

REPORT NUMBER: SINCAP-CAL-15-004

**NEW CAR ASSESSMENT PROGRAM (NCAP)
MOVING DEFORMABLE BARRIER SIDE IMPACT TEST**

**General Motors LLC
2015 Chevrolet Colorado
Pickup / Extended Cab**

NHTSA No: M20150114

**PREPARED BY:
CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225**



April 9, 2015

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NVS-111
1200 NEW JERSEY AVE SE, ROOM W43-410
WASHINGTON, D.C. 20590**

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Date: April 9, 2015

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Transportation Test Operations

Date: April 9, 2015

FINAL REPORT ACCEPTANCE BY OCWS:

Division Chief, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

COTR, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

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16. Abstract A 55/28, (61.90 kph / 38.5 mph), 90° Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2015 Chevrolet Colorado Extended Cab Pickup in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at Calspan Corporation's Transportation Test Operations facility in Buffalo, New York on February 6, 2015. The impact velocity of the Moving Deformable Barrier (MDB) was 62.07 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21°C. The target vehicle's maximum post-test static crush was 193 mm located at level 1. The test vehicle's occupant performance data is as follows: <table border="1"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th colspan="3">Driver ATD (ES-2re)</th> </tr> <tr> <th>Units</th> <th>IARV</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td>22.072</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>44</td> <td>25.044</td> </tr> <tr> <td>Total Abdominal Force</td> <td>N</td> <td>2500</td> <td>903.508</td> </tr> <tr> <td>Pubic Symphysis Force</td> <td>N</td> <td>6000</td> <td>799.487</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th colspan="3">Passenger ATD (SID-IIs)</th> </tr> <tr> <th>Units</th> <th>IARV</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td>45.872</td> </tr> <tr> <td>Lower Spine Resultant Acceleration</td> <td>G</td> <td>82</td> <td>41.316</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td>2425.319</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>17.356</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td>mm</td> <td>45*</td> <td>10.594</td> </tr> </tbody> </table> * Proposed IARV The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.				Measurement Description	Driver ATD (ES-2re)			Units	IARV	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	22.072	Maximum Thoracic Rib Deflection	mm	44	25.044	Total Abdominal Force	N	2500	903.508	Pubic Symphysis Force	N	6000	799.487	Measurement Description	Passenger ATD (SID-IIs)			Units	IARV	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	45.872	Lower Spine Resultant Acceleration	G	82	41.316	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2425.319	Maximum Thoracic Rib Deflection	mm	38*	17.356	Maximum Abdominal Rib Deflection	mm	45*	10.594
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17. Key Words New Car Assessment Program (NCAP) Side Impact MDB ES-2re SID-IIs		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave. SE Washington, D.C. 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833																																																			
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SECTION 1

TEST PURPOSE AND PROCEDURE

This moving deformable barrier side impact test is part of the MY 2015 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number DTNH22-14-D-00352. The purpose of this test is to generate comparative side impact performance in a 2015 Chevrolet Colorado Extended Cab Pickup. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated August 2013.

SECTION 2

SUMMARY OF TEST RESULTS

A 2015 Chevrolet Colorado Extended Cab Pickup was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.07 km/h. The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Calspan Corporation's Transportation Test Operations Center in Buffalo, New York on February 6, 2015. Pre-test and post-test photographs of the test vehicle, the MDB and the dummies (ES-2re and SID-IIs) are included in this report.

Dummies were placed in the driver and left rear designated seating positions according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated August 2013. The side impact event was documented by 9 high-speed and 2 real-time cameras. Camera locations are included in this report.

The Dummies were instrumented in the following manner:

DRIVER ATD (ES-2re)

Primary and redundant head CG tri-axial accelerometers

Chest upper rib, middle rib, and lower rib y-axis displacement potentiometers

Abdomen forward, middle, and rear y-axis load cells

Lower spine (T12) tri-axial accelerometers

Public symphysis y-axis load cell

PASSENGER ATD (SID-IIs)

Primary and redundant head CG tri-axial accelerometers

Chest upper rib, middle rib, and lower rib y-axis displacement potentiometers

Abdomen upper rib and lower rib y-axis displacement potentiometers

Lower spine (T12) tri-axial accelerometers

Acetabulum and iliac wing y-axis load cells

Appendix B contains the vehicle and dummy response data. Dummy configuration and performance verification data can be found in APPENDIX C of this report. Appendix D of this report contains the test equipment and instrumentation calibration data.

DUMMY INJURY VALUES

Measurement Description	Driver ATD (ES-2re)		
	Units	Threshold	Result
Head Injury Criteria (HIC36)		1000	22.072
Maximum Thorax Rib Deflection	mm	44	25.044
Combined Abdominal Force	N	2500	903.508
Pubic Symphysis Force	N	6000	799.487

Measurement Description	Passenger ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC36)		1000	45.872
Lower Spine (T12) Resultant Acceleration	G	82	41.316
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2425.319
Maximum Thoracic Rib Deflection	mm	38*	17.356
Maximum Abdominal Rib Deflection	mm	45*	10.594

*Proposed IARV

SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No	N/A		
Side Airbag 1 - Curtain	Yes	Yes	Yes	Yes
Side Airbag 2 – Torso/Pelvis Airbag	Yes	Yes	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
Seat Belt Load Limiter	Yes	Yes	No	N/A
Other				

GENERAL COMMENTS:

1. P1 serial number - F034
2. P4 serial number - 303

Data Anomalies:

- None

SECTION 3

OCCUPANT AND VEHICLE INFORMATION

This section contains information reporting for the following Data Sheets:

Data Sheet No. 1 - General Test and Vehicle Parameter Data

Data Sheet No. 2 – Seat, Seat Belt, Steering Wheel Adjustment and Fuel System Data

Data Sheet No. 3 – Dummy Longitudinal Clearance Dimensions

Data Sheet No. 4 – Dummy Lateral Clearance Dimensions

Data Sheet No. 5 – Camera and Instrumentation Data

Data Sheet No. 6 – Test Vehicle Accelerometer Locations

Data Sheet No. 7 – MDB Accelerometer Locations

Data Sheet No. 8 – Post-Test Observations

Data Sheet No. 9 – MDB Summary of Results

Data Sheet No. 10 – Test Vehicle Profile Measurements

Data Sheet No. 11 – Test Vehicle Exterior Crush Measurements

Data Sheet No. 12 – MDB Exterior Static Crush Measurements

Data Sheet No. 13 – Vehicle and MDB Damage Profile Distances

Data Sheet No. 14 – FMVSS No. 301 Static Rollover Results

Data Sheet No. 15 – Dummy/Vehicle Temperature and Humidity Stabilization Data

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: <u>2015 Chevrolet Colorado Extended Cab Pickup</u>	NHTSA No.: <u>M20150114</u>	
Test Program: <u>NCAP Side MDB Impact Test</u>	Test Date: <u>2/6/2015</u>	

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20150114	Traction Control System (TCS)	Yes
Model Year	2015	Auto-Leveling System	No
Make	Chevrolet	Automatic Door Locks (ADL)	Yes
Model	Colorado	Power Window Auto-Reverse	No
Body Style	Pickup / Extended Cab	Other Optional Feature	-
VIN	1GCHSBEA6F1151454	Driver Front Airbag	Yes
Body Color	Red	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	275.2 km / 171 mi	Driver Head/Torso Airbag	No
Engine Displacement (L)	2.5	Driver Torso Airbag	No
Type/No. Cylinders	I4	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Inline	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	No
Transmission Speeds	6-Speed	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	Rear Wheel Drive	Rear Pass. Torso Airbag	No
Roof Rack	No	Rear Pass. Torso/Pelvis Airbag	No
Sunroof/T-Top	No	Rear Pass. Pelvis Airbag	No
Running Boards	No	Driver Seat Belt Pretensioners	Yes
Tilt Steering Wheel	Yes	Rear Pass. Seat Belt Pretensioners	No
Power Seats	No	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	No
		Other Safety Restraint	-

Does owner's manual provide instructions to turn off automatic door locks? No

DATA FROM CERTIFICATION LABEL

Manufactured By	General Motors LLC	GVWR (kg)	2449
Date of Manufacture	12/14	GAWR Front (kg)	1315
Vehicle Type	Truck	GAWR Rear (kg)	1497

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	2	-	4	
Capacity Weight (VCW) (kg)				646	(A)
DSC X 68.04 kg				272.2	(B)
Cargo Weight (RCLW) (kg)				136	(A-B)

VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						W/ Lever	W/ Knob
Front Seat	X					X	
Rear or Second Row Seat			X		X		
Third Row seat							

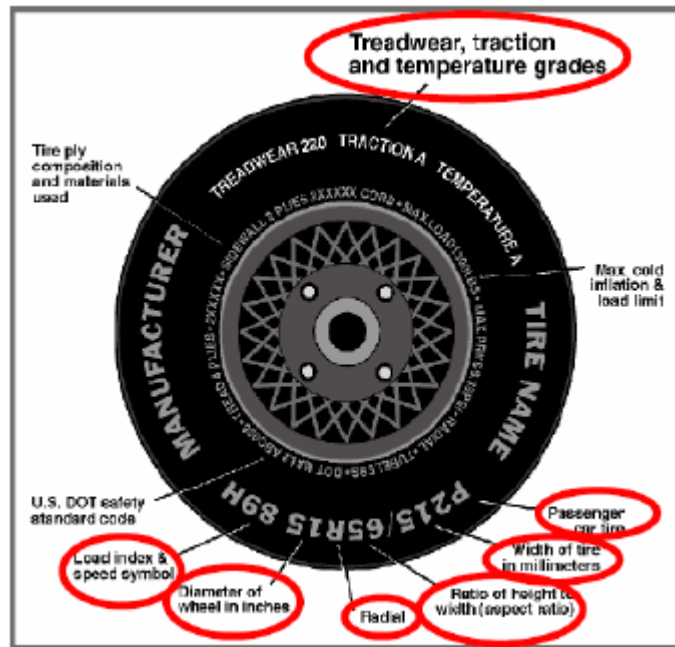
DATA SHEET NO. 1 ... (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015

VEHICLE TIRE INFORMATION

Collected for year, make, model, & VIN, all items circled in red, tire manufacturer and tire name.



TIRE SIDEWALL INFORMATION

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	240
Recommended Tire Size	P255/65R17	P255/65R17
Tire Size on Vehicle	P255/65R17	P255/65R17
Tire Manufacturer	Goodyear	Goodyear
Tire Model	Wrangler	Wrangler
Treadwear	680	680
Traction	A	A
Temperature Grade	B	B
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel	2 Polyester, 2 Steel
Load Index/Speed Symbol	110T	110T
Tire Material	Rubber	Rubber
DOT Safety Code Left	PJ22JH1R3314	PJ22JH1R3714
DOT Safety Code Right	PJ22JH1R3314	PJ22JH1R3714

DATA SHEET NO. 1 ... (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	229	230	230	229
Tire Placard	kPa	240	240	240	240
Owner's Manual	kPa	240	240	240	240
As Tested	kPa	240	240	240	240

MDB TIRE SPECIFICATIONS

	Units	Requirement	LF	RF	LR	RR
Tire Size		P205/75R15	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire Pressure	kPa	200 ± 21	207	207	207	207

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	529	395		573	510		586	504	
Right	kg	484	378		497	463		490	472	
Ratio	%	57%	43%		52%	48%		52%	48%	
Totals	kg	1013	773	1786	1070	973	2043	1076	976	2052

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1786
Sum of Actual Weight of 2 P572 ATDS Used	kg	129
Rated Cargo / Luggage Weight (RCLW)	kg	136
Calculated Target Vehicle Test Weight (TVTW)	kg	2051

(A)
 (B)
 (C)
 (A+B+C)

Does the measured As Test Vehicle Weight lie within the required weight range

(i.e. Calculated Test Vehicle Target Weight – 4.5 kg to – 9 kg)? ☒ Yes ☐ No

TEST VEHICLE ATTITUDES AND CG

Measurement Description	Units	Fully Loaded	As Tested	Meets Requirement**
LF	mm	894	894	Yes
RF	mm	912	910	Yes
RR	mm	930	929	Yes
LR	mm	911	908	Yes
Vehicle CG (Aft of Front Axle)	mm	1554	1556	
Vehicle CG (Left(+)/Right(-) from Longitudinal Centerline)	mm	49.5	48	

*** The "As Tested" vehicle attitude measurements must be equal to or within ± 10mm of the "Fully Loaded" vehicle attitude measurements at each wheel well. Indicate "Yes" or "No" for "Meets Requirements".

Test height adjustable suspension setting, if applicable: N/A

DATA SHEET NO. 1 ... (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle:	<u>2015 Chevrolet Colorado Extended Cab Pickup</u>	NHTSA No.:	<u>M20150114</u>
Test Program:	<u>NCAP Side MDB Impact Test</u>	Test Date:	<u>2/6/2015</u>

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Jack	3
Passenger Side Windows	3
Ballast / Equipment Added	78

DATA SHEET NO. 2
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: <u>2015 Chevrolet Colorado Extended Cab Pickup</u>	NHTSA No.: <u>M20150114</u>	
Test Program: <u>NCAP Side MDB Impact Test</u>	Test Date: <u>2/6/2015</u>	

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the mid-track, lowest, mid-angle position. The struck-side rear passenger's seat, rear center seat, and non-struck side rear passengers' seats should be set to the rear-most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	18.7	13.9	16.3
Front Passenger Seat	-	Not Adjustable	-
Front Center Seat*			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat*	Fixed	Fixed	Fixed

**if applicable*

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRП Height (mm)	SCRП Height Position	SCRП Height (mm)		
				Rearmost	Mid- Fore/Aft	Forward- Most
Driver Seat	16.3	7	Max	54	60	66
			Mid	27	34	40
			Min	0	7	13
Front Passenger Seat	Not Adjustable		Max	-	-	-
			Mid	-	-	-
			Min	-	-	-
Front Center Seat*	N/A	N/A	Max	-	-	-
			Mid	-	-	-
			Min	-	-	-
Struck Side Rear Seat	Fixed	Fixed	Max	-	-	-
			Mid	-	-	-
			Min	-	-	-
Non-Struck Side Rear Seat	Fixed	Fixed	Max	-	-	-
			Mid	-	-	-
			Min	-	-	-
Rear Center Seat*	Fixed	Fixed	Max	-	-	-
			Mid	-	-	-
			Min	-	-	-

**if applicable*

DATA SHEET NO. 2 ... (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015

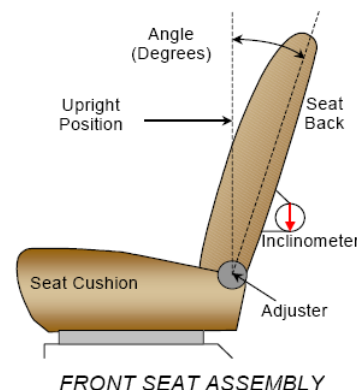
SEAT FORE / AFT POSITION

Seat	Total Fore / Aft Travel		Test Position from Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	235	N/A	117	N/A
Front Passenger Seat	234	N/A	117	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat*	Fixed	Fixed	Fixed	Fixed

**if applicable*

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned to the manufacturer's designated design angle. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck side rear seat back is positioned such that the dummy's head is level. The rear center and non-struck side rear outboard seat backs are positioned in a similar manner as the struck-side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degrees	Detents*
Driver Seat w/ Seated Dummy	-35.9 to 41.5	N/A	3.2	N/A
Front Passenger Seat	-38.5 to 40.6	N/A	2.5	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat w/ Seated Dummy	FIXED	FIXED	FIXED	FIXED
Non-Struck Side Rear Seat	FIXED	FIXED	FIXED	FIXED
Rear Center Seat*	FIXED	FIXED	FIXED	FIXED

**if applicable*

DATA SHEET NO. 2 ... (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1. For this test zero is defined as the uppermost position.

	Total # of Positions	Placed in Position #
Driver Seat	4	0 – Uppermost
Rear Seat	Not Adjustable	Not Adjustable

HEAD RESTRAINT ADJUSTMENT

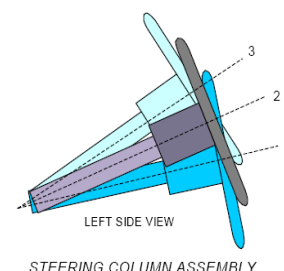
The driver's head restraint is adjusted to the highest and most full forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	8	0 - Uppermost
Rear Seat	2	1 - Lowest

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the center of its geometric locus it describes when it moves through its full range of motion.

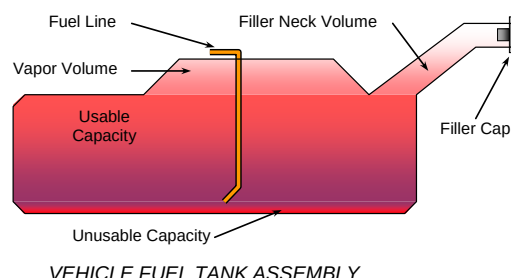
	Degrees	Fore/Aft Position (mm)
Lowermost – Position 1	20.6	
Geometric Center – Position 2	22.2	
Uppermost – Position 3	23.8	
Telescoping Steering Wheel Travel		45
Test Position	22.2	22.5



FUEL PUMP

Describe the fuel pump type, details about how it operates, and the location of the fuel filler neck.

The vehicle is equipped with an electric fuel pump. The fuel filler neck is on the left side of the vehicle. The pump creates positive pressure in the fuel lines, pushing the gasoline to the engine. See form 1 for more information.



DATA SHEET NO. 2 ... (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: <u>2015 Chevrolet Colorado Extended Cab Pickup</u>	NHTSA No.: <u>M20150114</u>	
Test Program: <u>NCAP Side MDB Impact Test</u>	Test Date: <u>2/6/2015</u>	

FUEL TANK CAPACITY

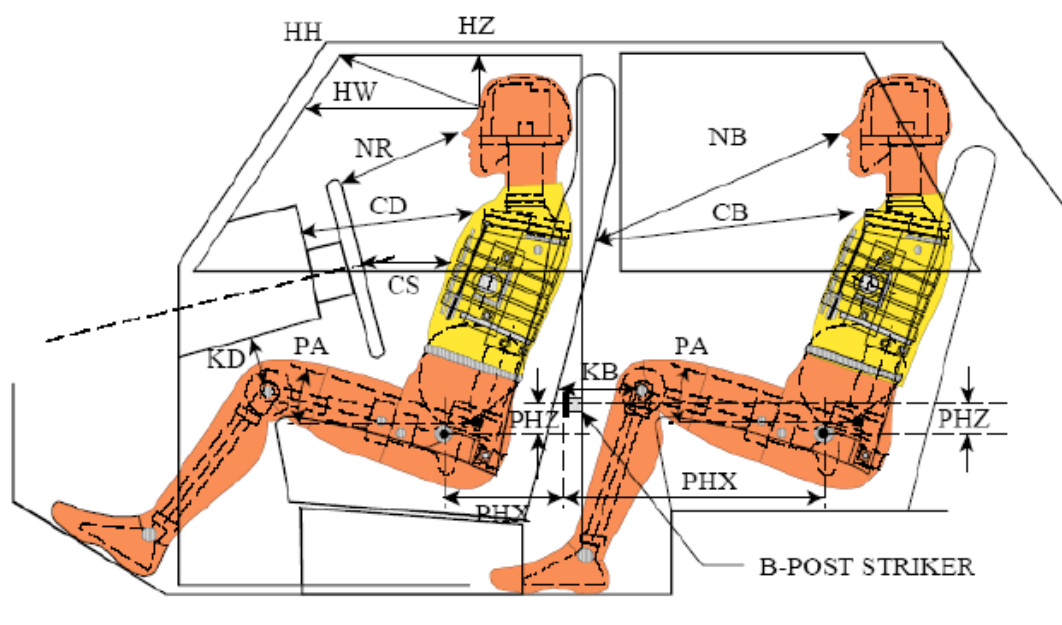
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	80
Usable Capacity of "Optional Tank" (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner's Manual)	80
Usable Capacity of Optional Tank (see Owner's Manual)	N/A
93% of Usable Capacity	74.4
Actual Amount of Solvent Used in Test	74.4
1/3 of Usable Capacity	26.7

Is the Actual Amount of Solvent Used in the test equal to 93% $\pm$ 1% of the Usable Capacity stated in Form No. 1? ☒ **Yes** ☐ **No**

DATA SHEET NO. 3 DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
Test Date: 2/6/2015



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

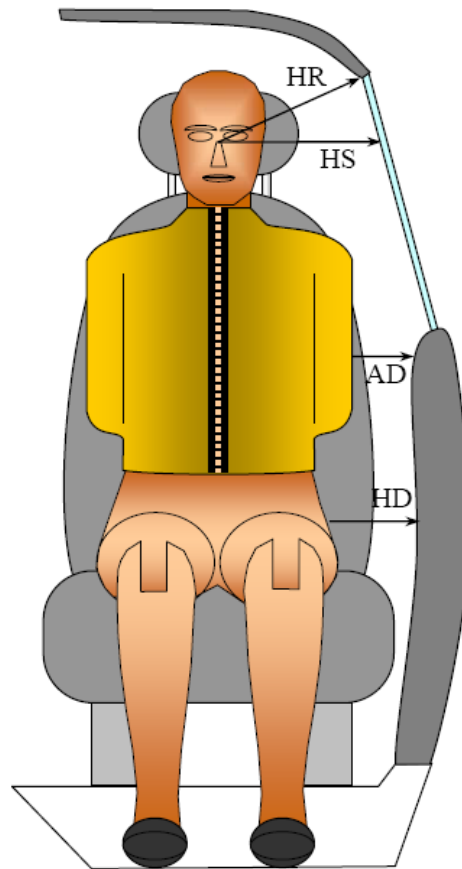
DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Pass. Code	Description	Driver (Serial No. F034)		Passenger (Serial No. 303)	
			Length (mm)	Angle	Length (mm)	Angle
HH		Header to Header	465			
HW		Header to Windshield	664			
HZ	HZ	Head to Roof Liner	198		240	
NR	NB	Nose to Rim/Seat Back	470		218	
CD	CB	Chest to Dash/Seat Back	605		195	
CS		Chest to Steering Wheel	428			
KD(L)/KDA(L)°	KB(L)/KBA(L)°	Left Knee to Dash/Seat Back	190	22.8	55	26.5
KD(R)/KDA(R)°	KB(R)/KBA(R)°	Right Knee to Dash/Seat Back	185	26.2	55	25.9
PAX°	PAX°	Pelvic Tilt Angle X		22.0		8.2
	PAY°	Pelvic Tilt Angle Y				0.3
PHX	PHX	Hip Point to Striker (X-Axis)	179		466	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	108		46	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015



FRONT VIEW OF DUMMY

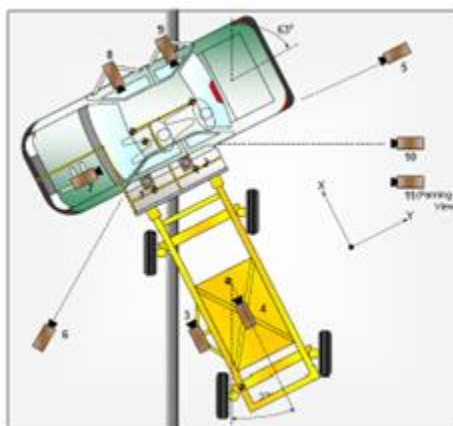
DUMMY LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver (Serial No. F034)	Passenger (Serial No. 303)
HR	Head to Side Header	mm	184	255
HS	Head to Side Window	mm	325	384
AD	Arm to Door	mm	102	180
HD	Hip Point to Door	mm	155	162

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015



CAMERA LOCATIONS AND DATA

No.	Camera View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1	Overhead Overall	240	789	-5320	14	1000
2	Overhead Close-up	-218	682	-5320	28	1000
3	Left Impact Point (MDB)	-1470	0	-847	25	1000
4	Side Overall (MDB)	-1140	838	-1587	12.5	1000
5	Rear	0	9816	-1409	24	1000
6	Left Front	-2241	-3736	-1378	24	1000
7	Driver Front (OB)				25	1000
8	Driver Side (OB)				12.5	1000
9	Passenger Side (OB)				12.5	1000
10	Real-time Left Rear				Zoom	60
11	Real-time In run				Zoom	60

Notes: *Reference: Impact Point projected to Ground*
 +X = To Front of MDB, +Y = To Right of MDB, +Z = Down
 *All measurements accurate to ± 6 mm.

If applicable, explain why camera(s) did not operate as intended: All cameras operated normally

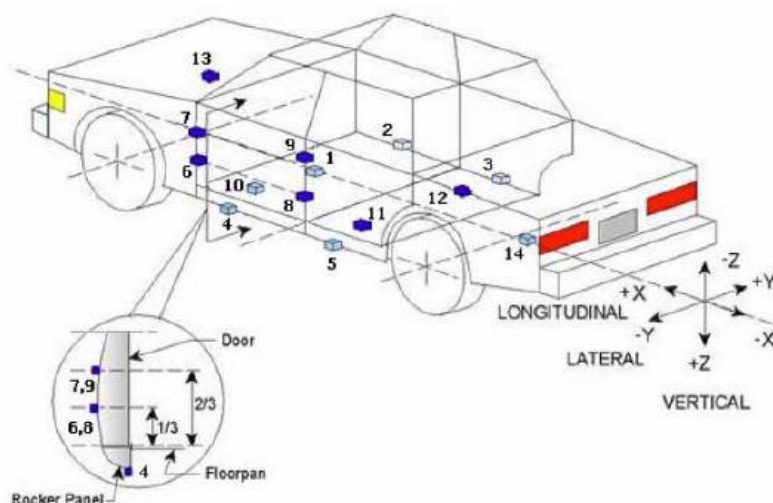
INSTRUMENTATION

Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	23
MDB Accelerometers	7
Total	62

DATA SHEET NO. 6 **TEST VEHICLE ACCELEROMETER LOCATIONS**

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015



TEST VEHICLE ACCELEROMETER LOCATIONS

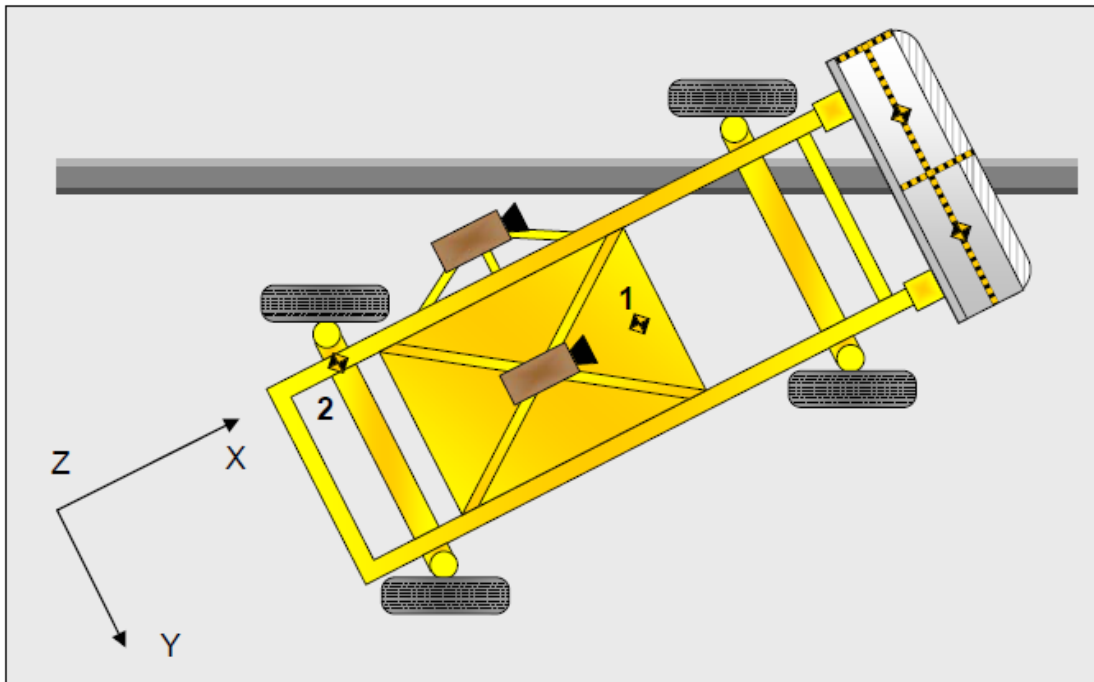
No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	3157	24	-276
2	Right Sill at Front Seat	3648	687	-10
3	Right Sill at Rear Seat	2699	675	-17
4	Left Sill at Front Door	3446	-654	3
5	Left Sill at Rear Door	2667	-641	-17
6	A-Post Lower	3818	-645	-255
7	A-Post Middle	3834	-643	-767
8	B-Post Lower	2880	-650	-99
9	B-Post Middle	2856	-667	-449
10	Front Seat Track	3030	-546	-58
11	Rear Seat Structure	2251	-546	-237
12	Rt. Rear Occ. Compartment	2813	402	-17
13	Engine Block	4511	13	-541
14	Rear Above Axle	1515	15	-269

Reference: X – Rear surface of vehicle (+ forward)
 Y – Vehicle centerline (+ to right)
 Z – Ground plane (+ down)

DATA SHEET NO. 7
MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015



MDB ACCELEROMETER LOCATIONS

No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	MDB CG	1859	0	-330
2	MDB Rear	386	-660	-660

Reference: X – Face of MDB (+ forward)
 Y – MDB centerline (+ to right)
 Z – Ground plane (+ down)

**DATA SHEET NO. 8
POST-TEST OBSERVATIONS**

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
Test Date: 2/6/2015

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Front Seat Dummy (ES-2re)	Rear Seat Dummy (SID-IIs)
Face	Side Headliner	Curtain Airbag
Top of Head	Side Headliner	Side Headliner & Curtain Airbag
Left Side of Head	Side Headliner & Curtain Airbag	Curtain Airbag
Back of Head	Side Headliner, Headrest & Curtain Airbag	Side Headliner & Curtain Airbag
Left Shoulder	Curtain Airbag & Driver's Door	Passenger Door & Curtain Airbag
Upper Torso	Seatback & Torso/Pelvis Airbag	Passenger Door
Lower Torso	Seatback & Torso/Pelvis Airbag	Passenger Door
Left Hip	Seatpan & Torso/Pelvis Airbag	Passenger Door
Left Knee	Driver's Door	Passenger Door

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/ Other
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Width of Opening at Striker (mm)	0	0	0	0	0

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	No	No	No
Seat Disengagement from Floor Pan	No	No	No	No
Seat Back Movement from Initial Position	No	No	No	No
Seat Back Collapse	No	No	No	No

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Remained in Good Condition
Sill Separation	None
Windshield Damage	None
Side Window Damage	None
Other Notable Effects	None

DATA SHEET NO. 8 ... (CONTINUED)
POST-TEST OBSERVATIONS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No	N/A		
Side Airbag 1 - Curtain	Yes	Yes	Yes	Yes
Side Airbag 2 – Torso/Pelvis Airbag	Yes	Yes	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
Seat Belt Load Limiter	Yes	Yes	No	N/A
Other				

IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		3267
Vertical Impact Reference Line (Aft of Front Axle - Intended Impact Point)	mm		510
Actual Impact Point (Aft of Frontal Axle)	mm		498
Horizontal Offset (+ forward / - rearward)	mm	+/- 50 of Intended Impact Point	+12
Vertical Offset (+ down / - up)	mm	+/- 20 of Intended Impact Point	-11

DATA SHEET NO. 9
MDB SUMMARY OF RESULTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab
Pickup

NHTSA No.: M20150114

Test Program: NCAP Side MDB Impact Test

Test Date: 2/6/2015

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1,250
Overall Length Including Honeycomb Frame	4,120
Wheelbase of Framework Carriage	2,600
CG Location of Front Axle	1,120

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	392.5	297.5	690.0
Right	kg	386.0	291.5	677.5
Ratio	%	57.4%	42.6%	100.0%
Totals	kg	778.5	589.0	1367.5

SPEED AND ANGLE AT IMPACT DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.10 to 62.70	62.07
Trap No. 2 Velocity (Redundant)	km/h	61.10 to 62.70	62.07
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.5
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	63.0
MDB Crabbed angle to MDB Forward Line of Motion	degrees	26.0 to 28.0	27.0

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Vertical Location			From Centerline		Maximum Crush (mm)
Row	Description	Height (mm)	Distance (mm)	Direction	
A	Center of Bumper	432	800	Left	186
B	Top of Bumper	533	800	Left	176
C	Mid-Level	686	800	Left	153
D	Top of Stack	813	800	Left	189

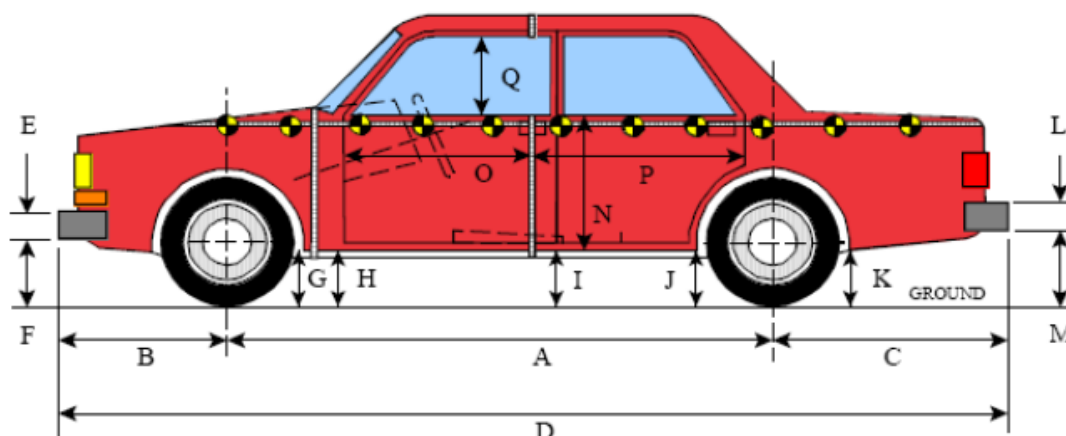
DATA SHEET NO. 10
TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab
Pickup

NHTSA No.: M20150114

Test Program: NCAP Side MDB Impact Test

Test Date: 2/6/2015



LEFT SIDE VIEW

All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3 mm

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	3267	3249	-18
B	Front Axle to FSOV	954	997	43
C	Rear Axle to RSOV	1190	1157	-34
D	Total Length at Centerline	5402	5402	0
E	Front Bumper Thickness	100	100	0
F	Front Bumper Bottom to Ground	444	439	-5
G	Sill Height at Front Wheel Well	366	364	-2
H	Sill Height at Front Door Leading Edge	366	368	2
I	Sill Height at B Pillar	391	378	-13
J1	Sill Height at Rear Wheel Well	302	298	-4
J2	Pinch Weld Height at Rear Wheel Well	397	397	0
K	Sill Height Aft of Rear Wheel Well	458	482	24
L	Rear Bumper Thickness	220	220	0
M	Rear Bumper Bottom to Ground	470	468	-2
N	Sill Height to Window Bottom of Front Window Sill	753	731	-22
O	Front Door Leading Edge to Impact CL	798	859	61
P	Rear Door Trailing Edge to Impact CL	940	915	-25
Q	Front Window Opening	476	474	-2
R	Right Side Length	5359	5344	-15
S	Left Side Length	5352	5268	-85
T	Maximum Vehicle Width	1771	1682	-88

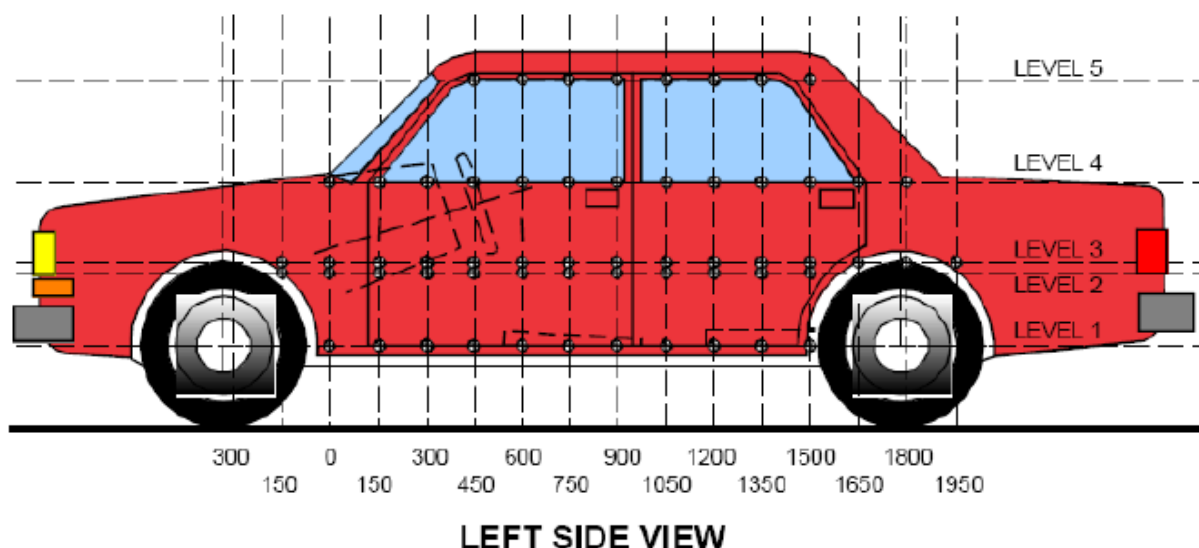
DATA SHEET NO. 11
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab
 Pickup

NHTSA No.: M20150114

Test Program: NCAP Side MDB Impact Test

Test Date: 2/6/2015



MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Units	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	mm	486	193	1650
2	Driver Hip Point	mm	825	180	1500
3	Mid-Door	mm	888	179	1500
4	Window Sill	mm	1184	103	1350
5	Window Top	mm	1746	62	1650

*window top level bent outward from original position

NOTE: The above measurements should be taken along the vertical impact reference line. Vehicle measurements forward of the vertical impact reference line are negative.

DATA SHEET NO. 11 ... (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab
Pickup

NHTSA No.: M20150114

Test Program: NCAP Side MDB Impact Test

Test Date: 2/6/2015

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600				791					863					-72	
-450				802					863					-61	
-300				811					861					-50	
-150		928	928	818			951	955	858			-23	-27	-40	
0	877	882	882	822		872	892	892	852		5	-10	-10	-30	
150	833	861	863	816		784	838	847	837		49	23	16	-21	
300	834	863	865	825		764	826	834	835		70	37	31	-10	
450	833	864	867	834		750	807	819	835		83	57	48	-1	
600	833	864	868	842		735	796	808	829		98	68	60	13	
750	832	865	868	846		720	764	779	819		112	101	89	27	
900	826	859	867	849	608	706	743	769	806	587	120	116	98	43	21
1050	826	860	868	853	620	691	721	752	794	591	135	139	116	59	29
1200	825	859	867	854	622	676	689	723	752	585	149	170	144	102	37
1350	824	858	866	855	622	661	689	697	752	577	163	169	169	103	45
1500	823	856	864	856	623	645	676	685	757	569	178	180	179	99	54
1650	822	854	861	856	621	629	711	724	766	559	193	143	137	90	62
1800	823	822	830	832		770	721	733	770		53	101	97	62	
1950	821	845	851	849		805	816	827	841		16	29	24	8	
2100	829	851	856	852		833	843	849	851		-4	8	7	1	
2250		896	890	855			895	885	862			1	5	-7	
2400			928	857				946	866				-18	-9	
2550				857					863					-6	
2700				859					882					-23	
2850				859					879					-20	
3000				859					875					-16	

NOTE: Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition.
Vehicle measurements forward of the vertical impact reference line are negative.
The crush profile grid is established prior to test based on an estimated impact point.

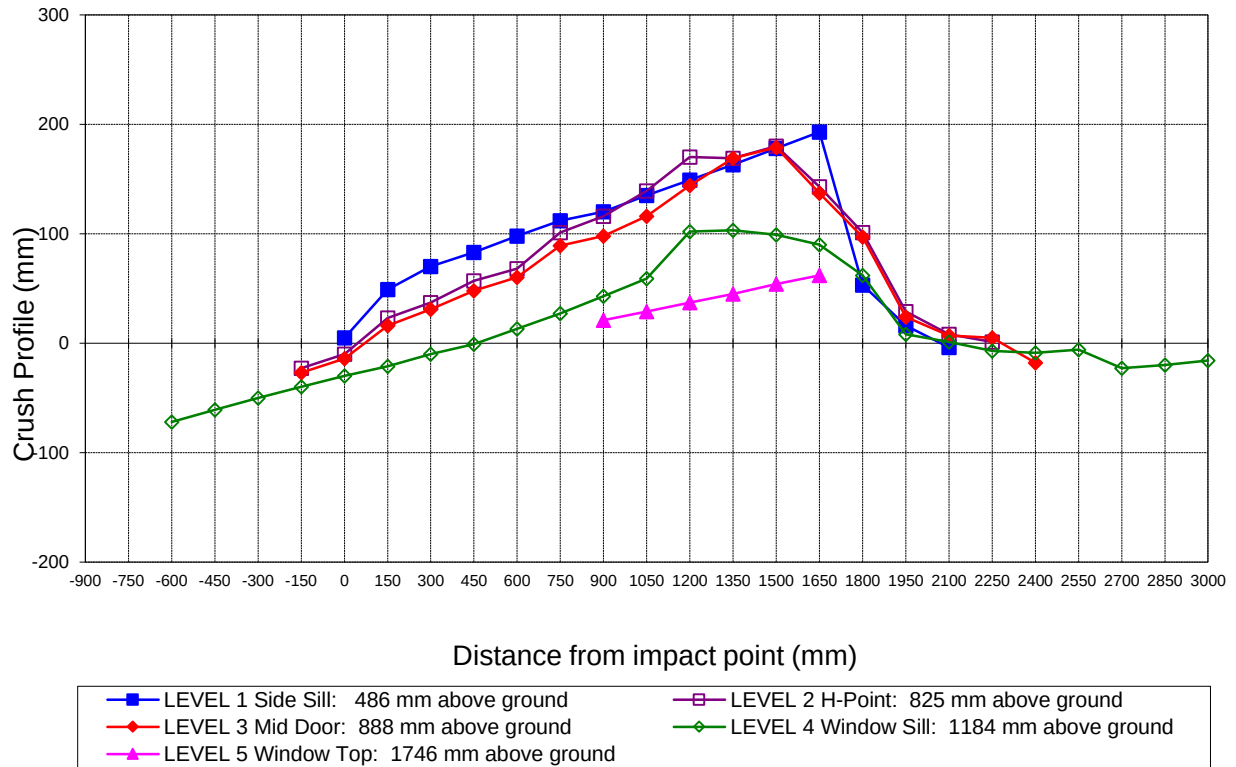
DATA SHEET NO. 11 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab
 Pickup

NHTSA No.: M20150114

Test Program: NCAP Side MDB Impact Test

Test Date: 2/6/2015

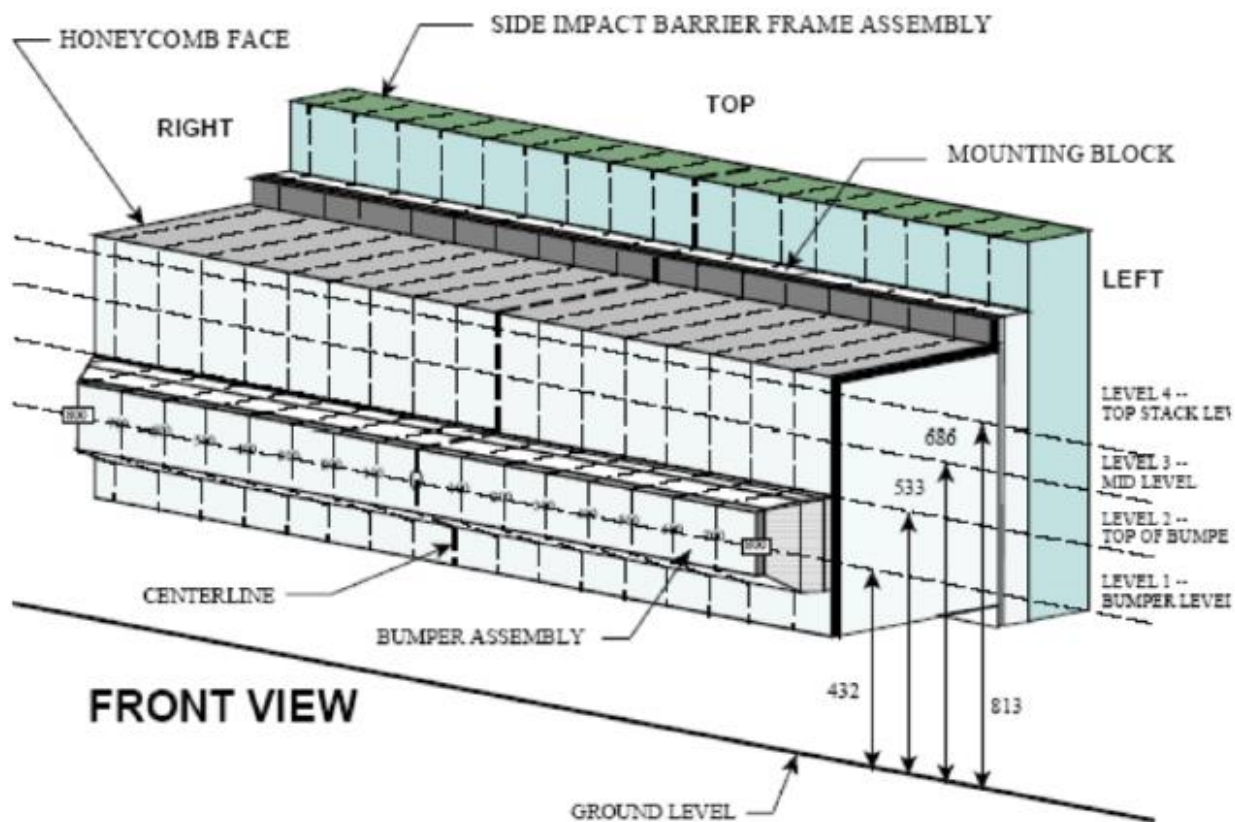


Vehicle Exterior Crush Measurements - Visual Representation

DATA SHEET NO. 12
MDB EXTERIOR STATIC CRUSH MEASUREMENTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015



NOTE: Dimensions are shown in millimeters, mm

DEFORMABLE BARRIER STATIC CRUSH

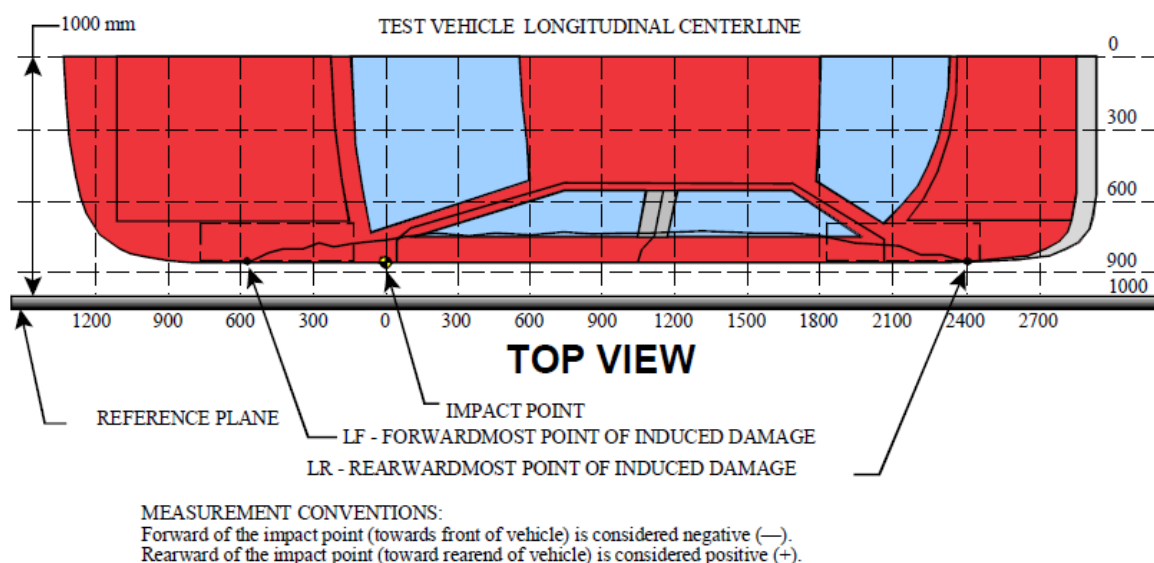
Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	95	97	102	108	113	119	125	132	138	144	149	156	161	168	174	180	186
2	126	128	134	105	97	92	93	96	106	111	117	125	133	141	152	165	176
3	141	135	111	102	90	91	100	100	98	90	102	106	109	116	129	141	153
4	189	172	132	99	73	64	87	64	72	79	86	85	92	103	117	134	157

DATA SHEET NO. 13 **MDB EXTERIOR STATIC CRUSH MEASUREMENTS**

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015

For guidance regarding damage profile distance measurements, please refer to the latest version of the *NHTSA Test Reference Guide, Volume 1: Vehicle Tests*.



VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	-150	3	45	72	-27
2	360	3	172	134	38
3	870	3	229	133	96
4	1380	3	305	134	171
5	1890	3	211	157	54
6	2400	3	54	72	-18

MDB DAMAGE PROFILE DISTANCES

DPD	Distance From Center of MDB	Level	Post-Test (mm)*
1	800 mm left of center	1	186
2	480 mm left of center	1	165
3	160 mm left of center	1	146
4	160 mm right of center	1	129
5	480 mm right of center	1	110
6	800 mm right of center	1	95

DATA SHEET NO. 14
FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup NHTSA No.: M20150114
 Test Program: NCAP Side MDB Impact Test Test Date: 2/6/2015

Test Time: 3:00 PM Temperature: 21°C

- A. From impact until vehicle motion ceases: 0 oz.
 (Maximum allowable is 1 oz.)
- B. For the 5-minute period after motion ceases: 0 oz.
 (Maximum allowable is 5 oz.)
- C. For the following 25 minutes: 0 oz.
 (Maximum allowable is 1 oz./minute)
- D. Spillage Details: No Spillage Occurred

FMVSS NO. 301 STATIC ROLLOVER DATA



ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	70	300	370
90° to 180°	69	300	369
180° to 270°	72	300	372
270° to 360°	68	300	368

FMVSS NO. 301 ROLLOVER SPILLAGE TABLE

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0	0	0	
90° to 180°	0	0	0	
180° to 270°	0	0	0	
270° to 360°	0	0	0	

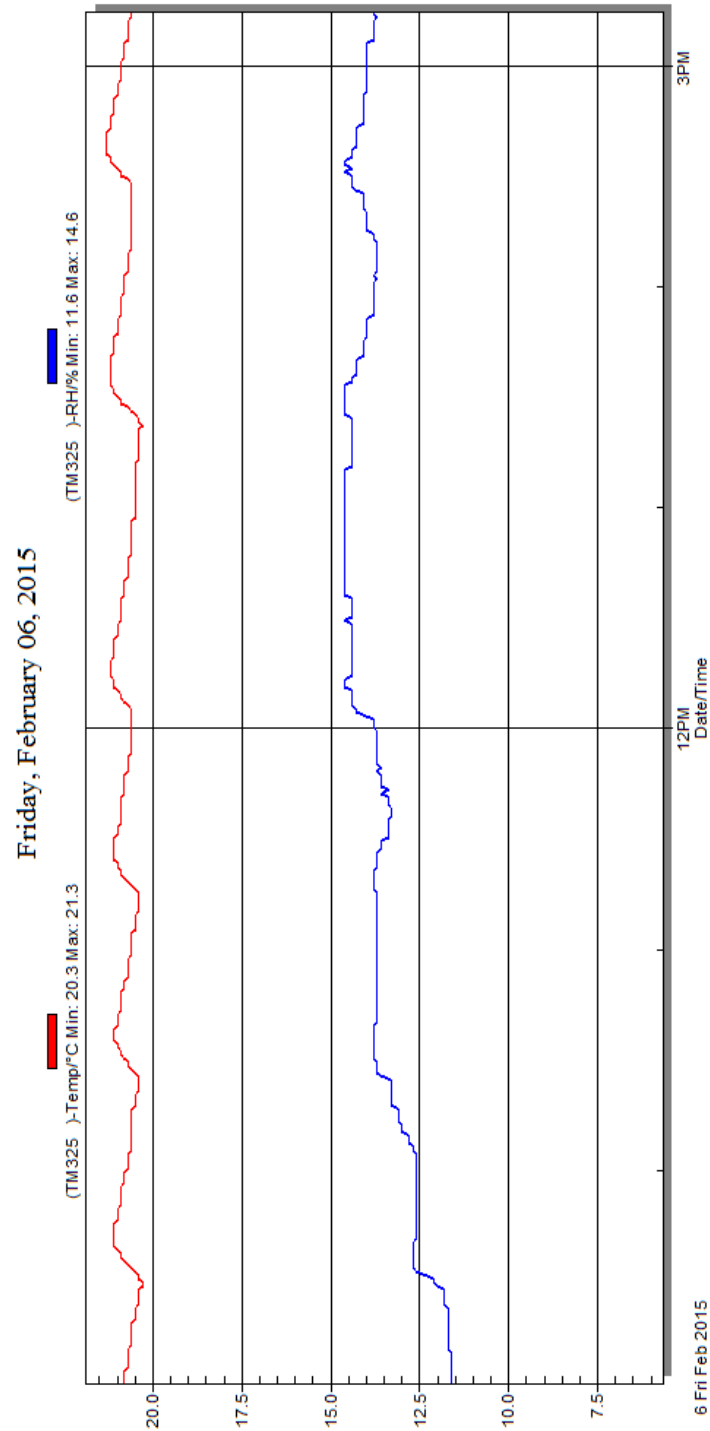
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	None
90° to 180°	None
180° to 270°	None
270° to 360°	None

DATA SHEET NO. 15
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA

Test Vehicle: 2015 Chevrolet Colorado Extended Cab Pickup
 Test Program: NCAP Side MDB Impact Test

NHTSA No.: M20150114
 Test Date: 2/6/2015



Temperature and Humidity Stabilization Chart/Data for Dummies and Test Vehicle

APPENDIX A
PHOTOGRAPHS

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Figure A-1: As-Delivered Right Front 3/4 View of Test Vehicle



Figure A-2: As-Delivered Left Rear 3/4 View of Test Vehicle

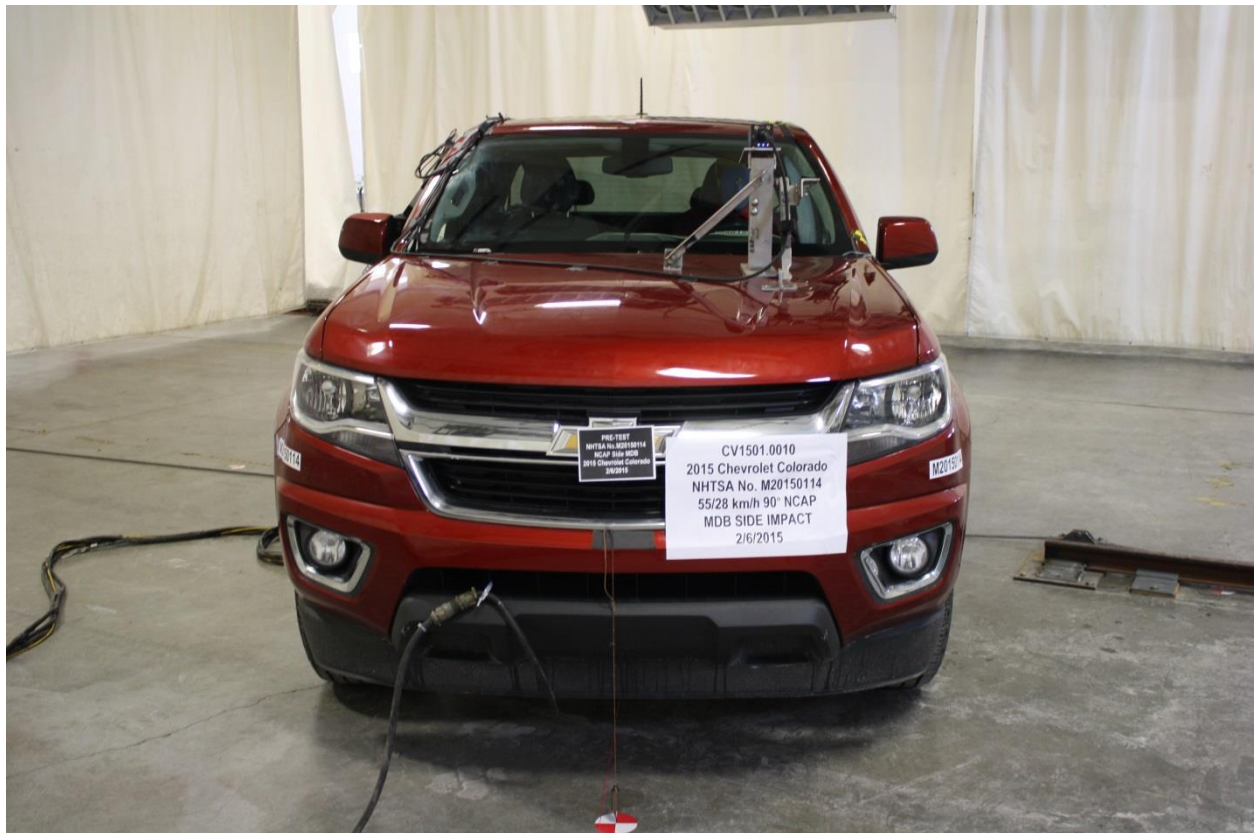


Figure A-3: Pre-Test Frontal View of Test Vehicle



Figure A-4: Post-Test Frontal View of Test Vehicle



Figure A-5: Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle

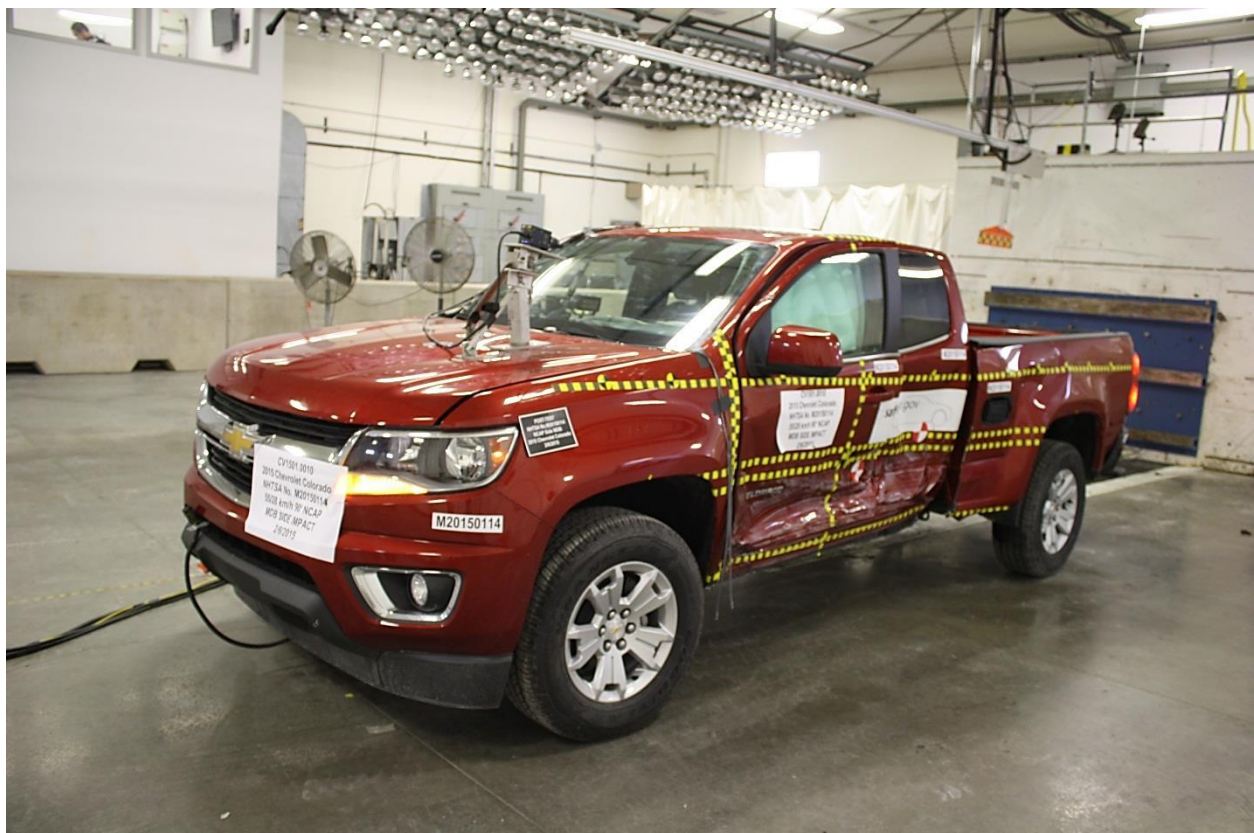


Figure A-6: Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle



Figure A-7: Pre-Test Left Side View of Test Vehicle



Figure A-8: Post-Test Left Side View of Test Vehicle



Figure A-9: Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



Figure A-10: Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



Figure A-11: Pre-Test Rear View of Test Vehicle



Figure A-12: Post-Test Rear Side View of Test Vehicle



Figure A-13: Pre-Test Right Side View of Test Vehicle



Figure A-14: Post-Test Right Side View of Test Vehicle

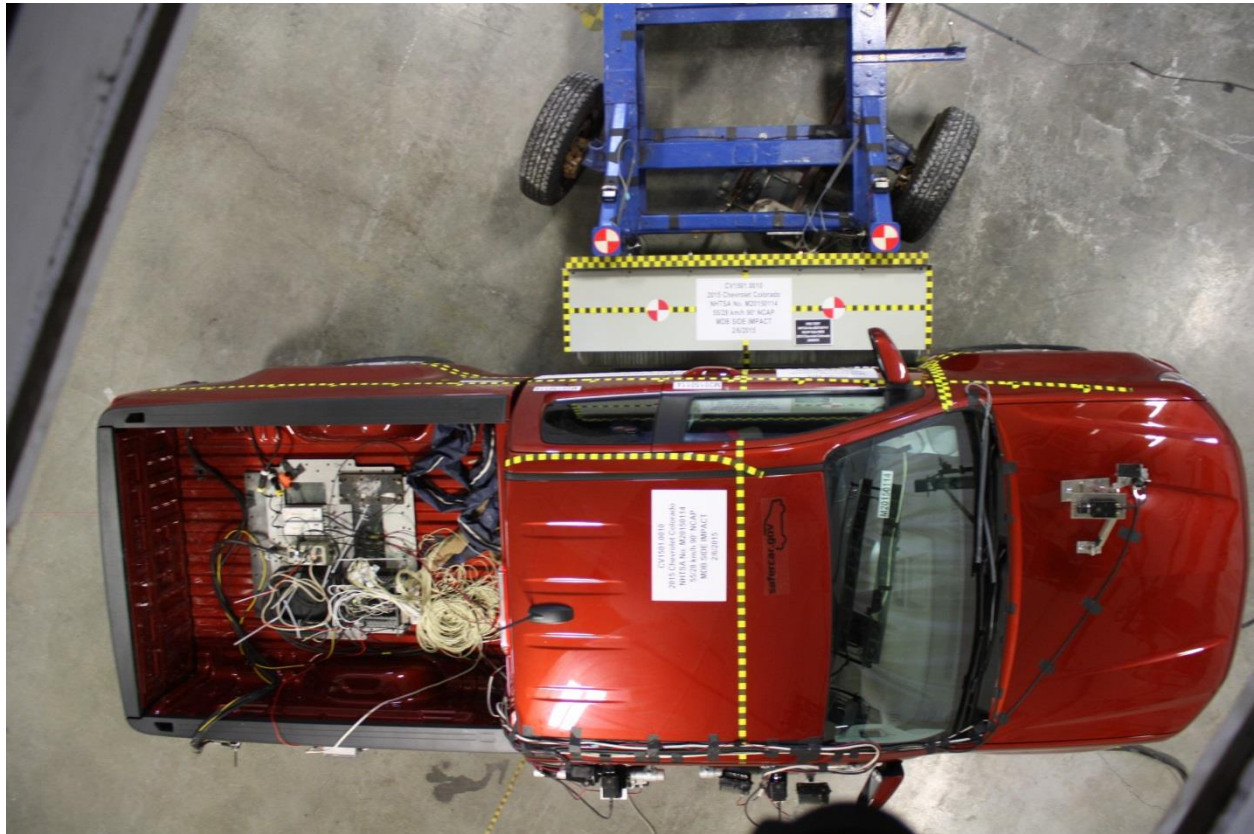


Figure A-15: Pre-Test Overhead View of the Test Area



Figure A-16: Post-Test Overhead View of Test Area



Figure A-17: Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle



Figure A-18: Pre-Test Right Side View of MDB Positioned Against Side of Test Vehicle



Figure A-19: Pre-Test Close-up View of Impact Point Target



Figure A-20: Post-Test Close-up View of Impact Point Target



Figure A-21: Pre-Test Left Front Door Latch Close-Up



Figure A-22: Post-Test Left Front Door Latch Close-Up

Photo Not Applicable

Figure A-23: Pre-Test Left Rear Door Latch Close-Up

Photo Not Applicable

Figure A-24: Post-Test Left Rear Door Latch Close-Up



Figure A-25: Pre-Test Front Close-up View of Driver Dummy



Figure A-26: Post-Test Front Close-up View of Driver Dummy



Figure A-27: Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking



Figure A-28: Pre-Test Left Side View of Driver Dummy Shoulder and Door Top View



Figure A-29: Post-Test Left Side View of Driver Dummy Shoulder and Door Top View



Figure A-30: Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning

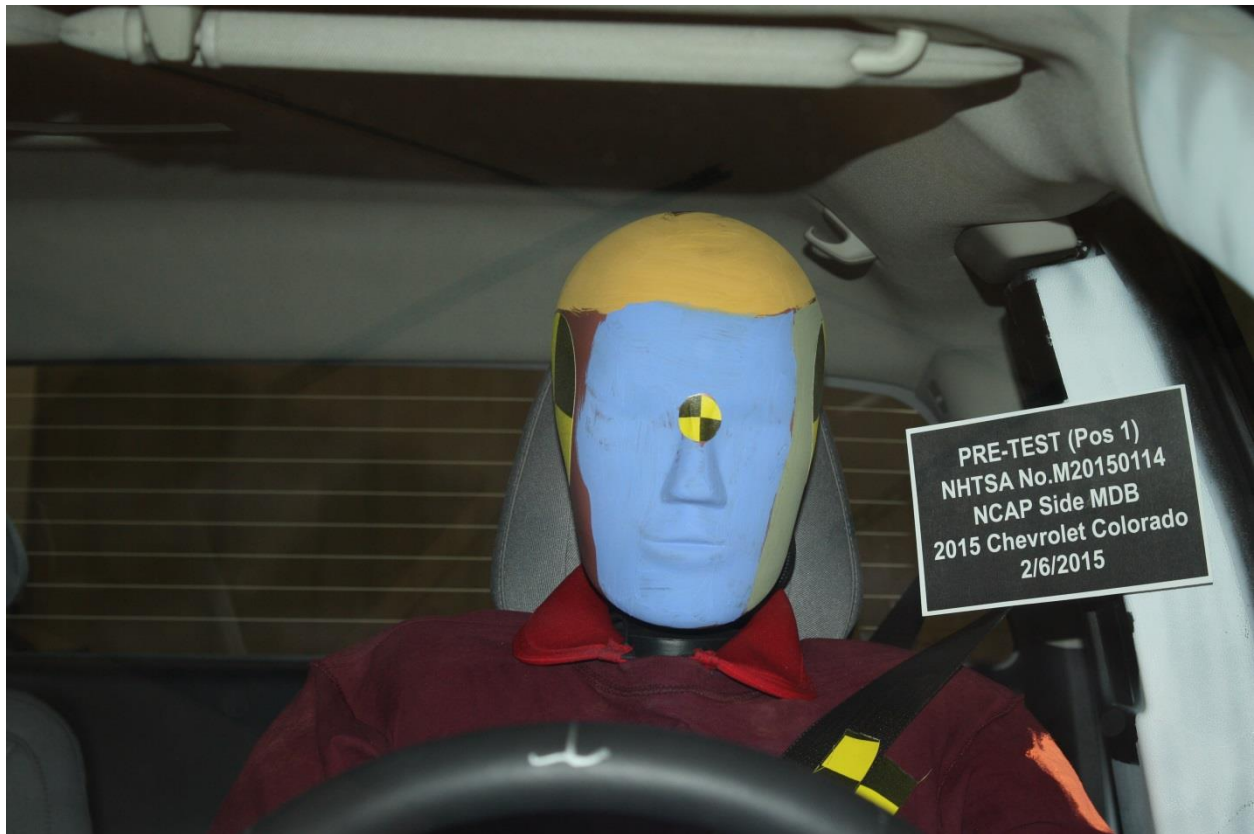


Figure A-31: Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



Figure A-32: Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning



Figure A-33: Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan

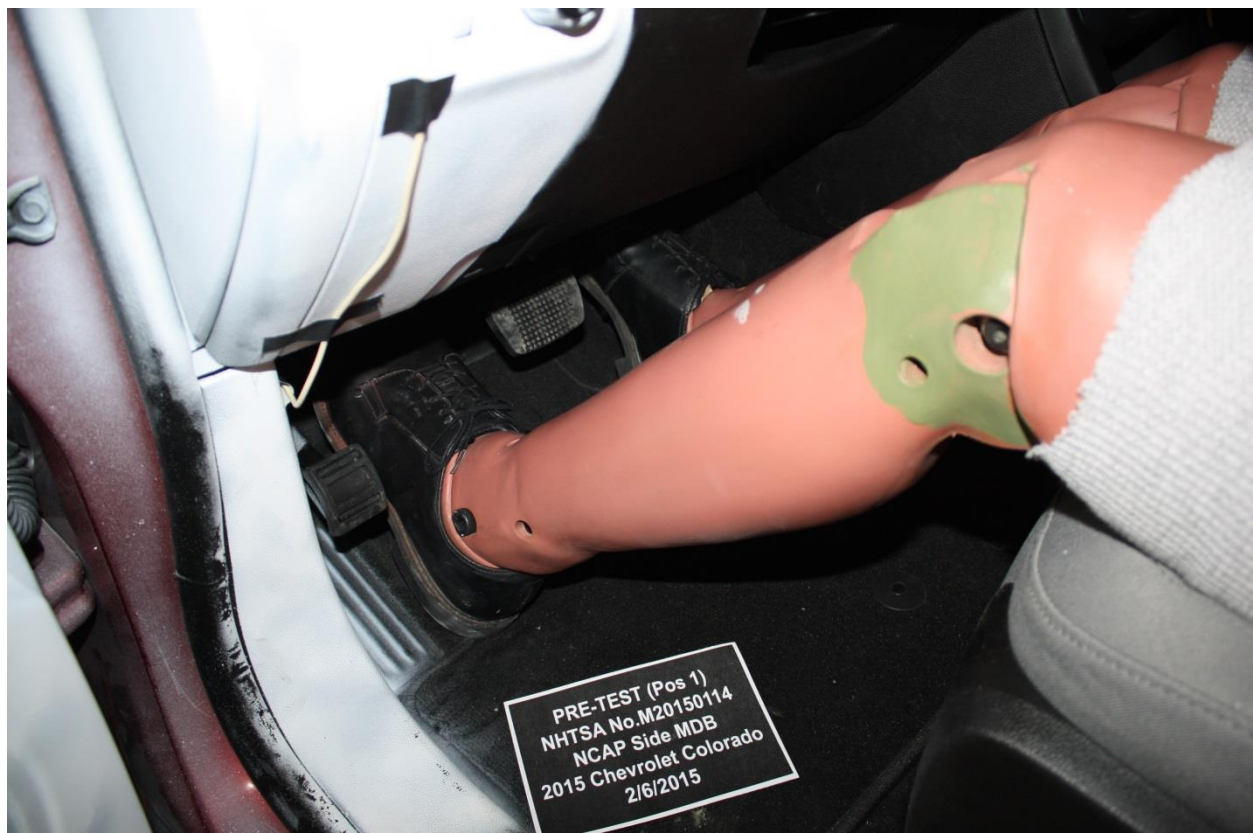


Figure A-34: Pre-Test Placement of Driver Dummy's Feet



Figure A-35: Pre-Test View of Belt Anchorage for Driver Dummy



Figure A-36: Pre-Test Left Side View of Steering Wheel

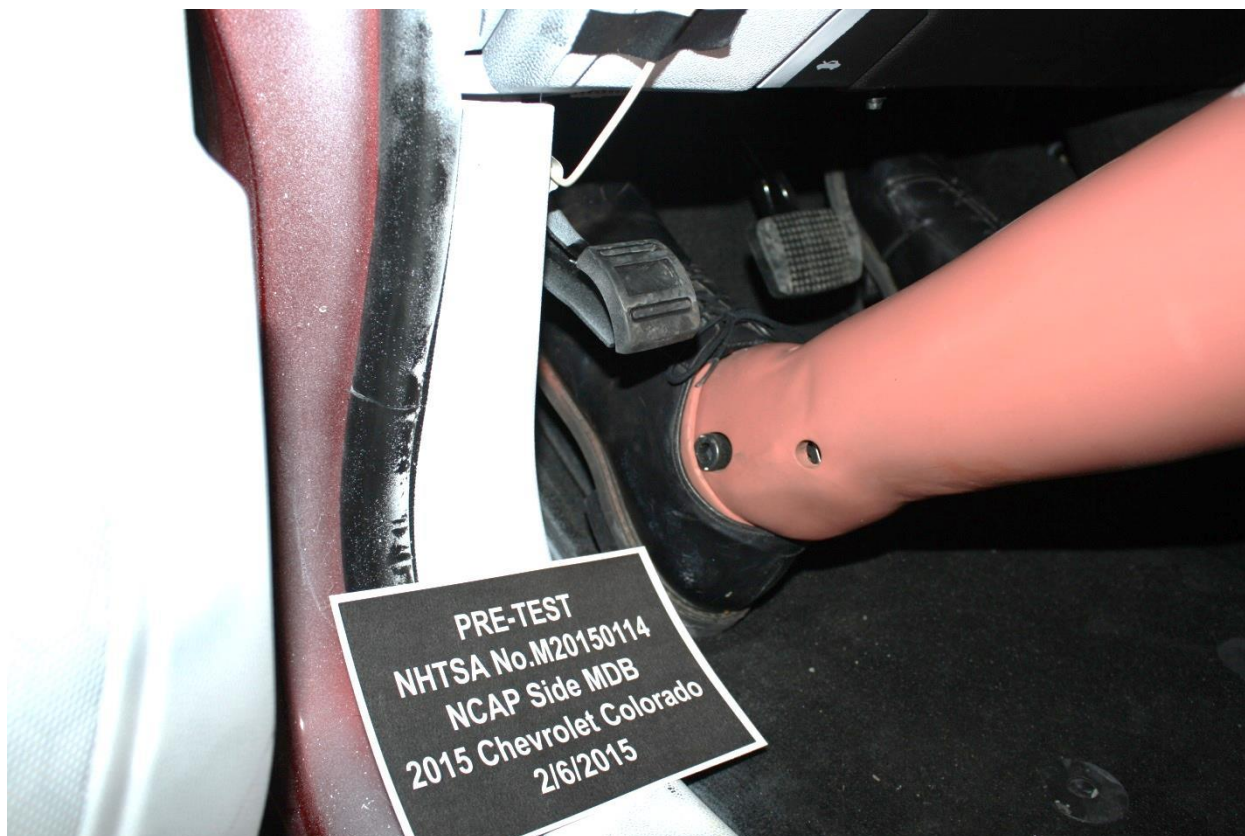


Figure A-37: View of Disengaged Parking Brake



Figure A-38: Pre-Test View of Parking Brake



Figure A-39: Pre-test Close-Up Left Side View of Driver Seat Track



Figure A-40: Pre-Test Close-Up Left Side View of Driver Seat Back



Figure A-41: Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Figure A-42: Pre-Test Driver Dummy and Door Clearance View



Figure A-43: Post-Test Driver Dummy and Door Clearance View



Figure A-44: Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Figure A-45: Post-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Figure A-46: Pre-Test Driver Inner Door Panel View



Figure A-47: Post-Test Driver Inner Door Panel View

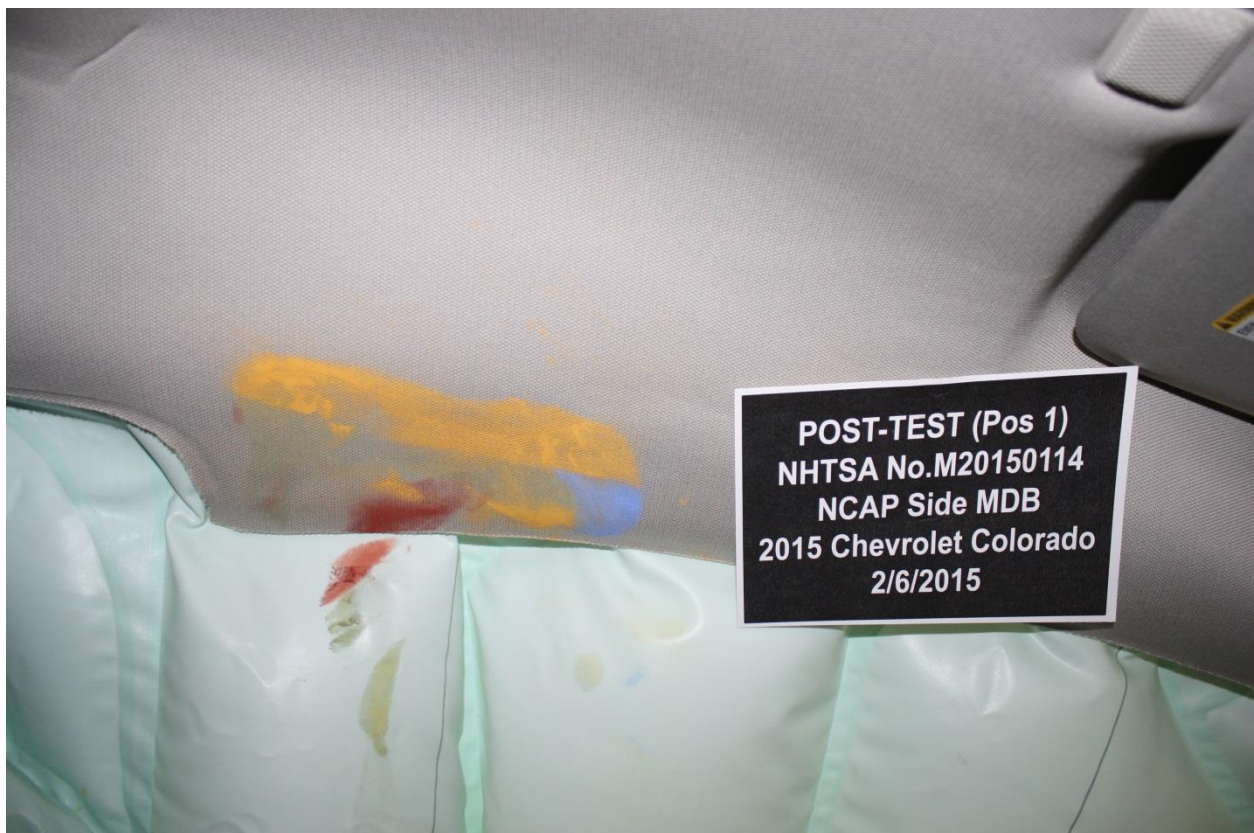


Figure A-48: Post-Test Driver Dummy Close-Up Head Contact with Vehicle View



Figure A-49: Post-Test Driver Dummy Close-Up Head Contact with Side Airbag View



Figure A-50: Post-Test Driver Dummy Close-Up Torso Contact with Vehicle Interior View



Figure A-51: Post-Test Driver Dummy Close-Up Torso Contact with Side Airbag View



Figure A-52: Post-Test Driver Dummy Close-Up Pelvis Contact View



Figure A-53: Post-Test Driver Dummy Close-Up Pelvis Contact with Side Airbag View



Figure A-54: Post-Test Driver Dummy Close-Up Knee Contact View



Figure A-55: Pre-Test Left Side View of Passenger Dummy Showing Belt and Chalking



Figure A-56: Pre-Test Left Side View of Passenger Dummy Shoulder and Door Top View



Figure A-57: Post-Test Left Side View of Passenger Dummy Shoulder and Door Top View



Figure A-58: Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning

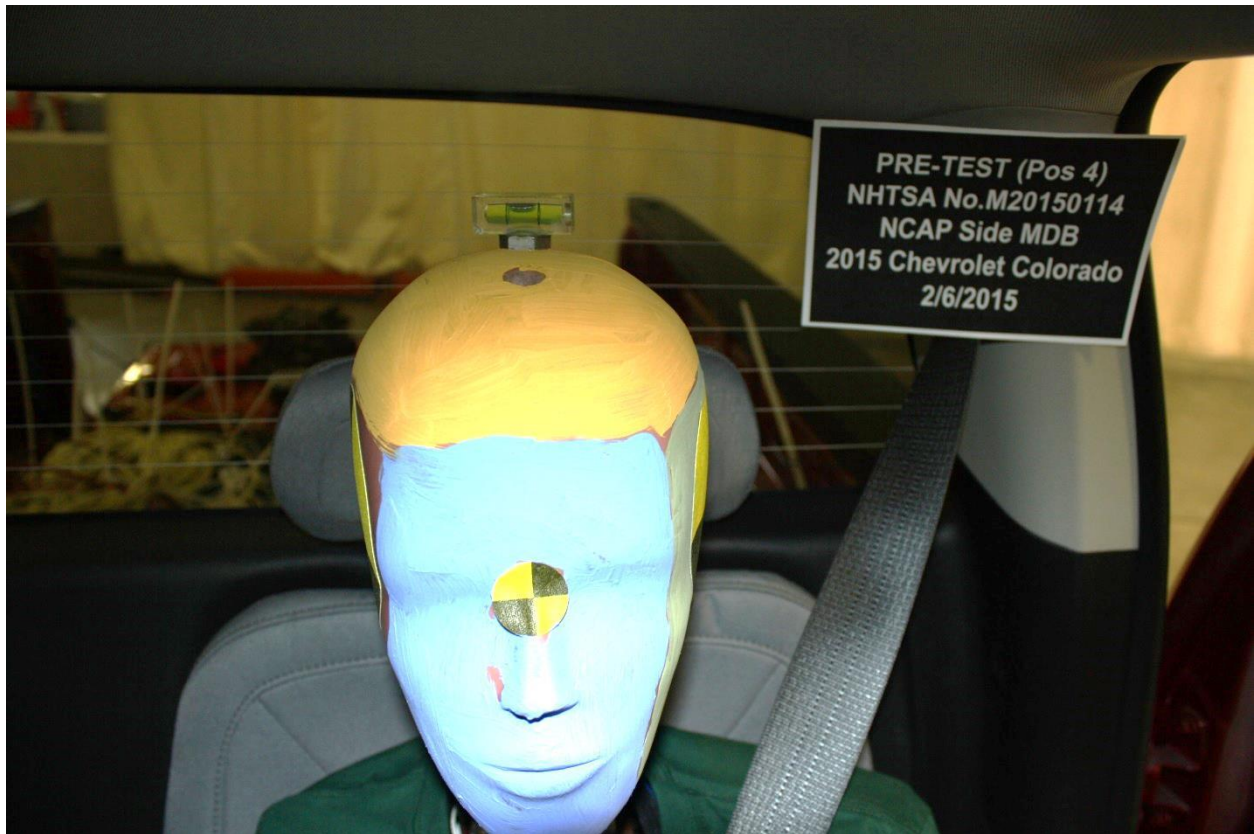


Figure A-59: Pre-Test Frontal View of Rear Passenger Dummy Head and Shoulders in Relation to Head Restraint



Figure A-60: Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning



Figure A-61: Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan



Figure A-62: Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket



Figure A-63: Pre-Test View of Rear Passenger Dummy's Head Showing Dummy's Head is Level



Figure A-64: Pre-Test Placement of Rear Passenger Dummy's Feet



Figure A-65: Pre-Test View of Belt Anchorage for Rear Passenger Dummy



Figure A-66: Pre-Test Close-Up Left Side View of Rear Passenger Seat Track



Figure A-67: Pre-Test Close-Up Left Side View of Rear Passenger Seat Back



Figure A-68: Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint



Figure A-69: Pre-Test Passenger Dummy and Door Clearance View



Figure A-70: Post-Test Passenger Dummy and Door Clearance View



Figure A-71: Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Figure A-72: Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Figure A-73: Pre-Test Passenger Inner Door Panel View



Figure A-74: Post-Test Passenger Inner Door Panel View



Figure A-75: Post-Test Rear Passenger Dummy Close-Up Head Contact with Vehicle View



Figure A-76: Post-Test Rear Passenger Dummy Close-Up Head Contact with Side Airbag View

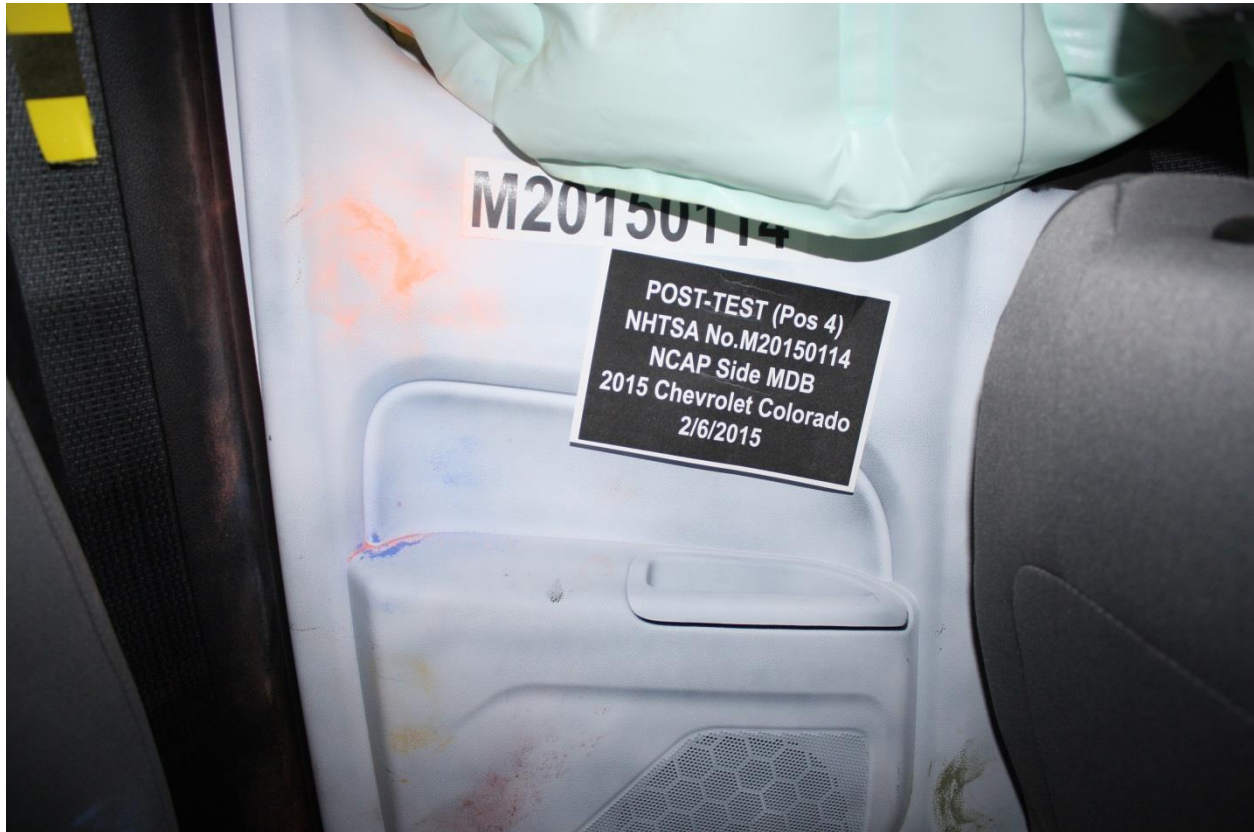


Figure A-77: Post-Test Rear Passenger Dummy Close-Up Torso Contact with Vehicle Interior View

Photo Not Applicable

Figure A-78: Post-Test Rear Passenger Dummy Close-Up Torso Contact with Side Airbag View



Figure A-79: Post-Test Rear Passenger Dummy Close-Up Pelvis Contact View

Photo Not Applicable

Figure A-80: Post-Test Rear Passenger Dummy Close-Up Pelvis Contact with Side Airbag View



Figure A-81: Post-Test Rear Passenger Dummy Close-Up Knee Contact View



Figure A-82: Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



Figure A-83: Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Figure A-84: Pre-Test Front View of MDB Impactor Face



Figure A-85: Post-Test Front View of MDB Impactor Face



Figure A-86: Pre-Test Top View of MDB Impactor Face



Figure A-87: Post-Test Top View of MDB Impactor Face



Figure A-88: Pre-Test Left Side View of MDB Impactor Face



Figure A-89: Post-Test Left Side View of MDB Impactor Face



Figure A-90: Pre-Test Right Side View of MDB Impactor Face



Figure A-91: Post-Test Right Side View of MDB Impactor Face



Figure A-92: Close-Up View of Vehicle's Certification Label



Figure A-93: Close-Up View of Vehicle's Tire Information Placard or Label



Figure A-94: Pre-Test Ballast View



Figure A-95: Post-Test Primary and Redundant Speed Trap Read-Out



Figure A-96: FMVSS No. 301 Static Rollover 0 Degrees

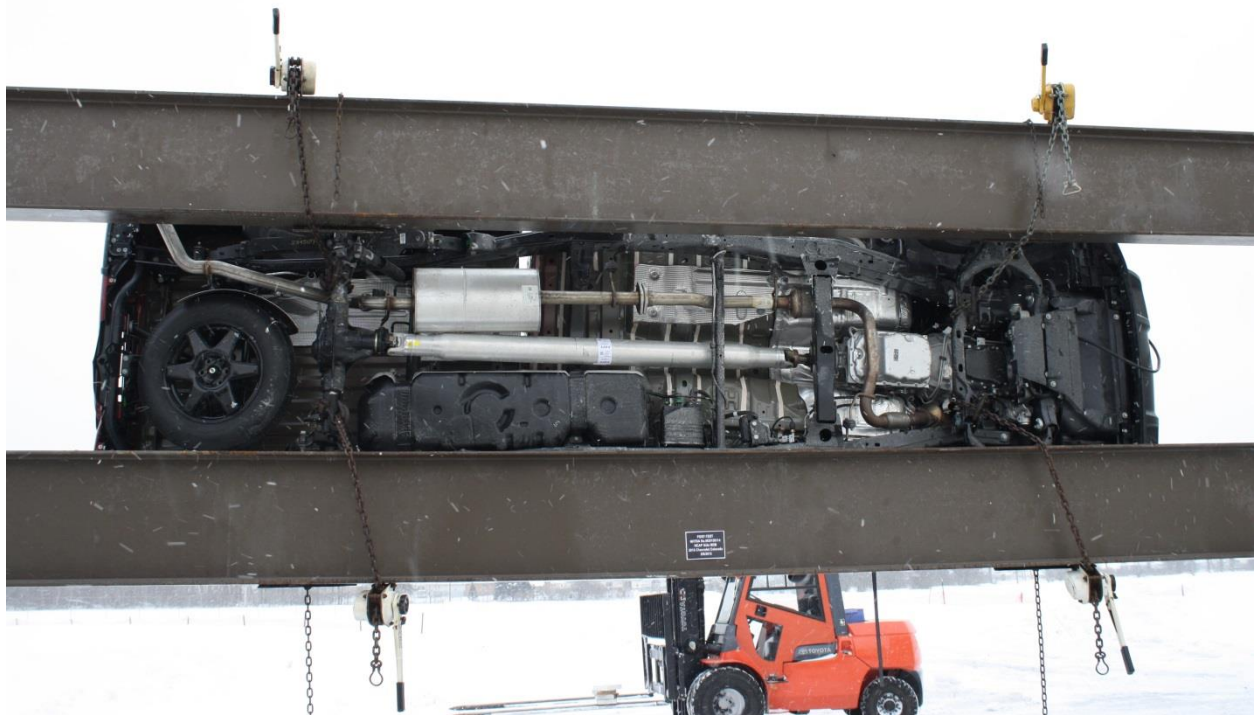


Figure A-97: FMVSS No. 301 Static Rollover 90 Degrees



Figure A-98: FMVSS No. 301 Static Rollover 180 Degrees



Figure A-99: FMVSS No. 301 Static Rollover 270 Degrees



Figure A-100: FMVSS No. 301 Static Rollover 360 Degrees



Figure A-101: Impact Event



CHEVROLET

2015 COLORADO 4WD LT EXT CAB

STANDARD EQUIPMENT
 EXTERIOR: RED ROCK METALLIC
 INTERIOR: JET BLACK / DARK ASH

ENGINE, 2.5L I4, DI, DOHC
 TRANSMISSION, 6-SPD AUTOMATIC

STANDARD EQUIPMENT

(ITEMS FEATURED BELOW ARE INCLUDED AT AN EXTRA CHARGE IN THE STANDARD VEHICLE PRICE SHOWN)

- CHEVROLET COMPLETE CARE
 - * SEE WWW.CHEVY.COM FOR DETAILS
 - FOR TERMS, DETAILS & LIMITS
 - * 2 YR / 24,000 MILE
 - SCHEDULED MAINTENANCE
 - OIL & FILTER CHANGE
 - 4-WHEEL TIRE ROTATION
 - 27 POINT INSPECTION
 - * 3 YR/36,000 MILES
 - BUMPER-TO-BUMPER WARRANTY
 - * 5 YR/100,000 MILES
 - POWERTRAIN LIMITED WARRANTY
 - * ROADSIDE ASSISTANCE
 - * COURTESY TRANSPORTATION

MECHANICAL

- ENGINE, 2.5L I4, DI, DOHC
- VVT
- TRANSMISSION, 6-SPD AUTOMATIC

SAFETY & SECURITY

- REAR VISION CAMERA
- REMOTE KEYLESS ENTRY
- AIRBAGS: DRIVER & RT. FRONT
- PASS - FRONT/SEAT, CURTAIN
- OUTBOARD FRT & REAR SEAT
- SIDE HEAD CURTAIN
- STABILITRAK-STABILITY CONTROL
- SYSTEM W/ TRACTION CONTROL
- BRAKES, 4-WHEEL ANTILOCK
- 4 WHEEL DISC W/ DUAL-LEVER ROTATORS

EXTERIOR

- TAILGATE, LADING
- CERNERSTEP, REAR BUMPER
- DUAL POWER OUTSIDE MIRRORS
- POWER ADJUST, MANUAL FOLD
- HEADLAMPS, HALOGEN
- WHEELS, 17" BLACK SILVER
- METALLIC CAST ALUMINUM
- TIRES, ALL-SEASON, BLACKWALL
- COMPACT SPARE WHEEL/TIRE

INTERIOR

- SEAT ADJUST, DRIVER 4-WAY PWR
- SEATS, DUAL REAR W/ UNDERSEAT STORAGE
- SEATS, FRONT BUCKET
- POWER WINDOW W/ EXPRESS DRIVER UP/DOWN
- COLOR KEYPAD CARPET
- FLOOR MATS, CARPETED FRT/REAR
- AIR CONDITIONING
- AM/FM RADIO, INSIDE RV VIEW
- VISORS, DRIVER & FRONT PASS
- ILLUMINATED VANITY MIRRORS
- CRUISE CONTROL
- STEERING COLUMN, TILT & TELESCOPING
- LEATHER WRAP STEERING WHEEL
- STEERING WHEEL CONTROLS
- CLOTH FRONT & REAR SEATS

CONNECTIVITY FEATURES

- CHEVROLET MYLINK AUDIO SYSTEM
- W/ 8" DIAGONAL COLOR TOUCH

Standard vehicle radio



- ONSTAR(R) 4G LTE W/ FMI
- HOTSPOT W/ 3GB/3MO DATA RTR
- USB PORTS (4)
- 6 MTN ONSTAR(R) DIRECTIONS & CONNECTIONS W/ AUTOMATIC CRASH RESPONSE & TURN-BY-TURN NAV PLUS 5-YEAR ONSTAR BASIC PLAN (OMITS SAFETY, SECURITY & NAV) (SEE ONSTAR.COM)
- XM RADIO + SERVICE
- SUBSCRIPTION SOLD SEPARATELY BY SIRIUSXM AFTER 3 MONTHS

OPTIONS & PRICING

MANUFACTURER'S SUGGESTED RETAIL PRICE

STANDARD VEHICLE PRICE	\$25,170.00
------------------------	-------------

OPTIONAL EQUIPMENT INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT OPTION)

LT CONVENIENCE PACKAGE INCL:	615.00
• REMOTE VEHICLE START	
• REAR WINDOW DEFROSTER	

Visit us at www.chevy.com

- EZ LIFT AND LOWER TAILGATE
- FRONT FOG LAMPS
- DIFFERENTIAL LOCKING REAR FULLY AUTOMATIC 325.00

TOTAL OPTIONS	\$94.00
TOTAL VEHICLE & OPTIONS	\$26,110.00
DESTINATION CHARGE	875.00

TOTAL VEHICLE PRICE*	\$26,985.00
-----------------------------	--------------------

EPA DOT Fuel Economy and Environment



22 MPG
combined city/highway

20 city

27 highway

4.5 gallons per 100 miles

Small pickup trucks range from 17 to 23 MPG. The best vehicle rates 119 MPG/e.

You spend \$1,000 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost **\$2,400**

Fuel Economy & Greenhouse Gas Rating (tailpipe only)

Smog Rating (tailpipe only)

1 10 Best

1 10 Best

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 24 MPG and costs \$11,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.50 per gallon. MPGe is miles per gallon using electricity as fuel. Vehicle emissions are a significant cause of climate change and smog.

leconomy.gov
an unparalleled estimator and compare vehicles

GOVERNMENT 5-STAR SAFETY RATINGS

This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.

Source: National Highway Traffic Safety Administration (NHTSA)
www.safercar.gov or 1-888-327-4236

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE: U.S./CANADIAN PARTS CONTENT: 66%
 MAJOR SOURCES OF FOREIGN PARTS CONTENT: MEXICO 17%

NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.

FOR THIS VEHICLE:
 FINAL ASSEMBLY POINT:
 WENTZVILLE, MO U.S.A.
 COUNTRY OF ORIGIN:
 ENGINE: UNITED STATES
 TRANSMISSION: UNITED STATES

© 2009 General Motors LLC
 GM, GMCO, PONTIAC 2009-10-01

ORDER OR INQUIRE: SALES CODE E
 SALES MODEL CODE 1003
 DEALER NO. 1111
 FINAL ASSEMBLY
 WENTZVILLE, MO U.S.A.
 VIN 1GCHSBE6A61F15454

DEALER TO WHOM ORDERED:
 CHRISTENSEN CHEVROLET INC
 9700 INDIANAPOLIS BLVD
 HIGHLAND, IN 46322-2619

3W
1GA2554953

Figure A-102: Monroney Label

Head Restraints

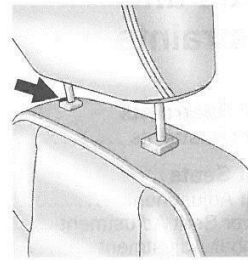
The vehicle's front seats have adjustable head restraints in the outboard seating positions.

Warning

With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.



Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



Driver Seat, Inboard Button

The height of the head restraint can be adjusted. Pull the head restraint up to raise it. Try to move the head restraint to make sure that it is locked in place.

To lower the head restraint, press the button, located on the top of the seatback, and push the restraint down. Try to move the head restraint after the button is released to make sure that it is locked in place.

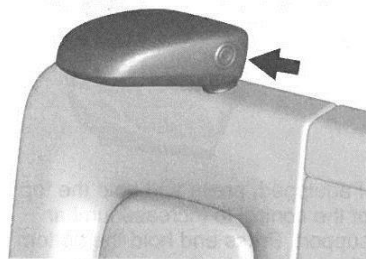
The front seat outboard head restraints are not removable.

Figure A-103: Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

Rear Head Restraints

Crew Cab

The vehicle's rear seats have head restraints in the outboard seating positions that cannot be adjusted up or down.



The rear outboard head restraints are designed to be folded. When folding the seatback down the head restraint must first be manually folded forward out of the way to fold the seatback down.

The head restraint can be folded forward to allow for better visibility when the rear seat is unoccupied. To fold the head restraint, press the button on the side of the head restraint.

When an occupant is in the seat, always return the head restraint to the upright position until it locks into place. Push and pull on the head restraint to make sure that it is locked.

If you are installing a child restraint in the rear seat, see *Lower Anchors and Tethers for Children (LATCH System)* on page 3-38.

Extended Cab

The vehicle's rear seats have headrests in the outboard seating positions that cannot be adjusted.

If you are installing a child restraint in the rear seat, see *Lower Anchors and Tethers for Children (LATCH System)* on page 3-38.

Front Seats

Seat Adjustment

Warning

You can lose control of the vehicle if you try to adjust a driver seat while the vehicle is moving. Adjust the driver seat only when the vehicle is not moving.



Figure A-104: Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

APPENDIX B

VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS

Driver & Passenger Dummy Instrumentation Plots

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1	Driver Head Acceleration (X) Primary vs. Time	B-5
2	Driver Head Acceleration (Y) Primary vs. Time	B-5
3	Driver Head Acceleration (Z) Primary vs. Time	B-5
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8	Driver Thorax Rib Deflection Maximum vs. Time	B-6
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14	Passenger Head Acceleration (X) vs. Time Primary	B-8
15	Passenger Head Acceleration (Y) vs. Time Primary	B-8
16	Passenger Head Acceleration (Z) vs. Time Primary	B-8
17	Passenger Head Resultant Acceleration Primary vs. Time	B-9
18	Passenger Lower Spine T12 Acceleration (X) vs. Time	B-9
19	Passenger Lower Spine T12 Acceleration (Y) vs. Time	B-9
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21	Passenger Lower Spine T12 Resultant Acceleration vs. Time	B-10
22	Passenger Iliac Force on Impact Side (Y) vs. Time	B-10
23	Passenger Acetabulum Force on Impact Side (Y) vs. Time	B-10
24	Passenger Total Pelvic Force on Impact Side (Y) vs. Time	B-10

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at www.NHTSA.dot.gov.

Additional Driver & Passenger Dummy Instrumentation Data

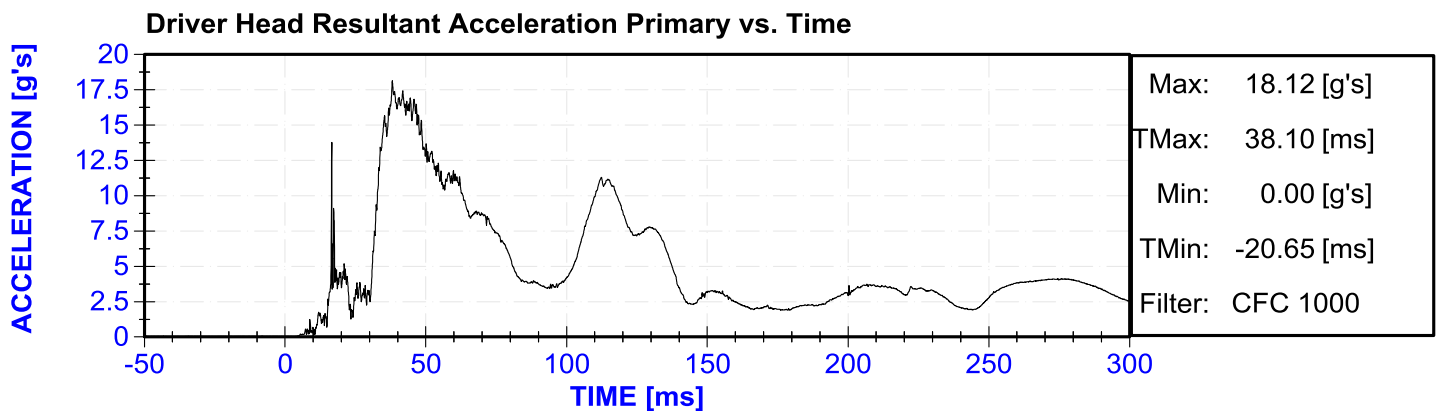
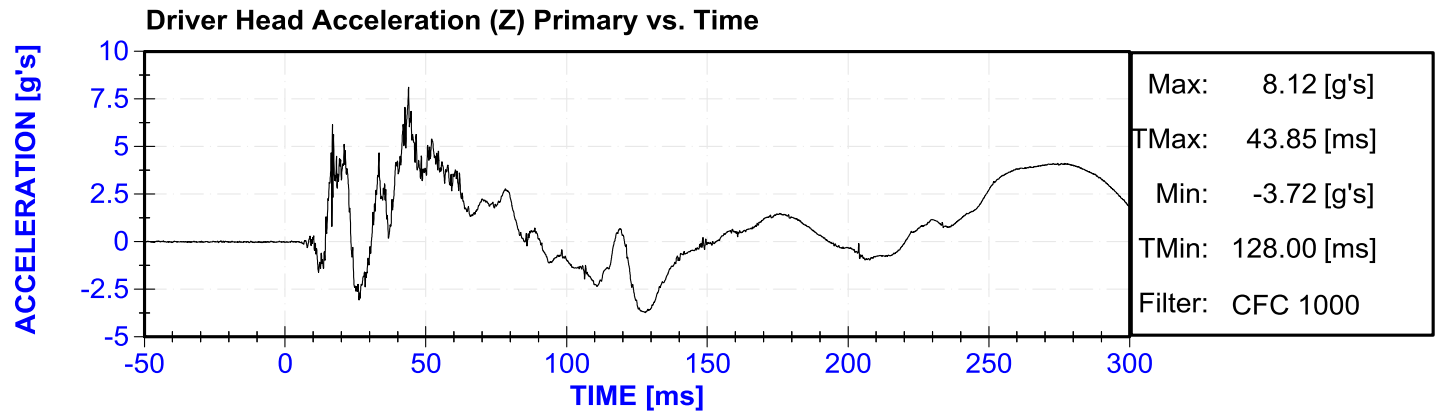
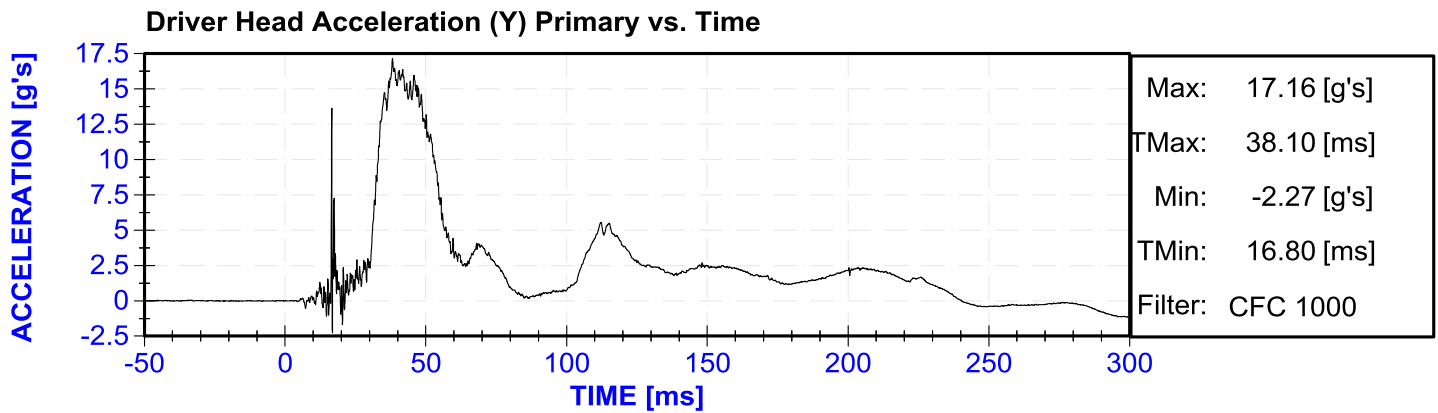
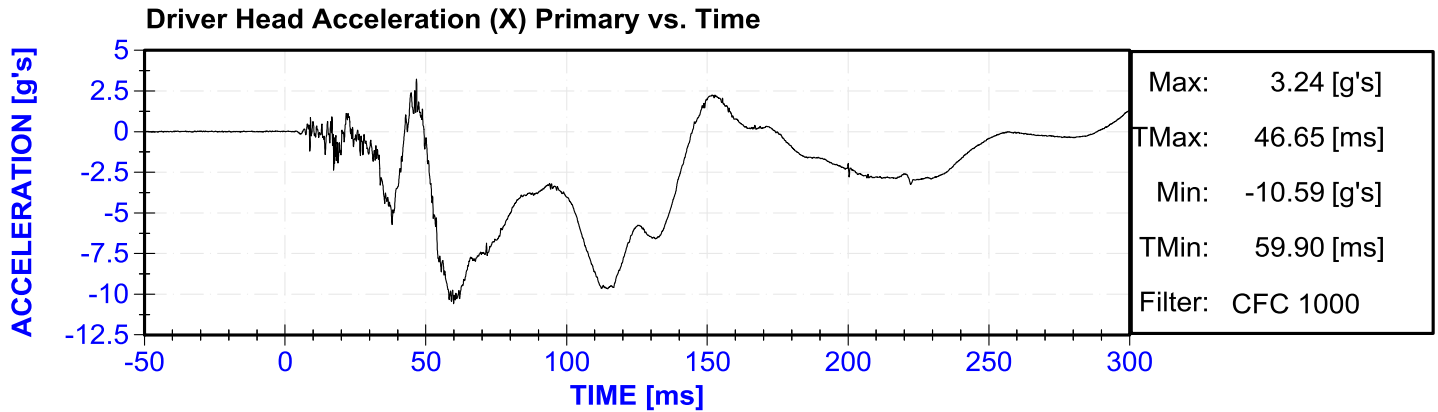
Driver Lower Spine T12 Acceleration (X)
Driver Lower Spine T12 Acceleration (Y)
Driver Lower Spine T12 Acceleration (Z)
Passenger Upper Thorax Rib Deflection (Y)
Passenger Middle Thorax Rib Deflection (Y)
Passenger Lower Thorax Rib Deflection (Y)
Passenger Upper Abdomen Rib Deflection (Y)
Passenger Lower Abdomen Rib Deflection (Y)
Driver Head Acceleration Redundant (X)
Driver Head Acceleration Redundant (Y)
Driver Head Acceleration Redundant (Z)
Passenger Head Acceleration Redundant (X)
Passenger Head Acceleration Redundant (Y)
Passenger Head Acceleration Redundant (Z)

