**REPORT NO. 118-KAR-10-003**

# SAFETY COMPLIANCE TESTING FOR FMVSS 118

## Power-Operated Window, Partition, And Roof Panel Systems

**2010 TOYOTA VENZA**
**5-DOOR MPV**

**NHTSA NO. CA5105**

**PREPARED BY:**
**KARCO ENGINEERING, LLC.**
**9270 HOLLY ROAD**
**ADELANTO, CALIFORNIA 92301**

**June 2, 2010**

**Final Report**

**PREPARED FOR:**
**U.S. DEPARTMENT OF TRANSPORTATION**
**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**
**ENFORCEMENT**
**OFFICE OF VEHICLE SAFETY COMPLIANCE**
**MAIL CODE: NVS-221**
**1200 NEW JERSEY AVE SE, ROOM W43-498**
**WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract DTNH22-06-C-00034.

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By: Matthew S. Hubbard

Mr. Matthew S. Hubbard, Test Engineer
KARCO Engineering, LLC.

Reviewed By:

Ms. Angie Valenzuela, Quality Assurance Manager
KARCO Engineering, LLC.

Mr. Michael L. Dunlap, Director of Operations
KARCO Engineering, LLC.

Approved By:

Mr. Frank D. Richardson, Program Manager
KARCO Engineering, LLC.

Approval Date: July 06, 2010

FINAL REPORT ACCEPTED BY OSVC:

FINAL REPORT ACCEPTED BY OSVC:

Accepted By:

Acceptance Date: 7/13/10

## Technical Report Documentation Page

| | | | |
|---|---|---|---|
| 1. *Report No.*<br>118-KAR-10-003 | 2. *Government Accession No.* | 3. *Recipient's Catalog No.* | |
| 4. *Title and Subtitle*<br>Final Report of FMVSS 118 Compliance Testing of 2010 Toyota Venza 5-Door MPV<br>NHTSA NO. CA5105 | | 5. *Report Date*<br>06-02-10<br>6. *Performing Organization Code*<br>KAR | |
| 7. *Author(s)* Mr. Matthew S. Hubbard, Test Engineer, KARCO<br>Mr. Michael L. Dunlap, Director of Operations, KARCO | | 8. *Performing Organization Report No.*<br>TR-P30006-03-NC | |
| 9. *Performing Organization Name and Address*<br>KARCO Engineering<br>9270 Holly Road<br>Adelanto, California 92301 | | 10. *Work unit No.*<br>11. *Contract or Grant No.*<br>DTNH22-06-C-00034 | |
| 12. *Sponsoring Agency Name and Address*<br>U.S. Department of Transportation<br>National Highway Traffic Safety Administration<br>Enforcement<br>Office of Vehicle Safety Compliance<br>Mail Code: NVS-221<br>1200 New Jersey Ave SE, Room W43-410<br>Washington, D.C. 20590 | | 13. *Type of report and Period Covered*<br>Final Report- June 2, 2010<br>14. *Sponsoring Agency Code*<br>NVS-221 | |
| 15. *Supplementary Notes* | | | |
| 16. *Abstract*<br>Compliance tests were conducted on the subject 2010 Toyota Venza 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.<br>Test failures identified were as follows:<br>None | | | |
| 17. *Key Words*<br>Compliance Testing<br>Safety Engineering<br>FMVSS 118 | | 18. *Distribution Statement*<br>Copies of this report are available from:<br>National Highway Traffic Safety Admin.<br>Technical Information Services (TIS)<br>Mail Code: NVS-221<br>1200 New Jersey Ave SE, Room W43-410<br>Washington, D.C. 20590 | |
| 19. *Security Classification (of this report)*<br>UNCLASSIFIED | 20. *Security Classification (of this page)*<br>UNCLASSIFIED | 21. *No. of Pages*<br>89 | 22. *Price* |

*Form DOT F1700.7 (8-72)*

TABLE OF CONTENTS

## SECTION 1
## PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2010 Toyota Venza 5-Door MPV, manufactured by Toyota AG 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 Toyota Venza 5-Door MPV was subjected to FMVSS 118 compliance testing. The tests were conducted at KARCO Engineering in Adelanto, California on June 1st, 2010 through June 2nd, 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 | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

### 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

## 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) | See Data Sheet 8 | See Data Sheet 8 |
| LEFT REAR (LR) | See Data Sheet 8 | See Data Sheet 8 |
| RIGHT REAR (RR) | See Data Sheet 8 | See Data Sheet 8 |
| 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**: None.

The subject 2010 Toyota Venza 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 | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

**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 | N/A | 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: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 2
## IGNITION KEY OFF TEST

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

| | | | | |
|---|---|---|---|---|
| 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: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 3
## IGNITION KEY REMOVED TEST

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

| 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: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 4
## EXTERIOR KEY LOCKING SYSTEM

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

| **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:**

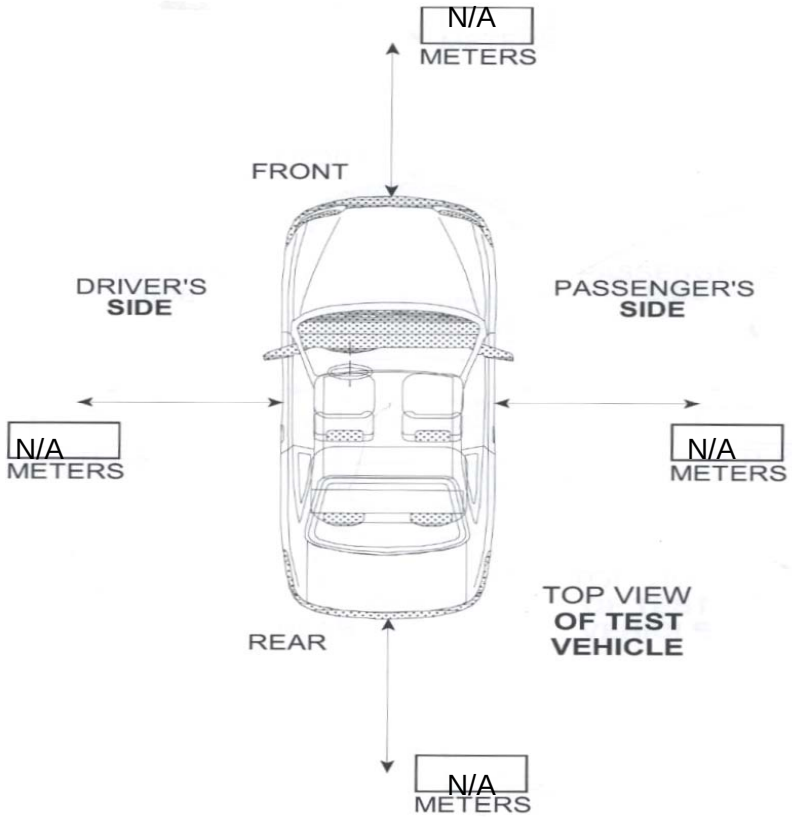
RECORDED BY: **MATTHEW S. HUBBARD** DATE: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

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.

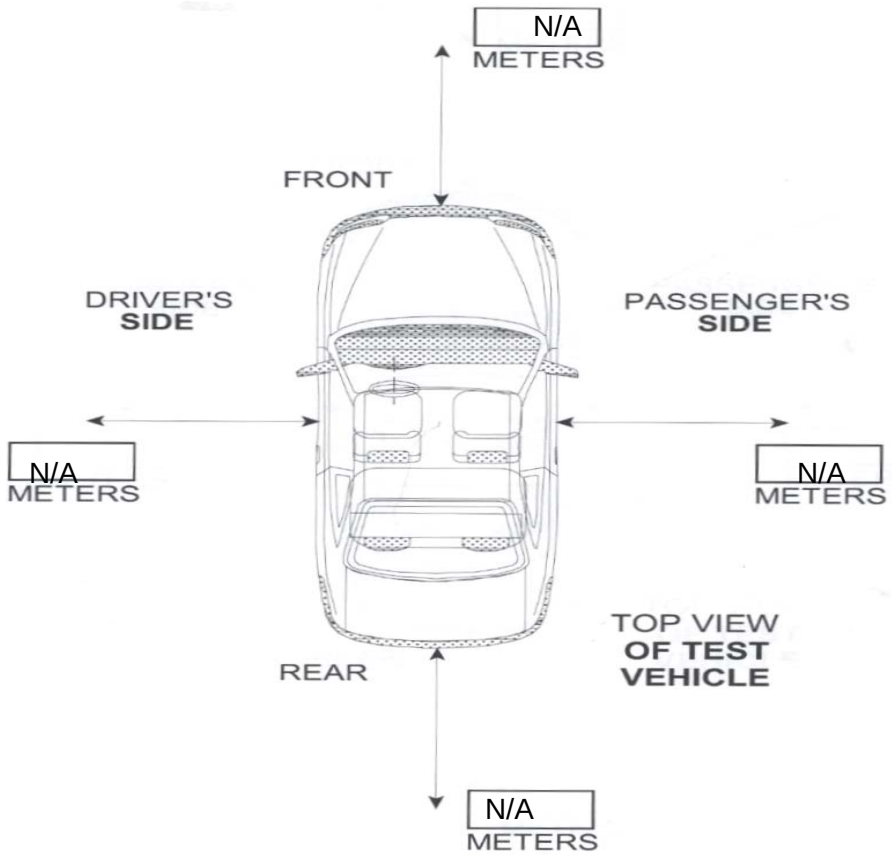
RECORDED BY: **MATTHEW S. HUBBARD** DATE: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

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: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 7
## AUTO REVERSAL

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

**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) | X | X |
| LEFT REAR (LR) | X | X |
| RIGHT REAR (RR) | X | X |
| 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. All windows and sunroof are 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: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 8
## AUTO REVERSAL

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

Distance window is open from top seam to start position. 337

**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 | 52.3 | 221.1 |
| 25mm semi rigid rod | 81.5 | 195.2 |
| 50mm semi rigid rod | 77.6 | 66.3 |
| 100mm semi rigid rod | 91.9 | 152.2 |
| 200mm semi rigid rod | 98.7 | 144.2 |

Distance window is open from top seam to start position. 337

**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 | 53.0 | 220.5 |
| 25mm semi rigid rod | 83.5 | 202.4 |
| 50mm semi rigid rod | 54.1 | 171.6 |
| 100mm semi rigid rod | 88.1 | 152.5 |
| 200mm semi rigid rod | 79.4 | 146.2 |

**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.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 8 (Continued)
## AUTO REVERSAL

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

Distance window is open from top seam to start position. 337

**WPRP OBSTRUCTION FORCE REVERSAL**

| LEADING EDGE RIGHT FRONT WINDOW | FORCE TO REVERSE (NEWTONS) | DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm) |
|---|---|---|
| 5mm semi rigid rod | 36.2 | 219.2 |
| 25mm semi rigid rod | 98.4 | 198.8 |
| 50mm semi rigid rod | 71.9 | 167.9 |
| 100mm semi rigid rod | 87.9 | 149.4 |
| 200mm semi rigid rod | 54.6 | 127.7 |

Distance window is open from top seam to start position. 337

**WPRP OBSTRUCTION FORCE REVERSAL**

| REAR EDGE RIGHT FRONT WINDOW | FORCE TO REVERSE (NEWTONS) | DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm) |
|---|---|---|
| 5mm semi rigid rod | 45.9 | 224.9 |
| 25mm semi rigid rod | 58.1 | 201.0 |
| 50mm semi rigid rod | 72.1 | 179.7 |
| 100mm semi rigid rod | 78.0 | 149.3 |
| 200mm semi rigid rod | 76.8 | 144.2 |

**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.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 8 (Continued)
## AUTO REVERSAL

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

Distance window is open from top seam to start position. 331

**WPRP OBSTRUCTION FORCE REVERSAL**

| LEADING EDGE RIGHT REAR WINDOW | FORCE TO REVERSE (NEWTONS) | DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm) |
|---|---|---|
| 5mm semi rigid rod | 51.2 | 228.7 |
| 25mm semi rigid rod | 87.5 | 210.8 |
| 50mm semi rigid rod | 72.6 | 183.6 |
| 100mm semi rigid rod | 90.4 | 150.3 |
| 200mm semi rigid rod | 55.1 | 89.3 |

Distance window is open from top seam to start position. 331

**WPRP OBSTRUCTION FORCE REVERSAL**

| REAR EDGE RIGHT REAR WINDOW | FORCE TO REVERSE (NEWTONS) | DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm) |
|---|---|---|
| 5mm semi rigid rod | 45.5 | 230.9 |
| 25mm semi rigid rod | 93.7 | 211.0 |
| 50mm semi rigid rod | 166.0 | 179.7 |
| 100mm semi rigid rod | 96.5 | 148.5 |
| 200mm semi rigid rod | 47.4 | 106.8 |

**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.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 8 (Continued)
## AUTO REVERSAL

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

Distance window is open from top seam to start position. 331

**WPRP OBSTRUCTION FORCE REVERSAL**

| LEADING EDGE LEFT REAR WINDOW | FORCE TO REVERSE (NEWTONS) | DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm) |
|---|---|---|
| 5mm semi rigid rod | 47.5 | 226.6 |
| 25mm semi rigid rod | 95.2 | 205.2 |
| 50mm semi rigid rod | 55.9 | 186.8 |
| 100mm semi rigid rod | 88.0 | 145.8 |
| 200mm semi rigid rod | 72.8 | 111.2 |

Distance window is open from top seam to start position. 331

**WPRP OBSTRUCTION FORCE REVERSAL**

| REAR EDGE LEFT REAR WINDOW | FORCE TO REVERSE (NEWTONS) | DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm) |
|---|---|---|
| 5mm semi rigid rod | 50.3 | 228.3 |
| 25mm semi rigid rod | 91.0 | 209.3 |
| 50mm semi rigid rod | 76.2 | 180.6 |
| 100mm semi rigid rod | 51.7 | 149.4 |
| 200mm semi rigid rod | 82.9 | 195.5 |

**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.

RECORDED BY: **MATTHEW S. HUBBARD** DATE: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## DATA SHEET NO. 9
## SPHERE TEST

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |

**SPHERE TEST CONDUCTED ON MASTER SWITCH CONTROL PANEL**

| WINDOW | FORCE APPLIED TO ACTIVATE SWITCH (NEWTONS) | SWITCH ACTIVATED (YES / NO) | PASS / FAIL |
|---|---|---|---|
| LEFT FRONT (LF) | 139.6 | NO | PASS |
| RIGHT FRONT (RF) | 149.7 | NO | PASS |
| RIGHT REAR (LR) | 164.8 | NO | PASS |
| LEFT REAR (RR) | 168.9 | 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 |

**SPHERE TEST CONDUCTED ON INDIVIDUAL SWITCH**

| WINDOW | FORCE APPLIED TO ACTIVATE SWITCH (NEWTONS) | SWITCH ACTIVATED (YES / NO) | PASS / FAIL |
|---|---|---|---|
| LEFT FRONT (LF) | 139.6 | NO | PASS |
| RIGHT FRONT (RF) | 172.7 | NO | PASS |
| RIGHT REAR (LR) | 149.0 | NO | PASS |
| LEFT REAR (RR) | 162.7 | 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: **06/01/10 - 06/02/10**

APPROVED BY: **MICHAEL L. DUNLAP** DATE: **07/06/10**

## SECTION 4

## PHOTOGRAPHS

2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 1: Frontal ¾ View From Right Side of Vehicle

2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 2: Rear ¾ View From Left Side of Vehicle


2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 3: Vehicle Certification Label


Figure 4: Tire Information Placard

2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118






2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 5: Ignition Switch


Figure 6: Left Front Master Power Window Switch


Figure 7: Right Front Power Window Switch


Figure 8: Left Rear Power Window Switch


Figure 9: Right Rear Power Window Switch

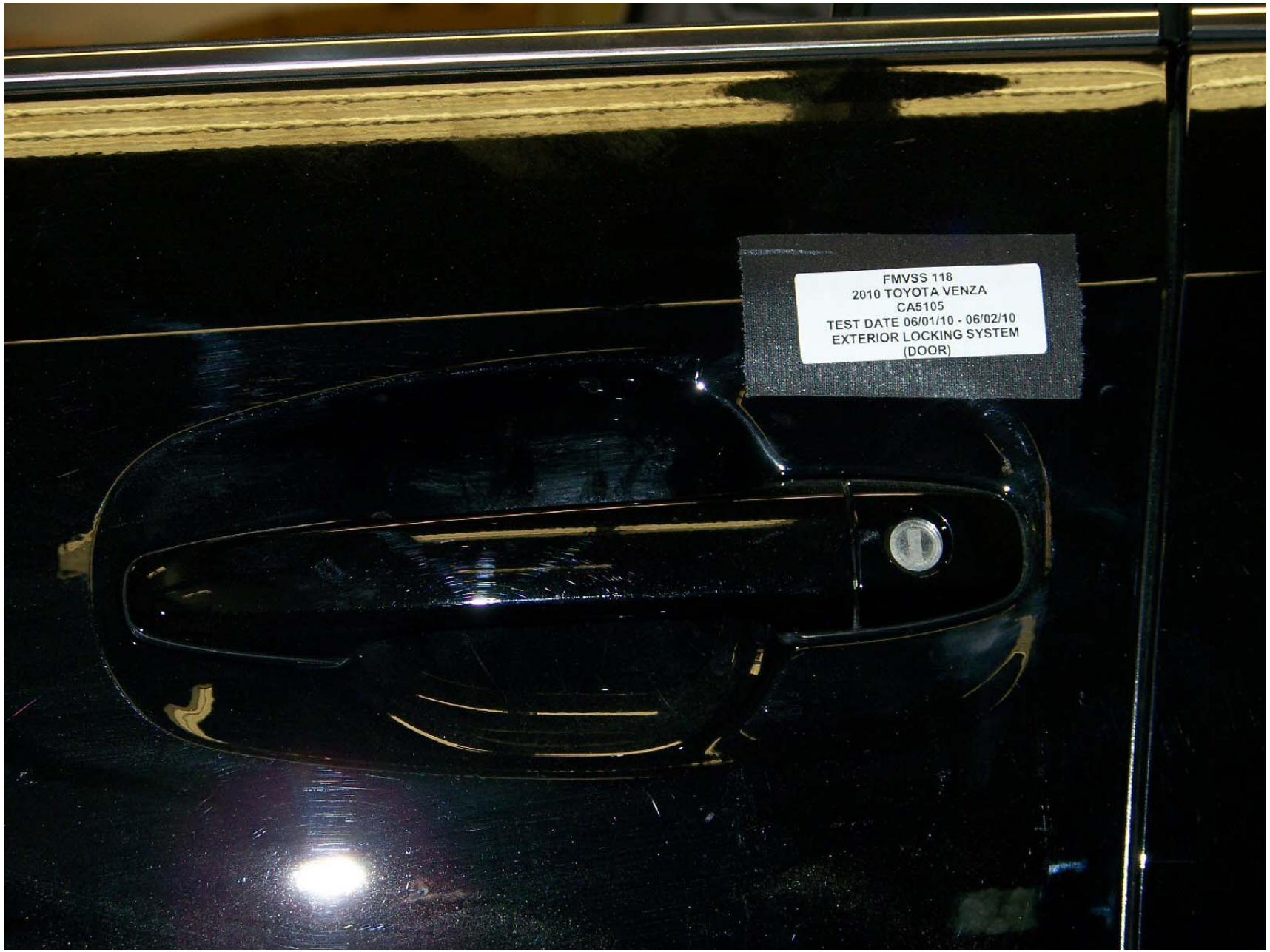
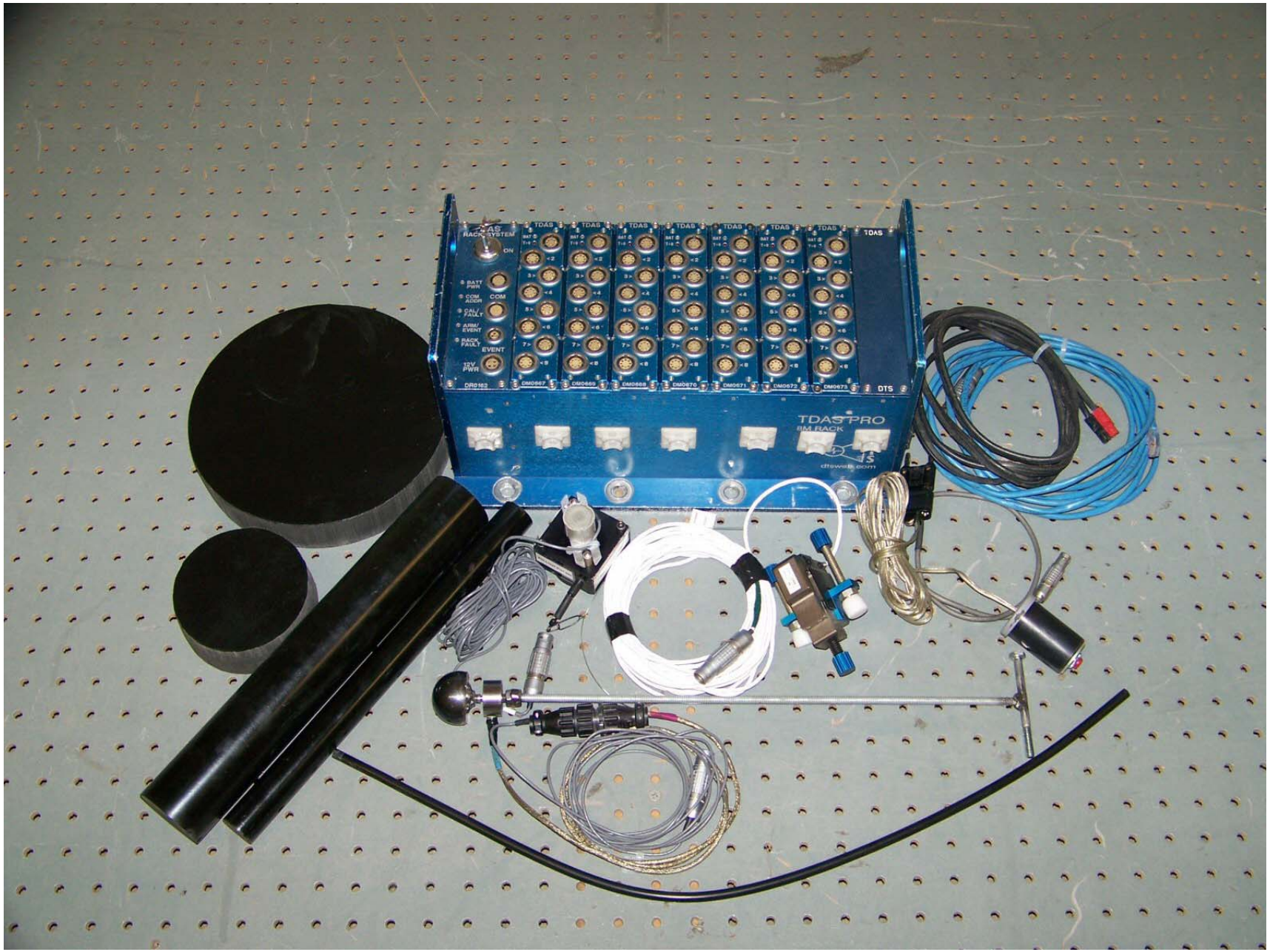



