PETER HART

Do we really need AVEs?

I had two heavy vehicle owners complain to me this last week about having to engage an engineer. Both vehicles had been modified. According to Section 86 of the Heavy Vehicle National Law (HVNL) a modification must be approved by an accredited vehicle engineer who is appointed by one of the road agencies. The position is called an Approved Vehicle Examiner (AVE). The engineer is required to assess the truck or trailer modification against the technical standard called VSB 6, the Heavy Vehicle Modification Code. A modification is defined in the law as: (a) addition of or removal of a component from the vehicle, or (b) a change to the vehicle from the manufacturer's specification for that vehicle. Installation of a 'modification' that is a manufacturer's option using original equipment parts does not need an AVE approval.

One heavy vehicle owner complained to me had purchased a route-service bus with the intention of making it into a motor home. At this time he wanted to pull out the passenger seats and install a couple of new twin coach seats. The twin seats have an approval in the ADR system and they came with integral seatbelts. They bolted into the original anchor positions on the bus. The applicable VSB 6 code is K1. The owner's complaints are that it is hard to get an AVE quickly and the cost is $1200 + GST. The cost is excessive considering the scale of the job.

The second heavy owner's complaint concerns the scale of the calculations needed for the AVE to approve the installation of a tip-truck body onto a rigid truck. The relevant VSB 6 code is J4 – tipper body design, which is applicable from 1 July 2023. Obviously, detailed calculations are needed to ensure the design is adequately strong. The procedure is complicated and likely to be expensive. The cost of $1200 + GST in this case is understandable.

The definition of modifications that are in the HVNL covers virtually anything that could be done to a vehicle. However, in practice, there are many modifications that probably do not need an engineer's approval. For example, driving lights can be installed, a CB radio antenna could be attached to the mirror bracket, the original taillamp at the rear could be replaced with LED taillamps or sidelamps, non-genuine air cleaners can be installed, non-genuine brake lining installation, or a sun-visor could be fitted to the cabin above the windscreen. These modifications would probably be acceptable to a road-side vehicle inspector at face value. Some modifications do not need an AVE approval because they are low-risk modifications.

The costs of engineering (AVE) certificates has steadily increased over the few years. I estimate they have gone up by a factor of three from $400 (2010) to $1200 (2023). Some of the cost increase is due to additional complexity with the AVE's reporting procedures. Furthermore, the difficulty of finding an AVE and getting the inspection done shortly has become very difficult and this hampers business. The scale of modification work is huge. About half all heavy motor vehicles are modified when new. Perhaps 10% of vehicle get modified later in the after-market. The AVE resource is currently over whelmed. Do we need this added cost, delay and complexity ? My answer is only for high-risk modifications. The costs and complexity of the modification regulatory system has reached a level where it is no longer fit-for-purpose. Yes, we need AVEs, but not to approve all modifications.

There are many examples where regulators classify and regulate equipment safety according to risk. For example, domestic electrical equipment can be either prescribed-meaning an approval is needed from a regulator, or non-prescribed-meaning the supplier must ensure that the device meets safety standards but no approval is needed. The same is true for machines. For example a crane that can lift 10t needs an approval from a regulator, whereas a crane that can only lift less than 10t does not.

I propose that the VSB 6 codes be split into two categories – prescribed meaning an approval from an AVE is needed; and non-prescribed meaning the modifier must keep a technical file that justifies the design, but no approval from an AVE is required. My classification of VSB 6 codes that should be approved is shown in the Table. This is about one third of the scope of the VSB 6 codes. Space does not allow these codes to be printed.

It is notable that the Federal Regulator does not require the original (or secondary) equipment manufacturer of a new (ADR) vehicle to get any of its designs certified by an AVE (or equivalent engineer). The contrast between the ADR system and the VSB 6 / AVE system is stark. Original equipment manufacturers are assumed to be competent and after-market modifiers are assumed to be incompetent. I have written previously in this column about how an incompetent tip-trailer manufacturer, can obtain a federal approval in the ROVER system without having to justify the design on new vehicles. However, the small time tip trailer manufacturer/ modifier is put through the ringer!

I want to be clear that modifiers should comply with the design rules and with the VSB 6 requirements / guidance. I would require heavy vehicle modifiers who work on other people's vehicles to be registered with a state road agency or the NHVR. To keep that status they would need to share technical information with the NHVR. This information could be reviewed if the road agency or NHVR was concerned about the quality of the modification. Additionally, I would allow supplier modifiers, who install equipment that they manufacture according to their specifications, to not require an AVE approval for any modifications they do. This would remove the absurdity of coupling and towbar manufacturers, advanced brake system manufacturers and bus seat manufacturers not being allowed to approve installation work for systems they invented.

