

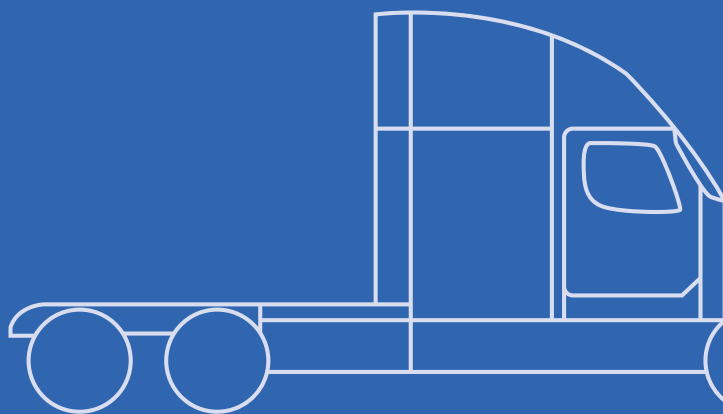
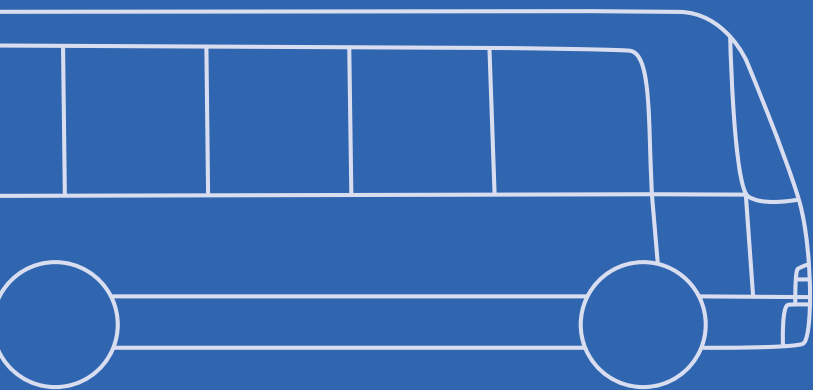
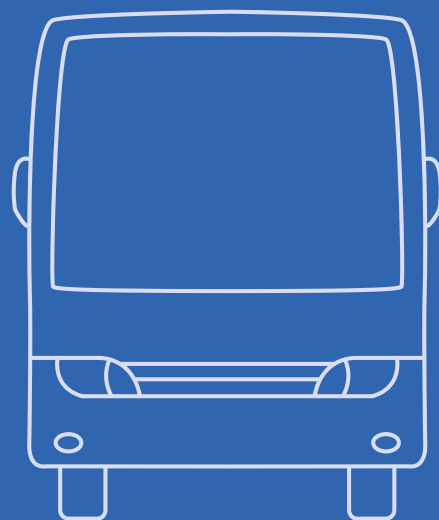
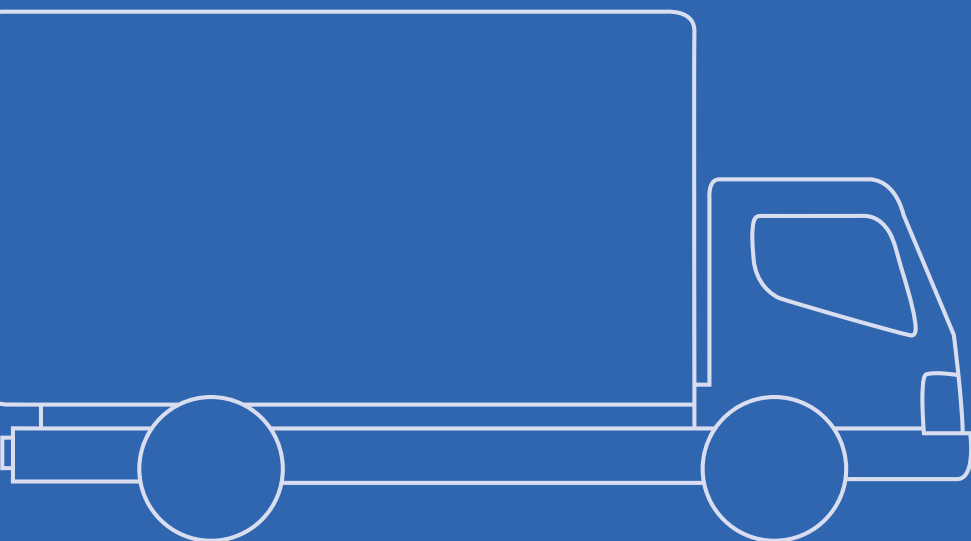
# Damage Assessment Criteria for the Classification of Heavy Vehicle Statutory Write-Offs

Austroads is the peak organisation of Australasian road transport and traffic agencies.

The NMVTRC is an initiative of all Australian Governments and the Insurance Industry.



National Motor Vehicle  
Theft Reduction  
Council



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# About this guide

This Guide has been developed by Austroads and the National Motor Vehicle Theft Reduction Council (NMVTRC) to support the consistent application of special assessment criteria for the classification of heavy written-off vehicles (HWOVs).<sup>1&2</sup> The new criteria apply to rigid trucks, prime movers, trailers and buses. The pre-existing state and territory rules apply to light passenger and commercial vehicles, motorcycles and caravans.

The new criteria are designed to consistently identify and appropriately classify those HWOVs that should not be repaired on safety grounds and are suitable only for dismantling or scrap.

This guide is intended to be used by insurance personnel and other notifiers who are required to classify HWOVs for regulatory purposes.<sup>3</sup> It has been prepared on the basis that it provides sufficient technical precision to be able to be expressly referenced as an incorporated instrument under State and Territory law should a jurisdiction wish to do so.

The specialised nature of heavy vehicle construction and fabrication means that the technical criteria (and respective damage counting rules) are separated into three groups – with Group 1 comprising rigid trucks and prime movers, Group 2 covering trailers and Group 3 containing buses.

This guide reflects that categorisation with separate, self-contained chapters for each vehicle group.

The illustrations used throughout the guide depict the type of damage that would be consistent with the technical terms used in the detailed assessment criteria (i.e. buckled, cracked, cut, fractured, folded or structurally distorted). While they have been developed from detailed photographs of a select group of appropriately damaged vehicles, they are not intended to portray precise degrees of damage. That is to say – a buckle, crack, cut, fracture, fold or distortion of lesser size or proportion than depicted in an illustration would still mean the relevant criteria are met.

The nomenclature guide at page 26 also provides additional direction on the technical terms.

Austroads and the NMVTRC thank the many technical experts and advisers from across the insurance industry, motor trades, police and road transport agencies that have contributed to the development of the criteria and this Guide.

Additional copies can be downloaded in PDF format, free of charge from the Austroads or NMVTRC web sites ([austroads.com.au](http://austroads.com.au) or [www.carsafe.com.au](http://www.carsafe.com.au)). An at-cost, on-demand bureau print service is also available from the Austroads on application.

1. A heavy vehicle is defined in the nation's road transport law as a vehicle with a gross mass (GVM) of more than 4.5 tonnes.
2. Notwithstanding Note 1, it is the recommendation of the joint industry/government Expert Reference Group that helped develop the technical criteria that this guide extend down to 3.5 tonnes GVM for rigid trucks and buses for which the equivalent light vehicle criteria are not appropriate due to their cab/ chassis construction. The light vehicle criteria are primarily influenced by the monocoque structure of the modern passenger vehicle in which the vehicle's body and chassis are fully integrated.
3. The range of persons defined as notifiers is specified in the related law of each jurisdiction. However, it may extend to insurers, self-insurers, auction houses, heavy vehicle traders, automotive dismantlers or recyclers or vehicle operators.

# Background

Under Australia's national framework for the management of HWOVs any vehicle that has been determined to be a *total loss* by an insurer, self-insurer or other notifier as a result of:

- damage induced by a collision, fire, water inundation or malicious action; or
- dismantling and stripping;

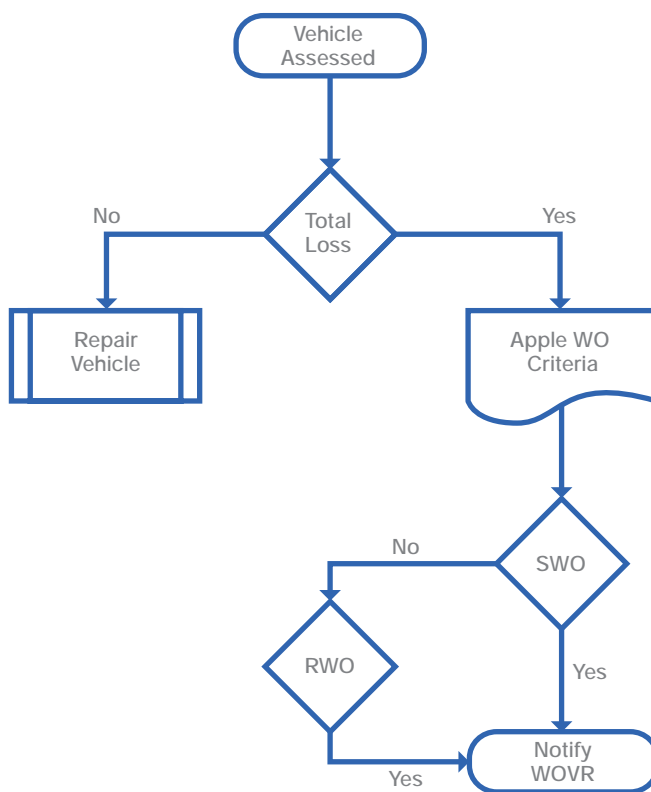
must be classified to be either a *Statutory* (SWO) or *Repairable* (RWO) write-off.

A SWO may only be sold subject to a statutory restriction that it may only be used for parts or scrap metal. A RWO may be repaired and re-registered subject to the vehicle passing specific safety and identification inspections.

A vehicle determined to be a total loss must also be assessed against the relevant criteria in this guide to determine its classification.<sup>4</sup> See Figure 1 for an overview of the end to end *assessment* process.

The criteria have been developed to err on the side of caution in terms of safety to ensure that vehicles which have sustained significant damage are consistently identified and appropriately classified as suitable only for dismantling for parts or processing as scrap.<sup>5</sup>

Figure 1



4. 'Total loss' is an insurance term referring to a vehicle that has been assessed as uneconomical to repair. Whilst the form of words used to define the term may vary slightly between Insurers and/or jurisdictions, they essentially achieve the same outcome.

In plain English the term refers to a vehicle where the market value less the salvage value is less than the cost of repair. Example: Market value (\$2,000) Less salvage (\$500) = \$1,500. If the cost of repair exceeds \$1,500 then the vehicle would be considered uneconomical to repair and therefore a 'total loss'.

5. Interested readers can download a report on the development of the criteria and related in-field testing from the publications page of the NMVTRC web site [www.carsafe.com.au](http://www.carsafe.com.au).

