LVVTA NEWSLETTER

LOW VOLUME VEHICLE TECHNICAL ASSOCIATION (INC)

32 Years 1992-2024

ISSUE 65
JAN 2024 | DEC 2024

LVVTA inc
Low Volume Vehicle Technical Association (inc)

TOP STORY: 200,000 LVV CERTIFICATIONS!

LVV Certification # 1

LVV Certification # 200,000

From the CEO

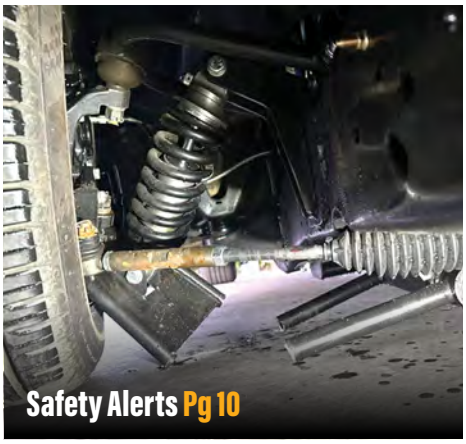
As we come to the end of another busy year, I'd intended to give a brief overview of the last twelve months. However, it looks like our LVVTA Council President Phil Bradshaw, and LVVTA Board Chair Kerry Buchanan have beaten me to it, and covered everything off nicely.

I would like to say that my first year as CEO has been both a privilege and a learning experience (it's really brought home to me the amount of work and dedication Tony Johnson put into the last 35 years making LVVTA the successful organisation it is today). I've also appreciated working alongside the great team we have here at LVVTA, we couldn't have achieved what we have over the last year without them. I couldn't think of a better group of people to head into 2025 with - each one highly skilled, dedicated, and deeply committed to supporting the LVV Certifiers and the wider community.

I'd like to thank our Member Associations and the wider modified vehicle community for their continued support and help as well. This year has brought its share of challenges to overcome, as well as making progress with initiatives that will help ensure a strong future for everyone involved. None of this would have been possible without the hard work and commitment of the LVVTA team and the community we serve.

As the holiday season approaches, I'd like to take this opportunity to thank everyone for their support, help, and dedication to the ongoing improvement of the LVVTA system. On behalf of all of us here at LVVTA, I wish you a Merry Christmas and a Happy New Year. May you and your family enjoy a well-deserved break, as we look forward to a successful 2025.

Ken McAdam, CEO. ■



LVVTA inc
Low Volume Vehicle Technical Association (inc)

'Helping New Zealanders Build & Modify Safe Vehicles'

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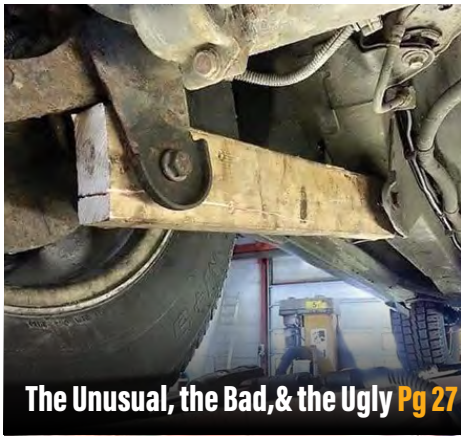


News

#200,000! LVVTA Celebrates New Zealand's 200,000th LVV Certification

On June 27th 2024 LVVTA celebrated a significant milestone - the 200,000th LVV certification issued.

The occasion was marked with a get-together of familiar faces at LVVTA's office in Porirua, including past and present LVVTA staff members, founding and long-term LVV Certifiers, former and current NZTA staff members, and past and present LVVTA Board Members.

There were also friends and representatives from the wider car community and automotive industry who have been influential in the development of LVVTA and the LVV certification system over the past 35 years. ▶

Top: *LVVTA President Phil Bradshaw addresses the attendees, and was involved in recognising the contribution to LVVTA made by Steve Keys over many years.* ***Above:*** *LVVTA CEO Ken McAdam recognises long-time Management Committee Member and Board Member Graeme Banks who passed away earlier this year. Graeme's family was there to accept LVVTA's Certificate of recognition from Ken.*

The evening function was led by new LVVTA CEO Ken McAdam, who has been involved with LVVTA in various roles for over 20 years, and has seen, been part of, and made happen, a lot of the change and growth that's happened in that time.

The proceedings included recognition of Steve Keys' contribution to LVVTA over the various managerial and oversight roles he has fulfilled within his 28-year involvement including many years as LVVTA's President, and a commemoration of the late Graeme Banks' work on both the Board and Management Committee. Graeme's family were present at the function to hear the tribute to Graeme, and receive his posthumous recognition. The evening also recognised Tony Johnson's decision to pass over his long-held CEO role (a 21-year tenure from 2003 to 2023) to Ken in December last year, enabling Tony to fully focus on the document and system development role.

The 200,000th vehicle to be LVV certified was a Mercedes Sprinter van, modified to enable a person with disabilities to self-drive. The Sprinter featured extensive modifications including a rear-mounted hydraulic wheelchair ramp, power-operated rear barn doors, multiple wheelchair restraint positions and removable seating incorporated into floor-mounted tracking, a lowered front floor, docking station, and adaptive hand controls. The sum of the modifications has created a full 'self-drive' vehicle, enabling a wheelchair user to enter the vehicle, lock their chair into position, and drive from their wheelchair, all unassisted.

The van was modified by Carterton-based disability vehicle specialist Braiden International Ltd, and LVV certified by Julian Cheer - himself a founding LVV Certifier who is still active in the LVV system today.

It took 12 years to reach 50,000 LVV certifications, a further 6 years to reach 100,000, and then 14 years to double that number. Overall, there's been a rough average of 50,000 LVV certifications every 7 years, so based on those numbers, we should be knocking on the door of a quarter of a million LVV certifications by the end of this decade!

These numbers were never envisioned back in 1989 when Tony Johnson began talking to some car club members and the Ministry of Transport about the idea of a 'self-governance' system for a few enthusiast vehicles! ■

Above left: *Longtime LVVTA supporters, from left, Chris Litherland (LVVTA Technical Advisory Committee Member for over 30 years), Frank Willet (general vehicle enthusiast and LVVTA Council Member), Chris Sweetman (of Autoliv NZ for many years, and an LVVTA go-to for seatbelt-related expertise), and Davey Uprichard (past NZTA staff member and a member of LVVTA-NZTA Working Groups for many years).* ***Above right:*** *Steve Keys (past LVVTA President, Management Committee Member, and Board Member) at left, and Ian McNeil (of Mac's Speed Shop in Auckland) at right, trying on the LVVTA-designed 'modern seatbelts for old vehicles' system in Tony Johnson's 1964 Cadillac.* ***Below left and right:*** *The Mercedes Sprinter van, which was the 200,000th low volume vehicle to be LVV certified, was on display for attendees to view the work of Braiden International. Carterton LVV Certifier Julian Cheer, a 30+ year veteran LVV Certifier, carried out the LVV certification work. Julian regards Braiden International's work as top class.*

Kiwi Trikers Social Club Inc.

