



provisions. Where a converter makes modifications to modifications to N2 Panel Vans a separate application should be made (as they have different requirements to N1 vehicles).

The manufacturer must obtain CoP clearance; VCA will carry out a CoP audit / review and if this is successful will grant CoP clearance. Subject to the legislated CoP requirements for re-assessment, etc., there may not need to be further vehicle inspections. The manufacturer can continue carrying out the enhancements while CoP Clearance remains in force. Note that CoP Clearance may be withdrawn by VCA at any time if there are reasonable grounds to do so.

VCA may conduct reviews and / or tests and / or inspections and issue reports, and may carry out a Whole Vehicle Inspection on a sample vehicle representative of the kind of vehicle that is modified.

Provided that;

- CoP Clearance has been granted, and
 - documentation which provides the details of the modifications and processes which control them, and
 - the initial reviews and / or tests and / or inspections have been carried out,
- VCA will then issue a report confirming that the changes are acceptable as part of the N1 Enhancements Scheme.

4 Application for IVA for Modified Vehicles

The applicant should send details of modified vehicles which require an IVA including;

- the VIN(s) (as required in section 5 of Article 24 of 2007/46/EC),
- the identification of the Enhancement Report which covers the modifications concerned.

Provided the documentation is correct and relevant VCA will allocate IVA numbers to each vehicle.

The IVA approval number will adopt the following format:

Part A – 8 digit code detailing manufacturer and enhancement reference common to an application under the N1 Enhancements Scheme.

Part B – 6 digit number unique to each vehicle. e.g.;

PA052A01*123456

This format allows Part A to be used for registering the vehicles using AFRL and then Part B to be linked to the VIN of the vehicle in a traceable manner.

This avoids manufacturers / dealers having to register the vehicle using DVLA local offices. DVLA have been consulted and have indicated this would be an acceptable solution for them, although classic IVAs must still be registered using V55/4 forms.



5 General Provisions and Exclusions

Many common modifications (particularly within the load space) which are of a semi-permanent or temporary³ nature (such as ply lining, racking / shelving systems, etc.) can generally be treated as part of the vehicle payload. Hence it is not necessary to obtain any specific approval to cover these kinds of modifications. Similarly certain temporary modifications on the exterior of the vehicle may be treated in the same way; e.g. access steps, roof racks / bars, etc., such modifications are unlikely to affect the validity of the type approval of the vehicle concerned.

However, in some cases the modifications carried out by a converter will mean the type approval of the vehicle is no longer valid and so an additional approval is required for the vehicle.

It will not be necessary to fit an extra manufacturer's plate to the vehicle.

In all cases converters must have regard to the requirements of the following national legislation;

- The Road Vehicles (Approval) Regulations 2009 (SI 2009 No 717) as amended
- The Road Vehicle Lighting Regulations 1989 (SI 1989/1796) as amended (RVLR)
- The Road Vehicles (Construction and Use) Regulations 1986 (SI 1986 No 1078) as amended (C&U)

(some UK legislation can be obtained free of charge from the National Archives service at: <http://www.legislation.gov.uk/>)

In the case of some electrical / electronic sub-assemblies (ESA) converters should observe the general principle that where a component which is added can be type approved then approved parts / components / ESAs should be sought. This is relevant as for N1 vehicles the requirements in C&U₄ are more stringent than those for N1 vehicles in IVA as C&U requires compliance to at least 95/54/EC. Examples of such cases are marked ✓ in the tables at section 6 below. Note that in the case of N2 vehicles the IVA scheme requires compliance with 2006/28/EC. In reality this means components must be "e" / "E" marked, if products with only a "CE" marking are used in the automotive environment they may not be compliant with the IVA or C&U requirements.

5.1 Exclusions

Some modifications will not be acceptable in the N1 Enhancements Scheme, and VCA reserves the right to make these judgements. Modifications such as those in the non-exhaustive list below will be excluded from the N1 Enhancements Scheme;

3.Semi-permanent or temporary in this context means not welded to the vehicle structure.