Figure 10: Exterior Locking System (Driver Door)


Figure 11: Exterior Locking System (Key)

Figure 12: Overall Test Set-Up




2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 13: Instrumentation

Figure 14: Left Front Window

2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

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

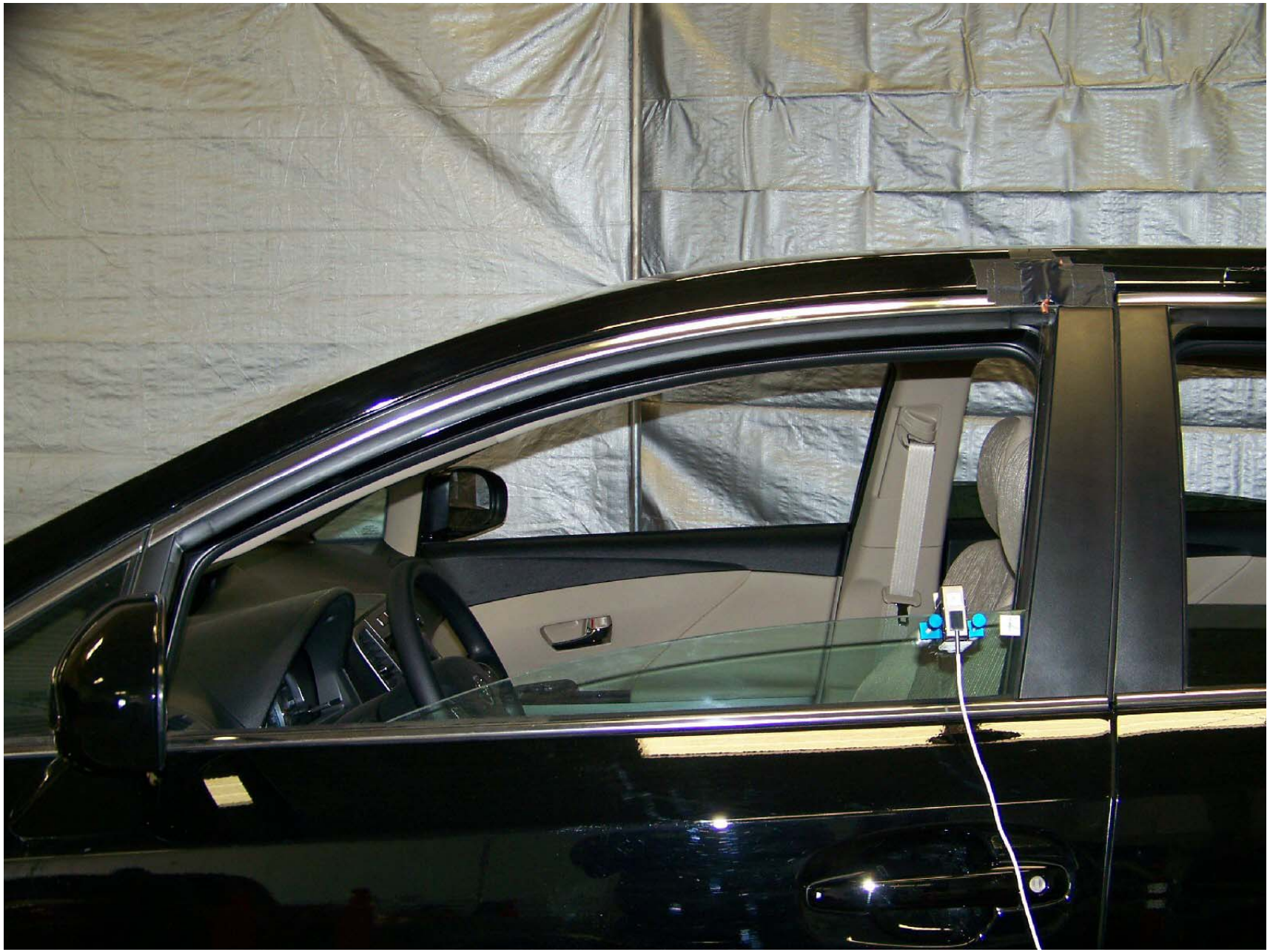


Figure 16: Left Front Window Test Set-Up Rear Edge

Figure 17: Right Front Window

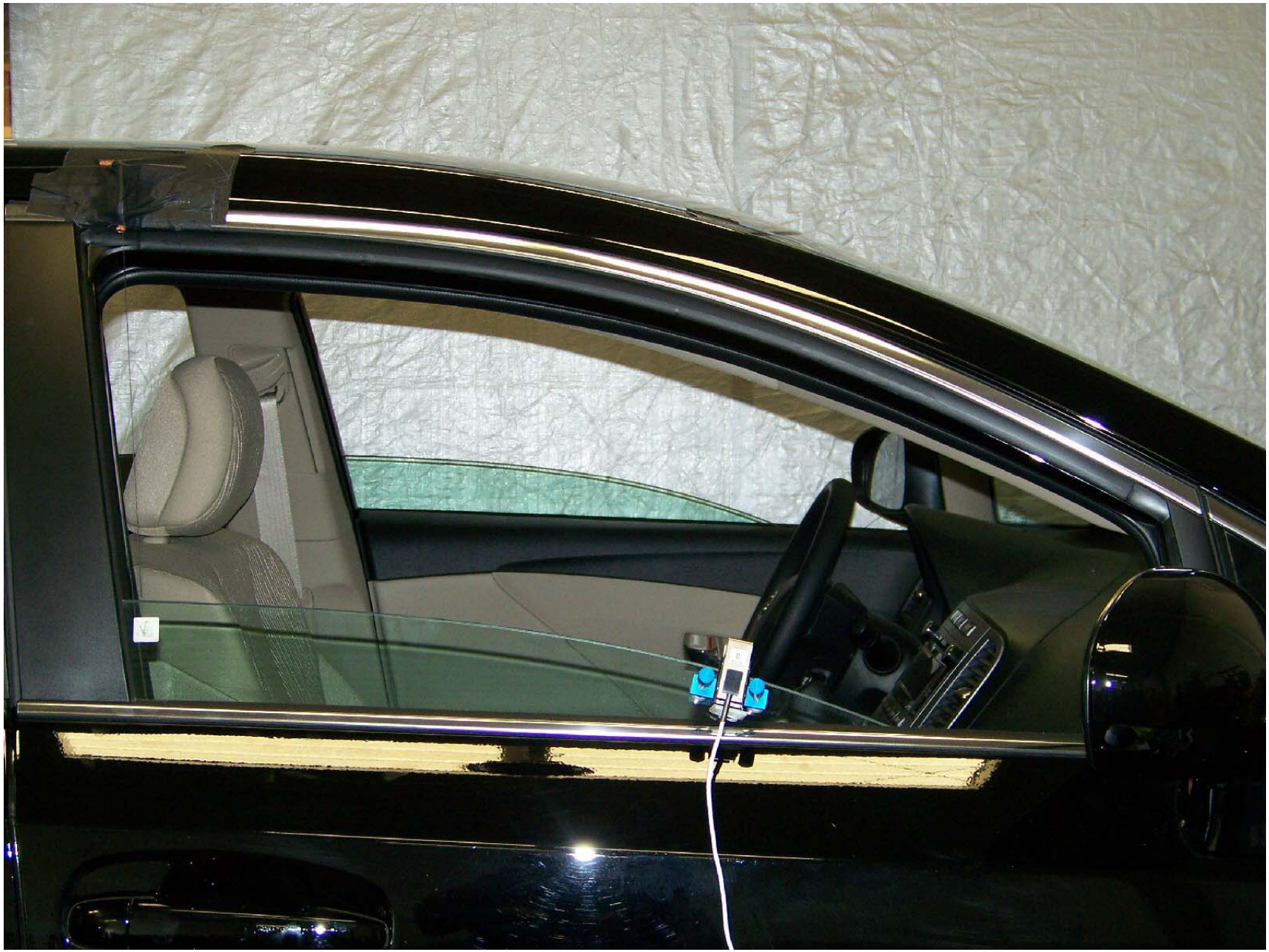


Figure 18: Right Front Window Test Set-Up Leading Edge

Figure 19: Right Front Window Test Set-Up Rear Edge

Figure 20: Left Rear Window

2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 21: Left Rear Window Test Set-Up Leading Edge

Figure 22: Left Rear Window Test Set-Up Rear Edge

Figure 23: Right Rear Window

Figure 24: Right Rear Window Test Set-Up Leading Edge

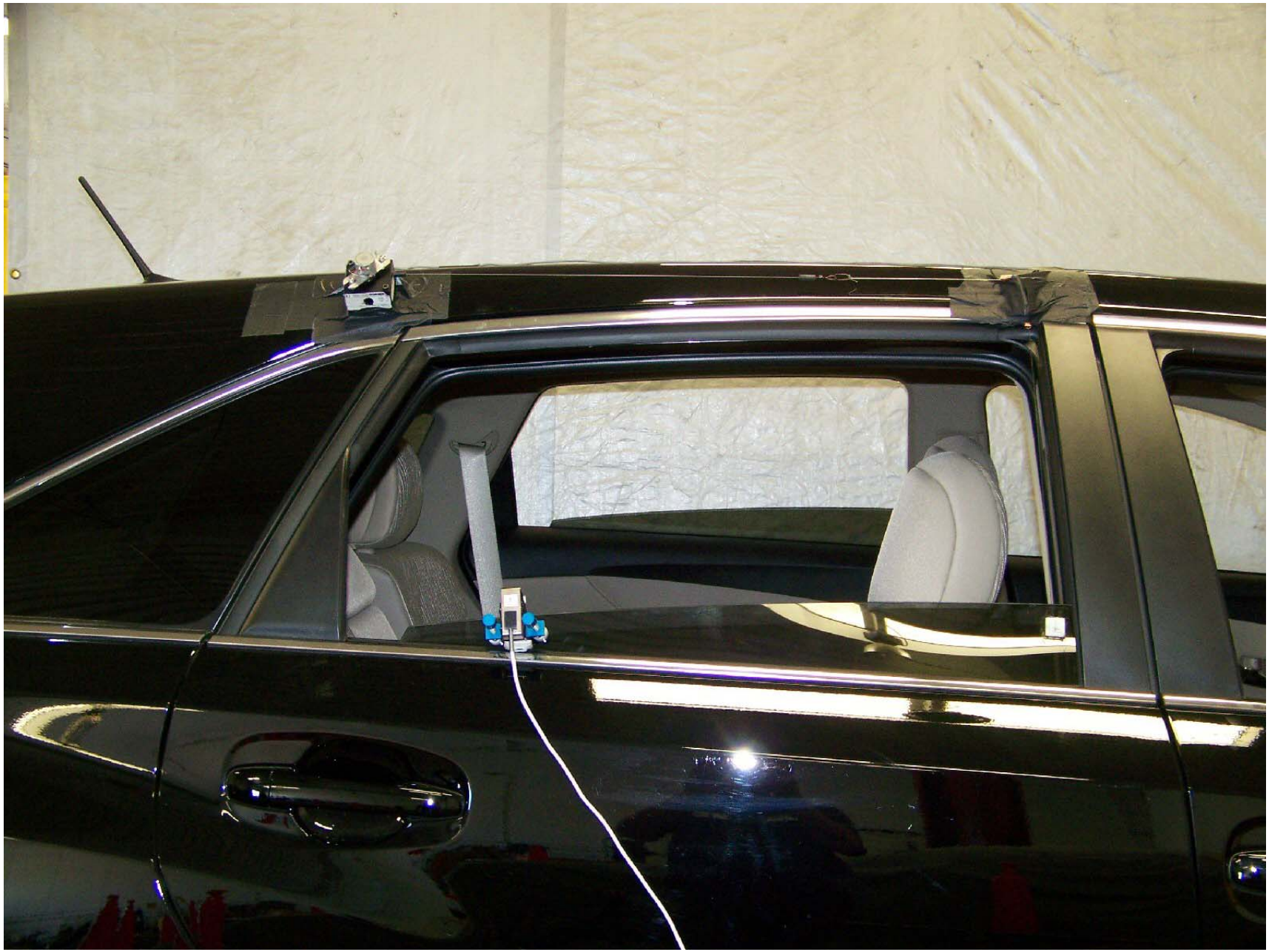


Figure 25: Right Rear Window Test Set-Up Rear Edge


2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 26: Sphere Test Master Control Panel

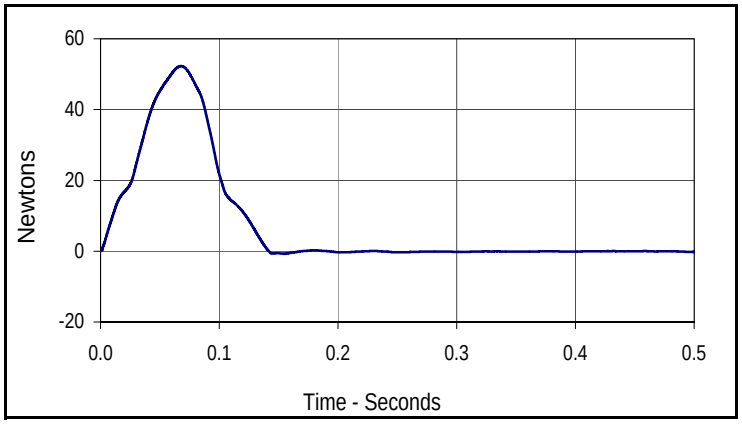

Figure 27: Sphere Test Right Front Window Switch


Figure 28: Sphere Test Left Rear Window Switch

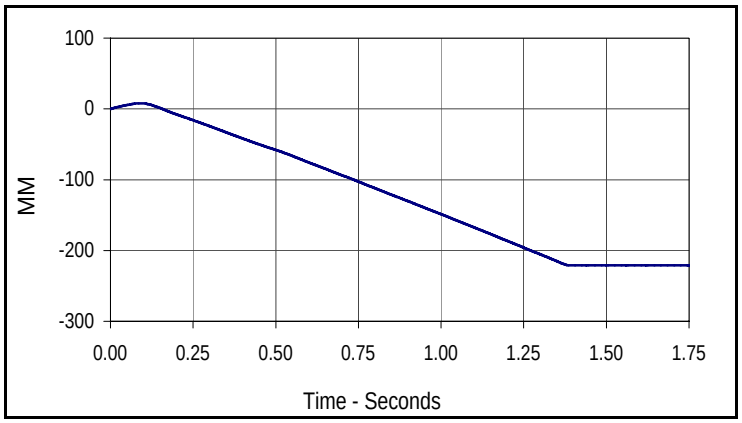

2010 Toyota Venza
NHTSA NO. CA5105
FMVSS NO. 118

Figure 29: Sphere Test Right Rear Window Switch

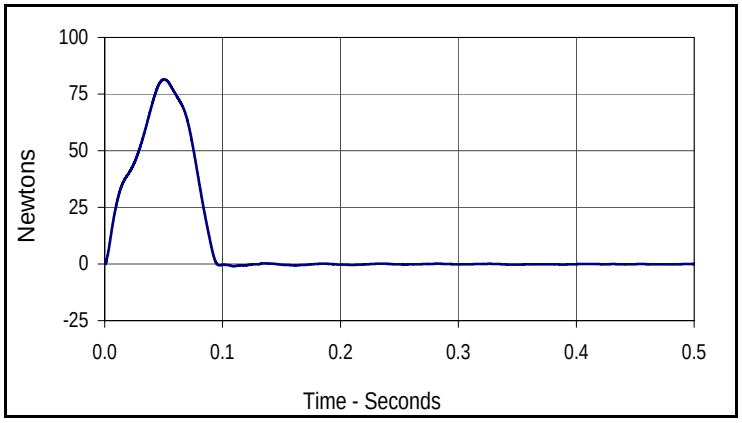
## 5. DATA PLOTS



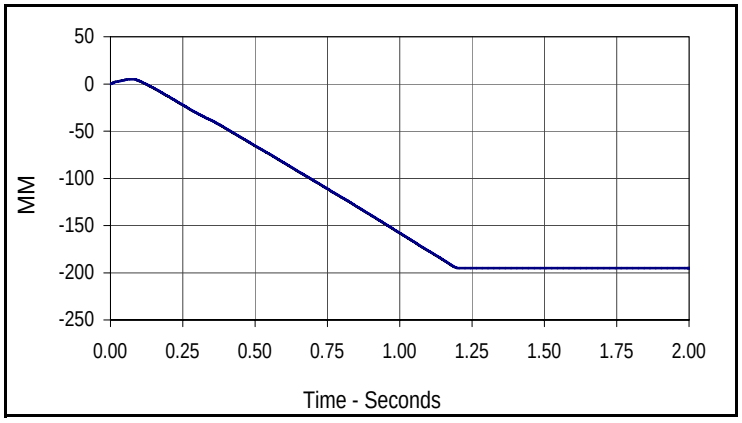

| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 001 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 52.3 | 0.1 | -0.7 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 002 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 7.9 | 0.1 | -221.1 | 2.4 |