MotorSport New Zealand Inc.

New Zealand Four Wheel Drive Association Inc.

New Zealand Hot Rod Association Inc.

New Zealand Motor Caravan Association Inc.

Sports Car Club of New Zealand Inc.

Constructors Car Club Inc.

The Vintage Car Club of New Zealand Inc.

From LVVTA President Phil Bradshaw

"LVVTA CEO Ken McAdam and I were recently invited by the NZ Hot Rod Association to participate in a Dunedin meeting.

120 people attended and we provided an update on what the LVVTA is doing to remedy a shortage of LVV Certifiers in the lower South Island.

It was great to engage with enthusiasts directly, who are the reason why the certification system came into being in the first place.

A number of points from the meeting are likely to be of interest to the wider modified vehicle community and so I thought I'd make brief mention of some here.

LVVTA is actually an Incorporated Society underpinned by eight Member Associations, namely the Constructors Car Club, Kiwi Trikers Social Club, MotorSport NZ, NZ Four Wheel Drive Association, NZ Hot Rod Association, NZ Motor Caravan Association, Sports Car Club of NZ, and Vintage Car Club of NZ. In effect, these associations collectively own the LVVTA. Each association elects a delegate to represent their members on the LVVTA Council and advocate on their behalf. ▶

LVVTA operates three companies, one for Low Volume Vehicle Certification, one for Repair Certification, and one for the back-office aspects. All up, LVVTA employs nineteen people and is led by the CEO, Ken McAdam. The CEO is employed by (and reports to) the LVVTA Board of Directors, which currently has four members: Kerry Buchanan (Board Chair), myself (LVVTA President), Stewart Collinson, and Felicity Caird. At the moment, we are carrying a vacancy that we intend to fill in the New Year.

With the exception of Felicity (who is appointed by the remainder of the Board as an independent external Board Member), the rest are all from Member Associations and are elected by the delegates at the Council AGM (chaired by the LVVTA President). The delegates meet twice a year at a General Council Meeting (GCM) that the LVVTA President also chairs, with the Council AGM held immediately prior to the November GCM. Guest observers are also able to attend the Council Meetings.

The GCMs provide a twice-yearly opportunity for the Member Associations to 'look under the hood' of the LVVTA to gain an understanding of the overall financial situation, certification statistics, major risks and issues, upcoming key activities, and strategic intent. Delegates have input into where the LVVTA is heading and the priorities it is dealing with. The meetings also provide Member Associations with assurance that LVVTA is being responsibly led and is focusing on the right things.

LVVTA works closely with the NZ Transport Agency (NZTA) and receives a portion of its operating expenses from them via contracts for services. LVVTA's main income is from the 'plate fee' that is charged as part of every LVV certification.

Since LVV certification began in 1992, just over 200,000 modified vehicle certs have been issued, averaging around 50,000 certs every 7 years. However, this has reduced in the past few years and LVVTA currently budgets on 6000 per year. Before the Global Financial Crisis, it was closer to 8000 but the number of certs has yet to recover to this level, with the impacts of COVID-19 still being felt.

LVVTA aims to make a small surplus in order to provide contingency funding for things such as non-renewal of contracts, major disruption in the number of certifications, or the need to maintain and upgrade equipment and/or the building.

The LVVTA team are all die-hard car enthusiasts, and collectively they own a variety of rides from across the spectrum. Many have built their own vehicles and have a competition history. Despite Repair being a relatively new undertaking and LVV expanding in recent times, many of the staff have worked for the LVVTA for over 10 years and as such their knowledge and expertise is considerable.

LVVTA is well connected to the modified vehicle community and understands their needs, but priority must be given to the day-to-day business of processing certs and ensuring the background systems and documentation are kept up to date. The good news is that a significant amount of LVVTA's attention is being channelled into recruiting, supporting, and mentoring the right people through the process of becoming appointed as LVV Certifiers throughout New Zealand. It's a slower and more difficult process than we'd like, but the LVVTA team is well and truly gaining momentum in this important area.

Phil Bradshaw, LVVTA President. ■


Phil Bradshaw


Kerry Buchanan


Felicity Caird


Stewart Collinson

From LVVTA Board Chair Kerry Buchanan

Firstly, I should introduce myself (Kerry Buchanan) as the recently elected LVVTA Board Chair.

I have been involved in various roles with LVVTA since 1998, when I negotiated on behalf of Kiwi Trikers Social Club Incorporated with then CEO Glenn Johnston to gain admittance to the LVVTA Council and have been the KTSCI Delegate ever since. I joined the LVVTA Technical Advisory Committee in 2000 and I'm still a member today. I immersed myself even further into the LVVTA world by becoming an LVV Certifier for bikes, trikes, and EVs in 2018, although I am currently winding down to retirement from this role. In 2021 I was elected to the Board and in April this year accepted the role of Board Chair. I strongly support the aims of LVVTA and enjoy working with my fellow Board Members in assisting our CEO Ken and his team to achieve these.

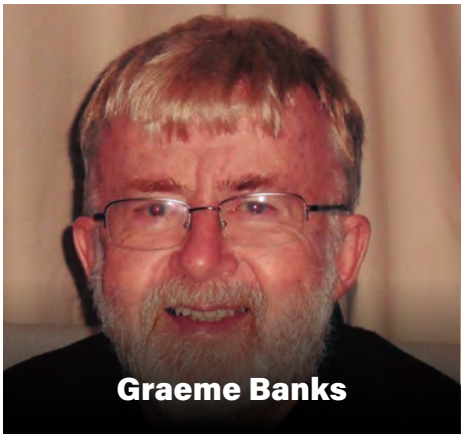
2024 has seen a number of changes for the Board; we began the year with six members, and we are finishing it with just four. During the past year, Board Chair Robert Buchanan resigned from his position due to his desire to downsize his workload as a result of his retirement, along with the resignation of two further Board Members, Graeme Banks and Philip Crampton, both due to illness. Sadly, both Graeme and Philip passed during the year and the Board acknowledges the contribution both they and Robert have made to the creation and development of the Board since its inception. Ken also resigned in November 2023 from the position he held on the Board due to his employment as LVVTA CEO, and was replaced by Stewart Collison from the Constructors Car Club, and recently Felicity Caird was re-appointed to the Board.

