REPORT NUMBER 118-GTL-10-005

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

AUDI AG
2010 AUDI A5 COUPE, PASSENGER CAR
NHTSA NO. CA5800

GENERAL TESTING LABORATORIES, INC.
1623 LEEDSTOWN ROAD
COLONIAL BEACH, VIRGINIA 22443

June 8, 2010

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVE., SE
WASHINGTON, D.C. 20590

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15. Supplementary Notes

16. Abstract

Compliance tests were conducted on the subject 2010 Audi A5 Coupe 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

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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF TEST

A model year 2010 Audi A5 Coupe 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 2010 Audi A5 Coupe Passenger Car. The vehicle was identified as follows:

A. Vehicle Identification Number: WAU3FAFR4AA027203

B. NHTSA No.: CA5800

C. Manufacturer: AUDI AG

D. Manufacture Date: 10/09

E. Color: Black

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 118 testing on May 12, 2010.

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

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 2010 Audi A5 Coupe.

FMVSS 118
COMPLIANCE DATA SUMMARY SHEET

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE

VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203

VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/11/10

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: * This vehicle does not need to meet S5 requirements for automatic reversal.
Vehicle utilizes a smart key push-button ignition system.

RECORDED BY: G. Farrand DATE: 05/12/10

APPROVED BY: D. Messick

WPRP PRE-OPERATIONAL CHECK

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

Identify power-operated WPRP and WPRP actuation devices

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

Master Control Panel Location: Driver's Door Panel

Exterior Locking System Location: Driver's Door Handle

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

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

Master Control Panel Push/Pull
Individual Window Push/Pull
Roof Panel Push/Pull
Vents

Interior Locking System Key Positions (clockwise): Keyless-Go, Push Button Start with Off/Lock, On, Start

All WPRP open/close cycles are satisfactory with key in "ON" position:
(X) YES ( ) NO If NO, compliance test shall not proceed

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

REMARKS:

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

DATA SHEET 1
INTERIOR LOCKING SYSTEM TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/11/10

Key lock position at start of test execution: (X) ON ( ) ACCESSORY
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		X		P
Right Front (RF)		X	X		X		P
Left Rear (LR)							
Right Rear (RR)							
Vent Window(s)							
Tail Gate (TG)							
Partition (P)							
Roof Panel (RP)							
INDIVIDUAL ACTUATION DEVICES							
Left Front (LF)		X	X		X		P
Right Front (RF)		X	X		X		P
Left Rear (LR)							
Right Rear (RR)							
Vent Window(s)							
Tail Gate Window							
Partition Window							
Roof Panel Window		X	X		X		P

REMARKS: Key Code still active.

RECORDED BY: G. Farrand DATE: 05/12/10

APPROVED BY: D. Messick

DATA SHEET 2
INTERIOR LOCKING SYSTEM WITH KEY REMOVED TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

Key lock position at start of test execution: (X) ON ( ) ACCESSORY Then: Engine off, door open, and key out of range.

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		P
Right Front (RF)	*		X		X		P
Left Rear (LR)							
Right Rear (RR)							
Tail Gate (TG)							
Vent Windows(s)							
Partition (P)							
Roof Panel (RP)							
INDIVIDUAL ACTUATION DEVICES							
Left Front (LF)	*		X		X		P
Right Front (RF)	*		X		X		P
Left Rear (LR)							
Right Rear (RR)							
Vent Window(s)							
Tail Gate Window							
Partition Window							
Roof Panel Window	*		X		X		P

REMARKS: *Vehicle has push button “keyless go” system and vehicle must be turned off, door opened and key moved out of range of the vehicle to remove key code from vehicle system.

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

DATA SHEET 3
EXTERIOR LOCKING SYSTEM TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

Is vehicle equipped with an exterior locking system that can close any of the power windows, partitions, or roof panels? (X) YES ( ) NO

Location of exterior locking system: Driver's Door Handle

Describe how the exterior locking system is activated: Insert metal key into key slot, turn key and hold to activate windows.

Identify the windows, partitions or roof panels that can be closed by the exterior system. Also, in each case, identify whether continuous activation of the locking system is required.

WINDOW, PARTITION AND ROOF PANEL IDENTIFICATION	EXTERIOR LOCKING SYSTEM		EXTERIOR LOCKING SYSTEM (PASS/FAIL)*
	OPERABLE (YES/NO)	CONTINUOUS ACTIVATION REQUIRED (YES/NO)	
LEFT FRONT (LF)	YES	YES	PASS
RIGHT FRONT (RF)	YES	YES	PASS
LEFT REAR (LR)			
RIGHT REAR (RR)			
VENT WINDOW(S)			
PARTITION(P)			
ROOF PANEL (RP)	YES	YES	PASS
TAIL GATE (TG)			

*NOTE: Continuous activation of the locking system is required for each WPRP to pass the exterior locking system safety standard requirement.

REMARKS:

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

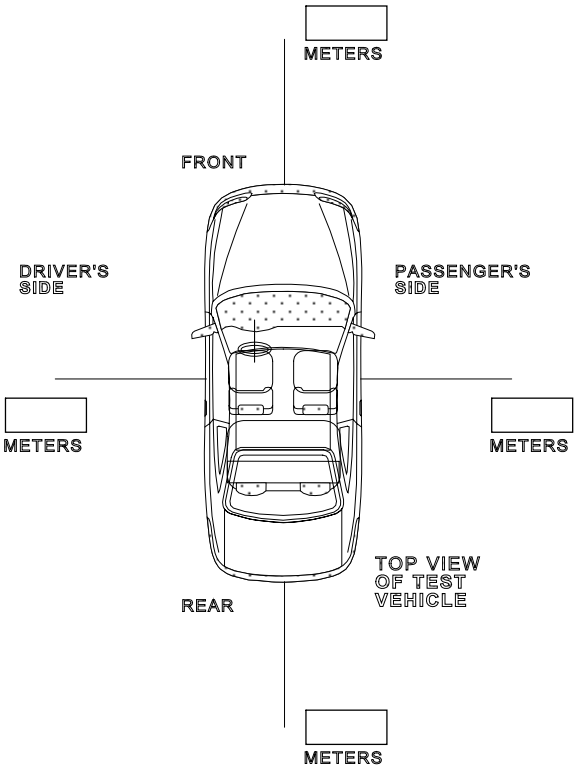
DATA SHEET 4
REMOTE ACTUATION DEVICE

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

Type of remote actuation device installed on vehicle (check one):
(X) Non Line-Of-Site ( ) Line-of-Site

Measured range of Operation:
Record the maximum operating distance of the remote actuation device in the boxes below. The range of operation shall not exceed six meters for a **Non Line-of-Site Device** or eleven meters for a **Line-of-Site Device** in any measured direction and continuous activation of the remote actuation device is required until all operable windows, partitions, or roof panels are completely closed.

