



National Motor Vehicle
Theft Reduction Council

Development of Heavy Vehicle Write-off Damage Assessment Criteria

Results of In-field Trials

October 2017

Report outline

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Address	National Motor Vehicle Theft Reduction Council Suite 1, 50-52 Howard Street North Melbourne Victoria 3051
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Objectives	Better Management of Written-off Vehicles
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Abstract	<p>With the assistance of technical and other industry experts Austroads is in the process of developing a set of criteria for assessing heavy written-off vehicles (HVWOVs) that have been determined to be a total loss to ensure that vehicles that are only suitable for parts or as scrap are appropriately identified and classified as statutory write-offs.¹</p> <p>The NMVTRC agreed to co-ordinate in-field testing of an ‘advanced version’ the draft criteria to measure their practical effect and identify any areas of required refinement as to ease of application, comprehension, interpretation and consistency. The NMVTRC led a similar process in settling the equivalent criteria for light vehicles in 2010.</p> <p>A group of insurance and independently selected assessors trialled the proposed criteria on a mix of more than 50 heavy vehicles scheduled to be sold that week at a regular salvage auction on 16 October.</p> <p>This Report provides detail on both the design and results of the trial and makes some recommendations in respect to finalising an appropriate set of criteria.</p>
Purpose	<p>To report the results of an expert trial of the proposed criteria for the assessment of HVWOVs to—</p> <ol style="list-style-type: none">1. Assess the ease with which the proposed criteria can be applied by experienced motor assessors (ie ease of comprehension, interpretation, consistency); and2. Gather empirical evidence as to the likely impact of the new criteria on the prevailing ratios of RWOs to SWOs.
Key words	Heavy vehicle write-off, written-off vehicles, repairable write-off, statutory write off

¹ Austroads is the peak organisation of Australasian road transport and traffic agencies.

Summary

With the assistance of technical and other industry experts Austroads is in the process of developing a set of technical criteria for assessing heavy written-off vehicles (HVWOVs) that have been determined a total loss to ensure that vehicles that are only suitable for parts or as scrap are appropriately identified and classified as statutory write-offs (SWO).²

It is envisaged that the national framework for the management of HVWOVs will provide that—

- any collision, fire, water or weather-event damaged vehicle declared by an insurer (or self-insurer) to be a total loss 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. It is proposed that a modified version of the technical criteria used in the trial be used to determine when a HVWOV should be classified an SWO.

The NMVTRC agreed to co-ordinate in-field testing of an 'advanced version' of the draft criteria to measure their practical effect and identify any areas of required refinement as to ease of application, comprehension, interpretation and consistency. The NMVTRC led a similar process in settling the equivalent criteria for light vehicles in 2010.

The trial was designed to—

1. Assess the ease with which the proposed criteria can be applied by experienced motor assessors (ie ease of comprehension, interpretation, consistency); and
2. Gather empirical evidence as to the likely impact of the new criteria on the prevailing ratios of RWOs to SWOs.

The trial criteria were developed for Austroads by forensic vehicle engineers Delta V Experts (DVE) in consultation with an Expert Reference Group (ERG) of affected parties established especially for this purpose by Transport for NSW. The ERG comprises more than twenty stakeholder representatives drawn nationally from a cross-section of transport agencies, police, insurers, manufacturing, industry associations and the motor trades. The version tested was Version 7, which comprised separate criteria (and SWO thresholds) for each of—

1. Rigid trucks and prime movers (Group1);
2. Trailers (Group 2);
3. Buses (Group 3); and
4. Special purpose vehicles (SPVs) (Group 4).

This Report presents the results of the trial. The key findings are that—

- in respect of Groups 1 and 2—the draft criteria and SWO point thresholds (5 for trucks and 4 for trailers) is likely to result in around half of all total losses classified as SWOs;
- based on the limited sample available for Group 3—further detailed consultation is required with specialist bus body builders and repairers to confirm the applicability of the criteria; and
- in respect of Group 4—the diversity in design and function of SPVs is such that it is unlikely that an appropriate set of criteria can be settled in the time available to the project and that consideration be given to exclude them (or at least defer) from the first suite of recommendations due in November 2017.
- assessors felt that the trial criteria were generally clear, unambiguous and therefore relatively simple to apply once familiar with them—with an average assessment time of just under 10 minutes.