We have changed the structure of the organisation, and we now have three entities, LVVTA (Inc.), Specialist Certification Management (LVV) Ltd, and Specialist Certification Management (Repair) Ltd, which more accurately defines how we operate and allows for easier management of the individual contracts between NZTA and each entity.

With our vision of a thriving and safe vehicle modification sector, current strategic objectives include:

- *a focus on maintaining high quality standards and guidance that facilitate modifying and building vehicles - the right way the first time; and*
- *continued development and improvement of certification systems; and*
- *growing the collective membership of LVVTA, and increasing member value; and* ▶

Robert Buchanan



Graeme Banks

Philip Crampton

- *raising the visibility of LVVTA; and*
- *advocating on the value of robust certifications and to ensure the needs of the sector are considered; and*
- *having a focus on brand and communications; and*
- *raising stakeholder engagement; and*
- *developing alternative income streams; and*
- *enabling a sustainable organisation through ensuring sufficient ongoing income, investing strategically and wisely, attracting and retaining quality staff, investment in infrastructure and ensuring we have the appropriate legal structure (and rules) to meet current and future needs.*

Collectively, our current Board has a wealth of experience and knowledge, but the growth in both technical and professional requirements within the LVVTA's areas of operations (while working within the current financial and political environment) make for many challenges. With this in mind, the Board recognises the need to appoint a further Board Member to augment the existing experience and skills. We are therefore looking to appoint a further Board Member close to the end of this current financial year.

I genuinely thank my fellow Board Members for their valued contributions this past year, also Ken for his management of the LVVTA team, tireless efforts, and general professional representation of LVVTA to NZTA and the other organisations we interact with, the entire LVVTA and RepairCert NZ staff for their hard work towards achieving the vision and goals, and of course each of our Member Associations, for your continued support.

Kerry Buchanan, LVVTA Board Chair. ■

32 YEARS AGO

THE FIRST LVV CERTIFICATION TOOK PLACE

In April 1992, after two years of groundwork to establish the system, LVV Certification Plate #001 was issued for a newly built blue 1937 Plymouth sedan (pictured above), enabling its proud owner to attend the 1992 Street Rod Nationals in Masterton.

Shortly after, 'Project 34,' a project car built by NZ Hot Rod Magazine, became the second vehicle LVV certified, receiving LVV certification plate # 2. The car was then given away as a spot prize at the 1992 New Zealand Street Rod Nationals. These events marked the birth of New Zealand's LVV certification system for modified and scratch-built vehicles, as it began to take its first steps.

Later that same year, LVVTA was officially established as an incorporated society. Now, 32 years later, the system has grown into a vital part of New Zealand's land transport legislation. Despite this evolution, LVVTA remains an independent, self-governing, enthusiast-driven organisation - something that continues to be unique on a global scale.

In 2024, 32 years after the first LVV certification, we celebrated reaching 200,000 LVV certifications. This milestone was also an opportunity to acknowledge key contributors: Steve Keys (1997 - 2021), the late Graeme Banks (1999 - 2024), and Tony Johnson for his two decades as LVVTA CEO (2003 - 2023) and his ongoing service spanning over 30 years (1989 - current). ■

Above: *Project 34 with its co-ordinators Darryl Gates & Danny Neilson in 1992.*

Good News Story - 34

This email was sent to Justin from a happy hot rod builder in appreciation of LVVTA's help...

"Hi mate, just wanted to show you the car after nearly eight years and to thank you for the initial help. Lloyd (Wilson) and Julian (Cheer) have been great as well. Regards Grant. ■

Documents and Systems

SAFETY ALERTS ISSUED THIS YEAR

 # 01 - 2024 MPW-brand Triumph Daytona Lower Linkage Arm

 # 02 - 2024 1958-1964 Chevrolet Y-bone Rear Track Locator Arm

 # 03 - 2024 Superformance-brand Lower Control Arm

For all LVVTA Safety Alerts, visit: www.lvvta.org.nz/safetyalerts.html

Safety Alert # 01 - 2024
MPW-brand Triumph Daytona Lower Linkage Arm

This Safety Alert covers a Triumph Daytona motorcycle aftermarket 'MPW-brand' lower linkage arm. The arm features additional adjustability over the OE item, but incorporates a spherical bearing rod end which does not meet LVV requirements. LVVTA has been advised that this part failed while the motorcycle was being ridden through the South Island, resulting in the rear suspension collapsing, and the rider losing control. ■

Above: *The grease fitting in the rod end has created a weak point, causing the rod end to fail.*

Safety Alert # 02 - 2024
1958-1964 Chevrolet Y-bone Rear Track Locator Arm

This Safety Alert details a poorly designed aftermarket rear suspension arm intended for full-size 1958-1964 Chevrolets. While no failures have been reported to LVVTA at the time of publication, the arms feature a rear joint with no method of articulation, relying solely on the threaded adjustment section to wind in and out - an example of extremely poor engineering. ■

Above: *A Y-bone arm fitted to the rear axle of a 1958-1964 Chevrolet Impala.*

Safety Alert # 03 - 2024
Superformance-brand Lower Control Arm

This Safety Alert concerns the failure of a 'Superformance-brand' lower control arm fitted to a Ford F-150. This was part of a complete aftermarket independent front suspension (IFS) assembly, utilising a tubular design for the load-bearing control arms which is well below LVVTA size requirements. Although the manufacturer of this component is based in Australia (where the failure occurred), it raises concerns due to the number of modified Australian vehicles being imported into New Zealand which may include these unsafe IFS assemblies. Additionally, modifiers and builders often consider Australia a 'reputable country' for the manufacturing of aftermarket components.

This failure, which occurred after only eight kilometres of driving following the vehicle's final assembly, illustrates why LVVTA places a high degree of importance on monitoring the quality of aftermarket components, and ensuring that poorly engineered and unsafe components like these suspension arms are prevented from being fitted to road-going vehicles in New Zealand. ■

INFORMATION SHEETS ISSUED THIS YEAR

 # 01 - 2024 (March 2024) Steering Column Test

For all LVVTA Information Sheets, visit: www.lvvta.org.nz/documents.html#infosheets

Information Sheet # 01 - 2024 (March 2024)
Steering Column Tests

Work has progressed on the in-house testing of aftermarket steering columns, with all the affected column assemblies now having been put through the million-cycle durability test in LVVTA's bespoke cyclic testing rig, built by Metal Construction Company (METCON), in Wellington. This was designed to replicate a life cycle worth of everyday driving on the steering column assembly, and expose design faults or flaws in its construction. The test consists of a rotational load of 40 Nm applied over one million cycles, which is a good representation of the kind of loads a vehicle without power steering would undergo during common manoeuvres such as parking and low speed turns.

