REPORT NO. 118-KAR-10-005

SAFETY COMPLIANCE TESTING FOR FMVSS 118

Power-Operated Window, Partition, And Roof Panel Systems

2010 NISSAN CUBE 1.8 S
5-DOOR MPV

NHTSA NO. CA5203

PREPARED BY:
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July 7, 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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16. *Abstract* Compliance tests were conducted on the subject 2010 Nissan Cube 1.8 S 5-Door MPV 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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PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2010 Nissan Cube 1.8 S 5-Door MPV, manufactured by Nissan Motor Co. LTD. to determine compliance with FMVSS 118 "Power-Operated Window, Partition, and Roof Panel Systems". 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.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-118-06, dated April 12, 2006, and corresponding KARCO Engineering test procedure KTP-118, dated March 23, 2009. Detailed procedures for receiving, inspecting, testing and reporting of test results are described in the test procedures and are not repeated in this report.

SECTION 2

TEST PROCEDURE AND DATA SUMMARY

A 2010 Nissan Cube 1.8 S 5-Door MPV was subjected to FMVSS 118 compliance testing. The tests were conducted at KARCO Engineering in Adelanto, California on July 7th, 2010. FMVSS 118 Compliance testing was performed in the following sequence:

- Vehicle Receiving Photographs
- Test Vehicle Check-in
- Power Window, Partitions and Roof Panel Identification/Documentation
- Interior, Exterior and Remote Control Switch Identification/Documentation
- Pre-Test Operation of all Power Windows, Partitions and Roof Panels
- Photograph Vehicle Ignition Switch and Master and Individual Power Window, Partition and Roof Panel Switches
- Perform Ignition Switch off Test
- Perform Ignition Key Removed Test
- Perform Exterior Key Locking System Test
- Perform Remote Control System Test
- Perform Reversal System Test
- Perform Sphere Test

DATA SUMMARY

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

SWITCH ACTUATION

WINDOWS, PARTITIONS, ROOF PANEL SWITCHES (WPRP)	**INTERIOR KEY LOCKING SYSTEM***			EXTERIOR LOCKING SYSTEM (PASS / FAIL)
	IGNITION KEY OFF (PASS/FAIL)	IGNITION KEY REMOVED (PASS/FAIL)	IGNITION KEY REMOVED DOOR OPENED (PASS/FAIL)	
MASTER SWITCH PANEL				
Left Front (LF)	PASS	PASS	PASS	N/A
Right Front (RF)	PASS	PASS	PASS	N/A
Left Rear (LR)	PASS	PASS	PASS	N/A
Right Rear (RR)	PASS	PASS	PASS	N/A
Tail Gate (TG)	N/A	N/A	N/A	N/A
Partition	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	N/A	N/A	N/A
INDIVIDUAL SWITCHES				
Left Front (LF)	PASS	PASS	PASS	N/A
Right Front (RF)	PASS	PASS	PASS	N/A
Left Rear (LR)	PASS	PASS	PASS	N/A
Right Rear(RR)	PASS	PASS	PASS	N/A
Tail Gate (TG)	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	N/A	N/A	N/A

REMARKS: The master switch control panel is located on the driver's side door panel and includes the individual left front window switch. Vehicle passed as soon as ignition key "off" test was performed.

***PASS =** After ignition key cycled from ON,ACC, or START to OFF position, or removed WPRP does not close, or closes until either front door is opened

DATA SUMMARY…(CONTINUED)

REMOTE ACTUATION DEVICE

VEHICLE ORIENTATION REMOTE ACTUATION DEVICE	NON-LINE OF SIGHT REMOTE (METERS)	LINE OF SIGHT REMOTE (METERS)
FRONT	N/A	N/A
DRIVER SIDE	N/A	N/A
PASSENGER SIDE	N/A	N/A
REAR	N/A	N/A

WPRP OBSTRUCTION FORCE REVERSAL

WINDOW, PARTITION, ROOF PANEL	FORCE TO REVERSE (NEWTONS)	DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm)
LEFT FRONT (LF)	See Data Sheet 8	See Data Sheet 8
RIGHT FRONT (RF)	N/A	N/A
LEFT REAR (LR)	N/A	N/A
RIGHT REAR (RR)	N/A	N/A
PARTITION (P)	N/A	N/A
ROOF PANEL (RP)	N/A	N/A
TAIL GATE (TG)	N/A	N/A

SPHERE TEST

WINDOW, PARTITION, ROOF PANEL	MASTER SWITCH	INDIVIDUAL SWITCH	PASS / FAIL
LEFT FRONT (LF)	See Data Sheet 9	See Data Sheet 9	PASS
RIGHT FRONT (RF)	See Data Sheet 9	See Data Sheet 9	PASS
LEFT REAR (LR)	See Data Sheet 9	See Data Sheet 9	PASS
RIGHT REAR (RR)	See Data Sheet 9	See Data Sheet 9	PASS
PARTITION (P)	N/A	N/A	N/A
ROOF PANEL (RP)	N/A	N/A	N/A
TAIL GATE (TG)	N/A	N/A	N/A

REMARKS: All switches meet S6 (c) - Pull up or out to close

The subject 2010 Nissan Cube 1.8 S 5-Door MPV appeared to meet the requirements of FMVSS 118.

SECTION 3
TEST DATA

DATA SHEET NO. 1
VEHICLE IDENTIFICATION

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

Identify Vehicle equipped WPRP and WPRP controls

	LEFT FRONT	LEFT REAR	RIGHT FRONT	RIGHT REAR	TAIL GATE	PARTITION	ROOF PANEL
Power Windows	X	X	X	X	N/A	N/A	N/A
Interior Switches	X	X	X	X	N/A	N/A	N/A
Master Control Panel	X	X	X	X	N/A	N/A	N/A
Exterior Switches	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Remote Controller	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auto-Reverse	X	N/A	N/A	N/A	N/A	N/A	N/A

Master Control Panel Location: **Driver Side Door Panel**

Remote Control: **None**

Window Switch Design: **Master Control Switches – Flush Mounted Rocker Switch push down to open, pull up to close.**
Individual Window Switches – Flush Mounted Rocker Switch push down to open, pull up to close.

Exterior Control Switch: **N/A**

Sunroof: **N/A**

REMARKS: Master control panel switch is located in the driver side door panel. Individual switches are located on the door panel for each door. On this vehicle the reversal feature is not required because the windows appear to meet the operational requirements of FMVSS 118 paragraph S.4.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 2
IGNITION KEY OFF TEST

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

Pre-Test Check: Window, Partition, Roof Panel Systems operate with Ignition Switch in "ON" Position	YES	X	NO	N/A
Pre-Test Check: Window, Partition, Roof Panel Systems operate with Ignition Switch in "ACCESSORY" Position	YES	N/A	NO	X

WINDOW SWITCHES	DOORS CLOSED		LEFT DOOR OPEN		RIGHT DOOR OPEN		PASS/ FAIL
	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	
MASTER							
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	X	N/A	X	N/A	PASS
Left Rear (LR)	N/A	X	X	N/A	X	N/A	PASS
Right Rear (RR)	N/A	X	X	N/A	X	N/A	PASS
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDIVIDUAL							
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	X	N/A	X	N/A	PASS
Left Rear (LR)	N/A	X	X	N/A	X	N/A	PASS
Right Rear (RR)	N/A	X	X	N/A	X	N/A	PASS
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

REMARKS: The master left front switch is the same as the individual left front switch. Test was performed with key in the “Lock” position. For the pre-test check in the “Accessory” position the key was moved from the “Lock” position to the “Accessory” position without cycling through the “On” position or starting the engine. Vehicle passed as soon as ignition “off” test was performed.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 3
IGNITION KEY REMOVED TEST

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

WINDOW SWITCHES	DOORS CLOSED		LEFT DOOR OPEN		RIGHT DOOR OPEN		PASS/ FAIL
	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	
MASTER							
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	X	N/A	X	N/A	PASS
Left Rear (LR)	N/A	X	X	N/A	X	N/A	PASS
Right Rear (RR)	N/A	X	X	N/A	X	N/A	PASS
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDIVIDUAL							
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	X	N/A	X	N/A	PASS
Left Rear (LR)	N/A	X	X	N/A	X	N/A	PASS
Right Rear (RR)	N/A	X	X	N/A	X	N/A	PASS
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

REMARKS: The master left front switch is the same as the individual left front switch. Vehicle passed as soon as ignition key “off” test was performed.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 4
EXTERIOR KEY LOCKING SYSTEM

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

EXTERIOR LOCKING CONTROL SWITCH TEST				
Can Any WPRP Be Operated by Directly Using A Key in an Exterior Locking Control Switch?	Yes	N/A	No	X
If Yes: Is Continuous Activation of the Switch Required	Yes	N/A	No	X

IDENTIFY WINDOW, PARTITION AND ROOF PANEL POSITIONS WHICH ARE OPERABLE WITH EXTERIOR KEY.

LOCATION	**OPERABLE W/KEY**		**CONTINUOUS ACTION**		**PASS / FAIL**
	YES	**NO**	**YES**	**NO**	
LEFT FRONT (LF)	N/A	X	N/A	N/A	N/A
RIGHT FRONT (RF)	N/A	X	N/A	N/A	N/A
LEFT REAR (LR)	N/A	X	N/A	N/A	N/A
RIGHT REAR (RR)	N/A	X	N/A	N/A	N/A
PARTITION (P)	N/A	N/A	N/A	N/A	N/A
ROOF PANEL (RP)	N/A	N/A	N/A	N/A	N/A
TAIL GATE (TG)	N/A	N/A	N/A	N/A	N/A

REMARKS:

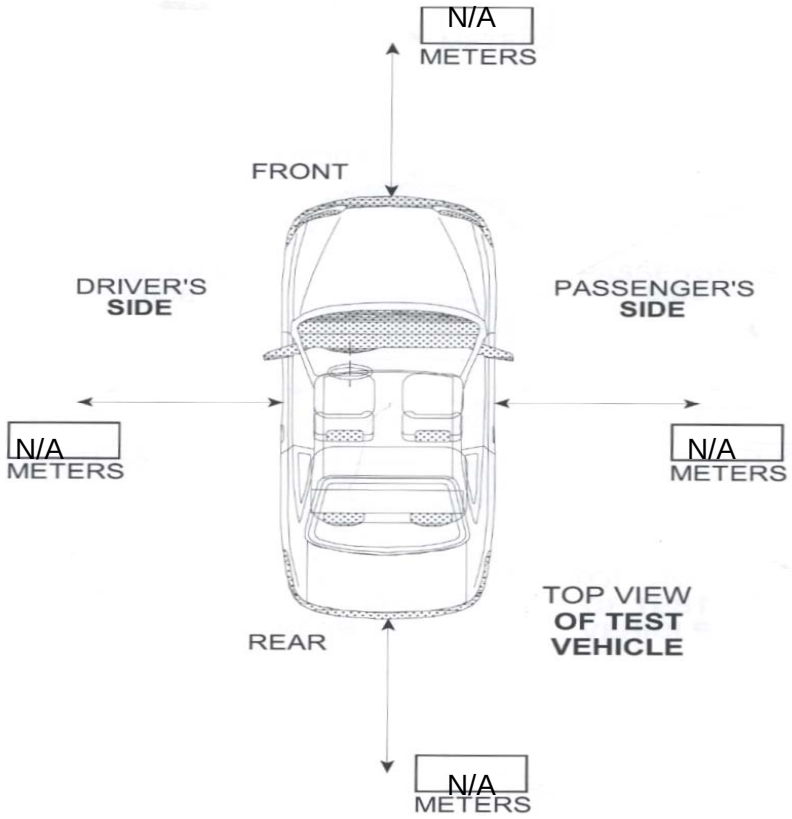
RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 5
MAXIMUM OPERATING RANGE FOR LINE-OF-SIGHT REMOTE

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

If range of operation exceeds 11 meters in any of the below measured directions, the window, partition, and roof panel must meet the reversing requirements of FMVSS 118. Continuous activation of remote device is required to close windows, partition and roof panel YES ( ) NO (X).



