

REPORT NUMBER: R&D-KAR-16-003

**MOVING BARRIER TO VEHICLE CRASH TEST IN SUPPORT OF NHTSA'S
FRONTAL OBLIQUE OFFSET PROGRAM
OBLIQUE MOVING DEFORMABLE BARRIER INTO LEFT FRONT OF A**

**MAZDA MOTOR CORPORATION
2016 MAZDA CX-5**

NHTSA No: R20165413

**PREPARED BY:
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MAY 27, 2016

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
VEHICLE SAFETY RESEARCH
1200 NEW JERSEY AVE, SE, ROOM W46-446
WASHINGTON, D.C. 20590**

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Date: 


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16. Abstract A test was conducted in accordance with Contract DTNH22-14-D-00360, Task Order #0001. The test consisted of an Oblique Moving Deformable Barrier (OMDB) traveling at a target speed of 90.1 km/h into a stationary 2016 Mazda CX-5 SUV. The struck vehicle was positioned 15 degrees relative to the moving barrier which impacted 35% of the left side of the vehicle. The test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and foot well intrusion performance. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on April 27, 2016. The OMDB impact velocity was 89.74 km/h and the ambient temperature at the test vehicle at the time of impact was 22°C. The target vehicle post-test maximum crush was 33 mm. The maximum crush of the structural bumper beam was 328 mm at B1, to the left of the vehicle's centerline. The test vehicle's performance was as follows: <table border="1"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th rowspan="2">Units</th> <th>Driver THOR</th> <th>Passenger THOR</th> </tr> <tr> <th>Result</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₁₅)</td> <td></td> <td>177.23</td> <td>148.25</td> </tr> <tr> <td>Brain Injury Criteria (BrIC)</td> <td></td> <td>0.58</td> <td>0.68</td> </tr> <tr> <td>Peak Neck Tension</td> <td>N</td> <td>1885.09</td> <td>858.09</td> </tr> <tr> <td>Peak Chest Deflection</td> <td>mm</td> <td>47.94</td> <td>33.32</td> </tr> <tr> <td>Peak Abdomen Deflection</td> <td>mm</td> <td>-73.09</td> <td>-60.31</td> </tr> <tr> <td>Peak Resultant Acetabulum Force</td> <td>N</td> <td>2027.34</td> <td>2566.11</td> </tr> <tr> <td>Peak Femur Force</td> <td>N</td> <td>-2641.86</td> <td>-3805.67</td> </tr> <tr> <td>Peak Tibia Index</td> <td></td> <td>0.80</td> <td>0.76</td> </tr> </tbody> </table>				Measurement Description	Units	Driver THOR	Passenger THOR	Result	Result	Head Injury Criteria (HIC ₁₅)		177.23	148.25	Brain Injury Criteria (BrIC)		0.58	0.68	Peak Neck Tension	N	1885.09	858.09	Peak Chest Deflection	mm	47.94	33.32	Peak Abdomen Deflection	mm	-73.09	-60.31	Peak Resultant Acetabulum Force	N	2027.34	2566.11	Peak Femur Force	N	-2641.86	-3805.67	Peak Tibia Index		0.80	0.76
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SECTION 1

TEST PURPOSE AND PROCEDURE

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

This 90.1 km/h (56.0 mph) Moving Barrier into a test vehicle is part of the Frontal Oblique Offset Impact Test outlined in Contract No. DTNH22-14-D-00360, Task Order #0001. The purpose of this test is to obtain vehicle crashworthiness and occupant restraint system performance data for consumer information purposes.

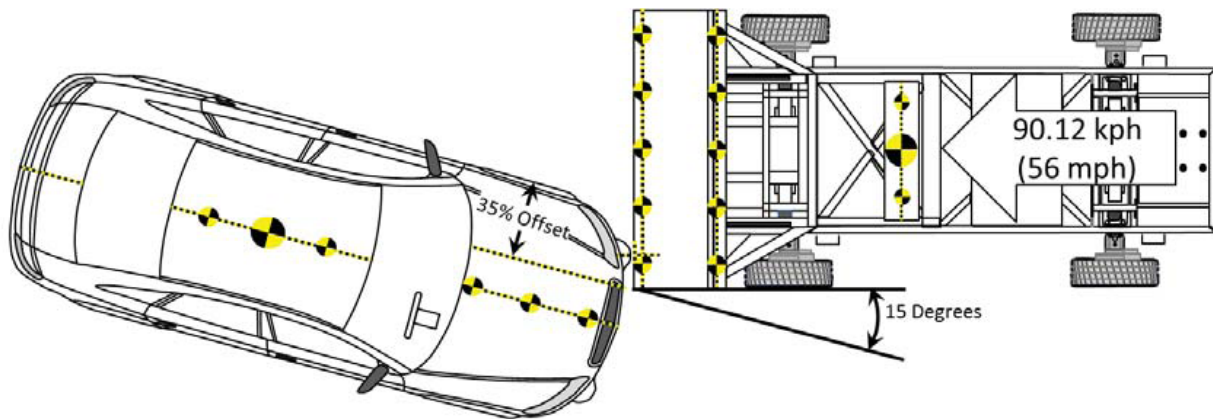
This test was conducted in accordance with the instructions set forth for a 15° angle, 35% offset moving barrier to vehicle impact, outlined in Contract No. DTNH22-14-D-00360, Task Order #0001. Data was obtained indicant of Federal Motor Vehicle Safety Standard FMVSS 208 - Occupant Crash Protection, FMVSS 212 – Windshield Mounting, FMVSS 219 (partial) – Windshield Zone Intrusion, and FMVSS 301 – Fuel System Integrity, in addition to the requirements of Contract No. DTNH22-14-D-00360, Task Order #0001. The frontal oblique offset impact test was conducted in accordance with the NHTSA Office of Vehicle Safety Research Laboratory Test Procedure dated July 22, 2015.

SECTION 2

SUMMARY OF TEST RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

A 2016 Mazda CX-5 was impacted on the left front corner by an Oblique Moving Deformable Barrier (OMDB). This test vehicle was stationary and positioned at a target angle of 15° and at a target offset of 35% to the forward line of motion of the OMDB. The OMDB was towed down the test track in a full forward direction, without any crabbing, and at the targeted impact velocity of 90.1 km/h (56.0 mph) into the test vehicle. The test vehicle's mass was 1,790.0 kg (3,946.2 lbs), and the OMDB's mass was 2,496.5 kg (5,503.7 lbs). The test was performed at KARCO Engineering, LLC. on April 27, 2016.



The test was documented by three (3) real time and fifteen (15) high-speed video cameras. Camera locations and other pertinent data are located in Data Sheet No. 7 of this report. Pre and post – test photographs of the test vehicle, OMDB, and test setup were taken using a digital still camera. Photographic documentation of the test is presented in Appendix A of this report.

One 50% adult male THOR-50M anthropomorphic test device (ATD) (Serial No. DO9798) was seated in the left, front (P1 -Driver's) seating position and one 50% adult male THOR-50M ATD (Serial No. DL9207) was seated in the right front passenger seating position (P2). The driver and passenger were positioned according to instructions specified in the THOR seating procedures.

The driver was restrained with a 3 – point seat belt, frontal, curtain, and torso airbag. The passenger was restrained with a 3 – point seat belt and frontal airbag.

SECTION 2 ... (CONTINUED)
SUMMARY OF TEST RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

Two hundred fifty eight (258) channels of data from the two ATD's, test vehicle and OMDB were collected using Diversified Technical Systems, Inc. data acquisition systems. Appendix B contains dummy data plots, as well as vehicle and OMDB response data plots.

There was 100% total windshield retention. There appeared to be no intrusion into the protected zone of the windshield during any portion of the impact event. The maximum static crush of the vehicle was 10 mm at C1 to the left of the vehicle's centerline. The front fascia was forced off of the vehicle during the impact. The fascia was repositioned on the vehicle to obtain a point of measurement. The maximum crush of the structural bumper beam was 328 mm at B1, to the left of the vehicle's centerline.

All four vehicle doors remained closed and latched during the test. All doors remained operational after the impact event.

Structure observations include the following:

- Windshield had cracks throughout.
- The left front wheel was pushed into the A-Pillar.
- Hood bent inwards and the left front corner of the vehicle was damaged exposing part of the engine compartment.

The driver ATD's visible contact points were:

- Head contacted the frontal and curtain airbags and headrest.
- Torso contacted the frontal and torso/pelvis airbag, seatback, door panel, and the passenger left arm.
- Left knee contacted the knee bolster and the steering column.
- Right knee contacted the knee bolster, steering column, and the passenger left arm.

SECTION 2 ... (CONTINUED)
SUMMARY OF TEST RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

The right front passenger ATD's visible contact points were:

- Head contacted the frontal airbag and the headrest.
- Torso contacted the frontal airbag, center instrument panel, and the driver arm and knee.
- Left knee contacted the glove box.
- Right knee contacted the glove box.

Primary Impact Data

Measured Parameter	Units	Value
OMDB Velocity at Impact	km/h	89.74
OMDB Test Weight	kg	2496.5
OMDB Maximum Static Crush	mm	474.0
Vehicle Test Weight	kg	1790.0
Actual Vehicle Angle	Degrees	15.0
Vehicle Maximum Static Crush	mm	10
Vertical Offset from Target Point (+ down / -up)*	mm	11
Lateral Offset from Target Point (+ left / -right)*	mm	-45
Number of Data Channels		258
Number of Real-Time Cameras		3
Number of High-Speed Cameras		15

*Offsets are in relation to the vehicle coordinate system.

Dummy Contacts

Description	Driver	Picture Ref.	Passenger	Picture Ref.
Dummy Type	THOR, S/N: DO9798		THOR, S/N: DL9207	
Head Contact	Frontal and Curtain Airbags, Headrest	A-44, A-45	Frontal Airbag, Headrest	A-65, A-66
Upper Torso Contact	Frontal and Torso/Pelvis Airbag, Seatback, Door Panel, Passenger Arm	A-45, A-46	Frontal Airbag, Center Instrument Panel, Driver Arm and Knee	N/A
Lower Torso Contact	Torso/Pelvis Airbag, Seatback	A-46	None	N/A
Left Knee Contact	Knee Bolster, Steering Column	A-46	Glove Box	A-67
Right Knee Contact	Knee Bolster, Steering Column, Passenger Arm	A-46	Glove Box	A-67

SECTION 2 ... (CONTINUED)
SUMMARY OF TEST RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

Data Anomalies

Channel Description	Explanation
Driver Abdomen Left DGIR Displacement, Questionable spikes throughout	Could not reproduce. Suspected poor internal grounding.
Driver Abdomen Right DGIR Displacement, Questionable spikes throughout	Could not reproduce. Suspected poor internal grounding.
Driver Left Foot Z Acceleration, Channel was not installed	Sensor was not received in working condition. Sensor was not used in the test.
Passenger Femur Right Y Moment, Questionable spikes between 63.5 to 75.8 ms	Could not reproduce. Suspected poor internal grounding.
Passenger Lower Tibia Left Y Moment, Channel failed, no data	Could not reproduce. Suspected poor internal grounding.
Passenger Lower Tibia Right Y Force, Channel failed at 62.1 ms	Pins came loose in Amphenol connector.
Passenger Lower Tibia Right Z Force, Channel failed, no data	Could not reproduce. Suspected poor internal grounding.
Passenger Foot Right X Acceleration, Channel failed at 57.2 ms	Pins came loose in Amphenol connector.
Driver Seat Thigh Bar Z Acceleration, Channel failed at 87.9 ms	The sensor wire was cut during the test.

SECTION 2 ... (CONTINUED)
SUMMARY OF TEST RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

PRELIMINARY INJURY SUMMARY : DRIVER
Driver: Thor Serial No. DO9798 Injury Summary

Location	Description	Units	Source	Max	Min
Head	HIC 15ms		Compute	177.23	
	Brain Injury Criteria (BrIC)		Compute	0.58	
	Head Rotational Velocity X	deg/s	60	619.48	-795.05
	Head Rotational Velocity Y	deg/s	60	785.66	-1451.41
	Head Rotational Velocity Z	deg/s	60	687.20	-726.06
Neck	Upper Neck Z-axis Force	N	1000	1885.09	-89.09
	Upper Neck Y-axis Moment	Nm	600	6.70	-10.90
Chest	Upper Left IR-TRACC - X Deflection	mm	Diadem	25.10	
	Upper Right IR-TRACC - X Deflection	mm	Diadem	47.94	
	Lower Left IR-TRACC X - Deflection	mm	Diadem	19.63	
	Lower Right IR-TRACC X - Deflection	mm	Diadem	39.73	
Abdomen	Lower Left IR-TRACC X - Deflection	mm	Diadem	114.02	-49.37
	Lower Right IR-TRACC X - Deflection	mm	Diadem	171.57	-73.09
Acetabulum	Left Acetabulum Resultant Force	N	Compute	1338.52	
	Right Acetabulum Resultant Force	N	Compute	2027.34	
Femur	Left Femur Force, FZ	N	600	320.02	-2641.86
	Right Femur Force, FZ	N	600	413.08	-2483.89
Tibia	Left Upper Tibia, FZ	N	600	82.80	-927.49
	Left Upper Tibia, Index		Compute	0.34	
	Right Upper Tibia, FZ	N	600	456.63	-2171.56
	Right Upper Tibia, Index		Compute	0.73	
	Left Lower Tibia, FZ	N	600	250.14	-1933.14
	Left Lower Tibia, Index		Compute	0.39	
	Right Lower Tibia, FZ	N	600	107.14	-3969.14
	Right Lower Tibia, Index		Compute	0.80	
Ankle	Left Ankle Rotation, RX	deg	180	7.91	-11.18
	Left Ankle Rotation, RY	deg	180	33.66	-15.51
	Left Ankle Dorsiflexion, MY	Nm	Compute	31.05	
	Left Ankle In/Eversion Moment, MX	Nm	Compute	-14.41	
	Right Ankle Rotation, RX	deg	180	15.76	-36.42
	Right Ankle Rotation, RY	deg	180	20.65	-13.73
	Right Ankle Dorsiflexion, MY	Nm	Compute	86.04	
	Right Ankle In/Eversion Moment, MX	Nm	Compute	-89.17	
Anomalies: 1) Drop out at 40.1 ms and 186.3 ms 2) Questionable spikes throughout.					

*DIADEM-THOR Processing Software v2.6.

SECTION 2 ... (CONTINUED)
SUMMARY OF TEST RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

PRELIMINARY INJURY SUMMARY : PASSENGER
Passenger: Thor Serial No. DL9702 Injury Summary

Location	Description	Units	Source	Max	Min
Head	HIC 15ms		Compute	148.25	
	Brain Injury Criteria (BrIC)		Compute	0.68	
	Head Rotational Velocity X	deg/s	60	981.44	-1266.21
	Head Rotational Velocity Y	deg/s	60	713.75	-969.25
	Head Rotational Velocity Z	deg/s	60	1261.49	-649.39
Neck	Upper Neck Z-axis Force	N	1000	858.09	-95.72
	Upper Neck Y-axis Moment	Nm	600	8.12	-15.61
Chest	Upper Left IR-TRACC - X Deflection	mm	Diadem	33.32	
	Upper Right IR-TRACC - X Deflection	mm	Diadem	25.15	
	Lower Left IR-TRACC X - Deflection	mm	Diadem	25.69	
	Lower Right IR-TRACC X - Deflection	mm	Diadem	11.72	
Abdomen	Lower Left IR-TRACC X - Deflection	mm	Diadem	0.82	-60.31
	Lower Right IR-TRACC X - Deflection	mm	Diadem	0.67	-51.84
Acetabulum	Left Acetabulum Resultant Force	N	Compute	1768.54	
	Right Acetabulum Resultant Force	N	Compute	2566.11	
Femur	Left Femur Force, FZ	N	600	215.78	-3805.67
	Right Femur Force, FZ	N	600	877.41	-1199.60
Tibia	Left Upper Tibia, FZ	N	600	75.66	-2339.82
	Left Upper Tibia, Index		Compute	0.61	
	Right Upper Tibia, FZ	N	600	199.11	-1881.22
	Right Upper Tibia, Index		Compute	0.60	
	Left Lower Tibia, FZ	N	600	99.17	-3156.26
	Left Lower Tibia, Index		Compute	0.76	
	Right Lower Tibia, FZ	N	600	0.00	0.00
	Right Lower Tibia, Index		Compute	0.47	
Ankle	Left Ankle Rotation, RX	deg	180	18.62	-33.83
	Left Ankle Rotation, RY	deg	180	6.74	-24.88
	Left Ankle Dorsiflexion, MY	Nm	Compute	8.41	
	Left Ankle In/Eversion Moment, MX	Nm	Compute	-98.33	
	Right Ankle Rotation, RX	deg	180	25.58	-34.34
	Right Ankle Rotation, RY	deg	180	1.35	-20.83
	Right Ankle Dorsiflexion, MY	Nm	Compute	46.50	
	Right Ankle In/Eversion Moment, MX	Nm	Compute	-108.18	
Anomalies: 1) Channel failed no data.					

*DIAdem-THOR Processing Software v2.6.

SECTION 3

OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

CONVERSION FACTORS

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	miles/hr	km/hr	1.609344
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.574
Pressure	Tire Pressures	lbf/in ²	kPa	6.895
Temperature	General Use	°F	°C	$=(T_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf-ft	N•m	1.355

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	R20165413
Model Year	2016
Make	Mazda
Model	CX-5
Body Style	SUV
VIN	JM3KE4BY4G0671614
Body Color	Jet Black Mica
Odometer Reading (km / mi)	26 / 16
Engine Displacement (L)	2.5
Type / No. of Cylinders	Inline 4
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	6
Overdrive	Yes
Final Drive	AWD
Roof Rack	No
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
Anti-Lock Brakes (ABS)	Yes
Automatic Door Locks (ADLs)	Yes

Traction Control System	Yes
Power Steering	Yes
Power Window Auto-Reverse	Yes
Driver Frontal Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	No
Front Pass. Frontal Airbag	Yes
Front Pass. Curtain Airbag	Yes
Front Pass. Head/Torso Airbag	No
Front Pass. Torso Airbag	No
Front Pass. Torso/Pelvis Airbag	Yes
Front Pass. Pelvis Airbag	No
Front Pass. Knee Airbag	No
Driver Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Front Pass. Seat Belt Pretensioner	Yes
Front Pass. Load Limiter	Yes
Other Safety Restraint	No

Does Owner's Manual provide instructions to turn off automatic door locks?

Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Mazda Motor Corporation
Date of Manufacture	May-15

GVWR (kg)	2071
GAWR Front (kg)	1056
GAWR Rear (kg)	1018

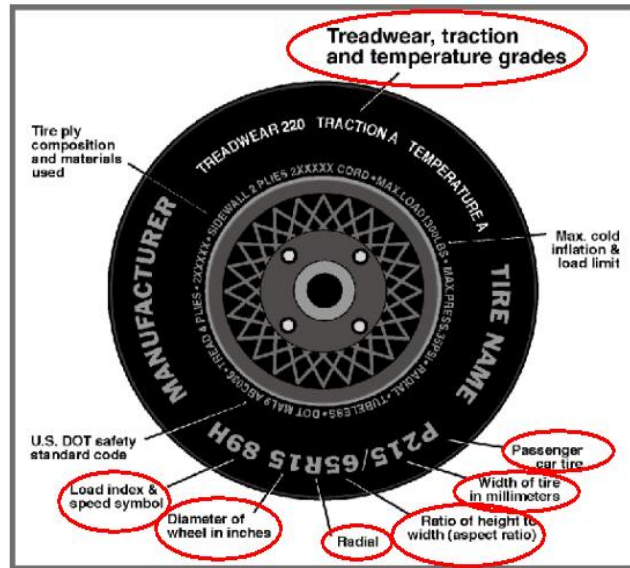
VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Designated Seating Capacity	2	3		5
Capacity Weight (VCW) (kg)				385.0
DSC x 68.04 (kg)				340.2
Cargo Weight (RCLW) (kg)				44.8

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



Measured Parameter	Front	Rear
Max. Tire Pressure (kpa)	300	300
Cold Pressure (kPa)	230	230
Recommended Tire Size	P225/65R17	P225/65R17
Tire Size on Vehicle	P225/65R17	P225/65R17
Tire Manufacturer	Yokohama	Yokohama
Tire Model	Geolander G91	Geolander G91
Treadware	280	280
Traction Grade	B	B
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Nylon	2 Polyester, 2 Steel, 1 Nylon
Load Index/Speed Symbol	100H	100H
Tire Material	Polyester, Steel, Nylon	Polyester, Steel, Nylon
DOT Safety Code Left	FDF5 PC5 2015	FDF5 PC5 2015
DOT Safety Code Right	FDF5 PC5 2015	FDF5 PC5 2015

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

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	461.5	335.0		497.0	423.5	
Right	kg	436.5	311.0		473.0	396.5	
Ratio	%	58.2%	41.8%	100.0%	54.2%	45.8%	100.0%
Total	kg	898.0	646.0	1544.0	970.0	820.0	1790.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1544.0
Weight of 2 THOR ATDs	kg	194.2
Rated Cargo/Luggage Weight (RCLW)	kg	44.8
Calculated Vehicle Target Weight (TVTW)	kg	1783.0

TEST VEHICLE ATTITUDES

Condition	Units	LF	RF	LR	RR	CG Aft of Front Axle
As Delivered	mm	875	877	888	896	1118
As Tested	mm	862	864	857	862	1224
Post-Test	mm	N/A	835	820	942	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	2684
Total Vehicle Length at Left Side	mm	3928
Total Vehicle Length at Centerline	mm	4529
Total Vehicle Length at Right Side	mm	3930
Weight of Ballast/Equipment in Cargo Area	kg	147.0
Weight of Vehicle Components Removed	kg	114.5
Amount of Stoddard Solvent in Fuel Tank	L	53.86

VEHICLE COMPONENTS REMOVED TO MEET TEST WEIGHT:

Rear Fascia (3.5 kg), Rear Trim (6.0 kg), Rear Hatch (26.0 kg), Spare Tire and Tools (21.0 kg),
Rear Seats (26.0 kg), Rear Door Trim and Windows (10.5 kg), Rear Bumper Beam (9.5 kg),
Muffler (12.0 kg)

DATA SHEET NO. 2

SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL

Test Vehicle: 2016 Mazda CX-5

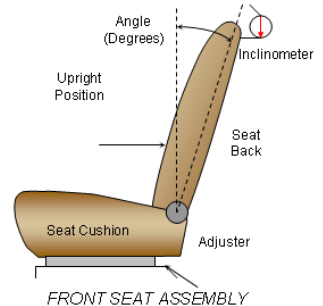
NHTSA No. R20165413

Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

Test Date: 04/27/16

NOMINAL DESIGN RIDING POSITION

The driver seat back was set to the manufacturer's designated angle listed in FORM 1 but was moved rearward per THOR seating procedure to level the head. The passenger seat back was set to the manufacturer's designated angle listed in FORM 1 but was moved rearward per THOR seating procedure to level the head.

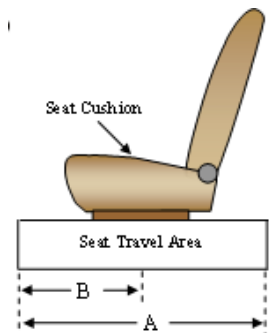


SEAT BACK ANGLE

Seating Position	Unit	OSCAR Position	After ATD Positioning
Driver Seat Back Angle	Degrees	7.2	9.4
Passenger Seat Back Angle	Degrees	7.1	7.4

SEAT FORE / AFT POSITIONING

The total seat travel is measured from the forward most position to the rear most position at its mid angle position. Both the driver and passenger seats were initially positioned to the closest detent forward of 25 mm, rearward of mid position. The seat was then moved as far forward as possible where the ATD did not contact any interior panels, up to mid position.



SEAT FORE/AFT POSITIONS

Seating Position	Total Fore/Aft Travel	Placed in Position #
Driver Seat	27 (0-26)	13
Passenger Seat	27 (0-26)	15

SEAT BELT UPPER ANCHORAGE

The seat belt upper anchorage is positioned to the manufacturer's design position for a 50th percentile adult male ATD for the driver and passenger. Position "H" is the uppermost position, followed by position "M1" and "M2." Position "L" is the lowermost position.

SEAT BELT UPPER ANCHORAGES

Seating Position	Total No. of Positions	Placed in Position
Driver Seat	4	H
Passenger Seat	4	H

DATA SHEET NO. 2 ... (CONTINUED)

SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL

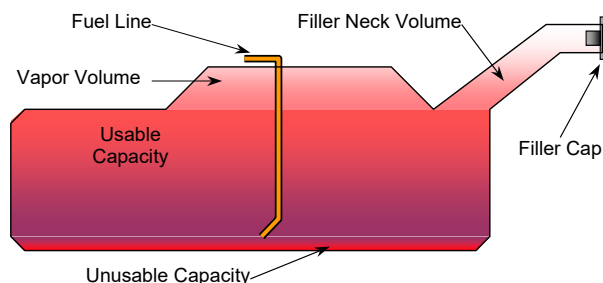
Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank"	57.91
Usable Capacity of "Optional Tank"	
93% of Usable Capacity	53.86
Actual Amount of Stoddard Solvent Used	53.86
1/3 of Usable Capacity	19.30

FUEL PUMP

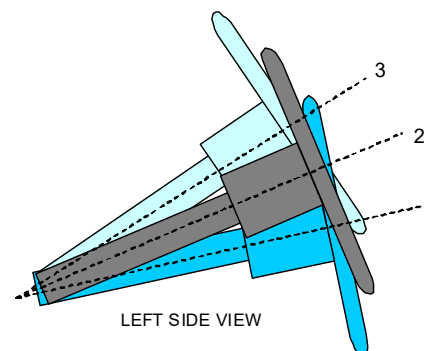
Fuel was evacuated according to the specifications provided by the manufacturer in Form 1. The electric fuel pump operates when the ignition is in the 'On' position and the engine is running.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. A digital inclinometer is used to measure a plate which is placed across the rim of the steering wheel for angular measurements. A tape measure is used to measure telescoping steering wheel travel.



STEERING COLUMN ASSEMBLY

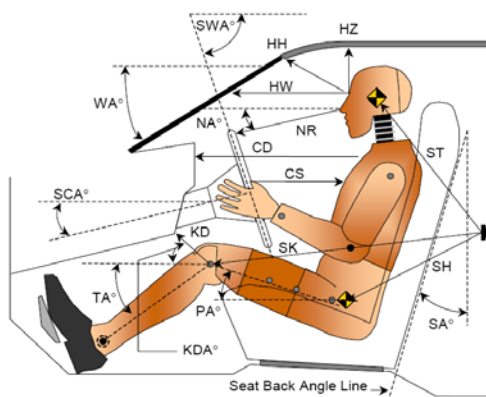
STEERING COLUMN POSITIONING

	Degrees	Fore-Aft Position (mm)
Lowermost Position, No. 1	23.3	94
Geometric Center Position, No. 2	25.5	118
Uppermost Position, No. 3	28.1	142
Telescoping Steering Wheel Travel		48
Test Position	25.5	118

DATA SHEET NO. 3

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



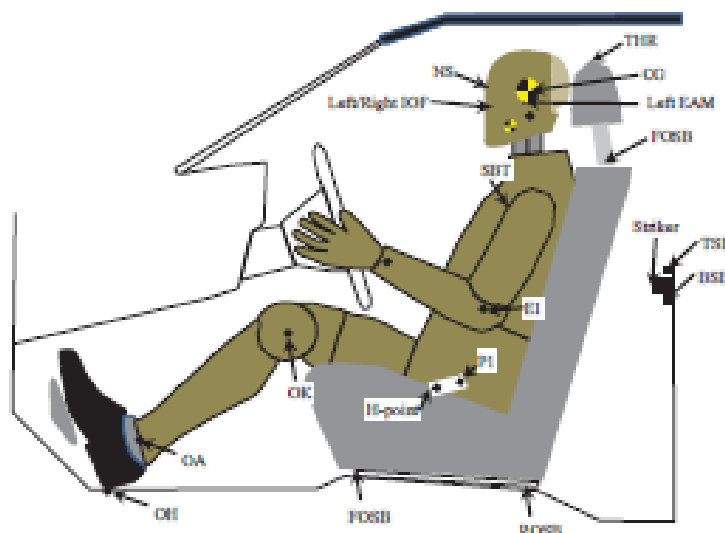
LEFT SIDE VIEW

Code	Measurement Description	Driver S/N# DO9798		Passenger S/N# DL9207	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		32.4		
SWA°	Steering Wheel Angle		64.5		
SCA°	Steering Column Angle		25.5		
SA°	Seat Back Angle (On Headrest Post)		9.4		7.4
HZ	Head to Roof	279	90.0	227	89.8
HH	Head to Header	430	23.5	433	21.1
HW	Head to Windshield	709	0.1	694	0.1
NR	Nose to Rim	502	10.6		
CD	Chest to Dash	592	9.5	632	0.1
CS	Chest to Steering Hub	335	0.7		
RA	Rim to Abdomen	193	0.1		
KDL	Left Knee to Dash	108	6.3	78	35.6
KDR	Right Knee to Dash			111	23.6
PA°	Pelvic Angle		34.6		34.2
TA°	Tibia Angle		53.3		45.0
SK	Striker to Knee	671	2.6	698	5.6
ST	Striker to Head	618	86.0	630	87.1
SH	Striker to H-Point	337	29.2	317	28.8
HAX°	Head Angle (X)		0.4		0.3
HAY°	Head Angle (Y)		-10.8		-8.6
TAX°	T6 Angle (X)		0.1		-0.6
TAY°	T6 Angle (Y)		22.8		23.9
TAX°	T1 Angle (X)		-0.1		-0.4
TAY°	T1 Angle (Y)		1.2		1.9
TAX°	T12 Angle (X)		-0.1		-0.7
TAY°	T12 Angle (Y)		32.6		32.7
PAX°	Pelvis Angle (X)		0.7		-0.1
PAY°	Pelvis Angle (Y)		34.3		34.2

DATA SHEET NO. 4

DUMMY CMM MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

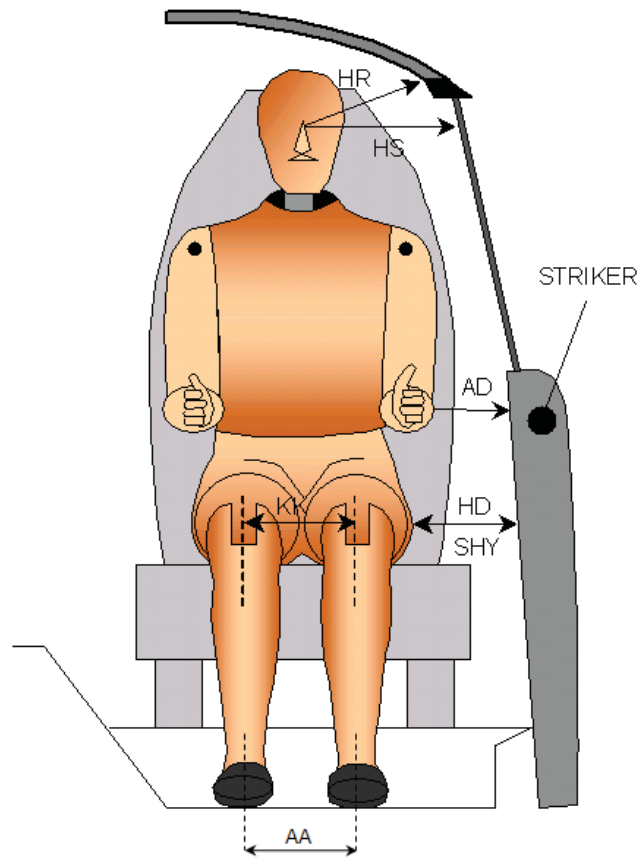


Description	Units	Driver S/N# DO9798			Passenger S/N# DL9207		
		X	Y	Z	X	Y	Z
Head CG	mm	2114	-452	-728	2104	443	-740
Nasion	mm	2209	-373	-722	2198	363	-737
Tip of Nose	mm	2206	-376	-685	2193	363	-699
Tip of Chin	mm	2176	-375	-580	2174	362	-600
Left EAM	mm	2117	-447	-700	2104	287	-712
Right EAM	mm	2118	-297	-699	2107	439	-712
Left IOF	mm	2201	-406	-685	2190	330	-700
Right IOF	mm	2202	-340	-684	2190	395	-700
Outboard Elbow	mm	2308	-616	-267	2230	627	-242
H-Point	mm	2325	-618	-85	2308	624	-96
H-Point Tool	mm	2250	-624	-114	2232	627	-125
Outboard Knee Bolt	mm	2714	-587	-193	2724	546	-160
Inboard Knee Bolt	mm	2716	-255	-210	2722	307	-166
Outboard Ankle Bolt	mm	2965	-578	144	3019	527	135
Inboard Ankle Bolt	mm	2959	-254	141	3015	306	133
Outer Heel Point	mm	2988	-552	280	2992	483	277
Inboard Heel Point	mm	2941	-230	284	2988	268	274
Striker Top Bolt	mm	2049	-800	-238	2047	798	-239
Striker Bottom Bolt	mm	2050	-802	-202	2049	801	-203
Center Tip of Striker	mm	2079	-804	-222	2078	802	-223
Front Outboard Seat Anchor Bolt	mm	2545	-609	182	2547	609	181
Rear Outboard Seat Anchor Bolt	mm	2102	-608	202	2102	608	201
Outboard Head Restraint Post	mm	1886	-450	-601	1880	454	-610
Center of Steering Wheel	mm	2590	-368	-424			

DATA SHEET NO. 5

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

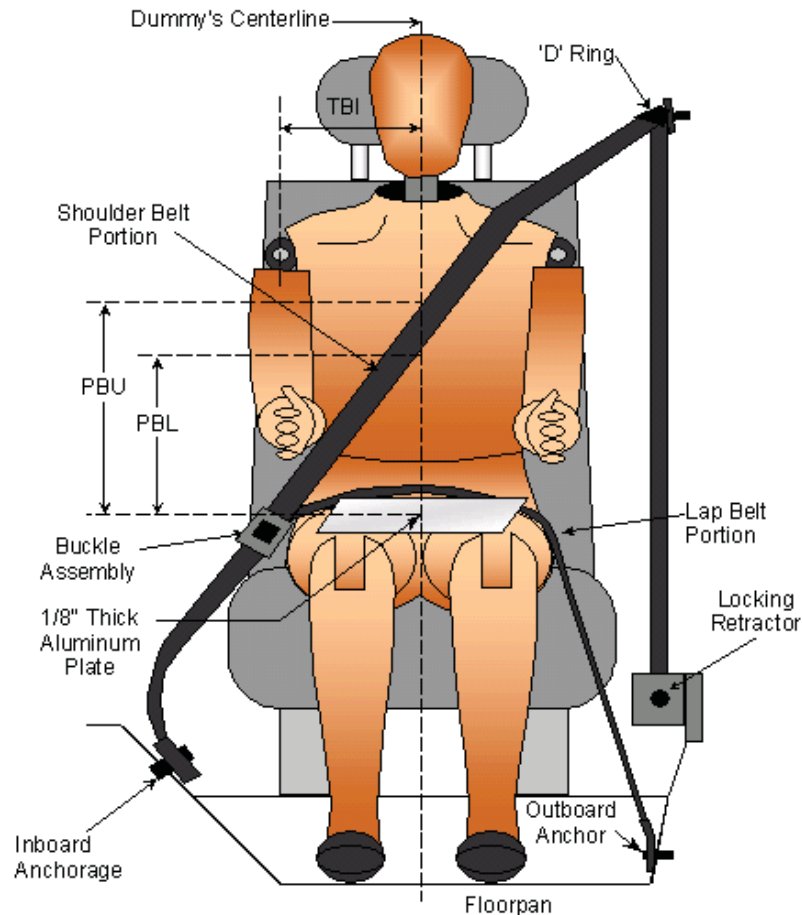


DUMMY LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver	Passenger
AD	Arm to Door	mm	142	61
HD	H-Point to Door	mm	144	130
HR	Head to Side Header	mm	216	222
HS	Head to Side Window	mm	358	359
KK	Knee to Knee	mm	332	239
SHY	Striker to H-Point (Y Direction)	mm	185	178
AA	Ankle to Ankle	mm	324	221

DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Code	Measurement Description	Units	Driver	Passenger
PBU	Top Surface of Aluminum Plate to Belt Upper Edge	mm	374	350
PBL	Top Surface of Aluminum Plate to Belt Lower Edge	mm	292	265

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as Measured on ATD	mm	903	885
Lap Belt Length as Measured on ATD	mm	820	880
Remainder of Belt on Reel	mm	1190	1142
Total Belt Length for Continuous Webbing Systems	mm	2913	2907

HIGH SPEED CAMERA LOCATIONS AND DATA

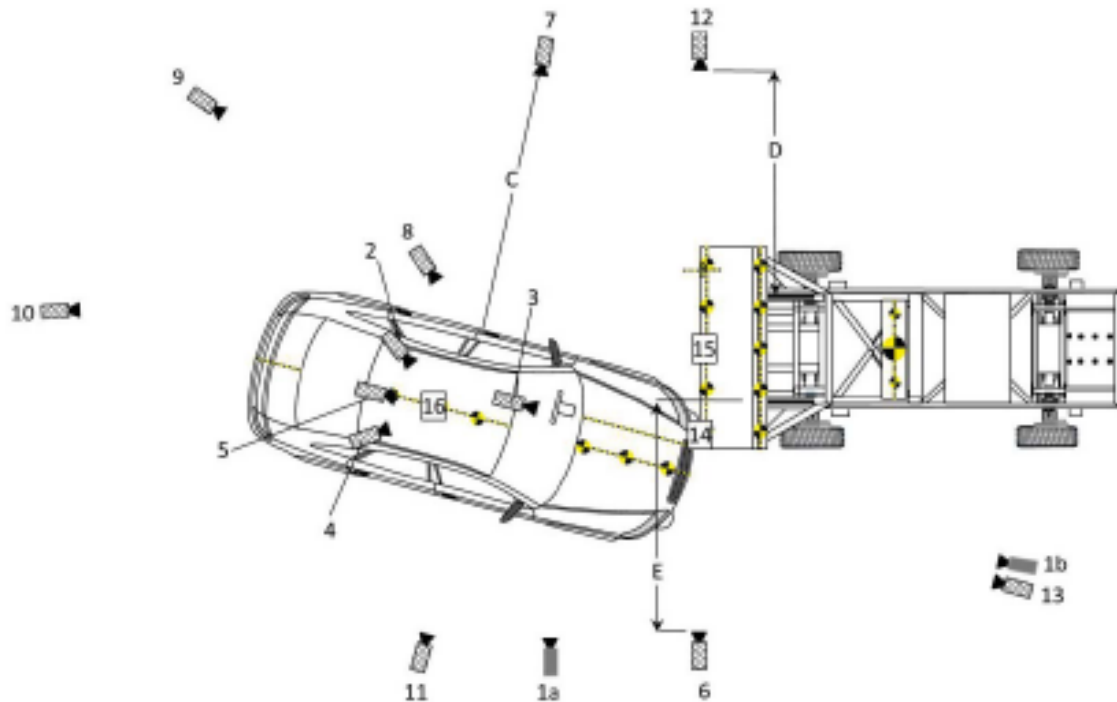
Test Vehicle: 2016 Mazda CX-5

NHTSA No. R20165413

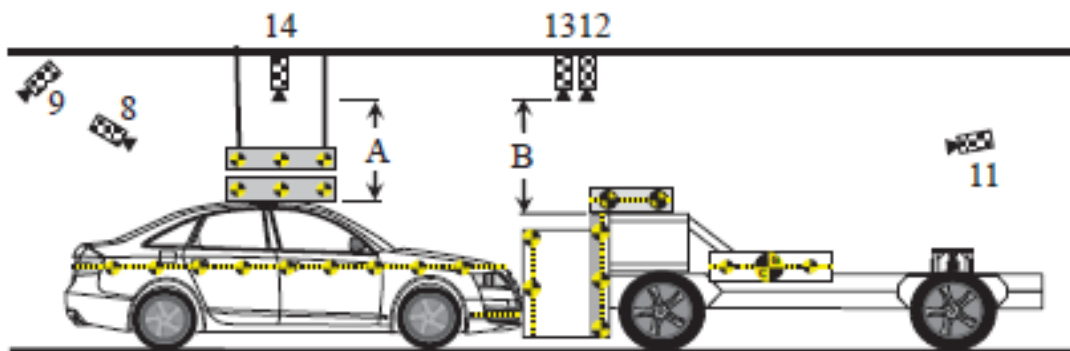
Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

Test Date: 04/27/16

HORIZONTAL LOCATION



VERTICAL LOCATION



Code	Units	Measurement
A	mm	3531
B	mm	4409
C	mm	15795
D	mm	12739
E	mm	15385

DATA SHEET NO. 7 ... (CONTINUED)**HIGH SPEED CAMERA LOCATIONS AND DATA**

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

CAMERA LOCATIONS AND DATA

No.	View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1a	Real-Time Vehicle Movement	1435	16149	545	Zoom	30
1b	Real-Time Impact View	-11241	-6898	666	Zoom	30
2	Onboard Passenger Over Shoulder	7561	-245	1519	12	1000
3	Onboard Driver Lower Leg	6513	-480	478	8	1000
4	Onboard Driver Over Shoulder	7462	-943	1434	14	1000
5	Onboard Center Driver Passenger	7973	-493	1443	6.5	1000
6	Right Side of OMDB View	4692	16040	695	50	1000
7	Left Side of Test Vehicle	3835	15634	613	50	1000
8	Oblique Overhead Driver Motion View	16437	21994	1043	85	1000
9	Oblique Rear View of Test Vehicle	7459	10104	5670	50	1000
10	Final Impact of the Vehicle	51395	-10894	4159	20	1000
11	Right Side of Test Vehicle	20734	-18865	725	50	1000
12	Left Side of OMDB View	4389	-13400	1131	35	1000
13	Front of Test Vehicle and OMDB	-10896	-6134	855	85	1000
14	Impact Point View	4589	-946	5551	35	1000
15	Overhead of OMDB View	4613	-548	5598	14	1000
16	Overhead View of Test Vehicle	7331	-740	5178	20	1000

Reference:

+X = From Back of OMDB to front of OMDB

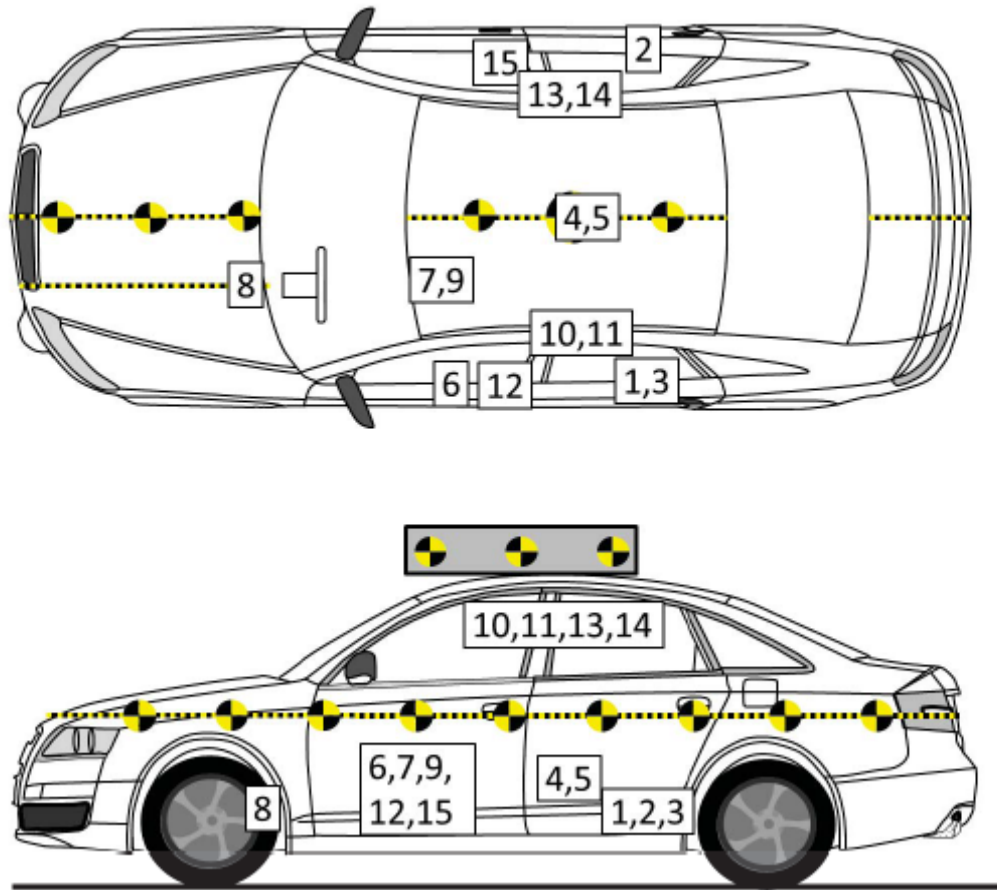
+Y = Right of monorail center

+Z = Up from ground

*All measurements accurate to ± 6 mm

DATA SHEET NO. 8
VEHICLE INSTRUMENTATION DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS RELATIVE TO VCS

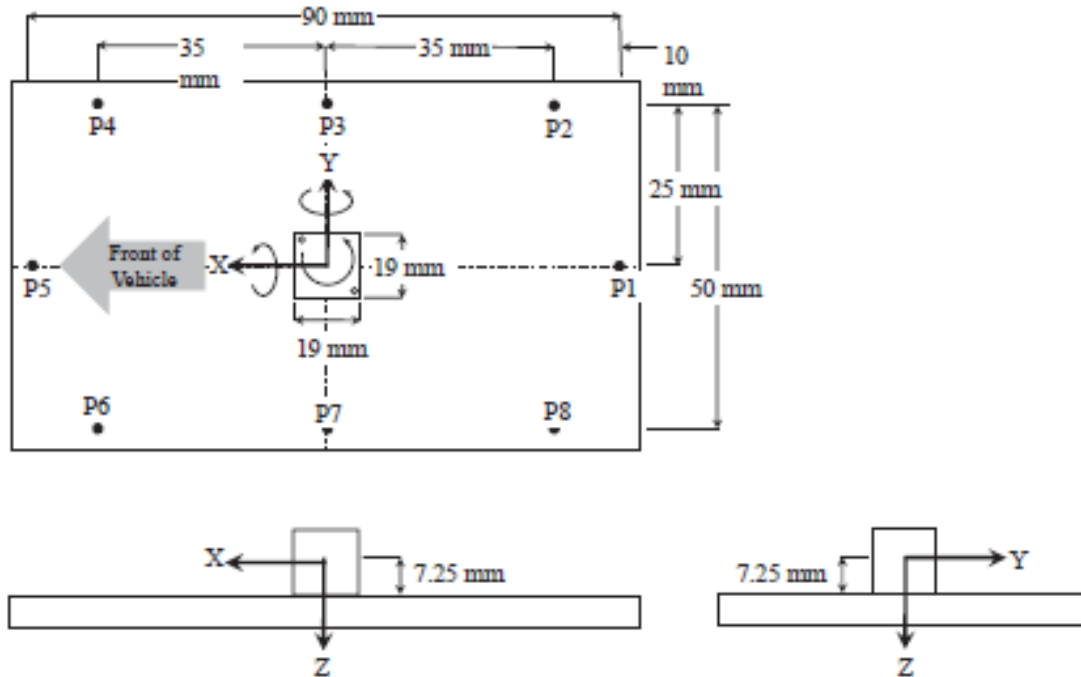
Loc. No.	Sensor Description	Axes	Coordinates (mm)		
			X	Y	Z
1	Left Rear Sill	X,Y	1781	-692	197
2	Right Rear Sill	X,Y	1768	692	192
3	Left Rear Sill Redundant	X,Y	1759	-691	194
4, 5	Vehicle CG	X, Y, Z	1831	-1	109
6	Left Side Seat Track	X,Y,Z	2288	-587	217
7	Left Side String Pot	N/A	2657	-302	240
8	Left Side Toe Pan	X,Y,Z	3350	-368	93
9	Left Side Thigh Bar	X,Z	2472	-368	63

DATA SHEET NO. 8 ... (CONTINUED)

VEHICLE INSTRUMENTATION DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

ANGULAR RATE SENSOR MOUNTING PLATE RELATIVE TO VCS



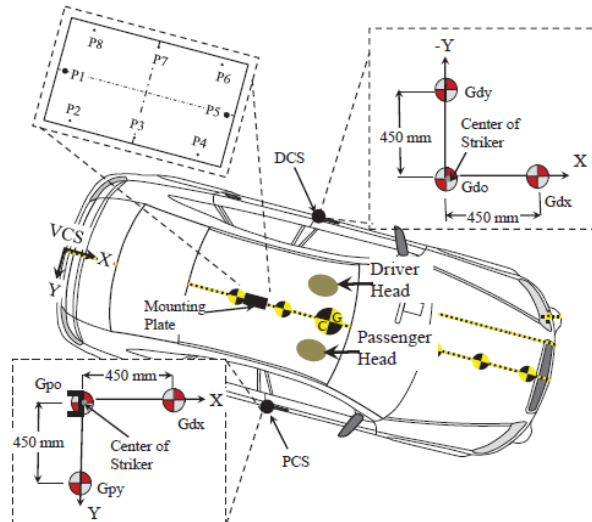
ARS MOUNTING PLATE - VEHICLE COORDINATE SYSTEM

No.	Description	Units	X	Y	Z
P1	Plate Point 1	mm	1786	0	124
P2	Plate Point 2	mm	1797	25	125
P3	Plate Point 3	mm	1832	25	124
P4	Plate Point 4	mm	1867	25	124
P5	Plate Point 5	mm	1877	0	124
P6	Plate Point 6	mm	1866	-25	124
P7	Plate Point 7	mm	1831	-25	124
P8	Plate Point 8	mm	1796	-25	124

DATA SHEET NO. 8 ... (CONTINUED)

VEHICLE INSTRUMENTATION DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



ARS MOUNTING PLATE & ATD'S HEAD POINTS RELATIVE TO GLOBAL COORDINATE SYSTEMS

Description	DRIVER DCS			PASSENGER PCS		
	X (mm)	Y (mm)	Z (mm)	X (mm)	Y (mm)	Z (mm)
Go	0	0	0	0	0	0
Gx	457	2	15	453	-6	5
Gy	2	-451	5	0	449	5
P1	-486	698	-483	-74	-855	-488
P2	-483	725	-483	-71	-828	-488
P3	-449	734	-483	-37	-819	-489
P4	-415	743	-484	-3	-810	-489
P5	-399	721	-484	13	-831	-489
P6	-402	694	-484	10	-858	-489
P7	-436	685	-484	-24	-867	-489
P8	-470	676	-483	-58	-876	-489
Left CG	-52	347	-1336	158	-497	-1352
Right CG	-91	500	-1335	118	-344	-1353
Left EAM	-51	352	-1308			
Right EAM				122	-347	-1325
Left IOF	20	414	-1293	230	-431	-1313
Right IOF	4	477	-1292	214	-369	-1313
Nasion	19	447	-1330	230	-397	-1350

DATA SHEET NO. 8 ... (CONTINUED)

VEHICLE INSTRUMENTATION DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

No.	Description	Axes	Units	Positive Direction		Negative Direction	
				Max	Time (ms)	Min	Time (ms)
1	Left Rear Sill Acceleration	X	g's	2.6	141.4	-34.0	40.7
		Y	g's	24.2	42.7	-3.8	11.3
2	Right Rear Sill Acceleration	X	g's	3.4	106.4	-43.6	45.5
		Y	g's	24.2	42.8	-3.7	68.4
3	Left Rear Sill Redundant Acceleration	X	g's	2.9	141.6	-34.3	40.8
		Y	g's	24.7	42.9	-3.4	11.3
4	Vehicle CG Acceleration	X	g's	3.3	234.3	-40.7	61.1
		Y	g's	34.6	41.9	-5.6	75.3
		Z	g's	18.0	7.6	-16.2	11.5
5	Driver Seat Track Acceleration	X	g's	2.9	141.9	-35.1	40.8
		Y	g's	29.2	61.2	-4.7	11.7
		Z	g's	16.1	56.1	-21.0	73.0
6	Driver Seat Thigh Bar Acceleration	X	g's	6.2	145.0	-35.6	44.8
		Z	g's	24.1	57.0	-26.6	80.7
7	Driver Floor Pan Acceleration	X	g's	11.7	71.7	-98.0	41.2
		Y	g's	38.7	59.5	-38.5	45.0
		Z	g's	18.3	35.8	-58.8	42.2
8	Vehicle CG Angular Rate	X	deg/s	641.6	45.9	-163.4	56.2
		Y	deg/s	111.9	41.8	-256.2	56.8
		Z	deg/s	112.9	44.8	-28.7	12.3
9	Driver Shoulder Belt Displacement		mm	107.9	22.7	-25.6	89.5
10	Driver Shoulder Belt Upper Force		N	4741.0	71.9	-27.1	9.6
11	Driver Lap Belt Force		N	4109.6	62.5	-23.6	12.7
12	Passenger Shoulder Belt Displacement		mm	67.2	21.7	-255.4	115.2
13	Passenger Shoulder Belt Upper Force		N	3707.3	49.0	-27.3	9.5
14	Passenger Lap Belt Force		N	6398.6	64.8	-16.1	217.3
15	Driver Floor Pan Deflection	X	mm	63.9	93.5	-36.2	201.2

Note: See Appendix B for all vehicle data plots

TIME TO FIRE RESTRAINT TIMING

No.	Description	Units	Time to Fire (ms)
1	Driver Front Airbag Stage 1 Monitor	A	9.5
2	Driver Front Airbag Stage 2 Monitor	A	14.5
3	Driver Curtain Airbag Monitor	A	41.5
4	Driver Seat Airbag Monitor	A	41.5
5	Driver Retractor Pretensioner Monitor	A	9.5
6	Driver Anchor Pretensioner Monitor	A	16.5
7	Passenger Front Airbag Stage 1 Monitor	A	14.5
8	Passenger Front Airbag Stage 2 Monitor	A	29.4
9	Passenger Curtain Airbag Monitor	A	Did Not Fire
10	Passenger Seat Airbag Monitor	A	Did Not Fire
11	Passenger Retractor Pretensioner Monitor	A	9.5
12	Passenger Anchor Pretensioner Monitor	A	16.7

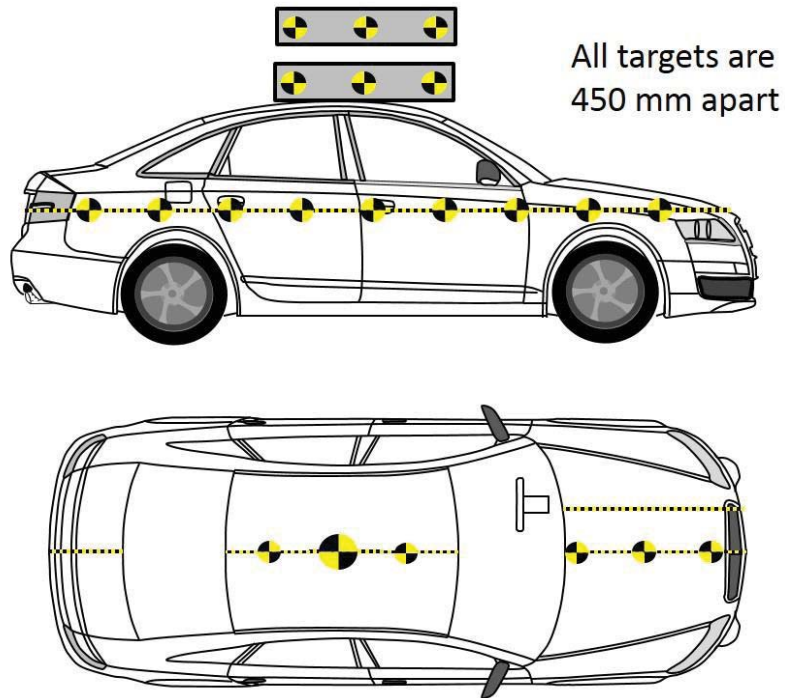
*The measurement indicates the time the voltage changed

DATA SHEET NO. 9

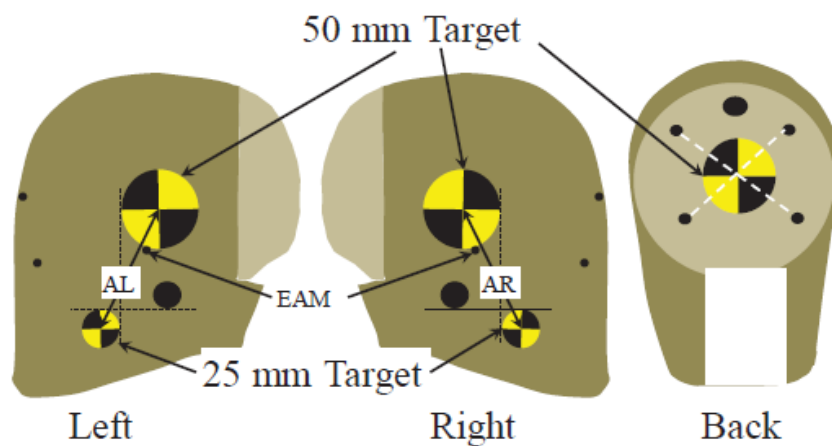
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE TARGETS



ATD HEAD TARGETS



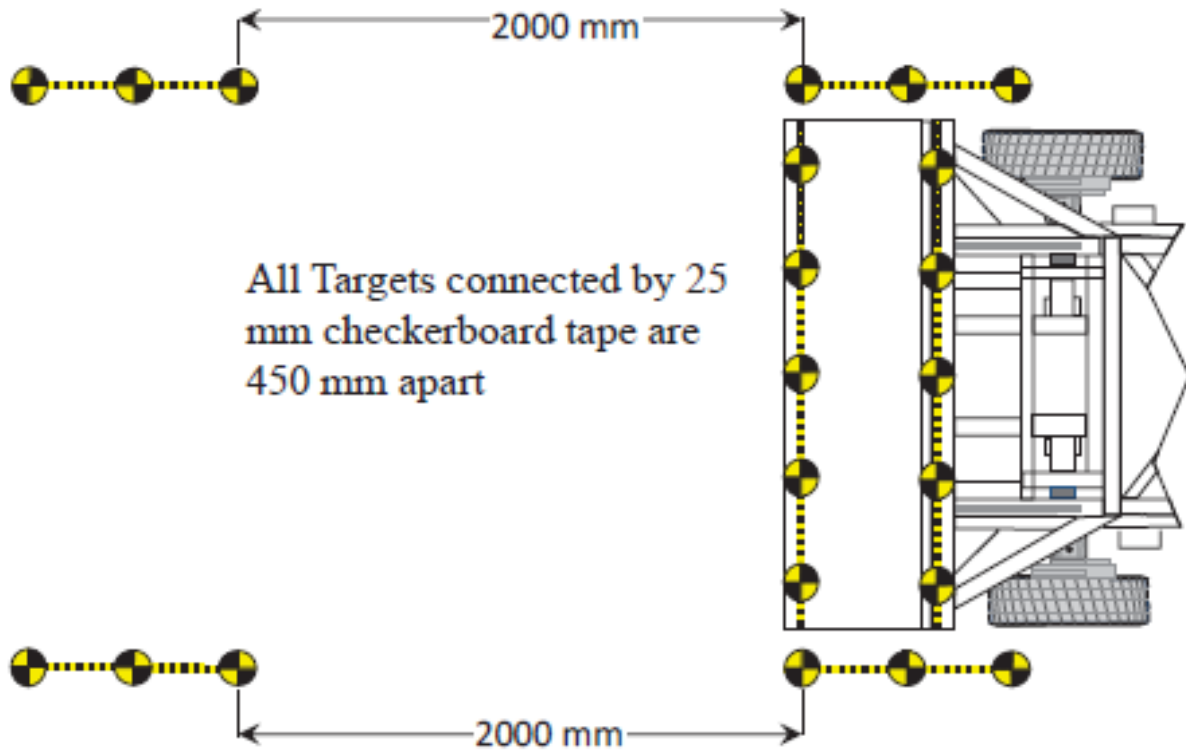
Target	Units	Measurement
AL	mm	91
AR	mm	91

DATA SHEET NO. 9 ... (CONTINUED)

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

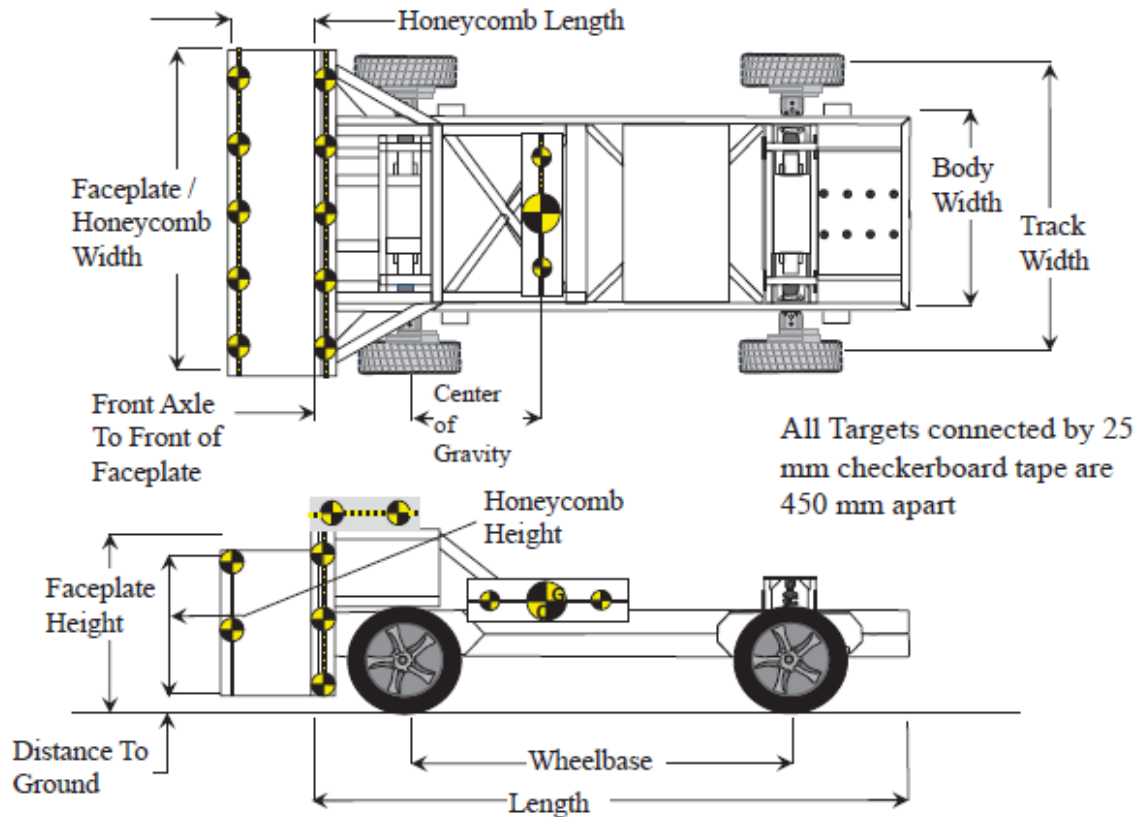
GROUND TARGETS LOCATED IN REFERENCE TO OMDB



DATA SHEET NO. 9 ... (CONTINUED)

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



Item	Units	Value	Item	Units	Value
Honeycomb Width	mm	2207	Faceplate Height	mm	1183
Honeycomb Length	mm	609	Faceplate to Ground	mm	83
Honeycomb Height	mm	955	Wheelbase	mm	2593
Left Front Axle to Front Faceplate	mm	601	Cart Length	mm	3987
Right Front Axle to Front Faceplate	mm	601	Body Width	mm	1302
Front Axle to CG	mm	988	Track Width	mm	1914

OMDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	769.0	474.5	1243.5
Right	kg	776.5	476.5	1253.0
Ratio	%	61.9%	38.1%	100.0%
Totals	kg	1545.5	951.0	2496.5

Note: All targets on the OMDB honeycomb are 450 mm apart.

DATA SHEET NO. 10**TEST VEHICLE SUMMARY OF RESULTS**

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

INSTRUMENTATION

Instrumentation	Number of Channels Collected
Driver Dummy Sensors	105
Passenger Dummy Sensors	105
Vehicle Structure Sensors	27
SRS Inductive Pickups	12
OMDB Cart Accelerometers	9
Total	258

CAMERA COVERAGE

Type of Camera	Number of Channels Collected
High-Speed Vehicle Onboard	4
High-Speed Off-Board	11
Real-Time Panning	3
Total	18

DATA SHEET NO. 11
POST TEST OBSERVATIONS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

TEST DUMMY INFORMATION AND CONTACT

Description	Driver	Passenger
Dummy Type/Serial No.	THOR DO9798	THOR DL9207
Lower Leg Type	LX	LX
Lower Leg Serial No.	LX655 / LX654	LX0045 / LX0046
Head Contact	Frontal & Curtain Airbag, Headrest	Frontal Airbag, Headrest
Upper Torso Contact	Front & Torso / Pelvis Airbag, Door Panel, Seatback, Passenger ATD Arm	Frontal Airbag, Center Instrument Panel, Driver ATD Arm and Knee
Lower Torso Contact	Torso / Pelvis Airbag, Seatback	None
Left Knee Contact	Knee Bolster, Steering Column	Glovebox
Right Knee Contact	Knee Bolster, Steering Column, Passenger ATD Arm	Glovebox

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Locked / Unlocked Doors	Unlocked	Unlocked
Front Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Rear Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Seat Track Shift (mm)	20	0
Seat Back Failure	None	None
Glazing Damage	Glazing separated across the passenger side of the windshield	

POST TEST STRUCTURAL OBSERVATIONS

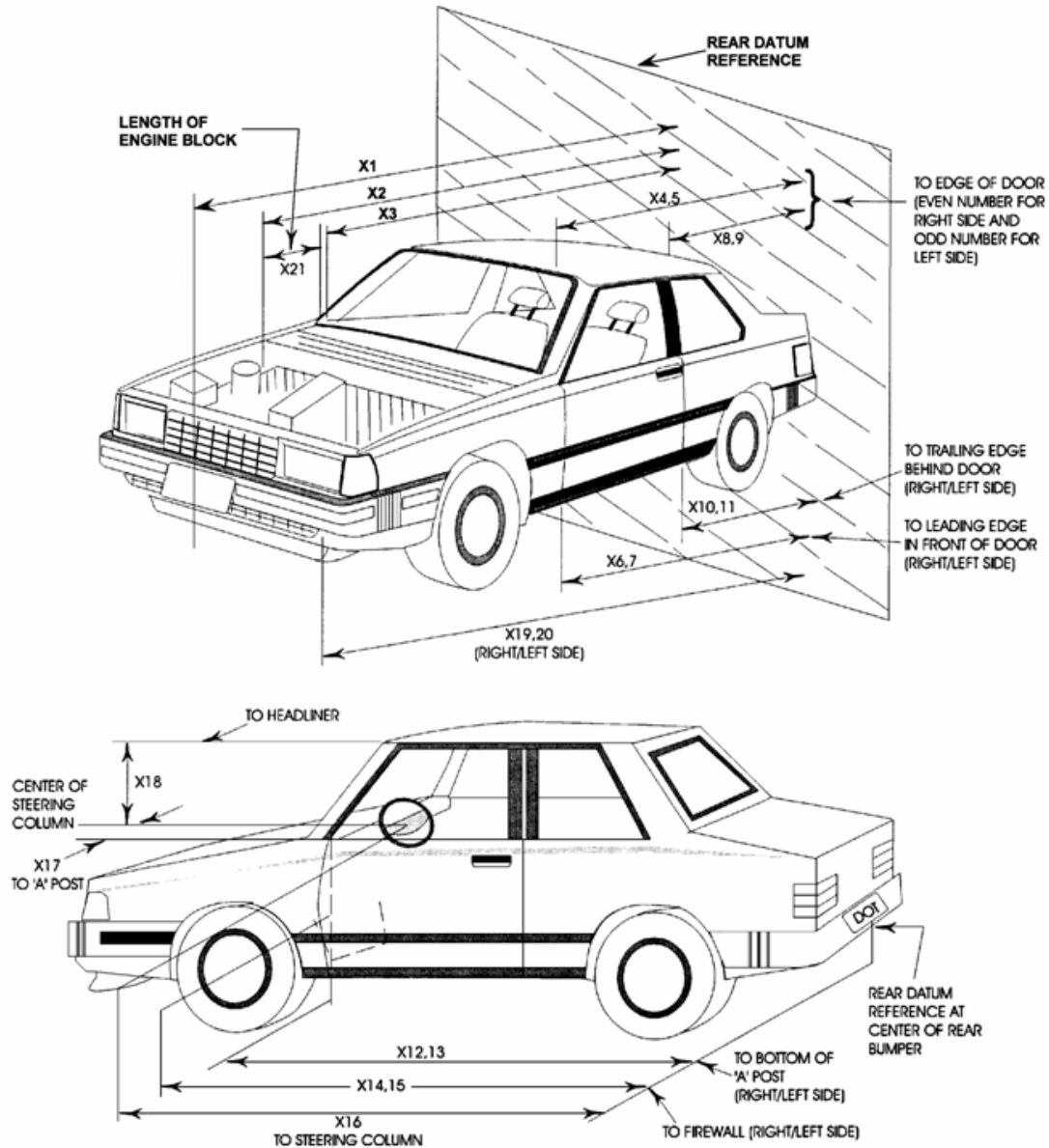
Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Windshield Damage	Broken
Window Damage	None
Other Notable Effects	Left front wheel was pushed into the A-Pillar. Glazing spread apart and separated on the passenger side of the windshield

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Driver		Passenger	
	Installed	Operated	Installed	Operated
Front Airbag	Yes	Yes	Yes	Yes
Side Airbag 1 (Curtain)	Yes	Yes	Yes	No
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	Yes	No
Knee Airbag	No		No	
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes

DATA SHEET NO. 12
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



DATA SHEET NO. 12 ... (CONTINUED)**VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

No.	Description	Pre-Test	Post-Test	Difference
1	Total Length of Vehicle at Centerline	4529	4729	200
2	Rear Surface of Vehicle to Front of Engine	4049	3884	-165
3	RSOV to Firewall	3324	3277	-47
4	RSOV to Upper Leading Edge of Right Door	3095	3089	-6
5	RSOV to Upper Leading Edge of Left Door	3093	3084	-9
6	RSOV to Lower Leading Edge of Right Door	3071	3067	-4
7	RSOV to Lower Leading Edge of Left Door	3070	3067	-3
8	RSOV to Upper Trailing Edge of Right Door	1970	1967	-3
9	RSOV to Upper Trailing Edge of Left Door	1969	1969	0
10	RSOV to Lower Trailing Edge of Right Door	2020	2015	-5
11	RSOV to Lower Trailing Edge of Left Door	2018	2017	-1
12	RSOV to Bottom of A-Pillar, Right Side	3051	3025	-26
13	RSOV to Bottom of A-Pillar, Left Side	3041	3024	-17
14	RSOV to Firewall, Right Side	3296	3309	13
15	RSOV to Firewall, Left Side	3318	3239	-79
16	RSOV to Steering Column	2560	2580	20
17	Center of Steering Column to A-Pillar	400	435	35
18	Center of Steering Column to Headliner	470	425	-45
19	RSOV to Right Side of Front Bumper	3930	3925	-5
20	RSOV to Left Side of Front Bumper	3928	3490	-438
21	Length of Engine Block	572	572	0
RD	RSOV to Right Side of Dash Panel	2831	2831	0
CD	RSOV to Center of Dash Panel	2718	2676	-42
LD	RSOV to Left Side of Dash Panel	2828	2802	-26

All measurements in millimeters.

Note: The front fascia of the test vehicle was forced off during the test. The fascia was repositioned on the vehicle to obtain a point of measurement for vehicle profile measurements.

DATA SHEET NO. 13

ACCIDENT INVESTIGATION DIVISION DATA

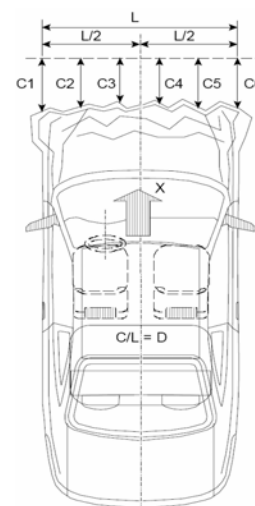
Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE INFORMATION

VIN: JM3KE4BY4G0671614 Wheelbase (mm): 2684
 Vehicle Size Category: SUV Test Weight (kg): 1790.0

ACCELEROMETER DATA

Accelerometer Locations: Vehicle CG
 Cal. Procedure/Interval: Drop Test / 6 months
 Integration Algorithm: NHTSA Standard
 Linearity: Good
 Impact Velocity (km/h): 89.74
 Velocity Change (km/h): 51.69



CRUSH PROFILE

Collision Deformation Classification: 12FYEW1
 Midpoint of Damage: C1
 Damage Region Length (mm): 1423
 Impact Mode: Frontal 15° Angle, 35% Left

Crush Measurements: Bumper Cover

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush Zone 1 at Left Side	mm	205	215	10
C2	Crush Zone 2 at Left Side	mm	74	70	-4
C3	Crush Zone 3 at Left Side	mm	16	0	-16
C4	Crush Zone 4 at Right Side	mm	16	3	-13
C5	Crush Zone 5 at Right Side	mm	73	40	-33
C6	Crush Zone 6 at Right Side	mm	204	190	-14
L	C1 to C6	mm	1423		

Note: The front fascia of the test vehicle was forced off during the test. The fascia was repositioned on the vehicle to obtain a point of measurement for crush measurements.

Crush Measurements: Bumper Beam

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
B1	Bumper Beam 1 at Left Side	mm	4347	4020	-328
B2	Bumper Beam 2 at Left Side	mm	4375	4126	-249
B3	Bumper Beam 3 at Left Side	mm	4403	4230	-174
B4	Bumper Beam 4 at Left Side	mm	4416	4324	-92
B5	Bumper Beam 5 at Right Side	mm	4419	4411	-8
B6	Bumper Beam 6 at Right Side	mm	4416	4493	77
B7	Bumper Beam 7 at Right Side	mm	4403	4568	165
B8	Bumper Beam 8 at Right Side	mm	4376	4632	256
B9	Bumper Beam 9 at Right Side	mm	4347	4694	347
L	B1 to B9	mm	1016	756	-260

DATA SHEET NO. 14

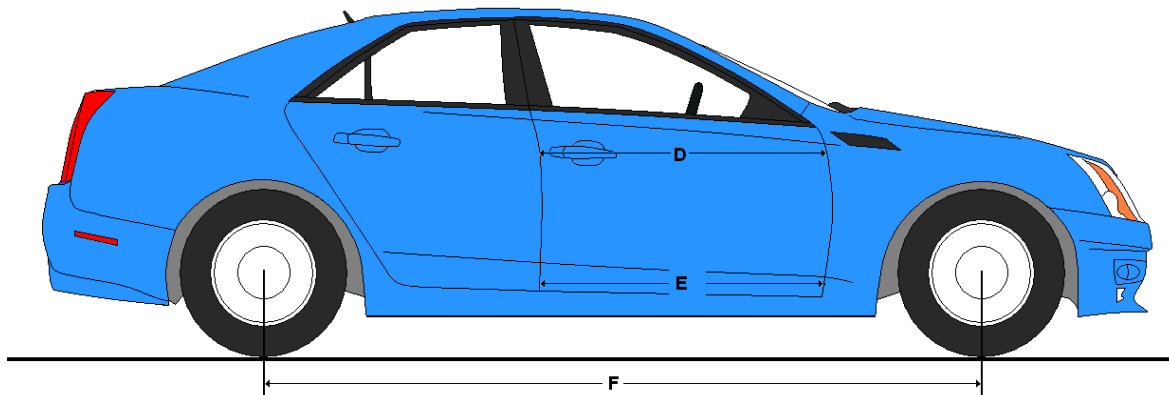
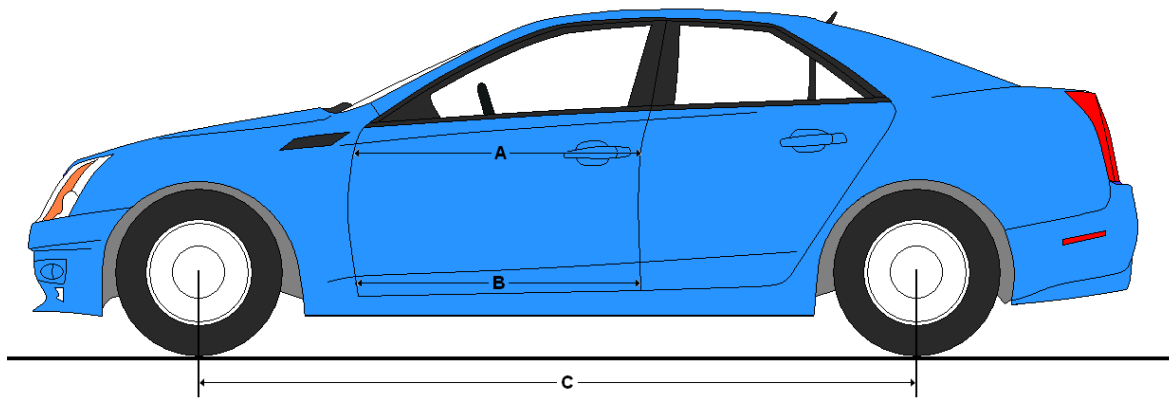
VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413

Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Driver Side Upper	mm	868	860	-9
B	Driver Side Lower	mm	712	713	1
D	Passenger Side Upper	mm	865	861	-3
E	Passenger Side Lower	mm	715	711	-4

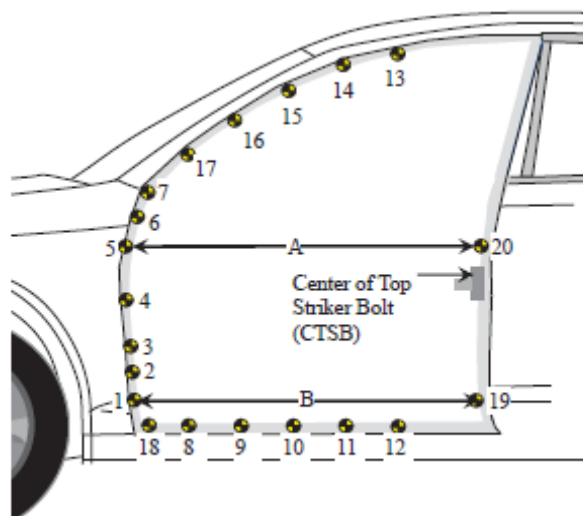


DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

DRIVER SIDE DOOR SILL INTRUSIONS



Point	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2953	-758	121	2954	-753	120	1	6	-2
2	2972	-753	46	2965	-748	45	-7	5	-1
3	2969	-751	-29	2961	-748	-28	-8	3	1
4	2956	-746	-179	2946	-753	-188	-10	-8	-9
5	2944	-748	-329	2937	-762	-341	-7	-14	-12
6	2943	-752	-404	2934	-767	-417	-9	-15	-13
7	2935	-754	-479	2925	-770	-488	-11	-16	-9
8	2803	-761	196	2803	-754	187	0	7	-9
9	2652	-760	188	2653	-755	183	2	5	-5
10	2501	-761	188	2500	-756	186	-1	5	-2
11	2349	-761	178	2350	-756	172	0	4	-6
12	2198	-759	71	2200	-755	68	2	3	-2
13	2352	-628	-851	2353	-635	-858	1	-7	-7
14	2469	-648	-809	2469	-655	-819	0	-7	-10
15	2588	-672	-754	2588	-683	-761	-1	-11	-7
16	2705	-698	-688	2701	-711	-695	-4	-13	-7
17	2820	-725	-607	2815	-740	-613	-5	-15	-6
18	2886	-759	186	2887	-753	183	1	6	-3
19	2240	-760	122	2241	-756	117	1	4	-5
20	2075	-748	-329	2077	-747	-330	2	0	-1

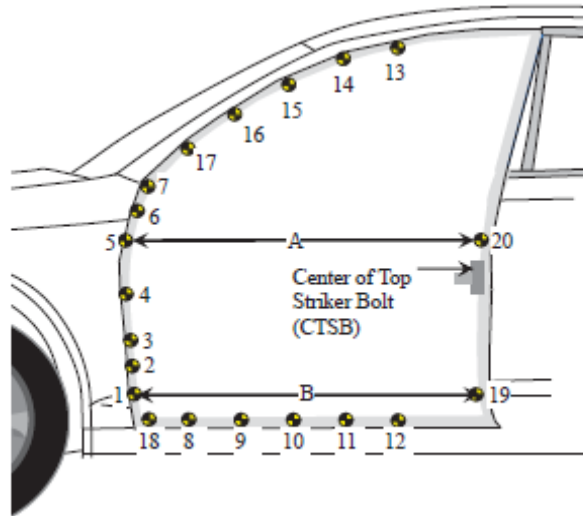
All measurements in millimeters.

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

PASSENGER SIDE DOOR SILL INTRUSIONS



Point	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2958	760	121	2952	778	120	-6	18	-1
2	2968	755	46	2965	772	45	-3	18	-1
3	2967	751	-30	2959	768	-28	-8	17	2
4	2949	747	-180	2947	762	-182	-2	15	-3
5	2941	750	-330	2937	763	-329	-4	13	1
6	2937	753	-405	2934	765	-404	-3	12	0
7	2927	755	-479	2927	765	-482	0	10	-4
8	2807	762	191	2810	778	188	3	16	-3
9	2657	762	189	2657	776	188	0	14	-1
10	2506	762	193	2505	775	188	-1	12	-4
11	2356	762	177	2355	773	178	-1	11	2
12	2206	760	85	2206	769	83	0	8	-2
13	2358	630	-848	2357	626	-846	0	-4	2
14	2472	648	-810	2473	645	-808	1	-3	2
15	2586	672	-756	2586	672	-753	0	0	3
16	2703	699	-687	2701	703	-684	-2	4	3
17	2816	726	-611	2814	732	-610	-2	6	1
18	2883	762	186	2883	778	185	0	16	0
19	2243	762	121	2241	771	123	-2	9	2
20	2076	747	-329	2075	750	-327	-1	3	1

All measurements in millimeters.

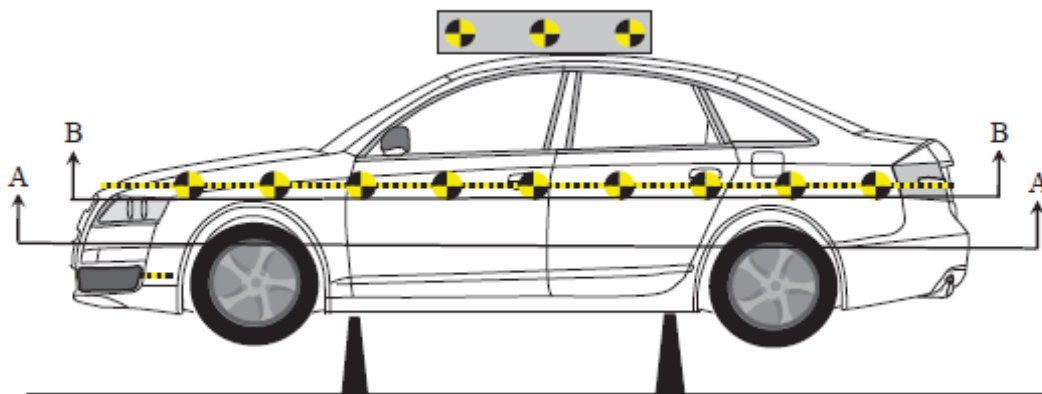
DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE EXTERIOR CRUSH PROFILE

SECTION A-A



Point	Pre-Test (mm)		
	X	Y	Z
1	1385	-910	85
2	1708	-904	84
3	2078	-914	85
4	2697	-910	85
5	3101	-909	85
6	4080	-893	85
7	4500	-257	84
8	4514	170	87
9	4103	891	85
10	3047	910	85
11	2391	915	85
12	1891	909	85
13	1436	908	83

Point	Post-Test (mm)		
	X	Y	Z
1	1367	-912	85
2	1400	-911	85
3	1454	-909	84
4	1501	-905	86
5	1540	-903	85
6	1599	-902	84
7	1687	-902	86
8	1695	-902	85
9	1762	-903	85
10	1825	-904	85
11	1911	-905	85
12	1976	-906	85
13	2034	-909	86
14	2110	-912	85
15	2196	-913	85
16	2265	-912	85
17	2368	-912	85
18	2454	-911	85
19	2522	-910	85
20	2599	-910	85

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE EXTERIOR CRUSH PROFILE

SECTION A-A ... (CONTINUED)

Point	Post-Test (mm)		
	X	Y	Z
21	2699	-909	85
22	2810	-909	85
23	2857	-909	86
24	2897	-909	85
25	2933	-909	86
26	2939	-909	85
27	2955	-909	85
28	3003	-909	85
29	3006	-909	86
30	3046	-909	85
31	3074	-909	85
32	3160	-909	85
33	3218	-909	85
34	3283	-909	85
35	3354	-909	85
36	3384	-909	86
37	3468	-909	85
38	3512	-909	85
39	3591	-909	84
40	3654	-909	85
41	3683	-909	84
42	3674	-909	85
43	3663	-909	85
44	3643	-909	85
45	3627	-909	83
46	3614	-909	85
47	3588	-909	85
48	3512	-909	85

Point	Post-Test (mm)		
	X	Y	Z
49	3547	-909	84
50	3585	-909	84
51	3594	-909	85
52	3656	-909	85
53	3724	-909	85
54	3815	-909	85
55	3886	-909	86
56	3893	-909	84
57	3932	-909	85
58	4050	-909	86
59	4060	-909	84
60	4075	-909	85
61	4249	-909	85
62	4451	-909	85
63	4471	-909	85
64	4487	-909	84
65	4501	-909	86
66	4498	-909	86
67	4512	-909	86
68	4524	-909	86
69	4514	-909	86
70	4501	-909	86
71	4480	-909	86
72	4457	-909	86
73	4401	-909	86
74	4340	-909	87
75	4307	-909	86
76	4253	-909	86

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE EXTERIOR CRUSH PROFILE

SECTION A-A ... (CONTINUED)

Point	Post-Test (mm)		
	X	Y	Z
77	4229	-909	86
78	4207	-909	86
79	4185	-909	86
80	4184	-909	86
81	4120	-909	86
82	4058	-909	86
83	3846	-909	86
84	3812	-909	85
85	3727	-909	86
86	3660	-909	87
87	3552	-909	87
88	3447	-909	86
89	3199	-909	86
90	3172	-909	83
91	3154	-909	86
92	3114	-909	84
93	3111	-909	85
94	3065	-909	85
95	3016	-909	86
96	3014	-909	85
97	2990	-909	86
98	2969	-909	84
99	2942	-909	86
100	2890	-909	84
101	2848	-909	85
102	2835	-909	84
103	2788	-909	86
104	2785	-909	84

Point	Post-Test (mm)		
	X	Y	Z
105	2749	-909	87
106	2713	-909	84
107	2685	-909	86
108	2644	-909	86
109	2627	-909	84
110	2597	-909	86
111	2537	-909	83
112	2480	-909	86
113	2465	-909	84
114	2378	-909	84
115	2273	-909	84
116	2188	-909	83
117	2111	-909	83
118	2062	-909	84
119	1990	-909	83
120	1916	-909	84
121	1837	-909	85
122	1745	-909	84
123	1696	-909	84
124	1645	-909	83
125	1565	-909	86
126	1483	-909	85
127	1399	-909	85

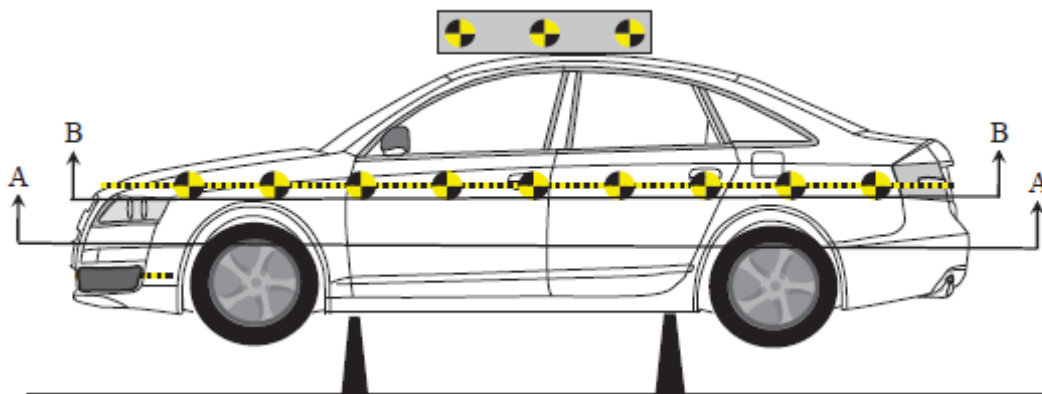
DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE EXTERIOR CRUSH PROFILE

SECTION B-B



Point	Pre-Test (mm)		
	X	Y	Z
1	1303	-918	-178
2	1721	-909	-178
3	2069	-912	-178
4	2697	-910	-178
5	3105	-912	-178
6	4066	-868	-178
7	4488	-267	-178
8	4501	201	-179
9	4079	868	-178
10	3055	915	-178
11	2384	913	-178
12	1889	910	-178
13	1402	908	-178

Point	Post-Test (mm)		
	X	Y	Z
1	1167	-924	-177
2	1235	-925	-178
3	1388	-913	-176
4	1469	-909	-178
5	1649	-909	-178
6	1734	-909	-178
7	1813	-909	-178
8	1908	-909	-178
9	1964	-909	-177
10	2018	-914	-178
11	2082	-915	-178
12	2183	-917	-178
13	2254	-917	-178
14	2337	-918	-178
15	2436	-918	-178
16	2507	-919	-178
17	2578	-919	-178
18	2647	-919	-178
19	2737	-918	-178
20	2787	-918	-178

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE EXTERIOR CRUSH PROFILE

SECTION B-B ... (CONTINUED)

Point	Post-Test (mm)		
	X	Y	Z
21	2837	-918	-177
22	2924	-917	-178
23	2990	-915	-178
24	3031	-921	-177
25	3042	-918	-178
26	3072	-930	-177
27	3079	-928	-178
28	3111	-918	-178
29	3121	-948	-177
30	3153	-957	-177
31	3157	-987	-178
32	3192	-929	-177
33	3216	-907	-177
34	3279	-894	-177
35	3315	-851	-178
36	3335	-785	-176
37	3335	-737	-177
38	3363	-713	-178
39	3394	-707	-177
40	3413	-683	-178
41	3406	-647	-177
42	3416	-606	-178
43	3423	-584	-177
44	3459	-526	-178
45	3484	-489	-178
46	3522	-448	-177
47	3569	-396	-178
48	3609	-328	-177

Point	Post-Test (mm)		
	X	Y	Z
49	3686	-305	-177
50	3781	-275	-177
51	3845	-286	-176
52	3878	-262	-178
53	4003	-384	-178
54	4037	-360	-177
55	4067	-317	-177
56	4085	-270	-177
57	4104	-233	-178
58	4122	-182	-178
59	4151	-145	-178
60	4188	-124	-178
61	4225	-78	-178
62	4238	-39	-177
63	4250	-3	-178
64	4390	-119	-178
65	4425	-81	-178
66	4457	-53	-178
67	4475	-21	-178
68	4507	22	-178
69	4528	51	-178
70	4544	73	-177
71	4576	122	-178
72	4586	138	-177
73	4596	154	-178
74	4611	179	-178
75	4632	217	-177
76	4645	241	-177

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

VEHICLE EXTERIOR CRUSH PROFILE

SECTION B-B ... (CONTINUED)

Point	Post-Test (mm)		
	X	Y	Z
77	4676	295	-177
78	4710	365	-178
79	4284	395	-178
80	4212	453	-178
81	4318	542	-178
82	4348	642	-178
83	4317	699	-178
84	4274	772	-178
85	4226	831	-177
86	4217	841	-177
87	4148	887	-178
88	4075	910	-177
89	4007	927	-177
90	3899	941	-178
91	3832	941	-177
92	3750	951	-178
93	3657	946	-177
94	3601	942	-178
95	3509	939	-178
96	3455	937	-178
97	3381	936	-178
98	3331	932	-178
99	3287	931	-178
100	3254	930	-178
101	3221	929	-178
102	3157	926	-178
103	3086	930	-178
104	2976	927	-177
105	2906	926	-178
106	2875	926	-178
107	2837	925	-177
108	2779	925	-178
109	2741	924	-177

Point	Post-Test (mm)		
	X	Y	Z
110	2678	924	-178
111	2640	923	-177
112	2612	923	-178
113	2576	923	-178
114	2542	923	-177
115	2481	922	-178
116	2414	922	-178
117	2380	921	-178
118	2266	920	-178
119	2211	919	-178
120	2160	918	-178
121	2078	916	-178
122	2025	915	-177
123	1953	914	-178
124	1900	914	-178
125	1831	913	-178
126	1744	911	-178
127	1670	910	-178
128	1612	909	-178
129	1551	908	-178
130	1479	908	-178
131	1380	912	-178
132	1292	921	-178
133	1189	922	-178
134	1100	908	-177
135	1018	904	-178
136	682	903	-178
137	616	904	-177
138	525	877	-177
139	445	809	-178
140	400	783	-178
141	348	752	-178
142	314	740	-176

DATA SHEET NO. 14 ... (CONTINUED)

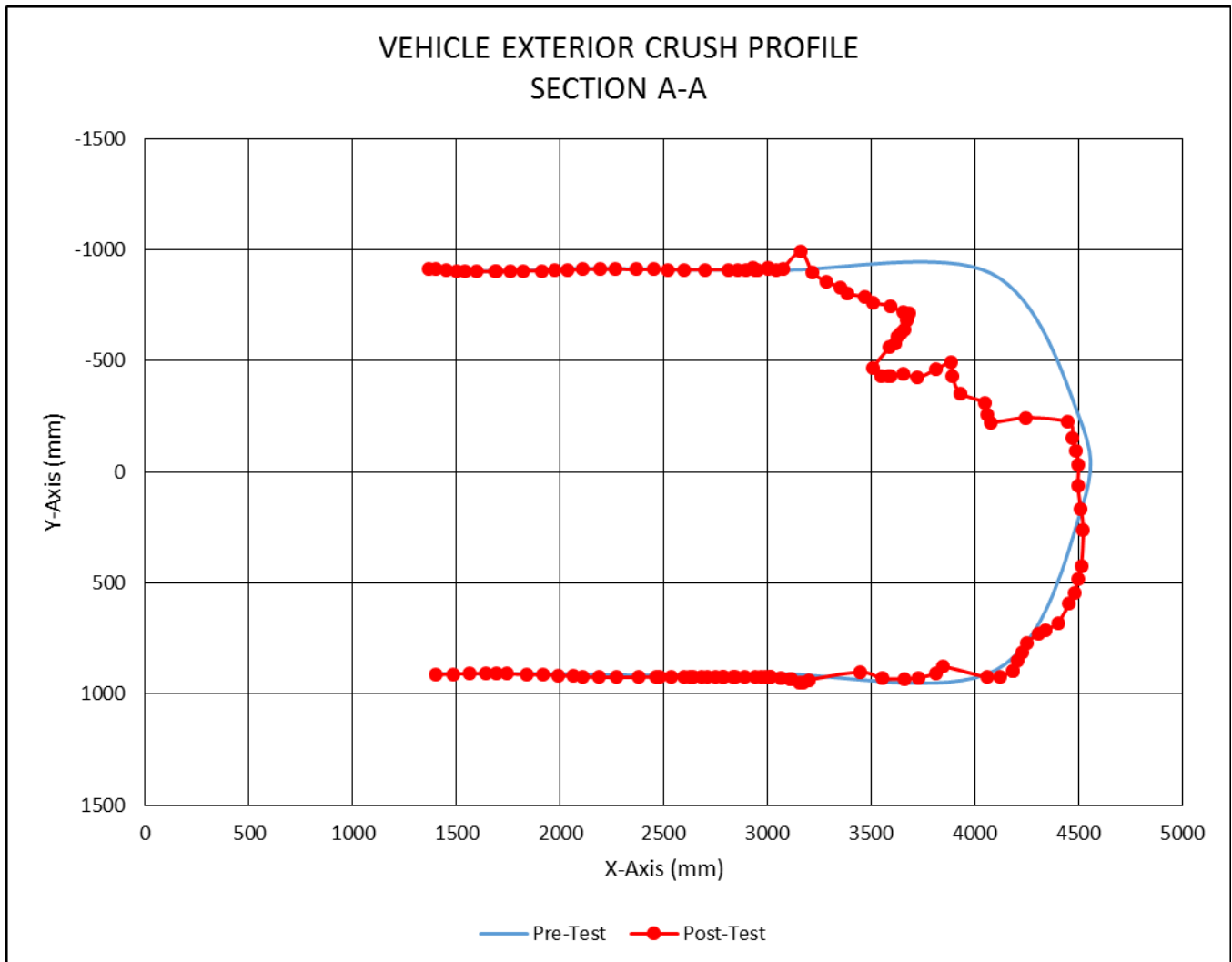
VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5

NHTSA No. R20165413

Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

Test Date: 04/27/16



DATA SHEET NO. 14 ... (CONTINUED)

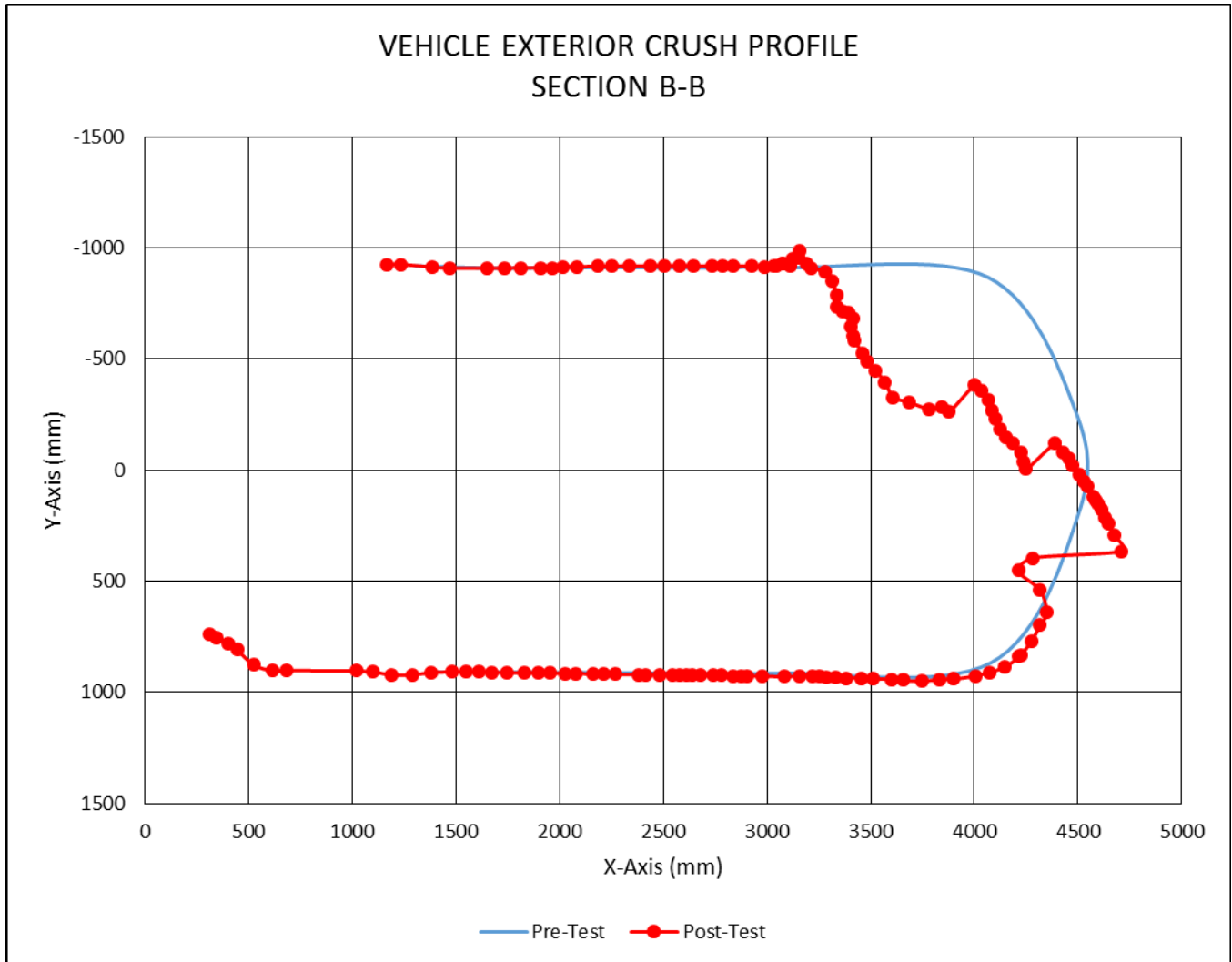
VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5

NHTSA No. R20165413

Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

Test Date: 04/27/16



DATA SHEET NO. 14 ... (CONTINUED)**VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS**

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

STRUCTURAL BUMPER BEAM POINTS

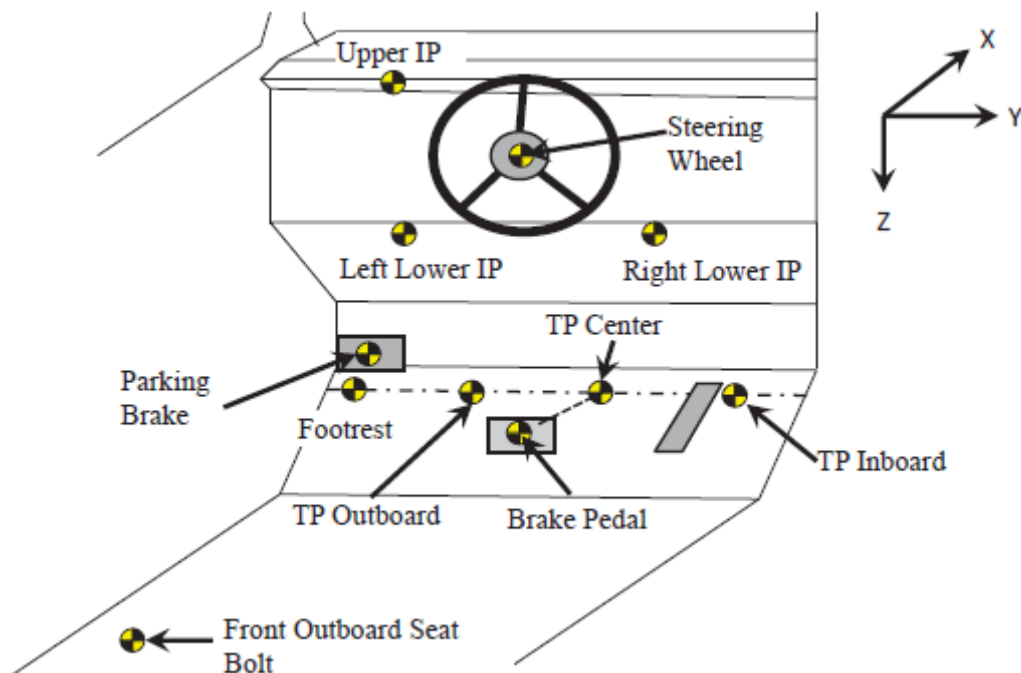
Point	Pre-Test (mm)			Post-Test (mm)			Difference (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
B1	4347	-506	86	4020	-414	-92	-328	92	-178
B2	4375	-379	82	4126	-334	-86	-249	45	-168
B3	4403	-251	82	4230	-262	-100	-174	-11	-183
B4	4416	-125	86	4324	-175	-105	-92	-50	-191
B5	4419	1	84	4411	-84	-117	-8	-85	-201
B6	4416	130	85	4493	13	-121	77	-117	-206
B7	4403	257	85	4568	116	-132	165	-141	-217
B8	4376	384	89	4632	230	-138	256	-154	-226
B9	4347	511	85	4694	342	-151	347	-168	-236

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

DRIVER FLOOR PAN MEASUREMENTS



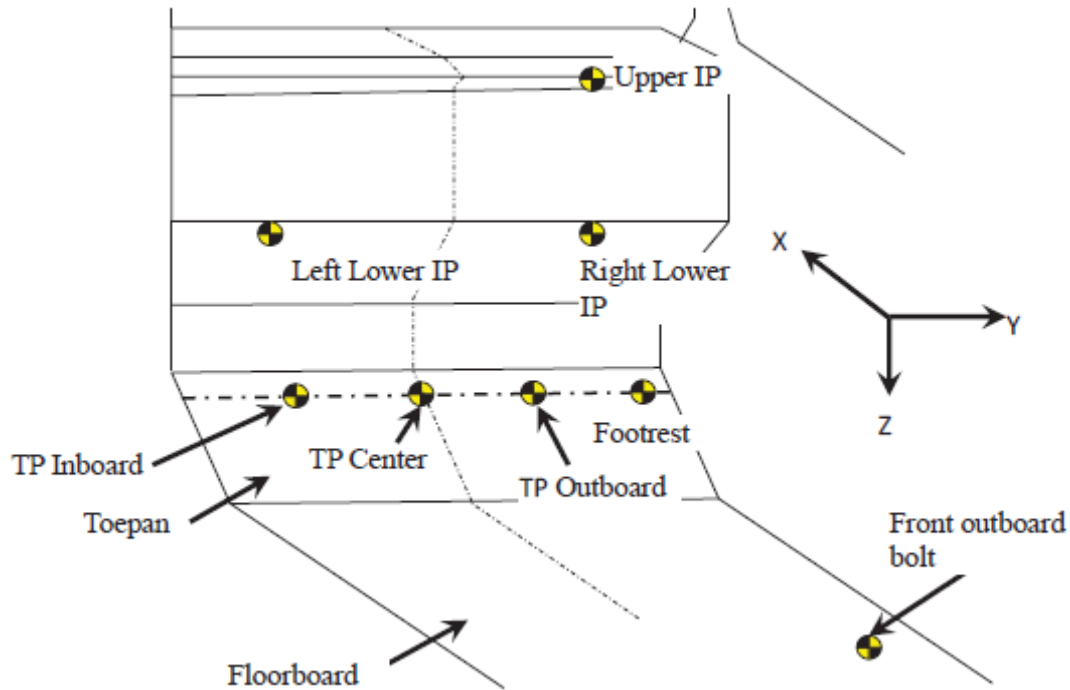
Intrusion Location	Pre-Test (mm)			Post-Test (mm)			Difference (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
TP Inboard	3350	-174	121	3310	-140	118	-40	35	-3
TP Center	3358	-326	123	3280	-311	92	-78	15	-31
TP Outboard	3310	-475	121	3250	-444	98	-60	31	-22
TP Footrest	3216	-575	121	3189	-554	121	-27	21	0
Brake Pedal	3073	-324	121	3143	-255	190	70	69	68
Left Lower IP	2835	-519	-170	2832	-528	-183	-3	-8	-14
Right Lower IP	2834	-218	-169	2826	-232	-172	-8	-14	-3
Upper IP	2787	-519	-321	2776	-528	-332	-10	-9	-11
Steering Wheel	2590	-368	-424	2567	-405	-446	-23	-37	-22
Front Outboard Bolt	2545	-609	182	2545	-602	180	-1	6	-2
Emergency Brake									

DATA SHEET NO. 14 ... (CONTINUED)

VEHICLE INTRUSION MEASUREMENTS RELATIVE TO VCS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

PASSENGER FLOOR PAN MEASUREMENTS



Intrusion Location	Pre-Test (mm)			Post-Test (mm)			Difference (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
TP Inboard	3337	220	121	3278	286	80	-59	66	-41
TP Center	3358	372	122	3359	392	121	1	20	-1
TP Outboard	3250	521	122	3252	544	120	2	23	-2
TP Footrest	3195	622	122	3198	645	120	2	23	-2
Left Lower IP	2810	220	-163	2847	211	-168	37	-9	-5
Right Lower IP	2850	522	-164	2869	515	-161	19	-6	3
Upper IP	2780	521	-362	2778	513	-363	-2	-8	-1
Front Outboard Bolt	2547	609	181	2548	623	182	1	13	1

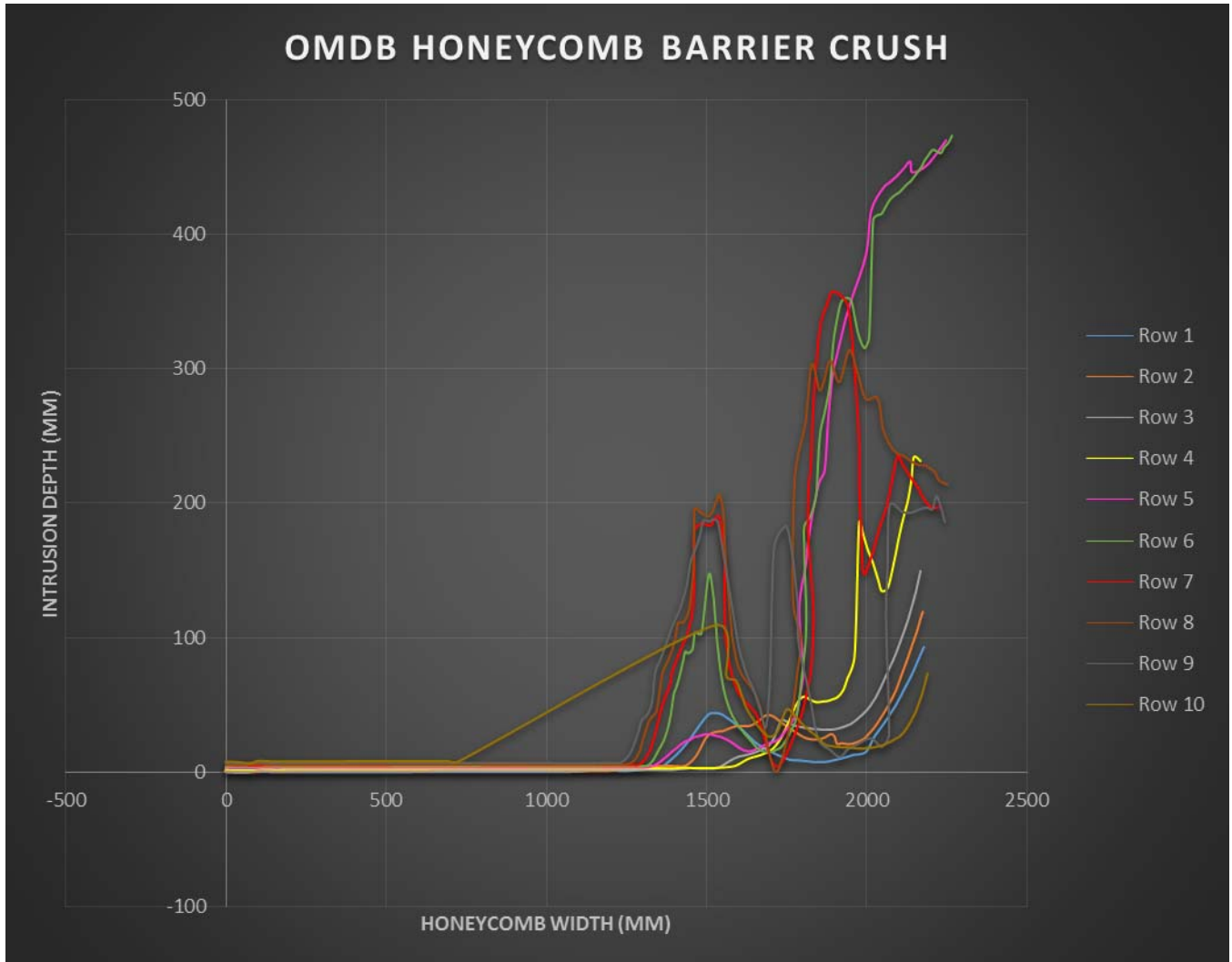
DATA SHEET NO. 15
OMDB CRUSH MEASUREMENTS

Test Vehicle: 2016 Mazda CX-5

NHTSA No. R20165413

Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

Test Date: 04/27/16



DATA SHEET NO. 16

SUMMARY OF FMVSS 212, 219 (PARTIAL), AND 301 DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

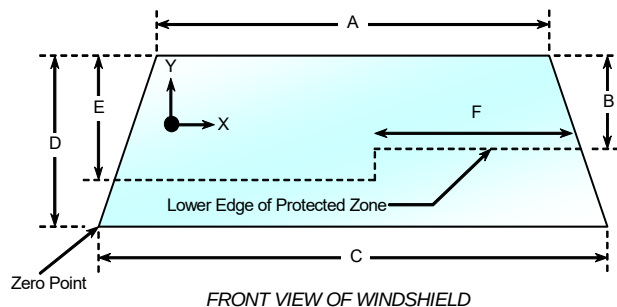
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with plastic molding and rubber cement.

The standard requires that the post-test retention measurement be a minimum of 75% of the pre-test total periphery measurement for vehicles not equipped with occupant passive restraints and 50% for each side of the windshield for vehicles which are equipped with occupant passive restraints.