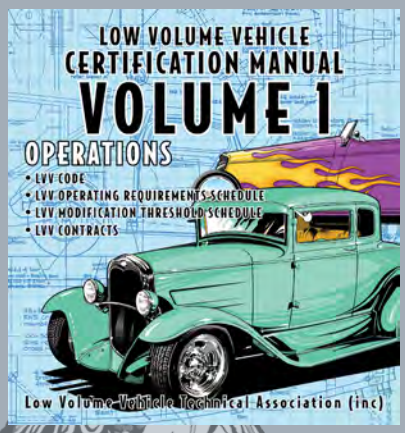
For the cyclic test the tilt mechanism was set in its fully tilted position, which is the worst-case scenario. With the test rig running non-stop, the cyclic test for each column took approximately three months to complete. Any wear throughout the duration of the test was recorded within the test rig's data-logging system, and once the cyclic test was completed the columns were stripped, measured, and inspected for wear or damage. If they were still serviceable, the columns were reassembled in preparation for the maximum load test.

The maximum load test involved bolting the lower end of the column to the floor in a specially made fixture, to prevent the column shaft from being able to rotate. A 200 Nm rotational load was then applied to the input spline end, meaning all of the internal componentry was exposed to this torque loading. The 200 Nm load comes from an Australian Vehicle Standards Bulletin test requirement for a one-off load that a steering column must withstand. The columns were tested in two orientations - fully tilted, and straight.

As a result of this testing, an information sheet has been developed, which details the testing carried out and the findings from it. These tests have also resulted in identifying five brands of steering column of a known quality that LVV Certifiers can accept as part of their certification without the need for dismantling or further inspection. ■

Above: *LVVTA's custom-built cyclic test rig, with the 'Flaming River'-brand column mounted and ready to begin testing.*

Above: *LVVTA technical staff members Dylan Mathieson (left) and Andrew McGregor conduct the maximum load test on an 'Ididit'-brand tilt column.*



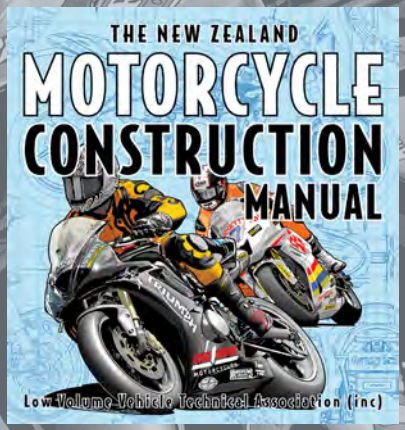
LVV Operating Requirements Schedule (Issue 11)

As part of the ongoing overhaul of the LVV Operating Requirements Schedule (ORS), the ORS is now being split into a series of individual chapters - three of which have now been signed off by NZTA and released publicly.

These are Chapter 3 **(LVV Certification Categories)**, Chapter 4 **(LVV Certifier Background Criteria)**, and Chapter 5 **(LVV Certifier Application and Appointment)**.

Chapter 3 details the limitations of modifications that an LVV Certifier can assess. Part of this revision has included relaxations for certain lower-level modifications that were previously 1D category, like aftermarket bolt-on drop boxes for 4WD vehicles, which can now be assessed by a 1A category LVV Certifier. The intent is for this to make it easier for modifiers to get their vehicle LVV certified, as the availability of LVV Certifiers with 1A category is much greater than those with 1D category.

Chapters 4 and 5 detail the background criteria needed, and the application process to become an LVV Certifier. The information within these chapters will help new applicants understand the knowledge and skills needed as part of being an LVV Certifier, and outline the process of assessment an applicant must undergo to achieve this. ■



The New Zealand Motorcycle Construction Manual

Six chapters of the upcoming NZ Motorcycle Construction Manual (MCM) have been released in draft form to LVV Certifiers, so they can be 'real world tested' by those LVV Certifiers assessing modifications to motorcycles.

The six chapters are Chapter 5 **(Frame Modification and Construction)**, Chapter 9 **(Engine and Drivetrain)**, Chapter 10 **(Fuel Systems)**, Chapter 13 **(Body Modification and Construction)**, Chapter 14 **(Seating)**, and Chapter 15 **(Glazing and Vision)**. As more MCM chapters are completed, these will also be issued to LVV Certifiers for 'field-testing', and (after feedback has been received and any amendments made) issued publicly. A dedicated NZ Motorcycle Construction Manual has been a long time coming, and like its sister publication the NZ Car Construction Manual, will prove a vital resource for anyone building or modifying a motorcycle.

In accordance with the 'Next-generation' LVVTA document structure (see Information Sheet # 02-2021 - Explanation of Next-generation LVVTA Technical Documents), six LVV standards have also been issued, and these LVV standards correspond to the MCM chapters released. ■

LVVTA Training

Electric Vehicle Training at LVVTA

The rapid growth in the number of electric vehicles (EVs) on New Zealand roads has meant more and more people are asking about converting internal combustion engine vehicles to electric power.

Technology has moved on exponentially since the LVV Electric & Hybrid Vehicles Standard was released back in 2010, and there are several more LVV Certifiers with category LV4 (Electric Vehicles) than there were when the standard was written. The time was right for some training on the technologies and principles used in electric vehicles, and a discussion around the updates needed to the standard. The training and discussion were held over two days, the 20th and 21st of June.

