REPORT NUMBER 118-GTL-08-001

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 118 POWER-OPERATED WINDOW, PARTITION AND ROOF PANEL SYSTEMS

DAIMLERCHRYSLER AG
2008 SMART CAR FORTWO, PASSENGER CAR
NHTSA NO. C80501

GENERAL TESTING LABORATORIES, INC.
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COLONIAL BEACH, VIRGINIA 22443

JUNE 6, 2008

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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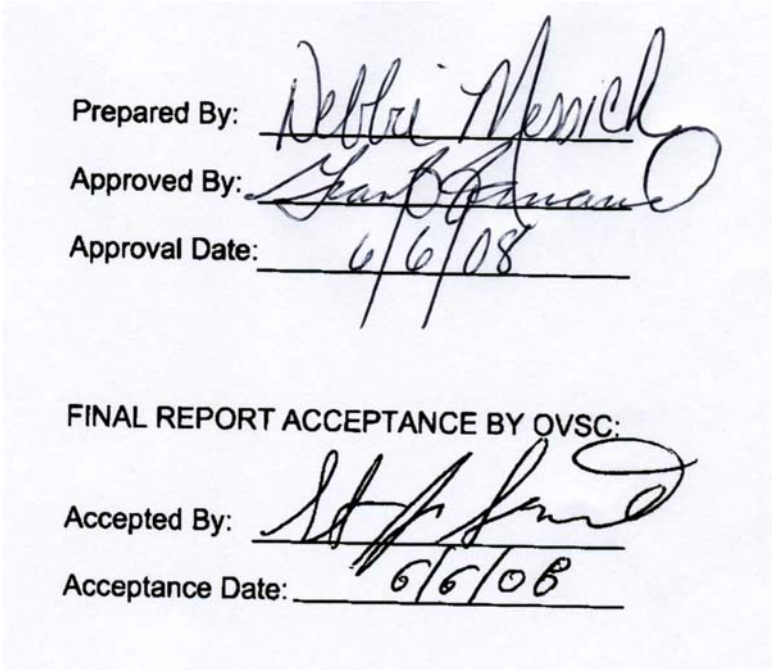

Technical Report Documentation Page

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7. Author(s) Grant Farrand, Project Engineer Debbie Messick, Project Manager		8. Performing Organ. Rep# GTL-DOT-08-118-001
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12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Admin. Enforcement Office of Vehicle Safety Compliance (NVS-220) 1200 New Jersey Ave., S.E., Washington, DC 20590		13. Type of Report and Period Covered Final Test Report June 3, 2008 14. Sponsoring Agency Code NVS-221
15. Supplementary Notes		
16. Abstract Compliance tests were conducted on the subject 2008 Smart Car Fortwo 2-door passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-118-06 for the determination of FMVSS 118 compliance. Test failures identified were as follows: None		
17. Key Words Compliance Testing Safety Engineering FMVSS 118	18. Distribution Statement Copies of this report are available from NHTSA Technical Information Services (TIS) Room W45-212 (NPO-411) 1200 New Jersey Ave., S.E. Washington, DC 20590 Telephone No. (202) 366-4947	
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF TEST

A model year 2008 Smart Car Fortwo passenger car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 118 testing to determine if the vehicle was in compliance with the requirements of the standard. FMVSS 118 specifies requirements for power-operated window, partition, and roof panel systems to minimize the likelihood of death or injury from their accidental operation.

1.1 The test vehicle was a 2008 Smart Car Fortwo Passenger Car. The vehicle was identified as follows:

A. Vehicle Identification Number: WMEEJ31X68K100508

B. NHTSA No.: C80501

C. Manufacturer: DAIMLERCHRYSLER AG

D. Manufacture Date: 12/07

E. Color: Deep Black/Tridion Silver Metallic

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 118 testing on June 3, 2008.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure TP-118-06 dated 12 April 2006 and General Testing Laboratories, Inc. (GTL) Test Procedure, TP-118-03A, “Power Operated Window, Partition and Roof Panel Systems”.

FMVSS 118 Compliance Testing was performed in the following sequence:

A. Test Vehicle Identification/Documentation
B. Power Window, partition and roof panel identification/documentation
C. Interior, exterior and remote control switch identification/documentation
D. Pre-test operation of all power windows, partitions and roof panels
E. Photograph vehicle and interior, exterior and remote control devices
F. Perform Interior Locking System Off Test
G. Perform Interior Locking System with Key Removed Test
H. Perform Exterior Locking System Test
I. Perform Remote Actuation Device Test
J. Perform Occupant Compartment Actuation Device Test(Sphere Test/Pull up or Pull Out Test)
K. Perform Automatic Reversal System Test

Above tests H-K were not required on this vehicle due to no exterior or remote actuation devices.