Temperature of windshield molding during test: 20.9° C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2233	2233	100.0%
Right Side	2233	2233	100.0%
Total	4466	4466	100.0%



Item	Units	Value
A	mm	1245
B	mm	396
C	mm	1515
D	mm	853
E	mm	501
F	mm	480

AREAS OF PROTECTED ZONE FAILURES

- A. Provide Coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one that is normally in contact with the windshield.
- B. Provide Coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

X	Y

X	Y

DATA SHEET NO. 16 ... (CONTINUED)

SUMMARY OF FMVSS 212, 219 (PARTIAL), AND 301 DATA

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 22.0° C Test Time: 4:46 PM

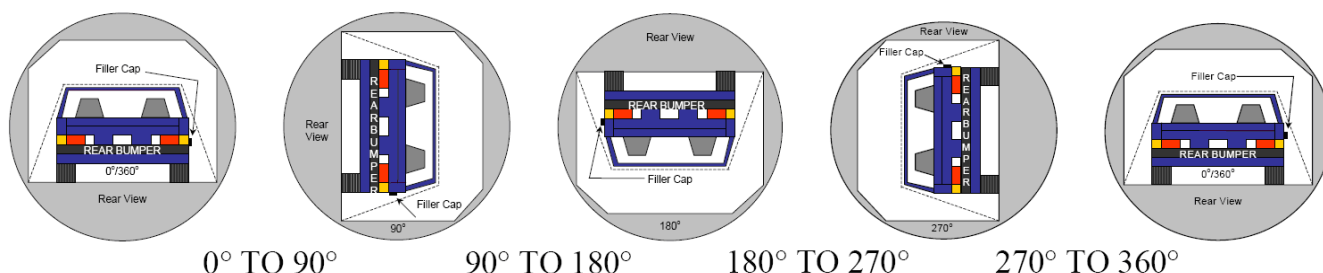
Stoddard Solvent Spillage Measurements

- A. From impact until vehicle motion ceases: 0 oz.
(Maximum allowable = 1 oz.)
- B. For the 5 minute period after motion ceases: 0 oz.
(Maximum allowable = 5 oz.)
- C. For the following 25 minutes: 0 oz.
(Maximum allowable = 1 oz./minute)
- D. Spillage: There was no Stoddard solvent spillage.

DATA SHEET NO. 17

FMVSS 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard solvent spillage: There was no Stoddard solvent spillage.

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	83	300	383
90° To 180°	81	300	381
180° To 270°	78	300	378
270° To 360°	79	300	379

FMVSS 301 SPILLAGE TABLE

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

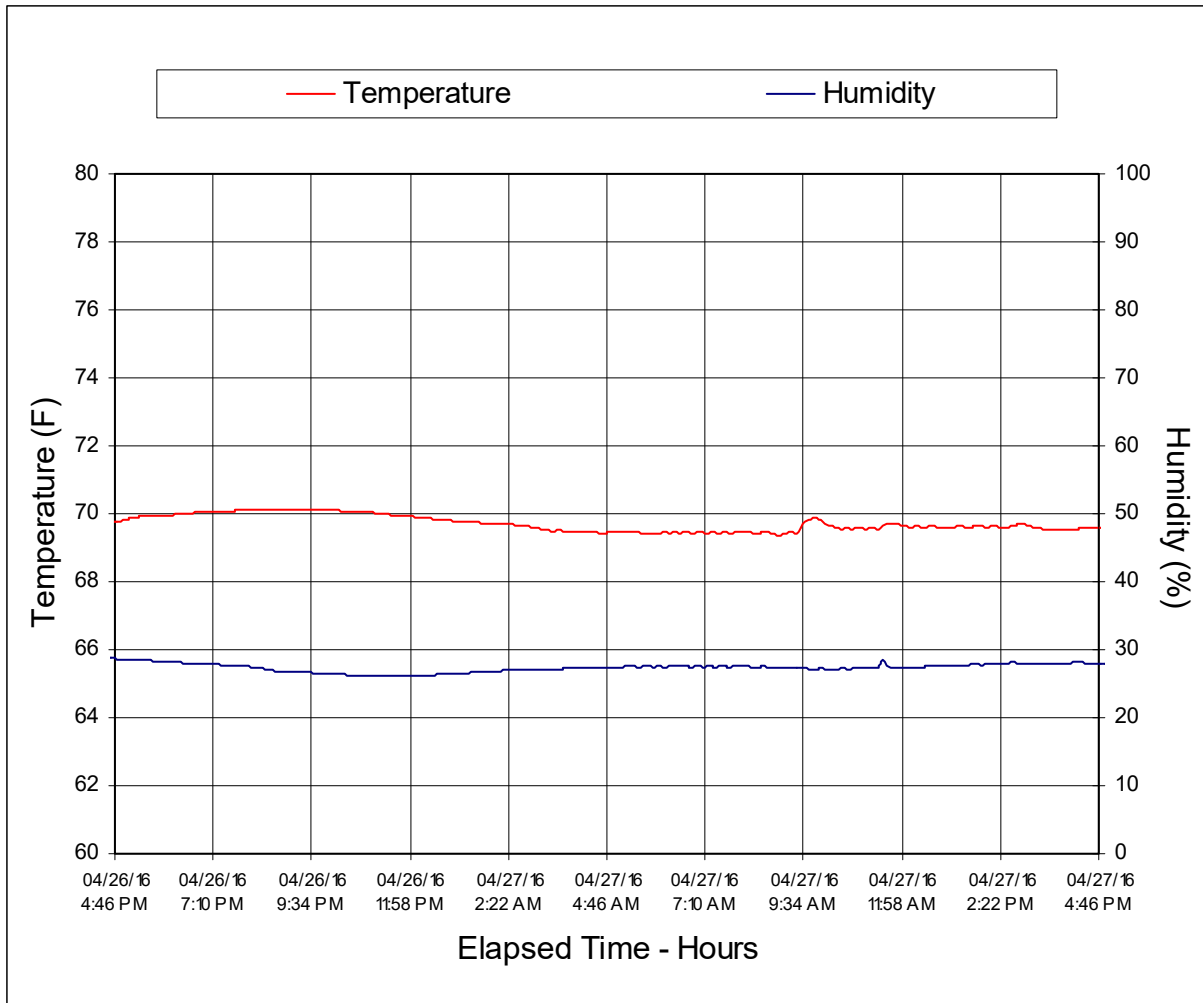
SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° To 90°	
90° To 180°	
180° To 270°	
270° To 360°	

DATA SHEET NO. 18

DUMMY / VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2016 Mazda CX-5 NHTSA No. R20165413
Test Program: NHTSA R&D Left Oblique Offset 15deg/35% Test Date: 04/27/16



APPENDIX A
PHOTOGRAPHS

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FIGURE 1. As Delivered Right Front 3-4 View of Test Vehicle



FIGURE 2. As Delivered Left Rear 3-4 View of Test Vehicle

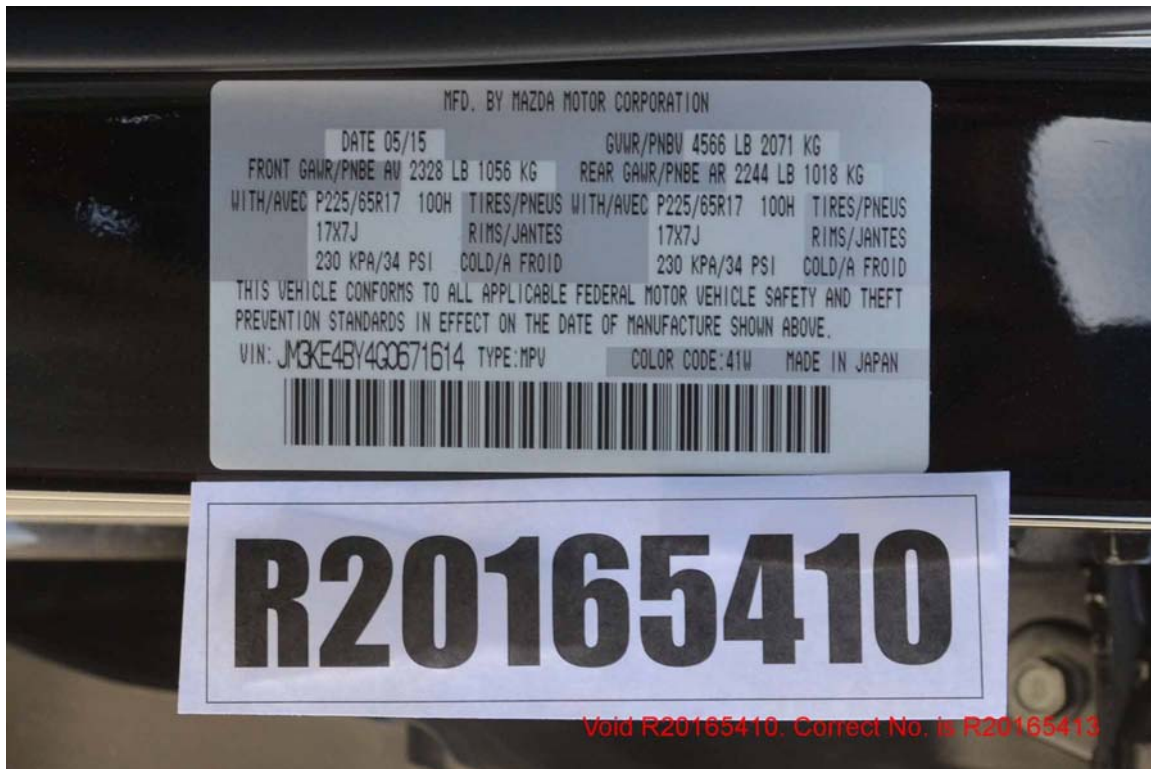


FIGURE 3. Test Vehicle Certification Label

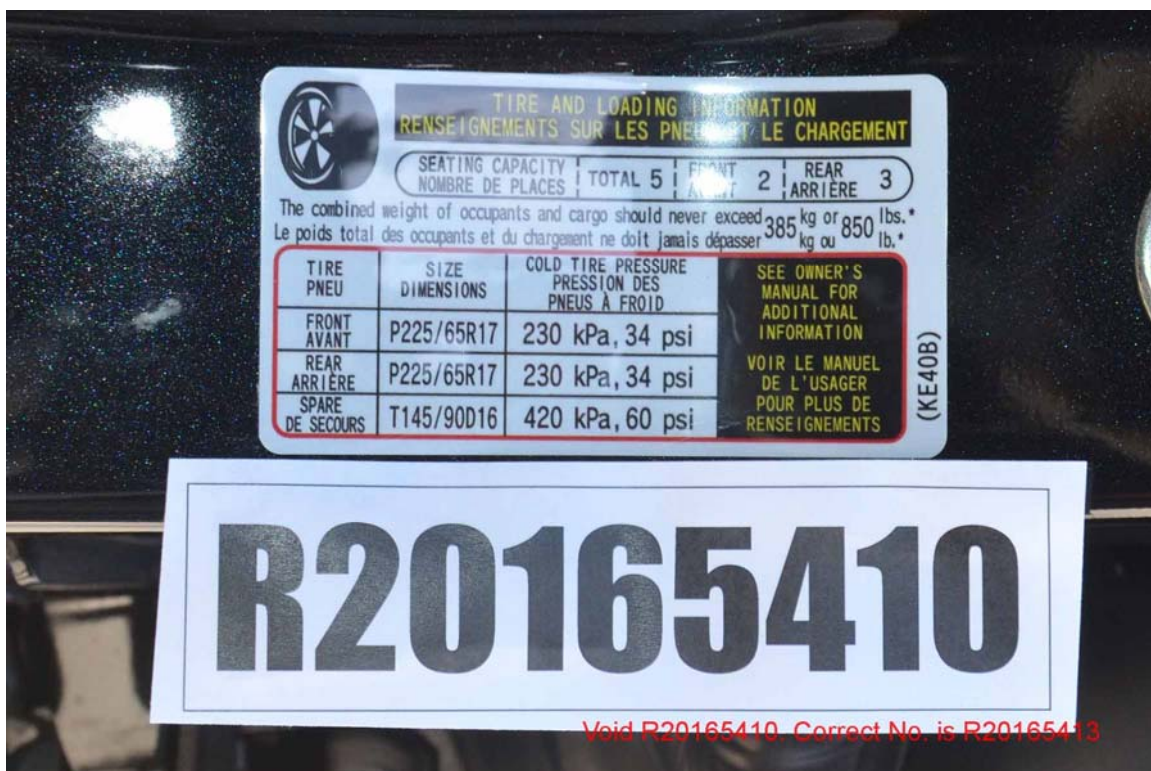


FIGURE 4. Test Vehicle Tire Placard

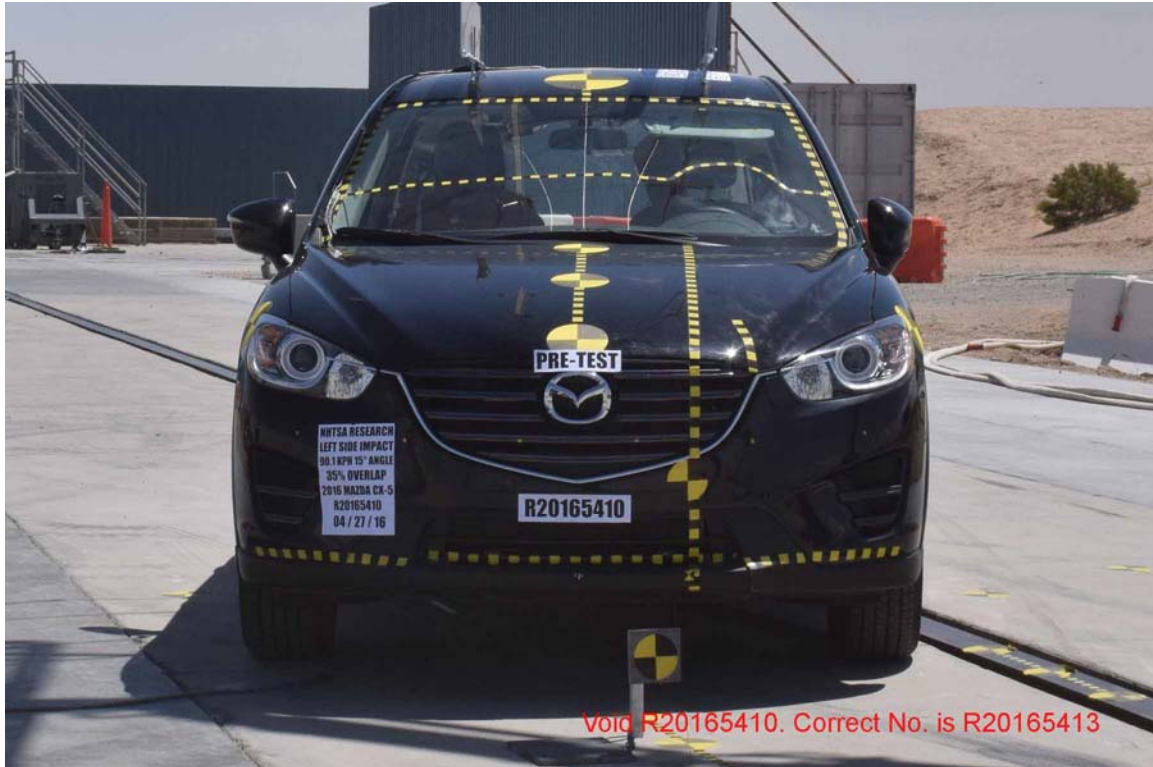


FIGURE 5. Pre-Test Front View of Test Vehicle

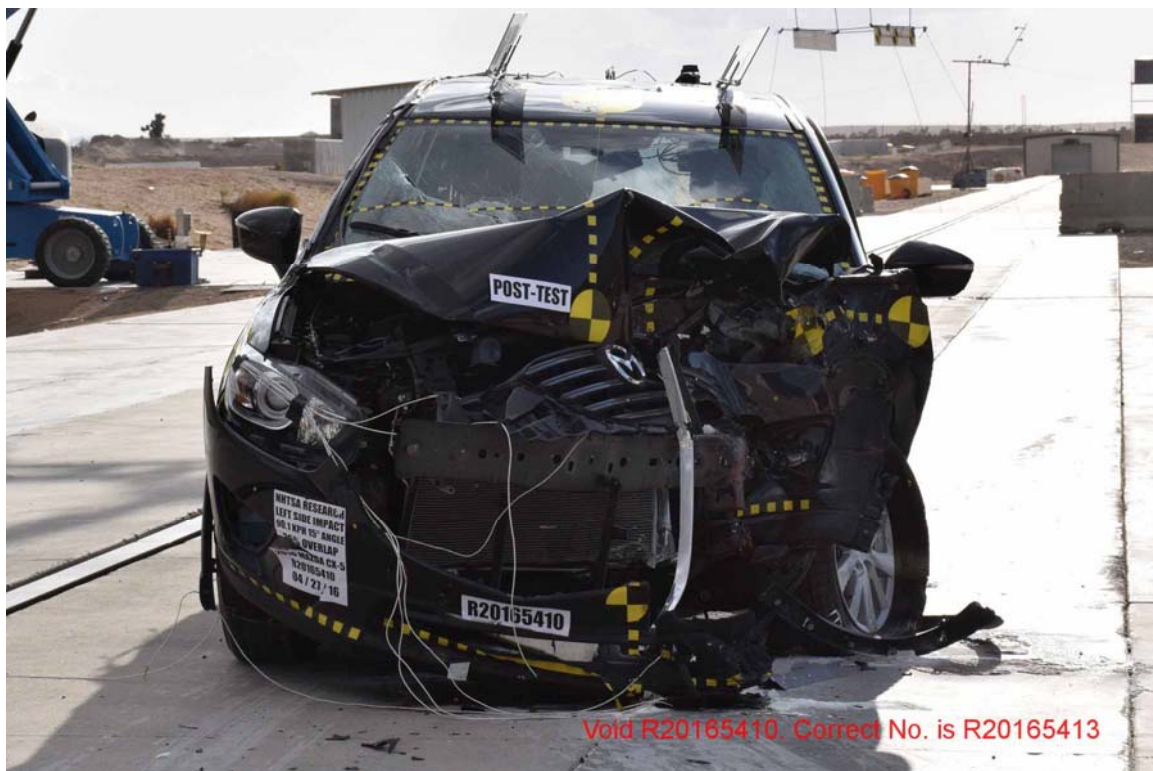


FIGURE 6. Post-Test Front View of Test Vehicle

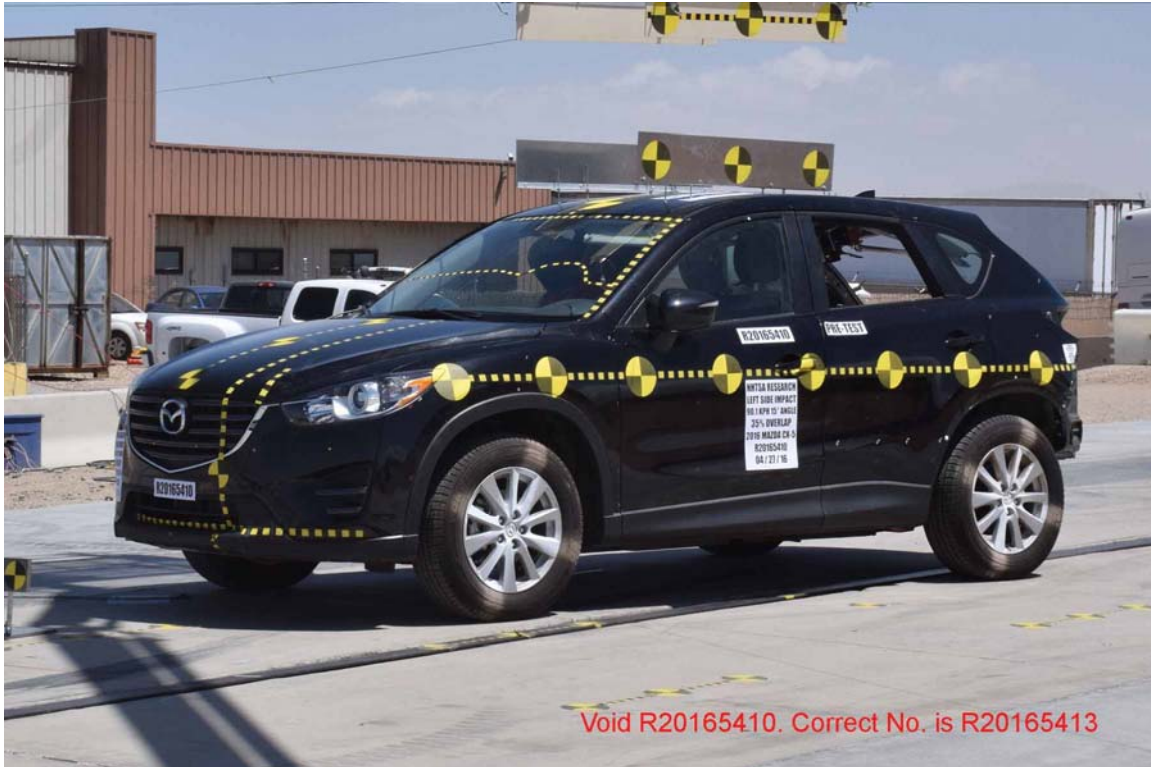


FIGURE 7. Pre-Test Left Front 3-4 View of Test Vehicle



FIGURE 8. Post-Test Left Front 3-4 View of Test Vehicle

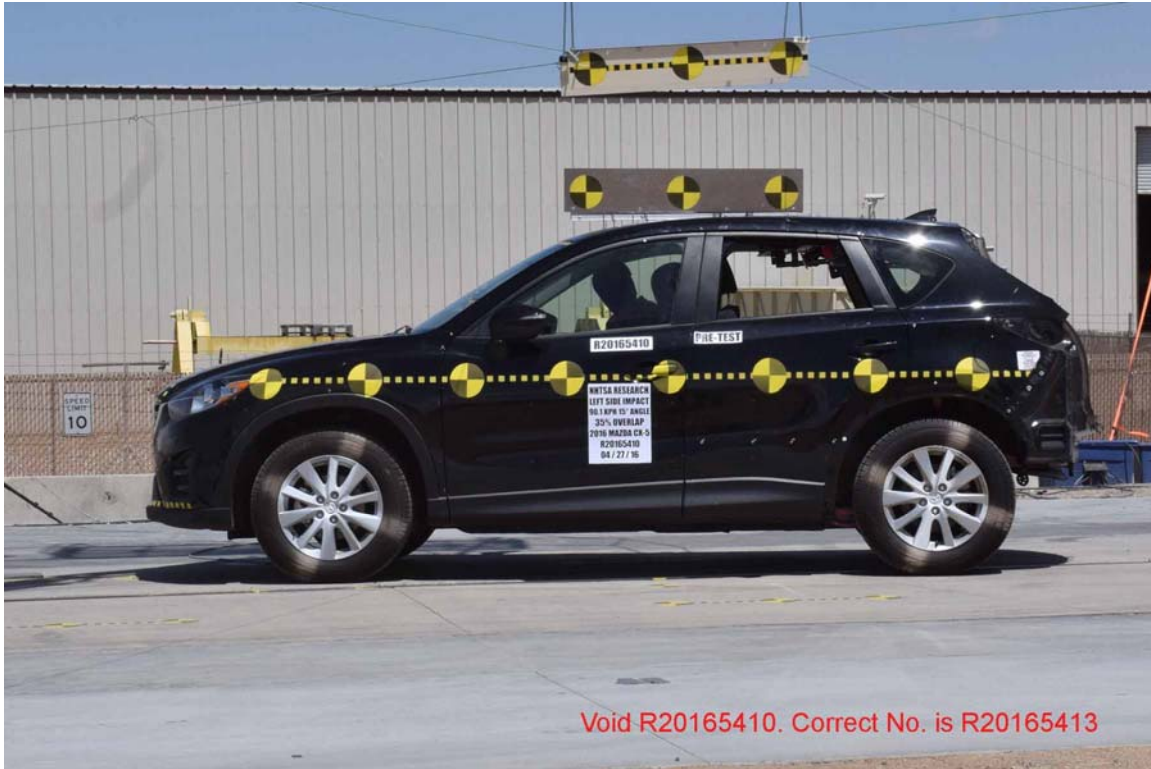


FIGURE 9. Pre-Test Left Side View of Test Vehicle



FIGURE 10. Post-Test Left Side View of Test Vehicle



FIGURE 11. Pre-Test Left Rear 3-4 View of Test Vehicle



FIGURE 12. Post-Test Left Rear 3-4 View of Test Vehicle



FIGURE 13. Pre-Test Rear View of Test Vehicle



FIGURE 14. Post-Test Rear View of Test Vehicle



FIGURE 15. Pre-Test Right Rear 3-4 View of Test Vehicle



FIGURE 16. Post-Test Right Rear 3-4 View of Test Vehicle



FIGURE 17. Pre-Test Right Side View of Test Vehicle

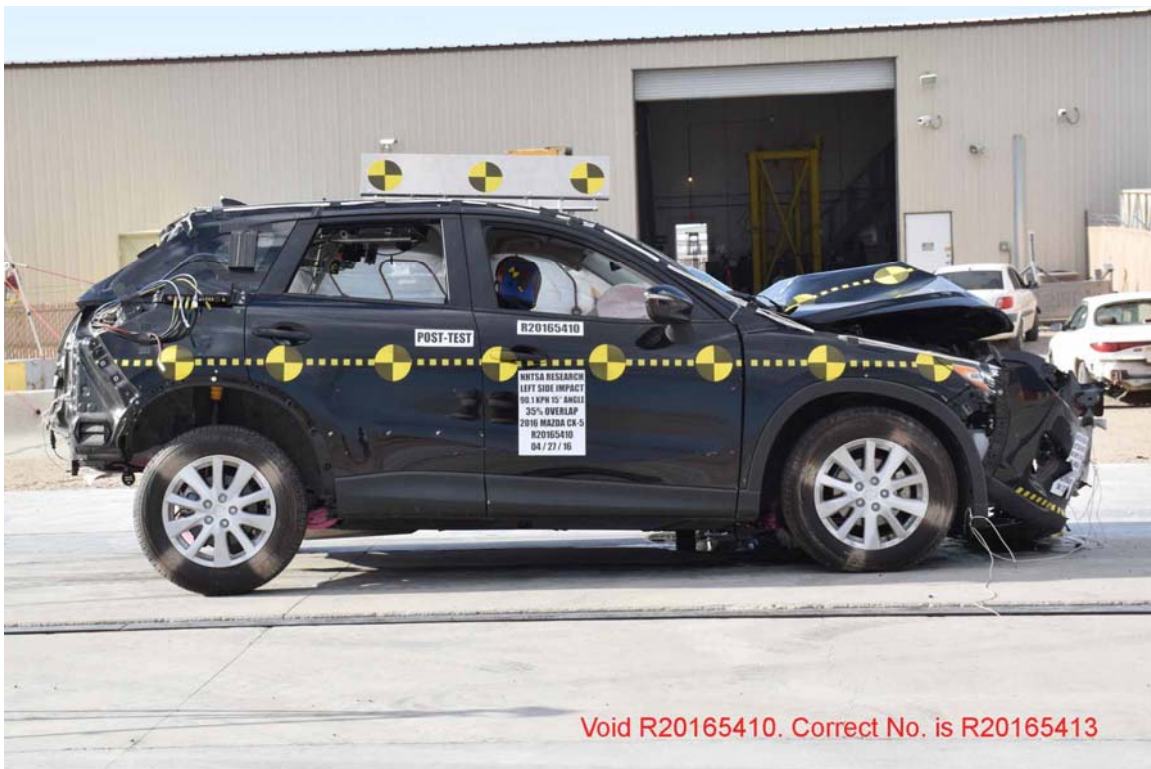


FIGURE 18. Post-Test Right Side View of Test Vehicle



FIGURE 19. Pre-Test Right Front 3-4 View of Test Vehicle



FIGURE 20. Post-Test Right Front 3-4 View of Test Vehicle

VOID R20165410. Correct No. is R20165413

FIGURE 21. Monroney Label Photograph

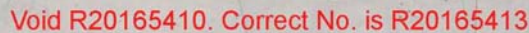


FIGURE 22. Pre-Test Overhead View of OMDB Against Target Vehicle at Ideal Impact Point



FIGURE 23. Pre-Test Left Side View of OMDB Against Target Vehicle at Ideal Impact Point



FIGURE 24. Pre-Test Right Side View of OMDB Against Target Vehicle at Ideal Impact Point



FIGURE 25. Pre-Test Close-up View of Impact Point



FIGURE 26. Post-Test Close-up View of Impact Point



FIGURE 27. Post-Test Vehicle Overhead View



FIGURE 28. Pre-Test Close-up View of Driver Door Latch



FIGURE 29. Post-Test Close-up View of Driver Door Latch



FIGURE 30. Pre-Test Close-up View of Passenger Door Latch



FIGURE 31. Post-Test Close-up View of Passenger Door Latch

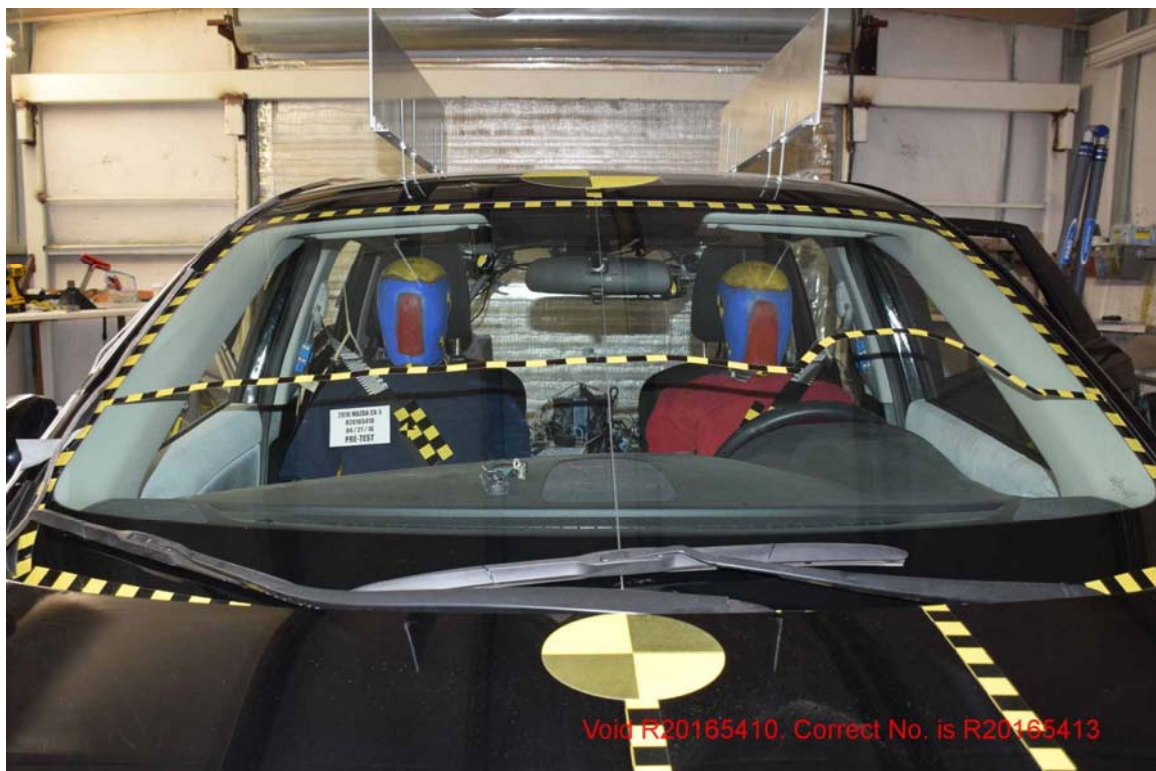


FIGURE 32. Pre-Test Windshield View



FIGURE 33. Post-Test Windshield View



FIGURE 34. Pre-Test View of Driver Inner Door Panel



FIGURE 35. Post-Test View of Driver Inner Door Panel



FIGURE 36. Pre-Test View of Passenger Inner Door Panel



FIGURE 37. Post-Test View of Passenger Inner Door Panel



FIGURE 38. Pre-Test Overall View of Driver Knee Bolster



FIGURE 39. Post-Test Overall View of Driver Knee Bolster



FIGURE 40. Pre-Test Left Side View of Driver Knee Bolster



FIGURE 41. Post-Test Left Side View of Driver Knee Bolster



FIGURE 42. Pre-Test Right Side View of Driver Knee Bolster



FIGURE 43. Post-Test Right Side View of Driver Knee Bolster



FIGURE 44. Pre-Test View of Driver Floor Pan at Left Sill Level



FIGURE 45. Post-Test View of Driver Floor Pan at Left Sill Level



FIGURE 46. Pre-Test View of Driver Floor Pan at Mid Seat Level



FIGURE 47. Post-Test view of Driver Floor Pan at Mid Seat Level



FIGURE 48. Pre-Test View of Driver Floor Pan at Right Side



FIGURE 49. Post-Test View of Driver Floor Pan at Right Side



FIGURE 50. Pre-Test Driver Front Windshield View



FIGURE 51. Post-Test Driver Front Windshield View



FIGURE 52. Pre-Test Left Side View of Driver and Interior



FIGURE 53. Post-Test Left Side View of Driver and Interior



FIGURE 54. Pre-Test Left Side Driver Window View



FIGURE 55. Post-Test Left Side Driver Window View



FIGURE 56. Pre-Test Right Side View of Driver and Interior



FIGURE 57. Post-Test Right Side View of Driver and Interior



FIGURE 58. Pre-Test View of Driver Door Clearance



FIGURE 59. Post-Test View of Driver Door Clearance



FIGURE 60. Pre-Test View of Parking Brake



FIGURE 61. Pre-Test Driver Seat Fore Aft Markings



FIGURE 62. Post-Test Driver Seat Fore Aft Markings



FIGURE 63. Pre-Test Driver Seat Back Markings



FIGURE 64. Pre-Test Overhead View of Driver Thighs on Seat



FIGURE 65. Pre-Test Driver Adjustable D-Ring



FIGURE 66. Post-Test Driver Adjustable D-Ring

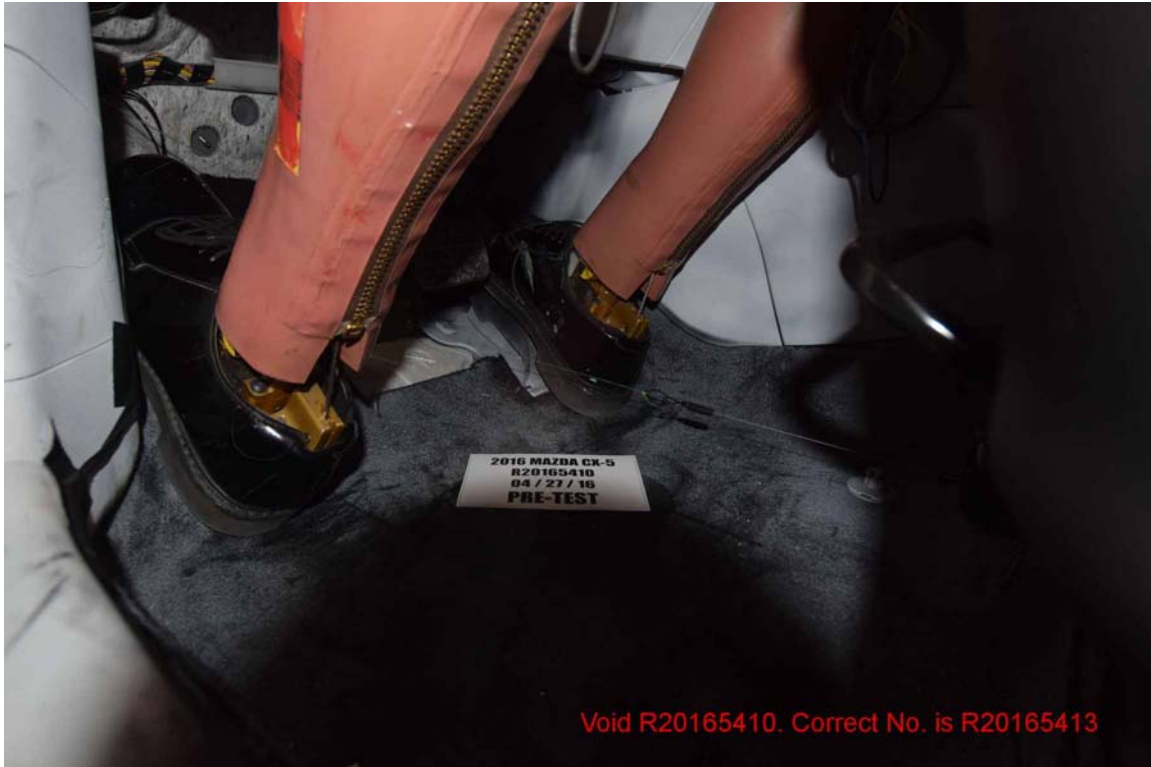


FIGURE 67. Pre-Test Driver Feet



FIGURE 68. Post-Test Driver Feet



FIGURE 69. Pre-Test View of Driver Right Knee and Bolster



FIGURE 70. Post-Test View of Driver Right Knee and Bolster



FIGURE 71. Pre-Test View of Driver Left Knee and Bolster



FIGURE 72. Post-Test View of Driver Left Knee and Bolster



FIGURE 73. Pre-Test View of Driver Abdomen



FIGURE 74. Post-Test View of Driver Abdomen



FIGURE 75. Pre-Test Left Side View of Steering Wheel



FIGURE 76. Post-Test Left Side View of Steering Wheel



FIGURE 77. Post-Test View of Driver Head Contact with Front Airbag



FIGURE 78. Post-Test View of Driver Head Contact with Curtain Airbag



FIGURE 79. Post-Test View of Driver Head Contact with Vehicle Interior



FIGURE 80. Post-Test View of Driver Body Contact with Vehicle Interior - A



FIGURE 81. Post-Test View of Driver Body Contact with Vehicle Interior - B



FIGURE 82. Post-Test View of Driver Leg Contact with Vehicle Interior



FIGURE 83. Pre-Test Overall View of Passenger Knee Bolster



FIGURE 84. Post-Test Overall View of Passenger Knee Bolster



FIGURE 85. Pre-Test Left Side View of Passenger Knee Bolster



FIGURE 86. Post-Test Left Side View of Passenger Knee Bolster



FIGURE 87. Pre-Test Right Side View of Passenger Knee Bolster



FIGURE 88. Post-Test Right Side View of Passenger Knee Bolster



FIGURE 89. Pre-Test View of Passenger Floor Pan at Right Sill Level



FIGURE 90. Post-Test View of Passenger Floor Pan at Right Sill Level



FIGURE 91. Pre-Test View of Passenger Floor Pan at Mid seat Level



FIGURE 92. Post-Test view of Passenger Floor Pan at Mid Seat Level



FIGURE 93. Pre-Test View of Passenger Floor Pan at Left view



FIGURE 94. Post-Test View of Passenger Floor Pan at Left View



FIGURE 95. Pre-Test Passenger Front Windshield View



FIGURE 96. Post-Test Passenger Front Windshield View



FIGURE 97. Pre-Test Left Side Passenger and Interior View



FIGURE 98. Post-Test Left Side Passenger and Interior View



FIGURE 99. Pre-Test Right Side Passenger Window View



FIGURE 100. Post-Test Right Side Passenger Window View



FIGURE 101. Pre-Test Right Side Passenger and Interior View



FIGURE 102. Post-Test Right Side Passenger and Interior View



FIGURE 103. Pre-Test View of Passenger Door Clearance



FIGURE 104. Post-Test View of Passenger Door Clearance



FIGURE 105. Pre-Test Passenger Seat Fore-Aft Markings



FIGURE 106. Post-Test Passenger Seat Fore-Aft Markings



FIGURE 107. Pre-Test Passenger Seat Back Markings



FIGURE 108. Pre-Test Overhead View of Passenger Thighs on Seat



FIGURE 109. Pre-Test Passenger Adjustable D-Ring



FIGURE 110. Post-Test Passenger Adjustable D-Ring



FIGURE 111. Pre-Test View of Passenger Feet



FIGURE 112. Post-Test View of Passenger Feet



FIGURE 113. Pre-Test View of Passenger Right Knee and Bolster



FIGURE 114. Post-Test View of Passenger Right Knee and Bolster



FIGURE 115. Pre-Test View of Passenger Left Knee and Bolster



FIGURE 116. Post-Test View of Passenger Left Knee and Bolster



FIGURE 117. Pre-Test View of Passenger Abdomen



FIGURE 118. Post-Test View of Passenger Abdomen



FIGURE 119. Post-Test View of Passenger Head Contact with Front Airbag

Photograph Not Available

Void R20165410. Correct No. is R20165413

FIGURE 120. Post-Test View of Passenger Head Contact with Curtain Airbag



FIGURE 121. Post-Test View of Passenger Head contact with Interior

Photograph Not Available

Void R20165410. Correct No. is R20165413

FIGURE 122. Post-Test View of Passenger Body Contact with Interior - A

Photograph Not Available

Void R20165410. Correct No. is R20165413

FIGURE 123. Post-Test View of Passenger Body Contact with Interior - B



Void R20165410. Correct No. is R20165413

FIGURE 124. Post-Test View of Passenger Leg Contact with Vehicle Interior



FIGURE 125. Pre-Test Ballast Locations

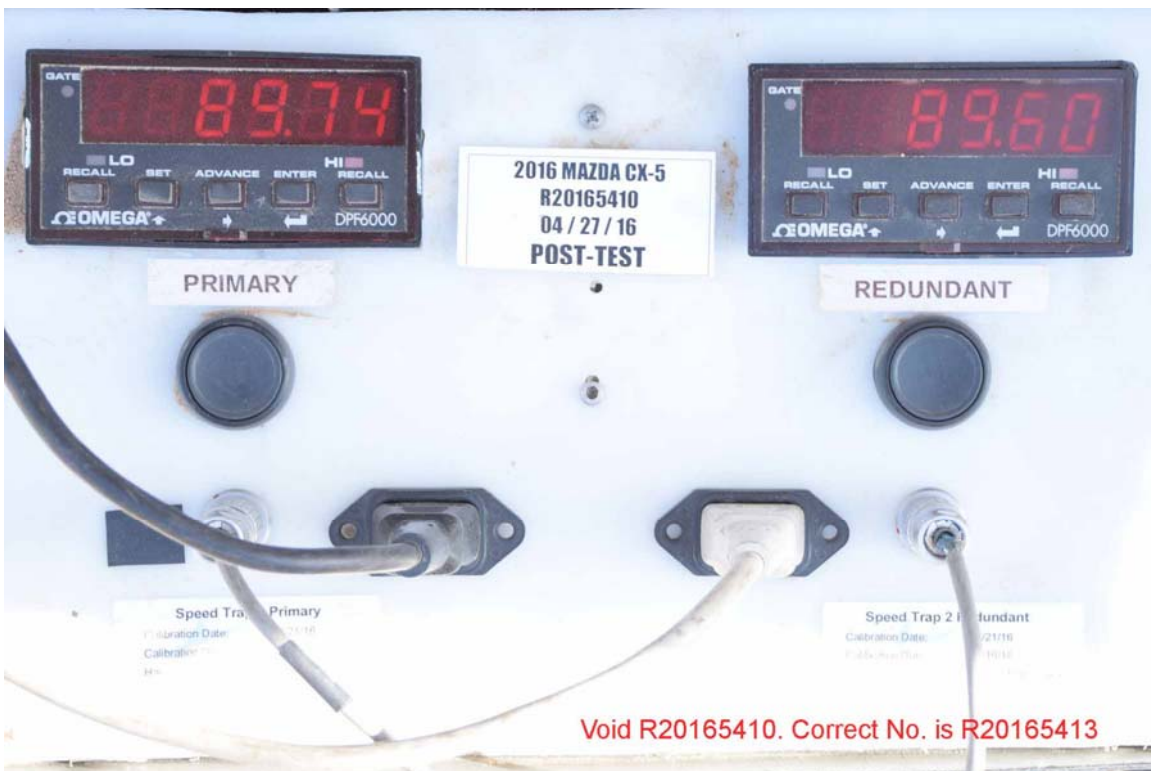


FIGURE 126. Post-Test Speed Trap Readout



FIGURE 127. Pre-Test View of Fuel Filler Cap



FIGURE 128. Post-Test View of Fuel Filler Cap

Photograph Not Available

Void R20165410. Correct No. is R20165413

FIGURE 129. Pre-Test Engine Compartment View



FIGURE 130. Post-Test Engine Compartment View



FIGURE 131. Pre-Test View of Front Underbody (Perpendicular to Vehicle)



FIGURE 132. Post-Test View of Front Underbody (Perpendicular to Vehicle)



FIGURE 133. Pre-Test View of Mid Underbody (Perpendicular to Vehicle)



FIGURE 134. Post-Test View of Mid Underbody (Perpendicular to Vehicle)

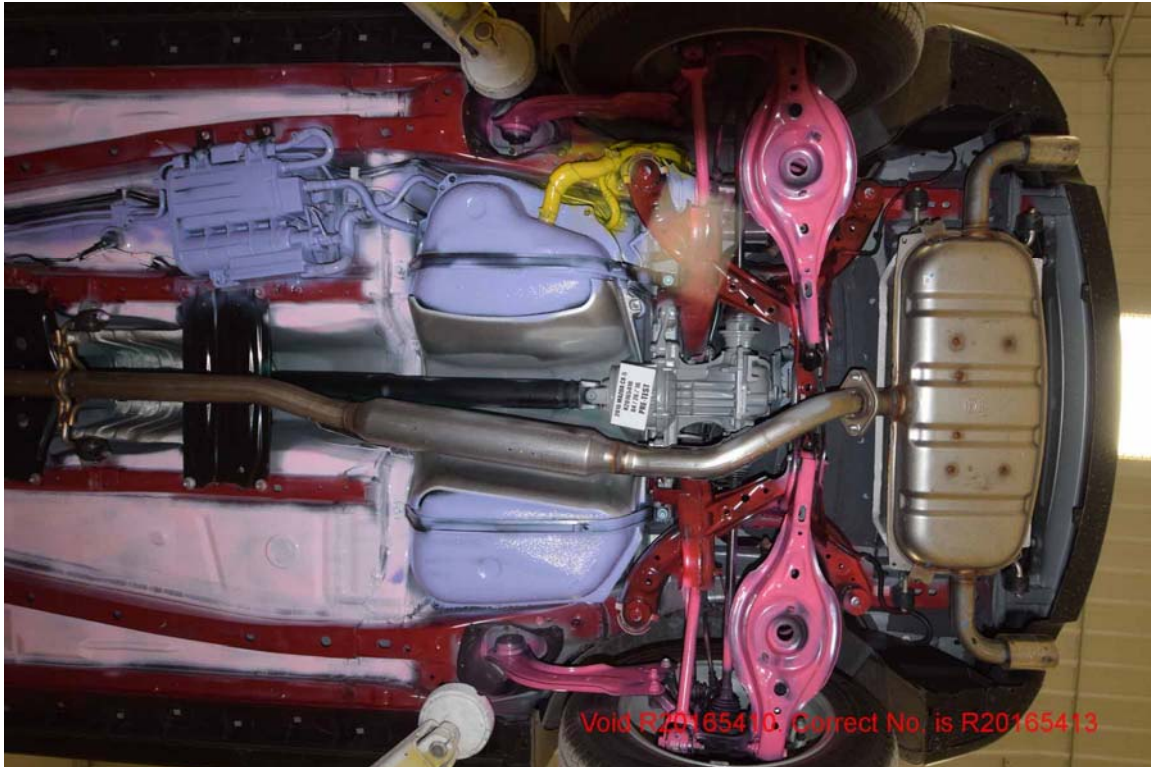


FIGURE 135. Pre-Test View of Rear Underbody (Perpendicular to Vehicle)

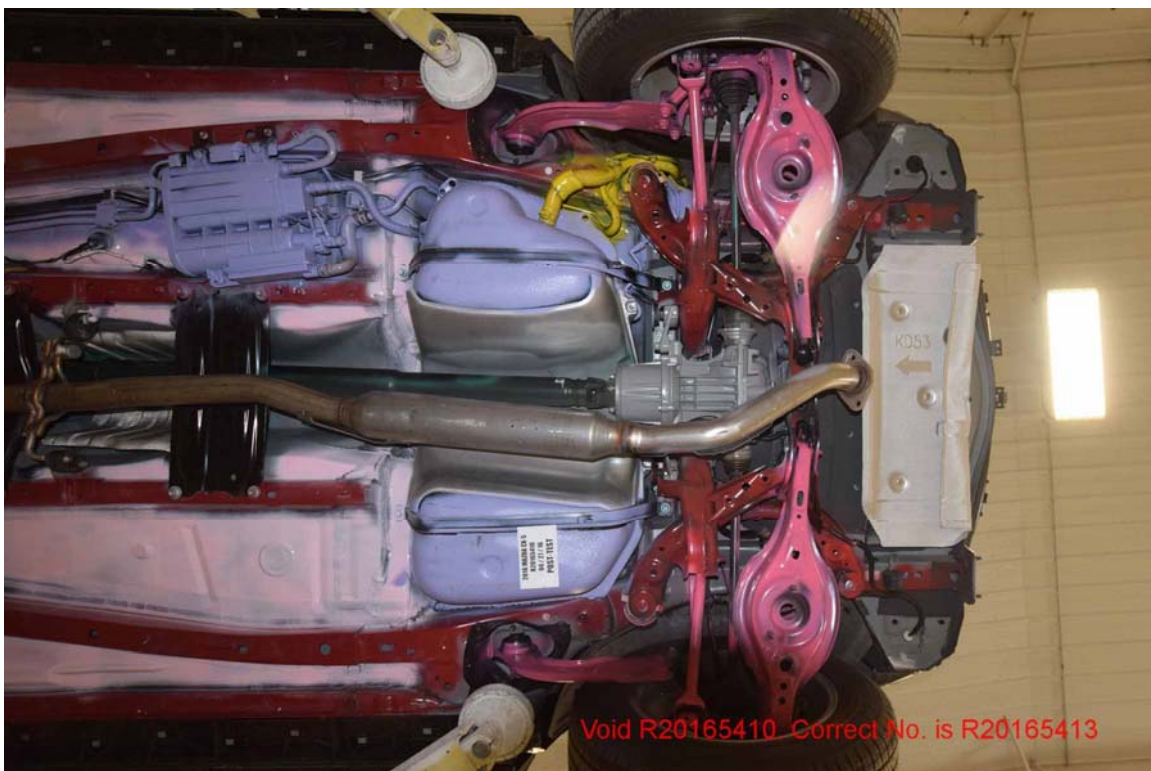


FIGURE 136. Post-Test View of Rear Underbody (Perpendicular to vehicle)



FIGURE 137. Pre-Test View of Front Axle



FIGURE 138. Post-Test View of Front Axle



FIGURE 139. Pre-Test Bumper to Rail Attachments and Crush Initiators



FIGURE 140. Post-Test Bumper to Rail Attachments and Crush Initiators



FIGURE 141. Pre-Test Left Side Impact Rail

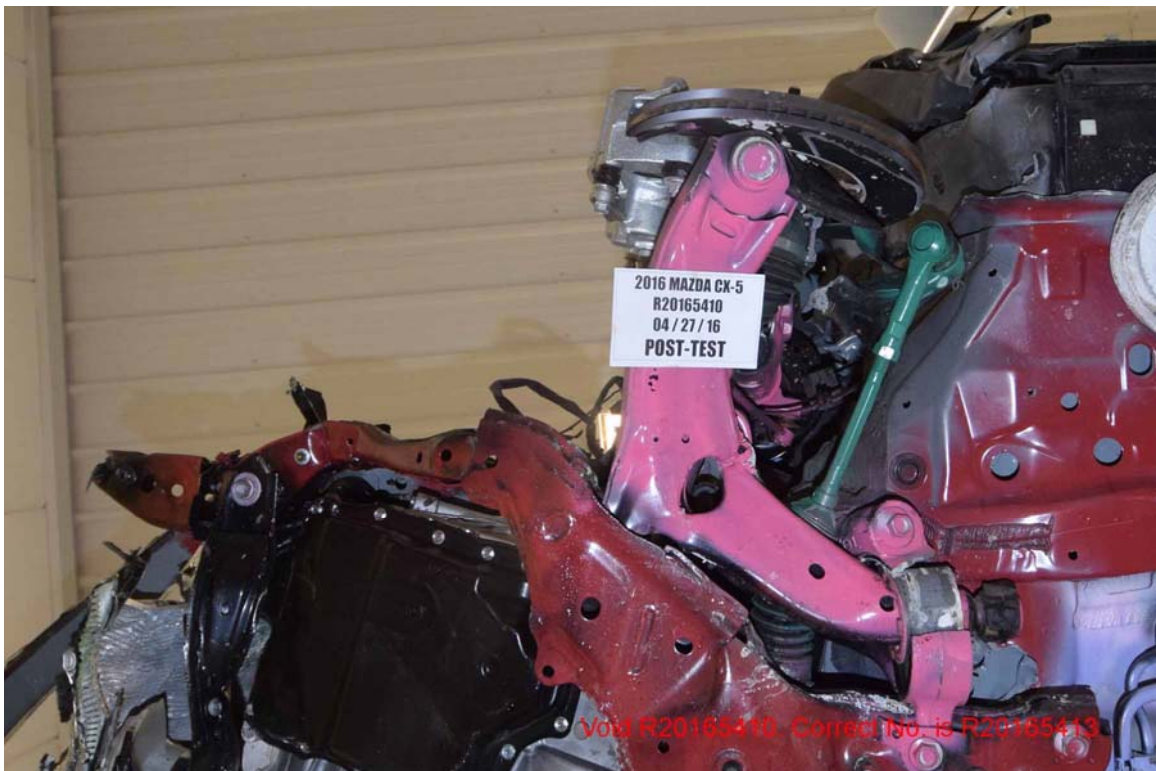


FIGURE 142. Post-Test Left Side Impact Rail



FIGURE 143. Pre-Test Left Front $\frac{3}{4}$ View of Driver Wheel Well



FIGURE 144. Post-Test Left Front $\frac{3}{4}$ View of Driver Wheel Well



FIGURE 145. Pre-Test Left Side View of Driver Wheel Well



FIGURE 146. Post-Test Left Side View of Driver Wheel Well



FIGURE 147. Pre-Test Left Rear $\frac{3}{4}$ View of the Driver Wheel Well

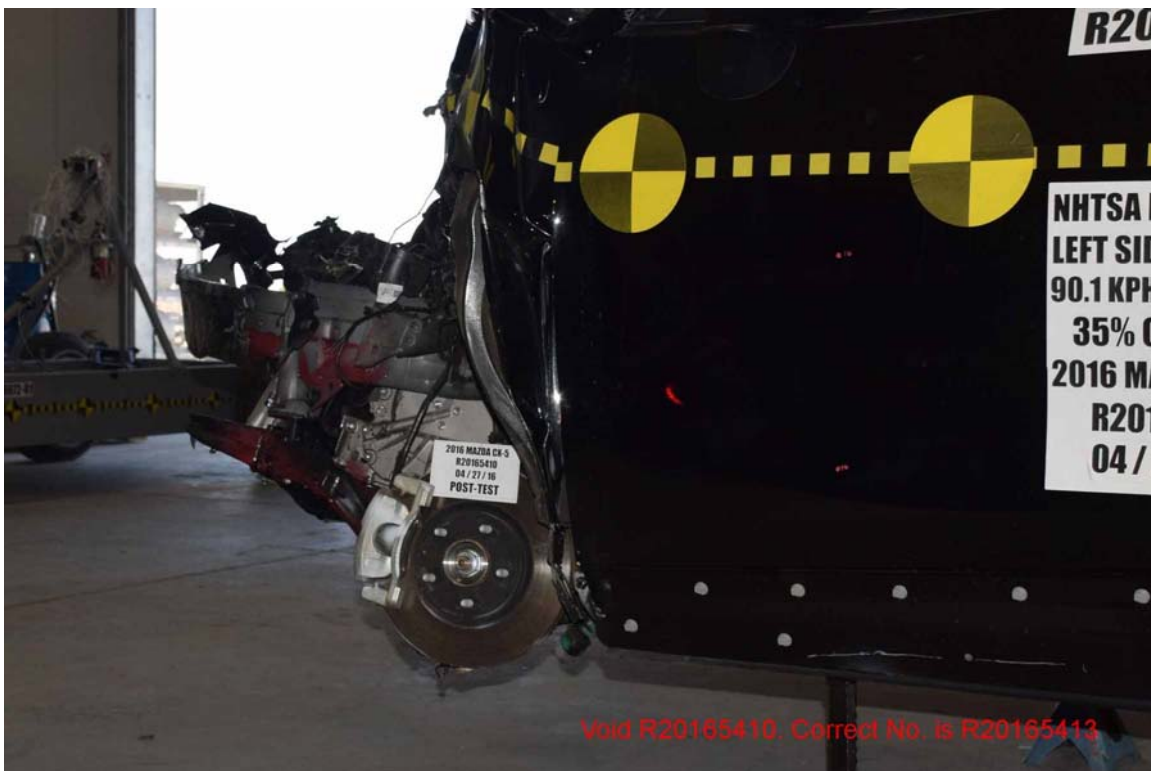


FIGURE 148. Post-Test Left Rear $\frac{3}{4}$ View of the Driver Wheel Well



FIGURE 149. Pre-Test Driver Close-up View of Suspension



FIGURE 150. Post-Test Driver Close-up View of Suspension

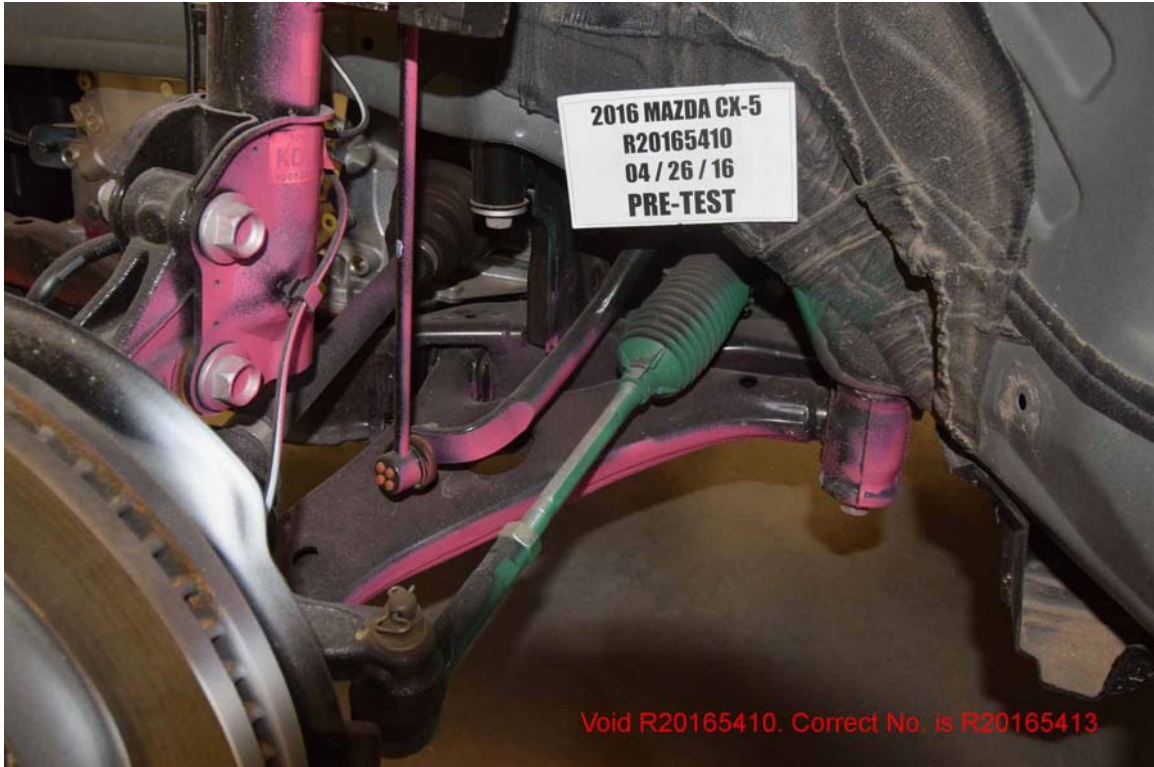


FIGURE 151. Pre-Test Left Side Tie Rod and Sway Bar Attachment Points



FIGURE 152. Post-Test Left Side Tie Rod and Sway Bar Attachment Points



FIGURE 153. Pre-Test Right Front $\frac{3}{4}$ View of Passenger Wheel Well



FIGURE 154. Post-Test Right Front $\frac{3}{4}$ View of Passenger Wheel Well



FIGURE 155. Pre-Test Right Side View of Passenger Wheel Well



FIGURE 156. Post-Test Right Side View of Passenger Wheel Well

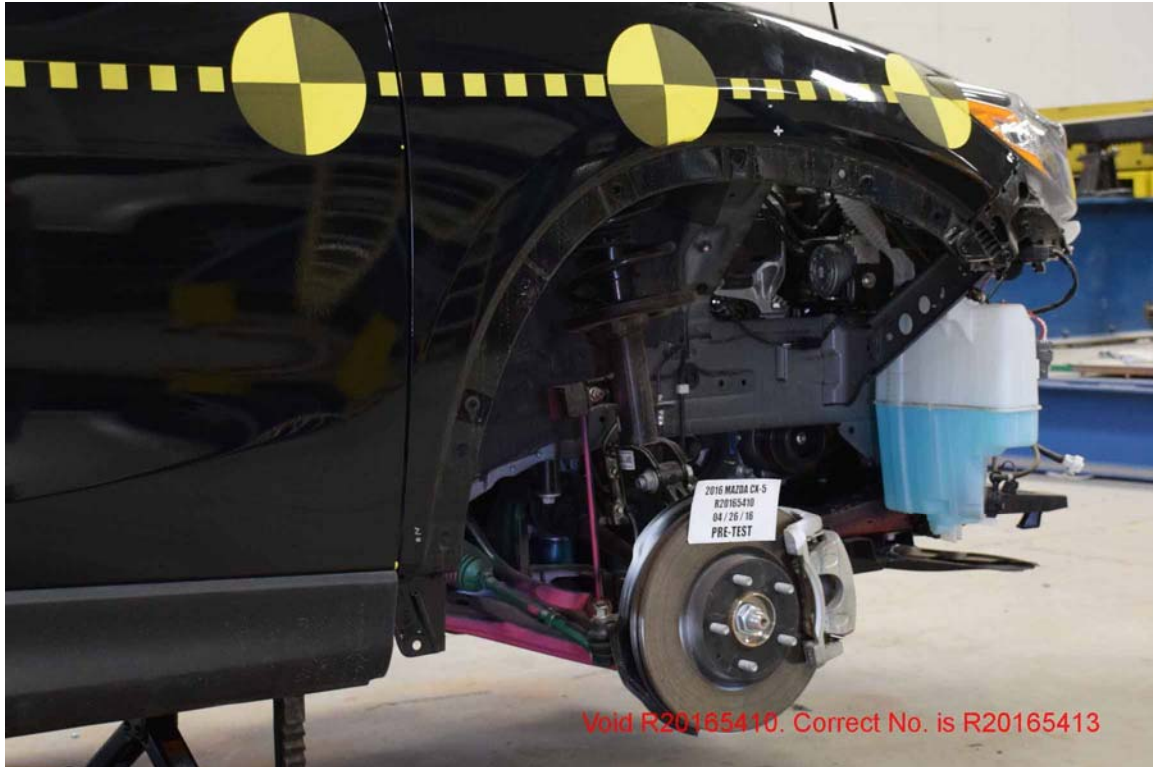


FIGURE 157. Pre-Test Right Rear $\frac{3}{4}$ View of the Passenger Wheel Well



FIGURE 158. Post-Test Right Rear $\frac{3}{4}$ View of the Passenger Wheel Well



FIGURE 159. Pre-Test Passenger Close-up View of Suspension



FIGURE 160. Post-Test Passenger Close-up View of Suspension



FIGURE 161. Pre-Test Right Side Tie Rod and Sway Bar Attachment Points



FIGURE 162. Post-Test Right Side Tie Rod and Sway Bar Attachment Points



FIGURE 163. Pre-Test Left Side View of OMDB Impactor Face



FIGURE 164. Post-Test Left Side View of OMDB Impactor Face



FIGURE 165. Pre-Test Right Side View of OMDB Impactor Face



FIGURE 166. Post-Test Right Side View of OMDB Impactor Face



FIGURE 167. Pre-Test Top View of OMDB Impactor Face



FIGURE 168. Post-Test Top View of OMDB Impactor Face



FIGURE 169. Pre-Test Front View of OMDB Impactor Face



FIGURE 170. Post-Test Front View of OMDB Impactor Face



FIGURE 171. Pre-Test Right Side View of OMDB



FIGURE 172. Post-Test Right Side View of OMDB



FIGURE 173. Pre-Test Left Side View of OMDB



FIGURE 174. Post-Test Left Side View of OMDB



FIGURE 175. Pre-Test OMDB & Vehicle, Right Side



FIGURE 176. Post-Test OMDB & Vehicle, Right Side



FIGURE 177. Pre-Test OMDB & Vehicle, Left Side



FIGURE 178. Post-Test OMDB & Vehicle, Left Side

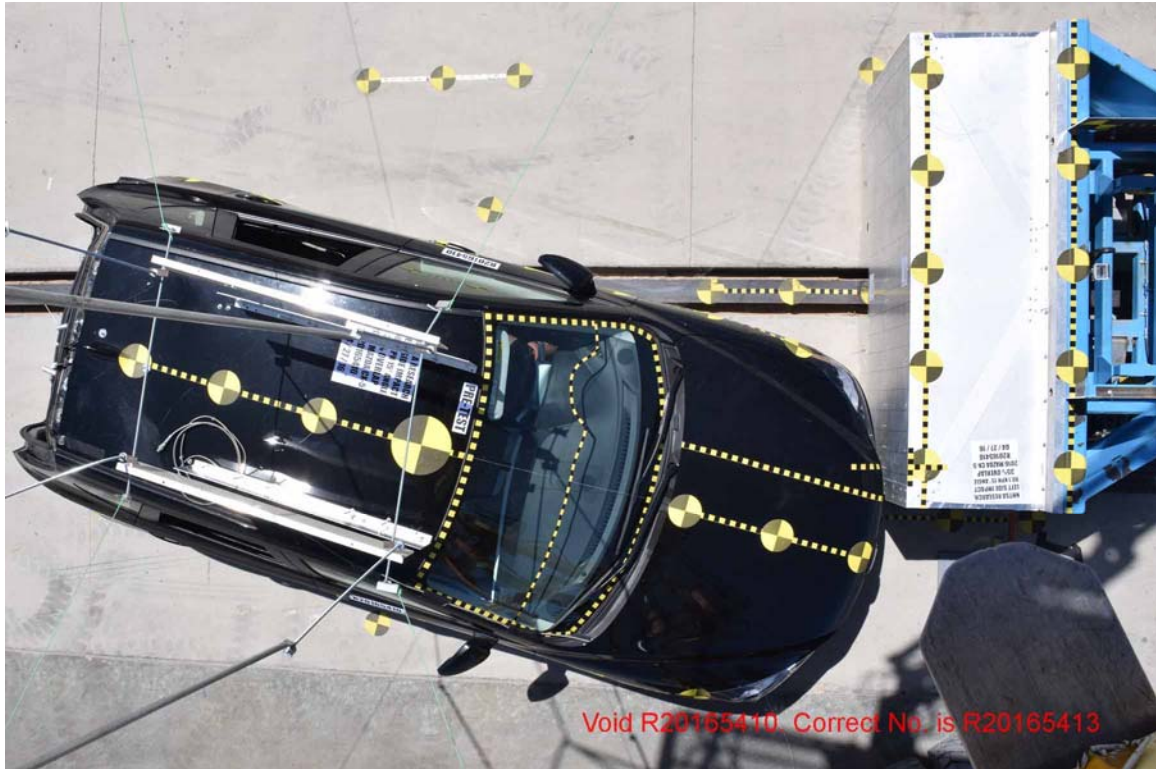


FIGURE 179. Pre-Test OMDB & Vehicle, Top View



FIGURE 180. Post-Test OMDB & Vehicle, Top View



FIGURE 181. Pre-Test OMDB & Vehicle Alignment

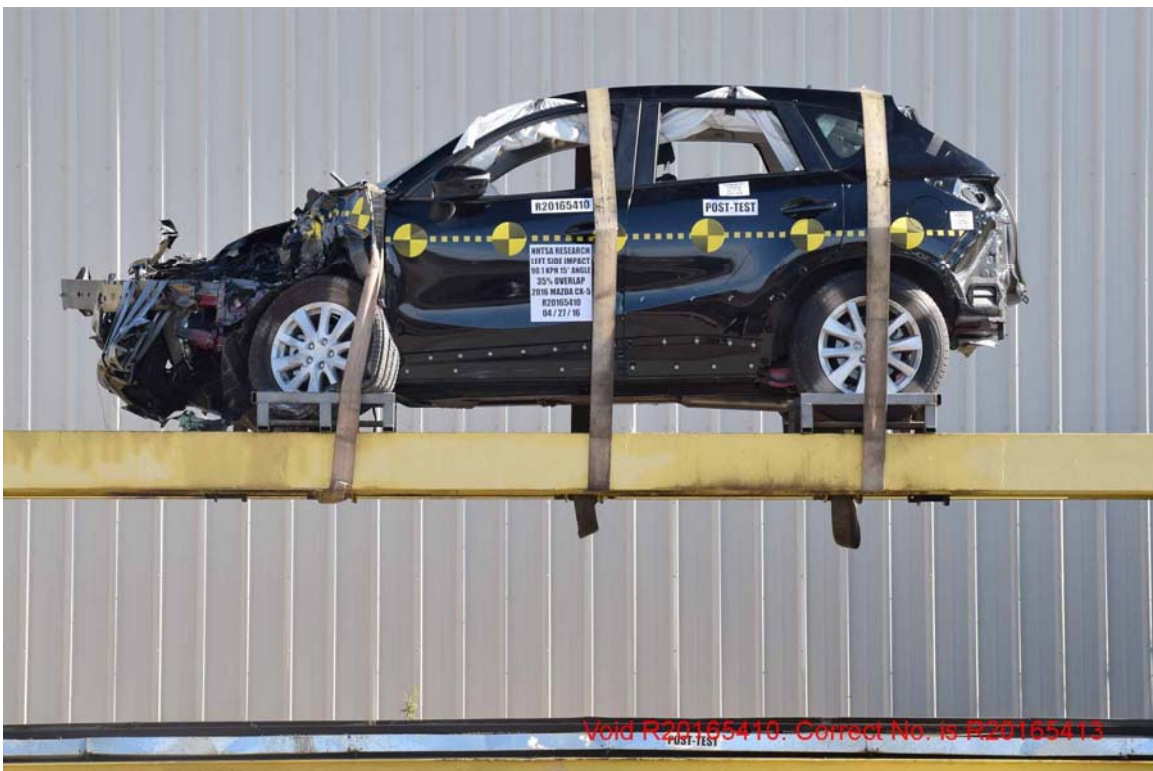


FIGURE 182. FMVSS No. 301 Static Rollover 0 Degrees



FIGURE 183. FMVSS No. 301 Static Rollover 90 Degrees

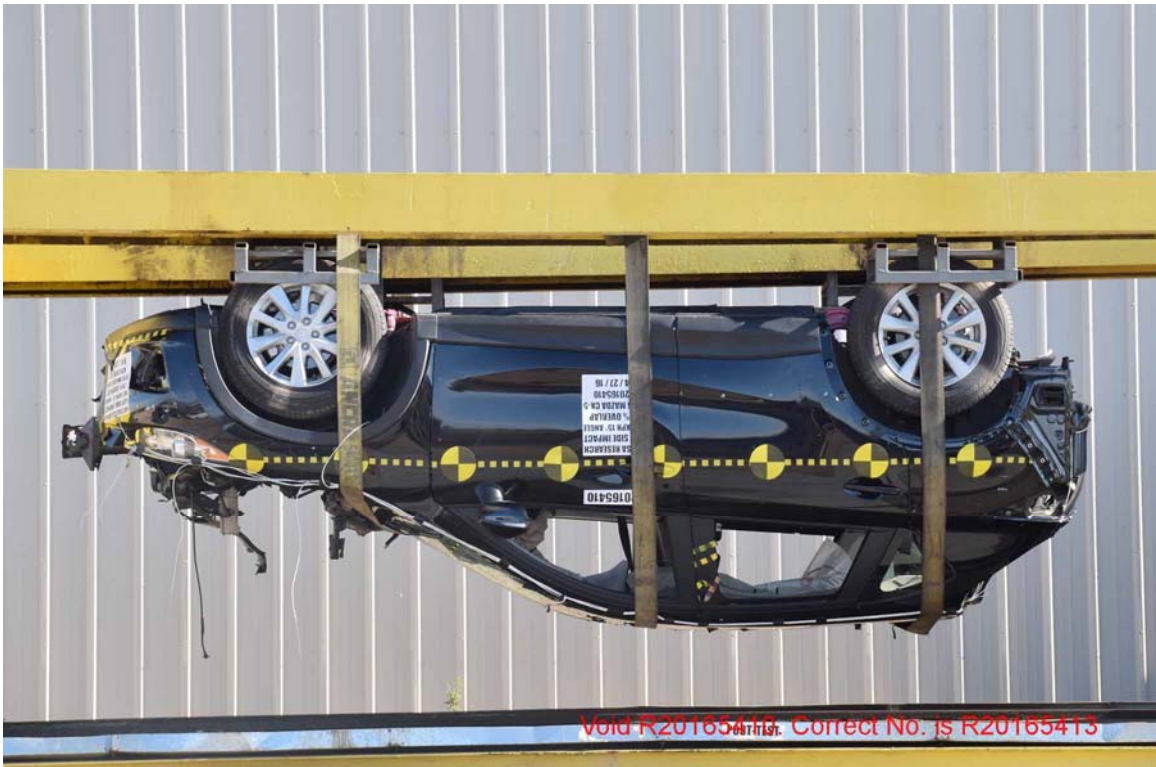


FIGURE 184. FMVSS No. 301 Static Rollover 180 Degrees



FIGURE 185. FMVSS No. 301 Static Rollover 270 Degrees

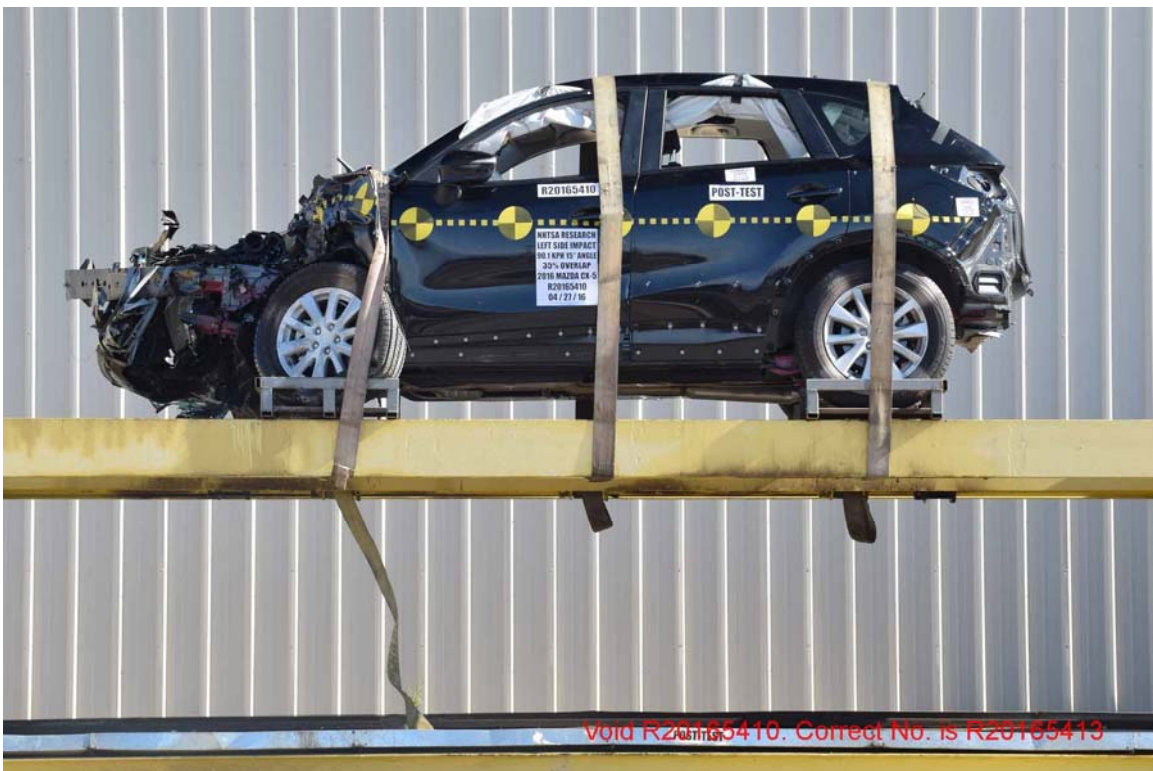


FIGURE 186. FMVSS No. 301 Static Rollover 360 Degrees



Void R20165410. Correct No. is R20165413

FIGURE 187. Impact Event

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA TRACES

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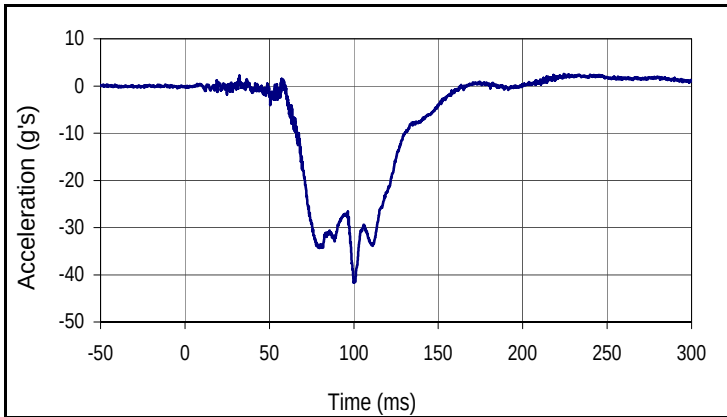
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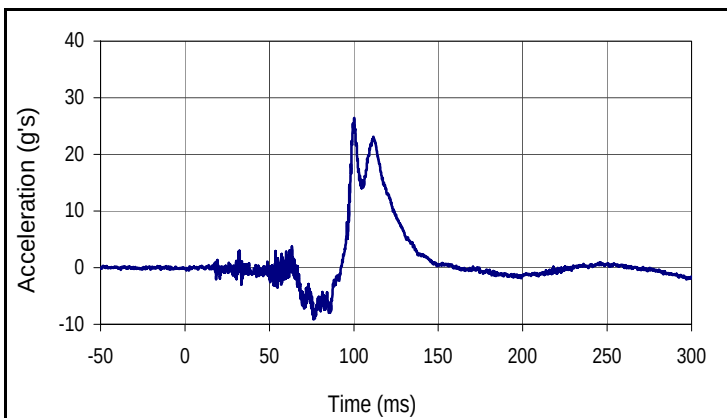
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Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

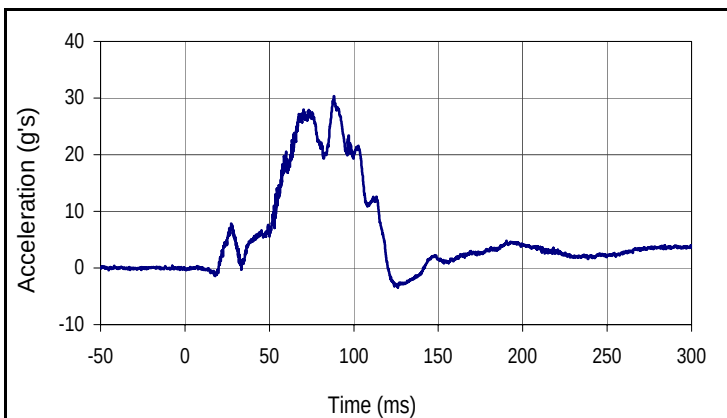
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 Test Date: 4/27/16



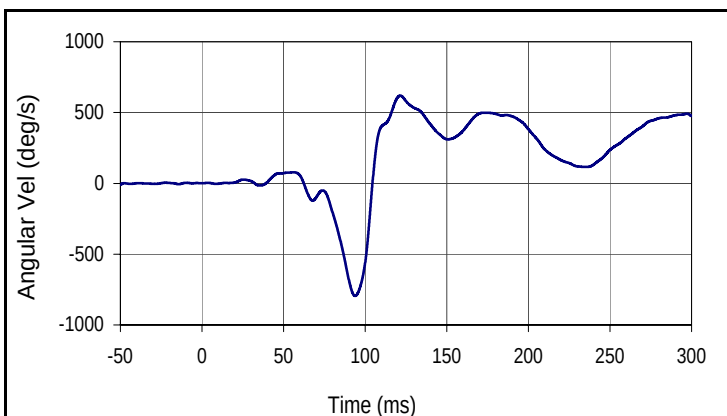
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V2P1 Head CG X Acceleration			
Plot No.		SAE Class	Units
001		1000	g's
Max	Time	Min	Time
2.5	224.3	-41.6	99.9



Curve Description			
V2P1 Head CG Y Acceleration			
Plot No.		SAE Class	Units
002		1000	g's
Max	Time	Min	Time
26.4	100.2	-9.2	76.2



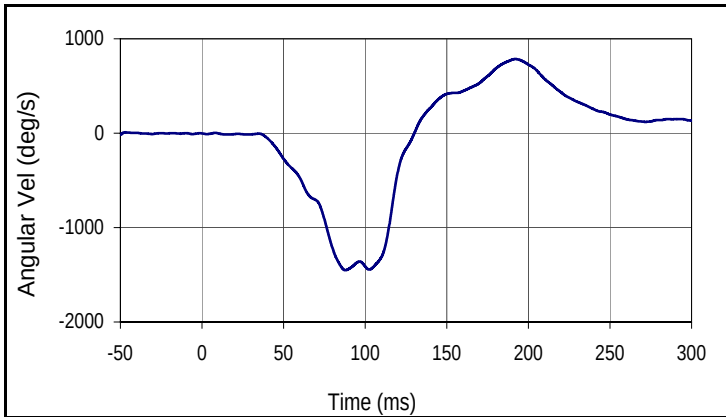
Curve Description			
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003		1000	g's
Max	Time	Min	Time
30.3	88.3	-3.4	126.1



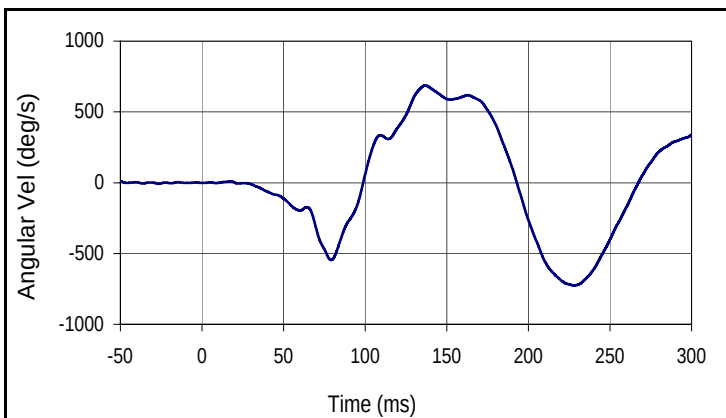
Curve Description			
V2P1 Head CG Angular Velocity About X			
Plot No.		SAE Class	Units
004		60	deg/s
Max	Time	Min	Time
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Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

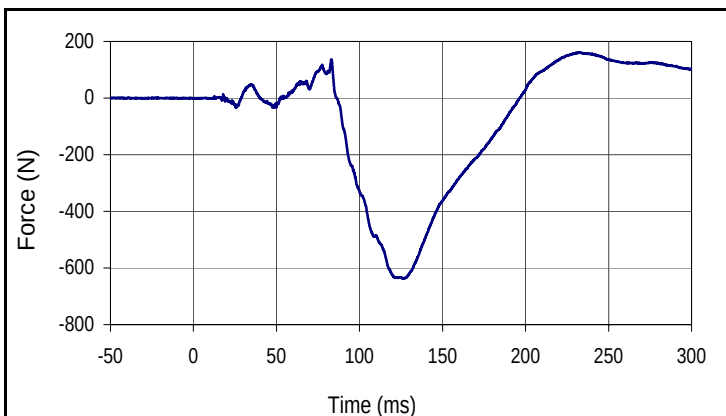
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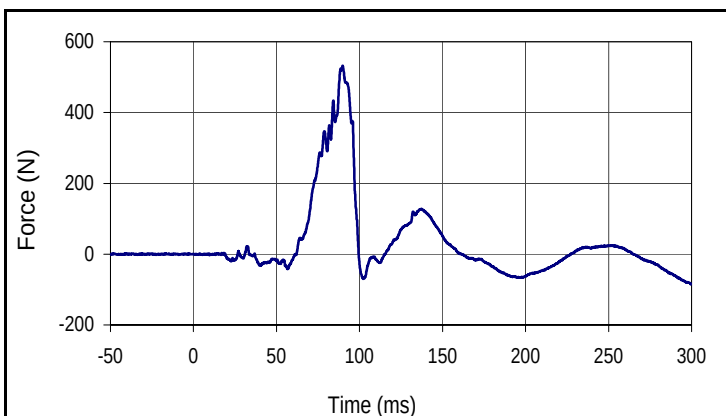
Curve Description			
V2P1 Head CG Angular Velocity About Y			
Plot No.		SAE Class	Units
005		60	deg/s
Max	Time	Min	Time
785.7	191.9	-1451.4	87.9



Curve Description			
V2P1 Head CG Angular Velocity About Z			
Plot No.		SAE Class	Units
006		60	deg/s
Max	Time	Min	Time
687.2	136.9	-726.1	227.9



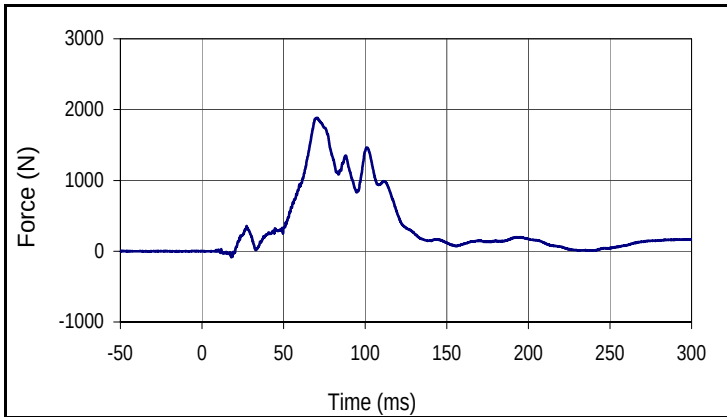
Curve Description			
V2P1 Upper Neck X Force			
Plot No.		SAE Class	Units
007		1000	N
Max	Time	Min	Time
161.6	233.1	-637.2	126.5



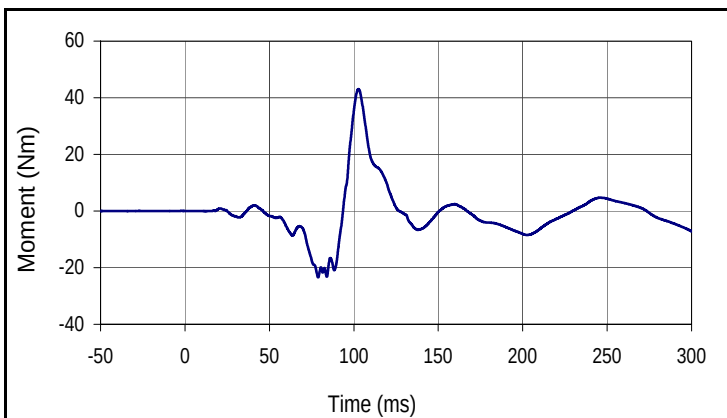
Curve Description			
V2P1 Upper Neck Y Force			
Plot No.		SAE Class	Units
008		1000	N
Max	Time	Min	Time
531.9	89.9	-84.3	299.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

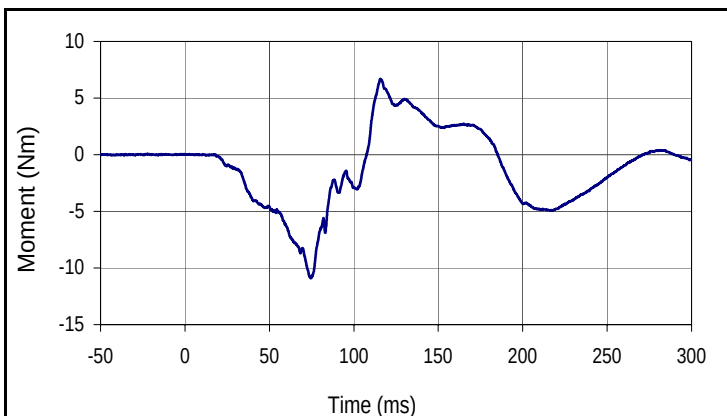
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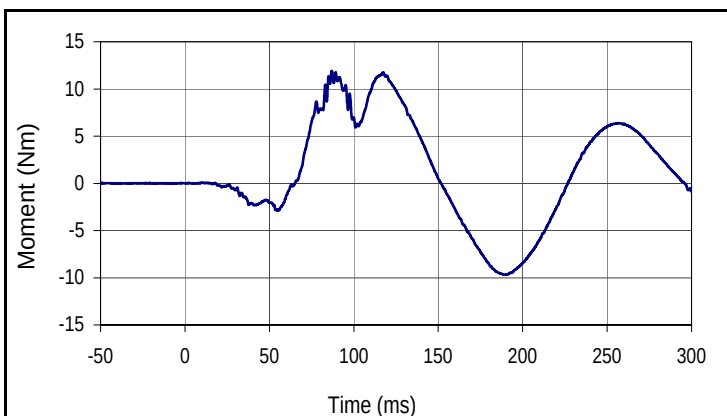
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V2P1 Upper Neck Z Force			
Plot No.		SAE Class	Units
009		1000	N
Max	Time	Min	Time
1885.1	70.3	-89.1	18.0



Curve Description			
V2P1 Upper Neck X Moment			
Plot No.		SAE Class	Units
010		600	Nm
Max	Time	Min	Time
43.1	102.7	-23.4	78.9



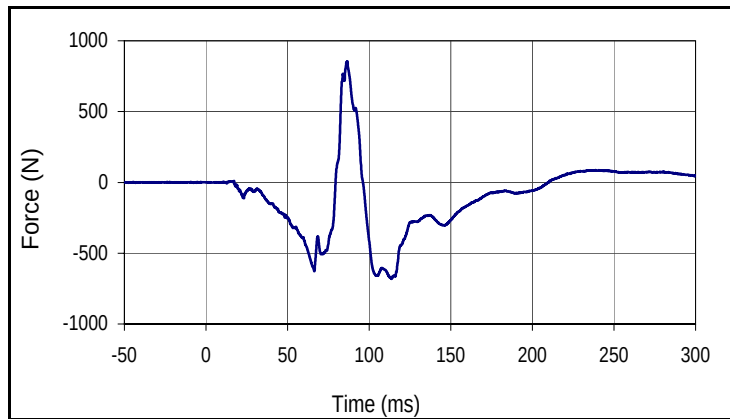
Curve Description			
V2P1 Upper Neck Y Moment			
Plot No.		SAE Class	Units
011		600	Nm
Max	Time	Min	Time
6.7	115.8	-10.9	74.5



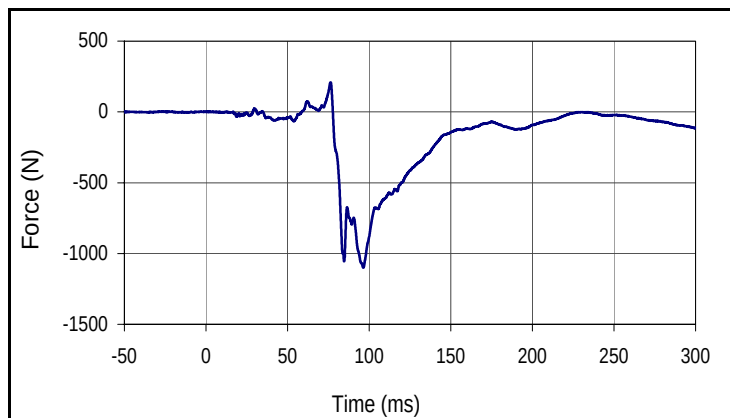
Curve Description			
V2P1 Upper Neck Z Moment			
Plot No.		SAE Class	Units
012		600	Nm
Max	Time	Min	Time
11.9	87.0	-9.7	189.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

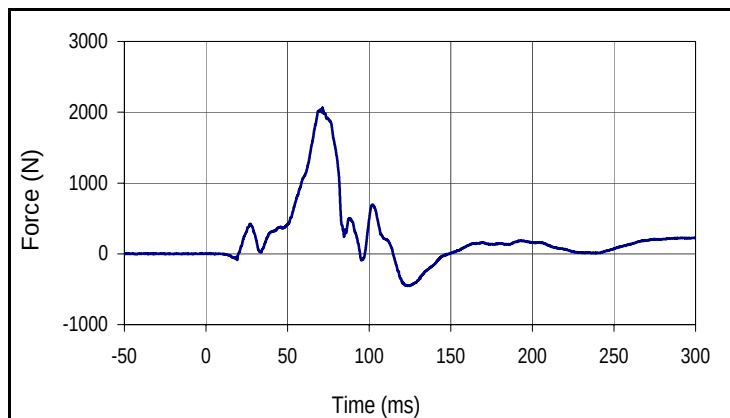
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 Test Date: 4/27/16



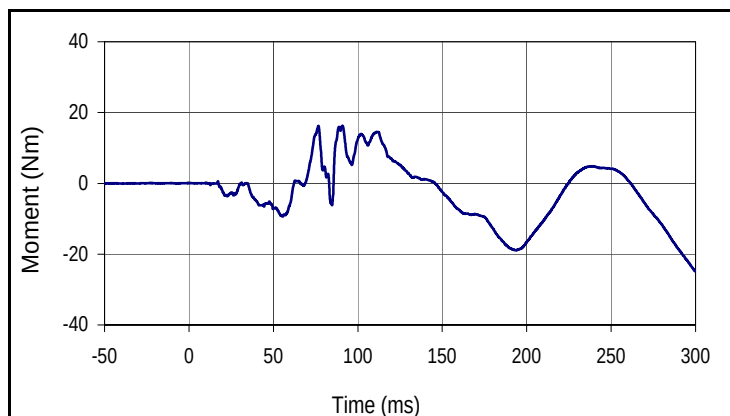
Curve Description			
V2P1 Lower Neck X Force			
Plot No.		SAE Class	Units
013		1000	N
Max	Time	Min	Time
855.3	86.6	-681.4	113.6



Curve Description			
V2P1 Lower Neck Y Force			
Plot No.		SAE Class	Units
014		1000	N
Max	Time	Min	Time
209.5	76.4	-1100.2	96.4



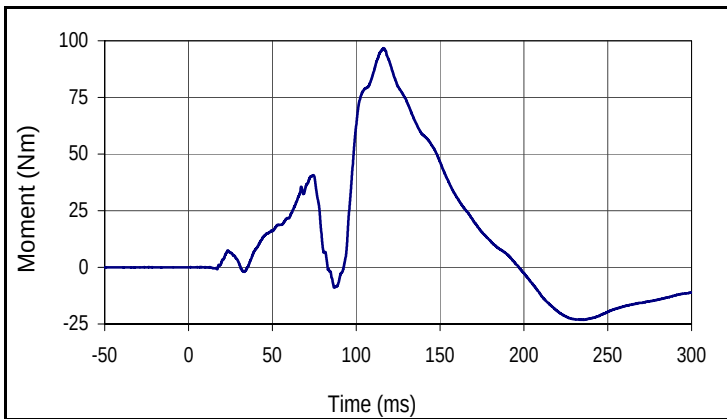
Curve Description			
V2P1 Lower Neck Z Force			
Plot No.		SAE Class	Units
015		1000	N
Max	Time	Min	Time
2064.2	71.4	-453.6	123.7



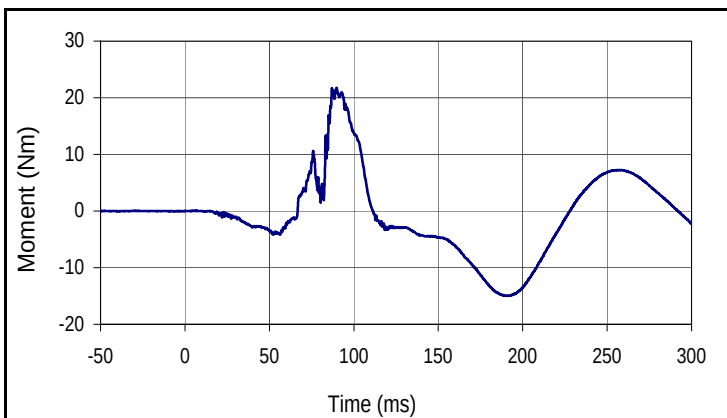
Curve Description			
V2P1 Lower Neck X Moment			
Plot No.		SAE Class	Units
016		600	Nm
Max	Time	Min	Time
16.3	76.7	-24.8	299.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

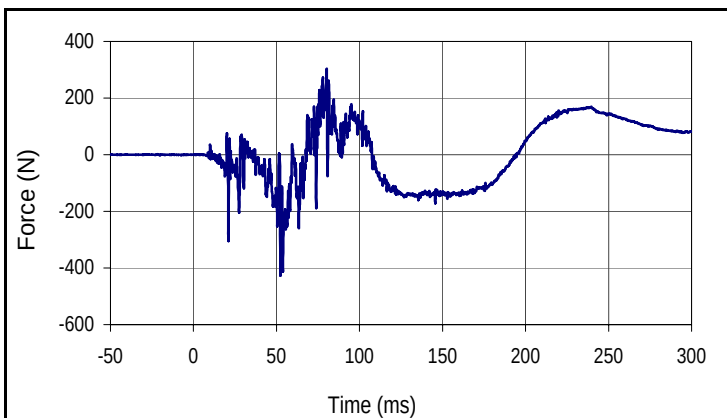
NHTSA No.: R20165413
 Test Date: 4/27/16



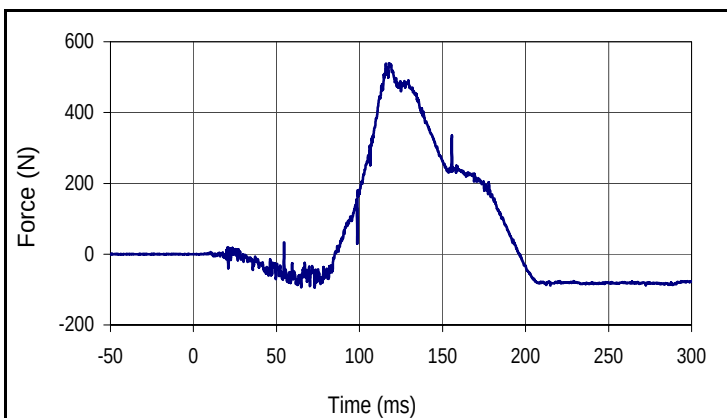
Curve Description			
V2P1 Lower Neck Y Moment			
Plot No.		SAE Class	Units
017		600	Nm
Max	Time	Min	Time
96.7	116.2	-23.1	235.9



Curve Description			
V2P1 Lower Neck Z Moment			
Plot No.		SAE Class	Units
018		600	Nm
Max	Time	Min	Time
21.7	89.8	-15.0	191.8



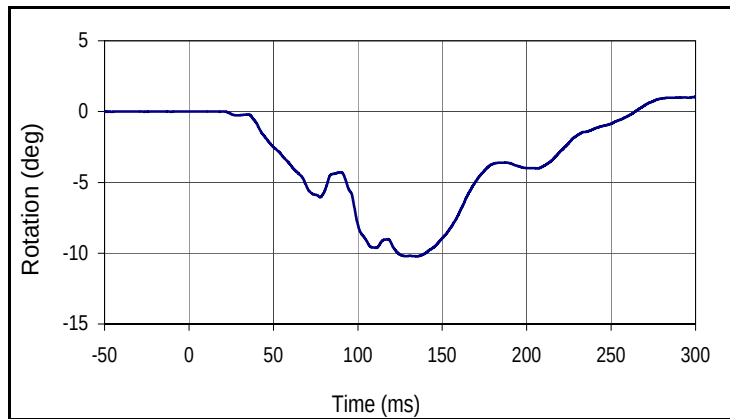
Curve Description			
V2P1 Front Neck Spring Tower Z Force			
Plot No.		SAE Class	Units
019		1000	N
Max	Time	Min	Time
303.1	80.2	-425.5	52.4



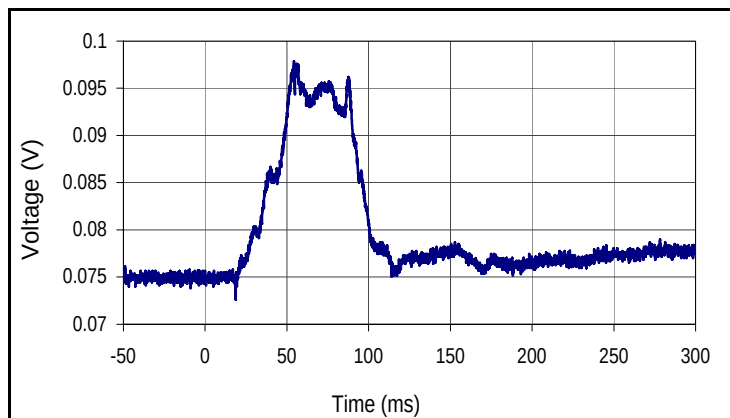
Curve Description			
V2P1 Rear Neck Spring Tower Z Force			
Plot No.		SAE Class	Units
020		1000	N
Max	Time	Min	Time
539.1	117.7	-93.9	73.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

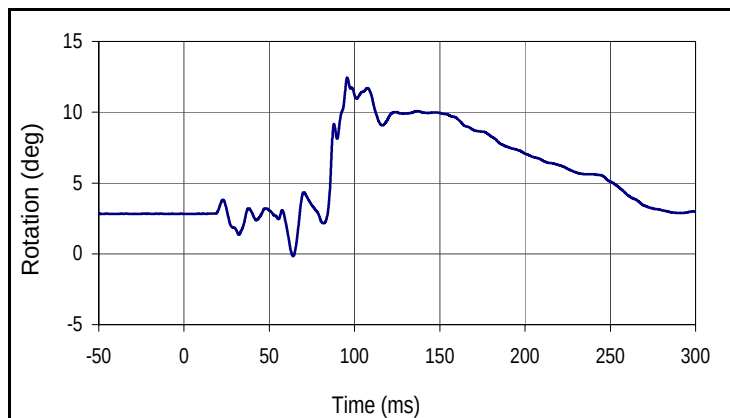
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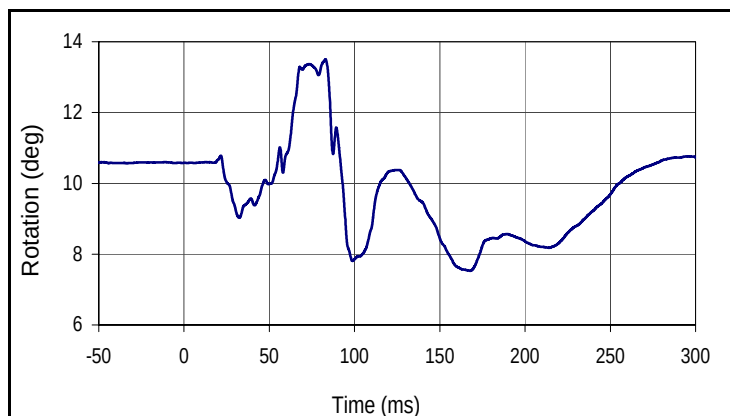
Curve Description			
V2P1 Occipital Condyle Rotational Potentiometer			
Plot No.		SAE Class	Units
021		180	deg
Max	Time	Min	Time
1.0	299.9	-10.2	134.9



Curve Description			
V2P1 Upper Left DGIR X Displacement			
Plot No.		SAE Class	Units
022		600	V
Max	Time	Min	Time
0.10	54.3	0.07	18.7



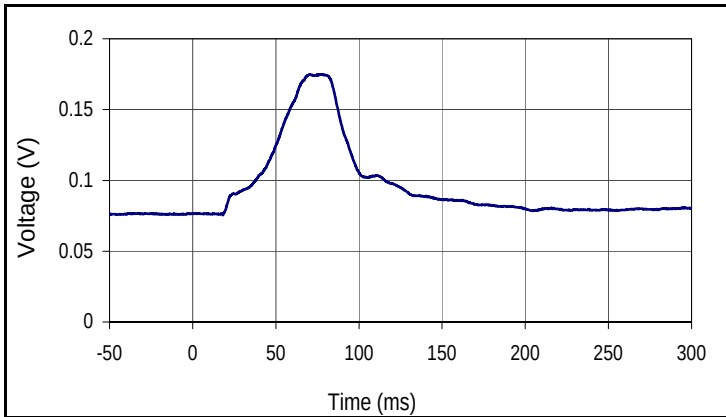
Curve Description			
V2P1 Upper Left DGIR Y Rotation			
Plot No.		SAE Class	Units
023		180	deg
Max	Time	Min	Time
12.4	95.7	-0.2	64.0



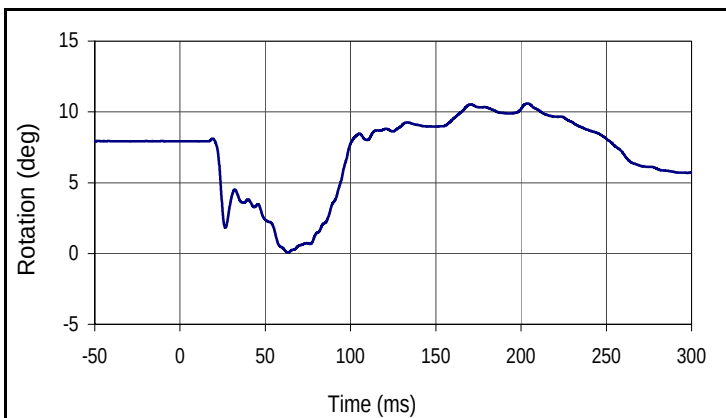
Curve Description			
V2P1 Upper Left DGIR Z Rotation			
Plot No.		SAE Class	Units
024		180	deg
Max	Time	Min	Time
13.5	82.9	7.5	167.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

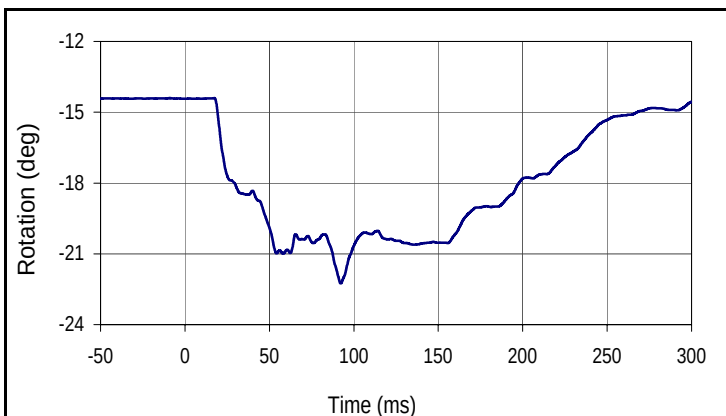
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 Test Date: 4/27/16



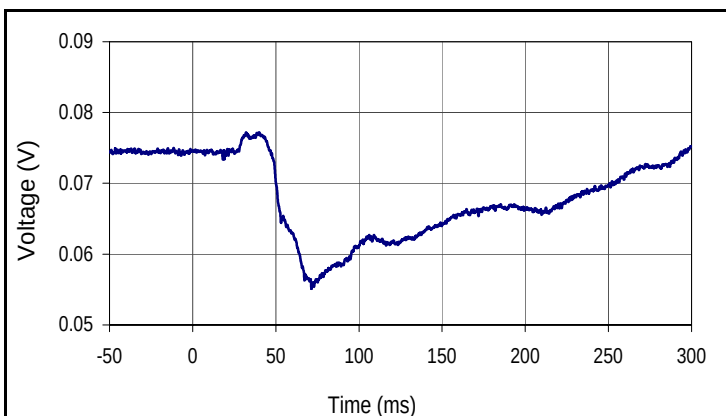
Curve Description			
V2P1 Upper Right DGIR X Displacement			
Plot No.		SAE Class	Units
025		600	V
Max	Time	Min	Time
0.2	76.7	0.1	18.3



Curve Description			
V2P1 Upper Right DGIR Y Rotation			
Plot No.		SAE Class	Units
026		180	deg
Max	Time	Min	Time
10.6	203.9	0.1	63.3



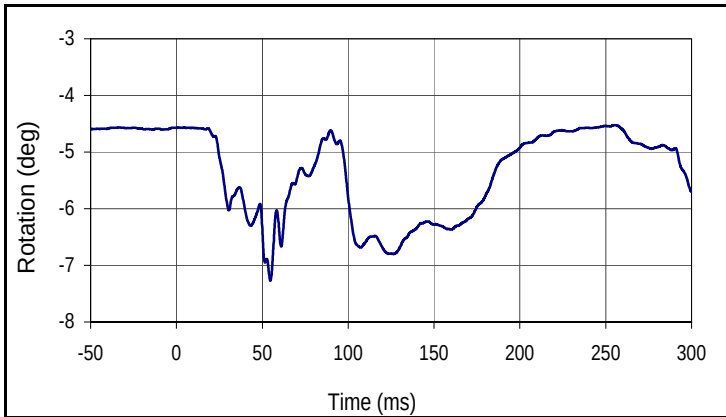
Curve Description			
V2P1 Upper Right DGIR Z Rotation			
Plot No.		SAE Class	Units
027		180	deg
Max	Time	Min	Time
-14.4	17.4	-22.3	92.3



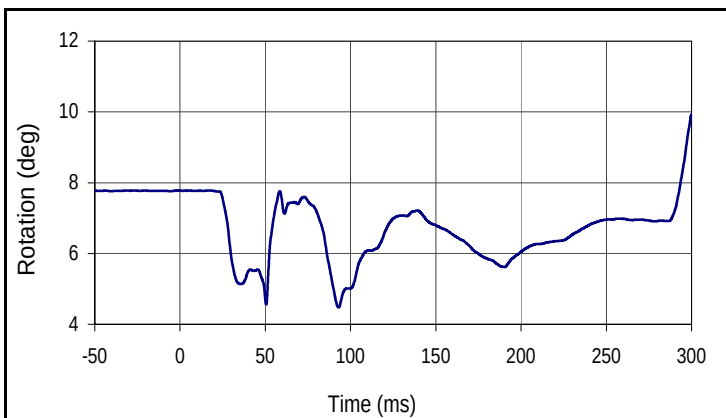
Curve Description			
V2P1 Lower Left DGIR X Displacement			
Plot No.		SAE Class	Units
028		600	V
Max	Time	Min	Time
0.1	40.0	0.1	71.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

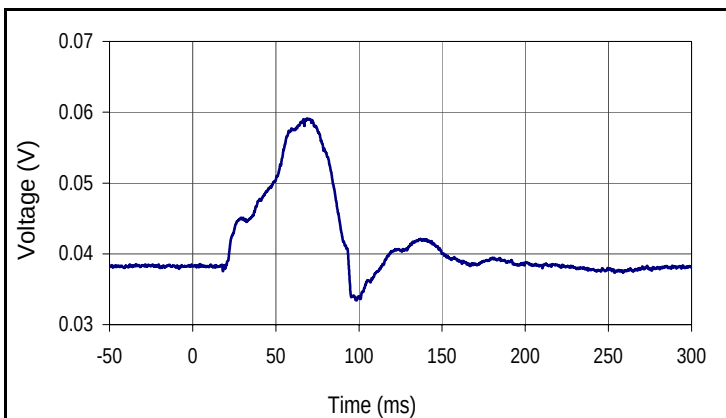
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 Test Date: 4/27/16



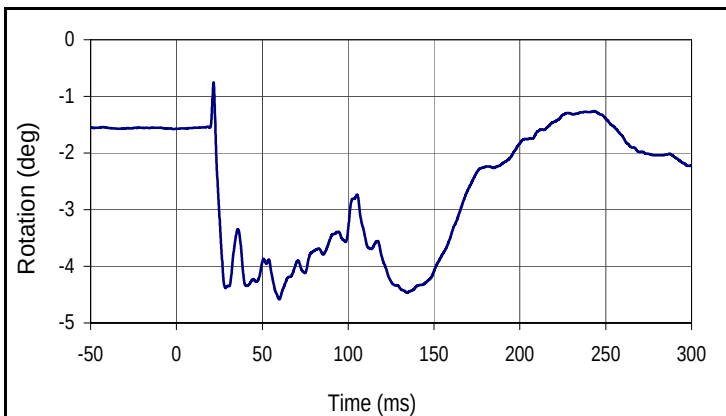
Curve Description			
V2P1 Lower Left DGIR Y Rotation			
Plot No.		SAE Class	Units
029		180	deg
Max	Time	Min	Time
-4.5	256.0	-7.3	54.7



Curve Description			
V2P1 Lower Left DGIR Z Rotation			
Plot No.		SAE Class	Units
030		180	deg
Max	Time	Min	Time
9.9	299.9	4.5	93.0



