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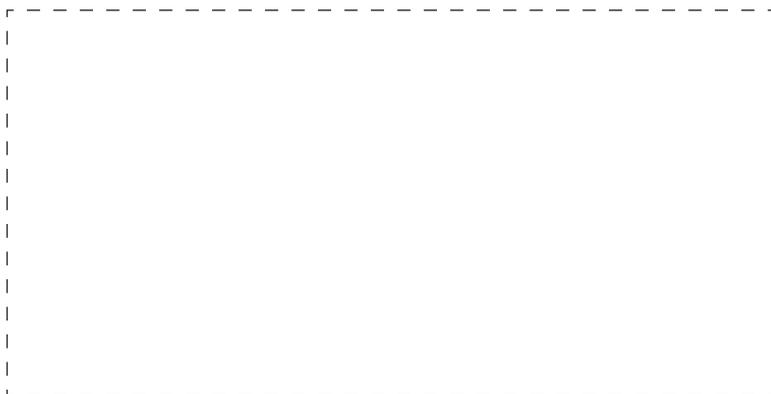
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40 **AVOIDING MISUSE
OF PRODUCTS**

Make an informed decision when choosing adhesive products and procedures

53 **WALKING THE
HIGH WIRE**

Five lessons drive-by-wire systems can teach shops on new technology





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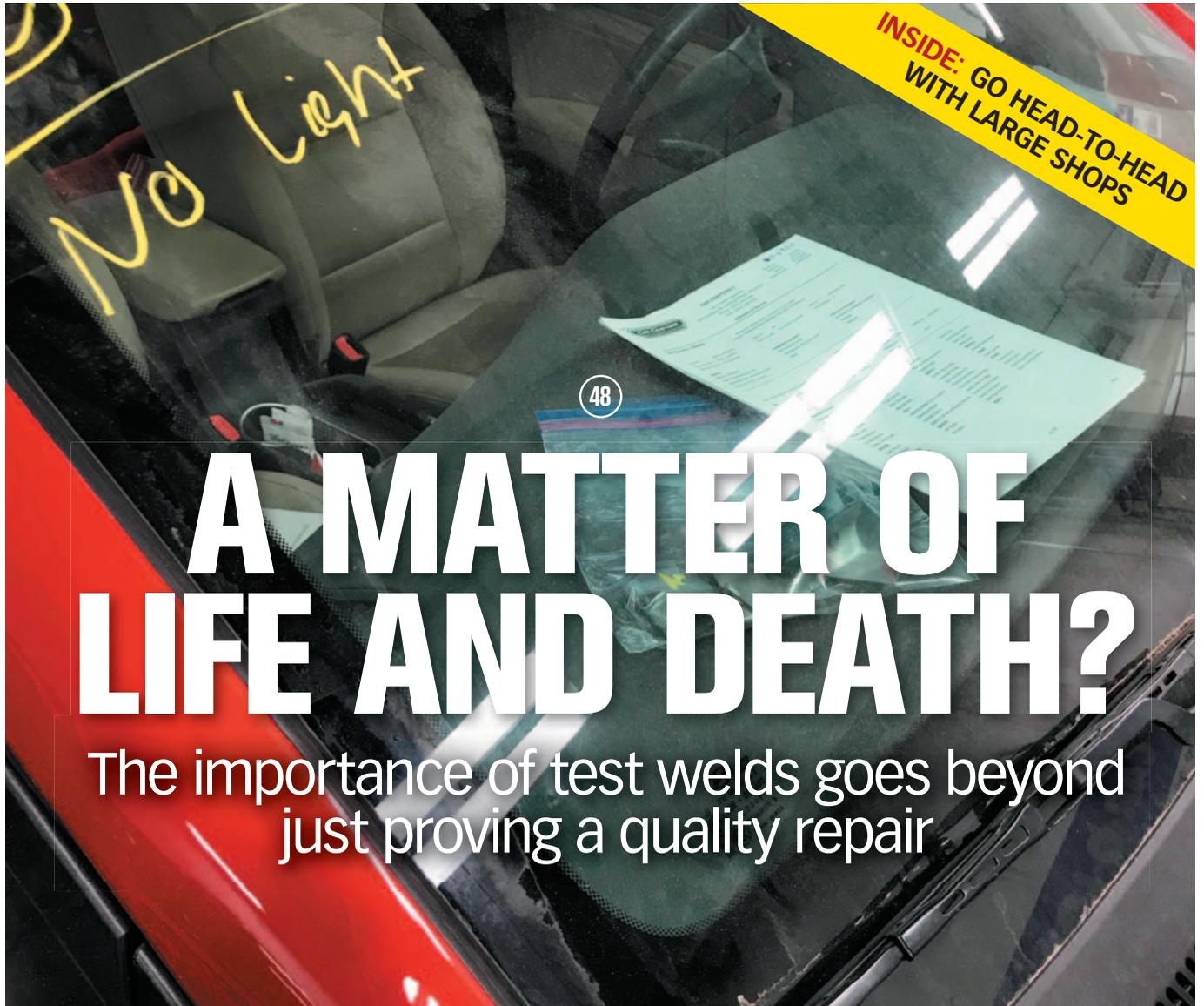
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A MATTER OF LIFE AND DEATH?

The importance of test welds goes beyond just proving a quality repair

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Make an informed decision when choosing adhesive products and procedures

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Five lessons drive-by-wire systems can teach shops on new technology





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Superior color accuracy to achieve a match the first time, every time. Unsurpassed toner shelf life. Basecoat application that uses 25 percent less sprayable base than solvent. All cost-efficient reasons why the ENVIROBASE® High Performance refinish system from PPG is the preferred choice of progressive collision centers across North America.



*SUPERIOR COLOR ACCURACY
HIGH PRODUCTION THROUGHPUT
COST-SAVING EFFICIENCIES*

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➤ SOCIAL INSIGHTS, WATCH & LEARN,
TRAINING EVENTS



Dedicated to
Promoting Quality
Collision Repair of
Toyota Vehicles

Winter 2018

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Properly align and calibrate this remarkable technology for a full 360° view

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CP Winter 2018



Contributors to *Collision Pros*: Ryan Bacsafra, Joe DiDonato, Agustin Diaz, Karl Krug of Infomedia (not pictured) and Mike Anderson of Collision Advice (not pictured)



Talent and Patience

Today's successful shops rely upon their team of skilled professionals—individuals who display talent and patience and have the technical skills to reshape and restore a Toyota back to its original specifications.

In this issue you'll read about the art of paint shading or blending. Repainting and refinishing are particularly difficult skills to master—but if you're intent on high-quality repairs, you'll want to become an expert at these tasks. Additionally, we review Toyota's new Bird's Eye View Camera, which provides a driver with a 360° view around the vehicle. Our article helps you better understand how to correctly calibrate and re-align the cameras after the vehicle has been in an accident.

Even more, we want to help your customer satisfaction efforts. If you've ever experienced a customer frustrated with rules, regulations and insurance companies, consider the peace of mind you can bring when armed with the information they need to know about their rights when it comes to collision repair.

Always ahead of the game, Auto PartsBridge continues to bring innovation and speed to the parts ordering process.

Lastly, we're thrilled to partner with Mike Anderson, who brings his industry knowledge to our own Toyota Training facility—this time for a two-day Estimating Essentials class that will focus on identifying collision damage and ensuring vehicles are repaired correctly and on time.

Our goal is to bring you the best technical information in the industry, updates on resources, and industry trends all with an emphasis on customer satisfaction. Your success is our success—we look forward to bringing you the best throughout the year.

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PAINT SHADING OR BLENDING TRICKS THE EYE INTO SEEING ONE CONTINUOUS COLOR—BUT YOU NEED TO WORK AT IT TO MAKE IT LOOK JUST RIGHT.

ACHIEVING A SHOWROOM FINISH AFTER A COLLISION

Paint Shading Essentials

(aka Blending)



Repainting a vehicle after an accident can be tricky—getting the new paint to match the old requires skill and patience. The following tips can ensure that the end result is paint that's as perfect as it was when new.

PAINT SHADING/BLENDING—HOW, WHY AND WHEN

Repainting typically falls into three categories: touch-up repainting, partial repainting and total repainting. Here, we'll focus on partial repainting, which is where paint shading/blending comes in.

If you've ever repainted a door and didn't blend in the paint, it was probably easy to see that the door had been repainted when the vehicle was in full sunlight because the repainted area didn't match the original color. To properly restore paint to like-new condition, paint shading or paint blending is required.

Paint shading is important because no two paint jobs are alike. Even at the factory, there can be slight variations based on the conditions the day the vehicle was painted, temperature, humidity, different paint brands used at different assembly plants, different types of equipment, and how long the paint had been flowing in the system—these factors all may affect the final color.

Another element to take into consideration is the way your facility repaints a vehicle. While Toyota primarily uses a waterborne paint process, many collision repair facilities (excluding those in states that mandate the use of waterborne) use solvent-borne paints. Each paint company may use different pigments, and their formulas will also vary in chemistry.

Paint color also varies from batch to batch. Paint companies come up with their own proprietary formula for the standard color and then create alternate formulas to match known variations in the paint as it is produced. For example, Desert Sand Mica (4Q2) has a standard formula and 13 alternate formulas.

Other factors that impact the look of the final color include color or shade of primer sealer, metallic flake orientation, the number of layers of pearl or mid-coat used, the type of paint gun, mixing

[Continued on page 4]

[Continued from page 3]

volume and air pressure at the spray nozzle—even the angle and distance at which the painter holds the spray gun has an impact.

And finally, the viewing angle and light source can affect paint appearance—paint looks different under various lighting sources such as inside the shop versus in full daylight.

What's the solution? Paint shading/blending, tricks the eye into seeing one continuous color—but you need to work at it to make it look just right.

Start with the paint: Once you mix the formulation, spray the paint on a card, clear-coat it, let it dry, and then head outside with the card and the vehicle to see how they compare. Keep modifying the formula, gun settings and techniques until the vehicle and the card look to be as close as possible to each other.

Once you have the formula that is the closest match, you must then shade, or blend the paint with the adjacent panels. Panel painting without shading or blending is extremely tedious, requires more time than shading/blending and isn't cost effective because so much time is involved.

SPOT SHADING/BLENDING is done to correct relatively small scratches on fenders, door panels, etc. Apply paint carefully so the newly painted areas blend in with the adjacent areas in terms of color and texture and clear-coat to the nearest panel break. This technique is typically used for small damage and is usually done within the central part of a panel, such as a door, fender or bumper. These repairs are away from adjacent panels where a color difference can be easily seen.

Shading makes color differences less noticeable; the shade area can be light sanded and polished in a short period of time because it only involves a small area.

BLOCK SHADING/BLENDING refers to the application of clear coat over an entire panel in which the base color is shaded partially by solid color, metallic, pearl or mid-coat application. This technique is typically used for front and rear doors and complete fenders. The shading area also includes the adjacent panels.

This method requires relatively simple shading techniques so the color difference from the adjacent panels is not noticeable.

BLOCK REPAINTING is similar to refinishing a quarter panel section, and the cutoff point may be a distinct location under a body molding. This is done by removing molding, applying paint and clear coat, and then reattaching the molding, which will mask the repair. An example is the roof drip molding.

The shade/blend area fades in a small area. Texture and gloss matching is easy because the entire area is clear coated.

The bottom line: You need to be aware of what you're painting and what you're not painting, and make sure that all repaired areas blend so the vehicle looks like new when finished.



If you've ever repainted a door and didn't blend in the paint, it was probably easy to see that the door had been repainted when the vehicle was in full sunlight because the repainted area didn't match the original color. To properly restore paint to like-new condition, paint shading or paint blending is required."



TWO-TONE ROOF PAINT REPAIR

Back in the '50s, two-tone paint was all the rage. Well, that trend is coming back, and to stand out in today's competitive automotive marketplace, Toyota is using dramatic two-tone paint schemes on select Camry, Yaris and C-HR models.

If you have to repaint a vehicle with a two-tone roof, here are some tips:

- Start by referring to the paint codes to be sure you have the correct formulas for each color (keep in mind, there may be variations, so be sure you have the correct one to guarantee a perfect match).
- If only one side of the vehicle is damaged, refer to the undamaged side of the vehicle to see where the two colors are used or go to Toyota's Technical Information System (TIS) site, <https://techinfo.toyota.com> (which requires a subscription). Some models have detailed two-tone repair information. As noted previously, paint color may vary from factory to factory, so paint blending is critical. In addition, on two-tone paint, the cut line between the two colors can vary from factory to factory, so be sure both sides match.
- If you have to completely repaint both sides, again refer to TIS or refer to a new vehicle on the showroom floor to determine the cut line where one color starts and the other stops, and then be consistent on both sides.

TEXTURED ANTI-CHIP PAINT COATING ON TOYOTA TRUCKS

Why do people love Toyota Trucks? They're tough! After exposure to abrasive road debris however, or if in an accident, the textured surface on the rocker panels can be damaged. These coatings need to be properly restored to ensure factory-like chip-resistance and finish durability. The good news—this surface is easy to repair by following these guidelines:

- Wash and clean the surface.
- Dry and inspect the areas that are affected—check for any rust.
- Scuff or sand the surface.
- Re-clean the surface using wax and tar remover.
- Mask off the damaged area.
- Prime the area.
- Apply the anti-chip coating. You can apply the coating with a brush or roller for small areas; you may need to spray the finish for larger areas.
- Apply two coats.
- Allow the surface to cure for 24 hours before light use.

That's it—this tough, textured anti-chip coating is ready for another adventure. 🚛



Bird's Eye View Camera

HOW TO CALIBRATE



The Toyota Bird's Eye View Camera with Perimeter Scan helps drivers get into and out of the smallest spaces more easily.

TEN YEARS AGO, IF YOU TOLD SOMEONE THEY COULD SIT IN THE DRIVER'S SEAT, PUSH A BUTTON AND SEE A 360° VIEW AROUND THAT VEHICLE, they might not have believed you. But today, that feature—the Bird's Eye View Camera with Perimeter Scan—is a reality and available on select Camry, C-HR, RAV4, Highlander and Land Cruiser models.

The Bird's Eye View Monitor System takes the backup camera to a whole new level. It gives drivers the ability to view their surroundings and make safe decisions when parking and leaving tight spaces.

To get the Bird's Eye View Monitor System working:

1. Turn the vehicle on.
2. Leave the transmission in Park.
3. Turn on Park Assist.
4. Press the Bird's Eye View button located above the display.
5. The display will show a moving 360° view of the vehicle and its surroundings.
6. To stop the display from rotating, select Pause.
7. Then, you can select Play to resume the rotation.

In addition, when you shift the transmis-

sion into Reverse with the system on, the display will show the backup camera on the left-hand side of the display and the overview camera on the right.

If you shift the transmission into Drive, press the Bird's Eye View button once and it will show the wide front view on the left and the overhead view on the right. If you press the button again, it will display the vehicle's side views. When you press the button a third time, the system will turn off.

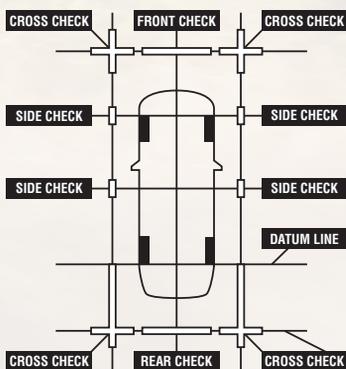
So, what happens if a vehicle equipped with the Bird's Eye View Monitor System is in a collision? The system has four cameras—one in front, one in each side

mirror, and a rear camera. After a collision or when a camera is replaced, the system has to be properly aligned and calibrated to create an accurate 360° image on the display.

Tools needed to recalibrate the cameras include:

- Laser tool kit
- Plumb bob
- String
- 4 inch wide tape (or 2 inch wide tape laid side by side)
- Metric tape measure
- Scissors
- Laser targets (boxes or wood blocks)

Follow the instructions on Toyota's Technical Information System (TIS) site at <https://techinfo.toyota.com> to create a grid like this:



Once you have your grid, you are ready to put the vehicle in diagnostic mode.

In addition to using Techstream (Toyota's diagnostic software), there are three ways to enter the diagnostic mode.

METHOD 1: SCREEN FLICK METHOD

1. Turn the ignition on.
2. Make sure the audio system is off.
3. Push the Menu button on the multi-display.
4. Press the Display button in the lower right section of the multi-display.
5. Press Screen Off on the display.
6. Perform a flick operation on the multi-display screen from left to right five times, then perform a flick operation from right to left five times, completing these actions within 15 seconds of the first flick. Verify that diagnostic mode is entered.
7. Turn the ignition off and then repeat steps 1 – 5.

METHOD 2: SEEK/TRACK METHOD

Perform steps 1 – 5, and then push the Seek > button five times, push the < Track button five times, and verify that the diagnostic mode is entered.

METHOD 3: HEADLIGHT SWITCH

While pressing and holding the Audio switch, operate the headlight switch: Off – Tail – Off – Tail – Off – Tail – Off – and then verify that diagnostic mode is entered.

Once in diagnostic mode, isolate each individual camera and adjust the direction of the lens to adjust the camera view forward or backward, or twist or raise and lower the views to get the markers on the floor into the red boxes and align the cross-check markers in the corners.

You can also press All View Reset to return all of the camera settings to default.

Issues with the steering angle sensor, body damage and dirt on the camera lens can affect performance and calibration. For complete instructions, go to <https://techinfo.toyota.com>.

