business and then choosing the mix that reflects your final value estimate.

You can start by looking at the value of the business’s assets. What does the business own? What equipment? What inventory? After all, a new owner would have to buy all the same stuff if they were starting a teashop from scratch, so the business is worth at least the replacement cost. The balance sheet can give you a good indication of the value of the company’s assets. If the company doesn’t have a good set of books, a prospect might think twice about buying it.

The other valuation approaches all think of a business as a stream of cash. They value a business by trying to come up with a value for that stream of cash.

Revenue is the crudest approximation of a business’s worth. If the business sells \$100,000 per year, you can think of it as a \$100,000 revenue stream. Often, businesses are valued at a multiple of their revenue. The multiple depends on the industry. For instance, a business might typically sell for “two times sales” or “one times sales.” If you have a good stockbroker, he or she may be able to help you research typical sales multiples for your industry. A good business broker

can also help you if he or she has done valuations for your industry.

But alas, revenue doesn’t mean profit. If you’re in doubt, just look at Amazon: It had 2002 sales of almost \$4 billion, but no profit. In fact, it hasn’t made one cent of profit since the day it was founded. How much would you pay for an ongoing \$4 billion per year that you have to pump an additional \$380 million per year into just to keep it afloat?

Warren Buffett uses what’s called a discounted cash-flow analysis. He looks at how much cash the business generates each year, projects it into the future and then calculates the worth of that cash flow stream “discounted” using the long-term Treasury bill interest rate. There’s no room to explain the theory or calculation here, but you can do it in Excel using the NPV “net present value” function.

Accurately valuing a small business is often the most challenging part of the process for prospective business buyers. However, it doesn’t have to be an overwhelming or difficult undertaking. Above all, you should realize that valuation is an art, not a science. A buyer should always keep in mind that the “Asking Price” is NOT the purchase price. Quite often it does not even remotely represent what the business is truly worth.

There are several ways to calculate the value of a business:

Asset Valuations: Calculates the value of all the assets of a business and arrives at the appropriate price.

Liquidation Value: Determines the value of the company’s assets if it were forced to sell all of them in a short period of time (usually less than 12 months).

Income Capitalization: Future income is calculated based upon historical data and a variety of assumptions.

Income Multiple: The net income (profit/owner’s benefit/seller’s cash flow) of a business is subject to a certain multiple to arrive at a selling price.

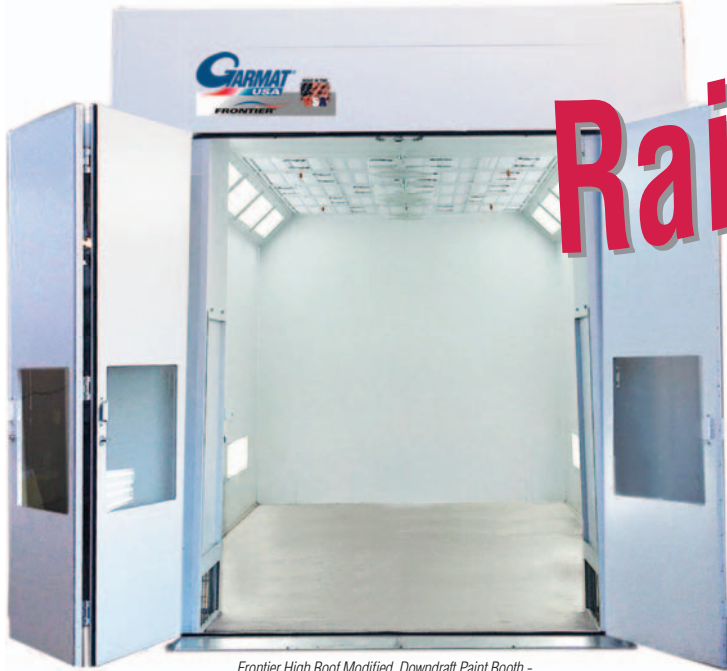
Rules of Thumb: The selling price of other “like” businesses is used as a multiple of cash flow or a percentage of revenue.



GARMAT.com

The RIGHT TOOL for the JOB

Raise the Roof



Frontier High Roof Modified Downdraft Paint Booth - with Standard Width

Adding Fleet Vehicles & Transit Vans to Your Mix?

Any Garmat Model of Paint booth can be transformed in to a High Roof model to accomodate transit vehicles and trucks.

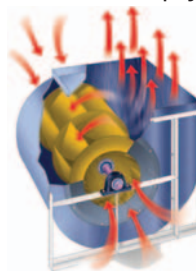
Our **HIGH ROOF** line of paint booths include Downdraft, Modified Downdrafts, CTOF's and Prep-stations.



3000 Series Downdraft Paint Booth - with 16' Width

We can raise the height on your paint booth to help you **RAISE THE ROOF** on your **REVENUES!**

Let Garmat help you grow your business.



All Garmat USA standard line of Spray Booths feature Dual Inlet Reverse Incline Fans with Airfoil Blades on exhaust for optimal airflow and performance

1-800-442-7628

SPRAY BOOTHS, CTOF's, PREP AREAS, MOBILE SOLUTIONS & more...

Sales@Garmat.com



Garmat USA | 1401 W. Stanford Ave. | Englewood, Co. 80110 | 800-442-7628 | www.garmat.com

Naturally, a buyer's valuation is usually quite different from what the seller believes their business is worth. Sellers are emotionally attached to their businesses. They usually factor their years of hard work into their calculation. Unfortunately, this has no business whatsoever being in the equation.

These techniques — asset valuation, sales multiple, earnings multiple and cash-flow analysis — value the financial side of the business. Nonfinancial considerations also come into play.

I hope these ideas give you a head start in valuing the business. I'd also recommend you get your banker involved in the valuation. Since your banker may be helping finance the business, he or she will have a good sense of how to do a good valuation for shops in your area.

Determine what's best for your business.

Asset-based valuations do not work for small business purchases. Assets are used to generate revenue and nothing more. If a business is "asset rich" but doesn't make much money, how valuable is the business altogether? Conversely, if a business has limited assets, such as computers and office equipment, but makes a ton of money, isn't it worth more?

Income Capitalization is generally applicable to large businesses and most often uses a factor that is far too arbitrary.

The "Rule of Thumb" method may be too general since it's hard to find any two businesses that are exactly the same. The Multiple Method is clearly the way to go. You have probably heard of businesses selling at "x times earnings." However, this can be quite subjective. When selling a small business, every buyer wants to know how much money he or she can expect to make from the business. Therefore, the most effective number to use as the basis of your calculation is what is known as the total "Owner Benefits."

The Owner Benefits amount is the total dollars that a buyer can expect to

extract or have available from the business based upon what the business has generated in the past. The beauty is that unlike other methods (i.e. Income Cap), it does not attempt to predict the future. Nobody can do that. Owner Benefit is not cash flow! It is, however, sometimes referred to as Seller's Discretionary Cash Flow (SDCF).

The theory behind the Owner Benefit number is to take the business's profits plus the owner's salary and benefits and then to add back the non-cash expenses. History has shown that this methodology, while not bulletproof, is the most effective way to establish the valuation basis of a small business. Then, a multiple, based upon a variety of factors, is applied to this number and a valuation is established.

Owner benefit formula

The owner benefit formula to use is: Pre-Tax Profit + Owner's Salary + Additional Owner Perks + Interest + Depreciation less Allocation for Capital Expenditures

Why add back depreciation?

Depreciation is an expense that allows a business to deduct a certain amount of money each year from an asset so that its purchase value is reduced by its overall useful life. As an example: if the business buys a \$25,000 truck and its useful life is estimated at 5 years, then each year the company can deduct \$5,000 off its income to lessen its tax burden. However, as you can see, it is not an actual cash transaction. No money is physically leaving the business or changing hands. Therefore, this amount is added back.

Why add back interest?

Each business owner will have separate philosophies for borrowing for the business and how to best use borrowed funds, if necessary at all. Furthermore, in nearly all cases, the seller will pay off the business's loans from their proceeds at closing; therefore, you will have use of these additional funds.

A note about add-backs

After completing any add-backs, it is critical that you take into consideration the future capital requirements of the business as well as debt-service expenses. As such, in capital-intensive businesses where equipment needs replacing on a regular basis, you must deduct appropriate amounts from the Owner Benefit number to determine both the true value of the business as well as its ability to fund future expenditures. Under this formula, you will arrive at a "net" Owner Benefit number or true Free Cash Flow figure.

What multiple?

Typically, small businesses will sell in a one-to three-times multiple of this figure. Now, this is a wide range, so how do you determine what to apply? The best mechanism I have found is that a one-time multiple is for those businesses where the seller is "the business." In other words: "as out the door goes the seller, so too can go the customers." Consulting businesses, professional practices and one-man businesses come to mind.

Businesses that have a strong track record, repeat clients, historical pattern of growth, more than 3 years in business, perhaps some proprietary item, or an exclusive territory, a growing industry, etc., will sell in the 3-times ratio. The others fall somewhere in between.

So now the big question: what number/multiple do you apply to the Owner's Benefit number? The answer is simple: nearly all small businesses will sell in the 1-to-3 times Owner Benefit window. Of course, this is a very wide range. ■



W. SCOTT WHEELER

is president of Automotive Consultants Group, Inc. (ACGI), and a shop management expert in the transportation industry with

over 36 years' experience in the automotive, trucking, heavy equipment, marine, motor sports and defense aerospace industries.

He holds numerous ASE credentials, including two Master's Certifications.

scott@automotiveconsultantsgroup.com



ONE MIX BANK. ONE SYSTEM. THREE SOLUTIONS.

Matrix has you covered on every job.

Discover a universal, three-tiered basecoat system that goes from better to best to optimal. That's right, even our value option delivers better color match and finish. Think you need to pay top dollar for superior quality? Matrix says, think again.

Call **800.735.0303** to schedule a demo!

MATRIX
matrixsystem.com



Upgrade your title from employee to business owner

FEDERAL LOAN PROGRAM CAN HELP EMPLOYEES LOOKING TO MAKE THE TRANSITION

ROB WILSON // Contributing Editor

More than half — 56 percent — of independent shop owners plan to sell their businesses by 2020 (according to a 2015 survey by Hiscox Insurance). Just as in many other industries, retiring baby boomers are making way for new owners and entrepreneurs in the auto repair sector.

Yet these aren't mega corporate merger and acquisition deals like Icahn Automotive's recent \$35 million acquisition of Precision Auto. And the owners and employees aren't billionaire hedge fund managers like Carl Icahn, either. But they are important to their retiring owners and the employees who remain.

Given long-term trends in the auto repair business, and the fact that the skills to repair cars and trucks are beyond most consumers' abilities to manage themselves, prospects for the industry look good.

One category of potential buyers is close to home: key employees. We're seeing a lot of employee interest in taking over the shops where they work. It certainly makes sense for someone who knows the business to take it over.

The benefits to employees buying out the boss work both ways, and apply to franchises and independent shops alike. For owners looking for a predictable exit from their business (most often to retire), employee ownership makes for an ideal succession plan. The staff already has the skills, understands the operation and has

a relationship with the client base. Employees buying the business not only preserve the business and the associated jobs, but also can build equity and create their own long-term wealth.

But how do employees become business owners? Few, if any, are wealthy enough to write a check. In fact, the Hiscox Insurance survey cited above reveals a third of independent shop owners find bank financing to be "tight."

The Small Business Administration's (SBA) 7(a) loan program can be the answer. It's a federal loan guarantee program that helps lenders on qualifying loans be more flexible, and it focuses on operating businesses, like auto shops. In general, the 7(a) program can provide more reasonably priced loans, over longer terms than online lenders, and with more flexibility than regular bank financing.

In a couple of recent examples, as far apart as Idaho and Maine, we at C7a helped long-time employee managers buy out their retiring bosses. In neither case did the employee have the resources to make the purchase without a loan.

Both worked with the respective owners to plan for the transition. Experts advise that for the best odds of a successful transition, start planning well ahead. Because of this, both borrowers had some savings to provide some "money down."

Both had worked with business advisors or local economic development organizations, Montana and Idaho CDC and a CEI Maine Small Business Development Center business advisor, respec-

tively, to prepare plans for the financing, the transition and the longer term.

"It made sense for all of us," says Jared Scofield, one of the two long-time employees of Garry's Automotive in Boise, Idaho, who bought the business from its retiring owners. "We started the process years ago, saving money and learning the business. We not only want to be here for our customers, but for our staff too, providing a good living for all of us."

Similarly, James Chattley, an experienced and trusted employee of a Meineke franchise in Topsham, Maine, was approached by the shop's owners to discuss their plans to retire as well as the possibility of him buying the business.

Chattley worked with W. Bradshaw Swanson, a certified Business Advisor at the Small Business Development Center at CEI. Through dedicated customer business advising, Swanson introduced Chattley to the SBA 7(a) lenders at C7a. As Chattley says, "The team at CEI and C7a structured the loan with terms that made sense for me and the future success of this business. They really understood me and my goals for the shop."

