



**COLLISION INDUSTRY**  
CONFERENCE

# Emerging Technology Committee

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**COLLISION INDUSTRY**  
C O N F E R E N C E

## **Service Information**

# **The Value of a Standardized Industry Process**

**Presented by: Emerging Technologies Committee**

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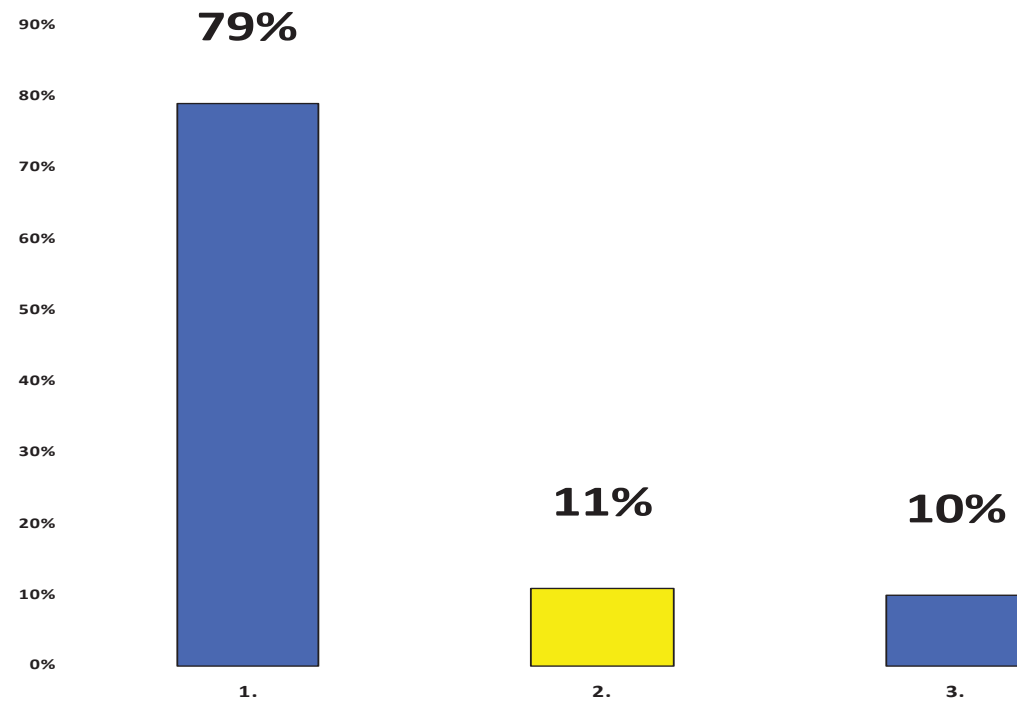
Jason “Buck” Zeise  
Chuck Olsen  
Darrell Amberson  
Bob Augustine  
Jake Rodenroth  
Barry Dorn

# Audience Response Question:

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A Glossary of Scanning Terms Helps Interpret Diagnostics Scan Results and Service Information

1. Agree
2. Disagree
3. Abstain

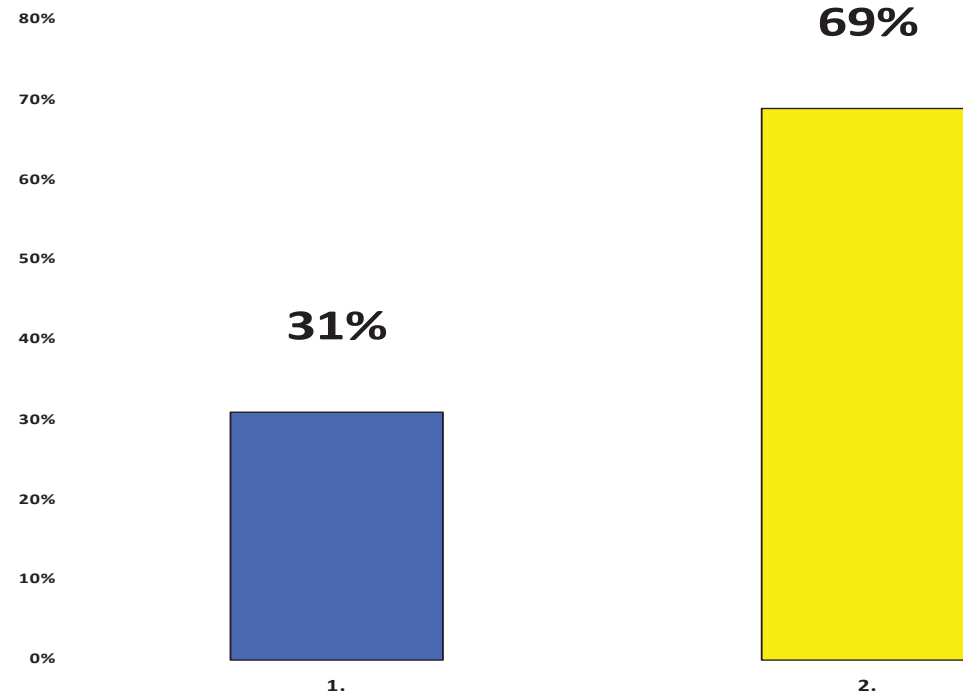


# Audience Response Question:

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A Vehicle Scan Will Identify Any Required Calibrations or Programming Procedures Needed