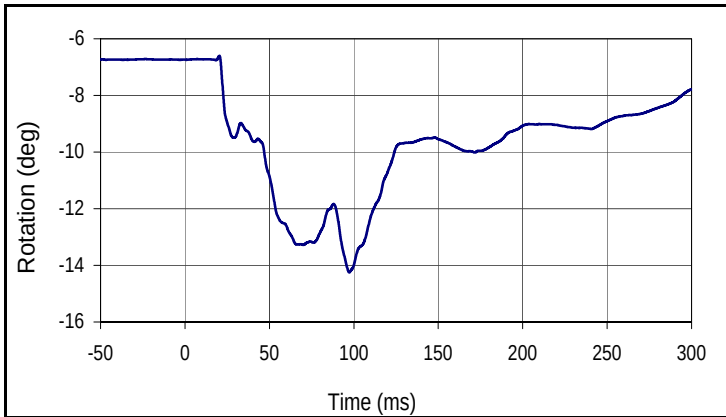
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V2P1 Lower Right DGIR X Displacement			
Plot No.		SAE Class	Units
031		600	V
Max	Time	Min	Time
0.1	68.7	0.0	98.7



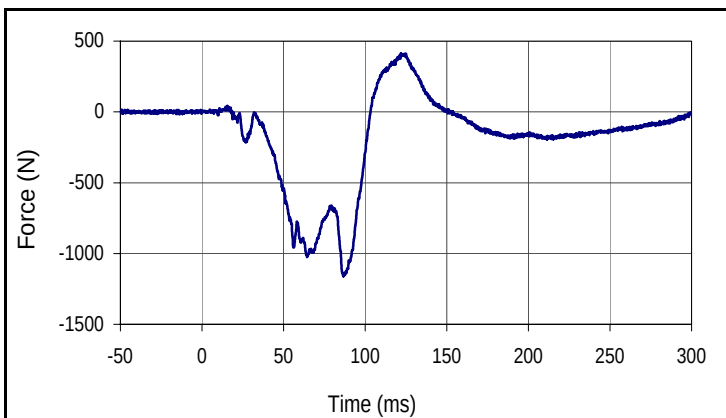
Curve Description			
V2P1 Lower Right DGIR Y Rotation			
Plot No.		SAE Class	Units
032		180	deg
Max	Time	Min	Time
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Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

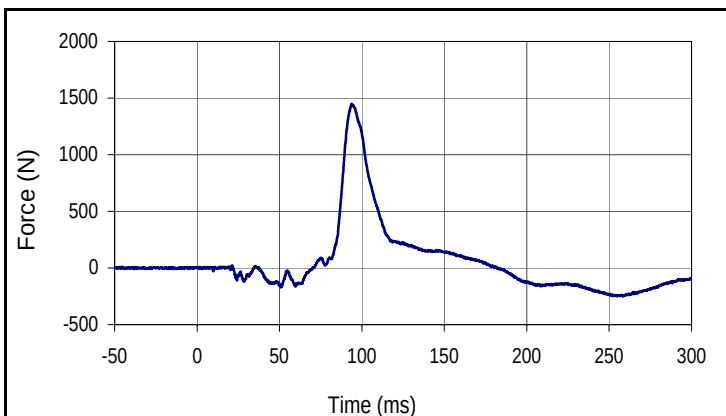
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 Test Date: 4/27/16



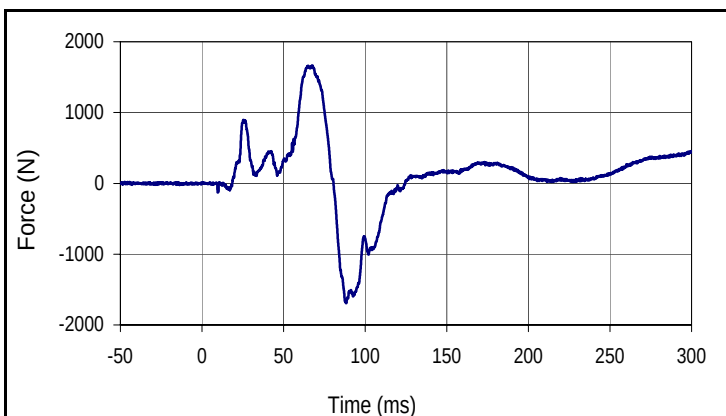
Curve Description			
V2P1 Lower Right DGIR Z Rotation			
Plot No.		SAE Class	Units
033		180	deg
Max	Time	Min	Time
-6.6	20.4	-14.2	97.3



Curve Description			
V2P1 Spine Force X			
Plot No.		SAE Class	Units
034		1000	N
Max	Time	Min	Time
413.2	122.0	-1159.9	86.7



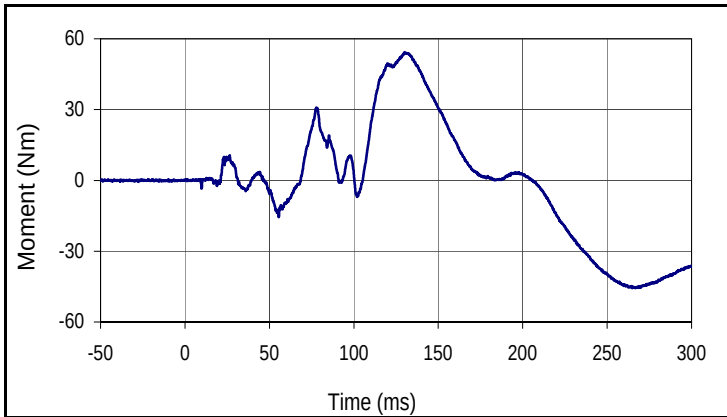
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Plot No.		SAE Class	Units
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Max	Time	Min	Time
1449.1	93.8	-250.1	258.4



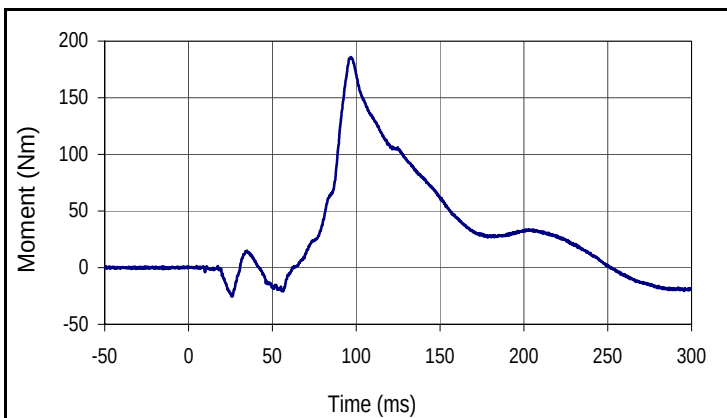
Curve Description			
V2P1 Spine Force Z			
Plot No.		SAE Class	Units
036		1000	N
Max	Time	Min	Time
1666.1	67.6	-1694.5	88.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

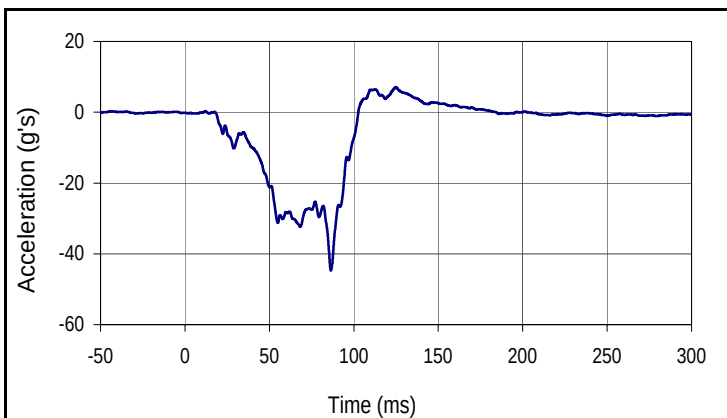
NHTSA No.: R20165413
 Test Date: 4/27/16



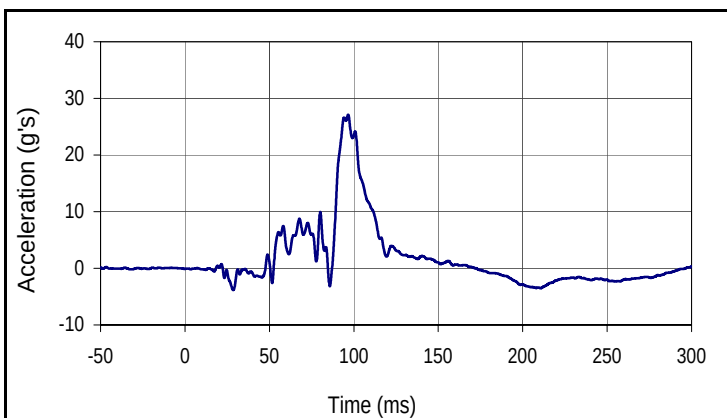
Curve Description			
V2P1 Spine Moment X			
Plot No.		SAE Class	Units
037		1000	Nm
Max	Time	Min	Time
54.3	130.3	-45.7	266.8



Curve Description			
V2P1 Spine Moment Y			
Plot No.		SAE Class	Units
038		1000	Nm
Max	Time	Min	Time
186.0	96.7	-25.6	25.9



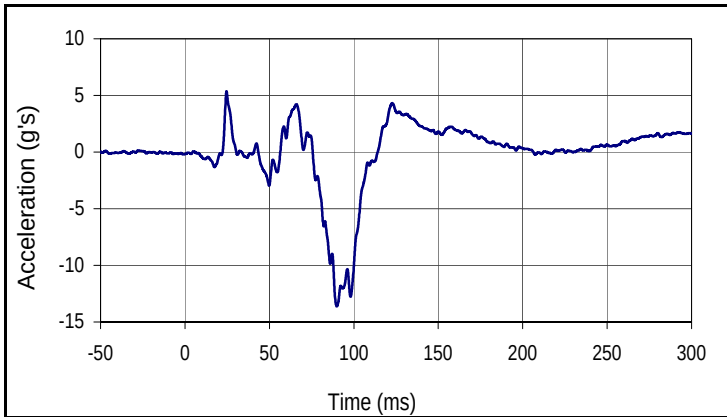
Curve Description			
V2P1 T6 X Acceleration			
Plot No.		SAE Class	Units
039		180	g's
Max	Time	Min	Time
7.1	124.9	-44.7	86.5



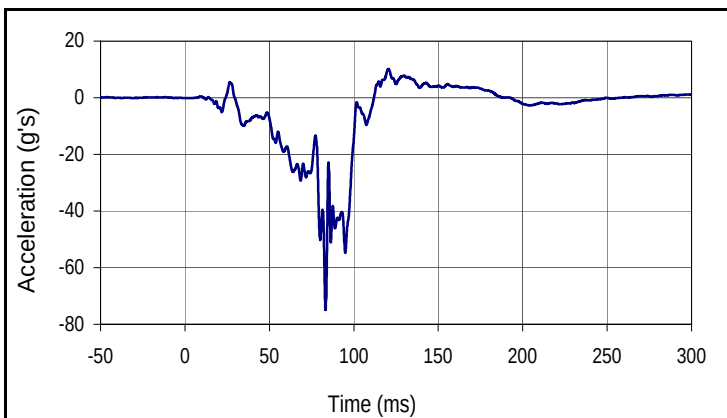
Curve Description			
V2P1 T6 Y Acceleration			
Plot No.		SAE Class	Units
040		180	g's
Max	Time	Min	Time
27.1	96.6	-3.8	28.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

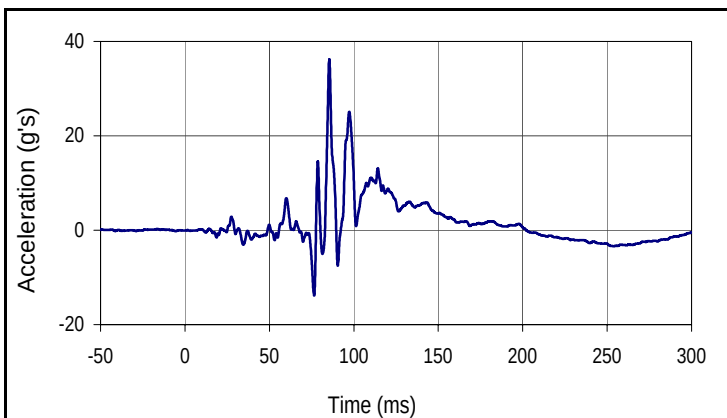
NHTSA No.: R20165413
 Test Date: 4/27/16



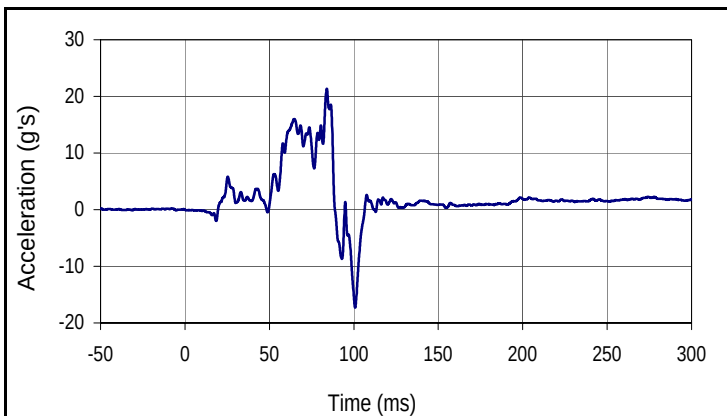
Curve Description			
V2P1 T6 Z Acceleration			
Plot No.		SAE Class	Units
041		180	g's
Max	Time	Min	Time
5.4	24.6	-13.6	90.0



Curve Description			
V2P1 T1 X Acceleration			
Plot No.		SAE Class	Units
042		180	g's
Max	Time	Min	Time
10.2	120.6	-74.9	83.3



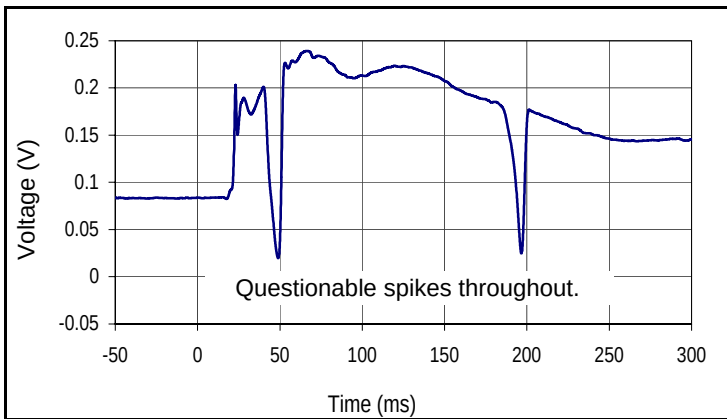
Curve Description			
V2P1 T1 Y Acceleration			
Plot No.		SAE Class	Units
043		180	g's
Max	Time	Min	Time
36.2	85.5	-13.8	76.5



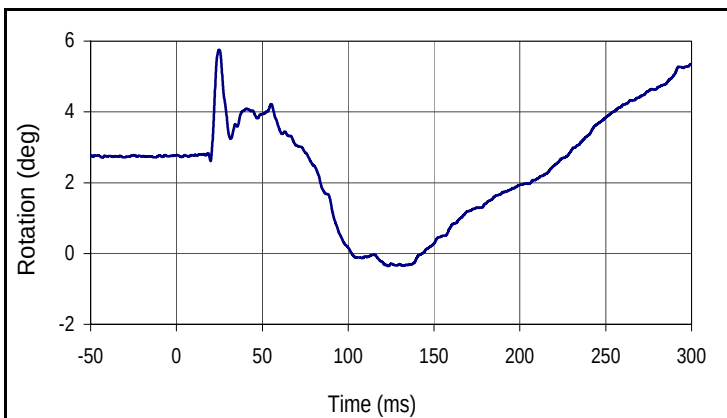
Curve Description			
V2P1 T1 Z Acceleration			
Plot No.		SAE Class	Units
044		180	g's
Max	Time	Min	Time
21.3	84.0	-17.3	100.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

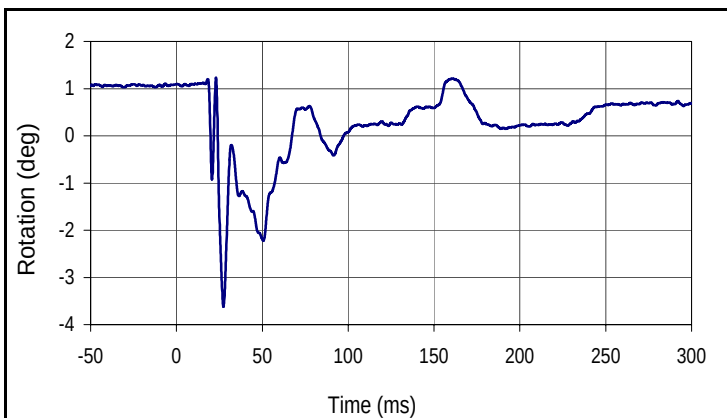
NHTSA No.: R20165413
 Test Date: 4/27/16



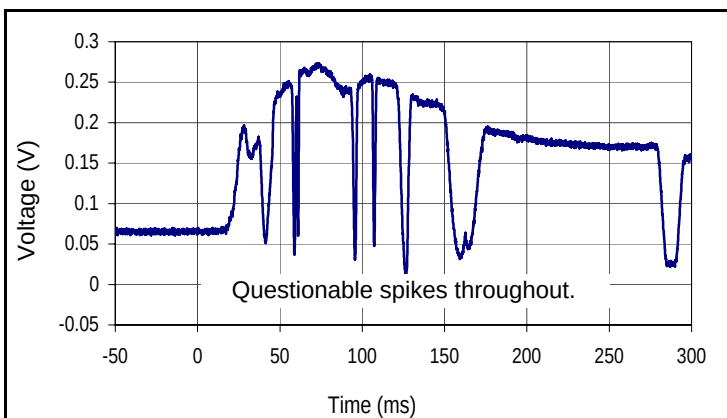
Curve Description			
V2P1 Abdomen Left DGIR X Displacement			
Plot No.		SAE Class	Units
045		600	V
Max	Time	Min	Time
0.2	66.6	0.0	49.0



Curve Description			
V2P1 Abdomen Left DGIR Y Rotation			
Plot No.		SAE Class	Units
046		180	deg
Max	Time	Min	Time
5.8	24.9	-0.4	123.4



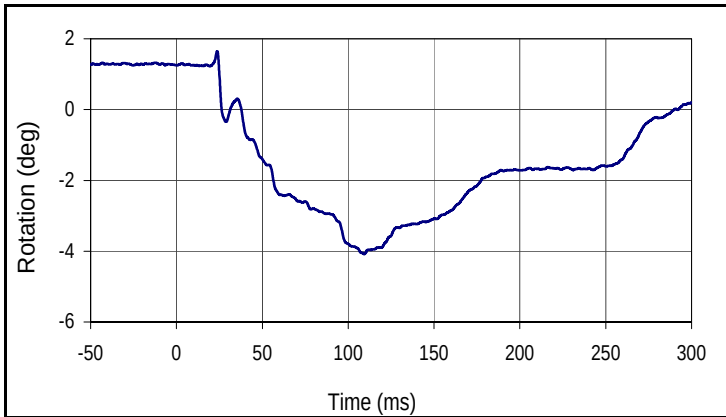
Curve Description			
V2P1 Abdomen Left DGIR Z Rotation			
Plot No.		SAE Class	Units
047		180	deg
Max	Time	Min	Time
1.2	23.0	-3.6	27.4



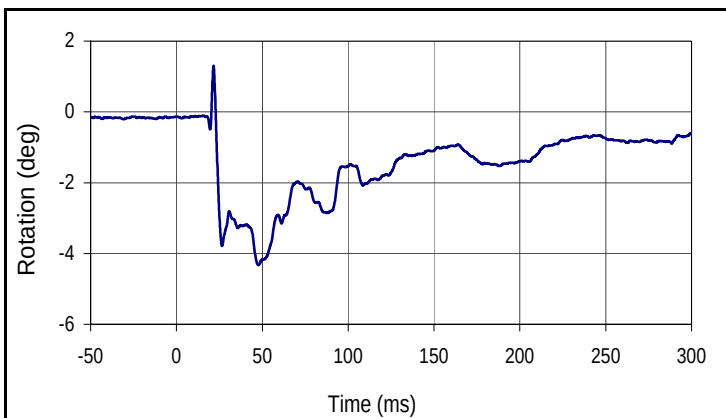
Curve Description			
V2P1 Abdomen Right DGIR X Displacement			
Plot No.		SAE Class	Units
048		600	V
Max	Time	Min	Time
0.3	73.8	0.0	126.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

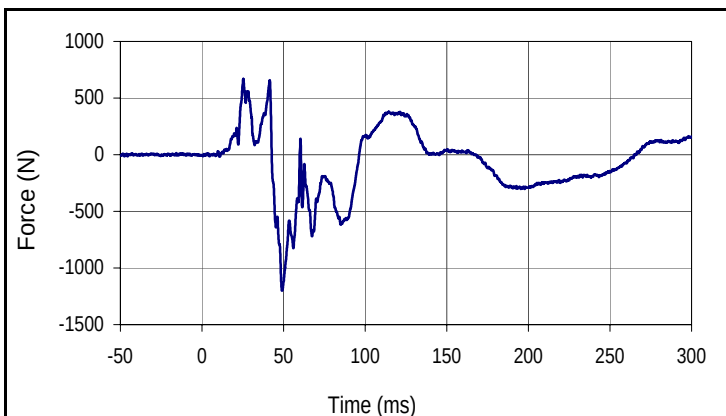
NHTSA No.: R20165413
 Test Date: 4/27/16



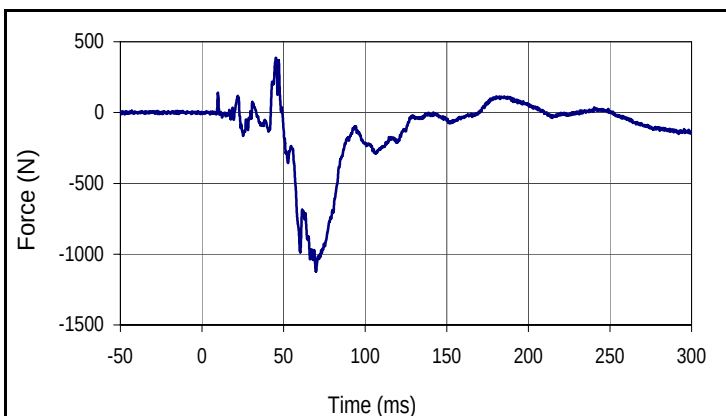
Curve Description			
V2P1 Abdomen Right DGIR Y Rotation			
Plot No.		SAE Class	Units
049		180	deg
Max	Time	Min	Time
1.6	23.7	-4.1	109.4



Curve Description			
V2P1 Abdomen Right DGIR Z Rotation			
Plot No.		SAE Class	Units
050		180	deg
Max	Time	Min	Time
1.3	21.6	-4.3	47.7



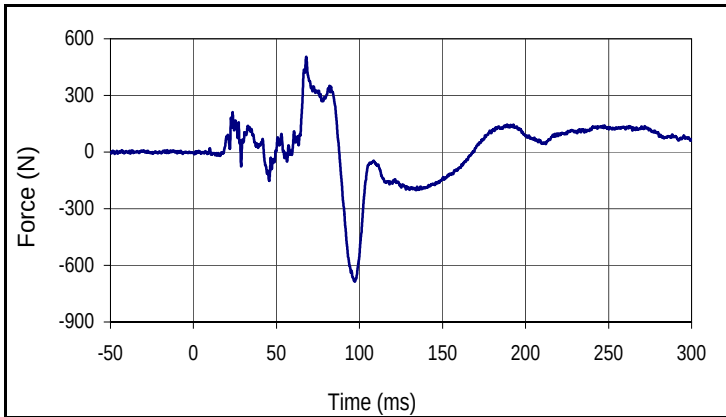
Curve Description			
V2P1 Acetabulum Left X Force			
Plot No.		SAE Class	Units
051		600	N
Max	Time	Min	Time
670.7	25.3	-1201.3	49.1



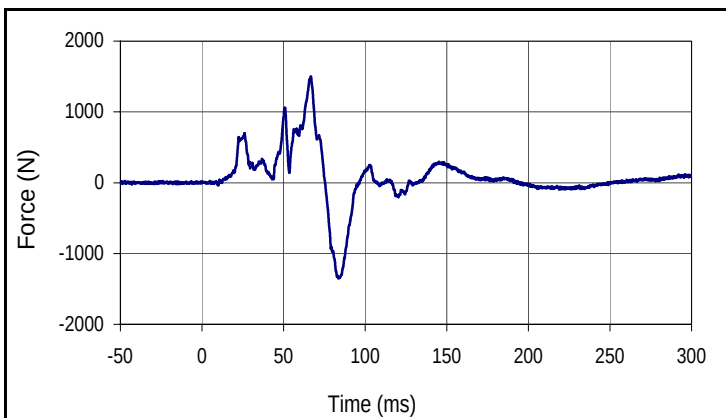
Curve Description			
V2P1 Acetabulum Left Y Force			
Plot No.		SAE Class	Units
052		600	N
Max	Time	Min	Time
387.6	45.3	-1121.7	69.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

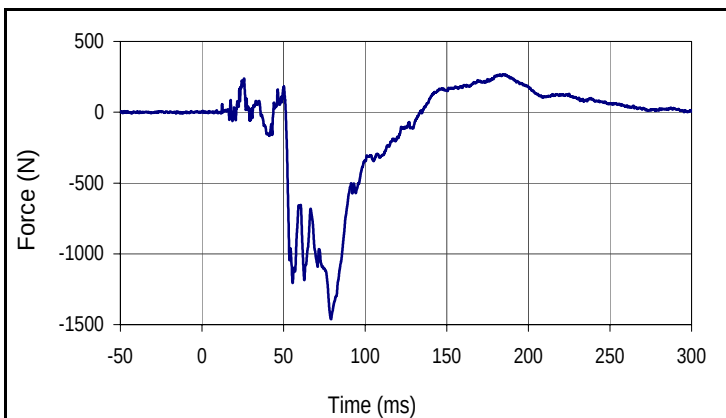
NHTSA No.: R20165413
 Test Date: 4/27/16



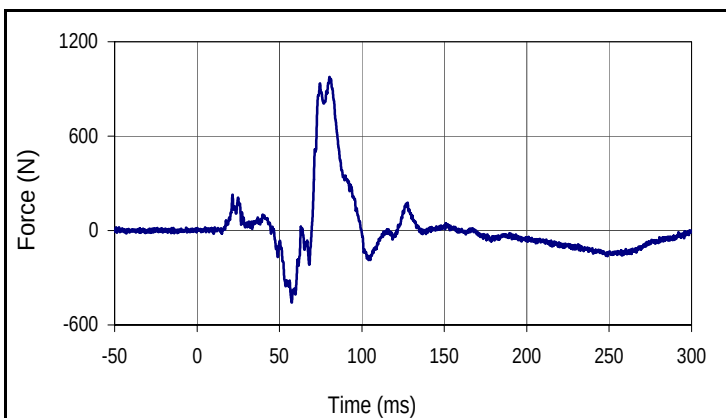
Curve Description			
V2P1 Acetabulum Left Z Force			
Plot No.		SAE Class	Units
053		600	N
Max	Time	Min	Time
504.6	67.9	-686.4	97.2



Curve Description			
V2P1 Acetabulum Right X Force			
Plot No.		SAE Class	Units
054		600	N
Max	Time	Min	Time
1501.3	66.7	-1353.6	83.8



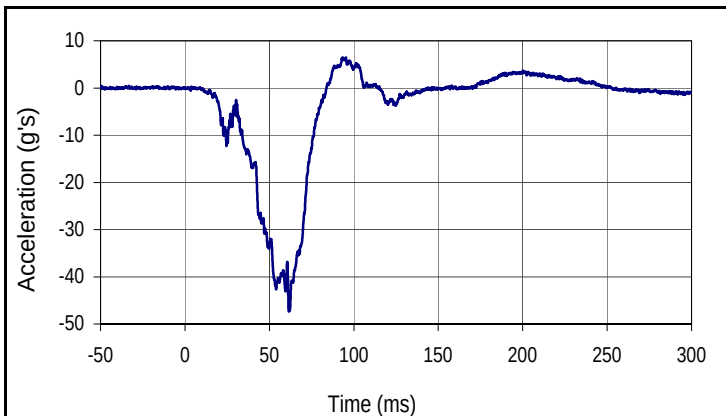
Curve Description			
V2P1 Acetabulum Right Y Force			
Plot No.		SAE Class	Units
055		600	N
Max	Time	Min	Time
267.5	182.6	-1462.2	79.1



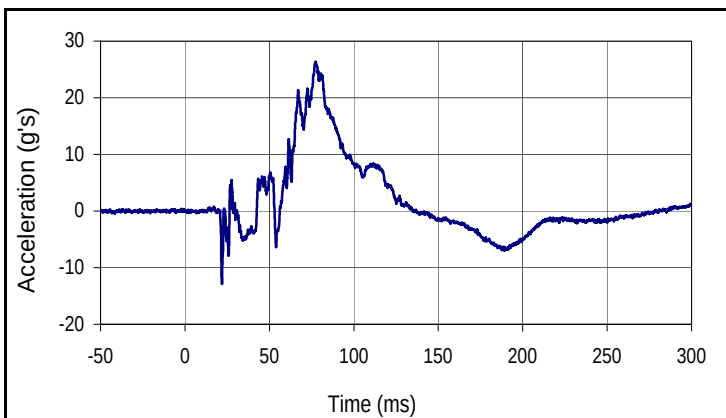
Curve Description			
V2P1 Acetabulum Right Z Force			
Plot No.		SAE Class	Units
056		600	N
Max	Time	Min	Time
976.3	80.4	-458.4	57.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

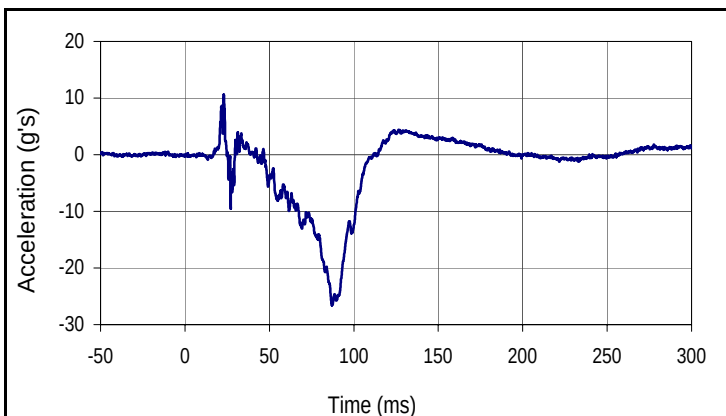
NHTSA No.: R20165413
 Test Date: 4/27/16



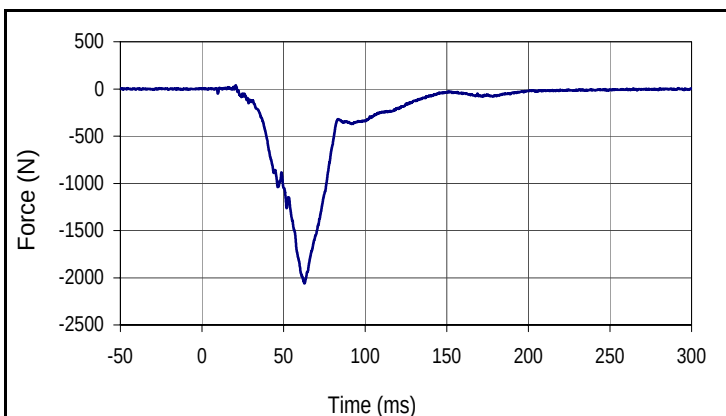
Curve Description			
V2P1 Pelvis X Acceleration			
Plot No.		SAE Class	Units
057		1000	g's
Max	Time	Min	Time
6.5	95.3	-47.4	61.6



Curve Description			
V2P1 Pelvis Y Acceleration			
Plot No.		SAE Class	Units
058		1000	g's
Max	Time	Min	Time
26.4	77.4	-12.9	22.0



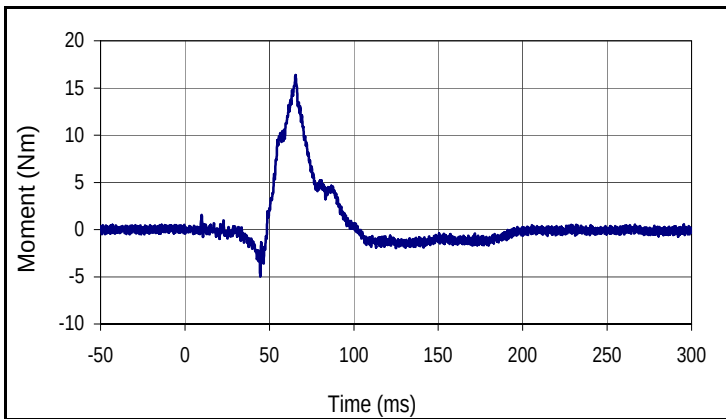
Curve Description			
V2P1 Pelvis Z Acceleration			
Plot No.		SAE Class	Units
059		1000	g's
Max	Time	Min	Time
10.6	23.0	-26.6	87.1



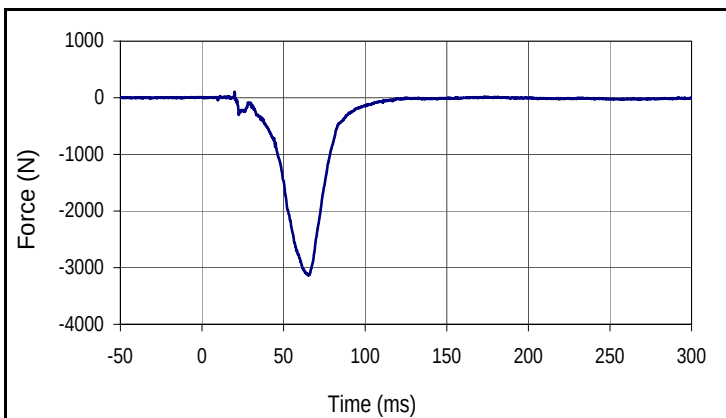
Curve Description			
V2P1 ASIS Left X Force			
Plot No.		SAE Class	Units
060		600	N
Max	Time	Min	Time
39.7	20.7	-2059.9	62.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

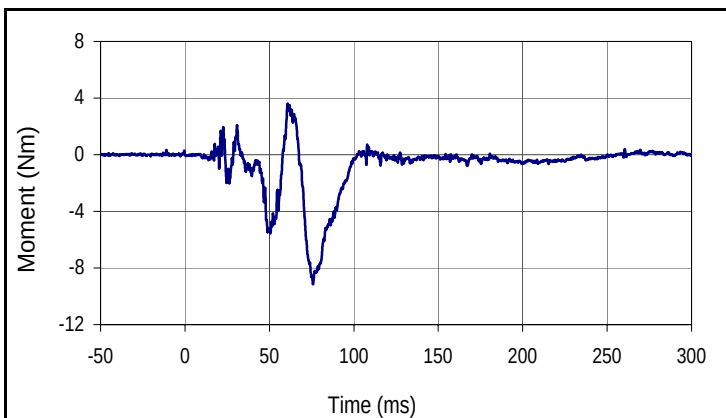
NHTSA No.: R20165413
 Test Date: 4/27/16



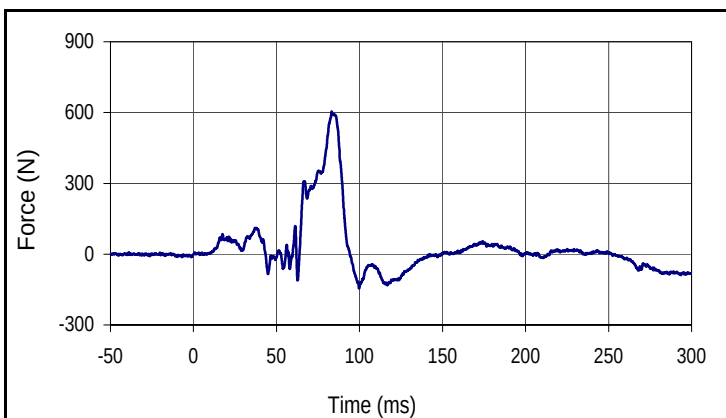
Curve Description			
V2P1 ASIS Left Y Moment			
Plot No.		SAE Class	Units
061		600	Nm
Max	Time	Min	Time
16.4	65.5	-5.0	44.6



Curve Description			
V2P1 ASIS Right X Force			
Plot No.		SAE Class	Units
062		1000	N
Max	Time	Min	Time
107.1	20.0	-3138.6	65.1



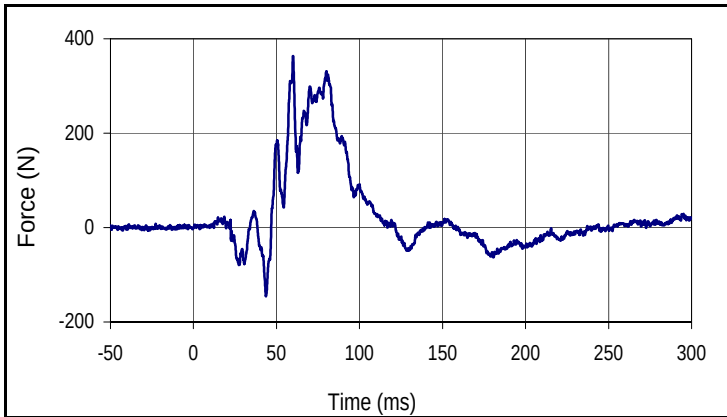
Curve Description			
V2P1 ASIS Right Y Moment			
Plot No.		SAE Class	Units
063		600	Nm
Max	Time	Min	Time
3.6	60.9	-9.2	75.9



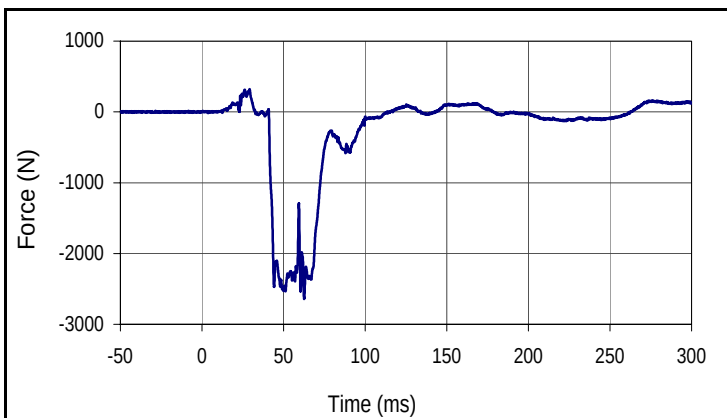
Curve Description			
V2P1 Femur Left X Force			
Plot No.		SAE Class	Units
064		600	N
Max	Time	Min	Time
604.2	83.2	-145.2	99.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

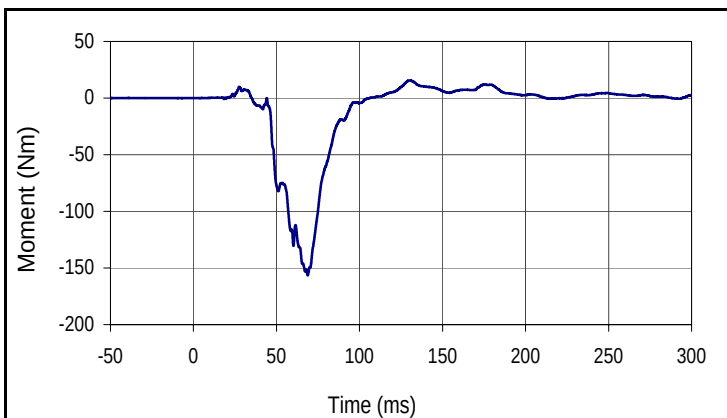
NHTSA No.: R20165413
 Test Date: 4/27/16



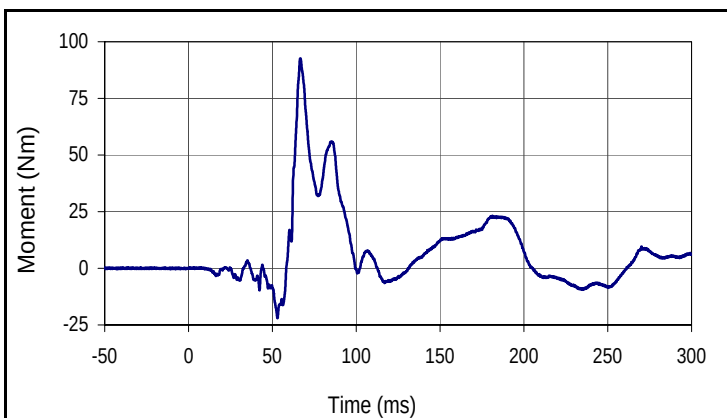
Curve Description			
V2P1 Femur Left Y Force			
Plot No.		SAE Class	Units
065		600	N
Max	Time	Min	Time
363.3	60.0	-146.0	43.6



Curve Description			
V2P1 Femur Left Z Force			
Plot No.		SAE Class	Units
066		600	N
Max	Time	Min	Time
320.0	29.2	-2641.9	62.6



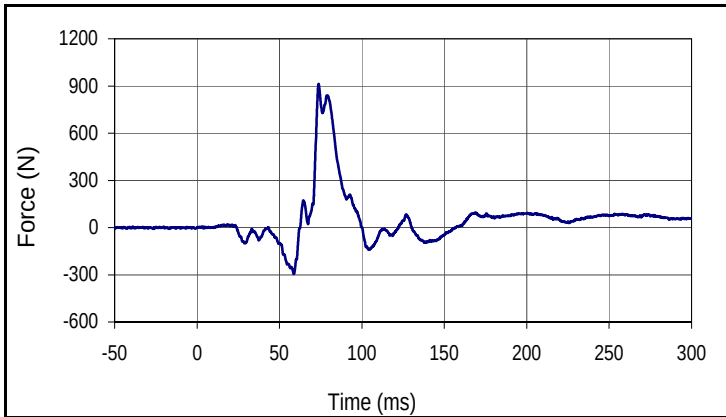
Curve Description			
V2P1 Femur Left X Moment			
Plot No.		SAE Class	Units
067		600	Nm
Max	Time	Min	Time
15.6	130.0	-156.5	68.9



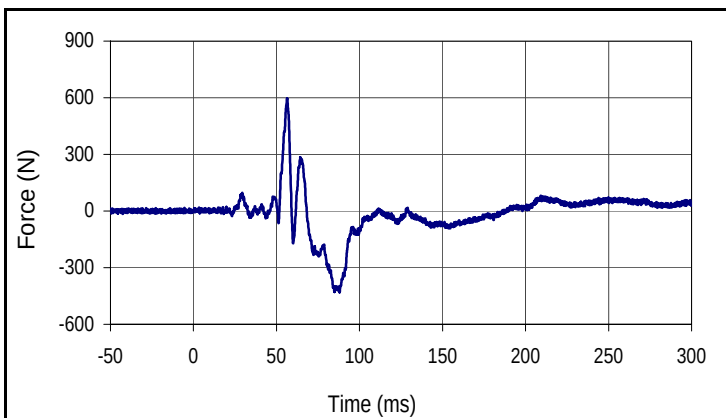
Curve Description			
V2P1 Femur Left Y Moment			
Plot No.		SAE Class	Units
068		600	Nm
Max	Time	Min	Time
92.6	66.6	-22.0	53.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

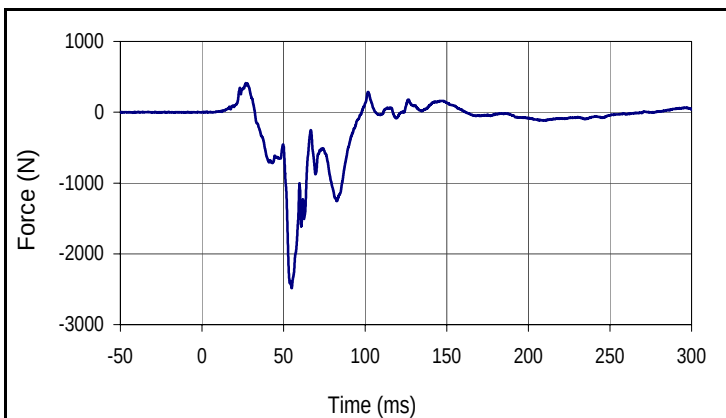
NHTSA No.: R20165413
 Test Date: 4/27/16



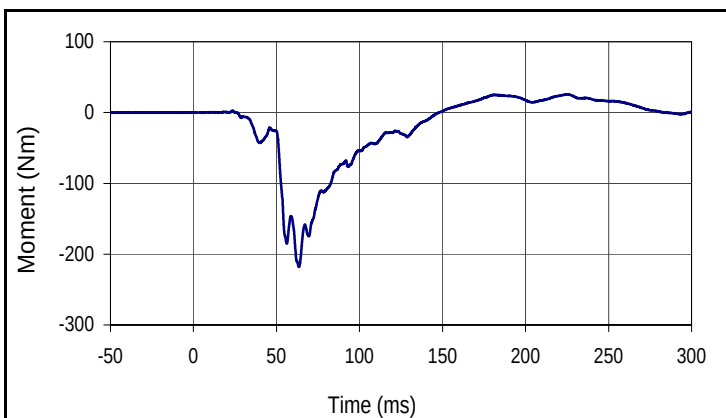
Curve Description			
V2P1 Femur Left X Force			
Plot No.		SAE Class	Units
069		600	N
Max	Time	Min	Time
914.2	73.8	-295.6	58.8



Curve Description			
V2P1 Femur Right Y Force			
Plot No.		SAE Class	Units
070		600	N
Max	Time	Min	Time
596.8	56.4	-430.2	88.0



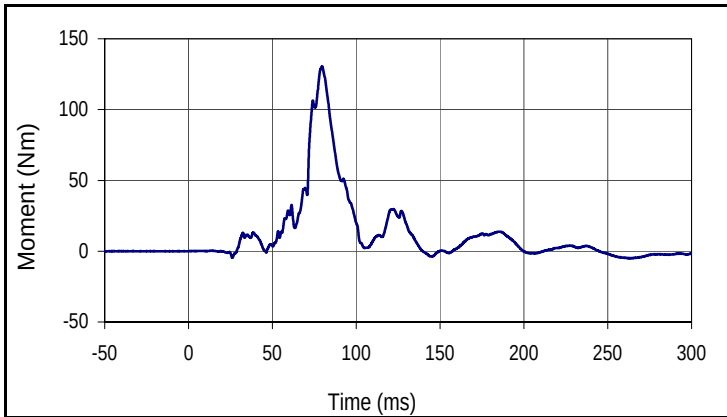
Curve Description			
V2P1 Femur Right Z Force			
Plot No.		SAE Class	Units
071		600	N
Max	Time	Min	Time
413.1	26.9	-2483.9	54.9



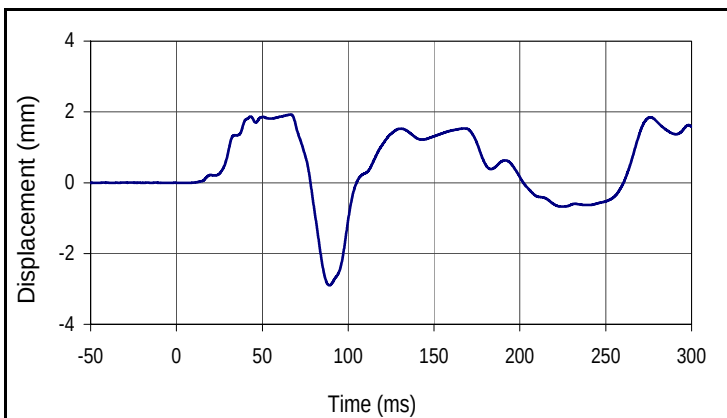
Curve Description			
V2P1 Femur Right X Moment			
Plot No.		SAE Class	Units
072		600	N
Max	Time	Min	Time
25.8	224.7	-218.0	63.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

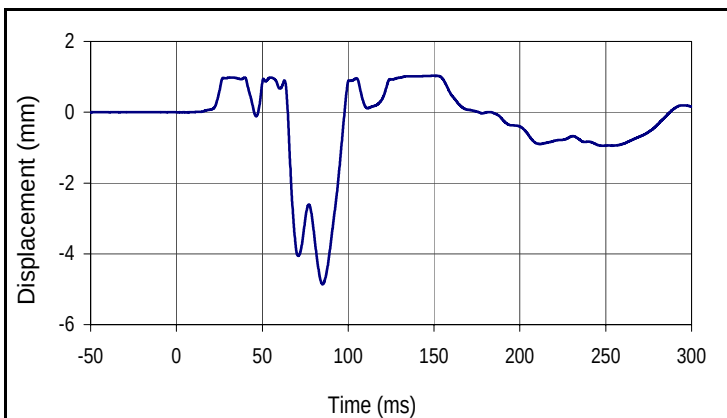
NHTSA No.: R20165413
 Test Date: 4/27/16



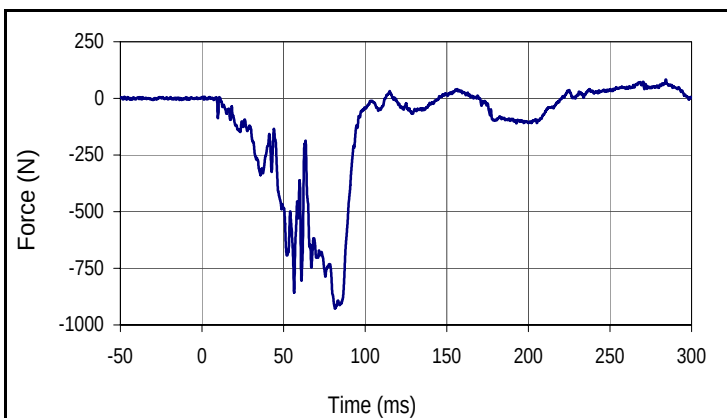
Curve Description			
V2P1 Femur Right Y Moment			
Plot No.		SAE Class	Units
073		600	Nm
Max	Time	Min	Time
130.6	79.7	-5.0	263.6



Curve Description			
V2P1 Knee Left X Displacement			
Plot No.		SAE Class	Units
074		180	mm
Max	Time	Min	Time
1.9	66.6	-2.9	89.0



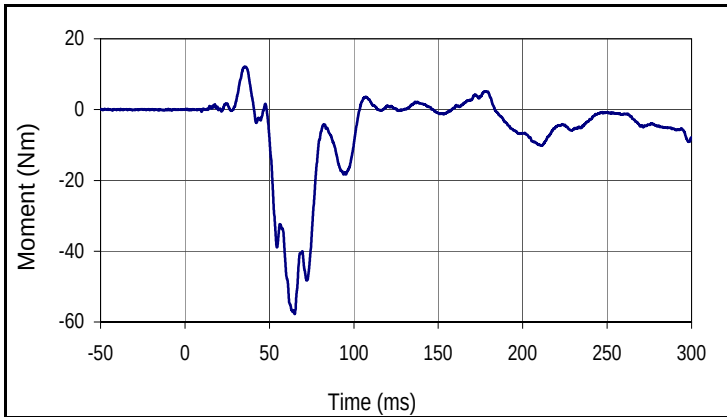
Curve Description			
VSP1 Knee Right X Displacement			
Plot No.		SAE Class	Units
075		180	mm
Max	Time	Min	Time
1.0	149.8	-4.9	85.1



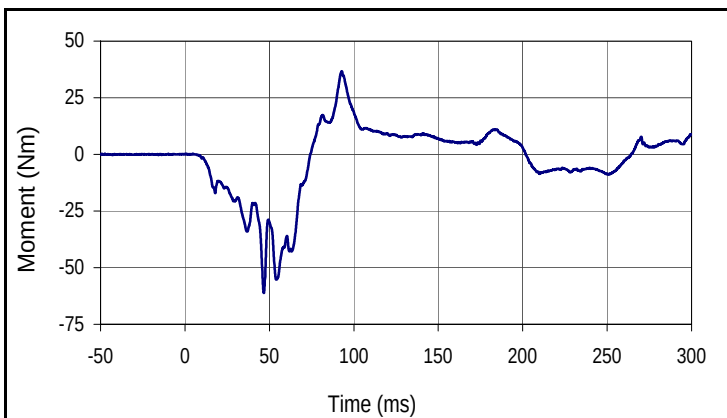
Curve Description			
V2P1 Upper Tibia Left Z Force			
Plot No.		SAE Class	Units
076		600	N
Max	Time	Min	Time
82.8	284.3	-927.5	81.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

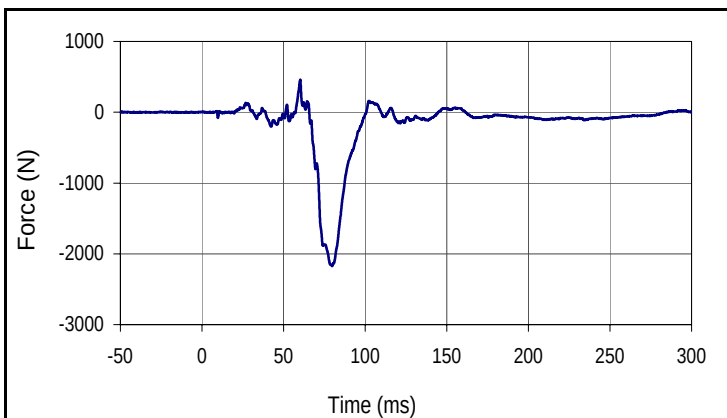
NHTSA No.: R20165413
 Test Date: 4/27/16



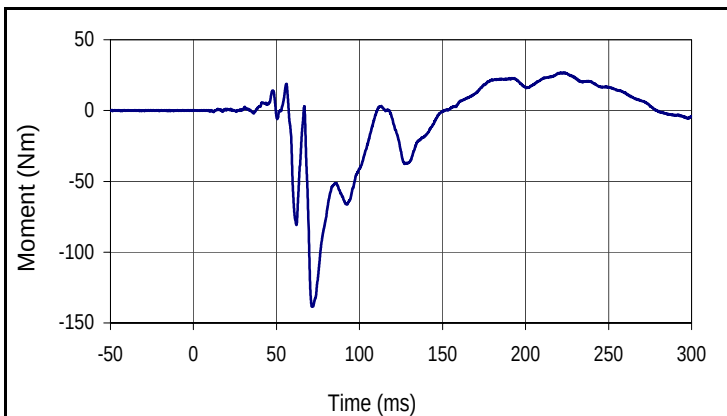
Curve Description			
V2P1 Upper Tibia Left X Moment			
Plot No.		SAE Class	Units
077		600	Nm
Max	Time	Min	Time
12.1	35.5	-57.7	65.1



Curve Description			
V2P1 Upper Tibia Left Y Moment			
Plot No.		SAE Class	Units
078		600	Nm
Max	Time	Min	Time
36.7	92.9	-61.2	46.7



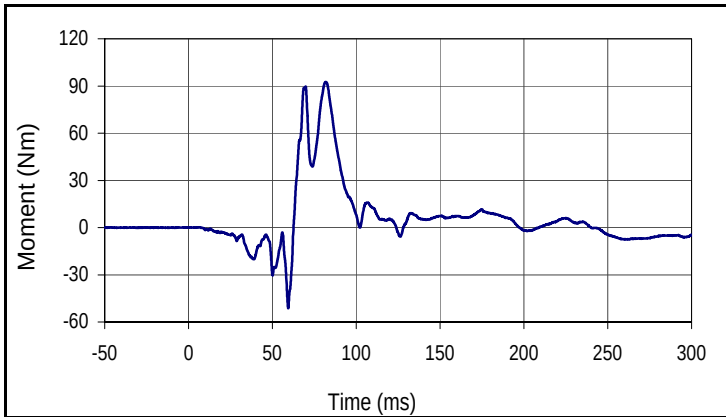
Curve Description			
V2P1 Upper Tibia Right Z Force			
Plot No.		SAE Class	Units
079		600	N
Max	Time	Min	Time
456.6	60.1	-2171.6	79.8



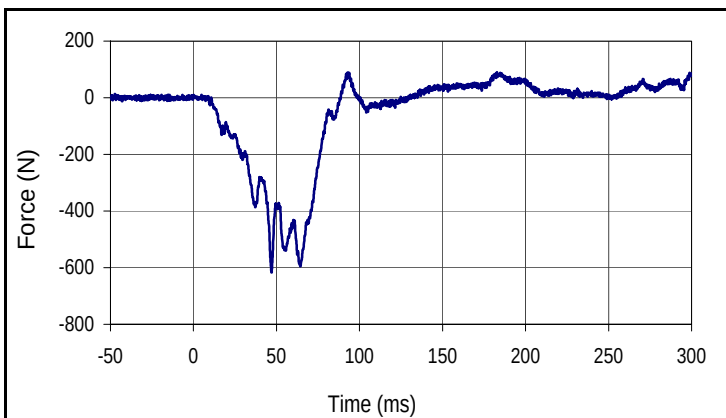
Curve Description			
V2P1 Upper Tibia Right X Moment			
Plot No.		SAE Class	Units
080		600	Nm
Max	Time	Min	Time
26.9	223.4	-138.5	71.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

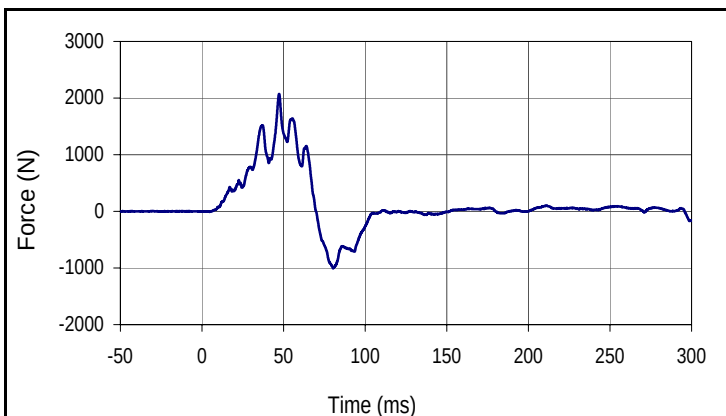
NHTSA No.: R20165413
 Test Date: 4/27/16



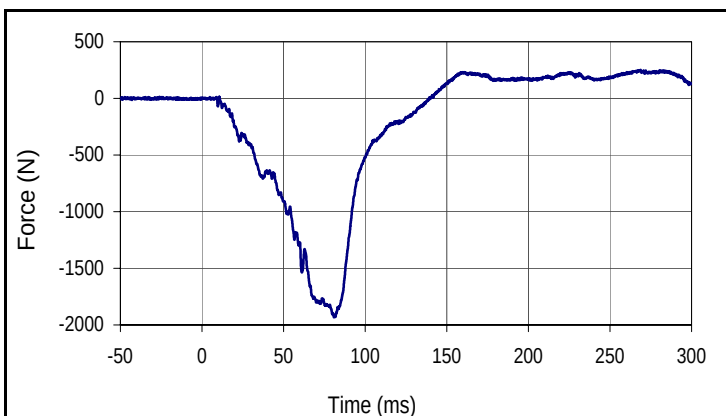
Curve Description			
V2P1 Upper Tibia Right Y Moment			
Plot No.		SAE Class	Units
081		600	Nm
Max	Time	Min	Time
92.5	81.7	-51.3	59.5



Curve Description			
V2P1 Lower Tibia Left X Force			
Plot No.		SAE Class	Units
082		600	N
Max	Time	Min	Time
90.3	182.8	-617.2	47.1



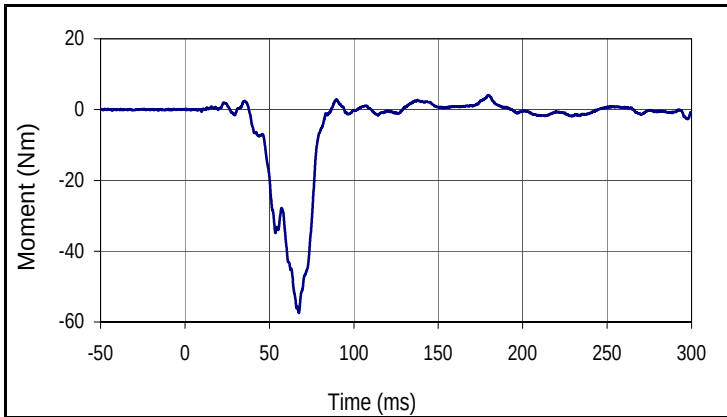
Curve Description			
V2P1 Lower Tibia Left Y Force			
Plot No.		SAE Class	Units
083		600	N
Max	Time	Min	Time
2071.8	47.3	-1004.5	80.4



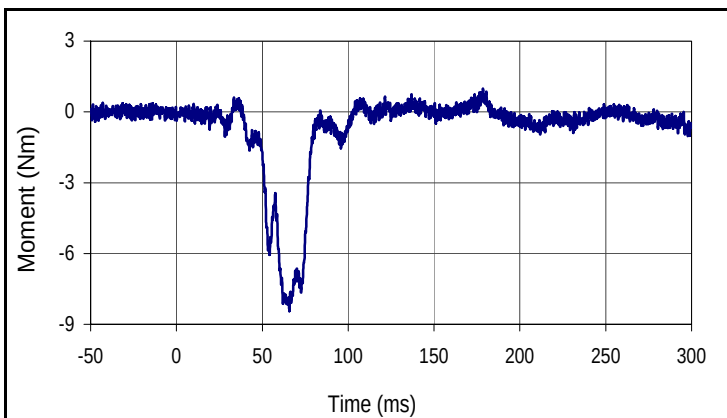
Curve Description			
V2P1 Lower Tibia Left Z Force			
Plot No.		SAE Class	Units
084		600	N
Max	Time	Min	Time
250.1	268.8	-1933.1	80.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

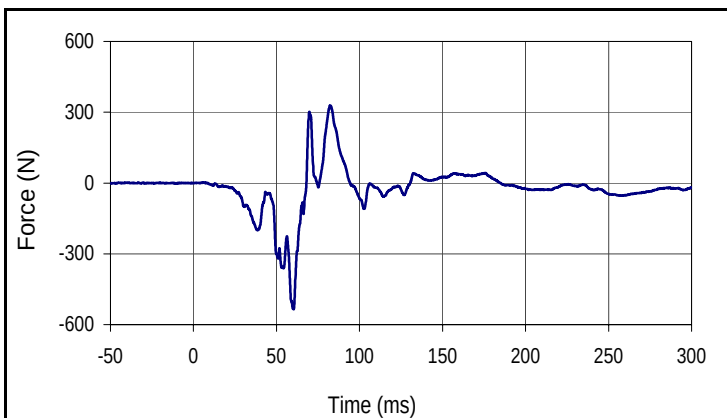
NHTSA No.: R20165413
 Test Date: 4/27/16



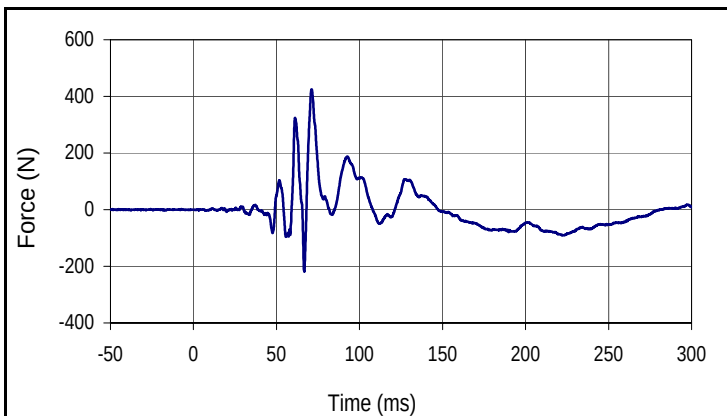
Curve Description			
V2P1 Lower Tibia Left X Moment			
Plot No.		SAE Class	Units
085		600	Nm
Max	Time	Min	Time
4.1	179.4	-57.4	67.4



Curve Description			
V2P1 Lower Tibia Left Y Moment			
Plot No.		SAE Class	Units
086		600	Nm
Max	Time	Min	Time
1.0	178.5	-8.5	65.8



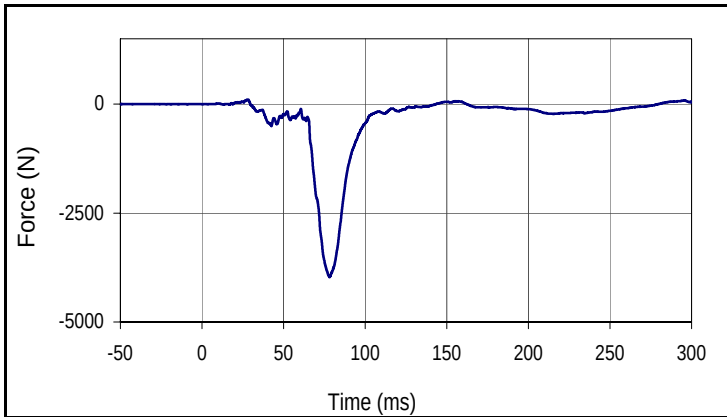
Curve Description			
V2P1 Lower Tibia Right X Force			
Plot No.		SAE Class	Units
087		600	N
Max	Time	Min	Time
328.7	82.4	-534.2	60.4



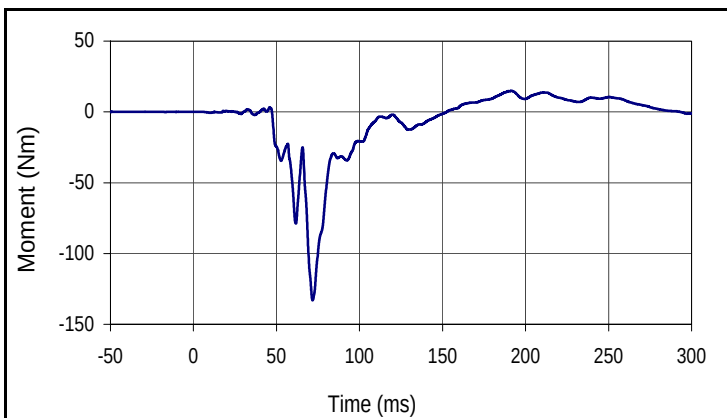
Curve Description			
V2P1 Lower Tibia Right Y Force			
Plot No.		SAE Class	Units
088		600	N
Max	Time	Min	Time
424.6	71.2	-218.6	66.7

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

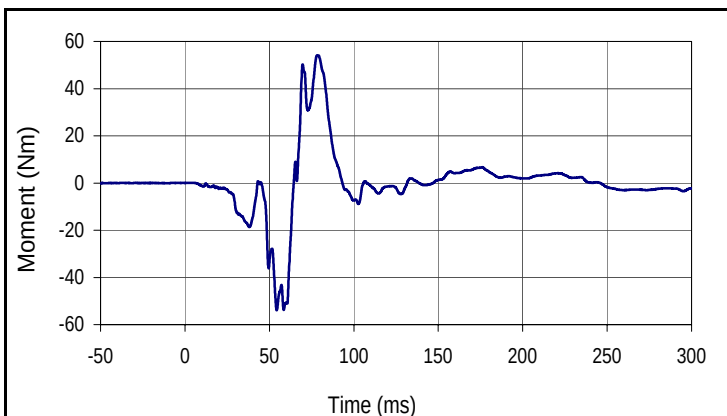
NHTSA No.: R20165413
 Test Date: 4/27/16



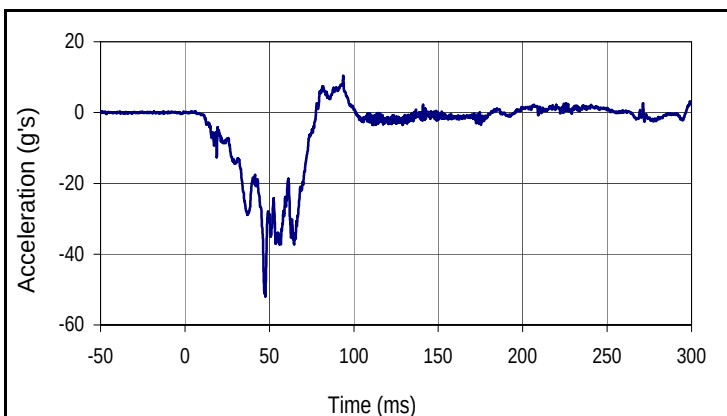
Curve Description			
V2P1 Lower Tibia Right Z Force			
Plot No.		SAE Class	Units
089		600	N
Max	Time	Min	Time
107.1	28.4	-3969.1	78.2



Curve Description			
V2P1 Lower Tibia Right X Moment			
Plot No.		SAE Class	Units
090		600	Nm
Max	Time	Min	Time
14.9	191.5	-133.0	71.8



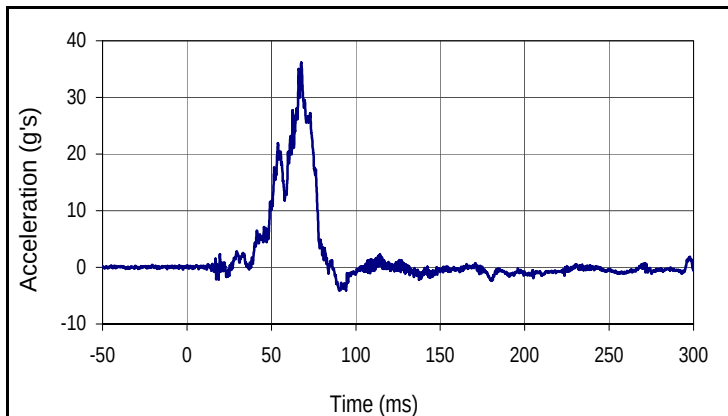
Curve Description			
V2P1 Lower Tibia Right Y Moment			
Plot No.		SAE Class	Units
091		600	Nm
Max	Time	Min	Time
54.1	79.1	-54.0	54.3



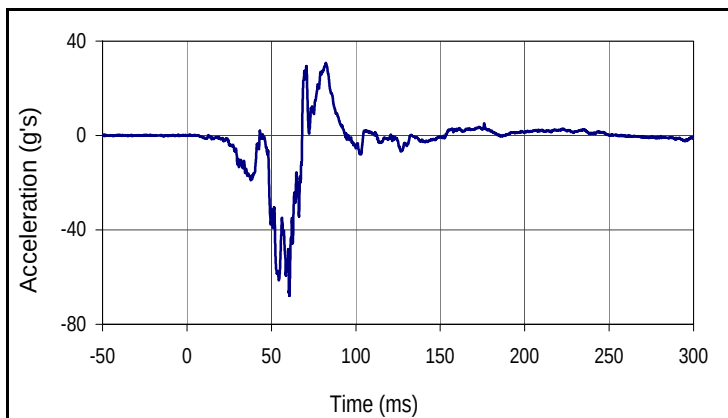
Curve Description			
V2P1 Leg Left X Acceleration			
Plot No.		SAE Class	Units
092		1000	g's
Max	Time	Min	Time
10.4	93.7	-52.0	47.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

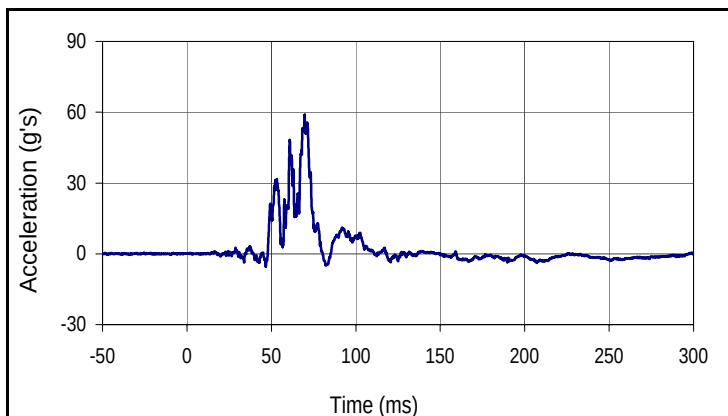
NHTSA No.: R20165413
 Test Date: 4/27/16



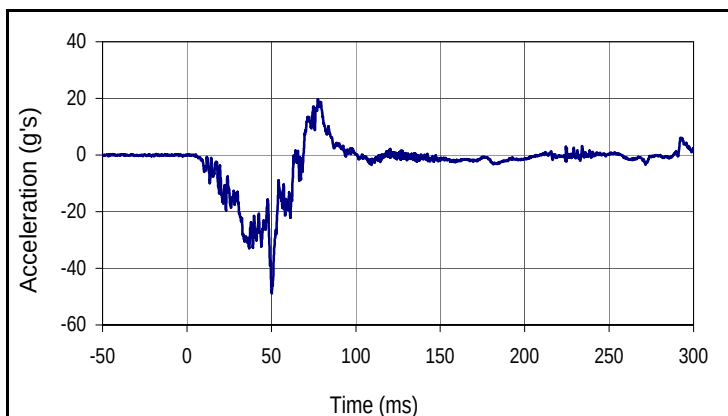
Curve Description			
V2P1 Leg Left Y Acceleration			
Plot No.		SAE Class	Units
093		1000	g's
Max	Time	Min	Time
36.1	67.6	-4.1	90.4



Curve Description			
V2P1 Leg Right X Acceleration			
Plot No.		SAE Class	Units
094		1000	g's
Max	Time	Min	Time
30.8	82.2	-67.9	60.6



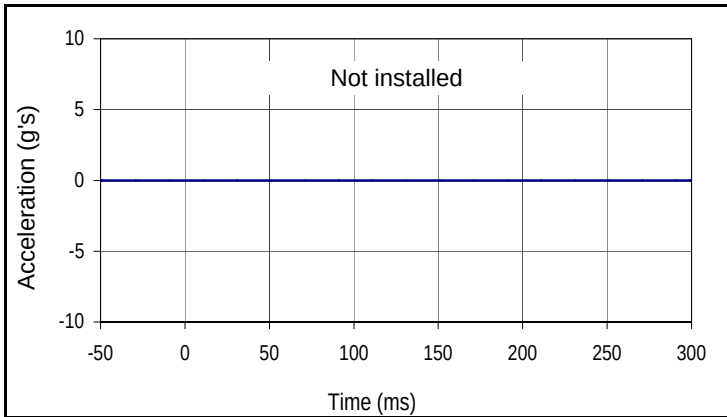
Curve Description			
V2P1 Leg Right Y Acceleration			
Plot No.		SAE Class	Units
095		1000	g's
Max	Time	Min	Time
59.0	69.7	-5.4	46.7



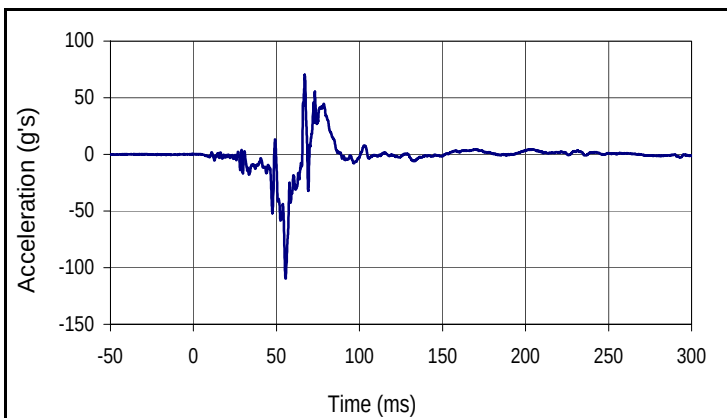
Curve Description			
V2P1 Foot Left X Acceleration			
Plot No.		SAE Class	Units
096		1000	g's
Max	Time	Min	Time
19.6	77.6	-48.8	50.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

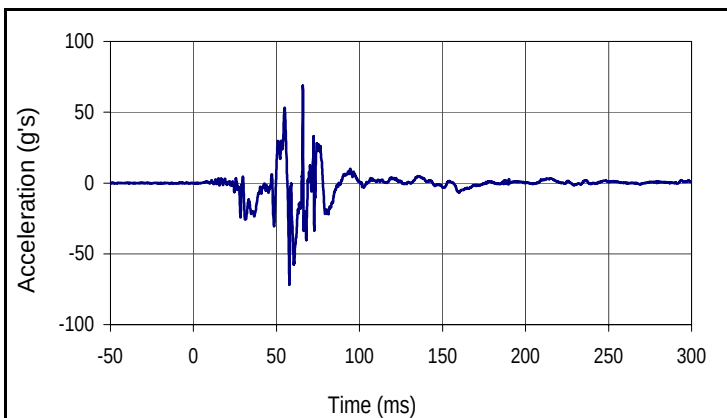
NHTSA No.: R20165413
 Test Date: 4/27/16



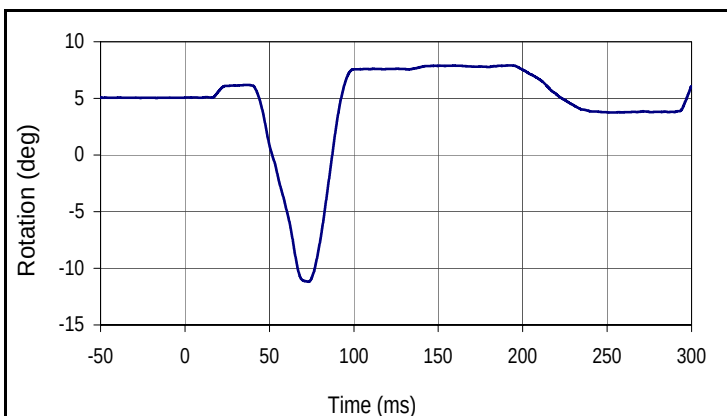
Curve Description			
V2P1 Foot Left Z Acceleration			
Plot No.		SAE Class	Units
097		1000	g's
Max	Time	Min	Time
0.0	-20.0	0.0	-20.0



Curve Description			
V2P1 Foot Right X Acceleration			
Plot No.		SAE Class	Units
098		1000	g's
Max	Time	Min	Time
70.3	67.0	-109.6	55.6



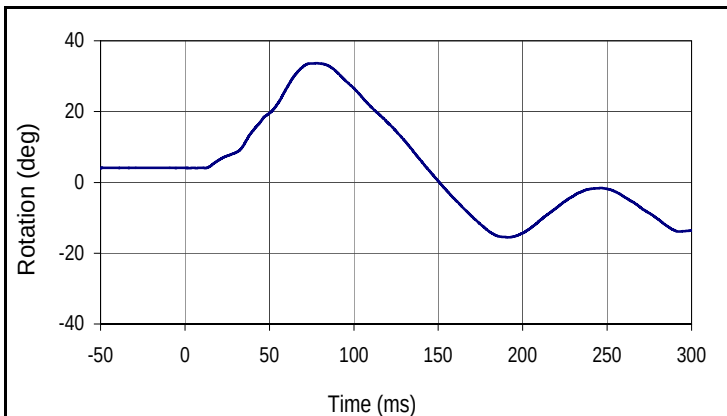
Curve Description			
V2P1 Foot Right Z Acceleration			
Plot No.		SAE Class	Units
099		1000	g's
Max	Time	Min	Time
68.5	65.9	-71.7	57.8



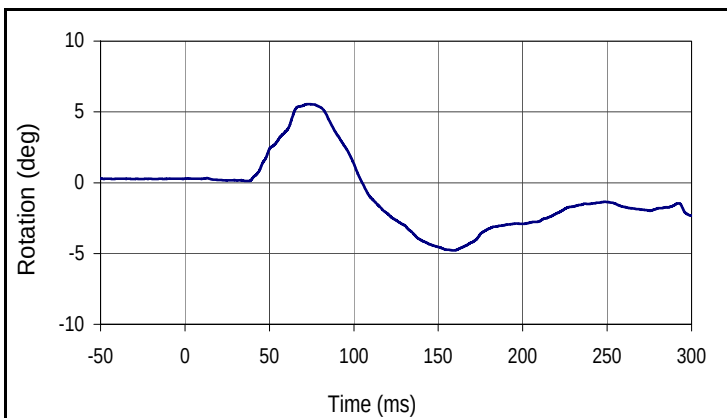
Curve Description			
V2P1 Ankle Left X Rotation			
Plot No.		SAE Class	Units
100		180	deg
Max	Time	Min	Time
7.9	190.9	-11.2	73.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

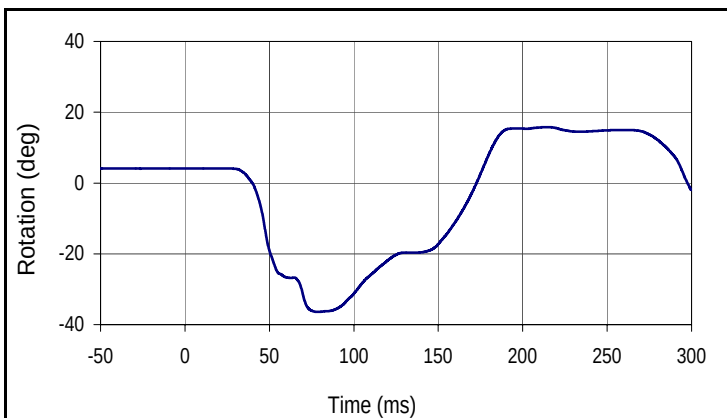
NHTSA No.: R20165413
 Test Date: 4/27/16



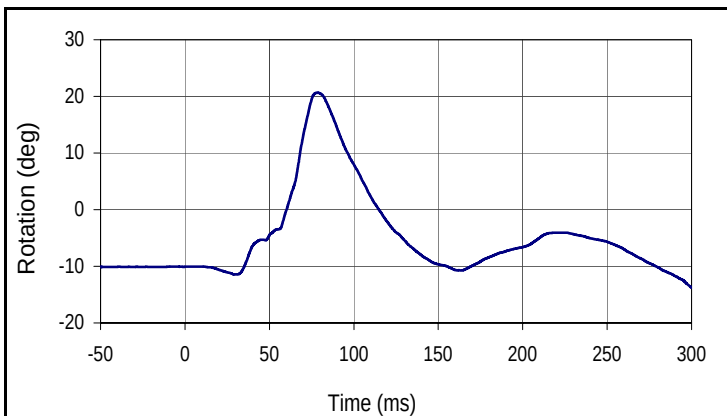
Curve Description			
V2P1 Ankle Left Y Rotation			
Plot No.		SAE Class	Units
101		180	deg
Max	Time	Min	Time
33.7	78.1	-15.5	191.7



Curve Description			
V2P1 Ankle Left Z Rotation			
Plot No.		SAE Class	Units
102		180	deg
Max	Time	Min	Time
5.5	73.1	-4.8	158.8



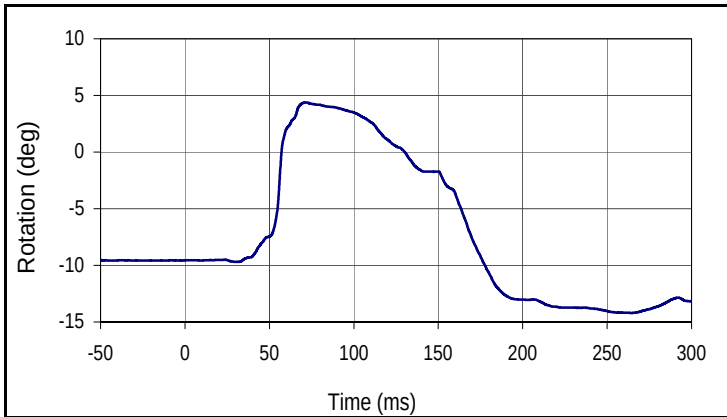
Curve Description			
V2P1 Ankle Right X Rotation			
Plot No.		SAE Class	Units
103		180	deg
Max	Time	Min	Time
15.8	215.5	-36.4	78.3



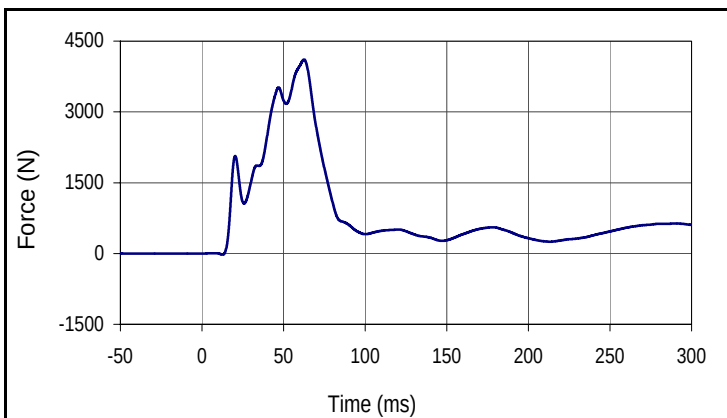
Curve Description			
V2P1 Ankle Right Y Rotation			
Plot No.		SAE Class	Units
104		180	deg
Max	Time	Min	Time
20.7	78.7	-13.7	299.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

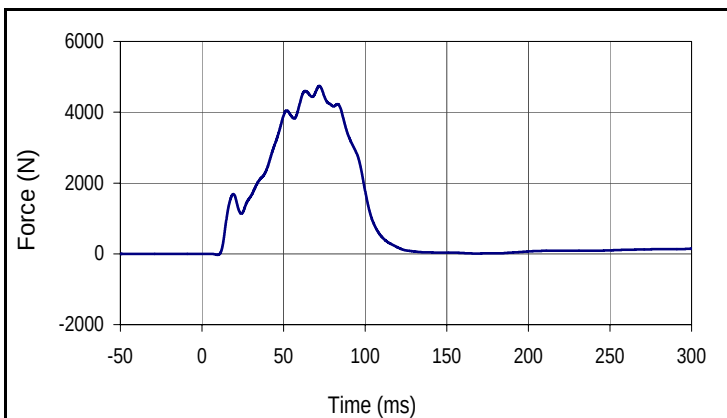
NHTSA No.: R20165413
 Test Date: 4/27/16



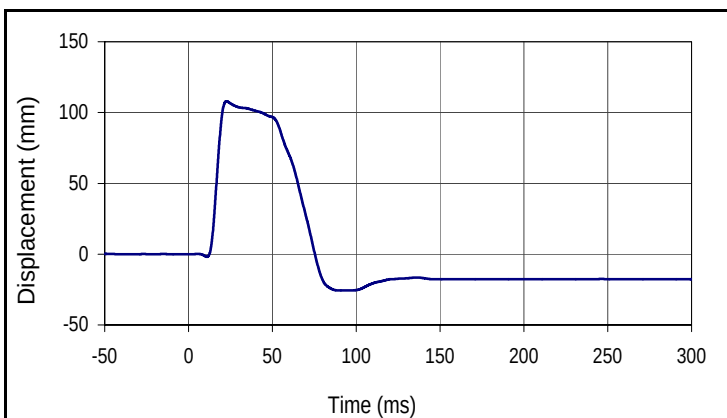
Curve Description			
V2P1 Ankle Right Z Rotation			
Plot No.		SAE Class	Units
105		180	deg
Max	Time	Min	Time
4.4	71.8	-14.2	264.8



Curve Description			
V2 Driver Lap Belt Force			
Plot No.		SAE Class	Units
106		60	N
Max	Time	Min	Time
4109.6	62.5	-23.6	12.7



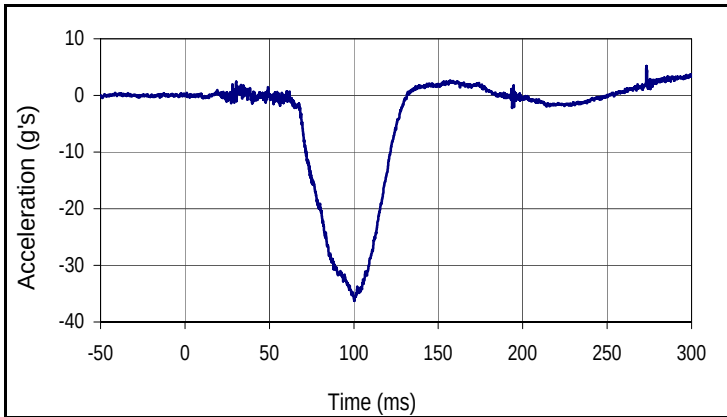
Curve Description			
V2 Driver Shoulder Belt Upper Force			
Plot No.		SAE Class	Units
107		60	N
Max	Time	Min	Time
4741.0	71.9	-27.1	9.6



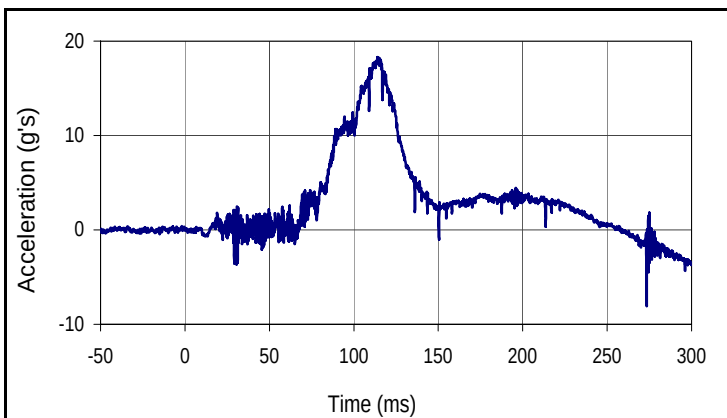
Curve Description			
V2 Driver Shoulder Belt Displacement			
Plot No.		SAE Class	Units
108		60	mm
Max	Time	Min	Time
107.9	22.7	-25.6	89.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

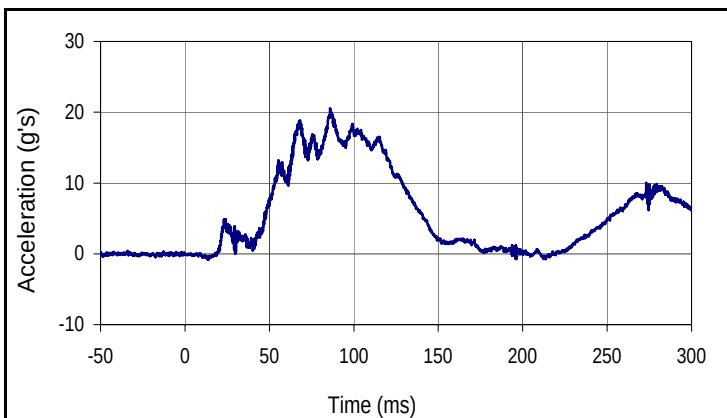
NHTSA No.: R20165413
 Test Date: 4/27/16



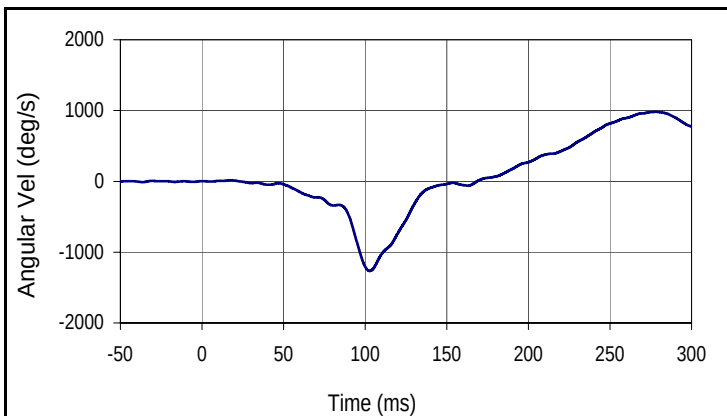
Curve Description			
V2P2 Head CG X Acceleration			
Plot No.		SAE Class	Units
109		1000	g's
Max	Time	Min	Time
5.2	273.2	-36.2	100.3



Curve Description			
V2P2 Head CG Y Acceleration			
Plot No.		SAE Class	Units
110		1000	g's
Max	Time	Min	Time
18.3	114.0	-8.0	273.4



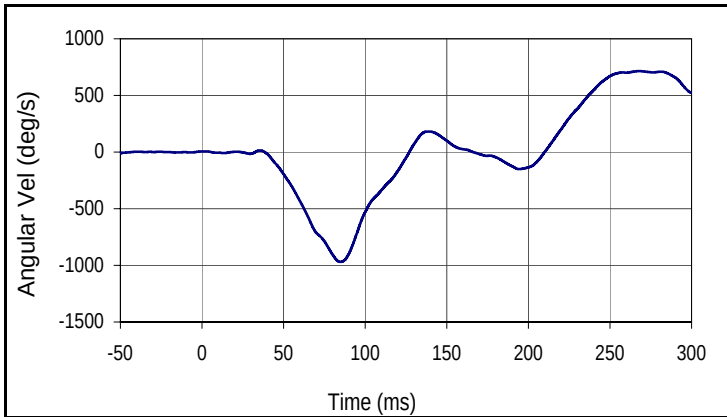
Curve Description			
V2P2 Head CG Z Acceleration			
Plot No.		SAE Class	Units
111		1000	g's
Max	Time	Min	Time
20.5	85.9	-0.8	14.0



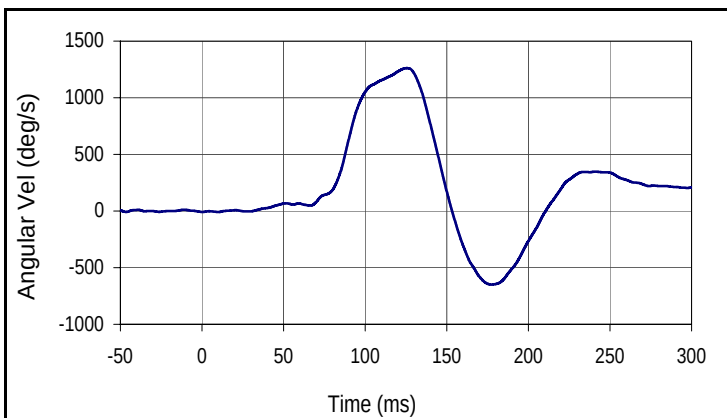
Curve Description			
V2P2 Head CG Angular Velocity About X			
Plot No.		SAE Class	Units
112		60	deg/s
Max	Time	Min	Time
981.4	278.1	-1266.2	102.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

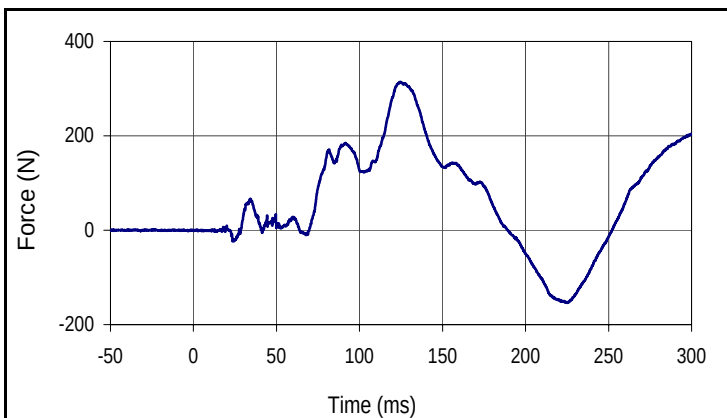
NHTSA No.: R20165413
 Test Date: 4/27/16



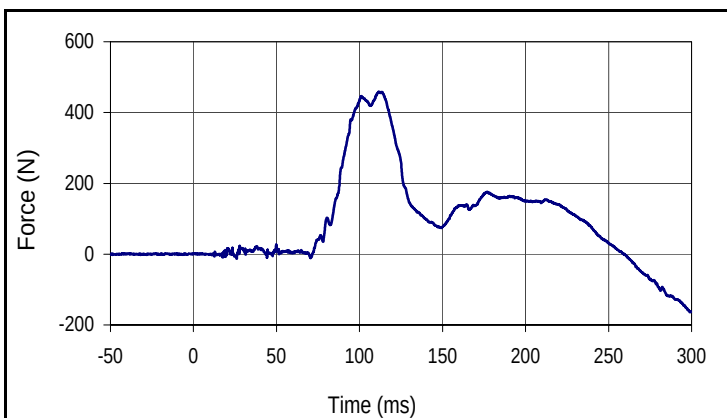
Curve Description			
V2P2 Head CG Angular Velocity About Y			
Plot No.		SAE Class	Units
113		60	deg/s
Max	Time	Min	Time
713.8	268.3	-969.2	84.9



Curve Description			
V2P2 Head CG Angular Velocity About Z			
Plot No.		SAE Class	Units
114		60	deg/s
Max	Time	Min	Time
1261.5	125.5	-649.4	177.4



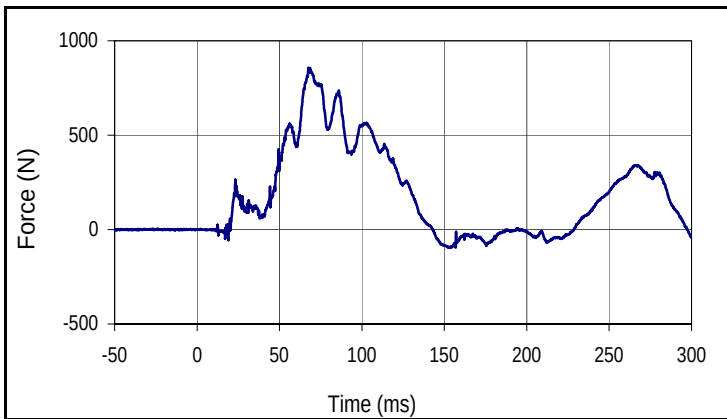
Curve Description			
V2P2 Upper Neck X Force			
Plot No.		SAE Class	Units
115		1000	N
Max	Time	Min	Time
314.4	124.7	-153.8	225.1



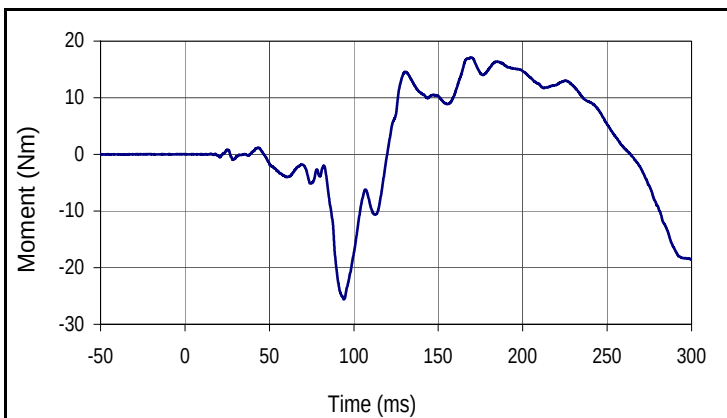
Curve Description			
V2P2 Upper Neck Y Force			
Plot No.		SAE Class	Units
116		1000	N
Max	Time	Min	Time
458.7	111.6	-163.4	299.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

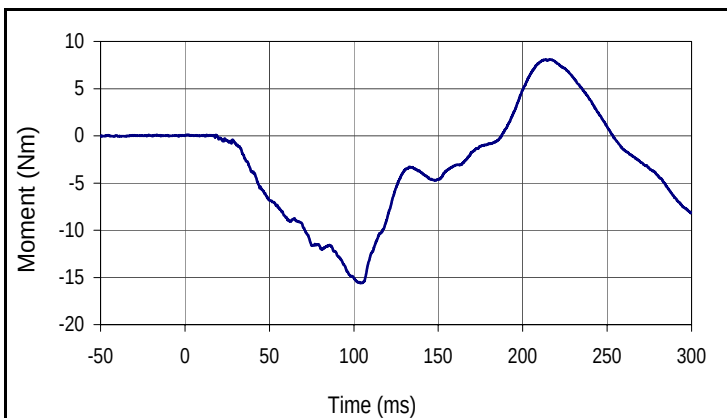
NHTSA No.: R20165413
 Test Date: 4/27/16



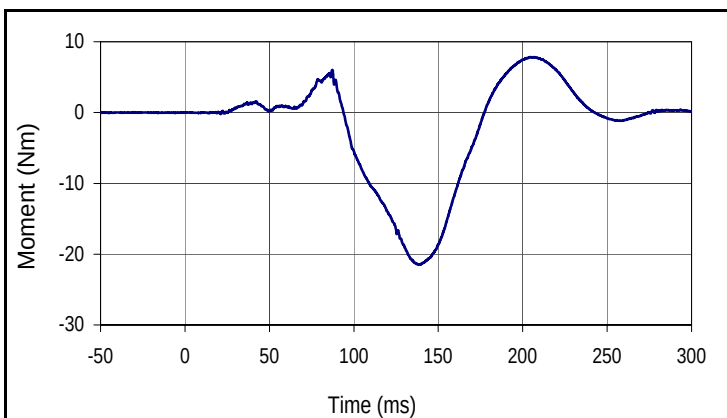
Curve Description			
V2P2 Upper Neck Z Force			
Plot No.		SAE Class	Units
117		1000	N
Max	Time	Min	Time
858.1	67.6	-95.7	153.4



Curve Description			
V2P2 Upper Neck X Moment			
Plot No.		SAE Class	Units
118		600	Nm
Max	Time	Min	Time
17.1	169.4	-25.6	94.1



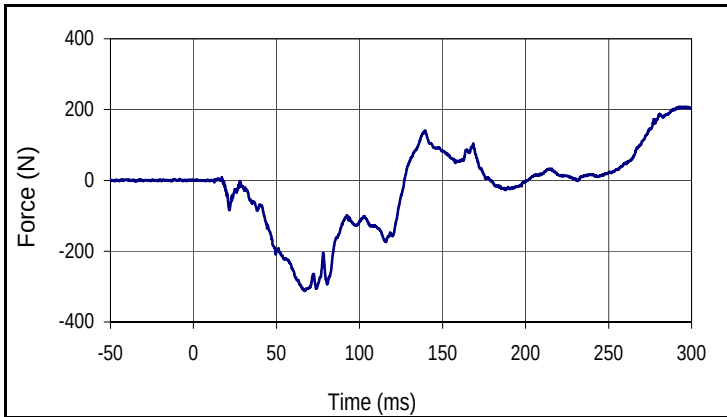
Curve Description			
V2P2 Upper Neck Y Moment			
Plot No.		SAE Class	Units
119		600	Nm
Max	Time	Min	Time
8.1	216.3	-15.6	104.4



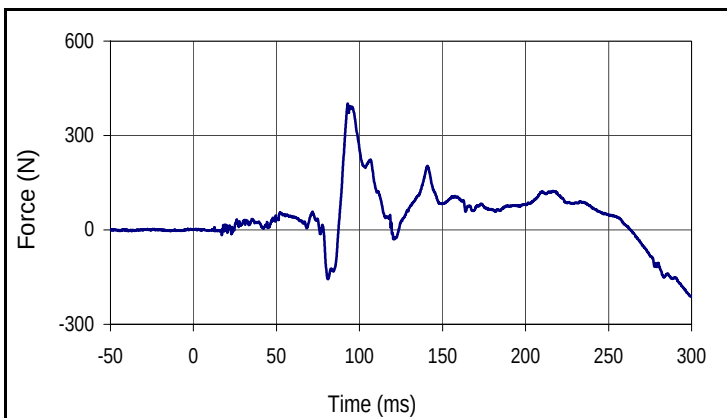
Curve Description			
V2P2 Upper Neck Z Moment			
Plot No.		SAE Class	Units
120		600	Nm
Max	Time	Min	Time
7.8	206.8	-21.5	138.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

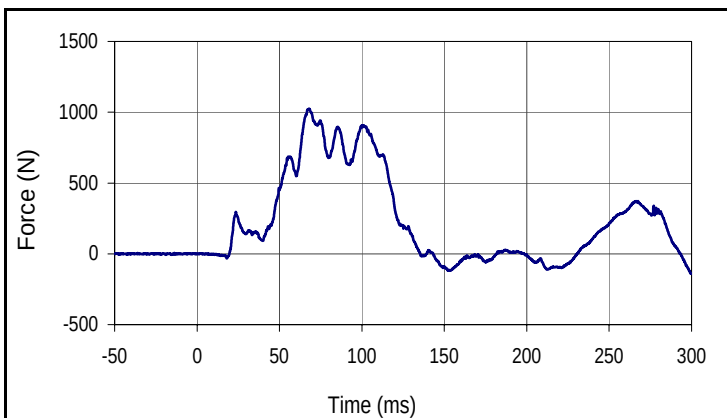
NHTSA No.: R20165413
 Test Date: 4/27/16



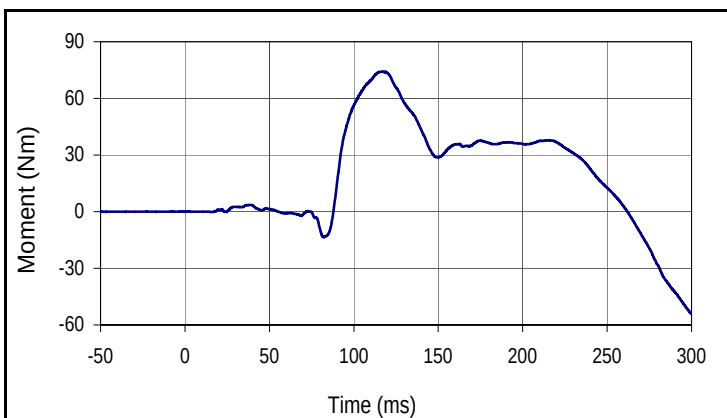
Curve Description			
V2P2 Lower Neck X Force			
Plot No.		SAE Class	Units
121		1000	N
Max	Time	Min	Time
208.6	297.0	-312.7	67.1



Curve Description			
V2P2 Lower Neck Y Force			
Plot No.		SAE Class	Units
122		1000	N
Max	Time	Min	Time
402.0	92.9	-211.0	299.6



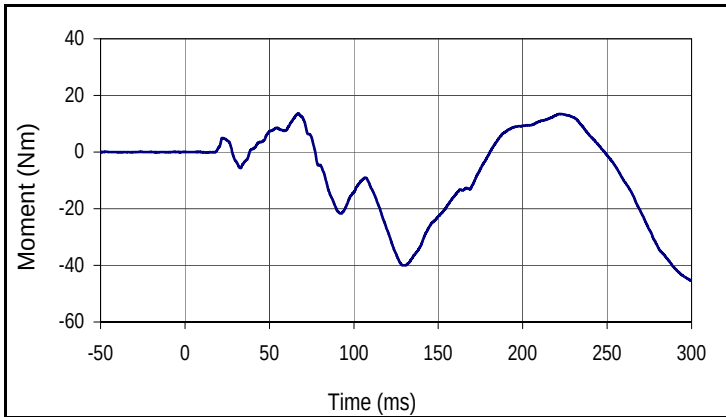
Curve Description			
V2P2 Lower Neck Z Force			
Plot No.		SAE Class	Units
123		1000	N
Max	Time	Min	Time
1026.3	68.0	-139.6	299.8



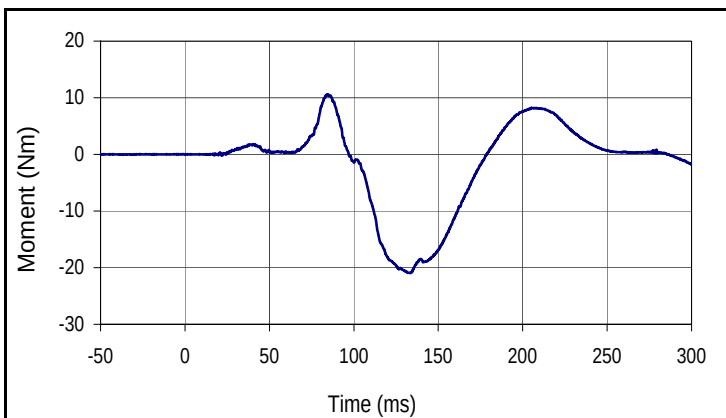
Curve Description			
V2P2 Lower Neck X Moment			
Plot No.		SAE Class	Units
124		600	Nm
Max	Time	Min	Time
74.2	117.4	-54.1	299.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

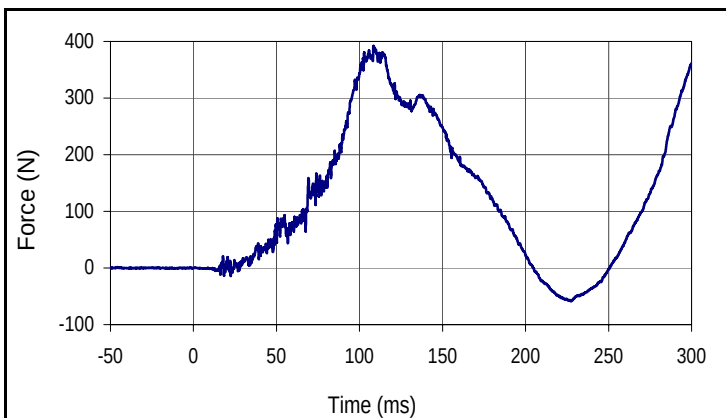
NHTSA No.: R20165413
 Test Date: 4/27/16



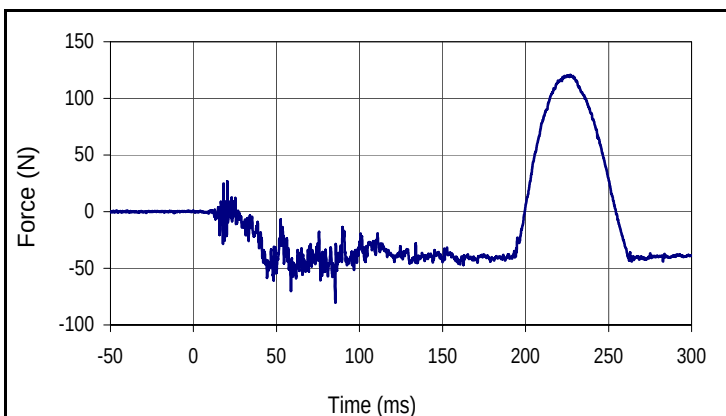
Curve Description			
V2P2 Lower Neck Y Moment			
Plot No.		SAE Class	Units
125		600	Nm
Max	Time	Min	Time
13.7	67.1	-45.4	299.6



Curve Description			
V2P2 Lower Neck Z Moment			
Plot No.		SAE Class	Units
126		600	Nm
Max	Time	Min	Time
10.6	84.7	-20.9	133.6



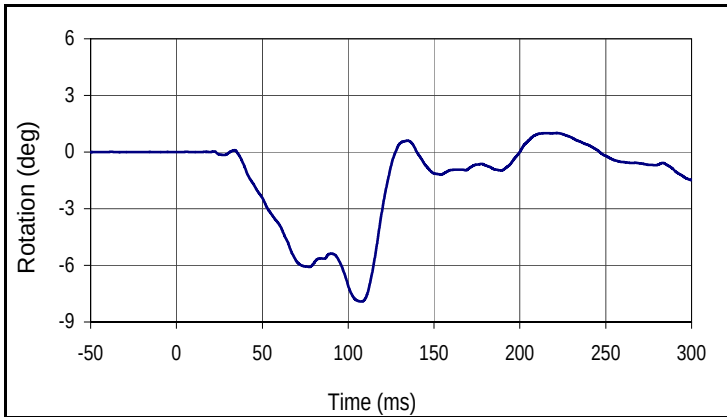
Curve Description			
V2P2 Front Neck Spring Tower Load Cell			
Plot No.		SAE Class	Units
127		1000	N
Max	Time	Min	Time
392.1	108.4	-58.8	227.2



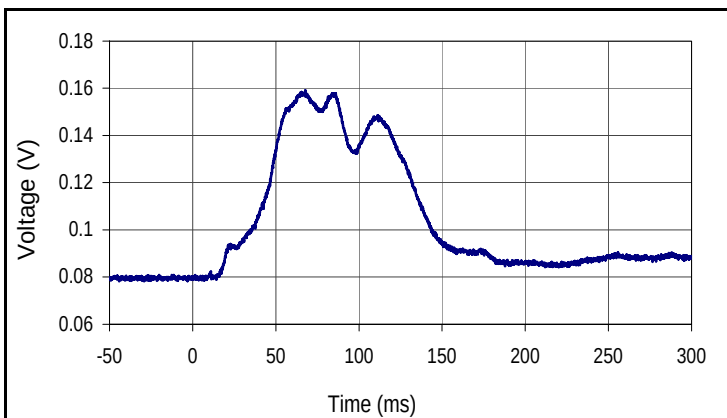
Curve Description			
V2P2 Rear Neck Spring Tower Load Cell			
Plot No.		SAE Class	Units
128		1000	N
Max	Time	Min	Time
120.8	227.0	-80.0	85.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

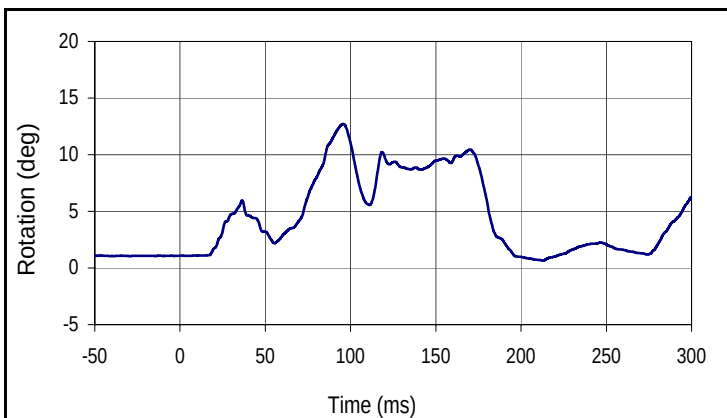
NHTSA No.: R20165413
 Test Date: 4/27/16



