

# **L.V.V. Operating Requirements Schedule, LVV Standards, and LVV System. Submission from Auckland Certifiers**

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## Changes required to ORS and to LVV System

**Auckland LVV Certifiers**

**2/1/2011**

The system has now outgrown its origins and originators, and needs to be re-invented in order to keep pace with current and future vehicle technology. The current and future needs require new input from new people.

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## Introduction.

The New Zealand Low Volume Vehicle Certification scheme is generally regarded as a very successful innovation, superior to equivalent systems in other jurisdictions.

The system has now outgrown its origins and originators, and needs to be re-invented in order to keep pace with current and future vehicle technology.

## The need

The origins of the LVV System came from the needs of the Hot Rod hobbyists, and the expertise has predominantly come from this particular hobby

The LVV System has now embraced a far wider spectrum of vehicles and modifications, to meet the needs of the New Zealand Transport Agency, for Entry Compliance and for In Service Inspection of light vehicles.

The type of people involved in LVV Certification has moved from amateur hot-rodders certifying 'hobby cars' to multi-skilled professionals well able to deal with modern structures and systems, and serving the wider motor industry including many commercial modifiers including the disability sector.

## Amateurism

The origins are described in the "Hobby Car Technical Manual" which shows how the system originally grew from the needs of the Hot Rod hobbyists.

The technical expertise has come predominantly from this particular hobby. Amateurism has been upheld as a virtue, and all others who are not amateurs have been disparaged as not being knowledgeable or not being practical.

One Certifier comments that: "A scratch-built certifier who is a member of an NZHRA club is considered more knowledgeable than a Heavy Vehicle Chassis Design Engineer / C P Eng when it comes to assessing the capacity of a B pillar to have an upper outer seatbelt anchorage installed"

Another certifier (who is also a HV Certifier) comments "I also resent the fact that in the LVVTA world I am considered incapable of dealing with suspension and steering system modifications even down to a power steer pump change. I can only achieve this ability by becoming a Scratch Built Certifier – unlikely I would imagine due to alleged "commercial" issues of the number of scratch built certifiers currently in the Auckland area."

(There is actually a shortage of scratch-built Certifiers in Auckland)

The "Low Volume Vehicle Standards" and the "Hobby Car Technical Manual" reflect these shortcomings, containing interminable detail relating to hot rod type vehicles, but lacking entirely the information which is required for other vehicle types

The work that has been done is commendable for its original purpose, and a credit to all of those responsible, however the current and future needs require new input from new people.

## Bureaucracy

Low Volume Certifiers inspecting modified vehicles have to cope with a mountain of paperwork and form-filling.

A typical car with bolt-on modifications such as engine, brakes, suspension, and seats will involve some 50 pages of forms to be fully completed, with almost 1000 line items to be written in or checked. In addition some 50 or so photos will be required with the LVV Plate application.

All of this adds 30 to 60 minutes per Certification, the cost of which has to be passed onto the customer

The LVVTA employ staff to laboriously wade through all of this paperwork and return any form-sets with real or imagined omissions and to compile records which Certifiers missed which forms, or left which check-boxes unchecked.

Most of this has minimal implications for vehicle safety; most of the really significant issues come down to the knowledge and experience of the LVV Certifier, COMPLETED PAPERWORK IS NO ASSURANCE OF VEHICLE SAFETY.

In addition to this, the area of "Limitations of Certifier Categories" is open to constructive re-interpretation as the terms written in the ORS are not precise. For example, a simple change of power steering pump is now deemed to require a Scratch-Built certifier, because it is a steering change. A Cat 1A Certifier can certify an engine and drive-train change, brakes changed, wheels changed, suspension modified, but NOT approve the changed Power Steering pump.

This means that Certifiers are being refused LVV Plates for modifications which they have been successfully certifying for years, based on a new interpretations of the wording of the ORS. This leads to Certifiers turning away work for fear of being unable to obtain a LVV Plate.

## Technical Arrogance

The Low Volume Vehicle Technical Association is an association of the founding member bodies, such as the NZ Hot Rod Association, Sports Car Club of New Zealand, Vehicle Association for People with Disabilities, The Vintage Car Club of New Zealand, Motor Sport New Zealand Inc., NZ Four Wheel Drive Association Inc., Constructors Car Club Inc., Component Car Manufacturers Association of New Zealand Inc.

The Low Volume Vehicle Technical Association IS NOT an association of Low Volume Vehicle Certifiers.

As certifiers we are DELIBERATELY DISTANCED from the decision making function of the group that presents itself as representing us. In reality we are the public face of LVVTA, we deal with the public and we follow the rules as set down in the last revision by the Technical Leader

Low Volume Vehicle Certifiers are not even permitted to attend LVVTA meetings.

In practice, the LVVTA writes its standards in isolation, consultation with member bodies is minimal and perfunctory, and consultation with LVV Certifiers is non-existent. Certain Standards have contained glaring errors for many years, which LVVTA refuse to rectify, member associations lobby fruitlessly to have mistakes remedied and changes made.

