Parts Committee

Scottsdale, AZ

July 2008

Recycled Airbag Update

Disclaimer

Information shared today should not be perceived as an endorsement from either CIC or the CIC Parts Committee.

Presentations are intended to provide updated information so industry stakeholders can make better informed decisions with regard to the subject.

Speakers

Jim Watson – Automobile Recyclers Association

Steve Nantau – Ford Motor Company

Gary Ledoux – American Honda

Keith Jones – Insurance Company of British Columbia

Jim Watson

Automobile Recyclers Association

ARAPro

OEM Non-Deployed Airbags™

New Options For The Collision Repair Industry

ARAPRO™ OEM Non-Deployed Airbags
The Quality Alternative

Introduction

- The ARA's Airbag Protocol; Scope. Limited to airbag units exclusively;
- The Airbag market; growth driven by new regulations and sustained demand
- Goal; lower total loss rates . A common industry goal shared by all
- Addressing the Airbag Challenge
- The Airbag Protocol & its implementation through Airbag Resources.com; training, employee certification, handling & inspection, certificates of inspection, branding "ARAPro OEM Non Deployed Airbags", ARAPro exclusive part search engine, 24/7 availability
- Carrier Experiences
- Conclusion
- Q&A

ARA Airbag Protocol; Scope

- Airbag Protocol is the international recycling industry standard for OEM non-deployed airbag inflator modules (aka "airbags"), addressing:
  - Technician training
  - Technician certification
  - Part Removal, handling and storage
  - Part inspection
  - Documentation
- Strictly limited to the airbag component itself; Protocol does not address system issues i.e. SRS system level performance, (ECU/ECM, clockspring, sensors or wiring) or related parts, e.g. front windshield

Airbag Market Factors

- Aftermarket airbags are now available to the collision industry for some make/models. Applications are very limited and likely will remain so for foreseeable future because:
  - Development costs prohibitive; Payback is too long
  - Broad make/model availability not realistic in foreseeable future
- OE airbags are the only option to maintain crashworthiness of vehicle; franchised OE dealers & Recyclers are the only supply sources for OE airbags
- OE part from a franchised dealer and recycler are the *same* part, simply a *different* sales channel
- ARA Protocol designed to 1)address this sales channel/'chain of custody' issue 2) be in place for the inevitable widespread use of OEM Non-Deployed Airbags in insurer paid repairs 3) ensure Best Management Practices applied at all times
- ARAPro OEM Non Deployed Airbags™ are the same OE part, handled, inspected so "chain of custody' issues are neutralized

Shared Objective; Lower Totals

Vehicle Age Group	Mid Yr 2006	Mid Yr 2007	Mid Yr 2008	Mid Yr 2006	Mid Yr 2007	Mid Yr 2008
	% of Appraisals Flagged Total Loss			% of Total Volume of Appraisals		
Current Yr or Newer	3.8%	4.0%	3.8%	4.3%	4.7%	4.1%
1~3 yrs old	4.8%	5.2%	5.2%	33.1%	32.0%	31.7%
4~6 yrs old	9.3%	9.8%	9.5%	28.4%	27.2%	27.0%
≥7 yrs old	24.0%	24.4%	24.3%	34.2%	36.1%	37.2%
Total	12.6%	13.3%	13.4%	100%	100%	100%

Total loss data courtesy of CCC Information Services Inc

Total Loss (TL) Data and Airbags

- Ave. vehicle age on the roads is now > 9 years
- Vehicles aged ≥ 7 Years account for the largest share of all appraisals written & rate is growing
- These older model year vehicles also have the highest total loss percentage – *i.e. year-to-date 2008 nearly 25% of all appraisals generated for vehicles aged 7 Years and Older were flagged as total loss*
- Of vehicles declared a TL, 66% + are ≥ 7 yrs old (as of mid 2008)
- Airbags a major factor, though other issues contribute
- ***ARAPro*** *OEM Non Deployed Airbags™*, in appropriate circumstances, w/ customer consent, certainly will reduce total losses and retain customer loyalty
- ARAPro Airbags are the only viable alternative for dealer new units. Likely to improve competitiveness in the airbag market (as happened with AM parts)
- Saving repairable cars from becoming total losses means more collision part sales by ARA members, otherwise lost.

