

# The Commercial Vehicle Industry Association of Australia. Submission to the Review of the Heavy Vehicle National Law.

October 2020



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## Acknowledgment

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## Introduction

The Commercial Vehicle Industry Association of Australia (CVIAA) is a national peak industry association that represents suppliers of parts, services, repairs, and modifications to the Australian heavy vehicle industry. The CVIAA is active in five Australian states and has approximately 1300 members.

CVIAA is the co-ordinating body for the Motor Trader Associations (MTA) in SA, NSW, WA, the TACC in Tasmania and the CVIAV in Victoria.

The CVIAA is pleased to make the following submission for consideration by the National Transport Commission (NTC) relating to the review of the Heavy Vehicle National Law (HVNL).

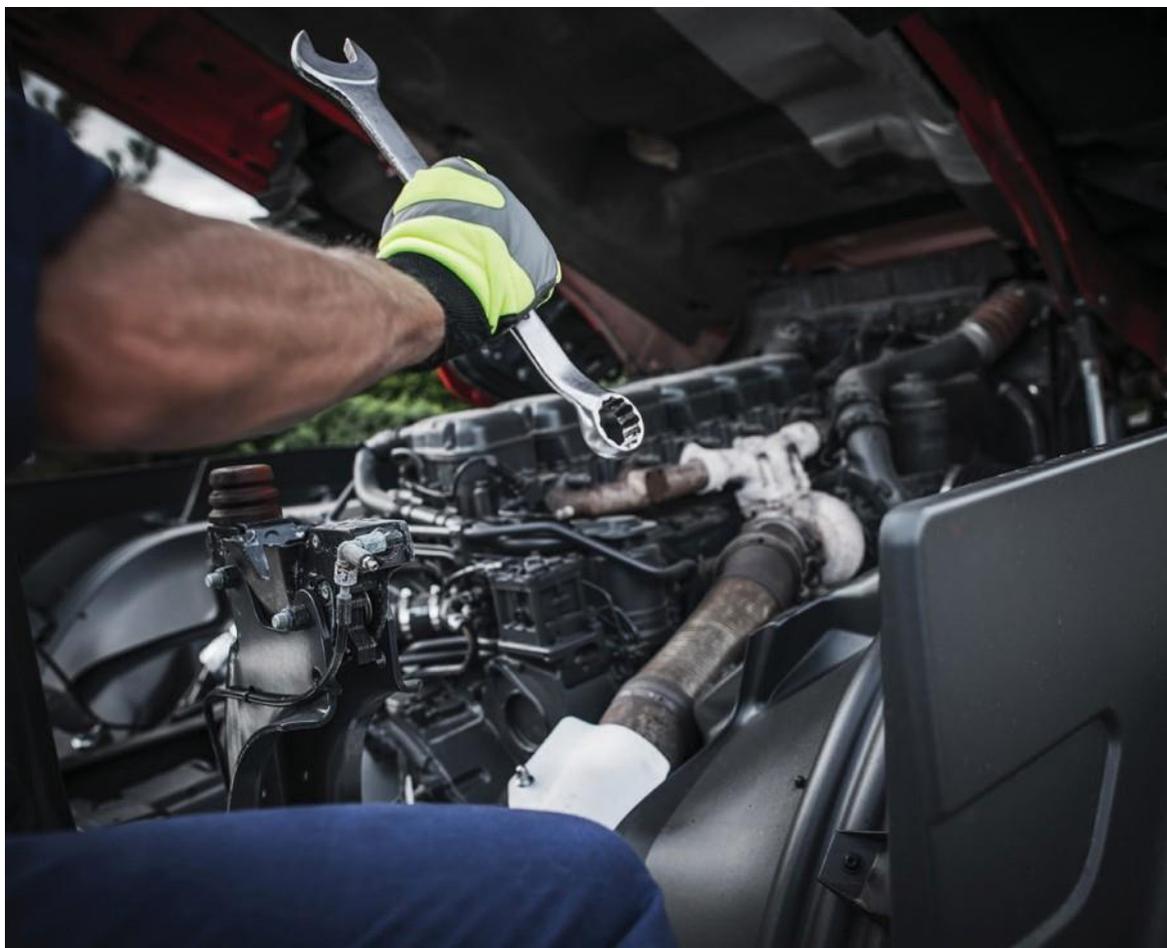
This submission focuses on areas of business interest to member companies. It has been developed via consultation with member organisations. A reference group was established that has met multiple times to develop this submission.

The CVIAA welcomes the Heavy Vehicle National Law Review. We understand that all aspects of the operation of the law are open for review. The CVIAA strongly supports a national approach to road transport. It hopes that the positive suggestions that are made below will help the NTC with this important work.

### 1 Standards of heavy vehicle repair

This item concerns the standard of repair work after a heavy vehicle has been damaged.

Clause 87 of the HVNL states: "A person must not use, or permit to be used on a road, a vehicle that is unsafe." The CVIAA agrees with this principle. The problem is that assessment of what is safe and unsafe in the repair industry is not defined by standards. The Original Equipment Manufacturer (OEM) specification usually does not consider repairs and does not provide guidance about when an item or subsystem should be repaired or replaced.



The CVIAA understands that:

- Service is the action of keeping the vehicle in roadworthy condition. The relevant standards are the Australian Design Rules (ADRs), National Heavy Vehicle Inspection Manual (NHVIM) and the OEM specification.
- Repair is the action of returning a damaged vehicle to acceptable condition. The OEM specification is relevant.
- Modification is the action of changing the vehicle specification. The relevant standard is the National HV Modification Code (VSB6).

The HVNL requires that an in-service vehicle continues to meet the vehicle standards specified in the original Australian Design Rules (ADRs). There are also minimum performance and feature standards in the HVNL vehicle standards regulations. These requirements do not explicitly concern the standards of repair, or in many cases, modification. Furthermore, the NHVIM (*Inspection Manual*) is a primary reference for roadworthiness assessments but is not applicable to repairs.

The suitability of modified vehicles should be certified by an Approved Vehicle Examiner (AVE) and a national modification plate attached to the vehicle. The suitability of servicing of the vehicle can be assessed by a roadworthiness inspector and a roadworthiness certificate can be issued. There is currently no mechanism by which repairs can be certified against technical standards.

Whilst the HVNL could specify that a repaired vehicle has the same specification as the original equipment vehicle, the original specification is usually non-committal about strength, squareness, alignments and use of substitute parts. A code that defines acceptable practice is needed by the repair industry.

The CVIAA believes that acceptable repair standards can be defined in an 'industry code' that could be registered under the Section 706 of the existing HVNL. The CVIAA wants to work with the insurance industry and associations representing operators to develop a national code of acceptable repair practice for heavy vehicle repairs (*The Heavy Vehicle Repair Code*).

The CVIAA acknowledges the existence of repair industry codes of conduct. For example, The Motor Vehicle Insurance and Repair Industry Code of Conduct, which is mandatory in NSW, can be cited. It establishes requirements for 'Network Smash Repairers' and describes minimum experience levels for 'Code Estimators'. This Code has merit as far as it goes. It does not cover standards of repair.

The CVIAA believes that the repairer should be accredited and that the HVNL should require the accredited repairer to provide the owner of the vehicle with a certificate of completion that declares the repairs are complete within the scope of engagement. These requirements could be specified in *The Heavy Vehicle Repair Code*

The certificate would require a declaration that the repair was conducted according the principles and instructions in the *The Heavy Vehicle Repair Code*.

The CVIAA does not foresee that an AVE or accredited roadworthiness inspector or any other inspector should be required to certify the repairs.

The CVIAA recommends:

1. A national code of repair practice be developed – *The Heavy Vehicle Repair Code*.
2. Repairers of heavy vehicles be required to issue a certificate in specified form to the owner of the repaired vehicle that declares the repairs are complete within the scope of engagement.
3. Repairers be accredited by an industry association that the repairer has been trained in, and has work practices in place that, provide confidence that the 'Repair Code' can be followed.

Whilst the scope of *The Heavy Vehicle Repair Code* does not include light vehicles, other associations might develop consistent practices for the light vehicle sector.

## 2 Quality of heavy vehicles offered at auction.

There is a serious problem with the quality of some second-hand vehicles that are offered for sale at auction. No warranties apply to such vehicles. It is impractical for a purchaser to adequately assess the defects that may exist because no workshop facilities are available, vehicles cannot be test driven and inspection access time is limited. Consequently, purchasers often find out afterwards that the heavy vehicle they have purchased is defective.

For example, chassis twists are almost impossible to measure outside a workshop. CVIAA members are aware of vehicles that have struck a bridge or tree, being offered for sale as a cab-chassis at auction. Subsequently, poor vehicle road tracking indicated the chassis rails were twisted.

There is a sector of the repair industry that purchases heavy vehicles at auction and repairs or modifies them for sale. A high percentage of these vehicles are repaired and then resold. This repair work is unregulated. It is common for cheap repairs to be done and for the quality of the repairs to be poor. This supply chain represents a high risk to public safety, and it should receive particular attention in the HVNL, based upon risk.