4. Relevant sections of C&U can be found at;

<http://www.legislation.gov.uk/uksi/1996/2329/regulation/8/made>

<http://www.legislation.gov.uk/uksi/2002/2126/regulation/2/made>



Additional / alternative seats, or seat belt anchorages
Tipping seat
Temporary spare wheels
Modifications to the;
braking system
camshaft
CO₂ emissions
Diesel Particular Filter (DPF)
silencer / exhaust system
Engine power increase
LPG conversion
etc.

Where a converter wishes to carry out modifications which cannot be handled through the N1 Enhancements Scheme they may choose to use the IVA route or multi-stage type approval.

6 Scope of Modifications

6.1 General

The tables below set out a non-exhaustive list of some common modifications carried out to N1 complete vehicles prior to registration. These are loosely classified as;

- Interior
 - In cab area
 - In load space
 - Miscellaneous electronic systems

- Exterior

In the tables below the column headed "Controls Required?" has entries simply of "No", "Yes" and "Maybe".

"Controls Required?" means – do (or may) the specific modifications have an impact on the type approved status of the vehicle concerned?

- Where the answer is "No" then these things are out of the scope of the N1 Enhancements Scheme and so no specific controls need to be demonstrated to VCA
- Where the answer is "Yes" then the required "Controls" are for the converter to ensure that compliance with the Motor Vehicles (Approval) Regulations 2009 are met. In these cases obtaining an IVA would satisfy the requirements of the regulations.
- Where the answer is "Maybe" the modifications will fall into a grey area depending on the category of the vehicle, the nature of the modification, the location on the vehicle, the components fitted and so forth. Therefore in some cases "Maybe" will mean "Yes"; on the other hand, where the original approval for the vehicle remains valid no additional action need be taken.



As an example, fitting of a side mounted carrying rack / glass frail has an entry of "Maybe". Where such a device protrudes outwards from the side of the vehicle and the relevant front or rear lighting is then more than 400 mm inboard from the edge of the device then the requirements for lighting installation are no longer met. In such a case this will mean the original type approval is no longer valid and so the vehicle will require additional lamps to meet the lighting installation requirements. The fitment of the additional lamps will mean the vehicle requires an additional approval in order to be registered in compliance with Motor Vehicles (Approval) Regulations 2009. Clearly the relevance of this example will depend on factors such as the amount of the protrusion of the device and the position of the lamps and so may vary from one type of vehicle to another.

In all cases the converter's internal quality management processes will need to take account of the regulations to ensure that only vehicles compliant the Motor Vehicles (Approval) Regulations 2009 are put forward for registration.

In order for VCA to have confidence to issue an IVA the applicant would need to have demonstrated that satisfactory (and controlled) processes were in place to manage the modification work to ensure compliance with the regulations. Therefore the processes concerned with the management of a situation such as the one set out in the example above will need to ensure that the correct decision is taken whether additional lamps and therefore an IVA are required.

In the case of vehicles which benefit from the exemptions provided for in regulations 5(3)(b) of Part 1 of the Road Vehicles (Approval) Regulations 2009 there is no requirement to use the N1 Enhancements Scheme, however, it may be used optionally at the request of a converter.

