

**COMP/F-2/2003/26/**

**SI2.371920**

**Final Report**

Institut für Kraftfahrwesen Aachen  
Chassis Department

**Final report**

**Do motor vehicle suppliers give independent operators effective  
access to all technical information as required under the EC  
competition rules applicable to the motor vehicle sector?**

Project number

33520

**Contractor:**

European Commission  
DG Competition  
Directorate F  
Unit F2

**Project manager:**

**Project engineer:**

Dipl.-Ing. Andreas Carlitz

Dipl.-Ing. Andreas van de Sand

All rights reserved. No part of this publication may be reproduced and/or published without the previous written consent of ika. © ika

This report was produced by Institut für Kraftfahrwesen Aachen for DG Competition and represents its authors' views on the subject matter. These views have not been adopted or in any way approved by the Commission and should not be relied upon as a statement of either the Commission's or DG Competition's views.

Univ.-Prof. Dr.-Ing. Henning Wallentowitz

Aachen, October 2004

**Contents**

1	Executive Summary.....	19
2	Introduction .....	21
3	Methodology.....	23
4	Enquiry about the requirements of the independent operators.....	25
4.1	Requirements of Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing Services .....	27
4.2	Requirements of Manufacturers of Repair Equipment or Tools.....	29
4.3	Requirements of Independent Distributors of Spare Parts .....	31
4.4	Requirements of Publishers of Technical Information and Operators offering Training for Repairers .....	31
5	Development Questionnaire .....	32
6	Passenger Car Manufacturers - General Information (Part A) .....	36
6.1	Diagnostic Tools (1.2).....	36
6.2	Operations relating to ECU's (1.3).....	39
6.2.1	BMW .....	41
6.2.2	Fiat/Alfa.....	41
6.2.3	Ford .....	41
6.2.4	Jaguar.....	41
6.2.5	Volvo Cars .....	41
6.2.6	Mercedes .....	42
6.2.7	Smart .....	42
6.2.8	Opel/Vauxhall .....	42
6.2.9	Peugeot .....	42
6.2.10	Citroën.....	42

---

6.2.11	Renault.....	42
6.2.12	Toyota.....	43
6.2.13	VW.....	43
6.3	Special Tools (1.4).....	43
6.4	General Information (1.5).....	46
6.4.1	BMW.....	47
6.4.2	Fiat/Alfa.....	47
6.4.3	Ford.....	47
6.4.4	Jaguar.....	48
6.4.5	Volvo Cars.....	48
6.4.6	Mercedes.....	48
6.4.7	Smart.....	48
6.4.8	Opel/Vauxhall.....	48
6.4.9	Peugeot.....	49
6.4.10	Citroën.....	49
6.4.11	Renault.....	49
6.4.12	Toyota.....	49
6.4.13	VW.....	49
6.5	Training Information (1.6).....	49
6.6	Price Discounts and Rebates for Authorised Repairers.....	51
6.7	Information for Diagnostic Tool Manufacturers (2).....	51
6.7.1	Information Provision (2.1).....	52
6.7.2	Test and Diagnosis information.....	54
6.7.2.1	BMW.....	55
6.7.2.2	Fiat/Alfa.....	56
6.7.2.3	Ford.....	56
6.7.2.4	Jaguar.....	56
6.7.2.5	Volvo.....	56
6.7.2.6	Mercedes.....	56
6.7.2.7	Smart.....	56

---

6.7.2.8	Opel/Vauxhall .....	56
6.7.2.9	Peugeot .....	57
6.7.2.10	Citroën .....	57
6.7.2.11	Renault.....	57
6.7.2.12	Toyota.....	57
6.7.2.13	VW .....	57
6.7.3	Communication Protocol Information .....	57
6.7.3.1	BMW.....	59
6.7.3.2	Fiat/Alfa .....	59
6.7.3.3	Ford .....	59
6.7.3.4	Jaguar.....	59
6.7.3.5	Volvo.....	59
6.7.3.6	Mercedes.....	59
6.7.3.7	Smart.....	59
6.7.3.8	Opel/Vauxhall .....	60
6.7.3.9	Peugeot .....	60
6.7.3.10	Citroën .....	60
6.7.3.11	Renault.....	60
6.7.3.12	Toyota.....	60
6.7.3.13	VW .....	60
6.8	Information for Publishers (3) .....	60
6.8.1	Price of Information (3.1.4).....	63
6.8.1.1	BMW.....	63
6.8.1.2	Fiat/Alfa .....	63
6.8.1.3	Ford .....	64
6.8.1.4	Jaguar.....	64
6.8.1.5	Volvo Cars .....	64
6.8.1.6	Mercedes.....	64
6.8.1.7	Smart.....	64
6.8.1.8	Opel/Vauxhall .....	64
6.8.1.9	Peugeot .....	64

