

CITA

THE INTERNATIONAL MOTOR VEHICLE INSPECTION COMMITTEE HAS PLEASURE TO WELCOME YOU AT THE 2006 CITA CONFERENCE

2006 CITA CONFERENCE

'The future of Vehicle Inspection – Contributing to Sustainable Road Transport'
'Developments in Inspection of 2 & 3 Wheeled Vehicles'



2 & 3 WHEELERS

KEYNOTE SPEECH 3

In-service Vehicle Inspection



Road Transport





Road Transport

2006 CITA CONFERENCE

'The future of Vehicle Inspection – Contributing to Sustainable Road Transport'

'Developments in Inspection of 2 & 3 Wheeled Vehicles'

German Experiences in Emission and Roadworthiness Testing for 2 & 3 Wheelers

Speaker : Mr. Axel Richter
Organization : TÜV Nord
Country : Germany

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

Data for 2005:

- nb. of registered vehicles > 50 ccm: 3 902 512*
- nb. of registered vehicles < 50 ccm: 1 749 957*
- milage / year: 4220 km
- milage / year for passenger cars: 12000 km
- percentage for 2 & 3 wheelers of the overall milage accumulation in

Germany: 2,5 %

* source: KBA, Germany

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

Data for 2001:

■ Emissions:

■ HC: 36.000 t/year *

■ NOx: < 5.500 t/year *

■ percentage of the overall emissions accumulation for 2 & 3 wheelers in Germany:

■ HC: 20 % *

■ NOx: < 1 % *

* source: IFEU/TREMODO 10/02

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

Usage of 2 & 3 Wheelers:

- 3 wheelers are very rare in Germany
- 90% of the vehicles are used for fun or hobby
- Two – stroke motorcycles with high HC-Emissions are mostly used in cities
- Most trouble for the majority of the population in Germany causes noise and ruthless driving
- Owners of 2 wheelers have more or less experiences in repair work. That lead to a lot of self-made tuning measures and tampering

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

Periodic Inspection:

- **Roadworthiness testing since 1951**
 - **Test-period: every 24 month**

- **Emission testing for 2 wheelers with more than 50 ccm cylinder capacity registered after 1989 since 01.04.2006**
 - **Test-period: every 24 month**

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Test-Station



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Registration and payment



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Identification



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- **Roadworthiness test procedure**
 - **Visual inspection:**
 - **Components in accordance with the production**
 - **Leakages**
 - **Manupulations, Tampering**
 - **Dangerous damages**
 - **Corrosion**

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Lights inspection



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Brake test



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Tires



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- **Roadworthiness test procedure**
 - **Steering**



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
 - Noise measurement after the subjective decision of the test engineer



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Roadworthiness test procedure
- Test report and sticker