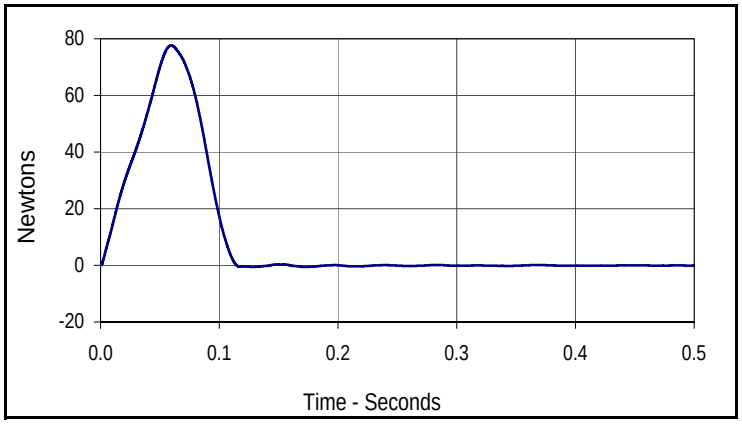



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 003 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 81.5 | 0.1 | -1.0 | 0.1 |

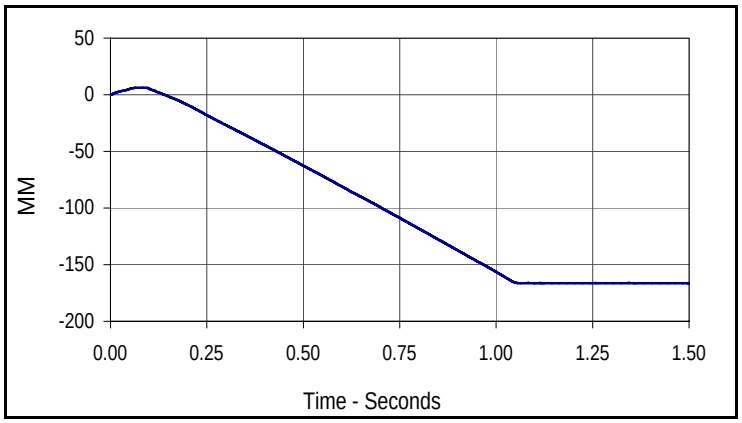



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 004 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 4.9 | 0.1 | -195.2 | 2.5 |

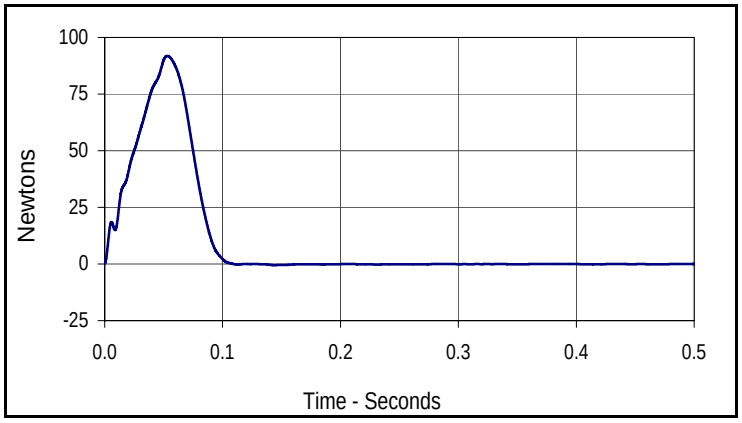
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



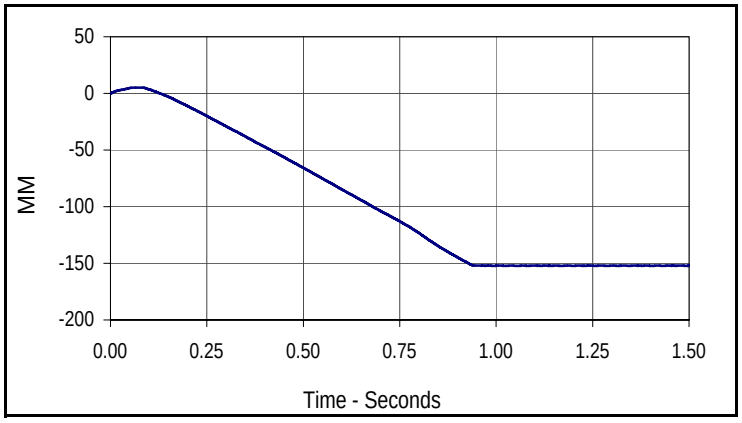

| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 005 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 77.6 | 0.1 | -0.7 | 1.1 |




| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 006 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 6.3 | 0.1 | -166.3 | 2.1 |

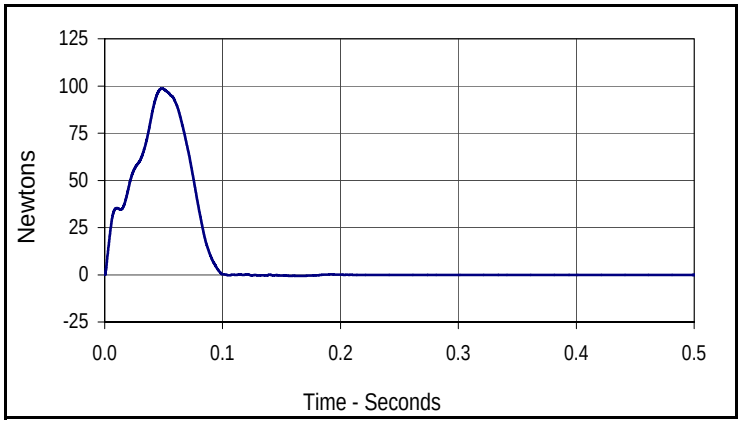



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 007 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 91.9 | 0.1 | -0.6 | 1.0 |

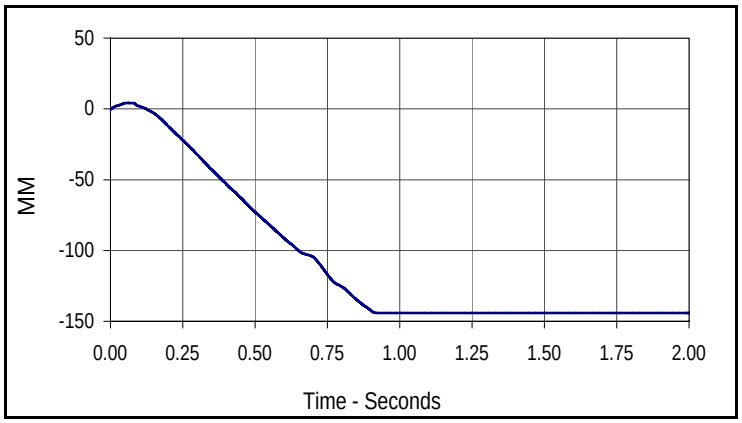



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 008 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.1 | 0.1 | -152.2 | 2.2 |

| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |

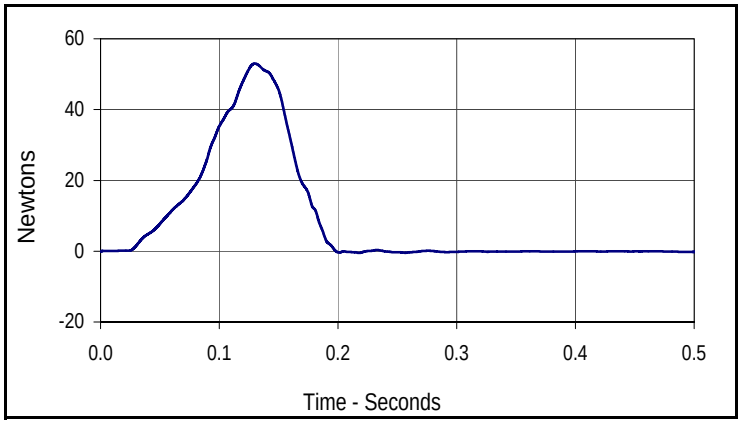



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 009 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 98.7 | 0.0 | -0.7 | 0.2 |

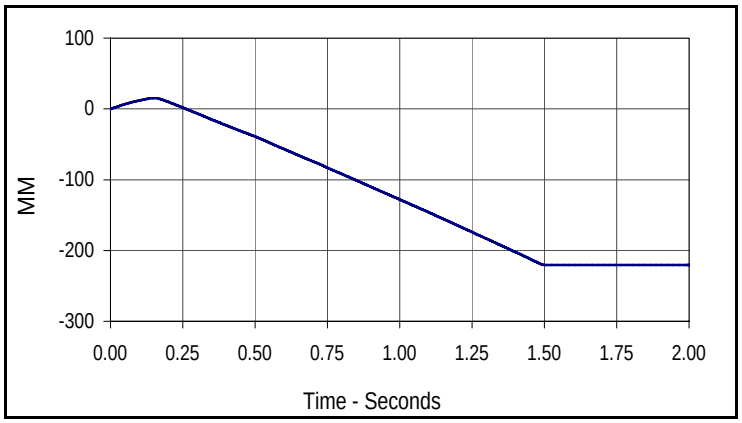



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 010 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 4.2 | 0.1 | -144.2 | 1.9 |

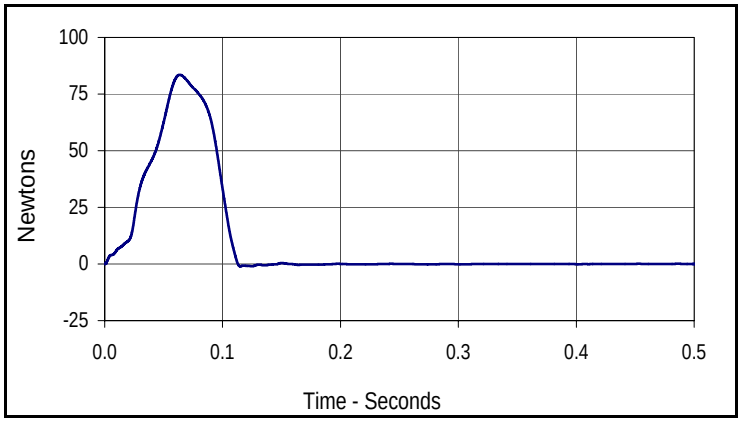
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



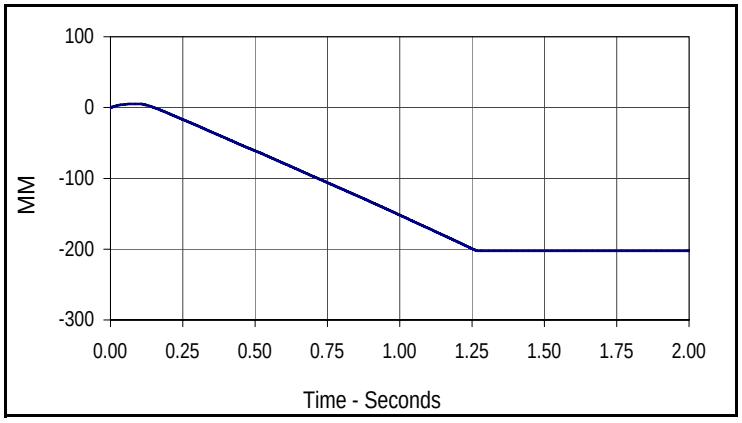

| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 011 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 53.0 | 0.1 | -0.5 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 012 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 14.9 | 0.1 | -220.5 | 1.7 |

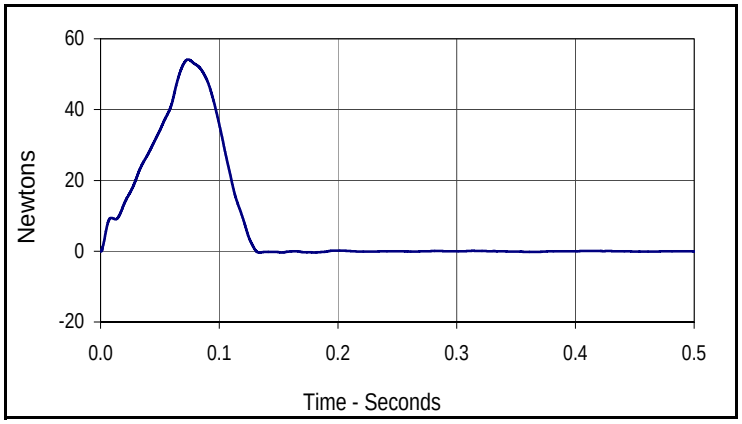



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 013 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 83.5 | 0.1 | -1.1 | 0.1 |

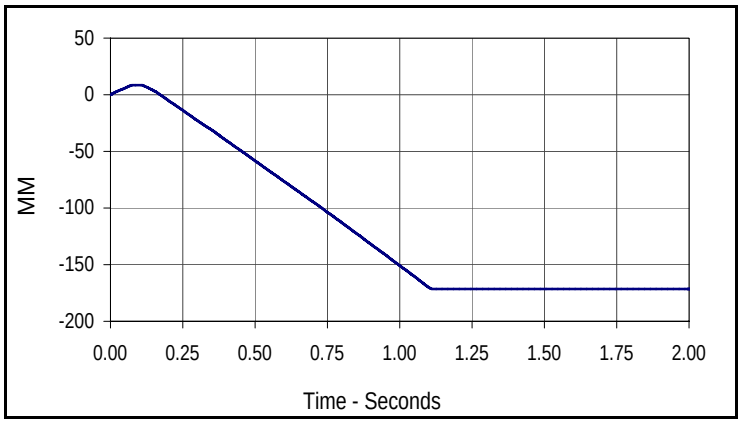



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 014 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.2 | 0.1 | -202.4 | 2.5 |

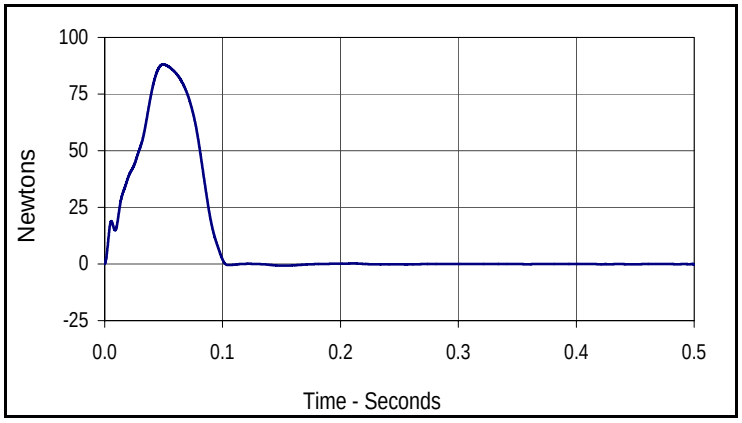
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



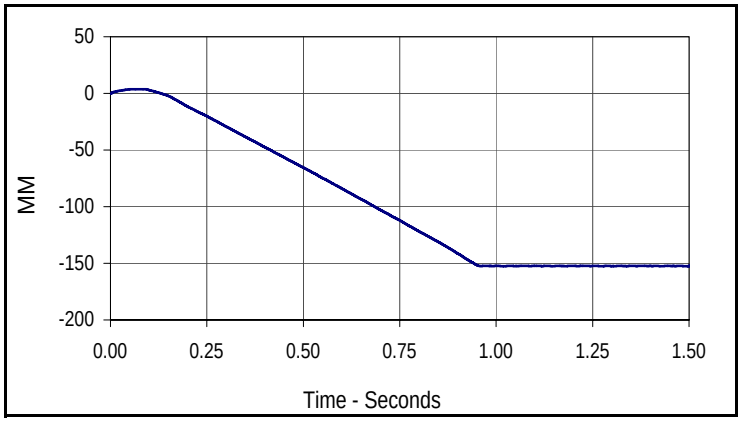

| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 015 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 54.1 | 0.1 | -0.5 | 1.1 |




| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 016 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 8.5 | 0.1 | -171.6 | 1.3 |

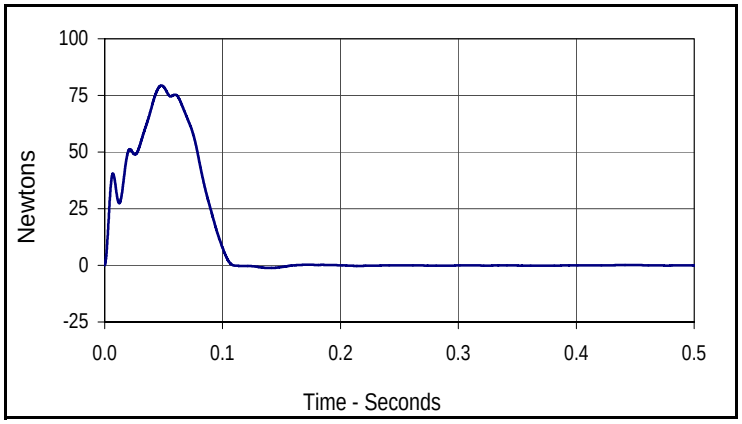



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 017 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 88.1 | 0.0 | -0.9 | 1.0 |

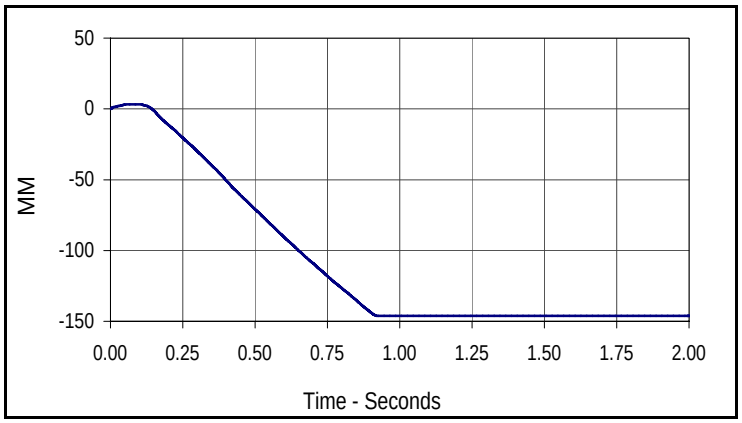



| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 018 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 3.6 | 0.1 | -152.5 | 3.0 |

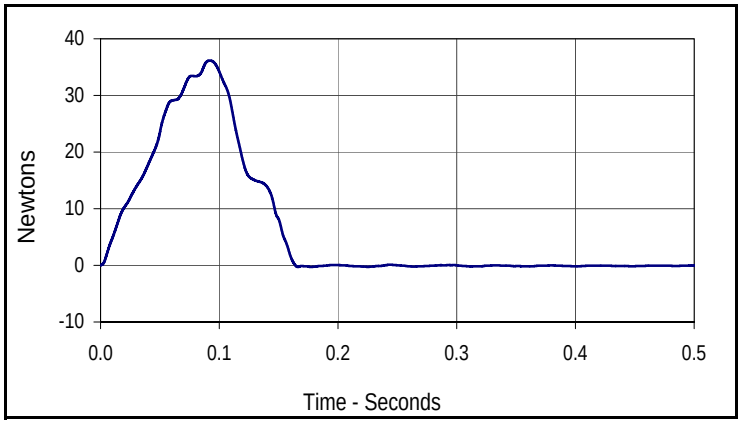
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



