REPORT NUMBER 118-GTL-10-001

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

DAIMLER AG STUTTGART
2010 MERCEDES GLK 350, MPV
NHTSA NO. CA0514

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

June 4, 2010

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF TEST

A model year 2010 Mercedes GLK 350 MPV 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 Mercedes GLK 350 MPV. The vehicle was identified as follows:

A. Vehicle Identification Number: WDCGG8HB8AF474687

B. NHTSA No.: CA0514

C. Manufacturer: DAIMLER AG STUTTGART

D. Manufacture Date: 02/10

E. Color: Silver

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 118 testing on May 3-4, 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 Mercedes GLK 350.

FMVSS 118
COMPLIANCE DATA SUMMARY SHEET

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350

VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687

VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10

LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/04/10

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 is equipped with a smart key system and can be operated by two methods. The first is to utilize the key FOB inserted into the ignition which is then rotated similar to a traditional key.

The second method is to insert a supplied start/stop push button into the ignition opening which then functions upon "key code" acceptance. Removal of the "key code" requires opening of the driver door.

RECORDED BY: G. Farrand DATE: 05/04/10

APPROVED BY: D. Messick

WPRP PRE-OPERATIONAL CHECK

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

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	X			X
Individual Interior Actuation Devices	X	X	X	X			X
Master Control Panel Actuation Devices	X						
WPRP Operated by Exterior Locking System							
WPRP Operated by Remote Control	X	X	X	X			X
WPRP with Auto-Reverse Capability	X	X	X	X			X
WPRP with Express-Up Capability	X	X	X	X			X

Master Control Panel Location: Driver's Door Panel

Exterior Locking System Location:

Remote Control Type: (X) Line of Sight ( ) 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): Push Button Switch (keyless go) – Performs Off, Accessory, Run, Start (depending on brake pedal application.) Using physical smart key activates accessory when inserted into holder and run/start when rotated.

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 power to WPRP's

REMARKS: Radio frequency is used for locking/unlocking doors. Line-of-sight infrared is used for opening and closing of windows and sun roof.

RECORDED BY: G. Farrand DATE: 05/03/10
APPROVED BY: D. Messick

DATA SHEET 1
INTERIOR LOCKING SYSTEM TEST
(Using Smart Key inserted into Ignition Receptacle on Dash)

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

Key lock position at start of test execution: (X) ON ( ) ACCESSORY, Then rotated to engine off and smart key removed from ignition receptacle.

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)		X	X		X		P
Right Rear (RR)		X	X		X		P
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)		X	X		X		P
Right Rear (RR)		X	X		X		P
Vent Window(s)							
Tail Gate Window							
Partition Window							
Roof Panel Window		X	X		X		P

REMARKS:

RECORDED BY: G. Farrand DATE: 05/03/10

APPROVED BY: D. Messick

DATA SHEET 2
INTERIOR LOCKING SYSTEM TEST
(Using start/stop push button with Smart Key)

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

Key lock position at start of test execution: (X)ON ( )ACCESSORY, Then off and then driver door opened

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)			X		X*		P
Right Rear (RR)			X		X*		P
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)			X		X*		P
Right Rear (RR)			X		X*		P
Vent Window(s)							
Tail Gate Window							
Partition Window							
Roof Panel Window			X		X*		P

REMARKS: *Vehicle has “keyless go” system and “key code” can only be removed from system when engine is off, and driver door has been opened. After opening driver door to remove key code, window systems do not operate. Opening of passenger door only does not deactivate windows as key off requires driver door opening.

RECORDED BY: G. Farrand DATE: 05/03/10
APPROVED BY: D. Messick

DATA SHEET 3
EXTERIOR LOCKING SYSTEM TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

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

Location of exterior locking system: Radio Frequency 9RF) door locking system around vehicle perimeter and infrared window closing system in driver door handle.

Describe how the exterior locking system is activated: Radio Frequency (RF) door locking system can be used 360° around vehicle exterior. Infrared closing system is only line-of-sight to the driver's door handle and within 6 meters of door handle.

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)			
RIGHT FRONT (RF)			
LEFT REAR (LR)			
RIGHT REAR (RR)			
VENT WINDOW(S)			
PARTITION(P)			
ROOF PANEL (RP)			
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: 05/03/10
APPROVED BY: D. Messick

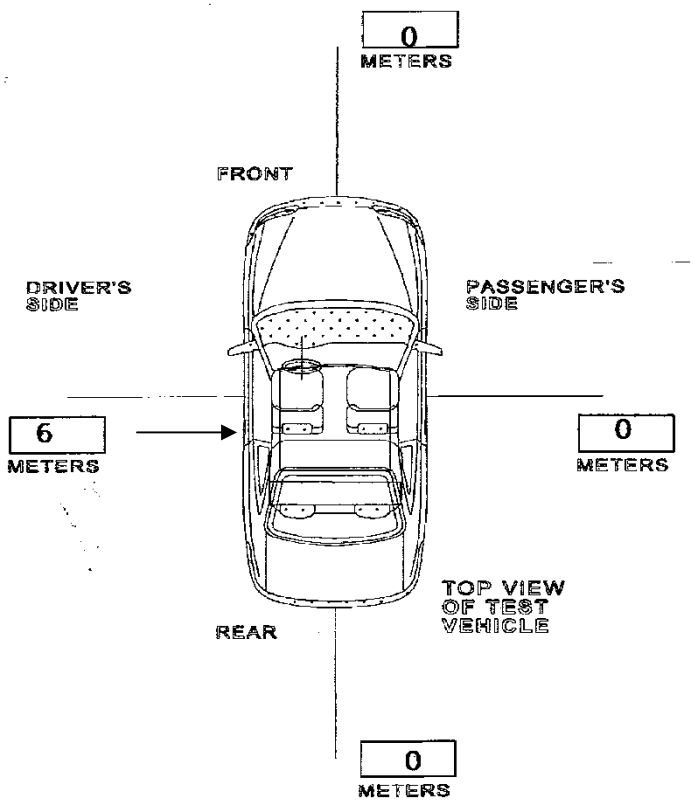
DATA SHEET 4
REMOTE ACTUATION DEVICE

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

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



REMARKS: Infrared closing system is only line-of-sight to the driver's door handle and within 6 meters of door handle and requires continuous activation for WPRP closing. Meets S4(d) of standard.

