

Accelerating Better Decisions



GOOD PRACTICE GUIDE FOR CONSUMERS OF REPLACEMENT PARTS FOR HEAVY VEHICLES

Purpose:

This guide has been produced by ARTSA-i because of safety concerns over the lack of a verifiable quality standard or measure for some imported heavy vehicle replacement (spare) parts in Australia.

Many safety and compliance-critical parts are being supplied and fitted to in-service heavy vehicles that are poor or unverified quality. Consequently, road users are at an increased risk of crashes or breakdowns involving heavy vehicles. Additionally, operators and drivers of heavy vehicles could be vulnerable to enforcement violations and loss of vehicle productivity.

The guide provides a list of questions that consumers can ask part suppliers about the quality and suitability of a replacement spare part. The guide also provides advice about the different types of approved spare parts.

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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 activities that *Suppliers* of parts follow should depend upon the risk level and hence the Safety Level classification that exists. Some examples of Safety Level are:

- | | |
|----------|-------------------------------------|
| Safety 1 | Steering kingpin. |
| Safety 2 | Load tiedown straps and mechanisms. |
| Safety 3 | Grab rail for cab entry. |
| Safety 4 | Bonnet emblem. |

An extensive list of Safety Levels for types of parts is in Section D of the Replacement Parts Guide.

Q2 What technical standard does the Part comply to?

Suppliers should be able to identify technical standards that could be applied to the type of parts they market. However, specific technical standards may not exist.

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

Rating levels such as strength, weight, amperage, maximum pressure, flow-rate, etc., are important performance levels that should be stated in the part information. The strength ratings of mechanical couplings (D-value and V-value if applicable) should be provided on the Part.

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

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 process 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

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

1.2 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.

A Guide to Part Approvals

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.

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

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

Approvals can be found at:

https://rvcs.infrastructure.gov.au/pls/wwws/pubrvcs.Notify_Search Specify
category CRN

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

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

Approvals can be found at:

https://rvcs.infrastructure.gov.au/pls/wwws/pubrvcs.Notify_Search Specify
Category SARN

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

- Tyres (Regulations 30 or 52).
- Tyre pressure monitoring systems (Regulation 141) > Couplings (Regulation 55).
- Seatbelts (Regulation 16).
- Signal lamps, tail lamps and headlamps (Master Regulation 48, Regulation 148, Regulation 149,...).
- Glazing materials (windscreen, rear and side screens (Regulation 43).
- Truck cabin strength (Regulation 29).
- Occupant protection airbags (Regulation 94).
- Autonomous Emergency Braking system (Regulation 152).
- Automated lane keeping systems (Regulation 157).

Such parts are marked with an  approval number. This approval is acceptable to the Administrator as if it was a CRN (where applicable).

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

This guidance has been produced by ARTSA-i and industry partners and this and other information about replacement spare parts are available at www.artsa.com.au