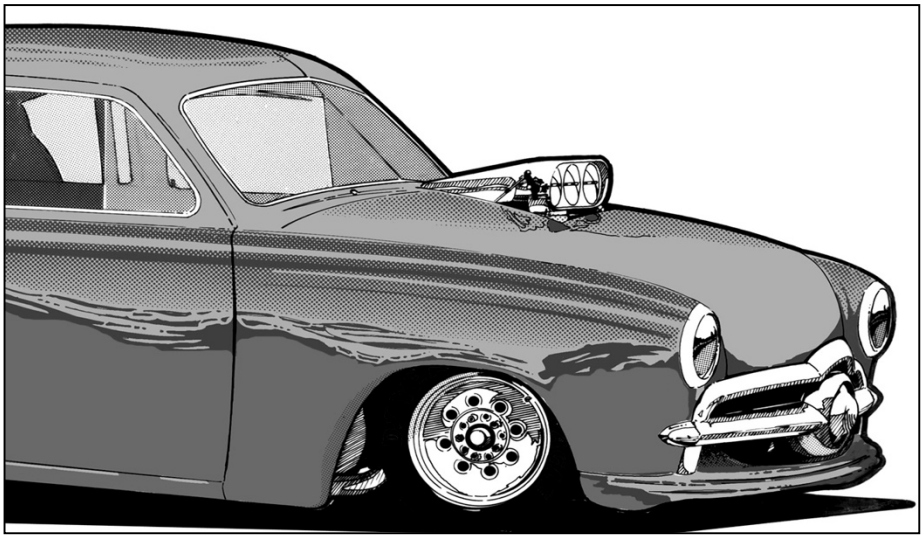
Chapter 4:

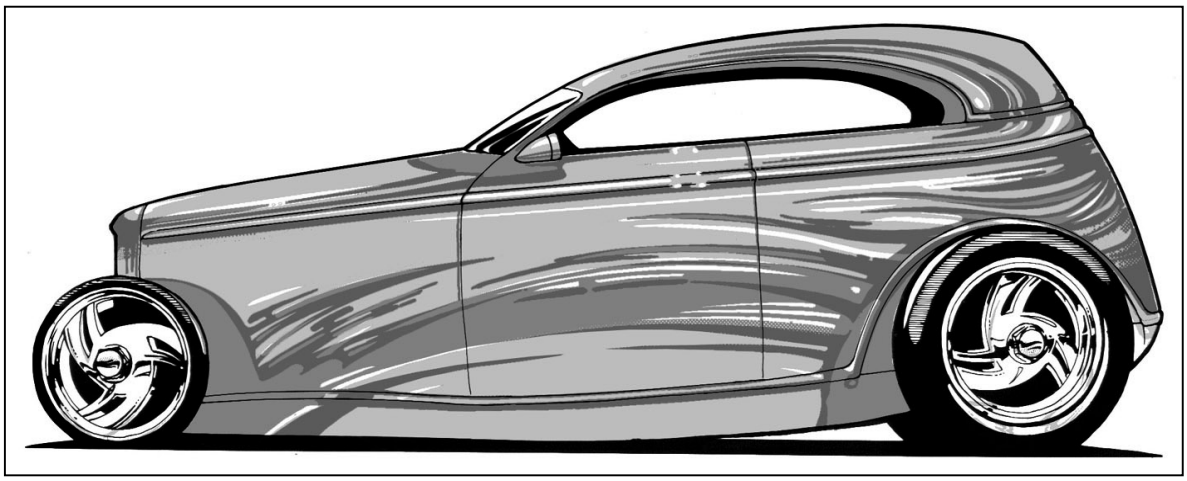
BUILD APPROVAL PROCESS



Chapter 4 Contents

Key: (for full key details, refer to 'Chapter 2 – About this Manual')

Normal type: Provisions of the NZ Car Construction Manual for all vehicles
Italic type: *Extracts from any relevant LVVTA Low Volume Vehicle Standards*
Script type: Helpful hints, tips, explanations, clarifications, and interpretations
Shaded text & dotted vertical stroke in margin: Latest amendments since previous version



TJ illustration

CHAPTER 4: BUILD APPROVAL PROCESS

Introduction

This Build Approval Process is aimed at builders of all scratch-built or substantially modified vehicles. Please note that the Build Approval Process is a voluntary one, and is not a mandatory part of the LVV process. It's here to help you, if you want help or peace of mind. The system has been developed to enable assistance to be provided to modifiers and constructors, by experienced specialists within the car-building hobby who have a good understanding of vehicle construction, and the complex regime of new regulatory requirements progressively introduced by the New Zealand Government since 1990. Blindly forging ahead and building a low volume vehicle in this regulated age can result in costly and time-consuming consequences. The purpose of this Build Approval Process is to assist vehicle builders and modifiers in achieving their aims and objectives in relation to car construction, and to get them through the low volume vehicle certification process as painlessly as possible.