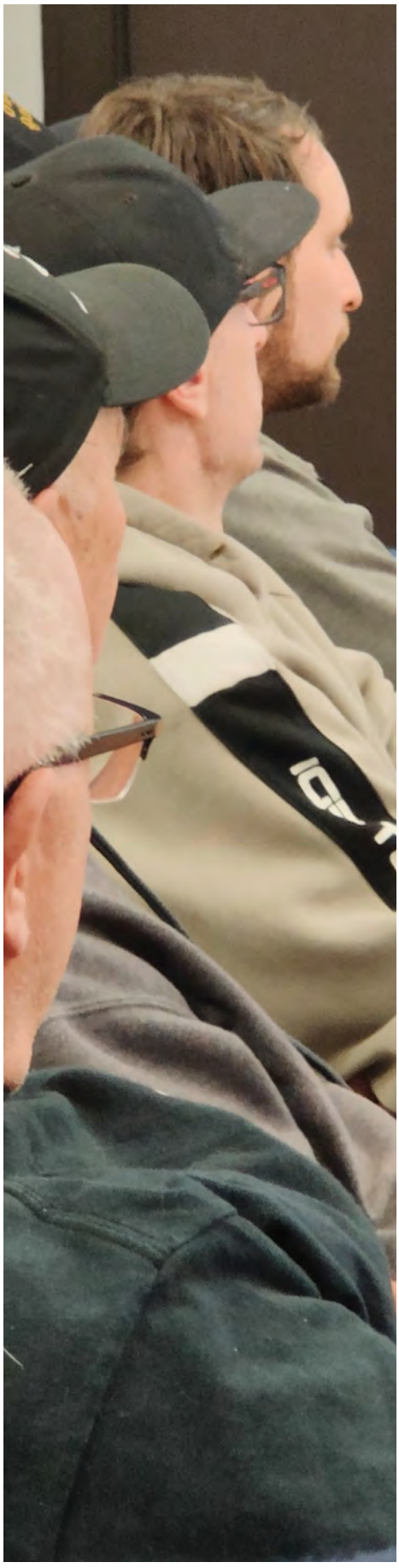
Day One: Comprehensive EV Training

The first session on day one was led by LVVTA's Brendon Norling, and consisted of a refresher in general EV principles, layouts, components, and OEM practices. As well as the deconstructed components Brendon brought with him, he also provided several different wiring diagrams, and broke these down into something that was both manageable and understandable. The training was not all theoretical either – the afternoon session consisted of the practical inspection of two electric vehicles. One was a high-volume OEM late model MG, the other a retrofitted VW Kombi. It was enlightening to spot the differences in the layout of the powertrain systems between the two vehicles, and the compromises that come from retrofitting a powertrain into a vehicle that was never designed for it.

Day Two: Guest Speaker and Discussion

The morning session on day two featured a guest speaker - Dave Budge from Australian-based Jaunt Motors (who specialise in retrofitting EV powertrains into older vehicles, particularly Series 2 & 3 Land Rovers). Dave was a valuable addition to the training, providing a huge level of detail on Jaunt's approach to the design and layout of a non-OEM electric powertrain. He also provided a window into modern EV industry practices, including redundancy for safety-critical components and isolation of high-voltage systems. Dave contributed to the afternoon session as well, which was a wider discussion around the updates needed to the LVV Electric & Hybrid Vehicle Standard, held with invited experts from industry, LVV certifiers, and LVVTA staff. There were a number of points raised during this discussion, and a large amount of feedback was received, all of which will assist with the rewrite of the standard. ■

Top left: *Industry experts, LVV Certifiers and LVVTA staff discuss changes to the LVV Electric & Hybrid Vehicles Standard to bring it in line with current technology and trends.* ***Top right:*** *Attendees inspect the main battery pack installation under the converted VW Kombi.* ***Bottom:*** *Very tidy 'engine' bay with the electric motor replacing the VW Kombi's ICE. Photo courtesy of Vahry Photography, Parnell, Auckland.*



LVVTA National Conference for LVV Certifiers

Rather than the traditional regional LVV Certifier training sessions conducted around the country, the 20th of September marked the inaugural LVVTA National Certifier Conference.

All current LVV Certifiers were invited to a day of specialist subject training on a variety of topics, the majority of which involved practical, hands-on exercises. Having everyone in one place made this possible - it was not previously feasible to carry out practical training on a regional basis.

Hands-On Training

LVV Certifiers were split into three groups, and as well as the usual procedural matters that LVV Certifier training needs to cover, they participated in practical demonstrations of stainless-steel brake pipe flaring, covered the fundamentals of retrofitting electric power-assisted steering (EPAS) systems, and were involved in discussions around the issues of fitting high-sided race seats to a vehicle with lap and diagonal seatbelts.

Electric Power Assisted Steering (EPAS) Systems

LVVTA's Andrew McGregor led the training on retrofitting EPAS systems, something that is becoming more popular as EPAS-equipped vehicles get to an age where they start appearing in scrapyards. Andrew took LVV Certifiers through the fundamentals of EPAS operation, wiring, and an explanation of the componentry found inside an EPAS unit. Aftermarket support for these units is increasing, and (as LVV Certifiers are finding) there are many common mistakes that can be made when installing an EPAS system in a vehicle. One of the main problems is mounting the units with enough strength to withstand the rotational forces they can generate, and Andrew provided a comprehensive practical demonstration showing the amount of torque an EPAS unit can create.

Stainless Steel Brake Pipe Flaring

Justin Hansen gave a demonstration of the correct flaring technique for stainless steel brake pipes, which relates to part of a proposed change to NZCCM Chapter 8 (Braking Systems). After an initial overview, including the differences in material specification between stainless steel and other common brake pipe materials, and the differences in flare types and flaring tools, LVV Certifiers were given a section of stainless pipe, which they could then try and flare using the turret and die tool provided. This was ▶

more difficult than many expected, reinforcing the cautious stance LVVTA has taken in the past on this topic. Justin also outlined the inspection process for a flared brake pipe, and showed LVV Certifiers some of the common defects they can expect to see. LVV Certifiers were also given the opportunity to provide feedback on the proposed requirements around stainless steel brake pipes to be introduced as part of the revisions to Chapter 8 of the NZ Car Construction Manual.

High-sided Race Seats

A discussion was also held around high-sided race seats fitted to road-going vehicles with OEM lap and diagonal seatbelts. Feedback from LVV Certifiers was needed, as historically there has been an inconsistent approach to race seats in road-going vehicles around the country. Most LVV Certifiers agreed with concerns raised by LVVTA on the routing of seatbelts over the sides of high-sided race seats, and two dummy seatbelt setups were constructed to illustrate this issue. Based on the consensus reached at training, an Information Sheet will be released, explaining the rationale behind the requirements, and the expectations of seatbelt routing where high-sided bucket seats are fitted to a vehicle.

Feedback and Future Conferences

Everyone was kept well fed and watered throughout the day by the prodigious culinary talents of LVVTA's own Nikki Thomas, and feedback from the day was almost universally positive – so much so that CEO Ken McAdam declared at the end of the day that the same National Conference format will run again in 2025.