6.8.1.10	Citroën .....	65
6.8.1.11	Toyota .....	65
6.8.1.12	VW .....	65
7	Passenger Car Manufacturers - Internet-based Information System (Part B1) .....	66
7.1	Registration and Access (1.1 – 1.4) .....	66
7.1.1	Other Payments .....	69
7.1.1.1	BMW .....	69
7.1.1.2	Ford .....	70
7.1.1.3	Jaguar .....	70
7.1.1.4	Volvo .....	71
7.1.1.5	Opel .....	71
7.1.1.6	Peugeot .....	71
7.1.1.7	Renault .....	71
7.1.1.8	Volkswagen .....	72
7.2	Users (1.5) .....	72
7.3	Hard- and Software Requirements (1.7) .....	73
7.4	Information Scope .....	73
7.4.1	Covered Vehicles and Update Periods (1.6) .....	73
7.4.2	Languages (1.8) .....	74
7.4.3	Vehicle Identification (2.1) .....	75
7.4.4	Information Search (2.2 – 2.3) .....	76
7.4.5	Content (2.4) .....	77
7.5	Differences between authorised and independent operators (1.9 + 4) .....	80
7.6	The Usability of the Information Systems .....	88
7.6.1	BMW .....	88
7.6.2	Ford .....	89
7.6.3	Jaguar .....	89
7.6.4	Volvo Cars .....	89
7.6.5	Opel/Vauxhall .....	89

---

7.6.6	Peugeot .....	90
7.6.7	Renault .....	92
7.6.8	Volkswagen .....	93
8	Passenger Car Manufacturers - CD/DVD based Information System (Part B2) .....	95
8.1	General Remarks .....	95
8.2	Access (1.1 – 1.4).....	95
8.3	Users (1.5).....	99
8.4	Hard- and Software Requirements (1.6) .....	99
8.5	Information Scope .....	100
8.5.1	Covered Vehicles and Update Periods (1.2.2.3 + 1.2.2.5).....	100
8.5.2	Languages (1.7).....	101
8.5.3	Vehicle Identification (2.1).....	102
8.5.4	Information Search (2.2 – 2.3).....	103
8.5.5	Content (2.4).....	104
8.6	Differences between authorised and independent operators (1.8 + 4).....	107
8.7	The Usability of the Information Systems.....	109
8.7.1	Fiat/Alfa.....	109
8.7.2	Mercedes/Smart.....	109
8.7.3	Peugeot .....	109
8.7.4	Citroën .....	109
8.7.5	Toyota.....	109
8.7.6	Volvo Cars .....	109
9	Passenger Car Manufacturers - Paper based Information System (Part B3) .....	110
9.1	General Remarks .....	110
9.2	Access (1.1 – 1.4).....	110
9.3	Users (1.5).....	112

9.4	Information Scope .....	113
9.4.1	Covered Vehicles and Update Periods (1.2.2.3 + 1.2.2.5).....	113
9.4.2	Languages (1.7).....	113
9.4.3	Vehicle Identification (2.1).....	115
9.4.4	Information Search (2.2) .....	115
9.4.5	Content (2.3).....	115
9.5	Differences between authorised and independent operators (1.7 + 4).....	118
9.6	The Usability of the Information Systems.....	119
9.6.1	Fiat/Alfa.....	119
9.6.2	Opel/Vauxhall .....	119
9.6.3	Citroën .....	119
9.6.4	Toyota.....	119
10	Truck Manufacturers - General Information (Part A) .....	121
10.1	Information Provision (1.1).....	121
10.2	Diagnostic Tools (1.2).....	121
10.3	ECU Operations (1.3) .....	124
10.3.1	DAF.....	124
10.3.2	Iveco .....	124
10.3.3	Volvo .....	125
10.3.4	Scania .....	125
10.3.5	Renault Trucks .....	125
10.3.6	MAN .....	125
10.3.7	Mercedes .....	125
10.4	Special Tools (1.4).....	125
10.5	Actualisation of Information (1.5) .....	128
10.5.1	DAF.....	129
10.5.2	Iveco .....	129
10.5.3	Volvo .....	130

---

10.5.4	Scania .....	130
10.5.5	Renault.....	130
10.5.6	MAN .....	130
10.5.7	Mercedes .....	131
10.6	Training Information (1.6) .....	131
10.7	Price Discounts and Rebates for Authorised Repairers (1.7) .....	132
10.8	Information for Diagnostic Tool Manufacturers (2) .....	132
10.8.1	Information Provision (2.1).....	132
10.8.2	Test and Diagnosis information (2.2) .....	133
10.8.3	Communication Protocol Information (2.3).....	134
10.9	Arrangements relevant for Publishers.....	135
10.9.1	Price of information (3.1.4) .....	137
10.9.1.1	DAF .....	138
10.9.1.2	Iveco .....	138
10.9.1.3	Volvo .....	138
10.9.1.4	Scania .....	138
10.9.1.5	Renault.....	138
11	Truck Manufacturers - Internet-based Information System (Part B1) .....	139
11.1	General Remarks .....	139
11.2	Registration and Access (1.1 – 1.4).....	139
11.3	Users (1.5).....	142
11.4	Hard- and Software Requirements (1.7) .....	142
11.5	Information Scope .....	143
11.5.1	Covered Vehicles and Update Periods (1.6).....	143
11.5.2	Languages (1.8) .....	144
11.5.3	Vehicle Identification (2.1) .....	145
11.5.4	Information Search (2.2 – 2.3).....	146
11.5.5	Content (2.4) .....	147

