

MILESTONE FOR INNOVATIVE AXLE TESTING SYSTEM

It was the failure of a Magnum-brand cast iron I-beam axle in 2012 that first brought to LVVTA's attention the sub-standard casting process which had been adopted by some I-beam axle manufacturers. The failure of that axle, and subsequent failures of other Magnum-brand axles in other countries led LVVTA to establish a cast axle testing and inspection process. In late January 2018, the milestone 200th axle was inspected, and as with all before it, either assured of being safe, or scrapped and replaced with a safe axle.

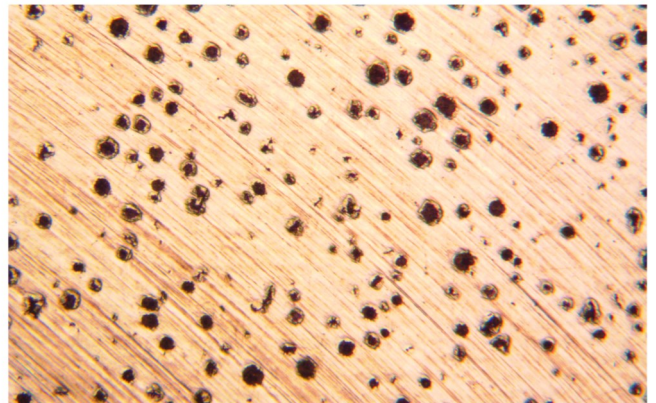
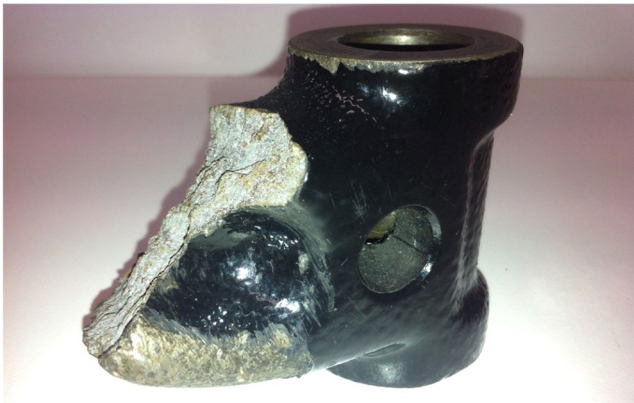
Some aftermarket axles are manufactured using a forging process, however some manufacturers still use a casting process, which if carried out correctly, works well, as is often seen in the OEM environment. However, casting can be inherently problematic if any deviation from the correct process occurs.

Specialised digital equipment allows for photos to be taken of the ultra-magnified structure of the axle, which enables LVVTA technical staff to determine whether or not the nodularity of the iron is to an acceptable standard. As an additional step to ensure that every decision made is the right one, the micro-images are also provided to a professional metallurgist who then independently verifies LVVTA's assessment.

A nodularity rating of 80% is the global standard for which cast components such as axles must meet or exceed in order to be considered 'nodular iron', however, of the 200 axles LVVTA have processed to date, an alarming 25% have failed to reach this level, with many coming in as low as 20% nodularity, and one at an astounding 10% nodularity.



Anti-clockwise from left: The Ford pick-up that started the investigation five years ago; a close-up shot of the broken aftermarket I-beam axle; the magnified graphite nodules which show compliance with international nodularity standards; 'LV200' stamped on the micro-polished axle spring perch.



Through LVVTA's research and development in relation to the I-beam axle problem, New Zealand became the first (and perhaps still only) country to properly address and deal with this serious safety-problem, with a non-destructive testing process.

The inspection process that LVVTA established for cast iron I-beam axles was developed in conjunction with metallurgical specialists and the LVVTA Technical Advisory Committee members, and follows world-wide industry best practice. It looks into the microstructure of the component to determine the nodularity (which is what gives the component its strength and ductility) of the iron used in its construction, by micro-polishing a small area on the axle's spring perch and carrying out a microscopic inspection of the area.

While it was the Magnum brand that was responsible for the testing process being established, the majority of Magnum axles tested since have proven to be acceptable, while some other brands have had higher failure rates.

LVVTA's Justin Hansen comments, "When we started testing I-beam axles, Superbell-brand axles had some big manufacturing problems with their cast axles, however we've worked with them and they're doing a much better job now. Superbell have been really good to deal with, and they're very appreciative of our help – in fact they provide us with an ongoing supply of new axles so that their customers here in New Zealand aren't inconvenienced when one fails the inspection."

