

REPAIRCERT NZ UPDATE

Supporting New Zealand's Repair Certification Industry



UPDATE No. 15 | 21/11/2022

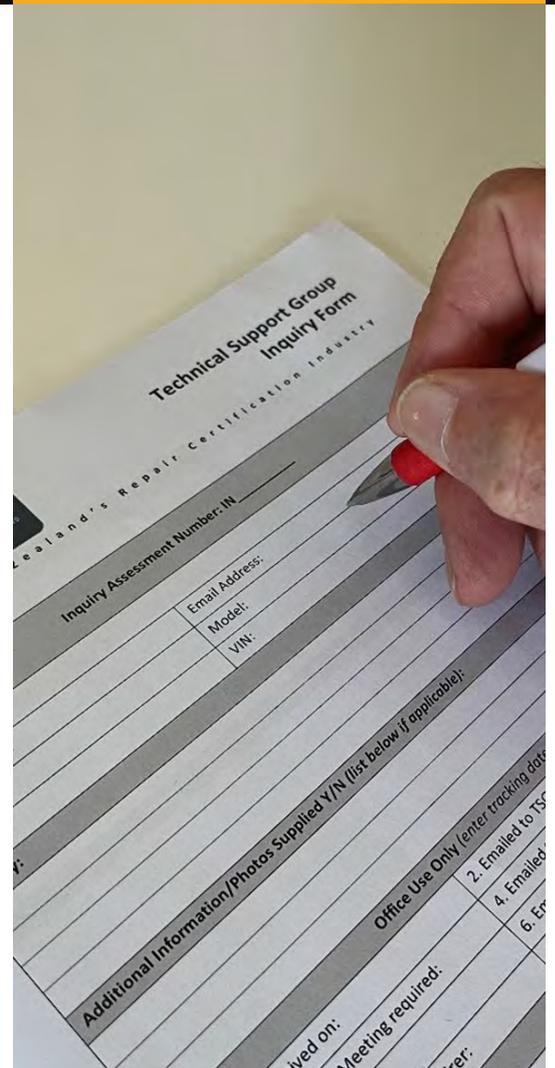
Technical Support Group Gets the Ball Rolling!

In our last RepairCert NZ Update (No.14) we proudly announced that the Inaugural Meeting of the Technical Support Group (TSG) had taken place, and that everyone was on the same page regarding how the group will operate and respond to future technical enquiries that require their valued input.

As it transpires, since that meeting the TSG have been engaged to provide their expert opinion on a repair that had (unfortunately) already been completed and repair certified. It came to the attention of Waka Kotahi Certification Officers and RepairCert NZ staff after a regular File Review of the Repair Certifier, as being a possible non-compliant repair certification.

In this instance, the damaged front crush zone portion of the body-over-frame vehicle chassis had been repaired rather than replaced. Both RepairCert NZ technical staff and Waka Kotahi Certification Officers were of the opinion that crush zones are sacrificial parts and should not be repaired. Several telephone and email discussions between the Repair Certifier and RepairCert NZ failed to convince the Repair Certifier in question that the damaged crush zone should have been replaced, not repaired, and that the vehicle is potentially now unsafe and non-compliant.

This technical impasse was seen as an ideal opportunity to see how the TSG system would function and whether a clear consensus could be provided by the TSG on what were substantially different points of view between Waka Kotahi, RepairCert NZ, and the Repair Certifier.



In the background, RepairCert NZ had developed a standard TSG Inquiry Form, that while still a 'work in progress', was sent out to the TSG Members to help them respond individually, in a timely and easily understood manner. In addition to the inquiry form, the TSG members also received numerous images of the vehicle and area(s) of damage in question, as well as documents from various sources relating to crush zones.

The query to the Technical Support Group in this instance, was...



Should the right front chassis rail crush zone be replaced or repaired (body-over-frame chassis rails)?

