#### **KENNA Allison**

From: heavyvehicles@infrastructure.gov.au
Sent: Tuesday, 6 February 2018 2:53 PM

To: dsahlberg@ciavic.com.au

Subject: FW: Gross Combination Mass [SEC=UNCLASSIFIED]

Daniel, thank you for your questions regarding vehicle towing capacity, Gross Combination Mass (GCM) and Second Stage Manufacture (SSM) vehicles.

#### From the ADR Definitions:

AGGREGATE TRAILER MASS (ATM) - the total mass of the laden trailer when carrying the maximum load recommended by the 'Manufacturer'. This will include any mass imposed onto the drawing vehicle when the 'Combination Vehicle' is resting on a horizontal supporting plane.

GROSS COMBINATION MASS - value specified for the vehicle by the 'Manufacturer' as being the maximum of the sum of the 'Gross Vehicle Mass' of the drawing vehicle plus the sum of the 'Axle Loads' of any vehicle capable of being drawn as a trailer.

GROSS TRAILER MASS (GTM) - the mass transmitted to the ground by the 'Axle' or 'Axles' of the trailer when coupled to a drawing vehicle and carrying its maximum load approximately uniformly distributed over the load bearing area, and at which compliance with the appropriate Australian Design Rules has been or can be established.

GROSS VEHICLE MASS (GVM) - the maximum laden mass of a motor vehicle as specified by the 'Manufacturer'

The ATM gives you the effective maximum load the trailer can carry i.e. the sum of the 'axle loads' + load imposed on the vehicle (towball down force).

The GTM will be less than the ATM, as some portion of the load is now being transferred to the tow vehicle. This drawbar load value needs to be subtracted from the vehicle GVM when determining how much payload can be carried in the vehicle, including passengers. Hitching the trailer therefore reduces your 'effective' GVM, but GCM remains the same based on the above definition.

This is now complicated that the manufacturers are describing a GCM which is *less* than the defined value. The GCM claims made by various manufacturers has been noted and further internal discussion is pending.

OEM manufacturers provide evidence of the GVM and maximum (braked) towing capacity of their vehicles. The GCM for light vehicles (

With regard to GVM upgrades, the manufacturer is the person or company responsible for any modifications made to the base vehicle in relation to the SSM IPA Approval. Administrator's Circular 0-4-6 CERTIFICATION OF VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE - references the manufacturer in relation to modifications under the SSM IPA Approval.

Where an IPA has been approved for GVM increase as well as in some cases increased Rated Towing Capacity (braked trailer), GCM is a consequence of the modifications done under that approval and as such does not constitute an approval in its own right. GCM does not appear on approvals issued by the Department.

The Second Stage Manufacturer is ultimately responsible for the vehicles compliance to the relevant affected ADRs for a higher GCM. Changes made under the second stage approval will affect the GCM. GCM would also be subject to concepts such as 'fit for purpose' under legislation other than the Motor Vehicle Standards Act and this should be taken into consideration by the manufacturer.

I trust the above explanation makes sense.

Engineering – Vehicle Certification Technical Team Vehicle Safety Standards - Surface Transport Policy Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

From:

Sent: Tuesday, 19 September 2017 11:40 AM

To

Cc:

**Subject:** Gross Combination Mass

Hi

In discussion with the advised to send this query through to you. We are getting varying reports and interruptions of weights and were hoping for some clarity as we are about to embark on our safety check days.

#### The ADR stipulates:

GROSS COMBINATION MASS - value specified for the vehicle by the 'Manufacturer' as being the maximum of the sum of the 'Gross Vehicle Mass' of the drawing vehicle plus the sum of the 'Axle Loads' of any vehicle capable of being drawn as a trailer.

GROSS VEHICLE MASS (GVM) - the maximum laden mass of a motor vehicle as specified by the 'Manufacturer'.

#### The question is;

- 1. What does the GCM include? GVM + ATM or GTM??
  - a. The reason for this question there is a number of varying interruptions on this (a quick google search showed a number of websites with varying views) and I have a concern that people are getting it wrong. For example, if its GVM + GTM, where is the ball weight of the caravan onto the car taken into consideration? As most GVM (correct me if I'm wrong) is the maximum allowable total mass of a fully loaded motor vehicle, consisting of the tare mass (mass of the vehicle) plus the load (including passengers) but this would not include the tow ball weight as people look at the car as its own weight and would not include tow ball weight as this is not a standard item on cars plus the weight would vary depending on the caravan/trailer. The ADR definition above does not mention what is to be included.
  - b. If the GCM = GVM + ATM, then you may have an issue with the weight on the rear axle capacity of the car as the ATM would apply the weight to the rear and then push the car down at the rear

To clear everything up it would be best to know what should be included in:

- Car towing capacity is this ATM or GTM.
- 2. GVM e.g. should the tow ball weight be included in this.
- GCM

Thanks in advance





CARAVAN INDUSTRY ASSOCIATION VICTORIA PROBO PARI NE RS.























#### **UPCOMING SHOWS**

2017

Border Caravan & Camping Expo <a href="www.borderexpo.com.au">www.borderexpo.com.au</a> 25 – 27 August

Melbourne Leisurefest <a href="www.melbourneleisurefest.com.au">www.melbourneleisurefest.com.au</a> 5 – 8 October

Bendigo Caravan & Camping Leisurefest <a href="www.leisurefest.com.au">www.leisurefest.com.au</a> 24 – 26 November

2018

Victorian Caravan Camping & Touring Supershow www.caravanshow.com.au 21 - 25 February

#### **KENNA Allison**

From:

Sent:

Thursday, 2 November 2017 3:50 PM

To:

Subject: Attachments: Management Board paper [SEC=UNOFFICIAL]

VSSB MANAGEMENT BOARD paper

GVM upgrades.docx

Hi

Attached is the updated Management Board Paper for

updated Management Board Paper for

Kind Regards,

Technical Officer Heavy Vehicle Certification Vehicle Safety Standards

Ph:



Department of Infrastructure and Regional Development

#### **VSSB MANAGEMENT BOARD**

No.		Date: 2/11/2017				
Define	the issue:					
	sion modifications to increase the Gross Vehicle aufacture vehicles.	represent manufacturers who carry out Mass (GVM) of the vehicles. These are second stage				
not effe	The GVM upgrades may affect the braking capability of the vehicle. To ensure the braking performance is not effected, the Department requires that the manufacture perform brake testing to show that the completed second stage vehicle, meets the requirements of the applicable Australian Design Rules.					
Therefo	Electronic stability Control became mandated for all (NA) category vehicles from 1 November 2017. Therefore, the second stage GVM upgraded vehicles must comply with the latest ADR 31/03 requirements. In order to show compliance, the second stage manufacturers are required to test the ESC and submit test results to the Department.					
	nas undertaken their own ESC testing in the U.S one that the compliance of these vehicles would be	on a varied selection of Australian supplied vehicles, e comparable to the untested vehicles.				
assessn	are asking for an exemption to 0-4-5 conditions, we ment of each vehicle before plating and supply to new volume IPA's.	which requires an independent compliance the market. 0-4-5 conditions are mandatory for all				
	nas asked for exemption for testing ESC, and have d to the market, from 100 to 300 per annum.	e asked for an increase in numbers of vehicles to be				
Outline	the current approach (if any):					
A conce	ession has previously been granted by the Admin s from ESC testing.					
A conce vehicles For cate	ession has previously been granted by the Admin s from ESC testing.	nistrator to exempt category (MC) low volume est evidence of compliance for the current braking				
A conce vehicles For cate standar	ession has previously been granted by the Admin s from ESC testing. egory (NA), the current approach is to provide te rd, which requires ESC testing. was prepared for the Minister outlining the requ	est evidence of compliance for the current braking				
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A conce vehicles For cate standar A brief position A meeti	ession has previously been granted by the Admin s from ESC testing. egory (NA), the current approach is to provide terd, which requires ESC testing.  was prepared for the Minister outlining the requirent approach is to provide terd, which requires ESC testing.  was prepared for the Minister outlining the requirent in the series of the series of the series of other in the series of the series of other in the series of the series of other in the series of the se	est evidence of compliance for the current braking lests of their proposals, and the Departments ekuengama, Alex Foulds and is per below.  MC vehicles, It was agreed that category NA lowing of the ESC system. This is based on previous rehicles.				

Outline any legal or administrative constraints: Outline the current approach (if any): ADR 31/03 clause 2.3. 1 November 2017 on all vehicles of category LEP OR NA. As per circular 0-4-5. The certification of low volume vehicles is that they are subjected to an independent 0-4-5 inspection. This inspection is for each vehicle prior to being plated and supplied to market. Decisions. 1. The Department will treat the change from full volume to low volume as an amendment rather than an application for a new approval. This will waive the low volume application fee. 2. If full volume testing were to take place, the second stage manufacturer would be able to use test reports of other member's tests for the same models. 3. The current full volume manufacturers IPA holders will have the choice of converting their full volume applications to low volume under transitional arrangements. 4. Low volume approvals will be capped at 100 vehicles per annum. The proposal by to 300 vehicles per annum was not accepted by the Department. 5. 0-4-5 independent assessment submissions will not be required on low volume GVM upgrades. 6. As per a previous concession given to category MC vehicles, it was agreed that category NA low volume GVM upgrades would not require testing of the ESC system. This is based on previous tests performed on a varied number of vehicles. 7. The Department will develop new procedures and guidelines to assist industry for GVM upgrades. Low volume manuals and other existing guidance material will be changed, especially after the new RVSA comes into effect.

From: Sent: To: Cc: Subject: Attachments:	NYAKUENGAMA Sharon Monday, 16 October 2017 12:14 AM FOULDS Alex; WIELAND Donna;  FW: Record of meeting VSS and 10 Oct 2017 [SEC=UNCLASSIFIED] Meeting record october.docx
Importance:	High
UNCLASSIFIED Alex, Donna and	
	ne a record of my meeting with last week in relation to aspection requirements for vehicles that have been modified to upgrade their arket.
Regards Sharon	
Sent with BlackBerry Work (www.blackberry.com)	
UNCLASSIFIED	
From: NYAKUENGAMA Sharon Date: Friday, 13 Oct 2017, 4:56 pr To Cc: Subject: Record of meeting VSS a	
Dear	
The office of the second state of the second	Total and Allerana

Thank you for meeting with us on Tuesday to discuss:

- the proposed approval pathways under the Road Vehicle Standards Bill in relation to GVM upgrade modifications of new vehicles; and
- the ESC testing and evidence requirements for NA category vehicles from 1 November 2017.

I've attached a record of our discussion and conversation and the outcomes and next steps we agreed.

I will explore the Low volume fee issue and get back to you with a firm response next week. In the meantime, I suggest that any affected members who wish to convert their Full Volume Type Approvals to Low Volume 100 based on the previously submitted evidence before 1 November send an email directly to approvals be converted.

Regards Sharon

#### Sharon Nyakuengama

General Manager Vehicle Safety Standards Branch | Surface Transport Policy Division Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601

e sharon.nyakuengama@infrastructure.gov.au | w www.infrastructure.gov.au



# GVM upgrade manufacturers affected by ESC requirements

Meeting Date

10 October 2017

#### **Attendees**



Department of Infrastructure & Regional Development

Sharon Nyakuengama, General Manager, Vehicle Safety Standards Branch (VSSB)

Section Head, Certification and RAWS (VSSB)

### Meeting Record

Impact of Reforms Proposed in the Road Vehicle Standards Bill

The wishes to understand the detail of the reforms announced in order to provide certainty for their members.

The Department acknowledged the need for certainty and noted that the meeting was a chance to provide more detail about how the new legislation is intended to operate reforms, but that it was not possible at this point to share the text of the new legislation as it still either confidential (the Bill), being drafted (the subsidiary Rules) or to be drafted (Determinations setting out specific detail). The Bill will need to have been passed by the Parliament before the Rules and Determinations can be finalised, however it is intended to consult with affected industry stakeholders on the detail of the draft Rules and Determinations before they are finalised.

The Department provided a high level overview of the key elements of the proposed regulatory model under the Road Vehicle Standards Bill, including the Register of Approved Vehicles (RAV), Type Approval and Concessional RAV Entry Approval pathways and the key regulatory 'tools' (Model Reports, the Specialist and Enthusiast Vehicle Scheme (SEVS), Registered Automotive Workshops (RAWs), Test Facilities and Authorised Vehicle Verifiers (AVV)s) that will be applied in each approval

pathway to ensure that vehicles supplied to Australian consumers meet the minimum design standards for safety, emissions, anti-theft and fuel efficiency.

Second Stage of Manufacture (SSM) approvals will be facilitated by allowing a second entry onto the RAV for certain vehicles that have not yet been provided to a consumer. The available approval pathways after the reform for GVM upgrade second stage manufacturers to provide vehicles will be:

- Type Approval pathway: Manufacturer seeks full volume approval by conducting full testing
  to applicable ADRs including ESC requirements. There will also be an additional option of
  using a Model Report to gain full volume type approval. The model report option will allow
  sharing of test data across
   members for a specific vehicle model to reduce certification
  costs
- Concessional RAV Entry Approval pathway: Manufacturer, operating as a Registered
  Automotive Workshop (RAW), seeks approval for each vehicle using alternative means of
  demonstrating compliance as detailed in a Model Report and supplemented by AVV
  inspection. The specifics of the type of testing and evidence required in a Model Report, and
  the frequency of inspection (e.g. per model, per vehicle or when there is a design change)
  could, for example, depend on extent of vehicle modification (lift no more than 50mm vs over
  50mm).

The Department will work together with and its members to finalise this level of detail for the approval pathways for second stage manufacture GVM upgrade approvals.

The Department also advised that it is intended that:

- the provisions of the Road Vehicle Standards Bill will come into effect 12 months after the legislation is passed by Parliament,
- the Rules and Determinations cannot be finalised until after the Bill has been passed,
- after the commencement of the Road vehicle Standards Act there will be a 12 months transitional period where approvals under the Motor Vehicle Standards Act (MVSA) will still be valid; and
- there will be early 'opt-in' arrangements for MVSA type approval holders to convert approvals to RVSA type approvals based on previously submitted evidence.

#### Commencement of ESC on NA category vehicles from 1 November 2017

The Department acknowledged and apologised for delays in considering previous correspondence from this issue.

The Department advised that its position remained that Full Volume Type Approval for SSM GVM upgrade under the MVSA requires evidence of full testing of ESC performance requirements in accordance with ADR 35/05 from 1 November 2017. Approximately 50% of SSM GVM upgrade Full Volume Type Approvals for NA category vehicles in RVCS have already been updated with the submission of evidence of full ADR testing of ESC requirement.

Currently issued Full Volume Type Approvals will be able to be converted to low volume approvals at the request of the manufacturer by submission of CA form with no additional ESC testing and no requirement for independent inspection provided the lift is equal to or less than 50mm. For approvals with lift greater than 50mm, full testing to ESC requirements as per ADR will be required. Any

proposal for sharing of testing across members to reduce testing costs will be considered by the Department.

The but forward the following:

- The request to waive low volume application processing fee of \$500 for transition of existing full volume approvals to low volume approvals. The Department will investigate this and provide advice as soon as possible
- The request to consider ESC test results for Ford Ranger on a badge engineered vehicle Mazda BT -50. The Department this will be accepted the Bosch ESC test report indicates that the results would be equally applicable to the other model or evidence of equivalence for critical ESC brake systems componentry is provided.
- That the Gross Combination Mass should be deleted from the existing approved RVDs. The
  Department has already taken steps to require manufacturers to submit new RVDs for
  approval without GCM. Circular on second stage 0-4-6 will be updated to clarify requirements
  in relation to GCM.

The expressed a willingness for continued participation in consultation regarding implementation.

The Department undertook to develop the detailed elements of model report requirements and approval processes for GVM upgrades in consultation with and will schedule a follow-up meeting or teleconference in approximately four to six weeks' time.

## **Document 131**

From: NYAKUENGAMA Sharon

Sent: Friday, 13 October 2017 8:13 AM

To: NYAKUENGAMA Sharon

Subject: Meeting record october [SEC=UNCLASSIFIED]

Attachments: Meeting record october.docx



# GVM upgrade manufacturers affected by ESC requirements

**Meeting Date** 

10 October 2017

**Attendees** 



Department of Infrastructure & Regional Development

Sharon Nyakuengama, General Manager, Vehicle Safety Standards Branch (VSSB)

Section Head, Certification and RAWS (VSSB)

## Meeting Record

Impact of Reforms Proposed in the Road Vehicle Standards Bill

The wishes to understand the detail of the reforms announced in order to provide certainty for their members

The Department acknowledged the need for certainty and noted that the meeting was a chance to provide more detail about how the new legislation is intended to operate reforms, but that it was not possible at this point to share the text of the new legislation as it still either confidential (the Bill), being drafted (the subsidiary Rules) or to be drafted (Determinations setting out specific detail). The Bill will need to have been passed by the Parliament before the Rules and Determinations can be finalised, however it is intended to consult with affected industry stakeholders on the detail of the draft Rules and Determinations before they are finalised.

The Department provided a high level overview of the key elements of the proposed regulatory model under the Road Vehicle Standards Bill, including the Register of Approved Vehicles (RAV), Type Approval and Concessional RAV Entry Approval pathways and the key regulatory 'tools' (Model Reports, the Specialist and Enthusiast Vehicle Scheme (SEVS), Registered Automotive Workshops (RAWs), Test Facilities and Authorised Vehicle Verifiers (AVV)s) that will be applied in each approval

pathway to ensure that vehicles supplied to Australian consumers meet the minimum design standards for safety, emissions, anti-theft and fuel efficiency.

Second Stage of Manufacture approvals will be facilitated by allowing a second entry onto the RAV for certain vehicles that have not yet been provided to a consumer. The available approval pathways after the reform for GVM upgrade second stage manufacturers to provide vehicles will be:

- Type Approval pathway: Manufacturer seeks full volume approval by conducting full testing to applicable ADRs including ESC requirements. There will also be an additional option of using a Model Report to gain full volume type approval. The model report option will allow sharing of test data across members for a specific vehicle model to reduce certification costs.
- Concessional RAV Entry Approval pathway: Manufacturer, operating as a Registered
  Automotive Workshop (RAW), seeks approval for every vehicle using alternative means of
  demonstrating compliance supplemented by AVV inspection. The details of whether
  inspection could be required for every vehicle or one per model specific will depend on level
  of vehicle modification, for example vehicle with lift equal to or less than 50mm may require
  one per model inspection and vehicle with lift more than 50mm may require every vehicle to
  be inspected.

The Department explained that, while the Government has announced decisions, much of the associated detail would be included in subsidiary legislation, which is yet to be developed. The Department will seek input from the association during this development phase. RVSA will commence twelve months after legislation is passed through the Parliament. The provisions of MVSA will continue for an additional 12-month transition period after RVSA commences.

The Department provided statistics on status of current GVM upgrade Approvals for NA vehicle category to which ESC requirements are applicable from 1st November 2017. Approximately 50% of manufacturers holding current full volume approvals have already updated their approval by conducting full ADR test to ESC requirements. All currently issued full volume approvals will be able to be converted to low volume approvals on the request of the manufacturer by submission of CA form with no additional ESC testing and no requirement for independent inspection provided the lift is equal to or less than 50mm. For approvals with lift greater than 50mm, full testing to ESC requirements as per ADR will be required. Any proposal for sharing of testing across.

The put forward the following requests:

- The request to waive low volume application processing fee of \$500 for transition of existing full volume approvals to low volume approvals. The Department will investigate this.
- The request to consider ESC test results for Ford Ranger on a badge engineered vehicle Mazda BT -50. This will be accepted if either the vehicles are included in Bosch ESC test report or evidence of equivalence for critical ESC brake systems componentry is provided.
- The Gross Combination Mass should be deleted from the existing approved RVDs. The
  Department has already taken steps to request manufacturers to submit new RVDs for
  approval without GCM. Circular on second stage 0-4-6 to be updated to clarify requirements
  in relation to GCM.

The expressed a willingness for continued participation in consultation regarding implementation. The Department will schedule a follow-up meeting or teleconference in approximately one month's time.

## Document 132

From:

Sent:

Subject:

Tuesday, 10 October 2017 5:17 PM

To:

NYAKUENGAMA Sharon

Meeting record for meeting with [SEC=UNCLASSIFIED]

**Attachments:** 

Meeting record october.docx

Sharon

Draft minutes of meeting with

for your consideration please.

Section Head | Certification & RAWS Vehicle Standards Branch | Surface Transport Policy Division Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601

ww.infrastructure.gov.au

1



# Discussion of GVM upgrade manufacturers affected by ESC requirements

**Meeting Date** 

10 October 2017

#### **Attendees**



Department of Infrastructure & Regional Development

Sharon Nyakuengama (General Manager, Vehicle Safety Standards Branch (VSSB)

Section Head, Certification and RAWS (VSSB)

### Meeting Record

The expressed a desire to discuss detailed elements of the reforms announced in order to provide certainty for their members. The Department acknowledged the need for certainty and noted that the meeting was a chance to provide more detail around the reforms.

The Department provided information in relation to the reforms of the *Motor Vehicle Standards Act* 1989 (MVSA), including the policy aim of reform, and details of the Authorised Vehicle Verifiers (AVVs), model reports and SEV criteria The possible pathways after the reform for GVM upgrade second stage manufacturers to provide vehicles will be:

Type Approval pathway: Manufacturer seeks full volume approval by conducting full testing
to applicable ADRs including ESC requirements. There will also be an additional option of
using a model report to gain full volume type approval. The model report option will allow
sharing of test data across
members for a specific vehicle model to reduce certification
costs.

Concessionary Entry pathway: Manufacturer as a Registered Automotive Workshop (RAW) seeks approval for every vehicle using alternative means of demonstrating compliance supplemented by AVV inspection. The details of whether inspection will be required for every vehicle or one per model specific will depend on level of vehicle modification, for example vehicle with lift equal to or less than 50mm may require one per model inspection and vehicle with lift more than 50mm may require every vehicle to be inspected.

The Department explained that, while the Government has announced decisions, much of the associated detail would be included in subsidiary legislation, which is yet to be developed. The Department will seek input from the association during this development phase. RVSA will commence twelve months after legislation is passed through the Parliament. The provisions of MVSA will continue for an additional 12-month transition period after RVSA commences.

The Department provided statistics on status of current GVM upgrade Approvals for NA vehicle category to which ESC requirements are applicable from 1st November 2017. Approximately 50% of manufacturers holding current full volume approvals have already updated their approval by conducting full ADR test to ESC requirements. All currently issued full volume approvals will be able to be converted to low volume approvals on the request of the manufacturer by submission of CA form with no additional ESC testing and no requirement for independent inspection provided the lift is equal to or less than 50mm. For approvals with lift greater than 50mm, full testing to ESC requirements as per ADR will be required. Any proposal for sharing of testing across members to reduce testing costs will be considered by the Department.

The put forward the following requests:

- The request to waive low volume application processing fee of \$500 for transition of existing full volume approvals to low volume approvals. The Department will investigate this.
- The request to consider ESC test results for Ford Ranger on a badge engineered vehicle Mazda BT -50. This will be accepted if either the vehicles are included in Bosch ESC test report or evidence of equivalence for critical ESC brake systems componentry is provided.
- The Gross Combination Mass should be deleted from the existing approved RVDs. The
  Department has already taken steps to request manufacturers to submit new RVDs for
  approval without GCM. Circular on second stage 0-4-6 to be updated to clarify requirements
  in relation to GCM.

The expressed a willingness for continued participation in consultation regarding implementation. The Department will schedule a follow-up meeting or teleconference in approximately one month's time.

# **Document 133**

# **KENNA Allison** From: Wednesday, 30 August 2017 2:01 PM Sent: To: RE: "Manufacturer" definition with regards to Second Stage Manufacturers and Subject: ADRs [SEC=UNCLASSIFIED] I will pass this on to R K Findlay. Engineering - Light Vehicle Certification Vehicle Safety Standards - Surface Transport Policy Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601 w www.infrastructure.gov.au From: Sent: Wednesday, 30 August 2017 1:59 PM Subject: RE: "Manufacturer" definition with regards to Second Stage Manufacturers and ADRs [SEC=UNCLASSIFIED] Agree with the interpretation provided. Regards Section Head | Certification & RAWS Vehicle Standards Branch | Surface Transport Policy Division Department of Infrastructure and Regional Development ww.infrastructure.gov.au

From:

Sent: Tuesday, 29 August 2017 3:24 PM

Subject: RE: "Manufacturer" definition with regards to Second Stage Manufacturers and ADRs [SEC=UNCLASSIFIED]

For your note/approval.

Thanks for this. Minor additions		Thanks	for	this.	Minor	additions.
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Sent: Tuesday, 29 August 2017 2:22 PM

To:

Subject: FW: "Manufacturer" definition with regards to Second Stage Manufatcurers and ADRs [SEC=UNCLASSIFIED]

My proposed response

Clifford, in regard to your questions:

relation to the SSM IPA Approval.

- (<u>Vehicle Standard (Australian Design Rule Definitions and Vehicle Categories) 2005</u>) Does this definition of "Manufacturer" encompass Second Stage Manufacturer?
   Yes, the manufacturer is the person or company responsible for any modifications made to the base vehicle in
- 2. (0-4-6 CERTIFICATION OF VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE) Is it to be read that wherever the term "Manufacturer" is used, that this is taken to be the Second Stage Manufacturer, with regards to Second Stage Manufacturer IPAs?
  - 0-4-6 references manufacturer in relation to modifications under the SSM IPA Approval.
- 3. Does this definition mean that Second Stage Manufacturers can state a GCM above that of First Stage Manufacturers?

From Vehicle Standard (Australian Design Rule - Definitions and Vehicle Categories) 2005 dated 14/5/2016:

RATED TOWING CAPACITY - the lesser of either;

- the rating given to the towing equipment fitted to the motor vehicle or,
- the difference between 'Gross Combination Mass' and 'Gross Vehicle Mass'.

From this definition, the GCM should then be determined as no greater than the sum of Rated Towing Capacity and GVM.

Where an IPA has been approved for GVM increase as well as in some cases increased Rated Towing Capacity (braked trailer), GCM is a consequence of the modifications done under that approval and as such does not constitute an approval in its own right. GCM does not appear on approvals issued by the Department.

GCM is not generally provided by OEMs and is not a requirement on the SE forms for passenger vehicles.

4. Does this mean that the Second Stage Manufacturer is ultimately responsible for the vehicles compliance to the relevant affected ADRs for a higher GCM?

Yes, as changes made under the IPA will affect the GCM. GCM would also be subject to concepts such as 'fit for purpose' under legislation other than the Motor Vehicle Standards Act and this should be taken into consideration by the manufacturer.

Engineering – Light Vehicle Certification Vehicle Safety Standards - Surface Transport Policy Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601 From: RK Findlay - Clifford. [mailto:clifford@findlay.net.au]

Sent: Monday, 28 August 2017 10:57 AM

To:

Subject: "Manufacturer" definition with regards to Second Stage Manufacturers and ADRs



With regards to the phone call on Monday 28/8/17.

We require clarification with regards to the definitions listed in the document <u>Vehicle Standard (Australian Design Rule – Definitions and Vehicle Categories) 2005</u> dated 14/5/2016.

Firstly the definition of "Manufacturer". The above document states the following

MANUFACTURER - the name of the person or company who accepts responsibility for compliance with the Australian Design Rules and to whom the 'Compliance Plate' approval certificate is issued.

Does this definition of "Manufacturer" encompass Second Stage Manufacturer?

The circular 0-4-6 CERTIFICATION OF VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE uses the term "Manufacturer" throughout. In particular it states the following in Clause 1.1

This Circular sets out the requirements for *Manufacturers* making application for Identification Plate Approval (IPA) for additions to, or modifications undertaken on a *New Vehicle* that already has affixed a completed vehicle Identification Plate. Such arrangements are identified as "Second-Stage-of-Manufacture" (SSM) IPA.

Secondly, if the definition of "Manufacturer" incorporates Second Stage Manufacturer how does this impact other definitions which are related to "Manufacturer"? Is it to be read that wherever the term "Manufacturer" is used, that this is taken to be the Second Stage Manufacturer, with regards to Second Stage Manufacturer IPAs?

An example of this is the following

The definition of Gross Vehicle Mass (GVM) is defined as follows

GROSS VEHICLE MASS (GVM) - the maximum laden mass of a motor vehicle as specified by the 'Manufacturer'.

Does the definition of GVM, and the fact that the definition of "Manufacturer" incorporates Second Stage Manufacturers, mean that the Second Stage Manufacturer can state a GVM above that of the First Stage Manufacturer? Does this mean that the Second Stage Manufacturer is ultimately responsible for the vehicles compliance to the relevant affected ADRs for a higher GVM?

Similarly the definition of Gross Combination Mass (GCM) is defined as follows:

GROSS COMBINATION MASS - value specified for the vehicle by the 'Manufacturer' as being the maximum of the sum of the 'Gross Vehicle Mass' of the drawing vehicle plus the sum of the 'Axle Loads' of any vehicle capable of being drawn as a trailer.

Does this definition mean that Second Stage Manufacturers can state a GCM above that of First Stage Manufacturers? Does this mean that the Second Stage Manufacturer is ultimately responsible for the vehicles compliance to the relevant affected ADRs for a higher GCM?

If you could please provide assistance with sourcing timely responses to these questions it would be greatly appreciated.

REGARDS

Clifford Bollen Engineer

R. K. FINDLAY PTY LTD

Consulting Engineers 3/17 Pembury Rd, Minto NSW 2566 (PO Box 1052, Campbelltown NSW 2560)

E. clifford@findlay.net.au

#### **KENNA Allison**

From:

Sent:

Tuesday, 29 August 2017 2:22 PM

To:

Cc:

Subject:

FW: "Manufacturer" definition with regards to Second Stage Manufacturers and

ADRs [SEC=UNCLASSIFIED]

My proposed response

Clifford, in regard to your questions:

(<u>Vehicle Standard (Australian Design Rule – Definitions and Vehicle Categories) 2005</u>) Does this definition of "Manufacturer" encompass Second Stage Manufacturer?
 Yes, the manufacturer is the person or company responsible for any modifications made to the base vehicle in relation to the SSM IPA Approval.

- 2. (0-4-6 CERTIFICATION OF VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE) Is it to be read that wherever the term "Manufacturer" is used, that this is taken to be the Second Stage Manufacturer, with regards to Second Stage Manufacturer IPAs?
  - 0-4-6 references manufacturer in relation to modifications under the SSM IPA Approval.
- 3. Does this definition mean that Second Stage Manufacturers can state a GCM above that of First Stage Manufacturers?

From Vehicle Standard (Australian Design Rule - Definitions and Vehicle Categories) 2005 dated 14/5/2016:

RATED TOWING CAPACITY - the lesser of either;

- the rating given to the towing equipment fitted to the motor vehicle or,
- the difference between 'Gross Combination Mass' and 'Gross Vehicle Mass'.

From this definition, the GCM can then be determined as no greater than the sum of Rated Towing Capacity and GVM.

Where an IPA has been approved for GVM increase as well as in some cases increased Rated Towing Capacity (braked trailer), GCM is a consequence of the modifications done under that approval and as such does not constitute an approval in its own right.

GCM is not generally provided by OEMs and is not a requirement on the SE forms for passenger vehicles.

4. Does this mean that the Second Stage Manufacturer is ultimately responsible for the vehicles compliance to the relevant affected ADRs for a higher GCM?

Yes, as changes made under the IPA will affect the GCM.

Engineering – Light Vehicle Certification Vehicle Safety Standards - Surface Transport Policy Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601

www.infrastructure.gov.au

From: RK Findlay - Clifford. [mailto:clifford@findlay.net.au]

Sent: Monday, 28 August 2017 10:57 AM

To:

Subject: "Manufacturer" definition with regards to Second Stage Manufacturers and ADRs

HI

With regards to the phone call on Monday 28/8/17.

We require clarification with regards to the definitions listed in the document <u>Vehicle Standard (Australian Design</u> Rule – Definitions and Vehicle Categories) 2005 dated 14/5/2016.

Firstly the definition of "Manufacturer". The above document states the following

MANUFACTURER - the name of the person or company who accepts responsibility for compliance with the Australian Design Rules and to whom the 'Compliance Plate' approval certificate is issued.

Does this definition of "Manufacturer" encompass Second Stage Manufacturer?

The circular 0-4-6 CERTIFICATION OF VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE uses the term "Manufacturer" throughout. In particular it states the following in Clause 1.1

This Circular sets out the requirements for *Manufacturers* making application for Identification Plate Approval (IPA) for additions to, or modifications undertaken on a *New Vehicle* that already has affixed a completed vehicle Identification Plate. Such arrangements are identified as "Second-Stage-of-Manufacture" (SSM) IPA.

Secondly, if the definition of "Manufacturer" incorporates Second Stage Manufacturer how does this impact other definitions which are related to "Manufacturer"? Is it to be read that wherever the term "Manufacturer" is used, that this is taken to be the Second Stage Manufacturer, with regards to Second Stage Manufacturer IPAs?

An example of this is the following

The definition of Gross Vehicle Mass (GVM) is defined as follows

GROSS VEHICLE MASS (GVM) - the maximum laden mass of a motor vehicle as specified by the 'Manufacturer'.

Does the definition of GVM, and the fact that the definition of "Manufacturer" incorporates Second Stage Manufacturers, mean that the Second Stage Manufacturer can state a GVM above that of the First Stage Manufacturer? Does this mean that the Second Stage Manufacturer is ultimately responsible for the vehicles compliance to the relevant affected ADRs for a higher GVM?

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If you could please provide assistance with sourcing timely responses to these questions it would be greatly appreciated.

#### REGARDS

Clifford Bollen Engineer

R. K. FINDLAY PTY LTD

Consulting Engineers 3/17 Pembury Rd, Minto NSW 2566 (PO Box 1052, Campbelltown NSW 2560)

E. clifford@findlay.net.au

#### **KENNA Allison**

From: RK Findlay - Clifford. <clifford@findlay.net.au>

Sent: <u>Monday 28 Aug</u>ust 2017 10:57 AM

To:

Subject: "Manufacturer" definition with regards to Second Stage Manufacturers and ADRs

Follow Up Flag: Follow up Flag Status: Completed

HI

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We require clarification with regards to the definitions listed in the document <u>Vehicle Standard (Australian Design Rule – Definitions and Vehicle Categories) 2005</u> dated 14/5/2016.

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If you could please provide assistance with sourcing timely responses to these questions it would be greatly appreciated.

#### REGARDS

Clifford Bollen

Engineer

R. K. FINDLAY PTY LTD

Consulting Engineers 3/17 Pembury Rd, Minto NSW 2566 (PO Box 1052, Campbelltown NSW 2560)

E. clifford@findlay.net.au

From: Sent: To: Cc:	Tuesday, 7 August 2018 4:27 PM Bill Muirhead  RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity [DLM=For-Official-Use-Only]			
Subject:				
Follow Up Flag: Flag Status:	Follow up Completed			
Bill				
Thanks for your inquiry.				
after the GVM increase. This I	Mass of braked trailer as specified on the RVD of the first stage manufacturer has also been noted in the latest RVD form issued on RVCS on 20 <sup>th</sup> July ons, GCM ratings will not be allowed to be specified in the RVDs submitted as			
test at an increased GVM; evid	dense as part of certification process submit evidence in form of ADR 35 brake dence to ADR 62 to Mechanical Connections if fitted; evidence to ADR 42 and evidence to ADR 13 lighting installation because of height change.			
Please feel free to contact me	on if you wish to discuss further.			
Regards				
Director Certification and RAWS Vehicle Safety Standards Branch Department of Infrastructure, Re	Surface Transport Policy Division gional Development and Cities			

From: Bill Muirhead < Bill.Muirhead@nt.gov.au>

Sent: Friday, 20 July 2018 10:56 AM

GPO Box 594, Canberra ACT 2601

To:

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

www.infrastructure.gov.au

Hilms 1.7.  RE the ongoing light vehicle GVM GCM schermozzle – and FYI (ref below) – we're now (kind of expectedly) being bullied b — simply because we made an inadvertent error in allowing a breach of our legislation - which we're now immediately correcting regardless.