MILESTONE FOR INNOVATIVE AXLE TESTING SYSTEM (cont'd)

Justin continues, "It's not always the axles you'd expect to fail that do fail, and not always the ones you'd expect to pass, that pass. We've seen brand-new chrome axles with a low nodularity and also seen axles that look like they've been sitting outside for years pass with flying colours".



While 200 axles may not sound like a substantial figure, that indicates an additional 200 period-style hot rods or modified vintage vehicles being built over the five-year period since testing was introduced. This is an impressive number when you consider that many similar vehicles will have also been added to the fleet utilising forged axles, which are not required to undergo this same process, or independent suspension systems.

If an axle is purchased without any documentation, LVVTA can perform the axle inspection test to confirm if an axle is forged or cast, as most axles do not bear any identification on them.

The introduction of the LVVTA axle testing process has ensured that many potentially unsafe cast I-beam axles have not made it on to New Zealand roads. Not only is this great for the vehicle owners, with them avoiding potentially frightening consequences of these readily-available parts failing, but it's also a great success story for the modified car hobby, ensuring that modified vehicles are not in the headlines for all the wrong reasons.

To find out more about axle testing, visit the 'approvals page' at www.lvvta.org.nz

CONCERNS ABOUT 'BVL/BWD'-BRAND CHINESE SEATBELTS

LVVTA has been informed of a failure of a seatbelt during a sled test at an accredited test facility in Australia. The upper guide loop has bent open and then snapped apart, releasing the seatbelt webbing so that the dummy torso was not restrained. The seatbelts have markings to say that they comply with an approved safety standard.

The affected seatbelt was made in China by Changzhou Bowanda Automobile Safety (also known as BWD), and was distributed in NZ by Business Ventures Ltd (BVL). BVL sold these seatbelts between 2008 and 2016. Although the number of seatbelts sold is unknown, it is reasonable to assume that many vehicles have been fitted with these potentially unsafe seatbelts. While they have likely been fitted to low volume vehicles, they have also been sold through mainstream automotive parts stores to the public as replacement seatbelts.

These seatbelts can be identified by a seatbelt label that contains the BVL marking, as well as having a second label underneath which has 'Manufactured by Changzhou BWD China' on it. Examples of the two labels are shown at right.

LVVTA wishes to emphasise to LVV Certifiers that, further to information provided by email and at recent LVV Certifier training sessions, they should contact LVVTA if any of these seatbelts are found.

Note that BVL also sell seatbelts manufactured by other companies and these are not known to be affected.

The New Zealand Transport Agency is involved in this issue, and will provide more information to the industry in due course as more is learnt about these seatbelts.



AFTERMARKET ALERT

Multi-piece Lock-bar Issues

A 1D category LVV Certifier recently inspected a vehicle with a multi-piece Hicas lock-bar system, and managed to mount a Go Pro camera under the rear end of the vehicle so as to observe the system when under operational load. The video footage confirmed his initial opinion that the system was not fit for purpose.

While most lock-bars — fitted to vehicles for the specific purpose of disabling the rear wheel steering mechanism on Nissans — are a one-piece tubular 'bar' to which standard tie rod ends attach (utilising the OEM attachment points as they were intended), this design utilises two separate assemblies, where each part is mounted independently of one another, and as they're not supported by two widely spaced mountings, a much higher bending and fatigue load is being applied on each attachment point.

The outcome of the LVV Certifier's video was alarming, showing the inner mounting points flexing under sedate driving.



This information and video was passed on to the LVVTA technical team, who determined that the LVV Certifier was correct in disallowing the obviously sub-standard components. The multi-piece lock-bar kits are available in many different brands, and cannot be accepted for LVV certification.

Undersize Heidts IFS Lower Arms

An undersized lower A-arm was recently discovered on a Heidts Superide IFS system, and questions were asked of its suitability. TAC members assessed the arms and discussed all of the information which LVVTA's Justin Hansen had obtained from Heidts.



The TAC's opinion was that due to the higher material grade used by Heidts compared to the minimum specification provided in the NZ Car Construction Manual, coupled with the increased wall thickness, this justifies the lesser outside diameter (OD).