Swanson agrees that a 7(a) loan was the best fit for Chattley's situation, and says, "The acquisition of the franchise was a great opportunity for James. He had successfully managed the shop for more than a decade. He had the cash from savings for the down payment and needed to borrow the balance to buy the business. When the bank turned him down, we approached C7a because of

>> CONTINUES ON PAGE 38



"I love this show. The show is amazing; the displays are wonderful; the vendors are having a great time. I've met a lot of great prospects. It's a blast."

— MATT FANSLAW, ATTENDEE AND TRAINER WITH THE AUTOMOTIVE TRAINING INSTITUTE

WATCH + LEARN



Learn the best way to handle shop phone calls

ABRN.COM/PhoneCall



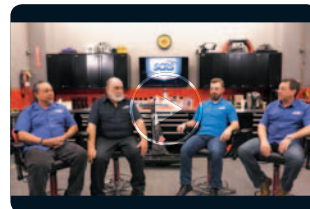
Live demonstration: Nitrogen painting system

ABRN.COM/NitrogenSpray



Working your way to the top

ABRN.COM/ToTheTop



Panel: Corrosion protection options

ABRN.COM/CorrosionPanel

MECHANICAL MOMENT

SERVICE REPAIR PROBLEMS AND SOLUTIONS THAT JUST MIGHT BENEFIT YOUR SHOP TECHNICIANS

HYUNDAI VELOSTER SETS DTC AFTER CLOSE ENCOUNTER (OF SOME KIND) WITH THE SNOW

VEHICLE: 2012 Hyundai Veloster, L4-1.6L, Automatic Transaxle

MILEAGE: 65,030

PROBLEM: The customer brought his car to the shop because he noticed a significant loss of power and the malfunction indicator light (MIL) was ON.

DETAILS: The tech connected a scan tool and retrieved a P0106 DTC – Manifold absolute pressure (MAP) circuit/performance out of range. Acting on advice from the Tech-Assist consultant, he monitored the MAP sensor and throttle position sensor (TPS) voltages with his scan tool.

At idle, the MAP sensor voltage was 1.35V and the TPS read 0.546V, which was within factory specifications. While accelerating though, he noticed that the MAP sensor voltage did not increase at

the same rate as the TPS voltage.

The Tech-Assist consultant suggested checking the intake system next. When the tech opened the air box, it was packed with snow.

CONFIRMED REPAIR: After removing the snow, drying out the intake system and installing a new air filter, the code was cleared and the vehicle was taken on a test drive. The power was restored and the MIL remained off. By the way, the vehicle owner had no idea how the snow got into the air intake system but his son drove the car the night before.

This tech tip and others come from ALLDATA Tech-Assist, a diagnostic hotline of ASE-Certified Master Technicians. Whatever technicians need — from creating alternative diagnostic strategies to providing step-by-step repair assistance — the Tech-Assist Team can deliver. Learn more at ALLDATA.com.

TRAINING EVENTS

SEPTEMBER 14

ASA Midwest Kansas City: The Future of the Automobile

iWerx

North Kansas City, Missouri

SEPTEMBER 21

Advanced Painter Certification
Sherwin-Williams Automotive Finishes
Philadelphia, Pennsylvania

SEPTEMBER 22-24

ASA Illinois CAN Conference
Westin Chicago Northwest
Chicago, Illinois

SEPTEMBER 23

I-CAR: Advanced Steering and Suspension Systems Damage
Texas State Technical College
Harlingen, Texas

SEPTEMBER 25-29

Advanced Selling Skills
RLO Training
Seattle, Washington

SEPTEMBER 27

I-CAR: Adhesive Bonding
Mitchell International
San Diego, California

OCTOBER 31

Collision Industry Conference
Renaissance Hotel
Las Vegas, Nevada

OCTOBER 31-NOVEMBER 3
SEMA 2017

Las Vegas Convention Center
Las Vegas, Nevada

>> CONTINUES FROM PAGE 36

the customer-focused, flexible financing option they offered. It was a terrific fit. From the outset, when we contacted them, we got the sense that they saw the opportunity for James. They said, 'We see the potential here. Let's see what we can do to make this deal work.'"


Both Scofield and Chattley had approached local banks, which should be the first port of call for any borrowers, but in their cases the banks were not willing to help, as the deals didn't quite fit their credit criteria or current portfolio requirements. Consequently, their advisors introduced them to C7a.

Businesses are typically valued on the amount of cash flow they produce after paying expenses (Earnings Before Interest Tax Depreciation and

Amortization, or EBITDA in accounting parlance). An independent auto shop or franchise might change hands for anywhere between 2 and 5 times EBITDA, typically between \$250,000 and a couple of million dollars, depending on the type of work it does and the size. That doesn't include buying the real estate. Successful shops are generally able to support the debt necessary to service a leveraged acquisition (one utilizing debt as a significant part of the purchase price).

As a mission lender (not a bank), we at C7a look at the big picture when analyzing a borrower's credentials — where the business is located, does it have a history of profitability and what is the potential for future revenue.

It is our mission to support entrepre-

neurship and opportunity for all and therefore we support the mechanic or supervisor who has extensive experience in the industry to make the leap to business owner. It is good for the business and beyond when an experienced employee, invested in the community, can buy out the boss, keeping ownership on Main Street instead of Wall Street. 



ROB WILSON is CEO, CEI 7(a) Financing LLC, one of a small number of non-bank lenders licensed by the Small Business Administration to participate in the SBA's

flagship 7(a) loan guarantee program. C7(a) shares a mission with its non-profit parent organization, Coastal Enterprises Inc., to help individuals and communities reach their full potential.

rwilson@cei7a.com

AUTOBODYSHOP.COM

MEASURING
SYSTEMS

FRAME
MACHINES

TOOLS
&
ACCESSORIES



COLLISION REPAIR EQUIPMENT

AMERICAN MADE

CALL 1.800.445.8244 WWW.AUTOBODYSHOP.COM

MIG BRAZING BASICS

SLOT WELDS PROVIDE

MIG brazed joints with more surface area to ensure a strong joint.

ALTHOUGH POPULAR IN GLOBAL MARKETS, MANY U.S. COLLISION TECHS ARE STILL UNFAMILIAR WITH THE PROCESS

JASON BARTANEN // Contributing Editor

Metal Inert Gas (MIG) brazing has been a popular attachment method in other global markets for quite some time, but it's only beginning to make its way into the North American market. And while there is no shortage of MIG brazing equipment on the market, most collision repair professionals are still unfamiliar with the process.

Before we get any more in-depth into what MIG brazing is, let's first understand what it's NOT. Today's MIG brazing is not the same type of brazing many of us may have done with an oxyacetylene torch. The capillary action (more on that in a

bit) principle is the same, but MIG brazing is using much less heat than an oxyacetylene torch. The lower temperature of MIG brazing is one of the benefits that makes this attachment method attractive to vehicle makers.

Benefits of MIG brazing

MIG brazing is a non-fusion process. Conventional steel Gas Metal Arc Welding (GMAW) is a fusion process that fuses the electrode wire with the base metal. GMAW uses more heat to fuse the materials together. MIG brazing can be done at a much lower temperature, causing a smaller heat-affected zone (HAZ). According to Miller Electric, the MIG brazing electrode can melt at temperatures under 900° F; this is not enough heat to

melt the steel base metal. The lower temperature is beneficial on many of today's high- and ultra-high-strength steels (HSS and UHSS). HSS and UHSS are both heat-sensitive steels and can be weakened when heated. The excessive heat caused by GMAW may weaken these types of steels. Additionally, because of the smaller HAZ, less zinc coating (corrosion protection) is burned away when MIG brazing. Also note that MIG brazing cannot be used as an attachment method for aluminum due to the lower melting temperature of aluminum.

Capillary action and joint configuration

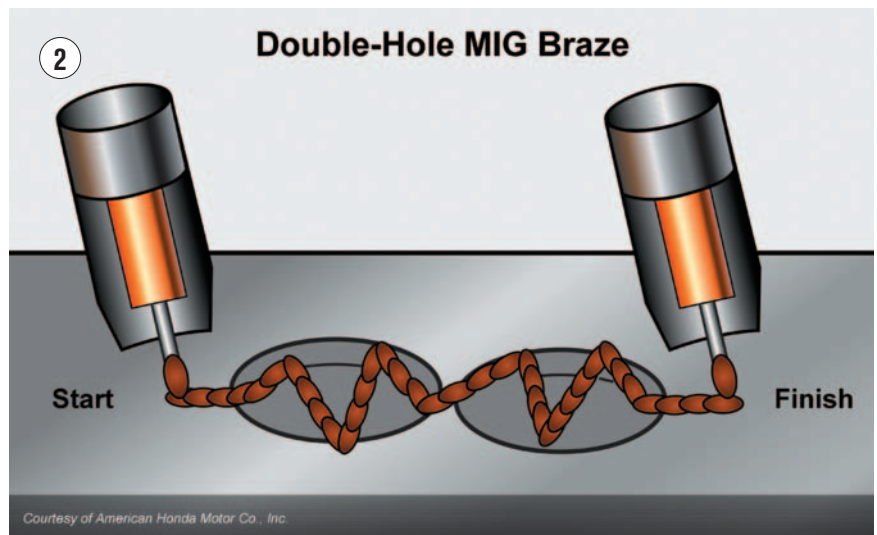
One common question is related to the strength of the MIG braze joint vs. a

GMAW weld joint. How can a non-fusion process be stronger than a fusion process? MIG brazed joints can match the strength of a GMAW joint because it often uses a larger surface area. Slot welds and dual plug weld holes are often recommended for this reason. A slot weld is an oblong hole that offers more surface area than a conventional 8 mm plug weld hole (Figure 1). Slot welds can be made with a slot weld hole punch, or by making three plug welds, side by side, and then removing the area between each of the holes. Similarly, dual plug weld holes also offer additional surface area for the MIG brazing electrode wire. More surface area allows the MIG braze joint, when done properly, to cover more area through capillary action. Good capillary action is the key to a successful MIG braze joint. Capillary action can be likened to using a sponge or paper towel to clean up a spill. As you place the sponge on the spill, the liquid gets drawn into the sponge. The MIG brazing electrode does the same as it's drawn into the joint. Joint fit-up is one of the most important requirements for MIG brazing; this is to ensure good capillary action. For this reason, it is critical that the joint is not overtightened. If the electrode wire isn't able to be drawn into the joint, due to excessive joint fit-up, good capillary action isn't possible.

In addition to the aforementioned joints, the other joint you may be required to use is an open butt joint. The slot weld and dual plug weld hole joints will be used more often than an open butt joint, but it's important to be able to make each of the joints effectively. To identify which joint is required, it's important to refer to the vehicle maker procedures for each application.

Equipment and electrode selection

There are several options for MIG brazing equipment. You may be able to convert your GMAW set up to handle MIG brazing, or you may have a ma-



HONDA RECOMMENDS a zig-zag pattern for MIG braze joints on several of their vehicles.



GM LEVERAGES SLOT WELDS to attach some upper rails to the A-pillars.

chine dedicated for MIG brazing. Multi-function machines are becoming quite popular and are available from many major equipment makers. These machines allow technicians the opportunity to quickly switch from steel GMAW, to aluminum MIG welding, to MIG brazing. They offer multiple torches, each equipped with the correct electrode wire for the application, and two types of shielding gas; 100 percent argon for aluminum and MIG brazing, and 75 percent argon, 25 percent carbon dioxide,

also known as C-25, for steel GMAW.

Depending on the vehicle maker requirements, you will either be welding in short circuit or pulse mode. Jaguar/Land Rover and Honda require pulse, while Volkswagen allows either. Most technicians are familiar with the short-circuit transfer mode (it's what we use for steel GMAW), and often called the synergic mode, but not all are familiar with the pulse or pulse synergic transfer mode. Because of this, it may take technicians a little extra practice before becoming



Reliability like no other.

Nothing compares with genuine when you expect reliability.

Designed to meet the demands of Kia's specifications, look no further than Genuine Kia collision parts. Going with Kia is the best way to ensure easy installation, precision fitting, durable reliability and value. Backed by the Kia warranty,* our parts give added confidence when you're on the road or away from it.



Genuine Parts

* Kia Genuine collision parts sold by an Authorized Kia Dealer under warranty are covered for the greater of (1) the duration of the New Vehicle Limited Warranty or (2) the first 12 months from the date of installation of the Kia Genuine replacement parts or 12,000 miles. Labor charges not included when not installed by an Authorized Kia Dealer. Warranty is limited. See Kia's Replacement Parts and Accessories Limited Warranty for further details.

4



I-CAR INSTRUCTORS WORK CLOSELY with technicians so they have the knowledge and skills to successfully complete MIG braze joints.

proficient in pulse transfer mode for MIG brazing. This is especially true when making open butt joints. Open butt joints require additional stick-out of the electrode that will not feel “normal” at first. The extra stick-out helps preheat the electrode and greatly improves the capillary flow of the molten electrode onto the backside of the open butt joint, increasing the strength of the joint considerably, especially if the face side of the weld is going to be ground down during finishing.

Similar to anything new, with time, training, practice and patience, the technique will get more comfortable.

