

Repair Method Options

Helping Repair Certifiers Determine the Most Appropriate Repair Method



Supporting New Zealand's Repair Certification Industry

About RepairCert NZ Information Sheets

These Information Sheets have been developed to provide operational information to Repair Certifiers, to assist them in correctly carrying out their repair certification responsibilities.

Purpose of this Information Sheet

The purpose of this Information Sheet is to help Specialist Light Vehicle Repair Certifiers (Repair Certifiers) determine the most appropriate repair method when making any repair certification decisions.

This area of responsibility is considered a 'cornerstone' principle, and having a clear understanding of this will help Repair Certifiers to make decisions that are correct, and legally supported.

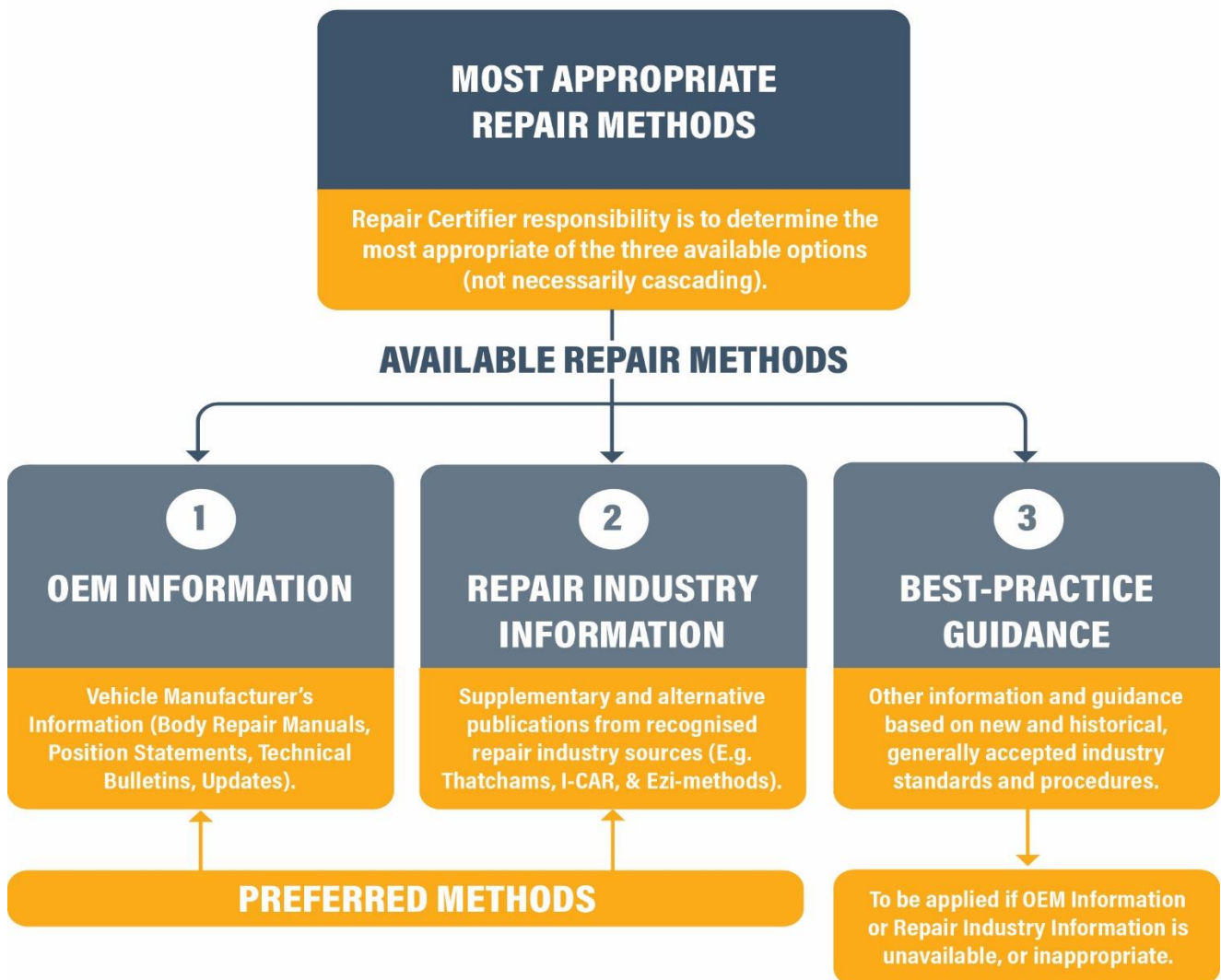


Diagram 1: Most Appropriate Repair Methods.