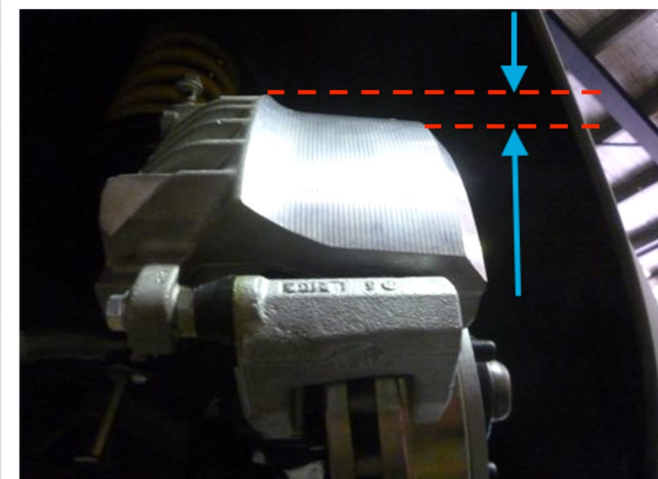
Additionally, Technical Advisory Committee members agreed that as a reputable manufacturer and as an 'LVV Recognised Manufacturer' they should (within reason) be responsible for the design and suitability of components they are making and selling. TAC members have concluded that the arms are fit for purpose.

The arms have an OD of 22mm (7/8") with a measured wall thickness of 4.9mm. The material specification is 1020 DOM tube which has an approximate strength of 350 kPa versus Schedule 80 tubing's 200 kPa.

An LVV Certifier presented with undersize Heidts Superide arms, may (if they match the details above) allow the arms to be used.

Machined-down Brake Calipers (for Wheel Clearance)

LVVTA has become aware that some OEM brake calipers are being modified to enable the fitment of smaller diameter wheels, and are being sold as a bolt-on aftermarket kit. In producing the kit, the aftermarket company is removing a large amount of material from the most highly-stressed part of the brake caliper. As a result, there is a high risk that these modified calipers may not withstand repeated heavy brake applications and heat cycles over time.



AFTERMARKET ALERT

Cert' Required for Suspension Air-helpers

LVTVA has seen an increasing number of businesses choosing to install air-helper spring kits to their utility fleets in order to help with carrying heavy loads. Unfortunately, owners are often informed that no LVV certification is required, which is not the case. Any form of air suspension is required to undergo LVV certification, including helper or 'Air-Assist' type systems that work alongside OEM suspension systems.

Some of the things for LVV Certifiers to watch out for include that there are no bump-stops inside these air bags, and the original bump-stop needs to be removed to fit them. The bag itself then becomes the bump-stop, so the manufacturer needs to provide a statement that the bag is suitable and durable as a bump stop, and the certifier needs to assess the compressed height of the bag to ensure that the 'bag-bump-stop' provides all of the necessary clearances that the OEM bump-stop would have provided.

LVV Certifiers also need to ensure that the chassis rail strength is sufficient for the additional loads imposed by the air-assist system.

Quick-release Steering Wheels

LVTVA reminds the public, LVV Certifiers, and Warrant of Fitness Inspectors, that any 'quick-release' steering wheel and hub system must be referred for LVV certification. This is to ensure that any such wheels and hubs meet the relevant LVV certification requirements, and are safe.

2015-on Toyota Hilux Body Lifts

LVV Certifiers should be aware that when body lifts of 50mm or more occur on a 2015-onwards Toyota Hilux (as with many vehicles) the steering shaft must be extended. According to aftermarket company 'VMN', failure to do this could result in the steering shaft breaking, and VMN claims it is aware of several instances where this has happened. The failure occurs because there is insufficient spline engagement and the 'D' of the shaft flexes, fatigues, and eventually snaps off. VMN recommends that the steering shaft is extended by using the VMN steering extension which is included in all of their body lift kits.



Left: This type of steering extension system (made by VMN) provides better spline engagement when carrying out a body-lift on 2015 onwards Toyota Hilux models.

At right: This type of steering extension is suitable for 2005-2015 Toyota Hilux models only. Do not be tempted to use a steering extension like this which is designed for the earlier model Hilux model, and does not extend the steering sufficiently when body lifting the 2015 and on Toyota Hilux.



Aftermarket Steering Wheels and Hubs

Within the proliferation of poor quality and unsafe aftermarket automotive parts manufactured overseas and hitting the NZ market, LVTVA is seeing a lot of poor quality steering wheel bosses and adaptors (including quick-release types). Some of these items are available from dubious online suppliers for only a few dollars, with 'free shipping'. Many such items that LVTVA has seen won't meet the LVV certification requirements, and in some cases we'd go a step further and say that they are downright dangerous. More detailed information will be provided in due course, but in the meantime, we ask LVV Certifiers to keep a close eye out.