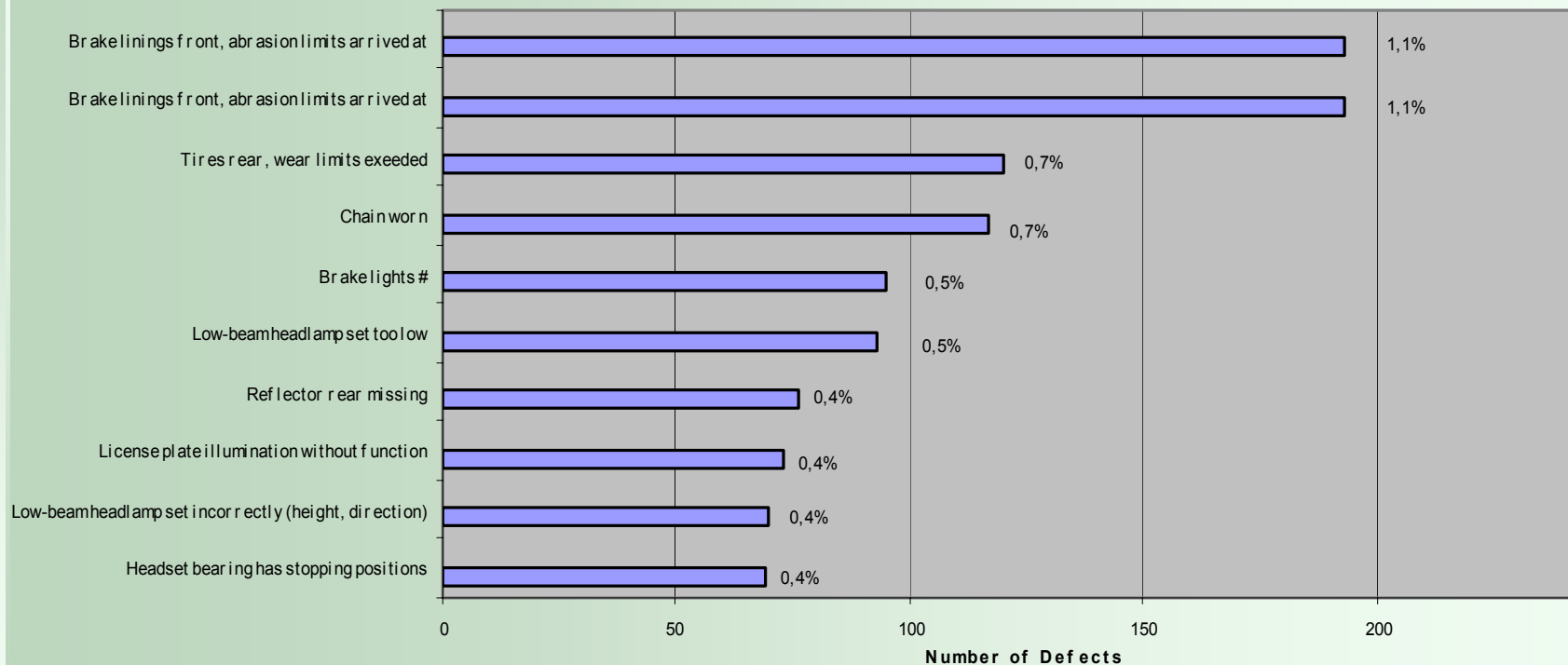
German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