# Group 1 – Rigid trucks and prime movers

## Automatic Disqualifying (SWO) Criteria – Fire, heat, water inundation and stripping

A rigid truck or prime mover must be classified to be a Statutory Write-Off (SWO) if any **one** of the following conditions are met –

**Fire** or **heat** damage such that there is any blistering of the paint or noticeable heat damage to:

- a) 15 per cent (or more) of the area of one of the vehicle's chassis rails; or
- b) 10 per cent (or more) of total area of the vehicle's two chassis rails.

**Water inundation** in brackish, salt or fresh water of the vehicle's –

- a) electronic safety systems (such as but not limited to the airbag(s), airbag control module(s), pre-tensioners, Electronic Stability Control (ESC) control module(s), Anti-Lock Brake System (ABS) control module(s), radar braking systems, etc); or
- b) battery pack and/or the power electronics for hybrid/ electrically powered vehicles.

**Impact damage to the battery pack and/or power electronics for hybrid/electrically powered vehicles.**

**Substantial stripping** of the vehicle to the extent that it is the principal reason for the vehicle being determined to be a total loss, where in any combination one or more of the following components have been removed:

- a) engine, drivetrain or associated components;
- b) axles, wheels, suspension components;
- c) steering components;
- d) cabin or cabin interior;
- e) major body panels (i.e. bonnet, bullbar/bumper bar, doors);
- f) tanks (air, hydraulic, fuel, etc);
- g) towing points or fifth wheel/turntable; or
- h) auxiliary accessories which are fitted to the vehicle or vehicle frame (i.e. crane, pumps, agitator, containers or bodies).<sup>6</sup>

6. The exemption is designed to reflect a common insurer-insured practice of facilitating the reuse of the vehicle within an insured's fleet whilst mitigating the criminal risks posed by the 'strip and buy back' method of operation of vehicle rebirthers. The strip and buy back method involves thieves neatly stripping a target vehicle, awaiting its later sale at public auction, purchasing it, reassembling it with the stripped components and presenting it for re-registration.

Exemption for a substantially stripped vehicle returned to the insured

Where a vehicle that has been subject to substantial stripping is returned to the insured as part of the settlement of the insurance claim that resulted in it being determined to be a total loss, the vehicle may be classified as a Repairable Write-Off (RWO).

## General Application Criteria

If the subject vehicle presents with none of the automatic disqualifying criteria, the following general criteria apply. Each area of damage consistent with the general application criteria will contribute one point to the accumulated damage count, subject to the limits specified below for select components in respect of grouping areas of damage to that component.

A **rigid truck** that reaches an accumulated damage count of **seven** points must be classified to be a SWO.

A **prime-mover** that reaches an accumulated damage count of **eight** points must be classified to be a SWO.

### Note

Damage to the following components is not relevant to determination of the accumulated damage count:

- accessory or auxiliary body attachments such as cranes, concrete pumps or mixers, tanks, pumps, garbage compactors, etc... (except in the case of stripping);
- wheels and tyres;
- bolt-on or bolt-off parts which can be replaced, provided the fixed mount is not damaged e.g. exhaust mounts, air conditioners etc.

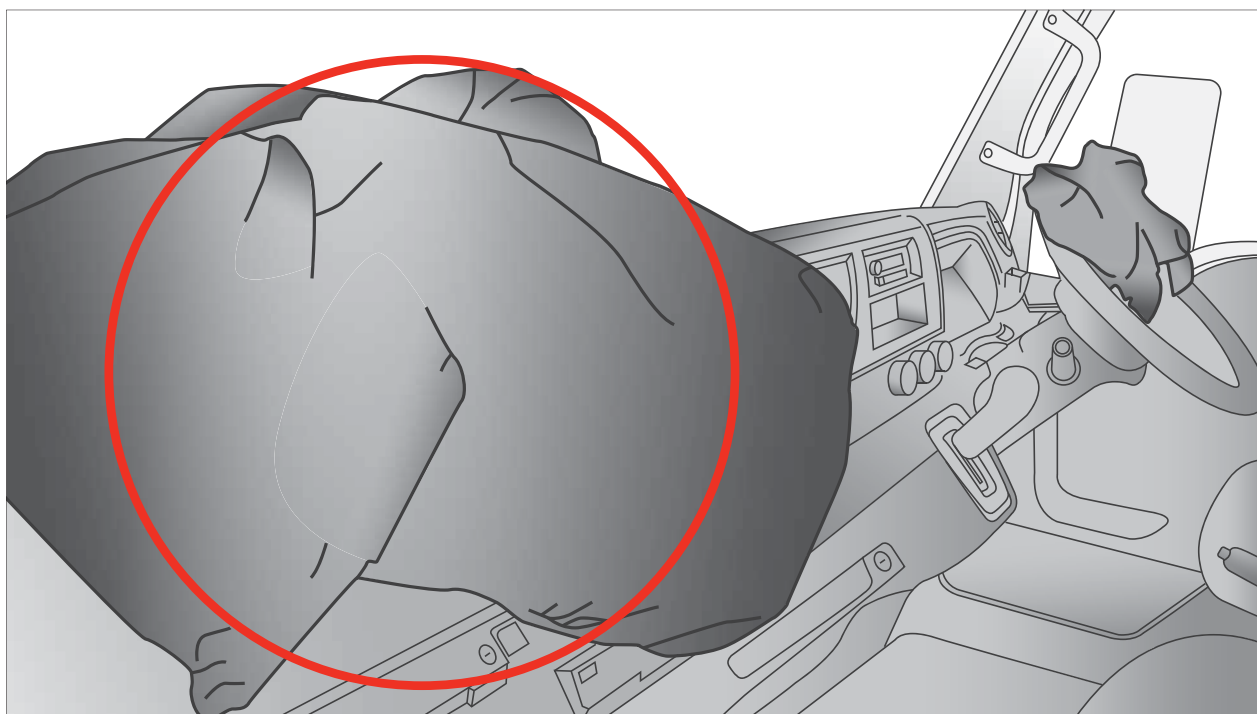
## Group 1 – Rigid trucks and prime movers continued

### Cabin

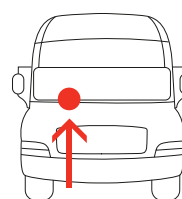
For a vehicle presenting with damage to the cabin which requires repair or replacement up to three areas of damage to the cab may be counted with each area of damage to contribute one point to the accumulated damage count.

Complete replacement of the vehicle cab as an assembly will contribute two points to the accumulated damage count.

Deployment of any supplementary restraint systems (airbags and pre-tensioners) will contribute a maximum of one point to the accumulated damage count.



Deployment of supplementary restraint system



Front



# Group 1 – Rigid trucks and prime movers continued

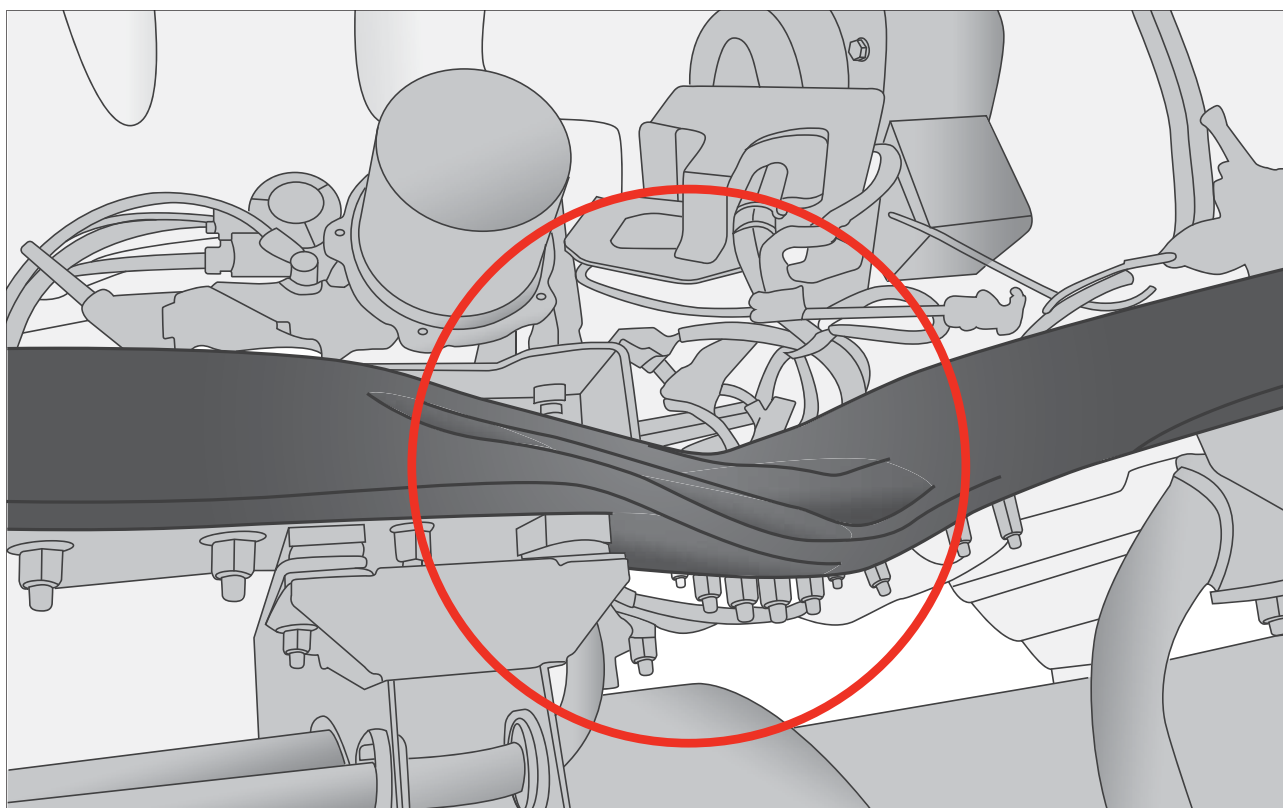
## Chassis rails

In respect of a vehicle presenting with damage to the chassis rail(s) (i.e. bending, cracking, fracturing or structural distortion) which requires replacement of the rail that damage will contribute one point to the accumulated damage count. The replacement of both chassis rails shall contribute a maximum of two points.

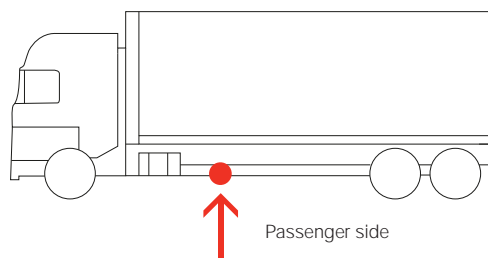
In respect of damage that may be repaired, each separate area or damage shall contribute one point to the accumulated damage count.

Relevant damage includes:

- induced damage to the chassis rail in respect of the mounting point(s) for the engine, the suspension, transmission, cabin, fifth wheel, or an accessory or auxiliary body attachment; or
- blistering of the paint or noticeable fire or head damage to less than:
  - i. 15 per cent of the total area of one chassis rail; or
  - ii. 10 per cent of the total area of both the vehicle's chassis rails.