The Bird's Eye View Camera with Perimeter Scan is a feature that Toyota drivers rely on when parking and driving in tight quarters, and by properly aligning the cameras you help ensure this system is in top operating condition. 🐦

Be Your CUSTOMER'S ADVOCATE

FROM FILING A CLAIM TO FINDING THE RIGHT BODY SHOP, being in a collision can be extremely stressful for your customers. You can be a huge asset to them during this time by understanding your state's laws and explaining to customers what their rights are when it comes to collision repair.



THE ABCs OF COLLISION REPAIR—CONSUMER RIGHTS

- A] A customer's right to choose original equipment manufacturer (OEM) parts begins with his or her insurance policy. Many insurance carriers offer policies that allow for OEM parts, and when it comes to vehicle safety and reliability, selecting that option is well worth the premium. Policies vary—some allow for OEM parts in every repair. Some allow for OEM parts depending upon the age of the vehicle, while others only use aftermarket, LKQ (like kind and quality) or Opt OE—i.e., gray market parts. Advise your customer to have a conversation with their insurance agent and ask the question, "Is my policy based upon OEM or like parts?"
- B] Many states require disclosures if anything other than an OEM part is used in a repair, while other states may require the customer's consent to use non-OEM parts. Some states do not have any of these protections. Research the rules in your state so that you can help your customers understand their rights.
- C] The use of OEM parts also depends upon whether the customer is the insured (the one that caused the accident) or the claimant (the victim in the accident). If the customer is the insured, the use of OEM parts is dictated by the insurance policy. But if the customer is the claimant, the insured's policy does not apply and it is the customer's right to insist upon OEM parts. In this instance, your shop can assist the customer by inspecting aftermarket or alternative parts on an estimate in order to rebut a claim.

YOUR CUSTOMER'S HAVE RIGHTS—KNOW THEM

"Often times, insurance companies dictate that structural parts be replaced with used components," states Mike Anderson of Collision Advice. "It's nearly impossible to duplicate the same type, size and diameter of a weld that has been designated by Toyota engineers. The repaired part may not be as strong or might be too strong—and this may impact collision performance or airbag performance."

Your customers have the right to choose your body shop, and they have the right to request OEM parts. But in some instances, an insurance company will dictate the use of aftermarket LKQ or Opt OE—i.e., gray market parts.

In those instances, you can inspect the used components to ensure that they perform to OEM standards of fit, finish and safety. Some attributes to look out for include:

- Weight versus the OEM part
- Amount, size and type of welds
- Metal strength—Toyota welds will be galvanized
- Crash test results—will the parts hold up the same in a collision?
- Headlamp brightness—measure lumens with a light meter and compare to the OEM part

The advanced technologies and sophisticated composite materials used in today's vehicles are critical considerations in collision repair. Consider the example of a bumper repair. Some insurance companies may require the use of remanufactured bumper covers. But, if the vehicle is equipped with blind spot monitors, a non-OEM bumper could block the monitor and impact safety.

Be your customer's advocate, help them understand their rights, and inspect non-OEM parts to confirm proper performance and help ensure a safe, quality repair. It's important that your customers understand that only Genuine Toyota Parts are engineered to the exact specifications and tolerances of the particular vehicle for which they were created. They meet the highest standards of fit, finish and safety, giving you and your customers security and confidence in knowing their Toyota is still a Toyota. 📄



Parts Terminology

■ OEM Part

A part designed by the vehicle manufacturer.

■ Aftermarket Part

A part produced by companies other than the OEM. These parts are sometimes referred to as "like kind and quality."

■ Recycled Part

A used part or assembly that has been removed from another vehicle.

■ Reconditioned Part

A used part that has been repaired or rebuilt to appear like a new OEM part.

■ Genuine Toyota Remanufactured Part

A part designed to be an exact replacement for the original equipment Toyota part covered by a 12-month unlimited mileage warranty.



Find additional resources about customer rights and collision repair at www.crashrepairinfo.com.

AUTO PARTSBRIDGE®

Get OEM Parts Information—*FAST!*

AUTO PARTSBRIDGE CONTINUES TO RAISE THE BENCHMARK IN PARTS ORDERING by recently adding new features, such as providing access to more Toyota content including parts photos and parts repair bulletins as well as bringing Toyota data directly to the shop through the program. And as part of Toyota's dedication to continuous improvement, two enhancements have been made for a more user-friendly experience.

UNIVERSAL SUPPLEMENT HANDLING—EASIER, FASTER, LESS RISK

Supplement handling can be completed in a snap! Auto PartsBridge can now match your internal process. Simply submit your supplements in the same way you typically process orders. Whether it's submitted electronically, by fax, via email, a committed estimate or running parts list, it's built to fit your business model.

DEALER-INITIATED ORDERING—LET THE DEALER PLACE THE ORDER FOR YOU

Dealer-initiated ordering eliminates the "hiccups" that shops sometimes experience with electronic ordering. Fact is, electronic ordering offers a lot of benefits, yet some shops may find it just doesn't fit in with their internal processes. Auto PartsBridge has changed all that! Now the dealer can initiate an order on your behalf, so you

don't have to worry about software challenges.

HOW DEALER-INITIATED ORDERING WORKS

The shop sends the estimate or the estimate number to the dealer, and the dealer takes it from there, introducing the data to Auto PartsBridge on behalf of the shop. The shop gets to take full advantage of Auto PartsBridge, including automatic part number verification to eliminate incorrect parts and better communication between shops and dealers, improved visibility of parts data from the dealership, and access to the Genuine Toyota Parts Catalog for difficult-to-find parts.

Point, click, access the OEM information you need—that's what Auto PartsBridge is all about. For more information on Auto PartsBridge or any of these new features, please call Customer Support at 888-929-5599 or visit www.autopartsbridge.com. 📧



With Auto PartsBridge, you have a one-stop, easy-to-use online parts ordering system at your fingertips:

- ✔ Access to price matching for OEM parts
- ✔ Availability to the same parts information that the dealer has, including illustrations, VIN-based parts validation and look up, not to mention exact part identification

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We've introduced major features that make Auto PartsBridge faster, better and more convenient for collision centers."

— Karl Krug
Global Head of Wholesale
Solutions at Infomedia

B0030

ESTIMATING FOR COLLISION REPAIR PROFESSIONALS



TEAM UP WITH TOYOTA FOR EXPERT ADVICE ON COLLISION REPAIR ESTIMATING, best practices and accountability. For the first time, industry expert Mike Anderson from Collision Advice will be teaching a course specific to Toyota and Lexus vehicles. The new B0030 Collision Estimator Essentials course will launch in April 2018. The class is offered at only \$495 per person to non-certified Toyota and Lexus collision centers and at no charge to Toyota and Lexus Certified Collision Centers.

The two-day class will cover topics like identifying collision damage by using Toyota Information System (TIS), which covers Toyota's OEM repair procedures, and performing a health check with Toyota's Techstream. You will also gain a true customer service perspective, including keeping customers informed of the vehicle status, providing on-time delivery, and ensuring the vehicle is fixed right the first time.

Visit the University of Toyota site, www.uotdealer.com, where you'll be able to log in with your Toyota/Lexus SPIN and dealer code to register for B0030. 📍

The Toyota Collision Repair & Refinish Training Calendar

FEBRUARY — APRIL 2018

WEST CALDWELL, NJ

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
03/13	601	Hybrid Collision Repair
03/14	300	Welding Techniques For Collision Repair
03/15	301	Non-Structural Body Repair Techniques
03/20	460	Structural Body Repair Techniques
03/22	503	Steering & Suspension Analysis & Repair
03/27	602	Advanced Hybrid Collision Repair
04/10	200/201	Color Matching For Painters
04/12	300	Welding Techniques For Collision Repair
04/17	301	Non-Structural Body Repair Techniques
04/24	250	Advanced Painting Techniques

JACKSONVILLE, FL

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
04/09	601	Hybrid Collision Repair
04/10	300	Welding Techniques For Collision Repair
04/11	301	Non-Structural Body Repair Techniques

04/23	200/201	Color Matching For Painters
04/25	250	Advanced Painting Techniques

TORRANCE, CA

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
03/13	101	Paint Finish Repair
03/14	200/201	Color Matching For Painters
03/21	602	Advanced Hybrid Collision Repair
03/22	908	ISC Retractable Hard Top
04/04	502	Body Electrical Diagnosis and Repair
04/10	300	Welding Techniques For Collision Repair
04/11	301	Non-Structural Body Repair Techniques
04/17	250	Advanced Painting Techniques
04/19	101	Paint Finish Repair
04/24	300	Welding Techniques For Collision Repair
04/25	460	Structural Body Repair Techniques

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

CHECK US OUT ON FACEBOOK AND TWITTER!

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

 Toyota Collision Repair Training

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GENUINE TOYOTA

RADIATOR & CONDENSER

PRODUCT LINE



WholesaleParts

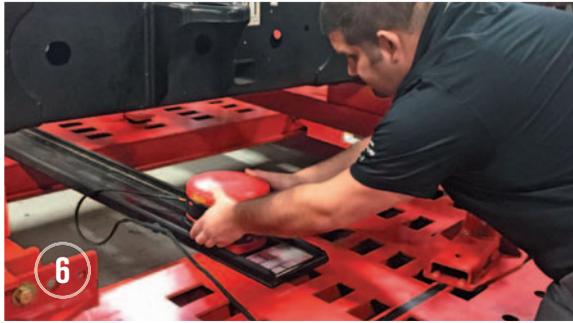
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IN EVERY ISSUE



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LIVE MAPPING SYSTEM GIVES REAL-TIME MEASUREMENTS

MICHAEL WILLIAMS // Group Content Director

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SPECIAL SUPPLEMENT

TOYOTA COLLISION PROS WINTER

Check out the latest issue of Toyota Collision Pros today. View the information now at ABRN.com/TCPWinter18



WEB EXCLUSIVES // ABRN.COM



GETTING THE COLOR RIGHT FROM EVERY ANGLE

When a vehicle is painted during a repair, but the final product does not match quite right, no one wins. DeBeer Refinish, a Valspar Automotive brand, and ABRN see how one shop handles the frustrations of color match and how it found the solution it needed in waterborne paint.

ABRN.COM/COLORMATCH



GIVING ROUTINE JOBS MORE THAN JUST ROUTINE ATTENTION

Much of the work we do every day is "routine." But do you give these routine jobs the same level of attention that you do the challenging ones? Even routine jobs can present challenges. Build on your knowledge with *Motor Age Training CONNECT*, an online education platform for the industry.

ABRN.COM/MATCONNECT



ABRN

AUTO BODY REPAIR NETWORK

WWW.ABRN.COM

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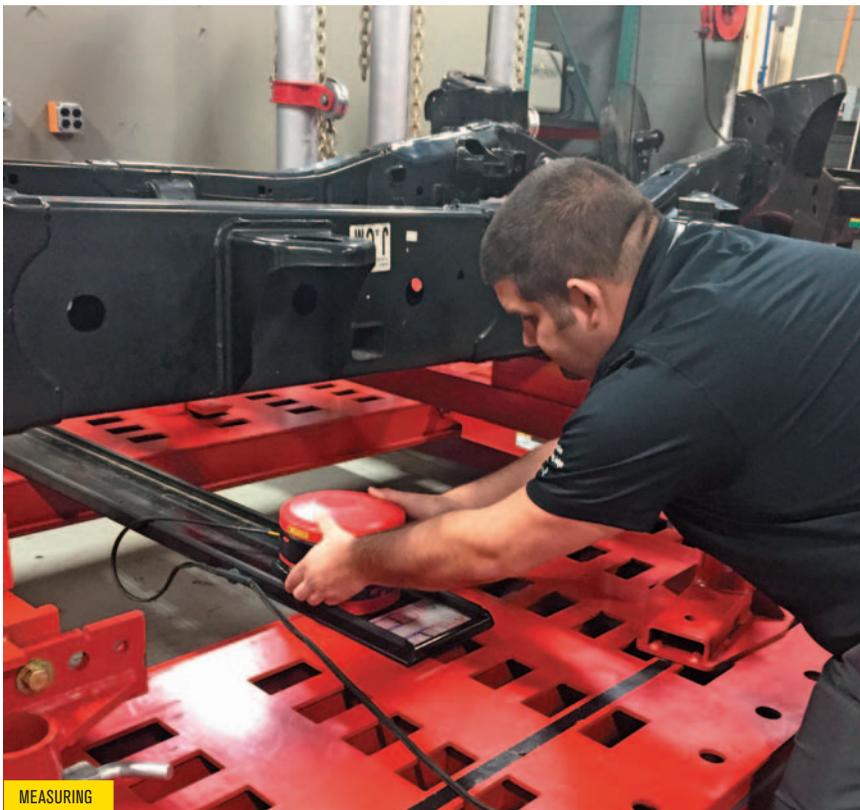
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LIVE MAPPING SYSTEM GIVES REAL-TIME MEASUREMENTS

MICHAEL WILLINS //
Group Content Director

➔ MADISON, IND. — After months of pilot tests in shops around the country, Chief recently launched its new state-of-the-art computerized measuring system, Meridi-

an”, equipped with Live Mapping™ and a compact new Galileo™ multi-point laser scanner that provides real-time, full-picture measurements of collision-damaged vehicles.

ABRN paid a visit to Chief’s Madi-

>> **CHIEF CONTINUES ON PAGE 10**

BREAKING NEWS

SECURE TECHNOLOGY

MITCHELL TO LAUNCH BLOCKCHAIN INFO SOLUTION

➔ Mitchell International, Inc. will soon release a secure solution for sharing data among users within the collision repair and insurance claims industry.

Mitchell’s new solution will promote and foster the flow of collision data among trusted industry partners, using blockchain technology to provide a highly secure, distributed and advanced encrypted-data exchange between stakeholders.

Mitchell previewed the system in January — hosting customers and partners at the Program Freedom Experience in Palm Springs, Calif. — presenting the steps of the program and the look and feel of the software and features.

“Data security has never been more important than it is today, and given the large number of existing systems and partner dependencies, limited efforts have been

>> **DATA CONTINUES ON PAGE 12**

TRENDING

CREF SEEKS SCHOOL UNIFORM SPONSORS

The Collision Repair Education Foundation is facilitating a uniform donation program between collision repair businesses and high school and college collision repair programs.

ABRN.COM/UNIFORMS

HYPERTHERM’S GRANT PROGRAM RETURNS

Hypertherm is accepting applications for its Spark Something Great educational grant program that will award 10 winning schools full plasma cutting technology and free training from the company.

ABRN.COM/SPARKGRANT

SCRS RELEASES VIDEO OF LIABILITY PANEL

The Society of Collision Repair Specialists has published the video of a panel delivered during the OEM Collision Repair Technology Summit at the 2017 SEMA Show, which focuses on repairer liability.

ABRN.COM/LIABILITYPANEL

PPG FUNDS REFINISH STUDENT SCHOLARSHIP

The PPG Foundation provided \$20,000 in funding for the Collision Repair Education Foundation to use to award to students with interest in a career in automotive repair and refinish.

ABRN.COM/PPGFUND

SEMA SEEKS HALL OF FAME NOMINATIONS

SEMA is seeking nominations for its Hall of Fame, designed to honor the leaders, innovators, creators and enthusiasts who transformed small businesses into an industry worth more than \$42 billion.

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COLLABORATION

TECHFORCE SUMMIT EMPHASIZES COLLECTIVE INDUSTRY ACTION TO DRIVE CHANGE

ABRN WIRE REPORTS //

In an effort to continue to build momentum for TechForce Foundation's FutureTech Success campaign, 30 industry leaders gathered Jan. 30-31 for the inaugural annual summit of the FutureTech Success National Leadership Cabinet. Participants ranged from the heads of national associations, such as ASE and SkillsUSA to corporate CMOs and HR/technical recruiting executives, as well as upper-level executives from Nissan North America, Interstate Batteries, Universal Technical Institute and Manheim/Cox Automotive.

"Our campaign is laser-focused on increasing the number of qualified technicians in North America, but we need the buy-in of the entire industry to be successful," Jennifer Maher, CEO/Executive Director of TechForce, said. "And that is exactly what we have received and continue to receive from some of the industry's strongest advocates and highest profile leaders.

"No one entity can fix the qualified technician shortage problem. We all must row in the same direction. We're so grateful to have the support, engagement and enthusiasm of leaders throughout the industry."

To that end, Maher said, the Cabinet spent one and a half days exploring ways to implement and activate the campaign within their own companies and associations, and brainstorming collaborative ideas around which the whole industry can unite.

"We must beat one, collective drum," said Maher, "that we are one of America's largest industries, and we need a strong, trained, viable workforce. For decades, students have been told there's only one road to success, and that's through a four-year degree. They've been led to believe that working with your hands and using one's natural tactile intelligence is a 'less-than-desirable pathway.' But it's simply

not true, and America needs its skilled technicians to keep it rolling. Today's vehicle technician jobs are in high demand and provide a solid middle-class career path. It's time we stand up and rally together for our own talent pool."

Demonstrating the collective power of this initiative, competitors — Shell Lubricants and Valvoline, Advance Auto Parts and AutoZone, Nissan and General Motors — left their business cards at the door, pledging instead to unite behind the FutureTech Success initiative, aimed at helping to motivate, train and develop technicians.