The system for which this document is provided, has been established to help builders and modifiers, not to hinder them. This chapter may look at first glance like more bureaucracy, but in fact, it is quite the opposite. By providing the Technical Advisory Committee with information on what you want to do, these experts can help you by pointing out any potential areas of concern, ideas which could save you time, or processes which could produce better results. The main objective of this process is to provide you with the best possible chances of building a vehicle that will meet the requirements of the LVV certification process when, inevitably, you reach that critical point. Note that there is no charge for this service; the Technical Advisory Committee members are volunteers. The fee is just to cover the cost of copying, collating, and postage of your application to the committee members.

The essential ingredient in achieving this aim successfully is the information provided by you, the builder. The system can only advise based on the information supplied to it, and that's the purpose of the forms contained within this chapter. The better the information the builder can provide, the more detailed advice and protection the system can provide back to the builder.

In addition to using this Build Approval Process, the best advice available to a vehicle modifier or builder is to make contact with an LVV Certifier at an early stage so that he can guide you down the right path. It's important to use an LVV Certifier who has lots of hands-on practical experience in car building, such as hot rod or sports car construction, so that you can benefit from the combination of that LVV Certifier's practical car building expertise, plus his knowledge of the Low Volume Vehicle Certification system.

Concept Approval application procedure

The Concept Approval Application Form 4A is to be used when your project plan is just a concept, and you want confirmation that the idea you have in mind can be legally built. This is generally intended for projects that are out of the ordinary, or are particularly unique in some way.

Before filling out this Concept Approval Application Form 4A:

1. Establish the basic concept and elements of the vehicle that you propose to build or modify.

1. Establish which LVV Certifier you intend to use to inspect the vehicle for LVV certification during its construction. The offices of the Low Volume Vehicle Technical Association can provide you with contacts for the most appropriate certifiers, or other specific expert advice if necessary.

   A list of LV1D-category LVV Certifiers can be obtained from the LVVTA website, www.lvvta.org.nz.

2. Read through the Concept Approval Application Form 4A thoroughly to gain an understanding of what is required before you begin to fill it out.

While filling out this Concept Approval Application Form 4A:

3. Where components or systems are not known, or have not been selected at the time of submitting your Design Approval Application Form, enter "Not known" or "NK" in the appropriate spaces provided.

4. On modified vehicles, where a component or system is original for the vehicle to which it is fitted, and is not modified in any way, enter "Standard" or "STD" in the appropriate spaces provided.

5. Where information is asked for which does not apply to your project (eg. "Kingpins" and your front suspension is of the type which does not incorporate kingpins), enter "Not applicable" or "NA" in the appropriate spaces provided.

6. Fill out the form neatly and clearly, providing as much information as you are able to, and provide drawings wherever they are required to be provided, and number them accordingly.

7. Provide any drawings required on A4 sized paper only.

8. Use only black or blue pen (no other coloured pens or any type of pencils, as the Form has to be able to be photocopied and distributed to the Technical Advisory Committee (TAC) members of the Low Volume Vehicle Technical Association (Inc) (LVVTA).

9. Write any questions that you would like answered by the TAC members of the LVVTA in the appropriate boxes provided within the respective sections. Where possible, they will give you whatever guidance and assistance they can, based on their knowledge and experience.

After filling out this completed Concept Approval Application Form 4A:

10. Take a photocopy of your completed Concept Approval Application Form for your records, in case of loss during postage.

11. Send the completed Concept Approval Application Form to the Low Volume Vehicle Technical Association (Inc), PO Box 50-600, Porirua 5024, Wellington, together with the fee of $95-00 inc GST. (This address and fee may change from time to time – check the LVVTA website to ensure that the address and fee is correct).

12. Upon receipt, your completed Concept Approval Application Form will be copied and distributed to each member of the LVVTA TAC, and then discussed by the members at a TAC meeting. Further information or clarification may be required from you if the completed Concept Approval Application Form is not filled out sufficiently, if further clarification is required, or if drawings are missing or unclear.

13. Upon the conclusion of discussions relating to your Concept Approval Application Form, the Form will be filled out by the TAC, which may include answers to your questions, specific requirements that your Approval will be subject to, and general comments for you and the LVV Certifier. If approved, a Concept Approval Number will be allocated and noted on the first page of your Concept Approval Application Form.

14. The completed and signed off Concept Approval Application Form will be posted back to you, and a copy will remain on the TAC's files for their future reference.

After you have received your Concept Application Form 4A:

15. If you receive approval in principle for your concept from the LVVTA TAC, you can then proceed with planning your project, confident in the knowledge that, subject to the details being acceptable to the LVVTA TAC and/or the LVV Certifier, your vehicle can be legally put on the road through the LVV certification process.

