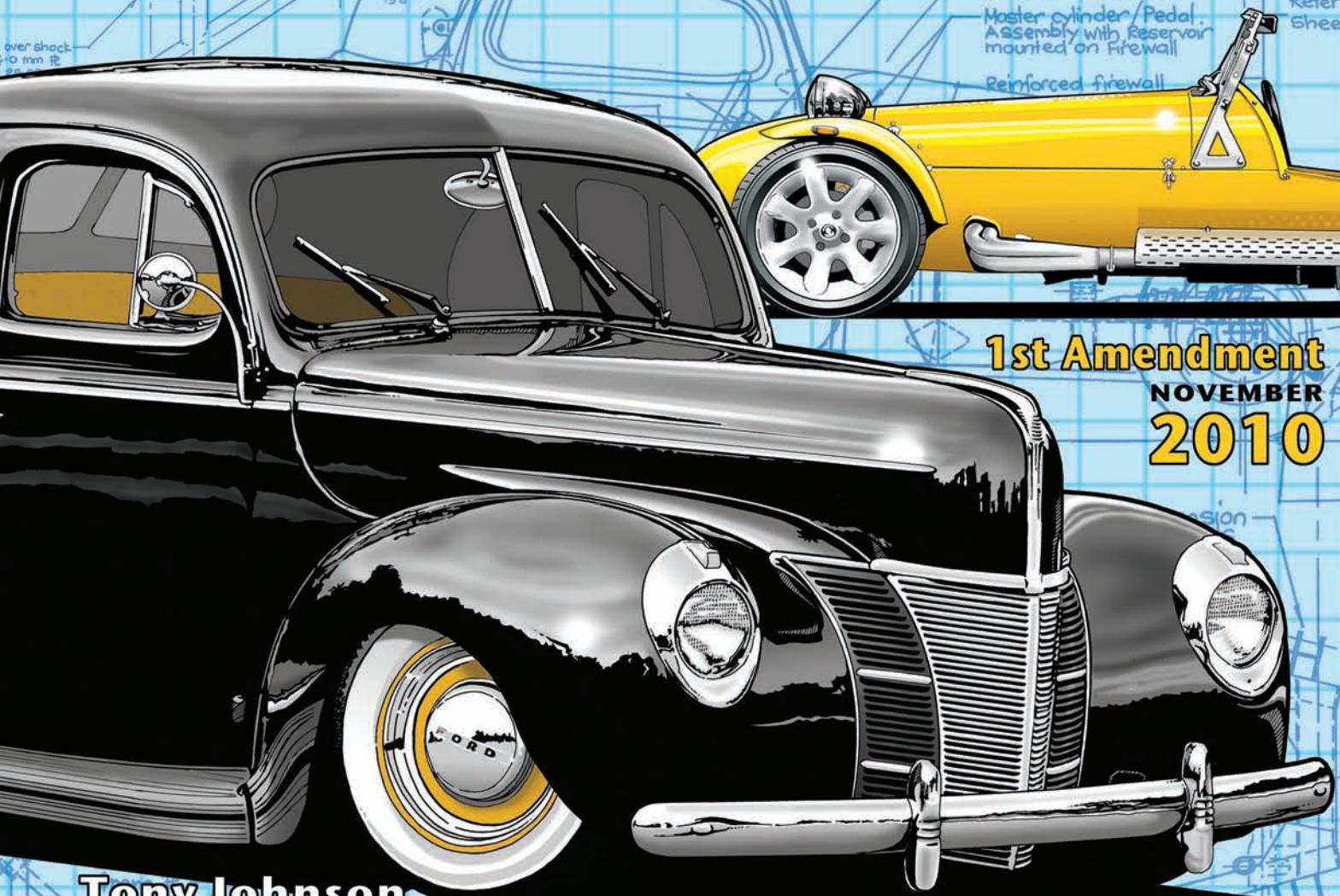


# THE NEW ZEALAND CAR CONSTRUCTION MANUAL INTRODUCTION



1st Amendment  
NOVEMBER  
**2010**

**Tony Johnson**  
**Low Volume Vehicle Technical Association (Inc.)**

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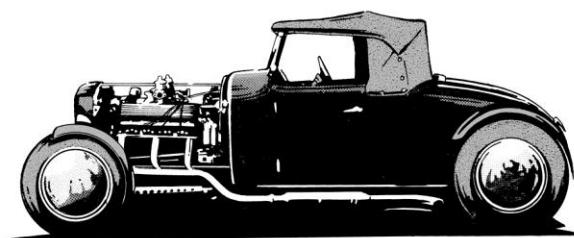
# THE NEW ZEALAND CAR CONSTRUCTION MANUAL

**Author: Tony Johnson**

**Publisher: The Low Volume Vehicle Technical Association  
Incorporated**

**First Published January 2007**

**1st Amendment November 2010**



**International Standards Book Number: ISBN 978-0-473-11935-5**

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## PUBLISHER & OWNER

The New Zealand Car Construction Manual is published and owned by the Low Volume Vehicle Technical Association Incorporated (LVVTA). LVVTA is an incorporated society and was established in 1992, and represents approximately 50,000 motor vehicle enthusiasts throughout New Zealand.

