National Motor Vehicle Theft Reduction Council

Review of Written-off Vehicle Damage Assessment Criteria

Results of In-field Trials

August 2010

Prepared by: NMVTRC

Report outline

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Abstract

With the assistance of technical and other industry experts the NMVTRC has developed an alternative set of criteria for the assessment of written-off vehicles (WOVs) to ensure that vehicles which should not be repaired on safety grounds are appropriately identified and classified as only suitable for parts or as scrap.

Over two days a team of independently selected insurance assessors trialled the NMVTRC's proposed criteria by 're-assessing' more than 130 vehicles classified as repairable under the existing criteria.

This Report provides detail on both the design and results of the trial and makes some recommendations in respect of developing a final set of criteria for the consideration of Austroads—the national association of roads and traffic authorities.

Purpose

To report the results of a expert trial of the NMVTRC's proposed modified criteria for the assessment of WOVs 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.

Key words Written-off vehicles, repairable write-off, statutory write off

Summary

Under the national framework for the management of WOVs developed by the National Motor Vehicle Theft Reduction Council (NMVTRC) and its stakeholders 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.

Under the current regime 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 set of technical criteria determine when a WOV should be classified an SWO.

A national workshop of the NMVTRC's key stakeholders in June 2009 resolved that the current criteria were in need of urgent updating to better reflect contemporary vehicle design and fabrication techniques and to make the system more impervious to manipulation by criminal networks and fraudsters.

In late 2009 the NMVTRC engaged forensic vehicle engineers Delta V Experts (DVE) to work with affected parties to develop new draft criteria to meet the system's current and future needs. DVE was assisted by an Expert Reference Group (ERG) of affected parties established especially for this purpose by the NMVTRC. The ERG comprises twenty-one stakeholder representatives drawn nationally from a cross-section of transport agencies, police, insurers, and the motor trades. Discussions were also held with a range of other select organisations with an interest in related issues.

In parallel with the DVE project, the NMVTRC also commissioned an independent audit of a sample of more than 400 WOVs sold at auction in Brisbane, Sydney, Melbourne and Perth to assess the consistency with which the current criteria were being applied. The audit was conducted by former insurance assessing executive Allan Gribble.

Overall, Gribble found that the classification system was generally operating to a high level and there was no evidence of the misclassification of vehicles either by design or the instruction of any party. However, he noted that the strict application of the current relatively simple damage criteria can result in severely damaged vehicles being categorised as RWOs when it should be obvious to a trained expert that the vehicle is suited only for dismantling. Gribble therefore recommended that the DVE develop a means of more consistently identifying and appropriately classifying those vehicles suited only for dismantling as a priority.

A report proposing a set of revised criteria was circulated for comment in May 2010. The NMVTRC also hosted a half-day Information Briefing during the comment period for parties proposing to make a submission on the draft criteria.

In general terms, the comments received indicated there is high degree of consensus about much of the proposed regime and a high level of consistency in comments on those elements which required clarification or re-working.

After reviewing the comments, the NMVTRC was of the view that most issues could be addressed by a combination of refined criteria and the separate development of detailed photographic and/or illustrated technical guides to support consistent assessments in the field.

The ERG subsequently endorsed a modified set of criteria to be trialled in the field by a group of experienced assessors 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.

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

- application of the NMVTRC's alternative criteria could be expected to shift up to 30 per cent of vehicles currently classified as repairable into the statutory (ie parts or scrap only) category resulting in a roughly equal distribution of the total WOV pool between the two categories;
- with only slight modification in respect to the treatment of longitudinal rails, the participating assessors were of the view that application of the trial criteria would effectively remove all classes of damage considered to pose a structural repair risk from the RWO category;
- the principle of separately counting like areas of unconnected damage in determining whether a vehicle has the three areas of damage required to render it a SWO did not have any undue or disproportionate impacts on the vehicle classification process; and
- the trial criteria are generally clear, unambiguous and therefore relatively simple to apply once familiar with them.