"It's important for each company to have our peers involved with this initiative because every one of us rely and depend on qualified technicians," explained Chris Blanchette, Director, Operations (Technical and Innovation), Bridgestone Retail Operations and member of the TechForce board of directors. "We'll either all rise together or fall together in this quest to invest in the best and brightest of our technician workforce."

During the summit, TechForce unveiled its revamped website, designed, built and managed by Autoshop Solutions. The new site includes the FutureTech Resource Hub, a one-stop-shop portal through which parents and future technicians can find after-school programs, clubs, events, technical schools, scholarships and training that help develop their skills and pathways to the technician profession. Additionally, the site includes the new Industry Hub (I-Hub) through which industry recruiters, managers, working technicians and educators can find helpful resources to support and connect with future technicians.

"Anyone — from interested students to companies wanting to recruit the best technicians — can find what they need on the website," Maher said. "Students and their parents can explore what the

technician career is all about through our collection of videos, while companies can access and share the best practices to attract, develop, train, hire, recruit and retain technicians."

To kick off the summit, a joint luncheon was held for the members of the National Leadership Cabinet and members of the Arizona FutureTech Workforce Development Council. Having national leaders joined by their local counterparts raises the bar for technical education in Arizona. Together, the organizations ensure that middle- and high-school students create opportunities to connect STEM subjects to automotive and diesel technology; provide national resources, training aids and donations to programs and students in need; and ensure that the industry is part of the solution in developing tomorrow's workforce of vehicle technicians.

Driving home the point was a "Connecting the Dots" theme emphasized by two of the Summit's kickoff luncheon speakers who are both recipients of TechForce and FutureTech Success campaign efforts. Tony Camp, principal of Trevor Browne High School in Phoenix, said his school has benefitted from an auto shop makeover with the help of TechForce. Crist Morillon, an entry-level Tesla technician, shared her personal journey to becoming a technician, pinpointing the continuous support available to her, beginning with SkillsUSA, Phoenix's Metrotech High School, Universal Technical Institute, and now Tesla.

Both Camp and Morillon said TechForce is a bridge by which the resources available throughout the industry can find future technicians, parents, schools and employers.

The Leadership Cabinet consists of a spectrum of industry entities, including manufacturers, associations and celebrity spokespersons. 

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>> **CHIEF CONTINUED FROM PAGE 6**

son, Ind., facility in February and got a sneak peak of the new system courtesy of Mike Croker, technical product manager based in St. Louis.

Shops in Croker's region have been working with Meridian since last fall. The feedback he's received has been positive as shops find it easier to use and quicker than other systems. Croker says it's particularly beneficial during the blueprinting process.

"I can measure on the floor, on a lift, on a rack. It's much faster and more efficient to set up," says Croker.

Chief's Meridian Live Mapping system can measure up to 45 individual points on a vehicle at the same time, in real time, even while pulling or replacing parts. This gives technicians the ability to watch dimensional changes being made to the vehicle during the repair process without having to start and stop multiple times.

The Galileo scanner utilizes high-powered laser technology which helps increase measurement length up to five meters. The geospatial control system makes necessary adjustments to provide precise measurements no

matter what direction the scanner is tilted. This out-of-level measuring technology makes the scanner very portable.

The scanner also features a single-hub design that delivers a 360-degree field of view with improved line of sight.

Croker says the improved line of sight is one benefit he hears often from shops in his region. They report that the smaller scanner design and improved triangulation between the scanner and targets, practically eliminates blockage of the targets. The end result is a system that makes it easier and quicker to obtain proper measurements, he says.

The scanner features dual processors for fast real-time data processing, high-tech optical components for accurate readings under any lighting conditions, and a built-in calibration check. This lets technicians confirm for themselves that the scanner is properly calibrated at any time.

Lee Daugherty, Chief director of collision sales – the Americas, says that with real-time measuring, you can quickly identify alignment issues,

as well as monitor the whole vehicle when adjusting the frame to see how one pull might affect other points and easily course-correct.

"Every body shop should perform three-dimensional measuring on every vehicle it services, because it's not always obvious where collision damage occurred," says Daugherty. "We've put full control and peace of mind in the hands of the shop with this new measuring system. From the step-by-step guided tutorials about where to hang which targets to the built-in scanner calibration verification process and the ability to print full-color reports of collision damage and final repair measurements, Meridian helps shops increase their estimating and repair accuracy and overall service quality."

To learn more about the Chief Meridian Live Mapping system with Galileo scanner and see how it works, visit www.chiefautomotive.com/Meridian/. Additional information is also available from your local Chief distributor or by calling (800) 445-9262, and by following Chief on Twitter, twitter.com/ChiefAutomotive, and Facebook, facebook.com/ChiefAutomotive. 📱

MIKE ANDERSON TO HOST FREE MONTHLY WEBINARS

ABRN WIRE REPORTS //

Trainer and consultant Mike Anderson of Collision Advice will host a new series of free monthly webinars, entitled "Learn to Research, Research to Learn," throughout 2018 designed to help shops more easily research and find OEM collision repair procedures. Most of the webinars will include an automaker representative, and attendees will have an opportunity to text in questions during the live webinar to be answered by Anderson or the OEM representative.

"I'll be focusing on a different automaker each month, and I will walk

shop owners, estimators and technicians through the process of using that OEM's specific website to locate the repair procedures, information and position statements they need," Anderson said.

The webinars will educate attendees on how to use the OEM websites and resources to find answers to collision-specific topics.

Anderson has long been a proponent of shops checking OEM repair procedures for every job, and believes far too few shops are doing that.

"Once you understand the automakers' websites and begin using them, it becomes a much faster and

easier process, and these webinars will help shops do that," he said. "Repetition is key."

The first of the free monthly webinars focused on Toyota's Technical Information System (TIS) and was held in late February.

Collision Advice is a full-service training and consulting firm offering collision repair businesses of all sizes assistance with virtually every aspect of business management and production, including estimating, SOP development, lean principles, accounting, sales and marketing, customer service, negotiating, workforce development, websites and social marketing. 📱



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NOTHING ELSE IS A
CHIEF

>> DATA CONTINUED FROM PAGE 6

made to address the risks associated with estimating information saved in either EMS or BMS formats and stored in thousands of decentralized locations," explained Olivier Baudoux, Vice President of Global Product Strategy at Mitchell. "Although data have been transmitted over the network through secure protocols for many years, EMS and BMS standards have no inherent encryption mechanism to protect information saved everyday on local computers across the industry. Blockchain is an ideal solution, one where stakeholders enroll to become trusted partners and agree to share data through an open and secure framework. We are working with industry partners, suppliers, repairers, OEMs and insurance carriers to encourage the adoption of this technology across our industry."

The new system builds on Mitchell's

three main pillars: expertise, technology and connectivity, said Alex Sun, Mitchell president and CEO. "We continue to invest heavily in technology solutions that enhance efficiency for our users. We continue to partner to create the right solutions for more seamless connectivity for the end user," he said. "All our efforts center around a proper and safe repair and partnering well."

Blockchain is a continuously growing list of records, referred to as blocks, which are linked and secured using cryptography (source: Wikipedia). By design, blockchains are inherently resistant to modification. Mitchell is proposing a collision-centric blockchain community that is a secure yet simple way to share data among trusted industry partners. The technology allows for a simplified, open and distributed ledger that is transparent, verifiable and self-administered by the community.

As a trusted partner, a company will be able to validate and add to the chain.

"The idea of a single entity controlling the data and a single server system being used to ensure security are outdated and do not fit the distributed environment of vehicle repair and collision claims," added Ravi Nemani, Senior Vice President of Product Delivery at Mitchell. "Blockchain is a modern and more robust method for enabling efficient data exchange in a highly secure environment."

In Palm Springs, Mitchell then presented six stations for attendees to visit to demo the program and ask questions of company experts. The stations reviewed the process steps: first notice of loss, network certification and assignment, repairer connectivity and rental workflow, diagnostics scanning and pre-scan, cloud estimating, and repair management. ☒

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SETTING P&M STANDARDS

Clear cost definitions are needed for accounting and accountability

JIM COMPTON // Contributing Editor

Working with jobbers, shops and manufacturers across the continent, I have found several definitions of what people consider Paint and Materials (P&M).

Since accounting and accountability are both bi-products of keeping track of P&M, should there be a standard definition?

Differences in state laws or regulations contribute to the lack of an industry standard. Sales tax regulations defined by

each state can vary significantly. We have some states that tax all P&M purchases by the shop; others have no sales tax and still more that follow some variation of what is taxed and what is purchased for resale. We can be fairly certain that the 50 U.S. states and the 10 Canadian provinces are not likely to adopt any uniform cost or definition.

Our insurance providers may often determine what they consider P&M via their reimbursement methods. I am not suggesting that the common practice of

paying a flat rate per refinish hour is the best method or the worst. But for now it is the most common method.

Neither of these two outside methods (sales tax regulations nor insurance reimbursement practices) is necessarily the best way to account for P&M costs at the shop level. One is (for those states with some sales tax) a free accounting each business does for the state and pays to the state based on sales. And the other reimbursement method varies by region, bill payer and other factors.

A man with a beard and long hair, wearing a red t-shirt, is looking down at a smartphone in his hands. He is standing in front of a brick wall. The background is blurred, showing other people in a public space. A white diagonal line cuts across the image from the top right corner.

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With other items, accounting and accountability are much easier defined. A hood or other body parts have a list price and a discounted or resale price, making them clearly defined for accounting. This is the same for most hard parts, batteries, suspension parts, etc. A part bought should be directly related to a part sold.

With P&M, this is a gray area. Each shop purchases most of these P&M items in bulk, uses them on each job and may or may not account for them on a per-job basis. The vast majority cannot or do not account for materials on a per-job basis. Yes, I know there are systems out there that can help with this and for some this has been a good solution. (We will discuss this more in a future article.)

But how about a standard? The sales side of the P&M equation is a given — it is one line (maybe two) on the bottom of each RO where all billed P&M are charged to the vehicle owner. So for now, if we use this as a standard, we have something we can agree on.

Looking to the cost side, we don't have a clear industry-wide definition of what P&M costs are and, equally important, are not. Any good accounting system strives to align costs with a sale. This thereby creates a profit margin— and hopefully a positive one — for the shop.

Looking at other aspects of the repair, such as labor, most

shops have adopted the “loaded cost” as the cost of labor to be measured against labor sales, usually broken down in Body, Paint, Mechanical and Frame labor.

Loaded labor cost is generally considered to include the employer's taxes and benefits associated with the labor. So this loaded cost for most includes Workers Compensation insurance, employer-side payroll taxes and other benefits (vacation, medical insurance, etc.). Again, the sale of each labor type or category is captured for each RO.

P&M should have a clear definition for accounting and accountability. For example, some shops differ in how they account for non-included items, such as seam sealers, panel adhesives and fasteners. Some track these as a separate sale and some (internally account for) as an added P&M CGS (Cost of Goods Sold).

Obviously, this accounting method can cloud the accountability side. Anytime we can track sales, we should endeavor to track the corresponding CGS.

P&M cost for most all cases includes all the materials that leave with the vehicle, as well as some items consumed or used during the repair. The car has parts, paint, primer, clear, etc., that upon delivery now belongs to the vehicle owner.

What about those other items that are consumed during the repair process —such as sand paper, masking tape, etc.? Some have argued that these are shop expenses; some have argued that these items are included in the P&M reimbursement. Some have stated that these are not to be included in the P&M billing, as they are not part of the final product delivered. I would argue that if it is job-specific, it is definitely a CGS, not an expense.

Take a loaf of bread: the yeast and water needed for the dough to rise are both certainly part of the cost of that loaf of bread. Shouldn't the same logic hold true for P&M costs for shops? Bread would not be bread if not for the yeast, which is killed during baking. So those incidental items that are needed for each specific job should be considered part of P&M CGS.

In many states, we are regulated as to what we can include in the P&M sale; the cost is left for us to calculate. Anything that is not billed as something else — like hoods, fenders, alternators stripes, adhesives, cavity wax, fasteners etc., which are not job-specific) — should be considered CGS for P&M. We don't need to split hairs or get buried in the minutia, but anything normally consumed when repairing a specific vehicle is part of CGS (either P&M or other CGS). This would include items such as razor blades, tack rags and other minor consumables for P&M CGS. Anything that can be billed as a separate line item should be billed as such and not included in P&M sales or CGS. 

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Getting advice from a familiar face

Veteran consultant pledges to share techniques to meet today's challenges

Given my lengthy history as a trainer and consultant in the industry, I hope my name or face are familiar to many of you. I've also written articles for *ABRN* in the past, so I was thrilled when they invited me to share a column.

But for those of you who I haven't met, let me introduce myself.

I launched my consulting firm about a year ago after more than 15 years assisting and educating shops as a trainer for one of the major paint manufacturers. Throughout my nearly four decades in the automotive industry, I've spent countless hours observing and assisting inside shops; have experience on "the other side" as an active-licensed insurance appraiser; helped create business and estimating training programs for automakers and other industry organizations; and served as a consultant to top executives in the automotive industry in North America, Central America and the U.K.

But I think you'll find that this column is going to be much more about you than about me. These are both exciting and challenging times for collision repairers, whether you're a dealership shop, an MSO or a single-location independent.

That's why each of my columns will focus on a key area of change, giving you specific tools, tips and techniques to tackle the challenges head-on.

I'll be writing about the significant changes in estimating, for example, and explaining what the lack of ongoing training of your frontline staff is costing your business. I've been tracking the level of estimator training in this industry for more than 12 years, so I know that less than three percent of frontline staff have had any formal estimating training in the last three to five years. You'll quickly see how that's hurting your business, and the difference that training is making for the shops that embrace it.

My columns will share some of the dramatic business transformations I have seen shop owners and managers make — real-world examples of what's possible in this industry.

I'll explain some scheduling changes, for example, that led



I THINK THERE'S A WAKE-UP CALL NEEDED IN EVERY ASPECT OF OUR BUSINESS RIGHT NOW.

an owner to say their shop went from chaos to an even flow and controlled calmness in a matter of just a few months. (Spoiler: You can't schedule based on estimate labor hours if those estimates are half-baked.) If you're finding your shop unnecessarily paying for rentals or changing promise dates to customers, you'll want to watch for that column.

I'll tell you about the shop owner who has developed a zero percent rate of returns on parts. That's right — zero.

I'll explain why most shops don't need more (expensive) brick-and-mortar space but rather well-executed processes.

I'll reveal why most shops' financials — even those managed by certified accountants — fail to give owners and managers the information needed to truly understand and drive the business'

performance and show you how some simple changes to your profit-and-loss statements will give you that data.

I'll explain what you need to do to prepare for a business that is changing — or in the case of 2018 vehicles, has already changed — into one in which electronics and technology will account for 60 percent of repairs. Today's focus on scanning vehicles, for example, neglects the real looming challenge: calibration and functionality of advanced driver assistance systems.

I think there's a wake-up call needed in every aspect of our business right now. No single column can bring you all the information you need to keep your business relevant, but I will do my best to help you understand a key issue and make the changes that will be required to succeed.

I look forward to hearing from you about what hurdles you are facing that I can help you address through my future columns. ■

STEVE FELTOVICH of SJF Business Consulting, LLC, works with dealers, MSOs and independent collision repair businesses to make lasting improvements and achieve performance goals, based on his more than three decades of automotive industry experience. sjfeltovich@gmail.com



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How to compete with large collision repair centers as a small auto body shop

ROUMEN TODOROV //

Contributing Editor

Regardless of the nature of your business, being seen on the internet is a highly recommended way to getting more calls from paying customers. This includes customers who are not looking for you specifically, yet they need your services. People who might normally go to your competitors could now be calling your auto body repair shop instead!

With a strong digital presence for your shop, once a customer searches for auto body repair online, they should see your shop on the first page of the results; that will lead to more calls for you. Very few people actually go to the second page, which is why it should be

your priority to get your shop on the first page and keep it there.

Internet exposure through an optimized website as well as a place on the grid of Google Maps will make your business become visible to hundreds of users, and you will get more calls from paying customers.

Use small business advantages to compete with big players

Keyword targeting — Big brands often choose not to target specific keywords or are unable to use them for several reasons. The SEO keyword universe is limitless, and while the large companies are restricted to using specific ones by rule, a small business can take advantage of it. For example, a large collision repair center brand would definitely target key-

words like “auto body shop.” As a small company, you can attract a more specific audience with long-tail keywords such as “auto body shop Las Vegas.”