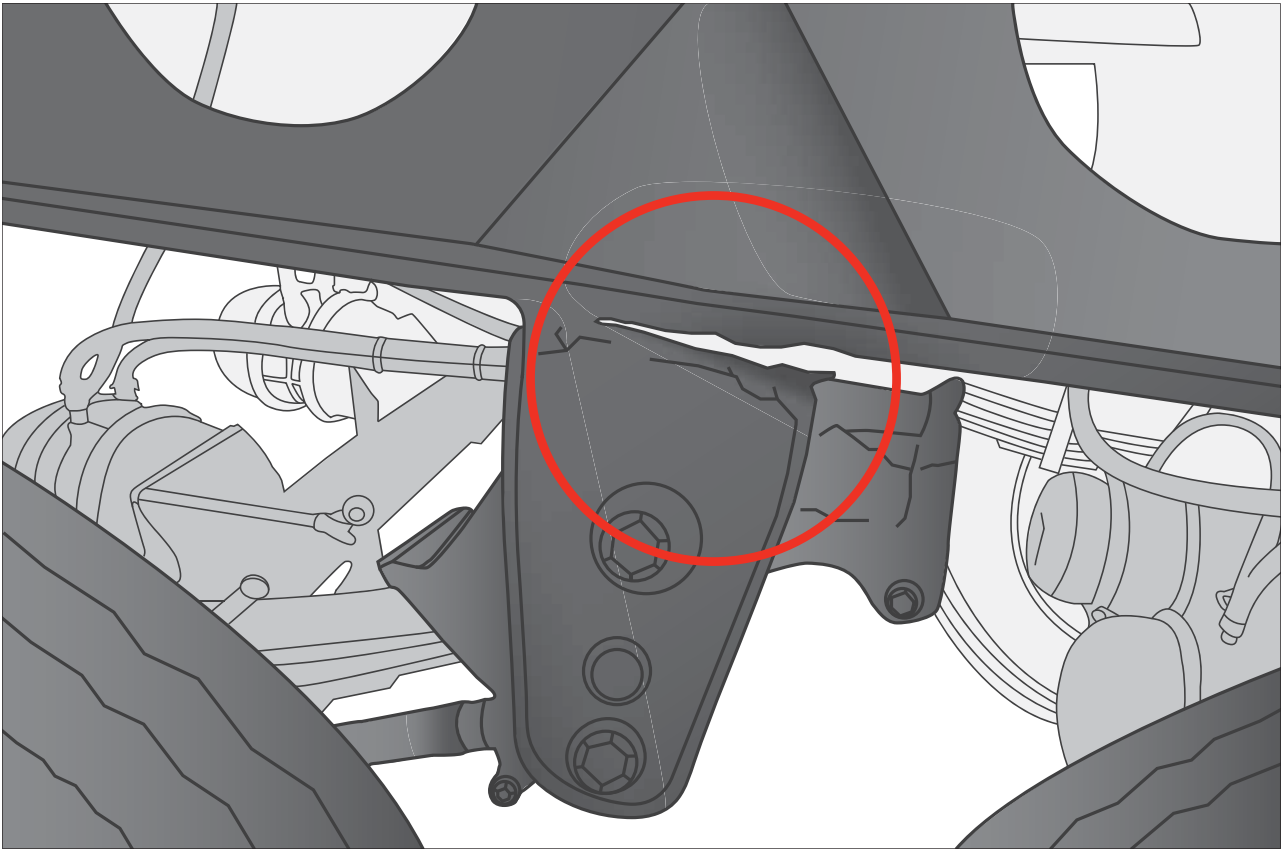


Damaged chassis rail

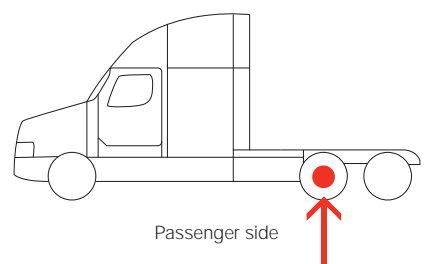




## Group 1 – Rigid trucks and prime movers continued



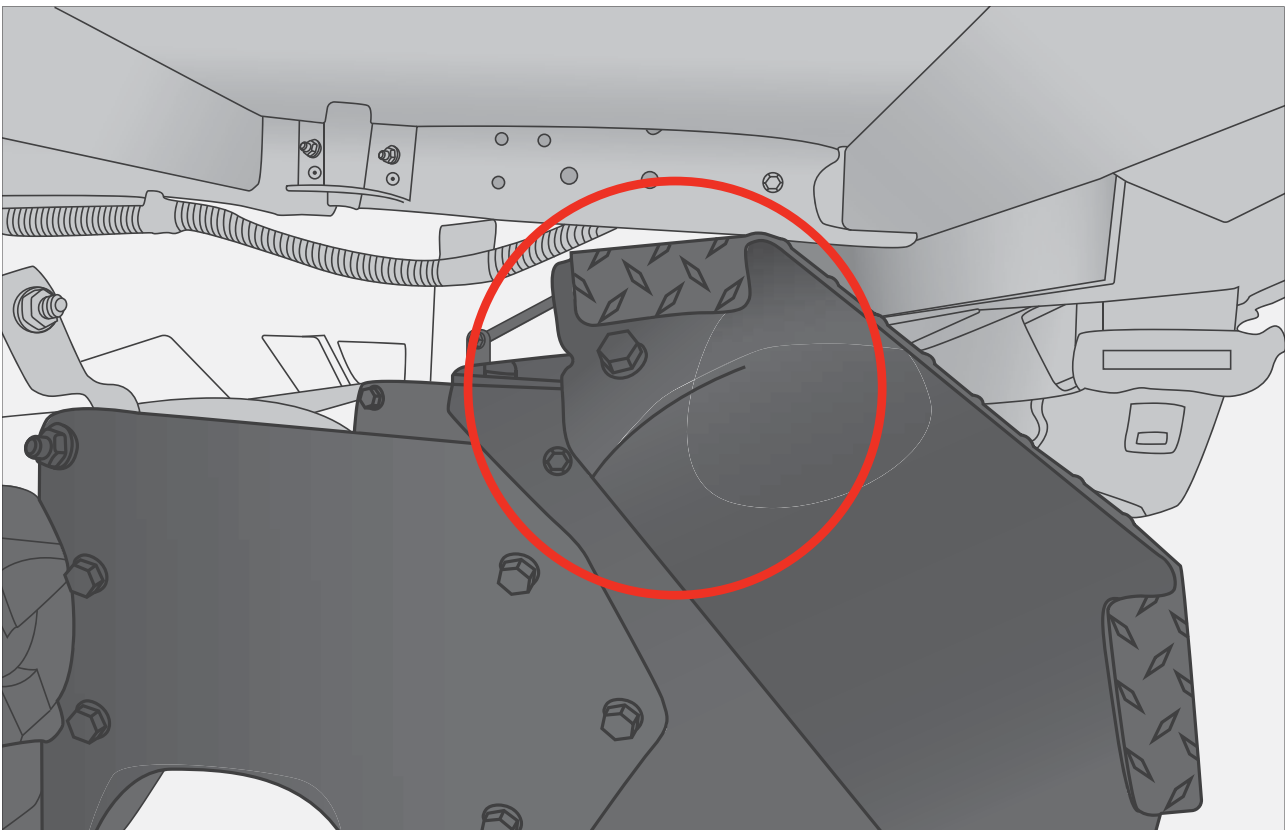
Damaged suspension mounting point



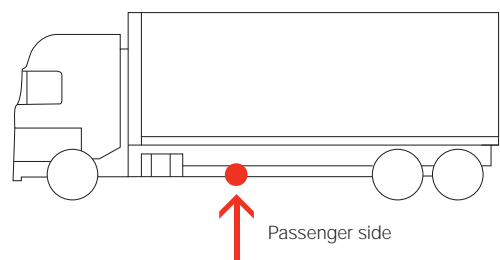
## Group 1 – Rigid trucks and prime movers continued

### Chassis cross members

Damage which requires repair or replacement of any chassis cross-members, including the front and rear underrun protection cross-members and all cross-members along the length of the vehicle's chassis, will contribute one point to the accumulated damage count or a maximum of two points if more than one cross member requires repair or replacement.



Damaged cross-member

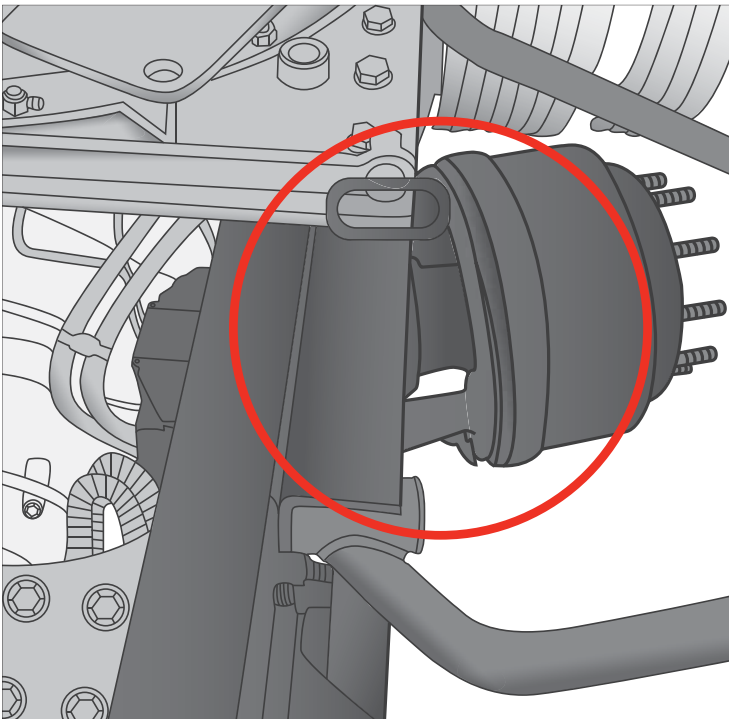


## Group 1 – Rigid trucks and prime movers continued

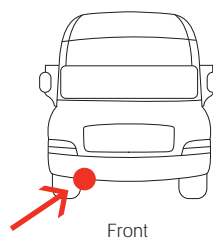
### Other critical components

Damage to the components listed below which necessitates their repair or replacement will accrue damage points as follows:

- any axle: with each axle requiring replacement to contribute one point to the accumulated damage count;
- any stub axle: with each stub axle requiring replacement to contribute one point to the accumulated damage count;