² A heavy vehicle is defined in accordance with the applicable national law, ie those vehicles with a gross vehicle mass of 4.5 tonnes or more.

Some refinements to the criteria were recommended by assessors in the two 'progress debriefings'. Suggested refinements comprised—

- for Group 1—
 - adding the steering box and stub axles as separate items to be assessed for damage—particularly for the benefit of any subsequent post-repair safety inspection;
 - consideration of some relaxation of impact that the complete replacement of chassis rails has on the overall point count given that this is commonly authorised repair in *non-total losses*;
 - raising the SWO threshold by between 1 and three points, ie a new total of between 6 and 8—although, in the test sample, such increases would result in, at—
 - 6 points—no impact on the RWO/SWO ratio;
 - 7 points—just two vehicles moving from the SWO to RWO classification;
 - 8 points removing only an additional three vehicles from the SWO category; and
- for all groups—that a sub-event of 'rollover' be included for any impact events to alert assessors (and subsequent buyers of an RWO) to the full range of possible repair considerations.

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^Part only

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1. Background to Development of Trial Assessment Criteria

The trial criteria were developed for Austroads by forensic vehicle engineers Delta V Experts (DVE) in consultation with an Expert Reference Group (ERG) of affected parties established especially for this purpose by the Transport for NSW. The ERG comprises more than twenty stakeholder representatives drawn nationally from a cross-section of transport agencies, police, insurers, manufacturing, industry associations and the motor trades. The version tested was Version 7, which comprised separate criteria (and SWO thresholds) for each of—

1. Rigid trucks and prime movers (Group 1);
2. Trailers (Group 2);
3. Buses (Group 3); and
4. Special purpose vehicles (SPVs) (Group 4).

The purpose of the trial was to—

1. Assess the ease with which the proposed criteria can be applied by experienced motor assessors (ie ease of comprehension, interpretation, consistency); and
2. Gather empirical evidence as to the likely impact of the new criteria on the prevailing ratios of RWOs to SWOs.

2. Design and Operation of the In-field Trial

With the assistance of heavy vehicle insurers NTI and GT, the Institute of Accident Assessors (IAA) and salvage auctioneers Manheim, the NMVTRC facilitated an in-field trial of the damage assessment criteria proposed by DVE by a group experienced heavy motor assessors.

NTI and GT nominated two assessors each and IAA 5.

A detailed briefing on the rationale which underpins the criteria was provided by DVE for the assessors on the evening prior to the trial.

The assessment sample comprised a mix of 57 heavy vehicles—comprising forty Group 1 vehicles, six Group 2 vehicles, three Group 3 vehicles and eight Group 4 vehicles. It comprised all the available vehicles from the next scheduled, monthly salvage auction.

Participating assessors were split into two teams, with one from each group to act as 'technical advisors' to observe and assist the team to reach a consensus view as required.

DVE's principal consultant, Dr Shane Richardson, moved between the two teams to contribute engineering advice as required.

The NMVTRC provided the assessing teams with pro-forma documentation for recording the results of the trial. The documentation included provision for recording the areas of damage which are assessed to determine the vehicle's classification under the criteria, including the incidence of multiple areas of like damage. The assessing teams were asked to record all areas of damage present in a subject vehicle. A sample of the scoresheets is attached as Appendix B.

At the mid-point and at the conclusion of the assessment process, the assessing teams were de-briefed in relation to the overall ease of applying the proposed criteria and suggestions for refinement, etc. The NMVTRC has collated the trial results and participants' comments for the consideration of the ERG.

Members of Austroads' Expert Reference Group were invited to observe the trial but asked to ensure that they did not interfere with the independence of the assessing teams' work. Observers were, however, free to actively participate in the de-briefings.

Each assessor was asked to undertake an initial independent assessment of a vehicle without consultation with team members or technical advisors.

After completing their independent assessments, team members were asked to confer and compare results. Where the separate assessments were—

- identical—no further action was required in respect of that vehicle; and
- disparate—the team members were required to discuss the respective variances and mutually agree a single classification.

The completed Assessment Scoresheets were then collated and coded by the NMVTRC.

Mid-point and post-trial debriefings were held with the assessors, technical advisors and present observers to gather a synthesis of views on how the trial was proceeding, the clarity of the criteria, documentation etc. The key issues to arise from the debriefing sessions are discussed later in this report.

