



**ProFirst**<sup>TM</sup>

**Collision  
Repair  
Facility**

**Recognized by Honda Canada, Inc.**

**The purpose of ProFirst is to promote the correct, complete and safe repair of Honda and Acura vehicles and to provide support to those collision repair businesses that have demonstrated a commitment to a high level of customer care and satisfaction.**

# Becoming a ProFirst Certified Body Shop



- ✓ Body shop needs to be sponsored by a **Honda** or **Acura** dealer

## ***Being a Certified shop is a win-win because:***

- ✓ You gain increased recognition for your shop's professionalism.
- ✓ Being included on Honda Canada's body shop locator site helps promote customer confidence and loyalty. (Timing to be determined)
- ✓ You'll have increased opportunities to reach more customers.
- ✓ You'll receive cost and time-saving tools (Service Express) to help you make a better and faster repair.

## ***Minimum Collision repair shop requirements – Pilot program***

- Maintain a minimum of four (4) transactions per month (12 in a 3-month period) with a Honda/Acura dealer through AutoParts Bridge.
- Be an I-Car Gold Class shop: I-Car gold class certification for the facility and I-Car welding certificate for at least one technician performing structural welding.
- A resistance spot welder capable of exceeding 9000 amps welding current, greater than 772 lbf clamping pressure at current shop air pressure with a programmable welding cycle time.
- MIG brazing welder with pulse technology controller, CuSi3 filler wire and 100% Argon shielding gas.
- MAG welder, minimum 1000 MPa welding wire and 80% Argon + 20% carbon dioxide shielding gas.

# Next steps



- ❖ Body shop needs to be sponsored by a **Honda** or **Acura** dealer



1. The Honda/Acura dealer will notify Honda Canada of their sponsor choice(s)
2. If qualified (using APB and I-CAR Gold) certified, Honda Canada will email the body shop a Pre-certification package to be completed and returned to [COLLISION\\_INFO@CH.HONDA.COM](mailto:COLLISION_INFO@CH.HONDA.COM)
3. Once received from the body shop, Honda will review the pre-certification information and pre-qualify the body shop for a site visit.
4. Honda will contact the body shop to schedule an on-site visit and validate the information supplied in the pre-certification check list.
5. Certification will occur once the body shop passes the site validation.
6. The body shop will then be sent the terms and conditions, and a certification welcome package.

# Why OE certification?



## Changes in vehicle body construction

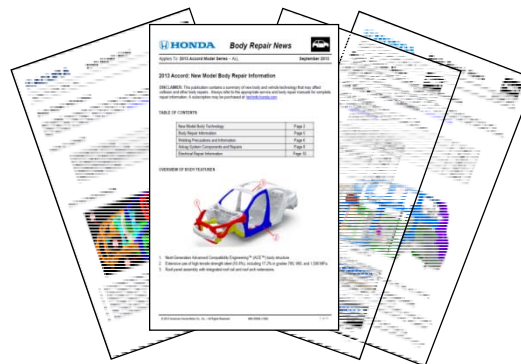
### Challenges:

- Changes in vehicle build materials & design require improved repair training, equipment and information
- Increased requirement for technology support
- Increase body repair quality by dealers and body repair shops
- Strengthen, safe body repair practices for Honda/Acura vehicles

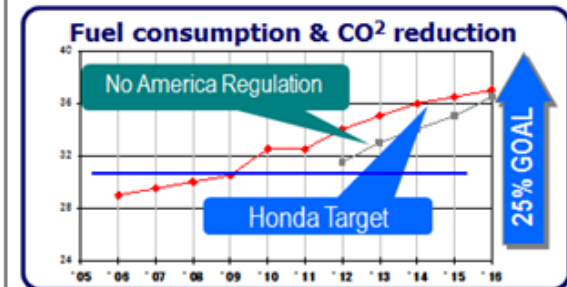
14 MDX White Body Provided for SEMA Show Display



Body Repair News publication provides information required for complete & safe body repairs



- 1 Fuel consumption and CO<sup>2</sup> reduction targets are causing cars to be built with **reduced weight** ....



