Lexus IS Laser Screw Welds

COMING SOON: The New CR&R Training Website
Get the latest info and sign up for training online

KNOW YOUR COLORS
Paint codes and paint formulas

Laser Screw Welding
Learn about laser screw welding on the 2014 Lexus IS and about replacements for this factory welding technique.
Kaizen—Continuous Improvement

Kaizen is a Japanese word that means good change. At Toyota, we have adopted a culture of kaizen, which is a philosophy that encourages people to continuously improve their work. This often means making incremental improvements that, when all put together, can have an enormous impact.

One way we at Toyota believe we can create positive change is by providing superior collision repair training—and working to make sure that it is always evolving to meet the growing and changing needs of the collision repair industry. This is why we continuously work to develop new courses, like the new Non-Structural Body Repair Techniques and Structural Body Repair Techniques classes, both of which are offered in convenient online format. It’s also why we are refreshing the Toyota Collision Repair & Refinish website, making it easier to find, sign up and pay for classes.

Toyota’s goal is to make sure that all collision repair shops, regardless of size or vehicle age, have the tools necessary to get the work done properly. And, we want to make sure these tools are available to all shops, from large operations to small mom-and-pop businesses. We want to give you the tools you need to do your own kaizen, so that you can continue to evolve with the changing industry and deliver safe, quality repairs to your customers.

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HAVE A BRIGHT IDEA?
We want to hear about it — info@collisionprosmagazine.com

SPEED. INGENUITY. ENGINEERING. Toyota is now the Official Car of NHRA—and all the biggest racing stars will be on hand in pursuit of the finish line in the 2014 NHRA Mello Yello Drag Racing Series Season. Toyota will also be the title sponsor of the Englishtown, New Jersey race—and at the second Las Vegas race for the next three years. Plus, Toyota will have a year-round on-site presence at all Mello Yello race events and at ESPNU broadcasts.

All tickets fans can look forward to a total of 24 racing events a year according to Toyota’s agreement with NHRA. Ten of the events will have interactive displays hosted by Toyota. For example, one display will simulate the sport of drag racing, one lets fans get up close and personal with an engine, and another lets fans see what happens at drag racing’s top speeds at 200–300 mph speeds.

“It’s a great opportunity to meet potential customers and elevate their knowledge—and the image of Toyota,” says Don Brown, National Motorsports Marketing Manager, Toyota Motor Sales, U.S.A., Inc. “We’re excitedly showcasing our wares and expertise to a group of fans and customers who are very important to us.”

NHRA NEWS: NHRA is introducing new formats for qualifying races and for the Chase for the NASCAR Sprint Cup, which Toyota Motorsports Marketing Manager Paul Doshel says should excite everyone for each.

For fans, Doshel recommends the pit pass displays, photo-op cars and driver appearances—plus new Zoomboxes and NASCAR Pit Garage—and the All-Access Drive Center, where prospective buyers can try out Toyota trucks and SUVs. An interactive display called Speedway allows fans to experience the banking angle at various tracks. Toyota also provides fans with secured changing stations for their personal electronics at both NHRA and NASCAR pit pass displays.

“We’ve also have our Toyota Hero’s monster truck at many race events,” says Doshel. “This unique program connects employers with veterans looking for work.”

“NHRA gives people a passion for racing, and the images we capture from the track will continue to motivate and inspire the younger generations to explore the profession.”

You can find more information at ToyotaRacing.com and Toyota Racing on Facebook.
Soon, users will be treated to a brand new, completely redesigned Toyota Collision Repair & Refinish Training website. The site will launch with a host of new features and content, making it easy to sign up for courses and find collision-related reference materials. The new site is also an excellent resource for members of the collision repair industry, who will be able to find the latest information about Toyota, Lexus and Scion training.

“We are excited to announce the launch of the new site,” says Chris Risdon, Technical and Collision Training Assistant Manager, Toyota Motor Sales, U.S.A., Inc. “The goal of the site is to make it simple for technicians to learn about and sign up for our courses of study. We want to make the training as accessible as possible to everyone, and the new site is designed to help us do that.”

Toyota, Lexus and Scion Collision Repair & Refinish courses provide high-quality training that instructs collision repair professionals on how to return vehicles to their pre-accident condition with safe, quality repairs. The training is offered in both online and instructor-led formats.