Pass/Fail N/A



REMARKS: Vehicle Remote does not activate windows or roof panel.

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

DATA SHEET 5
OCCUPANT COMPARTMENT ACTUATION DEVICE TEST
SPHERE TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

ACTUATION DEVICES	APPLICABLE (YES/NO*)	SPHERE ACTIVATED ACTUATION DEVICE CLOSES WPRP (YES/NO)	TEST RESULT PASS/FAIL	COMPLIANCE REQUIRED (Y/N**)
MASTER CONTROL PANEL ACTUATION DEVICES				
Left Front (LF)	Yes	No	Pass	Yes
Right Front (RF)	Yes	No	Pass	Yes
Left Rear (LR)				
Right Rear (RR)				
Tail Gate (TG)				
Vent Window(s)				
Partition (P)				
Roof Panel (RP)				
INDIVIDUAL ACTUATION DEVICES				
Left Front (LF)	Yes	No	Pass	Yes
Right Front (RF)	Yes	No	Pass	Yes
Left Rear (LR)				
Right Rear (RR)				
Vent Window(s)				
Tail Gate(TG)				
Partition(P)				
Roof Panel (RP)	NO	NO	Pass	Yes

*This requirement does not apply to actuation devices that are mounted in a vehicle's roof, headliner, or overhead console and that can close a window, partition, or roof panel only by continuous rather than momentary switch actuation or actuation devices that comply with the reversing requirement of FMVSS 118, S5.
** Requirement is effective 1 October 2008. Early compliance is voluntary and test results are used for information only.

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

DATA SHEET 6
OCCUPANT COMPARTMENT ACTUATION DEVICE TEST
FOR POWER-OPERATED WINDOWS ONLY
PULL UP OR PULL OUT TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

ACTUATION DEVICES	SWITCH ORIENTATION A – horizontal B – vertical C - angled	CLOSES POWER-OPERATED WINDOW ONLY IF: PULL UP OR PULL OUT	TEST RESULT PASS/FAIL	COMPLIANCE REQUIRED (Y/N**)
MASTER CONTROL PANEL ACTUATION DEVICES				
Left Front (LF)	C	Pull Out	Pass	Yes
Right Front (RF)	C	Pull Out	Pass	Yes
Left Rear (LR)				
Right Rear (RR)				
Vent Window(s)				
INDIVIDUAL ACTUATION DEVICES				
Left Front (LF)	C	Pull Out	Pass	Yes
Right Front (RF)	C	Pull Out	Pass	Yes
Left Rear (LR)				
Right Rear (RR)				
Vent Window(s)				

** Requirement is effective 1 October 2008. Early compliance is voluntary and test results are used for information only.

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

DATA SHEET 7
WPRP PHYSICAL CONTACT REVERSAL CAPABILITY

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

WPRP's equipped with reversal capability: Yes
WPRP's that must meet reversal requirement: None
Locking System Position: Off/Lock

GTL Test #	Window, Partition, Roof Panel	Test Rod Placement in Window, Partition or Roof Panel	Test Rod Size/Deflection	Window, Partition or Roof Panel Opening Before/After Closing (mm)	Maximum Force Measured on Test Rod (Newtons)	Window, Partition, or Roof Panel Reversing Distance (mm)	Pass/Fail*
6619	L.F. Window	Top	100 mm	90/260	69	260	P**
6620	L.F. Window	Front	100 mm	20/260	77	260	P**
6621	R.F.Window	Top	100 mm	110/260	81	260	P**
6622	L.F.Window	Top	6 mm	40/170	96	170	P**
6623	R.F. Window	Top	6 mm	130/165	100	165	P**

*WPRP must reverse direction before contacting or exerting a squeezing force of 100 Newtons. Upon such reversal, the WPRP must open to one of the following positions.

A. A position that is at least as open as the position at the time closing was initiated
B. A position that is not less than 125 mm more open than the position at the time the window reversed direction, or
C. A position that permits a semi-rigid cylindrical rod that is 200 mm in diameter to be placed through the opening at the same contact point(s) used in 12.5.

REMARKS: ** This vehicle does not need to meet S5 requirements for automatic reversal as it complies with opening requirements of S4.

RECORDED BY: G. Farrand DATE: 05/12/10
APPROVED BY: D. Messick

SECTION 4
TEST EQUIPMENT LIST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 AUDI A5 COUPE
VEHICLE NHTSA NO: CA5800 VIN: WAU3FAFR4AA027203
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 10/09
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/12/10

ITEM	MFR	MODEL	S/N	CAL. PERIOD	DATE OF LAST CALIB.	REMARKS
SLR DIGITAL CAMERA	NIKON	D50	N/A	N/A	N/A	
PINCH FORCE SENSOR	SENSOR DEVELOPMENTS, INC.	10293	179104	12 MO.	04/10	

REMARKS:

