

Nonroad Mobile Machinery Engine Exhaust Emission Type-Approvals: Validity of pre-Stage V Type-Approvals

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1. Issue and motivation

There has been debate whether non-current Stage non-road mobile machinery engine exhaust emission type-approvals are either:

- a) Already invalidated by Directive 97/68/EC; or
- b) Only invalidated at the Stage V placing on market date for the respective engine (sub-) category according to Regulation (EU) 2016/1628 Art 30(2)(a) and Art 58(1).

When considering the impact of Brexit on UK-issued EU type-approvals it is essential to differentiate between those that are invalidated prior to the date that Union type-approval legislation ceases to apply in the UK and those invalidated by Brexit itself. In the case of the former the UK-issued type-approval can continue to be used in accordance with Art. 7 of Regulation (EU) 2019/26 complementing Union type-approval legislation and in the case of the latter the manufacturer must apply for under Art. 4, and member state grant under Art. 5, a new EU-27 type-approval at which point the UK-issued approval ceases to be valid. It is critical for the smooth functioning of the market that engine manufacturers and member states have a uniform interpretation of which engine exhaust emission type-approval categories are valid and which are invalid as of 01 Jan 2019.

2. The principle of valid versus invalid approvals used by Directive 97/68/EC

Directive 97/68/EC does not contain a specific article equivalent to Art. 30 of Regulation (EU) that concisely identifies the duration of validity of a type-approval or when a valid type-approval becomes invalid. Nevertheless, it is important to note that 97/68/EC DOES already use the concept of valid versus invalid approvals. Specifically, Article 10(2) of 97/68/EC (end of series) relies upon the principle that a type-approval issued under this Directive for an engine category of a given emission stage becomes INVALID from the placing on the market date of the subsequent emission stage in Article 9(4).

For example, Stage IIIB categories M and N became invalid after 30 Sept 2014 with the placing on the market date of Stage IV category R.

The same principles apply to all emission stages and engine categories in scope of 97/68/EC. This leads to the logical conclusion that, for the Directive to work in the manner intended by the co-legislators, all engine categories in 97/68/EC for which the placing on the market deadline has passed are considered INVALID.

It should be noted that similar principles applied in Directive 2003/37/EC and Member States indeed granted end-of-series allowances to manufacturers on the basis that their engine emission type-approval had become invalid prior to registration or entry into service.

In the case of the remaining type-approvals to the final 97/68/EC emission level prior to Stage V for each engine application, these then become INVALID on the Stage V placing on the market date for the respective engine category according to 2016/1628 Art 30(2)(a) and Art 58(1).

Art. 7 of Regulation (EU) 2019/26 complementing Union type-approval legislation reinforces co-legislators understanding that certain engines utilise invalid type-approvals even if 97/68/EC does not contain an explicit article on 'validity' e.g. Stage IIIB categories M and N for 56 – 130 kW flex engines which can be produced and placed on market under Art 10(7) of Directive 97/68/EC.

3. Summary of valid and invalid approvals

Using the above principles, the following tables provide a comprehensive list of NRMM engine categories, divided into those which are valid and those which are invalid as of 01 Jan 2019.

Table 1: List of INVALID engine categories as of 01 January 2019 (Part 1 : Variable speed CI)

Description	Stage	Category	Placing on market of engine and placing on market, entry into service and (where applicable) registration of NRMM or agricultural and forestry vehicle continues to be permitted after Brexit (i.e. after 29 March 2019 or later date agreed between UK and EU) using e11 engine exhaust emission type-approval that already became invalid on or before 01 January 2019 (Recital 20 and Art. 7 of Regulation (EU) 2019/26)					UNECE R96 permitted as alternative? ⁽¹⁾
			Narrow track tractor sell-off	OEM flexibility	Transition	Narrow track transition	Replacement ⁽²⁾	
Variable speed 130 ≤ P < 560 kW	IV	Q			X		X	Y ⁽³⁾
Variable speed 37 ≤ P < 56 kW	IIIB	P			X		X	Y
Variable speed 56 ≤ P < 75 kW	IIIB	N	X	X		X	X	Y
Variable speed 75 ≤ P < 130 kW	IIIB	M	X	X		X	X	Y
Variable speed 130 ≤ P < 560 kW	IIIB	L					X	Y
Variable speed 19 ≤ P < 37 kW	IIIA	K			X		X	Y
Variable speed 37 ≤ P < 75 kW	IIIA	J					X	Y
Variable speed 75 ≤ P < 130 kW	IIIA	I					X	Y
Variable speed 130 ≤ P < 560 kW	IIIA	H					X	Y
Variable speed 37 ≤ P < 75 kW	II	G					X	Y
Variable speed 75 ≤ P < 130 kW	II	F					X	Y
Variable speed 130 ≤ P < 560 kW	II	E					X	Y
Variable speed 18 ≤ P < 37 kW	II	D					X	Y
Variable speed 37 ≤ P < 75 kW	I	C					X	Y
Variable speed 75 ≤ P < 130 kW	I	B					X	Y
Variable speed 130 ≤ P < 560 kW	I	A					X	Y

⁽¹⁾ Including UNECE R96 type-approvals issues by UK (E11).

