FINAL REPORT NUMBER 202a-MGA-10-003

SAFETY COMPLIANCE TESTING FOR FMVSS 202a
"Head Restraints"

FORD MOTOR COMPANY
2010 Lincoln MKT MPV
NHTSA No. CA0213

MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083

Test Dates: September 22, 2010 & September 29 -30, 2010
Report Date: January 10, 2011

FINAL REPORT

Prepared For:

U.S DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Enforcement
Office of Vehicle Safety Compliance (Rm W45-304)
1200 New Jersey Avenue, SE
Washington, DC 20590

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Approval Date: February 11, 2011

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TECHNICAL REPORT STANDARD TITLE PAGE

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4. Title and Subtitle Final Report of FMVSS 202a Compliance Testing of a 2010 Lincoln MKT MPV NHTSA No. CA0213		5. Report Dates September 22, 2010 and September 29-30, 2010 6. Performing Organization Code MGA	
7. Author(s) Helen A. Kaleto, Laboratory Manager Alisshia Woods, Project Engineer David Maier, Test Personnel		8. Performing Organization Report No. 202a-MGA-10-003	
9. Performing Organization Name and Address MGA Research Corporation 446 Executive Drive Troy, Michigan 48083		10. Work Unit No. 11. Contract or Grant No. DTNH22-06-C-00030/0008	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance (Rm W45-304) 1200 New Jersey Avenue, SE Washington, DC 20590		13. Type of Report and Period Covered Final Test Report 14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes			
16. Abstract A compliance test was conducted on the subject 2010 Lincoln MKT MPV, NHTSA No. CA0213, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-202aS-00S-00 for the determination of FMVSS 202a compliance. The test was conducted at MGA Research Corporation in Troy, Michigan on September 22, 2010 and September 29-30, 2010. Test failures identified were as follows: NONE The data recorded indicates that the 2010 Lincoln MKT MPV tested appears to meet the requirements of FMVSS 202a.			
17. Key Words Compliance Testing Safety Engineering FMVSS 202a 2010 Lincoln MKT MPV		18. Distribution Statement Copies of this report are available From: NHTSA Technical Reference Technical Information Services Division, NPO-411 1200 New Jersey Avenue, SE (Rm E12-100) Washington, D.C. 20590 Telephone No. (202) 366-4946	
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1.0 PURPOSE AND PROCEDURE

Purpose: The purpose of this testing was to determine whether head restraints equipped in vehicles supplied by the National Highway Traffic Safety Administration meet the requirements of Federal Motor Vehicle Safety Standard Number 202a, entitled "Head Restraints".

Test Procedures: The "MGA Research Corporation Testing Procedures for FMVSS 202a," submitted to and approved by the National Highway Traffic Safety Administration, contains the specific procedures used to conduct the testing.

This procedure shall not be interpreted to conflict with any portion of NHTSA TP-202aS-00, FMVSS 202a nor any amendment thereof within the applicable contract.

2.0 DATA SUMMARY

Summary data is provided below. Data for the configuration and the location of each seating position tested is provided in Section 5.0. Photographs can be found in Section 6.0 and test plots can be found in Section 7.0. The data recorded indicates that the 2010 Lincoln MKT MPV tested appears to meet the requirements of FMVSS 202a.

Table 1. Summary Data

MGA Test #	Test Type	Seat Description
E10855	Dimensional Measurements	Front LH 12-Way Power (Leather)
E10856	Dimensional Measurements	Front RH 12-Way Power (Leather)
E10882	Height Retention	Front RH 12-Way Power (Leather)
E10881	Backset Retention, Displacement and Strength	Front LH 12-Way Power (Leather)
D10291	Energy Absorption	Front RH 12-Way Power (Leather)

3.0 TEST VEHICLE INFORMATION

Table 2. General Test and Vehicle Parameter Data

VEH. MOD YR/MAKE/MODEL/BODY	2010 Lincoln MKT MPV
VEH. NHTSA NO.	CA0213
VIN	2LMHJ5FR9ABJ10077
COLOR	Silver
VEH. BUILD DATE	2010
TEST DATES	September 22, 2010 and September 29-30, 2010
TEST LABORATORY	MGA Research Corporation
OBSERVERS	Alisshia Woods, Helen Kaleto, Dave Maier

GENERAL INFORMATION:

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Ford Motor Company

Date of Manufacture: September 9, 2009 VIN: 2LMHJ5FR9ABJ10077

GVWR: 2735kg GAWR FRONT: 1320kg

GAWR REAR: 1429kg

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 240 kpa REAR: 240 kpa

Recommended Tire Size: P235/55R19

Recommended Cold Tire Pressure:

FRONT: 240 kpa REAR: 230 kpa

Size of Tire on Test Vehicle: P235/55R19

Size of Spare Tire: T155/70D17

VEHICLE CAPACITY DATA:

Type of Front Seats: Bench ___; Bucket X ; Split Bench___

Number of Occupants: Front 2 ; Rear 5 TOTAL 7 .

4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

MGA Research Corporation 446 Executive Drive Troy, Michigan 48083	
Test Equipment Used for Testing	**Calibration Due Date**
MGA Hydraulic Test Frame (202a)	N/A
Hydraulic Pump	N/A
MGA Data Acquisition System (202a)	1/25/2011
Inclinometer (Digital) - MGA0000823	1/27/2011
Accelerometer – P57862, P58043	11/17/2010
LVDT's - H1, H3, T1	12/15/2010
Load Cells - 500 lbs – 221488, 330317	12/22/2010, 12/23/2010

5.0 DATA

All data summarized below appears to meet the requirements of FMVSS 202a.

Table 3. S5.2.1-5.2.4 Dimensional Measurement

MGA Test #	Average H-Point (Reference Point: Seat Back Pivot)		S4.2.1 – Average Height (mm) (Req't>800 at 1 adj. / No adjustments below 750)			S4.2.3-Average Backset (mm) Req't<55			S4.2.2- Width (mm) Req't>170	S4.2.4- Gaps Did Cylinder Pass Through? (Yes/No) Req't = No
	X (mm)	Z (mm)	H1	H2	H3	H1	H2	H3		
E10855 (LH Power)	-188	73	829	809	775	0	0	0	200	No
E10856 (RH Power)	-186	72	831	810	777	14	8	3	197	No

Table 4. S5.2.5 Energy Absorption

MGA Test #	Impact Angle (θ_h)	Impact Velocity (kph)	Accel 1 (g's)		Accel 2 (g's)		Post-Test Comments
			Peak	3msec Clip Req't<80	Peak	3msec Clip Req't<80	
D10291 (RH Power)	0.0	24.0	23.8	21.0	25.2	20.5	• No damage evident.

Table 5. S5.2.6 Height Retention

MGA Test #	Initial Displacement at 50 N (mm) Req't < 25	Max. Load (N) Req't=500 N (+0, -10) (Hold 5 Sec.)	Height Retention (mm) Req't < 13	Post-Test Comments
E10882 (RH Power)	8.1	499	5.8	• The H/R successfully completed the load profile.

Table 6. S5.2.7 Backset Retention, Displacement and Strength

MGA Test #	H/R Type	H/R Test Position	Displaced Torso Angle (deg)	Initial Headform Disp. at 37 Nm (mm) Req't<25	Headform Disp. at 373 Nm (mm) Req't<102	Backset Retention (mm) Req't<13	Max Load Applied through Headform (N) Req't>890	Headform Loading Axis Distance (mm)
E10881 (LH Power)	2-Way	H2 (809)	27.3	14.5	-37.0	6.0	895	738

Note: H2 designates one notch below full up.

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DATA SHEET 1

SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY STYLE: 2010 Lincoln MKT MPV

VEH. NHTSA NO.: CA0213 ; VIN: 2LMHJ5FR9ABJ10077

VEH. BUILD DATE: 9/09 ; TEST DATE: 9/22/10, 9/29/10, 9/30/10

TEST LABORATORY: MGA

OBSERVERS: Alissha Woods, Helen Kaleto, David Maier

A. VISUAL INSPECTION OF TEST VEHICLE

Upon receipt for completeness, function, and discrepancies or damage which might influence the testing.

RESULTS: NONE

B.	**DIMENSIONAL REQUIREMENTS**	**PASS**	**FAIL**	
	Driver's Side	X	____	
	Passenger's Side	X	____	
	Rear Designated Seating Positions	NA	NA	
C.	**OWNER'S MANUAL**	**PASS**	**FAIL**	
D.	**REMOVABILITY**	**PASS**	**FAIL**	**N/A**
	Driver's Side	____	____	
	Passenger's Side	____	____	
	Rear Designated Seating Positions	NA	NA	
E.	**NON-USE POSITION**	**PASS**	**FAIL**	**N/A**
	Rear Designated Seating Positions	NA	NA	
F.	**ENERGY ABSORPTION TEST**	**PASS**	**FAIL**	
	Driver's Side	NA	____	
	Passenger's Side	X	____	

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	Rear Designated Seating Positions	NA	NA
G.	**HEIGHT RETENTION TEST**	**PASS**	**FAIL**
	Driver's Side	NA	
	Passenger's Side	X	
	Rear Designated Seating Positions	NA	NA
H.	**BACKSET RETENTION TEST**	**PASS**	**FAIL**
	Driver's Side	X	
	Passenger's Side	NA	
	Rear Designated Seating Positions	NA	NA

RECORDED BY: Alisha Worch DATE: 9/22/10

APPROVED BY: Heel Kelso

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DATA SHEET 2a

DIMENSIONAL REQUIREMENTS FOR ADJUSTABLE HEAD RESTRAINTS

VEH. NHTSA NO.: CA0213 TEST DATE: 9/22/10

Seat Location: Driver 12-way Power (Leather)

Height Measurement

SAE J826 three-dimensional manikin torso angle: 22

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Position the head restraint in the highest position of vertical adjustment.