Top: *Andrew McGregor takes LVV Certifiers through the principles of EPAS.* ***Middle:*** *Auckland LVV Certifier Clint Field uses his special 10x magnification vision to check this stainless pipe flare for cracks.* ***Bottom:*** *LVV Certifiers debate the difficulties of high-sided race seats used with three-point seatbelts.* ■

NZ Police Training

LVVTA staff always look forward to the opportunity to train the New Zealand Police, and this year's training sessions were similar to previous years, with a mix of new recruits and seasoned Officers participating.

In addition, LVVTA extended its training to include the New Zealand Police Adjudication Officers (pictured below). These Officers handle appeals against issued tickets, so their sessions focused more on the regulatory aspects of LVVTA's role rather than front-line enforcement. As part of the training, participants engaged in hands-on activities, inspecting modified vehicles in the workshop and carrying out quick investigative exercises with the vehicles presented. This practical approach continues to prove invaluable for enhancing the Police Officers' understanding of vehicle modification compliance. It has been great to resume a more comprehensive schedule of training sessions for the NZ Police this year, after reduced frequency of training opportunities in recent times. This renewed focus on education has been particularly rewarding for all involved. ■

LVV CERTIFIERS NEEDED

TARANAKI | OTAGO | SOUTHLAND

We know that LVV Certifiers are in the best position to identify the next generation of LVV Certifiers.

So, if there is anyone you know who may be interested in becoming an LVV Certifier put them in touch with LVVTA.

LVVTA Events

SEMA 2024

Each November, the Specialty Equipment Marketing Association Show (SEMA) takes place in Las Vegas, in the United States. First formed back in 1963, SEMA has become the largest automotive trade show in the world, with over 2400 brands on display, spread over more than 232,000 square metres (that's more than 29 rugby fields).

While SEMA's primary function is to connect sellers with buyers, it also creates a unique platform that allows LVVTA to identify new products that will inevitably find their way here to NZ. Additionally, the ability to meet key people face to face, despite the thousands of kilometres that separate our countries is a huge benefit, providing a unique opportunity to build on the positive working relationships LVVTA has with the numerous companies it regularly deals with (both suppliers, and manufacturers). For the second year running, LVVTA Technical Officer Justin Hansen has travelled to SEMA on behalf of the organisation. Here's Justin's take on SEMA 2024:

Justin's SEMA 2024 Experience

"As is often the case with an event in the USA, SEMA is nothing short of epic. It's hard to describe the sheer scale of it to someone who hasn't experienced it; the size of the venue itself is staggering, and the number of companies that attend makes it virtually impossible to see everything. It's quite easy to spend a full day within one single hall (of which there are many), not to mention the numerous and vast outdoor areas, which include vehicle displays, Battle of the Builders, outdoor booths, drifting, and other driving event circuits. ▶

Diverse Displays and Activities

While SEMA isn't strictly a car show, many vendors use vehicles to display their products, or to create a 'wow-factor' or point-of-difference to entice visitors into their booths. There's seemingly no limit to what you'll see – from a custom-painted helicopter to a 1953 Detroit Autorama show-winning hot rod (the Tommy Foster '32 Ford Roadster), to an EV-converted Gen 1 Camaro, or the plethora of wild, jacked-up American pickups - there's quite literally something to crank everyone's handle. Hand in hand with the cars and trucks, there's also a broad range of auto-industry knowledge being shared, covering modification, repair, information technology, marketing, and business management, with numerous educational workshops, guest and celebrity speakers, and events.

Above: *There are huge numbers of insane lifted trucks at SEMA, ranging from mild to wild. We doubt these would have any practical uses, and they'd be unlikely to make it onto the road here, but they sure are impressive to look at!*

Planning and Preparation

It quickly becomes apparent that some good pre-SEMA planning is a must - as is a decent pair of shoes (a vitally important consideration when numerous kilometres can easily be covered on a daily basis). Luckily SEMA facilitate the first part well, with a comprehensive smart-phone app that incorporates useful show mapping, planning, and location features. As to the second part, I'm probably not the best one to give advice on shoes and pre-SEMA training, given the painful blisters I found myself with on day three!

Comparison to Previous Years

Compared to 2023, this year's show seemed roughly similar in terms of the number of exhibitors, crowds, and the variety of vehicles. But in terms of new products there seemed to be somewhat less content in the area of new or innovative steering, suspension and braking systems, which are typically the areas in which LVVTA interacts with the automotive aftermarket. Conversely, and perhaps unsurprisingly, given the increasing amount of tech being incorporated within newer vehicles, there was a marked increase in the more late-model technology-based products, for example ECU scan-tools, electric power steering, advanced driver assist (ADAS) calibration systems, and aftermarket lighting and off-roader accessories.

Networking and Product Insights

As well as drooling over the huge range of amazing vehicles, throughout the event I met and spoke with a large number of people from a range of companies and organisations about their products, and how they fit in with the unique certification requirements of the NZ market (remembering that most countries have few or no technical requirements). While a small minority feel uneasy with any kind of scrutiny (especially when the scrutiny comes from a tiny country in the middle of nowhere), and an equally small number of others seemingly having an 'alternative grasp' of commonly held good engineering practices, the majority are happy to continue to engage and work with us. It was also great to see a couple of LVV Certifiers and a number of NZ modifiers in attendance. Having a presence at an event like this is a huge benefit to LVVTA, and as a result, to all NZ-based modifiers and builders.

Above: *Impressive wide body 'Thunderbunny' Golf ran a rear-mounted VW VR6 engine, with a ton of custom work throughout, including roof-exiting exhaust outlets.* ***Below:*** *There weren't a huge number of motorcycles on display, but this one was stunning, featuring incredible custom low-rider style paint and intricate metal engraving.* ■

SEMA 2024 'Best New Product' Winners

Advanced Driver Assistance System (ADAS) Product: Revv ADAS Plus (Revv ADAS)

Collision Repair & Refinish Product: I-CAR Academy (I-CAR)

Electric Vehicle Product: Formosa VCU (Formosa EV)

Engineered New Product: Velocity Commander Cruise Control (Dakota Digital)

Exterior Accessory Product: CURT Helux 5th Wheel Pin Box (Lippert Curt Luverne Aries Ranch Hand UWS)

Interior Accessory Product: Dodge Durango Dual Stripes Shift Knob and Automatic Dial Selector Shift Knob Adapter Set (Speed Dawg Shift Knobs)

Merchandising Display: Interactive Modular P.O.P. Showroom Display System (ORACLE Lighting)

Mobile Electronics Product: USA-850 (Custom Autosound Manufacturing)