16. When you have established the details of the vehicle's design and construction, including the components to be used and their sources, attachment systems, and how the project will be tackled, you should fill out Design Approval Application Form 4B.

The Concept Approval Application Form 4A cannot be considered approved by the LVVTA TAC until endorsed by colour-stamping with the approval stamp of the LVVTA TAC on the front page, and at the end of the Form.

Note that this Concept Approval Application Form 4A should not be used if the vehicle is already partially constructed. If construction has already commenced, go straight to the Design Approval Application Form 4A.

Note also that if a Design Approval Application Form 4B is being submitted to the TAC, there is no need to submit a Concept Approval Application Form 4A also. The Concept Approval Application Form 4A is only relevant if you wish to build a vehicle that is out of the ordinary, or is particularly unique in some way, and you haven't started the vehicle's construction.

The fees for a Concept Approval Application or a Design Approval Application are correct at the time of the 1st Amendment of this NZ Car Construction Manual, however this may change from time to time. Ensure that the fee you send in is correct by checking on the LVVTA website www.lvvta.org.nz at the time of your application.

Form 4A – Concept Approval Application

Applicant to fill in:		
Owner's name:		
Address:		
Phone: (hm)	(wk)	(cell)
E-mail address:		
Car Club:		

Applicant to fill in:		
Vehicle: (Make)	(Model)	
Body-style:	Year:	Expected weight:
Is vehicle currently registered?	If registered, date of first reg:	
Has vehicle been previously registered in NZ?		

Technical Advisory Committee use only:	
Fee $95-00 (Inc GST) Received by:	Date:
Certification type:	Category:
Approved CAA form number: (Future reference number)	
Issued by:	Date:

4.1 Project basic outline

Provide details of what stage the vehicle is presently at:

(eg: not started, bare space-frame, etc)

Body and chassis drawings:

Provide on accompanying page(s), in A4 size only, plan view (birds-eye) and side view drawings which will illustrate the basics of the project including any major modifications detailed in the body and chassis sections above.

Describe body type and style including any modifications:

(eg: coupe, roadster, roof-chop, conversion to ute, two-door conversion, open sports, etc)

Describe chassis or frame including any modifications:

(eg: original, RHS-type, space-frame, monocoque, hand-built, material specifications, etc)

Drive-train and mechanical details:

Provide all relevant details relating to the following subjects in the appropriate spaces below:

- Engine make, type, size, and configuration:
- Gearbox make and type:
- Diff:
- Front suspension system:
- Steering system:
- Rear suspension system:
- Front brakes:
- Rear brakes:

- Any other general information in regard to the vehicle's chassis and related components not covered above that you are able to detail at this stage:

Queries from Applicant:

Please note any queries or questions relating to basic design and construction, component selection, or materials of the project that you would like the TAC to respond to:

Technical Advisory Committee use only
Comments from TAC to Applicant:

Technical Advisory Committee use only
Comments from TAC to Certifier at preliminary or chassis inspection:

Technical Advisory Committee use only	
Signed for on behalf of the Technical Advisory Committee:	
Name:	Position:
Signature:	Date:

Design Approval application procedure

The Design Approval Application Form 4B is to be used when your project plan is more than just a concept, and you have a fairly firm and detailed plan in mind of what the various components and systems the vehicle is going to consist of.

Before filling out this Design Approval Application Form 4B:

2. Establish as clearly as you can the design and construction aspects of the vehicle that you propose to build or modify.

3. The LVVTA TAC is well aware that many of the finer details associated with vehicle construction cannot always be fully established at the design stage. However, as much advance planning as is realistically possible should be carried out.

4. Establish which LVV Certifier you intend to use to inspect the vehicle for LVV certification during its construction. The offices of the Low Volume Vehicle Technical Association can provide you with contacts for the most appropriate certifiers, or other specific expert advice if necessary.

   A list of LV1D-category LVV Certifiers can be obtained from the LVVTA website, www.lvvta.org.nz.

5. Read through the Design Approval Application Form 4B thoroughly to gain an understanding of what is required before you begin to fill it out.

While filling out this Design Approval Application Form 4B:

6. Where components or systems are not known, or have not been selected at the time of submitting your Design Approval Application Form, enter "Not known" or "NK" in the appropriate spaces provided.

7. On modified vehicles, where a component or system is original for the vehicle to which it is fitted, and is not modified in any way, enter "Standard" or "STD" in the appropriate spaces provided.

8. Where information is asked for which does not apply to your project (eg. "Kingpins" and your front suspension is of the type which does not incorporate kingpins), enter "Not applicable" or "NA" in the appropriate spaces provided.

9. Fill out the form neatly and clearly, providing as much information as you are able to, and provide drawings wherever they are required to be provided, and number them accordingly.