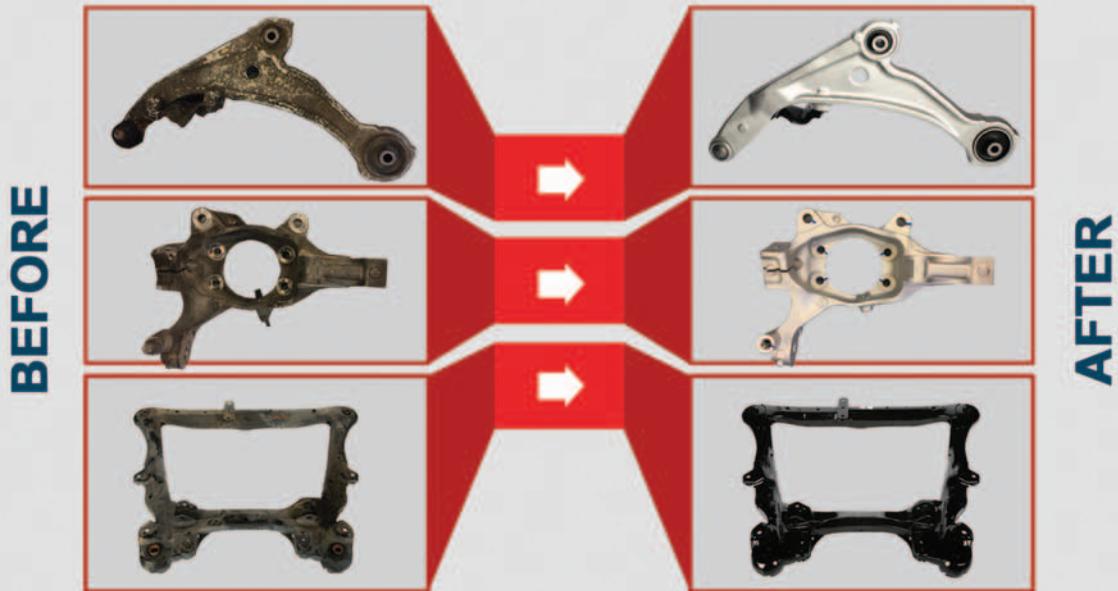
Broad or “short-tail” keywords are one or two words such as “collision repair” and refer to more commonly used shorter and generic terms people search for and target a broad audience. Long-tail keywords are keyword phrases that are typically made up of three to five words such as “collision repair in Las Vegas,” which are longer and target a more specific audience. Long-tail keywords aren’t as popular, but are more targeted to specific searches and come with less competition; therefore, they are more affordable.

Brand authority & specific niches — A large, national collision repair center will focus on history and the quality



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of their services. Your local auto body repair shop can have a blog that focuses on "How to protect your car's paint in the winter" or "Why it's important to repair your cracked windshield," etc. Give your future customers valuable advice and not just sales tricks. Get those undecided people's attention by teaching them what is suitable for them and not just telling them how professional your technicians are.

Quality content — Finally, all of the above should be integrated in your website content. While large companies need to be really organic in their content, as they cannot possibly cover everything that they do in small articles, you can invest 10 times more effort in a single piece of content. Set keywords that are extremely important for your business and create that quality content, giving valuable information and options to help build the trust of your readers.

Let's go step-by-step through a proven

process to move your shop to the top of the search list:

1. Select your keywords. First, put together a list of keywords that reflect your services. You might try keywords such as "local auto body repair shop," "collision repair center" and "auto body paint." When you have a decent list, set up a free Google AdWords account. Small business owners can use the Google Keyword Tool to help them select the best keywords for their given industries. This allows you to type in your selected keywords to find out how much traffic they get. It also suggests related keywords that may not have occurred to you.

2. Optimize your keywords. When your keyword list is finalized, it is time to optimize them on your Google My Business page and your website.

Google My Business

Your Google My Business page appears

in the "Map" section of Google local listings. It boosts your online presence and gives prospective customers a short description of your services. It is much easier to increase your rankings faster with a Google My Business page than with a website.

Make sure that all of these components are complete and accurate:

- **Verification:** You must first create or claim your business page and submit it for Google verification. Your verification is confirmed when you see a checkmark and the word "Verified" next to your business name.

- **NAP:** Your business name, address and phone number must be accurate and consistent in all listings. Let Google know that your business is a local one by including a local phone number instead of an 800 number.

- **Categories:** Google My Business categories should focus on services. Along

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with “auto body repair shop,” list any additional services your company provides such as “deductible assistance,” and “semi trucks and oversized equipment.” Try to select three to five categories.

- **Description:** This is a brief overview of your business that should end with a call to action.
- **Hours:** Make sure your business hours are correct and consistent on all of your internet listings.
- **Images:** Add photos of your shop, your staff, etc. This can dramatically increase customer engagement.

Website optimization

Begin with your homepage and service pages, because these pages are the most important. Optimize them for your buying intent keywords. Later, you can optimize your blog posts and other content pages for research intent keywords. Here is what to focus on:

- **Homepage:** The title tag is the single most important element on your homepage. It should be between 50 and 65 characters long, and formatted similarly to: Auto Body Repair Shop in {Your City} | {Name of Your Company}.
- **Meta description:** This lists your primary services and should end with a call to action. It must be between 100 and 150 characters in length: {Name of Company} offers affordable {auto body repair services} in {Your City}. Call {Phone Number} today for a free estimate!
- **Headline:** Make sure the visible headline is concisely descriptive and contains your primary category. This format works well: {Auto Body Repair} in {City, State}.
- **Page copy:** This is a 500- to 1,000-

word descriptive section that provides some background information about your company. You should briefly describe your services, and end with a strong call to action. Make sure to use your primary keyword throughout the page.

- **Service pages:** Create a separate page for each of your services. Optimize

each service page in exactly the same way as the homepage, making sure to substitute the relevant keyword.

Although SEO fundamentals and tactics may change, the goal of the search engine is always been the same — to provide searchers with the information they’re after in an easy and quick way. 📱



ROUMEN TODOROV is the co-founder and COO of 411 Locals, a Las Vegas-based internet advertising agency specializing in search engine optimization

(SEO), web design and online marketing solutions for small and medium-sized businesses throughout the U.S.

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Finding your shop canaries in the coal mine

Shop owners need to learn how to spot and track production problems

One of the first things I do when I'm working with a shop is sit down with the owner to go over what I call "canaries in the coal mine." A century ago, miners brought canaries into the mine because the birds are very sensitive to toxic gases, so if the birds became sick, it alerted the miners to unsafe conditions.

In a body shop, the "canaries" I look for and ask about are signals of a situation that can be improved to boost the shop's efficiency, quality and profitability.

I was recently talking to a shop owner about internal come-backs, for example. Some shops track external come-backs — when a customer returns with a problem with their repaired vehicle. But few shops have a good handle on internal come-backs and what they are costing the business.

Internal come-backs occur when a vehicle moves forward in the process — from the body department to the paint department, for example — when it's not really ready for that to happen. For the paint shop, this means doing something to the vehicle that the body department should have done to ensure it was ready for paint.

We see such internal come-backs happening at nine different points in the process. Yet very few shops are really aware of these "canaries in the coal mine" until we help track them.

There are three levels of such internal come-backs. With a soft come-back, the paint department can just do what's necessary to keep the vehicle moving. On average, we find soft come-backs eat up about 15 minutes per vehicle.

With a medium come-back, the painter has to get the body tech involved, stopping whatever that tech is doing to go to the paint department to fix something. And with a hard come-back, still others are involved, such as a detailer or porter to move the car back to the body department. These typically eat up a half hour of time for two or more people. For a painter who is at 200 percent efficiency, a medium or hard come-back can cost him an hour off his paycheck. There are hits to cycle time as well.



THE OWNER HADN'T MADE THE CONNECTION BETWEEN EXTERNAL COME-BACKS AND THE INTERNAL COME-BACKS THAT WERE SIGNALING THE REAL PROBLEM.

The shop owner I was talking to assured me internal come-backs weren't an issue. "We had a meeting last week and asked if anybody had any problems, and no one did," she told me.

But I then talked to the painter. He told me that Jose, one of the body techs, does a great job and that it was rare that the paint department had to fix anything on Jose's jobs. The other body tech, Joe, was a different story, the painter told me. Pretty much every car Joe worked on required something. The painter estimated that 1 in 5 of Joe's jobs involved a medium come-back, and 1 in 10 jobs were hard come-backs.

The shop's prepper confirmed what the painter told me. He said Jose's jobs required little more than a couple coats of primer, whereas Joe's jobs required five or six.

"Are you letting the primer on Joe's jobs dry two or three times as much as Jose's?" I asked him. "No way," he said, "because the car has got to go."

I went back to the shop owner to tell her what I'd learned. Not only is Joe's work impacting cycle time, but it's requiring twice as much primer material.

And she might want to check some of Joe's finished cars if they come back into the shop to look for shrinkage caused by the primer not being fully cured.

"Yeah, we have had a problem with that," the shop owner acknowledged, not having made the connection between those external come-backs and the internal come-backs that were signaling the real problem. In some cases, customers spotted the problem and came back. But how many customers, I said, either spot the problem and just never do business with you again, or only learn of the problem after a subsequent accident when an adjuster or other shop points it out to them?

The canaries are out there in your shop. You just need to make sure you're looking for them. 📧

MARK OLSON is the founder of Vehicle Collision Experts, LLC (VECO Experts), a consulting firm that takes a holistic approach to working with shops on repair quality and business performance. mark@vecoexperts.com

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AUTEL

Write the rules for your own life, and be willing to break them

IF YOU NEVER BREAK THE RULES, YOU WILL NEVER GROW AS A PERSON

MIKE JONES // Contributing Editor

Every one of us live our lives according to a set of rules. Some of these rules come from our parents, some come from our religious beliefs and others come from the legislative process of the city, state or country we live.

Rules are intended to create discipline, direction, shape behavior, create expectations and raise awareness. Some rules are created to keep us safe. Rules are intended to make life more predictable.

One of the biggest reasons rules are very necessary is because the one commodity that is in short supply with most people is accepting personal responsibility for their behaviors and the choices they make.

As a human being, you are managing yourself every day in every relationship by your set of rules. Many of these rules were learned from other human beings and events that have shaped your rule book. Some of you see yourself as a risk-taker and as a result there are times that you will take a risk and break the rules.

Some of you see yourself as risk adverse and rarely if ever will you break the rules. Breaking the rules just for the

sake of breaking the rules is not a healthy approach. However, in order to get things that you have never had, you must be willing to do things that you have never done. If you never break the rules, you will live a predictable life on auto-pilot and never grow as a person or ever create unreasonable positive possibilities. Rules create limitations that keep us from truly living a purposeful life, and rules ultimately become our excuses for why we did not realize our biggest dreams.

My question to you in this present moment is whose rules are you living by? If you are choosing to allow yourself to live according to the rules others have placed on you, shame on you, not shame on them. No one gets to write the rules by which you live your life without you giving them permission to do so.

I have experienced some very tough times in my life because others expected me to live by their rules. I have met people who will not date or marry outside of their race or religion because of traditional rules. I chose to break that rule. Someone had a rule that black men were not smart enough to fly airplanes and helicopters; I choose to break that rule.

Many statistics say that as a young black man growing up in a single-parent

home, my chances of being successful were very low. I chose to break that rule.

There are so many rules that are governing your life that may prevent you from getting the things you really want. All of these rules were written by someone else, and you do not have to live according to those rules. It is absolutely ok for you to break those rules to get to what you want from life.

Breaking rules for the sole purpose of proving someone wrong is ultimately a negative approach. If proving someone wrong is your only driver for success, you will not experience more success unless someone continues to show up and tell you that you cannot do something. If someone's rules present a barrier to your success, break through it while focused on the positive outcome that you want. The benefits you will receive from this approach will become your driver.

How can you know when to break a rule? The best way is to set a specific positive outcome. This outcome will contextualize and identify what behaviors and choices you will need to move you forward.

I was working with one of my coaching clients who set an outcome to be more positive at work and at home. During one of our coaching sessions he complained to me that he had three co-workers who were incredibly negative, and he had spoken to them about his outcome to be more positive and they chose to continue to be negative. He said the three of them regularly complained

SUPPORTERS



>> CONTINUES ON PAGE 28



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How the perception of your business matters

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The dangers of improper repairs and your liability

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The benefits of a strong training partnership

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The importance of finding a work-life balance

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MECHANICAL MOMENT

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

FINDING A SIMPLE FIX FOR A NISSAN SENTRA NO START

VEHICLE: 2013 Nissan Sentra, L-4-1.8L, Automatic Transmission

MILEAGE: 48,345

PROBLEM: The battery went dead overnight. The owner tried to jump start the vehicle, but the engine would not crank over. It was towed to the shop.

DETAILS: When it arrived at the shop, the malfunction indicator light was off and there were no DTCs on any modules. The Tech-Assist consultant advised the shop to unplug the battery for about five minutes to reboot the modules. After the reboot, the engine would crank and run with a jumper battery connected.

CONFIRMED REPAIR: The technician performed a full charging system test and found the battery to be defective. He replaced the battery and the problem was fixed.

NOTE: Losing power and/or being boosted will sometimes cause glitches in certain modules – rebooting them often fixes any issues.

This tech tip and others come from ALLDATA Tech-Assist, a diagnostic hotline of ASE-Certified Master Technicians.

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Westminster, Colorado

MAY 7-9

Women's Industry Network Educational Conference
Hyatt Regency Indianapolis
Indianapolis, Indiana

MAY 16-18

Paint, Body and Equipment (PBES) Conference
Fairmont Austin
Austin, Texas

JUNE 11-13

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AUGUST 7-8

Collision Industry Conference
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>> CONTINUES FROM PAGE 26

about their boss and company policies. He said they often spoke negatively about other employees and social issues.

When I asked him why he continued to remain in a relationship with these three negative co-workers, he said, "It would be rude for me to just walk away from the relationships." Identifying walking away from unhealthy, negative relationships as rude is someone else's rule. If you set an outcome to be more positive and you have taken the time to make these individuals aware of your commitment to be more positive and they choose not to honor your commitment, you will need to break the rule that says it would be rude to sever those relationships. If you are unwilling to break the rules in that moment, you will not achieve your outcome.

The only person you have 100% control over is you. If you are waiting for others to change in order for you to have the life you want, shame on you. You will never be able to be positive enough to make a person who is choosing to be negative become positive. If they ever become positive, it will be because they choose to be positive. Some of you have rules that make you feel it is noble to keep these people in your life with the hope that one day they will change. If that is your choice, then you have a right to live by those rules; however, be aware that in the many years I have been doing this work the result most people have received from managing their expectation that this person will change is disappointment.

I don't know what rules you are going to need to break to live a happier, more fulfilled life; however, I encourage you to take the risk of breaking those rules, focused on a specific outcome. If you risk nothing, then you are risking everything.

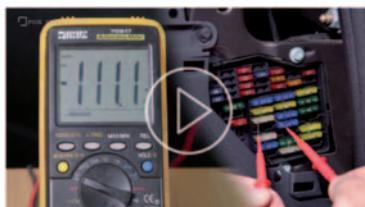
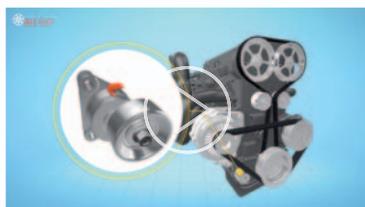
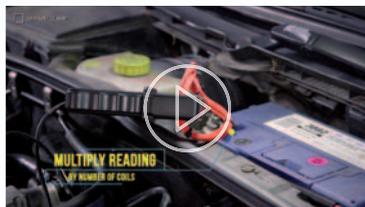
Break the rules today and be more successful professionally. Break the rules and love yourself completely whether anyone else will or not. Break the rules today and go back to school and get that degree; break the rules and be the parent your children need to become healthy human beings; break the rules and create the best relationship beyond what you thought was possible. Break ALL of the rules and make the impossible possible and the unrealistic realistic.

What rules will you break today? How will breaking those rules benefit you? Unless you are willing to set a positive outcome and break those rules, you will never produce a different outcome. If the risk you are taking and the choices you make are not challenging your rules, then nothing will change. 



MIKE JONES is the founder and president of Discover Leadership Training, a next-level leadership development solutions company in Houston, Texas. He encourages others to create a better version of themselves by realizing their untapped potential. mikej@discoverleadership.com

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IT'S CRITICAL TO KNOW HOW YOU LEARN BEST AND WHY SOFT SKILLS ARE SO IMPORTANT

TINA GRADY BARBACCIA // Contributing Editor

Editor's Note: This is the second article in a two-part series on the importance of training. For Part One, which focuses on why rapid advancement in vehicle technologies means technicians need to know how to perform proper repairs by following original equipment manufacturer (OEM) procedures and where to find this information, see "Understand the importance of training" in the February 2018 issue.

The concept of learning should be a key element of a body shop's culture, but the type of training and method of delivery can be tailored to help technicians and leadership retain the knowledge in a way that best fits their needs.

"After spending 37 years in the collision repair market and more than 20 years in industry education, I have learned that the industry must accept that continuous training is a component of it," says Jeff Peevy, president of Automotive Management Institute (AMi), a non-profit education organization. "The industry also must realize that learning is the key to business success. Without it, a collision repair business will not survive."

However, despite the Technical Tsunami™ — as I-CAR has coined it — of rapidly evolving vehicle technologies, such a technical-focused industry also needs to understand the need for the often-overlooked "soft skills" that are involved in training.

Beyond technical training

Soft skills — also known as interpersonal skills — relate to employees' ability to get along well with others, social graces, leadership skills, work ethic and communication abilities, among others. In his research on how soft skills impact retention, it is one of the leading causes of a technician leaving a shop — or the industry altogether — says Peevy, who is an Accredited Master Automotive Manager (AMAM).

"A repairer may have a strong background in technical skills and knowledge, but may not be able to communicate what is needed to improve their environment," he points out. "We need to develop their personality traits to manage this, especially as there continues to be a shortage of qualified technicians."



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PHOTO: LORD

At AMi, collision repair training has recently been concentrating on soft skills for repairers, particularly on listening skills. This leads to better satisfaction for the technician, and ultimately, the customer.