REMARKS: The vehicle is not equipped with a remote actuation device that allows the windows to be opened.

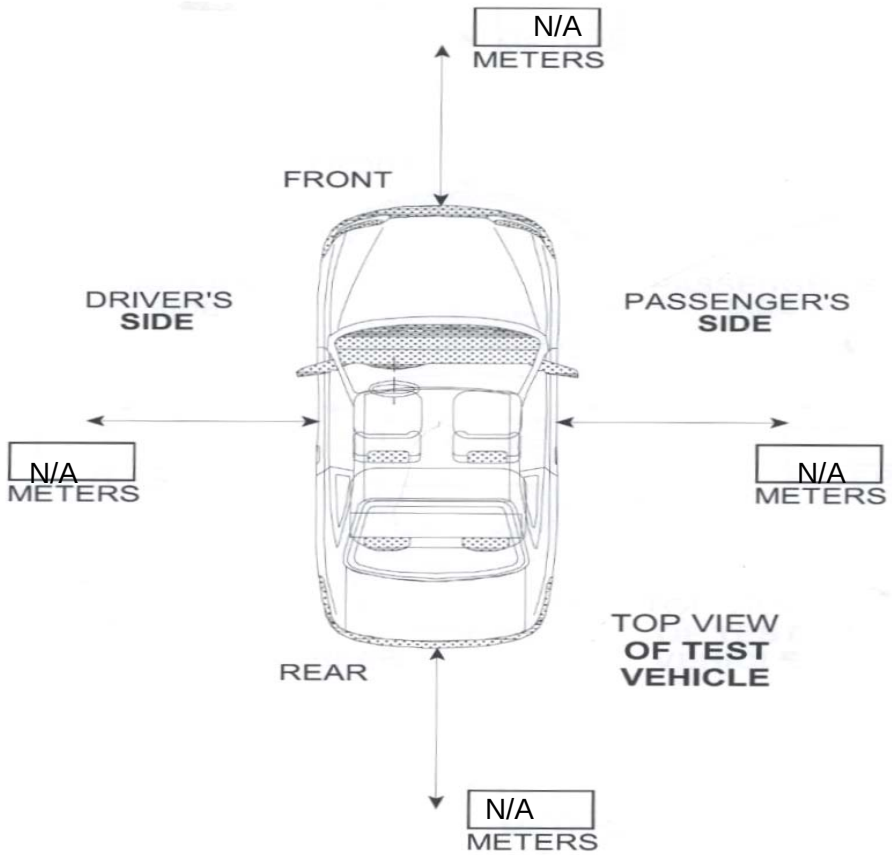
RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 6
MAXIMUM OPERATING RANGE FOR NON-LINE-OF-SIGHT REMOTE

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

If range of operation exceeds 6 meters in any of the below measured directions, the window, partition, and roof panel must meet the reversing requirements of FMVSS 118. Continuous activation of remote device is required to close windows, partition and roof panel YES ( ) NO (X).



REMARKS: The vehicle is not equipped with a remote actuation device that allows the windows to be opened.

RECORDED BY:	**MATTHEW S. HUBBARD**	DATE:	**07/07/10**
APPROVED BY:	**MICHAEL L. DUNLAP**	DATE:	**07/21/10**

DATA SHEET NO. 7
AUTO REVERSAL

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

IDENTIFY WINDOW, PARTITION AND ROOF PANEL POSITIONS WHICH ARE EQUIPPED WITH AUTO REVERSAL.

Is vehicle equipped with Auto Reversal	YES	X	NO	N/A

SWITCHES EQUIPPED WITH AUTO REVERSAL	MASTER	INDIVIDUAL
LEFT FRONT (LF)	X	X
RIGHT FRONT (RF)	N/A	N/A
LEFT REAR (LR)	N/A	N/A
RIGHT REAR (RR)	N/A	N/A
PARTITION (P)	N/A	N/A
ROOF PANEL (RP)	N/A	N/A
TAIL GATE (TG)	N/A	N/A

REMARKS: The master switch is the same as the individual switch for the left front window. The vehicle passed as soon as ignition key “off” was performed. The left front window is equipped with one touch auto express feature. The reversal feature is not required because the window appears to meet the operational requirements of FMVSS 118 paragraph S.4.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 8
AUTO REVERSAL

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

Distance window is open from top seam to start position. 415

WPRP OBSTRUCTION FORCE REVERSAL

LEADING EDGE LEFT FRONT WINDOW	FORCE TO REVERSE (NEWTONS)	DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm)
5mm semi rigid rod	93.8	131.6
25mm semi rigid rod	158.3	134.8
50mm semi rigid rod	113.9	134.7
100mm semi rigid rod	192.8	135.9
200mm semi rigid rod	173.2	129.9

Distance window is open from top seam to start position. 415

WPRP OBSTRUCTION FORCE REVERSAL

REAR EDGE LEFT FRONT WINDOW	FORCE TO REVERSE (NEWTONS)	DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm)
5mm semi rigid rod	78.3	132.7
25mm semi rigid rod	161.4	135.6
50mm semi rigid rod	101.3	136.2
100mm semi rigid rod	162.2	137.0
200mm semi rigid rod	197.0	136.7

REMARKS: The master switch is the same as the individual switch for the left front window. The vehicle passed as soon as ignition key "off" was performed. The reversal feature is not required because the window appears to meet the operational requirements of FMVSS 118 paragraph S.4.

Note: Rods 25mm or less have a force deflection ratio of 65N/mm. For larger rods the ratio is 20N/mm

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

DATA SHEET NO. 9
SPHERE TEST

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

SPHERE TEST CONDUCTED ON MASTER SWITCH CONTROL PANEL

WINDOW	FORCE APPLIED TO ACTIVATE SWITCH (NEWTONS)	SWITCH ACTIVATED (YES / NO)	PASS / FAIL
LEFT FRONT (LF)	156.0	NO	PASS
RIGHT FRONT (RF)	163.5	NO	PASS
LEFT REAR (LR)	138.7	NO	PASS
RIGHT REAR (RR)	135.1	NO	PASS
PARTITION (P)	N/A	N/A	N/A
ROOF PANEL (RP)	N/A	N/A	N/A
TAIL GATE (TG)	N/A	N/A	N/A

SPHERE TEST CONDUCTED ON INDIVIDUAL SWITCH

WINDOW	FORCE APPLIED TO ACTIVATE SWITCH (NEWTONS)	SWITCH ACTIVATED (YES / NO)	PASS / FAIL
LEFT FRONT (LF)	156.0	NO	PASS
RIGHT FRONT (RF)	179.6	NO	PASS
LEFT REAR (LR)	177.4	NO	PASS
RIGHT REAR (RR)	154.9	NO	PASS
PARTITION (P)	N/A	N/A	N/A
ROOF PANEL (RP)	N/A	N/A	N/A
TAIL GATE (TG)	N/A	N/A	N/A

REMARKS: The master switch is the same as the individual switch for the left front window.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **07/07/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/21/10**

SECTION 4

PHOTOGRAPHS

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 1: Frontal ¾ View From Right Side of Vehicle

Figure 2: Rear ¾ View From Left Side of Vehicle

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 3: Vehicle Certification Label

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 4: Tire Information Placard

Figure 5: Ignition Switch

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 6: Left Front Master Power Window Switch

Figure 7: Right Front Power Window Switch

Figure 8: Left Rear Power Window Switch

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 9: Right Rear Power Window Switch

Figure 10: Exterior Locking System (Driver Door)

Figure 11: Exterior Locking System (Key)

