CITA

COMITÉ INTERNATIONAL DE L'INSPECTION TECHNIQUE AUTOMOBILE
INTERNATIONAL MOTOR VEHICLE INSPECTION COMMITTEE
INTERNATIONALE VEREINIGUNG FÜR DIE TECHNISCHE PRÜFUNG VON KRAFTFAHRZEUGEN

Recommendation no. 15
European Database for PTI Purposes

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INTERNATIONAL MOTOR VEHICLE INSPECTION COMMITTEE

RECOMMENDATION no. 15

EUROPEAN DATABASE FOR PTI PURPOSES

Module 1 – Information Requirements

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CITA aisbl | Rue de la Technologie 21-25 | B-1082 BRUSSELS (Belgium)
TEL. + 32 (0)2 469 06 70 | FAX + 32 (0)2 469 07 95 | cita.vehicleinspection@skynet.be | www.cita-vehicleinspection.org
VAT: BE 436.921.157 | FORTIS BANK - IBAN BE54 2100 1540 8197

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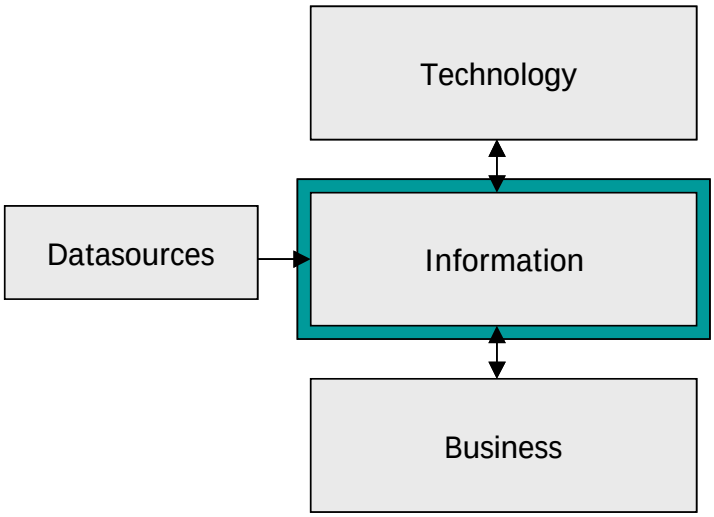
EUROPEAN DATABASE FOR PTI PURPOSES

Module 1 – Information Requirements

1 FOREWORD

In order to set up a technical European database there are certain technology, information and business requirements that need to be established. This WG2 recommendation focuses solely on the information requirements. Further work is required to define the Technology and Business modules.



The database has been conceived with the aim of becoming the technical record of each vehicle during its life. Data may be introduced when the vehicle is manufactured, registered, modified or at any appropriated event of their life. Procedures to manage the right to introduce, modify and consult data will be defined in a further module.

The Database is designed to be applied at European level, therefore its structure takes into account EU directives for vehicle approval. In addition, the database also allows for l the inclusion of vehicles that accord to Non-European approval standards.

2 GENERAL PURPOSE

The general purpose of this recommendation is:

- To ensure the continued appropriate function of testable vehicle systems and components throughout a vehicles lifetime thus ensuring minimum roadworthiness and environmental standards.
- To move towards a harmonised European test procedure (AUTOFORE strategic mission).
- To facilitate vehicle specific inspections that takes into account OEM standard system fitments.
- To propose a standard to facilitate the data exchange.
- To offer more specific and preprocessed (e.g. statistical) data for deterministic research of future systems and more comparable results.
- To offer an extendable basis with the feasibility for a OEM- or a BER-database as door-opener / motivation for gathering high-sophisticated data.
- To offer a database with a minimum set of data as a first step to a centralized database for PTI purposes, in order to enhance the efficiency of the inspection.

3 SCOPE

The scope of this recommendation is:

- To define the necessary vehicle related information for roadworthiness inspection for vehicles of category M, N and O in the form of a structured information index. Additional information according to national requirements (ie recalls) may further enhance the database.