Height, Hh (mm): 829 X **PASS** **FAIL**

Hh > or = 800 mm for front seats.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere.

Position the head restraint in the lowest position of vertical adjustment.

Height, Hl (mm): 775 X **PASS** **FAIL**

Hl > or = 750 mm for front seats and rear seats with head restraints.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere.

Width Measurement

If the manikin is moved between the Height measurement and the Width measurement, re-record the torso angle, striker to H-Point distance and angle.

Position the head restraint in the highest position of vertical adjustment.

Width is measured 65 mm below the measured Height, Hh.

Height, Hw (= Hh – 65): 764

Width, W (mm): 200 X **PASS** **FAIL**

Width must be greater than of equal to 170 mm. If a vehicle has a front center designated seating position the front outboard head restraints must be greater than or equal to 254 mm.

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Backset Measurement (Front Head Restraints Only)

Position the HRMD and record the following measurements.

HRMD torso angle: 22

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Position the head restraint at a height greater than or equal to 750 mm and less than or equal to 800 mm for front head restraints. Exception: head restraint with lowest position higher than 800 mm, adjust to lowest position.

Backset, B (mm): 0 ± **PASS** **FAIL**

Backset must be less than or equal to 55 mm.

Gap Measurement

Position the head restraint in the lowest position of vertical adjustment.

Number of gaps within the gap measurement zone: 3

Least dimension of each gap (measured with a steel tape): NA

Size of each gap (as measured with the spherical head form): NA

Gap Size 25 mm Cylinder did not pass through the gap ± **PASS** **FAIL**

Gaps must be less than or equal to 60 mm.

REMARKS:

RECORDED BY: Christine Woods DATE: 9/22/10

APPROVED BY: Dale Kelb

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DATA SHEET 2a

DIMENSIONAL REQUIREMENTS FOR ADJUSTABLE HEAD RESTRAINTS

VEH. NHTSA NO.: CA0213 TEST DATE: 9/22/10

Seat Location: Passenger Rear Power (Left)

Height Measurement

SAE J826 three-dimensional manikin torso angle: 22

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Position the head restraint in the highest position of vertical adjustment.

Height, Hh (mm): 831 ✓ **PASS** **FAIL**

Hh > or = 800 mm for front seats.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere.

Position the head restraint in the lowest position of vertical adjustment.

Height, Hl (mm): 777 ✓ **PASS** **FAIL**

Hl > or = 750 mm for front seats and rear seats with head restraints.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere.

Width Measurement

If the manikin is moved between the Height measurement and the Width measurement, re-record the torso angle, striker to H-Point distance and angle.

Position the head restraint in the highest position of vertical adjustment.

Width is measured 65 mm below the measured Height, Hh.

Height, Hw (= Hh – 65): 766

Width, W (mm): 197 ✓ **PASS** **FAIL**

Width must be greater than of equal to 170 mm. If a vehicle has a front center designated seating position the front outboard head restraints must be greater than or equal to 254 mm.

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Backset Measurement (Front Head Restraints Only)

Position the HRMD and record the following measurements.

HRMD torso angle: 22

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Position the head restraint at a height greater than or equal to 750 mm and less than or equal to 800 mm for front head restraints. Exception: head restraint with lowest position higher than 800 mm, adjust to lowest position.

Backset, B (mm): 3 X **PASS** **FAIL**

Backset must be less than or equal to 55 mm.

Gap Measurement

Position the head restraint in the lowest position of vertical adjustment.

Number of gaps within the gap measurement zone: 3

Least dimension of each gap (measured with a steel tape): NA

Size of each gap (as measured with the spherical head form): NA

Gap Size 25 mm cylinder did not pass through each gap X **PASS** **FAIL**

Gaps must be less than or equal to 60 mm.

REMARKS:

RECORDED BY: Christina Woods DATE: 9/22/10

APPROVED BY: Del Celeto

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DATA SHEET 3

OWNER'S MANUAL

VEH. NHTSA NO.: CA0213 TEST DATE: 9/22/10

Emphasize that all occupants should place their head restraint in a proper position prior to operating the vehicle in order to prevent the risk of serious injury.

X **PASS** **FAIL**

Description of the head restraint system and identification of which seats are equipped.

X **PASS** **FAIL**

If the head restraint is removable, instructions on how to properly remove and reinstall using a deliberate action distinct from any act necessary for adjustment.

X **PASS** **FAIL** **N/A**

Warning that all head restraints must be reinstalled properly to protect occupants.

X **PASS** **FAIL**

Describe the adjustment of the head restraints and/or seat back to achieve proper head restraint position relative the head. The description must include the following:

1) a presentation and explanation of the main components of the vehicle's head restraints

2) the basic requirements for proper head restraint operation, including an explanation of the actions that may affect the proper functioning of the head restraints.

3) the basic requirements for proper positioning of a head restraint in relation to an occupant's head position, including information regarding the proper positioning of the center of gravity of an occupant's head in relation to the head restraint.

X **PASS** **FAIL**

Include copies of relevant pages from the owner's manual in the final report.

REMARKS:

RECORDED BY: Alisha Woods DATE: 9/22/10

APPROVED BY: Heidi Kelsto

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DATA SHEET 4

REMOVABILITY

VEH. NHTSA NO.: CA0213 TEST DATE: 9/22/10

Are the head restraints removable? ✓ **YES** **NO**

If removable, does removal REQUIRE an action distinct from actions to adjust the head restraint? ✓ **YES (PASS)** **NO (FAIL)**

Description of action(s) for head restraint adjustment:

1. Raise the head restraint by pulling up on the head restraint.
2. Lower the head restraint by pressing and holding the guide sleeve adjust/release button and pushing down on the head restraint.

Description of distinct action for removal:

1. Pull up the head restraint until it reaches its highest adjustment position.
2. Simultaneously press and hold both the adjust/release button and the unlock/remove button, then pull up on the head restraint.

REMARKS:

RECORDED BY: Alisha Wood DATE: 9/22/10

APPROVED BY: Bell Kalata

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DATA SHEET 6

ENERGY ABSORPTION TEST

VEH. NHTSA NO.: CA0213 TEST DATE: 9/30/10

Seat Location: Passenger 12-way Power Type of head restraint: Adjustable

635 mm Height Measurement for lower boundary of the impact zone

SAE J826 three-dimensional manikin torso angle: 22

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Description of equipment or method used to rigidly fix the seat back:

Accelerometer identification: P57862 P58043 Accelerometer type/brand: Endevco

Last calibration date: 5/17/10

Head form vertical angle (-2° - +2°):

Distance between head form and target location (> or = 25 mm): 310

Impact velocity (23.6 kph ± 0.5 kph): 24.04

Impact location: 635 mm above the H-point and within 20mm of vertical centerline

Maximum deceleration (< or = 785 m/s² (80 g)): 21.0 ± **PASS** **FAIL**

REMARKS: HR test position was full down for testing

RECORDED BY: Alisha Wood DATE: 9/30/10

APPROVED BY: Heel Kalsto

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DATA SHEET 7

HEIGHT RETENTION TEST
(ADJUSTABLE HEAD RESTRAINTS ONLY)

VEH. NHTSA NO.: CA0213 TEST DATE: 9/29/10

Seat Location: Passenger 12-way Power (Leather)

Pre-test measurements

SAE J826 Manikin torso angle: 22 Top of Head Restraint Height (mm): 831

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Description of height retention lock: Spring loaded button catch

Test measurements

Initial load (50 N ± 1 N): 50 Initial Displacement, D1 (mm): 8.1

Initial Displacement (D1) < 25 mm X **PASS** **FAIL**

Maximum load (495 N ± 5 N): 499 Maximum Displacement, D2 (mm):

Return load (50 N ± 1 N): 50 Return Displacement, D3 (mm): 13.9

Total displacement (D3-D1) < 13 mm: 5.8 X **PASS** **FAIL**

REMARKS:

RECORDED BY: Elisha Woods DATE: 9/29/10

APPROVED BY: Heel Kalsi

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DATA SHEET 8

BACKSET RETENTION TEST

VEH. NHTSA NO.: CA0213 TEST DATE: 9/29/10

Seat Location: Driver 12-way Power Type of head restraint: Adjustable

Pre-test measurements

SAE J826 Manikin torso angle: 22 Top of Head Restraint Height (mm): 809

Striker to H-Point (mm): NA Striker to H-Point angle: NA

Displacement torso reference line

Test device back pan angle: 27.3

Distance from the H-point to the initial location of the load (0.290 ± 0.013 m): 0.285

Initial load (N): 1309 Initial moment (373 ± 7.5 Nm): 373

Backset retention and strength

Distance from the H-point to the head form tangency point (m): 0.738

Initial load (N): 50.6 Initial moment (37 ± 0.7 Nm): 37

Initial head form displacement, D1 (< or = 25 mm): 14.5 x **PASS** **FAIL**

Load range to generate a 373 ± 7.5 Nm rearward moment (N): 506

Actual load applied (N): 506 Resultant moment (Nm): 373

Maximum Head form displacement, D2 (< or = 102 mm): -370 x **PASS** **FAIL**

Final head form displacement, D3 (mm): 20.5
measured at (37 ± 0.7 Nm)