Figure 12: Overall Test Set-Up

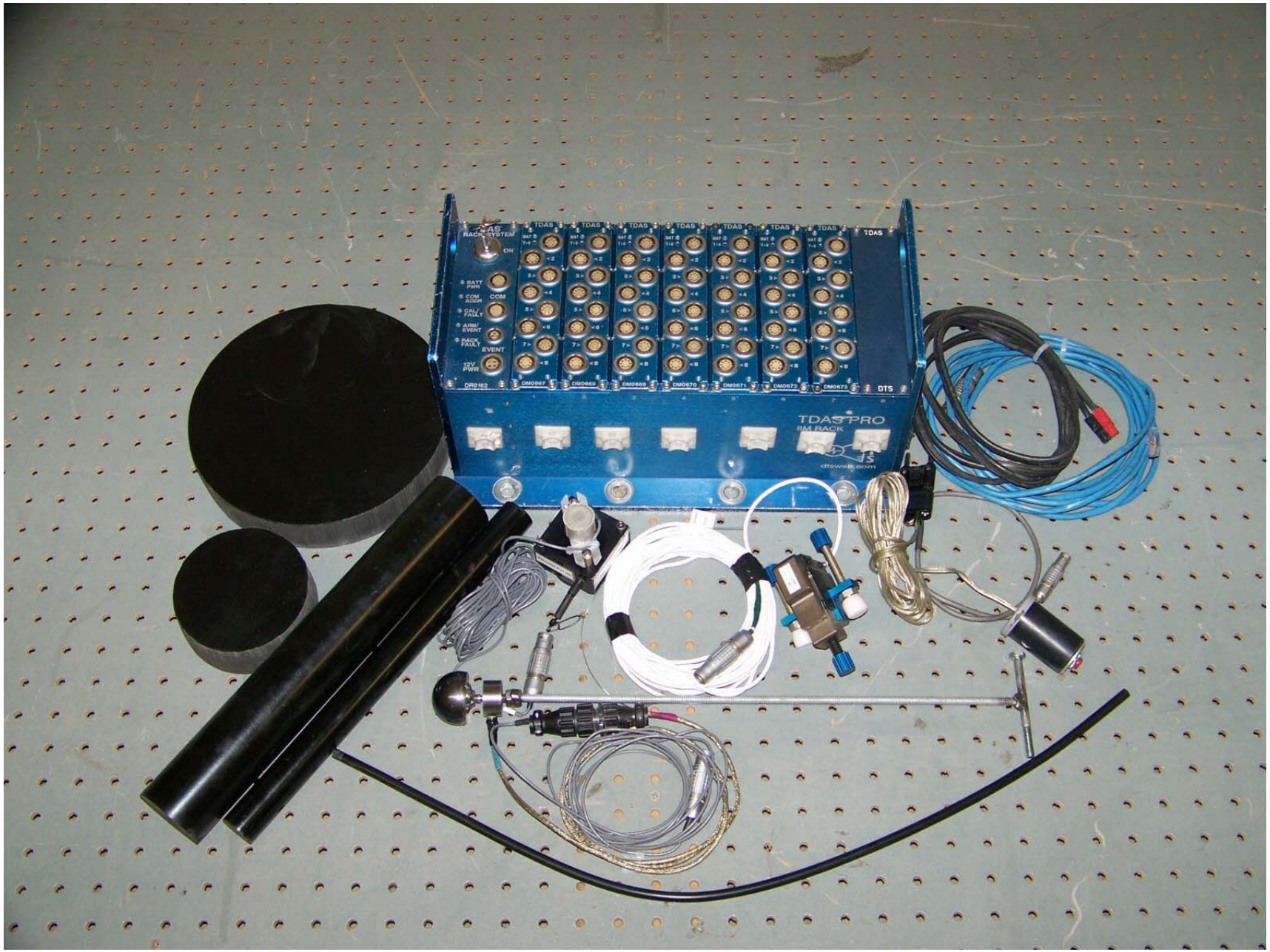


Figure 13: Instrumentation

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 14: Left Front Window

Figure 15: Left Front Window Test Set-Up Leading Edge

Figure 16: Left Front Window Test Set-Up Rear Edge

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 17: Sphere Test Master Control Panel

Figure 18: Sphere Test Right Front Window Switch

2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 19: Sphere Test Left Rear Window Switch

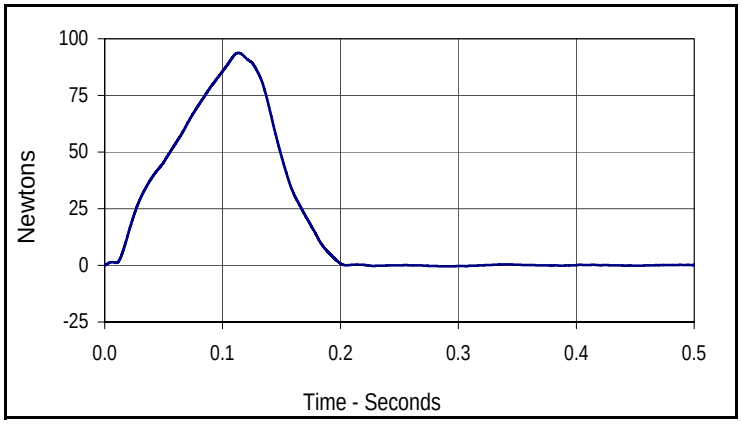
2010 Nissan Cube 1.8 S
NHTSA NO. CA5203
FMVSS NO. 118

Figure 20: Sphere Test Right Rear Window Switch

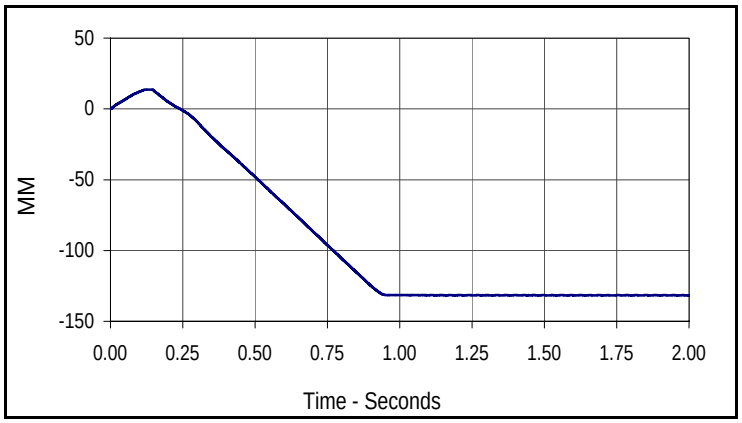
SECTION 5

DATA PLOTS

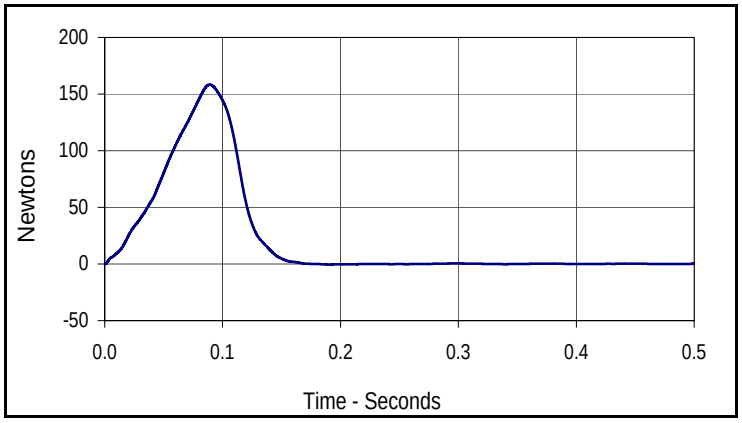
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



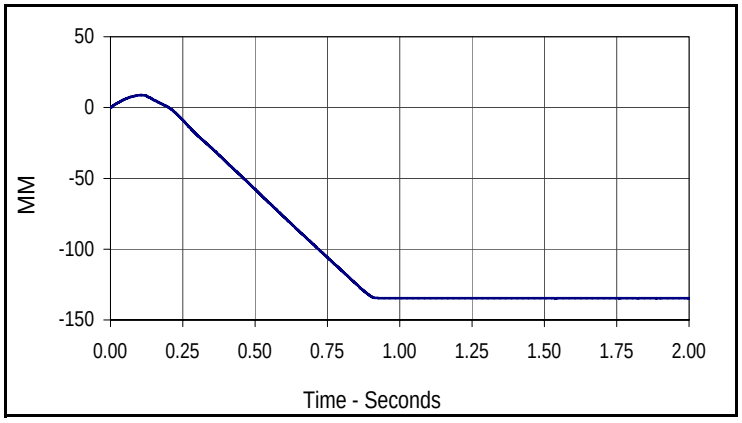
Curve Description			
Left Front Window			
Window Force 5MM Leading Edge			
CURNO	Type	SAE Class	Units
001	FIL	60	Newtons
Max	Time	Min	Time
93.8	0.1	-0.4	0.3



Curve Description			
Left Front Window			
Window Travel 5MM Leading Edge			
CURNO	Type	SAE Class	Units
002	FIL	60	MM
Max	Time	Min	Time
13.7	0.1	-131.6	2.6

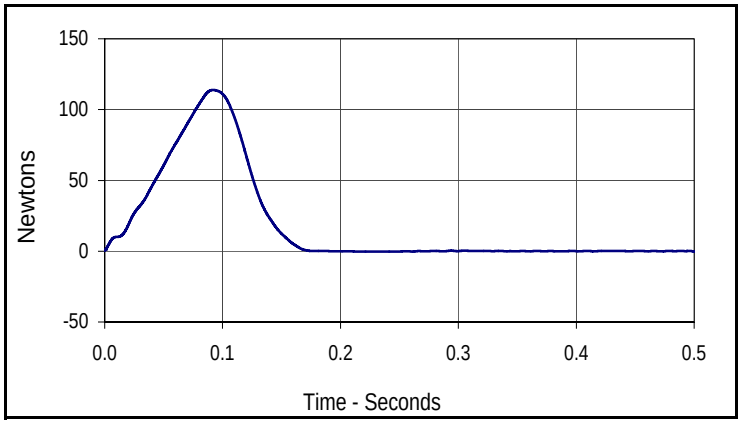


Curve Description			
Left Front Window			
Window Force 25MM Leading Edge			
CURNO	Type	SAE Class	Units
003	FIL	60	Newtons
Max	Time	Min	Time
158.3	0.1	-0.5	0.2

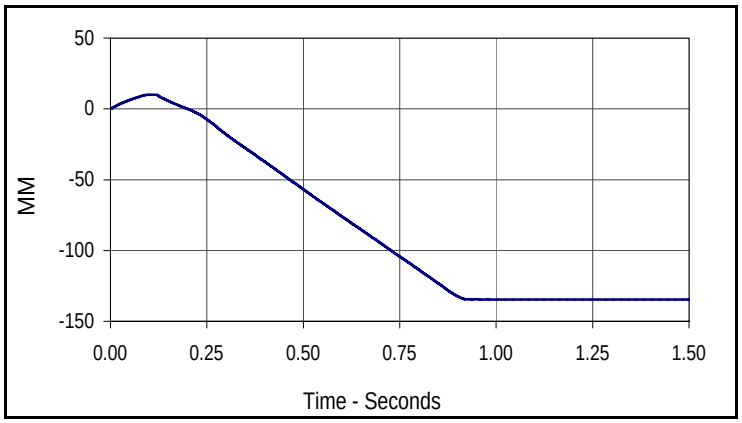


Curve Description			
Left Front Window			
Window Travel 25MM Leading Edge			
CURNO	Type	SAE Class	Units
004	FIL	60	MM
Max	Time	Min	Time
8.8	0.1	-134.8	1.8

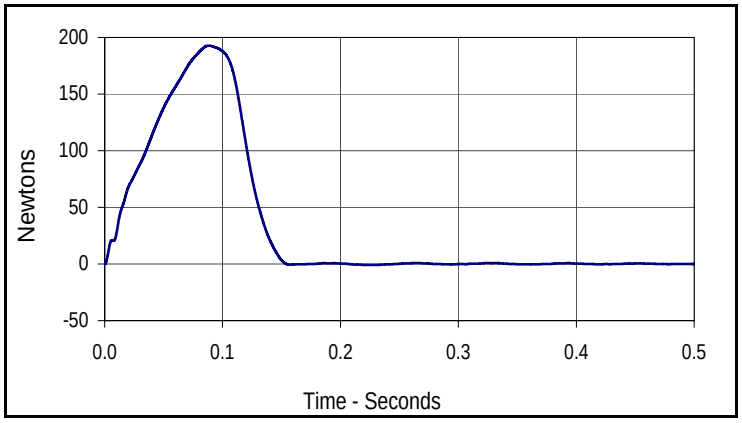
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