We have no problems accepting BTC increases (where claimed) under SSM – because Lovells are considered to be the manufacturer for purpose of the modified vehicle and the affected areas.

We cannot accept increased towing capacity as an in-service modification (ie where a lovell's kit is fitted to a vehicle after first rego), because in such a case, the modifier is not the manufacturer.

Our legislation provides a block in that regard. Most J's have similar legislative blocks – although some have discretion via their Registrars. (we don't).

I am wondering though - have Lovell's ever actually provided any technical evidence to support their claims for BTC increases as part of their SSM evidence?

FYI - our legislation states (MV(S)Rs -

#### 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle.

whichever is the lesser.

(3) In this regulation:

#### towing capacity of the motor vehicle means:

- (a) the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer, or
- (b) if a towing capacity is not specified or is not able to be identified:
  - if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
  - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

To my mind – a way forward with this nationally (may be) to request the industry either put up or shut up.

le – industry might want to put together some detailed evidence based on detailed dynamic performance (physical) testing (and accompanied by dynamic performance modelling) to demonstrate that GVM and BTC increases for particular makes and models, does not cause a reduction in safety.

As you're aware took this approach when it came to allowing vehicle height increases to ESC equipped vehicles.

Interested in your or thoughts...

I strongly believe that a nationally consistent approach (including the Commonwealth) needs to be taken here.

#### **Bill Muirhead**

Senior Engineering Officer – Vehicle Standards
Road Safety & Compliance, Transport Safety & Services
Department of Infrastructure, Planning and Logistics

Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801



e ... bill.muirhead@nt.gov.au

w ... www.nt.gov.au

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Friday, 20 July 2018 9:54 AM
To: Wayne Lo <Wayne.Lo@nt.gov.au>

Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >; Mike Davison

<miked@lovells.com.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

Why is this being revised/discovered 2 years after we were granted SSM approval for the LC200's BTC upgrade. I would think your legislation needs to be reviewed and revised to align with other States & Federal approval.

If a SSM Approval has been granted by DIRD (Federal Dept of Transport) by way of complying to all affected ADRs, we find it unacceptable that BTC Upgrades cannot be covered under this code.

The whole point of the VS24 is to re-rate components above the manufacturers published rating. Lovells supply a DIRD approved BTC upgrade kit which hold CRN approvals issued by DIRD, all components are tested as comply to all effected ADR's. we ensure the vehicle safety and integrity isn't compromised, if anything we have improved vehicle towing & safety.

We simply need to be uniformed across all States and Territories. NT are accepting our SSM approvals for GVM increase as per our SSM approval for in service vehicles (yet we're still not the "original vehicle manufacturer") however not accepting BTC upgrades as per our SSM approval for LC200's and Prado 150's, I'm struggling to understand this discussion.

Prior to any proposed changes I would have thought we would have been consulted, we have vehicle owners who prolonging they're GVM & BTC upgrades as they are in the process of ordering/building purpose built caravan's & boats to comply to our 4t BTC upgrade, I can only assume they're going to be devastated and most likely raise this issue with MVR as they aren't aware of this recent decision of change to vehicle compliance.

Can you please send me a copy of the legislation to which you referred to as to the towing capacities can't be modified, please highlight the specific legislation advice.

Kind regards,

#### **Dragan Vasic**

#### **National Sales Manager**

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

#### Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

#### Sandgate (Warehouse)

3 Friesian Cl Sandgate NSW 2304 AUSTRALIA

#### Melbourne

P.O. Box 654 Bentleigh East. Victoria 3165



Email: draganv@lovells.com.au
Web: www.lovells.com.au



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From: Wayne Lo < <u>Wayne.Lo@nt.gov.au</u>> Sent: Thursday, 19 July 2018 5:34 PM

To: Dragan Vasic (draganv@lovells.com.au) <draganv@lovells.com.au>

Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

#### Hello Dragan

Having reviewed our legislative position on increases to the towing capacity of a motor vehicle for in-service vehicles, it is apparent that only the original vehicle manufacturer can specify this capacity. Under SSM, the SSM holder is recognised as the vehicle manufacturer and can specify this capacity. For in-service vehicles, the original manufacturer is the entity that appears on the vehicle compliance plate. For an in-service vehicle modified with the Lovells product, Lovells is the modifier – not the original vehicle manufacturer.

Though the Department has, in good faith, accepted the increased towing capacity based on SSM approval, this conflicts with our legislation which means that we need to realign our type-approval arrangement. I have discussed this with your local NT agents.

The amended VS24(h) still recognises GVM increases based on SSM however, references to BTC and GCM have been removed.

For NT registered vehicles that have already been approved with the increased towing capacity, these vehicles will be permitted to operate at their revised capacity – no new requests will be considered.

With reference to the draft modification label, there is general support for its design and layout. I would like to finalise this soon - we just need a bit more time to finalise wording in view of the discussion on towing capacity of a motor vehicle ... Removing references to revised BTC would align with our current position...



We will soon advise our inspection team of the updated VS24(h). Your local agents are expecting advice from you regarding the updated VS24(h).

#### Regards

#### Wavne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

e ... <u>wayne.lo@nt.gov.au</u> w ... <u>www.nt.gov.au</u>

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 20 June 2018 2:07 PM
To: Wayne Lo < Wayne. Lo@nt.gov.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

As per this morning's conversation please find the following advice,

Lovells are compliant to continue to certify BTC Upgrades and GCM revisions on Toyota LC200's and Prado 150's.

Contrary to social media and competitors spin, Lovells can confirm the following:

We have had confirmation from Standards (Surface Transport Policy).

There is no change to <u>existing SSM Approvals</u>. Any vehicles (as stated in current SSM Approvals and as noted on current RVD's) can still be plated with GVM Upgrades and Towing Capacity Upgrades (BTC upgrades) under the approved RVD and SSM. Thus Lovells SSM Approval kits can continue to be supplied.

The implementation of Administrator's Circular 0-4-6 is effective for all <u>future</u> IPA Approvals. That is, any SSM Approvals applied for <u>beyond</u> the current valid and active SSM Approvals.

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% legal in all States and Territories for all vehicles in service/previously modified.

Lovells GVM/GCM/Towing Capacity or variants of these modifications will continue to be 100% legal in all States and Territories for all vehicles when modified prior to first registration (Federal Compliance).

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% still legal in the <u>majority</u> of States and Territories for all vehicles when modified after first registration/in service vehicles (State Compliance). State based GCM modifications are governed by the State/Territory Authority and their individual Type Approvals or Modification Codes.

We have had confirmation, at time of writing, that the following States via Lovells nominated Engineering signatories will continue to approve and endorse Lovells GVM/GCM/Towing Capacity or variants of these modifications whilst we have a current and valid SSM Approval in place and noted on the applicable RVCS RVD.

- NSW
- Victoria
- Tasmania
- South Australia
- Northern Territory
- Western Australia

Unfortunately the following States/Territories no longer allow a revised GCM beyond that of the Original Equipment/First Stage Manufacturer specification. However, GVM and Towing Capacities will be accepted based on the listed capacities on the SSM RVD at time of writing.

Queensland

In the case of this State, where a vehicle does not have or has no defined GCM, it is to be taken that the GCM= GVM + BTC so for the early model LC200, which didn't gazette a GCM. GCM = 3300kg+3500kg = 6800kg

Lovells GVM/GCM/Towing modifications have always been legal and we have always strived to ensure ongoing compliance with the Federal and State Regulators.

This is a Government Policy directive and no fault of Lovells. We are highly disappointed with their future direction, as the knock on effects to the Automotive Industry are considerable and will be detrimental to many companies.

Considering Lovells is a major industry stake holder in this market sector, it is also disappointing that we were not consulted regarding these regulation changes.

The whole point of GVM/GCM/towing upgrades is to ensure the ongoing compliance and safety of vehicles and occupants when carrying/towing heavy loads and thus ensuring the safety of other road users.

Please be assured that the future changes in policy by the Federal Government is <u>not</u> due to any safety concerns, as reported in some forums, competitor press releases and industry news pages.

However, the many affected SSM Approval holders can attest to and advise categorically that there is no evidence of any safety issues, accidents or fatalities due to or related to any GVM/GCM/Towing Upgrade.

Unfortunately, <u>all</u> of the SSM Approval Holders who nominate a revised GCM and/or Towing Capacity increase will be affected by these changes in the future, as will any road user who wishes to tow a caravan, boat, horse float etc.

#### In Summary

- PRE REGO there is no change in plating vehicles with the GVM & BTC upgrade. GCM as defined by Lovells
  the manufacturer
- POST REGO vehicles can be plated with GVM upgrade. The BTC and GCM upgrade would be supported and approved via State Authorities and state based signatories
- The implementation of 0-4-6 is for all future SSM approvals

Kind regards.

#### Dragan Vasic

National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

#### Sandgate (Warehouse)

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P.O. Box 654 Bentleigh East. Victoria 3165

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From: Wayne Lo <<u>Wayne.Lo@nt.gov.au</u>> Sent: Tuesday, 19 June 2018 5:56 PM

To: Dragan Vasic < draganv@lovells.com.au >

Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >

Subject: Form Updates - VS24(h) - Lovells Suspension - towing capacity

#### Hello Dragan

In light of the recent updates to Commonwealth Administrator's Circular 0-4-6 on Second Stage of Manufacture that now precludes any towing capacity increase over the first stage vehicle manufacturer's towing capacity, we have amended form VS24(h) accordingly – see attached. In summary, references to towing have been removed.

No Images? Click here

In the short term, I anticipate that the form can be used until we finalise a label arrangement.

A description of the changes to the Circular are in the

**NOTIFICATION OF** CHANGE TO ADMINISTRATIVE **ARRANGEMENTS** REGARDING GCM **RE-RATING FOR VEHICLES WHICH HAVE UNDERGONE** A SECOND-STAGE-**OF-MANUFACTURE** 

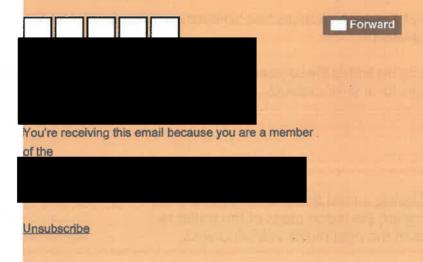
Industry Council have been notified by the Federal Department of Transport of a change in the administrative arrangements relating to modifications undertaken on a **New Vehicle** as part of a Second-Stage-of-Manufacture.

This change, which was issued via an updated Circular by the National Vehicle Administrator this week following consultation with all State and Territory Transport Regulators, effectively bans the practice of increasing the rated towing capacity of a vehicle, expressed as a Gross Combination Mass (GCM), above that specified by the first stage manufacturer.

This action was taken by the National Vehicle Administrator following the widespread concern expressed by regulators and aftermarket industry participants in relation to the potential safety implications of GCM re-rating and as such this change has the full support of the

Our support for this intervention is in line with our commitment as an industry to provide safe and responsible modifications through our many small and family owned automotive businesses across the country and for the thousands of Australian car owners potentially impacted by this practice.

Further information and a copy of the revised Administrators circular can be found HERE.



#### Regards

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Wayne Lo

Sent: Friday, 25 May 2018 3:20 PM

To: 'Dragan Vasic' < draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: VS24 - Lovells Suspension - towing capacity

Hello Dragan

Thanks for the opportunity to finally meet face-to-face last week here in Darwin...

I trust that life has settled down in your travels...

As I mentioned during your visit, there has been a lot of national discussion between jurisdictions, including the Commonwealth, with regard to GVM and GCM upgrades on light vehicles. Specific to in-service modifications based on SSM, we have had to review all arrangements with modifiers.

With our review, we have discovered a tension point with our regulation that only allows the original vehicle manufacturer to specify the towing capacity of the motor vehicle. The manufacturer is the name that appears on the vehicle compliance plate. It would appear that all jurisdictions have similar wording in their regulations (see extract below).

It is very likely that we will need to make some adjustments to our current arrangement with Lovells Suspension.

Can you give me an indication of how many NT registered vehicles have achieved a GCM upgrade (or towing capacity upgrade) under our current arrangement?

If Lovells has obtain approval from Toyota for the braked towed capacity upgrades on the LC200 and 150 Series, this might help alleviate the current tension point for in-service vehicles...

### 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle,

whichever is the lesser.

(3) In this regulation:

towing capacity of the motor vehicle means:

- (a) the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer; or
- (b) if a towing capacity is not specified or is not able to be identified:
- (i) if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
  - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

Towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

https://legislation.nt.gov.au/en/Legislation/MOTOR-VEHICLES-STANDARDS-REGULATIONS

Regards

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Monday, 9 April 2018 9:05 AM
To: Wayne Lo < Wayne Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Apologies for the delayed reply,

We been out of office last couple of weeks, busy with R&D testing etc.

Anyway, just getting onto this topic to try set in motion, I've suggested a revised placard, refer attachment. I'd like to propose to include maximum Braked Towing Capacity (BTC) on the placards to alleviate any confusion for the registered vehicle owners.

We simply wish to include either the original maximum BTC or our upgraded BTC as per the LC200's and Prado 150's. As per our SSM approvals.

As per your suggestion below to notify MVR, our Authorised Lovells dealers would need to confirm as per following; As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

Your thoughts.

Kind regards,

#### **Dragan Vasic**

#### **National Sales Manager**

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)
PO Box 5126
Minto BC
Unit 2, 25 Badgally Rd
Campbelltown NSW 2560

#### Sandgate (Warehouse)

3 Friesian Cl Sandgate NSW 2304 AUSTRALIA

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**AUSTRALIA** 

P.O. Box 654 Bentleigh East. Victoria 3165

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From: Wayne Lo < Wayne.Lo@nt.gov.au >
Sent: Thursday, 8 March 2018 3:52 PM
To: Dragan Vasic < draganv@lovells.com.au >

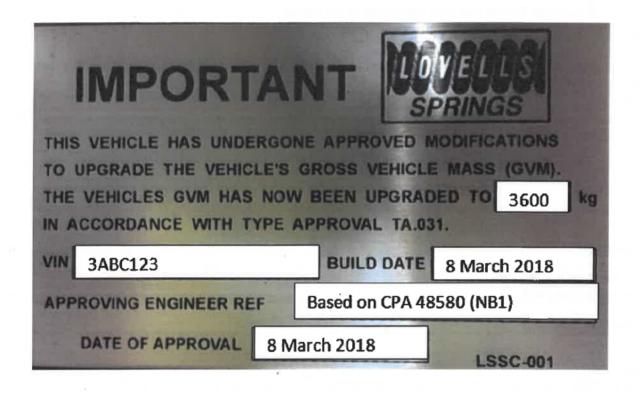
Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >; Anton Pretorius

<a href="mailto:Anton.Pretorius@nt.gov.au"></a>; mvrtestshed darwin < mvrtestshed.darwin@nt.gov.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

#### Dragan

From the samples thus far, this plate option could work if the "Approving Engineer Ref" field can be populated with SSM IPA and vehicle category (if changing from NA to NB1)



As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

I am trying to avoid you changing any of your existing forms or labels.

Anyway, always keen to get your thoughts on what might work for you...

Cheers

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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e ... wayne.lo@nt.gov.au
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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Thursday, 8 March 2018 12:21 PM
To: Wayne Lo <Wayne.Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Please find attached order form for the Toyota LC200's which is used by our authorised dealer to process a GVM order with Lovells, once received & recorded we dispatch the kit for install.

Once the kit is installed and brake tested by our authorised dealer, our dealer returns the attached signed Check List.

Please confirm if the alloy placard samples I sent earlier have satisfactory information or do we need to create a new compliance placard (sticker) to suit your requirements.

Please note we use similar order forms and check lists however they are specific to the vehicle make and model, refer other attachments.

Kind regards,

#### Dragan Vasic

#### National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

#### Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]
Sent: Wednesday, 7 March 2018 5:49 PM
To: Dragan Vasic <draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

#### Dragan

The NT would like you to consider a further simplified arrangement...

We would like to mutually recognise any Lovells GVM upgrade that is based on SSM approval. This would do away with maintaining a paper-based process on our part.

The key elements to the arrangement are likely to be:

- 1. Vehicle labelling or certificate identifying the vehicle (VIN) and revised GVM with some reference to the SSM IPA, date of modification, modifier (similar to a vehicle compliance plate/label)
- Appropriate notification to NT Registration authority for the updating of the vehicle record (rego plate + information as noted above)

Do you have an arrangement with any other registration authority that might look like this proposal?

If possible, we would like to adopt this kind of arrangement without the need of producing any new stickers or forms (i.e. accept WA mod sticker and Lovells internal validation sheet).

I would be keen to hear back from you on this proposal...

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 7 March 2018 2:46 PM
To: Wayne Lo <Wayne.Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We seem to keep missing each other.

I'll try again later, otherwise please send through you proposed approval process.

Kind regards,

**Dragan Vasic** 

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

#### Sydney (Sales and Engineering)

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]

Sent: Tuesday, 6 March 2018 4:59 PM

To: Dragan Vasic < draganv@lovells.com.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

#### Thanks Dragan

When you have a spare moment, please call me to discuss some further improvements to simplify our arrangements...

#### Cheers

## Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Tuesday, 6 March 2018 10:51 AM
To: Wayne Lo < <u>Wayne.Lo@nt.gov.au</u>>

Subject: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We have a new Lovells GVM dealer in Darwin, please update your details to ensure L&S Suspension are on your approval system for Lovells GVM & BTC upgrades,

# **L&S SUSPENSION (ABN 50 009 634 940)**

#### **POSTAL & DELIVERY ADDRESS**

PO Box 1741

Berrimah NT 0828

16 Jessop Cres

Berrimah NT 0828

Ph. 08 8931 3565

Fax.

Email: sales@lssuspension.com.au

Contact: Lachlan Gear

Kind regards,

**Dragan Vasic** 

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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From:

Sent:

Tuesday, 3 July 2018 12:48 PM

To:

Bill Muirhead

Subject:

RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

Attachments:

is\_97 (2).pdf; BITRE\_ARDD\_Fatal\_Crashes\_May\_2018.xlsx

Follow Up Flag:

Flag Status:

Follow up Completed

Rill

Not sure is exactly on point, but it may provide some assistance.

Rgds

From: Bill Muirhead <Bill.Muirhead@nt.gov.au>

Sent: Tuesday, 3 July 2018 9:29 AM

To: 'Hunter, Peter' <Peter.Hunter@act.gov.au>;

>; David BECK

(David.Beck@transport.nsw.gov.au) < David.Beck@transport.nsw.gov.au>; Anant Z Bellary

<Anant.Z.Bellary@tmr.qld.gov.au>; Michael Chan <michael.x.chan@roads.vic.gov.au>; 'Smith, Rickman (DTEI)'

<Rickman.Smith@sa.gov.au>; Park, Sunwoong (DPTI) <Sunwoong.Park@sa.gov.au>; David Hosie

<david.hosie@transport.wa.gov.au>; Thurley, Brent (StateGrowth) <Brent.Thurley@stategrowth.tas.gov.au>; Davey

Uprichard <davey.uprichard@nzta.govt.nz>; Patron, Francois <Francois.Patron@act.gov.au>

Cc: Wayne Lo <Wayne.Lo@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>;

Jed K.

Graetz < Jed. Graetz@nt.gov.au>

Subject: Accident data relating to GVM overloads (light vehicles).

Hello all,

I know we've beaten this subject to death a bit lately, but I understand that Police around the country have been increasing their "education and enforcement" activities around light vehicles exceeding GVM and associated towing capacities.

And — as we'd all agree, It's certainly kicked off something of a flurry of people seeking GVM increases as in-service modifications.

In the NT, I understand that NT Police also recently conducted an education (only) campaign in Alice Springs (utilising the weighbridge there) and apparently detected some 10 out of 12 vehicles (travellers) exceeding manufacturer GVM (although by how much in each case - I'm not aware).

#### A question...

While we all understand and appreciate the safety issues / risks around overloading, reduced vehicle handling, increased risk of chassis / component failure, and increased potential for accidents as a result – I'm interested if anyone has any documented evidence from crash investigation data- pointing to overloaded vehicles being overrepresented in crash stats or a causal factor in the accident?

The one very good aspect about this whole GVM saga is that it's causing people to turn their minds to the vehicles they use, the vehicles they need, and whether they really need all the gear they choose to carry. Police would obviously like to help accelerate that education program, however – inevitably, the question of cause and effect will be asked by some, and crash or accident related evidence is always a good education tool.

Any info you may have that you're able to share would be appreciated.

Thanks in anticipation.

Bill.

#### Bill Muirhead

Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

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## Australian Government

#### Department of Infrastructure, Regional Development and Cities

Bureau of Infrastructure, Transport and Regional Economics



# Location and other risk factors in crashes

## At a Glance

This information sheet reports the results of a study into the risk factors of vehicle crashes given that a crash has occurred.

The study includes risk factors normally associated with the consequences of a crash in terms of whether it results in the death of a person involved. These factors include the vehicle type, vehicle age, whether a restraint or helmet was worn, the nature of the crash and the time of day (i.e. split into peak and off-peak periods) the crash occurred.

In addition, the study includes location-specific risk factors such as prevailing environmental conditions (i.e. sunrise, sunset, night-time), the built-up or rural character of an area, and the distance to a high-care emergency medical facility (Principal Referral Hospital).

The rural character of an area significantly increases the risk of being killed in a crash given that it has occurred. The distance to a Principal Referral Hospital is also statistically significant; however, the magnitude of the effect is relatively small when compared with other risk factors.

Other factors identified as increasing the risk of fatality compared with the base case are being male, being over the age of 64, and not wearing a restraint (seatbelt) or helmet, as appropriate to the vehicle type. Motorcyclists and pedal cyclists were found to be at increased risk, while the front and back passenger seats of light vehicles were also found to be associated with an increased risk of fatality.

Crash characteristics that were identified as increasing the risk of fatality compared with the base case are: being involved in a head-on crash, a crash involving a heavy vehicle, a crash where at least one vehicle ran off the road, a single vehicle crash or being involved in a crash where at least one driver failed an alcohol test. Crashes at night or during dusk were also found to significantly increase the risk of death, given that a crash had occurred.

The study was conducted at the national level with the regression analysis including jurisdiction 'dummy' variables. Varying levels of State and Territory reporting of non-fatal outcomes mean that the reported coefficients of the jurisdiction variables reflect differences in data collection and cannot be interpreted as a measure of differences in fatality risk between jurisdictions.

#### Introduction

In Australia and other countries with remote or rural populations, fatal motor vehicle crashes are a higher proportion of total crashes in regional and remote areas (BITRE 2016). The objective of this study was to investigate the causes of this difference by considering the impact of location-specific risk factors in motor vehicle accidents. In terms of location-specific risk factors, this study specifically investigates differences in access to emergency medical treatment and the difference between built-up or rural areas.

There are two distinct strands of literature that address the issue of location-specific factors in motor vehicle crashes. The first is firmly rooted in health research and focuses on access to emergency healthcare after a crash, and in particular, the length of time before emergency medical treatment is provided. This literature begins with medical studies by authors such as Hoffman (1976), Brodsky and Hakkert (1983) and Bentham (1986) and has grown to include contemporary statistical research, of which a comprehensive overview is provided by Harmsen et al. (2015). The other strand is in road safety research, and focuses on the distinction between crashes that occur in built-up versus rural settings. Comparable studies with an urban/rural distinction include Maio et al. (1992), Siskind (2011) and Lori et al. (2012).

Perhaps with the exception of McAndrews et al. (2017), there is not generally a clear distinction in the road safety literature between the urban/rural character of an area and the correlation to better access to emergency healthcare. Existing studies tend to either include an urban/rural variable or some metric of emergency response, rather than including both. Apart from the defining differences between built-up or rural areas – that is, differences in density of features such as intersections, buildings, vehicles and people – there is evidence of differences in driver behaviour between more and less built-up areas. Previous research by BITRE (2014) has shown increases in injury crashes involving risky/illegal behaviour such as speeding, not wearing a seatbelt, unlicensed driving and driving under the influence of drugs and alcohol is more common in regional and remote areas. It is unclear from existing research whether the built-up form/associated behaviours has an effect on mortality in motor vehicle crashes or if the effect is purely related to the correlation between built-up areas and better access to healthcare.

A secondary consideration of this study is to demonstrate the analytical value and highlight some of the possible areas for improvement of the National Crash Database (NCD). The NCD was developed by BITRE in 2010 for the purpose of monitoring the National Road Safety Strategy 2011–2020 and to support the regular reporting of a core set of agreed performance indicators. Jurisdictions provide NCD data annually for reported casualty crashes (i.e. crashes in which one or more persons have been killed or seriously injured (hospitalised) in a crash on a public road as reported to police and jurisdictional road safety authorities). The NCD contains a sub-set of de-personalised crash data on the crash location/context, vehicle/s, and person/s involved. A person is deemed to have died in a road crash if the person dies within 30 days as a result of injuries sustained in that road crash. This excludes deaths from suicide or natural causes such as a heart attack. Information on deaths is more complete and validated to a higher standard than that of persons injured, while both are more complete than information on non-injured persons.

Strictly the question addressed in this study is:

Controlling for other relevant factors, which location-specific factors increase the likelihood that a person involved in a traffic crash will be killed?

Although this is very narrow, the need to control for and so identify and quantify other relevant factors means that this study looks broadly at the chances of a person surviving a traffic crash, given that they have been involved in one. For this reason the exploration of the data available in the NCD has been fairly broad and has highlighted both its value and some areas for improvement.

### Data

A three-year subset of the NCD from 2014 to 2016 inclusive has been used as the basis for this study. This includes records of 398,082 persons, 301,420 vehicles and 178,735 crashes. Once the data was cleaned and records with missing information removed, the study was conducted on 227,566 persons who were in 197,433 vehicles in 133,876 crashes.

Exclusions and missing data

Some categories of road users have been excluded from analysis although some information about them was available. In particular, pedestrians have been excluded as the crash-level factors included in this study do not apply to pedestrians in a way that can usefully be compared with vehicles. Persons in accidents involving 'Other vehicles' have similarly been excluded as this category is too heterogeneous to provide meaningful results. Tables I to 3 below show a breakdown of the missing information by injury class. Further information on the data used can be found in Appendix A.

Table I: Persons with missing information by injury class

	Persons in NCDB	Persons in study	Persons with missing data	Per cent excluded
Fatality	3,169	2,273	896	28%
Injury - hospitalised	57,106	42,957	14,149	25%
Injury - not hospitalised	155,253	108,973	46,280	30%
Not Injured	156,208	65,199	91,009	58%
Unknown	26,357	8,172	18,185	69%
Total	398,093	227,574	170,519	43%

Note: Injury class is not used as a variable in the final model and persons with unknown values are assumed to have survived.

Table 2: Vehicles with missing information by highest level of injury in vehicle

	Vehicles NCDB	Vehicles in study	Vehicles with missing person data	Per cent excluded	
Fatality	2,920	2,117	803	28%	
Injury - hospitalised	51,081	38,700	12,381	24%	
Injury - not hospitalised	132,865	94,464	38,401	29%	
Not Injured	113,100	52,495	60,605	54%	
Unknown	17,824	5,996	11,828	66%	

Note: Injury class is not used as a variable in the final model and persons with unknown values are assumed to have survived.

Table 3: Crashes with missing information by highest level of injury in crash

Injury Class	Crashes in N	CDB	Crashes in Study	Crashes with missing person data	Per cent excluded
Fatality		2,877	2,086	791	27%
injury - hospitalised		48,096	36,328	11,768	24%
Injury - not hospitalised	1	16,768	82,292	34,476	30%
Not Injured		10,236	4,277	5,959	58%
Unknown		758	183	575	76%
Total		78,735	125,166	53,569	30%

Note: Injury class is not used as a variable in the final model and persons with unknown values are assumed to have survived.

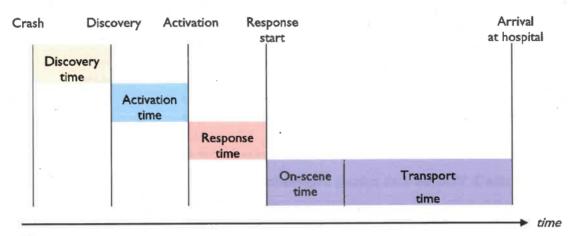
As can be seen in the tables above, the quality of the data varies with the severity of the crash. More data is collected in casualty crashes, especially those involving one or more fatalities. Data is often missing about other persons in the same vehicle if they were not seriously injured. Even in fatal crashes there is very frequently information missing about other vehicles and their occupants if no one in those vehicles was seriously injured or killed. This means that the dataset underrepresents crashes that do not involve a serious injury and overrepresents crashes which involve one or more fatalities. In effect the study has been conducted on a subset of all people involved in vehicle crashes that is largely made up of those who were in a vehicle in which at least one occupant was killed or seriously injured in the crash.

There are also significant differences between jurisdictions in terms of data collection. While all efforts have been made to harmonise data across different jurisdictions this is not always possible, and not all information available for a single jurisdiction is available for all jurisdictions. Some jurisdictions have also not provided some data items, specifically the location of ambulance stations has not been provided by Western Australia and the speed limit of the road where the crash took place has not been provided by the Australian Capital Territory. Significance tests on the distance to ambulance stations was carried out without including Western Australian observations, while the posted speed limit in the ACT has been imputed by matching the latitude and longitude provided to the nearest road within 20 meters.

#### Access to emergency medical care

Durations have perhaps the most important relationship with the variables of interest in this study and time has a complex relationship with access to emergency medical treatment. For conceptual clarity, the Gantt chart (figure 1) below outlines time as relevant to a crash.

Figure 1: Emergency medical response timeline Gantt chart



Source: BITRE analysis

As can be seen in the figure above, a crash and the path to hospital can be viewed as a sequence of events. This begins with the *crash* and is followed by *discovery*, where the crash is found to have occurred. The next event is *activation*, where a response is mobilised, followed by the *response start*, which is where first responders begin providing first aid etc. and/or transport to emergency medical care if required. The final event is *arrival at hospital*.

This shows that the most accurate model of the effect of time would control for total pre-hospital time by including all of the pre-hospital durations. In many jurisdictions the time between either discovery and response or sometimes activation and response is recorded, but this information is not linked to the NCD. Were this available, they would make useful control variables, although the time between the crash and discovery would remain unknown. The time-on-scene is also a complex consideration as this is a clinical decision and there is no reason to assume that a shorter on-scene time is of greater benefit to crash victims.

In practice this study does not have a control for pre-hospital time. As highlighted by all Ambulance Services contacted for this study, the station location does not provide a good proxy of travel times to incidents due to the majority of responses, particularly in metropolitan areas, not occurring from stations. Although tested, ultimately ambulance station proximity did not have sufficient explanatory power to be included in the final model.

As access to pre-hospital emergency medical care and access to hospital care are highly correlated, it is difficult to separate the effect of each using the data available. The distance to the nearest Principal Referral Hospital has been included in the final model and is effectively a proxy for both types of access. Distance to the nearest emergency department was also tested, but was found to be insignificant, which may reflect the severity of crashes included in the dataset and the corresponding high level of care required.

The built-up character of the crash site was determined by whether the crash occurred within a 2016 Urban Centre or Locality (UCL) or within the remainder of the state. UCLs represent areas of concentrated urban development with populations of 200 people or more. These areas of urban development have been identified by the Australian Bureau of Statistics on the basis of dwelling and population density criteria using data from the 2016 Census (ABS 2018).

Data controlling for other relevant factors

The person-level characteristics of both sex and age have been included, along with four types of vehicle;

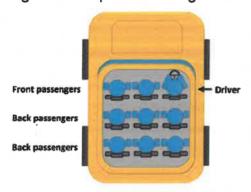
- pedal cycles,
- motorcycles,
- light vehicles (gross vehicle mass less than 4.5 tonnes and not a pedal cycle or motorcycle),
- heavy vehicles (including both trucks with a gross vehicle mass over 4.5 tonnes and buses with 10 or more seats).

The position of people inside vehicles has been grouped into categories depending on the vehicle type;

- pedal cycle and motorcycle riders have been grouped with their respective pillion passengers,
- · occupants of heavy vehicles have been grouped into drivers and passengers,
- occupants of light vehicles have been grouped into the categories of driver, front passenger, back passenger and other passenger.

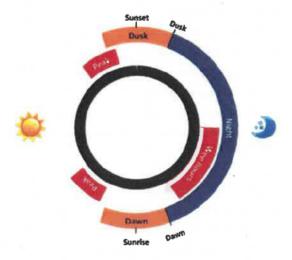
As this differs significantly from the way that the data is reported and coded in the NCD the seat positions for light vehicles have been set out in Figure 2 (below). Each position in a vehicle has been further separated into those wearing a helmet (for pedal cycles and motorcycles) and those wearing a restraint (light and heavy vehicles).

Figure 2: Seat positions for light vehicles



The model also makes use of derived time variables which represent both environmental and human phenomena. These are dawn and dusk windows, night-time, morning and afternoon peak hours (07:30 - 9:30 and 16:30 - 18:00 weekdays), the wee hours of the morning (00am - 04am), and weekends (18:00 Friday - 24:00 Sunday). These periods can obviously occur at the same time, for example, evening peak hour may occur during the day, during dusk or even during the night. The periods in environmental time change relative to both each other and to time of day and depend on the exact location of the crash and the time of the year. The relationships between the other (social) times of the day remain fixed with respect to each other. For clarity, the time variables are shown below in Figure 3 on a 24-hour timeline.

Figure 3: Derived environmental and time of day variables



I includes not seated

Finally, a number of variables have been included which correspond to the nature of the crash itself. The inclusion of these variables, along with a proxy for speed (the posted speed limit), go some way to controlling for the nature and severity of the crash. These are whether the crash has been identified as:

- occurring at an intersection
- · a head-on crash
- a single vehicle crash
- · a crash in which at least one vehicle ran off the road
- · a crash in which at least one driver failed an alcohol test
- · a crash in which a heavy vehicle was involved, where the person was not in a heavy vehicle

An overview of all of the variables used in the final model is included below in table 4.