Some refinements to the final criteria are, however, proposed to ensure their consistent application. Suggested refinements comprised—

- appropriate photographic or illustrated depiction of the term *buckled*—which in engineering terms would typically be represented by a slightly rotated, diamond-shaped deformation formed on the surface of a structure where the inside of the member is bent in and the outside is bent out as a result of a compression load;
- expanding the definition of floor pan to include the inner sill panel (whilst excluding external sill panels); and
- expansion of the longitudinal rail criteria by adding an additional requirement in respect of lateral deformation to the effect that if both rails are damaged to the extent they require replacement, a third count of damage would be applied rendering the vehicle a SWO.

The next step in finalising the criteria is to review the trial results with the ERG prior to making recommendations on a revised set of assessment criteria to road agencies in September 2010.

Acknowledgements

The NMVTRC thanks the following organisations and individuals for their assistance and co-operation in the design and conduct of the in-field trials.

Colin Blaydon	Assessor	QBE Insurance
Gary Cattanach	Assessor	Abercrombie Accident Assessing
Mark Thomas	Assessor	GIO Insurance
John Thomson	Assessor	Zurich Financial Services
Phil Marks	Assessing Team Technical Adviser	QBE Insurance
Bill Blackhall	Assessing Team Technical Adviser	Insurance Australia Group
Morry Corvasce	Observer	Body Repairer/VACC Rep on ERG
Jerry Altun	Observer	VACC Body Repairers' Division
Dean How	Observer	VACC Recyclers' Division
Andy Tomlinson	Observer	Roads & Traffic Authority NSW
John Pinney	Observer	Victoria Police
Shane Richardson	NMVTRC Technical Consultant	Delta-V Experts

Manheim-Fowles Automotive Salvage Auctioneers
Pickles Auctions

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1. Background to Development of Trial Assessment Criteria

Under the national framework for the management of WOVs developed by the National Motor Vehicle Theft Reduction Council (NMVTRC) and its stakeholders 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.

Under the current regime 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 set of technical criteria determine when a WOV should be classified an SWO.

The current criteria were developed by the New South Wales Roads and Traffic Authority in the mid-1990s. Changes in vehicle construction over recent years and the rapid acceleration in the use of new and composite materials mean that it is increasingly more complex to assure a complete and safe repair of a modern vehicle. Vehicle manufacturers have also expressed concern about the hazard posed by the delayed corrosion of key electronic components—including primary safety systems—in respect of water immersed vehicles.

A national workshop of the NMVTRC's key stakeholders in June 2009 resolved that the current criteria were in need of urgent updating to reflect these changes and to make the system more impervious to manipulation by criminal networks and fraudsters.

In late 2009 the NMVTRC engaged forensic vehicle engineers Delta V Experts (DVE) to work with affected parties to develop new draft criteria which meet the system's current and future needs. DVE was assisted by an Expert Reference Group (ERG) of affected parties established especially for this purpose by the NMVTRC. The ERG comprises twenty-one stakeholder representatives drawn nationally from a cross-section of transport agencies, police, insurers, and the motor trades. Discussions were also held with a range of other select organisations with an interest in related issues.

In parallel with the DVE project, the NMVTRC also commissioned an independent audit of a sample of more than 400 WOVs sold at auction in Brisbane, Sydney, Melbourne and Perth to assess the consistency with which the current criteria were being applied. The audit was conducted by former insurance assessing executive Allan Gribble.

Overall, Gribble found that the classification system was generally operating to a high level and there was no evidence of the misclassification of vehicles either by design or the instruction of any party. However, he noted that the strict application of the current relatively simple damage criteria can result in severely damaged vehicles being categorised as RWOs when it should be obvious to a trained expert that the vehicle is suited only for dismantling. Gribble therefore recommended that the DVE develop a means of more consistently identifying and appropriately classifying those vehicles suited only for dismantling as a priority.

A report proposing a set of revised criteria was circulated for comment in May 2010. The NMVTRC also hosted a half-day Information Briefing during the comment period for parties proposing to make a submission on the draft criteria.

In general terms, the comments received indicated there was a high degree of consensus about much of the proposed regime and a high level of consistency in comments on those elements which required clarification or re-working.