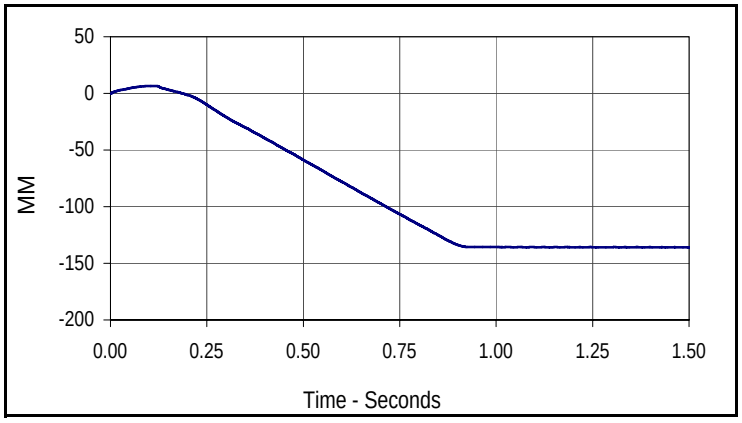
Curve Description			
Left Front Window			
Window Force 50MM Leading Edge			
CURNO	Type	SAE Class	Units
005	FIL	60	Newtons
Max	Time	Min	Time
113.9	0.1	-0.5	0.9



Curve Description			
Left Front Window			
Window Travel 50MM Leading Edge			
CURNO	Type	SAE Class	Units
006	FIL	60	MM
Max	Time	Min	Time
10.1	0.1	-134.7	2.5

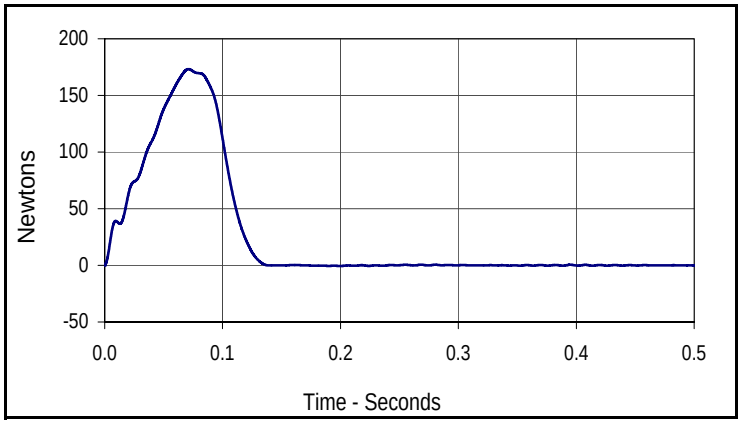


Curve Description			
Left Front Window			
Window Force 100MM Leading Edge			
CURNO	Type	SAE Class	Units
007	FIL	60	Newtons
Max	Time	Min	Time
192.8	0.1	-0.9	0.2

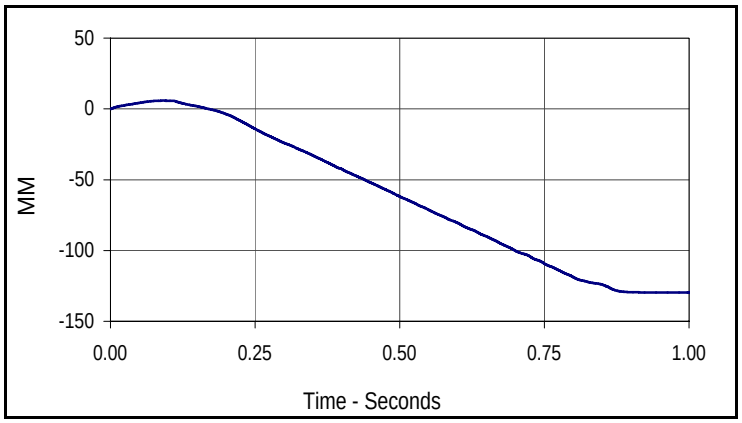


Curve Description			
Left Front Window			
Window Travel 100MM Leading Edge			
CURNO	Type	SAE Class	Units
008	FIL	60	MM
Max	Time	Min	Time
6.5	0.1	-135.9	3.0

Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203

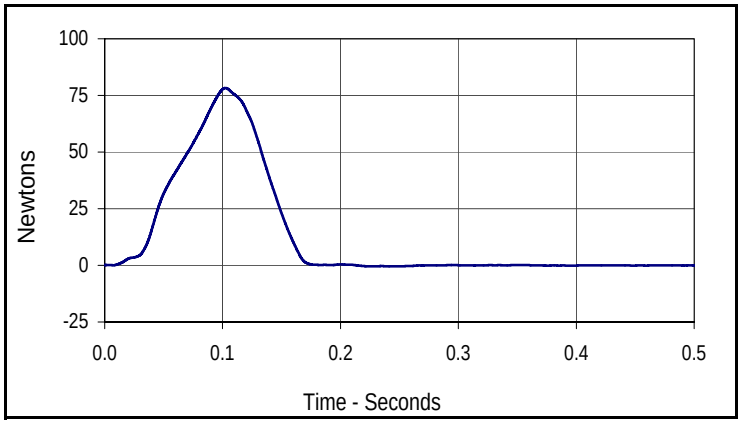


Curve Description			
Left Front Window			
Window Force 200MM Leading Edge			
CURNO	Type	SAE Class	Units
009	FIL	60	Newtons
Max	Time	Min	Time
173.2	0.1	-0.6	0.2

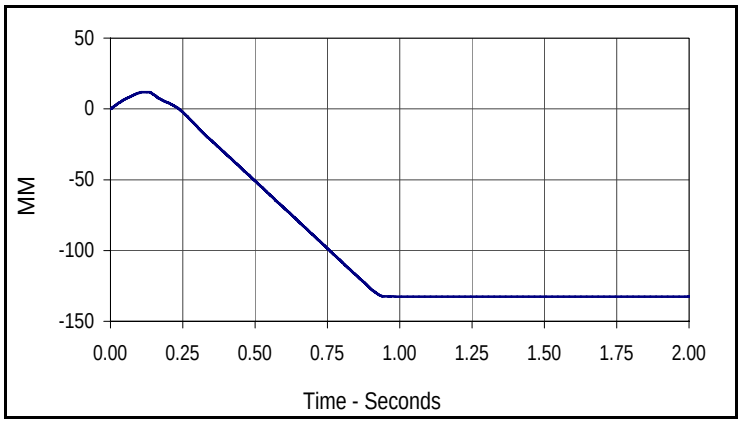


Curve Description			
Left Front Window			
Window Travel 200MM Leading Edge			
CURNO	Type	SAE Class	Units
010	FIL	60	MM
Max	Time	Min	Time
5.8	0.1	-129.9	1.8

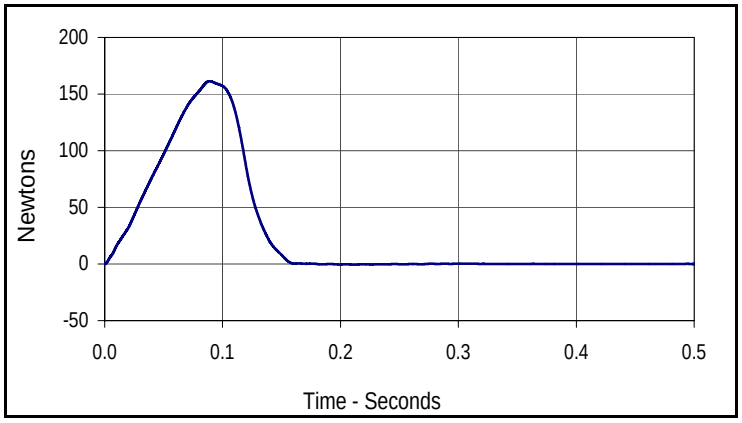
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



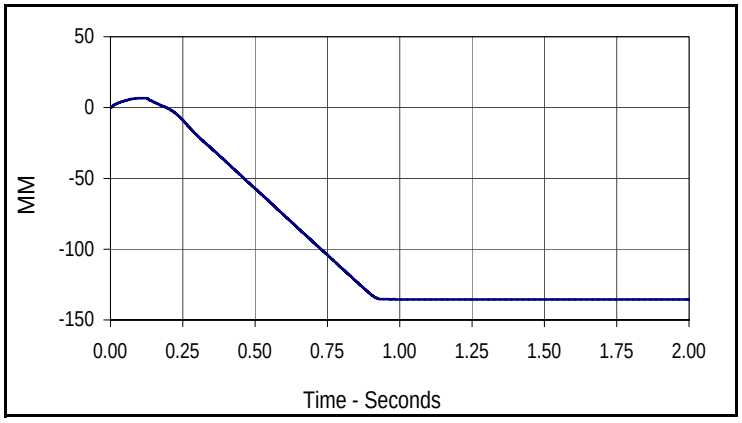
Curve Description			
Left Front Window			
Window Force 5MM Rear Edge			
CURNO	Type	SAE Class	Units
011	FIL	60	Newtons
Max	Time	Min	Time
78.3	0.1	-0.5	0.2



Curve Description			
Left Front Window			
Window Travel 5MM Rear Edge			
CURNO	Type	SAE Class	Units
012	FIL	60	MM
Max	Time	Min	Time
11.9	0.1	-132.7	3.0

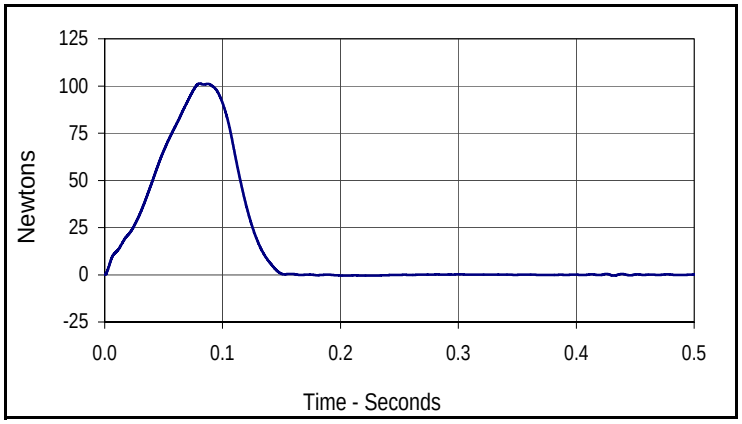


Curve Description			
Left Front Window			
Window Force 25MM Rear Edge			
CURNO	Type	SAE Class	Units
013	FIL	60	Newtons
Max	Time	Min	Time
161.4	0.1	-0.6	0.2