Damaged stub axle



## Group 1 – Rigid trucks and prime movers continued

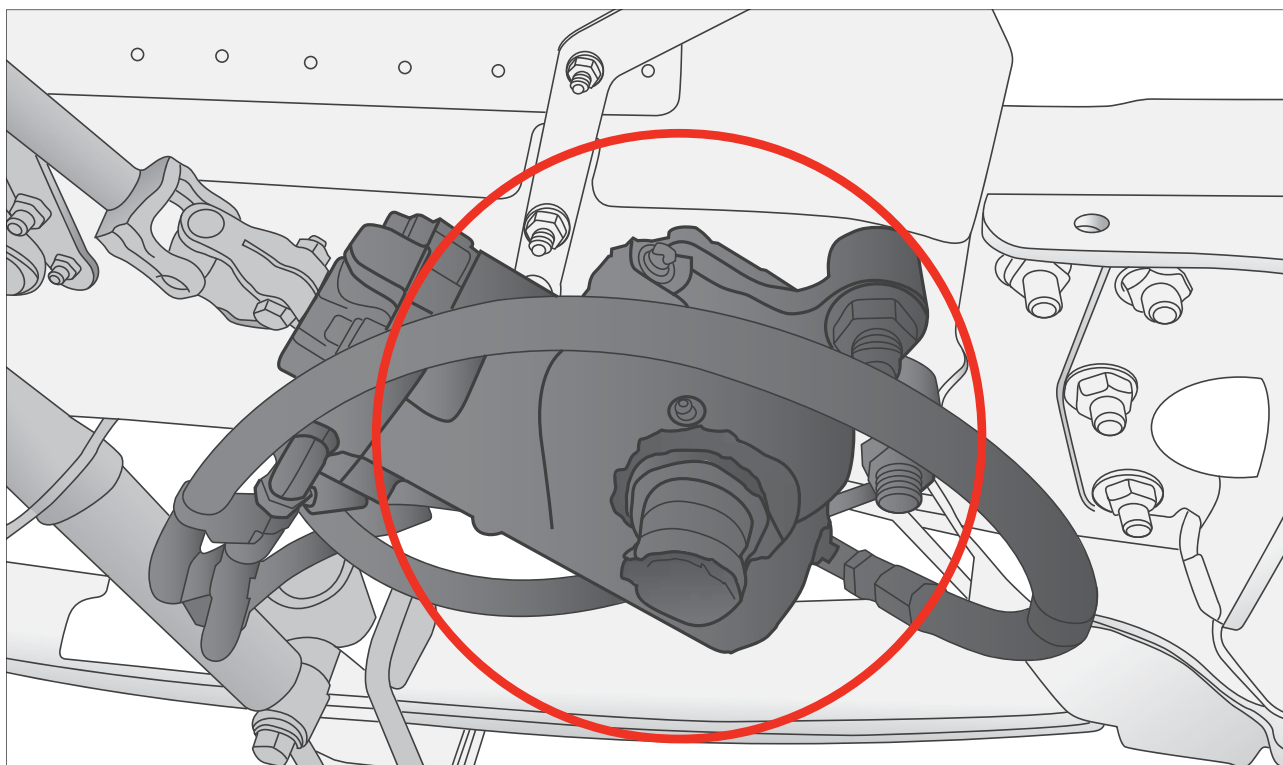
### Other critical components

Note: Where a stub axle and the axle to which it is attached are both damaged, the accumulated damage score for that pairing will be capped at one point.

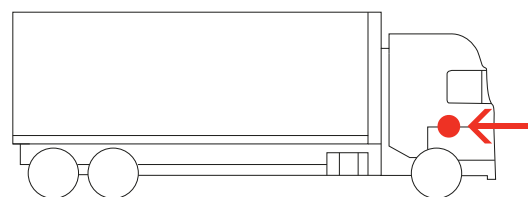
- an engine block that has been cracked, deformed or broken an induced load or fire will contribute one point to the accumulated damage count;
- damage to the vehicle's transmission case and/or differential case(s) that has resulted in one or more cases being cracked, deformed or broken as a

result of an induced load or fire will be grouped together to contribute one point to the accumulated damage count;

- damage to the fifth wheel/turntable or tow coupling(s) will be grouped together and contribute one point to the accumulated damage count; and
- damage to the steering box and steering linkages will be grouped together and contribute one point to the accumulated damage count.

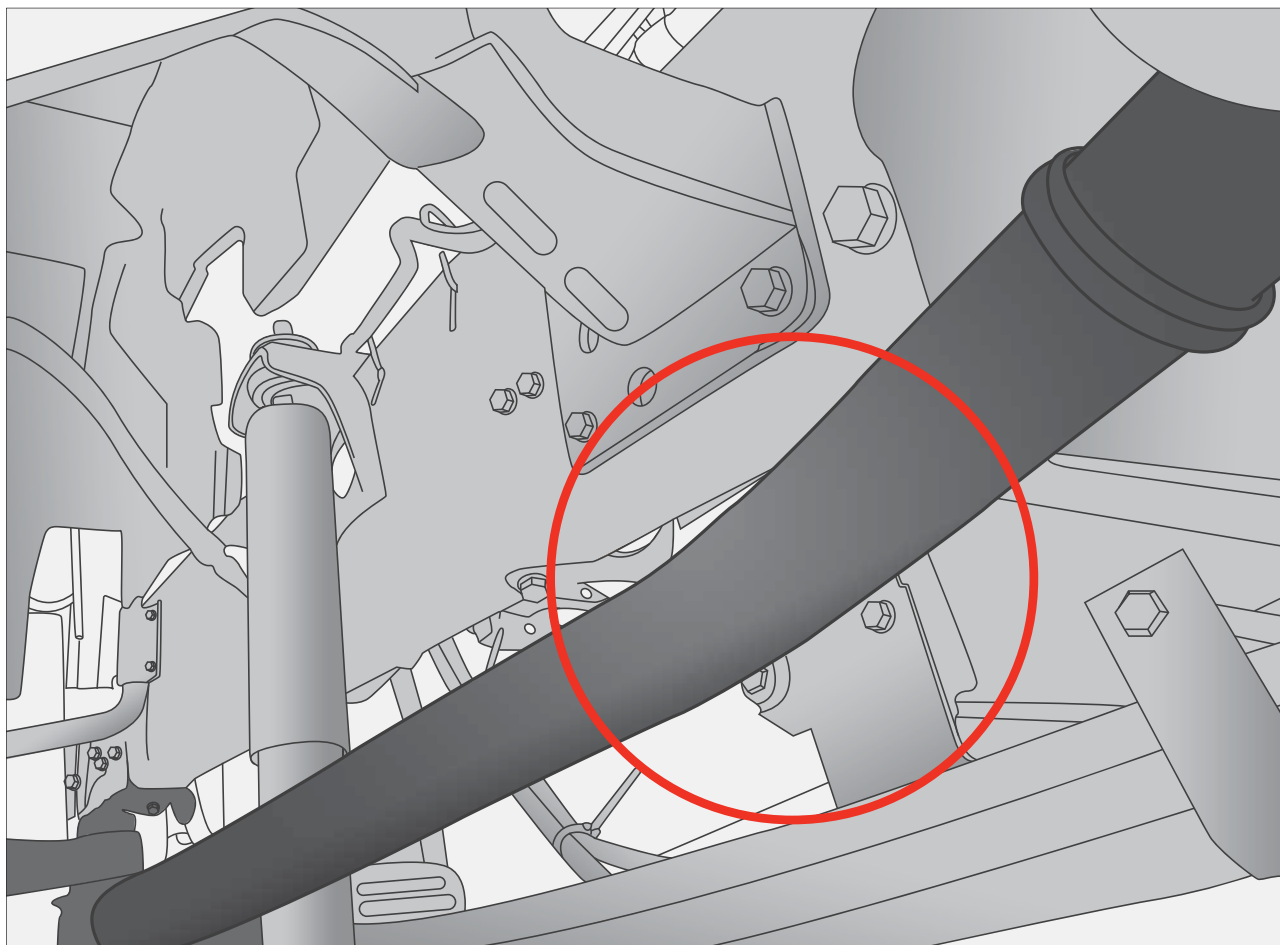


Damaged steering box and linkages

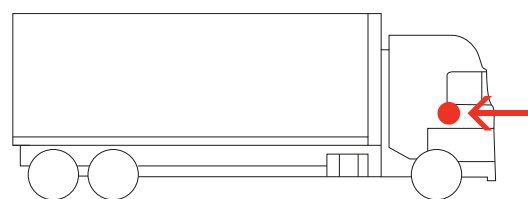


Driver side

## Group 1 – Rigid trucks and prime movers continued



Damaged steering box and linkages



Driver side

### Recording damage locations

To assist parties that will have post-assessment interactions with RWOs in the auction, repair, registration inspection and post re-registration resale process, the collision/damage type(s) need to be accurately recorded for data capture purposes.

The additional data required are the primary area of damage (i.e. frontal, left side, right side, rear or rollover) and event type (i.e. collision, malicious, stripped, dismantled, fire, water).

A separate national model reporting form will include detailed damage location codes.

## Group 2 – Trailers

### Automatic Disqualifying (SWO) Criteria – Fire, heat, water inundation and stripping

A trailer must be classified to be a Statutory Write-Off (SWO) if any **one** of the following conditions are met:

The trailer:

is a **road tank vehicle** within the meaning of Australian Standard AS2809 (Road tank vehicles for dangerous goods); or

has been subject to:

**Fire** or **heat** damage such that there is any blistering of the paint or noticeable heat damage to:

- a) 15 per cent (or more) of the area of one of the trailer's chassis rails; or
- b) 10 per cent (or more) of the total area of the trailer's two chassis rails or longitudinal structural element(s); or

**Water inundation** in brackish, salt or fresh water of the trailer's:

electronic safety systems (such as but not limited to Electronic Stability Control (ESC) control module(s), Anti-Lock Brake System (ABS) control module(s), etc); or

**Substantial stripping** to the extent that it is the principal reason for the trailer being determined to be a total loss, where in any combination one or more of the following components have been removed:

- a) trailer body and associated components;
- b) axles, wheels, suspension components;
- c) kingpin, drawbar or other towing attachments;
- d) hydraulic or other lifting equipment associated with the operation of the trailer (e.g. dump trailer);
- e) tanks (air, hydraulic, fuel, etc); or
- f) auxiliary equipment (e.g. cranes, hydraulics).

### Exemption for a substantially stripped trailer returned to the insured

Where a trailer that has been subject to substantial stripping is returned to the insured as part of the settlement of the insurance claim that resulted in it being determined to be a total loss, the vehicle may be classified as a Repairable Write-Off (RWO).<sup>7</sup>

### General Application Criteria

If the subject trailer presents with none of the automatic disqualifying criteria, the following general criteria apply. Each area of damage consistent with the general application criteria will contribute one point to the accumulated damage count, subject to the limits specified below for select components in respect of grouping areas of damage to that component.

A **trailer** that reaches an accumulated damage count of **six** points must be classified to be a SWO.

#### Note

Damage to the following components is not relevant to the determination of the accumulated damage count:

- accessory or auxiliary body attachments such as cranes, concrete pumps or mixers, tanks, pumps, garbage compactors, etc. (except in the case of stripping);
- wheels and tyres;
- bolt-on or bolt-off parts which can be replaced, provided the fixed mount is not damaged.

7. The exemption is designed to reflect a common insurer-insured practice of facilitating the reuse of the vehicle within an insured's fleet whilst mitigating the criminal risks posed by the 'strip and buy back' method of operation of vehicle rebirthers. The strip and buy back method involves thieves neatly stripping a target vehicle, awaiting its later sale at public auction, purchasing it, reassembling it with the stripped components and presenting it for re-registration.