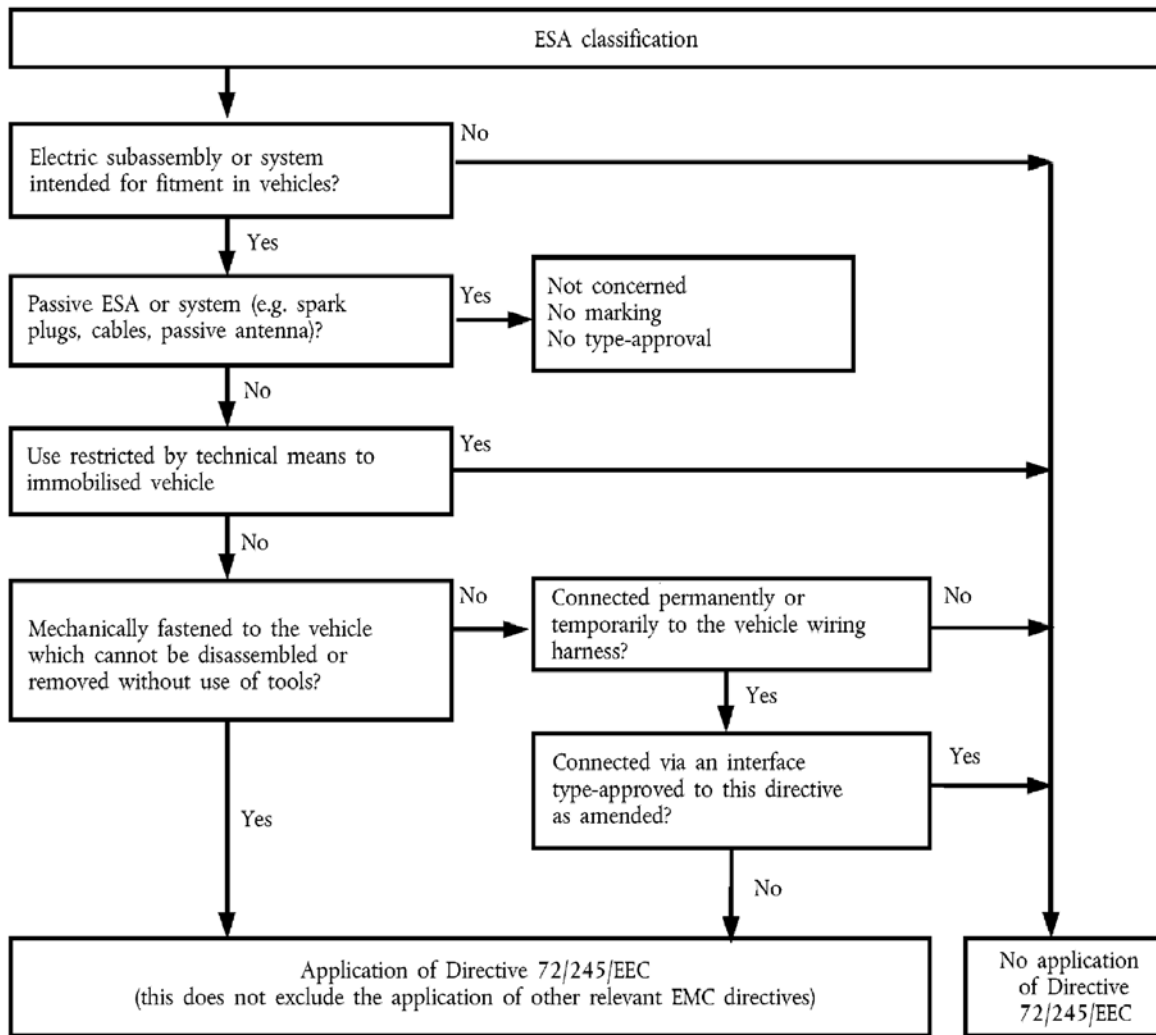
6.2 Lists and Scope of Modifications

Notes:

1. The numbers in the right hand column refer to the item numbers in the tables in Schedule 5 of the Road Vehicles (Approval) Regulations 2009
2. In the following tables the symbol \neq denotes that for N1 vehicles in some cases compliance with C&U Regulation 60(1C) will require ESAs to meet the requirements of 95/54/EC. In the case of N2 panel vans compliance with 2006/28/EC is definitely required.

Converters are advised to seek ESAs type approved to the appropriate standard otherwise they will not be able to comply with the requirements of this scheme.

The following diagram extracted from paragraph 3.2.1 of Annex 1 to directive 72/245/EC (as amended by directive 2004/104/EC) will help in determining whether or not approval of an ESA is relevant;



In the above diagram the box marked;

'Use restricted by technical means to immobilised vehicle'

is particularly important.

For example; if a piece of equipment can only be operated when the vehicle is stationary (e.g. through an interlock device such as a power supply connection via a relay switch fed the parking brake warning light) then it would not need to have an approval.

Where the electrical devices marked *✓* in the tables below have their *'Use restricted by technical means to immobilised vehicle'* then such modifications can be considered as having an entry of 'No' (rather than 'Maybe') in the second column of the tables.