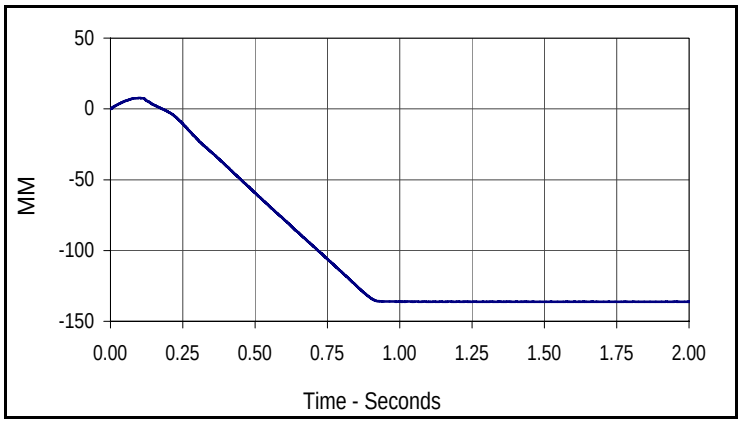


Curve Description			
Left Front Window			
Window Travel 25MM Rear Edge			
CURNO	Type	SAE Class	Units
014	FIL	60	MM
Max	Time	Min	Time
6.7	0.1	-135.6	3.0

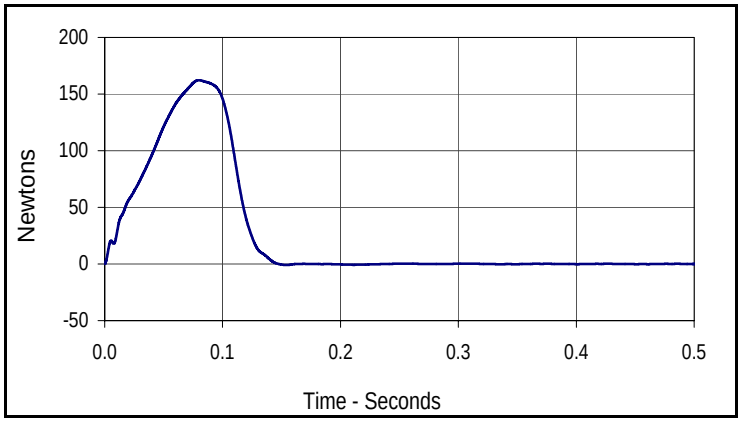
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



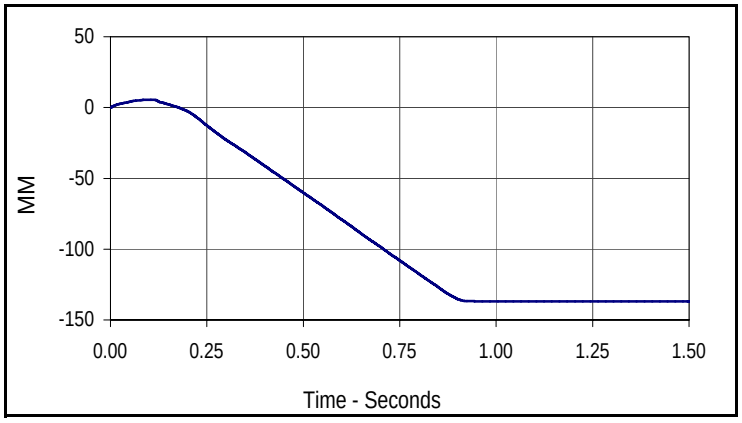
Curve Description			
Left Front Window			
Window Force 50MM Rear Edge			
CURNO	Type	SAE Class	Units
015	FIL	60	Newtons
Max	Time	Min	Time
101.3	0.1	-0.5	0.2



Curve Description			
Left Front Window			
Window Travel 50MM Rear Edge			
CURNO	Type	SAE Class	Units
016	FIL	60	MM
Max	Time	Min	Time
7.7	0.1	-136.2	1.9

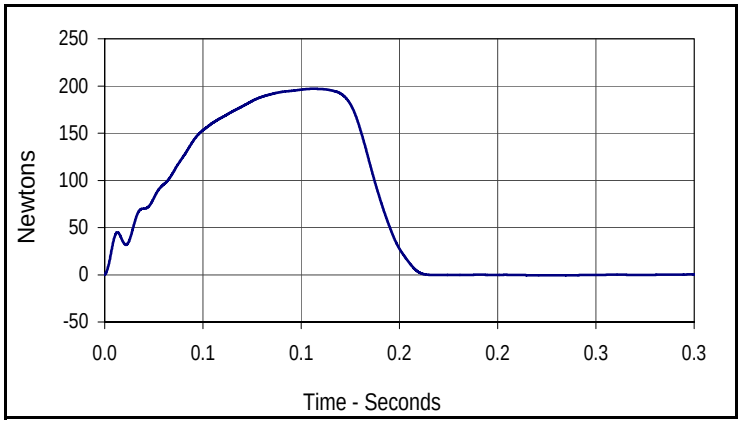


Curve Description			
Left Front Window			
Window Force 100MM Rear Edge			
CURNO	Type	SAE Class	Units
017	FIL	60	Newtons
Max	Time	Min	Time
162.2	0.1	-0.9	0.2

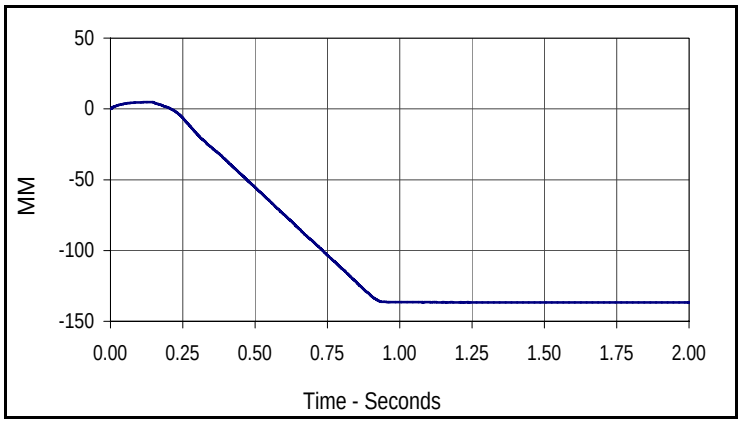


Curve Description			
Left Front Window			
Window Travel 100MM Rear Edge			
CURNO	Type	SAE Class	Units
018	FIL	60	MM
Max	Time	Min	Time
5.4	0.1	-137.0	2.7

Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203

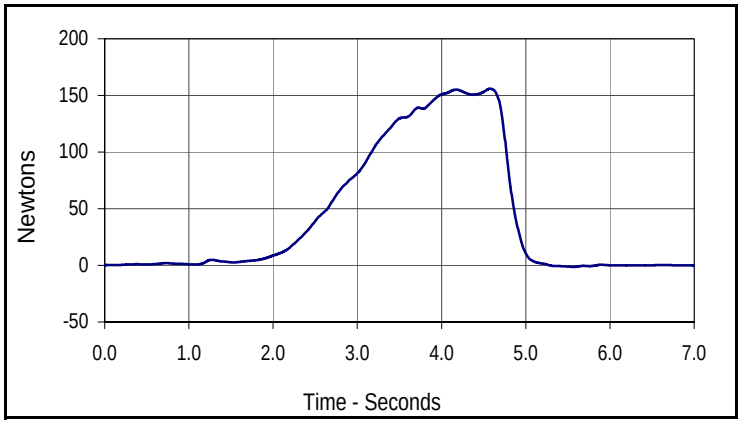


Curve Description			
Left Front Window			
Window Force 200MM Rear Edge			
CURNO	Type	SAE Class	Units
019	FIL	60	Newtons
Max	Time	Min	Time
197.0	0.1	-0.6	0.2

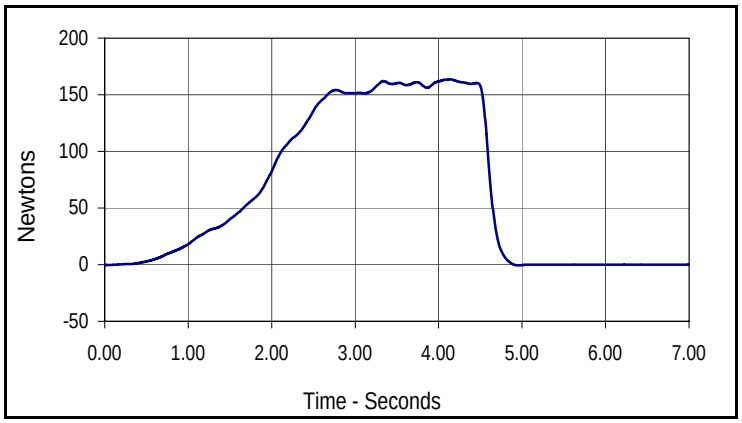


Curve Description			
Left Front Window			
Window Travel 200MM Rear Edge			
CURNO	Type	SAE Class	Units
020	FIL	60	MM
Max	Time	Min	Time
4.8	0.1	-136.7	1.8

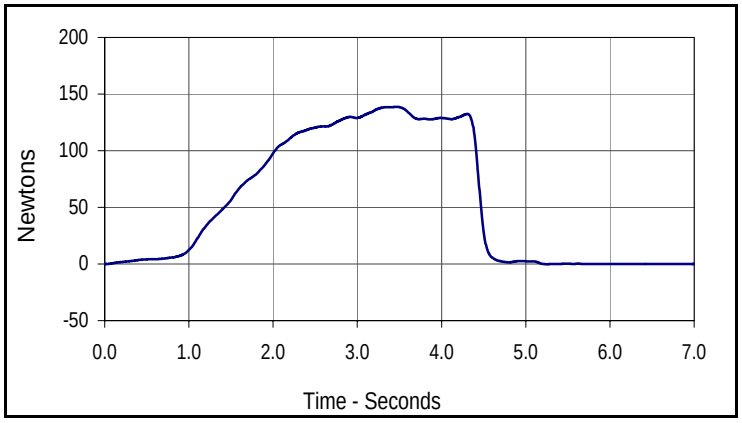
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



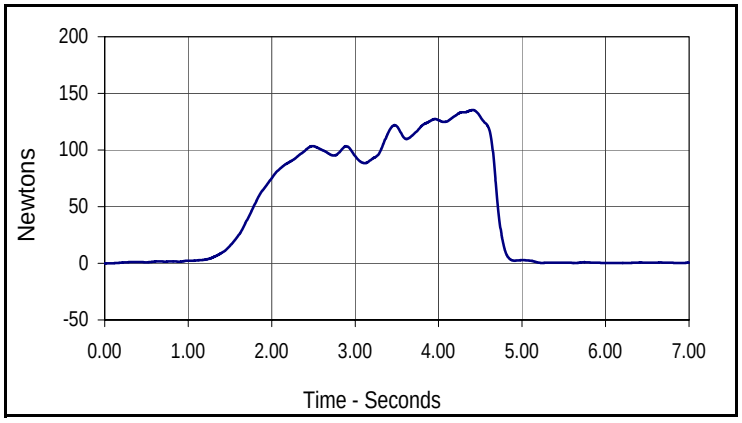
Curve Description			
Master Switch Test			
Master Switch Left Front Window			
CURNO	Type	SAE Class	Units
021	FIL	60	Newtons
Max	Time	Min	Time
156.0	4.6	-1.3	5.6