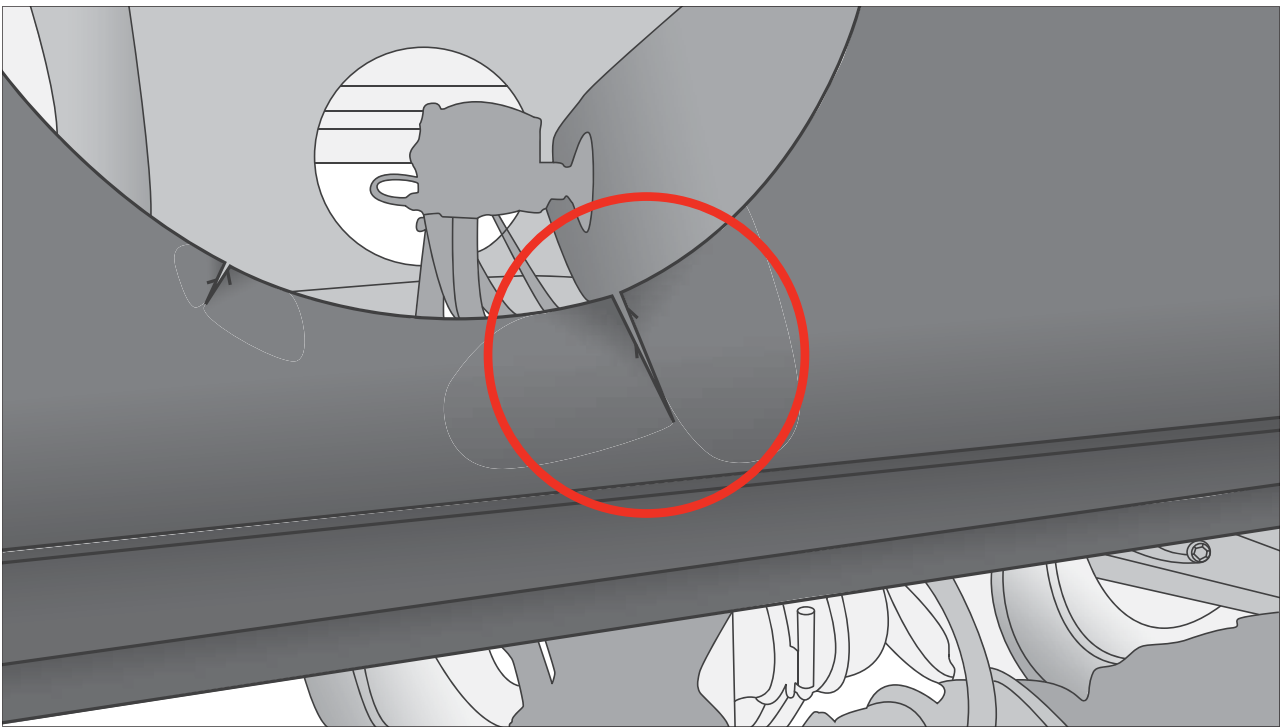


## Group 2 – Trailers continued

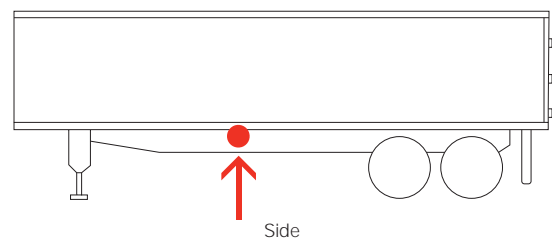
### Chassis rails and longitudinal structural elements

#### Damage necessitating replacement

In respect of a trailer presenting with damage to the chassis rail(s) (i.e. bending, cracking, fracturing or structural distortion) which requires replacement of the rail that damage will contribute one point to the accumulated damage count. The replacement of both chassis rails shall contribute a maximum of two points.



Damaged chassis rail





## Group 2 – Trailers continued

Replacement of other longitudinal structural element(s) will contribute two points to the accumulated damage count.

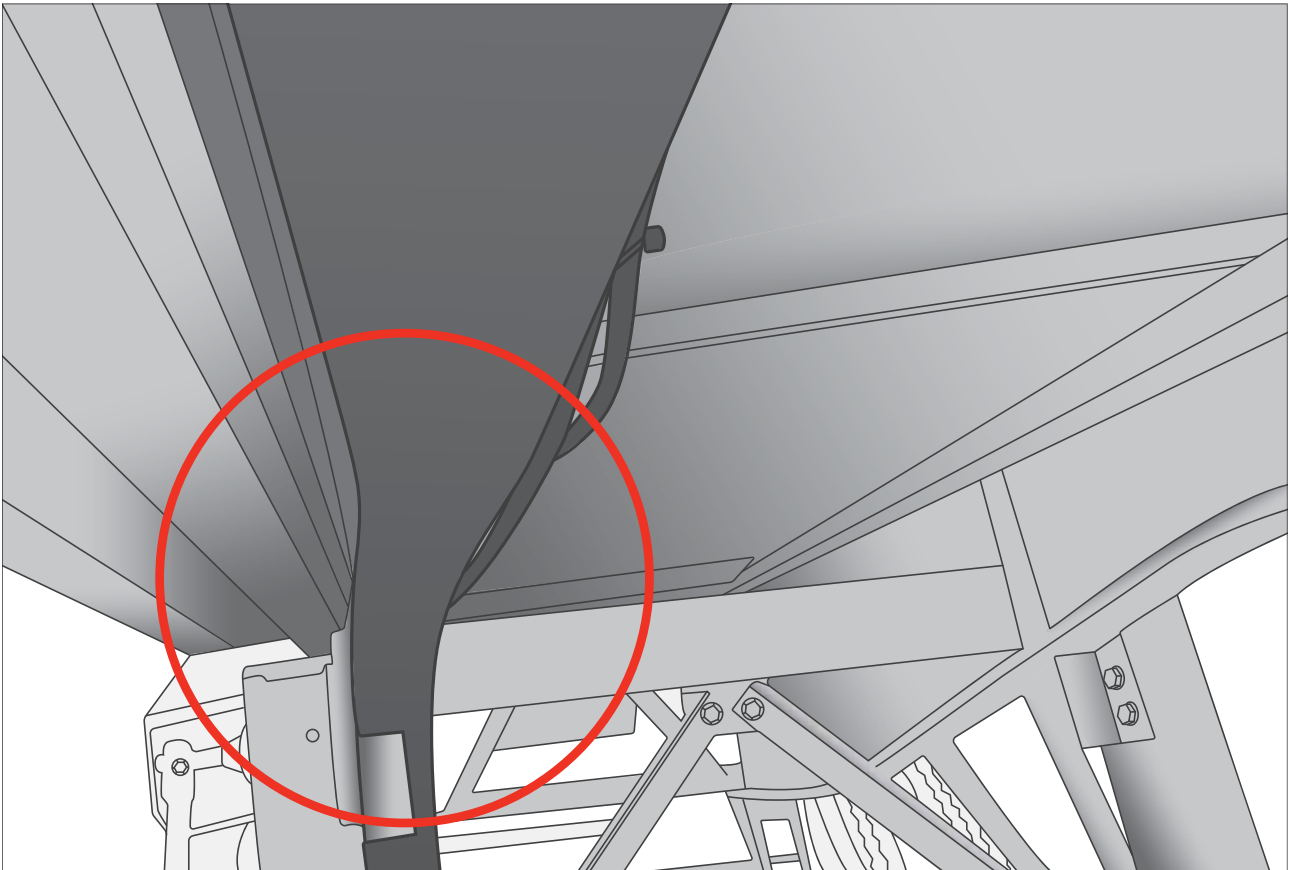
Replacement of all or part of the trailer floor, walls and/or roof a *Pantech* trailer will contribute two points to the accumulated damage count.

### Damage that can be corrected by repair

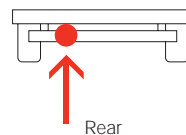
In respect of damage that may be repaired, each separate area or damage shall contribute one point to the accumulated damage count.

Relevant damage includes:

- induced damage to the chassis rail or longitudinal structural element(s) in respect of the mounting point(s) for the suspension, fifth wheel, or an accessory or auxiliary body attachment; or
- blistering of the paint or noticeable fire or head damage to less than:
  - i. 15 per cent of the total area of one chassis rail; or
  - ii. 10 per cent of the total area of both the trailer's chassis rails or longitudinal structural elements.



Damaged longitudinal structural element



## Group 2 – Trailers continued

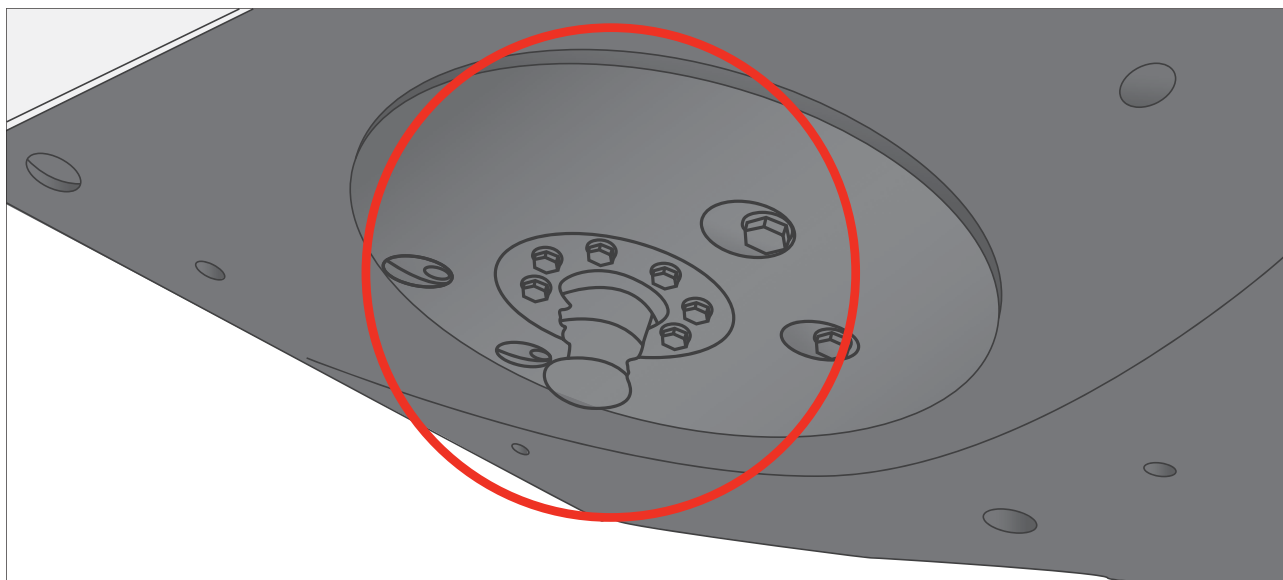
### Other critical components

Damage to the trailer components listed below which necessitates their replacement or repair will accrue damage points as follows:

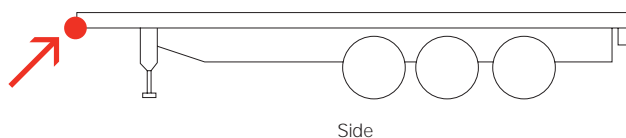
- any axle: with each axle requiring replacement to contribute one point to the accumulated damage count;
- any stub axle: with each stub axle requiring replacement to contribute one point to the accumulated damage count;

Note: Where a stub axle and the axle to which it is attached are both damaged, the accumulated damage score for that pairing will be capped at one point.

