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SUSPENSION REJUVENATION

Fully restore damaged front suspensions

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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.com
(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
PROCARE

JEFF POOLE
I-CAR

JAKE RODENROTH
COLLISION DIAGNOSTIC SERVICES

BUSINESS

JIM SAVAS
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SEO ANALYST/WEB MASTER

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SALES COORDINATOR

DOMESTIC SALES

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SUBSCRIPTION INQUIRIES
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REPRINTS
(877) 6525295, ext. 121
bkolb@wrightsmedia.com
Outside US, UK, direct dial:
(281) 419-5725, ext. 121

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Dedicated to
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Collision Repair of
Toyota, Lexus and
Scion Vehicles

Fall 2017

Collision Counterfeit Parts

Not Worth the Risk!

That look-alike part may be an imposter—how to spot and avoid counterfeit parts.

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Sharpen Your Welding Skills

From eLearning to instructor-led, Toyota offers welding classes to meet your dealership needs.

PAGE 9

When Fit, Finish & Quality Matter

Using Toyota original equipment replacement parts—the best choice.

PAGE 4



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; Agustín Diaz



The Formula for Success

Top performing shops have a formula for success: highly-trained technicians, well-equipped facilities, strong relationships with insurance professionals and a dedication to customer satisfaction. In this issue, we'll explore some key industry challenges, starting with the very real dangers of counterfeit parts—what they are, how can you spot them, and most importantly, how to avoid them. You'll see how Toyota's parts price matching program, Auto PartsBridge, makes it easier for shops to know the true cost of replacement parts and how it helps them avoid creating a wide gap between an estimate and the cost of the final repair. You'll also read about how Toyota is using the move to Plano to expand its already robust collision repair training program by opening a new training facility—making it even more convenient for dealers and independent repair facilities to learn Toyota-approved repair techniques from the best instructors in the industry. And you'll discover what really goes into a well-designed, properly engineered part when we reveal the technical detail that makes the high-quality line of replacement radiators and condensers fit and perform like original equipment parts. Lastly, we cover the details of a new welding course that will teach your technicians the best way to return a vehicle to pre-accident condition.

We're committed to bringing you the latest on industry trends and Toyota repair procedures. Let us know what you'd like to see in future issues of *Collision Pros*, and earn a chance to win one of ten \$50 Amazon gift cards by filling out a reader survey. You'll find our survey here: <https://www.surveymonkey.com/r/cpf17>. Thanks—we look forward to hearing from you!

EDITOR:
Ryan Bacsafrá

MANAGING EDITOR:
Elisa Liehr

COPYWRITING AND DESIGN:
Liehr, Inc.

CONTRIBUTING DEPARTMENTS:
Lexus Collision Repair & Refinish
Toyota 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
Mail Stop E1-4D
Plano, TX 75024
info@collisionprosmagazine.com

TECHNICAL WEBSITES
www.crrtraining.com
www.opstrax.com
www.autopartsbridge.com
www.techinfo.toyota.com
www.toyotapartsandservicehub.com

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TOYOTA'S NEW RADIATOR & CONDENSER PRODUCT LINE

Perfectly Engineered, Competitively Priced

WHERE HIGH QUALITY AND COMPETITIVE PRICING MEET

Thanks to a competitive pricing structure, precision engineering, and a great warranty, the new Radiator and Condenser Product Line is a hit with mechanical and collision repair shops, vehicle owners, and insurance adjusters.

"It used to be that Toyota OEM Radiators and Condensers weren't an option in the collision repair budget set by the insurance companies; you had to use an aftermarket part," explains Matt Goldstein, Parts Manager at Dayton Toyota in Dayton, New Jersey. "Now, the new product line easily fits into the insurance budget, so we can offer customers the option to use OEM Toyota parts which offer superior quality and precise fit."

IT'S THE DETAILS THAT MATTER

From the beginning, the new Radiator and Condenser Product Line was manufactured following Toyota's exact engineering standards, ensuring the highest quality at every step. Using Toyota's original engineering specifications, the team developed products that perfectly fit Toyota vehicles.

THE VALUE

"My wholesale customers are very impressed with the fit and the price of the new product line," says Tony Bryan, Wholesale Parts Manager at Yokem Toyota in Shreveport, Louisiana. "Many aftermarket parts just don't fit," he continues.

"The new line provides superior quality, an exact fit and is competitive with aftermarket prices. Our customers get peace of mind knowing that their Toyota is repaired with the same quality parts that made them choose a Toyota in the first place."

THE FIT

"Precision engineering means parts drop right into place—shops don't have to make any adjustments or need to use any brackets or extra parts to make these components fit, saving time, and time means money" says Eric Mendoza, Manager, Toyota Motor North America, Wholesale Parts & Certified Collision.

THE PERFORMANCE

The new product line endured extensive performance and product strength testing and the packaging was tested for moisture absorption and box durability to ensure protection from damage during shipping. Finally, before coming to market, the product line was subjected to a series of demanding product performance evaluations which confirmed the line met Toyota's high standards.

The end result—a new Radiator and Condenser Product Line, designed, tested and approved by Toyota, and brought to market at prices competitive with aftermarket prices. 📌

When Fit, Finish & Quality Matter

USING TOYOTA ORIGINAL EQUIPMENT REPLACEMENT PARTS—THE BEST CHOICE

WHY AND WHEN DO FIT, FINISH AND QUALITY MATTER? They matter when your customers bring their vehicle to your shop for collision repair and they look to you to provide advice along with reliable parts and quality repair. When you offer your customer Genuine Toyota Parts rather than aftermarket, used or reconditioned parts you are ensuring that their vehicle is repaired back to Toyota's stringent quality control specifications, keeping their Toyota a Toyota.

Toyota understands that the repairer is in a predicament when working with their customers' insurance companies. It's the insurer's job to keep costs down, so when aftermarket, used or reconditioned parts are available, the insurance company may tell your shop to use less costly parts in lieu of Original Equipment Manufacturer (OEM) parts. Unfortunately, using aftermarket, used or reconditioned parts can cause issues later with fit, finish, quality, durability and ultimately, customer satisfaction.

IT'S NOT JUST TOYOTA'S OPINION

"Most customers don't know that their insurance company can authorize the use of aftermarket, salvage or remanufactured parts, and they also don't know how that aftermarket part may affect their Toyota's performance, safety and warranty," says Jay Cassel, Manager at Bennett Collision Center, in Allentown, Pennsylvania.

THOROUGH ESTIMATES

"We understand the complicated relationship that exists between customers and insurance companies, and Toyota has taken steps to increase the use of Genuine Toyota parts," says Eric Mendoza, Toyota Motor North America, Wholesale Parts & Certified Collision. "Using a program like Auto PartsBridge can help shops get OE parts at more competitive prices." Mendoza notes that tools such as Auto PartsBridge send the estimate to dealership parts experts who can spot the updated parts, missing clips, and fasteners needed to complete the repair at the beginning. You normally don't get paid for all of the additional parts because you don't know you need them. A more thorough estimate, however, can help reduce supplements and most importantly save time.

"From Toyota's engineers to our collision repair trainers' perspective, there's no substitute for Toyota quality, and that includes using Genuine Toyota Parts and our approved collision repair techniques," Mendoza adds, "Anything less would compromise the integrity of the Toyota product."

INFORMED CONSENT

The fact is, more than 50% of collision repair business is word of mouth, and many of those customers are return customers. So, it's worth the effort to build relationships with your customers and the insurance appraisers, and to make sure everyone understands the value of Toyota Genuine Parts. Cassel advises that the first step is to close the communication gap. "My estimators call their customers to make them aware of their coverage—and if that includes aftermarket or used parts. The customer may assume new OEM parts are being used when they are not covered. If the consumer wants to use new OEM parts anyway, we'll work with them to ensure the vehicle is repaired to their satisfaction," adds Cassel.

"If you read the fine print, many insurance policies allow the use of aftermarket and/or used parts, and most customers are unaware of this stipulation. It's worthwhile to have customers read their policies and understand the limitations and disclosures to ensure they understand both before begin-



The customer may assume new OEM parts are being used when they are not covered. If the consumer wants to use new OEM parts anyway, we'll work with them to ensure the vehicle is repaired to their satisfaction,"

—Jay Cassel
Manager, Bennet Collision
Center, Allentown, PA



Be sure to check us out on Facebook as well as our collision repair and refinish website at www.crrtraining.com; there you can enroll in classes, download *Collision Pros* magazine, get the latest Toyota Collision repair bulletins and so much more.

ning any repairs," says Cassel. While some states have insurance departments that theoretically oversee the replacement-part practices of car insurance companies, only a handful have consent or disclosure laws regarding the use of aftermarket parts. If a state doesn't have either, it may be in your best interest to create your own disclosure statement. "We also build relationships with insurance appraisers to gain their trust," says Cassel. "That trust goes a long way, especially when you consider that most of your collision repairs are approved by insurance companies. We can spend a lot of time negotiating with insurance appraisers, filing parts, matching orders, and going back and forth with the customer," Cassel continues, "but we're committed to always delivering quality repairs that meet Toyota standards."

As a collision repair shop, you're an advocate for your customers with a goal to repair the vehicle properly. To help you, Toyota provides training at its four training centers, including repair bulletins, training materials, and repair processes. Moreover, training isn't just for technicians, it's also for estimators and shop managers. 📧



Collision Counterfeit Parts

NOT WORTH THE RISK!



COUNTERFEIT PARTS ARE A MULTI-BILLION-DOLLAR INDUSTRY, BUT IT'S NOT JUST ABOUT LOST REVENUE. Consider this: if a repair facility uses a non-Original Equipment Manufacturer (OEM) airbag during a repair and that vehicle gets in another accident, when the airbag fails and the driver is injured—the repair facility may be liable!

Collision counterfeit parts have been in the headlines more and more lately because they have become a serious issue—one that directly impacts collision repair facilities. We talked with Teena Bohi, Brand Protection Analyst, Toyota Motor North America, to find out more about this subject.

"Toyota's Brand Protection Program was established in 2014 because this is a very real problem. Toyota, along with many other manufacturers, are working together to address this issue to help protect our owners," says Bohi.

Counterfeit, or fake parts, pose multiple problems: On the outside, they may look the same, but the reality is, to keep costs low, counterfeiters typically use inferior materials when making their parts. In addition, counterfeit parts often don't fit correctly from the start, requiring additional time to install. And, they don't deliver Genuine Toyota quality so, in the long run, body parts may rust or break down sooner. Plus, with counterfeit parts, like suspension members, steering components, etc., you have no way of knowing if they will perform in a collision like Genuine Toyota Parts, putting customer safety at risk and your shop in a vulnerable position.

Think about this: When a Toyota has been in an accident and brought to your facility for repair, the owner is expecting his or her Toyota to come back as good as new, and that means using Genuine Toyota Parts for the repair.

WHAT ARE COUNTERFEIT PARTS?

Counterfeit parts are parts bearing fake Toyota trademarks that may be substantially indistinguishable from Genuine Toyota Parts. They are not regulated, are not quality tested and do not meet Toyota specifications. Further, they're illegal.

"To make matters worse, the industry has seen the entities that are importing gray market parts mix true counterfeit parts in their shipments because counterfeit parts 'blend in' with the gray market parts," Bohi adds. "We get calls from Customs to come to the port to authenticate if these are authorized parts because they look legitimate."

Toyota along with other manufacturers has formed the Automotive Anti-Counterfeiting CouncilSM (www.a2c2.com) to work to stop the influx of counterfeit parts. This group works hand-in-hand with Immigration and Customs Enforcement (ICE), Homeland Security Investigations (HSI), the National Intellectual Property Rights Coordination Center, the Federal Bureau of Investigation (FBI), the U.S. Patent and Trademark Office, the U.S. Post Office and many other agencies.



Counterfeit, or fake parts, pose multiple problems: On the outside, they may look the same, but the reality is, to keep costs low, counterfeiters typically use inferior materials when making their parts.”

—Teena Bohi
Brand Protection Analyst, Toyota Motor North America



COUNTERFEIT: NOT A GOOD “FIT” FOR YOUR CUSTOMERS

A lot of collision repair facilities use non-Genuine Toyota Parts to remain competitive with the shop down the street. But what a shop saves up front can hurt it in the long run. Using counterfeit parts can damage your reputation—customers can go on social media to complain about the quality of the parts—and it increases your liability if that vehicle is in another accident and the counterfeit part fails.

This is not a new problem—counterfeiters have been around for more than 30 years. But it’s becoming more of an issue with the recent influx of inferior parts from third world countries. This is motivated by greed as those manufacturers have no concerns when it comes to counterfeit parts infringing on U.S. patents and “stealing” legitimate intellectual property rights owned by Toyota.

That raises the question: What can you do? It’s a two-part answer: The first is prevention. The second is detection.

THE POWER OF PREVENTION

Prevention starts with awareness of what parts are being forged. As Bohi says, “We have seen virtually every component of a vehicle counterfeited which can compromise the safety of Toyota owners. A counterfeit airbag, for example, is not going to perform as it should. Counterfeit parts put everyone on the road at risk.”

The issue of counterfeit airbags is so serious that the National Highway Traffic Safety Administration conducted a series of tests and shared their results that show counterfeit airbags failing to perform and, in some cases, exploding.

With a counterfeit part, you have no way of knowing how much

time went into the engineering, assembly, or the materials used to make the part—and, because it’s counterfeit, there are no quality control standards to which the manufacturer has to adhere.

Therefore, the easiest way to prevent this problem is to buy Genuine Toyota Parts from a Toyota dealer. That way, you know that part was built to original equipment specifications.

DETECTION: HOW DO YOU TELL A FAKE FROM AN ORIGINAL

Spotting a counterfeit part is not always easy because the good ones look a lot like the OE parts—that’s on purpose! If they look real, they’re easier to sell.

Here are some suggestions on how to tell a counterfeit part from a genuine part:

- Consider the source. Where did the part come from? A Toyota dealer or a third-party vendor?
- If you’re the shop manager and you’re not installing the part, ask to see the part and package. Counterfeiters copy the box and packaging as well as the part.
 - If the packaging appears flimsy or the graphics don’t quite match the other Genuine Toyota Parts you have in inventory, it could be counterfeit.
 - If the packaging appears to be Genuine Toyota but is in a foreign language, it could be a gray market part.
- If the price is “too good to be true”, you should be suspicious.

Toyota even has people walking the floor at the annual SEMA (Specialty Equipment Market Association) and AAPEX (Automotive Aftermarket Products Expo) shows in Las Vegas to be on the lookout for counterfeit parts to try to stop the problem at the source.

