



**Euromot**

The European Association of Internal Combustion Engine Manufacturers

# European Nonroad Directive 97/68/EC and Amendments 欧洲非道路指令97/68/EC及其修订

## Structure, Industry Requirements And Path Forward 结构、工业要求和趋势

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International Conference on Nonroad Engine  
Certification in China

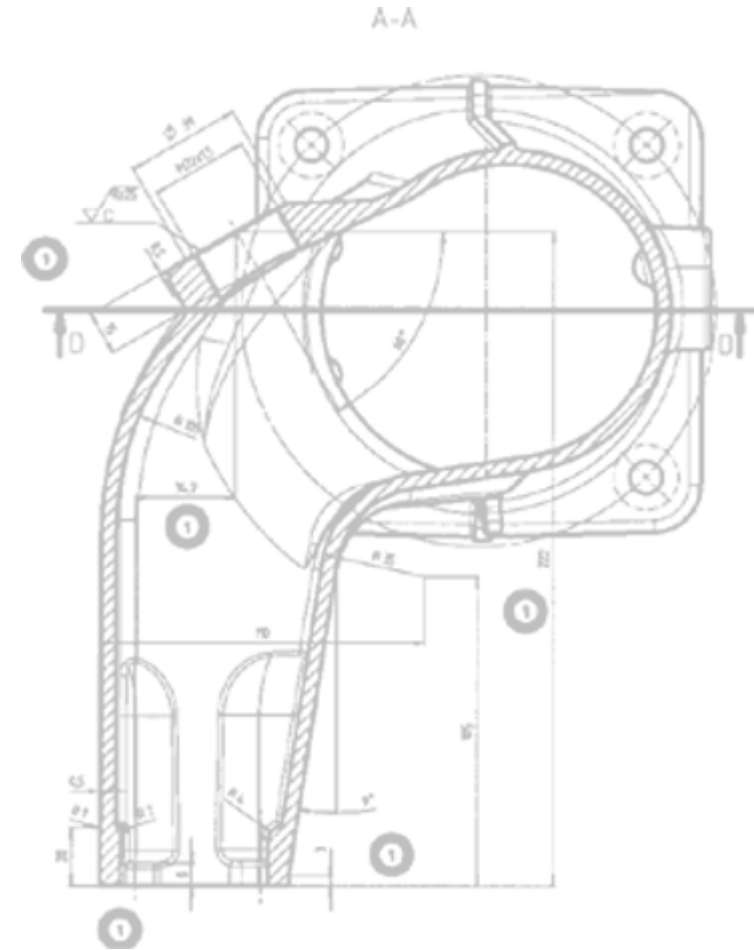
Beijing

22 and 23 January 2008

中国非道路发动机认证国际研讨会

北京

2008年1月22/23日



## Outline

### 内容

- Structure of 97/68/EC and Amendments  
97/68/EC结构及修订
- Recommended Use of 97/68/EC Definitions  
推荐采用97/68/EC
- Path Forward: Current Review of 97/68/EC and Amendments  
趋势：当前对97/68/EC的复评及修订

## Scope of 97/68/EC and Amendments 97/68/EC适用范围及修订

NRMM CI Engines 19-560 Kw 非道路移动机械压燃式发动机 19-560 Kw		Placing on the Market From (Phase In by Power Bands) 实施时间 (基于功率范围)
97/68/EC	Stages I, II 阶段I, II	1999, 2001
2004/26/EC	Stages IIIA, IIIB and IV 阶段IIIA, IIB和IV	2006, 2011, 2014
	Rail Applications (IIIA, IIIB) 轨道机械 (IIIA, IIIB)	2006, 2012
	Inland Waterway Vessels (IIIA) 内河船舶 (IIIA)	2007
2002/88/EC	Constant Speed (II, IIIA) 稳定速度 (II, IIIA)	2007, 2011
NRMM SI Engines <19 Kw 非道路移动机械点燃式发动机 <19Kw		Placing on the Market From (Phase In by Displacement) 实施时间 (基于排量)
2002/88/EC	Stages I, II 阶段I, II	2005, 2008 (Handheld 手持) 2005, 2007 (Non-Handheld 非手持)

## Phase-In By Power Bands and Applications 基于功率范围和应用的实施

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
				EU Stage I			EU Stage II			EU Stage IIIA			EU Stage IIIB		EU Stage IV				
																			Power (kW)
																			> 560
																			130 =< 560
																			75 =< 130
Mrz 99																			56=< 75
Mrz 99																			37 =< 56
																			19 =< 37
																			< 19
																			RC A, B > 130
																			RL A 130 =< 560
																			R B > 130 (Loco)
																			RH A > 560
																			RH A > 2000, > 5L
																			Const 130 =< 560
																			Const 75 =< 130
																			Const 37 =< 75
																			Const 19 =< 37
																			SV [litres] and kW
																			<0.9 and P=<37kW
																			0.9 < 1.2
																			1.2 < 2.5
																			2.5 < 5
																			5 < 15
																			15 < 20 and P > 3300kW
																			20 < 25
																			25 - 30

**NRMM**  
非道路移动机械

**Rail**  
轨道机械

**Constant Speed**  
稳定速度

**Marine**  
船舶

## 97/68/EC Definitions Reflecting Environmental Demands and NRMM Market Characteristics (1)

### 97/68/EC反映环境的要求和非道路移动机械的市场特征（1）

- Need to optimize resources for R&D, production, testing and type approval  
需要研发、生产、试验和型式核准的资源优化
  - Phase in of emission limits by engine power categories and applications  
基于发动机功率类型和应用的排放限值的实施
  - Adequate lead time between successive stages (Minimum of 3 years)  
不同阶段的充足过渡时间（最少3年）
- Implementation dates based upon one single definition:  
实施日期基于一个简单定义：  
“Placing on the market” of engines used for both, type approval and entry into force of emission limits  
对发动机的“法规实施”指的是型式核准和排放限值的强制实施
- Periodic review steps implemented to adapt to technical progress and assess feasibility of current regulations  
实施定期复评以适应技术进步和对当前法规可行性的评估