10. Provide any drawings required on A4 sized paper only.

11. Use only black or blue pen (no other coloured pens or any type of pencils, as the Form has to be able to be photocopied and distributed to LVVTA TAC members).

12. Write any questions that you would like answered by the LVVTA TAC in the appropriate boxes provided within the respective sections. Where possible, they will give you whatever guidance and assistance they can, based on their knowledge and experience.

After filling out this completed Design Approval Application Form 4B:

13. Take a photocopy of your completed Design Approval Application Form for your records, in case of loss during postage.

14. Send the completed Design Approval Application Form to the Low Volume Vehicle Technical Association (Inc), PO Box 50-600, Porirua 5024, Wellington, together with the fee of $150-00 inc GST. (This address and fee may change from time to time – check the LVVTA website to ensure that the address and fee is correct).

15. Upon receipt, your completed Design Approval Application Form will be copied and distributed to each member of the LVVTA TAC, and then discussed by the members at a TAC meeting. Further information or clarification may be required from you if the completed Design Approval Application Form is not filled out sufficiently, if further clarification is required, or if drawings are missing or unclear.

16. Upon the conclusion of discussions relating to your Design Approval Application, the Form will be filled out by the TAC, which may include answers to your questions, specific requirements that your Approval will be subject to, and general comments for you and the LVV Certifier. If approved, a Design Approval Number will be allocated and recorded on your Design Approval Application Form.

17. The completed and signed off Design Approval Application Form will be posted back to you, and a copy will remain on the TAC's files for their future reference.

After you have received your Design Approval Application Form 4B:

18. The completed and signed off Design Approval Application Form should be safely stored, and then provided to your LVV Certifier at each LVV certification inspection that takes place. The Design Approval Application Form must be left in the care of the LVV Certifier if requested, during the LVV certification inspection process.

19. If at any time after your Design Approval Application Form is issued, the design of your vehicle significantly changes during construction from the specifications contained within your Design Approval Application Form, your LVV Certifier should be consulted. He may require you to seek further approval from the TAC.

20. A chassis inspection should be arranged with the LVV Certifier as soon as the vehicle reaches a stage where all engineering aspects of the chassis, suspension, steering, brakes, and drive-train are completed.

21. The number of inspections required during the LVV certification process will vary from vehicle to vehicle. It can depend on the level of confidence the builder has, and the level of confidence the LVV Certifier has in the builder. Generally, a LVV Certifier will require that a scratch-built vehicle undergoes three inspections; a chassis inspection early on (as detailed in item 19), another inspection when the vehicle is nearing completion, and a final inspection when the vehicle is finished and driving.

22. Most of the LVV Certifiers are car-builders themselves, and although they obviously have to make a living from LVV certification, their passion and enthusiasm to help the enthusiast sector will usually result in assistance being provided by them that is above and beyond the call of duty, if you follow their advice and work with them.

Design Approval Application Form 4B cannot be considered approved, until endorsed by colour stamping with the approval stamp of the TAC on the front page, and at the end of each section.

Form 4B – Design Approval Application

Applicant to fill in:		
Owner's name:		
Postal address:		
Phone: (hm)	(wk)	(cell)
E-mail address:		
Car Club:		
Concept Approval Application Number issued: (if applicable)		

Applicant to fill in:		
Vehicle: (Make)	(Model)	
Body-style:	Year:	Expected weight:
Engine: (Make)	(Type)	(Size)
Gearbox: (Make)	(Type)	(No speeds)
Is vehicle currently NZ registered?	If registered, date of first reg:	
Has vehicle been previously registered in NZ?		

Technical Advisory Committee use only:	
Fee $150-00 (Inc GST) Received by:	Date:
Certification type:	Category:
Design Approval Application Number issued: (Future reference number)	
Issued by:	Date:

4.2 Chassis

Describe type of chassis:

(eg RHS, tubular space-frame, monocoque etc)

Describe basic construction method:

Provide details of welder:

(Include name, experience, qualifications if applicable)

Chassis plans:

Provide on accompanying page(s), in A4 size only, plan view (birds-eye) and side view drawings. All items contained within the chassis detail section below should be depicted on the drawings.

