

New rulebook for car builders and modifiers

New technical rules for modified vehicles

A new motor vehicle rulebook has been published this month, aimed at people who build and modify hot rods, sports cars, kit cars, off-roaders, and even modern performance imports. However, this new book, known as the 'NZ Hobby Car Technical Manual', has not been produced by a government department or other regulatory authority, as one might expect. It is, in fact, the work of the New Zealand Hot Rod Association (NZHRA).

Since new regulations were introduced by the New Zealand Government in the early 1990s, any vehicle that is modified, home-built, or professionally constructed by small-volume companies, is legally required to be certified to safety-legislation known as the 'Low Volume Vehicle Code'. Not dissimilar to building a new home or adding a room to your existing house, when building or modifying a motor vehicle there are safety-related technical requirements that must be followed, and an inspection process that must be applied at the end to ensure that those technical requirements have in fact been followed and applied correctly.

Written by enthusiasts for enthusiasts

The process of building a sports car or hot rod from scratch is, today, a very complex one. In addition to understanding and correctly applying proper steering and suspension geometry principles and establishing correct brake balance and performance, modern safety features such as burst-proof door catches and collapsible steering systems must all be designed into a home built sports car or hot rod.

Time has shown since these new regulations came in, that the best people to write the rules and carry out the inspections - since no formal trade or profession exists for building one-off vehicles - are the people who have the hands-on practical experience, and historical best-practice knowledge. The Ministry of Transport and Land Transport New Zealand (LTNZ) have wisely learnt that the hobby car enthusiasts - like the NZHRA - are best left to look after this tricky area of motor vehicle legislation, however LTNZ periodically reviews the performance of everyone involved.

As at the start of the last decade, there were no good all-encompassing books or documentation anywhere in the world on the subject of safety-related technical requirements for the construction and modification of hobby cars, so the NZHRA have, since the early '90s, taken on the role of developing its own safety-related technical requirements for its members. Between 1990 and 1992, then NZHRA President Tony Johnson wrote the Code of Construction Manual for the NZHRA, which has formed the basis of the one-off hobby car certification process for the past decade and a half.

Lengthy gestation

In 2000, with safety technology rapidly advancing, NZHRA embarked on the development of an all-new technical manual for the safe construction and modification of hot rods, to replace the early 1990s Code of Construction Manual. This time however, the new manual would also take into account the differing needs of those enthusiasts building light-weight sports cars and specials, along with off-roaders and modern performance imports. The new manual has taken 6 years to complete, the lengthy process coming partly because, as well as providing safety-related technical requirements, the new manual also focuses on providing guidelines and helpful information to assist the novice builder in learning everything that needs to be understood, before embarking on the journey of building a motor vehicle from scratch.

Again, Tony Johnson – now CEO of the Low Volume Vehicle Technical Association - has written the new manual, known as the ‘NZ Hobby Car Technical Manual’ on behalf of the NZHRA. Whilst Johnson is the author, he is the first to acknowledge the input of NZHRA’s team of technical experts. “The new manual is effectively a collection of the real-life experiences of a group of exceptionally skilled car builders who have spent a life-time building and modifying cars, making mistakes along the way - as we all do - and learning from those mistakes,” says Johnson. “The manual is based upon what we call ‘best-practice historical knowledge’ – these guys know what works, what doesn’t, and why it doesn’t, and all of that knowledge has been gathered up so that we can pass it on to less-experienced car-builders, both current and future.”