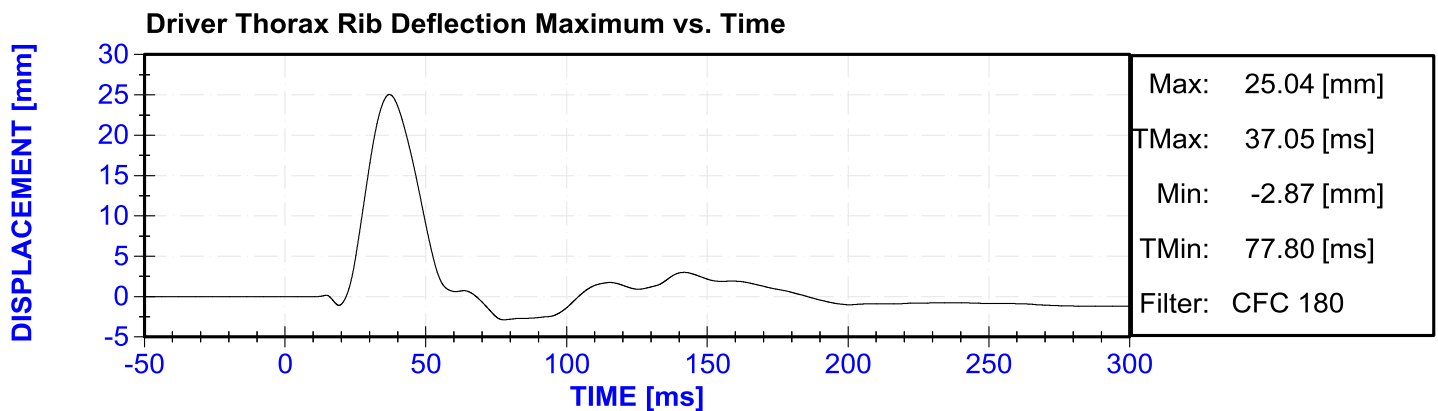
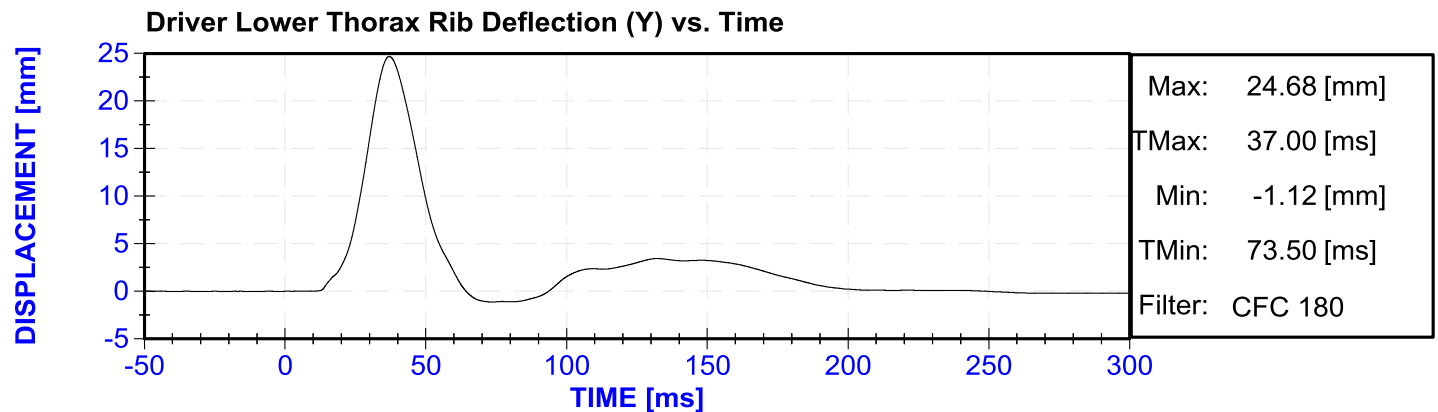
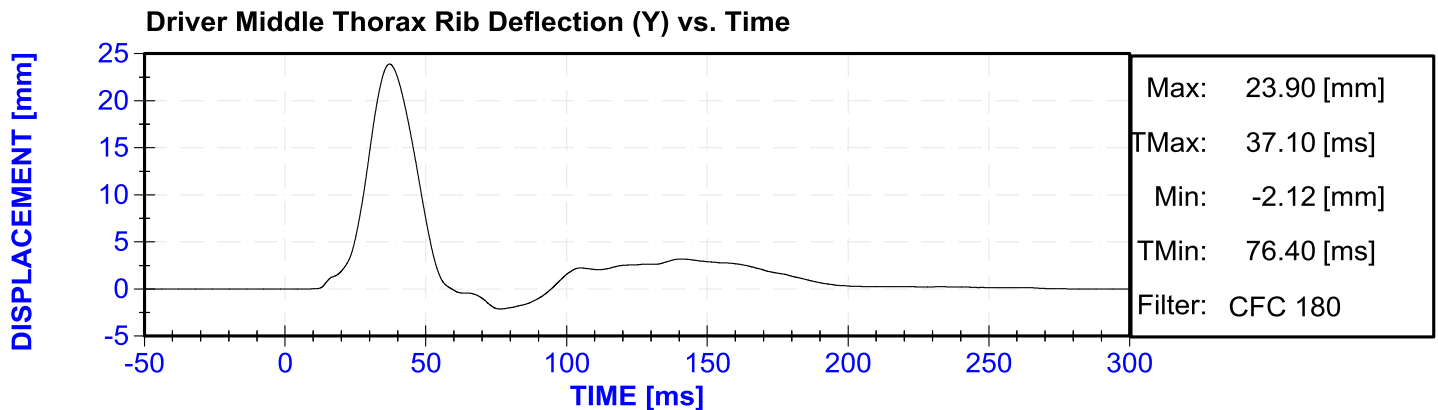
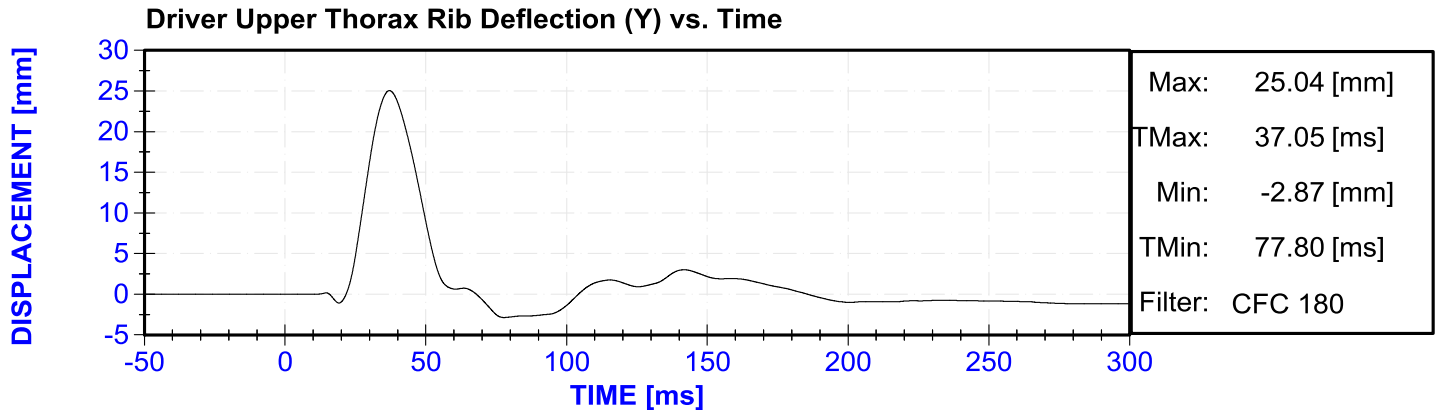
Vehicle Instrumentation Data

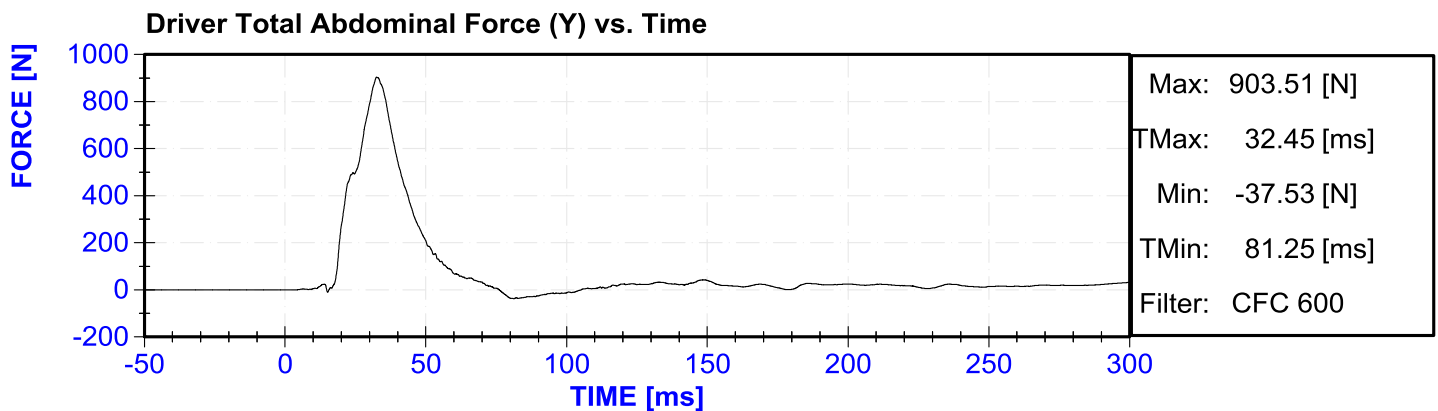
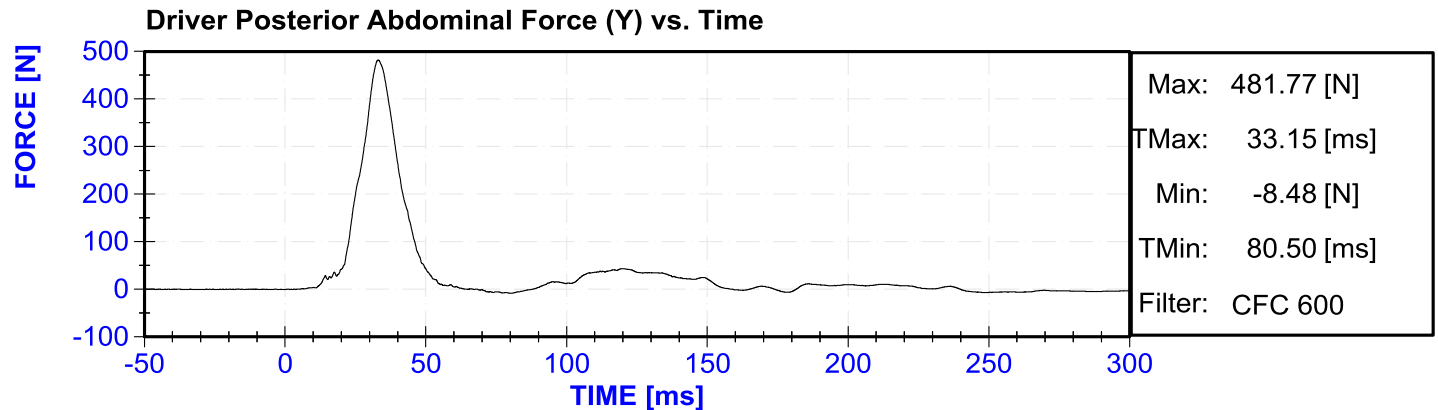
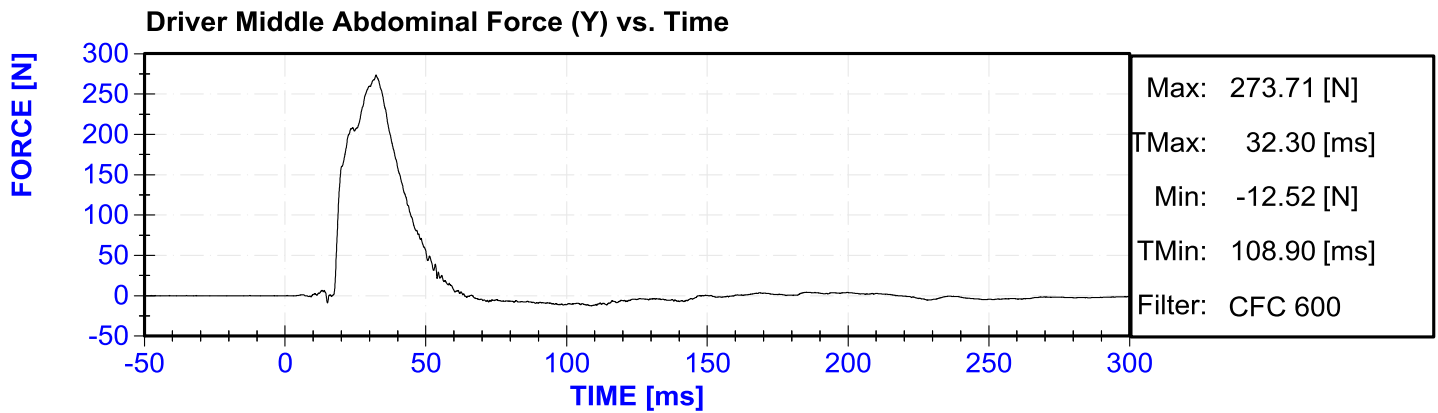
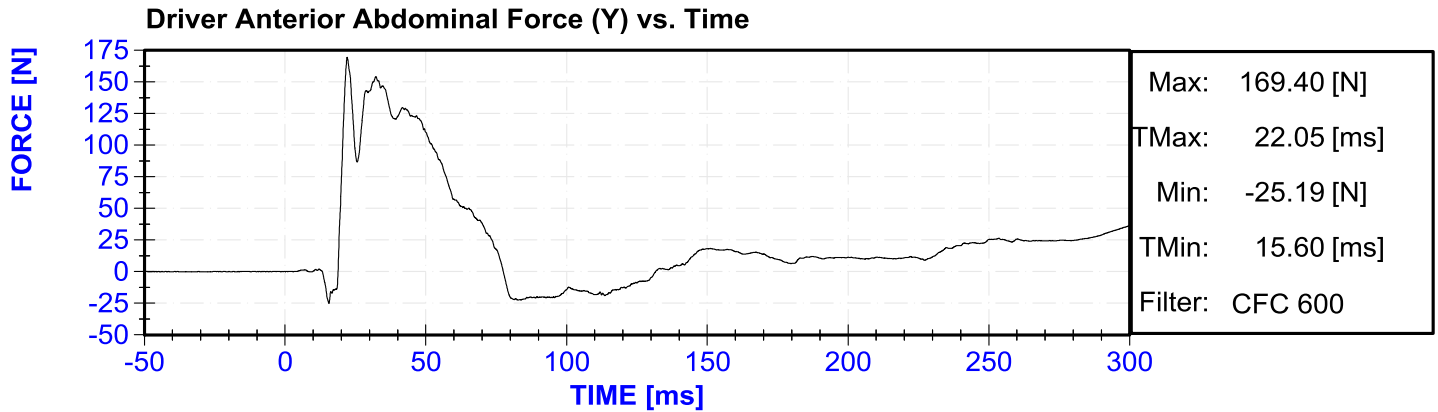
Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Right Side Sill at Front Seat Acceleration (X)
Right Side Sill at Front Seat Acceleration (Y)
Right Side Sill at Front Seat Acceleration (Z)
Right Side Sill at Rear Seat Acceleration (X)
Right Side Sill at Rear Seat Acceleration (Y)
Right Side Sill at Rear Seat Acceleration (Z)
Left Side Sill at Front Seat Acceleration (Y)
Left Side Sill at Rear Seat Acceleration (Y)
Lower A-Post Acceleration (Y)
Middle A-Post Acceleration (Y)
Lower B-Post Acceleration (Y)
Middle B-Post Acceleration (Y)
Front Seat Track Acceleration (Y)
Rear Seat Structure Acceleration (Y)
Right Rear Occupant Compartment Acceleration (Y)
Engine Block (X)
Engine Block (Y)
Rear Floorpan Above Axle Acceleration (X)
Rear Floorpan Above Axle Acceleration (Y)
Rear Floorpan Above Axle Acceleration (Z)

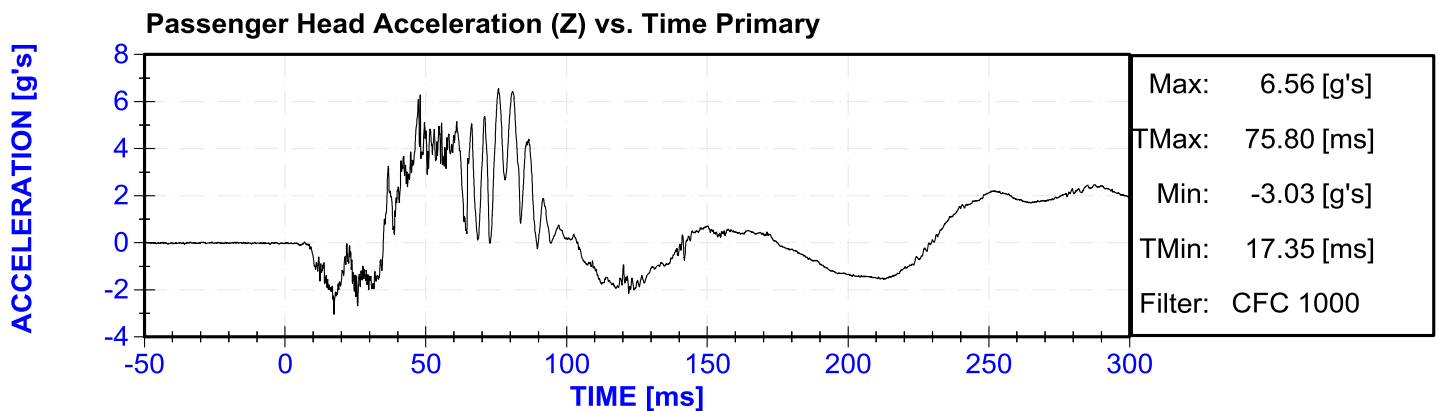
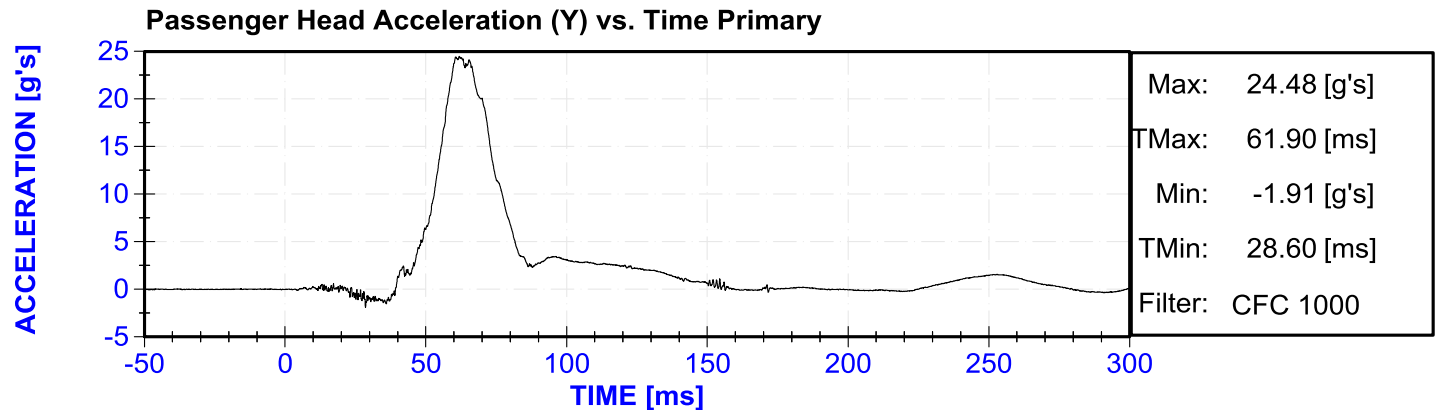
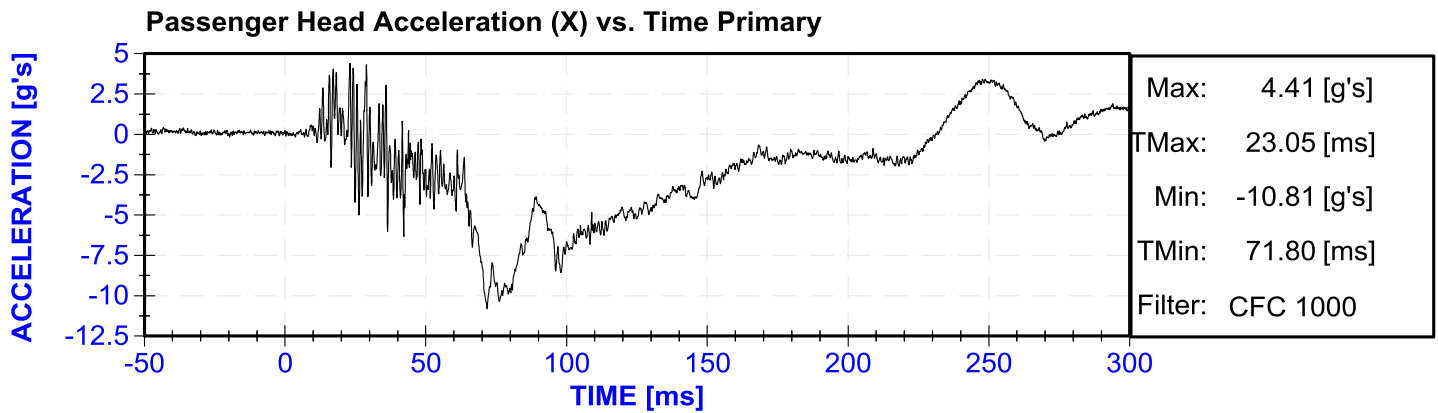
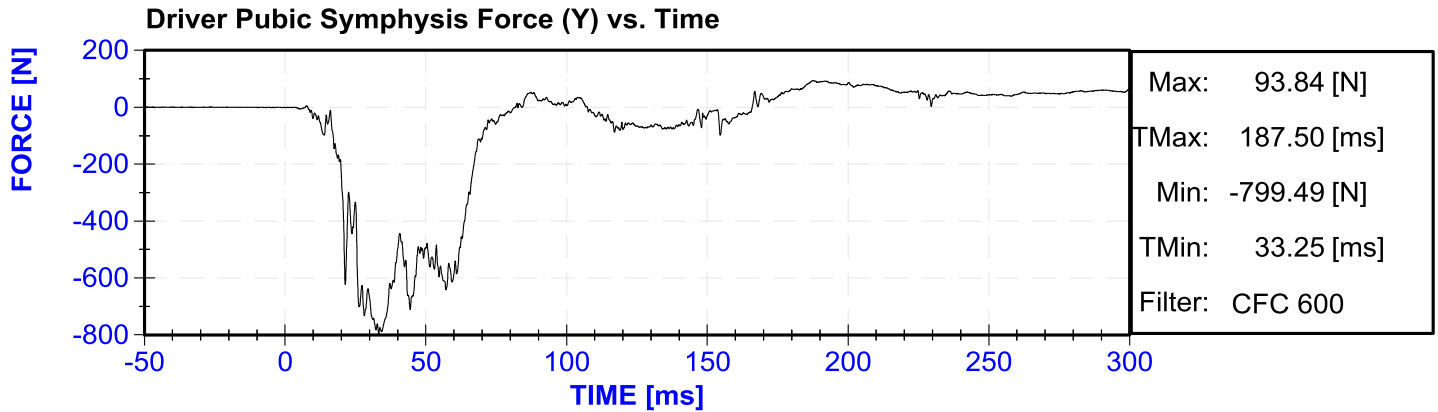
MDB Instrumentation Data

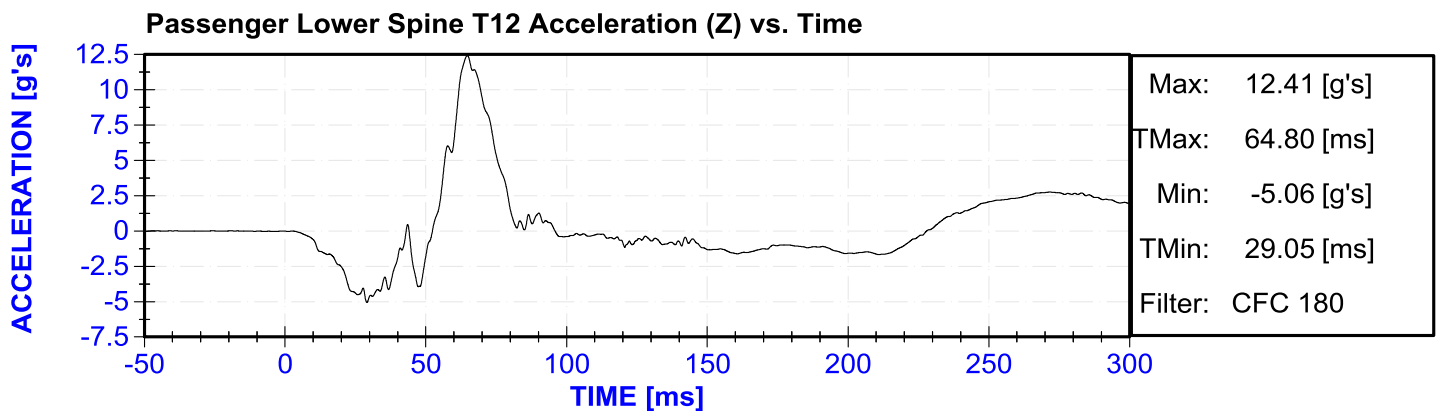
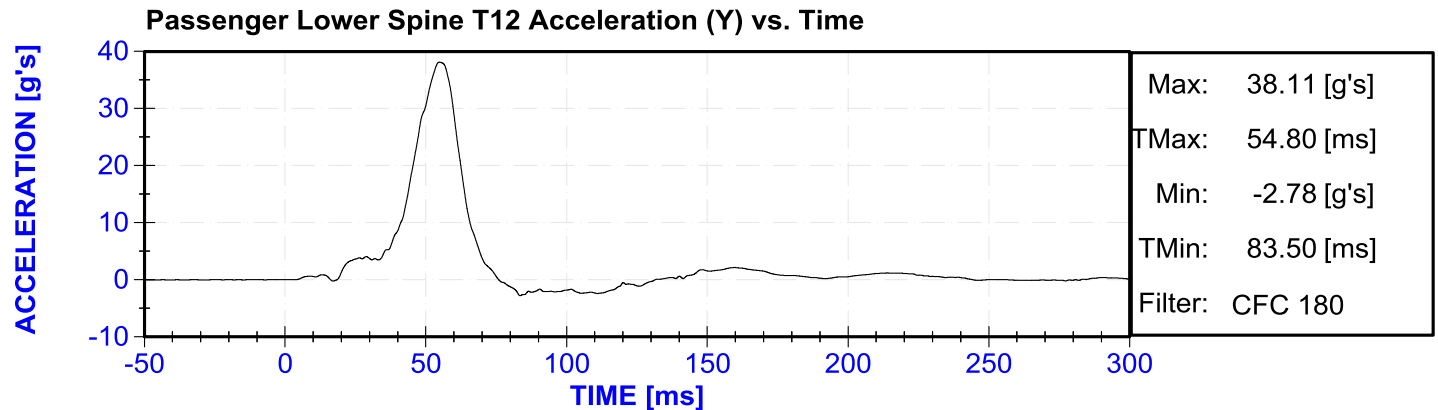
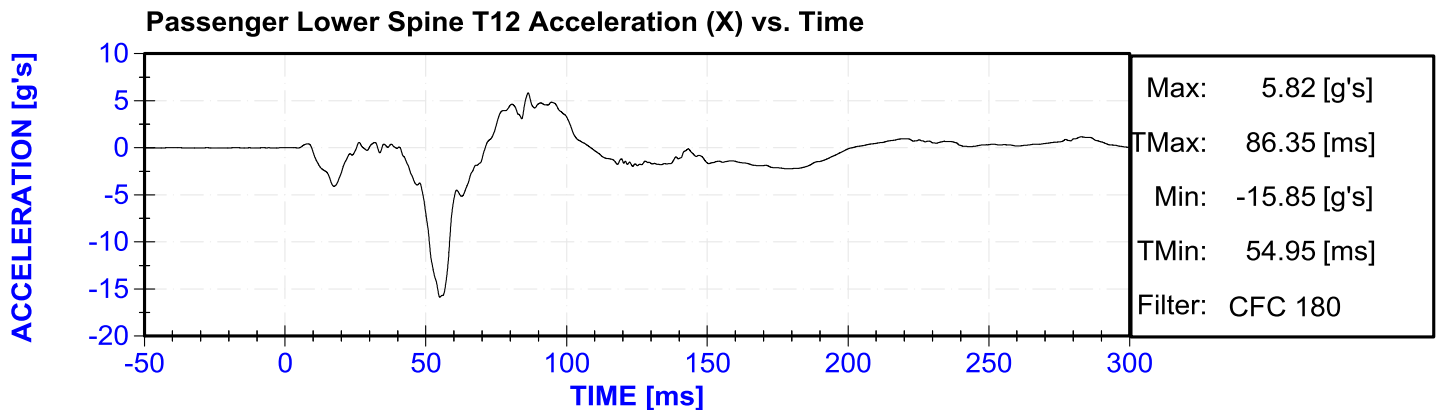
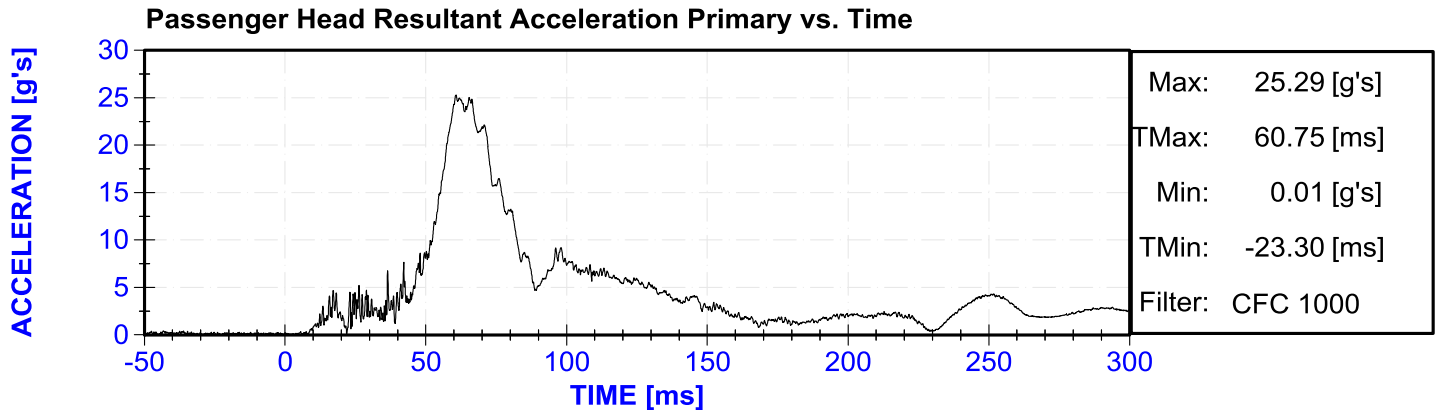
MDB Center of Gravity Acceleration (X)
MDB Center of Gravity Acceleration (Y)
MDB Center of Gravity Acceleration (Z)
MDB Rear Acceleration (X)
MDB Rear Acceleration (Y)
Left MDB Contact Switch
Right MDB Contact Switch

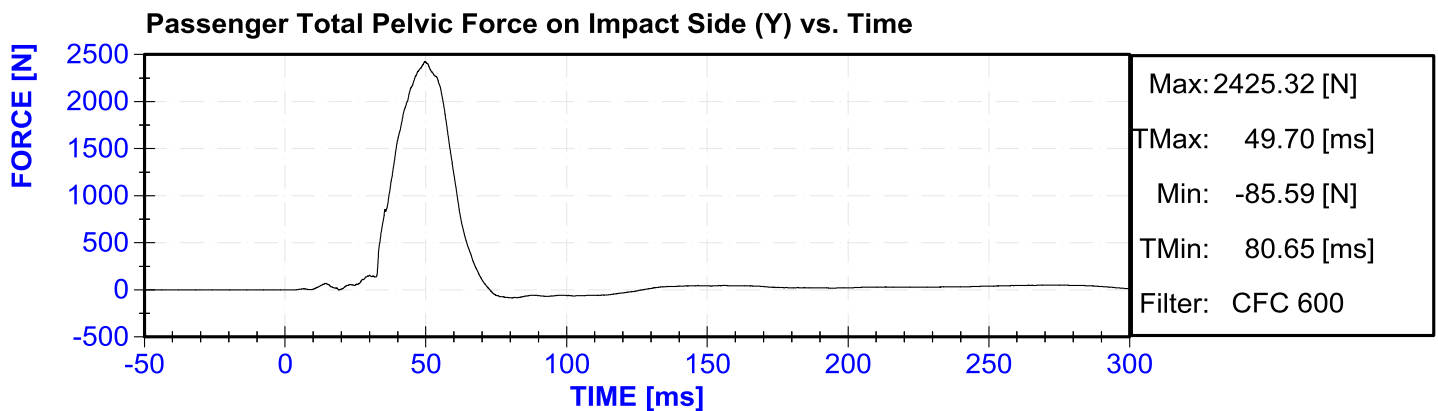
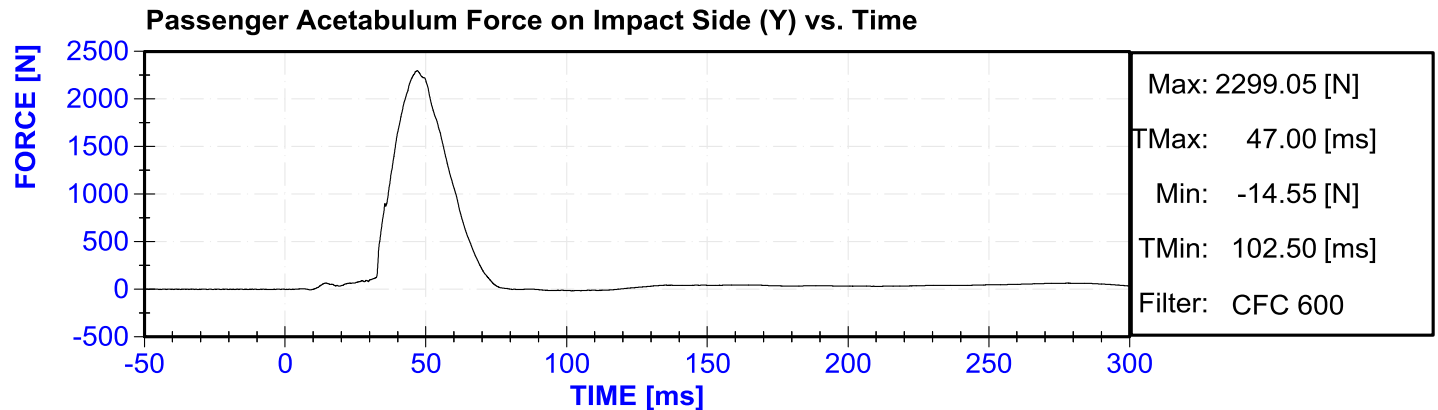
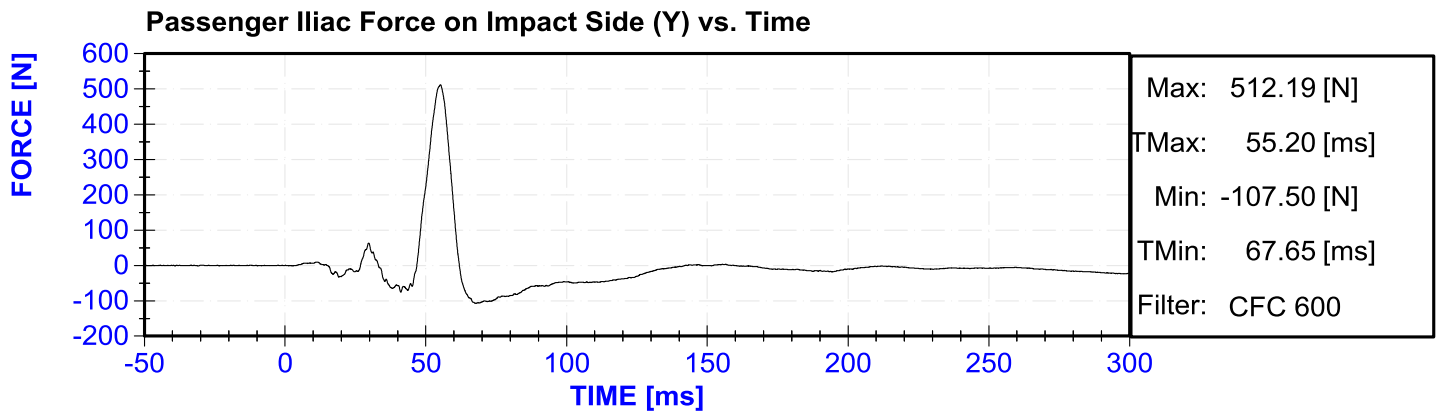
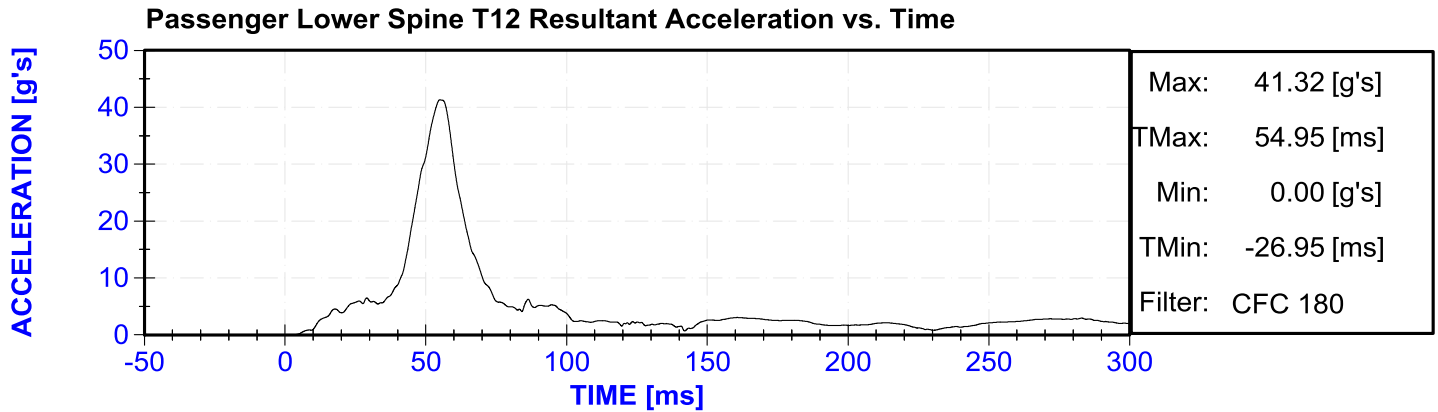












APPENDIX C

DUMMY PERFORMANCE CALIBRATION TEST DATA

CALIBRATION TEST RESULTS

PRE-TEST

EUROSID 2 (ES-2RE) MALE – DRIVER ATD

SERIAL NO: F034

(CONFIGURED FOR LEFT SIDE IMPACT)

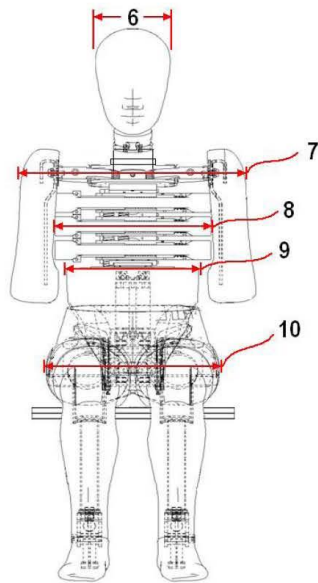


External Measurements - EuroSID-2re

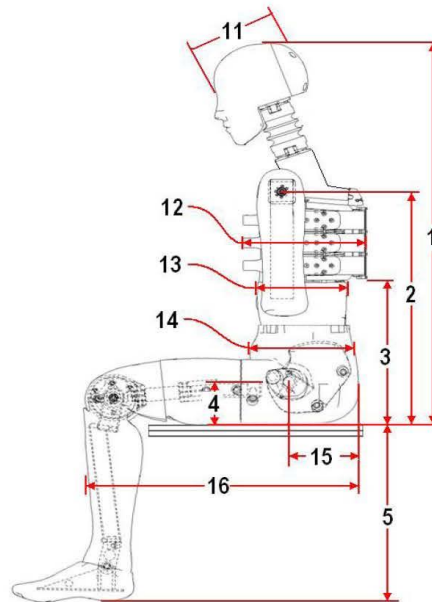
Technician: M. Geesey

Date: 1/30/2015

Dummy Serial Number: F034



FRONT VIEW



SIDE VIEW

Dim. No.	Description	Specification (mm)		Result (mm)	Pass/Fail
1	Sitting Height	900	918	910	Pass
2	Seat to Shoulder Joint	558	572	562	Pass
3	Seat to Lower Face of Thoracic Spine Box	346	356	347	Pass
4	Seat to Hip Joint (center of bolt)	97	103	100	Pass
5	Sole to Seat, Sitting	333	451	417	Pass
6	Head Width	152	158	154	Pass
7	Shoulder/Arm Width	461	479	474	Pass
8	Thorax Width	322	332	326	Pass
9	Abdomen Width	273	287	283	Pass
10	Pelvis Lap Width	359	373	368	Pass
11	Head Depth	196	206	199	Pass
12	Thorax Depth	262	272	269	Pass
13	Abdomen Depth	194	204	200	Pass
14	Pelvis Depth	235	245	239	Pass
15	Back of Buttocks to Hip Joint (center of bolt)	150	160	154	Pass
16	Back of Buttocks to Front Knee	597	615	605	Pass

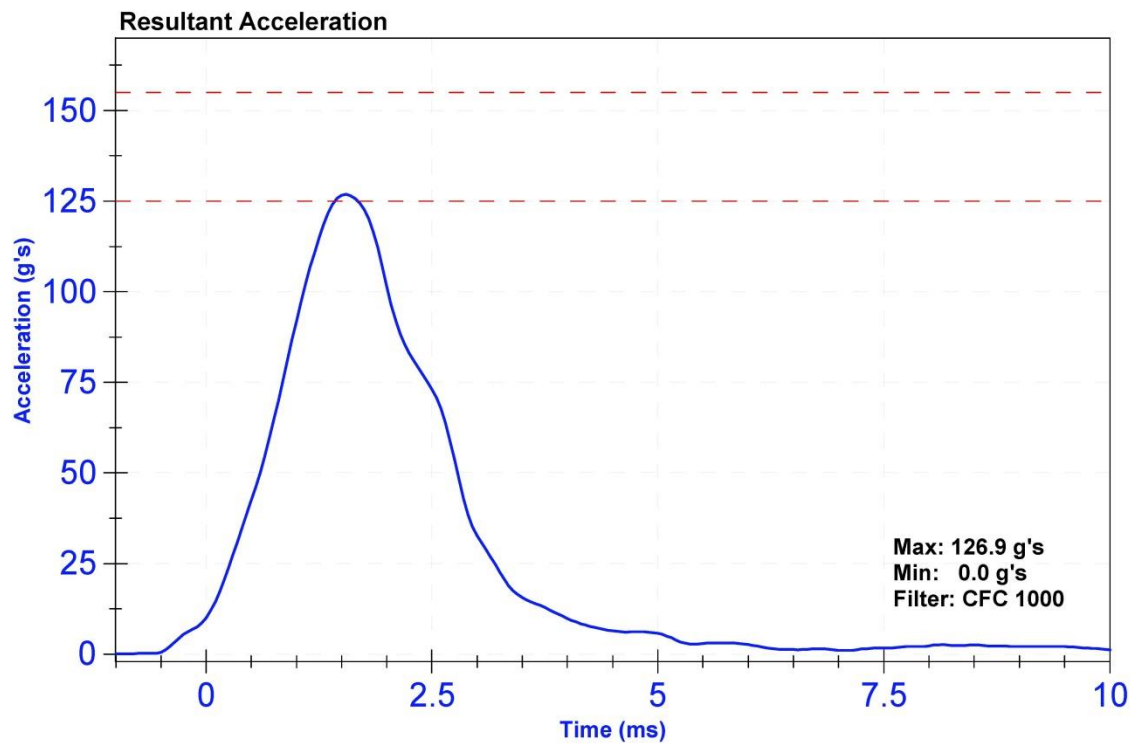
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

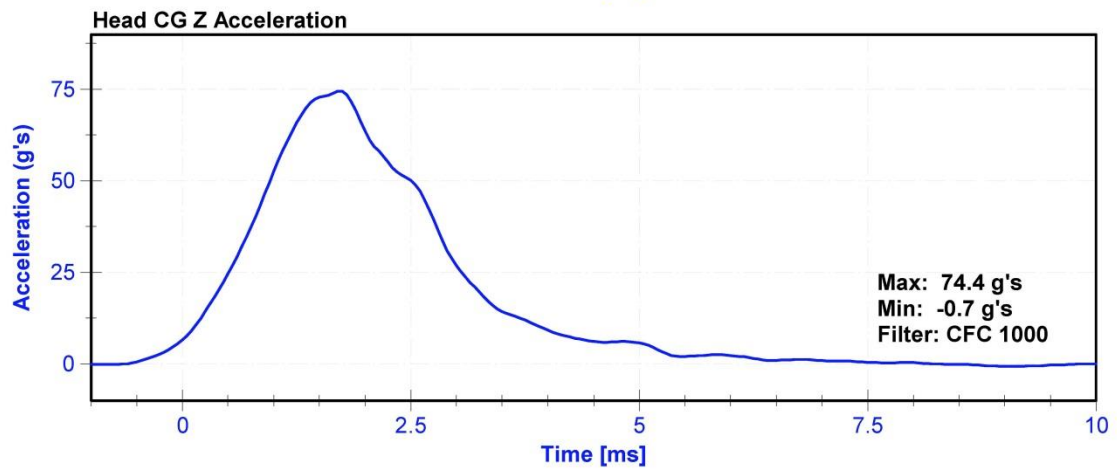
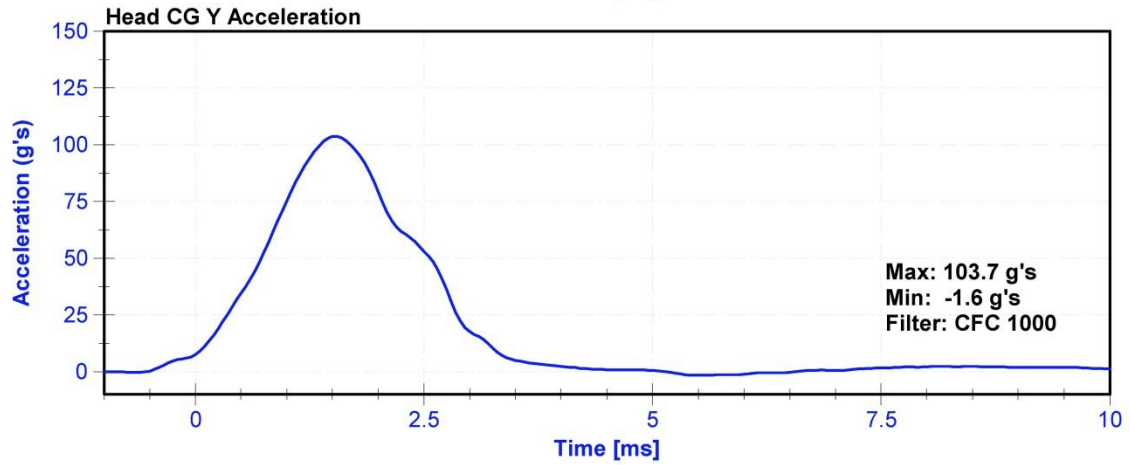
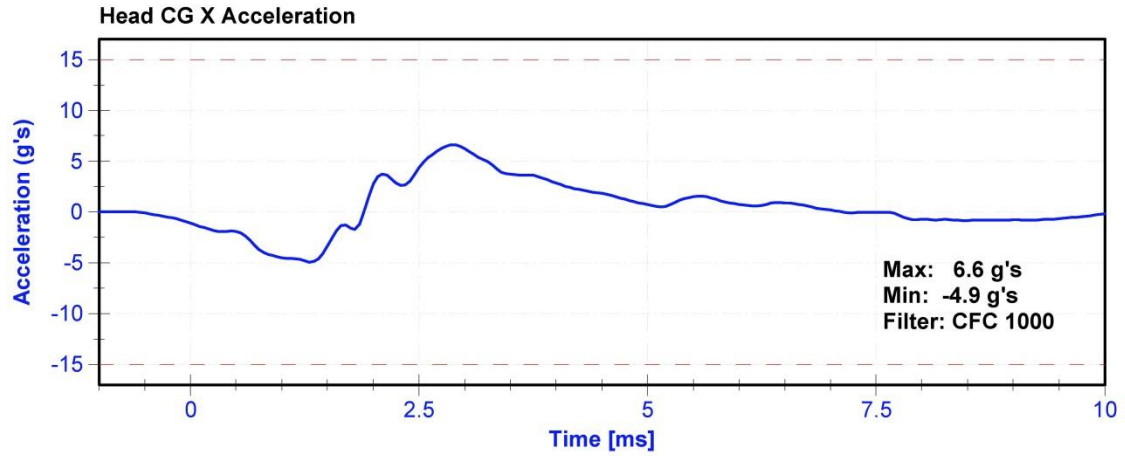
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	12.5	Pass
Resultant Acceleration	125	155	g's	126.9	Pass
Oscillation	0	15	%	4.93	Pass
Fore-Aft Acceleration	-15	15	g's	6.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	ENDEVCO 7264CT	AC-P58904	8/29/2014	2/27/2015
Y Accelerometer	ENDEVCO 7264CT	AC-P58911	8/29/2014	2/27/2015
Z Accelerometer	ENDEVCO 7264CT	AC-P58776	8/29/2014	2/27/2015





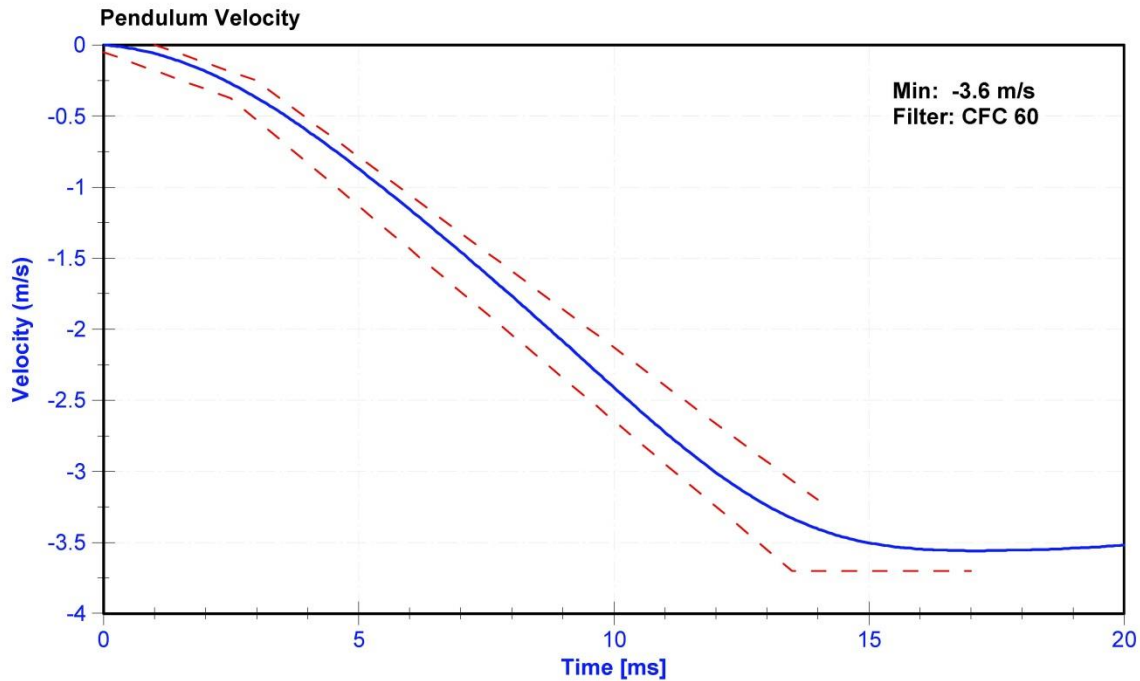
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

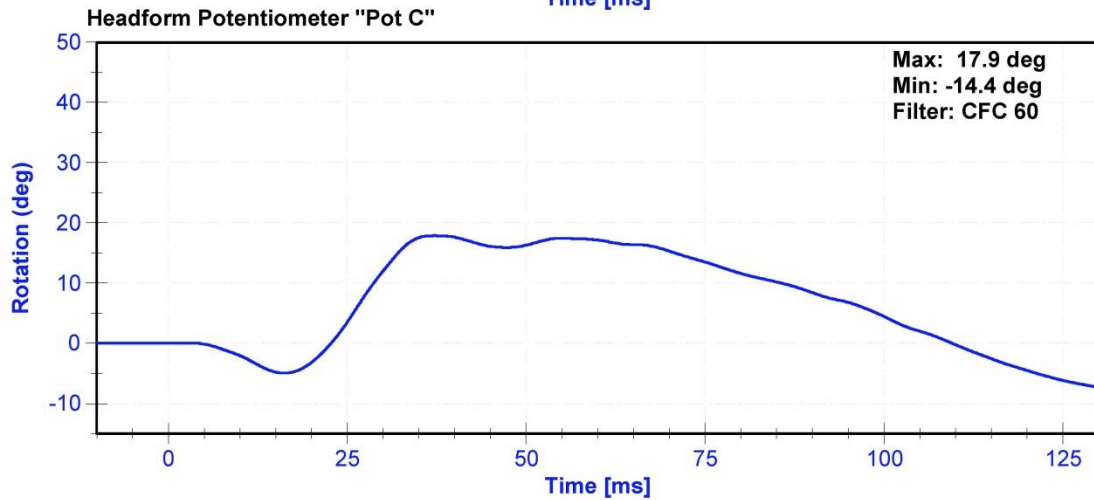
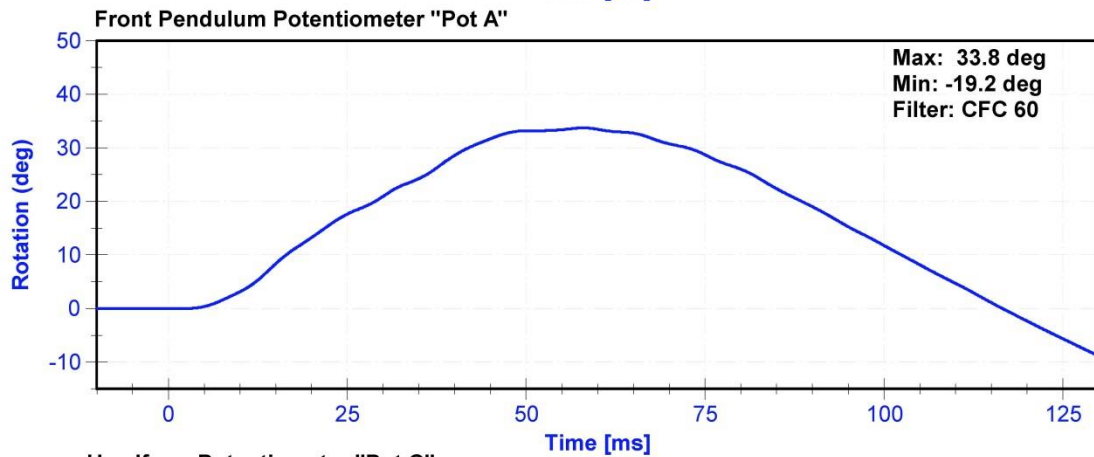
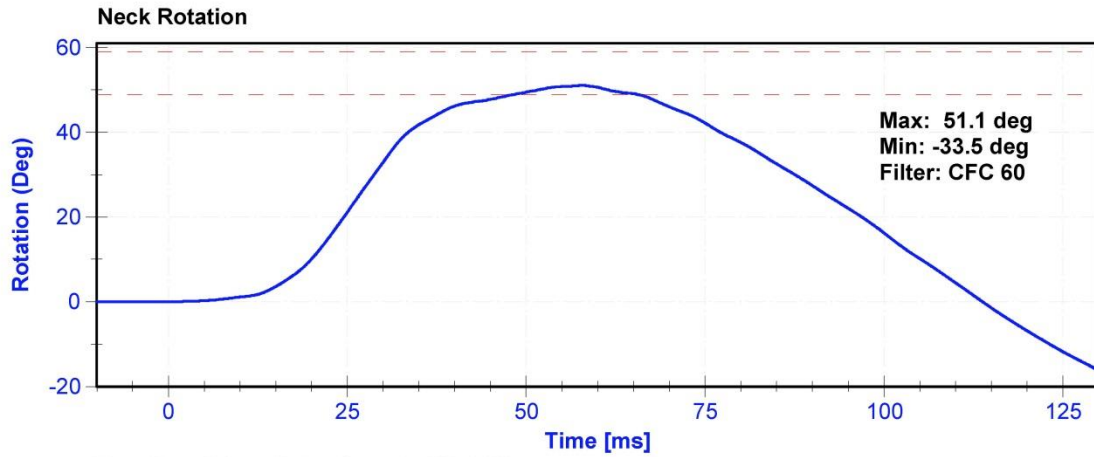
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	19.8	Pass
Velocity	3.3	3.5	m/s	3.36	Pass
Lateral Neck Rotation	49	59	deg	51.1	Pass
Time at Maximum Rotation	54	66	ms	57.8	Pass
Time of Rotation Decay from Maximum	53	88	ms	55.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Front Pendulum Potentiometer	SP22G	DS-094	11/13/2014	11/13/2015
Headform Potentiometer	SP22G	DS-095	11/13/2014	11/13/2015