The New Zealand Car Construction Manual was originally published by the New Zealand Hot Rod Association Incorporated (NZHRA), in January 2007.

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## ACKNOWLEDGEMENT

The LVVTA wishes to acknowledge the New Zealand Hot Rod Association for its determination and vision in undertaking the original development of the New Zealand Car Construction Manual, and for demonstrating its on-going long-term commitment to all vehicle modifiers and builders by enabling this manual to become an integrated part of New Zealand's low volume vehicle certification system.

NZHRA, and its key personnel, have, and continue to since the inception of LVV certification, form the back-bone of the LVV certification system in New Zealand. LVVTA is very appreciative of NZHRA's on-going commitment and integrity.



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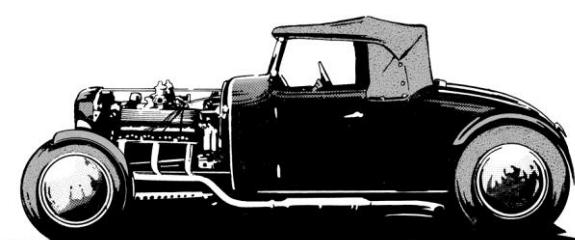
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# Introduction

## From there to here

So, here we all are then, a decade and a half since, as a group of home-built hobby car enthusiasts, we heard the ominous whispers that the New Zealand Government was cooking up some new rules that were going to bring our ability to build hot rods and sports cars and kit cars, with all of the traditional freedoms that ingenious Kiwis had enjoyed for so long, to an abrupt and painful end. The new politically-correct and safety-focused world had finally caught up with us.

Looking back to 1990, it's now obvious that it was with enormous vision and impressive courage that Richard (Dick) Reynolds, 'Controller of Vehicle Standards' at the Ministry of Transport, after having suffered a year-long education process from a few hot rodders during 1989, gave us a tentative green light to 'self-regulate'. Dick said to us, in his wonderfully straight-forward and un-PC style of telling it like it was, back in an era when a government boss could still get away with smoking in his office and having the odd Port before five o'clock, "...well bugger off then you noddies and have a go at writing your own rules, if you really think you're so smart..." So, we busted our backsides for two years to raise a bunch of money, write the original Code of Construction Manual, develop a certification system, and recruit a group of hot rodders to carry out the inspections. Then, in early 1992 we presented the whole shebang to Dick, and held our fingers tightly crossed behind our backs...

The end product must have been near enough, and good to his word, Dick said to us, "get on with it then - and you'd better bloody well hurry up about it, too". New Zealand's low volume vehicle certification process was on its way. We had somehow managed to head off the Australian Design Rules, and the professional transport engineers, the likely outcomes of which were both as unattractive as the other. That gamble that Dick took on us marked the beginning of a long and complex journey of continuous improvement, that, despite having achieved massive progress, still somehow seems today as if we are as far from finished as we were 15 years ago.

Dick assigned us a new Ministry of Transport Engineer by the name of Andrew Justice, who was to become our day-to-day contact, and who would many years later, despite his British education and engineering degree, become intimate with, and thoroughly confident in, our practically-oriented Kiwi way of doing things – making sound technical decisions on the basis of real-world experience, historical knowledge, and the intuitive and instinctive skills of practical hands-on people with huge expertise, developed purely from a lifetime of building and modifying motor cars. That very approach still forms the strong backbone of the low volume vehicle certification system today, and indeed, is almost entirely what the content of this NZ Car Construction Manual is based upon.

With no precedents of a good modified vehicle system to follow anywhere else in the world back in the early 1990s, the Ministry of Transport and the hobby car fraternity, strongly led by the New Zealand Hot Rod Association, formed a solid relationship based on mutual respect and trust, and nurtured and evolved Dick's 'gut-feel' punt into something that is now generally recognised within both the New Zealand Government and the hobby car fraternity of New Zealand as being the best low volume vehicle system anywhere in the world. Here, we have a true win-win situation; the rules are written by enthusiasts for enthusiasts, so from a practical point of view, the system works. The hobby car fraternity however takes their privileged position and their responsibilities hugely seriously, to the extent that the Government legislators know that there is no other system by which modified and scratch-built vehicles could be so well engineered, and so thoroughly assessed. Consequently, we have been rewarded for our efforts since 1989, by finding ourselves now living in an environment where we can still build a fenderless '32 Roadster, or a tubbed and supercharged '57 Chevy - no mean feat in this heavily regulated age.

Dick Reynolds has long since retired, and very sadly, Andrew Justice, our main man within the Ministry of Transport and subsequently Land Transport New Zealand, who was such a great supporter and advocator of our practically-oriented system, and who became a great mentor and friend to us, died suddenly in 2005. Between them though, they enabled the foundations to be poured for the solid ground upon which, as hobby car builders and modifiers in New Zealand, we now stand. I wish Andrew could have seen this completed manual – I know he would have been very proud of the end result.