Heidts Steering Rack Extensions

Heidts steering rack extensions that fit between the inner rack joint and the steering rack do not meet LVV certification requirements for attachment, because there is no mechanical locking method. LVV Certifiers will need to pull the rack boot back to inspect for these if it is suspected that this system has been used, as with the boots fitted, they cannot be seen.



At left: With the boots in place, the lack of any mechanical locking inherent with the Heidts kit is virtually undetectable. Below: The Heidts kit as supplied; - and as can be seen, no mechanical locking system is provided.



Multi-hole Wheel Adaptors

Every day, LVTVA technical staff see something new, and recently it was multi-hole wheel adaptors. The 30mm thick unbranded adaptors pictured below were on a vehicle presented for LVV certification in Auckland.

Upon inspection, it was agreed that due to the design and material, there is insufficient strength around the studs. As such, multi-hole adaptors such as these need to be processed on a case-by-case basis, and LVV Certifiers should contact the LVTVA technical team for guidance.



AFTERMARKET ALERT

Overly Sprung

Japanese performance parts specialist company '326 Power' produce many components aimed predominantly at large Japanese sedans. However, some of their products give cause for concern.

Their suspension spring range is stamped with a code, which, if you know what you're looking at can easily be broken down. In the case of the spring shown here, the code is ID63_H140_50K.

That can be broken down as below:

- ID 63 = 63mm id (inside diameter of spring)
- H 140 = 140mm free height (total uncompressed height)
- 50 k = 50kg per mm (measurement of rate)



At a spring rate of 50kg per mm, the springs are rock solid, around five times the spring rate of what would normally be considered a substantial upgrade from OE. When found, these springs were fitted with a pair of shock absorbers that were intended to operate with 10kg per mm rate springs.

These types of suspension setups are becoming more and more popular, so LVV Certifiers are advised to keep an eye out for them and disallow such unsuitable spring rates when found.

Body Lifts - Size Matters

When fitting a vehicle with a body lift, the simplest requirement of all seems to be getting overlooked by modifiers all too often.

The first item in the NZ Car Construction Manual about body mounts clearly states that body mounts must be no smaller than those used originally by the vehicle manufacturer — this applies to all body lifts including those that can be inspected by LV1A Certifiers.

Wellington-based LVV Certifier Ken McAdam was recently presented with a (non-LVV certified) vehicle that had substantial cracking through the floor-pan due to not meeting this requirement, which was a great reminder why the requirement exists.

Unfortunately many of the off-the-shelf lift blocks do not comply. If LVV Certifiers are presented with a vehicle with undersized mounts, they must be rectified.



4WD Tyre to Rim Compatibility

Since its inception, the LVVTA Tyre Size to Rim Size Compatibility Guide Information Sheet has stated that 33 and 35-inch tall, 12.5 x 15-inch tyres can not be fitted to an 8-inch wide rim. However, LVVTA is aware that this fitment has been commonplace in the four-wheel-drive world for many years.



After discussing this situation with multiple tyre manufacturers, LVVTA has now received confirmation that they support this wheel to tyre fitment. On that basis, LVV Certifiers may accept this fitment across all tyre brands. LVVTA's Compatibility Guide will be updated to reflect the allowance.

TCI-brand Suspension Failure

Further to the article published on page 4 of the last issue of LVVTA News (issue # 54) about the failure of a TCI-brand independent front suspension system, a comprehensive Information Sheet has been developed by LVVTA which provides all of the necessary information on what to look for, and what is required to make the units safe. Information Sheet # 03-2017 'Total Cost Involved Independent Front Suspension System Failure' can be found on the [LVVTA Web-site](#), under 'Documents', then 'Infosheets'.

INFORMATION SHEET
03 - 2017 December 2017



Total Cost Involved (TCI) Independent Front Suspension System Failure

Introduction

The purpose of this LVVTA information sheet is to advise LVV certifiers and potentially affected vehicle owners, suppliers, and distributors of a safety risk associated with a range of Total Cost Involved (TCI) independent front suspension (IFS) systems.

Background

During 2017 there was a catastrophic failure of a welded upper coil-over shock absorber mount on a newly installed and LVV certified TCI IFS. This failure directly resulted in a serious motor vehicle accident due to the complete collapse of one side of the front suspension, and the integral suspension which also became disconnected as a result of the failure. Fortunately, no-one was injured.