For MIG brazing, technicians will often be using either 1 mm CuSi (copper and silicon) or CuAl (copper and aluminum) electrode wire. CuSi 3 alloy electrode is one of the more commonly used alloys for automotive MIG brazing,

but to determine which electrode wire and diameter are required, always refer to the vehicle maker repair procedures. U-shaped drive rolls are recommended for MIG brazing electrode wire. Make sure they are the correct size for the diameter of electrode you are using. Some are specific to an exact diameter, while some nylon rolls may accommodate a range of electrode diameters. It is also best to have dedicated drive rolls for the type of electrode wire being used.

Technique

Similar to aluminum MIG welding, the push method is used for MIG brazing. Pushing the electrode (welding gun pointed and pushed away from the weld puddle) will preheat the base metal in the arc zone, enabling better electrode flow. It also provides good arc stabilization and allows the technician to see the arc bet-

ter as well. Using the pull technique won't preheat the metal and won't pre-clean the weld joint as much as pushing the electrode does. Pushing the puddle will also tend to vaporize the zinc in the weld zone slightly ahead of the puddle, which will help reduce porosity.

One technique that we have found to be particularly advantageous is to use the stitch weld technique on open butt joints and lap joints. This technique provides additional heat control, further minimizing the HAZ on HSS and UHSS. The key to remember is to create a joint without skips or voids. For plug and slot welds, a continuous weld can be effective rather than using the stitch technique. Honda requires a unique zig-zag weld technique (Figure 2). Honda recommends starting the weld just off of the first of the dual plug weld holes. As the electrode reaches the plug weld hole, the technician begins

to make a vertical zig-zag pattern, ensuring that both the top and bottom of both plug weld holes are covered. Honda also requires this technique to be done in the pulse transfer mode.

OEM applications

Honda, Volkswagen and Jaguar/Land Rover are a few vehicle makers that have been requiring MIG brazing repairs for several years. More recently, General Motors has started to recommend replacing OEM MIG braze joints with repair MIG braze joints. One common location where GM has MIG braze joints is where the upper rails meet the A-pillar (Figure 3). Rather than filling the entire slot as some OEMs require, GM requires the technician to reproduce the slot weld using the same technique as what was used during manufacture. In some cases, this is a fillet weld that extend from one end of the slot to the other, but only on one side of the slot rather than filling it completely.

Honda continues to increase the number of vehicles on which they require MIG brazing to be done during repairs. Honda's extensive use of 1,500 MPa steel is the main reason for this increase. Honda requires squeeze-type-resistance spot welding (STRSW) for attaching 1,500 MPa steel. However, two-sided access isn't always available. When STRSW isn't possible due to one-sided access only, Honda requires MIG brazing. A common location where MIG brazing is required on Honda vehicles is the base of the B-pillar. The rocker panel doesn't allow for STRSW, so MIG brazing is required to attached the outer B-pillar to the 1,500 MPa steel reinforcement.


Training

I-CAR offers two courses on MIG brazing. The I-CAR MIG Brazing (BRZ01e) course is an online course that provides students with theory and machine set up basics. Students can access this course at i-car.com. The new I-CAR MIG Brazing

Hands-On Skills Development course (BRZ02) is an in-shop training program, done using the technician's equipment for optimal learning. In this course, I-CAR experts work directly with the technician(s) on machine set up, joint configuration and technique (Figure 4).

There is also training available from some equipment makers, as well as vehicle makers. Jaguar/Land Rover also include MIG brazing as part of their global steel certification assessment. Jaguar/Land Rover North America conducts this assessment at the I-CAR Tech Center in Appleton, Wis. This assessment is supported with an online tutorial on what to expect during the assessment. I-CAR subject matter experts then work directly with students to ensure they're prepared for the challenging steel assessment, which also includes GMAW and STRSW.

Conclusion

As vehicle makers continue to expand the use of HSS and UHSS in their vehicles, MIG brazing will continue to gain popularity for collision repairs. We're likely to see more open butt joints where body sides are partially replaced. We're also likely to see more slot welds where UHSS was spot welded but no backside access, as well as where outer body panels are joined to HSS and/or UHSS structures. 



JASON BARTANEN is the Technical Director for I-CAR, the Inter-Industry Conference on Auto Collision Repair, a not-for-profit training organization focused on education, knowledge and solutions for the collision repair industry.

jason.bartanen@i-car.com

GET SERIOUS ABOUT YOUR DUST EXTRACTION NEEDS!

EUROVAC

Specialists in Dust Extraction

Your #1 source for a clean environment!

- ✓ **Properly Engineered Systems**
- ✓ **Superior Filtration:** Cyclonic Dust Separation, Automatic/Manual Filter Cleaning and HEPA Filters
- ✓ **Turnkey Installation & After Sale Service**
- ✓ **Reliable, Maintenance Free, Powerful Turbine Pumps**
- ✓ **Complete Line of Vacuum Ready Hand Tools, Abrasives and Backup Pads.**
- ✓ **Dust Extraction Conversion Kits available for all tool makes and models.**
- ✓ **OEM Approved Equipment**
- ✓ **NFPA and OSHA Code Compliant Expertise**

EUROVAC HAS A PRODUCT FOR EVERY NEED AND BUDGET

Central & Portable Dust Extraction Systems



Vacuum Ready Tools & Abrasives/Backup Pads



*Leaders in Dust Extraction for over 30 Years
with thousands of systems installed globally*

1-800-265-3878
info@eurovac.com
www.eurovac.com



The high performance refinishing products you want, plus the technical assistance and expert help you need.

All in one place.

Visit us at **SEMA** Booth No. **10839**

www.valsparauto.com





valspar AUTOMOTIVE




PROX SPRAY

valspar
REFINISH



MATRIX





SCANNING DOESN'T ALWAYS TURN UP all electronic damage. Thorough quality checks are necessary to determine if all electronic systems are operating correctly.

NAVIGATING THE ELECTRONIC MAZE

FIVE STEPS TO SOLVING THE MOST DIFFICULT ELECTRICAL SYSTEM RIDDLES

TIM SRAMCIK // Contributing Editor

Muscle car fans can be forgiven if they still feel a sense of childhood glee every time Dodge releases a new iteration of the Challenger. The technology under the skin might be modern, but the muscular, throwback appearance is the closest most classic fans will get to a true return to early 1970s greatness unless leisure suits and bell-bottom jeans come back into style (just kidding — everyone hated them).

The Challenger isn't without its critics. Some motorists complain that, like many other sport cars and some larger vehicles, rear visibility can be limited. Fortunately, today's technology has come to the res-

cue with backup cameras that can not only give a clear view of what lies beyond the tail of the beefy retro-coupe, but can also help direct it safely out of harm's way when moving in reverse. That is, unless the sensitive calibration of the camera unit has been damaged in an accident and overlooked during the repair. In these cases, the vehicle is just begging for another collision and trip back to a shop.

If your shop was responsible for the previous repair, you might be on the hook for this one.

Plenty of repairers openly worry about work on these and other sophisticated electrical systems. Chasing down and diagnosing problems can be a chore for any shop. Successfully verifying that all these systems are back to working condition

following a repair should be the goal for every shop. Use the following five steps and guideless to better prepare your shop to handle these chores.

Step 1: Find a specialist

Rick Zirbes is a regional I-CAR Instructor for Advanced Electronics and Future Technology. He's also CEO and President of Smart Express Inc. (formerly Dick and Rick Auto Upholstery) in Minneapolis, Minn., which offers a number of services typically available mainly from dealers, including:

- Complete computer diagnostics
- Complex wire repair
- Wire harness repair
- Electrical connector replacement
- Module programming and coding
- Airbag system analysis and repair



"We love our Spanesi equipment!"
- Kevin Probst

The Team of Probst Collision
New Lenox, IL

"The Michelangelo Spraybooth gives us 20% faster paint production with virtually zero flaws and a very efficient cost per car.

The Touch Measurement System allows exceptional accuracy and great flexibility for our shop while providing pre- and post-repair documentation.

Our Spanesi 14500 Spot Welder gives us the strength and quality of OEM welds every time.

Spanesi...well worth the investment!"
- Jeff Probst



ULTIMATELY, We Have It All.

Aluminum Repair Areas - Aluminum Repair Tools - Curtain Walls - Infrared Curing Systems
Measuring Systems - Paint Mixing Rooms - Pneumatic, Electric and Hydraulic Hand Tools
Prep Stations - Spray Booths - Steel, Aluminum and Plastic Welders
Straightening Benches - Vacuum Systems - Vehicle Lifts

OEM Certifications (yep, we have those!)

Acura - Audi - General Motors - Honda - Jaguar - Land Rover
Porsche - Range Rover - Tesla - Volkswagen - Volvo

See Us At SEMA!
BOOTH #10647



Spanesi Americas, Inc.,
123 Ambassador Dr. #107
Naperville, IL 60540

Phone: 224-SPANESI (224-772-6374)

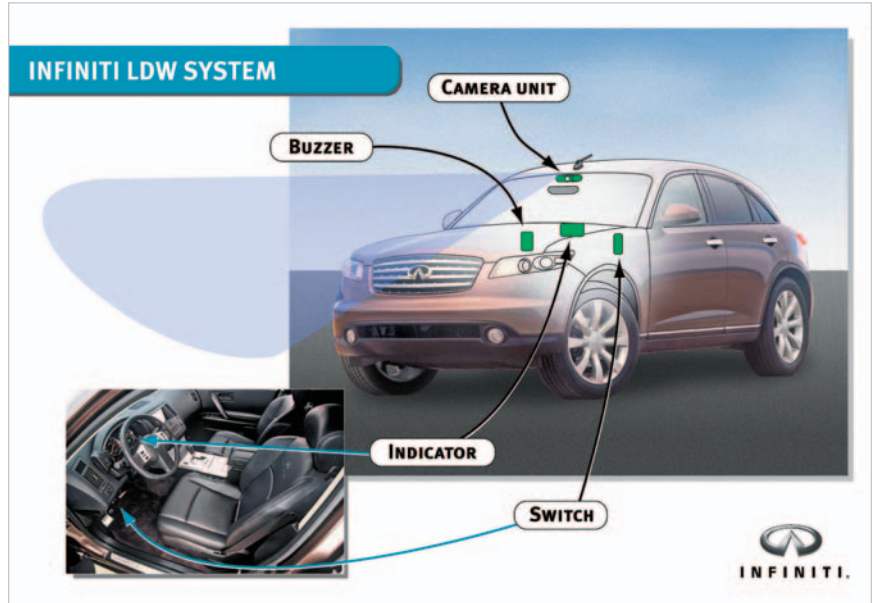
www.spanesi.com
www.facebook.com/spanesigroup

- OEM level diagnostic systems

It's his business to know how to untangle difficult electronic problems. Zirbes says the issues shops have addressing electronic challenges begin with staffing. "A lot of shops either don't have people working on the mechanical side or have people trained to handle these problems," he declares. "Sometimes you have techs doing work they aren't used to and missing key repair steps or working on new systems they have no familiarity with."

If your shop does offer mechanical repairs (past *ABRN* surveys indicate that 50 percent of repairers do), most of the answer here lies in investing more in training, especially diagnostics. If your shop doesn't, sourcing other solutions can get tricky. You can either bring a specialist aboard, train one of your current employees to do the work, find an electronic specialist business like Zirbes (which can be rare in many areas) or work out a shared work plan with a dealer.

None of these solutions is, of course, ideal. You're either adding more staffing and hoping the investment pays for itself or working out arrangements with other repairers and hoping doing so doesn't negatively affect cycle times. At the same time, doing nothing is the worst possible action. Keep in mind that adding a mechanical tech can add other value to your shop and bring in alternate revenue for



POPULAR LANE DEPARTURE WARNING SYSTEMS often require complex repairs where every step is critical for a proper post-accident re-calibration.

other services. Making at least one of your current staff members a specialist can offer similar benefits.

If your best path here is forming a relationship with another shop, take the time necessary to find a business that best complements your schedule while offering top-tier services. Also, don't simply push electronic work off to them without keeping your shop up to date with current electronic issues and repairs. You might be sharing work with someone else, but the repair is still your business.

Step 2: Don't rely completely on scanning

Upon first look, solving electronic riddles may seem to be a relatively simple matter of performing thorough pre- and post-repair scans, which you should be doing anyhow, providing an accurate diagnosis and sticking to the repair steps. Zirbes notes that electronic problems sometimes don't trigger a trouble code, meaning no diagnosis or repair may take place since no problem is initially found.

"There are plenty of times where a sensor may simply be misaligned and go undetected," he says. "This is where vehicle requirements and position statements need to be followed."

Step 3: Ramp up your quality checks

Essentially, your best hope in detecting these problems is raising your quality check standards. Simply examining a vehicle's repair area and taking it for a test drive won't do.

Shops need to be far more extensive in checking vehicles for damage. This means testing all sophisticated electronic systems. For example, to determine if the backup camera is accurately measuring the vehicle's path, back the vehicle up in



MOTORISTS RELY ON sophisticated electronic systems like back-up cameras to drive safely, but repairing these systems can be a difficult matter based on how prepared the shop is.

your lot. Check proximity detectors, lane departure systems and any other active safety system.