---

11.6	Differences between authorised and independent operators (1.9 + 4) .....	149
11.7	The Usability of the Information Systems.....	151
11.7.1	MAN .....	151
11.7.2	Scania .....	152
11.7.3	Volvo Trucks.....	152
12	Truck Manufacturers - CD/DVD based Information System (Part B2).....	153
12.1	General Remarks .....	153
12.2	Access (1.1 – 1.4).....	153
12.3	Users (1.5).....	156
12.4	Hard- and Software Requirements (1.6) .....	156
12.5	Information Scope .....	157
12.5.1	Covered Vehicles and Update Periods (1.2.2.3 + 1.2.2.5) .....	157
12.5.2	Languages (1.7) .....	158
12.5.3	Vehicle Identification (2.1) .....	159
12.5.4	Information Search (2.2 – 2.3) .....	159
12.5.5	Content (2.4) .....	160
12.6	Differences between authorised and independent operators (1.8 + 4) .....	163
12.7	The Usability of the Information Systems.....	164
12.7.1	Iveco .....	164
12.7.2	Mercedes .....	164
12.7.3	Scania .....	164
13	Truck Manufacturers - Paper based Information System (Part B3).....	165
13.1	General Remarks .....	165
13.2	Access (1.1 – 1.5).....	165
13.3	Users (1.5).....	169

13.4	Information Scope .....	169
13.4.1	Covered Vehicles and Update Periods (1.2.2.3 + 1.2.2.5) .....	169
13.4.2	Languages (1.7) .....	170
13.4.3	Vehicle Identification (2.1) .....	171
13.4.4	Information Search (2.1 + 2.2) .....	171
13.4.5	Content (2.3) .....	171
13.5	Differences between authorised and independent operators (1.7 + 4) .....	174
13.6	The Usability of the Information Systems .....	175
13.6.1	DAF .....	175
13.6.2	MAN .....	175
13.6.3	Renault Trucks .....	175
13.6.4	Scania .....	175
14	Test Cases (3) .....	176
14.1	Test Case 1 (3.1) – Replacement of a defective ECU .....	177
14.2	Test Case 2 (3.2) - Maintenance and service instructions .....	178
15	Evaluation of the Systems and Measures put in place by the Car Manufacturers .....	179
15.1	Evaluation for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	179
15.1.1	Registration and Access .....	179
15.1.2	Prices for technical repair information .....	180
15.1.2.1	Minimum Prices .....	180
15.1.2.2	Subscription Prices .....	182
15.1.2.3	Test cases .....	183
15.1.3	Availability and prices for spare parts information .....	186
15.1.4	Scope of the information systems .....	187
15.1.4.1	Vehicle Identification .....	187
15.1.4.2	Information Search .....	188
15.1.4.3	Content .....	188

15.1.4.4	Languages .....	189
15.1.4.5	Usability of the information systems .....	189
15.1.4.6	Differences between the systems of authorised and independent operators.....	190
15.1.5	Prices and capabilities for manufacturer specific tools.....	190
15.1.5.1	Prices and capabilities of manufacturer specific diagnostic tools.....	190
15.1.5.2	Prices of manufacturer specific special tools (excluding diagnostic tools).....	193
15.1.5.3	Test cases.....	193
15.1.6	Training information.....	195
15.2	Evaluation for Manufacturers of Repair Equipment or Tools.....	195
15.3	Evaluation for Publishers of Technical Information and Operators offering Training for Repairers.....	197
16	Synopsis for each Passenger Car Manufacturer.....	198
16.1	BMW .....	198
16.1.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors.....	198
16.1.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	200
16.1.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	200
16.2	Fiat / Alfa .....	200
16.2.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors.....	200
16.2.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	201
16.2.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	201
16.3	Ford.....	202
16.3.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors.....	202

16.3.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	203
16.3.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	203
16.4	Jaguar .....	203
16.4.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	203
16.4.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	205
16.4.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	205
16.5	Volvo .....	205
16.5.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	205
16.5.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	206
16.5.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	206
16.6	Mercedes / Smart .....	206
16.6.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	206
16.6.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	208
16.6.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	208
16.7	Opel / Vauxhall .....	208
16.7.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	208
16.7.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	210
16.7.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	210

16.8	Citroën.....	210
16.8.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	210
16.8.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	211
16.8.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	212
16.9	Peugeot.....	212
16.9.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	212
16.9.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	213
16.9.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	213
16.10	Renault .....	214
16.10.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	214
16.10.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	215
16.10.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	215
16.11	Toyota.....	216
16.11.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	216
16.11.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	217
16.11.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	217
16.12	Volkswagen .....	217
16.12.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors.....	217
16.12.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	219

16.12.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	219
16.13	Overview Passenger Car Manufacturers.....	220
16.13.1	Independent repairers, automobile clubs, roadside assistance operators, operators offering inspection and testing services and spare part distributors .....	220
16.13.2	Manufacturers of repair equipment or tools .....	221
16.13.3	Publishers of technical information and operators offering training for repairers.....	221
17	Evaluation of the systems and measures put in place by the truck manufacturers.....	222
17.1	Evaluation for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors.....	222
17.1.1	Registration and Access.....	222
17.1.2	Prices for technical repair information.....	223
17.1.2.1	Minimum Prices.....	223
17.1.2.2	Subscription Prices.....	224
17.1.2.3	Test Cases .....	225
17.1.3	Availability and prices for spare parts information.....	228
17.1.4	Scope of the information systems.....	229
17.1.4.1	Vehicle Identification.....	229
17.1.4.2	Information Search.....	230
17.1.4.3	Content.....	230
17.1.4.4	Languages .....	230
17.1.4.5	Usability of the information systems .....	231
17.1.4.6	Differences between the systems for authorised and independent operators .....	231
17.1.5	Prices and capabilities of manufacturer specific diagnostic tools .....	231
17.1.5.1	Prices and capabilities of manufacturer specific diagnostic tools .....	232
17.1.5.2	Prices of manufacturer specific special tools (excluding diagnostic tools).....	234
17.1.6	Test cases.....	234