Chassis details:

All relevant details relating to material specifications, construction methods, and attachment methods should be provided in the appropriate spaces below:

Main chassis or sub-frame rails:

All cross-members and beams:

Frontal Impact protection provision:

Engine attachment points:

Transmission attachment points:

Brake pedal and master cylinder attachment points:

Suspension attachment points:

- Front:
- Rear:

Body attachment points:

Seat anchorage points:

Seatbelt anchorage points:

Any other general information in regard to the chassis and related components not covered above:

Queries from Applicant (re chassis construction):

Please note any queries or questions relating to the subject of chassis construction that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re chassis construction):

In relation to the above queries:

In general:

Technical Advisory Committee use only
Comments from TAC to Certifier (re chassis construction):

4.3 Suspension (Front):

Describe suspension configuration:

(eg beam, tube, strut, IFS etc)

Describe any modifications to the front suspension system:

Describe method of attachment of the front suspension to the chassis/sub-frame:

Provide details of person carrying out modifications and/or attachment:

(Include name, qualifications, ticket #, experience)

Front suspension plans:

Provide on accompanying page(s), in A4 size only, relevant drawings relating to the suspension system being used or proposed for vehicle, in particular where adaptations and/or modifications have taken place, or where aftermarket components are used.

Custom independent a-arm front suspension plans:

In the case of custom or hand-built independent front suspension systems, all details and specifications required within LVVTA Information Sheet "Info 01-2016 - Custom Independent Front & Rear Suspension (IFS/IRS) Approval Application Guide" must be provided separately, including full working drawings. This information sheet is available for download from the LVVTA website, www.lvvta.org.nz.

Front suspension details:

All relevant details relating to component type and attachment methods are to be provided in the appropriate spaces below:

Radius rods: (if applicable)

Type: Modifications:

Suspension bushes/rod ends:

Type:

Springs: (or airbags)

Type:

Coil over shock absorber: (if applicable)

Type: Shock absorber angle:

Lateral control: (panhard bar etc)

Type:

Attachment:

Castor and camber:

Adjustment provision:

Ball joints: Upper:

Vehicle make/model/part number: Lower:

Bump-stops:

Type: Modifications:

Stub axles/uprights:

Vehicle make/model/aftermarket manufacturer type:

Any other general information in regard to the front suspension system not covered above:

Queries from Applicant (re front suspension):

Please note any queries or questions relating to the subject of front suspension that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re front suspension):

In relation to the above queries:

In general:

Technical Advisory Committee use only

Comments from TAC to Certifier (re front suspension):

4.4 Suspension (Rear)

Describe suspension configuration:

(eg live axle or independent, leaf, coils, airbags, radius rods, 4-bars, etc)

Describe any modifications to the rear suspension system:

Describe method of attachment of the rear suspension to the chassis/sub-frame:

Provide details of person carrying out modifications and/or attachment:

(Include name, qualifications, ticket #, experience)

Rear suspension plans:

Provide on accompanying page(s), in A4 size only, relevant drawings relating to the suspension system being used or proposed for vehicle, in particular where adaptations and/or modifications have taken place, or where aftermarket components are used.

Rear suspension details:

All relevant details relating to component type and attachment methods are to be provided in the appropriate spaces below:

Radius rods: (if applicable)

Type: Modifications:

Suspension bushes/rod ends:

Type:

Springs: (or airbags)

Type:

Coil over shock absorber: (if applicable)

Type: Shock absorber angle:

Lateral control: (panhard bar etc)

Type: Attachment:

Shock absorber to diff attachment:

Fasteners: Bracketry:

Independent rear suspensions: (if applicable)

Details:

Modifications:

Stub axles/uprights:

Vehicle make/aftermarket manufacturer type:

Any other general information in regard to the rear suspension system not covered above:

Queries from Applicant (re rear suspension):

Please note any queries or questions relating to the subject of rear suspension that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re rear suspension):

In relation to the above queries:

In general:

Technical Advisory Committee use only
Comments from TAC to Certifier (re rear suspension):

4.5 Steering

Describe steering configuration and system:

Describe (basically) any modifications to the steering system:

Provide details of person carrying out modifications:

(include name, qualifications, ticket #, experience, and proposed NDT method of any welding)

Steering plans:

Provide on accompanying page(s), in A4 size only, relevant drawings relating to the steering system being used or proposed for vehicle, in particular where adaptations and/or modifications have taken place, or where aftermarket components have been used.

Steering details:

All relevant details relating to component type and attachment methods are to be provided in the appropriate spaces below:

Steering wheel:

Vehicle type or aftermarket manufacturer brand:

Diameter: Hub type (note if collapsible hub):

Upper column:

Donor vehicle make/manufacturer:

Modifications:

Attachment point details of upper column to bulkhead area:

Intermediate shaft:

Donor vehicle make/manufacturer:

Modifications:

Universals:

Donor vehicle make/manufacturer:

Modifications:

Flexible couplings:

Incorporated? Yes/No: If so, donor vehicle make:

Method of collapsibility of steering column system:

Steering box or rack and pinion:

State which: Donor vehicle make/manufacturer:

Modifications:

Steering box drop arm:

Donor vehicle make/manufacturer:

Modifications:

Drag link or tie rod:

Donor vehicle make/manufacturer:

Tie rod ends:

Donor vehicle make:

Modifications:

Steering arms:

Donor vehicle make/manufacturer:

Modifications:

Ball joints:

Donor vehicle make/manufacturer:

Kingpins:

Donor vehicle make/manufacturer:

Any other general information in regard to the vehicle's steering system not covered above:

Queries from Applicant (re steering):

Please note any queries or questions relating to the subject of steering that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re steering):

In relation to the above queries:

In general:

Technical Advisory Committee use only
Comments from TAC to Certifier (re steering):

4.6 Brakes

Describe braking system:

(eg disc front, drum rear, dual circuit master-cylinder, non-boosted, etc)

Describe mounting and placement of master cylinder and booster:

Describe mounting and placement of pedal assembly:

Provide details of person carrying out any welding or machining in relation to brake system:

(Include name, qualifications, ticket #, experience, and proposed NDT method if welding)

Brake system details:

All relevant details relating to component type and attachment methods are to be provided in the appropriate spaces below:

Front brakes:

Disc/drum: Solid/vented: Size:

Donor vehicle or aftermarket manufacturer brand:

Rear brakes:

Disc/drum: Solid/vented: Size:

Donor vehicle or aftermarket manufacturer brand:

Wheel cylinders:

Size front: Size rear:

Master cylinder:

Number of circuits: Bore size F: Bore size R:

Donor vehicle or aftermarket manufacturer brand:

Booster:

Boosted on front/back: Location:

Donor vehicle or aftermarket manufacturer brand:

Proportioning valve:

Type: Make: Location:

Roll-control or line-lock bias valves:

Make: Attachment:

Flexible brake hoses:

Type: Make: Standards marking:

Brake pipes:

Tubing material: Attachment:

Brake pedal:

Donor vehicle make/aftermarket manufacturer/custom-built:

Material: Size: Attachment:

Other details:

Brake pedal pushrod:

Donor vehicle make/custom-built:

Length: Diameter: Material:

Other details:

Pedal box: (if applicable)

Donor vehicle make/aftermarket manufacturer/custom-built:

Handbrake system:

Donor vehicle make: Location:

Any other general information in regard to the vehicle's braking system not covered above:

Brake system plans:

Provide on accompanying page(s), in A4 size only, relevant drawings relating to the braking system being used or proposed for vehicle, in particular where adaptations and/or modifications have taken place, or where aftermarket components have been used.

Specific drawing requirements for this section:

- Brake pedal if modified or fabricated
- Brake pedal pushrod if modified or fabricated
- Pedal box if modified or fabricated
- Master cylinder attachment
- Booster attachment

Queries from Applicant (re brakes):

Please note any queries or questions relating to the subject of brakes that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re brakes):

In relation to the above queries:

In general:

Technical Advisory Committee use only

Comments from TAC to Certifier (re brakes):

4.7 Wheels & Tyres

Describe any modifications to the wheels:

Provide details of person carrying out modifications:

(Include name, qualifications, ticket #, experience)

Wheel & Tyre details:

All relevant details relating to wheels & tyres to be provided in the appropriate spaces below:

Front wheels:

Brand: Material:

Diameter: Width: Offset (rim center to bolt face):

Rear wheels:

Brand: Material:

Diameter: Width: Offset (rim center to bolt face):

Front tyres:

Brand: Construction type (radial/cross-ply):

Diameter: Width: Speed rating:

Front axle track (centre to centre of tyre treads):

Rear tyres:

Brand: Construction type (radial/cross-ply):

Diameter: Width: Speed rating:

Rear axle track (centre to centre of tyre treads):

Any other general information in regard to the vehicle's wheels and tyres not covered above:

Queries from Applicant (re wheels & tyres):

Please note any queries or questions relating to the subject of wheels & tyres that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re wheels & tyres):

In relation to the above queries:

In general:

Technical Advisory Committee use only

Comments from TAC to Certifier (re wheels & tyres):

4.8 Miscellaneous equipment

Equipment details:

All relevant details relating to component type and attachment methods are to be provided in the appropriate spaces below, with drawings provided where requested if applicable.

Differential type:

Donor vehicle make/manufacturer:

Modifications:

Drive-shaft:

Donor vehicle make/manufacturer:

Modifications:

Material specification (if scratch-built):

Drive-shaft builder/modifier (Include ticket details, etc):

Drive-shaft loop:

Design: Material:

Body to chassis attachment:

Attachment details:

Floor-pan and fire-wall:

Modification details:

Body:

Modification details:

Body framing:

Modification details:

Roll bar & roll cage: (provide drawings)

Design: Material:

Rollbar/cage builder: (Include ticket details, etc)

Fuel Tank: (provide drawings if scratch-built)

Donor vehicle make: Modification details:

Material specifications: (if scratch-built)

Fuel tank builder: (Include ticket details, etc)