■ Roadworthiness test procedure

■ Statistics

TOP defects of bikes under 125 ccm
PTI Data 01-06.2006

Total Amount of vehicles
17.919



Periodic Inspection

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

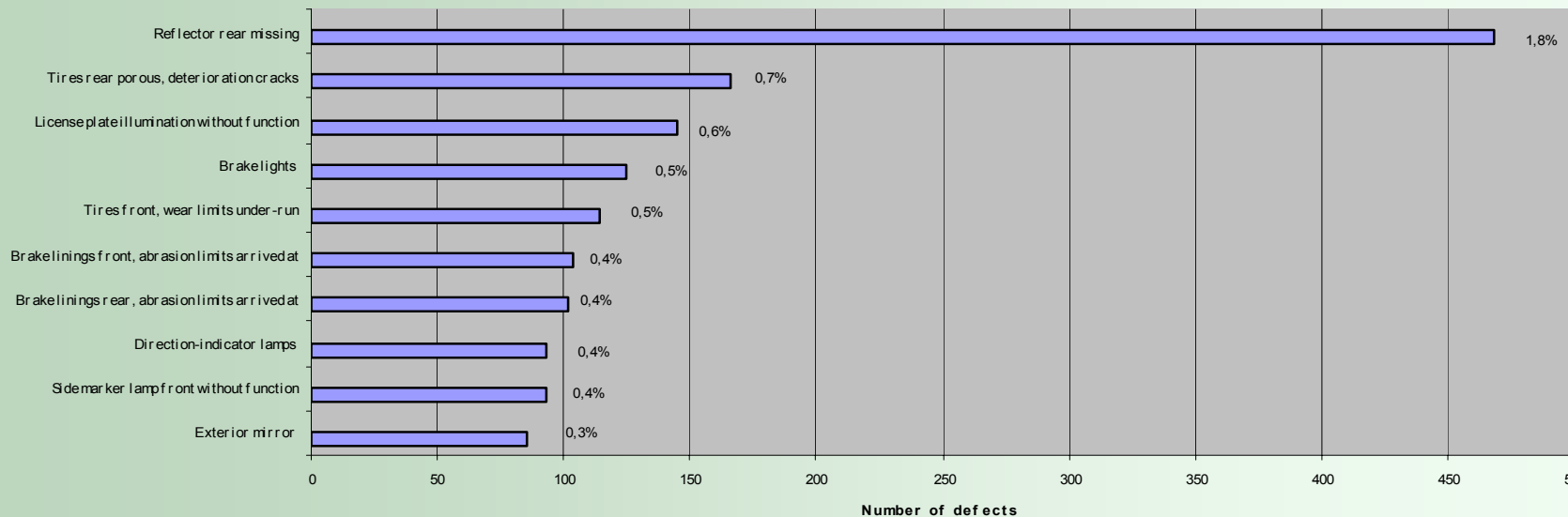
■ Roadworthiness test procedure

■ Statistics

Periodic Inspection

TOP 10 defects of bikes larger than 1000ccm
PTI Data 01-06.2006

Total Amount of vehicles
25.298



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

■ Emission Test

■ Procedure

- Engine heat up to working temperature
- Engine idle speed measurement
- CO measurement

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Emission Test
 - Test equipment



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Emission Test
 - Measurement



German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Emission Test
- Test report and sticker

Periodic Inspection

Prüfnachweis über die Durchführung der Abgasuntersuchung an Kraftködern nach Nummer 3.1.1.1 Anlage VIII StVZO

TÜV NORD
Mobilität

Ausführende Stelle:
TÜV NORD Mobilität
 Adlerstr.7
 45307 Essen

Technische Prüfstelle E2
 Tel.: 0201 825-2222
 Fax: 0201 4154

Prüfungstyp:	OU-Kat Kraftrod	Prüfberichtnummer:	---	BOGH 25A	V4 I / DEU 000000
Kraftstoffart:	Benzin				
Kennzeichen:	E-N519				
Fzg.-Hersteller:	Field 2	DUKATI (I)	Hersteller-Nr.:	4042	
Fahrzeugtyp:	Field D.2	ZDM750SC	Fahrzeugtyp-Nr.:	000	
Fzg.-Identnummer:	Field E	ZDM750SC005679			
Wegstreckenzähler:		74638			

Messergebnisse	Einheit	Min.	Max.	Gemessen	Ergebnis
Konditionierung:					
C/temp.		Alternative Konditionierung		#	I.O.

Bei Leerlauf-Drehzahl:					
Drehzahl	/min	500	1500	1040	
CO	%vol		4,5	3,11	I.O.

Gesamtergebnis	Abgasuntersuchung	bestanden
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Vorhandene Mängel beheben, Nr. 5 der AU-Richtlinie (Mängel-Nr. 813): Nein #

Erkannte aber nicht behobene Mängel: #

nach Nr. 8 der AU-Richtlinie:

Erläuterungen: #

Kontrollnummer nach §47b	Datum der Prüfung:	14.09.2006	13:59
	Prüfer:	Grund	


 Unterschrift der verantwortlichen Person Stempel

Diese Prüfbescheinigung ist aufzubewahren und zuständigen Personen auf Verlangen auszuhändigen.

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

■ Roadworthiness test procedure

■ First results

- The emission test is practical and repeatable
- Preconditioning is important
- 5,5 % of the motorcycles failed the emission test

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- **3 wheelers are not used in Germany**
- **Compared with the Asian region motorcycles above 50ccm are mostly used for hobby or fun**
- **Most trouble for the majority of the population in Germany causes noise and ruthless driving**
- **The PTI results show that it is necessary to have a regular inspection**

German Experiences in Emission and Roadworthiness testing for 2 & 3 Wheelers

- Due to the fact, that in Europe the exhaust emissions from trucks and passenger cars are on a very low level, real world exhaust emissions from motorcycles becomes more and more important
- After the collection of experience with the subjective assessment of the noise level through PTI it should be decided to measure noise obligatory
- Experience from Germany could be overtaken to Asian countries under consideration of the special situations in each country

THANK YOU

Axel Richter
TÜV NORD Mobilität GmbH & Co.KG.

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