Adding these activities translates into additional service time, and should become part of your standard operating procedures (SOP), but it also gives a shop a far greater opportunity to return a vehicle to true pre-accident condition while keeping customers as safe as possible.

Step 4: Question repair steps

Regardless of which direction shops take to add specialization, they need to inquire where the technician is sourcing repair steps — since, in some cases according to Zirbes, the steps don't always work.

Since the OEMs can change and update the information in their documents at will, these adjustments can take time to be reflected in the data from information providers, Zirbes says. "Information is king

in the world of automotive repair. What is correct as we know it today can change a year from now and in some cases retro backward to future repairs," he said.

This is where having a specialist who understands and tracks these discrepancies is critical. It is also another reason to be more thorough when performing quality checks. Electronic systems that have been repaired deserve a good second look to determine if they have been accurately re-calibrated and returned to full operating condition.

Step 5: Buckle up for the ride

If it sounds like a large section of the collision repair industry is going to have its hands full while dealing with electronic repair issues, you are simply seeing just one level of this matter. The larger issue is more vast and complicated. Indeed, Zirbes says most of the industry will need time to



PHOTO: AUBURN COLLISION CENTER

POST-REPAIR TEST DRIVES are also critical. Use this time to test active safety systems — with caution.

evolve to handle this work effectively.

Zirbes notes that when it comes to addressing changing technology, the collision repair industry has usually been reactive — choosing to wait to respond instead of getting out in front of repair challenges. For years, shops complained that automakers designed vehicles with little thought to how they could be repaired. That only changed after a concerted effort by industry leadership was

CALIBRATION CONFUSION

How adept is your staff at performing calibration and other work on electronic systems following a repair? According to Rick Zirbes, many body techs just don't receive sufficient training in this area. Moving from structural work to mechanical tasks isn't always a smooth transition, can sometimes be confusing and involves a different "mindset."

The following repair steps for calibrating the Lane Departure Warning System (LDWS) for the 2012-2014 Hyundai Genesis sedan provide some insight into these difficulties. Review this repair from ALLDATA and note the challenges your staff may need to prepare for, including:

- Ensuring the vehicle is parked on an even surface.
- Setting the Target Jig on the hood at the appropriate distance away from the grill.
- Ensuring re-calibration is successful.
- Sufficiently testing the vehicle post-repair to verify the calibration was correct.

Calibration must be performed for the following items:

- New LDWS module installed
- Diagnostic Trouble Code (DTC) C1364 – Not Found Reference Point Code
- After repairing the roof panel
- When repairing the LDWS module mounting bracket
- After a vehicle repair resulting from an accident

NOTE: Vehicle must be parked on a flat and level surface.

Step 1. Install the calibration Target Jig on the hood approximately 3.5 inches (9.9 cm) away from the grill.

Step 2. Ensure the windshield is free of any debris, dirt/blemishes and/or aftermarket windshield tinting that can obstruct the line of sight between the LDWS camera and the Target Jig.

Step 3. Connect the VCI DLC cable to the data link connector located underneath the driver crash pad.

Step 4. From the System Screen, select LDWS and click OK.

Step 5. Under Vehicle S/W Management, select the Option Treatment icon.

Step 6. Under Data Treatment, select LDWS Reference Point Calibration.

Step 7. Select C2 calibration.

Step 8. If calibration was successful, the Calibration Completed screen will display.

Note: The X and Y Point coordinates also will display. The Specification range is: X Point: 183-199; Y Point: 145-189

If calibration was unsuccessful (the Calibration Completed screen does not display), adjust the location of the Target Jig accordingly and recalibrate. Continue repeating these steps until the Calibration Completed screen displays.

Step 9. Clear any DTCs in history.

Step 10. Test the LDWS on the road with well-painted lane lines to validate successful calibration. The lane line must be crossed without use of the turn signal for a warning to be generated.

Caution: This test should not be performed if other vehicles are in the proximity of the vehicle.

able to convince OEMs the value of offering customers a product that could be efficiently repaired after it was damaged. Today, many shops struggle with certification and attaining the necessary training to work on expanding technology that has been part of the industry for years.

Because of its nature, electronic

technology could be the toughest repair challenge yet. "It's a moving target," explains Zirbes. "Even as shops are coming up to speed on how to perform some of these repairs, new developments can change all that."

Zirbes goes on: "The technology incorporated into the current line of au-

tomobiles can make a leap — just when shops begin to get more involved, it changes. What you will have is one-year changes that are not going to be the same the next. Requirements and recommendations will change and be modified as safety systems develop and grow."

Recognizing this, some OEMs have become reluctant to allow shops to work on their products, Zirbes says.

"As technology expands beyond the vehicle as a single unit and then starts communicating with other vehicles, infrastructure and enlisting remote updates, you will see an increase of who is allowed inside, which might be called the 'firewall' of the electronics," Zirbes declares. "This may include the safety features of the vehicle since many systems are becoming intertwined. Simply put, it is a 3,000 lb. network on wheels."

Certainly, that stance doesn't bode well for the repair industry, particularly if OEMs begin looking at electronic repairs the same way they do at structural work involving alternative material or hybrid material parts. It's too early in the game to call this approach a trend, but it can be a wake-up call for shops: Start adapting now or pay a larger price later.

Ultimately, inside the issue of tackling tough electronic repairs is the task shops face in taking account of all the different components and parts that can be damaged in a collision. When it comes to correctly diagnosing and repairing this damage, numerous scenarios can play out — certainly too many to be described here. More important is the matter of recognizing that this issue only grows in complexity with each passing year and that the response to it created today must itself evolve and account for a host of new challenges sure to come tomorrow. ■

TRACK TESTED. PAINTER APPROVED.



Working with your team, Sherwin-Williams develops individualized solutions that impact every part of your business so you can optimize your productivity and profitability.

TAKE US FOR A TEST DRIVE

sherwin-automotive.com/track | 800.SW-ULTRA



**SHERWIN
WILLIAMS**



OFFICIAL AUTOMOTIVE PAINT OF NASCAR



TIM SRAMCIK has written for *ABRN* and sister publications *Motor Age* and *Aftermarket Business World* for more than a decade.
tsramcik@yahoo.com

ALUMINUM & ADVANCED MATERIAL REPAIR



52

TACKLING REPAIR OF MIXED-MATERIAL VEHICLES

The next collision repair challenge?

58

THE ALUMINUM EVOLUTION

The why and how of repair procedures

64

THE PAST, PRESENT AND FUTURE OF VEHICLES

Technology will continue to change the vehicles and repair procedures, materials and equipment we use

70

NO IFS, ANDS OR BUTS

There are five mandates shops must understand to repair current vehicles

TACKLING REPAIR OF MIXED-MATERIAL VEHICLES



THE CADILLAC CT6 employs a variety of steel and aluminum in its unitized structure.

THE NEXT COLLISION REPAIR CHALLENGE?

JAKE DEMBROSKI // Contributing Editor

Earlier this year, I-CAR wrote about some of the reasons behind why we might expect to see more mixed-material vehicles in the future (“Managing mixed materials,” January, ABRN.com/mixed-manage). That article covered some of the challenges vehicle makers battle between meeting Corporate Average Fuel Economy (CAFÉ) requirements and consumers’ demand for safer, more comfortable vehicles.

Both BMW and General Motors (GM) have mixed-material vehicles that provide

some insight into what we might expect to see more of in the future. This article will take a closer look at those vehicles and the repair strategies used by each vehicle maker.

Cadillac CT6

Cadillac’s CT6 sedan is comprised of both aluminum and steel. On this vehicle, you will find aluminum parts attached to a steel part, and then another aluminum part. An example of this is the roof assembly. On the CT6, the outer roof skin is constructed of 6000 series aluminum, with the front roof brace being identified as dual phase (DP) ultra-high

strength steel (UHSS). The two middle roof braces are high-strength low alloy steel (HSLA), followed by a fourth brace, which is 5000 series aluminum. With this setup repairers will need to be able to identify which parts are constructed of aluminum and which are steel. Cadillac has addressed possible confusion with a structure identification document in their repair information. This document identifies what materials were used on each part of the body.

Cadillac has used many different attachment methods to incorporate the mixed materials. Some of the attachment methods will not be able to be du-

FIRST TAKE ON CAPA'S NEW RADIATOR AND AC CONDENSER STANDARD:

COOL. VERY COOL.

People who think CAPA is mostly about sheet metal crash parts are in for a pleasant surprise. The big news is now we're also getting under the hood in a big way.

CAPA is proud to announce our expanded Certification Cooling Parts Standards which now encompass everything from ac condensers to radiators and even cooling fans. Which means we're now putting these essential parts through a comprehensive testing regimen for performance, leak resistance, burst resistance, and heat exchange as well as fit in order to determine their worthiness for CAPA Certification.

Cooling parts are virtually impossible to evaluate, even for professionals who have little to rely on without access to testing facilities and equipment. Installing and then testing is impractical, costly, and time-consuming—even if parts are warranted.

Now with our expanded Cooling Parts Certification program, there's no hit or miss. Every CAPA Certified part has been tested to the industry's highest standards. Those that pass our exhaustive testing are easy to identify. They all bear the distinctive yellow and blue CAPA Quality Seal.

Our new testing and certification of cooling parts is one more reason why insurers, repairers, and vehicle owners can depend on the safety, reliability, and performance of CAPA Certified parts. We think you'll agree that is very cool indeed.



If it isn't CAPA Certified, it isn't a genuine replacement part.

capacertified.org

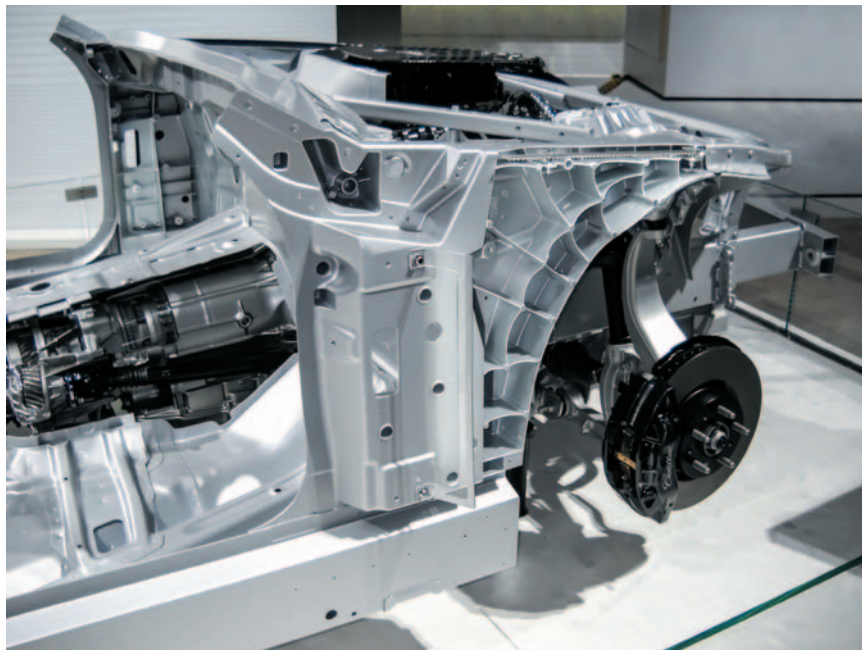
plicated during collision repairs. From the factory, the CT6 uses a combination of aluminum and steel spot welds, aluminum laser welds, self-piercing rivets (SPR), flow drill screws and adhesives. For part replacement, blind rivets, flow form rivets and flow drill screws are used along with adhesives.

So, what happens when the CT6 is damaged in a collision? Can any parts of the vehicle be repaired? Cadillac has addressed this question in the body repair manual. Cadillac breaks down the different materials that the vehicle is constructed of and provides repairability guidelines. Some examples include aluminum extrusions and castings, which require replacement if damaged. GM guidelines for dual phase (DP), mild and high-strength low alloy (HSLA) steels allow cold repairs, if the damage does not include kinks.

If the damaged part is not a candidate for repair, Cadillac has provided many replacement procedures for the CT6. These procedures are available on both the free (www.genuinegmparts.com) and subscription (www.acdelcotds.com) repair information websites.

Cadillac does not have a sectioning procedure for the front lower rail. Instead they have a partial replacement procedure, in front of the firewall and at the middle of the rail. For this procedure, you will be required to grind off the existing welds, and then duplicate the factory welds in the original locations with the same lengths.

Cadillac has sectioning procedures for both the outer quarter panel and the outer rocker panel on the uniside. The outer rocker panel procedure requires removing SPRs, flow drill screws and factory spotwelds. Reattachment is accomplished by replacing the spotwelds and SPRs with flow form rivets and structural adhesive. The new part is trimmed to create an overlap for all the section joints. This joint is adhesive only with flow form rivets and flow drill



IF THERE IS DAMAGE to any of the castings on the CT6, part replacement is required.

screws in the pinchwelds.

