



Structural Integrity Process Guideline Information

Appendix A - Definitions

“**Altered**” means a vehicle that has been developed differently or has been made different from OEM;

“**Body Structural Integrity**” means critical components designed as stress and weight/load bearing member/elements of a vehicle such as radiator support, inner fender skirts, floor pan, rocker panels, engine compartment side rails, upper reinforcements, lower body rails in the rear, inner fender wells, luggage compartment floors and the unibody are within 3 mm (less than 1/8 in.) of the critical manufacturing dimensions, alignments and tolerances. All fits and alignments are determined by the accuracy of the welded structural panels;

“**ICAR**” means the Inter-Industry Conference on Auto Collision Repair. Online standards are located at <http://www.i-car.ca/> ;

“**Irreparable**” means a motor vehicle that,

(a) as a result of being written off by an insurer, has its title transferred to the insurer, who in turn transfers the title to a person under an agreement that states that the person may use or resell it only for parts or scrap, or

(b) has its title transferred to a person who is in the business of wrecking used motor vehicles and who intends to use the motor vehicle for parts or scrap;

“**Modified**” means a vehicle that has had partial component or body changes from OEM;

“**Rebuilt**” means a total loss vehicle that has been declared a salvage vehicle and subsequently reconstructed as referred to in Division 25 Part 3 of the Motor Vehicle Act Regulations;

“**Salvage**” means a motor vehicle that is not an irreparable vehicle and that

(a) while unsafe to drive has its title transferred, or

(b) has been written off by an insurer, whether or not its title has been transferred to the insurer;

“**Structural Integrity Parts**” means the components that are designed as stress and load bearing members.

Appendix B - General Standards

All structural integrity and vehicle safety standards that apply to salvage vehicles (and subsequent rebuilt) are contained in the Vehicle Inspection Manual (2010) Section 8 - Body, BC Motor Vehicle Act, and MVAR.

I-CAR develops and delivers technical training programs to professionals in all areas of the collision industry. They produce the necessary knowledge and skills relevant to industry professionals to achieve a complete and safe repair when rebuilding vehicles with structural concerns.

Inspection Manual Standards

1. The alignment of the chassis or of the unitized body must conform to the manufacturer's standards and tolerances relative to the safe use of the vehicle, in particular with regard to the position of the suspension and steering components;
2. The four wheels must be aligned in accordance with the manufacturer's tolerances;
3. The repair and assembly of the components of the body must be carried out in such a way as to provide occupant protection that is comparable to the original protection;
4. Non-repairable components of the structure must be replaced;
5. Repairable components of the vehicle must be repaired in accordance with methods or techniques that do not affect their original properties in accordance with manufacturer's recommendations;
6. AI's must visually inspect unibody structural components for alignment, securement, welding techniques used, and structural components. If the vehicle structural components are misaligned the vehicle must not pass a vehicle inspection, this includes the doors, trunk, and hood;
7. If the door latches, hood catch, trunk latch, fail to operate properly and hold unit secure, the vehicle is not safe for highway operation and must fail the mechanical inspection;
8. If there is any evidence of high-strength steels are oxy-acetylene or stick, electrode welded, or structural components are gas welded the vehicle fails inspection; and
9. If any structural components have been sectioned or repaired by other than an approved standard and process the vehicle does not pass on either the body integrity inspection report or on the mechanical inspection.

ICAR Standards

The assembly joints of the body must be located in the places recommended by the manufacturer or other agencies such as ICAR;

Those joints which are a part of a repair or replaced component must be accessible when the structural integrity inspection is made. No sealant, soundproofing or rust-proofing

compound may be applied to the areas repaired or components replaced prior to the inspection;

The components of the chassis of the unitized body must be assembled using methods that do not affect the mechanical and metallurgical properties of the materials of which they are made; and

The repair/rebuild process shall meet or exceed the rebuilding standards specified by the Inter-Industry Conference on Auto Collision Repair (I-CAR) and/or the Original Equipment Manufacturer (OEM) or an equivalent standard.