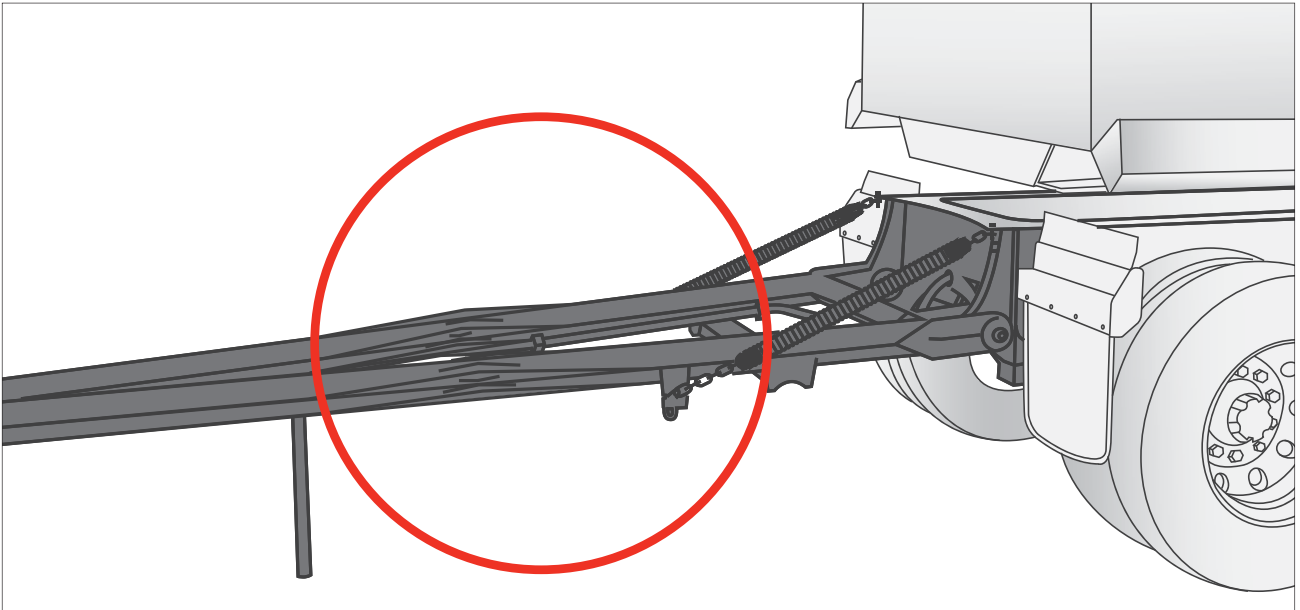
- the king pin, drawbar (including the lunette ring) or tow hook (including its eyelet or couplings) will each contribute one point to the accumulated damage count;
- any chassis crossmembers along the trailer's full length, including the front and rear underrun protection structures, shall contribute one point each (but be capped at a maximum of two points) towards the accumulated damage count;
- other structural components of a unibody trailer (i.e. bending, cracking, fracturing or structural distortion) shall each contribute one point towards the accumulated damage count.



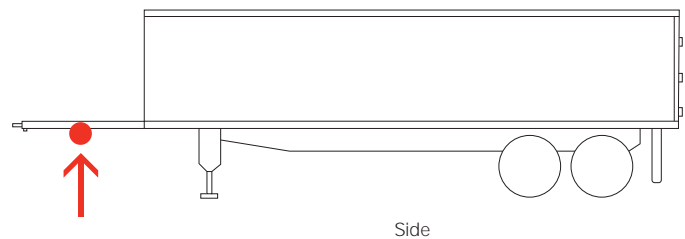
Damaged king pin



## Group 2 – Trailers continued

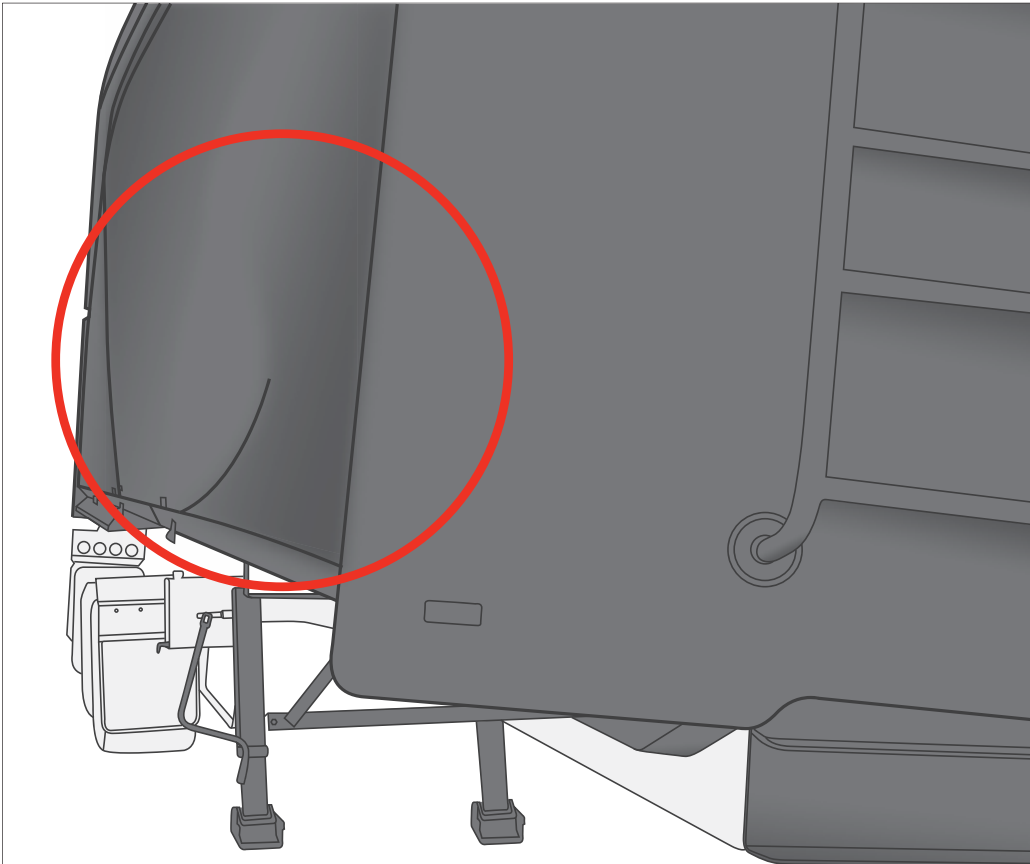


Damaged drawbar

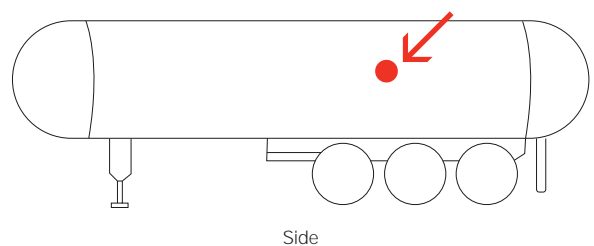


Side

## Group 2 – Trailers continued



Damaged unibody trailer



Side

### Recording damage locations

To assist parties that will have post-assessment interactions with RWOs in the auction, repair, registration inspection and post re-registration resale process, the collision/damage type(s) need to be accurately recorded for data capture purposes.

The additional data required are the primary area of damage (i.e. frontal, left side, right side, rear or rollover) and event type (i.e. collision, malicious, stripped, dismantled, fire, water).

A separate national model reporting form will include detailed damage location codes.

## Group 3 – Buses

### Automatic Disqualifying (SWO) Criteria – Fire, heat, water inundation and stripping

A bus must be classified to be a Statutory Write-Off (SWO) if any one of the following conditions are met:

**Fire** or **heat** damage such that there is any blistering of the paint or noticeable heat damage to:

- a) 15 per cent (or more) of the area of one of the vehicle's chassis rails;<sup>8</sup> or
- b) 10 per cent (or more) of total area of the vehicle's two chassis rails;
- c) four or more structural hoops of the Rollover Protective Structure (ROPS) require replacement.<sup>9</sup>

**Water inundation** in brackish, salt or fresh water of the vehicle's:

- a) electronic safety systems (such as but not limited to the airbag(s), airbag control module(s), pre-tensioners, Electronic Stability Control (ESC) control module(s), Anti-Lock Brake System (ABS) control module(s), radar braking systems, etc); or
- b) battery pack and/or the power electronics for hybrid/ electrically powered vehicles; or
- c) seat seatbelts (where fitted).

**Impact damage** to:

- a) four or more structural hoops of the Rollover Protective Structure (ROPS) require replacement;<sup>10</sup>
- b) the body framing (i.e. any upper structural elements of the bus above floor level that are not structural hoops) around four or more structural hoops that require replacement;
- c) the floor and sub-structure (i.e. any lower structural elements below floor level that are not structural hoops) of one quarter or more of the floor area that require replacement;
- d) battery pack and/or the power electronics for hybrid/electrically powered vehicles.

**Substantial stripping** of the vehicle to the extent that it is the principal reason for the vehicle being determined to be a total loss, where in any combination one or more of the following components have been removed:

- a) engine, drivetrain or associated components;
- b) axles, wheels, suspension components;
- c) steering components;
- d) tanks (air, hydraulic, fuel, etc);
- e) interior;
- f) glazing;
- g) towing points; or
- h) auxiliary accessories fitted to the bus or its frame.