Off-Road/4-Wheel Drive Product: ZEON XD 14-S (Warn Industries)

Packaging Design: Cobra TrailBlazer 500 GMRS Two-Way Radio (Cedar Electronics)

Performance-Racing Product: Pistons - Patented Dual Gas Ports (Race Winning Brands)

Performance-Street Product: Forge Motorsport E-DV (Milltek)

Powersports Product: MLX-5000 Universal Motorcycle Gauge System (Dakota Digital)

Street Rod/Custom Car Product: Bolt-In Under-Dash Hydraulic Clutch & Pedal System C1 Corvette (Malwood USA / Under Dash Hydraulics)

Tire and Related Product: TrackAttack Pro (Hoosier Racing Tire)

Tools & Equipment Product: GarageMax 3T Long Reach Electric Floor Jack (ROADTEK)

Van/Pickup/Sport-Utility Product: 2017+ Ford Crew Cab, Short Bed Power Stroke Diesel XXL Fuel Tank (Titan Fuel Tanks)

Wheel and Related Product: 2024+ Mustang R1 Wheel Kit -Bright Machined Matte Black DecoTech - 19”x10.5” - Front & 19”x11” - Rear (Ford Performance Parts & Accessories)

Note: *None of the products listed above have been inspected, approved, or are in any way endorsed by LVVTA.* ■

Levin Show

Tararua Hot Rod Club in Levin host a hot rod and custom car show every second year called the 'Chrome 'n' Custom Show'.

This year the well-known and patronised indoor show, was held at the Horowhenua Events Centre on Sunday October 6. It's a big show, especially considering that Levin is a town and not a city, and this year almost 70 top quality cars from all over New Zealand were on display to an appreciative public. All proceeds from the show (after covering direct costs) are fed back into the community via many different worthwhile local charities.

LVVTA was offered a trade site in the main hall to showcase its innovative retro-fit 'modern seatbelts for old vehicles' seatbelt system, designed to allow older pillarless and convertible vehicles to be fitted with modern retractable lap and diagonal seatbelts.

This was just the third time the new seatbelt system has been shown to the public, so it's had very little exposure so far. However, there is already a noticeable swing amongst the enthusiast community from a *"What's this?"* reaction when seeing it for the first time to a *"I've heard about this."* reaction, so there's plenty of talk about it going on out there. Enthusiasts are genuinely appreciative that the system is designed as a do-it-yourself initiative with comprehensive design, build, and installation instructions (available free of charge from the LVVTA website) all designed to enable classic car owners to make their old cars vastly safer, without compromising their looks, for minimal cost.

As time allows, LVVTA will continue to raise awareness of the fully tested system, to encourage a much-increased uptake of it.

For more information on the system, go to the Infosheets page on the LVVTA website (lvvta.org.nz) and look for Infosheet *# 03 - 2023 LVVTA Classic Car Retro-fit Seatbelt Structure.* ■

Hardpark 2024

It's hard to believe it's been almost a year since the last Hardpark! We're already looking forward to attending again in 2025, but for now, let's take a moment to recap the day at Hardpark 2024.

Saturday, January 20th, began with wet and drizzly weather, but that didn't dampen the enthusiasm at Trentham Memorial Reserve. The event attracted an impressive 1,160 vehicles and nearly 9,000 attendees over the course of the day. Representatives from LVVTA were proud to participate, setting up a stand featuring a range of display vehicles and valuable information about the LVV certification system.

The LVVTA stand's highlight was Lucas Christian's 1969 Lincoln Continental, which had recently undergone LVV certification for airbag suspension. The design process involved significant input from LVVTA technical staff, particularly in addressing rectifications to the aftermarket suspension arms fitted to the vehicle.

Also on display were two staff cars; Tony Johnson's 1964 Cadillac (the test case for the innovative LVVTA-designed 'modern seatbelts for old vehicles' system) drew plenty of attention. Marty Boyle's recently restored 1976 Ford Escort, emerging from a three-year restoration, was another favourite.

Throughout the day, LVVTA's Chris Smith and Marty Boyle were on hand, answering a steady stream of questions from enthusiastic visitors. Guests were encouraged to enter a draw for $270 off the cost of LVV certification for their vehicles, with the winner announced after the event.

LVVTA staff enjoy connecting with the diverse community of automotive enthusiasts that Hardpark attracts. Sharing knowledge about the LVV system is always a rewarding experience, and we look forward to the 2025 event. ■

LVV People

Welcome Daniel Boyd Operations Manager

In our last newsletter, we announced that Tony Johnson, after 21 years as CEO, has stepped back from his role to focus on system and document development work.

As you will be aware Ken McAdam has succeeded him after many years of working very closely together.

What we didn't mention at the time was the final piece of the puzzle - finding a suitable Operations Manager to replace Ken. In August of 2023, the search came to a successful conclusion with the appointment of Daniel Boyd from Taranaki, who started with LVVTA in January this year. We consider ourselves lucky to have landed Daniel - who brings a unique blend of technical skill and professionalism. Beginning his career as a panel beater, he later completed an accounting degree to expand his skill set. His background spans hands-on automotive work, management, and formal business training, providing him with a grounded yet strategic perspective.

Daniel's passion for the automotive industry has shaped his career, with experience in New Zealand, Canada, and the UK across the collision repair and education industries.

Above: *Daniel's Holden prior to his ownership and restoration commencing.*

Daniel is currently restoring his great-grandfather's 1970 Holden HT, which he tracked down and bought 15 years after it was sold by his father, ensuring its legacy as a fourth-generation family-owned vehicle. He notes that while the project will take more time than he would like, it's a rewarding undertaking, which is no doubt a sentiment shared by many fellow enthusiasts.

With Ken as CEO, Tony as Development Manager, and Daniel as Operations Manager, we think we've nailed a great combination of complimentary skillsets within the management structure of LVVTA, and we're really looking forward to making significant progress. The future holds exciting possibilities for LVVTA as it continues to support enthusiasts and modifiers to continue owning, building, and operating the vehicles we are all passionate about. ■

Welcome Cody Nicholson Technical Advisor

We are pleased to introduce Cody Nicholson as our new LVVTA Technical Advisor.

Cody grew up on Great Barrier Island, where his love for the outdoors led him to many hours of fishing, diving, and hunting. His passion for cars eventually drew him back to Auckland, where he entered the automotive trade at 15, working in the family business as a third-generation panel beater. He learned the 'old school' repair methods of hammer and file metal finishing, chassis straightening and structural repairs, quickly developing a skillset that provided an excellent foundation for his career.