Table 4: Variable descriptions

Variable	Values
Fatal (Dependent variable)	l if killed, 0 if survived
Person characteristics	
Sex	I if male, 0 if female (base case)
Over 64 years of age	I if over 64, 0 otherwise (base case)
Under 15 years of age	I if under 15, 0 otherwise (base case)
Position in vehicle	
Light vehicle - Driver (no restraint)	I if true, 0 otherwise (base case)
light vehicle - Passenger, back	I if true, 0 otherwise (base case)
light vehicle - Passenger, back (no restraint)	I if true, 0 otherwise (base case)
light vehicle - Passenger, front	I if true, 0 otherwise (base case)
Light vehicle - Passenger, front (no restraint)	I if true, 0 otherwise (base case)
Light vehicle - Passenger, other	I if true, 0 otherwise (base case)
Light vehicle - Passenger, other (no restraint)	I if true, 0 otherwise (base case)
Heavy vehicle - Driver	l if true, 0 otherwise (base case)
Heavy vehicle - Driver (no restraint)	I if true, 0 otherwise (base case)
Heavy vehicle - Passenger	I if true, 0 otherwise (base case)
Heavy vehicle - Passenger (no restraint)	I if true, 0 otherwise (base case)
Motorcycle - Motorcycle rider or pillion	I if true, 0 otherwise (base case)
Motorcycle - Motorcycle rider or pillion (no helmet)	l if true, 0 otherwise (base case)
Pedal cycle - Pedal cycle rider or pillion	I if true, 0 otherwise (base case)
Pedal cycle - Pedal cycle rider or pillion (no helmet)	I if true, 0 otherwise (base case)
Light vehicle year of manufacture	If light vehicle then years in 10 year increments, centred on the year 2000 (base case), 0 otherwise
Nature of the crash	
Intersection crash	I if confirmed, 0 otherwise (base case)
Head-on crash	I if confirmed, 0 otherwise (base case)
Single vehicle crash	I if confirmed, 0 otherwise (base case)
Run off road	I if confirmed, 0 otherwise (base case)
Alcohol fail involved	I if confirmed, 0 otherwise (base case)
Heavy vehicle involved	I if confirmed and not the driver or passenger of a heavy vehicle, $\boldsymbol{0}$ otherwise (base case)
Posted speed limit	Km per hour in 10 km per hour increments, centred around 60km per hour (base case)

Environmental time	
Dawn window	I if within time window, 0 otherwise (base case)
Dusk window	I if within time window, 0 otherwise (base case)
Night	I if within time window, 0 otherwise (base case)
Social time	
Wee hours	i if local time between 00:00 and 04:00, 0 otherwise (base case)
Weekend	I if between Friday 06:00 and Sunday 24:00 local time, 0 otherwise (base case)
Morning peak	I if local time between 07:30 and 09:30, 0 otherwise (base case)
Afternoon peak	l if local time between 16:30 and 18:00, 0 otherwise (base case)
Spatial factors	2
Distance to a Principal Referral Hospital	Km by road network in continuous 100km increments from 0 (base case
Non-urban .	0 if within a UCL (base case), 1 if in the remainder of state
State	Base case = New South Wales
Northern Territory	I if within the Northern Territory, 0 otherwise
Queensland	I if within the Queensland, 0 otherwise
South Australia	I if within South Australia, 0 otherwise
Tasmania	I if within Tasmania, 0 otherwise
Victoria	if within Victoria, 0 otherwise
Western Australia	I if within Western Australia, 0 otherwise
Australian Capital Territory	I if within Australian Capital Territory, 0 otherwise

## Method

Ideally the model would reflect the data generation process. In the case of vehicle crashes, that process is likely to be hierarchical, with a set of conditions that lead to a person being either injured or not-injured, and a set of conditions that may or may not be the same that result in a serious injury or fatality.

The missing data in the NCD is most concentrated in missing observations from vehicles in which no person was seriously injured or killed. This leaves very poor information on which to model non-injury versus injury outcomes. As a consequences, this analysis has not modelled the data hierarchically, although this would best reflect the data generation process. Instead the data has been modelled using a logistic regression on a binary variable of whether a person involved in a crash and included in the NCD survived (0) or was killed (1).

Technically, people are within vehicles, which are within crashes. This results in two levels of clustering, and would normally make the necessary assumption that each person-level observation is independent problematic. The consequence of clustering in vehicles and crashes is that there is likely to be some correlation between the outcome of persons who are in the same vehicle or crash. In this context, this may result in underestimation of the standard error and, consequently, a higher likelihood of finding significant results when in fact they are not significant (Desai & Begg 2008).

Ideally, the solution would be to use a mixed effects model with random effects for each level of clustering (crashes and vehicles). However, there are insufficient observations to support either level of clustering as there are simply too many crashes and too many vehicles for the number of people involved. With two levels of clustering the combined number of random effects is greater than the number of observations. Each level of clustering was tested individually, however the number of crashes (the smaller level) still contained too many random effects for too few observations and the model was unable to converge.

Consequently, logistic regression has been used without taking into account clustering, bearing in mind that there may be a relationship between observations, and so there may be a bias towards finding results to be significant.

# Results

A summary of the model results is included below in Table 5 and is followed by the parameter estimates in Table 6 and the odds ratios in Table 7.

Table 5: Model summary

Observations (persons):	227,566
Number of Fisher Scoring Iterations:	9
Convergence status:	Converged
Pseudo R-squared	0.2712
Null deviance (227,565 degrees of freedom)	25,462
Residual deviance: on (227,523 degrees of freedom	) 18,844

Table 6: Parameter estimates

Variable	Estimate	Std. Error	Pr(< z ) <sup>3</sup>	Significance
Intercept	-7.16	0.09	< 2e-16	aloloi
Person characteristics				
Sex (male)	0.25	6.05	2.86E-06	stoto:
Over 64 years of age	1.30	0.06	< 2e-16	****
Under 15 years of age	-0.35	0.13	9.51E-03	***
Position in vehicle				
Light vehicle - Driver (no restraint)	2.49	0.10	< 2e-16	stote
Light vehicle - Passenger, back	0.55	0.11	9.15E-07	*lok
Light vehicle - Passenger, back (no restraint)	2.24	0.18	< 2e-16	**
Light vehicle - Passenger, front	0.40	0.08	1.64E-07	olok
Light vehicle - Passenger, front (no restraint)	1.94	0.17	< 2e-16	***
Light vehicle - Passenger, other	0.67	0.52	1.97E-01	
Light vehicle - Passenger, other (no restraint)	2.57	0.29	< 2e-16	***
Heavy vehicle - Driver	0.16	0.13	2.21E-01	
Heavy vehicle - Driver (no restraint)	1.85	0.27	7.97E-12	***
Heavy vehicle - Passenger	-0.04	0.31	8.98E-01	
Heavy vehicle - Passenger (no restraint)	1.74	0.40	1.08E-05	xic)
Motorcycle - Motorcycle rider or pillion	1.74	0.07	< 2e-16	ajcaje:
Motorcycle - Motorcycle rider or pillion (no helmet)	2.32	0.19	< 2€-16	30
Pedal cycle - Pedal cycle rider or pillion	1.62	0.14	< 2e-16	**
Pedal cycle - Pedal cycle rider or pillion (no helmet)	2.56	0.26	< 2e-16	alcale:
Light vehicle year of manufacture	-0.19	0.03	3.07E-08	44
Nature of the crash				
Intersection crash	-0.11	0.06	8.76E-02	
Head-on crash	2.05	0.07	< 2e-16	ajo)
Single vehicle crash	0.49	0.08	1.32E-09	***

<sup>&</sup>lt;sup>2</sup> This is a similar level of fit to Sanchez-Mangas et al. (2010) who also report a (Nagelkerke) Pseudo R-squared ranging from 0.104 to 0.217, depending on the model.

<sup>&</sup>lt;sup>3</sup> Probability that the value of the coefficient is equal to 0.

Variable	Estimate	Std. Error	Pr(< z ) <sup>4</sup>	Significance
Run off road	0.79	0.07	< 2e-16	tok
Alcohol fail involved	1.07	0.07	< 2e-16	**
Heavy vehicle involved	1.76	0.07	< 2e-16	***
Posted speed limit	0.23	0.02	< 2e-16	sink
Environmental time				
Dawn window	0.19	0.14	1.67E-01	
Dusk window	0.32	0.15	2.94E-02.	*
Night	0.44	0.07	2.31E-10	**
Social time				
Wee hours	0.11	0.10	2.37E-01	
Weekend	-0.05	0.06	4.00E-01	
Morning peak	-0.31	01.0	1.97E-03	ajoje
Afternoon peak	0.06	0.09	4.91E-01	,
Spatial factors				
Distance to a Principle Referral Hospital	0.03	0.01	3.31E-02	*
Non-urban	0.65	0.07	< 2e-16	ajoje
State				
Northern Territory	0.27	0.13	3.49E-02	*
Queensland	0.19	0.06	8.09E-04	#ojc
South Australia	0.06	0.08	4.40E-01	
Tasmania ·	-0.47	0.12	8.53E-05	1000
Victoria	-0.23	0.10	2.08E-02	
Western Australia	0.96	0.08	< 2e-16	sjoje
Australian Capital Territory	0.63	0.25	1.28E-02	**

Significance level: 0.001 = \*\*\*\*, 0.01 = \*\*\*\*, 0.05 = \*\*

To aid the discussion the odds ratios of the parameters of interest are provided below in Table 7. For readers not familiar with logistic regression the following points may assist in interpreting the odds ratio:

- A value below one represents a reduction in the odds of a person being killed in a crash
- A value above one represents an increase in the odds of a person being killed in a crash
- Comparisons of magnitude are possible, however the units of each explanatory variable may not be comparable. For example a 1 unit increase in the posted speed limit (from 60km per hour to 70km per hour) is not in the same unit as a 1 unit increase in the vehicle year of manufacture (from a vehicle built in the year 2000 to a vehicle built in 2010)

When considering the estimates some important features of the base case are:

- The person is: female, between the age of 15 and 64 inclusive, in the driver position, wearing a
  restraint
- The vehicle is a light vehicle
- The crash is on a 60km per hour road, located in an built up area, 0km from a Principal Referral Hospital
- The time is between 9:30 and 16:30 on a weekday during daylight

<sup>4</sup> Probability that the value of the coefficient is equal to 0.

Table 7: Odds ratios

		95 per cent confidence interval		
	Odds Ratio	Odds		Significance
Person characteristics	Tago	Lower	JII-	o g · moune
Sex (male)	1.28	1.16	1.42	ojoje
Over 64 years of age	3.68	3.28	4.13	alok:
Under 15 years of age	0.71	0.54	0.92	dole
Position in vehicle	0.71	0.5	0.72	
	12.02	9.92	14.56	*ok
Light vehicle - Driver (no restraint) Light vehicle - Passenger, back	1.73	1.39	2.15	Non
	9.39	6.56	13.42	**
Light vehicle - Passenger, back (no restraint)	1.50	1.29	1.74	***
Light vehicle - Passenger, front	6.95	4.98	9.69	**
Light vehicle - Passenger, front (no restraint)	1.95	0.71	5.39	
Light vehicle - Passenger, other	13.09	7.36	23.29	
Light vehicle - Passenger, other (no restraint)	13.07	0.91	1.53	
Heavy vehicle - Driver		3.74	1.33	ajoi.
Heavy vehicle - Driver (no restraint)	6.35			
Heavy vehicle - Passenger	0.96	0.52	1.77	**
Heavy vehicle - Passenger (no restraint)	5.70	2.63	12.38	alor alor
Motorcycle - Motorcycle rider or pillion	5.68	4.99	6.48	***
Motorcycle - Motorcycle rider or pillion (no helmet)	10.14	6.93	14.82	***
Pedal cycle - Pedal cycle rider or pillion	5.05	3.87	6.58	***
Pedal cycle - Pedal cycle rider or pillion (no helmet)	12.91	7.76	21.47	
Light vehicle year of manufacture	0.82	0.77	0.88	***
Nature of the crash				
Intersection crash	0.90	0.79	1.02	
Head-on crash	7.78	6.75	8.97	***
Single vehicle crash	1.64	1.40	1.92	***
Run off road	2.20	1.91	2.54	No.
Alcohol fail involved	2.92	2.55	3.34	**************************************
Heavy vehicle involved	5.80	5.02	6.70	**
Posted speed limit	1.25	1.22	1.29	***
Environmental time				
Dawn window	1.21	0.92	1.57	
Dusk window	1,38	1.03	1.83	,
Night	1.55	1.35	1.77	**
Social time				
Wee hours	1.12	0.93	1.35	
Weekend	0.95	0,85	1.07	
Morning peak	0.73	0,60	0.89	. *
Afternoon peak	1.06	0,89	1.27	
Spatial factors				
Distance to a Principle Referral Hospital	1.03	1.00	1.05	
Non-urban	1.91	1.67	2.18	*

Significance level: 0.001 = "\*\*\*", 0.01 = "\*\*", 0.05 = "\*"

As the odds ratio can be difficult to interpret, probabilities against the base case have been provided for some of the most policy relevant variables in the discussion section. When evaluating the probabilities it is important to bear in mind that that the probabilities change over the values of the other variables — they are only correct with respect to the base case and the event described, not over all cases or all values of the explanatory variable. The magnitude may also be biased if the observations included in the study are not a representative sample of the population of all persons involved in crashes. This is certainly possible due to the high number of missing observations/missing information and their concentration in vehicles in which no persons was injured or killed.

#### Discussion

In terms of person characteristics, males have higher odds of being killed than females, a result in line with other comparable studies (Maio et al. 1992 and Travis et al. 2012). Persons over the age of 64 have increased odds of being killed, while persons under 15 years have higher odds of survival, though it is worth keeping in mind that survival also depends on seat position and it is not common for a person under 15 to be the driver. Comparable studies have also found that older people have a higher chance of being killed while younger people have a higher chance of survival (for example Maio et al. 1992, Sanchez-Mangas et al. 2010, and Travis et al. 2012)

The results show the importance of wearing a restraint (seatbelt) or helmet, as appropriate to the vehicle type. This is in line with other studies that include the variable, for example Maio et al. (1992) and Travis et al. (2012). Table 8 below compares the probability within the sample of being killed by vehicle type depending on whether the person was wearing a restraint/helmet. Other than the vehicle type and wearing a restraint/helmet, all other variables are held as per the base case. While the results show the effect of restraints and helmets, given that a crash has occurred, information on the probability of a crash occurring in the first place is required to properly inform the costs and benefits of policy changes.

Table 8: Benefits of restraints (seatbelts) and helmets

Vehicle type	Base case probability of fatality	Without helmet/restraint probability of fatality	
Motorcycle - Motorcycle rider or pillion	0.44 per cent	4.29 per cent	
Pedal cycle - Pedal cycle rider or pillion	0.39 per cent	4.83 per cent	
Light vehicle - Driver	0.08 per cent	0.93 per cent	
Light vehicle - Passenger, front	0.12 per cent	0.80 per cent	
Light vehicle - Passenger, back	0.13 per cent	1.25 per cent	
Light vehicle - Passenger, other	0.15 per cent	1.95 per cent	
Heavy vehicle - Driver	0.09 per cent	0.58 per cent	
Heavy vehicle - Passenger	0.07 per cent	0.42 per cent	

Note: The base case probability of a fatality for heavy vehicle drivers and passengers are not significantly different from light vehicle drivers.

Table 8 also shows the probabilities of an individual involved in a crash being killed for vehicle types and positions in vehicles (under the conditions that other variables remain as per the base case). Motorcyclists are at the greatest risk if involved in a crash, followed by pedal cyclists, noting that there is known under reporting of serious injury (but non-fatal) crashes for these groups. Light vehicles and heavy vehicles are safest, with the difference between the base case and heavy vehicle drivers and passengers being statistically insignificant.

For light vehicles, holding all other values as per the base case, light vehicle drivers are in the safest position, followed by front passengers, then back passengers. The base case is a vehicle built in the year 2000 and has the base probability of an individual involved in a crash being killed of 0.08 per cent. Holding all other values at the base case, a car built in 1990 is less safe, with the probability increasing to 0.09 per cent, while a car built in 2010 is safer, with the probability decreasing to 0.06 per cent.

The results also show the consequences of various types of crashes. In order of magnitude, head-on crashes, crashes involving heavy vehicles and crashes where a vehicle has run off the road increase the odds of being killed. The increased odds found for vehicles run off the road was also found to be significant in the study by Sanchez-Mangas et al. (2010). In contrast to the study by Al-Ghamdi (2002), intersection crashes appear to

increase survival. The model also suggests that there is increased mortality in crashes where at least one driver failed an alcohol test, as has been found in Queensland data by Siskind et al. (2011).

Crashes that occur on roads with higher posted speed limits have a greater chance of being fatal. Holding all other values as per the base case, the in-sample probability of a person involved in a crash of being killed on a 60km per hour road is 0.08 per cent, while at 70km per hour this increases to 0.10 per cent.

The odds of survival are reduced at night and during the dusk window, while crashes during the morning peak correspond to increased odds of survival. Neither the dawn window, wee hours or afternoon peak were significant. The significance of night and the insignificance of the wee hours points to the importance of the environmental conditions of night-time rather than the social conditions and behaviour associated with the early hours of the morning. In terms of comparison to other relevant studies, Travis et al. (2012) have found time variable, specifically the 00:00 – 06:00 window significantly decreases the odds of survival, but did not separate the environmental and social aspects, while Sanchez-Mangas et al. 2010 found night to be a significant factor.

The results show higher mortality in rural areas, controlling for the distance to a Principal Referral Hospital, which is the proxy for access to emergency medical care. Holding all other variables as per the base case the in-sample probability of a person involved in a crash being killed on a road in a built-up area is 0.08 per cent and 0.15 per cent on a rural road. The results also show increased mortality the further a crash is from a Principal Referral Hospital. Again the base-case probability of an individual involved in a crash being killed is 0.08 per cent when 0 km from a Principal Referral Hospital, increasing by around 2.7 per cent per 100km, or to around 0.09 per cent when 500km from a Principal Referral Hospital. This relationship could be related to hospital care, however as the distance to hospital is correlated with access to other emergency health care such as pre-hospital time, it would be an overreach to suggest that proximity to the hospital itself is the primary cause of improved survival.

The model specification also includes state/territory-specific constant variables, which reflect the difference in the proportion of fatalities to persons involved in crashes across jurisdictions, relative to that of New South Wales, and not explained by other factors included in the model. These are highly related to differences in the definitions and scope of data provided to the NCD by each jurisdiction, rather than necessarily being related to unexplained differences in survival.

## Conclusion

This study has investigated the consequences of crashes given that they have occurred. To calculate the costs and benefits of preventing crashes one not only needs information on the severity of an event, but also information on the likelihood of the event occurring in the first place. For this reason, the contribution of this study to knowledge of the factors influencing survival in a crash is only a contribution to part of the information required for policy making – an important factor to bear in mind when interpreting the results.

Based on this research it appears that increased road-related mortality in rural areas is correlated with both the distance to a Principal Referral Hospital's healthcare and to the nature of rural areas themselves – noting that the analysis controls for differences in the posted speed limit. However, it is not clear from this study how important access to hospital care is relative to care from first responders, as these factors are highly correlated. This area would benefit from further research as it has direct policy implications for areas including the operational decisions of ambulance services and the locations of hospitals.

In order to better understand why people survive, more and more complete data is required for survivors, including those who do not suffer any injury in a crash. This is an area in which current data collection falls short. Extending the data to include all motor vehicle crashes and efforts to reduce the level of missing information would provide much greater insight into why crashes occur and why the consequences vary. This would be of great benefit to policy makers in improving road safety and better directing infrastructure spending.

Beyond an extension of the scope of data to include all persons involved in any crash, the most important extension of the dataset with respect to this type of study is the inclusion of information about ambulance activation, response, on-scene, and transport times.

Other potential extensions that have been found to be significant in comparable studies include: a flag for a crash involving a vehicle travelling in the wrong direction (Al-Ghamdi 2002), a flag for a crash involving a failure to yield (Al-Ghamdi 2002) and a flag for vehicle roll over (Travis et al. 2012). Additional vehicle information might include a deformity index (Maio et al. 1992) or record vehicle damage (Travis et al. 2012).

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# Appendix A:

Table A1: Counts of binary variables, 2014 - 2016

Variable	Survived	Killed	Total
Person characteristics			
Sex (male)	127,939	1,659	129,59
Over 64 years of age	21,801	467	22,26
Under 15 years of age	11,722	78	11,80
Position in vehicle			
Light vehicle - Driver (no restraint)	1,265	198	1,46
Light vehicle - Passenger, back	14,697	132	14,82
Light vehicle - Passenger, back (no restraint)	479	45	52
Light vehicle - Passenger, front	27,586	280	27,86
Light vehicle - Passenger, front (no restraint)	648	49	69
Light vehicle - Passenger, other	250	4	25
Light vehicle - Passenger, other (no restraint)	171	15	. 18
Heavy vehicle - Driver	6,232	69	6,30
Heavy vehicle - Driver (no restraint)	249	18	26
Heavy vehicle - Passenger	1,037	11	1,04
Heavy vehicle - Passenger (no restraint)	307	7	31
Motorcycle - Motorcycle rider or pillion	16,418	489	. 16,90
Motorcycle - Motorcycle rider or pillion (no helmet)	471	35	50
Pedal cycle - Pedal cycle rider or pillion	8,731	72	8,80
Pedal cycle - Pedal cycle rider or pillion (no helmet)	779	17	79
Nature of the crash			
ntersection crash	112,657	433	113,09
Head-on crash	10,563	531	11,09
Single vehicle crash	41,169	1,139	42,30
Run off road	31,907	933	32,84
Alcohol fail involved .	7,988	406	8,39
Heavy vehicle involved	8,760	325	9,08
Environmental time			
Dawn window	6,815	63	6,87
Dusk window	6,196	. 54	6,25
Night	26,033	559	26,59
Social time			
Wee hours	6,896	217	7,1,1
Weekend	33,276	454	33,73
Morning peak	25,762	119	25,88
Afternoon peak	21,965	158	22,12
Spatial factors			
Non-urban	42,049	1,496	43,54

Figure A1: Histogram of persons in light vehicles by year of manufacture, 2014 - 2016

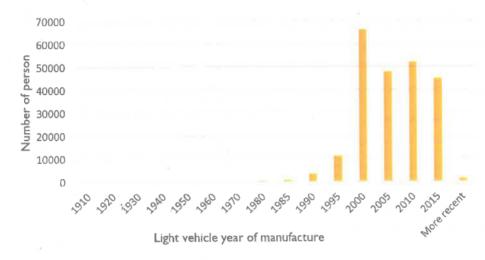


Figure A2: Histogram of posted speed limit, 2014 - 2016

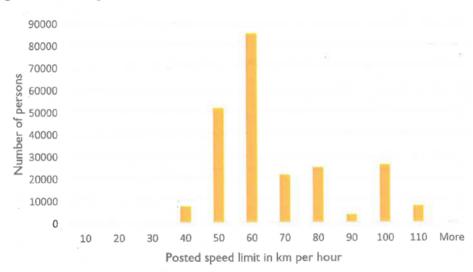


Figure A3: Histogram of distance to a Principal Referral Hospital, 2014 - 2016



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# Australian Road Deaths Database: Fatal Cra

(Data current to May 2018)

The Australian Road Deaths Database provides basic details of road transport crash fatalities the State and Territory road safety authorities. Road deaths from recent months are preliminar

Details provided in the database fall into two groups:

- The circumstances of the crash, for example, date, location, crash type
- · Some details regarding the persons killed, for example, age, gender and road user group.

## When is the data updated?

- · The data is updated each month.
- Monthly data are preliminary and the series are subject to revision.
- The heavy vehicle flags (articulated trucks, rigid trucks and buses) are only updated each qu

Citations for information derived from this database should include the database name, the we <a href="https://www.bitre.gov.au/statistics/safety/fatal\_road\_crash\_database.aspx">www.bitre.gov.au/statistics/safety/fatal\_road\_crash\_database.aspx</a> and the date of access.

**Disclaimer** – Road deaths from recent months are preliminary and the series is subject to reviparties. The Department of Infrastructure and Regional Development accepts no liability for an resulting from the use of this data. In addition, the department does not guarantee system avainany system unavailability.

#### **Fatal Crash Data Index**

- 1) 2011-2018
- 2) 2001-2010
- 3) 1989-2000
- 4) Appendix

## **Acknowledgements**

Department of Infrastructure, Regional Development and Cities, gratefully acknowledges the p

Transport for New South Wales:

VicRoads;

Queensland Department of Transport and Main Roads;

Department of Planning, Transport and Infrastructure South Australia;

Western Australian Police;

Department of State Growth, Tasmania;

Department of Transport, Northern Territory;

Territory and Municipal Services Directorate, Australian Capital Territory;

### Inquiries

For further information about data in this bulletin, contact:

Bureau of Infrastructure, Transport and Regional Economics Department of Infrastructure, Regional Development and Cities GPO Box 501 Canberra ACT 2601 Email: roadsafety@infrastructure.gov.au Internet: < http://www.bitre.gov.au/ >

# ishes

in Australia as reported by the police each month to y and the series is subject to revision.

arter, and are current to within two months.

:bpage,

ision. Information included in this database is provided by third iy loss or damage suffered by any person or corporation ilability and is not responsible for any losses associated with

rovision of data from the following agencies:

From:

Sent:

Friday, 27 July 2018 4:00 PM

To: Cc:

Subject:

RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity [DLM=For-

Official-Use-Only]

Follow Up Flag: Flag Status:

Follow up Completed

We are examining Lovells approvals and will get back to you with detailed response.

Regards

Director Certification and RAWS

Vehicle Safety Standards Branch | Surface Transport Policy Division

Department of Infrastructure, Regional Development and Cities

GPO Box 594, Canberra ACT 2601

ww.infrastructure.gov.au

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From:

Sent: Friday, 27 July 2018 11:55 AM

To:

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity [DLM=For-Official-Use-Only]

Can you provide certifications view on this issue? Rgds

This material contains information that, if disclosed inappropriately, may cause limited damage to national security, Australian Government agencies, commercial entities or members of the public. Recipients should ensure they handle and store this material appropriately.

From: Bill Muirhead < Bill.Muirhead@nt.gov.au >

Sent: Friday, 20 July 2018 10:56 AM

To:

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi

RE the ongoing light vehicle GVM GCM schermozzle – and FYI (ref below) – we're now (kind of expectedly) being bullied by Lovell's – simply because we made an inadvertent error in allowing a breach of our legislation - which we're now immediately correcting regardless.

We have no problems accepting BTC increases (where claimed) under SSM – because Lovells are considered to be the manufacturer for purpose of the modified vehicle and the affected areas.

We cannot accept increased towing capacity as an in-service modification (ie where a lovell's kit is fitted to a vehicle after first rego), because in such a case, the modifier is not the manufacturer.

Our legislation provides a block in that regard. Most J's have similar legislative blocks – although some have discretion via their Registrars. (we don't).

I am wondering though - have Lovell's ever actually provided any technical evidence to support their claims for BTC increases as part of their SSM evidence?

FYI - our legislation states (MV(S)Rs -

#### 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle.

whichever is the lesser.

(3) In this regulation:

#### towing capacity of the motor vehicle means:

- (a) the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer; or
- (b) if a towing capacity is not specified or is not able to be identified:
  - if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
  - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

To my mind - a way forward with this nationally (may be) to request the industry either put up or shut up.

le – industry (Lovell's) might want to put together some detailed evidence based on detailed dynamic performance (physical) testing (and accompanied by dynamic performance modelling) to demonstrate that GVM and BTC increases for particular makes and models, does not cause a reduction in safety.

As you're aware took this approach when it came to allowing vehicle height increases to ESC equipped vehicles.

Interested in your or Umesh's thoughts...

I strongly believe that a nationally consistent approach (including the Commonwealth) needs to be taken here.

#### **Bill Muirhead**

Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

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w ... www.nt.gov.au

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Friday, 20 July 2018 9:54 AM
To: Wayne Lo <<u>Wayne.Lo@nt.gov.au</u>>

Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >; Mike Davison

<miked@lovells.com.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

Why is this being revised/discovered 2 years after we were granted SSM approval for the LC200's BTC upgrade. I would think your legislation needs to be reviewed and revised to align with other States & Federal approval.

If a SSM Approval has been granted by DIRD (Federal Dept of Transport) by way of complying to all affected ADRs, we find it unacceptable that BTC Upgrades cannot be covered under this code.

The whole point of the VS24 is to re-rate components above the manufacturers published rating. Lovells supply a DIRD approved BTC upgrade kit which hold CRN approvals issued by DIRD, all components are tested as comply to all effected ADR's. we ensure the vehicle safety and integrity isn't compromised, if anything we have improved vehicle towing & safety.

We simply need to be uniformed across all States and Territories. NT are accepting our SSM approvals for GVM increase as per our SSM approval for in service vehicles (yet we're still not the "original vehicle manufacturer") however not accepting BTC upgrades as per our SSM approval for LC200's and Prado 150's, I'm struggling to understand this discussion.

Prior to any proposed changes I would have thought we would have been consulted, we have vehicle owners who prolonging they're GVM & BTC upgrades as they are in the process of ordering/building purpose built caravan's & boats to comply to our 4t BTC upgrade, I can only assume they're going to be devastated and most likely raise this issue with MVR as they aren't aware of this recent decision of change to vehicle compliance.

Can you please send me a copy of the legislation to which you referred to as to the towing capacities can't be modified, please highlight the specific legislation advice.

Kind regards,

#### Dragan Vasic

#### **National Sales Manager**

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

#### Sandgate (Warehouse)

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From: Wayne Lo < Wayne.Lo@nt.gov.au > Sent: Thursday, 19 July 2018 5:34 PM

To: Dragan Vasic (draganv@lovells.com.au) < draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hello Dragan

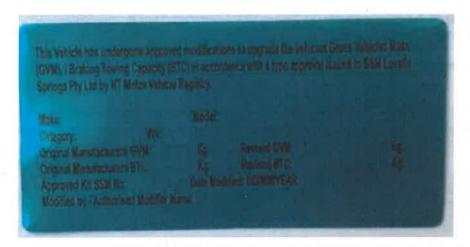
Having reviewed our legislative position on increases to the towing capacity of a motor vehicle for in-service vehicles, it is apparent that only the original vehicle manufacturer can specify this capacity. Under SSM, the SSM holder is recognised as the vehicle manufacturer and can specify this capacity. For in-service vehicles, the original manufacturer is the entity that appears on the vehicle compliance plate. For an in-service vehicle modified with the Lovells product, Lovells is the modifier – not the original vehicle manufacturer.

Though the Department has, in good faith, accepted the increased towing capacity based on SSM approval, this conflicts with our legislation which means that we need to realign our type-approval arrangement. I have discussed this with your local NT agents.

The amended VS24(h) still recognises GVM increases based on SSM however, references to BTC and GCM have been removed.

For NT registered vehicles that have already been approved with the increased towing capacity, these vehicles will be permitted to operate at their revised capacity – no new requests will be considered.

With reference to the draft modification label, there is general support for its design and layout. I would like to finalise this soon - we just need a bit more time to finalise wording in view of the discussion on towing capacity of a motor vehicle ... Removing references to revised BTC would align with our current position...



We will soon advise our inspection team of the updated VS24(h). Your local agents are expecting advice from you regarding the updated VS24(h).

Regards

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 20 June 2018 2:07 PM
To: Wayne Lo < Wayne Lo@nt.gov.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

As per this morning's conversation please find the following advice,

Lovells are compliant to continue to certify BTC Upgrades and GCM revisions on Toyota LC200's and Prado 150's.

Contrary to social media and competitors spin, Lovells can confirm the following:

We have had confirmation from the Director-Light Vehicle Certification-Federal Vehicle Safety Standards (Surface Transport Policy).

There is no change to <u>existing</u> SSM Approvals. Any vehicles (as stated in current SSM Approvals and as noted on current RVD's) can still be plated with GVM Upgrades and Towing Capacity Upgrades (BTC upgrades) under the approved RVD and SSM. Thus Lovells SSM Approval kits can continue to be supplied.

The implementation of Administrator's Circular 0-4-6 is effective for all <u>future</u> IPA Approvals. That is, any SSM Approvals applied for <u>beyond</u> the current valid and active SSM Approvals.

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% legal in all States and Territories for all vehicles in service/previously modified.

Lovells GVM/GCM/Towing Capacity or variants of these modifications will continue to be 100% legal in all States and Territories for all vehicles when modified prior to first registration (Federal Compliance).

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% still legal in the <u>majority</u> of States and Territories for all vehicles when modified after first registration/in service vehicles (State Compliance). State based GCM modifications are governed by the State/Territory Authority and their individual Type Approvals or Modification Codes.

We have had confirmation, at time of writing, that the following States via Lovells nominated Engineering signatories will continue to approve and endorse Lovells GVM/GCM/Towing Capacity or variants of these modifications whilst we have a current and valid SSM Approval in place and noted on the applicable RVCS RVD.

- NSW
- Victoria
- Tasmania
- South Australia
- Northern Territory
- Western Australia

Unfortunately the following States/Territories no longer allow a revised GCM beyond that of the Original Equipment/First Stage Manufacturer specification. However, GVM and Towing Capacities will be accepted based on the listed capacities on the SSM RVD at time of writing.

Queensland

In the case of this State, where a vehicle does not have or has no defined GCM, it is to be taken that the GCM= GVM + BTC so for the early model LC200, which didn't gazette a GCM. GCM = 3300kg+3500kg = 6800kg

Lovells GVM/GCM/Towing modifications have always been legal and we have always strived to ensure ongoing compliance with the Federal and State Regulators.

This is a Government Policy directive and no fault of Lovells. We are highly disappointed with their future direction, as the knock on effects to the Automotive Industry are considerable and will be detrimental to many companies.

Considering Lovells is a major industry stake holder in this market sector, it is also disappointing that we were not consulted regarding these regulation changes.

The whole point of GVM/GCM/towing upgrades is to ensure the ongoing compliance and safety of vehicles and occupants when carrying/towing heavy loads and thus ensuring the safety of other road users.

Please be assured that the future changes in policy by the Federal Government is <u>not</u> due to any safety concerns, as reported in some forums, competitor press releases and industry news pages.

However, the many affected SSM Approval holders can attest to and advise categorically that there is no evidence of any safety issues, accidents or fatalities due to or related to any GVM/GCM/Towing Upgrade.

Unfortunately, <u>all</u> of the SSM Approval Holders who nominate a revised GCM and/or Towing Capacity increase will be affected by these changes in the future, as will any road user who wishes to tow a caravan, boat, horse float etc.

#### In Summary

- PRE REGO there is no change in plating vehicles with the GVM & BTC upgrade. GCM as defined by Lovells
  the manufacturer
- POST REGO vehicles can be plated with GVM upgrade. The BTC and GCM upgrade would be supported and approved via State Authorities and state based signatories
- The implementation of 0-4-6 is for all future SSM approvals

Kind regards,

# **Dragan Vasic**

### National Sales Manager

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Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

# Sandgate (Warehouse)

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From: Wayne Lo <<u>Wayne.Lo@nt.gov.au</u>>
Sent: Tuesday, 19 June 2018 5:56 PM
To: Dragan Vasic <draganv@lovells.com.au>

Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >

Subject: Form Updates - VS24(h) - Lovells Suspension - towing capacity

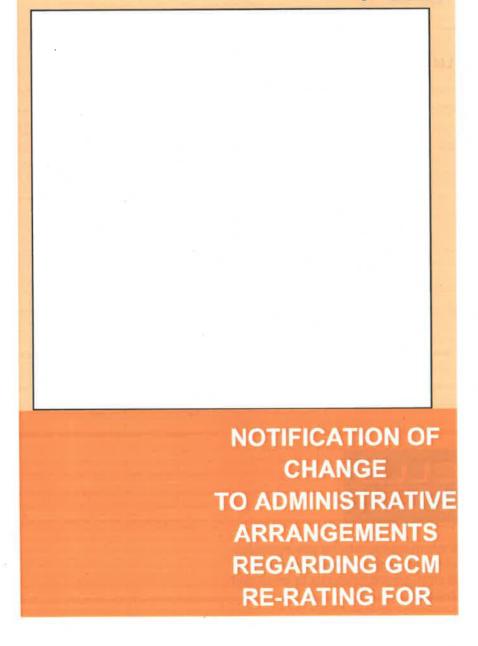
Hello Dragan

In light of the recent updates to Commonwealth Administrator's Circular 0-4-6 on Second Stage of Manufacture that now precludes any towing capacity increase over the first stage vehicle manufacturer's towing capacity, we have amended form VS24(h) accordingly – see attached. In summary, references to towing have been removed.