Continued on page 8

Collision Counterfeit Parts: NOT WORTH THE RISK! (CONTINUED)

THE CONSEQUENCES OF COUNTERFEIT PARTS

No one wins when using counterfeit parts. They may be more affordable in the short term, but in the long run, they have a negative impact on your entire business:

- **Parts That Don't Fit:** Counterfeit parts don't deliver the fit and quality of Genuine Toyota Parts. That means they will take longer to install because they don't fit correctly the first time. Time is money, and that makes counterfeit parts costlier.
- **Negative Effect on Durability:** People buy Toyota vehicles because of their quality and durability. Anything that compromises that can cause repercussions for your facility and for Toyota. That's why it's imperative to always rely on Genuine Toyota Parts.
- **Safety Compromised:** With counterfeit parts, there are no checks and balances—no assurance that counterfeit parts perform in a collision the way OE parts perform—and the repair facility that uses counterfeit parts is liable if that vehicle is in an accident and the part fails.
- **Economic Impact:** The U.S. Federal Trade Commission (FTC) estimates that counterfeit automobile parts cost the United States' automotive parts industry \$3 billion in lost sales, as well as thousands of lost jobs due to the parts being made offshore.

Counterfeit parts can also affect the vehicle's appearance and decrease its resale value, both of which negatively impact customer satisfaction.

REMEMBER: GENUINE MEANS GENUINE

Bohi concludes, "No one intends to use counterfeit parts. They're sold deceptively and shops may unwittingly use parts that could fail when the driver needs them the most. Counterfeit parts jeopardize how a vehicle reacts in an accident, so don't be fooled. You get what you pay for."

So, when repairing a Toyota, rely on Genuine Toyota Parts, and the only source for those parts is from a Toyota dealer. That way, you and your customers know they are always getting the authenticity and quality of Toyota—and that's priceless! 🐾

Have you been deceived?

Even the most vigilant might overlook a small packaging detail—were you fooled?



SHARPEN YOUR WELDING SKILLS



WELDING CLASSES FOR TECHNICIANS, ESTIMATORS AND MANAGERS

Toyota offers both convenience and flexibility when it comes to collision repair training classes. Participants can take on-line and instructor-led classes to become more familiar with Toyota's specific welding specifications and techniques.

Welding Techniques for Collision Repair (PB300/PLB300) provides access to welding training information-based resources, without a trip to a training center. This is a win-win for many collision repair professionals, like estimators and managers who don't actually weld on Toyota/Lexus vehicles on a regular basis. The self-paced e-learning will explain different types of welds, how to tune a welder and how to test weld strength. You'll learn how to properly maintain welding equipment, how to prepare weld-on components for Toyota/Lexus vehicles, how to test for weld strength on both MIG and squeeze-type resistance welds and how to use TIS to find model-specific welding specifications.

Once you've completed PB300/PLB300, you'll be ready to take the instructor-led (IL) **Welding Techniques for Collision Repair** (T300/L300) available at any one of Toyota's Collision Repair & Refinish Training centers. You'll be expected to pass a written test at the conclusion of the course, and also demonstrate competency during a hands-on welding lab. You must complete welds as instructed that pass the scrutiny of the instructor and demonstrate the skills needed for welded component replacement. Strong welds are the key to properly and safely restoring a damaged vehicle to OE specifications. You'll also learn about the heat-affect caused during welding and how to manage it and, how to produce welds that don't require excessive grinding, which is often overlooked. This training will help collision repair professionals produce quality welds that are both strong and visually appealing. 🛠️



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The automobile collision industry is always evolving: New materials. New systems. New processes. New equipment. To stay on top of all the changes that are taking place, it is essential to keep up on training."

—Chris Chartron
Manager, Toyota Motor North America,
Quality, Collision Repair & Refinish Training

Toyota Opens New State-of-the-Art Training Center

LEARN IT RIGHT. FIX IT RIGHT.

There's only one correct way to learn how to properly repair a Toyota vehicle after a collision and that's by getting trained through Toyota. And now, with Toyota's new state-of-the-art Collision Repair & Refinish Training Facility in Plano, Texas there are even more training opportunities for you and your staff, in addition to the classes offered at the California, New Jersey and Florida collision training centers.

"This is a great opportunity for us to expand our training—we've added a key location to help cover our people in the Midwest. It encourages participation by Toyota dealership technicians as well as those employed by independent repair facilities who work with a sponsoring Toyota dealership," says Chris Chartron, Manager, Toyota Motor North America, Quality, Collision Repair & Refinish Training. "When students arrive, they'll discover a

state-of-the-art facility that's stocked with the latest equipment and supplies. Plus, the facility itself is very impressive, with plenty of space and lots of natural light—it's one of the nicest training centers in the country."

The Texas Collision Repair & Refinish Training Center offers the exact curriculum as the other Toyota training centers and is staffed by instructors who hold ASE Master Certified Collision Repair & Refinish certification.

The Toyota Collision Repair & Refinish Training Center is a logical choice for training because:

- Our instructors know the products better than anyone else, and they have direct access to the factory for more complex issues.
- Technicians learn how to restore vehicles according to factory repair guidelines—that's the best assur-

ance that repaired vehicles will safely perform as originally intended.

- These courses give participants hands-on repair experience.
- Properly trained technicians save shops time and money because repairs are performed right the first time.

Everyone who attends Collision Repair & Refinish instructor-led training, or takes online e-learning modules, must have a Secure Personal Identification Number (SPIN). Independent facilities can learn about how to be sponsored by a Toyota dealership and how to obtain a SPIN by going to: www.crtraining.com/CRR2/spin-info.

The bottom line: The only right way to fix a Toyota is to get the right training—and now, that training is available at four locations nationwide, including the new Collision Repair & Refinish Training Center in Plano, Texas. 📍



FOR MORE INFORMATION, OR TO REGISTER FOR CLASSES, GO TO: WWW.CRRTTRAINING.COM

B005 ESTIMATING SOLUTIONS FOR PROFIT

With the assistance of collision expert Mike Anderson from Collision Advice, the B005 Estimating Solutions for Profit class will be refreshed and enhanced for 2018.

"The Toyota Collision Center Estimators must continually enhance their skills to help improve negotiations with insurance companies to ensure that Toyota customers receive the highest quality repair possible" says Dave Pyle, Sr. Analyst, Wholesale Parts & Certified Collision, Toyota Motor North America. "This includes using Genuine Toyota Parts, using the proper Toyota repair documentation and ensuring the Collision Center is paid fully by the insurance company for all repairs performed."

Focusing on customer satisfaction is paramount. To help Collision Centers keep this top of mind, a customer satisfaction segment was added. From the first encounter with the estimator, including customer updates throughout the repair process, to ensuring satisfaction with the final results of the repair, this customer focus will ultimately enhance the overall repair experience.

After pilot testing in the fall, the updated B005 will launch early in 2018. Be sure to keep an eye out for updates and register when the class becomes available so you can take advantage of this excellent opportunity to improve your overall shop performance! 🍷



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The Toyota Collision Repair & Refinish Training Calendar

JANUARY — MARCH 2018

WEST CALDWELL, NJ

01/17	300	Welding Techniques For Collision Repair
01/18	601	Hybrid Collision Repair
01/23	503	Steering & Suspension Analysis & Repair
01/24	602	Advanced Hybrid Collision Repair
02/06	301	Non-Structural Body Repair Techniques
02/08	460	Structural Body Repair Techniques
02/20	200/201	Color Matching For Painters
02/22	250	Advanced Painting Techniques
03/05	601	Hybrid Collision Repair
03/06	300	Welding Techniques For Collision Repair
03/07	301	Non-Structural Body Repair Techniques
03/13	460	Structural Body Repair Techniques
03/15	503	Steering & Suspension Analysis & Repair
03/20	602	Advanced Hybrid Collision Repair

JACKSONVILLE, FL

01/08	601	Hybrid Collision Repair
01/09	300	Welding Techniques For Collision Repair
01/10	301	Non-Structural Body Repair Techniques
01/22	602	Advanced Hybrid Collision Repair
01/23	503	Steering & Suspension Analysis & Repair
01/24	460	Structural Body Repair Techniques
02/05	601	Hybrid Collision Repair
02/06	300	Welding Techniques For Collision Repair
02/07	301	Non-Structural Body Repair Techniques
02/12	200/201	Color Matching For Painters
02/14	250	Advanced Painting Techniques
03/05	601	Hybrid Collision Repair
03/06	300	Welding Techniques For Collision Repair
03/07	301	Non-Structural Body Repair Techniques
03/12	602	Advanced Hybrid Collision Repair

03/13	503	Steering & Suspension Analysis & Repair
03/14	460	Structural Body Repair Techniques


TORRANCE, CA

01/09	460	Structural Body Repair Techniques
01/11	503	Steering & Suspension Analysis & Repair
01/17	601	Hybrid Collision Repair
01/22	101	Paint Finish Repair
01/23	200/201	Color Matching For Painters
01/25	250	Advanced Painting Techniques
02/06	300	Welding Techniques For Collision Repair
02/07	301	Non-Structural Body Repair Techniques
02/13	602	Advanced Hybrid Collision Repair
02/14	460	Structural Body Repair Techniques
02/21	601	Hybrid Collision Repair
02/22	503	Steering & Suspension Analysis & Repair
03/05	300	Welding Techniques For Collision Repair
03/06	301	Non-Structural Body Repair Techniques
03/08	460	Structural Body Repair Techniques
03/13	601	Hybrid Collision Repair
03/14	200/201	Color Matching For Painters
03/21	602	Advanced Hybrid Collision Repair
03/22	908	ISC Retractable Hard Top

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

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INDUSTRY RECRUITMENT

TECHFORCE REVEALS TECH SHORTAGE REALITY, A SOLUTION

ABRN WIRE REPORTS //

➔ TechForce Foundation, a non-profit organization focused on championing and aiding aspiring vehicle technicians, has released a new report — “Transportation Technician New Entrant Demand” — that reveals the severity of the vehicle technician shortage.

Based on an analysis of Bureau of Labor Statistics’ (BLS) data, TechForce found that the estimated demand for “new entrant” vehicle technicians is much higher than previously reported. For the

period between 2016 and 2026, that demand is more than triple the prior BLS estimates for the period between 2014 and 2024. “New entrant” technicians are those needed to fill the growth in new positions in the occupation as well as replace those who leave the occupation. They are distinguished from technicians who may move between employers but don’t add to the overall trained workforce.

The report reveals that the newly projected BLS average annual new entrant demand for 75,900 service repair techs for

>> CONTINUES ON PAGE 6

BREAKING NEWS

TRAINING & EDUCATION

I-CAR LAUNCHES 13 NEW DIAGNOSTICS COURSES

➔ I-CAR launched 13 new courses as additions to its Electrical & Diagnostic curriculum. These courses were developed in response to the collision repair industry’s need to understand both the why and the how of diagnostics.

As the technology in vehicles has increased, identifying the required repair has become more complex. Modern diagnostic tools help, but technicians still need training to know when and how to use them. And, with potentially as many as 100 diagnostic trouble codes (DTC), understanding the information that is related to the current repair requires up-to-date knowledge and experience.

These new courses will help determine the best approach for diagnostics and train technicians, estimators and appraisers on implementing proper diagnostics techniques and procedures for complete, safe and quality repairs.

>> CONTINUES ON PAGE 10

TRENDING

RIVET BONDING TECHNIQUES FOR HEAVY-DUTY TRUCK REPAIRS

3M presents a comprehensive guide to the use of rivet bonding — using rivets combined with structural adhesives to join panels — for heavy duty truck repairs.

ABRN.COM/HDRIVETS

AKZONOBEL, AXALTA DISCUSS POTENTIAL MERGER

AkzoNobel has confirmed it is in discussions regarding a merger with Axalta, which would create a leading global paints and coatings company through a merger of equals.

ABRN.COM/PAINTMERGER

AUDATEX LAUNCHES VEHICLE HEALTH CHECK

Audatex announced the Vehicle Health Check, a vehicle scan, diagnostic and repair solution that delivers full system scans of the computers in today’s vehicles to ensure their operability after repair.

ABRN.COM/HEALTHCHECK

MITCHELL PROVIDES ACCESS TO VIN-SPECIFIC RECALL DATA

Mitchell has integrated VIN Specific Recall Notices into its estimating solutions, providing real-time recall data directly from the manufacturer when the VIN is decoded.

ABRN.COM/VINDATA

CCC INTRODUCES OPEN SOLUTION FOR DIAGNOSTIC SCANNING

CCC Information Services will provide an interface into its CCC ONE Platform to enable any vehicle diagnostics provider to share scanning results with shops and insurers.

ABRN.COM/SCANSHARE

>> CONTINUED FROM PAGE 5

the 2016-2026 period is far greater than the previous BLS projected demand of 23,720 techs for the 2014-2024 period.

The demand for collision and diesel technicians is similar. The newly projected average annual new entrant demand of 28,300 diesel technicians far exceeds the previous projected demand of 7,690. For the collision market, the newly projected demand is 17,200 technicians compared to the previous projection of 4,810.

Greg Settle, one of the co-authors of the report and TechForce Director of National Initiatives, said, "BLS had underestimated the replacement component of demand — replacing existing technicians who have retired, been promoted or decided to find a new career. That methodological problem has been rectified with the new projections."

What has exacerbated the technician shortage to the point of the "perfect storm" are essentially three things, according to Settle. "We're caught in the middle of a strong growing economy, a 'catch-up' demand for technicians created by the Great Recession of 2008 and the increasing complexity of vehicles."

As to what can be done to alleviate the shortage, Doug Young, the other co-author of the report and Managing Director of his own strategy consulting company, Wilcap L.L.C, said, "We have adequate training facilities for prospective technicians. Our concentration has to be on getting young people interested in this vocation by changing the image of the 'grease monkey' mechanic that students and their parents, teachers and counselors may have."

Jennifer Maher, CEO/Executive Director of TechForce, added, "In order to solve the tech shortage, the industry needs to pool its resources and create and disseminate consistent public messaging highlighting the many and varied opportunities of a tech career. Right now, the industry is suffering from inadequate, fragmented financing for the cause. It's

not enough for us to talk among ourselves; we have to pull together as an industry to first, resolve it, and then to stay ahead of it so we never wind up in this position again."

To move forward toward a solution, TechForce has launched a first-of-its-kind campaign to help provide an ongoing stream of qualified technicians to North American vehicle repair businesses.

The campaign is called FutureTech Success, and its purpose is threefold: 1) to give middle- and high-school students, parents and influencers the tools and experiences to recognize and foster tactile intelligence, 2) to help reposition the image of the profession; and 3) to help the industry speak with a collective voice with regard to its workforce development needs.

To the first point, Settle said, "Our goal is to identify and provide naturally talented tactile learners with the after-school programs, clubs and activities, mentors and experiences that allow them to engage with the highly advanced and rapidly expanding world of vehicle technology so they — and their parents and influencers — understand there are prosperous technical career opportunities that they may not have considered."

To help drive the campaign to students, parents and influencers, TechForce created a website — www.futuretechsuccess.org — that contains all of the pertinent information needed for students to ascertain their interest and aptitude for a technical career. A number of resources are presented, including after school and summer camp programs, a listing of technical schools, available internships and scholarships, a job board, needed certifications, industry events and industry associations.