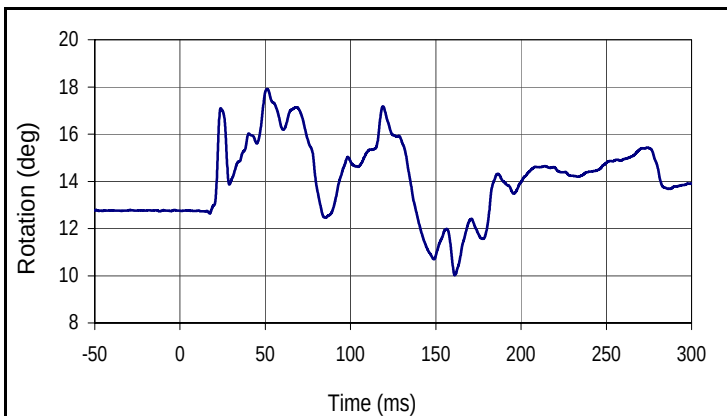
Curve Description			
V2P2 Occipital Condyle Rotation Potentiometer			
Plot No.		SAE Class	Units
129		180	deg
Max	Time	Min	Time
1.0	221.5	-7.9	107.8



Curve Description			
V2P2 Upper Left DGIR X Displacement			
Plot No.		SAE Class	Units
130		600	V
Max	Time	Min	Time
0.16	67.8	0.08	-3.1



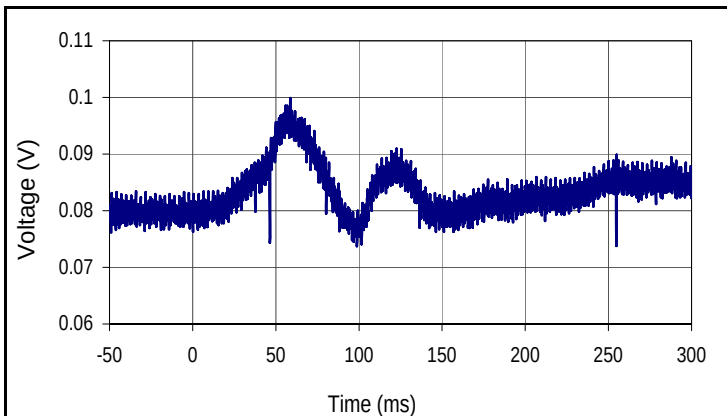
Curve Description			
V2P2 Upper Left DGIR Y Rotation			
Plot No.		SAE Class	Units
131		180	deg
Max	Time	Min	Time
12.7	95.9	0.64	212.9



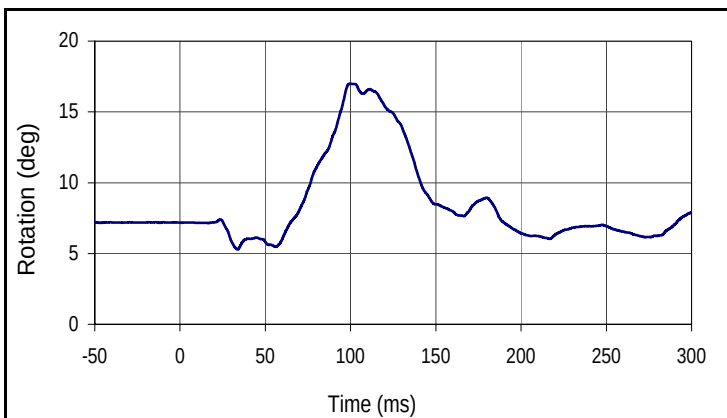
Curve Description			
V2P2 Upper Left DGIR Z Rotation			
Plot No.		SAE Class	Units
132		180	deg
Max	Time	Min	Time
17.9	51.1	10.0	161.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

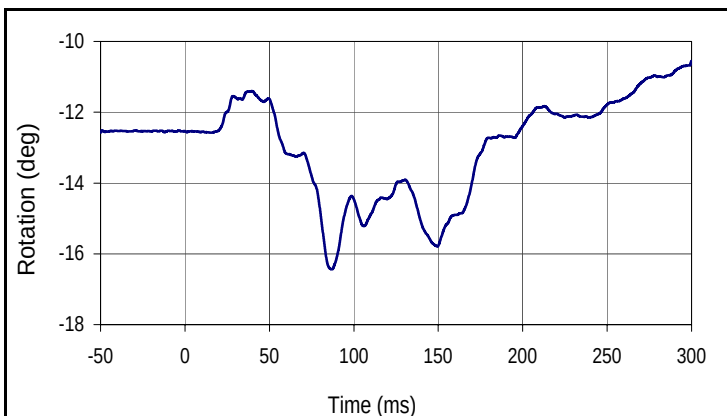
NHTSA No.: R20165413
 Test Date: 4/27/16



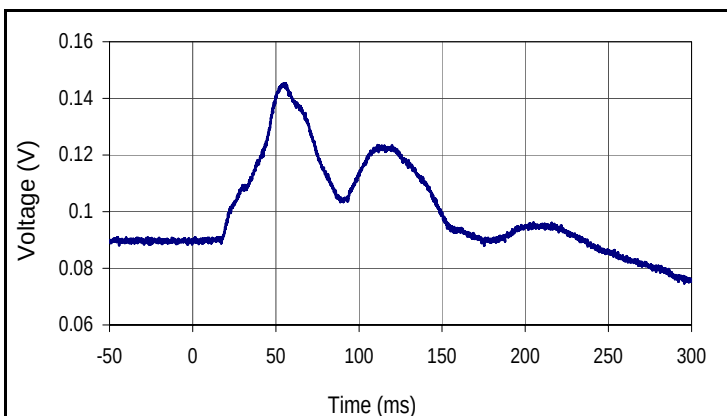
Curve Description			
V2P2 Upper Right DGIR X Displacement			
Plot No.		SAE Class	Units
133		600	V
Max	Time	Min	Time
0.10	58.7	0.07	98.8



Curve Description			
V2P2 Upper Right DGIR Y Rotation			
Plot No.		SAE Class	Units
134		180	deg
Max	Time	Min	Time
17.0	100.0	5.3	33.8



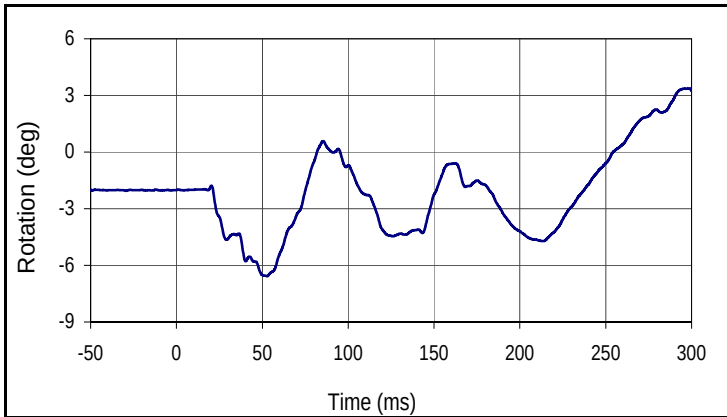
Curve Description			
V2P2 Upper Right DGIR Z Rotation			
Plot No.		SAE Class	Units
135		180	deg
Max	Time	Min	Time
-10.6	299.9	-16.4	87.2



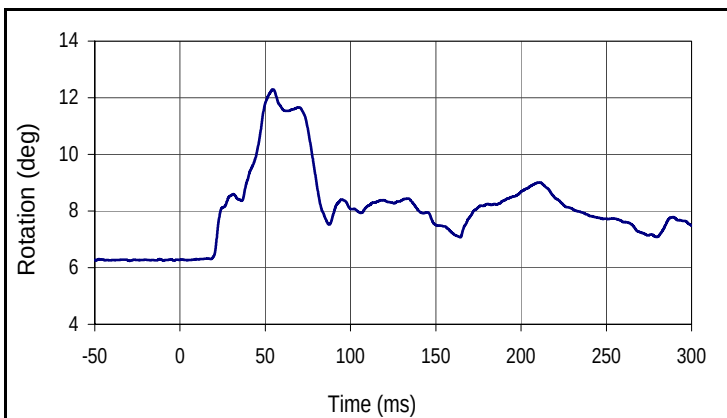
Curve Description			
V2P2 Lower Left DGIR X Displacement			
Plot No.		SAE Class	Units
136		600	V
Max	Time	Min	Time
0.15	55.1	0.07	295.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

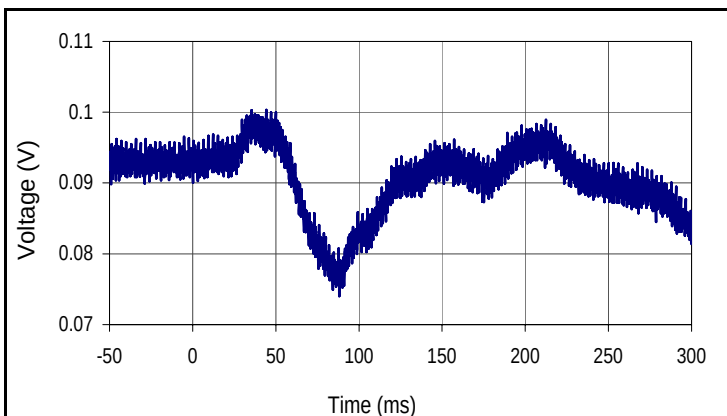
NHTSA No.: R20165413
 Test Date: 4/27/16



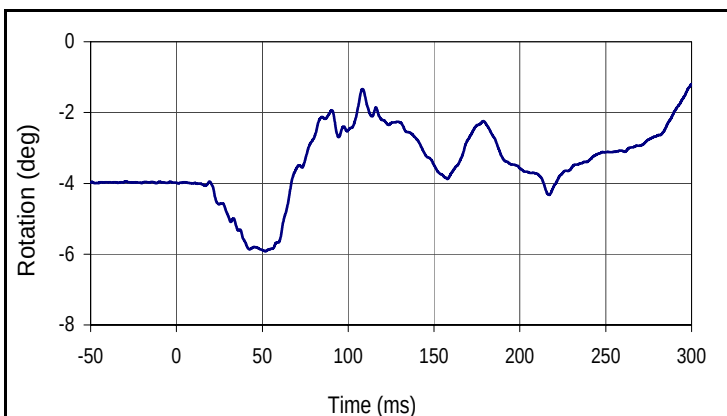
Curve Description			
V2P2 Lower Left DGIR Y Rotation			
Plot No.		SAE Class	Units
137		180	deg
Max	Time	Min	Time
3.4	298.7	-6.6	52.9



Curve Description			
V2P2 Lower Left DGIR Z Rotation			
Plot No.		SAE Class	Units
138		180	deg
Max	Time	Min	Time
12.3	54.6	6.2	-29.6



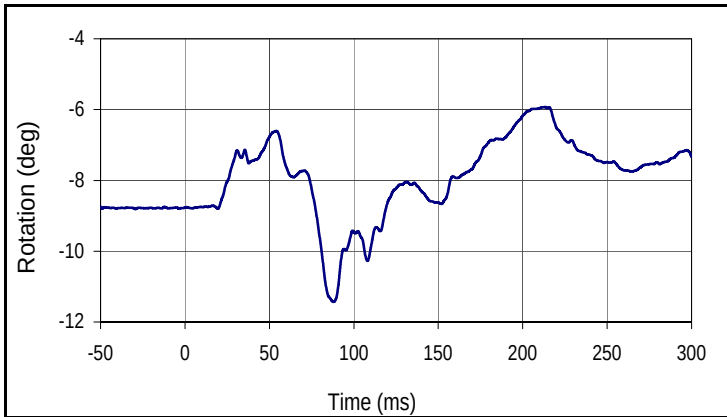
Curve Description			
V2P2 Lower Right DGIR X Displacement			
Plot No.		SAE Class	Units
139		600	V
Max	Time	Min	Time
0.10	35.5	0.07	88.2



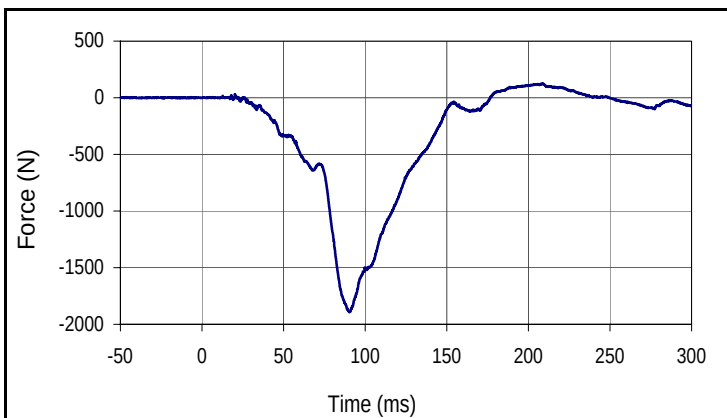
Curve Description			
V2P2 Lower Right DGIR Y Rotation			
Plot No.		SAE Class	Units
140		180	deg
Max	Time	Min	Time
-1.2	299.9	-5.9	51.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

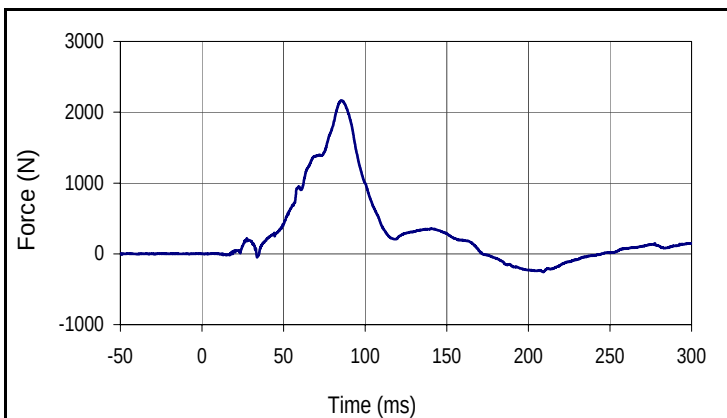
NHTSA No.: R20165413
 Test Date: 4/27/16



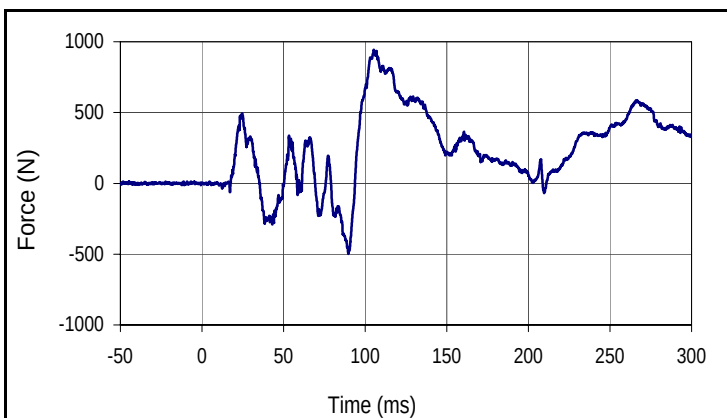
Curve Description			
V2P2 Lower Right DGIR Z Rotation			
Plot No.		SAE Class	Units
141		180	deg
Max	Time	Min	Time
-5.9	213.2	-11.4	88.0



Curve Description			
V2P2 T12 Force X			
Plot No.		SAE Class	Units
142		1000	N
Max	Time	Min	Time
125.9	208.9	-1892.5	90.2



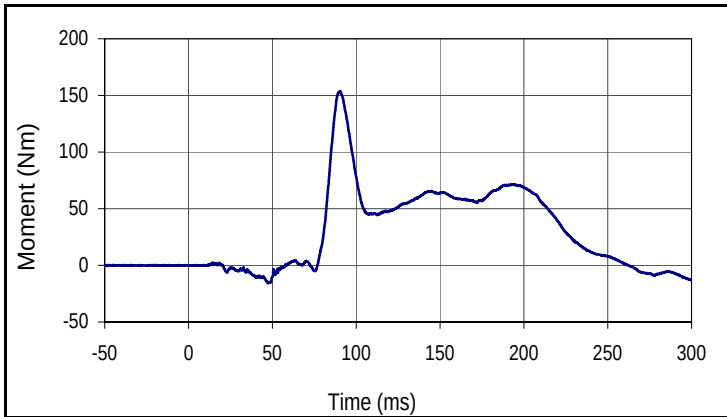
Curve Description			
V2P2 T12 Force Y			
Plot No.		SAE Class	Units
143		1000	N
Max	Time	Min	Time
2166.8	85.3	-257.3	209.2



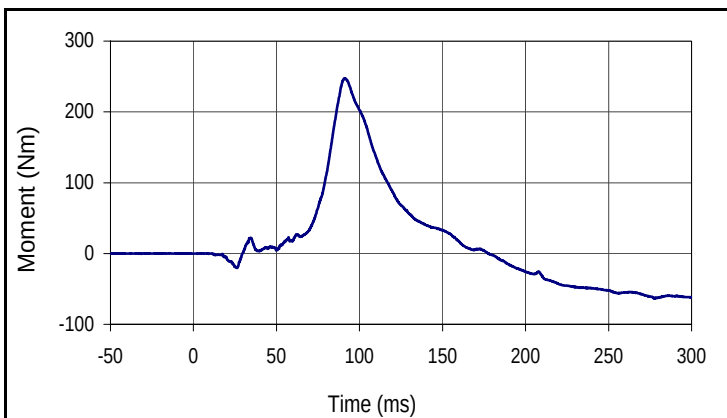
Curve Description			
V2P2 T12 Force Z			
Plot No.		SAE Class	Units
144		1000	N
Max	Time	Min	Time
943.0	105.3	-498.7	89.7

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

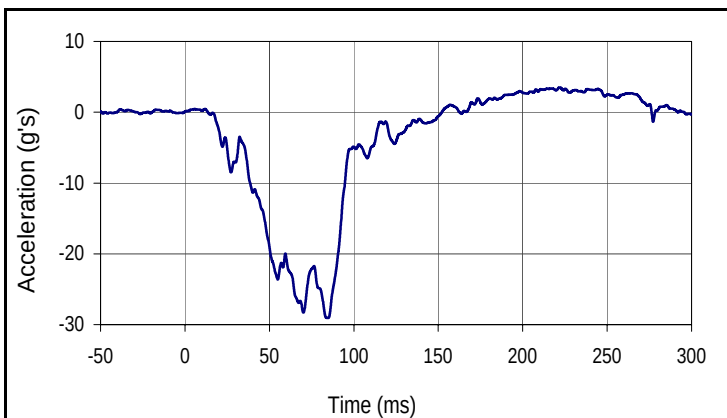
NHTSA No.: R20165413
 Test Date: 4/27/16



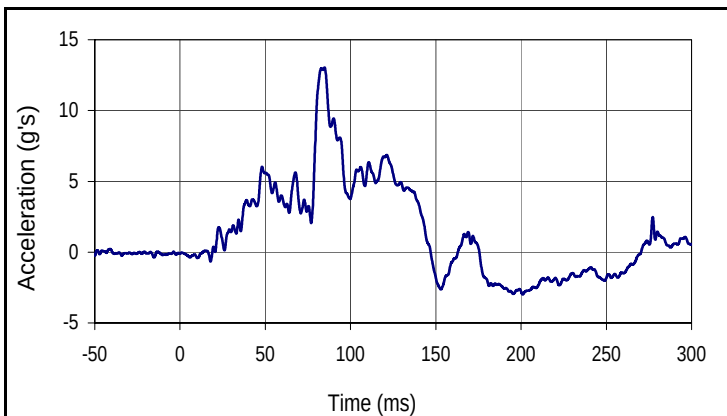
Curve Description			
V2P2 T12 Moment X			
Plot No.		SAE Class	Units
145		1000	Nm
Max	Time	Min	Time
153.8	90.6	-15.8	47.3



Curve Description			
V2P2 T12 Moment Y			
Plot No.		SAE Class	Units
146		1000	Nm
Max	Time	Min	Time
247.5	91.1	-63.9	277.5



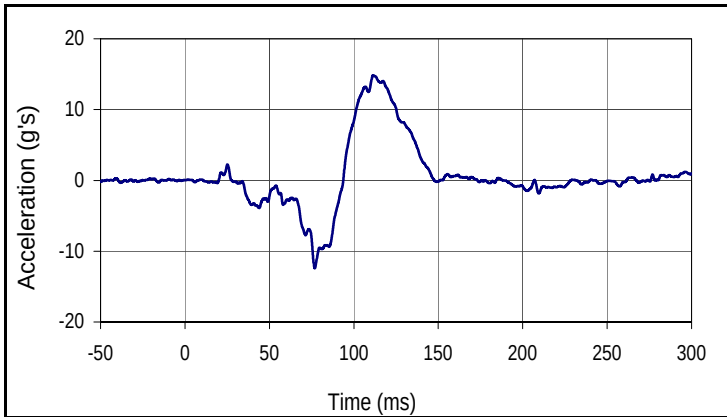
Curve Description			
V2P2 T6 X Acceleration			
Plot No.		SAE Class	Units
147		180	g's
Max	Time	Min	Time
3.5	221.9	-29.1	84.8



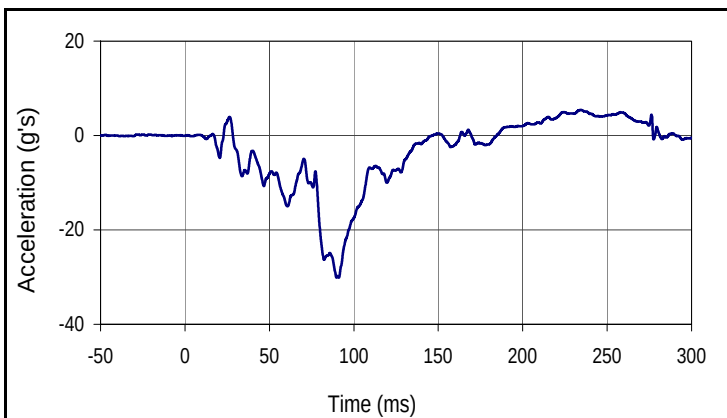
Curve Description			
V2P2 T6 Y Acceleration			
Plot No.		SAE Class	Units
148		180	g's
Max	Time	Min	Time
13.0	84.8	-3.0	200.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

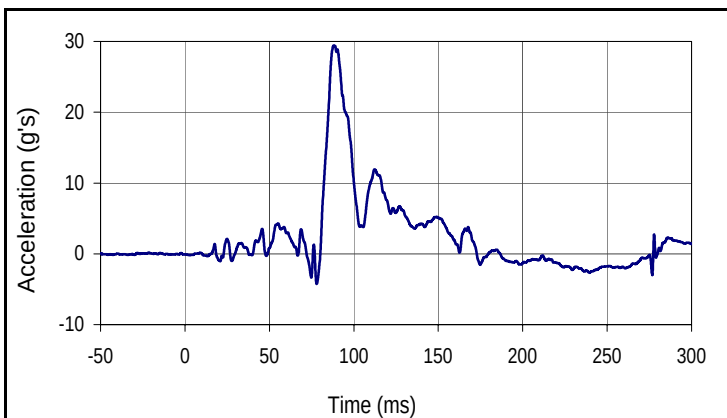
NHTSA No.: R20165413
 Test Date: 4/27/16



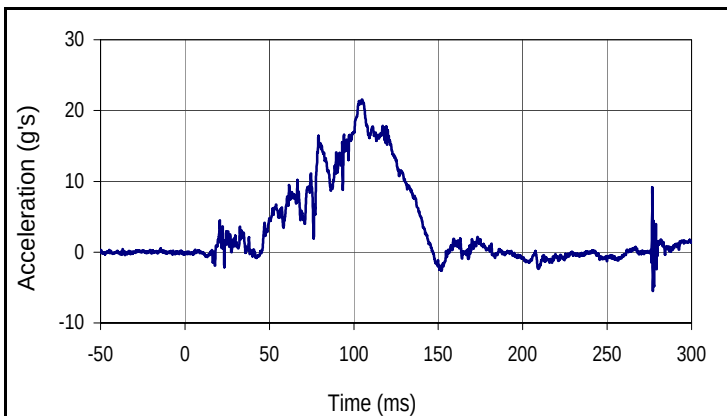
Curve Description			
V2P2 T6 Z Acceleration			
Plot No.		SAE Class	Units
149		180	g's
Max	Time	Min	Time
14.9	111.5	-12.4	76.8



Curve Description			
V2P2 T1 X Acceleration			
Plot No.		SAE Class	Units
150		180	g's
Max	Time	Min	Time
5.4	234.5	-30.1	89.7



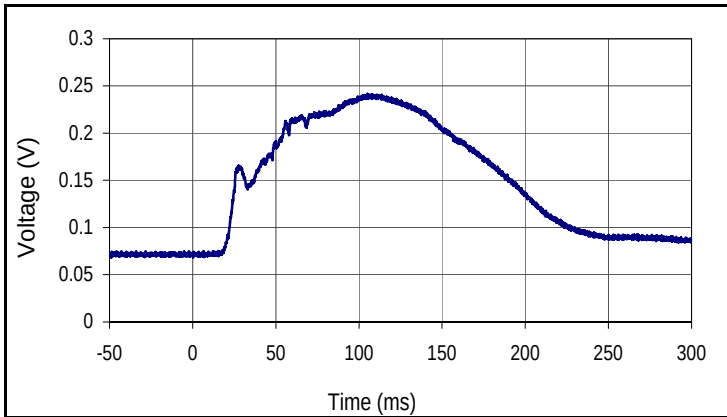
Curve Description			
V2P2 T1 Y Acceleration			
Plot No.		SAE Class	Units
151		180	g's
Max	Time	Min	Time
29.4	88.2	-4.2	78.0



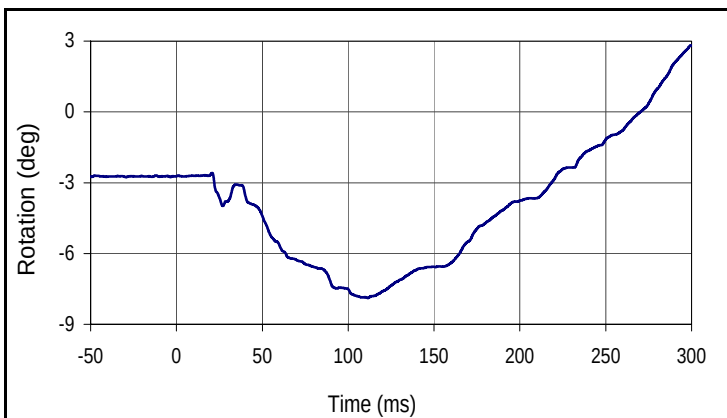
Curve Description			
V2P2 T1 Z Acceleration			
Plot No.		SAE Class	Units
152		1000	g's
Max	Time	Min	Time
21.6	104.9	-5.4	277.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

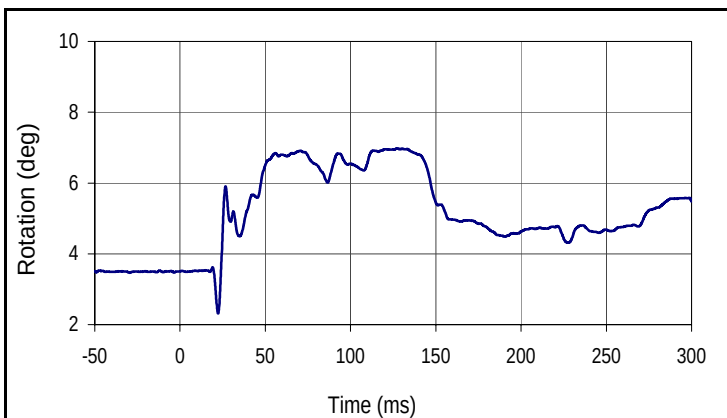
NHTSA No.: R20165413
 Test Date: 4/27/16



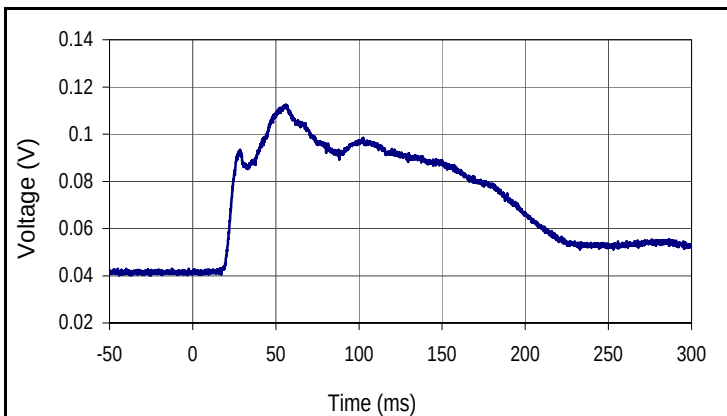
Curve Description			
V2P2 Abdomen Left DGIR X Displacement			
Plot No.		SAE Class	Units
153		600	V
Max	Time	Min	Time
0.24	105.1	0.07	0.2



Curve Description			
V2P2 Abdomen Left DGIR Y Rotation			
Plot No.		SAE Class	Units
154		180	deg
Max	Time	Min	Time
2.8	299.7	-7.9	111.5



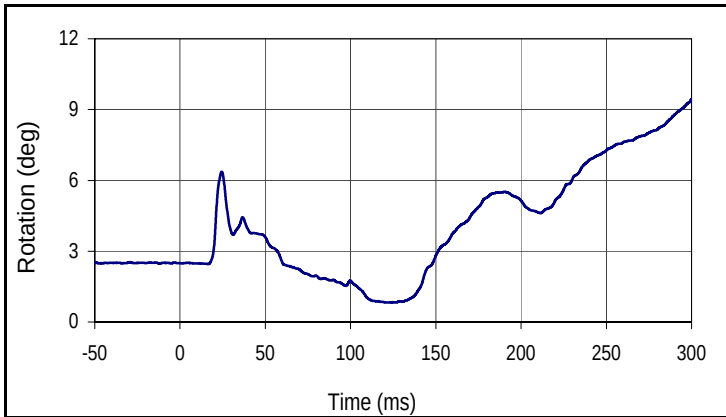
Curve Description			
V2P2 Abdomen Left DGIR Z Rotation			
Plot No.		SAE Class	Units
155		180	deg
Max	Time	Min	Time
7.0	127.3	2.3	22.3



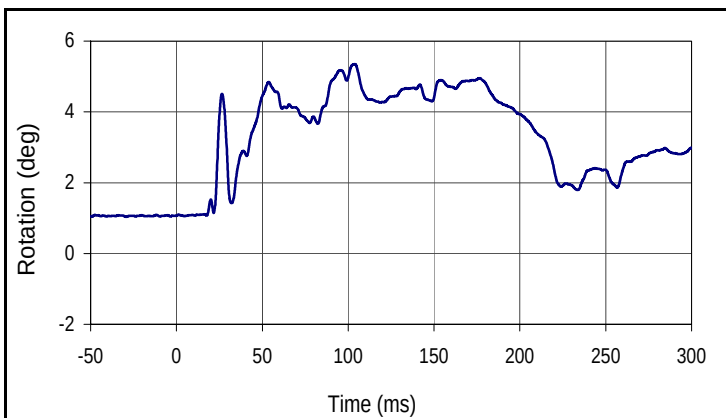
Curve Description			
V2P2 Abdomen Right DGIR X Displacement			
Plot No.		SAE Class	Units
156		600	V
Max	Time	Min	Time
0.11	56.1	0.04	-18.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

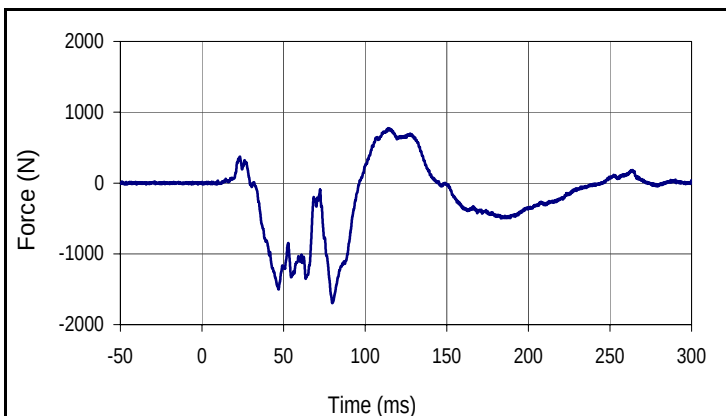
NHTSA No.: R20165413
 Test Date: 4/27/16



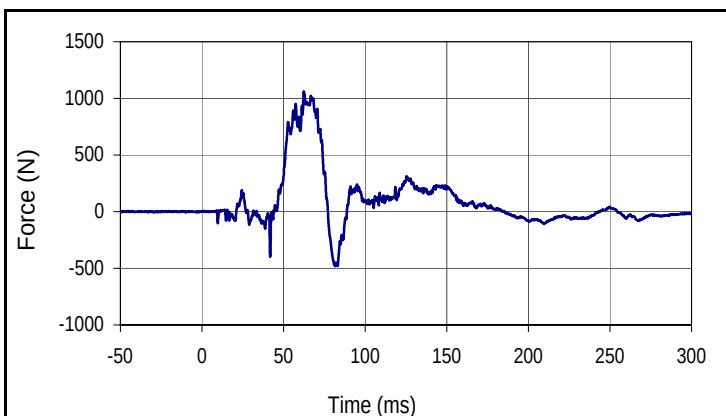
Curve Description			
V2P2 Abdomen Right DGIR Y Rotation			
Plot No.		SAE Class	Units
157		180	deg
Max	Time	Min	Time
9.5	299.9	0.8	122.4



Curve Description			
V2P2 Abdomen Right DGIR Z Rotation			
Plot No.		SAE Class	Units
158		180	deg
Max	Time	Min	Time
5.3	103.9	1.0	-29.4



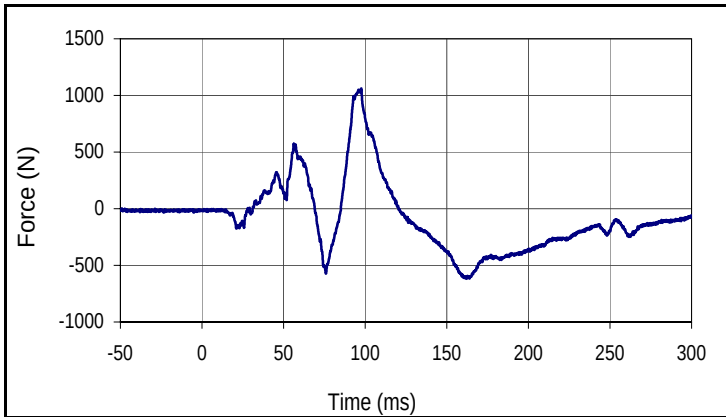
Curve Description			
V2P2 Acetabulum Left X Force			
Plot No.		SAE Class	Units
159		600	N
Max	Time	Min	Time
773.4	114.1	-1695.2	79.9



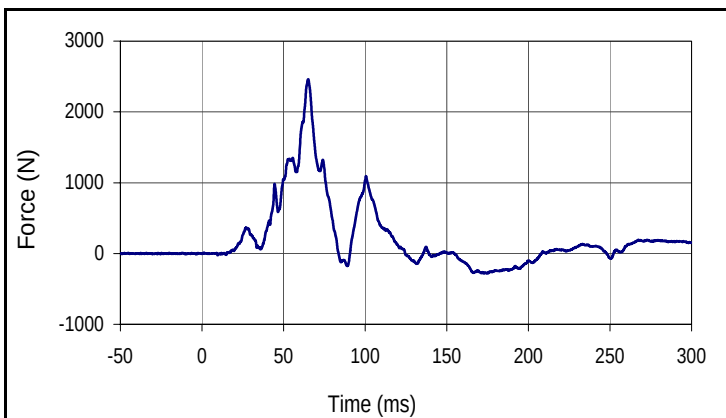
Curve Description			
V2P2 Acetabulum Left Y Force			
Plot No.		SAE Class	Units
160		600	N
Max	Time	Min	Time
1063.4	62.4	-480.9	81.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

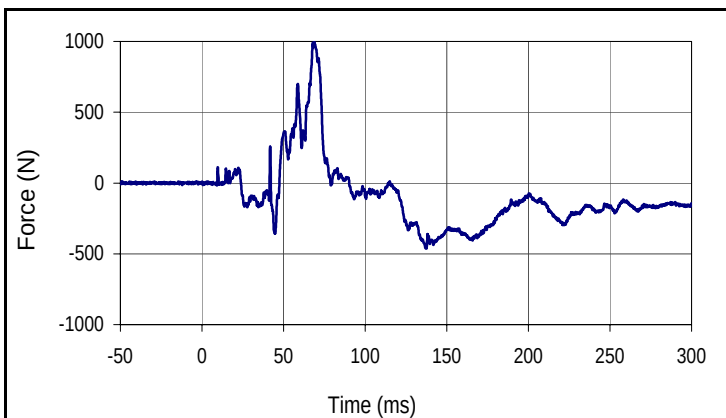
NHTSA No.: R20165413
 Test Date: 4/27/16



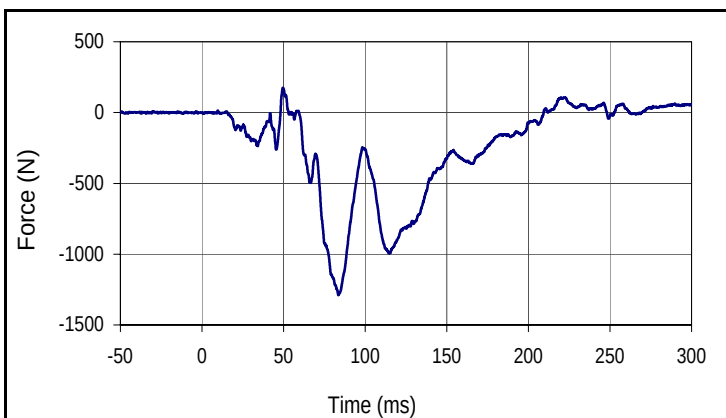
Curve Description			
V2P2 Acetabulum Left Z Force			
Plot No.		SAE Class	Units
161		600	N
Max	Time	Min	Time
1063.2	97.6	-618.1	162.2



Curve Description			
V2P2 Acetabulum Right X Force			
Plot No.		SAE Class	Units
162		600	N
Max	Time	Min	Time
2464.0	65.1	-282.9	175.2



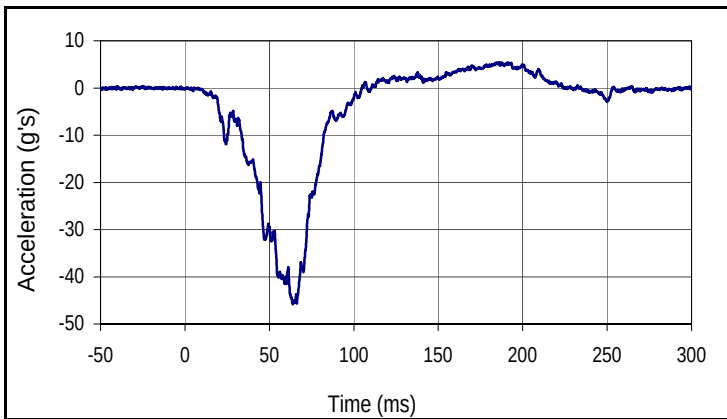
Curve Description			
V2P2 Acetabulum Right Y Force			
Plot No.		SAE Class	Units
163		600	N
Max	Time	Min	Time
995.9	68.8	-462.5	137.6



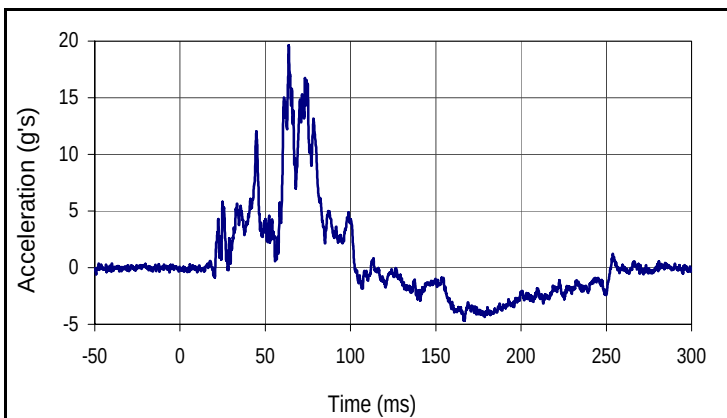
Curve Description			
V2P2 Acetabulum Right Z Force			
Plot No.		SAE Class	Units
164		600	N
Max	Time	Min	Time
175.2	49.6	-1289.5	83.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

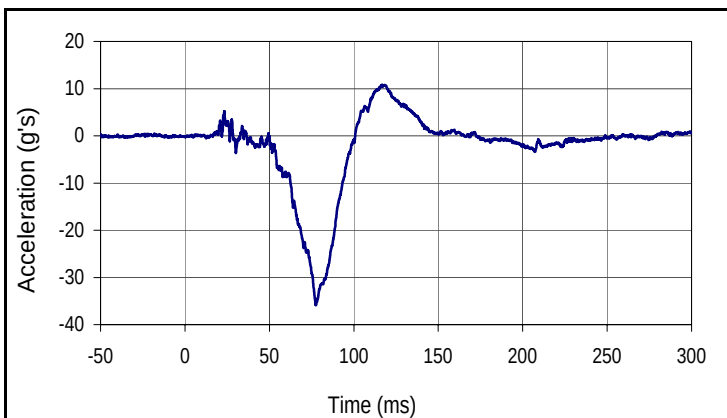
NHTSA No.: R20165413
 Test Date: 4/27/16



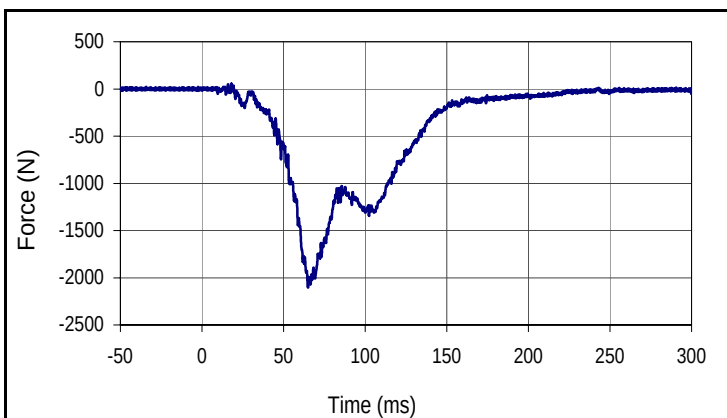
Curve Description			
V2P2 Pelvis X Acceleration			
Plot No.		SAE Class	Units
165		1000	g's
Max	Time	Min	Time
5.5	186.2	-45.8	63.8



Curve Description			
V2P2 Pelvis Y Acceleration			
Plot No.		SAE Class	Units
166		1000	g's
Max	Time	Min	Time
19.6	63.8	-4.7	166.3



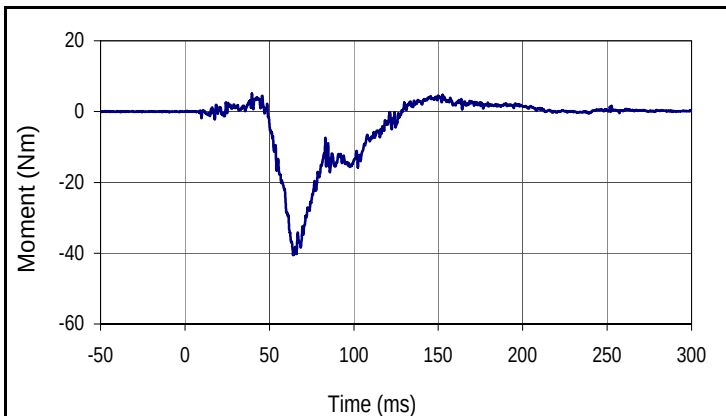
Curve Description			
V2P2 Pelvis Z Acceleration			
Plot No.		SAE Class	Units
167		1000	g's
Max	Time	Min	Time
10.8	116.7	-35.9	77.6



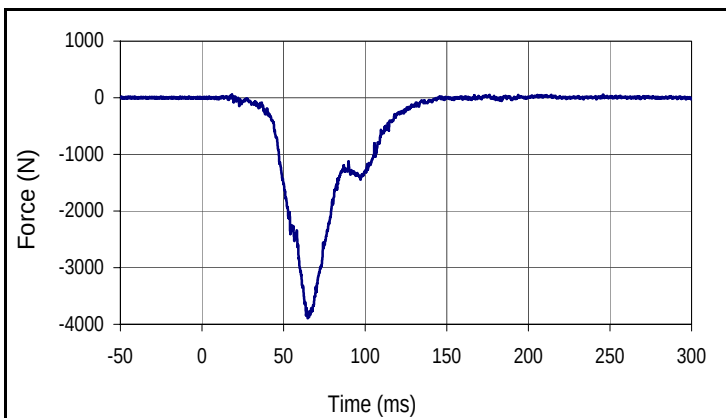
Curve Description			
V2P2 ASIS Left X Force			
Plot No.		SAE Class	Units
168		600	N
Max	Time	Min	Time
55.9	18.1	-2104.3	65.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

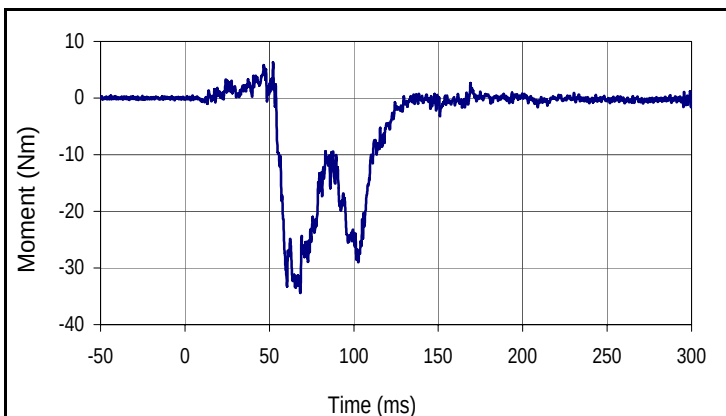
NHTSA No.: R20165413
 Test Date: 4/27/16



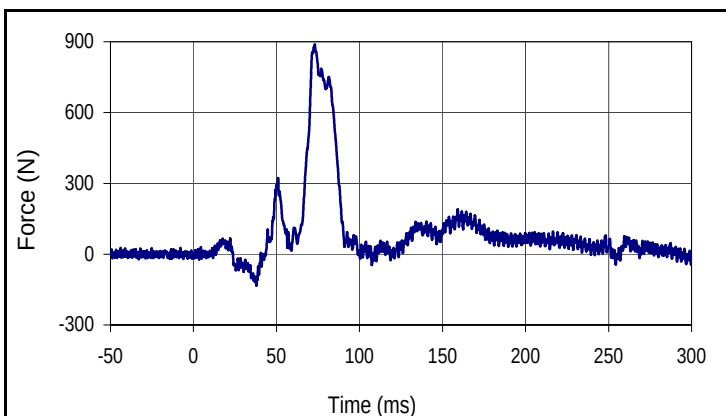
Curve Description			
V2P2 ASIS Left Y Moment			
Plot No.		SAE Class	Units
169		600	Nm
Max	Time	Min	Time
5.1	39.7	-40.6	64.0



Curve Description			
V2P2 ASIS Right X Force			
Plot No.		SAE Class	Units
170		1000	N
Max	Time	Min	Time
63.5	18.4	-3894.0	64.9



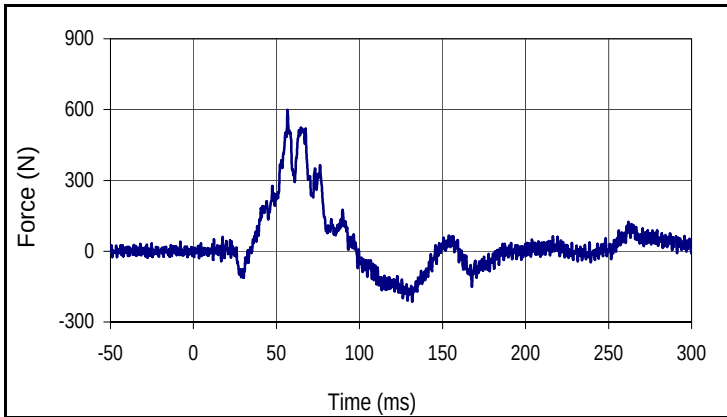
Curve Description			
V2P2 ASIS Right Y Moment			
Plot No.		SAE Class	Units
171		600	Nm
Max	Time	Min	Time
6.3	52.2	-34.4	68.3



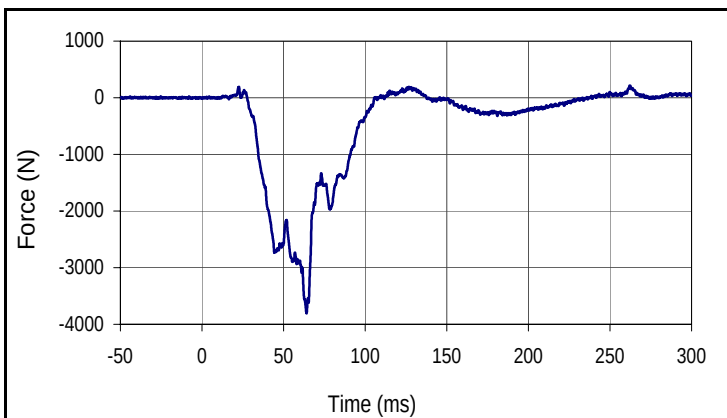
Curve Description			
V2P2 Femur Left X Force			
Plot No.		SAE Class	Units
172		600	N
Max	Time	Min	Time
888.6	73.1	-133.0	37.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

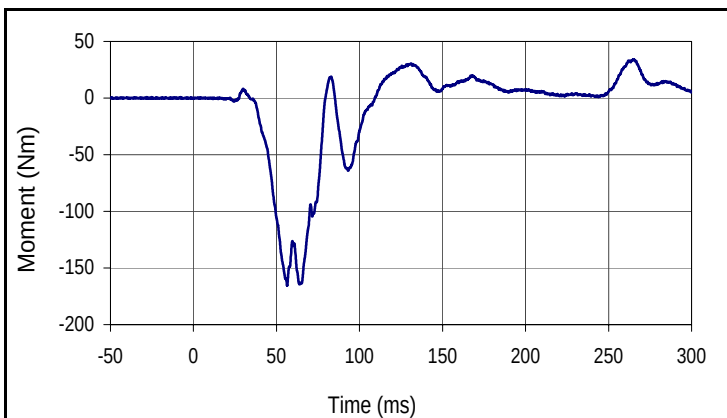
NHTSA No.: R20165413
 Test Date: 4/27/16



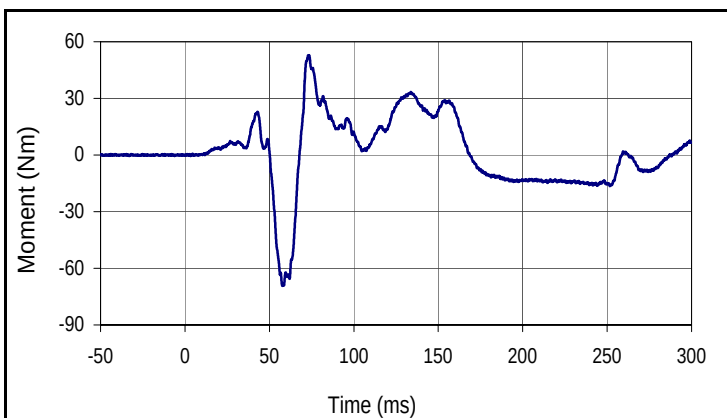
Curve Description			
V2P2 Femur Left Y Force			
Plot No.		SAE Class	Units
173		600	N
Max	Time	Min	Time
599.6	56.7	-213.7	131.8



Curve Description			
V2P2 Femur Left Z Force			
Plot No.		SAE Class	Units
174		600	N
Max	Time	Min	Time
215.8	262.3	-3805.7	64.1



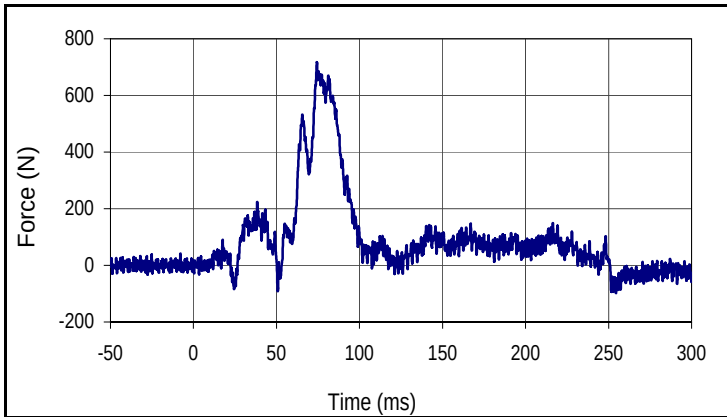
Curve Description			
V2P2 Femur Left X Moment			
Plot No.		SAE Class	Units
175		600	Nm
Max	Time	Min	Time
34.3	265.0	-165.5	56.4



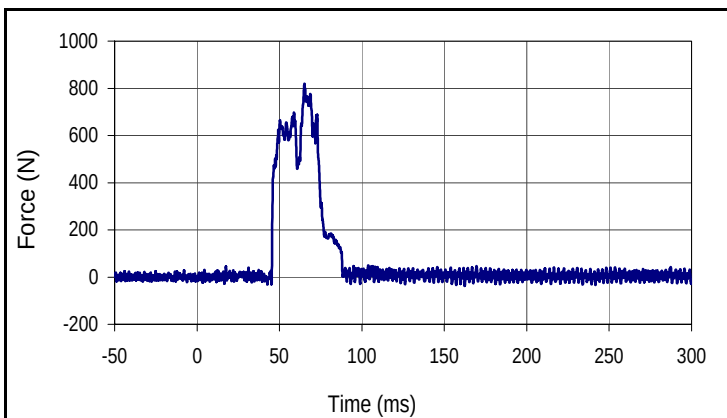
Curve Description			
V2P2 Femur Left Y Moment			
Plot No.		SAE Class	Units
176		600	Nm
Max	Time	Min	Time
52.8	73.5	-69.3	57.7

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

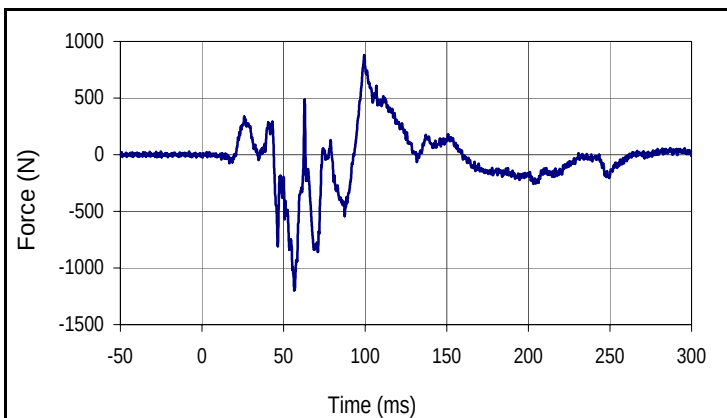
NHTSA No.: R20165413
 Test Date: 4/27/16



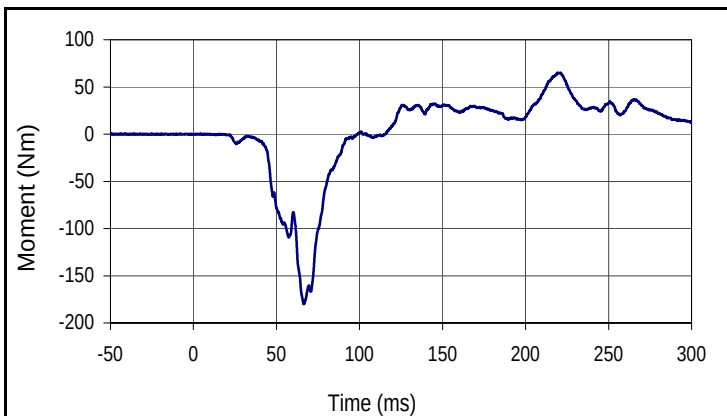
Curve Description			
V2P2 Femur Right X Force			
Plot No.		SAE Class	Units
177		600	N
Max	Time	Min	Time
717.7	74.4	-98.2	254.5



Curve Description			
V2P2 Femur Right Y Force			
Plot No.		SAE Class	Units
178		600	N
Max	Time	Min	Time
819.8	65.2	-36.9	162.4



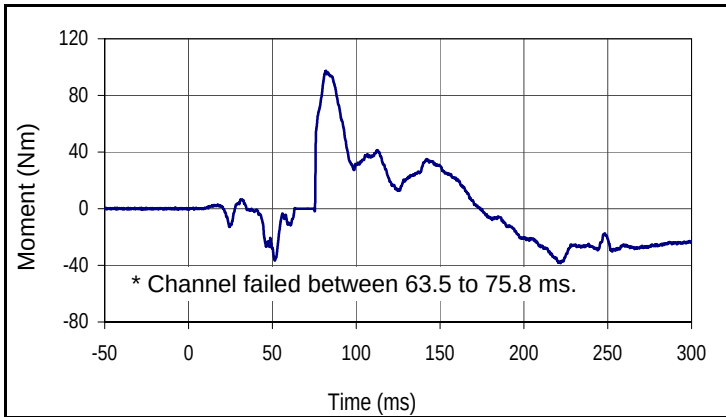
Curve Description			
V2P2 Femur Right Z Force			
Plot No.		SAE Class	Units
179		600	N
Max	Time	Min	Time
877.4	99.5	-1199.6	56.5



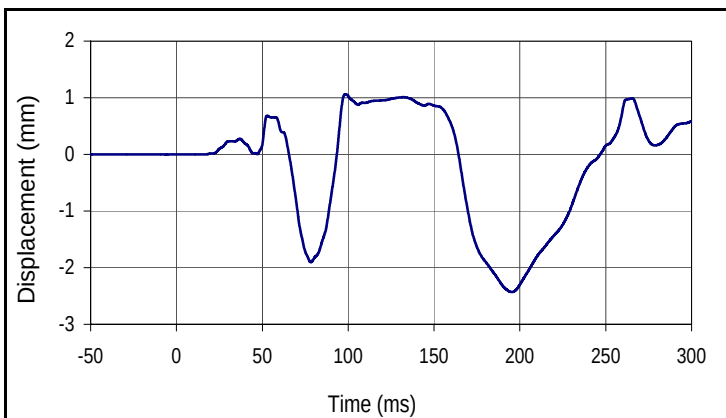
Curve Description			
V2P2 Femur Right X Moment			
Plot No.		SAE Class	Units
180		600	Nm
Max	Time	Min	Time
65.1	219.4	-180.0	66.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

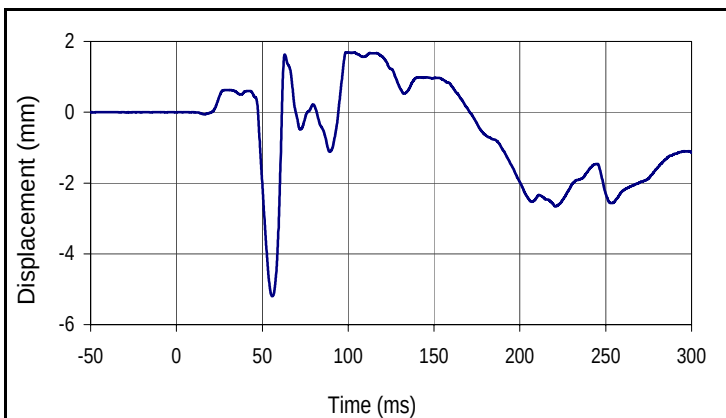
NHTSA No.: R20165413
 Test Date: 4/27/16



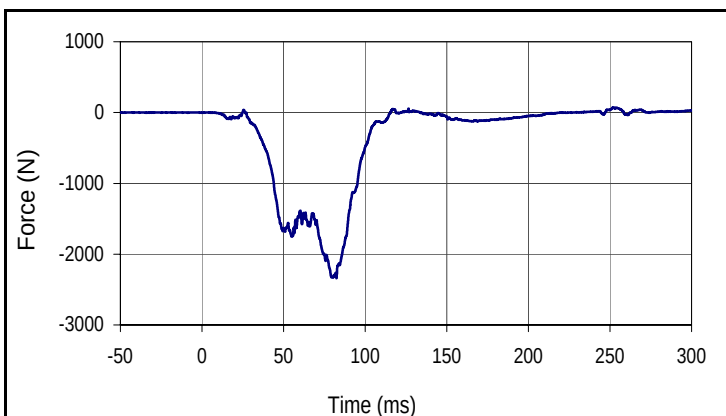
Curve Description			
V2P2 Femur Right Y Moment			
Plot No.		SAE Class	Units
181		600	Nm
Max	Time	Min	Time
97.4	81.9	-38.4	221.8



Curve Description			
V2P2 Knee Left X Displacement			
Plot No.		SAE Class	Units
182		180	mm
Max	Time	Min	Time
1.1	98.5	-2.4	195.4



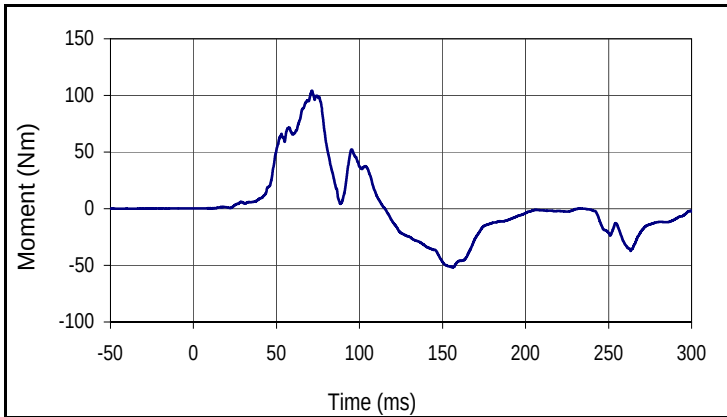
Curve Description			
V2P2 Knee Right X Displacement			
Plot No.		SAE Class	Units
183		180	mm
Max	Time	Min	Time
1.7	98.9	-5.2	55.9



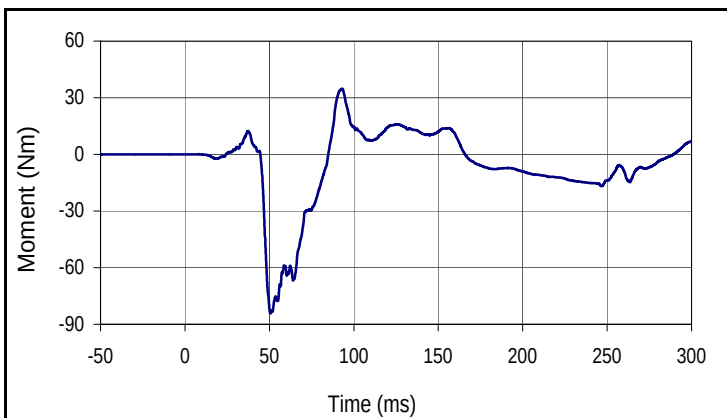
Curve Description			
V2P2 Upper Tibia Left Z Force			
Plot No.		SAE Class	Units
184		600	N
Max	Time	Min	Time
75.7	252.1	-2339.8	82.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

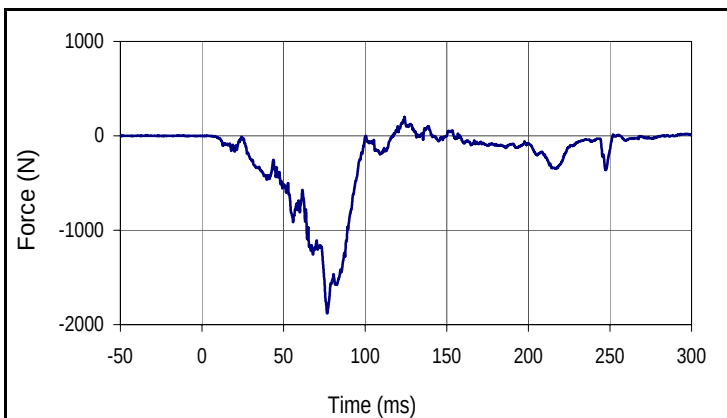
NHTSA No.: R20165413
 Test Date: 4/27/16



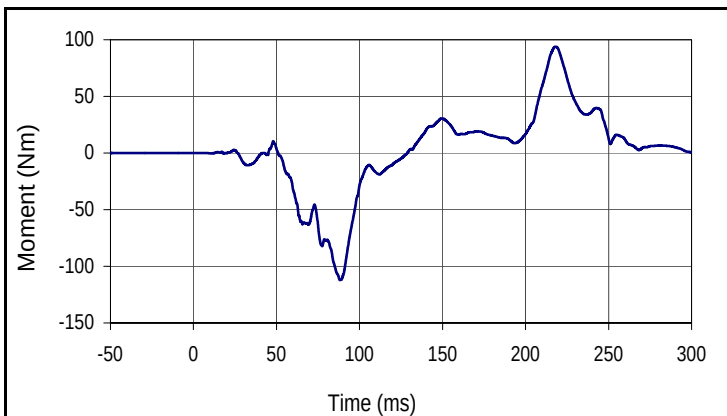
Curve Description			
V2P2 Upper Tibia Left X Moment			
Plot No.		SAE Class	Units
185		600	Nm
Max	Time	Min	Time
104.2	71.4	-52.0	156.1



Curve Description			
V2P2 Upper Tibia Left Y Moment			
Plot No.		SAE Class	Units
186		600	Nm
Max	Time	Min	Time
34.8	93.1	-84.2	50.7



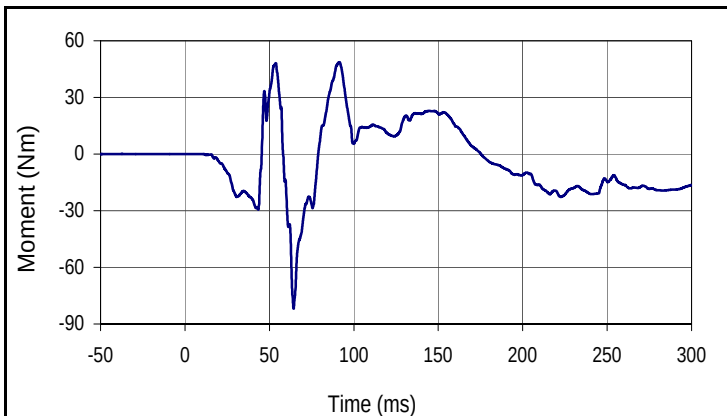
Curve Description			
V2P2 Upper Tibia Right Z Force			
Plot No.		SAE Class	Units
187		600	N
Max	Time	Min	Time
199.1	124.2	-1881.2	76.7



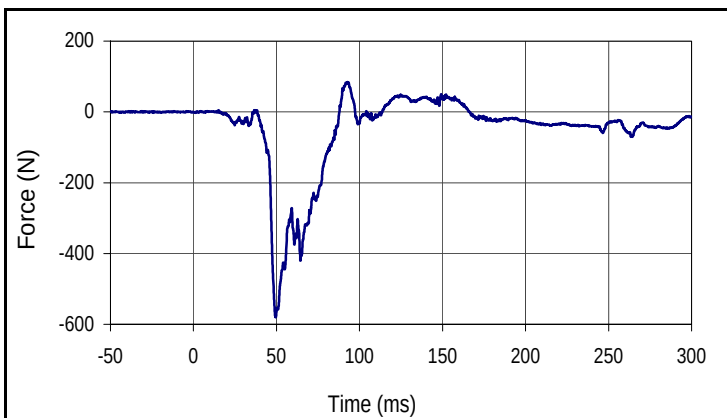
Curve Description			
V2P2 Upper Tibia Right X Moment			
Plot No.		SAE Class	Units
188		600	Nm
Max	Time	Min	Time
93.9	218.3	-112.2	88.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

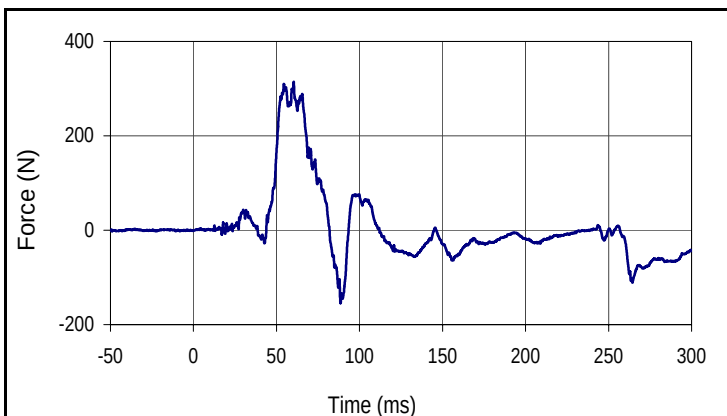
NHTSA No.: R20165413
 Test Date: 4/27/16



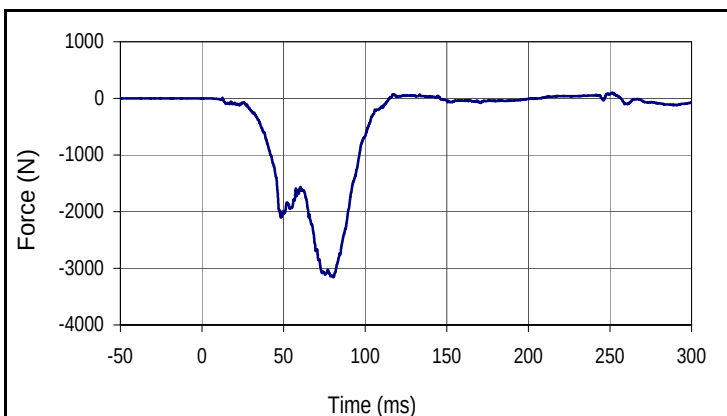
Curve Description			
V2P2 Upper Tibia Right Y Moment			
Plot No.		SAE Class	Units
189		600	Nm
Max	Time	Min	Time
48.7	91.5	-81.9	64.3



Curve Description			
V2P2 Lower Tibia Left X Force			
Plot No.		SAE Class	Units
190		600	N
Max	Time	Min	Time
84.6	92.7	-579.7	49.6



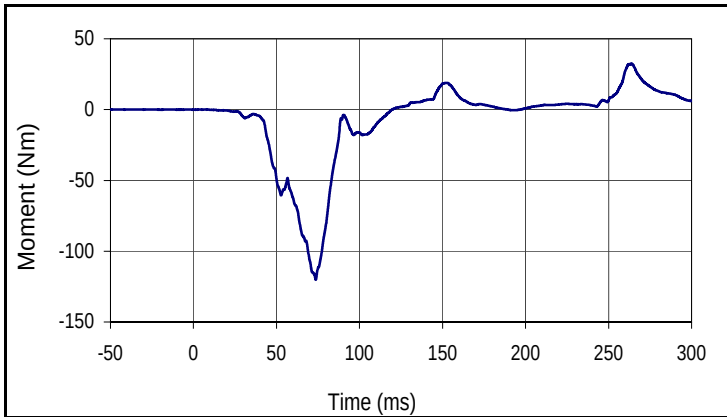
Curve Description			
V2P2 Lower Tibia Left Y Force			
Plot No.		SAE Class	Units
191		600	N
Max	Time	Min	Time
314.5	60.4	-154.4	88.6



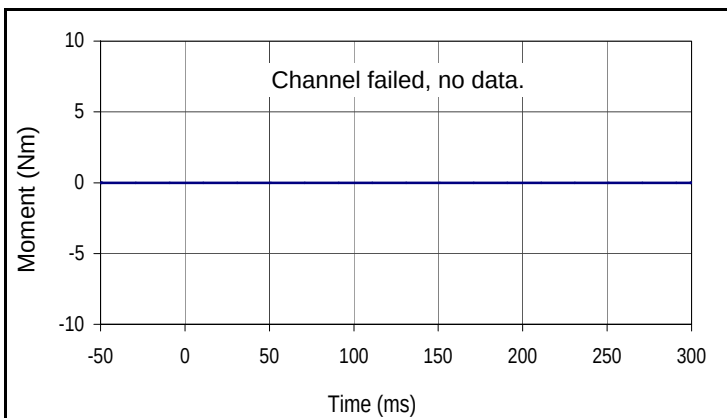
Curve Description			
V2P2 Lower Tibia Left Z Force			
Plot No.		SAE Class	Units
192		600	N
Max	Time	Min	Time
99.2	251.6	-3156.3	80.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

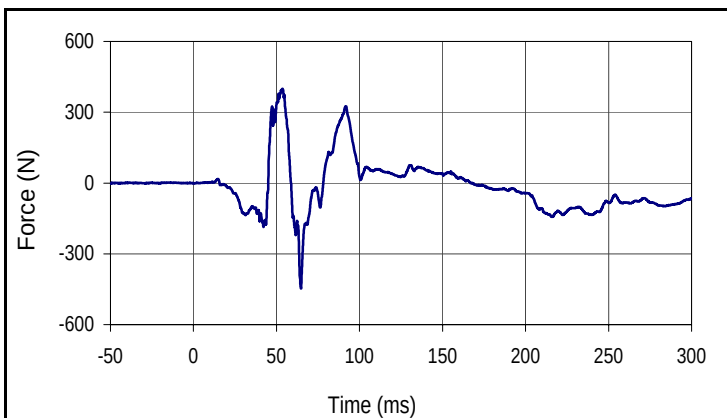
NHTSA No.: R20165413
 Test Date: 4/27/16



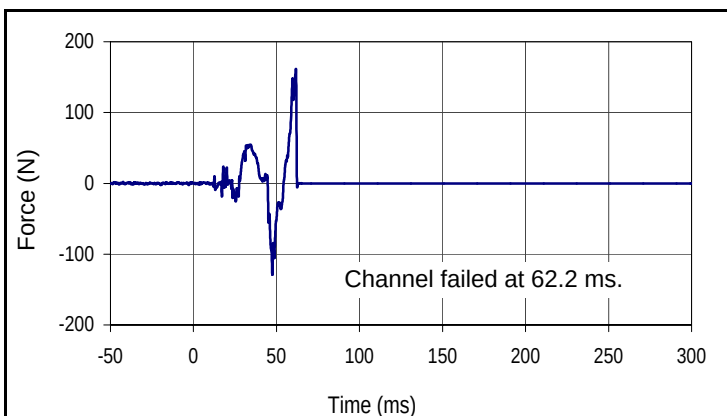
Curve Description			
V2P2 Lower Tibia Left X Moment			
Plot No.		SAE Class	Units
193		600	Nm
Max	Time	Min	Time
32.5	263.9	-120.2	73.7



Curve Description			
V2P2 Lower Tibia Left Y Moment			
Plot No.		SAE Class	Units
194		600	Nm
Max	Time	Min	Time
0.0	-20.0	0.0	-20.0



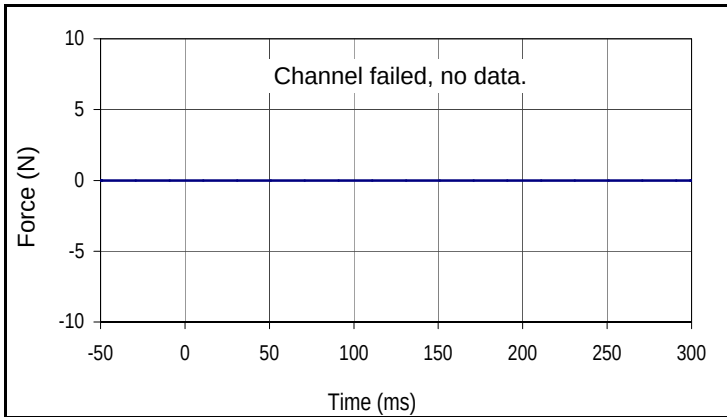
Curve Description			
V2P2 Lower Tibia Right X Force			
Plot No.		SAE Class	Units
195		600	N
Max	Time	Min	Time
399.3	53.5	-447.4	64.8



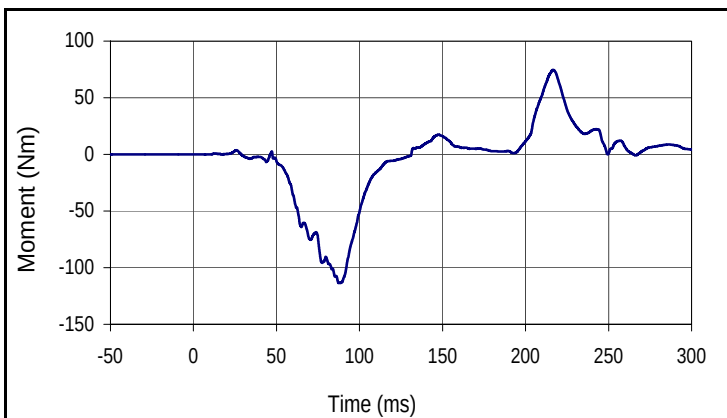
Curve Description			
V2P2 Lower Tibia Right Y Force			
Plot No.		SAE Class	Units
196		600	N
Max	Time	Min	Time
161.4	61.6	-128.8	47.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

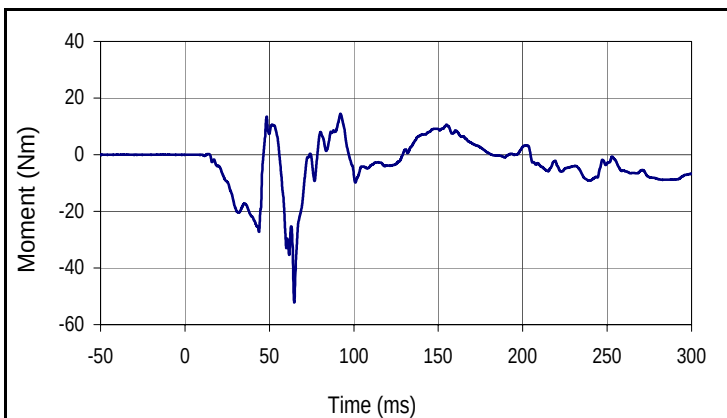
NHTSA No.: R20165413
 Test Date: 4/27/16



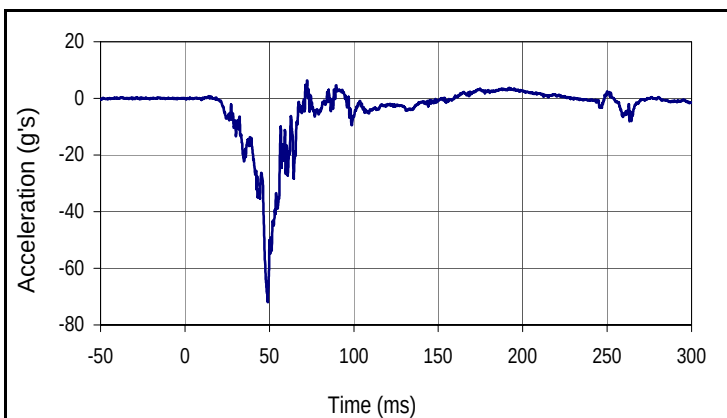
Curve Description			
V2P2 Lower Tibia Right Z Force			
Plot No.		SAE Class	Units
197		600	N
Max	Time	Min	Time
0.0	-20.0	0.0	-20.0



Curve Description			
V2P2 Lower Tibia Right X Moment			
Plot No.		SAE Class	Units
198		600	Nm
Max	Time	Min	Time
74.6	216.5	-113.7	87.6



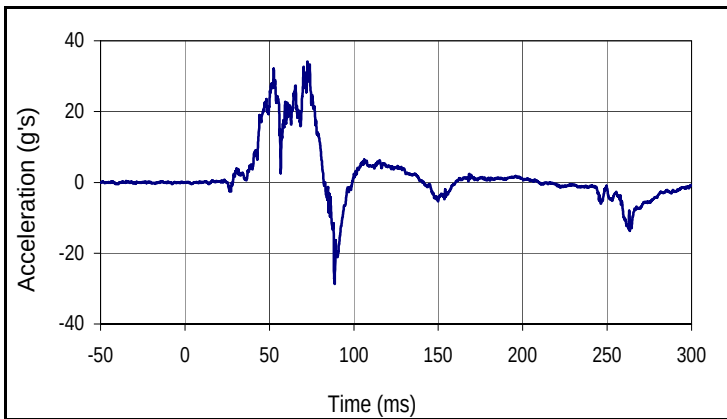
Curve Description			
V2P2 Lower Tibia Right Y Moment			
Plot No.		SAE Class	Units
199		600	Nm
Max	Time	Min	Time
14.4	92.1	-52.2	64.7



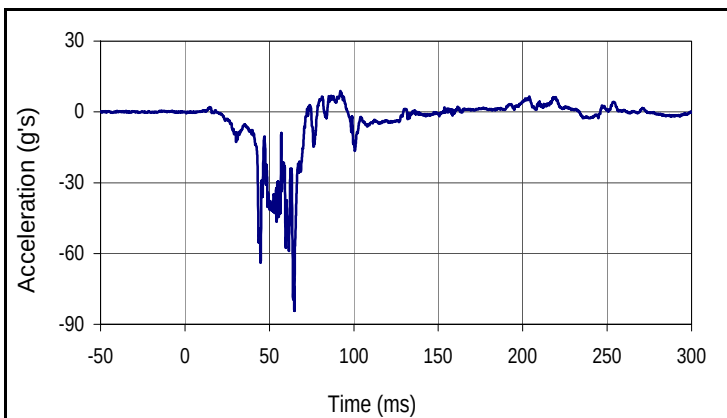
Curve Description			
V2P2 Mid Tibia Left X Acceleration			
Plot No.		SAE Class	Units
200		1000	g's
Max	Time	Min	Time
6.3	72.4	-71.9	49.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

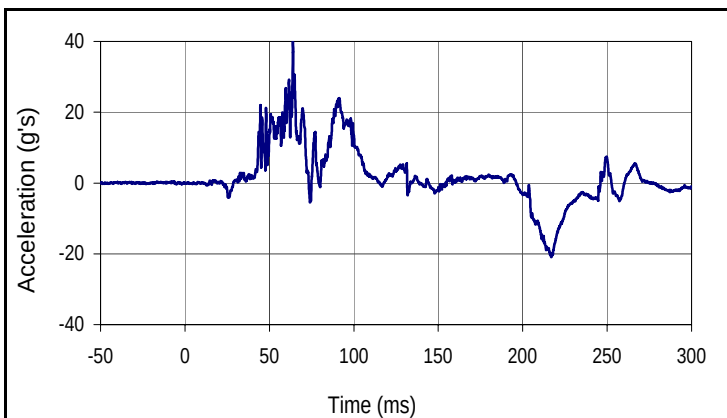
NHTSA No.: R20165413
 Test Date: 4/27/16



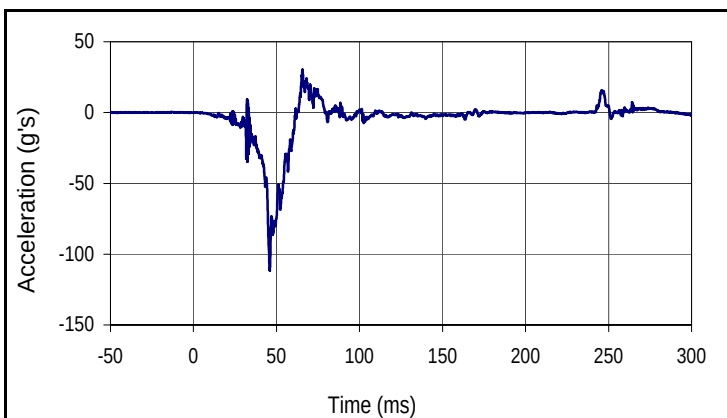
Curve Description			
V2P2 Mid Tibia Left Y Acceleration			
Plot No.		SAE Class	Units
201		1000	g's
Max	Time	Min	Time
34.2	72.6	-28.7	88.7



Curve Description			
V2P2 Mid Tibia Right X Acceleration			
Plot No.		SAE Class	Units
202		1000	g's
Max	Time	Min	Time
8.8	92.1	-84.1	64.8



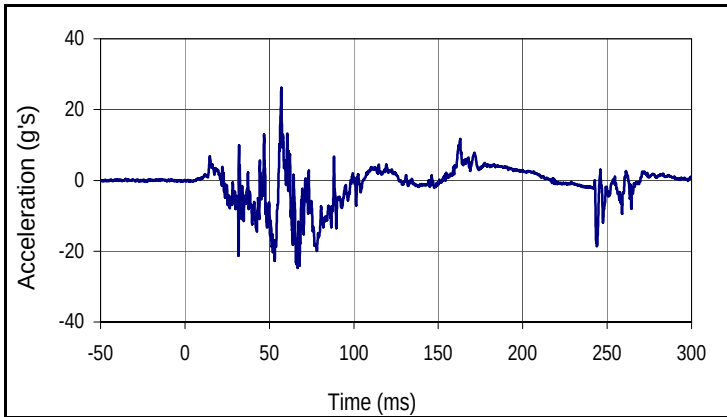
Curve Description			
V2P2 Mid Tibia Right Y Acceleration			
Plot No.		SAE Class	Units
203		1000	g's
Max	Time	Min	Time
39.9	63.9	-20.9	216.9



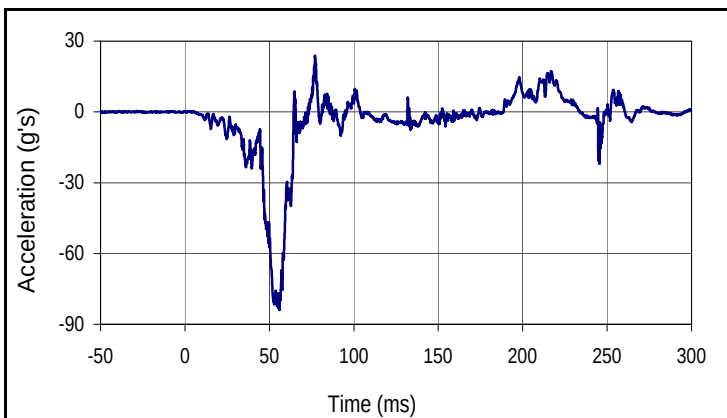
Curve Description			
V2P2 Foot Left X Acceleration			
Plot No.		SAE Class	Units
204		1000	g's
Max	Time	Min	Time
30.3	65.7	-111.5	45.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

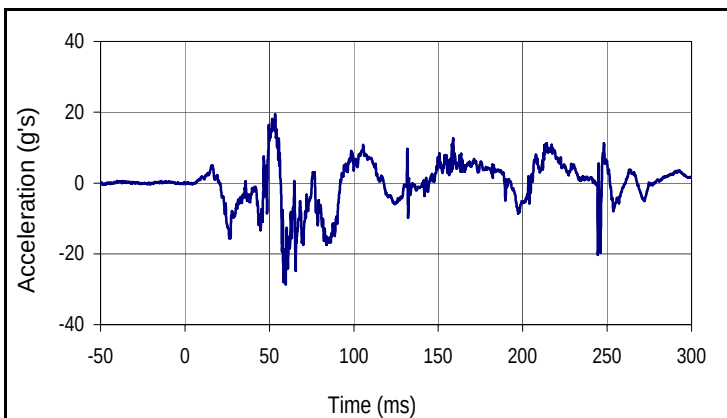
NHTSA No.: R20165413
 Test Date: 4/27/16



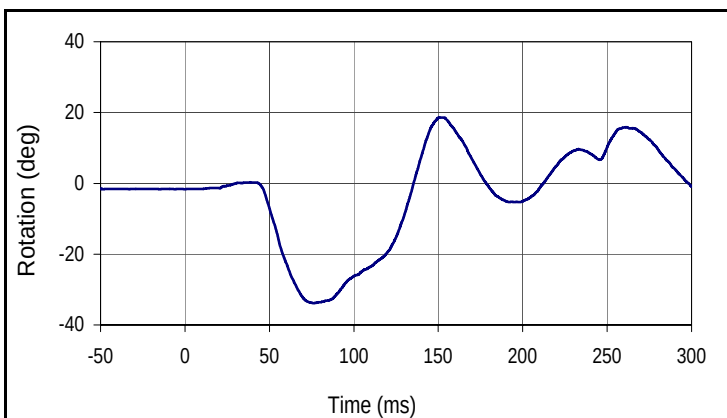
Curve Description			
V2P2 Foot Left Z Acceleration			
Plot No.		SAE Class	Units
205		1000	g's
Max	Time	Min	Time
26.2	57.1	-24.8	66.7



Curve Description			
V2P2 Foot Right X Acceleration			
Plot No.		SAE Class	Units
206		1000	g's
Max	Time	Min	Time
23.7	77.0	-84.0	56.0



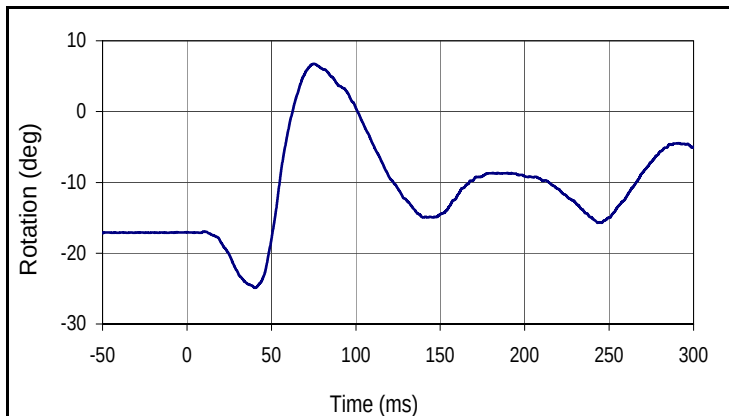
Curve Description			
V2P2 Foot Right Z Acceleration			
Plot No.		SAE Class	Units
207		1000	g's
Max	Time	Min	Time
19.5	53.4	-28.7	59.7



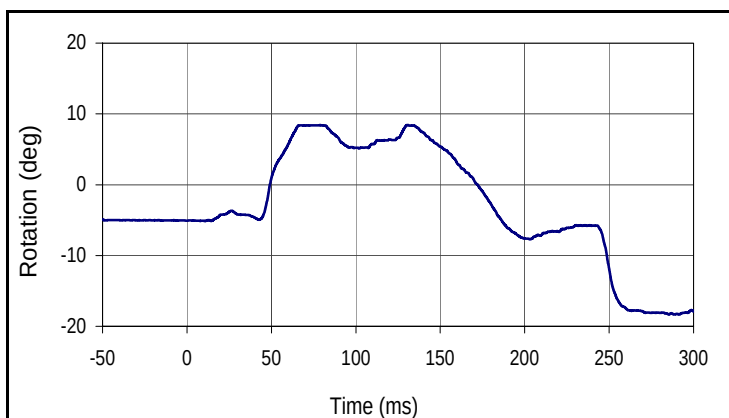
Curve Description			
V2P2 Ankle Left X Rotation			
Plot No.		SAE Class	Units
208		180	deg
Max	Time	Min	Time
18.6	150.7	-33.8	76.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

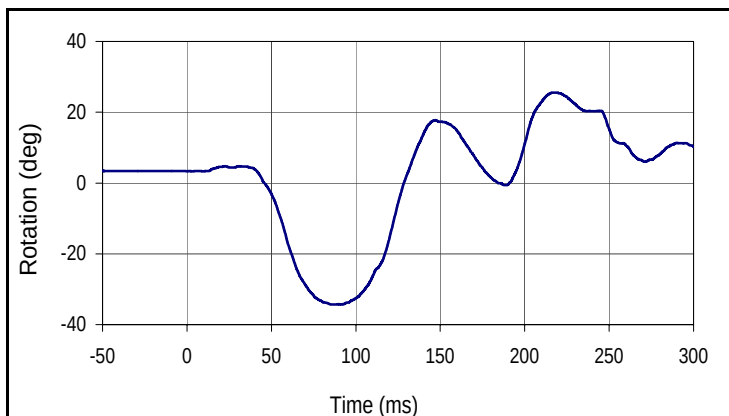
NHTSA No.: R20165413
 Test Date: 4/27/16



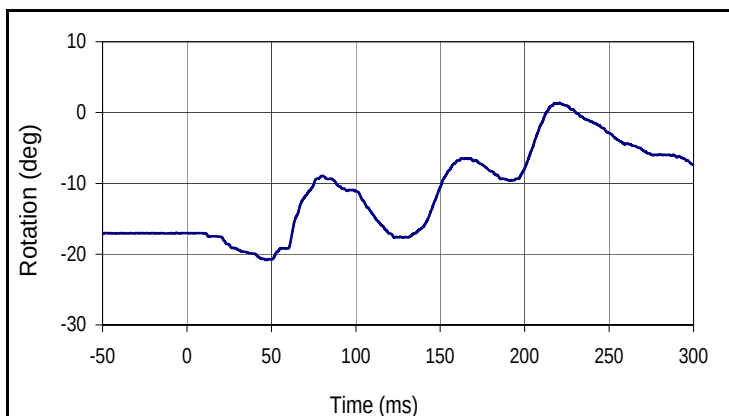
Curve Description			
V2P2 Ankle Left Y Rotation			
Plot No.		SAE Class	Units
209		180	deg
Max	Time	Min	Time
6.7	75.3	-24.9	40.4



Curve Description			
V2P2 Ankle Left Z Rotation			
Plot No.		SAE Class	Units
210		180	deg
Max	Time	Min	Time
8.4	130.7	-18.3	288.4



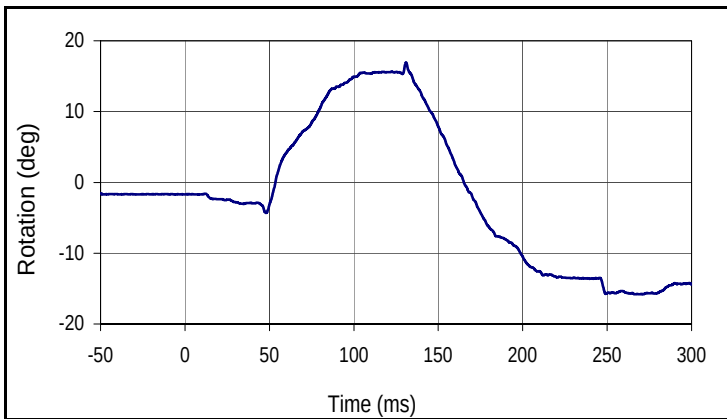
Curve Description			
V2P2 Ankle Right X Rotation			
Plot No.		SAE Class	Units
211		180	deg
Max	Time	Min	Time
25.6	219.0	-34.3	91.0



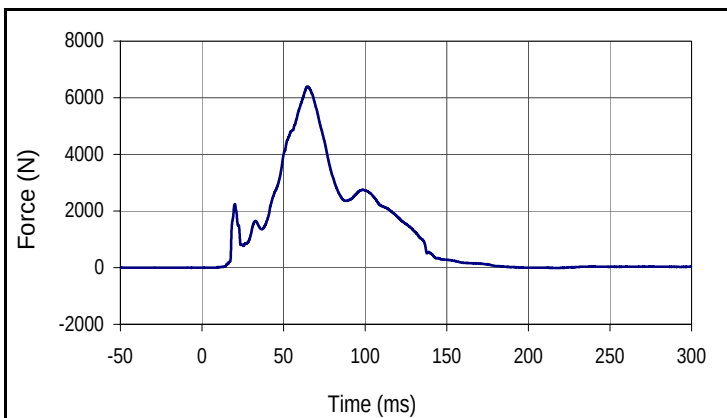
Curve Description			
V2P2 Ankle Right Y Rotation			
Plot No.		SAE Class	Units
212		180	deg
Max	Time	Min	Time
1.4	220.4	-20.8	47.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

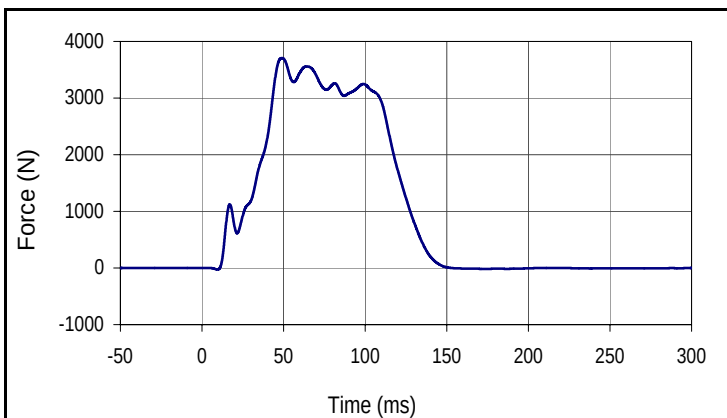
NHTSA No.: R20165413
 Test Date: 4/27/16



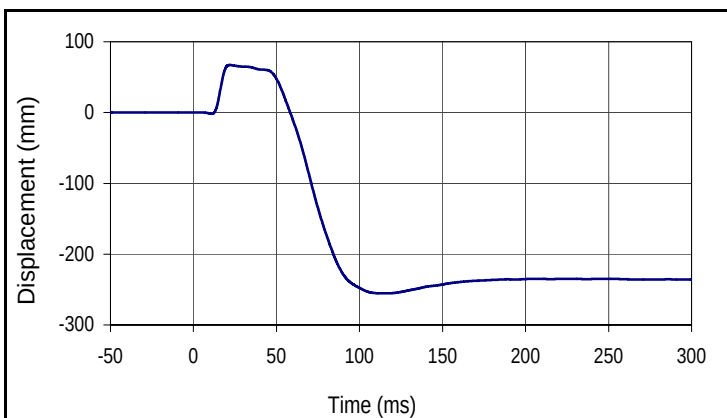
Curve Description			
V2P2 Ankle Right Z Rotation			
Plot No.		SAE Class	Units
213		180	deg
Max	Time	Min	Time
16.9	130.9	-15.8	266.5



Curve Description			
V2 Passenger Lap Belt Force			
Plot No.		SAE Class	Units
214		600	N
Max	Time	Min	Time
6398.6	64.8	-16.1	217.3



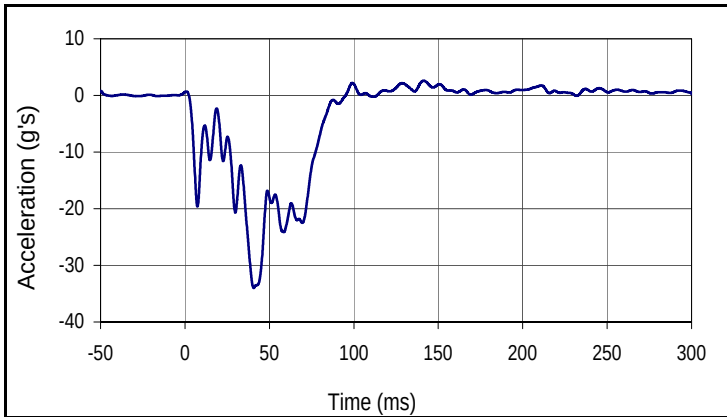
Curve Description			
V2 Passenger Shoulder Belt Upper Force			
Plot No.		SAE Class	Units
215		60	N
Max	Time	Min	Time
3707.3	49.0	-27.3	9.5



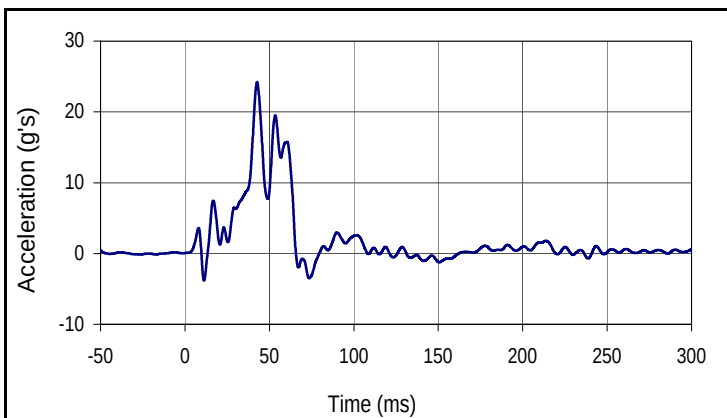
Curve Description			
V2 Passenger Shoulder Belt Displacement			
Plot No.		SAE Class	Units
216		60	mm
Max	Time	Min	Time
67.2	21.7	-255.4	115.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

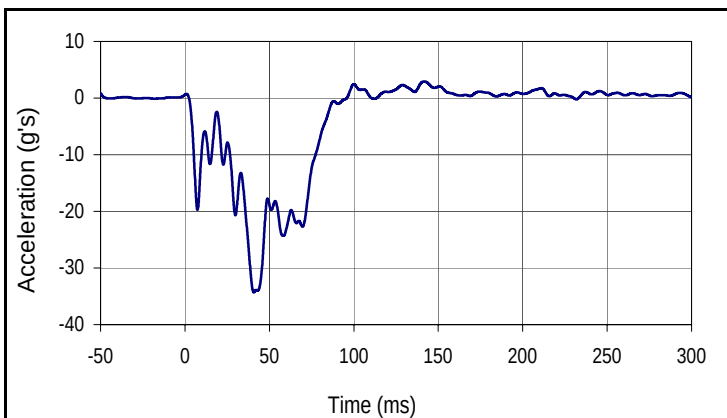
NHTSA No.: R20165413
 Test Date: 4/27/16



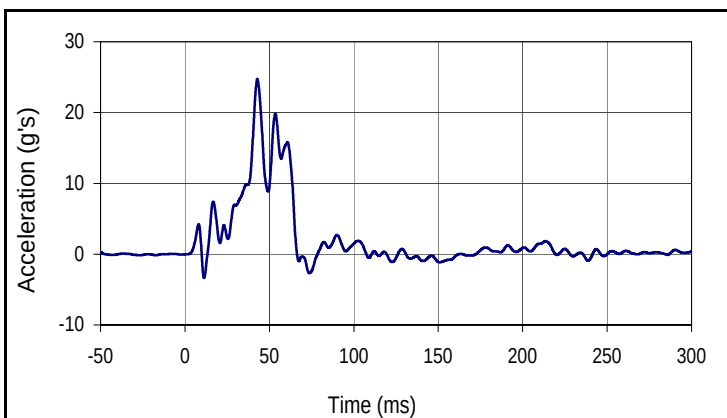
Curve Description			
V2 Left Rear Sill X Acceleration			
Plot No.		SAE Class	Units
217		60	g's
Max	Time	Min	Time
2.6	141.4	-34.0	40.7



Curve Description			
V2 Left Rear Sill Y Acceleration			
Plot No.		SAE Class	Units
218		60	g's
Max	Time	Min	Time
24.2	42.7	-3.8	11.3



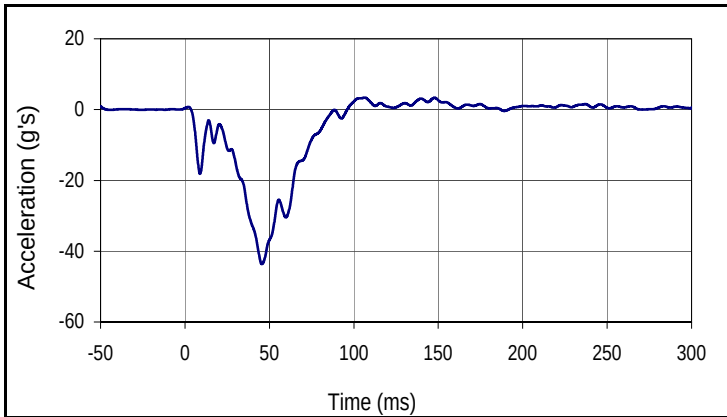
Curve Description			
V2 Left Rear Sill Redundant X Acceleration			
Plot No.		SAE Class	Units
219		60	g's
Max	Time	Min	Time
2.9	141.6	-34.3	40.8



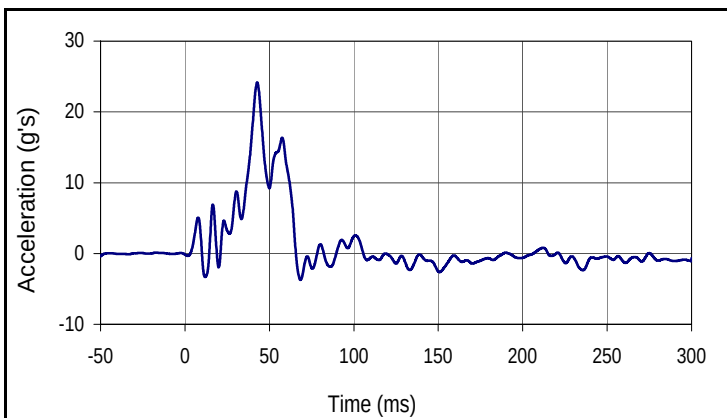
Curve Description			
V2 Left Rear Sill Redundant Y Acceleration			
Plot No.		SAE Class	Units
220		60	g's
Max	Time	Min	Time
24.7	42.9	-3.4	11.3

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

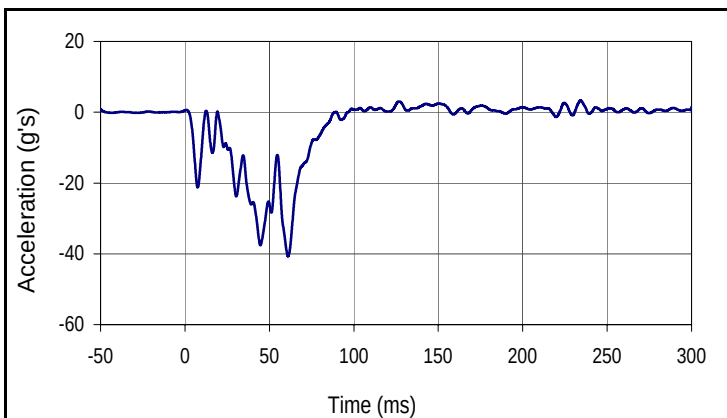
NHTSA No.: R20165413
 Test Date: 4/27/16



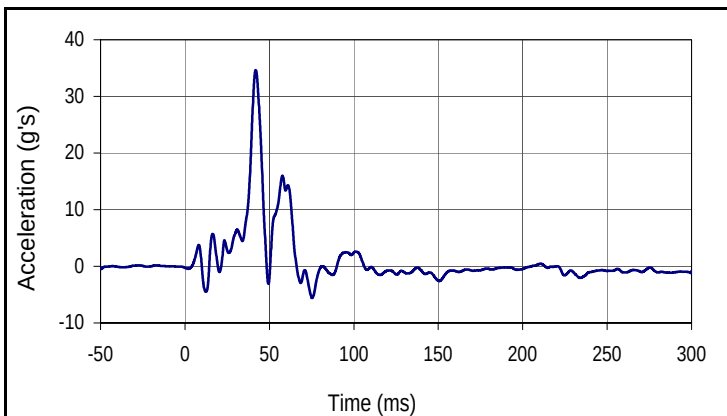
Curve Description			
V2 Right Rear Sill X Acceleration			
Plot No.		SAE Class	Units
221		60	g's
Max	Time	Min	Time
3.4	106.4	-43.6	45.5



Curve Description			
V2 Right Rear Sill Y Acceleration			
Plot No.		SAE Class	Units
222		60	g's
Max	Time	Min	Time
24.2	42.8	-3.7	68.4



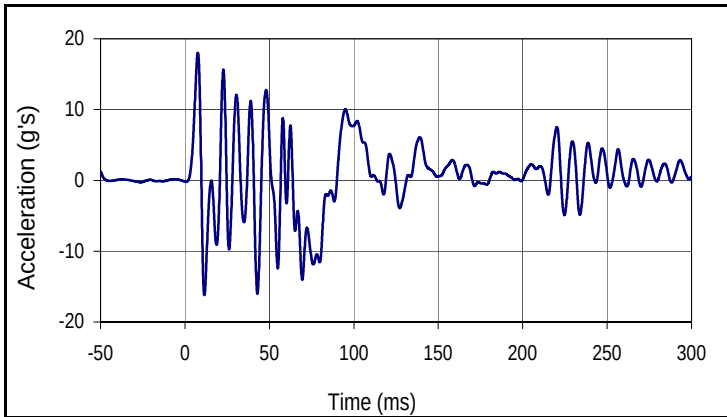
Curve Description			
V2 Vehicle CG X Acceleration			
Plot No.		SAE Class	Units
223		60	g's
Max	Time	Min	Time
3.3	234.3	-40.7	61.1



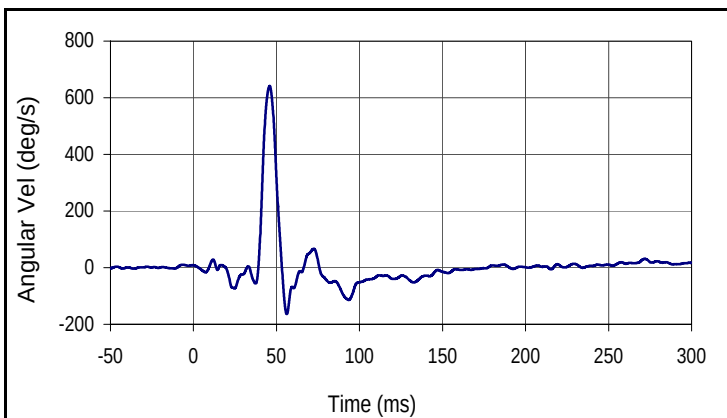
Curve Description			
V2 Vehicle CG Y Acceleration			
Plot No.		SAE Class	Units
224		60	g's
Max	Time	Min	Time
34.6	41.9	-5.6	75.3

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

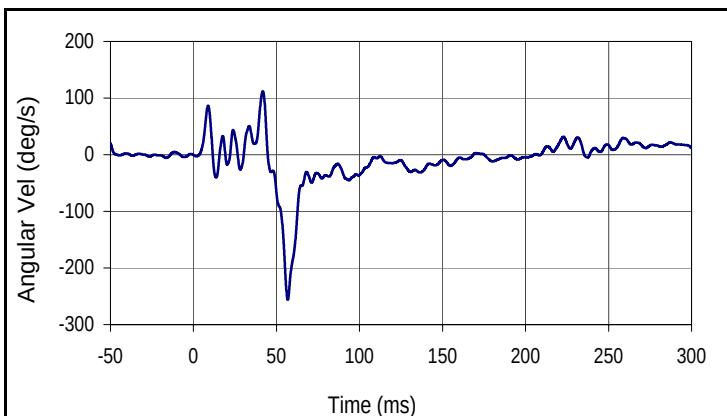
NHTSA No.: R20165413
 Test Date: 4/27/16



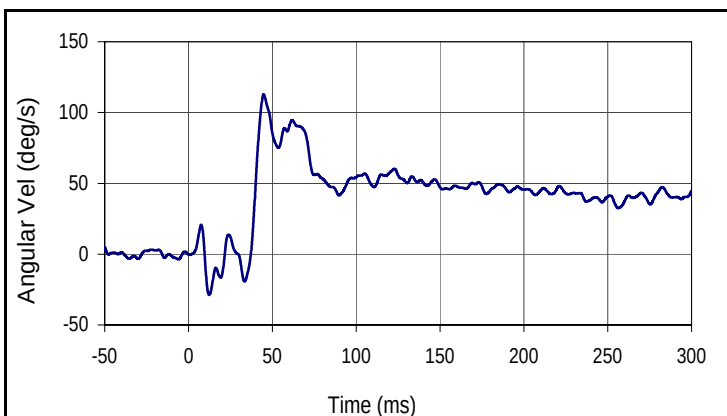
Curve Description			
V2 Vehicle CG Z Acceleration			
Plot No.		SAE Class	Units
225		60	g's
Max	Time	Min	Time
18.0	7.6	-16.2	11.5



Curve Description			
V2 Vehicle CG Angular Rate X			
Plot No.		SAE Class	Units
226		60	deg/s
Max	Time	Min	Time
641.6	45.9	-163.4	56.2



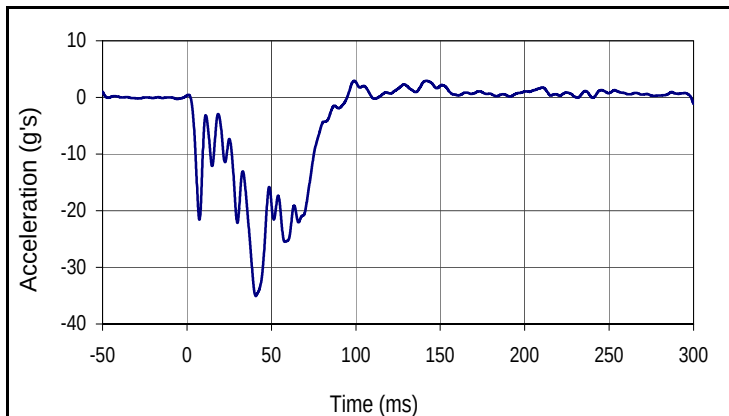
Curve Description			
V2 Vehicle CG Angular Rate Y			
Plot No.		SAE Class	Units
227		60	deg/s
Max	Time	Min	Time
111.9	41.8	-256.2	56.8