“If technicians are not listening to fellow staff members or to customers, they will miss important things and will not be as operationally efficient,” Peevy notes. “They need to be trained in soft skills to effectively work together using their technical skills.”

A different way of learning

To that end, how training is done — for both technical and soft skills — is important and what will truly give repair shops and its technicians a competitive advantage.

Buying the latest equipment or a new spray booth may seem like the way to get an edge up in the collision repair marketplace, but it’s not a sus-

tainable competitive advantage.

“The willingness to learn and continue to learn is what will sustain you,” Peevy says. “Once this belief is accepted by all leadership, it will become easier.”

There is sometimes a tendency to “fight” this idea. Traditionally, the industry has complained about hav-

A QUICK LOOK AT SOFT SKILLS

- Leadership. Companies want employees who can supervise and direct other workers.
- Teamwork
- Communication
- Problem solving
- Work ethic
- Flexibility/Adaptability
- Interpersonal skills

ing to take time to train. However, the businesses that are also learning organizations are the most successful.

“There is so much to know — and what you know today is less important than what you learn tomorrow,” Peevy says. “You have to be in constant learning mode.”

However, a traditional classroom type of training doesn’t work for everyone because people learn differently. Some students may learn better through tactile methods while others prefer auditory or visual methods.

“We need to think beyond training in the traditional way of just taking a class,” Peevy says. “Training is really just a means to learn. The real focus should be on learning, and there are so many different ways.”

AMi’s new Alternate Methods of Learning (AML) program recognizes credit for articles, videos and podcasts, among other ways to provide learn-

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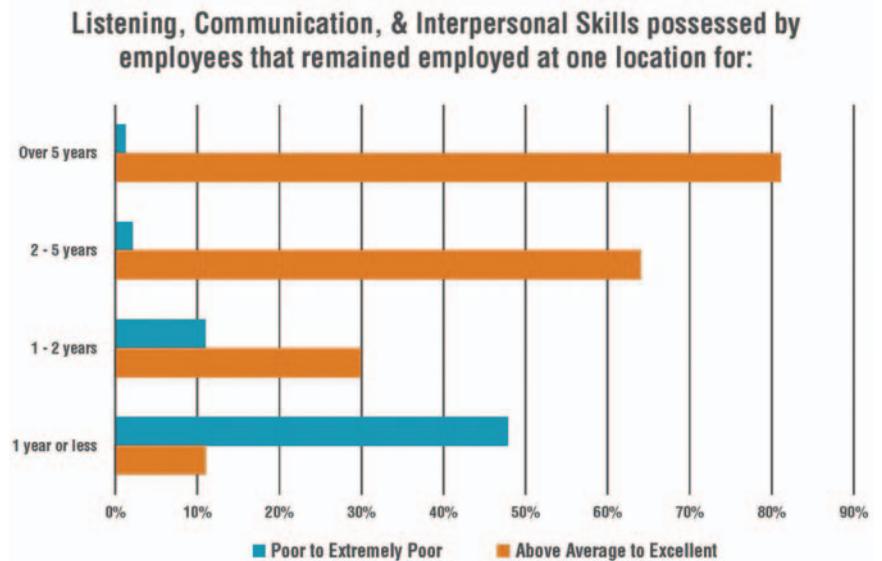
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ing. Taking advantage of the learning strategy that best suits the person participating in the training can help ensure they have a more thorough understanding of the material.

Students can use an “Index of Learning Styles Questionnaire” (<http://www.amilearningindex.org>) to help determine how they should approach note-taking, frame questions and the best ways to address an individual’s strengths and weaknesses.

“Knowing how you learn is the first step in maximizing your competitive advantage with training,” Peevy says.

Kevin Creegan, sales manager for LORD Fusor Aftermarket Repair Adhesives, U.S. and Canada, LORD Corporation, echoes this, noting that the way people learn can be vastly different across age groups and experience levels. “Some people learn just by seeing a PowerPoint or reading a printed document of Standard Operating Procedures (SOPs),” he says. “Others learn best by actually doing and ‘getting their hands



IN A RECENT AUTOMOTIVE MANAGEMENT INSTITUTE (AMI) SURVEY, 83 percent of collision repair businesses believe improved listening, communications and interpersonal skills – i.e. soft skills – would make a positive impact on their business. The same survey also found that 77 percent believe that more than 30 percent of a technician’s skills believed improved listening, communications and interpersonal skills would make a positive impact on their business.

dirty’ — using or practicing the procedure or product they are learning about.”

Getting buy-in from leadership

With the exception of the dealer repair

shops and multi-shop organizations (MSOs), the collision repair industry is comprised of small businesses. This can make it challenging to find time to go to training.

There is also the double standard of leadership asking technicians to attend training, but opting out of participating themselves.

“We need to make sure leadership isn’t just providing ‘lip service’ on training, but actively taking part in it,” states Marie Peevy, owner and president of Automotive Training Coordinators (ATC) LLC, which identifies, provides and promotes qualified business education for the success of automotive service repair professionals. “They must participate in the training themselves so they can lead the way.”

The challenge is that the collision repair industry is mostly made up of small businesses — with the exception of multi-shop organizations and OEM dealer-affiliated repair facilities.

“It’s hard to give up staff to go to training events for a day,” says Marie Peevy, who is married to Jeff Peevy. “It is often difficult for individuals in the



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repair business to go all day to work and then drive a distance to a class.”

Online training has provided a viable and effective means to address this issue. Ironically, even though skilled collision repairers perform very technical repairs on a vehicle, they may not be comfortable with using technology for training, Marie Peevy explains

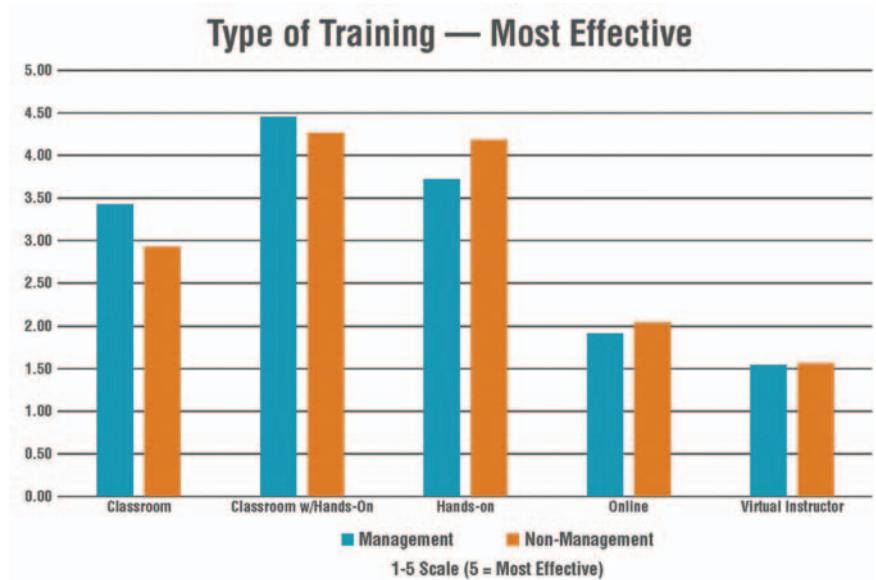
“It’s not a problem for the younger generation — it’s like second nature to them,” points out Marie Peevy. “But in today’s world, we have an aging workforce and technicians who have never used a computer or have very little knowledge of it. Training can be both challenging and scary for them.”

That’s where different types of learning come in — especially alternative ways of learning — and understanding how you learn is so important.

“Training helps everyone in the end,” asserts Marie Peevy. “It has been proven to improve business profitability and sustainability. It helps individuals working in businesses make a better living, which improves their ability to provide for their families.”

Reducing risk with certifiable credentials

The collision repair industry is filling



the growing need for education and training through readily accessible videos — i.e. on demand — particularly as a non-traditional and convenient learning method. This solution also comes with concerns.

“I can learn to light a water heater by watching a YouTube video, but it doesn’t make me a plumber,” says Peevy. “The industry is challenged with third-party verifiable credentials. With the advent of more and more videos, I am afraid we are going to compromise that even more.”

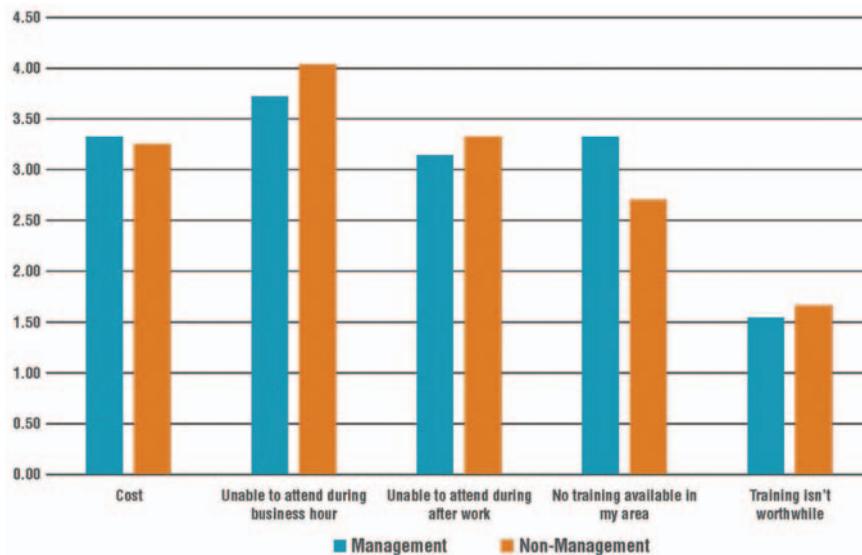
If a body shop owner is looking to hire a new technician or manager, risk can be minimized when the person hired has some type of credentials, such as being ASE-certified from the National Institute of Automotive Service Excellence, possessing professional designations from AMi, the Inter-Industry Council on Automotive Repair (I-CAR) Platinum status, or other designations.

“These provide a great value and represent a track of education specific to that role that has been tested and the credential to be verified by a third party to someone trying to fill a position,” expresses Peevy. “It provides a standard.”

The knowledge seasoned technicians have shouldn’t be undervalued, he adds, but having 30 years of experience repairing vehicles isn’t as valuable as it used to be.

“Experience alone is becoming less and less important when you are equipped for a world that no longer exists.”

Now, the collision repair industry is at a very critical juncture in time with both training and access to collision repair information, adds LORD Corporation’s Creegan. “We are at a pivotal point where we need some standardization, but it is a whole new game,” he emphasizes.



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When a new vehicle is introduced — a particular make and model — instruction on collision repair for that vehicle is made available. However, notes Creegan, if there happens to be a new technique used in the vehicle's assembly to eliminate sound or to seal a part of a panel, for example, the individual nuances on how to repair or duplicate that new technique might be omitted or excluded altogether.

"The million dollar question is, 'Why does this happen?'" Creegan queries. "I think part of the reason is that there is a 'disconnect' between the engineers designing and constructing the vehicle and those responsible for collision repair."

This can result in challenges for those individuals in the aftermarket who need to repair and reassemble the vehicle after an accident or collision to make it whole again — that is to restore a vehicle, to the best of their ability, to achieve the OEM look, feel, and finish.

A manufacturer's primary focus is running assembly plants, building safe vehicles and making sure warranties can be handled, Creegan says, while the collision world is about restoring a vehicle to OEM standards.

"The OEM may not always understand all the possible solutions for adhesive structural repair, plastic repair, seam sealing and NVH control available in the automotive after-

market," Creegan remarks. "It's all a moving target. We need to bridge these gaps in understanding by working closely with the OEMs and providing continued training in the field."

Setting the tone for training

Training for — and keeping up with — the quickly evolving world of collision repair is a huge undertaking. The tone set by an instructor's approach to teaching technicians makes a difference.

When Dennis Beardsley, North American training manager for Saint-Gobain and an I-CAR instructor for more than 20 years, conducts training, he uses various approaches but makes one thing clear: Students will complete training knowing how to repair a vehicle properly so it can correctly take a hit in the case of another collision, and they'll do the work necessary to ensure this.

"We have an awesome responsibility as collision repairers and trainers. It's critical to be real, but also to inspire," says Beardsley.

He likens the job of collision repair technicians to protecting an egg. The car's job in a collision is to protect the person inside — "the egg" — and keep it intact. This means following original equipment manufacturer (OEM) specifications and understanding proper procedures and use of OEM-approved products.

"I focus on these approvals and explain the difference between metal bonding, aluminum bonding, plastic repair and the use of adhesives and seam sealers and foams," Beardsley says. "I need to make sure they are able to duplicate what I've taught them when they are back at their shop and know how to make repair decisions."

For example, technicians must follow specific procedures when using adhesives in collision repair and know when and if they are approved. "I key in on OEM product approvals — such as Ford Motor Company's approval of LORD Fusor Collision Repair Adhesives for vehicle repair — and when plug welds may be used instead of rivets."

The simple guideline that Beardsley follows on when to use certain products and repair procedures is this: "When the manufacturer tells us to do it."

What it all really comes down to, according to Beardsley, is the question: "Would I put my kids in the back of that vehicle? If you've undergone training and are following OEM procedures, then the answer will be 'Yes,' and in good conscience." ■



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AVOID MISUSE OF COLLISION REPAIR PRODUCTS

WHAT TECHNICIANS NEED TO KNOW IN ORDER TO MAKE AN INFORMED DECISION WHEN CHOOSING COLLISION REPAIR ADHESIVE PRODUCTS AND PROCEDURES

TINA GRADY BARBACCIA // Contributing Editor

Before starting a new collision repair job, it's critical for technicians to understand where to obtain proper repair information and product instructions and how the use — or misuse — of these products can affect the repair's final outcome and the integrity of the vehicle.

"In general, the most common reason for a product failure ties back to the misuse of a product," says Douglas Craig, structural adhesives applications engineering manager & collision repair industry liaison for LORD Corporation. "Simply not reading instructions causes some failures."

However, the other 90 percent boils down to two factors: Not leveling two-component cartridges before use and not purging enough material in the mixing nozzle before application.

"When a cartridge is filled, the A and B sides are not exactly level," Craig says. "There could also be an air gap at the top of the package."

Leveling the cartridge

The ratio of Part A to Part B in a two-component cartridge is critical. An unlevelled two-component cartridge can throw off the proper ratio. "If you begin using a cartridge without getting everything equalized, you will be off-ratio," Craig says.

Once it has been equalized, paying careful attention that the proper ratio can be achieved, the mixing nozzle is attached. The nozzle to be used is chosen using a variety of factors, such as length, the material being used, including its chemistry, ideal working temperature, the amount of adhesive being applied per cycle and the number of times the material is being folded



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back together. Extrude a mixer length of mixed material and dispose of it.

“However, if we didn’t level the cartridge to begin, we will get more of either Part A or Part B,” Craig says. “It will coat the inside of the mixer and throw off everything. If you already have more on one side than the other because a material is sticking to the inside wall of the mixer, you may never get on ratio.”

To ensure the cartridge is producing the proper ratio, examine the material as it is coming out of the mixer. It should be a “nice, homogenous mix” without streaks or dark or light spots, he notes.

“If you find you are off ratio, throw away the mixing nozzle and start again,” he says. “That causes the majority of product failures or issues with a product not working properly.”

Quick doesn’t equal efficient

As the old adage goes, time is money. So often the mindset is that the more quickly a job can be completed, the more jobs can be completed and the more money can be made. However, this doesn’t mean a collision repairer is being efficient and profitable — or doing repairs correctly. Rushing through a job may very well result in the need for a do-over.

Technicians may oftentimes be in a hurry and focused just on getting a repair job done. However, this can come at a cost. If a less-experienced repairer is observing or working with a skilled



CRASH-DURABLE ADHESIVES should always be replaced with the same product. If in doubt as to whether a crash-durable adhesive was previously used, contact the OEM to determine the proper product and process. If not identified in original equipment manufacturer service information, it can often be found as a “colorful” material within the joint: blue, orange, red, purple and black.

technician who is rushing through a job, proper preparation or pre-repair procedures may not be followed. That means the newer technician may be learning bad habits or incorrect use of repair products, without fully understanding that when a two-component system is used where things need to be mixed together, instructions must be followed to make sure the mix is correct.

Craig likens following instructions in the use of collision repair products to baking biscuits. “If you’re making biscuits, you want to leave the butter chunky in the dough — that’s what makes them good,” Craig says. “You need to follow instructions to know how to make them turn out well.”

This is especially important when working with adhesives because they vary in chemistry and best use for an application. Prepping adhesives — epoxies, acrylics and urethanes — for use has the highest failure rate for this reason.

“All three of these chemistries are adhesives — anything that sticks together is an adhesive,” Craig says. “The difference in all of these is the strengths they provide and other properties, such as flexibil-

ity and corrosion protection. Even seam sealers have some level of strength, so they can be considered adhesives. It is the level of strength that really begins to define how you would use it.”

It’s all about the chemistry

Within the collision repair industry, acrylic and epoxy adhesives are the two main chemistries accepted for bonding metal panels. [IK windshield urethanes are also used by some original equipment manufacturers (OEMs) to bond roofs but require that the e-coat and primer are intact.]

Within panel bonding, this is broken down further into two adhesive categories: panel bonders and crash-durable adhesives (CDAs).

“The dividing line has everything to do with the flexibility and strength of the adhesives — especially over time — and what they can tolerate in a split second of a crash mode,” Craig explains. “All the adhesives are really strong, but the crash-durable adhesives are flexible as they go through an event, so they are more in control of the joint.”