Total displacement (D3-D1) < 13 mm : 6.0 x **PASS** **FAIL**

Maximum applied load (> or equal to 885 N): 895 x **PASS** **FAIL**

REMARKS:

RECORDED BY: Cindi Woods DATE: 9/29/10

APPROVED BY: Hal Clark

PHOTOGRAPHS

6.1 Front right view

6.2 Front left view

6.3 Rear right view

6.4 Rear left view

6.5 Test vehicle's certification label

6.5.1 Certification label photo #1

6.5.2 Tire information label photo #1

6.6 S5.2.1-5.2.4 Dimensional Measurements

6.6.1 Driver Test Photo #1

6.6.2 Driver Test Photo #2

6.6.3 Driver Test Photo #3

6.6.4 Driver Test Photo #4

6.6.5 Driver Test Photo #5

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6.6.11 Passenger Test Photo #11

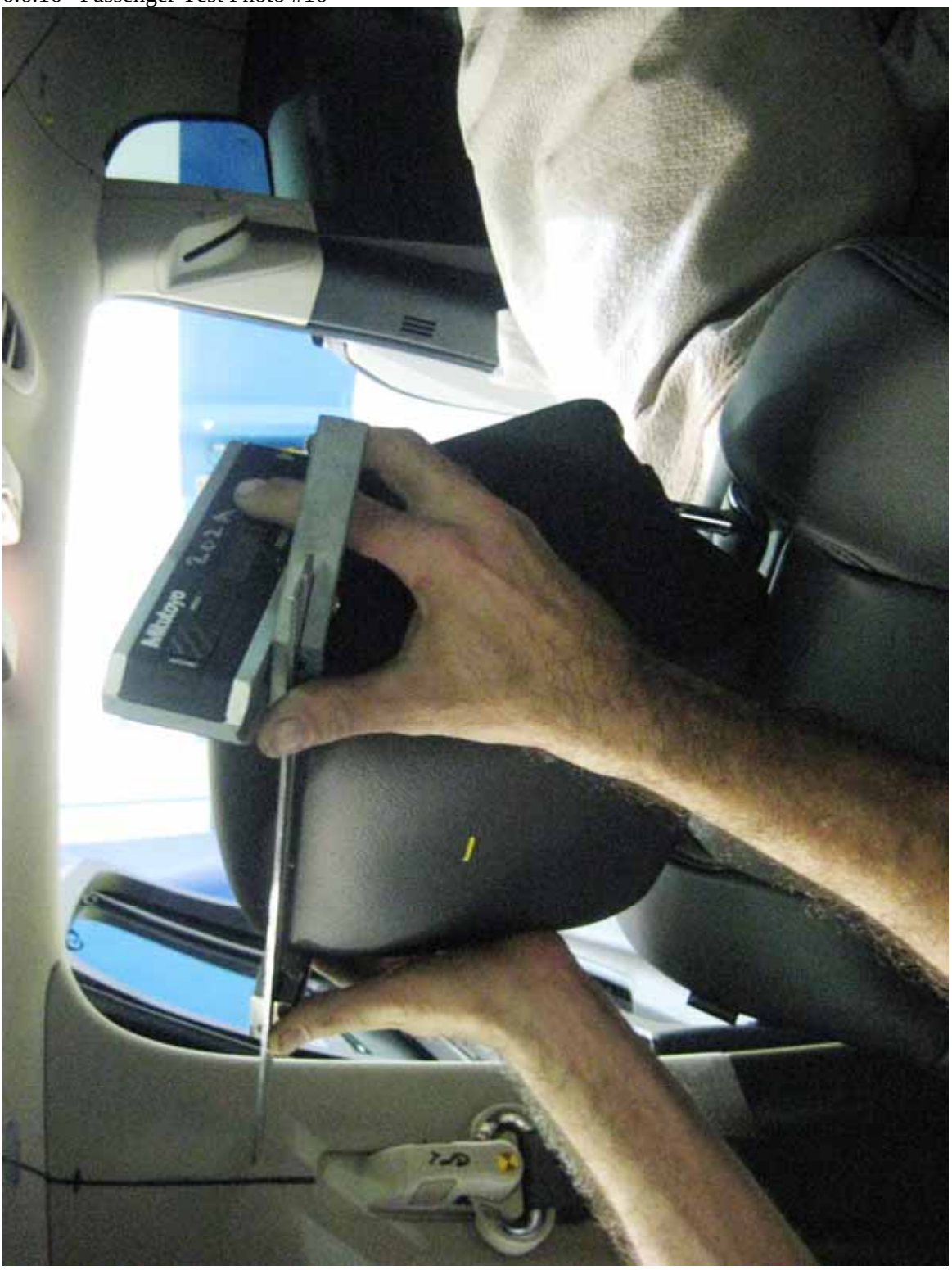
6.6.12 Passenger Test Photo #12

6.6.13 Passenger Test Photo #13

6.6.14 Passenger Test Photo #14

6.6.15 Passenger Test Photo #15

6.6.16 Passenger Test Photo #16



6.6.17 Passenger Test Photo #17

6.7 S5.2.5 Energy Absorption

6.7.1 Passenger Pre-Test Photo #1

6.7.2 Passenger Pre-Test Photo #2

6.7.3 Passenger Post-Test Photo #1

6.7.4 Passenger Post-Test Photo #2

6.8 S5.2.6 Height Retention

6.8.1 Passenger Test Photo #1

6.8.2 Passenger Test Photo #2

6.8.3 Passenger Test Photo #3

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6.8.7 Passenger Test Photo #7