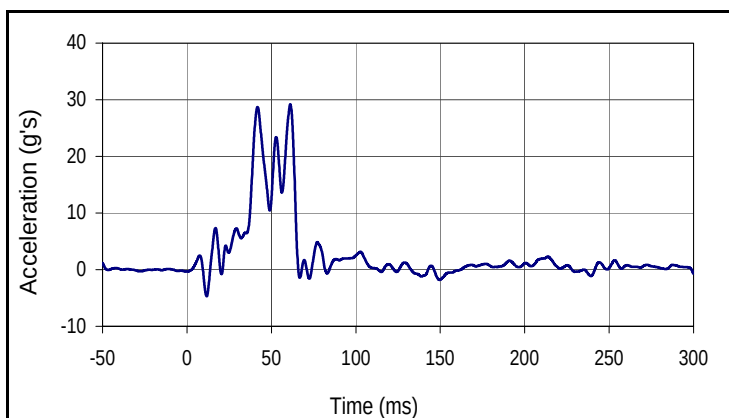
Curve Description			
V2 Vehicle CG Angular Rate Z			
Plot No.		SAE Class	Units
228		60	deg/s
Max	Time	Min	Time
112.9	44.8	-28.7	12.3

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

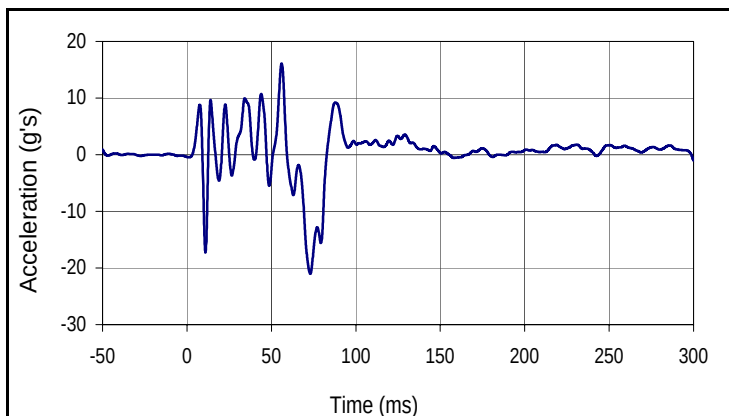
NHTSA No.: R20165413
 Test Date: 4/27/16



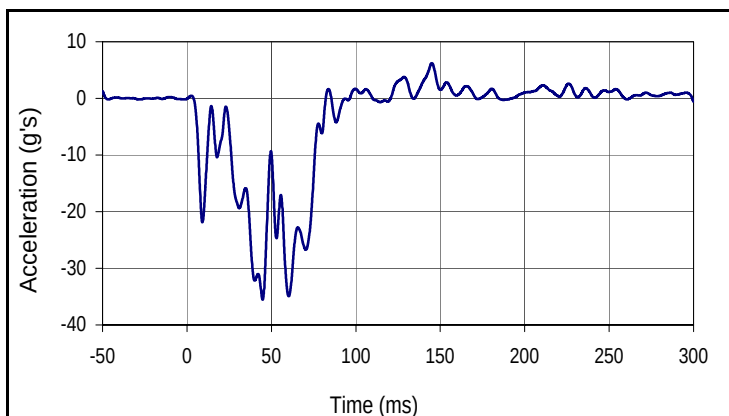
Curve Description			
V2 Driver Seat Track X Acceleration			
Plot No.		SAE Class	Units
229		60	g's
Max	Time	Min	Time
2.9	141.9	-35.1	40.8



Curve Description			
V2 Driver Seat Track Y Acceleration			
Plot No.		SAE Class	Units
230		60	g's
Max	Time	Min	Time
29.2	61.2	-4.7	11.7



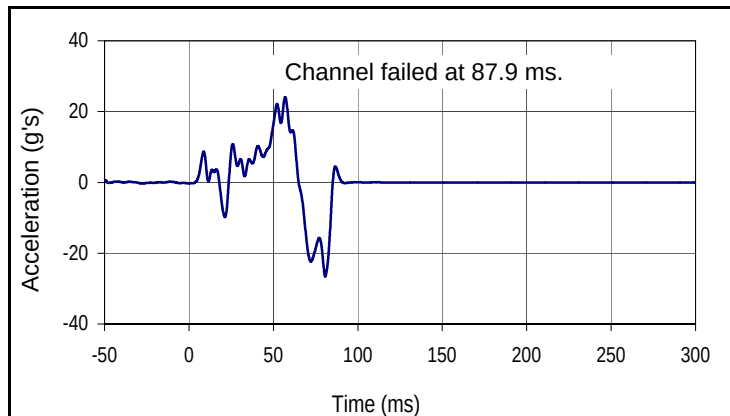
Curve Description			
V2 Driver Seat Track Z Acceleration			
Plot No.		SAE Class	Units
231		60	g's
Max	Time	Min	Time
16.1	56.1	-21.0	73.0



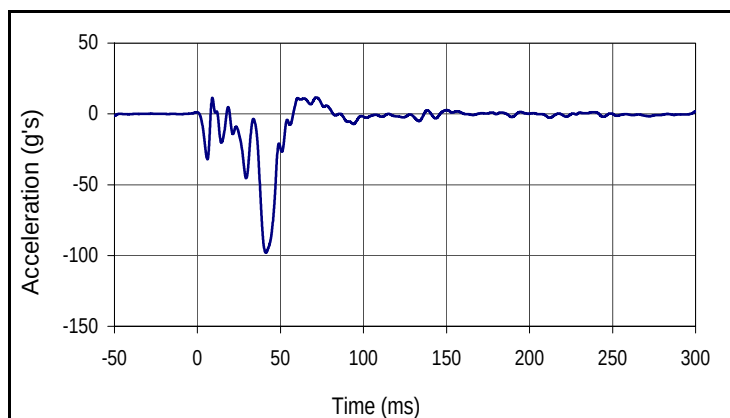
Curve Description			
V2 Driver Seat Thigh Bar X Acceleration			
Plot No.		SAE Class	Units
232		60	g's
Max	Time	Min	Time
6.2	145.0	-35.6	44.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

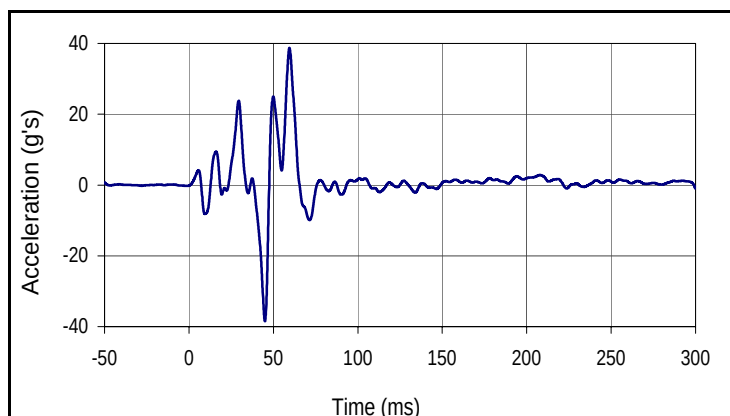
NHTSA No.: R20165413
 Test Date: 4/27/16



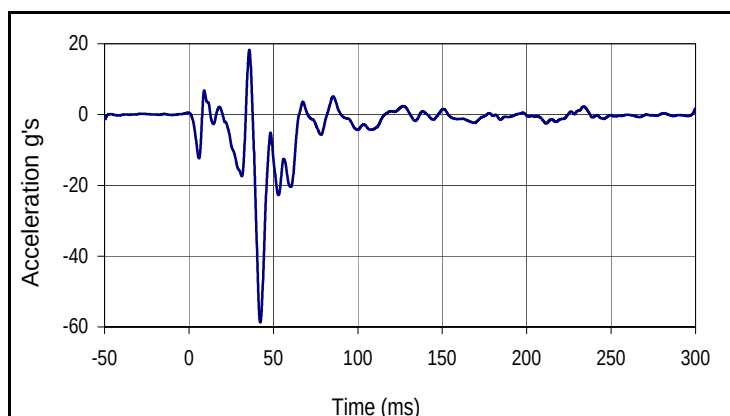
Curve Description			
V2 Driver Seat Thigh Bar Z Acceleration			
Plot No.		SAE Class	Units
233		60	g's
Max	Time	Min	Time
24.1	57.0	-26.6	80.7



Curve Description			
V2 Driver Floor Pan X Acceleration			
Plot No.		SAE Class	Units
234		60	g's
Max	Time	Min	Time
11.7	71.7	-98.0	41.2



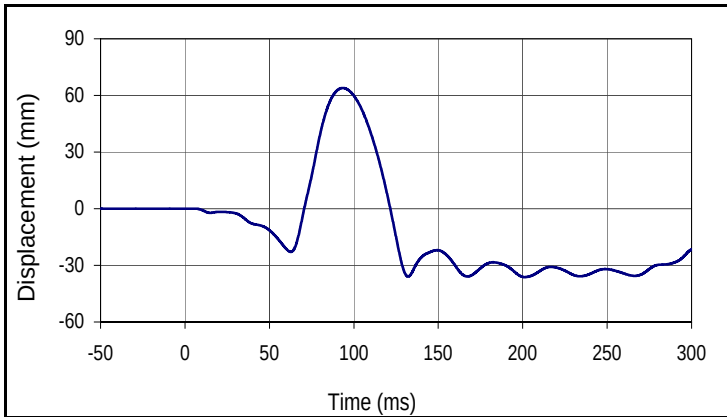
Curve Description			
V2 Driver Floor Pan Y Acceleration			
Plot No.		SAE Class	Units
235		60	g's
Max	Time	Min	Time
38.7	59.5	-38.5	45.0



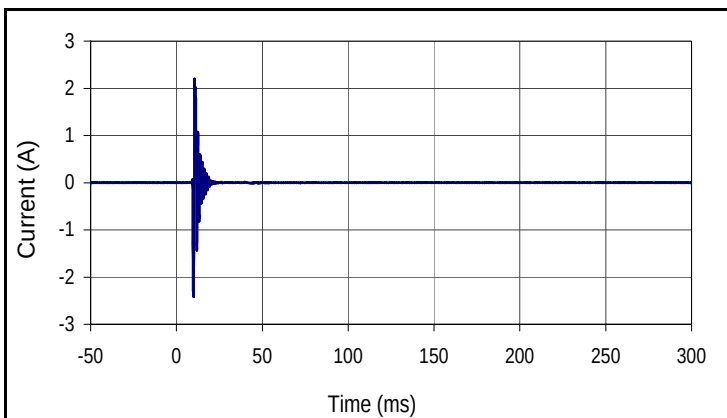
Curve Description			
V2 Driver Floor Pan Z Acceleration			
Plot No.		SAE Class	Units
236		60	g's
Max	Time	Min	Time
18.3	35.8	-58.8	42.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

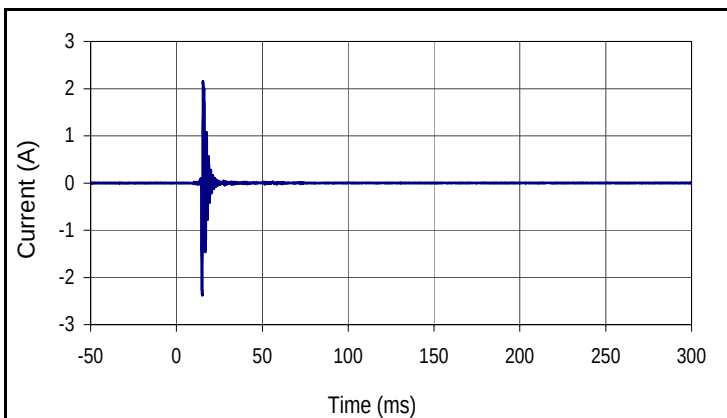
NHTSA No.: R20165413
 Test Date: 4/27/16



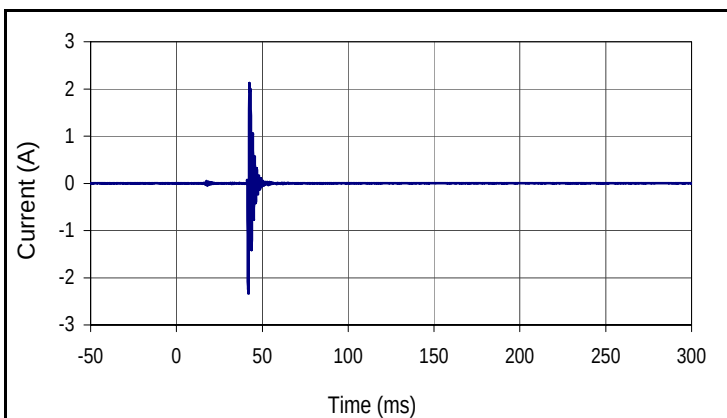
Curve Description			
V2 Driver Floor Pan X Deflection			
Plot No.		SAE Class	Units
237		60	mm
Max	Time	Min	Time
63.9	93.5	-36.2	201.2



Curve Description			
V2 Driver Front Airbag Stage 1 Monitor - Time to fire: 9.5 ms.			
Plot No.		SAE Class	Units
238		1000	A
Max	Time	Min	Time
2.2	10.5	-2.4	10.0



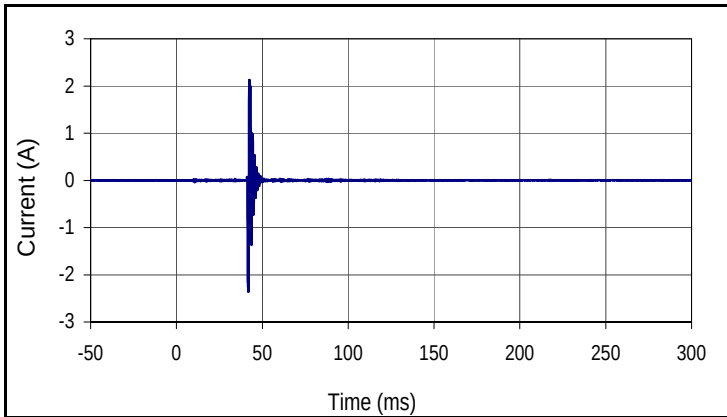
Curve Description			
V2 Driver Front Airbag Stage 2 Monitor - Time to fire: 14.5 ms.			
Plot No.		SAE Class	Units
239		1000	A
Max	Time	Min	Time
2.1	15.5	-2.4	15.0



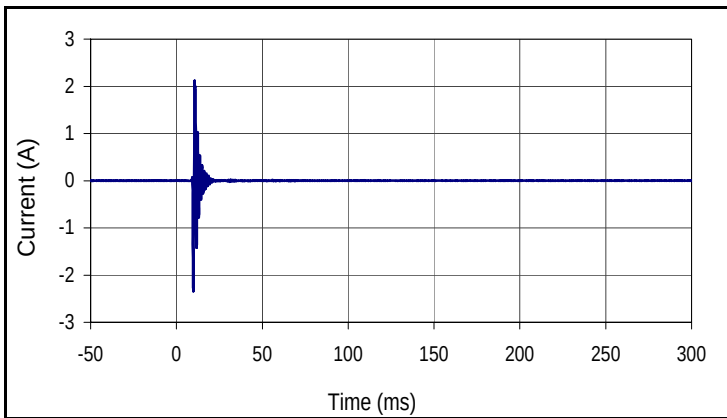
Curve Description			
V2 Driver Curtain Airbag Monitor - Time to fire: 41.5.			
Plot No.		SAE Class	Units
240		1000	A
Max	Time	Min	Time
2.1	42.5	-2.3	42.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

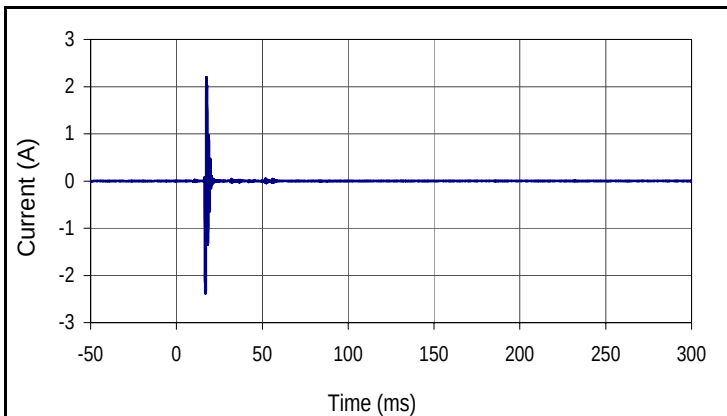
NHTSA No.: R20165413
 Test Date: 4/27/16



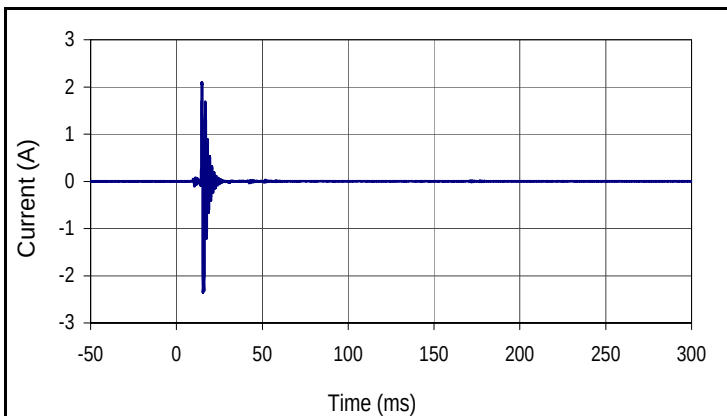
Curve Description			
V2 Driver Seat Airbag Monitor - Time to fire: 41.5 ms.			
Plot No.		SAE Class	Units
241		1000	A
Max	Time	Min	Time
2.1	42.5	-2.4	41.9



Curve Description			
V2 Driver Retractor Pretensioner Monitor - Time to fire: 9.5 ms			
Plot No.		SAE Class	Units
242		1000	A
Max	Time	Min	Time
2.1	10.5	-2.3	9.9



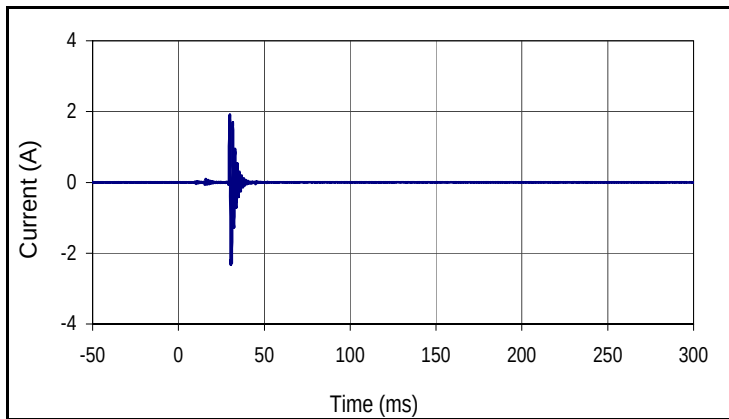
Curve Description			
V2 Driver Anchor Pretensioner Monitor - Time to fire: 16.5 ms.			
Plot No.		SAE Class	Units
243		1000	A
Max	Time	Min	Time
2.2	17.4	-2.4	16.9



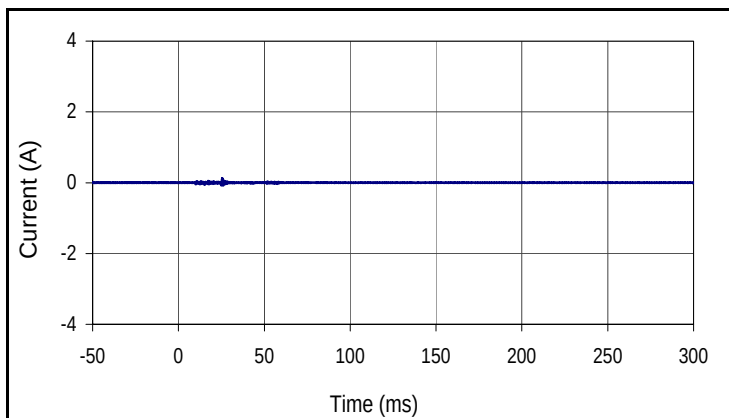
Curve Description			
V2 Passenger Front Airbag Stage 1 Monitor - Time to fire: 14.5 ms.			
Plot No.		SAE Class	Units
244		1000	A
Max	Time	Min	Time
2.1	14.9	-2.4	15.5

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

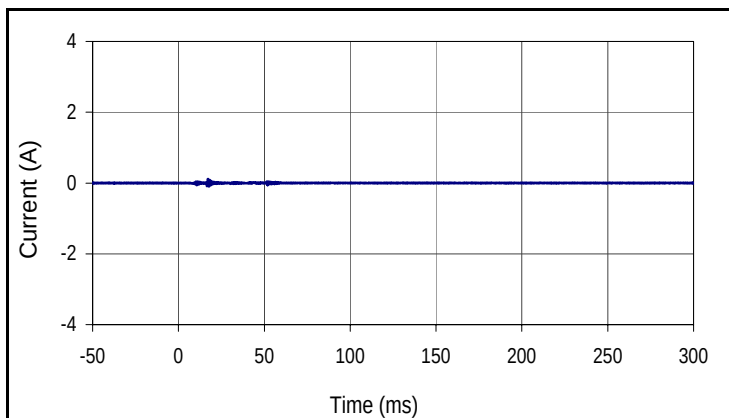
NHTSA No.: R20165413
 Test Date: 4/27/16



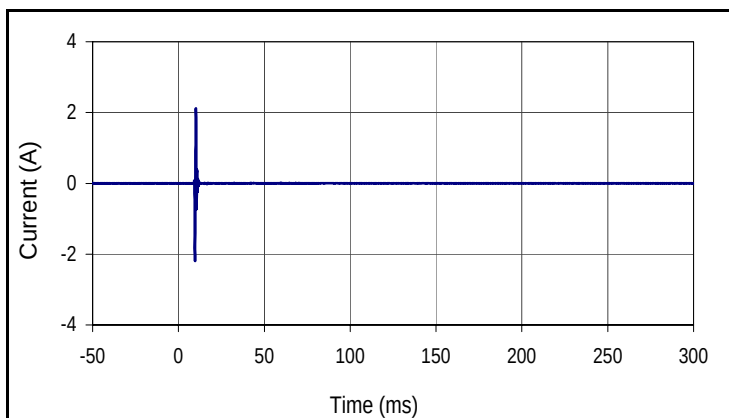
Curve Description			
V2 Passenger Front Airbag Stage 2 Monitor - Time to fire: 29.4 ms.			
Plot No.		SAE Class	Units
245		1000	A
Max	Time	Min	Time
1.9	30.0	-2.3	30.5



Curve Description			
V2 Passenger Curtain Airbag Monitor - Time to fire: Did not fire.			
Plot No.		SAE Class	Units
246		1000	A
Max	Time	Min	Time
0.1	25.5	-0.1	26.0



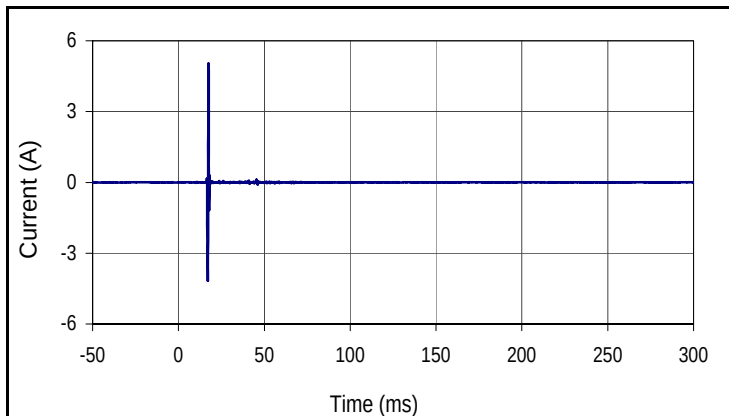
Curve Description			
V2 Passenger Seat Airbag Monitor - Time to fire: Did not fire.			
Plot No.		SAE Class	Units
247		1000	A
Max	Time	Min	Time
0.1	17.2	-0.1	17.7



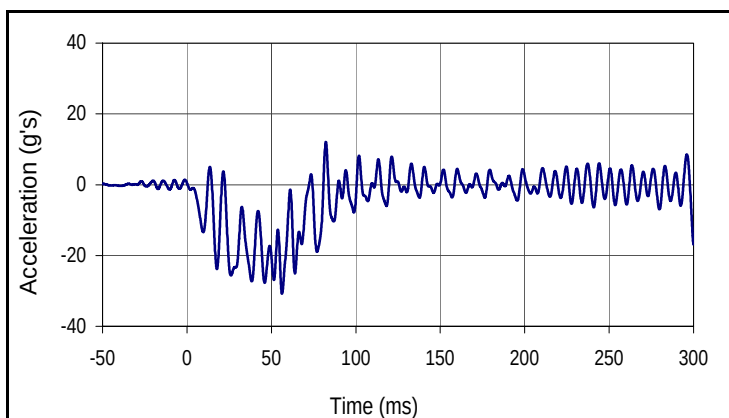
Curve Description			
V2 Passenger Retractor Pretensioner Monitor - Time to fire: 9.5 ms.			
Plot No.		SAE Class	Units
248		1000	A
Max	Time	Min	Time
2.1	10.2	-2.2	9.6

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

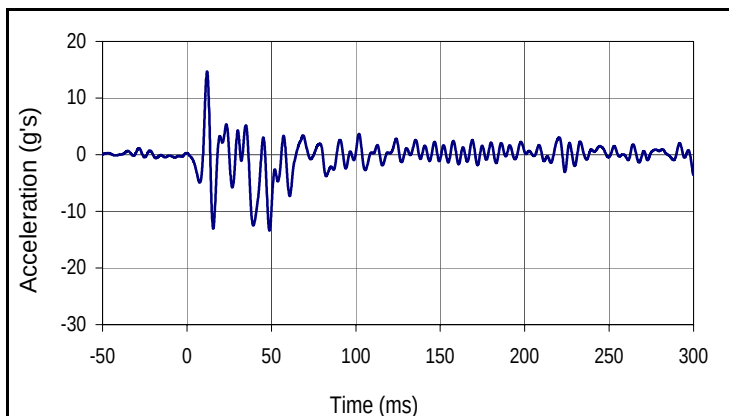
NHTSA No.: R20165413
 Test Date: 4/27/16



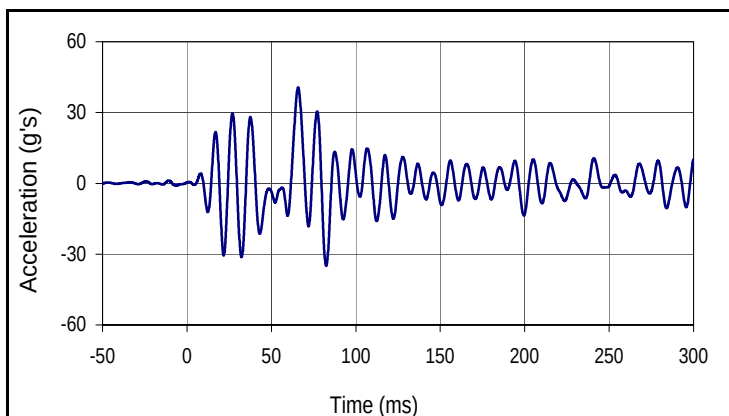
Curve Description			
V2 Passenger Anchor Pretensioner Monitor -> Time to fire: 16.7 ms			
Plot No.		SAE Class	Units
249		1000	A
Max	Time	Min	Time
5.0	17.5	-4.2	17.0



Curve Description			
V1 OMDB CG X Acceleration			
Plot No.		SAE Class	Units
250		60	g's
Max	Time	Min	Time
12.1	82.2	-30.8	56.3



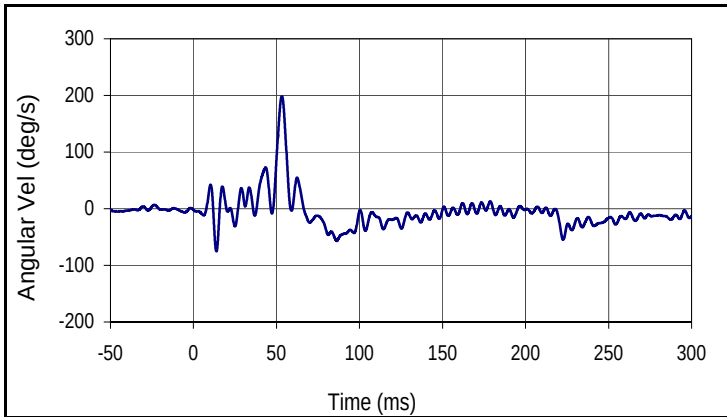
Curve Description			
V1 OMDB CG Y Acceleration			
Plot No.		SAE Class	Units
251		60	g's
Max	Time	Min	Time
14.7	11.9	-13.4	48.9



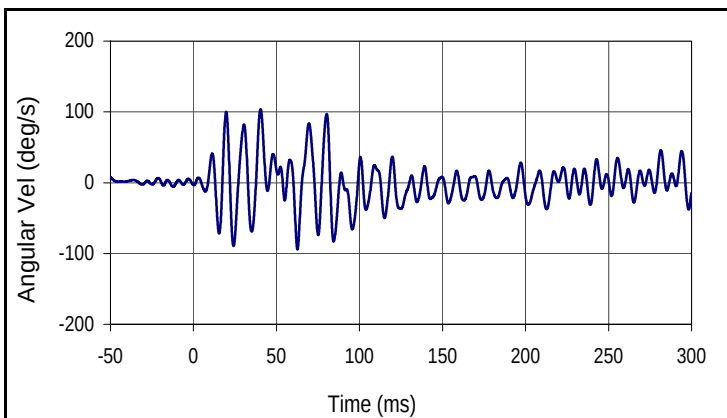
Curve Description			
V1 OMDB CG Z Acceleration			
Plot No.		SAE Class	Units
252		60	g's
Max	Time	Min	Time
40.6	65.8	-34.9	82.4

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

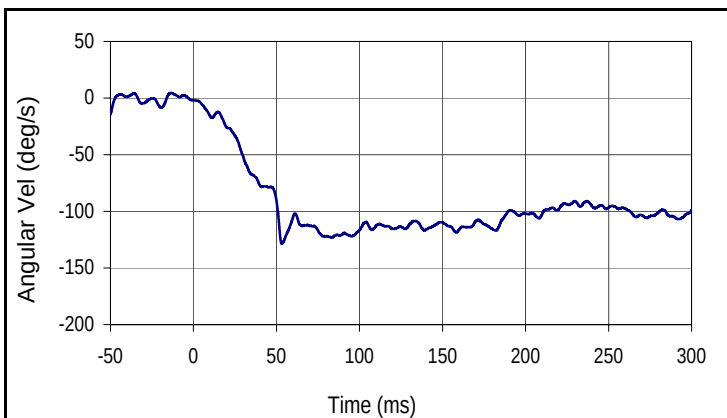
NHTSA No.: R20165413
 Test Date: 4/27/16



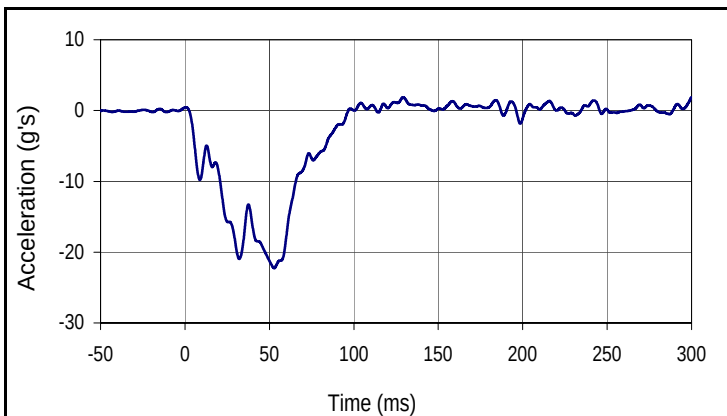
Curve Description			
V1 OMDB Angular Rate X			
Plot No.		SAE Class	Units
253		60	deg/s
Max	Time	Min	Time
198.6	53.3	-75.2	13.8



Curve Description			
V1 OMDB Angular Rate Y			
Plot No.		SAE Class	Units
254		60	deg/s
Max	Time	Min	Time
103.8	40.4	-94.2	62.6



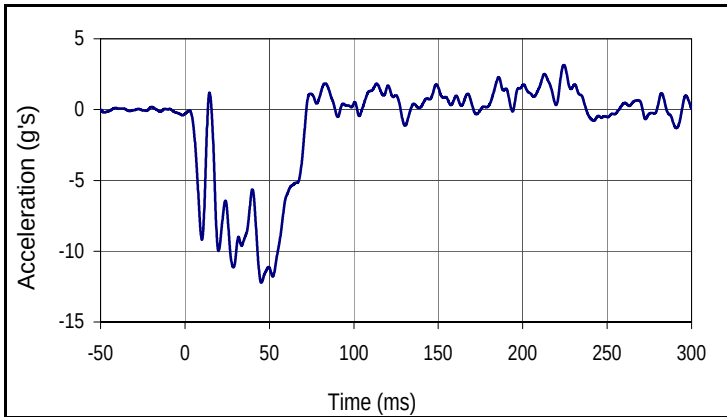
Curve Description			
V1 OMDB Angular Rate Z			
Plot No.		SAE Class	Units
255		60	deg/s
Max	Time	Min	Time
4.6	-13.5	-128.5	53.3



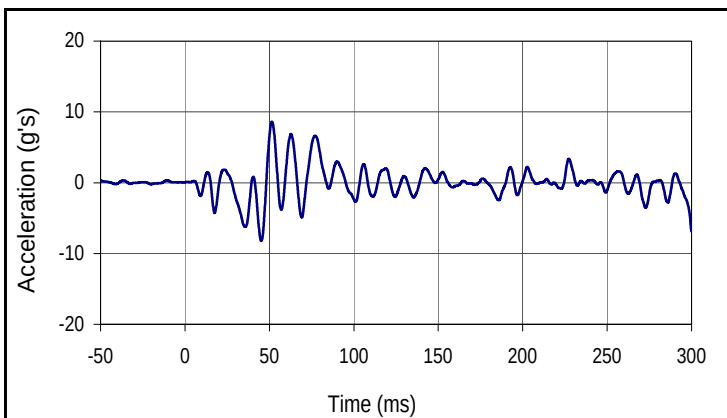
Curve Description			
V1 OMDB Rear C/L X Acceleration			
Plot No.		SAE Class	Units
256		60	g's
Max	Time	Min	Time
1.9	299.9	-22.3	52.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

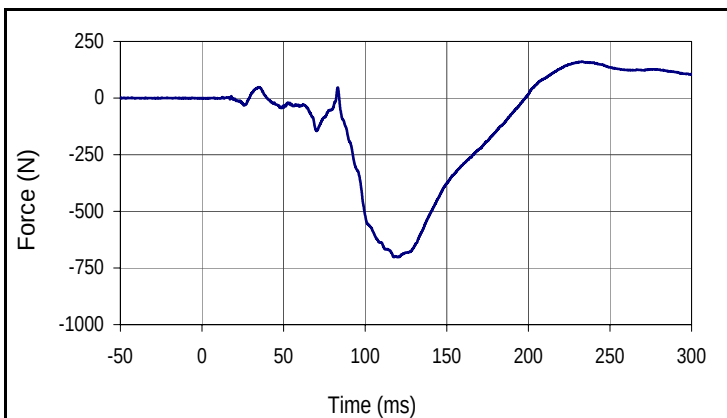
NHTSA No.: R20165413
 Test Date: 4/27/16



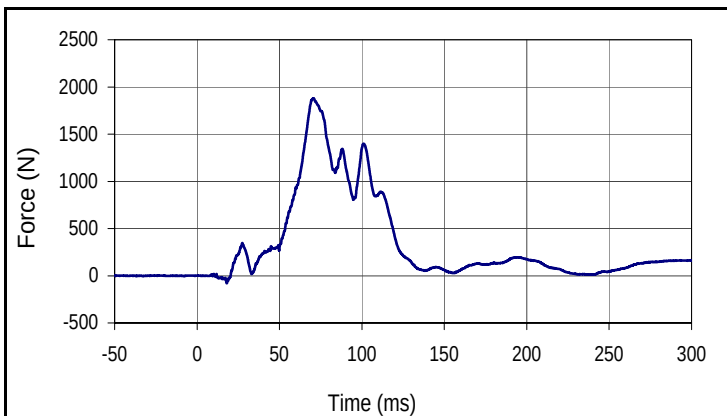
Curve Description			
V1 OMDB Rear C/L Y Acceleration			
Plot No.		SAE Class	Units
257		60	g's
Max	Time	Min	Time
3.1	224.4	-12.2	45.2



Curve Description			
V1 OMDB Rear C/L Z Acceleration			
Plot No.		SAE Class	Units
258		60	g's
Max	Time	Min	Time
8.6	51.5	-8.2	45.2



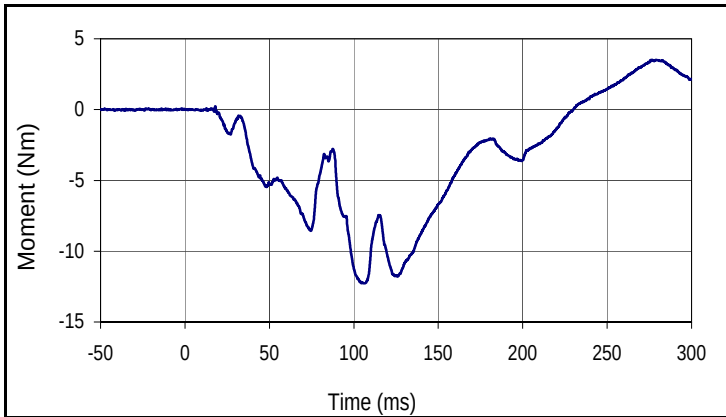
Curve Description			
V2P1 Fx on head acting through O.C joint only			
Plot No.		SAE Class	Units
259		1000	N
Max	Time	Min	Time
161.0	233.1	-702.1	120.5



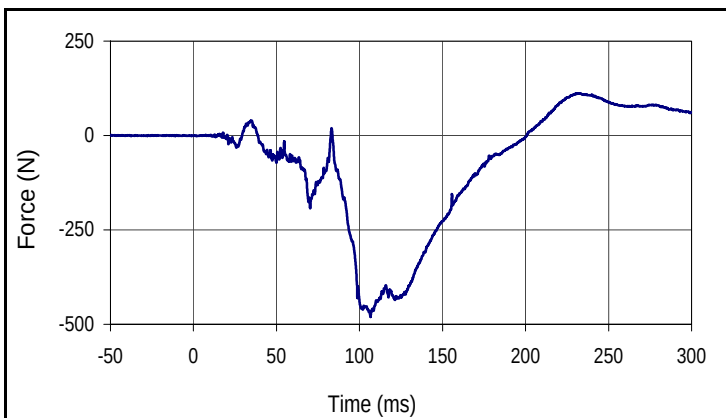
Curve Description			
V2P1 Fz on head acting through O.C joint only			
Plot No.		SAE Class	Units
260		1000	N
Max	Time	Min	Time
1878.2	70.5	-80.7	18.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

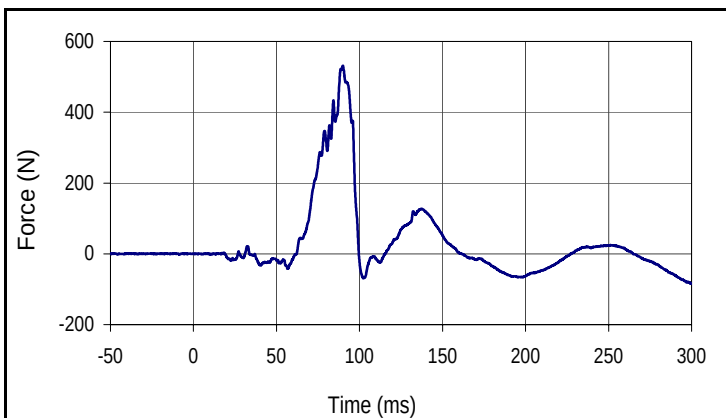
NHTSA No.: R20165413
 Test Date: 4/27/16



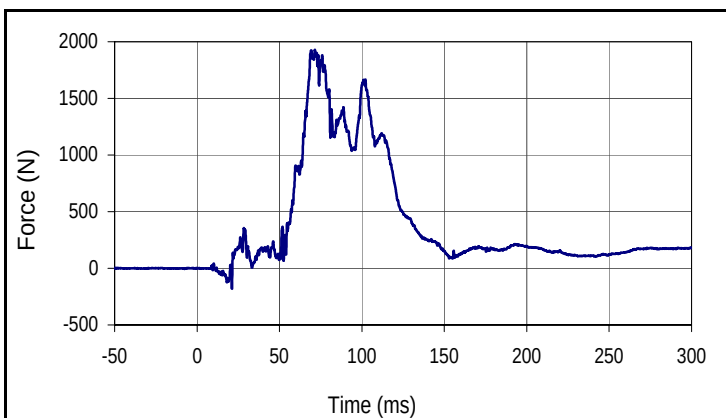
Curve Description			
V2P1 My on head acting through O.C joint only			
Plot No.		SAE Class	Units
261		600	Nm
Max	Time	Min	Time
3.5	279.3	-12.3	106.6



Curve Description			
V2P1 Fx on Head acting through total neck section			
Plot No.		SAE Class	Units
262		1000	N
Max	Time	Min	Time
111.8	232.0	-480.8	106.6



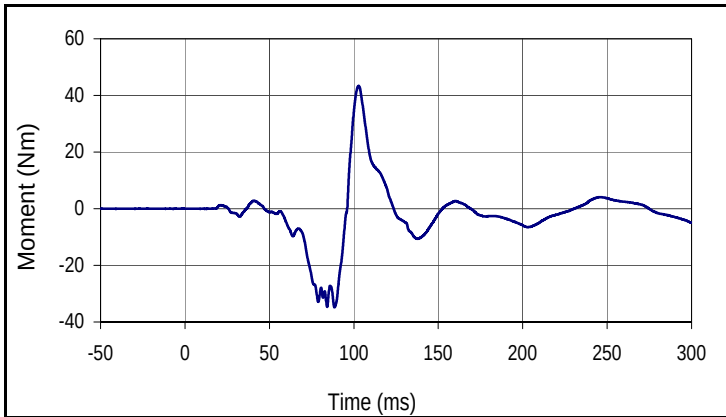
Curve Description			
V2P1 Fy on Head acting through total neck section			
Plot No.		SAE Class	Units
263		1000	N
Max	Time	Min	Time
531.5	90.0	-84.3	299.9



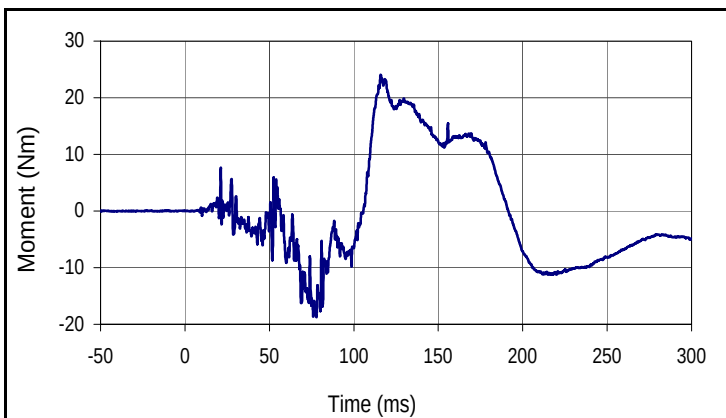
Curve Description			
V2P1 Fz on Head acting through total neck section			
Plot No.		SAE Class	Units
264		1000	N
Max	Time	Min	Time
1929.8	71.5	-181.5	21.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

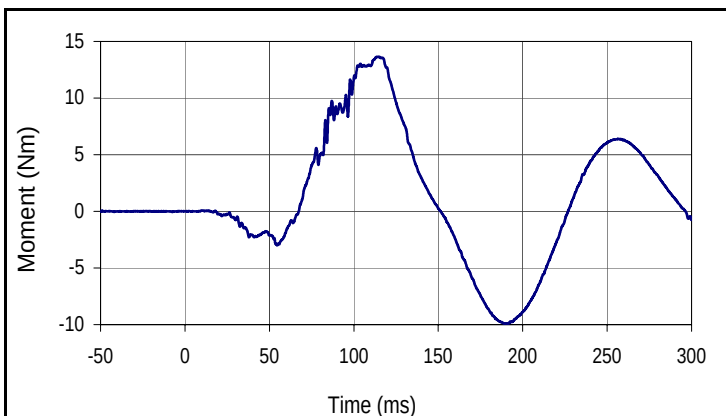
NHTSA No.: R20165413
 Test Date: 4/27/16



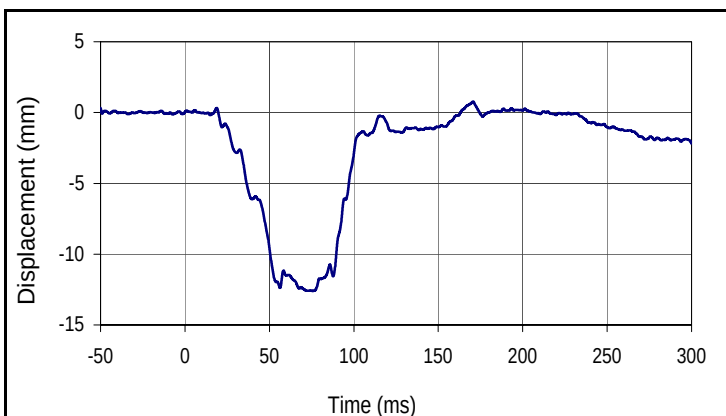
Curve Description			
V2P1 Mx on Head acting through total neck section			
Plot No.		SAE Class	Units
265		600	Nm
Max	Time	Min	Time
43.4	102.8	-34.8	88.6



Curve Description			
V2P1 My on Head acting through total neck section			
Plot No.		SAE Class	Units
266		600	Nm
Max	Time	Min	Time
24.1	115.9	-18.8	77.9



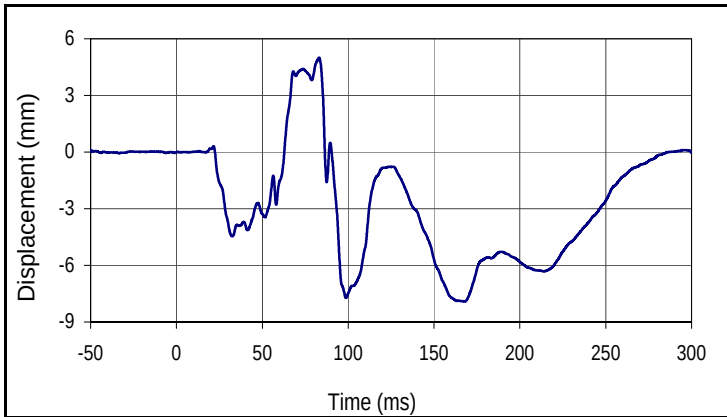
Curve Description			
V2P1 Mz on Head acting through total neck section			
Plot No.		SAE Class	Units
267		600	Nm
Max	Time	Min	Time
13.7	114.0	-9.9	189.9



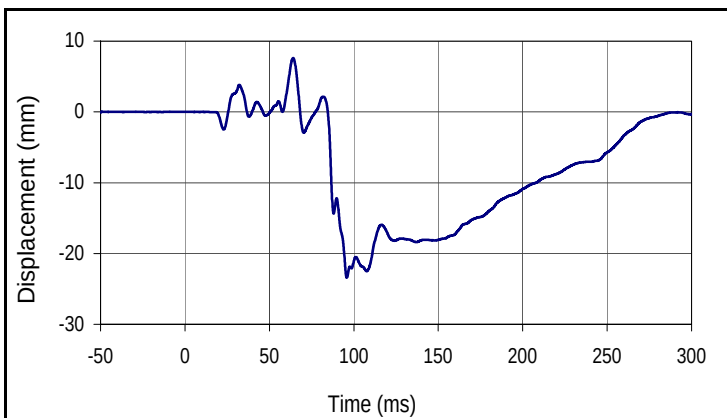
Curve Description			
V2P1 Chest Left Upper Dx			
Plot No.		SAE Class	Units
268		180	mm
Max	Time	Min	Time
0.8	170.6	-12.6	75.7

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

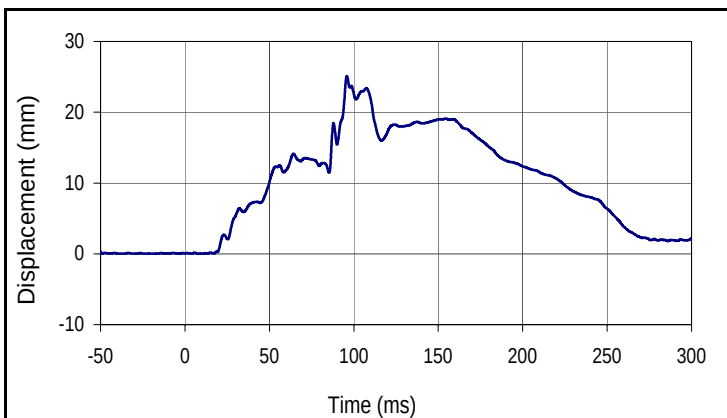
NHTSA No.: R20165413
 Test Date: 4/27/16



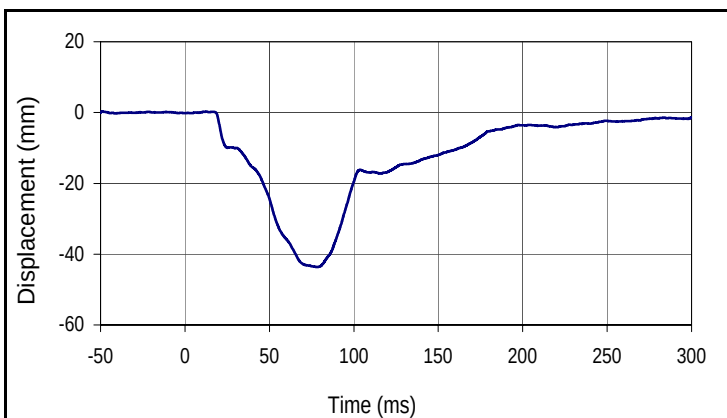
Curve Description			
V2P1 Chest Left Upper Dy			
Plot No.		SAE Class	Units
269		180	mm
Max	Time	Min	Time
5.0	83.1	-7.9	167.9



Curve Description			
V2P1 Chest Left Upper Dz			
Plot No.		SAE Class	Units
270		180	mm
Max	Time	Min	Time
7.6	64.1	-23.4	95.8



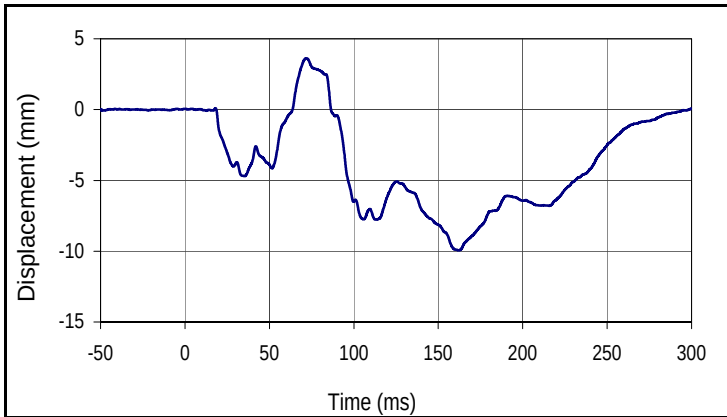
Curve Description			
V2P1 Chest Left Upper Resultant			
Plot No.		SAE Class	Units
271		180	mm
Max	Time	Min	Time
25.1	95.9	0.0	-2.6



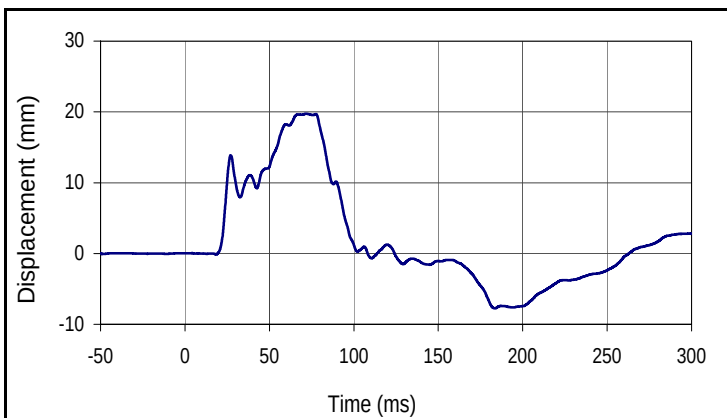
Curve Description			
V2P1 Chest Right Upper Dx			
Plot No.		SAE Class	Units
272		180	mm
Max	Time	Min	Time
0.3	12.7	-43.7	78.3

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

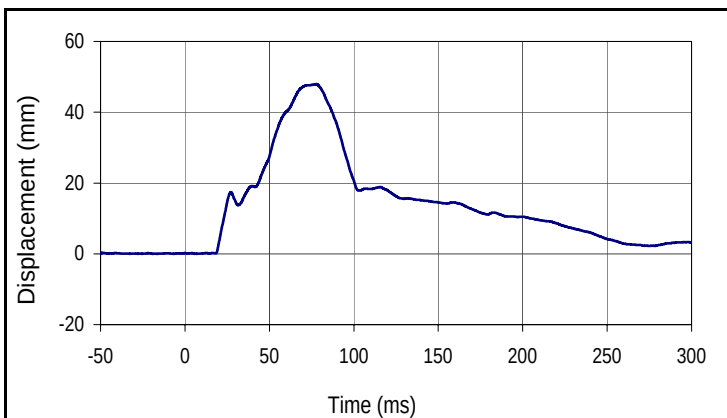
NHTSA No.: R20165413
 Test Date: 4/27/16



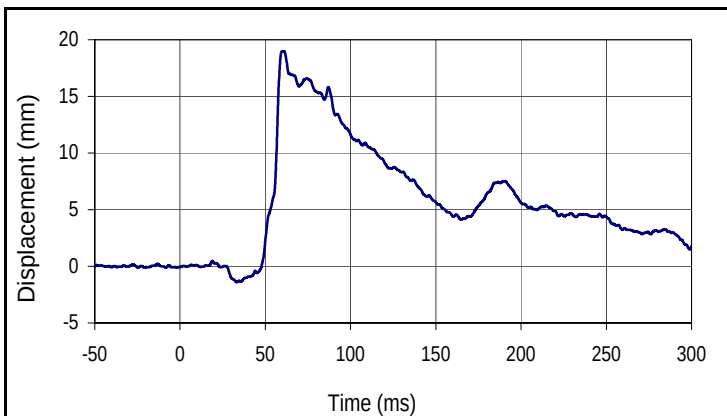
Curve Description			
V2P1 Chest Right Upper Dy			
Plot No.		SAE Class	Units
273		180	mm
Max	Time	Min	Time
3.6	72.0	-9.9	162.0



Curve Description			
V2P1 Chest Right Upper Dz			
Plot No.		SAE Class	Units
274		180	mm
Max	Time	Min	Time
19.7	71.6	-7.8	183.5



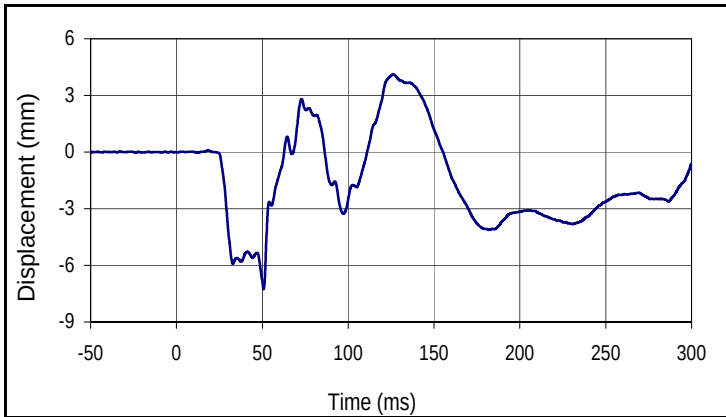
Curve Description			
V2P1 Chest Right Upper Resultant			
Plot No.		SAE Class	Units
275		180	mm
Max	Time	Min	Time
47.9	77.8	0.0	5.6



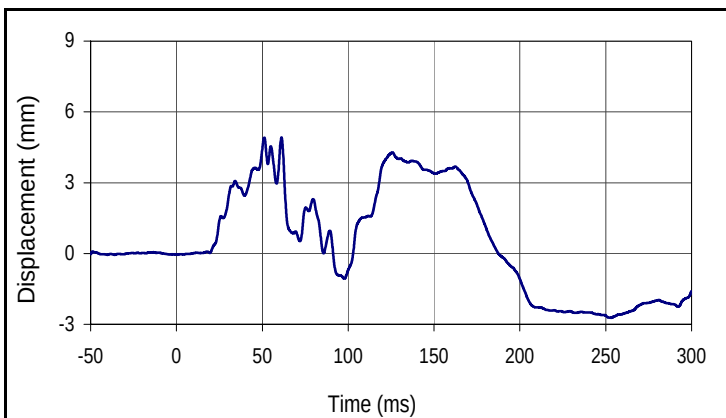
Curve Description			
V2P1 Chest Left Lower Dx			
Plot No.		SAE Class	Units
276		180	mm
Max	Time	Min	Time
19.0	60.9	-1.4	33.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

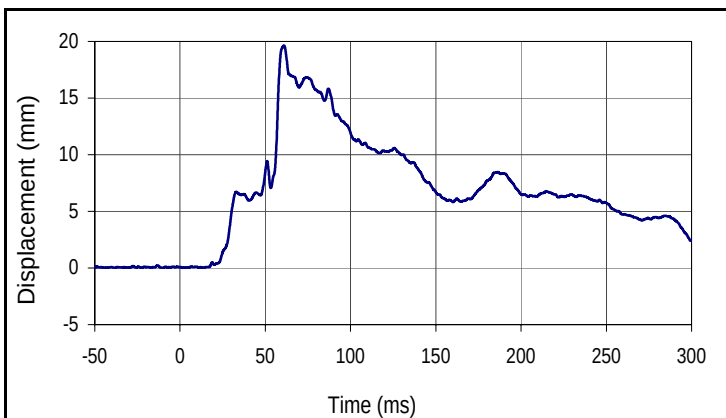
NHTSA No.: R20165413
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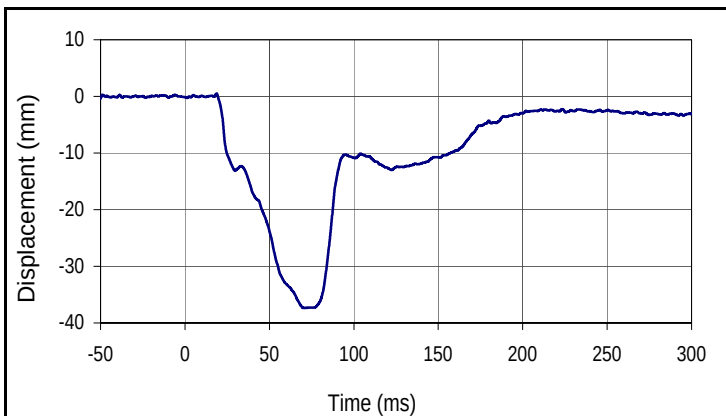
Curve Description			
V2P1 Chest Left Lower Dy			
Plot No.		SAE Class	Units
277		180	mm
Max	Time	Min	Time
4.1	126.4	-7.3	50.8



Curve Description			
V2P1 Chest Left Lower Dz			
Plot No.		SAE Class	Units
278		180	mm
Max	Time	Min	Time
4.9	61.2	-2.7	253.2



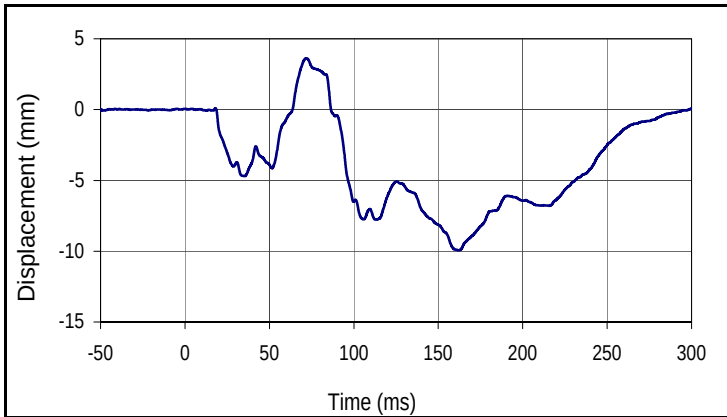
Curve Description			
V2P1 Chest Left Lower Resultant			
Plot No.		SAE Class	Units
279		180	mm
Max	Time	Min	Time
19.6	61.0	0.0	-7.2



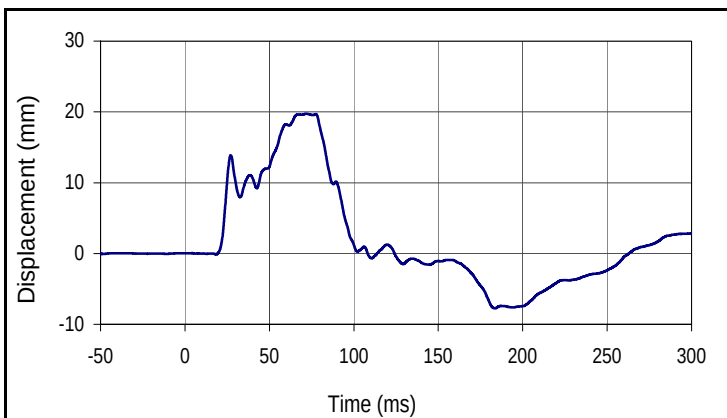
Curve Description			
V2P1 Chest Right Lower Dx			
Plot No.		SAE Class	Units
280		180	mm
Max	Time	Min	Time
0.5	18.7	-37.4	70.3

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

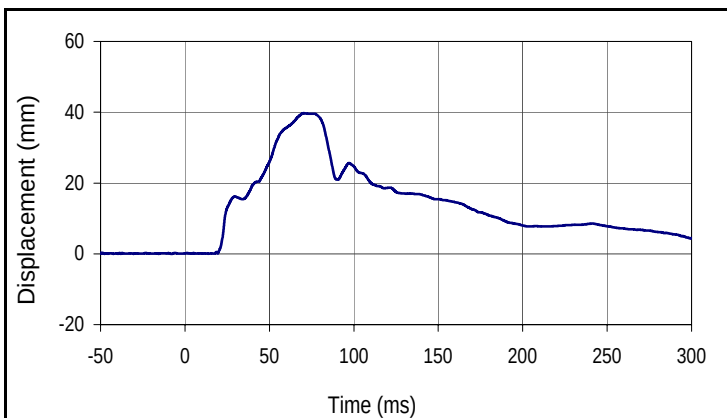
NHTSA No.: R20165413
 Test Date: 4/27/16



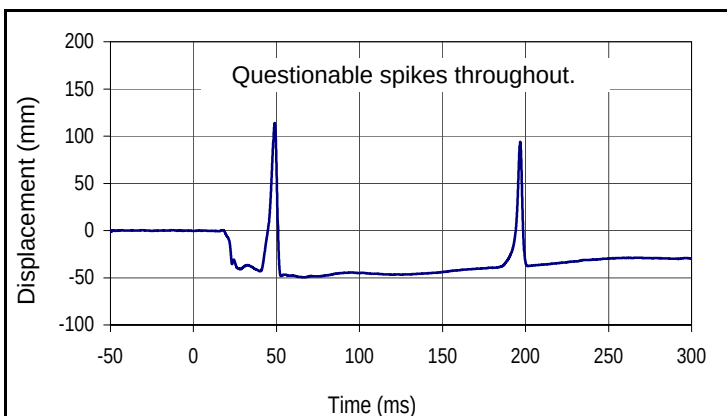
Curve Description			
V2P1 Chest Right Lower Dy			
Plot No.		SAE Class	Units
281		180	mm
Max	Time	Min	Time
3.6	72.0	-9.9	162.0



Curve Description			
V2P1 Chest Right Lower Dz			
Plot No.		SAE Class	Units
282		180	mm
Max	Time	Min	Time
19.7	71.6	-7.8	183.5



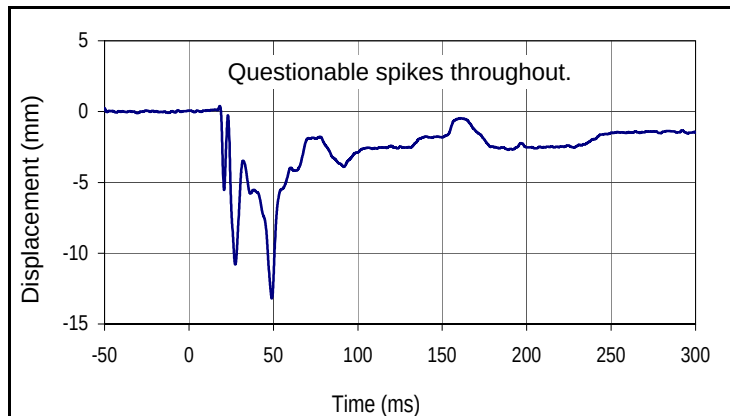
Curve Description			
V2P1 Chest Right Lower Resultant			
Plot No.		SAE Class	Units
283		180	mm
Max	Time	Min	Time
39.7	70.3	0.0	-7.6



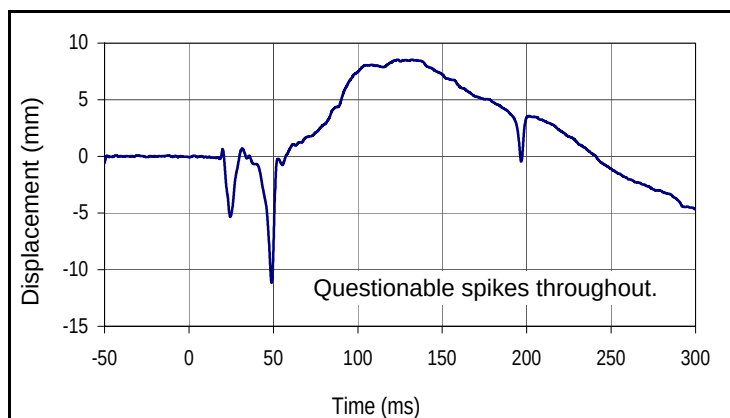
Curve Description			
V2P1 Abdomen Left Lower DX			
Plot No.		SAE Class	Units
284		180	mm
Max	Time	Min	Time
114.0	48.9	-49.4	66.7

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

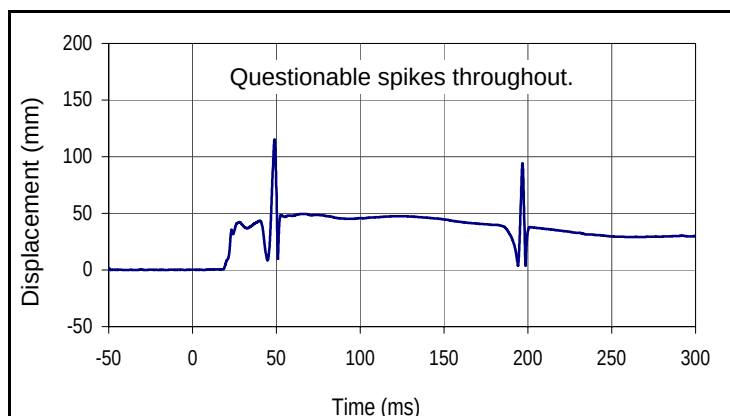
NHTSA No.: R20165413
 Test Date: 4/27/16



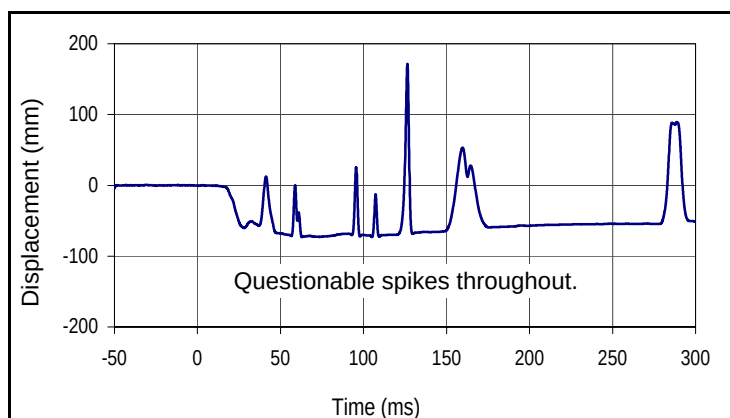
Curve Description			
V2P1 Adbomen Left Lower Dy			
Plot No.		SAE Class	Units
285		180	mm
Max	Time	Min	Time
0.4	18.3	-13.2	49.1



Curve Description			
V2P1 Abdomen Left Lower Dz			
Plot No.		SAE Class	Units
286		180	mm
Max	Time	Min	Time
8.5	123.5	-11.2	49.0



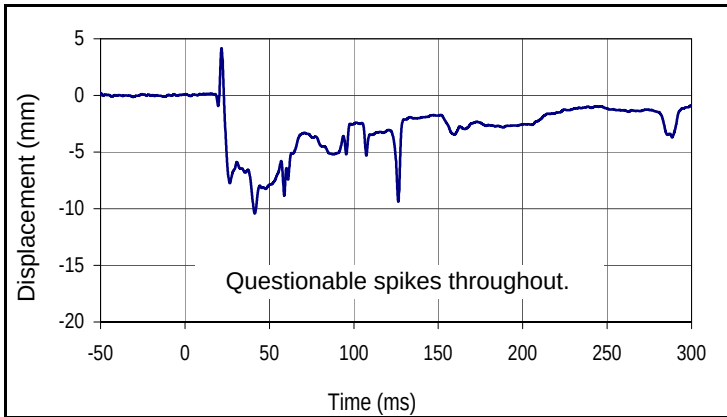
Curve Description			
V2P1 Abdomen Left Lower Resultant			
Plot No.		SAE Class	Units
287		180	mm
Max	Time	Min	Time
115.3	48.9	0.0	-3.9



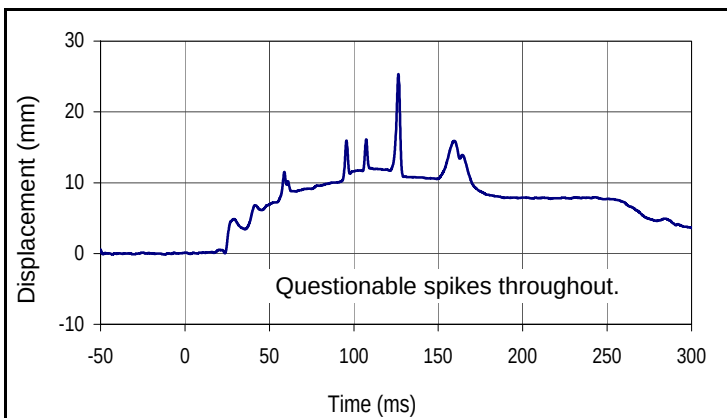
Curve Description			
V2P1 Abdomen Right Lower Dx			
Plot No.		SAE Class	Units
288		180	mm
Max	Time	Min	Time
171.6	126.5	-73.1	63.1

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

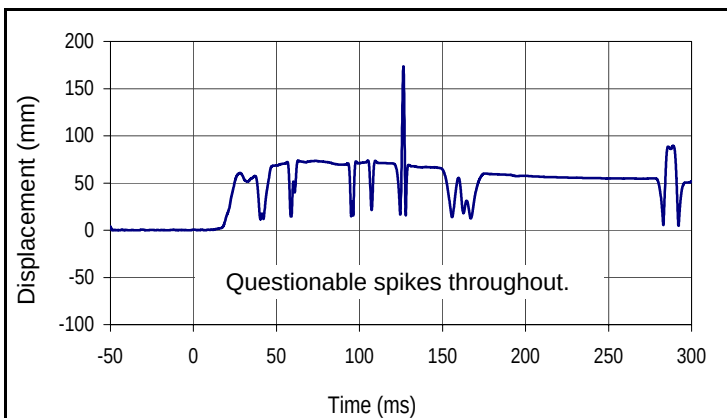
NHTSA No.: R20165413
 Test Date: 4/27/16



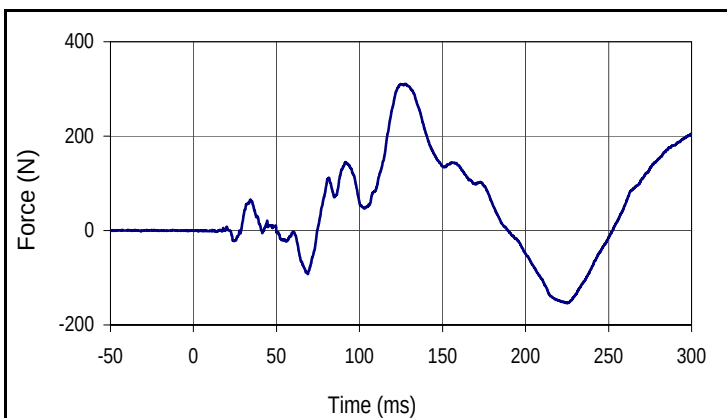
Curve Description			
V2P1 Abdomen Right Lower Dy			
Plot No.		SAE Class	Units
289		180	mm
Max	Time	Min	Time
4.2	21.7	-10.4	41.4



Curve Description			
V2P1 Abdomen Right Lower Dz			
Plot No.		SAE Class	Units
290		180	mm
Max	Time	Min	Time
25.4	126.4	-0.1	-12.0



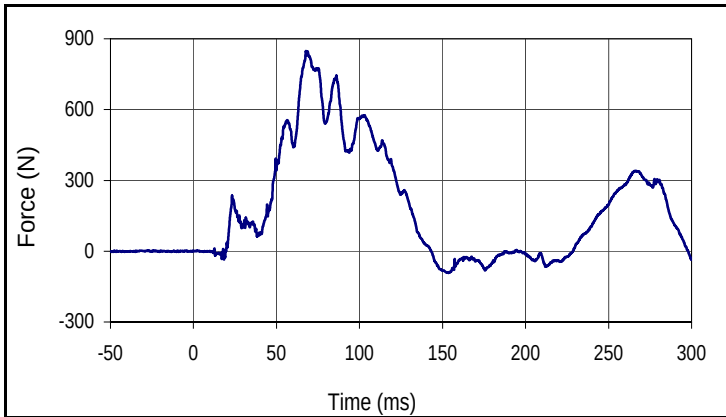
Curve Description			
V2P1 Abdomen Right Lower Resultant			
Plot No.		SAE Class	Units
291		180	mm
Max	Time	Min	Time
173.7	126.4	0.0	-10.4



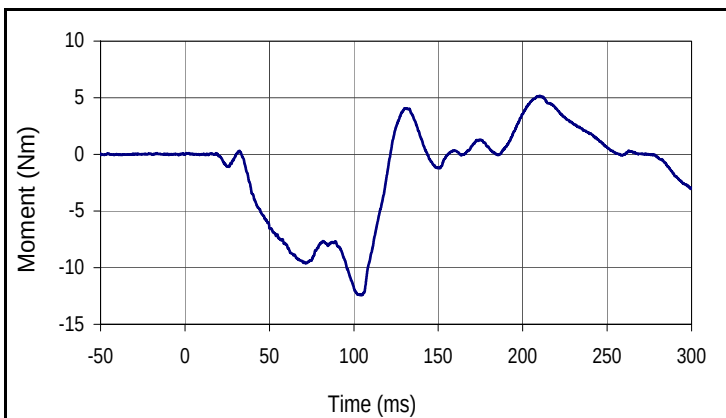
Curve Description			
V2P2 Fx on head acting through O.C joint only			
Plot No.		SAE Class	Units
292		1000	N
Max	Time	Min	Time
310.5	127.9	-154.0	225.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

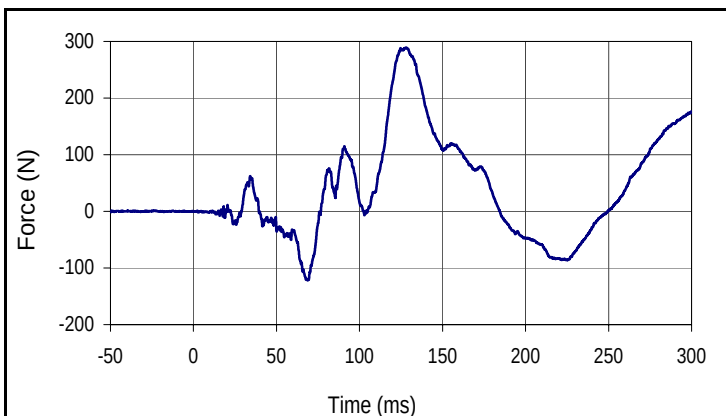
NHTSA No.: R20165413
 Test Date: 4/27/16



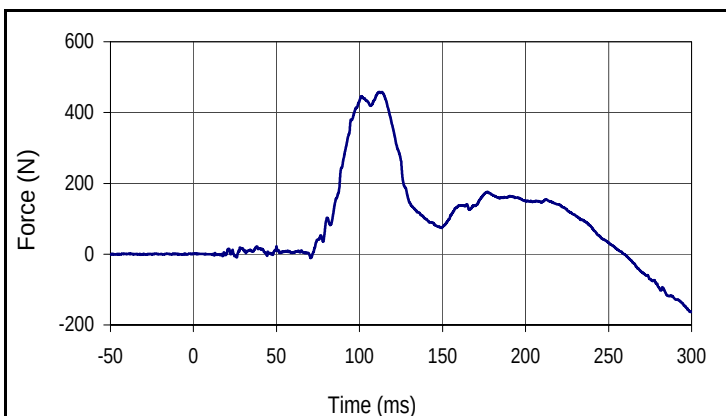
Curve Description			
V2P2 Fz on head acting through O.C joint only			
Plot No.		SAE Class	Units
293		1000	N
Max	Time	Min	Time
848.3	67.7	-92.0	153.5



Curve Description			
V2P2 My on head acting through O.C joint only			
Plot No.		SAE Class	Units
294		600	Nm
Max	Time	Min	Time
5.2	210.2	-12.4	103.7



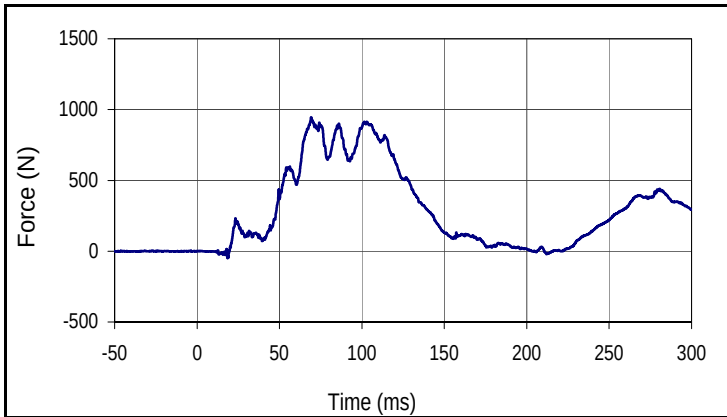
Curve Description			
V2P2 Fx on Head acting through total neck section			
Plot No.		SAE Class	Units
295		1000	N
Max	Time	Min	Time
289.2	128.0	-121.8	68.8



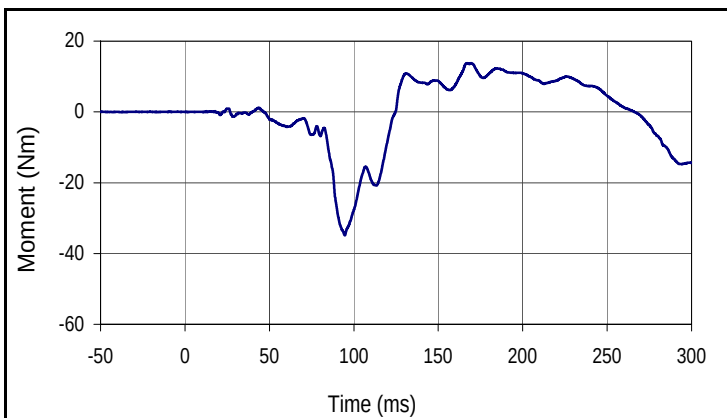
Curve Description			
V2P2 Fy on Head acting through total neck section			
Plot No.		SAE Class	Units
296		1000	N
Max	Time	Min	Time
458.4	111.8	-163.3	299.9

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

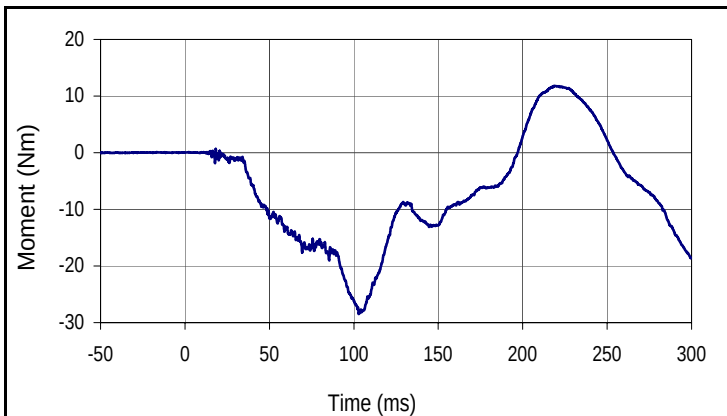
NHTSA No.: R20165413
 Test Date: 4/27/16



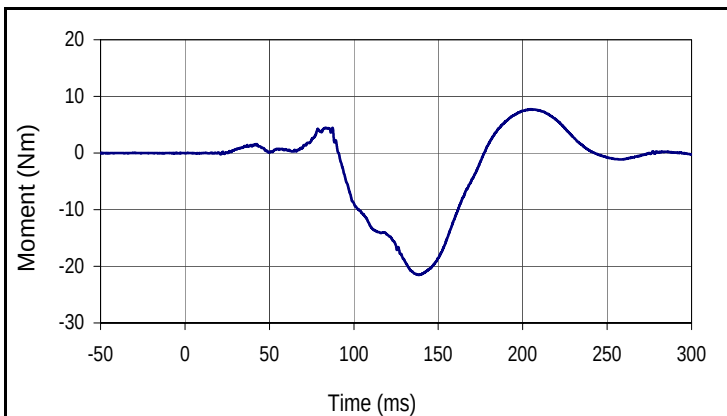
Curve Description			
V2P2 Fz on Head acting through total neck section			
Plot No.		SAE Class	Units
297		1000	N
Max	Time	Min	Time
946.9	69.2	-51.1	18.5



Curve Description			
V2P2 Mx on Head acting through total neck section			
Plot No.		SAE Class	Units
298		600	Nm
Max	Time	Min	Time
13.8	167.2	-34.8	94.7



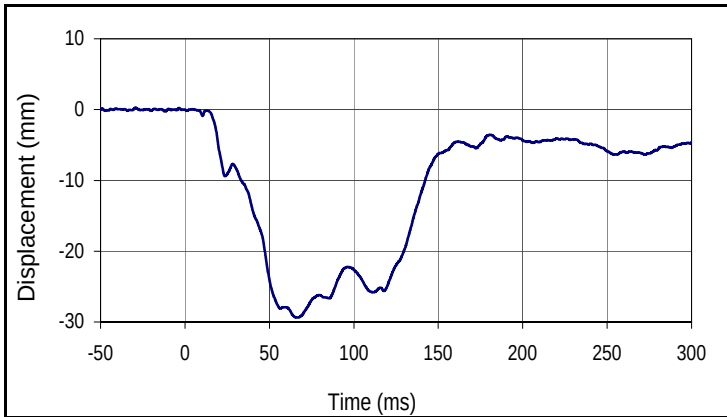
Curve Description			
V2P2 My on Head acting through total neck section			
Plot No.		SAE Class	Units
299		600	Nm
Max	Time	Min	Time
11.8	218.8	-28.5	103.0



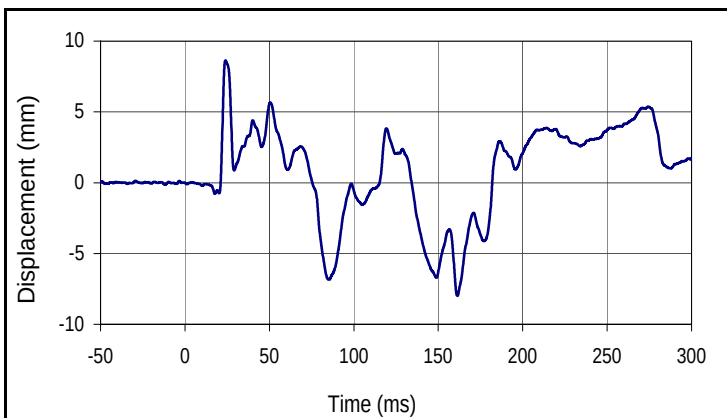
Curve Description			
V2P2 Mz on Head acting through total neck section			
Plot No.		SAE Class	Units
300		600	Nm
Max	Time	Min	Time
7.7	205.1	-21.5	138.2

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

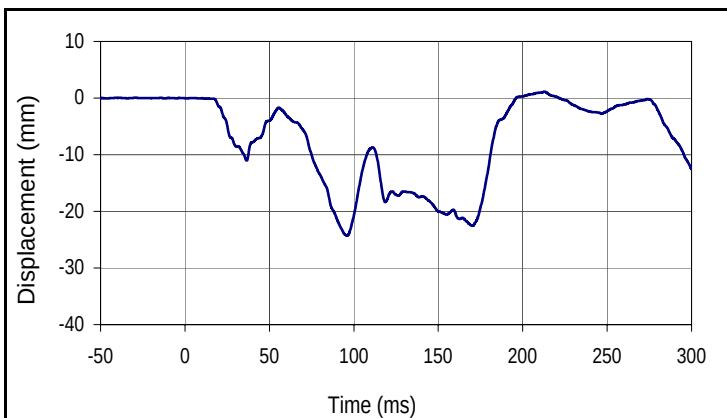
NHTSA No.: R20165413
 Test Date: 4/27/16



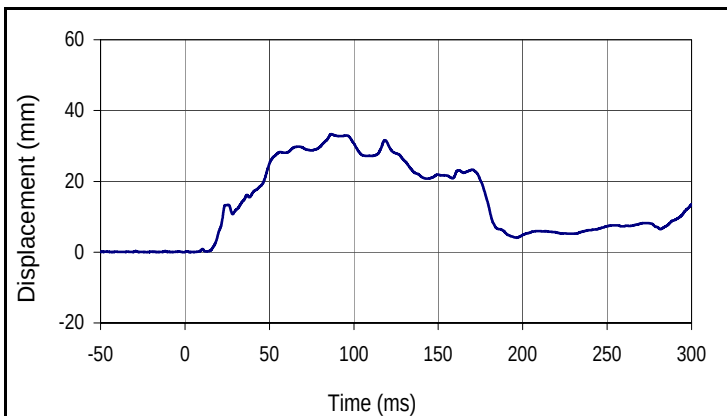
Curve Description			
V2P2 Chest Left Upper Dx			
Plot No.		SAE Class	Units
301		180	mm
Max	Time	Min	Time
0.2	-3.4	-29.4	66.8



Curve Description			
V2P2 Chest Left Upper Dy			
Plot No.		SAE Class	Units
302		180	mm
Max	Time	Min	Time
8.6	24.0	-8.0	161.3



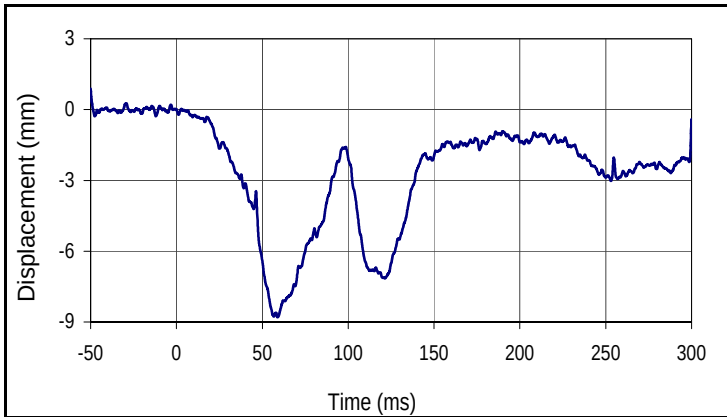
Curve Description			
V2P2 Chest Left Upper Dz			
Plot No.		SAE Class	Units
303		180	mm
Max	Time	Min	Time
1.1	213.0	-24.3	96.0



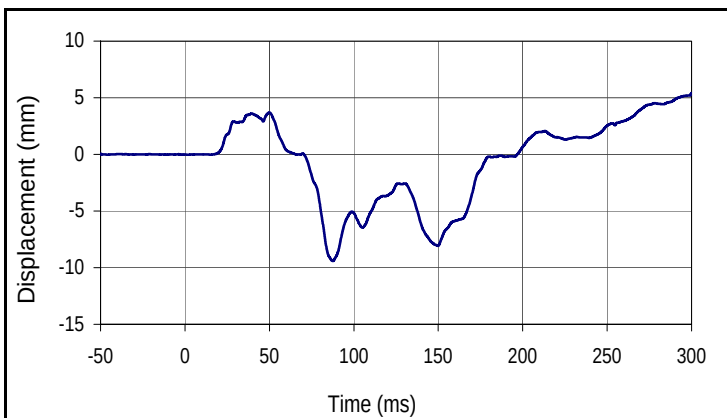
Curve Description			
V2P2 Chest Left Upper Resultant			
Plot No.		SAE Class	Units
304		180	mm
Max	Time	Min	Time
33.3	86.7	0.0	-1.0

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

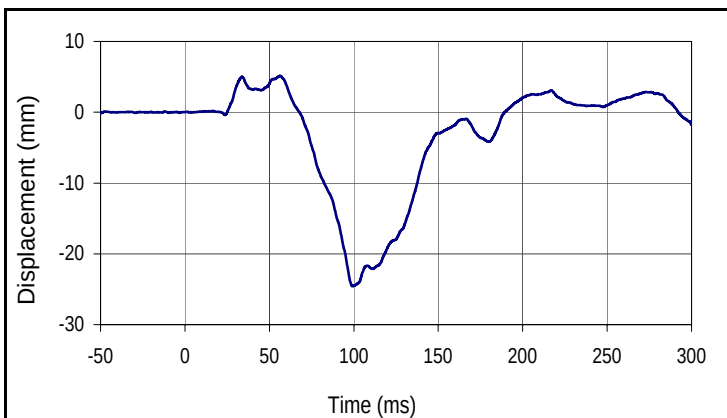
NHTSA No.: R20165413
 Test Date: 4/27/16



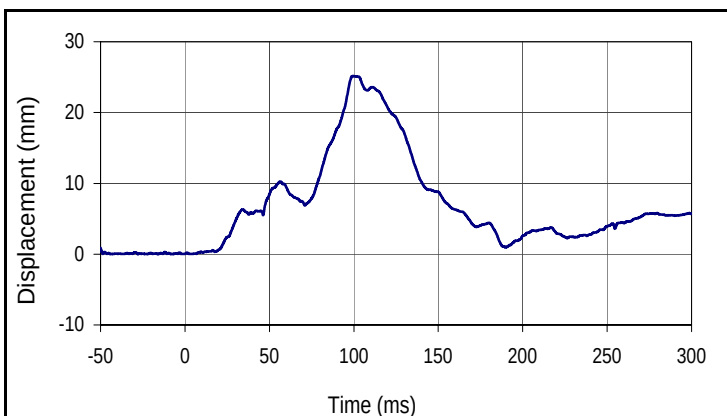
Curve Description			
V2P2 Chest Right Upper Dx			
Plot No.		SAE Class	Units
305		180	mm
Max	Time	Min	Time
0.2	-3.2	-8.8	58.9



Curve Description			
V2P2 Chest Right Upper Dy			
Plot No.		SAE Class	Units
306		180	mm
Max	Time	Min	Time
5.4	299.9	-9.4	87.5



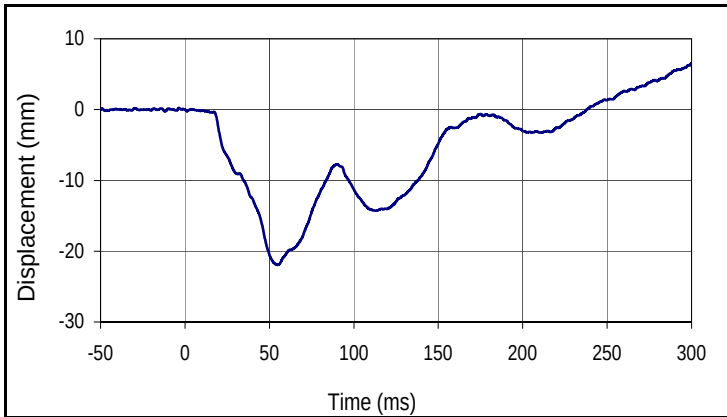
Curve Description			
V2P2 Chest Right Upper Dz			
Plot No.		SAE Class	Units
307		180	mm
Max	Time	Min	Time
5.1	56.4	-24.6	99.2



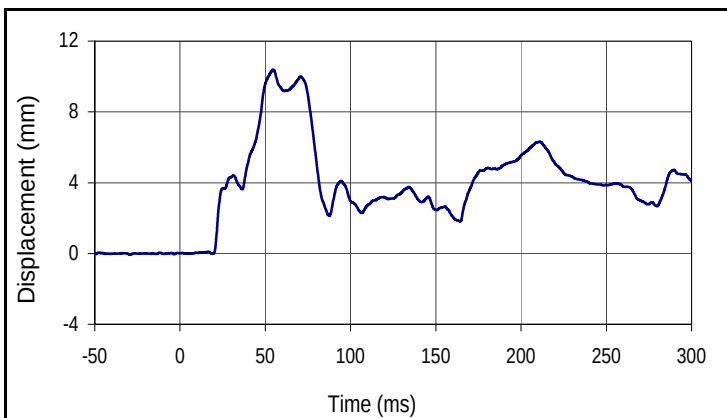
Curve Description			
V2P2 Chest Right Upper Resultant			
Plot No.		SAE Class	Units
308		180	mm
Max	Time	Min	Time
25.1	99.6	0.0	-6.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

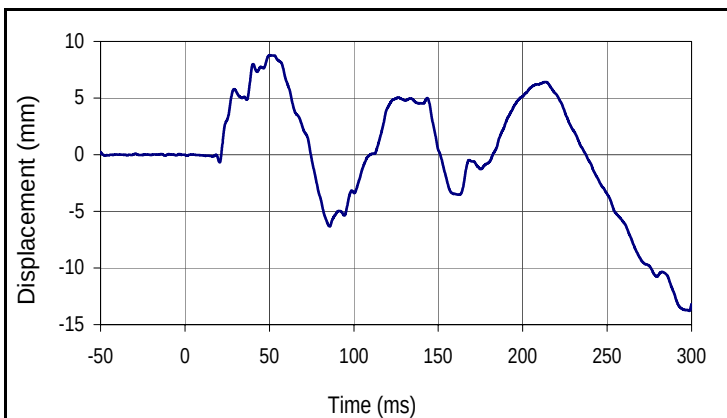
NHTSA No.: R20165413
 Test Date: 4/27/16



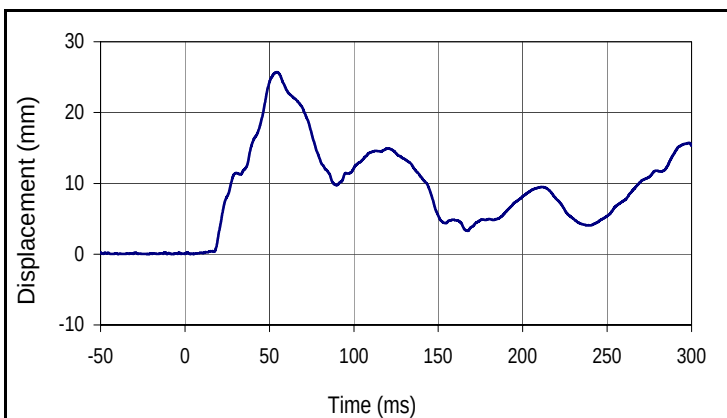
Curve Description			
V2P2 Chest Left Lower Dx			
Plot No.		SAE Class	Units
309		180	mm
Max	Time	Min	Time
6.6	299.9	-21.9	54.6



Curve Description			
V2P2 Chest Left Lower Dy			
Plot No.		SAE Class	Units
310		180	mm
Max	Time	Min	Time
10.4	54.7	0.0	-3.4



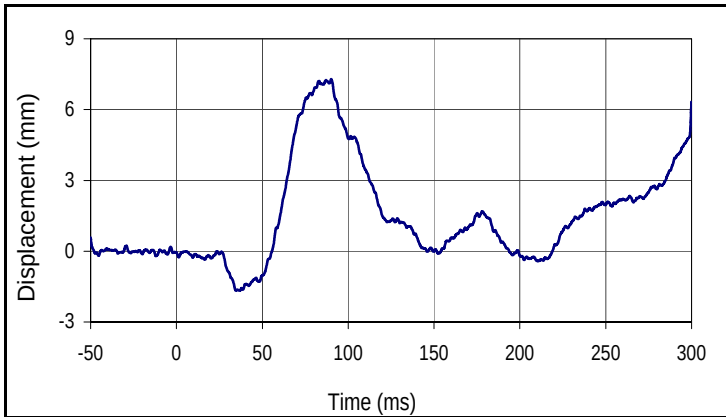
Curve Description			
V2P2 Chest Left Lower Dz			
Plot No.		SAE Class	Units
311		180	mm
Max	Time	Min	Time
8.8	50.4	-13.8	298.7



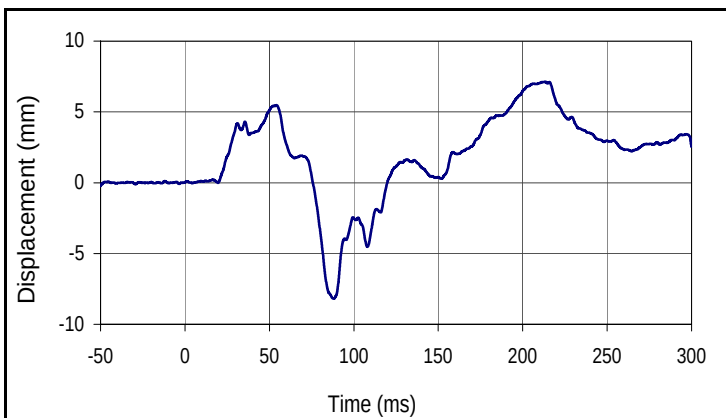
Curve Description			
V2P2 Chest Left Lower Resultant			
Plot No.		SAE Class	Units
312		180	mm
Max	Time	Min	Time
25.7	54.3	0.0	-6.8

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

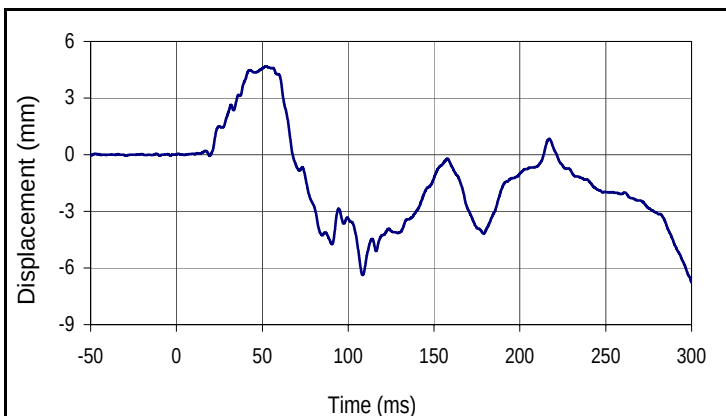
NHTSA No.: R20165413
 Test Date: 4/27/16



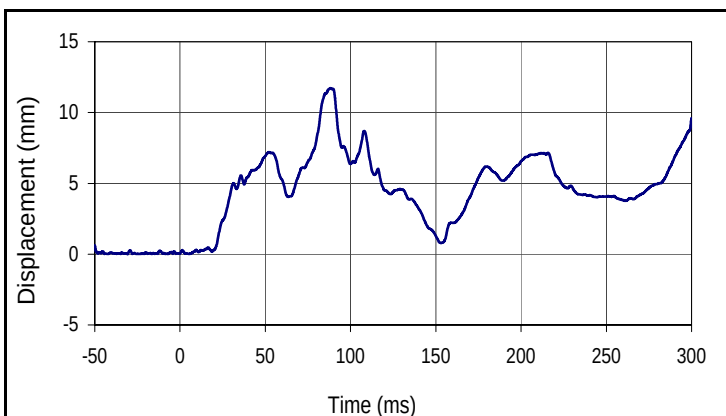
Curve Description			
V2P2 Chest Right Lower Dx			
Plot No.		SAE Class	Units
313		180	mm
Max	Time	Min	Time
7.3	90.1	-1.7	34.6



Curve Description			
V2P2 Chest Right Lower Dy			
Plot No.		SAE Class	Units
314		180	mm
Max	Time	Min	Time
7.1	213.3	-8.2	88.1



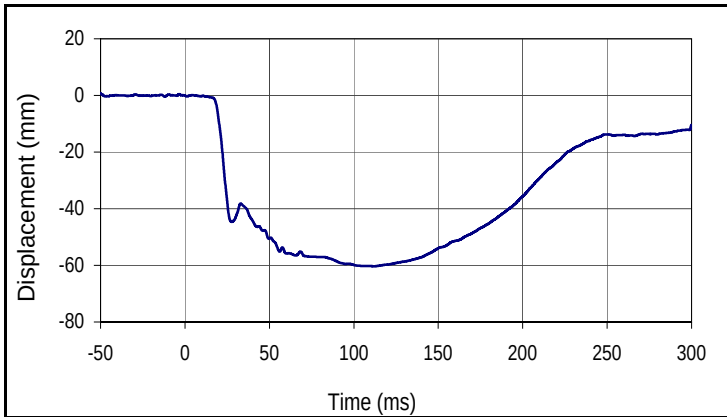
Curve Description			
V2P2 Chest Right Lower Dz			
Plot No.		SAE Class	Units
315		180	mm
Max	Time	Min	Time
4.7	52.2	-6.8	299.9



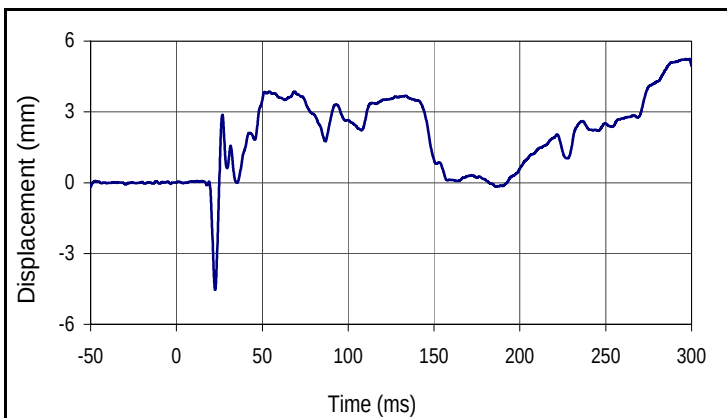
Curve Description			
V2P2 Chest Right Lower Resultant			
Plot No.		SAE Class	Units
316		180	mm
Max	Time	Min	Time
11.7	88.1	0.0	-7.7

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

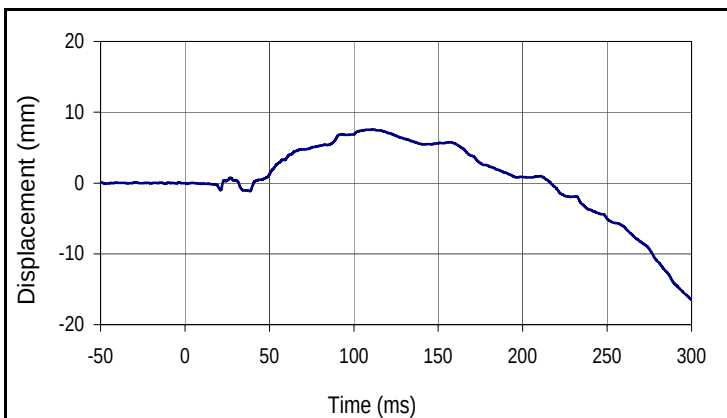
NHTSA No.: R20165413
 Test Date: 4/27/16



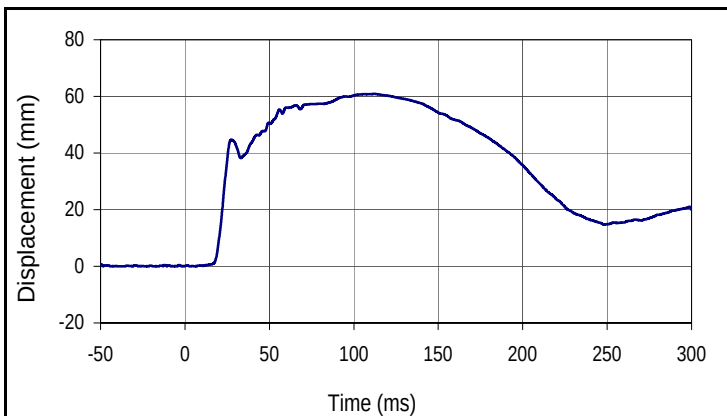
Curve Description			
V2P2 Abdomen Left Lower Dx			
Plot No.		SAE Class	Units
317		180	mm
Max	Time	Min	Time
0.4	-3.4	-60.3	112.1



Curve Description			
V2P2 Abdomen Left Lower Dy			
Plot No.		SAE Class	Units
318		180	mm
Max	Time	Min	Time
5.2	298.7	-4.5	22.5



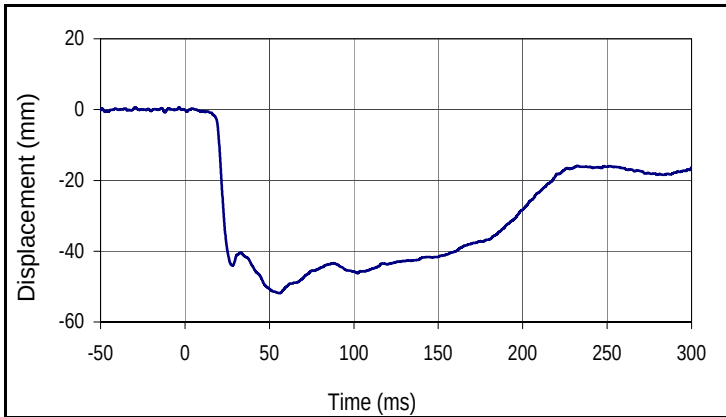
Curve Description			
V2P2 Abdomen Left Lower Dz			
Plot No.		SAE Class	Units
319		180	mm
Max	Time	Min	Time
7.6	111.6	-16.4	299.9



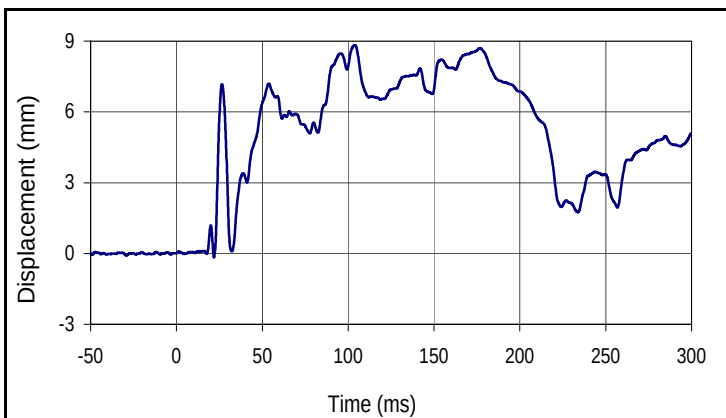
Curve Description			
V2P2 Abdomen Left Lower Resultant			
Plot No.		SAE Class	Units
320		180	mm
Max	Time	Min	Time
60.9	112.0	0.0	5.3

Test Vehicle: 2016 Mazda CX-5
 Test Program: NHTSA R&D Left Oblique Offset 15deg/35%

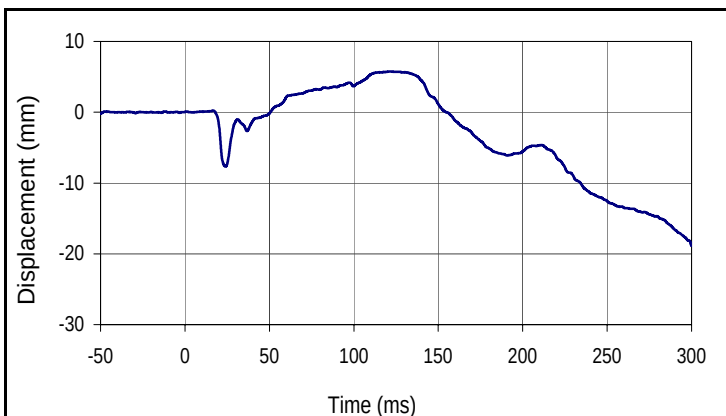
NHTSA No.: R20165413
 Test Date: 4/27/16



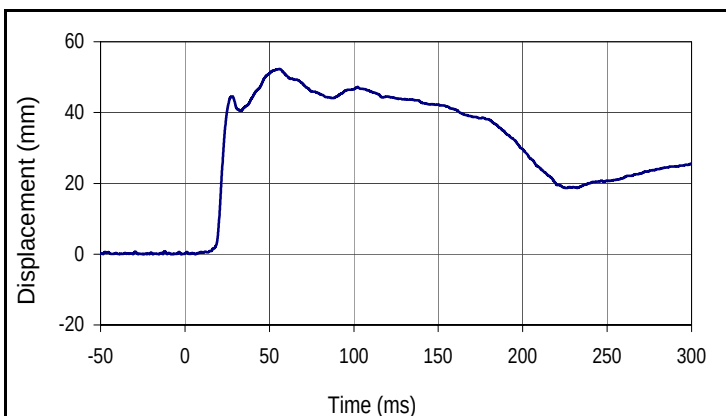
Curve Description			
V2P2 Abdomen Right Lower Dx			
Plot No.		SAE Class	Units
321		180	mm
Max	Time	Min	Time
0.6	-3.5	-51.8	56.2



Curve Description			
V2P2 Abdomen Right Lower Dy			
Plot No.		SAE Class	Units
322		180	mm
Max	Time	Min	Time
8.8	104.0	-0.2	21.9



Curve Description			
V2P2 Abdomen Right Lower Dz			
Plot No.		SAE Class	Units
323		180	mm
Max	Time	Min	Time
5.7	122.5	-18.9	299.9



Curve Description			
V2P2 Abdomen Right Lower Resultant			
Plot No.		SAE Class	Units
324		180	mm
Max	Time	Min	Time
52.3	56.2	0.0	-8.0

APPENDIX C
DUMMY CALIBRATION AND PERFORMANCE VERIFICATION DATA SHEETS

APPENDIX C
Dummy Calibration Data

Table C-1 : Dummy Information

Type	Serial Number
Thor 50th Male	DO9798
Thor 50th Male	DL9207

Table C-2: THOR Ankle Zero Offset Information

Thor 50th Male S/N DO9798					
LFTX	LFTY	LFTZ	RFTX	RFTY	RFTZ
Left Ankle X	Left Ankle Y	Left Ankle Z	Right Ankle X	Right Ankle Y	Right Ankle Z
2.400	-13.500	24.700	3.500	-13.800	-39.120

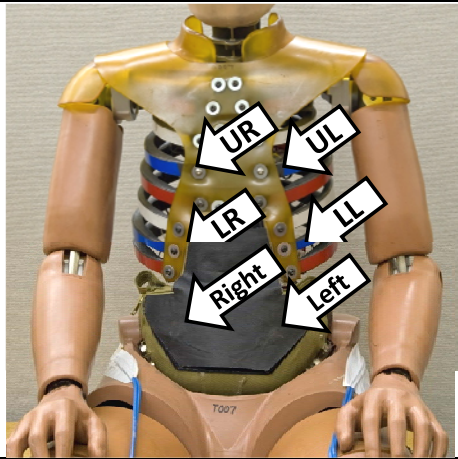
Thor 50th Male S/N DL9207					
LFTX	LFTY	LFTZ	RFTX	RFTY	RFTZ
Left Ankle X	Left Ankle Y	Left Ankle Z	Right Ankle X	Right Ankle Y	Right Ankle Z
-0.490	-12.260	-44.000	1.580	-13.300	-41.900