### Exemption for a substantially stripped bus returned to the insured

Where a bus that has been subject to substantial stripping is returned to the insured as part of the settlement of the insurance claim that resulted in it being determined to be a total loss, the vehicle may be classified as a Repairable Write-Off (RWO).<sup>11</sup>

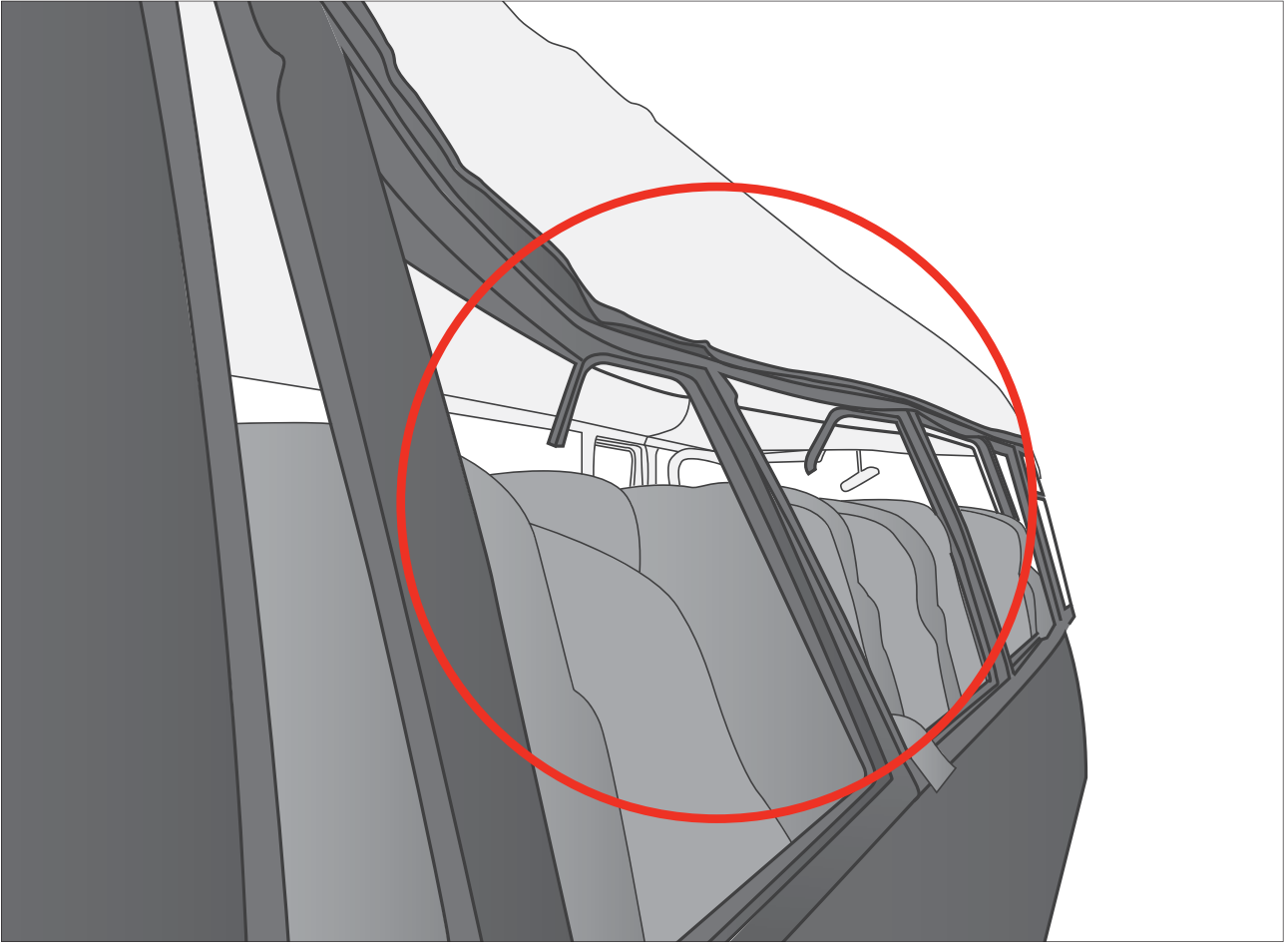
8. The chassis rail may have extensions welded or bolted to the chassis that are not part of the primary chassis structure.

9. Structural hoops that have adjacent faces less than 150mm apart are considered to be a single hoop.

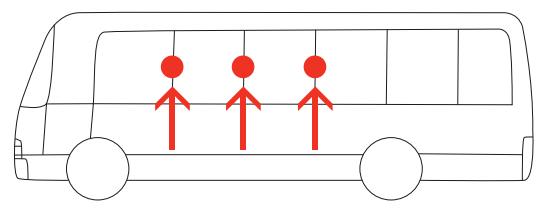
10. Structural hoops that have adjacent faces less than 150mm apart are considered to be a single hoop.

11. The exemption is designed to reflect a common insurer-insured practice of facilitating the reuse of the vehicle within an insured's fleet whilst mitigating the criminal risks posed by the 'strip and buy back' method of operation of vehicle rebirthers. The strip and buy back method involves thieves neatly stripping a target vehicle, awaiting its later sale at public auction, purchasing it, reassembling it with the stripped components and presenting it for re-registration.

## Group 3 – Buses continued



Damaged ROPS



Passenger side

## Group 3 – Buses continued

### General Application Criteria

If the subject bus presents with none of the automatic disqualifying criteria, the following general criteria apply. Each area of damage consistent with the general application criteria will contribute one point to the accumulated damage count, subject to the limits specified below for select components in respect of grouping areas of damage to that component.

A **bus** that reaches an accumulated damage count of **seven** points must be classified to be a SWO.

#### Note

Damage to the following components is not relevant to the determination of the accumulated damage count:

- accessory or auxiliary body attachments such as air conditioning, cargo or storage devices (except in the case of stripping);
- wheels and tyres;
- bolt-on or bolt-off parts which can be replaced, provided the fixed mount is not damaged.

### Supplementary restraint systems

Deployment of any supplementary restraint systems (airbags and pre-tensioners) will contribute a maximum of one point to the accumulated damage count.

### Chassis rails and other Structural Elements

In respect of a vehicle presenting with damage to the chassis rail(s) (i.e. bending, cracking, fracturing or structural distortion) which requires replacement of the rail that damage will contribute one point to the accumulated damage count. The replacement of both chassis rails shall contribute a maximum of two points.

In respect of damage that may be repaired or replaced, each separate area of damage shall contribute one point to the accumulated damage count. Relevant damage includes:

- induced damage to the chassis rail in respect of the mounting point(s) for the suspension, transmission, fifth wheel, or an accessory or auxiliary body attachment;
- blistering of the paint or noticeable fire or head damage to less than:
  - i. 15 per cent of the total area of one chassis rail; or
  - ii. 10 per cent of the total area of both chassis rails;
- three structural hoops of the ROPS ;
- up to three separate areas of the body framing (i.e. any upper structural elements of the bus above floor level that are not structural hoops), with each area of damage to contribute one point;
- up to three separate areas of the floor and sub-structure (i.e. any lower structural elements below floor level that are not structural hoops), with each area of damage to contribute one point.
- the door or door frame, including emergency exits (one point per door, capped at maximum of two points);
- damage which requires repair or replacement of any chassis cross-members, including the front and rear underrun protection cross-members and all cross-members along the length of the vehicle's chassis, will contribute one point to the accumulated damage count or a maximum of two points if more than one cross member requires repair or replacement.

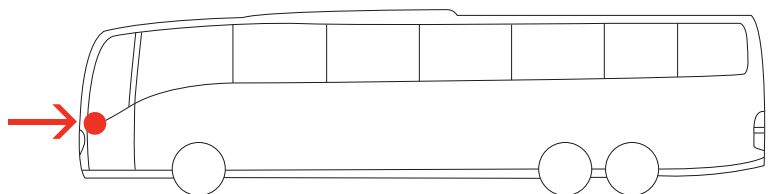
12. Structural hoops that have adjacent faces less than 150mm apart are considered to be a single hoop.



## Group 3 – Buses continued



Damaged body framing



Passenger side

## Group 3 – Buses *continued*

### Other critical components

Damage to the components listed below which necessitates their repair or replacement will accrue damage points as follows:

- any axle: with each axle requiring replacement to contribute one point to the accumulated damage count;
- any stub axle: with each stub axle requiring replacement to contribute one point to the accumulated damage count;

Note: Where a stub axle and the axle to which it is attached are both damaged, the accumulated damage score for that pairing will be capped at one point.

- an engine block that has been cracked, deformed or broken as a result of an induced load or fire will contribute one point to the accumulated damage count;
- damage to the vehicle's transmission case and/or differential case(s) that has resulted in one or more cases being cracked, deformed or broken as a result of an induced load or fire will be grouped together to contribute one point to the accumulated damage count;
- damage to the tow hook, eyelet or coupling(s) will be grouped together and contribute one point to the accumulated damage count;
- damage to the steering box and steering linkages will be grouped together and contribute one point to the accumulated damage count; and
- damage to the seats and/or integrated seats and seatbelts with:
  - i. 1 to 33 per cent of the seats to contribute one point to the accumulated damage count;
  - ii. 34 to 66 per cent to contribute two points; and
  - iii. 67 to 100 per cent to contribute three points.

### Flexible buses

If the articulation mechanism of a flexible bus requires repair or replacement, it will contribute one point to the accumulated damage count.

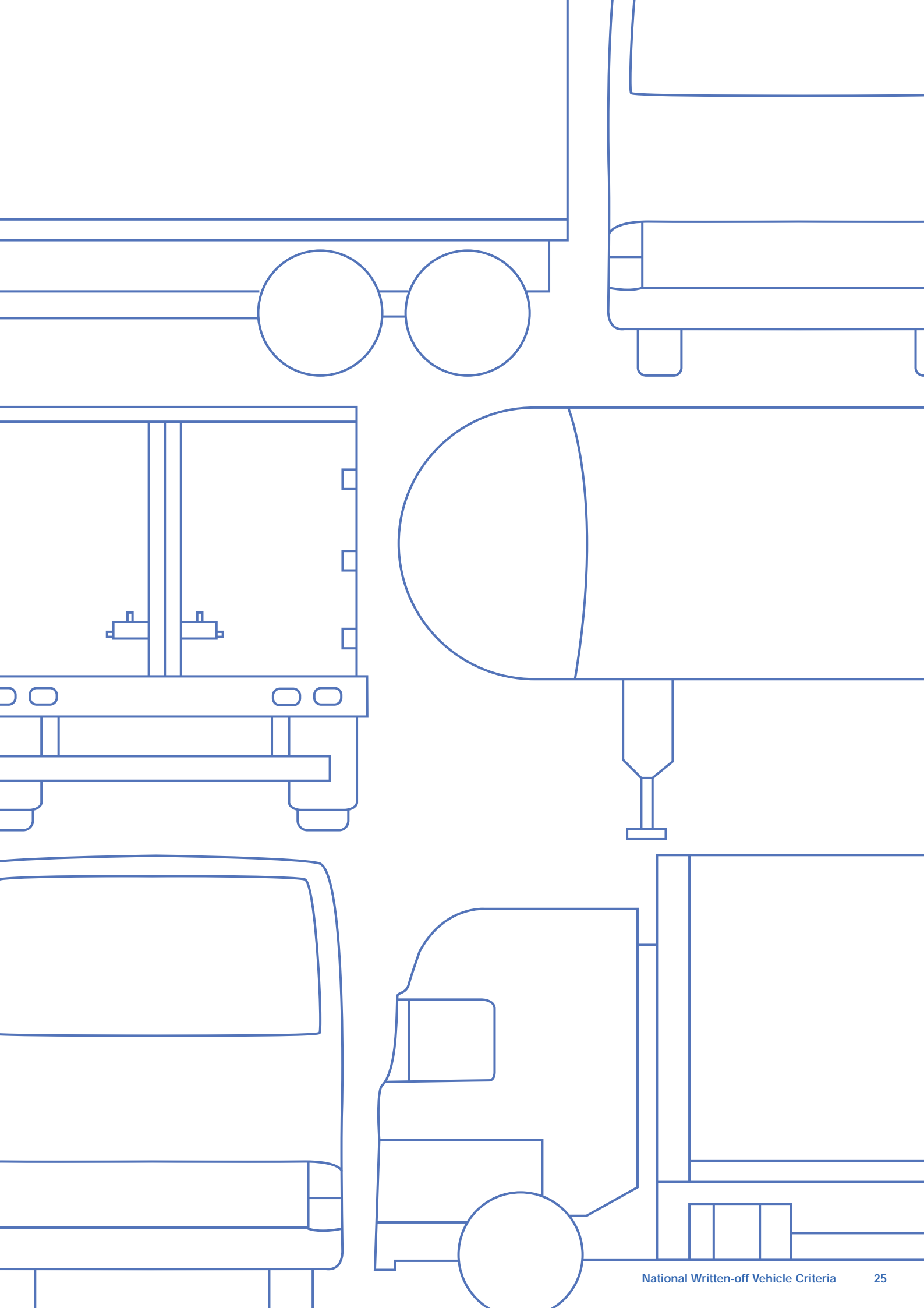
### Recording damage locations

To assist parties that will have post-assessment interactions with RWOs in the auction, repair, registration inspection and post re-registration resale process, the collision/damage type(s) need to be accurately recorded for data capture purposes. The additional data required are the primary area of damage (i.e. frontal, left side, right side, rear or rollover) and event type (i.e. collision, malicious, stripped, dismantled, fire, water).