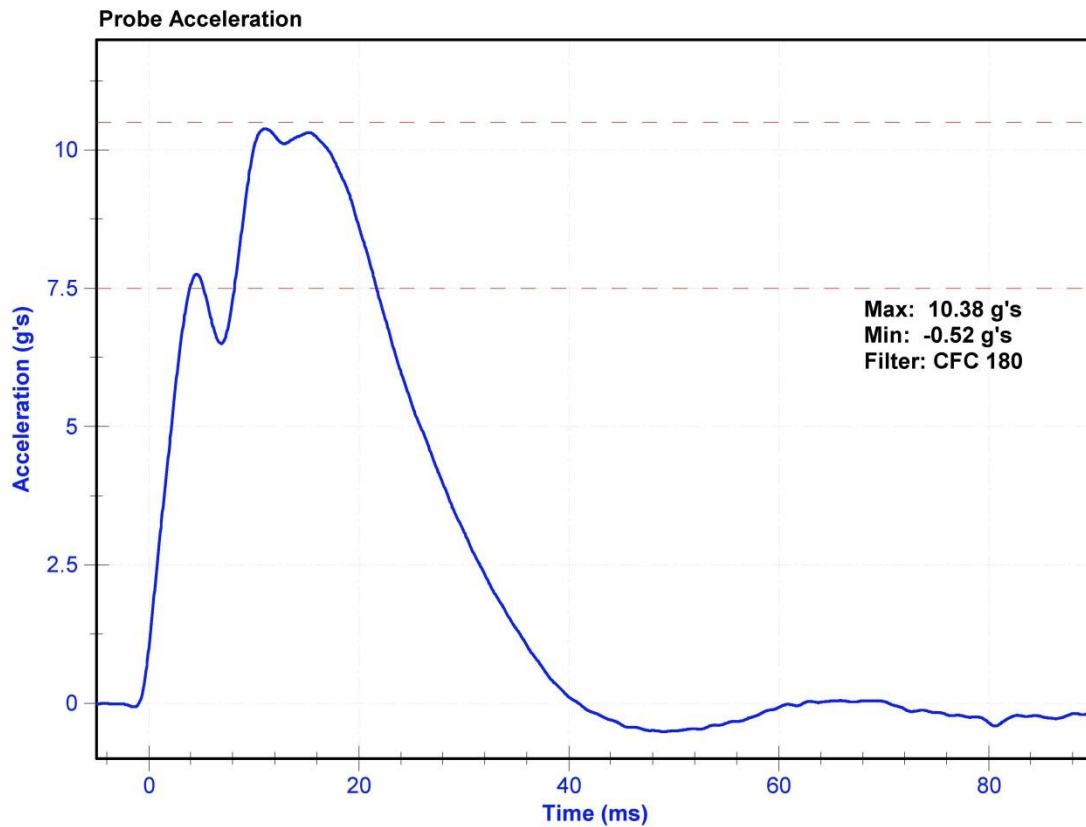
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	23.6	Pass
Velocity	4.2	4.4	m/s	4.26	Pass
Probe Acceleration	7.5	10.5	g's	10.38	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015



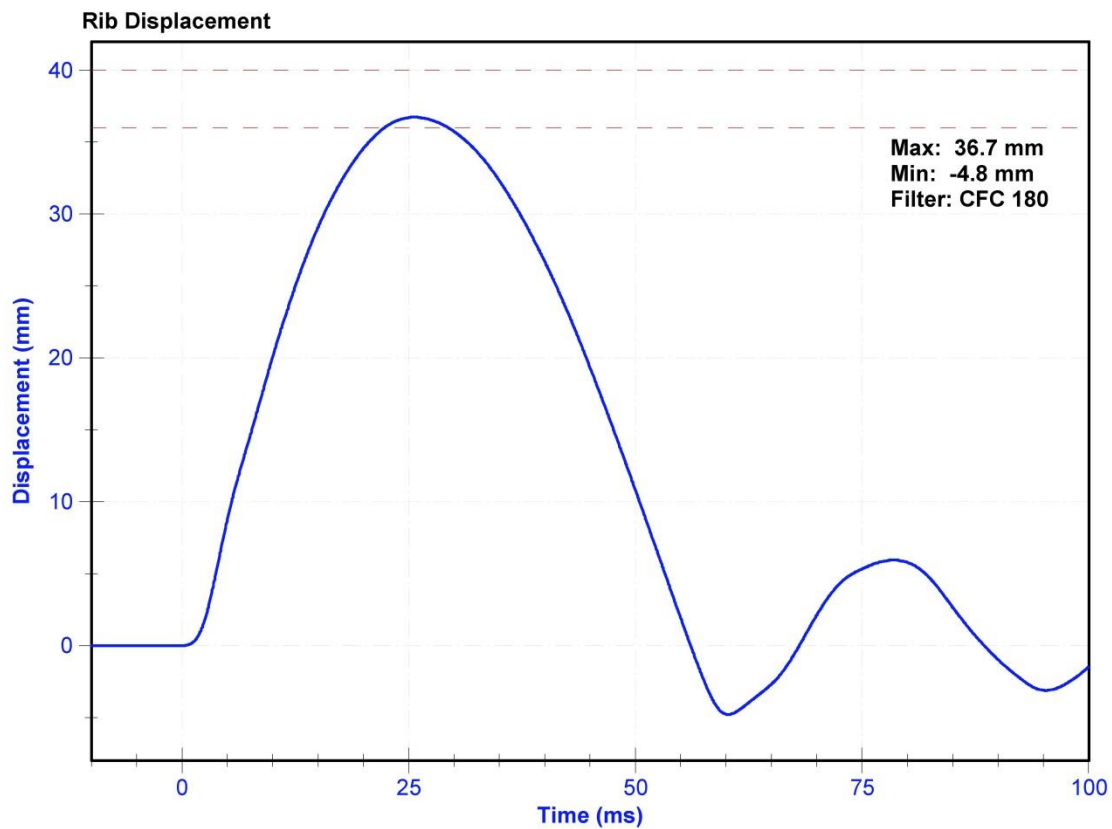
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	18.1	Pass
Rib Displacement	36	40	mm	36.7	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015



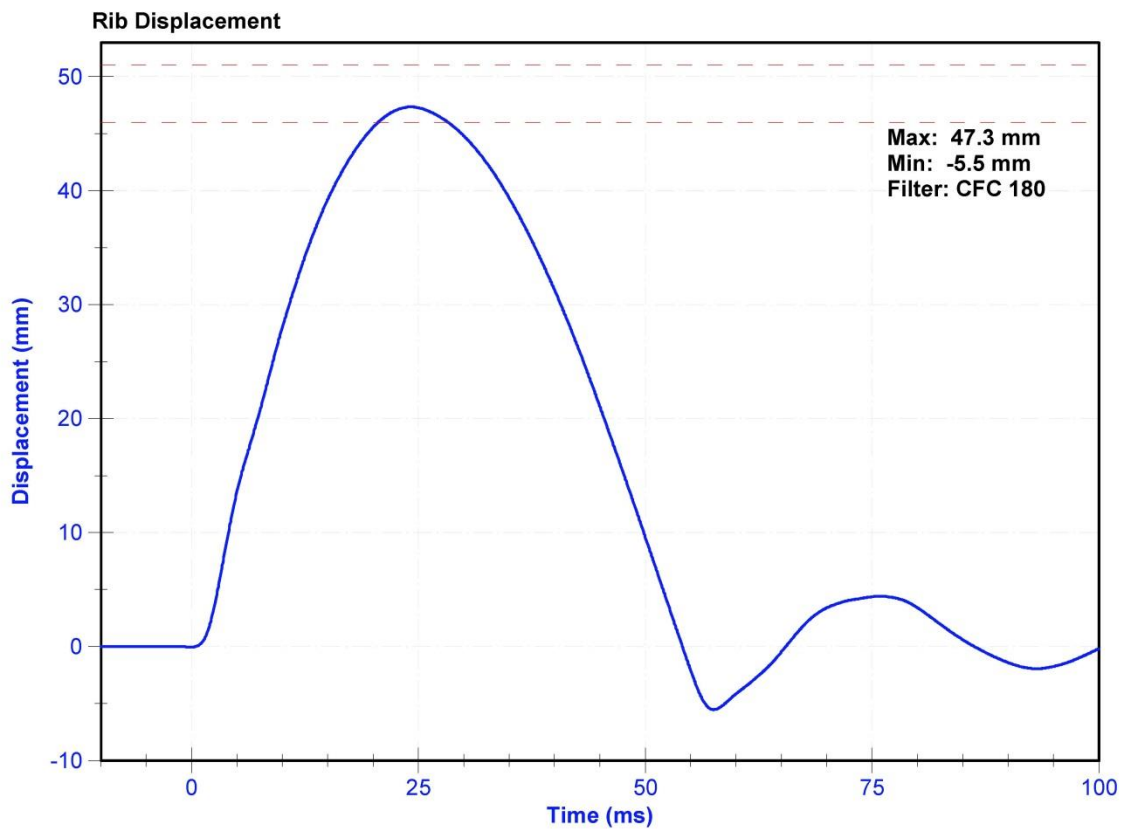
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	18.1	Pass
Rib Displacement	46	51	mm	47.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015



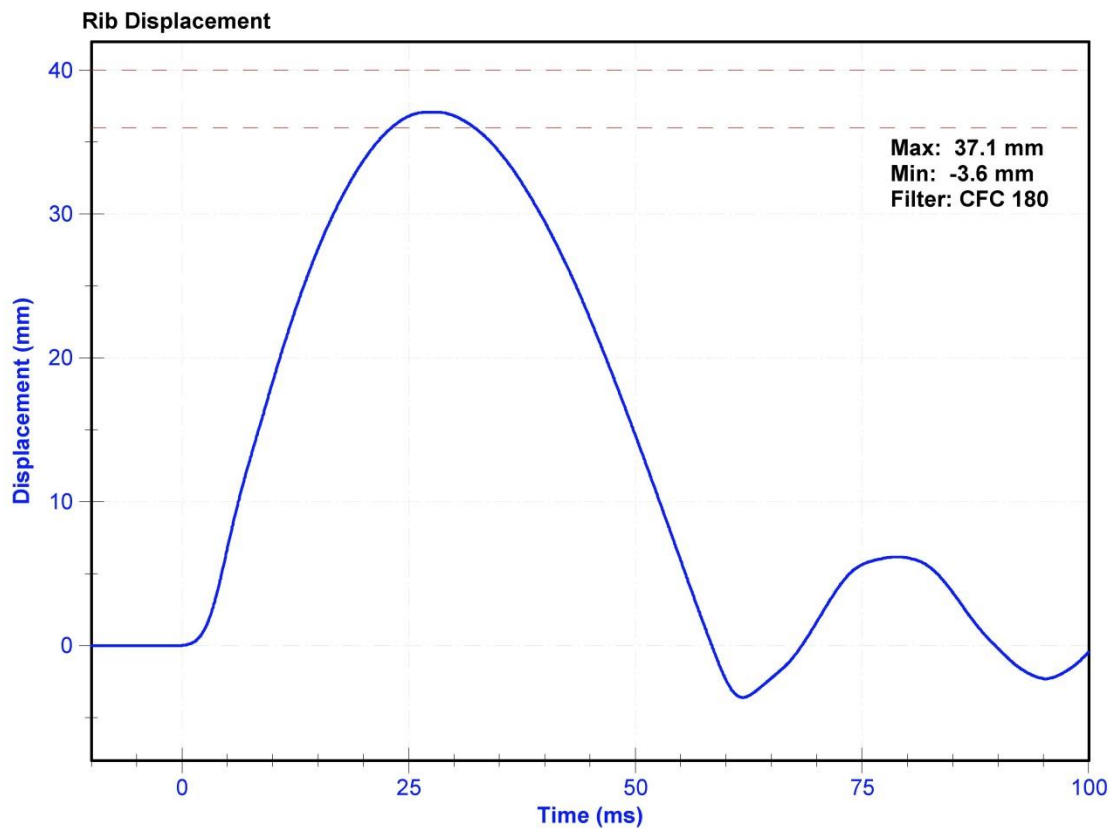
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	36	40	mm	37.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015



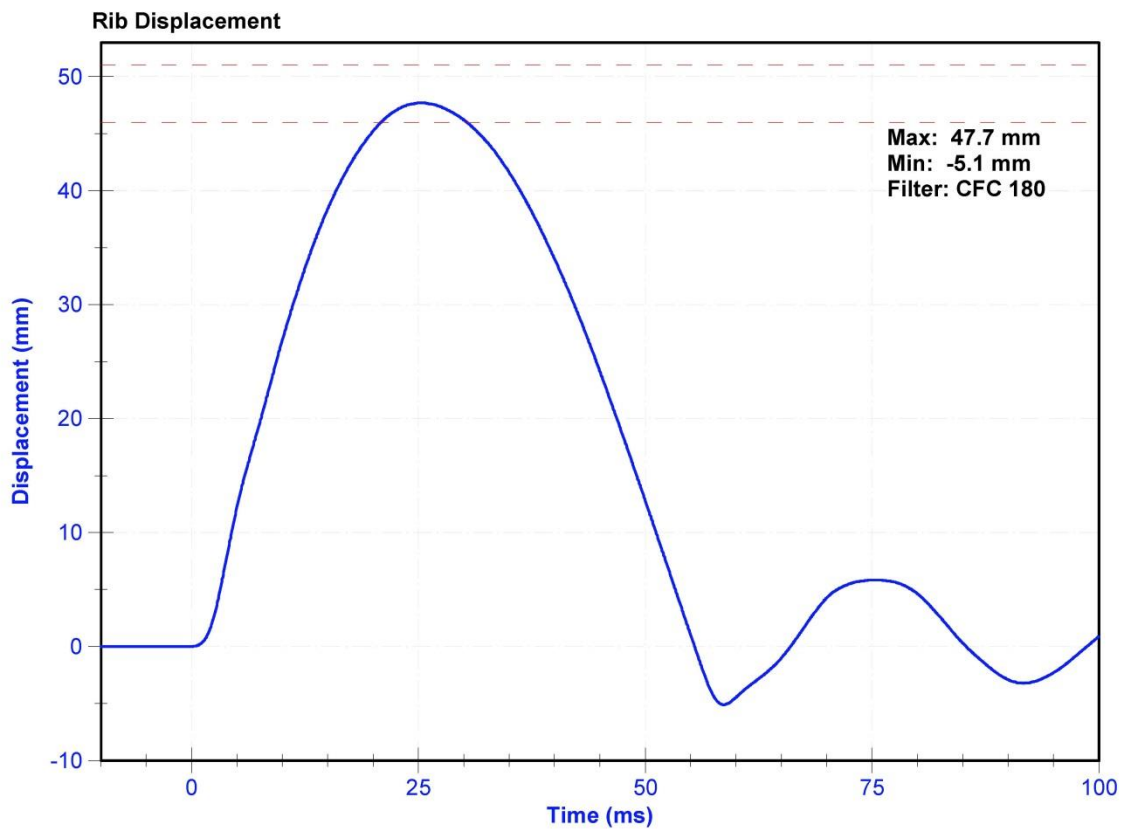
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	46	51	mm	47.7	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015



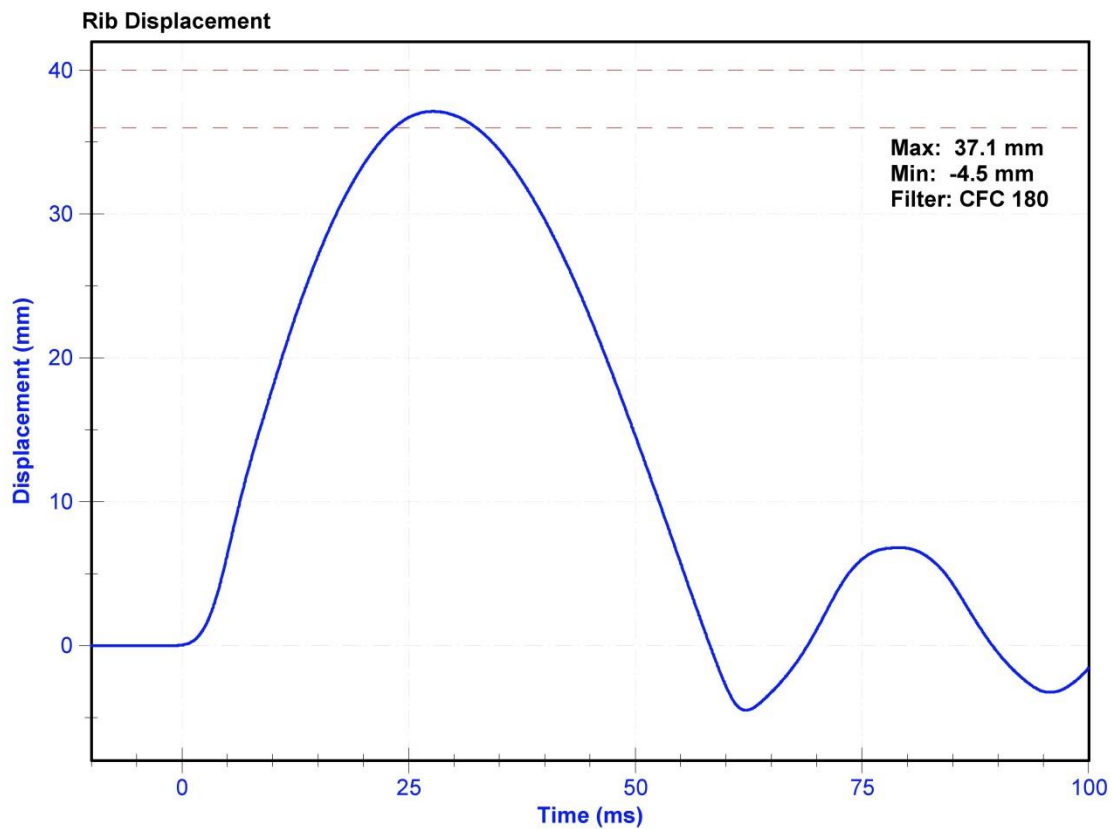
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	36	40	mm	37.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015



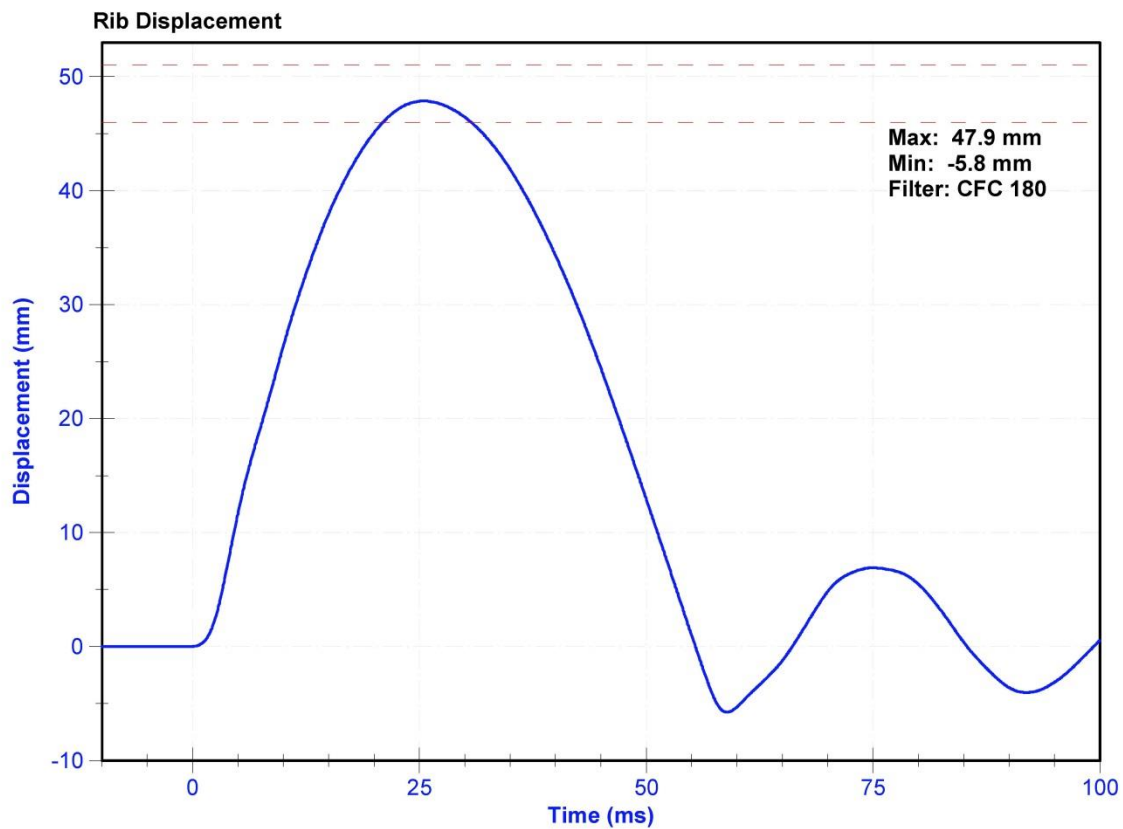
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	46	51	mm	47.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015



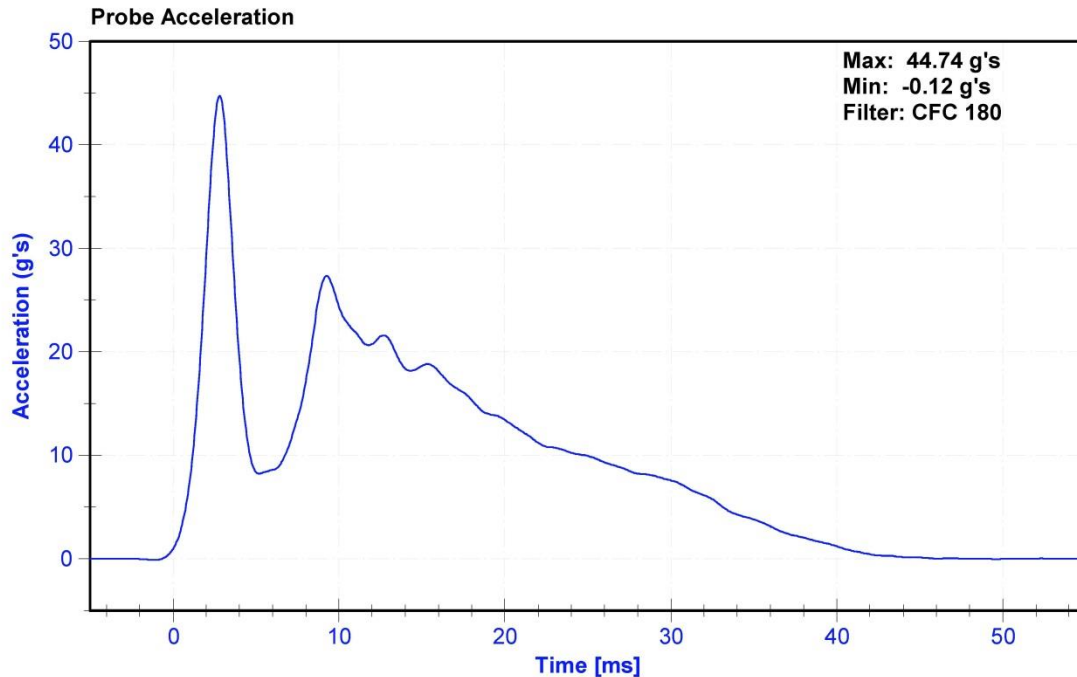
ATD Manufacturer	FTSS	Test Technician	M. Geesey/M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M. Goehle

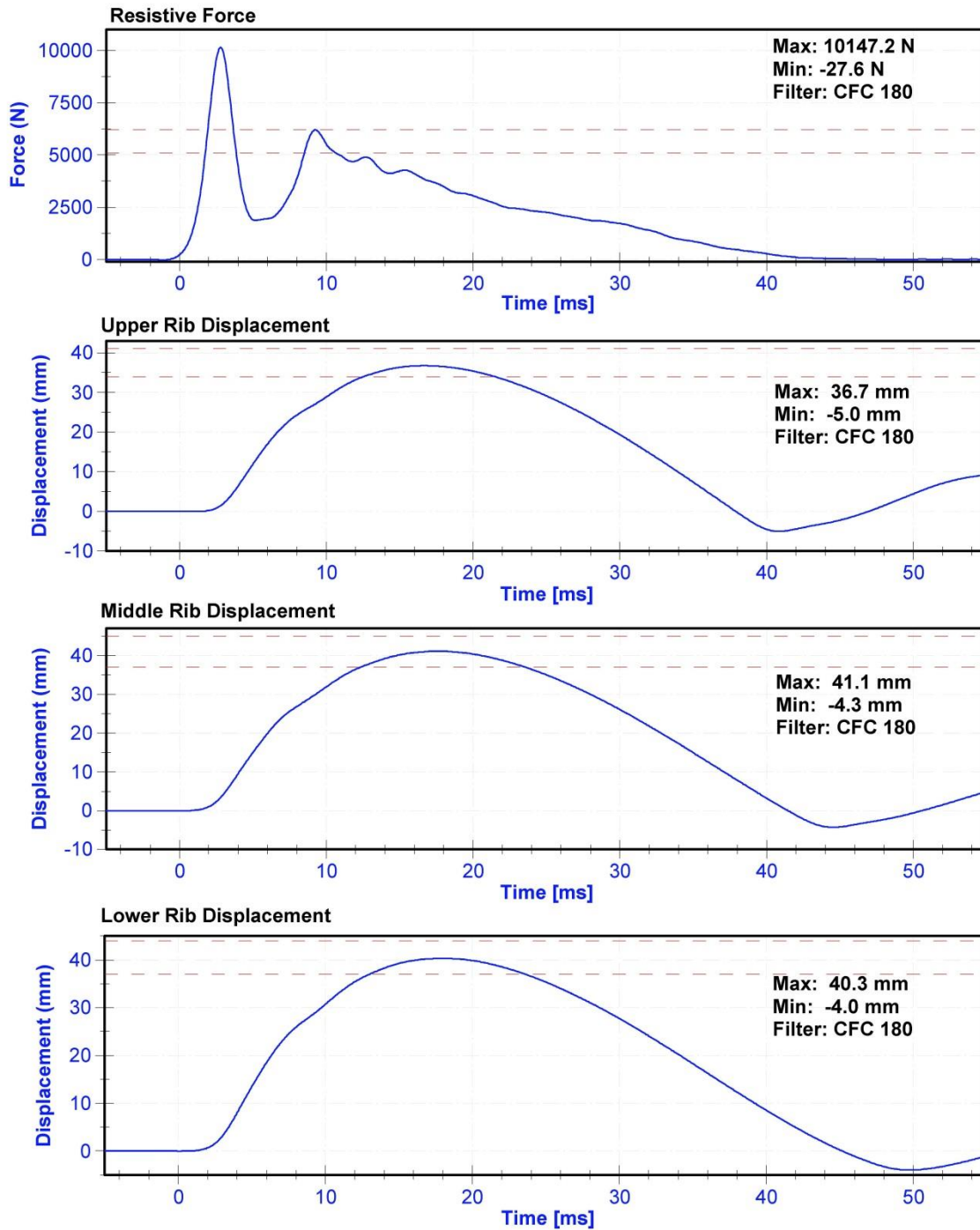
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	23.1	Pass
Velocity	5.4	6.8	m/s	5.51	Pass
Resistive Force after 6ms	5,100	6,200	N	6198.9	Pass
Upper Thorax Rib Deflection	34	41	mm	36.7	Pass
Mid Thorax Rib Deflection	37	45	mm	41.1	Pass
Lower Thorax Rib Deflection	37	44	mm	40.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015
Upper Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015
Middle Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015
Lower Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015





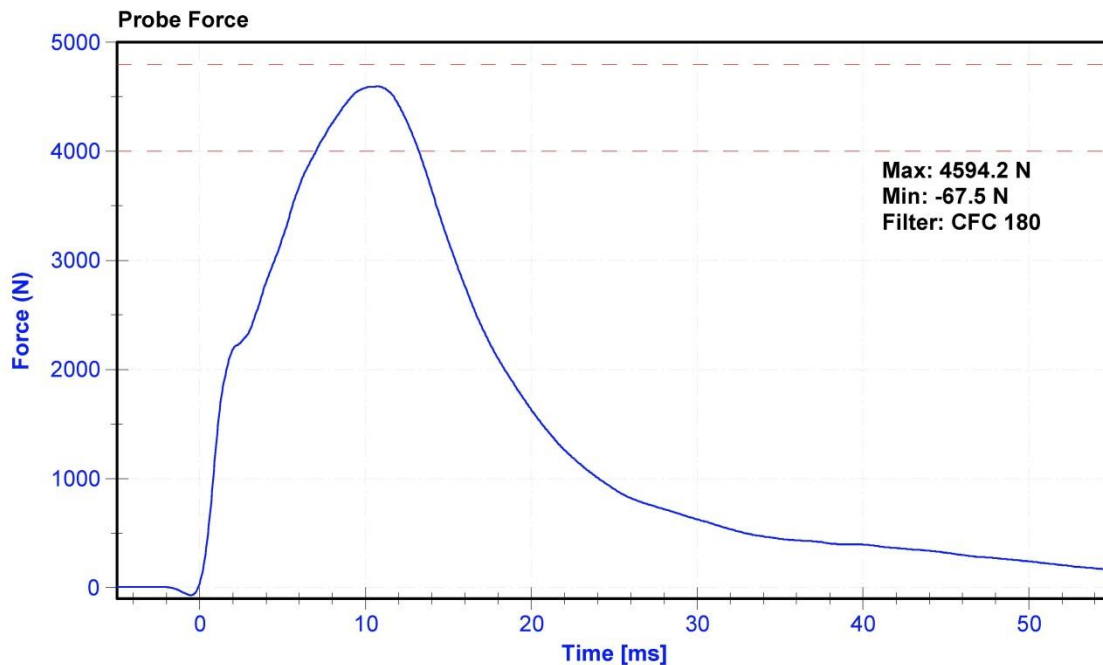
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

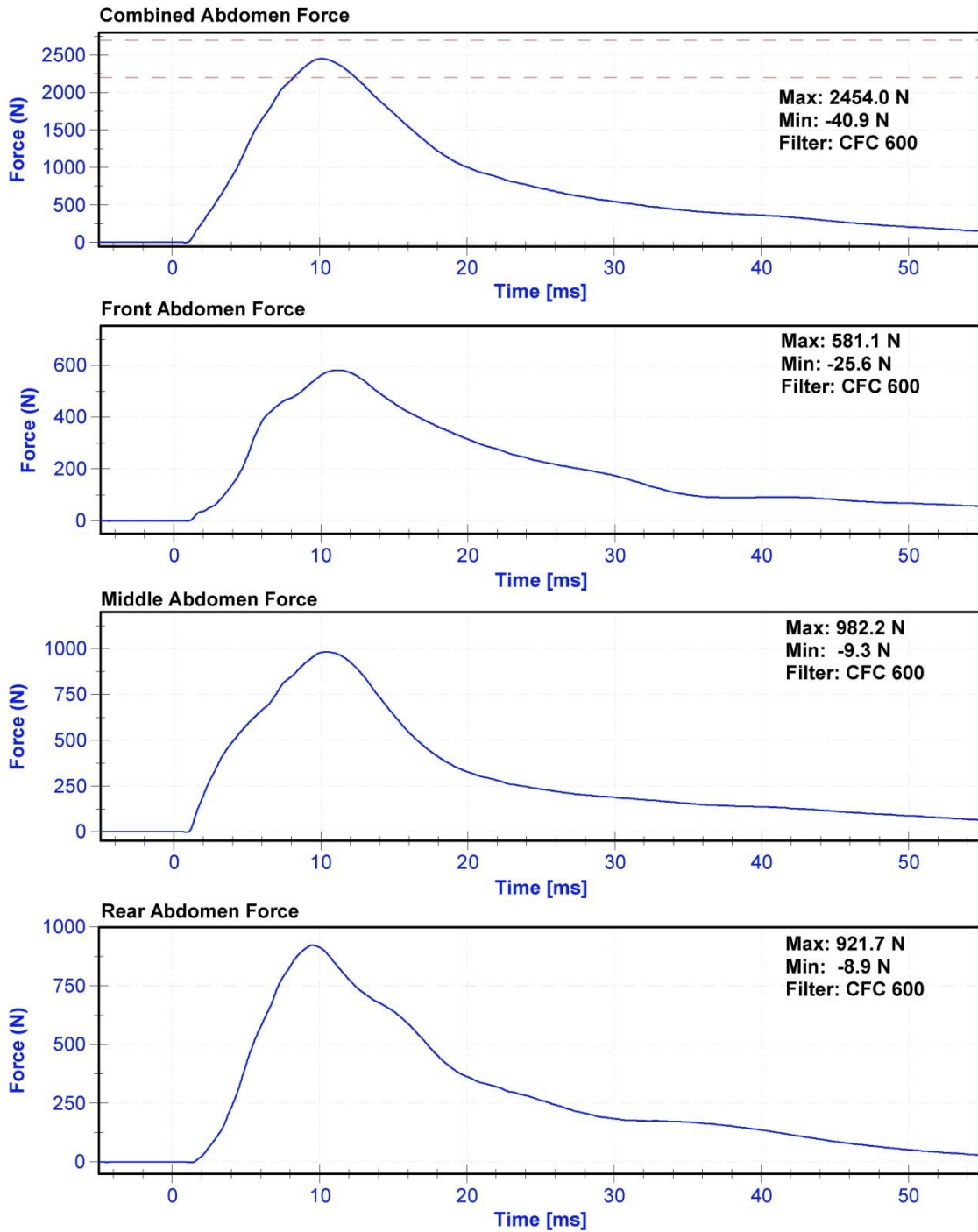
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	23.7	Pass
Velocity	3.9	4.1	m/s	3.97	Pass
Combined Abdomen Force	2,200	2,700	N	2454.0	Pass
Time at Peak Abdomen Force	10.0	12.3	ms	10.15	Pass
Resistive Probe Force	4,000	4,800	N	4594.2	Pass
Time at Peak Resistive Force	10.6	13.0	ms	10.75	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015
Front Abdomen Load Cell	DENTON 2631	LC-1512	5/13/2014	5/13/2015
Middle Abdomen Load Cell	DENTON 2631	LC-1526	5/13/2014	5/13/2015
Rear Abdomen Load Cell	DENTON 2631	LC-1512	5/13/2014	5/13/2015





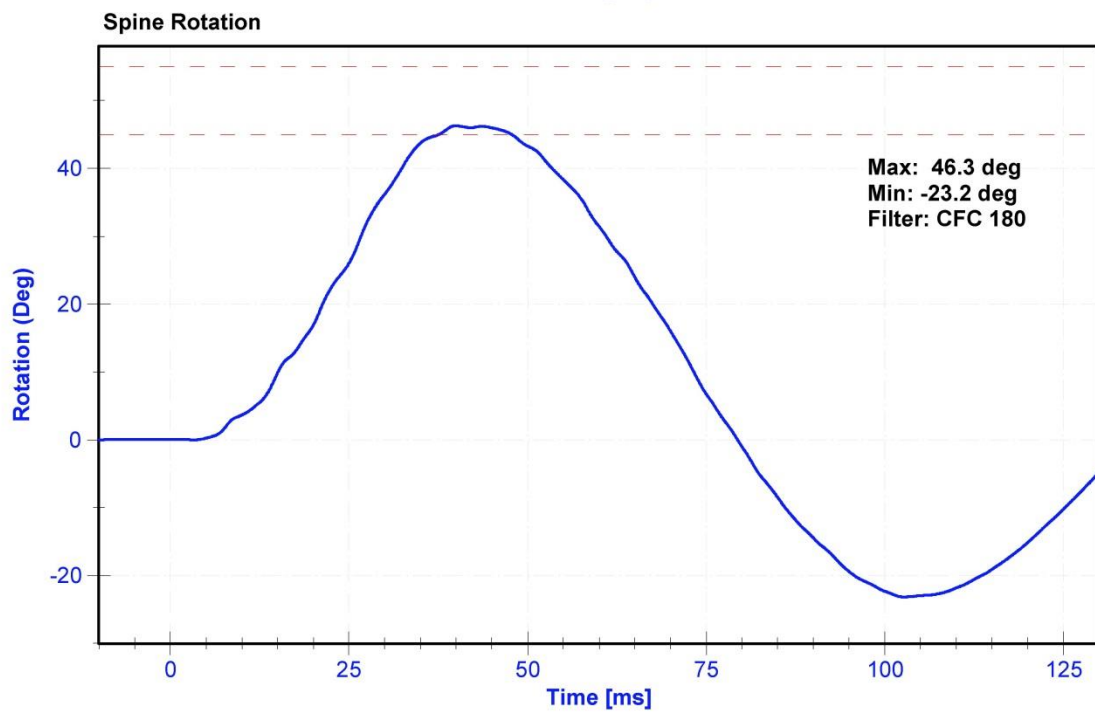
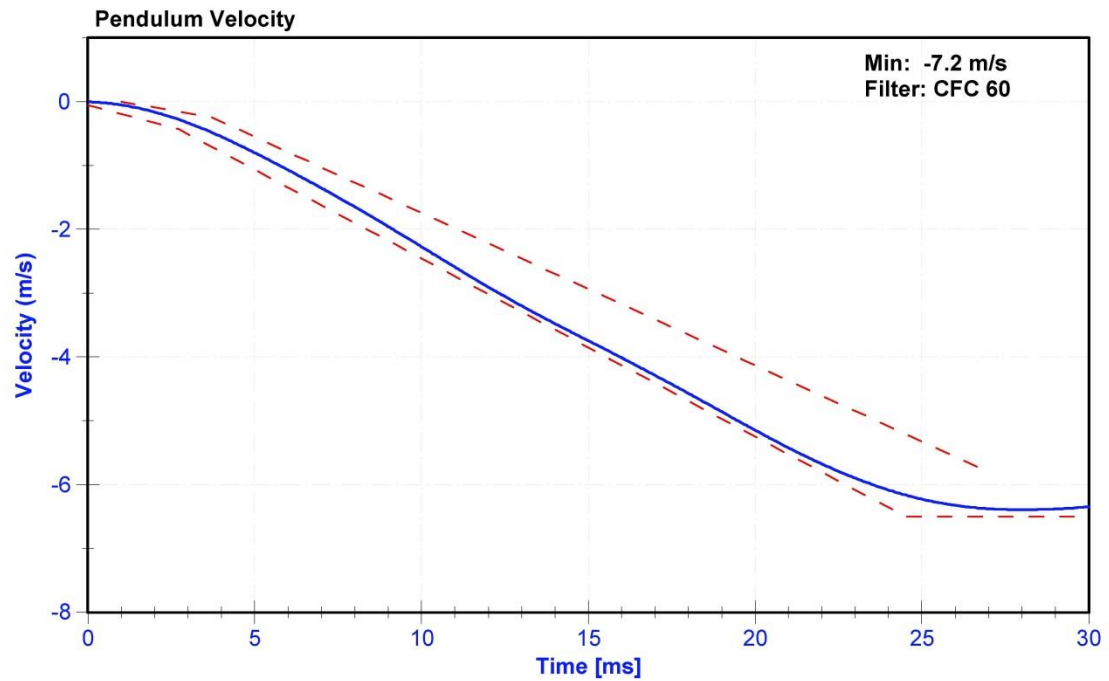
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

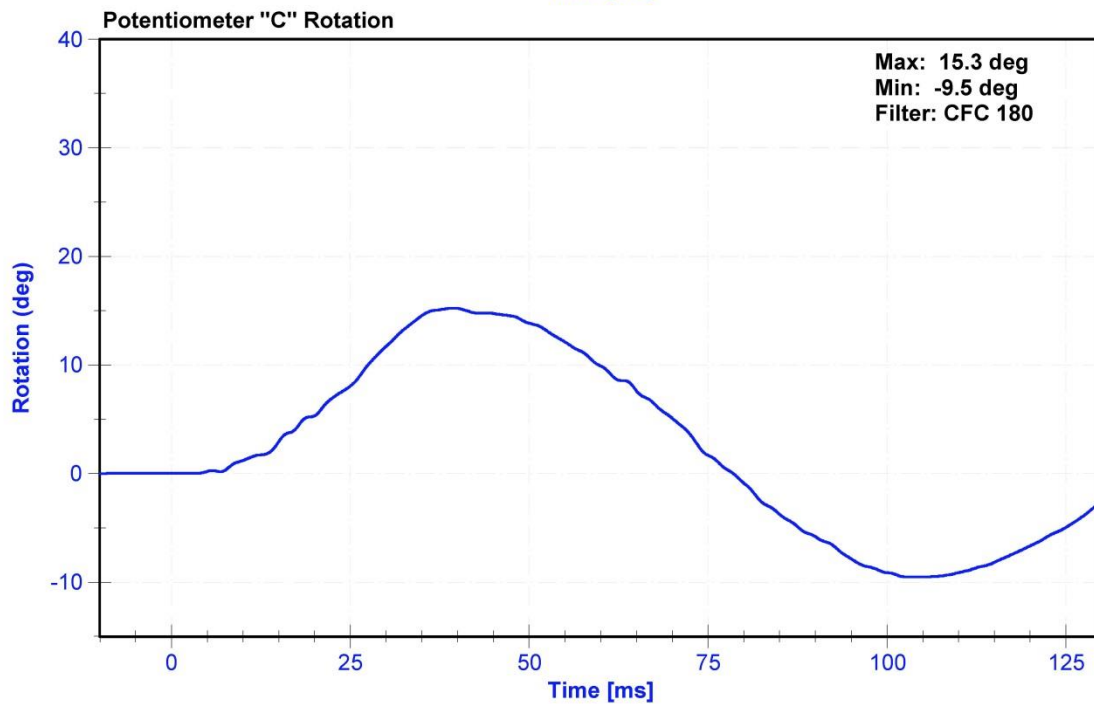
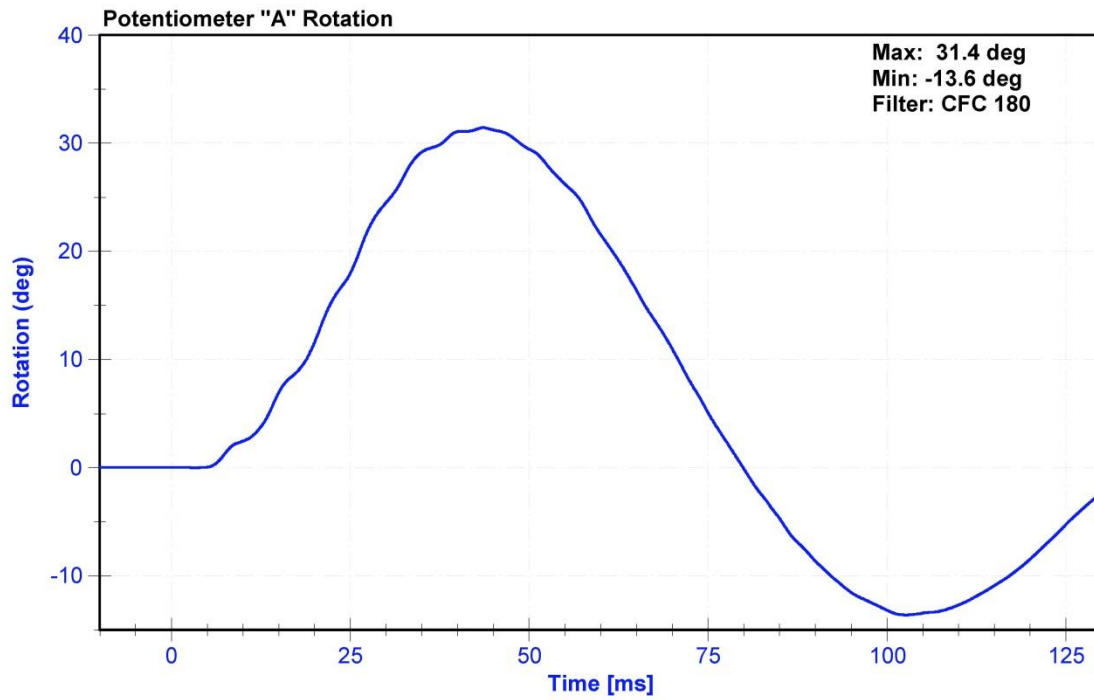
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.6	Pass
Humidity	10	70	%	20.2	Pass
Velocity	5.95	6.15	m/s	6.025	Pass
Lateral Spine Rotation	45	55	deg	46.3	Pass
Time at Maximum Rotation	39	53	ms	39.9	Pass
Time of Decay to Zero Degrees	37	57	ms	39.5	Pass
Pulse within Corridor?	-	-	-	Yes	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Pendulum "A" Potentiometer	SP22G	DS-094	11/13/2014	11/13/2015
Condyle "B" Potentiometer	SP22G	DS-095	11/13/2014	11/13/2015





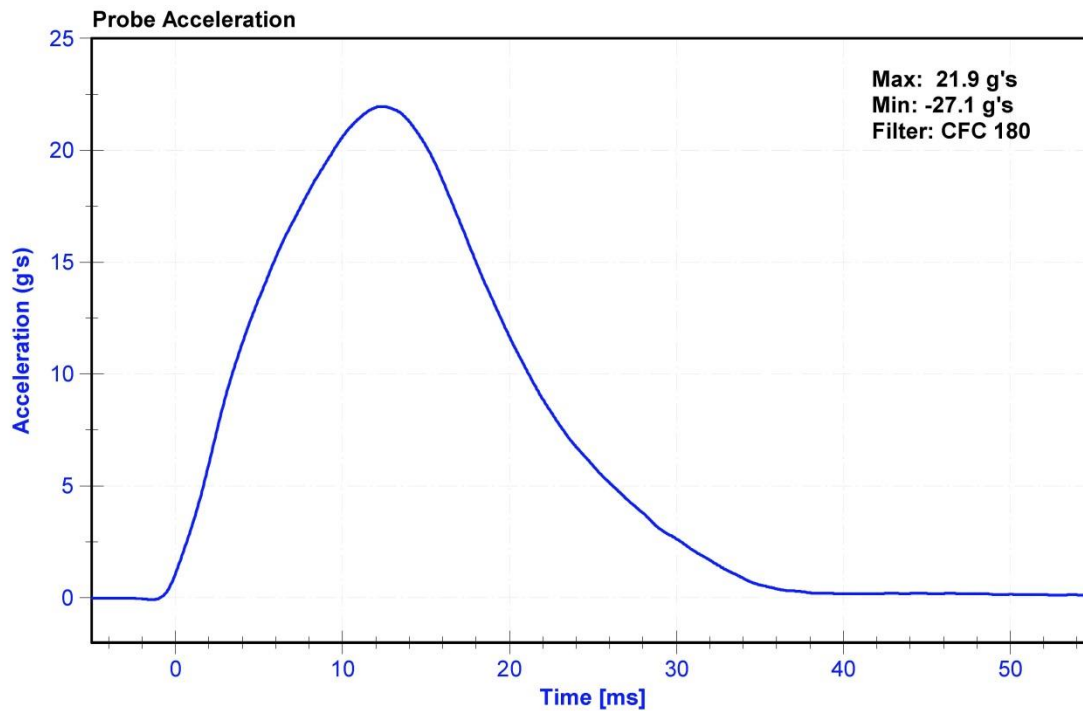
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

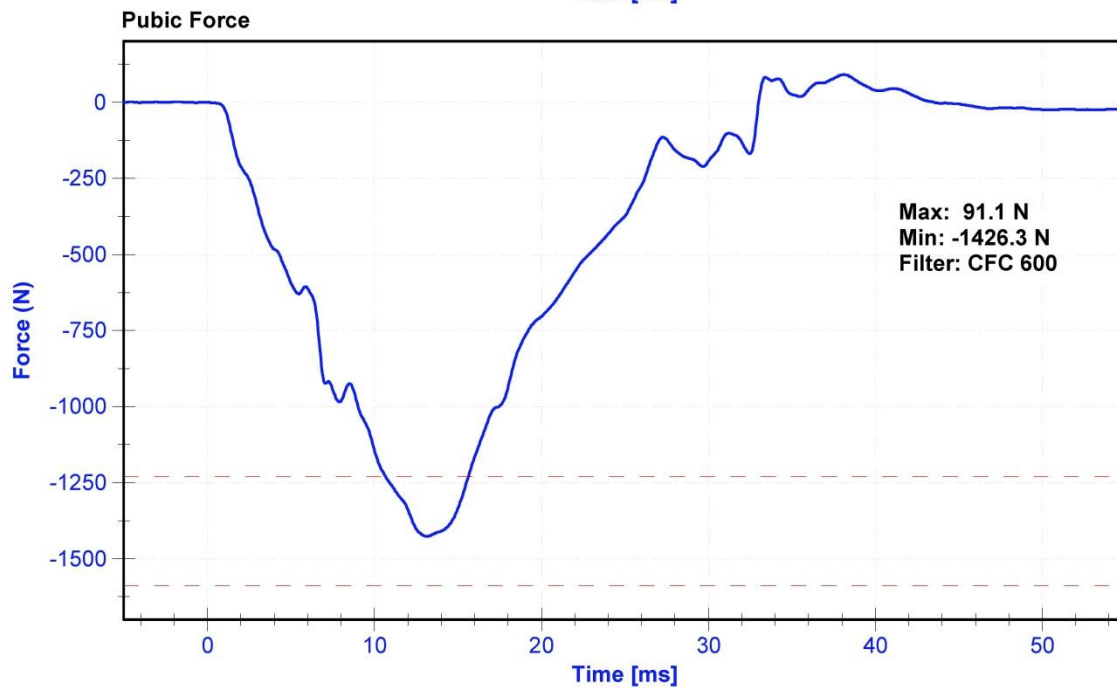
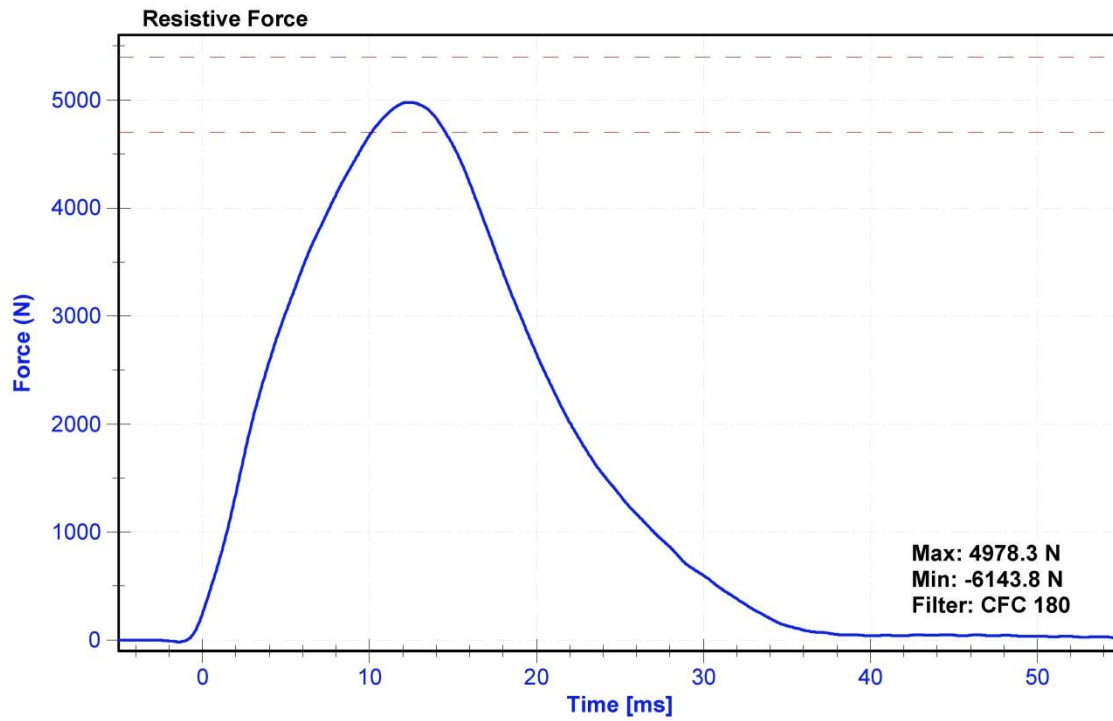
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	24.9	Pass
Velocity	4.2	4.4	m/s	4.32	Pass
Resistive Force	4,700	5,400	N	4978.3	Pass
Time at Peak Resistive Force	11.8	16.1	ms	12.30	Pass
Pubic Force	-1,590	-1,230	N	-1426.3	Pass
Time at Peak Pubic Force	12.2	17.0	ms	13.15	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015
Pubic Load Cell	Denton 3096JFL	LC-465Fy	5/13/2014	5/13/2015





CALIBRATION TEST RESULTS

PRE-TEST

SID-IIS 5TH PERCENTILE FEMALE - PASSENGER ATD

SERIAL No: 303

(CONFIGURED FOR LEFT SIDE IMPACT)

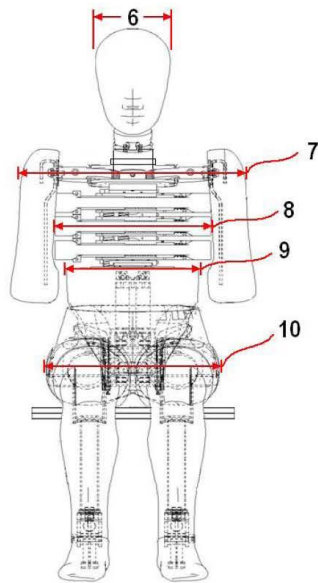


External Measurements - EuroSID-2re

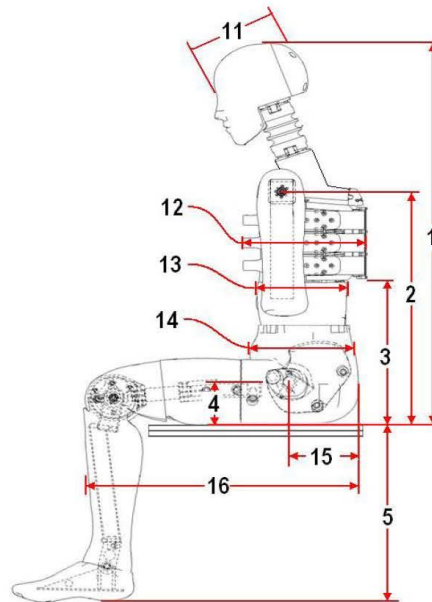
Technician: M. Geesey

Date: 1/30/2015

Dummy Serial Number: F034



FRONT VIEW



SIDE VIEW

Dim. No.	Description	Specification (mm)		Result (mm)	Pass/Fail
1	Sitting Height	900	918	910	Pass
2	Seat to Shoulder Joint	558	572	562	Pass
3	Seat to Lower Face of Thoracic Spine Box	346	356	347	Pass
4	Seat to Hip Joint (center of bolt)	97	103	100	Pass
5	Sole to Seat, Sitting	333	451	417	Pass
6	Head Width	152	158	154	Pass
7	Shoulder/Arm Width	461	479	474	Pass
8	Thorax Width	322	332	326	Pass
9	Abdomen Width	273	287	283	Pass
10	Pelvis Lap Width	359	373	368	Pass
11	Head Depth	196	206	199	Pass
12	Thorax Depth	262	272	269	Pass
13	Abdomen Depth	194	204	200	Pass
14	Pelvis Depth	235	245	239	Pass
15	Back of Buttocks to Hip Joint (center of bolt)	150	160	154	Pass
16	Back of Buttocks to Front Knee	597	615	605	Pass