After reviewing the comments, the NMVTRC was of the view that most issues could be addressed by a combination of refined criteria and the separate development of detailed photographic and/or illustrated technical guides to support consistent assessments in the field.

The ERG subsequently endorsed a modified set of criteria to be trialled in the field by a group of experienced assessors 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.

After reviewing the results of the in-field trial with the ERG, the NMVTRC will make its final recommendations on a revised set of assessment criteria to road agencies in September 2010.

2. Design and Operation of the In-field Trial

With the assistance of the Institute of Accident Assessors (IAA) and both major damaged vehicle auction houses in Melbourne (ManheimFowles and Pickles), the NMVTRC engaged four (4) experienced motor assessors to 're-assess' a group of a minimum of 100 RWOs against the new damage assessment criteria proposed by the NMVTRC.

The assessors were selected by the IAA's Executive Committee and drawn from a combination of insurance company direct-employed assessors and an independent contractor. A detailed briefing on the rationale which underpins the new criteria was held for the assessors prior to commencement of the trials.

The trials were conducted on the day prior to the respective auction houses' regular damaged vehicle auction with the assessors working in two teams (with each member alternating between teams over the course of the trial) to optimise transfer of views across the overall group.

The 'assessing teams' were responsible for—

- selecting a minimum of 50 RWOs from each of auction houses' sale stock (with each selected vehicle's status cross-referenced to its entry in the auction house catalogue. Hail damaged vehicles were excluded from the sample[1]); and
- ensuring that all damage categories in the NMVTRC's trial criteria were adequately represented in the sample.

Messrs Phil Marks (QBE Insurance/IAA) and Bill Blackhall (Insurance Australia Group)—each of whom were centrally involved in the development of the original criteria in the mid-1990s acted as Technical Advisers to assist the assessing teams to reach consensus as required. The NMVTRC's technical consultant, Dr Shane Richardson of Delta-V Experts, was also on hand to contribute engineering advice as required.

A group of observers from the NMVTRC's stakeholder base were invited to monitor the trial. Observers were asked to ensure that they did not interfere with the independence of the assessing teams' work, but were free to actively participate in the three progressive debriefings conducted over the two days.

The NMVTRC provided the assessing teams with a pro-forma Assessment Scoresheet for recording the areas of damage which are assessed to determine the vehicle's classification under the new criteria, including the incidence of multiple areas of like damage (ie pillars, longitudinal rails, suspension). A sample of the scoresheet is attached as Appendix B.

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[1] In respect of hail damaged vehicles, the NMVTRC will recommend the administrative arrangements for implementation of the revised criteria include a streamlined process to facilitate retention of a cosmetically damaged vehicle by the insured without the need for a vehicle identity inspection.

For statistical analysis purposes, the assessors were asked to ensure that all damage present was recorded on the Assessment Scoresheet. Alternatively, if a prescribed form of damage was not present, they were asked to confirm this on the Assessment Scoresheet by ticking the 'Not present' option.

Each assessor was asked to undertake an initial independent assessment of a vehicle without consultation with his team member or assigned Technical Adviser.

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. If in doubt, the team was to consult its assigned Technical Adviser or the NMVTRC's Technical Consultant to assist to resolve uncertainties or differences in interpretation.

Interestingly, disparate assessments were extremely rare—which is discussed later in the results section.

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

Three debriefings (two mid-point and a final post-trial) were held with the assessors, technical advisers 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 137 vehicles classified as RWOs under the current system were 're-assessed' against the NMVTRC's trial criteria. Whilst the assessors were tasked to ensure that all damage categories in the NMVTRC's trial criteria were included, the assessors were not able to locate a category 7 example (mechanicals) that had been assessed to be an RWO under the existing criteria. Whilst the category is a critical one for inclusion to the final WOVR criteria – it is to be expected that damage of this type would be minimal in cases other than an obvious SWO.

Ninety-six vehicles (70 per cent) were confirmed as RWOs under the new criteria while forty-one (30 per cent) were assessed to be SWOs. If these ratios were extrapolated to the total pool of 100,000 WOVs sold at auction in a normal year (excluding extreme weather events) it would translate to a further 21,000 vehicles moving into the SWO category and result in a 51/49 per cent split of the total pool between the SWO and RWO categories.