Collision Market; Airbag Use Growing

2008 representative models	• Hyundai Sonata	6 airbags standard
	• Honda Civic	6 airbags standard
	• Toyota Camry	7 airbags standard
	• Ford Fusion	6 airbags standard
	• Chevrolet Malibu	6 airbags standard
2012	10, 12, 15 airbags as standard equipment??	

7/28/2008

Addressing the Airbag Challenge

- A common challenge facing the industry is: "how do we lower airbag material costs while maintaining quality, managing risk and keep our customers happy"?
- The ARA Airbag Protocol delivers the best solution:
  - Quality
    - ARAPro Airbags ensures the customer receives OE quality (performance, reliability and durability)
    - Airbags are engineered to meet international automotive reliability standards for safety parts (i.e. "five 9's" reliability (99.999%)
  - Risk Management
    - All actions performed on the airbag are recorded. *No change, modification, alteration of any kind permitted.* Unique record created for each unit in database.
    - Unit thoroughly inspected by qualified technician
  - Every ARAPro part is checked by the recipient car's diagnostic system (ECU/ECM) *prior* to delivery to customer
    - ECU *is* OEM equipment, which performs 2 checks a) continuity b) resistance
      - Continuity checks confirms circuit in airbag intact and able to carry current
      - Resistance of circuit is measured to confirm circuit is within specification

ARA Pro Airbag System

Key Elements

Airbag Protocol Assumptions

- OE performance, quality, reliability & durability are "designed in" and unchanged
  - Part has been fully checked by Tier One maker. a) electrical b) ballistic performance checked prior to shipment to OEM
- Reliability level of airbag unit is the 'Gold Standard', five 9's
- Part is comprehensively inspected according to the Protocol before shipping
- Part is checked electrically by on board diagnostics once installed by body shop; on board ECU is an OEM part; cannot distinguish between new and non-new parts; confirms airbag conforms electrically

ARA Airbag Protocol; Key Features

- All employees involved in extracting, inspecting, handling or shipping units must be trained & certified
- All shipping employees must also be trained and certified & comply with all DOT/state or local rules re airbag shipments
- Vehicle Owner Consent Required
- All units must be inspected (visually)
- Donor vehicle information must be recorded
- Cover inspection/no damage acceptable/no re-finishing
- Flood damage inspection/no flood cars accepted
- Module housing inspection/no foreign objects/all parts secure
- Shorting bar/in position
- Wiring Inspection/no damage to wires or connectors acceptable
- Supplier to confirm unit is correct match for application
- Recall Check prior to shipping
- Documentation to accompany part
- Audit & compliance system part of Protocol
- Each recycler must carry product liability insurance which includes airbags

Airbag Resources.com

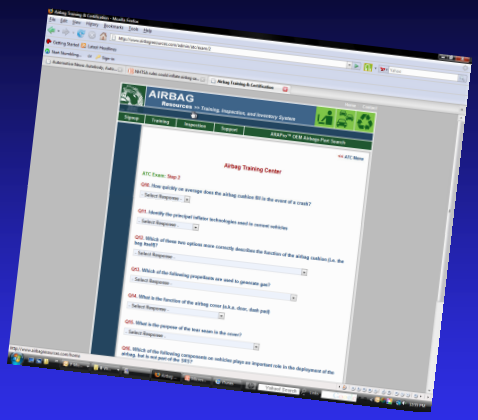
- Executes the Airbag Protocol
- Web Based software; access limited to ARAPro members
- Training for Technicians
- Technician Certification
- Inspection of Parts
- Database/Report generation
- Certificates of Inspection