Systems such as **“Technical Advisory Committee”** and **“alternative methods of meeting standards”** have become too remote and cumbersome to be of practical value. This group should really be made up of certifiers, and deal with certification 'issues' in a manner similar to the RTCE complaint resolution system.

A very experienced certifier recently expressed the opinion that **“The TAC is a group I have never used. I am not really aware of who they are so I cannot have an opinion regarding the competence of this group.”**

***The LVVTA appears to have promoted itself to “Low Volume Vehicle Technical Authority”***

## Changes to the ORS needed

### **1 Clause 5.4(3) to 5.4(6) needs to be removed immediately.**

LVV Certifiers are responsible to the NZTA, not to the LVVTA, as described in Clause 8.

These clauses do not provide for any situation where a Certifier is dissatisfied with the LVVTA

All other Certifiers have routine access to NZTA staff, why are LVV Certifiers treated differently?

### **2 Complete ORS needs to be reviewed in consultation with LVV Certifiers.**

The Operating Requirements Schedule is a unilateral imposition onto Certifiers without any consultation, subsequent versions continue to grow heavy with clauses giving LVVTA more, unwarranted, and unnecessary power.

NZTA could be considered to be wrong in law in signing off such a document.

### **3 Clause 2.5 needs to be amended immediately.**

This clause contains the assumption that the LVVTA auditing staff has superior knowledge and judgment than Certifiers, and is capable of providing a coaching service. The Auditing Staff are not themselves Certifiers, are not familiar with actually certifying vehicles, and are demonstrably unfamiliar with many of the types of vehicles certified.

### **4 Clause 5.2(7) Technical Document Review requirements**

This is a legal nonsense, because it requires the Auditors to 'second guess' the Certifiers technical judgment, mandate changes, and then require the Certifier to assume responsibility for the Auditors decisions.

Note that severe reservations are held about:

A Technical ability of the auditing staff, and

B The omissions and errors of some of the LVV Standards, Info sheets, and ad-hoc decrees from LVVTA.

### **5 Clause 5.2(8) Coaching and Up-skilling opportunities for LVV Certifiers**

LVVTA do not offer any practical coaching or on-site training, and do not have the expertise to do so.

The "LVV Certifier Training Sessions" do not meet this need- to the extent that Auckland Certifiers have had to arrange their own "Peer Training" sessions, where actual vehicles are examined, and Certification issues can be discussed in a constructive manner.

## Changes to LVV Standards needed

### LVV Standards Review- Certifier Review required.

The existing LVV Standards have major omissions and errors, most of which have been well known to Certifiers for many years

The technical expertise of the writers has come predominantly from the Hot Rod community. Amateurism has been upheld as a virtue, and all others who are not amateurs have been disparaged as not being knowledgeable or not being practical.

The “Low Volume Vehicle Standards” and the “Hobby Car Technical Manual” reflect these shortcomings, containing interminable detail relating to hot rod type vehicles, but lacking entirely the information which is required for other vehicle types.

The LVV Standards contain copious PRESCRIPTIVE detail of components which relate to cars built with primitive technology, but are entirely lacking information relating to vehicles designed in the last 50 years.

There is a lack of correspondence to International standards, and a lack of PERFORMANCE BASED assessment.

Four examples of this:

#### **A     Seatbelt and Seatbelt Anchorage Standard 175-00-**

This standard appears to have been based on an old temporary document ST120395 for adding upper seatbelt anchorages to earlier imported coaches.

The Upper Anchorage location required does not correspond to any international standard, does not provide for ‘Hangers’ and would not allow seatbelt anchorages to be installed on the any B-pillar of any 4 door vehicle.

The inclusion of this standard into the proposed standard for wheelchair vans is going to mean that no wheelchair occupant can have a lap and diagonal seatbelt (despite the fact that every California bus and shuttle provides this facility, in accordance with the FMVSS Seatbelt Standard).

LVV Standard 175-00 has specified design loads for one specific design but no directions for the loads, leaving the designer to use his / her judgement and experience.

For 10 years LVV Certifiers have presumably been quietly ignoring these failings of the standard. The LVV Auditors appear not to have noticed.

#### **B     Seat and Seat Installation Standard 185-00**

This standard appears to have had minimal or no Engineering input, and specifies requirements which are sometimes excessive, and other times grossly inadequate- e.g.-

The “Over-Floor Mounting Bar System” does not even come close to being able to sustain the required loadings from stressed seats, especially from seats with three-point seatbelts.

As a minimum requirement for public safety, any such 'Formula' mounting system for stressed seats should be designed by experienced, registered engineers, not by amateurs

### **C Modified Suspension Standard 195-00**

This standard completely lacks any content relating to 'modern' suspension, and the sort of modifications which Certifiers commonly encounter. The Auckland Peer Training sessions have shown surprising consistency of judgment between Certifiers of different backgrounds, (what would be considered safe and what unsafe for various types of vehicle.)

Note that the Certifiers are making their final assessment on a "performance" basis, based on experience of expectations from various vehicle types.