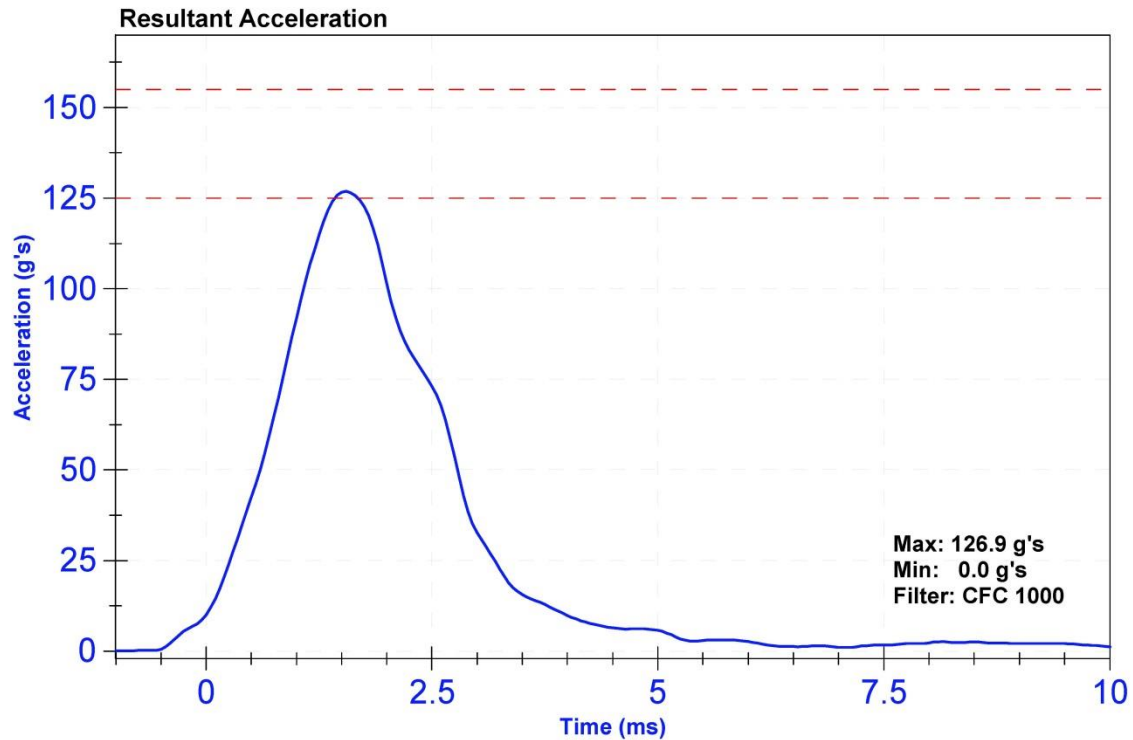
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

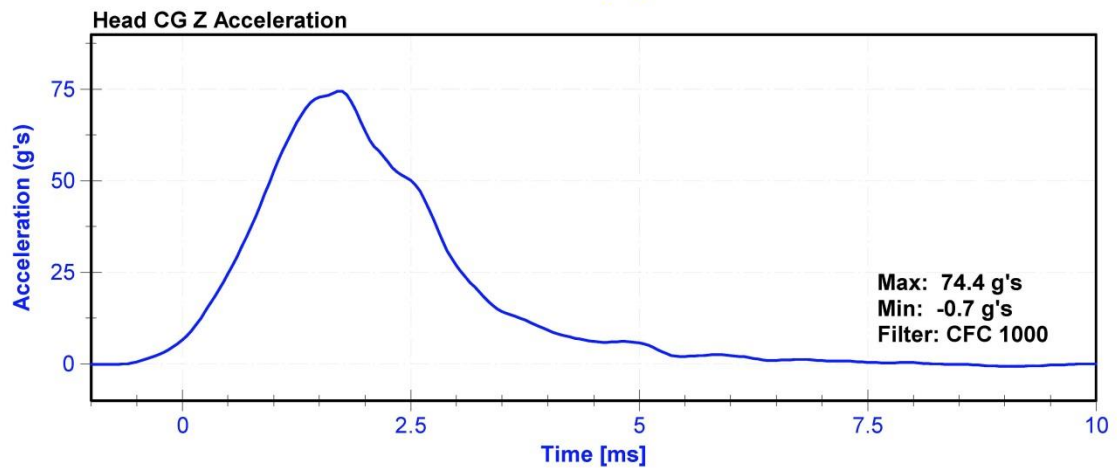
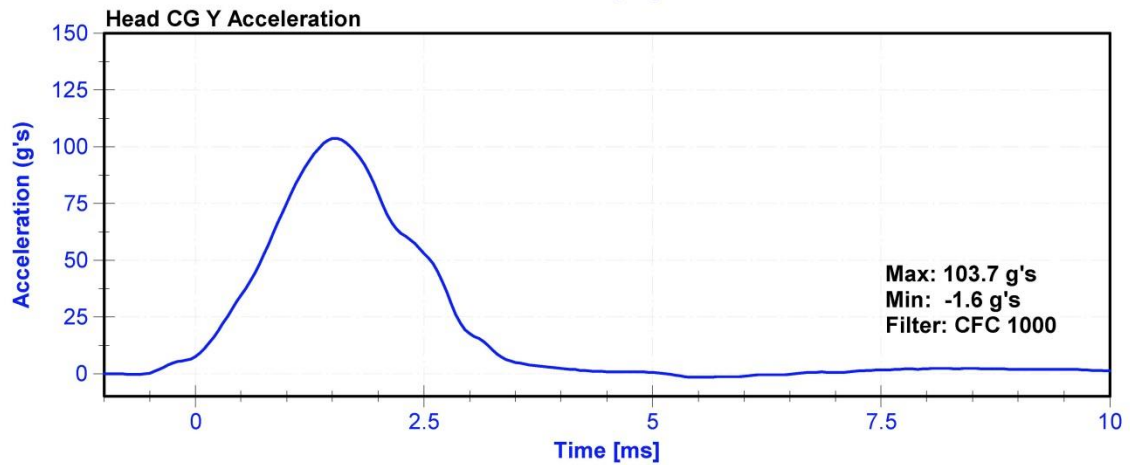
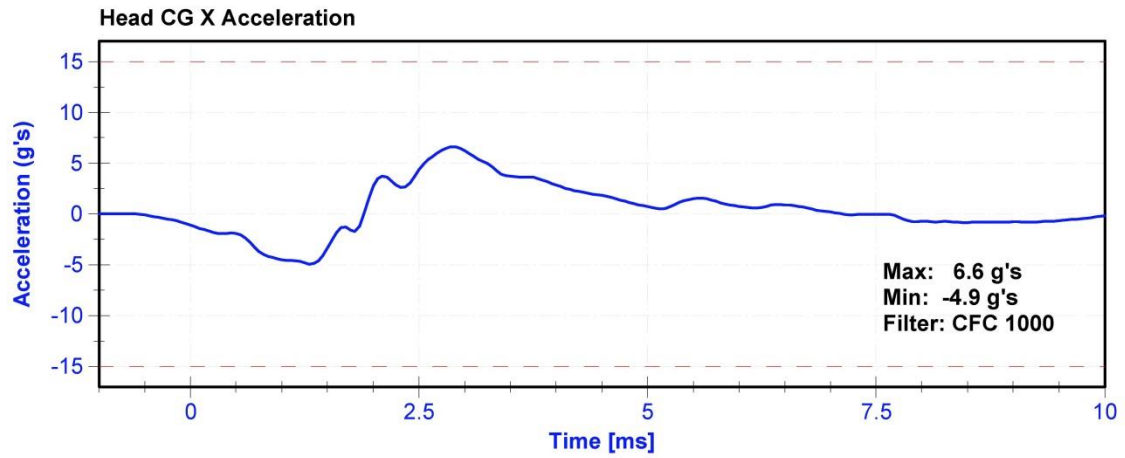
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	12.5	Pass
Resultant Acceleration	125	155	g's	126.9	Pass
Oscillation	0	15	%	4.93	Pass
Fore-Aft Acceleration	-15	15	g's	6.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	ENDEVCO 7264CT	AC-P58904	8/29/2014	2/27/2015
Y Accelerometer	ENDEVCO 7264CT	AC-P58911	8/29/2014	2/27/2015
Z Accelerometer	ENDEVCO 7264CT	AC-P58776	8/29/2014	2/27/2015





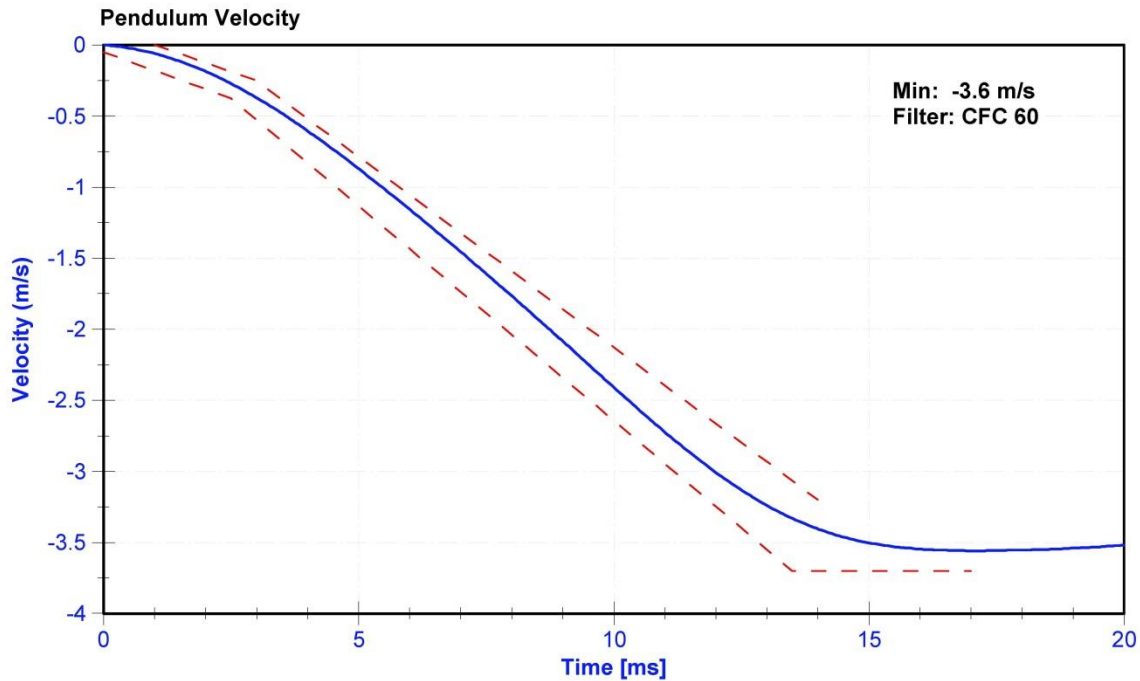
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

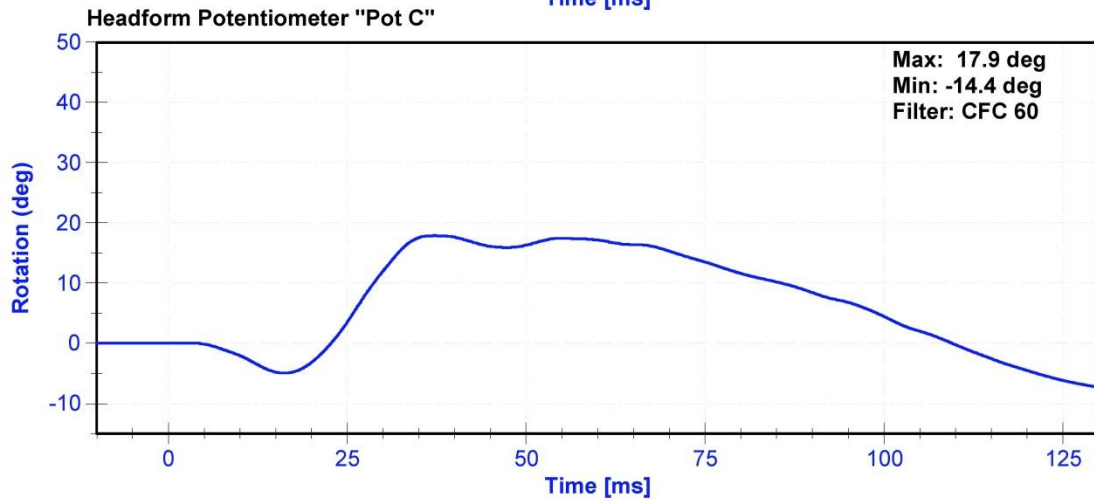
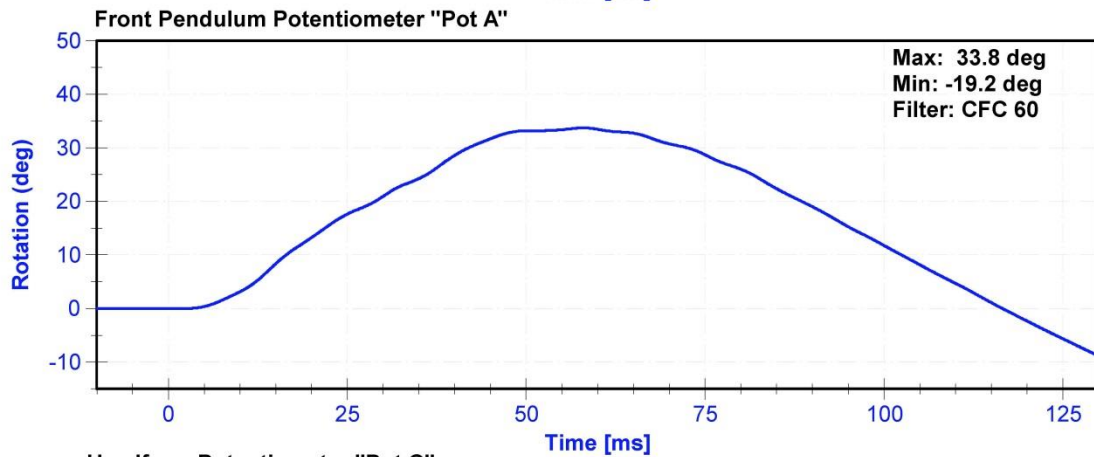
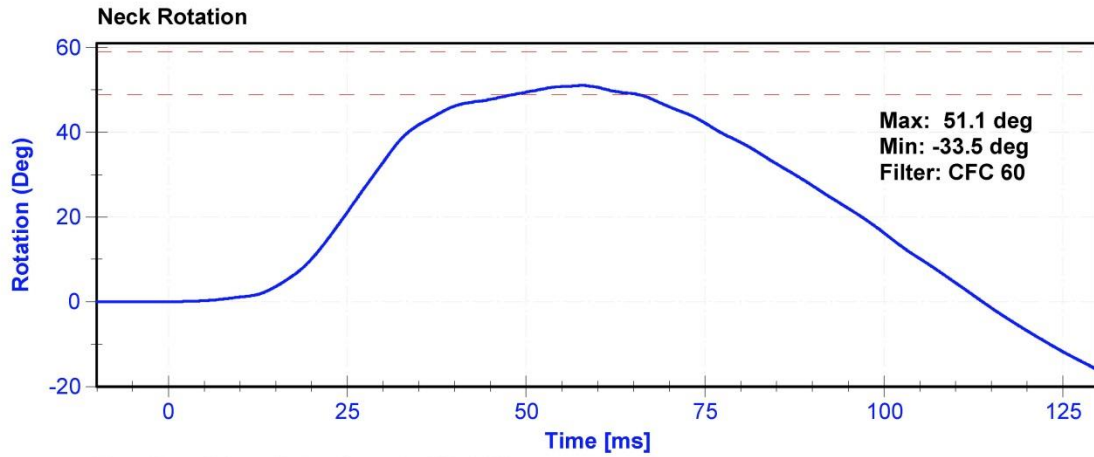
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	19.8	Pass
Velocity	3.3	3.5	m/s	3.36	Pass
Lateral Neck Rotation	49	59	deg	51.1	Pass
Time at Maximum Rotation	54	66	ms	57.8	Pass
Time of Rotation Decay from Maximum	53	88	ms	55.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Front Pendulum Potentiometer	SP22G	DS-094	11/13/2014	11/13/2015
Headform Potentiometer	SP22G	DS-095	11/13/2014	11/13/2015





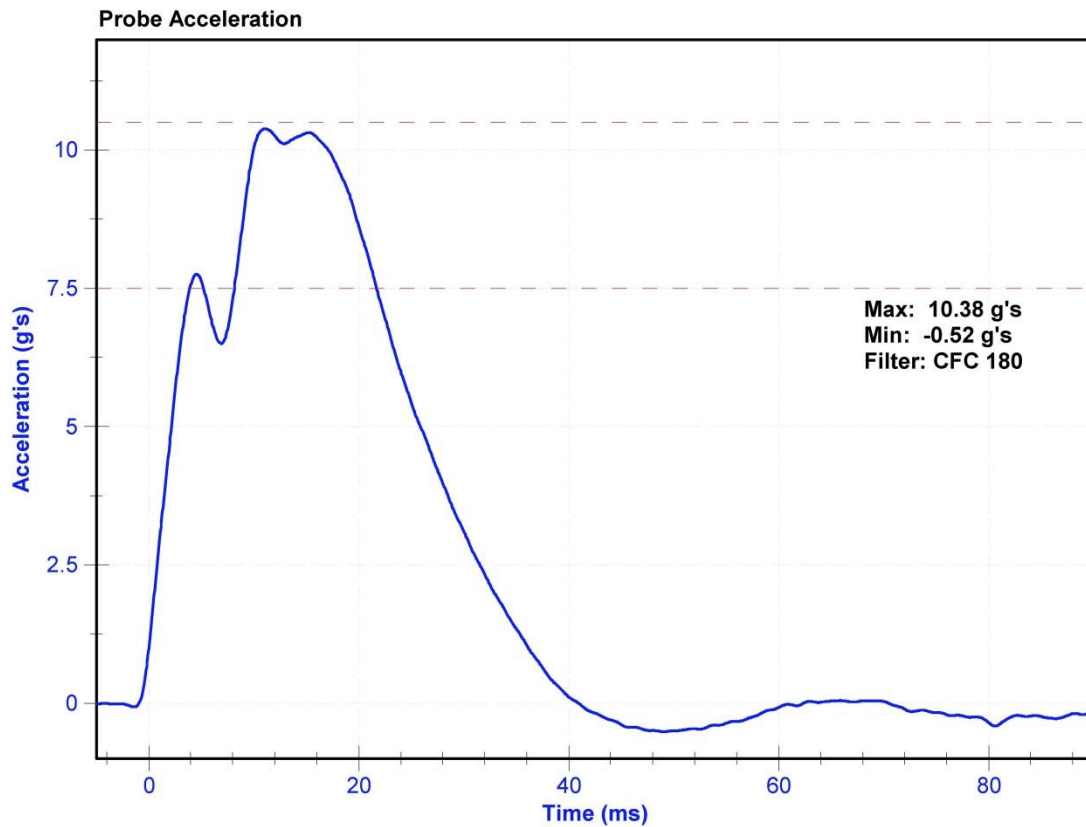
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	23.6	Pass
Velocity	4.2	4.4	m/s	4.26	Pass
Probe Acceleration	7.5	10.5	g's	10.38	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015



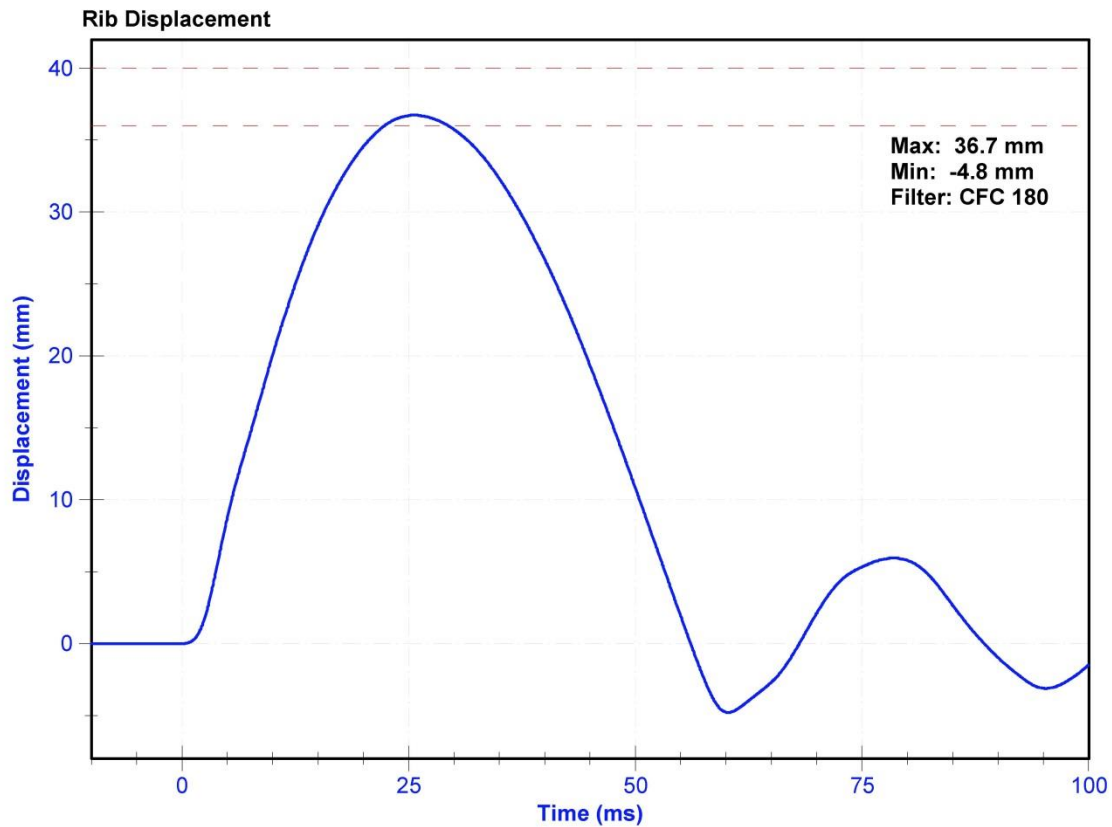
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	18.1	Pass
Rib Displacement	36	40	mm	36.7	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015



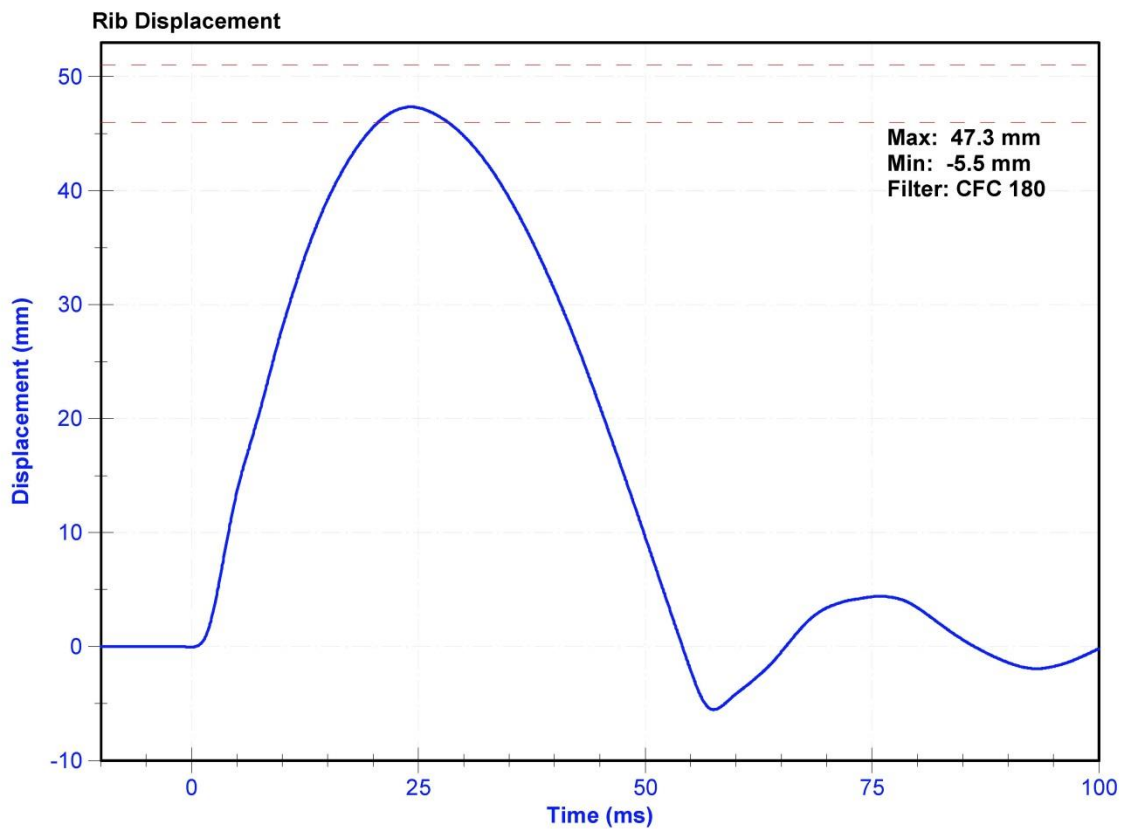
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	18.1	Pass
Rib Displacement	46	51	mm	47.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015



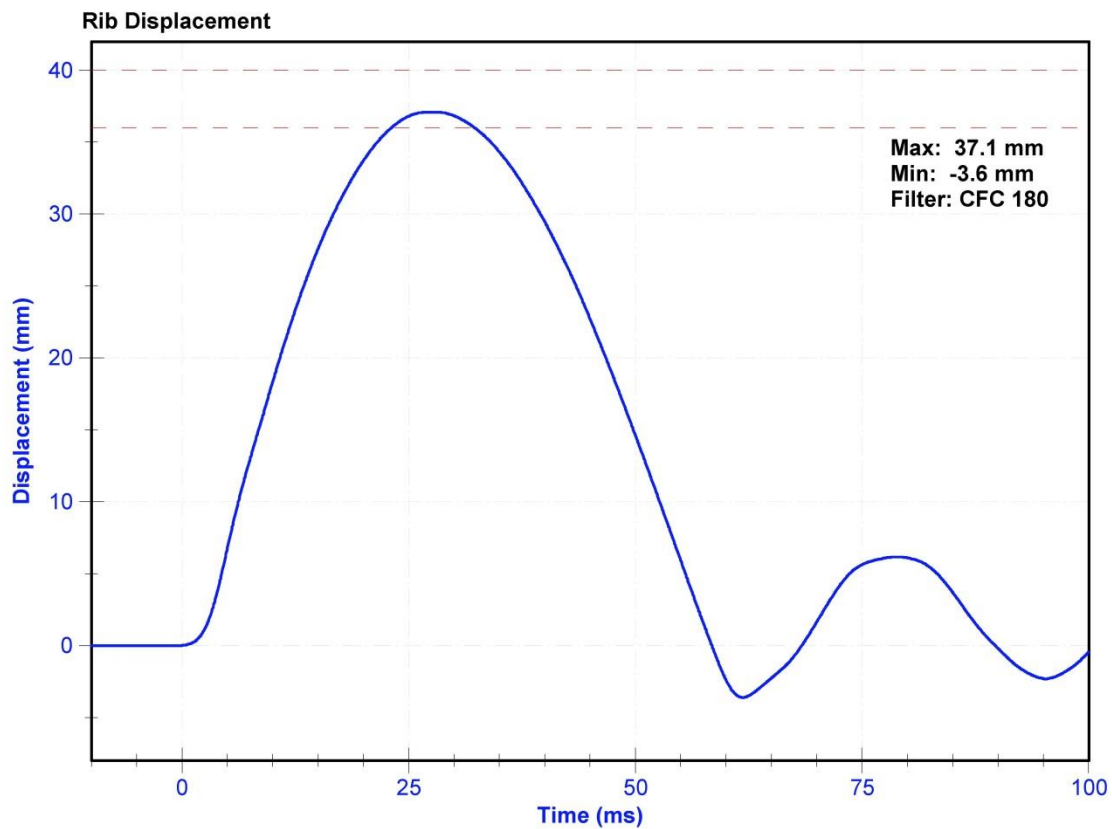
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	36	40	mm	37.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015



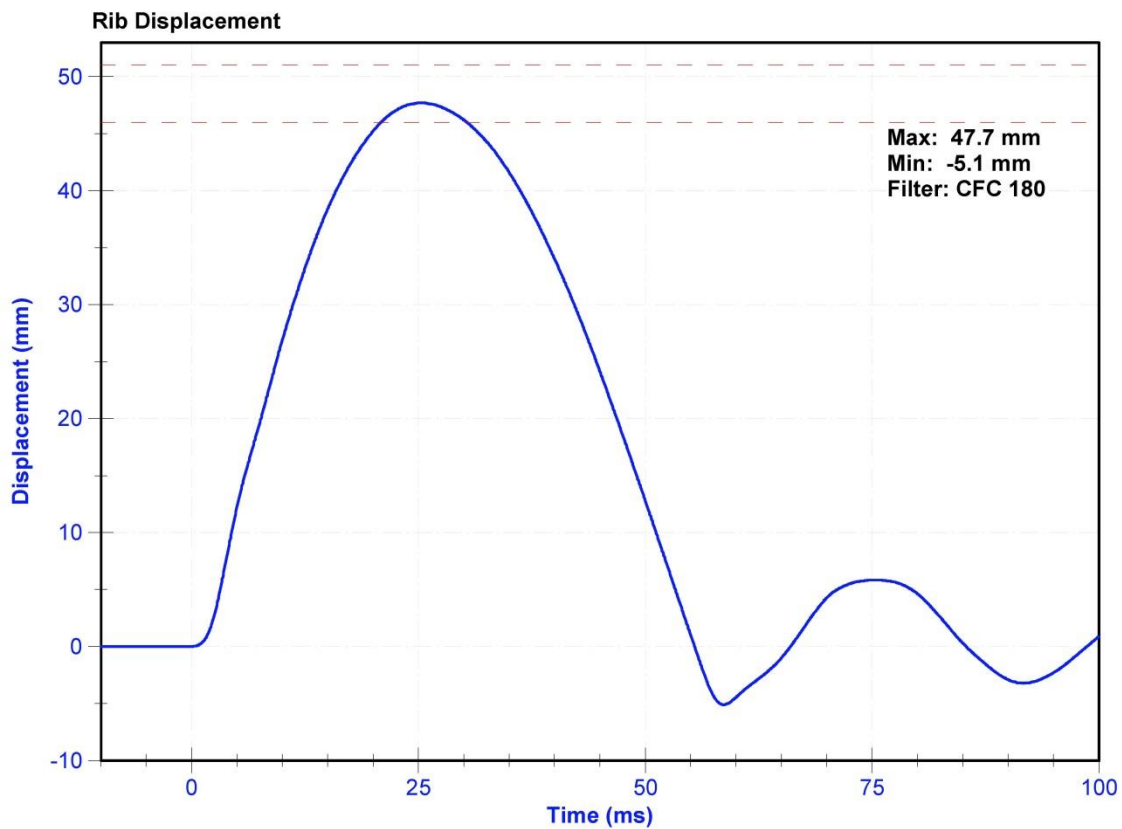
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	46	51	mm	47.7	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015



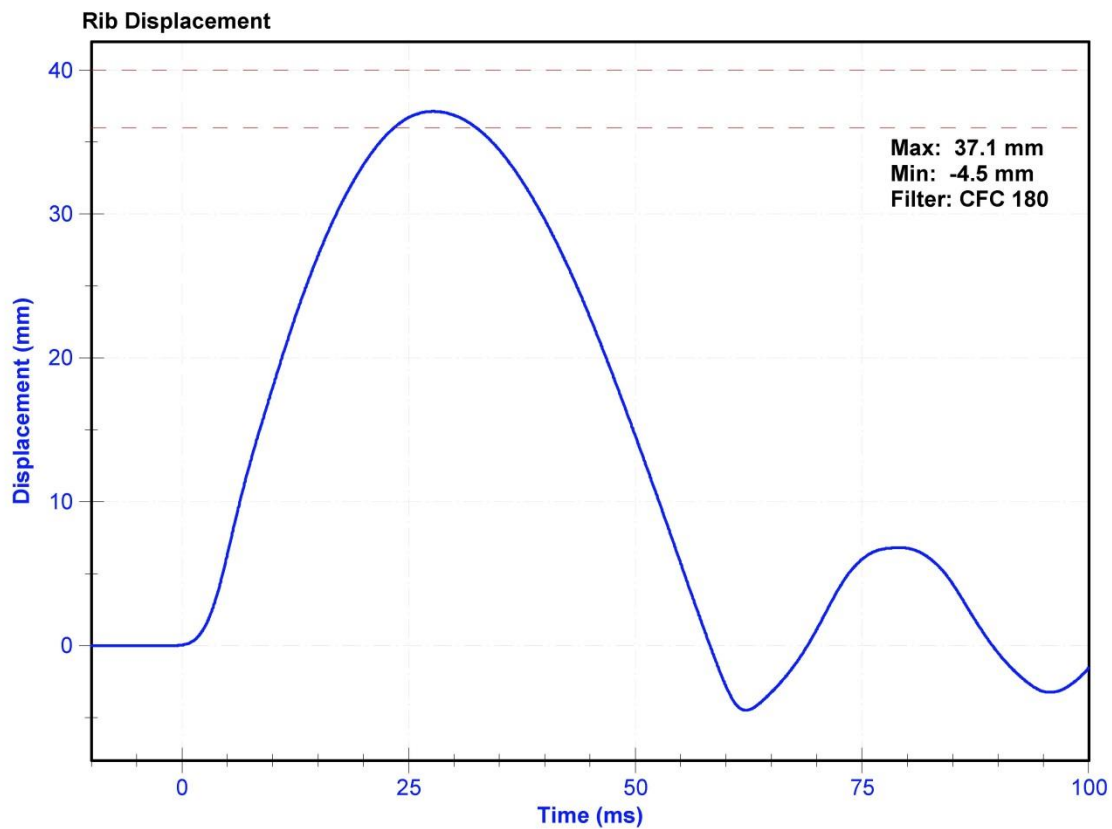
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	36	40	mm	37.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015



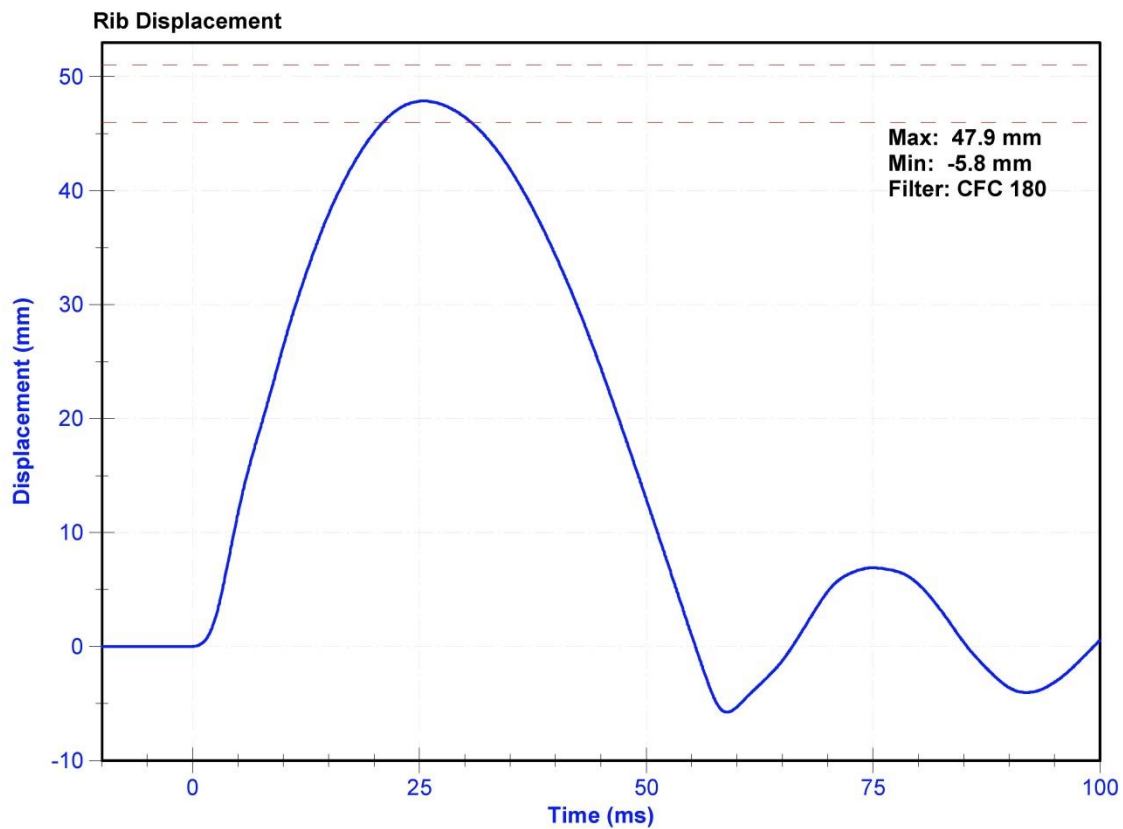
ATD Manufacturer	First Technology	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.9	Pass
Humidity	10	70	%	20.5	Pass
Rib Displacement	46	51	mm	47.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015



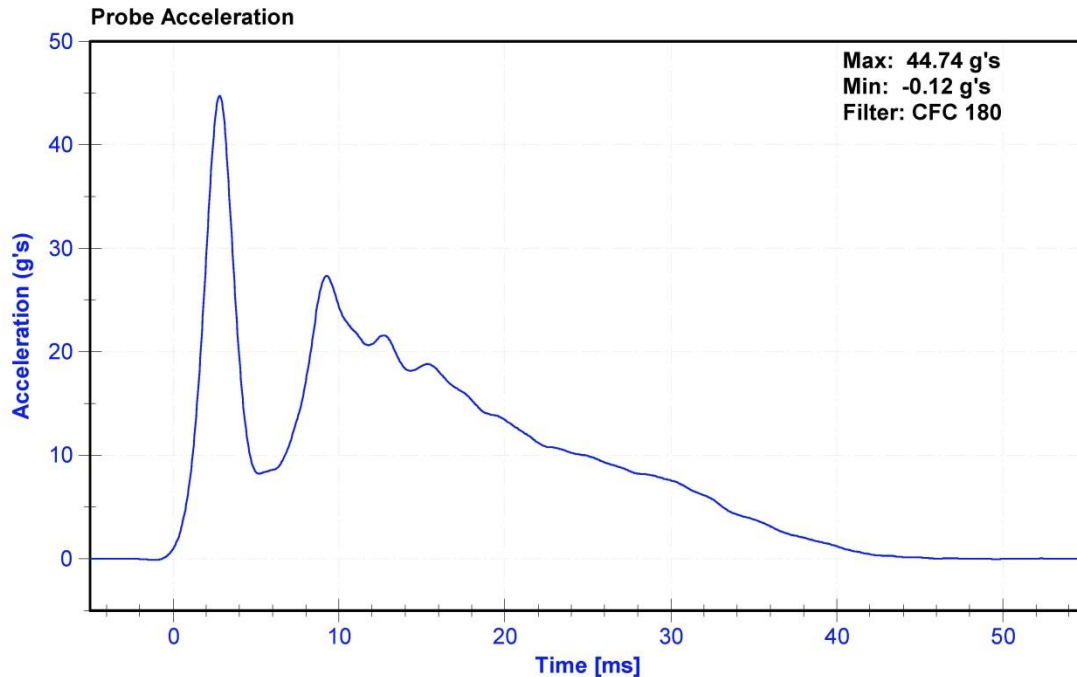
ATD Manufacturer	FTSS	Test Technician	M. Geesey/M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M. Goehle

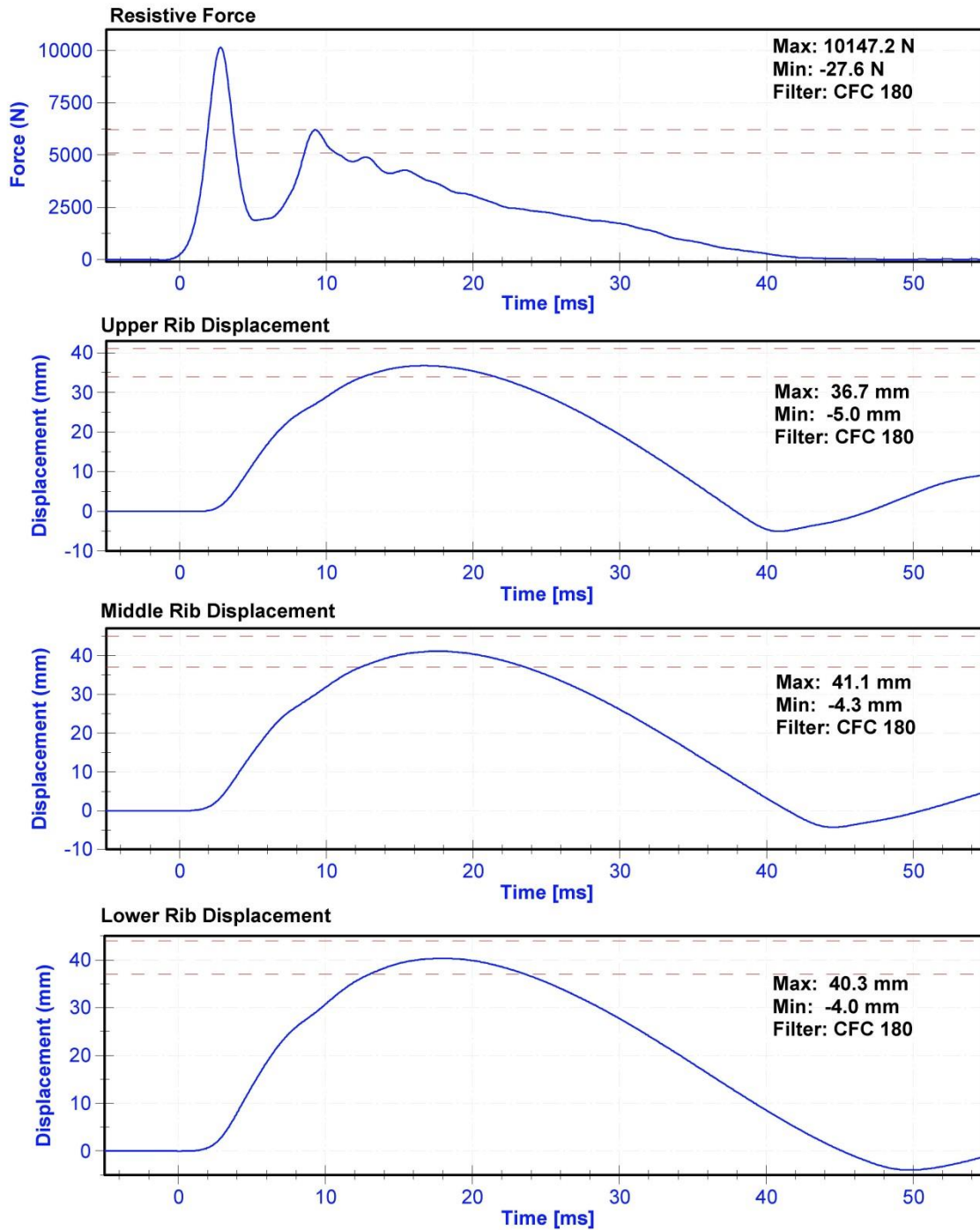
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	23.1	Pass
Velocity	5.4	6.8	m/s	5.51	Pass
Resistive Force after 6ms	5,100	6,200	N	6198.9	Pass
Upper Thorax Rib Deflection	34	41	mm	36.7	Pass
Mid Thorax Rib Deflection	37	45	mm	41.1	Pass
Lower Thorax Rib Deflection	37	44	mm	40.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015
Upper Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015
Middle Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015
Lower Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015





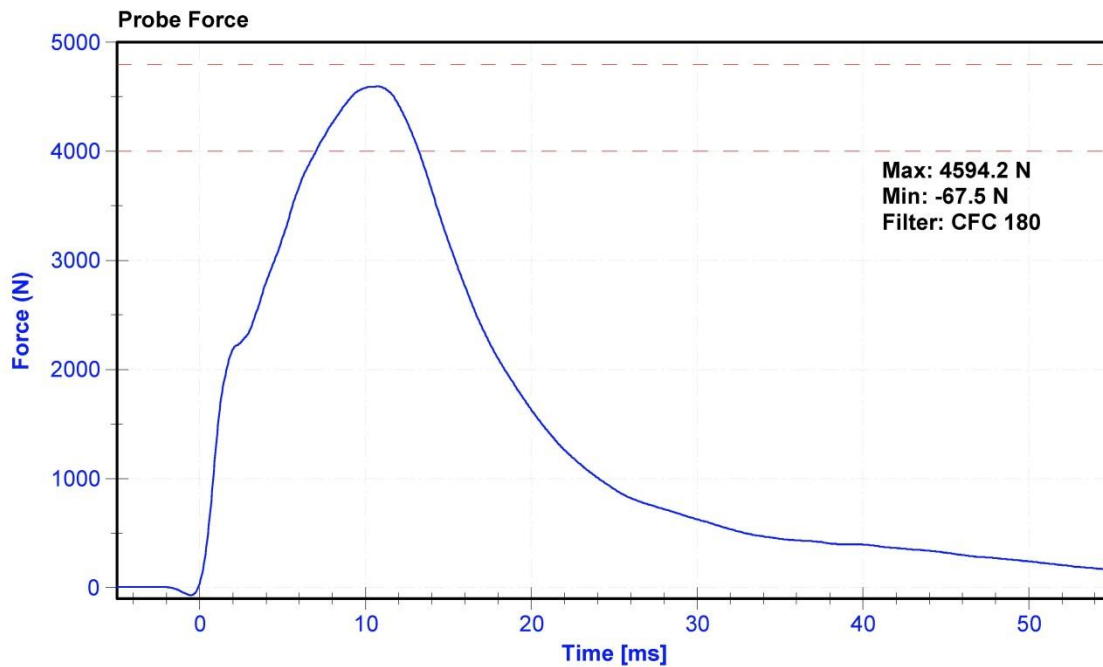
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

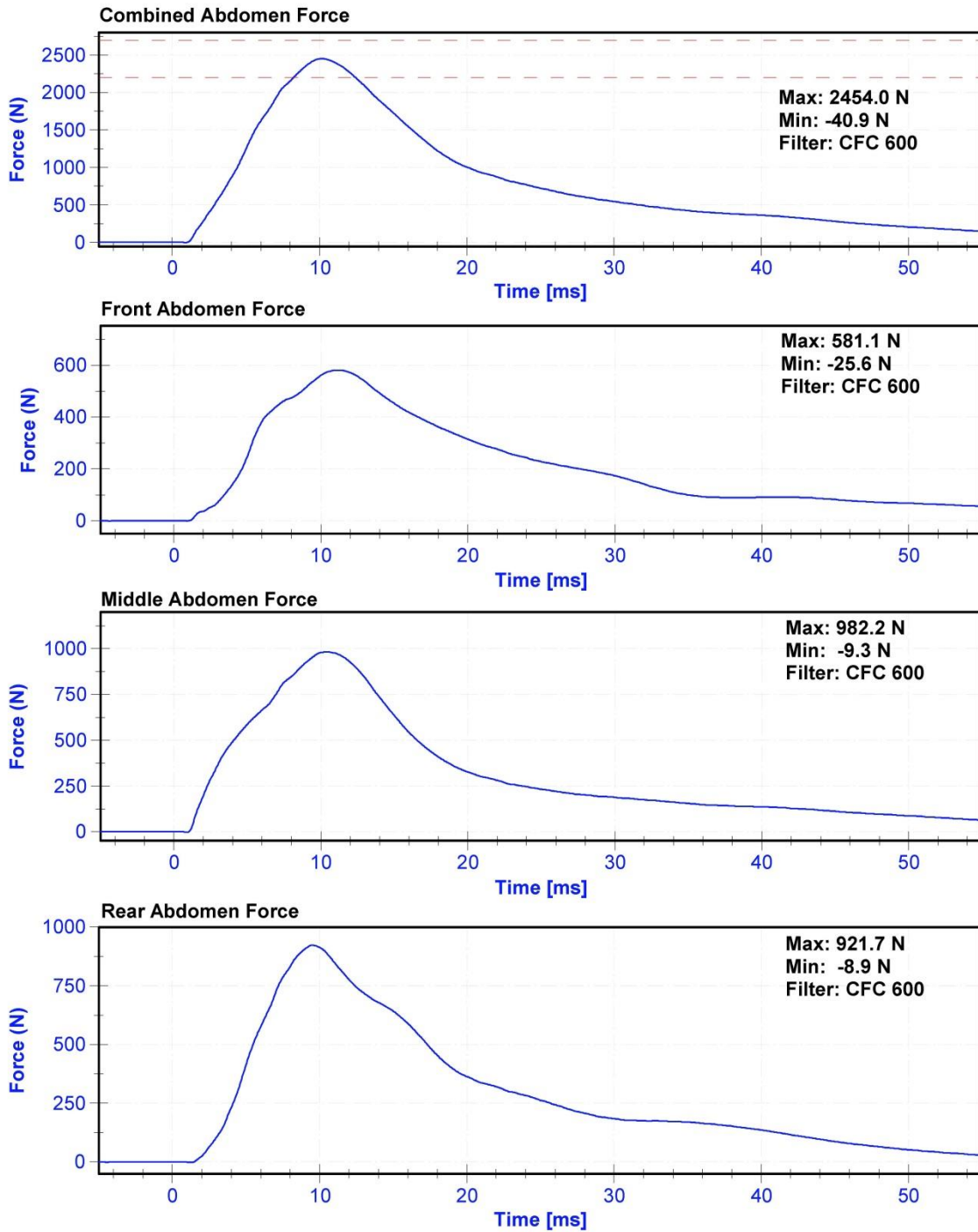
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	23.7	Pass
Velocity	3.9	4.1	m/s	3.97	Pass
Combined Abdomen Force	2,200	2,700	N	2454.0	Pass
Time at Peak Abdomen Force	10.0	12.3	ms	10.15	Pass
Resistive Probe Force	4,000	4,800	N	4594.2	Pass
Time at Peak Resistive Force	10.6	13.0	ms	10.75	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015
Front Abdomen Load Cell	DENTON 2631	LC-1512	5/13/2014	5/13/2015
Middle Abdomen Load Cell	DENTON 2631	LC-1526	5/13/2014	5/13/2015
Rear Abdomen Load Cell	DENTON 2631	LC-1512	5/13/2014	5/13/2015





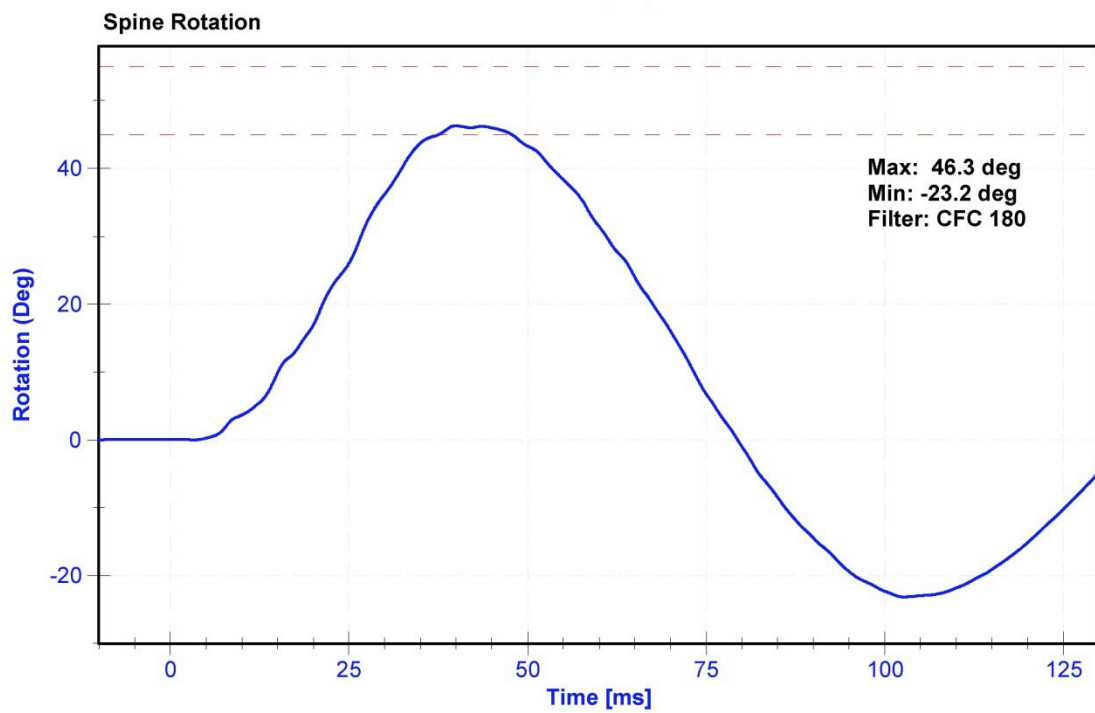
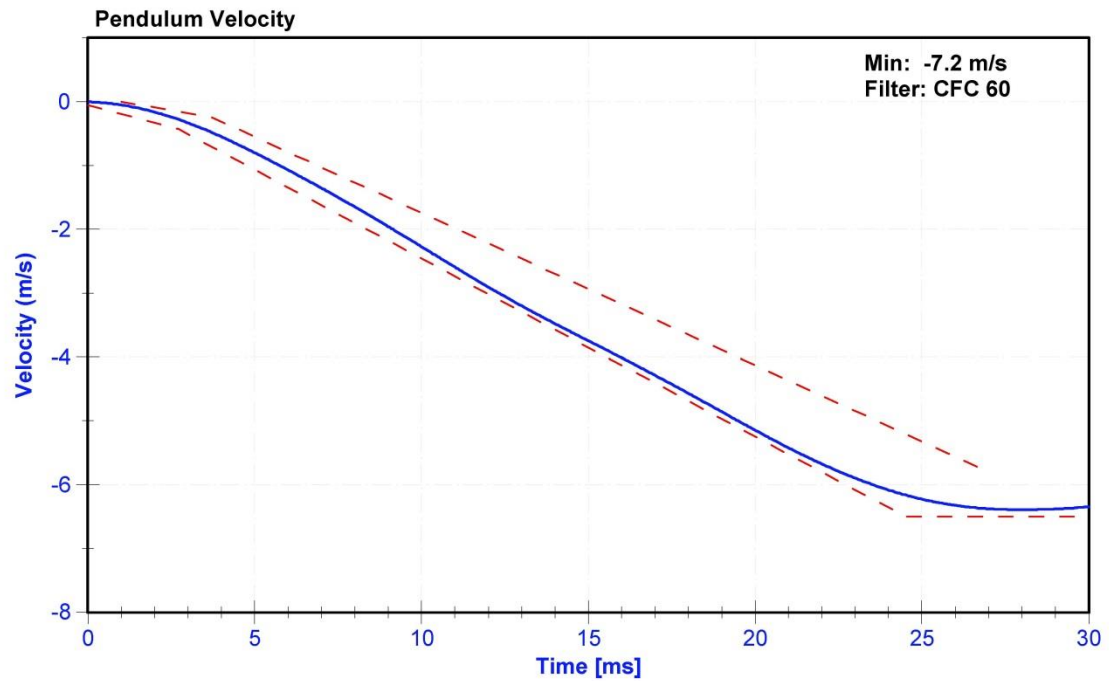
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