Curve Description			
Master Switch Test			
Master Switch Right Front Window			
CURNO	Type	SAE Class	Units
022	FIL	60	Newtons
Max	Time	Min	Time
163.5	4.1	-0.7	5.0

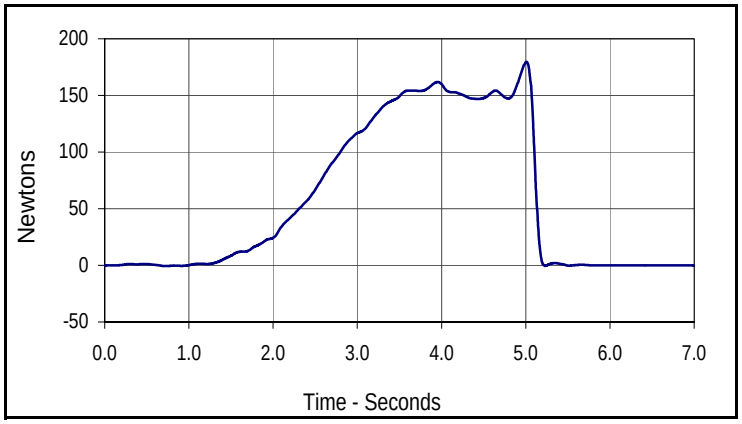


Curve Description			
Master Switch Test			
Master Switch Left Rear Window			
CURNO	Type	SAE Class	Units
023	FIL	60	Newtons
Max	Time	Min	Time
138.7	3.5	-0.2	5.2

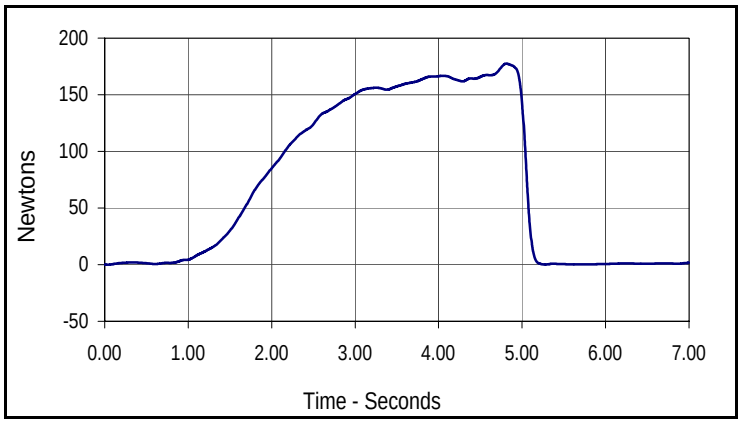


Curve Description			
Master Switch Test			
Master Switch Right Rear Window			
CURNO	Type	SAE Class	Units
024	FIL	60	Newtons
Max	Time	Min	Time
135.4	4.4	0.1	0.1

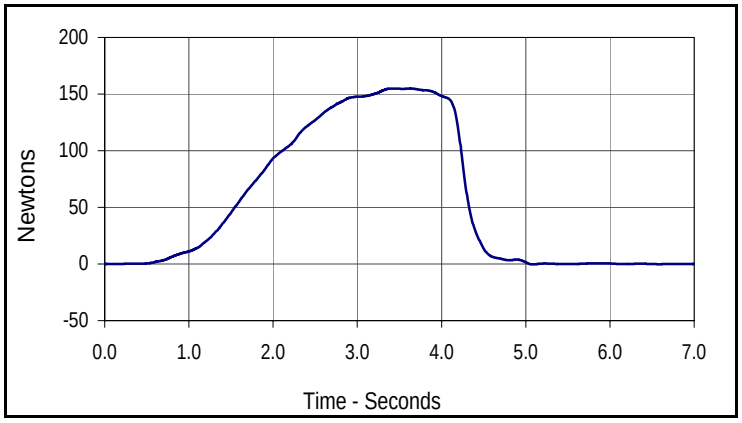
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



Curve Description			
Individual Switch Test			
Individual Switch Right Front Window			
CURNO	Type	SAE Class	Units
025	FIL	60	Newtons
Max	Time	Min	Time
179.6	5.0	-0.7	0.7

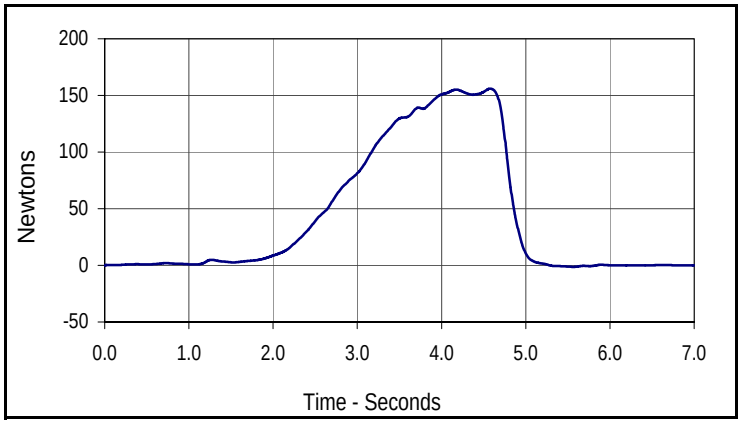


Curve Description			
Individual Switch Test			
Individual Switch Left Rear Window			
CURNO	Type	SAE Class	Units
026	FIL	60	Newtons
Max	Time	Min	Time
177.4	4.8	0.0	0.0

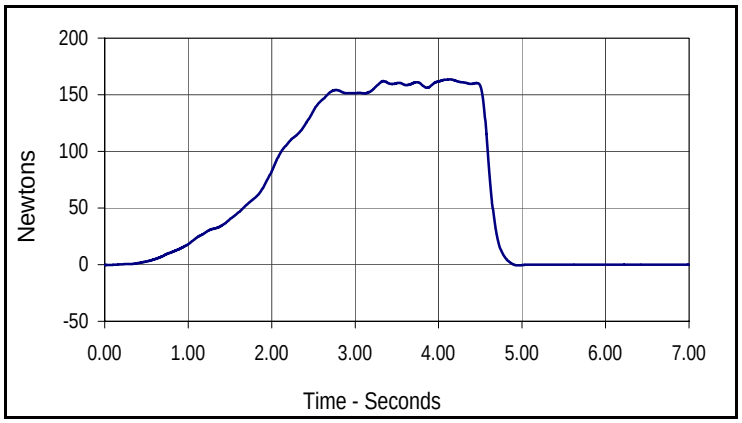


Curve Description			
Individual Switch Test			
Individual Switch Right Rear Window			
CURNO	Type	SAE Class	Units
027	FIL	60	Newtons
Max	Time	Min	Time
154.9	3.6	-0.4	5.1

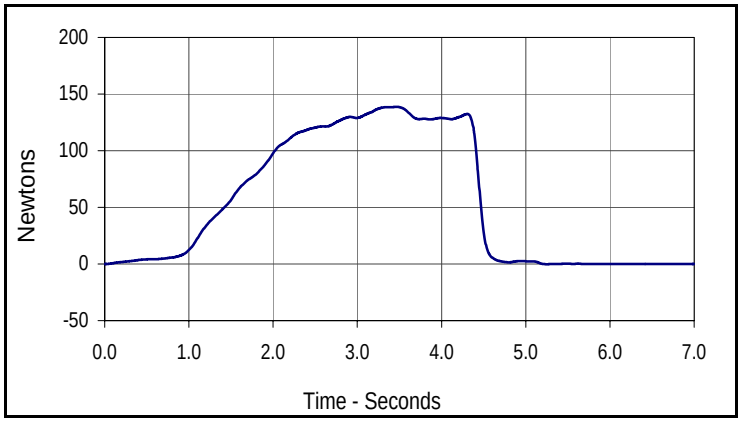
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



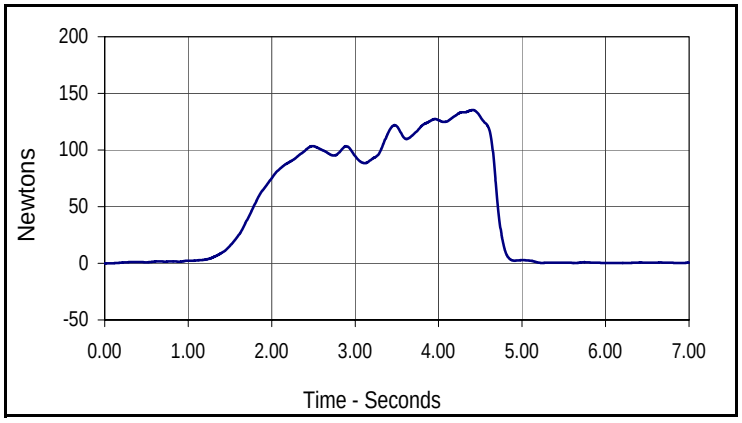
Curve Description			
Master Switch Test			
Master Switch Left Front Window			
CURNO	Type	SAE Class	Units
021	FIL	60	Newtons
Max	Time	Min	Time
156.0	4.6	-1.3	5.6



Curve Description			
Master Switch Test			
Master Switch Right Front Window			
CURNO	Type	SAE Class	Units
022	FIL	60	Newtons
Max	Time	Min	Time
163.5	4.1	-0.7	5.0

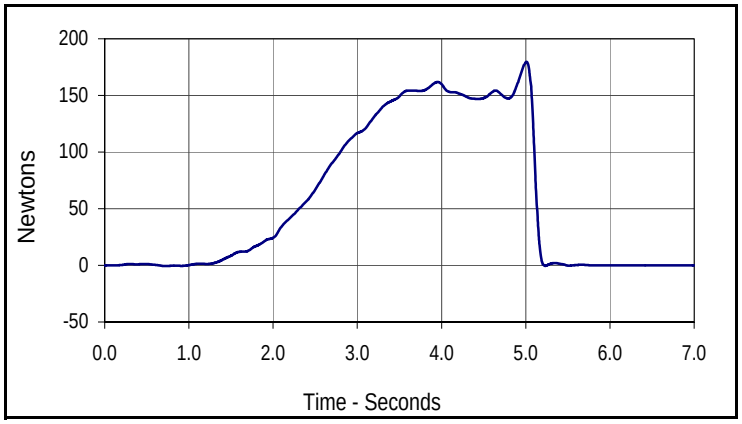


Curve Description			
Master Switch Test			
Master Switch Left Rear Window			
CURNO	Type	SAE Class	Units
023	FIL	60	Newtons
Max	Time	Min	Time
138.7	3.5	-0.2	5.2