RECORDED BY: G. Farrand DATE: 05/03/10
APPROVED BY: D. Messick

DATA SHEET 5
OCCUPANT COMPARTMENT ACTUATION DEVICE TEST
SPHERE TEST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

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)	Yes	No	Pass	Yes
Right Rear (RR)	Yes	No	Pass	Yes
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)	Yes	No	Pass	Yes
Right Rear (RR)	Yes	No	Pass	Yes
Vent Window(s)				
Tail Gate(TG)				
Partition(P)				
Roof Panel (RP)	No	No	Pass	

*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: 05/03/10
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 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

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)	C	Pull Out	Pass	Yes
Right Rear (RR)	C	Pull Out	Pass	Yes
Vent Window(s)				
INDIVIDUAL ACTUATION DEVICES				
Left Front (LF)	C	Pull Out	Pass	Yes
Right Front (RF)	A	Pull Up	Pass	Yes
Left Rear (LR)	A	Pull Up	Pass	Yes
Right Rear (RR)	A	Pull Up	Pass	Yes
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: 05/03/10
APPROVED BY: D. Messick

DATA SHEET 7
WPRP PHYSICAL CONTACT REVERSAL CAPABILITY

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

WPRP's equipped with reversal capability: Yes

WPRP's that must meet reversal requirement: No

Locking System Position:

GTL Test #	Window, Partition, Roof Panel	Test Rod Placement in Window, Partition or Roof Panel	Test Rod Size (mm)	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*
6579	L.F. Window	Front	6 mm	220/259	108	259	**
6580	L.F. Window	Top	6 mm	80/95	168	95	**
6581	L.R. Window	Top	6 mm	127/130	91	130	**
6582	Sun Roof	Front	6 mm	160/130	79	130	**
6583	L.F. Window	Top	200 mm	105/185	64	185	**
6584	R.F. Window	Top	6 mm	130/200	103	200	**
6585	R.R. Window	Top	6 mm	228/132	91	132	**

*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 the closing force requirements as it complies with S4 of the standard.

RECORDED BY: G. Farrand DATE: 05/03/10
APPROVED BY: D. Messick

SECTION 4
TEST EQUIPMENT LIST

VEHICLE MAKE/MODEL/BODY STYLE: 2010 MERCEDES GLK 350
VEHICLE NHTSA NO: CA0514 VIN: WDCGG8HB8AF474687
VEHICLE TYPE: MPV DATE OF MANUFACTURE: 02/10
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/03/10

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: 05/03/10

APPROVED BY: D. MESSICK

SECTION 5

PHOTOGRAPHS

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

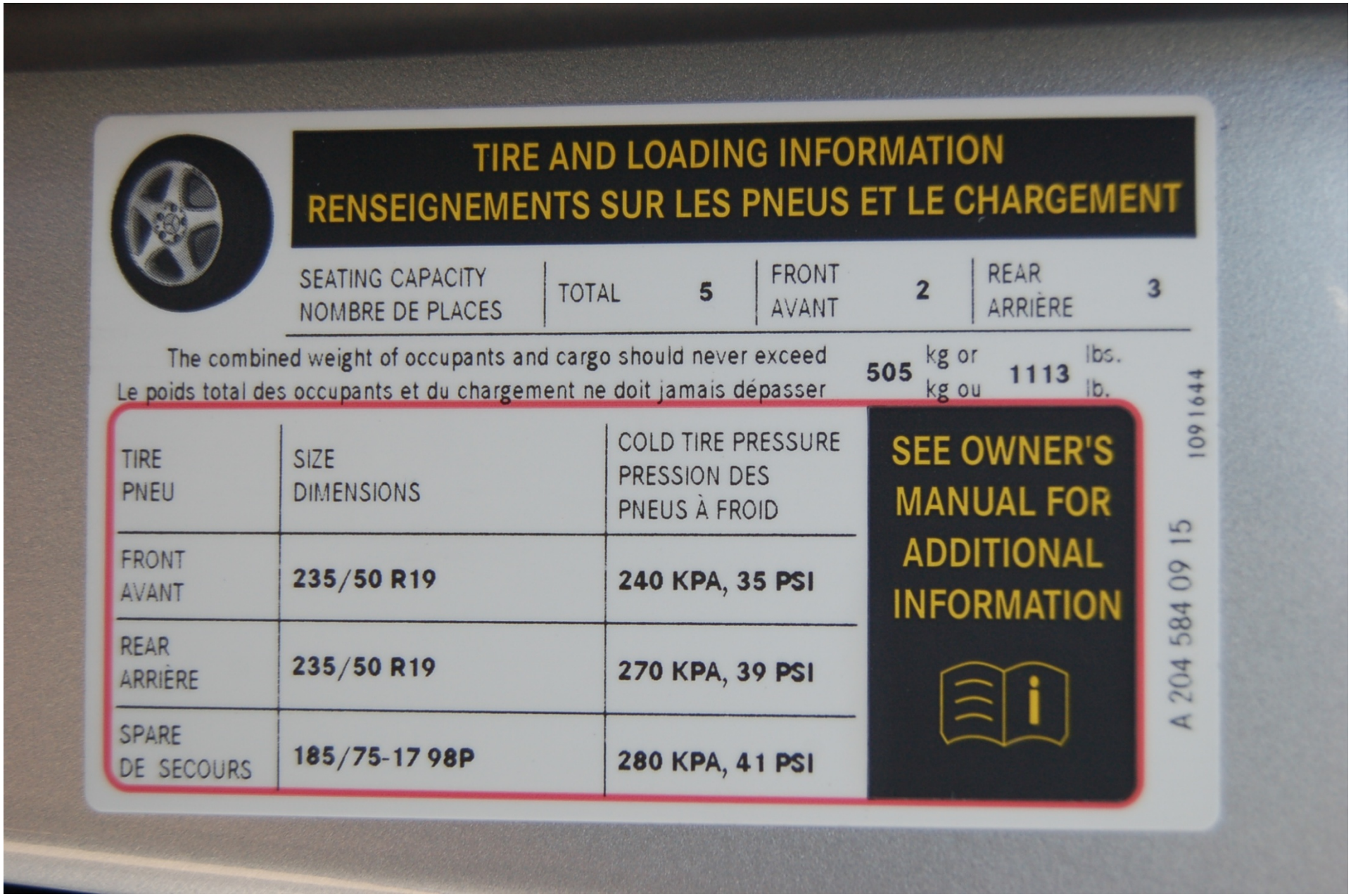
FIGURE 5.1
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.2
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.3
CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL



2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.4
CLOSE-UP VIEW OF TIRE INFORMATION LABEL

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.5
MASTER CONTROL SWITCH

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

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

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.7
CLOSE-UP VIEW OF LEFT REAR POWER WINDOW SWITCH

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.8
CLOSE-UP VIEW OF RIGHT REAR POWER WINDOW SWITCH

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.9
CLOSE-UP VIEW OF ROOF PANEL POWER SWITCH

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.10
KEY FOB/REMOTE CONTROL

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.11
INFRARED REMOTE RECEIVER

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.12
SPHERE TEST ON MASTER SWITCH

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.13
SPHERE TEST ON ROOF PANEL

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.14
INSTRUMENTATION TEST SET-UP

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.15
FORCE TEST INSTRUMENT SET-UP AT FRONT OF WINDOW

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.16
FORCE TEST INSTRUMENT SET-UP AT TOP OF WINDOW

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.17
FORCE TEST INSTRUMENT SET-UP ON REAR WINDOW

2010 MERCEDES GLK 350
NHTSA NO. CA0514
FMVSS NO. 118

FIGURE 5.18
FORCE TEST INSTRUMENT SET-UP ON ROOF PANEL

SECTION 6
OWNER'S MANUAL INFORMATION

Vehicle equipment

ℹ This Operator's Manual describes all features, standard or optional, potentially available for your vehicle at the time of purchase. Please be aware that your vehicle might not be equipped with all features described in this manual.