Appendix C - Forms

CVSE0013 – Private Vehicle Inspection E-form:

- Accessible only by a DIF on the Vehicle Inspection E-form System
- Completed by Authorized Inspectors for Private (light) Vehicles mechanical inspections
- Submitted by DIF's to CVSE on the E-form System

CVSE0014 – Commercial Vehicle Inspection E-form:

- Accessible only by a DIF on the Vehicle Inspection E-form System
- Completed by Authorized Inspectors for Commercial (heavy) Vehicles mechanical inspections
- Submitted by DIF's to CVSE on the E-form System

CVSE0031 – Body Integrity Inspection Report:

- Must be completed by an AI
- Must be retained with the complete mechanical inspection for inspection records

CVSE0032 - Structural Integrity Declaration Report:

- Part 1 must be completed by a DIF, then finished by a trade qualified Autobody Technician
- Must be returned to the DIF prior to a complete mechanical inspection
- Must be retained with the complete mechanical inspection for inspection records

MV3201 – Structural Integrity Assessment Form is discontinued on implementation date of this notice. (replaced by form CVSE0032)

Appendix D – Inspection Process Guidelines >2013

The following guidelines should be applied as part of the Structural Integrity Process.

1. Vehicles with a title transfer of April 1, 2013 and later:

- I. The damaged vehicle is presented to the DIF prior to any repairs;
- II. Applicable documentation is reviewed by the DIF;
- III. Photographs are taken of the vehicle clearly showing the damage by the DIF;
- IV. A Structural Integrity Declaration Report is printed for a trade qualified Autobody Technician to complete;
- V. The DIF information on the Structural Integrity Declaration Report is completed by the DIF;

- VI. The Body Integrity Inspection is performed by the AI. This form may take multiple inspections to complete, depending on the vehicle damage; and
- VII. The Body Integrity Inspection Report is completed by the AI.
- VIII. The Structural Integrity Declaration Report is completed by a trade qualified Autobody Technician.

Prior to a mechanical inspection the DIF and AI must be satisfied and ensure that:

- Complete, legitimate and original forms are signed by all parties;
- The vehicle rebuild has met or exceeded all applicable industry standards;
- The vehicle is safe for operation on highway; and
- All applicable Structural Integrity Process requirements have been met.

Upon completion, the AI and DIF may:

- Commence the mechanical inspection on the salvage vehicle;
- Complete the mechanical inspection report and submit it electronically to CVSE;
- Apply a certificate of approval decal on the vehicle in the manner set out by the director; and
- Have a complete, legitimate and original form of the Structural Integrity Declaration Report, Body Integrity Inspection Report, and mechanical inspection report for inspection record and store them for 18 months.

Appendix E – Inspection Process Guidelines <2013

2. Consideration for vehicles with a title transfer prior to April 1, 2013:

- I. The damaged vehicle is presented to the DIF prior to any repairs;
- II. Applicable documentation is reviewed by the DIF;
- III. Where applicable photographs are taken of the vehicle clearly showing the damage by the DIF;
- IV. A Structural Integrity Declaration Report is printed for a trade qualified Autobody Technician to complete;
- V. The DIF information on the Structural Integrity Declaration Report is completed by the DIF;
- VI. If applicable the Body Integrity Inspection is performed by the AI which may take multiple inspections, depending on the vehicle damage; and
- VII. If applicable the Body Integrity Inspection Report is completed by the AI.
- VIII. The Structural Integrity Declaration Report is completed by a trade qualified Autobody Technician.

Prior to a mechanical inspection the DIF and AI must be satisfied and ensure that:

- Legitimate and original (forms) are completed
- The vehicle rebuild has exceeded or met all applicable industry standards
- Is safe for operation on highway
- Has met all applicable Structural Integrity Process requirements

Once this is completed the AI then can:

- Complete mechanical inspection is performed on the salvage vehicle by the AI;
- Complete mechanical inspection report is submitted electronically to CVSE by the DIF; and
- Have a complete, legitimate and original form of the Structural Integrity Declaration Report, mechanical inspection and if applicable the Body Integrity Inspection Report are stored for inspection record.

NOTE: DIF's and AI's must ensure all vehicles, regardless of the transfer date, meet all standards.

Appendix F – Reference CCMTA

NOTE: The information provided in this appendix is intended to assist and be used as a reference for Authorized Inspectors in determining salvage and rebuilt vehicle compliance. Should any conflict, whether perceived or actual, with this information and criteria contained in the Vehicle Inspection Manual and/or MVAR, the latter shall prevail.