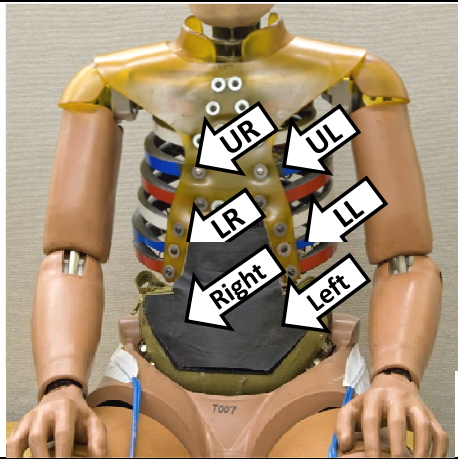
Sensor Location	Axis	Measurement	Manufacturer	Model Number	Serial Number	Rated Full Scale	Sensitivity	Sensitivity Units
Head CG	X	Linear Acceleration	Endevco	7264	P52001	2000	0.019660000	mV/V/g
Head CG	Y	Linear Acceleration	Endevco	7264	P51697	2000	0.022130000	mV/V/g
Head CG	Z	Linear Acceleration	Endevco	7264	P75155	2000	0.017940000	mV/V/g
Head	X	Rotational Acceleration	DTS	ARS 18k	ARS6733	18k	0.094300000	mV/deg/sec
Head	Y	Rotational Acceleration	DTS	ARS 18k	ARS4071	18k	0.093090000	mV/deg/sec
Head	Z	Rotational Acceleration	DTS	ARS 18k	ARS4719	18k	0.093040000	mV/deg/sec
Occipital Condyle	Y	Rotational Displacement	Sternice	9945	DK5913	180	3.045160000	mV/V/deg
Neck Spring Front	Z	Force	Humanetics	6005JFL	93	4448.22	0.000524209	mV/V/N
Neck Spring Rear	Z	Force	Humanetics	6005JFL	132	4448.20	0.000484300	mV/V/N
Upper Neck	X	Force	Humanetics	10380J14	DS9758	8896.4	0.000232948	mV/V/N
Upper Neck	Y	Force	Humanetics	10380J14	DS9758	8896.4	0.000230385	mV/V/N
Upper Neck	Z	Force	Humanetics	10380J14	DS9758	13344.7	0.000087038	mV/V/N
Upper Neck	X	Moment	Humanetics	10380J14	DS9758	282.5	0.005889558	mV/V/Nm
Upper Neck	Y	Moment	Humanetics	10380J14	DS9758	282.5	0.005962478	mV/V/Nm
Upper Neck	Z	Moment	Humanetics	10380J14	DS9758	282.5	0.009477876	mV/V/Nm
Lower Neck	X	Force	Humanetics	10381J14	DK3607	13344.7	0.000168500	mV/V/N
Lower Neck	Y	Force	Humanetics	10381J14	DK3607	13344.7	0.000168700	mV/V/N
Lower Neck	Z	Force	Humanetics	10381J14	DK3607	13344.7	0.000068800	mV/V/N
Lower Neck	X	Moment	Humanetics	10381J14	DK3607	451.9	0.004012500	mV/V/Nm
Lower Neck	Y	Moment	Humanetics	10381J14	DK3607	451.9	0.004072100	mV/V/Nm
Lower Neck	Z	Moment	Humanetics	10381J14	DK3607	226.0	0.006723800	mV/V/Nm
T1	X	Linear Acceleration	Endevco	7264	P63843	2000	0.023560000	mV/V/g
T1	Y	Linear Acceleration	Endevco	7264	P52008	2000	0.018940000	mV/V/g
T1	Z	Linear Acceleration	Endevco	7264	P51636	2000	0.021720000	mV/V/g
T6	X	Linear Acceleration	Endevco	7264	P75156	2000	0.018200000	mV/V/g
T6	Y	Linear Acceleration	Endevco	7264	P84363	2000	0.019810000	mV/V/g
T6	Z	Linear Acceleration	Endevco	7264	P51715	2000	0.017920000	mV/V/g
Thorax UL	X	Displacement	Humanetics	IF-364-C-R3	DQ2255	87	31.685400000	mm/V
Thorax UL	Y	Rotational Displacement	Sternice	9945	DM4779	150	3.039700000	mV/V/deg
Thorax UL	Z	Rotational Displacement	Sternice	9945	DM4778	150	3.047000000	mV/V/deg
Thorax UR	X	Displacement	Humanetics	IF-364-C-R3	DQ2254	87	30.649300000	mm/V
Thorax UR	Y	Rotational Displacement	Sternice	9945	DM4774	150	3.041200000	mV/V/deg
Thorax UR	Z	Rotational Displacement	Sternice	9945	DM4775	150	3.062600000	mV/V/deg
Thorax LL	X	Displacement	Humanetics	IF-364-C-R3	DK3866	87	30.525600000	mm/V
Thorax LL	Y	Rotational Displacement	Sternice	9945	DJ5455	150	3.047000000	mV/V/deg
Thorax LL	Z	Rotational Displacement	Sternice	9945	DJ5454	150	3.051300000	mV/V/deg
Thorax LR	X	Displacement	Humanetics	IF-364-C-R3	DK3865	87	28.983900000	mm/V
Thorax LR	Y	Rotational Displacement	Sternice	9945	DJ5453	150	3.059300000	mV/V/deg
Thorax LR	Z	Rotational Displacement	Sternice	9945	DJ5452	150	3.050600000	mV/V/deg
Abdomen Right	X	Displacement	Humanetics	9910	DI4779	117	36.574900000	mm/V
Abdomen Right	Y	Rotational Displacement	Sternice	9945	DJ5445	60	3.059600000	mV/V/deg
Abdomen Right	Z	Rotational Displacement	Sternice	9945	DJ5446	30	3.072100000	mV/V/deg
Abdomen Left	X	Displacement	Humanetics	9910	183	117	35.438500000	mm/V
Abdomen Left	Y	Rotational Displacement	Sternice	9945	DJ5443	60	3.029500000	mV/V/deg
Abdomen Left	Z	Rotational Displacement	Sternice	9945	DJ5444	30	2.990900000	mV/V/deg
T12	X	Force	Humanetics	10415J14	DQ5600	13344.7	0.000146140	mV/V/N
T12	Y	Force	Humanetics	10415J14	DQ5600	13344.7	0.000145676	mV/V/N
T12	Z	Force	Humanetics	10415J14	DQ5600	17792.9	0.000060665	mV/V/N
T12	X	Moment	Humanetics	10415J14	DQ5600	677.9	0.002202095	mV/V/Nm
T12	Y	Moment	Humanetics	10415J14	DQ5600	903.9	0.001909614	mV/V/Nm
Acetabulum RT	X	Force	Humanetics	10670J14	DL9552	22241.1	0.000118254	mV/V/N
Acetabulum RT	Y	Force	Humanetics	10670J14	DL9552	13344.7	0.000060024	mV/V/N
Acetabulum RT	Z	Force	Humanetics	10670J14	DL9552	13344.7	0.000160828	mV/V/N
Acetabulum LT	X	Force	Humanetics	10530J14	DM1945	22241.2	0.000119449	mV/V/N
Acetabulum LT	Y	Force	Humanetics	10530J14	DM1945	13344.7	0.000060451	mV/V/N
Acetabulum LT	Z	Force	Humanetics	10530J14	DM1945	13344.7	0.000163750	mV/V/N
Left Femur	X	Force	Humanetics	W50-71010	DK0842	15000	0.000143527	mV/V/N
Left Femur	Y	Force	Humanetics	W50-71010	DK0842	15000	0.000143547	mV/V/N
Left Femur	Z	Force	Humanetics	W50-71010	DK0842	15000	0.000072553	mV/V/N
Left Femur	X	Moment	Humanetics	W50-71010	DK0842	350	0.006399714	mV/V/Nm
Left Femur	Y	Moment	Humanetics	W50-71010	DK0842	350	0.006497429	mV/V/Nm
Left Femur	Z	Moment	Humanetics	W50-71010	DK0842	300	0.009042333	mV/V/Nm
Right Femur	X	Force	Humanetics	W50-71010	DK3608	15000	0.000144093	mV/V/N
Right Femur	Y	Force	Humanetics	W50-71010	DK3608	15000	0.000144113	mV/V/N
Right Femur	Z	Force	Humanetics	W50-71010	DK3608	15000	0.000072907	mV/V/N
Right Femur	X	Moment	Humanetics	W50-71010	DK3608	350	0.006456857	mV/V/Nm
Right Femur	Y	Moment	Humanetics	W50-71010	DK3608	350	0.006419143	mV/V/Nm

Sensor Location	Axis	Measurement	Manufacturer	Model Number	Serial Number	Rated Full Scale	Sensitivity	Sensitivity Units
Right Femur	Z	Moment	Humanetics	W50-71010	DK3608	300	0.009165667	mV/V/Nm
ASIS Left	X	Force	Humanetics	9490JFL	77	13000	0.000068500	mV/V/N
ASIS Left	Y	Moment	Humanetics	9490JFL	77	325	0.003816615	mV/V/Nm
ASIS Right	X	Force	Humanetics	9490JFL	DJ5524	13000	0.000071238	mV/V/N
ASIS Right	Y	Moment	Humanetics	9490JFL	DJ5524	325	0.003790769	mV/V/Nm
Pelvis	X	Linear Acceleration	Endevco	7264	P58747	2000	0.018510000	mV/V/g
Pelvis	Y	Linear Acceleration	Endevco	7264	P52004	2000	0.021010000	mV/V/g
Pelvis	Z	Linear Acceleration	Endevco	7264	P71875	2000	0.020680000	mV/V/g
Upper Tibia	X	Force	Denton	10390J14	DQ5734	11100.0	0.0001705	mv/v/N
Upper Tibia	Y	Force	Denton	10390J14	DQ5734	11100.0	0.0001712	mv/v/N
Upper Tibia	Z	Force	Denton	10390J14	DQ5734	11100.0	0.0000954	mv/v/N
Upper Tibia	X	Moment	Denton	10390J14	DQ5734	395.4	0.0074627	mv/v/Nm
Upper Tibia	Y	Moment	Denton	10390J14	DQ5734	395.4	0.0075024	mv/v/Nm
Lower Tibia	X	Force	Denton	9329J	DQ9684	11120.5	0.0001773	mv/v/N
Lower Tibia	Y	Force	Denton	9329J	DQ9684	11120.5	0.0001749	mv/v/N
Lower Tibia	Z	Force	Denton	9329J	DQ9684	11120.5	0.0000976	mv/v/N
Lower Tibia	X	Moment	Denton	9329J	DQ9684	395.4	0.0076980	mv/v/Nm
Lower Tibia	Y	Moment	Denton	9329J	DQ9684	395.4	0.0076547	mv/v/Nm
Ankle	X	Rotational Displacement	SFERNICE	ECO50ESC10	001	180	3.04010	mv/v/deg
Ankle	Y	Rotational Displacement	SFERNICE	ECO50ESC10	002	180	3.03620	mv/v/deg
Ankle	Z	Rotational Displacement	SFERNICE	ECO50ESC10	003	180	3.04490	mv/v/deg
Knee	X	Displacement	Space Age	150-0121V	13073814	30	23.32260	mv/v/mm
Leg	X	Linear Acceleration	Endevco	7264C	P79626	2000	0.02106	mv/v/g
Leg	Y	Linear Acceleration	Endevco	7264C	P74953	2000	0.01785	mv/v/g
Foot	X	Linear Acceleration	Endevco	7264C	P49441	2000	0.01789	mv/v/g
Foot	Z	Linear Acceleration	Endevco	7264C	P80272	2000	0.01955	mv/v/g
Upper Tibia	X	Force	Denton	10390J14	DQ5598	11100	0.0001695	mv/v/N
Upper Tibia	Y	Force	Denton	10390J14	DQ5598	11100	0.0001711	mv/v/N
Upper Tibia	Z	Force	Denton	10390J14	DQ5598	11100	0.0000953	mv/v/N
Upper Tibia	X	Moment	Denton	10390J14	DQ5598	395.4	0.0074668	mv/v/Nm
Upper Tibia	Y	Moment	Denton	10390J14	DQ5598	395.4	0.0074712	mv/v/Nm
Lower Tibia	X	Force	Denton	9329J	DQ9685	11120.5	0.0001731	mv/v/N
Lower Tibia	Y	Force	Denton	9329J	DQ9685	11120.5	0.0001704	mv/v/N
Lower Tibia	Z	Force	Denton	9329J	DQ9685	11120.5	0.0000962	mv/v/N
Lower Tibia	X	Moment	Denton	9329J	DQ9685	395.4	0.0075356	mv/v/Nm
Lower Tibia	Y	Moment	Denton	9329J	DQ9685	395.4	0.0075951	mv/v/Nm
Ankle	X	Rotational Displacement	SFERNICE	ECO50ESC10	004	300	3.05800	mv/v/deg
Ankle	Y	Rotational Displacement	SFERNICE	ECO50ESC10	005	300	3.04000	mv/v/deg
Ankle	Z	Rotational Displacement	SFERNICE	ECO50ESC10	006	300	3.03620	mv/v/deg
Knee	X	Displacement	Space Age	150-0121V	13073811	30	23.23130	mv/v/mm
Leg	X	Linear Acceleration	Endevco	7264C	P81386	2000	0.01775	mv/v/g
Leg	Y	Linear Acceleration	Endevco	7264C	P52069	2000	0.01906	mv/v/g
Foot	X	Linear Acceleration	Endevco	7264C	P64131	2000	0.01921	mv/v/g
Foot	Z	Linear Acceleration	Endevco	7264C	P51725	2000	0.02140	mv/v/g

Sensor Location	Axis	Measurement	Manufacturer	Model Number	Serial Number	Rated Full Scale	Sensitivity	Sensitivity Units
Head CG	X	Linear Acceleration	Endevco	7264	P82183	2000	0.017690000	mV/V/g
Head CG	Y	Linear Acceleration	Endevco	7264	P81384	2000	0.017600000	mV/V/g
Head CG	Z	Linear Acceleration	Endevco	7264	P81797	2000	0.019350000	mV/V/g
Head	X	Rotational Acceleration	DTS	18K ARS	ARS4740	18000	0.091430000	mV/deg/sec
Head	Y	Rotational Acceleration	DTS	18K ARS	ARS4737	18000	0.095640000	mV/deg/sec
Head	Z	Rotational Acceleration	DTS	18K ARS	ARS4073	18000	0.093760000	mV/deg/sec
Skull Spring Front	Y	Force	Humanetics	10386J14	DO9740	4448.2	0.000512814	mV/V/N
Skull Spring Rear	Z	Force	Humanetics	10386J14	DO9741	4448.2	0.000508183	mV/V/N
Condyle Pot	Z	Rotation	Humanetics	9945	DK5911	180	3.021000000	mV/V/deg
Upper Neck	X	Force	Humanetics	10380J14	DP3956	8896.4	0.000224158	mV/V/N
Upper Neck	Y	Force	Humanetics	10380J14	DP3956	8896.4	0.000227755	mV/V/N
Upper Neck	Z	Force	Humanetics	10380J14	DP3956	13344.7	0.00085255	mV/V/N
Upper Neck	X	Moment	Humanetics	10380J14	DP3956	282.5	0.005819469	mV/V/Nm
Upper Neck	Y	Moment	Humanetics	10380J14	DP3956	282.5	0.005983009	mV/V/Nm
Upper Neck	Z	Moment	Humanetics	10380J14	DP3956	282.5	0.009425133	mV/V/Nm
Lower Neck	X	Force	Humanetics	10381J14	DP4780	13344.7	0.000173709	mV/V/N
Lower Neck	Y	Force	Humanetics	10381J14	DP4780	13344.7	0.000174489	mV/V/N
Lower Neck	Z	Force	Humanetics	10381J14	DP4780	13344.7	0.000070575	mV/V/N
Lower Neck	X	Moment	Humanetics	10381J14	DP4780	451.9	0.004108210	mV/V/Nm
Lower Neck	Y	Moment	Humanetics	10381J14	DP4780	451.9	0.004146714	mV/V/Nm
Lower Neck	Z	Moment	Humanetics	10381J14	DP4780	226	0.006740265	mV/V/Nm
T1	X	Linear Acceleration	Endevco	7264	P79630	2000	0.020870000	mV/V/g
T1	Y	Linear Acceleration	Endevco	7264	P78880	2000	0.019820000	mV/V/g
T1	Z	Linear Acceleration	Endevco	7264	P82758	2000	0.018610000	mV/V/g
Upper Left Thorax	X	Voltage	Humanetics	IF-364-C-R3	DS6355			
Upper Left Thorax	Y	Rotation	Humanetics	9945	DI2382	180	2.978800000	mV/V/deg
Upper Left Thorax	Z	Rotation	Humanetics	9945	DI2383	180	3.007300000	mV/V/deg
Upper Right Thorax	X	Voltage	Humanetics	IF-364-C-R3	DI2613			
Upper Right Thorax	Y	Rotation	Humanetics	9945	DI7753	180	3.035900000	mV/V/deg
Upper Right Thorax	Z	Rotation	Humanetics	9945	DI7752	180	3.052400000	mV/V/deg
Lower Left Thorax	X	Voltage	Humanetics	IF-364-C-R3	DS6353			
Lower Left Thorax	Y	Rotation	Humanetics	9945	DM4781	180	3.001400000	mV/V/deg
Lower Left Thorax	Z	Rotation	Humanetics	9945	DS4092	180	3.072500000	mV/V/deg
Lower Right Thorax	X	Voltage	Humanetics	IF-364-C-R3	DS6354			
Lower Right Thorax	Y	Rotation	Humanetics	9945	DM4776	180	3.004900000	mV/V/deg
Lower Right Thorax	Z	Rotation	Humanetics	9945	DM4777	180	2.994700000	mV/V/deg
T6	X	Linear Acceleration	Endevco	7264	P49229	2000	0.018010000	mV/V/g
T6	Y	Linear Acceleration	Endevco	7264	P49215	2000	0.016950000	mV/V/g
T6	Z	Linear Acceleration	Endevco	7264	P52122	2000	0.017050000	mV/V/g
Thoracic Spine	X	Force	Humanetics	10415J14	DP2984	13344.7	0.000146365	mV/V/N
Thoracic Spine	Y	Force	Humanetics	10415J14	DP2984	13344.7	0.000147107	mV/V/N
Thoracic Spine	Z	Force	Humanetics	10415J14	DP2984	17792.9	0.000060193	mV/V/N
Thoracic Spine	X	Moment	Humanetics	10415J14	DP2984	677.9	0.002146039	mV/V/Nm
Thoracic Spine	Y	Moment	Humanetics	10415J14	DP2984	903.9	0.001914371	mV/V/Nm
Abdomen Left	Z	Voltage	Humanetics	9910	DQ2303			
Abdomen Left	X	Rotation	Humanetics	9945	DS8363	150	3.024100000	mV/V/deg
Abdomen Left	Y	Rotation	Humanetics	9945	DS8361	150	3.047400000	mV/V/deg
Abdomen Right	Z	Voltage	Humanetics	9910	DM2641			
Abdomen Right	X	Rotation	Humanetics	9945	DS4094	150	3.012300000	mV/V/deg
Abdomen Right	Y	Rotation	Humanetics	9945	DS4121	150	3.021800000	mV/V/deg
Acetabulum Right	X	Force	Humanetics	10670J14	DP3835	22241.1	0.000118506	mV/V/N
Acetabulum Right	Y	Force	Humanetics	10670J14	DP3835	13344.7	0.000059342	mV/V/N
Acetabulum Right	Z	Force	Humanetics	10670J14	DP3835	13344.7	0.000161173	mV/V/N
Acetabulum Left	X	Force	Humanetics	10530J14	DP4639	22241.1	0.000121280	mV/V/N
Acetabulum Left	Y	Force	Humanetics	10530J14	DP4639	13344.7	0.000059432	mV/V/N
Acetabulum Left	Z	Force	Humanetics	10530J14	DP4639	13344.7	0.000165871	mV/V/N
Pelvis	X	Linear Acceleration	Endevco	7264	P83434	2000	0.017540000	mV/V/g
Pelvis	Y	Linear Acceleration	Endevco	7264	P82752	2000	0.018310000	mV/V/g
Pelvis	Z	Linear Acceleration	Endevco	7264	P80296	2000	0.019410000	mV/V/g
ASIS Right	X	Force	Humanetics	10387J14	DP5091	13000	0.000065215	mV/V/N
ASIS Right	Y	Moment	Humanetics	10387J14	DP5091	325	0.003697538	mV/V/Nm
ASIS Left	Z	Force	Humanetics	10387J14	DP5092	13000	0.000067323	mV/V/N
ASIS Left	X	Moment	Humanetics	10387J14	DP5092	325	0.003688923	mV/V/Nm
Femur Left	Y	Force	Denton	W50-7101051	DM4975	15000	0.000143700	mV/V/N
Femur Left	Z	Force	Denton	W50-7101051	DM4975	15000	0.000143600	mV/V/N
Femur Left	X	Force	Denton	W50-7101051	DM4975	15000	0.000072700	mV/V/N
Femur Left	Y	Moment	Denton	W50-7101051	DM4975	350	0.006601400	mV/V/Nm
Femur Left	Z	Moment	Denton	W50-7101051	DM4975	350	0.006642000	mV/V/Nm
Femur Left	X	Moment	Denton	W50-7101051	DM4975	300	0.008961300	mV/V/Nm
Femur Right	Y	Force	Denton	W50-7101051	DM4976	15000	0.000142600	mV/V/N

Sensor Location	Axis	Measurement	Manufacturer	Model Number	Serial Number	Rated Full Scale	Sensitivity	Sensitivity Units
Femur Right	X	Force	Denton	W50-7101051	DM4976	15000	0.000142900	mV/V/N
Femur Right	Y	Force	Denton	W50-7101051	DM4976	15000	0.000072200	mV/V/N
Femur Right	X	Moment	Denton	W50-7101051	DM4976	350	0.006505700	mV/V/Nm
Femur Right	Y	Moment	Denton	W50-7101051	DM4976	350	0.006488900	mV/V/Nm
Femur Right	Z	Moment	Denton	W50-7101051	DM4976	300	0.008811600	mV/V/Nm
Upper Tibia	Z	Moment	Denton	4353J	75	395	0.00749000	mv/v/Nm
Upper Tibia	X	Moment	Denton	4353J	75	395	0.00747580	mv/v/Nm
Lower Tibia	Y	Force	Denton	4929J	166	11100	0.00017560	mv/v/N
Lower Tibia	X	Force	Denton	4929J	166	11100	0.00017130	mv/v/N
Lower Tibia	Y	Force	Denton	4929J	166	11100	0.00009950	mv/v/N
Lower Tibia	Z	Moment	Denton	4929J	166	395	0.00742480	mv/v/Nm
Lower Tibia	X	Moment	Denton	4929J	166	395	0.00737260	mv/v/Nm
Ankle	Y	Rotational Displacement	Contelec	PD210-4B	0528	180	3.20220	mv/v/deg
Ankle	X	Rotational Displacement	Contelec	PD210-4B	0526	180	3.15530	mv/v/deg
Ankle	Y	Rotational Displacement	Contelec	PD210-4B	0527-1	180	3.16060	mv/v/deg
Knee	Z	Displacement	Space Age	150-0121VL	021033	30	23.25080	mv/v/mm
Leg	X	Linear Acceleration	Endevco	7264C	P82744	2000	0.01827	mv/v/g
Leg	X	Linear Acceleration	Endevco	7264C	P82322	2000	0.01726	mv/v/g
Foot	X	Linear Acceleration	Endevco	7264C	P83340	2000	0.02038	mv/v/g
Foot	Z	Linear Acceleration	Endevco	7264C	P83339	2000	0.01990	mv/v/g
Upper Tibia	Z	Moment	Denton	4353J	97	395	0.00733320	mv/v/Nm
Upper Tibia	X	Moment	Denton	4353J	97	395	0.00739800	mv/v/Nm
Lower Tibia	Y	Force	Denton	4929J	121	11100	0.00017510	mv/v/N
Lower Tibia	X	Force	Denton	4929J	121	11100	0.00017180	mv/v/N
Lower Tibia	Y	Force	Denton	4929J	121	11100	0.00009580	mv/v/N
Lower Tibia	Z	Moment	Denton	4929J	121	395	0.00739650	mv/v/Nm
Lower Tibia	X	Moment	Denton	4929J	121	395	0.00744720	mv/v/Nm
Ankle	Y	Rotational Displacement	Contelec	PD210-4B	0523	180	3.17860	mv/v/deg
Ankle	X	Rotational Displacement	Contelec	PD210-4B	0524	180	3.19060	mv/v/deg
Ankle	Y	Rotational Displacement	Contelec	PD210-4B	0525	180	3.18790	mv/v/deg
Knee	Z	Displacement	Space Age	150-0121V	C2102639B	33	24.09410	mv/v/mm
Leg	X	Linear Acceleration	Endevco	7264C	P77996	2000	0.01803	mv/v/g
Leg	X	Linear Acceleration	Endevco	7264C	P64094	2000	0.02214	mv/v/g
Foot	X	Linear Acceleration	Endevco	7264C	P74950	2000	0.01782	mv/v/g
Foot	Z	Linear Acceleration	Endevco	7264C	P51684	2000	0.01953	mv/v/g

Thoracic and Abdominal IR-TRACC															
				<table><tr><th>Channel</th><th>Motion</th></tr><tr><td>DX</td><td>Push inward</td></tr><tr><td>RY</td><td>Push upward</td></tr><tr><td>RZ</td><td>Push rightward</td></tr></table>				Channel	Motion	DX	Push inward	RY	Push upward	RZ	Push rightward
Channel	Motion														
DX	Push inward														
RY	Push upward														
RZ	Push rightward														
Upper Right Thorax				Upper Left Thorax											
Channel	Initial Value	Expected Polarity	Recorded Polarity	Channel	Initial Value	Expected Polarity	Recorded Polarity								
DX (V)	.0753	+	+	DX (V)	.0750	+	+								
RY (Deg)	-9.0597	+	-	RY (Deg)	4.0288	+	+								
RZ (Deg)	14.916	+	-	RZ (Deg)	10.982	+	+								
Lower Right Thorax				Lower Left Thorax											
Channel	Initial Value	Expected Polarity	Recorded Polarity	Channel	Initial Value	Expected Polarity	Recorded Polarity								
DX (V)	.0384	+	+	DX (V)	.0777	+	+								
RY (Deg)	1.6636	+	-	RY (Deg)	-5.2941	+	+								
RZ (Deg)	-6.002	+	+	RZ (Deg)	8.1343	+	+								
Abdomen Right				Abdomen Left											
Channel	Initial Value	Expected Polarity	Recorded Polarity	Channel	Initial Value	Expected Polarity	Recorded Polarity								
DX (V)	0.628	+	+	DX (V)	0.0826	+	+								
RY (Deg)	-1.1338	+	-	RY (Deg)	2.4808	+	+								
RZ (Deg)	.1804	+	+	RZ (Deg)	1.1542	+	+								

Thoracic and Abdominal IR-TRACC															
				<table><tr><th>Channel</th><th>Motion</th></tr><tr><td>DX</td><td>Push inward</td></tr><tr><td>RY</td><td>Push upward</td></tr><tr><td>RZ</td><td>Push rightward</td></tr></table>				Channel	Motion	DX	Push inward	RY	Push upward	RZ	Push rightward
Channel	Motion														
DX	Push inward														
RY	Push upward														
RZ	Push rightward														
Upper Right Thorax				Upper Left Thorax											
Channel	Initial Value	Expected Polarity	Recorded Polarity	Channel	Initial Value	Expected Polarity	Recorded Polarity								
DX (V)	.0796	+	+	DX (V)	.0784	+	+								
RY (Deg)	-7.880	+	-	RY (Deg)	2.010	+	+								
RZ (Deg)	12.701	+	-	RZ (Deg)	-12.550	+	-								
Lower Right Thorax				Lower Left Thorax											
Channel	Initial Value	Expected Polarity	Recorded Polarity	Channel	Initial Value	Expected Polarity	Recorded Polarity								
DX (V)	.0940	+	+	DX (V)	.0940	+	+								
RY (Deg)	4.693	+	-	RY (Deg)	-2.315	+	+								
RZ (Deg)	-8.572	+	+	RZ (Deg)	6.3395	+	+								
Abdomen Right				Abdomen Left											
Channel	Initial Value	Expected Polarity	Recorded Polarity	Channel	Initial Value	Expected Polarity	Recorded Polarity								
DX (V)	0.0415	+	+	DX (V)	0.0671	+	+								
RY (Deg)	-3.003	+	-	RY (Deg)	-2.447	+	+								
RZ (Deg)	1.099	+	+	RZ (Deg)	3.705	+	+								

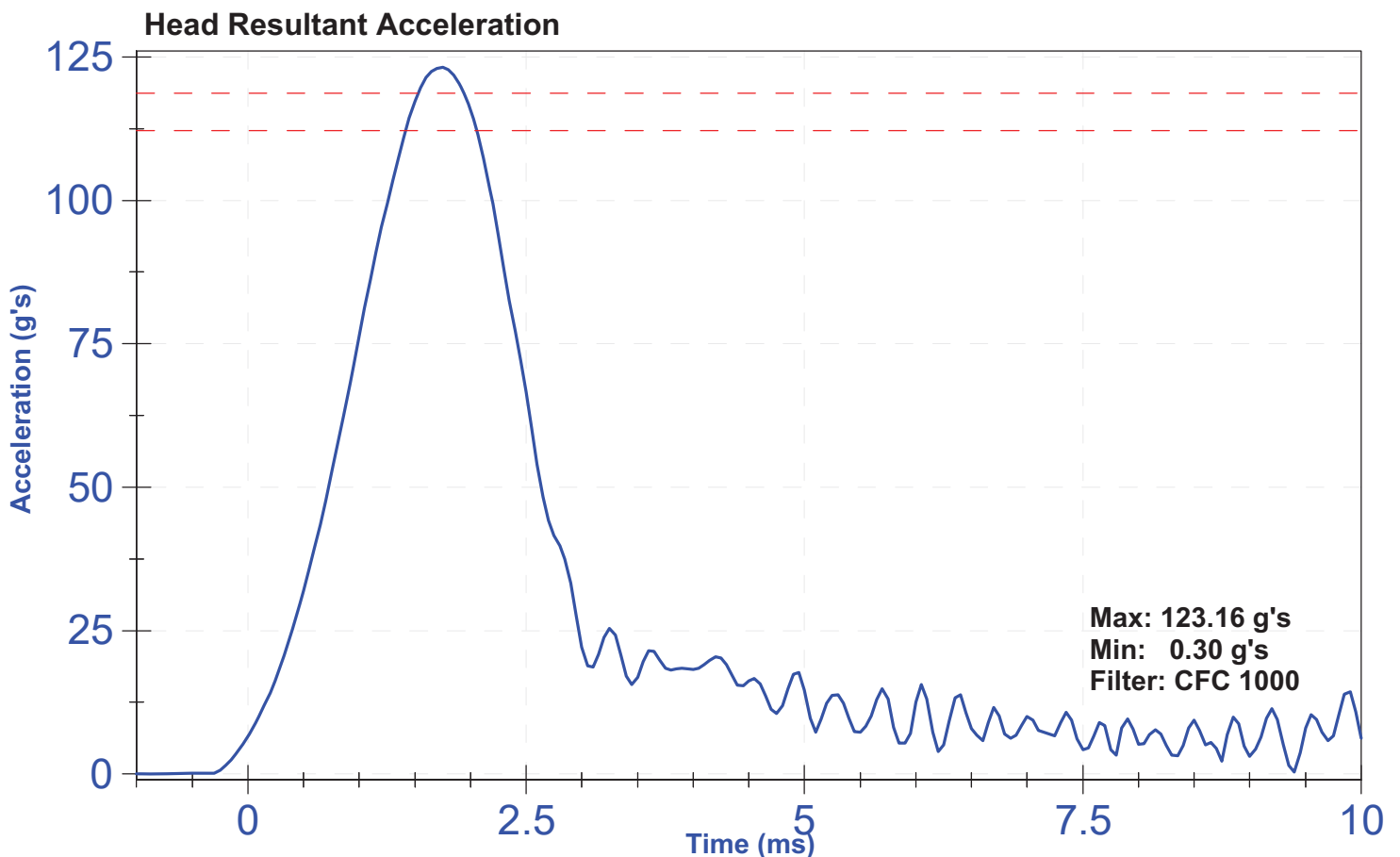
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

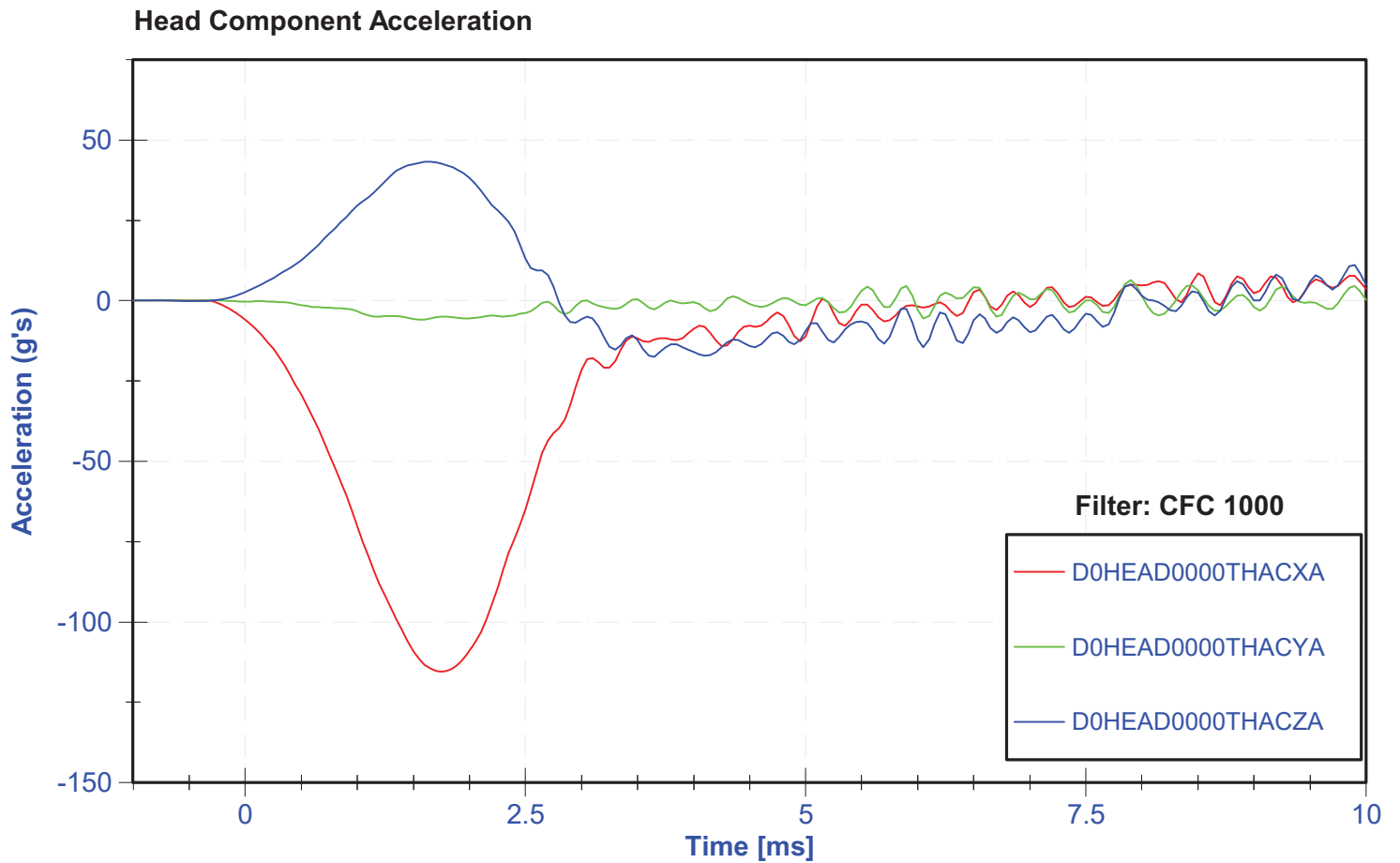
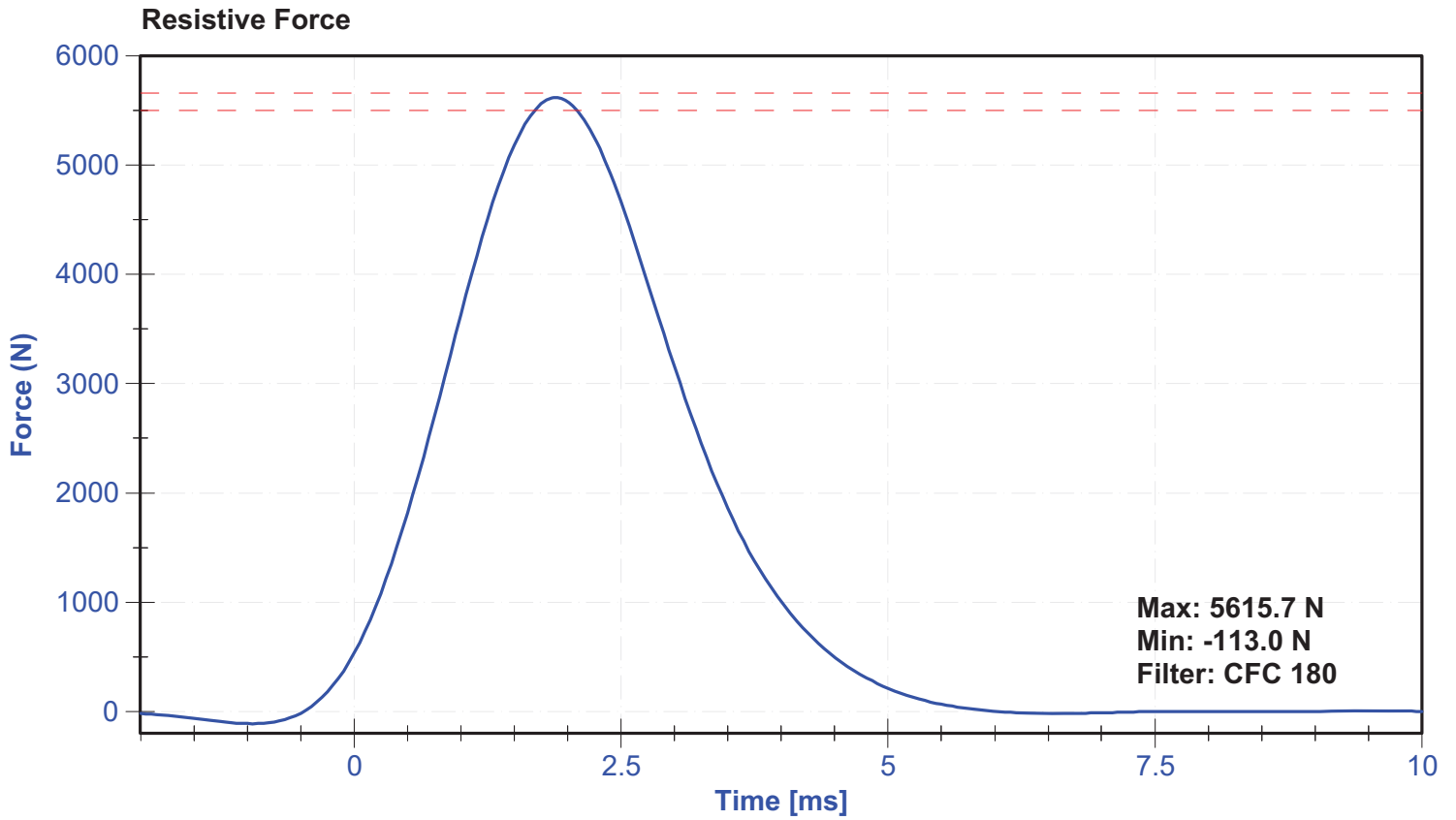
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	33.1	Pass
Impact Velocity	1.95	2.05	m/s	1.958	Pass
Probe Force	5498	5660	N	5615.7	Pass
Resultant Acceleration	112.2	118.7	g's	123.16	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Head X Accel	Endevco 7264	AC-P52001	9/24/2015	3/24/2016
Head Y Accel	Endevco 7264	AC-P51697	9/28/2015	3/28/2016
Head Z Accel	Endevco 7264	AC-P75155	9/24/2015	3/24/2016
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DP9798	Laboratory Supervisor	M. Goehle

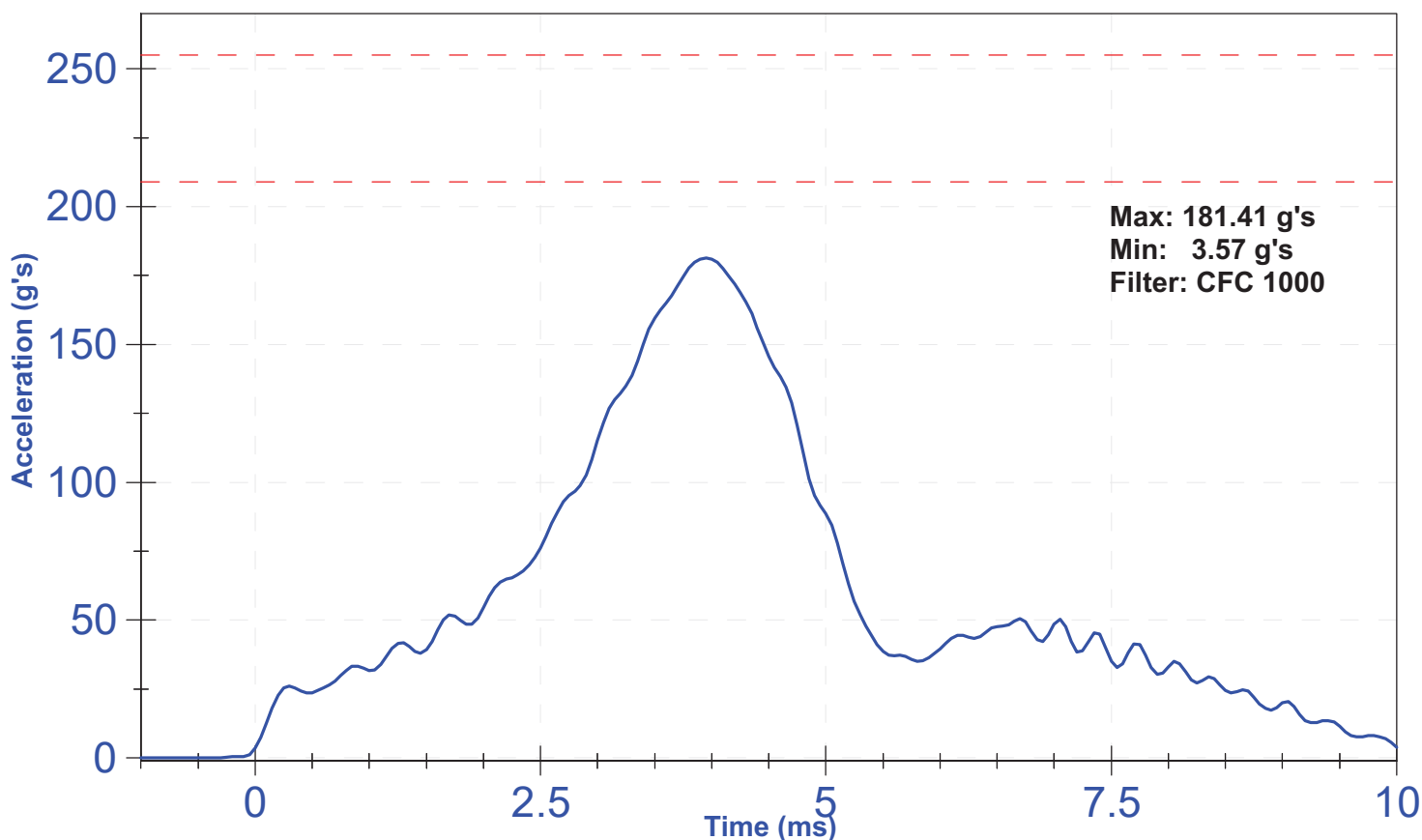
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	34.9	Pass
Impact Velocity	6.68	6.78	m/s	6.728	Pass
Probe Force	9067	11082	N	8860.2	Fail
Resultant Acceleration	209	255	g's	181.4	Fail

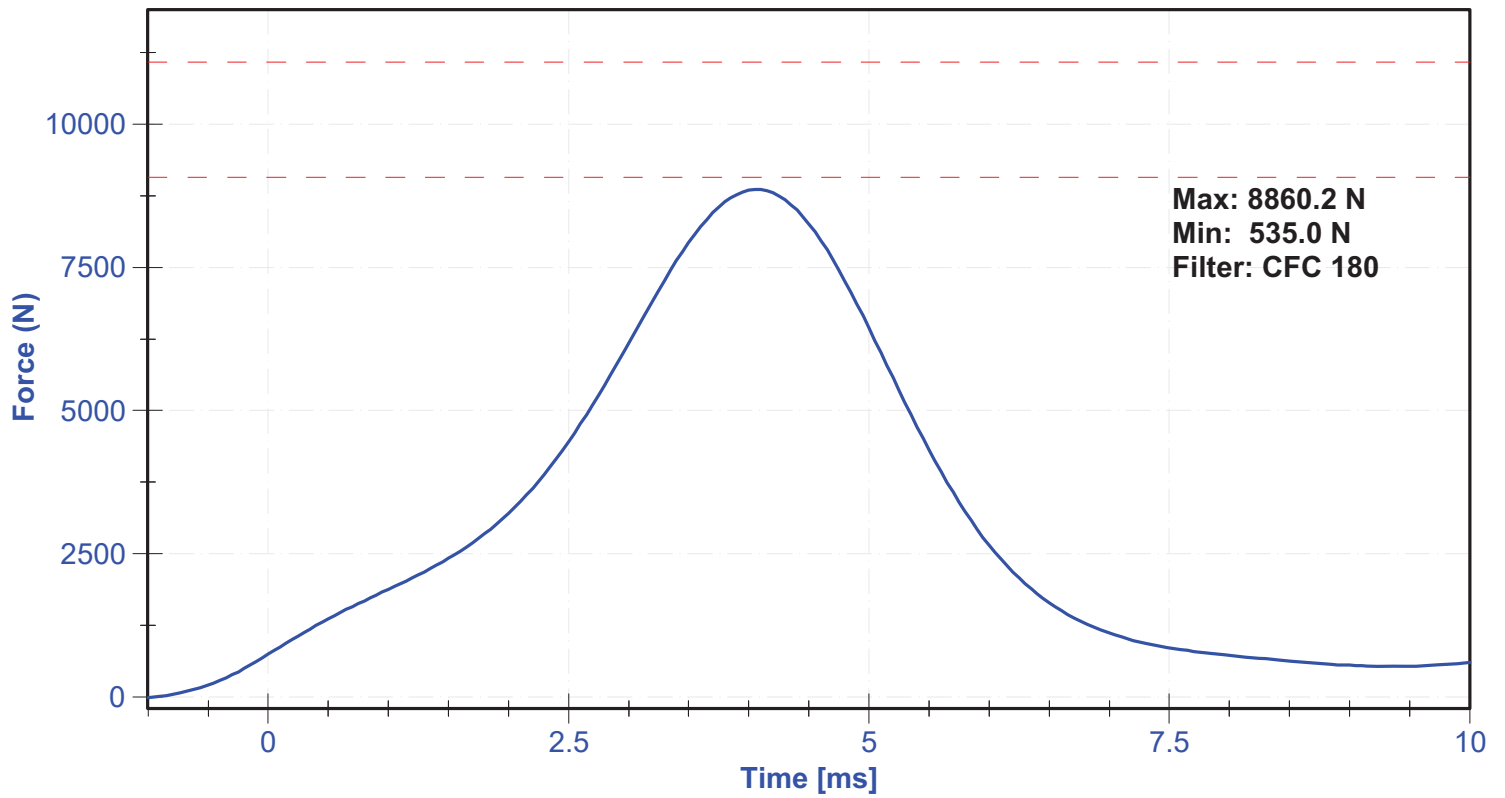
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Head X Accel	Endevco 7264	AC-P52001	9/24/2015	3/24/2016
Head Y Accel	Endevco 7264	AC-P51697	9/28/2015	3/28/2016
Head Z Accel	Endevco 7264	AC-P75155	9/24/2015	3/24/2016
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016

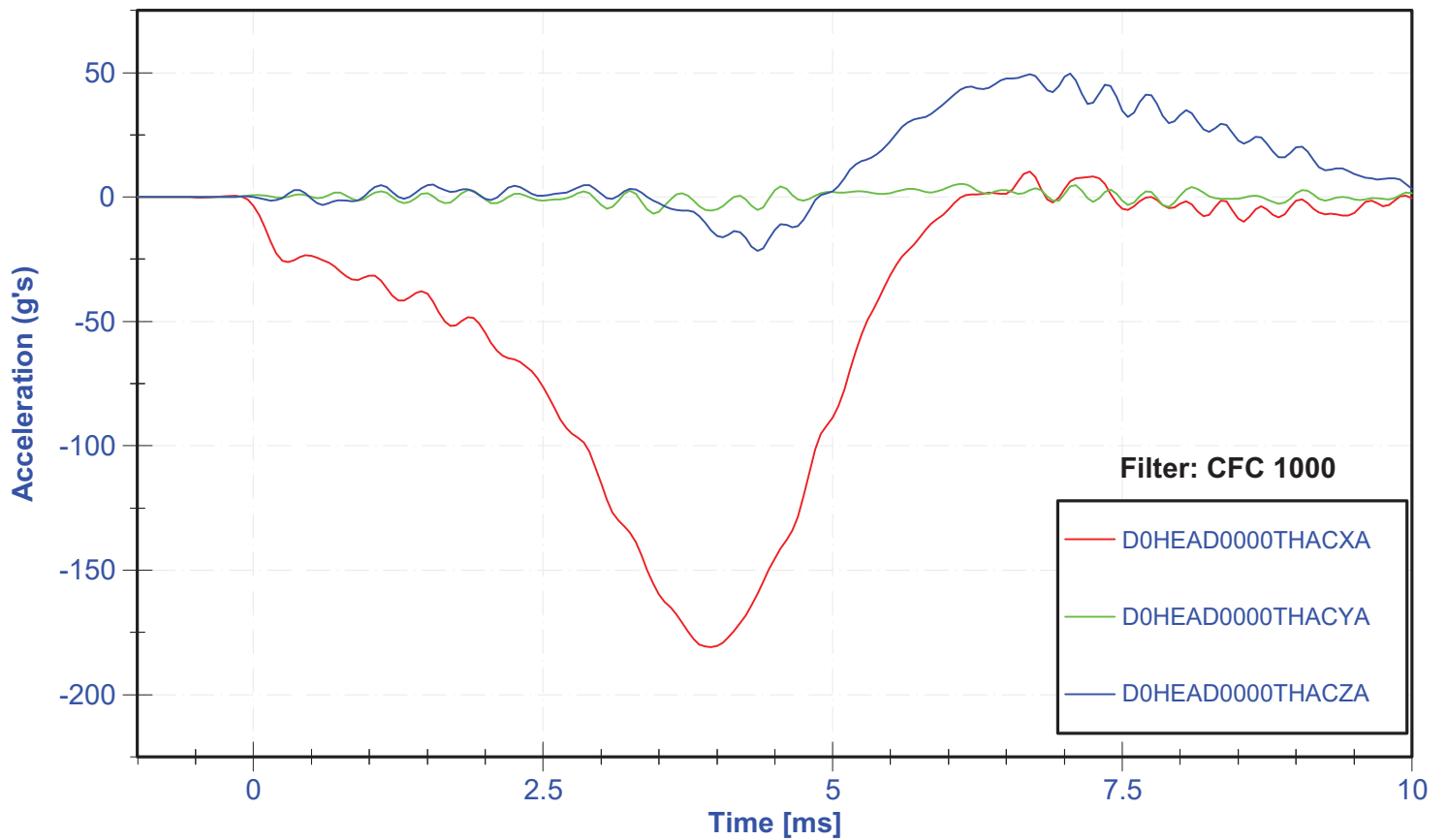
Head Resultant Acceleration



Resistive Force



Head Component Acceleration



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

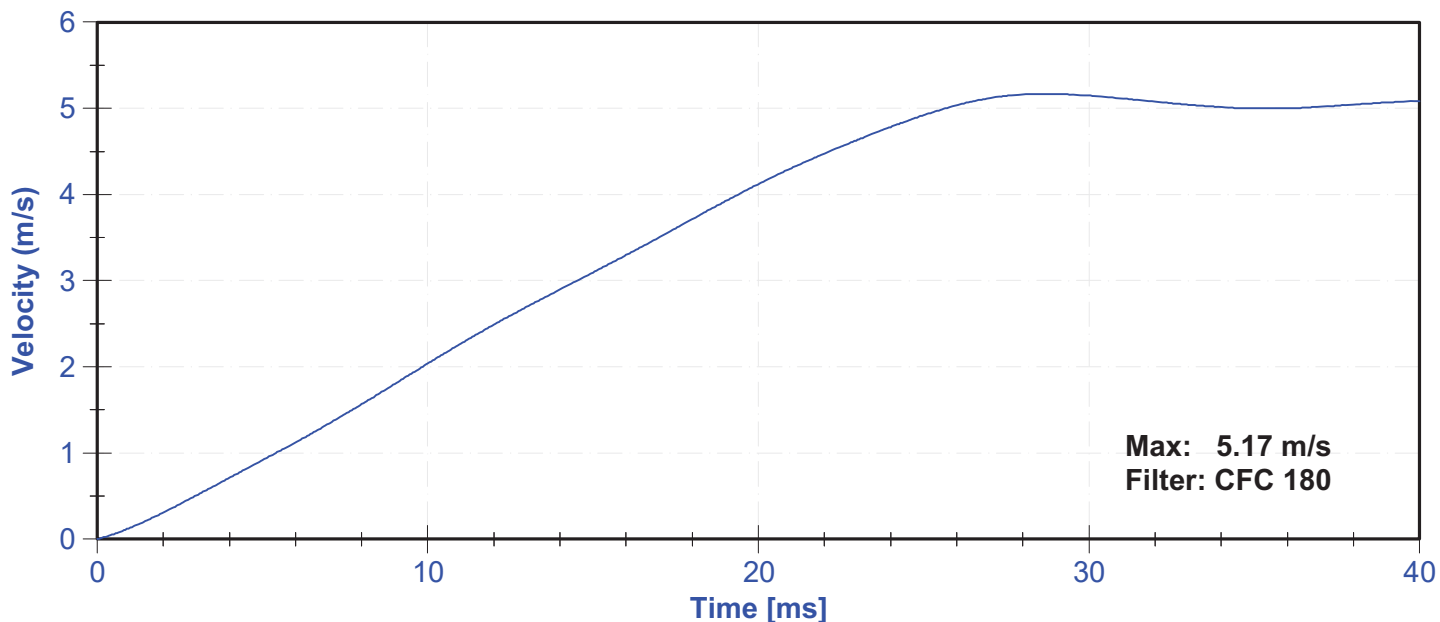
Results

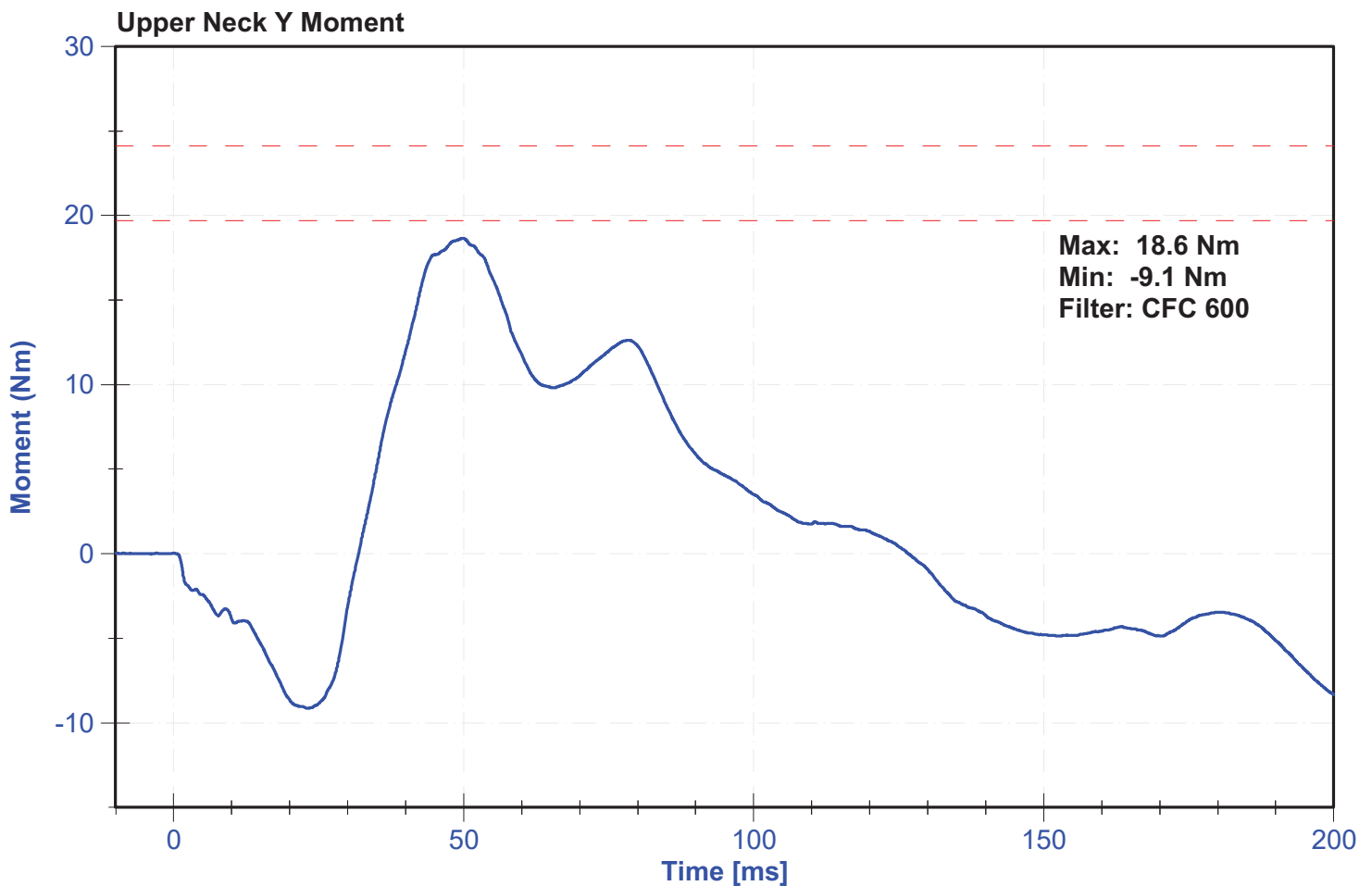
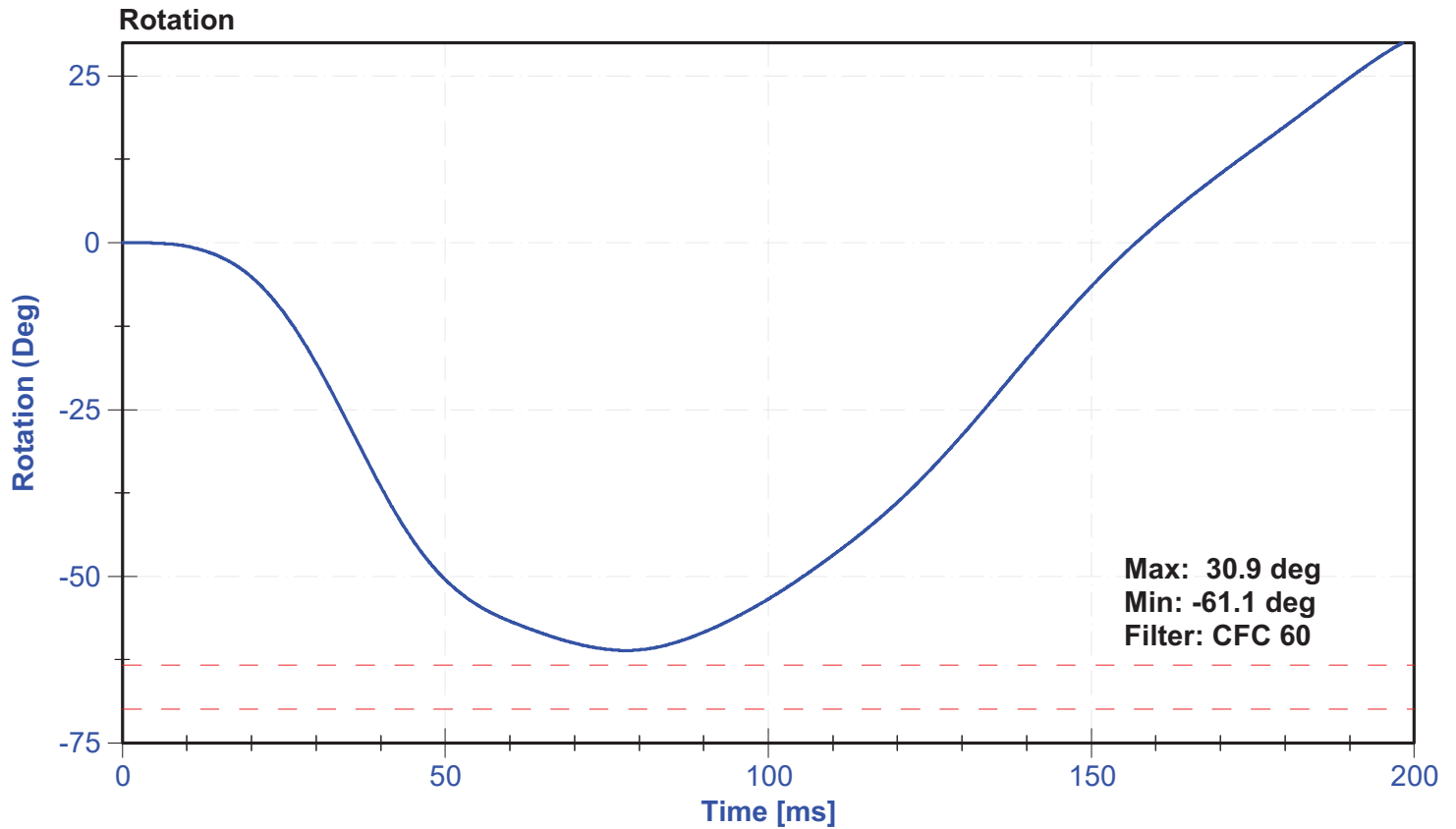
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.5	Pass
Humidity	10	70	%	26.4	Pass
Velocity	4.95	5.05	m/s	5.015	Pass
Pendulum Impulse at 8ms	1.49	1.85	m/s	1.567	Pass
Pendulum Impulse at 16ms	3.08	3.86	m/s	3.297	Pass
Pendulum Impulse at 24ms	4.48	5.26	m/s	4.784	Pass
Peak Upper Neck Y Moment	19.7	24.1	Nm	18.64	Fail
Peak Upper Neck X Force	-1592	-1302	N	-1495.5	Pass
Maximum Upper Neck Z Force	877	1072	N	998.4	Pass
First Peak Rear Neck Cable Force	1115	1282	N	1183.8	Pass
Peak Head Y Angular Rate	-1935	-1675	deg/s	-1724.0	Pass
Peak Head Y Rotation	-69.9	-63.3	deg	-61.11	Fail
Rotation Decay Time to Zero	83.0	86.2	ms	79.00	Fail

Transducer Calibrations

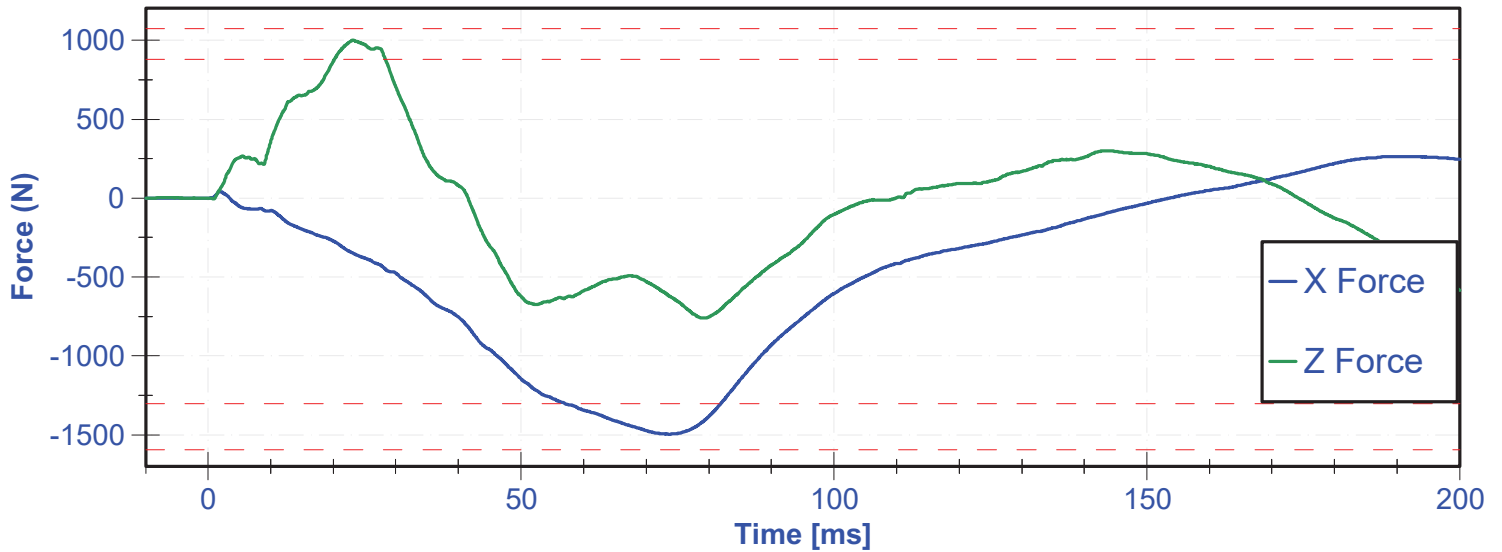
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DS9758 Fx	12/3/2015	12/2/2016
Rear Neck Cable Load Cell	Humanetics 6005JFL	LC-132	9/17/2015	9/16/2016
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head Y ARS	DTS ARS 18k	ARS-4071	3/31/2015	3/30/2016

Pendulum Pulse

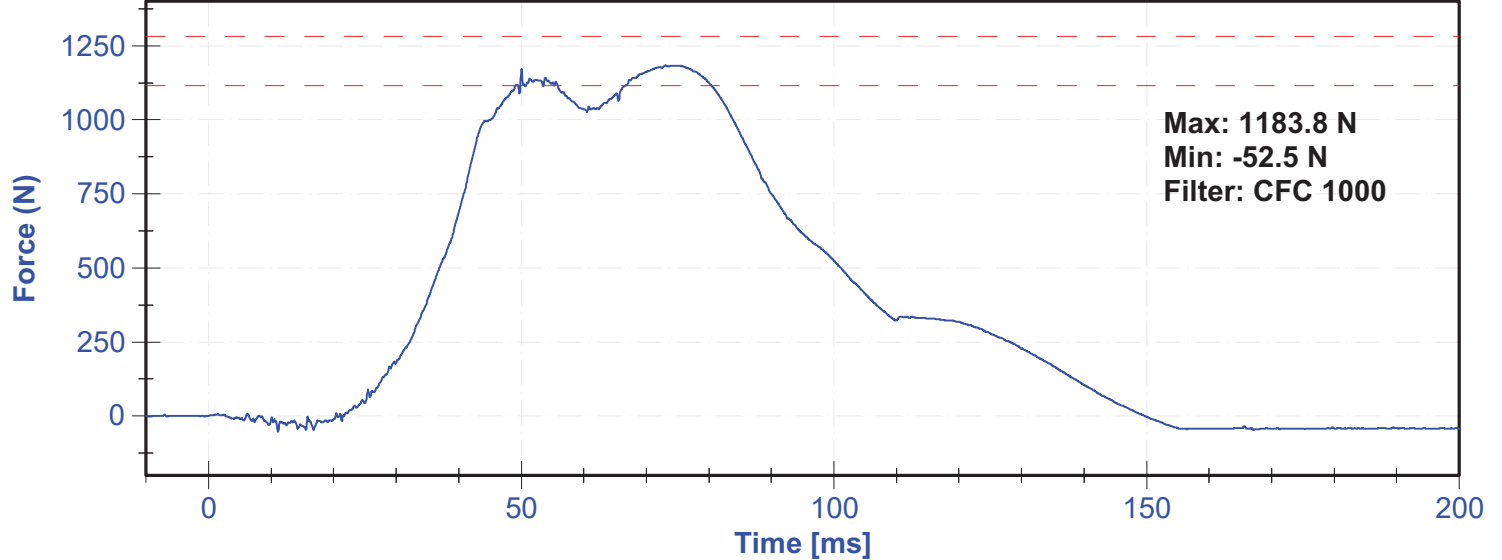




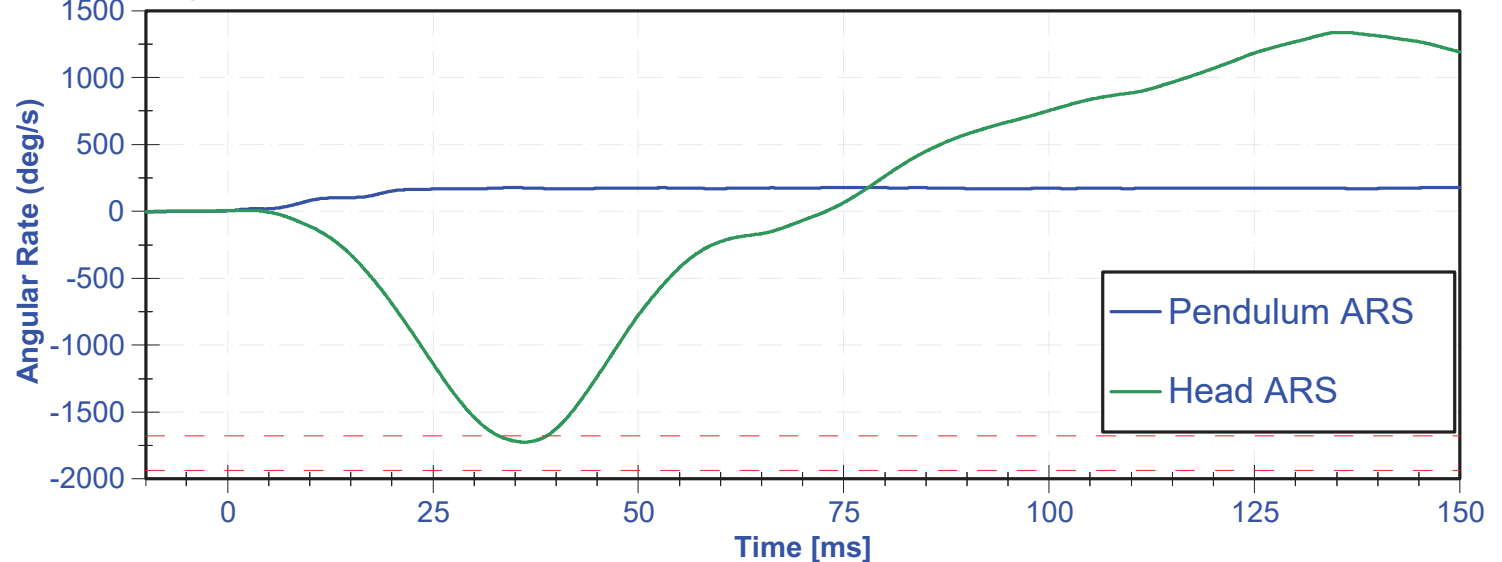
Upper Neck Force



Rear Neck Cable Z Force



Angular Rate Sensors



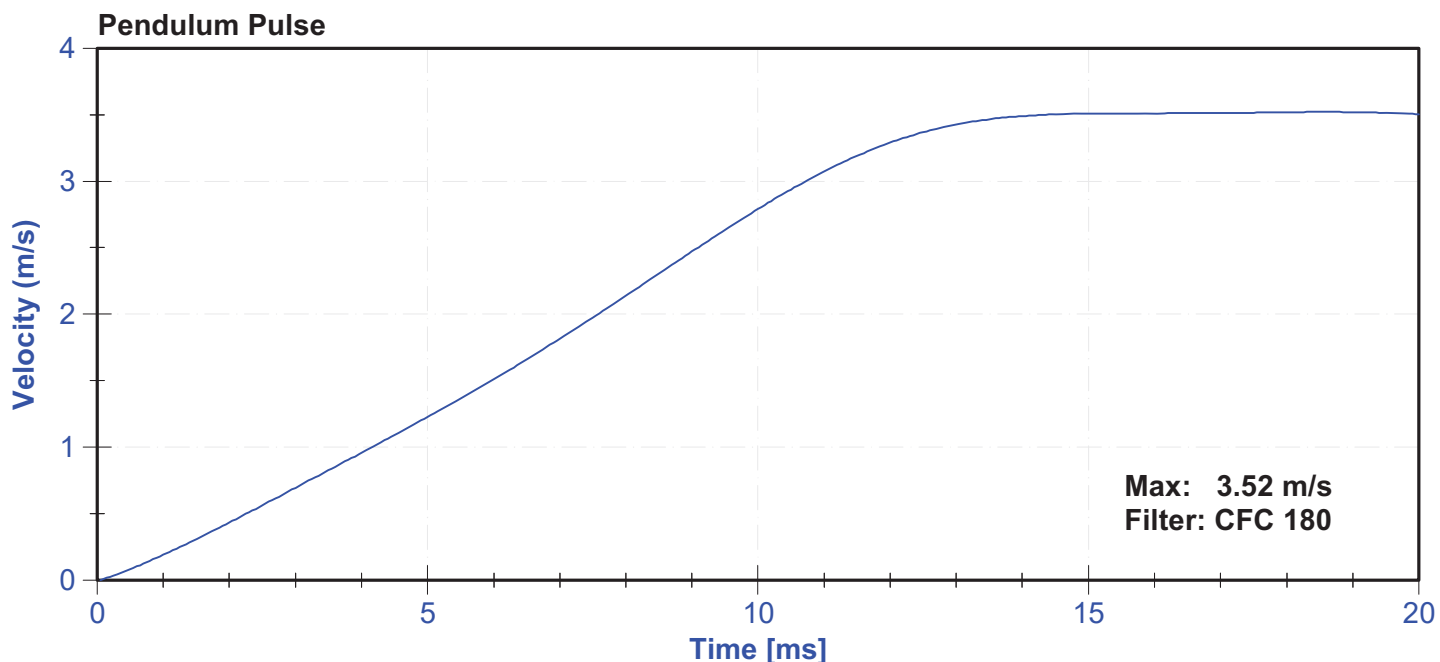
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

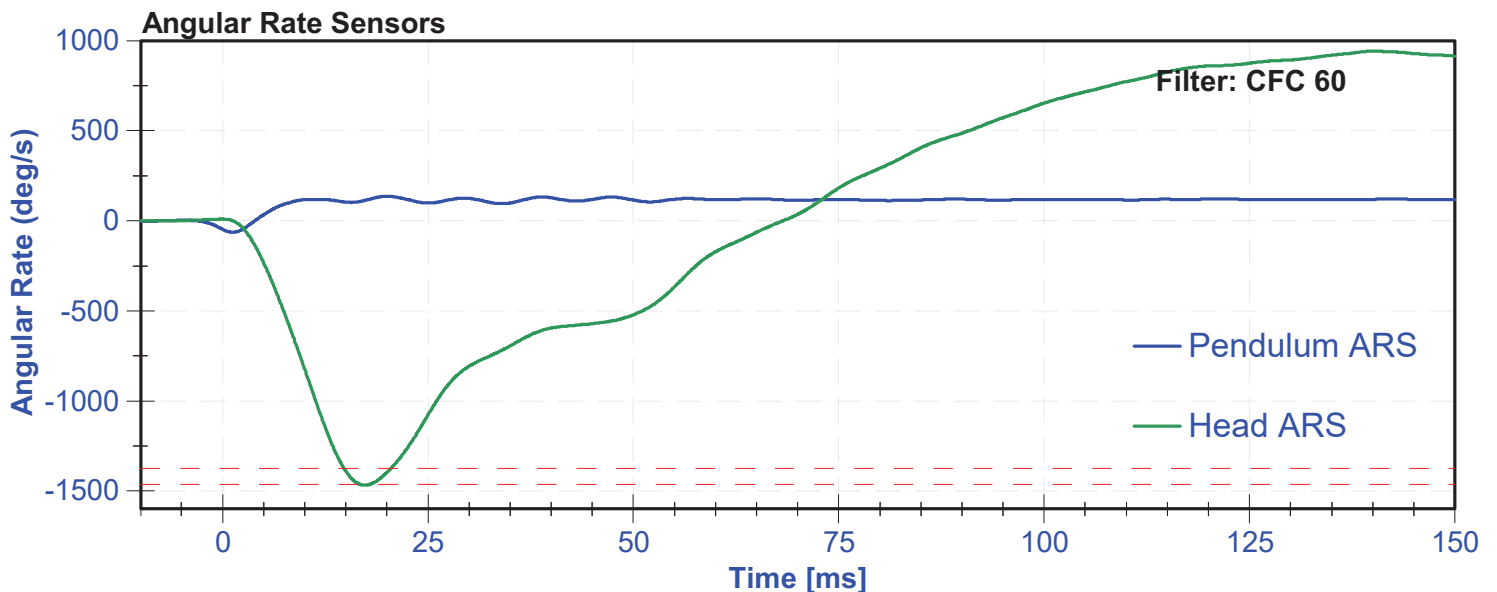
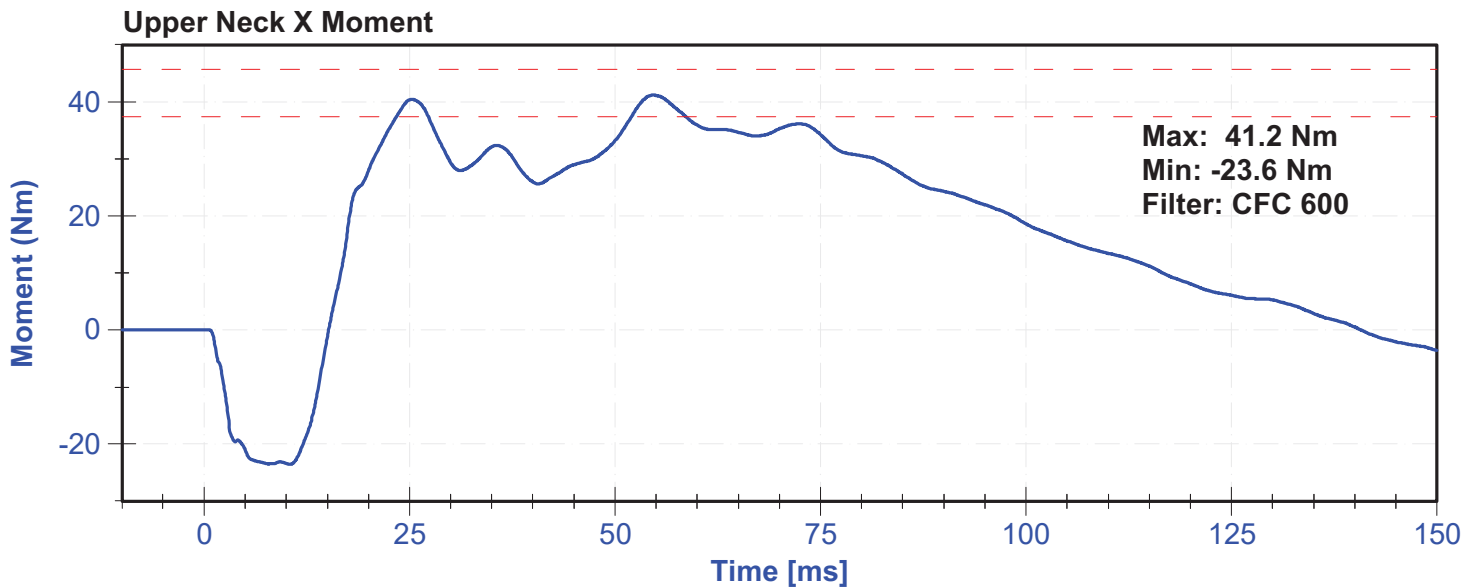
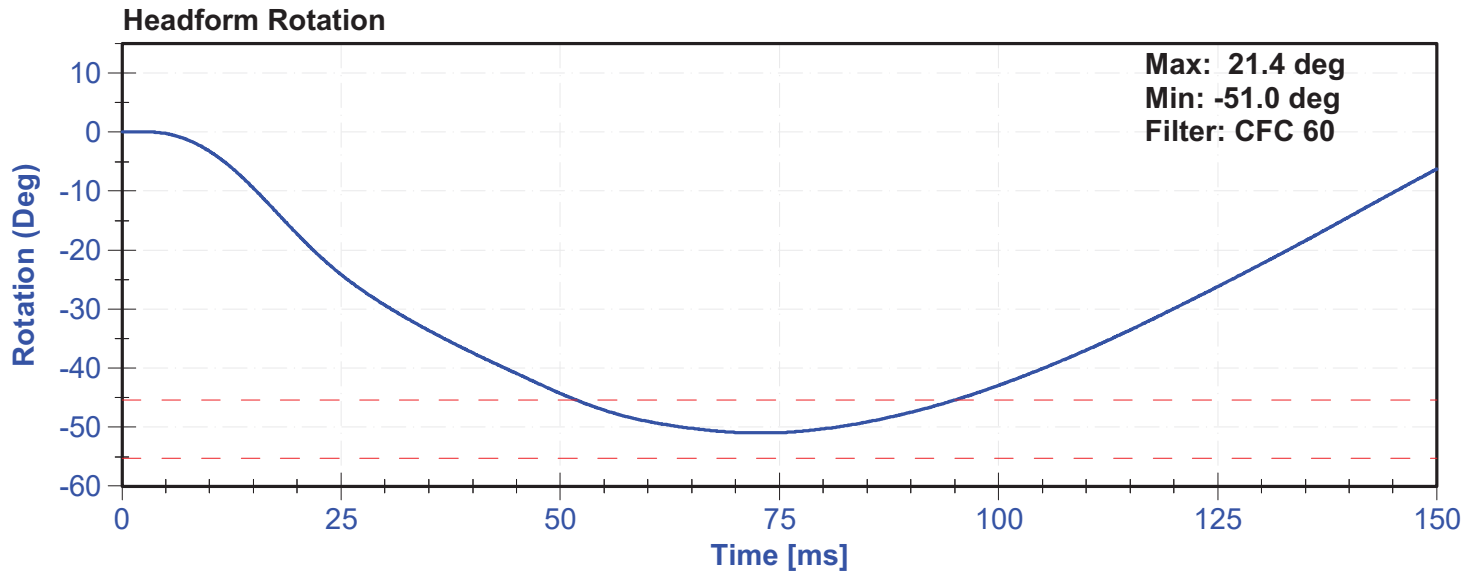
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	25.7	Pass
Velocity	3.35	3.45	m/s	3.418	Pass
Pendulum Impulse at 4ms	0.89	1.08	m/s	0.958	Pass
Pendulum Impulse at 8ms	2.04	2.36	m/s	2.139	Pass
Pendulum Impulse at 12ms	3.21	3.46	m/s	3.289	Pass
Peak Upper Neck X Moment after 40ms	37.4	45.7	Nm	41.19	Pass
Peak Head X Angular Rate	-1462	-1375	deg/s	-1468.1	Fail
Peak Head X Rotation	-55.3	-45.4	deg	-50.98	Pass
Rotational Decay Time to Zero	83.7	90.9	ms	85.10	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380JI4	LC-DS9758 Mx	12/3/2015	12/2/2016
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head X ARS	DTS ARS 18k	ARS-6733	4/27/2015	4/26/2016





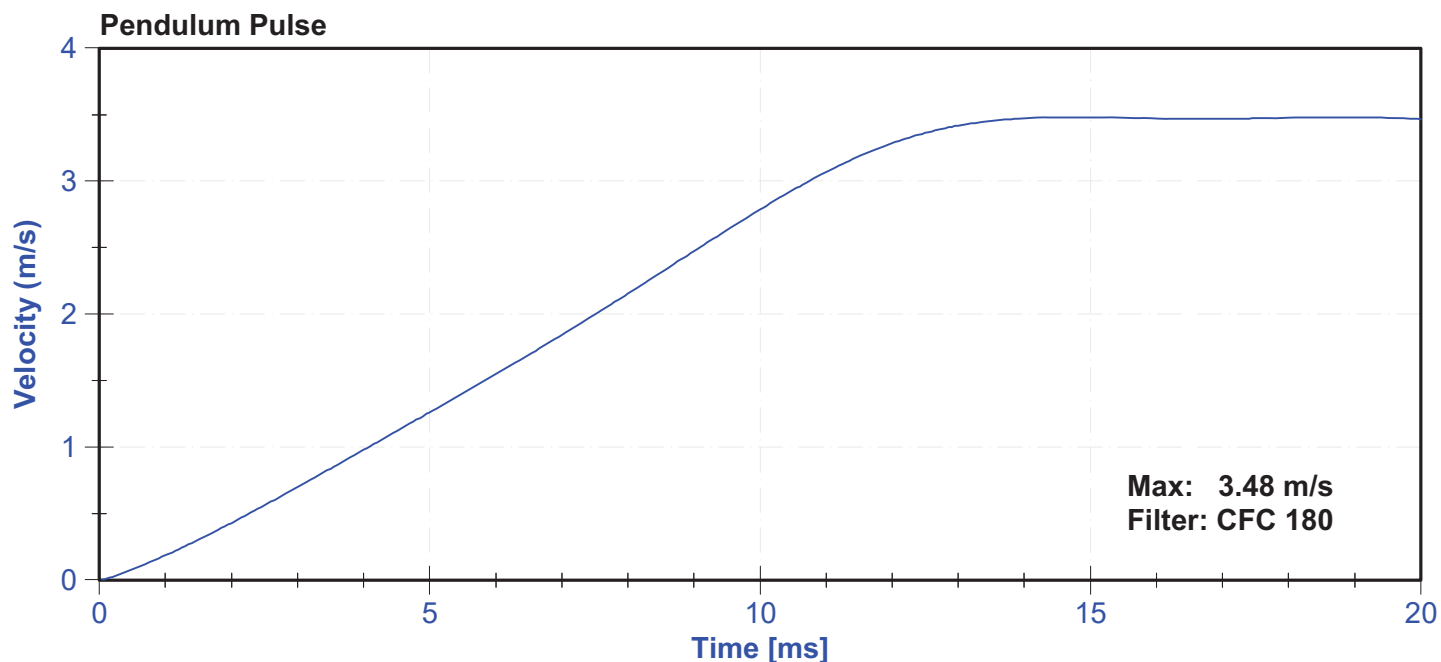
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

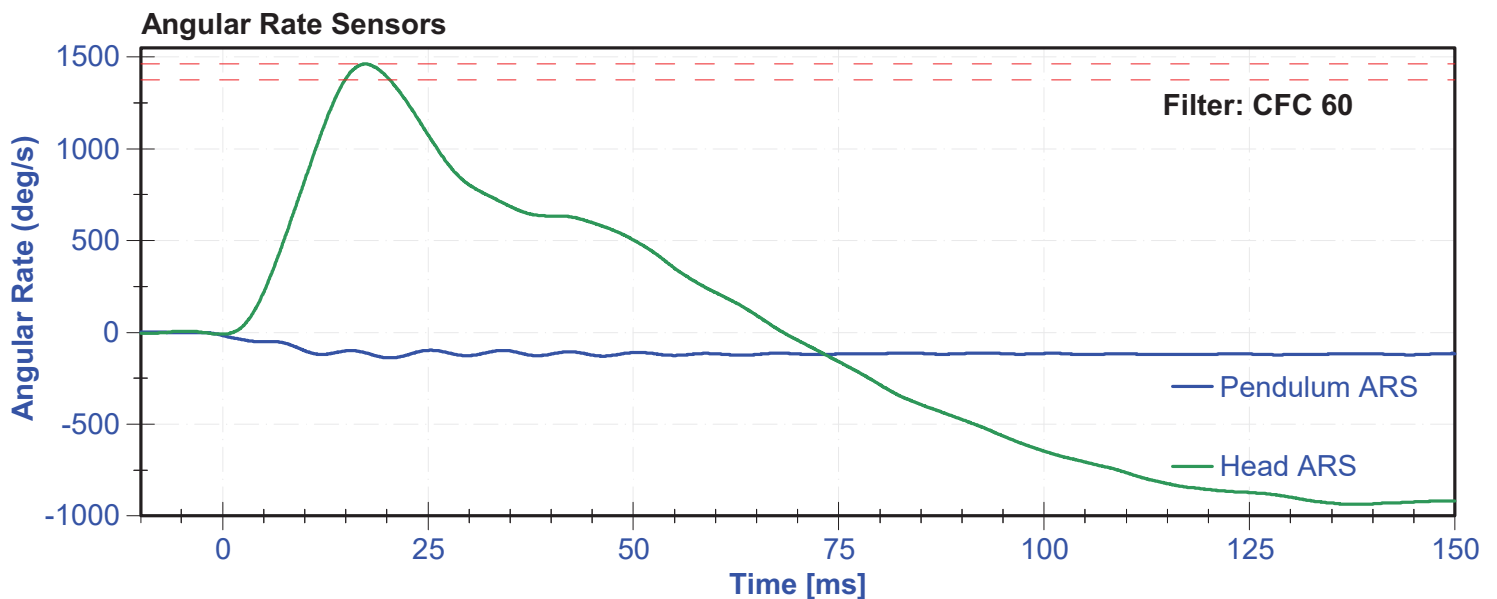
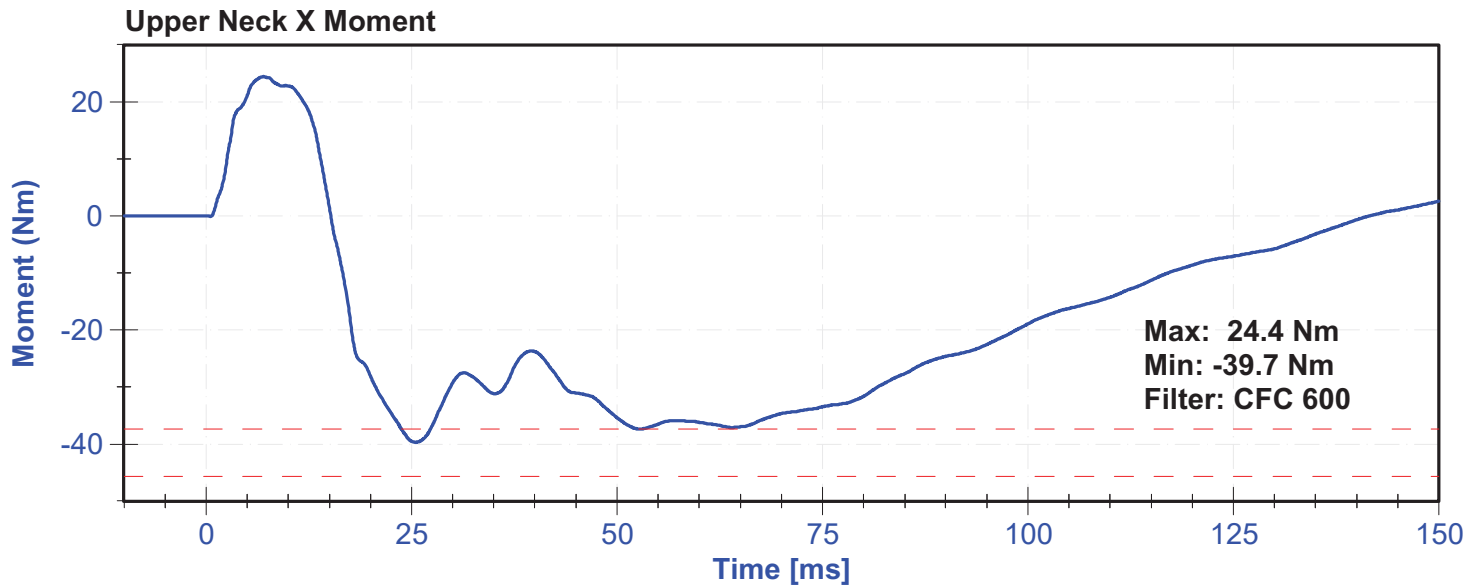
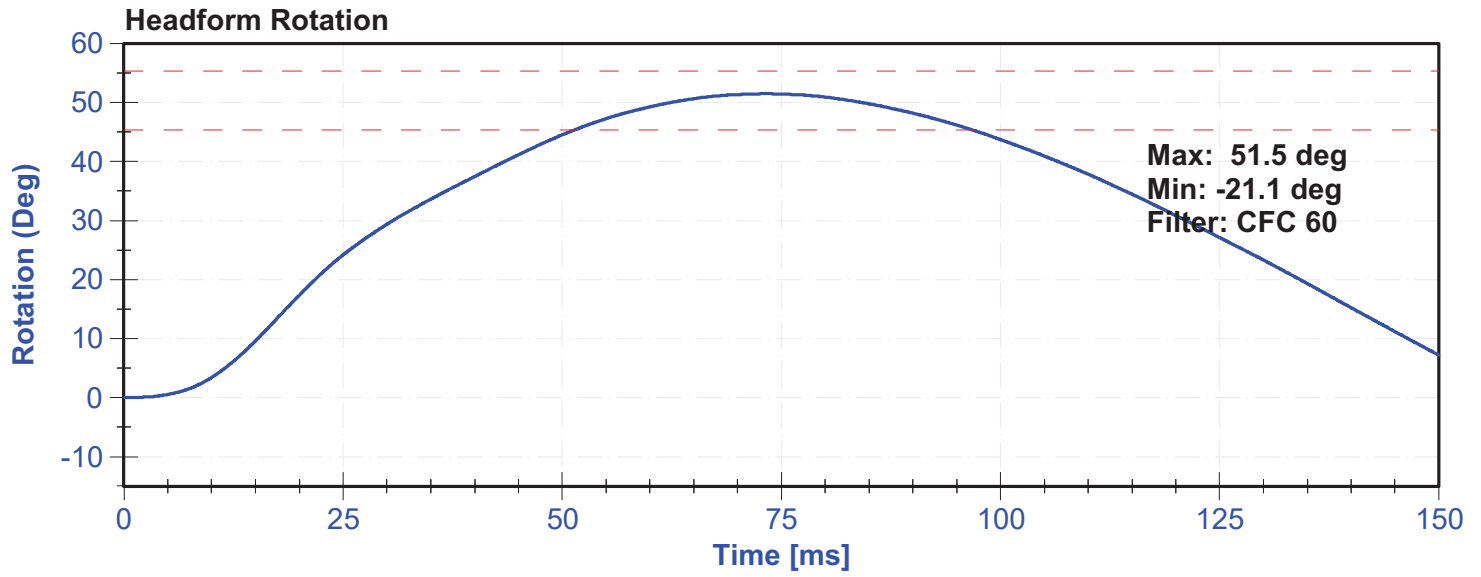
Results

Test Parameter	Minimum Specificatio	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	25.7	Pass
Velocity	3.35	3.45	m/s	3.40	Pass
Pendulum Impulse at 4ms	0.89	1.08	m/s	0.978	Pass
Pendulum Impulse at 8ms	2.04	2.36	m/s	2.153	Pass
Pendulum Impulse at 12ms	3.21	3.46	m/s	3.285	Pass
Peak Upper Neck X Moment after 40ms	-45.7	-37.4	Nm	-37.38	Fail
Peak Head X Angular Rate	1375	1462	deg/s	1460.6	Pass
Peak Head X Rotation	45.4	55.3	deg	51.48	Pass
Rotation Decay Time to Zero	83.7	90.9	ms	85.80	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DS9758 Mx	12/3/2015	12/2/2016
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head X ARS	DTS ARS 18k	ARS-6733	4/27/2015	4/26/2016





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

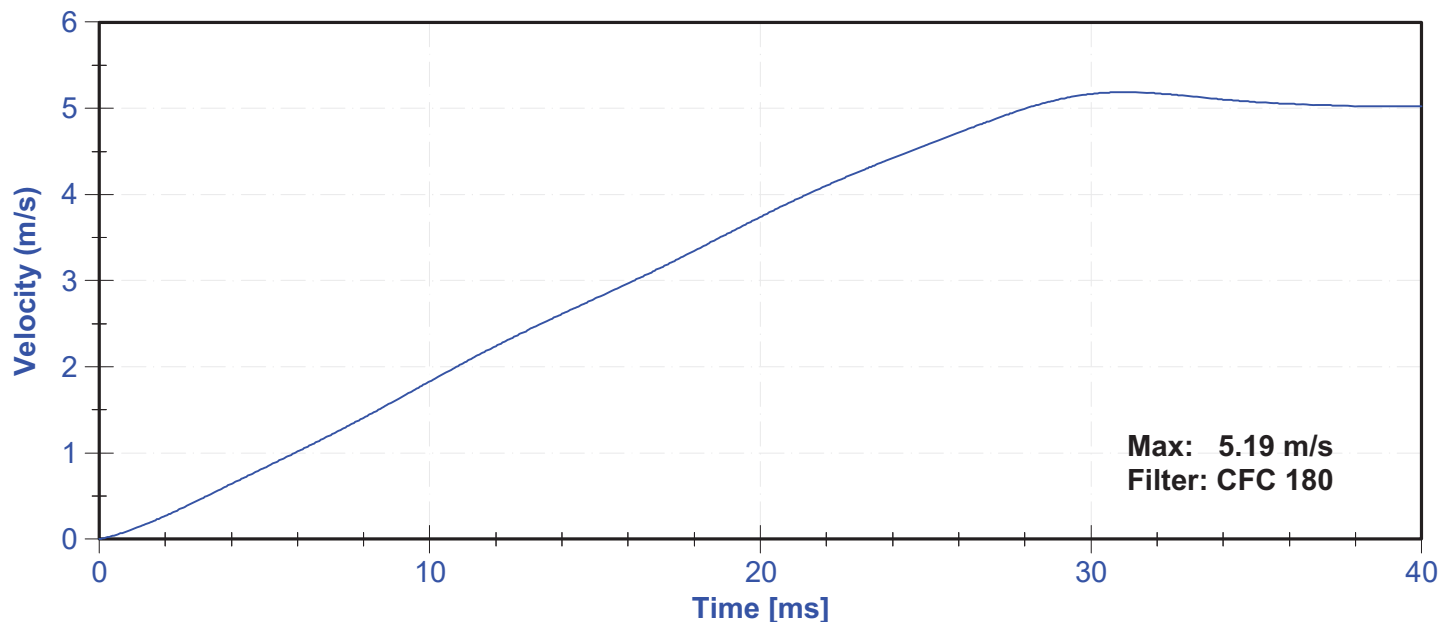
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	26.6	Pass
Velocity	4.95	5.05	m/s	5.015	Pass
Pendulum Impulse at 10ms	1.76	1.91	m/s	1.831	Pass
Pendulum Impulse at 20ms	3.50	3.75	m/s	3.740	Pass
Pendulum Impulse at 30ms	4.88	5.20	m/s	5.167	Pass
Peak Upper Neck Y Moment	-21.3	-17.5	Nm	-17.85	Pass
Peak Upper Neck X Force	967	1182	N	1229.0	Fail
Peak Upper Neck Z Force	-2893	-2603	N	-2538.6	Fail
Peak Front Neck Cable Force	2482	2809	N	2735.0	Pass
Peak Head Y Angular Rate	1907	2043	deg/s	2009.6	Pass
Peak Head Y Rotation	57.6	64.2	deg	40.90	Fail
Rotational Decay Time to Zero	79.3	82.5	ms	54.75	Fail

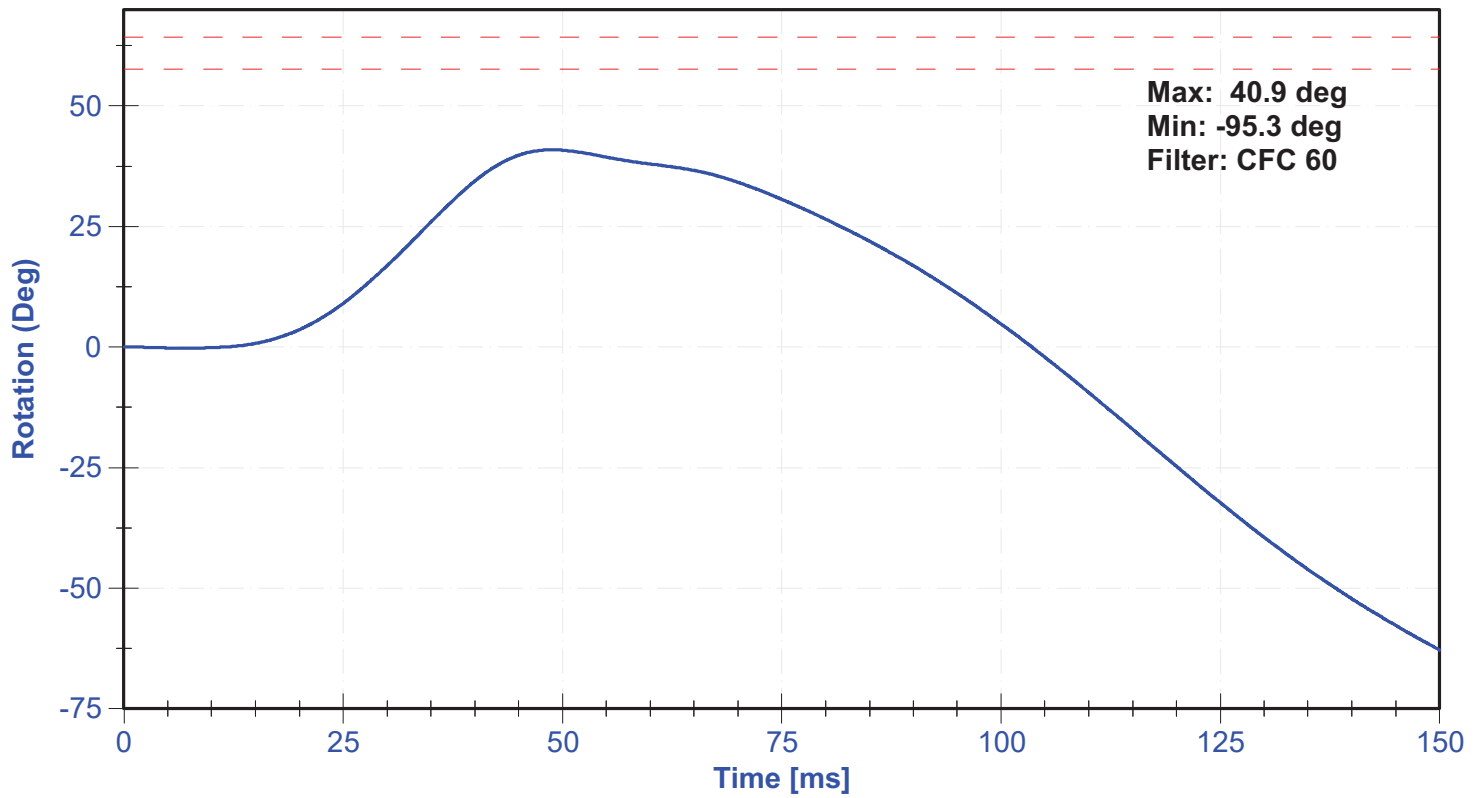
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DS9758 Fx	12/3/2015	12/2/2016
Fr Neck Cable Load	Humanetics 6005JFL	LC-93	9/3/2015	9/2/2016
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head ARS Y-Axis	DTS ARS 18k	ARS-4071	3/31/2015	3/30/2016

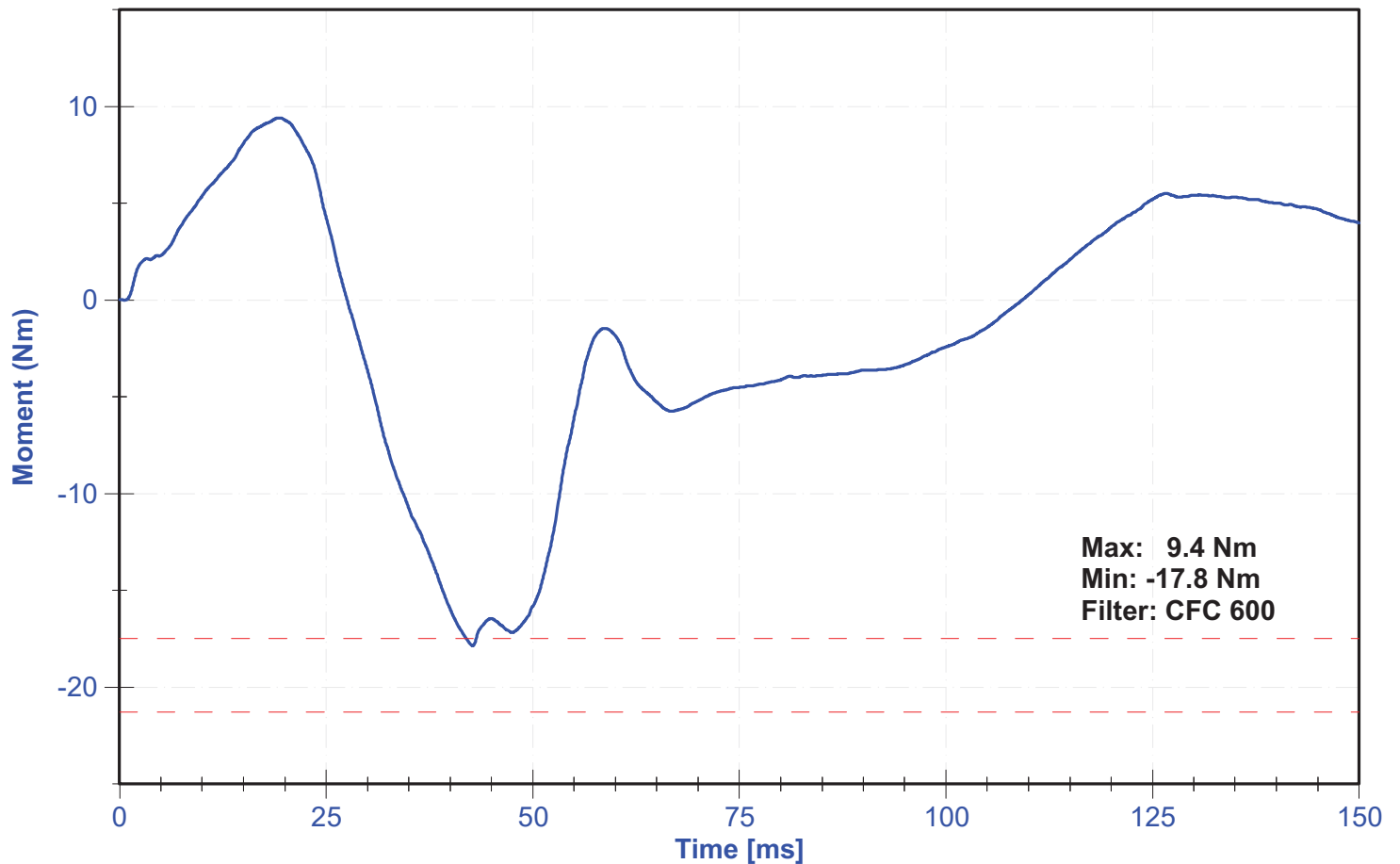
Pendulum Pulse



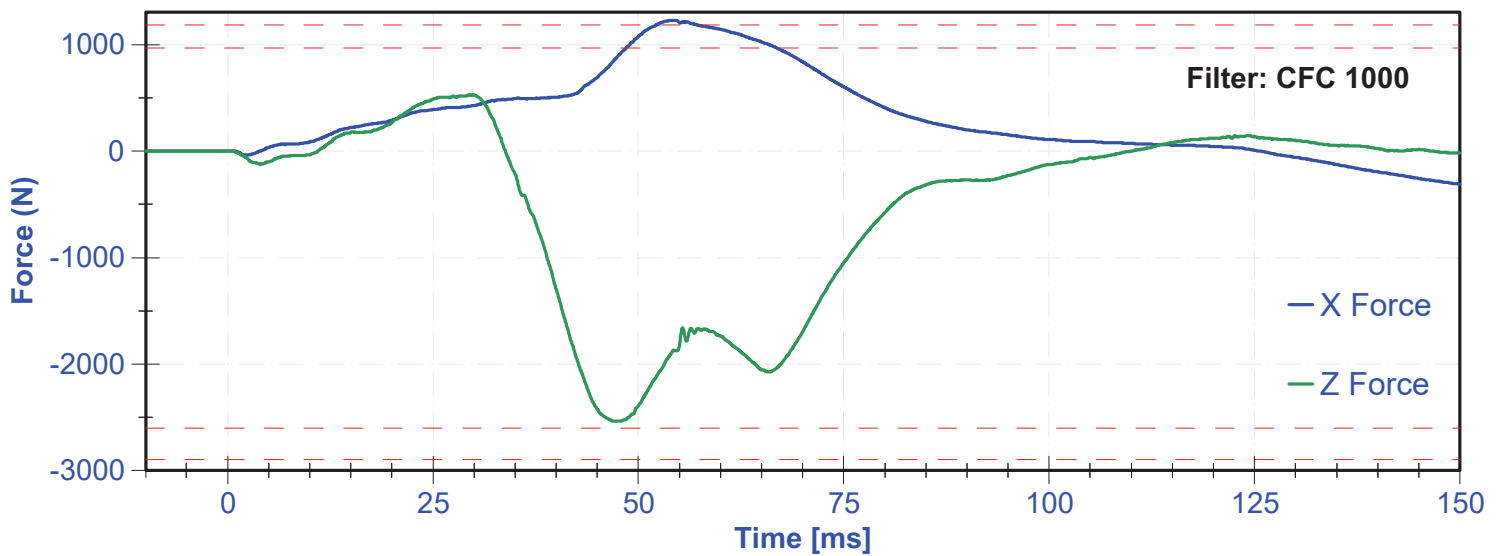
Headform Rotation



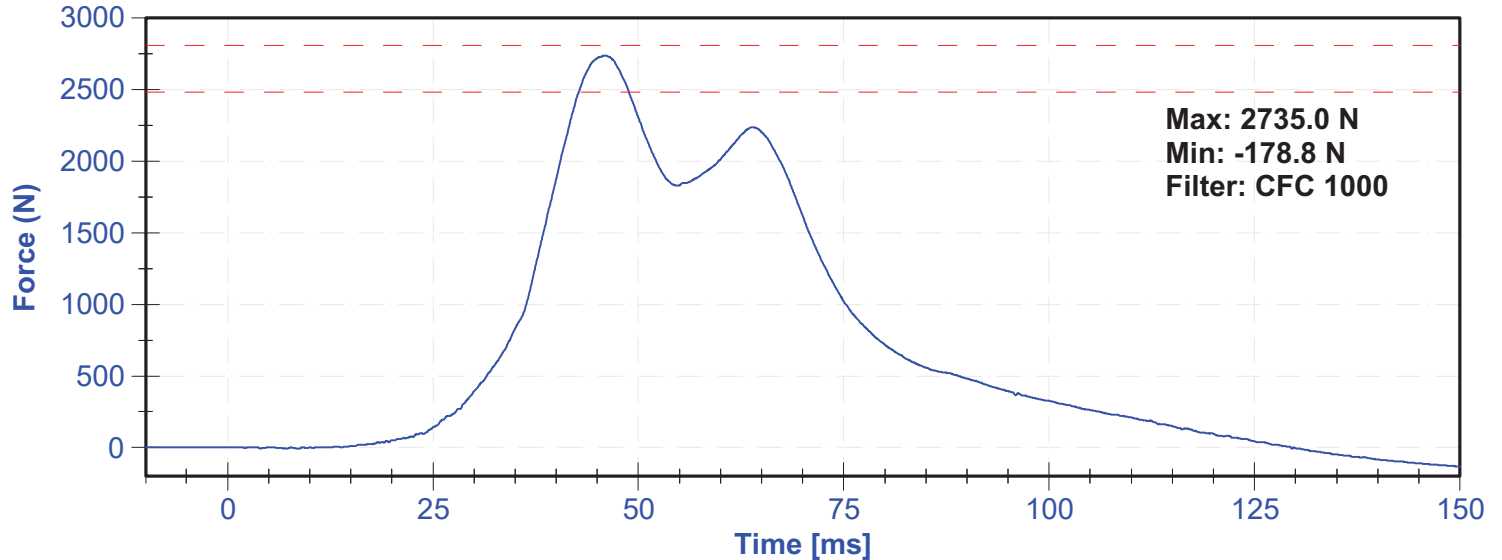
Upper Neck Y Moment



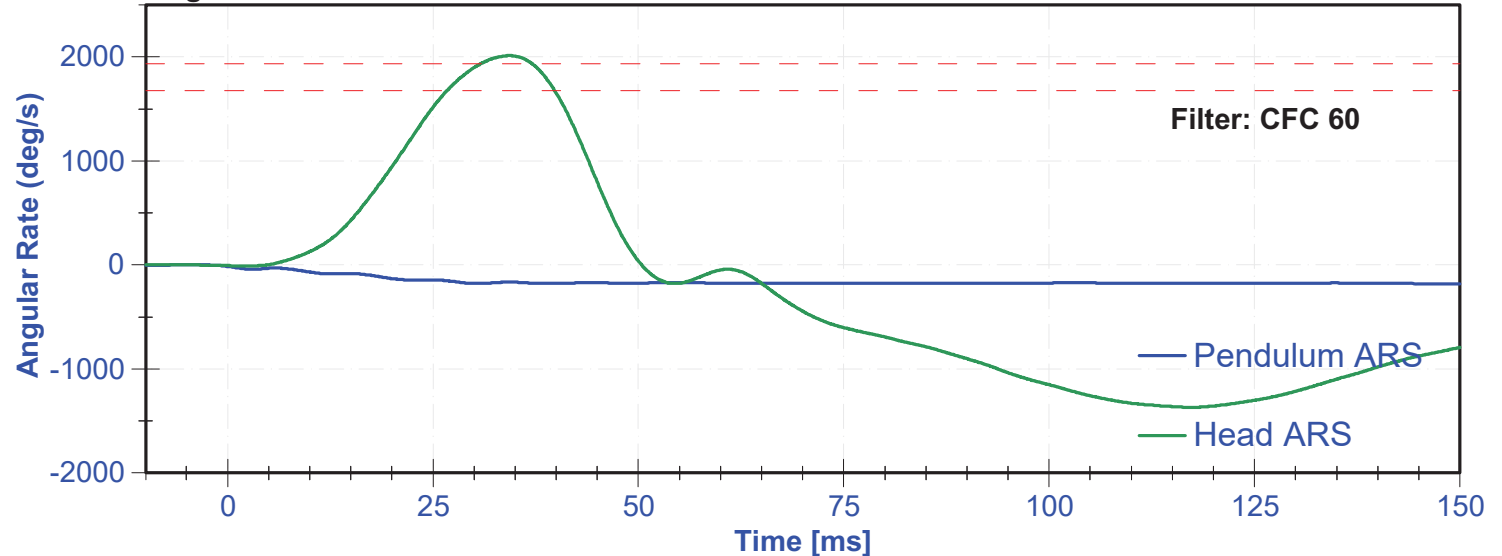
Upper Neck Force



Rear Neck Cable Z Force



Angular Rate Sensors



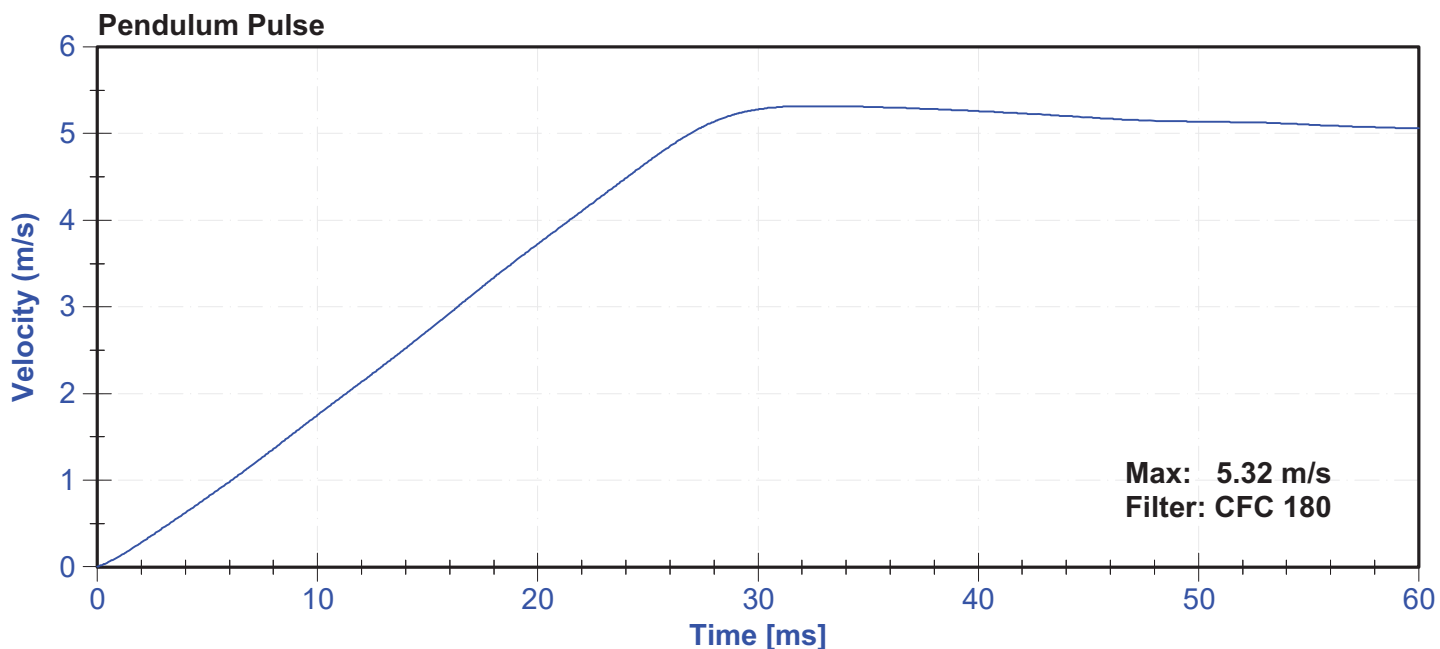
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