RECORDED BY: G. FARRAND DATE: 05/12/10

APPROVED BY: D. MESSICK

SECTION 5

PHOTOGRAPHS

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

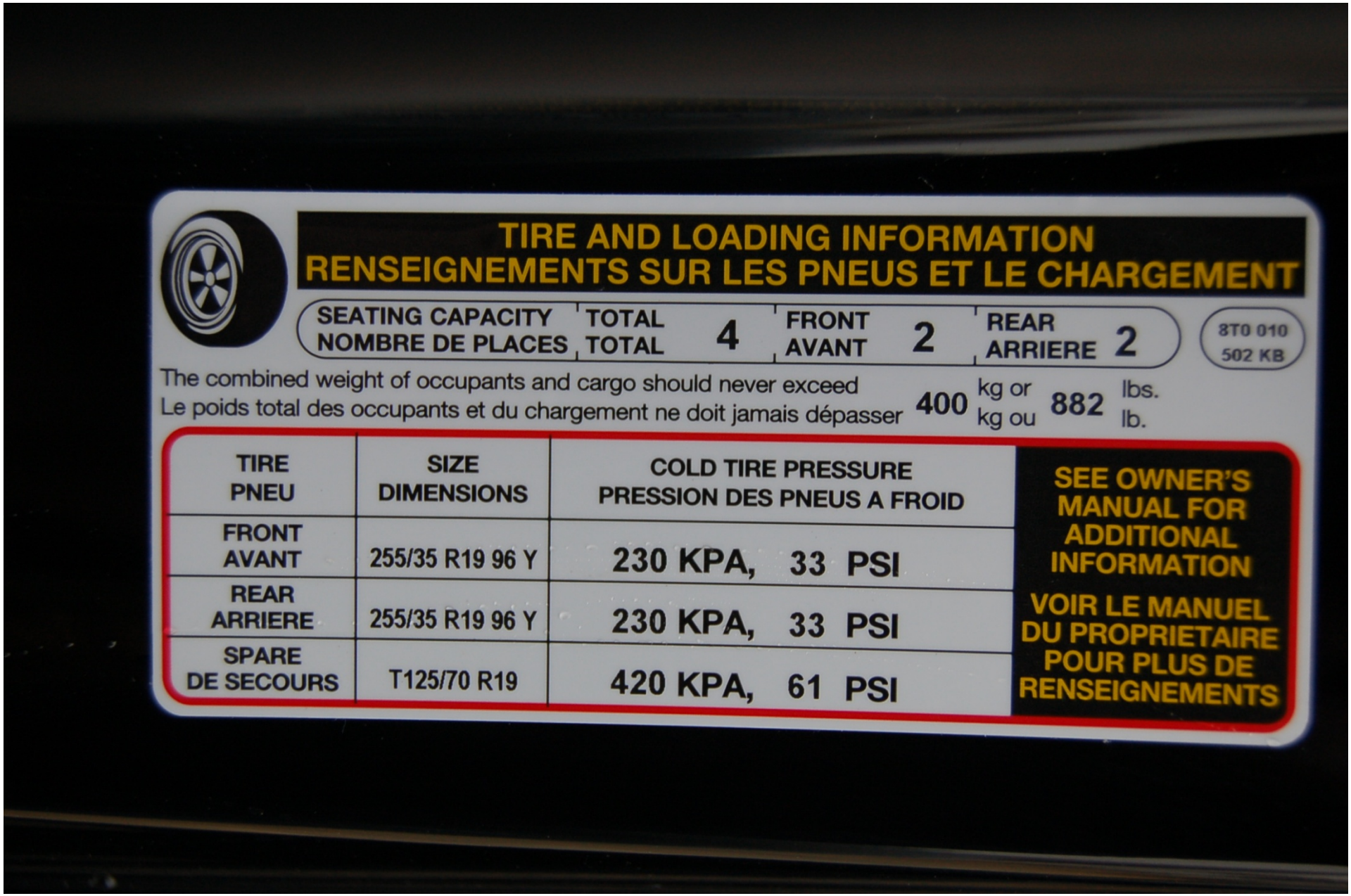
FIGURE 5.1
¾ FRONTAL VIEW FROM RIGHT SIDE OF VEHICLE

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.2
¾ REAR VIEW FROM LEFT SIDE OF VEHICLE

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.3
CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL



2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.4
CLOSE-UP VIEW OF TIRE INFORMATION LABEL

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.5
MASTER CONTROL SWITCH

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

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

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.7
CLOSE-UP VIEW OF ROOF PANEL SWITCH

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.8
KEY AND REMOTE CONTROL

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.9
EXTERIOR LOCKING SYSTEM

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.10
SPHERE TEST ON MASTER SWITCH

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.11
SPHERE TEST ON RIGHT FRONT SWITCH

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.12
SPHERE TEST ON ROOF PANEL SWITCH

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.13
INSTRUMENTATION TEST SET-UP

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.14
FORCE TEST INSTRUMENT SET-UP ON RIGHT FRONT WINDOW

2010 AUDI A5 COUPE
NHTSA NO. CA5800
FMVSS NO. 118

FIGURE 5.15
FORCE TEST INSTRUMENT SET-UP ON LEFT FRONT WINDOW

SECTION 6
OWNER'S MANUAL INFORMATION

Opening and closing

Keys

Key set

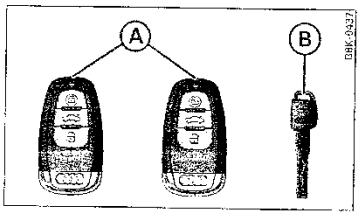


Fig. 28 Key set

Ⓐ Master key with remote control

You can centrally lock and unlock your vehicle and start the engine with the master key with remote control.

Ⓑ Emergency key

The emergency key is not intended for constant use. It should only be used in an emergency. Keep it in a safe place and do not carry it on your key ring.

Key replacement

If you lose a key, contact your authorized Audi dealer immediately to have the *lost* key disabled. Be sure to bring all your keys with you.

Data in the master key

During driving, service and maintenance-relevant data is continuously stored on your master key. Your Audi service adviser can read out this data and tell you about the work your vehicle needs. This applies also to vehicles with convenience key*.

Personal comfort settings

If two people use one vehicle, it is recommended that each person always uses "their own" master key. When the ignition is turned off or when the vehicle is locked, personal convenience settings for the following systems are stored and assigned to the remote master key.

- Climate control
- Central locking system
- Seat memory*
- Parking system*
- Audi side assist*
- Audi drive select*

The stored settings are automatically recalled when you unlock the vehicle, when you open the doors or when you turn on the ignition.