17.1.7	Training information.....	235
17.2	Evaluation for Manufacturers of Repair Equipment or Tools.....	236
17.3	Evaluation for Publisher of Technical Information and Operators offering Training for Repairers.....	237
18	Synopsis for each Truck Manufacturer .....	239
18.1	DAF.....	239
18.1.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	239
18.1.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	240
18.1.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers.....	240
18.2	Iveco.....	241
18.2.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	241
18.2.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	242
18.2.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	242
18.3	MAN.....	242
18.3.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	242
18.3.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	244
18.3.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	244
18.4	Mercedes .....	244
18.4.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	244
18.4.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	245
18.4.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	245

18.5	Renault Trucks .....	246
18.5.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors.....	246
18.5.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	247
18.5.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers .....	247
18.6	Scania .....	247
18.6.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	247
18.6.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	249
18.6.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers.....	249
18.7	Volvo Trucks.....	249
18.7.1	Synopsis for Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing services and Spare Part Distributors .....	249
18.7.2	Synopsis for Manufacturers of Repair Equipment or Tools .....	251
18.7.3	Synopsis for Publishers of Technical Information and Operators offering Training for Repairers.....	251
18.8	Overview Truck Manufacturers.....	252
18.8.1	Independent repairers, automobile clubs, roadside assistance operators, operators offering inspection and testing services and spare part distributors .....	252
18.8.2	Manufacturers of repair equipment or tools .....	253
18.8.3	Publishers of technical information and operators offering training for repairers.....	253
19	Summary and Conclusion .....	254
20	Literature .....	259
21	Appendix .....	260

21.1 Contact Points – Passenger Car Manufacturers ..... 260

21.2 Contact Points – Truck Manufacturers..... 275

## 1 Executive Summary

Commission Regulation (EC) No 1400/2002 sets out rules, under which restrictive agreements caught by the ban laid down in Article 81(1) meet the conditions for an exemption pursuant to Article 81(3). Such rules are deemed to be observed throughout the European Union by suppliers of motor vehicles and spare parts in their contractual and day-to-day business relationship with their downstream partners or buyers. The Commission has undertaken to monitor the operation of the new Regulation on a regular basis. One major element, which has to be monitored, concerns the access of technical repair information for independent operators. Motor vehicle manufacturers must allow all interested independent operators to have full access to all technical information, diagnostic and other equipment, tools, including all relevant software, and training required for the repair and maintenance of motor vehicles.

This study examines whether and how the provisions of the new Regulation relating the access to technical information have been implemented by the motor vehicle manufacturers. The assessment is based on 9 major car manufacturers (BMW, DaimlerChrysler, Fiat, Ford, GM, PSA, Renault, Toyota, Volkswagen) and all major truck manufacturers (DAF, Daimler Chrysler, Iveco, MAN, Renault, Scania, Volvo) and covers the situation in Germany, Italy, France, UK, the Netherlands, Ireland, Denmark and Poland.

The access of independent workshops to technical repair information is provided via Internet-based systems, CD/DVD's, paper or a combination of these media. Nearly all motor vehicle manufacturers cover 100 % of their models produced within the last 10 years, concerning technical repair information, but the requirement to have all information on one medium in view of granting independent operators access to the information necessary to carry out the work in question, has only been fulfilled by a few passenger car manufacturers.

The difficulty of obtaining the relevant document on different information systems is a major problem independent repairers are faced with. Due to different structures, layouts and qualities of the systems, which are offered by the motor vehicle manufacturers, it is exhausting and often even impossible to find the required information. A standardised structure and a common vocabulary (or automatic translator), as it was already developed in the OASIS project, would mark a distinct step towards providing effective access to technical repair information.

To compound the difficulties in search of the relevant information, some vehicle manufacturers also withhold important documents or deliver certain information delayed (e.g. common faults or recall campaigns). This is particularly true for the information provided to independent tool manufacturers because the systems are tailored in the first place for independent repairers.

Although special diagnostic tools are needed for an increasing number of repairs, such tools are offered by the motor vehicle manufacturers only at high prices. Therefore, it has to be ensured that diagnostic tool manufacturers get sufficient information to produce adequate

universal tools. The information provided to diagnostic tool manufacturers is generally not sufficient to produce multi-brand diagnostic tools and moreover the situation has in fact declined with the new Block Exemption Regulation (BER), and independent manufacturers are referenced to the technical information systems for the independent repairers.

Another major problem is the price of the technical information. Due to inadequately designed information systems and/or insufficient cost models, independent operators are not able to purchase technical repair information at a price, at which repairs can be conducted under competitive conditions.

The new Block Exemption Regulation calls for the supply of fair and indiscriminate information to the independent publishers. Whereas the passenger car manufacturers have taken satisfactory measures to supply independent publishers, this is in fact contradicted by statements from representatives of publishing companies. According to them, there are several vehicle manufacturers, which have stopped to supply information for publishers at the end of October 2003 and have still not presented conditions or terms to continue.

At first sight, the situation of independent operators has been improved with the introduction of the new BER and the motor vehicle manufacturers have implemented the new Regulation relating to the access to technical information. However, in particular the unattractive price models and the bad usability of the information systems, prohibit access to technical repair information. For certain repairers the inexistence of adequate multi-brand scan tools and limited possibilities to repair electronical systems make it difficult to work under competitive conditions. For those groups (independent tool manufacturers or publishers) who try to improve the environment under which independent operators are working in the situation has even declined.