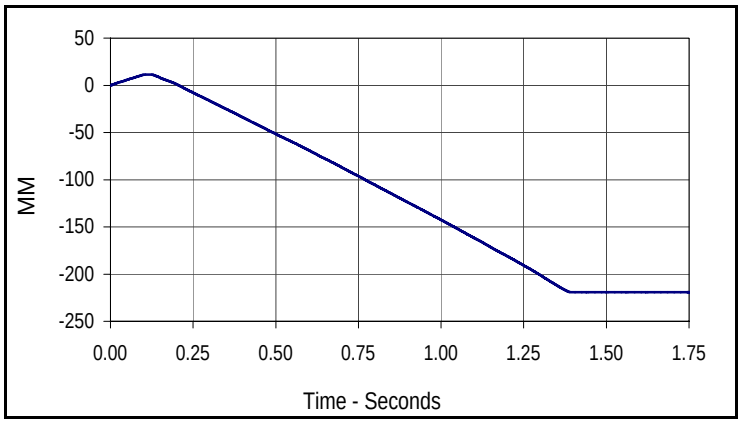

| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Force 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 019 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 79.4 | 0.0 | -1.2 | 0.1 |



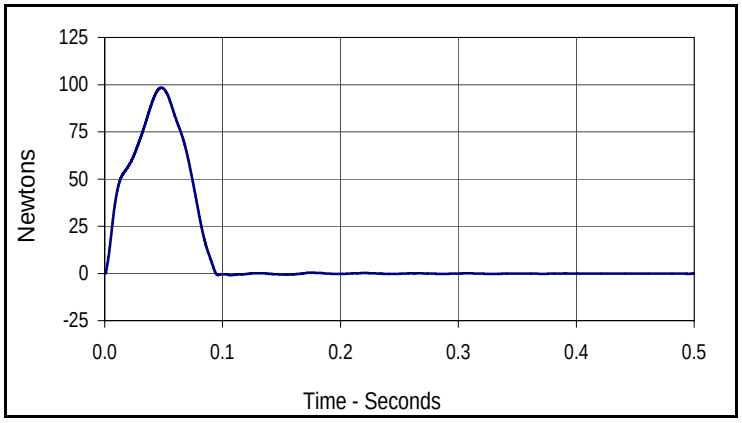

| Curve Description | | | |
|---|---|---|---|
| Left Front Window | | | |
| Window Travel 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 020 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 3.3 | 0.1 | -146.2 | 2.0 |



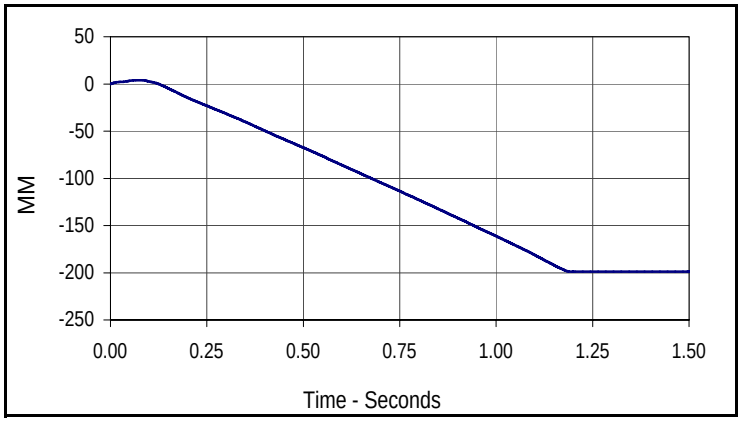

| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 021 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 36.2 | 0.1 | -0.9 | 1.4 |




| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 022 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 11.5 | 0.1 | -219.2 | 1.4 |

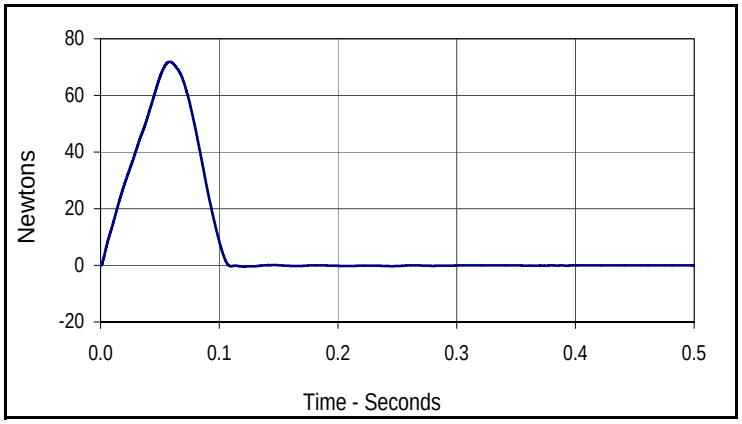



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 023 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 98.4 | 0.0 | -1.0 | 0.1 |

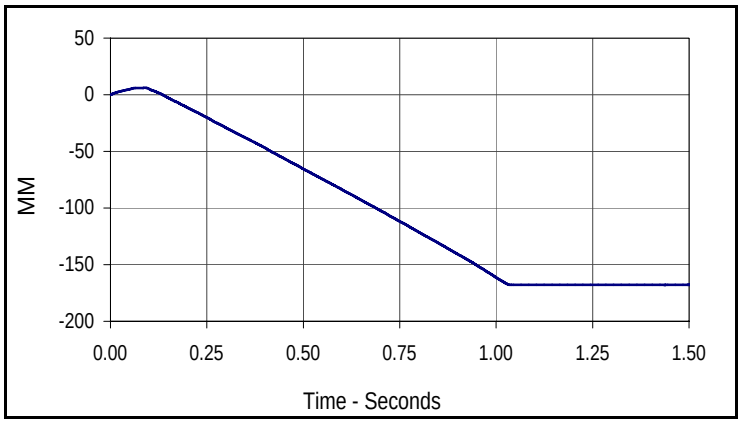



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 024 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 3.9 | 0.1 | -198.8 | 3.0 |

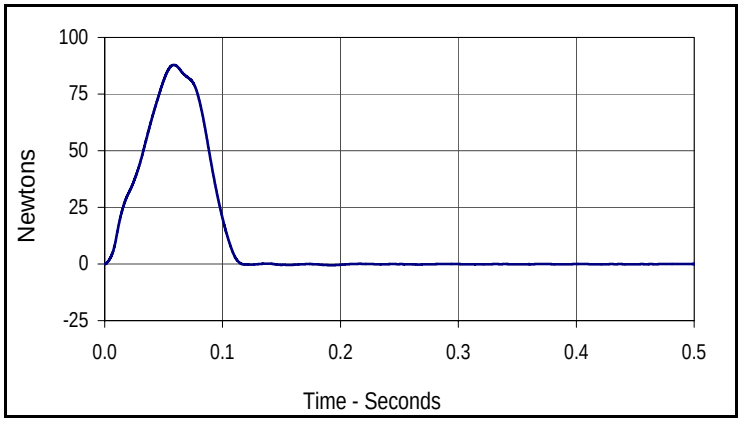
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



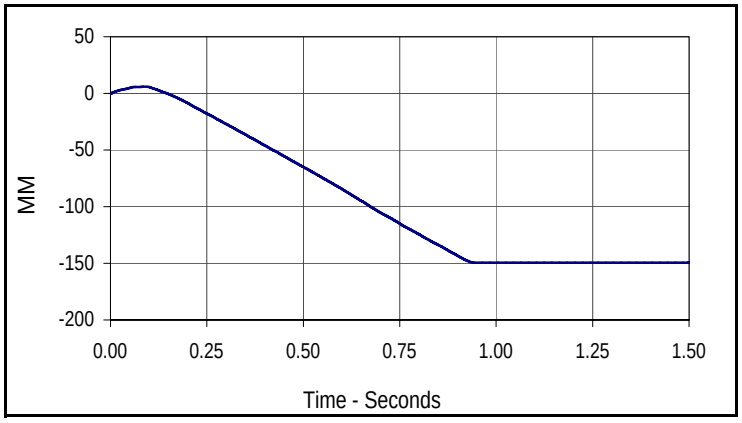

| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 025 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 71.9 | 0.1 | -1.1 | 1.1 |




| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 026 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 6.1 | 0.1 | -167.9 | 1.4 |

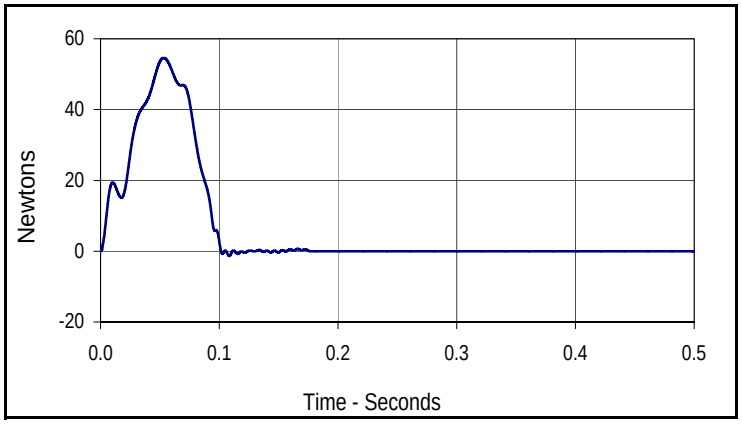



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 027 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 87.9 | 0.1 | -1.0 | 1.0 |

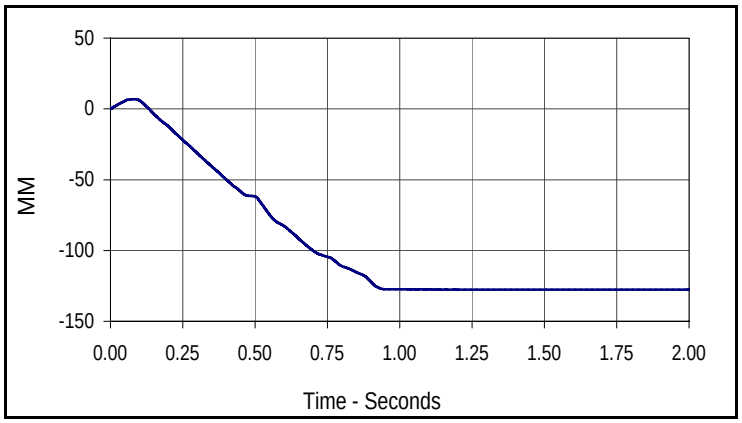



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 028 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.8 | 0.1 | -149.4 | 1.2 |

| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |

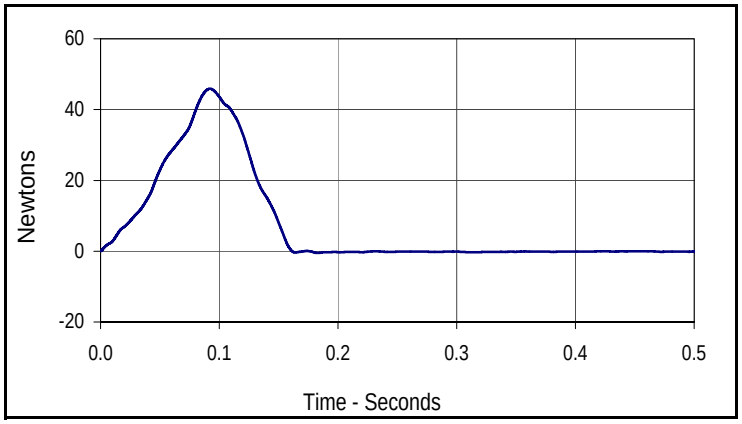



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 029 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 54.6 | 0.1 | -1.3 | 0.1 |

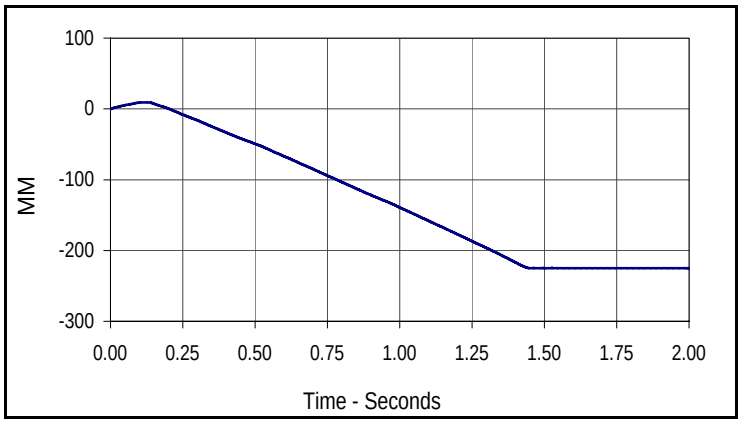



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 030 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 6.8 | 0.1 | -127.7 | 2.0 |

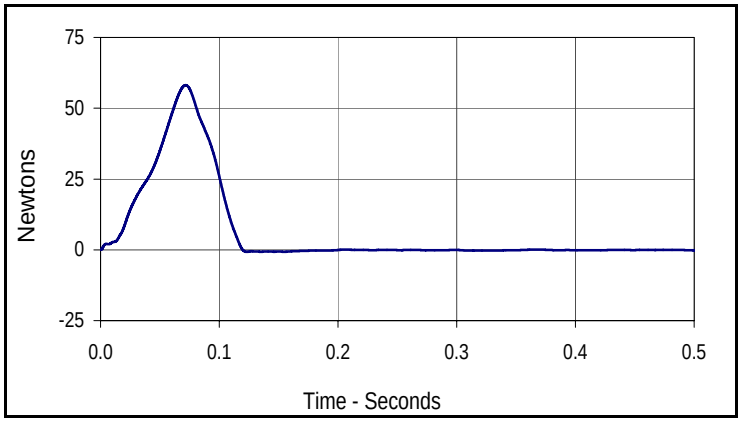
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



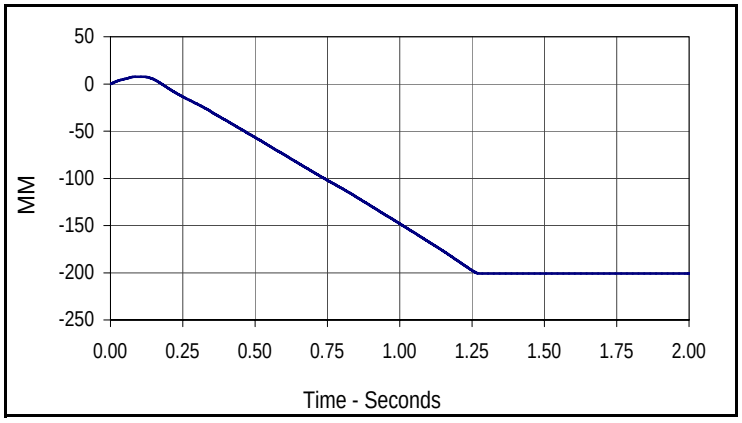

| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 031 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 45.9 | 0.1 | -1.0 | 1.5 |




| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 032 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 9.1 | 0.1 | -224.9 | 2.5 |

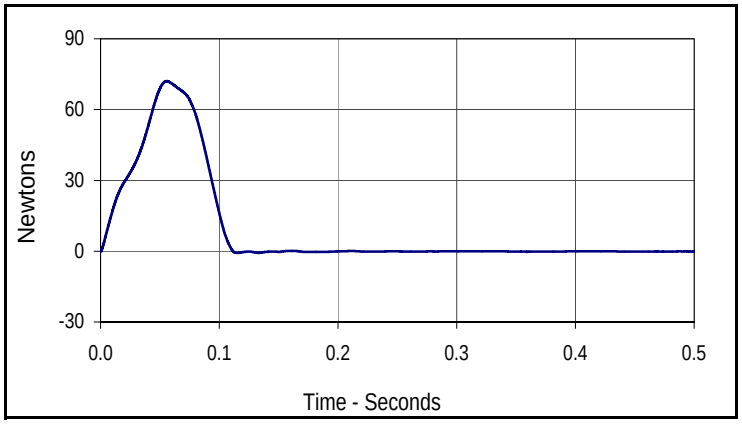



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 033 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 58.1 | 0.1 | -1.0 | 1.3 |

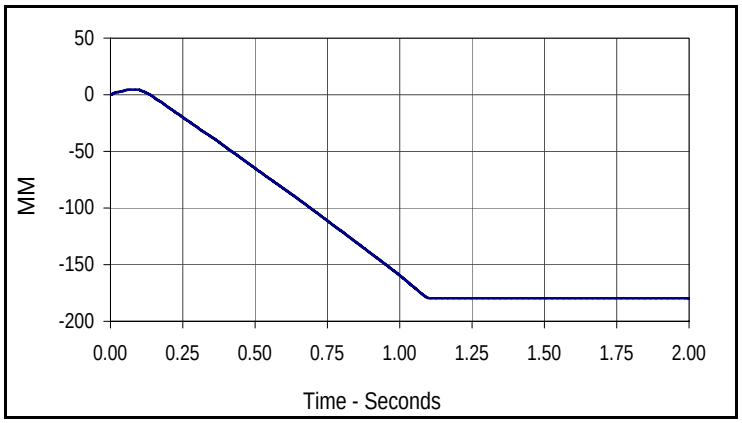



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 034 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 7.8 | 0.1 | -201.0 | 2.3 |

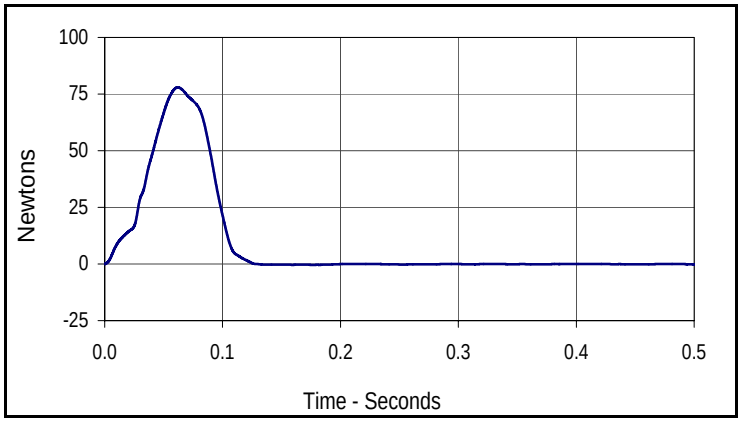
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



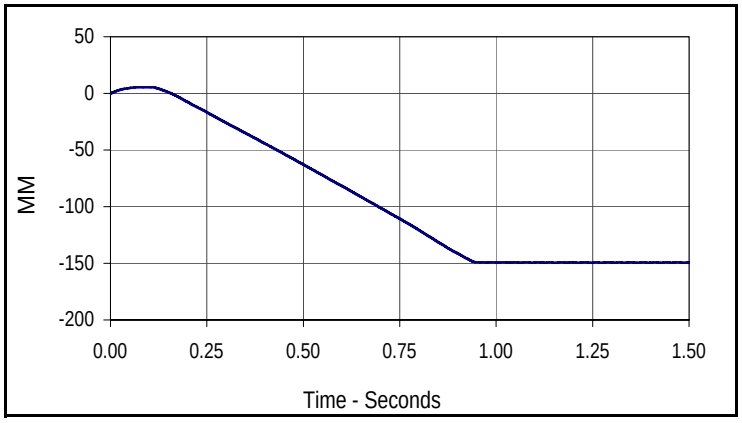

| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 035 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 72.1 | 0.1 | -1.1 | 1.1 |




| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 036 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 4.6 | 0.1 | -179.7 | 1.7 |