Background

There has been some confusion about the repair methods that are available to Repair Certifiers, and how those available repair method options may be applied. Some Repair Certifiers believe that any of the three options ('OEM Information', 'Repair Industry Information', or 'Best-practice Guidance') can be chosen, and other Repair Certifiers believe that the three options must be applied in a hierarchical order.

This uncertainty has influenced inconsistent and inappropriate repair certification outcomes in some cases.

This Information Sheet provides clarification to Repair Certifiers about how the most appropriate repair method for a repair certification decision should be chosen.

The Applicable Requirement

The applicable requirement is from the *Land Transport Rule Vehicle Standards Compliance 2002 (Compliance Rule)*. The *Compliance Rule* requires a Repair Certifier to ensure that certain safety-related aspects (see *RepairCert NZ Information Sheet #02-2024*) of a damaged vehicle are returned to within a safe tolerance of their state when the vehicle was manufactured.

The inclusion of the words 'within a safe tolerance' in the requirement from the *Compliance Rule* makes it clear that a vehicle doesn't have to be returned to exactly its state when it was manufactured. The wording accepts that there will be normal wear and tear, and how closely a vehicle must be returned towards its state when manufactured must take into consideration factors such as the vehicle's age, its original manufacturing process, and any repair methods specified by the OE manufacturer.

The Available Repair Method Options

OEM Information

Most motor vehicle manufacturers provide written guidance to the repair industry on the correct repair methods for each typical repair on each make and model of vehicle, via Body Repair Manuals (referred to as 'BRM's, and also known as repair or replacement specifications). BRMs include information on panel replacement and repair methods, model-specific technical information, and general recommendations. Additionally, many vehicle manufacturers also provide position statements, technical bulletins, and updates.

Generally, this OEM Information provides the best guidance for the correct repair of motor vehicles, and should, wherever possible, be considered the most appropriate option.

However, there are shortcomings with OEM Information, including that:

- while called 'body repair manuals', the majority of the emphasis is on 'replacement' rather than 'repair'; and
- the information is very specific, and if rigidly applied to vehicles repaired overseas prior to importation, could impose significant cost to the system user which is unnecessary; and
- there are often gaps in the information for some makes and models, and for some types of collision repair; and
- information is not available for older vehicles; and
- some vehicle manufacturers don't provide any OEM Information for their vehicles; and
- the information generally doesn't allow for the use of second-hand panels and parts, even when this would provide an entirely satisfactory outcome (noting that 2.2 of the *Land Transport Rule: Vehicle Repair 1998* does allow the use of second-hand components); and
- some vehicle manufacturers restrict the availability of OEM Information to 'approved repairers' only; and
- some vehicle dealership parts department staff lack the experience or knowledge to provide the relevant OEM Information with the parts being supplied; and
- sometimes the information doesn't provide the most pragmatic repair solution, and the invasiveness of the repair can be more detrimental to the vehicle than carrying out a 'Best-practice'-based repair.

For these reasons, it is inappropriate to always require a Repair Certifier to apply the relevant vehicle manufacturer's repair information - or 'OEM Information'.

Repair Industry Information

As well as the OEM Information provided by the vehicle manufacturers, there are support organisations which provide the motor vehicle repair industry with alternative and supplementary information, referred to here as 'Repair Industry Information'. The most commonly used organisations are Thatcham, ICAR, and Ezi-methods, who are all recognised as being legitimate organisations for the purpose of providing Repair Industry Information.

This Repair Industry Information fills in many of the gaps left by OEM Information, and also has a greater focus on 'repair options' (as distinct from 'replacement') than OEM Information.

Like OEM Information, Repair Industry Information is also a preferred method, and should be used wherever possible, in any situations where OEM Information isn't available, is incomplete, or doesn't apply.

However, like OEM Information, there are often situations where Repair Industry Information also isn't available, is incomplete, or doesn't apply for a particular make and model, or type of repair.

Note that in some cases, when Repair Industry Information isn't available for a specific make and model of vehicle, or repair type, they may have 'general guidelines' or 'general information' that could be helpful.