Training

Techs are trained in safety, handling, basic technology and inspection using web based software

Exam

Techs are tested with a computer scored exam. Score to pass: 100%



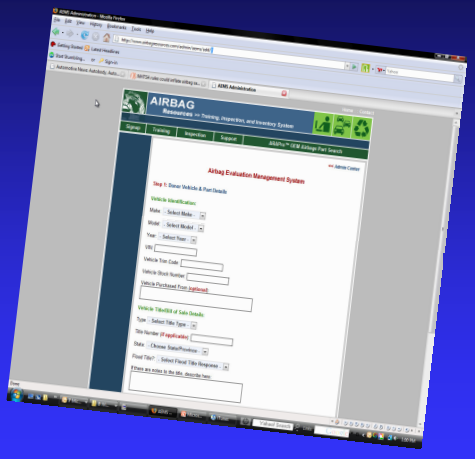
Certificate

When exam successfully completed a personalized certificate is generated
(kept with employee file)

Inspection

Once certified, technician may begin inspection of airbag.

Step 1; capture donor vehicle and airbag details



Inspection contd.

Tech evaluates each unit against question posed. E.g. *"Airbag cover must be visually inspected and show no evidence of nicks, cuts, abrasions or other damage. Tear seam must be intact. Does the module under inspection meet these criteria? Yes or No"* Technician's answers are saved in database.

Inspection contd

Recall check is automated. NHTSA recall file is updated daily.

Certificate of Inspection

Captures all relevant data. Copy sent with part. Paper copy kept with ARAPro member supplier. Digital copy in database

Recycler Logo Here

Certificate of Inspection

This certificate confirms that the subject OEM non deployed airbag has been inspected according to the ARA Protocol for OEM Non Deployed Airbags V 1.3, or later.

Inspection Date: 2007-02-13

Supplier Yard Name: Demo Yard

Supplier Yard Address: 10 Demo Ave.

Supplier Yard Phone Number: 888.888.8888

Part Name: Frontal airbag module, driver side

Donor vehicle year, make and model: 2007 Audi A6

Donor vehicle VIN: 1sader5 fy6666666

Interchange Number: 56565

Certified Airbag Technician (dismantler/inspector): 9999

Certified Airbag Technician (data entry): Demo AEMS User 9999

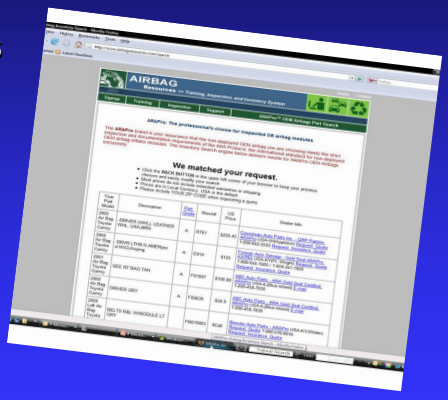
NHTSA Recall Check: No recall record found as of date of inspection

Inspection Result: PASS

Part Search Engine

ARAPRO™ OEM Non-Deployed Airbags
www.AirbagResources.com/PartSearch

- Web based search engine returns ARAPro branded parts *exclusively*
- Easy for collision repair specialists and adjusters to search for, and find, ARAPro parts
- Immediate response
- No cost to use
- Available 24/7



Audits

- An Independent audit is required to participate in the program
- Audit confirms key program requirements are being complied with


Controls

Control area	Control	Test in current period?	Test of controls	Control evaluation	Notes on results

ARAPro Benefits

- Fewer repairable vehicles totaled
- Less fraud
  - Airbag fraud appears extensive *(see chart)*
- Improved customer satisfaction
- Provides quality alternative to new parts
- Lower severity
- Identifies best in class vendors
- A real alternative!