... yet safety needs and government requirements are causing the need for cars bodies with **increased strength**

- 2 These goals have resulted in bodies built with significantly different **materials, designs and manufacturing technique**

	'09 TL	'14.5 NSX	'016 Civic
High-strength material	r1500MPa Hotstamp		Multi strength HSS
Joint	Framework joined with high efficiency		
Layout	Door ring (13 MDX)		Side panel outer with different materials combined depending on function
Multi material		Aluminization (14.5 NSX)	Different-material joint
Cross section			Continuous joint

Take away: Changes in vehicle build materials & design require improved body repair training, tools and equipment, technical information, and qualified collision repair shops

# Changes in welding for collision repair



## Body Repair Manual information

### Outer Panel/Outer Stiffener Ring Installation

#### NOTE:

- Welding symbols
  - × : 2-Plate spot welding
  - ⊗ : 3-Plate spot welding
  - ⊠ : 4-Plate spot welding
  - : MAG plug welding
  - : MAG welding
  - ◐ : MIG brazing
- L=Welding length unit: mm (in)
- ( ) and ( )\*: The number of welds

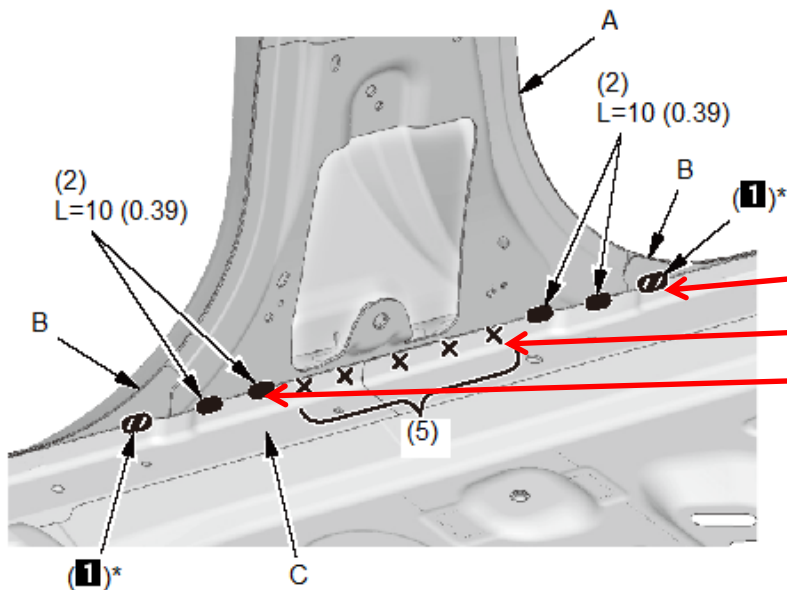
- **Common example of where all three welding techniques are required during repair.**
- **These three welding techniques can be found in many other locations on the vehicle.**

### Outer panel and outer stiffener ring replacement

24. From the passenger's compartment, weld the center inner pillar (A) and the outer stiffener ring (B) to the inside sill (C).

( )\*: Welding positions with 590 MPa or higher parts. [Confirm the plug welding specifications.](#)

(■)\*: Welding positions with the outer stiffener ring, the high-strength steel (1500 MPa) part. [Confirm the MIG brazing specifications.](#)



### 2014 MDX - Inside base of B pillar

#### Welding requirements:

MIG brazing

Spot welding

MAG welding

**In a 30-40 cm section all 3 welding techniques are required for correct repair**

## Ultra High Strength Steel (1500MPa)

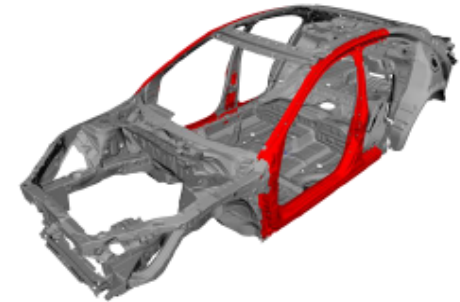
- Traditional body shop welding techniques (MIG welding) must not be used during collision repair.
- The HAZ (heat affect zone) created by MIG welding will dramatically reduce the strength of 1500 Mpa steel rendering it weaker than the lesser strength steel it is welded to.
- Only STRSW (Squeeze Type Resistance Spot Welding) and Pulsed MIG brazing can be used when welding 1500 Mpa Ultra high Strength Steel.