⚠ WARNING

- **Do not leave your vehicle unattended with the key in the ignition lock. Entry by unauthorized persons could endanger you or result in theft or damage the vehicle. Always lock all doors and take the key.**
- **Do not leave children unattended in the vehicle, especially with access to vehicle keys. Unguarded access to the keys provides children the opportunity to start the engine and/or activate vehicle systems such as the power windows etc. Unsupervised operation of any vehicle system by children can result in serious injury.**
- **Do not remove the key from the ignition lock until the vehicle has come to a complete stop. Otherwise the steering column lock could suddenly engage - causing the risk of an accident.**

⚠ WARNING

- **After closing the rear lid, always pull up on it to make sure that it is properly closed. Otherwise it could open suddenly when the vehicle is moving.**
- **To help prevent poisonous exhaust gas from being drawn into the vehicle, always keep the rear lid closed while driving. Never transport objects larger than those which fit completely into the luggage area, because then the rear lid cannot be fully closed.**
- **Never leave your vehicle unattended especially with the rear lid left open. A child could crawl into the car through the luggage compartment and pull the lid shut, becoming trapped and unable to get out. To reduce the risk of personal injury, never let children play in or around your vehicle. Always keep the rear lid as well as the vehicle doors closed when not in use.**
- **Always ensure that no one is within range of the rear lid when it is moving, in particular close to the hinges - fingers or hands can be pinched.**

Tips

- When the vehicle is locked, the rear lid can be opened separately by pressing the button on the master key. When you close the rear lid again, it locks automatically.
- If the rear lid is open or not properly closed when the ignition is turned on, the door and rear lid warning ⇨ *page 21* appears in the instrument cluster display. ■

Power windows

Controls

The driver can operate the window regulator for the driver's door with the left switch and the window regulator for the passenger's door with the right switch.

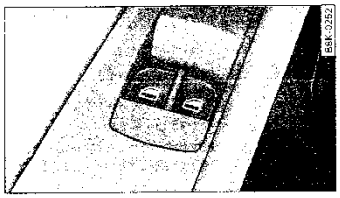


Fig. 45 Driver's door: power window switches

If the respective switch is pushed or pulled the window will open or close. The power window switches have a **two-position function**:

Opening the windows

- Push the switch to the **first stop** and hold it there until the window has lowered to the desired position.
- Push the switch briefly to the **second stop**: the window will automatically open all the way.

Closing the windows

- Pull the switch up to the **first stop** and hold it there until the window has risen to the desired position.
- Pull the switch quickly to the **second position**: the window will automatically close all the way.

⚠ WARNING

- **Do not leave children unattended in the vehicle, especially with access to vehicle keys. Unsupervised use of the keys can result in starting of the engine and use of vehicle systems such as power windows, etc. which could result in serious injury.**
- **Remember – you can still open or close the power windows for about ten minutes after the ignition is switched off. Only when either of the doors are opened are the power windows switched off.**
- **Be careful when closing the windows. Check to see that no one is in the way, or serious injury could result!**
- **Always remove the ignition key whenever you leave your vehicle.**
- **If you lock your vehicle from the outside, no one, especially children, should remain in the vehicle.**
- **Do not stick anything on the windows or the windshield that may interfere with the driver's field of vision.**

Tips

- When you open the doors, the windows automatically lower about 10 mm.
- After the ignition has been switched off, the windows can still be opened or closed for about 10 minutes. The window regulators are not switched until the driver's or passenger's door is opened. ■

Convenience opening/closing

The windows and the panoramic tilting sunroof can be opened and closed with the mechanical key or the emergency key.

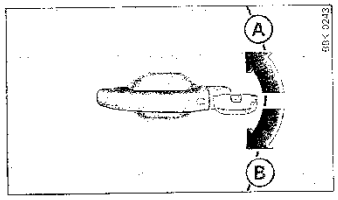


Fig. 46 Key turns for opening and closing

Convenience opening feature

- Use the emergency key or pull the mechanical key out of the master key ⇒ *page 40*.
- Insert the key into the lock of the driver's door.
- Turn the key to position ⇒ fig. 46 Ⓐ until all the windows have reached the desired position and the panoramic tilting sunroof is tilted.

Convenience closing feature

- Use the emergency key or pull the mechanical key out of the master key ⇒ *page 40*.
- Turn the key in the lock of the driver's door to the lock position Ⓑ until the windows and the panoramic tilting sunroof are closed ⇒ ⚠.

When the panoramic tilting sunroof is tilted/closed, the electric sun shade* is also opened/closed. ▶

⚠ WARNING

- **Never close the windows and thepanoramic tilting sunroof inattentively and without checking - there is risk of injury.**
- **You must always watch when the windows are being raised so that no one can be trapped. If you release the key, the closing action is immediately canceled.**
- **Always read and heed WARNING ⇒ ⚠ in "General description" on *page 41*. ■**

Correcting window regulator malfunction

After disconnecting the vehicle battery, the one-touch up and down feature must be activated again.

- Pull and hold the power window switch until the window is completely closed.
- Release the switch.
- Pull the switch again for one second. The automatic closing/opening is now reactivated. ■

Valet parking

Through the "valet parking" feature the luggage compartment of your vehicle is secured from unauthorized access during the valet parking service.

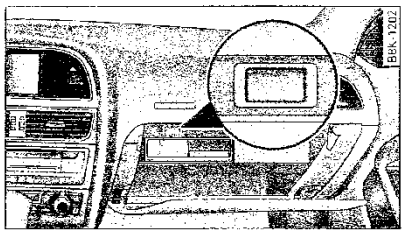


Fig. 47 Valet parking button

With "valet parking" activated, the rear lid cannot be opened.

- Take the mechanical key out of the master key ⇒ *page 40*.
- Open the glove box ⇒ *page 89* and activate ⇒ fig. 47 the "valet parking" feature by pressing the VALET button. The indicator light in the switch illuminates.
- Close the glove box and lock it with the mechanical key.
- Lock both rear seat backs with the mechanical key ⇒ *page 82*.
- Lock the luggage compartment pass-through with the mechanical key ⇒ *page 82*.
- Leave the master key with the service personnel for parking and keep the mechanical key with you.