- 1. True
- 2. False

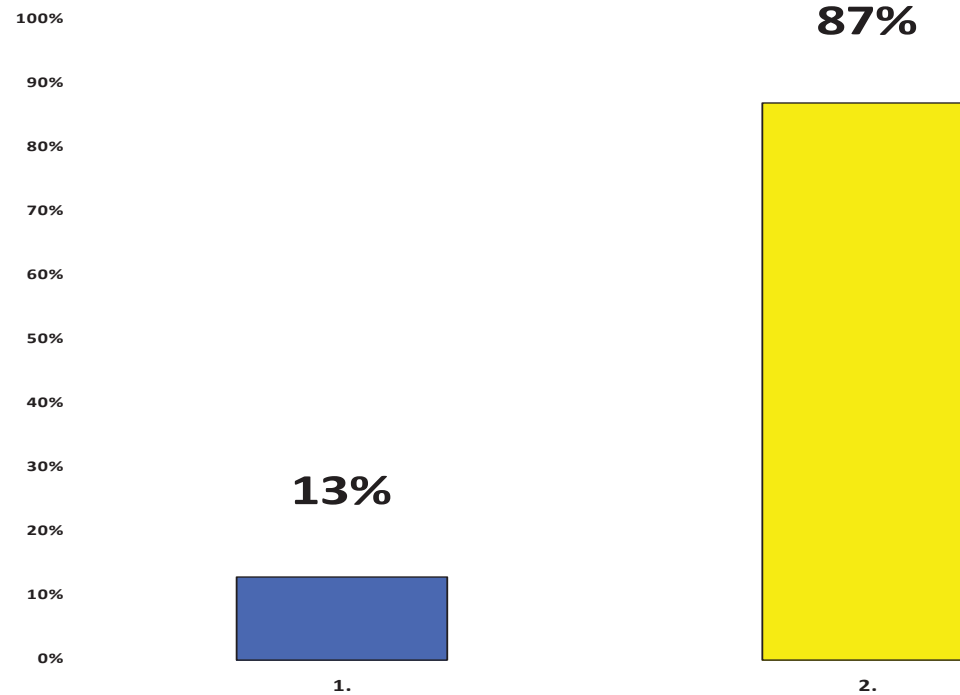


# Audience Response Question:

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A Vehicle Scan Will Identify Damaged Parts And What Needs To Be Replaced

- 1. True
- 2. False



# Alliance of Automobile Manufacturers and Association of Global Automakers Statement on Use of OEM Repair Procedures

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January 16, 2019

- **An automaker's top priority is its customers' safety**, as is safeguarding the overall health of the motor vehicle fleet utilizing our nation's shared roadways every day.
- **All post-collision vehicle repairs must be conducted in accordance with the repair procedures issued by the vehicle's original equipment manufacturer (OEM), specific to that vehicle's year, make, and model.** This includes any directives contained therein relative to pre- and post-scanning of vehicle systems.
- **OEMs develop repair procedures to help safely restore vehicle systems to proper conditions.** The processes follow service and structural engineering practices that have been tested by the manufacturer through crash simulation, actual crash testing, and real-world validation of the repair methodology. Beyond the simple reinstallation of vehicle hardware, **OEM repair procedures provide the measurements and tolerances to correctly recalibrate advanced driver safety and assist systems increasingly found on today's vehicles**, including lane departure warnings, emergency braking, adaptive cruise control, and blind-spot monitoring.
- **Failure to follow OEM repair procedures in the course of a post-collision repair should be considered an unauthorized modification of a vehicle and its systems**, introducing the potential for bodily injury and death to any future drivers and occupants of the vehicle, as well as occupants in other motor vehicles on the roadway.

# Emerging Technologies

What is a Crypto-Encabulator?

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# Emerging Technologies Glossary Updates; Definitions

CIC WIKI [www.ciclink.com/wiki-glossary/](http://www.ciclink.com/wiki-glossary/)

Advanced Scan,  
Diagnostics,  
Calibration and  
Programming

The screenshot shows the Collision Industry Conference Wiki page. The header includes the logo and navigation menu. The main content area features a search bar, a list of glossary pages, and a detailed definition for 'Automotive Scan Diagnostics, Calibration, and Programming'. A black arrow points from the text on the left to the corresponding link in the 'Glossary Pages' list.

