

## NEW PRE-APPROVAL PROCESS FOR SERIES-PRODUCTION MODIFICATIONS

There are a number of companies, both within New Zealand and in other countries, who carry out mechanical and structural modifications to vehicles on a 'series' basis, sometimes known as a low volume 'production run'. These modifications range from straightforward and simple modifications to highly-complex re-engineering.

Examples include:

- raised roof 'pop-top' camper vans;
- station wagons converted to utilities;
- lowered floors for disability access;
- stretched limousines;
- right-hand drive steering conversions;
- seat and seatbelt fit-outs
- hearse conversions.



Many of these conversions are very well executed by experienced companies who have the necessary expertise to perform such complex structural modifications, resulting in safe vehicles. If however a conversion is produced in numbers and has safety-related flaws, the consequences to road safety are multiplied, along with the time and effort required to rectify the issues on all affected vehicles.

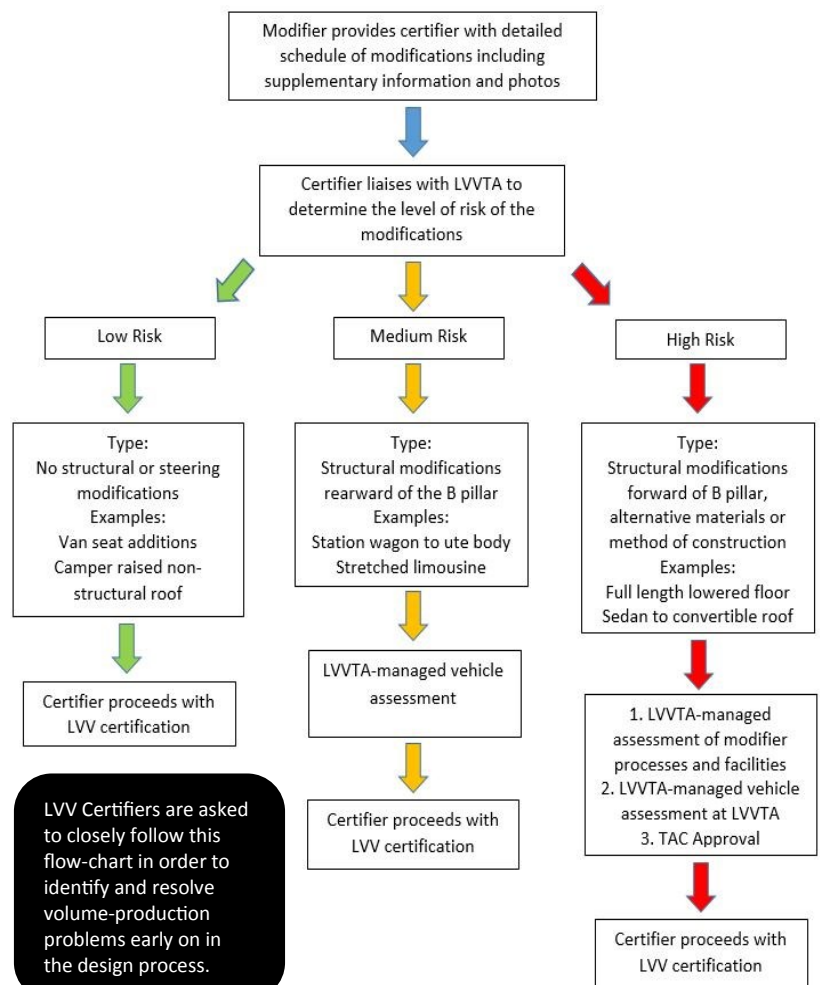
With the ever-increasing complexity associated with modern motor vehicle construction, there is continually greater need to identify the risks involved with each volume modification process prior to the modification process taking place, and for LVVTA to provide technical support to the LVV Certifier before the certification process, so as to ensure that any issues are resolved back in the design phase of the work.

There have been problems in the past as a result of LVV Certifiers trying to deal with complex matters in isolation, and the objective of this pre-approval process is to ensure that LVV Certifiers are given technical support before the modifications occur. In order to enable this LVVTA support structure to occur, LVVTA requires LVV Certifiers to work with the modifier (or importer) to assess the risks and determine whether to involve LVVTA early on. The adjacent (draft) flow chart shows the process and outcomes.

With any series-production modifications, for all but very low risk modifications, the LVV certifier must contact LVVTA prior to any work or importation commencing. In cases that are not clear to an LVV Certifier, LVVTA can assist to establish which level of risk the project may fall into.

Where issues are highlighted as part of the LVVTA assessment, LVVTA can work with the LVV certifier and modifier to achieve a safe outcome. Where LVVTA have been involved at the outset, problems have been avoided. LVVTA asks all LVV Certifiers to follow and apply this simple flowchart, with immediate effect.

Process Flow Chart for LVV certification of series-production modifications



## TECHNICAL STUFF

### The Complexities of Right-hand Drive Conversions Today

Auckland's Bunce Motor Company, one of New Zealand's leading right-hand drive conversion companies, are currently working on the most difficult right-hand drive conversion project they have ever been involved in – the development of the method and components to change the new 2014 Chevrolet/GMC trucks to RHD.

The new model is created with so many different components and construction methods that Bunce Motor Company decided the time was right to update their whole RHD conversion design and development processes as well. The steering now has electronic power assistance, a big change from the old hydraulically-boasted units previously fitted. The electronic system is more efficient so there is a saving in fuel use as well as being capable of absorbing information from various sensors so that the steering process is fed, for example, information from the ABS system, and all of this information is used to determine the amount of power assistance that is generated. Other sensors provide information too, with the end result of a much more safety-oriented steering system than what has been previously seen.

To change the steering operation from the left to the right hand side therefore means the manufacture of a new steering rack and pinion, and modifications to the electronic controls. There is no ready made alternative. The air-conditioning has also changed considerably in the way it operates and is controlled. To ensure that there is sufficient air-flow at all points, and in particular at the demister vents, it has been necessary to create new HVAC delivery components, with air rates and flow measured and duplicated. The air-conditioning is no longer only a luxury – it is very much safety related aiding drivability and vision. Bunce's solution is computer-generated housing and ducting systems, and they carry out computer-simulated testing to ensure that flow rates mirror the OE system.

The dashboard presents more problems. Obviously, it is an appearance item that also serves many functions as a mounting point for all sorts of controls, instruments, and more. Additionally, the passenger airbag is deployed through a section of the dash body which has no visible break lines. This main dash body is attached at the bottom to a steel bar which runs from either side of the cab which serves as a mounting point for the steering column, passenger air bag, and many other critical items. It is reasonably simple to decide where the various components mount, and the passenger airbag is attached into place on the bar and then, when deployed, it bursts through the dash. The Bunce dashboards are covered with vinyl, and through the testing they have undertaken over the years they know that it is just about impossible to get an air-bag to break through or rip vinyl without some form of mechanism to create the puncture cut-out required to allow the deploying bag to come out through the dash and inflate correctly.

This means, therefore, that the simple dashboard becomes quite a complicated construction. Bunce's dashboard uses fiberglass, foam, vinyl, and digital 3D printed components to achieve the look, feel, longevity, and the air-bag break-through feature that is required to ensure correct airbag direction and timing of deployment.



The wiring for the whole vehicle is also a different system from what has been used in the past. There are more things controlled, managed, and operated than ever before, and just to change the power window switches from left to right, for example, is no longer a relatively simple process.

Like the electronic steering, any wiring related-issues must be dealt with using 100% accuracy, and must be thoroughly tested. (Imagine blowing the horn and the signal goes to the electronic steering system instead!)





## TECHNICAL STUFF (cont'd)

### The Complexities of Right-hand Drive Conversions Today (cont'd)



The list of manufactured components that have had to be designed and manufactured by Bunce Motor Company for the 2014 pick-up truck conversion include:

- Steering rack and pinion assembly with new housing and gears;
- Fibreglass insert for the driver side foot-well to increase foot space;
- Windshield wiper brackets and levers to suit the sweep of the blades to wipe the new driver position;
- Digital 3D printed housings and ductings for the HVAC system;
- Alloy cast mounting for the brake master cylinder and pedal;
- Digital 3D printed switch panels for the front doors necessary to change the multiple switches from the driver's door on the left to what becomes the driver's door on the right;
- Steel framing with weld on-components to join left and right sides of the cab, mount the steering and brake equipment right hand side under dash, mount the passenger air-bag, and bottom of the dashboard;
- Dashboard using fiberglass, 3D digital printed components including central control mounting panel, foam and vinyl;
- Numerous dashboard-associated fittings, plus wiring harnesses, and many modified items including brake lines and hoses.