When the "valet parking" feature is activated: ▶

- the unlocking button for the rear lid in the driver's door is inactive
- the button on the master key is inactive
- the opening handle in the rear lid is inactive.

The vehicle can be driven and locked and unlocked with the master key. Access to the luggage compartment is blocked. ■

Panoramic tilting sunroof

Tilting and closing

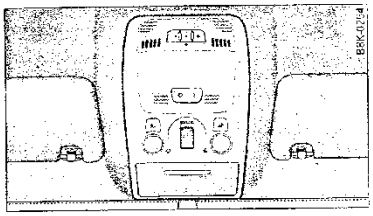


Fig. 48 Section of headliner: Switch for panoramic tilting sunroof

- To tilt the panoramic tilting sunroof, press the switch briefly.
- To close the panoramic tilting sunroof, pull the switch briefly.
- To set an intermediate position, press/pull the switch until the roof reaches the desired position.

After the ignition is switched off, you can still operate the Panorama for about 10 minutes. As soon as the driver's or passenger's door is opened, the switch is inoperative.

Sun blind

The sun blind can be opened and closed manually in any position.

⚠ WARNING

Pay careful attention when closing the panoramic tilting sunroof - otherwise serious injury could result! For this reason, always remove the ignition key when leaving the vehicle.

- **Never leave children or persons requiring assistance alone in the vehicle, especially when they could access the vehicle keys. Unsupervised use of the keys can result in the engine being started or use of vehicle systems such as the power windows, etc. which could result in serious injury. The doors could be locked with the remote key, delaying help in an emergency.**
- **The panoramic tilting sunroof will continue to operate until the ignition key has been removed and one of the front doors has been opened.**

Note

Always close your panoramic tilting sunroof when leaving your vehicle. Sudden rain can cause damage to the interior equipment of your vehicle, particularly the electronic equipment.

Tips

- Information on convenience opening/closing ⇒ *page 49.* ■

Emergency closing of the panoramic tilting sunroof

The panoramic tilting sunroof can be closed manually in an emergency.

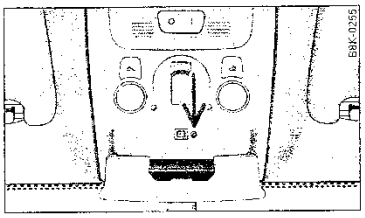


Fig. 49 Section of headliner: Unscrewing lighting unit

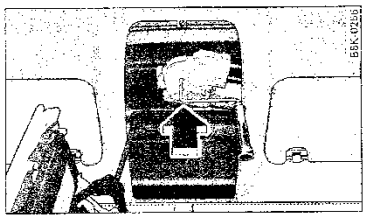


Fig. 50 Section from headliner: Crank for emergency operation

If the panorama sunroof detects an object in its path when it is closing, it will open again automatically. In this case, you can close the roof with the power emergency closing function.

Emergency closing function

- Within five seconds after the sunroof opens automatically, pull the switch until the roof closes. The driver's and front passenger's doors must be closed.
- If the power emergency closing function is not possible, you must close the roof mechanically.