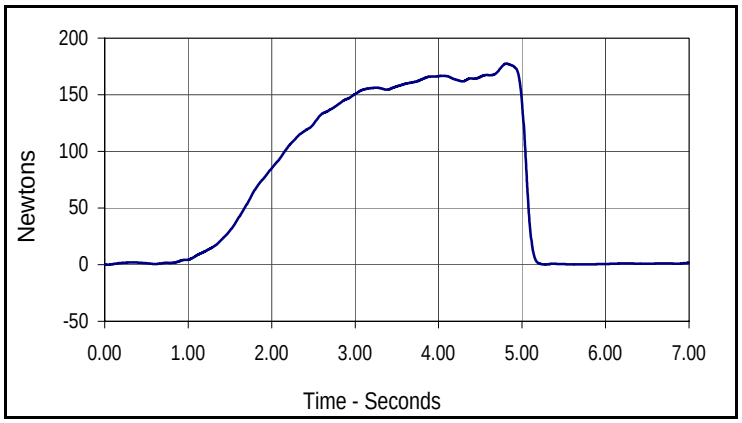


Curve Description			
Master Switch Test			
Master Switch Right Rear Window			
CURNO	Type	SAE Class	Units
024	FIL	60	Newtons
Max	Time	Min	Time
135.4	4.4	0.1	0.1

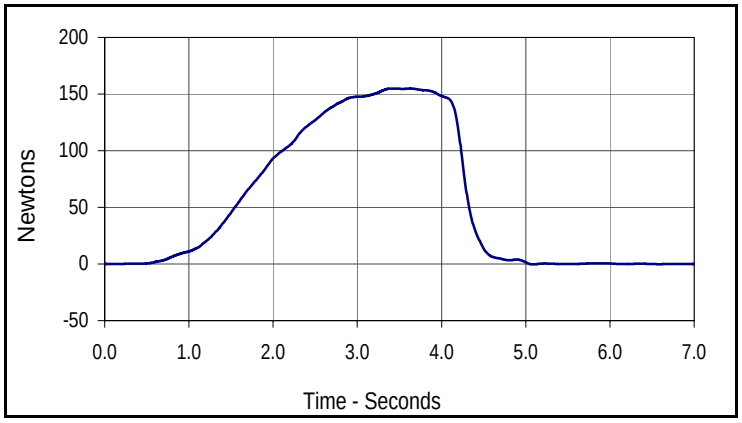
Test Vehicle:	2010 Nissan Cube 1.8 S 5-Dr MPV	Test Date:	7/7/10
Test Program:	FMVSS 118	NHTSA No.:	CA5203



Curve Description			
Individual Switch Test			
Individual Switch Right Front Window			
CURNO	Type	SAE Class	Units
025	FIL	60	Newtons
Max	Time	Min	Time
179.6	5.0	-0.7	0.7



Curve Description			
Individual Switch Test			
Individual Switch Left Rear Window			
CURNO	Type	SAE Class	Units
026	FIL	60	Newtons
Max	Time	Min	Time
177.4	4.8	0.0	0.0



Curve Description			
Individual Switch Test			
Individual Switch Right Rear Window			
CURNO	Type	SAE Class	Units
027	FIL	60	Newtons
Max	Time	Min	Time
154.9	3.6	-0.4	5.1

FMVSS 118

Test Equipment List and Calibration Information

07/07/10

2010 Nissan Cube 1.8 S 5-Dr MPV

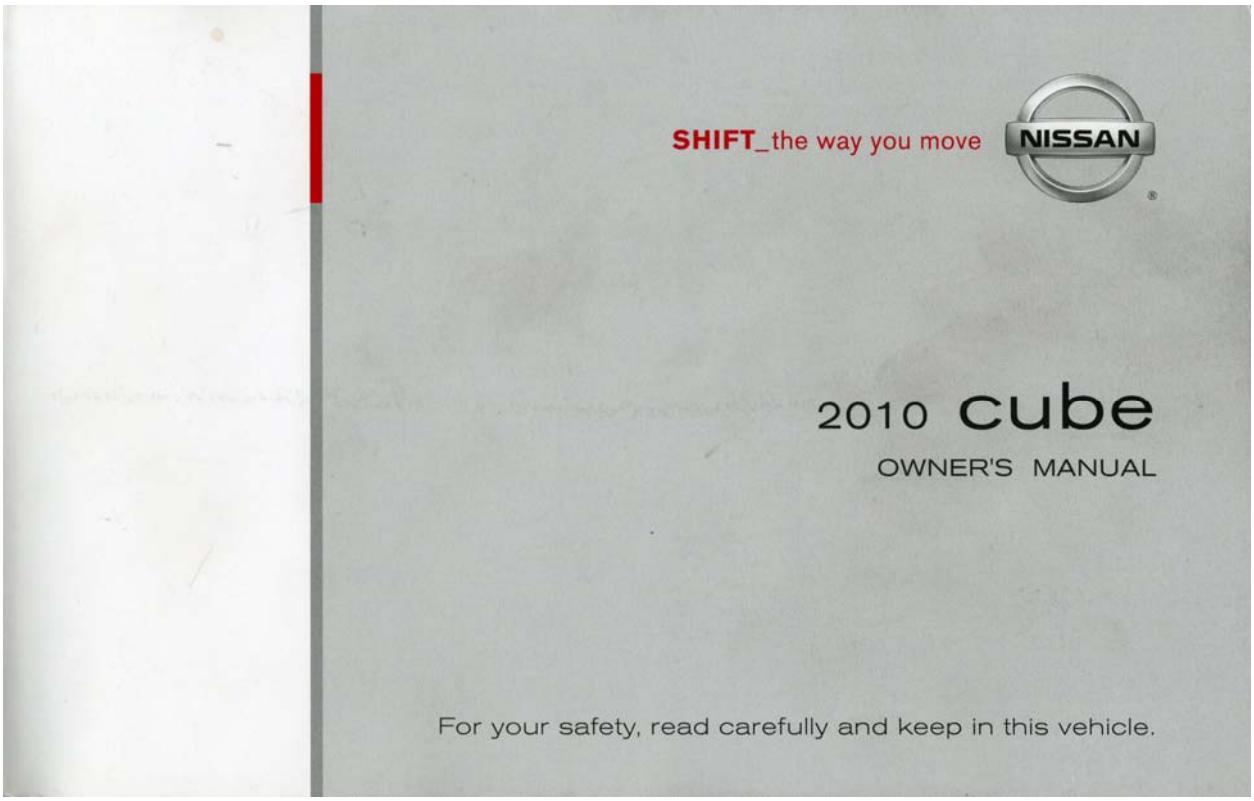
Description	Manufacturer	Model No.	Serial No.	Limit	Accuracy	Cal. Date	Due Cal.
DAS	DTS	TDAS Pro	DM0429	N/A	SAE J211	03/08/10	03/08/11
Laptop Computer	Toshiba	Satellite	LAP02	N/A	N/A	N/A	N/A
Load Cell	Denton	2409	85	445 Newtons	± 1.0%	03/22/10	03/22/11
Displacement Xdcr.	Celesco	PTX101-0030	J0654653	76 CM	± 1.0%	Each Use	
Load Cell	Lebow	261134	K118	300 Newtons	± 1.0%	05/25/10	05/25/11

SECTION 6

COPY OF OWNER'S MANUAL INSTRUCTION FOR USE OF POWER WINDOWS

COPY OF OWNER'S MANUAL INSTRUCTIONS FOR USE OF POWER WINDOWS

TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		



COPY OF OWNER'S MANUAL INSTRUCTIONS FOR USE OF POWER WINDOWS

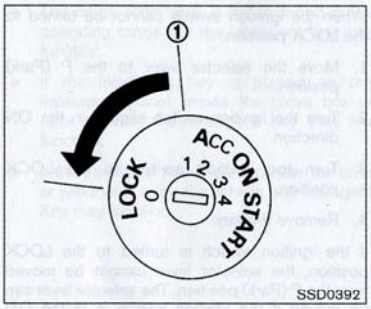
TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

Remember, drinking and driving don't mix! And that is true for drugs, too (over-the-counter, prescription, and illegal drugs). Don't drive if your ability to operate your vehicle is impaired by alcohol, drugs, or some other physical condition.

IGNITION SWITCH (models without Intelligent Key system)

⚠ WARNING

Never remove or turn the key to the LOCK position while driving. This may cause the driver to lose control of the vehicle and could result in serious vehicle damage or personal injury.



CONTINUOUSLY VARIABLE TRANSMISSION (CVT)

The ignition lock is designed so that the ignition switch cannot be turned to the LOCK position until the selector lever is moved to the P (Park) position.

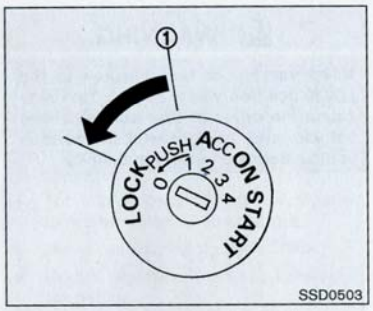
- When turning the ignition switch to the LOCK position, make sure that the selector lever is in the P (Park) position.
- When removing the key from the ignition switch, make sure that the selector lever is in the P (Park) position.

When the ignition switch cannot be turned to the LOCK position:

1. Move the selector lever to the P (Park) position.
2. Turn the ignition switch slightly in the ON direction.
3. Turn the ignition switch to the LOCK position.
4. Remove the key.

If the ignition switch is turned to the LOCK position, the selector lever cannot be moved from the P (Park) position. The selector lever can be moved if the ignition switch is in the ON position with the foot brake pedal depressed.

There is an OFF position ① between the LOCK and ACC positions, although it is not marked on the ignition switch.



MANUAL TRANSMISSION (MT)

The ignition switch includes a device that helps prevent accidental removal of the key while driving.

The key can only be removed when the ignition switch is in the LOCK position.

To turn the ignition switch to the LOCK position from the ACC or ON position, turn the key to the OFF position, push the key in, then turn the key to the LOCK position.

There is an OFF position ① in between the LOCK and ACC positions. The OFF position is indicated by a "1" on the key cylinder.

KEY POSITIONS

LOCK (0)

The key can only be removed from the ignition switch at this position.

OFF (1)

The engine is turned off. The power supply is turned off.

ACC (2)

The electrical accessory power activates without the engine turned on.

ON (3)

The ignition system and the electrical accessory power activate without the engine turned on.