Locking and unlocking

Notes

⚠ **Observe Safety notes, see page 53.**

When unlocking or locking the vehicle with the SmartKey an acoustic signal sounds. The acoustic signal is activated at the factory. If you wish to deactivate the feature, or adjust its signal volume, contact an authorized Mercedes-Benz Center.

When unlocking the vehicle, all turn signal lamps flash once. An acoustic signal sounds once, and the locking knobs in the doors move up. The anti-theft alarm system is disarmed.

When locking the vehicle, all turn signal lamps flash three times. An acoustic signal sounds three times, and the locking knobs in the doors move down. The anti-theft alarm system is armed.

All doors and the tailgate must be closed.

If you cannot lock or unlock the vehicle with the SmartKey, the batteries in the SmartKey are discharged, the SmartKey is malfunctioning, or the vehicle battery is drained.

- ▶ Check the batteries in the SmartKey (▷ page 71) and replace them if necessary.
- ▶ Use the mechanical key to unlock the driver's door (▷ page 301).
- ▶ Use the mechanical key to lock the vehicle (▷ page 301).
- ▶ Have the vehicle battery and the vehicle battery connections checked at an authorized Mercedes-Benz Center.

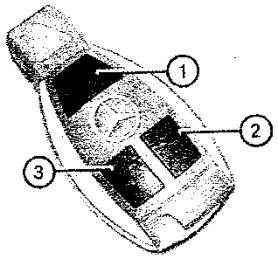
If the SmartKey is malfunctioning, contact Roadside Assistance or an authorized Mercedes-Benz Center.

SmartKey

Your vehicle comes supplied with two SmartKeys, each with remote control and a removable mechanical key.

The SmartKey centrally locks and unlocks

- the doors
- the tailgate
- the fuel filler flap



P80.35-2425-31

① Lock button
② Unlock button for tailgate
③ Unlock button

ℹ USA only:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Any unauthorized modification to this device could void the user's authority to operate the equipment.

Canada only:
This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. this device must accept any interference received, including interference that may cause undesired operation of the device.

Any unauthorized modification to this device could void the user's authority to operate the equipment.

Factory setting

▶ **Global unlocking:** Press button [🔓].

Unless you open a door or the tailgate within approximately 40 seconds after unlocking the vehicle:

- The vehicle will be locked again.
- The anti-theft alarm system will be rearmed.

▶ **Global locking:** Press button [🔒].

Selective setting

If you frequently travel alone, you may wish to reprogramm the SmartKey. Pressing button [🔓] will then only unlock the driver's door and the fuel filler flap.

▶ **Switching on/off:** Press and hold buttons [🔓] and [🔒] simultaneously for approximately 6 seconds until the battery check lamp (> page 71) flashes twice.

The SmartKey will then function as follows:

▶ **Unlocking driver's door and fuel filler flap:** Press button [🔓] once.

▶ **Global unlocking:** Press button [🔓] twice.

▶ **Global locking:** Press button [🔒].

KEYLESS-GO

Vehicles equipped with KEYLESS-GO come with two SmartKeys with KEYLESS-GO, each with remote control and a removable mechanical key.

The KEYLESS-GO function is integrated into the SmartKey. The validity of the SmartKey is checked every time you grasp an outside door handle.

When the SmartKey is valid, your vehicle unlocks

- the doors
- the tailgate
- the fuel filler flap

USA only:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Any unauthorized modification to this device could void the user's authority to operate the equipment.

Problems with wipers

If anything blocks the wipers (leaves, snow, etc.), switch them off immediately.

For safety reasons, do the following before attempting to remove any blockage:

- Stop the vehicle in a safe location.
- Remove the SmartKey from the starter switch.

  or
- Turn off the engine by pressing the KEYLESS-GO start/stop button and open the driver's door (with the driver's door open, starter switch is in position **0**, same as with SmartKey removed from starter switch).
- Engage the parking brake.
- Remove blockage.
- Turn the wipers on again.

If the windshield wipers fail to function at all with the combination switch in position [•••] or [••••],

- set the combination switch to the next higher wiper speed
- have the windshield wipers checked at the nearest authorized Mercedes-Benz Center

Power windows

Opening and closing

The door windows are opened and closed electrically. The switches for all door windows are located on the driver's door control panel. The switches for the respective door windows are located on the front passenger door and on the rear doors.

Operating the rear door windows from the rear is not possible when you activate the override switch (▷ page 58).

⚠ **Observe Safety notes, see page 53.**

⚠ **Warning!**

When opening or closing the door windows, make sure there is no danger of anyone being harmed by the opening/closing procedure.

The door windows are equipped with the express operation and automatic reversal function. If in express operation mode a door window encounters an obstruction that blocks its path, the automatic reversal function will stop the door window and open it slightly.

The door windows operate differently when the switch is pulled and held. See the "Closing when a door window is blocked" section in this chapter for details.

The closing of the door windows can be immediately halted by releasing the switch or, if the switch was pulled past the resistance point and released, by either pressing or pulling the respective switch.

If a door window encounters an obstruction that blocks its path in a circumstance where you are closing the door windows by pressing and holding button [🔒] on the SmartKey the automatic reversal function will not operate.

Activate the override switch when children are riding in the back seats of the vehicle. The children may otherwise injure themselves, e.g. by becoming trapped in the door window opening.

⚠ **Warning!**

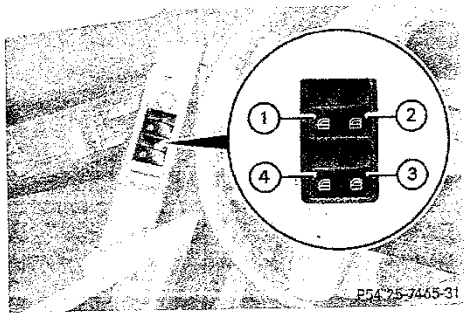
Do not keep any part of your body up against the window pane when opening a window. The downward motion of the pane may pull that part of your body down between the window pane and the door frame and trap it there. If there is a risk of entrapment, release the switch and pull it to close the window.

You can also open or close the door windows using the SmartKey, see "Summer opening feature" (▷ page 99)

▷▷

and "Convenience closing feature" (▷ page 99).

After switching off the ignition or removing the SmartKey from the starter switch, you can operate the door windows until you open the driver's or front passenger door. If no door was opened you can operate the door windows for up to 5 minutes.



- Switch on the ignition.
- **Opening/closing:** Press or pull and hold switch ① to ④ to the resistance point. The corresponding door window moves downward or upward until you release the switch.
- **Express operation:** Press or pull switch ① to ④ past the resistance point and release. The corresponding door window opens or closes completely.
- **Stopping during express operation:** Press or pull the respective switch again.