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Automotive Scan Diagnostics, Calibration, and Programming

Search the site...

**Glossary Pages**

- Wiki Introduction
- General Automotive Terms
- General Automotive Parts Definition
- Frame / Unibody / Structural Terms
- Automotive Scan Diagnostics, Calibration, and Programming
- Insurance Terms
- Computer Terms
- Time Terms
- Suggest an Edit or Addition

## Automotive Scan Diagnostics, Calibration, and Programming

ABCDEFGHIJKLMNOPQRSTUVWXYZ

**A**

**(ADAS) ADVANCE DRIVER ASSISTANCE SYSTEMS:** This term is used to describe the many systems and emerging technologies present in the latest model vehicles and has existed in some vehicles as early as 2006. Systems include; Lidar, Radar, sonar, object detection, keep lane assist, blind spot detection, thermal imaging (night vision), brake assist, active cruise control, active lighting etc. these systems use an array of sensors and cameras that require calibrations to operate properly. Some of these systems require targeting set up or road testing procedures for calibrations. Each system and manufacturer has specific procedures for calibrations. Refer to OEM service information for targeting and calibration procedures.

[www.ciclink.com/automotive-scan-diagnostics-calibration-and-programming/](http://www.ciclink.com/automotive-scan-diagnostics-calibration-and-programming/)



# CIC Wiki-Glossary new Definition/Edit Requests

Wiki Introduction


Search the site...

### Glossary Pages

- Wiki Introduction
- General Automotive Terms
- General Automotive Parts Definition
- Frame / Unibody / Structural Terms
- Automotive Scan Diagnostics, Calibration, and Programming
- Insurance Terms
- Computer Terms
- Time Terms
- Suggest an Edit or Addition

## Wiki Introduction

**CIC Wiki/Glossary**  
Jargon which describes the terms used in the collision repair industry in the United States.



This Wiki is maintained by the CIC Definitions Committee.

**USE DISCLAIMER:** The information contained is intended to be general industry terminology and not intended to be utilized in a legalistic manner. Neither the Collision Industry Conference (CIC), the CIC Definitions Committee, nor its contributors shall be held liable for any improper or incorrect use of the information described and/or contained herein and assumes no responsibility for anyone's use of the information.

All additions and/or corrections should be reported using the form below.

**Name -**

John Doe

First Last

**Email -**

JohnDoe@email.com

**Correction or Addition -**

Enter your definition suggestion here for either a suggested update to an existing definition or a definition that is missing from current lists  
Please designate Glossary page you are referring too  
General, Parts, Frame, Scanning/calibration, etc.

# Current Definitions Under Review for Update

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**CALIBRATION:** Calibration is a software “learn” or “re-learn” procedure for a vehicle system or component, typically performed with a scan tool using appropriate software. Examples could be ADAS radar, windshield/surround cameras, window regulators, brake pedal position, steering angle and HVAC actuators. Performing a calibration is not programming as those two terms are typically used in the automotive repair environment. A calibration needs to be performed whenever the OEM service information indicates it is necessary as part of a repair procedure, regardless of whether or not a component was replaced. In many cases, a battery disconnect can be enough to require calibrations to be performed. If a module or component was replaced, module programming may need to be done prior to the calibration procedure.

**CONDITIONAL MONITORING:** Each of the emission-based Diagnostic Trouble Codes (DTCs) have an enable criteria that must be met before the Powertrain Computer Module (PCM) runs its diagnostic sequence. DTCs that have dependencies on other DTCs being set or not set are referred to as Conditional. The OEM Service Information is required to understand the enable criteria for each DTC and to properly troubleshoot and correct.

# Additional Definitions Under Review

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**ROAD TEST BASIC:** Performed by shop personnel to **verify standard vehicle performance and condition**, including – but not limited to, centered steering wheel, vibrations, pulling conditions, wind noise, rattles, engine performance, transmission shifting, etc.

**DYNAMIC SYSTEMS VERIFICATION (DSV) ROAD TEST:** Performed by trained and qualified shop personnel to identify and confirm performance of the vehicle systems (as described above) plus advanced vehicle features and systems including driver assistance and safety systems such as advanced cruise control and safety restraint systems.

