

V32(lv)(a): Light vehicle gross vehicle mass (GVM) – streamlined pathway

Information Bulletin

Purpose

The purpose of this bulletin is to outline a streamlined pathway to assist vehicle owners and modifiers seek approval for specific vehicle modifications where precedence has been established.

Where no precedence has been established, the full application process will apply.

This process has been developed to compliment the current Northern Territory (NT) light vehicle modification assessment process – refer to [Information Bulletin V32\(lv\) Light Vehicle Modifications](#)

By following this process, no formal application is required for assessment by the Technical Advisory Committee (TAC) – an industry-based committee established to assist the department assess light vehicle modifications.

The vehicle owner/modifier can seek the direct assistance from recognised engineering signatories for the necessary engineering certification. The engineer will liaise with the department to finalise certification and final approval for the modification.

Introduction

Increasing the carrying capacity of a vehicle above the rating specified by the original vehicle manufacturer requires validation from the vehicle manufacturer or engineering certification from a suitably qualified engineering signatory.

Modifications within the scope of this process are significant and extensive that have the potential to affect the safety of the vehicle and may affect the vehicle's strength, structural integrity and handling characteristics. As such, these modifications require a higher level of assessment compared with basic or minor modifications.

The involvement of a recognised engineering signatory - who is suitably skilled and qualified to assess and certify vehicle modifications for compliance with relevant standards - forms part of this process.

Standards for vehicles are prescribed in legislation while other recognised standards may be adopted into modification processes.

Unapproved vehicle modifications may compromise safety to road users, vehicle roadworthiness and affect any claim of insurance.

Recognised Standards

Australian Design Rules (ADRs) - National standards for vehicle safety, anti-theft and emissions

The ADRs are generally performance-based and cover issues such as occupant protection, structures, lighting, noise, engine exhaust emissions, braking and a range of miscellaneous items.

ADR Applicability Tables: <http://rvcs-prodweb.dot.gov.au/> and in Section LO of VSB 14.

Weblink: <http://www.dotars.gov.au/vehicles/design/>

Vehicle Standards Bulletin (VSB) 14 - National Code of Practice for Light Vehicle Construction and Modification

The National Code of Practice for Light Vehicle Construction and Modification (VSB 14) outlines the minimum design, construction, installation and performance requirements for modifications to light vehicles, for building Individually Constructed Vehicles (ICVs) and for the certification of certain imported vehicles.

Weblink: https://infrastructure.gov.au/vehicles/vehicle_regulation/bulletin/vsb_ncop.aspx

