



ECWVTA Seminars – June 2008

Day 1 – Bus Coach and SPV

2. Technical requirements

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TECHNICAL REQUIREMENTS

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Senior Legislation Engineer



TYPE APPROVAL

THERE ARE 58 SUBJECTS IN THE
FRAMEWORK DIRECTIVE THAT
MANUFACTURERS HAVE TO

Maximum of 38 to 40 on Buses and
coaches

Maximum of 54 on Motor caravans,
Ambulances and Hearses



TYPE APPROVAL

- Maximum of 47 on Armoured
- Maximum of 49 on Wheel-chair accessible vehicles
- Maximum of 48 on Other SPV Trailer Caravans
- Maximum of 46 on Cranes

TYPE APPROVAL

FOR THOSE THAT ARE UNFAMILIAR
WITH THE EUROPEAN VEHICLE
CATEGORIES;

M Category are all passenger carrying

M1 comprising no more than 8 seats in
addition to the driver.

M2 More than 8 seats in addition to the
driver and having a maximum mass not
exceeding 5 tonnes

TYPE APPROVAL

M3 More than 8 seats in addition to driver and having a maximum mass exceeding 5 tonnes.

BUSES AND COACHES (M2 & M3)

M2 vehicles do not have to comply

47. Speed limiters

51. Flammability

TYPE APPROVAL

Multi Stage Build

This is where a vehicle built in stages
In the framework directive it mentions

COMPLETE

This is where a vehicle is built in one
stage

INCOMPLETE

This is where a vehicle is built in several



TYPE APPROVAL

COMPLETED

This is where the vehicle has all stages and is finished

Only a COMPLETE or COMPLETED vehicle can be given a Certificate of Conformity and then be registered.

You can approve a vehicle at the first stage to full European approval and the same at subsequent stages.



TYPE APPROVAL

You cannot approve a stage to Vehicle Approval and then move to the next stage and have the vehicle approved to full European approval

TYPE APPROVAL

Typically, of the 38 to 40 subjects, I would suggest;

13 would fall to the base vehicle to comply with (the chassis manufacturer)

19 would be the responsibility of the bodybuilder

13 would be the component manufacturers responsibility

TYPE APPROVAL

A *typical* approval schedule *may* look this;

1. Sound levels **STAGE 1 (MAYBE)**
2. Emissions **STAGE 1**
3. Fuel tanks/underrun **STAGE 1**
4. Rear reg plate space **STAGE 2**
5. Steering effort **STAGE 1**
6. N/A to buses
7. Audible warning **STAGE 2**
8. Indirect vision devices **STAGE 2**

TYPE APPROVAL

9. Brakes **STAGE 1**
10. Suppression (Radio) **STAGE 2**
11. Diesel smoke **STAGE 1**
12. N/A to buses
13. Anti theft and immobiliser **STAGE 1**
14. N/A to buses
15. Seat strength **STAGE 2**
16. N/A to buses

TYPE APPROVAL

- 17. Speedo and reverse gear **STAGE 1**
- 18. Stat. Plates **STAGE 1** & **STAGE 2**
- 19. Seat belt anchs. **STAGE 2**
- 20. Inst of lights **STAGE 2**
- 21. to 26. lamp approvals done by component supplier
- 27. Towing hooks **STAGE 1**
- 28. To 30. Lamps as 21. To 26. above



TYPE APPROVAL

- 31. Seat belts **STAGE 2 & Component**
- 32. N/A to buses
- 33. ID of Controls **STAGE 2**
- 34. Defrost/demist **STAGE 2**
- 35. Wash/wipe **STAGE 2**
- 36. Heating systems **STAGE 2**
- 37/38 N/A to buses

TYPE APPROVAL

- 39. N/A to buses
- 40. Engine power **STAGE 1**
- 41. Diesel emissions **STAGE 1**
- 42. N/A to buses
- 43. N/A to buses
- 44. N/A to buses
- 45. Safety glass **STAGE 2 &**

TYPE APPROVAL

- 46. Tyres **STAGE 2 & Component**
- 47. Speed limiter **STAGE 1**
- 48. Masses and dimensions **STAGE 2**
- 49. N/A to buses
- 50. Couplings **STAGE 2 & Component**
- 51. Flammability **STAGE 2 &**
- 52. Bus and coach **STAGE 2**
- 53-58 N/A to buses



TYPE APPROVAL

This list is an example only!