Closing when a door window is blocked

⚠ **Warning!**
Make sure that nobody can become trapped and be seriously or even fatally injured when closing a door window with greater force or without automatic reversal function.

If the upward movement of a door window is blocked during the closing procedure, the door window will stop and open slightly.

- Immediately after the door window has stopped because it was blocked, pull and hold the respective switch upward until the door window is fully closed. The door window closes with greater force.

If the door window is blocked again and opens slightly:

- Immediately after the door window was blocked, pull and hold the respective switch upward until the door window is fully closed. The door window closes without automatic reversal function.

⚠ **Warning!**
Pulling and holding the switch to close the door window immediately after it had been blocked two times will cause the door window to close without any reversal function for as long as you hold the switch.

Synchronizing power windows

The door windows must be synchronized if they cannot be fully closed (express operation).

Each door window must be synchronized separately.

- Close all doors.
- Switch on the ignition.
- Pull and hold switch ①, ②, ③ or ④ (▷ page 97) until the respective door window is closed. The door window opens again slightly.
- Pull and hold the respective switch once more immediately until the door window is closed completely.
- Hold the respective switch for approximately 1 second. The door window is synchronized.

Summer opening feature

When the weather is warm, you can ventilate the vehicle before driving off by simultaneously

- opening the door windows
- opening the panorama roof with power tilt/sliding panel and roller sunblinds

The summer opening feature can only be activated via the remote control of the SmartKey. The SmartKey must be in close proximity to the driver's outside door handle.

▶ Aim the transmitter eye of the SmartKey at the driver's outside door handle.

Vehicles without panorama roof with power tilt/sliding panel

▶ Press and hold button [🔓] on the SmartKey until the windows have reached the desired position.

The vehicle unlocks.

▶ Release button [🔓] on the SmartKey to interrupt the opening procedure.

Vehicles with panorama roof with power tilt/sliding panel

When roller sunblinds are extended:

▶ Press and hold button [🔓] on the SmartKey.
The vehicle unlocks.

The windows open and the roller sunblinds begin to retract after approximately 1 second.

▶ With the windows opened and the roller sunblinds fully retracted, press and hold button [🔓] on the SmartKey again.
The tilt/sliding panel opens.

▶ Release button [🔓] on the SmartKey to interrupt the opening procedure.

When roller sunblinds are retracted:

▶ Press and hold button [🔓] on the SmartKey.
The vehicle unlocks.

The windows and the tilt/sliding panel opens after approximately 1 second.

▶ Release button [🔓] on the SmartKey to interrupt the opening procedure.

Convenience closing feature

When locking the vehicle, you can simultaneously close the door windows and the panorama roof with power tilt/sliding panel.

Afterward, you can extend the roller sunblinds of the panorama roof with power tilt/sliding panel.

⚠ **Warning!**

When closing the door windows and the panorama roof with power tilt/sliding panel, make sure there is no danger of anyone being harmed by the closing procedure.

If potential danger exists, proceed as follows:

- Release button [🔒] to stop the closing procedure. To open, press and hold button [🔓]. To continue the closing procedure after making sure that there is no danger of anyone being harmed by the closing procedure, press and hold button [🔒].

With SmartKey

The SmartKey must be in close proximity to the driver's outside door handle.

▶ Aim transmitter eye of the SmartKey at the driver's outside door handle.

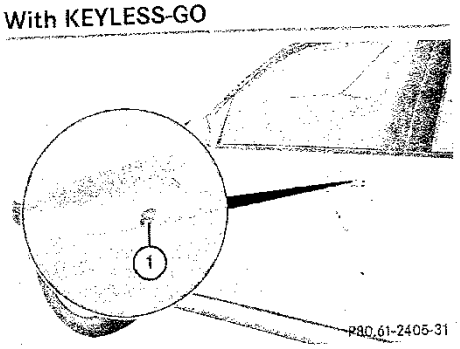
▶ Press and hold button [🔒] on the SmartKey until the door windows and the panorama roof with power tilt/sliding panel are closed completely.

▶ Release button [🔒] on the SmartKey to interrupt the closing procedure.

▷▷

- ▶ **Vehicles with panorama roof with power tilt/sliding panel:** Press and hold button [🔒] on the SmartKey once more. The roller sunblinds extend.
- ▶ Release button [🔒] on the SmartKey to interrupt the extending procedure.

With KEYLESS-GO



The SmartKey with KEYLESS-GO must be located outside the vehicle within approximately 3 ft (1 m) of a door.

- ▶ Close all doors.
- ▶ Touch and hold sensor surface ① on an outside door handle (▷ page 71) until the door windows and the panorama roof with power tilt/sliding panel are closed completely.

ⓘ Make sure you are only touching sensor surface ①.

- ▶ Release sensor surface ① on the outside door handle to interrupt the closing procedure.
- ▶ **Vehicles with panorama roof with power tilt/sliding panel:** Touch and hold sensor surface ① on an outside door handle once more.
  The roller sunblinds extend.
- ▶ Release sensor surface ① on the outside door handle to interrupt the extending procedure.

Driving and parking

Safety notes

⚠ **Warning!**
Make sure absolutely no objects are obstructing the pedals' range of movement. Keep the driver's footwell clear of all obstacles. If there are any floormats or carpets in the footwell, make sure the pedals still have sufficient clearance.

During sudden driving or braking maneuvers the objects could get caught between or under the pedals. You could then no longer brake or accelerate. This could lead to accidents and injury.

