



FEDERATION EUROPEENNE DE LA MANUTENTION
Product Group
Industrial Trucks

FEM

A brief guide for identification of non-compliant industrial trucks

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- Exhaust Emission -

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Fédération Européenne de la Manutention (Product Group Industrial Trucks)

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1 Introduction

Internal combustion engine driven industrial trucks placed on the EU market for the first time must comply with the relevant EU legislation - and meet all valid safety and environmental requirements. Machinery which does not fulfil these requirements is noncompliant and is not allowed to be placed on the EU market. This guideline is meant to help to easily distinguish between compliant and noncompliant machinery. It describes only those essential criteria which can be checked even without in-depth knowledge and technical information. Thus, this brochure is not meant to be comprehensive but is designed to act as an “early warning” tool. However, if one or more items are out of line with the criteria then it is likely that you have non-compliant equipment. The import of non-compliant industrial trucks into the EU, and its sale and use, remains a major problem for the European industrial trucks industry. It is a source of unfair competition and compromises bona fide suppliers’ ability to fund R&D. This in turn threatens the competitiveness of the European industrial trucks industry and the jobs it provides. Accidents with non-compliant machines are more likely to happen and they often do not meet the environmental standards demanded by the EU. Product Group Industrial Trucks of FEM, as the recognized organization representing and promoting European industrial trucks manufacturers and related industries, calls upon all responsible authorities and stakeholders to work together to rid the EU of non-compliant industrial trucks.

This guide represents so far only one of a series of guides dealing with non compliance of industrial trucks.

2 Scope

This guide deals with the non-compliance of industrial trucks with regards to exhaust emissions only.

Therefore, only industrial trucks with internal combustion diesel engines are concerned.

3. General

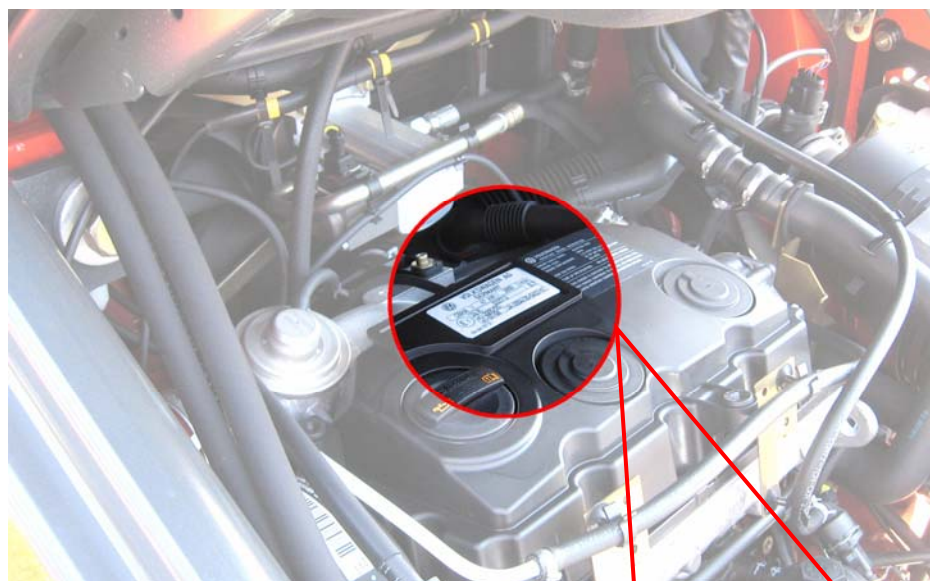
All diesel engines from 18 to 560 kW installed in industrial trucks must be comply with European Directive 97/68/EC - Emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery – amended by Directives 2002/88/EC, 2004/26/EC and 2010/26/EC) - , when the engine is placed on the EU market for the first time.

For industrial trucks imported into the EU the internal combustion engine is placed on the market, when the truck has cleared customs.

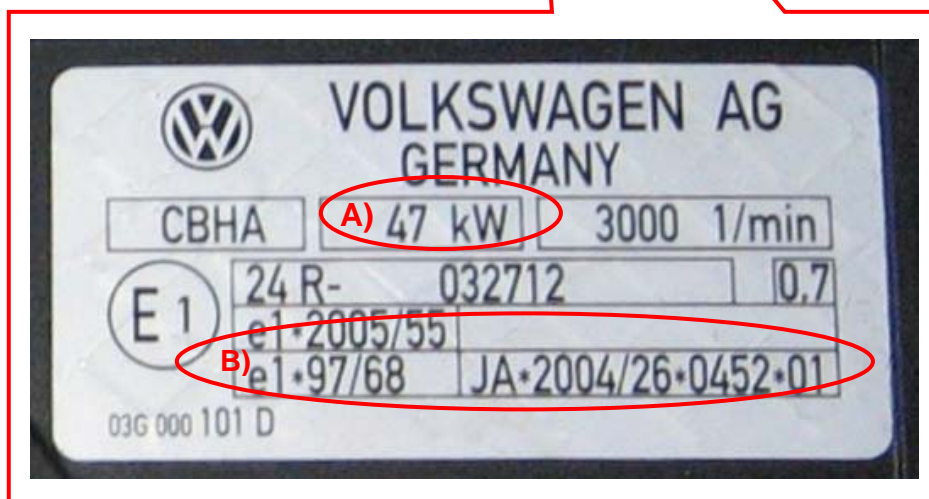
4. Engine marking, EC type-approval number

Engines, produced in compliance with the requirements of this Directive, shall have an EC type-approval, be marked accordingly and will have to be notified to the national approval authorities.