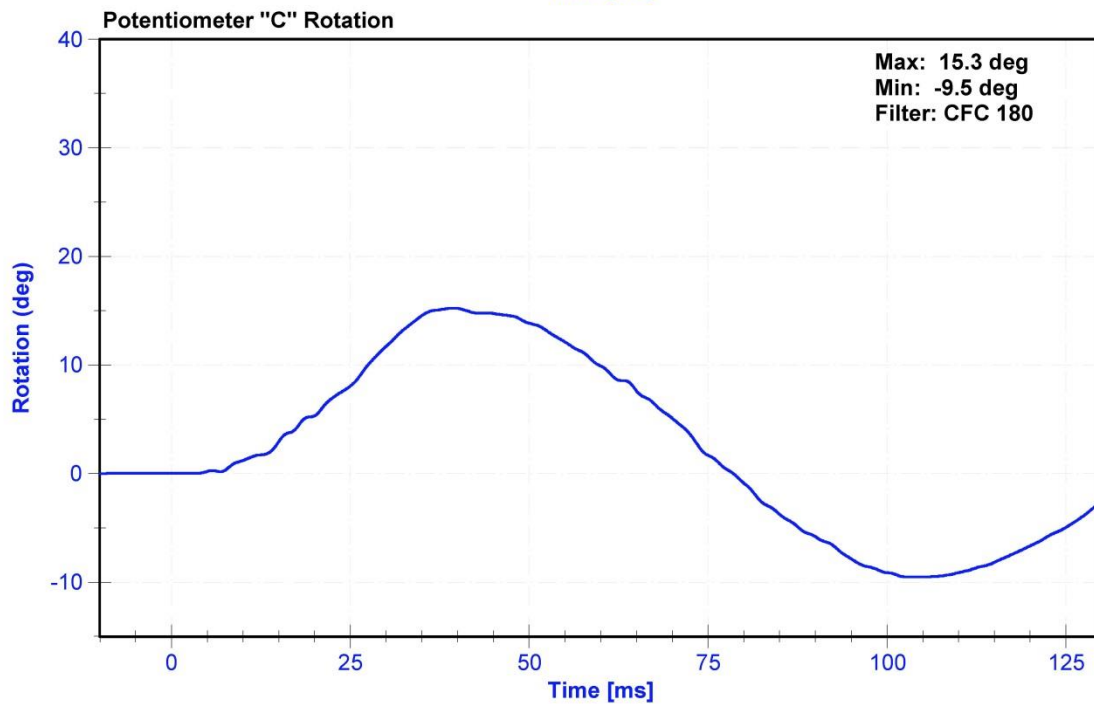
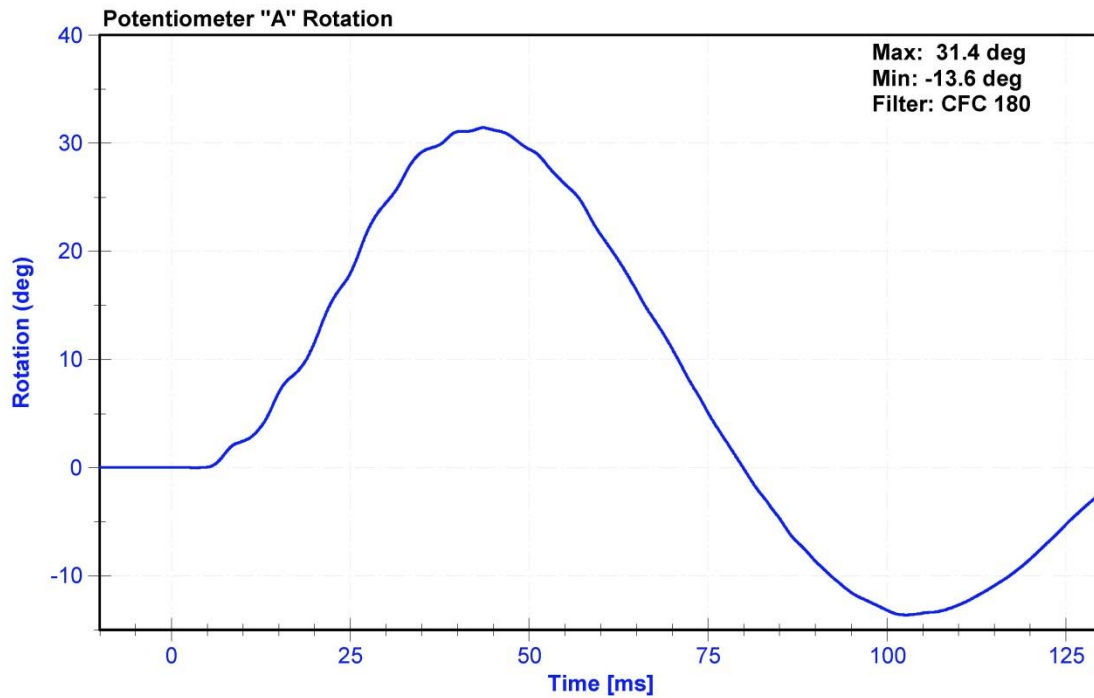
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.6	Pass
Humidity	10	70	%	20.2	Pass
Velocity	5.95	6.15	m/s	6.025	Pass
Lateral Spine Rotation	45	55	deg	46.3	Pass
Time at Maximum Rotation	39	53	ms	39.9	Pass
Time of Decay to Zero Degrees	37	57	ms	39.5	Pass
Pulse within Corridor?	-	-	-	Yes	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Pendulum "A" Potentiometer	SP22G	DS-094	11/13/2014	11/13/2015
Condyle "B" Potentiometer	SP22G	DS-095	11/13/2014	11/13/2015





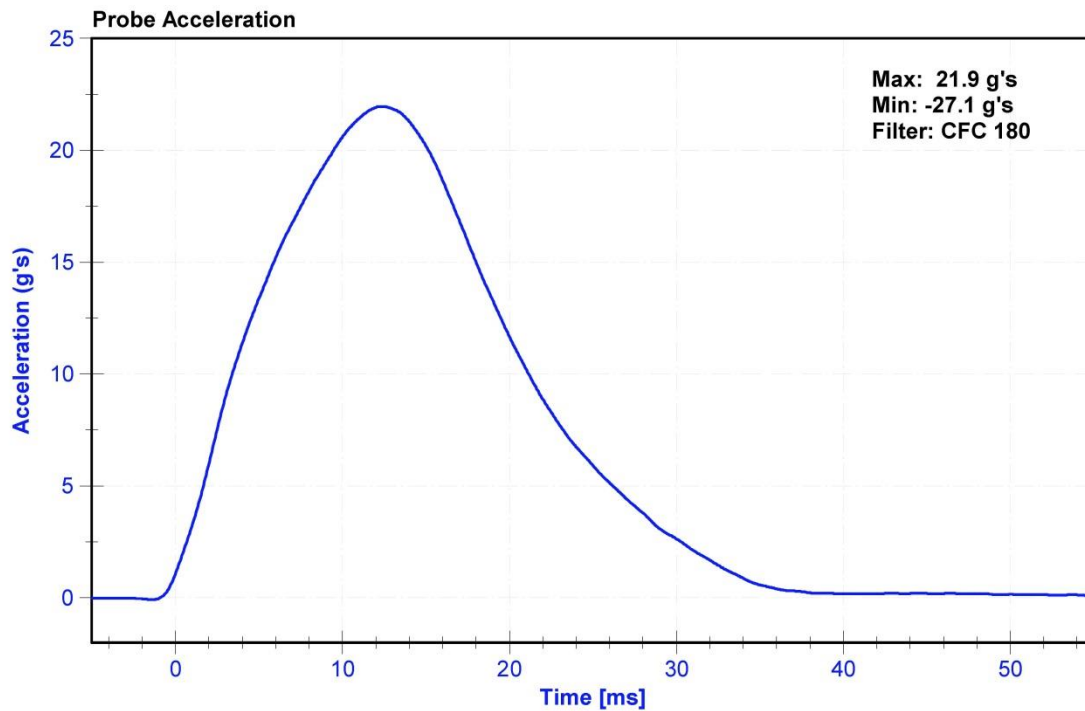
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

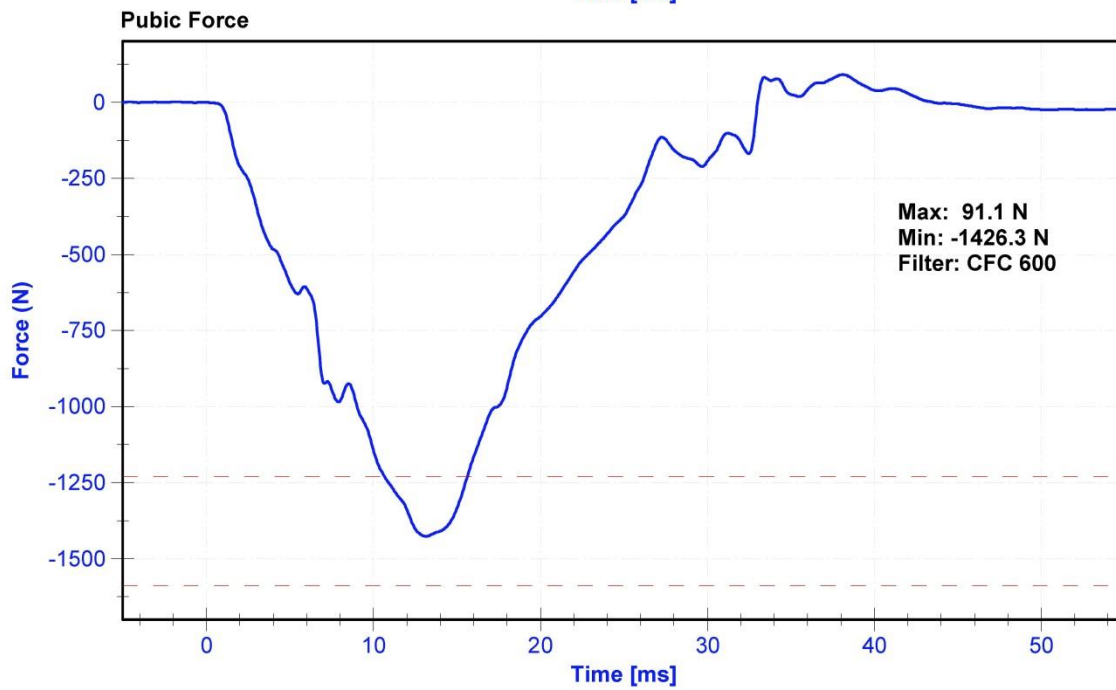
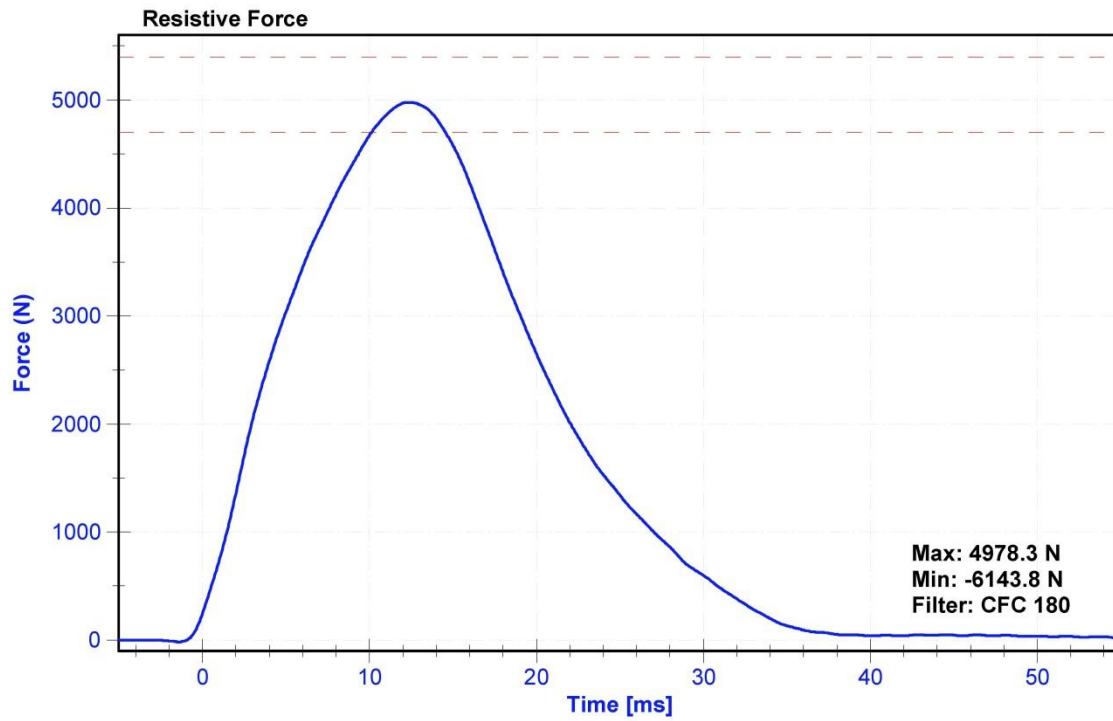
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	24.9	Pass
Velocity	4.2	4.4	m/s	4.32	Pass
Resistive Force	4,700	5,400	N	4978.3	Pass
Time at Peak Resistive Force	11.8	16.1	ms	12.30	Pass
Pubic Force	-1,590	-1,230	N	-1426.3	Pass
Time at Peak Pubic Force	12.2	17.0	ms	13.15	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14953	1/29/2015	7/30/2015
Pubic Load Cell	Denton 3096JFL	LC-465Fy	5/13/2014	5/13/2015





CALIBRATION TEST RESULTS

POST-TEST

EUROSID 2 (ES-2RE) MALE – DRIVER ATD

SERIAL NO: F034

(CONFIGURED FOR LEFT SIDE IMPACT)

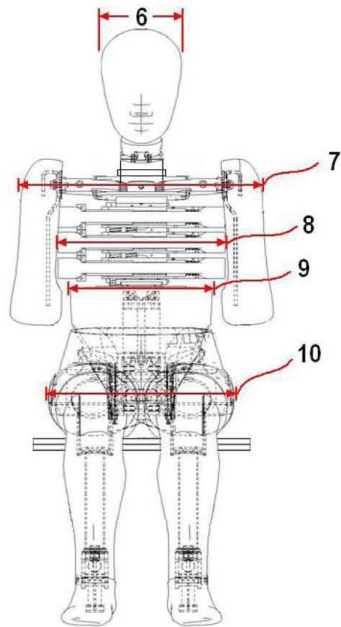


External Measurements - EuroSID-2re

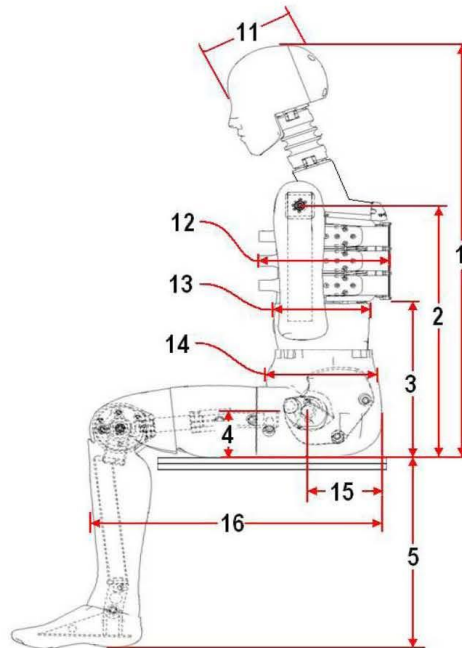
Technician: M.Hartung

Date: 2/10/2015

Dummy Serial Number: F034



FRONT VIEW



SIDE VIEW

Dim. No.	Description	Specification (mm)		Result (mm)	Pass/Fail
1	Sitting Height	900	918	912	Pass
2	Seat to Shoulder Joint	558	572	561	Pass
3	Seat to Lower Face of Thoracic Spine Box	346	356	348	Pass
4	Seat to Hip Joint (center of bolt)	97	103	99	Pass
5	Sole to Seat, Sitting	333	451	417	Pass
6	Head Width	152	158	153	Pass
7	Shoulder/Arm Width	461	479	477	Pass
8	Thorax Width	322	332	328	Pass
9	Abdomen Width	273	287	282	Pass
10	Pelvis Lap Width	359	373	369	Pass
11	Head Depth	196	206	199	Pass
12	Thorax Depth	262	272	268	Pass
13	Abdomen Depth	194	204	200	Pass
14	Pelvis Depth	235	245	238	Pass
15	Back of Buttocks to Hip Joint (center of bolt)	150	160	153	Pass
16	Back of Buttocks to Front Knee	597	615	601	Pass

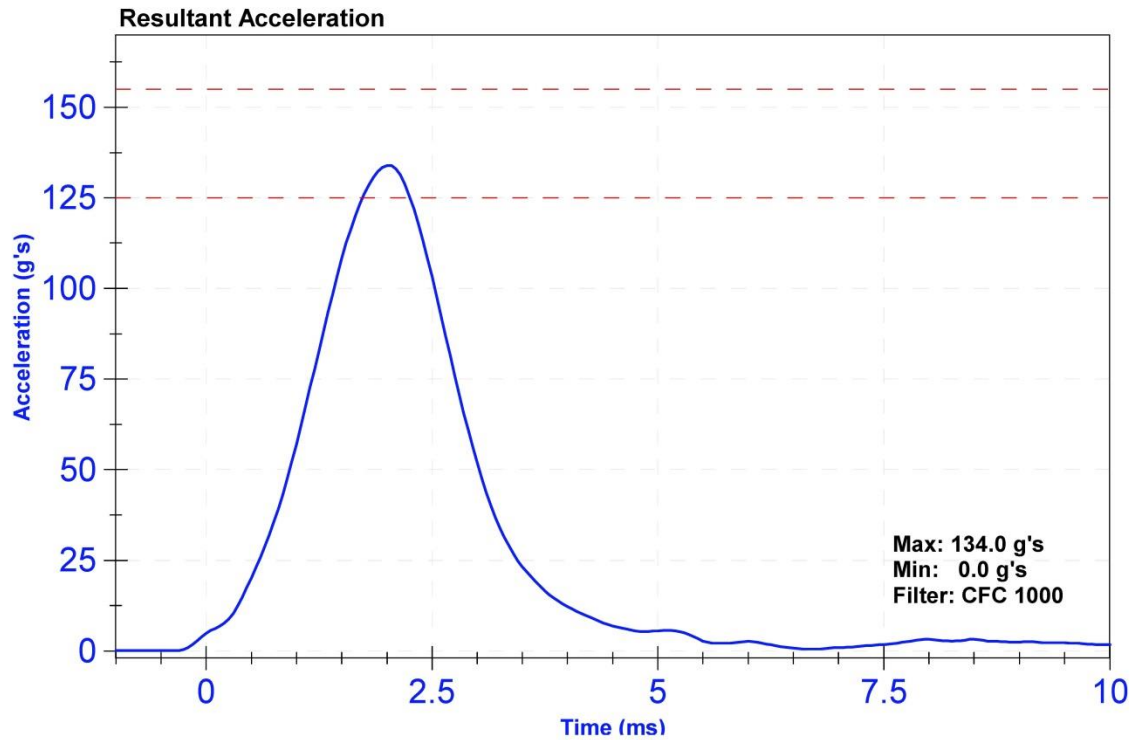
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

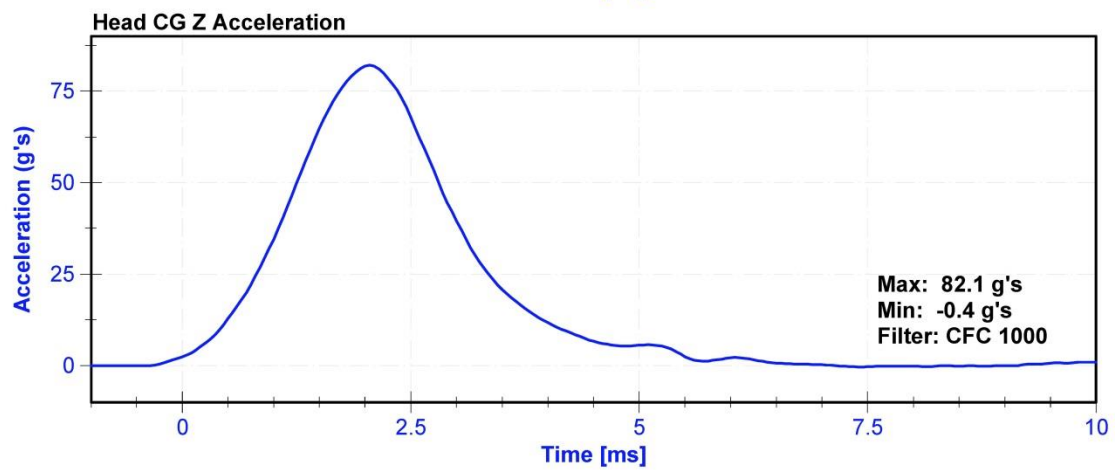
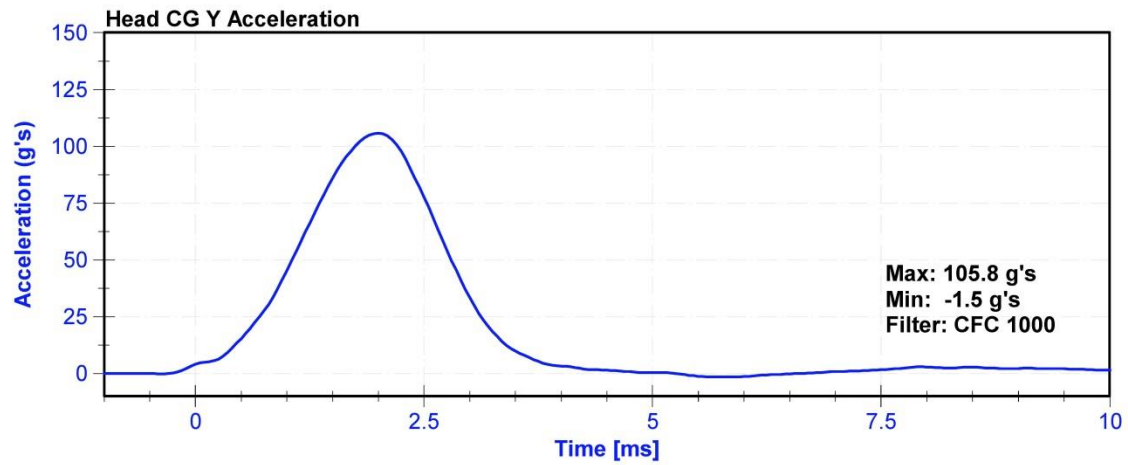
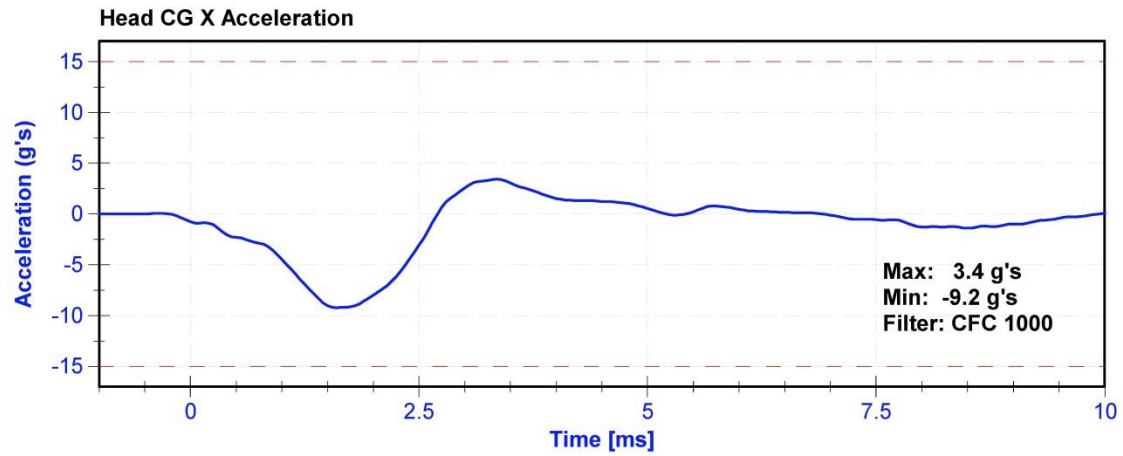
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	14.3	Pass
Resultant Acceleration	125	155	g's	134.0	Pass
Oscillation	0	15	%	4.21	Pass
Fore-Aft Acceleration	-15	15	g's	3.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	ENDEVCO 7264CT	AC-P58904	8/29/2014	2/27/2015
Y Accelerometer	ENDEVCO 7264CT	AC-P58911	8/29/2014	2/27/2015
Z Accelerometer	ENDEVCO 7264CT	AC-P58776	8/29/2014	2/27/2015





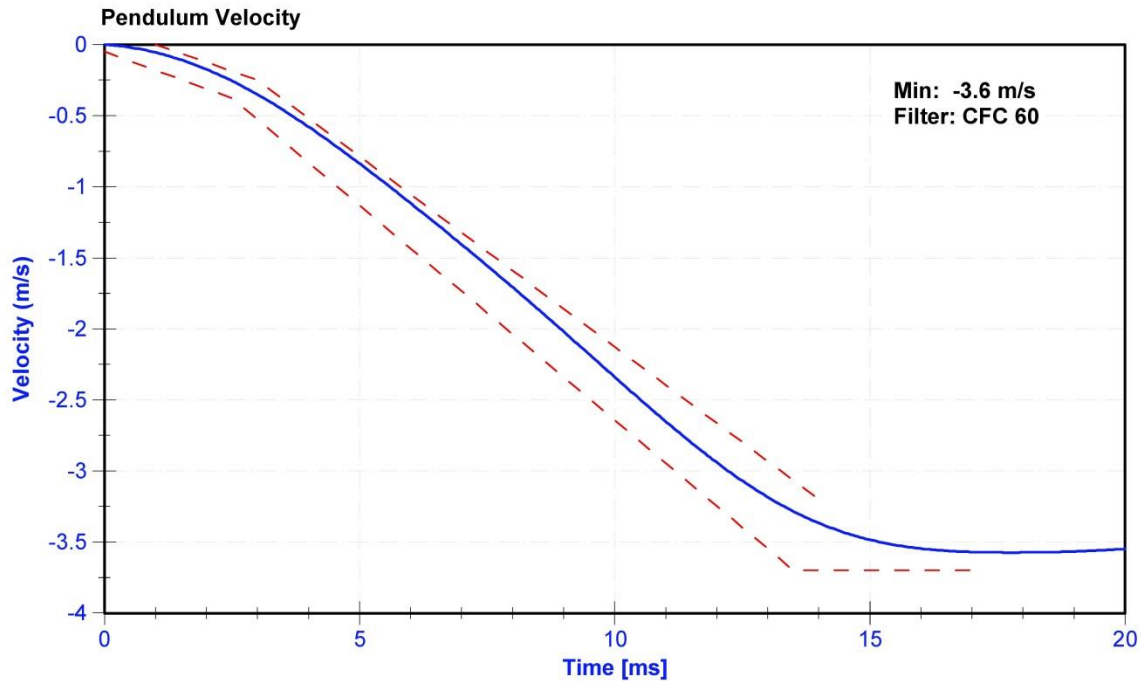
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

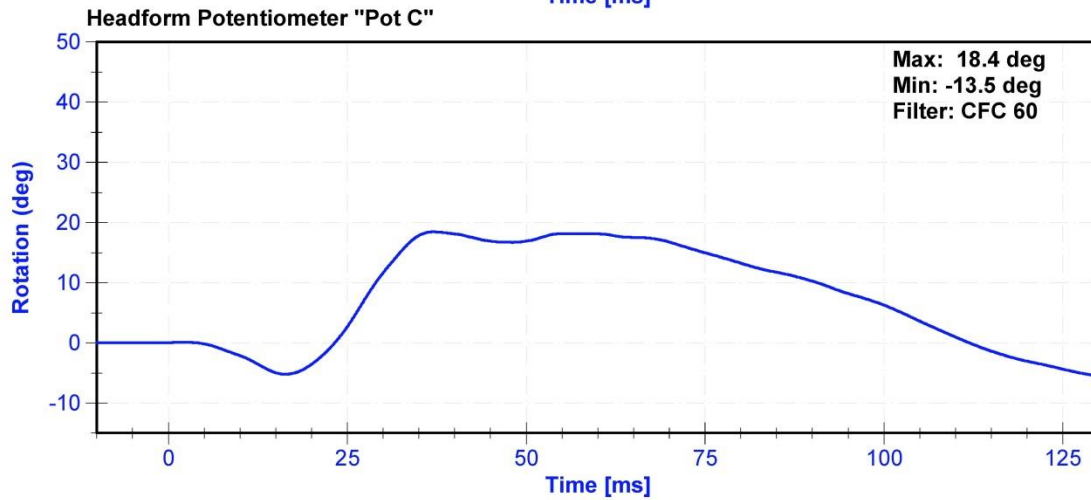
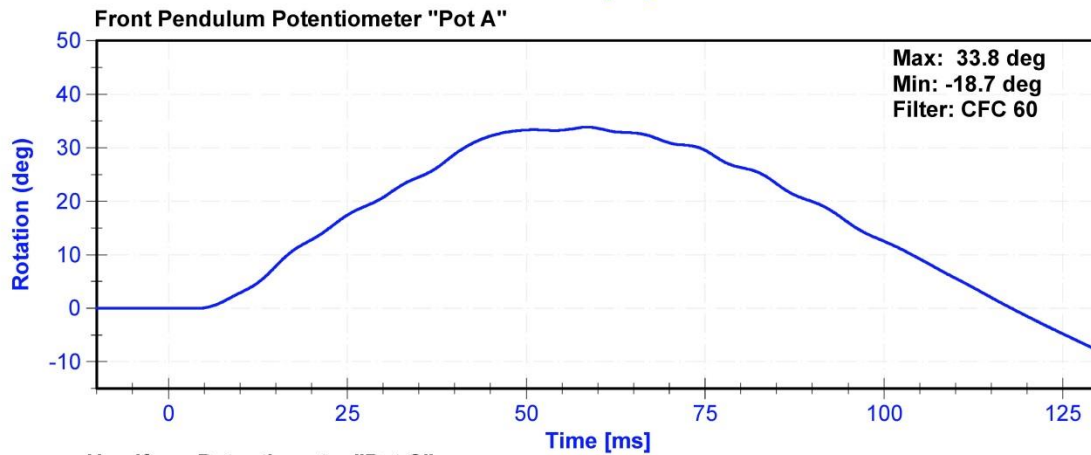
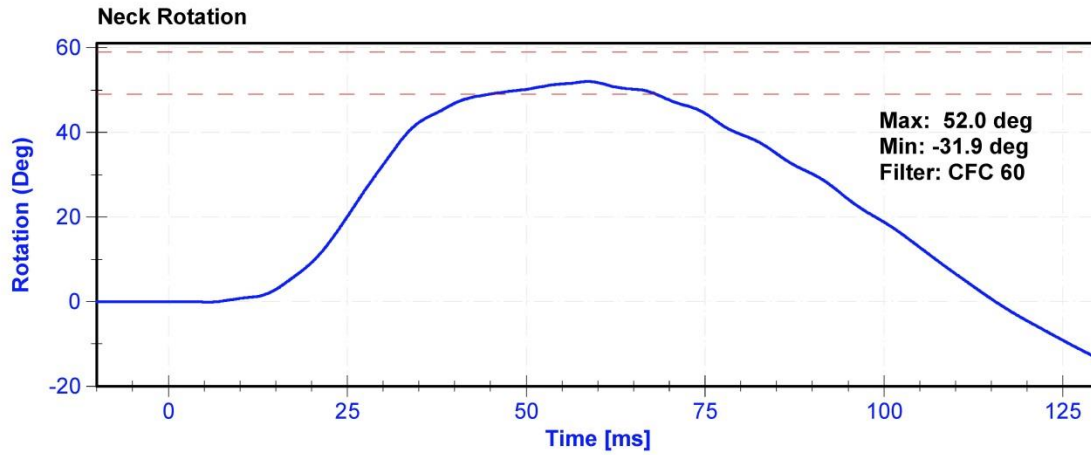
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.6	Pass
Humidity	10	70	%	15.7	Pass
Velocity	3.3	3.5	m/s	3.35	Pass
Lateral Neck Rotation	49	59	deg	52.0	Pass
Time at Maximum Rotation	54	66	ms	58.6	Pass
Time of Rotation Decay from Maximum	53	88	ms	56.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Front Pendulum Potentiometer	SP22G	DS-094	11/13/2014	11/13/2015
Headform Potentiometer	SP22G	DS-095	11/13/2014	11/13/2015





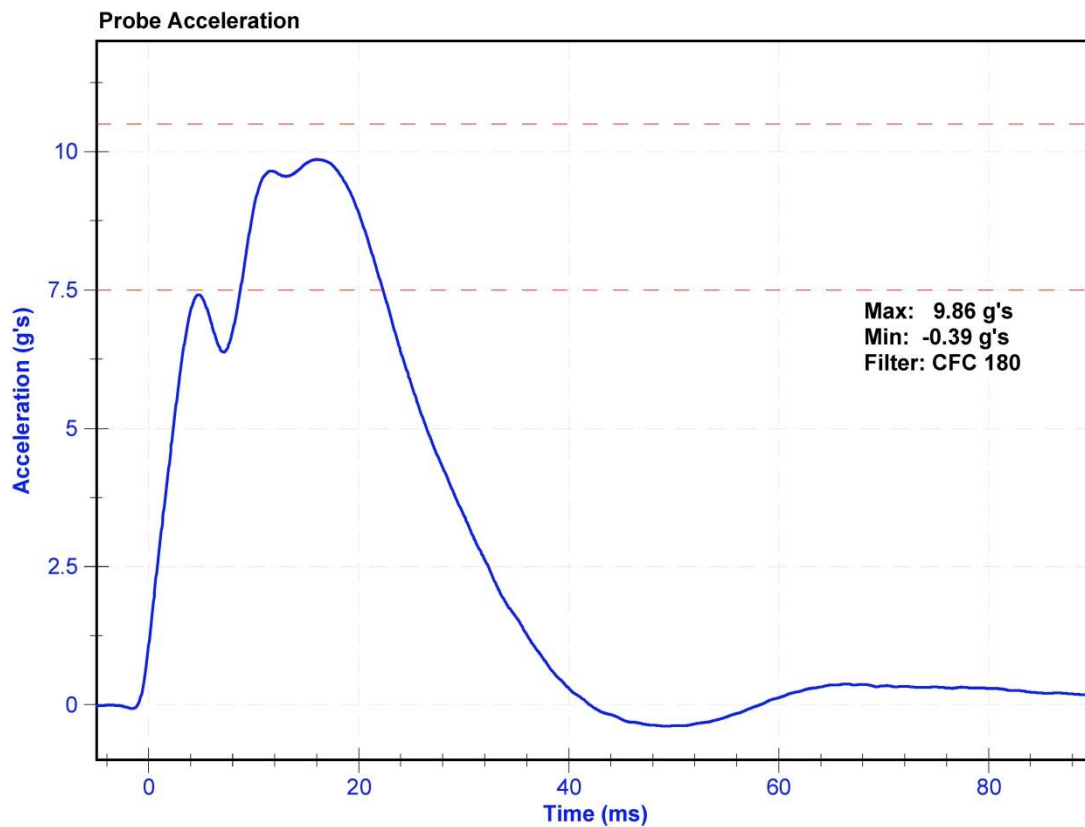
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.7	Pass
Humidity	10	70	%	18.3	Pass
Velocity	4.2	4.4	m/s	4.22	Pass
Probe Acceleration	7.5	10.5	g's	9.86	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015



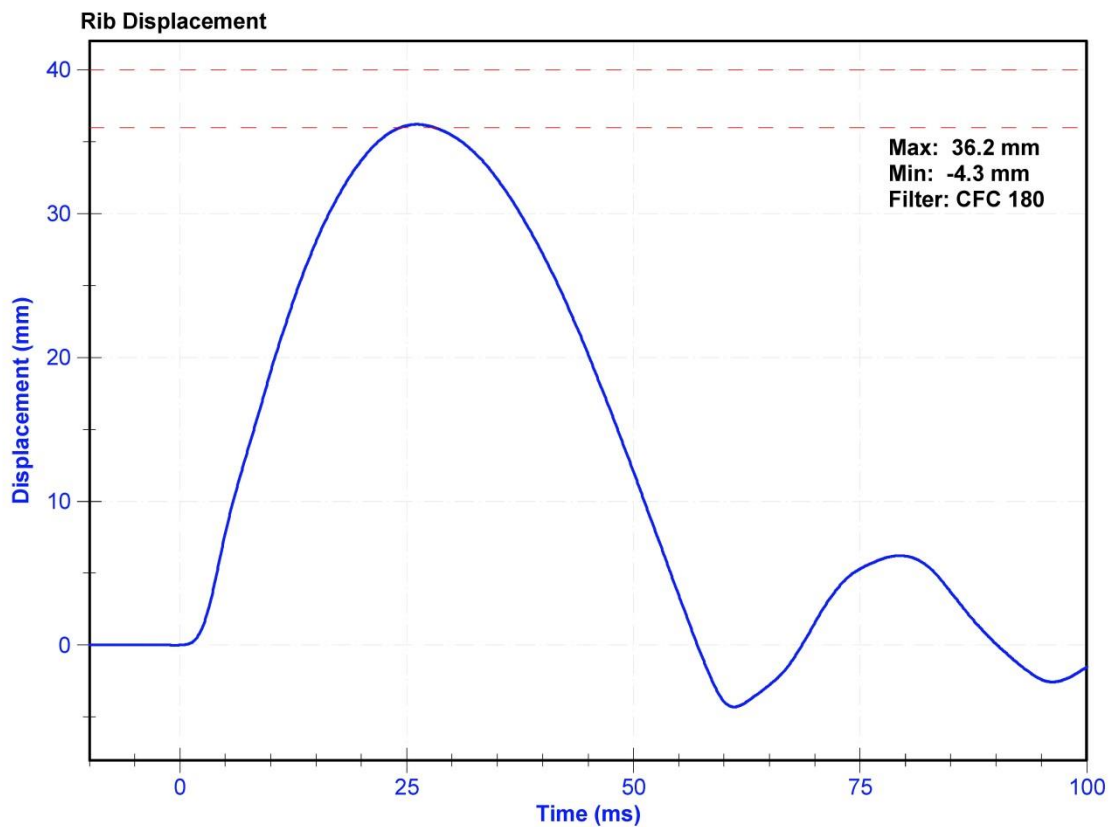
ATD Manufacturer	FTSS	Test Technician	M. Hartung
ATD Serial Number	F034	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.7	Pass
Humidity	10	70	%	17.1	Pass
Rib Displacement	36	40	mm	36.2	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015



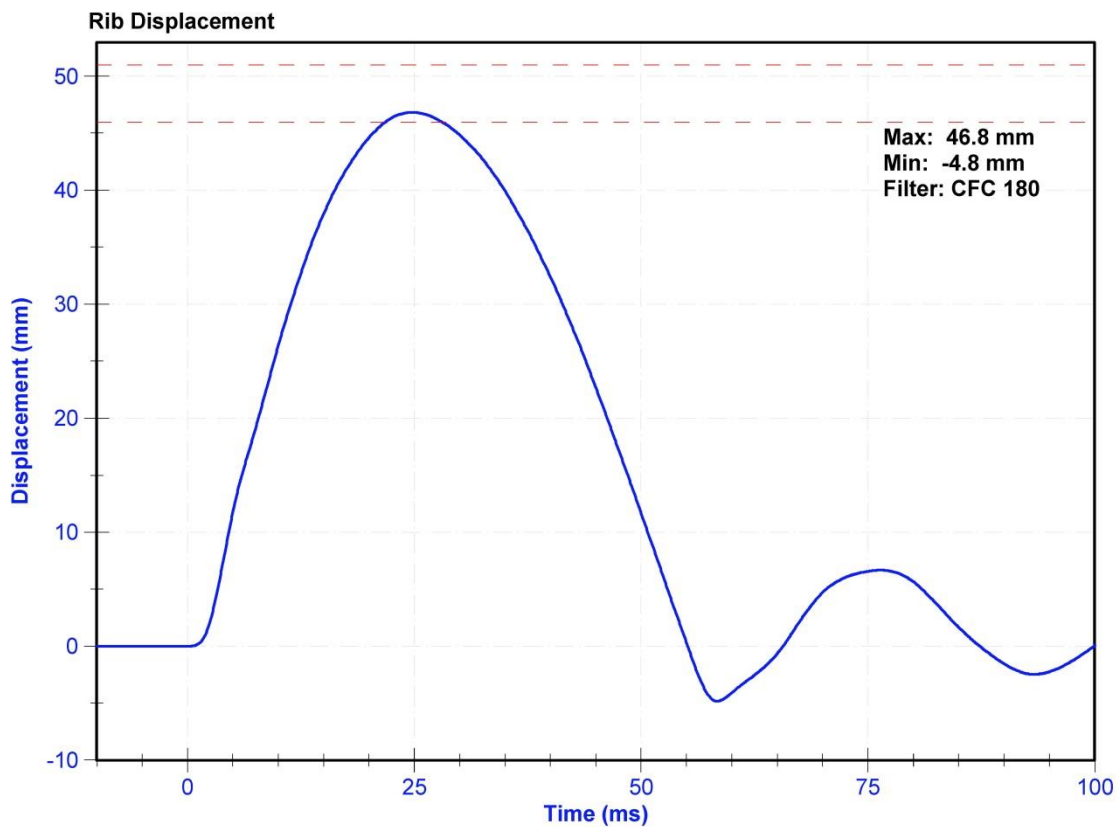
ATD Manufacturer	FTSS	Test Technician	M. Hartung
ATD Serial Number	F034	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.7	Pass
Humidity	10	70	%	17.1	Pass
Rib Displacement	46	51	mm	46.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015



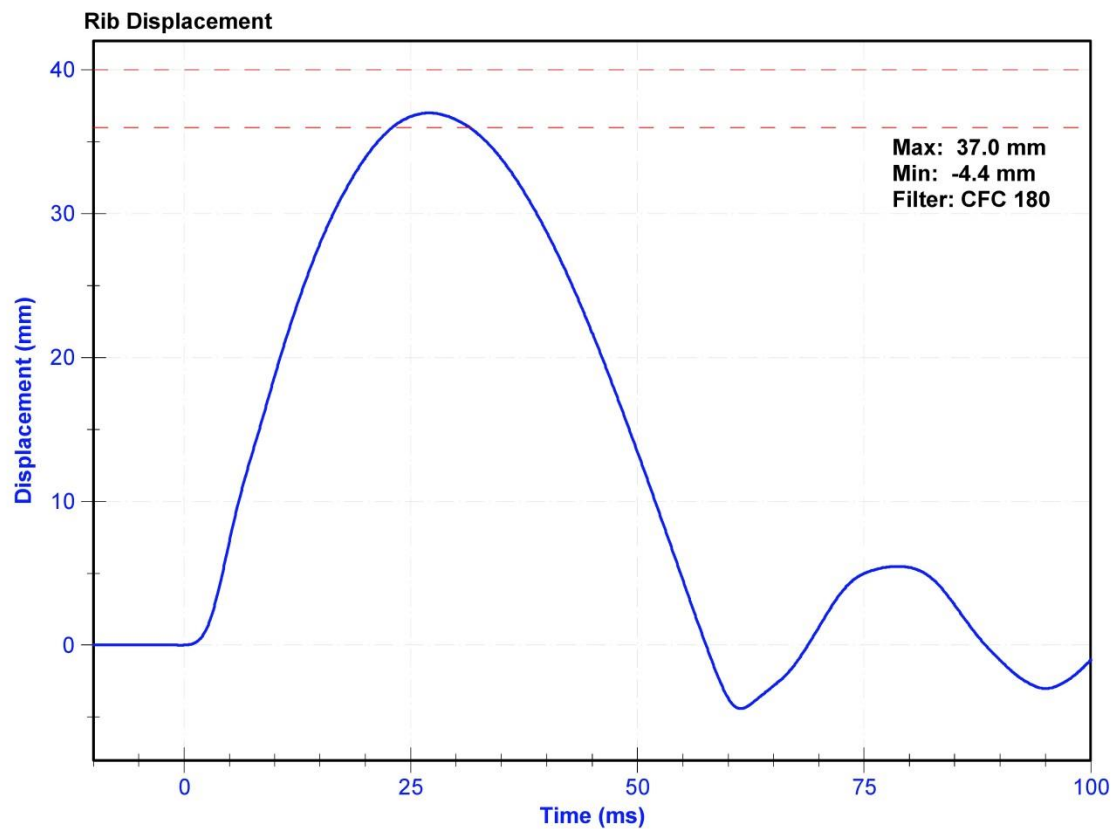
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	17.0	Pass
Rib Displacement	36	40	mm	37.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015



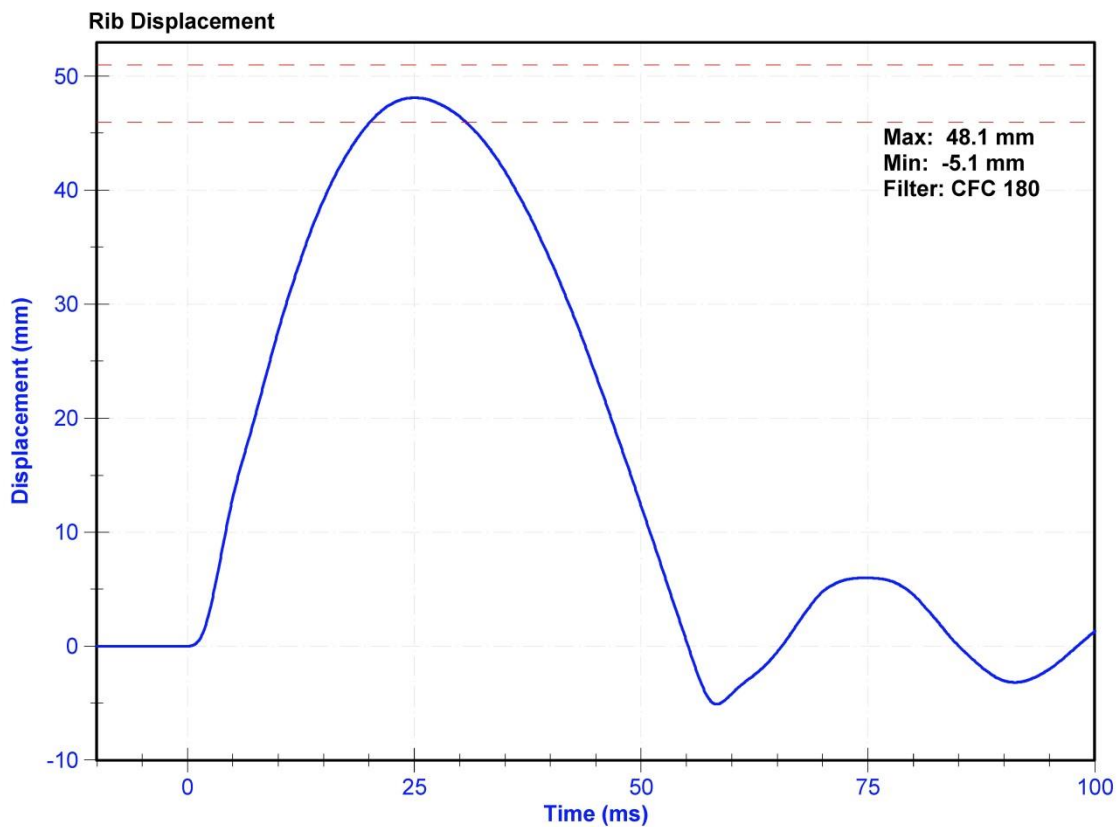
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.7	Pass
Humidity	10	70	%	17.0	Pass
Rib Displacement	46	51	mm	48.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015



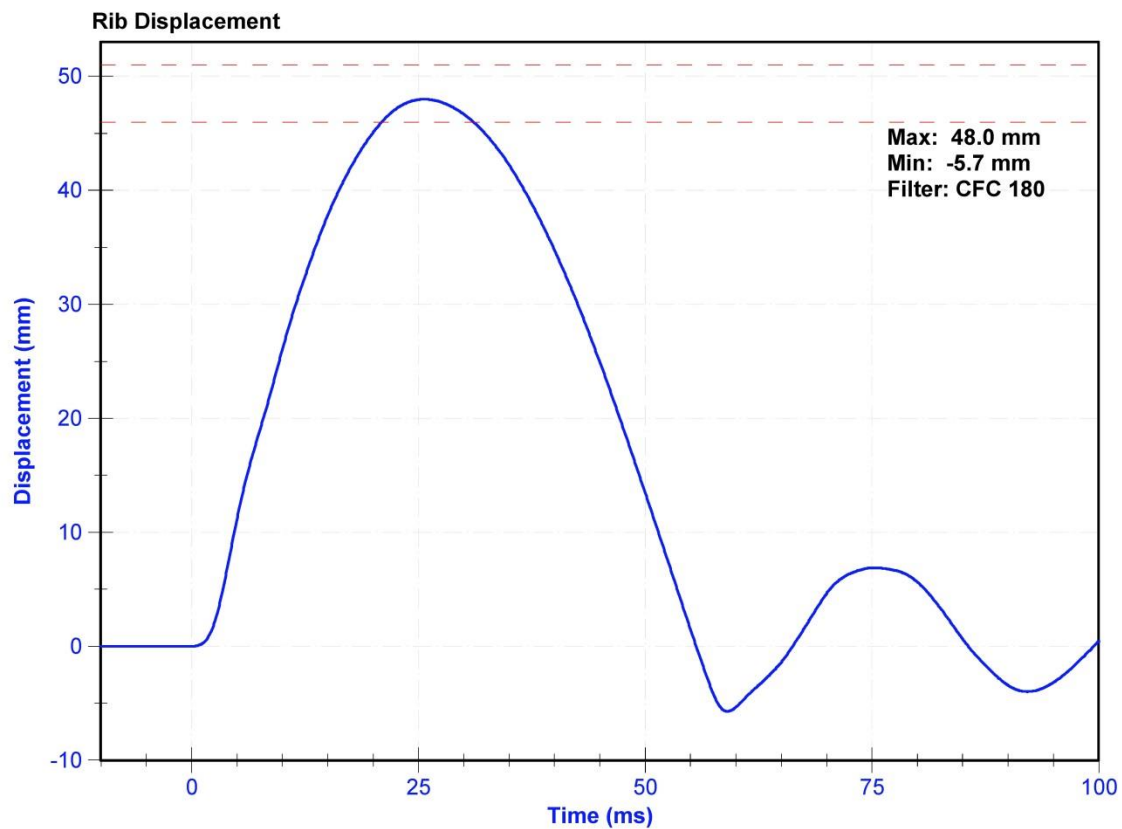
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	17.4	Pass
Rib Displacement	46	51	mm	48.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015



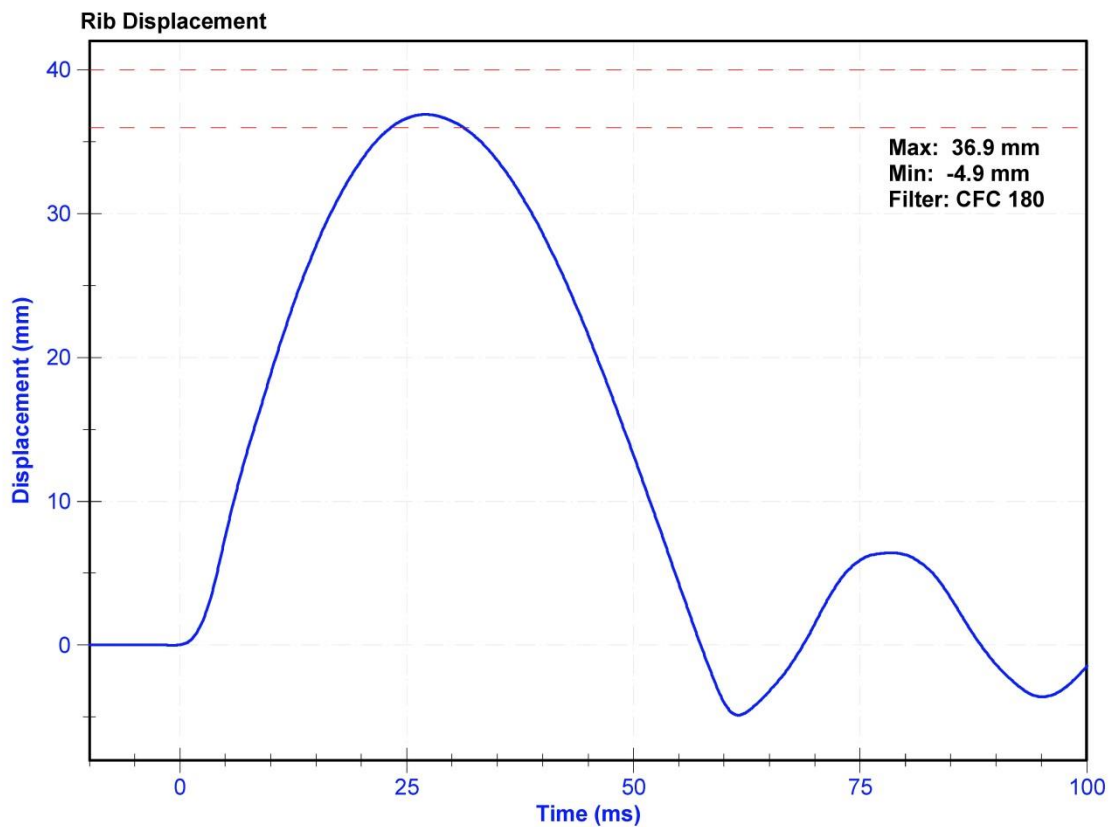
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.6	Pass
Humidity	10	70	%	17.4	Pass
Rib Displacement	36	40	mm	36.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015



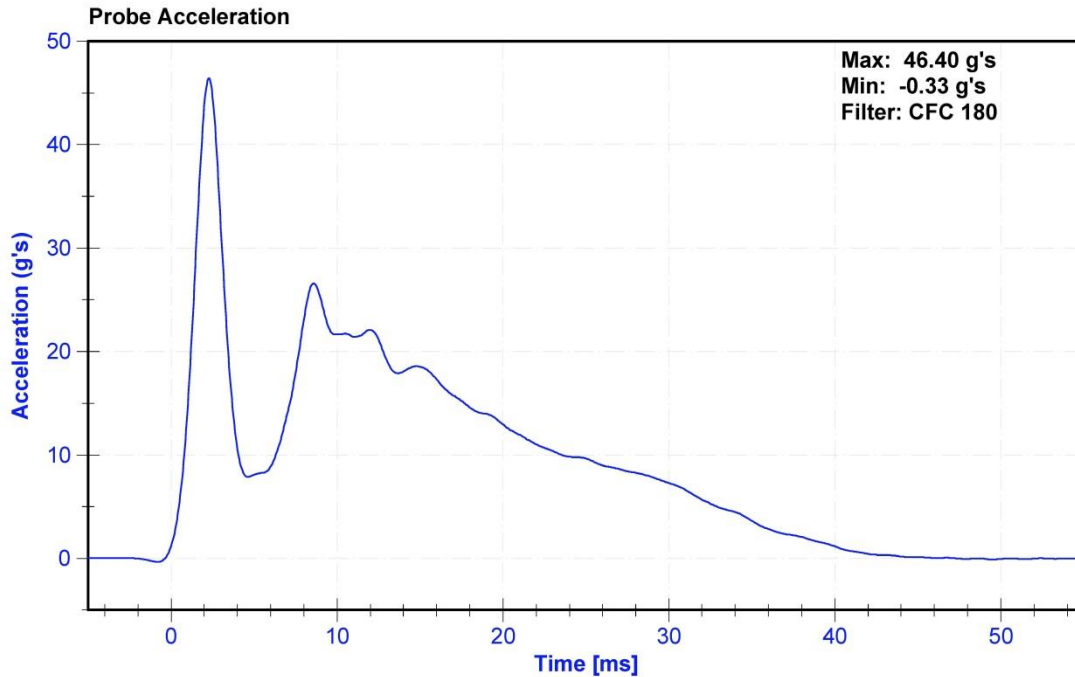
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