We received seven responses from a total of nine TSG members of the group (two members were unable to respond). ALL seven of those responses determined that crush zones should **not** be repaired, and that the damaged crush zone on this particular vehicle must be replaced in accordance with the replacement procedures described in the vehicle manufacturer's Body Repair Manual (BRM).

The TSG has been instrumental in providing a definitive answer to this question (which they backed up with relevant technical information), leaving no further scope for debate.

This is the second time in recent months that RepairCert NZ and Waka Kotahi Certification Officers have given a Repair Certifier clarification around the requirement that damaged crush zones cannot be repaired and **must** always be replaced. ■

Defining the term 'Crush Zone' or 'Crumple Zone'

'Crush zones' are a critical safety feature that are found on most, if not all, later model unibody and body-over-frame vehicle platforms, and are described as being 'sacrificial parts'— in that they deform or collapse in a consistent way to absorb collision energy, thereby reducing the deceleration rate of the vehicle occupants. The absorption of collision energy is also a critical component in reducing the intrusion into, or deformation of, the 'occupant cell', thereby reducing the incidences of injury or death of the occupant(s) in the event of a crash.

With that understood, 'crush zones' are **critical safety features** of modern vehicle structures, and work together with other passive safety systems such as SRS airbags, seat belt pre-tensioners, and structural components.

RepairCert NZ will be developing a Technical Bulletin on this subject during 2023 to give further understanding and dispel any misinterpretation of how these safety-critical parts should be dealt with by Repair Certifiers.

RepairCert NZ technical staff place a lot of importance on information provided by vehicle manufacturers, research facilities, and other industry experts, and use such information as part of their decision-making process. As an example, the excerpt below is taken from a Ford Body Repair Manual. ■



WARNING: Frame rail crush zones absorb crash energy during a collision and must be replaced if damaged. Prior to replacement of frame rail crush zones, straighten damaged frame rails to correct frame dimensions. Failure to follow these instructions may adversely affect frame rail crush zone performance which could result in serious personal injury to vehicle occupants in a crash.

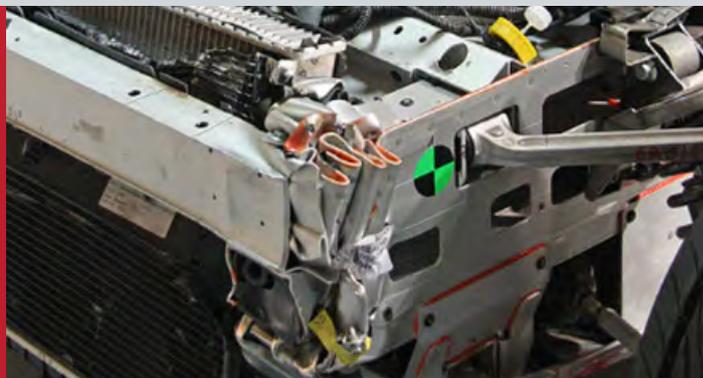


Image above: Typical (albeit dramatic), example of a crush zone performing its intended function during an impact.



Sectioning and Partial Replacement of Outer Panels

The Background

Over the last few months, RepairCert NZ has worked with three different Repair Certifiers who were carrying out repair certifications on three different types (and three different generations), of unibody vehicle platforms where the outer rear quarter panel had been 'partially' sectioned.

Note that in each of these three cases, the vehicle was presented to the Repair Certifier in a previously repaired condition. RepairCert NZ encourages Repair Certifiers to take a common-sense, pragmatic approach in such cases, and to be mindful that a complete panel replacement in some circumstances may be of no benefit, and in fact may be more intrusive and therefore more detrimental to the vehicle, than the partial sectioning process that has already been completed.

Description of the Repairs Previously Completed

In all of these instances, the outer quarter panel has only been replaced in the damaged area (approximately half or less than half, of the service part), with the replacement panel being a new genuine component. At first glance many of us 'in the trade' would deem this type of replacement methodology unsuitable, or not fit for purpose, when in reality, this type of sectioning process can be completed successfully without compromising structural integrity or any occupant safety requirements, provided due diligence is carried out to ensure the already completed repair aligns with the Land Transport Repair Rule.