Pay and Go

The new site also simplifies the payment process. There are convenient payment options for both certified and independent shops. Payment is now accepted online at the time of enrollment, eliminating the hassle of a cumbersome reimbursement process. Dealership-owned shops will still be able to track course fees on their parts statement. “We designed the site with the end user in mind,” explains Risdon.

On Its Way: The New CR&R Website!

Your Portal to Toyota Collision Repair & Refinish Training

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Course Information

Intuitive navigation will allow users to easily find the information they need about Toyota’s Collision Repair & Refinish training. The website details each training course that is offered, including what students will learn in the course and any required prerequisites. A course map and back and forward buttons on the course descriptions give users recommended paths of study to help ensure they are on track to meet their educational goals. Instructional videos and other helpful interactive content are planned for the site soon.

Additional Resources

The updated website is not just a place to sign up for courses, it’s also a great resource for technicians and others in the collision repair industry. The site includes a resource library with issues of Collision Pros magazine and selected Collision Repair Information Bulletins and Quick Training Guides. The site will also include the latest collision repair news and information from Toyota.

COMING SOON
New Toyota E-Learning Courses

FREE, CONVENIENT AND ONLINE
Toyota is expanding the pre-learning modules for its core curriculum with PB301/PLB301 Non-Structural Body Repair Techniques and PB460/PLB460 Structural Body Repair Techniques. Both courses are offered as part of Toyota’s e-learning modules and are free to anyone with a SPIN.* The courses will be available beginning this spring.

WHAT YOU’LL LEARN
PB301/PLB301—Non-Structural Body Repair Techniques provides the information needed to perform non-structural body repairs and welded panel replacement, including learning to:
• Evaluate and describe primary and secondary damage
• Identify characteristics and repair precautions for high-strength steel
• Identify acceptable weld quality for squeeze-type resistance spot welds and metal inert gas welds
• Interpret weld panel removal and replacement specifications and cut and join locations and methods
• Select replacement corrosion protection and sound deadening

PB460/PLB460—Structural Body Repair Techniques gives attendees an advanced understanding of body repair tools, equipment and techniques, including learning to:
• Identify and explain crash energy-absorbing body and frame features and perform a systematic structural damage diagnosis
• Classify structural damage and predict misalignment to determine corrective measures
• Interpret specified structural unibody sectioning procedures
• Explain approved frame repair and component replacement procedures
• Measure and section a frame rail using electronic measuring equipment, related tools and welding equipment

AT YOUR OWN PACE
Toyota’s online modules can be taken anytime, anywhere that you have a computer and an Internet connection. Technicians can complete the courses at a pace that works for them, stopping and starting as necessary.

More information about Toyota Collision Repair & Refinish training can be found at www.crrtraining.com.

* Learn about how to obtain a Secure Personal Identification Number (SPIN) on page 6.

How to Get a SPIN

A Toyota-issued Secured Personal Identification Number (SPIN) is required to take all online and instructor-led Toyota, Lexus and Scion Collision Repair & Refinish courses. The SPIN helps keep track of the courses you’ve taken and tracks your training record. To obtain a SPIN, complete the following steps.

Independent Collision Center Employees
If you are an independent body shop manager, estimator, body technician, or painter or work in a collision-related industry (insurance, educator, etc.), complete these steps to obtain a SPIN:
1. You will have to be sponsored by a Toyota, Lexus or Scion dealership in order to obtain a SPIN. Choose a dealership in your area and contact the Wholesale Parts Manager to request their sponsorship.
2. Print and complete the registration forms (available on the new website) and take it with you to the dealership.
3. Once the sponsoring dealer completes the registration, a SPIN and card will be mailed to you.

When you receive the SPIN in the mail, you will be able to take free online e-learning modules and sign up for hands-on instructor-led courses for a nominal fee.

Dealership-Owned Collision Center Employees
If you are a Toyota, Lexus or Scion dealership employee, please contact your body shop manager to obtain your SPIN.

Available soon.

Additional Resources

The updated website is not just a place to sign up for courses, it’s also a great resource for technicians and others in the collision repair industry. The site includes a resource library with issues of Collision Pros magazine and selected Collision Repair Information Bulletins and Quick Training Guides. The site will also include the latest collision repair news and information from Toyota. Instructional videos and other helpful interactive content are planned for the site soon.
Metal Inert Gas (MIG) Plug Welding

Metal inert gas welds have a larger heat-affected zone than squeeze-type resistance spot welds. When using these welds, make sure the heat-affected zones from the individual welds do not overlap.