- The defined information preferably has to refer to every single vehicle (the structure of the information set in this document is intended for single vehicles). If this information is not available, it may be acceptable to use model-based information instead using the same structure.

- This document takes into account other existing CITA Recommendations, especially Recommendation 1: Inspection of Vehicles in Categories M, N and O.

4 DATABASE CONTENT

0. IDENTIFICATION AND MAIN CHARACTERISTICS OF THE VEHICLE					
0	**1**				**VEHICLE IDENTIFICATION AND ADMINISTRATIVE INFORMATION**
0	1	1			Vehicle Identification Number (V.I.N.) or Chassis Number (C.N.)
0	1	1	1		Vehicle identification number's or chassis number's position
0	1	2			Vehicle compulsory plate position
0	1	3			Registration number [1]
0	1	3	1		Date of first registration
0	1	3	2		Number of registration plate(s)
0	1	3	3		Position of registration plate(s)
0	1	3	4		Size of registration plate(s)
0	1	4			Type approval number
0	1	5			Vehicle category
0	1	6			Vehicle make
0	1	7			Vehicle type
0	1	8			Vehicle variant
0	1	9			Vehicle version
0	1	10			Recall campaign pending
0	1	11			Vehicle commercial description
0	**2**				**MAIN CHARACTERISTICS OF THE VEHICLE**
0	2	1			**Vehicle general description**
0	2	1	1		Vehicle picture (3/4 front)
0	2	1	2		Vehicle picture (3/4 rear)
0	2	2			Colour of the vehicle
0	2	3			Number of axles
0	2	4			Maximum speed (km/h)
0	2	5			Number of seats, including the driver's seat
0	2	6			Number of standing places
0	2	7			**Weights and dimensions**
0	2	7	1		Maximum technically permissible laden mass (kg)
0	2	7	2		Mass of the vehicle in service with bodywork, and with coupling device in the case of a towing vehicle in service from any category other than M1 (kg)
0	2	7	3		Permissible laden mass of the vehicle (kg)
0	2	7	4		Permissible laden mass of the whole vehicle (kg)
0	2	7	5		**Technically permissible maximum laden mass among the axels (vehicles exceeding 3 500 kg)**
0	2	7	5	1	Axle 1 (kg)
0	2	7	5	2	Axle 2 (kg)
0	2	7	5	3	Axle 3 (kg)
0	2	7	5	4	Axle 4 (kg)
0	2	7	5	5	Axle 5 (kg)
0	2	7	6		**Technically permissible maximum towable mass of the trailer**
0	2	7	6	1	Braked (kg)
0	2	7	6	2	Unbraked (kg)
0	2	7	7		Length (mm)
0	2	7	8		Wide (mm)
0	2	7	9		High (mm)

0	2	7	10			**Wheelbase**
0	2	7	10	1		Axle 1 (mm)
0	2	7	10	2		Axle 2 (mm)
0	2	7	10	3		Axle 3 (mm)
0	2	7	10	4		Axle 4 (mm)
0	2	7	10	5		Axle 5 (mm)
0	2	7	11			**Length between axles**
0	2	7	11	1		Axle 1/ Axle 2 (mm)
0	2	7	11	2		Axle 2/ Axle 3 (mm)
0	2	7	11	3		Axle 3/ Axle 4 (mm)
0	2	7	11	4		Axle 4/ Axle 5 (mm)
0	2	7	12			Rear overhang (mm)
0	2	7	13			Distance between king-pin and rear end (mm)
0	2	8				**Engine**
0	2	8	1			Engine identification number
0	2	8	2			Energy source
0	2	8	3			Working principle
0	2	8	4			Maximum power (kW @ min^{-1})
0	2	8	5			Capacity (cm^3)
0	2	8	6			Number of cylinders
0	2	8	7			Stroke and bore (mm)
0	2	8	8			Atmospheric / turbocharged
0	2	8	9			Combined fuel consumption (l / 100 km)

1 Since the registration number may be considered a personal data of each individual, the inclusion of this information within the database should be carefully considered in each country according to the current laws.