## 97/68/EC Definitions Reflecting Environmental Demands and NRMM Market Characteristics (2)

### 97/68/EC反映环境的要求和非道路移动机械的市场特征（2）

- “Flexibility scheme” for engine manufacturers and OEM to enable delayed introduction of a new stage for  
“灵活方案”使得发动机厂家和OEM可推迟新阶段的实施
  - Engines produced before entry into force of a new stage (limited period)  
在新阶段实施前生产的发动机（存在时间限制）
  - Machinery placed on the market between two successive stages (limited number)  
在2个连续阶段要求之间进入市场的机械（存在数量限制）
  - Small volume engine families or manufacturers (SI only)  
小批量发动机系族或制造商（仅点燃式）
  - Machinery severely technically restricted (exempted for safety reasons,...)  
有严格技术要求的机械（由于安全原因豁免）

## 97/68/EC Definitions Reflecting Environmental Demands and NRMM Market Characteristics (3)

### 97/68/EC反映环境的要求和非道路移动机械的市场特征（3）

- Recognition of alternative and international certificates to utilize on-highway products and support non-EU sales  
其他承认方式和国际证书用于道路产品和支持欧盟区域外销售
  - EU Heavy Duty Regulations (88/77/EC, 99/96/EC)  
欧盟重型机法规(88/77/EC, 99/96/EC)
  - UN-ECE Regulation 49.03 and Regulation 96.01  
UN-ECE法规49.03和96.01
- Certification granted by approval authorities of one of the Member States, testing primarily by accredited technical services  
证书由成员国之一的批准机构颁发，试验由有资质的技术服务机构承担
- Alignment of Chinese regulation with 97/68/EC suggests  
对于中国法规同97/68/EC协调的建议
  - Acceptance of EU type approval  
接受欧盟的型式认证批准
  - Alternatively, implementation of a third party certification procedure;  
optionally carried out by accredited testing facilities at the manufacturers sites  
执行第三方认证程序作为替代方案。可以利用已认可的制造商设备进行试验

## 97/68/EC Provisions are Aligned with International NRMM Regulations

### 97/68/EC规定同国际非道路移动机械法规协调一致

- Broadly harmonized with US and Japanese NRMM regulations concerning  
在如下方面同美国和日本非道路移动机械法规一致
  - Scope  
适用范围
  - Emission limits and Introductory dates  
排放限值和实施时间
  - Testing requirements (Cycles, fuels,...)  
试验要求（工况，燃油，...）
- Future amendments intended to refer to Global Technical Regulations (GTR)  
currently under development by experts from EU, US and Japan et.al.  
将来的修订将参照现由欧盟、美国和日本专家等正在研究的全球技术法规(GTR)

## Path Forward:

### Review of 97/68/EC Stage III B and IV Requirements (1)

#### 趋势：对97/68/EC阶段IIIB和IV要求的复评（1）

- Reviews mandatory according to Art. 2 of 2004/26/EC and Art. 3 of 2002/88/EC  
按照2004/26/EC第2章和2002/88/EC第3章进行强制性复评
- Initiated by European Commission in 2007, process requires participation of Member States Authorities and European Parliament from end of 2008  
欧盟委员会于2007年启动，要求从2008年底各成员国政府和欧洲议会参与到进程中
- Objective:  
目标：
  - Update NRMM emissions inventory  
更新非道路移动机械排放量的数据
  - Check current CI (Stage IIIB and IV) and SI (Stage II) regulations concerning environmental impact, technical and economic feasibility  
在环境影响，技术和经济的可行性方面，检查当前的压燃式（阶段IIIB和IV）和点燃式（阶段II）发动机法规
  - Identify options for new rulemaking or change of current requirements  
确定新规则的制定或变更现有要求

## Path Forward:

### Review of 97/68/EC Stage III B and IV Requirements (2)

#### 趋势：对97/68/EC阶段III B和IV要求的复评（2）

- Status: Identified options for 状态：如下部分已确认
  - CI engines 8-19 kW and >560 kW: Introduce new power bands, emission limits to be aligned with US EPA  
压燃式发动机 8-19 kW和>560 kW: 同美国EPA一致，引入新功率段、排放限值
  - Rail: Questions on the technical feasibility of Stage IIIB  
轨道机械：针对阶段 IIIB的技术可行性提出问题
  - Inland waterway vessels: Need for a new Stage IIIB  
内河船舶：需要新的阶段IIIB排放限值
  - Extending OEM flexibility provisions  
OEM灵活规定的扩展
- Key EU-US misalignment issues will be addressed (reference fuel parameters, testing requirements, ...)  
将提出欧盟-美国未主要考虑的情况（基准燃油含量，试验要求，...）
- In-use fuels Directive 98/70/EC under review: Proposal for 10 ppm S fuel for all NRMM applications from 2010  
正在复评市场用油品指令98/70/EC：计划从2010年开始对所有非道路移动机械采用10 ppm硫含量的燃油

## Conclusions

### 结论

- Euromot strives for harmonised and globally accepted regulations for Nonroad Mobile Machinery: “One product for the global markets”  
Euromot正在为非道路移动机械全球法规协调一致而努力。“一个适用全球市场的产品”
- To achieve this we need to continue the dialogue between industry associations and authorities worldwide  
为达到此目标，我们需要在世界范围内工业协会和行政主管部门间的持续对话
- Thank you for the invitation and your attention  
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