The Relevant Requirements

The Land Transport Repair Rule specifies the following applicable requirements:

Section 2 Repair requirements

2.1 General safety requirements

- 2.1(1)** *A repair to a vehicle, its structure, systems, components, or equipment, must restore the damaged or worn vehicle, structure, system, component, or equipment so that they are within safe tolerance of the state of the vehicle, structure, system, component or equipment when manufactured.*
- 2.1(2)** *If the vehicle has been certified as a modified vehicle, the repair must restore the vehicle, structure, system, component, or equipment so that the vehicle is within safe tolerance of its state when certified as a modified vehicle.*

2.2 Repair methods

- 2.2(1)** *In repairing a vehicle to comply with 2.1, a repairer must use a suitable repair method that takes into account the following:*
 - (a)** *the date of manufacture of the vehicle;*
 - (b)** *the class, make and other relevant characteristics of the vehicle;*
 - (c)** *the approved vehicle standards with which the vehicle is required to comply;*
 - (d)** *the existence of relevant manufacturers' recommendations and alternative methods;*
 - (e)** *the material specifications used for construction of the vehicle, structure, systems, components, or equipment;*
 - (f)** *the compatibility of the intended repair process with materials specifications.*

Case Studies

The three different vehicles RepairCert NZ technical staff have been involved with have been treated as 'case studies', for the purpose of sharing the information with all Repair Certifiers.

Case Study 1: Nissan Skyline Coupe



Image left: The front portion only of the outer rear quarter has been partially sectioned (cut and join location shown in RED). **Image middle and right:** Interior inspection of the welded joint(s).

Case Study 2: Suzuki Swift



Image left: The rear portion only of the outer rear quarter has been partially sectioned through the middle of the fuel filler pocket (cut and join location shown in RED). **Image middle and right:** Exterior and Interior inspection of the welded joint(s).

Case Study 3: Mercedes Benz S400



Image left: The rear portion only of the outer rear quarter panel has been partially sectioned rearward of the C pillar (cut and join location shown in RED). **Image middle:** Interior inspection of the welded joint(s). **Image right:** Exterior inspection of rivet-bonded areas (with coatings and sealers removed).

In recent years, numerous vehicle manufactures have produced update bulletins or position statements that allow outer panels to be sectioned or partially replaced in areas other than those specified in a published procedure, or by the cut condition of the supplied, new part (Service Condition).

Additionally, several OEM's provide partial sectioning method options for some model platforms (Toyota have several panel replacement procedures that are good examples of this).

RepairCert NZ will be developing a comprehensive Technical Bulletin for further understanding of this subject during 2023.

The Outcome

After careful consideration of each of the three case studies shown here, RepairCert NZ offers the following guidance to Repair Certifiers when certifying these types of previously completed, partially sectioned outer panels.

Repair Certifiers must:

- determine the tensile strength of the outer panel (in most instances, exterior panels are manufactured from mild steels [under 250 MPa]), which does not require the more specialised welding techniques typically used to avoid compromising weld joint strength when welding higher tensile strength steels; and
- be satisfied the welding processes that have been used are fit for purpose, with a visual inspection to determine the appropriate penetration (weld strength); and
- ensure corrosion protection has been, or is able to be, restored; and
- confirm the Original Equipment Manufacturer (OEM) has no warnings or cautions against performing this type of repair; and
- make sure the sectioning joint locations are not in areas where welding heat (the heat affected zone [HAZ]), may adversely affect adjacent reinforcements or inner structures (especially those that are made from high strength steels [HSS]); and
- ensure any seatbelt anchorage systems have not been affected in the area(s) where the weld joints are located; and
- confirm any noise vibration harshness (NVH) components affected by the repair are replaced, or re-fitted, as per OEM requirements; and
- be satisfied that any adhesive-bonding, rivet-bonding or weld-bonding areas (as used by the vehicle manufacturer, or required in a replacement procedure) have been, or are able to be, installed as specified by the OEM.
- When the Repair Certifier is satisfied that all of the above criteria have been verified or any faults rectified, this type of repair can be approved. ■