As such these devices are out of the scope of the N1 Enhancements Scheme and can be fitted without the controls being monitored by VCA.



6.2.1 Interior

6.2.1.1 Cab Area

Item	Controls Required?	Example of Items Affected
Accessories: e.g. first aid kits, fire extinguishers, skin care systems, storage hooks, etc.	No	–
Air conditioning ✎	Maybe	10
Ancillary alarm systems ✎	Maybe	10, 13
Audio / entertainment unit ✎	Yes	10
Audio speakers / woofers ✎	Yes	10
Bulkhead	No	–
Glazing	Yes	45
Heating (diesel fired) ✎	Yes	3, 10, 36
Hygiene units (with motor driven pump) ✎	Maybe	10
Hygiene units (without motor driven pump)	No	–
Inverter ✎	No	–
Lighting (bulbs)	No	–
Lighting (LED) ✎	Maybe	10
Passenger seat removal (changes seating capacity so Enhancement IVA required)	Yes	–
Radio ✎	Maybe	10
Roof vents / sunroof	Maybe	19, 45, 49
Run-lock systems	Maybe	13
Satellite navigation / driving aids ✎	Maybe	10
Seat heaters ✎	Maybe	10, 19
Security boxes*	Maybe	19
Storage systems*	Maybe	19
Trim (alternative / additional); e.g. centre armrest, centre cluster panel, door cards, foot pedal trims, gear lever / knob, handbrake / gear lever gaiter, instrument binnacle, leather facings / leather seat trim, etc.	No	–
...		

6.2.1.2 Load Space

Item	Controls Required?	Example of Items Affected
Bulkhead	No	–
Compressor (electric) ✎	Maybe	10
Compressor (engine driven)	No	–
Fans ✎	Maybe	10
Generator (engine run) ✎	Maybe	10
Generator (standalone)	No	–



Heating (12V mats / tubes) ✎	Maybe	10
Heating (diesel fired) ✎	Maybe	3, 10, 36
Hand wash hygiene units (with / without motor driven pump) ✎	Maybe	10
Inverter ✎	Maybe	10
Lighting (bulbs)	No	–
Lighting (LED) ✎	Maybe	10
Liquid tank (water / diesel / hydraulic)	No	–
Load restraint	No	–
Loading device (e.g. motor driven tuck away crane) ✎	Maybe	10
Messing van seating (requires pictogram or sign clearly indicating that the seat is not to be used whilst the vehicle is in motion)	Yes	19
Racking / shelving / caging	No	–
Security Boxes (vaults)*	No	–
...		

6.2.1.3 Miscellaneous Electrical Systems (i.e. not specifically in cab area)

Item	Controls Required?	Example of Items Affected
Ancillary alarm systems ✎ e.g. alarms, buzzers, sirens, etc.	Maybe	10, 13
Anderson connector	No	–
Audible reversing alarms ✎	Maybe	10
Audible warning devices (horns)	Yes	7
Audio speakers / woofers ✎	Maybe	10
Automatic ejection of external charging system	No	–
Battery systems; ✎ e.g. split charging, battery management / protection, etc.	Maybe	10
Compressor (electric powered) ✎	Maybe	10
Compressor (engine driven / power take off)	No	–
'Domestic' appliances / equipment (have CE mark); e.g. boiler, microwave oven, refrigerator, VDU / monitor	Maybe	10
Generator (engine driven / power take off) ✎	Maybe	10
Generator (standalone)	No	–
Heating (diesel fired) ✎	Yes	3, 10
Inverter ✎	Maybe	10
Lighting (LED) ✎	Maybe	10
On board weighing devices ✎	Maybe	10
Parking sensors ✎	Maybe	10
Public address systems / siren, etc. ✎	Maybe	10
Reversing camera ✎	Maybe	10



Sockets & switches	Maybe	10
Speed limiting device ✓	Maybe	10
Transformers ✓	Maybe	10
...		