## 2 Introduction

Commission Regulation (EC) No 1400/2002 from 31st July 2002 on the application of Article 81(3) of the Treaty to categories of vertical agreements and concerted practices in the motor vehicle sector (“the Regulation”) entered into force on 1 October 2002. The Regulation sets out rules under, which restrictive agreements caught by the ban laid down in Article 81(1) meet the conditions for an exemption pursuant to Article 81(3). Such rules are deemed to be observed throughout the European Union by suppliers of motor vehicles and spare parts in their contractual and day-to-day business relationship with their downstream partners or buyers.

The Regulation brings in new provisions, which all aim at introducing more competition in distribution and after-sales services. As with the block exemption regulation (EEC) No 1475/1995, the Commission has undertaken to monitor the operation of the new Regulation on a regular basis. However, the scope of the monitoring of the regulation is to be broader. Particular attention should be paid to the Regulation’s effects on a) competition in motor vehicle retailing and in after-sales servicing on the common market or relevant parts of it; b) the structure and level of concentration of motor vehicle distribution and any resulting effects on competition.

One major element which has to be monitored relates to the access of technical repair information for independent operators. If vehicle manufacturers and suppliers wish to benefit from the block exemption regulation they must provide such effective access to independent operators, pursuant to article 4(2) of Reg. 1400/2002.

In order to protect effective competition on the market for repair and maintenance services and to prevent fore-closure of independent operators, motor vehicle manufacturers must allow all interested independent operators to have full access to all technical information, diagnostic and other equipment, tools, including all relevant software, and the required training for the repair and maintenance of motor vehicles. Independent operators, who must be allowed to have access include independent repairers, manufacturers of repair equipment or tools, publishers of technical information, automobile clubs, roadside assistance operators, operators offering inspection and testing services and operators offering training for repairers.

In particular, the conditions of access must not discriminate between authorised and independent operators, access must be granted upon request and without undue delay, and the price charged for the information should not discourage access by failing to take into account the extent to which the independent operator uses it. A supplier of motor vehicles should be required to grant independent operators access to technical information on new motor vehicles at the same time as such access is granted to its authorised repairers, and must not oblige independent operators to purchase more than the information necessary to carry out the work in question. Suppliers should be obliged to grant access to the technical information necessary for re-programming electronic devices in a motor vehicle. However, it

is legitimate and proper for them to withhold access to technical information, which might allow a third party to bypass or disarm on-board anti-theft devices, to recalibrate electronic devices or to tamper with devices, which for instance limit the speed of a motor vehicle, unless protection against theft, re-calibration or tampering can be attained by other less restrictive means. Intellectual property rights and rights regarding know-how, including those which relate to the above-mentioned devices, must be exercised in a manner, which avoids any type of abuse.

This study examines, whether, and to what extent, the provisions of the Regulation relating to access to technical information have been implemented by the motor vehicle manufacturers, with regard to the different categories of independent operators as defined in Article 4(2).

The systems put in place by the motor vehicle manufacturers are described in the chapters 6 - 9 for passenger car manufacturers, and in the chapters 10 - 13 for truck manufacturers. After the description of the different measures and systems, an analysis and evaluation is performed in chapters 15 - 18. In particular, two main issues will be analysed:

An examination of whether measures have been taken by the manufacturers to grant independent operators effective access to all relevant repair information, or whether such access is not granted in respect of certain information.

An examination and evaluation of the technical and commercial conditions under which independent operators can get access to the necessary information in terms of scope, price, timing, and the practical (e.g. relating to the language, in which the information is available) and legal arrangements, that independent operators have to accept, to receive information.

### 3 Methodology

In order to be able to examine whether and how the motor vehicle manufacturers have implemented the provisions of the new Regulation relating the access to technical information, a suitable questionnaire has been developed. The questionnaire asks for both general information, relevant for all 'involved operators', and target-group oriented information, with regard to the different possible requirements of individual independent operators, in particular.

- Independent repairers,
- Manufacturers of repair equipment or tools,
- Independent distributors of spare parts,
- Publishers of technical information,
- Automobile clubs,
- Roadside assistance operators, operators offering inspection and testing services and
- Operators offering training for repairers.

Since the Regulation stipulates that independent operators should get the same information as authorised repairers, the questionnaire has to distinguish between conditions and measures for authorised repairers and those, which are valid for the independent market.