It is noteworthy that modifiers who make plant equipment (which could be used on heavy vehicles) are not required to get an approval (with some exceptions). They are required to identify the hazards, classify the risks and to control the risks. That is, to produce a hazard and risk assessment (technical file). I propose exactly the same framework for vehicle modifiers. It is time for serious reform!

Dr Peter Hart,
ARTSA-i Life Member

MY LIST OF 'PRESCRIBED' MODIFICATIONS

Prescribed Modifications A - J	Prescribed Modifications K - V
A1 – installation of an engine that is not offered as original equipment in a similar vehicle. A2 – substitution on an exhaust reactor.	K3 – Cabin conversion structural (when cabin carries people).
D1 – Installation of an additional axle.	P1 – Towbar installations using unapproved parts. P1, P2 – coupling installations using non-approved parts.
E1 – Addition of an additional steering axle.	R1 – Installation of vehicle mounted lifting systems (excluding tailgate loaders)
G3, G4 – additional brakes due to installation of an additional axle. G4 – Installation of an advanced braking control system (EBS)	S1, S2, S3 – GVM/GCM uprate. S7, S12 – ATM, GTM uprate.
H2 – Wheelbase extensions involving cutting of chassis rails between axle groups. H4, H5 – Chassis ladder alterations for tip-trailer installation and crane installations.	T1 – Construction of tow trucks. T2 Design of tow trucks.
J2 – Fitting a bus body to a truck. J3 – Fitting a roll-over or falling object protection. J4 – tip-body design. J5 (new) tanker installation.	V1 – Electric drive installation.

TONY MCMULLAN

TIC calls for regulatory changes to allow Super Single Tyres

The Truck Industry Council (TIC), the peak industry body representing truck manufacturers and importers in Australia, believes it is time for a change in thinking, calling upon State and Local Government Transport agency regulators to allow Super Single tyres on Australian trucks, to make them safer, more environmentally friendly and more productive.

TIC's doctrine is: "Today's Trucks: Safer, Greener, Essential". In calling for regulatory change that will allow the fitment and use of Super Single tyres on Australian trucks is another example of how TIC members, the truck OEMs, are living up to this principle. For each truck fitted with the next generation wide based tyres (Super Singles), that truck is safer because it has improved vehicle stability with a lower centre of load gravity reducing the risk of rollovers. Other safety advantages include, making it easier for drivers to check tyre conditions including correct inflation pressures (only one valve to check on each wheel end, rather than two); and better access to inspect brake components reducing the risk of overheating brakes and wheel end fires. Super single tyres in Australia have stubbornly remained as a niche market application due to laws formed more than 40 years ago. Regulations that were based upon studies conducted in Australia at that time. This is despite the wide adoption of Super Single tyres for many years now in Europe and America. The key hurdle to wider adoption in the Australian prime mover and rigid truck fleet is that current regulation does not allow a tandem axle with wide tyres the same general mass limit as a tandem axle fitted with dual tyres. The latter having a permitted mass of up to 16.5 tonne while the former only 14.0 tonne. No such load limitation is applied to these wide based tyres in Europe and the US. Put simply, Australian transport operators cannot afford to 'give up' 2,500kg of payload if they were to fit super single tyres to their truck under our current archaic regulations.

Super single tyres have another advantage that is increasingly important as Australia strives to reduce its greenhouse emissions, lower rolling resistance.

These new generation wide based tyres use less energy when running down the road. Transport Canada detail that super singles can reduce fuel consumption and CO2 emissions, by four to six per cent on a prime mover and semi-trailer. Further, a super single wheel and tyre are also lighter than conventional dual wheel/tyre combinations, saving up to 45kg per wheel end. That equates to more payload per truck, or truck/trailer combination.

The safety and operational benefits of super single tyres for Australian trucks outweigh the long held and outdated arguments against their adoption promoted by certain road managers. Some Australian pavement engineers believe that wide based tyres will lead to increased pavement wear. This has been proven to not be the case in European and USA studies and actual in-service use. TIC received Heavy Vehicle Safety Initiative (HVSI) research funding from the National Heavy Vehicle Regulator (NHVR) to conduct a study into: "The viability of fitting next generation wide based tyres onto Australian trucks".

In partnership with the National Transport Research Organisation (formerly the Australian Road Research Board), TIC developed this project with support from key tyre suppliers Goodyear and Michelin. Combining the real world technical, regulatory and practical experience of truck OEMs with tyre manufacturers and ARRB's expertise in delivering high quality applied research for Australian and New Zealand transport agencies the study sought to update what is known about pavement wear noting that tyre and pavement technology has significantly improved since the 1980s and justifying equivalent axle loadings for both wide based single and dual tyre installation based upon an improved safety outcome.