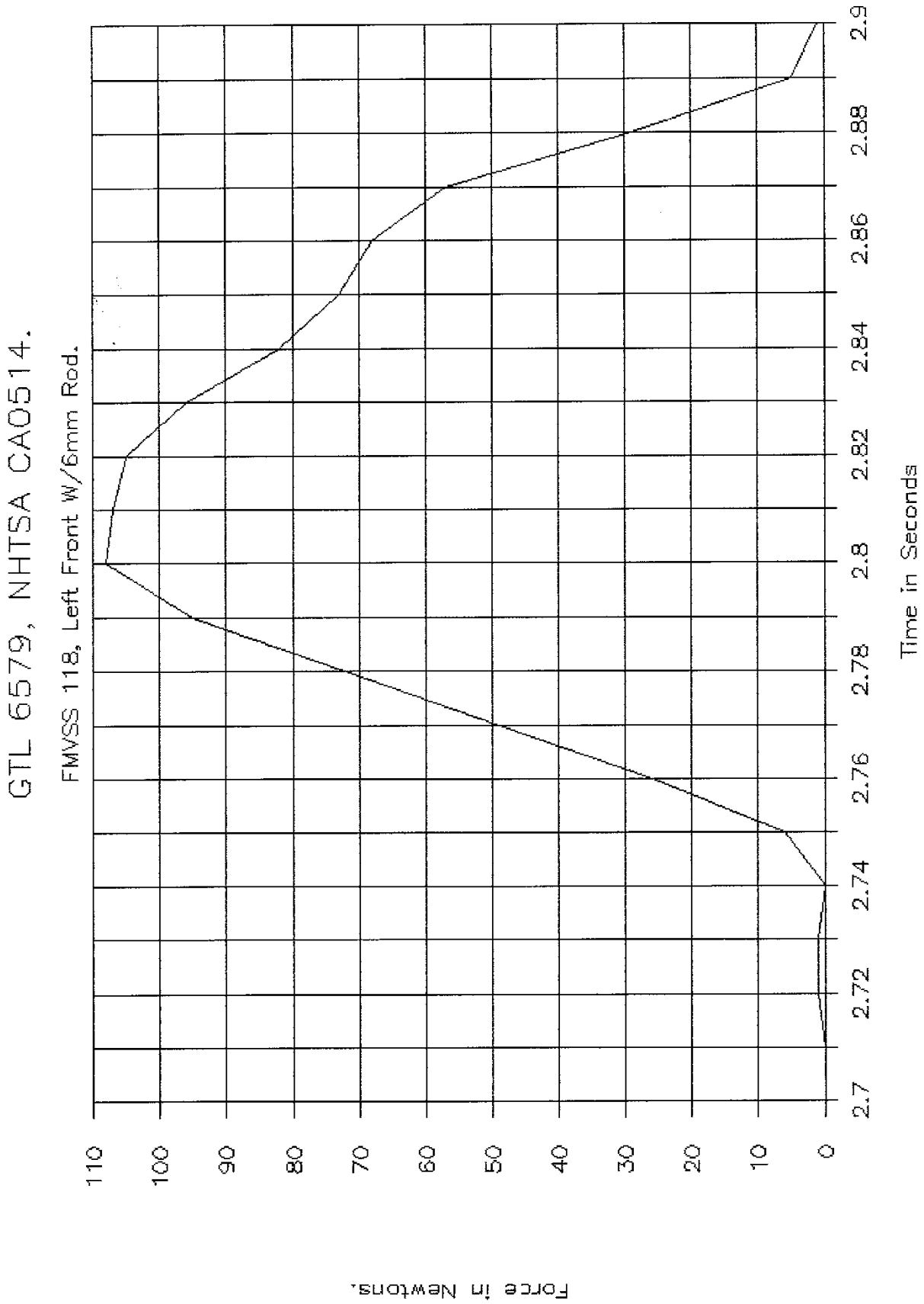
⚠ **Warning!**
With the engine not running, there is no power assistance for the brake and steering systems. In this case, it is important to keep in mind that a considerably higher degree of effort is necessary to brake and steer the vehicle. Adapt your driving accordingly.