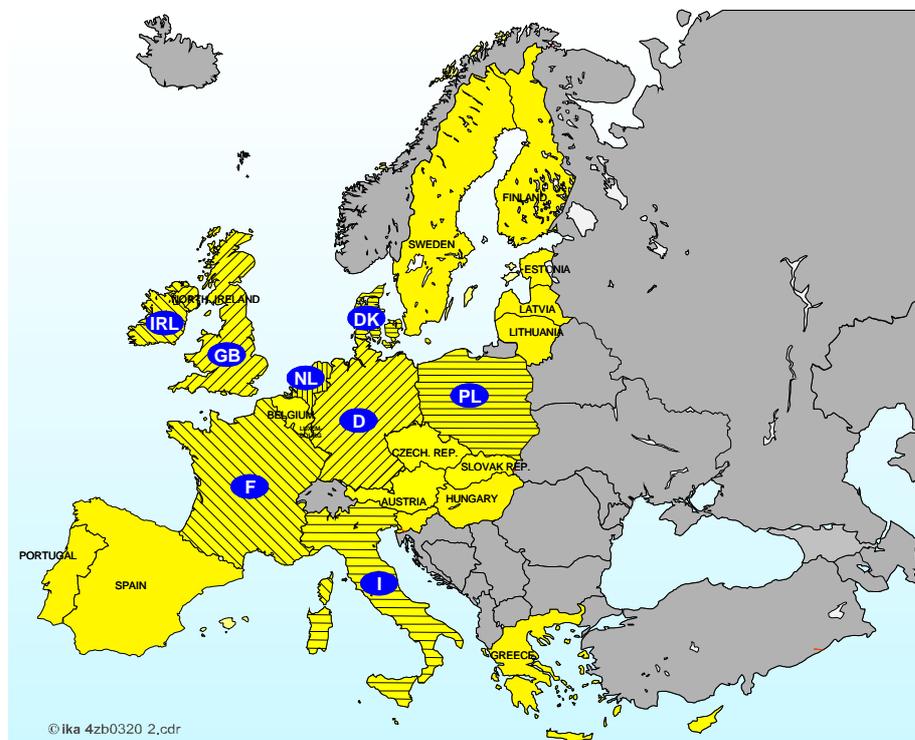


Fig. 3-1: Covered markets (hatched)

In order to obtain a full description of the relevant measures and systems put in place, the questionnaire is addressed to 9 major car manufacturers (BMW, DaimlerChrysler, Fiat, Ford, GM, PSA, Renault, Toyota, Volkswagen) and all major truck manufacturers (DAF, Daimler-Chrysler, Iveco, MAN, Renault, Scania, Volvo) to cover the situation in Germany, Italy, France, UK, Netherlands, Ireland, Denmark and Poland.

#### 4 Enquiry about the requirements of the independent operators

Before defining the requirements for the different operators, it is important to be aware of the market situation within Europe. The values in Fig. 4-1 have been drawn from the 2004 German DAT-Report. The graphs are representing the situation in Germany; other European countries may have different values.

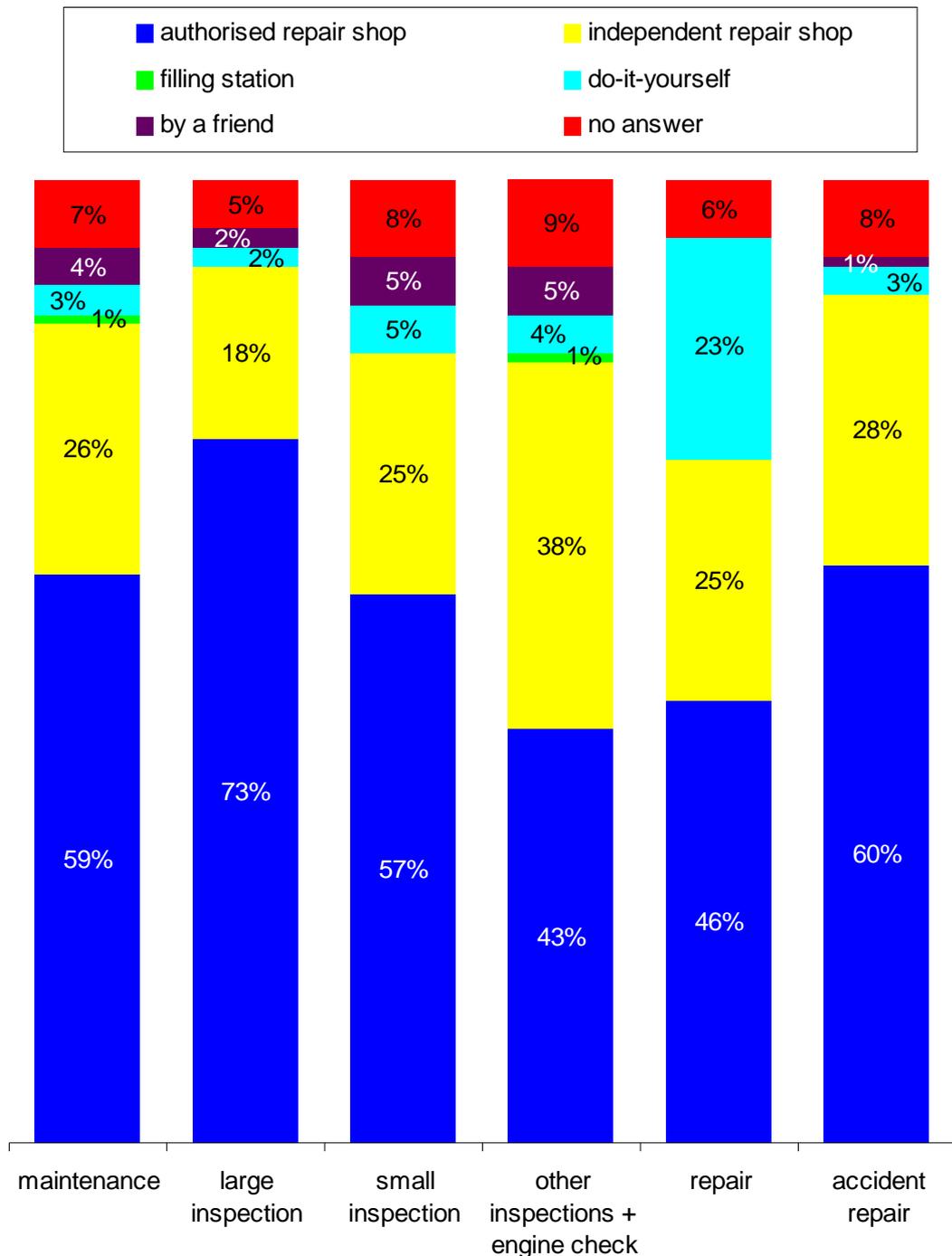


Fig. 4-1: Allocation of accomplishment in Germany 2003 (DAT-Report 2004)

In Germany, authorised operators do approximately 50% of the work; independent operators cover approximately 25% of the work in all different categories.