A separate national model reporting form will include detailed damage location codes.

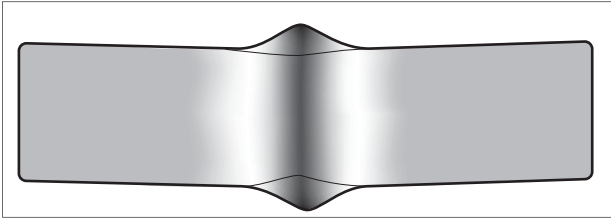
### Nomenclature guide

The following illustrations depict the typical damage that would be consistent with the technical terms used throughout this Guide.

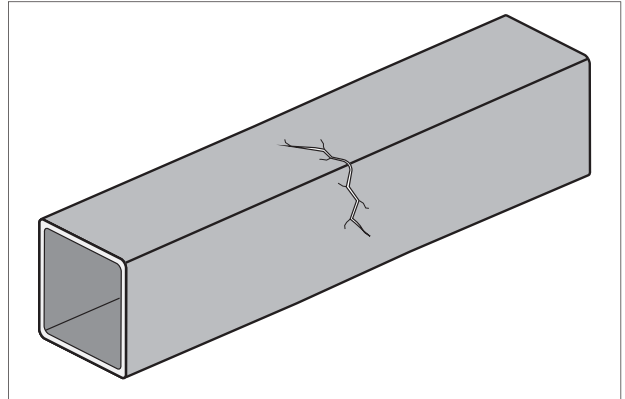


# Nomenclature guide

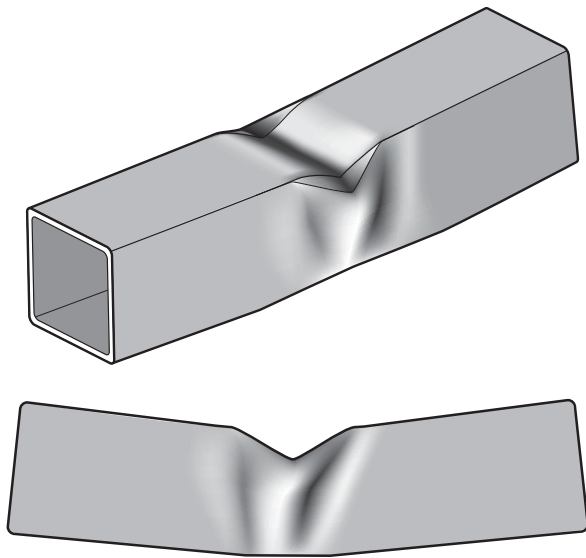
The following illustrations depict the typical damage that would be consistent with the technical terms used throughout this guide.



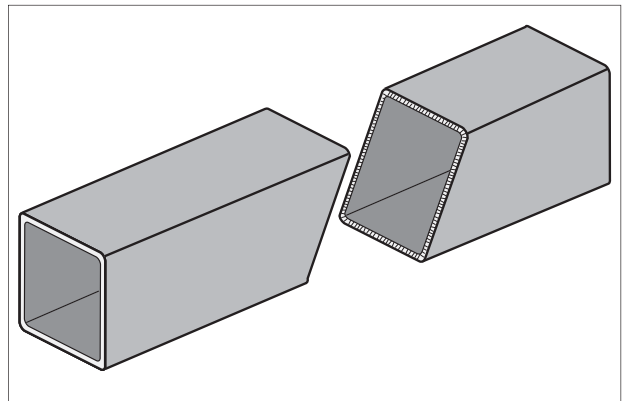
Buckle (top view)



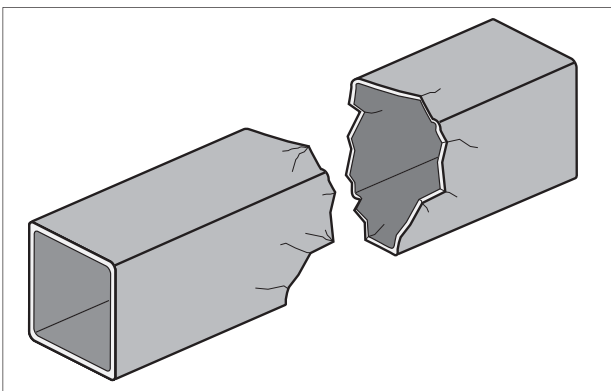
Cracked



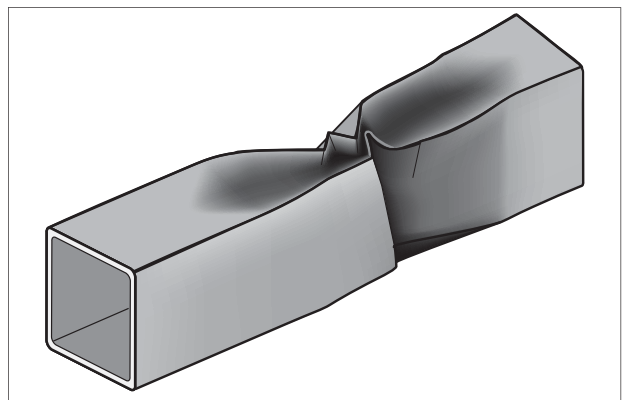
Buckle (side view)



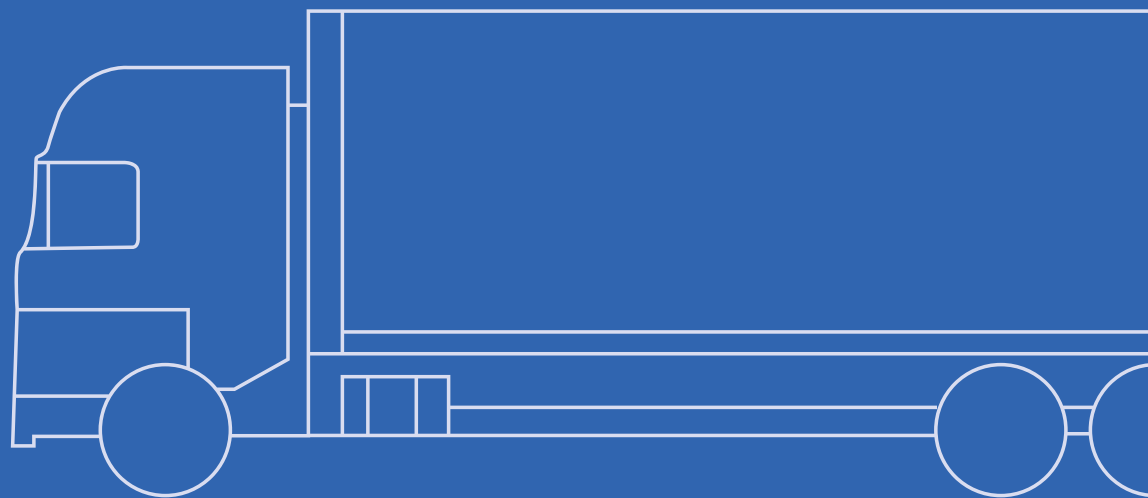
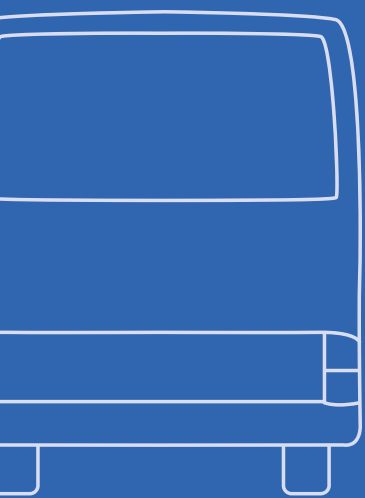
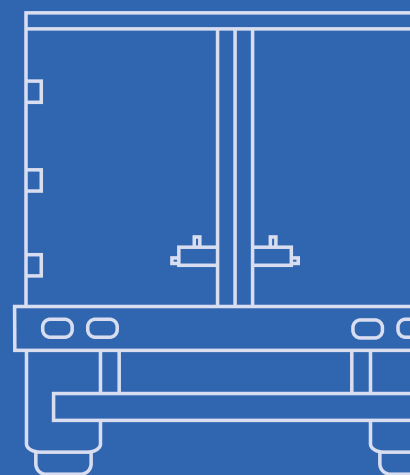
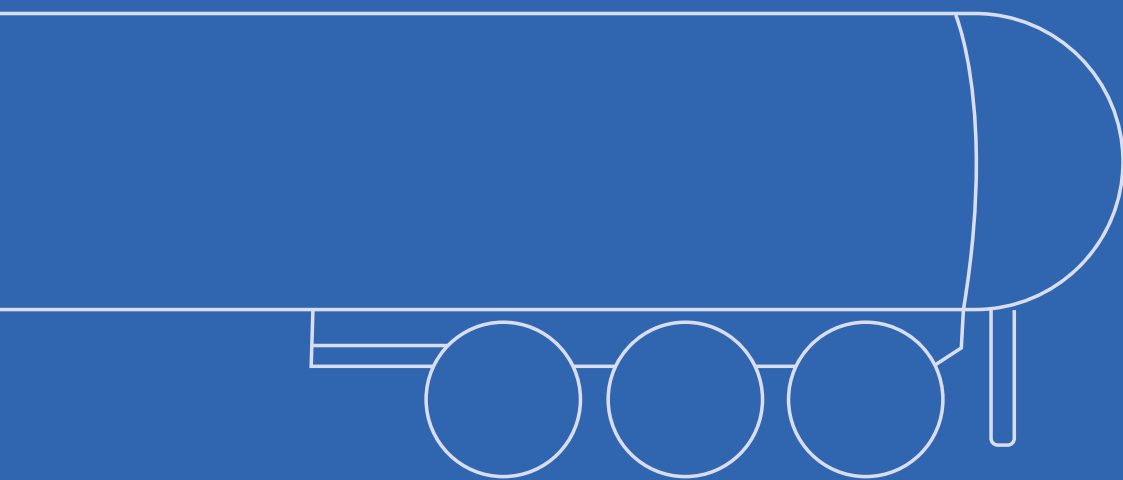
Cut



Fractured



Folded



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