In order to preserve our future ability to continue to build and modify cars, we now, as ever, must stay safety-focused, remain diligent, and maintain our good relationship with the Government. The roughest seas however are now behind us, and we should never again see another chapter in the book of the New Zealand motor car hobbyist that is as challenging, difficult, and traumatic as this past decade and a half has been.

## Cherish and encourage

The hobby car movement, and hot rodding in particular, has truly come of age in New Zealand, achieving a far greater and more legitimate profile than we could have dreamt of having 30 years ago. Now, a scratch-built hot rod, be it from the commercial stables of John Reid or Terry Bowden, or from the home-garage of a clever home-builder, are now, together with the ingenious people who build them, getting the recognition and respect they deserve, from throughout the whole motor industry and the wider community beyond.

New Zealand has never had a real car manufacturing industry, and even its car assembly industry is now lost. Today, the high quality professional hot rod shop or home-builder has become New Zealand's ultimate expression, and last bastion, of automotive engineering creativity, artistry, ingenuity, and individuality. No doubt finely honed by years of geographical isolation and high import costs and restrictions, the top-end Kiwi hobby car builder has evolved into a being with an uncanny and instinctive ability to design and fabricate incredible automotive creations – all without the luxuries of big budgets, plans, prototypes, testing, formal qualifications, or even textbooks.

Clever automotive engineering, is of course, part of our New Zealand heritage – Graham McRae, Bert Munro, Bruce McLaren, John Britton, and many others have given us our international automotive engineering profile. Today, there are countless clever car people from this tiny speck at the bottom of the planet, whose engineering, fabrication, and mechanical skills are respected, admired, and sought after by race teams within every major motor racing championship around the world. Overseas race car and hot rod shops clamour to employ Kiwi car builders, and precious and valuable cars are sent to New Zealand for the top-class restoration work that wealthy overseas collectors have come to expect.

Our car building and modifying hobby is big – bigger than many people realise. Remind anyone who suggests otherwise, that America's aftermarket automotive industry is worth over *thirty billion* US dollars annually. And it's not just home-garage petrolheads like us that are spending up large. The hot rod – long regarded as one of America's greatest cultural icons – is being embraced by even the corporate giants of the world, in order to promote their products and their profile at every opportunity. The General Motors Corporation have for some years been commissioning the Los Angeles-based So-Cal Speed Shop to build a number of special one-off vehicles for them (one of the principle craftsmen of which, by the way, is our own Kiwi hot rodder, drag racer, and past LVV Certifier Robin Silk) both as styling exercises, and for competition use. And as GM's main rival, the Ford Motor Company, prepared for the 75<sup>th</sup> anniversary of the iconic 1932 Ford, it did so by headlining their celebrations with a specially commissioned limited production run (by an independent hot rod shop) of brand new '32 Ford Roadster hot rods, along with undertaking the huge logistical exercise of identifying and assembling 75 of America's most influential and historically significant 1932 Ford-based hot rods, at one place at one time for enthusiasts worldwide to enjoy.

We are part of a truly great hobby, and a hobby that, by its very nature, needs special protection from regulatory zealots, over-the-top greenies, and everyone else who advocates a society that would disallow people to take responsibility for their own decisions and actions. By working with the Government and the Low Volume Vehicle Technical Association, and by taking a sensible and pro-active approach to motor vehicle safety, the New Zealand Hot Rod Association is playing an important role in preserving the ability of Kiwi hobby car enthusiasts to keep on doing what they so love, and what they are so good at, even within the context of a country that has always been, and will always be, massively over-regulated.

Ironically, one of the most profound statements about us hobby car people that I've ever read or heard came not from one of our own, but from a senior manager within the Ministry of Transport. Having got to know us well whilst with the Ministry, Lesley Emmett offered us some thoughts on our system and our clever hobby car builders when leaving the Ministry to head back home overseas. I quote from Lesley's goodbye letter: "...There are few enough real, practical, and innovative people left in this world, that we should cherish and encourage those we have got, rather than seeking ways to restrict and inhibit them, since theirs is the true spirit of what has taken humanity through the 20<sup>th</sup> century, and helped to create the world we have today, in so many ways..."

What incredibly wise and refreshing words! If only everyone else in a position to affect our future had Lesley's vision - but sadly, the reality is that most don't. The road ahead, therefore, will never be entirely smooth. There will always be a very fine balancing act for the car hobby between working to protect our freedom as enthusiasts, to be innovative, and to be able to build what we want - against diligently working to come up with better ways to provide our passengers and those road users in the on-coming lane with the levels of safety engineered into our hobby cars that those passengers and other road users should rightly be entitled to.

With the groundwork of the past decade and a half now behind us, helping the Low Volume Vehicle Technical Association to maintain this balance is the next challenge for the New Zealand Hot Rod Association. So, welcome to the first step towards that very goal – the new 'New Zealand Car Construction Manual'.

I hope that you've managed to hang on during the last 15 years' ride, and that your ride through the next 15 years will be better, and I especially hope that this new manual will help you to build and enjoy your next hot rod, sports car, modified classic, or whatever it is that smokes your tyres and puts a gleam in your eye...

TJ.

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