Airbag Module Fraud Estimate, Single Vehicle Example 2003 [1]	Ford Taurus 1999
State Farm Paid For in '03	379 airbag units
Ford Supplied in '03	40 airbag units

1 Data source: Fleet Maintenance Magazine 09/2007

Insurer Experience/Market Usage

- In Canada, 2 major western province carriers are using OEM non-deployed airbags; ICBC has used them successfully since 2003 and for Saskatchewan General Insurance (SGI), OE Non deployed airbags are the first choice.
- In US, while no insurer publically acknowledges use of OEM Non Deployed Airbags……..
  - Recyclers report replacement airbags are in strong demand nationally
  - Airbags consistently rank in the top 15 of part inquiries for many recyclers
  - Numbers sold too great to be explained by rebuilder market alone

When To Consider ARAPro Airbags

- When a new OEM airbag not available due to:
  - Prolonged backorder
  - Obsolescence
- Customer fully informed and consents
- Customer asks for ARAPro Airbag
- When using an ARAPro airbag *will* keep repairable vehicle from becoming a total loss

Conclusion

- The ARAPro is a standard based alternative solution for vehicle repair when used as appropriate, can lessen severity.
- ARA will continue to review and upgrade the ARAPro standards as air bag market trends and technology advance.

Steve Nantau

Ford Motor Company

Gary Ledoux

American Honda

Salvage Airbags

Several OE Manufactures, the Automotive Occupant Restraints Council (AORC), the Automotive Service Association (ASA) and IIHS have published positions on the use of salvage airbags

Automotive Occupant Restraints Council

Salvaged and remanufactured Airbags and safety belts may have been subjected to water damage, excessive heat, shock load, or other detrimental occurrences. It is in the best interests of occupant safety to replace deployed systems with original equipment replacement bags, sensors and seat belts. Airbag systems are vehicle make and model sensitive; thus, their components must never be mixed or matched. Only trained automotive technicians should replace occupant restraint systems.

Ford Motor Company

Use of any salvage, used or reconditioned replacement airbag module or airbag system component not recommended by Ford Motor Company can affect the safety characteristics of the vehicle, and could result in an increased risk of personal injury and death.

Honda

The installation and use of salvaged or used air bag system components in a Honda or Acura vehicle may compromise the intended performance of that vehicle's air bag system, as there is no certainty of the history, quality, condition, or compatibility of a salvaged or used air bag system component.

Toyota

Due to the critical nature of the Supplemental Restraint Systems, also know as air bags, Toyota does not support the use of any used salvage or imitation parts for repair. Only new Toyota Genuine Parts should be used in repairs.

General Motors

Do to the critical nature of the design of the air bag systems, GM does not support the use of any used, salvaged, or imitation parts for repair. Only new, genuine GM warranted parts should be used in repair.

Chrysler

Chrysler Motors LLC does not support the use of any supplemental restraint system (SRS) component, seatbelt component, or any other occupant protection component which has been removed from a vehicle previously damaged, flooded, burned, scrapped, or removed from use for any other reason…

Automotive Service Association

ASA discourages the use of **salvage air bags**. Safety cannot be compromised in this important safety system. While the use of salvage air bags can reduce cost, ASA believes that safety could be severely compromised and that shop owners could be placed at risk for installing salvage air bags. ASA recommends that all shops inquire with their insurance carriers before installing salvage air bags regarding coverage and increases in rates and get this information in writing.

Keith Jones

Insurance Company of British Columbia

Recycled Airbags

ICBC Recycled Airbag Program

- The debate surrounding the issue of recycling airbags has been raging in the automotive industry for years.
- Increased total loss frequency due to airbag deployment.
- Discussions with recycling industry and internal stakeholders.
- Why different than other part?
- Testing designed and conducted with engineering firm.
- Development of program.

Recycled Airbags

- Opposition to recycling non-deployed airbags.
  - Concerns over safety, liability, power, reliability and application.
  - Improper storage, handling and shipping.
  - Airbags from flooded or damaged vehicles exposed to the elements.
  - Airbags are calibrated to each model vehicle because of differences in mass, weight distribution, options and design.
  - There is no way to 100% guarantee that a recycled airbag will work.