Best-practice Guidance

There are many circumstances where neither OEM Information nor Repair Industry Information will be appropriate, and on these occasions 'Best-practice Guidance' will become the most appropriate repair method.

Best-practice Guidance can be comprised of other information, methods, or procedures that are known to repairers, and which will result in a good outcome.

These methods and procedures can, where appropriate, simply be industry-accepted historical knowledge. An example of this could be that a rust repair in a 1930s vehicle is undertaken by brazing in an overlapping patch - because that is how the industry typically carried out such repairs on such vehicles.

Determining the Most Appropriate Repair Method

Considering the Options

Firstly, it is important to understand that a Repair Certifier is not obliged to choose any particular repair method. A Repair Certifier must choose the repair method that is the most appropriate one.

However, it must be recognised that, while not mandatory (a Repair Certifier can choose any of the three repair methods provided that the repair method is appropriate), wherever possible:

- OEM Information should be applied in the first instance; and
- if OEM Information isn't available, is incomplete, or doesn't apply, then Repair Industry Information should be applied in the second instance.

This means, in general terms that Best-practice Guidance should only be applied if:

- OEM Information isn't available, is incomplete, or doesn't apply (see Note 1); and
- Repair Industry Information isn't available, is incomplete, or doesn't apply.

Note however that there is no mandatory 'hierarchy' that must be applied. A Repair Certifier can go straight to Best-practice Guidance if that is the most appropriate repair method, but an equally important point is that the Repair Certifier should first go through the process of determining if there is any available OEM Information or Repair Industry Information that is more appropriate to use.

It should be remembered that 2.2(d) of *Land Transport Rule: Vehicle Repair 1998* requires a repairer to 'take into account the existence of relevant manufacturers' recommendations and alternative methods'. This can be varied from, provided such decisions can be justified.

NOTE 1	Be aware that sometimes, when a vehicle manufacturer doesn't provide any specific OEM Information for a particular make, model, or particular repair type, they may provide 'general recommendations', which should always be considered.
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The need to apply OEM Information becomes greater as vehicles become more modern. While there are circumstances where applying Best-practice Guidance to older vehicles is the most appropriate repair method option, the more modern the vehicle, the more important it is to apply OEM Information or Repair Industry information before applying Best-practice Guidance.

The Diagram on page 1 (see Diagram 1) provides a simple overview of what this Information Sheet explains, however it should be viewed in conjunction with the rest of the content within this Information Sheet.

The Meaning of 'Appropriate'

Whichever repair method is chosen, a Repair Certifier must be able to justify that the repair method is the most appropriate one. The word 'appropriate', therefore, is the single-most important word in this Information Sheet. And so, it is important to understand what 'appropriate' means in this context.

By appropriate, this means the repair method that will provide the safest outcome, however also taking into consideration other factors including the age of the vehicle, the original construction methods, the intended purpose of the vehicle, and the extent of invasiveness of the repair process.

When Considering OEM Information

Always watch for 'warnings' and 'cautions' within a vehicle manufacturer's BRMs. Warnings and cautions are some of the most important pieces of information within OEM Information, and should be thoroughly researched.

Sometimes a vehicle manufacturer will provide BRMs for most of their models, but not one for the model of vehicle in question. In such cases, it may be appropriate to refer to the same vehicle manufacturer's BRM for a different model with a similar platform, and use that as guidance.

When considering the OEM Information that a vehicle manufacturer provides, and finding gaps in that OEM Information, it would be prudent to consider what other like manufacturers say about the same repair on a similar platform vehicle, and if considered relevant, use that information as part of the decision-making process.

A good example of where another vehicle manufacturer's information could be utilised is in the repair of 2011 to 2019 Isuzu D-Max utility body-over-frame vehicles. Isuzu do not provide BRMs for this model. As the 2012 to 2019 GM Holden Colorado utility body-over-frame models share a common platform with the Isuzu D-Max utility, referencing the readily available and comprehensive GM Holden Colorado BRM when repairing Isuzu D-Max would be entirely appropriate.

The same rationale applies to the 2011 to 2019 Isuzu MU-X SUV, and the 2012-2019 Holden Trailblazer SUV.