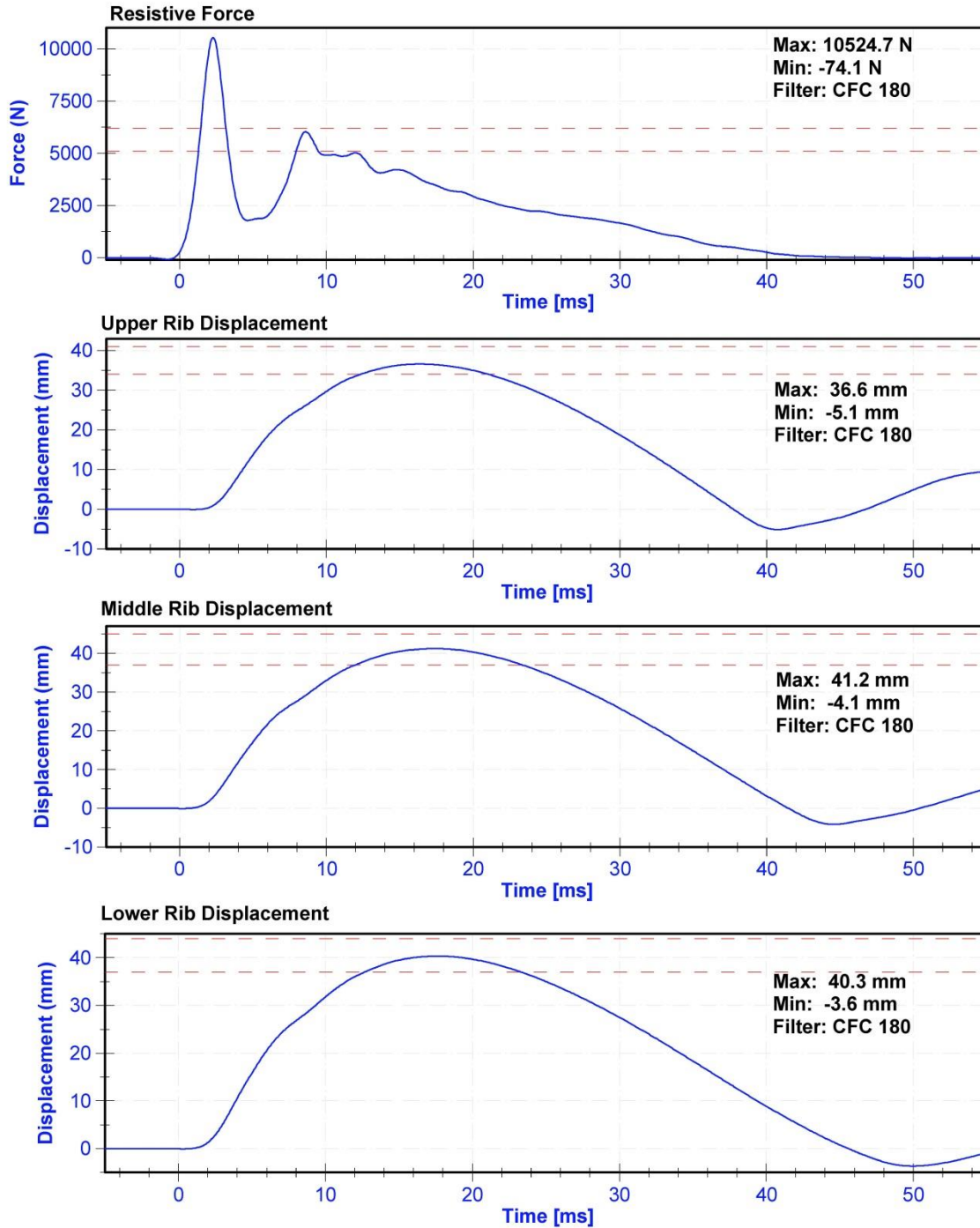
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.9	Pass
Humidity	10	70	%	18.3	Pass
Velocity	5.4	6.8	m/s	5.43	Pass
Resistive Force after 6ms	5,100	6,200	N	6024.2	Pass
Upper Thorax Rib Deflection	34	41	mm	36.6	Pass
Mid Thorax Rib Deflection	37	45	mm	41.2	Pass
Lower Thorax Rib Deflection	37	44	mm	40.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Upper Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-183GFE	8/4/2014	8/4/2015
Middle Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-184GFE	8/4/2014	8/4/2015
Lower Thorax Rib Potentiometer	Honeywell MLT-38000203	DS-182GFE	8/4/2014	8/4/2015





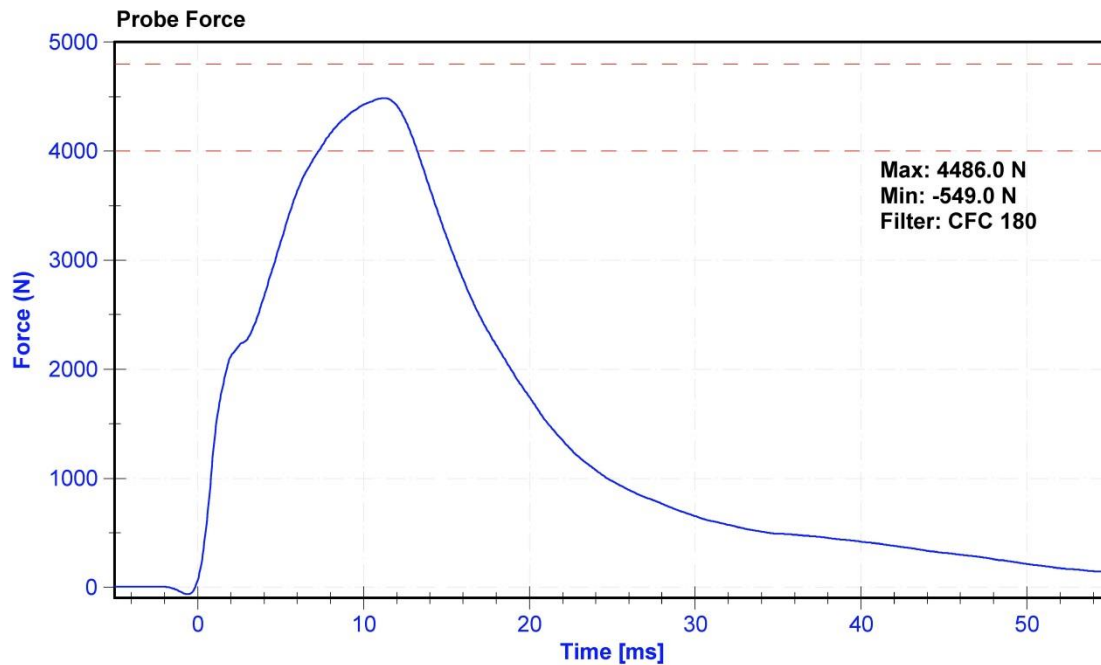
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

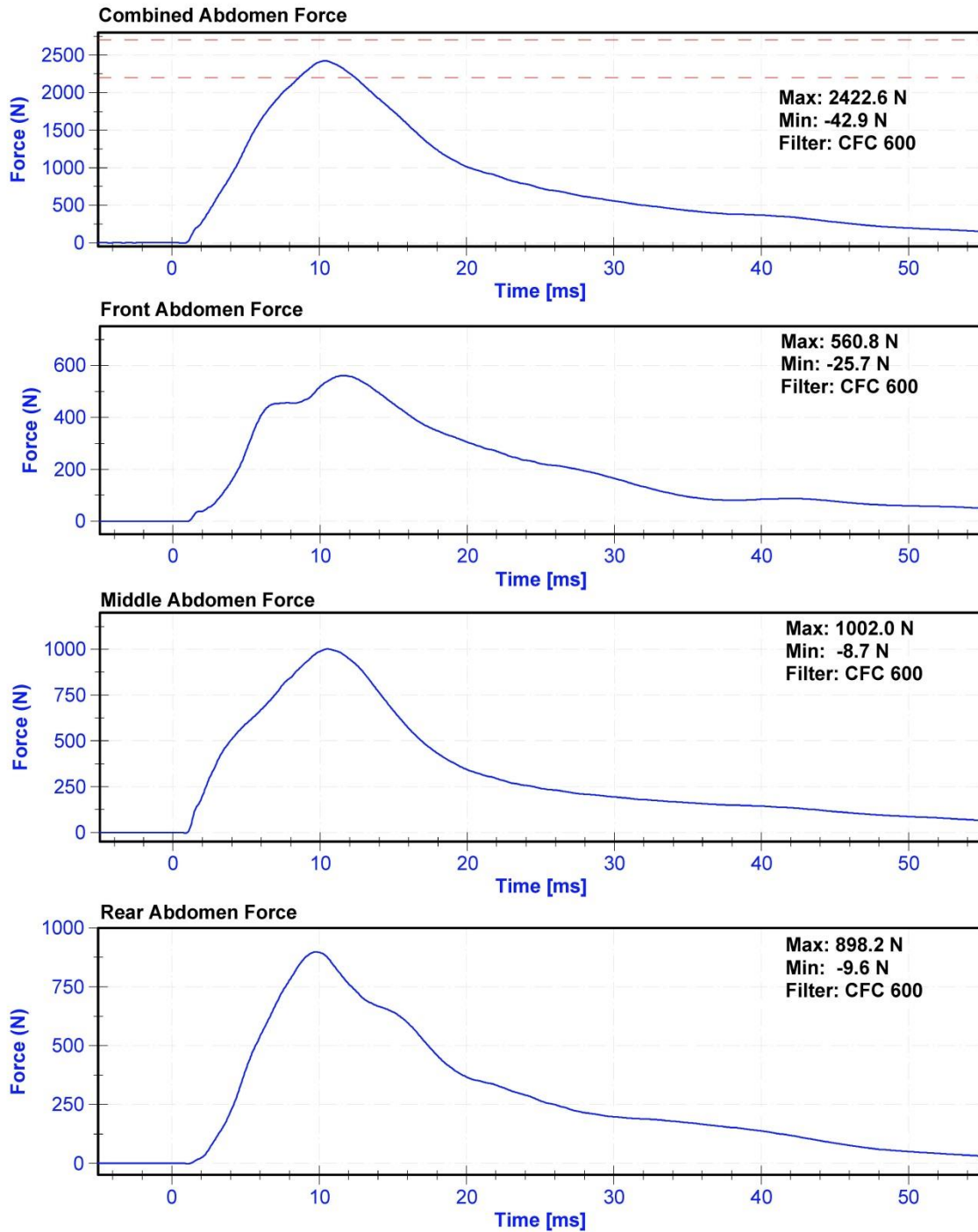
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.6	Pass
Humidity	10	70	%	18.2	Pass
Velocity	3.9	4.1	m/s	3.93	Pass
Combined Abdomen Force	2,200	2,700	N	2422.6	Pass
Time at Peak Abdomen Force	10.0	12.3	ms	10.40	Pass
Resistive Probe Force	4,000	4,800	N	4486.0	Pass
Time at Peak Resistive Force	10.6	13.0	ms	11.25	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Front Abdomen Load Cell	DENTON 2631	LC-1512	5/13/2014	5/13/2015
Middle Abdomen Load Cell	DENTON 2631	LC-1526	5/13/2014	5/13/2015
Rear Abdomen Load Cell	DENTON 2631	LC-1512	5/13/2014	5/13/2015





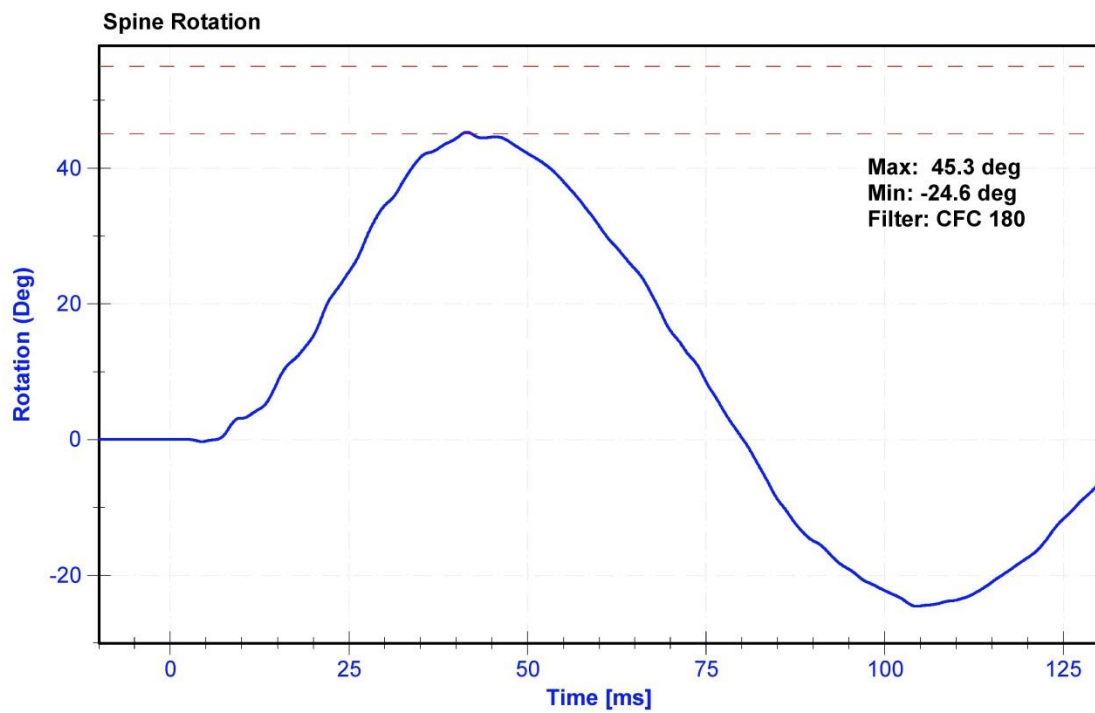
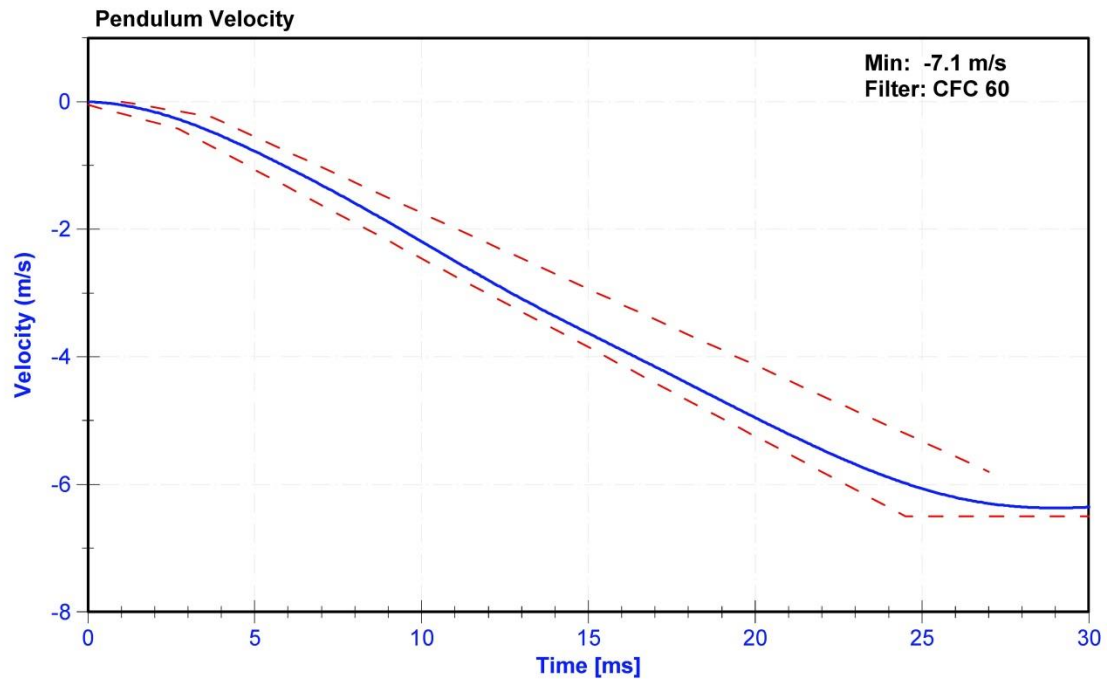
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

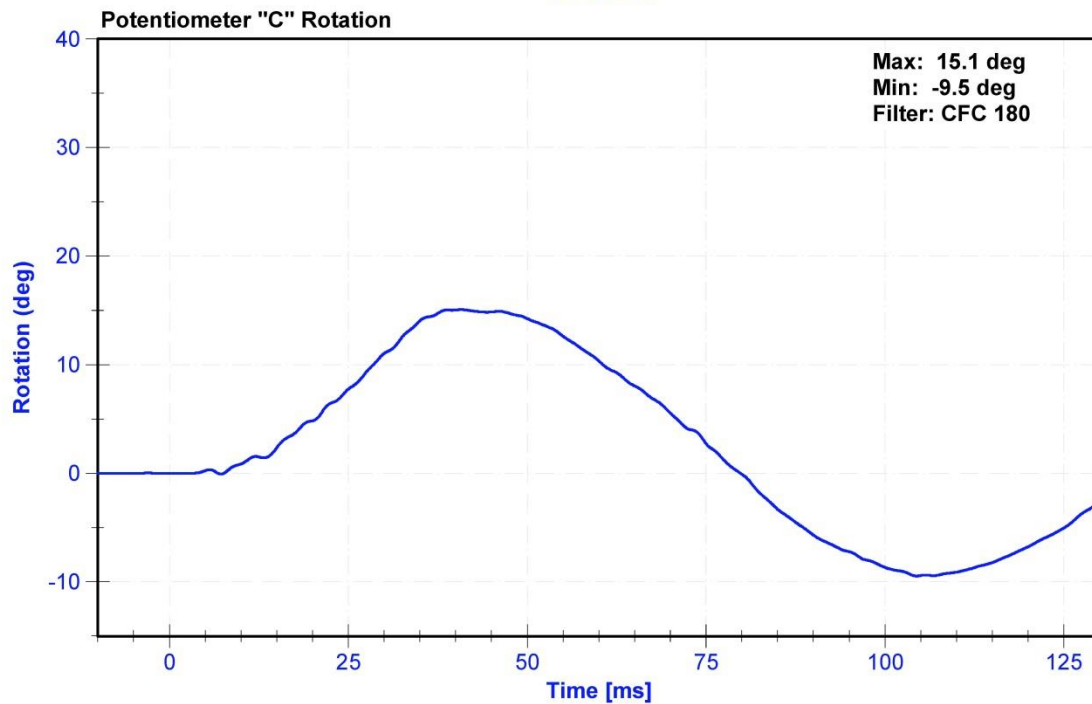
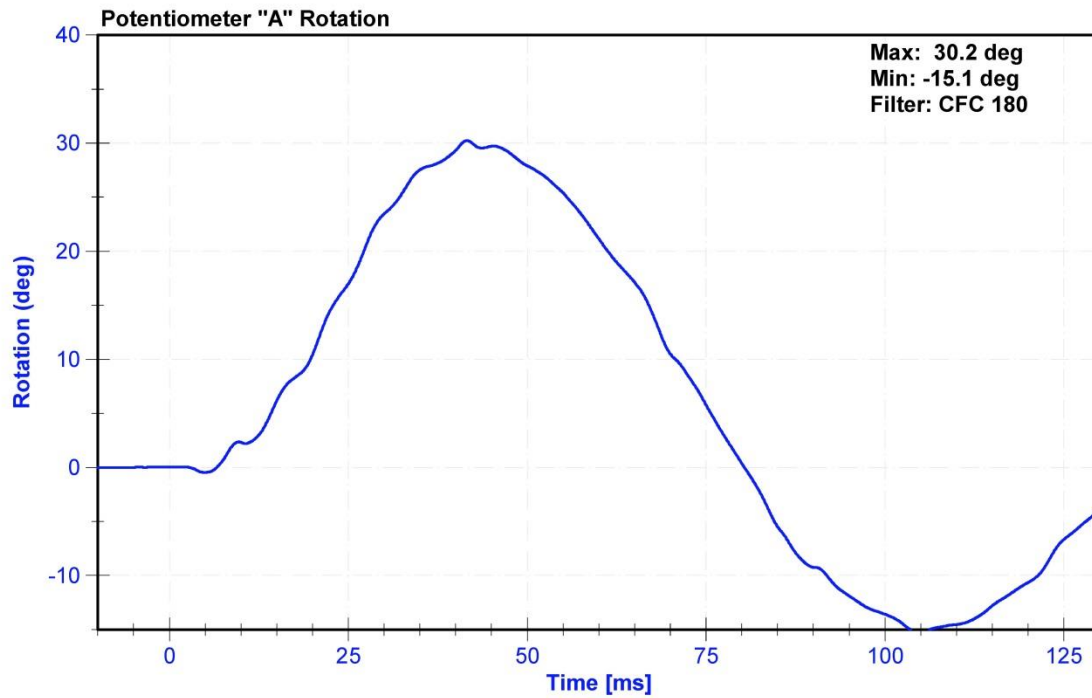
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	16.3	Pass
Velocity	5.95	6.15	m/s	6.025	Pass
Lateral Spine Rotation	45	55	deg	45.3	Pass
Time at Maximum Rotation	39	53	ms	41.5	Pass
Time of Decay to Zero Degrees	37	57	ms	38.7	Pass
Pulse within Corridor?	-	-	-	Yes	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Pendulum "A" Potentiometer	SP22G	DS-094	11/13/2014	11/13/2015
Condyle "B" Potentiometer	SP22G	DS-095	11/13/2014	11/13/2015





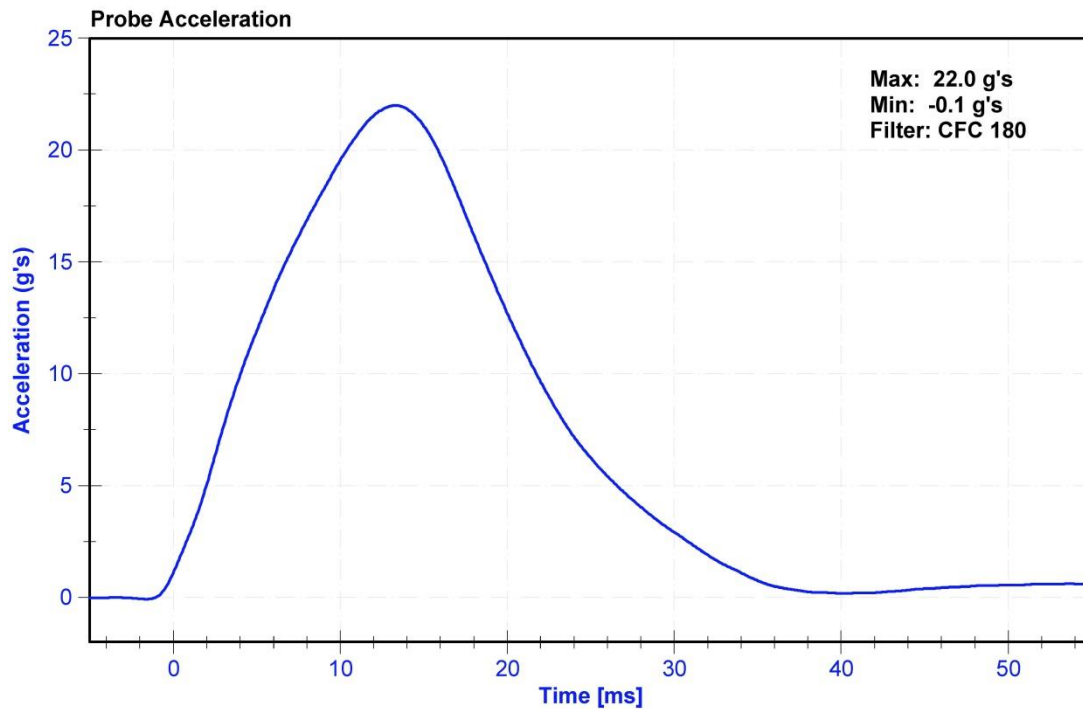
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	F034	Laboratory Supervisor	M.Goehle

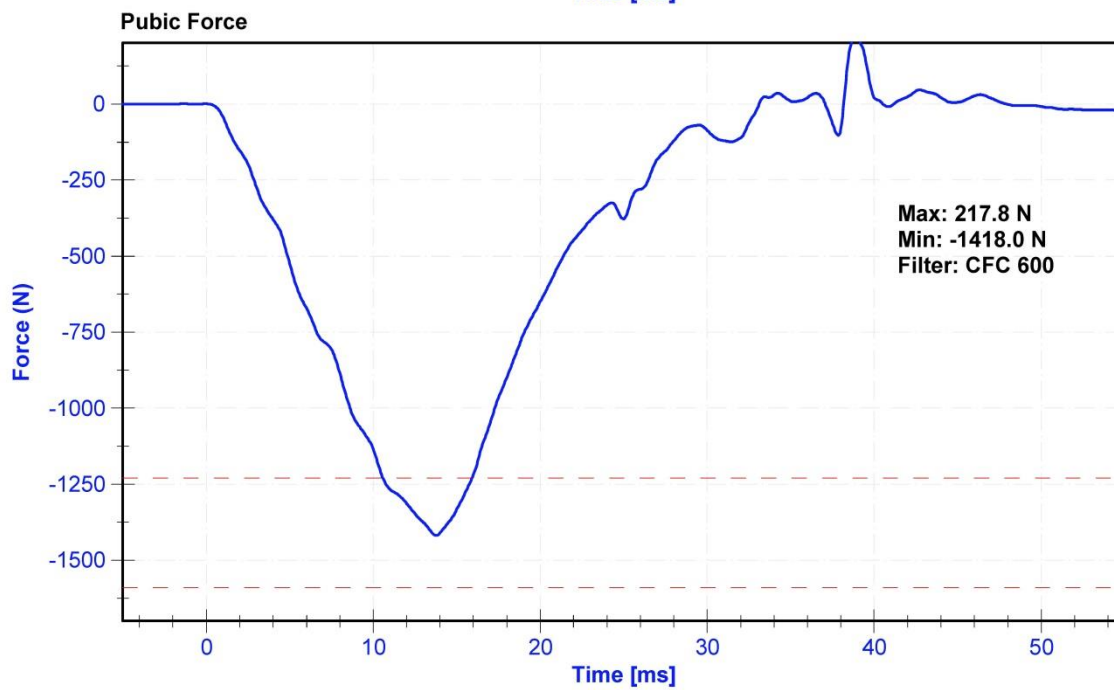
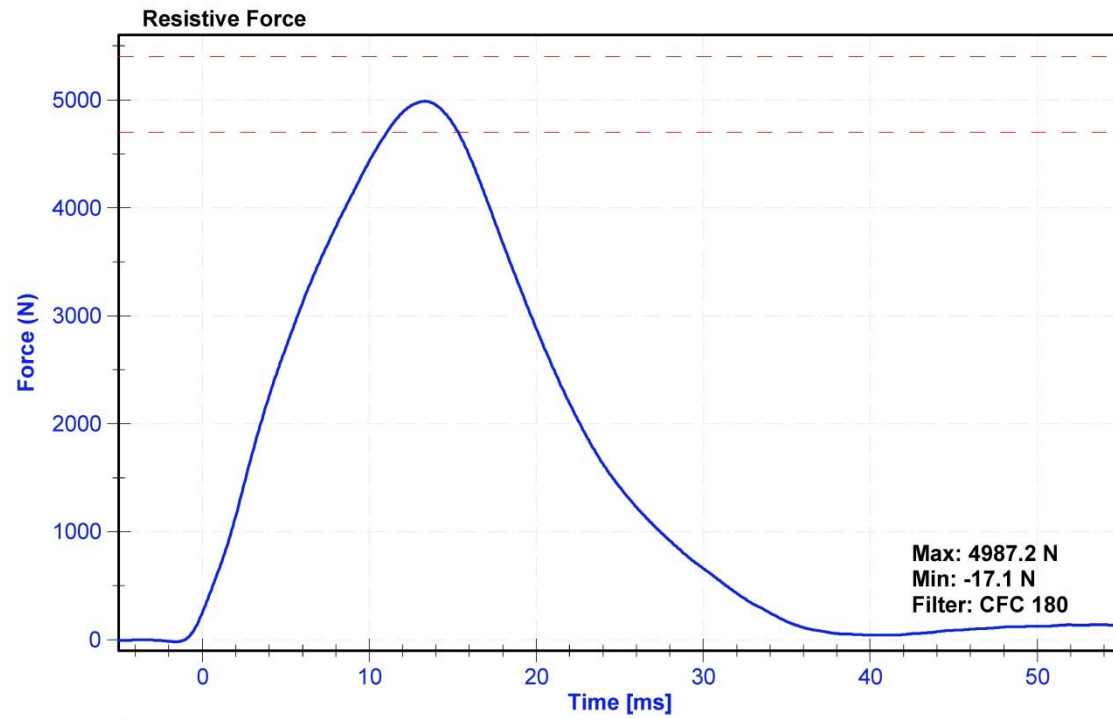
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	20.7	Pass
Humidity	10	70	%	17.9	Pass
Velocity	4.2	4.4	m/s	4.26	Pass
Resistive Force	4,700	5,400	N	4987.2	Pass
Time at Peak Resistive Force	11.8	16.1	ms	13.30	Pass
Pubic Force	-1,590	-1,230	N	-1418.0	Pass
Time at Peak Pubic Force	12.2	17.0	ms	13.75	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Pubic Load Cell	Denton 3096JFL	LC-465Fy	5/13/2014	5/13/2015





CALIBRATION TEST RESULTS

POST-TEST

SID-IIS 5TH PERCENTILE FEMALE - PASSENGER ATD

SERIAL No: 303

(CONFIGURED FOR LEFT SIDE IMPACT)

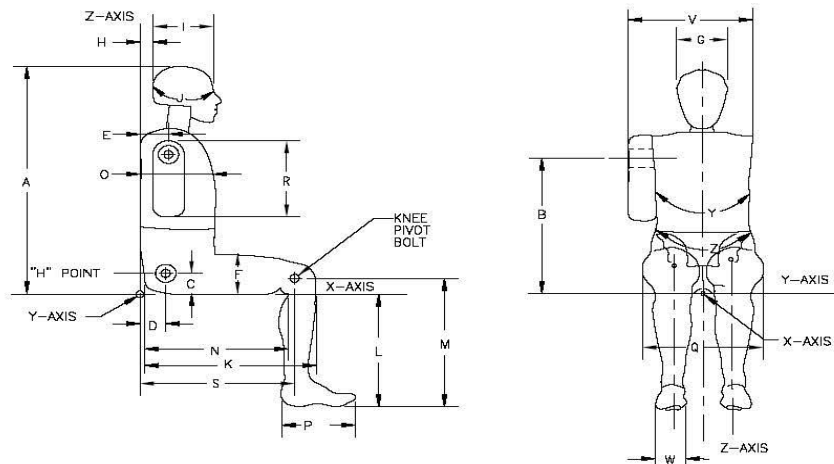


External Measurements - SID-IIs

Technician: M. Goehle

Date: 2/10/2015

Dummy Serial Number: 303



Symbol	Description	Specification (mm)		Result (mm)	Pass/Fail
A	Sitting Height	772	788	780	Pass
B	Shoulder Pivot Height	437	453	444	Pass
C	H-point Height	79	89	87	Pass
D	H-point from seatback	141	151	145	Pass
E	Shoulder Pivot from Backline	97	107	103	Pass
F	Thigh Clearance	119	135	128	Pass
G	Head Breadth	140	148	145	Pass
H	Head Back from Backline	40	46	43	Pass
I	Head Depth	178	188	182	Pass
J	Head Circumference	541	551	547	Pass
K	Buttock to Knee Length	514	540	529	Pass
L	Popliteal Height	343	369	358	Pass
M	Knee Pivot to floor height	392	409	403	Pass
N	Buttock Popliteal Length	416	442	436	Pass
O	Chest Depth w/o jacket	195	211	204	Pass
P	Foot Length	216	232	219	Pass
Q	Hip Breadth (w/pelvic plugs)	313	323	316	Pass
R	Arm Length	249	259	253	Pass
S	Knee Joint to seatback	477	493	483	Pass
V	Shoulder Width	341	357	351	Pass
W	Foot Width	78	94	84	Pass
Y	Chest Circumference w/jacket	851	881	870	Pass
Z	Waist Circumference	761	791	770	Pass

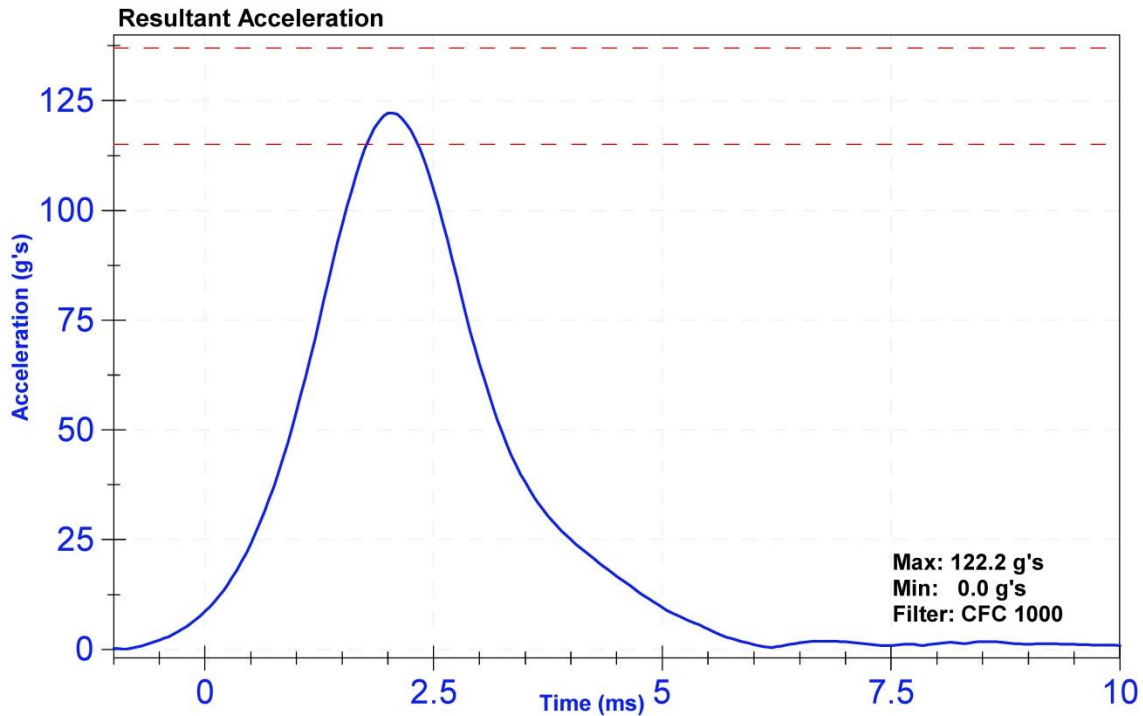
ATD Manufacturer	FTSS	Test Technician	M. Goehle
ATD Serial Number	303	Laboratory Supervisor	M. Goehle

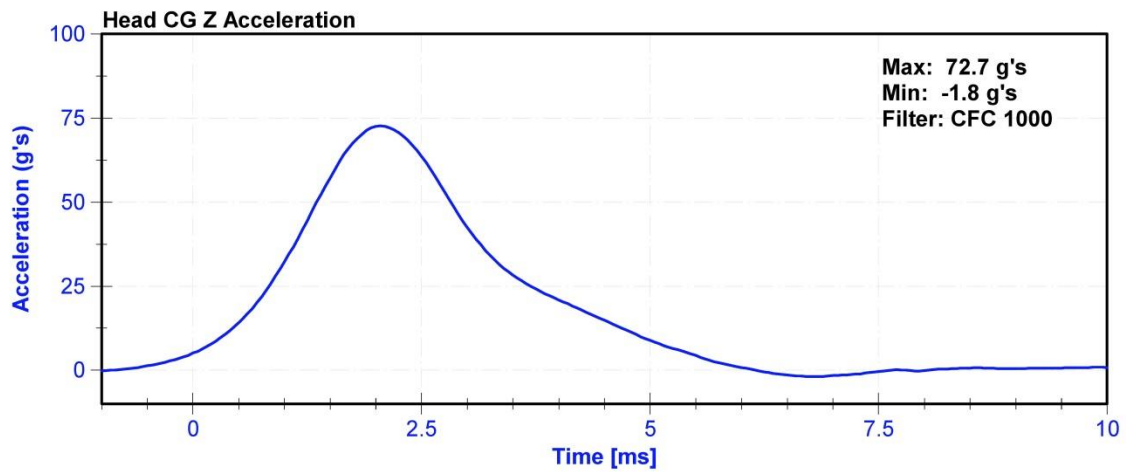
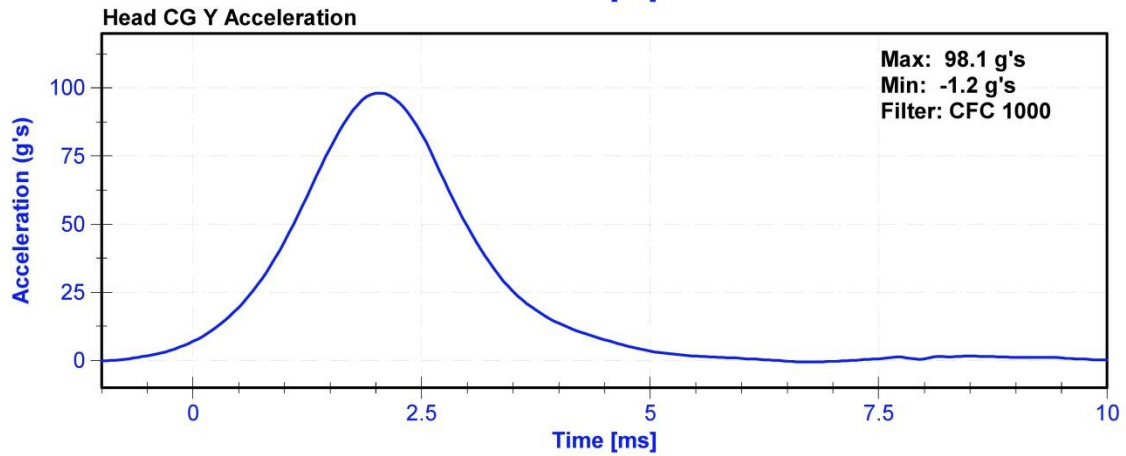
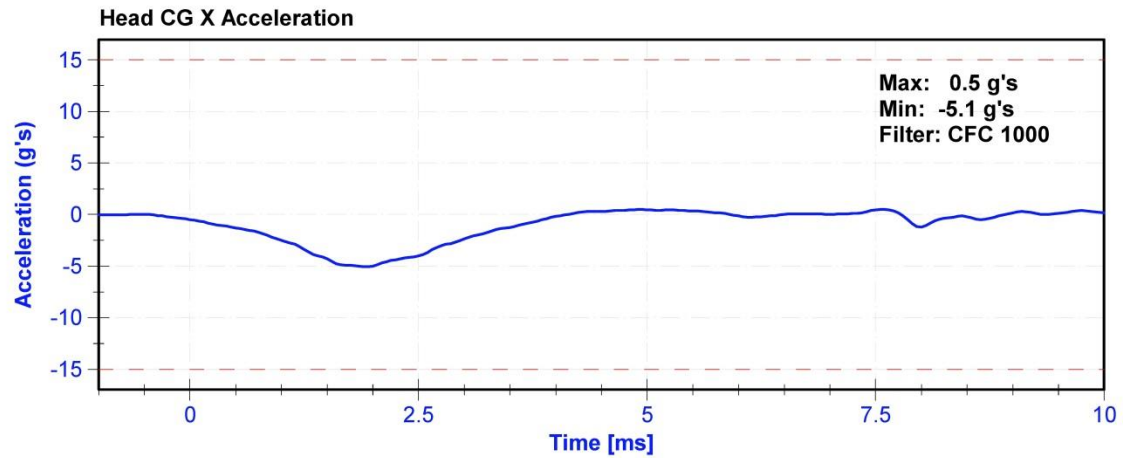
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.5	Pass
Humidity	10	70	%	16.2	Pass
Resultant Acceleration	115	137	g's	122.2	Pass
Oscillation	0	15	%	1.5	Pass
Fore-Aft Acceleration	-15	15	g's	-5.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	ENDEVCO 7264	AC-P63841	12/17/2014	6/17/2015
Y Accelerometer	ENDEVCO 7264	AC-P52040	10/8/2014	4/8/2015
Z Accelerometer	ENDEVCO 7264CT	AC-P58737	10/8/2014	4/8/2015





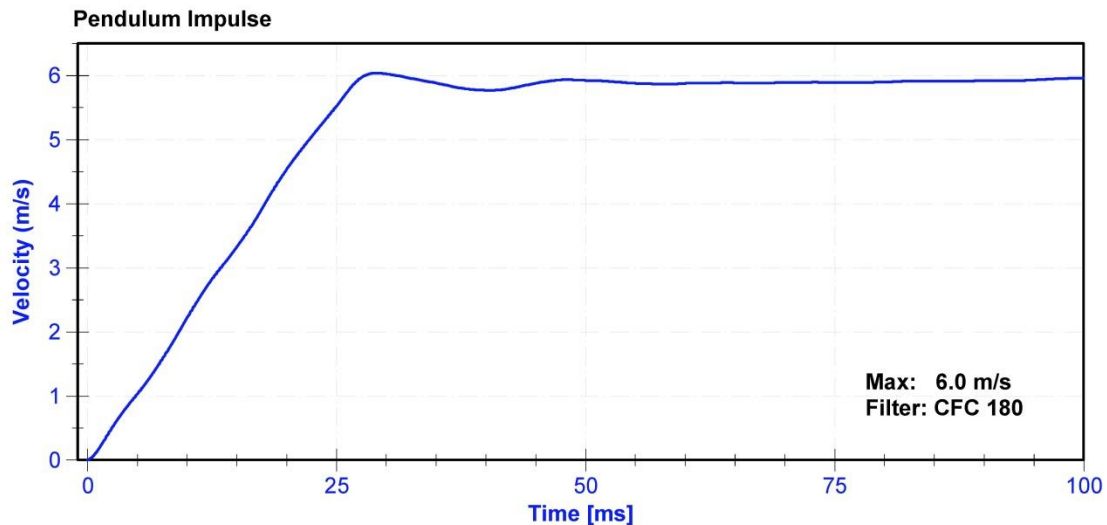
ATD Manufacturer	FTSS	Test Technician	M. Goehle
ATD Serial Number	303	Laboratory Supervisor	M. Goehle

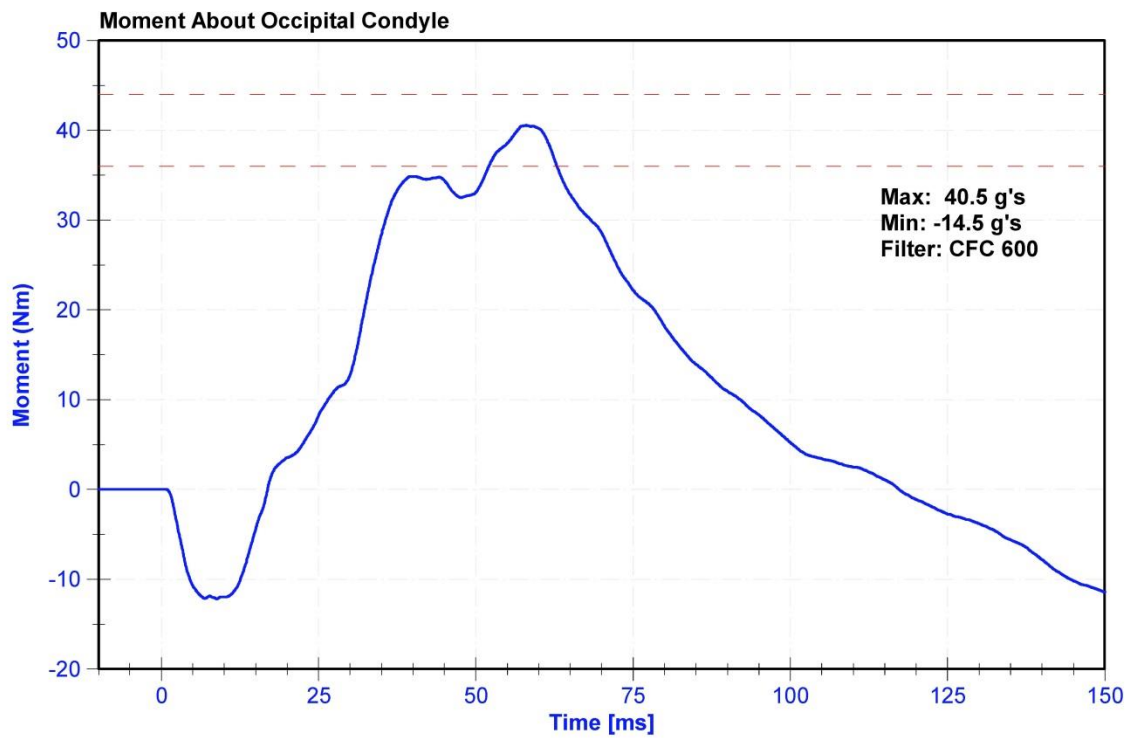
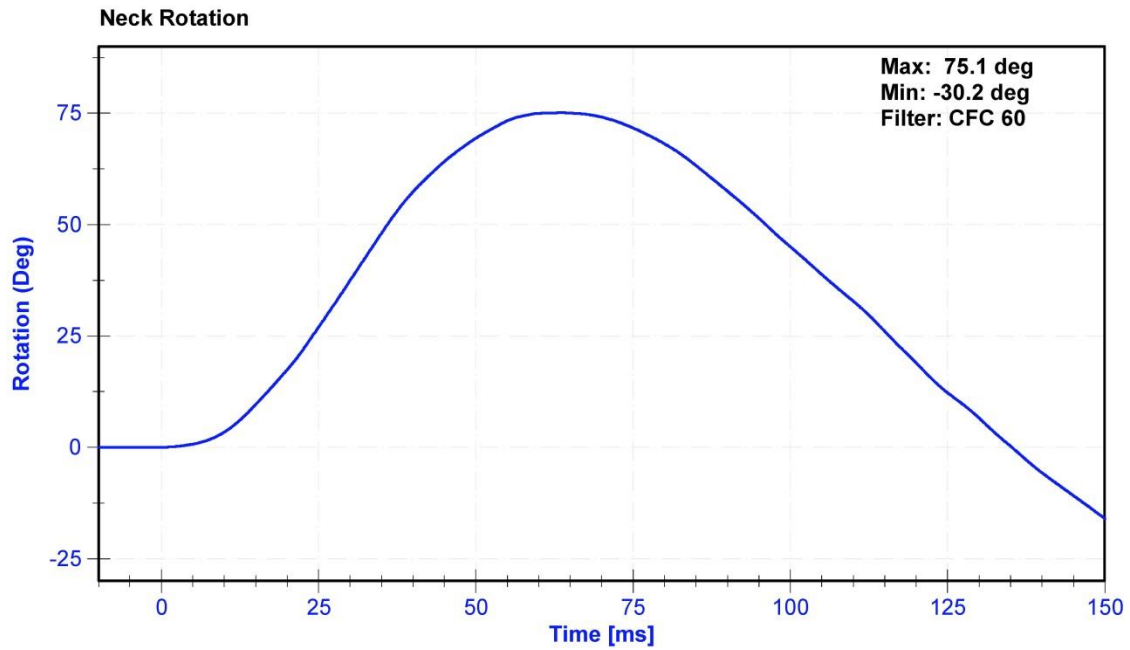
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.0	Pass
Humidity	10	70	%	16.5	Pass
Velocity	5.51	5.63	m/s	5.583	Pass
Pendulum Impulse at 10ms	2.2	2.8	m/s	2.22	Pass
Pendulum Impulse at 15ms	3.3	4.1	m/s	3.33	Pass
Pendulum Impulse at 20ms	4.4	5.4	m/s	4.54	Pass
Pendulum Impulse at 25ms	5.4	6.1	m/s	5.53	Pass
Pendulum Impulse from 25 to 100ms	5.5	6.2	m/s	6.04	Pass
Neck Rotation	71	81	deg	75.1	Pass
Time at Maximum Rotation	50	70	ms	63.6	Pass
Moment about the OC	36	44	Nm	40.5	Pass
Moment Decay to 0 Nm	102	126	ms	117.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	11/6/2014	11/6/2015
Pendulum Potentiometer	Denton 78051-342	DS-184Pend	11/13/2014	11/13/2015
Condyle Potentiometer	Denton 78051-342	DS-185Pend	11/13/2014	11/13/2015
Upper Neck Load Cell	DENTON 1716A	LC-130Fy	9/12/2014	9/12/2015





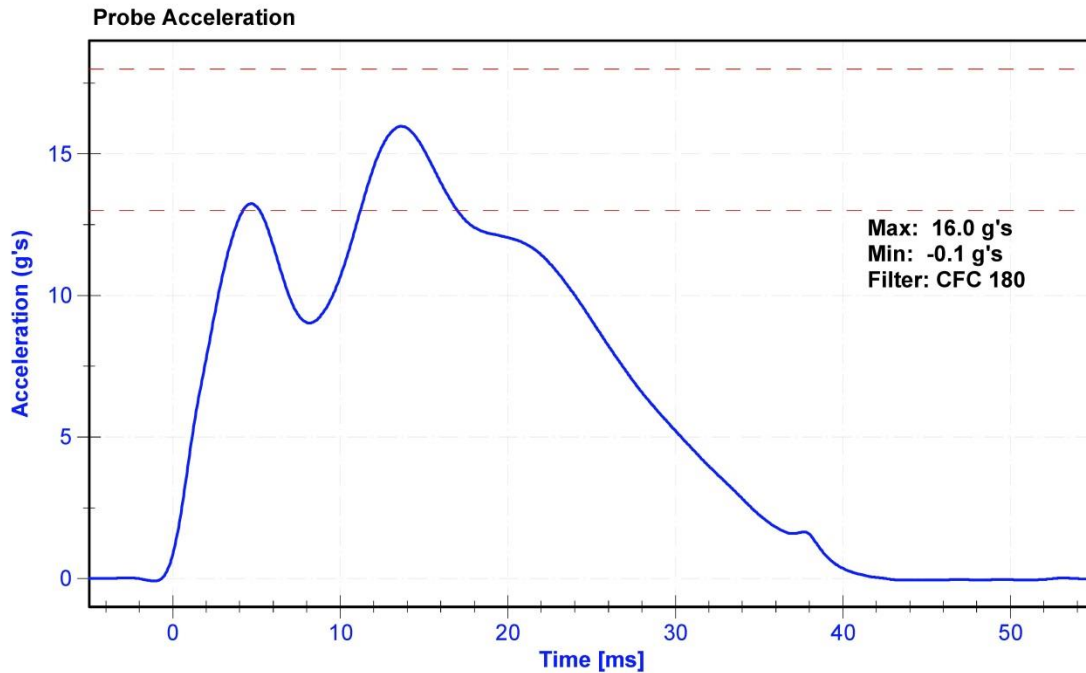
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	303	Laboratory Supervisor	M.Goehle

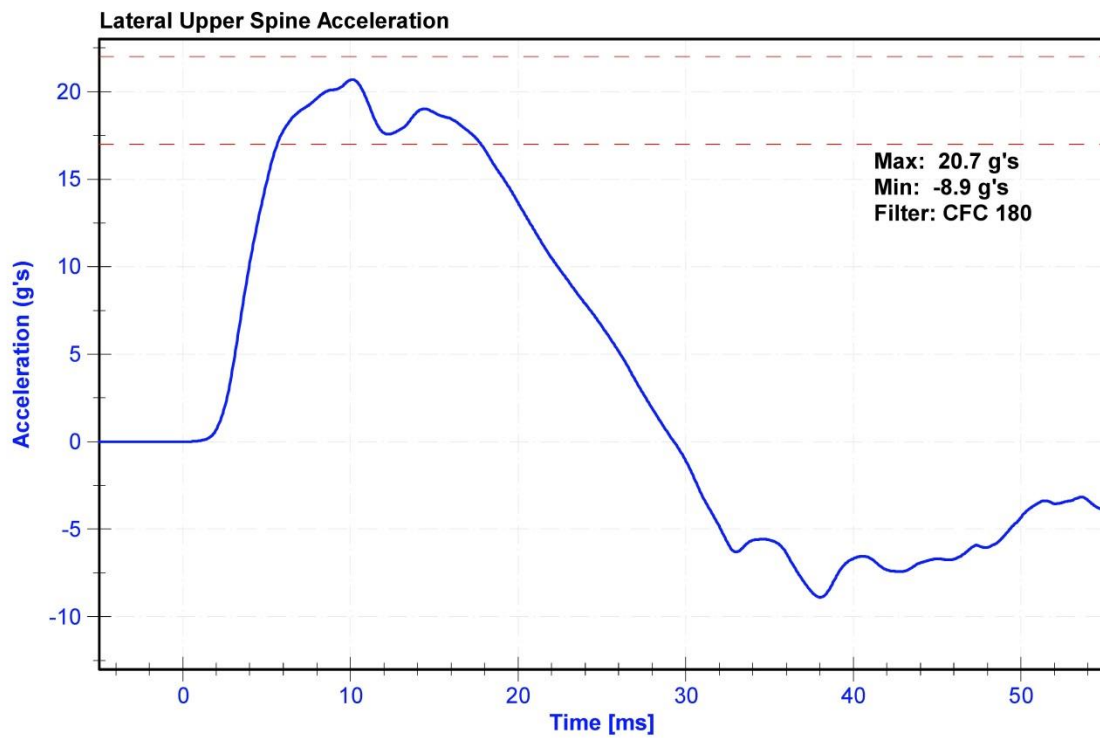
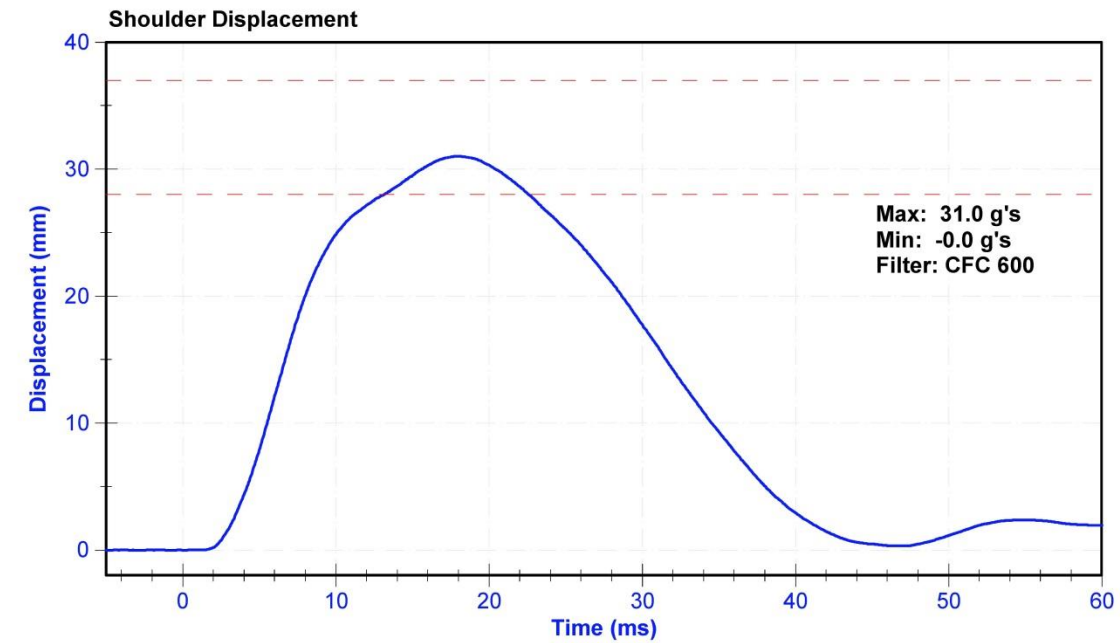
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.5	Pass
Humidity	10	70	%	15.1	Pass
Velocity	4.2	4.4	m/s	4.31	Pass
Probe Acceleration	13	18	g's	16.0	Pass
Shoulder Deflection	28	37	mm	31.0	Pass
Lateral Upper Spine Acceleration	17	22	g's	20.7	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Shoulder Potentiometer	Servo 08CT1-3725	DS-8GFE	12/4/2014	12/4/2015
Upper Spine Y Accelerometer	ENDEVCO 7264CT	AC-P63315	10/9/2014	4/9/2015