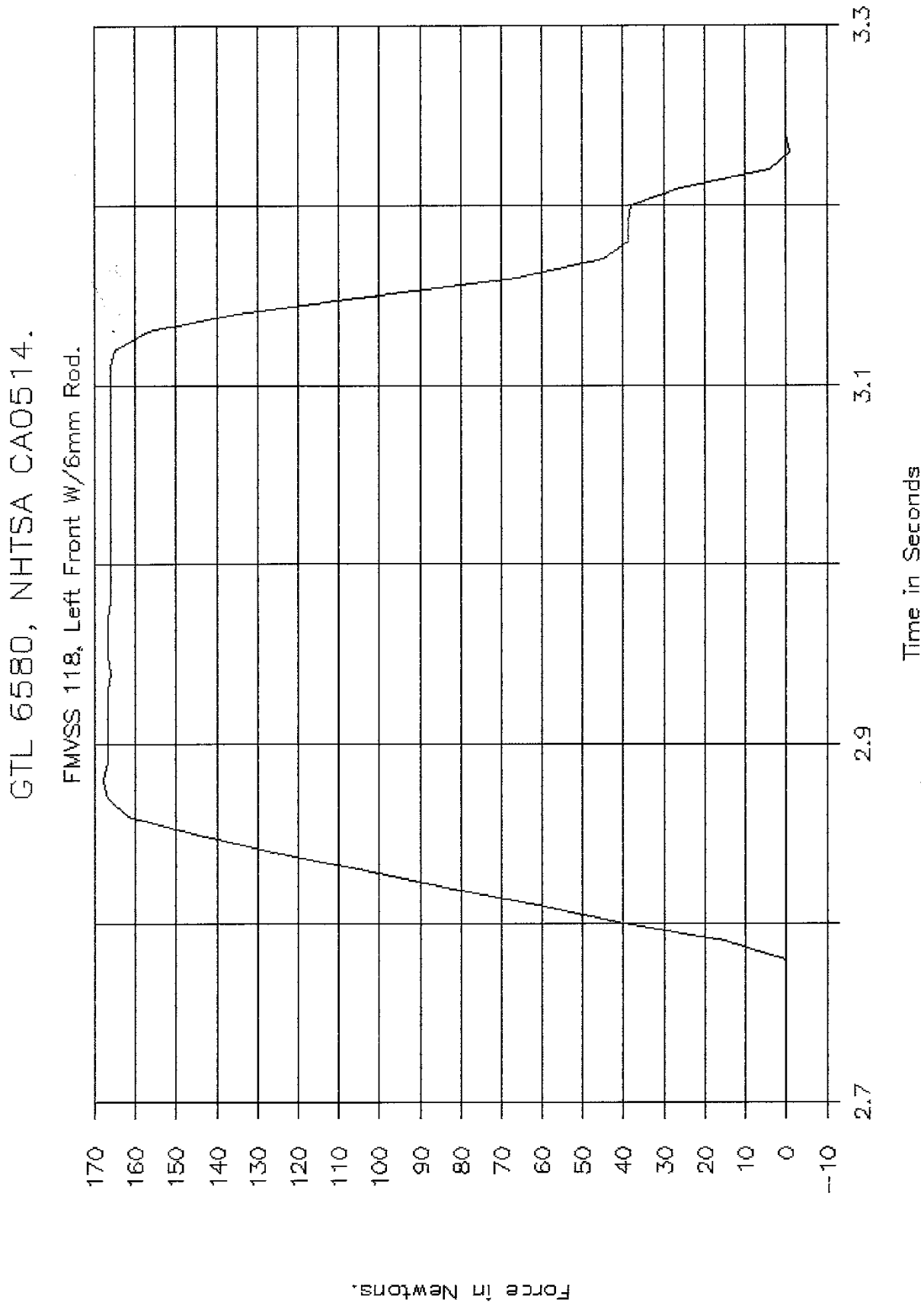
Starting the engine

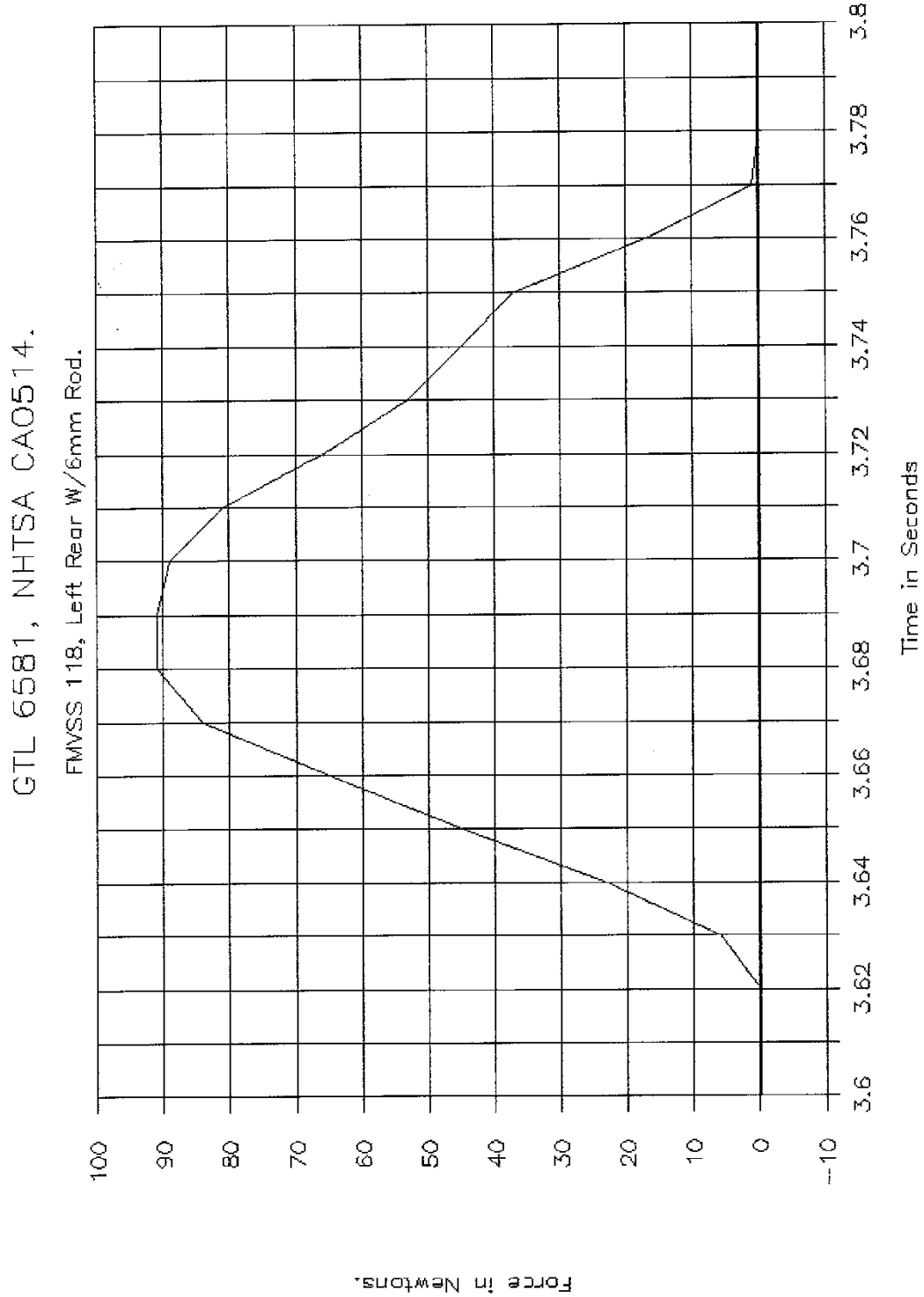
⚠ **Warning!**
Inhalation of exhaust gas is hazardous to your health. All exhaust gas contains carbon monoxide (CO), and inhaling it can cause unconsciousness and possible death.

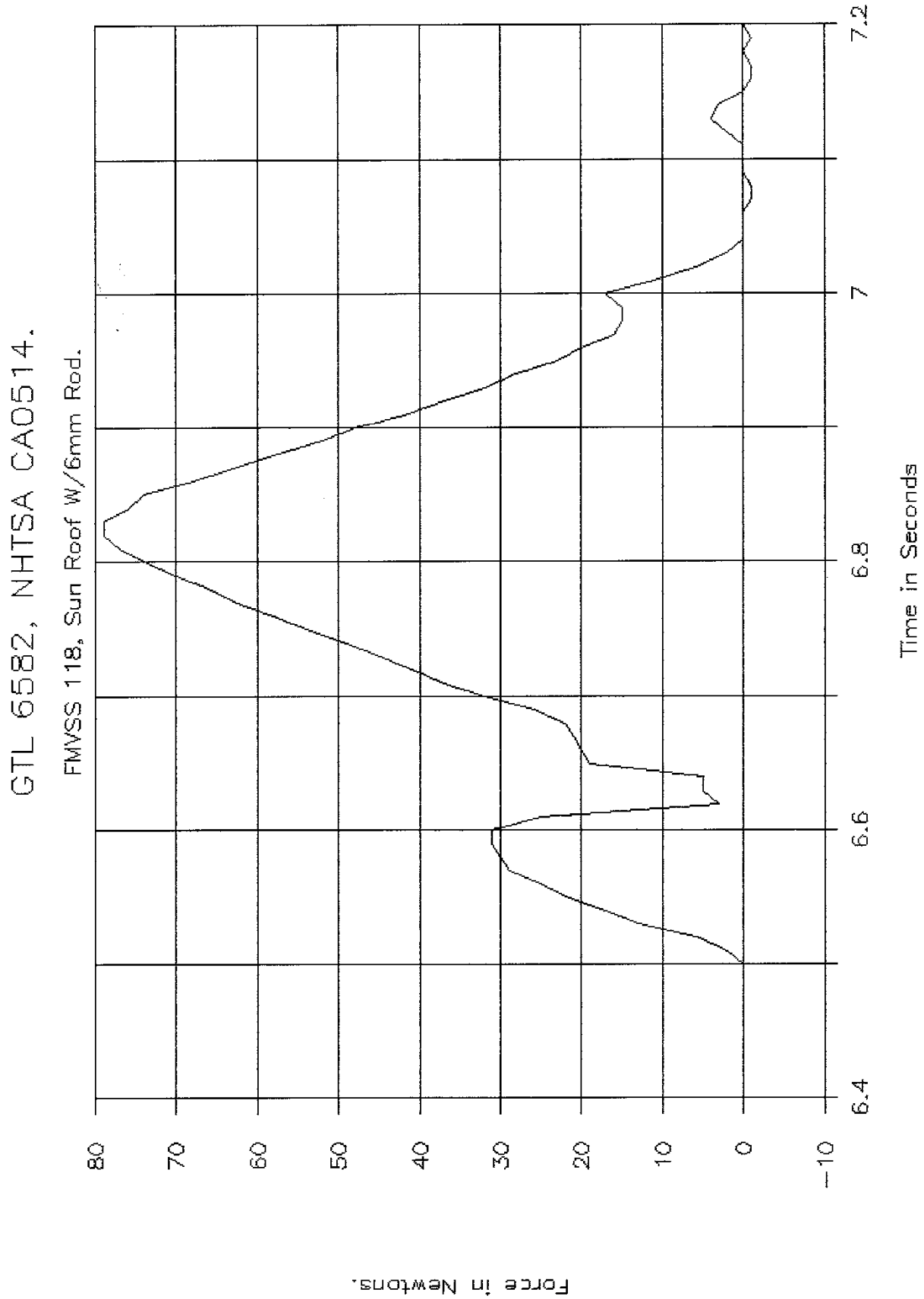
Do not run the engine in confined areas (such as a garage) which are not properly ventilated. If you think that exhaust gas fumes are entering the vehicle while driving, have the cause determined and corrected immediately. If you must drive under these conditions, drive only with at least one window fully open at all times.