Bunce's have brought in a lot of outside specialist expertise in the fields of computer design services, steering gear experts, 3D digital additive printing, and in many other areas to help them design and then create the components required for this complex conversion.

Many thousands of hours have already gone into design-work, prototyping, testing, and fine-tuning, still without vehicle number one completed, but the end is in sight.

LVVTA visited Bunce Motor Company during July, and we were surprised at the massive amount of time that goes into the various components required to develop such a conversion, and were hugely impressed at the quality of the end result.

What makes the efforts that the 'gold standard' conversion companies go to even more impressive is that the demand for RHD conversions of motor vehicles has dropped since NZTA introduced the left hand drive and special interest vehicle permit schemes. Because of that situation, the majority of Bunce Motor Company's right-hand drive conversion work is now limited to light trucks, or pick-ups, imported from the United States of America.



Bunce go to great lengths in order to provide full functionality and performance equivalence to original. An example is the brake booster mount. The booster is switched from the left of the vehicle to the right side and the firewall is not a compatible shape, so an adaptor bracket is cast and machined. This provides a strong mount in the correct position.

Another example is the pedal box. The original, (shown on right of photo) is made from injection moulded plastic and hard to modify or replicate, so an equivalent sheet metal part is designed – shown to the left of the original part.



*What is becoming clear when looking at what is involved in carrying out complex modifications to modern vehicles is that, while we have a very high level of confidence in Bunce Motor Company and some other established experts, the days of inexperienced people becoming involved in this work is gone - or at least should be gone. The complexity associated with modification work on very modern vehicles provides a massive technical challenge for anyone becoming involved, including LVV Certifiers.*





## TECHNICAL STUFF (cont'd)

### The Complexities of Right-hand Drive Conversions Today (cont'd)



The photograph at left shows the original firewall mounting point for the master cylinder and booster, while the photograph at far left shows the master cylinder and booster relocated into its mirror-imaged position on the right hand side of the firewall. With due attention to detail, such as the repositioning of the factory heat-shielding, and correct clamping systems, the post-conversion result is indistinguishable from how the General Motors factory originally built the vehicle.



Another problem to overcome is the switching of wipers to get full sweep coverage in front of the driver. This is achieved by a redesign of the mechanism and arms, using as much of the original components as possible. Such is the level of workmanship that the end result, as shown in the photos at left and right, cannot be easily identified as modified.



Above and below is the dashboard style of the pre-2014 Chevrolet/GMC pick-ups, completely re-manufactured by Bunce Motor Company during the right-hand conversion process.



### LVV Right-hand Drive Conversion Tech Quiz

Question: Identify the modification in the picture below, determine whether or not it complies with New Zealand low volume vehicle certification requirements, and if not, why not?



Answer: No, not legal. The problem is that the relationship between the drive-belt and the drink holder is such that when large drinks are positioned in the drink-holder, movement of the belt could cause the drinks to be spilt.



## TECHNICAL STUFF (cont'd)


### The Value of Non-destructive Testing


LVV certification requirements specify that any 'critical function' weld within a modified vehicle must be given a clean bill of health by a person who is qualified to conduct a 'non-destructive test', or 'NDT'. This process identifies any crack-like defects, and it also assesses the weld quality, to ensure that the welds meet an internationally-recognised welding standard. The required test is to a New Zealand/Australian Standard, which will be similar in nature to an equivalent American Standard.

A modifier in New Zealand recently purchased a set of new 'Fatman Fabrication'-brand aftermarket suspension A-arms (upper and lower wish-bone arms), and in accordance with the LVV certification NDT requirements, took his brand-new big-name-brand arms to a reputable NDT specialist, in this case 'X-Ray Laboratories Ltd', in Auckland. To the owners surprise, his new 'Fatman Fabrication' A-arms failed the NDT in spectacular fashion, with 16 out of the 20 welds on the 4 suspension arms being failed on quality.

The first report (below left) dated 4/02/2014 (see 'date of test' half way down the report, not the date the report was signed at the bottom) shows that "16 (out of 20 welds) of the welds showed defects and did not comply", which resulted in a 'fail' result.

In order to get a 'pass', these welds were ground out and re-welded by a highly regarded local race-car fabricator, a process which took around 8 hours of the expert welder's time.

X-RAY LABORATORIES LTD	
PO BOX 12650, PENROSE, AKL 1642 PH/FAX 09 5794972	43A LEONARD RD, MT WELLINGTON, AKL 1060 WWW.XRAYLABS.CO.NZ XRAYLABS@XRAYLABS.CO.NZ
MAGNETIC PARTICLE INSPECTION TEST REPORT	
TEST REPORT No. 4025A	
Client: [REDACTED]	
Reference: Magnetic Particle Inspection of fabrication welds in Pickup Arms	
Order No: 19491	Job/Project No: NA
Identification: '56 Ford Pickup Upper & Lower Suspension Arms (see image below)	
Welder ID: Not supplied	Material: Ferrous
Weld Process: GTAW	Thicknesses: Variable
Reason for Testing: LVVTA requirement	Dimensions: ≈380×240×50mm ≈260×245×35mm
Stage of Testing: >24hrs after welding	Weld Requirement: Full size fillet
Surface Condition: As welded, wire brushed	Heat Treatment: NA
Areas Tested: Weld & HAZ	Surface Temp: ≈19°C
Date of Test: 04/02/2014	Test Procedure: XRL01
Test Standard: AS1171:1998	Acceptance Code: AS/NZS1554.1 SP
Inspection Method: Continuous wet visible	Equipment: Y6 electromagnetic yoke
Contrast: Ardrex 8901W white	Field Direction: Longitudinal
Magnetic Ink: Ardrex 800/5 black	Pole Spacing: ≥70mm
Viewing Light: Natural & incandescent	Demagnetize: Not required
Restrictions: Nil	Technique Variations: Nil
Technician: A M R Fischer	Qualification: CBIP MT2
Results:	
All 20 fabrication welds on the four supplied arms were tested as directed.	
Sixteen of the welds showed defects and did not comply:	
Welds 1, 4, 6, 7, 8, 9, 10, 12, 14, 15, 16, & 18:	Lack of cross-sectional area.
Welds 4, 6, 7, 8, 11, 12, 13B, 14, 16, & 19:	Undercut.
Welds 4 & 19:	Crater cracks.
Welds 7, 13, & 16:	Pinholes.
All weld defects were marked with red chinagraph pencil and identified to the client for further attention.	
	
Notes: None	
Signed: [Signature] A M R Fischer 12 February 2014	

X-RAY LABORATORIES LTD	
PO BOX 12650, PENROSE, AKL 1642 PH/FAX 09 5794972	43A LEONARD RD, MT WELLINGTON, AKL 1060 WWW.XRAYLABS.CO.NZ XRAYLABS@XRAYLABS.CO.NZ
MAGNETIC PARTICLE INSPECTION TEST REPORT	
TEST REPORT No. 4025B	
Client: [REDACTED]	
Reference: Magnetic Particle Inspection of fabrication welds in Pickup Arms at our workshop.	
Order No: 19491	Job/Project No: NA
Identification: '56 Ford Pickup Upper & Lower Suspension Arms (see image below)	
Welder ID: Terry	Material: Ferrous
Weld Process: GTAW	Thicknesses: Variable
Reason for Testing: LVVTA requirement	Dimensions: ≈380×240×50mm ≈260×245×35mm
Stage of Testing: >24hrs after welding	Weld Requirement: Full size fillet
Surface Condition: As welded, wire brushed	Heat Treatment: NA
Areas Tested: Weld & HAZ	Surface Temp: ≈19°C
Date of Test: 12/02/2014	Test Procedure: XRL012
Test Standard: AS1171:1998	Acceptance Code: AS/NZS1554.1 SP
Inspection Method: Continuous wet visible	Equipment: Y6 electromagnetic yoke
Contrast: Ardrex 8901W white	Field Direction: Longitudinal
Magnetic Ink: Ardrex 800/5 black	Pole Spacing: ≥70mm
Viewing Light: Natural & incandescent	Demagnetize: Not required
Restrictions: Nil	Technique Variations: Nil
Technician: A J Maxwell	Qualification: CBIP MT2
Results:	
All 20 reworked fabrication welds on the four supplied arms were tested as directed.	
No indication of cracking or other significant weld defects was detected.	
COMPLIES	
	
Notes: None	
Signed: [Signature] A M R Fischer 12 February 2014	

In addition to the significant cost to the owner for the re-welding process, there is also the cost of additional NDT examination once the rectifications had taken place. As can be seen in the report above (dated 12/02/2014) which was carried out once the arms had been re-welded, the re-welded arms were perfect, and passed the test.