2.1 SUMMARY OF RESULTS

The power window operational test resulted in no anomalies being noted. Test data indicate the FMVSS 118 requirements appear to have been satisfied. All test data resulting from the tests were recorded on test data sheets in Section 3.

SECTION 3

TEST DATA

3.0 TEST RESULTS

The following data sheets document the results of FMVSS 118 testing on the 2008 Smart Car.

FMVSS 118
COMPLIANCE DATA SUMMARY SHEET

VEHICLE MAKE/MODEL/BODY STYLE: 2008 SMART CAR FORTWO

VEHICLE NHTSA NO: C80501 VIN: WMEEJ31X68K100508

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 12/07

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/03/08

REQUIREMENT	PASS	FAIL	N/A
S4 Interior Locking system in Off Position(s)	X		
S4 Interior Locking System with Key Removed	X		
S4 Exterior Locking System			X
S4 Remote Actuation Device			X
S6 Occupant Compartment Actuation Devices (Sphere Test/Pull Up or Pull Out Test)			X
S5 Automatic Reversal System			X

REMARKS:

RECORDED BY: D. Messick **DATE: 06/03/08**

APPROVED BY: R. Farrand

WPRP PRE-OPERATIONAL CHECK

VEHICLE MAKE/MODEL/BODY STYLE: 2008 SMART CAR FORTWO

VEHICLE NHTSA NO: C80501 VIN: WMEEJ31X68K100508

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 12/07

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/03/08

Identify power-operated WPRP and WPRP actuation devices

	LEFT FRONT	LEFT REAR	RIGHT FRONT	RIGHT REAR	TAIL GATE	LEFT VENT	RIGHT VENT	ROOF PANEL
Power WPRP Installed	X		X					
Individual Interior Actuation Devices	X		X					
Master Control Panel Actuation Devices	X							
WPRP Operated by Exterior Locking System								
WPRP Operated by Remote Control								
WPRP with Auto-Reverse Capability								
WPRP with Express-Up Capability								

Master Control Panel Location: DRIVER'S DOOR PANEL

Exterior Locking System Location: _____

Remote Control Type: ( ) Line of Sight ( ) Non-line of Sight

WPRP Actuation Device Design (Toggle, Rocker, Push/Pull (Lever) or describe other):

Master Control Panel Pull for up/Push for down
Individual Window Pull for up/Push for down
Roof Panel _____
Vents _____

Interior Locking System Key Positions (clockwise): REMOVE KEY, IGNITION "ON" AND ACCESSORY, START

All WPRP open/close cycles are satisfactory with key in "ON" position:
(X) YES ( ) NO

All WPRP open/close cycles are satisfactory with key in "ACCESSORY" position:
(X) YES ( ) Not Applicable –No power to WPRP's

REMARKS:

RECORDED BY: D. Messick DATE: 06/03/08
APPROVED BY: R. Farrand

DATA SHEET 1
INTERIOR LOCKING SYSTEM TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2008 SMART CAR FORTWO

VEHICLE NHTSA NO: C80501 VIN: WMEEJ31X68K100508

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 12/07

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/03/08

Key lock position at start of test execution: (X) ON (X) ACCESSORY, Then to:
Key lock off position during test execution: (X) LOCK (X) OFF ( ) ACCESSORY

ACTUATION DEVICES	DOORS CLOSED		LEFT DOOR OPEN		RIGHT DOOR OPEN		PASS/ FAIL
	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	
MASTER CONTROL PANEL ACTUATION DEVICES							
Left Front (LF)	X						X
Right Front (RF)	X						X
Left Rear (LR)							
Right Rear (RR)							
Tail Gate (TG)							
Vents							
Roof Panel (RP)							
INDIVIDUAL ACTUATION DEVICES							
Left Front (LF)	X						P
Right Front (RF)	X						P
Left Rear (LR)							
Right Rear (RR)							
Tail Gate (TG)							
Vents							
Roof Panel (RP)							

REMARKS:

RECORDED BY: D. Messick DATE: 06/03/08

APPROVED BY: R. Farrand

DATA SHEET 2
INTERIOR LOCKING SYSTEM WITH KEY REMOVED TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2008 SMART CAR FORTWO