No Images? Click here

In the short term, I anticipate that the form can be used until we finalise a label arrangement.

A description of the changes to the Circular are in the extract below ...



# VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE

The & 4WD
Industry Council have been notified by the Federal Department of
Transport of a change in the administrative arrangements relating to
modifications undertaken on a <i>New Vehicle</i> as part of a Second-
Stage-of-Manufacture.
This change, which was insued via an undated Circular by
This change, which was issued via an updated Circular by
the National Vehicle Administrator this week following consultation
with all State and Territory Transport Regulators, effectively bans the
practice of increasing the rated towing capacity of a
vehicle, expressed as a Gross Combination Mass (GCM), above that
specified by the first stage manufacturer.
The American State of the Company of
This action was taken by the National Vehicle Administrator following
the widespread concern expressed by regulators and aftermarket
industry participants in relation to the potential safety implications of
GCM re-rating and as such this change has the full support of the
Our support for this intervention is in line with our commitment
as an industry to provide safe and responsible modifications through
our many small and family owned automotive businesses across the
country and for the thousands of Australian car owners potentially
impacted by this practice.
Further information and a copy of the revised Administrators circular
can be found <u>HERE</u> .
Control of the Contro
Forward
many and the state of the state
You're receiving this email because you are a member
of the
Unsubscribe

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

p ... 08 8924 7041 f ... 08 8924 7009 e ... <u>wayne.lo@nt.gov.au</u> w ... <u>www.nt.gov.au</u>

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From: Wayne Lo

Sent: Friday, 25 May 2018 3:20 PM

To: 'Dragan Vasic' < draganv@lovells.com.au >

Cc: Bill Muirhead <a href="mailto:sill.Muirhead@nt.gov.au">Bill.Muirhead@nt.gov.au</a>; Anton McIntyre <a href="mailto:Anton.McIntyre@nt.gov.au">Anton.McIntyre@nt.gov.au</a>

Subject: RE: VS24 - Lovells Suspension - towing capacity

Hello Dragan

Thanks for the opportunity to finally meet face-to-face last week here in Darwin...

I trust that life has settled down in your travels...

As I mentioned during your visit, there has been a lot of national discussion between jurisdictions, including the Commonwealth, with regard to GVM and GCM upgrades on light vehicles. Specific to in-service modifications based on SSM, we have had to review all arrangements with modifiers.

With our review, we have discovered a tension point with our regulation that only allows the original vehicle manufacturer to specify the towing capacity of the motor vehicle. The manufacturer is the name that appears on the vehicle compliance plate. It would appear that all jurisdictions have similar wording in their regulations (see extract below).

It is very likely that we will need to make some adjustments to our current arrangement with Lovells Suspension.

Can you give me an indication of how many NT registered vehicles have achieved a GCM upgrade (or towing capacity upgrade) under our current arrangement?

If Lovells has obtain approval from Toyota for the braked towed capacity upgrades on the LC200 and 150 Series, this might help alleviate the current tension point for in-service vehicles...

#### 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:

- (a) the towing capacity of the motor vehicle; or
- (b) the towing capacity of the towing apparatus fitted to the vehicle,

whichever is the lesser.

- (3) In this regulation: towing capacity of the motor vehicle means:
  - the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer, or
  - (b) if a towing capacity is not specified or is not able to be identified:
  - (i) if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
    - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

Towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

https://legislation.nt.gov.au/en/Legislation/MOTOR-VEHICLES-STANDARDS-REGULATIONS

### Regards

#### Wavne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Monday, 9 April 2018 9:05 AM

To: Wayne Lo < Wayne. Lo@nt.gov.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Apologies for the delayed reply,

We been out of office last couple of weeks, busy with R&D testing etc.

Anyway, just getting onto this topic to try set in motion, I've suggested a revised placard, refer attachment. I'd like to propose to include maximum Braked Towing Capacity (BTC) on the placards to alleviate any confusion for the registered vehicle owners.

We simply wish to include either the original maximum BTC or our upgraded BTC as per the LC200's and Prado 150's. As per our SSM approvals.

As per your suggestion below to notify MVR, our Authorised Lovells dealers would need to confirm as per following; As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

Your thoughts.

Kind regards,

#### Dragan Vasic

### National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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#### Melbourne

P.O. Box 654 Bentleigh East. Victoria 3165

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From: Wayne Lo < Wayne.Lo@nt.gov.au > Sent: Thursday, 8 March 2018 3:52 PM
To: Dragan Vasic < draganv@lovells.com.au >

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>; Anton Pretorius

<a href="mailto:</a><a href="mailto:Anton.Pretorius@nt.gov.au">mvrtestshed.darwin@nt.gov.au</a>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

#### Dragan

From the samples thus far, this plate option could work if the "Approving Engineer Ref" field can be populated with SSM IPA and vehicle category (if changing from NA to NB1)



As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

I am trying to avoid you changing any of your existing forms or labels.

Anyway, always keen to get your thoughts on what might work for you...

# Cheers

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Thursday, 8 March 2018 12:21 PM To: Wayne Lo < Wayne. Lo@nt.gov.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Please find attached order form for the Toyota LC200's which is used by our authorised dealer to process a GVM order with Lovells, once received & recorded we dispatch the kit for install.

Once the kit is installed and brake tested by our authorised dealer, our dealer returns the attached signed Check List.

Please confirm if the alloy placard samples I sent earlier have satisfactory information or do we need to create a new compliance placard (sticker) to suit your requirements.

Please note we use similar order forms and check lists however they are specific to the vehicle make and model, refer other attachments.

Kind regards,

#### **Dragan Vasic**

# **National Sales Manager**

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]
Sent: Wednesday, 7 March 2018 5:49 PM
To: Dragan Vasic <draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Dragan

The NT would like you to consider a further simplified arrangement...

We would like to mutually recognise any Lovells GVM upgrade that is based on SSM approval. This would do away with maintaining a paper-based process on our part.

The key elements to the arrangement are likely to be:

- Vehicle labelling or certificate identifying the vehicle (VIN) and revised GVM with some reference to the SSM IPA, date of modification, modifier (similar to a vehicle compliance plate/label)
- 2. Appropriate notification to NT Registration authority for the updating of the vehicle record (rego plate + information as noted above)

Do you have an arrangement with any other registration authority that might look like this proposal?

If possible, we would like to adopt this kind of arrangement without the need of producing any new stickers or forms (i.e. accept WA mod sticker and Lovells internal validation sheet).

I would be keen to hear back from you on this proposal...

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

p ... 08 8924 7041 f ... 08 8924 7009 e ... wayne.lo@nt.gov.au w ... www.nt.gov.au

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 7 March 2018 2:46 PM
To: Wayne Lo < Wayne.Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We seem to keep missing each other.

I'll try again later, otherwise please send through you proposed approval process.

Kind regards,

# Dragan Vasic

### National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

### Sandgate (Warehouse)

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Ph: +61 0408 356 737 Fax: +61 3 9563 8561

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]

Sent: Tuesday, 6 March 2018 4:59 PM

To: Dragan Vasic < draganv@lovells.com.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

# Thanks Dragan

When you have a spare moment, please call me to discuss some further improvements to simplify our arrangements...

Cheers

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Tuesday, 6 March 2018 10:51 AM

To: Wayne Lo < Wayne.Lo@nt.gov.au >

Subject: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We have a new Lovells GVM dealer in Darwin, please update your details to ensure L&S Suspension are on your approval system for Lovells GVM & BTC upgrades,

# L&S SUSPENSION (ABN 50 009 634 940)

# **POSTAL & DELIVERY ADDRESS**

PO Box 1741

Berrimah NT 0828

16 Jessop Cres

Berrimah NT 0828

Ph. 08 8931 3565

Fax.

Email: sales@lssuspension.com.au

Contact: Lachlan Gear

Kind regards,

# Dragan Vasic

# National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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From:

Sent:

Friday 27 July 2018 11:55 AM

To:

Cc:

Subject:

FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity [DLM=For-

Official-Use-Only]

Attachments:

VS24(h).pdf

Can you provide certifications view on this issue? Rgds

This material contains information that, if disclosed inappropriately, may cause limited damage to national security, Australian Government agencies, commercial entities or members of the public. Recipients should ensure they handle and store this material appropriately.

From: Bill Muirhead <Bill.Muirhead@nt.gov.au>

Sent: Friday, 20 July 2018 10:56 AM

To:

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi

RE the ongoing light vehicle GVM GCM schermozzle – and FYI (ref below) – we're now (kind of expectedly) being bullied by Lovell's – simply because we made an inadvertent error in allowing a breach of our legislation - which we're now immediately correcting regardless.

We have no problems accepting BTC increases (where claimed) under SSM – because Lovells are considered to be the manufacturer for purpose of the modified vehicle and the affected areas.

We cannot accept increased towing capacity as an in-service modification (ie where a lovell's kit is fitted to a vehicle after first rego), because in such a case, the modifier is not the manufacturer.

Our legislation provides a block in that regard. Most J's have similar legislative blocks – although some have discretion via their Registrars. (we don't).

I am wondering though - have Lovell's ever actually provided any technical evidence to support their claims for BTC increases as part of their SSM evidence?

FYI - our legislation states (MV(S)Rs -

#### Laden mass of trailer 14

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle.

whichever is the lesser.

(3) In this regulation:

# towing capacity of the motor vehicle means:

- (a) the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer; or
- (b) if a towing capacity is not specified or is not able to be identified:
  - if the trailer is fitted with brakes, 1.5 times the unladen (i) mass of the motor vehicle; and
  - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

To my mind – a way forward with this nationally (may be) to request the industry either put up or shut up.

le - industry (Lovell's) might want to put together some detailed evidence based on detailed dynamic performance (physical) testing (and accompanied by dynamic performance modelling) to demonstrate that GVM and BTC increases for particular makes and models, does not cause a reduction in safety.

took this approach when it came to allowing vehicle height increases to ESC As you're aware Industry equipped vehicles.

Interested in your or thoughts...

I strongly believe that a nationally consistent approach (including the Commonwealth) needs to be taken here.

# **Bill Muirhead**

Senior Engineering Officer - Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Friday, 20 July 2018 9:54 AM
To: Wayne Lo <Wayne.Lo@nt.gov.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>; Mike Davison

<miked@lovells.com.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

Why is this being revised/discovered 2 years after we were granted SSM approval for the LC200's BTC upgrade. I would think your legislation needs to be reviewed and revised to align with other States & Federal approval.

If a SSM Approval has been granted by DIRD (Federal Dept of Transport) by way of complying to all affected ADRs, we find it unacceptable that BTC Upgrades cannot be covered under this code.

The whole point of the VS24 is to re-rate components above the manufacturers published rating. Lovells supply a DIRD approved BTC upgrade kit which hold CRN approvals issued by DIRD, all components are tested as comply to all effected ADR's. we ensure the vehicle safety and integrity isn't compromised, if anything we have improved vehicle towing & safety.

We simply need to be uniformed across all States and Territories. NT are accepting our SSM approvals for GVM increase as per our SSM approval for in service vehicles (yet we're still not the "original vehicle manufacturer") however not accepting BTC upgrades as per our SSM approval for LC200's and Prado 150's, I'm struggling to understand this discussion.

Prior to any proposed changes I would have thought we would have been consulted, we have vehicle owners who prolonging they're GVM & BTC upgrades as they are in the process of ordering/building purpose built caravan's & boats to comply to our 4t BTC upgrade, I can only assume they're going to be devastated and most likely raise this issue with MVR as they aren't aware of this recent decision of change to vehicle compliance.

Can you please send me a copy of the legislation to which you referred to as to the towing capacities can't be modified, please highlight the specific legislation advice.

Kind regards,

Dragan Vasic

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

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Minto BC
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Campbelltown NSW 2560
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From: Wayne Lo < Wayne.Lo@nt.gov.au>
Sent: Thursday, 19 July 2018 5:34 PM

To: Dragan Vasic (draganv@lovells.com.au) <draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

# Hello Dragan

Having reviewed our legislative position on increases to the towing capacity of a motor vehicle for in-service vehicles, it is apparent that only the original vehicle manufacturer can specify this capacity. Under SSM, the SSM holder is recognised as the vehicle manufacturer and can specify this capacity. For in-service vehicles, the original manufacturer is the entity that appears on the vehicle compliance plate. For an in-service vehicle modified with the Lovells product, Lovells is the modifier – not the original vehicle manufacturer.

Though the Department has, in good faith, accepted the increased towing capacity based on SSM approval, this conflicts with our legislation which means that we need to realign our type-approval arrangement. I have discussed this with your local NT agents.

The amended VS24(h) still recognises GVM increases based on SSM however, references to BTC and GCM have been removed.

For NT registered vehicles that have already been approved with the increased towing capacity, these vehicles will be permitted to operate at their revised capacity – no new requests will be considered.

With reference to the draft modification label, there is general support for its design and layout. I would like to finalise this soon - we just need a bit more time to finalise wording in view of the discussion on towing capacity of a motor vehicle ... Removing references to revised BTC would align with our current position...



We will soon advise our inspection team of the updated VS24(h). Your local agents are expecting advice from you regarding the updated VS24(h).

Regards

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 20 June 2018 2:07 PM
To: Wayne Lo < Wayne.Lo@nt.gov.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

As per this morning's conversation please find the following advice,

Lovells are compliant to continue to certify BTC Upgrades and GCM revisions on Toyota LC200's and Prado 150's.

Contrary to social media and competitors spin, Lovells can confirm the following:

We have had confirmation from the confirmation from the Director- Light Vehicle Certification- Federal Vehicle Safety Standards (Surface Transport Policy).

There is no change to <u>existing</u> SSM Approvals. Any vehicles (as stated in current SSM Approvals and as noted on current RVD's) can still be plated with GVM Upgrades and Towing Capacity Upgrades (BTC upgrades) under the approved RVD and SSM. Thus Lovells SSM Approval kits can continue to be supplied.

The implementation of Administrator's Circular 0-4-6 is effective for all <u>future</u> IPA Approvals. That is, any SSM Approvals applied for <u>beyond</u> the current valid and active SSM Approvals.

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% legal in all States and Territories for all vehicles in service/previously modified.

Lovells GVM/GCM/Towing Capacity or variants of these modifications will continue to be 100% legal in all States and Territories for all vehicles when modified prior to first registration (Federal Compliance).

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% still legal in the <u>majority</u> of States and Territories for all vehicles when modified after first registration/in service vehicles (State Compliance). State based GCM modifications are governed by the State/Territory Authority and their individual Type Approvals or Modification Codes.

We have had confirmation, at time of writing, that the following States via Lovells nominated Engineering signatories will continue to approve and endorse Lovells GVM/GCM/Towing Capacity or variants of these modifications whilst we have a current and valid SSM Approval in place and noted on the applicable RVCS RVD.

- NSW
- Victoria
- Tasmania
- South Australia
- Northern Territory
- Western Australia

Unfortunately the following States/Territories no longer allow a revised GCM beyond that of the Original Equipment/First Stage Manufacturer specification. However, GVM and Towing Capacities will be accepted based on the listed capacities on the SSM RVD at time of writing.

Queensland

In the case of this State, where a vehicle does not have or has no defined GCM, it is to be taken that the GCM= GVM + BTC so for the early model LC200, which didn't gazette a GCM. GCM = 3300kg+3500kg = 6800kg

Lovells GVM/GCM/Towing modifications have always been legal and we have always strived to ensure ongoing compliance with the Federal and State Regulators.

This is a Government Policy directive and no fault of Lovells. We are highly disappointed with their future direction, as the knock on effects to the Automotive Industry are considerable and will be detrimental to many companies.

Considering Lovells is a major industry stake holder in this market sector, it is also disappointing that we were not consulted regarding these regulation changes.

The whole point of GVM/GCM/towing upgrades is to ensure the ongoing compliance and safety of vehicles and occupants when carrying/towing heavy loads and thus ensuring the safety of other road users.

Please be assured that the future changes in policy by the Federal Government is <u>not</u> due to any safety concerns, as reported in some forums, competitor press releases and industry news pages.

However, the many affected SSM Approval holders can attest to and advise categorically that there is no evidence of any safety issues, accidents or fatalities due to or related to any GVM/GCM/Towing Upgrade.

Unfortunately, <u>all</u> of the SSM Approval Holders who nominate a revised GCM and/or Towing Capacity increase will be affected by these changes in the future, as will any road user who wishes to tow a caravan, boat, horse float etc.

# In Summary

- PRE REGO there is no change in plating vehicles with the GVM & BTC upgrade. GCM as defined by Lovells
  the manufacturer
- POST REGO vehicles can be plated with GVM upgrade. The BTC and GCM upgrade would be supported and approved via State Authorities and state based signatories
- The implementation of 0-4-6 is for all <u>future</u> SSM approvals

Kind regards,

# **Dragan Vasic**

#### National Sales Manager

# Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)
PO Box 5126
Minto BC
Unit 2, 25 Badgally Rd
Campbelltown NSW 2560
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### Sandgate (Warehouse)

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Email: draganv@lovells.com.au
Web: www.lovells.com.au



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From: Wayne Lo < <u>Wayne.Lo@nt.gov.au</u>>
Sent: Tuesday, 19 June 2018 5:56 PM

To: Dragan Vasic <draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: Form Updates - VS24(h) - Lovells Suspension - towing capacity

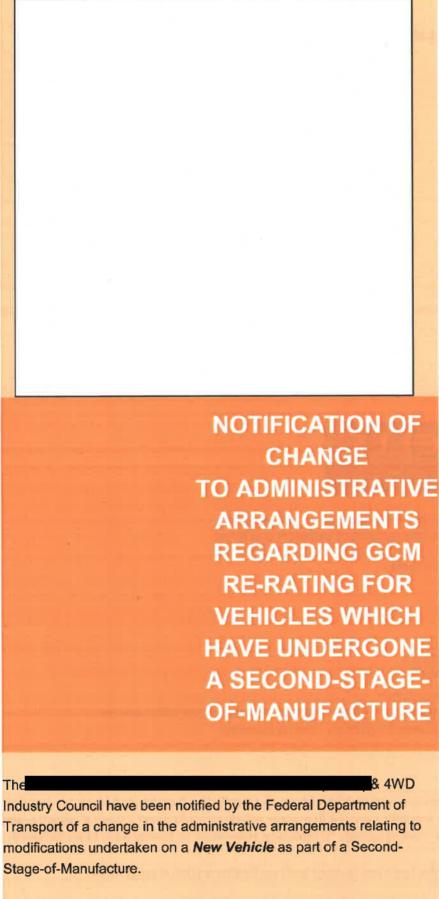
### Hello Dragan

In light of the recent updates to Commonwealth Administrator's Circular 0-4-6 on Second Stage of Manufacture that now precludes any towing capacity increase over the first stage vehicle manufacturer's towing capacity, we have amended form VS24(h) accordingly – see attached. In summary, references to towing have been removed.

In the short term, I anticipate that the form can be used until we finalise a label arrangement.

A description of the changes to the Circular are in the

No Images? Click here



This change, which was issued via an updated Circular by the National Vehicle Administrator this week following consultation with all State and Territory Transport Regulators, effectively bans the practice of increasing the rated towing capacity of a

vehicle, expressed as a Gross Combination Mass (GCM), above that specified by the first stage manufacturer. This action was taken by the National Vehicle Administrator following the widespread concern expressed by regulators and aftermarket industry participants in relation to the potential safety implications of GCM re-rating and as such this change has the full support of the Our support for this intervention is in line with our commitment as an industry to provide safe and responsible modifications through our many small and family owned automotive businesses across the country and for the thousands of Australian car owners potentially impacted by this practice. Further information and a copy of the revised Administrators circular can be found HERE. Forward Unsubscribe

# Regards

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Wayne Lo

Sent: Friday, 25 May 2018 3:20 PM

To: 'Dragan Vasic' < draganv@lovells.com.au>

Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >

Subject: RE: VS24 - Lovells Suspension - towing capacity

# Hello Dragan

Thanks for the opportunity to finally meet face-to-face last week here in Darwin...

I trust that life has settled down in your travels...

As I mentioned during your visit, there has been a lot of national discussion between jurisdictions, including the Commonwealth, with regard to GVM and GCM upgrades on light vehicles. Specific to in-service modifications based on SSM, we have had to review all arrangements with modifiers.

With our review, we have discovered a tension point with our regulation that only allows the original vehicle manufacturer to specify the towing capacity of the motor vehicle. The manufacturer is the name that appears on the vehicle compliance plate. It would appear that all jurisdictions have similar wording in their regulations (see extract below).

It is very likely that we will need to make some adjustments to our current arrangement with Lovells Suspension.

Can you give me an indication of how many NT registered vehicles have achieved a GCM upgrade (or towing capacity upgrade) under our current arrangement?

If Lovells has obtain approval from Toyota for the braked towed capacity upgrades on the LC200 and 150 Series, this might help alleviate the current tension point for in-service vehicles...

# 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle,

whichever is the lesser.

- (3) In this regulation: towing capacity of the motor vehicle means:
  - the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer; or
  - (b) if a towing capacity is not specified or is not able to be identified:
  - (i) if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
    - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

Towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

https://legislation.nt.gov.au/en/Legislation/MOTOR-VEHICLES-STANDARDS-REGULATIONS

Regards

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Monday, 9 April 2018 9:05 AM
To: Wayne Lo < Wayne Lo@nt.gov.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Apologies for the delayed reply,

We been out of office last couple of weeks, busy with R&D testing etc.

Anyway, just getting onto this topic to try set in motion, I've suggested a revised placard, refer attachment. I'd like to propose to include maximum Braked Towing Capacity (BTC) on the placards to alleviate any confusion for the registered vehicle owners.

We simply wish to include either the original maximum BTC or our upgraded BTC as per the LC200's and Prado 150's. As per our SSM approvals.

As per your suggestion below to notify MVR, our Authorised Lovells dealers would need to confirm as per following; As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

Your thoughts.

Kind regards,

**Dragan Vasic** 

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

### Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

### Sandgate (Warehouse)

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#### Melbourne

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Ph: +61 0408 356 737 Fax: +61 3 9563 8561

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Web: www.lovells.com.au



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From: Wayne Lo < <u>Wayne.Lo@nt.gov.au</u>>
Sent: Thursday, 8 March 2018 3:52 PM
To: Dragan Vasic < <u>draganv@lovells.com.au</u>>

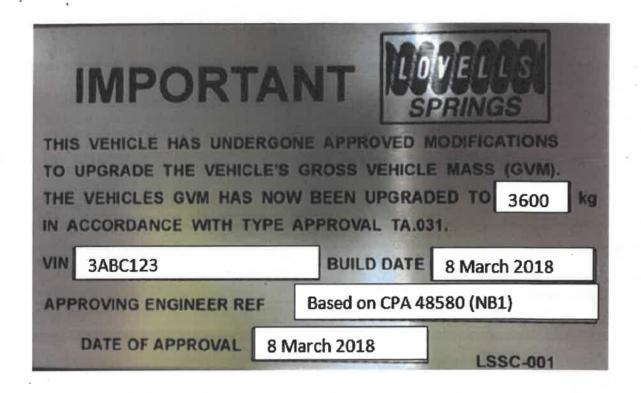
Cc: Bill Muirhead < Bill.Muirhead@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >; Anton Pretorius

<a href="mailto:</a><a href="mailto:Anton.Pretorius@nt.gov.au">mvrtestshed.darwin@nt.gov.au</a>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

#### Dragan

From the samples thus far, this plate option could work if the "Approving Engineer Ref" field can be populated with SSM IPA and vehicle category (if changing from NA to NB1)



As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

I am trying to avoid you changing any of your existing forms or labels.

Anyway, always keen to get your thoughts on what might work for you...

#### Cheers

#### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Thursday, 8 March 2018 12:21 PM To: Wayne Lo < Wayne.Lo@nt.gov.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Please find attached order form for the Toyota LC200's which is used by our authorised dealer to process a GVM order with Lovells, once received & recorded we dispatch the kit for install.

Once the kit is installed and brake tested by our authorised dealer, our dealer returns the attached signed Check List.

Please confirm if the alloy placard samples I sent earlier have satisfactory information or do we need to create a new compliance placard (sticker) to suit your requirements.

Please note we use similar order forms and check lists however they are specific to the vehicle make and model, refer other attachments.

Kind regards,

#### **Dragan Vasic**

#### National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

# Sandgate (Warehouse)

3 Friesian CI Sandgate NSW 2304 AUSTRALIA

#### Melbourne

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]
Sent: Wednesday, 7 March 2018 5:49 PM

To: Dragan Vasic < <a href="mailto:draganv@lovells.com.au">draganv@lovells.com.au</a>>

Cc: Bill Muirhead <a href="mailto:sill.Muirhead@nt.gov.au">Bill.Muirhead@nt.gov.au</a>; Anton McIntyre <a href="mailto:Anton.McIntyre@nt.gov.au">Anton.McIntyre@nt.gov.au</a>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

The NT would like you to consider a further simplified arrangement...

We would like to mutually recognise any Lovells GVM upgrade that is based on SSM approval. This would do away with maintaining a paper-based process on our part.

The key elements to the arrangement are likely to be:

- Vehicle labelling or certificate identifying the vehicle (VIN) and revised GVM with some reference to the SSM IPA, date of modification, modifier (similar to a vehicle compliance plate/label)
- 2. Appropriate notification to NT Registration authority for the updating of the vehicle record (rego plate + information as noted above)

Do you have an arrangement with any other registration authority that might look like this proposal?

If possible, we would like to adopt this kind of arrangement without the need of producing any new stickers or forms (i.e. accept WA mod sticker and Lovells internal validation sheet).

I would be keen to hear back from you on this proposal...

# Wavne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

p ... 08 8924 7041 f ... 08 8924 7009

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 7 March 2018 2:46 PM
To: Wayne Lo < Wayne.Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We seem to keep missing each other.

I'll try again later, otherwise please send through you proposed approval process.

Kind regards,

Dragan Vasic

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]

Sent: Tuesday, 6 March 2018 4:59 PM

To: Dragan Vasic < draganv@lovells.com.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

# **Thanks Dragan**

When you have a spare moment, please call me to discuss some further improvements to simplify our arrangements...

# Cheers

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Tuesday, 6 March 2018 10:51 AM
To: Wayne Lo < <u>Wayne.Lo@nt.gov.au</u>>

Subject: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We have a new Lovells GVM dealer in Darwin, please update your details to ensure L&S Suspension are on your approval system for Lovells GVM & BTC upgrades,

# **L&S SUSPENSION (ABN 50 009 634 940)**

# **POSTAL & DELIVERY ADDRESS**

PO Box 1741

Berrimah NT 0828

16 Jessop Cres

Berrimah NT 0828

Ph. 08 8931 3565

Fax.

Email: sales@lssuspension.com.au

Contact: Lachlan Gear

Kind regards,

**Dragan Vasic** 

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

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Thank you



Department of Infrastructure, Planning and Logistics

GPO Box 530, DARWIN NT 0801

Phone: 1300 654 628
Fax: (08) 8999 3103
Email: mvr@nt.gov.au
Website: www.mvr.nt.gov.au

OFFICE USE
MOVERS Notes Added

VS24(h)

# Non – Standard Vehicle – Modification/s Approval Lovells Suspension Pty Ltd

Attachment 10

Vehicle Details:		
Registration:	CPA Number:	Odometer:
Make:	Model:	Body Type
VIN/Chassis Number:		Year of Manufacture:
Gross Vehicle Mass Upgra	ade based on Second Stage of I	Manufacturer Approval
	Schedule Number (see reverse side)	
	Revised Gross Vehicle Mass	(kg)
Revised ADR Categor	y (NA to NB1 when over 3500kg GVM)	
Declaration:		
	, declare that I have undertak relevant to the modification/engineering/onle is fit for purpose.	
	Modifier Signature)	(Date)
(Supervisor Name)	(Supervisor Signature)	(Date)
(Modifier Business Name and Production Fac	ility Number)	
Notification Process:		
This completed form must be forv	varded to MVR by email as soon as prac	ticable after the modification.
	Email <u>mvrtestshed.darwin@</u>	nt.gov.au
Vehicle Modification Certifi	cate:	

The Registrar of Motor Vehicles authorises the use of this document as evidence of modification approval for the specific items as indicated by the modifier and a copy of this document must remain with the vehicle at all times.

Modified vehicles approved under this arrangement may not necessarily be mutually accepted by another registration authority. For vehicles travelling interstate or seeking registration in another jurisdiction, vehicle owners and drivers should inquire with appropriate authorities relevant to their travel.

# **Schedule of Modifications:**

	Toyota KUN 150 Series Hilux	x Cab Chassis,	GVM 3300kg, Category NA			
	OEM vehicle (CPA 33886, Car	tegory NA) mod	lified with heavy duty suspension			
	Second Stage Manufacturer (SSM) Compliance Plate Approval (CPA): 25742 Various Toyota 70 Series Landcruiser Models, Category NB1					
		Туре	Variant	GVM		
		A	Cab Chassis, 2 Door Wagon	3700kg		
		В	2 Door & 4 Door Cab Chassis, 2 Door Wagon	3900kg		
		С	2 Door Cab Chassis - 5 Star ANCAP Model	4200kg		
		D	4 Door Wagon	3660kg		
	GVM increase subject to engin OEM vehicle (CPA 3477, Cate		d suspension options fied with heavy duty suspension			
	Toyota 200 Series Landcruis	ser Wagon, (7-	ance Plate Approval (CPA): 40257 8 Seater), GVM 3800kg, Category MC			
	· ·		dified with heavy duty suspension			
	Second Stage Manufacturer (SSM) Compliance Plate Approval (CPA): 46734 Toyota 200 Series Landcruiser GX Diesel and Petrol (5 Seater), GVM 3800kg, Category NB1					
	OEM vehicle (CPA 43656, Ca	tegory NA) mod	lified with heavy duty suspension			
	Second Stage Manufacturer (SSM) Compliance Plate Approval (CPA): 47909 Toyota Hilux GUN125/126 Series 4x4 10/2015 onward, GVM 3500kg, Category NA  OEM Vehicle (CPA 47341, Category NA) modified with heavy duty suspension  Second Stage Manufacturer (SSM) Compliance Plate Approval (CPA): 28971					
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer	ategory NA) mod	dified with heavy duty suspension ance Plate Approval (CPA): 28971			
	OEM Vehicle (CPA 47341, Ca	ategory NA) mod	dified with heavy duty suspension ance Plate Approval (CPA): 28971			
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer	ategory NA) mod	dified with heavy duty suspension ance Plate Approval (CPA): 28971 NB1	M		
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer	ategory NA) mod	dified with heavy duty suspension ance Plate Approval (CPA): 28971 NB1 De Engine Variant G	/M Okg		
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer	(SSM) Compli Y61, Category	dified with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GV  4.2 Litre 370			
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis Y	(SSM) Compli Y61, Category	dified with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GV  4.2 Litre 370  3.0 Litre 390	0kg		
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis Y OEM vehicle (CPA 12483, Ca	(SSM) Compliance  (SSM) Compliance  (SSM) Compliance  Type  A  B  (tegory NA) moder  (SSM) Compliance	dified with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  3.0 Litre 390  dified with heavy duty suspension  ance Plate Approval (CPA): 46728	0kg		
•	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis Y OEM vehicle (CPA 12483, Ca Second Stage Manufacturer Ford Ranger 4x4, GVM 3500	Type A ttegory NA) mod Type A B ttegory NA) mod T(SSM) Compli	dified with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  3.0 Litre 390  dified with heavy duty suspension  ance Plate Approval (CPA): 46728	0kg		
•	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis V OEM vehicle (CPA 12483, Ca Second Stage Manufacturer Ford Ranger 4x4, GVM 3500 OEM vehicle (CPA 43280, Ca	Type A A A A A A A A A A A A A A A A A A A	dified with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  dified with heavy duty suspension  ance Plate Approval (CPA): 46728  NA  dified with heavy duty suspension  ance Plate Approval (CPA): 47037	0kg		
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis V OEM vehicle (CPA 12483, Ca Second Stage Manufacturer Ford Ranger 4x4, GVM 3500 OEM vehicle (CPA 43280, Ca Second Stage Manufacturer Mazda BT50 4x4, GVM 3500	Type A A A A A A A A A A A B A A A A A B A A A A B A A A A B A A A B A A A B A A A B A A A B A A A B A A B A A B A A B A A B A B A A B A B A B A B A B A B A B A B A B A B A B A B B C C C C	dified with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  dified with heavy duty suspension  ance Plate Approval (CPA): 46728  NA  dified with heavy duty suspension  ance Plate Approval (CPA): 47037	0kg		
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis V OEM vehicle (CPA 12483, Ca Second Stage Manufacturer Ford Ranger 4x4, GVM 3500 OEM vehicle (CPA 43280, Ca Second Stage Manufacturer Mazda BT50 4x4, GVM 3500 OEM vehicle (CPA 43491, Ca	Type A A A A A A A A A A A B A A A A A B A A A A B A A A B A A B A A A B A A A B A A B A A B A A B A A B A A B A B A A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B B A B	diffied with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  3.0 Litre 390  diffied with heavy duty suspension  ance Plate Approval (CPA): 46728  NA  diffied with heavy duty suspension  ance Plate Approval (CPA): 47037  IA  diffied with heavy duty suspension  ance Plate Approval (CPA): 48580	0kg		
	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis V OEM vehicle (CPA 12483, Ca Second Stage Manufacturer Ford Ranger 4x4, GVM 3500 OEM vehicle (CPA 43280, Ca Second Stage Manufacturer Mazda BT50 4x4, GVM 3500 OEM vehicle (CPA 43491, Ca Second Stage Manufacturer Isuzu D-Max Cab Chassis, Ca	Attegory NA) moder (SSM) Compliance (SSM	diffied with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  3.0 Litre 390  diffied with heavy duty suspension  ance Plate Approval (CPA): 46728  NA  diffied with heavy duty suspension  ance Plate Approval (CPA): 47037  IA  diffied with heavy duty suspension  ance Plate Approval (CPA): 48580	0kg		
•	OEM Vehicle (CPA 47341, Ca Second Stage Manufacturer Nissan Patrol Cab Chassis V OEM vehicle (CPA 12483, Ca Second Stage Manufacturer Ford Ranger 4x4, GVM 3500 OEM vehicle (CPA 43280, Ca Second Stage Manufacturer Mazda BT50 4x4, GVM 3500 OEM vehicle (CPA 43491, Ca Second Stage Manufacturer Isuzu D-Max Cab Chassis, Ca	Attegory NA) moder (SSM) Compliance of the state of the s	diffied with heavy duty suspension  ance Plate Approval (CPA): 28971  NB1  De Engine Variant GN  4.2 Litre 370  3.0 Litre 390  diffied with heavy duty suspension  ance Plate Approval (CPA): 46728  NA  diffied with heavy duty suspension  ance Plate Approval (CPA): 47037  IA  diffied with heavy duty suspension  ance Plate Approval (CPA): 48580  ategory NB1  diffied with heavy duty suspension  ance Plate Approval (CPA): 48580  ategory NB1	0kg		

From:

Bill Muirhead <Bill.Muirhead@nt.gov.au>

Sent:

Friday, 20 July 2018 10:56 AM

To:

Subject:

FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Attachments:

VS24(h).pdf

Follow Up Flag:

Follow up

Flag Status:

Completed

Ήi

RE the ongoing light vehicle GVM GCM schermozzle – and FYI (ref below) – we're now (kind of expectedly) being bullied by Lovell's – simply because we made an inadvertent error in allowing a breach of our legislation – which we're now immediately correcting regardless.