For the rear rail, Cadillac has both a full rail replacement and a partial replacement procedure. Replacing the entire rear rail requires removing the rail all the way to the passenger compartment. For a less intrusive repair, if the extent of damage allows, the partial rail replacement procedure can be used. This procedure separates the rear section of the rear rail at a factory seam, near the spare tire tub. The new rail end is then slid into the front section and attached with structural adhesive, flow drill screws and structural rivets.

BMW 7 Series

The most recent version of BMW's 7 Series is another example of a vehicle constructed of mixed materials. The 7 Series uses aluminum for exterior and closure panels such as the hood, doors, trunk and outer roof skin. The outer uniside and reinforcements are steel. Extruded aluminum is used for the front lower rails and cast aluminum for the strut towers. There are also carbon fiber reinforcements inside the roof rail and the roof bow.

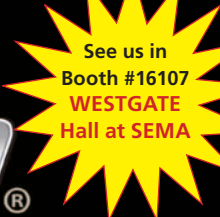
BMW uses flow drill screws, rivets, adhesives and welds. The flow drill screws are one-time use fasteners, and might be replaced using a different type of fastener, per the repair procedure. For example, the flow drill screws used on the front lower rail are replaced by blind rivets when replacing the front lower rail.

When developing a repair plan for the 7 Series, keep in mind that BMW has guidelines for repairability of the different materials used. For aluminum outer body panels, heat may be used for straightening. Using a heat gun is the recommended tool for straightening. However, for extruded or cast aluminum parts, straightening, heating or reshaping is not an option. Damaged castings and extrusions must be replaced, following the BMW repair procedures. According to BMW, if the adhesives are heated above 120° C or about 248°F, the adhesive will be destroyed. Additionally, when heated or reshaped, the aluminum can lose up to 40 percent of its original strength.

Steel parts of the unitized structure can be straightened as long as they are repaired cold, and the steel is not high-strength steel (HSS). BMW warns that



Blowtherm®



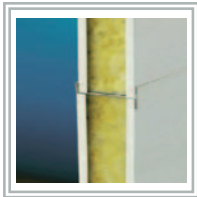
USA

“Best in Class” Spray Booths, Prep Stations & Mix Rooms

BLOWTHERM “WORLD 8000”



starting at **\$38,995***



Dual skin wall panels joined by H channels with rock-wool insulation.



Electromechanical control panel.



Internal push bar on the front door and the side personnel door.



Heavy duty adjustable steel hinges allow doors to open to optimum position.



Direct drive centrifugal fans.



Hinged ceiling filter frames for easy replacement of 10 micron media filters.

***Price Includes:**
World 8000 Booth Solid Back
Single Row Pit
10 HP Direct Drive Fans
Electromechanical Control Panel
Ductwork Packages (15' Roof Height)

AQMD Compliant Low Nox Burners Required in California at an additional cost. Freight and Installation not included.



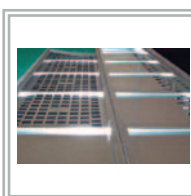
Eight 6-Tube light fixtures with hinged access for ease of cleaning and maintenance.



Pre- and Post-filtration: Intake and Exhaust. Two direct drive centrifugal fans with 2 sets of 10 bag filtration for each.



Paint-stop filter trays for balanced, pre-engineered air flow.



Options:
Air Speed/Waterborne Flash-Off Drive-thru
Side Wall Light Fixtures
2 or 3 Row Pits / Basements
Semi-Down Draft
SBC Plus One Control Panel
Variable Frequency Drives/Auto Balance
Outdoor External Package

The name you trust, the quality you deserve.



Proudly distributed in the USA



100% Italian

Learn the difference. Call now.

1-855-GO-EXTRA

(1-855-463-9872)

www.blowtherm-usa.com

sales@blowtherm-usa.com

Jump to Blowtherm USA's website from your smart phone





THE BMW 7 SERIES is constructed of different types of steel, aluminum and carbon fiber.

heating of steel body components is not permitted. As with the aluminum structure, BMW says that heating can cause the material to lose up to 40 percent of its strength.

The carbon fiber reinforcements do not offer any repairability. If damaged, complete part replacement is the only option.

BMW has provided many different replacement procedures for the 7 Series when parts cannot be repaired. The front lower rail replacement procedure involves cutting off the damaged rail in front of the mounting location. Cutting off the damaged part will allow for easier access to remove the remaining portion of the front lower rail. Next, the flow drill screws are removed along with the welded connections. Blind rivets are used to replace the flow drill screws, along with weld bonding in the welded areas.

For removing carbon fiber parts, BMW has special precautions that must be followed so that additional damage does not occur. The carbon fiber parts are attached with blind rivets and adhesives. After drilling out the blind rivets,


BMW recommends using a heat gun to release the adhesive.

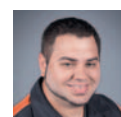
They also recommend to start removing the carbon fiber part in the center of the part. Starting from the sides can cause delamination of the carbon fiber part. Another warning given by BMW is to not use infrared lights in the area of carbon fiber. Infrared light can heat the metal behind the carbon fiber too quickly and damage the backside of the carbon fiber.

If you are interested in learning more about the new 7 Series, I-CAR has created a 360° video that highlights the 7 Series. This video covers material usage, replacement procedures and calibration. You can find this video by visiting the I-CAR Repairability Technical Support portal at ABRN.com/BMW7Series.

Conclusion

Steel-intensive vehicles will most likely continue to dominate the market for several more years, and we'll surely see more aluminum-intensive vehicles in the immediate future, but the long-

term outlook could be quite different. As vehicle engineers continue to look to trim pounds, and oftentimes ounces, from vehicle structures, it's quite likely that we'll be working on more mixed-material vehicles. The technology found on the CT6 and 7 series are undoubtedly going to make their way into other vehicles in the vehicle maker line up. Vehicle engineers are going to choose the material that best suits their needs to achieve their desired goal. Collision repair professionals are going to have to adapt to these changes, identify which materials are being used, understand each material's repairability limits and ensure that we're following the vehicle maker procedures for complete, safe and quality repairs. These changes will also require investments in new equipment and training to ensure the proper repair techniques are being used. 



JAKE DEMBROSKI is an Industry Technical Support Assistant for I-CAR.
jake.dembroski@i-car.com

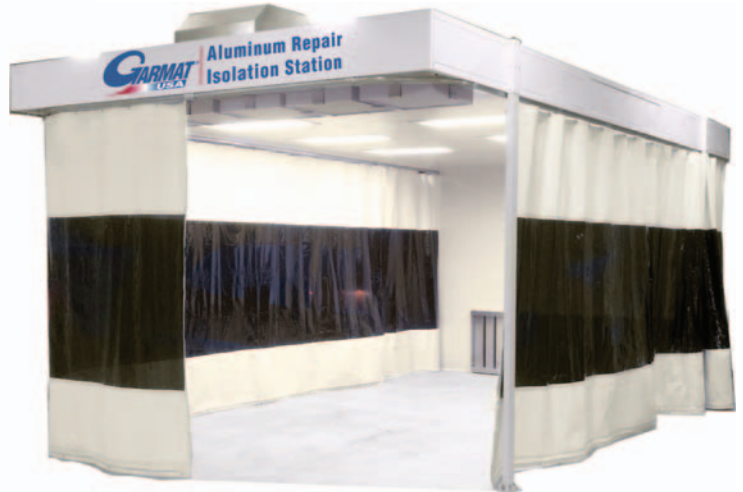


1-800-442-7628

DO IT RIGHT
The First Time



Garmat USA AlumaSAFE50-Plus Isolation Station with Light Ring, Column Supports and Clearview Curtains



Garmat USA Column Supported AlumaSafe 500 Grinding Station with HEPA Filters, shown with Weld View Curtains

Are You Ready for Aluminum Repair?

Aluminum Repair requires isolated work areas to prevent cross contamination. Garmat USA's AlumaSafe Isolation Stations are designed to contain the vehicle and required tools in one working area. With several models and sizes to choose from, Garmat is sure to have the equipment you need for your particular shop environment.

- ➔ **Confinement of Contaminants**
- ➔ **Cleaner Work Environment**
- ➔ **Instant Separation of Work Area**
- ➔ **Protection from Sparks & Hazardous Debris**
- ➔ **Roll-Up Curtains Available**



For more information on how Garmat can help you get ready for Aluminum Repair contact us at info@garmat.com or call **1-800-442-7628**

SPRAY BOOTHS, CTOF's, PREP AREAS, MOBILE SOLUTIONS & more...

WHEN STRUCTURAL CROSS BONDING two dissimilar metals with rivets, the adhesive protects against galvanic corrosion that can occur between aluminum and steel.

THE ALUMINUM EVOLUTION

THE WHY AND HOW OF REPAIR PROCEDURES

DOUGLAS CRAIG // Contributing Editor

Aluminum is continuing to evolve as a material of choice in OEM car design. Much of the increased use of aluminum is due to the need to meet government-mandated emissions requirements and for fuel economy. There are several reasons why aluminum is becoming popular as an OEM substrate.

Aluminum is a lightweight material that offers a cost-effective method for increasing performance, boosting fuel economy and reducing emissions in vehicles. Technological advances in man-

ufacturing have made it easier to work with aluminum, compared to 20 years ago. Aluminum manufacturing is also escalating, helping to bring costs down and removing aluminum's once "exotic" classification. It is now a more mainstream substrate and is being used, alongside plastics and high-strength steels, in vehicle manufacturing.

Aluminum evolution

When Ford Motor Company introduced its aluminum-bodied F-150 pickup truck in 2014, the auto industry underwent an evolution. No longer was aluminum a substrate used solely in high-end vehi-

cles. Aluminum was perceived as a safe, viable alternative to traditional all-steel vehicles. The Ford F-150 models offered reduced weight for fuel efficiency, along with improved acceleration, braking and handling. It weighed up to 700 lbs. less than previous all-steel models.

Building on its success with the F-150, Ford's 2017 Super Duty truck features an all-new high-strength, military-grade aluminum alloy body on an all-new, fully-boxed frame of over 95 percent, high-strength steel. The Super Duty truck is up to 350 lbs. lighter. Converting to the aluminum alloy in the body design allowed Ford to realize the weight savings.



The most accurate color chips ever created.

NOW THAT'S HIGH PERFORMANCE

With more than 6,500 color chips painted with actual waterborne paint, what you see is what you'll get when you select a chip from the ENVIROBASE® High Performance Color Deck. It virtually eliminates the need for sprayout cards. Just one more reason why the *Envirobase High Performance* refinish system from PPG is the best-selling waterborne technology across North America.

SUPERIOR COLOR ACCURACY
HIGH PRODUCTION THROUGHPUT
COST-SAVING EFFICIENCIES



  envirobase.com

© 2017 PPG Industries, Inc. All rights reserved. The PPG Logo and Envirobase are registered trademarks of PPG Industries Ohio, Inc.

How then is the evolution of aluminum in body design affecting collision repair shops? Basically, any changes that auto repair technicians must make to accommodate the repair of aluminum vehicles is really no different than how collision repair shops have adapted to other changes in the industry. The key to working with aluminum is to understand the differences and get the training needed to make the proper repairs.

It's just metal, it's just aluminum and it's just a little different to work with — but once you have learned how to work with aluminum, it will be just as “easy” as working with steel and plastic substrates. If you roll back the clock to the late '60s when plastics were first used in vehicles, the industry faced the same challenges. Technicians did not know how to fix plastics, so it was a learning curve while the collision repair industry became more familiar with their use. The same evolution is taking place in the industry now with the increased use of aluminum.

OEM evolution

Although there has been an expected focus on the particular products and procedures to use when repairing aluminum vehicles, it should be noted that changes in the collision repair industry are not due just to the use of more aluminum. There has been a shift in the repair information distribution route from the OEMs over the past several years.

Vehicle systems have become much more complicated, especially with the introduction of electronics, such as restraint systems, stability control devices and lane departure systems. It's becoming more imperative for a repair technician to have the training needed to repair these more sophisticated vehicles. Changes in vehicle design happen much more quickly than in previous years, with new designs being introduced from year to year, even within the same models.

A technician must focus on the proper way to go forward to repair each particular vehicle. Especially with aluminum vehicles, it is important to know the specific grade of aluminum used in a hood, panel or component. Many vehicles have aluminum hoods, but all aluminum is not created equally. That is why it is crucial to check with the OEM to understand what type of aluminum is involved and how to properly perform a repair procedure for a specific vehicle.

OEMs, therefore, are becoming more involved in disseminating repair information to collision repair shops. The OEMs have a vested interest in making sure that their vehicles are repaired properly and returned to “like new” condition. OEMs are also realizing that the repair parts channel can be a profit center, and subsequently, they are recommending the use of OEM-approved replacement parts and products.

Collision repair evolution

At the OEM level, there is more of an effort being made to en-



FUSOR 108B is an example where Ford chose to use a non-crash durable adhesive in conjunction with rivets for structural repair.

sure that the process to repair a vehicle is identified and defined. To that end, many OEMs are recommending certain products be used to repair a vehicle. For aluminum repair, it's not that the products are different from the ones used on steel-bodied vehicles, but it's important to use the OEM-recommended products or an equivalent.

