Australian
Low
Volume &
Individually
Constructed
Vehicle
Association

Australian Low Volume and Individually Constructed Vehicle Association Inc.

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11th April 2021

Committee Secretary
Transport and Resources Committee
Parliament House
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Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

Please find the ALVICVA submission to this inquiry. ALVICVA is the only registered Australian Association that represents the views and interests of owners and builders of Low Volume and Individually Constructed Vehicles. This submission has been reviewed by the full Committee of the Association and has been approved for submission.

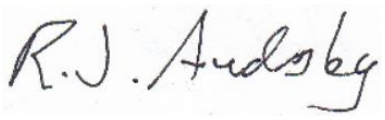
While our main interest is national certification, management of certificates, and standards for Modified and Individually Constructed Vehicles, there are also significant technical implications for our vehicles should remote vehicle immobilisation be mandated anywhere in Australia, either in the future or retrospectively.

We have attempted to provide a balanced view on all items and trust this will assist the Inquiry to assess and balance the costs, benefits, feasibility and the frequency of incidence for the various aspects.

We hope the Inquiry is the first step in standardising the regulatory mire that currently exists in Australia to bring about a single workable solution for Individually Constructed Vehicles as well as Modified Vehicles. The Inquiry can be the first step to remove the financial barrier of buying and selling cars across state borders due to current state certification regime.

As an Association, we are assessing the benefits of joining the Australian Recreational Motorists Association (ARMA) as they share our views on nationally recognised certification.

Yours Faithfully



Richard Audsley

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

Topics for Submission

Ref	Item	Issue Topic	Issue description	Issue Impact	Issue Solution Components
A	1	Remote Vehicle Immobilisation	Loss of Vehicle Control, endangering the public	• Most light vehicles available in the Australian in full volume have vacuum assisted braking systems and power steering that require the engine to be running to keep the vehicle under control • Providing a mechanism for remote control of a vehicle's power or electrical system could be exploited by "Hackers" or others would be a concern and a safety issue for many Australians • Immobilising a vehicle may create a hazard for other road users (e.g. blocking a freeway lane)	• Partial shutdown of a vehicles systems such that operational and parking brake systems are not impacted and the power steering system still operate • Ability for emergency services or others to move an immobilised vehicle to a safe location • A cost model that is viable for the motoring public. Adding a rarely used function to a new or older car plus paying for a mobile data connection is not something many would want. What happens if the public stop paying for the data connection?
A	2		By Passing Immobiliser or RF Jamming, out of range use	• Because the immobilising function is required to be used as an ad hoc interruption rather than a validation every time a car is started, there would be nothing	• The remote immobilising function must be passive in nature so as to not compromise remote use of the vehicle

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

				stopping someone with suitable knowledge to: ○ Illegally use a RF jammer to stop immobilisation function from occurring ○ Circumventing the immobiliser functionality so it is undetected and inoperable • A vehicle's operation and reliability must not be compromised and must be able to be used where there is no mobile or satellite data coverage	• By passing of immobiliser will not be difficult for an aftermarket retrofit by a suitably knowledgeable person • Immobilising of the fuel system is the most suitable for older vehicles but this will create issues with vehicle control
A	3		Cost of Non-Standard Rule	• Any requirement for Australian vehicles outside of UNECE Rules would add significantly to costs • Due to the differing level of technology of the Australian fleet, there would be no single immobilisation solution ranging from fuel pump cut-out, drive by wire throttle over-ride, MAP/MAF sensor over-ride • Interference with engine management systems may cause other damage or spurious errors to the vehicle	• This functionality is best delivered via vehicle manufacturers of full volume vehicles. Low Volume and ICVs would need to be exempt unless a standard after market is available. • Tamper control will be difficult to manage as ICV and LVV builders must have the ability to install such a solution or these vehicles need to be exempt • Is there the appetite for the end user to pay for this functionality that offers