Attachment position:

Attachment method:

Venting details:

Spillage & drainage details:

Fuel lines:

Hose type: Standards markings:

Any other general information in regard to vehicle's miscellaneous equipment not covered above:

Queries from Applicant (re miscellaneous equipment):

Please note any queries or questions relating to the subject of miscellaneous equipment that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re miscellaneous equipment):

In relation to the above queries:

In general:

Technical Advisory Committee use only

Comments from TAC to Certifier (re miscellaneous equipment):

4.9 Regulatory equipment

Regulatory item details:

All relevant details relating to types of components, systems, and attachment methods are to be provided in the appropriate spaces below, with drawings provided where requested:

Headlamps:

Type: Make:

Standards marking: Source:

Park-lamps:

Type: Make:

Standards marking: Source:

Tail-lamps:

Type: Make:

Standards marking: Source:

Indicators:

Type: Make:

Standards marking: Source:

Reflectors:

Type: Make:

Standards marking: Source:

Stop-lamps:

Type: Make:

Standards marking: Source:

High-mounted stop-lamps:

Type: Make:

Standards marking: Source:

Other lights: (Fog, auxiliary, reverse, etc)

Details:

Windscreen:

Type: Material:

Standards marking: Source:

Side & rear windows:

Type: Material:

Standards marking: Source:

Rear view mirrors:

Donor vehicle make or manufacturer brand:

Attachment:

Speedometer:

Donor vehicle make or manufacturer brand:

Sunvisors:

Donor vehicle make: Material spec & attachment details if custom-built:

Seats:

Donor vehicle make or manufacturer brand:

Attachment details:

Seatbelts:

Donor vehicle make or manufacturer brand:

Type: Standards markings:

Windscreen wiper & wash: (provide drawing of swept area)

Donor vehicle make of components or systems used:

Number of wiper arms: Number of speeds:

Washer system:

Interior impact:

Provide general description of layout and components used within the dashboard area, and all interior controls and surfaces forward of the front seats:

External projections:

Provide details of any non-original items or equipment attached to the forward part of the vehicle which could be considered a pedestrian risk:

Door retention system:

Donor vehicle make or manufacturer brand of latch and pin assemblies:

Donor vehicle make or manufacturer brand of hinge assemblies:

Details of door reinforcement between latches and hinges:

Details of striker pin to body reinforcement:

Details of hinge to body reinforcement:

Any other general information in regard to vehicle's regulatory equipment not covered above:

Queries from Applicant (re regulatory equipment):

Please note any queries or questions relating to the subject of regulatory equipment that you would like the TAC to respond to:

Technical Advisory Committee use only

Comments from TAC to Applicant (re regulatory equipment):

In relation to the above queries:

In general:

Technical Advisory Committee use only
Comments from TAC to Certifier (re regulatory equipment):

Technical Advisory Committee use only
Comments from TAC to Applicant regarding project in general:

Technical Advisory Committee use only
Comments from TAC to Certifier regarding project in general:

Technical Advisory Committee use only	
Signed for on behalf of the Technical Advisory Committee:	
Name:	Position:
Signature:	Date:

Useful Information:

Please note that this Build Approval Process and all associated services are designed and applied by motor vehicle hobbyists for the benefit of fellow motor vehicle hobbyists, and are operated on a non-profit basis. The objective of making this service available is to try to minimise the likelihood of a car builder running into major problems at LVV certification time.

By using this process, there is a good chance that any major problems with any aspects of the builder's proposal will be identified by the Technical Advisory Committee, and this can be brought to the attention of the builder before he gets too far down the track with the project.

All efforts have been made, and will continue to be made, to minimise the likelihood of vehicles that have had the Concept and Design Approval processes applied, encountering major problems at LVV certification time. It is, however, the responsibility of the vehicle owner, despite all assistance and advice offered through this service, to ensure that the vehicle complies with all legal requirements relating to low volume vehicle certification.

This can best be assured by closely following the rest of this Car Construction Manual, and also by maintaining close contact with an experienced Low Volume Vehicle Certifier.

Responsibility and Liability:

Vehicle owner/modifier or manufacturer (person responsible for modifications to [or construction of] vehicle) to complete:

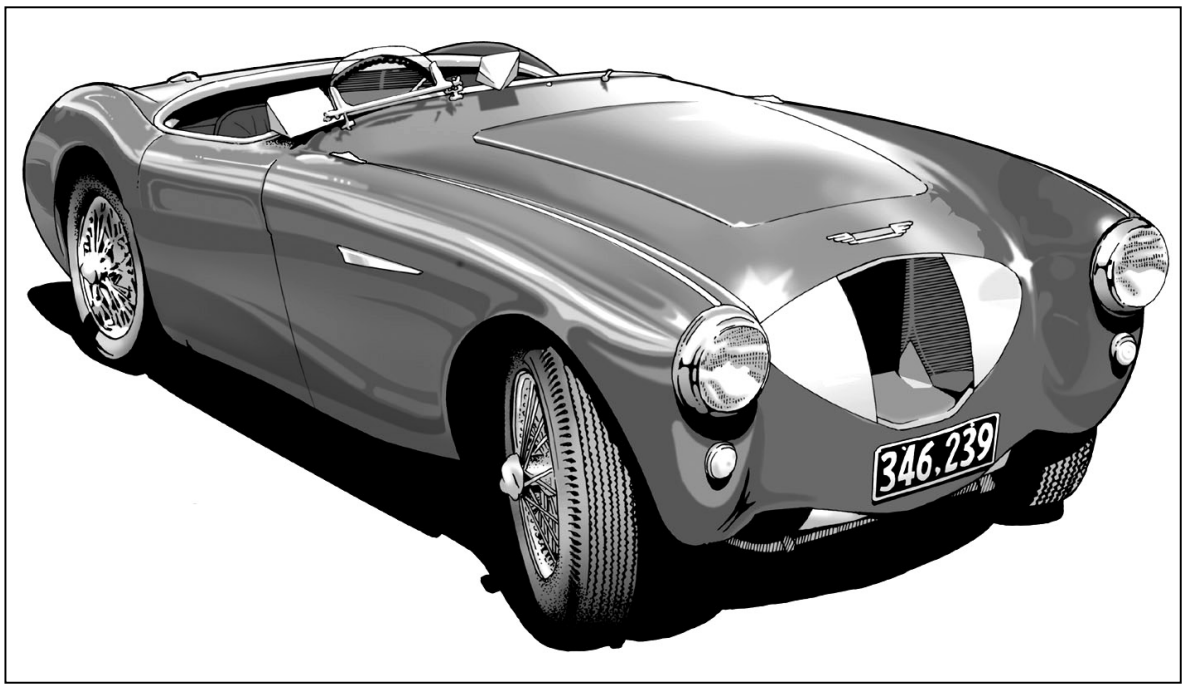
I, (full name) ..... in respect of the vehicle(s) or component(s) or system(s) to which this Design Approval Application applies, acknowledge and understand, and submit this application on the basis that there are limitations associated with the Design Approval process. I acknowledge and understand that:

1. The Low Volume Vehicle Technical Association (LVVTA) is a not-for-profit incorporated society, established to provide a technically---sound and economically---viable environment within which New Zealand's motoring public can safely modify, construct, and enjoy unique and specialised motor vehicles for the purposes of recreation, sport, mobility, passenger service, business, and environmental sustainability.
2. The low volume vehicle (LVV) system is an alternative certification process which enables compliance with New Zealand's legislative requirements whilst avoiding otherwise cost-prohibitive methods of demonstrating compliance such as laboratory analysis and crash-testing. LVVTA's Design Approval process is intended as an additional means by which to reduce the likelihood of a modifier or constructor experiencing problems during the low volume vehicle certification assessment process.
3. LVVTA's time and advice is provided free of charge, and on that basis the LVVTA Design Approval process is based on best endeavours as far as can be practically achieved whilst all personnel involved are operating on a voluntary basis. Any fees paid by a Design Approval applicant are to cover the costs of photocopying and distribution of the application documentation to the members of the Technical Advisory Committee (TAC), and other direct cost-recovery for meeting venue hire, refreshments, and mileage reimbursement for members of the TAC.
4. In addition, there are a number of factors that are outside the control of the LVVTA and the low volume vehicle certification system, and which therefore limit the scope of the Design Approval process, which means that any advice or comments provided can only be a guidance-based process, rather than a full engineering analysis and reporting process. These factors include that LVVTA cannot:

    - control the detail or extent of the documentation that is provided or omitted by the applicant as part of the application;
    - in many cases, inspect the vehicle, or the components or systems being assessed;
    - in the case of multi---vehicles, multi---components or multi---systems, control or check on-going quality control or conformity of production of the vehicles or components or systems;
    - influence or control the way in which the vehicle is operated throughout its life;
    - establish the durability-performance of the vehicle, or the components or systems.

5. Because of LVVTA's not-for-profit status, the limited scope of assessment, and the many factors associated with the vehicle or components or systems that are outside of LVVTA's control, LVVTA's approval processes are based on all reasonable best efforts to identify potential safety risks and to provide sound technical advice where appropriate, and LVVTA will not accept any responsibility or liability for any condition, wear, breakage, or failure associated with any modifications or constructional features of any vehicle, component, or system, whether considered or not during the Design Approval Application process, or any consequences of such condition, wear, breakage, or failure including any damage or injury or loss of life.

Signature of person named above ..... Date: .....



TJ illustration