TCI make several styles of IFS. The design which is affected is the coil-over IFS which has an upper coil-over mount welded to the upper rear pin tube, as shown — along with the area of failure — below. A similar design is offered by TCI for a variety of IFS systems which utilise coil-over shocks.



Investigation Process

The cause of the failure was investigated by the LVVTA's Technical Advisory Committee (TAC) with the assistance of the vehicle owner. TAC members found that, based on detailed visual inspection of the upper shock absorber mounting bracket, and "macro" photographs of the associated pin tube, that the failure was directly related to poor fit-up and assembly of the sections of the IFS beam, along with multiple welding defects on the upper shock mount.

The owner of the vehicle further assisted TAC members by having a non-destructive test carried out on the remaining (opposite side) coil-over mount. This inspection, limited not by a certified welding laboratory, identified serious cracking at the weld, and the same poor fit-up issues as the failed mount. With continued use, failure of this same area on the opposite side of the IFS beam would have been inevitable.

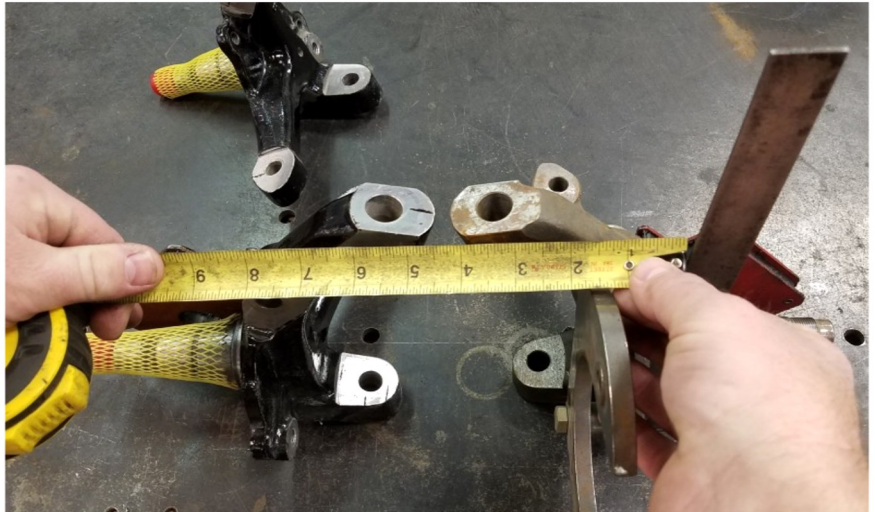
AFTERMARKET ALERT

Heidts Stub Axle Issues

LVV Certifiers should be on the look-out for vehicles with a Mustang II-type front end which utilises 'Heidts'-brand stub axles. If one is found during a certification inspection, there may be a difficult-to-spot problem which needs to be identified and fixed.

There appears to have been some Heidts stub axles that have been incorrectly manufactured. The manufacturing fault positions the top ball-joint hole in the wrong location, approximately 12mm from the OEM location. This has been causing wheel alignment issues, and has had vehicle owners and repairers overseas scratching their heads.

Look on this website for the full story:
www.industrialchassisinc.com/issue-found-with-heidts-mustang-ii-stock-spindles/



MBM-brand Disc Brake Kits

A 1958 Chevrolet which was recently inspected during the LVV certification process was fitted with an 'MBM'-brand bolt-on disc brake conversion kit.

While at first glance the American-sourced kit looked good, upon closer inspection the caliper mounting bracket appeared to be dangerously thin. While approximately 10mm in thickness throughout most areas, the bracket has been machined to allow for clearance and tapers down to less than a 3mm cross-section in one area.

The LVVTA technical staff were concerned at the extent of the machining carried out by MBM to the caliper brackets, and have consulted the Technical Advisory Committee. The TAC have determined that the amount of material reduction is a poor engineering practice, rendering these brackets potentially unsafe and not fit for their intended purpose.

As such, LVV Certifiers should not approve any vehicles fitted with this kit, or any other kit machined this way and to this extent.

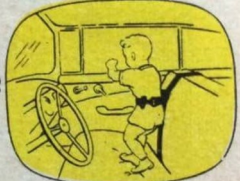


The area circled below shows where the 'MBM'-brand caliper bracket has been machined down such that less than 3mm of material remains, which is considered by the TAC to be a poor design and unsafe.