Importantly, with only slight modification in respect to the treatment of longitudinal rails, the participating assessors were of the view that application of the trial criteria would effectively remove all classes of damage considered to pose a structural repair risk.

Of the forty-one vehicles assessed to be SWOs—

- the majority twelve (12) were identified as having sustained three independent categories of damage that met the trial criteria;
- ten (10) had sustained 4 or more independent categories of damage;
- four (4) presented with 5 damage categories;
- one (1) vehicle scooped the pool with damage under 6 separate categories; and
- three (3) vehicles breached the criteria on the automatic disqualifying grounds of either fire (paint blisters), water inundation or stripping.

One of the critical issues the trial was seeking to determine was the likely impact of requiring unconnected areas of like damage in categories 2-6 (pillars, floor, firewall, longitudinal rails, and suspension) to be counted separately towards meeting the three areas of damage that would classify the vehicle as a SWO.

The status of the remaining eleven (11) or (27 per cent) of the forty-one vehicles determined to be SWOs were determined on this basis. Within this group multiple areas of damage to the—

- longitudinal rails was the primary contributing factor—accounting for eight cases; and
- pillars—three cases (one of which also presented with multiple areas of floor damage).

The assessing teams and technical advisers considered this to be a balanced result, with the 'multiple counts' principle not having any undue or disproportionate impacts on the vehicle classification process. Importantly, the assessors were unanimous in the view that none of the vehicles in this group were suitable for other than parts or scrap.

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

- longitudinal rails—present in 83 per cent of vehicles;
- floor pan (80 per cent);
- pillars (51 per cent);
- supplementary restraint systems (46 per cent);
- suspension (41 per cent); and
- fire wall (21 per cent).

Of the vehicles that were confirmed to be RWOs, 42 per cent were assessed as presenting with no damage which corresponded with the trial criteria.

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

4. Impacts of Trial Results on Final 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 respect of four vehicles (3 per cent) of the 137 assessed.

Some refinements were, however, recommended to ensure consistent application. Suggested refinements comprised—

- development of an appropriate photographic or illustrated depiction of the term *buckled*—which in engineering terms would be typically represented by a slightly rotated, diamond-shaped deformation formed on the surface of a structure where the inside of the member is bent in and the outside is bent out as a result of a compression load;
- expanding the definition of floor pan to include the inner sill panel (whilst excluding external sill panels); and
- expansion of the longitudinal rail criteria by adding an additional requirement in respect of lateral deformation to the effect that if both rails are damaged to the extent they require replacement, a third count of damage would be applied rendering the vehicle a SWO.

The NMVTRC will incorporate the recommended modifications to its final criteria for the consideration of its Expert Reference Group.

5. Other issues

5.1 Time to complete an assessment

The fundamental premise which underpins the development of the NMVTRC's alternative criteria is that the SWO classification decision requires greater application of engineering principles to ensure that vehicles which should not be repaired on safety grounds are appropriately identified. This was reinforced by Gribble in his audit of more than 400 vehicles assessed under the current criteria[2].

Application of the trial criteria resulted in a slight increase in time to complete an assessment, with an average time of around three minutes. The longest case took 10 minutes. It should 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 three disqualifying criteria 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. Some additional impact could be expected in 30 per cent (12 of 41 vehicles in the trial) of SWOs (where only the minimum three counts are recorded) The impact on the additional time taken could be expected to be in the order of an additional three minutes inspection time.

5.2 Development of technical guide

To support the consistent application of the alternative criteria in the field, the NMVTRC proposes 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 each of the 11 types of damage to be assessed.

The NMVTRC will form a special expert reference group for this purpose which will work with Delta V Experts and a contract technical illustrator to ensure the guide meets all regulatory and industry training needs.

The NMVTRC's aim would be to ensure that the guide is completed by early 2011 in advance of any jurisdiction implementing the alternative assessment criteria.