1. BRAKING EQUIPMENT	
1 1	**SERVICE BRAKING**
1 1 2	General description[2]
1 1 3	System layout
1 1 4	Brake control
1 1 5	Load sensing valve: positioning and working features
1 1 6	Reference forces
1 1 7	**Drums**
1 1 7 1	Number and arrangement
1 1 7 2	Diameter of drums (mm)
1 1 7 3	Automatic slack adjusters: presence and adjustment
1 1 8	**Discs**
1 1 8 1	Number and arrangement
1 1 8 2	Diameter of discs (mm)
1 1 8 3	Ventilation of discs
1 1 8 4	Minimum thickness
1 1 9	**Brake lining and pads**
1 1 9 1	General description
1 1 9 2	Possibilities of visual inspection
1 1 9 3	Wear detector
1 1 10	**Pneumatic braking**
1 1 10 1	General description
1 1 10 2	Location of plugs for external pressure measurement
1 1 10 3	Working pressure (hPa)
1 1 10 4	Tank(s) situation
1 1 10 5	Low pressure tell-tale lamp
1 1 11	**Hydraulic braking**
1 1 11 1	General description
1 1 11 2	Power assistance
1 1 12	Electromechanical actuated braking
1 2	**PARKING BRAKE**
1 2 1	General description
1 2 2	Parking brake control
1 2 3	Axel(s) where parking brake applies
1 2 4	Electronically operated parking brake
1 3	**ENDURANCE BRAKES**
1 3 1	General description
1 3 2	Brake control
1 4	**ELECTRONIC MANAGEMENT SYSTEMS**
1 4 1	**ABS**
1 4 1 1	General description
1 4 1 2	Description of sensors
1 4 1 3	Description of actuators
1 4 1 4	Description of MIL function
1 4 2	**BAS**
1 4 2 1	General description
1 4 2 2	Description of MIL function

2 Including secondary / emergency braking and possibilities to be tested on a standard roller brake test bench

1	4	3		**ESP**
1	4	3	1	General description
1	4	3	2	Description of sensors
1	4	3	3	Description of actuators
1	4	3	4	Description of MIL function
1	4	4		**EBS**
1	4	4	1	General description
1	4	4	2	Description of sensors
1	4	4	3	Description of actuators
1	4	4	4	Description of MIL function
1	**5**			**BRAKES OF TRAILERS**
1	5	1		Coupling for trailer brakes: general description
1	5	2		Safety system description

2. STEERING	
2 1 1	General description of the system
2 1 2	Working principle
2 1 3	Steering gear case position
2 1 4	Power steering principle
2 1 5	Steering wheel diameter
2 1 6	Electronic control of the steering system
2 1 7	Additional electronic features

3. VISIBILITY	
3 1	**GLASSES**
3 1 1	**Windshield**
3 1 1 1	Approval mark
3 1 1 2	Special features of windshield (partially tinted at its upper part, ...)
3 1 2	**Other external glasses (except soon roof)**
3 1 2 1	Number of glasses
3 1 2 2	Approval mark
3 1 2 3	Special features of glasses (tinted, tempered, ...)
3 1 3	**Soon roof**
3 1 3 1	Number of glasses
3 1 3 2	Approval mark
3 1 4	**Inner glasses**
3 1 4 1	Number of glasses
3 1 4 2	Approval mark
3 1 5	**Emergency exit glasses**
3 1 5 1	Number and arrangement
3 1 5 2	Approval mark
3 2	**REAR-VIEW MIRRORS**
3 2 1	Number of devices
3 2 2	Categories
3 2 3	Position of devices
3 2 4	Approval mark
3 3	**WINDSCREEN WIPERS**
3 3 1	Number of devices
3 3 2	Length of wipers' blades
3 4	**WINDSCREEN WASHERS**
3 4 1	Number of devices
3 5	**DEMISTING SYSTEM**
3 5 1	Principle of operation