Also, through the FutureTech Success campaign, TechForce will serve as the "collective hub," harnessing the myriad of excellent resources that exist throughout the industry, collecting, packaging and presenting them in a one-stop-shop microsite that speaks to future techs and

their parents, school counselors, youth directors and other influencers.

Another feature on the site is the bank of videos featuring successful professionals sharing their technical experiences and insights.

The campaign's second purpose is to help right a wrong that has existed for decades, that is, the "grease monkey" image. "Not that this image was ever deserved, but today it is simply absurd," Maher said. "The complexity of today's vehicles rival some of the most sophisticated aircraft — and the technical and computer knowledge, as well as the tactile and STEM skills required to work on them, is truly amazing."

Maher said that striving to be a vehicle technician today is hardly a "fall back" career. Rather, it is a desirable profession with readily available and unlimited opportunities that cut across several market segments ranging from automotive, motorcycles, motorsports and boats to medium and heavy duty trucks to collision repair and the massive machinery used in construction, mining and agriculture.

"The opportunities abound in this industry," Settle said.

The opportunity story speaks to the campaign's third point: getting everyone in the industry on board to speak with a collective voice. Fortunately, that is already taking place with 14 corporations signing on as partners to the campaign: Advance Auto Parts, Autoshop Solutions, AutoZone, Babcox Media, Bridgestone Retail Operations, Cengage, General Motors, George Arrant Enterprises, Interstate Batteries, Nissan North America, Snap-on, Shell Lubricants, S/P2, Sunstate Equipment, 10 Missions Media and Universal Technical Institute. A growing number of high profile industry associations are supporting the effort.

In the near future TechForce will launch I-Hub, a resource hub for industry, so that best practices to attract, develop, train, hire, recruit and retain technicians can be shared by all. ■

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IBIS GLOBAL SUMMIT 2018: CHALLENGING PERSPECTIVES

ABRN WIRE REPORTS

On June 11-13, 2018, the IBIS Global Summit will host more than 350 delegates from across the globe. Gathering at The Hilton, Munich Park, Germany, the two-day event promises to provide the perfect mix of culture and insight, allowing delegates to develop new and existing relationships to help drive their business forward.

The IBIS Global Summit will focus on the theme “Challenging Perspectives.” The summit will look at the power of rebranding and consumer psychology to capture innovation

and drive business growth. Services and products have as much value in how they’re viewed as in what they are, and so marketing them in a certain way can have a major impact. The message of “Challenging Perspectives” will flow throughout many aspects of the event, consolidating the notion that innovation can take many forms.

IBIS announced that 3M, AkzoNobel, Audatex, Enterprise-Rent-A-Car, Fix Autoworld and Symach will continue to partner with them in 2018, contributing to a brighter future for the industry. IBIS would like to thank them for their ongoing support and are excited for a contin-

ued collaboration with all parties.

The early bird booking rate is available until December 12. This includes access to the Welcome Reception on June 11, 2018; the full-day conference, including lunch and refreshments; and the International Dinner on the evening of June 12. The event will finish on June 13 after a half-day conference and an inclusive lunch. After the event, you will be sent a link to download audio and visual presentations for your future reference. The price also includes two nights’ accommodation (June 11-12) at The Hilton, Munich Park. 📧

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EDUCATION

WYOTECH LAUNCHES ALUMNI ASSOCIATION TO SUPPORT STUDENTS THROUGHOUT THEIR CAREER

After training next-generation mechanical and technical professionals for more than 50 years, WyoTech is launching its first alumni association to connect more than 64,000 graduates with career development opportunities, community involvement, volunteer engagement, mentorship programs and philanthropy. WyoTech also aims to help the U.S. automotive, diesel, collision/refinishing, motorcycle and marine technology industries clear the backlog of unfilled jobs — while creating a pipeline of future applicants — by connecting employers and hiring managers with highly skilled technicians and facilitating easy networking among alumni from its three campuses.

“Technical education is the answer to America’s widening skills gap and glut of unfilled positions,” said John Hurd, AVP Strategic Relations for WyoTech. “Through our new alumni association, we want to send the message that WyoTech graduates are uniquely qualified to enter some of the most in-demand careers of the 21st century. At WyoTech, they learned what it takes to become a highly sought-after technician from master instructors. But their training doesn’t stop there. We’re dedicated


to providing alumni with lifelong career development and a meaningful place to connect with others driven by their passion and ready to start or advance their careers.”

WyoTech will commence alumni association activities in January 2018 and is seeking nominations for the inaugural board of directors. Ideal candidates are graduates of WyoTech, leaders in their profession, committed volunteers, members of workforce boards or industry associations, and individuals who are passionate about the value of a WyoTech education.

Nominations will be accepted through the end of the year and can be sent to Kristin Schneider, WyoTech AVP of Alumni Engagement, at Kristin.schneider@Zenith.org.

Virtual alumni community

In tandem with in-person opportunities to connect, the alumni association also will maintain an online community at wyotech.edu/alumni. Here, alumni will have access to a continually updated news feed populated with features about graduates in the field, job postings, career resources, mentor recommendations, events, campus updates and more. The site will act as a virtual networking forum where alumni can expand their WyoTech connections and support one another in professional growth.

Dedicated career services teams at each WyoTech campus guide students and alumni to reach their professional goals, provide resume assistance and job matching, and organize career fairs — often where alumni working at top companies return to recruit the next wave of highly skilled technicians. WyoTech is committed to educating students for life. 

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>> CONTINUED FROM PAGE 5

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- Diagnostics, repair and calibration of electronic systems
- Mechanical access, diagnostics and repair
- Vehicle communication network identification

“If you haven’t incorporated collision repair diagnostics into your repair process already, it’s time,” said Josh McFarlin, I-CAR director of curriculum and product development.

“Technicians need these courses to get up to speed on diagnostics methods and technologies. I-CAR works with OEMs and diagnostics tool providers to ensure we get the best information out to the industry.”

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MANAGING YOUR PRODUCTION

This challenging role can drive or stall the success of your shop

JIM COMPTON // Contributing Editor

Production management, an evolving role in many of today's body shops, has been around for quite a while, especially in larger shops. While many shops fill this role with the manager overseeing production as well as the front office, as shops grow in size and vehicles become more complex, this becomes more difficult.

At the same time that shops are taking on more administrative tasks and dealing with the ever-changing landscape of calibrations, scans and advanced materials, all shops are still faced with the regular business pressures of cycle time, CSI

and evolving OEM recommendations — which we should start calling requirements, rather than recommendations.

The role of the production manager touches all of the above in most shop environments. As a manager, the production manager is expected to be a leader, mentor and trainer and oversee quality control. It seems that there is little in the shop production area that isn't affected by the production manager.

Production managers grow out of the production area, perhaps a lead technician or parts manager, some come from the office or blue-printing area. No matter where they started, once they become a production manager, they soon find their role can be challenging, and also rewarding.

Challenges

One of the challenges that I have heard from production managers boils down to the job description. While for many people, job descriptions are fairly well understood, the production manager's role can vary significantly from shop to shop. So it is not uncommon for a production manager joining a team with prior experience to be challenged with new responsibilities or less authority to make decisions. My takeaway is there needs to be a well-written job description and understanding of both authorities and responsibilities.

Other challenges include the wide variety of tasks and skills needed (depending on the job description) for this job. A partial list might include: updating the

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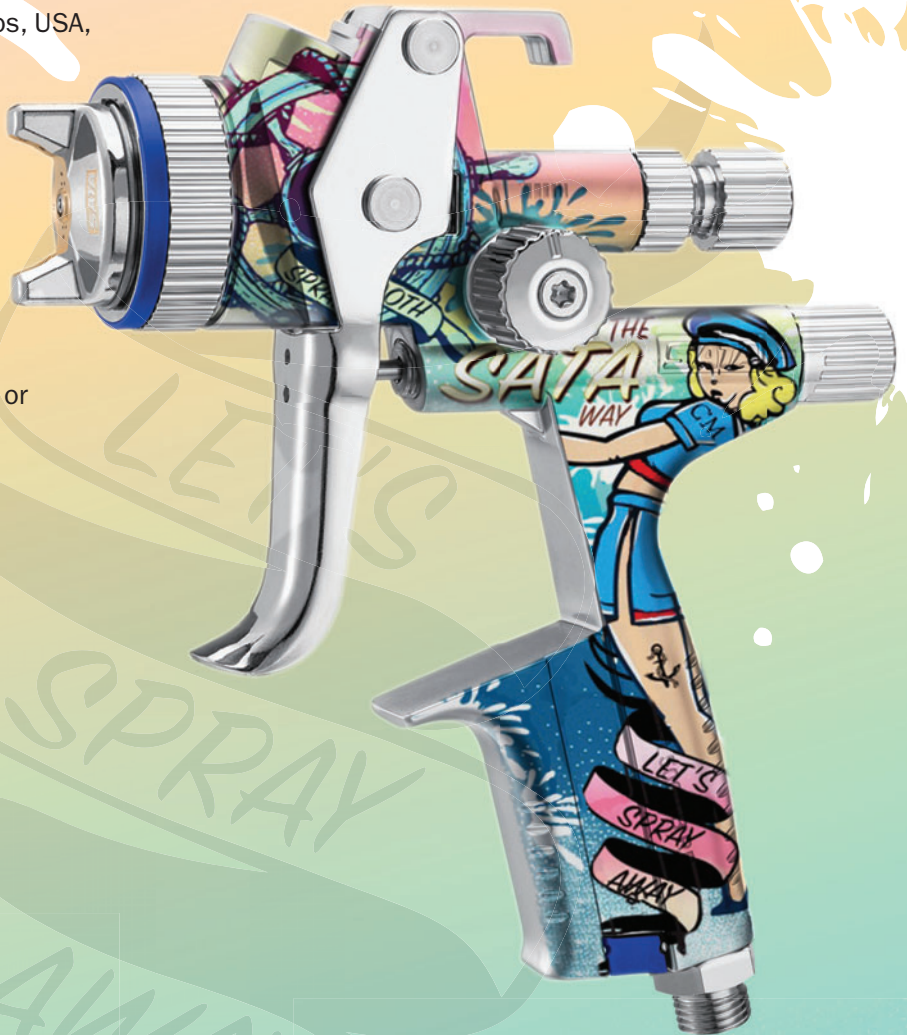
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Standard with QCC RPS cups 0.3 l, 0.6 l, 0.9 l, 1 ea.	–	1033703	1033711	1033729	1033737	–
		1033662	1033670	1033688	1033696	–

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management system, communicating with production and office staff, working with vendors, planning and coordinating training, equipment maintenance management, HR and personnel activities, customer contact, cheerleader and team motivator as well as follow up, follow up and more follow up.

Scheduling both internal staff and third-party vendors that may be doing work onsite often doesn't leave room for a Plan B. Take for instance if a technician is out, even for a single day. If the vehicle is on the schedule for a trip to the dealership, alignment shop or even onsite glass work, this could mean more than a one-day delay, depending on the schedule of others. React to personnel changes immediately to mitigate chain reactions down the road.

There is so much to keep track of (all production) and so many people who need to know about what is happening with the vehicles. While some see this as a challenge, several of the folks I spoke with found technology both simple and advanced as their friend. A simple white board maintained can show everyone at a glance where each vehicle is in the process and the expectations. While this can eliminate a lot of questions, it does require updates throughout the day. Quite a few shops have been using tablets or laptops with software that allows real-time updates to the management system. Most still carry a notepad for scribbling quick reminders or items for follow up, calls to make or questions

that need to be asked. The new management system technology is great, but don't toss out that yellow legal pad just yet.

With so many things involved that can affect cycle time — being aware of personnel issues, parts delays and even making sure the shop has the right equipment ready to go — it can be a challenge to monitor everything. Most production managers that I spoke with have visual clues throughout the shop. Simple things such as having a copy of the parts order on the actual parts cart and highlighting parts as they arrive and are verified means that at a glance everyone can see if something is missing. When shop equipment has its own place (5S – Sort), for example when a welder or battery charger is where it belongs, it is an easy visual reminder. Other visual clues can include markings on the windshield and other non-verbal communication. Text messages, emails, voice messages and even faxes still have a role. Use all the communication channels or methods as best fits; they are great time savers, but they don't replace the face-to-face that many still want.

A production manager needs to be very familiar with the shop's management system. These tools have evolved too much to try and include everything in this article. Some of the favorite reports include: Target Delivery Report, Rental Car Cycle Time, Reports by Technician. These systems are well designed, allow for multiple methods of communication (email, text, phone call reminders), all the while keeping track of all communication and notes. Great job information providers; you have built some great tools.

Management systems and reports are capable of crunching large amounts of data, provided they are fed properly (kept updated). What they don't do is provide a large scoreboard, and people want to know the score. Large video screens or white boards with simple, clean, colorful "scores" can drive friendly competition and show people that their contribution matters. Without a scoreboard, who knows who is winning?

The single most important job of the production manager is probably the ability to communicate both verbally and non-verbally with staff and business partners. Communication with the management system, both with data and reports extracted and notes and information input is vital. They must listen to and understand what people are saying, along with being heard.

The wording of questions can make a big difference. For example: Did all the parts come in for this Toyota? Versus: Have we mirror matched all the parts for this Toyota? Both questions are similar, but the second sure communicates a little more. Or do you have the OEM specs/procedures for this vehicle? Versus: Do you have the newest specs/procedures? Again similar, but the second covers a lot more ground. It is not just what is said or asked; it is how it is said or asked. 📌



JIM COMPTON is the owner of J. Hunter & Associates, a consulting business that specializes in lean material management.
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Improving two-way communication

Make sure your CSI system is firing on all cylinders

About 70 percent of shops use an outside vendor to conduct customer satisfaction indexing (CSI), according to one of Mike Anderson and *CRASH Network's* "Who Pays for What?" surveys earlier this year. My business is one of them. We take CSI very seriously, because high CSI leads to better relationships with our customers, their insurance companies and others who can refer work to us.

CSI is one of the numbers we look at every day, and we report it out to any staff who don't have easy daily access to it. We show it as a live, 30-day rolling number. We communicate its importance to our front-office team in part by making it a factor in their payplan. If it ever falls below 90 percent, their commission percentage drops by a point.

Fortunately, I'm not sure I've ever had to enforce that; our average typically stays up in the 95 to 97 percent range (thank you, team).

We've used a number of different CSI providers over the years, and in fact, still use two different ones. That's not my preference; we have one provider we prefer, but one of our direct repair programs requires us to use a specific provider. We're not alone in that. The "Who Pays for What?" survey found that of the three largest CSI providers, shops cited a DRP or OEM certification requirement as the main reason they chose the CSI provider(s) they use.

I won't mention names here, but I think it's worth sharing what I like about our primary CSI provider, in case it helps you evaluate which to choose.