1. Hood

Reject if:

- Primary latches are broken, missing, seized or insecurely mounted, inoperable or will not open or close easily or securely.
- Secondary latches are missing or do not operate properly.
- Hinges are missing, broken, cracked, seized, inoperable or slotting has been added to the mounts
- Safety retainer pins are missing
- The hood is reinforced in a manner other than provided by the manufacturer
- The hood support rod is missing or inoperable

2. Front and Rear Bumpers

Reject if:

- The bumpers are missing or loose
- A broken or torn portion is protruding and creating a hazard to pedestrians
- Reinforcements are corroded, cracked or split
- Excessive shims have been used to mount the bumper
- The energy absorber has collapsed, has been welded to the rail, is not collapsible, or is visibly leaking
- The width of the bumpers is less than track width (the distance between the center of two tires on the same axle) and the horizontal surface is less than 4 inches (100mm)

3. Doors

Reject if:

- The door binds, jams or does not close
- Buttons and handles are missing, broken or inoperable
- The primary and/or secondary latches are loose, worn, or damaged and do not catch
- Hinges are cracked, missing, bent or so loose that the door will not close properly
- Hinges are seized
- Hinges were originally bolted and are now welded
- Exhaust could enter the passenger compartment through the weather strip/seals that are cracked, torn, loose, crushed or missing, or the door is misaligned
- There are no exits on each side of the vehicle, and the exits provided by the final manufacturer are not operational

4. Windshield and Other Glazing

Reject if:

- The sealant is obviously not a urethane type of adhesive such as silicon, or the sealant does not comply with the manufacturer's specifications
- The VIN is not readable through the glare strip of the windshield

5. Air Bags

Reject if:

- The required parts have not been replaced and/or there is no receipt for the air bag or parts
- Any parts do not conform to the manufacturers requirements
- The system test shows a fault
- The dash lamp does not illuminate with the ignition on, and the engine off, or fails to extinguish within several seconds after the engine has been started

6. Safety Belts

Reject if:

- Safety belts are missing, frayed, stressed, split, torn, or have burnt webbing
- Anchors are missing, or the mounting is weak or improper
- A retractor fails to allow the belt to extend to its maximum length, or it does not release properly
- A safety belt has been removed or is not available for each passenger position as originally installed by the manufacturer
- The safety belt warning system or motorized belts do not operate properly
- Seat Belt pretensioner (if OEM equipped) missing, inoperable, activated, not re-installed as per OEM requirements

7. Seats

Reject if:

- The seat mounting to the vehicle or the positioning mechanism are not secure, the frame is broken, or the material covering the seat is torn and any metal component is exposed
- There is a tear in the seat greater than 3 inches (45mm) or there is a damaged area 3 inches square (225mm sq) or more, and deeper than ¼ inch (6.5 mm)
- The adjusting mechanism for the seat locks does not operate or will not lock into all positions
- A folding seat back will not lock in all positions for the original design
- The headrests are missing or do not operate properly

8. Sun visors and Rearview Mirrors

Reject if:

- A visor is missing on either the driver or passenger side
- Parts used to attach the visors are broken, bent or loose
- A visor will not remain in a set position
- Mirrors are not located in the locations provided by the original manufacturer
- Mounts are loose or insecure
- The mirror cannot maintain a set adjustment or cannot be adjusted to the designed maximum settings
- The glass is cracked, pitted, or clouded in such a way that vision is obscured

9. Windshield Wipers and Washers

Reject if:

- The wiper control has multiple functions, and the wipers fail to function in all positions
- The length of the blade is more than 2 inches (50mm) less than the length of the original blade provided by the manufacturer
- The wiper arms are missing, bent, distorted or the non-reflective coating is missing
- The wiper arms do not provide adequate pressure against the windshield
- The washers are missing or do not operate properly

10. Defroster

Reject if:

- The fan fails to operate
- Controls are stuck or inoperable
- The defroster does not produce enough air to defrost the area swept by the wipers
- There is evidence of coolant leaks that fog the windshield
- No warm air is produced

11. Interior Heaters

Reject if:

- The fan fails to operate
- The controls are stuck or inoperable
- The type of system is something other than a hot water system (expect if supplied by the manufacturer on older model vehicles)
- Any coolant leaks are present
- No warm air is produced
- The controls do not direct the air flow as indicated

12. Rear Hatch or Truck

Reject if:

- The trunk will not open by using the key or factory release
- The trunk will not close or latch
- The trunk lid is misaligned or insecurely mounted
- There are any holes or seals that could allow exhaust gases to enter the passenger compartment
- Any repaired areas of the floor, rear body or wheelhouse are not fully restored or any seams are separated
- The weather-strip or weather-seal is missing, crushed, torn, loose, cracked, or fails to seal because of hatch or truck misalignment

13. Steering

Reject if:

- The steering racks, mounts, linkage or any suspension component is improperly mounted, binding, bent or loose, or if there is excessive looseness in tie-rods ends.
- The camber or toe is obviously excessive or if any alignment specification exceeds the test equipment manufacturer's recommendations
- The difference between the right-side wheel base and the left-side wheelbase measured at the ball joints exceeds ¼ inch (6mm), unless otherwise specified by the manufacturer.