START (4)

The engine starter activates and the engine will start. The ignition switch, when released, will automatically turn to the ON position.

⚠ CAUTION

As soon as the engine has started, release the ignition switch immediately.

COPY OF OWNER'S MANUAL INSTRUCTIONS FOR USE OF POWER WINDOWS

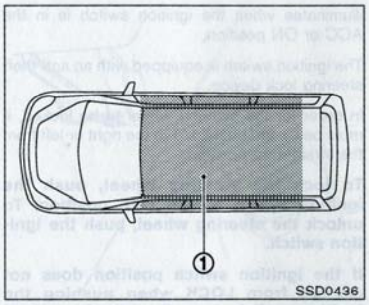
TEST VEHICLE INFORMATION			
YEAR	**2010**	MAKE	**NISSAN**
MODEL	**Cube 1.8 S**	BODY STYLE	**5-Door MPV**
NHTSA NO.	**CA5203**	VIN	**JN8AZ2KR6AT151088**
TEST DATE:	**07/07/10**		

PUSH-BUTTON IGNITION SWITCH (models with Intelligent Key system)

⚠ WARNING

Do not operate the push-button ignition switch while driving the vehicle except in an emergency. (The engine will stop when the ignition switch is pushed 3 consecutive times or the ignition switch is pushed and held for more than 2 seconds.) If the engine stops while the vehicle is being driven, this could lead to a crash and serious injury.

Before operating the push-button ignition switch, be sure to move the selector lever to the P (Park) position.



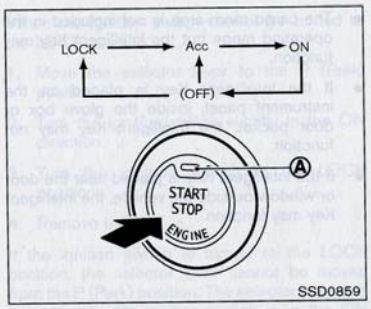
OPERATING RANGE FOR ENGINE START FUNCTION

The Intelligent Key can only be used for starting the engine when the Intelligent Key is within the specified operating range ①.

When the Intelligent Key battery is almost discharged or strong radio waves are present near the operating location, the Intelligent Key system's operating range becomes narrower and may not function properly.

If the Intelligent Key is within the operating range, it is possible for anyone, even someone who does not carry the Intelligent Key, to push the ignition switch to start the engine.

- The cargo room area is not included in the operating range but the Intelligent Key may function.
- If the Intelligent Key is placed on the instrument panel, inside the glove box or door pocket, the Intelligent Key may not function.
- If the Intelligent Key is placed near the door or window outside the vehicle, the Intelligent Key may function.



PUSH-BUTTON IGNITION SWITCH OPERATION

When the ignition switch is pushed without depressing the brake pedal, the ignition switch position will change as follows:

- Push center once to change to ACC.
- Push center two times to change to ON.
- Push center three times to change to OFF.
- Push center four times to return to ACC.
- Open or close any door to return to LOCK during the OFF position.

The indicator light Ⓐ on the ignition switch illuminates when the ignition switch is in the ACC or ON position.

The ignition switch is equipped with an anti-theft steering lock device.

In order for the steering wheel to be locked, it must be turned about 1/6 to the right or left from the straight up position.

To lock the steering wheel, push the ignition switch to the OFF position. To unlock the steering wheel, push the ignition switch.

If the ignition switch position does not change from LOCK when pushing the ignition switch, turn the steering wheel right and left, then push the ignition switch again.

If the battery of the vehicle is discharged, the push-button ignition switch position cannot be moved from the LOCK position.

Some indicators and warnings for operation are displayed on the meter. (See "WARNING/INDICATOR LIGHTS AND AUDIBLE REMINDERS" in the "2. Instruments and controls" section.)

The ignition lock is designed so that the ignition switch position cannot be switched to LOCK until the selector lever is moved to the P (Park) position.

When the ignition switch cannot be pushed toward the LOCK position, proceed as follows:

1. Move the selector lever into the P (Park) position.
2. Push the ignition switch to the OFF position.
3. Open the door. The ignition switch will change to the LOCK position.

The selector lever can be moved from the P (Park) position if the ignition switch is in the ON position and the brake pedal is depressed.

PUSH-BUTTON IGNITION SWITCH POSITIONS

LOCK (Normal parking position)

The ignition switch can only be locked in this position.

The ignition switch will be unlocked when it is pushed to the ACC position while carrying the Intelligent Key.

ACC (Accessories)

This position activates electrical accessories such as the radio, when the engine is not running.

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ON (Normal operating position)

This position turns on the ignition system and electrical accessories.

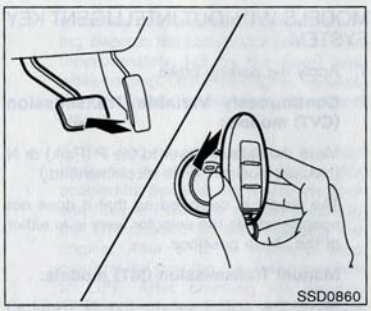
OFF

The engine can be turned off without locking the steering wheel.

The ignition lock is designed so that the ignition switch cannot be switched to the LOCK position until the selector lever is moved to the P (Park) position.

⚠ CAUTION

Do not leave the vehicle with the push-button ignition switch in ACC or ON position when the engine is not running for an extended period. This can discharge the battery.



INTELLIGENT KEY BATTERY DISCHARGE

If the battery of the Intelligent Key is discharged, or environmental conditions interfere with the Intelligent Key operation, start the engine according to the following procedure:

1. Move the selector lever to the P (Park) position.
2. Firmly apply the foot brake.
3. Touch the ignition switch with the Intelligent Key as illustrated. (A chime will sound.)
4. Push the ignition switch while depressing the brake pedal within 10 seconds after the chime sounds. The engine will start.

After step 3 is performed, when the ignition switch is pushed without depressing the brake pedal, the ignition switch position will change to ACC.

NOTE:

- **When the ignition switch is pushed to the ACC or ON position or the engine is started by the above procedures, the Intelligent Key system warning light may blink in yellow even if the Intelligent Key is inside the vehicle. This is not a malfunction. To stop the warning light from blinking, touch the ignition switch with the Intelligent Key again.**
- **If the Intelligent Key system warning light in the meter is blinking in green, replace the battery as soon as possible. (See "KEY BATTERY REPLACEMENT" in the "8. Maintenance and do-it-yourself" section.)**

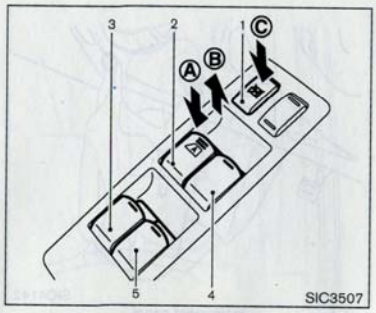
WINDOWS

POWER WINDOWS

⚠ WARNING

- **Make sure that all passengers have their hands, etc. inside the vehicle while it is in motion and before closing the windows. Use the window lock switch to prevent unexpected use of the power windows.**
- **Do not leave children unattended inside the vehicle. They could unknowingly activate switches or controls and become trapped in the window. Unattended children could become involved in serious accidents.**

The power windows operate when the ignition switch is in the ON position, or for about 45 seconds after the ignition switch is placed in the OFF position. If the driver's or front passenger's door is opened during this period of about 45 seconds, power to the windows is canceled.



Main power window switch (driver's side)

1. Window lock button
2. Driver side window
3. Rear left passenger side window
4. Front passenger side window
5. Rear right passenger side window

To open or close the window, push down Ⓐ or pull up Ⓑ the switch and hold it. The main switch (driver side switches) will open or close all the windows.

Locking passengers' windows

When the lock button Ⓒ is pushed in, only the driver side window can be opened or closed. Push it in again to cancel.

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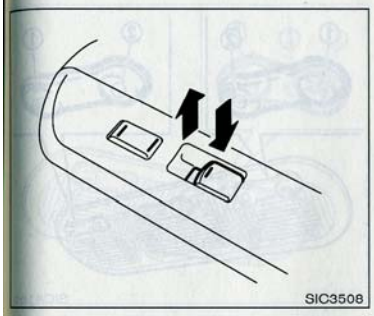
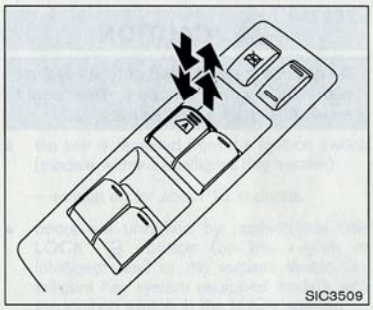


Passenger side power window switch

The passenger side switch will open or close only the corresponding window. To open or close the window, push down or pull up the switch and hold it.



Automatic operation

The automatic operation is available for the switch that has an Ⓐ mark on its surface.

To fully open or close the window, completely push down or pull up the switch and release it; the switch need not be held. The window will automatically open or close all the way. To stop the window, just push or lift the switch in the opposite direction.

A light push or pull on the switch will cause the window to open or close until the switch is released.

Auto-reverse function

⚠ WARNING

There are some small distances immediately before the closed position which cannot be detected. Make sure that all passengers have their hands, etc., inside the vehicle before closing the window.

If the control unit detects something caught in the window as it is closing, the window will be immediately lowered.

The auto reverse function can be activated when the window is closed by automatic operation when the ignition switch is in the ON position or for 45 seconds after the ignition switch is placed in the OFF position.

Depending on the environment or driving conditions, the auto reverse function may be activated if an impact or load similar to something being caught in the window occurs.

If the windows do not close automatically

If the power window automatic function (closing only) does not operate properly, perform the following procedure to initialize the power window system.

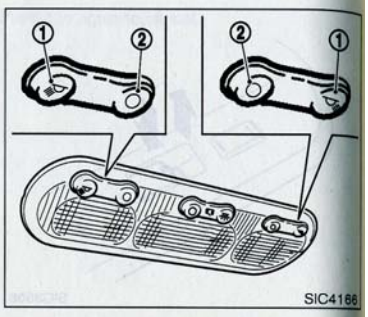
INTERIOR LIGHTS

1. Place the ignition switch in the ON position.
2. Close the door.
3. Open the window completely by operating the power window switch.
4. Pull the power window switch and hold it to close the window, and then hold the switch more than 3 seconds after the window is closed completely.
5. Release the power window switch. Operate the window by the automatic function to confirm the initialization is complete.

If the power window automatic function does not operate properly after performing the procedure above, have your vehicle checked by a NISSAN dealer.

⚠ CAUTION

Do not use for extended periods of time with the engine stopped. This could result in a discharged battery.



MAP LIGHTS (if so equipped)

Operate the map light switch to turn the map light on or off.

① : ON position

② : OFF position