### Welding Precautions and Information

#### REPAIRING 1,500 MPa STEEL PARTS

Observe these precautions when repairing 1,500 MPa steel parts:

- NEVER attempt to straighten damaged 1,500 MPa steel parts because they may crack.
- 1,500 MPa steel parts MUST be replaced at factory seams using squeeze-type resistance spot welding (STRSW). DO NOT SECTION these parts!
- MIG brazed joints should be used ONLY in locations not accessible by a spot welder.
- To assure adequate weld tensile strength, always set the spot welder to the specifications provided in the body repair manual.



#### Important Information

Parts made of Ultra High Strength Steel (UHSS/1,500MPa/USIBOR) must be installed as a complete part. No sectioning allowed. Ultra High Strength Steel requires special welding equipment, procedures, and settings. See the welding section of the appropriate body repair manual. Failure to use the proper equipment or follow the proper procedures can result in an unsafe repair.

- NEVER perform MAG welding on 1,500 MPa steel. The heat generated during MAG welding will significantly reduce the strength and structural integrity of 1,500 MPa steel parts.
- This photo shows tensile strength test results of MAG welded 1,500 MPa steel. The 1,500 MPa steel fractured first, because the welding heat reduced its strength to far below 590 MPa.
- For more information, refer to "Repair Guidelines for High-Strength Steel Parts" in the body repair manual.

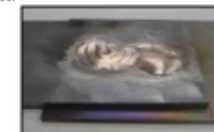


Tensile Test Results of MAG Welded 1,500 MPa Steel

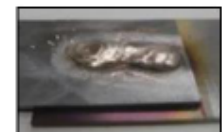
#### MIG BRAZING GUIDELINES FOR 1,500 MPa STEEL PARTS

Refer to the body repair manual for complete information:

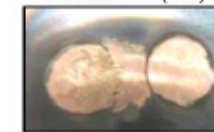
- MIG brazed joint locations are specified in the body repair manual.
- A single- or double-hole MIG braze may be specified in the body repair manual depending on the tensile strength of the parts being joined.
- The size and number of holes are critical to achieving adequate joint strength.
- A pulsed MIG welder MUST be used. Refer to the equipment manufacturer's instructions for welder voltage and current setup.
- The photos at right show the difference in results between pulsed and non-pulsed MIG brazing.



Pulsed MIG (OK)



w/o Pulsed MIG (Bad)



# Changes in welding for collision repair



## Required Welding Equipment for proper collision repair of High Strength and Ultra High Strength Steels.



- **Squeeze Type Resistance Spot Welder (STRSW) capable of 9000 amps or greater and clamping force of 772 lbf or greater used in all possible locations.**
- **Pulsed MIG Brazing welder with 100% argon shield gas. Used when joining 1500MPa steel to lesser strength steels where resistance spot welding cannot access.**
- **MAG welder with high strength steel filler wire and 80% argon-20% CO2 shield gas. Used when joining 340-980MPa steels where resistance spot welding cannot access.**

# Changes in welding for collision repair



**Welding equipment that most body shops will require for the ProFirst program.**

- **Squeeze type resistance spot welder.**
- **Pulsed MIG Brazing welder.**

**All shops will likely be able to repurpose an existing MIG welder into a MAG welder by installing the 80ar/20co2 shield gas and the high strength steel filler wire KNM-DS980J into the welder.**

**We have created a list of acceptable welders that meet the requirement for the ProFirst certification. Email [Eric\\_Ritchie@CH.HONDA.COM](mailto:Eric_Ritchie@CH.HONDA.COM)**