We have no problems accepting BTC increases (where claimed) under SSM – because Lovells are considered to be the manufacturer for purpose of the modified vehicle and the affected areas.

We cannot accept increased towing capacity as an in-service modification (ie where a lovell's kit is fitted to a vehicle after first rego), because in such a case, the modifier is not the manufacturer.

Our legislation provides a block in that regard. Most J's have similar legislative blocks – although some have discretion via their Registrars. (we don't).

I am wondering though - have Lovell's ever actually provided any technical evidence to support their claims for BTC increases as part of their SSM evidence?

FYI - our legislation states (MV(S)Rs -

### 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle.

whichever is the lesser.

(3) In this regulation:

# towing capacity of the motor vehicle means:

- (a) the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer; or
- (b) if a towing capacity is not specified or is not able to be identified:
  - if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
  - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

To my mind – a way forward with this nationally (may be) to request the industry either put up or shut up.

le – industry (Lovell's) might want to put together some detailed evidence based on detailed dynamic performance (physical) testing (and accompanied by dynamic performance modelling) to demonstrate that GVM and BTC increases for particular makes and models, does not cause a reduction in safety.

As you're aware Industry took this approach when it came to allowing vehicle height increases to ESC equipped vehicles.

Interested in your or thoughts...

I strongly believe that a nationally consistent approach (including the Commonwealth) needs to be taken here.

#### **Bill Muirhead**

Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Friday, 20 July 2018 9:54 AM

To: Wayne Lo <Wayne.Lo@nt.gov.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>; Mike Davison

<miked@lovells.com.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

Why is this being revised/discovered 2 years after we were granted SSM approval for the LC200's BTC upgrade. I would think your legislation needs to be reviewed and revised to align with other States & Federal approval.

If a SSM Approval has been granted by DIRD (Federal Dept of Transport) by way of complying to all affected ADRs, we find it unacceptable that BTC Upgrades cannot be covered under this code.

The whole point of the VS24 is to re-rate components above the manufacturers published rating. Lovells supply a DIRD approved BTC upgrade kit which hold CRN approvals issued by DIRD, all components are tested as comply to all effected ADR's. we ensure the vehicle safety and integrity isn't compromised, if anything we have improved vehicle towing & safety.

We simply need to be uniformed across all States and Territories. NT are accepting our SSM approvals for GVM increase as per our SSM approval for in service vehicles (yet we're still not the "original vehicle manufacturer") however not accepting BTC upgrades as per our SSM approval for LC200's and Prado 150's, I'm struggling to understand this discussion.

Prior to any proposed changes I would have thought we would have been consulted, we have vehicle owners who prolonging they're GVM & BTC upgrades as they are in the process of ordering/building purpose built caravan's & boats to comply to our 4t BTC upgrade, I can only assume they're going to be devastated and most likely raise this issue with MVR as they aren't aware of this recent decision of change to vehicle compliance.

Can you please send me a copy of the legislation to which you referred to as to the towing capacities can't be modified, please highlight the specific legislation advice.

Kind regards,

# **Dragan Vasic**

# **National Sales Manager**

Lovelis Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)
PO Box 5126
Minto BC
Unit 2, 25 Badgally Rd
Campbelltown NSW 2560

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From: Wayne Lo < <u>Wayne Lo@nt.gov.au</u>>
Sent: Thursday, 19 July 2018 5:34 PM

To: Dragan Vasic (draganv@lovells.com.au) <draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: FW: Form Updates - VS24(h) - Lovells Suspension - towing capacity

# Hello Dragan

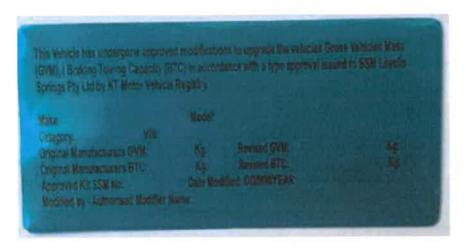
Having reviewed our legislative position on increases to the towing capacity of a motor vehicle for in-service vehicles, it is apparent that only the original vehicle manufacturer can specify this capacity. Under SSM, the SSM holder is recognised as the vehicle manufacturer and can specify this capacity. For in-service vehicles, the original manufacturer is the entity that appears on the vehicle compliance plate. For an in-service vehicle modified with the Lovells product, Lovells is the modifier – not the original vehicle manufacturer.

Though the Department has, in good faith, accepted the increased towing capacity based on SSM approval, this conflicts with our legislation which means that we need to realign our type-approval arrangement. I have discussed this with your local NT agents.

The amended VS24(h) still recognises GVM increases based on SSM however, references to BTC and GCM have been removed.

For NT registered vehicles that have already been approved with the increased towing capacity, these vehicles will be permitted to operate at their revised capacity – no new requests will be considered.

With reference to the draft modification label, there is general support for its design and layout. I would like to finalise this soon - we just need a bit more time to finalise wording in view of the discussion on towing capacity of a motor vehicle ... Removing references to revised BTC would align with our current position...



We will soon advise our inspection team of the updated VS24(h). Your local agents are expecting advice from you regarding the updated VS24(h).

# Regards

### Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 20 June 2018 2:07 PM To: Wayne Lo < Wayne. Lo@nt.gov.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: Form Updates - VS24(h) - Lovells Suspension - towing capacity

Hi Wayne,

As per this morning's conversation please find the following advice,

Lovells are compliant to continue to certify BTC Upgrades and GCM revisions on Toyota LC200's and Prado 150's.

Contrary to social media and competitors spin, Lovells can confirm the following:

We have had confirmation from the Director-Light Vehicle Certification-Federal Vehicle Safety Standards (Surface Transport Policy).

There is no change to <u>existing SSM Approvals</u>. Any vehicles (as stated in current SSM Approvals and as noted on current RVD's) can still be plated with GVM Upgrades and Towing Capacity Upgrades (BTC upgrades) under the approved RVD and SSM. Thus Lovells SSM Approval kits can continue to be supplied.

The implementation of Administrator's Circular 0-4-6 is effective for all **future** IPA Approvals. That is, any SSM Approvals applied for **beyond** the current valid and active SSM Approvals.

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% legal in all States and Territories for all vehicles in service/previously modified.

Lovells GVM/GCM/Towing Capacity or variants of these modifications will continue to be 100% legal in all States and Territories for all vehicles when modified prior to first registration (Federal Compliance).

Lovells GVM/GCM/Towing Capacity or variants of these modifications are 100% still legal in the <u>majority</u> of States and Territories for all vehicles when modified after first registration/in service vehicles (State Compliance). State based GCM modifications are governed by the State/Territory Authority and their individual Type Approvals or Modification Codes.

We have had confirmation, at time of writing, that the following States via Lovells nominated Engineering signatories will continue to approve and endorse Lovells GVM/GCM/Towing Capacity or variants of these modifications whilst we have a current and valid SSM Approval in place and noted on the applicable RVCS RVD.

- NSW
- Victoria
- Tasmania
- South Australia
- Northern Territory

### Western Australia

Unfortunately the following States/Territories no longer allow a revised GCM beyond that of the Original Equipment/First Stage Manufacturer specification. However, GVM and Towing Capacities will be accepted based on the listed capacities on the SSM RVD at time of writing.

Queensland

In the case of this State, where a vehicle does not have or has no defined GCM, it is to be taken that the GCM= GVM + BTC so for the early model LC200, which didn't gazette a GCM. GCM = 3300kg+3500kg = 6800kg

Lovells GVM/GCM/Towing modifications have always been legal and we have always strived to ensure ongoing compliance with the Federal and State Regulators.

This is a Government Policy directive and no fault of Lovells. We are highly disappointed with their future direction, as the knock on effects to the Automotive Industry are considerable and will be detrimental to many companies.

Considering Lovells is a major industry stake holder in this market sector, it is also disappointing that we were not consulted regarding these regulation changes.

The whole point of GVM/GCM/towing upgrades is to ensure the ongoing compliance and safety of vehicles and occupants when carrying/towing heavy loads and thus ensuring the safety of other road users.

Please be assured that the future changes in policy by the Federal Government is <u>not</u> due to any safety concerns, as reported in some forums, competitor press releases and industry news pages.

However, the many affected SSM Approval holders can attest to and advise categorically that there is no evidence of any safety issues, accidents or fatalities due to or related to any GVM/GCM/Towing Upgrade.

Unfortunately, <u>all</u> of the SSM Approval Holders who nominate a revised GCM and/or Towing Capacity increase will be affected by these changes in the future, as will any road user who wishes to tow a caravan, boat, horse float etc.

In Summary

- PRE REGO there is no change in plating vehicles with the GVM & BTC upgrade. GCM as defined by Lovells
  the manufacturer
- POST REGO vehicles can be plated with GVM upgrade. The BTC and GCM upgrade would be supported and approved via State Authorities and state based signatories
- The implementation of 0-4-6 is for all future SSM approvals

Kind regards,

### **Dragan Vasic**

### **National Sales Manager**

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering) PO Box 5126 Minto BC

Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

# Sandgate (Warehouse)

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### Melbourne

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From: Wayne Lo < Wayne.Lo@nt.gov.au > Sent: Tuesday, 19 June 2018 5:56 PM
To: Dragan Vasic < draganv@lovells.com.au >

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: Form Updates - VS24(h) - Lovells Suspension - towing capacity

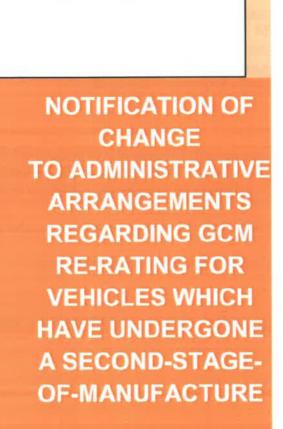
# Hello Dragan

In light of the recent updates to Commonwealth Administrator's Circular 0-4-6 on Second Stage of Manufacture that now precludes any towing capacity increase over the first stage vehicle manufacturer's towing capacity, we have amended form VS24(h) accordingly – see attached. In summary, references to towing have been removed.

In the short term, I anticipate that the form can be used until we finalise a label arrangement.

A description of the changes to the Circular are in the extract below ...

No Images? Click here



The & 4WI

Industry Council have been notified by the Federal Department of Transport of a change in the administrative arrangements relating to modifications undertaken on a **New Vehicle** as part of a Second-Stage-of-Manufacture.

This change, which was issued via an updated Circular by the National Vehicle Administrator this week following consultation with all State and Territory Transport Regulators, effectively bans the practice of increasing the rated towing capacity of a

vehicle, expressed as a Gross Combination Mass (GCM), above that specified by the first stage manufacturer. This action was taken by the National Vehicle Administrator following the widespread concern expressed by regulators and aftermarket industry participants in relation to the potential safety implications of GCM re-rating and as such this change has the full support of the Our support for this intervention is in line with our commitment as an industry to provide safe and responsible modifications through our many small and family owned automotive businesses across the country and for the thousands of Australian car owners potentially impacted by this practice. Further information and a copy of the revised Administrators circular can be found HERE. Forward Unsubscribe

# Regards

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT; 0800 GPO Box 2520, DARWIN, NT 0801

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e ... <u>wayne.lo@nt.gov.au</u> w ... <u>www.nt.gov.au</u>

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From: Wayne Lo

Sent: Friday, 25 May 2018 3:20 PM

To: 'Dragan Vasic' < draganv@lovells.com.au>

Cc: Bill Muirhead <a href="mailto:sill.Muirhead@nt.gov.au">sill.Muirhead@nt.gov.au</a> <a href="mailto:anton.McIntyre@nt.gov.au">anton.McIntyre@nt.gov.au</a>

Subject: RE: VS24 - Lovells Suspension - towing capacity

### Hello Dragan

Thanks for the opportunity to finally meet face-to-face last week here in Darwin...

I trust that life has settled down in your travels...

As I mentioned during your visit, there has been a lot of national discussion between jurisdictions, including the Commonwealth, with regard to GVM and GCM upgrades on light vehicles. Specific to in-service modifications based on SSM, we have had to review all arrangements with modifiers.

With our review, we have discovered a tension point with our regulation that only allows the original vehicle manufacturer to specify the towing capacity of the motor vehicle. The manufacturer is the name that appears on the vehicle compliance plate. It would appear that all jurisdictions have similar wording in their regulations (see extract below).

It is very likely that we will need to make some adjustments to our current arrangement with Lovells Suspension.

Can you give me an indication of how many NT registered vehicles have achieved a GCM upgrade (or towing capacity upgrade) under our current arrangement?

If Lovells has obtain approval from Toyota for the braked towed capacity upgrades on the LC200 and 150 Series, this might help alleviate the current tension point for in-service vehicles...

# 14 Laden mass of trailer

- (1) If a vehicle combination (not being a road train) is comprised of a rigid motor vehicle towing a trailer, the laden mass of the trailer is not to exceed the laden mass of the rigid motor vehicle unless approved by the Registrar.
- (2) If a motor vehicle with a GVM not exceeding 4.5 tonnes is towing a trailer, the laden mass of the trailer is not to exceed:
  - (a) the towing capacity of the motor vehicle; or
  - (b) the towing capacity of the towing apparatus fitted to the vehicle,

whichever is the lesser.

- (3) In this regulation: towing capacity of the motor vehicle means:
  - the towing capacity of the motor vehicle, including any operational restrictions, specified by the manufacturer; or
  - (b) if a towing capacity is not specified or is not able to be identified:
  - (i) if the trailer is fitted with brakes, 1.5 times the unladen mass of the motor vehicle; and
    - (ii) if the trailer is not fitted with brakes, the unladen mass of the motor vehicle.

Towing capacity of the towing apparatus means the towing capacity of the towing apparatus specified by its manufacturer.

https://legislation.nt.gov.au/en/Legislation/MOTOR-VEHICLES-STANDARDS-REGULATIONS

Regards

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Monday, 9 April 2018 9:05 AM
To: Wayne Lo < Wayne Lo@nt.gov.au >

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Apologies for the delayed reply,

We been out of office last couple of weeks, busy with R&D testing etc.

Anyway, just getting onto this topic to try set in motion, I've suggested a revised placard, refer attachment. I'd like to propose to include maximum Braked Towing Capacity (BTC) on the placards to alleviate any confusion for the registered vehicle owners.

We simply wish to include either the original maximum BTC or our upgraded BTC as per the LC200's and Prado 150's. As per our SSM approvals.

As per your suggestion below to notify MVR, our Authorised Lovells dealers would need to confirm as per following; As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

Your thoughts.

Kind regards,

**Dragan Vasic** 

National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

PO Box 5126 Minto BC Unit 2, 25 Badgally Rd Campbelltown NSW 2560 AUSTRALIA

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From: Wayne Lo <<u>Wayne.Lo@nt.gov.au</u>>
Sent: Thursday, 8 March 2018 3:52 PM
To: Dragan Vasic <<u>draganv@lovells.com.au</u>>

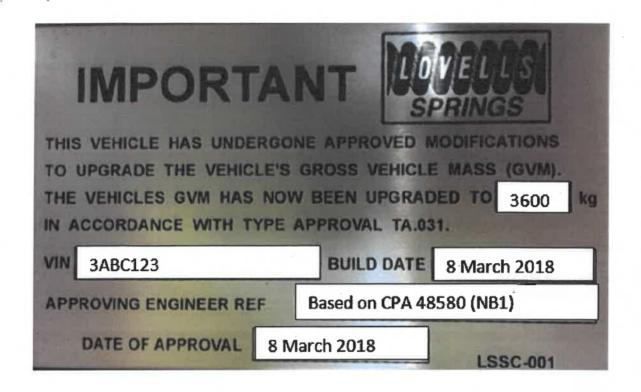
Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>; Anton Pretorius

<Anton, Pretorius@nt,gov.au>; mvrtestshed darwin <mvrtestshed.darwin@nt,gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

# Dragan

From the samples thus far, this plate option could work if the "Approving Engineer Ref" field can be populated with SSM IPA and vehicle category (if changing from NA to NB1)



As for the notification to us, a photo of mod plate/sticker and a photo of the completed vehicle with number plate clearly visible sent to us via email should work.

The product manufacturer's name should appear in the subject heading of the email.

I am trying to avoid you changing any of your existing forms or labels.

Anyway, always keen to get your thoughts on what might work for you...

# Cheers

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Thursday, 8 March 2018 12:21 PM
To: Wayne Lo <Wayne.Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

Please find attached order form for the Toyota LC200's which is used by our authorised dealer to process a GVM order with Lovells, once received & recorded we dispatch the kit for install.

Once the kit is installed and brake tested by our authorised dealer, our dealer returns the attached signed Check List.

Please confirm if the alloy placard samples I sent earlier have satisfactory information or do we need to create a new compliance placard (sticker) to suit your requirements.

Please note we use similar order forms and check lists however they are specific to the vehicle make and model, refer other attachments.

Kind regards,

# Dragan Vasic

# National Sales Manager

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

# Sydney (Sales and Engineering)

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]
Sent: Wednesday, 7 March 2018 5:49 PM
To: Dragan Vasic <draganv@lovells.com.au>

Cc: Bill Muirhead <Bill.Muirhead@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Dragan

The NT would like you to consider a further simplified arrangement...

We would like to mutually recognise any Lovells GVM upgrade that is based on SSM approval. This would do away with maintaining a paper-based process on our part.

The key elements to the arrangement are likely to be:

- Vehicle labelling or certificate identifying the vehicle (VIN) and revised GVM with some reference to the SSM IPA, date of modification, modifier (similar to a vehicle compliance plate/label)
- 2. Appropriate notification to NT Registration authority for the updating of the vehicle record (rego plate + information as noted above)

Do you have an arrangement with any other registration authority that might look like this proposal?

If possible, we would like to adopt this kind of arrangement without the need of producing any new stickers or forms (i.e. accept WA mod sticker and Lovells internal validation sheet).

I would be keen to hear back from you on this proposal...

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

Floor 2, Energy House, 18 Cavenagh Street, DARWIN, NT, 0800 GPO Box 2520, DARWIN, NT 0801

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Wednesday, 7 March 2018 2:46 PM
To: Wayne Lo <Wayne.Lo@nt.gov.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We seem to keep missing each other.

I'll try again later, otherwise please send through you proposed approval process.

Kind regards,

**Dragan Vasic** 

**National Sales Manager** 

Lovelis Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

Sydney (Sales and Engineering)

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From: Wayne Lo [mailto:Wayne.Lo@nt.gov.au]

Sent: Tuesday, 6 March 2018 4:59 PM
To: Dragan Vasic <draganv@lovells.com.au>

Subject: RE: VS24 - Lovells Authorized dealer - L&S Suspension

Thanks Dragan

When you have a spare moment, please call me to discuss some further improvements to simplify our arrangements...

# Cheers

# Wayne Lo

Vehicle Standards Officer, Road Safety and Compliance Department of Infrastructure, Planning and Logistics Northern Territory Government

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From: Dragan Vasic [mailto:draganv@lovells.com.au]

Sent: Tuesday, 6 March 2018 10:51 AM
To: Wayne Lo < Wayne.Lo@nt.gov.au>

Subject: VS24 - Lovells Authorized dealer - L&S Suspension

Hi Wayne,

We have a new Lovells GVM dealer in Darwin, please update your details to ensure L&S Suspension are on your approval system for Lovells GVM & BTC upgrades,

# **L&S SUSPENSION (ABN 50 009 634 940)**

# **POSTAL & DELIVERY ADDRESS**

PO Box 1741

Berrimah NT 0828

16 Jessop Cres

Berrimah NT 0828

Ph. 08 8931 3565

Fax.

Email: sales@lssuspension.com.au

Contact: Lachlan Gear

Kind regards,

**Dragan Vasic** 

**National Sales Manager** 

Lovells Automotive Systems Pty Ltd (Incorporating Lovells Suspension)

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Thank you



Department of Infrastructure, Planning and Logistics

GPO Box 530, DARWIN NT 0801 Phone: 1300 654 628

Fax: Email:

(08) 8999 3103 mvr@nt.gov.au Website: www.mvr.nt.gov.au

OFFICE USE MOVERS Notes Added

# Non - Standard Vehicle - Modification/s Approval **Lovells Suspension Pty Ltd**

Attachment 10

Vehicle Details:		
Registration: CP	A Number:	Odometer:
Make: Mo	del:	Body Type
VIN/Chassis Number:		Year of Manufacture:
Gross Vehicle Mass Upgrade ba	sed on Second Stage of N	lanufacturer Approval
Sch	hedule Number (see reverse side)	2
	Revised Gross Vehicle Mass	(kg)
Revised ADR Category (NA to	o NB1 when over 3500kg GVM)	
Declaration:		
l,accordance with the instructions relevant that the completed modified vehicle is fit to	to the modification/engineering/co	
(Installer/Modifier Si	ignature)	(Date)
(Supervisor Name)	(Supervisor Signature)	(Date)
(Modifier Business Name and Production Facility Numb	er)	
Notification Process:	3	
This completed form must be forwarded t	o MVR by email as soon as pract	icable after the modification.
	Email <u>mvrtestshed.darwin@</u>	nt.gov.au
Vahicle Medification Certificate:		

The Registrar of Motor Vehicles authorises the use of this document as evidence of modification approval for the specific items as indicated by the modifier and a copy of this document must remain with the vehicle at all times.

Modified vehicles approved under this arrangement may not necessarily be mutually accepted by another registration authority. For vehicles travelling interstate or seeking registration in another jurisdiction, vehicle owners and drivers should inquire with appropriate authorities relevant to their travel.

# **Schedule of Modifications:**

	Second Stage Manufacture Toyota KUN 150 Series Hill	ux Cab Chass	is, GVM 3	300kg, Category NA			
	OEM vehicle (CPA 33886, C	ategory NA) m	odified with	heavy duty suspension			
	Second Stage Manufacture Various Toyota 70 Series L	er (SSM) Com andcruiser M	pliance Pla odels, Cat	te Approval (CPA): 25742 egory NB1			
		Туре		Variant		GVM	
		A		Cab Chassis, 2 Door Wagon		3700kg	
		В	2 Door 8	4 Door Cab Chassis, 2 Door Wag	on	3900kg	
		С	2 Door	Cab Chassis - 5 Star ANCAP Mod	el	4200kg	
		D		4 Door Wagon		3660kg	
	GVM increase subject to eng OEM vehicle (CPA 3477, Ca						
	Second Stage Manufacture Toyota 200 Series Landoru			te Approval (CPA): 40257 ), GVM 3800kg, Category MC			
	OEM vehicle (CPA 38469, C						
	Second Stage Manufacture Toyota 200 Series Landcru	er (SSM) Com ilser GX Diese	pliance Pla	ite Approval (CPA):  46734 ol (5 Seater), GVM 3800kg, Categ	ory NB1		
					,		
	OEM vehicle (CPA 43656, C						
	Second Stage Manufacture Toyota Hilux GUN125/126	er (SSM) Com Series 4x4 10	pliance Pla 2015 onwa	ite Approval (CPA): 47909 ard. GVM 3500kg. Category NA			
	Toyota Hilux GUN125/126 Series 4x4 10/2015 onward, GVM 3500kg, Category NA						
	OEM Vehicle (CPA 47341, C						
	Second Stage Manufacture Nissan Patrol Cab Chassis			ite Approval (CPA): 28971			
			Гуре	Engine Variant	GVM		
			A	4.2 Litre	3700kg		
			В	3.0 Litre	3900kg		
	OEM vehicle (CPA 12483, C	ategory NA) m	nodified wit	n heavy duty suspension			
1	Second Stage Manufacture	er (SSM) Com	pliance Pla	ite Approval (CPA): 46728			
	Ford Ranger 4x4, GVM 350	00kg, Categor	y NA				
	OEM vehicle (CPA 43280, C	Category NA) m	odified wit	n heavy duty suspension			
	Second Stage Manufacture Mazda BT50 4x4, GVM 350			te Approval (CPA): 47037			
	OEM vehicle (CPA 43491, C	category NA) n	nodified wit	n heavy duty suspension			
-	Second Stage Manufacture Isuzu D-Max Cab Chassis,	er (SSM) Com GVM 3600kg,	pliance Pla Category	ate Approval (CPA): 48580 NB1			٨
	OEM vehicle (CPA 43971, C	Category NA) n	nodified wit	n heavy duty suspension			
-	Second Stage Manufacturer (SSM) Compliance Plate Approval (CPA): 48305 Toyota Prado 150 Series 10/2009 onward, GVM 3500kg, Category MC						
•	,						

From: Sent: To: Cc: Subject:	Bill Muirhead <bill.muirhead@nt.gov.au> Thursday, 5 July 2018 12:56 PM Smith, Rickman (DPTI); H; Beck, David; 'Hunter, Peter'; Anant Z Bellary; Michael Chan; Park, Sunwoong (DPTI); David Hosie; Thurley, Brent (StateGrowth); Davey Uprichard; Patron, Francois Wayne Lo; Anton McIntyre; Jed K. Graetz RE: Accident data relating to GVM overloads (light vehicles).</bill.muirhead@nt.gov.au>
Follow Up Flag: Flag Status:	Follow up Completed
Thank you Rickman,	and all – for your various responses – they're very much appreciated.
know if anyone had been question etc (3).	comments (including that there's little hard data recorded) — was primarily interested to down this path — or had carried out in-depth investigation (always worth asking the ssue further would require significant resources. None of us have them.
Meanwhile, the changes to	Circular 0-4-6 appears to have gained quite a lot of attention out there in 4x4 world.
For those who may not hat http://www.loaded4x4.com	ve seen it - Refer to the story on page 33 of this particular on-line magazine m.au/issue-003/#33
Regards, Bill	
Bill Muirhead Senior Engineering Officer Road Safety & Compliance Department of Infrastructur Northern Territory Government	e, Transport Safety & Services re, Planning and Logistics
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From: Smith, Rickman (DPT Sent: Thursday, 5 July 2018	(I) [mailto:Rickman.Smith@sa.gov.au] 3 9:44 AM Beck, David <david.beck@transport.nsw.gov.au>; Bill</david.beck@transport.nsw.gov.au>
Muirhead <bill.muirhead@ <anant.z.bellary@tmr.qld. <sunwoong.park@sa.gov.a< td=""><td>Pnt.gov.au&gt;; 'Hunter, Peter' <peter.hunter@act.gov.au>; Anant Z Bellary gov.au&gt;; Michael Chan <michael.x.chan@roads.vic.gov.au>; Park, Sunwoong (DPTI) au&gt;; David Hosie <david.hosie@transport.wa.gov.au>; Thurley, Brent (StateGrowth) yth.tas.gov.au&gt;; Uprichard, Davey (NZTA) <davey.uprichard@nzta.govt.nz>; Patron,</davey.uprichard@nzta.govt.nz></david.hosie@transport.wa.gov.au></michael.x.chan@roads.vic.gov.au></peter.hunter@act.gov.au></td></sunwoong.park@sa.gov.a<></anant.z.bellary@tmr.qld. </bill.muirhead@ 	Pnt.gov.au>; 'Hunter, Peter' <peter.hunter@act.gov.au>; Anant Z Bellary gov.au&gt;; Michael Chan <michael.x.chan@roads.vic.gov.au>; Park, Sunwoong (DPTI) au&gt;; David Hosie <david.hosie@transport.wa.gov.au>; Thurley, Brent (StateGrowth) yth.tas.gov.au&gt;; Uprichard, Davey (NZTA) <davey.uprichard@nzta.govt.nz>; Patron,</davey.uprichard@nzta.govt.nz></david.hosie@transport.wa.gov.au></michael.x.chan@roads.vic.gov.au></peter.hunter@act.gov.au>

Cc: Wayne Lo <Wayne.Lo@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>;

led K. Graetz

<Jed.Graetz@nt.gov.au>

Subject: RE: Accident data relating to GVM overloads (light vehicles).

Bill.

The police, at least in this country, generally direct their crash investigations toward detecting a prosecutable offense, rather than determining the multiple causative factors that lead to a crash. To be fair, even if they were inclined to look at loading issues, if they were to do more than note the possibility of overloading, they would have to take the suspect vehicle to a weighbridge or find a slab and some portable scales. Not an easy thing to do with a damaged vehicle.

To explore this issue with any degree of rigour would require an in-depth investigation. Such an investigation would require considerable resources, even if it were limited to light vehicles and light vehicle combinations.

Rick

From:

Sent: Thursday, 5 July 2018 8:23 AM

To: Beck, David < David.Beck@transport.nsw.gov.au >; Bill Muirhead < Bill.Muirhead@nt.gov.au >; 'Hunter, Peter'

<Peter.Hunter@act.gov.au>; Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au>; Michael Chan

<michael.x.chan@roads.vic.gov.au>; Smith, Rickman (DPTI) <Rickman.Smith@sa.gov.au>; Park, Sunwoong (DPTI)

<<u>Sunwoong.Park@sa.gov.au</u>>; David Hosie <<u>david.hosie@transport.wa.gov.au</u>>; Thurley, Brent (StateGrowth)

<<u>Brent.Thurley@stategrowth.tas.gov.au</u>>; Uprichard, Davey (NZTA) <<u>davey.uprichard@nzta.govt.nz</u>>; Patron,

Francois < Francois.Patron@act.gov.au>

Cc: Wayne Lo < Wayne.Lo@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >; simon Lilley

Jed K. Graetz

<<u>Jed.Graetz@nt.gov.au</u>>

Subject: RE: Accident data relating to GVM overloads (light vehicles).

Hi Bill,

Whilst it is not recorded, the number plates are recorded in crash data, from what I understand.

Hence, it is theoretically possible to attain all vehicle details, including VIN, Make, model, if there are compliance certificated related to a vehicle (eg to see if modified vehicles are represented or not), etc etc. It just needs a competent person to collect, request and sift through the data. This data would be very useful for targeting over represented vehicles.

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From: Beck, David [mailto:David.Beck@transport.nsw.gov.au]

Sent: Wednesday, 4 July 2018 3:06 PM

To: Bill Muirhead; 'Hunter, Peter'; Hunter, Peter's Hunter, Pe

Sunwoong (DPTI); David Hosie; Thurley, Brent (StateGrowth); Uprichard, Davey (NZTA); Patron, Francois Cc: Wayne Lo; Anton McIntyre; Jed K. Graetz

Subject: RE: Accident data relating to GVM overloads (light vehicles).

Hi Bill,

Like others, NSW doesn't record data on GVM in crashes.

Cheers,

David Beck Senior Research and Policy Analyst Safer Vehicles, NSW Centre for Road Safety Transport for NSW

T 02 8265 7829 | M 0466 414 378

Level 4, 18 Lee Street, Chippendale NSW 2008



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From: Bill Muirhead [mailto:Bill,Muirhead@nt.gov.au]

**Sent:** Tuesday, 3 July 2018 9:29 AM

To: 'Hunter, Peter'; Beck, David; Anant Z Bellary; Michael Chan; 'Smith, Rickman (DTEI)'; Park,

Sunwoong (DPTI); David Hosie; Thurley, Brent (StateGrowth); Uprichard, Davey (NZTA); Patron, Francois Cc: Wayne Lo; Anton McIntyre; Jed K. Graetz

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Bill.

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Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

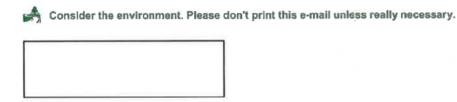
p ... 08 8924 7214 f ... 08 8924 7009

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From: Smith, Rickman (DPTI) < Rickman.Smith@sa.gov.au>

Sent: <u>Thursday, 5 July 20</u>18 10:14 AM

To: Beck, David; Bill Muirhead; 'Hunter, Peter'; Anant Z Bellary;

Michael Chan; Park, Sunwoong (DPTI); David Hosie; Thurley, Brent (StateGrowth);

Davey Uprichard; Patron, Francois

Cc: Wayne Lo; Anton McIntyre;

**Subject:** RE: Accident data relating to GVM overloads (light vehicles).

Follow Up Flag: Follow up Flag Status: Completed

Bill,

The police, at least in this country, generally direct their crash investigations toward detecting a prosecutable offense, rather than determining the multiple causative factors that lead to a crash. To be fair, even if they were inclined to look at loading issues, if they were to do more than note the possibility of overloading, they would have to take the suspect vehicle to a weighbridge or find a slab and some portable scales. Not an easy thing to do with a damaged vehicle.

To explore this issue with any degree of rigour would require an in-depth investigation. Such an investigation would require considerable resources, even if it were limited to light vehicles and light vehicle combinations.

Rick

From

Sent: Thursday, 5 July 2018 8:23 AM

To: Beck, David <David.Beck@transport.nsw.gov.au>; Bill Muirhead <Bill.Muirhead@nt.gov.au>; 'Hunter, Peter'

<Peter.Hunter@act.gov.au>; Anant Z Bellary <Anant.Z.Bellary@tmr.qld.gov.au>; Michael Chan

<michael.x.chan@roads.vic.gov.au>; Smith, Rickman (DPTI) <Rickman Smith@sa.gov.au>; Park, Sunwoong (DPTI)

<Sunwoong.Park@sa.gov.au>; David Hosie <david.hosie@transport.wa.gov.au>; Thurley, Brent (StateGrowth)

<Brent.Thurley@stategrowth.tas.gov.au>; Uprichard, Davey (NZTA) <davey.uprichard@nzta.govt.nz>; Patron, Francois

Cc: Wayne Lo <Wayne.Lo@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>;

Jed K. Graetz

<Jed.Graetz@nt.gov.au>

Subject: RE: Accident data relating to GVM overloads (light vehicles).

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Hence, it is theoretically possible to attain all vehicle details, including VIN, Make, model, if there are compliance certificated related to a vehicle (eg to see if modified vehicles are represented or not), etc etc. It just needs a competent person to collect, request and sift through the data. This data would be very useful for targeting over represented vehicles.

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Sent: Wednesday, 4 July 2018 3:06 PM	
To: Bill Muirhead; 'Hunter, Peter';	Anant Z Bellary; Michael Chan; 'Smith, Rickman (DTEI)'; Park,
	ateGrowth); Uprichard, Davey (NZTA); Patron, Francois
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Subject: RE: Accident data relating to GVM overload	ads (light vehicles).
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Hi Bill,	

Like others, NSW doesn't record data on GVM in crashes.

Cheers,

David Beck Senior Research and Policy Analyst Safer Vehicles, NSW Centre for Road Safety Transport for NSW

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Level 4, 18 Lee Street, Chippendale NSW 2008



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From: Bill Muirhead [mailto:Bill.Muirhead@nt.gov.au]

Sent: Tuesday, 3 July 2018 9:29 AM

Beck, David; Anant Z Bellary; Michael Chan; 'Smith, Rickman (DTEI)'; Park, To: 'Hunter, Peter';

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And – as we'd all agree, It's certainly kicked off something of a flurry of people seeking GVM increases as in-service modifications.

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From:

Sent:

Thursday, 5 July 2018 8:53 AM

To:

Beck, David; Bill Muirhead; 'Hunter, Peter'; Anant Z Bellary; Michael Chan; 'Smith,

Rickman (DTEI)'; Park, Sunwoong (DPTI); David Hosie; Thurley, Brent (StateGrowth);

Davey Uprichard; Patron, Francois

Cc:

Wayne Lo; Anton McIntyre;

Jed K. Graetz

Subject:

RE: Accident data relating to GVM overloads (light vehicles).