This situation is an unacceptable risk to the community because purchasers are likely to find a way to get the vehicle back into service as cheaply as possible. Because no national repair standards exist, many defective vehicles will be re-registered without the defects being adequately repaired.

CVIAA acknowledges that NSW operates a register of written off heavy vehicles (*HVWOVR*). The NSW scheme has two levels which are statutory write offs and repairable write offs. Suppliers and insurers of vehicles are required to engage an accredited *HVWOVR* Assessor to determine whether a heavy vehicle that needs repair should be classified as a 'total loss', or that it is viable to repair it.

The NSW *HVWOVR* scheme is based upon recognition that some damaged vehicles cannot be economically repaired. Even if vehicles can be economically repaired, the issue of how the vehicle can and should be repaired exists. Furthermore, many damaged heavy vehicles will not be

reported.

CVIAA also acknowledges that Austroads has published assessment criteria for classification of heavy written off vehicles and that the Transport and Infrastructure Council has agreed in principle to set-up a national register. Therefore, significant prior work exists that could form the basis of a national *HVWOVR*. The CVIAA welcomes these developments. They may help clarify the condition of some vehicles offered for sale at auctions.



The CVIAA recommends that heavy vehicles offered for sale at auction should come with a statement of defects (*Defects Statement*). The *Defects Statement* should be prepared by an accredited person such as an AVE or an Assessor accredited according to a national *HVWOVR*.

The law should require that a *Defects Statement* be cleared before the vehicle can be registered. Clearance of the *Defects Statement* might be undertaken by a person with suitable accreditation, who might be a licenced roadworthiness inspector, an AVE or a *HVWOVR* Assessor. There is great value in having defects recognised before such vehicles are presented for roadworthiness inspection because it will increase the likelihood, the defects will be corrected.

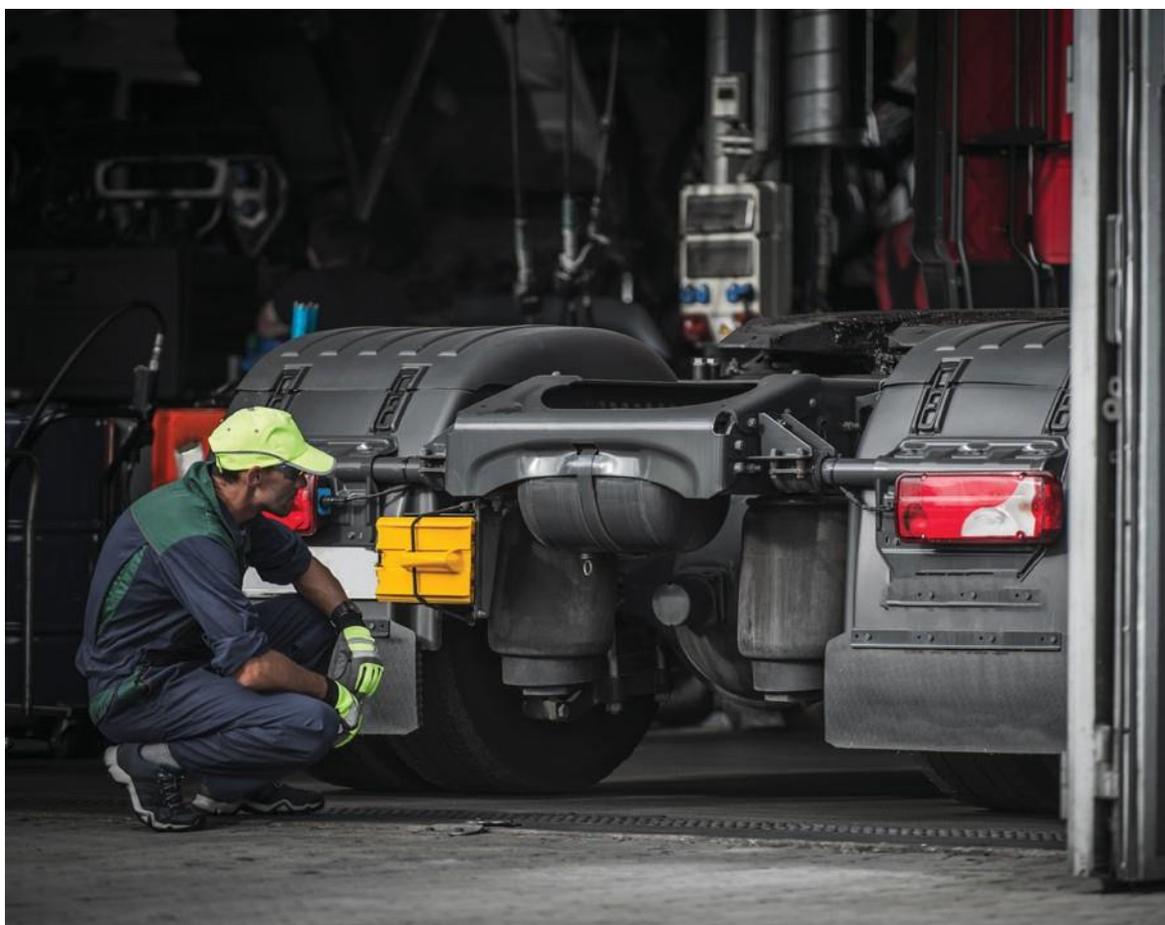
The purpose of this reform is to better inform the market about potential problem-vehicles and to lift the standard of repair of those vehicles.

The CVIAA envisages that the onus would be on the seller of the vehicle to provide this *Defects Statement* to the Auction House. This requirement would not apply to a licenced motor vehicle trader because there are already auditable reporting requirements.

### **3 Training, qualification and capability of workshop personnel**

The HVNL should promote continuous improvement of the standard of heavy vehicle repairs and modifications. Perhaps only 25 per cent of repairers have formerly qualified tradespeople. In many workshops there are none, so service, repairs and modifications are done without the supervision of a tradesperson. This puts the community and operations at risk because vehicles may not be safely serviced, repaired or modified, due to lack of skill and knowledge.

Many workshops have difficulty finding skilled and mechanically competent workers. Many workers do not have good English-language skills, and this limits their access to service manuals and instructions. The pay rates are usually low. There is no formal accreditation required and no control over shoddy repairers. Shopping on price without regard for quality is commonplace. This situation presents a safety risk to the community and operators of heavy vehicles.



The CVIAA recommends that the HVNL should require people who work at repairing, modifying or servicing vehicles to have basic training about heavy vehicle safety. Many leading workshops have established their own training programs; however, there is no nationally recognised approach. A training structure is urgently required that sits below the fully qualified trades level so unqualified workers can be trained without entering formal apprenticeship agreements.

The CVIAA contends that many repairs and modifications are not overseen by an AVE. Roadworthiness inspectors, if involved, may not be able to assess the quality of the work done based on observations of the finished vehicle, because the structural aspects of the repair or modification may not be visible. Therefore, it is important that the people doing the work:

- have basic mechanical knowledge;
- they work to quality checklists; and
- they are supervised by a qualified tradesperson.

The HVNL should apply the principle that: people or organisations that repair, modify or maintain heavy vehicles should have been trained to do so. This principle should result in a legal requirement that people or organisations that repair, modify or maintain heavy vehicles for fee or profit, should have the work approved by an accredited person.

To support this proposal, the maintenance and repair industry needs a qualification structure that is described in a national training and accreditation framework. This framework would probably be outside the HVNL. However, the HVNL should force it to be developed.

Work done on safety critical or safety relevant mechanical systems should be done by a worker who has passed basic mechanical training and is being supervised by an accredited (trade qualified) person.

The key aspects of a training and accreditation structure should be:

- a. Four training levels constituting *Heavy Vehicle Service and Repair Training* should exist. These are **Basic**, **Additional**, **Accredited (Trade)** and **Technician**.
- b. The **Basic** training standard should cover the basics of:
  - Braking.
  - Steering.
  - Wheel-end hardware.
  - Welding.
  - Lighting.
- c. **Additional** training might include:
  - Engine including emissions.
  - Chassis strength considerations.
  - Requirements in Vehicle Standards Bulletins.
  - Requirements in the National Heavy Vehicle Inspection Manual.
  - Quality checklists for specific tasks.
  - Participation in meetings (physical or virtual) involving Authorised Officers, AVEs and roadworthiness inspectors.
  - People who have **Basic** or **Additional** status, or are being trained, would need to work under supervision of an **Accredited** or **Technician** supervisor. The scope of the work they do should be covered by the training modules they had achieved, or are being trained in.



- d. A **Technician** level should exist above **Accreditation (Trade)** to provide a development path for accredited mechanics. The **Technician** level would involve modules dealing with advanced technologies on vehicles.
- e. The envisaged training structure would use existing apprentice modules where applicable; with some additional modules being developed.