From all accounts the basic design of the A-arms is fine, however the abilities of the welder in the USA is, in this case at least, somewhat lacking.

In the interests of trying to help 'Fatman Fabrications' in the USA improve their quality and brand-image by preventing reoccurrences of this situation (cont'd on page 6)

## TECHNICAL STUFF (cont'd)

### The Value of Non-destructive Testing (cont'd)

(Cont'd from page 5) which does nothing to help a company build or maintain a good name in a competitive industry, Justin Hansen from LVVTA contacted them and told them what we'd learnt. Here's their written response back to LVVTA:

*"I do appreciate your effort to assist us in improving our products. I am compelled to say that we have NEVER experienced a weld failure with our tubular control arms. That being said and understanding your regulations, it appears we will quite reluctantly discontinue sales to New Zealand. It simply is not in our best interest to spend the additional effort to certify all welding. Thanks much for your assistance in understanding this requirement."*

To be clear, we never implied that we wanted the welding 'certified' - we just wanted it done well. It's amazing that a big American company can't rise to the challenge of doing a proper job, but instead prefers to effectively say that they'll stop selling into markets that demand a high quality of workmanship on safety-critical items. These are suspension arms, not tail-light brackets!

The moral of the story? As we say so often in the LVV world, don't

assume that because the component is made by a big name-brand in America (or wherever) it will be good.

As the low volume vehicle certification system in New Zealand demands ever-higher standards of safety in the design and build, or modification, of our low volume vehicles here, and the rest of the world increasingly uses non-traditional manufacturing countries like China and India - or in the case of many American companies, just can't be bothered getting it right - we should be relying more and more on our own highly-skilled New Zealand craftsmen who understand our requirements and take their responsibilities seriously.

#### Results:

All 20 fabrication welds on the four supplied arms were tested as directed. Sixteen of the welds showed defects and did not comply:

Welds 1, 4, 6, 7, 8, 9, 10, 12, 14, 15, 16, & 18:	Lack of cross-sectional area.
Welds 4, 6, 7, 8, 11, 12, 13B, 14, 16, & 19:	Undercut.
Welds 4 & 19:	Crater cracks.
Welds 7, 13, & 16:	Pinholes.

All weld defects were marked with red chinagraph pencil and identified to the client



### Sweeping Aside the Issue (part 2)

Within the last LVVTA newsletter, we talked about the technical challenge that achieving a good swept area on a 1920s or '30s vehicle (or replica thereof) presents, particularly on vehicles with chopped wind-screens, with the likes of a chopped roadster being the most problematic and difficult.

It will take some time for LVVTA to achieve a specific set of requirements to properly govern this complex situation in an achievable way, but in the interim, LVVTA wants to convey an understanding of what is considered to be a minimum acceptable level to builders and LVV Certifiers. The template shown at bottom right is what has been achieved by some leading builders such as Rods by Reid, by applying some good design, making the best of a bad situation.

LVVTA considers that, if someone wants to avoid the 3-wiper system on a vehicle with a chopped wind-screen, this template is the minimum acceptable standard to achieve good wet-weather vision.

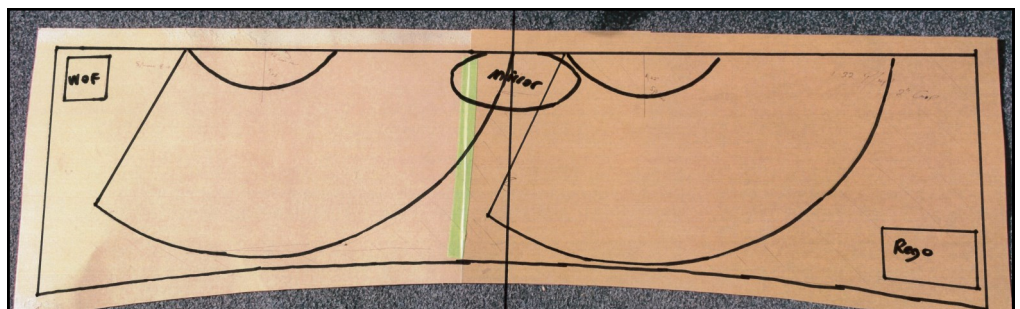
By contrast, at above right, is what LVVTA considers a poor, and entirely inadequate effort.

John Reid of Rods by Reid says of the template below that he provided to LVVTA as a sample, which might provide some tips for builders and LVV Certifiers: "I have attached a photo of one of my templates - we usually make one for every build. This one is our own '32 pickup. Trust me this is a "Jack Nicholson" (as good as it gets). As the glass area gets smaller with more severe chops, the challenge increases.

The answer to getting the best possible result considering we are really fighting physics on this one, is the placement of the wheel box spindles and parking position (we have found parking to the left works best).

Most systems I have seen fitted with a swept area smaller than it could have been is a result of the parking position and (more importantly) the spindle positioning. Guys tend to place them too close together and centered from the screen's centre line - this is incorrect - they need to be off-set to the right hand side (obviously for RHD). Hope this helps. JR."

*The swept area shown on the template on the red '32 roadster below is typical of a swept area that is considered unacceptable. LVVTA's expectation is that a far greater percentage of the windscreen is swept, so that visibility in wet weather is as good as could be reasonably expected.*



*LVV Certifiers should advise anyone who is building a vehicle with a chopped windscreen of this directive, and work with them to ensure that their wiping system can achieve the minimum required swept area shown here.*



## TECHNICAL STUFF (cont'd)

### Behind those chromium covers...

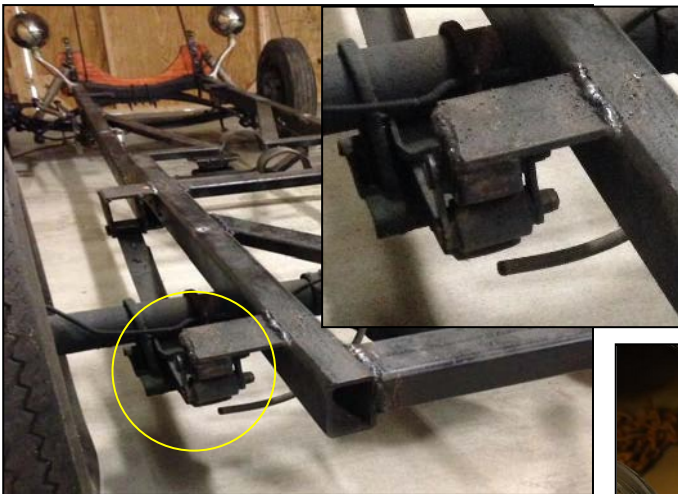
This internal shaft out of a steering column was fitted to a modified vehicle that has been recently imported from the United States. During the LVV certification inspection the LVV Certifier identified that the vehicle had an aftermarket steering column of unknown origin, and on his instructions the column was removed and stripped down, and this is what was found concealed inside the nice shiny chrome-plated steering column housing — no less than five circumferential welds, all of poor quality.

With the work that has been done on the aftermarket steering column subject in recent years, LVVTA has every confidence that all LVV Certifiers are well and truly wide-awake to this issue, but this is another good reminder of why we all need to remain vigilant! You just never know what's hidden away inside the shiny housing of an aftermarket or home-built steering column —this is not an area where an LVV Certifier can give someone or something the benefit of the doubt!



### Just Because You Can Doesn't Mean You Should...

Although LVVTA likes to help foster an environment where enthusiasts can still self-build, here's a sampling of reminders why some people just shouldn't have a go themselves. Below is a T-bucket chassis with leaf springs, attached by a flat plate bracket with no gusseting whatsoever; the rest are fairly self-explanatory!