6.2.2 Exterior

Item	Controls Required?	Example of Items Affected
Accessories; e.g. access hatches, etc.	Maybe	20, 45, 49
Air conditioning unit ✓	Maybe	10, 49
Connectivity / telephone / comms kits ✓	Maybe	10
Expanding high lift roof*	Maybe	19, 49
Exterior lamp protection	Maybe	20, 49
Exterior window protection	Yes	8, 45, 49
Glazing - alternative (additional)*	Yes	8, (19), 45
Lighting: work lamps / beacons / light bars with LEDs and / or motors ✓	Maybe	10
Lighting: work lamps with bulbs	No	–
Load bed drop in closed (tall) body	Maybe	8, 45
Load bed liner or (low) top / cover	No	–
Locking wheel nuts	No	–
Privacy / tinted glass	Yes	8, 45
Radio antenna and DAB aerial ✓	Maybe	49
Rear door mounted access ladder	Maybe	20
Rear view cameras and parking sensors ✓	Maybe	10
Refrigeration Unit (includes where cut in to structure)*	Maybe	(19) 49
Roof mounted storage / carrying systems (above 2m); e.g. roof bars, roof boxes, luggage / ladder / pipe racks, etc.	No	–
Roof mounted storage / carrying systems (below 2m); e.g. roof bars, roof boxes, luggage / ladder / pipe racks, etc.	Maybe	49
Roof ventilators – rotary (powered) ✓	Maybe	(10), 49
Roof vents (opening)	Maybe	49
Security locks on cab doors	Yes	49
Side / rear access door (chill / frozen)	Maybe	4, 8, 20
Side / rear access step to load space	Maybe	3, 4, 20
Side / rear access step to load space (powered) ✓	Maybe	3, 4, 10, 20
Side / rear access to load space (convert hinged door to shutter)	No	–
Side / rear awnings	No	–
Side mounted carrying racks / glass frail	Maybe	8, 20
Styling panels	Maybe	8, 49



Tail lifts / cranes / loading or elevating device ✎	Maybe	3, 4, 10, 20
Towing bracket (including wiring) ✎	Yes	4, (10), 50
Tyres (alternative specification)	Yes	1, 2, 9, 17, 46
Wheels	Yes	1, 2, 9, 17, 46
Winch (electric, rear mounted) ✎	Maybe	4, 10, 20
Winch (front mounted) ✎	Yes	10, 49
Window security film / tint	Yes	8, 45
...		

- * Where the structure of the vehicle is cut, for example when fitting glazing, refrigeration units, security boxes, etc., then regard should be taken to the integrity of seat belt anchorages. Modifications will not be allowed within the scope of the N1 Enhancements Scheme where the vehicle or seat mounting structure is cut or compromised within 30 cm of any seatbelt anchorage.

7 Documentation

7.1 General

The N1 Enhancements Scheme will rely on suitable (and quality controlled) processes being in place to control output. The quality control aspects will require at least suitable documents and document controls in respect of those processes.

For example; as a matter of routine work a converter may fit a towing bracket and coupling device to a vehicle. In order to ensure that this work is carried out to a satisfactory standard the converter will need to have suitable process control documents. These documents should be at least;

- a document which describes the overall process
- associated procedure document(s)
- a control plan⁵ which demonstrates how the legislative requirements are confirmed as being met
- a document which lists the type approved parts (components and separate technical units) which may be fitted and the suppliers of such parts

5. A control plan is the documented description of those procedures, checks or assigned activities necessary to verify that production units continue to conform to the statutory requirements with regard to specification, marking and performance.



From time to time documents such as process documents, manuals, the lists of products and suppliers, etc., will need to be amended. However, it would be onerous to require converters to refer to VCA every time an amendment is required. So when an amendment is required to their documents converters may manage the documents internally and without reference to VCA, but this must be done in accordance with a recognised quality management system and may be subject to periodic review.

The CoP measures put in place by the converter are of paramount importance in the control of the processes under which modifications may be made. The requirements for CoP will be the same as those used in European and UK National Type Approval Schemes (see Annex X of 2007/46/EC) and as such they will be subject to at least an annual review.

7.2 Process Documents

According to ISO 9000:2005 a **process** is defined as “set of interrelated or interacting activities which transforms inputs into outputs”.

For the purpose of this scheme a general description of the activities from the establishing of the initial customer requirement through to the release of the product to the customer should be identified. Often a process flow diagram is a good means to convey this information.