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

					them no benefit? • Maybe including remote assistance and passenger data connectivity as the prime benefit with the side benefit of remote disabling of the vehicle if stolen or used recklessly like General Motors OnStar or Subaru StarLink. While this solution is harder to tamper with it operation, the weakness lies with the data link integrity. • Cost to the end user needs to be outweighed by the benefits. Not all customers would opt in or would want to pay for something that they don't see any value
A	4		Vehicles in scope for remote immobilisation	• Most passenger vehicles sold in Australia are designated as "light vehicles". Will this requirement be for commercial vehicles, light trucks, minibuses etc.	• How many vehicles where this capability could be advantageous were very late models of types in scope?
B	1	Lessons from other jurisdictions	Perhaps investigate USA experience and regulations		
C	1	Commonwealth Role	No issues as Australian Rules for full volume vehicles	• This is a cost effective approach to bring Australian delivered full production vehicles into line with	• Departing from European Standard complicate production and costs of

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

			are being Aligned to European Standards	the rest of the world. The Australian market is too small have any special requirements	vehicles

C	2		LVV and ICV rules should be a subset as per current Federal rules and VSB14	• Not all states follow VSB14 resulting in the Issues noted the topic above – "After Market Modification Framework and Alignment with other jurisdictions - encompassing Engineering Certificates for Modified Vehicles, Street Rods, Imports and ICVs"
				• NSW has gazetted 3 documents for ICV certification and administration that overlap with and over-rule VSB14 in that state:
				  ○ VSI53 – What is an ICV?
				  ○ VSCCS Bulletin No. 2 Modified or individually constructed vehicles
				  ○ BAM – Brake Assessment Manual
				• In addition to the various rules for ICVs across Australia, there various methods of proving compliance especially for emissions testing due to the lack of suitable facilities across Australia for IM240 tests
					• Existing LVV rules but with more clarification on steps to start up LVV manufacture
					• Existing VSB14 rules that clearly state these are Federal rules that MUST be followed unless there is explicit ministerial exemption
					• Approved alternative testing methods that may be used in all jurisdictions, not just those outside of capital cities
					• Ensure there is consistency between LVV testing methods and ICV testing methods

D	1	Effectiveness of police control of vehicle		• Breadth of implementation will limit the effectiveness as will cost	• Retrofitting this immobilising capability is complex and

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

				• Can only fit to cars with ESC • In situations where this capability could have been used in the past, how many were late model vehicles of the types in scope for this capability?	expensive to the point most cars without ESC cannot be remotely controlled without immense modification expense. • If required, this capability should only apply to only new vehicles supplied in full volume production hence limited vehicle population impact for several years • Retrofitting to existing vehicles with or without ESC will be an expense owners will not welcome
E	1	Recommended Frameworks for legislation, policy and operations	Consider cost and operations and governance models that can apply	• Requirements should be defined in concert with international motoring standards organisations so Australia is not requiring a unique solution • Technical designs and capabilities need to be the domain of manufacturers • Costs and benefits need to be known with guaranteed funding	• National adoption and regulation of International standards • National or state control centre(s) • Highly secure • Authentication of emergency services requestors for remote control • Mandatory participation perhaps with registration authority operation • Single national database linking state registration

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

					plate, to VIN to digital identifier to facilitate operation • Standardised interface to allow control signals to be translated to operate the various vehicle CAN systems
F	1	Benefit and role of Insurers	Would insurers benefit and hence potentially contribute to running costs	• Do insurers see a business case to be financially involved based on costs versus benefits	• Lower or similar insurance premiums
G	1	After Market Modification Framework and Alignment with other jurisdictions - encompassing Engineering Certificates for Modified Vehicles, Street Rods, Imports and ICVs	Requirements and rules vary by state	• Light Cars of the same type can be non-homogenous across Australia as they need to conform to differing rules and requirements • Cars can be defected on interstate roads but are perfectly legal on the roads of the home state • Cars cannot be simply re-registered in other states, obstructing free trade across state borders • After market component makers may end up with multiple solutions depending on the state of fitment, adding unnecessary costs. • ICV kit makers may end up with declining sales due to confusion and uncertainty of the application	• Elevate VSB14 to be the entire national regulation rather than being a "National Code of Practice" with technical requirements (e.g. rules in VSB14) divorced from the Administrative aspects that allow states to vary specifications • Apply rigorous change management processes at the national level to the national regulations to eliminate state lead variations • National recognition of Automotive Certifiers OR have Automotive Certifiers