VEHICLE NHTSA NO: C80501 VIN: WMEEJ31X68K100508

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 12/07

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/03/08

Key lock position at start of test execution: (X) ON (X) ACCESSORY, Then to:
Key lock off position during test execution: (X) LOCK (X) OFF ( ) ACCESSORY

ACTUATION DEVICES	DOORS CLOSED		LEFT DOOR OPEN		RIGHT DOOR OPEN		PASS/ FAIL
	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	
MASTER CONTROL PANEL ACTUATION DEVICES							
Left Front (LF)	X						P
Right Front (RF)	X						P
Left Rear (LR)							
Right Rear (RR)							
Tail Gate (TG)							
Vents							
Roof Panel (RP)							
INDIVIDUAL ACTUATION DEVICES							
Left Front (LF)	X						P
Right Front (RF)	X						P
Left Rear (LR)							
Right Rear (RR)							
Tail Gate (TG)							
Vents							
Roof Panel (RP)							

REMARKS:

RECORDED BY: D. Messick DATE: 06/03/08

APPROVED BY: R. Farrand

SECTION 4
TEST EQUIPMENT LIST

VEHICLE MAKE/MODEL/BODY STYLE: 2008 SMART CAR FORTWO

VEHICLE NHTSA NO: C80501 VIN: WMEEJ31X68K100508

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 12/07

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/03/08

ITEM	MFR	MODEL	S/N	CAL. PERIOD	DATE OF LAST CALIB.	REMARKS
SLR DIGITAL CAMERA	NIKON	D50	N/A	N/A	N/A	

REMARKS:

RECORDED BY: G. FARRAND DATE: 03/10/08

APPROVED BY: D. MESSICK

SECTION 5

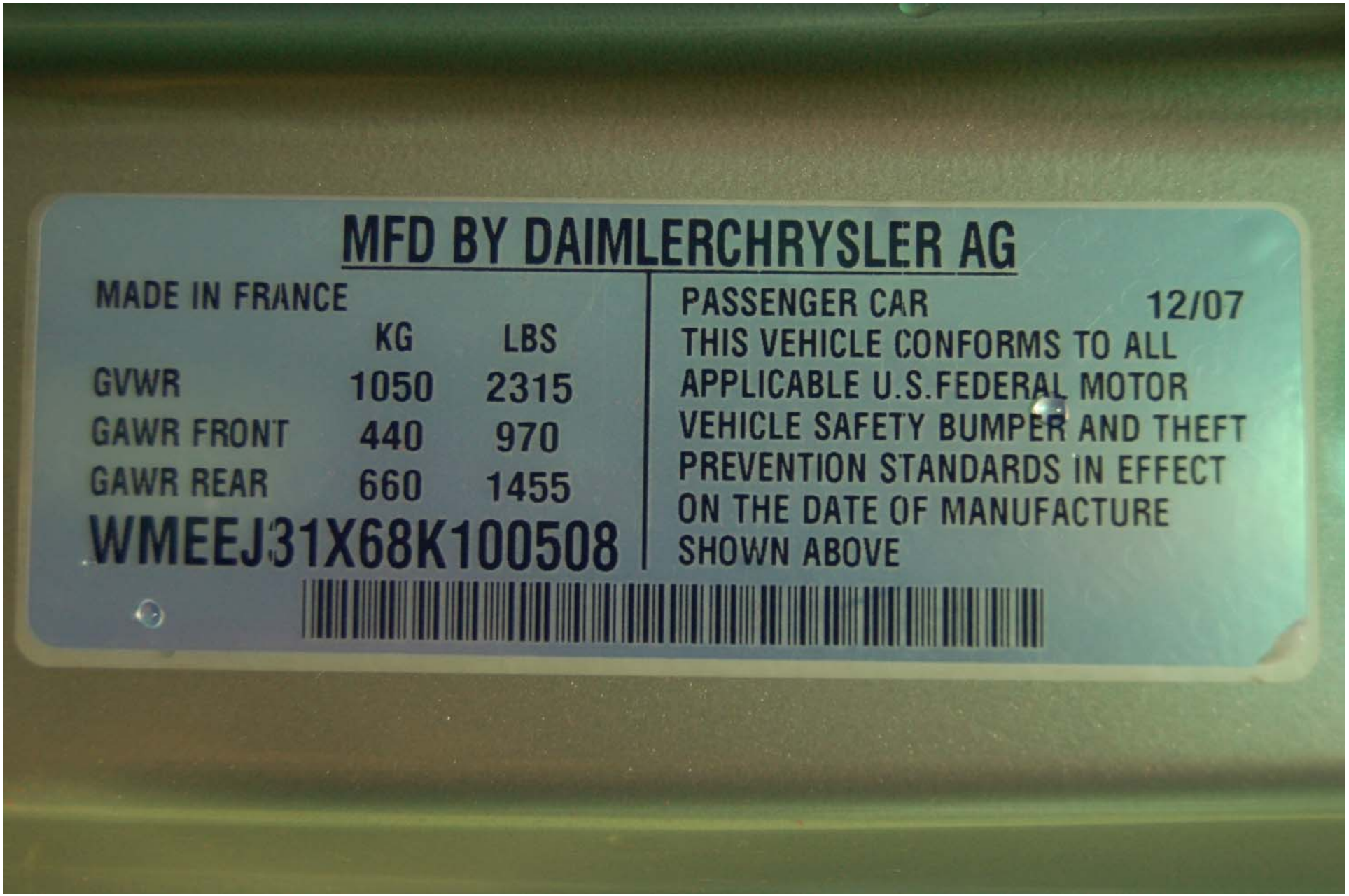
PHOTOGRAPHS

2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.1
¾ FRONTAL VIEW FROM RIGHT SIDE OF VEHICLE

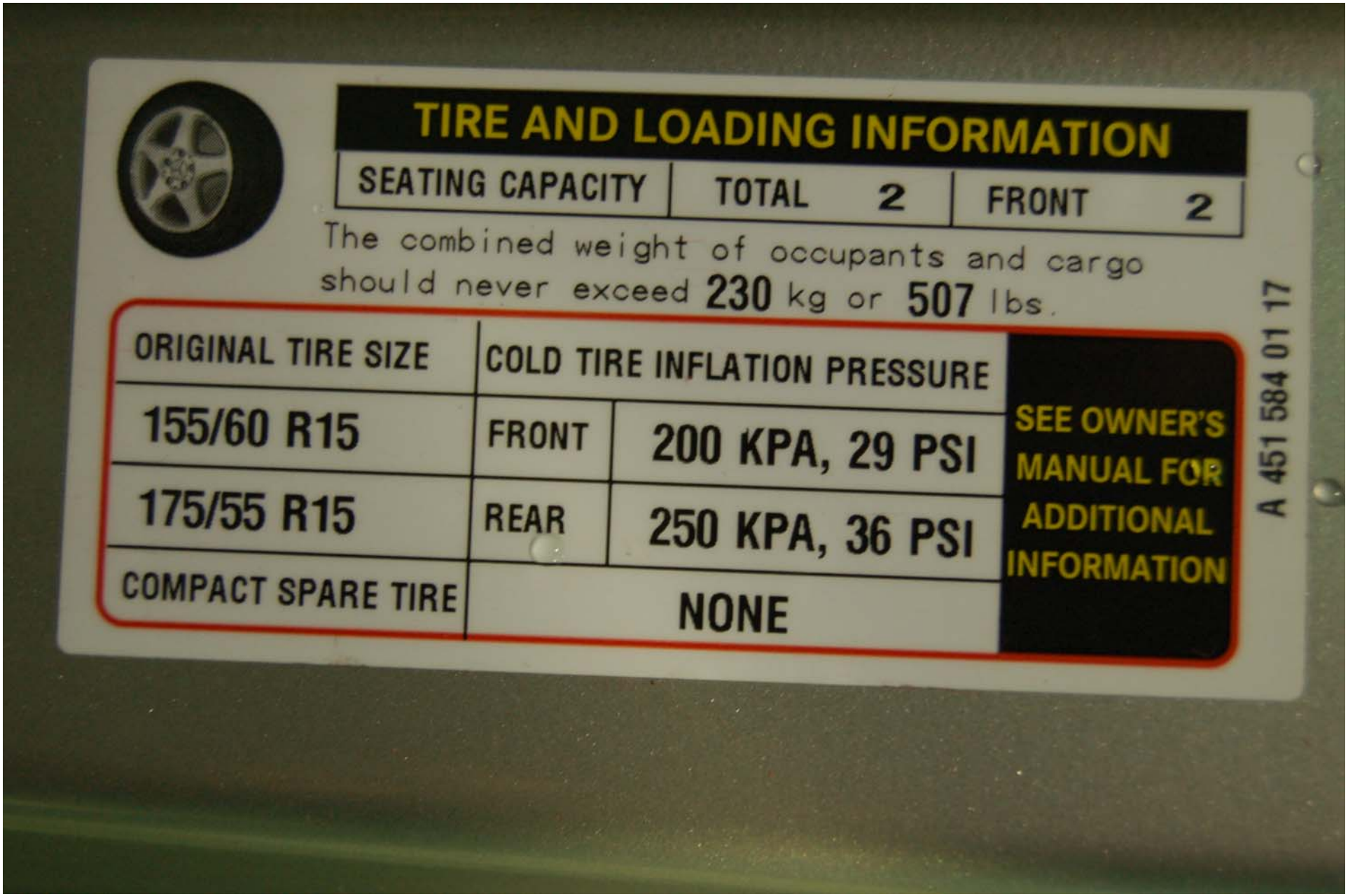
2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.2
¾ REAR VIEW FROM LEFT SIDE OF VEHICLE