⁽²⁾ Replacement engines may only be used to replace engines already installed in existing NRMM or agricultural and forestry vehicles.

⁽³⁾ Ag tractor only at this time. Future acceptance for NRMM subject to amendments to Annex XIII of Regulation (EU) 2017/654.

Table 2: List of INVALID engine categories as of 01 January 2019 (Part 2: Other categories)

Description	Stage	Category	Placing on market of engine and placing on market, entry into service and (where applicable) registration of NRMM continues to be permitted after Brexit (i.e. after 29 March 2019 or later date agreed between UK and EU) using e11 engine exhaust emission type-approval that already became invalid on or before 01 January 2019 (Recital 20 and Art. 7 of Regulation (EU) 2019/26)			UNECE R96 permitted as alternative? ⁽¹⁾
			OEM flexibility	Transition	Replacement ⁽²⁾	
Constant speed $19 \leq P < 37$ kW	IIIA	K		X	X	Y
Constant speed $37 \leq P < 75$ kW	IIIA	J ⁽³⁾		X	X	Y
Constant speed $130 \leq P < 560$ kW	IIIA	H		X	X	Y
Constant speed $37 \leq P < 75$ kW	II	G	X		X	Y
Constant speed $75 \leq P < 130$ kW	II	F	X		X	Y
Constant speed $130 \leq P < 560$ kW	II	E			X	Y
Constant speed $18 \leq P < 37$ kW	II	D			X	Y
IWT propulsion < 300 kW	IIIA	V ⁽⁴⁾		X		N
Locomotive propulsion	IIIA	RL			X	N
Locomotive propulsion	IIIA	RH			X	N
Railcar propulsion	IIIA	RCA			X	N
SI engines	I	SN, SH		X ⁽⁵⁾		N
SI engines	II	SN, SH		X		N

⁽¹⁾ Including UNECE R96 type-approvals issued by UK (E11).

⁽²⁾ Replacement engines may only be used to replace engines already installed in existing NRMM.

⁽³⁾ Invalid approval for types $37 \leq P < 56$ kW. Valid approval for engine types ≥ 56 kW (Art. 30(3) of Regulation (EU) 2016/1628).

⁽⁴⁾ Invalid approval for types $P < 300$ kW. Valid approval for engine types ≥ 300 kW (Art. 30(3) of Regulation (EU) 2016/1628).

⁽⁵⁾ Small volume engine family exemption only.

Table 3: List of VALID engine categories (current Stage) as of 01 January 2019

Description	Placing on market of engine after Brexit (i.e. after 29 March 2019 or later date agreed between UK and EU) using e11 engine exhaust emission type-approval not permitted ⁽¹⁾ . New Union engine exhaust emission type-approval required (Art. 4 & 5 of Regulation (EU) 2019/26).		UNECE R96 permitted as alternative? ⁽¹⁾
	Stage	Category	
Any category	V	Any	N ⁽³⁾
Variable speed $56 \leq P < 130$ kW	IV	R	Y ⁽⁴⁾
Constant speed $37 \leq P < 75$ kW	IIIA	J ⁽⁵⁾	Y
Constant speed $75 \leq P < 130$ kW	IIIA	I	Y
IWT propulsion ≥ 300 kW Aux > 560 kW	IIIA	V ⁽⁶⁾	N
IWT constant speed Aux $130 \leq P \leq 560$ kW	IIIA	H ⁽⁶⁾	Y
IWT variable speed Aux $130 \leq P \leq 560$ kW	IV	Q ⁽⁶⁾	N
Locomotive propulsion	IIIB	RB	N
Railcar propulsion	IIIB	RCB	N

⁽¹⁾ Where placing on market of engine took place before Brexit, placing on market, entry into service and (where applicable) registration of NRMM or agricultural forestry vehicle continues to be permitted after Brexit (i.e. after 29 March 2019 or later date agreed between UK and EU) using e11 engine exhaust emission type-approvals that are mentioned in a corresponding Union type-approval issued before that date (Recital 17 and Art. 5 of Regulation (EU) 2019/26).

⁽²⁾ Including UNECE R96 type-approvals issued by UK (E11).

⁽³⁾ Future acceptance subject to amendment to Annex XIII of Regulation (EU) 2017/654.

⁽⁴⁾ Ag tractor only at this time. Future acceptance for NRMM subject to amendment to Annex III of Regulation (EU) 2017/654.

⁽⁵⁾ Valid approval for engine types ≥ 56 kW. Invalid approval for types $37 \leq P < 56$ kW (Art. 30(3) of Regulation (EU) 2016/1628).

⁽⁶⁾ Valid approval for engine types ≥ 300 kW. Invalid approval for types $P < 300$ kW (Art. 30(3) of Regulation (EU) 2016/1628).

For more information please contact:**EUROMOT aisbl**

European Association of Internal Combustion Engine Manufacturers

Dr Peter Scherm – General Manager

Phone: +32 (0) 289321-41

Email: peter.scherm@euromot.eu

EU Transparency Register ID number: 6284937371-73

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