The journey to becoming a custom fabricator began on weekends while Cody was still a teenager, when he built his first roll cage at 16 for a friend's Skyline. This hands-on experience paved the way for him to work with high-end vehicles, including Lamborghinis, Ferraris, and rare, iconic models at a premier race fabrication shop. Cody specialised in restoring and repairing Porsche Cup race cars - often turning around serious crash damage in time for the next race weekend. He also gained a reputation for his skill in building high-end Pro-Touring vehicles, a unique blend of classic and performance car restoration.

Cody moved into full-time fabrication at an Auckland-based shop, where he honed his expertise in creating complete custom builds, metal shaping, and intricate modification work. Among his most significant projects was a heavily customized Mazda RX3, featuring a billet 20B engine, a custom 4-link suspension with a Krysler shop differential rated for 1000hp, and detailed metalwork.

Outside of work, Cody is a track day enthusiast and has invested countless hours into his C33 Laurel. Powered by an RB25DET NEO producing 350kw, the Laurel has undergone several rounds of modifications, including plans to transform it into a time attack car. Family life has Cody balancing his projects with parenthood, as he recently moved to Wellington and has started a family.

Cody's transition from hands-on fabricator to the LVVTA Technical Advisor role allows him to continue pursuing his passion for cars while bringing his depth of experience to the team and supporting fellow enthusiasts. His knowledge, enthusiasm, and knack for high-end fabrication are invaluable, and we are excited to see the ongoing contributions he's making as part of our team. ■

Bon Voyage Chris Smith Technical Advisor

After six dedicated years with us, we bid a farewell to our valued team member Chris Smith, who is starting an exciting new chapter in the USA.

Chris has been a valued member of the LVVTA team, bringing a unique blend of technical skill, humour, and an unmatched mastery of spreadsheets. Whether it was untangling complex data, streamlining our workflows, or providing wise insights, Chris's contributions have left a lasting impact on our work and team.

Chris's move is for a reason close to his heart - *love*. In fact, Chris has not only relocated but has also recently tied the knot!

Along with his new adventure as a married man, he's taken his prized VH Holden Commodore wagon, ensuring a little slice of New Zealand will cruise the roads of America.

While we are thrilled for his new adventure, his absence will be deeply felt here. Our loss is America's gain, and we wish him every success and happiness in all he does. ■

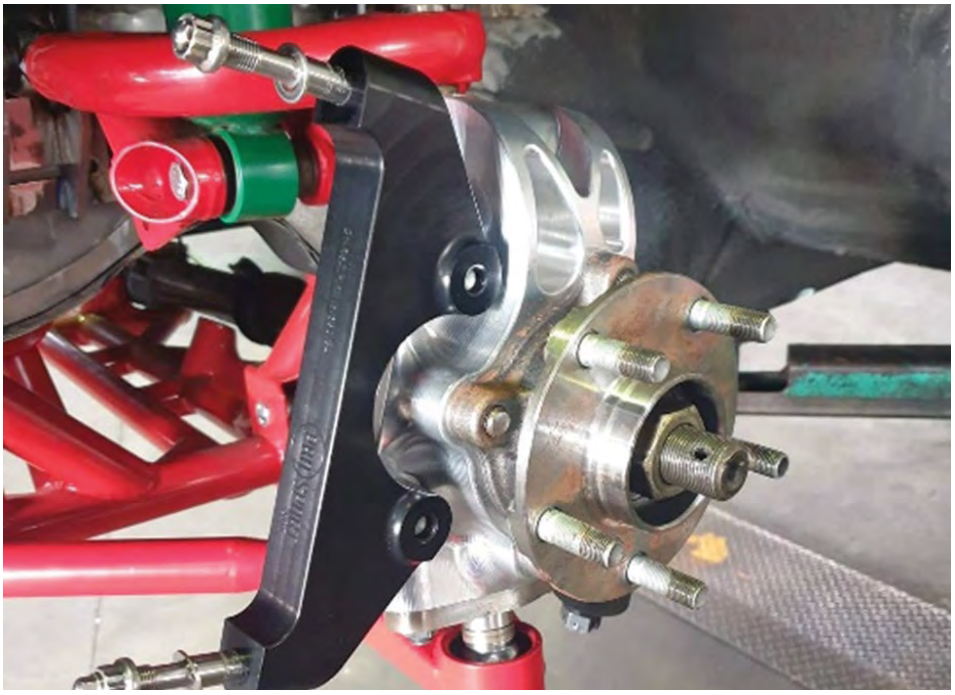
Chris, thank you for everything; you will be missed more than words (or spreadsheets) can express.

Welcome Harley Barron New LVV Certifier

Welcome to new Auckland LVV Certifier Harley Barron. Growing up in northwest Auckland, Harley developed a passion for engines and mechanics from an early age.

He began with trail riding and motocross bikes, before moving onto road bikes and cars. His journey into the automotive world started with a VK Commodore and a Mazda 323, and it was not long before he became hooked on the art of modifying cars.

Over the past two decades, Harley has turned his enthusiasm for 90's Japanese turbo cars into a successful business, Perrys Automotive in Henderson, where he has been helping customers build their dream vehicles. Now, he has taken his experience to the next level by becoming an LVV Certifier - a role that allows him to stay actively involved in (and supporting) an industry he loves. With Harley's expertise and dedication, we're thrilled to have him on board to help keep our standards high and our vehicles safe. ■



Cool Mods

A few of the cool mods and rides that the LVVTA team have come across recently...

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The Unusual, the Bad, & the Ugly

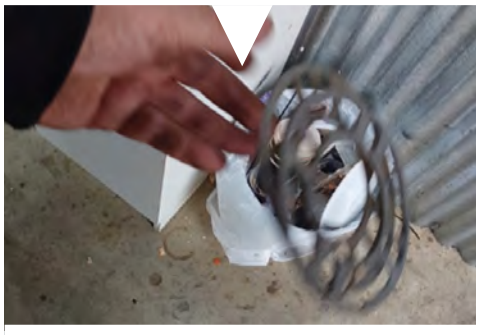
A few of the ways not to modify your ride...

When you think you've seen it all, SEMA always throws a curve-ball....

Meccano 2-piece/hinged brake master cylinder pushrods.

Spring washers as spacers, no worries mate here's your cert!!

Just finished up my 4x2 link.



The right place to fit slip-on spacers.

While the car had some visual appeal, this rack and pinion steering setup seen at the recent SEMA Show will have wildly incorrect and unsafe steering geometry.