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

				of inconsistent rules across Australia. This has already occurred. • State rules differing from Federal rules may be aa violation of Section 109 of the Australian Constitution • The public are exposed to financial risks due to buying a registered vehicle from interstate that requires a significant expense to recertify and perhaps remediate to different rules	appointed by a Federal Authority • National recognition of accepted testing methods that are readily available to the motoring public (For example, don't require an ICV builder to travel from other states to Sydney for an IM240 Emissions test when some states accept a 5 gas test) • Standardised Certificate details and artefact such that certificates can be stored in a national database accessible by STRAs and Licensed Certifiers • STRAs to accept certificates regardless of the state they originated. • Encourage standard technical modification or components for modifications or new ICV builds • Rule changes to have a suitable notification period and industry consultation such that rules are workable,

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

					reasonable and deliver benefits to the community and owners • An example of a national certification system solution that has worked for more than 25 years in harmony with Australian Design rules is the New Zealand Low Volume Vehicle Technical Association (https://lvvta.org.nz/index.html). The UK IVA system is another (https://www.gov.uk/vehicle-approval/individual-vehicle-approval)
G	2		Record keeping of Issued Certificates	• No special requirements are mandated for certifiers to retain all certification details other than the general business record keeping requirement of 7 years. • Customers do not get the complete set of engineering artefacts and calculations. Only the Certifier or the registration authority has this data.	• National recognition of Automotive Certifiers OR have Automotive Certifiers appointed by a Federal Authority • National recognition of accepted testing methods that are readily available to the motoring public (For example, don't require an ICV builder to travel from other states to Sydney for an IM240 Emissions test when

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

					some states accept a 5 gas test) • Standardised Certificate details and artefact such that certificates can be stored in a national database accessible by STRAs and Licensed Certifiers
G	3	Inspection Regime for Registered Vehicles	Inspection regimes may result in better maintained vehicles	• Suggest a study of other states to assess their experiences	• Decision to be based on facts. Hearsay from WA relates that a study shows very few accidents are caused by defective vehicles and hence an annual inspection regime costs the community more than its benefits.
G	4	Pre-Sale Certification and Fraud	Pre-Sale Certification Cost and Difficulty	• We have insufficient information to comment • NSW has a REVS check to verify a vehicle is unencumbered	• National certification and certificate management removes state borders as a barrier for consumer to verify modified vehicle specification and bona fide title.
G	5	Written Off Vehicles Management and Rebirthing	Economic Repairs of Space Frame and monocoque tub vehicles as used by some SEVS registered	• No comment on full production vehicles. • Low Volume and Individually Constructed Vehicles by their nature may have a tubular frame	• Best practice repairs should allow a tub or most of a space frame to be replaced under the supervision of a Certifying Engineer. The

Australian Low Volume and Individually Constructed Vehicle Association Inc.
Submission to 2021 Queensland Parliamentary Inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology

			vehicles, LVVs and ICVs. Street Rods may also qualify	or tub and sub frames instead of a tradition ladder or pressed steel floor pan. The method to repair space frame constructed vehicles is to remove the buckled frame members and to replace them with new items. The issue is how much of the frame can be replaced before this is deemed to be a new vehicle and then the entire running gear may need to be replaced. Tub construction such as modern Lotus vehicle and other LVV and ICV have a passenger tub that will be sacrificed in a severe accident but can be economically repaired with a new tub. Such a repair results and vehicle with no compromised parts but could be an avenue for "re-birthing". Hence rare vehicle are being lost because of the risk of rebirthing	specification must be unchanged, and original components must be re-used. The old VIN must re-applied after any testing the Certifying Engineer requires. • The Certifying Engineer must inspect the damaged vehicle before repairs and sight all components prior to disposal such that no rebirthing has occurred, only repairs. • Ideally, only registered repairers or the original builder should be able to undertake such repairs and remanufacture key structures under this close supervision • Being specialist vehicles, the number of vehicle eligible for this treatment is very small