Products that are recommended for aftermarket use usually come about after they have been adopted by an OEM. For instance, several years ago, when crash-durable or impact-durable products were introduced to and used by the OEMs, they then began recommending them for repair operations. They wanted the same bonding and sealing products to be used for repair as were used in the manufacture of the vehicle.

Many OEMs have been embracing the serviceability of the vehicle body for more than 30 years, and in that process, the choice of adhesives and sealants have become more important. Recently, when Ford built the F-150 truck, repairability was a key design element. Every aluminum replacement part for the F-150 comes with instructions, a parts list, repair diagrams, and a note about the tools and supplies needed to complete the repair.

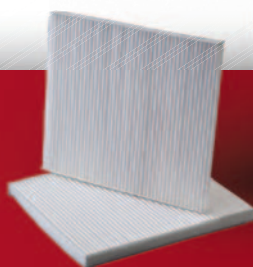
Although many products used for repairing steel- and aluminum-bodied cars are the same, there are some OEMs who

Keep Kias Genuine. Keep your business growing.

Installing Genuine Kia Parts can help keep your customers satisfied and your Kia service business growing. The only way to assure that you are getting Genuine Kia Parts, backed by the Kia Warranty, is to order them from your local authorized Kia dealer.

Contact your local Kia dealer today for assistance and delivery of the parts you need.

www.kiagenuineparts.com



CALIFORNIA

Galpin Kia
North Hills
(818)778-2005
www.galpinkia.com

KENTUCKY

The Kia Store on Preston
Louisville
(502) 962-3261
Fax (502) 962-3239
Largest Kia Parts Dealer
in KY
Next Day Delivery

MASSACHUSETTS

Lev Kia
Framingham
(508) 879-5555
Fax (508) 626-1585
www.levkia.com

WASHINGTON

Performance Kia
Everett
(425) 609-5622
Fax (425) 609-5661
parts@performanceKia.com



Genuine Parts

*Contact an Authorized Kia Dealer for details.

do recommended specific products. This coincides with the aforementioned changes in the industry, where OEMs are becoming more involved in the repair process. And many OEMs suggest using the same products for repair as were used in the original manufacturing. Before proceeding with a repair, check with the OEM specifications on which repair products are recommended.

Your product supplier is also a good source of information on which products are specified by an OEM and how to use the products to make a successful repair. Using an OEM-specified product from a reputable supplier takes a lot of "questions out of the picture." If you use a specified product, there should not be any problems with a repair.

Some OEMs will recommend a specific product or its "equivalent." But equivalency cannot be determined just

by reading the package label on a tube of adhesive or sealant. If the wrong product is used, the repair could be prone to failure. Here again, check with your product supplier to make sure that an equivalent product has the same formulation as an OEM-recommended product.

Aluminum repair alerts

At the same time, it is important to remember that there are specific details to

be aware of when repairing aluminum vehicles. Of particular concern is the avoidance of cross-contamination when working on steel panels or parts that are adjacent to aluminum materials. Steel me-



CRASH-DURABLE ADHESIVES ensure that structural parts such as these frame rails properly absorb energy.

tallic dust or grinder sparks can deposit fine particles on aluminum parts. The fine steel particles are extremely corrosive to aluminum alloys, especially if moisture is present. Therefore, it is necessary to iso-

Goff's
CURTAIN WALLSTM

Are YOU Prepared for ALUMINUM?

Manufacturers of aluminum vehicles have set guidelines for repairs, including creation of a separate work area. Aluminum vehicles undergoing repairs must be able to be separated from vehicles undergoing steel repairs in order to prevent cross contamination from compromising the repair, and Goff's is here to help!



Booth
#11068

SEMA
SHOW



- Clear "Tent Style" Curtain Top Allows for use of Existing Light while Creating Maximum Containment Separation
- Easy Installation
- Eliminate Costly Repair Reworks
- No Complicated or Expensive Roof Framework Required
- Easy Vehicle Entrance & Exit



800-606-7730
goffscurtainwalls.com/abrn



late steel and aluminum repair work areas by using shop curtains or performing these procedures in separate work areas. Similarly, a separate set of tools should be used for working on steel and aluminum parts to avoid further cross-contamination.

In most cases, a repair technician will not be working on “virgin” or exposed aluminum. However, in the manufacturing plant, assembly personnel work with bare aluminum. In the collision repair shop, the technician will handle painted aluminum panels and parts. Very little aluminum will be exposed during the repair process, and the aluminum that is exposed is localized.

Still, caution must be taken to avoid cross-contamination between steel and aluminum. An ideal method for accomplishing this is to use dust removal or extraction equipment. The equipment not only prevents cross-contamination but also protects the respiratory health of technicians. Sanding and grinding tools should be attached to a vacuum system to prevent dust particles from reaching the air. And as with the separation of other work areas and tools, separate vacuum systems should be arranged for steel and aluminum repair work.

Information sources

So how does a collision repair shop keep up to date with all the repair procedures, OEM specifications and products? It is extremely challenging to get all the repair information needed, and this is true whether it is for repairing aluminum- or steel-bodied vehicles. During damage analysis of a vehicle it is important to reference the OEM repair procedures so informed decisions can be made when determining what needs to be repaired or replaced. Check the OEM’s online site to find the specific repair procedures.


There are aggregate sites, such as ALLDATA, that offer OEM service and repair information to the professional automotive service and collision industries. The ALLDATA Repair database covers more than 38,000 engine-specific vehicles — 95 percent of all the vehicles on the road today. In addition to factory-direct mechanical repair information on the repair site, ALLDATA Collision includes OEM procedures such as sectioning and structural repairs, handling new materials and panel removal and replacement.

Another excellent source for collision repair technicians is I-CAR, short for the Inter-Industry Conference on Auto Collision Repair. I-CAR is an international, not-for-profit organization dedicated to providing the information, knowledge and skills required to perform complete, safe and quality repairs. Its Industry Training Alliance awards credit hours that can be applied towards I-CAR Gold Class Professional and Platinum Individual designations.

I-CAR’s training programs cover all aspects of vehicle repair, such as welding, rivet bonding and MIG brazing, and they have several courses geared specifically for repairing aluminum-

bodied automobiles and trucks. When the Ford F-150 truck was introduced, Ford and I-CAR developed training programs that addressed the unique processes associated with aluminum repair. Some of I-CAR’s more general aluminum-repair training programs include “Aluminum Exterior Panel Repair and Replacement” and “Aluminum GMA (MIG) Welding.”

A continuing evolution

As aluminum continues to evolve as a material of choice for OEM manufacturers, collision repair shops will also need to meet the challenge of repairing aluminum vehicles. While there are some important details to consider when working on aluminum — elimination of cross-contamination with steel and proper vacuum techniques — basic repair procedures and products remain the same. However, as more OEMs get involved in the aftermarket repair industry, technicians should make note of specific OEM repair techniques and product recommendations. This goal never changes — making repairs that return a vehicle to “like-new” condition. 



DOUGLAS CRAIG is Technical Application Engineer and Collision Industry Liaison, Structural Tech Service, LORD Corporation.
douglas_craig@lord.com

AMI AUTOMOTIVE
MANAGEMENT
INSTITUTE

Management & Administrative

- **Training**
- **Education**
- **Career Paths**
- **Certificates**
- **Professional Designations**
- **Learning Support**

Convenient,
effective, online
courses and
advanced
instructor-led
classes.

*The knowledge
you need for the
business you
want.*

amionline.org



THE PAST, PRESENT AND FUTURE OF VEHICLES

TECHNOLOGY WILL CONTINUE TO CHANGE THE VEHICLES AND REPAIR PROCEDURES, MATERIALS AND EQUIPMENT WE USE

TOM MCGEE // Contributing Editor

What will the world look like in the future? Start by watching some re-runs of *The Jetsons*.

While the show first aired in 1962, George and Jane Jetson had technology all around them that seemed like it would at best be a dream of what the future may bring. But take a look at what has already happened.

Video Conferencing: George used video conferencing to have meetings with Mr. Spacely. This technology is now used daily. Applications such as Face-time, Facebook Messenger, Skype, Join.me, and Go-To-Meeting are examples, with most being available at no cost.

Rosie: Rosie the maid not only talked and cleaned, but she also was a nanny. Today you can buy robotic vacuum cleaners that recharge themselves, can be programmed with a phone app and also have the ability to empty themselves — though they aren't good at watching the kids!

Automatic meals: The Jetsons were able to push some buttons on a machine and were instantly served breakfast, lunch or dinner. Today you have the Coca-Cola Freestyle® — a soda fountain with more than 100 different flavors to customize your drink. If you are at Xavier University in Cincinnati you can get a pizza 24/7 using the Pizza ATM, which is America's first pizza vending machine.

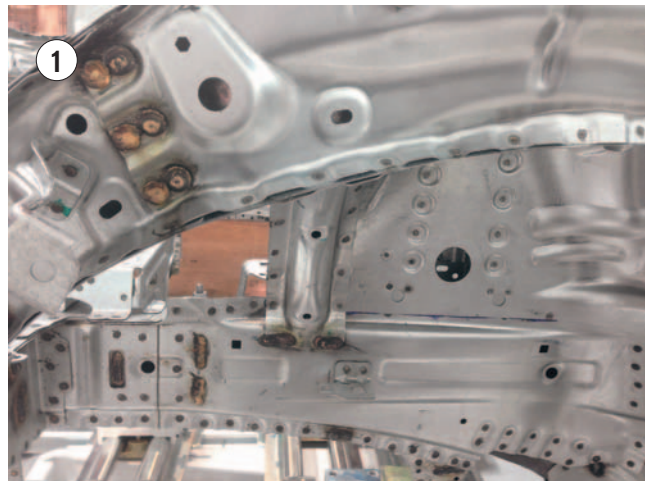
Flying cars: George went to work in

a flying car. Take a look at Terrafugia's Transition (www.terrafugia.com), which was first flown in 2009. The Transition, according to their website, is a folding-wing, two-seat, roadable aircraft designed to fly like a typical light sport aircraft category airplane and drive like a typical car on the ground. It runs on premium unleaded automotive gas, fits in a standard single-car garage, and converts between flight and drive modes in under a minute. The Transition will also incorporate autonomous flight technology, which will further simplify flight operation and increase both safety and convenience.

Several technologies envisioned in *The Jetsons* in the 1960s have come true in varying degrees. So what else is to come?

Vehicle technology

Much of the advancements in vehicle technology have been made due to changes in corporate average fuel economy (CAFE) requirements, to meet or exceed federal crash test requirements or to obtain higher



2017 CHEVROLET BOLT left upper and lower rails are assembled using laser welds, resistance spot welds, MIG fillet welds, silicon bronze welds and an adhesive.

consumer crash test ratings.

To improve occupant safety and collision avoidance we are continuously seeing advancements or introductions of systems such as restraint systems, automatic braking, stability control, parking assist, adaptive cruise control, blind spot detection, lane departure and 360-degree cameras.

With these electronically controlled systems, the collision industry must have the knowledge of system operation, the proper tools and equipment, skills and access to OEM information. Recently the industry has also uncovered the need to perform pre- and post-repair scans as well as many recalibrations following a collision. And software and “creature or comfort features” continue to include



That Look When You Discover 47% More Adhesion.*



At USC, we call that look your “A” Face. That’s “A” for: Amazing adhesion, Astonishing dry times and Awesome sandability. It’s the direct result of learning that Icing Lite® provides 47%, and AG47™ 33%, more adhesion to aluminum.* (Actually, they’re amazing on all metals!) Ask for Icing Lite and AG47 from your local USC distributor and discover your “A” Face today. Call 1-800-321-0672 for local availability.

*Data findings in a technical laboratory study. Icing Lite and AG47 performance was compared to leading competitive products.



Maximum adhesion to all metals

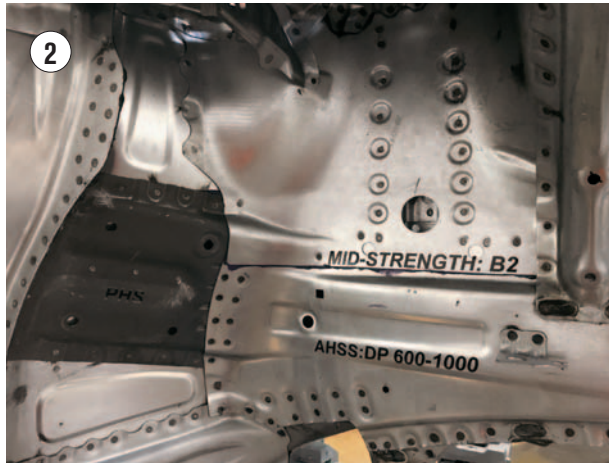
more connectivity to allow for applications such as home integration and vehicle-to-vehicle communication.

Construction materials and repairability

As vehicle manufacturers have worked towards meeting CAFÉ fuel economy requirements and improving occupant safety, vehicle construction methods and materials have also been rapidly changing. Today, we must be able to create a repair plan and repair a variety of steels, aluminum, carbon fiber, magnesium, plastics and other materials.