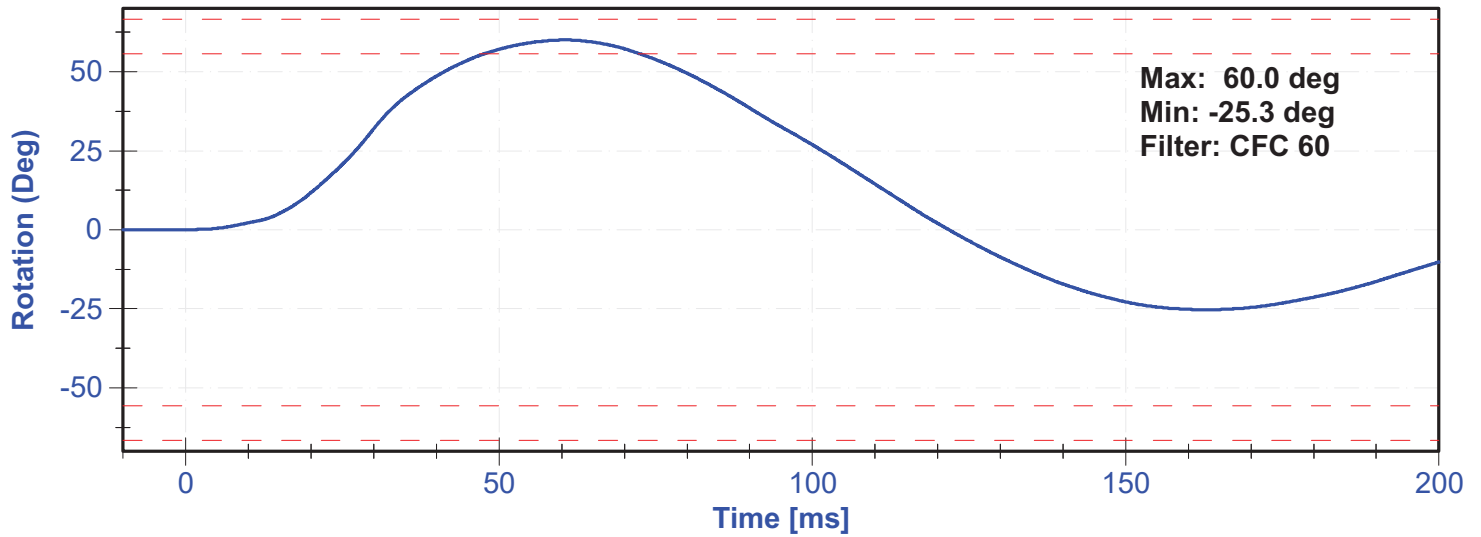
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	22.1	Pass
Humidity	10	70	%	13.9	Pass
Velocity	4.95	5.05	m/s	5.045	Pass
Pendulum Impulse at 10ms	1.72	1.98	m/s	1.753	Pass
Pendulum Impulse at 15ms	2.67	2.97	m/s	2.723	Pass
Pendulum Impulse at 20ms	3.59	3.98	m/s	3.727	Pass
Pendulum Impulse at 25ms	4.43	4.92	m/s	4.673	Pass
Peak Upper Neck Z Moment	32.6	38.3	Nm	35.71	Pass
Peak Neck Axial Rotation	55.6	66.6	deg	60.01	Pass
Rotation Decay Time to Zero	58.0	61.6	ms	61.25	Pass
Peak Upper Neck Angular Velocity	1559	1709	deg/s	1643.1	Pass

Transducer Calibrations

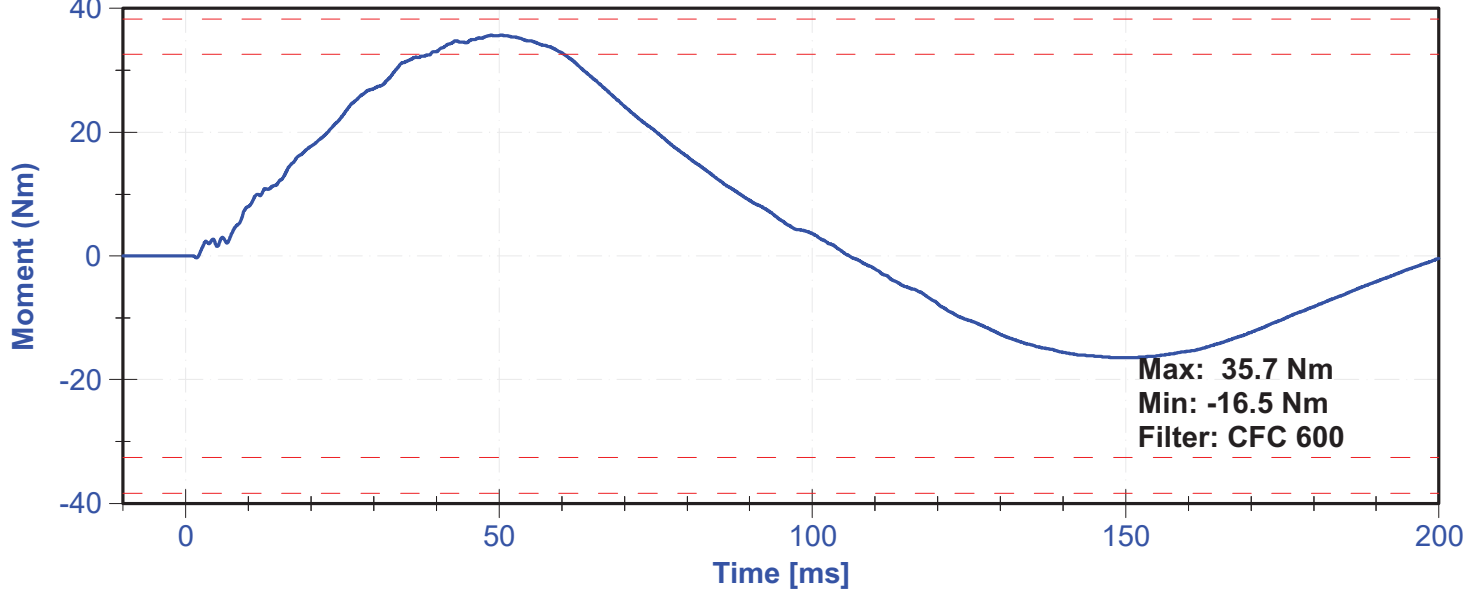
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Neck Fixture Potentiometer	Servo 14CB1-3615	DS-0001	10/21/2015	10/20/2016
Upper Neck Load Cell	Humanetics 10380JI4	LC-DS9758 Mz	12/3/2015	12/2/2016
Upper Neck ARS	DTS ARS PRO-18K	ARS-9097	9/30/2015	9/29/2016



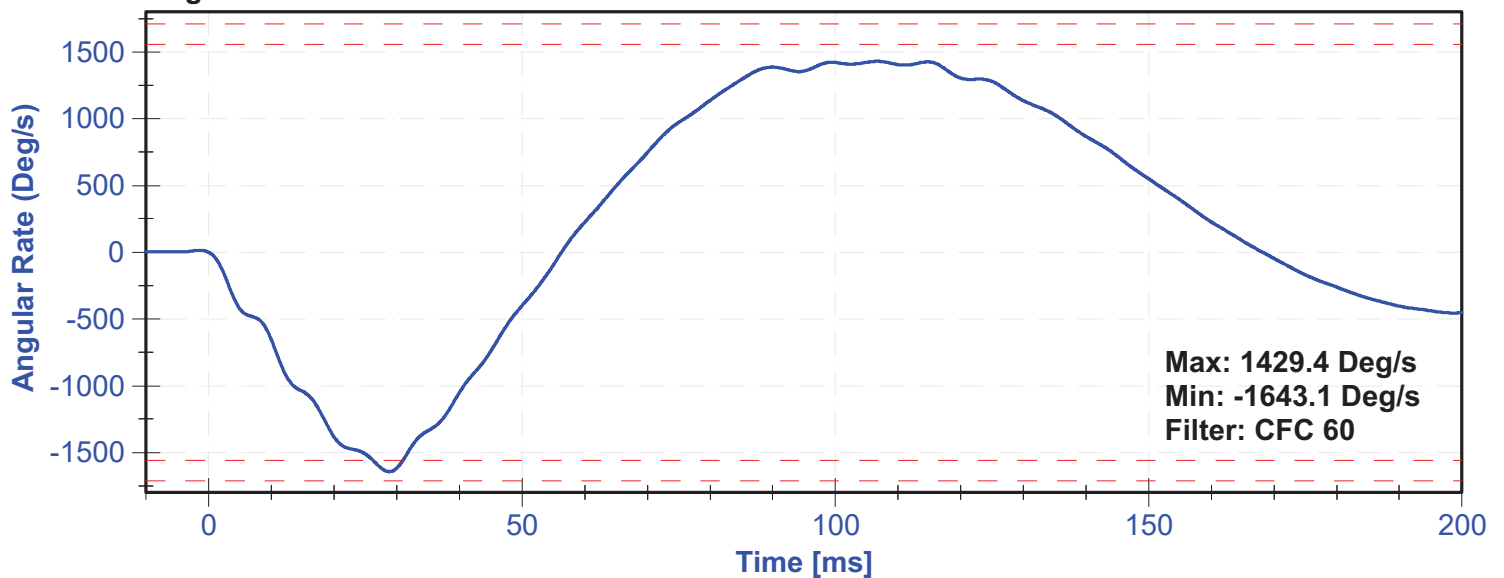
Axial Rotation



Moment



Angular Rate



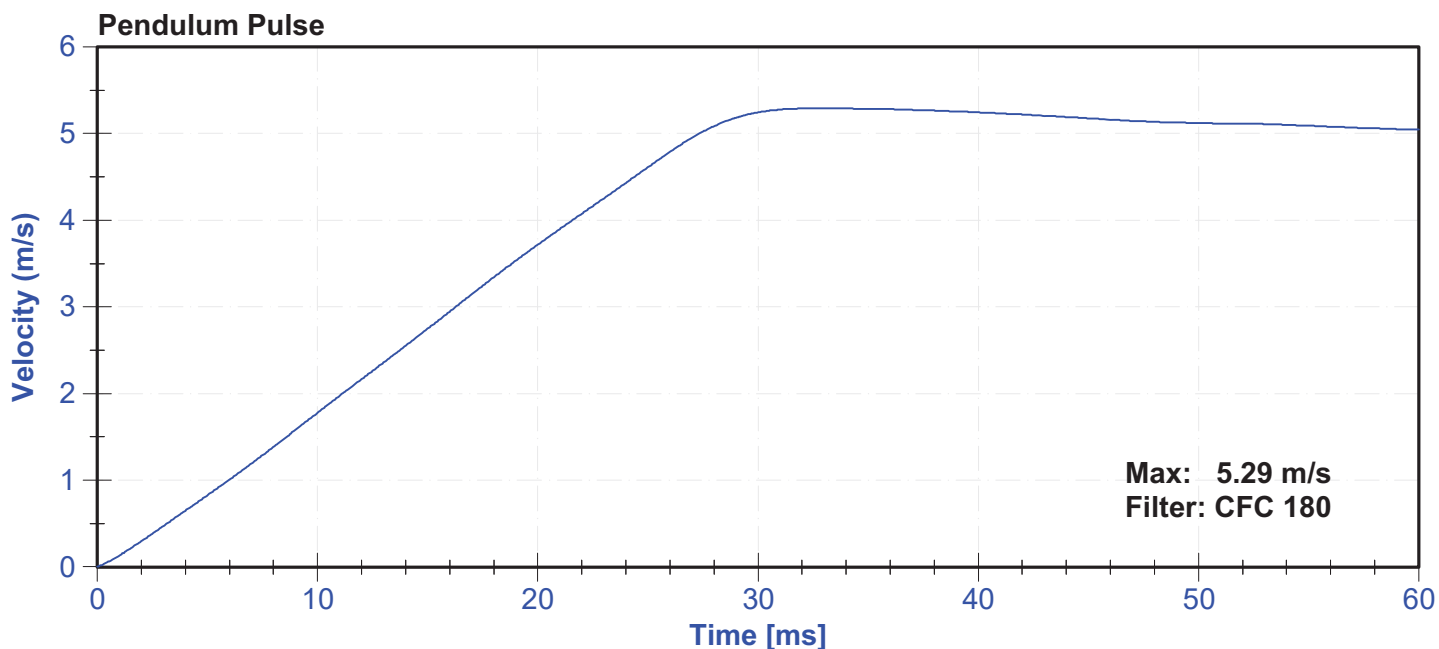
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

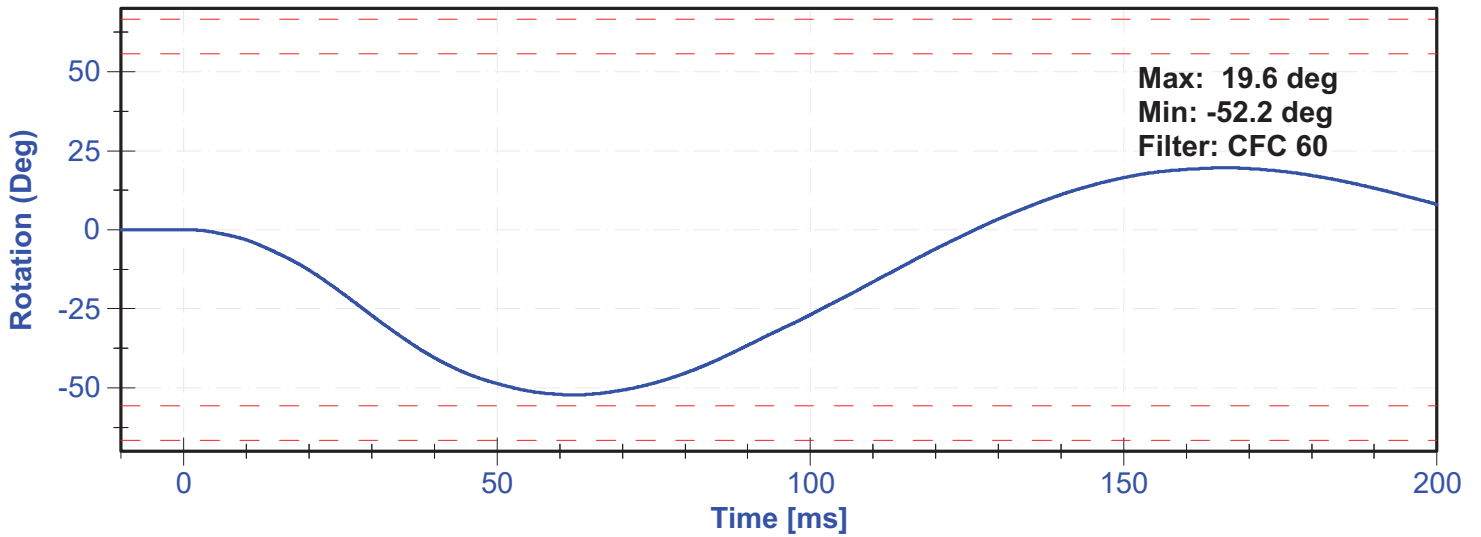
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.1	Pass
Humidity	10	70	%	23.7	Pass
Velocity	4.95	5.05	m/s	5.045	Pass
Pendulum Impulse at 10ms	1.72	1.98	m/s	1.779	Pass
Pendulum Impulse at 15ms	2.67	2.97	m/s	2.748	Pass
Pendulum Impulse at 20ms	3.59	3.98	m/s	3.719	Pass
Pendulum Impulse at 25ms	4.43	4.92	m/s	4.610	Pass
Peak Upper Neck Z Moment	32.6	38.3	Nm	34.85	Pass
Peak Neck Axial Rotation	55.6	66.6	deg	52.19	Fail
Rotation Decay Time to Zero	58.0	61.6	ms	48.70	Fail
Peak Upper Neck Angular Velocity	1559	1709	deg/s	1634.1	Pass

Transducer Calibrations

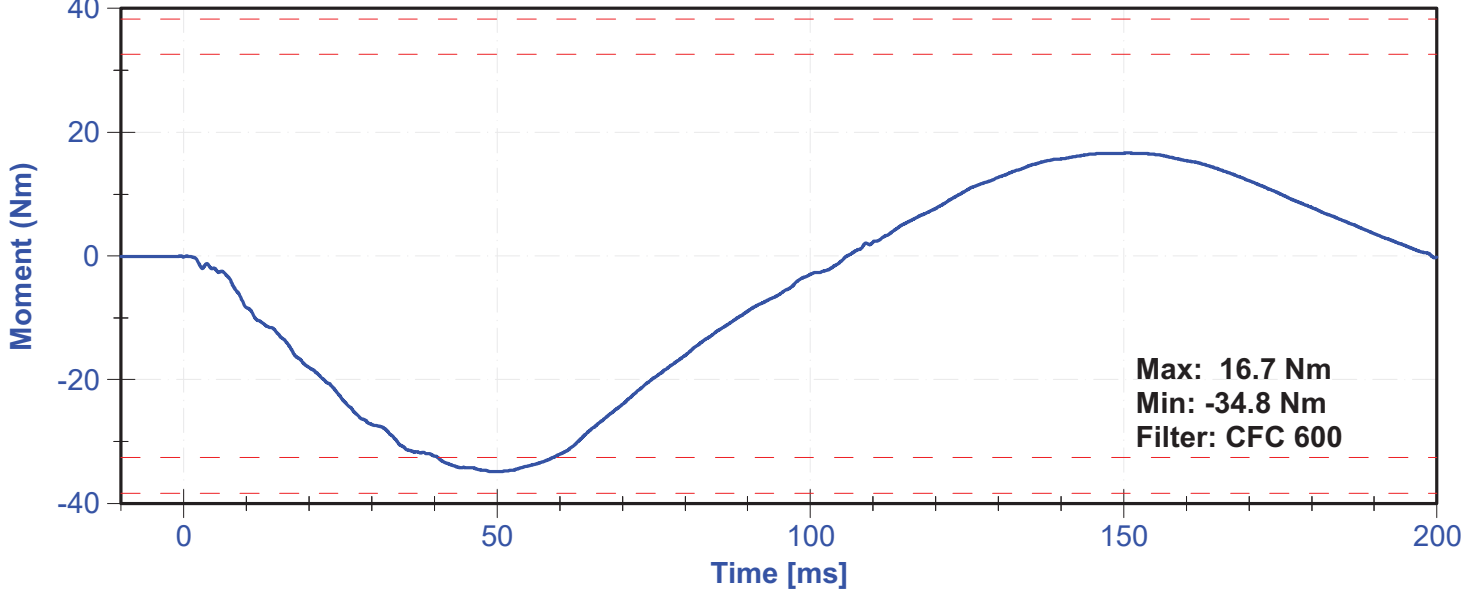
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Neck Fixture Potentiometer	Servo 14CB1-3615	DS-0001	10/21/2015	10/20/2016
Upper Neck Load Cell	Humanetics 10380JI4	LC-DS9758 Mz	12/3/2015	12/2/2016
Upper Neck ARS	DTS ARS-PRO-8K	ARS-6424	1/19/2016	1/18/2017



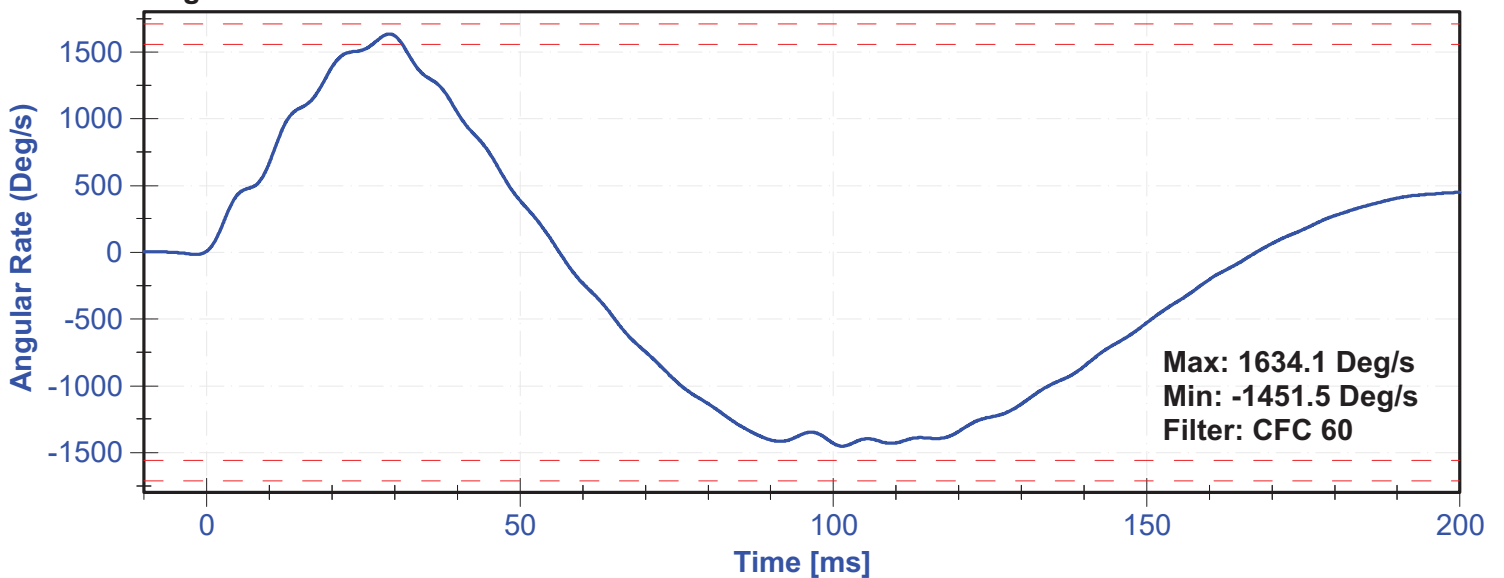
Axial Rotation



Moment



Angular Rate



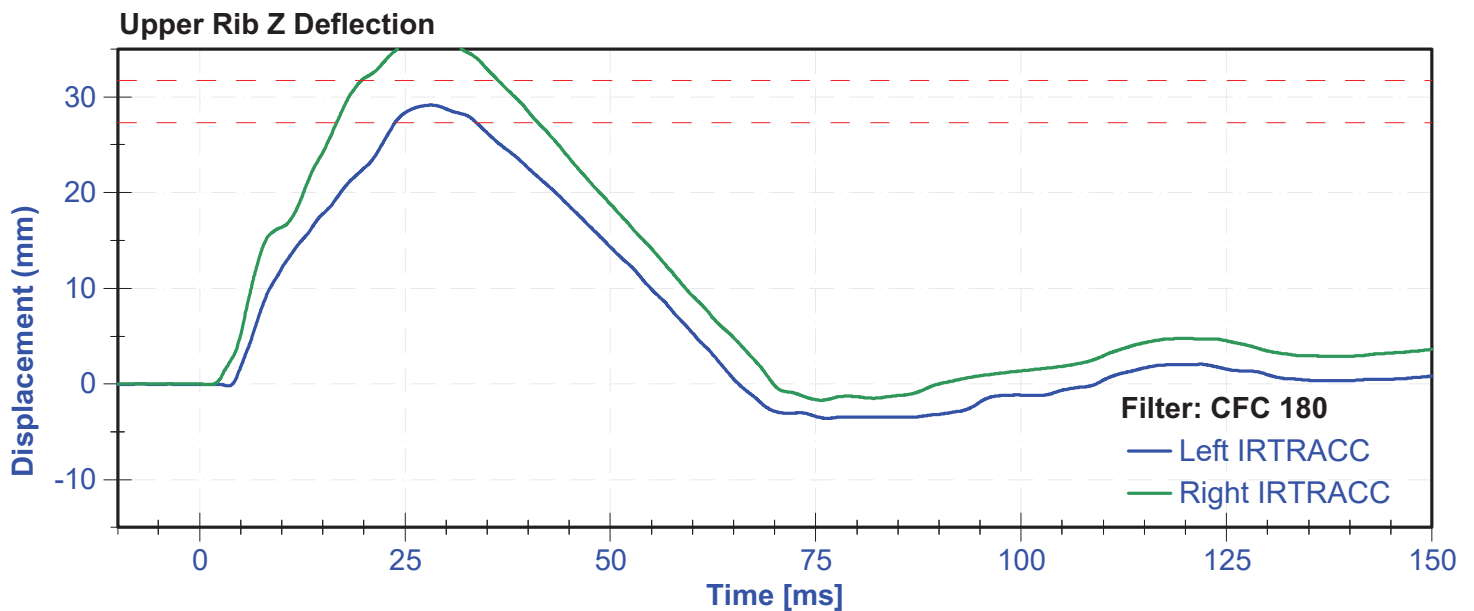
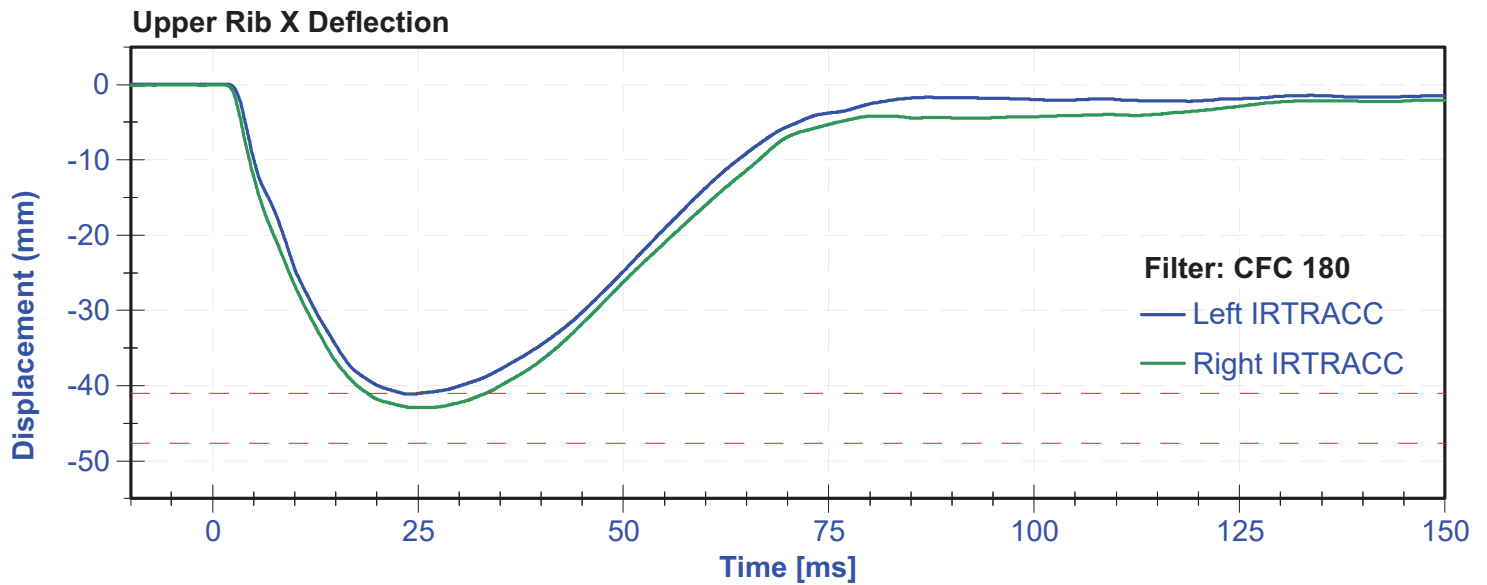
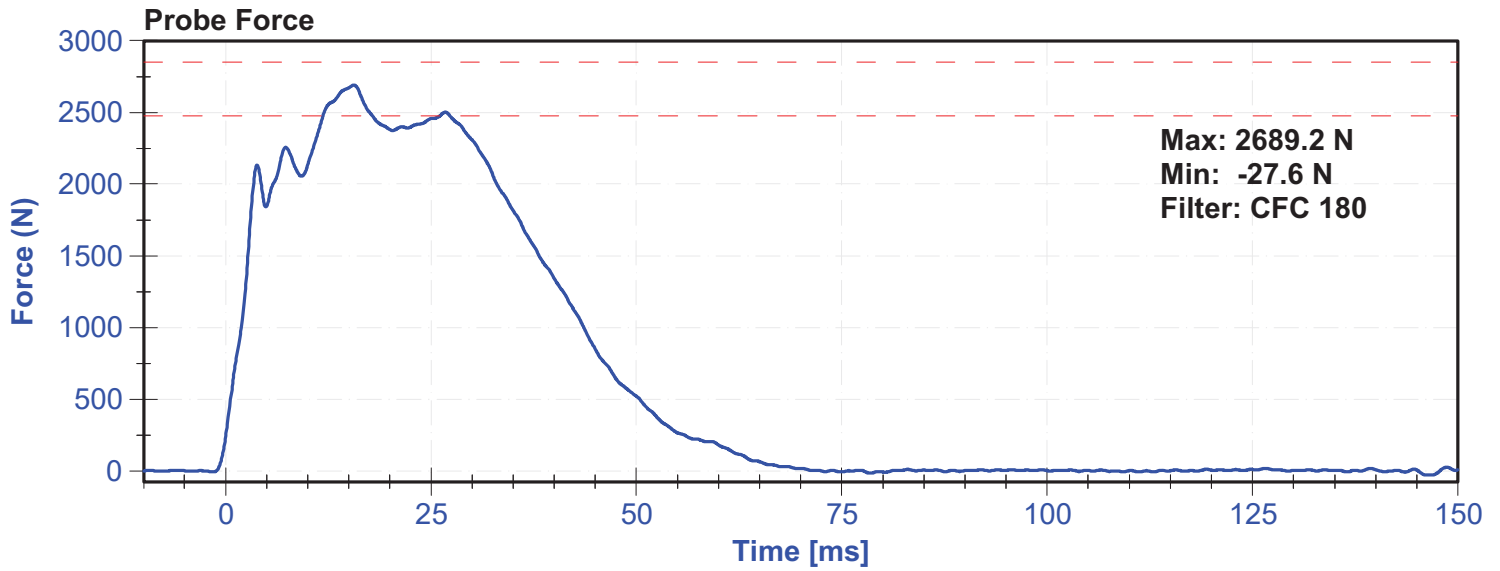
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

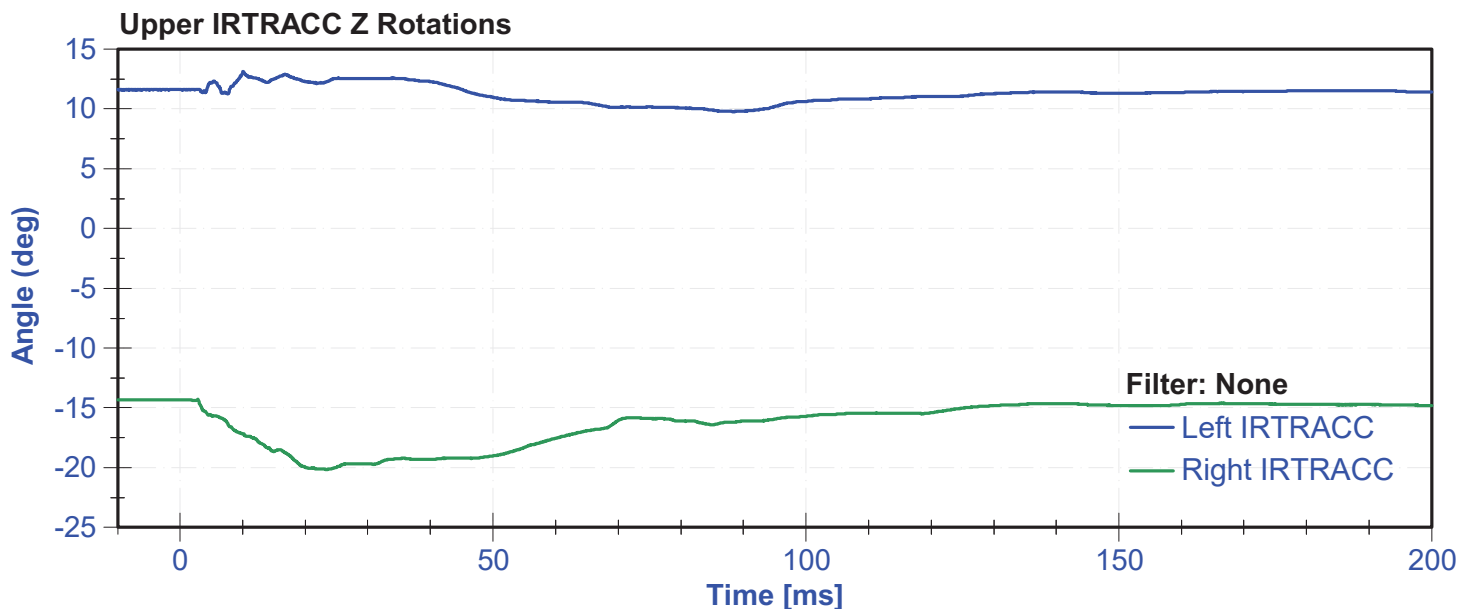
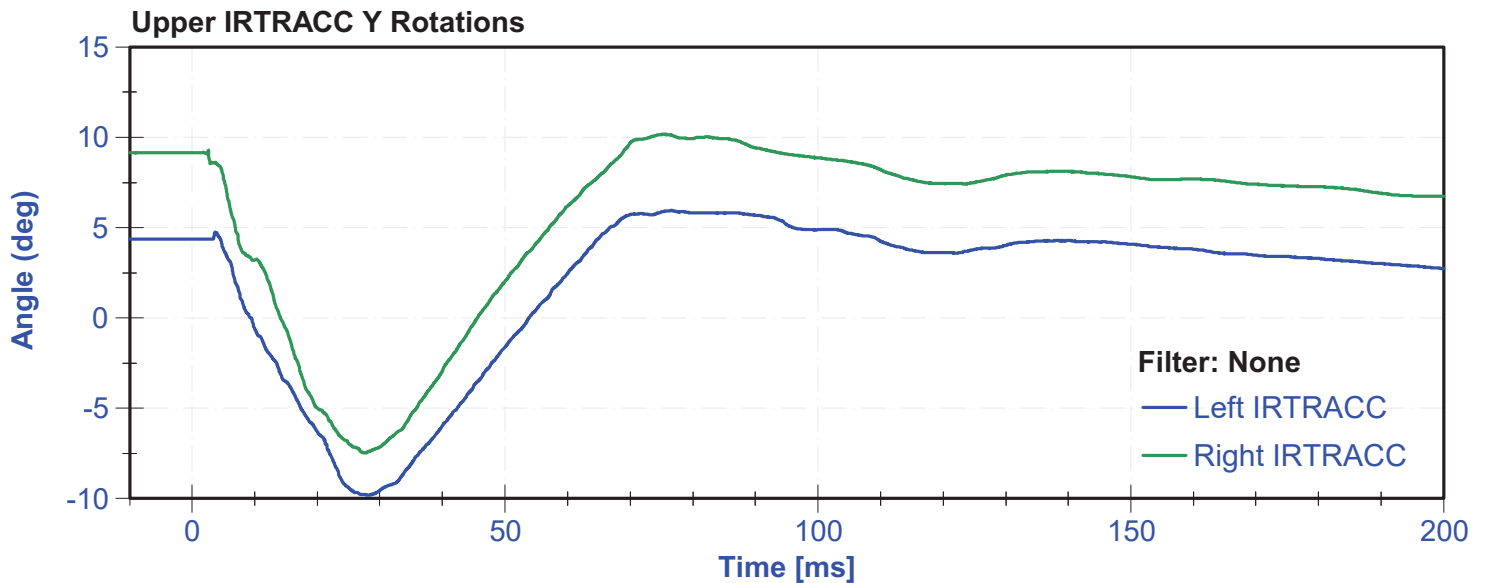
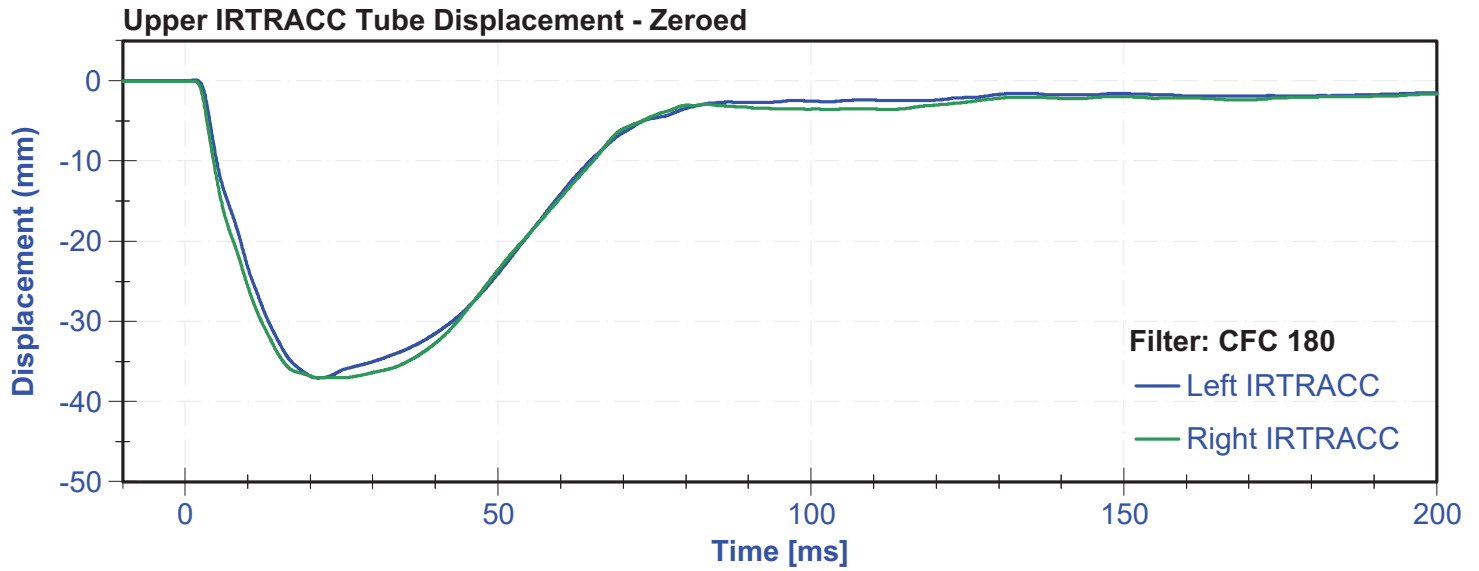
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	20.7	Pass
Humidity	10	70	%	36.8	Pass
Impact Velocity	4.25	4.35	m/s	4.342	Pass
Probe Force	2474	2850	N	2689.2	Pass
Upper Left X Rib Deflection	-47.6	-41.0	mm	-41.14	Pass
Upper Right X Rib Deflection	-47.6	-41.0	mm	-42.90	Pass
Left/Right X Rib Deviation	-7.00	7.00	mm	1.760	Pass
Upper Left Z Rib Deflection	27.3	31.7	mm	29.15	Pass
Upper Right Z Rib Deflection	27.3	31.7	mm	36.40	Fail
Left/Right Z Rib Deviation	-7.00	7.00	mm	-7.254	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Upper Left IRTRACC	Humanetics IF-364-C-R3	DS-DQ2255	4/8/2015	4/7/2016
Upper Left Y Potentiometer	Sfernice 9945	DS-DM4779	4/8/2015	4/7/2016
Upper Left Z Potentiometer	Sfernice 9945	DS-DM4778	4/8/2015	4/7/2016
Upper Right IRTRACC	Humanetics IF-364-C-R3	DS-DQ2254	4/8/2015	4/7/2016
Upper Right Y Potentiometer	Sfernice 9945	DS-DM4774	4/8/2015	4/7/2016
Upper Right Z Potentiometer	Sfernice 9945	DS-DM4775	4/8/2015	4/7/2016





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

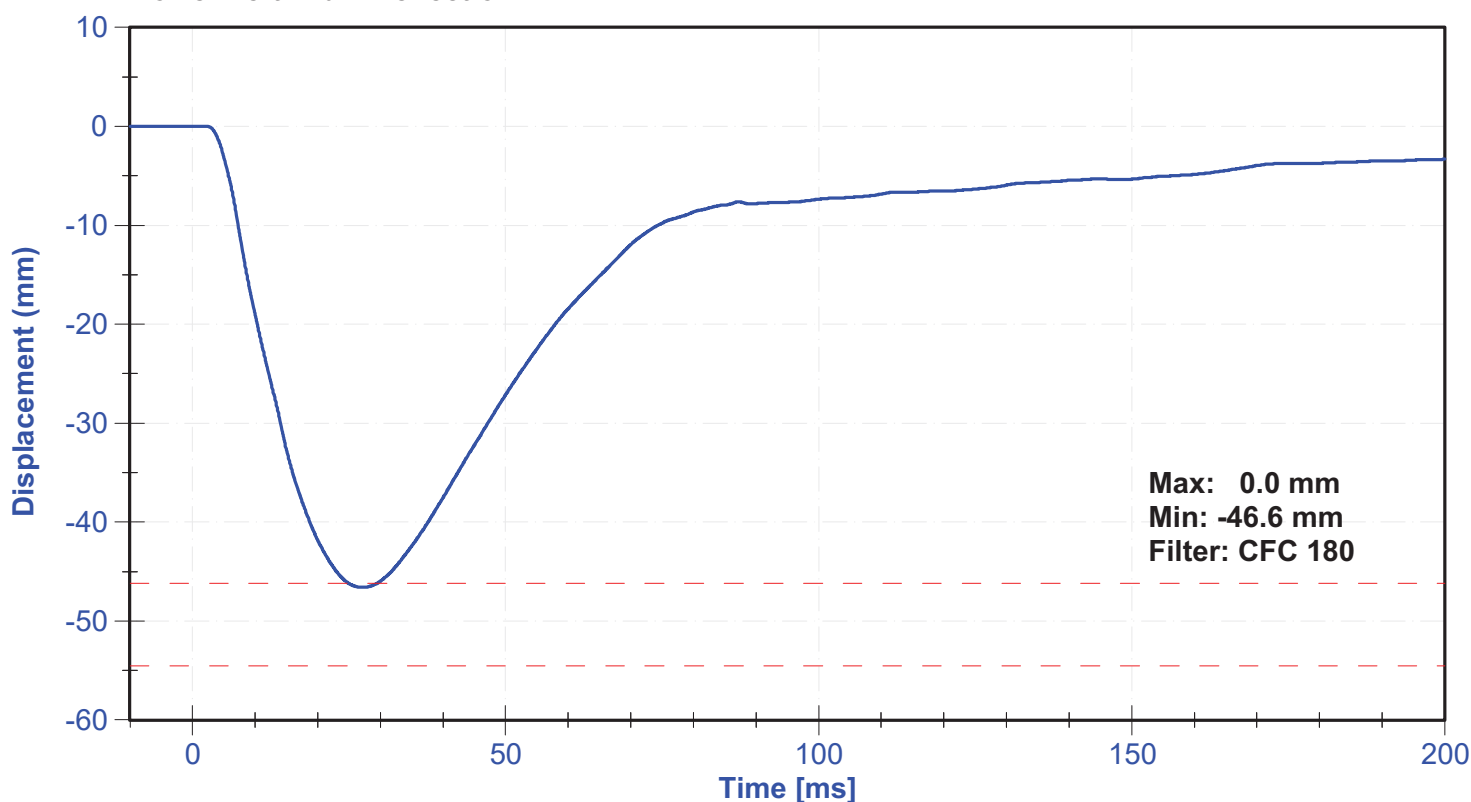
Results

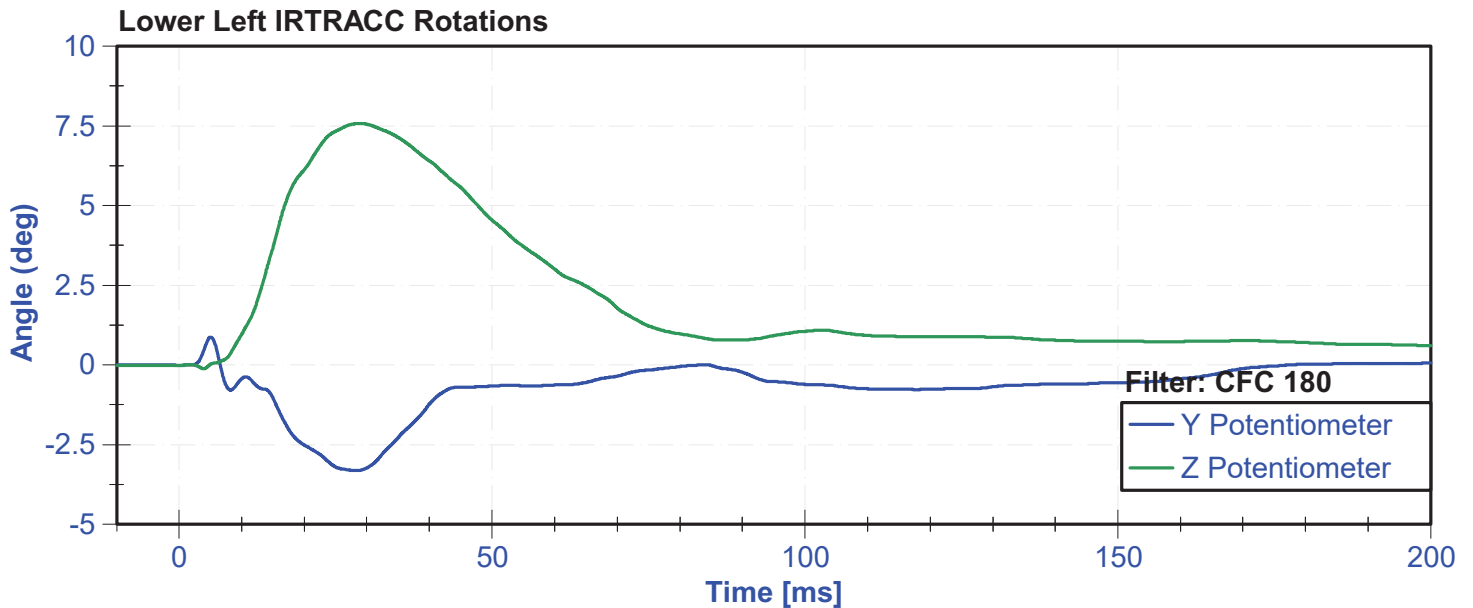
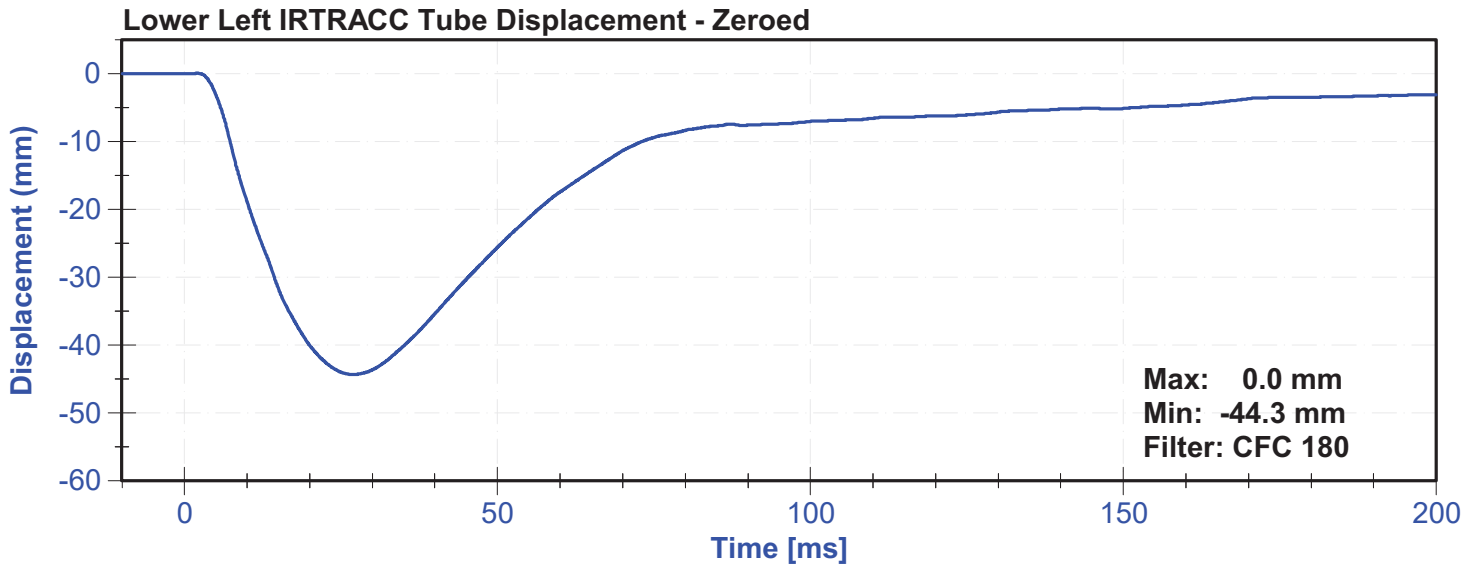
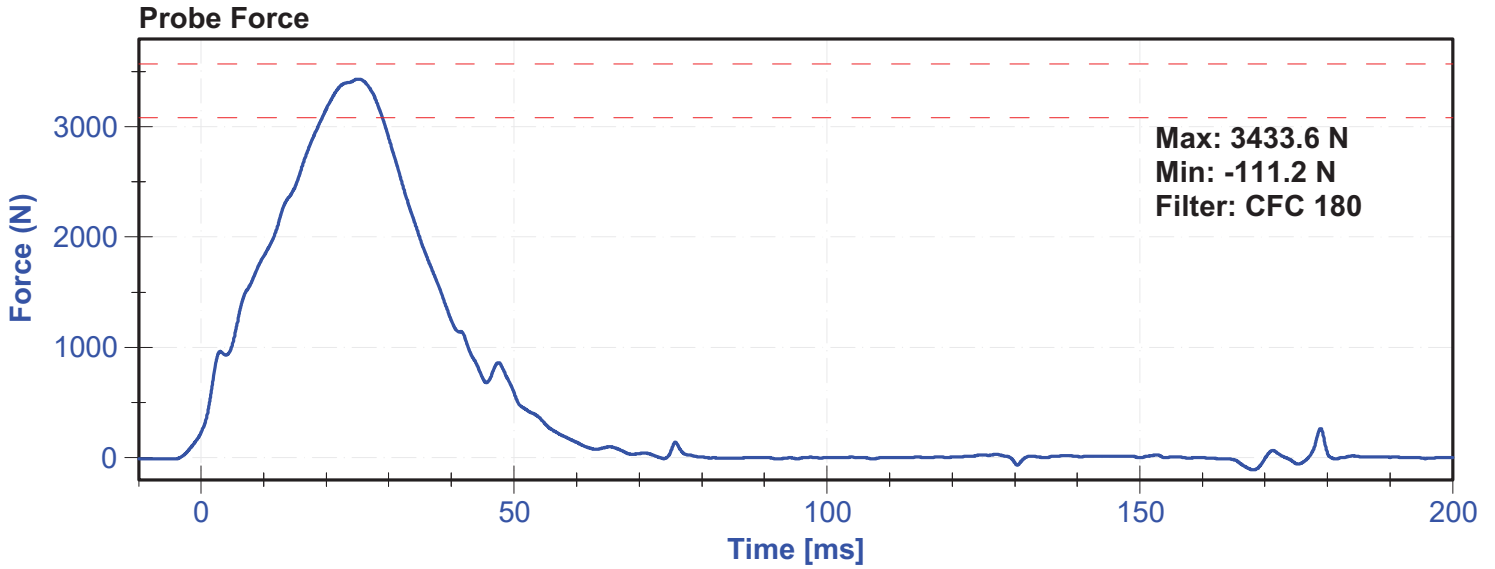
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	40.4	Pass
Impact Velocity	4.25	4.35	m/s	4.311	Pass
Peak Left X Rib Deflection	-54.5	-46.2	mm	-46.61	Pass
Probe Force during Peak Deflection	3083	3571	N	3433.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Lower Left IRTRACC	Humanetics IF-364-C-R3	DS-DK3866	4/8/2015	4/7/2016
Lower Left Y Potentiometer	Sfernice 9945	DS-DJ5455	4/8/2015	4/7/2016
Lower Left Z Potentiometer	Sfernice 9945	DS-DJ5454	4/8/2015	4/7/2016

Lower Left Rib X Deflection





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

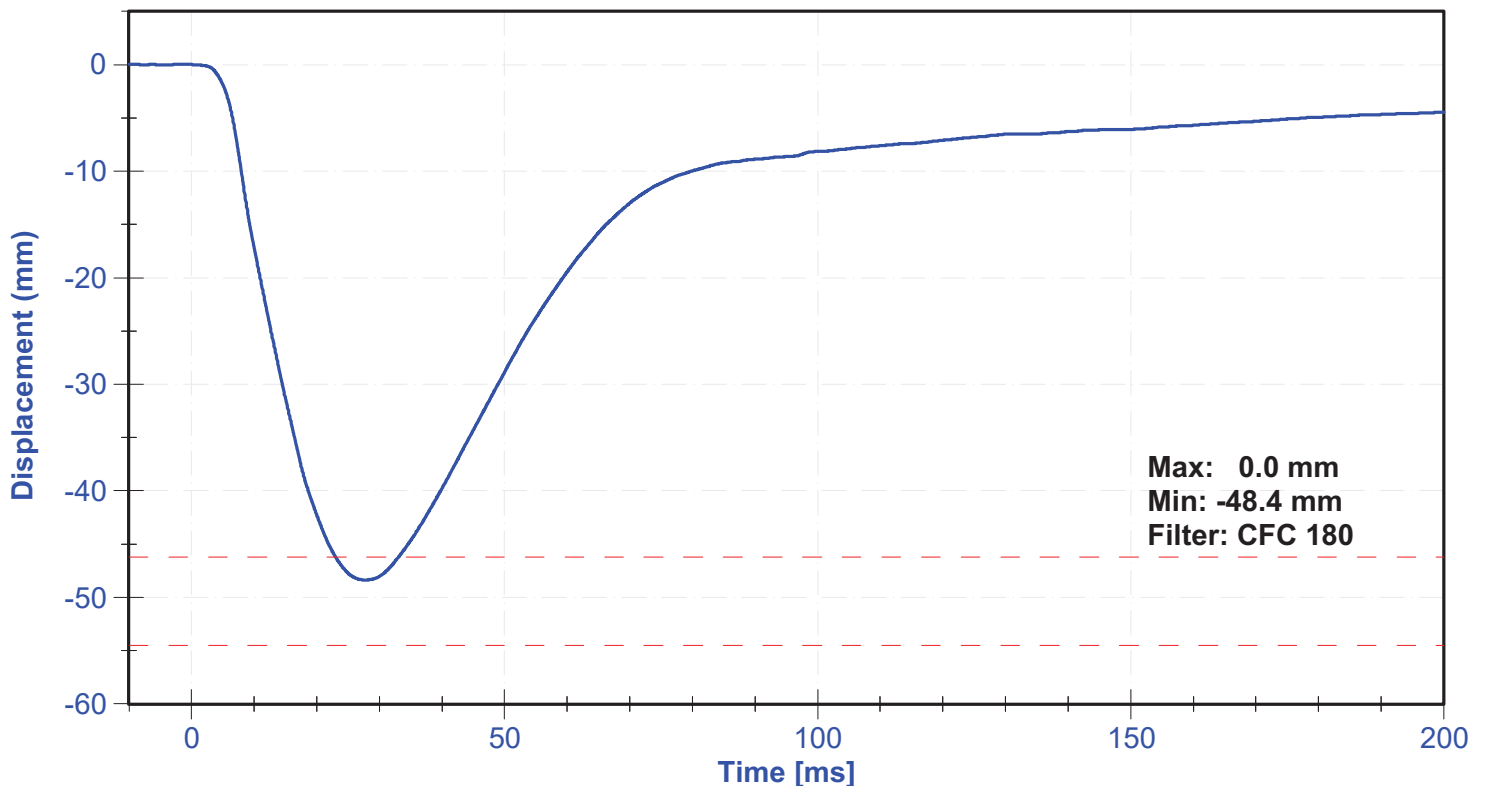
Results

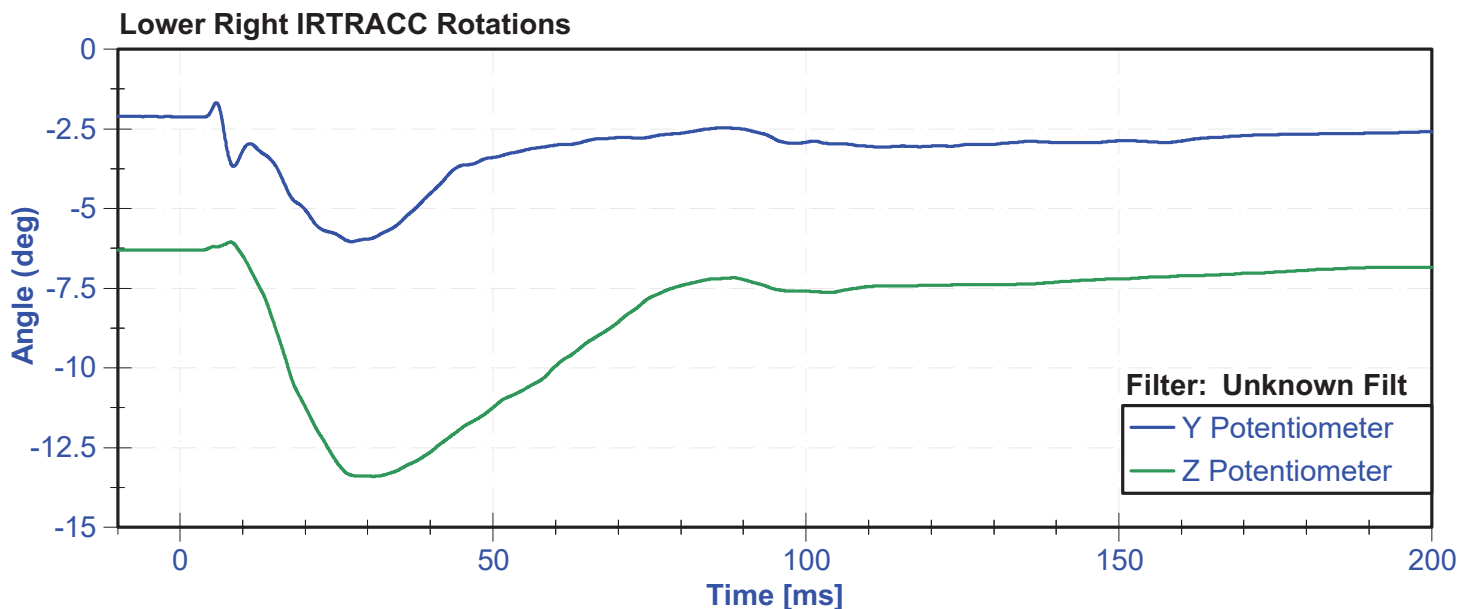
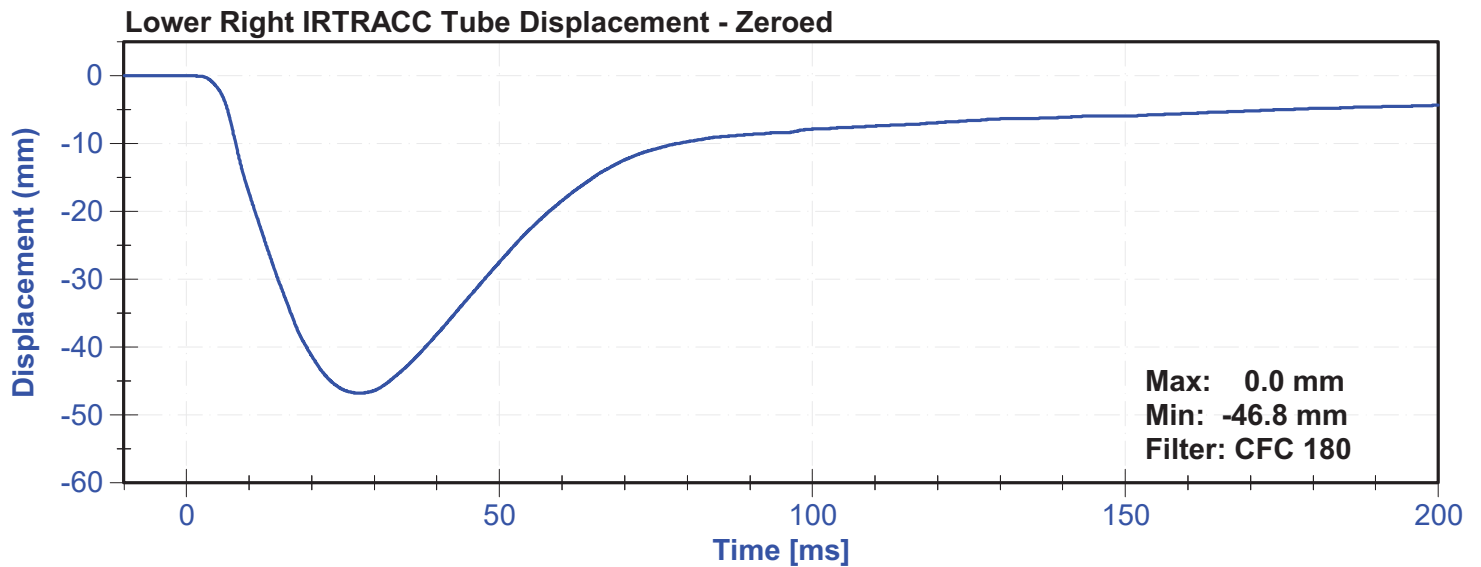
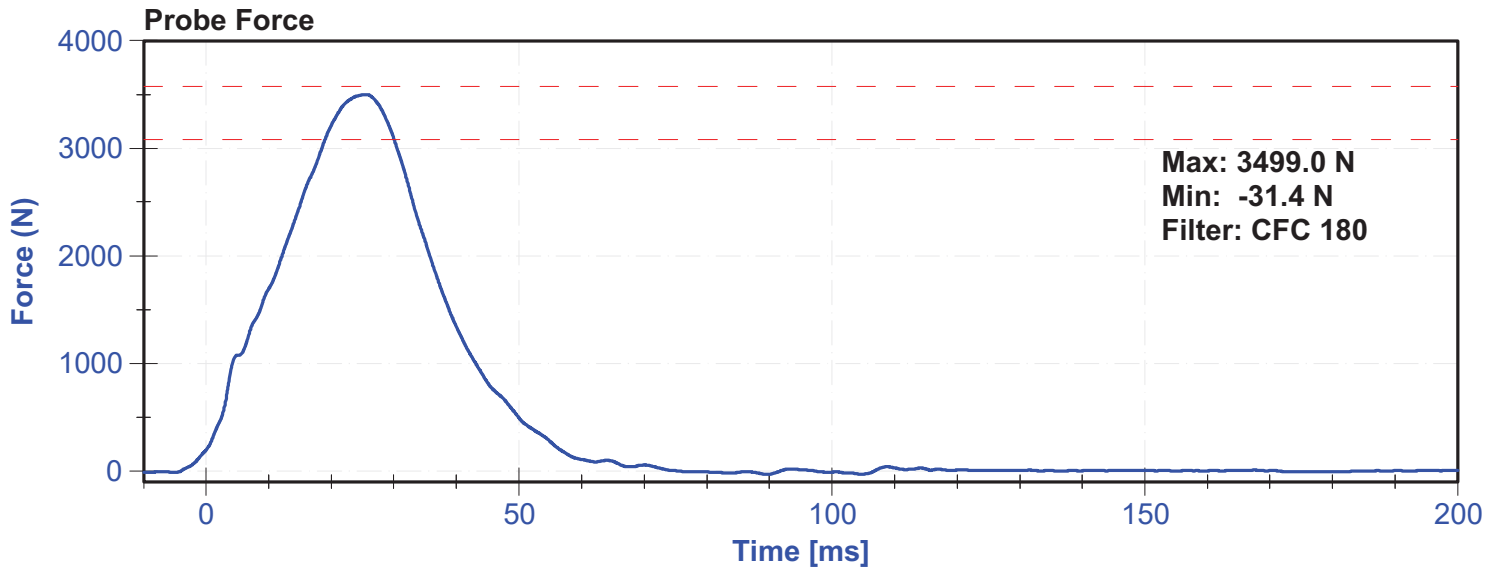
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	37.7	Pass
Impact Velocity	4.25	4.35	m/s	4.323	Pass
Peak Right X Rib Deflection	-54.5	-46.2	mm	-48.37	Pass
Probe Force during Peak Deflection	3083	3571	N	3499.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Lower Right IRTACC	Humanetics IF-364-C-R3	DS-DK3865	4/8/2015	4/7/2016
Lower Right Y Potentiometer	Sfernice 9945	DS-DJ5453	4/8/2015	4/7/2016
Lower Right Z Potentiometer	Sfernice 9945	DS-DJ5452	4/8/2015	4/7/2016

Lower Right Rib X Deflection





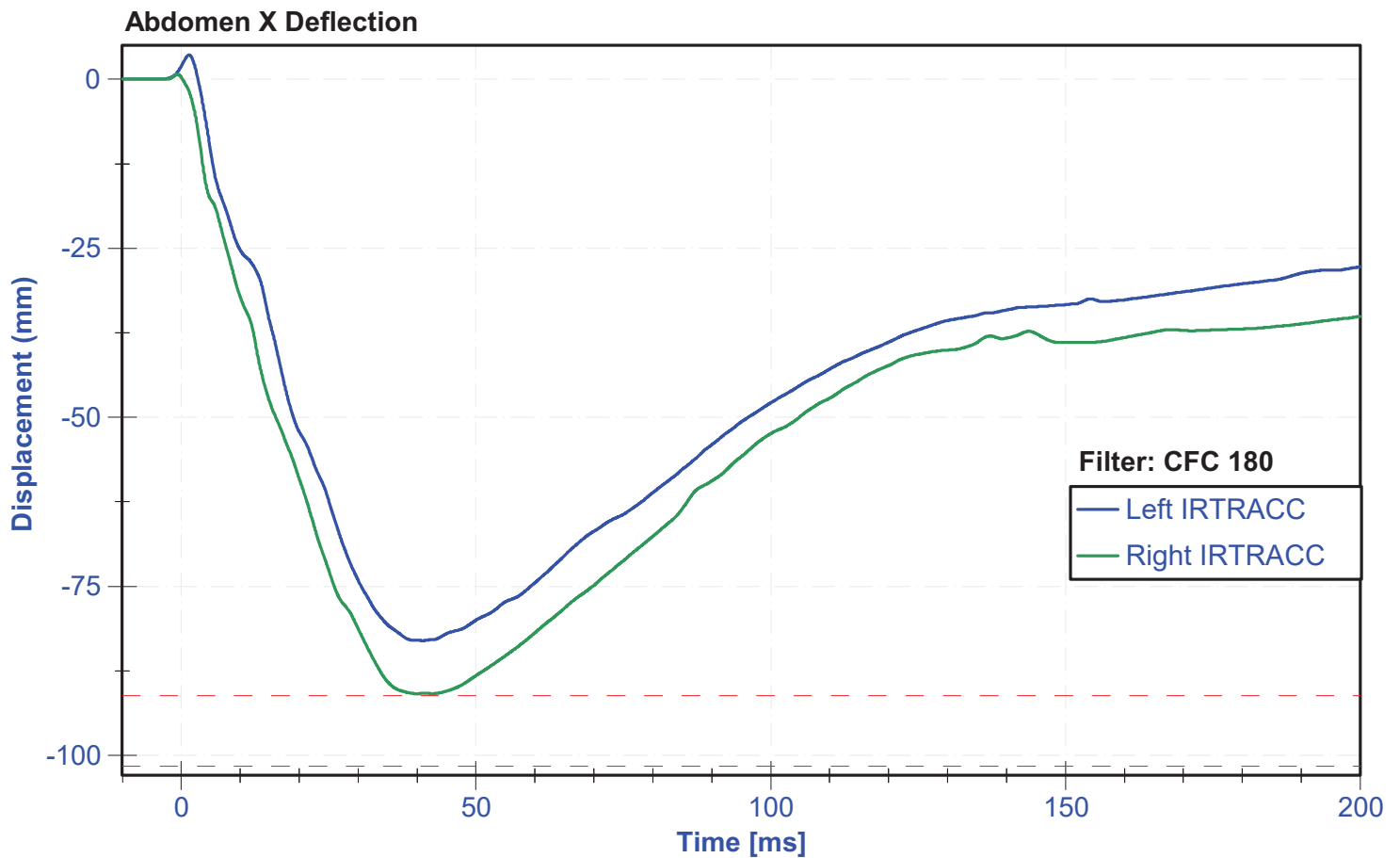
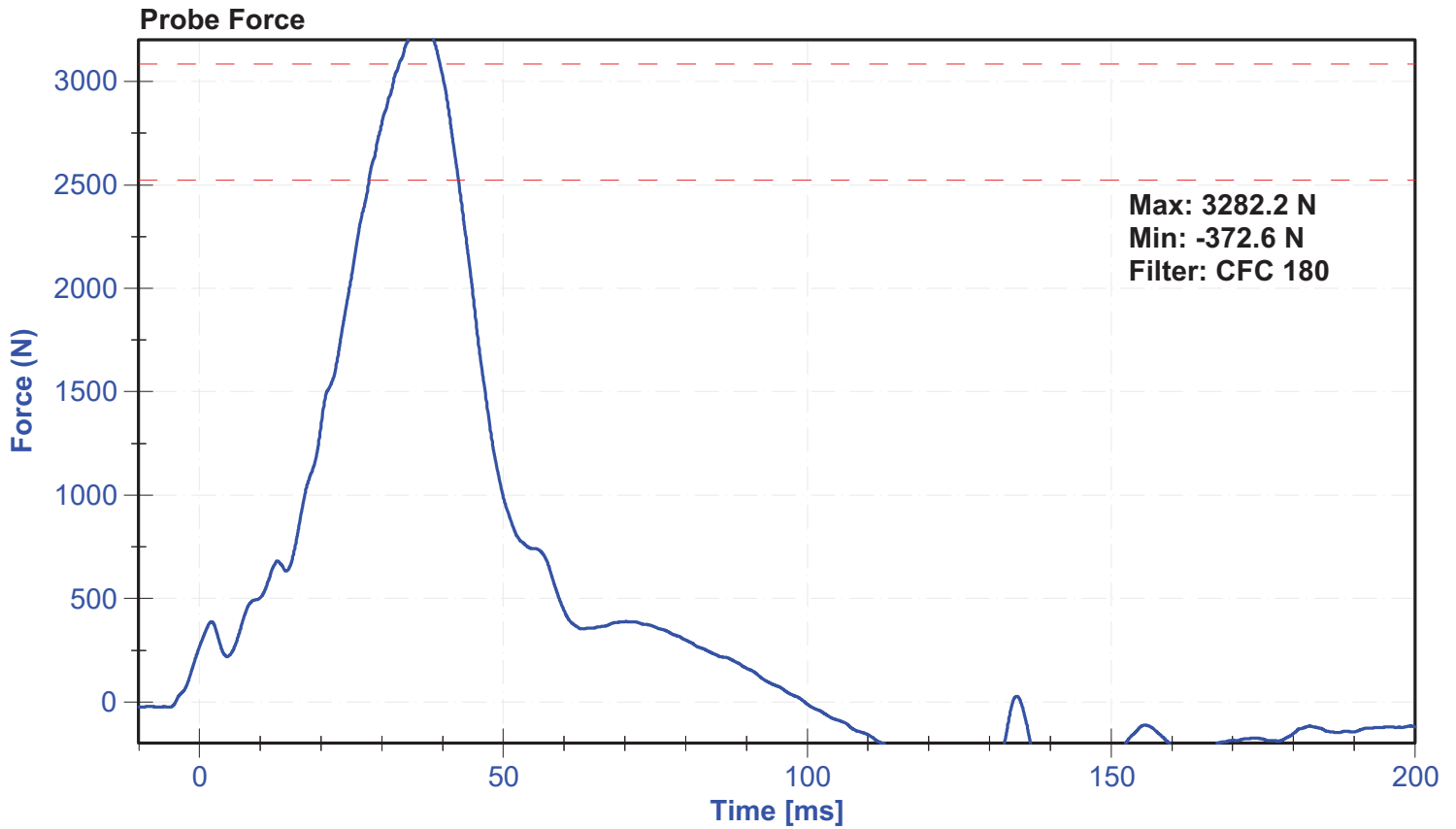
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

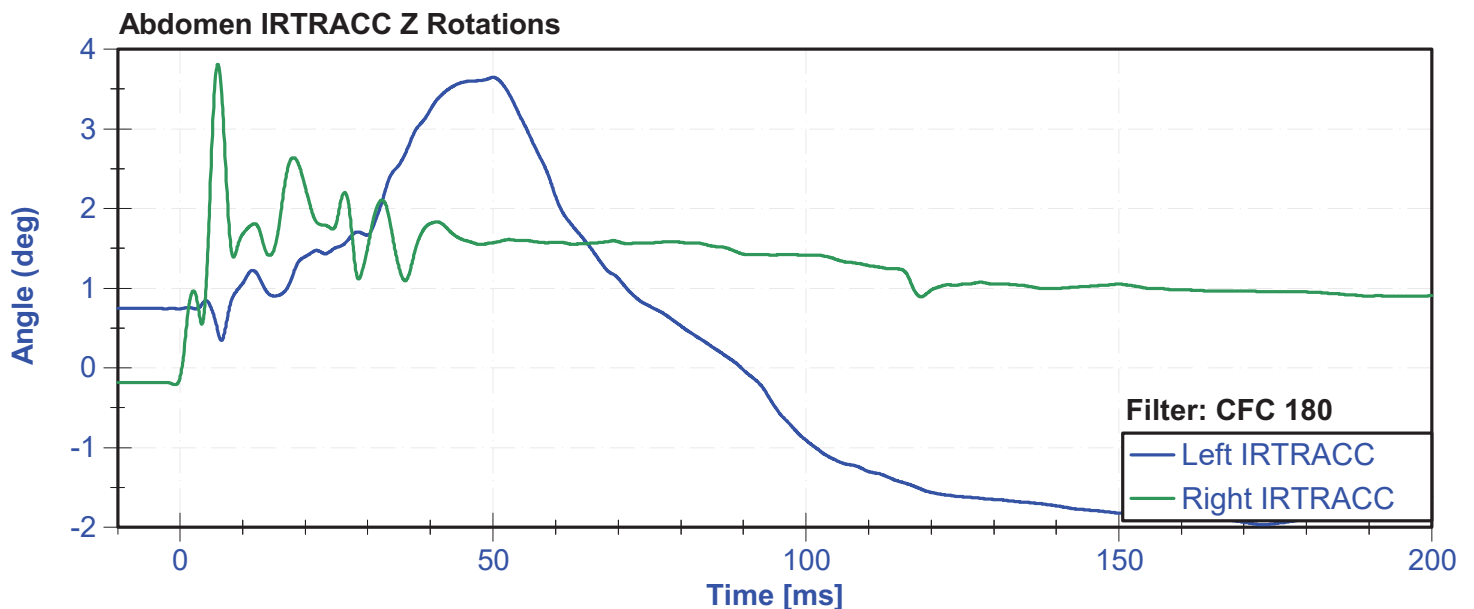
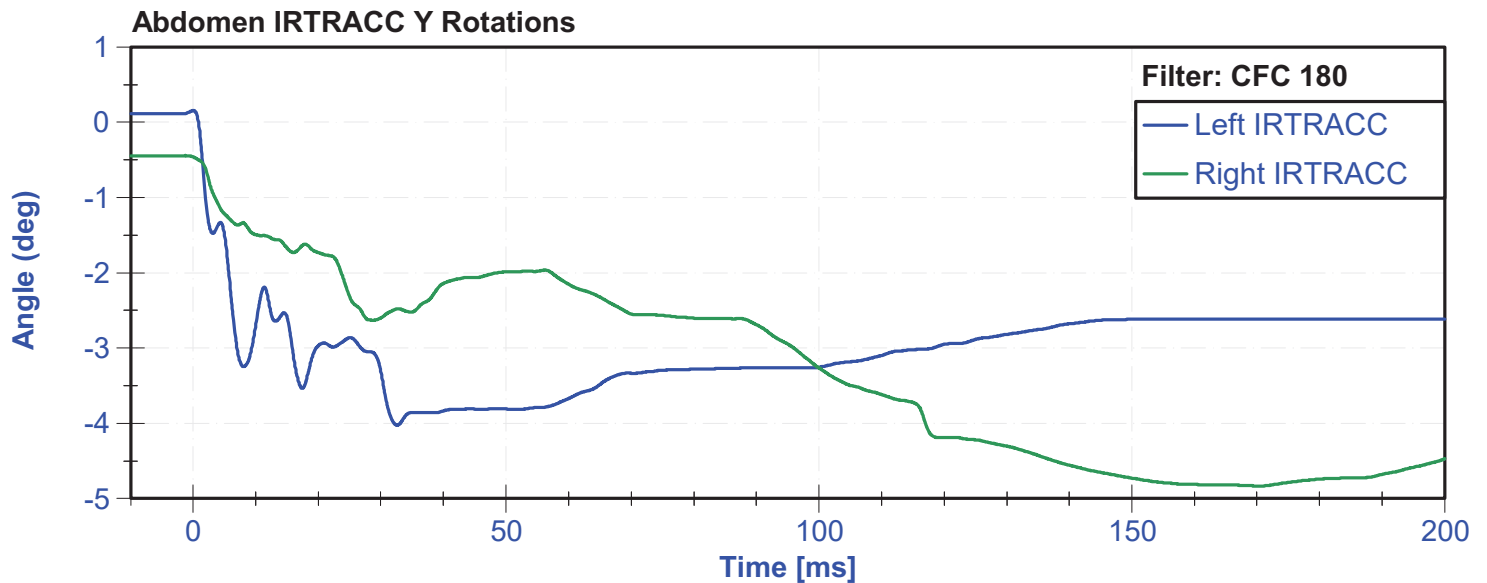
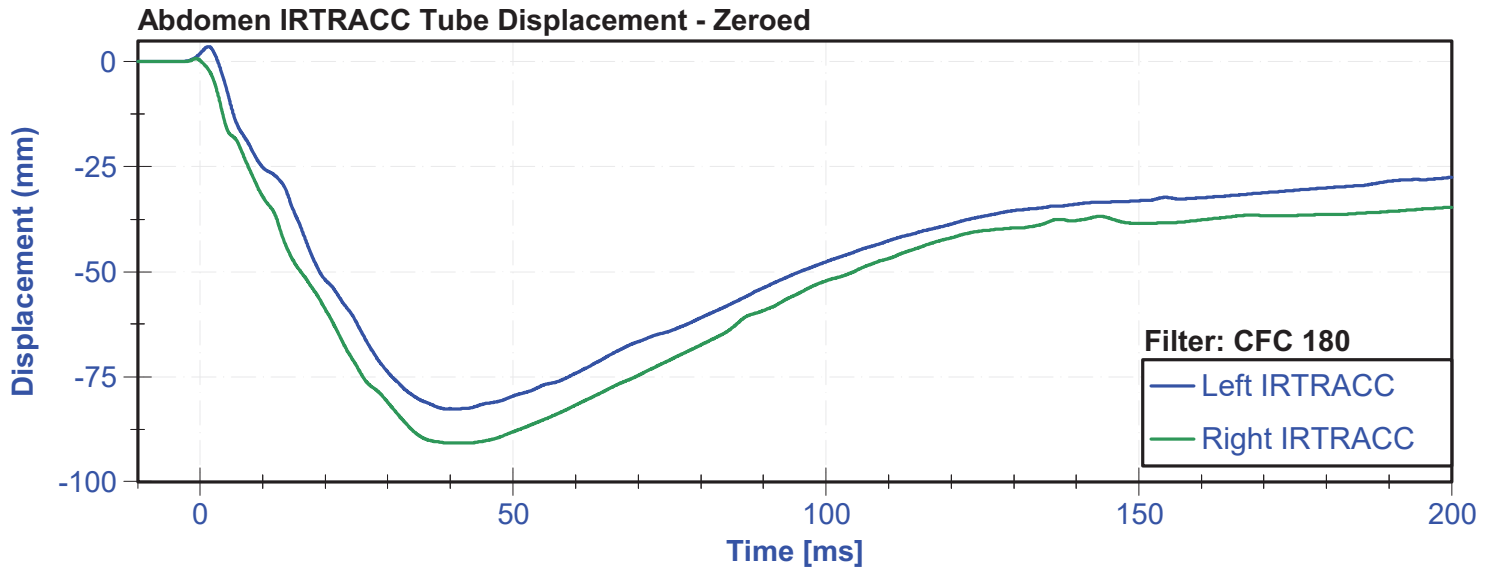
Results

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
Impact Velocity	3.25	3.35	m/s	3.309	Pass
Probe Force	2523	3083	N	3282.2	Fail
Left Abdomen X Deflection	-101.6	-91.2	mm	-83.02	Fail
Right Abdomen X Deflection	-101.6	-91.2	mm	-90.87	Fail
Left/Right X Deviation	-7.00	7.00	mm	7.843	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7231CT	AC-C15018	7/15/2015	7/14/2016
Abdomen Left IRTRACC	Humanetics 9910	DS-183	3/9/2015	3/8/2016
Abdomen Left Y Potentiometer	Sfernice 9945	DS-DJ5443	5/18/2015	5/17/2016
Abdomen Left Z Potentiometer	Sfernice 9945	DS-DJ5444	5/18/2015	5/17/2016





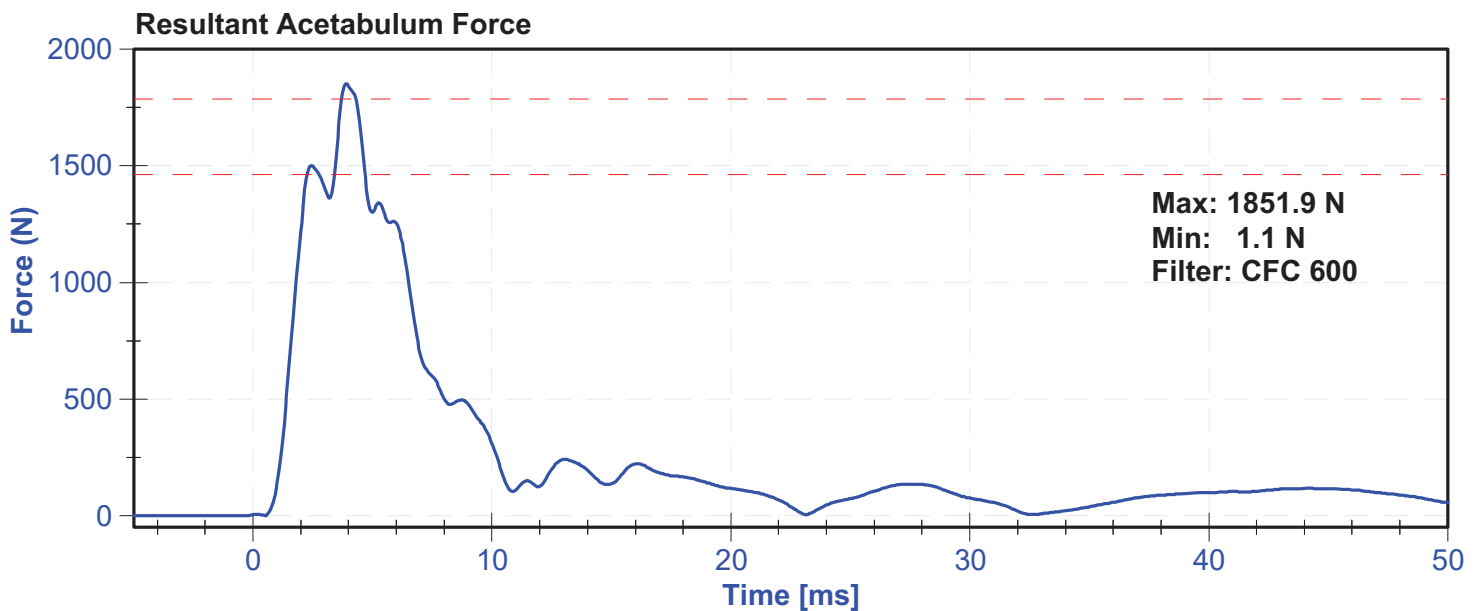
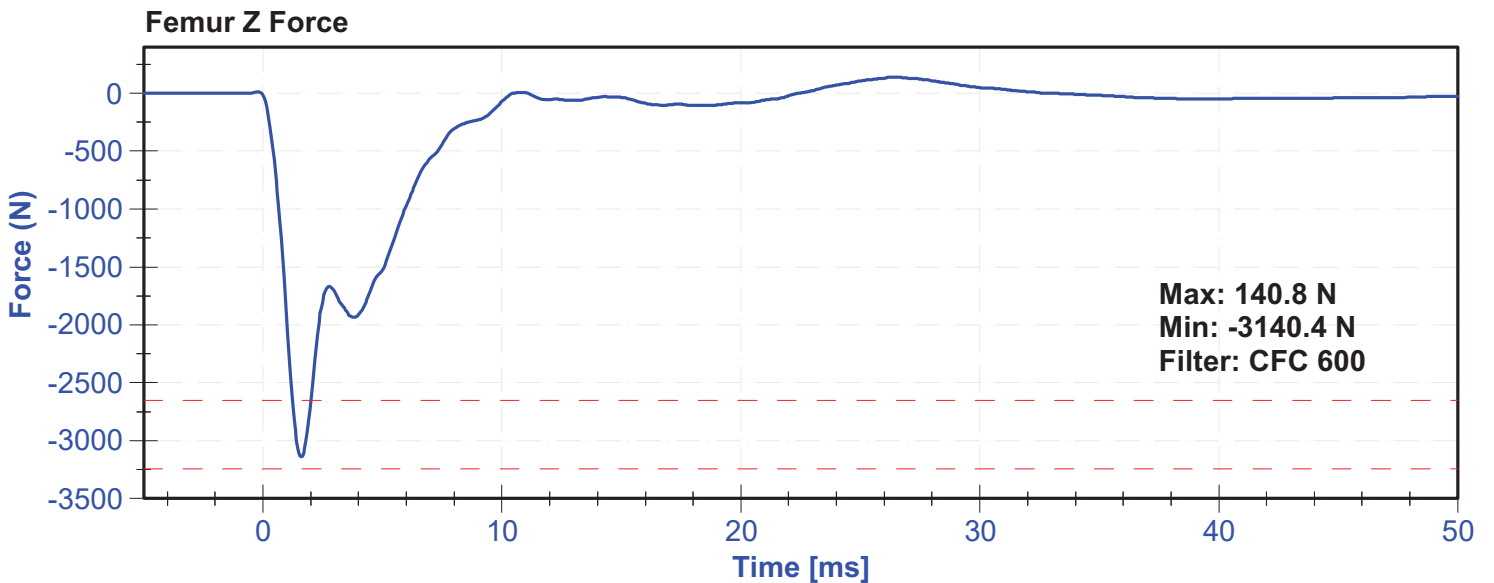
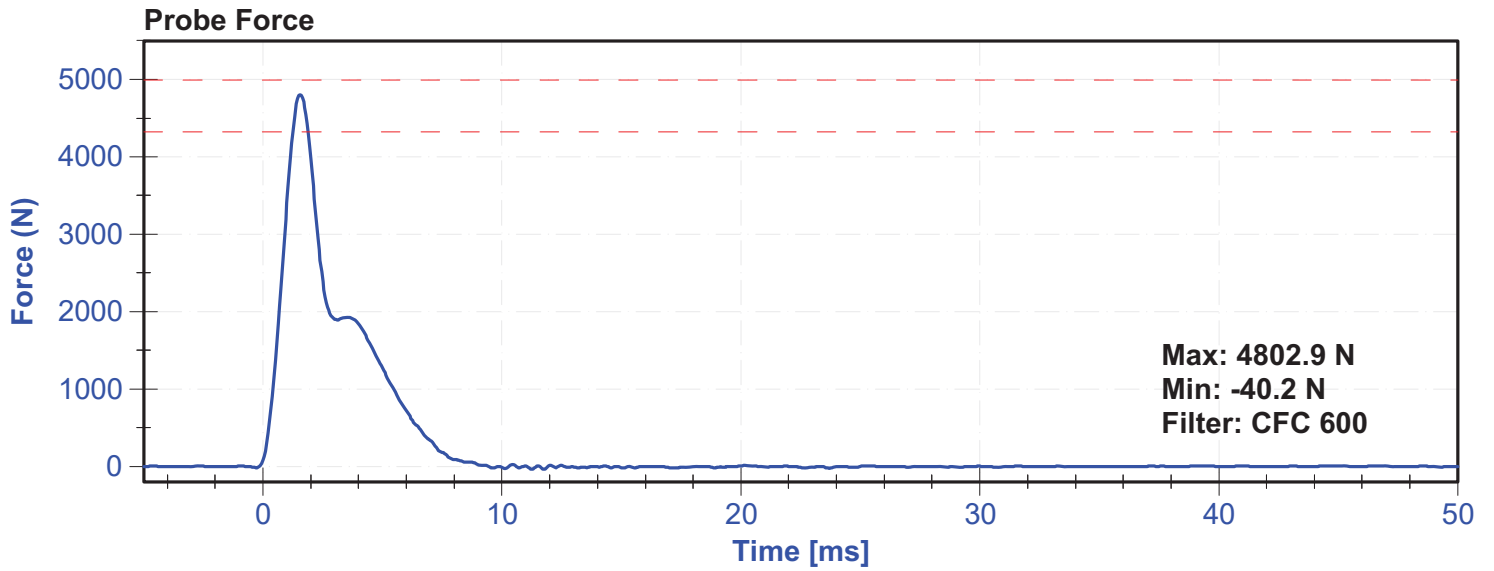
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	39.5	Pass
Impact Velocity	2.55	2.65	m/s	2.566	Pass
Probe Force	4318	4989	N	4802.9	Pass
Peak Femur Z Force	-3241	-2652	N	-3140.45	Pass
Peak Resultant Acetabulum Force	1462	1787	N	1851.86	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Left Femur Load Cell	Humanetics W50-71010	LC-DK0842 Fz	2/11/2016	2/10/2017
Left Acetabulum Load Cell	Humanetics 10530JI4	LC-DM1945 Fx	3/7/2016	3/7/2017



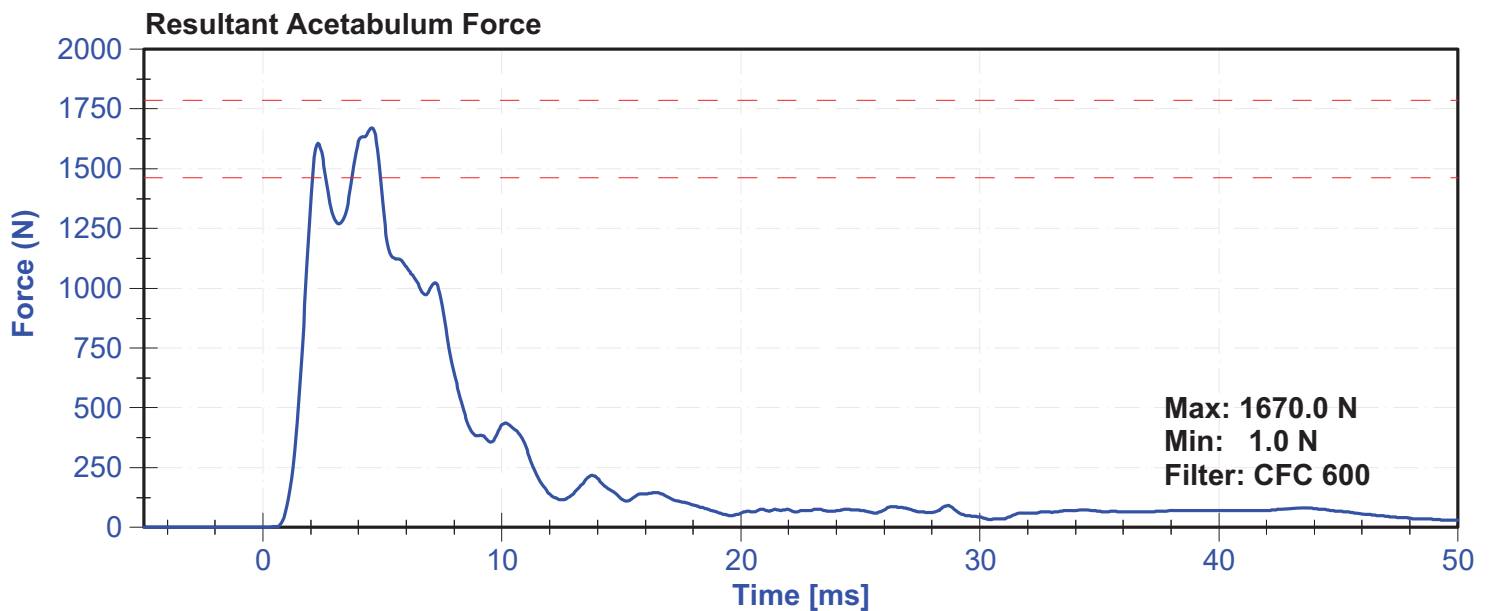
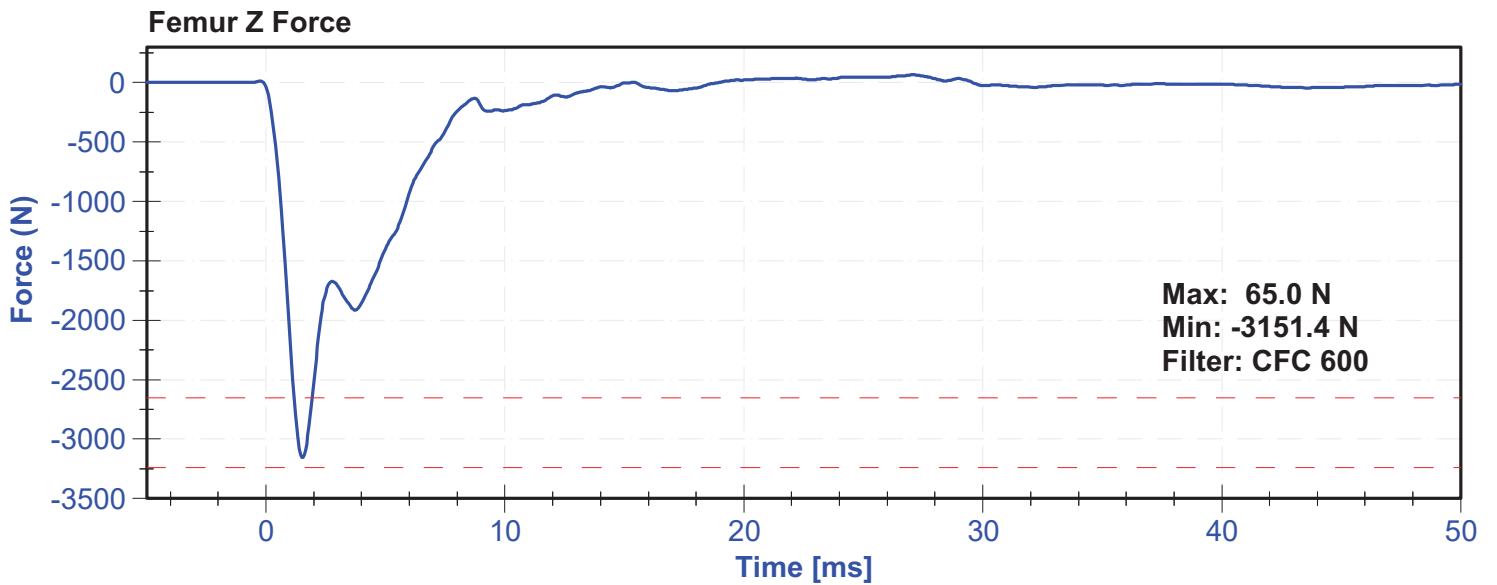
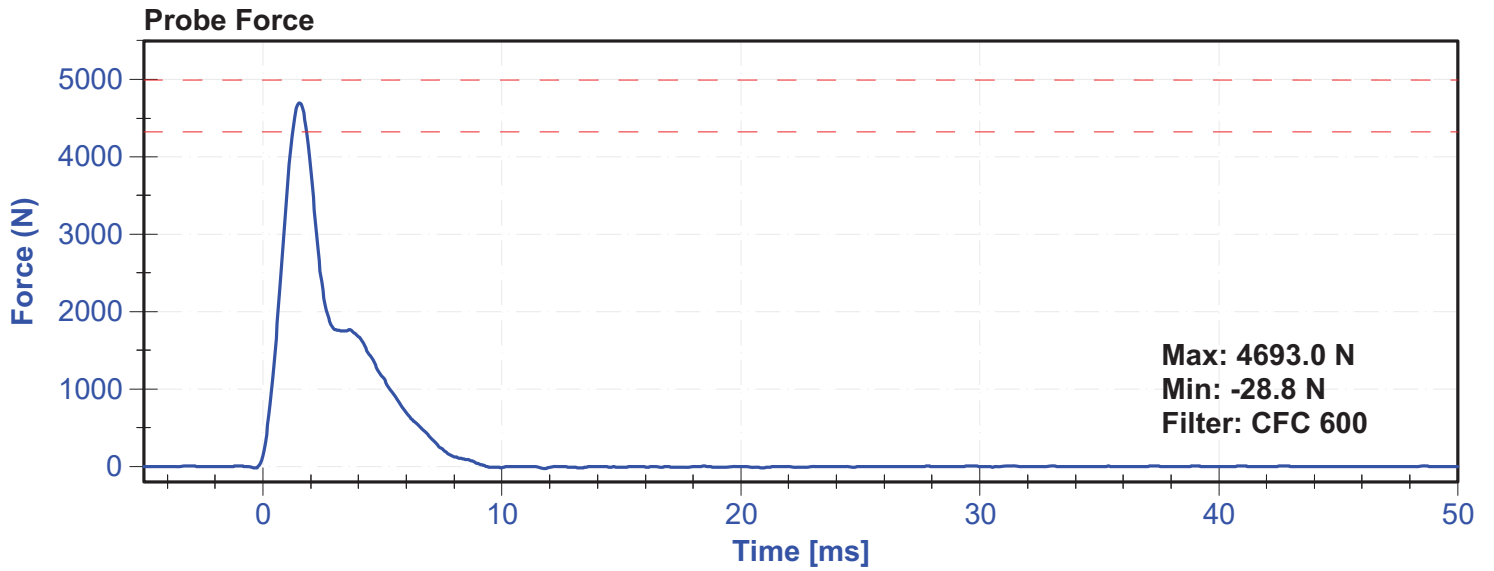
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.1	Pass
Humidity	10	70	%	40.0	Pass
Impact Velocity	2.55	2.65	m/s	2.569	Pass
Probe Force	4318	4989	N	4693.0	Pass
Peak Femur Z Force	-3241	-2652	N	-3151.43	Pass
Peak Resultant Acetabulum Force	1462	1787	N	1670.05	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Left Femur Load Cell	Humanetics W50-71010	LC-DK3608 Fz	3/3/2016	3/3/2017
Left Acetabulum Load Cell	Humanetics 10670JI4	LC-DL9552 Fx	3/7/2016	3/7/2017



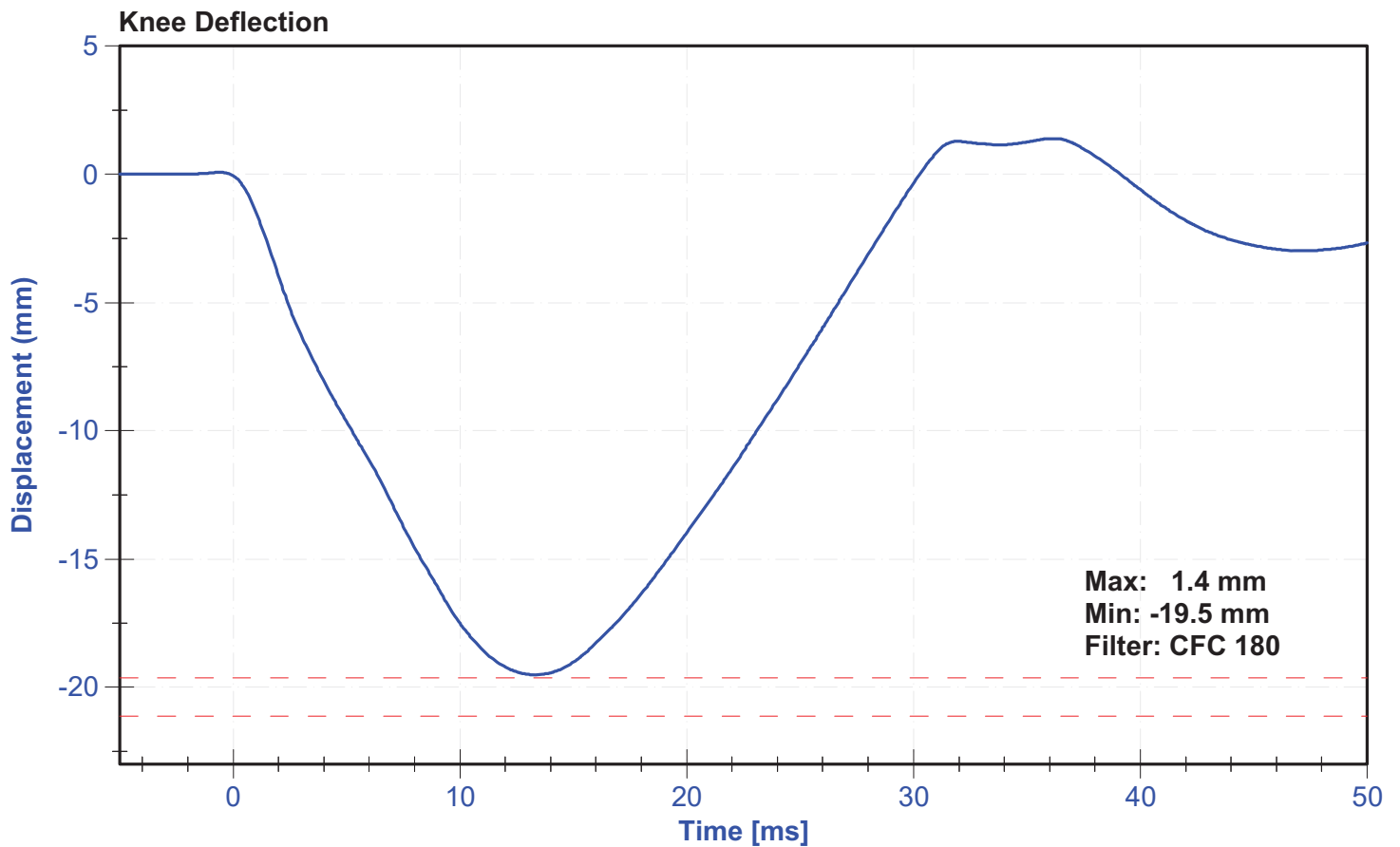
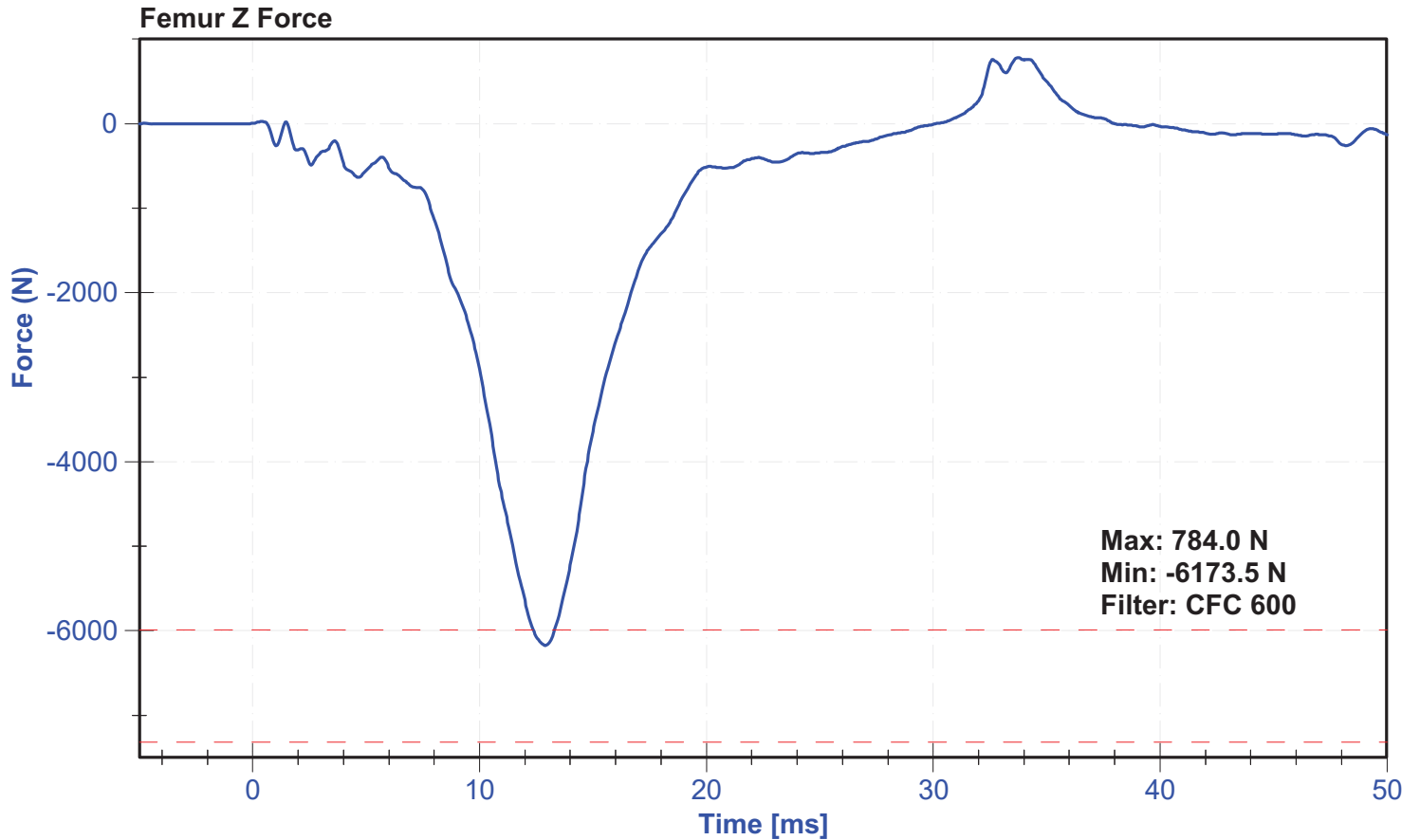
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	42.9	Pass
Impact Velocity	2.15	2.25	m/s	2.238	Pass
Peak Femur Z Force	-7317	-5987	N	-6173.5	Pass
Knee Deflection at Peak Force	-21.12	-19.62	mm	-19.51	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Femur Load Cell	Humanetics W50-71010	LC-DK0842 Fz	2/11/2016	2/10/2017
Knee Potentiometer	Space Age 150-0121V	DS-13073811	6/24/2015	6/23/2016