Responsibility for approvals will
on how your product is built...

Remember no approvals can be
without Conformity of Production

Talk to VCA !!!!



TYPE APPROVAL

WHAT SHOULD I DO NEXT??

MY ADVICE WOULD BE;

1. Think of where you want to sell your product and how many you will produce (Types, Variants and Versions)
2. Choose your approval route
vehicle approval National small approval or Full European



TYPE APPROVAL

3. If you choose Type Approval, come and talk to VCA;

- Introductory meeting
- Worst case meeting

4. Come armed with as much information as possible about your product.

We treat your information as completely confidential

TYPE APPROVAL

At the 'worse case' meeting we can discuss;

1. What we need to test

- minimum amount of testing to cover maximum product range

2. Where to test;

You can choose where to test;

- On your own site, if you have facilities
- VCA have facilities for some tests.

TYPE APPROVAL

2: Where to test, cont.

- Recognised test facilities like Millbrook, MIRA, MI Technology, Status and some Universities to name but a few.
 - **ALPHABETICAL ORDER.**
- Overseas facilities (VCA will send out a test engineer to witness the test)
- Using a component supplier's facilities

TYPE APPROVAL

- Before the test you will need to supply an 'Information document' so that the VCA engineer will know what you are covering with the test work you are carrying out.
- This is quite a detailed document to allow a thorough 'Specification Check' of the vehicle or component to be carried out

TYPE APPROVAL

Next, the test...

Make sure you have the correct parts because what is tested will be what approved!

- you may not be able to change or include alternatives if they have not been previously considered

TYPE APPROVAL

Discuss with the Type Approval engineer what documents are required for circulation.

These should be different to the 'information document' in so much they should include less detail than needed at the time of the test. Just enough to identify the vehicle/component.

TYPE APPROVAL

YOU HAVE GOT IT!

...NOW WHAT DO YOU DO WITH IT ?

You now need to maintain your approval

- Make sure you cover changes to your product with changes to your approval documents – talk to VCA!

Depending on the nature of your planned change, VCA will respond in one of four ways;

TYPE APPROVAL

1. Letter of no concern
2. Paperwork exercise
3. Partial test work
4. Full retest

This will be decided based on the extent of the changes you are making



TYPE APPROVAL

In order to keep up to date with legislation, we recommend you subscribe to VCA's legislative information package, **VISTA**

Like other systems, this includes up-to-date copies of EU Directives and (United Nations) Regulations

And VISTA contains other key information, particularly clarification of how VCA interpret these regs, which your design teams will find useful

TYPE APPROVAL

Today the target audience includes those involved with Special Purpose Vehicles.

In the Directive these are;

1. Motor Caravans
2. Ambulances
3. Hearses
4. Armoured cars

TYPE APPROVAL

5. Wheelchair Accessible vehicles

6. Mobile cranes

7. Trailer caravans

AND:

Other SPV if the manufacturer can demonstrate to the satisfaction of Approval Authority that the vehicle, due to the special function, cannot meet all the requirements.

TYPE APPROVAL

IN THE FRAMEWORK DIRECTIVE
THE VEHICLE TYPES ARE
GROUPED INTO;

1. Motor caravans, Ambulances and Hearses
2. Armoured cars
3. Wheel-chair accessible vehicles
4. Mobile cranes

TYPE APPROVAL

5. Other SPV (including trailer

**EACH OF THESE GROUPS ARE
DIFFERENT CONCESSIONS IN
DIRECTIVE**

AS AN EXAMPLE;

SOUND LEVELS



TYPE APPROVAL

Armoured vehicles and WAV's have meet the full requirements

Motor-caravans, Ambulances and Hearses can change the exhaust system after the silencer by up to 2 metres without further test and can use the results from a different category of base vehicle



TYPE APPROVAL

Other SPV's can change the exhaust system after the last silencer by up to 2 Metres without test

Mobile cranes get a whole different set of noise levels to comply with

IT WOULD BE TOO TIME CONSUMING TO GO THROUGH THESE CATEGORIES IN GREAT DETAIL HERE TODAY BUT



ANY QUESTIONS?

I am here for the whole of the day so for specific technical questions please talk to me in the 'Surgery'

THANK-YOU FOR YOUR ATTENTION

Overview of the 'Surgery' process

Coffee!