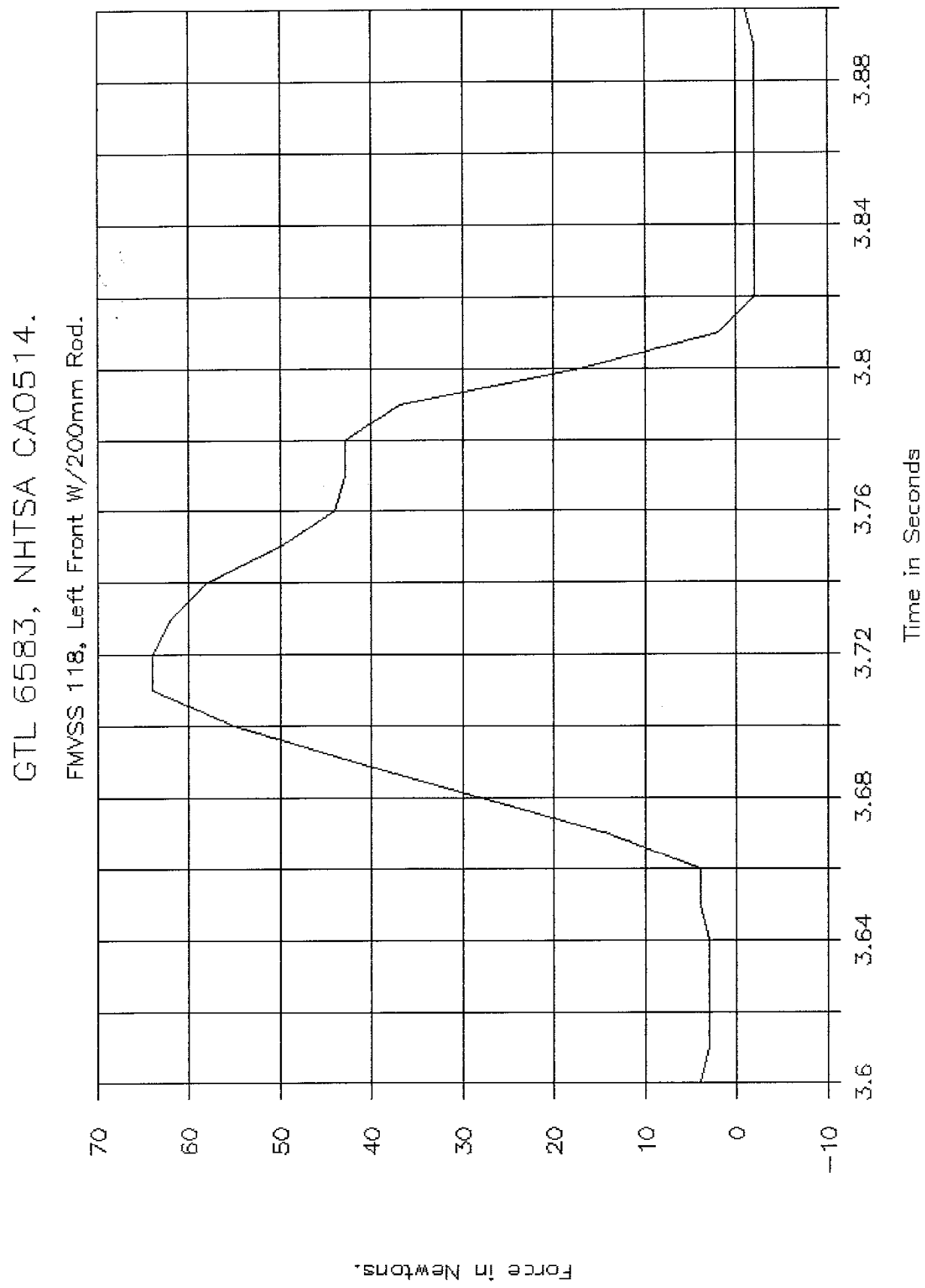
SECTION 7
PLOTS

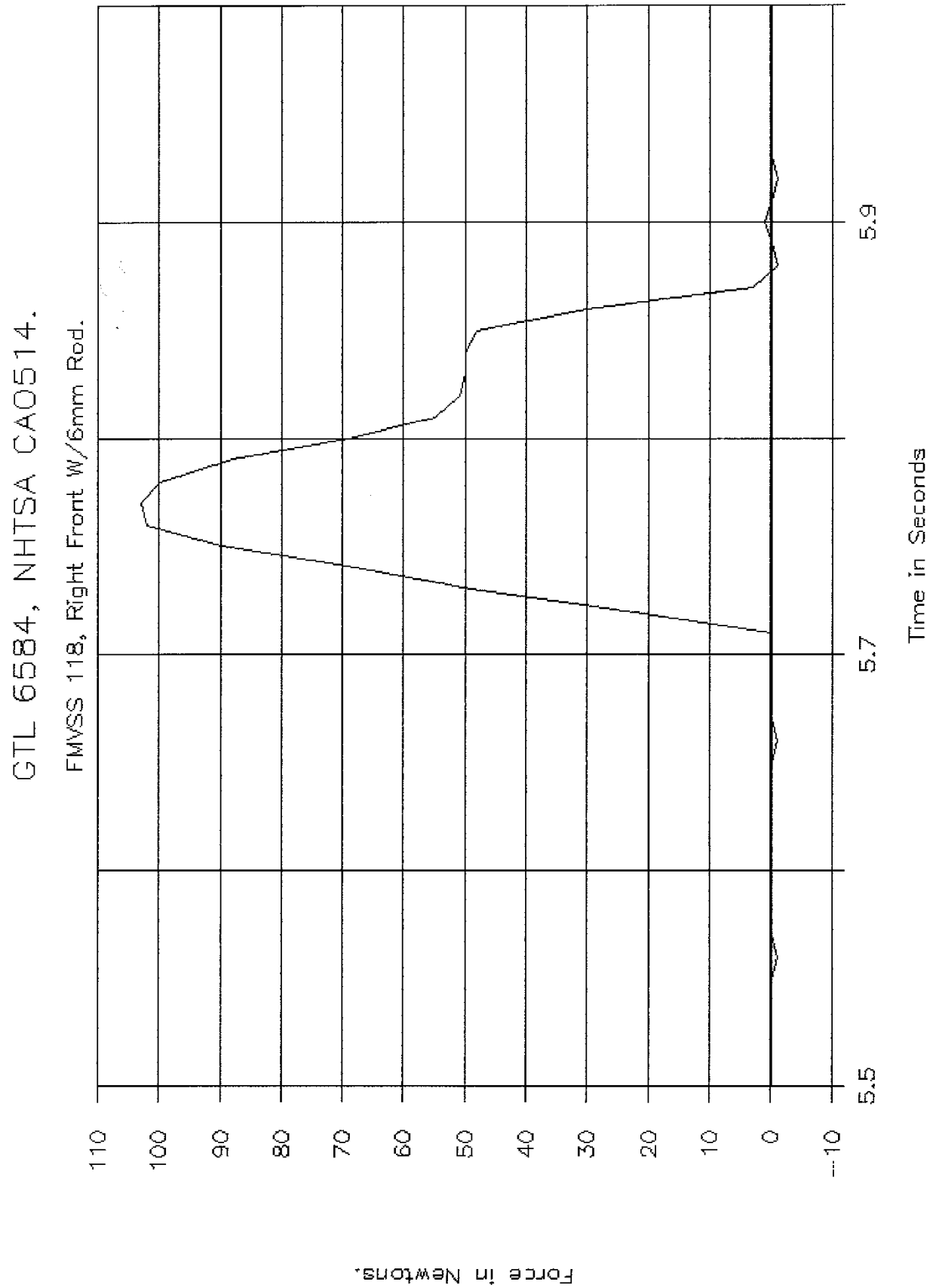

GTL 6579, NHTSA CA0514.
FMVSS 118, Left Front W/6mm Rod.
Force in Newtons.
110
100
90
80
70
60
50
40
30
20
10
0
2.7
2.72
2.74
2.76
2.78
2.8
2.82
2.84
2.86
2.88
2.9
Time in Seconds

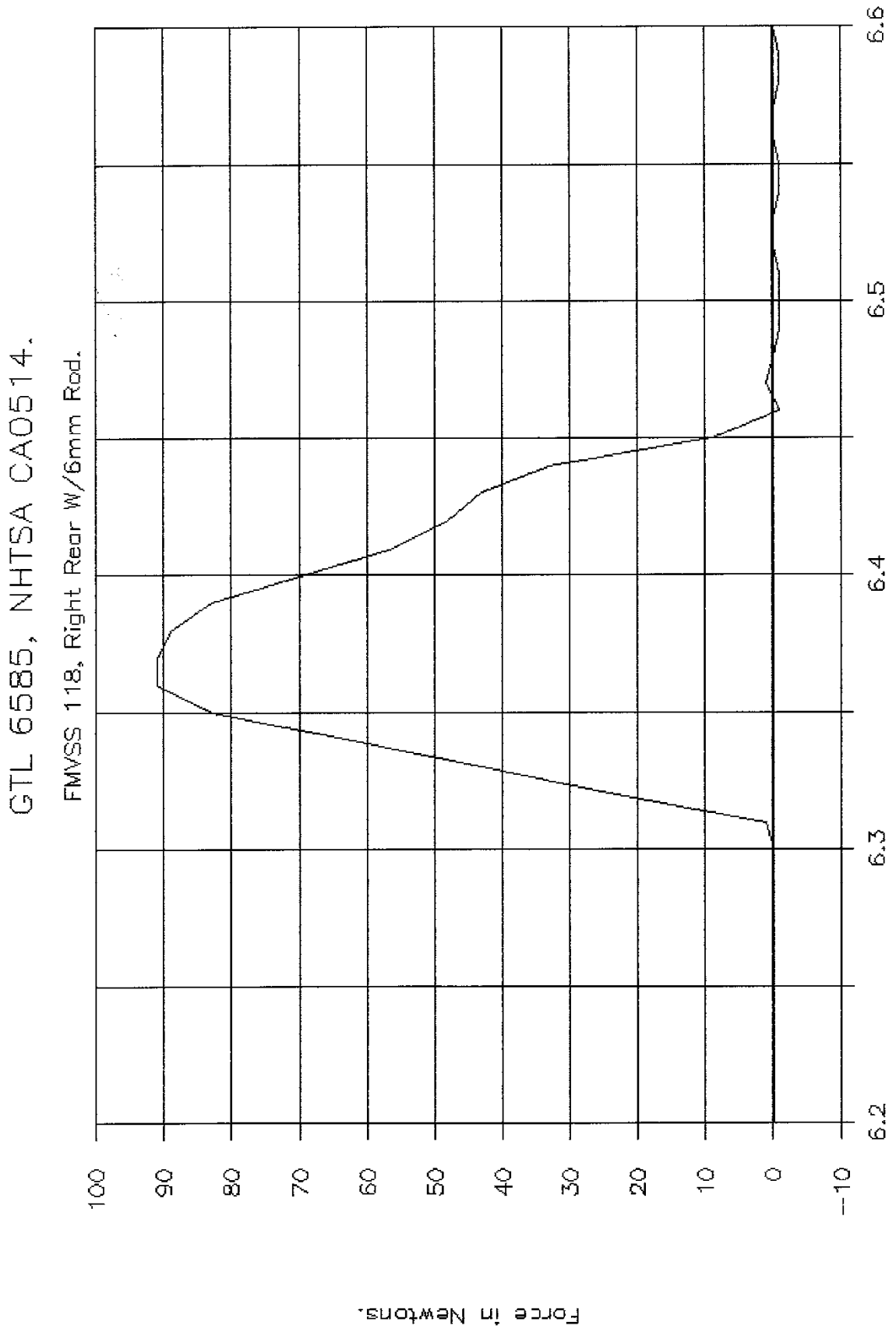

GTL 6580, NHTSA CA0514.
FMVSS 118, Left Front W/6mm Rod.
Force in Newtons.
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
2.7
2.9
3.1
3.3
Time in Seconds


GTL 6581, NHTSA CA0514.
FMVSS 118, Left Rear W/6mm Rod.
Force in Newtons.
100
90
80
70
60
50
40
30
20
10
0
-10
3.6
3.62
3.64
3.66
3.68
3.7
3.72
3.74
3.76
3.78
3.8
Time in Seconds


GTL 6582, NHTSA CA0514.
FMVSS 118, Sun Roof W/6mm Rod.
Force in Newtons.
80
70
60
50
40
30
20
10
0
−10
6.4
6.6
6.8
7
7.2
Time in Seconds


GTL 6583, NHTSA CA0514.
FMVSS 118, Left Front W/200mm Rod.
Force in Newtons.
70
60
50
40
30
20
10
0
-10
3.6
3.64
3.68
3.72
3.76
3.8
3.84
3.88
Time in Seconds


GTL 6584, NHTSA CA0514.
FMVSS 118, Right Front W/6mm Rod.
Force in Newtons.
110
100
90
80
70
60
50
40
30
20
10
0
-10
5.5
5.7
5.9
Time in Seconds


GTL 6585, NHTSA CA0514.
FMVSS 118, Right Rear W/6mm Rod.
Force in Newtons.
100
90
80
70
60
50
40
30
20
10
0
−10
6.2
6.3
6.4
6.5
6.6
Time in Seconds