When Choosing Best-practice Guidance

When choosing Best-practice as the most appropriate repair method, a Repair Certifier must give thought to whether making the decision to apply the Best-practice repair method can be defended. A good question for Repair Certifiers to ask of themselves is 'would this decision stand up to the scrutiny of my most experienced peers?'

Best-practice is an entirely appropriate repair method in some circumstances, which could include:

- collision damage on older vehicles (especially Pre-1990); and
- corrosion damage (pre and post-1990 vehicles); and
- traditional vehicle restoration (especially bespoke fabrication); and
- vintage and veteran vehicles.

Because of the allowance for a vehicle to be returned to within a safe tolerance of its state when manufactured', this reason alone will, in many circumstances, cause 'Best-practice' to become the most appropriate repair method (see Note 1).

NOTE 1	Diagram 1 provides a simple overview of the relationship between the three repair methods referred to in this Information Sheet.
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Best-practice Guidance for Vehicles Repaired Overseas

There are often situations where a Repair Certifier is presented with a vehicle (particularly an older vehicle) which has been previously repaired overseas prior to importation to New Zealand. Often these vehicles are not fully compliant with minor details within OEM Information or Repair Industry Information, however the completed repairs are not in safety-critical locations, and are entirely safe.

In the interests of providing sensible outcomes, if a Repair Certifier is satisfied that there is no risk to safety despite the repair having minor variances to OEM Information or Repair Industry Information, such overseas repairs could be accepted.

Rigidly applying this information (particularly replacement procedures) where the existing repair presents no safety risk imposes significant additional (and unnecessary) cost to system-users, and the re-repair process may in fact have a detrimental effect on the vehicle.

Again, a Repair Certifier would need to provide justification for the decision.

A Combination of Repair Methods

In some circumstances, the most appropriate repair method could be a combination of two or even three of the available repair methods.

An example of this could be structural damage to a Chinese-built MG SUV (featuring damage to the body side aperture of the vehicle, including the A and B pillars, and the sill/rocker extending into the inner side reinforcements), and for which a BRM is available but is not sufficiently comprehensive so as to provide all of the repair information required. In determining the appropriate repair schedule a Repair Certifier could access:

- OEM Information from MG (the BRM) to identify:
 - the structural outline (steel strength and configuration); and
 - any welding requirements (limited information is available); and
 - the ‘service condition’ of replacement outer body panels; and
 - cautions and warnings on damage to structural components.

Because of the shortcomings of the OEM Information contained in the BRM, a Repair Certifier could, for supplementary information, also access:

- OEM Information from other vehicle manufacturers to identify:
 - outer body panel sectioning allowances; and
 - joining techniques;
- Repair Industry Information to identify:
 - guidelines for spot welding;
- Best-practice Guidance to identify:
 - guidelines for GMA-MIG/MAG welding; and
 - replacement procedures for reinforcements; and
 - repairability of high strength steels.

By carefully and diligently obtaining and applying all of this available information, Repair Certifiers will be able to:

- develop a comprehensive repair schedule for the repairer, to ensure that the best possible repair process occurs; and
- protect themselves by showing, in the event of a problem into the future, that the Repair Certifier has ‘provided the service lawfully’ and used ‘all reasonable care and skill’ (see *RepairCert Information Sheet # 03-2024 Responsibility Timeframe for Repair Certifiers*).

In Summary

The following points summarise the subject of repair method options:

- there are three main repair method options that a Repair Certifier can choose from, which are 'OEM Information', 'Repair Industry Information', and 'Best-practice Guidance'; and
- a Repair Certifier can and should choose the repair method that is most appropriate for the vehicle and repair in question, however 'OEM Information' or 'Repair Industry Information' should be used wherever it is practical and appropriate to do so; and
- 'Best-practice Guidance' is entirely appropriate for some vehicles, particularly older ones; and
- in some circumstances, the best outcome will be provided by using a combination of some or all of 'OEM Information', 'Repair Industry Information', and 'Best-practice Guidance'.

By following this Information Sheet, a Repair Certifier's decisions will be aligned with the applicable requirements, and will be consistent with the decisions of other Repair Certifiers.

If a Repair Certifier has difficulty in making a decision relating to repair method options, a technical staff member of RepairCert NZ should be contacted for further assistance.



FOR FURTHER INFORMATION PLEASE CONTACT REPAIRCERT NZ.