To the right is a section of motorcycle frame that someone has had a few (hundred) attempts at repairing and reinforcing. All jokes aside, one of the realities of LVV certification is that there are some people who just shouldn't be attempting to do their own fabrication and engineering work. LVVTA's philosophy has always been to try and help and support the home builders, to enable them to modify and build something themselves providing that it's done safely and correctly, but one of the challenges for an LVV Certifier is to recognise those times when the only attribute that an enthusiast has is enthusiasm - and that on it's own isn't enough. Sometimes, an LVV Certifier will have to give someone the bad news that "you need to get someone else involved in this - you just don't have the necessary skills." Hard, but essential sometimes, to prevent the problem from becoming the LVV Certifier's problem. Too much kindness in this area can bite the Certifier.



The LVV Certifier who certified the vehicle that this driveshaft (at left) came from reported that - believe it or not - the vehicle exhibited no out of balance vibration whatsoever! Yes, a new one was made...



## TECHNICAL STUFF (cont'd)

### Welded Multi-piece Brake Pedals

A situation which crops up from time to time has recently been discussed at length by the LVVTA Technical Advisory Committee following queries from different LVV Certifiers, in order to reach a definitive answer.

Ford Escorts are commonly modified for motorsport purposes (or sometimes just to facilitate an engine conversion) and have their brake master cylinder removed from the firewall and repositioned on the inside of the passenger compartment underneath the dash.

To achieve this the pedal is extended to provide the new boss for the 'balance-bar'. The problem is, most of the pedals available for purchase to carry out this modification are

welded, and so, don't meet LVV requirements.

The pedal pictured below with the red bush is a pedal available from a UK-based website, while the one with the white bush is one produced in Christchurch. LVV Certifiers are reminded to have a close look at any pedal modifications, to make sure that they are made from one solid piece of material, as required by the NZ Hobby Car Technical Manual.

If pedals such as those pictured below are found to be fitted, they must be rejected. If aesthetics are important, the 'brake pedal pad' can be removed from the OE pedal and re-used, and a cover can be made to replicate the appearance of the OE pedal.



### Always Apply Most 'Relevant' Requirements

While every effort is being made to constantly improve the LVV certification system by putting in place requirements for all of the common modification types, because of the very nature of LVV, there will always be gaps where there are no, or insufficient, technical requirements for a certain vehicle type or modification.

Accordingly, LVV Certifiers are expected to apply the most 'relevant' and the most 'applicable' requirements - regardless of where the requirements live within the LVV system - when carrying out an LVV certification. If a modified vehicle has a complex suspension modification, then clearly the Suspension Chapter of the NZ Hobby Car Technical Manual (HCTM) will be more relevant than the LVV Suspension System Standard. Similarly, for a scratch-built trike, there are many relevant and applicable requirements within the HCTM that will help an LVV Certifier do the best possible certification job.

### Don't Forget the 'Check Engine Light'

LVVTA technical staff have noticed during the form-set review process that some LVV Certifiers miss, on occasion, the requirement to ensure that a 'check engine light' is fitted when an engine conversion takes place and the engine continues to be fitted with the engine manufacturer's original electronic fuel injection system and computer system.

LVVTA asks LVV Certifiers, that when LVV certifying such vehicles, they remember paragraph 2.4(1)(g) of LVV Standard 90-10(01) - *Exhaust Gas Emissions*, which requires that the vehicle continues to be fitted with, amongst other equipment detailed in (a) through (f), "a computer fault code warning light, or malfunction indicator light (MIL)". This is an important part of the ongoing minimisation of harmful exhaust gas emissions after the LVV certification has been completed.



## TECHNICAL STUFF (cont'd)

### Landrover Front-row Centre Seating Positions

Dan Myers, resident LVVTA Engineer and lover of old English Landrovers, wishes to remind LVV Certifiers that the modern Landrover Defender cannot be LVV certified with a retro-fitted centre front-row seating position.

Landrover Defenders, and Landrovers in general, including the old 110s, have typically been available with a front-row centre seating position. This has been achievable because they have a low centre tunnel, with the gear lever well forward, so that a person in the centre seat could place their feet on the floor around the gear lever, even though the space would still be very tight. As these earlier Landrover-built vehicles are manufactured this way they don't need to meet NZ LVV certification requirements.

However, the latest Defender is not fitted with a front-row centre seating position. This is because the higher tunnel, console with cup-holders, and the placement of the gear lever further back and closer to the seats leaves no space at all for a passenger's legs or feet. So, while there may be a 'seat' fitted between the two front-row outer seats, it would be so small that it couldn't be considered a seating position, and any attempts to sit on that seat would result in potential interference with the driver's gear lever operation.

For the same obvious reasons that Landrover don't provide a front-row centre seating position as standard equipment in their vehicles, these vehicles also - despite the presence on the market of aftermarket centre seats (from the UK) - cannot be LVV certified to enable a front-row centre seating position to be fitted.



*Above is a previous generation Landrover centre console and gear lever layout, which provides reasonable (if minimal) room for a passenger's legs and feet. A person can sit in the centre seat of a previous generation Landrover, and achieve reasonable comfort without interfering with driver operations.*

*At left and below is the current model Landrover which features a much busier centre-console and gear-lever layout, leaving no room for a passenger's feet and legs.*



### Cross-ply Tyres Only for Traditionally-styled Low-powered Cars

LVV Certifiers should keep in mind, when LVV certifying scratch-built hot rods and sports cars, that old-style cross-ply tyres should not be used in potentially high-performance applications. Section 12.30 of the NZ Hobby Car Technical Manual requires that approved radial tyres be fitted to all new scratch-built vehicles, but provides an exclusion for cases where the vehicle, or replica thereof, could have been supplied as new with a cross-ply tyre as standard or optional equipment. The Manual provides a note to say that "A bias-ply or cross-ply tyre has its place on nostalgia-style hot rods and period special sports cars, but they shouldn't ever be used on a modern performance-oriented hobby car." The reason for this requirement is that cross-ply tyres are not rated for high speeds, and many failures of the tyres have occurred. Earlier this year, the whole tread section of a cross-ply tyre tore off. Cross-plys have a place, as fitment to a traditional side-valve V8-powered car or period special, but little else.



### Change to Airbag Removal Requirements

The requirements for removal of frontal impact airbags have been in place for 12 years now. When the requirements were written the frontal impact protection system in the majority of used cars only comprised of a driver's airbag in the steering wheel. Now the systems include additional items such as passenger airbag, pretensioner seatbelts, seat sensors, knee airbags and even dynamic seat bolsters that move to an optimal support position.

Once a vehicle reaches 14 years old, the airbag system can be disabled, which is a reflection of the difficulty in sourcing new parts in the event of a malfunction. In this case the LVV Standard (Frontal Impact) requires the complete system be removed. This is not necessary if only one airbag is at fault and often it is not desirable to disable all of the other safety functions when they could still operate properly in the event of a crash.

In due course LVVTA will update the standard. In the meantime we'd like to make LVV Certifiers aware that one airbag can be bypassed, and all efforts should be made to retain the frontal impact protection systems for other seating positions.

It should be also clarified that when an airbag is removed, in order to ensure that the safety of that seating position is maintained to the highest possible level, the seatbelt must be replaced with a new seatbelt that meets NZTA requirements, and the belt must also be a type that is suitable for use without an airbag.

For advice on this, an LVV Certifier should contact a member of the LVVTA technical team. Note that it is not necessary to upgrade the seatbelt to a web-clamp type as this only applies to warrant of fitness inspections when a seatbelt is damaged, however use of a web-clamp retractor belt is highly recommended. It may be that upgrading with a web-clamp retractor belt becomes mandatory when the LVV Standard is updated.

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### Replacement LVV Certification Plate Procedure

LVVTA creates replacement plates for several reasons, including when a vehicle is partially returned to standard or if a detail is incorrect. Often a vehicle owner will contact LVVTA direct to get a new plate. However we cannot produce a replacement plate based on unconfirmed information from the vehicle owner, so the customer is directed to their local LVV Certifier.

The next step to getting the replacement plate is for the LVV Certifier to inspect the vehicle and confirm the changes. In some cases a brake test will be required and it may be that the combination of changes necessitate a full re-certification to ensure safety is maintained.

Once the inspection for a replacement plate is complete, the LVV Certifier contacts the LVVTA office to request the plate. For a vehicle partially returned to standard a new F001 Statement of Compliance Certificate will be required along with an updated F002 Data sheet to detail all remaining modifications. There is a replacement plate administration fee and the LVV Certifier will need to charge for the time spent.