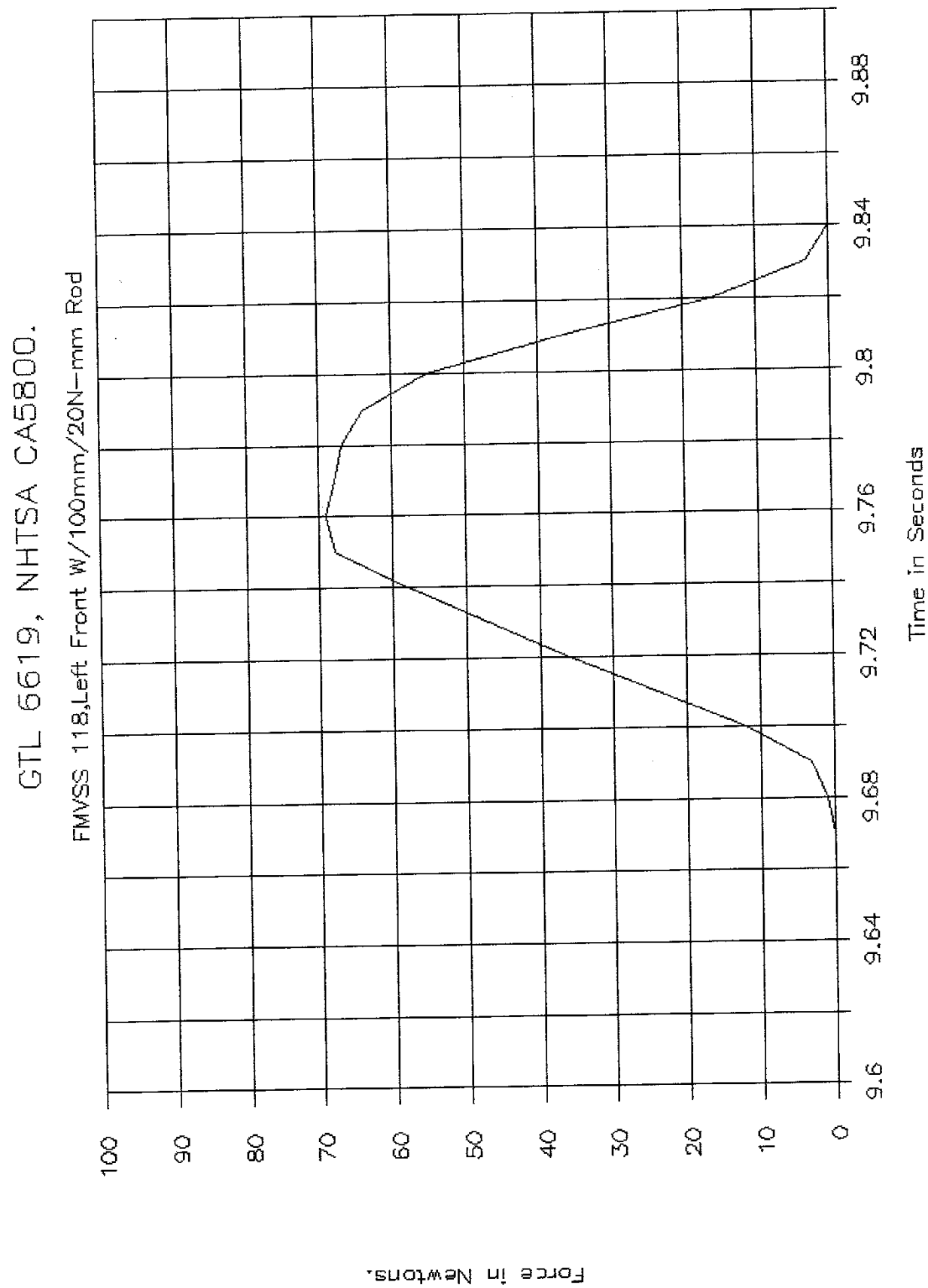
Mechanical emergency closing

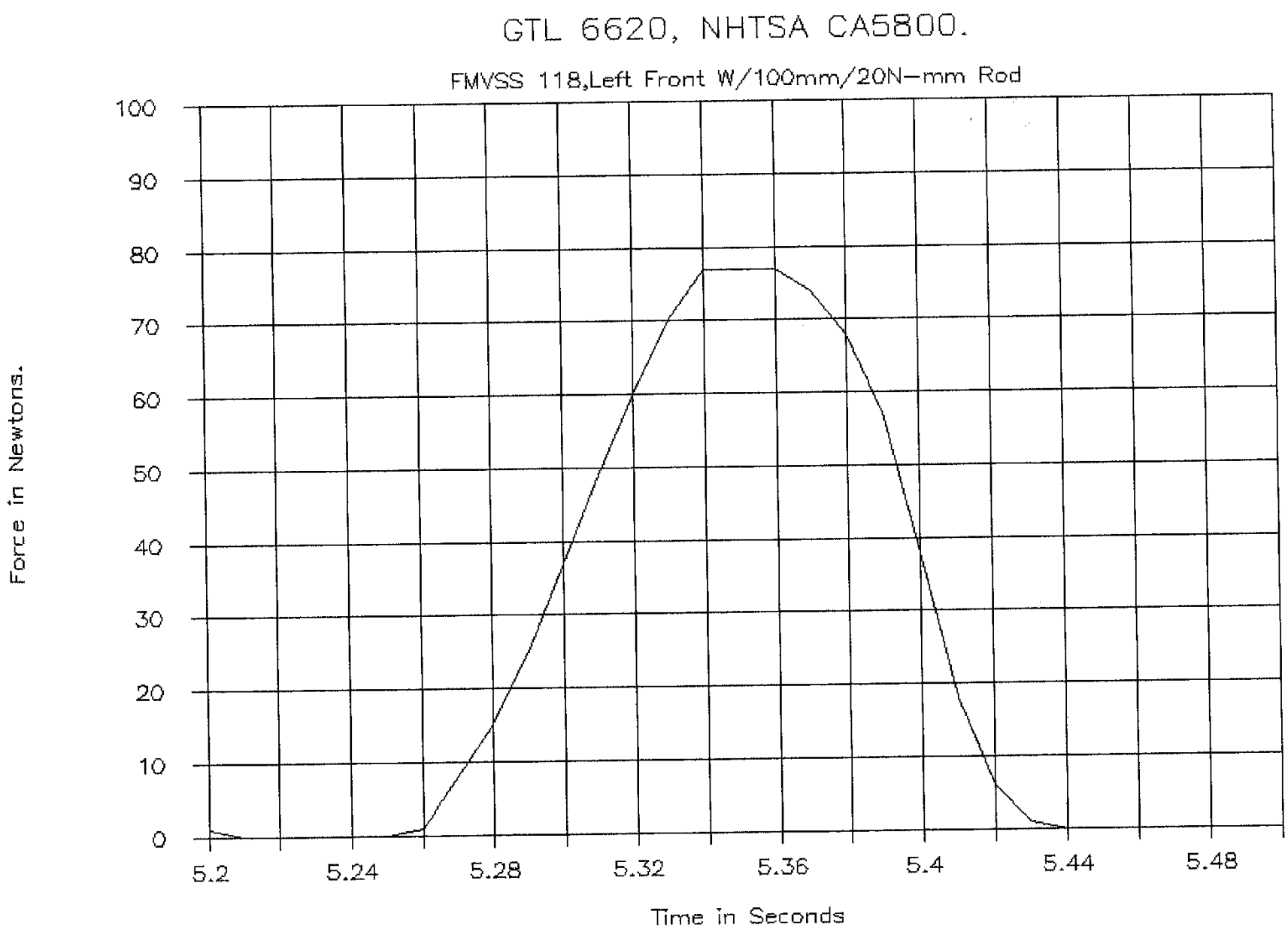
- You will find the screwdriver in the vehicle tool kit ⇒ *page 310* and the crank in the fuse cover ⇒ *page 320,* fig. 247.
- Remove the screw ⇒ fig. 49 -Arrow- from the lighting unit and pull the lighting unit out carefully.
- Push the crank into the hexagonal hole as far as it will go ⇒ fig. 50 and turn it. The roof will close.