I like our vendor because of the amount of customer feedback it brings us. With previous CSI programs, the response rates were very low. Now we get lots of customer feedback, generally numbering in the hundreds every month.

I like our vendor because the program integrates well with our shop management system.

I also like that our CSI system incorporates updates to our customers during the repair process. We used to handle that with phone calls out to customers on Tuesdays and Thursdays. For some customers and some jobs, that's not enough. This system allows us to provide about four text or email updates



DO ALL CUSTOMERS LIKE ELECTRONIC UPDATES? YOU NEED TO ASK UP FRONT.

during a repair. The system has some "generic updates," that basically let customers know things are progressing. But our team loves being able to send more specific text updates like, "The parts came in today, so we're off and running."

Do all customers like those electronic updates? You need to ask up front. For me personally, I don't want a phone call from my dentist's office reminding me of my appointment, for example. A text about this is great. We find that's how most customers feel about our updates.


But that's most, not all. We ask for their preference because some people prefer email updates to text. And still others, especially some of our elderly customers, still want a phone call. I remember one customer who actually drove to the shop to ask us what the text update we'd sent them meant.

But I also like that the system we use makes it easy for them to opt-out of receiving the updates, if they want. They can reply "stop" to an update text from us, and the system lets us know we need to communicate with them through a different means.

In the two years or so we've been using text updates, we've seen a big increase in the percentage of customers who indicate through our CSI that we kept them informed adequately during the process.

I also like that the CSI system we use sends a one-question survey to customers right after they've picked up their vehicle, asking if they were 100 percent satisfied. If they indicate "no," we get notified right away, giving us a chance to make things right quickly.

Beyond that, the system sends them a more detailed survey a couple days later.

Whatever CSI system you use, remember to take advantage of it as a marketing tool. We regularly incorporate customer comments into our social media posts. But our system also ties in with an online shop locator that helps consumers find shops with strong customer reviews. 

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



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- Kevin Probst

The Team of Probst Collision
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Pulling back the curtain

Illinois' Zara's Collision gives behind-the-scenes look at team-based structure

JAMES E. GUYETTE // Contributing Editor

➔ Providing an on-the-job educational curriculum entailing hands-on instruction specifically formulated for working industry professionals, Zara's Collision Center is eager to pass along accumulated knowledge of body shop expertise while maintaining award-winning daily operational excellence.

"Zara's University grew out of the frequency of visits from other shop owners and managers who had an interest in coming to see how we operate in a team environment with a segmented, non-traditional repair process," explains President Brad Zara, co-owner of the company in conjunction with his wife Julie.

"We found that most would leave intrigued, yet had no idea where to start with implementation of what they saw."

Having extensively worked at perfecting their business with the assistance of Kent Carlson at Ad Meliora Consulting, "we decided to put together classes that could provide structure so that the attendees — other shop owners, managers and technicians — have something of real value to take away.

"We share our journey of how we transformed from a traditional collision repair shop, with people working in silos, trying to please everybody yet satisfying very few, to a team-based environment where everybody is pursuing the same vision of providing service excellence to our internal and external customers.

We offer the classes at our location so that we can 'pull back the curtain,' show attendees how we do what we do, and give them the opportunity to talk to the people doing the work," he says.

A significant strength of the shop is a team structure that "breaks the repair process down into smaller chunks" such as disassembly, repair, paint preparation, paint application, reassembly and detail. "This allows us to bring young/inexperienced talent into our industry where they can learn and progress at their own speed," he says.

"Our cross-training allows us to quickly scale our resources to the mix of work that we have. We also have a depth chart for each position, which allows us to maintain a level workflow by shifting resources vs. accepting the productivity/sales decrease typically experienced when a key team member is missing."

A "continuous focus on holistic improvement" is another important attribute. "With technology changing so quickly, it would be easy to focus only on technical training. However, we understand that we can't ignore our focus on the health and



ZARA'S COLLISION CENTER
Springfield, Ill. // www.zarascollision.com



Brad and Julie Zara
Owners

1
No. of shops

30
Years in business

30
No. of employees

16,400
Total square footage of shop

20
No. of bays

5.5 days
Average cycle time

\$2,650
Average repair order

50
No. of customer vehicles per week

\$6.4 million
Annual gross revenue

well-being of our team members so that we can truly be the best that we can be, day in and day out," says Brad.

In addition to ongoing technical training, team-building and "self-improvement resources," staffing continuity is enhanced by a strong employee benefits program that includes profit-sharing, retirement plans and an assortment of health insurance policies.

"We have developed apprenticeship programs for the paint prep and body technician positions, which provide structured learning for our apprentices and new team members," Brad

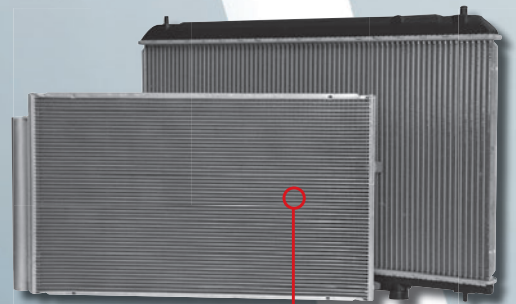
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reports. The assortment of employee-centric packages makes good business sense while reducing staff turnover.

Top-level performers

"I feel we are strong in all areas of collision repair, because that is our one and only focus. We have dabbled in and chosen not to dilute our focus by offering other services such as detailing, general mechanical, glass, towing, etc.," he says.

The same glass vendor, Auto Glass Systems, has been patronized for nearly 25 years with AkzoNobel's Sikkens paint being applied for 28 years, illustrating the shop's loyalty to its suppliers.

"We have never changed vendors over price alone; we value timely delivery and accuracy over discount, and we have always paid our bills on time," says Brad.

"Our repair planning process has allowed us to achieve 90 percent accuracy, meaning that we only have one parts order on 90 percent of our jobs. That is unheard of for most parts vendors," he says.

The emphasis on treating their suppliers with integrity, respect and consistency is also utilized for fostering positive relationships with insurance carriers. "While we are certainly not the low-cost providers in our market, we strive to be the best at customer service, repair quality and cycle time, which all benefit the insurance provider as well," says Brad.

"We have found that sticking to our solid process, which yields consistent results, tends to satisfy the overall needs of the insurance providers."

Operational consistency is further augmented by the presence of relatives on the employment roster. Along with Brad's brother Mike on duty as the parts manager, Julie's sister Kim Woolard has been the production manager and customer care specialist for more than two decades.

"The benefits of working with family members have far, far outweighed the difficulties," according to Brad. "I believe this has been possible because the expectations are no different for family members than non-family members. Mike and

Kim are commonly recognized as being top-level performers in their positions. Other shops frequently send people to job-shadow Mike and Kim to learn their processes and techniques.

"We have a very tight-knit family on both Julie's and my side of the family, so we spend quite a bit of time together. We had to establish early on that we would not talk about, or address, any business-related issues during family get-togethers," he says. "General conversation or funny stories about things that have happened at the business are fine."

Bucking the trend

HIP Advertising assists in developing and delivering a steady array of marketing strategies. "Our most effective form of advertising has been our billboards. We have had the same three billboard locations around Springfield for nearly 10 years, and the message is always clever/humorous, and they switch out quarterly.

"We have become so well known for our billboards that I often joke that people probably forget that we actually repair vehicles. I say this because when people meet me or Julie, they often say, 'Oh yeah, you guys are the billboard people,' Brad notes. "Our community involvement serves as another huge form of positive exposure for our business."

Coinciding with a vigorous pattern of charitable contributions is the shop's "Doenation" program. Each year from Oct. 1 through Dec. 31, 5 percent of every deer hit repair ticket — up to \$250 — is directed toward a worthy organization.

In 2016 the campaign generated \$10,000 for Contact Ministries, a women's homeless shelter that Zara's has been involved with for a number of years. The 2017 charity of choice is Big Brothers Big Sisters of the Illinois Capital Region, where Brad currently serves as president of the organization's board. As of early November, nearly \$3,000 had been raised, "turning a negative into a positive" for drivers having to spend bucks after colliding with a buck.

Absorbing knowledge

Brad and Julie both express gratitude for the many mentors who have guided them along the path to achieving business and personal success, including industry stalwarts such as Dick Taylor, Bill Ebert, Butch Elzea and Mike Rose.

While obtaining class valedictorian honors in high school, Brad decided to pursue a trade involving his passion for cars rather than heading to college. Brad's parents were supportive; however, and he enrolled in a cooperative auto repair educational track that had him working at Dick Taylor Collision Services, gaining full-time status after graduation.

"Dick's was a Mom & Pop shop that had established a quality reputation and was just beginning a growth mode. I was fortunate to get the opportunity to learn from some of the best technicians to develop my technical skills. None of the techs wanted to learn any of the administrative duties that Dick needed help with. I was a sponge, wanting to learn anything, so I got the opportunity to learn estimating, parts ordering, production management and more at a very early age," Brad recounts.

After marrying Julie, Brad contemplated going to college in pursuit of a degree in landscape architecture. He put in his notice to Dick Taylor, who encouraged him to remain on the payroll until the college classes were to commence.

Yet Dick's business success propelled him into opening a new and improved larger location, leaving his old building vacant and available at reasonable rent. And at that point Brad and Julie decided that owning a body shop was what they wanted to do: "Dick also let me continue working for him up until the day that I was ready to open my shop. I left his place on a Friday night and opened my shop on Monday morning." 📷



JAMES E. GUYETTE is a long-time contributing editor to *ABRN*, *Aftermarket Business World* and *Motor Age* magazines.

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USE SMALLER INCREASES AND CUSTOMER FOLLOW UP TO ENSURE ACCEPTANCE

BOB COOPER // Contributing Editor

Over the years I have seen hundreds, if not thousands of shop owners do irreparable damage to their businesses. This damage occurs when they are mesmerized by the management trainers or consultants who tell them that they can solve all of their problems by raising their prices. At first they are pleasantly surprised to hear that their services are worth more than they are presently charging, because it plays to their ego. They are also told that they have nothing to worry about, because none of their customers will complain. They then jack up their prices and are pleasantly surprised when they discover, as they were told, that not one of their customers objected to the new pricing.

Over the next few months profits typically swell, and the shop owners smile all the way to the bank. Then, unfortunately, in far more cases than you would imagine, 9 to 12 months later these shop owners find that all of their good customers are gone, and the reason is pretty simple: Rather than complain, their good customers just take their business elsewhere. So before you listen to

the pied pipers who tell you that you can solve all of your problems by jacking up your prices, I wanted to share a different strategy with you. It's one that I used to grow some really great shops, so I know it will work wonders for you, too.

First of all, any price increase should be small and incremental. You will find that small increases will not only be considered acceptable by most of your good customers, but they will allow you to monitor your customer's acceptance. When you move forward with this approach, you need to monitor your lost sales at the point of sale to ensure there is no appreciable increase.


Secondly, you will need to perform your customer follow-up calls to keep your finger on the pulse of your customers, and to enable you to detect any early signs of price resistance.

Lastly, you need to monitor your percentages of repeat customers and referrals. I have discovered over the years that there is only one true judge of pricing, and it's our customers, so if a customer continues to return to your shop, and if they continue to recommend their family and friends to you, then it's safe to say that they are comfortable with your pricing.

How often you revisit your pricing is subjective, too, but I would encourage you to do it at least two times a year. Another benefit of small incremental price increases is that they will allow your estimators/advisors to feel comfortable with the new pricing. This is critical to your success as a business owner, because as we all know, if your advisors feel uncomfortable with your pricing, it will be hard

for them to put their hearts into every sale as they should.

Lastly, in the coming years you will need to make some decisions regarding the gross profit margins you make in both your part sales and your labor sales. With today's technology, and your customers' access to information, customers are going to be quick to compare prices. Given the choice of the two, I would much rather defend a higher labor rate than a high part price, and here's why: Regardless of how skilled your advisors are, when they are trying to defend why they charged a higher price for that bumper than the price the customer found online, it's going to be a tough sale, because in the customer's mind, a part is a part. Yet if your labor rate is the highest in town, that's something your advisors should be able to easily defend because your technicians aren't just technicians; your technicians are superstars.

In closing, I would be the last one to say you should or shouldn't raise your prices, but what I can say is this: If you just listen to the pied pipers, they will scare off your customers and put you out of business. On the other hand, if you implement small and incremental increases, and if you monitor and measure customer acceptance, then you will be on the road to building a more profitable, successful business. 

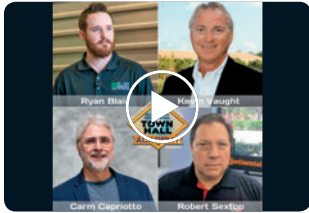
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BOB COOPER is the president of Elite, a company that offers coaching and training from the industry's top shop owners.
contact@eliteworldwide.com



WATCH + LEARN



How to recruit and build your team

ABRN.COM/Recruit



MIG welding aluminum with a spool gun

ABRN.COM/MIGaluminum



2017 Honda Odyssey collision repair 360

ABRN.COM/Odyssey



Panel discussion: Adhesives

ABRN.COM/AdhesivesPanel

MECHANICAL MOMENT

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

DODGE RAM 1500 PRESENTS WITH NO START; NO DTCS

VEHICLE: 1996 Dodge Ram 1500, 4x2, V8-360 5.9L Magnum, Automatic Transmission

MILEAGE: 228,995

PROBLEM: The engine will crank, but not start. The MIL was not on and there were no DTCs.

DETAILS: The technician verified the engine will crank but not start. It had spark but no fuel pressure. He verified voltage on both sides of the fuel system fuses, swapped the fuel pump relay and tried replacing the fuel pump. Still, there was no fuel pressure. At this point, he called ALLDATA Tech-Assist.

The ALLDATA Tech-Assist consultant suggested that he check for power and grounds at the pump. The technician found no voltage at the fuel pump (Circuit A61). He traced the circuit back to the fuel pump relay and found the circuit was open about 10 inches from the power

distribution center.

CONFIRMED REPAIR: He repaired the wiring and the truck started and ran normally. He also rechecked the fuel pressure. It was at factory specifications.

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.