14. Suspension

Reject if:

- Suspension components are bent, broken, loose, out of position, improperly mounted or binding

15. Engine Compartment

Reject if:

- Any mounts are broken, loose or not attached
- The throttle control linkage is not connected or supported properly, or the linkage is binding
- The transmission linkage is not connected or supported properly, or the linkage is binding
- The brake lines are damaged or not supported
- The accessories are not properly secured or mounted
- The axles, drive shafts or axle boots are worn or damaged
- The axle boots are torn or not installed properly

16. Anti-lock Braking Systems

Reject if:

- Any part of the system is improperly secured, mounted, installed, or components are damaged or missing
- The hydraulic lines are blistered, leaking, dented or kinked
- The bulb does not light
- The bulb stays lit or continuously flashes after the self test
- Any abnormal system operation is detected

17. Body Panels

Reject if:

- Any torn metal or sharp edges protrude in such a manner that could be hazardous to passengers, pedestrians and/or cyclists
- Any molding is loose or protrudes in such a manner that could be hazardous to passengers, pedestrians and/or cyclists
- A front fender is fitted so that it could cause interference with the steering mechanism
- A front fender causes rubbing of tires when the suspension and steering are moved from stop to stop
- The rear fender or quarter panel is damaged in such a manner that factory lamps cannot be secured as per factory installation, or the lamps are missing
- A section of the quarter panel or mud flap is torn away or missing
- The mud flap or fenders do not cover the full width of the tire
- Body panels do not fit or are aligned so that interfere or bind with other panels, doors or hinged covers
- The floor is rusted through, forming a hole that allows exhaust gases to enter the vehicle
- The floor is rusted or deteriorated in such a way that reduces the strength of the seat mountings
- The body or floor panels are perforated or dented in excess of 2 inches (50mm) from the original body design
- The inner fender panels are missing or incomplete

18. Frame and/or Structural Undercarriage Components

Reject if:

- The frame rails or cross members are perforated due to corrosion anywhere between the front and rear suspension mountings, and near the frame-to-body mountings on vehicles with frames and subframes
- Structural components are perforated or flaking in an area near the suspension component mounting, or where structural shapes have been stamped into the floor pan
- Tapping with the hammer causes indentations indicating extensive corrosive weakening of metal in structural shapes
- The rear edge of the door to "B" pillar clearance changes significantly during jacking
- The frame rails, cross members, subframe assemblies and unibody or monocoque stamped structural shapes are separated, distorted or bent, or if cracking is visible
- Structural components are misaligned
- There are signs that heating has been used to straighten a heat-sensitive unibody structure or component
- Improper or inadequate welding techniques or poor quality welds are observed
- The full frame structure control points exceed the manufacturer's dimensions by more than ¼ (6mm) or the unibody structure controls points exceed the manufacturer's dimensions by more than 1/8 inch (3mm)
- Structural components are oxy-acetylene welded or brazed
- Corrosion protection has not been restored on welded or heated areas
- Cross members are cracked, broken, bent, loose or misaligned
- Structural components have been sectioned at places other than the factory seams unless proof that the technician who performed the work was trained in industry recognized standards for sectioning is provided
- Structural components have been sectioned in or near suspension, engine or drive train mounting locations, at compound shapes or structures, or in collapse or crush zones

19. Body/Unibody Upper Structure

Reject if:

- Pillars are misaligned with fixed glazing or pillars are inappropriately joined
- Unibody structural control points exceed the manufacturer's dimensions by more than 1/8 inch (3mm)
- The doors, hood or hatchback/trunk lid are misaligned or slotting has been added to the mounting holes
- There is any evidence of cracking or poor quality welds at the upper or lower ends of the pillars
- High strength or high strength low alloy steels are oxy-acetylene or stick electrode welded
- Continuous welding has been used where spot welding is required
- Components that were originally bolted or riveted together are now welded
- The structural components have been sectioned at places other than the factory seams unless proof that the technician who performed the work was trained in industry recognized standards for sectioning is provided
- Structural components have been sectioned in or near suspension, engine or drive train mounting locations, at compound shapes or structures, or in collapse or crush zones