Squeeze-Type Resistance Spot Welding (STRSW)

Squeeze-type resistance spot welds are the preferred welding technique for replacing laser screw welds because of their smaller heat-affected zone.

2014 LEXUS IS WELDING REPLACEMENT

The 2014 Lexus IS 250 and IS 350 are sleek, powerful performance sedans, as cutting edge in design as they are in appearance. The vehicles incorporate the use of high-tech laser screw welding and ultra-high-strength steel in body components. However, these innovative techniques and materials can pose a challenge in the repair shop. Laser screw welding can only be done in the Toyota factory. It cannot be replicated in your shop. To add to the challenge, other types of welds that might serve as a substitute to laser welding can affect ultra-high-strength steel if executed improperly. Technicians should be sure to follow the proper repair procedures when working on these vehicles to ensure they replace laser welding with a safe, high-quality substitute.

1. Use the Technical Information System (TIS). You can’t tell what a part is made of just by looking at it. Refer to TIS to determine what type of metal you will be welding and the type of welds that were originally used on the piece. This will help you decide what type of weld you need to use to replace the part.

2. Use STRSWs. If you are working with laser screw welded ultra-high-strength steel, then STRSW is the preferred replacement welding method over MIG plug welding. STRSW produce a more concentrated HAZ than MIG plug welds, and so there is less possibility of damaging the surrounding metal.

3. Use a Test. If you are working with laser-welded ultra-high-strength steel and do not have the option of performing STRSW, then you must determine if a MIG Plus weld will be an acceptable substitute. To do this, perform a test with the MIG welds to see if the HAZs from the welds overlap. If they do overlap, you cannot perform the repair using MIG welds.

Following these steps will help you properly repair components with laser screw welded ultra-high-strength steel. Toyota Collision Repair & Refinish Training offers a number of classes on welding and body repair that can give you additional resources to help perform welding repairs properly. More information about Welding Techniques for Collision Repair and other courses can be found at www.crrtraining.com.

Continued on page 10
Paint Codes and Formulas Explained

Paint codes and paint formulas help you precisely match a vehicle’s color during the repair process. Understanding what they mean and where to find them can help the repair process go more smoothly.

1. **Paint Code**—a three-character identifier that Toyota uses to label each unique exterior paint color it produces. It can be found on the bottom left of the label on the vehicle’s door jamb and in TIS. The code is generated by Toyota.

2. **Paint Formula**—the recipe that gives the appropriate mixture of base and pigments needed to create a specific color. Each paint company develops its own formula for Toyota colors from paint samples provided by Toyota. This means formulas for the same vehicle color can be different depending on the paint supplier.

If your paint system does not recognize a Toyota paint code, this most likely means that it does not have a formula for that particular color. This is common with new colors, which sometimes haven’t been updated in the paint system yet. First, update your paint mixing system database. If the system still does not recognize the code, contact your paint provider’s technical hotline or your field rep directly for assistance.

Toyota does not provide paint codes for under-hood colors or wheel colors. Typically, paint providers will provide a color deck that technicians can use to match these colors.

**Improve Your Skills**

Toyota offers several online and instructor-led paint courses to help you improve your color matching skills and painting techniques. Visit www.crrtraining.com for more information.

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**Welding Guidelines**

**USE THE TOYOTA-APPROVED WELDING METHOD EVERY TIME**

When performing repairs on body components that require welding, it is crucial to use the correct type of weld to ensure the repair is done properly. Crib #181, Welding Specifications and Substitutions, updates welding information published in many model-specific Collision Damage Repair Manuals for Toyota, Lexus, and Scion vehicles. The Crib states that squeeze-type resistance spot welds (STRSWs) are the preferred type of welds to replace all factory welds on vehicles. STRSWs have many advantages, including:

- No production of ultraviolet radiation
- Smaller heat-affected zones
- Reduction of corrosive hot spots
- Decrease in the amount of stray sparks
- Lessening of the contamination from burnt coatings

When used in place of GMAWs or MIG welds, STRSWs must be equivalent to the factory welds in size, strength, and appearance. To confirm the strength of a weld, tune the welder and perform destructive testing on a piece of metal that is the same thickness and composition as the metal being replaced.

Guarantee that you are working with the most current collision repair information by always reviewing Toyota Collision Damage Repair Manual specifications and relevant CRIBs prior to beginning any repair work.

**Welding Equipment Specs**

When working with ultra-high-strength steel and high-strength steel, make sure you are using the right welding equipment. The proper equipment will help prevent damage to the material during the welding process.