To make the proper repair plan and ultimately a proper repair, you must first identify the material that you are working with and determine what can be done to it during the repair process. In some cases, such as a bumper cover, you may not be able to perform a repair due to the electronics that are behind the cover.

Figure 1 is from a 2017 Chevrolet Bolt. You can see that having access to the OEM construction material diagram and the repair procedures is critical in proper repair planning and repairs. In the area shown there are resistance spot welds, MIG fillet welds, silicon bronze welds and an adhesive. In Figure 2, the labeling of materials make it easy to determine the types of steels used. The PHS is press-hardened steel and is approximately 1,300 MPa. Identification of the materials becomes quite a bit more difficult when the vehicle is primed and painted.



2017 CHEVROLET BOLT right lower rail, cowl, and strut tower. The dark gray steel is press-hardened steel (PHS).

Vehicle manufacturers are producing construction material diagrams that make identification of the various materials possible. It is very important to reference the construction material diagram and the supporting descriptions for each year, make and model being repaired. For example, the supporting descriptions below are from a 2015 Dodge Challenger V8-5.7L

LS: Good repairability and weldability (least sensitive to heat). May be attached using the preferred Squeeze Type Resistance Spot Welding (STRSW) process, weld bonding where appropriate, or MIG welding. Materials have a tensile strength of less than 270 MPa.

HS: Some repairability and good weldability (the higher the strength of the steel, the greater the sensitivity to heat). May be attached using STRSW, weld bonding and MIG welding. Material tensile strength range between 270 MPa and 600 MPa and includes DP590.

VHS: Very limited repairability and weldability (very sensitive to heat). Attach only at OE-defined locations using OE-defined procedures. Material tensile strengths are greater than 600 MPa. This category includes hot-stamped boron materials, which are also termed “press hardened.” Specialized cutters are required with many materials in this group.

LM: Good repairability and weldability. May be attached using STRSW, weld bonding and Flux Core Arc Welding (FCAW).

AL: Stamped aluminum sheet metal panels may be repairable with specialized tools and techniques.

MG: Magnesium has no repairability; replacement components only.

PL and PL-R: Some repairability depending upon the type of plastic involved, the degree of damage and the component function. Cosmetic components such as fascias (PL) have a higher degree of repair allowed than those components, which can carry components

and loads. Where PL-R components are bonded to steel structure, FCA US LLC will identify the proper adhesive to attach the replacement panel. Repair materials for PL are commonly available in the collision repair market.

CO: Composite materials may be fiber reinforced (ex: Kevlar) panels or co-molded assemblies of steel and plastic. Any of these require specialized repair materials and processes.

Comparing the Challenger descriptions and repairability, the following is an example of steel classifications from a 2015 Volvo S60 T5 AWD L5-2.5L Turbo:

Mild steel (MS): Trade steel with highest tensile strength of 180 MPa.

High tensile strength steels (HS): Steel with a tensile strength between 180 - 280 MPa.

Very high tensile strength steels (VHS): Steel with a tensile strength between 280 - 380 MPa.

Extra high tensile strength steels (EHS): Steel with a tensile strength between 380 - 800 MPa.

Ultra High Strength steel (UHS): Steel with a tensile strength of more than 800 MPa.

As you can see, these are two different manufacturers, using the same description of VHS for very high strength steel, but for two different grades of steel. VHS on the Dodge is a steel with a tensile strength greater than 600 MPa while the

Ultimately, We Have It All.

Aluminum Repair Areas
Aluminum Repair Tools
Curtain Walls
Infrared Curing Systems
Measuring Systems
Paint Mixing Rooms
Pneumatic, Electric and
Hydraulic Hand Tools

Prep Stations
Spray Booths
Steel, Aluminum and Plastic Welders
Straightening Benches
Vacuum Systems
Vehicle Lifts

OEM Certified

Acura
Audi
General Motors
Honda
Jaguar
Land Rover
Porsche
Range Rover
Volkswagen
Volvo

OEM Recognized

Assured Performance Network
Alfa Romeo
Chrysler
Dodge
Fiat
Ford
Hyundai
Infiniti
Jeep
Nissan
Ram
SRT



Spanesi Americas, Inc.
123 Ambassador Dr. #107
Naperville, IL 60540

224-SPANESI
(224-772-6374)

www.spanesi.com
www.facebook.com/spanesigroup

Volvo is between 280 – 380 MPa.

Megapascals (MPa) Vs. Pounds per Square Inch (PSI)

As OEMs continue to use thinner higher strength steels, there is still confusion in the industry on why new repair procedures and materials are required.

Many of us started in the industry just about the time a MIG welder was introduced. At the time, we were taught to use an ER70s-6 electrode wire that had a diameter of 0.023, 0.024 or 0.030. When the wire ran out, we got another roll. So to understand why we need to change wires and diameters, let's start with defining ER70S-6.

ER: An electrode or filler rod that is used in either a MIG wire feed or TIG welding.

70: A minimum of 70,000 pounds of tensile strength per square inch of weld.

S: Solid wire

6: The amount of deoxidizing agent and cleansing agent on the electrode. You will see some OEMs recommend using an electrode wire with a 3 instead of a 6.

In this example, the wire electrode has a tensile strength of 70,000 psi. If you convert psi to MPa, the 70,000 psi electrode wire is 483 MPa and can only be used for welding steel parts that are 440 MPa or less. The following are examples of MPa converted to PSI

MPa	PSI
483	70,000
590	85,572
780	113,129
980	142,137
1,300	188,549
1,500	217,557

Honda repair procedures require an electrode wire that has a tensile strength of 980 MPa for all steels that are 590-980 MPa. While not required, the higher strength electrode can also be used when welding 270 - 440 MPa parts.

MIG vs. MAG

While it's often referred to as MIG weld-

ing, it is important to understand the difference between MIG and MAG welding.

MIG welding/brazing = Metal inert gas welding or brazing where 100 percent argon (Ar) shielding gas is used. Argon is inert and does not react with the molten weld pool or brazing operation.

MAG welding = Metal active gas welding where the shielding gas being used contains a mixture of 80 percent argon (Ar) and 20 percent carbon dioxide (CO₂). It is considered active because the CO₂ undergoes a limited reaction with the molten weld pool. For MAG welding, 80/20 shielding gas (C20) is preferred. However, 75/25 (C25) is acceptable.

So when we are welding steel and using the common 75/25 shielding gas, we are really MAG welding. Today, with high-strength steels and the use of silicon bronze, we are MIG welding because we are using 100 percent argon shielding gas. The Honda repair procedures do not allow for MAG welding on the 1,500 MPa steels.

While electrode wire and the type of weld made on various steels are critical to a proper repair, are there other factors that the increased use of higher strength steels will affect? I did some online shopping and found a chain with a description that said "Suitable for all 10-ton applications for frame machines with 3/8" chain" and "Ultimate strength is 26,400 lbs. — enough for any body shop." Converting 26,400 psi equals 182 MPa. Do you need to pay closer attention to the strength of the chain you are using and make sure that safety cables are attached during all pulling operations?

Changes in repair planning

As vehicle technology changes with new materials, we also need to continuously focus on the repair planning process and the detail included. With new construction materials, electronically controlled systems and repair materials you would expect to see additional labor hours required to repair the vehicle. But in a recent publication from CCC Information Services, I noticed that the average labor

hour per claim for driveable vehicles has gone unchanged for a seven-year period. I encourage repair planners to become familiar and reference materials such as:

- Society of Collision Repair Specialists (SCRS) Guide to Complete Repair Planning

- Automotive Service Association (ASA) Reference Chart of Not-Included Operations When Installing New Replacement Parts

- Database Enhancement Gateway (DEG) at www.degweb.org

These are a few of the free tools available to repair planners when developing repair plans and identifying the required procedures and labor for a proper repair.

	Avg. Labor Hrs. per Claim	
2009	22.5	
2010	22.3	(0.2)
2011	22.3	0.0
2012	22.4	0.1
2013	22.5	0.1
2014	22.7	0.2
2015	22.8	0.1

Summary

With the advancements in construction methods and materials, it is more important today than ever to determine what the vehicle and its parts are made of while creating the repair plan. If the repair plan does not exist or is incomplete before repairs begin, it is almost impossible to make the proper repair/replace decisions without causing delays in the repair process or even worse, doing an improper repair. As an industry we need to create a new culture that prevents repairs from being performed without the identification of materials and adherence to the vehicle manufacturers' procedures. 📌



TOM MCGEE is Business Development Manager with Spanesi Americas. He was formerly with the Automotive Training Institute.

tmcgee@spanesi-americas.com

SPECIAL SECTION

FINISHING PRODUCTS

U.S. Chemical & Plastic's AG47™ Lightweight GRIP Filler and Icing Lite Gold Finishing products provide up to 47 percent more adhesion to bare aluminum than any other competitive filler or glaze on the market. With AG47 Lightweight GRIP Filler's non-loading, fast curing formula, you will see reduced cycle times and sandpaper use in your shop. When your job calls for final finishing, skim coating or covering scratches and minor imperfections, grab a bag of Icing Lite Gold Finishing. www.uschem.com



ALUMINUM DOOR SKIN

Our Aluminum Door Skinning and SPR Bundle Kit (PN 21899) allow technicians to isolate the hammer and dolly striking components to protect from galvanic corrosion with our Soft Strike Covers, removal and installation of self-piercing rivets with our SPR Tools and replacing the aluminum skin with a rope hem using our AI Skin Zippers as part of the repair process. www.steckmfg.com



ALUMINUM REPAIR BAY

Manufacturers of aluminum vehicles have set guidelines for repair, including creation of a separate work area. Aluminum vehicles undergoing repairs must be able to be separated from vehicles undergoing steel repairs to prevent cross-contamination from compromising the repair. Goff's new Aluminum Repair Bay includes a clear "tent style" curtain top that allows for use of existing light while creating maximum containment separation. www.goffscurtainwalls.com/abrn



FAST BAKE CLEAR

EC520 EN-V® High Production Clearcoat is PPG's new fast bake clear, ideal for production collision shops seeking to improve cycle time performance in the paint booth. Developed for use over ENVIROBASE® High Performance basecoat, this "speed" clear can be force dried in as little as 15 minutes at 140°F or 20 minutes at an energy-saving temperature of 120°F. www.ppgrefinish.com



Aluminum Tech Tools are here!

#21970

SPR EXTRACTION TOOL

#35000

SoftStrike™
Aluminum Conversion Kit

#21960

SPR INSERTION TOOL

#21892

AI Skin Zipper™

#35017

#35017

#35025

#35025

#35013

#35013

#21896

AI Skin Zipper 2™

APPROVED

MORE GREAT TOOLS FROM...

See your local tool distributor or visit www.steckmfg.com

INNOVATIVE BODY SHOP TOOLS & EQUIPMENT

No ifs, ands or buts

There are five mandates shops must understand to repair current vehicles

The automakers have three goals when designing vehicles today: preventing fatalities, reducing accidents and improving fuel economy. This is resulting in the dramatic changes you're seeing in vehicle technology, design and materials.

Here are my five primary mandates for shops struggling with issues related to these changes.

1. Know what you're working with. Never assume you know what materials have been used for various vehicle components. I've seen a lot of people confuse magnesium with aluminum, for example. But magnesium can be highly combustible and is often not repairable.

Boron also poses challenges. Sometimes it can't be sectioned. It often can't be pulled, and it doesn't come galvanized from the manufacturer, requiring the use of epoxy primer.

We're also seeing a lot more use of combinations of materials: widely differing strengths of steels within a single component, or carbon fiber sandwiched between steel, for example.

The key takeaway: You need to research OEM information so you understand what vehicles are made out of as well as what can be repaired and what can't. It's not enough to just make sure your techs know what materials they are working with and how to do so. Your estimators need training as well. They need to understand repair differences among materials so they can negotiate and justify appropriate repair processes and time.

2. Know what joining methodologies the automakers want used for repairs. Just because a quarter panel comes welded-in from the factory, replacement may instead require the use of rivets and adhesives. We're also seeing more aluminum panels attached to steel, using a variety of barriers between the two to prevent galvanic corrosion. One manufacturer uses almost a cardboard washer to separate the aluminum fender from the apron, which is steel. You need to understand those barriers — and they may not always be listed in the estimating manuals.

3. Scanning is important, but pre-measuring increasingly is as well. New vehicle designs and materials are absolutely increasing the need to measure the complete vehicle with a three-dimensional measuring system. To protect passengers, the inertia forces from an accident are being transferred further away from



NEW MATERIALS, JOINING AND VEHICLE TECHNOLOGY MAKE CHECKING HOW THE AUTOMAKERS WANT THE CARS REPAIRED CRITICAL.

the point of impact than in the past. Honda is among the automakers, for example, with a bulletin on one model that says if the vehicle sustains rear-end damage, you must measure the entire vehicle.

4. Check the OEM repair procedures every time. New materials, joining and vehicle technology make checking how the automakers want the cars repaired critical.