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[2] Audit of Written-off Vehicles Sold at Public Auction, Allan Gribble, NMVTRC March 2010.

Appendix A: Detailed Damage Assessment by Vehicle

Sample #	Assessed As	Independent Areas of Damage	Detailed Damage Codes^
1	RWO	Floor	3.4
2	RWO	Floor, Rail	3.4, 5.4
3	RWO	Rail	5.4
4	RWO	Nil	Nil
5	RWO	Pillars	2.4 x2
6	RWO	Nil	Nil
7	RWO	Suspension	6.1 x2
8	**SWO**	**Floor, Rail, Suspension, SRS**	**3.4, 4.1,4.4,5.4,6.1, 8.1, 8.4**
9	**SWO**	**Roof, Pillars**	**1.4, 2.4 x2**
10	RWO	Pillar, Suspension	2.4, 6.1
11	RWO	Nil	Nil
12	**SWO**	**Pillars, Floor**	**2.4 x2, 3.4x2**
13	**SWO**	**Pillars, Floor**	**2.4 x3, 3.4**
14	**SWO**	**Pillars, Floor, Firewall, Rails, Suspension**	**2.4 x3, 3.4, 4.4, 5.4,6.1**
15	RWO	Rails	5.4
16	RWO	Rails	5.3, 5.4
17	RWO	Nil	Nil
18	**SWO**	**Firewall, Rails**	**4.4, 5.4x2**
19	**SWO**	**Roof, Pillars, Floor**	**1.4, 2.4 x2, 3.4**
20	**SWO**	**Pillar, Suspension, SRS**	**2.4, 6.1x2, (8.1, 8.4)**
21	RWO	Nil	Nil
22	RWO	Nil	Nil
23	RWO	Rail	5.4
24	**SWO**	**Pillars, Floor, Suspension, SRS**	**2.4 x3, 3.4, 6.2, (8.2, 8.3)**
25	RWO	Pillar, Floor,	2.4, 3.4
26	**SWO**	**Pillar, Floor, Rail**	**2.4, 3.4, 5.4**
27	RWO	Nil	Nil
28	RWO	Pillar	2.4
29	RWO	Pillar	2.4
30	**SWO**	**Floor, Firewall, Rail, Suspension**	**3.4, 4.4, 5.4, 6.1**
31	**SWO**	**Pillar, Floor, Firewall, Suspension**	**2.4, 3.4, 4.4, 6.1**
32	RWO	Rails	5.4 x2
33	RWO	Rail, SRS	5.4, 8.1
34	**SWO**	**Pillars, Floor, Firewall**	**2.4, 3.4, 4,4,**
35	RWO	Nil	Nil
36	RWO	Nil	Nil
37	**SWO**	**Floor, Firewall, Rail, Suspension, SRS**	**3.4, 4.4, 5.4, 6.1, (8.1, 8.4)**
38	**SWO**	**Floor, Firewall, Rail, SRS**	**3.4, 4.4, 5.4, 6.1, 8.1**
39	**SWO**	**Pillar, Floor, Rail, SRS**	**2.4, 3.4, 5.4, 8.1**
40	RWO	Pillar, Floor,	2.4, 3.4
41	**SWO**	**Floor, Rails**	**3.4, 5.4 x2**
42	RWO	Nil	Nil
43	RWO	Pillar	2.4
44	**SWO**	**Pillar, Floor, Rail**	**2.4, 3.4, 5.4**