Participants could acquire modules sequentially and build their knowledge and status within the industry. A path should be developed to allow workers with sufficient modules to achieve **Accredited** status.

CVIAA envisages that the *Heavy Vehicle Service and Repair Training* would be provided by TAFEs, accredited trainers or OEM supplier companies. The training module structure either exists or could be further developed by training agencies. The NHVR would not need to oversee the operation of this training.

CVIAA has also identified the need for refresher training, top-up training and additional modules relevant to body-building work and repair work are needed.

CVIAA is willing to play a leading role in defining the contents of *Heavy Vehicle Service and Repair Training*.

The CVIAA believes that if the HVNL were to require workers who repair, modify and service heavy vehicles to be trained, an improvement in vehicle condition would result in the medium term.

Furthermore, the future supply of accredited workers depends upon significant improvements being made to the existing trade-training, qualification structure and status of mechanical workers. Whilst the HVNL need not specify the details of the training, it should require safety-related work to be done by trained workers and to be approved by an accredited person. This stipulation would force improvements to be made to workforce training structures.

#### **4 Co-operation between industry practitioners and authorised officers**

CVIAA members have participated in meetings involving Authorised Officers, AVEs and roadworthiness inspectors to discuss vehicle standards and roadside enforcement assessments. Such meetings are worthwhile for all concerned because of the valuable knowledge and experience transfers that occur.



The CVIAA recommends that such meetings should be a regular occurrence. They could be virtual. Participation in them should be a requirement for accreditation of Authorised Officers and workshop personnel (see previous item).

The CVIAA is willing to play a role in establishing such (virtual) meetings in conjunction with the NHVR.

## 5 Accreditation of authorised officers

CVIAA members sometimes question the defect assessments made by roadside inspectors and by police. It is not uncommon for a defect to be cleared and to find it is then reimposed. These problems will be lessened if Authorised Officers are trained with minimum competency levels.

NHVL is silent about mechanical qualifications required by Authorised Officers. The CVIAA recommends that Authorised Officers should have standards equivalent to **Additional, Accredited** or **Technician** levels, as described for the *Heavy Vehicle Service and Repair Training* described in Item 3.

The CVIAA understands that the NHVR has been provided with a training syllabus that one of the CVIAA state members, MTA SA developed. An opportunity exists for co-operation between the NHVR and the industry associations about the nature of the training for Authorised Officers.

The CVIAA recommends that the HVNL should specify that Authorised Officers are specifically trained and that the NHVR require all Authorised Officers to partake in regular co-operative meetings with industry practitioners, as is described in Item 5.

## 6 Clearance of defect notices

Occasionally CVIAA members clear a defect notice that has been issued by an Authorised Officer and then find that defect notice has been reapplied. Sometimes police apply a defect notice without good knowledge of the NHVIM.

The HVNL provides no mechanism to resolve disputes over the correctness of defect notices or how a defect should be corrected. This puts the repairer in a dispute position with the enforcement officer and/or the vehicle owner. The sensible way forward is for the fleet or workshop manager to discuss the matter with the enforcement officer. However, there is no established mechanism available to do this.

The CVIAA recommends that a dispute resolution process is needed for defect notice clearance disputes. Such a resolution mechanism could be a 'Help Desk' run by the NHVR, that is operated by an experienced Authorised Officer. This desk would register the dispute. It would then seek to communicate with the repairer, the operator and the Authorised Officer and try to find a resolution.

The CVIAA is aware of frustration in the heavy-vehicle operator community about this problem. Under old arrangements, operators could call an officer in the local road agency to discuss the problem. That mechanism is no longer available because of changed reporting structures for roadside enforcement in many jurisdictions.

The CVIAA recommends that the HVNL should specify such a dispute resolution procedure and that the NHVR should implement it.

## 7 Chain of responsibility for service, repair and modification workshops

Repair, modification, and service workshops are not identified parties in the Chain of Responsibility (COR) requirements. CVIAA contends that it is impractical for them to be covered by COR because they do not have control over the heavy vehicles that come into the workshop. They are not empowered to stop a vehicle leaving the workshop once the agreed scope of work has been completed.

CVIAA recognises that repair, modification and servicing workshops do have a duty of care to the community generally; and to the vehicle owner specifically. Often CVIAA members will identify a developing or actual defect in a vehicle. Repair of the defect can be beyond the scope of the current engagement of the workshop.

The CVIAA recommends that the HVNL should require repair, modifying and servicing workshops to advise the vehicle owner in writing of the developing or actual defect that has been identified. This notification should be in a prescribed format. It would be non-binding on the owner of the vehicle.

Such a notification would advise the vehicle owner of a developing or actual safety issue and it should provide some legal protection for the workshop against a future incident resulting from the defect being ignored. Many workshops do place notes about unrepaired defects onto the invoice for the work they do. However, there is no compulsion to do so and it is unclear what legal requirements exist.

For high-risk defects that are evident to the workshop, the HVNL could prescribe a reporting requirement. However, a full audit of vehicle safety is usually outside the scope of engagement.

## 8 Quality of replacement parts

The HVNL requires that a vehicle continue to meet minimum standards including the original ADRs. HVNL provides no mechanism for regulating part quality, except for CRN and SARN parts. These later parts have ADR approval status.

Specific technical standards do not exist for many safety critical or relevant vehicle parts. Where standards exist, they often have no international or Australian status. Therefore, a practical difficulty exists in enforcing replacement-part standards because they do not exist.

The HVNL does not require replacement parts to be approved. The CVIAA cannot see a way in which mandatory replacement part quality could be generally enforced. However, a potentially useful approach is to require suppliers of replacement parts for heavy vehicles to follow a national code of conduct.

The CVIAA is contributing to the development of *Good Practice Guide for Supply of Replacement Parts for use on Heavy Vehicles*. This project is receiving support from the NHVRs safety initiatives program, which is supported by the Federal Government. A copy of the draft Guide is in Appendix 1.

The CVIAA recommends that the HVNL should state that suppliers of replacement parts have a duty of care to provide replacement parts that are fit for the intended purpose. The law might also require suppliers to keep a technical file that can be used to support the claim that a part is fit for purpose. It may also require records to be kept that show the quantities of parts supplied and where they were supplied. These requirements could be in an industry code of practice.

The next step in the development of the Guide is to have some local part supplier companies trial it and prove its value. In time the Guide might become a 'registered code of practice' under the Clause 706 path. Suppliers of replacement parts could discharge their duty of care to the community and to vehicle owners by complying with the code.

The CVIAA recommends that the NHVR oversee a trial of the Guide by some Australian suppliers to gain experience of it.

## 9 Clarification of responsibilities of AVEs

The National Heavy Vehicle Modification Code (VSB 6) specifies the basis of approval of modifications of heavy vehicles to be:

- A** maintenance of the original compliance status with the Australian Design Rules; and
- B** compliance with the OEM manufacturer's body builder guides, where applicable; and/or
- C** compliance with specifications in the VSB6 code.

The CVIAA agrees with this structure as far as it goes.

There are some modifications for which the above 'basis of modification approval' is unworkable. These modifications are not described in any of the referenced standards path, or there are practical reasons why the modification cannot be approved via these paths. Approved Vehicle Examiners (AVEs) often find themselves assessing work that they judge to be safe but outside prescriptive requirements in VSB 6.

The CVIAA recommends that VSB 6 should be amended to clearly define the ability of, and limits on, use of engineering judgement and assessments by Approved Vehicle Examiners.

The CVIAA contends that the preface to VSB6 should be amended to add a fourth element to the basis of the approval as follows:

- D** An AVE can approve a modification if it is safe. The AVE shall document the reasons for this assessment and refer where applicable to ADR, OEM Body Builders Guide, VSB6 clauses, technical calculations, or assessments to explain why the modification is safe.

Such an additional clause would provide certainty for AVEs about the procedures to be followed by them when they apply judgments based upon sound engineering principles and experience. In practice, judgements based upon engineering principles arise in most inspections because the general information in VSB6 cannot cover the range of details that each AVE routinely inspects. That is, the existing 'basis for modification approval' cannot be applied in many cases.

The CVIAA recommends clarity concerning the use of engineering judgement and assessment be added in the Heavy Vehicle Modification Code, VSB 6.

## 10 Office of Heavy Vehicle Safety

Improved safety is the principal motivation for the HVNL review.

The NHVR does not collect (as far as we know), HV safety incident reports.

The CVIAA contends that an 'Office of Heavy Vehicle Safety' should be established under the HVNL. This office would be responsible for:

- a. Collecting specific information about serious incidents involving heavy vehicles.
- b. Investigating selected incidents to obtain better understanding of causation.
- c. Issuing safety bulletins when necessary.
- d. Initiating mandatory safety recalls when necessary.
- e. Publishing aggregate incident data according to a detailed incident classification.



The CVIAA contends that this office could help to significantly improve road safety and occupational health and safety in the heavy vehicle sector. It could do this by making pertinent knowledge available to agencies, heavy vehicle operators and suppliers for urgent attention. At present information about safety incidents is not adequately reported or investigated by agencies.