Follow Up Flag: Flag Status:

Follow up Completed

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(Stat

Cc:

Wayne Lo; Anton McIntyre; Jed K. Graetz

Subject:

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Follow Up Flag:

Follow up

Flag Status:

Completed

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Please visit us at http://www.transport.nsw.gov.au or http://www.transportnsw.info

Patron, Francois < Francois.Patron@act.gov.au> From:

Sent: Wednesday, 4 July 2018 1:15 PM

To: Michael.Chan@roads.vic.gov.au; Smith, Rickman (DPTI)

Anant Z Bellary; Anton McIntyre; Bill Muirhead; Thurley, Brent (StateGrowth); Davey Cc:

Uprichard; David BECK (David.Beck@transport.nsw.gov.au); David Hosie; I

Jed K. Graetz; Michael Chan; Hunter, Peter;

Sunwoong (DPTI); Wayne Lo

RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNCLASSIFIED] Subject:

Follow Up Flag: Follow up Flag Status: Completed

Hi Bill,

We do not keep this data as a Registration Authority. I have been in contact with our Road safety Taskforce group and ACT policing to see if they break down their data into this category.

I will keep you updated if I can get this information.

# Regards

Francois Patron | A/g Manager of Compliance

Access Canberra Community, Business & Transport Regulation | Vehicle Safety Standards

Telephone 02 6207 7172 | Mob | Email: François.Patron@act.gov.au

PO Box 582, DICKSON ACT 2602 I www.act.gov.au/accessCBR



From: Michael.Chan@roads.vic.gov.au [mailto:Michael.Chan@roads.vic.gov.au]

Sent: Tuesday, 3 July 2018 12:11 PM

To: Smith, Rickman (DPTI) < Rickman. Smith@sa.gov.au>

Cc: Anant Z Bellary <Anant.Z.Bellary@tmr.qld.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>; Bill Muirhead

<Bill.Muirhead@nt.gov.au>; Thurley, Brent (StateGrowth) <Brent.Thurley@stategrowth.tas.gov.au>; Uprichard,

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<Peter.Hunter@act.gov.au>; : ; Park, Sunwoong (DPTI)

<Sunwoong.Park@sa.gov.au>; Vayne Lo <Wayne.Lo@nt.gov.au>

Subject: RE: Accident data relating to GVM overloads (light vehicles).

Hi Bill,

Likewise, Victoria do not have a break down of specific crash stats related to GVM related subject.

However, we did received some information from the Caravan Industry Assoc of Victoria with regards to overloading issues. These are mainly around towing and loading issues where the CIAV conducted

weight audits in its caravan shows. They didn't weigh that many vehicles, but ones which were measured mostly had overloading/weight issues. I can put you onto them if you'd like, just let me know.

~					
(	n	Δ	Δ	٣C	ı

Kind regards,

Michael Chan Senior Vehicle Standards Engineer Vehicle & Motorcycling Policy

VicRoads

1 Spring Street Melbourne VIC 3000 T 9854 1908

F 9854 2918

E michael.x.chan@roads.vic.gov.au

"Smith. Rickman (DPTI)" ---03-07-2018 12:01:05 PM---Bill, The DPTI crash stats people tell me that we do not have data on this.

From: "Smith, Rickman (DPTI)" < Rickman.Smith@sa.gov.au> To: Bill Muirhead <a href="mailto:sill.Muirhead@nt.gov.au">, ""Hunter, Peter." <a href="mailto:Peter.Hunter@act.gov.au">, "BECK (David.Beck@transport.nsw.gov.au">, Anant Z Bellary <a href="mailto:Anant.Z.Bellary@tmr.qld.gov.au">, Michael Chan. Table (David.Beck@transport.nsw.gov.au)</a>, Anant Z Bellary <a href="mailto:Anant.Z.Bellary@tmr.qld.gov.au">, Michael Chan. Table (David.Beck@transport.nsw.gov.au)</a>, Michael Chan. "David <a href="michael.x.chan@roads.vic.gov.au">, "Park, Sunwoong (DPTI)" < Sunwoong.Park@sa.gov.au">, David Hosie <a href="michael.x.chan@roads.vic.gov.au">, "Park, Sunwoong (DPTI)" < Sunwoong.Park@sa.gov.au</a>, David Hosie <a href="michael.x.chan@roads.vic.gov.au">, "Thurley, "Thurley, "Thurley, "Thurley, "Parkon, François" | Patron, François" | Patron, François" | Patron, François | Patron, F <François.Patron@act.gov.au> Cc: Wayne Lo <Wayne.Lo@nt.gov.au>, Anton McIntyre <Anton.McIntyre@nt.gov.au>, "Jed K. Graetz" < Jed. Graetz@nt.gov.au Date: 03-07-2018 12:01 PM Subject: RE: Accident data relating to GVM overloads (light vehicles).

Ext: Business Area:

This email is from an external source. If it is a Business Record remember to file it

Bill,

The DPTI crash stats people tell me that we do not have data on this.

It does not seem to be a subject that has attracted much research.

Rick

From: Bill Muirhead [mailto:Bill.Muirhead@nt.gov.au]

Sent: Tuesday, 3 July 2018 8:59 AM

To: 'Hunter, Peter' < Peter. Hunter@act.gov.au >;

; David BECK

(David.Beck@transport.nsw.gov.au) < David.Beck@transport.nsw.gov.au>; Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au>; Michael Chan <michael.x.chan@roads.vic.gov.au>; Smith, Rickman (DPTI) <Rickman.Smith@sa.gov.au>; Park, Sunwoong (DPTI)

<<u>Sunwoong.Park@sa.gov.au</u>>; David Hosie <<u>david.hosie@transport.wa.gov.au</u>>; Thurley, Brent (StateGrowth)

<a href="mailto:specification-color: blue;">Brent.Thurley@stategrowth.tas.gov.au</a>; Uprichard, Davey (NZTA) < <a href="mailto:davey.uprichard@nzta.govt.nz">davey.uprichard@nzta.govt.nz</a>; Patron, Francois

<Francois.Patron@act.gov.au>

Cc: Wayne Lo < Wayne.Lo@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >;

Jed K. Graetz < Jed.Graetz@nt.gov.au >

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### **Bill Muirhead**

Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

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w ... www.nt.gov.au

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immediately. You should not copy or use it for any purpose, nor disclose its contents to any other person

From: Bill Muirhead <Bill.Muirhead@nt.gov.au>
Sent: Wednesday 4 July 2018 12:38 PM

To:

Subject: RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

Follow Up Flag: Follow up Completed

Thanks Simon.

### **Bill Muirhead**

Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

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# From

Sent: Tuesday, 3 July 2018 3:14 PM

\*To: Bill Muirhead <Bill.Muirhead@nt.gov.au>

Subject: RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

### Bill

It may also be worth contacting <a href="http://www.ncis.org.au/">http://www.ncis.org.au/</a>, I remember that we did get some useful info re motorhome rollover.

You can send a request <a href="http://www.ncis.org.au/data-access/request-a-data-report/">http://www.ncis.org.au/data-access/request-a-data-report/</a>.

Not sure of the costs if any?

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Sent: Tuesday, 3 July 2018 12:55 PM

To:

Subject: RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

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Senior Engineering Officer - Vehicle Standards

Road Safety & Compliance, Transport Safety & Services
Department of Infrastructure, Planning and Logistics

Northern Territory Government

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Sent: Tuesday, 3 July 2018 12:18 PM

To: Bill Muirhead <Bill.Muirhead@nt.gov.au>

Subject: RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

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From: Bill Muirhead <Bill.Muirhead@nt.gov.au>

Sent: Tuesday, 3 July 2018 9:29 AM

To: 'Hunter, Peter' < Peter. Hunter@act.gov.au >;

David BECK

(David.Beck@transport.nsw.gov.au) < David.Beck@transport.nsw.gov.au >; Anant Z Bellary

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<Rickman.Smith@sa.gov.au>; Park, Sunwoong (DPTI) <Sunwoong.Park@sa.gov.au>; David Hosie

<a href="mailto:square;"><a href="mailto:david.hosie@transport.wa.gov.au"><a href="mailto:square;"><a href="mailto:david.hosie@transport.wa.gov.au"><a href="mailto:square;">thurley, Brent (StateGrowth) < a href="mailto:square;">Brent.Thurley@stategrowth.tas.gov.au</a>>; Davey

Uprichard <a href="mailto:dayev.uprichard@nzta.govt.nz">dayev.uprichard@nzta.govt.nz</a>; Patron, Francois <a href="mailto:Francois.Patron@act.gov.au">Francois.Patron@act.gov.au</a>

Cc: Wayne Lo <Wayne.Lo@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>;

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and	delete al	l copies	of this	transmission	together	with	any a	ttachment	s.

From:

Sent: Tuesday, 3 July 2018 3:44 PM

To:

Bill Muirhead

Subject:

RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

Follow Up Flag: Flag Status:

Follow up Completed

#### Bill

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Sent: Tuesday, 3 July 2018 12:55 PM

To:

Subject: RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

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Sent: Tuesday, 3 July 2018 9:29 AM

To: 'Hunter, Peter' < Peter. Hunter@act.gov.au >;

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From:

Bill Muirhead <Bill.Muirhead@nt.gov.au>

Sent:

Tuesday, 3 July 2018 12:55 PM

To:

Subject:

RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

Follow Up Flag: Flag Status:

Follow up Completed

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Cc: Wayne Lo < Wayne.Lo@nt.gov.au >; Anton McIntyre < Anton.McIntyre@nt.gov.au >; Last roman

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-----

From:

Sent:

Tuesday, 3 July 2018 12:51 PM

To:

Bill Muirhead

Subject:

FW: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

Attachments:

is\_97 (2).pdf; BITRE\_ARDD\_Fatal\_Crashes\_May\_2018.xlsx

Follow Up Flag: Flag Status: Follow up Completed

Also this may have some additional info:

https://bitre.gov.au/publications/publications.aspx?query=s:%22road%22&link-search=true https://bitre.gov.au/statistics/safety/fatal road crash database.aspx

From

Sent: Tuesday, 3 July 2018 12:48 PM

To: 'Bill Muirhead' <Bill.Muirhead@nt.gov.au>

Subject: RE: Accident data relating to GVM overloads (light vehicles). [SEC=UNOFFICIAL]

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<a href="mailto:Michael.x.chan@roads.vic.gov.au">
<a href="mailto:Michael.x.c

<Rickman.Smith@sa.gov.au>; Park, Sunwoong (DPTI) <Sunwoong.Park@sa.gov.au>; David Hosie

<a href="mailto:</a><a href="mailto:</a> (StateGrowth) <a href="mailto:StateGrowth: Invested growth: 1.5.5">StateGrowth: No. | StateGrowth: No. |

Uprichard <a href="mailto:davey.uprichard@nzta.govt.nz">davey.uprichard@nzta.govt.nz</a>; Patron, Francois <a href="mailto:Francois.Patron@act.gov.au">Francois.Patron@act.gov.au</a>

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In the NT, I understand that NT Police also recently conducted an education (only) campaign in Alice Springs (utilising the weighbridge there) and apparently detected some 10 out of 12 vehicles (travellers) exceeding manufacturer GVM (although by how much in each case - I'm not aware).

# A question...

While we all understand and appreciate the safety issues / risks around overloading, reduced vehicle handling, increased risk of chassis / component failure, and increased potential for accidents as a result – I'm interested if

anyone has any documented evidence from crash investigation data-pointing to overloaded vehicles being overrepresented in crash stats or a causal factor in the accident?

The one very good aspect about this whole GVM saga is that it's causing people to turn their minds to the vehicles they use, the vehicles they need, and whether they really need all the gear they choose to carry.

Police would obviously like to help accelerate that education program, however — inevitably, the question of cause and effect will be asked by some, and crash or accident related evidence is always a good education tool.

Any info you may have that you're able to share would be appreciated.

Thanks in anticipation.

Bill.

## **Bill Muirhead**

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# Australian Government

# Department of Infrastructure, Regional Development and Cities

Bureau of Infrastructure, Transport and Regional Economics



# Location and other risk factors in crashes

# At a Glance

This information sheet reports the results of a study into the risk factors of vehicle crashes given that a crash has occurred.

The study includes risk factors normally associated with the consequences of a crash in terms of whether it results in the death of a person involved. These factors include the vehicle type, vehicle age, whether a restraint or helmet was worn, the nature of the crash and the time of day (i.e. split into peak and off-peak periods) the crash occurred.

In addition, the study includes location-specific risk factors such as prevailing environmental conditions (i.e. sunrise, sunset, night-time), the built-up or rural character of an area, and the distance to a high-care emergency medical facility (Principal Referral Hospital).

The rural character of an area significantly increases the risk of being killed in a crash given that it has occurred. The distance to a Principal Referral Hospital is also statistically significant; however, the magnitude of the effect is relatively small when compared with other risk factors.

Other factors identified as increasing the risk of fatality compared with the base case are being male, being over the age of 64, and not wearing a restraint (seatbelt) or helmet, as appropriate to the vehicle type. Motorcyclists and pedal cyclists were found to be at increased risk, while the front and back passenger seats of light vehicles were also found to be associated with an increased risk of fatality.

Crash characteristics that were identified as increasing the risk of fatality compared with the base case are: being involved in a head-on crash, a crash involving a heavy vehicle, a crash where at least one vehicle ran off the road, a single vehicle crash or being involved in a crash where at least one driver failed an alcohol test. Crashes at night or during dusk were also found to significantly increase the risk of death, given that a crash had occurred.

The study was conducted at the national level with the regression analysis including jurisdiction 'dummy' variables. Varying levels of State and Territory reporting of non-fatal outcomes mean that the reported coefficients of the jurisdiction variables reflect differences in data collection and cannot be interpreted as a measure of differences in fatality risk between jurisdictions.

# Introduction

In Australia and other countries with remote or rural populations, fatal motor vehicle crashes are a higher proportion of total crashes in regional and remote areas (BITRE 2016). The objective of this study was to investigate the causes of this difference by considering the impact of location-specific risk factors in motor vehicle accidents. In terms of location-specific risk factors, this study specifically investigates differences in access to emergency medical treatment and the difference between built-up or rural areas.

There are two distinct strands of literature that address the issue of location-specific factors in motor vehicle crashes. The first is firmly rooted in health research and focuses on access to emergency healthcare after a crash, and in particular, the length of time before emergency medical treatment is provided. This literature begins with medical studies by authors such as Hoffman (1976), Brodsky and Hakkert (1983) and Bentham (1986) and has grown to include contemporary statistical research, of which a comprehensive overview is provided by Harmsen et al. (2015). The other strand is in road safety research, and focuses on the distinction between crashes that occur in built-up versus rural settings. Comparable studies with an urban/rural distinction include Maio et al. (1992), Siskind (2011) and Lori et al. (2012).

Perhaps with the exception of McAndrews et al. (2017), there is not generally a clear distinction in the road safety literature between the urban/rural character of an area and the correlation to better access to emergency healthcare. Existing studies tend to either include an urban/rural variable or some metric of emergency response, rather than including both. Apart from the defining differences between built-up or rural areas – that is, differences in density of features such as intersections, buildings, vehicles and people – there is evidence of differences in driver behaviour between more and less built-up areas. Previous research by BITRE (2014) has shown increases in injury crashes involving risky/illegal behaviour such as speeding, not wearing a seatbelt, unlicensed driving and driving under the influence of drugs and alcohol is more common in regional and remote areas. It is unclear from existing research whether the built-up form/associated behaviours has an effect on mortality in motor vehicle crashes or if the effect is purely related to the correlation between built-up areas and better access to healthcare.

A secondary consideration of this study is to demonstrate the analytical value and highlight some of the possible areas for improvement of the National Crash Database (NCD). The NCD was developed by BITRE in 2010 for the purpose of monitoring the National Road Safety Strategy 2011–2020 and to support the regular reporting of a core set of agreed performance indicators. Jurisdictions provide NCD data annually for reported casualty crashes (i.e. crashes in which one or more persons have been killed or seriously injured (hospitalised) in a crash on a public road as reported to police and jurisdictional road safety authorities). The NCD contains a sub-set of de-personalised crash data on the crash location/context, vehicle/s, and person/s involved. A person is deemed to have died in a road crash if the person dies within 30 days as a result of injuries sustained in that road crash. This excludes deaths from suicide or natural causes such as a heart attack. Information on deaths is more complete and validated to a higher standard than that of persons injured, while both are more complete than information on non-injured persons.

Strictly the question addressed in this study is:

Controlling for other relevant factors, which location-specific factors increase the likelihood that a person involved in a traffic crash will be killed?

Although this is very narrow, the need to control for and so identify and quantify other relevant factors means that this study looks broadly at the chances of a person surviving a traffic crash, given that they have been involved in one. For this reason the exploration of the data available in the NCD has been fairly broad and has highlighted both its value and some areas for improvement.

# Data

A three-year subset of the NCD from 2014 to 2016 inclusive has been used as the basis for this study. This includes records of 398,082 persons, 301,420 vehicles and 178,735 crashes. Once the data was cleaned and records with missing information removed, the study was conducted on 227,566 persons who were in 197,433 vehicles in 133,876 crashes.

Exclusions and missing data

Some categories of road users have been excluded from analysis although some information about them was available. In particular, pedestrians have been excluded as the crash-level factors included in this study do not apply to pedestrians in a way that can usefully be compared with vehicles. Persons in accidents involving 'Other vehicles' have similarly been excluded as this category is too heterogeneous to provide meaningful results. Tables 1 to 3 below show a breakdown of the missing information by injury class. Further information on the data used can be found in Appendix A.

Table 1: Persons with missing information by injury class

	Persons in NCDB	Persons in study	Persons with missing data	Per cent excluded
Fatality	3,169	2,273	896	28%
Injury - hospitalised	57,106	42,957	14,149	25%
Injury - not hospitalised	155,253	108,973	46,280	30%
Not Injured	156,208	65,199	91,009	58%
Unknown	26,357	8,172	18,185	69%
Total	398,093	227,574	170,519	43%

Note: Injury class is not used as a variable in the final model and persons with unknown values are assumed to have survived.

Table 2: Vehicles with missing information by highest level of injury in vehicle

	Vehicles NCDB	Vehicles in study	Vehicles with missing person data	Per cent excluded
Fatality	2,920	2,117	803	28%
Injury - hospitalised	51,081	38,700	12,381	24%
injury - not hospitalised	132,865	94,464	38,401	29%
Not Injured	113,100	52,495	60,605	54%
Unknown	17,824	5,996	11,828	. 66%

Note: Injury class is not used as a variable in the final model and persons with unknown values are assumed to have survived.

Table 3: Crashes with missing information by highest level of injury in crash

Injury Class	Crashes in NCDB	Crashes in Study	Crashes with missing person data	Per, cent excluded
Fatality	2,877	2,086	791	27%
Injury - hospitalised	48,096	36,328	11,768	24%
lnjury - not hospitalised	116,768	82,292	34,476	30%
Not Injured	10,236	4,277	5,959	58%
Unknown	758	183	575	76%
Total	178,735	125,166	53,569	30%

Note: Injury class is not used as a variable in the final model and persons with unknown values are assumed to have survived.

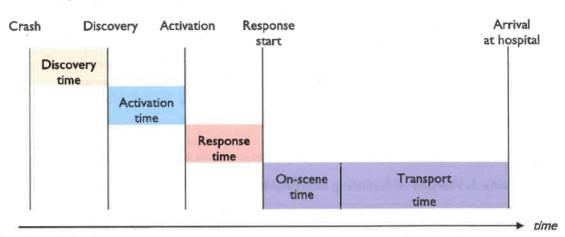
As can be seen in the tables above, the quality of the data varies with the severity of the crash. More data is collected in casualty crashes, especially those involving one or more fatalities. Data is often missing about other persons in the same vehicle if they were not seriously injured. Even in fatal crashes there is very frequently information missing about other vehicles and their occupants if no one in those vehicles was seriously injured or killed. This means that the dataset underrepresents crashes that do not involve a serious injury and overrepresents crashes which involve one or more fatalities. In effect the study has been conducted on a subset of all people involved in vehicle crashes that is largely made up of those who were in a vehicle in which at least one occupant was killed or seriously injured in the crash.

There are also significant differences between jurisdictions in terms of data collection. While all efforts have been made to harmonise data across different jurisdictions this is not always possible, and not all information available for a single jurisdiction is available for all jurisdictions. Some jurisdictions have also not provided some data items, specifically the location of ambulance stations has not been provided by Western Australia and the speed limit of the road where the crash took place has not been provided by the Australian Capital Territory. Significance tests on the distance to ambulance stations was carried out without including Western Australian observations, while the posted speed limit in the ACT has been imputed by matching the latitude and longitude provided to the nearest road within 20 meters.

# Access to emergency medical care

Durations have perhaps the most important relationship with the variables of interest in this study and time has a complex relationship with access to emergency medical treatment. For conceptual clarity, the Gantt chart (figure 1) below outlines time as relevant to a crash.

Figure 1: Emergency medical response timeline Gantt chart



Source: BITRE analysis

As can be seen in the figure above, a crash and the path to hospital can be viewed as a sequence of events. This begins with the *crash* and is followed by *discovery*, where the crash is found to have occurred. The next event is *activation*, where a response is mobilised, followed by the *response start*, which is where first responders begin providing first aid etc. and/or transport to emergency medical care if required. The final event is *arrival at hospital*.

This shows that the most accurate model of the effect of time would control for total pre-hospital time by including all of the pre-hospital durations. In many jurisdictions the time between either discovery and response or sometimes activation and response is recorded, but this information is not linked to the NCD. Were this available, they would make useful control variables, although the time between the crash and discovery would remain unknown. The time-on-scene is also a complex consideration as this is a clinical decision and there is no reason to assume that a shorter on-scene time is of greater benefit to crash victims.

In practice this study does not have a control for pre-hospital time. As highlighted by all Ambulance Services contacted for this study, the station location does not provide a good proxy of travel times to incidents due to the majority of responses, particularly in metropolitan areas, not occurring from stations. Although tested, ultimately ambulance station proximity did not have sufficient explanatory power to be included in the final model.

As access to pre-hospital emergency medical care and access to hospital care are highly correlated, it is difficult to separate the effect of each using the data available. The distance to the nearest Principal Referral Hospital has been included in the final model and is effectively a proxy for both types of access. Distance to the nearest emergency department was also tested, but was found to be insignificant, which may reflect the severity of crashes included in the dataset and the corresponding high level of care required.

The built-up character of the crash site was determined by whether the crash occurred within a 2016 Urban Centre or Locality (UCL) or within the remainder of the state. UCLs represent areas of concentrated urban development with populations of 200 people or more. These areas of urban development have been identified by the Australian Bureau of Statistics on the basis of dwelling and population density criteria using data from the 2016 Census (ABS 2018).

Data controlling for other relevant factors

The person-level characteristics of both sex and age have been included, along with four types of vehicle;

- pedal cycles,
- motorcycles,
- light vehicles (gross vehicle mass less than 4.5 tonnes and not a pedal cycle or motorcycle),
- heavy vehicles (including both trucks with a gross vehicle mass over 4.5 tonnes and buses with 10 or more seats).

The position of people inside vehicles has been grouped into categories depending on the vehicle type;

- pedal cycle and motorcycle riders have been grouped with their respective pillion passengers,
- occupants of heavy vehicles have been grouped into drivers and passengers,
- occupants of light vehicles have been grouped into the categories of driver, front passenger, back passenger and other passenger.

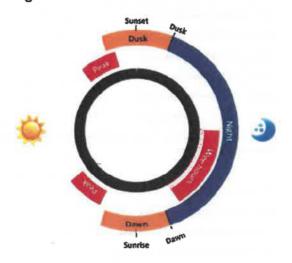
As this differs significantly from the way that the data is reported and coded in the NCD the seat positions for light vehicles have been set out in Figure 2 (below). Each position in a vehicle has been further separated into those wearing a helmet (for pedal cycles and motorcycles) and those wearing a restraint (light and heavy vehicles).

Figure 2: Seat positions for light vehicles



The model also makes use of derived time variables which represent both environmental and human phenomena. These are dawn and dusk windows, night-time, morning and afternoon peak hours (07:30 - 9:30 and 16:30 - 18:00 weekdays), the wee hours of the morning (00am - 04am), and weekends (18:00 Friday - 24:00 Sunday). These periods can obviously occur at the same time, for example, evening peak hour may occur during the day, during dusk or even during the night. The periods in environmental time change relative to both each other and to time of day and depend on the exact location of the crash and the time of the year. The relationships between the other (social) times of the day remain fixed with respect to each other. For clarity, the time variables are shown below in Figure 3 on a 24-hour timeline.

Figure 3: Derived environmental and time of day variables



includes not seated

Finally, a number of variables have been included which correspond to the nature of the crash itself. The inclusion of these variables, along with a proxy for speed (the posted speed limit), go some way to controlling for the nature and severity of the crash. These are whether the crash has been identified as:

- occurring at an intersection
- a head-on crash
- · a single vehicle crash
- · a crash in which at least one vehicle ran off the road
- a crash in which at least one driver failed an alcohol test
- · a crash in which a heavy vehicle was involved, where the person was not in a heavy vehicle

An overview of all of the variables used in the final model is included below in table 4.

Table 4: Variable descriptions

Variable	Values
Fatal (Dependent variable)	l if killed, 0 if survived
Person characteristics	
Sex	I if male, 0 if female (base case)
Over 64 years of age	I if over 64, 0 otherwise (base case)
Under 15 years of age	I if under 15, 0 otherwise (base case)
Position in vehicle	
ight vehicle - Driver (no restraint)	I if true, 0 otherwise (base case)
ight vehicle - Passenger, back	I if true, 0 otherwise (base case)
ight vehicle - Passenger, back (no restraint)	I if true, 0 otherwise (base case)
ight vehicle - Passenger, front	I if true, 0 otherwise (base case)
ight vehicle - Passenger, front (no restraint)	l if true, 0 otherwise (base case)
ght vehicle - Passenger, other	I if true, 0 otherwise (base case)
ight vehicle - Passenger, other (no restraint)	I if true, 0 otherwise (base case)
Heavy vehicle - Driver	I if true, 0 otherwise (base case)
Heavy vehicle - Driver (no restraint)	I if true, 0 otherwise (base case)
Heavy vehicle - Passenger	I if true, 0 otherwise (base case)
Heavy vehicle - Passenger (no restraint)	I if true, 0 otherwise (base case)
Motorcycle - Motorcycle rider or pillion	I if true, 0 otherwise (base case)
Motorcycle - Motorcycle rider or pillion (no helmet)	I if true, 0 otherwise (base case)
Pedal cycle - Pedal cycle rider or pillion	I if true, 0 otherwise (base case)
Pedal cycle - Pedal cycle rider or pillion (no helmet)	I if true, 0 otherwise (base case)
Light vehicle year of manufacture	If light vehicle then years in 10 year increments, centred on the year 2000 (base case), 0 otherwise
Nature of the crash	
Intersection crash	I if confirmed, 0 otherwise (base case)
Head-on crash	I if confirmed, 0 otherwise (base case)
Single vehicle crash	I if confirmed, 0 otherwise (base case)
Run off road	I if confirmed, 0 otherwise (base case)
Alcohol fail involved	I if confirmed, 0 otherwise (base case)
Heavy vehicle involved	I if confirmed and not the driver or passenger of a heavy vehicle, 0 otherwise (base case)
Posted speed limit	Km per hour in 10 km per hour increments, centred around 60km per hour (base case)

Dawn window	I if within time window, 0 otherwise (base case)
Dusk window	I if within time window, 0 otherwise (base case)
Night .	I if within time window, 0 otherwise (base case)
Social time	
Wee hours	I if local time between 00:00 and 04:00, 0 otherwise (base case)
Weekend	I if between Friday 06:00 and Sunday 24:00 local time, 0 otherwise (base case)
Morning peak	I if local time between 07:30 and 09:30, 0 otherwise (base case)
Afternoon peak	I if local time between 16:30 and 18:00, 0 otherwise (base case)
Spatial factors	
Distance to a Principal Referral Hospital	Km by road network in continuous 100km increments from 0 (base case)
Non-urban	0 if within a UCL (base case), I if in the remainder of state
State	Base case = New South Wales
Northern Territory	I if within the Northern Territory, 0 otherwise
Queensland	I if within the Queensland, 0 otherwise
South Australia	l'if within South Australia, 0 otherwise
Tasmania	I if within Tasmania, 0 otherwise
Victoria	I if within Victoria, 0 otherwise
Western Australia	I if within Western Australia, 0 otherwise
Australian Capital Territory	I if within Australian Capital Territory, 0 otherwise

# Method

Ideally the model would reflect the data generation process. In the case of vehicle crashes, that process is likely to be hierarchical, with a set of conditions that lead to a person being either injured or not-injured, and a set of conditions that may or may not be the same that result in a serious injury or fatality.

The missing data in the NCD is most concentrated in missing observations from vehicles in which no person was seriously injured or killed. This leaves very poor information on which to model non-injury versus injury outcomes. As a consequences, this analysis has not modelled the data hierarchically, although this would best reflect the data generation process. Instead the data has been modelled using a logistic regression on a binary variable of whether a person involved in a crash and included in the NCD survived (0) or was killed (1).

Technically, people are within vehicles, which are within crashes. This results in two levels of clustering, and would normally make the necessary assumption that each person-level observation is independent problematic. The consequence of clustering in vehicles and crashes is that there is likely to be some correlation between the outcome of persons who are in the same vehicle or crash. In this context, this may result in underestimation of the standard error and, consequently, a higher likelihood of finding significant results when in fact they are not significant (Desai & Begg 2008).

Ideally, the solution would be to use a mixed effects model with random effects for each level of clustering (crashes and vehicles). However, there are insufficient observations to support either level of clustering as there are simply too many crashes and too many vehicles for the number of people involved. With two levels of clustering the combined number of random effects is greater than the number of observations. Each level of clustering was tested individually, however the number of crashes (the smaller level) still contained too many random effects for too few observations and the model was unable to converge.

Consequently, logistic regression has been used without taking into account clustering, bearing in mind that there may be a relationship between observations, and so there may be a bias towards finding results to be significant.

# Results

A summary of the model results is included below in Table 5 and is followed by the parameter estimates in Table 6 and the odds ratios in Table 7.

Table 5: Model summary

Observations (persons):	227,566
Number of Fisher Scoring iterations:	9
Convergence status:	Converged
Pseudo R-squared	0.2712
Null deviance (227,565 degrees of freedom)	25,462
Residual deviance: on (227,523 degrees of freedom)	18,844

Table 6: Parameter estimates

Variable	Estimate	Std. Error	Pr(< z ) <sup>3</sup>	Significand
Intercept	-7.16	0.09	< 2e-16	*iok
Person characteristics				
Sex (male)	0.25	0.05	2.86E-06	*lok
Over 64 years of age	1.30	0.06	< 2e-16	pok
Under 15 years of age	-0.35	0.13	9.51E-03	***
Position in vehicle				
Light vehicle - Driver (no restraint)	2.49	0.10	< 2e-16	***
Light vehicle - Passenger, back	0.55	0.11	9.15E-07	***
Light vehicle - Passenger, back (no restraint)	2.24	0.18	< 2e-16	#ole
Light vehicle - Passenger, front	0.40	0.08	1.64E-07	***
Light vehicle - Passenger, front (no restraint)	1.94	0.17	< 2e-16	**
Light vehicle - Passenger, other	0.67	0.52	1.97E-01	
Light vehicle - Passenger, other (no restraint)	2.57	0.29	< 2e-16	No.
Heavy vehicle - Driver	0.16	0.13	2.21E-01	
Heavy vehicle - Driver (no restraint)	1.85	0.27	7.97E-12	***
Heavy vehicle - Passenger	-0.04	0.31	8.98E-01	
Heavy vehicle - Passenger (no restraint)	1.74	0.40	1.08E-05	*
Motorcycle - Motorcycle rider or pillion	1.74	0.07	< 2e-16	*
Motorcycle - Motorcycle rider or pillion (no helmet)	2.32	0.19	< 2e-16	*
Pedal cycle - Pedal cycle rider or pillion	1.62	0.14	< 2e-16	*
Pedal cycle - Pedal cycle rider or pillion (no helmet)	2.56	0.26	< 2e-16	*
Light vehicle year of manufacture	-0.19	0.03	3.07E-08	*
Nature of the crash				
Intersection crash	-0.11	0.06	8.76E-02	
Head-on crash	2.05	0.07	< 2e-16	*
Single vehicle crash	0.49	0.08	1.32E-09	sko

<sup>&</sup>lt;sup>2</sup> This is a similar level of fit to Sanchez-Mangas et al. (2010) who also report a (Nagelkerke) Pseudo R-squared ranging from 0.104 to 0.217, depending on the model.

<sup>&</sup>lt;sup>3</sup> Probability that the value of the coefficient is equal to 0.

Variable	Estimate	Std. Error	Pr(< z ) <sup>4</sup>	Significance
Run off road	0.79	0.07	< 2e-16	ajolo;
Alcohol fail involved	1.07	0.07	< 2e-16	plote
Heavy vehicle involved	1.76	0.07	< 2e-16	***************************************
Posted speed limit	0.23	0.02	< 2e-16	ojoje
Environmental time				
Dawn window	0.19	0.14	1.67E-01	
Dusk window	0.32	0.15	2.94E-02	**
Night	0.44	0.07	2.31E-10	ojoje
Social time				
Wee hours	0.11	0.10	2.37E-01	
Weekend	-0.05	0.06	4.00E-01	
Morning peak	-0.31	0.10	1.97E-03	aloio
Afternoon peak	0.06	0.09	4.91E-01	
Spatial factors				
Distance to a Principle Referral Hospital	0.03	0.01	3.31E-02	#ci
Non-urban	0.65	0.07	< 2e-16	Notes
State				
Northern Territory	0.27	0.13	3.49E-02	***
Queensland	0.19	0.06	8.09E-04	Notes
South Australia	0.06	0.08	4.40E-01	
Tasmania	-0.47	0.12	8.53E-05	alokoi
Victoria	-0.23	0.10	2.08E-02	**
Western Australia	0.96	0.08	< 2e-16	*440
Australian Capital Territory	0.63	0.25	1.28E-02	40

Significance level: 0.001 = \*\*\*\*, 0.01 = \*\*\*\*, 0.05 = \*\*\*

To aid the discussion the odds ratios of the parameters of interest are provided below in Table 7. For readers not familiar with logistic regression the following points may assist in interpreting the odds ratio:

- A value below one represents a reduction in the odds of a person being killed in a crash
- A value above one represents an increase in the odds of a person being killed in a crash
- Comparisons of magnitude are possible, however the units of each explanatory variable may not be comparable. For example a 1 unit increase in the posted speed limit (from 60km per hour to 70km per hour) is not in the same unit as a 1 unit increase in the vehicle year of manufacture (from a vehicle built in the year 2000 to a vehicle built in 2010)

When considering the estimates some important features of the base case are:

- The person is: female, between the age of 15 and 64 inclusive, in the driver position, wearing a
  restraint
- The vehicle is a light vehicle
- The crash is on a 60km per hour road, located in an built up area, 0km from a Principal Referral Hospital
- The time is between 9:30 and 16:30 on a weekday during daylight

<sup>&</sup>lt;sup>4</sup> Probability that the value of the coefficient is equal to 0.