**DYNAMIC:** Driving the vehicle as defined by the OEM to meet specific criteria and conditions

**SYSTEMS:** any part of the vehicle- safety systems, steering/suspension, body, accessories, optional equip and ADAS

**VERIFICATION:** proving out proper driving & handling characteristics, wind noise, rattles, squeaks and the **proper operation of any/all ADAS equipment on the vehicle regardless of whether the shop serviced that system or not.**

**DIAGNOSTICS:** The process of determining problems associated with DTCs, scan data or symptoms identified to determine what repairs, calibrations or parts will be necessary for a complete and safe repair. **Process may also include service information research, on-vehicle pin-point testing, and inspecting systems or components in damaged areas.**

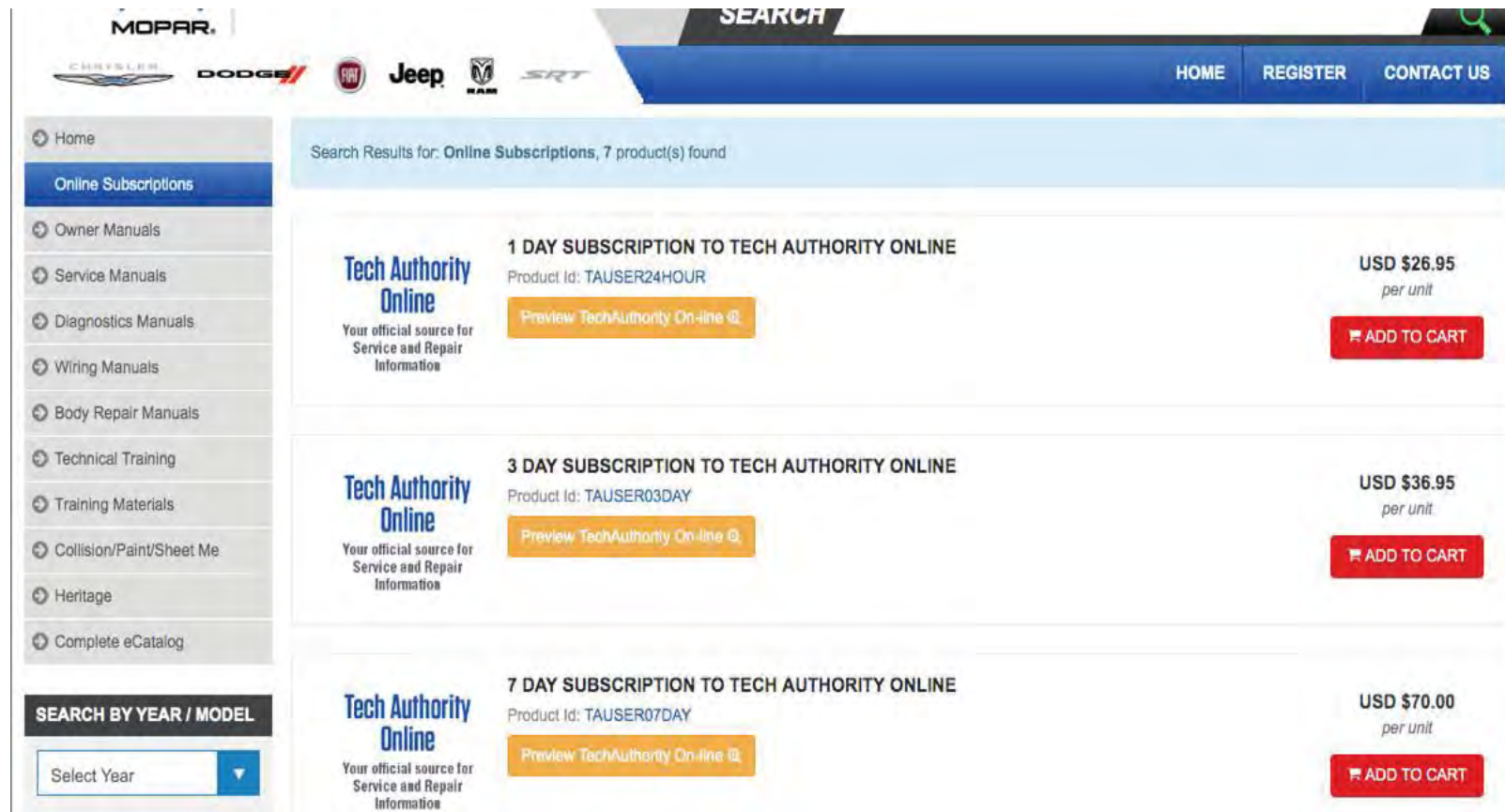
# OEM Access for Independents?