How the compliance of the engines can be checked is shown by the following example:



The compliance of engines, installed in industrial trucks on the market, shall be indicated by an information plate, which is visible and durable when fitted on the engine.

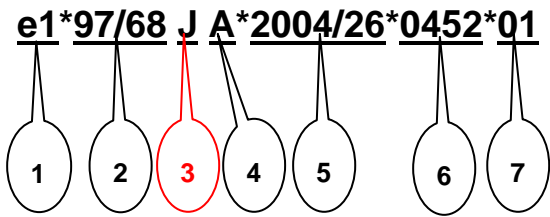


The plate indicates among other information relevant details of the compliance:

- A)** engine power in kW
- B)** EC type-approval number

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The example of an EC type-approval number with details follows:



① Letter “e” followed by the distinguishing number of the Member State issuing the approval:

- | | | |
|-------------------|-------------------|--------------|
| 1 Germany | 11 United Kingdom | 23 Greece |
| 2 France | 12 Austria | 24 Ireland |
| 3 Italy | 13 Luxembourg | 26 Slovenia |
| 4 the Netherlands | 17 Finland | 27 Slovakia |
| 5 Sweden | 18 Denmark | 29 Estonia |
| 6 Belgium | 19 Romania | 32 Latvia |
| 7 Hungary | 20 Poland | 34 Bulgaria |
| 8 Czech Republic | 21 Portugal | 36 Lithuania |
| 9 Spain | | CY Cyprus |
| MT Malta | | |

② Number of this Directive on the basis of which type-approval was granted.

③ The letter corresponds to the power category acc. Article 9 of 97/68/EC as amended by 2004/26/EC, relates to the emissions level and to the end date for legally production of the engine.

The following table shows, based on the letter the last allowable date of production for engines, which are provided for placing on the EU market.

Table 1

Category	last allowable date	Category	last allowable date	Category	last allowable date
A	31.12.2001	G	31.12.2007	L	31.12.2013
B	31.12.2002	H	31.12.2010	M	30.09.2014
C	31.12.2003	I	31.12.2011	N	30.09.2014
D	31.12.2006	J	31.12.2011 (power ≥ 56 kW)	P	no expiry
E	31.12.2005	J	31.12.2012 (power < 56 kW)	Q	no expiry
F	31.12.2006	K	no expiry	R	no expiry

In the example above an engine with this EC type-approval Number could not be produced legally for placing on the EU market after 31.12.2012. The Allowable date for first placing on the EU market see clause 3.2.

- ④ The second letter relates to the test mode defined in Annex III, section 3.6. of 97/68/EC. Letter A refers to the 8-mode cycle operation of the test engine. It is identical to the C1 cycle defined in ISO 8178-4.

Letters D, C and B refer to test modes for engines, which are not or normally not applicable in industrial trucks. (D = engines intended for propulsion of locomotives, C = engines intended for propulsion of inland waterway vessels, B = constant speed engines)

- ⑤ Number of the latest amendment of the Directive applicable to the approval.
- ⑥ A four-digit sequential number to denote the base approval number (sequence shall start from 0001).
- ⑦ A two-digit sequential number to denote the extension for each base approval number (sequence shall start from 01).

5. Exemptions and alternative procedures

In some special circumstances engines can be legally placed on the market after these dates.

- 5.1 Under circumstances of the “flexibility scheme” (see Annex XIII of 97/68/EC as amended by 2004/26/EC). This exception may be applied to engines from beginning of the stage IIIA.

If so the respective engine will be labelled by a sticker with the following text:

**Engine placed on the market
under the flexibility scheme**

In those cases the industrial truck will also have additional marking giving details of the flexibility scheme applied. The following figure shows an example:

MACHINE No..... of
WITH ENGINE No..... WITH TYPE APPROVAL
e11*97/68HA/00/00026*0004*02

- 4.2 Engines, for which the production date is prior to the date in table 1, can be placed on the EU market after the date of the respective category and can be installed in industrial trucks as well for up to two years.

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This extension can be added to the deadlines in Table 1.

- 5.3 Each Member State may, at the request of the manufacturer, exempt end-of-series engines which are still in stock, or stocks of non-road mobile machinery for placing on the market.

This exemption is limited to a period of 12 months and by a number of 10 % from the production of the previous year. For more conditions at the manufacturer's request, see Article 10, (2) of the Directive.

Note: The use of this exemption is currently not conventional in practice.

- 5.4 Under circumstances of engine replacement in industrial trucks in use as a result of achieving the end of life of the original engine, Replacement engines shall be marked with a label; "REPLACEMENT ENGINE".