4. LAMPS, REFLECTORS AND ELECTRICAL EQUIPMENT	
4 1	**HEADLAMPS**
4 1 1	**Driving beam (high beam)**
4 1 1 1	Number of devices
4 1 1 2	Position of devices
4 1 1 3	Light source
4 1 1 4	Approval mark
4 1 1 5	High beam tell-tale lamp
4 1 2	**Passing beam (low beam)**
4 1 2 1	Number of devices
4 1 2 2	Position of devices
4 1 2 3	Light source
4 1 2 4	Approval mark
4 1 2 5	Headlamp washer
4 1 2 6	Levelling device
4 1 2 7	Initial aiming of the passing beam set by the manufacturer
4 2	**FRONT AND REAR POSITION LAMPS, SIDE MARKER LAMPS AND END OUTLINE MARKER LAMPS**
4 2 1	**Front position lamps**
4 2 1 1	Number of devices
4 2 1 2	Position of devices
4 2 1 3	Light source
4 2 1 4	Approval mark
4 2 2	**Rear position lamps**
4 2 2 1	Number of devices
4 2 2 2	Position of devices
4 2 2 3	Light source
4 2 2 4	Approval mark
4 2 3	**Side marker lamps**
4 2 3 1	Number of devices
4 2 3 2	Position of devices
4 2 3 3	Light source
4 2 3 4	Approval mark
4 2 4	**Front end outline marker lamps**
4 2 4 1	Number of devices
4 2 4 2	Position of devices
4 2 4 3	Light source
4 2 4 4	Approval mark
4 2 5	**Rear end outline marker lamps**
4 2 5 1	Number of devices
4 2 5 2	Position of devices
4 2 5 3	Light source
4 2 5 4	Approval mark
4 3	**STOP LAMPS**
4 3 1	Number of devices
4 3 2	Position of devices
4 3 3	Light source
4 3 4	Approval mark
4 3 5	Adaptive brake lights

4	**4**			**DIRECTION INDICATOR AND HAZAR WARNING LAMPS**
4	4	1		Number of devices
4	4	2		Position of devices
4	4	3		Light source
4	4	4		Approval mark
4	4	5		Tell-tale lamp
4	4	6		Principle of activation of warning lamps
4	**5**			**FRONT AND REAR FOG LAMPS**
4	5	1		**Front fog lamps**
4	5	1	1	Number of devices
4	5	1	2	Position of devices
4	5	1	3	Light source
4	5	1	4	Approval mark
4	5	1	5	Tell-tale lamp
4	5	2		**Rear fog lamps**
4	5	2	1	Number of devices
4	5	2	2	Position of devices
4	5	2	3	Light source
4	5	2	4	Approval mark
4	5	2	5	Tell-tale lamp
4	**6**			**REVERSING LAMPS**
4	6	1		Number of devices
4	6	2		Position of devices
4	6	3		Light source
4	6	4		Approval mark
4	**7**			**REAR REGISTRATION PLATE LAMP**
4	7	1		Number of devices
4	7	2		Position of devices
4	7	3		Light source
4	7	4		Approval mark
4	**8**			**RETRO-REFLECTORS, SIDE REFLECTORS AND REAR MARKER PLATES**
4	8	1		**Front retro-reflectors**
4	8	1	1	Number of devices
4	8	1	2	Position of devices
4	8	1	3	Approval mark
4	8	2		**Rear retro-reflectors**
4	8	2	1	Number of devices
4	8	2	2	Position of devices
4	8	2	3	Approval mark
4	8	3		**Side retro-reflectors**
4	8	3	1	Number of devices
4	8	3	2	Position of devices
4	8	3	3	Approval mark
4	8	4		**Rear marker plates**
4	8	4	1	Number of devices
4	8	4	2	Position of devices
4	8	4	3	Approval mark
4	**9**			**ELECTRICAL CONNECTIONS WITH TOWING AND TOWED VEHICLES**
4	9	1		Connection diagram
4	9	2		Standard of connection
4	**10**			**NON OBLIGATORY LAMPS**
4	10	1		List of non obligatory lamps
4	10	2		Position of devices
4	10	3		Approval mark