The adhesives must be able to main-



THE RATIO OF PART A TO PART B in a two-component cartridge is critical. An unlevelled two-component cartridge can throw off the proper ratio.

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tain 80 percent of its original strength after environmental exposure, with one OEM noting that the most critical test is how they are able to withstand the seven-day water soak.

The joints can be bonded only (just glue), weld bonded using resistance spot welding, or they can be rivet bonded with adhesive. When an engineering team creates a vehicle, it decides if the vehicle will be held together with glue or methods such as welds or fasteners.

“Adhesives can live in a world where they are 100 percent in charge of holding something together,” Craig says. “Not using impact-toughened adhesives where a manufacturer may have used them in a vehicle’s construction may change many characteristics of the car at some point in its life. It could affect durability, safety and the ability to absorb energy in a crash.

“Conversely, adding a CDA where no adhesive was previously used could conceivably cause a change. Always refer to the OEM repair guidelines before making repair decisions.”

Understanding the correct adhesives to use in the replacement of metal body panels and plastic parts — which to use and when — is critical. Acrylics and epoxies are primarily — but not always — used for metal only. “There are some epoxies used to hold plastic to metal-framed cars,” Craig says. “Acrylic adhesives will accomplish the same thing but tend to be a little rarer.”

At the end of the day, this is another example of how critical the adhesive selection is and how important the OEM repair information will be in guiding the proper choice. “For every generalization there are multiple examples, which are quite different,” Craig says.

When dealing with plastic parts repair, urethane should be used to bond the parts together. “Urethane has more flexibility,” Craig points out. “This doesn’t mean other adhesives aren’t strong, but urethane sticks better to plastics includ-

ing fiberglass, Kevlar and carbon fiber.

Knowing how these chemistries work with different parts and that one chemistry cannot do everything is important. It’s also just as essential to understand and adhere to OEM guidelines. “We typically say metal goes with epoxy and acrylic and urethane goes with plastic,” Craig says. “But there is a huge gray area where there is crossover, which contradicts this statement.”

Adhesive design, chemistry and suitability drive application decisions, while referencing technical data sheets and other repair documentation helps to guide the proper choice for procedure and product.

“All adhesives are not designed equally and cannot be placed into one category or another, simply based on chemistry,” Craig says. “Although chemistry is important, repairers need to follow OEM standard operating procedures (SOPs) and use them, accordingly, because there is such a huge gray area.”

Getting access to information

Roughly five years ago, the collision repair industry as a whole decided that the repair standard for any particular car would be the information provided by the vehicle manufacturer.

“This puts manufacturers on the hook for providing all the information when not all of them may have been on board with doing it,” Craig says. “It also makes the assumption that a repair technician is able to understand and even find the information. Any shop technician who is going to make a repair really needs to understand what it means to truly fix the vehicle. At the root of it is the OEM guidelines and repair standards.”

Each OEM has its service information in a different format, which creates a challenge. There is not always an explanation as to why a particular material should be used or not used on a specific substrate or why a bumper cover shouldn’t be fixed in a certain area, ex-

HOW TO USE COLLISION REPAIR ADHESIVES SAFELY

When working with collision repair adhesives, it is just as important to use proper safety habits as it is to use the correct repair product. Be sure to follow these steps before starting a job with collision repair adhesives:

Practice safe habits: Wear proper safety equipment and keep sparks/flames away from the area.

Skin contact: Wear gloves to avoid product contact with skin to avoid irritation or a skin reaction.

Eye contact: Flush eyes immediately with water if a product gets into your eyes. Contact a physician for follow-up.

Flammability: Most adhesives don’t contain solvents and aren’t flammable. Read product literature and Safety Data Sheets (SDS).

Common sense: Be mindful of your environment and use common sense. Treat all adhesives with respect.

plains Dennis Beardsley, North American training manager for Saint-Gobain and an I-CAR instructor.

“Because of misinformation and lack of knowledge in collision repair, the wrong product is often used because it is handy or deemed good enough,” he says. “The term ‘or equivalent’ is listed in service publications from some manufacturers, but not everyone may know what is an ‘equivalent.’”

A crash-durable adhesive should always be used to replace a CDA. “If in doubt as to whether a material is a CDA, be sure to replace it with one unless the OEM advises against this,” Beardsley says.

There are many generic products on

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the market for collision repair, and the main goal of these product manufacturers is to sell quality products and work with OEMs to develop products that meet their original standards.

“We want to make sure that when we go into service, we are giving the car owner back what he or she had,” Beardsley says. “With the term ‘adhesive,’ there may be 40 or more OEM standards that apply to that adhesive, so the challenge then becomes applying it in the non-OEM environment.”

This is when the collision repair product manufacturers need to work with the OEMs to create a new standard that takes the attributes of other standards and compiles them into one document so all the information is at hand to test and create a product that meets the standards.

“When it’s attained at that level, the OEM will recommend these products for vehicle repair,” Beardsley says. “These are the products you want to use to fix a car. Otherwise, it may not do the job it needs to if you are not using recommended OEM products. You should always follow OEM repair recommendations.”

He points out that although some product uses and recommendations may seem “basic” — such as leveling plungers — these instructions aren’t always followed.

Creating a repair culture

That’s why it is critical to create a culture with the mentality of looking at what the OEM wants first and then making a repair decision based on that, Beardsley notes. “I’m always going to revert back to OEM info,” he says. “The OEM is the expert. Period. End of story. You need to look at their approved products, determine what the OEM wants — i.e., all adhesives or adhesive and spot welding, or rivets — and make your repair decision from there.”

This is critical for both veteran repairers and those who are new to the industry. The seasoned technicians may know how to properly level a plunger during

A CHEAT SHEET TO WORKING WITH TWO-COMPONENT ADHESIVE MATERIALS

Dispensing:

- Check the manufactured date and shelf life to confirm a product is not expired.
- If the manufacture date is not clear or not able to be determined, call the technical support hotline and determine how old the material really is.
- Level the plungers until both sides dispense evenly.
- Attach the mixing tip.
- Dispense a mix tip’s length of adhesive and look for good mixing without any streaks.

Storage

- Leave mixing tips on all partially used cartridges to seal except for foams.
- Due to the expansion rate of the foams, the tip needs to be removed immediately after use to avoid the product from curing

back into the cartridge.

- Keep the adhesive between 60 degrees F to 80 degrees F.
- Pay attention to the humidity. Urethane adhesives react with moisture, so don’t open foil bags unless there are plans to use them.

Work time and temperatures

- Take note of the “work time” on the adhesive label/literature before starting the collision repair job.
- Two-component adhesives are accelerated by heat
- Work time is based on 70 degrees F.
- For every 20 degrees F increase in temperature, the work time is reduced by about half, with the same effect for cure time.
- Every 20 degrees F decrease in temperature will extend the work time by half.

adhesive repair prep — and understand the significance of doing so — but those learning from them may not.

“It’s really important to reinforce this to the folks you are coaching or teaching,” Beardsley says. “That’s why it’s so important to make sure they have proper training and always have them refer back to the OEM information. No one goes to work thinking, ‘How can I do a mediocre job?’ They are going to do the best they can, but if we haven’t shown them the right way to do something and why it’s important, it’s going to affect the repair.”

Ultimately, it all comes down to doing the job right and “marrying” it to the lifetime of the vehicle. “At the end of the day, the procedure or product specified isn’t our call,” Beardsley says. “We don’t work for any of these manufacturers. The re-

pair and product used is either right or it’s wrong. We, as repairers, cannot alter what the OEMs want.”

Beardsley puts making the proper repair decision and product use in this perspective: “Would I put my two kids in the back of that car after it has been repaired? It really is black and white. The repair procedure and product used is either right or it’s wrong, and these OEM recommendations must be respected.”



TINA GRADY

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A MATTER OF LIFE AND DEATH?

THE IMPORTANCE OF TEST WELDS GOES BEYOND JUST PROVIDING A QUALITY REPAIR

SEAN GUTHRIE // Contributing Editor

Within the collision industry there is a lot of discussion about the need for and the importance of doing test welds prior to performing the actual welding of components. It should be more apparent than ever that it is necessary to perform them based on the liability of the work we do. On Aug. 3, 2016, MOTORS manuals made a change to their database that states, "Due to the different types of welding equipment used in the collision repair industry, labor times for welded replaced parts do not include equipment manufacturer procedural

steps for welder setup and/or welding tests and preparation. Each welding machine manufacturer may have its own unique configurations and setup processes. Additionally, there may be vehicle-specific variables that may increase or decrease the amount of welding machine set-up time and pre-weld preparation. MOTORS suggests using an on-the-spot evaluation to determine an appropriate set-up and preparation time." So why is it now that this is coming up? Why has it been a part of 16 different manufacturers' position statements but only now it is becoming so prevalent? Major injury cases from poor welds and lack of welds are a significant driver of this industry wake-up call.

Paint departments in body shops for decades have been a prime example of proper test procedures. It is not standard practice to read a color code, go to the mix computer, type in the code, select the first variant, mix the paint and paint the vehicle, expecting it to match. Instead, we look up the code, search for the chip that matches most closely, mix that variant and perform a letdown panel to ensure it is the right color. We do all of this before putting a few hundred dollars of material on the vehicle. Before that process begins, the painter has cleaned and prepped his spray gun thoroughly. The painter then resets his or her pressures, needle settings and ensures the paint is going to atomize

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just as he or she wants before applying anything, even before applying paint to the test panel. This is an extensive process that is done before every paint job.

A poor paint job has never killed anyone, and yet an extensive process and proper equipment maintenance is expected. I've seen shop welders that are museum pieces, guns that haven't been cleaned or maintained in years and overall dirty, mistreated equipment. This is the same equipment used to put vehicles back to pre-loss condition. "The welds look great, and I've been welding for years." "This welder is a part of me — I'd know if there is something wrong." Some form of those statements have been uttered by body men and women around the world. The scary part is that poor paint jobs will lead to a visual issue. Bad welds do not have to look bad! An I-CAR instructor even discussed a body shop he visited where every weld each person did looked beautiful, but failed the destructive test every time. They replaced the wire, the gas bottle and adjusted every setting in every direction. They ended up having the building power tested and the current was not enough. They would have never known had they not done destructive testing.

How about that \$40,000 spot welding machine? The one that you bought because the rep told you "it can't do a bad weld." After all, it gives a fault warning when it doesn't perform a good weld. It must be performing proper welds if it doesn't say they are bad, right? Wrong! Spot welds can look great but can be popped apart with little to no effort. The fact is the machine will give a warning only when it knows the weld is bad, but it can do a bad weld and not know it. Tips that have been overly used get a small bit of porosity in them and that can be one reason why the weld fails. That invisible porosity doesn't allow the electricity to flow correctly and therefore doesn't completely fuse the metal between the tips. It makes a beautiful burn mark on

the outsides of the panels, but since the metal wasn't properly welded and fused, it will pop apart with minimal effort. The machines don't recognize that and won't display a fault.

The only way to ensure that a weld is good is with first a visual inspection and then the critical step of a destructive test. What is important to look for? Visual inspections are fairly easy. Proper heat rings, proper backside penetration, consistent shape and zero porosity are all things that once you know what to look for are easy to inspect. Unfortunately, visual inspection is not even half the battle. Proper destructive testing is crucial. Different welds, different material, different material thickness all require performing a different destructive test.

I-CAR has a Squeeze-Type Resistance Spot Welding Hands-On Skills Development offering (ST015L01) that helps techs develop their spot welding skills and knowledge. Spot welding, weld bonding, visual inspection and destructive testing are all covered in a hands-on environment.

I-CAR also offers Steel GMA Welding (WCS03) Training and Certification and has a great reference sheet that outlines 10 of the most popular welds — not spot welds — and what their destructed weld should behave and look like. (Login to I-CAR's website and search "test welds" to find their PDF.) They also have a great online class (WCS06e) that gets into the nuts and bolts of a weld. It is a great tool for non-techs to learn what to look for when verifying welds.

Trust, but verify. That is the best principal for body shop owners and managers. They need to trust that their techs are doing the job right, but they have to verify it for themselves. Once a tech performs a test weld, that he/she is happy with, he/she needs to have it verified BEFORE proceeding to weld on the car. A good process is to assign two people who are approved to sign off on test welds. The tech has to receive one of their signa-

tures on the test weld panels, then bag the test welds and keep them with the car. This will allow anyone at any time to spot check that the tech has done the test welds and has had them approved. Once the vehicle is completed, those bagged test welds should be stored with the Repair Order file in the event the weld integrity is ever questioned.

A production manager or in-process quality control person should shoulder the responsibility of ensuring the right number of welds — or other attachment methods — have been performed before the vehicle can move on to the paint department. A great practice is for the person accepting the vehicle into paint to look for the bag with the signed panels. Whoever it is that accepts the vehicle into paint should also perform a visual inspection of all the welds on the car, ensuring that none of the welds look bad or are missing. Requiring a job to be performed a second time with 100 percent cost being assumed by the technician who failed to perform the test welds is a great way to ensure test welds are completed and the process is followed.

Which welds require destructive tests? All of them! If you are doing a spot weld with a squeeze-type resistant welder, you should do a destructive test. If you have a plug weld with a MIG, you should do a destructive test. Seam welds and brazed joints should get a test weld. If you have some welds over two panels and some through three, you should do a test weld for both. If you have a spot weld through adhesive and some without adhesive, you should do a test for both. Any weld performed on the car should have a destructive test that emulates the scenario to be performed. Use the same metal, same preparation and same equipment. If you have to change the wire for each area of the car, make sure you use the correct wire for the destructive tests. If you run out of wire or shielding gas, you must perform another set of test welds. Test welds should be

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performed right before the actual welds are done. This will ensure that no outside forces can alter the welds between the time the test was done and the actual welds are performed.

The best questions to ask techs, customers and third-party payers are simple: How many welds are needed to install a part? How many of those welds should be good? The answer is just as simple: as many welds as were removed. The answer to how many should be good is, of course, a rhetorical question. We want them to all be good, but how do we know that they are all good? While there may not be a way to be sure every single weld is good, we can make sure our training and equipment is good. With those two areas assured, we increase our chances of success. Back to our painter comparison — we know that if the correct chip is

selected, the gun is tuned, and the spray out looks good, the car, with reasonable certainty, will be painted correctly. If we perform proper test welds using the right metals, prepped just like the car will be prepped, the welder can be tuned and verified. Then with reasonable certainty we will know that the welds performed will be structurally sound.

Many manufactures have a very clear and strict process for performing spot welds. These can be found with their repair procedures. With a firm understanding of I-CAR's best practices and each OEM's repair procedures, a single standard operating procedure can be written and implemented for your shop. With so many variations in repair procedures between different OEMs, the SOP should be to follow OEM procedures and perform test welds. It is an impera-

tive step in safe and proper repairs and should never be neglected.

Welds are just one form of structural attachment. Many manufactures utilize adhesive bonds as well as rivets. These joining methods are just as important as welds and just as susceptible to issues. It is a good practice to test those materials as you would test a weld. Rivets can be destructive tested just like a spot weld. While there are not as many guidelines as to the result of a destructive test for adhesive or rivets, common sense will let you know if something seems right or obviously wrong. The wrong length rivet or wrong hole size are the most common causes for poor strength and need to be ensured are correct with a test. (Note that I-CAR offers Rivet Bonding Hands-On Skills Development (RVT01) to help techs develop skills and knowledge related to this.)

Outdated adhesive, wrong application process and poor preparation are all causes for a weak glue joint. Structural adhesive should be very hard to break apart and weak joints will be apparent. Like with welds, any different rivet, different adhesive or different scenario must be tested and verified for proper strength.

Like all processes, their proper implementation must be trained and verified. Proper destructive testing must be verified through two party inspections. It is imperative to have a good standard process for performing the tests and enforcing their completion — it is a life or death process! Your customer may crash test your work. How will they do? 🚗

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WALKING THE HIGH WIRE

FIVE LESSONS DRIVE-BY-WIRE SYSTEMS CAN TEACH SHOPS ON NEW TECHNOLOGY

TIM SRAMCIK // Contributing Editor

GM'S EN-V (ELECTRIC NETWORKED-VEHICLE) is one of many drive-by-wire concepts automakers have created as they continue to look for ways to bring by-wire technology into the mainstream.



During the summer of 2005, *ABRN* published an article on the status of drive-by-wire systems (see “Steering status,” June 2005) and the “hurry up and wait” stance the repair industry was having to take with this technology. Talk on these supposedly emerging systems had gone on for years. The automotive press was rife with stories and speculation on drive-by-wire vehicles, and yet the technology seemed elusive. Shops prepared the best they could, braced for an influx of game-changing tech, and still nothing happened.

More than a decade later, little seems to have changed. With the exception of some throttle-, shift- and park-by-wire setups, steering systems being discussed/

developed have rarely made a presence outside an OEM engineering department or concept vehicle (for example the GM EN-V). Braking, particularly park-by-wire systems, have fared better and become part of mass-produced vehicles, but their presence pales in comparison to traditional braking.

What happened with the technology that proved its worth in other industries (most notably aviation and heavy-duty equipment) and once seemed destined to quickly move into the automotive world?