New 'Application Information Guide' Developed



One of RepairCert NZ's projects over recent months has been to develop a comprehensive document that tells someone who is interested in becoming a Repair Certifier everything he or she needs to know on the subject. The idea is to create a document that provides information about the qualifications and experience criteria required for each of the three repair certification categories, how an application is made, what to expect as the application is considered and processed by Waka Kotahi, and then what happens when an appointment is made. This information will enable a person interested in becoming a Repair Certifier to properly understand the end-to-end process, and therefore be in a position to make a fully-informed decision as to whether or not he or she wishes to pursue making an application.

The document has been through several draft iterations (now Draft # 7) and has been agreed by RepairCert NZ and Waka Kotahi. We would now like to run the draft document by all Repair Certifiers for comment. Although this obviously doesn't affect existing Repair Certifiers because they are already appointed, we would like to see what they think about the document, from the point of view of helping people in the future who want to become Repair Certifiers.

The document will also help Waka Kotahi and RepairCert NZ by providing a clear and transparent process, and a set of guidelines, for all parties to follow.

We would be grateful for any thoughts and comments from Repair Certifiers by the end of Monday 28th November. Please forward your comments to info@repaircert.nz. ■

Updated Vehicle Import Forecast for November and December 2022

- **OWV:** heavy machinery items.
- **Load:** Vehicles that are leaving our shore to overseas ports.
- **T - Ship:** Trans Ship. Transported from port of entry to other ports throughout New Zealand. ■

ETA	Vessel	Voy	LOP	Vehicles Discharge					Load	
				Total	New	Used	T - Ship	OWV	Export	T- Ship
4/11/2022	Hoegh London	102	Hoegh	775	650	5	30	90	-	-
4/11/2022	Hoegh New York	136	Hoegh	775	650	5	30	90	-	-
5/11/2022	New Century 1	175	TFS	2,000	1,370	600	-	30	200	-
5/11/2022	Palmela	191A	MOL	2,200	1,100	1,100	-	-	300	-
14/11/2022	Victorious Ace	62A(T)	MOL	1,800	1,750	50	-	-	200	-
16/11/2022	Frontier Ace	TBA	MOL	2,100	1,050	1,050	-	-	200	-
17/11/2022	Trans Future 5	144	TFS	2,100	1,400	670	-	30	200	-
18/11/2022	Hoegh Asia	164	Hoegh	775	650	5	30	90	-	-
18/11/2022	Paglia	220	Armacup	2,500	2,000	500	-	-	-	-
22/11/2022	Miraculous Ace	TBA	MOL	1,500	1,450	50	-	-	-	-
24/11/2022	Turandot	2221	Armacup	2,500	2,000	500	-	-	-	-
26/11/2022	Tijuca	EF223	WWO	980	700	-	30	250	-	-
			Total	20,005	14,770	4,535	120	580	1,100	0
1/12/22	Trans Future 6	-	TFS	2100	1400	670	-	30	200	-
3/12/22	Tysla	EF224	WWO	1030	850	-	30	150	-	-
8/12/22	Thalatta	EF225	WWO	1030	850	-	30	150	-	-
9/12/22	Elegant Ace	-	MOL	2100	1050	1050	-	-	200	-
10/12/22	TBN1	-	MOL	2100	1050	1050	-	-	200	-
14/12/22	Hoegh Trotter	34	Hoegh	775	650	5	30	90	-	-
15/12/22	Trans Future 7	-	TFS	2100	1400	670	-	30	200	-
17/12/22	Palmela	-	MOL	2100	1050	1050	-	-	200	-
19/12/22	Don Juan	V2223	Armacup	2000	1500	500	-	-	-	-
22/12/22	TBN2	-	MOL	2100	1050	1050	-	-	200	-
26/12/22	Thermopylae	EF226	WWO	1030	850	-	30	150	-	-
29/12/22	Trans Future 5	-	TFS	2100	1400	670	-	30	200	-
30/12/22	Hoegh Copenhagen	79	Hoegh	775	650	5	30	90	-	-
30/12/22	TBC	V2224	Armacup	2000	1500	500	-	-	-	-
			Total	21340	12250	6220	150	720	1400	0