7.3 Procedure Documents

According to ISO 9000:2005 a **procedure** is a specified way to carry out an activity or a **process**.

For the purpose of this scheme documents such as work instructions and / or manuals will be required to enable the appropriate staff to carry out their work or activities in a quality controlled manner.

For example, the procedure document for the fitting of a towing bracket would need to ensure that all the requirements in the relevant section of the current IVA Manual are met. This would be in addition to those which ensure that good engineering practice is adhered to and that the customer requirements are met.

7.4 Control Plan Documents

A control plan sets out how a converter plans to ensure that only products which are in conformity with statutory requirements are released to the



customer.

These documents would normally contain a reference to the statutory requirement concerned, the documentation that controls the process and the activities that are carried out to ensure that the statutory requirements are met.

7.5 Parts & Suppliers Documents

The converter will be required to have (and maintain) a list of suitable products (identified by their type approval number) and to keep records relating to their suppliers (for guidance see ISO 9001:2008, clause 7.4.). It is sensible to have alternatives for components and suppliers.

7.6 Application Documents

The application document should follow the generic form as set out in the example below;

7.6.1 Example Information Document

INFORMATION DOCUMENT FOR THE PURPOSE OF N1
ENHANCEMENT SCHEME

0. GENERAL

0.1. Name of converter:

Paragon Ltd

0.2. Type

**Any "complete" EC Type Approved Goods Vehicle up to a maximum
of 3.5t GVM**

0.4. Category of vehicle:

N1

0.5. Name and address of manufacturer:

Paragon Ltd

HQ Building

Main Street

Anytown

Postcode

0.8. Address(es) of assembly plant(s):



Paragon EFS Ltd

A Plant

Main Street

Anytown

Postcode

Paragon SPV Ltd

Special Works

Any Street

Othertown

Postcode

1.0. DESCRIPTION OF MODIFICATIONS

The following modifications are currently carried out according to the documents listed below. Additional items and suppliers of products may be added according to process document(s) [...] as and when required. This document will be updated and reviewed accordingly.

1.1. Interior

1.1.1. Cab Area

Item	Relevant?	Example of Items Affected	Process Document	Procedure Document(s)	Control Plan Document(s)
Passenger seat removal	Yes	15, 19	Enh1	IVA15, IVA19	CP1
Roof vents / sunroof	Maybe	19, 45, 49	Enh1	IVA19, IVA45, IVA49	CP1

Items out of scope (no additional approval required)

bulkhead

1.1.2. Load Space

Item	Relevant?	Example of Items Affected	Process Document	Procedure Document(s)	Control Plan Document(s)
Heating (diesel fired)	Yes	3	Enh1	IVA3	CP2

Items out of scope (no additional approval required)

bulkhead, compressor (engine driven), generator (standalone), hygiene units (with motor driven pump), inverter, lighting (bulbs & LED), liquid tank (water / diesel / hydraulic), load restraint, loading device (e.g. motor driven tuck away crane), racking / shelving, security boxes (vaults)

1.1.3. Miscellaneous Electrical Systems

Item	Relevant?	Example of Items Affected	Process Document	Procedure Document(s)	Control Plan Document(s)
Audible warning devices (horns)	Yes	7	Enh1	IVA7	CP3



Items out of scope (no additional approval required)

Anderson connector, 'domestic' appliances / equipment (have CE mark - e.g. boiler, microwave oven, refrigerator, VDU / monitor, etc.), generator (standalone), sockets & switches