Pull up a chair and pour yourself a cup of coffee. The answer to that question is long and involved. It also provides valuable insight on how some technologies find a way into an ever-changing market while others sit on the sidelines

a bit longer — sometimes much longer. Understanding how industry forces determine which technologies shops see is one of the keys to preparing for what new repairs your shop must handle. The continuing journey of by-wire technology, in particular steer-by-wire, offers important lessons on how repairers can do just that.

Lesson #1: Great expectations don't always translate into great results

The incentives driving the implementation of by-wire technology have been the same ones pushing most automotive developments: improved efficiency and cost reduction. The traditional hydraulic systems used for braking and steering use heavy hydraulic units that drag down

mileage. Because hydraulics incorporate multiple movable parts, they also require significant owner investments in maintenance and service.

Drive-by-wire systems, in contrast, utilize electrical units that weigh far less, incorporate fewer moving parts and integrate software upgrades that can be programmed to provide more efficient, controlled operation. Making them even more attractive, they provide ideal baseline components for alternative fuel vehicles where they can have an even greater impact on fuel efficiency and attract a customer base eager to get its hands on the latest technology. A number of OEMs geared by-wire research to their hybrid and electric products. General Motors tied the development of by-wire steering to its Hy-Wire concept.

This research and development faced some significant hurdles. In 2005, TRW Automotive noted that the major obstacle holding back by-wire was the need to implement 42-volt electrical systems, which would permit vehicles to both utilize lighter automobile wiring harnesses and incorporate more powerful electrically-driven accessories to run drive-by-wire systems. Clearing that hurdle seemed possible since much of the industry had been hard at work investigating and working on new high-voltage systems after they were proposed in the late 1990s as the industry standard.

With the development of by-wire technology, 42-volt systems and alternative fuel vehicles all intersecting at the same moment, the eventual implementation of drive-by-wire systems in a number of vehicles seemed to be a given — at least to auto industry observers. The key was the delivery of high-voltage systems.

That never happened, obviously.

It didn't, for one, because 42-volt systems created a host of other engineering challenges that automakers would have needed to address. Not the least of these was the fact they generated so much electricity, they would force motorists



PHOTO: INFINITI MEDIA

INFINITI HAS DOUBLED DOWN on its commitment to steer-by-wire technologies by offering its version in both the Q50 and Q60 models.

to replace a host of burnt-out switches, sometimes as frequently as every 10,000 miles. Moreover, engineers were looking at having to redesign entire vehicle systems, an endeavor that proved to be just too costly.

Drive-by-wire may have seemed to be coming at light speed, but internal development issues presented another reality — the necessary supporting technologies just weren't ready.

Lesson #2: More accessible solutions take precedence

At the same time, alternate, more affordable technologies that could address the same areas as 42-volt setups were coming to the forefront. Wire multiplexing reduced the size and mass of low-voltage harnesses. Electrical power steering advanced to the point where it could run on 12 volts. High-voltage batteries were developed to run hybrid vehicles. Addressing fuel efficiency concerns, manufacturers instituted idle shutoff and began using a host of light-weight materials.

While the industry was churning out other lightweight and power solutions, it too continued work on similar electrical driving systems. Important to keep in mind here is the fact that automakers never put all of their eggs in one basket when it comes to updated systems. Even

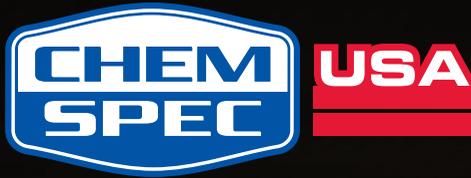
while by-wire systems were being eyed, manufacturers continued work on a host of other electrical driving solutions they could bring to market.

These included:

- Electro-Hydraulic Power Steering, which uses electric motors in place of a belt-driven pump to create hydraulic power.
 - Electric Power Steering, which uses no hydraulic pressure.
 - Electric Power Boost for Brakes
- These systems made several appearances and disappearances from the market since the electric motors frequently failed. Still, they were far more prevalent than by-wire and proved that similar technology could be produced once the bugs were worked out.

Lesson #3: Complex solutions take time

A more permanent electric power boost solution could, in fact, be on the horizon. This year ZF Friedrichshafen AG, along with Bosch and other suppliers, plans to introduce next-generation technology. An electrical motor will replace conventional vacuum boosters to add force on the master cylinder plunger when a driver presses the brake. These systems look to succeed where past attempts failed because they benefit from time



and experience. They incorporate the necessary modern materials and engineering knowledge gained after years of research to make electric boost brakes desirable products.

ZF Friedrichshafen AG predicts the breakthrough will spell the end of vacuum assist within a decade. By then, they expect fully electric by-wire braking to become available.

Time is also making a difference with Infiniti's steer-by-wire system, dubbed Direct Adaptive Steering, found on some of its Q50 and Q60 models. Following 10 years of development, Direct Adaptive Steering is the first production steer-by-wire system. It's also very much a work in progress to critics who point out that it doesn't offer all the promised benefits of by-wire, such as substantial weight reduction. Others complain of a lack of road "feel," which they claim impedes driving efficiency and enjoyment.

Direct Adaptive Steering also has been knocked due to production issues, including a vehicle recall related to a software problem and criticisms that cold weather can inhibit its function. Some critics say a big section of the buying public, particularly driving enthusiasts, may be put off by these complaints and steer clear of these systems.

Infiniti, however, isn't backing off on its support for steer-by-wire technology. It upgraded Direct Adaptive Steering in 2017 and expects to release fully autonomous driving vehicles by 2020, of which Direct Adaptive Steering will be a cornerstone.

"They're playing the long game as they roll out steer-by-wire," explains Mike Laughlin, an automotive researcher and founder of Frontline Drive Tech, which covers industry trends. "Drive-by-wire has had a number of hiccups since OEMs started working on it, but that's to be expected. It's revolutionary, so it's going to take time, and we're going to see multiple iterations as it makes its way into production."

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“Automakers will have a number of wrinkles to work out as with anything new, but I expect them to make fixes,” he adds. “Eventually, by-wire will be everywhere — eventually.”

Lesson #4: New market forces can revive developing technologies

Laughlin declares the move to autonomous driving vehicles that Nissan expects should motivate more OEMs to continue work on their own drive-by-wire systems. These vehicles have become a point of focus for futurists, urban planners, scientists, politicians and an array of industries because they address a growing need to deliver transportation in an era of growing population centers and shrinking resources.

These vehicles likely will require driver-by-wire systems since they're easier to control than hydraulic systems. Moreover, a number of researchers note that the vast majority of autonomous vehicles will be electric to make them easier and less expensive to fuel and cheaper to maintain, while offering improved, cleaner mileage. By-wire would be obvious and ideal technology to pair with electric power. Delphi Automotive has pointed out that most electric (and hybrid) vehicles already are configured for drive-by-wire to cut weight and offer more design flexibility.

Though widespread availability of autonomous vehicles is years away, many will be hitting the street quite soon. Today, Google vehicles are making the rounds in Northern California; Chevrolet Bolts are being tested in Arizona and San Francisco; and Uber is deploying Ford Fusion hybrids in Pittsburgh. A future with by-wire is rapidly being drawn.

Additional developments also make the case for implementing drive-by-wire. For example, by-wire complements existing systems growing in popularity, such as active lane control and emergency braking. Then there's the possible movement towards 48-volt systems.



PHOTO: GM MEDIA

AUTONOMOUS DRIVING VEHICLES, like this Chevy Bolt test vehicle, look to drive more drive-by-wire technology into production vehicles.

After learning some hard lessons from 42-volt systems, researchers are creating 48-volt models that don't carry the same drawbacks. Most notably, they allow automakers to maintain 12-volt connections; plus, high-voltage output is targeted for specific motors and components and therefore don't create vehicle-wide power issues.

Because these systems will function a bit differently from 42-volt models, there is some debate on how they could affect by-wire implementation, if at all. Laughlin says the ability to deliver higher volts can benefit any number of existing or proposed electrical systems, including by-wire.

Lesson #5: Respond to facts, not hype

With the automotive industry once again gearing up for an eventual, potential by-wire future, it's easy to see repairers are still in “hurry up and wait” mode. Unless you work on newer Infinitis, the skills to fix steer-by-wire systems won't be in high demand for a while.

Large-scale drive-by-wire, however, is much more of a possibility than it was in 2005. This time, shops see the tech-

nology in the market and view a clearer path to its eventual adoption across the industry. That's the great takeaway repairers need when analyzing how their business will be changing with every technical innovation. Don't worry over speculation. Prepare when a change becomes a certainty.

This is the same lesson shops took away from the introduction of unibody construction, waterborne finishes and new materials. There's plenty of talk leading up to any significant development. The time to act is when change is inevitable — when the technology is hitting the streets and when OEMs and your vendors reach out with training and other assistance.

There's nothing wrong with eyeing trends and analyzing the latest technology automakers are exploring. Prepare when the time calls for it. That way, there's no need to hurry up and wait or hurry at all. 



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AkzoNobel introduces new innovations for body shops

Carbeat™: A game-changing digital production control system for body shops

Customers at automotive body repair shops can now save time and money thanks to an industry first digital solution introduced by AkzoNobel's Vehicle Refinishes business.



Offering simpler workflows and easier access to information, Carbeat provides significant benefits by giving a real-time overview of the repair process. This information is then made available to managers, team leaders, technicians and third parties, which in turn creates improved transparency and communication.

The application is deployed on a large touch screen monitor designed to make using the system quick and intuitive, while providing a comprehensive overview of all the work in production. This enhances the quality and granularity of captured cycle time data, which enables deeper insight into ways to improve efficiency and eliminate waste.

Commenting on the launch of Carbeat, Peter Tomlinson, Managing Director of AkzoNobel's Automotive & Specialty Coatings business, said: "There are two important trends facing repairers

today – increasing vehicle repair process complexity and the demand for transparency and efficiency into those processes. We believe Carbeat will really help our body shop customers and multi-site operators master these challenges by giving them control and visibility into the heart-beat of their business."

Added Wes Steffen of Elmer's Body Shop in Elkhart, IN: "This is a huge step-change in the field of auto body repair. Carbeat is a great example of using data and advanced digital technology to solve the long-standing problems that we face at collision

repair shops. The benefits I have seen include increased throughput, reduced waste in most phases of the repair process and higher morale and engagement from my employees."

Designed for simplicity and customizability, Carbeat is easy to adopt and incorporate into any existing workflow. It also runs from the cloud, and therefore requires zero installation or high-end technological expertise to implement and maintain. It's the latest example of AkzoNobel's digital innovation and use of big data. The company also has in-depth knowledge and expertise in digital color design and color matching, surface design and protection.

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Not only does Cromax EZ make the conversion to waterborne effortless, it is also an environmentally conscious refinish coating. As the NESHAP guidelines continue to regulate the use of VOCs, and OEMs are using more waterborne, more auto body shops are preparing to convert from traditional solvent-based paints to water-based ones.

Cromax EZ is the perfect option for any shop looking to switch to waterborne technology while continuing to



implement the application technique its painters have already mastered. And since Cromax EZ applies and blends like a solvent, there is minimal training for your staff. Because Cromax EZ is designed to use a single mixing component and mix ratio across all paint

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Chief equipment brings alignment and profits in-house

Most shops know that controlling cycle times is crucial to staying profitable in the collision repair business. Yet, today, many give up some of that control whenever they send a car to an alignment shop instead of doing the work in-house.

Chief's new wheel alignment systems help shops regain that control and keep profits in-house.

In a recent survey, 58 percent of independent collision repair shop owners reported that they send out all their wheel alignment work. Most said they do so because they don't have space available for an alignment bay and because the alignment equipment itself is too expensive. But, thanks to Chief, space and cost are no longer prohibitive issues.

Each of Chief's three new alignment systems can be used with almost any Chief frame rack already in the shop — no need to dedicate a bay and no massive towers to install. Quick alignment checks can be done virtually anywhere, for faster, more accurate estimates. Plus, Chief wheel alignment systems cost less than half the price of legacy systems.

"Sending out alignment work wastes time, stretches out cycle times and costs shops money," says Lee Daugherty, director of collision sales for Chief. "Chief's new line of wheel alignment equipment makes it affordable for shops to keep their alignment work in-house, so they maintain control of their customers' vehicles, their cycle times and their costs."

Chief offers a choice of three wheel



aligners. The C3080 3D is equipped with fixed cameras with automatic target search and recognition, tire-grabbing clamps and remote-controlled sensors and can provide an alignment reading in just eight seconds. The C3060 CCD provides wireless efficiency as all the characteristic angles of both vehicle axles are controlled by means of four measuring heads with eight CCD sensors and infrared transmission. The C6000HD is a fast, accurate, easy-to-use system suitable for larger commercial vehicles.

All Chief wheel aligners feature portable consoles that can be positioned anywhere for maximum convenience. Unlike systems that require a large fixed tower, Chief's tower-free aligners maximize available workspace and have no minimum bay space requirements. Chief systems provide automatic and instant target visualization. And while other systems only work on a dedicated lift at a single height, Chief systems can be used at any height.

As one of the world's largest manufacturers of high-quality collision repair equipment and services, Chief is proud to be a single-source solution provider for collision repair needs. Its broad product line includes frame-pulling equipment, vehicle-anchoring systems, measuring systems, vehicle frame specifications, welders, rivet guns, adhesive debonders and fume extractors, wheel balancers, tire changers and, now, alignment systems. Chief continues to evolve its offerings to align with new technology developments to meet changing industry needs, including updating Chief University training course offerings.



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Panel Shop 1200's zero-dust formula contains no harsh abrasives and works with both foam cutting and finishing pads on rotary polishers to produce superior results. The polishing process simply involves switching out various cutting or finishing pads to limit aggressiveness of the polish. The high quality of the formulation is safe to use, easy to master, and produces

dependable results by all skills of operators.

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- Producing a swirl-free, high-gloss finish free of defects
- An excellent cut and high polishing effect
- Eliminating compounding marks, ultra-fine scratches, and paint oxidation

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A common goal for collision repair shops is to maximize profits with minimal waste. One cause of waste and lost profit is in the usage of materials – having too much material on the shelves is costly and running out of supplies disrupts productivity. The optimum balance is achieved when a shop has what it needs, when it is needed. While often overlooked, material management has a direct influence on a shop's bottom line.

TIM is a simple-to-use, barcode scanning software that records real

time product usage. This information allows a shop to place accurate stock orders and identify technician consumption. The intuitive design of TIM provides an efficient checkout process that will not slow down technicians. TIM can also track usage of materials that are often billed to insurance companies. Knowing what material is being used on a particular job enables a shop to recover the material cost, which increases profitability.

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Eliminate running out of repair materials to increase workflow

- Accurate, real time inventory instantly lets you know what you have on hand at all times
- Electronic ordering with supplier ensures the right materials are always on hand
- Reduce technician downtime by eliminating stock-outs

Optimize materials inventory to lower costs

- Streamline inventory by eliminating product duplication
- Reduce tied-up capital by minimizing inventory to optimal levels
- Control month-end purchases and inventory

Boost technician productivity to reduce cycle times

- Quick and easy technician product checkout
- Minimal training required
- Repair materials are organized and always on hand to increase vehicle touch time

Standardize best practices to streamline shop processes

- Standardize repair materials to reduce bottlenecks
- Match repair materials with SOP's to boost productivity

Identify RO recoverable materials to increase margins

- Track recoverable supplies by RO for billing
- Recover costs for items not on the original estimate to improve RO profitability

Analyze spending patterns to improve profitability

- Cloud-based application works on desktops, tablets and smart-phones. Multiple location management from a single log-in
- Identify spending by departments and product categories for better decision-making
- Track technician usage to promote efficiency

Refinish Solutions Group

The Refinish Solutions Group, known as RSG, is an initiative driven by Saint-Gobain. RSG is a network of industry leaders that provide the highest quality products, expertise, and solutions for the complete collision repair process. Each RSG partner brings a unique offering to form a comprehensive portfolio that helps shops optimize processes and improve performance.

Take control today!

Call (800) 456-8444 for a full demo on how TIM can improve your bottom line. See TIM live: <https://www.youtube.com/watch?v=CA-tb5tW26M>



NSF International partners with industry experts

Keith Risley and German Mejia to manage and grow NSF's Automotive Collision Shop Certification Program

What you should know about NSF Collision Repair Shop Certification

NSF International's independent, third-party collision repair shop certification program evaluates and certifies shops that consistently demonstrate the ability to execute high-quality repairs and provide excellent customer service. Key requirements include in-process inspections that look at the entire repair process and ongoing quality control checks, as well as equipment, training and facility requirements.

Why NSF International?

NSF International is a global organization with more than 70 years of independent testing, auditing and certification expertise, including extensive experience in the automotive supply chain. NSF International is the only American National Standards Institute (ANSI) accredited certification body that provides independent repair shop certification.

"German and I chose NSF International because we want to work with an organization dedicated to consumer safety on a global scale and we'd like to continue to help the industry move forward in our new roles," said Keith Risley. "I grew up in the collision repair industry and am truly passionate about this industry that has taken care of my family and many others."



What do Keith Risley and German Mejia bring to NSF International?

With over 50 years of combined experience in the collision repair industry, Keith Risley and German Mejia will play a leading role in managing this NSF certification program. For the past 10 years, Keith and German have worked with industry professionals to share technical knowledge and enhance expertise in the automotive repair industry. Both have earned I-CAR Platinum™ recognition and know what it's like to work in automotive repair shops.