Table 7: Odds ratios

		95 per cent confidence interval		
	Odds Ratio			Significance
Person characteristics	• • • • • • • • • • • • • • • • • • • •			
Sex (male)	1.28	1.16	1.42	dolo
Over 64 years of age	3.68	3.28	4.13	*oko
Under 15 years of age	0.71	0.54	0.92	**
Position in vehicle	2	_		
Light vehicle - Driver (no restraint)	12.02	9.92	14.56	***
Light vehicle - Passenger, back	1.73	1.39	2.15	**
Light vehicle - Passenger, back (no restraint)	9.39	6.56	13.42	*ok
Light vehicle - Passenger, front	1.50	1.29	1.74	***
Light vehicle - Passenger, front (no restraint)	6.95	4.98	9.69	sjoje
Light vehicle - Passenger, other	1.95	0.71	5.39	
Light vehicle - Passenger, other (no restraint)	13.09	7.36	23.29	***
Heavy vehicle - Driver	1.18	0.91	1.53	
Heavy vehicle - Driver (no restraint)	6.35	3.74	10.78	**
Heavy vehicle - Passenger	0.96	0.52	1.77	
Heavy vehicle - Passenger (no restraint)	5.70	2.63	12.38	ple ple
Motorcycle - Motorcycle rider or pillion	5.68	4.99	6.48	***
Motorcycle - Motorcycle rider or pillion (no helmet)	10.14	6.93	14.82	de
Pedal cycle - Pedal cycle rider or pillion	5.05	3.87	6.58	*0
Pedal cycle - Pedal cycle rider or pillion (no helmet)	12.91	7.76	21.47	**
Light vehicle year of manufacture	0.82	0.77	0.88	**
Nature of the crash		E		
Intersection crash	0.90	0.79	1.02	
Head-on crash	7.78	6.75	8.97	***
Single vehicle crash	1.64	1.40	1.92	***
Run off road .	2.20	1.91	2.54	***
Alcohol fail involved	2.92	2.55	3.34	**
Heavy vehicle involved	5.80	5.02	6.70	40
Posted speed limit	1.25	1.22	1.29	**
Environmental time				
Dawn window	1.21	0.92	1.57	
Dusk window	1.38	1.03	1.83	, ,
Night	1.55	1.35	1.77	*
Social time				
Wee hours	1.12	0.93	1.35	
Weekend	0.95	0.85	1.07	
Morning peak	0.73	0.60	0.89	*
Afternoon peak	1.06	0.89	1.27	
Spatial factors				
Distance to a Principle Referral Hospital	1.03	1.00	1.05	
Non-urban	1.91	1.67	2.18	*

Significance level: 0.001 = '\*\*\*, 0.01 = '\*\*, 0.05 = '\*

As the odds ratio can be difficult to interpret, probabilities against the base case have been provided for some of the most policy relevant variables in the discussion section. When evaluating the probabilities it is important to bear in mind that that the probabilities change over the values of the other variables – they are only correct with respect to the base case and the event described, not over all cases or all values of the explanatory variable. The magnitude may also be biased if the observations included in the study are not a representative sample of the population of all persons involved in crashes. This is certainly possible due to the high number of missing observations/missing information and their concentration in vehicles in which no persons was injured or killed.

# Discussion

In terms of person characteristics, males have higher odds of being killed than females, a result in line with other comparable studies (Maio et al. 1992 and Travis et al. 2012). Persons over the age of 64 have increased odds of being killed, while persons under 15 years have higher odds of survival, though it is worth keeping in mind that survival also depends on seat position and it is not common for a person under 15 to be the driver. Comparable studies have also found that older people have a higher chance of being killed while younger people have a higher chance of survival (for example Maio et al. 1992, Sanchez-Mangas et al. 2010, and Travis et al. 2012)

The results show the importance of wearing a restraint (seatbelt) or helmet, as appropriate to the vehicle type. This is in line with other studies that include the variable, for example Maio et al. (1992) and Travis et al. (2012). Table 8 below compares the probability within the sample of being killed by vehicle type depending on whether the person was wearing a restraint/helmet. Other than the vehicle type and wearing a restraint/helmet, all other variables are held as per the base case. While the results show the effect of restraints and helmets, given that a crash has occurred, information on the probability of a crash occurring in the first place is required to properly inform the costs and benefits of policy changes.

Table 8: Benefits of restraints (seatbelts) and helmets

Vehicle type	Base case probability of fatality	Without helmet/restraint probability of fatality	
Motorcycle - Motorcycle rider or pillion	0.44 per cent	4.29 per cent	
Pedal cycle - Pedal cycle rider or pillion	0.39 per cent	4.83 per cent	
Light vehicle - Driver	0.08 per cent	0.93 per cent	
Light vehicle - Passenger, front	0.12 per cent	0.80 per cent	
Light vehicle - Passenger, back	0.13 per cent	1.25 per cent	
Light vehicle - Passenger, other	0.15 per cent	1.95 per cent	
Heavy vehicle - Driver	0.09 per cent	. 0.58 per cent	
Heavy vehicle - Passenger	0.07 per cent	0.42 per cent	

Note: The base case probability of a fatality for heavy vehicle drivers and passengers are not significantly different from light vehicle drivers.

Table 8 also shows the probabilities of an individual involved in a crash being killed for vehicle types and positions in vehicles (under the conditions that other variables remain as per the base case). Motorcyclists are at the greatest risk if involved in a crash, followed by pedal cyclists, noting that there is known under reporting of serious injury (but non-fatal) crashes for these groups. Light vehicles and heavy vehicles are safest, with the difference between the base case and heavy vehicle drivers and passengers being statistically insignificant.

For light vehicles, holding all other values as per the base case, light vehicle drivers are in the safest position, followed by front passengers, then back passengers. The base case is a vehicle built in the year 2000 and has the base probability of an individual involved in a crash being killed of 0.08 per cent. Holding all other values at the base case, a car built in 1990 is less safe, with the probability increasing to 0.09 per cent, while a car built in 2010 is safer, with the probability decreasing to 0.06 per cent.

The results also show the consequences of various types of crashes. In order of magnitude, head-on crashes, crashes involving heavy vehicles and crashes where a vehicle has run off the road increase the odds of being killed. The increased odds found for vehicles run off the road was also found to be significant in the study by Sanchez-Mangas et al. (2010). In contrast to the study by Al-Ghamdi (2002), intersection crashes appear to

increase survival. The model also suggests that there is increased mortality in crashes where at least one driver failed an alcohol test, as has been found in Queensland data by Siskind et al. (2011).

Crashes that occur on roads with higher posted speed limits have a greater chance of being fatal. Holding all other values as per the base case, the in-sample probability of a person involved in a crash of being killed on a 60km per hour road is 0.08 per cent, while at 70km per hour this increases to 0.10 per cent.

The odds of survival are reduced at night and during the dusk window, while crashes during the morning peak correspond to increased odds of survival. Neither the dawn window, wee hours or afternoon peak were significant. The significance of night and the insignificance of the wee hours points to the importance of the environmental conditions of night-time rather than the social conditions and behaviour associated with the early hours of the morning. In terms of comparison to other relevant studies, Travis et al. (2012) have found time variable, specifically the 00:00 – 06:00 window significantly decreases the odds of survival, but did not separate the environmental and social aspects, while Sanchez-Mangas et al. 2010 found night to be a significant factor.

The results show higher mortality in rural areas, controlling for the distance to a Principal Referral Hospital, which is the proxy for access to emergency medical care. Holding all other variables as per the base case the in-sample probability of a person involved in a crash being killed on a road in a built-up area is 0.08 per cent and 0.15 per cent on a rural road. The results also show increased mortality the further a crash is from a Principal Referral Hospital. Again the base-case probability of an individual involved in a crash being killed is 0.08 per cent when 0 km from a Principal Referral Hospital, increasing by around 2.7 per cent per 100km, or to around 0.09 per cent when 500km from a Principal Referral Hospital. This relationship could be related to hospital care, however as the distance to hospital is correlated with access to other emergency health care such as pre-hospital time, it would be an overreach to suggest that proximity to the hospital itself is the primary cause of improved survival.

The model specification also includes state/territory-specific constant variables, which reflect the difference in the proportion of fatalities to persons involved in crashes across jurisdictions, relative to that of New South Wales, and not explained by other factors included in the model. These are highly related to differences in the definitions and scope of data provided to the NCD by each jurisdiction, rather than necessarily being related to unexplained differences in survival.

# Conclusion

This study has investigated the consequences of crashes given that they have occurred. To calculate the costs and benefits of preventing crashes one not only needs information on the severity of an event, but also information on the likelihood of the event occurring in the first place. For this reason, the contribution of this study to knowledge of the factors influencing survival in a crash is only a contribution to part of the information required for policy making — an important factor to bear in mind when interpreting the results.

Based on this research it appears that increased road-related mortality in rural areas is correlated with both the distance to a Principal Referral Hospital's healthcare and to the nature of rural areas themselves – noting that the analysis controls for differences in the posted speed limit. However, it is not clear from this study how important access to hospital care is relative to care from first responders, as these factors are highly correlated. This area would benefit from further research as it has direct policy implications for areas including the operational decisions of ambulance services and the locations of hospitals.

In order to better understand why people survive, more and more complete data is required for survivors, including those who do not suffer any injury in a crash. This is an area in which current data collection falls short. Extending the data to include all motor vehicle crashes and efforts to reduce the level of missing information would provide much greater insight into why crashes occur and why the consequences vary. This would be of great benefit to policy makers in improving road safety and better directing infrastructure spending.

Beyond an extension of the scope of data to include all persons involved in any crash, the most important extension of the dataset with respect to this type of study is the inclusion of information about ambulance activation, response, on-scene, and transport times.

Other potential extensions that have been found to be significant in comparable studies include: a flag for a crash involving a vehicle travelling in the wrong direction (Al-Ghamdi 2002), a flag for a crash involving a failure to yield (Al-Ghamdi 2002) and a flag for vehicle roll over (Travis et al. 2012). Additional vehicle information might include a deformity index (Maio et al. 1992) or record vehicle damage (Travis et al. 2012).

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# Appendix A:

Table A1: Counts of binary variables, 2014 - 2016

Variable	Survived	Killed	Total
Person characteristics			
Sex (male)	127,939	1,659	129,59
Over 64 years of age	21,801	467	22,26
Under 15 years of age	11,722	78	11,80
Position in vehicle			
Light vehicle - Driver (no restraint)	1,265	198	1,46
Light vehicle - Passenger, back	14,697	132	14,82
Light vehicle - Passenger, back (no restraint)	479	45	52
Light vehicle - Passenger, front	27,586	280	27,86
Light vehicle - Passenger, front (no restraint)	648	49	69
Light vehicle - Passenger, other	250	4	25
Light vehicle - Passenger, other (no restraint)	171	15	18
Heavy vehicle - Driver	6,232	69	6,30
Heavy vehicle - Driver (no restraint)	249	18	26
Heavy vehicle - Passenger	1,037	H	1,04
Heavy vehicle - Passenger (no restraint)	307	7	31
Motorcycle - Motorcycle rider or pillion	16,418	489	16,90
Motorcycle - Motorcycle rider or pillion (no helmet)	471	35	50
Pedal cycle - Pedal cycle rider or pillion	8,731	72	8,80
Pedal cycle - Pedal cycle rider or pillion (no helmet)	779	17	79
Nature of the crash			
ntersection crash	112,657	433	113,09
Head-on crash	10,563	531	11,09
Single vehicle crash	41,169	1,139	42,30
Run off road	31,907	933	32,84
Alcohol fail involved	7,988	406	8,39
Heavy vehicle involved	8,760	325	9,08
Environmental time			
Dawn window	6,815	63	6,87
Dusk window	6,196	54	6,25
Night	26,033	559	26,59
Social time			
Wee hours	6,896	217	7,11
Weekend	33,276	454	33,73
Morning peak	25,762	119	25,88
Afternoon peak	21,965	158	22,12
Spatial factors		•	
Non-urban	42,049	1,496	43,54

Figure A1: Histogram of persons in light vehicles by year of manufacture, 2014 - 2016

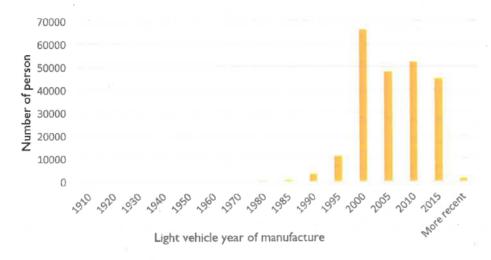


Figure A2: Histogram of posted speed limit, 2014 - 2016

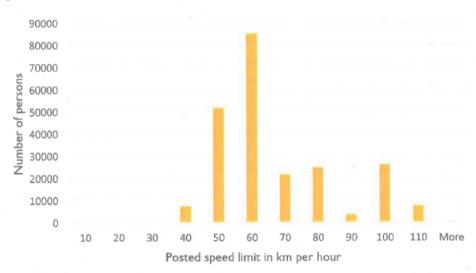


Figure A3: Histogram of distance to a Principal Referral Hospital, 2014 - 2016



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# Australian Road Deaths Database: Fatal Cra

(Data current to May 2018)

The Australian Road Deaths Database provides basic details of road transport crash fatalities the State and Territory road safety authorities. Road deaths from recent months are preliminar

Details provided in the database fall into two groups:

- The circumstances of the crash, for example, date, location, crash type
- · Some details regarding the persons killed, for example, age, gender and road user group.

# When is the data updated?

- · The data is updated each month.
- · Monthly data are preliminary and the series are subject to revision.
- The heavy vehicle flags (articulated trucks, rigid trucks and buses) are only updated each que

Citations for information derived from this database should include the database name, the we <a href="https://www.bitre.gov.au/statistics/safety/fatal\_road\_crash\_database.aspx">www.bitre.gov.au/statistics/safety/fatal\_road\_crash\_database.aspx</a> and the date of access.

**Disclaimer** – Road deaths from recent months are preliminary and the series is subject to reviparties. The Department of Infrastructure and Regional Development accepts no liability for an resulting from the use of this data. In addition, the department does not guarantee system avainant system unavailability.

# **Fatal Crash Data Index**

- 1) 2011-2018
- 2) 2001-2010
- 3) 1989-2000
- 4) Appendix

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Transport for New South Wales:

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Western Australian Police;

Department of State Growth, Tasmania;

Department of Transport, Northern Territory,

Territory and Municipal Services Directorate, Australian Capital Territory;

# Inquiries

For further information about data in this bulletin, contact:

Bureau of Infrastructure, Transport and Regional Economics Department of Infrastructure, Regional Development and Cities GPO Box 501 Canberra ACT 2601 Email: roadsafety@infrastructure.gov.au Internet: < http://www.bitre.gov.au/ >

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rovision of data from the following agencies:

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To: Bill Muirhead (Bill.Muirhead@nt.gov.au>, "Hunter, Peter" <peter.hunter@act.gov.au>,  BECK (David.Beck@transport.nsw.gov.au)" <david.beck@transport.nsw.gov.au>, Anant Z Bellary <anant.z.bellary@tmr.qld.gov.au>, Michael Chan <michael.x.chan@roads.vic.gov.au>, "Park, Sunwoong (DPTI)" <sunwoong.park@sa.gov.au>, David Hosie <david.hosie@transport.wa.gov.au>, "Th Brent (StateGrowth)" <brent.thurley@stategrowth.tas.gov.au>, "Uprichard, Davey (NZTA)" <davey.uprichard@nzta.govt.nz>, "Patron, Francois" <francois.patron@act.gov.au> Cc: Wayne Lo <wayne.lo@nt.gov.au>, Anton McIntyre <anton.mcintyre@nt.gov.au>,  "Jed K. Graetz" <jed.graetz@nt.gov.au>  Date: 03-07-2018 12:01 PM Subject: RE: Accident data relating to GVM overloads (light vehicles).</jed.graetz@nt.gov.au></anton.mcintyre@nt.gov.au></wayne.lo@nt.gov.au></francois.patron@act.gov.au></davey.uprichard@nzta.govt.nz></brent.thurley@stategrowth.tas.gov.au></david.hosie@transport.wa.gov.au></sunwoong.park@sa.gov.au></michael.x.chan@roads.vic.gov.au></anant.z.bellary@tmr.qld.gov.au></david.beck@transport.nsw.gov.au></peter.hunter@act.gov.au>	ECK (David Beck@transport.nsw.gov.au)" michael.x.chan@roads.vic.gov.au>, "Park, rent (StateGrowth)" <brent.thurley@stateg -rancois.patron@act.gov.au=""> c: Wayne Lo <wayne.lo@nt.gov.au>, Ante ate: 03-07-2018 12:01 PM</wayne.lo@nt.gov.au></brent.thurley@stateg>	"Hunter, Peter" <peter.hunter@act.gov.au>,</peter.hunter@act.gov.au>	
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The DPTI crash stats people tell me that we do not have data on this.

It does not seem to be a subject that has attracted much research.

Rick

From: Bill Muirhead [mailto:Bill.Muirhead@nt.gov.au]
Sent: Tuesday, 3 July 2018 8:59 AM
To: 'Hunter, Peter' <peter.hunter@act.gov.au>;</peter.hunter@act.gov.au>
(David.Beck@transport.nsw.gov.au) <david.beck@transport.nsw.gov.au>; Anant Z Bellary <anant.z.bellary@tmr.qld.gov.au>;</anant.z.bellary@tmr.qld.gov.au></david.beck@transport.nsw.gov.au>
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<pre><francois.patron@act.gov.au></francois.patron@act.gov.au></pre>
Cc: Wayne Lo <wayne.lo@nt.gov.au>; Anton McIntyre <anton.mcintyre@nt.gov.au>;</anton.mcintyre@nt.gov.au></wayne.lo@nt.gov.au>
: Jed K. Graetz <jed.graetz@nt.gov.au></jed.graetz@nt.gov.au>
Subject: Accident data relating to GVM overloads (light vehicles).

Hello all,

I know we've beaten this subject to death a bit lately, but I understand that Police around the country have been increasing their "education and enforcement" activities around light vehicles exceeding GVM and associated towing capacities.

And – as we'd all agree, It's certainly kicked off something of a flurry of people seeking GVM increases as in-service modifications.

In the NT, I understand that NT Police also recently conducted an education (only) campaign in Alice Springs (utilising the weighbridge there) and apparently detected some 10 out of 12 vehicles (travellers) exceeding manufacturer GVM (although by how much in each case - I'm not aware).

### A question...

While we all understand and appreciate the safety issues / risks around overloading, reduced vehicle handling, increased risk of chassis / component failure, and increased potential for accidents as a result – I'm interested if anyone has any documented evidence from crash investigation data- pointing to overloaded vehicles being over-represented in crash stats or a causal factor in the accident?

The one very good aspect about this whole GVM saga is that it's causing people to turn their minds to the vehicles they use, the vehicles they need, and whether they really need all the gear they choose to carry.

Police would obviously like to help accelerate that education program, however – inevitably, the question of cause and effect will be asked by some, and crash or accident related evidence is always a good education tool.

Any info you may have that you're able to share would be appreciated.

Thanks in anticipation.

Bill.

### **Bill Muirhead**

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From:

Smith, Rickman (DPTI) < Rickman.Smith@sa.gov.au>

Sent:

Tuesday, 3 July 2018 12:01 PM

To:

Cc:

Bill Muirhead; 'Hunter, Peter'; Harris H; David BECK

(David.Beck@transport.nsw.gov.au); Anant Z Bellary; Michael Chan; Park, Sunwoong (DPTI); David Hosie; Thurley, Brent (StateGrowth); Davey Uprichard; Patron, Francois

Wayne Lo; Anton McIntyre

: Jed K. Graetz

Subject:

RE: Accident data relating to GVM overloads (light vehicles).

Follow Up Flag:

Follow up

Flag Status:

Completed

Bill,

The DPTI crash stats people tell me that we do not have data on this.

It does not seem to be a subject that has attracted much research.

Rick

From: Bill Muirhead [mailto:Bill.Muirhead@nt.gov.au]

Sent: Tuesday, 3 July 2018 8:59 AM

To: 'Hunter, Peter' < Peter. Hunter@act.gov.au>;

David BECK

(David.Beck@transport.nsw.gov.au) < David.Beck@transport.nsw.gov.au>; Anant Z Bellary

<Anant.Z.Bellary@tmr.qld.gov.au>; Michael Chan <michael.x.chan@roads.vic.gov.au>; Smith, Rickman (DPTI)

<Rickman.Smith@sa.gov.au>; Park, Sunwoong (DPTI) <Sunwoong.Park@sa.gov.au>; David Hosie

<david.hosie@transport.wa.gov.au>; Thurley, Brent (StateGrowth) <Brent.Thurley@stategrowth.tas.gov.au>;
Uprichard, Davey (NZTA) <davey.uprichard@nzta.govt.nz>; Patron, Francois <Francois.Patron@act.gov.au>

Cc: Wayne Lo <Wayne.Lo@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>;

Jed K. Graetz

<Jed.Graetz@nt.gov.au>

Subject: Accident data relating to GVM overloads (light vehicles).

Hello all,

I know we've beaten this subject to death a bit lately, but I understand that Police around the country have been increasing their "education and enforcement" activities around light vehicles exceeding GVM and associated towing capacities.

And — as we'd all agree, It's certainly kicked off something of a flurry of people seeking GVM increases as in-service modifications.

In the NT, I understand that NT Police also recently conducted an education (only) campaign in Alice Springs (utilising the weighbridge there) and apparently detected some 10 out of 12 vehicles (travellers) exceeding manufacturer GVM (although by how much in each case - I'm not aware).

## A question...

While we all understand and appreciate the safety issues / risks around overloading, reduced vehicle handling, increased risk of chassis / component failure, and increased potential for accidents as a result – I'm interested if anyone has any documented evidence from crash investigation data- pointing to overloaded vehicles being over-represented in crash stats or a causal factor in the accident?

The one very good aspect about this whole GVM saga is that it's causing people to turn their minds to the vehicles they use, the vehicles they need, and whether they really need all the gear they choose to carry.

Police would obviously like to help accelerate that education program, however – inevitably, the question of cause and effect will be asked by some, and crash or accident related evidence is always a good education tool.

Any info you may have that you're able to share would be appreciated.

Thanks in anticipation.

Bill.

## **Bill Muirhead**

Senior Engineering Officer – Vehicle Standards Road Safety & Compliance, Transport Safety & Services Department of Infrastructure, Planning and Logistics Northern Territory Government

Level 2, Energy House, 18-20 Cavenagh Street, Darwin. GPO Box 2520, DARWIN, NT 0801

p ... 08 8924 7214 f ... 08 8924 7009

e ... bill.muirhead@nt.gov.au

w ... www.nt.gov.au

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From:

Sent:

Tuesday, 3 July 2018 9:37 AM

To:

Subject:

FW: Accident data relating to GVM overloads (light vehicles). [DLM=For-Official-

Use-Only]

Follow Up Flag:

Follow up Completed

Flag Status:

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From: Bill Muirhead <Bill.Muirhead@nt.gov.au>

Sent: Tuesday, 3 July 2018 9:29 AM

To: 'Hunter, Peter' <Peter.Hunter@act.gov.au>;

>; David BECK

(David.Beck@transport.nsw.gov.au) < David.Beck@transport.nsw.gov.au>; Anant Z Bellary

<Anant.Z.Bellary@tmr.qid.gov.au>; Michael Chan <michael.x.chan@roads.vic.gov.au>; 'Smith, Rickman (DTEI)'

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<david.hosie@transport.wa.gov.au>; Thurley, Brent (StateGrowth) <Brent.Thurley@stategrowth.tas.gov.au>; Davey

Uprichard <dayey.uprichard@nzta.govt.nz>; Patron, Francois <Francois.Patron@act.gov.au>

Cc: Wayne Lo <Wayne.Lo@nt.gov.au>; Anton McIntyre <Anton.McIntyre@nt.gov.au>;

; Jed K.

Graetz < Jed. Graetz@nt.gov.au>

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**Sent:** Tuesday, 3 July 2018 9:29 AM

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**Subject:** Accident data relating to GVM overloads (light vehicles).

Follow Up Flag: Follow up Completed

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From: Sent: To:	Friday, 29 June 2018 12:14 PM Anant Z Bellary; 'david.hosie@transport.wa.gov.au'; Rickman Smith (Rickman.Smith@sa.gov.au); bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au); David beck; Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley; Davey Uprichard; Patron, Francois; Anthony Pepi
Cc: Subject:	RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]
Follow Up Flag: Flag Status:	Follow up Completed
Dear AMVCB members	
Thanks for your comments.	
The text to clarify GCM requireme	ents as per Clause 10.6 of Circular 0-4-6 has been posted on RVCS What's new.
The two scenarios raised by Anan Approvals.	t in the email below will not be allowed in future for new/ amendments to
	te of RVD and issuing the new RVD template by next week so that second stage include GCM rating in the Comments section and clarification is provided on the cular 0-4-6.
Regards	
Director Certification and RAWS Vehicle Safety Standards Branch   Department of Infrastructure, Reg GPO Box 594, Canberra ACT 2601 t	
From: Anant Z Bellary < Anant.Z.Be	· · · · ·

; 'david.hosie@transport.wa.gov.au' <david.hosie@transport.wa.gov.au>; Rickman Smith (Rickman.Smith@sa.gov.au) < Rickman.Smith@sa.gov.au>; bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au) <peter.austin@nhvr.gov.au>; David beck <david.beck@transport.nsw.gov.au>; Michael.X.Chan@roads.vic.gov.au;

peter.hunter@act.gov.au; Brent Thurley <Brent.Thurley@stategrowth.tas.gov.au>; Davey Uprichard <davey.uprichard@nzta.govt.nz>; Patron, Francois <Francois.Patron@act.gov.au>; Anthony Pepi

**Subject:** RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Hello

Thanks for sharing the revised draft and the opportunity to comment.

I understand the difficulty you find yourself in when the requirements are changed without having transitional arrangements attached to it.

The difficulty of applying the requirements of Clause 6.10 of the revised Circular 0-4-6 to existing SSM approvals are of two types.

### Type-1

When the SSM approval holder has increased the GVM but has not changed the Maximum Braked Towing Mass. Technically this increases the gross combination mass and is not conforming to the new Circular 0-4-6. However this is of less concern to us, because the increase is small (4 to 6 %) and many of these SSM approval holders are actively advising their customers that when one of the vehicles in the combination (towing vehicle or the trailer) is loaded to limit, the mass of the other vehicle should be proportionately reduced. This is quite consistent with most first stage vehicle manufacturers who specify their GCM rating always less than the simple addition of the GVM and the Maximum Braked Towing Mass.

#### Type-2

When the SSM approval holder has increased both the GVM and the Maximum Braked Towing Mass. We are aware of at least two RVDs where this has occurred (RVD\_LS200\_3a and RVD\_LS200\_4a of IPA 40257). This increases the gross combination mass well beyond the original vehicle manufacturer's rating (at least 14% higher). This is of concern to us. TMR has reservations about the effectiveness with which your proposed wording will address this.

However all is not lost. The particular RVDs mentioned above are currently referring to superseded RVDs of Toyota. This will need to be corrected immediately by the SSM approval holder. When that occurs, can we deem amending the RVDs as amending the IPA and hence be justified in applying the revised 0-4-6 Circular so that the Maximum Braked Towing Mass is (at least) restored to Toyota's rating of 3,500 kg? Just a thought.

I hope this helps.

Regards

# Anant Bellary

Vehícle Standards & Accreditation Transport & Main Roads

From:

Sent: Tuesday, 26 June 2018 5:42 PM

To: Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au >;

'david.hosie@transport.wa.gov.au'

<a href="mailto:david.hosie@transport.wa.gov.au">david.hosie@transport.wa.gov.au</a>>; Rickman Smith (Rickman.Smith@sa.gov.au)

<<u>Rickman.Smith@sa.gov.au</u>>; <u>bill.muirhead@nt.gov.au</u>; Peter Austin (NHVR (<u>peter.austin@nhvr.gov.au</u>)

<peter.austin@nhvr.gov.au>; David beck <david.beck@transport.nsw.gov.au>;

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<davey.uprichard@nzta.govt.nz>; Patron, Francois < Francois.Patron@act.gov.au>; Anthony Pepi
<apepi@ntc.gov.au>

Cc

**Subject:** RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Dear AMVCB members

Thanks for providing your comments. I have amended text to include the comments provided .

I would also like to clarify the following issues raised by Peter.

- As GCM is not listed in the RVDs of light vehicles, the Department will use the GVM and Maximum Towing Mass (Braked Trailer) values on light vehicle RVDs to approximate value of GCM assuming 10% coupling load which is a recognised industry practice. This would be further clarified on the RVD form for Light vehicles under Notes section.
- Second stage manufacturers fitting extra axles will have the option to increase GCM as the vehicles
  after modification generally move into heavy vehicles category (category NB2).

Please note that comments on this close on 28th June 2018.

Regards

Director Certification and RAWS

Vehicle Safety Standards Branch | Surface Transport Policy Division

Department of Infrastructure, Regional Development and Cities

GPO Box 594, Canberra ACT 2601

ww.infrastructure.gov.au

From: Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au >

Sent: Tuesday, 26 June 2018 10:49 AM

To: 'david.hosie@transport.wa.gov.au'

<david.hosie@transport.wa.gov.au>; Rickman Smith (Rickman.Smith@sa.gov.au)

<Rickman.Smith@sa.gov.au>; bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au)

<peter.austin@nhvr.gov.au>; David beck <david.beck@transport.nsw.gov.au>;

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<a href="mailto:davey.uprichard@nzta.govt.nz">davey.uprichard@nzta.govt.nz</a>; Patron, Francois <a href="mailto:Francois.Patron@act.gov.au">Francois.Patron@act.gov.au</a>; Anthony Pepi

<apepi@ntc.gov.au>

Subject: RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Heilo

Thanks for the opportunity.

We have certain concerns with the proposed text, but our concerns could be addressed with some small changes to the text. I have attached the amending document in which you can find the changes we suggest as tracked changes.

In essence the below text, TMR believes, would be more appropriate and acceptable:

#### Clarification of Circular 0-4-6 Amendment

This update clarifies clause 10.6 requirements for recently issued Administrator's Circular 0-4-6 (Issue 4, June 2018).

Circular 0-4-6 was amended at Clause 10 to include arrangements for SSM Light Vehicles that have been subject to a Gross Vehicle Mass (GVM) upgrade.

The guidance provided by the Circular 0-4-6 applies to Light Vehicles that includes NA (GVM up to 3.5 tonnes) and NB1 (GVM over 3.5 tonnes and up to 4.5 tonnes) category vehicles.

Note that the clarification provided in Clause 10.6 of the revised circular does not contradict with anything in the previous version of the Circular 0-4-6; rather it provides clarity around the certification practice that has been established for some time now. In principle, the revised circular applies to all Identification Plate Approvals (IPAs); however its immediate enforcement will be on new applications and new amendments to existing IPAs.

The Circular's effect on existing IPAs held by the second stage manufacturers will be nil or minimal if (a) the SSM's Road Vehicle Descriptor (RVD) for the particular make/model/variant is based on the first stage manufacturer's RVD that is current and (b) the SSM's particular make/model/variant is distinct from the variants covered by other current RVDs for that SSM approval.

Where the above conditions are met, the existing SSM IPA holders can continue to supply to market vehicles covered by the approved RVDs. In other cases, SSM IPA holders are required to amend their RVDs.

The option of GCM or towing capacity upgrade may be available to consumers in some State/Territory jurisdictions, after the vehicle is supplied to market.

I hope this helps.

Regards

Anant Bellary

Vehicle Standards & Accreditation Transport & Main Roads From

Sent: Thursday, 21 June 2018 11:28 AM

To: 'david.hosie@transport.wa.gov.au' < david.hosie@transport.wa.gov.au'>; Rickman Smith (Rickman.Smith@sa.gov.au) < Rickman.Smith@sa.gov.au'>; bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au) < peter.austin@nhvr.gov.au'>; David beck

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Patron, Francois <Francois.Patron@act.gov.au>; Anthony Pepi <a href="mailto:apepi@ntc.gov.au">apepi@ntc.gov.au</a>

**Subject:** Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED] **Importance:** High

Dear AMVCB members

Please see the proposed text attached that the Vehicle Safety Standards (VSS) Branch has drafted for inclusion as an update on RVCS What's New.

Please review and provide any comments you may have on this text back to

(cc'd) as soon as possible, and no later than close of business 28 June 2018. Please also let know as soon as possible if you support the proposed text. VSS is looking to provide an update on <a href="RVCS What's New">RVCS What's New</a> as soon as is possible.

Regards

A/g Section Head Standards Review and Maintenance Vehicle Safety Standards | Surface Transport Policy Department of Infrastructure, Regional Development and Cities GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

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It is your responsibility to ensure that this email does not contain and is not affected by computer viruses, defects or interference by third parties or replication problems (including incompatibility with your computer system).

From: Anant Z Bellary <Anant.Z.Bellary@tmr.qld.gov.au>

Sent: Wednesday, 27 June 2018 4:15 PM

To: 'david.hosie@transport.wa.gov.au';

Rickman Smith (Rickman.Smith@sa.gov.au); bill.muirhead@nt.gov.au; Peter Austin

(NHVR (peter.austin@nhvr.gov.au); David beck;

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Cc:

Subject: RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6

requirements of the recently issued Administrator's Circular 0-4-6

[SEC=UNCLASSIFIED]

Follow Up Flag: Flag Status: Follow up Completed

Hello

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Department of Infrastructure, Regional Development and Cities

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www.infrastructure.gov.au

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To: 'david.hosie@transport.wa.gov.au' 

<a href="mailto:david.hosie@transport.wa.gov.au">david.hosie@transport.wa.gov.au</a>; Rickman Smith (Rickman.Smith@sa.gov.au)

<a href="mailto:Rickman.Smith@sa.gov.au">Rickman Smith (Rickman.Smith@sa.gov.au</a>)

<a href="mailto:Rickman.Smith@sa.gov.au">Rickman.Smith@sa.gov.au</a>)

<a href="mailto:david.hosie@transport.wa.gov.au">Rickman.Smith@sa.gov.au</a>)

<a href="mailto:david.hosie@transport.wa.gov.au">david.hosie@transport.wa.gov.au</a>)

<a href="mailto:david.hosie@transport.wa.gov.au">Rickman.Smith@sa.gov.au</a>)

<a href="mailto:d

**Subject:** RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Hello

Thanks for the opportunity.

We have certain concerns with the proposed text, but our concerns could be addressed with some small changes to the text. I have attached the amending document in which you can find the changes we suggest as tracked changes.

In essence the below text, TMR believes, would be more appropriate and acceptable:

#### Clarification of Circular 0-4-6 Amendment

This update clarifies clause 10.6 requirements for recently issued Administrator's Circular 0-4-6 (Issue 4, June 2018).

Circular 0-4-6 was amended at Clause 10 to include arrangements for SSM Light Vehicles that have been subject to a Gross Vehicle Mass (GVM) upgrade.

The guidance provided by the Circular 0-4-6 applies to Light Vehicles that includes NA (GVM up to 3.5 tonnes) and NB1 (GVM over 3.5 tonnes and up to 4.5 tonnes) category vehicles.

Note that the clarification provided in Clause 10.6 of the revised circular does not contradict with anything in the previous version of the Circular 0-4-6; rather it provides clarity around the certification practice that has been established for some time now. In principle, the revised circular applies to all Identification Plate Approvals (IPAs); however its immediate enforcement will be on new applications and new amendments to existing IPAs.

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Where the above conditions are met, the existing SSM IPA holders can continue to supply to market vehicles covered by the approved RVDs. In other cases, SSM IPA holders are required to amend their RVDs.

The option of GCM or towing capacity upgrade may be available to consumers in some State/Territory jurisdictions, after the vehicle is supplied to market.

I hope this helps.