The screenshot shows the Mopar Tech Authority website. At the top left is the Mopar logo and 'TECH AUTHORITY' text. Below it are logos for Chrysler, Dodge, Fiat, Jeep, Ram, and SRT. A search bar is located at the top right with a 'SEARCH' button. A shopping cart icon shows '0 ITEM(S) - \$0.00'. Navigation links for 'HOME', 'REGISTER', and 'CONTACT US' are present. A banner reads 'YOUR OFFICIAL SOURCE FOR MOPAR SERVICE INFORMATION'. On the left is a sidebar menu with categories like 'Online Subscriptions', 'Owner Manuals', 'Service Manuals', 'Diagnostics Manuals', 'Wiring Manuals', 'Body Repair Manuals', 'Technical Training', 'Training Materials', 'Collision/Paint/Sheet Me', 'Heritage', and 'Complete eCatalog'. The main content area has a 'Search Available Products' section with dropdowns for 'Select Year', 'Select Model', and 'All Product Types', a search button, and a 'VIN' field. An advertisement for 'Mopar Heritage Collection' is featured, describing it as a 'Great gift idea for the Mopar classic car collector' with a 'CLICK HERE!' call to action. On the right is an 'Online Service Information Access' section with 'Email Address' and 'Password' input fields, a 'Forgot Password' link, and a 'LOGIN' button. Below the login section is a list of service information categories: 'Service Information', 'Wiring Diagrams', 'Technical Service Bulletins', 'Recalls', 'Parts Data', and 'Labor Operations'.





# OEM Access for Independents?



The screenshot shows the Mopar website's search results page. The top navigation bar includes the Mopar logo and brand logos for Chrysler, Dodge, Fiat, Jeep, Ram, and SRT. A search bar is visible on the right. The main content area displays search results for "Online Subscriptions", with 7 products found. Three subscription options are listed:

Subscription Duration	Product ID	Price per unit
1 DAY SUBSCRIPTION TO TECH AUTHORITY ONLINE	TAUSER24HOUR	USD \$26.95
3 DAY SUBSCRIPTION TO TECH AUTHORITY ONLINE	TAUSER03DAY	USD \$36.95
7 DAY SUBSCRIPTION TO TECH AUTHORITY ONLINE	TAUSER07DAY	USD \$70.00

Each product listing includes a "Preview TechAuthority On-line" button and an "ADD TO CART" button. The Tech Authority Online logo and tagline "Your official source for Service and Repair Information" are also present for each item.



# OEM Access for Independents?

All Product Types

SEARCH BY VIN

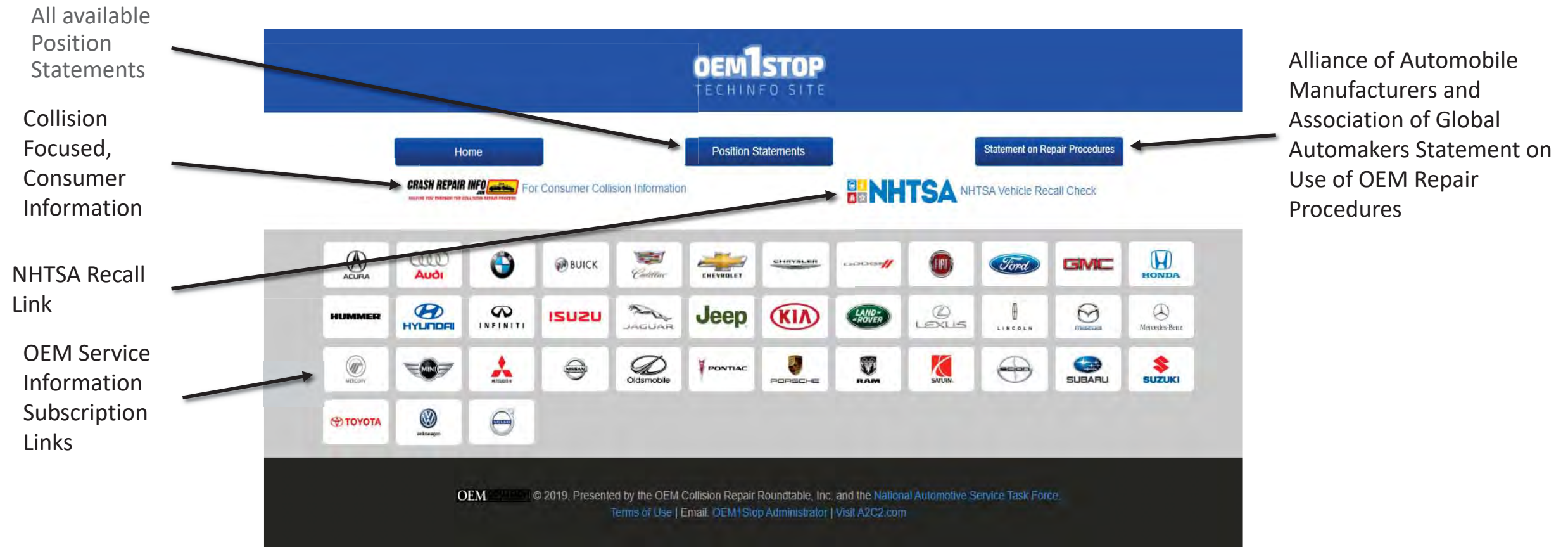
<b>Tech Authority Online</b> Your official source for Service and Repair Information	<b>30 DAY SUBSCRIPTION TO TECH AUTHORITY ONLINE</b> Product Id: TAUSER30DAY <a href="#">Preview TechAuthority On-line @</a>	USD \$250.00 per unit <a href="#">ADD TO CART</a>
<b>Tech Authority Online</b> Your official source for Service and Repair Information	<b>3 MONTH SUBSCRIPTION TO TECH AUTHORITY ONLINE</b> Product Id: TAUSER90DAY <a href="#">Preview TechAuthority On-line @</a>	USD \$600.00 per unit <a href="#">ADD TO CART</a>
<b>Tech Authority Online</b> Your official source for Service and Repair Information	<b>6 MONTH SUBSCRIPTION TO TECH AUTHORITY ONLINE</b> Product Id: TAUSER180DAY <a href="#">Preview TechAuthority On-line @</a>	USD \$1000.00 per unit <a href="#">ADD TO CART</a>
<b>Tech Authority Online</b> Your official source for Service and Repair Information	<b>1 YEAR SUBSCRIPTION TO TECH AUTHORITY ONLINE</b> Product Id: TAUSER1YEAR <a href="#">Preview TechAuthority On-line @</a>	USD \$1800.00 per unit <a href="#">ADD TO CART</a>