"Having Keith and German join our team will bring NSF International's collision repair shop certification to new levels. Their extensive experience in the collision repair industry will be invaluable to NSF International's automotive certification program," said NSF Inter-

national's Senior Automotive Technical Project Manager Dave Parzen.

Where can I find more information?

Additional information about NSF International collision repair shop certification can be found on NSF International's website or by emailing AutoShop@nsf, or calling 734-214-6271.



Original One Parts announces new learning series

ORIGINAL ONE PARTS is opening up its doors to host a series of Open House events at its headquarters in St. Louis, MO. Each event includes a tour and free food. Original One Parts will have 20-minute intervals of tours between 5:30 p.m. and 7:30 p.m. to give each tour group the opportunity to have questions answered along the way. The tour will give attendees a first-hand look at how Original One Parts harvests a non-certified salvage part and meticulously tests and certifies every aspect of form, fit and function of a like-new OEM part. Before or after the tour free food will be available in the lounge. Original One Part's Collision Consultants will be available to field any questions or concerns.

The Open House series will educate attendees on the Original One Parts certification process. The 6-STEP VINtegrity™ process delivers a consistent, 100% original, certified OEM part, by following these steps:

Step 1 - Market Assessment

We work with industry partners to assess which parts shops are most likely to need.

Step 2 - Harvest

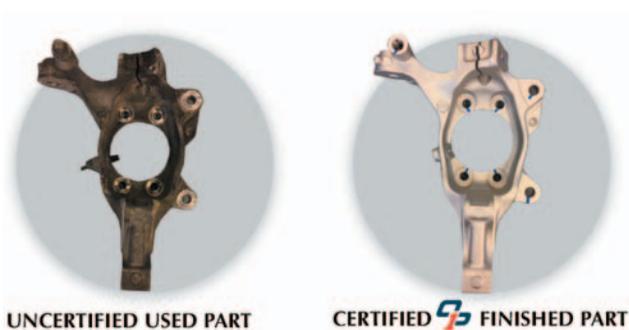
Then we harvest OEM parts through our vast network of recyclers.

Step 3 - Consolidation

Parts arrive at our production facilities where they're aggregated, sorted and triaged.

Step 4 - Reconditioning and Certification

This is where the rubber meets the road. Our strict engineer-



ing control plans evaluate, test, recondition and certify every part in four key areas.

Function is confirmed via VIN, cleaning, corrosion inspection and more.

Form & Fit are analyzed through proprietary optical measurement and threaded interface torque testing.

Finishing is restored with painting, plating and powder coating to meet industry standards.

Then everything is **certified** with a final, complete inspection

Step 5 - Purchase

Parts can be purchased directly from OriginalOneParts.com or through the leading collision repair software platforms.

Step 6 - Shipping

Finally, parts are securely packaged and shipped with Same Day Shipping where available, Overnight Delivery option and 2-Day guarantee.

To learn more about Original One Parts, and the Open House series, please contact us at Info@originaloneparts.com or 877-441-0001.



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(877) 441-0001

www.originaloneparts.com

Micro-gel toners, spectral gray undercoats are key to color-matching prowess of PPG's waterborne system

In today's world, automakers are increasingly using exotic colors to differentiate their brands in the market. Pigments in these colors are very vibrant, highly chromatic and often translucent; Toyota 3R3, Chrysler PB8 and Kia XMJ are a just few examples.

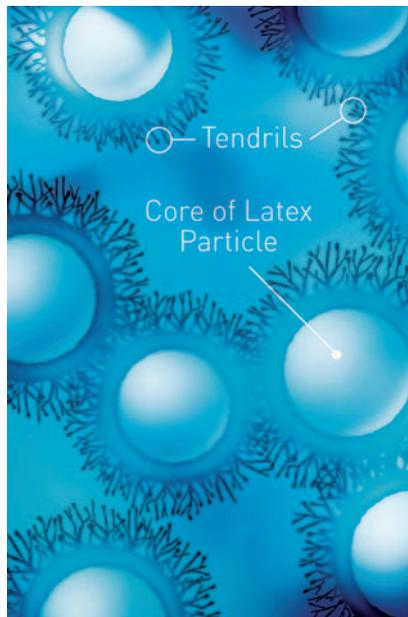
PPG says the growing popularity of its ENVIROBASE[®] High Performance waterborne system can be attributed greatly to how its micro-gel latex toners and innovative spectral gray process closely mimics the OEM approach to producing these colors.

Micro-gel technology

"With PPG's waterborne toners, which contain the latest translucent and opaque pigments, the resins are made with latex particles with tendrils, or 'fingers,' that tangle with one another to bind the paint together," explains Gareth Hughes, PPG Refinish director of technology. "The way these 'fingers' tangle, it doesn't matter how quickly the water evaporates. They are able to orient the metallic flakes in just the right position to provide the appropriate color travel from face to flop.

"This is further enhanced by an orientation or final control coat applied at reduced pressure. So there's no blotchiness or color shift, which sometimes occurs with solvent-based paints when the solvent evaporates too slowly."

Charley Hutton, renowned painter



in the custom car world, says that when he switched to the *Envirobase High Performance* system, he immediately recognized the difference. "The waterborne colors were so

clean and clear compared to solvent paints. I was equally impressed with how much smoother the metallics lay down."

Color consistency from mix to mix is another advantage of micro-gel technology, explains Hughes. "The pigment

doesn't settle in the toner bottle because the viscosity is so high. To untangle it, all you need to do is give it a shake. Therefore, no mixing machine is required, and this enhances color consistency."

Matching OE translucent colors with spectral grays

In the factory process for creating highly chromatic, translucent colors, the color of the undercoat contributes to the final basecoat color. PPG's innovative spectral gray process mimics this OEM approach by combining the waterborne toners and translucent pigments with a scientifically proven spectral gray (SG) undercoat system. PPG has formulated five shades of spectral grays, giving collision repair technicians the complete range needed to match today's emerging translucent colors. All of PPG's waterborne color formulas specify the optimal SG shade of undercoat, which can be retrieved from any of PPG's color formula retrieval tools.

PPG says the color-matching technologies of the *Envirobase High Performance* system have been key reasons why some 11,000-plus collision centers in North America have switched from solvent to this waterborne system.



How to perform a destructive weld test

Destructive testing is a must in the collision repair industry to ensure proper and safe repairs. Whether we are using Resistance Spot Welding or MIG/Mag welding, we must perform a destructive test before welding on the actual application. This helps ensure that the weld settings are correct and the welder is functioning properly.

How to perform a destructive test

In the shop, we have two destructive tests: **Twist Test** and **Peel Test**. Which test is best to perform depends on the type of weld being done and the material used. The **Peel Test** is best performed on a resistance spot weld.

- This test is performed by clamping the test material in the vice and peeling the top layer from the bottom layer with rounded-end channel locks.
- With this test we should see the weld nugget stay intact while tearing a hole in one of the layers.
- NOTE: This test may be harder to complete on HSS and UHSS.

For more Tech Tips and Videos, visit Pro Spot's YouTube Channel at www.youtube.com/ProSpotInternational.



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SATA introduces new breathing protection system

With the aim to further increase the acceptance of breathing protection equipment, SATA developed a modern-design solution, the SATA air vision 5000.

The new breathing protection system consists of the supplied air respirator, SATA air vision 5000, and a belt unit, which allows for easy attachment of different add-on modules. Depending on the quality of the supplied compressed air, there are two available options of air regulation units: either the SATA air regulator or the SATA air carbon regulator, which also includes an activated charcoal adsorber. With the SATA air warmer, SATA air humidifier and the SATA air cooler, there are three additional optional modules that can also be mounted on the belt to further enhance the breathing comfort for the painter.

The breathing protection hood SATA air vision 5000 protects the respiratory system and the complete head area against solvents and overspray. The hood comes in a new, modern design offering maximum wearer comfort and perfect fit. The head fixation can be adapted to fit every individual head shape and is easy to adjust. The soft stream flow-optimized breathing air and a large field of vision further enhance the high wearer comfort. The sound level inside the hood has been reduced to comfortable 64 dB, while the field of vision has been enlarged by almost 50 percent compared to the SATA vision 2000. In addition, the SATA air vision 5000 is also equipped with a rigid bump cap, which makes working in areas of difficult access safer.

The new, comfortably cushioned belt



also deserves a closer look. In addition to its user-friendly design, this belt unit includes two adapters for add-on modules allowing quick and easy attachment and removal, respectively the SATA air regulator and air carbon regulator as well as the SATA air humidifier. Both add-on modules can be rapidly switched from one side of the belt unit to the other — just as desired by the user. In addition, the SATA air regulator and air carbon regulator can be swivelled and adjusted by up to 45°, according to the practical requirements of the job at hand. Another very useful detail of the SATA air regulator and air carbon regulator is the fold-out support arm where the breathing



protection hood can be hooked on during work breaks. The SATA air vision 5000 with belt, SATA air regulator, and all other add-on modules were recently NIOSH approved in the U.S and is available at your local SATA distributor. For more information on the SATA air vision 5000, visit

www.satausa.com or call 800-533-8016.

The existing SATA vision 2000 will also continue to be available from your SATA dealer.

Product benefits

- High breathing air quality: The air supply independent of the ambient air eliminates all potential risks for the painter by contaminated spray booth air.
- No inhalation resistance, very comfortable breathing
- High level of protection, suitable for prolonged application intervals
- Visor allows one-hand operation
- Non-reflecting view due to solvent-resistant special foil
- Easy change sweat bands
- Little operating costs, quick pay-off of purchase costs
- Soft-stream flow-optimized air distribution in the hood
- Large field of vision: approximately 116° at a maximum possible angle of 220°
- Rigid bump cap for safer work conditions
- Replaceable visor foils allow unchanging clear view onto the workplace
- The SATA CCS Disks (Color Code System) allow to personalize hood, SATA air regulator and SATA air carbon regulator
- To be used in conjunction with a filter unit, preferably SATA filter 484; air supply to be effected via approved breathing hose



German Engineering

Choose a solution provider not just a paint provider

As a shop owner, you want to maximize profitability by effectively getting vehicles through your facility. As a painter, you want a provider that helps you improve your craft and provides products that help you push more cars through the booth with consistent performance.

When selecting a solution provider ask:

- How effective is my account manager working with me on a regular basis to improve my bottom line?
- What training is offered for business management and product?
- Are there additional consulting services to help improve shop efficiency?
- How do your products help us with cycle time demands?
- How many tech reps do you have?
- How quickly can you deliver products to help me manage inventory costs?

Individualized solutions

Sherwin-Williams collaborates with our customers to develop custom solutions based on their specific growth opportunities. We provide a team of knowledgeable tech reps, field personnel and industry leading consultants to deliver the service and support necessary to help you achieve sustainable efficiency.

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"This is an exciting time in the collision repair industry!" states Timothy W. Morgan, COO and Managing Director of Spanesi Americas.

"Our industry has witnessed an evolution within the last decade. Many, many new substrates and construction methods are being used in all types of vehicles, not just the Europeans and exotics. This has challenged our industry in the way that we approach vehicle repairs. Every day, we see shops that are restructuring their repair processes to embrace vehicle specific repairs for every customer that comes in their doors," continued Morgan. "With that in mind, Spanesi delivers a complete solution for those facilities that are looking to the future."

Repair planning, simplified.

Spanesi has perfected the art of damage analysis, repair planning, repairing the vehicle and documentation. With the Spanesi Touch Measuring System and the Spanesi Multibench, most vehicle repairs can be completed without ever having to move the vehicle out of the stall.

Spanesi Touch Measuring System

The Spanesi Touch Measuring System is the gold standard for vehicle measuring systems. The Touch's ability to measure on a two-post lift, structural straightening bench, frame rack or even on the ground making the Touch the "go-to" product for today's collision repair profession-



als. Measurements include under-body, upper-body, under-hood, side-openings, live pulls, as well as, the ability to check mechanical and suspension parts for damage. A technician can fully measure a vehicle in a matter of minutes. No other system on the market delivers that kind of efficiency or flexibility.

Spanesi Multibench

With one of the lowest profiles in the industry, the Multibench is a small powerhouse of productivity, in very a small footprint. With the ability to lift over 6,500lbs to a height over 5', the Multi-



bench is a workstation and straightening bench all-in-one. With the optional 10 ton pulling tower and Superstar® Jig System, the Multibench is able to tackle most repairs in a fraction of the time it would take to just setup a frame machine.

OEM approvals

Spanesi has OEM approvals from Acura, Audi, General Motors, Honda, Jaguar, Land Rover, Porsche, Range Rover, Tesla (our latest addition), Volkswagen and Volvo are just the tip of the iceberg. Spanesi's equipment meets or exceeds the specifications for OEM certification programs in North America under the Assured Performance Network guidelines.

Setting the industry standard

Spanesi has 4 branches around the world, 11 training centers and showrooms, 24 distributors covering the United States and Canada including several regional training centers, over 40 products and solutions that are currently available in 100 countries. Spanesi's staff truly takes the best ideas from around the globe and incorporates them into their latest product lines. It's easy to see why Spanesi is the leader in collision repair equipment, by delivering the products that collision repair shops need to stay competitive in the years to come.



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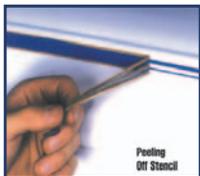
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OUR PARTNERS



Effective marketing can increase profits in your shop

Try these easy-to-implement strategies to get customers through your door

In the first six years of running my business, I had no idea how to market my shop. I flew by the seat of my pants, throwing away money to anyone who would promise me more business. The only thing I learned here is that most people did not have my best interest in mind. With the help of a consulting company, I invested more of my time in learning about marketing and understanding the various strategies that will help increase revenue. Almost immediately after implementation, sales grew — and continue to grow — at a steady 15 percent to 20 percent. Here are some basic, easy-to-implement strategies that should work in most collision shops.

Social media

First and foremost, let's start with online presence. Your website represents your business, and a first impression is often determined by what a website looks like and how it functions. Essential to marketing, your site should include a call to action, such as "Request an estimate." This gives potential customers a place to go, regardless of if it is after hours or on a weekend. Websites need to have enough content to introduce your shop and the services that you offer, but try to keep it simple. Generally, five to six pages is sufficient.

It's common to wonder if you're using the right social media. My suggestion is to pick one and get really good at it. You can implement more as you go. I have seen shops create a Facebook page and actively post for two to three months, then claim they didn't see any results and quit using it. Social media marketing takes time; there is no quick and easy solution.

Start with two posts per week and gradually increase until you reach the point where you are posting daily. In my opinion, one of the biggest mistakes shop owners make is that they keep all of their posts car-related. They call it "social media" because it is supposed to be social. Try mixing it up with trivia games, funny memes, comments or photos from kids, employee pics, giveaways, etc. Start by inviting your friends to "like" your page



ONE OF THE BIGGEST MISTAKES SHOP OWNERS MAKE IS THAT THEY KEEP ALL OF THEIR SOCIAL MEDIA POSTS CAR-RELATED.

and, hopefully, they'll invite their friends.

Referral marketing

This is one of the least expensive and most effective ways to market your business. If you haven't already, create a referral program. This begins with asking for referrals and, possibly, offering a small gift as appreciation. Leave handwritten thank you cards in customers' vehicles and/or mail out a short survey. It's good to have some sort of ongoing mailing scheduled a couple of times per year at minimum. You want your customers to return and you want them to refer you, so be sure to keep in touch. For example, our shop sends out a bi-annual newsletter to our entire database. As with all marketing, a referral program takes time to build, so try not to get discouraged.

Community involvement

In 2011, I became sincerely active in my community through the local Chamber of Commerce. All chambers need volunteers, and it's a great way to help while meeting new people. Shortly after, I was chosen to be on the Board of Directors, and this eventually led to me becoming Chairman of the Board. During those four years, I connected with hundreds of people and many became loyal customers. This also created a pathway to other business relationships. It doesn't have to be the Chamber of Commerce — you could sponsor a local sports team or mentor students at a nearby vocational school. Whatever that may mean for you, allow your good intentions to help develop personal relationships.

There is no "magic pill" when it comes to marketing. You just need to know where to start, remain dedicated and try to enjoy the process. If you don't have time or interest, hire someone. It's a low-cost investment with great potential for long-term return. ■

MARK PROBST is the owner of Probst Auto Body in Dieterich, Ill. He earned the Master Elite of Shop Management award from Management Success in 2016.
mark@probstautobody.com

TECH TIP: PEEL TEST

HOW TO PERFORM A DESTRUCTIVE WELD TEST

STEP 1



Before Welding:
Your test welds should be on the same material or as close as possible to the material you will be repairing.

- Clamp the welded test material into the vice.

STEP 2



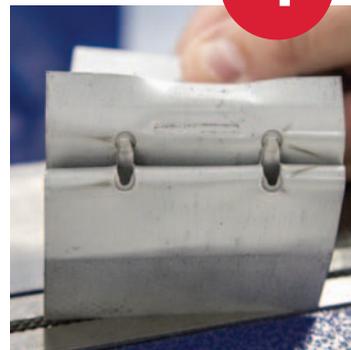
- Bend material back in the vice to create a section to grip and peel.
- Use a pair of channel lock pliers to help roll the material back.

STEP 3



- With the pliers, start peeling the material back.
- You will see the weld nugget start tear from bottom or top of the material.

STEP 4



- If welds are good, the weld nugget will stay in tact while tearing around weld nugget.

NOTE: This test may be harder to complete on HSS and UHSS.

1

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4

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