6.8.8 Passenger Test Photo #8

6.9 S5.2.7 Backset Retention, Displacement and Strength

6.9.1 Driver Test Photo #1

6.9.2 Driver Test Photo #2

6.9.3 Driver Test Photo #3

6.9.4 Driver Test Photo #4

6.9.5 Driver Test Photo #5

6.9.6 Driver Test Photo #6

6.9.7 Driver Test Photo #7

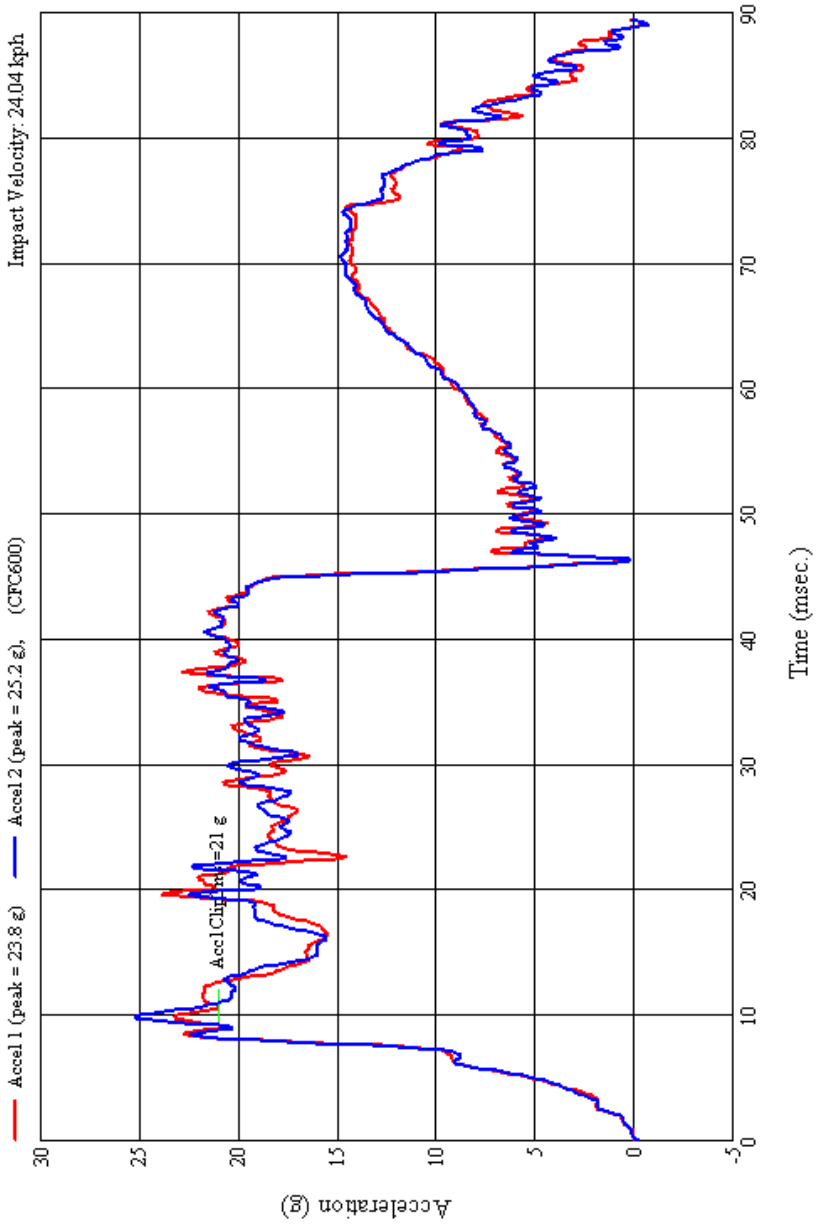
6.9.8 Driver Test Photo #8

6.9.9 Driver Test Photo #9

6.9.10 Driver Test Photo #10

7.0 PLOTS

7.1.1 S5.2.5 Energy Absorption



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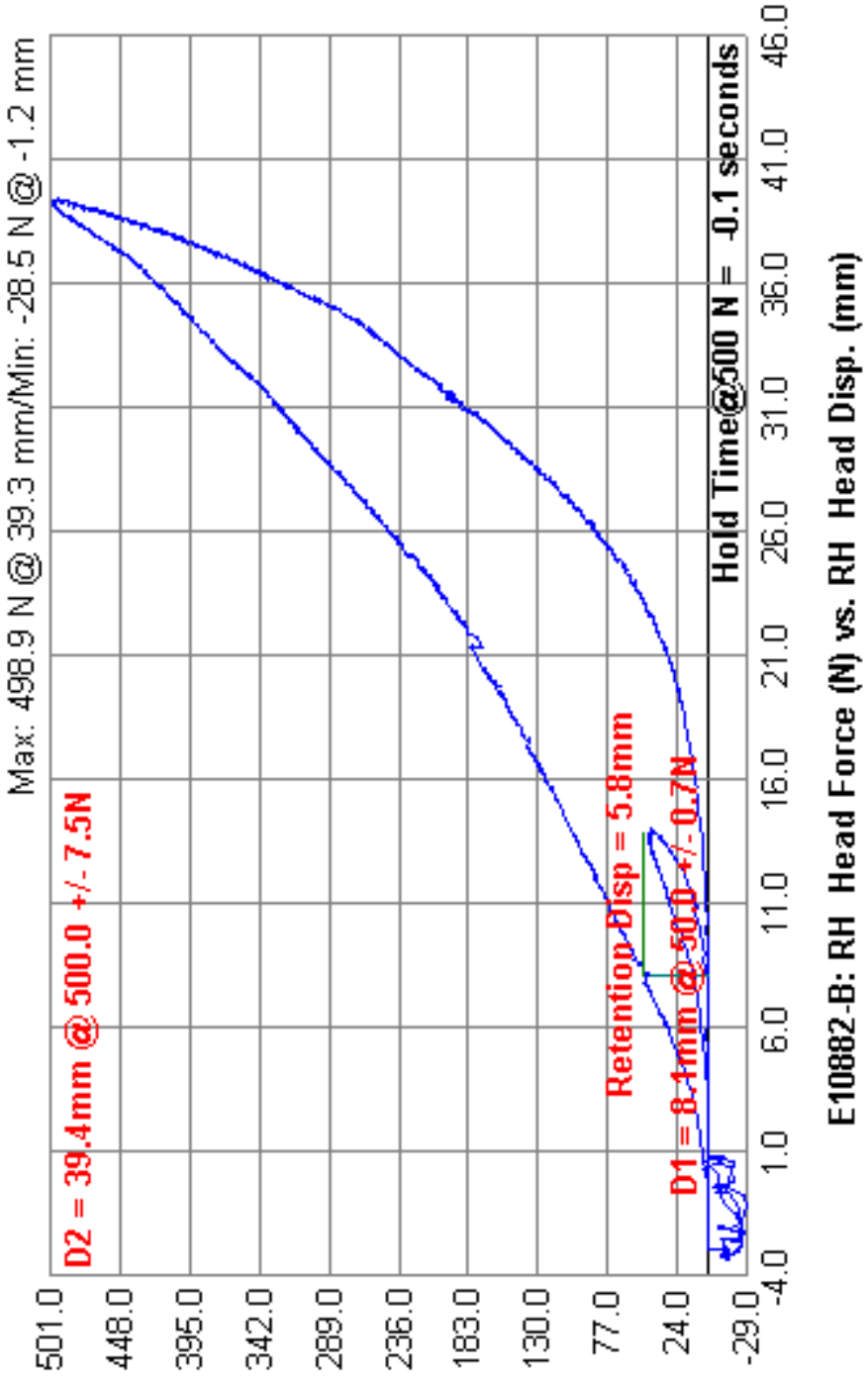
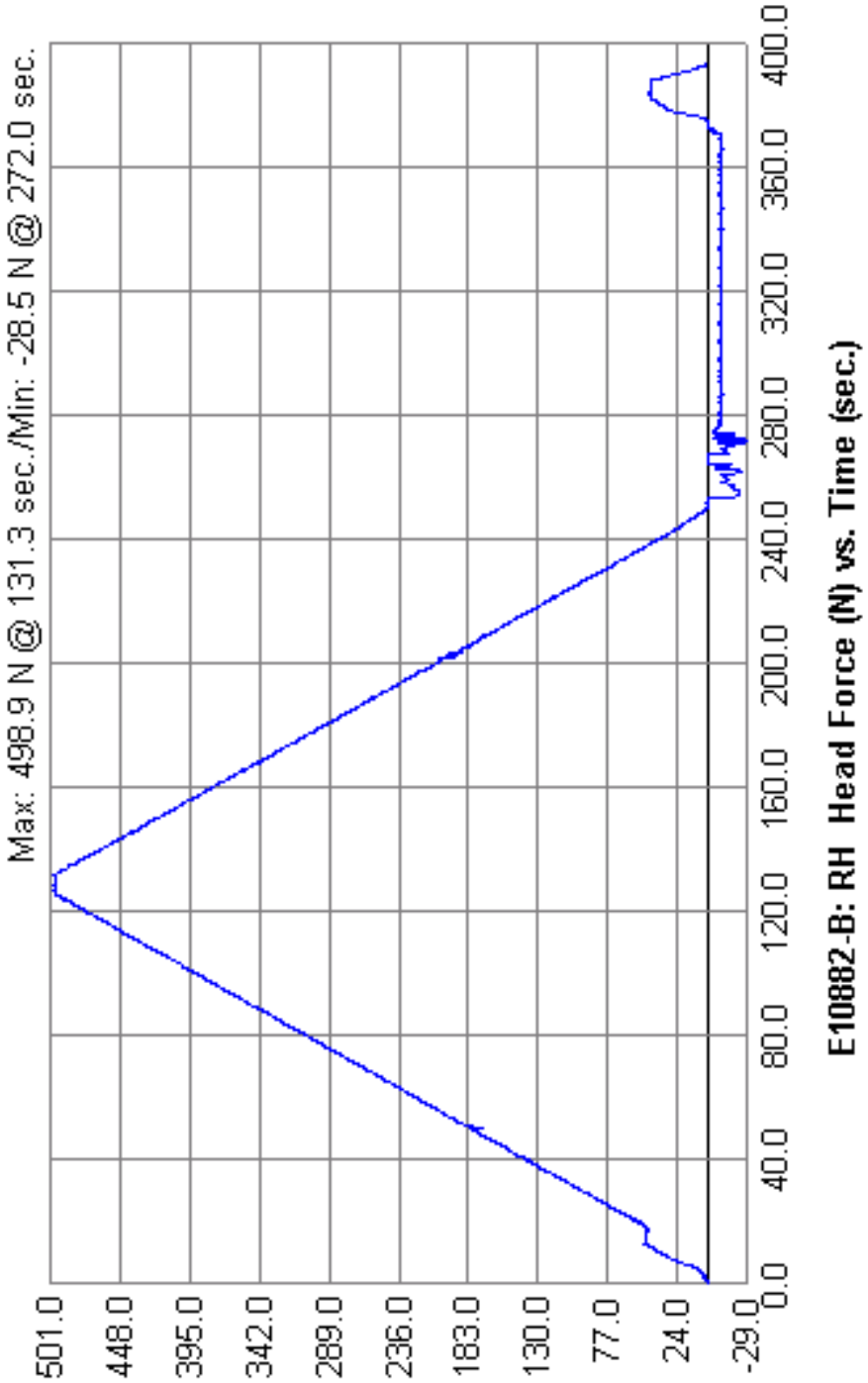