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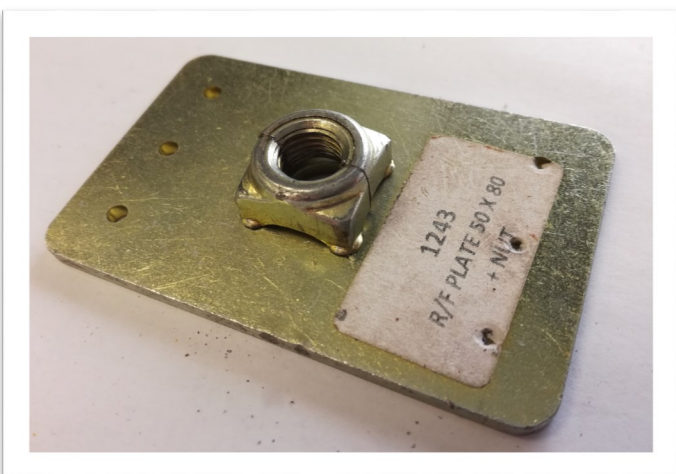
TECHNICAL STUFF

Number of Threads on Commercially-available Doubler Plates

LVVTA has received a number of queries about some doubler plates sold by major retailers, including Repco.

The plates in question have a square nut welded on to the plate, but the number of threads doesn't meet the LVV standard for seatbelt anchorages. To follow is the relevant excerpts of wording from 2.6(1) of the doubler plate specifications section of LVV Standard 175-00 (Seatbelt Anchorages):

...a doubler plate assembly must be used for the attachment of an individual retro-fitted seatbelt anchorage to a low volume vehicle, which must...incorporate...a permanently fixed nut or threaded section of steel material having a minimum full thread depth of 8mm (or six threads)...



The reason for this requirement is to ensure that the nut has sufficient strength to prevent stripping under the high seatbelt loads that may be applied during an impact load.

LVVTA has been in contact with the manufacturer, Australian Performance Vehicles Pty Ltd (APV), who confirm that the product uses

a DIN specification nut that is a factory fit on production vehicle seatbelt anchorages, and it is suitable for use as a doubler plate nut. APV are Australia's leading industrial testing services organisation and a global supplier of safety products (seat belts, harnesses, snatch straps and tow ropes).

LVVTA have performed a bench test to check the thread strength when torqued up and found that the seatbelt bolt strips first, leaving the nut threads intact. The photos show the nut and doubler plate after testing the threads. The test also showed that the strength of the weld securing the nut to the plate was sufficient. Out of interest LVVTA staff then checked the level of torque required to break the welds and it was higher than expected.

LVVTA is confident that this doubler plate is fit for purpose, so on that basis the doubler plates can be accepted for LVV certification. All other requirements such as thickness and corner radii are met.

As far as LVVTA is aware, this doubler plate is the only one to use this style of nut and welding, which makes the doubler plates in question readily identifiable to an LVV Certifier.



SRS Airbag Removal Requirements

Barely a day goes by without the LVVTA technical team being asked about the requirements for SRS airbag removal.

What most vehicle owners and modifiers aren't aware of is that removing airbags requires the vehicle's seatbelts to be replaced by a webbing-grabber seatbelt. This is due to the pre-tensioner-style of seatbelt (which airbag-equipped vehicles are fitted with) being designed specifically for use with airbags. If pre-tensioner style seatbelts are used without airbags, there's a higher risk of injury to vehicle occupants.

For vehicles to legally have their airbag systems removed, they must be no less than 14 years old, or else be issued with a Motor-sport Authority Card that states 'Manufacturer's Occupant Protection System Removed'.

You can find out more by reading LVVTA Information Sheet # 07-2004 'Re-issue of FS005 - Airbag Removal/Disabling'. This Information Sheet can be found at lvvta.org.nz, under 'Documents', then 'Infosheets'.

OEM Air Bag Suspension Removal

The process of removing factory-fitted air bag components from European vehicles is becoming increasingly common as the systems become uneconomical to repair.

Despite some of these vehicles being fitted with a traditional spring and shock absorber from a non-air bag equipped variant of the same vehicle, modifiers, Warrant of Fitness Inspectors, and LVV Certifiers are reminded that this modification does legally require LVV Certification.

LVV certifiers have identified more issues with this seemingly simple swap of OEM parts than you'd expect, as in some cases, while the spring and shock absorber will bolt into the vehicle, the suspension arms are not the same on the non-air bag-equipped variants and the conversion results in poor steering and suspension geometry.

Due to the current wording of the LVV Operating Requirements Schedule, this modification requires a level 1D Certifier, however in the instance where suspension arms are not changed as part of the conversion, this can be performed by a 1A Certifier.