When choosing a welder, look for one that meets the following criteria as a minimum:

- Three-phase inverter-type welder
- At least 10,000 amps of welding current
- At least 660 foot-pounds of tip clamping force

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**Paint by Numbers**

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For more collision repair details, refer to the Toyota Technical Information System (TIS) at http://techinfo.toyota.com or http://techinfo.lexus.com. You may also contact the Toyota Material Distribution Center at (800) 622-2033.

- **WEST CALDWELL, NJ**
  - 05/13  602 Advanced Hybrid Collision Repair
  - 05/14  908 IS C for Collision Repair
  - 06/10  503 Steering & Suspension Analysis & Repair
  - 06/17  200 Color Matching for Painters
  - 06/19  250 Advanced Painting Techniques
  - 07/14  300 Welding Techniques for Collision Repair
  - 07/15  301 Non-Structural Body Repair Techniques
  - 07/17  460 Structural Body Repair Techniques
  - 08/12  601 Hybrid Collision Repair
  - 08/13  602 Advanced Hybrid Collision Repair
  - 09/09  200 Color Matching for Painters
  - 09/11  250 Advanced Painting Techniques
  - 09/23  301 Non-Structural Body Repair Techniques
  - 09/25  460 Structural Body Repair Techniques

- **JACKSONVILLE, FL**
  - 05/19  200 Color Matching for Painters
  - 06/02  908 IS C for Collision Repair
  - 06/03  601 Hybrid Collision Repair
  - 06/04  602 Advanced Hybrid Collision Repair
  - 06/05  502 Body Electrical Diagnosis & Repair
  - 06/09  503 Steering & Suspension Analysis & Repair
  - 06/23  300 Welding Techniques for Collision Repair
  - 06/24  301 Non-Structural Body Repair Techniques
  - 06/26  460 Structural Body Repair Techniques

- **TORRANCE, CA**
  - 05/13  601 Hybrid Collision Repair
  - 05/14  602 Advanced Hybrid Collision Repair
  - 05/20  300 Welding Techniques for Collision Repair
  - 05/21  301 Non-Structural Body Repair Techniques
  - 06/10  200 Color Matching for Painters
  - 06/12  250 Advanced Painting Techniques
  - 06/17  502 Body Electrical Diagnosis & Repair
  - 06/19  504 Air Conditioning for Collision Repair
  - 07/08  300 Welding Techniques for Collision Repair
  - 07/09  301 Non-Structural Body Repair Techniques
  - 07/22  460 Structural Body Repair Techniques
  - 07/24  503 Steering & Suspension Analysis & Repair
  - 08/05  602 Advanced Hybrid Collision Repair
  - 08/06  908 IS C for Collision Repair
  - 08/07  101 Paint Finish Repair
  - 08/19  300 Welding Techniques for Collision Repair
  - 08/20  301 Non-Structural Body Repair Techniques
  - 09/09  300 Welding Techniques for Collision Repair
  - 09/10  460 Structural Body Repair Techniques
  - 09/19  200 Color Matching for Painters
  - 09/18  250 Advanced Painting Techniques

- **CALIFORNIA**
  - 05/13  601 Hybrid Collision Repair
  - 05/14  602 Advanced Hybrid Collision Repair
  - 05/20  300 Welding Techniques for Collision Repair
  - 05/21  301 Non-Structural Body Repair Techniques
  - 06/10  200 Color Matching for Painters
  - 06/12  250 Advanced Painting Techniques
  - 06/17  502 Body Electrical Diagnosis & Repair
  - 06/19  504 Air Conditioning for Collision Repair
  - 07/08  300 Welding Techniques for Collision Repair
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  - 07/24  503 Steering & Suspension Analysis & Repair
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  - 09/10  460 Structural Body Repair Techniques
  - 09/19  200 Color Matching for Painters
  - 09/18  250 Advanced Painting Techniques

**TECHNICAL WEBSITES**
- crrtraining.com
  - Get Toyota, Lexus and Scion Collision Repair & Refinish Training information
- autopartsbridge.com
  - Order all Toyota and Scion parts and components—clips, fasteners and decals—needed for a repair

**YOU NEED TO KNOW**
- techninfo.toyota.com
  - Get vital information you’ll need to effectively service most Toyota, Lexus and Scion vehicles
- toyotapartsandservice.com
  - Search and order Genuine Toyota Parts right from your computer

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