Recycled Airbags

- All are legitimate concerns.
- ICBC conducted research to validate feasibility of utilizing recycled airbags.
- Developed a machine designed to measure the "power" of airbag modules to obtain hard data relating to the performance of recycled and new airbags.
- The machine is a pendulum based design fitted with a number of different sensors to measure the airbag's output during deployment.

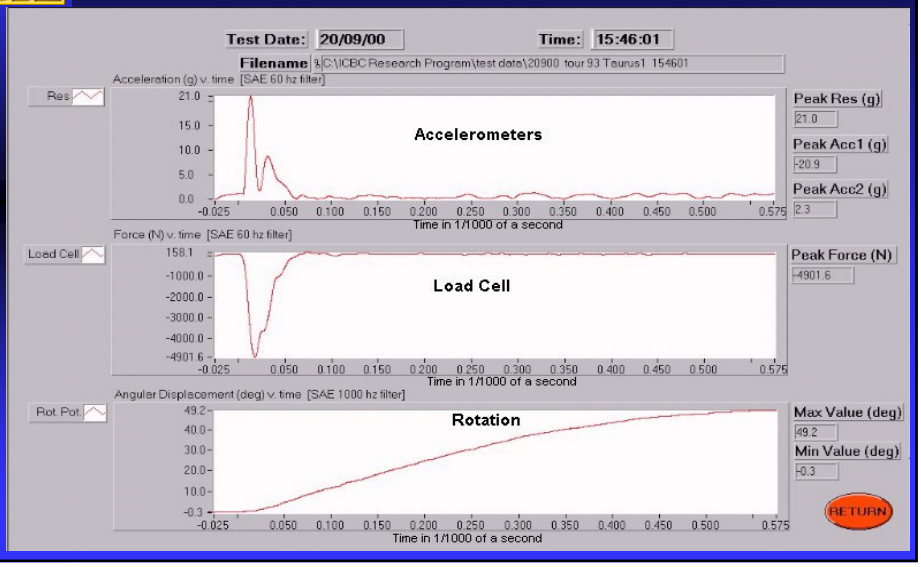
Airbag Testing

- Each deployment was taped using high speed video to determine if there was any difference in the time it took the air bags to deploy and expand.
- The airbag module being tested is mounted on a "pedestal" and the pendulum is positioned in front.
- Located between the "pedestal" and the airbag is a "load cell". This sensor measures how much force is exerting.
- When the airbag starts to inflate it "pushes" away the pendulum. They more powerful the airbag, the faster the pendulum gets "pushed away" and the "higher" it will go.

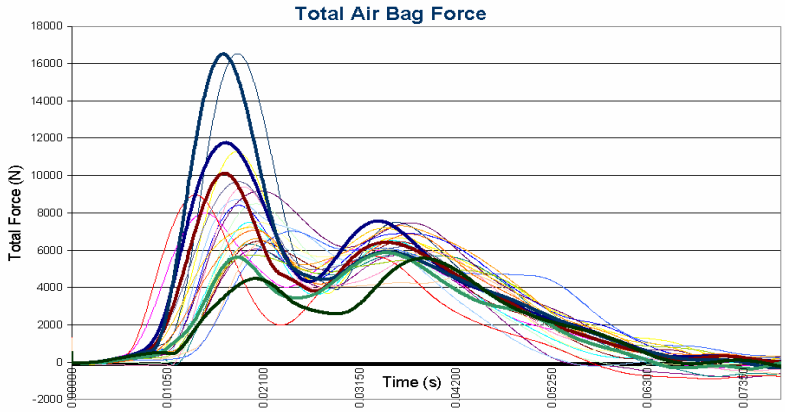
Airbag Testing

- Mounted in the pendulum, directly behind the wooden face, are two accelerometers to measure the "G - Force" as it gets pushed.
- Lastly, there is a rotational sensor (potentiometer) mounted at the top to measure how many degrees of arc it travels through or the "height" the pendulum eventually attains.