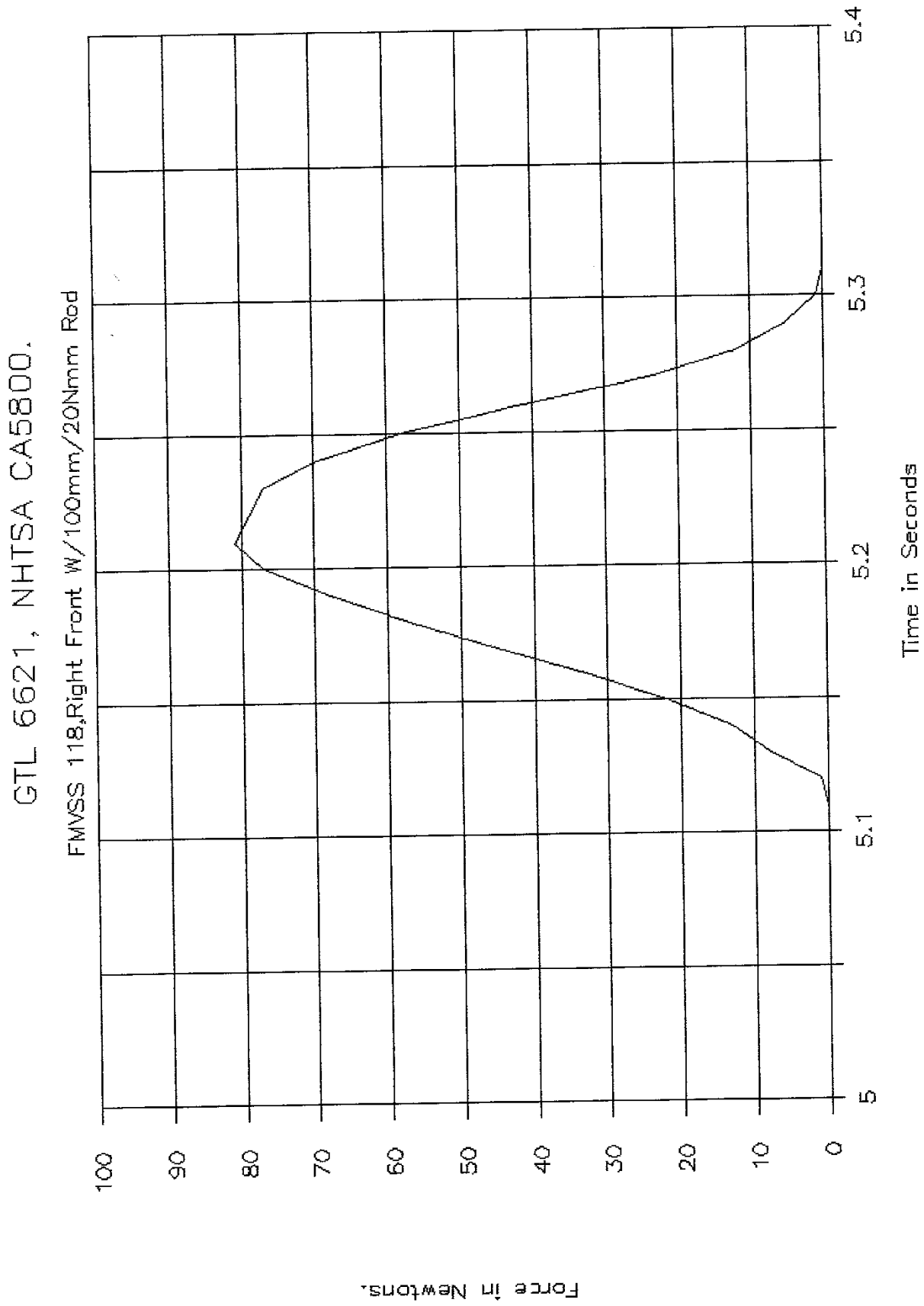
Tips

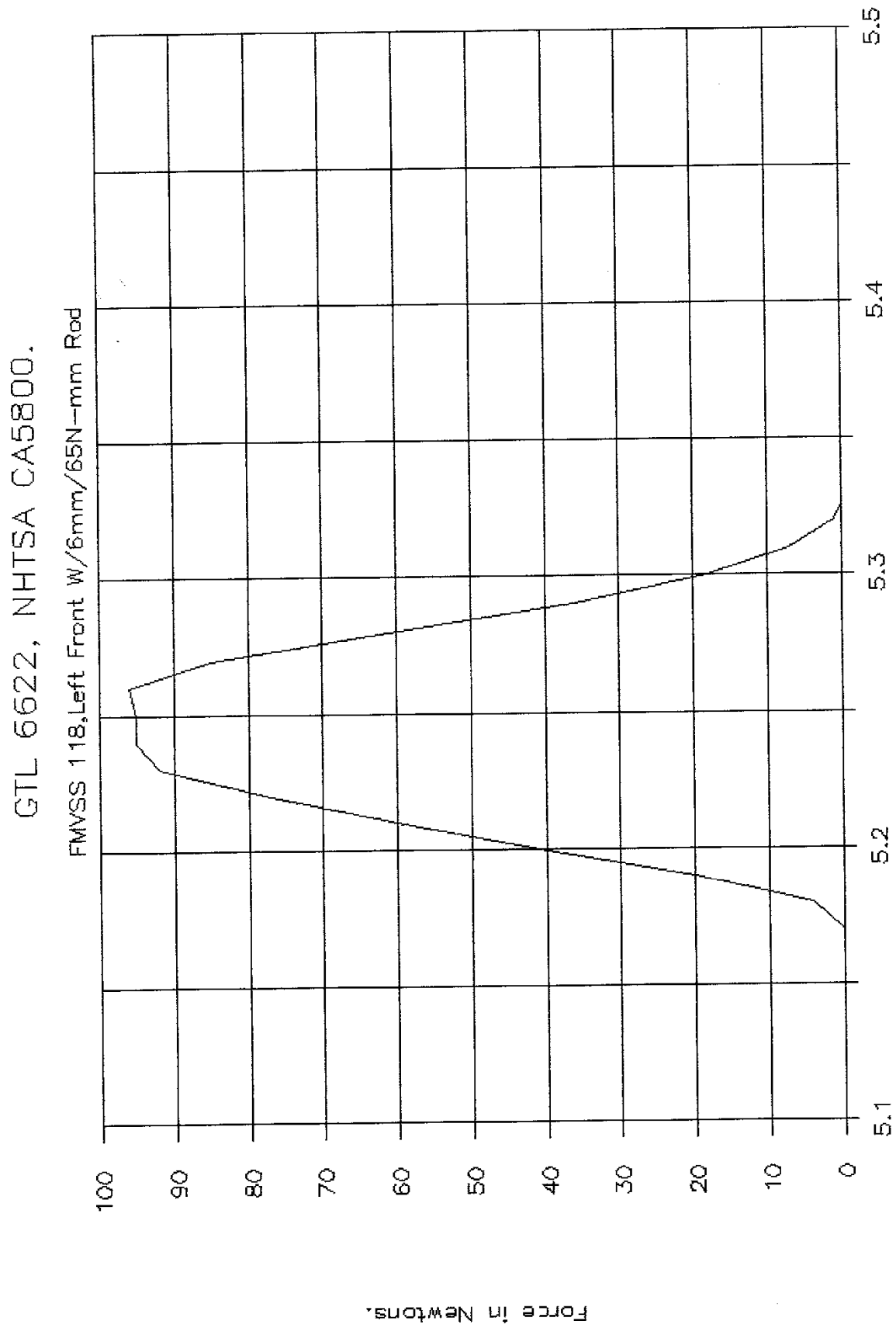
The crank is easier to turn if you use the screwdriver handle (vehicle tool kit) as an aid. ■