Acceptable Resistance Spot welders for ProFirst Collision Repair Facility				
Make, Model or series	Welding Capacity AMPS	Volts	Phase	Voltage requirement
Car-O-Liner	12,000	200-230V	3Ø	
CHRONIA	11,000	230V	3Ø	
CS 100	11,000	230V	3Ø	
Continental (AMT Canada)				
CS	14,000	200-230V	3Ø	
KOHL	14,000	200-230V	3Ø	
MOORE	14,000	200-230V	3Ø	
POWER	11,000	200-230V	3Ø	
Echelon MetallTech	12,000	200-230V	3Ø	
ME 100 control	14,000	200-230V	3Ø	
ME 100 control	14,000	200-230V	3Ø	
ME 100	14,000	200-230V	3Ø	
Pro-Spot				
MS-100	13,000	200-230V	3Ø	
MS-100 with P5000a cover cap	13,000	200-230V	3Ø	
MS-100 with P5000a cover cap	14,000	120-230V	3Ø	
PS 2000 (aka, Lakota and with P5000a cover cap)	5,500	200-230V	3Ø	
Optimal				
OPTIM113	14,000	7	3Ø	
OPTIM113	12,000	7	3Ø	
Widened SCHL	11,000-13,000	200-230V	3Ø	
Inverts Spot GT	11,000-13,000	200-230V	3Ø	
Tech				
MS2	14,000	200-230V	3Ø	
MS5	12,000	200-230V	3Ø	

\* Voltage requirements may vary dependent on make/model

Acceptable Pulsed MIG Brazing welders for ProFirst Collision Repair Facility				
Make, Model or series	Welding Capacity AMPS	Volts	Phase	Voltage requirement
Car-O-Liner	12,000	200-230V	3Ø	
CHRONIA	11,000	230V	3Ø	
CS 100	11,000	230V	3Ø	
Continental (AMT Canada)				
CS	14,000	200-230V	3Ø	
KOHL	14,000	200-230V	3Ø	
MOORE	14,000	200-230V	3Ø	
POWER	11,000	200-230V	3Ø	
Echelon MetallTech	12,000	200-230V	3Ø	
ME 100 control	14,000	200-230V	3Ø	
ME 100 control	14,000	200-230V	3Ø	
ME 100	14,000	200-230V	3Ø	
Pro-Spot				
MS-100	13,000	200-230V	3Ø	
MS-100 with P5000a cover cap	13,000	200-230V	3Ø	
MS-100 with P5000a cover cap	14,000	120-230V	3Ø	
PS 2000 (aka, Lakota and with P5000a cover cap)	5,500	200-230V	3Ø	
Optimal				
OPTIM113	14,000	7	3Ø	
OPTIM113	12,000	7	3Ø	
Widened SCHL	11,000-13,000	200-230V	3Ø	
Inverts Spot GT	11,000-13,000	200-230V	3Ø	
Tech				
MS2	14,000	200-230V	3Ø	
MS5	12,000	200-230V	3Ø	

Acceptable MAG welders for ProFirst Collision Repair Facility				
Make, Model or series	Welding Capacity AMPS	Volts	Phase	Voltage requirement
Car-O-Liner	12,000	200-230V	3Ø	
CHRONIA	11,000	230V	3Ø	
CS 100	11,000	230V	3Ø	
Continental (AMT Canada)				
CS	14,000	200-230V	3Ø	
KOHL	14,000	200-230V	3Ø	
MOORE	14,000	200-230V	3Ø	
POWER	11,000	200-230V	3Ø	
Echelon MetallTech	12,000	200-230V	3Ø	
ME 100 control	14,000	200-230V	3Ø	
ME 100 control	14,000	200-230V	3Ø	
ME 100	14,000	200-230V	3Ø	
Pro-Spot				
MS-100	13,000	200-230V	3Ø	
MS-100 with P5000a cover cap	13,000	200-230V	3Ø	
MS-100 with P5000a cover cap	14,000	120-230V	3Ø	
PS 2000 (aka, Lakota and with P5000a cover cap)	5,500	200-230V	3Ø	
Optimal				
OPTIM113	14,000	7	3Ø	
OPTIM113	12,000	7	3Ø	
Widened SCHL	11,000-13,000	200-230V	3Ø	
Inverts Spot GT	11,000-13,000	200-230V	3Ø	
Tech				
MS2	14,000	200-230V	3Ø	
MS5	12,000	200-230V	3Ø	





**THE END**

How relevant was this topic to the CCIF  
mandate and your business?

Chris Hogg - Honda



## Chris Hogg – Honda Certified OE Repair Program

Rate on a scale of 1- 5

1 = not relevant    5 = very relevant

**1   2   3   4   5**