Test Result Data Capture



Airbag Testing



Airbag Testing

- The tests conducted by ICBC compared over 100 recycled airbags and 28 new air bags. The mix consisted of recycled airbags from domestic and Japanese. Recycled airbags were sourced from not only local recyclers, but from all over North America as well.
- New Ford, GM, Chrysler and Honda airbags, of the same application as the recycled ones, were purchased from local dealerships for comparison to the recycled ones. The results were very interesting.
- The tests showed that all airbags recycled and new, are different in power from vehicle to vehicle and manufacturer to manufacturer.

Airbag Testing

- New identical airbags showed a variability in the force they develop. This is likely due to the inherent variability in the explosives themselves and manufacturing tolerances.
- The testing found no difference in the power or reliability between recycled airbags and new.

Recycled Airbag Program

- Effective April 1, 2001, ICBC and body shops began utilizing recycled previously undeployed air bag modules, supplied by ICBC/ARA "Certified" Automotive Recyclers.
- ICBC Estimators and Collision Repair partners can research the availability of suitable modules using established procedures.
- Usage of recycled air bag modules must be discussed with vehicle owners and agreement reached on same prior to issuing the estimate.

Recyclers Requirements

- All recyclers supplying recycled air bags must be certified by completing the comprehensive ARA / ICBC Air Bag Recycling Course.
- Utilize an **electronic** yard management system that incorporates current Hollander Interchange information and produces computer-generated invoices.
- Provide documentation on their invoices:
  - vehicle identification number (VIN) of the donor vehicle
  - the certificate number of the properly trained employee who performed the Air Bag Module Recycling Inspection Protocol
  - the claim number as provided by the body shop ordering the air bag modules.
  - Stock ticket with Hollander Interchange

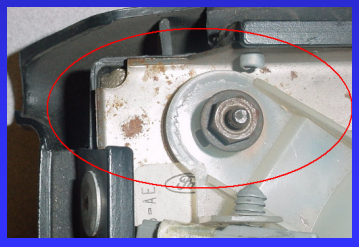
Recyclers Requirements

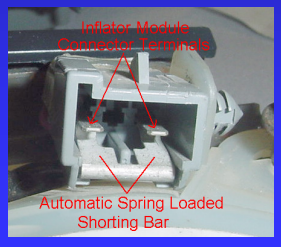
- Any recycled air bags must not originate from vehicles that sustained any type of water damage. This includes any vehicles or airbag modules flooded, partially flooded, immersed, partially immersed or damaged due to exposure.
- Ensure correct the Hollander Interchange number. All recycled airbags must be the correct application as detailed in the Hollander Interchange. Be aware that an airbag may “fit” any number of different vehicle models but may not be the correct application (power) for the vehicle being repaired.

Recyclers Requirements

- All supplied recycled air bag modules must be the correct colour; re-colouring or repairing air bag covers is not permitted.
- All recyclers supplying recycled air bag modules must ensure staff involved in the dismantling of the parts have successfully completed, and received a certificate from, the ARA/ICBC Air Bag Recycling Course.
- Detailed inspection!! No minor damage, wear or imperfections.

Samples of Rejected Air Bags





ICBC Requirements

- Acceptance from customer to use a recycled air bag module (s) from the vehicle owner (s). This agreement must be obtained at the time the estimate is being written.
- Use “Certified” recyclers only.
- Strict adherence to program by ICBC staff.
- Monitor and Audit.

Monitoring and Compliance

- ICBC and the recycling industry will monitor compliance to ensure policies are being followed.
- The recycling industry maintains an “Approved Suppliers List”.
- Suppliers found to have not conformed with the requirements set out in the training program will immediately be removed from the Approved Suppliers List and will no longer be qualified to supply recycled air bags for use in ICBC claims.
- ICBC audit of all claims annually.


Thank You
Questions?