Furthermore, the prices for repair and maintenance are important to estimate an appropriate fee for the technical information. The figures in Fig. 4-2 have also been drawn from the 2004 German DAT-Report, presenting the German market. For each vehicle EUR 245,- (altogether) has been paid for maintenance jobs and EUR 185,- (altogether) for repair jobs in 2003.

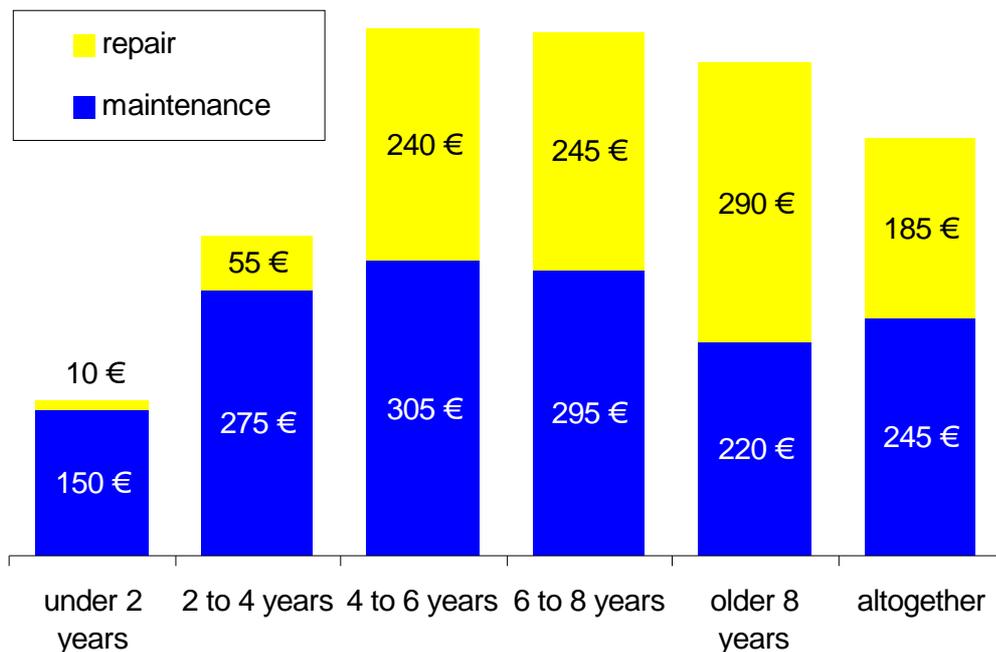


Fig. 4-2: Expenses for maintenance and repair in Germany 2003 (DAT-Report 2004)

To develop a suitable questionnaire the requirements of the respective independent operators have to be acquired. The operators have been divided into four main groups and a requirement list has been worked out for each group:

1. Independent repairers, automobile clubs, roadside assistance operators, operators offering inspection and testing services
2. Manufacturers of repair equipment or tools,
3. Independent distributors of spare parts,
4. Publishers of technical information and operators offering training for repairers.

These requirements have been allocated by conducting market and desk research and inquiries among suppliers and their associations (e. g. AFCAR - Alliance for the Freedom of

Car Repair in the EU, EGEA – European Garage Equipment Association) and independent operators (e.g. workshops, publisher).

#### **4.1 Requirements of Independent Repairers, Automobile Clubs, Roadside Assistance Operators, Operators offering Inspection and Testing Services**

The requirements of the independent repairers have been allocated by market and desk research, an analysis of the OASIS requirements specification [OAS03], different discussions with aftermarket representatives and an expert meeting at the German Association for Motor Trades and Repairs (ZDK) with representatives of ZDK (CECRA), GVA (Figiefa), Publishers, parts distributors, AFCAR and CNPA. If a requirement has a particular importance for a specific user group, this group is named in brackets.

The following items have been identified:

1. Unambiguous vehicle identification
  - by vehicle identification number (VIN)
  - a minimal set of information, e.g.: make, model, model year, engine code, engine capacity or horse power
2. Spare parts identification (esp. for independent repairers, spare parts distributors)
  - The following information must be provided for each component:
    - image of the component
    - image and description of the part location
    - wiring schematic and circuit diagram showing its connections to the ECU and ground - if electrical
    - a diagram showing its connections – if mechanical / hydraulic
    - a description of its major functions followed by its ancillary functions
    - vehicle manufacturer part number / part name
    - part fitting and removal processes (including access information - what parts have to be removed to reach the component)
3. Work plan
  - Work plan with all steps to conduct a repair in an independent workshop (esp. for independent repairers).