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TRAINING EVENTS

DECEMBER 4-8

Advanced Selling Skills
Automotive Management Institute
Cincinnati, Ohio

DECEMBER 12

ASA-Midwest: OSHA training
HCS Auto Repair
Springdale, Arkansas

DECEMBER 12

I-CAR: Steel unitized structures, technologies and repair
Washburn Tech
Topeka, Kansas

DECEMBER 19

Eight essential skills for shop success — collision
Automotive Training Institute
Harrisburg, Pennsylvania

JANUARY 17-18, 2018

Collision Industry Conference
Hilton Palm Springs
Palm Springs, California

APRIL 11-12, 2018

Collision Industry Conference
Westin Westminster
Westminster, Colorado

JUNE 11-13, 2018

IBIS 2018
Hilton Munich Park Hotel
Munich, Germany

AUGUST 8-10, 2018

NACE Automechanika 2018
Atlanta World Congress Center
Atlanta, Georgia

Pricing ethics and the reputation of your business

DO NOT DROP YOUR PRICES TO SATISFY A CUSTOMER; EXPLAIN THE VALUE OF SERVICES

BOB COOPER // Contributing Editor

At Elite we know that once someone comes into your shop, you'll do everything you can to generate a happy customer and make a fair profit. Unfortunately, some customers will put you to the test when it comes to the prices you charge. They'll tell you they can't afford the recommended services, they'll tell you they can get the same service done down the street for less, or they'll just need you to knock a few bucks off the price. This is when you typically tell yourself that you've already invested a good amount of time and money to get the customer to this point in the sale, so rather than letting the customer walk, you drop your price a few bucks, and in your mind, you just saved a job. Unfortunately, what you just lost was your integrity and the integrity of your pricing.

One of the things we teach in our sales courses is that there are a number of reasons a customer will ask you for a discount. They may very well be in a cash crunch, and as we all know, many cultures believe that you're foolish if you don't haggle over the price. But there's yet another reason why people will ask you for a discount, and ironically it's the one most shop owners, and service advisors, completely overlook. What those customers are doing is testing your integrity. Look at it like this: You hire a plumber to do a job at your house, and they quote you at \$800. You then ask them if that's their best price, and within a

few minutes they're telling you they'll knock \$50 off the price. Regardless of whether or not you authorize the job, you'll more than likely tell yourself that if you wouldn't have asked, one thing is for certain: You would have paid \$50 too much. You probably wouldn't feel too good about that, would you?


THERE ARE A NUMBER OF REASONS A CUSTOMER WILL ASK FOR A DISCOUNT – THEY MAY BE IN A CASH CRUNCH OR USED TO HAGGLING. ANOTHER IS TO TEST YOUR INTEGRITY.

And then ask yourself this question: would you call that same plumber again? And if you did, what thought would pass through your mind when he gave you a quote on the next job he did for you? I think it's safe to say that your confidence in the plumber, and the integrity of his pricing, would be gone. We also know many shop owners will inflate their prices when knowing they are dealing with a negotiator, and then will provide those customers with a supposed "discount." Rather than playing a shell game with your customers that will put you out of business, apply these powerful tips:

#1. Embrace the fact that it's perfectly OK to offer legitimate discounts, such as senior discounts, police and fire department discounts, military discounts and promotional discounts.

#2. When a customer asks for a discount, look at their request as a buying signal. They are already sold on you and the recommended services! They are now either simply testing you for price integrity, or they are negotiators looking to get the best deal. Since they're already sold on you, rather than lowering your price, look at their request as an opportunity for you to build even more interest and value in your recommended service, and to resell yourself at the same time.

#3. Rather than reducing your price, offer your customer something that brings an added value. For example, rather than lowering your price from \$800.00 to \$750.00, tell the customer that if they authorize the service, you'll provide them with a voucher they can use for a complimentary oil service during their next visit. This way you don't cheapen the value of your existing recommendation.

#4. If you feel for whatever reason you have to provide a concession in price, you should always take something off the table in return for the price reduction. Examples would be reducing the warranty on the repair, having your tech work on the vehicle when you are not as busy, etc. In all cases, if the customer pays less, they should get less. It's called ethics. 



BOB COOPER is the president of Elite, a company that offers coaching and training from the industry's top shop owners.
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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.



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ACCURACY VERSUS SPEED



THIS IS A MULTIPURPOSE camera target setup for performing an LKAS (Lane Keep Assist System) calibration on a Honda Pilot.

YOU MUST FOLLOW OEM REPAIR SPECIFICATIONS WHILE ALSO MAINTAINING YOUR CYCLE TIME

BOB HEIPP // Contributing Editor

Switching from working in a brick and mortar mechanical shop to going to work for Mobile Auto Solutions (MAS) — which services nearly 1,300 shops in a four-state radius — a little over five years ago was a real eye opener to auto repair. With insurance companies and consumers demanding shorter cycle times in this on-demand world, shops are trying to fig-

ure out ways to meet these goals while maintaining quality repairs.

What got me started down the road to writing this article was a conversation I had with a shop manager after I'd completed a Blind Spot Monitor (BSM) calibration. He asked me if we were starting to do more of these type of calibrations. I told him that as a company, we have done upwards of 10 in a day. He commented that this is going to be the new normal; but it was his next comment

that really got my brain churning. He felt that we, as a company, may have to station a technician at his shop almost full time to accomplish all the calibrations along with the pre- and post-repair scans needed. To me, his concern was cycle time. I will get back to this shortly.

Let's take a step back and look at how the collision repair business has changed in the last five years. I pick five years because this is the timeframe I can personally attest to. Five years ago shops



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had to deal with dashboard lights. Most of the time, it was the airbag light, but the reality is it could be any light on the dash that we needed to make go away. You can't deliver a car to a customer with the instrument cluster lit up like a Christmas tree. For me, this could mean a simple code clear or delving further into diagnostics and programming. MAS owner Kevin DiVito has us tackle these challenges using OEM service information (SI) exclusively, but whatever your method, dashboard lights need to be rectified quickly and properly.

Over the last five years, MAS has grown to 11 trucks in four states. How did we accomplish this? Kevin was associated with iATN (International Automotive Technician Network) when I met him. With the network of friends and colleagues I've been lucky enough to surround myself with, I introduced Kevin to people around the country, and along with people he knew, finding the top talent available was much easier. We read articles in *ABRN*. We go to training and continue to network. As a company, we hire top talent regardless of if we have enough work. Work finds top talent.

The reality is some businesses want to rely on under skilled people to control wages, but top talent controls problems. These guys get the job done more efficiently, their comeback ratio is much lower and customer retention is much higher. And when you give that talent a barrage of scan tools with interfaces that give coverage from 1996 forward — which are needed to do the job right — there's a recipe for shortening cycle time.

I'm often asked how we learn about all the cars and systems we service. The reality is there is no direct training available for what we do. We typically work on new model year vehicles within weeks after they are released. So how do you learn? In March 2017, all of the technicians went to VISION in Kansas for a weekend of classes and networking. In July 2017, some of us attended classes at NACE Automechanika



HERE IS A TOYOTA TECHSTREAM SCAN TOOL and the target for an Adaptive Cruise Control aiming procedure. ACC and BSM tool are the same for some Toyotas.

in Chicago. We also read trade magazines and OE service information. Recently, MAS leased a 6,000 square-foot facility for in-house training to fine tune our skills. We are also planning on contacting I-CAR and other trainers who may need a location to perform seminars.

So now that you know where I'm coming from, let's pull this back a bit. Before going right back into calibrations, I'd like to talk about pre- and post-repair scans. Is your shop having scans performed or is the shop performing them in-house?

With the recent position statements being released by the manufactures, scanning is the latest buzz. How do the insurance companies handle these scans? Sadly, the answer to that depends on the company, and worse the individual representative the shop deals with. Insurance companies are about controlling costs. Some like to jump over \$100 bills to save a nickel. The smart ones understand that a quality pre-repair scan can shorten cycle time since the chance of missed parts has just dropped. I wonder if I polled shops and insurance companies, how many would report Ford-deployed steering columns that had been missed. The number would be staggering. This would never happen with a quality pre-repair scan. Pre-repair scans are a great way to control cycle time.

What about post-repair scans? Do you need one? I see a post-repair scan

as a way for the shop and insurance company as partners to deliver a quality repair to the customer/insured. This should be something that can be shown to the owner to show that the shop has done everything in their power to correct any issues from the collision or repair process. I like to think of it as an insurance policy for the shop and insurer.

Now that we've covered scans, let's discuss options for getting one performed. Where you are located will govern your options, which are in-house, dealer, mobile tech or an online service. Let's start with the dealer option first. In my part of the world, unless you have groomed a relationship with multiple dealers, your vehicle is on the back burner. I have had customers tell me they have had cars at dealers for weeks to get a diagnosis/repair. Having a vehicle out of shop control can destroy cycle time.

How about in-house? That depends on what tools your shop has available and when it was last updated. Too often I see a shop have a body tech spend hours trying to figure out a problem instead of having the tech make the shop money by doing what he knows how to do. So, depending on the shop equipment and the technician using the equipment, cycle time could be shortened or lengthened.

How about an online service? This might be a good option if your shop is in

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a remote part of the country. The drawback to the in-house and online options are their compliance with the position statement. With a mobile tech business, the company or technician has access to a network of other mobile techs. This relationship also allows for a rapport to be built — when problems occur, the mobile guy has flexibility.

And as mentioned earlier, this brings us back to calibrations. With BSM (blind spot monitor), ADAS (advanced driver assistance systems) and ACC (adaptive cruise control) becoming the new normal, how do we accomplish calibrations as they relate to cycle time? The reality is cycle time is going to need to be adjusted to accommodate these new systems. I'm not saying that in relation to the shop as much as I'm saying that to the insurer and the consumer who have unrealistic expectations when it comes to repairing the modern-day vehicle.

Following OE repair specifications in your shop, or finding a reliable partner who can perform the requirements for you, can take time and is worth the effort. If you have paid attention to the news, you are aware that John Eagle Collision Center in Dallas performed a repair to a vehicle to the insurance company's standards, rather than to that of the OE. They were sued after the vehicle was in a collision that trapped the passengers inside due to the previous repair. They lost the case — to the tune of \$31.5 million. What does this teach us? We as techs and shops



A TOYOTA Blind Spot Calibration being performed.

are the professionals. We are supposed to know the correct way to repair a vehicle.

I recently performed a BSM calibration at a shop. The shop had replaced the quarter panel but according to them, the manufacturer did not give specs as to where the BSM bracket should be installed. What we know is that the target location is a constant. Given this, I set up the target and performed the calibration. In this case, the shop had the bracket mounted correctly. On another occasion, a shop called me in to perform a BSM calibration; the quarter panel had been damaged so that the sensor could not see the target. Now I could have told them it needed a quarter, but that does not guarantee that the sensor is in the correct position. Thankfully, my co-workers came up with an accurate way to adjust the quarter to the target position. Working with a body tech, we removed the sensor and made the quarter panel repairs to put the sensor in the correct position so that it would calibrate to the constant (target). In my experience, the dealer would have just shipped this back to the shop to have them repair the quarter panel. We've also seen where a dealer has moved the target into the sensor array to get a pass. The problem with doing a calibration this way is that the system is always in a self-check mode, and unfortunately, the vehicle will turn into a comeback repair. The online service simply can't perform the service, and I've seen very few if any shops that are effectively tooled and trained to perform the task at hand.

As a seasoned technician who performs service and repairs daily, I hope I've given you relevant and pertinent discernment in handling these issues and managing cycle times in your shop. 📧



BOB HEIPP is the Chicago Area Technician Manager for Mobile Auto Service, which services nearly 1,295 shops in Illinois, Indiana, Michigan and Wisconsin. He is also an industry trainer and contributor to the Remarkable Results podcast. bob.heipp@gmail.com

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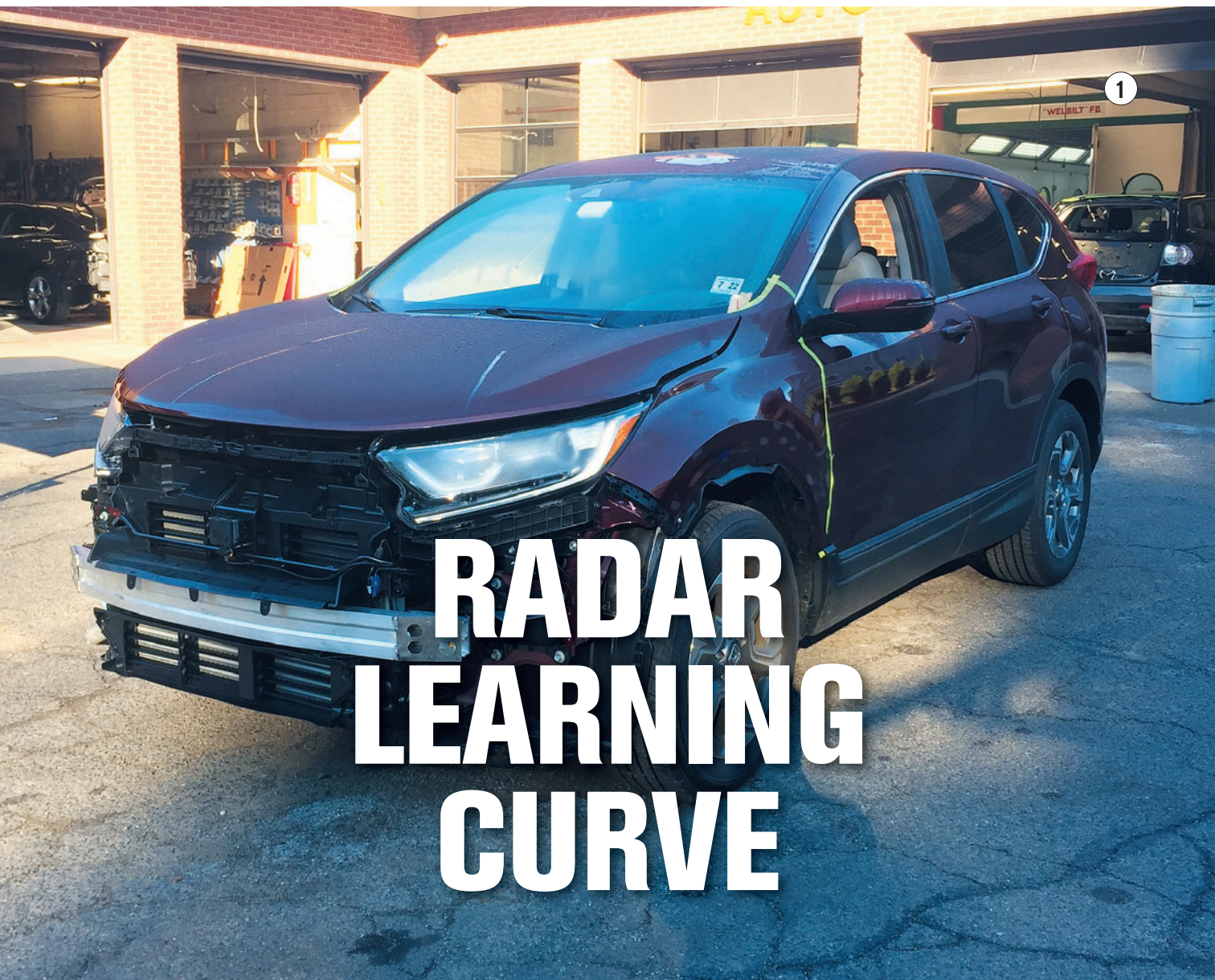


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RADAR LEARNING CURVE

WHAT APPLIES TO ONE MAKE, MODEL AND YEAR WILL NOT ALWAYS APPLY TO ANOTHER

JOHN ANELLO // Contributing Editor

was called to a shop for a 2017 Honda CRV (Figure 1) that was recently involved in a front-end collision. The shop was concerned about the Collision Avoidance and Lane Keeping Assist System (LKAS) icons be-

ing illuminated on the instrument cluster (Figure 2). The shop owner was well educated in the constant advancement of technology of today's vehicles. He believed that it had something to do with the new radar control assembly that he had replaced behind the front grille. He felt that there was probably some type

of procedure to program or calibrate the new assembly he had just replaced. He went as far as leaving the front of the vehicle dismantled for easier access to the radar control unit even though there was a removable cover within the grille. He did this just in case there were other issues with the radar assembly wiring.