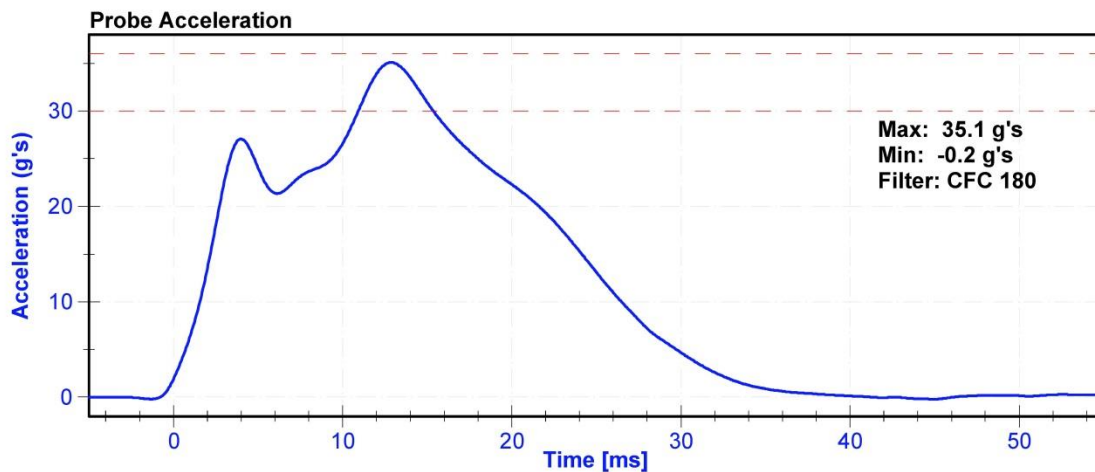
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	303	Laboratory Supervisor	M.Goehle

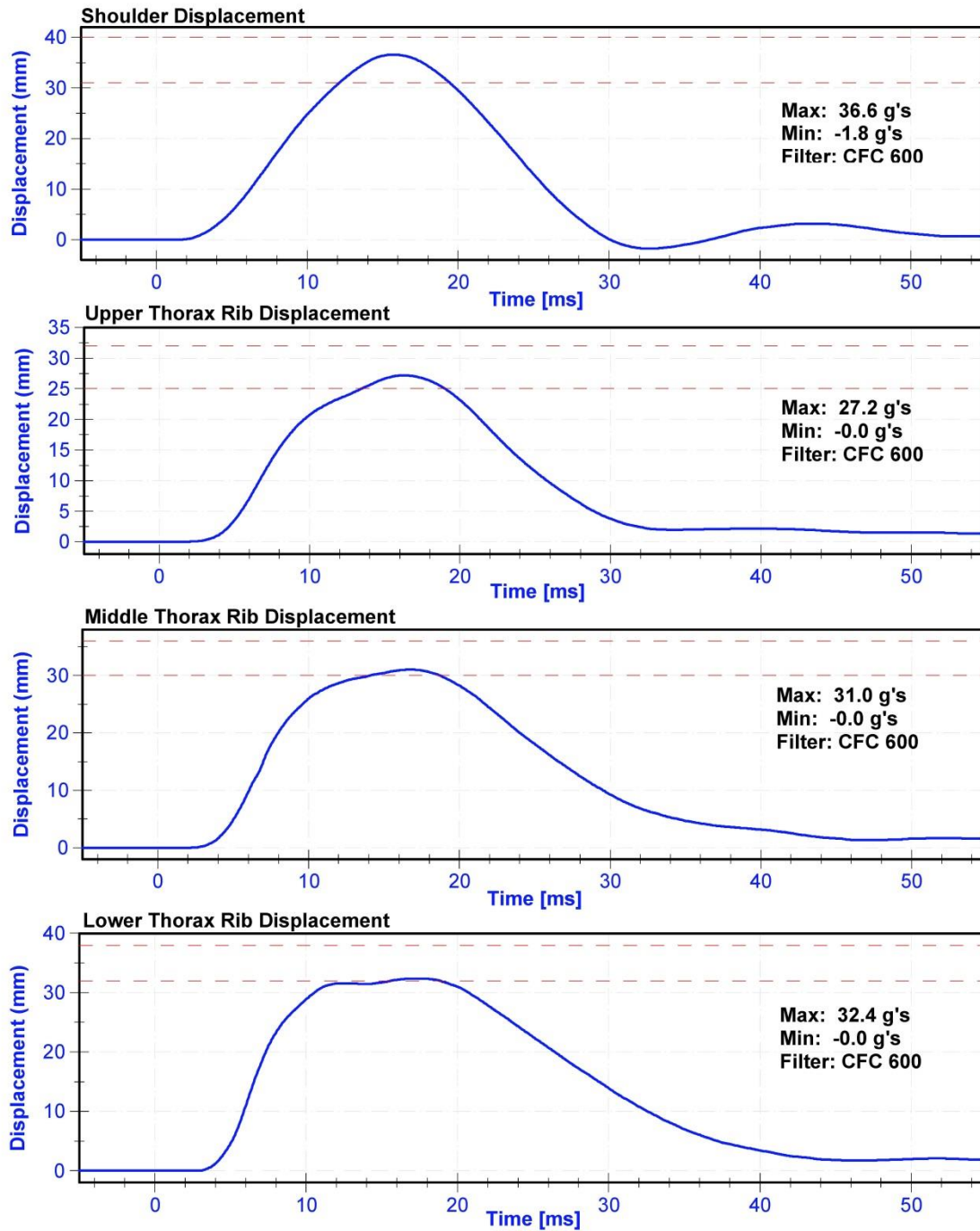
Results

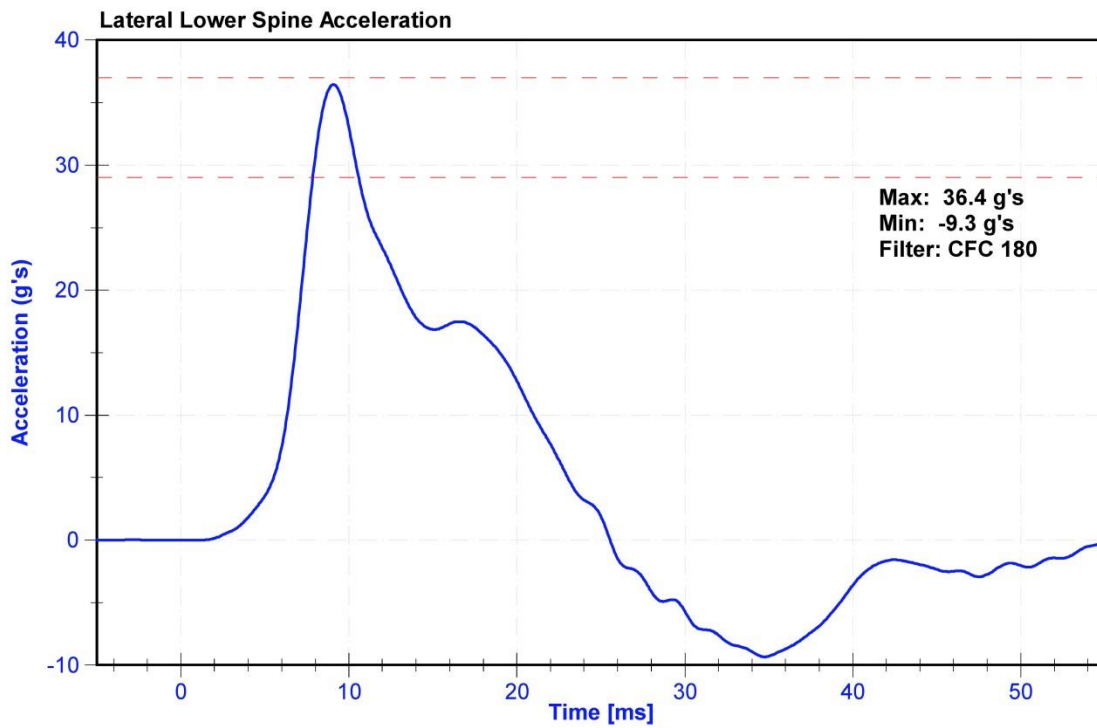
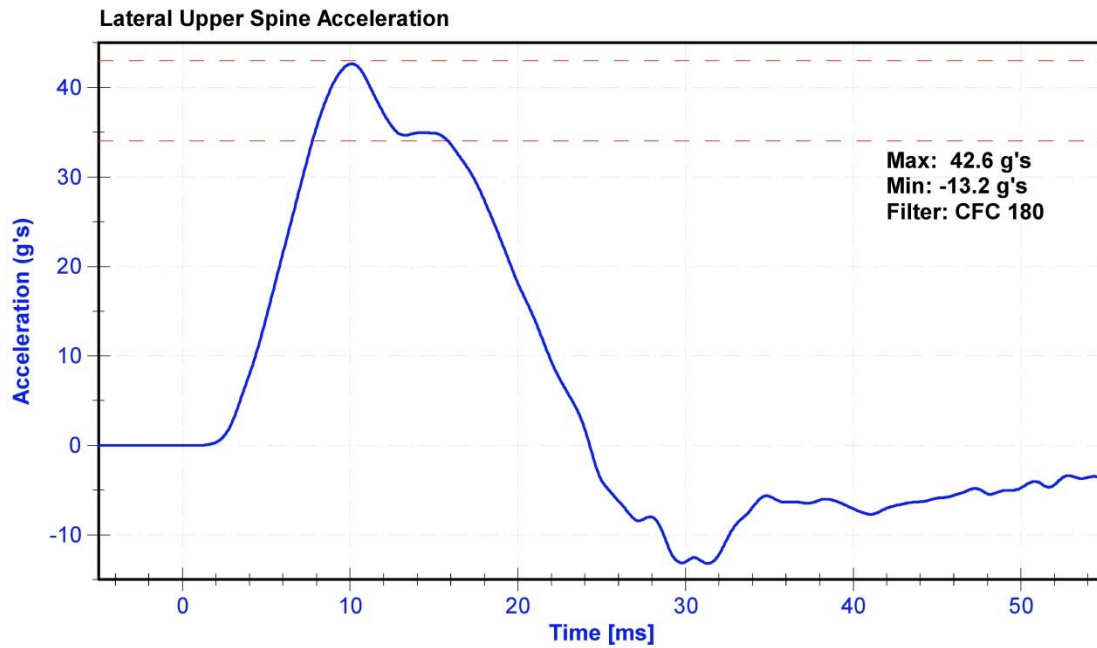
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.5	Pass
Humidity	10	70	%	15.1	Pass
Velocity	6.6	6.8	m/s	6.68	Pass
Probe Acceleration after 5 ms	30	36	g's	35.1	Pass
Lateral Upper Spine Acceleration	34	43	g's	42.6	Pass
Lateral Lower Spine Acceleration	29	37	g's	36.4	Pass
Shoulder Deflection	31	40	mm	36.6	Pass
Upper Thorax Rib Deflection	25	32	mm	27.2	Pass
Mid Thorax Rib Deflection	30	36	mm	31.0	Pass
Lower Thorax Rib Deflection	32	38	mm	32.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Upper Spine T1 Y Accelerometer	ENDEVCO 7264CT	AC-P63315	10/9/2014	4/9/2015
Upper Spine T12 Y Accelerometer	ENDEVCO 7264CT	AC-P51974	10/9/2014	4/9/2015
Shoulder Potentiometer	Servo 08CT1-3725	DS-8GFE	12/4/2014	12/4/2015
Upper Thorax Rib Potentiometer	Servo 08CT1-3725	DS-1199GFE	8/6/2014	8/6/2015
Middle Thorax Rib Potentiometer	Servo 08CT1-3725	DS-1246GFE	8/6/2014	8/6/2015
Lower Thorax Rib Potentiometer	Servo 08CT1-3725	DS-1256GFE	8/6/2014	8/6/2015







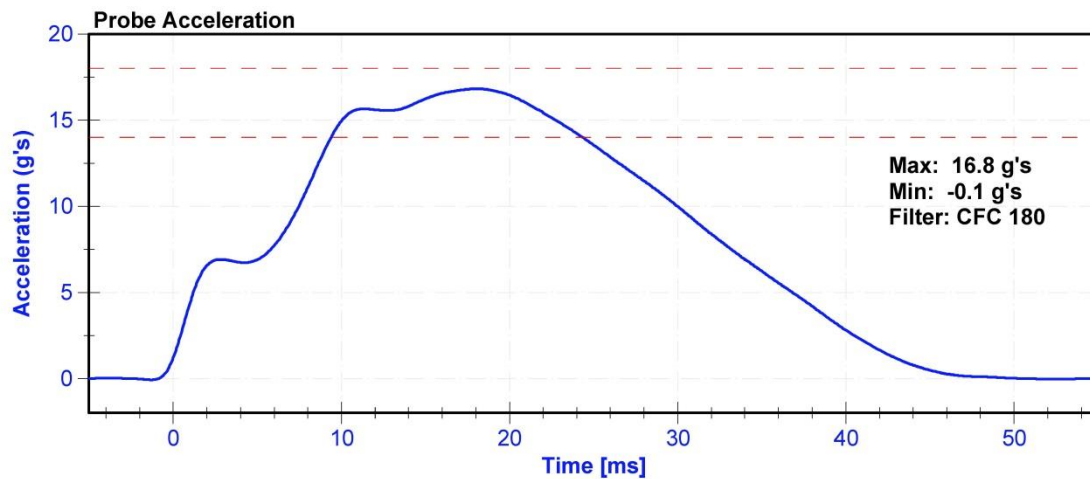
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	303	Laboratory Supervisor	M.Goehle

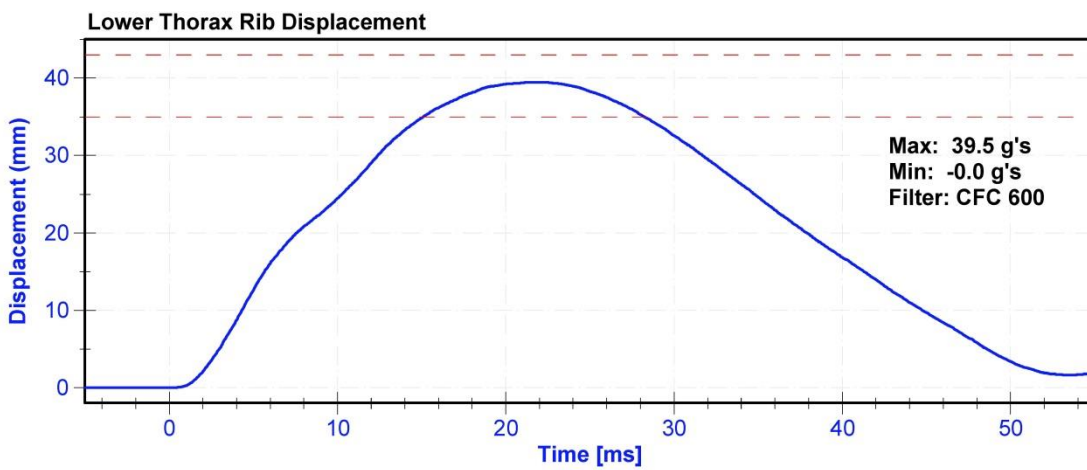
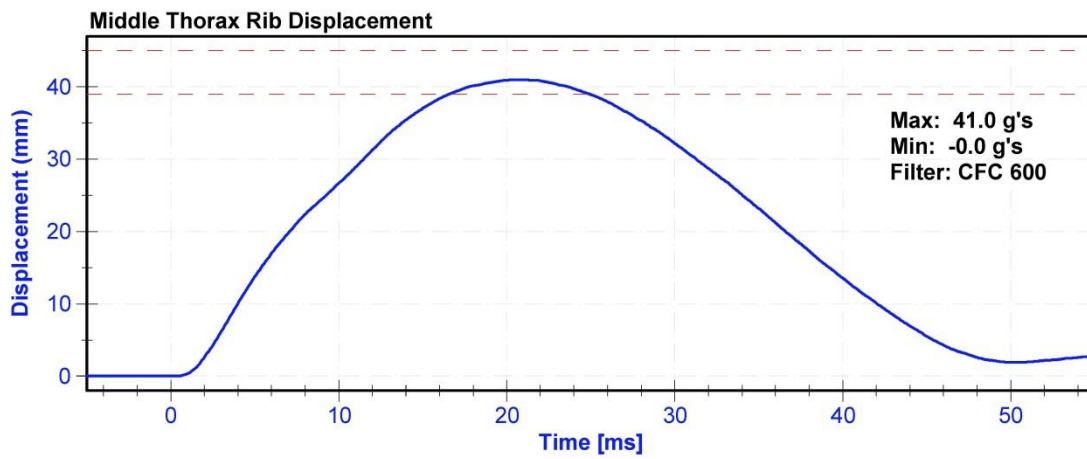
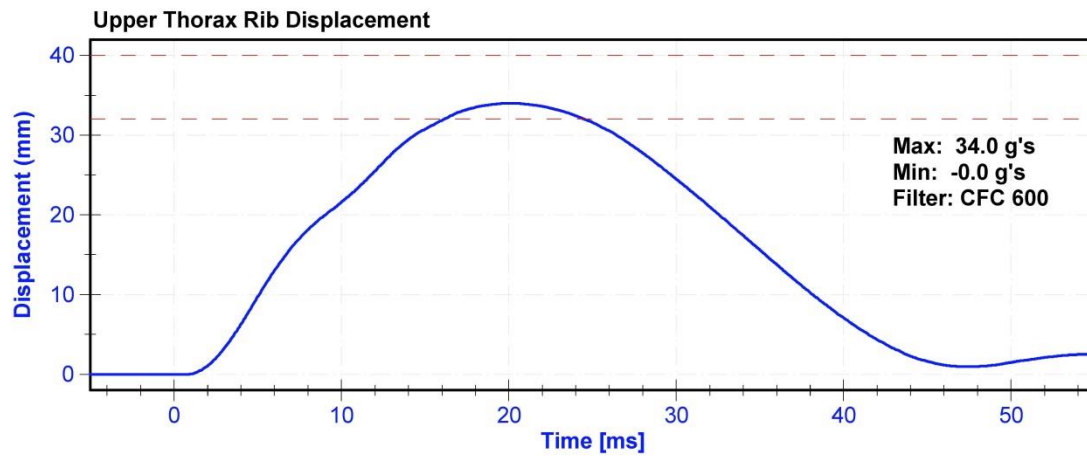
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	C	21.2	Pass
Humidity	10	70	%	15.3	Pass
Velocity	4.2	4.4	m/s	4.31	Pass
Probe Acceleration	14	18	g's	16.8	Pass
Lateral Upper Spine Acceleration	13	17	g's	16.1	Pass
Lateral Lower Spine Acceleration	7	11	g's	10.2	Pass
Upper Thorax Rib Deflection	32	40	mm	34.0	Pass
Middle Thorax Rib Deflection	39	45	mm	41.0	Pass
Lower Thorax Rib Deflection	35	43	mm	39.5	Pass

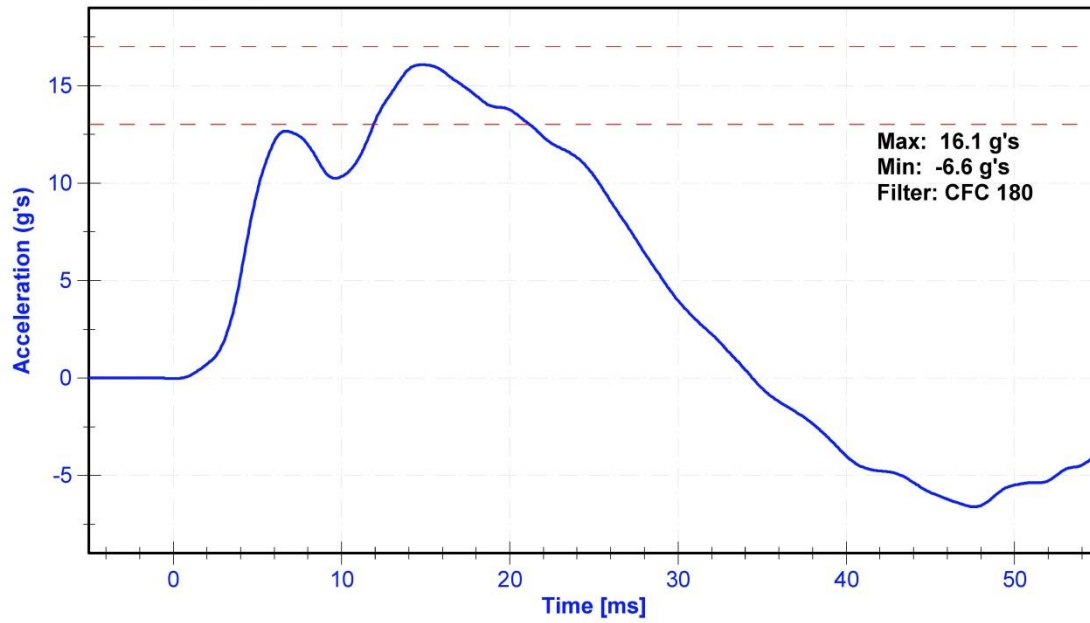
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Upper Spine Y Accelerometer	ENDEVCO 7264CT	AC-P63315	10/9/2014	4/9/2015
Lower Spine Y Accelerometer	ENDEVCO 7264CT	AC-P51974	10/9/2014	4/9/2015
Upper Thorax Rib Potentiometer	Servo 08CT1-3725	DS-1199GFE	8/6/2014	8/6/2015
Middle Thorax Rib Potentiometer	Servo 08CT1-3725	DS-1246GFE	8/6/2014	8/6/2015
Lower Thorax Rib Potentiometer	Servo 08CT1-3725	DS-1256GFE	8/6/2014	8/6/2015

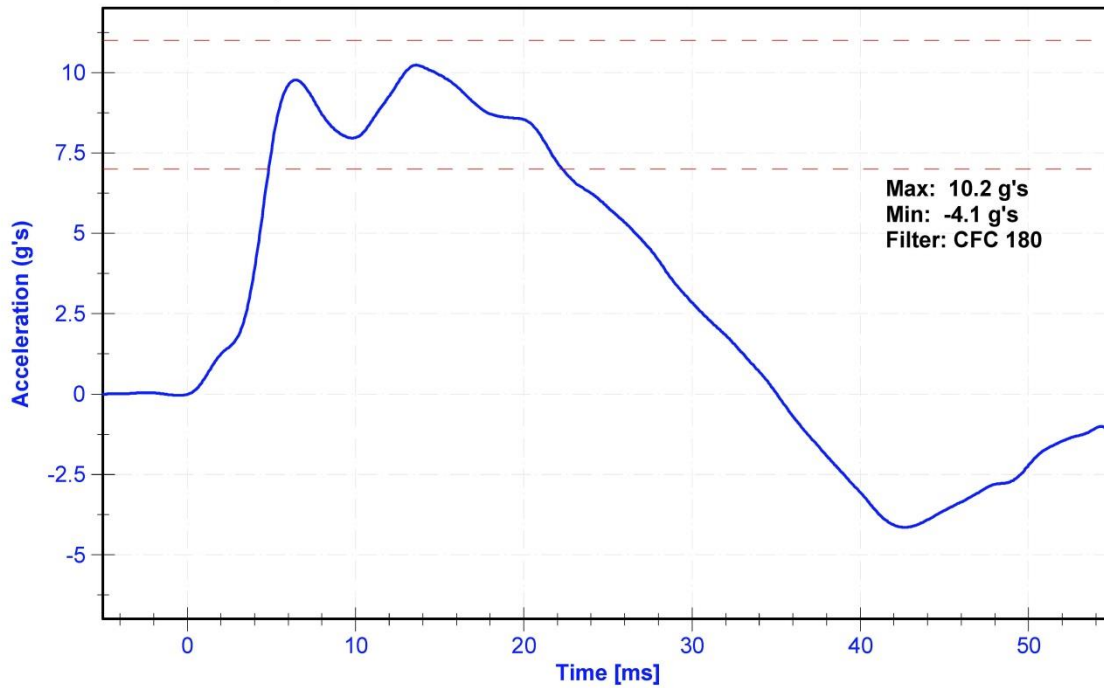




Lateral Upper Spine Acceleration



Lateral Lower Spine Acceleration



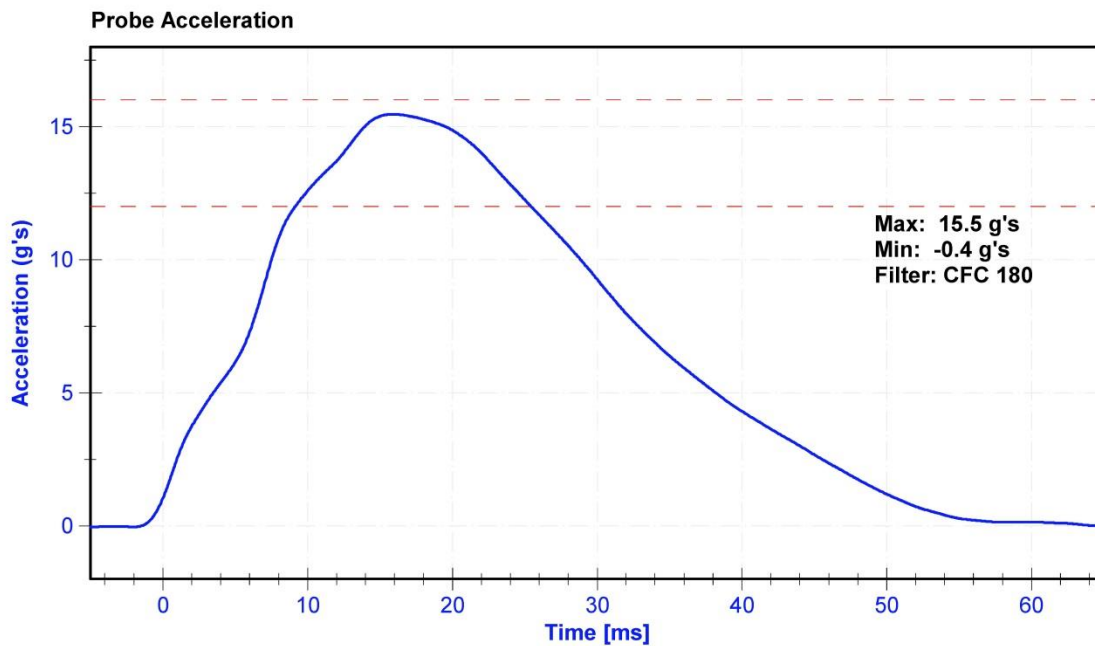
ATD Manufacturer	FTSS	Test Technician	M.Hartung
ATD Serial Number	303	Laboratory Supervisor	M.Goehle

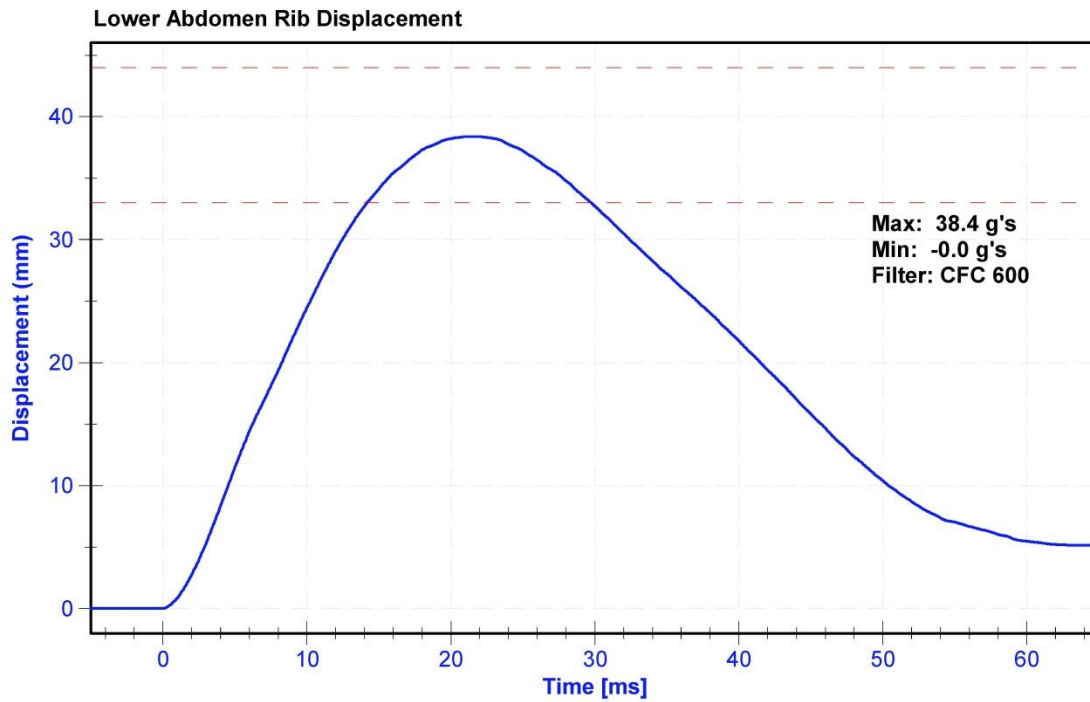
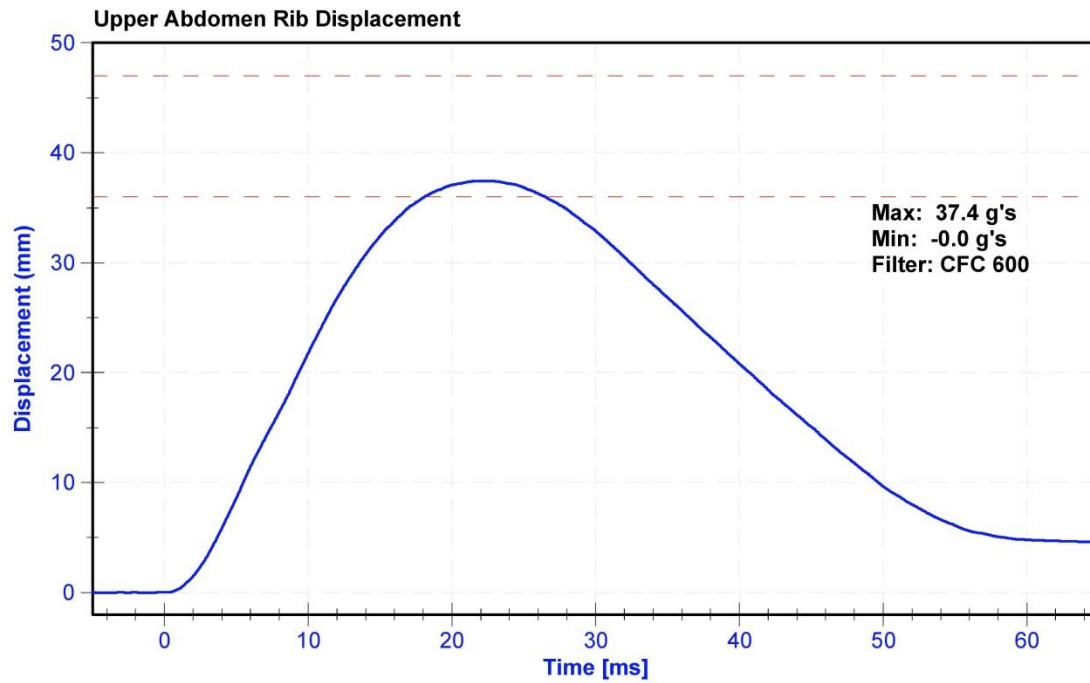
Results

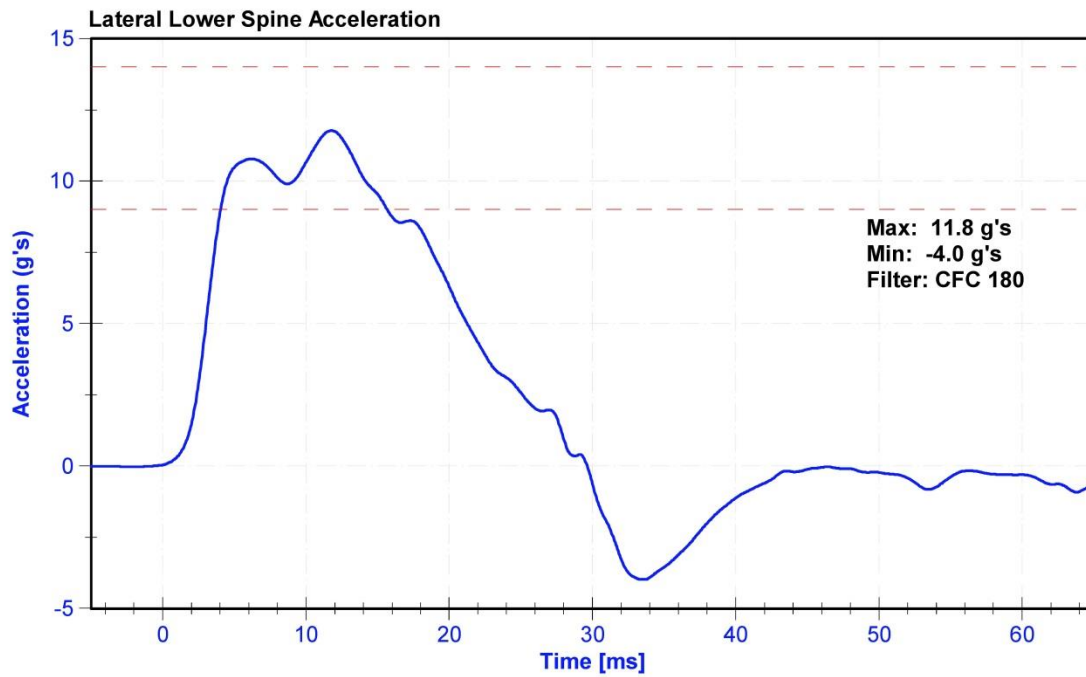
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	14.9	Pass
Velocity	4.2	4.4	m/s	4.31	Pass
Probe Acceleration	12	16	g's	15.5	Pass
Lateral Lower Spine Acceleration	9	14	g's	11.8	Pass
Upper Abdomen Rib Deflection	36	47	mm	37.4	Pass
Lower Abdomen Rib Deflection	33	44	mm	38.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Lower Spine Y Accelerometer	ENDEVCO 7264CT	AC-P51974	10/9/2014	4/9/2015
Upper Abdomen Rib Potentiometer	Servo 08CT1-3725	DS-1274GFE	8/6/2014	8/6/2015
Lower Abdomen Rib Potentiometer	Servo 08CT1-3725	DS-1285GFE	8/6/2014	8/6/2015







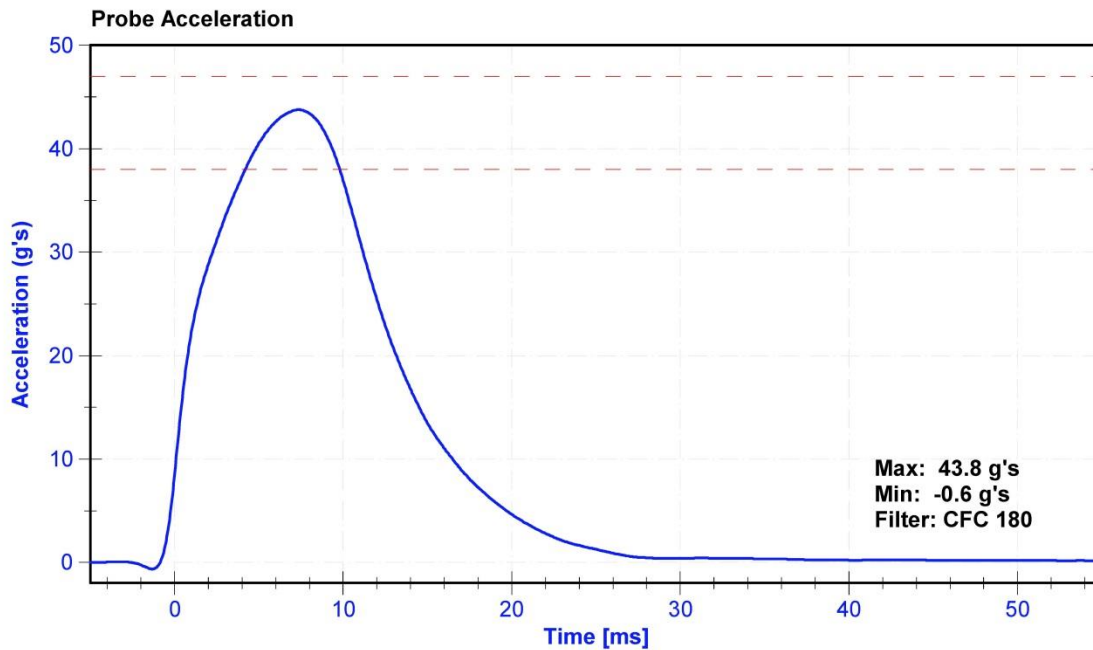
ATD Manufacturer	FTSS	Test Technician	M. Goehle
ATD Serial Number	303	Laboratory Supervisor	M. Goehle

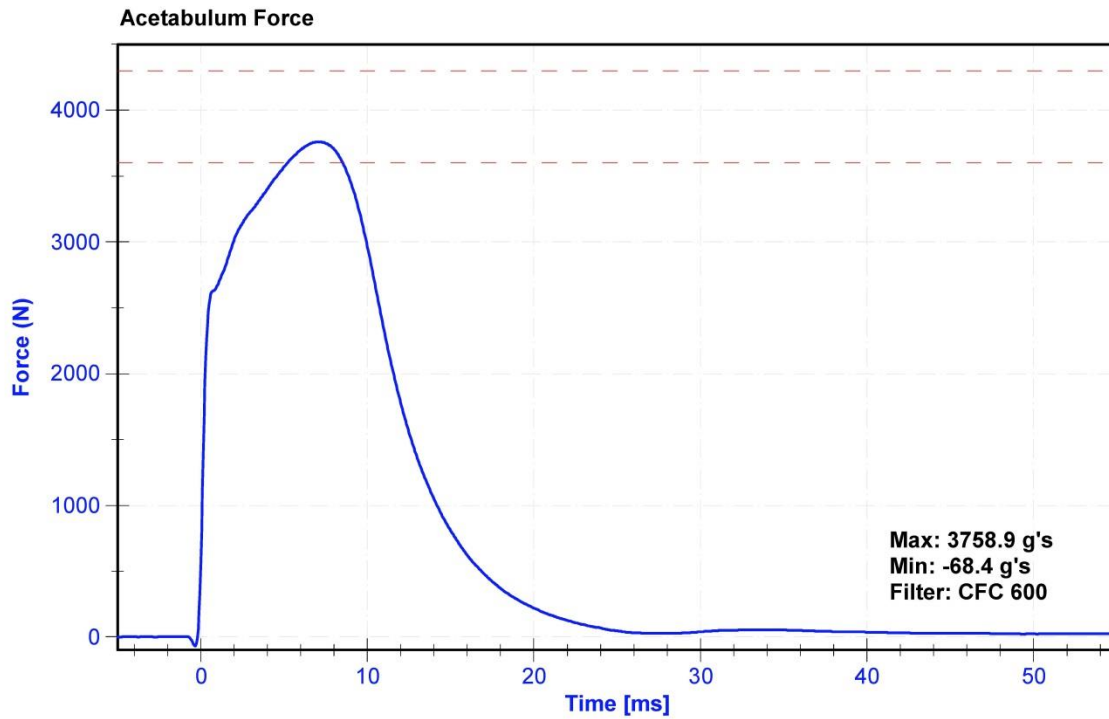
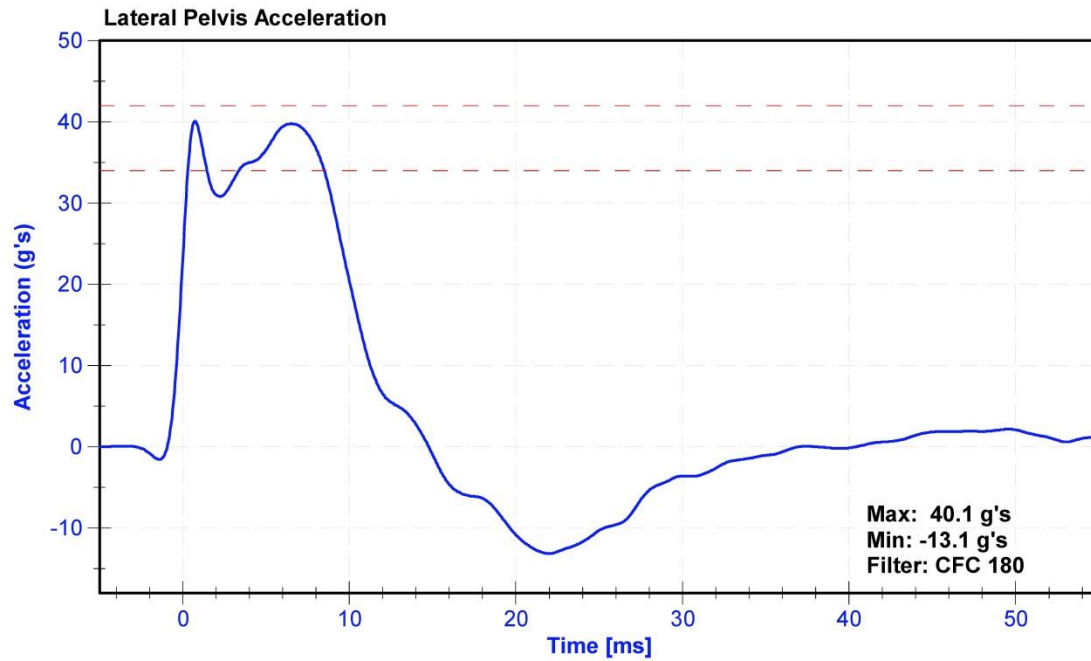
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	16.1	Pass
Velocity	6.6	6.8	m/s	6.61	Pass
Probe Acceleration	38	47	g's	43.8	Pass
Lateral Pelvis Acceleration after 6ms	34	42	g's	39.8	Pass
Acetabulum Force	3,600	4,300	N	3758.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Pelvis Y Accelerometer	ENDEVCO 7264	AC-P51259	1/23/2015	7/24/2015
Acetabulum Load Cell	Denton IF-520	LC-236Fy	5/13/2014	5/13/2015
Certification Plug	Humanetics	47103	10/15/2011	N/A
Crash Test Plug	Humanetics	47100	10/15/2011	N/A





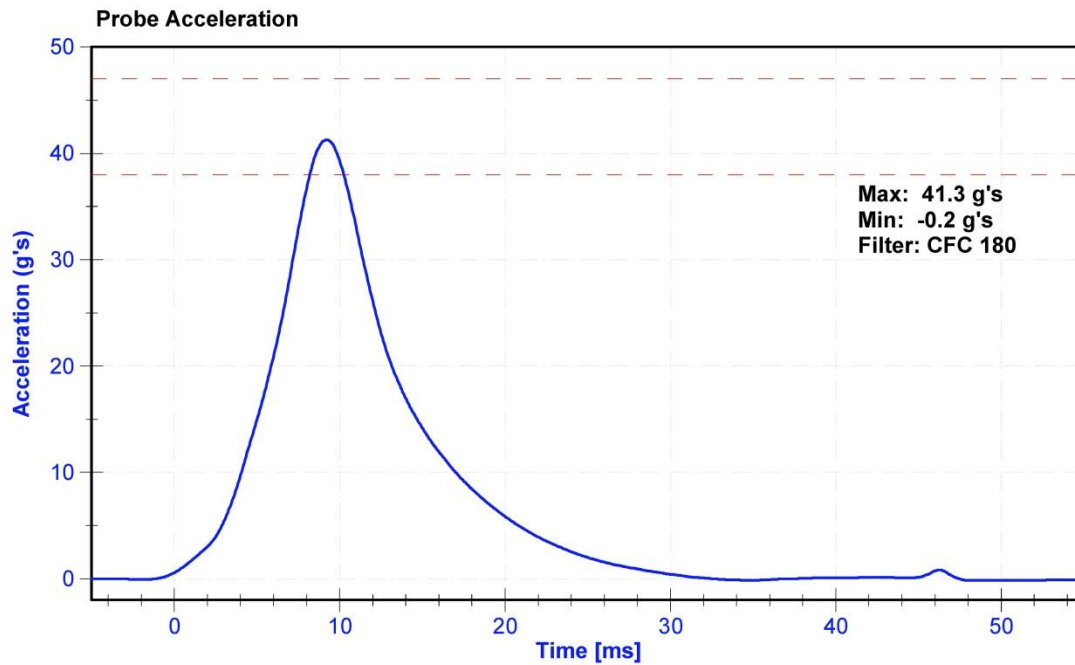
ATD Manufacturer	FTSS	Test Technician	M. Goehle
ATD Serial Number	303	Laboratory Supervisor	M. Goehle

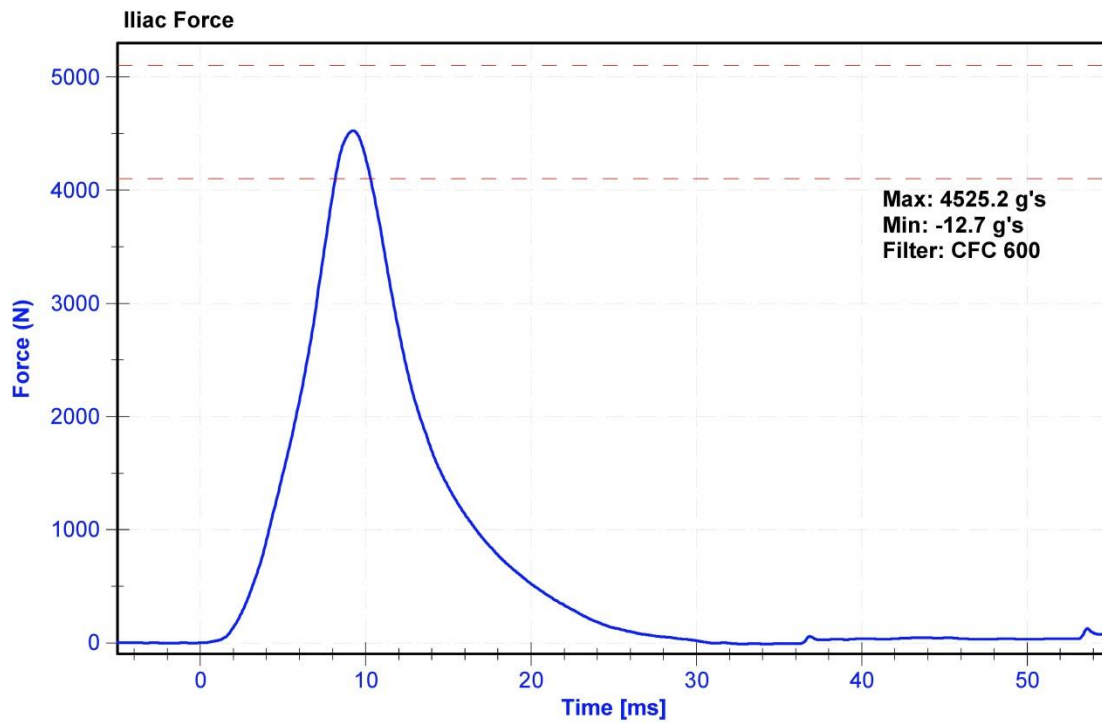
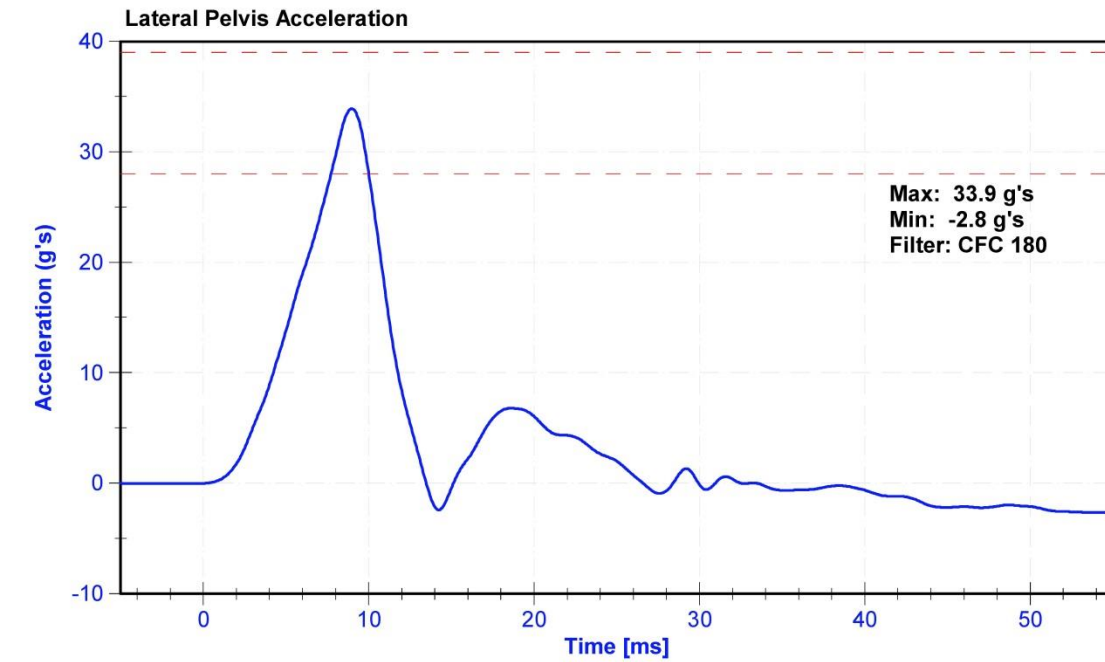
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	17.1	Pass
Velocity	4.2	4.4	m/s	4.31	Pass
Probe Acceleration	36	45	g's	41.3	Pass
Lateral Pelvis Acceleration	28	39	g's	33.9	Pass
Iliac Force	4,100	5,100	N	4525.2	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-C14972	2/6/2015	8/7/2015
Pelvis Y Accelerometer	ENDEVCO 7264	AC-P51259	1/23/2015	7/24/2015
Iliac Load Cell	DENTON 3228J	LC-280Fy	5/14/2014	5/14/2015





APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation (ES-2re)

			ES-2re S/N: F034		
			Serial Number	Manufacturer	Calibration Date
Head Accelerometers		X	AC-P58904	ENDEVCO	8/29/2014
		Y	AC-P58911	ENDEVCO	8/29/2014
		Z	AC-P58776	ENDEVCO	8/29/2014
Thorax Rib Displacement Potentiometers	Upper	Y	DS-183GFE	HONEYWELL	8/4/2014
	Middle	Y	DS-184GFE	HONEYWELL	8/4/2014
	Lower	Y	DS-182GFE	HONEYWELL	8/4/2014
Abdomen Load Cells	Forward	Y	LC-1512	DENTON	5/13/2014
	Middle	Y	LC-1526	DENTON	5/13/2014
	Rear	Y	LC-1516	DENTON	5/13/2014
Lower Spine Accelerometers (T12)		X	AC-P52079	ENDEVCO	8/29/2014
		Y	AC-P51948	ENDEVCO	8/29/2014
		Z	AC-P51269	ENDEVCO	8/29/2014
Pubic Symphysis Load Cell		Y	LC-465Fy	DENTON	5/13/2014

Table 2 – Dummy Instrumentation (SID-IIs)

				SID-IIs S/N: 303		
				Serial Number	Manufacturer	Calibration Date
Head Accelerometers			X	AC-P63841	ENDEVCO	12/17/2014
			Y	AC-P52040	ENDEVCO	10/8/2014
			Z	AC-P58737	ENDEVCO	10/8/2014
Displacement Potentiometers	Shoulder		Y			
	Thoracic Rib	Upper	Y	DS-1199GFE	SERVO	8/6/2014
		Middle	Y	DS-1246GFE	SERVO	8/6/2014
		Lower	Y	DS-1256GFE	SERVO	8/6/2014
	Abdominal Rib	Upper	Y	DS-1274GFE	SERVO	8/6/2014
		Lower	Y	DS-1285GFE	SERVO	8/6/2014
Lower Spine Accelerometers (T12)			X	AC-P51945	ENDEVCO	10/9/2014
			Y	AC-P51974	ENDEVCO	10/9/2014
			Z	AC-P51946	ENDEVCO	10/9/2014
Acetabulum Load Cell			Y	LC-236Fy	DENTON	5/13/2014
Iliac Wing Load Cell			Y	LC-280Fy	DENTON	5/14/2014
Pelvis Plug (struck side)				36373	HUMANETICS	9/23/2010
Pelvis Plug (non-struck side)						

Table 3 – Vehicle Instrumentation

Vehicle Instrumentation			Serial Number	Manufacturer	Calibration Date
1	Vehicle Center of Gravity	X	AC-A156929	MSI 1201	1/9/2015
	Vehicle Center of Gravity	Y	AC-A156938	MSI 1201	1/9/2015
	Vehicle Center of Gravity	Z	AC-A156918	MSI 1201	1/9/2015
2	Right Sill at Front Seat	X	AC-A156930	MSI 1201	1/9/2015
	Right Sill at Front Seat	Y	AC-A156943	MSI 1201	1/9/2015
	Right Sill at Front Seat	Z	AC-A156947	MSI 1201	1/9/2015
3	Right Sill at Rear Seat	X	AC-A156942	MSI 1201	1/9/2015
	Right Sill at Rear Seat	Y	AC-A156937	MSI 1201	1/9/2015
	Right Sill at Rear Seat	Z	AC-A156946	MSI 1201	1/9/2015
4	Left Sill at Front Door	Y	AC-A156912	MSI 1201	1/9/2015
5	Left Sill at Rear Door	Y	AC-A156922	MSI 1201	1/9/2015
6	Left A-Post Lower	Y	AC-A156931	MSI 1201	1/9/2015
7	Left A-Post Middle	Y	AC-A156926	MSI 1201	1/9/2015
8	Left B-Post Lower	Y	AC-A156944	MSI 1201	1/9/2015
9	Left B-Post Middle	Y	AC-A156949	MSI 1201	1/9/2015
10	Front Seat Track	Y	AC-A156916	MSI 1201	1/9/2015
11	Rear Seat Track or Structure	Y	AC-A156915	MSI 1201	1/9/2015
12	Right Rear Occ. Compartment	Y	AC-A156935	MSI 1201	1/9/2015
13	Engine Block	X	AC-A156933	MSI 1201	1/9/2015
	Engine Block	Y	AC-A156950	MSI 1201	1/9/2015
14	Rear Floorpan Above Axle	X	AC-A156919	MSI 1201	1/9/2015
	Rear Floorpan Above Axle	Y	AC-A156920	MSI 1201	1/9/2015
	Rear Floorpan Above Axle	Z	AC-A156927	MSI 1201	1/9/2015

TABLE 4 – MDB Instrumentation

MDB Instrumentation		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	AC-C14901	ENDEVCO	10/14/2014
MDB Center of Gravity	Y	AC-CP30	ENDEVCO	10/14/2014
MDB Center of Gravity	Z	AC-C16680	ENDEVCO	10/14/2014
Left Frame at Rear Axle Centerline	X	AC-AH5M8	ENDEVCO	10/14/2014
Left Frame at Rear Axle Centerline	Y	AC-C16499	ENDEVCO	10/14/2014