This proposal would help drive a risk approach to management of heavy vehicle safety. The HVNL should specify that the *Office of Heavy Vehicle Safety* has the power to request incident information from insurers. It should also provide a mechanism for private practitioners to provide information about systematic risk situations.

The CVIAA envisages that the Office of Heavy Vehicle Safety would provide a focal point for reporting of heavy vehicle safety incidents by coroners, police, road agencies, OH&S agencies, insurers, investigators operators and the public.

The scope of activity by the *Office of Heavy Vehicle Safety* should include road safety and occupational health and safety. The later might help bridge the current discontinuity between road safety aspects, which are the focus of the HVNL, and Occupational Health and Safety regulations, which are the responsibility of other agencies of government.

The CVIAA recommends that the *Office of Heavy Vehicle Safety* be established under the HVNL.

## 11 Consolidated Vehicle Standards Guides (VSGs)

The road agencies all publish vehicle standard guides. Some of these are specifically directed to heavy vehicles. The CVIAA recognises the value of these guides but is concerned that they should be part of a national set of guides for heavy vehicles. Guides should be national, and they should be developed and published by the NHVR.

The CVIAA acknowledges that the NHVR has published 27 VSGs on its website. These are valuable documents. There could be another 20 or so VSGs based upon jurisdiction information that could be written.

The CVIAA acknowledges that local operating advice/requirements do occur because of the specialised nature of road transport in remote regions. Information about such requirements could be published by the jurisdictions as Vehicle Standards Instructions (VSI).

The CVIAA is prepared to work in conjunction with the NHVR and other interest groups to develop missing VSGs.

## 12 Need for additional national regulations

The CVIAA supports national regulation of the heavy vehicle sector. The CVIAA hopes that the new HVNL provide pathways that the Western Australian and Northern Territory Governments can follow to join the national scheme. Perhaps a mechanism might be provided to allow these jurisdictions to adopt some but not all HVNL aspects.

The CVIAA recommends that national vehicle regulations are needed for:

- a. Tow trucks.
- b. Crane trucks.
- c. Passenger buses.

At present different operating and approval conditions can apply to these vehicle types in different jurisdictions. Some of the differences arise because occupational health and safety (OH&S) regulations, as well as vehicle standards regulations apply.



Tow trucks and crane trucks can operate at the edge of special-purpose vehicle regulations. Sometimes they operate outside the permit framework because the movements are done under direction of police or road-agency personnel.

The vehicle-standards and the operating rules for tow trucks are currently different in different jurisdictions. This puts tow truck operators at risk because the rules change at borders and the operator might not be appraised of local requirements.

The Australian Design Rules have outdated tow truck standards requirements in ADR 44/02 (Specific Purpose Vehicle Requirements). This rule applies to ADR-certified tow trucks, which are a minute fraction of the tow-truck fleet. ADR 44/02 is based upon four tow-truck classes that are no longer used by jurisdictions. It also references AS1418 Rules for Cranes. However, the applicable tow truck standard for most tow trucks is now AS5400:2015 Tow trucks – Tilt, slide and underlift, which is not referenced. In summary, ADR 44/02 is no longer useful. VSB 6 Codes T1 & T2 are applicable when a tow truck is created via a modification path. A national tow truck regulation should encompass, revise and clarify these existing standards.

The CVIAA recommends that a national tow truck regulation be developed that covers:

- technical standards;
- operational vehicle standards;
- towing limits; and
- procedures for dealing with hazardous situations.

This will provide certainty for tow truck operators about rights and responsibilities.

Many heavy vehicles have cranes installed. There is a wide range of cranes in use, which span from small vehicle loading cranes with one stabilizer to custom built mobile cranes.

Crane trucks operate under both HVNL regulations and OH&S regulations. An AVE might approve the installation of a crane under an R code in VSB 6, which concerns the strength of the installation and the stability of the vehicle. An AVE is not required to certify that the crane is acceptable.

Many technical requirements and inspection timeframes for cranes that are used on vehicles are specified by jurisdictional OH&S rules. A national approach is preferred.

The CVIAA recommends that vehicles with cranes with a lifting capacity under 10t should comply with a national crane regulation. This should cover:

- crane technical standards;
- crane installation requirements;
- crane certification;
- periodic crane inspection requirements;
- operating conditions.

Note that cranes with a lifting capacity of greater than 10t are prescribed equipment and a work safety authority is likely to be involved.

There are different operational and vehicle standards requirements applied to school buses and motor coaches in different jurisdictions. These concern for example, the number and location of school-bus warning signs, door safety interlocks and seatbelt requirements. There is no evident reason why a national approach to bus standards cannot be achieved. The CVIAA appreciates that the passenger bus fleet is diverse, and it may be impractical to bring all buses to a current standard. However, if there is no national bus regulation, the differences between requirements in jurisdictions will be perpetuated.

The CVIAA recommends that the identified vehicle types could and should operate under national regulations. This will probably require transfer of some OH&S regulation requirements into the HVNL for some vehicle types. In so doing, a national approach can be achieved.

### **13 Need to develop an organisation chart**

The CVIAA contends that an industry 'Organisation Chart' is needed. This chart would identify all the authorities, agencies and associations that are pertinent to the heavy vehicle sector.

This chart is necessary because there are a multitude of parties in this complex, national industry. The chart would identify the area of responsibility of the organisation and its contact details, including web links. This would be useful for all participants to understand which entity to contact when arranging travel or solving operational problems that arise.

The CVIAA envisages that the chart would be accessible via the NHVR website.

The CVIAA is prepared to take a leading role in developing such an industry organisation chart. It would be grateful for any assistance that the NHVR and the NTC might be able to provide.

# ARTSA – Institute

## Good Practice Guide for Supply of Replacement Parts for use on Heavy Vehicles

V1.0 1<sup>st</sup> October 2020

### Purpose

This Guide provides advice to *Operators* of heavy vehicles and *Purchasers* of heavy vehicle parts for those vehicles, about the quality-assurance actions that *Suppliers* of replacement parts should take.

Operators should purchase good-value parts for heavy vehicles that will provide safe, reliable, and legal performance. Risks can be mitigated if *Suppliers* of replacement parts implement the quality-assurance activities specified in this Guide.

*Suppliers of Parts* who comply with this Guide; will identify appropriate technical standards, have validation test reports, keep supply records, review failure reports, and provide installation information. These actions will assist the *Supplier* to determine and monitor the quality of parts it markets.

The Guide is applicable to all *Suppliers*, be they original equipment suppliers or after-market suppliers. All *Suppliers of Parts* can and should comply with the requirements of this Guide.

*Purchasers* should buy parts from *Suppliers*\* who declare that they supply their Parts according to this Guide, so they can be confident that practices are being followed that promote good part quality.

\* Terms in italic text are defined in Section H - Glossary.

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## Guide Structure

The Guide is in seven sections:

### **Section A General Principles for the Safe Supply of Replacement Parts**

General principles that *Suppliers* and *Purchasers* of parts should follow. This Guide identifies these principles and explains their application.

### **Section B Good Practice Guidance for Suppliers of Replacement Parts**

Recommended actions to be taken by *Suppliers* that are specific to the safety level of the part.

### **Section C Good Practice Guidance for Purchasers of Replacement Parts**

Matters to be considered by *Purchasers* of replacement parts when making purchasing decisions.

### **Section D Good Practice Guidance for Purchase Managers Who Make Policy**

Recommended practices that are implemented by professional purchasers of *Replacement Parts*.

### **Section E Good Practice Guidance for Installers of Replacement Parts**

Matters to be considered by *Installers* of *Replacement Parts*.

### **Section F Safety Level Classifications of Common Part Types**

The safety classifications of a large range of parts is presented in this Section

### **Section G Glossary of Terms**

Glossary of terms and acronyms that are relevant to this Guide.

## SECTION A - General Principles for Safe Supply of Replacement Parts

### A.1 Overview

This **Guide** identifies good practice advice for suppliers and purchase of Parts that are used on heavy vehicles.

This **Guide** is directed to part suppliers and to consumers of parts. It is intended to inform purchasers, installers and authorities about good practice when specifying, selecting, and supplying replacement parts for heavy vehicles.

The *Part* can be a single item or an assembly of parts that perform a function on a heavy vehicle.

Good practice should result in the installed *Part* meeting legal requirements, and providing acceptable safety, performance, traceability, serviceability, and longevity.

This **Guide** is not a regulation and it is not a technical standard.

If that advice given in this **Guide** is followed by all participants in the parts supply-chain, operators can expect to experience safe, reliable, and legal operation of vehicles.

*Suppliers of Parts* to the market should comply with all the applicable recommendations of this **Guide**. These recommendations are in Section A.4 and in Part B.

*Suppliers of Parts* who claim that *Parts* they market were supplied in accordance with this Guide, must have evidence that all recommendations that are described in Part B as mandatory (i.e. “shall”) were met.