If the certification plate has incorrect information this will often be checked by recalling the original certification paperwork from storage, which may result in an additional fee to the customer.

### Electronic Stability Control Rules Coming In

New requirements are being phased in by NZTA to make Electronic Stability Control (ESC) mandatory. The introduction dates are:

- all new light passenger and goods vehicles certified for entry into service from 1 July 2015; and
- used class MC vehicles (four-wheel-drive SUVs and off-road vehicles) inspected at the border from 1 March 2016; and
- used class-MA vehicles (passenger cars) with engine capacity greater than 2 litres inspected at the border from 1 March 2018; and
- all other used light passenger and goods vehicles inspected at the border from 1 March 2020.

LVVTA has had a lot of good discussion with NZTA during NZTA's consultation process, and the way in which the ESC requirements will apply to low volume vehicles has been fine-tuned along the way as a result. The general safety requirements in the Rule have been simplified from the original draft, removing all technical references to what ESC does and the components it includes, such as yaw sensors. The general safety requirements are now just that the system must *'be maintained in good working order and not be removed'*.

Following consultation with LVVTA and submissions by other groups, motorsport vehicles and scratch-built vehicles are exempted and will not be required to have ESC fitted.

The requirements state that the ESC system (in a vehicle originally fitted by the manufacturer with ESC) must be maintained in good working order and not be removed. The WoF inspection will do this by checking that the dash light is working, in the same way as airbag systems are checked. ESC systems can still retain the on/off switch on the dashboard.

Regarding modifications, the Rule states that a modification that affects braking performance *"or the proper functioning of its electronic stability control system"* must not prevent the vehicle from complying with the rule.

LVVTA will work with NZTA to understand how to interpret *"the proper functioning of electronic stability control"* so that requirements can be put in place to ensure the safe modification of vehicles with ESC.

The final version of the Rule regarding ESC provides LVVTA with the scope to allow changes to components that may affect ESC, such as wheels, provided that we can be confident that such changes won't alter the resulting behaviour of the vehicle. It is likely however that the result of LVVTA's forthcoming research on the subject may limit the type of modifications that can be carried out on modern vehicles fitted with ESC.

Already some manufacturers are warning against making relatively minor modifications as the effects are unknown. This is looking to be an interesting task for LVVTA that has quite a high degree of complexity associated with it. If anyone has any first-hand knowledge of this subject through race track experience, LVVTA Engineer Dan Myers would be very keen to hear from you.



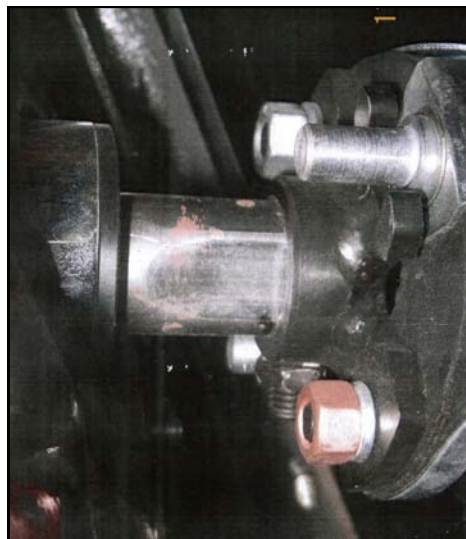
## AFTERMARKET ALERT

### 'CPP'-brand Welded Steering Couplers

Steering systems - probably the most safety-critical system in a vehicle - seem to be a great hiding place for unsafe or non-compliant (or usually both) aftermarket or home-built components or modifications. So, obviously, LVV Certifiers need to use all of their super-powers when inspecting components within steering systems on modified vehicles.

Carterton-based LVV Certifier Julian Cheer recently spotted this welded component - a steering coupler - within a power steering conversion. The coupler is very hard to see when in position, tucked right up underneath the brake booster, so it's possible that something like this could be missed without a very thorough inspection. The vehicle in this case was a 1957 Chev, which had been fitted with a 'CPP'-brand power steering box, and an 'Ididit'-brand steering column with a 1 inch shaft.

Wellington company 'Accrete Design' can produce a one-piece replacement component for around \$70.



*This 'CPP'-brand steering coupler incorporates a central boss with a series of 'fingers' welded onto it. Chapter 6 'Steering Systems' of the NZ Hobby Car Technical Manual disallows any welded steering components except in the case of specified and approved situations. This clearly isn't one of those situations.*



### One Wheel - Four Sizes!

Watch out for multi-sized wheels! What do you mean 'multi-sized sized wheels'? I mean wheels with different wheel sizes stamped on them. What, the same wheel? Yes, the same wheel. Really? Yes, really!

It's true. Northland-based LVV Certifier Paul White spotted this aftermarket wheel which has four different sizes cast into it - all on the same wheel. The wheel was an 18 x 9 inch rim-width, and it had a casting mark in the back of one of the five spokes showing 18 x 9.0 JJ, but into the back of the other 4 spokes it had the sizes 18 x 7.5 JJ, 18 x 8.0 JJ, and 18 x 10.0 JJ (shown in the

photograph at right). How's that for confusing?

Why? We expect that the multiple sizes are used for multiple wheel sizes, and the intention may have been that a 'pointer' would indicate which size is appropriate in each case.

The moral of this rather odd story is that when inspecting a vehicle with aftermarket wheels, an LVV Certifier should take a careful look at the wheels (particularly on the back-face) to make sure that there aren't multiple sizes cast or stamped into them. If in any doubt, he should measure the wheel himself.



## Where LVV certification Plates Must be Fitted

LVVTA staff are often asked by AVIs where an LVV certification plate can and can't be fitted. To follow is the requirement (taken from the LVV Operating Requirements Schedule) that covers positioning of LVV certification plates:

*An LVV certification plate fitted to a low volume vehicle must be positioned on a non-removable structural part of the vehicle where it is clearly visible, that is either:*

- a) *within the engine compartment; or*
- b) *where there is insufficient available space inside the engine compartment to enable the LVV certification plate to be fitted and remain clearly visible, in one of the following locations:*
  - i) *within the passenger compartment on the vehicle's A-pillar or B-pillar; or*
  - ii) *in the case of a sedan; on the rear bulkhead or other prominent position within the boot area; or*
  - iii) *in the case of a van with an engine cover in the passenger compartment; on a non-removable panel steel part of the engine cover or seat frame; or*
  - iv) *in the case of a vehicle with a raised floor, on the vertical area of the step behind a door; or*
  - v) *in the case of a hatchback or station wagon; in the spare wheel-well which is accessible without the use of tools.*

## Airbag & Hydraulic LVV Inspection Basics

After providing a section in the AVI Page of the last LVVTA Newsletter, we have been asked by some AVI's for an abridged overview of the key things that an AVI should look for when carrying out a WoF inspection on a modified vehicle fitted with an airbag or hydraulic suspension system.

The key things for an AVI to be aware of when inspecting such a vehicle is that the air-bag or hydraulic system is designed and installed so that:

- a) *the air-bag or hydraulic system is only able to be operated whilst the vehicle is stationary; or*
- b) *the air-bag or hydraulic system can be operated whilst the vehicle is in motion, provided that:*
  - i) *the ride-height of any part of the vehicle is electronically prevented from being adjusted or changed when the vehicle is being driven over a speed of 20 kph (12 mph); and*
  - ii) *the vehicle automatically reverts to its predetermined correct ride-height when a speed sensor determines that the vehicle is traveling faster than 20 kph (12 mph).*

If a vehicle fitted with airbag or hydraulic suspension does not meet these requirements, then the vehicle has probably been altered further since the time of the LVV certification inspection, and should be failed for its Warrant of Fitness inspection until such time as it has been re-certified by an LVV Certifier.