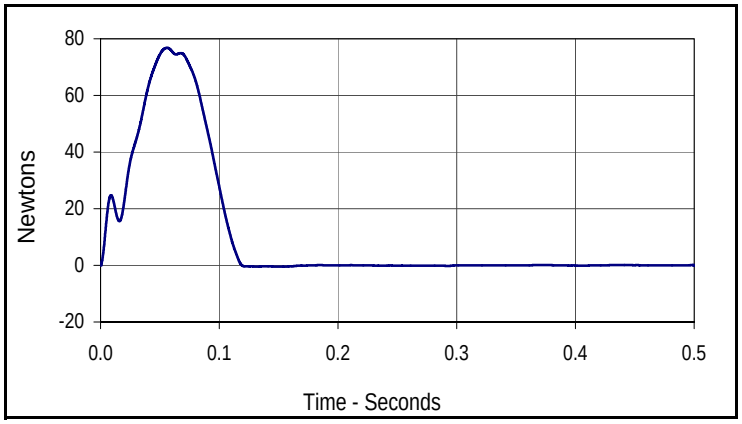



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 037 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 78.0 | 0.1 | -0.9 | 1.0 |

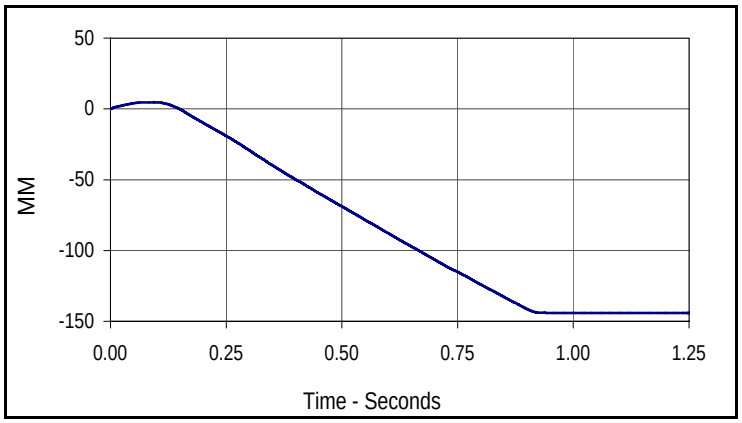



| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 038 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.5 | 0.1 | -149.3 | 1.3 |

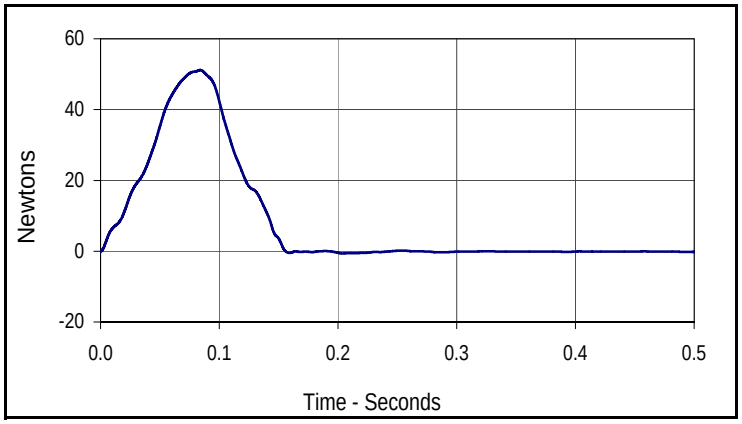
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



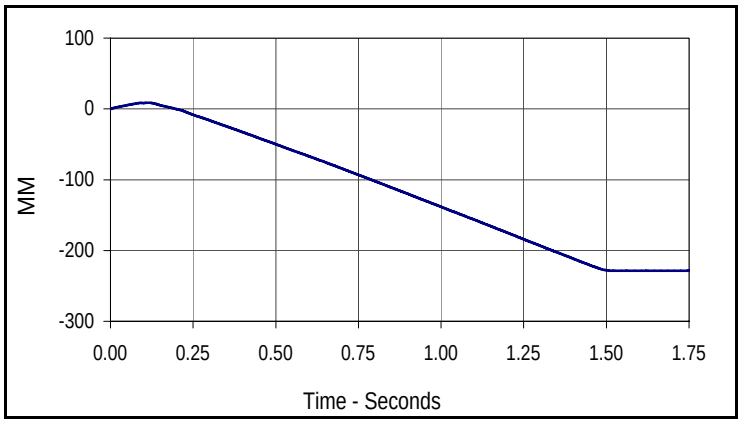

| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Force 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 039 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 76.8 | 0.1 | -0.5 | 0.1 |



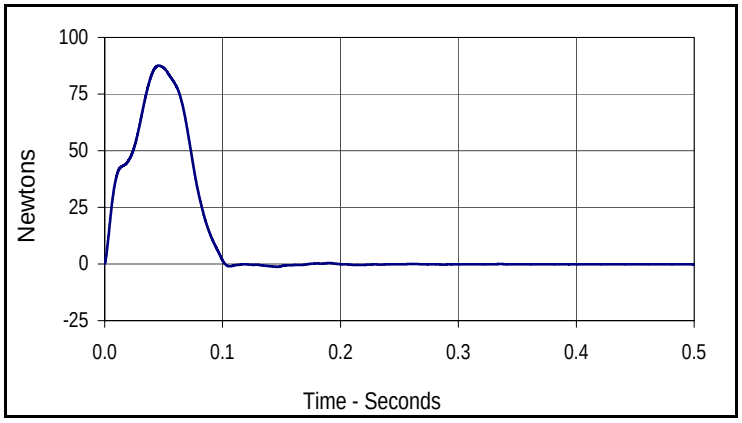

| Curve Description | | | |
|---|---|---|---|
| Right Front Window | | | |
| Window Travel 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 040 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 4.7 | 0.1 | -144.2 | 1.9 |



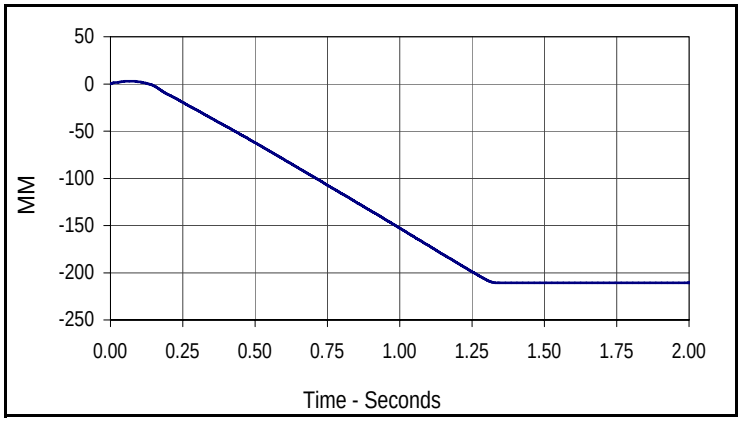

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 041 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 51.2 | 0.1 | -0.6 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 042 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 8.6 | 0.1 | -228.7 | 2.8 |

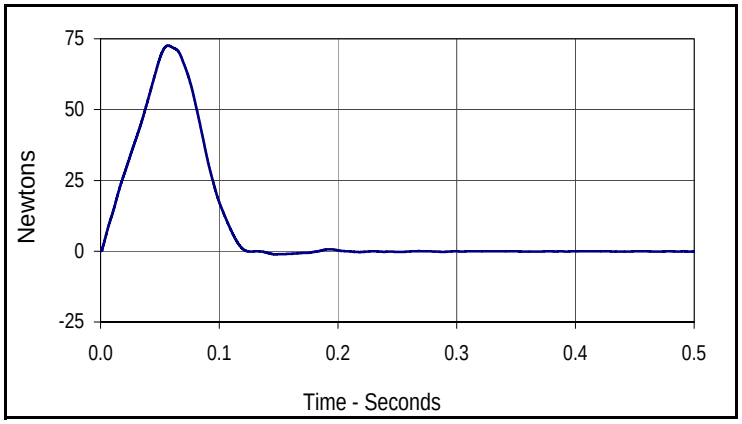



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 043 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 87.5 | 0.0 | -1.2 | 0.1 |

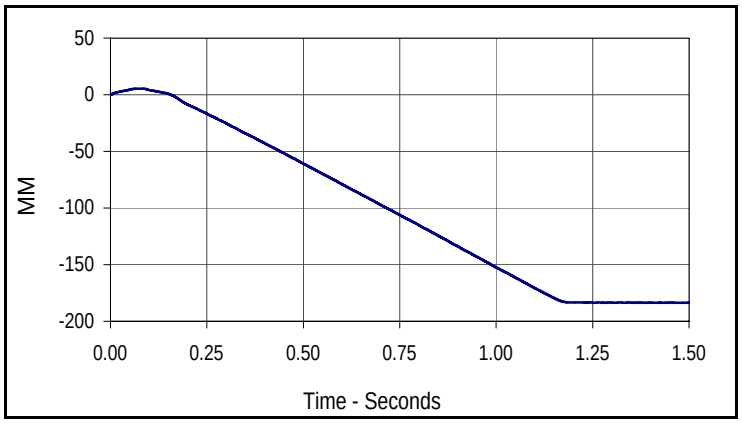



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 044 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 2.9 | 0.1 | -210.8 | 2.5 |

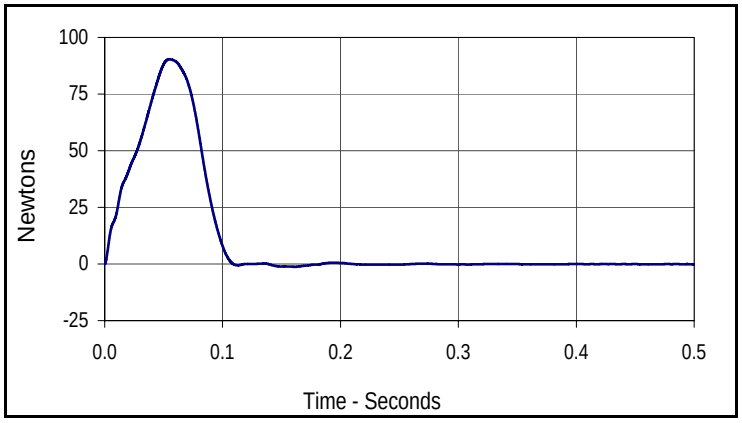
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



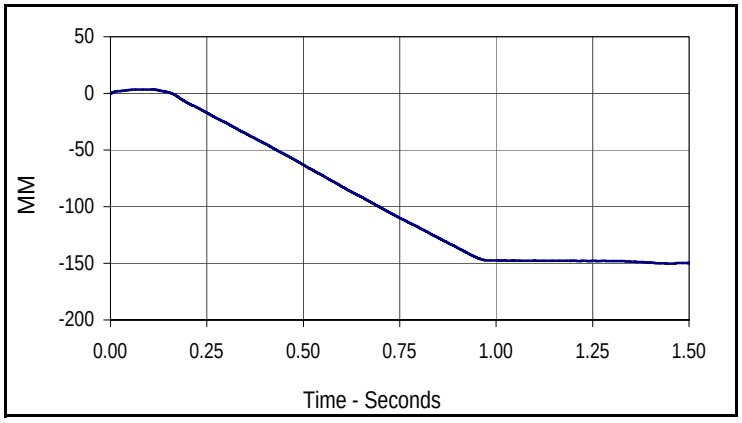

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 045 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 72.6 | 0.1 | -1.1 | 0.1 |




| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 046 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.3 | 0.1 | -183.6 | 2.2 |

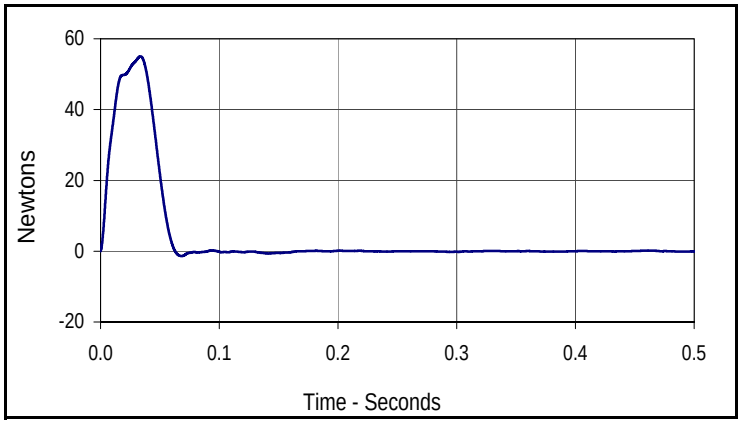



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 047 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 90.4 | 0.1 | -1.2 | 0.2 |

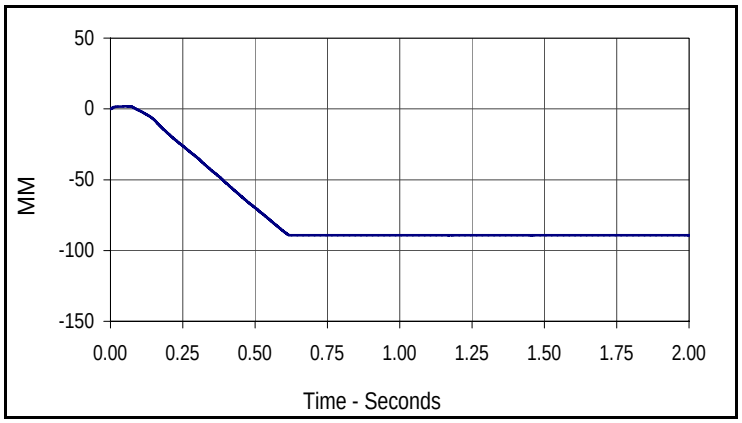



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 048 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 3.6 | 0.1 | -150.3 | 1.5 |

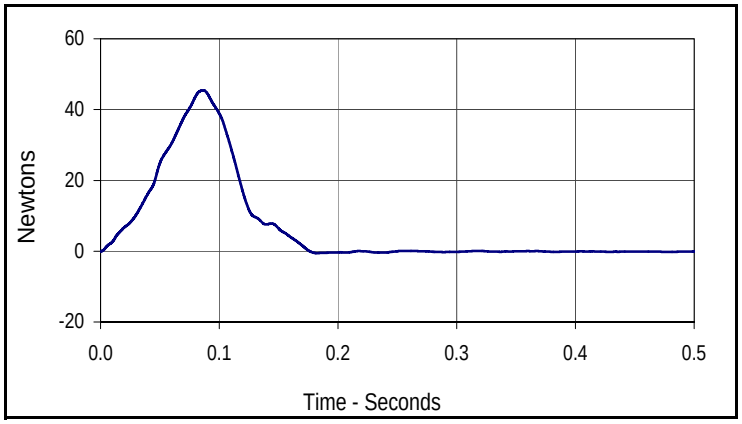
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



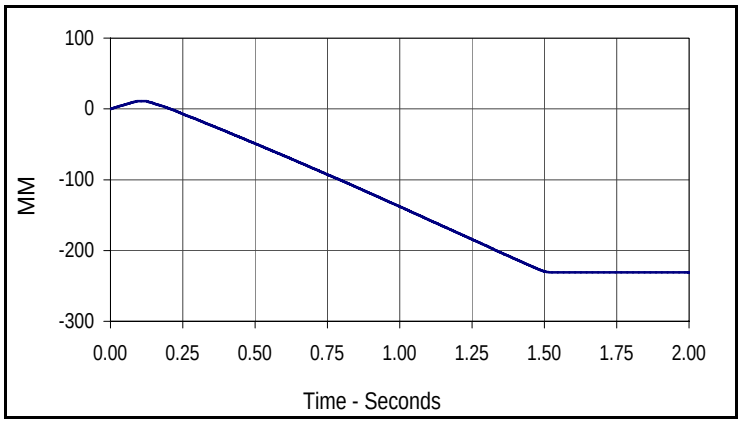

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 049 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 55.1 | 0.0 | -1.4 | 0.1 |



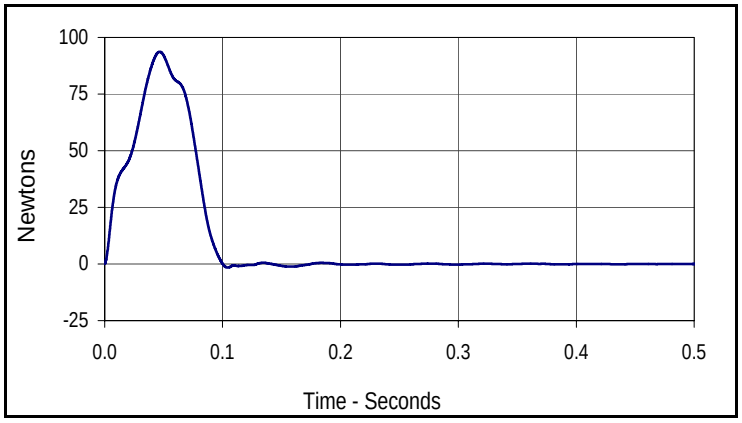

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 050 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 1.8 | 0.0 | -89.3 | 1.5 |



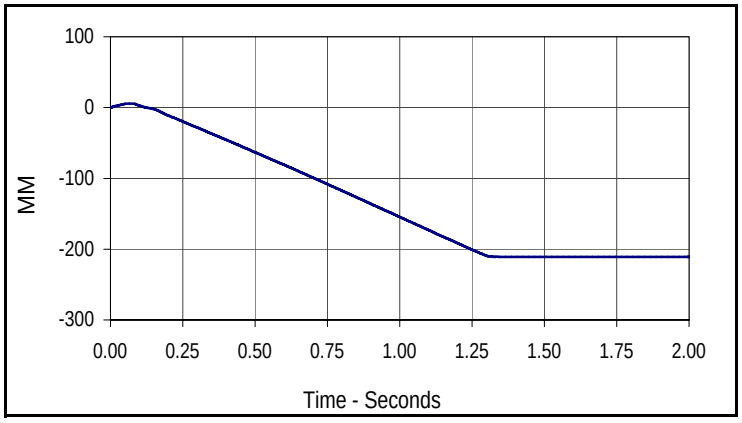

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 051 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 45.5 | 0.1 | -0.6 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 052 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 11.0 | 0.1 | -230.9 | 3.0 |

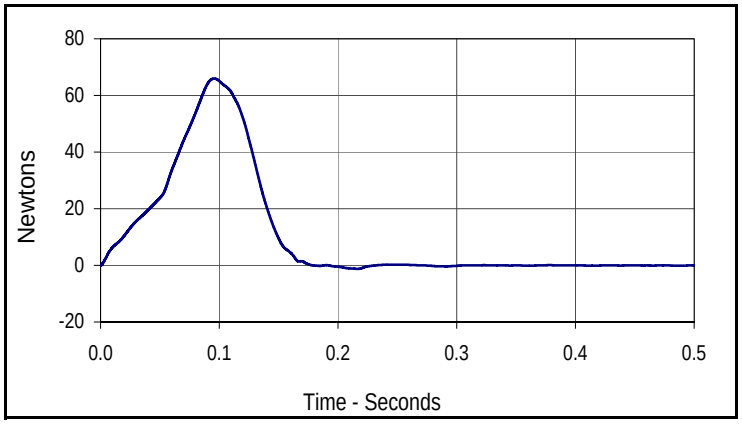



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 053 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 93.7 | 0.0 | -1.6 | 0.1 |