## A.2 Classification of Replacement Parts

There are five classifications of Parts for use on heavy vehicles that are recognised in this **Guide**:

**Original** – Replacement of an original part by the same part or a later generation of the original part that is supplied or manufactured by the original supplier.

**Alternative** – Replacement with a part that the original equipment supplier markets as an alternative to, or supersession for the original part.

**Approved** – A Part (or assembly or parts) that has an Australian Road Vehicle Certification System (RVCS).

Some vehicles may have plant equipment installed. Some parts or sub-assemblies that are used in plant equipment may require approval according to a regulation. Plant-item parts can be Approved parts, but generally, plant item equipment is outside the scope of this **Guide**.

Approved Parts may not be vehicle-model specific and so the part can usually be used on a range of similar vehicles to meet a requirement that is specified in a regulation.

**Substitute Part** – Replacement of the original part with a substitute part that may have different performance or characteristics compared to the original part and that is not an Alternative part.

If price and supply considerations are set aside, the hierarchy of choices is:

<p><b>Original Part (or Alternative Part)</b> <b>Maintains the original specification</b></p>
<p><b>Approved Part</b> <b>Has been proven to be acceptable because it has an Australian or International (ECE) approval issued by an authority</b></p>
<p><b>Substitute Part</b> <b>Could be acceptable if part quality and performance are adequate</b></p>

All these levels could be acceptable if the *Supplier* can demonstrate that the *Part* supplied according to the recommendations in this **Guide**.

### A.3 Activities Involving Parts

There are three activities that may require purchase and installation of *Parts*. These are: Service, Repair and Modification.

**Service (S)** – Routine action to keep the vehicle in an acceptable mechanical condition that may involve installation of replacement parts.

**Repair (R)** – Maintenance of functionality after failure that may involve installation of replacement parts.

**Modification (M)** – A change of functionality from the original specification that may involve installation of parts.

Whilst this **Guide** is focused on *Replacement Parts*, *Parts* for all these activities should be purchased from a *Supplier* who declares that the *Part* was supplied according to the recommendations in this **Guide**.

### A.4 Good Practice Principles

1. The **Guide** is mainly concerned with the performance and function of the *Part* and not the installation of the *Part*. However, installers and modifiers have a duty of care to ensure that the vehicle is safe with the *Part* installed. Note that road agencies require many types of modifications to be approved by an accredited person, such as an Authorised Vehicle Examiner (AVE).
2. This **Guide** defines good practice for the supply of parts, whether they are used for Service, Repair or Modification. Part suppliers may not know what purpose the part has been purchased for. Therefore, this **Guide** should apply generally to the supply of parts for heavy vehicles into the Australian market, irrespective of the intended activity.

3. Replacement of an *Original Part* by the same part or an *Alternative Part* is safe practice for the operator, assuming no defect or safety recall has been identified for the *Replacement Part*.
4. Replacement of an *Original Part* by an *Approved Part* is safe practice, assuming that the rating of the *Approved Part* is suitable for the application and no safety recall has been identified for the Replacement part.
5. Replacement of an *Original Part* by a *Substitute Part* is only safe practice if the *Substitute Part* has a suitable rating and no safety recall is applicable for the *Part*. Assessment of the quality of the *Substitute Part* is the responsibility of the *Purchaser* after taking note of the claims made by the *Supplier*.
6. A *Part* that is a sub-part in an *Assembly* does not inherit the approval status of the *Assembly* unless it has been tested in the approved assembly.
7. Irrespective of the *Safety Level* of the *Part*, *Purchasers* should purchase parts for which the *Part Supplier* claims are supplied in accordance with this **Guide**.
8. It is the responsibility of the *Part Supplier* to be able to validate claims made about parts. Validation testing may be required, even if the *Supplier* has no legal obligation to do so.
9. Suppliers of *Original Equipment Parts* or *Alternative Parts* have no special status in this **Guide**. They should supply *Parts* according to the requirements of this **Guide**.
10. *Approved Parts* shall have current approval status with the applicable regulator.
11. The performance ratings of a part shall be public information.

12. If safety depends on successful coupling of two parts, then both Parts must comply with a technical standard that governs the interconnection. Otherwise both Parts must be made by the same manufacturer.
13. Some of the **Guide** recommendations will involve business systems for design, quality assurance and record keeping that the *Part Supplier* has established and operates. These are necessary but not sufficient to ensure safety of the *Part*. The *Part* must also have an adequate and proven rating.

## A.5 Safety Levels

This Guide graduates the advice according to *Safety Level*.

The safety levels are:

### **Safety Level 1      Safety and compliance critical**

There is a significant risk that failure of the part could cause:

- A serious road incident.
- A serious risk of fire.
- Loss of driver/operator safety protections.

Make the vehicle illegal to use.

### **Safety Level 2      Safety and compliance relevant**

There is a significant risk that failure of the part could:

- Cause a loss of function or degraded performance of the vehicle.
- Disable the vehicle.
- Create a hazard.

Make compliance with the design rules uncertain.

### **Safety Level 3      Minor safety relevance**

Failure of the part:

- Could cause a loss of function that is unlikely to disable the vehicle but will be inconvenient.
- Does not make the vehicle illegal on the road.

**Safety Level 4      No likely safety or compliance issues**

- Failure of the part is unlikely to affect the safety, function, or legal status of the vehicle.

**Safety Level X      Dangerous or illegal to sell without permit**

A further graduation risk exists according to the warning of pending failure that is likely to occur:

- **High:** Failure is likely to occur without warning.
- **Low:** Failure is likely to occur with warning.

When there is doubt about the likely consequences of failure, these graduations should be used. If the graduation is High, then classify the Part into the higher safety level. If the graduation is Low, classify the part into the lower safety level.

A component within a part assembly inherits the *safety level* classification of the assembly unless a detailed analysis shows that the component has a lower *safety level*.

Safety Classification Guide:

**Reasonably possible consequences of Part Failure**

Serious crash or Injury. Vehicle is illegal.  <b>Safety 1</b>  High	Moderate injury. Incapacitated vehicle. Vehicle may be illegal.  <b>Safety 2</b>  Low                      High	Minor injury. Loss of function. Vehicle is legal.  <b>Safety 3</b>  Low                      High	Unlikely injury. Inconvenience. Vehicle is legal.  <b>Safety 4</b>  Low
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## A.6 Legal Requirements

Under Australian Consumer Law, suppliers of parts must only supply parts that are fit for purpose and are safe. The law requires that an unsafe part be formally recalled according to a public safety recall. A part that is safe but not fit for purpose must be corrected. Notwithstanding the preceding comments, this Guide does not present a comprehensive Guide to legal responsibilities of suppliers of parts. The reader is encouraged to consult the ACCC guidance documents.

This Guide recognises that a *Part Supplier* into the Australian market may not be the *Part Manufacturer*. However, the legal obligations arising under Australian consumer law may apply to the *Part Supplier* as if it was the physical manufacturer. Consequently, the *Part Supplier* has substantial responsibilities.

*Part Suppliers* should take note that defects in parts could result in a legal obligation to recall a part. Quality checks to ensure that parts are safe, and record keeping facilitating a safety recall should one be required, are legal obligations.

Installers and modifiers of vehicles should be aware of requirements in the Heavy Vehicle (Vehicle Standards) National (& Jurisdiction) Regulations that require a vehicle to comply with specified performance and design requirements, and in general to continue to comply with Australian Design Rule requirements applicable when the vehicle was made. There could be technical standards that a *Part* should meet depending upon the application.

According to the National Heavy Vehicle Law and jurisdictional regulations, many modifications of heavy vehicles must be approved by an authorised person. One element of the approval assessment is that the *Parts* are safe and suitably rated.

Part installers should be aware that legal requirements may exist under occupational health and safety regulations that are additional to those arising from vehicle standards regulations.

This Guide does not provide an alternative path to meeting the requirements specified in a regulation. Some types of parts (e.g. mechanical couplings and seatbelts) usually have an individual approval that is either issued by, or is acceptable to the Federal regulator (Vehicle Standards Section in Department

of Infrastructure) Compliance with this Guide is not an alternative to obtaining the required approval.

Chain of Responsibility requirements apply to the road transport logistics industry. The supply of unsafe parts may render the *Part Supplier* vulnerable to legal sanction.

## SECTION B - Good Practice for *Part Supply*

### B.1 REQUIREMENTS FOR PART OF SAFETY LEVELS 1, 2 & 3

#### B1.1 Technical Standards

1. The *Supplier* shall identify technical standards that apply to the type of part being marketed.

Notes: i). It may be that no such technical standards will be identified.

ii). There may be technical standards that are relevant to the material properties of the type of part, even though the type of part is not described in the technical standard.

2. The *Supplier* should determine whether the *Part* complies with one technical standard(s) identified in Item 1.

#### B1.2 Information Requirements

3. The ratings of the *Part* that are relevant to safe operation shall be publicly declared (e.g. output torque values for the hot and cold brake friction lining, D-value of coupling, load limit and wheel rim specification for an axle, etc.).
4. Fitting instructions including required torques, operating limits, checks to verify correct installation and key safety information, shall be made available.