Repair Certifiers and their Customer Obligations

RepairCert NZ's primary responsibility is to assist Repair Certifiers in all matters relating to compliance, operational requirements, and technical assistance, at all stages of the repair certification process – in fact it would be fair to say that this is our happy place, and there is never a dull moment!

However, there seems to be a growing trend amongst Repair Certifiers, when faced with a customer who is unhappy with the repair certification outcome, of avoiding the discussion and telling the customer to **“ring RepairCert NZ and here's the phone number”!**

This is a gentle reminder to all Repair Certifiers that, in the first instance, you should properly explain the reasons why the vehicle doesn't comply, and help them understand what's required to make it compliant. If necessary, the Repair Certifier can contact RepairCert NZ for assistance – we are more than happy to help. But, please do not refer your

customers directly to RepairCert NZ and expect us to have the conversation with your customer. It's not our role to be the intermediary between you and your customer.

A big part of any specialist certifier's role is to give bad news, and when a vehicle fails its repair certification inspection, it is important to clearly explain the reasons why to your customer in a tactful and professional manner, and provide them with reasonable assistance so they understand what is required to ensure their vehicle meets repair certification requirements.

The Repair Certifier is the one who knows the most about the vehicle - while it's not always possible or feasible, consultation with your customer in person is the best approach and will make it easier for them to understand what is required to successfully complete a repair certification – especially where the repair is complex in nature. ■

Vehicle Repair Technical Advisor Vacancy

At the start of 2023, all Repair Certifiers will be uploading their certification files into the electronic file repository known as 'SharePoint'. This will enable RepairCert NZ to meet another one of its contracted responsibilities to Waka Kotahi, which is carrying out 'File Reviews' of all Repair Certifiers. Currently, File Reviews are for the most part limited to new Repair Certifiers coming on board.



Carrying out regular File Reviews on all Repair Certifiers, together with the associated coaching and problem-resolution activities, will require more resource than what is currently available, and so RepairCert NZ is looking for another Technical Advisor to support Mike Gregory next year.

Before the advertisement (below) goes out via the normal channels to start the process of finding 'Mr Right' (or perhaps 'Mrs Right' – there are some female auto body repairers out there), we thought we'd let the Repair Certifiers know first, just in case any of you might be interested, or might know someone who you think could be a good candidate.

If you have an interest, or know of someone, please contact Linda on linda@repaircert.nz.

The Role

Are you a qualified and highly experienced panel-beater/collision repairer? Are you a good communicator? Would you like to get off the tools and work in a nice warm office, but still use your lifetime of practical trade experience to help others and ensure that vehicles are repaired safely?

A bit about us:

RepairCert NZ is an independent organisation, based in Porirua, and has been established to support the national network of Repair Certifiers in their role of ensuring that repairs made to light vehicles entering the New Zealand fleet are carried out in a safe and compliant manner.

What the role involves:

The role involves providing highly specialised technical support to Repair Certifiers via a desk-top auditing system, a helpdesk function for the industry and public, and will also involve providing technical input into the development of technical and operational guidelines. It's mostly office-based, but there could be some travel involved.

This role presents a great opportunity for you to make perfect use of all that knowledge, expertise, and practical experience that you've built up throughout your career, and apply it on a national basis, in a technically and operationally interesting environment.

It could be a perfect job for a panel beater/collision repairer who's had enough of cold workshops, or an automotive estimator or insurance assessor who wants a new challenge.