7.2.2 S5.2.6 Height Retention



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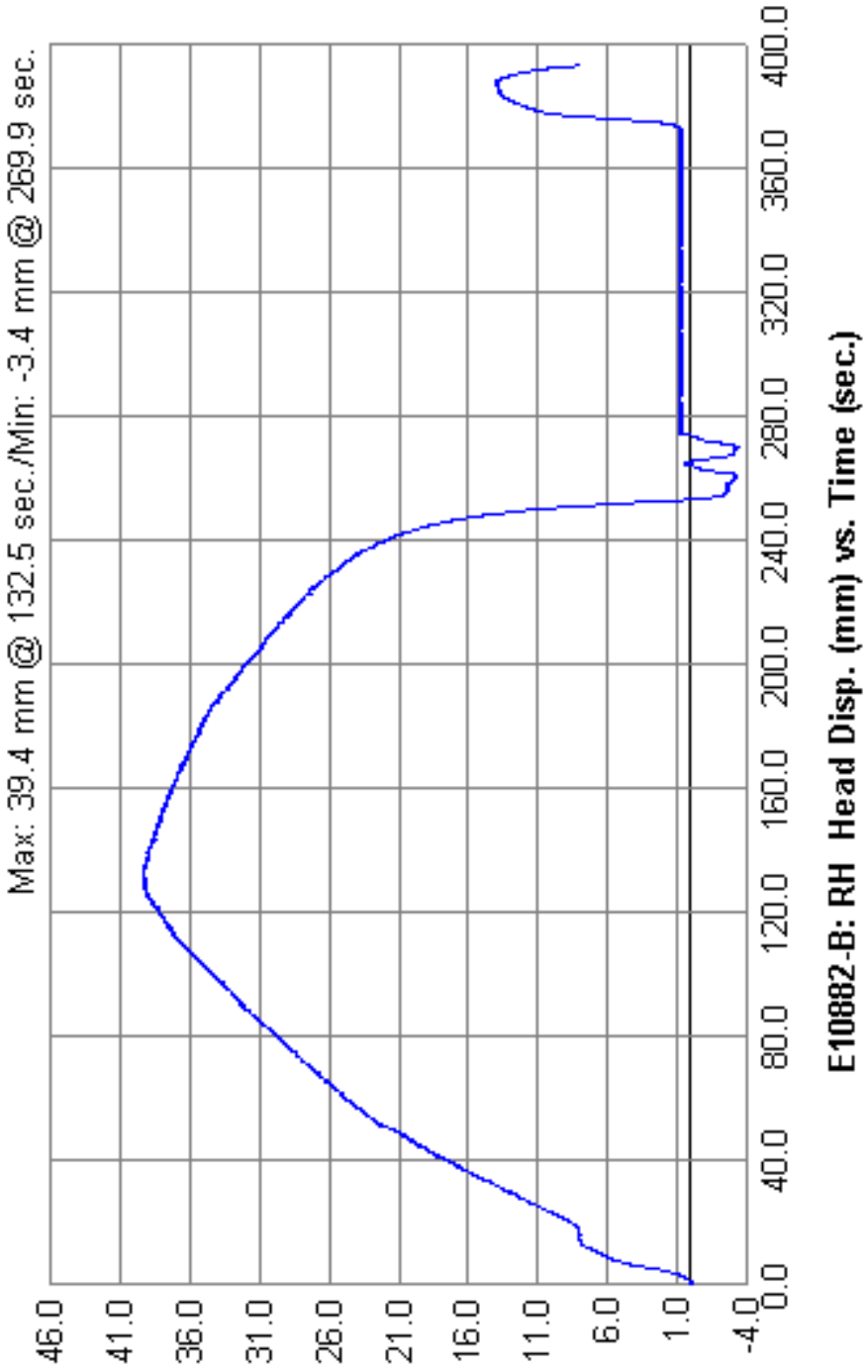
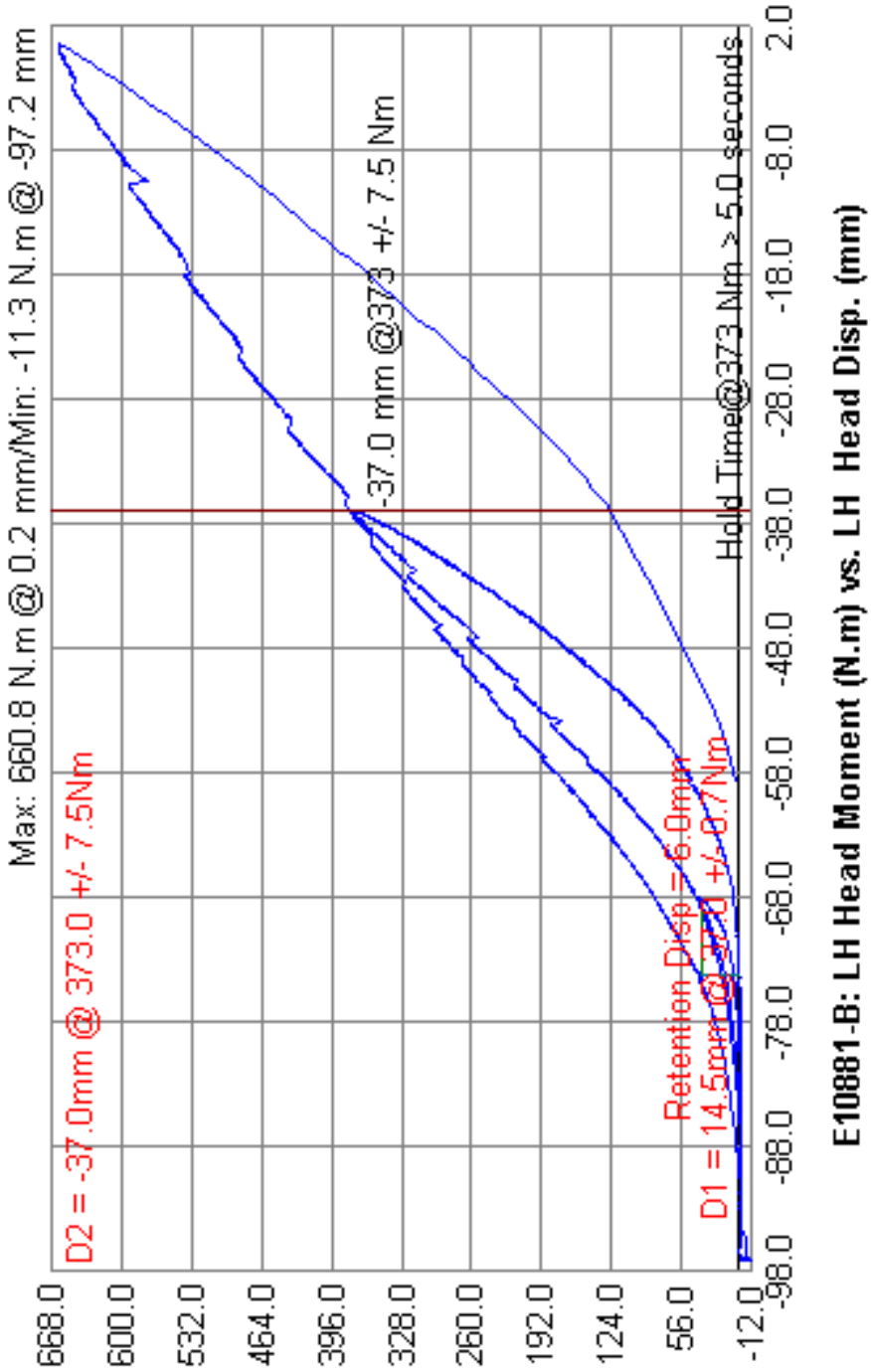