The test method used by the NTRO in the TIC HVSI research project was formulated with the assistance of the AusRoads Pavements Task Force, who also provided design guidance for the test pavement used. Over 50,000 cycles were conducted on NTROs pavement Accelerated Loading Facility machine, for each tyre combination. Both existing dual tyre and new super single tyre configurations were tested over an almost 12 month period. The test program confirmed pavement wear is no worse, on average, for a super single tyre than today's industry standard dual 11R22.5 tyres. Meaning that equivalent axle loadings for the next generation wide based tyres to that of dual tyres could be allowed with no extra damage caused to the road and more importantly, with potential safety, environmental and productivity benefits.

Tony McMullan
CEO, Truck Industry Council

PETER ANDERSON

Recognizing transport workers and industry

The transport industry plays a pivotal role in Australia's national economy, connecting businesses and consumers, facilitating trade, and ensuring the smooth flow of goods and services. Among the many essential workers in this industry, truck drivers, freight carriers, logistics experts, and other professionals tirelessly work to keep supply chains operational. Yet, their contributions often go unnoticed. This is why the Australian Freight Industry Awards – sponsored by TWUSUPER and Viva Energy Australia and now in its 33rd year – holds immense importance, as they not only celebrate achievements of the transport sector but also recognize the hard work and dedication of transport workers.

Being presented on Saturday, 2 September in Melbourne, there are six categories where nominations are being sought, including Female Leadership Award, Investment in People Award, Application of Technology Award, Young Achiever Award, Best Practice Safety Award, and the Sustainable Environment Award.

I encourage you to visit www.afiaawards.com.au to review the entry criteria and lodge your nomination.

The AFIAs honour excellence and innovation within the transport industry. By acknowledging the efforts of individuals, businesses, and organisations, the awards shed light on the invaluable contributions made by the industry to Australia's economic growth and prosperity. From outstanding safety practices to efficient logistics management and sustainable initiatives, these accolades recognise the best practices that drive the industry forward. Peer recognition is a powerful tool that can significantly impact an individual's or an operation's morale and motivation. When transport workers see their hard work and dedication acknowledged through prestigious awards like those offered by the Victorian Transport Association, it instils a sense of pride, validates effort, and encourages excellence. This recognition boosts their motivation, leading to increased productivity and higher job satisfaction. By fostering a positive work environment, the AFIAs contribute to the overall well-being of the industry's workforce.

The transport industry often faces misconceptions and negative stereotypes. Many fail to grasp the significance of the industry and the tireless efforts made by its workers to keep the economy moving. The AFIAs provide an opportunity to showcase the industry's achievements, professionalism, and dedication to excellence. By highlighting success stories and innovative practices, these awards help reshape the industry's reputation, positioning it as a vital pillar of the national economy and an attractive career choice.

It's important to not let a culture of continuous improvement within the transport industry go unacknowledged. Recognising and celebrating achievements inspires competition and encourages participants to push their boundaries, striving for excellence in their respective fields. This healthy competition leads to innovations in technology, safety protocols, sustainability practices, and operational efficiency. Ultimately, this drive for improvement benefits the industry, enhancing its capabilities, reducing costs, and improving customer satisfaction.

As the transport industry faces a shortage of skilled workers, attracting and retaining talent has become a top priority. The Australian Freight Industry Awards contribute to addressing this challenge by showcasing the industry's accomplishments and highlighting the rewarding career opportunities it offers. By recognising outstanding individuals and businesses, these awards create a positive image of the industry, encouraging aspiring professionals to consider a career in transport. Moreover, for those already working in the industry, the awards demonstrate that their efforts are valued and provide an incentive to stay and grow within the sector.

The Australian Freight Industry Awards play a crucial role in recognising the transport industry and its workers, highlighting their achievements, and promoting continuous improvement. By acknowledging excellence and innovation, boosting morale and motivation, enhancing the industry's reputation, and attracting talent, these awards contribute to the overall growth and success of the transport industry in Australia. It is imperative that we continue to appreciate the efforts of those who work tirelessly behind the scenes to keep our economy moving.

I invite you and your operation to nominate for the awards and join the industry for the Black-Tie gala award presentations at Crown Melbourne on Saturday 2 September, where we expect over 700 to enjoy a lavish three-course meal, phenomenal entertainment, and the opportunity to celebrate our great industry and its high achievers.

Peter Anderson
CEO, VTA