4 11	**BATTERY**
4 11 1	Number of devices
4 11 2	Voltage (V)
4 11 3	Capacity (Ah)
4 11 4	Position of devices
4 12	**LIGHTING SYSTEMS ELECTRONICALLY MANAGED**
4 12 1	General description

5. AXLES, WHEELS, TYRES AND SUSPENSION	
5 1	**AXLES**
5 1 1	General description
5 2	**WHEELS**
5 2 1	Dimension
5 2 2	Material
5 3	**TYRES**
5 3 1	Number
5 3 2	Arrangement
5 3 3	Dimension
5 3 4	Speed category
5 3 5	Load-capacity index
5 3 6	Spare wheel number
5 3 7	Spare wheel dimension
5 3 8	Equivalent devices to the spare wheel
5 4	**SUSPENSION**
5 4 1	General description of the system
5 4 2	**Springs**
5 4 2 1	Description
5 4 2 2	Number
5 4 2 3	Marking
5 4 3	**Shock absorbers**
5 4 3 1	Description
5 4 3 2	Number
5 4 3 3	Marking
5 4 3 4	Possibilities of setting
5 4 4	**Anti-roll bars**
5 4 4 1	Number and arrangements
5 4 5	**Air suspension**
5 4 5 1	General description of the system
5 4 6	**Electronic control of the suspension**
5 4 6 1	General description

6. CHASSIS AND CHASSIS ATTACHMENTS	
6 1	**CHASSIS OR FRAME ATTACHMENTS**
6 1 1	General description
6 2	**FUEL TANK AND PIPES**
6 2 1	Number of fuel tanks
6 2 2	General description of the tanks
6 2 3	Expiration date of the tank (if applicable)
6 2 4	Arrangement
6 2 5	Capacity (l)
6 2 6	Marking
6 2 7	Protecting means
6 2 8	General description of fuel pipes
6 3	**BUMPERS, LATERALPROTECTION AND REAR UNDERRUN DEVICES**
6 3 1	**Front underrun protection**
6 3 1 1	General description
6 3 1 2	Approval mark
6 3 2	**Lateral protection**
6 3 2 1	General description
6 3 2 2	Approval mark
6 3 3	**Rear underrun device**
6 3 3 1	General description
6 3 3 2	Approval mark
6 4	**SPARE WHEEL CARRIER**
6 4 1	Position
6 5	**COUPLING MECHANISMS AND TOWING EQUIPMENT**
6 5 1	**Coupling mechanisms**
6 5 1 1	General description
6 5 2	**Towing equipment**
6 5 2 1	General description
6 5 2 2	Make and model
6 5 2 3	Approval mark
6 5 2 4	Technically permissible maximum towable mass of the trailer braked / unbraked (kg)
6 6	**TRANSMISION**
6 6 1	General description
6 6 2	Type of gear-shift
6 6 3	Number of shifts
6 6 4	Differentials / self-blocking differentials
6 6 5	Number of powered axles
6 6 6	Working modes of the transmission
6 6 7	Clutch: general description
6 6 8	Electronic management of transmission

6 7	**ENGINE MOUNTING**
6 7 1	General description
6 8	**CAB AN BODYWORK**
6 8 1	General description
6 8 2	**Doors**
6 8 2 1	Number and arrangement
6 8 3	**Seats**
6 8 3 1	Number and arrangement
6 8 3 2	Head restraints
6 8 4	**Cab steps**
6 8 4 1	General description
6 8 5	**Other interior and exterior fittings and equipment**
6 8 5 1	General description
6 8 6	**Mudguards, spray suppression devices**
6 8 6 1	**Mudguards**
6 8 6 1 1	General description
6 8 6 2	**Spray suppression devices**
6 8 6 2 1	Number and arrangement
6 8 6 2 2	Approval mark