# OEM Service Information Access

Collision repair focused

[www.oem1stop.com](http://www.oem1stop.com)





# OEM Technology Access

Technology Focused

[www.nastf.org](http://www.nastf.org)

OEM Service Information  
Subscription  
Links

Module  
programming  
information  
and links

OEM  
subscription  
rate charts

OEM Scan Tool  
Information

Submit for a  
service  
information  
Request (**only to  
be used when all  
sources have been  
checked**)

The screenshot shows the NASTF website homepage. At the top left is the NASTF logo, which features a stylized American flag with stars and stripes above the word "NASTF" in red and blue. To the right of the logo is a navigation menu with links for Home, Events, About NASTF, News & Media, Name Lookup, NASTF Login, and Contact Us. Below the navigation menu is a large banner with a background of an American flag and the text "NATIONAL AUTOMOTIVE SERVICE TASK FORCE". Underneath the banner is a search bar with the text "Search the site" and a "Search" button. On the left side of the page is a vertical menu of links: "Join NASTF: Free", "Vehicle Security Professional", "OEM Service Websites", "OEM Reprogramming Info", "OEM Subscription Prices", "OEM Scan Tool Center", "Service Info Request (SIR)", "How-To Guides/Videos", "Road to GREAT Techs", and "NASTF General Meetings". On the right side of the page is a section titled "OEM Service Websites" with the subtext "(Includes light, medium & heavy duty vehicle OEMs)". Below this title are several links to OEM service websites: Acura - <https://techinfo.honda.com/rjanisis/logon.aspx>, Allison Transmission - <http://www.allisontransmission.com/parts-service/global-service-information>, Alpha Romeo - <https://www.techauthority.com>, Aston Martin - [www.astonmartintechinfo.com/home](http://www.astonmartintechinfo.com/home), Audi - <https://erwin.audiusa.com>, Bendix Commercial Vehicle Systems link here, and Bentley - <https://erwinusa.bentleymotors.com>. At the bottom right of the page is a box titled "Non-USA OEM Techsite Indexes" containing links for Australia and Canada. Arrows from the text on the left point to the "OEM Service Websites", "OEM Reprogramming Info", "OEM Subscription Prices", "OEM Scan Tool Center", "Service Info Request (SIR)", and "How-To Guides/Videos" links in the left-hand menu.