5. If there are multiple ways to use the Part, operating instructions shall be provided.
6. Individual part numbers and manufacturers/supplier's identification shall be clearly visible on the *Part* or its packaging.
7. The *Supplier* shall keep a technical file with information substantiating any claim of compliance with this Guide. The technical file should at least:
  - Identify legal requirements and provide evidence of compliance.
  - Show typical markings that identify part numbers and standards (ECE markings, UL, DOT etc.).
  - Identify the part-number history of the part (it is recognized that part numbers of a part can change for various reasons over time).

The technical file need not be made public.

### B1.3 Design Procedure Requirements

8. Parts shall be manufactured to an engineering drawing or specification that shows dimensions, tolerances and material specifications. Material properties that are important for safety, performance, or longevity, shall also be specified.
9. Suppliers who are not Manufacturers shall verify the correct performance and installation information from the Manufacturer, or if this cannot be achieved, otherwise verify that the claims it makes for the part are valid.
10. When design or significant manufacturing changes are made to a part, the part number or its revision level shall be changed. The reason for the change shall be documented in the technical file.
11. The Supplier shall keep records that identify the date, quantity of supply and batch number (if applicable) of each part that it manufactures or receives from the manufacturer.
12. If the part number is revised so it carries the same base number, the revised parts shall be backward compatible. That is, can be installed into prior applications.

#### B1.4 Quality Assurance Procedures

13. The *Supplier* shall have quality assurance procedures in place that verify continuing compliance with the applicable standards or safety performance levels. This process is to be documented in the supplier's quality assurance procedures. The supplier can rely upon the QA procedures that the manufacturer asserts it follows.
14. The *Supplier* is encouraged to follow ISO 9001 / AITF 16949 quality assurance principles and practices, or some other QA standard that has comparable requirements.
15. *Parts* that are subject to a safety recall shall be withdrawn from sale and quarantined at the earliest opportunity.
16. *Parts* that the *Supplier* assesses could be defective shall be withdrawn immediately from sale and quarantined. The supplier shall then resolve any doubt about the acceptability or otherwise of the part.

#### B1.5 Technical File Requirements

17. The *Supplier* shall maintain a technical file for the *Part* that provides the information to show compliance with this **Guide** and with legal requirements. The *Supplier* need not make this information publicly available.

#### B1.6 Consumer Complaints and Warranties

18. The *Supplier* should record reports of failure of the *Part* and shall attempt to determine the conditions under which the reported failure occurred. Periodically the *Supplier* shall review the failure records and determine whether unexpected failure rates are occurring, and if so, shall determine the cause(s) of failure.
19. The *Supplier* shall have a written warranty policy that is made available to a *Purchaser* upon request. This policy shall take account of legal requirements in the Australian Consumer Law.

## B2 ADDITIONAL REQUIREMENTS FOR LEVEL 1 & LEVEL 2 SAFETY PARTS

### B2.1 Information Requirements for Safety Level 1 & 2 Parts

20. *Parts* (or the assembly if applicable) should have a durable serial number and/or a batch identification that is visible when the part is in service. This requirement is intended to assist with tracing of parts if problems are later identified.

### B2.2 Test Requirements for Safety Level 1 & 2 Parts

21. The design, performance and dimensions specified in a regulation shall be proven by laboratory-level tests conducted on a typical part.
22. Where verification or certification tests are needed to fulfill legal requirements, these shall be done by a laboratory that is accredited by an authority. For example, the laboratory either has a Technical Facility Number (*TFN*) or is accredited under a national laboratory accreditation program (e.g. AS, NATA, TIF, JIS, RVD,..).
23. The *Supplier* shall publicly declare – where applicable - the technical standard that the part complies with.
24. If the *Supplier* is not the manufacturer, the Supplier shall obtain a copy of the test report or the approval certificate from the Manufacturer, or otherwise verify the performance of the Part by tests or assessments that are documented.

25. A copy of the test report or the approval certificate shall be kept by the *Supplier* in the Technical File. This information need not be made public.
26. When the part number applicable to a Part is changed, an assessment shall be made by an appropriately qualified person to determine whether certification-level testing should be redone. The outcome of this assessment shall be noted in the technical file.
27. When comparison testing against an *Original Part* is conducted, the procedures and limits specified in UN Regulation 90 should be used as a Guide.

28. When comparison testing of brake friction material is conducted against an *Original Part*, the procedures and limits specified in UN Regulation 90 shall be followed.
29. At least every ten years the *Supplier* shall commission or perform tests on a representative *Part* or *Parts*, to verify that the *Part* meets the specification.

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## SECTION C - Good Practice Guide for Consumers of Replacement Parts

### C.1 QUESTIONS THAT *SUPPLIERS* SHOULD BE ABLE TO ANSWER

*Purchasers* should expect that a *Supplier* of parts could answer the following questions, which might influence the purchasing decision.

#### Questions Applicable to All Parts

**Q1** *What is the Safety Level of the Part?*  
(1 - High, 2 – Medium, 3 – Low, 4 - Negligible)

The quality activities that *Suppliers* of parts should follow depend upon the consequences of failure that exist. Some examples of *Safety Level* are:

- Safety 1     Steering kingpin.
- Safety 2     Load tiedown straps and mechanisms.
- Safety 3     Windscreen wiper rubbers.
- Safety 4     Bonnet emblem.

An extensive list of *Safety Levels* for types of parts is in Section F of the Guide.

**Q2** *What technical standard should the Part comply to?*

*Suppliers* should identify technical standards that could be applied to the type of parts they market.

**Q3** *If the Part could have a grading, rating or performance level, is this stated in the documentation?*

Rating levels such as strength, D-value, weight, amperage, maximum pressure, flow-rate, etc., are important performance levels that should be stated in the part information.

**Q4** *Are written installation and safety instructions provided with the part, or otherwise available?*

This information should include the rating where it is relevant to correct selection. Instructions can be important to assist with safe installation.

*Q5 Are quality assurance checks conducted on at least some Parts from each batch?*

*Suppliers* should check that the quality of samples from each batch is OK, whether they are the manufacturer or not.

*Q6 Does the Supplier have a written warranty policy and a means of recording and then investigating failures?*

*Suppliers* should investigate written (or formal) complaints about premature failures and should have a warranty policy for replacing defective parts.

#### C1.1 Questions Relevant to Safety Level 1 & 2 Parts

*Q7 Could use of the part affect compliance with a design rule or vehicle-standards regulation?*

If so, proof that the vehicle will continue to comply is needed.

Note: If the *Part* is used at OEM level on a comparable vehicle model, then it may be acceptable even if it is not an *Original Part*. The *Part* might also have approved status that applies to many vehicle models.

*Q8 Does the Part have a clearly visible part number and manufacturer's identification (label, stamping,..)?*

This is needed to verify that the correct part was supplied.

*Q9 Does the batch that the Part came from have a batch number?*

This is necessary so that quality problems become apparent can be traced to a particular date range or batch.

*Q10 Was the Part manufactured to an engineering drawing and does the material meet a specification? What is the material strength?*

Good quality parts must have properly documented and specified designs so that the performance of the part can be verified by engineering analysis and so consistent quality can be achieved.

## C1.2 Additional Questions for Safety Level 1 Parts

### *Q11 Does the part have a unique serial number?*

A unique serial number is not mandatory, but it is recommended. To facilitates traceability.

### *Q12 Has the model of the Part been tested against a technical standard and if so what standard and who did the test?*

There may be a suitable technical standard for a Safety 1 Part; such as an ADR, UN Regulation, Australian Standard or an overseas technical standard. The manufacturer of the *Part* should have the model of the *Part* certified by a capable laboratory against a suitable technical standard. This information should be publicly known so the *Purchaser* can be confident that the Part will perform adequately, and the installation is legal.

### *Q13 If there is no technical standard that can be tested against (as in Q12), has comparison testing been done against an original equipment part for your vehicle?*

A Safety 1 part should have some accreditation that provides confidence that it will perform adequately.

## C.2 GUIDE TO PART APPROVAL TYPES

Some types of parts or assemblies of parts can be ‘approved’. The approval is authorised by the Administrator of Motor Vehicle Standards, which is a statutory position established by the Road Vehicle Standards Act 2018. The forms of approval are:

- *Component Type Approval (CTA)*. This was previously called *Component Registration Number (CRN)*.
- *Sub-Assembly Reference Number – SARN* - (which is applicable to some ADR relevant assemblies such as foundation brakes for trailers).
- Some parts can be ‘approved’ according to an UN ECE certificate.

List of part types for which a Component Type Approval (CTA) can be obtained by the supplier from the Federal Regulator:

- Signal lamps, tail lamps, fog lamps and headlamps .
- Reflex reflectors.
- Ø Filament globes.
- Ø Tow couplings.
- Bus passenger seating.
- Front Underrun protection bars – FUPS.