## Lowered Suspension LVV Inspection Basics

When an LVV Certifier is inspecting a vehicle with lowered suspension, the requirements from 2.3(3) and 2.3(6) from *LVV Standard 195-00 Suspension Systems* form an important part of his inspection. These are copied below:

### 2.3(3)

*Suspension travel available within a low volume vehicle must be such that:*

- a) *no interference is likely to occur between the underside of the body and any drive-shafts or other drive-line components during full suspension movement; and*
- b) *full suspension compression is unlikely to be reached during normal vehicle operation on smooth road surfaces when fully laden.*

### 2.3(6)

*All low volume vehicles must be fitted with purpose-designed bump-stops that:*

- a) *are undamaged, and are not excessively worn; and*
- b) *are positioned to provide sufficient clearance from any suspension components so as to allow suspension travel suitable for the safe operation of the vehicle when fully laden; and*
- c) *function effectively to ensure that suspension or body components are cushioned from the transfer of excessive shock loading at the limit of suspension travel.*

In the *NZ Hobby Car Technical Manual (HCTM)*, the requirements from the LVV standard above are repeated, and within this section, the following additional requirement is recorded. Although it is not in *LVV Standard 195-00 Suspension Systems*, a prudent LVV Certifier will look to ensure that the following requirement from the HCTM is met:

*All low volume vehicles must be fitted with purpose-designed bump-stops that limit the suspension travel before the ball-joints have reached the end of their effective travel.*

If an AVI is inspecting a modified vehicle with lowered suspension for the purposes of issuing a Warrant of Fitness, and he identifies that a vehicle does not meet those requirements listed above, then the vehicle has probably been altered further since the time of the LVV certification inspection, and should be failed for its Warrant of Fitness inspection.

All of LVVTA's low volume vehicle standards are available for viewing and down-load, free of charge, on [www.lvvtanews.org.nz](http://www.lvvtanews.org.nz)

## LVV-related Advice for AVIs

Any AVI that requires further clarification on these issues, or has any other LVV-related questions, may contact a member of the LVVTA Technical Team member at the LVVTA office in Wellington on (04) 238-4343.



## TRAINING

### Points from April 2014 LVV Certifier Training

The first round of LVV Certifier training presentations for 2014 took place in Dunedin, Christchurch, Wellington, Wanganui, Rotorua, and Auckland between April 13 and 22.

Key points of discussion included the following items:

- LVVTA presented the idea of 'Buddy certs', meaning that once each year (as a minimum), every LVV Certifier would buddy up with another LVV Certifier, using a different Certifier each time, and carry out an LVV Certification together, the objective being to learn techniques and ideas from each other on how other LVV Certifiers go about their LVV certification inspections. Apart from one group who were indecisive about the concept, all other groups could see a lot of benefits in such a system (a few LVV Certifiers are already doing something similar), and gave their support to the idea. LVVTA will develop this concept into a mandated process, and the details will be built into the LVV Operating Requirements Schedule during the next amendment.
- A Bay of Plenty-based 1D LVV Certifier encourages other LVV Certifiers to use the Hobby Car Technical Manual form-sets for everything, because they cover a broader range of modifications, go into more detail than the LVV standard form-sets, and he believes their use can reduce the possibility of missing something important. It works well for him.
- There was discussion on the amount of time that it takes for the LVV certification of a scratch-built LVV, particularly when a complex vehicle requires a bump-steer swing-check, a gas emissions test, an objective noise test, and progress inspections and telephone advice along the way. LVV Certifiers agreed that a thorough inspection on an average scratch-built vehicle can easily clock up in the 15 to 20 hour region. It was agreed that LVVTA will provide some information on the LVVTA website to try and help people who are modifying and building cars understand just what is involved in the LVV certification process, and what the likely costs will be. (This has been done.)
- There was a lot of discussion on future training sessions. On the subject of LVVTA bringing a vehicle to each training session, most groups felt that there was likely to be better value in continuing with showing the photographs of problems identified during LVVTA's form-set review process. Most groups agreed that showing photographs and discussing the issues provided a very good learning opportunity – and that LVVTA should keep doing this until there are no more photos to show! It was also suggested that LVVTA could incorporate a 'quiz' in conjunction with showing the photos, with the LVV Certifiers writing down the faults that they can see, then being advised of the faults so that each LVV Certifier can see how he has done. LVVTA will introduce this process as a standard part of all future training sessions - until we run out of photos to show!
- Most groups were keen on a harder line being taken on those who continuously perform poorly, and that more penalties should be imposed on LVV Certifiers who need to improve, categories should be able to be removed more easily, and more should be imposed by way of mentoring.

### November 2014 LVV Certifier Training Schedule

Dates for the second series of regional LVV Certifier training sessions for 2014 have been set, which are as follows:

- |   |           |             |              |
|---|-----------|-------------|--------------|
| • | Tuesday   | November 11 | Dunedin      |
| • | Wednesday | November 12 | Christchurch |
| • | Tuesday   | November 18 | Wellington   |
| • | Wednesday | November 19 | Wanganui     |
| • | Thursday  | November 20 | Rotorua      |
| • | Friday    | November 21 | Auckland     |

In regard to venues, please note that the Auckland, Christchurch, and Dunedin sessions will be notified directly to attendees once the venues have been confirmed.

Rotorua is at Braeside Resort, 4 Barnard Rd (usual venue), Wanganui and Wellington remain as per normal.

As usual, if anyone requires any further information in relation to the venues or times, please feel free to contact Linda on [linda@lvvta.org.nz](mailto:linda@lvvta.org.nz).

### Check Your Photographs!

During April training, there was a discussion at the Wellington session about LVV Certifiers missing things on vehicles during their inspection, which are subsequently found by LVVTA technical staff during the desk-top review process.

Ken McAdam, Wellington-based LVV Certifier threw up a very good point that we hadn't thought of before, and that is that, in some respects, it is easier to spot something in a photograph than when you're looking around the vehicle (a bit like the difference between trying to spot something in a movie versus a still photo).

Ken suggested that a really good habit for all certifiers to get into would be to do the inspection on the vehicle, take photographs, and then before the vehicle comes off the hoist, download the photos from the camera onto the computer (you have to do this sooner or later anyway) and then have a careful look through the photos on the computer.

We think this is a great idea, and it gives the LVV Certifier the same opportunity to see the same things that LVVTA technical staff see. Ken, and LVVTA, agree that this process should be a standard part of any LVV certification inspection as an additional belts-and-braces safety check.

### Raised Vehicle Workshop Postponed

A two-day workshop on raised vehicles - primarily focussed on 4WD vehicles with raised suspension, body lifts, and larger tyres - was scheduled for mid-2014, with the intention on developing best practice standards to ensure the safety and stability of these vehicles. However, this has been postponed due to other commitments, and will take place in mid-2015.

## REGISTRATION & IDENTITY ISSUES

### Verifying Authenticity of VINs & Chassis #s

From time to time an LVV Certifier encounters a situation where he suspects that a vehicle's identity (VIN or chassis number) may be invalid, incorrect, or have been tampered with, and he needs to know the best way of dealing with this.

The agreed process in this situation is for the LVV Certifier to:

- record his concern as to the authenticity of the VIN or chassis number on the vehicle's F004 Rectification Form; and
- take the vehicle, or have the vehicle owner take the vehicle, to a TSDA, and request that the TSDA verifies the authenticity of the VIN or chassis number by signing and stamping the customer's copy of the F004 Rectification Form; and
- take a copy of the customer's signed and stamped F004 Rectification Form, and submit it with the rest of the vehicle's LVV certification documentation to LVVTA.

If there isn't a 17-digit VIN present on the vehicle, have the TSDA issue and attach one to the vehicle.

By following this process, the LVV Certifier has done everything correctly, an appropriate expert has addressed the LVV Certifier's concerns, and the LVV Certifier has the process documented within his copy of the F004 held by LVVTA in case a problem crops up later.

### 'Proof of Entitlement' Always Required

One of NZTA's primary responsibilities is to prevent vehicles from going back on the road, or coming into the fleet for the first time, that may be misrepresented or stolen, and so for this reason, the owner has to prove that he or she has legal 'entitlement' to the vehicle.

For that reason, whether we're talking about the old 'scratch-built' low volume vehicle definitions or the new improved definitions for 'scratch-built' and 'modified production' low volume vehicles, in order for a vehicle to be considered to be a 'modified production' vehicle, it must have 'proof of entitlement' – which means a 'documented evidence of registration history', or a 'trail of ownership history'.

For example, our new definitions allow us to let an OEM steel 1932 Ford body and a brand new 1932-style reproduction chassis still be a 1932 Ford, but in order to do so, the car (body) must come with that documented evidence of registration history or trail of ownership history.

The Vintage Car Club of NZ are able, through their 'Authenticity Statement' system, to authenticate a vehicle as being a genuine old 1936 Ford body and chassis or whatever, but NZTA's entry certification requirements do not allow that system to be used as a replacement process for a vehicle having documented evidence of registration history.