# Basic Fundamental Repair Processes in Collision Repair have changed

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# ACC for Touareg

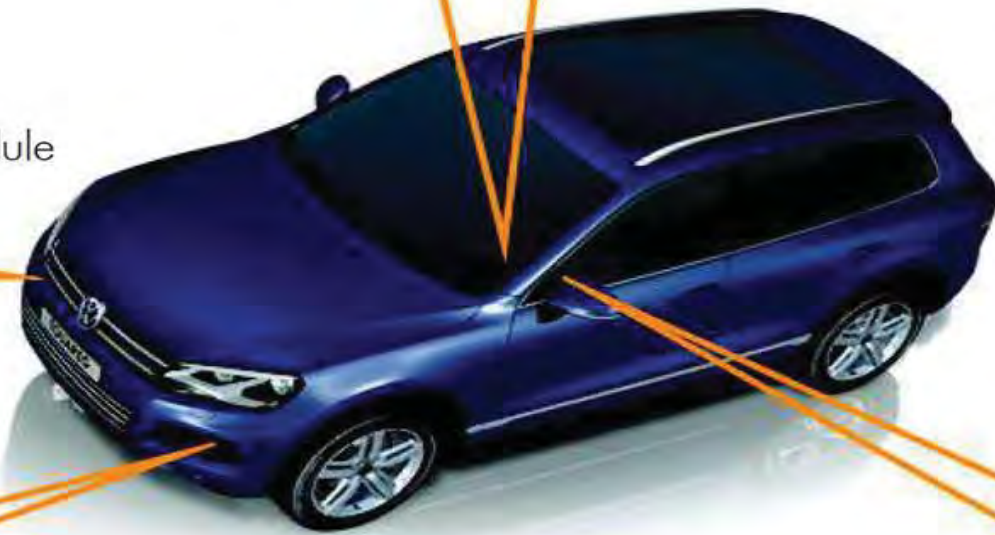


Instrument Cluster Control Module J285

J428 Distance Regulation Control Module



J850 Distance Regulation Control Module 2



Control Lever





# Forward Radar Systems

## Calibration Requirements for Forward Radar Sensors

Calibration of the forward radar sensor is **required** if **any** of the following occur:

- Rear axle toe setting has been adjusted (thrust angle)
- The Distance Regulation Control Module J428 has been removed and reinstalled
- **The front bumper support has been removed and installed**
- **The front bumper support has become loose or has been moved**
- The misalignment angle is greater than  $-0.8^\circ$  to  $+0.8^\circ$  (see below)
- The vehicle has been brought into the service position
- **When performing an alignment**



# Use Diagnostic tools to discover misalignment angles pre-repair

If the misalignment angle is greater than  $-0.8^\circ$  to  $+0.8^\circ$ , calibration is necessary. After calibration, this value is re-set and must learn during a road test.

The screenshot shows a diagnostic tool window titled "Offboard Diagnostic Information System Service - 2.2.1". The window has several tabs: "Control modules", "Results", "Orders", "DISS", "TSB", "Test plan", "Operation", and "Special Functions". The "Results" tab is active, displaying "Measured values - Display measured values".

The main content area shows a table of measured values for the "13 - Adaptive Cruise Control (UDS / ISOTP / 5C0907572 / 0043 / H03 / EV\_ACCBEGVW361 / 001003)" module. The table has three columns: "Name", "RDID", and "Value".

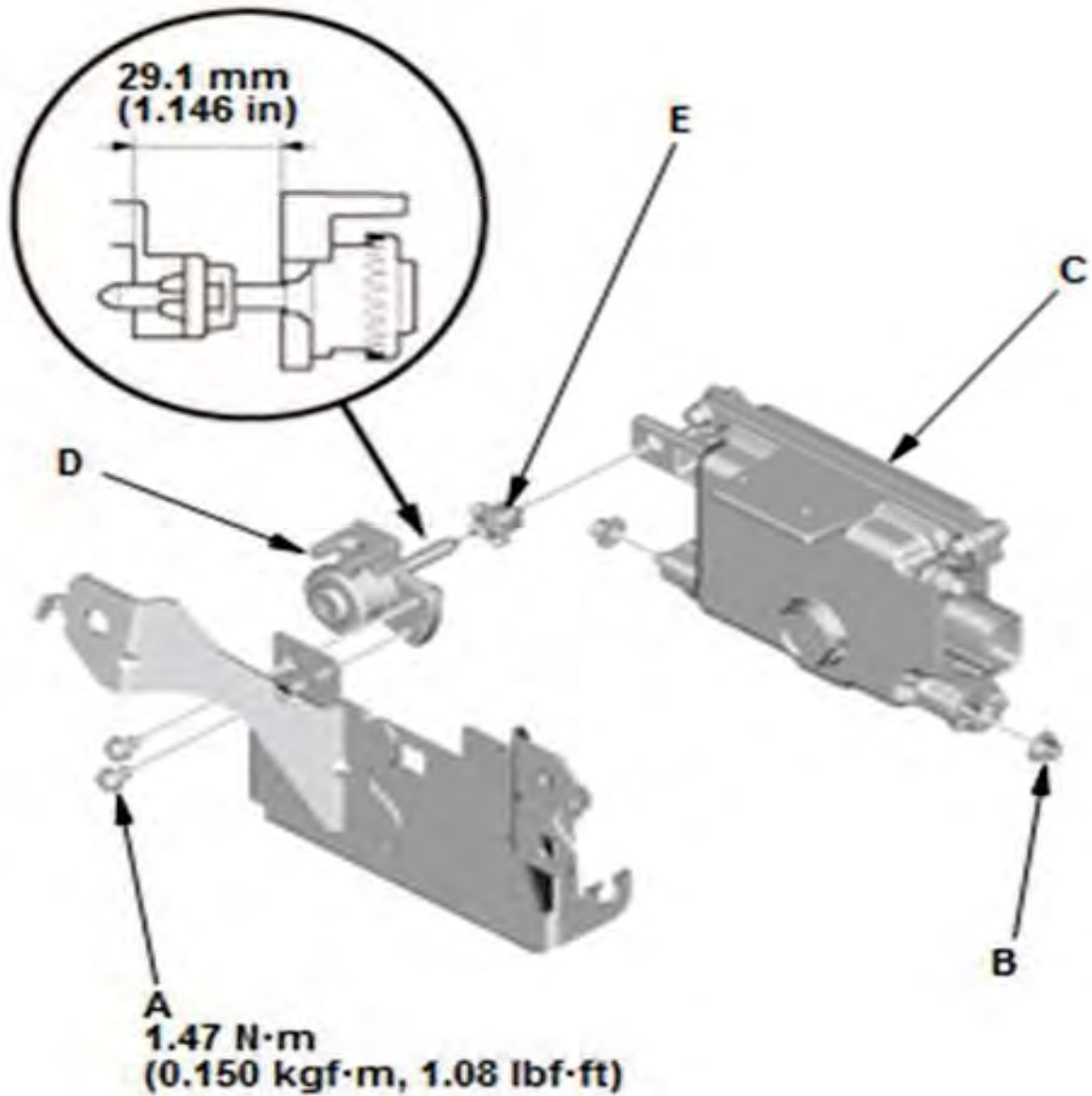
Name	RDID	Value
• [IDE01785]_Vertical angle deviation	\$2556	-0.031000 °
• [IDE01786]_Horizontal angle deviation	\$2557	-0.115000 °
• [IDE02523]_Misalignment angle, fast algorithm	\$25C2	0.38 °
• [IDE01784]_Misalignment angle	\$2555	0.38 °
• [IDE01787]_Radar status	\$2558	Off