7. OTHER EQUIPMENT	

7 1	**SAFETY BELTS**
7 1 1	**Safety belt category for each seat**
7 1 2	Approval mark
7 1 3	Pyrotechnical pretensioner
7 2	**AIR-BAGS**
7 2 1	Number and arrangement
7 2 2	Marking
7 2 3	Tell-tale lamp
7 2 4	Passenger airbag deactivator
7 3	**FIRE EXTINGUISHER**
7 3 1	Number and arrangement
7 3 2	Categories
7 4	**ANTI-THEFT DEVICE**
7 4 1	Control blocked by the device
7 5	**WHEEL CHOCKS (WEDGES)**
7 5 1	Number and arrangement
7 6	**AUDIBLE WARNING DEVICE**
7 6 1	Number and position of the device
7 6 2	Approval mark
7 6 3	Sound level (dB(A))
7 7	**SPEEDOMETER**
7 7 1	Units (km/h or mile/h)
7 7 2	Maximum displayed speed (km/h or mile/h)
7 7 3	Division
7 8	**TACHOGRAPH**
7 8 1	Make and model
7 8 2	Approval mark
7 8 3	Serial number
7 8 4	Position of seals
7 8 5	Position of data's plate
7 9	**SPEED LIMITER**
7 9 1	Speed set
7 9 2	Make and model
7 9 3	Arrangements of the connectors for inspection
7 9 4	k (rev/km or impulses/km)
7 9 5	w (rev/km or impulses/km)
7 9 6	Position of data's plate
7 10	**ODOMETER**
7 10 1	Number of digits

8. NUISANCE	
8 1	**NOISE**
8 1 1	General description of the systems and devices intended to reduce the noise produced by the vehicle
8 1 2	Sound level stationary (dB(A) @ min^{-1})
8 1 3	Sound level drive-by (dB(A))
8 1 4	Number of silencers on the exhaust pipe
8 1 5	Position of silencers on the exhaust pipe
8 2 6	Marking of silencers on the exhaust pipe
8 2	**PETROL ENGINE EMISSIONS**
8 2 1	CO (g/km or g/kWh)
8 2 2	CO idling (Vol %)
8 2 3	CO high speed idling (Vol % @ min^{-1})
8 2 4	HC high speed idling (Vol % @ min^{-1})
8 2 5	Lambda high speed idling (min^{-1})
8 2 6	HC (g/km or g/kWh)
8 2 7	NOx (g/km or g/kWh)
8 2 8	HC + NOx (g/km)
8 2 9	CO_2 (g/km)
8 2 10	Indication of the environmental category of EC type-approval
8 2 11	OBD connector type & position
8 2 12	OBD communication protocol
8 2 13	Emission control equipment installed in the vehicle
8 2 14	Position of emission control equipment installed in the vehicle
8 2 15	Marking of catalytic converter
8 2 16	Number of lambda sensors
8 3	**DIESEL ENGINE EMISSIONS**
8 3 1	CO (g/km or g/kWh)
8 3 2	HC (g/km or g/kWh)
8 3 3	NOx (g/km or g/kWh)
8 3 4	HC + NOx (g/km)
8 3 5	CO_2 (g/km)
8 3 6	Particulates for diesel (g/km or g/kWh)
8 3 7	Corrected absorption coefficient for diesel (in m-1) (opacity)
8 3 8	Indication of the environmental category of EC type-approval
8 3 9	OBD connector
8 3 10	OBD communication protocol
8 3 11	Emission control equipment installed in the vehicle
8 3 12	Position of emission control equipment installed in the vehicle
8 3 13	Marking of catalytic converter
8 3 14	Marking of particulates trap
8 4	**ELECTROMAGNETIC INTERFERENCE SUPPERSSION**
8 4 1	Description of the spark-plugs' wiring features
8 4 2	Marking of the spark-plugs's wiring