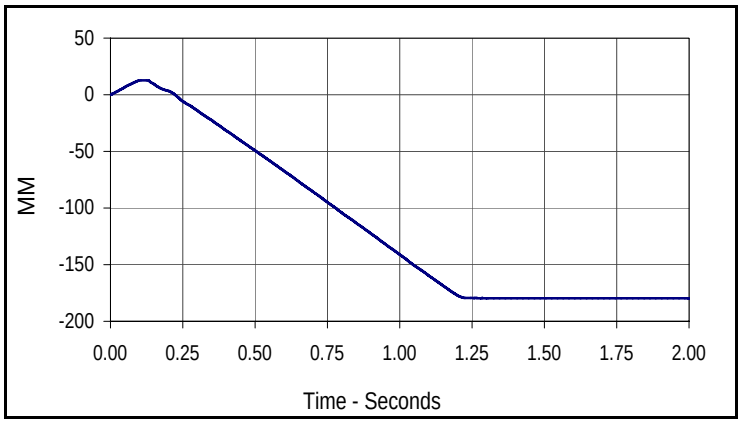



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 054 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.5 | 0.1 | -211.0 | 3.0 |

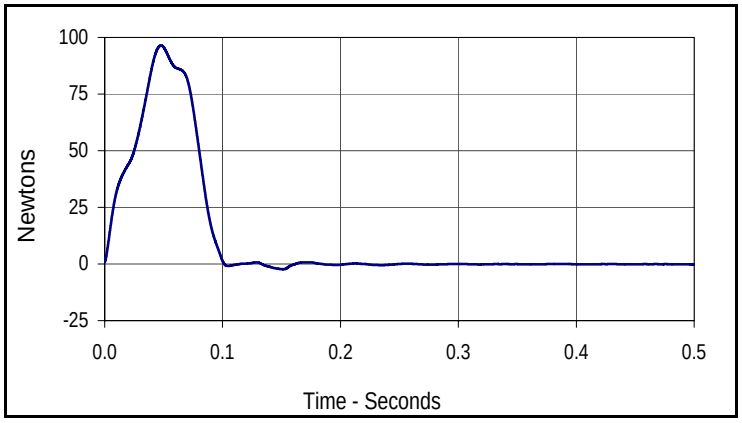
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



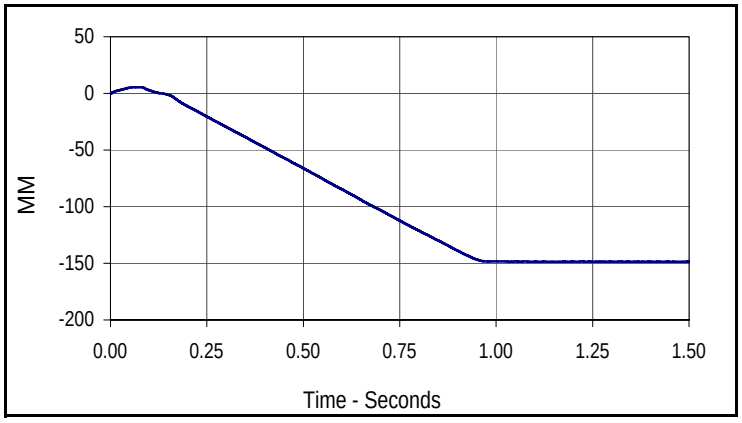

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 055 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 66.0 | 0.1 | -1.2 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 056 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 12.8 | 0.1 | -179.7 | 3.0 |

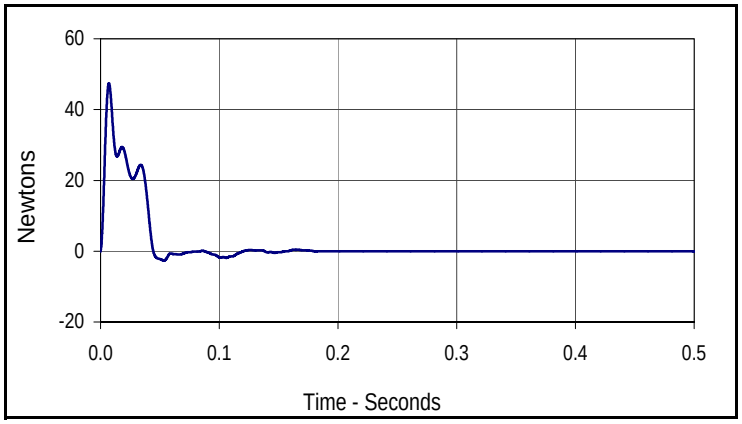



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 057 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 96.5 | 0.0 | -2.3 | 0.2 |

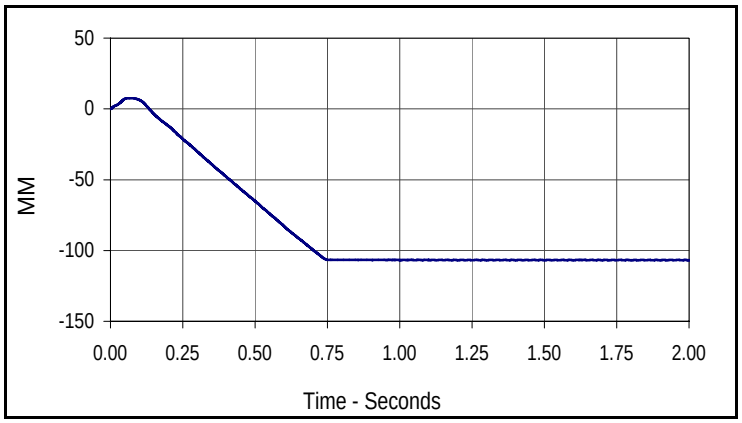



| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 058 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.3 | 0.1 | -148.5 | 2.4 |

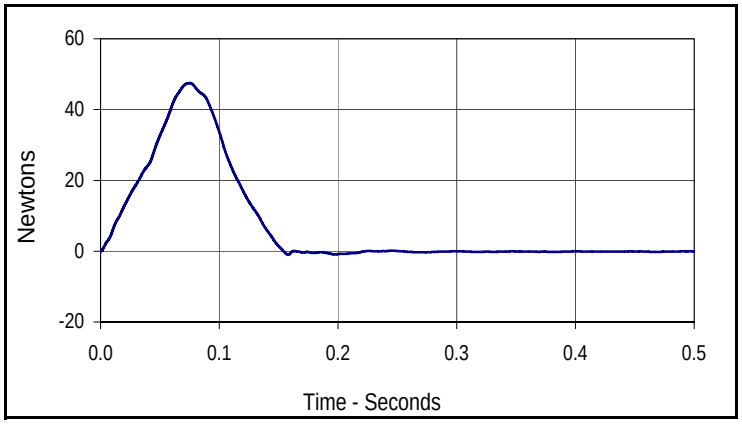
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



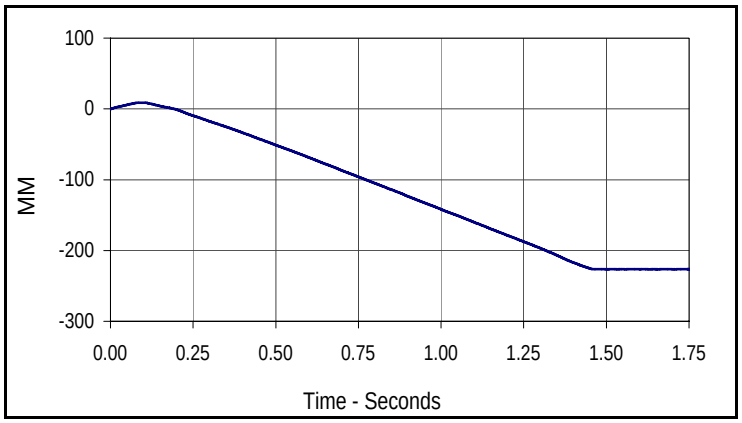

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Force 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 059 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 47.4 | 0.0 | -2.7 | 0.1 |



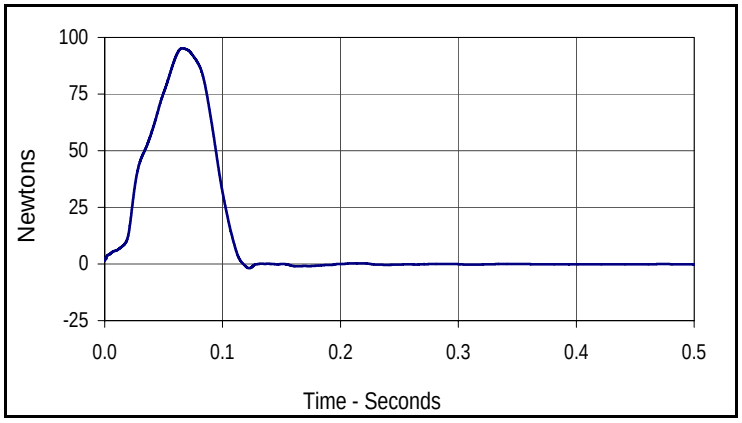

| Curve Description | | | |
|---|---|---|---|
| Right Rear Window | | | |
| Window Travel 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 060 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 7.6 | 0.1 | -106.8 | 1.9 |



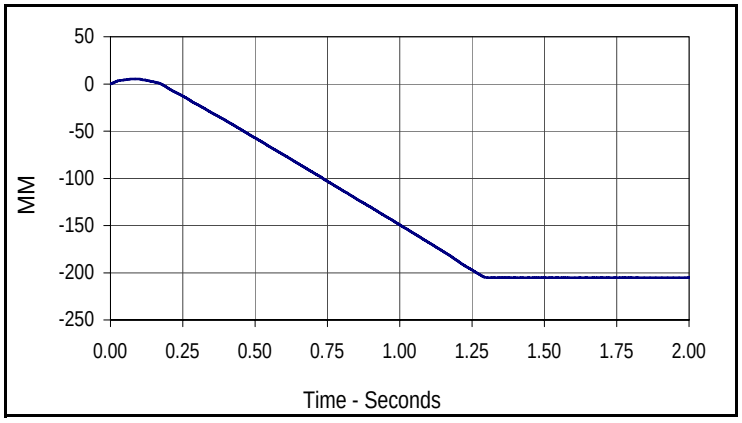

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 061 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 47.5 | 0.1 | -1.0 | 0.2 |



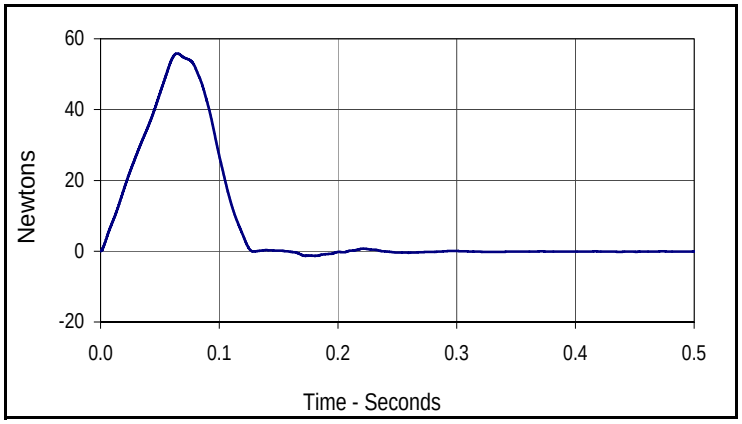

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 5MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 062 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 8.8 | 0.1 | -226.6 | 3.0 |



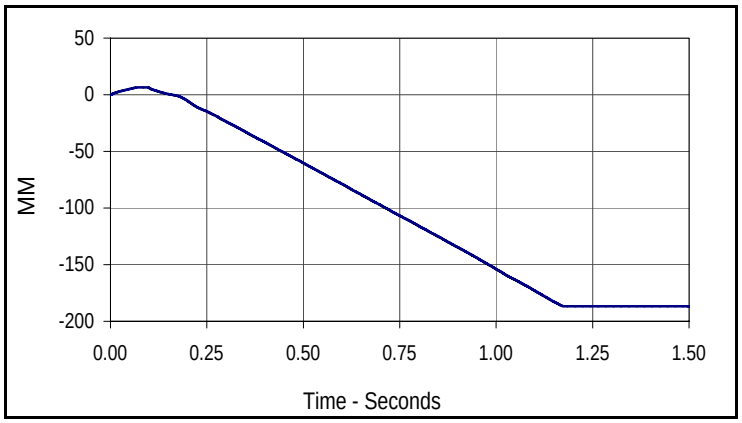

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 063 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 95.2 | 0.1 | -1.9 | 0.1 |



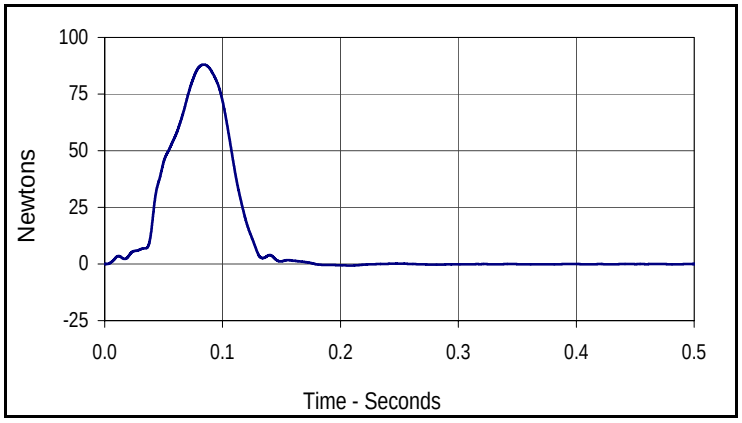

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 25MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 064 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.2 | 0.1 | -205.2 | 3.0 |



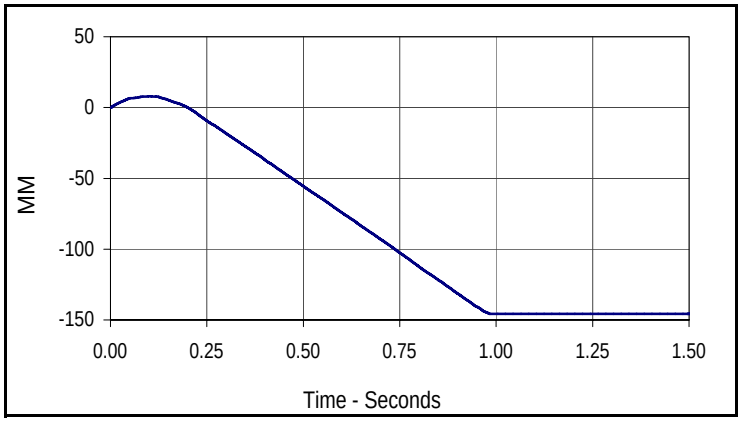

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 065 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 55.9 | 0.1 | -1.3 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 50MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 066 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 6.5 | 0.1 | -186.8 | 2.4 |

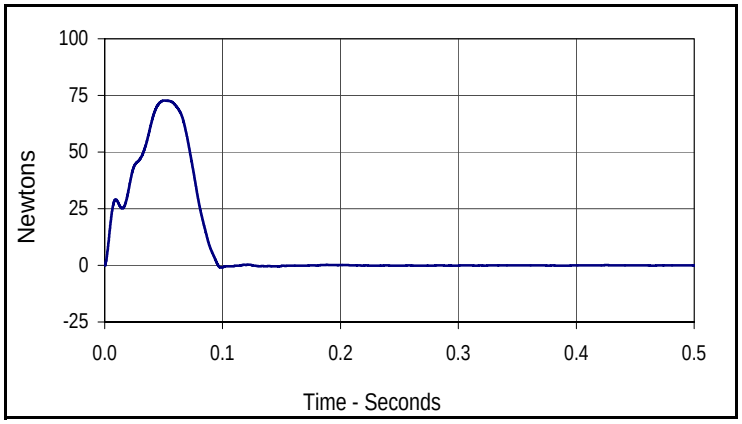



| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 067 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 88.0 | 0.1 | -0.7 | 0.2 |

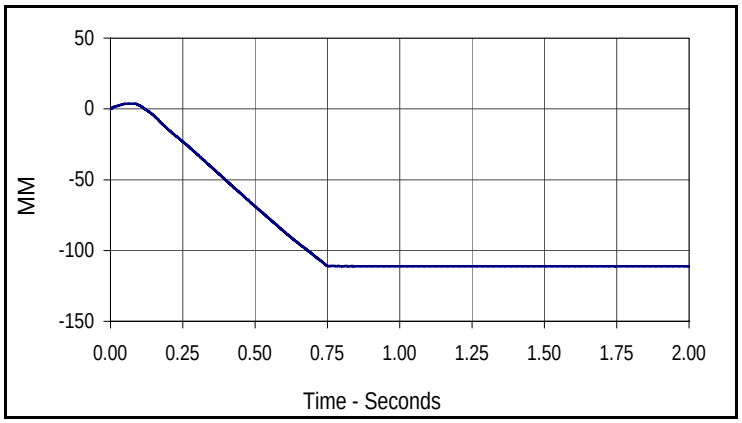



| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 100MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 068 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 7.9 | 0.1 | -145.8 | 3.0 |

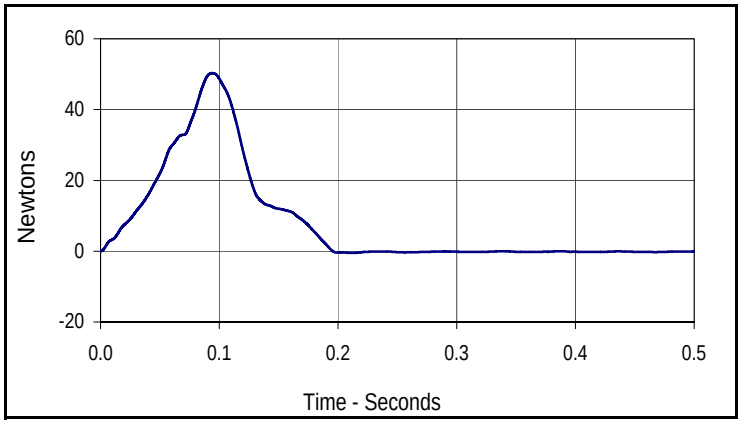
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



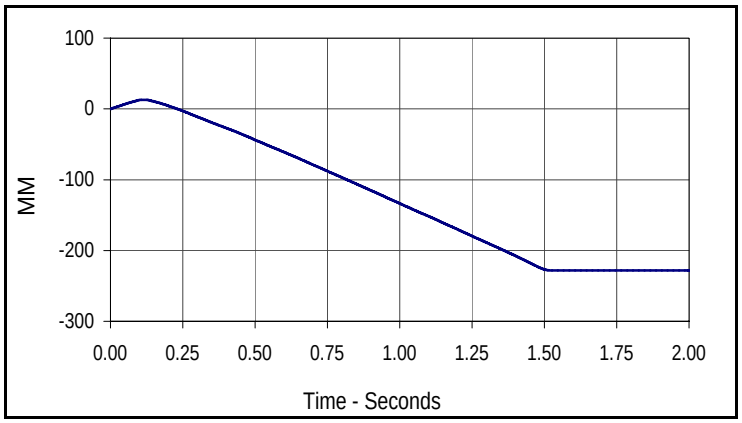

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 069 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 72.8 | 0.1 | -1.0 | 0.1 |