7.3.1 S5.2.7 Backset Retention, Displacement and Strength



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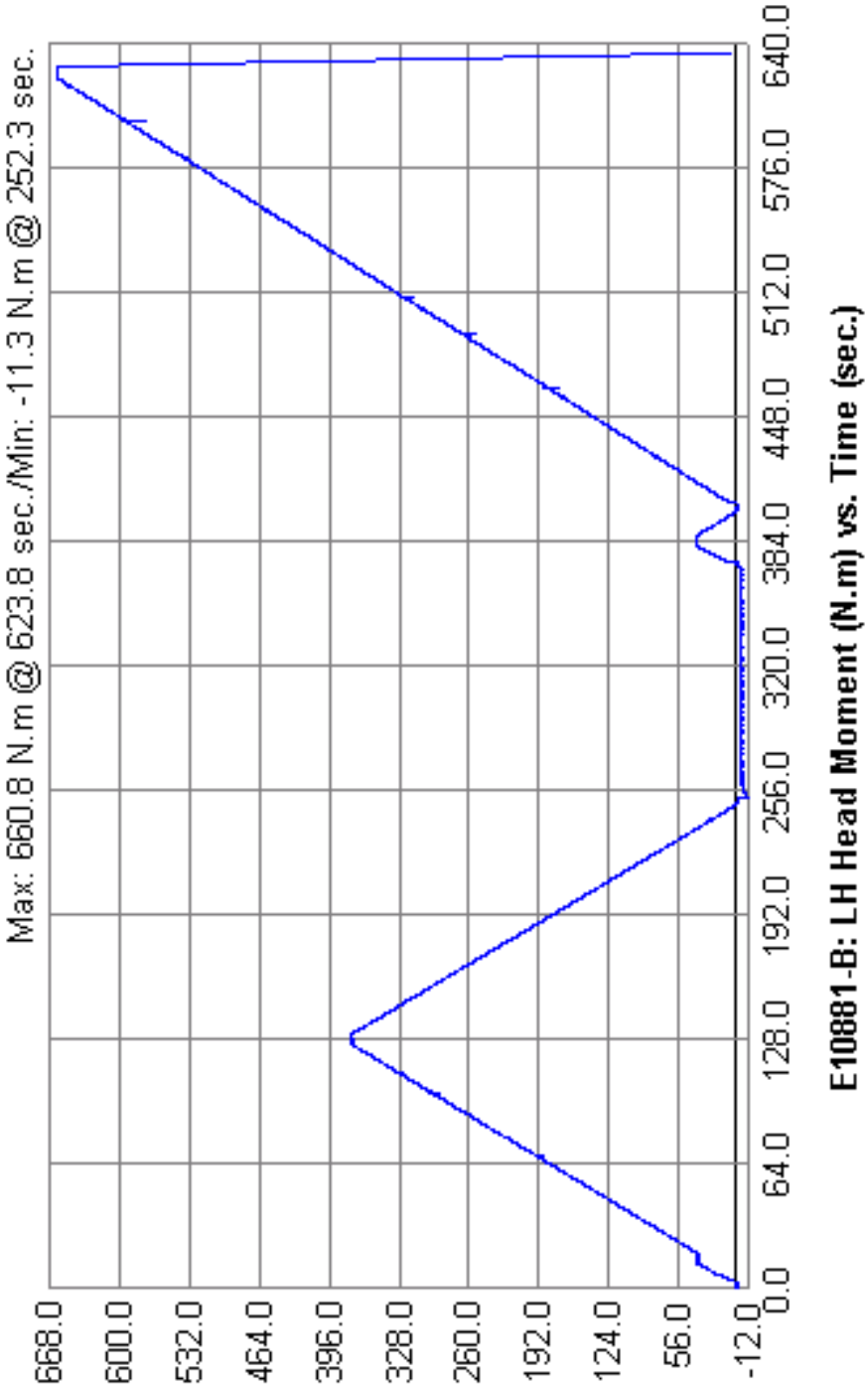
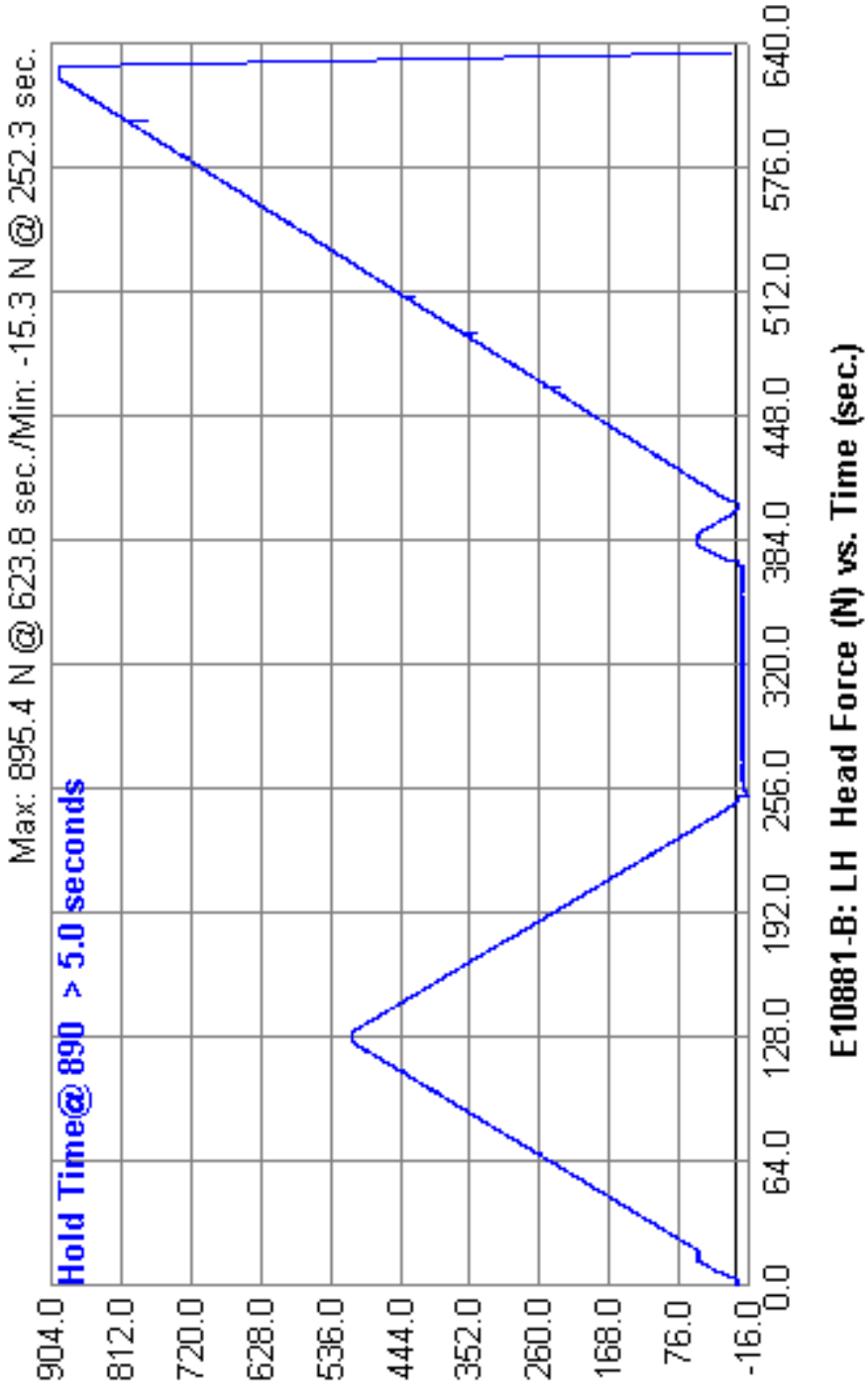
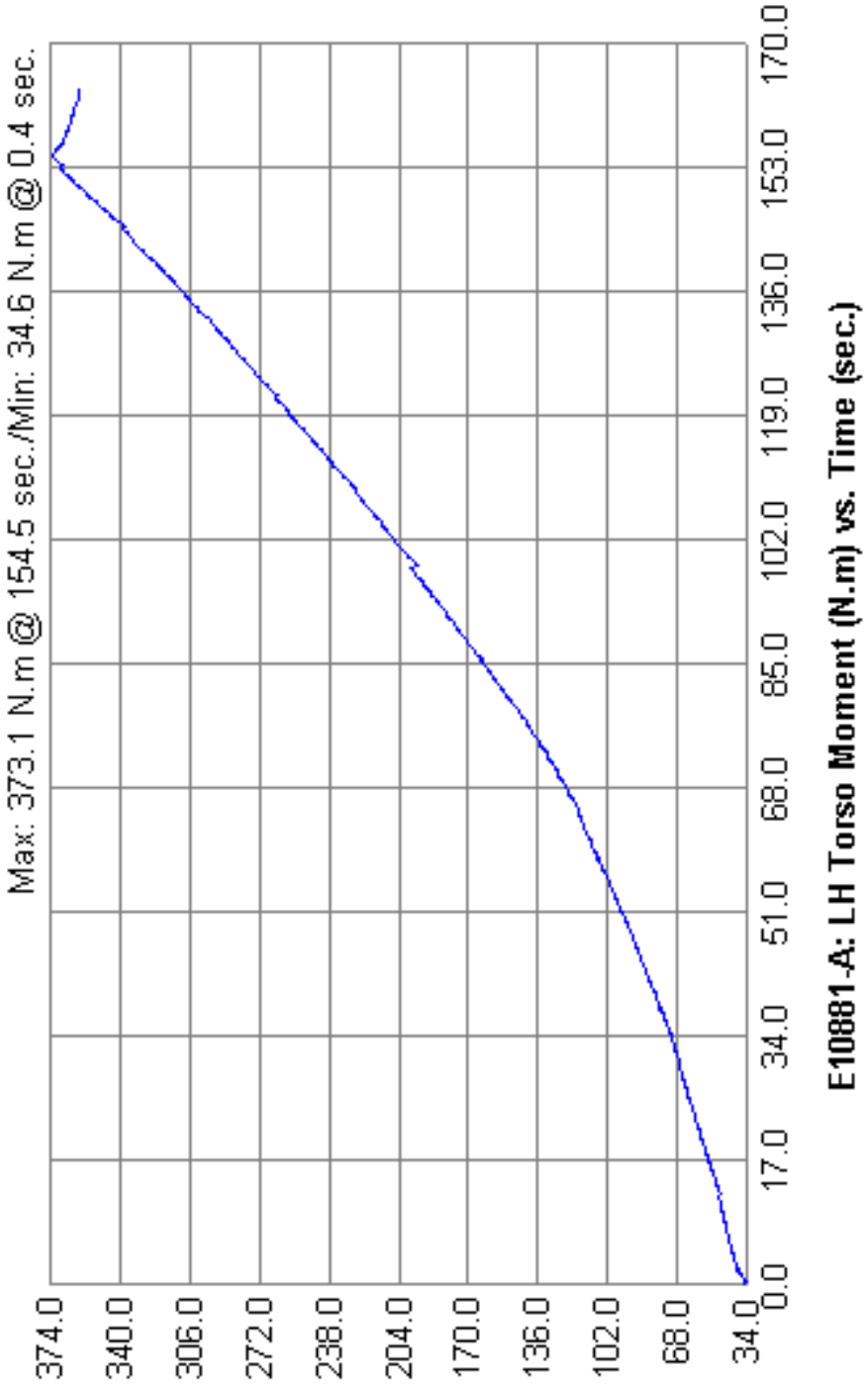