The LVV Auditors reviewing these certifications would appear to have no understanding of these issues, and have no way to discriminate between a safe and unsafe vehicle.

### **D Body structural modifications**

When certifying structural modifications, such as:

- A Saloon changed to convertible or to utility
- B Saloon changed to stretch limousine
- C Van roof removed and replaced with a Fibreglass Hi-top for a Campervan
- D Modifications for fitting Intercoolers and associated piping.
- E Modifications to door openings, and hinge systems.
- F Cab modifications for Motor Homes

The requirement is to write on the FS001 Statement of Compliance:-

#### ***Standard met: "Hobby Car Technical Manual"***

The "Hobby Car Technical manual" has NO RELEVANT CONTENT for any monocoque body construction, despite having copious detail on trivial chassis modifications.

The Certifier is left entirely on his own to determine

- 1 what structural performance standards the original vehicle could meet,
- 2 how this structural performance has been affected by the modification,
- 3 to determine what measures are required to restore appropriate structural performance.

A Certifier would typically write a brief technical report justifying his Certification- the LVVTA Auditors would have no way of evaluating such reports, or any means of verifying them. In addition, the skill sets possessed by the LVV Auditors do not appear to extent to this type of analysis.

***The LVV Standards urgently need fundamental revision to become relevant documents- to relate to International Standards, and to be performance based rather than prescriptive***



## Consequences

The technical arrogance of LVVTA has led them to believe that they have created a comprehensive, box-ticking process which will ensure safe modifications of every type.

The bureaucratic “Auditing” process turns every certification into a paper-rich, information poor, form-filling and box-ticking exercise - A typical car with bolt-on modifications such as engine, brakes, suspension, and seats will involve some 50 pages of forms to be fully completed, with almost 1000 line items to be written in or checked. In addition some 50 or so photos will be required with the LVV Plate application.

A Seat and Seatbelt installation may tick all the required boxes, and yet result in a vehicle used for public transport which completely fails to meet the requirements for occupant protection in a collision.

The combination of these factors is driving LVV Certifiers towards focusing attention on paperwork, form-filling, and satisfying the LVV Auditors in order to obtain LVV Plates, at the expense of taking the time to consider the real safety implications of the modifications beyond what is spelt out in the LVV Paperwork.

The combination of these factors is driving LVV Certifiers towards avoiding carrying out Certifications (of vehicles and modifications which may be far better and safer than normal) but which are likely to result in protracted arguments with LVVTA and the likelihood of not being able to obtain LVV Plates.

The consequences include:

- 1 added cost,
- 2 extended delays,
- 3 driving customers away from the LVV Process,
- 4 driving Certifiers away from the system,
- 5 probability of unsafe vehicles being certified.

***The LVV System is failing to provide the effective, safe certification system required by NZTA.***

## Changes needed to the LVVTA system

### 1 Immediate review of the so-called Auditing process,

To recognize that the LVV Certifiers make the technical decisions, not the less-skilled auditors, and requiring that the LVVTA Auditors STOP trying to make certification decisions in contravention of the ORS.

To recognize that the current “Auditing” process contributes little, if anything to vehicle safety but adds costs and delays to the process.

### 2 Immediate review of certain parts of the ORS

Changes required are detailed in “Changes to the ORS needed”.

### 3 Overall review process of the ORS

By representatives of the LVV Certifiers, (and not just the Hot-rodders)

### 4 Review process of LVV Standards to include LVV Certifiers, (not just Hot-rodders)

- a inclusion of international standards, instead of home-grown improvisations
- b performance based rather than prescriptive
- c inclusion of modern and future vehicle technologies,
- d inclusion of modern and future modification processes and techniques

### 5 Review the process for adding Certifier categories, and adding new Certifiers

There are excellent Certifiers who are well able to justify additional categories, but who are repeatedly refused.

There is a serious shortage of LVV Certifiers in some areas, and good prospects interested in applying to be Certifiers.

There is a general suspicion that the LVVTA will only favour “Hot Rodders”, for new appointments, and additional categories.

***A new focus is required to address the needs of the vehicle modification industry, now and in the future, as required by NZTA***

## **The future of the LVV System**

The New Zealand Low Volume Vehicle Certification scheme was once generally regarded as a very successful innovation, superior to equivalent systems in other jurisdictions. The work that has been done so far is commendable for its original purpose, and a credit to all of those responsible.

The type of people involved in LVV Certification has moved from amateur hot-rodders certifying 'hobby cars', to multi-skilled professionals well able to deal with modern structures and systems, and serving the wider motor industry including many commercial modifiers including the disability sector.

In particular, the focus has to be changed to "Performance based" standards rather than the current and lengthy "Prescriptive" approach

The responsibility for technical competence must be re-affirmed as being with the Certifier, rather than with any LVVTA 'Auditors'.

***The Low Volume Vehicle Certification system has now outgrown its origins and originators, and needs to be re-invented in order to keep pace with current and future vehicle technology.***

***The current and future needs require new input from new people.***

***Failure to act now will result in the decline and demise of the LVV System in New Zealand***