FEEDBACK

More Memories of Dick Reynolds...

From ex-NZTA (now retired) Vehicle Inspector Paul Chapman:

"Hi Tony. Had a meet with some old MOT vehicle inspectors last Tuesday at Mount Maunganui and I guess you would understand there was lots to talk about as all of us are now retired. During the conversation Dick Reynolds' name cropped up and I asked if anyone had read the tribute you made to Dick in one of your magazines – no one had – it was I recall very touching and very appropriate and depicted Dick exactly how he was. I was elected to see if I could find a copy (which I did have at one stage) but now can not put my hands on it. Trust all's well with you guys. Best Regards, Paul Chapman."

After providing Paul with a copy of the Newsletter, he shared a couple of memories...

"I recall taking a failed section of a heavy trailer drawbar down to Wellington in my satchel and meeting with Dick over it. He was all serious and we came up with a plan to intercept others certified this way and then it was out with the red wine. It was a Friday and I nearly missed my plane back as we chatted in his office for some time after the important discussions were done. Later on when I lived in Wanganui he came and stayed with us - late 1990's. I recall he dragged a carton of wine upstairs with about six bottles in for the night's 'social drinks' as he put it."



From Alan Smail, Past Technical Advisory Committee Member

This note was received from Alan Smail, past member of the LVVTA Technical Advisory Committee (and also a hugely-clever hot rodder, engineer, and fabricator) after receiving his LVVTA Appreciation Award for his services to LVVTA and the Technical Advisory Committee for a 12-year period between 1995 and 2007...

"Hi Tony, thank you for sending my award, very nice! Hot rods I build these days are midgets. The number 49 is a 1937 replica and the number 94 more 1950s era. Prior to these I built the miniature steam traction engine, naturally I won the drag race (engine at left) on Tauranga's main drag. Regards, Alan."



Some Like it Safe...

Just to prove that some people do appreciate the help that LVV Certifiers and the LVVTA staff provide...

This is an excerpt from a car feature in NZV8 magazine recently where a builder found some advice from LVVTA useful.



better believe that it took a full decade to bring the Cuda up to the standard you see here. "We didn't plan to do what we did; it evolved into this," Jim says. "I just wanted a quick tidy-up, so [that] I could get it on the road and use it." The stripped Cuda was taken to Mike's Auto Body for Mike Dunn to demonstrate his skills, and all seemed to be going to plan – until the internet got involved. Jim went into work one day only to have Stephen Saunders show him the Magnum Force online catalogue, and that was that. He couldn't shake the thought of swapping the front torsion bars for tubular A-arms, and the rear leaves for a four-link with Watt's linkage. This proved to be the beginning of the snowball effect, as Jim soon discovered that the Magnum Force K-member front end was not compliant with New Zealand standards. Getting in touch with Justin Hansen at the LVVTA, Jim was

provided with all the information needed to bring the Magnum Force front up to scratch. "Justin made it very easy to follow, and I'd really like to thank him for that," Jim says. "He gets a bad rap from a lot of people, but he's a car guy like us who wants to see people build their cars properly and safely." The front end changes included swapping the supplied two-inch drop spindles for Nissan Navara units, which had the same drop and almost identical mounting points, and fitting Toyota Hiace tie-rod ends. Just like that, the inherent bump-steer issues of the design were a thing of the past. While this was happening, the supplied rubber rear bushes were swapped out for Nolathane items, while the four-link set-up saw a touch of re-engineering to bring its driving dynamics up to standard. More impressively, all of this work was done by Jim, Brother Ed, and a handful of the >

THE GOOD, THE BAD, & THE UGLY

THE GOOD...



The Ariel Atom (a small-production English sports car which are certified as low volume vehicles) has a clever steering system design that enables the cars to be equipped for left-hand drive or right-hand drive markets; – a fire-wall-mounted centre-steer steering rack. The car's brake and accelerator lines run down the centre of the car's chassis and floor structure, and everything else like the dash is symmetrical. Convert to right-hand drive in a few minutes!

...THE BAD...

From Ian Smith, Christchurch-based LVV Certifier, to Justin Hansen at LVVTA; - a comment regarding a vehicle he'd just inspected: *"Hi Justin, on a freshly-imported mid-1990s Chevy pick-up - steering arms welded onto dropped spindles. Cheers, Ian"*

From Justin back to Ian: *"That's about as bad as it gets - a steering arm welded onto a cast upright. Let's hope Trump can make America great again, coz they're not doing too well at the moment!"*

Good spotting Ian.