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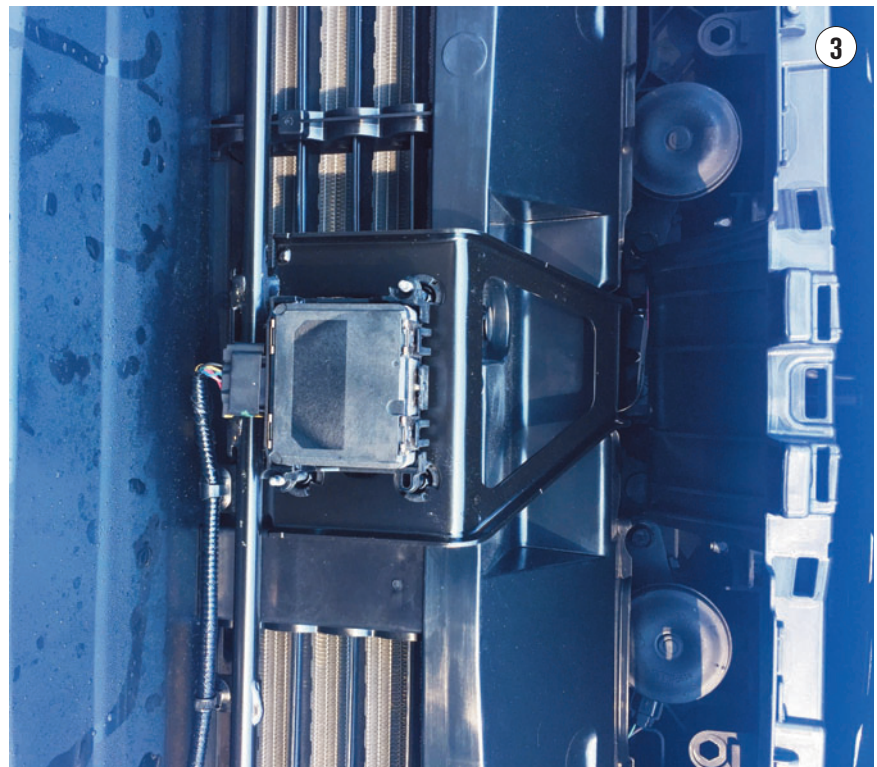


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The radar assemblies on many new vehicles today are becoming a common feature as collision avoidance systems get cheaper to produce and have now become a staple for vehicle safety. The systems each manufacturer uses all have the same goals involved. They all try to maintain a safe distance from the vehicle in front of the radar assembly and work through a network of other onboard controllers, such as the engine and antilock brakes for vehicle acceleration and deceleration — thus avoiding an unwanted collision. Once the system is activated through the advanced cruise control system, the driver can select the vehicle speed and car length distance to maintain. The brake pedal can be applied manually at any time to override the system to shut it down.

There are some systems that will also incorporate Lane Keep Assist that will work with a front-facing camera in the rear-view mirror and electronic power steering, which was the case on this vehicle. The LKAS will actually see the lines in the roadway with the front-facing camera and keep you in your lane by using the steering angle sensor value from the ABS or EPS systems and command the EPS to steer the vehicle within the lane — even on a curved roadway. So basically it becomes a self-driving vehicle that will slow down/accelerate and steer the vehicle without your assistance at cruising speeds. Technology has certainly come a long way, and it's only the beginning.

What makes these radar calls from a shop so challenging is that every manufacturer has a different protocol to tackle the task of either programming or calibrating the system. This can even change from year to model as well, while each manufacturer keeps tweaking the systems to make them even better than what they already are. The radar systems all require vertical and horizontal adjustments once they have been either replaced or tampered with,



and some may even require software installation or updates. These procedures may require a static or dynamic calibration using a radar target or the roadway. This depends on the manufacturer. Most manufacturers will have their own specific tools to perform these tasks and sometimes these tools can be crossbred to work with multiple manufactures. It can get very costly to buy every tool for all the manufacturers.

When I placed my Toyota Tech-stream scan tool on the vehicle, I selected the Adaptive Cruise Control Module and selected the trouble code menu. There was a code P2583-76 that stated a “Temporary Stop of Integrated Driver Support System.” This was because the ACC system needed the Millimeter Wave Radar system calibrated. This particular system consisted of a radar assembly located at the center



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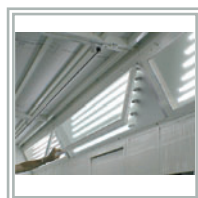
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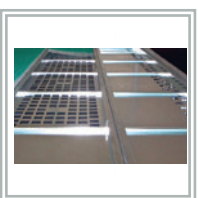
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of the radiator support center lined where the Honda emblem would be located (Figure 3). The radar assembly had two adjusting screws. The top left was for the horizontal adjustment, and if adjusted clockwise it would increase degree measurements. The bottom right was for the vertical adjustment, and if it was also adjusted clockwise it would increase degree measurements.

Prior to attempting to perform the vertical adjustment, the vehicle must meet conditions that will affect the outcome if not addressed properly. The vehicle must be repaired back to factory specifications, making sure the radiator support and all brackets involved in holding the radar assembly are true. If the radar assembly is damaged in any way, it must be replaced with a whole new assembly. The vehicle must be on a level surface and have proper curb height and properly inflated tires. Once this is done, you will have to use a proper bubble gauge recommended by the manufacturer (Figure 4) to vertically align the radar unit using the lower right screw. The adjusting tool used is usually a 3.5mm reversed hex driver; this may have to be purchased as well if you don't have one.

Once the vertical adjustment is done, you will need to proceed with the horizontal adjustment and this is accomplished with a manufacturer-specific radar target to perform a static measurement of the position of the radar assembly. The radar unit must be placed in a certain spot in front of the vehicle and this will usually be different on other years and models, so what works on one vehicle may not be the same specifications for another. This particular vehicle requires a very large open area of about 33 feet long by 16 feet wide by 10 feet high and without any interference of any metal objects in the area. The front and rear emblems of the car will be used for the centerline of measurement and the target on this vehicle will have to be



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placed about 157 inches in front of the radar assembly at position "D."

When the target spot is determined, you must go into the Functional Procedure of the scan tool to perform an open-area test to make sure no metal interference is present. The scan tool will produce an error that "NO TAR-

GET" was found. You cannot have ANY unwanted radar reflections that would affect the target, and if needed, it is recommended to stack 5 feet of tires in front of a metal pole that is in the way. When all was clear, the target assembly was placed within position and I set the radar reflector to match the height

of the radar assembly from ground level (Figure 5). I next commanded the radar assembly to send out waves to hit the radar reflector, and you can actually hear the radar assembly buzzing. The readings on the screen were not that far off with the vertical being at negative 0.19 degrees and horizontal being at positive 1.92 degrees. The specification called for plus or minus 0.1 degrees from 0 degrees. I was careful using the hex tool not to block the radar unit with my hands or the tool as I moved each screw slightly while watching my readings on the scan tool. Once I achieved the proper reading, I hit the enter button, and I was done.

The actual job itself was not too bad at all, but the preparation to perform the task was where all the time was consumed. I had to research and find a document for the procedure and study it very well and make sure that I had the necessary equipment that could handle the task. I am slowly learning each manufacturer one at a time because the learning curve is so huge that what applies to one manufacturer will not always apply to another. The tools required to work on these system are not always universal and each manufacturer has their own specific method of approach that is not always easily found in the information systems. Until these systems are standardized, you will have to make a large investment in specific tools and an investment of your time to learn them. My only hopes are that this story has raised your eyebrows and opened your mind to what technology is bringing to the shop environment of today. 📶

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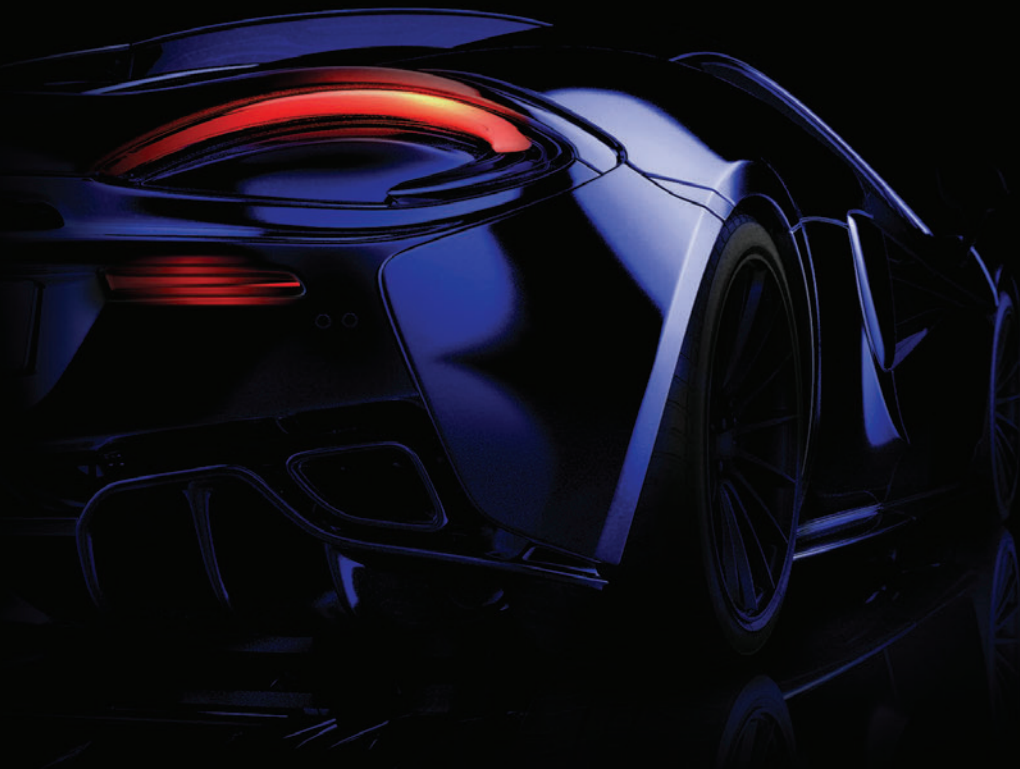
JOHN ANELLO owns Auto Tech on Wheels in northern New Jersey, which is a mobile diagnostic service for 1,700 shops, providing technical assistance and remote programming.

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THE INDUSTRY CONTINUES TO WORK TO DEVELOP ACCEPTABLE, PRACTICAL REPAIR PROCEDURES

DAVID W. ANDERSON //
Contributing Editor

During the previous articles in this series, many grades of advanced high-strength steels (AHSS) were introduced. Additional collaborative work between the steel and automotive industries is leading to the development of a new third generation of AHSS (3rd Gen AHSS). This article will explore in greater detail the challenges faced by the repair community and the ongoing work to develop acceptable and practical AHSS repair procedures.

AHSS introduction

The introduction of AHSS to light vehicle body structure applications poses a significant challenge to organizations involved in vehicle repair. AHSS are typically produced by non-traditional thermal cycles and contain microstructural constituents whose mechanical properties can be altered by exposure to elevated temperatures. This temperature sensitivity can alter the mechanical behavior during repair welding or flame straightening, thus seriously affecting the structural performance of the AHSS

components after the repair.

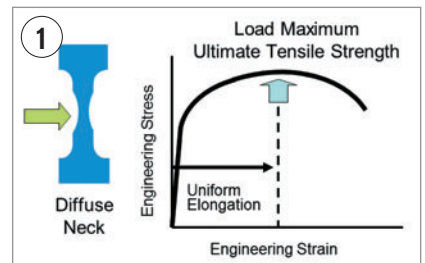
The Steel Market Development Institute (SMDI), with our automotive partners — FCA US LLC, Ford Motor Company, General Motors Company — and I-CAR, have completed studies examining the mechanical behavior of various AHSS products after exposure to typical repair arc welding and flame straightening temperature cycles. Recommended practices for repairing components made of these materials were also developed. The studies evaluated many of the AHSS grades being applied and built into vehicle structures today.

AHSS thermal evaluation

Several steel grades were evaluated for their sensitivity to thermal exposure taking place during heating to soften the material for straightening, typically by flame. The test results, conclusions and recommendations contained herein are the consensus views of the team members.

Vehicle manufacturing simulation

The sheet steel comprising vehicle body structure components does not exist in its as-produced state at the time of repair,



TENSILE TEST MACHINE and representative mechanical property performance curve

but rather has been subjected to several mechanical deformations and thermal treatments during stamping, assembly, painting and subsequent collision damage. These treatments could alter the response of a component to repair processes. To simulate the actual state of material at the time of repair, interstitial free (IF), high-strength low-alloy (HSLA), dual-phase (DP) and transformation-induced plasticity (TRIP) steels were first subjected to eight percent strain in uniaxial tension (to simulate part forming) and heated to 170 degrees Celsius for 20 minutes to simulate paint baking. The martensitic steel was subjected only to the paint bake treatment, as martensitic steels rarely undergo substantial deformation during fabrication.

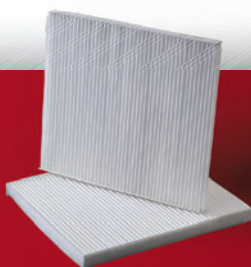
A time-temperature test matrix was developed to represent the various

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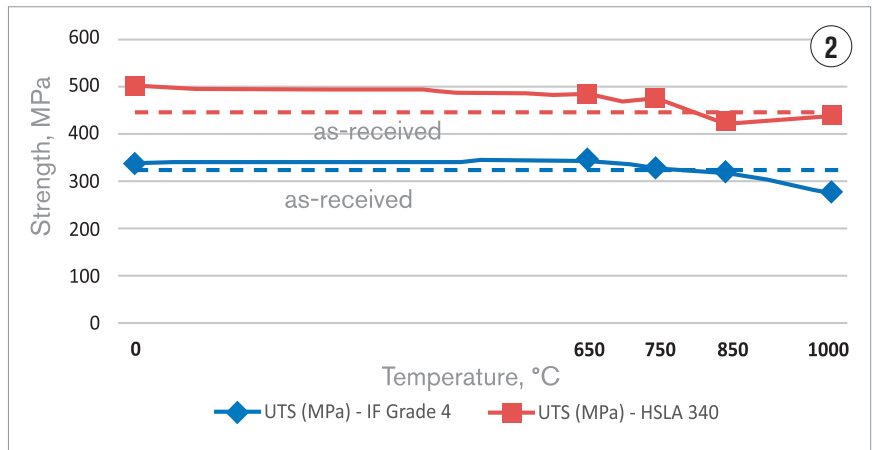
thermal conditions encountered during repair welding and flame straightening as shown in Table 1 below. Individual steel performance result discussions are based on this test matrix and discussed by grade category and specific type.