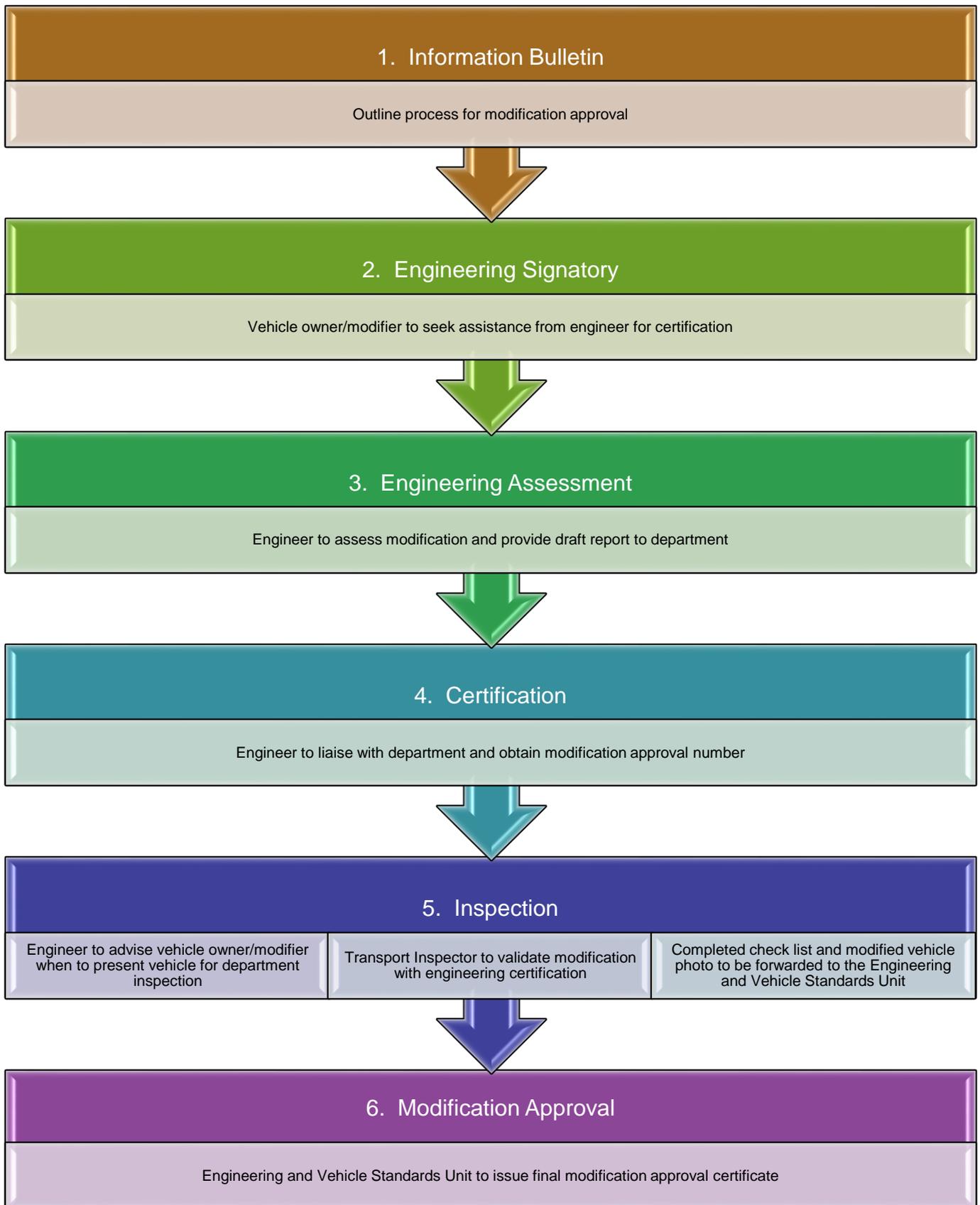
Vehicle Standards Bulletin (VSB) 6

National Code of Practice for Heavy Vehicle Modifications outlines minimum design, construction, installation and performance requirements for modifications to heavy motor vehicles and trailers.

The Northern Territory adopts VSB 6 for modification assessment of heavy vehicles and may apply relevant sections of VSB 6 when assessing light vehicle modifications that are outside the scope of VSB 14.

Weblink: <https://www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications/vehicle-standards-bulletin-6>

Flowchart for assessing light vehicle GVM upgrade



Scope

This bulletin outlines the streamlined process for GVM upgrades on in-service light vehicles (not more than 4.5t GVM) via the following options:

- 1) Replicating a SSM* vehicle by using the exact components in the SSM vehicle.
- 2) Combining the axle ratings as specified by the Original Manufacture.

**Second Stage Manufacturer (SSM) scheme – where GVM upgrades are authorised by the Commonwealth prior to the vehicle's first registration*

Where a GVM upgrade has a suspension lift more than 50mm over original vehicle height or the overall vehicle height is more than 100mm over original vehicle height (i.e. inclusive of suspension lift, body lift and/or larger diameter wheels and tyres), the modification is not within the scope of this process and individual assessment via the Technical Advisory Committee process is required.

Suspension lift can be measured as the vertical distance from the centre of the axle to the lowest edge of the vehicle body/wheel guard.

Requirements for GVM upgrades on vehicles are outlined in Section S of VSB 6.