### NON-OEM or NZTA-applied VINs & Chassis #s

One of an LVV certifier's obligations is to check the vehicle identity to protect against an LVV certification plate being fitted to the wrong vehicle. An LVV certification plate can make a stolen vehicle appear more legitimate and easier to on-sell, so this is important.

On occasion an LVV Certifier may see a chassis tag or plate which is clearly not an OEM or NZTA-assigned one, such as the one shown at right. If this occurs, the LVV Certifier must not certify the vehicle until the vehicle identity has been confirmed by an NZTA-appointed agent, such as AA, VINZ or VTNZ, following the process referred to (in the 'Verifying Authenticity of VINs & Chassis #s) above.

A 1996 Mazda RX7 was LVV certified and presented to LVVTA for issue of an LVV certification plate. The LVV Certifier's documentation included a photo of the vehicle's VIN (which is an LVV requirement) which was queried by LVVTA staff, and when further investigated, Landata showed that the vehicle was recorded as a '1996 Mazda S7 Mobile Machine'.

Another LVV Certifier had already refused to process the vehicle for LVV certification for these reasons, and also because he believed it to be made up from a parts vehicle.

LVVTA would expect an LVV Certifier to immediately cease LVV certification upon spotting a non-OEM or NZTA-applied VIN plate and require a TSDA to check and confirm the proper identity of the vehicle. LVVTA, and all LVV Certifiers must play their part in preventing non-compliant vehicles from using the LVV system as a back-door means of getting a non-compliant vehicle on the road.



The relevant section from the LVV Operating Requirements Schedule is shown below under the sub-section heading 'Vehicle Identification Numbers (VIN)':

4.1(4) *A vehicle manufacturer - assigned identifier, or a VIN, must be permanently attached onto, or stamped into, the vehicle structure, and must be verified as such by an LVV Certifier at the time of the LVV certification inspection, or affixing of the LVV certification plate.*

**NOTE:** *Recording the chassis number/VIN from any other document or source is not acceptable as an alternative to the LVV Certifier sighting the correctly-affixed chassis number/VIN to the vehicle.*

4.1(5) *In the case of an LVV Certifier inspecting a vehicle manufacturer - assigned identifier, or a VIN, to a low volume vehicle, and he has reason to believe that the identifier has been tampered with, he must refer the vehicle to an NZTA authorised Transport Service Delivery Agent for validation of the identifier or VIN.*



### Changes to NZHRA LVV Authority Card System

LVVTA has recently reviewed the situation in regard to the way in which the New Zealand Hot Rod Association (NZHRA) Fender Exemption system operates, particularly in relation to the limitation on the Authority Card-holder in that only he or she may operate the vehicle referred to on the LVV Authority Card. Our view is that this limitation is unreasonably restrictive, and given the excellent way in which NZHRA has administered the LVV Authority Card system during the past 20 years, we believe that it is reasonable and appropriate to change the way in which the rules should be applied in regard to who is able to operate a vehicle for which an Authority Card is issued. We have discussed this matter with the New Zealand Transport Agency, and they have agreed the proposed change.

It is agreed that the operating principles of the Authority Card system has been changed to the benefit of the NZHRA members who hold, and will hold in the future, LVV Authority Cards issued by NZHRA.

The new operating principle is that the LVV Authority Card system must remain the same in that an LVV Authority Card is tied to a specified vehicle and a specified driver, but the conditions of use are extended such that any person authorised by the person named on the LVV Authority Card is able to operate the vehicle. In other words, the driver specified on the LVV Authority Card is no longer the only person that can drive the vehicle.



*NZHRA members who own vehicles issued with an LVV Authority Card may now authorise another person to use their vehicle without that person also having to hold a valid LVV Authority Card.*

It is recognised that there are many situations where it is appropriate and reasonable – necessary even, in some cases – that a person other than the person named on the LVV Authority Card should be able to drive the vehicle in question. Typical scenarios include (but are not restricted to) an LVV Authority Card-holder's need or desire to enable a family member or a friend to drive his or her vehicle, a person who is temporarily or permanently disabled, and other persons doing work on the vehicle. Any such authorisation by an LVV Authority Card-holder may be verbal - no written authorisation is needed.

It is important to note that the person named on the LVV Authority Card must take full responsibility for the actions of any person that he or she authorises to drive the vehicle specified on the LVV Authority Card. NZHRA must ensure that a person who holds an LVV Authority Card issued by NZHRA is held responsible, and subject to any applicable penalties, such as revocation of their LVV Authority Card, for any breaches of the conditions of the LVV Authority Card made by an authorised driver in exactly the same way as would apply if the breaches were made by the person specified on the LVV Authority Card.

LVVTA will make any necessary amendments to the relevant section of Chapter 3 of the NZ Hobby Car Technical Manual at the next amendment opportunity.

### "Dear LVV Certifiers..."

Righto you blokes, listen up, do what I tell you, or I'll be coming 'round to sort you out...



#### Bad idea using snail mail!

Everyone should be sending LVV certification applications by courier. Sending in your form-sets by standard post can lead to significant delays – recently an LVV Certifier sent in an application and it took 7 days to get here. Adding on the 3 day turn around for processing and the courier trip back its nearly 2 weeks!

Understandably the owner has gotten a little frustrated in this time.

And don't forget, if you send your form-sets in by snail mail and it goes missing in the post, you've got some real problems. It can't be tracked and found, so you're going to have to start all over again with your certification.

#### Using correct LVV categories

There seems to be a lot of F001's coming through with incorrect LVV Certifier authorisation categories on them. Please make sure you apply the right category for the LVV certification inspection you're doing. If you're ever unsure, it's all detailed in section 3.1 (starting page 26) of your LVV Operating Requirements Schedule.

#### Bloody staples!!

Please use paperclips rather than staples. In the time it takes me to pull all of your bloody staples out of your paperwork before processing it, I could get my hair and nails done twice a week instead of just once!

Cheers, Frances.

## COMINGS & GOINGS

### Rob Pauletich Moves on From LVVTA

LVVTA is very sad to advise that our new staff member Rob Pauletich (ex NZTA Senior Transport Officer) will be leaving us in September. We've known Rob for a long time, and have had a lot to do with him during his tenure with NZTA. As we built up a great deal of respect for Rob during our time working with him in his role as a Senior Transport Officer with NZTA over a number of years, Rob also built up a great deal of knowledge about, and experience in, the LVV certification system. This of course, made him a perfect fit for our organisation and he joined us in March of this year when he shifted back to Wellington from Christchurch after having spent some time working in a family business.



On June 1 2014, LVVTA was to commence managing two additional activities relating to LVV certification on behalf of NZTA, which was to operate an alternative auditing regime to replace NZTA's Performance Review System, and to look after the appointment and revocation side of LVV Certifier operations. Rob was employed by LVVTA to manage these two new areas, however, due to circumstances beyond LVVTA's control, we now find ourselves unable to commence the management of these activities as planned. This has left us in a situation where the only role we can provide Rob with is a desk-bound technical support role, and given that he is a get-out-and-work-with-people type of person (which is what the auditing role would entail) understandably it's not the ideal fit for him.

All of us at LVVTA are disappointed in the extreme at being unable to keep Rob, as he is truly a great guy, and a fantastic fit for our organisation.

Rob's new job is shift-work based as a Vehicle Safety Officer with the NZ Police, and he likes to keep busy, so we're hopeful of keeping Rob involved with LVVTA in some small way on a casual contract basis during his free time. Rob finishes his full-time employment with us on September 12, and we wish him the absolute best for the future—and hope that his future will continue to include us.

Here's a few words from Rob:

*"Hi Guys, I never expected to be writing this so soon but unfortunately I have resigned from the LVVTA."*

*Almost all of my working life has had me out and about, new places, new faces and I was very much looking forward to managing the review, appointment, inform, educate and deter functions that LVVTA was to be carrying out on behalf of NZTA by now (for which I was employed).*

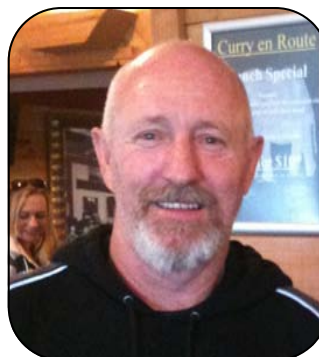
*Unfortunately, because we haven't been able to get me going within the role for which I was originally employed (this is no fault of LVVTA's), the fall-back role here is office-based technical support, and I have not managed to adapt to sitting on my backside looking at an LCD screen for most of the day, and talking to people via telephone and email.*

*In the short time I have worked here I have learnt a huge amount. I knew when I came into the job that I knew bugger-all about it, but it actually surprised me, once working within the system, how vast and complex the system actually is. Once you are immersed and involved in it you quickly understand how complex and challenging the LVV system actually is. I thought I knew about 2% of the LVV world when joining but quickly revised that figure to about 0.05%!*

*I have an enormous amount of respect for the system, and the team here at LVVTA, and I still hope to remain involved with LVVTA in some way if I can.*

*All the very best and cheers, Rob."*

### Brent Downes Takes Sabbatical from NZTA



NZTA's Brent Downes is taking time out to determine his future employment situation.