Representative samples of each time-temperature test were subjected to tensile tests (Figure 1) to provide information on the post-repair properties and anticipated subsequent performance. Force is applied to the sample to stretch the sample and various properties are measured based on the amount of force the sample can carry without permanent deformation and subsequent failure (fracture).

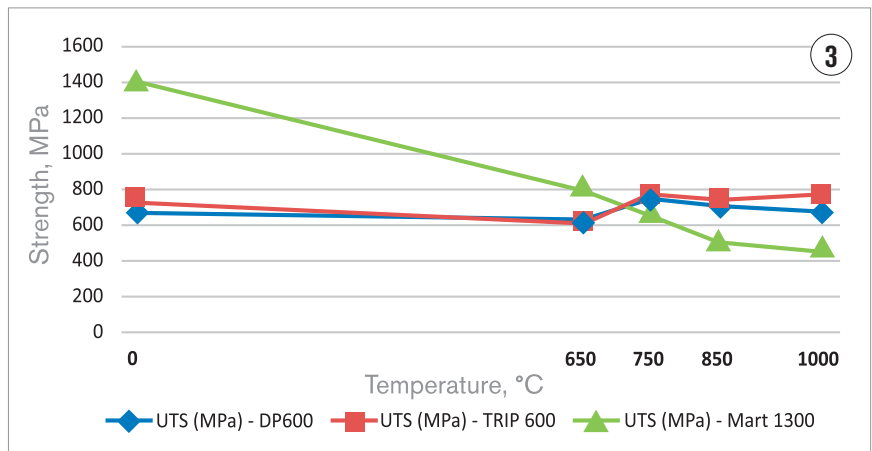
A few key measurements of mechanical properties are determined in a tensile test. Yield strength is a measure of the strength level at which steel starts to permanently deform. This is an important metric in sheet metal forming and also for the onset of a crash. By changing this value during repair, you may affect the performance of safety-critical components like an airbag sensor. Elongation is a measure of the amount of stretch in the steel before fracture occurs. Decreasing elongation by a repair procedure can affect the amount of total energy the repaired component can absorb. The total strength of a material before the failure is the ultimate tensile strength (UTS). If this value is lowered during repair, the part may fail at a lower force than initially designed for the vehicle. Strength values are measured in force (newton) over area (meters squared) and reported in units of

Hold Time (s)	Hold Temperature (°C)			
	650	750	850	1000
5				X
10			X	X
30	X	X	X	X
60	X	X	X	
90	X	X		

TABLE 1: Time-Temperature Test Matrix



ULTIMATE TENSILE STRENGTH of Grade 4 IF and HSLA 340 steel after exposure to simulated repair thermal cycles.



ULTIMATE TENSILE STRENGTH of advanced high-strength steels after exposure to simulated repair thermal cycles.

megapascal (MPa).

Although all of these factors are important to the performance of a part, UTS will be used to illustrate the impact of heat during repairability processes. Note that all samples begin at strengths greater than their as-received material (or specification level) because of the effect of strain from forming and heat from paint bake treatment.

Steel performance

Conventional Steels: IF and HSLA steels are conventional steel products, which are essentially a single-phase ferrite microstructure and obtain their strength by the addition of chemical elements. These steels have been used in body structures and closures for many

years and are well known to be repairable without substantial performance degradation by arc welding and flame straightening.

A Grade 4 IF steel (300 MPa as-received UTS) and HSLA 340 steel (450 MPa as-received UTS) grades were evaluated. The result of the temperature impact on UTS for each is shown in Figure 2. The IF grade shows a slight increase in strength up to 650 degrees Celsius then a decrease at higher temperatures. The UTS drops below the grade specification when heated to 1,000 degrees Celsius. The HSLA grade loses strength when heat is applied at and above 600 degrees Celsius and drops below the material specification around 800 degrees Celsius.

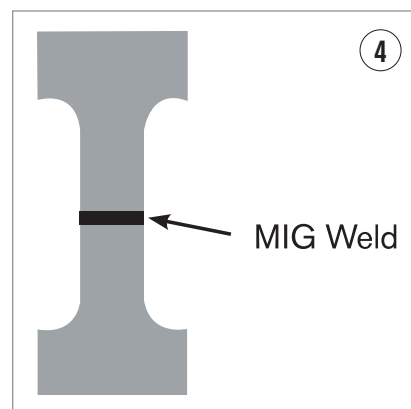
For repair processes, this means con-

ventional steels can be subjected to heat during repair with the finished repaired component having mechanical properties greater than the properties of the as-received steel. However, it is recommended heating is kept below 750 degrees Celsius to ensure no degradation in properties.

AHHS — Dual Phase (DP) Steel: DP steels range in strength from 500 MPa to 1200 MPa and obtain their properties from the introduction of a martensitic phase into the ferrite microstructure. The ferrite phase provides formability, while the martensitic phase provides the improved strength. This category of steel grades obtains its microstructure, and thus its mechanical properties, through a combination of alloying elements and thermomechanical processing. The processing involves some holding time at elevated tempera-

tures and cooling at specific rates.

Two specific grades of DP steel were tested, DP 600 and DP 780, and higher strength levels are currently under evaluation. The number indicates the ultimate strength level of the material in MPa and is the common way to name these grades. UTS for both grades decreases with elevated temperature at a much faster rate than for conventional steels and is illustrated by DP 600 in Figure 3. At temperatures above 650 degrees Celsius, the strength suddenly increases then upon additional heating decreases. This behavior is a result of changing the microstructure created during the original thermomechanical processing of the material. Once the microstructure is changed, it is very difficult to return it to its original state in a repair shop environment. Therefore, it is not recommended to subject

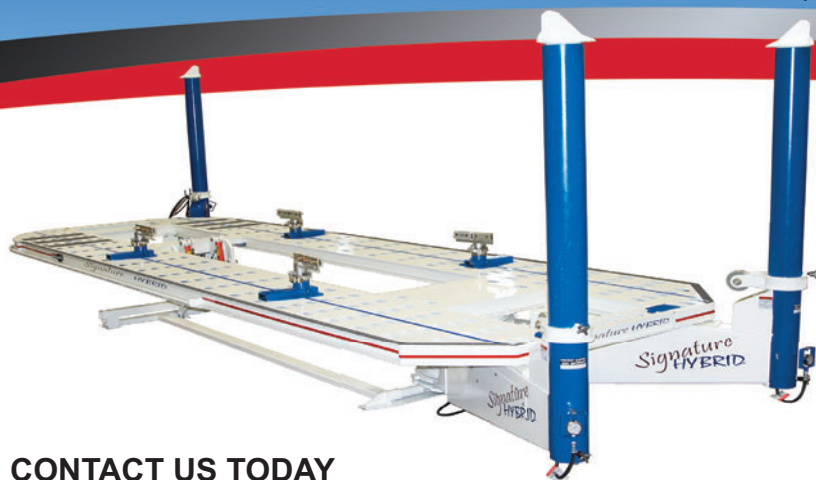


TENSILE TEST SAMPLE with MIG weld bead in center of reduced gauge.

DP steels to any kind of elevated temperature process for straightening or removing dents. The recommended repair procedure is to remove and replace the DP component. OEM repair guidelines and procedures should be referenced for approved cut and weld lines for replacement.

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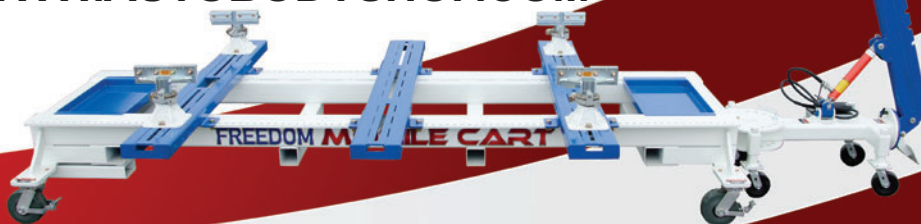
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Steel	As-Received			8% + Bake			8% + Bake + MIG Welded		
	YS (MPa)	UTS (MPa)	TE (%)	YS (MPa)	UTS (MPa)	TE (%)	YS (MPa)	UTS (MPa)	TE (%)
HSLA 340	347	455	29.8	487	499	19.8	487	496	5.9
DP 600	404	642	26.1	658	683	14.6	622	712	3.8
DP 780	521	857	18.3	928	962	8.4	824	891	2.6
TRIP 600	402	651	34.9	661	712	25.4	620	704	17.8

TABLE 2: Tensile Test Results for MIG Welds on 8% Strain + Bake Samples

Transformation Induced Plasticity (TRIP) Steels: TRIP steels have a similar range of strength as DP steels, 500 MPa to 1200 MPa, while providing improved formability. The improved formability is obtained with the introduction of additional phases of austenite and bainite into the microstructure. These phases improve the work hardening properties of steel and provide additional energy absorption characteristics. TRIP steel microstructures are obtained in a similar manner as DP steels and therefore have similar behaviors when heating.

TRIP 600 and 780 were evaluated in the studies and confirmed the expected results as demonstrated by TRIP 600 in Figure 3. Heating during repair of TRIP steel will also adversely affect their mechanical properties and thus the performance of the as-repaired component may be compromised. OEM-recommended repair procedures are similar to DP steels.

Martensitic Steel (MS): MS steels typically have a microstructure of 100 percent martensite and have tensile properties greater than 980 MPa. Martensite is the strongest microstructural phase in steel and is obtained by alloying and rapid controlled cooling. This grade is used in areas where exceptional strength and anti-intrusion are needed, including such applications as the A-pillars, B-pillars, rockers and rails.

The effect of heat on MS 1300 is

shown in Figure 3. Like other AHSS, it is adversely affected by heat, and the performance of the as-repaired component may be compromised. Thus, heat should be used only as outlined in OEM repair procedures.

Response to MIG welding

To begin assessing the response of AHSS to repair metal inert gas (MIG) welding, selected samples of the AHSS were MIG welded at GM's Service Parts Operations repair lab in Warren, Mich. Samples subjected to MIG welding included HSLA 340, DP 600, DP 780 and TRIP 600 steels. Samples received a single MIG weld bead at a welding speed sufficient to assure complete weld penetration through the thickness. After welding, standard two-inch gauge length ASTM weld coupons were machined from the weldments, with the MIG weld beads at the center of the reduced gauge section and the weld bead transverse to the gauge length. Test coupons were pulled under standard ASTM testing conditions. Tensile test results from the welded coupons (or as-fabricated coupons) were compared to those for the base (un-welded) condition and for the as-received condition.

The results of the preliminary MIG welding studies are encouraging and shown in Table 2. Whether the AHSS of this study were MIG welded in the as-fabricated or flame-straightened state, yield and tensile strengths remained

above the minimum levels specified for the steel grade (as-received). Elongation remained reasonable, indicating these steels are not significantly embrittled by the welding process. Therefore, MIG welding is an acceptable repair process for AHSS with no concerns over reducing the performance of the as-repair components. OEM-specific repair procedures should be referenced for verification.

The steel industry, working closely with automotive OEMs and the repair community, have developed and validated repair procedures applicable to the new AHSS used in today's vehicles. Each OEM has taken the results from the AHSS repairability studies and developed their own repair guidelines.

The steel industry continues to develop AHSS grades with strength levels at and above 1000 MPa. These microstructures contain martensite and will be affected by heat exposure during repair as shown in previous studies. Collaborative studies will continue to update repair procedures for higher strength AHSS, including DP, MS and Press Hardened grades, and new 3rd Gen AHSS as they are introduced. ❏



DAVID W. ANDERSON is the Senior Director, Automotive Market and Long Products Program for the Steel Market Development Institute. danderson@steel.org



SUSPENSION REJUVENATION

NOTE THAT front suspension control arms run from the frame to the structural assembly.

FULLY RESTORE DAMAGED FRONT SUSPENSIONS

TIM SRAMCIK // Contributing Editor

When customers evaluate shop performance, they tend to lean most heavily on two sensory responses, look and feel. Shops focus heavily on the first as they return cracked, bent and broken finishes and parts to factory specs using the latest technology and training. This focus makes sense. The

first thing customers are going to notice in a repair is the vehicle appearance.

Feel can be just as significant. In fact, in the days and week that follow a repair, it can surpass look. The feel here is the responsiveness of the vehicle — how well it handles and responds to driving conditions compared to its pre-accident state. If it feels the same (or better), customers are satisfied. If unfamiliar responses or nagging difference between its pre- and

post-repair condition crop up, customers are either going to complain directly to your business or share negative criticism with friends and family who likely could take your services off their preferred automotive providers list. There's an easy solution to avoiding the latter issue: Follow the factory specs. Suspensions, particularly front suspensions, are interesting creatures. They're both rugged and sophisticated, tough and sensitive. They

do a great job in handling rough road surfaces. When a jolt comes from elsewhere, particularly the kind produced to the front or side of the suspension during a collision, they are susceptible to serious damage — or at the least, damage that must be addressed during a collision repair. You'll want to pay stricter attention to front suspension during pre-repair damage analysis and post-work evaluations and road tests. You also may need to reevaluate how closely your shop sticks to OEM repair guidelines for each of the vehicle models you repair. Here's a look at control arm and stabilizer bar replacement in a popular compact vehicle, the new Chevy Cruze, using instructions provided by GM. Use the lessons learned here, particularly the need to use specialized tools and precise calibrations, in all your suspension work.

Note: Refer to GM recommendations for regional tools in the event you need replacements for the ones mentioned here.

Background: Keeping you in suspense

Why are front suspensions designed as they are and how does that affect how they are repaired? Funny you should ask. Understanding the answers to these questions is one of the keys to successfully performing suspension work.

Vehicle front suspensions essentially have two jobs: (1) isolate vehicle occupants from harsh road surfaces while (2) keeping wheels horizontal to the road to provide effective handling. Suspensions handle the first task in large part by absorbing and dissipating energy through springs, shocks and struts. The second job is performed using a series of bearings, joints and metal structures that allow the suspension to pivot and react to changing driving conditions. Significant here is the work of the control arms (upper and lower, left and right), which join the rest of the suspension to the vehicle frame. The control arms create an



PHOTO: GM MEDIA

EVEN AFFORDABLE COMPACT VEHICLES like the Chevrolet Cruze are equipped with sophisticated front suspensions that will need to be thoroughly examined before and after any repair. Repairs should only be conducted by adhering strictly to manufacturer instructions.