2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.3
VEHICLE CERTIFICATION LABEL



2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.4
VEHICLE TIRE INFORMATION LABEL

2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.5
CLOSE-UP VIEW OF VEHICLE IGNITION SWITCH

2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.6
CLOSE-UP VIEW OF LEFT FRONT POWER WINDOW SWITCH

2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

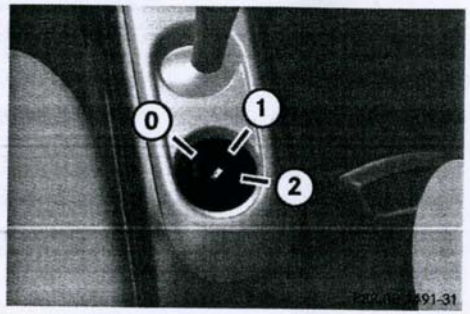
FIGURE 5.7
CLOSE-UP VIEW OF RIGHT FRONT POWER WINDOW SWITCH

2008 SMART CAR FORTWO
NHTSA NO. C80501
FMVSS NO. 118

FIGURE 5.8
CLOSE-UP VIEW OF POWER WINDOW MASTER SWITCH

SECTION 6
OWNER'S MANUAL INFORMATION

Starter switch positions



Starter switch

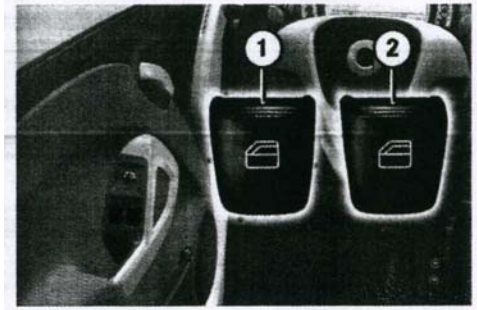
0 For removing key

1 Ignition (power supply for all electrical consumers) and driving position
All lamps (except low beam headlamp indicator lamp, high beam headlamp indicator lamp, and turn signal indicator lamps unless activated) in the instrument cluster come on. If a lamp in the instrument cluster fails to come on when the ignition is switched on, have it checked and replaced if necessary. If a lamp in the instrument cluster remains on after starting the engine or comes on while driving, refer to "Warning and indicator lamps in the instrument cluster" (▷ page 237).

2 Starting (▷ page 122)

When you switch on the ignition, the indicator and warning lamps (except low beam headlamp indicator lamp, high beam headlamp indicator lamp, and turn signal indicator lamps unless activated) in the instrument cluster come on. The indicator and warning lamps (except low beam headlamp indicator lamp, high beam headlamp indicator lamp, and turn signal indicator lamps if activated) will go out when the engine is running. This indicates that the respective systems are operational.

The switches for both power windows are on the driver's door. In addition, there is a switch for the passenger side on the passenger door.



① Side window driver's door
② Side window passenger door

> Make sure that the key in the starter switch is turned to position **1**.

> **Opening:** Press the top of the respective switch to the resistance point.
The corresponding side window moves downwards until you release the switch.

> **Closing:** Pull up the top of the respective switch to the resistance point.
The corresponding side window moves upwards until you release the switch.

> **Automatic opening:** Press the top of the respective switch briefly.
The corresponding side window opens completely.

> **Stopping during automatic opening:**
Press or pull up the top of the the respective switch briefly.
The corresponding side window stops immediately.