Approvals can be found at:

[https://rvcs.infrastructure.gov.au/pls/www/pubrvcs.Notify\\_Search](https://rvcs.infrastructure.gov.au/pls/www/pubrvcs.Notify_Search)

Specify category CRN

(Note this website will transition to a new system called ROVER shortly)

List of part types for which a Sub-Assembly Registration Number (SARN) can be obtained by the supplier from the Federal Regulator:

- Bus chassis. (category BC and BC\_SO).
- Ø Trailer foundation brake (category FB).
- Ø Diesel engine (category DE).
- Brake control systems (category CS).
- Suspensions (category SS).

Approvals can be found at:

[https://rvcs.infrastructure.gov.au/pls/www/pubrvcs.Notify\\_Search](https://rvcs.infrastructure.gov.au/pls/www/pubrvcs.Notify_Search)

Specify Category CRN

(Note this website will transition to a new system called ROVER shortly)

List of part types for which an ECE Registration Number can be obtained by the part supplier from an overseas authority:

- Tyres.
- Couplings.
- Seatbelts.
- Signal lamps, tail lamps and headlamps.
- Glazing materials (windscreen, rear and side screens).

The Federal regulator can issue an approval for a road friendly suspension based upon evidence of compliance with Vehicle Standards Bulletin No 11. The list of approved suspensions is at:

[https://www.infrastructure.gov.au/vehicles/vehicle\\_regulation/suspension.aspx](https://www.infrastructure.gov.au/vehicles/vehicle_regulation/suspension.aspx)

Administrative circulars that are relevant to certification policy as applied to vehicles and parts can be found at:

<https://rvcs.infrastructure.gov.au/> then menu pick Administrator's Circulars.

## SECTION D - Good Practice Guide for Installers of Parts

1. Determine the Safety Level of the Part
2. A Part should have a part number, either on the part or on the packaging. Determine the part number and if you have any doubt, check it is correct for the vehicle or application that you are putting it into.
3. If you are concerned that the Part quality is unacceptable, or that the rating may be inadequate, do not install it. Complain to your manager or to the client about it, pointing out the deficiency.
4. Installation instructions are a must-have for Safety Level 1, 2 & 3 parts. If they are not provided, ask the purchasing officer to get them from the Supplier. If the Supplier cannot get the instructions, complain and send the parts back.
5. The rating (or technical standard that the part complies with) of the replacement part should be stated on the installation literature or website.
6. Always check that the ratings of the part are adequate for the job.
7. You may be asked to install a part that seems to be defective or is not in serviceable condition. Ask the purchasing officer or the client for another. Parts shall be fit for purpose.
8. Don't take the rap for installing a deficient part!

## SECTION E - Good Practice Guide for Purchasing Managers Who Set Policy

1. Develop a policy that guides purchasing decisions based upon *Safety Level* and type of part.
2. Ensure that the policy is known and understood in your organisation.
3. Determine the *Safety Levels* of the types of parts that you purchase or oversee.
4. Set clear guidelines for staff so that ad-hoc purchasing decisions are not made.
5. Put time into researching the quality of parts so that you are happy with the purchasing guidelines for the various types of parts.
6. Remember that safety and quality come before price. Sometimes the cheaper part will be adequate; but make this decision with a sceptical eye!
7. Consider the warranty implications of parts purchasing decisions. Is the OEM warranty still valid with the replacement part installed? Is there a documented warranty on the replacement part?
8. Keep in touch with your installers and operators so that you are informed about the safety and reliability of parts that are purchased. Their feedback should influence your purchasing policy.
9. Purchase parts from a *Supplier* who confirms compliance with this Guide.
10. Determine whether installation of the *Part* could make the vehicle unroadworthy. If so, the *Part* should not be installed.

11. Consider legal requirements under Chain of Responsibility (COR) legislation.

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## SECTION F - Safety Level Classification of Common Part Types

(These lists are not exhaustive)

### F1 Level 1 Parts – safety and compliance critical

<b>Auxiliary – Safety 1</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Vehicle jack	ACCC reference to AS 2615:2016, Hydraulic trolley jacks.	Vehicle drops when being maintained.
Burst valve protection for hydraulic lifting cylinders	No	Unexpected drop in the event of a hydraulic hose bursting

<b>Brake System Components – Safety 1</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Spring-brake control valve on the truck	ADR 35 requirements exist. Dual release actions needed	Unexpected release of parking brake
Spring-brake relay valves	ADR 35 requirements exist.	Unexpected application of the parking brake
Service brake foot valve on the truck	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of service brake effect
Service brake relay valve	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of service brake effect

<b>Mechanical Couplings and subcomponents – Safety 1</b>		
<b>Part Type</b>	<b>Technical Requirements*</b>	<b>Safety and Compliance Risk</b>
Automatic Pin Coupling	CRN or UNECE. ADR 62 requirements exist	Possible trailer separation
Ball coupling	CRN or UNECE. ADR 62 requirements exist	Possible trailer separation

Fifth Wheel	CRN or UNECE. ADR 62 requirements exist	Possible trailer separation
Fifth Wheel angle	Adequate strength	Possible trailer separation
Fifth wheel mounting plate	Adequate strength	Possible trailer separation
Trailer skid plate	Adequate strength	Loss of kingpin leading to trailer separation
Pintle hook coupling	CRN or ECE. ADR 62 requirements exist	Possible trailer separation
Towbar	CRN. ADR 62 requirements exist	Possible trailer separation
Towing kingpin	CRN or UNECE. ADR 62 requirements exist	Possible trailer separation
Turntable	CRN is not issued for a turntable alone.	Possible trailer separation

<b>Rear Axle and Suspension</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Rear axle beam	Adequate strength	Loss of directional control
Rear suspension structural elements including sway bars	Adequate strength	Loss of directional control

<b>Steering System and Front Axle – Safety 1</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Front axle beam	Adequate strength	Loss of steering control
Front suspension spring (mechanical or airbag)	Adequate strength	Loss of directional control
Front suspension U-bolts	Adequate strength	Loss of directional control
Steering Arm, Pitman Arm and Draglink	Adequate strength and dimensions	Loss of directional control
Steering box	Adequate rating	Loss of directional control
Steering hoses		Loss of directional control
Steering kingpin	Adequate strength	Loss of steering control
Universal joints for steering column	No	Loss of directional control

<b>Tyres and Wheels – Safety 1</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Steer Tyre	UNECE R24	Loss of steering control
Front wheel rims	DOT	Loss of steering control

## F2 Level 2 Parts – Safety and compliance relevant

<b>Brake System Components – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Air brake valves generally	ADRs 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of braking performance
Antilock Brake System (ABS)	Design and performance standards exist in ADRs 35 and 38.	Loss of wheel lock-up protection.
Vehicle Stability Control System (VSCS)	Design and performance standards exist in ADRs 35 and 38.	Loss of directional control protection
Brake Actuator	Refer to ATA/ITC TAP Compliant brake chambers V2.1, January 2017. ADRs 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of service brake or park brake action at one axle
Brake Air tank	Note that large volume tanks may be pressure vessels under OH&S regulations	Loss of service brake or park brake action at multiple axles
Brake drum	ADRs 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of service brake or park brake action at one axle
Brake warning lamps	-	
Disc brake calliper	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of service brake or park brake action at one axle

Disc brake pad	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific. ADR 38 SARN can be relevant. ADR 38 SARN may be applicable.	Loss of service brake or park brake action at one axle
Disc brake rotor	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific.	Loss of service brake or park brake action at one axle
Drum brake shoe	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific. ADR 38 SARN can be applicable.	Loss of service brake or park brake action at one axle
Electronic Stability Control (ESC)	Yes. ADR 35 and 38 design and performance requirements exist for ESC	Loss of vehicle stability control protection
Exhaust brake	No. ADR 80 requirements exist	Loss of some braking affect
Brake air hoses	SAE & DIN standards exist but are not mandated	Loss of brake function at multiple axles
S-cam mechanism for drum brakes	No. ADR 35 & 38 require parts to comply to a national or international standard but are not specific.	Degraded brake performance or wear performance at one axle.