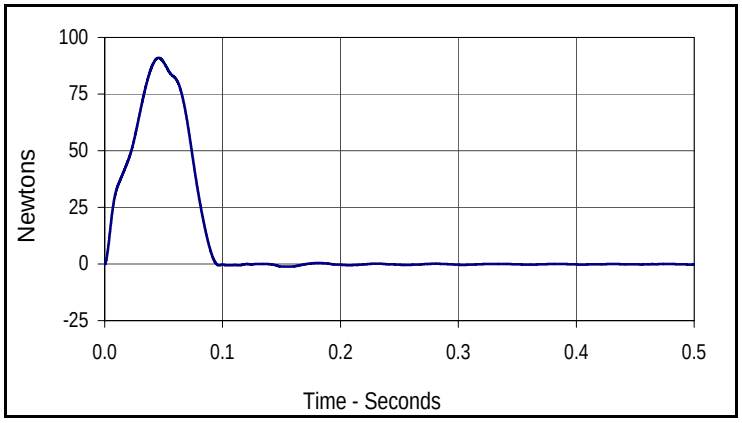

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 200MM Leading Edge | | | |
| CURNO | Type | SAE Class | Units |
| 070 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 3.7 | 0.1 | -111.2 | 1.7 |



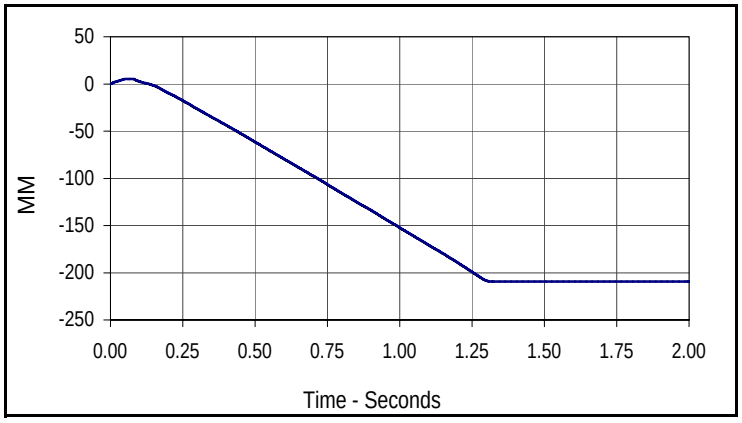

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 071 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 50.3 | 0.1 | -0.5 | 0.2 |



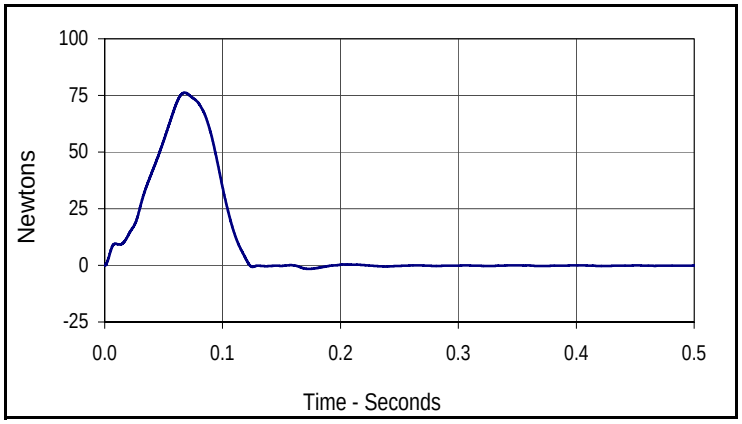

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 5MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 072 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 12.7 | 0.1 | -228.3 | 2.9 |



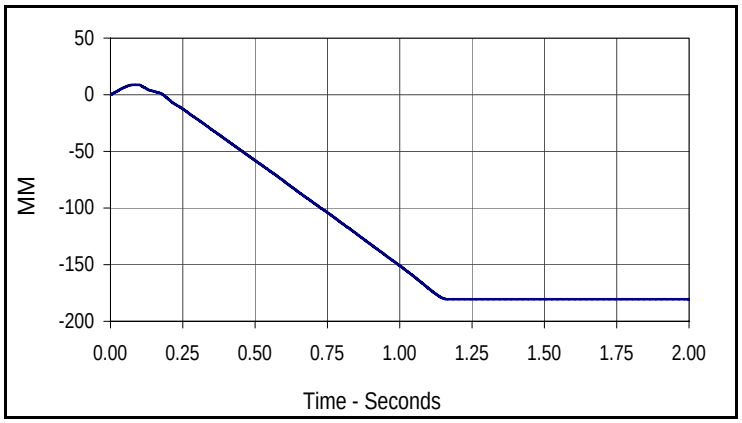

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 073 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 91.0 | 0.0 | -1.2 | 0.2 |



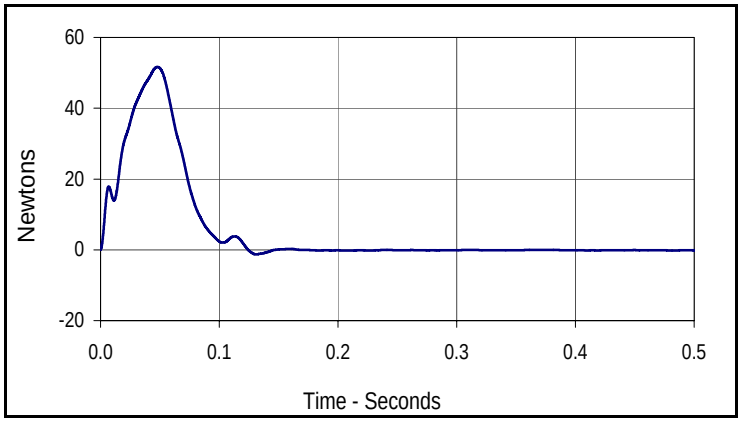

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 25MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 074 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.4 | 0.1 | -209.3 | 2.0 |



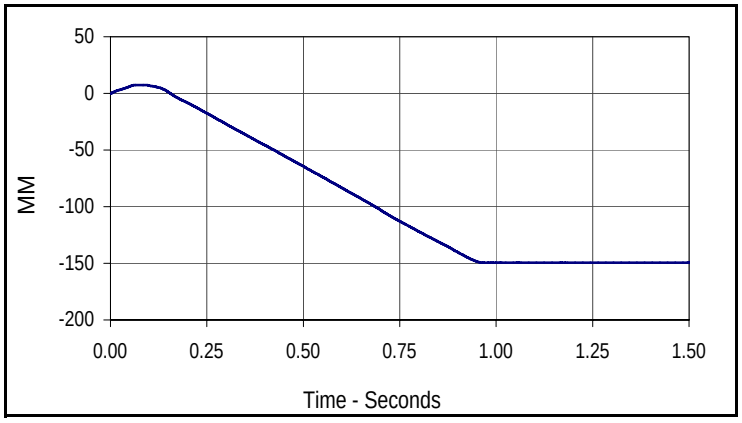

| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 075 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 76.2 | 0.1 | -1.6 | 0.2 |




| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 50MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 076 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 8.7 | 0.1 | -180.6 | 2.8 |

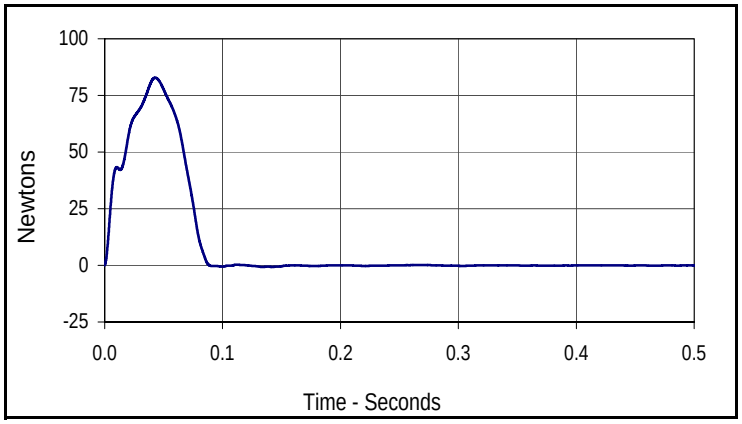



| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 077 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 51.7 | 0.0 | -1.3 | 0.1 |

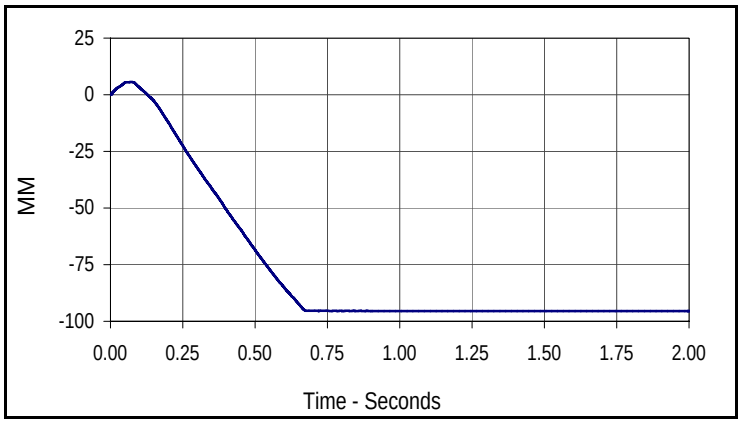



| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 100MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 078 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 7.5 | 0.1 | -149.4 | 1.5 |

| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |

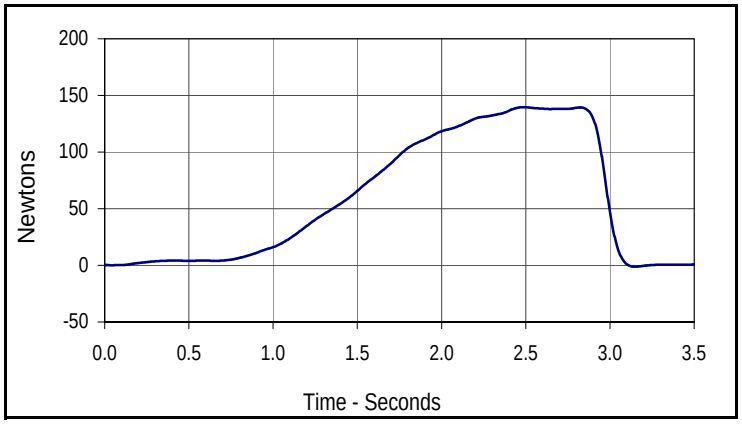



| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Force 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 079 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 82.9 | 0.0 | -0.7 | 0.1 |

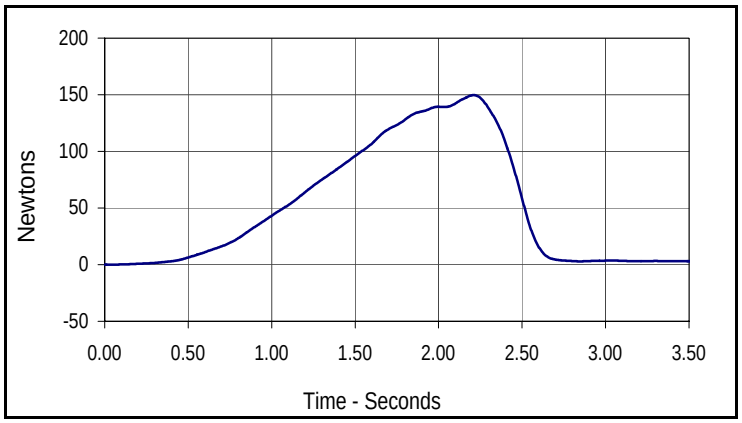



| Curve Description | | | |
|---|---|---|---|
| Left Rear Window | | | |
| Window Travel 200MM Rear Edge | | | |
| CURNO | Type | SAE Class | Units |
| 080 | FIL | 60 | MM |
| Max | Time | Min | Time |
| 5.6 | 0.1 | -95.5 | 2.0 |

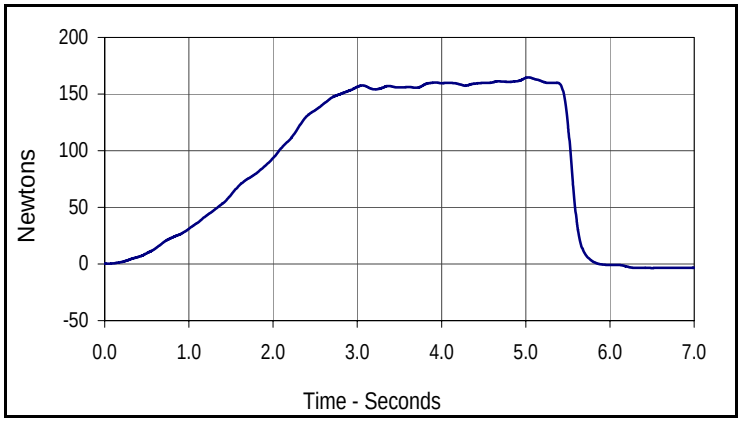
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |



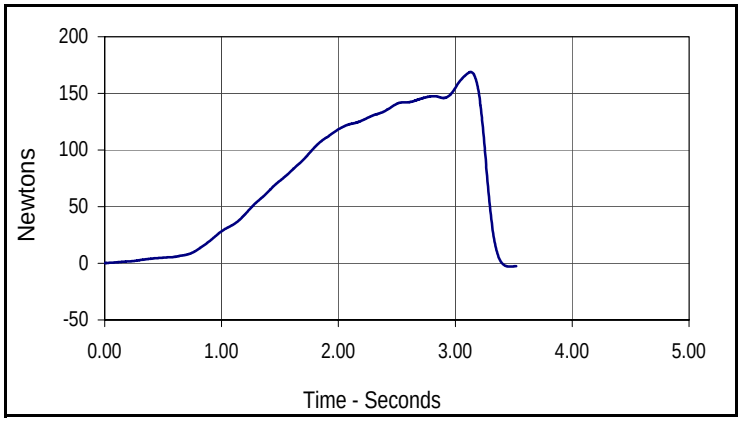

| Curve Description | | | |
|---|---|---|---|
| Master Switch Test | | | |
| Master Switch Left Front Window | | | |
| CURNO | Type | SAE Class | Units |
| 081 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 139.6 | 2.5 | -1.2 | 3.1 |




| Curve Description | | | |
|---|---|---|---|
| Master Switch Test | | | |
| Master Switch Right Front Window | | | |
| CURNO | Type | SAE Class | Units |
| 082 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 149.7 | 2.2 | -0.3 | 4.6 |

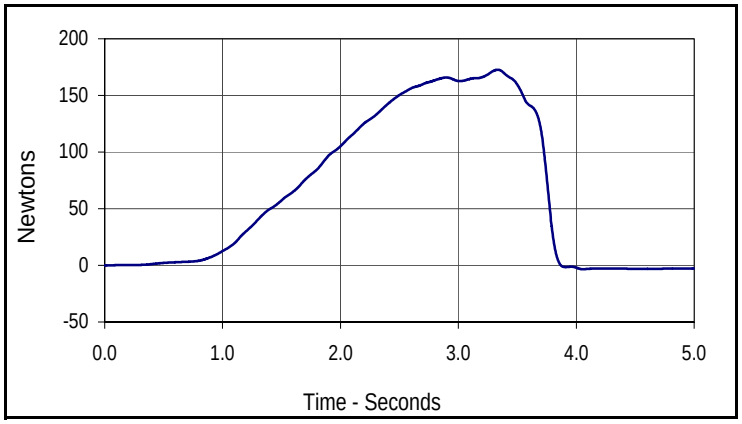



| Curve Description | | | |
|---|---|---|---|
| Master Switch Test | | | |
| Master Switch Right Rear Window | | | |
| CURNO | Type | SAE Class | Units |
| 083 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 164.8 | 5.0 | -3.6 | 6.5 |

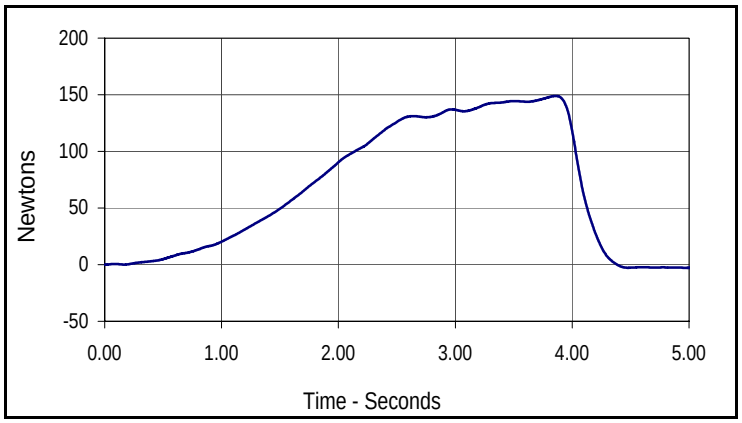



| Curve Description | | | |
|---|---|---|---|
| Master Switch Test | | | |
| Master Switch Left Rear Window | | | |
| CURNO | Type | SAE Class | Units |
| 084 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 168.9 | 3.1 | -3.0 | 3.5 |

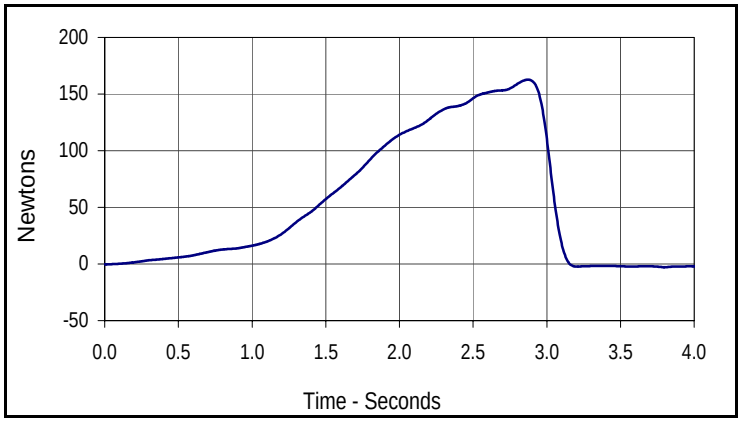
| | | | |
|---|---|---|---|
| Test Vehicle: | 2010 Toyota Venza 5-Dr MPV | Test Date: | 6/01/10-6/02/10 |
| Test Program: | FMVSS 118 | NHTSA No.: | CA5105 |




| Curve Description | | | |
|---|---|---|---|
| Individual Switch Test | | | |
| Individual Switch Right Front Window | | | |
| CURNO | Type | SAE Class | Units |
| 085 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 172.7 | 3.3 | -3.4 | 4.1 |




| Curve Description | | | |
|---|---|---|---|
| Individual Switch Test | | | |
| Individual Switch Right Rear Window | | | |
| CURNO | Type | SAE Class | Units |
| 086 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 149.0 | 3.9 | -3.4 | 6.7 |




| Curve Description | | | |
|---|---|---|---|
| Individual Switch Test | | | |
| Individual Switch Left Rear Window | | | |
| CURNO | Type | SAE Class | Units |
| 087 | FIL | 60 | Newtons |
| Max | Time | Min | Time |
| 162.7 | 2.9 | -2.8 | 3.8 |