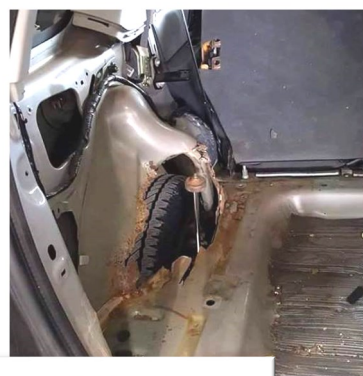
And some people say we don't need LVV certification or Warrants of Fitness! The dark line, by the way, is a casting mark, not a crack. Poor modification standards are still very prevalent in cars that have been modified in the USA.



It might be LVV-101, but its surprising how many vehicle owners turn up for LVV certification with unsecured batteries, and the combination of wheel adaptors and wheel spacers.



...& THE UGLY...



LVV PEOPLE

Five Years for Frances

Frances Bradey has just clicked over the milestone of five years with LVVTA. We're all thrilled to still have her with us, as she is universally loved by workmates and LVV Certifiers alike. One LVV Certifier said recently "...Frances is just fantastic - she's so good at her job, and she's such an awesome lady to deal with..." We agree. It's not everyday you find someone who gets 110% for both competence and character.



Todd Spreads the Word

Todd Wylie has been working on the LVVTA Facebook page, and this has resulted in a rapidly-increasing number of followers. The page has been working successfully to raise awareness of various legal requirements, as well as raise a few eyebrows over some of the things that the LVV Certifiers and LVVTA see.

If you're not yet following LVVTA's Facebook page, you can find it at [Facebook.com/lvvta](https://www.facebook.com/lvvta).

Current LVVTA Facebook page statistics include:

- around 5000 people like our page
- popular posts reach upwards of 25,000 people
- around 10,000 people reached per week on average

The LVVTA website, managed by Justin Hansen, continues to see a lot of traffic. Current LVVTA website statistics include (from first quarter of 2018):

- 86,000 page visits
- most downloaded LVV Infosheet: 12,000 downloads (Wheel & Tyre Compatibility Guide)
- most downloaded Safety Alert: 6373 downloads (TCI IFS failure).

Welcome New LVV Certifier Daryl Reeve

Daryl Reeve, LVV Compliance Inspections Nelson, Nelson

Having lived in both the North and South Islands during his engineering career, Daryl Reeve now calls Nelson home. During his time in various parts of the country, he's formed lifelong friendships through the NZHRA clubs of Ram Rodders Inc (Masterton), East Side Street Rods (Hawkes Bay), Dargaville Rod & Custom Club (Northland), Sun Valley Roadsters (Blenheim), and is now a member of Cambusters (Nelson).

As his children have left home, Daryl says he now has more time for his other passions in life beyond family — motor racing and modified cars. Daryl was introduced to LVV certification in the early 1990s, when he was appointed as a Tech Inspector, Approved Engineer, and Signatory in the Wairarapa region under the original NZ Hot Rod Association-based LVV certification system.



As work and family priorities evolved, relocation to different regions meant letting this go. Daryl has stayed in tune however, remaining involved with LVV certifiers, NZHRA clubs, and drag racing, plus has had a son growing up with a natural driving ability, gaining national titles in karting and single seater racing. As a long-time Ford enthusiast, he's had, and still owns, a number of blue oval-badged vehicles as well as various Harley Davidsons, but has an appreciation for all well-engineered modified vehicles. This passion has led him to become a chief engineer on the Cook Motorsport (CMR) land speed record race team – a team that has achieved world land speed titles in recent years. For 2018 CMR plans include running an ex-Formula 1 Judd V10 in the team's streamliner.

With Daryl's workshop being based in Nelson, he's perfectly positioned to offer his services across the West coast through to Marlborough.

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LVVTA Presentation to Heavy Vehicle Engineers Group

In October 2017, LVVTA's Dan Myers and Justin Hansen attended a Heavy Vehicle Engineers Group (HVE) conference in New Plymouth. Dan and Justin presented a number of topics to the thirty-plus attendees, including an introduction to the LVV Certification System, an update on the process we've been going through with allowing more freedom to weld castings and forgings (something that's fairly common within the heavy vehicle industry), and toe-change bump-steer was also discussed, with a demonstration from 'Junior', LVVTA's bump



-steer rig. LVVTA's information was well received by the heavy engineers, and LVVTA

would like to thank the group for their hospitality and for the opportunity to attend.