ANNEX: GLOSSARY OF ACRONYMS

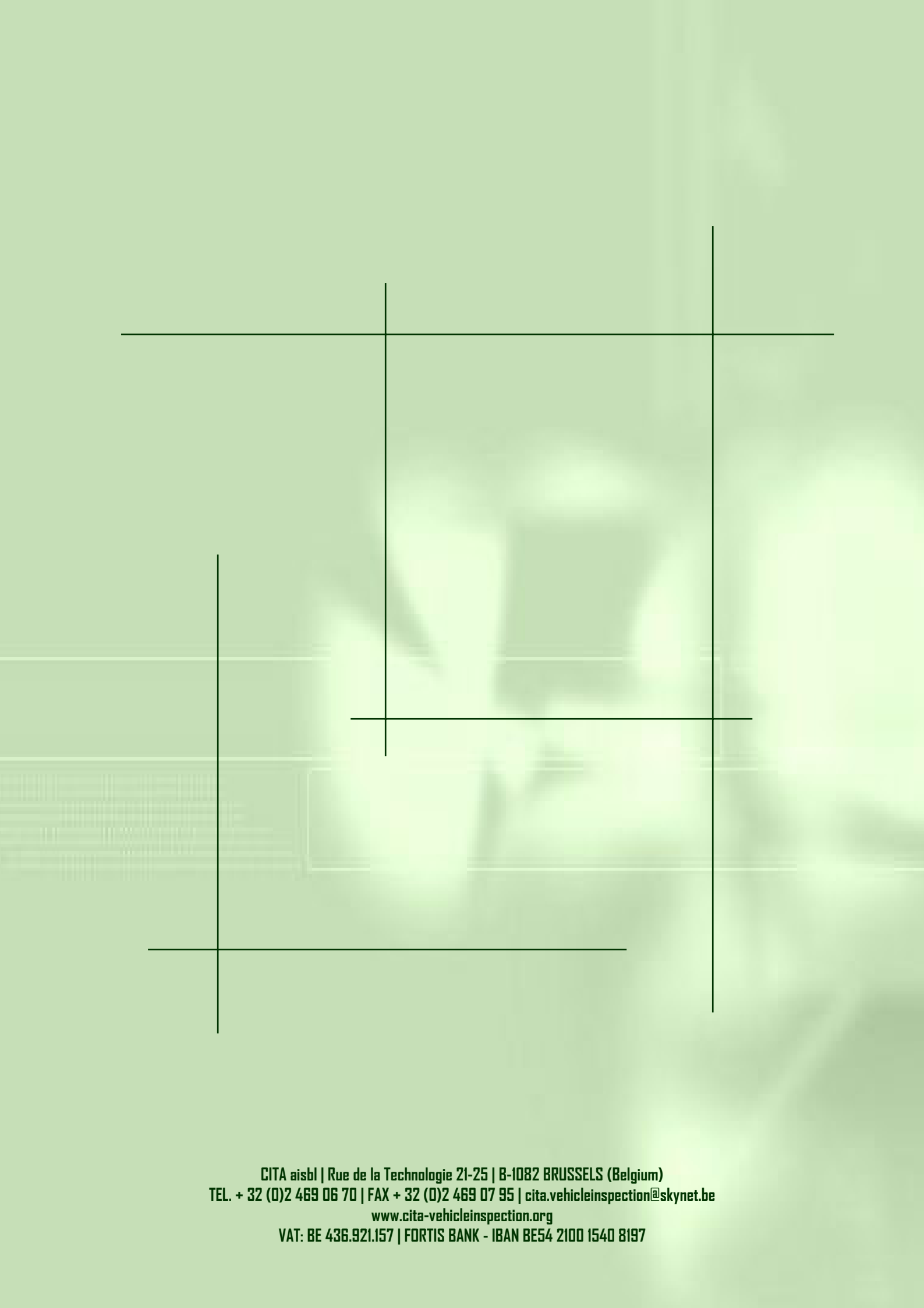
BER: Block Exemption Regulation (Commission Regulation EC 1400/2002)

EC: European Commission

OBD: On Board Diagnosis

OEM: Original Equipment Manufacturer

PTI: Periodical Technical Inspection



CITA aisbl | Rue de la Technologie 21-25 | B-1082 BRUSSELS (Belgium)
TEL. + 32 (0)2 469 06 70 | FAX + 32 (0)2 469 07 95 | cita.vehicleinspection@skynet.be
www.cita-vehicleinspection.org
VAT: BE 436.921.157 | FORTIS BANK - IBAN BE54 2100 1540 8197