Brent was a Transport Officer for NZTA, and was a reviewer (or auditor) since the inception of NZTA's Performance Review System (PRS) many years ago for WoF and LVV, and has been the only LVV reviewer for the South Island.

Always professional, respectful, and courteous in his dealings with LVVTA and the LVV Certifiers, Brent has been respected by us all, and held in very high regard for his dedication, strong work ethic, and great way of dealing with people. Brent has no immediate plans for his future just yet, but LVVTA wishes him all the best.

### LVV Certifier Receives 6-month Suspension

Auckland-based LVV Certifier Mark Stokes was advised by the New Zealand Transport Agency on September 10 2014 that his LVV certification authority is to be suspended for six months for approving a number of unsafe modified vehicles during 2013. The suspension takes effect on Monday 22 September 2014. NZTA requires, as part of its disciplinary action, that the LVV Certifier must, in accordance with section 6.6 of the LVV ORS, undergo a full competence re-assessment for all of his authorised categories by LVVTA, and LVVTA must report to NZTA as to whether or not it is satisfied that the LVV Certifier is competent to re-commence LVV certification activities.



## COMINGS & GOINGS (cont'd)

### New LVV Certifier for Christchurch Region Appointed

LVVTA is pleased to welcome Ian Smith aboard as an LVV Certifier. Ian, appointed earlier this year, is based in West Eyreton, which is about half an hour north and inland from Christchurch, close to Rangiora. Ian runs his own mechanical workshop there, and will be providing LVV certification services from there, plus operating in a (limited) mobile capacity in and around Christchurch.

Ian, 52 years old, has spent all of his life restoring and modifying American classic cars and muscle cars, and perfectly ticks the box of 'a lifetime of practical experience'. Amongst other interesting vehicles, he owns a very rare 396 big block '66 Chevelle which he restored many years ago, and is currently building a 1957 Chev 4-door pillarless with modern EFI drive-train and trick suspension.

As part of his work, Ian specialises in automatic transmissions for American vehicles, and enjoys taking on challenges in this area - a recent example of which was the transmission from a front-wheel drive Oldsmobile Toronado.

Ian was the first LVV Certifier to complete a new 'pre-appointment mentoring programme' that LVVTA is trialling, whereby Ian spent a full week with 22 year veteran LVV Certifier Don Hoff in Christchurch to learn the ropes, which Ian said was invaluable in gaining a solid starting point. We welcome Ian, and hope Don's mentoring is reflected in similar levels of expertise and longevity with Ian!

Ian's phone number is (03) 312-5421.



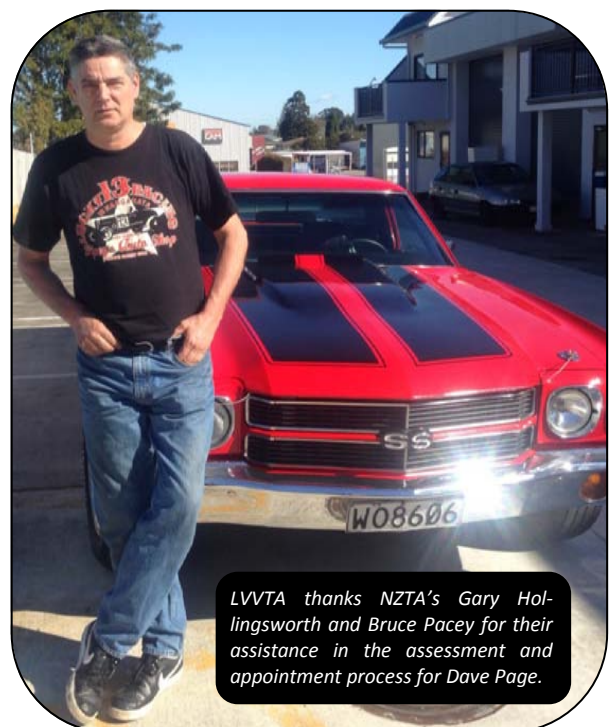
### New LVV Certifier for Auckland Region Appointed

For the Auckland region, Dave Page has just been appointed as a new LVV Certifier during August. LVVTA is pleased to have Dave on board again; - he was an LVV Certifier for a number of years during the mid-1990s when the LVV certification system was in its infancy. At 52 years of age, Dave is old enough to have a lifetime of hands-on car building experience behind him and plenty of LVV certification inspection years ahead of him.

Dave is well known for building high-performance V8 street and race engines, and he owned and operated his own mechanical workshop for a number of years. He has had a lot of experience in many forms of motorsport including partnering Steve Keys in the 'Wild Bunch' Mercedes Benz coupe drag car, and looking after the maintenance and evolution of a top-running Holden Commodore circuit racing car running in the Central Muscle Car series.

Dave is also well known and respected in hot rodding circles, having built a top '34 Ford Coupe and a '40 Ford Pick-up over the years. Dave's current driver is a 1970 SS El Camino which he has recently restored and upgraded.

Dave has also been through the trial 'pre-appointment mentoring programme' with Don Hoff in Christchurch, and is full of praise for Don's tuition, and surprised at the differences in the overall LVV certification system between now and when he first became involved with it when it was making its first move from a corner of Tony Johnson's bedroom to a tiny single-room office in Papatoetoe. Dave's phone number is (027) 492-3570.



## ODDS & ENDS

### Why High-resolution Photographs are Required by LVVTA Technical Staff

An LVV Certifier was puzzled recently as to why, during a form-set review of his LVV certification, technical staff Justin and Dan at LVVTA required a much larger and clearer resolution image of a certain photograph amongst his certification documentation, showing the upper seatbelt anchorage on the vehicle's internal framing.

It became clear to the LVV Certifier just what it was that Justin and Dan needed to see better after looking at the photograph for a bit.

As it turns out (just for the benefit of any eagle eyes out there looking at the engineering work instead of the calendar) this is a pre-rectification photo of the steel body framing, and the vehicle owner has since carried out some additional welding and reinforcement to provide better support for the seatbelt anchorage.



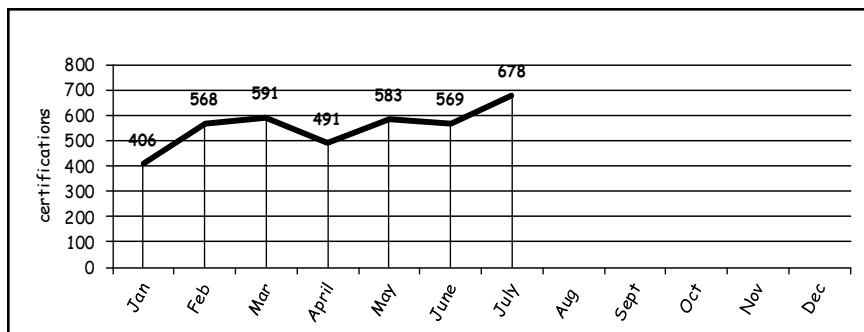
### Busted!



With training on modified vehicles to NZ Police groups now a regular part of LVVTA's technical support activities, this is a sight that Porirua locals and motorists commonly see as they drive past LVVTA.

As a result, the LVVTA offices have been referred to (jokingly, we promise!) 'the P-lab'!

### LVV Certification Numbers for 2014



The graph at left shows the national per-month LVV certification numbers for the first seven months of 2014, which shows a monthly average of 555. This figure is slightly up on the monthly average for 2013, which was 530 LVV certifications per month. The used import industry is reporting that their numbers are up significantly, finally climbing back up after the big hit the industry suffered at the end of 2008. An increase in used import numbers may have a flow-on effect of increasing LVV certification numbers.

Low Volume Vehicle Technical Association (Inc)

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