SECTION 7
PLOTS


GTL 6619, NHTSA CA5800.
FMVSS 118,Left Front W/100mm/20N-mm Rod
Force in Newtons.
100
90
80
70
60
50
40
30
20
10
0
9.6
9.64
9.68
9.72
9.76
9.8
9.84
9.88
Time in Seconds


GTL 6620, NHTSA CA5800.
FMVSS 118,Left Front W/100mm/20N-mm Rod
Force in Newtons.
100
90
80
70
60
50
40
30
20
10
0
5.2
5.24
5.28
5.32
5.36
5.4
5.44
5.48
Time in Seconds


GTL 6621, NHTSA CA5800.
FMVSS 118,Right Front W/100mm/20Nmm Rod
Force in Newtons.
100
90
80
70
60
50
40
30
20
10
0
5
5.1
5.2
5.3
5.4
Time in Seconds


GTL 6622, NHTSA CA5800.
FMVSS 118,Left Front W/6mm/65N-mm Rod
Force in Newtons.
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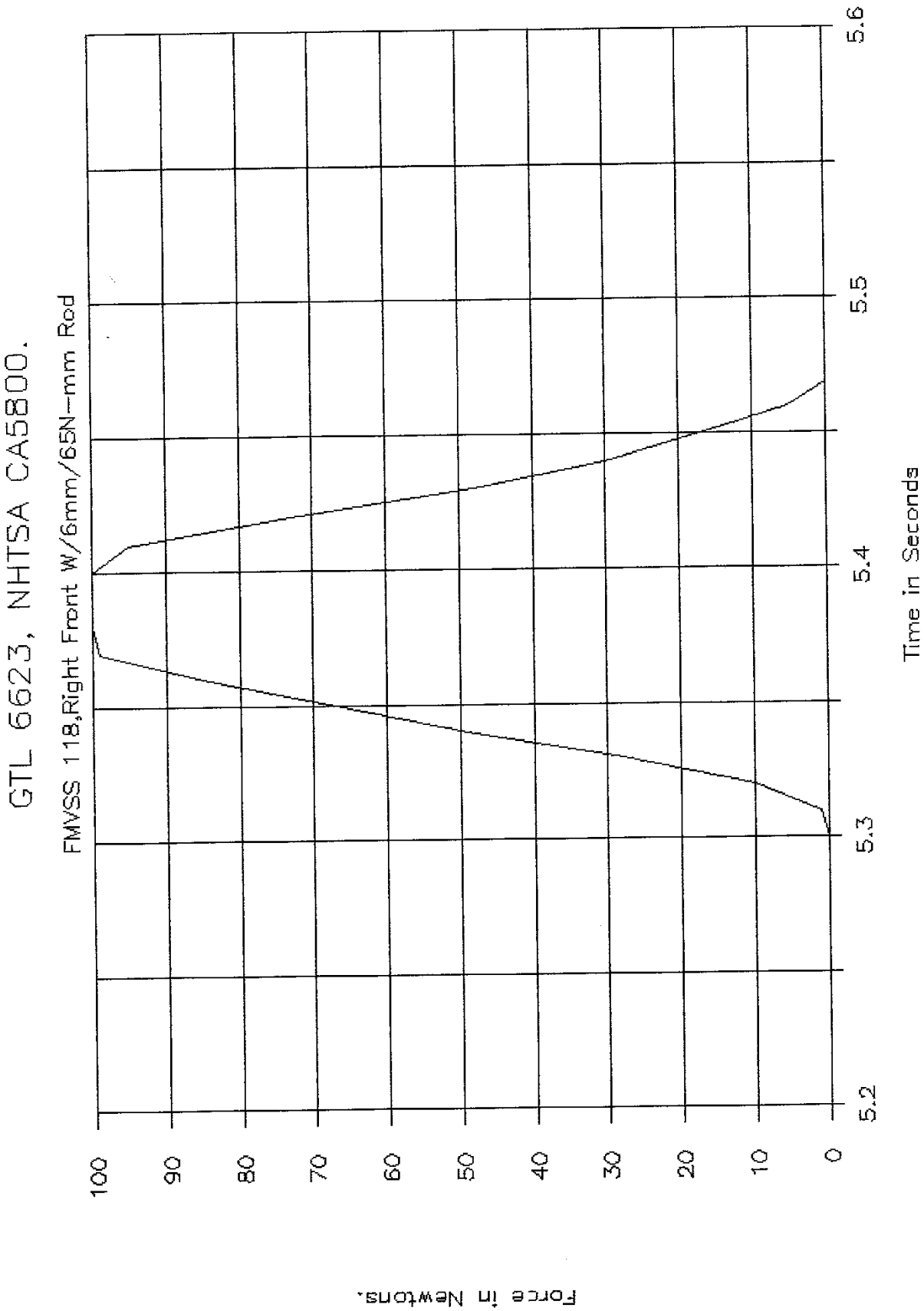
80
70
60
50
40
30
20
10
0
5.1
5.2
5.3
5.4
5.5
Time in Seconds


GTL 6623, NHTSA CA5800.
FMVSS 118,Right Front W/6mm/65N-mm Rod
Force in Newtons.
100
90
80
70
60
50
40
30
20
10
0
5.2
5.3
5.4
5.5
5.6
Time in Seconds