1.2. Exterior

Item	Relevant?	Example of Items Affected	Process Document	Procedure Document(s)	Control Plan
Expanding high lift roof	Maybe	49	Enh1	IVA49	CP4
Exterior lamp protection	Maybe	20, 49	Enh1	IVA20,IVA49	CP4
Privacy / tinted glass	Yes	8, 45	Enh1	IVA8, IVA45	CP4
Radio antenna and DAB Aerial	Maybe	49	Enh1	IVA49	CP4
Rear door mounted access ladder	Maybe	20	Enh1	IVA20	CP4
Roof ventilators; rotary / opening	Maybe	49	Enh1	IVA49	CP4
Security locks on cab doors	Yes	49	Enh1	IVA49	CP4
Tail lifts / cranes / loading or elevating device	Maybe	20	Enh1	IVA20	CP4
Towing bracket	Yes	50	Enh1	IVA50	CP4
Winch (front mounted)	Yes	49	Enh1	IVA49	CP4
Load bed drop in / replacement body	Maybe	8, 45	Enh1	IVA8, IVA45	CP4
Window security film / tint	Yes	8, 45	Enh1	IVA8, IVA45	CP4
Accessories; e.g. access hatches,	Maybe	20, 45, 49	Enh1	IVA8, IVA20, IVA45	CP4



lamps, etc.					
Side mounted carrying racks	Maybe	20	Enh1	IVA20	CP4

Items out of scope (no additional approval required)

Lighting: work lamps / beacons / light bars with bulbs / LEDs and / or motors, locking wheel nuts, roof mounted storage / carrying systems (e.g. roof bars, roof boxes, luggage / ladder / pipe racks, etc.), side / rear access to load space (convert hinged door to shutter), side / rear access step to load space (powered / unpowered), side / rear awnings, load bed top / cover



2.0 Components and Suppliers (Document ID: Supply1, Revision 1.0,
Dated: 1 March 2013)

2.1. Generic

Item	Manufacturer	Type Approval Number	Supplier	Items Affected
Combustion heater	Wasbesto	e11*2001/56*???	Auto Heating Ltd	36
...

2.1. Vehicle Specific

Faux Halle Mobilo

Item	Manufacturer	Type Approval Number	Supplier	Items Affected
Towing bracket	Wilter	e11*94/20*????	Towpole Ltd	50
Towing bracket	TCP	e11*94/20*????	A2B Tow	50

Frood Context

Item	Manufacturer	Type Approval Number	Supplier	Items Affected
Towing bracket	Wilter	e11*94/20*????	Towpole Ltd	50
Towing bracket	TCP	e11*94/20*????	A2B Tow	50



3.0 Status of Documents

Document Reference	Title & Description	Revision Number	Revision date
Enh1	Enhancements Scheme Process Document General process document for handling vehicle modifications to determine whether they are subject to the N1 Enhancements Scheme	1.0	29 April 2013
IVA8	Indirect Vision Compliance Manual Controls on the fitment of components which may affect indirect vision	1.0	29 April 2013
IVAn	... Document to control the fitment of components which may affect ...	1.0	...
CP1	Control Plan Number 1 Control plan document setting out the procedures and checks necessary to verify that production continues to conform to the statutory requirements in respect of ...	1.0	1 February 2013
CPn	Control Plan Number <i>n</i> Control plan document setting out the procedures and checks necessary to verify that production continues to conform to the statutory requirements in respect of
Supply1	Components and Suppliers List of controlled components and their suppliers	1.0	1 March 2013



7.6.2 Example of Enhancement IVA Request

United Kingdom N1 Enhancements Scheme - Individual Vehicle Approval
Application for United Kingdom Enhancement Scheme Individual Vehicle
Approval for N1 vehicles.

Applicant:... Applicant's ref: ... Date of Report: ...

Model: ... UK N1 Enhancement Scheme Report Number: ...

ECWVTA Number: ...

The applicant hereby declares that the modifications carried out on the
vehicles specified below are in full compliance with;

- The Road Vehicles (Approval) Regulations 2009 (SI 2009 No 717) as amended
- The Road Vehicle Lighting Regulations 1989 (SI 1989/1796) as amended (RVLR)
- The Road Vehicles (Construction and Use) Regulations 1986 (SI 1986 No 1078) as amended (C&U)

List of VINs for vehicles conforming to the above UK N1 Enhancements
Scheme Report:

1. ...
2. ...
- n.* ...

Alternatively, batch of sequential VINs for vehicles conforming to the
above UK Enhancements Scheme Report:

From VIN: ...

To VIN: ...

TOTAL NUMBER OF VEHICLES: ...

NOTE: The modifications covered by the above referenced UK N1
Enhancements Scheme may or may not be fitted to / carried out on the
vehicles listed above.