**FMVSS 118**

**Test Equipment List and Calibration Information**

**6/01/10-6/02/10**

**2010 Toyota Venza 5-Dr MPV**

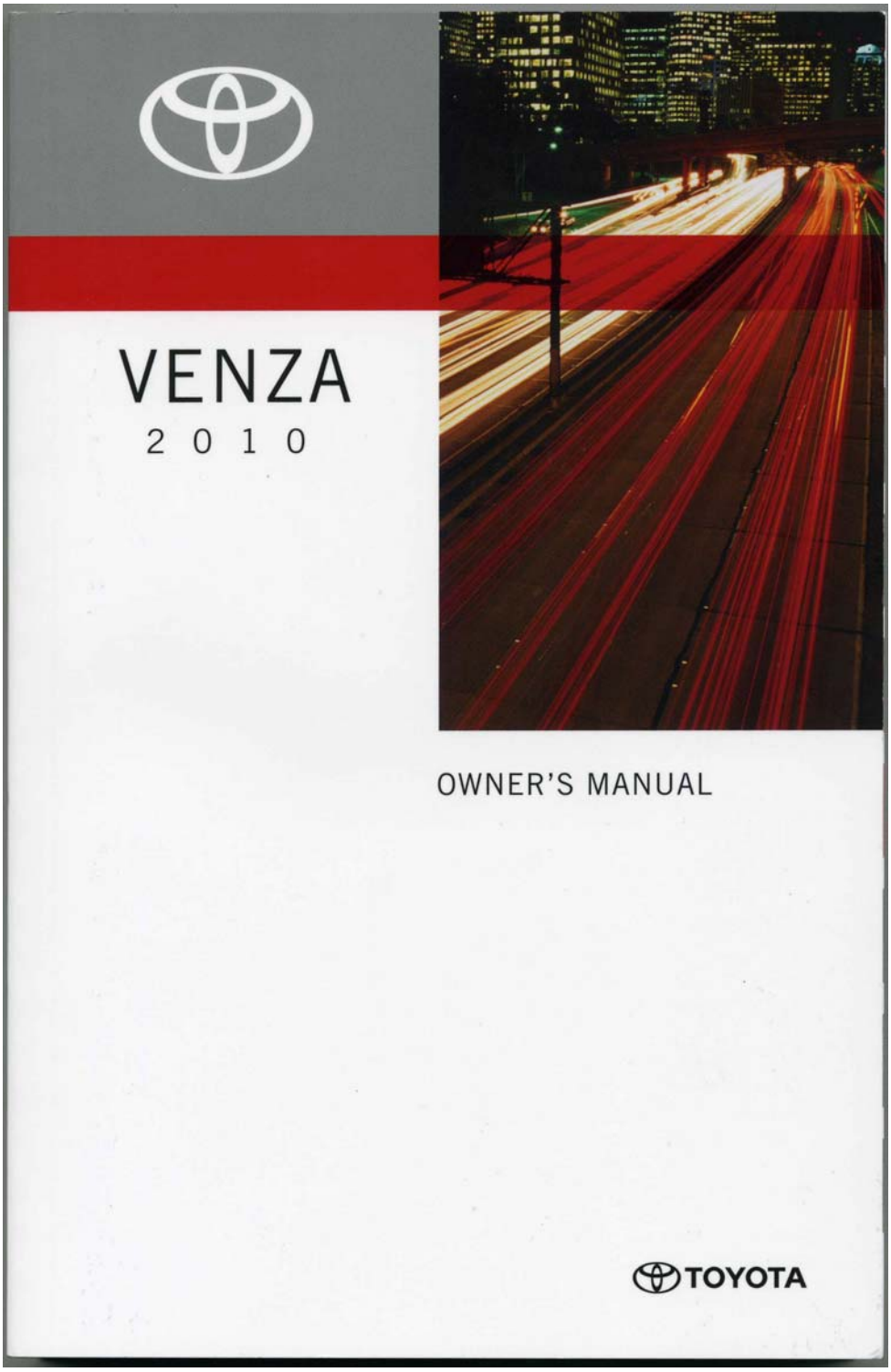
| Description | Manufacturer | Model No. | Serial No. | Limit | Accuracy | Cal. Date | Due Cal. |
|---|---|---|---|---|---|---|---|
| DAS | DTS | TDAS Pro | DM0429 | N/A | SAE J211 | 03/02/09 | 03/02/10 |
| Laptop Computer | Toshiba | Satellite | LAP02 | N/A | N/A | N/A | N/A |
| Load Cell | Denton | 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 | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



### Engine (ignition) switch (vehicles with smart key system)

**Performing the following operations when carrying the electronic key on your person starts the engine or changes "ENGINE START STOP" switch modes.**

**■ Starting the engine**

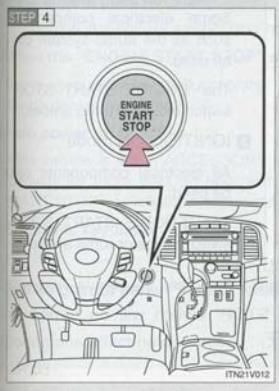
STEP 1 Check that the parking brake is set.

STEP 2 Check that the shift lever is set in "P".

STEP 3 Sit in the driver's seat and firmly depress the brake pedal.

The "ENGINE START STOP" switch indicator turns green.

STEP 4




Press the "ENGINE START STOP" switch.

The engine can be started from any mode.

Continue depressing the brake pedal until the engine is completely started. The engine will crank until it starts or for up to 30 seconds, whichever is less.

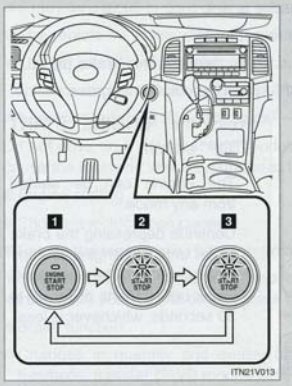






**■ Changing "ENGINE START STOP" switch mode**

Modes can be changed by pressing the "ENGINE START STOP" switch with the brake pedal released. (The mode changes each time the switch is pressed.)




1 OFF *

Emergency flashers can be used.

2 ACCESSORY mode

Some electrical components such as the audio system can be used.

The "ENGINE START STOP" switch indicator turns amber.

3 IGNITION ON mode

All electrical components can be used.

The "ENGINE START STOP" switch indicator turns amber.

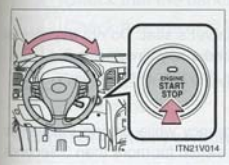
*: If the shift lever is in a position other than "P" when turning off the engine, the "ENGINE START STOP" switch will be turned to ACCESSORY mode, not to OFF.

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



**When the steering lock cannot be released**




The green indicator light on the "ENGINE START STOP" switch will flash and a message will be shown on the multi-information display (TFT type only). To free it, press the "ENGINE START STOP" switch while turning the steering wheel slightly in either direction.

**If the engine does not start**

The engine immobilizer system may not have been deactivated. (→P. 96)

**When the "ENGINE START STOP" switch indicator flashes in amber**

The system may be malfunctioning. Have the vehicle inspected by your Toyota dealer immediately.

**Auto power off function**

If the vehicle is left in ACCESSORY or IGNITION ON mode (engine is not running) for more than an hour with the shift lever in "P", the "ENGINE START STOP" switch will automatically turn off.

**Electronic key battery depletion**

→P. 35

**When the electronic key battery is discharged**

→P. 586

**Conditions affecting operation**

→P. 33

**Note for the entry function**

→P. 36







**CAUTION**

**When starting the engine**

Always start the engine while sitting in the driver's seat. Do not depress the accelerator pedal while starting the engine under any circumstances. Doing so may cause an accident resulting in death or serious injury.

**Stopping the engine in an emergency**

If you want to stop the engine in an emergency while driving the vehicle, push and hold the "ENGINE START STOP" switch for more than 3 seconds. However, do not touch the "ENGINE START STOP" switch while driving except in an emergency. If the engine stops while the vehicle is being driven, this could lead to an unexpected accident.

**NOTICE**

**To prevent battery discharge**

Do not leave the "ENGINE START STOP" switch in ACCESSORY or IGNITION ON mode for long periods without the engine running.

**When starting the engine**

- Do not race a cold engine.
- If the engine becomes difficult to start or stalls frequently, have the engine checked immediately.

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



### Engine (ignition) switch (vehicles without smart key system)

**■ Starting the engine**

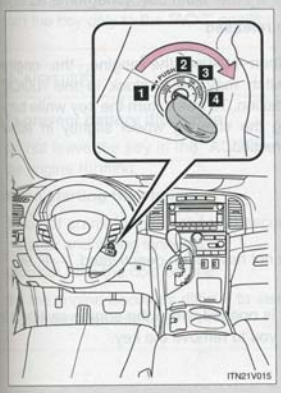
STEP 1 Check that the parking brake is set.

STEP 2 Check that the shift lever is set in "P".

STEP 3 Sit in the driver's seat and firmly depress the brake pedal.

STEP 4 Turn the engine switch to the "START" position and start the engine.

**■ Engine (ignition) switch**




**1** "LOCK"

The steering wheel is locked and the key can be removed. (The key can be removed only when the shift lever is in "P".)

**2** "ACC"

Some electrical components such as the audio system can be used.

**3** "ON"

All electrical components can be used.

**4** "START"

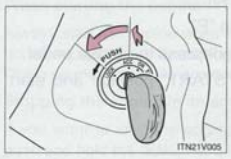
For starting the engine.







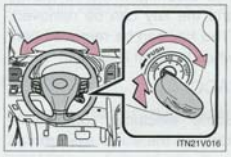
**■ Turning the key from "ACC" to "LOCK"**




STEP 1 Shift the shift lever to "P".

STEP 2 Push in the key and turn to the "LOCK" position.

**■ When the steering lock cannot be released**




When starting the engine, the engine switch may seem stuck in the "LOCK" position. To free it, turn the key while turning the steering wheel slightly in either direction.

**■ If the engine does not start**

The engine immobilizer system may not have been deactivated. (→P. 96)

**■ Key reminder function**

A buzzer sounds if the driver's door is opened, while the engine switch is in "LOCK" or "ACC" position to remind you to remove the key.

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



**CAUTION**

**When starting the engine**

Always start the engine while sitting in the driver's seat. Do not depress the accelerator pedal while starting the engine under any circumstances. Doing so may cause an accident resulting in death or serious injury.

**While driving**

Do not turn the engine switch to the "LOCK" position.
If in an emergency, you must turn the engine off while the vehicle is moving, turn the key only to the "ACC" position.

**NOTICE**

**To prevent battery discharge**

Do not leave the key in the "ACC" or "ON" position for long periods without the engine running.

**When starting the engine**

- Do not crank for more than 30 seconds at a time. This may overheat the starter and wiring systems.
- Do not race the cold engine.
- If the engine becomes difficult to start or stalls frequently, have the engine checked immediately.

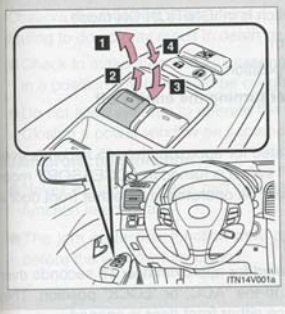






## Power windows

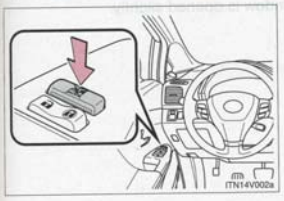
**The power windows can be opened and closed using the following switches.**




1 One-touch closing*
2 Closing
3 One-touch opening*
4 Opening

*: Pressing the switch in the opposite direction will stop window travel partway.

### Lock switch

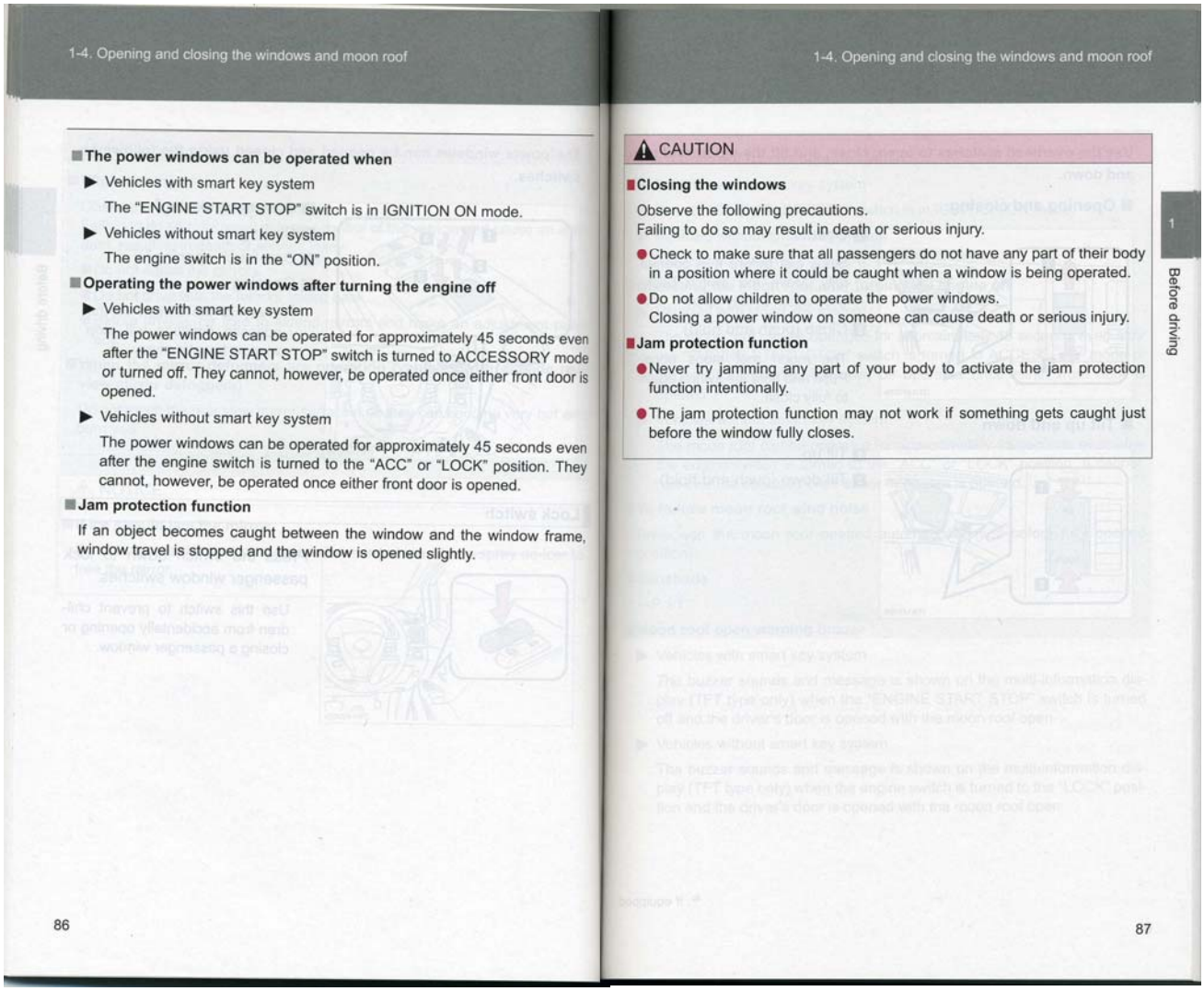



Press the switch down to lock passenger window switches.

Use this switch to prevent children from accidentally opening or closing a passenger window.

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |





**The power windows can be operated when**

▶ Vehicles with smart key system

The "ENGINE START STOP" switch is in IGNITION ON mode.

▶ Vehicles without smart key system

The engine switch is in the "ON" position.

**Operating the power windows after turning the engine off**

▶ Vehicles with smart key system

The power windows can be operated for approximately 45 seconds even after the "ENGINE START STOP" switch is turned to ACCESSORY mode or turned off. They cannot, however, be operated once either front door is opened.

▶ Vehicles without smart key system

The power windows can be operated for approximately 45 seconds even after the engine switch is turned to the "ACC" or "LOCK" position. They cannot, however, be operated once either front door is opened.

**Jam protection function**

If an object becomes caught between the window and the window frame, window travel is stopped and the window is opened slightly.







CAUTION

**Closing the windows**

Observe the following precautions.
Failing to do so may result in death or serious injury.

- Check to make sure that all passengers do not have any part of their body in a position where it could be caught when a window is being operated.
- Do not allow children to operate the power windows.
  Closing a power window on someone can cause death or serious injury.

**Jam protection function**

- Never try jamming any part of your body to activate the jam protection function intentionally.
- The jam protection function may not work if something gets caught just before the window fully closes.

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

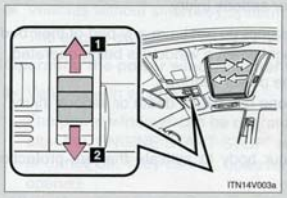
| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



## Moon roof*

**Use the overhead switches to open, close, and tilt the moon roof up and down.**

■ **Opening and closing**



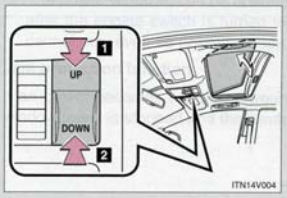

1 Open

Stops just before it is opened fully. Move the switch backward again to fully open.

2 Close (push and hold)

The moon roof stops once. Push and hold the switch again to fully close.

■ **Tilt up and down**




1 Tilt up

2 Tilt down (push and hold)

*: If equipped







■ **The moon roof can be operated when**

▶ Vehicles with smart key system

The "ENGINE START STOP" switch is in IGNITION ON mode.

▶ Vehicles without smart key system

The engine switch is in the "ON" position.

■ **Operating the moon roof after turning the engine off**

▶ Vehicles with smart key system

The moon roof can be operated for approximately 45 seconds even after the "ENGINE START STOP" switch is turned to ACCESSORY mode or turned off. It cannot, however, be operated once either front door is opened.

▶ Vehicles without smart key system

The moon roof can be operated for approximately 45 seconds even after the engine switch is turned to the "ACC" or "LOCK" position. It cannot, however, be operated once either front door is opened.

■ **To reduce moon roof wind noise**

Drive with the moon roof opened automatically (just before fully opened position).

■ **Sunshade**

→P. 91

■ **Moon roof open warning buzzer**

▶ Vehicles with smart key system

The buzzer sounds and message is shown on the multi-information display (TFT type only) when the "ENGINE START STOP" switch is turned off and the driver's door is opened with the moon roof open.

▶ Vehicles without smart key system

The buzzer sounds and message is shown on the multi-information display (TFT type only) when the engine switch is turned to the "LOCK" position and the driver's door is opened with the moon roof open.

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

| TEST VEHICLE INFORMATION | | | |
|---|---|---|---|
| YEAR | **2010** | MAKE | **Toyota** |
| MODEL | **Venza** | BODY STYLE | **5-Door MPV** |
| NHTSA NO. | **CA5105** | VIN | **4T3ZA3BB2AU021370** |
| TEST DATE: | **06/01/10 - 06/02/10** | | |



**When the moon roof does not close normally**

Perform the following procedure:

STEP 1 Stop the vehicle.

STEP 2 Open the moon roof halfway.

STEP 3 Press and hold the open/close switch in the close position. When the moon roof reaches the full close position, maintain the open/close switch in the close position for more than 2 seconds. It will adjust slightly and then stop.

STEP 4 To ensure the initialization is complete, make sure opening, closing, tilting up and down functions work properly.

If the moon roof does not fully close even after performing the above procedure correctly, have the vehicle inspected by your Toyota dealer.

**CAUTION**

**Opening the moon roof**

Observe the following precautions.
Failing to do so may cause death or serious injury.

- Do not allow any passengers to put their hands or heads outside the vehicle while it is moving.
- Do not sit on top of the moon roof.

**Closing the moon roof**

Observe the following precautions.
Failing to do so may result in death or serious injury.

- Check to make sure that all passengers do not have any part of their bodies in a position where they could be caught when the moon roof is being operated.
- Do not allow children to operate the moon roof.
  Closing the moon roof on someone can cause death or serious injury.

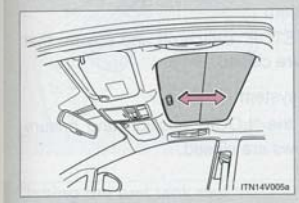




## Sunshade*

**The sunshade can be opened and closed manually.**

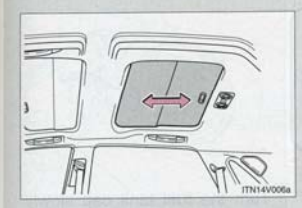
▶ Front



Slide the sunshade.

The front sunshade will open automatically when the moon roof is opened. (→P. 88)

▶ Rear



Slide the sunshade.



*: If equipped