A-shaped design, with the inner part of the lower arms running from the frame where they attach, often, at two points through semi-rigid bushing. The outer part of the lower control arms link to the steering knuckle, whose upper portion attaches to the strut assembly — which then connects to the vehicle body via a bearing. The steering knuckle moves up and down independent of the frame.

Connecting the left and right lower control arm assemblies is the stabilizer bar (shaft). This bar dictates the amount of independent movement of the suspension when the vehicle turns (the amount of vehicle roll), which in turn defines how a vehicle handles when making turns. This setup permits a vehicle to both roll on its tires and alter direction while supporting the vehicle and providing a smooth, controlled and comfortable ride. This structure is standard across the automotive industry. Ride characteristics, however, can vary widely between different types and models of vehicles based upon how a particular suspension is tuned — how the parts comprising it are designed and engineered to work together to create a particular driving experience. The goal in repairing a front suspension is restoring

this experience, recreating exactly the interaction of all these moving pieces to one another and the vehicle itself. The object here is following the OEM instructions and recommendations exactly as they are documented as you remove damaged suspension parts and replace them with new ones.

Replacing lower control arms Removal

1. Raise and support the vehicle. Refer to GM instructions for Lifting and Jacking a Vehicle.
2. Remove the tire and wheel. Refer to GM instructions for Tire and Wheel Removal and Installation. *Note: Do NOT re-use the lower control arm bolts and nuts. Discard and use NEW only.*
3. Remove the wheel speed sensor wiring harness from control arm and steering knuckle.
4. Remove and discard the lower ball joint to knuckle nut and bolt.
5. Separate the lower control arm from the knuckle.
6. Remove and discard the front lower control arm nut and bolt.
7. Remove and discard the rear lower

control arm bushing nuts and bolts.

8. Remove the lower control arm from the front frame.

Installation

1. Position the lower control arm in the cradle.
2. Install and hand tighten the new rear lower control arm bushing nuts and bolts.
3. Install and hand tighten the new front lower control arm nut and bolt. *Caution: Refer to Fastener Caution in the Preface section.*
4. Support the lower control arm with a hydraulic jack and lift the control arm into the neutral position.
5. Tighten the front lower control arm bolt to 70 N·m (52 lb ft) + 75-90 degrees, using a 45059 torque angle meter.
6. Tighten the rear bushing to frame bolts to 55 N·m (41 lb ft) + 45-60 degrees, using the torque angle meter.
7. Install the NEW ball joint to knuckle bolt and nut and tighten to 30 N·m (22 lb ft) + 60-75 degrees, using the torque angle meter.
8. Lower the vehicle to the ground in order to tighten the control arm fasteners correctly.
9. Remove the jack stand.
10. Install the tire and wheel, referring to GM instructions for Tire and Wheel Removal and Installation.
11. Lower the vehicle.

Replacing the stabilizer bar

Removal

1. Turn the front wheels to the straight forward position and secure the steering wheel from moving.
2. Remove the lower steering intermediate shaft bolts.
3. Remove the steering intermediate shaft from the steering gear.
4. Raise and support the vehicle, referring to GM instructions on Lifting and Jacking the Vehicle.
5. Remove the tire and wheel assemblies,

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- referring to GM instructions on Tire and Wheel Removal and Installation.
6. Remove the front compartment insulator, if equipped, referring to GM instructions on Front Compartment Insulator Replacement.
 7. Remove the exhaust flexible pipe, referring to GM instructions on Exhaust Flexible Pipe Replacement.
 8. Remove lower stabilizer link shaft nut on both sides.
 9. Remove stabilizer link shaft from the stabilizer shaft.
 10. Remove the stabilizer link shaft from stabilizer.
 11. Remove the four fasteners for the engine side cover on both sides.
 12. Remove the four fasteners for the front engine compartment cover.
 13. Remove the front and rear transmission mount bracket bolts.
 14. Remove and discard the two rear suspension frame bolts.
 15. Remove the rear frame reinforcements.
 16. Position and set the hydraulic lifter in connection with CH-904 frame tool and CH-49289-50 adapter tool onto the suspension frame. Pull away the front engine compartment cover slightly.
 17. Lower the suspension frame a maximum of 55 mm.
 18. Remove the four front stabilizer shaft insulator clam bolts.
 19. Remove the stabilizer shaft.

Installation

1. Install the stabilizer shaft.
 2. Install the four front stabilizer shaft insulator clam bolts (1) and tighten to 22 N·m (17 lb ft) plus 30 degrees.
 3. Move out the positioning pins of the CH 49289 adapter tool.
 4. Raise the frame carefully, using the CH 49289 adapter tool.
 5. Install the two frame reinforcements.
 6. Install the two new frame rear bolts (2) and tighten to 160 N·m (119 lb ft).
- Note: Do NOT reuse old bolts.*

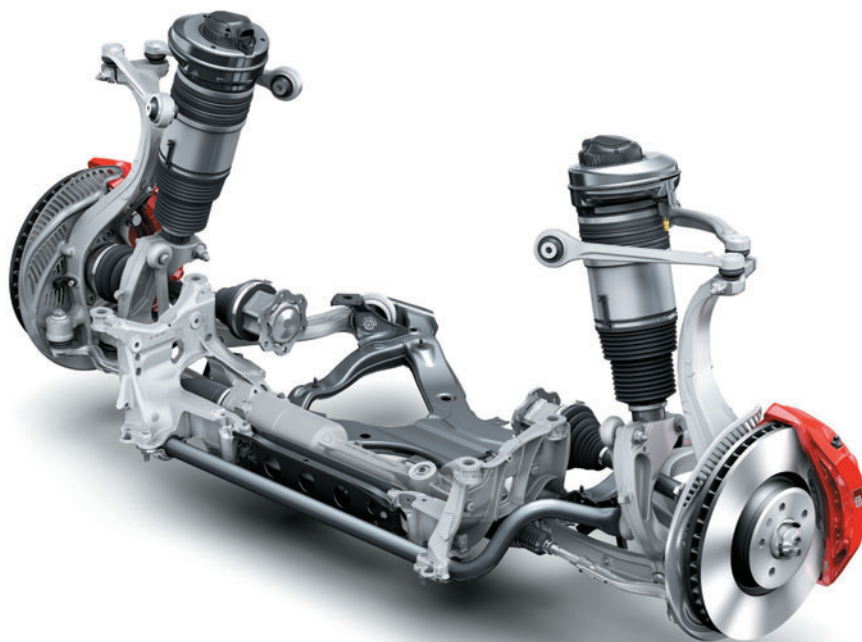


PHOTO: AUDI

FRONT SUSPENSIONS ARE DESIGNED to respond long-term with rugged endurance over the life of a vehicle under typical driving circumstances. A hard jolt from a collision, however, can damage a number of parts.

7. Install the front transmission mount bolt and tighten to 58 N·m (43 lb ft).
8. Install the rear transmission mount bracket bolt and tighten to 100 N·m (74 lb ft).
9. Install and tighten the four fasteners of the engine side cover on both sides.
10. Install and tighten the four fasteners of the front engine compartment cover.
11. Install the front compartment insulator, if equipped, using GM instructions for Front Compartment Insulator Replacement.
12. Install the exhaust flexible pipe, referring to GM instructions on Exhaust Flexible Pipe Replacement.
13. Install and tighten lower stabilizer link shaft nut on both sides to 35 N·m (26 lb ft).
14. Lower the vehicle.
15. Install the tire and wheel assemblies, referring to GM instructions on Tire and Wheel Removal and Installation.

Finishing moves

Polish off any suspension work with a

thorough test drive. Take the vehicle over a variety of road surfaces at different speeds, monitoring the handling and response, while taking note of any remaining problems.

Also, always speak to customers directly about suspension work. In some cases and for certain repairs, you'll need to remind them that the suspension will feel a bit different because of the new parts but will gradually settle into a more familiar feel as the parts adjust. This talk can take just a matter of minutes, saving your customers and shop some significant headaches and anxiety. It's the same case with taking the extra time to perform these repairs as the manufacturer intended. Take this course, and no one will be kept in suspense of any potential negative fallout from this detail-intensive work. 📞



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

TOOL AND EQUIPMENT GUIDE

SHOP EQUIPMENT

BI-DIRECTIONAL SCANNER



The MaxiSYS MS906TS is Autel's first bi-directional scanner offering organized and insightful pre-scan and post-scan repair diagnostic reports. First, AutoVIN the vehicle, then AutoSCAN for a single screen list of all system DTCs, and print a shop-branded report for insurance carrier submission. The included MaxiFIX application provides a repairs database to advise if hidden repairs or change-order loss of time can be avoided. Perform a final AutoSCAN to print a post-scan report and confirm all DTCs are resolved. Collision repair shops resisting a diagnostic check for hidden damage put driver safety at risk. Responsible technicians will fix what they find after diagnostic investigation.

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SHOP EQUIPMENT

PARTS CART



Innovative Tools announces its most cost-effective parts cart backed by a lifetime warranty — the Innovative Parts Cart - D Series™. This efficient cart is proven to reduce cycle time. The vertical storage saves valuable store space, and the open design allows for easy loading and unloading from the delivery truck. Better yet — less handling of parts means less risk of damage. The shelves, which each hold 125 lbs., feature upper one-inch side rails to prevent parts from sliding off. Six storage hooks allow you to hang large parts on the sides. The cart's dimensions are 42" W x 51" D x 75" H, and it comes with lifetime warranty.

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COLLISION PRODUCT GUIDE

SPRAY BOOTH

Garmat's Dual Bay Frontier offers all the performance of a Frontier Modified Downdraft Spray Booth with twice the throughput capabilities. A space-saving design with the mechanical built into the roof, this unit features Garmat's patented air flow methods. As with all Garmat standard line of products, it is equipped with a dual inlet reverse incline fan on the exhaust, giving you the air flow and performance you expect from Garmat. Standard models offer curtain fronts, but fully enclosed models are available.



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Axalta Coating Systems is introducing Cromax[®] EZ to its well-established Cromax line of waterborne and low-VOC solvent basecoats. Cromax EZ is a low-VOC waterborne basecoat designed to spray wet-on-dry, much like traditional solvent-based paints. Because of its easy spray and blending characteristics, and the simplicity of its single-mix ratio across all environmental conditions, this new paint offers many advantages for both small and high-volume shops, including easy training for new users.



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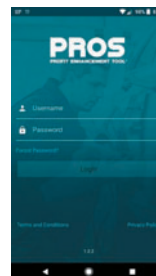
ChemSpec USA introduces METALUX[®] Platinum 9150 2K MS Clearcoat. This premium 2K is a high build, medium solids clear formulated for use with the METALUX basecoat system. Boasting excellent gloss and flow characteristics, this clearcoat ensures a higher film build after application of just two full coats. METALUX Platinum 2K Clearcoat offers outstanding durability with a simple 2:1 mix ratio.



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MOBILE APP

Kent Automotive announces a new mobile app to make repair parts tracking and cost recovery easier and faster for collision centers. The PROS Profit Enhancement Tool[®] allows users to create complete and accurate invoices directly from their mobile devices, including smartphones and tablets. The PROS cost recovery tool improves repair workflow efficiency by tracking and costing all consumable products used on a repair. The app is available for Apple's iPhone[®] and Android[™] devices.



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FLEXIBLE SANDING BLOCKS

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, or a see-through pegboard display of all three, the AP-6 Flexi-Block[™] Assortment.



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SPECTROPHOTOMETER

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COLLISION PRODUCT GUIDE

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Use OEM resources to build a better estimating toolbox

This information is no longer optional in collision repair — it is a necessity.

The standard ways of performing damage analysis and writing estimates are becoming antiquated as quickly as vehicle technology is accelerating. It is not sufficient for your estimator to walk up to the car with a clipboard and camera and start writing the estimate. This allows prior experience and preconceived ideas to prejudice the repair plan. Repair procedures change all the time. To keep up with vehicle technology and perform safe and proper repairs, you need to utilize all of the OEM tools available today, such as body repair manuals, parts diagrams and electrical wiring diagrams. OEMs go through great effort producing the online repair procedures and parts information that are available today, and it is up to you to add them to your toolbox and leverage them.

OEM body repair manuals contain the holy grail of dos and don'ts in collision repair. They provide the road map with which estimates need to be written. Critical information such as metallurgy, non-reusable parts and part assembly configurations can be gleaned from OEM body repair manuals. Once the knowledge has been gained, this information can be leveraged during the estimating process. The problem is estimating databases are often incomplete and not always graphically accurate. This presents an opportunity to leverage yet another OEM tool: parts diagrams.

Some OEMs, such as Honda and Acura, offer their e-store parts diagrams for free, while others charge for access. Having access to complete, VIN-driven parts diagrams is indispensable during the estimating process and can reduce both supplement rates and cycle time. They can provide a visual aid to help understand vehicle design and panel overlaps, as well as a resource to find part numbers for non-reusable parts, wiring connectors and parts not found in the estimating database. OEMs can't write repair procedures for every collision repair situation. This is where it becomes important to utilize the body repair manual metallurgy information and leverage the OEM parts diagrams to make the proper replacement decisions.



OEM BODY REPAIR MANUALS CONTAIN THE HOLY GRAIL OF DOS AND DON'TS. THEY PROVIDE THE ROAD MAP WITH WHICH ESTIMATES NEED TO BE WRITTEN.

As the technology in vehicles increases, so does the likelihood of electrical component damage in an accident. It is imperative that connector and harness damage be analyzed, diagnosed and repaired appropriately to ensure a safe and proper repair. Estimating systems are lagging in the area of electrical repairs. Most estimating information completely lacks wiring harness information. No estimating system has listings for connectors, repair wires or labor times to replace these parts. Thankfully, OEMs have spent the time developing wiring diagrams that not only show wiring schematics, but also the visual routing of the harnesses, as well as repair connectors and repair wires available for purchase. Most OEM wiring diagrams are now interactive web-based diagrams that have navigable layouts that are color coded and clickable to access additional information about a component or connector. This makes identifying components, circuits and connector pin assignments much easier than in the past. When OEM wiring diagrams are leveraged together with the use of OEM parts catalogs to retrieve accurate part numbers and prices, a complete estimate is possible. Couple this with the routing diagrams that show the layout of a factory wiring harness, and your estimator can select the appropriate items for R&I to allow a seamless installation.

The use of OEM repair information is no longer optional in collision repair. Learning how to effectively navigate, research and leverage different OEM tools is important to produce a safe and proper repair. Body repair manuals, parts diagrams and wiring schematics are complimentary tools that should be utilized together to achieve the best results. It is up to you to create a culture of learning and research within your organization. Growth only happens with learning; make the decision to encourage growth within your organization. 📖

WILL LATUFF is a manager of Latuff Brothers Auto Body in St. Paul, Minn. He is an active member of AASP-MN, participating on the board of directors as well as serving as AASP-MN Collision Division director. wlatuff@latuffbrothers.com



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