7.3.3 S5.2.7 Backset Retention, Displacement and Strength

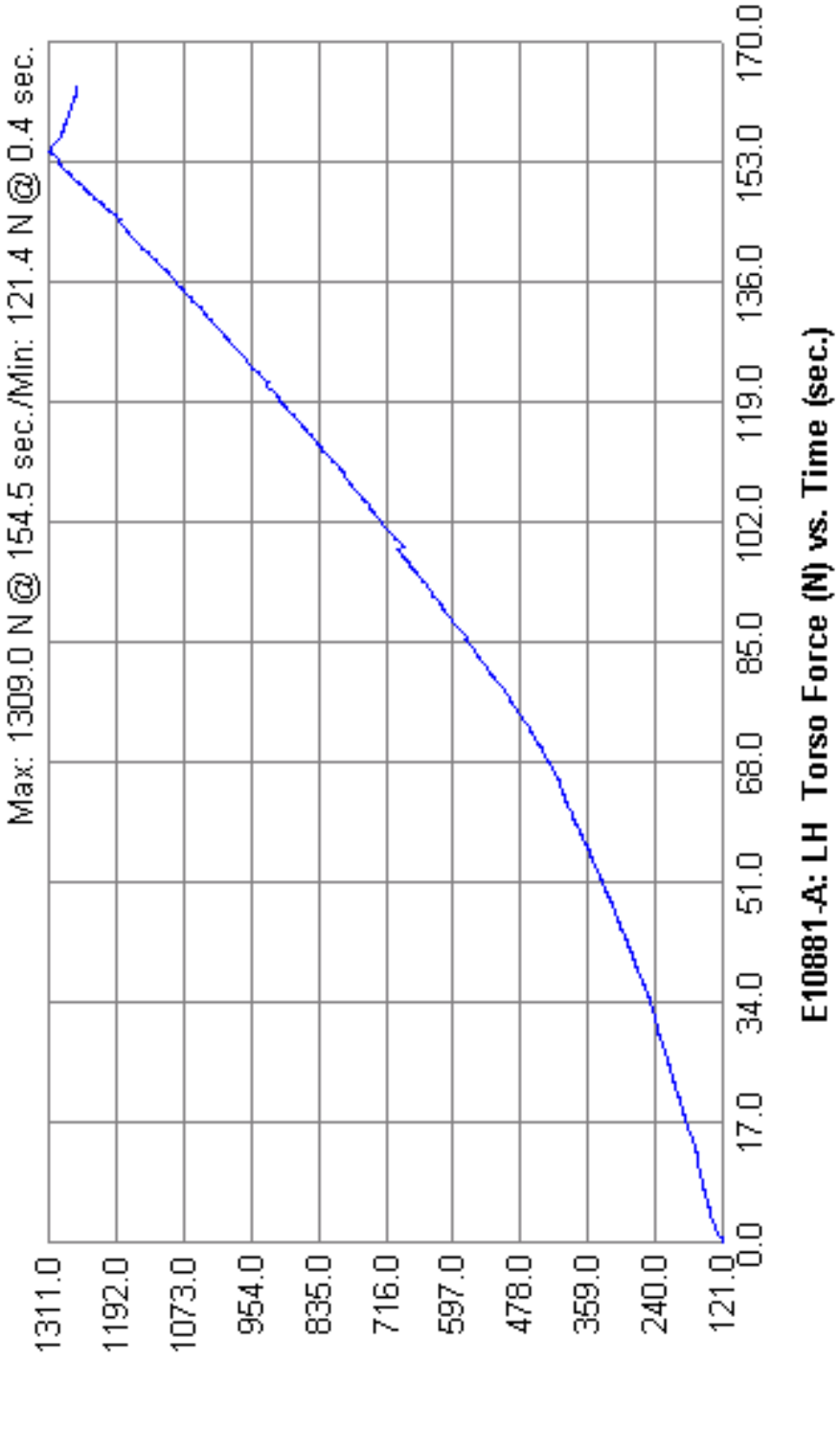


7.3.4 S5.2.7 Backset Retention, Displacement and Strength

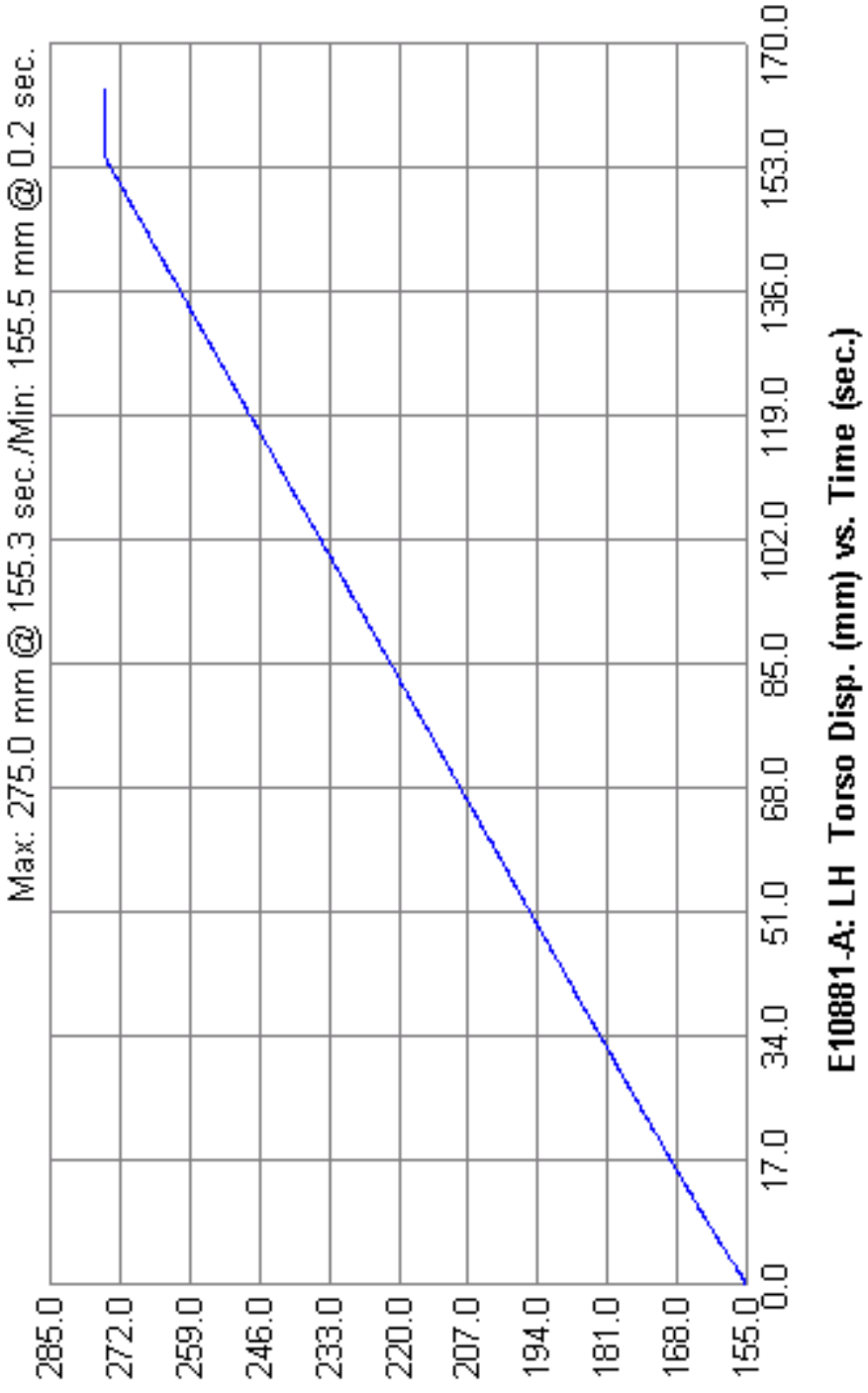
7.3.5 S5.2.7 Backset Retention, Displacement and Strength



7.3.6 S5.2.7 Backset Retention, Displacement and Strength



7.3.7 S5.2.7 Backset Retention, Displacement and Strength



8.0 REPORT OF VEHICLE CONDITION

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING
CONTRACT No.: DTNH22-06-C-00030/0008 DATE: September 22, 2010 and September 29-30, 2010

From: MGA Research Corporation, 446 Executive Drive, Troy, MI 48083

To: NHTSA, OVSC, NVS-220

The following vehicle has been subjected to compliance testing for FMVSS No. 201U & 202a

The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. All variances have been reported within 2 working days of vehicle arrival, by letter, to the NHTSA Industrial Property Manager (NAD0-30), with a copy to the OVSC COTR. The vehicle is again inspected, after the above test has been conducted, and all changes are noted below. The final condition of the vehicle is also noted in detail.

VEH. MOD YR/MAKE/MODEL/BODY: 2010 Lincoln MKT MPV

VEH. NHTSA NO.: CA0213 VIN: 2LMHJ5FR9ABJ10077

COLOR: Silver

ODOMETER READINGS: ARRIVAL 188 miles Date: February 22, 2010
COMPLETION 188 miles Date: September 30, 2010

ENGINE DATA: 6 Cylinders 3.7 Liters ___Cubic Inches

TRANSMISSION DATA: X Automatic ___ Manual ___No. of Speeds

FINAL DRIVE DATA: ___Rear Drive X Front Drive ___4 Wheel Drive

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT:

TEST LABORATORY: MGA Research Corporation

OBSERVERS: Helen Kaleto, Alisshia Woods and Dave Maier

X	Air Conditioning	X	Traction Control	X	Clock
Yes	Tinted Glass	N/A	All Wheel Drive	N/A	Roof Rack
X	Power Steering	X	Speed Control	X	Console
X	Power Windows	X	Rear Window Defroster	X	Driver Air Bag
X	Power Door Locks	X	Sun Roof or T-Top	X	Passenger Air Bag
X	Power Seat(s)	X	Tachometer	X	Front Disc Brakes
	Power Brakes	X	Tilt Steering Wheel	X	Rear Disc Brakes
X	Antilock Brake System	X	AM/FM/Compact Disc		Other

REMARKS:

Salvage only.

Equipment that is no longer on the test vehicle as noted on previous pages:

All equipment inventoried and placed in vehicle.

Explanation for equipment removal:

Roof removed and vehicle cut to accommodate test equipment.

Test Vehicle Condition:

Salvage only. Vehicle cut in half to complete testing.