Regards

# Anant Bellary

Vehicle Standards & Accreditation Transport & Main Roads

From:

Sent: Thursday, 21 June 2018 11:28 AM

; Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au >;

Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley

<Brent.Thurley@stategrowth.tas.gov.au>; Davey Uprichard <davey.uprichard@nzta.govt.nz>;

Patron François < François Patron@act.gov.au>: Anthony Pepi <apepi@ntc.gov.au>

**Subject:** Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Importance: High

Dear AMVCB members

Please see the proposed text attached that the Vehicle Safety Standards (VSS) Branch has drafted for inclusion as an update on RVCS What's New.

Please review and provide any comments you may have on this text back to

cc'd) as soon as possible, and no later than close of business 28 June 2018. Please also let know as soon as possible if you support the proposed text. VSS is looking to provide an update on RVCS What's New as soon as is possible.

Regards

A/g Section Head Standards Review and Maintenance Vehicle Safety Standards | Surface Transport Policy Department of Infrastructure, Regional Development and Cities GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

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From:

Sent:

Tuesday, 26 June 2018 5:42 PM

To:

Anant Z Bellary david hosie@transport.wa.gov.au'; Rickman

Smith (Rickman.Smith@sa.gov.au); bill.muirhead@nt.gov.au; Peter Austin (NHVR

(peter.austin@nhvr.gov.au); David beck;

Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley; Davey

Uprichard: Patron, François: Anthony Pepi

Cc:

Subject:

RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6

requirements of the recently issued Administrator's Circular 0-4-6

[SEC=UNCLASSIFIED]

Attachments:

Proposed text for inclusion on RVCS What's New with TMR Input 2018-06-26.docx

Follow Up Flag: Flag Status:

Follow up Completed

Dear AMVCB members

Thanks for providing your comments. I have amended text to include the comments provided.

I would also like to clarify the following issues raised by Peter.

- As GCM is not listed in the RVDs of light vehicles, the Department will use the GVM and Maximum Towing
  Mass (Braked Trailer) values on light vehicle RVDs to approximate value of GCM assuming 10% coupling
  load which is a recognised industry practice. This would be further clarified on the RVD form for Light
  vehicles under Notes section.
- Second stage manufacturers fitting extra axles will have the option to increase GCM as the vehicles after modification generally move into heavy vehicles category (category NB2).

Please note that comments on this close on 28th June 2018.

Regards

Director Certification and RAWS

Vehicle Safety Standards Branch | Surface Transport Policy Division

Department of Infrastructure, Regional Development and Cities

GPO Box 594, Canberra ACT 2601

www.infrastructure.gov.au

From: Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au>

Sent: Tuesday, 26 June 2018 10:49 AM

1



To 'david.hosie@transport.wa.gov.au'
<pre><david.hosie@transport.wa.gov.au>; Rickman Smith (Rickman.Smith@sa.gov.au) <rickman.smith@sa.gov.au>;</rickman.smith@sa.gov.au></david.hosie@transport.wa.gov.au></pre>
bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au) <peter.austin@nhvr.gov.au>; David beck</peter.austin@nhvr.gov.au>
<pre><david.beck@transport.nsw.gov.au>;</david.beck@transport.nsw.gov.au></pre>
Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley
<brent.thurley@stategrowth.tas.gov.au>; Davey Uprichard <davey.uprichard@nzta.govt.nz>; Patron, Francois</davey.uprichard@nzta.govt.nz></brent.thurley@stategrowth.tas.gov.au>
<pre><francois.patron@act.gov.au>; Anthony Pepi <apepi@ntc.gov.au></apepi@ntc.gov.au></francois.patron@act.gov.au></pre>

**Subject:** RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Hello

Thanks for the opportunity.

We have certain concerns with the proposed text, but our concerns could be addressed with some small changes to the text. I have attached the amending document in which you can find the changes we suggest as tracked changes.

In essence the below text, TMR believes, would be more appropriate and acceptable:

#### Clarification of Circular 0-4-6 Amendment

This update clarifies clause 10.6 requirements for recently issued Administrator's Circular 0-4-6 (Issue 4, June 2018).

Circular 0-4-6 was amended at Clause 10 to include arrangements for SSM Light Vehicles that have been subject to a Gross Vehicle Mass (GVM) upgrade.

The guidance provided by the Circular 0-4-6 applies to Light Vehicles that includes NA (GVM up to 3.5 tonnes) and NB1 (GVM over 3.5 tonnes and up to 4.5 tonnes) category vehicles.

Note that the clarification provided in Clause 10.6 of the revised circular does not contradict with anything in the previous version of the Circular 0-4-6; rather it provides clarity around the certification practice that has been established for some time now. In principle, the revised circular applies to all Identification Plate Approvals (IPAs); however its immediate enforcement will be on new applications and new amendments to existing IPAs.

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Where the above conditions are met, the existing SSM IPA holders can continue to supply to market vehicles covered by the approved RVDs. In other cases, SSM IPA holders are required to amend their RVDs.

The option of GCM or towing capacity upgrade may be available to consumers in some State/Territory jurisdictions, after the vehicle is supplied to market.

I hope this helps.

## Regards

# Anant Bellary

Vehicle Standards & Accreditation Transport & Main Roads

From: Sent: Thursday, 21 June 2018 11:28 AM To: 'david.hosie@transport.wa.gov.au' < david.hosie@transport.wa.gov.au>; Rickman Smith (Rickman.Smith@sa.gov.au) <Rickman.Smith@sa.gov.au>; bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au) <peter.austin@nhvr.gov.au>; David beck <david.beck@transport.nsw.gov.au>; ; Anant Z Bellary <Anant.Z.Bellary@tmr.qld.gov.au>; Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley <a href="mailto:Thurley@stategrowth.tas.gov.au">"> Davey Uprichard <a href="mailto:davey.uprichard@nzta.govt.nz">davey.uprichard@nzta.govt.nz</a>; Patron, Francois < Francois.Patron@act.gov.au>; Anthony Pepi < apepi@ntc.gov.au> Subject: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED] Importance: High Dear AMVCB members Please see the proposed text attached that the Vehicle Safety Standards (VSS) Branch has drafted for inclusion as an update on RVCS What's New. Please review and provide any comments you may have on this text back to (cc'd) as soon as possible, and no later than close of business 28 know as soon as possible if you support the proposed text. VSS is looking June 2018. Please also let to provide an update on RVCS What's New as soon as is possible. Regards

A/g Section Head
Standards Review and Maintenance
Vehicle Safety Standards | Surface Transport Policy
Department of Infrastructure, Regional Development and Cities
GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Clarification of Circular 0-4-6 Amendment – seeking AMVCB comments

This update clarifies clause 10.6 requirements for recently issued Administrator's Circular 0-4-6 (Issue 4, June 2018).

Circular 0-4-6 was amended to include arrangements for SSM Light Vehicles that have been subject to a Gross Vehicle Mass (GVM) upgrade under Clause 10.

The guidance provided by the Circular 0-4-6 applies to Light Vehicles that includes NA (GVM up to 3.5 tonnes) and NB1 (GVM over 3.5 tonnes and up to 4.5 tonnes) category vehicles.

The revised circular applies to new applications and new amendments to existing Identification Plate Approvals (IPAs). The Circular will not affect the existing IPAs held by the second stage manufacturers. Existing IPA holders can continue to supply to the market vehicles covered by the approved Road Vehicle Descriptors (RVDs). This includes vehicles where the approved RVD has variants that exceed the first stage manufacturer's Gross Combination Mass (GCM) rating or Rated Towing Capacity or Maximum Braked Towing Mass rating. The second stage manufacturers need to ensure that the current approved RVDs should refer to the current approved RVDs for the first stage manufacturer.

The option of GCM or towing capacity upgrade may be available to consumers in some State/Territory jurisdictions, after the vehicle is supplied to the market.

From: Anant Z Bellary <Anant Z.Bellary@tmr.qld.gov.au>

**Sent:** <u>Tuesday, 26 June 2</u>018 10:49 AM

To: 'david.hosie@transport.wa.gov.au'; Rickman Smith

(Rickman.Smith@sa.gov.au); bill.muirhead@nt.gov.au; Peter Austin (NHVR

(peter.austin@nhvr.gov.au); David beck;

Michael X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley; Davey

Uprichard; Patron, Francois; Anthony Pepi

Cc:

Subject: RE: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6

requirements of the recently issued Administrator's Circular 0-4-6

[SEC=UNCLASSIFIED]

Attachments: Proposed text for inclusion on RVCS What's New with TMR Input 2018-06-26.docx

Follow Up Flag: Flag Status:

Follow up Completed

Hello

Thanks for the opportunity.

We have certain concerns with the proposed text, but our concerns could be addressed with some small changes to the text. I have attached the amending document in which you can find the changes we suggest as tracked changes.

In essence the below text, TMR believes, would be more appropriate and acceptable:

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The option of GCM or towing capacity upgrade may be available to consumers in some State/Territory jurisdictions, after the vehicle is supplied to market.

I hope this helps.

Regards

# Anant Bellary

Vehicle Standards & Accreditation Transport & Main Roads

From:

Sent: Thursday, 21 June 2018 11:28 AM

To: 'david.hosie@transport.wa.gov.au' <david.hosie@transport.wa.gov.au>; Rickman Smith (Rickman.Smith@sa.gov.au) <Rickman.Smith@sa.gov.au>; bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au) <peter.austin@nhvr.gov.au>; David beck <david.beck@transport.nsw.gov.au>; Anant Z Bellary

<Anant.Z.Bellary@tmr.qld.gov.au>; Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley <Brent.Thurley@stategrowth.tas.gov.au>; Davey Uprichard <davey.uprichard@nzta.govt.nz>; Patron, Francois <Francois.Patron@act.gov.au>; Anthony Pepi <apepi@ntc.gov.au>

**Subject:** Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of the recently issued Administrator's Circular 0-4-6 [SEC=UNCLASSIFIED]

Importance: High

Dear AMVCB members

Please see the proposed text attached that the Vehicle Safety Standards (VSS) Branch has drafted for inclusion as an update on <a href="RVCS What's New">RVCS What's New</a>.

Please review and provide any comments you may have on this text back to

(cc'd) as soon as possible, and no later than close of business 28

June 2018. Please also let know as soon as possible if you support the proposed text. VSS is looking to provide an update on RVCS What's New as soon as is possible.

Regards

A/g Section Head Standards Review and Maintenance Vehicle Safety Standards | Surface Transport Policy Department of Infrastructure, Regional Development and Cities GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

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#### Clarification of Circular 0-4-6 Amendment - seeking AMVCB comments

This paper update further clarifies clause 10.6 requirements for recently issued——Administrator's Circular 0-4-6 (Issue 4, June 2018).

Formatted: Justified

Circular 0-4-6 was amended <u>at Clause 10.6</u> to include arrangements for SSM Light Vehicles that have been subject to a Gross Vehicle Mass (GVM) upgrade-<u>under Clause 10.</u>

The guidance provided by the Circular <u>0-4-6</u> applies to Light Vehicles that includes NA (GVM up to 3.5 tonnes) and NB1 (GVM over 3.5 tonnes and up to 4.5 tonnes) category vehicles.

Note that the clarification provided in Clause 10.6 of the revised circular does not contradict with anything in the previous version of the Circular 0-4-6; rather it provides clarity around the certification practice that has been established for some time now. In principle, the The revised Circular circular applies to all Identification Plate Approvals (IPAs); however its immediate enforcement will be only applies to on new applications and new amendments to existing Identification Plate Approvals (IPAs).

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- (b) The SSM's particular make/model/variant is distinct from the variants covered by other current RVDs for that SSM approval

-Where the above conditions are met, the Existing existing SSM IPA holders can continue to supply to the market vehicles covered by the approved Road Vehicle Descriptors (RVDs). This includes vehicles where the approved RVD has variants that exceed the first stage manufacturer's Gross Combination Mass (GCM) rating or Rated Towing Capacity or Maximum Braked Towing Mass rating. In other cases, SSM IPA holders are required to amend their RVDs.

The option of GCM or towing capacity upgrade continues to may be available to consumers in some State/Territory jurisdictions, after the vehicle is supply supplied to the market, through the State/Territory registration authorities where applicable.

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Formatted: List Paragraph, Justified, Numbered + Level: 1 + Numbering Style: a, b, c, ... + Start at: 1 + Alignment: Left + Aligned at: 0.63 cm + Indent at: 1.27

Formatted: Font: (Default) +Body. (Calibri)

Formatted: Justified

From:

Sent:

Monday, 25 June 2018 1:54 PM

To:

Subject:

FW: Multiple RVDs for SSM Approval 40257... [SEC=UNCLASSIFIED]

Follow Up Flag:

Flag Status:

Follow up Completed

fyi

From: Anant Z Bellary <Anant.Z.Bellary@tmr.qld.gov.au>

**Sent:** Monday, 25 June 2018 1:53 PM **To:** lightvehicles@infrastructure.gov.au

Subject: RE: Multiple RVDs for SSM Approval 40257... [SEC=UNCLASSIFIED]

Hello Greg,

Good to know that.

If you are maintaining an Issues Register to inform this review, you may want to add the following issues to that list:

- SSM Approval holders increasing GVM rating such that when loaded to re-rated GVM and with
  practical/uniformly distributed loading axle masses are known to exceed the first manufacturer's
  axle load ratings. And yet SSM holders have not anything to modify, reinforce and rerate the axles.
  This is not safe outcome.
- 2. Some GVM increases involve suspension lifts above 50 mm. These vehicles are required to comply with ESC requirements. The AAAA's ESC test report used by most SSM approval holders restricts the suspension lift to 50 mm only and no taller tyres are permitted. So what type of ESC evidence is supplied by this SSM approval holders who fall outside of the AAAA limit of 50 mm?
- 3. Most GVM upgrades test for braking but do not change the braking system This, while showing compliance to braking performance requirements, reduces the safety margin provided by the first stage manufacturer. This in turn makes vehicles less forgiving to the in-service degrading and emergency situations. Again a less safe outcome.
- 4. Multiple RVDs are an issue. This needs to be investigated to ensure that SSM approval holders are only referring to current RVDs of the first stage approvals.
- Towing capacity (expressed in any which way: GCM, Rated Towing Capacity, Maximum Braked Towing Mass) must be restored to first stage manufacturer's rating as the SSM holders are not doing any design and testing related to combination stability, braking, driveline endurance and general driveability.

SSM Approval holders offering GVM upgrades are really not vehicle manufacturers and do not take holistic responsibility for the vehicle (brand reputation, service life, warranty, safety recall and so on). Most of them have no or very little in-house engineering expertise other than the advice they receive from their certification agent. Hence care must be taken as to what specifications of the vehicle SSM approval holders are permitted to change.

Happy to discuss further.

## Regards

# Anant Bellary

Vehicle Standards & Accreditation Transport & Main Roads

From: lightvehicles@infrastructure.gov.au [mailto:Lightvehicles@infrastructure.gov.au]

Sent: Thursday, 21 June 2018 3:37 PM

To: Anant Z Bellary < Anant. Z.Bellary@tmr.gld.gov.au >

Subject: RE: Multiple RVDs for SSM Approval 40257... [SEC=UNCLASSIFIED]

Anant, the Department will be reviewing current IPAs with regard to GVM upgrades.

MEngSC, BE (Mech)

Engineering - Vehicle Certification Technical Team Vehicle Safety Standards - Surface Transport Policy Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

From: Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au >

Sent: Monday, 18 June 2018 1:39 PM To: lightvehicles@infrastructure.gov.au

Subject: Multiple RVDs for SSM Approval 40257...

Hello

Thanks.

As we understand it, all vehicles being supplied to market under SSM Approval 40257 are new vehicles. They are required to conform to the Administrator's Circulars for certification, including 0-4-6, in force at the time.

The current Circular 0-4-6 (attached) at Clause 10.6 clearly states that:

10.6 The towing capacity of a light vehicle expressed as Gross Combination Mass (GCM) rating or Rated Towing Capacity or Maximum Braked Towing Mass rating must not exceed the value set by the first stage manufacturer. Second stage manufacturers are not permitted to increase the towing capacity as part of an SSM IPA that results in GVM upgrade.

Hence we hold the view that, even if the SSM Approval 40257 is permitted to hold multiple RVDs (an issue we will be debating separately), two of its RVDs with references RVD\_LS200\_3a and RVD\_LS200\_4a will need to be amended immediately to be compliant with Circular 0-4-6. Those RVDs need to be corrected to show the Maximum Braked Towing Mass changed from 4,000 kg to 3,500 kg to be consistent with the first stage manufacturer's (Toyota) ratings.

If you think I am incorrect, please let me know.

Regards

# Anant Bellary

Vehicle Standards & Accreditation Transport & Main Roads

From: lightvehicles@infrastructure.gov.au [mailto:Lightvehicles@infrastructure.gov.au]

Sent: Tuesday, 12 June 2018 12:52 PM

To: Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au >

Subject: RE: RVDs,.. [SEC=UNCLASSIFIED]

Anant, an approval may have several RVDs listed against that approval.

38469 is the current approval for Toyota for the 200 series Landcruiser, with RV-J200-08 being the most recent RVD. All available variants are listed on the single RVD, which supersedes previous versions.

40257 is the Second Stage Approval for Lovells springs and they have submitted RVDs for *each* of the products they supply, with each Toyota variant listed on that RVD. The RVDS are for different rated GVM upgrades (3.8 and 4T) for Petrol and Diesel models and Braked Towing Capacity (BTC). There is no requirement to populate the Replacement Type column.

MEngSC, BE (Mech)

Engineering – Vehicle Certification Technical Team Vehicle Safety Standards - Surface Transport Policy Department of Infrastructure and Regional Development GPO Box 594, Canberra ACT 2601

w www.infrastructure.gov.au

From: Anant Z Bellary < Anant. Z. Bellary @tmr.qld.gov.au >

Sent: Wednesday, 6 June 2018 3:08 PM

To: VCS ROADS < VCS.ROADS@infrastructure.gov.au>

Cc:

Subject: RVDs...

Dear RVCS Team,

I am seeking some clarification about the RVDs.

As I understand it, for a given make and model of certification unit, there should be only one RVD at any given point in time, covering all the current variants.

RVDs can change due to being superseded or being corrected. This should be always noted in the fourth column of the table of RVDs listed for that Certification Unit.

As an example, Certification Unit 38469 RVD table has its fourth column populated for each entry. It clearly states which RVD replaces which one and why.

On the other hand, Certification Unit 40257 RVD table does not have the forth column populated in all cases. This leads to confusion about which RVD replaces which one and why.

We hold the view that in case of 40257, RVD\_LS200\_3a is replaced by RVD-LS200\_5 and RVD\_LS200\_4a is replaced by RVD-LS200\_6.

Please confirm this or tell us why it is not so, if it is not so.

For future improvements to the system, we suggest that the fourth column of the RVD table be always populated, so the intent of the new RVD is clearly communicated.

Thanks and regards

**Anant Bellary** 

Principal Engineer (Vehicle Standards & Accreditation) | Transport Regulation Branch Customer Services, Safety and Regulation | Department of Transport and Main Roads

Floor 9 | 61 Mary Street | Brisbane Qld 4000

P: (07) 3066 3468

E: anant.z.beliary@tmr.qld.gov.au

W: www.tmr.qld.gov.au

\*

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From: Hunter, Peter < Peter Hunter@act.gov.au>

Sent: Monday, 25 June 2018 9:15 AM

To: Anant Z Bellary

Cc: david.hosie@transport.wa.gov.au; Rickman Smith

(Rickman.Smith@sa.gov.au); bill.muirhead@nt.gov.au; Peter Austin (NHVR

(peter.austin@nhvr.gov.au); David beck;

Michael.X.Chan@roads.vic.gov.au; Brent Thurley; Davey Uprichard; Patron, François;

Anthony Pepi;

Re: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 Subject:

requirements of the recently issued Administrator's Circular 0-4-6

[SEC=UNCLASSIFIED]

Follow Up Flag:

Follow up Completed

Flag Status:

I have concerns about this, as we (STRAs) have previously advised the GCM is not recorded on RVD for light vehicles. The examples with Lovell's is one example.

Which has probably started the circular amendment.

I am also not sure what the department is doing with companies such as six-wheel conversations, who add additional chassis, axles and wheels for new GVM and GCM ratings. According to recent media and news companies like this are well advanced with Amarillo Ute conversions.

Peter Hunter Manager Vehicle Safety (temp out of office - Qld) Sent from my iPhone

On 21 Jun 2018, at 11:40 am, Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au > wrote:

We have reservations about the proposed text. As such, we do not support it. More detailed response will be provided soon.

Regards =

## Anant Bellary

Vehícle Standards & Accreditation. Transport & Main Roads

From:

Sent: Thursday, 21 June 2018 11:28 AM

To: 'david.hosie@transport.wa.gov.au' <david.hosie@transport.wa.gov.au>; Rickman Smith (Rickman.Smith@sa.gov.au) < Rickman.Smith@sa.gov.au>; bill.muirhead@nt.gov.au; Peter Austin (NHVR (peter.austin@nhvr.gov.au) <peter.austin@nhvr.gov.au>; David beck

<a href="mailto:david.beck@transport.nsw.gov.au">david.beck@transport.nsw.gov.au</a>;

Anant Z Bellary < Anant.Z.Bellary@tmr.qld.gov.au>;

Michael.X.Chan@roads.vic.gov.au; peter.hunter@act.gov.au; Brent Thurley

<Brent.Thurley@stategrowth.tas.gov.au>; Davey Uprichard <a href="mailto:davey.uprichard@nzta.govt.nz">davey.uprichard@nzta.govt.nz</a>;

Patron, Francois < Francois.Patron@act.gov.au >; Anthony Pepi < apepi@ntc.gov.au >

Importance	issued Administ : High					
Dear AMVC	B members					
	he proposed tex as an update of			afety Standard	s (VSS) B	ranch has drafted
business 28	w and provide a June 2018. Plea looking to provid	se also let	(cc'd) as sooi know as so	n <b>as possible</b> , a on as possible	nd no la if you su	ter than close of upport the propose sible.
Regards						
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Subject: Proposed text for inclusion on RVCS What's New to clarify the clause 10.6 requirements of

immediately. You should not copy or use it for any purpose, nor disclose its contents to any other person.

From:

Smith, Rickman (DPTI) < Rickman.Smith@sa.gov.au>

Sent:

Friday, 22 June 2018 11:59 AM

To:

Subject:

FW: DOTAR GCM Bulletin

**Attachments:** 

Circular-0-4-6-GVM-upgrade-final.pdf

Follow Up Flag:

Flag Status:

Follow up Completed

Could you find someone to answer questions 1 and 2?

Thanks,

#### Rickman Smith

Senior Vehicle Engineer Vehicle Operations Section Regulation Directorate Safety & Services Division

Department of Planning, Transport and Infrastructure

T 08 8348 9676 • M • E rickman.smith@sa.gov.au

Kateena St REGENCY PARK SA 5010 • PO 1533 ADELAIDE SA 5001 • www.dpti.sa.gov.au









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From: Gunner, David (DPTI)

Sent: Thursday, 21 June 2018 9:15 AM

To: Smith, Rickman (DPTI) < Rickman. Smith@sa.gov.au>

Cc: Whitaker, Alan (DPTI) <Alan Whitaker@sa.gov.au>; Sanan, Sandeep (DPTI) <Sandeep.Sanan@sa.gov.au>

Subject: FW: DOTAR GCM Bulletin

Rick,

With this Circular from the feds on GVM upgrades that prevents GCM upgrades the following questions have arisen and we have been getting inquires on.

- 1. Does this effect current SSM holders that have approval for GCM upgrades?
- 2. Does this only effect new applications for a SSM that involves a GVM upgrade?
- 3. How does that effect our requirements for GCM upgrades?

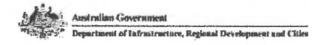
Where are we will our policy on GCM upgrades for registered vehicles and what is required to be addressed by the CPE to justify the increase?

We are getting applications and inquiries every day on this subject so we need to know what the correct answers are.

Dave

### Administrator of Vehicle Standards

In consultation with the



#### Australian Motor Vehicle Certification Board

comprising Commonwealth, State and Territory representatives

## CIRCULAR 0-4-6

## CERTIFICATION OF VEHICLES WHICH HAVE UNDERGONE A SECOND-STAGE-OF-MANUFACTURE

#### 1. INTRODUCTION

- 1.1 This Circular sets out the requirements for *Manufacturers* making application for Identification Plate Approval (IPA) for additions to, or modifications undertaken on a *New Vehicle* that already has affixed a completed vehicle Identification Plate. Such arrangements are identified as "Second-Stage-of-Manufacture" (SSM) IPA.
- 1.2 A further SSM arrangement can also apply to completed SSM vehicles. (For example, a completed *cab-chassis* may be modified to be dual-steer under SSM approval, and then that completed dual-steer *cab-chassis* vehicle may then have its GVM upgraded under a further SSM approval).

#### 2. APPLICABILITY

- 2.1 SSM arrangements only apply to *New Vehicles* as defined in the *Motor Vehicle Standards Act* 1989, and do not apply to vehicles that have already been used in transport.
- 2.2 SSM arrangements apply to vehicle make/model types seeking IPA under the Full Volume arrangements, and also the concessionary evidence Low Volume arrangements.
- 2.3 Vehicles under the SSM IPA Low Volume arrangements are not subject to an eligibility ruling under the "Specialist and Enthusiast Vehicle Scheme (SEVS) Eligibility" as per Circular 0-2-12.
- 2.4 Arrangements for SSM do not apply to vehicles that are built on, or based on vehicle sub-assemblies/chassis that have been approved under Sub-Assembly Registration Number (SARN) arrangements as set out in Circular 0-4-23.
- 2.5 Arrangements for SSM do not apply to vehicles without an Identification Plate, such as a vehicle imported from overseas which has yet to be brought up to the National Standards. Such vehicles are subject to either the "Motor Vehicle Compliance Plate Approval" arrangements as per Circular 0-3-4, or the "Certification of Motor Vehicles Produced in Low Volume" requirements as per Circular 0-2-1.
- 2.6 Arrangements for SSM do not need to be used where the proposed modification can be done under the provisions of Vehicle Standards Bulletin (VSB) 6. However, where the proposed modifications are not within the scope of VSB6, SSM must be used.

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June 2018

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#### 3. APPLICATION FOR IDENTIFICATION PLATE APPROVAL

- 3.1 Applications for SSM IPA will only be accepted from a legal entity (Company or Individual, and not a business or trading name) that must first register as a Licensee on the Road Vehicle Certification System (RVCS), and have both the Production Facility and Design Facility similarly registered on RVCS thus being subject to "Conformity of Production" arrangements as per Circular 0-13-1.
- 3.2 Make and Model designation shall generally be in accordance with Circular 0-3-3 "Motor Vehicle Make and Model Designation".
  - 3.2.1 The "Make-Model" designation must be unique from all other Identification Plate Approvals.
  - 3.2.2 The "Make" of the SSM should comprise a prefix, representing the second-stage manufacturer, followed by the "Make" of the completed first-stage vehicle. For example:-
    - A SSM modified "ALPHA", might be designated "ABC ALPHA".
  - 3.2.3 The "Model" of the SSM should include qualification as to the SSM vehicle type. For example:-
    - An SSM modified "ALPHA Beta", might be designated "ABC ALPHA Beta Ambulance", or "ABC ALPHA Beta Motorhome" as appropriate.
- 3.3 The SSM IPA arrangements are available to new vehicles subject to addition and/or modification, except where the nature of the addition and/or modification does not impact on the ADR certification of the first-stage vehicle, or when the impact is considered to be minor, and readily examined by the State/Territory registration authorities. Examples of additions/modifications considered to be of State/Territory responsibility are:-
  - Where the original rearward facing lamp units of a new chassis-cab are relocated with the adding of an otherwise non-ADR impacting goods carrying body.
  - Where the original external rear vision mirrors of a new chassis-cab are relocated to accommodate added goods carrying bodies of variable width.
  - Where additional Side-Marker lamps are added to a commercial vehicle chassis-cab.
  - Non-ADR-relevant body added to a commercial vehicle chassis-cab.
  - A heavy goods vehicle wheelbase extension.

NOTE: Vehicle Standards Bulletin VSB.6, Heavy Vehicle Modifications, applies to modifications to heavy vehicles with a GVM greater than 4.5 tonnes, or heavy trailers with an ATM greater than 4.5 tonnes.

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- 3.4 Typical examples of modified new vehicles that should access these SSM arrangements are: -
  - Light and Medium Goods vehicles subject to a Gross Vehicle Mass upgrade and/or a reduction in Lightly Laden Test Mass.
  - Passenger vehicle cut and stretched to become a Limousine or Hearse.
  - Vehicle subject to an engine/fuel type replacement or modification.
  - Ambulance, Motorhome or Fire Tender body added to a chassis-cab.
  - Vehicle modified to carry wheel-chair passengers or additional seats.
  - Vehicles modified from one ADR vehicle category to another vehicle category.
- 3.5 There are specific requirements for campervans and motorhomes, including when certified under SSM arrangements. These requirements are set out in Circular 0-4-12 "Certification of Campervans and Motorhomes".

#### 4. AUSTRALIAN DESIGN RULE EVIDENCE

- 4.1 Applications for SSM IPA must include an Application for Compliance Approval (Motor Vehicle) form, a Road Vehicle Descriptor, relevant Selection of Fleet submissions (SF forms) and resultant ADR evidence via RVCS, providing evidence of compliance with all ADRs applicable to the completed added to, or modified vehicle, and not solely evidence applicable to the second-stage work.
  - 4.1.1 "Compliance Demonstrated Using SARN(s) (MV)" forms may be submitted to carry over evidence already provided within the first-stage completed vehicle Approval, if that evidence remains unaltered by the second-stage manufacture's additions and/or modifications. Certification responsibility for any carry-over ADR evidence remains with the holder of the first-stage IPA.
  - 4.1.2 In submitting a "Compliance Demonstrated Using SARN(s)(MV)" form, the SSM makes a declaration that the ADR evidence to be carried over has been subject to appropriate examination attesting that it remains unaffected by the second-stage manufacture.
  - 4.1.3 Where the second-stage manufacture has an indirect effect on the first-stage evidence, but the second-stage manufacturer can demonstrate that the tests conducted by the first-stage manufacturer would also cover the second-stage work satisfactorily, then for the purposes of seeking SSM IPA this ADR evidence can also be carried over.
- 4.2 Any additions and/or modifications to the original vehicle must be supported by evidence of ADR compliance, as appropriate, and in the form provided by: -
  - Full Volume arrangements as per Circular 0-3-4 "Motor Vehicle Compliance Plate Approval", or
  - As per Circular 0-2-1 "Certification of Motor Vehicles Produced in Low Volume".

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- 4.3 Application for SSM IPA can only be based on one first-stage IPA, with a separate SSM application required for each different first-stage vehicle Approval. Accordingly, any carry over evidence, as per 4.1.1 above, can only reference the one first-stage Approval.
- 4.4 A SSM IPA can include multiple vehicle variants and multiple engines and other options included in the SSM RVD, as supported by the evidence of ADR compliance provided.
- 4.5 Applications for SSM IPA are expected to demonstrate compliance with all ADRs applicable as of the date of issue of the SSM IPA. However if a completed first-stage vehicle IPA does not yet include a new ADR introduced under transitional implementation arrangements, then the SSM may submit an SE blank-form, and make application for an exemption from that ADR by referencing this Circular 0-4-6 clause 4.5. If exemptions are granted, then the SE blank-form will be noted as "Not Applicable", and details of the exemption will be included in Schedule 5 of the Approval. Where such exemptions are provided the applicability date of the ADR will be noted, and the Approval issued will be restricted to the due date of that ADR. When the exempted evidence is subsequently provided, the Approval will be reissued without this date restriction.
- 4.6 Circular 79/00-1-1 "Second-Stage-of-Manufacture Emissions Evidence where there is an increase in GVM" details the arrangements that apply for emissions ADRs.

#### 5. CHANGE IN VEHICLE CATEGORY

5.1 Where a SSM IPA application changes the ADR Vehicle Category from the original completed first-stage vehicle, then the SSM IPA must comply with all the ADRs applicable to the completed SSM Vehicle Category, as at the date of the issue of the SSM IPA, subject to 4.5 above.

#### 6. ROAD VEHICLE DESCRIPTOR

6.1 Road Vehicle Descriptors (RVDs) are required for all SSM IPAs and should include all variants and options to be offered. The remarks section should include a brief description of the SSM additions/modifications, identifying the IPA and variant information of the completed first-stage vehicle.

#### 7. VEHICLE IDENTIFICATION NUMBER

7.1 The Vehicle Identification Number (VIN) of the SSM vehicle shall be the same as the VIN of the first-stage vehicle.

#### 8. DATE OF MANUFACTURE

8.1 The *Date of Manufacture* of the SSM vehicle shall be the date that it is completed and is in Australia in a condition that will enable it to be made available to the market.

#### Administrator of Vehicle Standards

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#### 9. IDENTIFICATION PLATES

- 9.1 Following issue of an SSM IPA, the second-stage manufacturer will be able to affix a Second-Stage-of-Manufacture Identification Plate in addition to, and adjacent to the existing first-stage Identification Plate, as demonstration that the vehicle complies with the conditions of the SSM IPA.
- 9.2 SSM Identification Plates must be as per Circular 0-3-2. All SSM Identification Plates will be made available from a Contractor authorised to manufacture and supply Identification Plates, unless the second-stage manufacturer is authorised by the Administrator to supply their own Identification Plates. The SSM Identification Plate will include both VIN and *Date of Manufacture* as per 7.1 and 8.1 above respectively.
- 9.3 There is a prescribed fee payable to the Commonwealth for each SSM Identification Plate that is affixed to a vehicle. This fee is included within the supply of Identification Plates from the Contractor 9.2 above. Where the Administrator has authorised the SSM to supply their own Identification Plates the prescribed fee is to be paid directly to the Commonwealth. As at 1 November 2003 the prescribed fee is \$7.50 for each Identification Plate to be affixed to a SSM vehicle.

# 10. ARRANGEMENTS FOR SSM LIGHT VEHICLES THAT HAVE BEEN SUBJECT TO A GROSS VEHICLE MASS (GVM) UPGRADE

- 10.1 Where a light vehicle is fitted with or is required to be fitted with Electronic Stability Control (ESC) system and a full volume SSM IPA is being sought, a GVM upgrade SSM IPA holder will be permitted to use ESC test reports owned by other GVM upgrade SSM IPA holders for the same make and model, provided the test covers the variants to be supplied. Coverage of variants is to be demonstrated using a 'worst case' assessment and selection of fleet forms. Use of any test report must also be permitted by the test report owner.
- 10.2 Low volume GVM upgrades on vehicles with suspension lifts less than or equal to 50mm will not require testing of the ESC system. For suspension lifts exceeding 50mm, full ESC testing will be required.
- 10.3 For SSM IPAs issued under the low volume scheme, numbers per Licensee for GVM upgrade are capped at 300 vehicles per annum per vehicle category and 100 vehicles per annum per SSM IPA.
- 10.4 0-4-5 certificate submissions will not be required on low volume GVM upgrades where GVM upgrade is the only modification being undertaken under an SSM IPA.
- 10.5 Existing full volume SSM IPA holders have the choice of converting their full volume SSM IPAs to low volume SSM IPAs. No application processing fees will apply to these SSM IPA conversions.
- 10.6 The towing capacity of a light vehicle expressed as Gross Combination Mass (GCM) rating or Rated Towing Capacity or Maximum Braked Towing Mass rating must not exceed the value set by the

## **Administrator of Vehicle Standards**

In consultation with the

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first stage manufacturer. Second stage manufacturers are not permitted to increase the towing capacity as part of an SSM IPA that results in GVM upgrade.