<https://www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications/vehicle-standards-bulletin-6>

Towing capacity

NT legislation does not permit towing capacity increases in light vehicles unless approved by the original vehicle manufacturer.

The Gross Combination Mass (GCM) – the combined laden mass limit of the motor vehicle and trailer as set by the original vehicle manufacturer does not increase from a GVM upgrade.

The download towball weight (approximately 10% of the laden mass of a trailer with a drawbar) must be considered with the rear axle rating and GVM of the motor vehicle. Despite the towbar rating, the laden mass of the trailer might need to be reduced so that the sum of the laden mass of the motor vehicle and laden mass of the trailer remains within the GCM limit.

Vehicle owners/modifiers should seek towing advice from the original vehicle manufacturer.

Engineering signatory

A person intending to modify a vehicle in accordance with this bulletin must seek the assistance of an engineering signatory.

A recognised engineering signatory is a person recognised by the department as being able to suitably assess and certify vehicle modifications for compliance with relevant standards.

Vehicle owners/modifiers are free to utilise the services of any suitably qualified Chartered Professional Engineer including interstate engineering signatories.

Refer to [Information Bulletin V83 – Northern Territory recognised engineering signatories](#) for a list of engineering signatories who have expressed an interest in automotive work, and may be contacted to provide engineering certification on vehicle modifications carried out in the NT.

Engineering assessment and certification

The engineering signatory is required to certify the modified vehicle in accordance with VSB 6 Section S including Checklists S1 and S2 (due to the vehicle having a separate chassis) or where appropriate, Section LH of VSB 14.

Engineering certification must address the compatibility of the entire vehicle for the revised rating and consider the suitability of essential components under a range of varied operating conditions for normal road use.

Certification must ensure the vehicle does not behave in an unpredictable manner under any static and dynamic scenarios, including that of the original manufacturer's maximum un-braked towing capacity.

Where there is an ADR vehicle category change due to the revised rating, the certification must also address compliance with ADRs applicable to the new vehicle category (i.e. NA to NB1).

Consideration must be given to brake balance - front to rear, left to right. The correct balance prevents early locking of the wheels by proportioning brake force when required in relation to the vehicle's speed and suspension travel. This provides directional stability under hard braking. Proper adjustment of the brake balance will ensure that braking stability is maintained in accordance with the vehicle manufacturer's specifications.

Certification – validation

Certification reports are to be prepared in the format as outlined in the department **Information Bulletin V79 Northern Territory engineering signatory scheme** – refer weblink

<https://nt.gov.au/driving/industry/vehicle-information-bulletins-and-forms>

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| Step 1 | A draft of the certification is prepared in the approved format identifying the vehicle by its chassis number/vehicle identification number with relevant check lists attached. |
| Step 2 | <p>This draft is forwarded to the department Engineering and Vehicle Standards Unit via email to Vehiclestandards.mvr@nt.gov.au where a department officer will liaise with the engineering signatory to finalise the certification.</p> <ul style="list-style-type: none">• A reference number is issued for the certification.• A vehicle restriction is applied to the vehicle registration record as a control measure to manage the modification process. |
| Step 3 | When the final certification is accepted by the Engineering and Vehicle Standards Unit, the vehicle registration record is updated. |

Inspection

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| Step 4 | <p>Engineering signatory advises the vehicle owner/modifier to arrange for a final vehicle inspection by department Transport Inspectors at a Motor Vehicle Registry vehicle inspection facility.</p> <p>Darwin - online booking required for any light vehicle inspections. Refer to the Motor Vehicle Registry website or the NT REGO APP for online bookings.
Select the “Modified Vehicle” inspection option
http://www.transport.nt.gov.au/mvr/vehicle-inspection-online
http://www.transport.nt.gov.au/mvr/nt-rego-app</p> <p>Katherine Weighbridge and Alice Springs – normal business hours, no booking required</p> |
| Step 5 | A department Transport Inspector will inspect the modified vehicle to validate compliance with engineering certification. |
| Step 6 | <p>Department Transport Inspector will collate final documents and take photos of the modified vehicle for the purpose of the modification certificate.</p> <ul style="list-style-type: none">• Final documents include completed check list of the process as provided by the engineering signatory.• All documents to be forwarded to the Engineering and Vehicle Standards Unit. |
| Step 7 | Department officer to update vehicle registration record and issue modification certificate. |

Modification approval

When the department Transport Inspector has provided the Engineering and Vehicle Standards Unit with a passed vehicle inspection report and a photo of the completed vehicle, a modification certificate is issued to the vehicle owner.