So if you fix a particular vehicle this week, and another one is in the shop next week, why do you need to check the OEM procedures again? Because they change. One vehicle manufacturer last year changed how to put the bedside on one of their trucks four times. Another manufacturer last year said that when you replace the quarter panel on a particular vehicle, you have to replace the roof; this year, they came out with a sectioning procedure so you don't have to replace the roof.

You have to search OEM procedures on every single vehicle. Things change.

5. Know that the information you need is out there. The good news is you have lots of options for getting the repair procedures and other information you need. The automaker websites offer the most accurate information. But there are other resources as well.

The Big Three information providers, for example, each offer an add-on system to increase the amount of OEM information they are making available; those systems (unlike the OEM information sites) integrate with your estimating system.

ALLDATA offers OEM information in a more consistent fashion (among the different automakers), which can make finding what you need faster and easier. I-CAR's "Repairability Technical Support Portal" (<https://rts.i-car.com/>) includes an "Ask I-CAR" service when you can't locate what you need.

Each of these resources has pros and cons. The key is that any system for accessing OEM repair information is better than no system. The most important thing is consistency, so you can get familiar with the system, understand where to find things and integrate that step into your process every time.

The new vehicle systems, design and materials demand that. 

MIKE ANDERSON, a former shop owner, currently operates Collision Advice, a training and consulting firm.
mike@collisionadvice.com

COLLISION PRODUCT GUIDE

SPRAY GUN

The SATAjet® 1500 B SoLV is the newest addition to the SATA family of spray equipment. SoLV is designed for full system applications: solvent-based basecoats, either Low VOC or National Rule as well as spraying sealer and clearcoat. The SATA-jet 1500 B SoLV is very flexible and useful when spraying everything from lower solids alkyd enamels and commercial coatings to high solids acrylic urethanes.

WWW.SATA.COM



NITROGEN PLASTIC WELDER

The Polyvance 6080-CG Nitrocell nitrogen plastic welder is the company's top-of-the-line offering for quick, easy and strong repair of plastic parts, including bumper fascia, headlight tabs, overflow bottles, fender liners, underhood plastics and trim. The Nitro-cell features a membrane nitrogen generator, which continuously separates oxygen out of the compressed air stream, eliminating the need for compressed nitrogen bottles.

WWW.POLYVANCE.COM



ANCHORING SYSTEM

Chief's new Universal Uni-Clamp Anchoring System is now standard on all Chief frame racks. The anchor stand features a replaceable crosshatch section that works like 180 teeth on both jaws and the anchoring stand to provide superior gripping power on the high-strength steel pinch welds common on modern vehicles. The bolt pattern on each jaw has been lowered 25 millimeters so technicians can easily tighten the fastening bolts from the outside, without removing the lower ground effect trim panels found on many cars.

WWW.CHIEFAUTOMOTIVE.COM



POLISHING WAX

Meguiar's introduced D166 Ultra Polishing Wax to its professional line of products. Designed to save time and money for its users, the one-step product offers the most efficient removal of defects, polishing and longest lasting protection of any cleaner wax ever created by Meguiar's. A combination of easy wipe-off technology and Super-Micro Abrasive Technology polishing agents delivers unprecedented defect removal and durable protection through a single application.

WWW.MEGUIARS.COM



SAFE, EFFECTIVE SOLUTIONS FOR ALUMINUM REPAIRS

Global Finishing Solutions has developed a line of prep stations designed specifically for the containment of aluminum repair. Approved by Ford and General Motors in their dealer equipment programs, three models of Aluminum Repair Stations are available to meet the cost and space restrictions of all types of shops.

MARKETPLACE

DISTRIBUTORS

Distributors Wanted

Infinity Laser Measuring is looking to add US distribution for our **XMS²** 3D Laser Measuring System for cars and light trucks and our new **XMS² TRUCK** for HD TRUCKS

Visit our website, Infinity3DLaser.com, for product information. Call 952-392-6090 and ask for Jeremy Smith, Marketing Manager, or Sam Deering, Chief Operating Officer.

PRODUCTS & SERVICES

MarkingPenDepot.com

**Collision Shops, Towing,
Auction Sites, Dealers,
Recyclers, OEM's**

Tow Pro	\$2.60
Autowriter	\$3.75
Posca	\$3.50
Sakura	\$3.10
Bopagla	\$2.15
Unipaint	\$3.86
MPD-15	\$1.30
Volume Discounts!	



Call 888-906-9370 or online at MarkingPenDepot.com

You! Can do paint pinstriping with the STRIPER[®] Paint Pinstriping Stencil Tape
for the sharpest painted-on stripes



**FOR FREE SAMPLES CALL TOLL FREE
1(800) 228-1258**

Paint stripe complete cars or match and repair just about any stripe that comes into your shop as easy as 1-2-3 with our unique stencil tapes. Just apply the stencil, paint over it and peel it off! Leaves the cleanest, sharpest line. Available in 56 different styles.

Finesse Pinstriping, Inc. www.finessepinstriping.com



Content Licensing for Every Marketing Strategy



Marketing solutions fit for:

- Outdoor
- Direct Mail
- Print Advertising
- Tradeshow/POP Displays
- Social Media
- Radio & Television

Logo Licensing | Reprints | Eprints | Plaques

Leverage branded content from ABRN to create a more powerful and sophisticated statement about your product, service, or company in your next marketing campaign. Contact Wright's Media to find out more about how we can customize your acknowledgements and recognitions to enhance your marketing strategies.

For more information, call Wright's Media at 877.652.5295 or visit our website at www.wrightsmedia.com

AD INDEX

ADVERTISER	PAGE #	ADVERTISER	PAGE #	ADVERTISER	PAGE #
AKZONOBEL.....	CV4	GOFFS ENTERPRISES INC.....	62	SUNMIGHT USA.....	25
AMERICAN HONDA MOTOR INC.....	19	HYUNDAI MOTOR AMERICA.....	20	TOYOTA MOTOR SALES USA.....	6A-L, 11
AMI.....	63	INFINITY 3D LASER MEASURING.....	22	US CHEMICAL & PLASTICS.....	65
AXALTA COATING SYSTEMS.....	12, 13	KIA MOTORS AMERICA.....	27, 41, 61	VALSPAR AUTOMOTIVE.....	44, 45
BLOWTHERM USA.....	55	MATRIX SYSTEMS.....	35		
CAR-O-LINER.....	23	MOPAR.....	15		
CERTIFIED AUTO PARTS ASSOCIATION.....	53	MOTOR GUARD CORP.....	29		
CHEMSPEC USA.....	17	NATIONAL OAK DISTRIBUTORS.....	9		
CHIEF AUTOMOTIVE SYSTEMS INC.....	5	PPG INDUSTRIES.....	CV2-03, 59		
CJ INC.....	38	PRIMA WELDS.....	73		
EAGLE ABRASIVES.....	21	PRO SPOT INTL INC.....	CV3		
EUROVAC.....	43	SHERWIN-WILLIAMS.....	50		
GARMAT USA INC.....	31, 33, 57	SPANESI.....	47, 67		
GLOBAL FINISHING SOLUTIONS.....	71	STECK MANUFACTURING CO.....	69		

PRODUCTS

CHIEF AUTOMOTIVE SYSTEMS INC.....	71
GOFFS ENTERPRISES INC.....	69
MEGUIAR'S.....	71
POLYVANCE.....	71
PPG INDUSTRIES.....	69
SATA.....	71
STECK MANUFACTURING CO.....	69
VALSPAR AUTOMOTIVE.....	69

PRIMA MIG, MAG, TIG-DC, MMA, FLUX, Synchronized, Pulse, Aluminum, Steel, SS, Brazing

Optional DUAL ARC Aluminum/Steel Dent Pull

OEM APPROVED

Alumium/Steel Puller sgl/multiple

Aluminum/steel GUN Washers, Studs, Screws

TWO YEAR WARRANTY PARTS EXCHANGE DURING & AFTER

MULTI APPLICATION WITH DUAL ARC

Welder with Dualarc PRICES \$3,300 TO \$5,900

SGL TORCH TWO TORCH THREE TORCH

Double Pulse for 2 Decades Multi 204

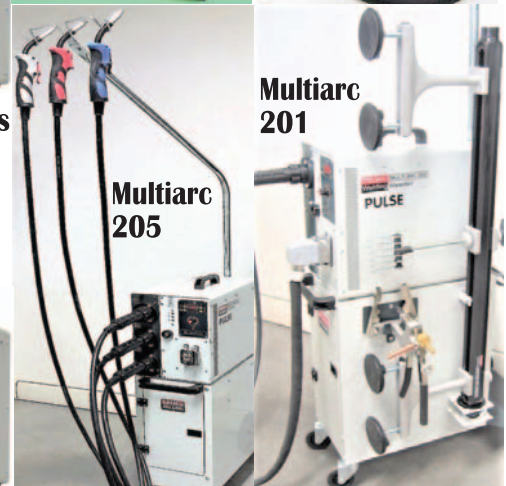


State of Art processors, Error codes, Common torches Proven software, Sold World Wide

SEMA Booth 10229

MULTI APPLICATION WITHOUT DUAL ARC WELDER PRICES \$2,500 TO \$4,500

SGL TORCH TWO TORCH THREE TORCH



DISTRIBUTOR INQUIRIES WELCOME primawelds.com info@primawelds.com 239 314 7683

Retaining customers is vital

The value of a single lifetime customer has reached more than \$147,000

When Steve Schoolcraft passed away, we lost someone who played an integral part in our business and industry. I met Steve when he spoke at a 2010 Business Council meeting. His presentation gave me a new understanding on how we should be marketing our business.

Steve was a behavioral psychologist who launched his own business because he didn't like how corporations were treating employees and customers. He began representing new car dealerships, but the collision repair industry grabbed his attention. Steve built Phoenix Solutions Group (PSG) to be one of the leading marketing consulting companies in the industry.

Research done by Steve Schoolcraft and his team at PSG shows that the value of a single lifetime customer has reached over \$147,000.

Single Customer

Average Repair	\$2,350
Average Profit Margin	10%
Profit	\$235
Market Purchase Behavior	7.3 years
Average Driving Tenure	65 years
Potential Life Time Repairs	8
Present Cash Value	\$2,350
Future Cash Value	\$18,857.66
Life Time Value	\$21,150
Life Time Value Profit	\$2,150

Referrals

Influence Factor	.83%
Potential Life Time Referrals	53.95
Future Cash Value	\$126,782.50
Net Profit	\$12,678.25
Combined Potential Value Per Customer (customer and referrals)	\$147,932.50
Net Profit	\$14,793.25

Courtesy of Phoenix Solutions Group (PSG)

Research shows customer retention has been the highest ROI in marketing for the collision repair industry. It all centers around the customer's repair experience, yet the customer experience starts with fully engaged, happy employees.



AN EXCEPTIONAL CUSTOMER EXPERIENCE RESULTS FROM AN EXCEPTIONAL EXPERIENCE FOR YOUR EMPLOYEES.

Engaged employees

- An exceptional customer experience results from an exceptional experience for your employees. Employees who feel valued will in turn give that same experience to your customers.
- Employees who understand the "why" of the company — the company purpose — can then genuinely communicate that to customers.
- We must hold practice times with our team to role play and better understand how to deliver a winning experience.

Customer experience

- You will not gain a customer for life if you meet their expectations; you must exceed them.
- Consumers encounter an accident every seven years; therefore, the need to educate each customer about the repair process is important. There has been a tremendous amount of change in the last seven years in regard to how our business

handles the repair process in addition to changes in the claims process. Education is key.

- Customers want to know their input matters and is valued. Make sure your team communicates how customer feedback is used to better the overall customer experience.

Customer retention

- If a customer gives you a referral and you do not say thank you, do not expect another referral.
- Repeat business is often taken for granted. Always thank your customers for their repeat business.
- Most customers cannot remember the name of the collision repair facility that fixed their vehicle. This enforces that we make an emotional connection with each customer, maintain contact and express our gratitude in an effective way.
- We must create a WOW experience to get customers talking about our business — word of mouth is much more powerful than advertising. 📣

SHERYL DRIGGERS is the owner of Universal Collision Center in Tallahassee, Fla. Through her career, she has gained specialized experience in marketing, management, public speaking, teaching and fiscal oversight. sheryld@universalcollision.com



TESLA

APPROVED

- Self-Piercing Rivet
- Blind Rivet
- Rivet Nuts
- Flow Form Rivets
- Solid Rivets
- Hollow Rivets
- Calibration
- Flattening
- Rivet Removal

Pro Spot proudly adds Tesla to the PR-5 Rivet Gun approval list!

Options available for new and existing PR-5 Rivet Gun customers.



PR-5 Tesla Die Kit



Blind Rivet Adapter (optional)

Driving the power of color innovation

Colorvation is a unique, comprehensive, user-friendly approach to vehicle refinishing featuring the most advanced digital color technology available. Based on our innovative tools, Automatchic™ and MIXIT™, AkzoNobel's digital platform brings measurable improvements for your business – greater accuracy, greater efficiency and ultimately, greater profitability. **Are you ready to give your business the digital advantage?**

To find out how Colorvation can give your business the edge, contact one of our digital color experts today, and visit www.colorvation.com.



COLORVATION