On the right side of the table, there are controls for "Update" (a "Now" button), a "cycle" checkbox, and a timer set to "0 s". At the bottom left of the window, it says "13 - MV".





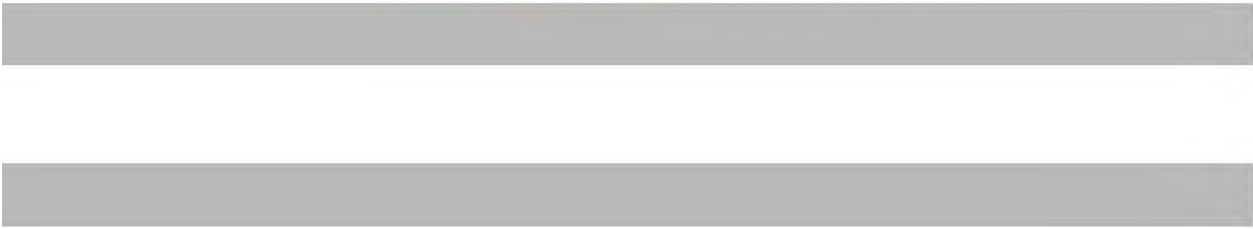
3. All Removed Parts - Install



1. Install the parts in the reverse order of removal.

NOTE: After installing the millimeter wave radar, measure the clearance 29.1 mm (1.146 in) between the millimeter wave radar and its bracket.

- If the clearance is out of the standard, adjust the aiming bolt.



**Measurement of the *radar and its mounting bracket***



## CMBS GRILLE DIFFERENCES

Models equipped with the Collision Mitigating Braking System™ use a millimeter wave radar unit.

- Installing the wrong front grille will cause the CMBS indicator to come on and DTC P2583-97 (dust or dirt on the millimeter wave radar) to set.



Back Side View of Grille Molding (w/CMBS)



Back Side View of Grille Molding (w/o CMBS)

# Not Documented, Not Done



- Identify and report Pre- Repair diagnostic results that could result in further claims severity

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- Fully explain judgement labor times on a vehicle by vehicle basis.
- Road tests... Road tests... Road tests... Document in and out mileage, incl a copy of road test map and gain customer authorization proactively. Also not all road tests are created equally 🤪 . Perform according to system(s) being serviced.
- If an ADAS calibration is being performed by ANYONE it should be photographed and identified and audited for compliance.



# Panel Discussion

## The Value of a Standardized Industry Process

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### **Moderator :**

- ❖ **Barry Dorn – Dorn’s Body and Paint**

### **Panelists:**

- **Jason “Buck” Zeise - LaMettry’s Collision and Glass**
  - **Chuck Olsen - AirPro Diagnostics**
  - **Darrell Amberson – LaMettry’s Collision and Glass**
  - **Bob Augustine – Drew Technologies**
  - **Jake Rodenroth - asTech**