3. Trial Metrics and Results

3.1 Headline results

A total of 57 vehicles assessed against the draft criteria. Overall twenty-four vehicles (42 per cent were) were assessed to be SWOs. When broken down by vehicle group this translates to a—

- 50 per cent SWO share for Groups 1 and 2;
- 30 per cent for Group 3; and
- 0 per cent for Group 4.

In respect of Group 1—of the twenty vehicles assessed to be SWOs—

- two were identified as having sustained the minimum five independent categories of damage to trigger the SWO threshold;
- three had sustained 6 independent categories of damage;
- three presented with 7 damage indicators;
- two had 8 independent areas of damage;
- two vehicles scooped the pool with damage under 9 separate categories; and
- eight vehicles breached the criteria on the automatic disqualifying grounds of either fire (paint blisters), water inundation or stripping.

Amongst the SWO group, the most commonly occurring damage was to—

- chassis rails— present in all but two vehicles;
- cab damage —17 from 20; and
- suspension mounts—11 from 20.

In the vast majority of the vehicles that were confirmed to be RWOs, damage was mostly limited to the cab or cab mounts.

A full breakdown of all recorded damage, vehicle by vehicle, is attached as Appendix A.

4. Impacts of Trial Results on Further Development of the Criteria

The views of the assessing teams and technical observers were that the trial criteria were generally clear, unambiguous and therefore relatively simple to apply once familiar with them.

This was evidenced by the fact that although the trial required any disparate assessment made within a team to be resolved by consensus, this was only necessary in a handful of cases. assessed.

Some refinements to the criteria were recommended by assessors during the two 'progress debriefings'. They comprised—

- for Group 1—
 - adding the steering box and stub axles as separate items to be assessed for damage—particularly for the benefit of any subsequent post-repair safety inspection;
 - some relaxation of impact that the need to replace chassis rails be considered given this is commonly authorised repair in *non-total loss* repairs;
 - raising the SWO threshold by between 1 and three points, ie a new total of between 6 and 8—although, in the test sample, such increases would result in, at—
 - 6 points—no impact on the RWO/SWO ratio;
 - 7 points—just two vehicles moving from the SWO to RWO classification;
 - 8 points—removing only an additional three vehicles from the SWO category; and
- for all groups—that a sub-event of 'rollover' be included for any impact events to alert assessors (and subsequent buyers of an RWO) to the full range of possible repair considerations.

5. Other issues

5.1 Time to complete an assessment

The average elapsed time to complete an assessment, was just under 10 minutes which was in line with expectations. The longest time recorded was 15 minutes in a handful of cases. It should also be noted that—

- for the purpose of the trial assessors were required to record all damage consistent with the trial criteria that the vehicle presented with. In normal day to day operation, the assessment would conclude once the relevant disqualifying criteria threshold were met; and
- while the trial was conducted in generally ideal conditions in terms of access, ambient light, etc. such conditions may not always be routinely encountered in an assessor's day to day operations.

Overall, it is not expected that application of the trial criteria will unduly lengthen the assessment process for the vast majority of cases.

5.2 Development of technical guide

To support the consistent application of the criteria in the field, Austroads and the NMVTRC propose to proceed to develop a technical guide based on a combination of detailed photographic and/or illustrated examples of what constitutes the type of damage that would meet specified criteria.

It is proposed that a small, special expert reference group be formed for this purpose to work with Delta V Experts and a contract technical illustrator to ensure the guide meets all regulatory and industry training needs. The guide will be completed in advance of any jurisdiction implementing the final assessment criteria.

5.3 Treatment of rigid trucks in the 3.5 to 4.49 tonnes GVM range

Under the national heavy vehicle law a HV is defined a vehicle with a gross vehicle mass of 4.5 tonnes or more. During the in-field trial it was noted the 3.5t GVM group is a rapidly growing segment of the rigid truck market that the light vehicle criteria are not appropriate for due to their cab/ chassis construction³. So while 4.5t is the start point for the national heavy vehicle regime, state and territories should consider applying the same criteria to rigid trucks down to 3.5t.

³ 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.

Appendix A: Detailed Damage Assessment by Vehicle

Appendix B: Model Trial Assessment Scoresheets