A green laminated A5 modification certificate is issued to the vehicle owner via normal mail. This certificate is evidence of modification approval that must remain with the vehicle and must be presented to an authorised enforcement officer when requested.

Conditions of modification approval

General conditions:	Speedometer and odometer accuracy Speedometer and odometer accuracy must be maintained.
	Additional vehicle maintenance Engineering signatories may recommend additional maintenance and increased periodic inspections.
	Revised Gross Vehicle Mass Gross Vehicle Mass type approvals are only valid when Second Stage Manufacturer original or equivalent components are installed
	Replacement components Where the replacement of serviceable items is required, equivalent or improved rated components must be used.
Towing limitations:	NT legislation only allows the original vehicle manufacturer to set the towing capacity of the motor vehicle. Reducing the laden mass of the motor vehicle or trailer may be required to tow within the original Gross Combination Mass.
Ongoing Inspections:	The modified vehicle may be subject to having its periodic roadworthy inspection restricted to a Motor Vehicle Registry Vehicle Inspection Facility to monitor the specific nature of the modification. <i>(This condition may be reviewed, upon request)</i>

While certain modifications may be acceptable for Northern Territory registered vehicles - subject to conditions – the modified vehicle may not be accepted for registration by another jurisdiction. Vehicle owners should check with relevant jurisdictions prior to seeking registration outside of the Northern Territory.

Vehicle warranty and vehicle insurance

Any modification made to a vehicle may affect the vehicle's warranty or claim for insurance.

NT weblinks

NT legislation: <https://legislation.nt.gov.au/>

NT light vehicle inspection manual: <https://nt.gov.au/driving/rego/vehicle-compliance-and-modification/vehicle-standards-for-registration>

NT heavy vehicle inspection manual: <https://nt.gov.au/driving/heavy/heavy-vehicle-inspection-standards>

NT vehicle standards publications: <https://nt.gov.au/driving/industry/vehicle-information-bulletins-and-forms>

Check list – submit to Transport Inspector at final inspection

Steps	Task	Responsible Person/s	Date Completed
1	Vehicle owner/modifier to seek assistance from Engineer	Vehicle Owner/Modifier	
2	Engineer to assess vehicle in accordance with bulletin Original specifications GVM:ADR Category..... Overall height: Wheel track: FrontRear	Engineer	
3	Engineer to liaise with Engineering and Vehicle Standards Unit regarding certification	Engineer / Engineering and Vehicle Standards Unit	
4	Engineering and Vehicle Standards Unit to issue modification reference number Reference number:	Engineering and Vehicle Standards Unit	
5	Engineering and Vehicle Standards Unit to update vehicle registration record with certification approval and advise Engineer Certification Report:	Engineering and Vehicle Standards Unit	
6	Engineer to advise vehicle owner/modifier to arrange for final vehicle inspection	Engineer	
7	Vehicle owner/modifier to arrange inspection	Vehicle owner/modifier	
8	Transport Inspector to validate modified vehicle with certification and overall roadworthiness Vehicle Id: Wheel track: FrontRear Overall height: Inspection report: Inspector id:	Transport Inspector	
9	Transport Inspector to advise Engineering and Vehicle Standards Unit when inspection is satisfactory and provide photograph of completed vehicle	Transport Inspector	
10	Engineering and Vehicle Standards Unit to update vehicle registration record and issued modification certificate	Engineering and Vehicle Standards Unit	