45	RWO	Pillar, SRS	2.4, 8.2
46	RWO	Pillar, Firewall	2.4, 4.4
47	**SWO**	**Rails, SRS**	**5.4 x2, (8.1, 8.4)**
48	RWO	Nil	Nil
49	RWO	Nil	Nil
50	RWO	Rail	5.4
51	**SWO**	**Pillar, Firewall, Rail, Suspension, SRS**	**2.4, 4.4, 5.4, 6.1, 8.1**
52	**SWO**	**Floor, Firewall, Rail, Suspension**	**3.4, 4.4, 5.4, 6.1**
53	**SWO**	**Floor, Rails**	**3.4, 5.4 x2**
54	**SWO**	**Pillars, Floor, Rail**	**2.4, 3.4, 5.4**
55	RWO	Floor	3.4
56	**SWO**	**Pillar, Floor, Suspension**	**2.1, 3.4 x2, 6.1**
57	**SWO**	**Firewall, Rail, Suspension, SRS**	**4.4, 5.4, 6.1, (8.1, 8.4)**
58	RWO	Nil	Nil
59	RWO	Nil	Nil
60	**SWO**	**Strip**	**11.1**
61	**SWO**	**Rails, SRS**	**5.4 x2, (8.1 x2), 8.4**
62	**SWO**	**Burnt**	**9.1**
63	**SWO**	**Water**	**10.1**
64	RWO	Rail	5.4
65	RWO	Nil	Nil
66	RWO	Nil	Nil
67	RWO	Rail	5.4
68	RWO	Rail	5.1
69	**SWO**	**Firewall, Rails, SRS**	**4.1, 5.1, 5.4, (8.1, 8.2)**
70	RWO	SRS	8.1
71	RWO	Rail	5.4
72	RWO	Nil	Nil
73	**SWO**	**Pillars, Floor, Firewall, Rails, Suspension, SRS**	**2.4, 3.4, 4.4, 5.4, 6.1,(8.1 x2, 8.4 x2)**
74	**SWO**	**Rails, Suspension, SRS**	**5.3, 5.4 x2, 6.1. 8.1**
75	RWO	Nil	Nil
76	RWO	Pillars	2.4
77	RWO	Pillar	2.4
78	RWO	Floor, Rail	3.4, 5.4
79	RWO	Floor, Rail	3.4, 5.4
80	RWO	Nil	Nil
81	RWO	Pillar	2.4
82	RWO	Pillar	2.4
83	RWO	Floor, Rail	3.4, 5.4
84	RWO	Rail	5.4
85	**SWO**	**Pillar, Floor, Firewall, Suspension, SRS**	**2.4 X2, 3.4, 4.4, 6.1, (8.1, 8.4)**
86	RWO	Nil	Nil
87	RWO	Nil	Nil
88	RWO	Nil	Nil
89	RWO	Nil	Nil
90	RWO	Rail	5.1
91	RWO	Pillar	2.4

92	RWO	Nil	Nil
93	RWO	Nil	Nil
94	**SWO**	**Pillars, Floor, Firewall, SRS**	**2.4, 3.4, 4.4, 8.2**
95	RWO	Rail	5.4
96	**SWO**	**Floor, Rails**	**3.3, 5.4 x2**
97	RWO	Rails	5.4
98	RWO	Rails	5.4
99	**SWO**	**Pillars, Floor**	**2.4 x2, 3.4**
100	**SWO**	**Firewall, Rails, Suspension, SRS**	**4.4, 5.4, 6.1, (8.1, 8.4)**
101	RWO	Pillar	2.4
102	RWO	Nil	Nil
103	RWO	Nil	Nil
104	RWO	Nil	Nil
105	RWO	Nil	Nil
106	RWO	Nil	Nil
107	RWO	Nil	Nil
108	RWO	Rail	5.4
109	RWO	Nil	Nil
110	**SWO**	**Rails, Suspension, SRS**	**5.4, 6.1, (8.1, 8.4)**
111	RWO	Nil	Nil
112	RWO	Nil	Nil
113	RWO	Nil	Nil
114	RWO	Suspension	6.1
115	RWO	Rail	5.4
116	**SWO**	**Rail, Suspension, SRS**	**5.4, 6,1, (8.1, 8.2, 8.3, 8.4)**
117	RWO	Nil	Nil
118	RWO	Rail	5.4
119	RWO	Nil	Nil
120	RWO	SRS	(8.1, 8.4)
121	RWO	Nil	Nil
122	RWO	Rails	5.4
123	RWO	Suspension	6.1
124	RWO	Nil	Nil
125	RWO	Nil	Nil
126	**SWO**	**Floor, Rail, SRS**	**3.4 x2, 5.4, 8.4**
127	RWO	Rail	5.4
128	RWO	Rail	5.4
129	RWO	Rails	5.4
130	RWO	SRS	8.1, 8.4
131	**SWO**	**Floor, Rails**	**3.4 x2, 5.4 x2**
132	RWO	Rail	5.4
133	RWO	Floor, Rail	3.4, 5.4
134	RWO	Rail	5.4
135	RWO	Rail	5.4
136	RWO	Rail	5.4
137	RWO	Rail	5.4