RECORDED BY: DATE:

APPROVED BY:

APPENDIX A
OWNERS MANUAL HEAD RESTRAINTS

Seating and Safety Restraints

SEATING

WARNING: Reclining the seatback can cause an occupant to slide under the seat's safety belt, resulting in severe personal injuries in the event of a collision.

WARNING: Do not pile cargo higher than the seatbacks to reduce the risk of injury in a collision or sudden stop.

WARNING: Before returning the seatback to its original position, make sure that cargo or any objects are not trapped behind the seatback. After returning the seatback to its original position, pull on the seatback to ensure that it has fully latched. An unlatched seat may become dangerous in the event of a sudden stop or collision.

WARNING: Never adjust the driver's seat or seatback when the vehicle is moving.

WARNING: Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

WARNING: To minimize the risk of neck injury in the event of a crash, the driver and passenger occupants should not sit in and/or operate the vehicle, until the head restraint is placed in its proper position. The driver should never adjust the head restraint while the vehicle is in motion.

WARNING: The adjustable head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied.

WARNING: To minimize the risk of neck injury in the event of a crash, head restraints must be installed properly.

First-row adjustable head restraints

Your vehicle is equipped with front row outboard head restraints that are vertically adjustable.

Seating and Safety Restraints

The adjustable head restraints consist of:

- a trimmed energy absorbing foam and structure (1),
- two steel stems (2),
- a guide sleeve adjust/release button (3),
- and a guide sleeve unlock/remove button (4).

To adjust the head restraint, do the following:

1. Adjust the seatback to an upright driving/riding position. Refer to *Adjusting the front manual seat* later in this chapter.
2. Raise the head restraint by pulling up on the head restraint.
3. Lower the head restraint by pressing and holding the guide sleeve adjust/release button and pushing down on the head restraint.

Properly adjust the head restraint so that the top of the head restraint is even with the top of your head and positioned as close as possible to the back of your head. For occupants of extremely tall stature, adjust the head restraint to its full up position.

To remove the adjustable head restraint, do the following:

1. Pull up the head restraint until it reaches the highest adjustment position.
2. Simultaneously press and hold both the adjust/release button and the unlock/remove button, then pull up on the head restraint.

To reinstall the adjustable head restraint, do the following:

1. Insert the two stems into the guide sleeve collars.
2. Push the head restraint down until it locks.

Properly adjust the head restraint so that the top of the head restraint is even with the top of your head and positioned as close as possible to the back of your head. For occupants of extremely tall stature, adjust the head restraint to its full up position.

Adjusting the front power seat

Ten-way power seats

Move the front of the control up or down to tilt the seat cushion.

Move the rear of the control up or down to raise or lower the seat cushion.

Move the control in the directions shown to move the seat forward or backward.

Press the control to recline the seatback forward or rearward.

APPENDIX B
MANUFACTURER'S DATA (OVSC FORM-SRP)

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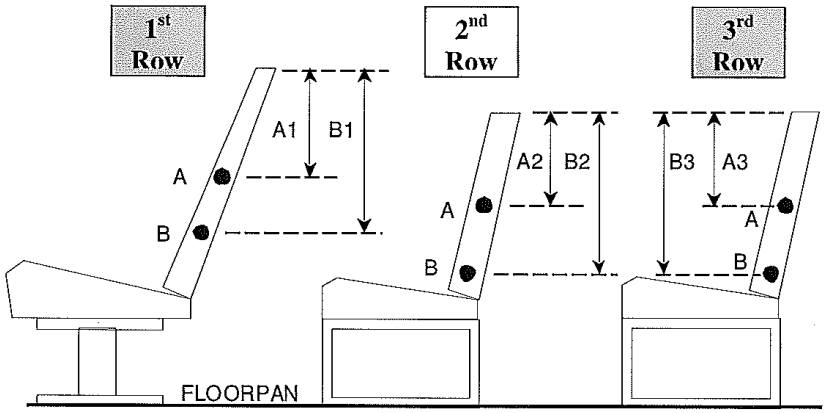
TEST VEHICLE SEAT INFORMATION

FMVSS No. 201, 202, 203, 207 & 210
(All dimensions in inches)

Model Year: 2010 **Make:** Lincoln **Model:** MKT **Body Style:** All
Seat Style: 1st Row: Driver 12-way, Passenger 12-way; 3rd Row: 50/50 Manual



LEFT SIDE VIEW OF VEHICLE

Note: A: CG of Seat Back
B: CG of total seating system

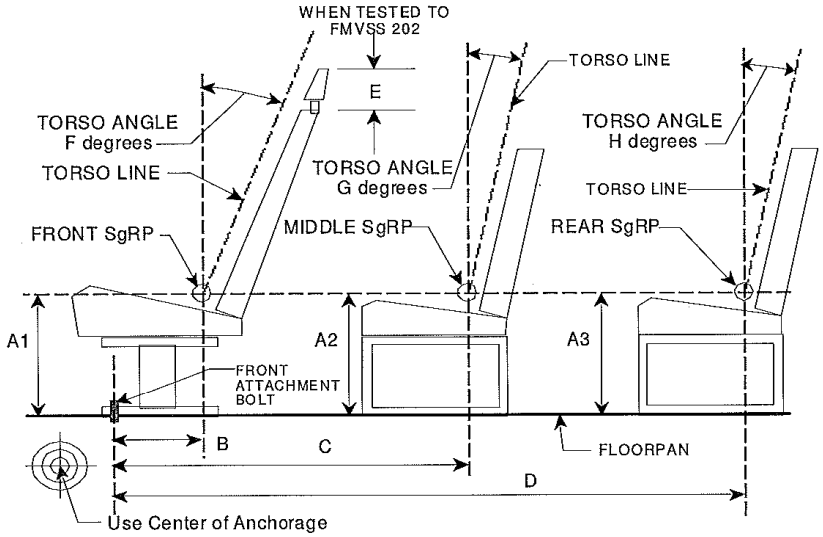
			Driver 12-way	Passenger 12-way	50/50 Manual
A1a	8.05				
B1a	15.65	Weight of Hinged or Folding portion of seat	29.9 lbs	29.9 lbs	29.9 lbs
A1b	8.21	Weight of Total Seat System	73.2 lbs	73.6 lbs	73.6 lbs
B1b	15.85	Angle of Seat Back	22°	22°	22°
A3	6.53	REMARKS: The weights include FMVSS 5%.			
B3	15.49	A1a & B1a is the 1st row driver 12-way, A1b & B1b is the 1st row passenger 12-way, and A3 & B3 is the 3rd row 50/50 Manual			

FORM – SRP

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA

FMVSS No. 201, 202, 203, 207 & 210
(All dimensions in inches)

Model Year: 2010 **Make:** Lincoln **Model:** MKT **Body Style:** All
Seat Style: 1st Row: Driver 12-way, Passenger 12-way; 2nd Row: 60/40 and 40/40;
3rd Row: 50/50 Manual



LEFT SIDE VIEW OF TEST VEHICLE

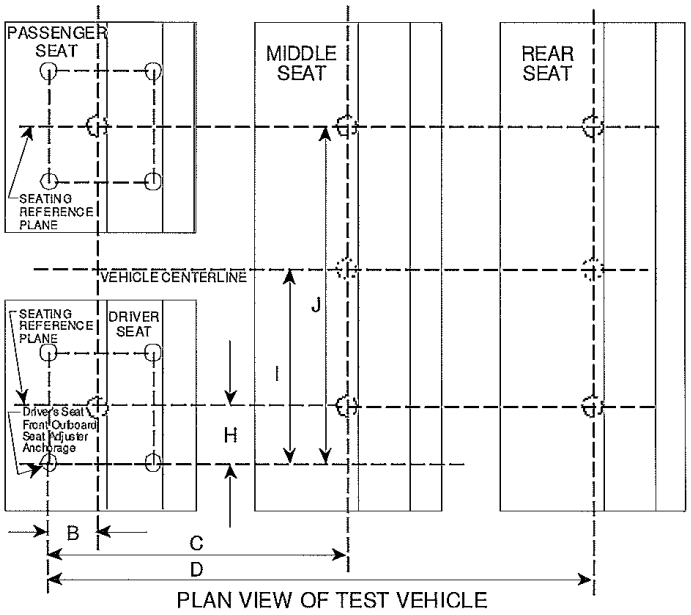
DIMENSION	FRONT, A1	MIDDLE, A2	REAR, A3
A	11.12	13.60 (OB) 14.31 (Ctr)	15.75
B	15.27		
C	53.02 (OB) / 52.12 (Ctr)		
D	85.04		
E	7.57		
F	22 Degrees		
G	21 Degrees (OB and Ctr)		
H	18 Degrees		

2

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA

FMVSS No. 201, 202, 203, 207 & 210
(All dimensions in inches)

Model Year: 2010 **Make:** Lincoln **Model:** MKT **Body Style:** All
Seat Style: 1st Row: Driver 12-way, Passenger 12-way; 2nd Row 60/40 and 40/40; 3rd Row: 50/50 Manual



PLAN VIEW OF TEST VEHICLE

B	15.27
C	53.02 (OB) / 52.12 (Ctr)
D	85.04
H*	8.03 (1R) / 7.21 (2R OB) / 13.00 (3R)
I*	22.92 (2R Ctr)
J*	37.81 (1R) / 38.63 (2R OB) / 32.84 (3R)

* Provide all dimensions needed to locate SRP.

FORM – SRP