The type of background we're looking for:

We're looking for someone who is a New Zealand citizen and currently lives in New Zealand who:

- is a trade-certified and highly experienced panel-beater/collision repairer; and
- has substantial experience in repairing modern motor vehicles; and
- has a comprehensive understanding of modern vehicle structures, and occupant protection safety systems within modern motor vehicles.

A big part of the Technical Advisor role involves resolving challenging technical problems, so the ideal person will be detail-oriented, confident, have sound judgement, be a good communicator, and be comfortable understanding and applying technical regulations.

What your work environment will be like:

You'll be working from a comfortable office space, with a showroom, meeting room, and workshop. It's a great place to work; - we're practically-oriented and have a get-on-with-it approach, and as a result we collectively punch well above our weight.

We're a small close-knit team, so a natural ability to get on well with your workmates is essential.

Benefits this role provides:

There's a number of appealing aspects to this role:

- we'll pay according to competence and commitment; and
- we're based in Porirua (so you don't have to fight the CBD traffic); and
- there's plenty of free parking; and
- some flexibility exists around the hours you work; and
- it's a friendly and casual environment (we don't wear ties, and we like a laugh now and then); and
- if you love cars, this could be the perfect place!

If you think you could be a good fit, we'd love to hear from you! Please send a CV and covering letter, with 'Vehicle Repair Technical Advisor role' as the subject line, to linda@repaircert.nz. ■

Helpful Tip: VIRM Search Engine

It can often be difficult to find information in the Repair VIRM as it may not be stored where you think it should be, or there may be several places the information could be located. It is often easier to load the Repair VIRM as a PDF and use the 'find function' to search through the document for the information you are after (using a 'keyword' such as ADAS).

Caution: Don't try to use the Waka Kotahi search engine on their website when looking for something in the Repair VIRM, because the search engine searches all of the Waka Kotahi documents. By searching a downloaded PDF, you'll be searching just the Repair VIRM.

1. Open the Repair VIRM as a PDF by clicking on the PDF icon.
2. When the Repair VIRM has opened in another window, press the **Ctrl and F** buttons (at the same time) on your keyboard to bring up the search box.
3. Type in your keyword e.g. ADAS.
4. Shows the number of times the word appears in the document.
5. Navigate to the word's location in the document using the up and down arrows.

Note: It is important to do this online each time you want to search for information in the PDF version to make sure you are accessing the latest information rather than referring to a previously downloaded copy, which may be outdated.

See over page for screen shots. ■

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Light vehicle repair certification

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Light vehicle repair certification: x

https://vehicleinspection.nzta.govt.nz/_content/pdf/10df1e4f10c4c81519322WnpY2uWWS...

ADAS

2/7

offer suitability stored with inspection

1. Check the

- Check the
- Check that the airbag part number is recorded (correctly) on the statement and has the correct part number for the recipient vehicle. Reject the airbag if it does not.
- Visually inspect the packaging before removing the airbag. Inspect the airbag once it has been removed from the packaging. If there is anything about the condition of the packaging or the airbag that casts doubt over the serviceability of the airbag, reject it.

2. Confirm the integrity of the vehicle's SRS system

Check vehicle manufacturer requirements and verify that the remaining airbag system components (eg the clockspring connector, the steering column and the control module) are fit for further service and have not been damaged by the deployment of the original airbag. The vehicle must not be certified if there is evidence that any of these components are not fit for further service.

3. Operational checks

Do not certify the vehicle if the dash light test indicates that the electronic aspects of the airbag system are not functioning correctly.

3 Declaration for SRS, ABS, ESC, and ADAS inspections

VIRM references

This bulletin gives guidance to vehicle inspectors in applying the following requirements in the VIRM: Light vehicle repair certification:

- 3-6 Airbags: Reasons for rejection 10 and 11
- 6-1 Service and parking brake: Reasons for rejection 9 and 10

Application

This document applies to vehicles that require diagnostic checks on electronic control systems during entry certification, for faults identified in the entry or in-service requirements.

Safety concerns

The ongoing trend towards electronic control of safety-related systems in vehicles means that the repair and reinstatement of electronic control