^Damage codes correspond to codes from Assessment Scoresheet

Appendix B: Trial Assessment Scoresheet

National Motor Vehicle Theft Reduction Council

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

CAR SAFE

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Statutory Write-off Criteria In-field Trial Assessment

scoresheet

Lot number _____

1. Roof	Tick		Tick	Tick
1.1 Fractured			OS/NS	Front/Rear
1.2 Cut			OS/NS	Front/Rear
1.3 Cracked			OS/NS	Front/Rear
1.4 Buckled/folded			OS/NS	Front/Rear
1.5 Not present			OS/NS	Front/Rear

2. Pillars*				
2.1 Fractured		A B C D	OS/NS	Front/Rear
2.2 Cut		A B C D	OS/NS	Front/Rear
2.3 Cracked		A B C D	OS/NS	Front/Rear
2.4 Buckled/folded		A B C D	OS/NS	Front/Rear
2.5 Not present		A B C D	OS/NS	Front/Rear

3. Floor pan*				
3.1 Fractured		Boot/Cargo	OS/NS	Front/Rear
3.2 Cut		Boot/Cargo	OS/NS	Front/Rear
3.3 Cracked		Boot/Cargo	OS/NS	Front/Rear
3.4 Buckled/folded		Boot/Cargo	OS/NS	Front/Rear
3.5 Not present		Boot/Cargo	OS/NS	Front/Rear

4. Firewall*			
4.1 Fractured			OS/NS
4.2 Cut			OS/NS
4.3 Cracked			OS/NS
4.4 Buckled/folded			OS/NS
4.5 Not present			OS/NS

5. Rails*	Tick	Tick	Tick
5.1 Fractured		OS/NS	Front/Rear
5.2 Cut		OS/NS	Front/Rear
5.3 Cracked		OS/NS	Front/Rear
5.4 Buckled/folded		OS/NS	Front/Rear
5.5 Not present		OS/NS	Front/Rear

6. Suspension*‡				
6.1 Front mounts		OS/NS	Front/Rear	L/ISU
6.2 Rear mounts		OS/NS	Front/Rear	L/ISU
6.3 Not present		OS/NS	Front/Rear	L/ISU

7. Mechanical components	
7.1 Engine block	
7.2 Transmission case	
7.3 Differential case(s)	
7.4 Axle housings	
7.5 Not present	

8. Supplementary restraints			
8.1 Airbag front		OS/NS	Front/Rear
8.2 Airbag side		OS/NS	Front/Rear
8.3 Airbag curtain		OS/NS	Front/Rear
8.4 Seat belt pre-tensioner		OS/NS	Front/Rear
8.5 Not present		OS/NS	Front/Rear

Consensus agreement	Yes	No

9. Fire	Tick
9.1 Paint blisters*	
9.2 Combined in/external	
9.3 Not present	

10. Water damage	
10.1. Cabin water#	
10.2. Not present	

11. Vehicle stripping	
11.1. Stripped†	
11.2. Not present	

Assessed status	RWO/SWO

Day 1	AM	PM
Day 2	AM	PM

Total time taken _____

* Unconnected areas of damage count separately towards SWO status.

^ Roof, pillars, floor pan, firewall, structural rails, chassis (internal or external).

\# Internal water level above inner door sill.

† Stripped beyond economic repair.

‡ Each damaged ISU mount counts separately towards SWO tally. For live axle group, damage to one or both mounts counts as one area of damage.

OS Off-side.

NS Near-side.

L Live axle.

ISU Independent suspension unit.

Notes: For statistical analysis purposes please ensure that all damage present is recorded. Alternatively, if a form of damage is not present, please confirm that by ticking *Not present*.