<b>Cabin Components – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Driver seat with integral seatbelt	Yes. ADRs 3, 4, 5 are relevant.	Loss of driver seatbelt protection
Seatbelts	Yes. CRN or UNECE	Non-compliance. Loss of occupant safety protection
Side window glass	Yes. AS2080, UNECE R34, BS AU178, JIS 3211	Non-compliance. Loss of occupant safety protection
Speedometer	Yes. ADR 18 requirements to be met	Loss of accurate speed indication results in safety vulnerability
Windscreen	Yes. AS2080, UNECE R34, BS AU178, JIS 3211	Non-compliance. Loss of occupant safety protection. Poor visibility of road

<b>Chassis Components – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Chassis rail	No	Cracking of a chassis rail could lead to poor road handling or loss of directional control.
Cross-members and cross-member brackets	No	Cracking of cross-members could lead to poor road handling.
Front Underrun Protection (FUPS) bar	Yes. CRN	Non-compliance with ADR 84 under-run requirements
Front Underrun Protection Bar / Bullbar	ADR 84 / UNECE R93 strength requirements	Failure to comply

<b>Engine and Drivetrain Components – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Driveshaft	No	Loss of traction. In extreme cases, mechanical damage to the chassis and/or loss of parts endangering other road users.
Universal joints in tailshaft	No	Loss of traction. Mechanical damage if driveshaft falls off. Debris on roadway.
Electric starter motor cables	No.	Fire risk
Exhaust Muffler	No. ADR 80 & 83 requirements	Non-compliance with ADR 83 noise requirements.
Exhaust pipe	No. ADR 80 & 83 requirements	Non-compliance with ADR 83 noise requirements.
Diesel Engine	SARN, ADR 80 requirements exist. ADR 65 speed limiting requirements exist	Emission compliance and speed limiting non-compliance.
Steering pump	No	Loss of steering system effect
Power steering hoses	SAE & DIN standards exist but are not mandated	Loss of steering performance
Transmission	No. ADR 65 speed limiting requirements exist	Non-compliance with speed limiting requirements
Turbocharger	No. ADR 80 requirements exist	Non-compliance with AD 80 emissions requirements.
Air compressor	ADRs 35 & 38 require parts to comply to recognised standard but are not specific.	Loss of braking performance
Hydraulic hoses	SAE & DIN standards exist but are not mandated	Fire risk. Risk of dropping body or load

<b>Lighting – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Headlamps and taillamps	Yes. CRN or UNECE	Non-compliant headlights. Loss of some visibility
Signal Lamps	Yes. CRN or UNECE	Non-compliance. Loss of correct visibility to other road users.

<b>Load carrying and Tiedown Components – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Load tie-downs	No	Breakage of tie-downs leading to moving loads.
Side curtains	Yes. Load Restraint Guide must be complied with	Loss of load
Side gates for trays	Yes. Load Restraint Guide must be complied with	Loss of load

<b>Wheels, Axles and Suspensions – Safety 2</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Wheel rims (Not front axle)	No. DOT marking	Cracking of wheel rims. Wheel detachment
Non-steering axle	No	Breakdown. Loss of directional control
Wheel bearing	No	Loss of steering control. Fire risk.
Shock absorber	No. Road Friendly Suspension status must be maintained.	Non-compliance with RFS requirements. Loss of suspension effectiveness
Suspension Airbag	Relevant to road friendly suspension approval status	Loss of suspension effect at one location. Poor road handling. Non-compliance with RFS requirements.

### F3 Level 3 Parts – Minor Safety Relevance

<b>Chassis Components – Safety 3</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Brake hose clamps	No	Loss of brake function, mainly at one axle.
Bull-bar	No	Visibility and protrusion safety concerns

<b>Cabin Components – Safety 3</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Cabin structural members	No	Cracking of the cabin
Sunvisor	No	Loss of occupant protection. AD 11 requirements in some vehicle categories.
Windscreen wiper rubbers	No	Loss of windscreen wiping effectiveness. Premature wear
Cabin steps	OH & S requirements	Breakage causing loss of functionality
Grab handles	OH&S requirements	Breakage causing loss of functionality.

<b>Electrical Components – Safety 3</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Batteries	No	Fire and explosion risk
Electric looms generally	No	Fire risk
Electrical circuit breakers	No	Fire risk
Electrical fuses	No	Fire risk
Electrical leads for trailers	No	Fire risk. Loss of lighting functions on trailer

<b>Engine and Drivetrain Components – Safety 3</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Air filter	No	Loss of emissions compliance because intake restriction if excessive. Engine dusting risk
Instrumentation generally (not speedometer)	No	Loss of driving information. Inaccurate readings.
Radiator	No. Engine manufacturer's cooling requirements exist.	Loss of engine performance
Retarder	No	Loss of braking assistance
Oil filter	No	Loss of engine safety
Engine-Brake	No	Loss of braking assistance
Bug Deflectors	No	Loss of road visibility on long-bonneted trucks
Hydraulic controls generally	No. OH&S requirements exist	Safety control performance
Fuel filter	No	Loss of filter performance. Fuel delivery restriction leading to loss of power
Thermal fan clutch	No	Loss of engine performance
Fuel tank addition	No.	Risk of fuel loss onto roadway
Starter motor	No.	Loss of starting function
Intercooler	No. ADR 80 requirements exist	Change of air intake restriction level could alter emissions status

<b>Lighting – Safety 3</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Reflectors	Yes. CRN or UNECE	Non-compliant visibility for other road users.
Beacon lightbar	No photometric requirements	Loss of performance that is mandatory for some special-purpose vehicles.

<b>Wheels, Axles and Suspensions – Safety 3</b>		
<b>Part Type</b>	<b>Technical Requirements</b>	<b>Safety and Compliance Risk</b>
Metal mudguards	No. ADR 42 requirements exist.	Non-compliance with ADR 42. Loss of mudguard.

Plastic mudguards	No. ADR 42 requirements exist	Non-compliance with ADR 42. Loss of mudguard.
Rear differential	No	Mechanical breakage disables vehicles
Panhard Rods for Suspension	No	Inadequate strength could result in cracking of the axle.
Rear-axle tyres	Yes. ECE R24	Poor tyre grip. May be relevant to Performance-Based Standards (PBS) status

#### F4 Level 4 Parts - No likely safety or compliance issues

Part Type	Approval Applicable	Likely Failure Outcome
Radio Antenna	No. Height restrictions exist in ADR 43 but antennae are unlikely to reach that height	In extreme cases, risk of touching power lines
Power Take Off (PTO)	No	Loss of function
Cooling fan	No	Loss of function
AdBlue tank	No	Loss of function. Engine derating
Bonnet emblems	No	Road debris risk
Cabin trim	No	Loss of function

#### F5 Level X Parts – Illegal to supply without permit

Part Type	Technical Requirements	Legal Situation
Re-webbed seatbelts	Re-webbing might be considered if the seatbelt is frayed or if the seatbelt has experienced a severe collision. Re-webbing is unacceptable to State and Territory road safety agencies.	It is illegal in most jurisdictions to sell used road-vehicle seatbelts that have been re-webbed.
Asbestos in Parts	Prior to the late 1970s Asbestos hoses, brake linings, clutch plates, gaskets, exhaust laggings, mufflers, valve rings etc. Technical standards either did not exist or have been withdrawn.	Asbestos is a prohibited import. Asbestos is prohibited in automotive parts by State and Territory Regulations
Refrigeration gases that are not acceptable in Australian vehicles	Propane has been used as a cheap and effective refrigeration gas. Propane presents a significant fire and explosion risk if it leaks out near to an exhaust.	Propane can be used

## SECTION G - Glossary

*Alternative Part* – A part that the supplier of the *Original Part* markets as an alternative to the *Original Part*.

*Approved Part* – A part that has been approved by an authority for use at a stated performance level.

*Campaign* – a recall of a part that is not reported to the ACCC.

*CRN* - Component Registration Number – An approval issued via the *RVCS* for certain type of parts. See Part C for a list of types.

*CTA* – Component Type Approval – An approval for a part that is issued via *ROVER* for certain types of parts. See Part C for a list of the types.

*Installer* – The person or entity that installs the *Part* into the vehicle. This person may or may not be the *Supplier* or the *Purchaser*.

*Manufacturer* – The person or entity that manufactured the *Part*.

*Modification Part* – A part that is used to modify a heavy vehicle.

*Original Part* – A part that was originally supplied and installed by the vehicle manufacturer or its agent.

*Part* – A physical item intended to perform a function that could be used on a heavy-vehicle either as a replacement part or as a modification part.

*Purchaser* – The person or entity that purchases the *Part* from the *Supplier*.

*Replacement Part* – A *Part* that is used to replace a previously installed *Part*.

*RVSA* – Road Vehicle Standards Act (2018) – This Act of the Federal Parliament that supersedes the Federal Motor Vehicle Standards Act (1989).

*RVCS* – Road Vehicle Certification System. The system of administration of new road vehicles and certain types of parts for supply to the market in Australia. The *RVCS* is established by the Federal Motor Vehicle Standards Act (1989).

*ROVER* – The system of administration of new vehicles and some types of parts that is established by the Road Vehicle Standards Act (2018).

*SARN* - Sub Assembly Reference Number – An approval issued by the RVCS for certain type of sub-assemblies of parts. See Part III for a list of types.

*Safety Recall* – a recall of a part that is reported to the ACCC.

*Similar Part* – A part that is an *Original Part* on a comparable vehicle and that could be used as a *Replacement Part* on an identified alternate vehicle.

*Substitute Part* – A part that could be used as a *Replacement Part* that is not an *Original, Alternative, Approved or Similar Part*.

*Supplier* – The person or entity that markets the *Part* for use on heavy vehicles.



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