4. Repair and maintenance information
  - Service Schedules (esp. for independent repairers)
  - Maintenance and repair specifications (esp. for independent repairers)
  - Control, fitting and removal processes related to service schedules (esp. for independent repairers)
  - Body repair information (esp. for body repair shops)
  - Information on the location of the OBD plug (esp. for independent repairers, roadside assistance, operators offering testing and inspection services))
  - Common faults (esp. for independent repairers, roadside assistance)
  - Re-mobilisation procedures (esp. for independent repairers, roadside assistance)
  - Security information should be provided if it is required for repair and only as far as it is available to authorised dealers/repairers and is delivered in a way that does not compromise vehicle integrity or security (esp. for independent repairers).
5. Description of necessary / available diagnostic tools (all, except spare parts distributors)
  - Description of the necessary diagnostic and other special tools.
  - Information and distribution of diagnostic and other special tools for a non-discriminatory price.
6. Information on existing technical repair support.
  - Information by hotlines and procedures to use this support.
7. Access to technical information
  - All information on a single medium (one information system).
  - Small chargeable information units (esp. for independent repairers, operators offering testing and services).
  - Spare part information in addition on a separate medium (esp. for spare parts distributors).
  - Immediate access (except spare parts distributors).
  - Small minimum subscription or access periods.

## 8. Prices

## ○ Competitive Prices

The prices for the required technical information should be affordable to perform a repair competitively taking account, which prices are paid by the customer for certain jobs:

▪ Average workshop prices (Germany)

Maintenance jobs	approx. EUR 245,-
Repair jobs	approx. EUR 185,-

▪ Prices for a periodical vehicle inspection (Germany)

Passenger Cars	approx. EUR 45,-
----------------	------------------

## Commercial Vehicles

< 3.5 t	approx. EUR 45,-
> 3.5 – 7.5 t	approx. EUR 60,-
> 7.5 – 12.0 t	approx. EUR 60,-
> 12.0 – 18.0 t	approx. EUR 60,-
> 18.0 – 28.0 t	approx. EUR 60,-
> 28.0 – 32.0 t	approx. EUR 60,-
> 32.0 t	approx. EUR 105,-

**4.2 Requirements of Manufacturers of Repair Equipment or Tools**

Tool manufacturers use the information requested so that they may manufacture tools to enable independent operators to repair and maintain motor vehicles. This specification has been provided by GEA (British Garage Equipment Association Ltd.) (also adapted by EGEA):

## 1. Communication Protocol Information

The following information is required indexed against vehicle make, model, variant or other workable definition e.g. VIN or Auto-identification (defining vehicles in scope of each auto identification).

- Any additional protocol information, not covered by ISO15031, enabling a complete system diagnostics. Including any additional hardware or software protocol information, parameter identification, transfer functions, “keep alive” requirements, error conditions etc.
- Fault code reading including details of how to obtain and interpret all Fault Codes not detailed by ISO15031.
- Live data parameters including scaling information.

- Functional tests including device activation or control.
- Details of how to obtain all component and status information.
- Resetting adaptive learns, variant coding and replacement component setup, customer preferences, etc.
- Access/security codes required for repair functions, and control module updating required, affecting the repair.
- ECU identification and variant coding.
- Details of how to reset Service Lights.
- Location of diagnostic connector and connector details if not defined by ISO15031 part 3.
- Engine code identification

## 2. Test and diagnosis of components

The following information is required for component tests and diagnosis indexed against component:

- A description of tests to confirm its functionality - at the component or in the harness.
- Test Procedure including test parameters and component information.
- Connection details including min/max input /output driving/loading values.
- Values expected under certain driving conditions including idling.
- Electrical values for the component in its static and dynamic states.
- Failure mode values for each of the above scenarios.
- Failure mode diagnostic sequences including fault trees and guided diagnostics elimination.

## 3. Data required to complete or effect the repair

The following is required together with the scope and applicability:

- ECU and component initialisation (in the event of replacements being fitted).
- Initialisation of new or replacement ECU's where relevant using pass through (re-) programming techniques.

### **4.3 Requirements of Independent Distributors of Spare Parts**

Independent spare part distributors have the need to obtain OE (original equipment) part numbers to create cross-reference tables from the OE number to the after-sales part number. Since the OE part numbers are changed at times it is also necessary to obtain information on updated spare part numbers. It would be preferred, if the information is on a separate medium and no unneeded information has to be purchased. Access to the spare part information has to be within a reasonable amount of time, but not immediately as required by the repair shops. It is also in the interest of spare part distributors that independent repairers are able to define a given vehicle adequately in order to identify the necessary spare parts.

Spare part distributors who would like to redistribute repair information to their customers are sort of a very basic publisher of technical information, in this context.

### **4.4 Requirements of Publishers of Technical Information and Operators offering Training for Repairers**

The requirements of the independent publishers or training organisations are partly defined by the requirement specification for the independent repairers. An independent publisher checked this requirement specification and the coverage of all necessary information sectors was confirmed. In addition, different discussions with aftermarket representatives have been used as an input to the requirements. If there are any special conditions for this operator group (e.g. different information packages, prices indexed on the quantities that will be distributed, special technical support) this information is also needed.

Independent publishers are facing extensive delays from vehicle manufacturers in agreeing to provide information in some quarters. Even 9 months after the regulations of the new BER came into force there are some vehicle manufacturers who, although they stopped supply of information at the end of October 2003, have still not presented conditions or terms to continue supply, even though independent repairers are able to obtain it. Additionally the prices and conditions have worsened significantly with the introduction of the new BER.

It was quite difficult to obtain any concrete information from independent publishers, because they are afraid that any statements will get back to the vehicle manufacturers and this could create more delays.