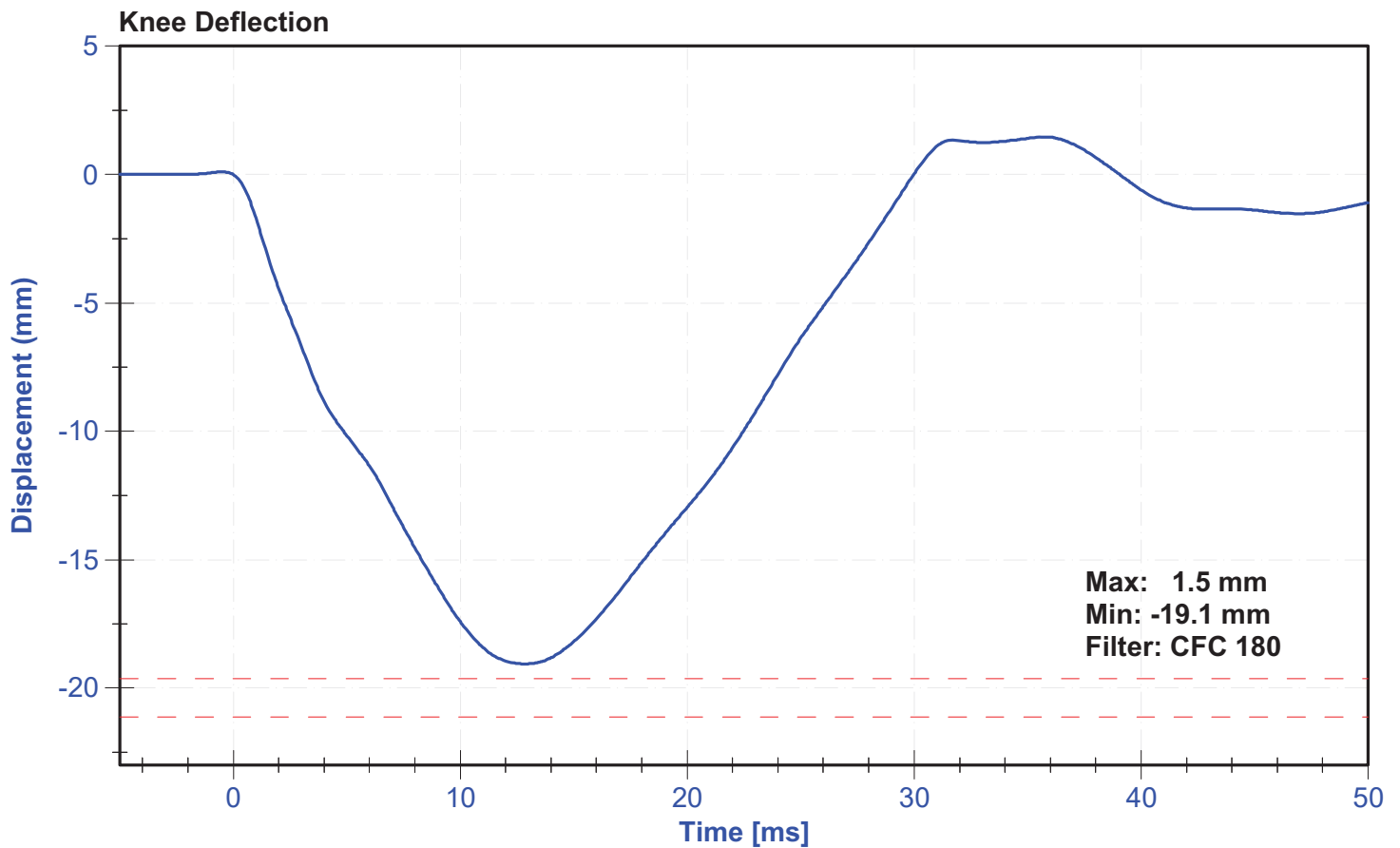
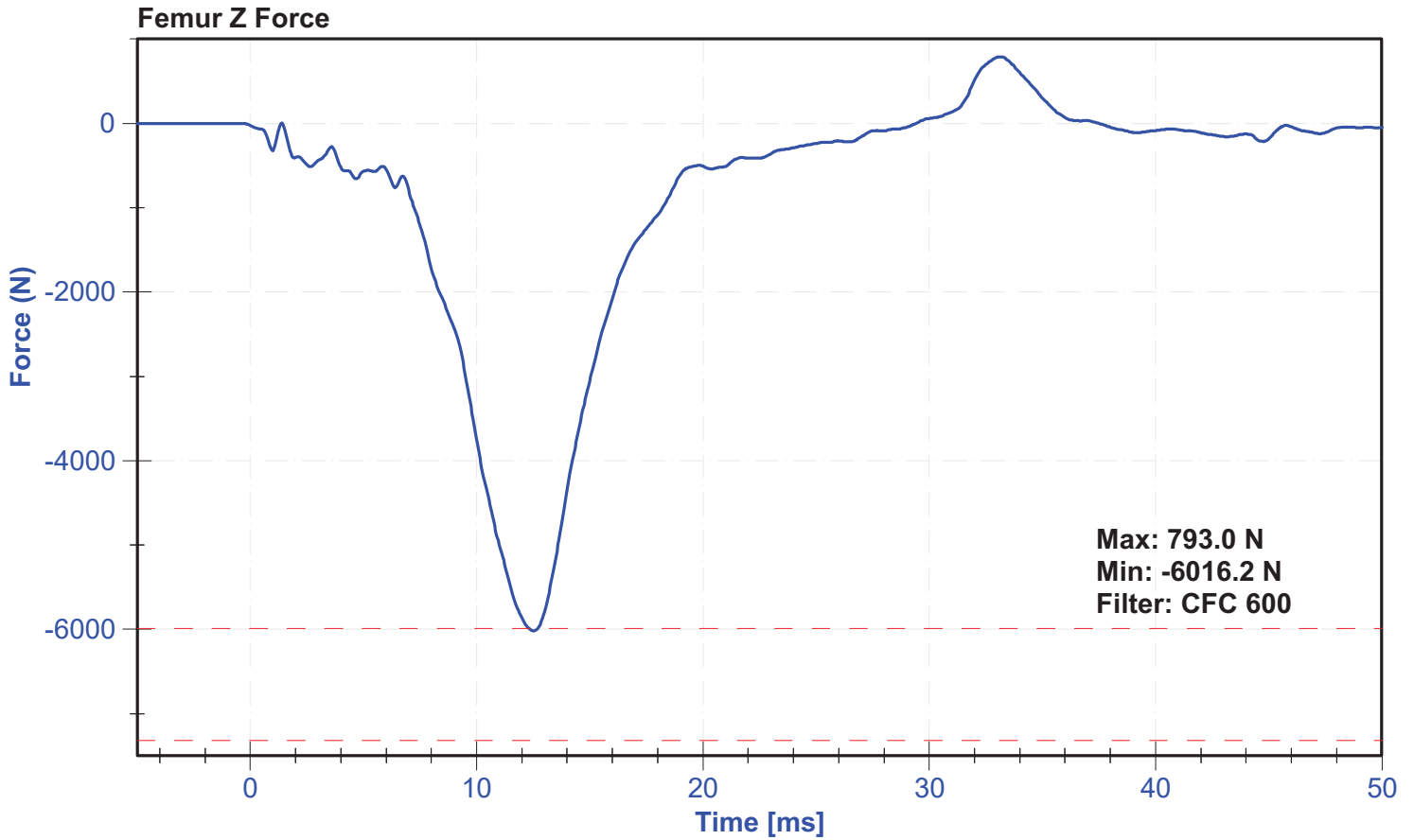
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	40.9	Pass
Impact Velocity	2.15	2.25	m/s	2.243	Pass
Peak Femur Z Force	-7317	-5987	N	-6016.2	Pass
Knee Deflection at Peak Force	-21.12	-19.62	mm	-19.06	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Femur Load Cell	Humanetics W50-71010	LC-DK3608 Fz	3/3/2016	3/3/2017
Knee Potentiometer	Space Age 150-0121V	DS-13073814	6/24/2015	6/23/2016



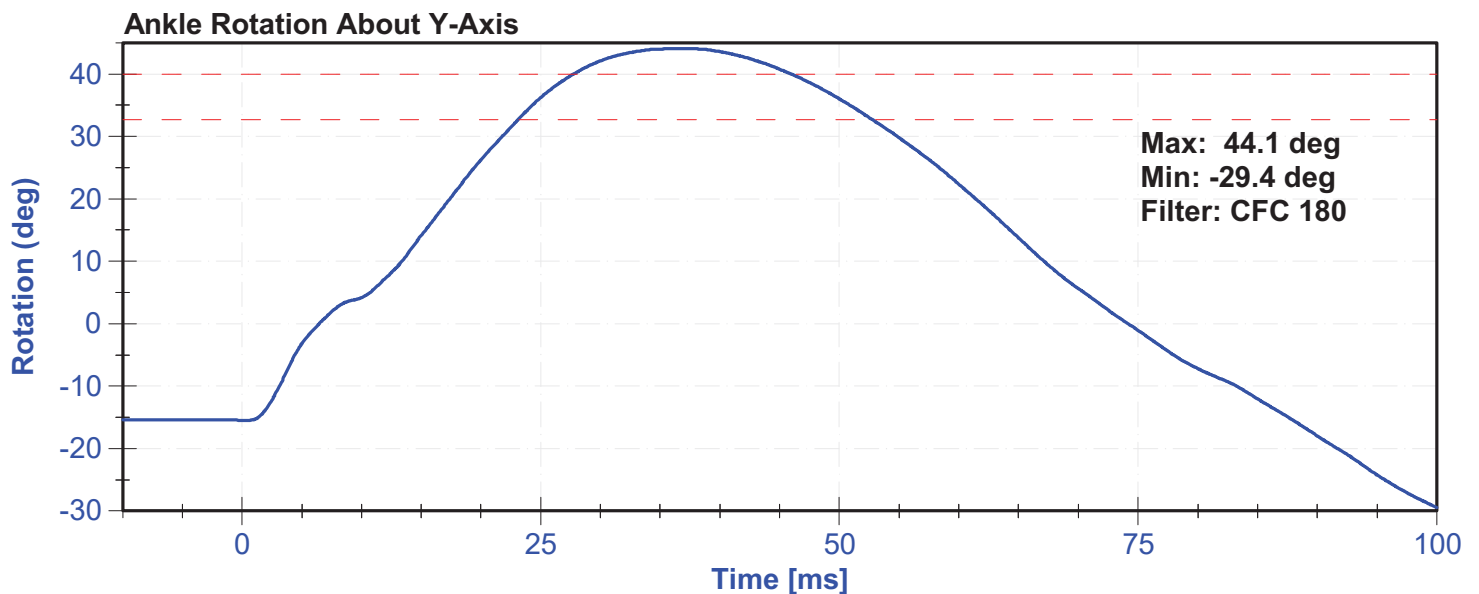
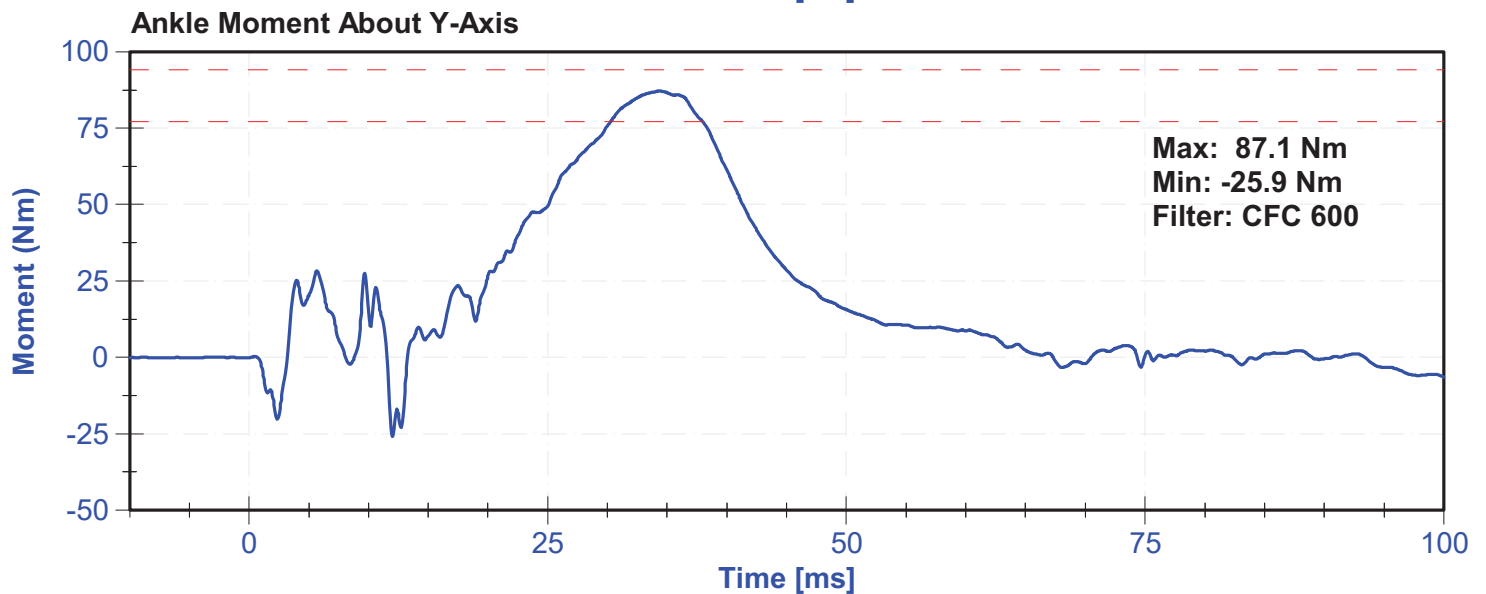
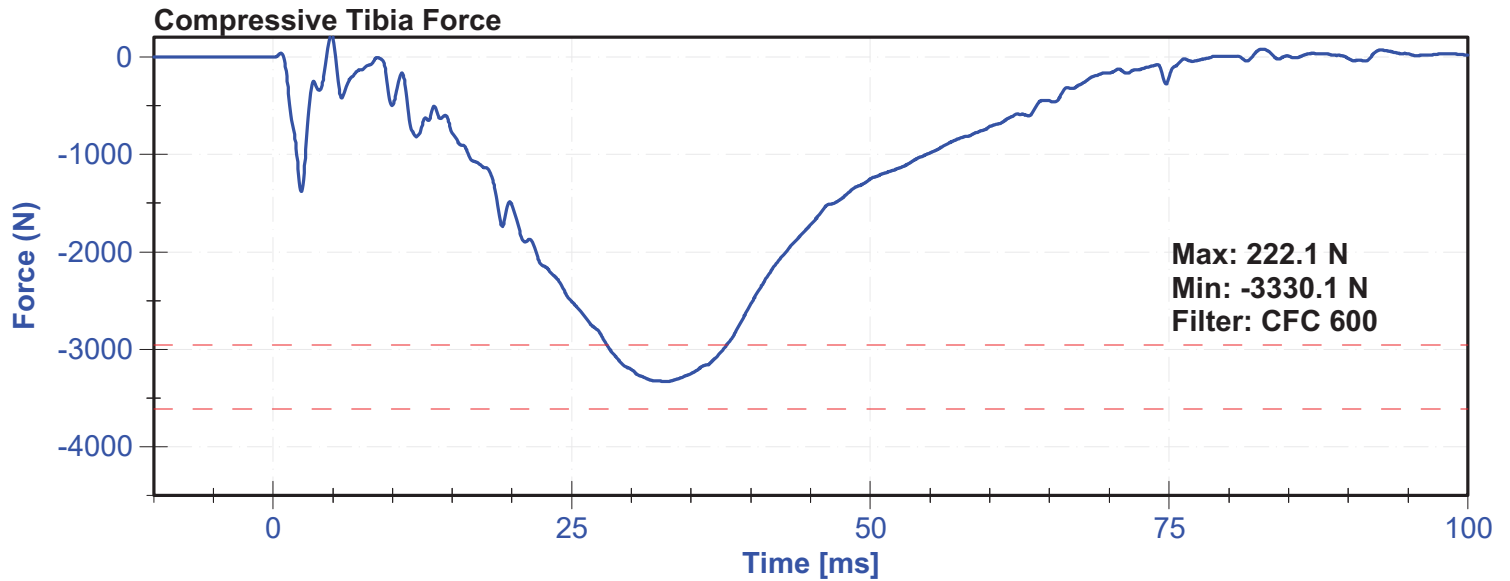
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	28.1	Pass
Velocity	4.9	5.1	m/s	4.961	Pass
Lower Tibia Compressive Force	-3613	-2956	N	-3330.1	Pass
Peak Moment about Y-Axis	77.1	94.2	Nm	87.13	Pass
Peak Rotation about Y-Axis	32.7	39.9	deg	44.05	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9685 Fz	5/5/2015	5/4/2016
Ankle Y Potentiometer	SFERNICE ECO50ESC10	DS-ANKL005	5/27/2015	5/26/2016



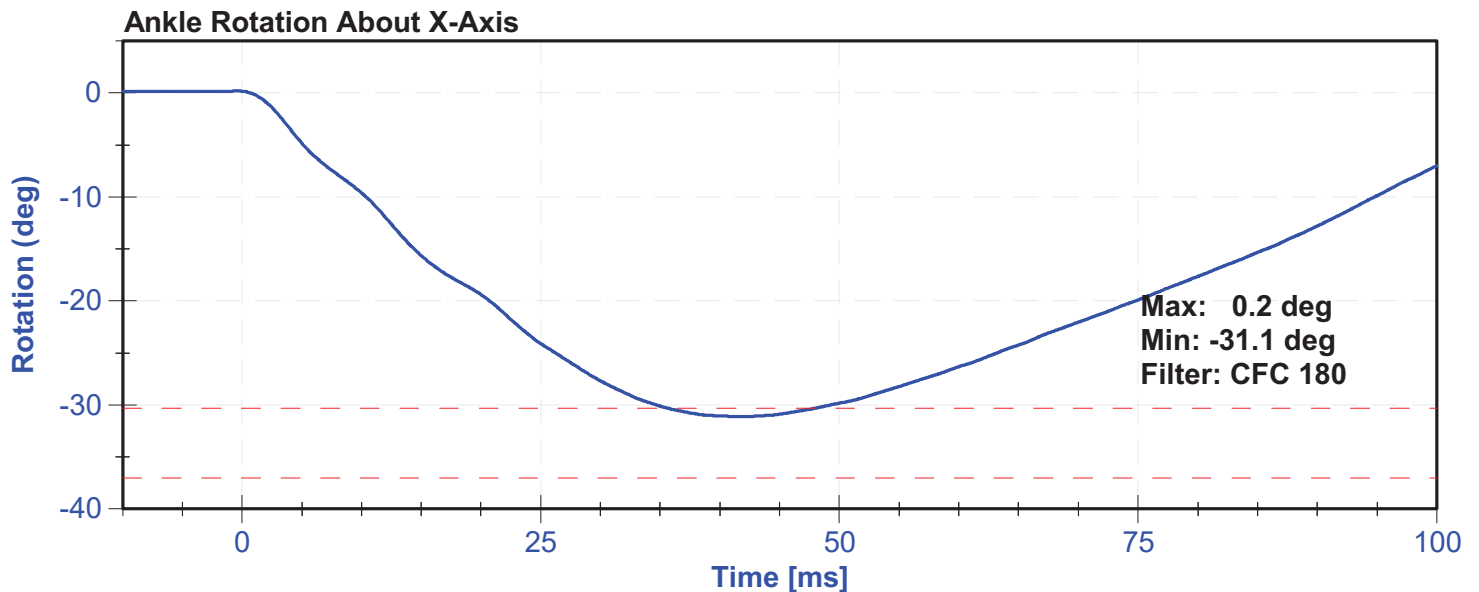
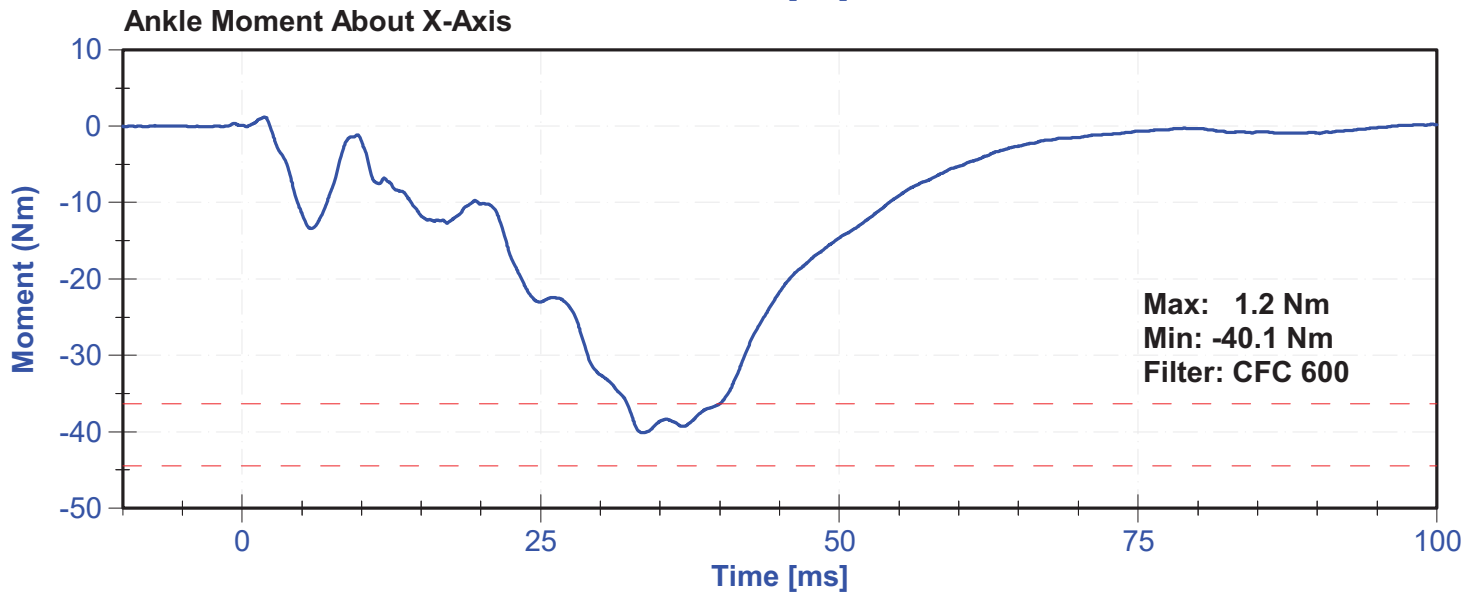
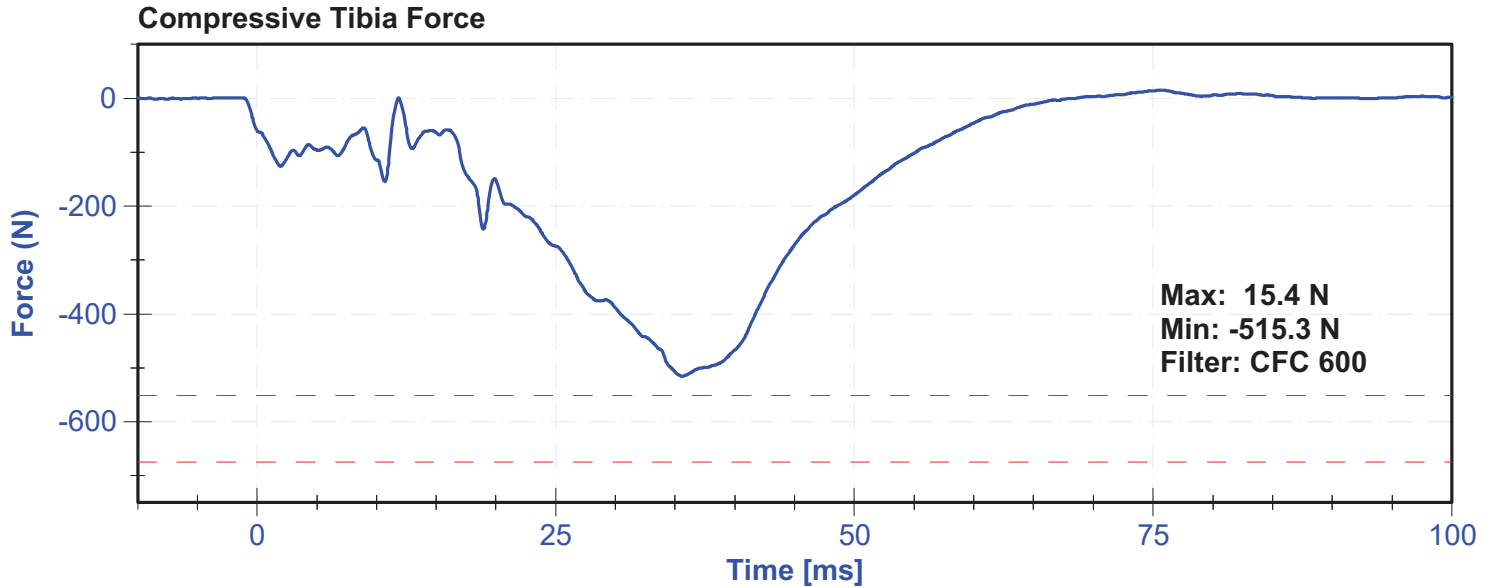
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	27.0	Pass
Velocity	1.9	2.1	m/s	2.003	Pass
Lower Tibia Compressive Force	-675	-552	N	-515.3	Fail
Peak Moment about X-Axis	-44.4	-36.3	Nm	-40.12	Pass
Peak Rotation about X-Axis	-37.0	-30.3	deg	-31.10	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9685 Fz	5/5/2015	5/4/2016
Ankle Y Potentiometer	SFERNICE ECO50ESC10	DS-ANKL004	5/27/2015	5/26/2016



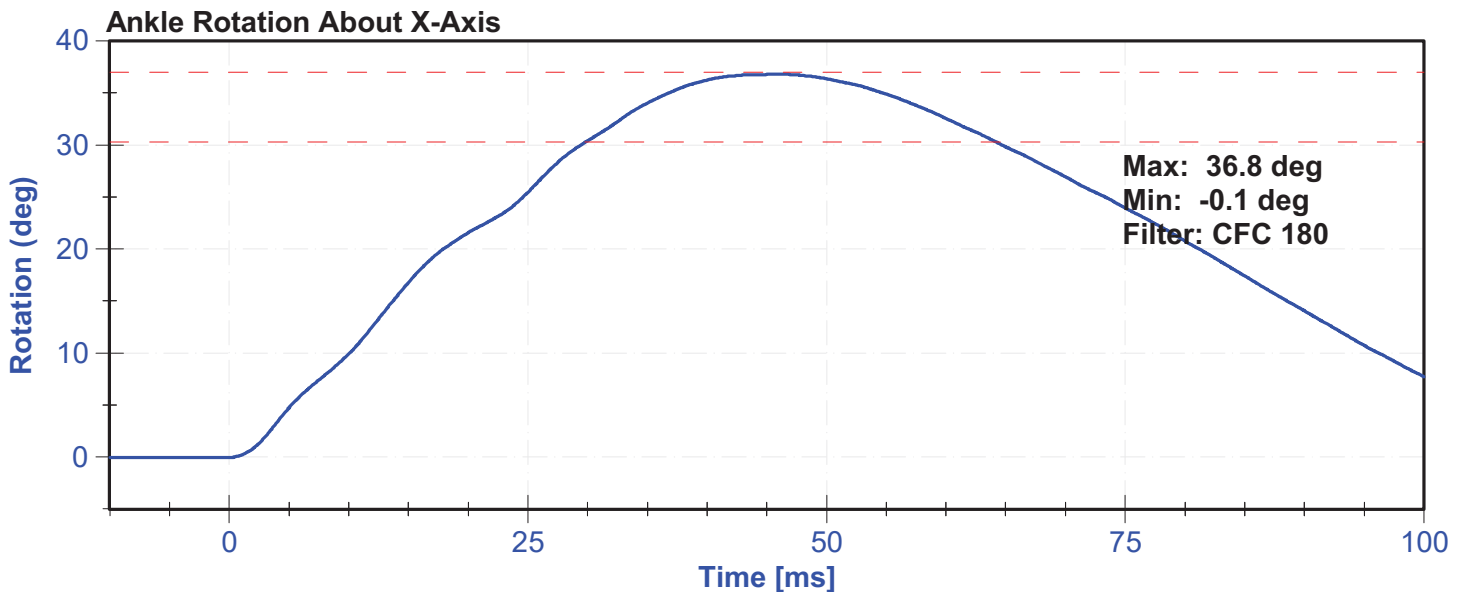
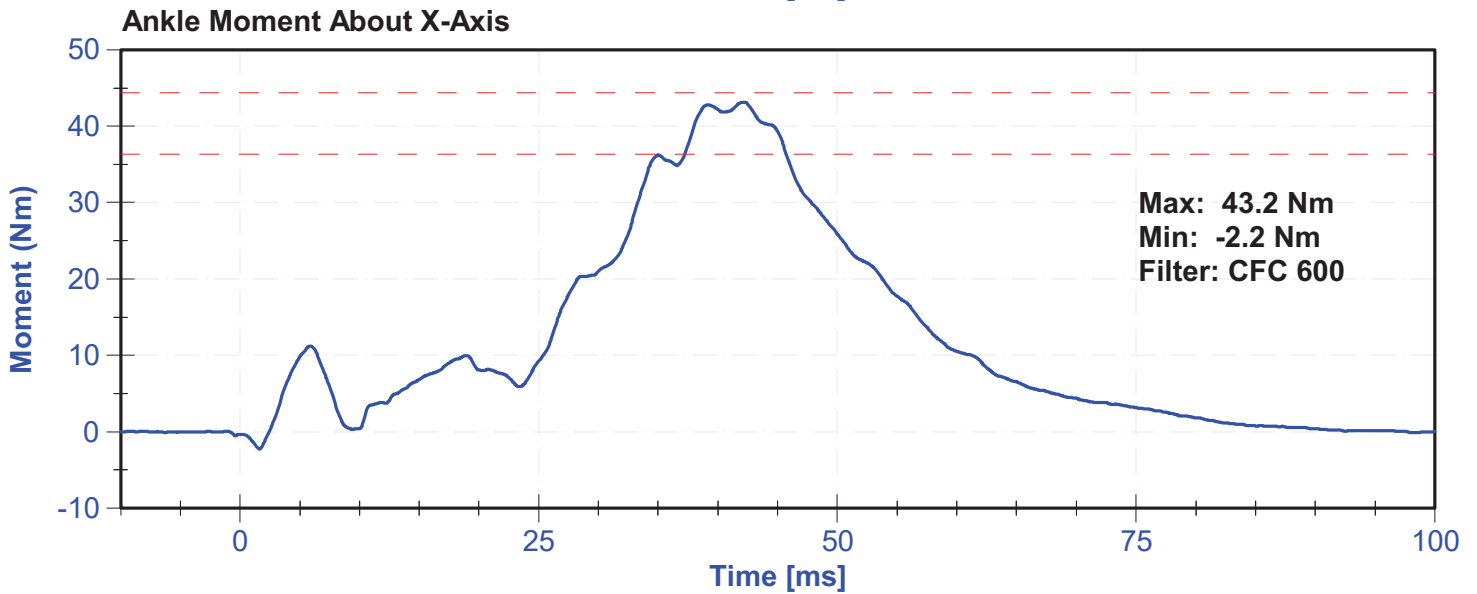
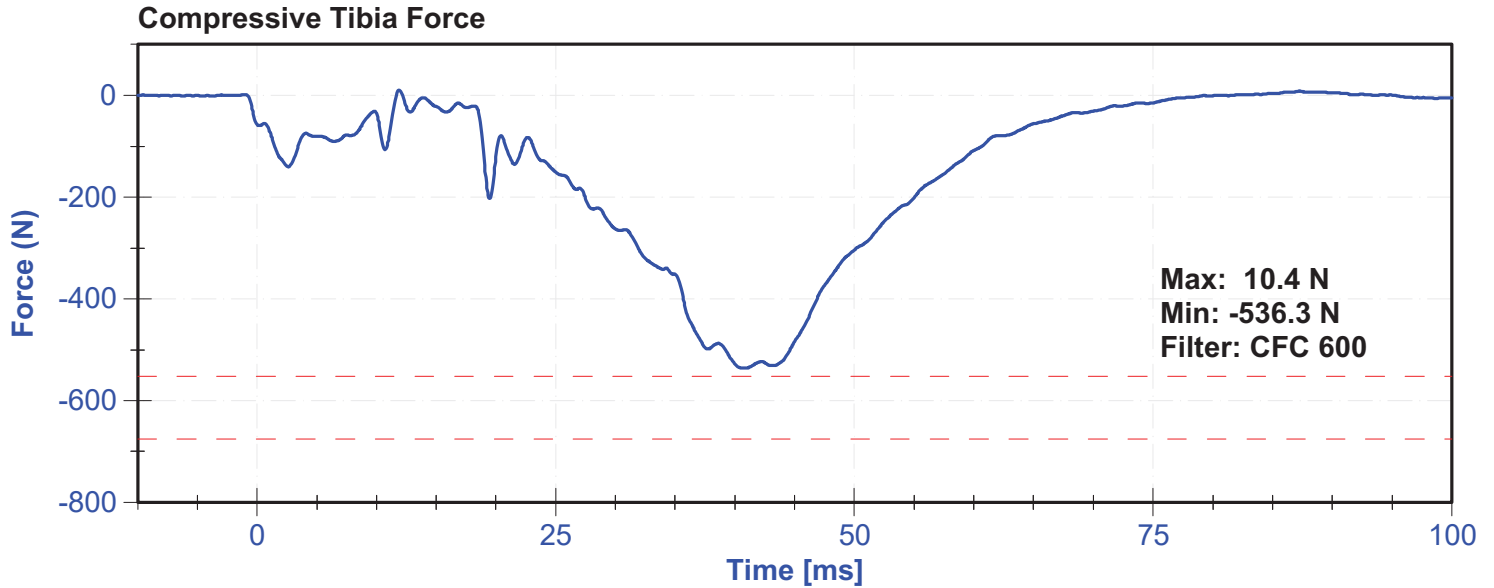
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	27.0	Pass
Velocity	1.9	2.1	m/s	1.984	Pass
Lower Tibia Compressive Force	-675	-552	N	-536.3	Fail
Peak Moment about X-Axis	36.3	44.4	Nm	43.16	Pass
Peak Rotation about X-Axis	30.3	37.0	deg	36.79	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9685 Fz	5/5/2015	5/4/2016
Ankle Y Potentiometer	SFERNICE ECO50ESC10	DS-ANKL004	5/27/2015	5/26/2016



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

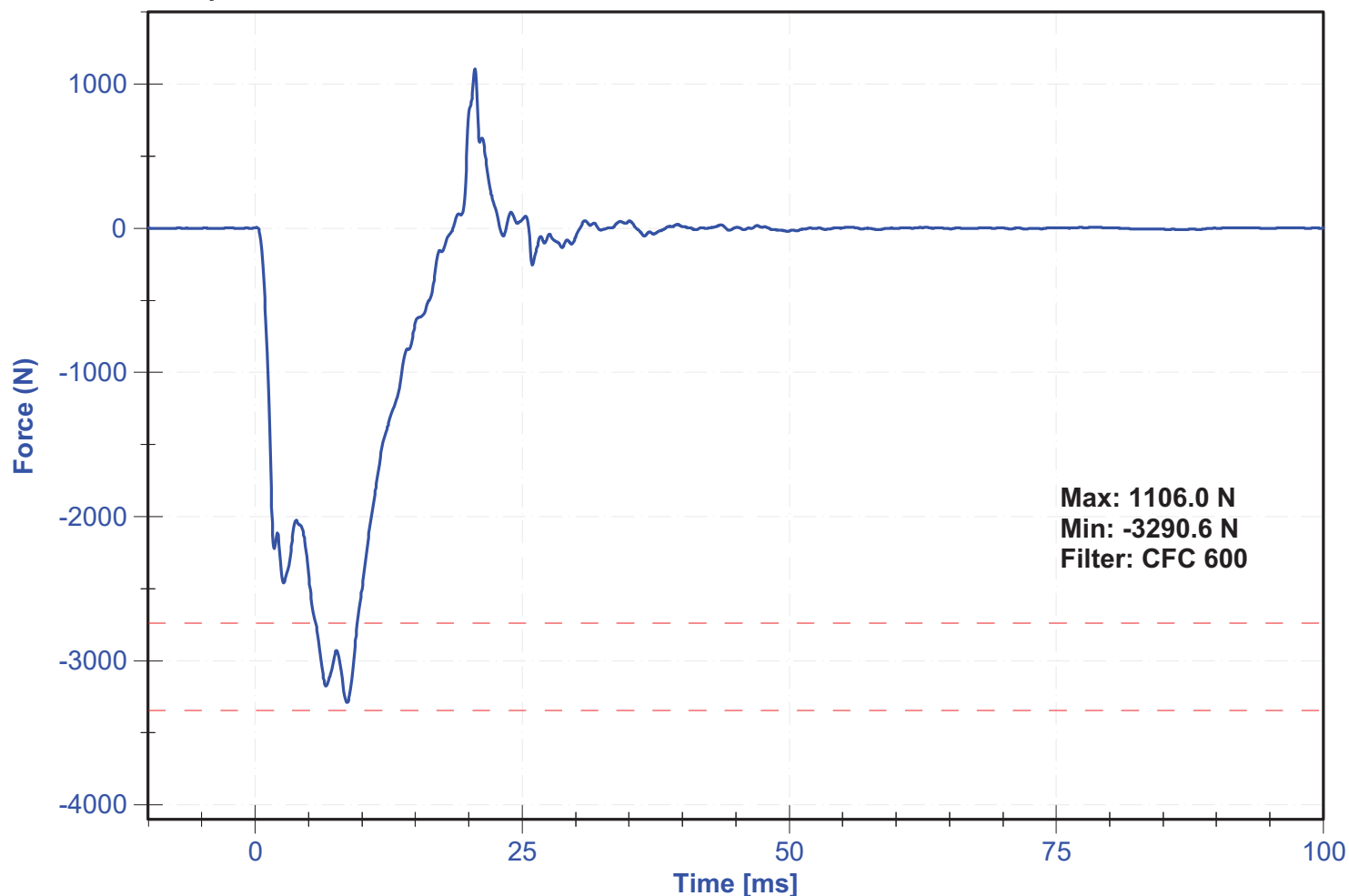
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	27.8	Pass
Velocity	3.9	4.1	m/s	4.019	Pass
Lower Tibia Compressive Force	-3346	-2738	N	-3290.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9685 Fz	5/5/2015	5/4/2016

Compressive Tibia Force



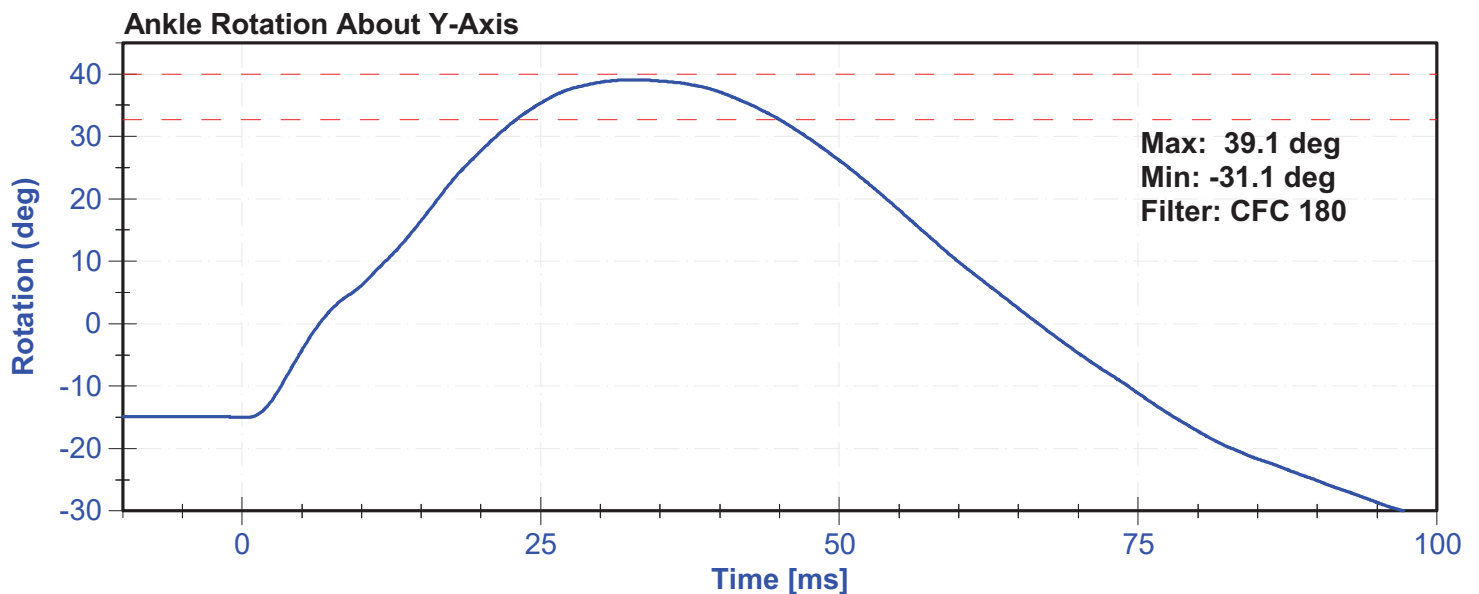
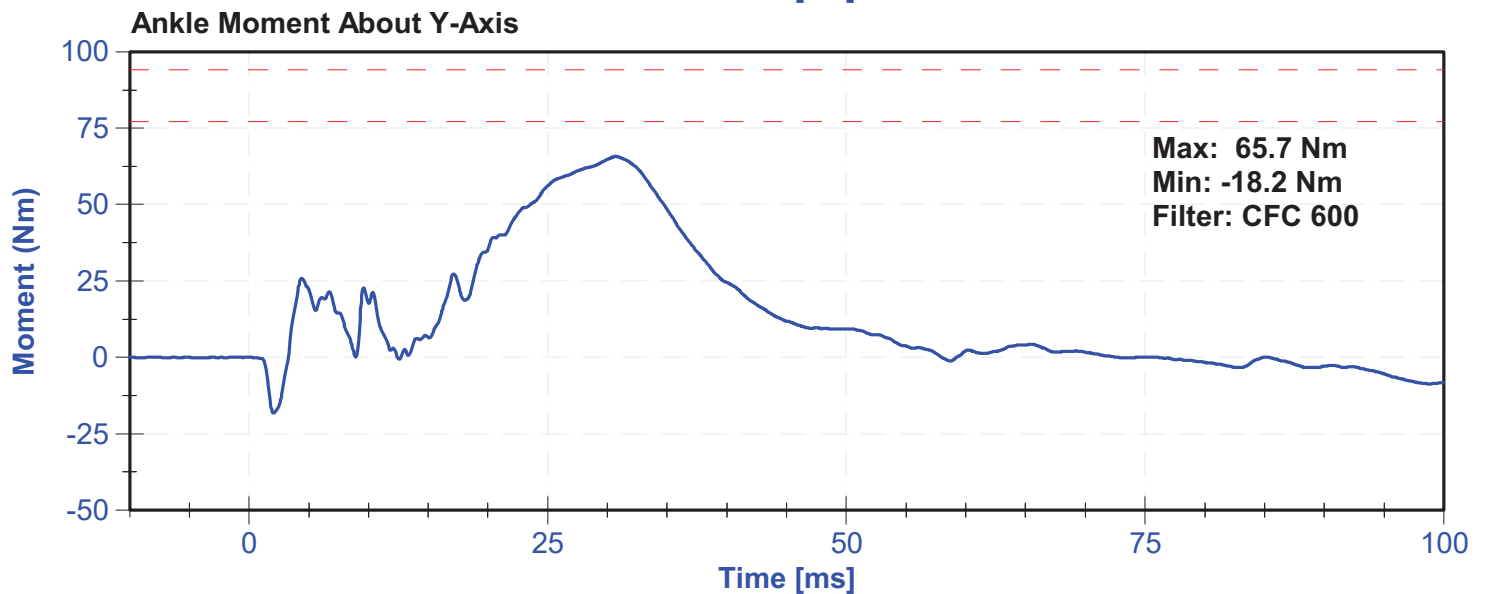
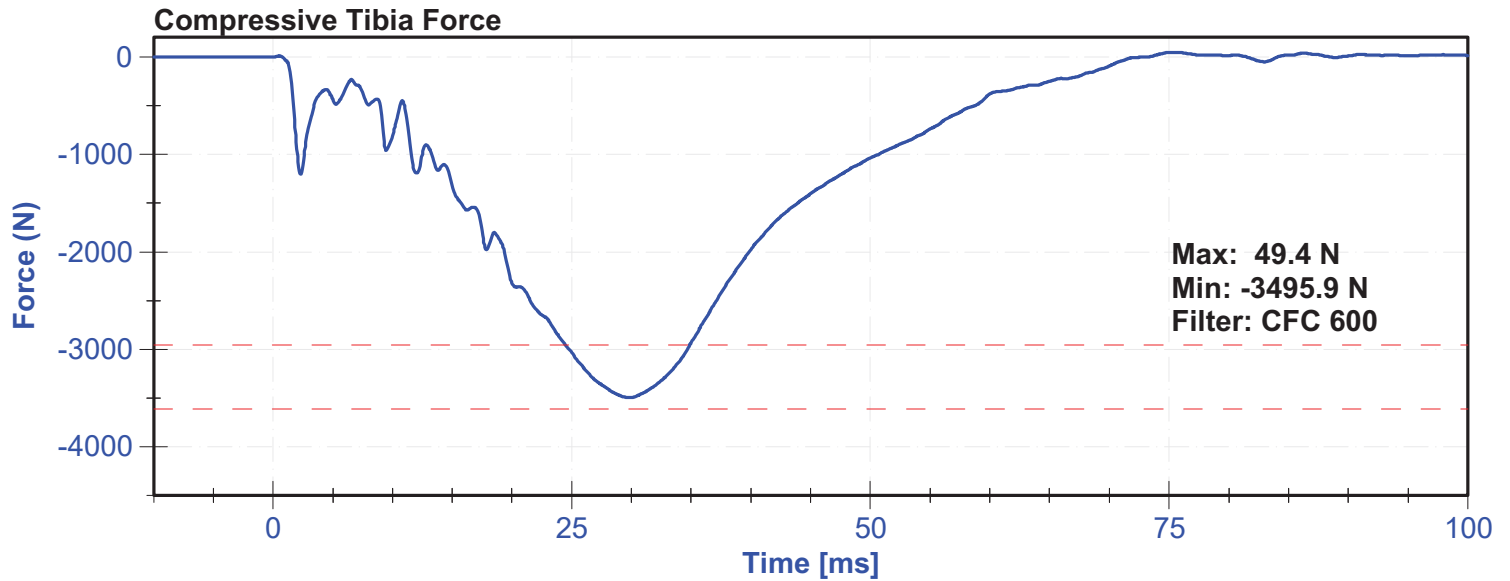
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	25.7	Pass
Velocity	4.9	5.1	m/s	5.040	Pass
Lower Tibia Compressive Force	-3613	-2956	N	-3495.9	Pass
Peak Moment about Y-Axis	77.1	94.2	Nm	65.72	Fail
Peak Rotation about Y-Axis	32.7	39.9	deg	39.05	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9684 Fz	4/13/2015	4/12/2016
Ankle Y Potentiometer	SFERNICE ECO50ESC10	DS-ANKL002	4/2/2015	4/1/2016



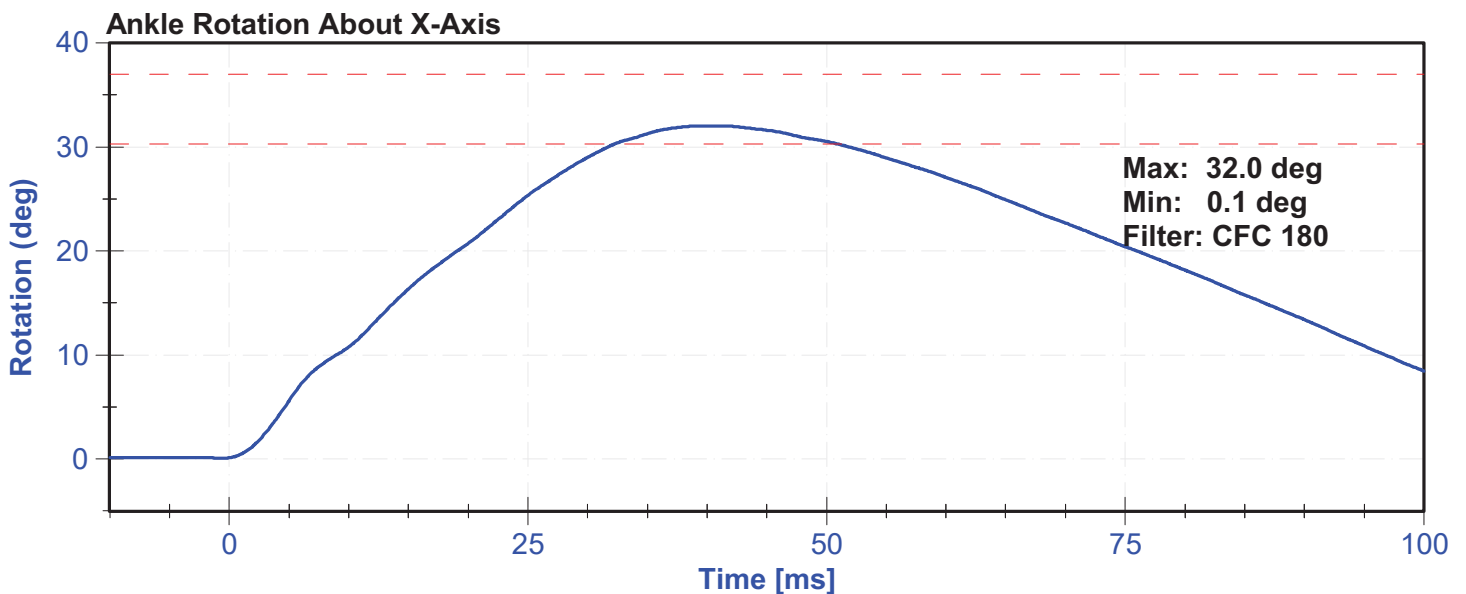
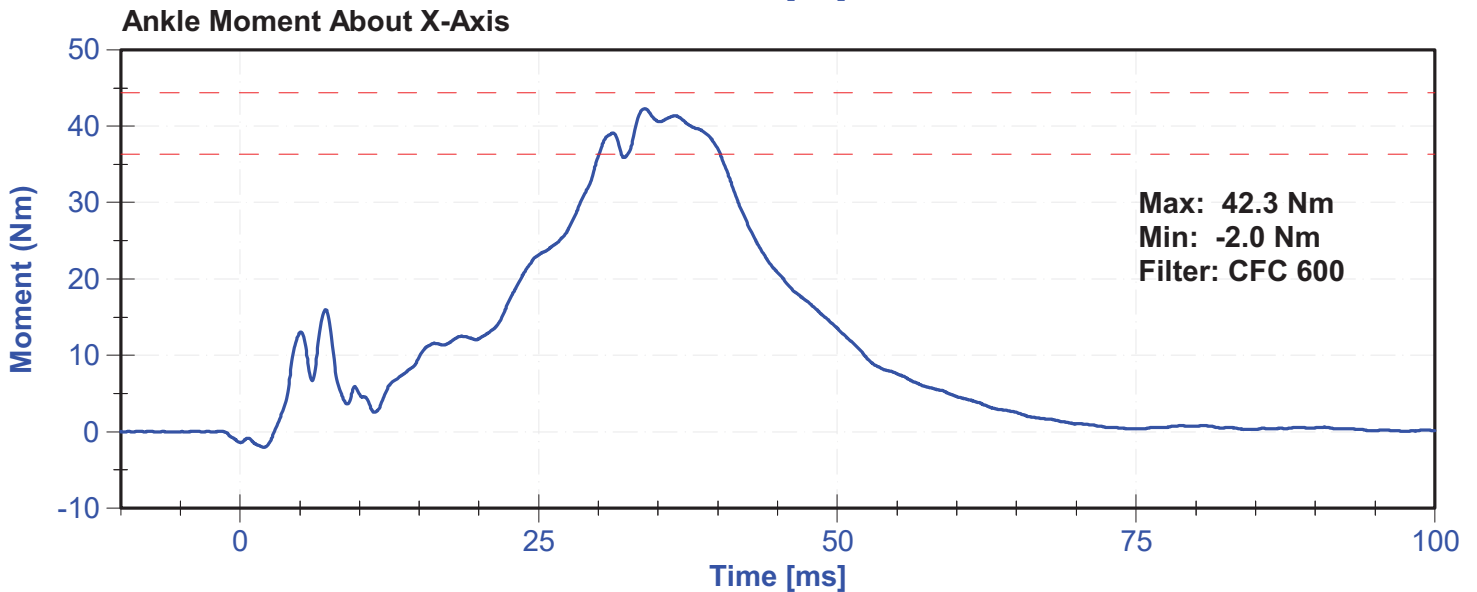
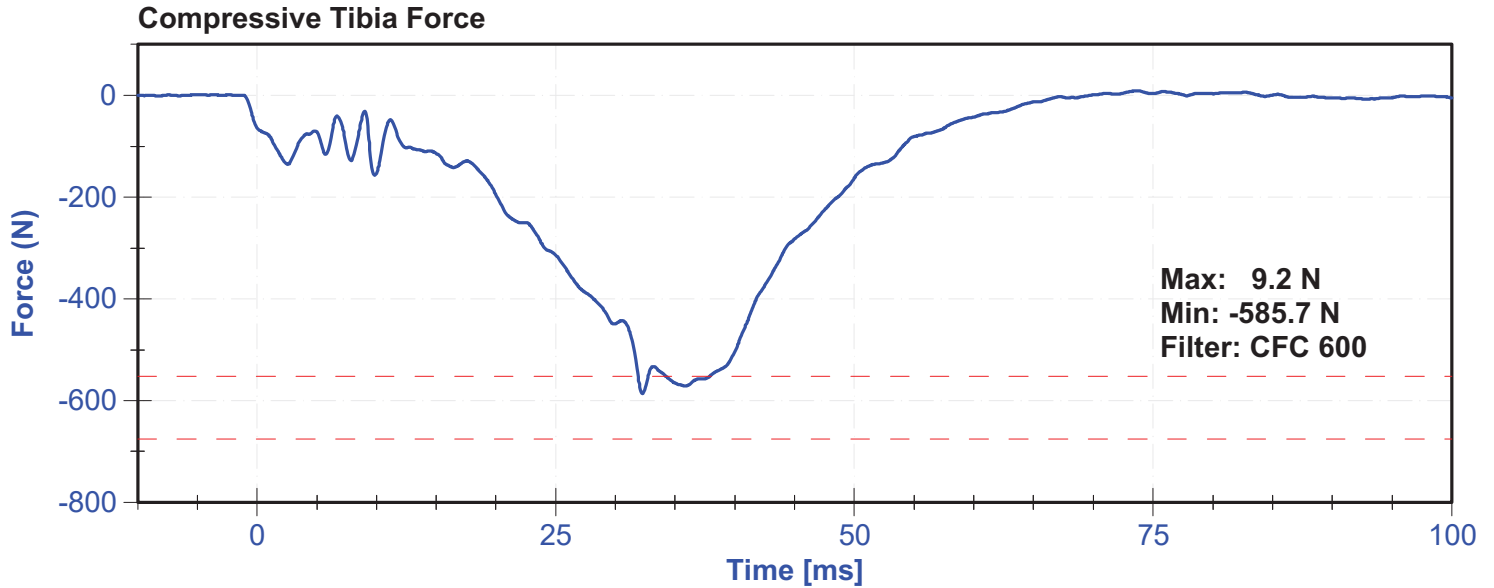
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	27.2	Pass
Velocity	1.9	2.1	m/s	2.035	Pass
Lower Tibia Compressive Force	-675	-552	N	-585.7	Pass
Peak Moment about X-Axis	36.3	44.4	Nm	42.28	Pass
Peak Rotation about X-Axis	30.3	37.0	deg	31.98	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9684 Fz	4/13/2015	4/12/2016
Ankle Y Potentiometer	SFERNICE ECO50ESC10	DS-ANKL001	4/2/2015	4/1/2016



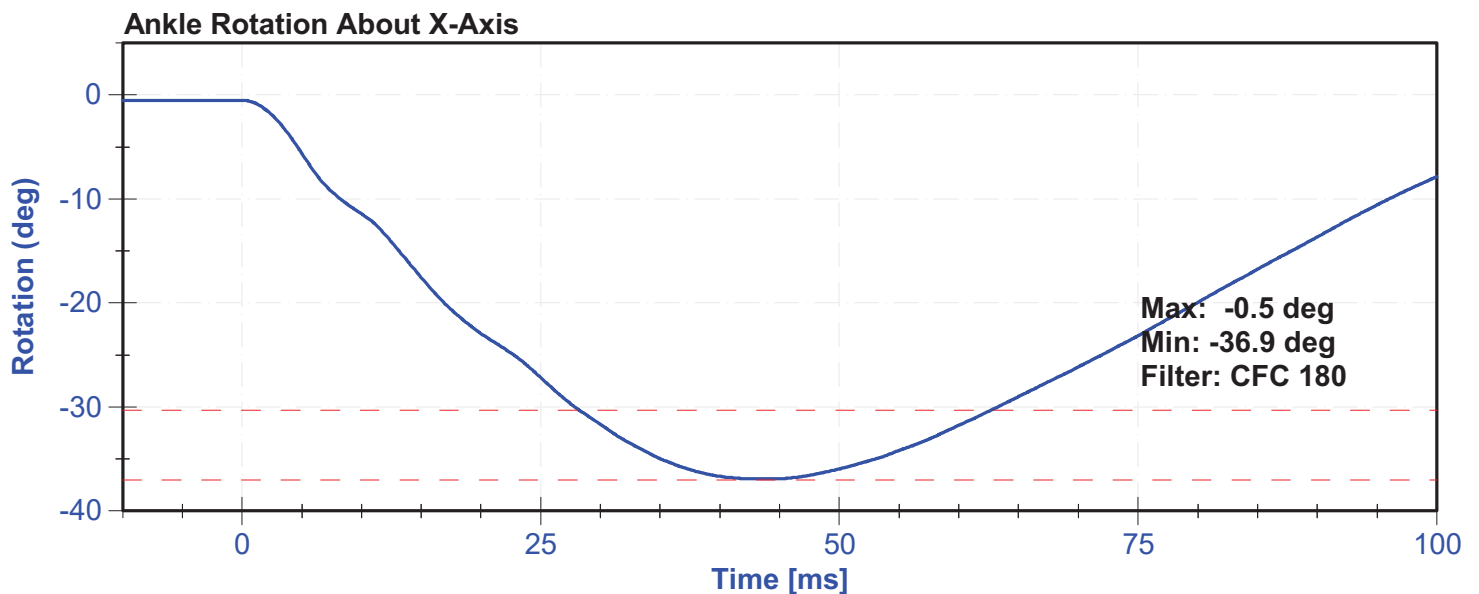
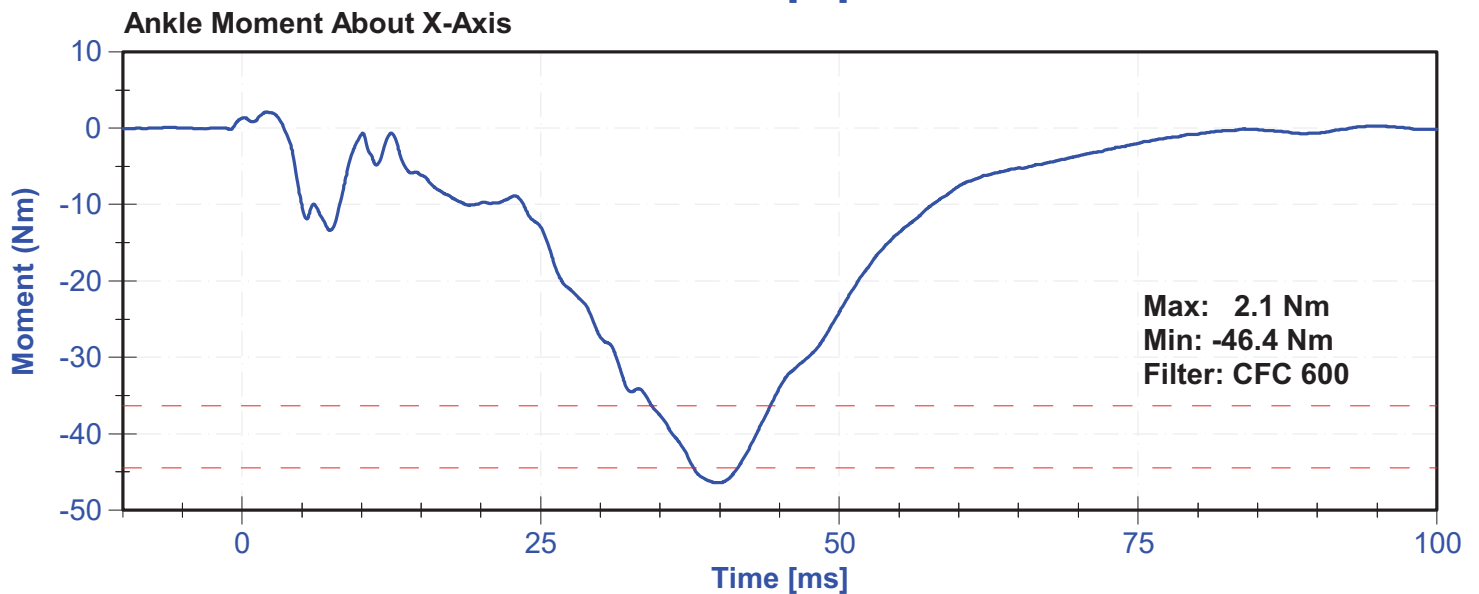
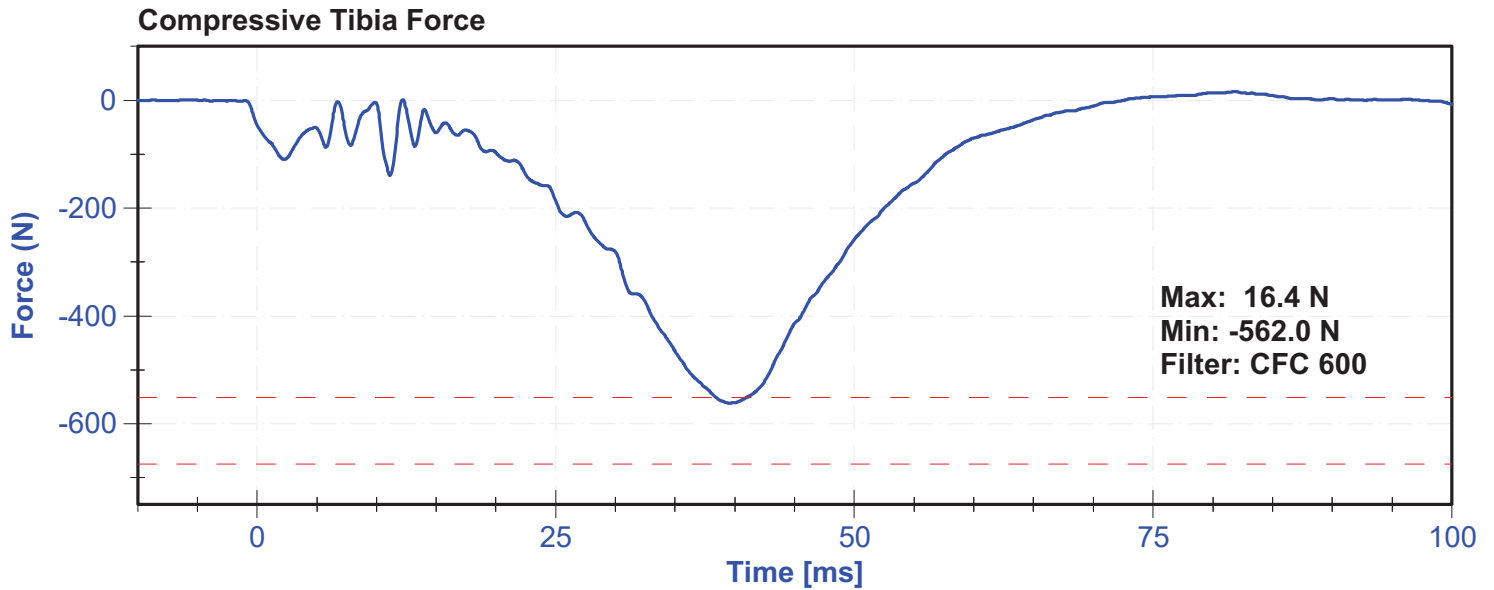
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.3	Pass
Humidity	10	70	%	26.5	Pass
Velocity	1.9	2.1	m/s	2.016	Pass
Lower Tibia Compressive Force	-675	-552	N	-562.0	Pass
Peak Moment about X-Axis	-44.4	-36.3	Nm	-46.42	Fail
Peak Rotation about X-Axis	-37.0	-30.3	deg	-36.90	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9684 Fz	4/13/2015	4/12/2016
Ankle Y Potentiometer	SFERNICE ECO50ESC10	DS-ANKL001	4/2/2015	4/1/2016



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DO9798	Laboratory Supervisor	M. Goehle

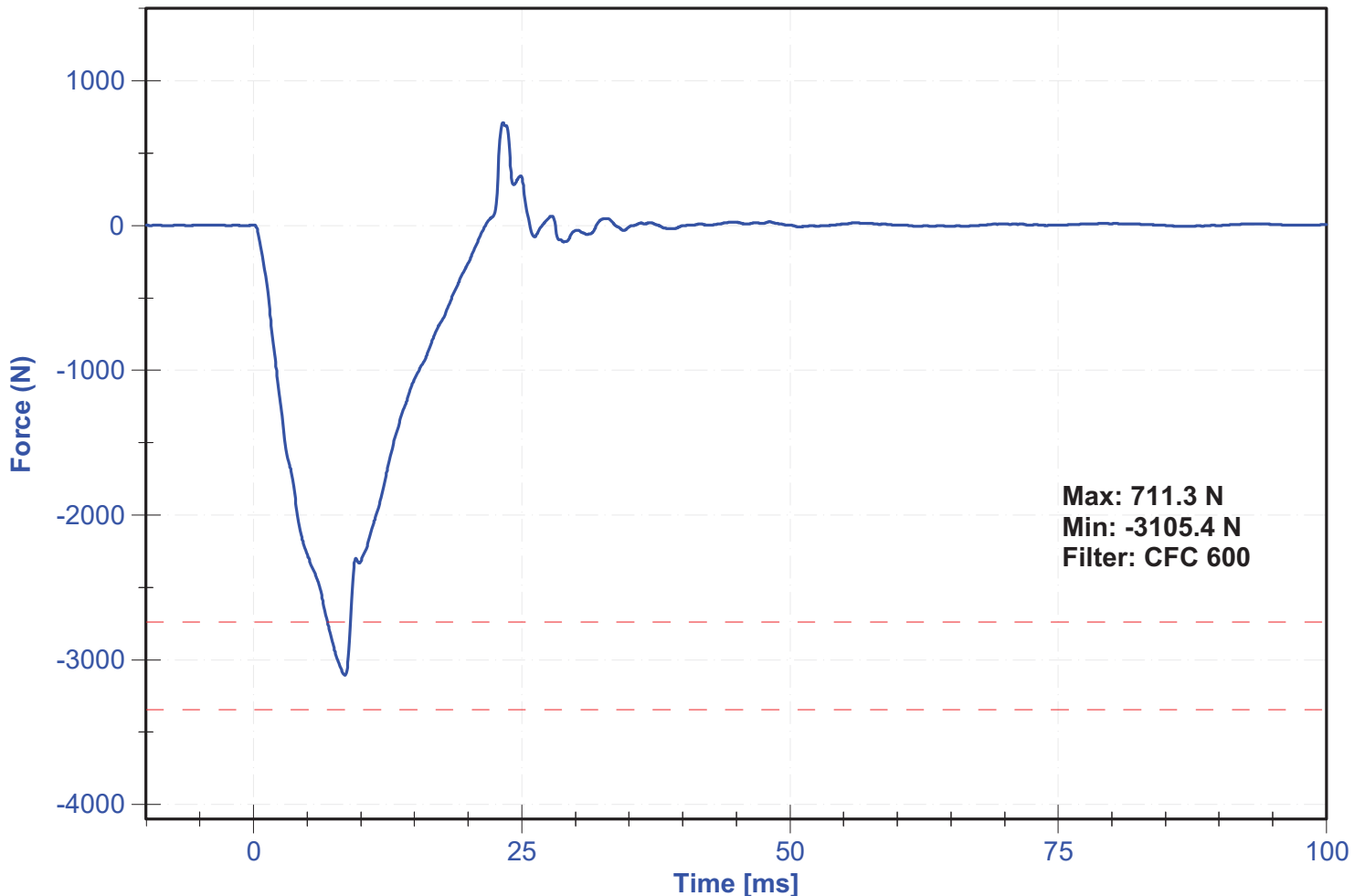
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	24.2	Pass
Velocity	3.9	4.1	m/s	4.071	Pass
Lower Tibia Compressive Force	-3346	-2738	N	-3105.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 9329J	LC-DQ9684 Fz	4/13/2015	4/12/2016

Compressive Tibia Force



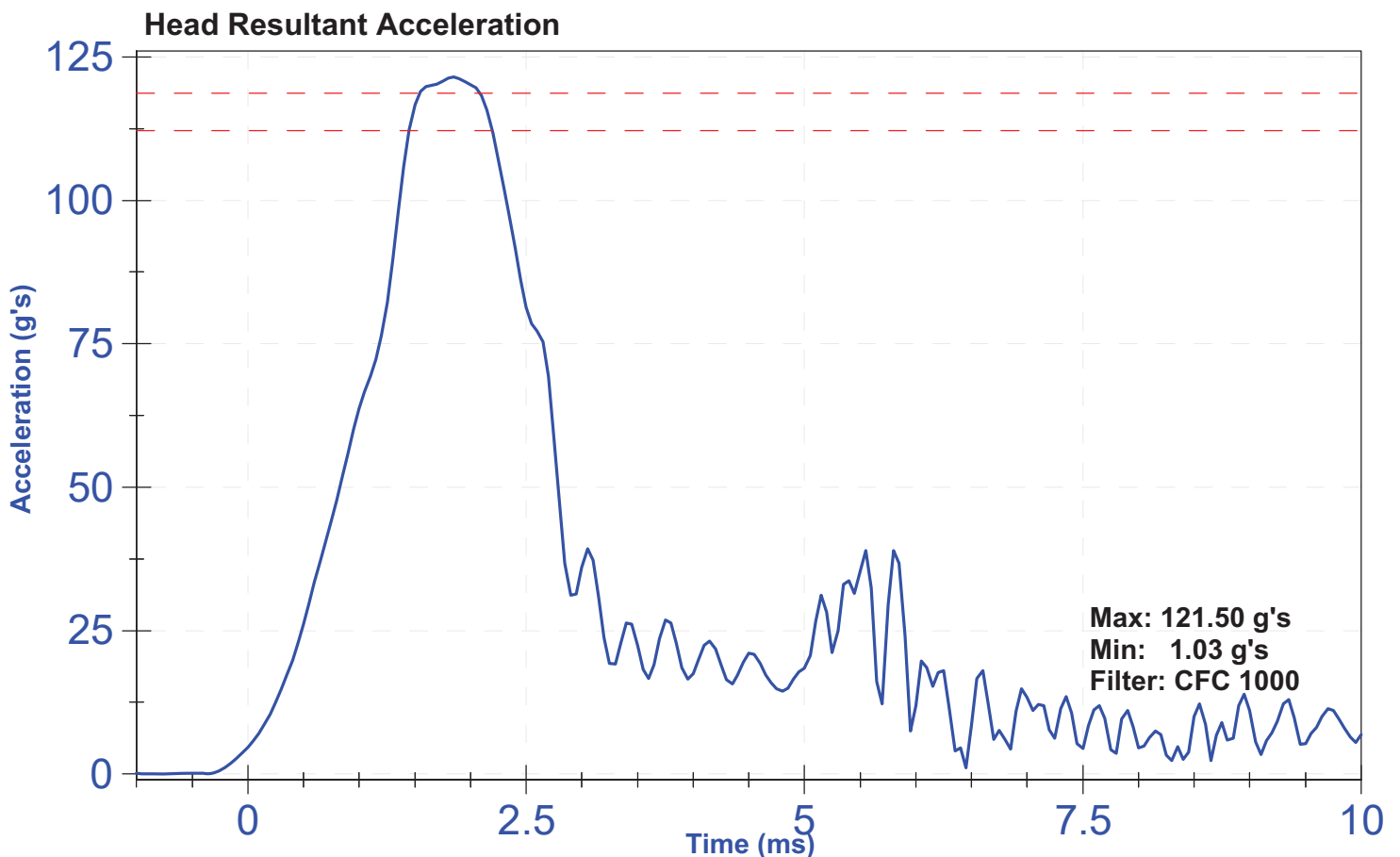
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

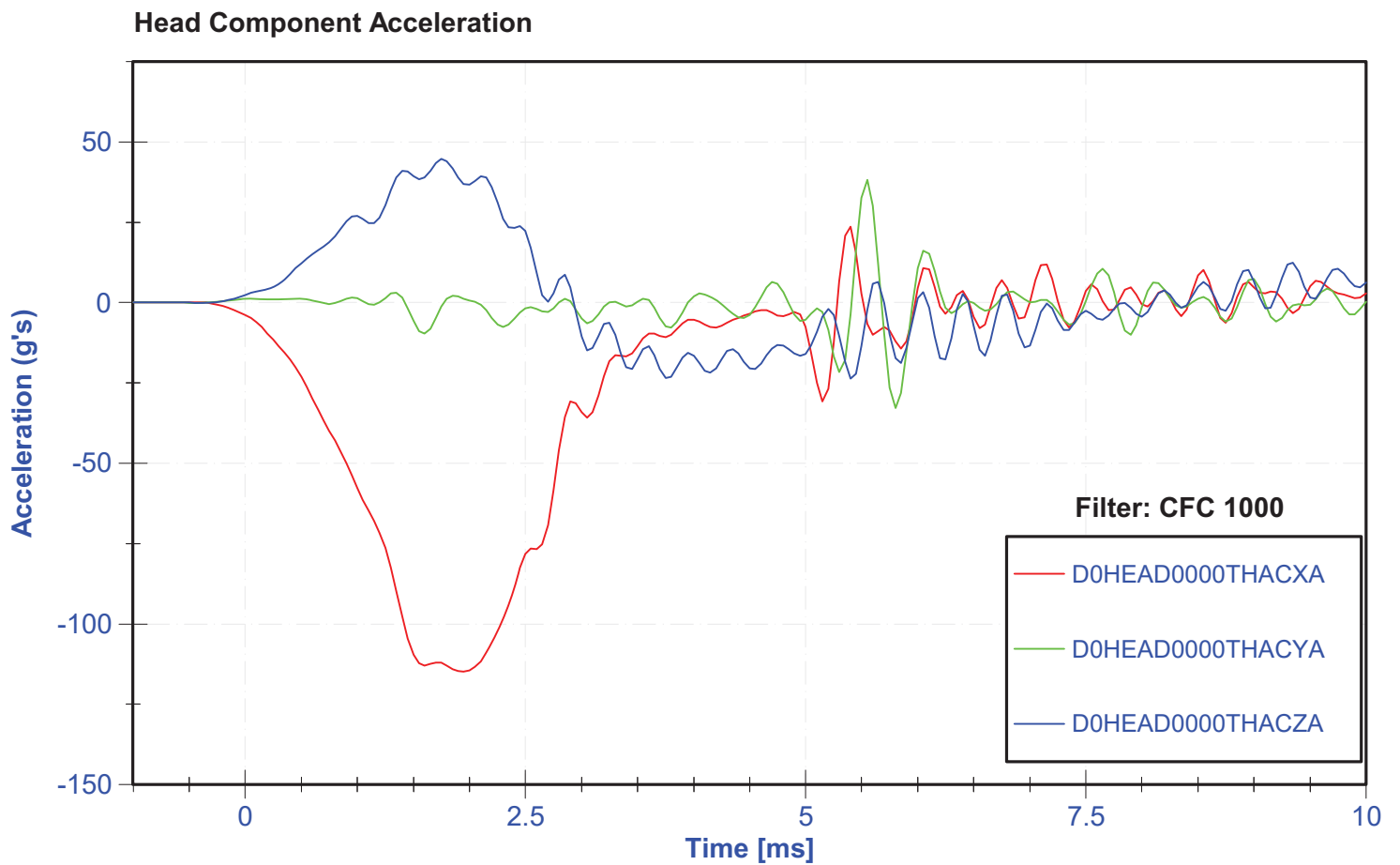
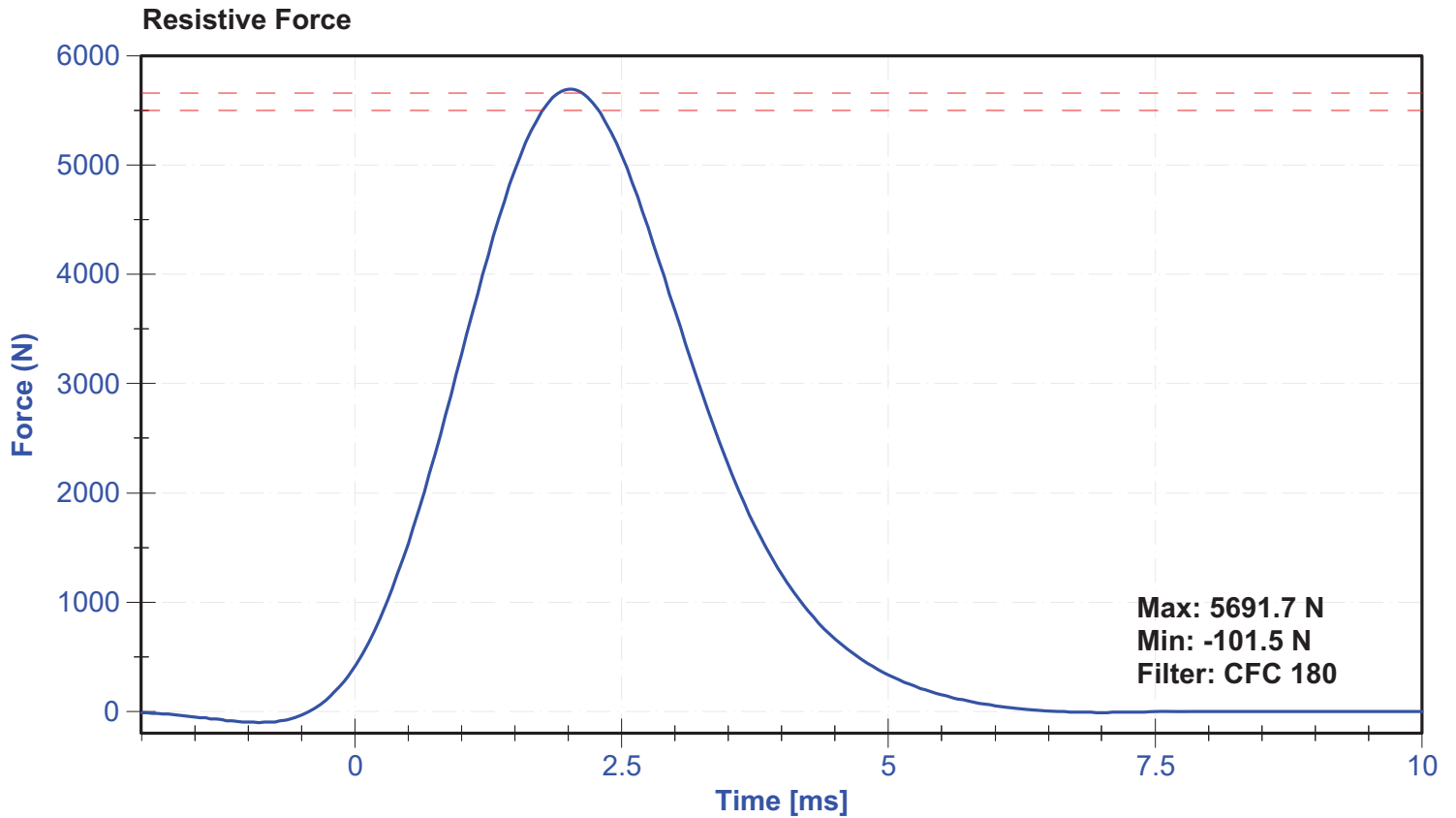
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	47.7	Pass
Impact Velocity	1.95	2.05	m/s	1.969	Pass
Probe Force	5498	5660	N	5691.7	Fail
Resultant Acceleration	112.2	118.7	g's	121.50	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Head X Accel	Endevco 7264	AC-P82183	4/3/2015	4/2/2016
Head Y Accel	Endevco 7264	AC-P81384	4/3/2015	4/2/2016
Head Z Accel	Endevco 7264	AC-P81797	4/3/2015	4/2/2016
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

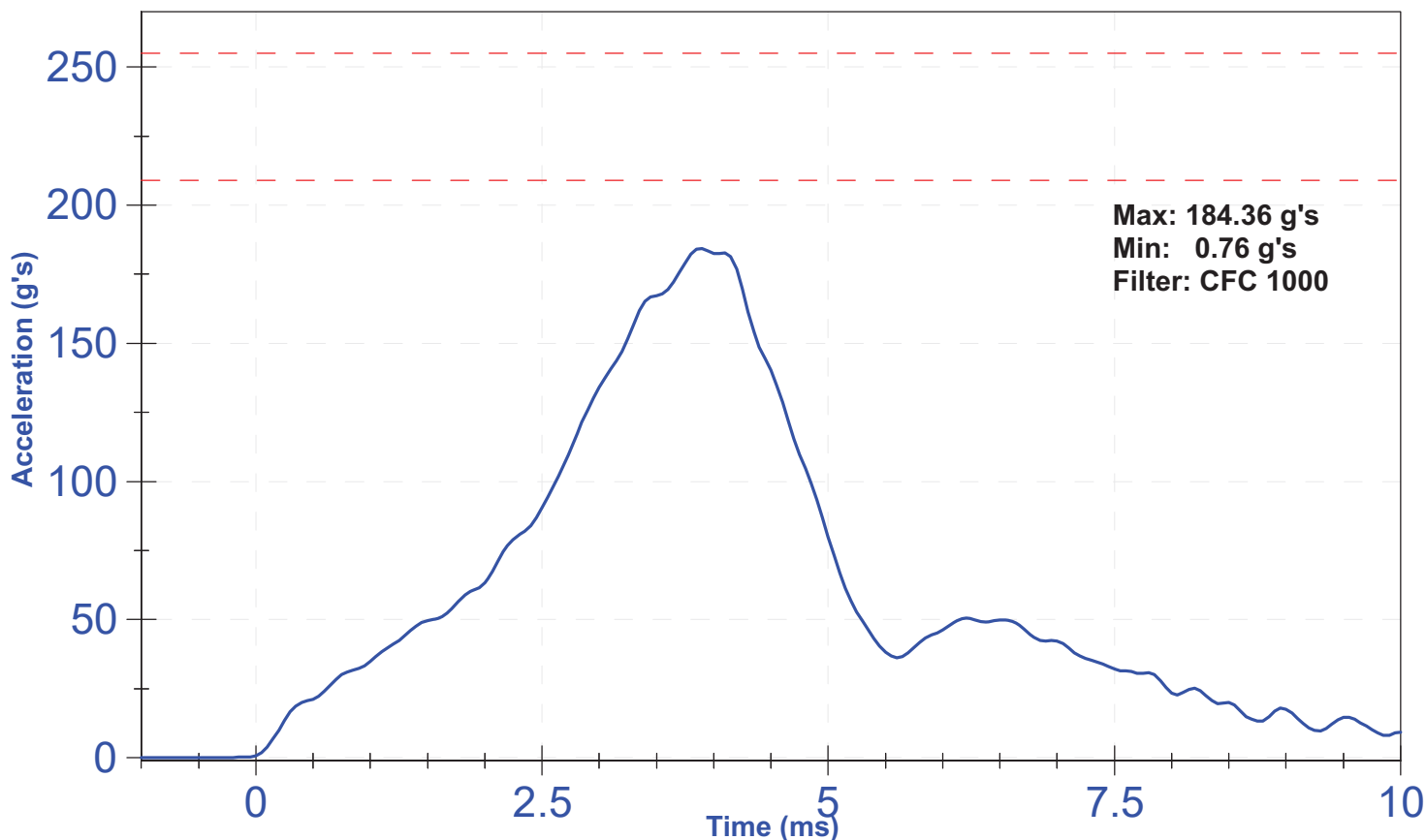
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.5	Pass
Humidity	10	70	%	39.7	Pass
Impact Velocity	6.68	6.78	m/s	6.728	Pass
Probe Force	9067	11082	N	9152.8	Pass
Resultant Acceleration	209	255	g's	184.4	Fail

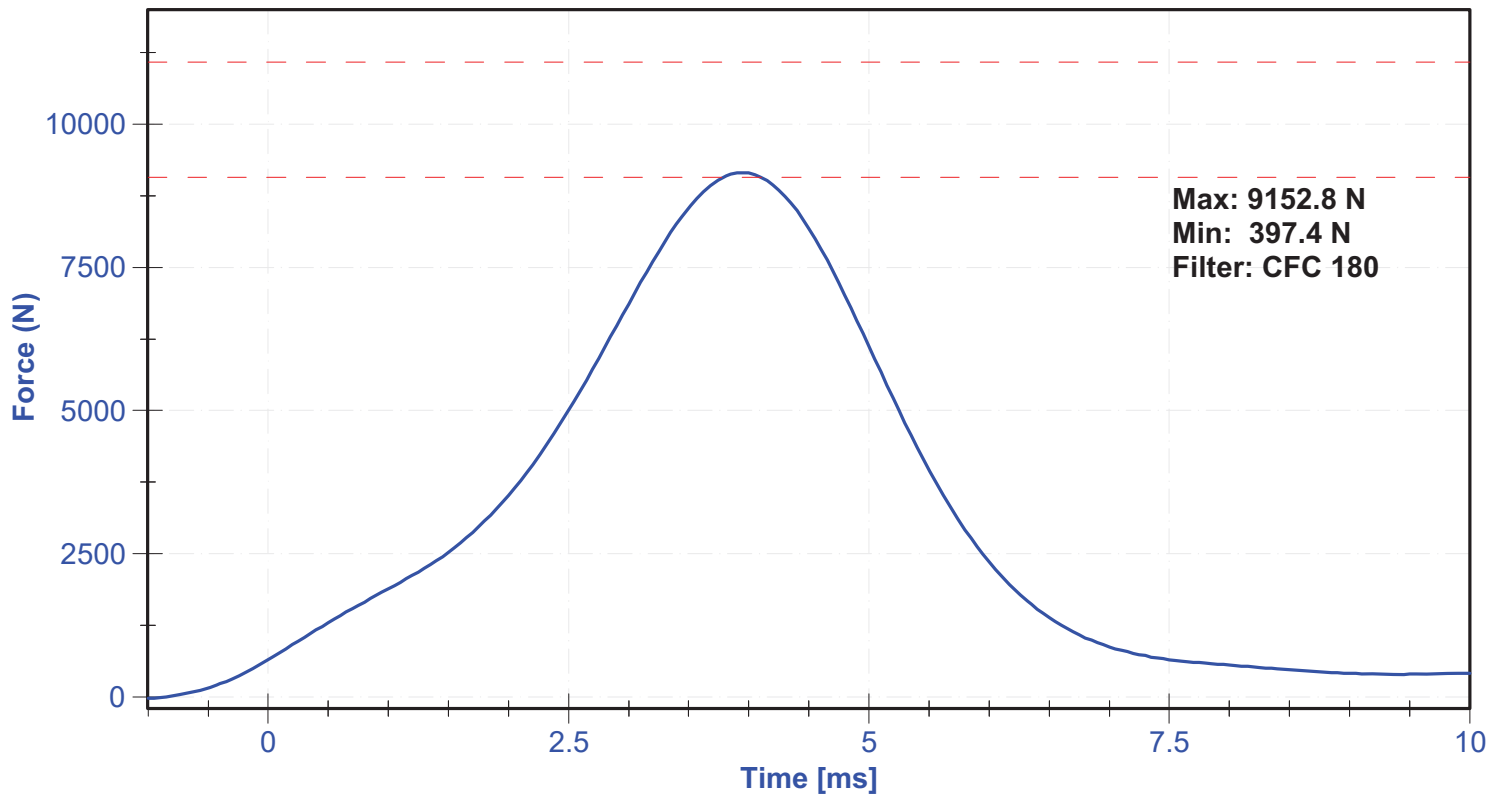
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Head X Accel	Endevco 7264	AC-P82183	4/3/2015	4/2/2016
Head Y Accel	Endevco 7264	AC-P81384	4/3/2015	4/2/2016
Head Z Accel	Endevco 7264	AC-P81797	4/3/2015	4/2/2016
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016

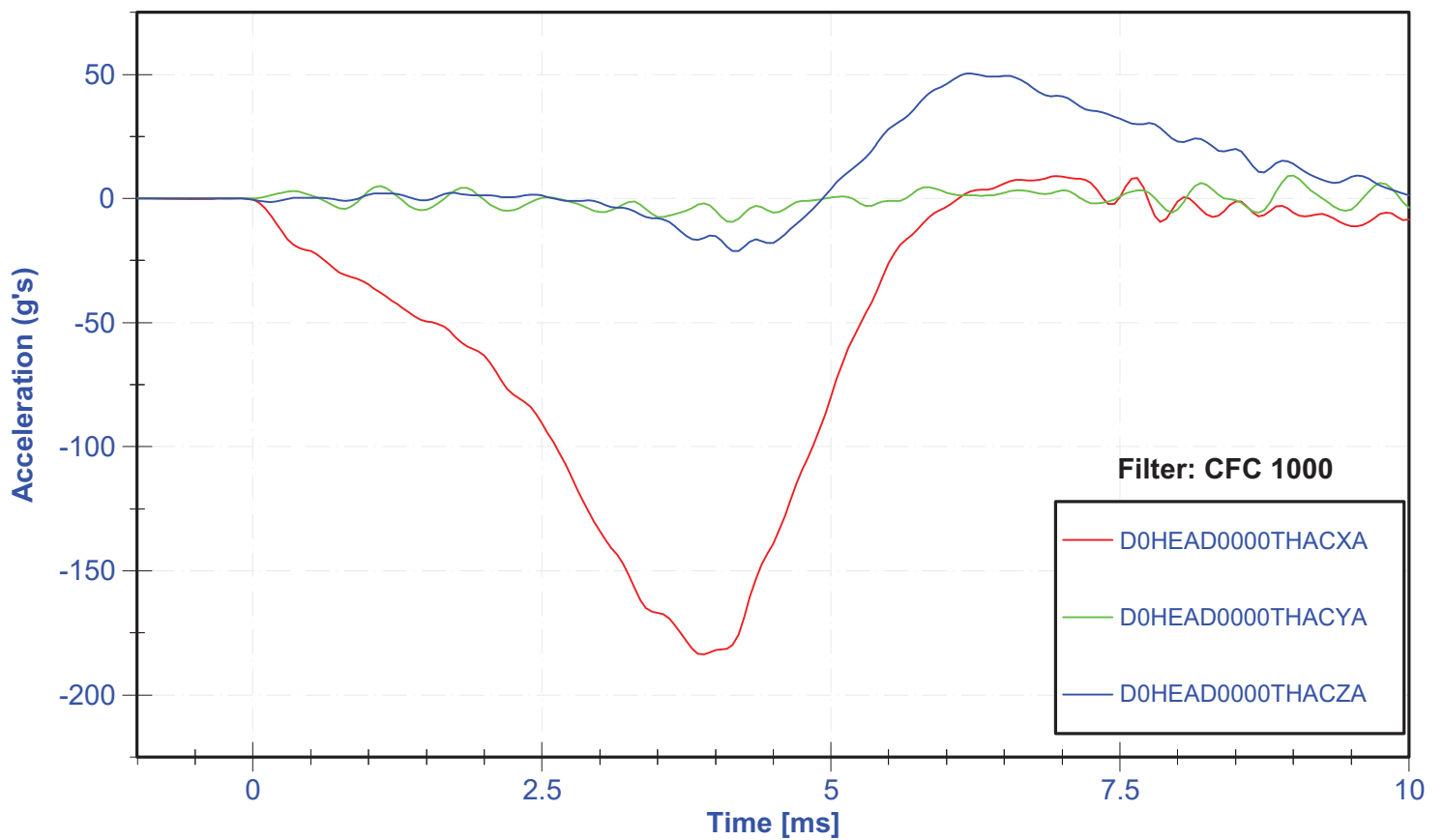
Head Resultant Acceleration



Resistive Force



Head Component Acceleration



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

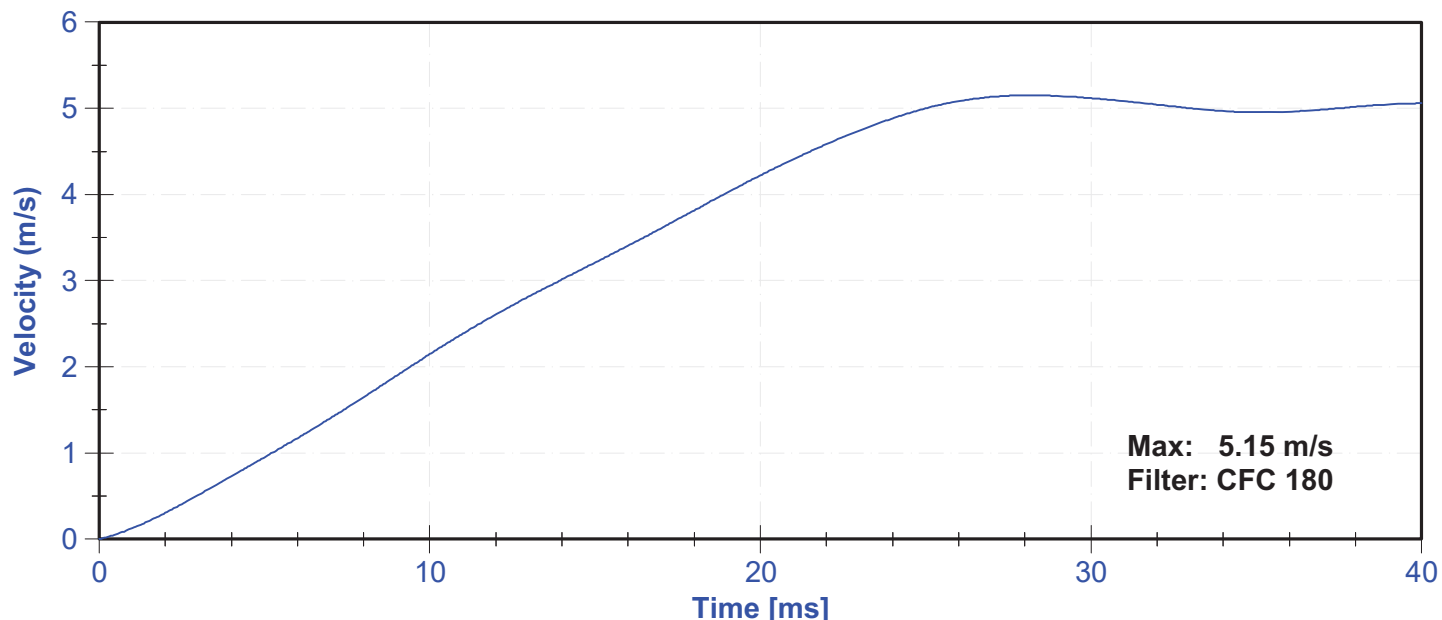
Results

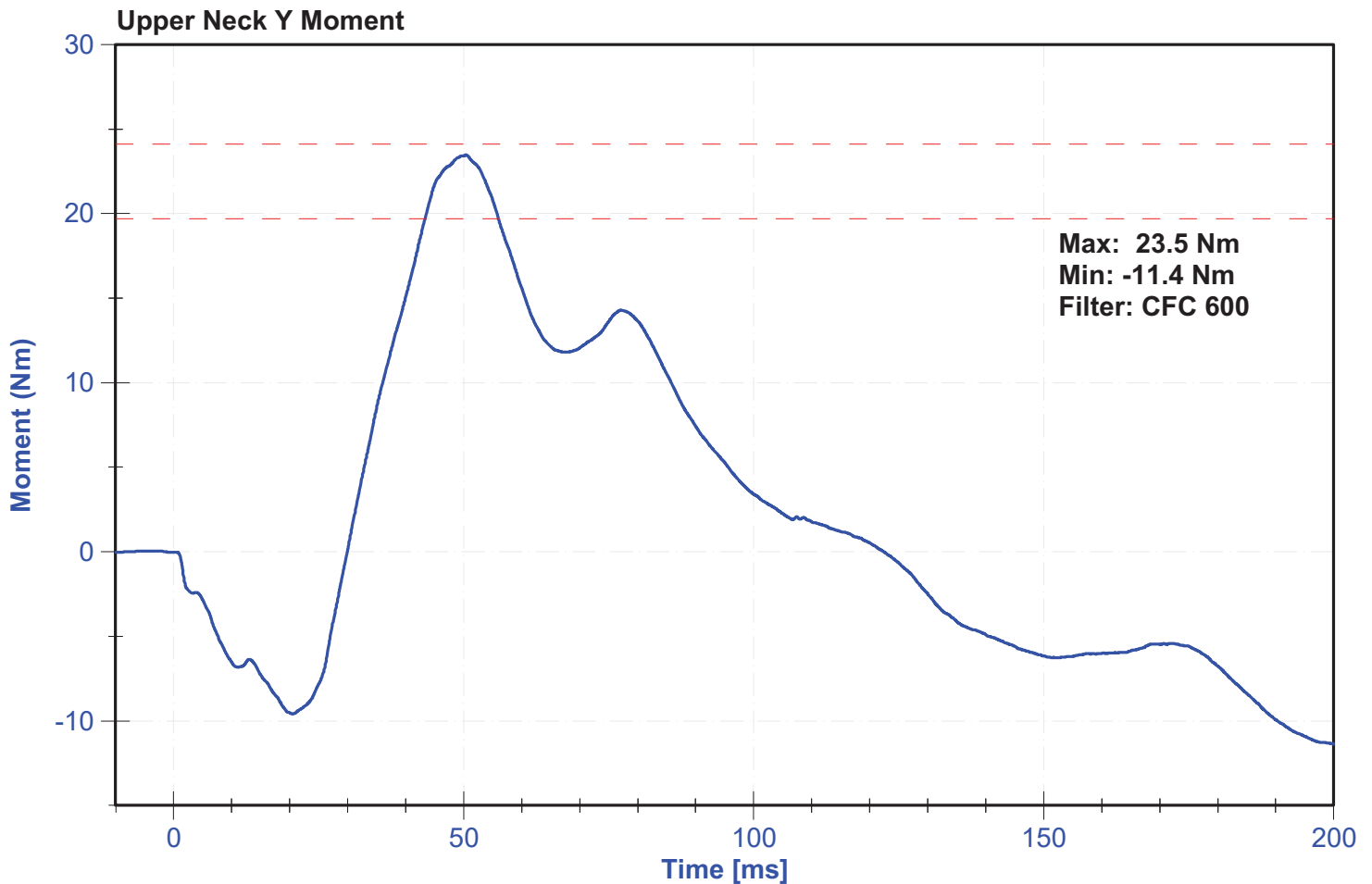
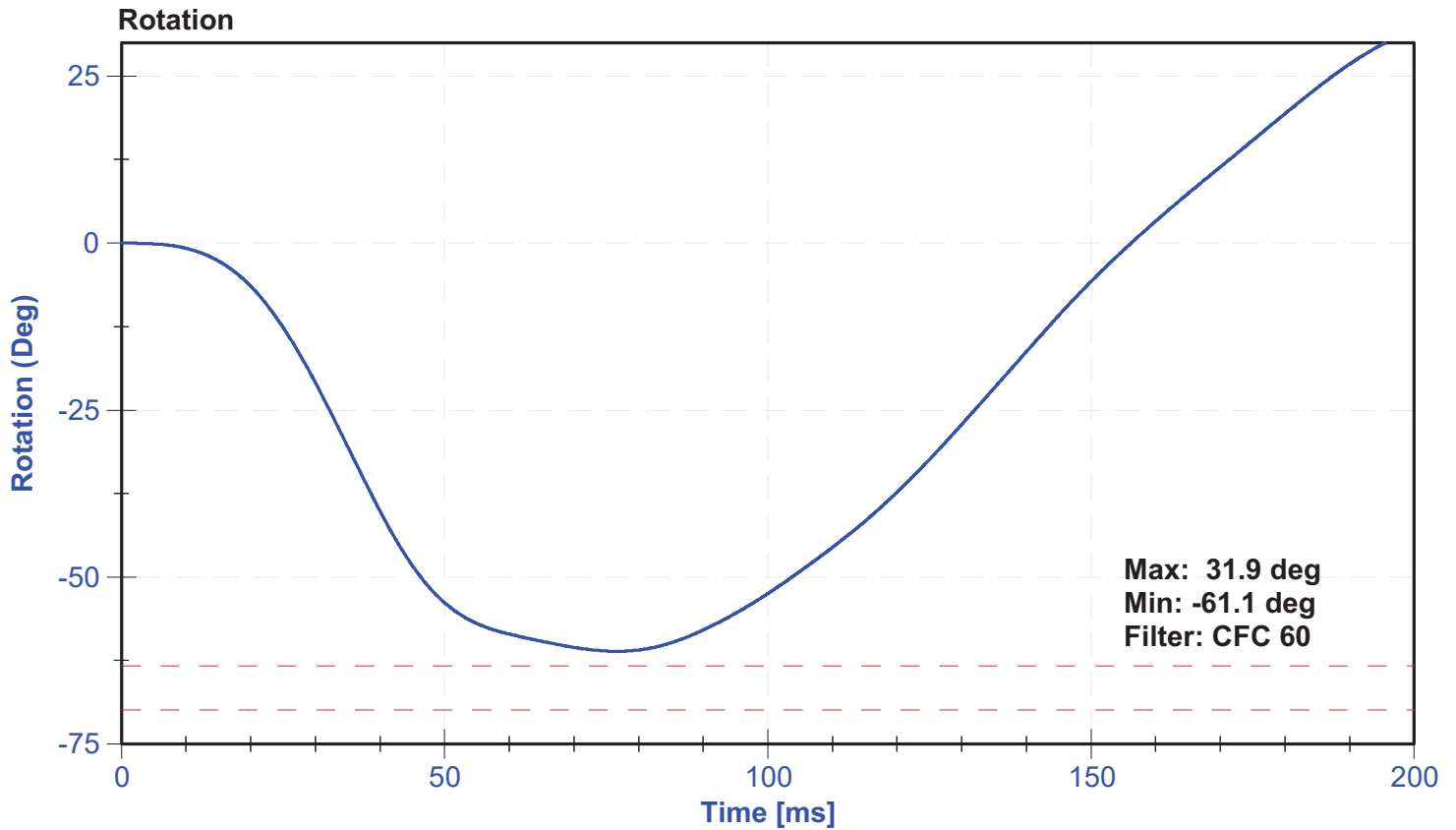
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.6	Pass
Humidity	10	70	%	37.6	Pass
Velocity	4.95	5.05	m/s	4.985	Pass
Pendulum Impulse at 8ms	1.49	1.85	m/s	1.649	Pass
Pendulum Impulse at 16ms	3.08	3.86	m/s	3.407	Pass
Pendulum Impulse at 24ms	4.48	5.26	m/s	4.883	Pass
Peak Upper Neck Y Moment	19.7	24.1	Nm	23.46	Pass
Peak Upper Neck X Force	-1592	-1302	N	-1327.3	Pass
Maximum Upper Neck Z Force	877	1072	N	1004.5	Pass
First Peak Rear Neck Cable Force	1115	1282	N	1230.9	Pass
Peak Head Y Angular Rate	-1935	-1675	deg/s	-1794.0	Pass
Peak Head Y Rotation	-69.9	-63.3	deg	-61.12	Fail
Rotation Decay Time to Zero	83.0	86.2	ms	79.60	Fail

Transducer Calibrations

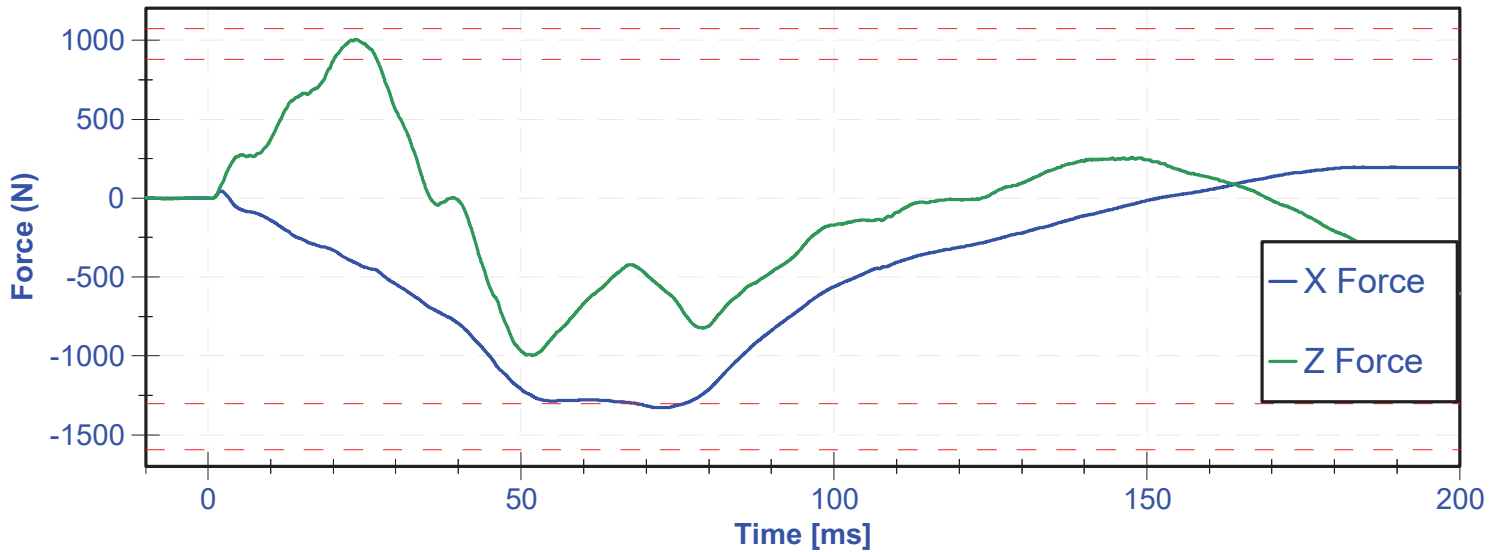
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380JI4	LC-DP3956 Fx	3/5/2016	3/5/2017
Rear Neck Cable Load Cell	Humanetics 10386JI4	LC-DO9741	3/6/2016	3/6/2017
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head Y ARS	DTS ARS-18K	ARS-4737	3/30/2015	3/29/2016

Pendulum Pulse

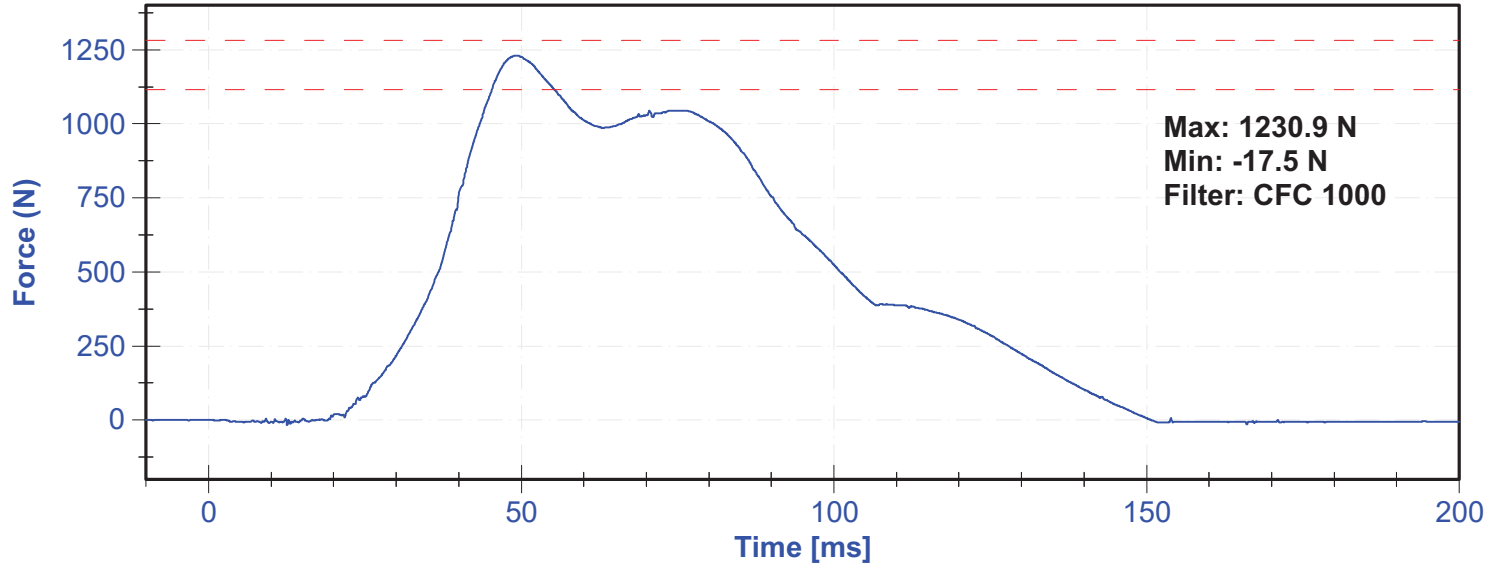




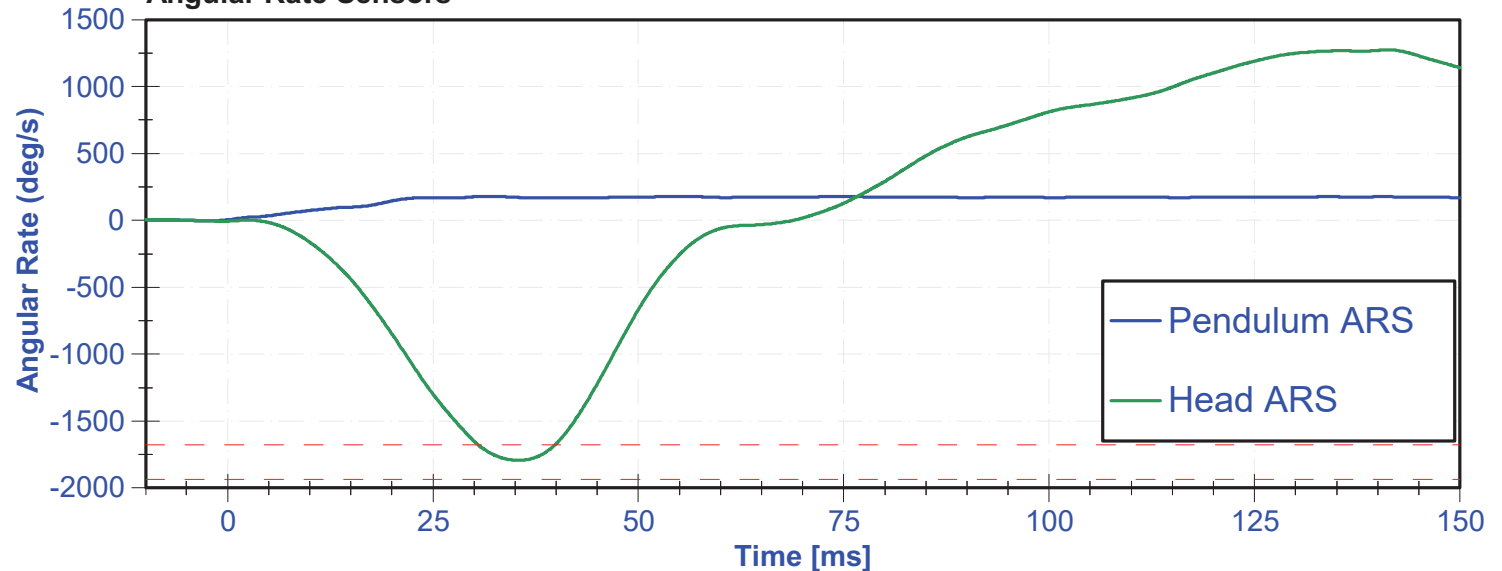
Upper Neck Force



Rear Neck Cable Z Force



Angular Rate Sensors



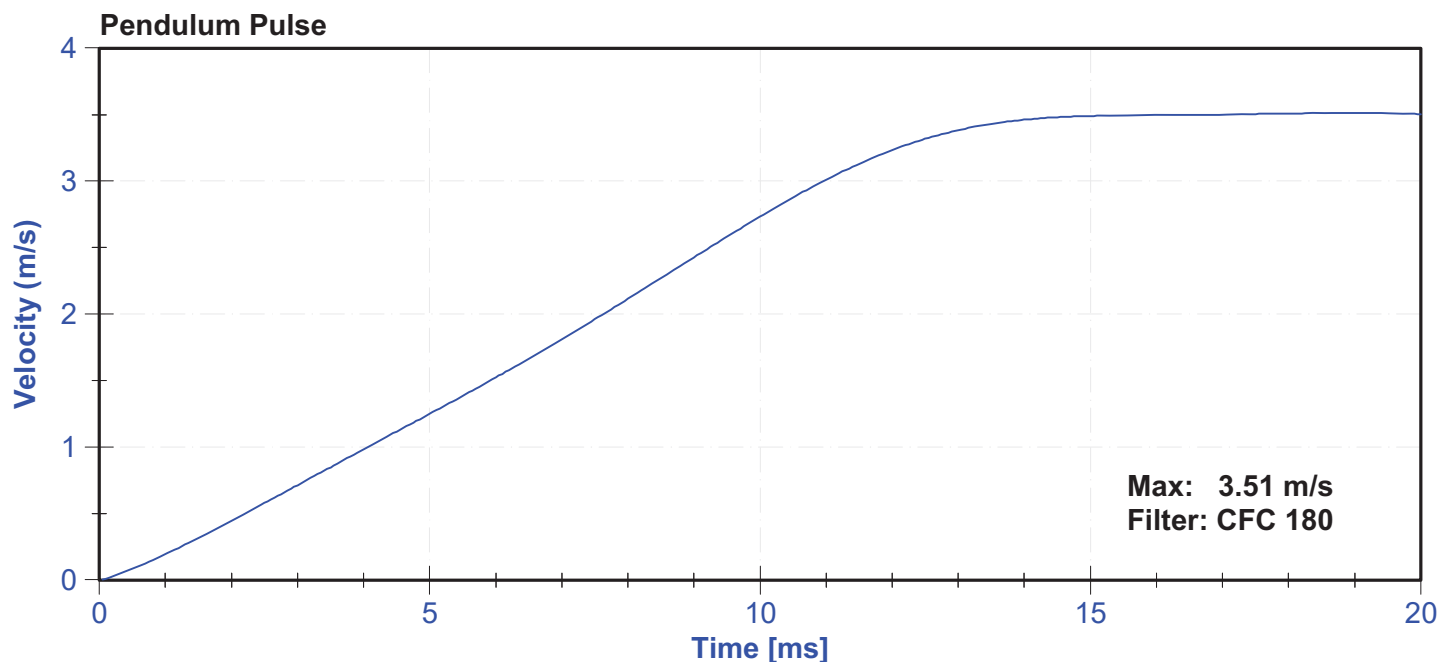
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

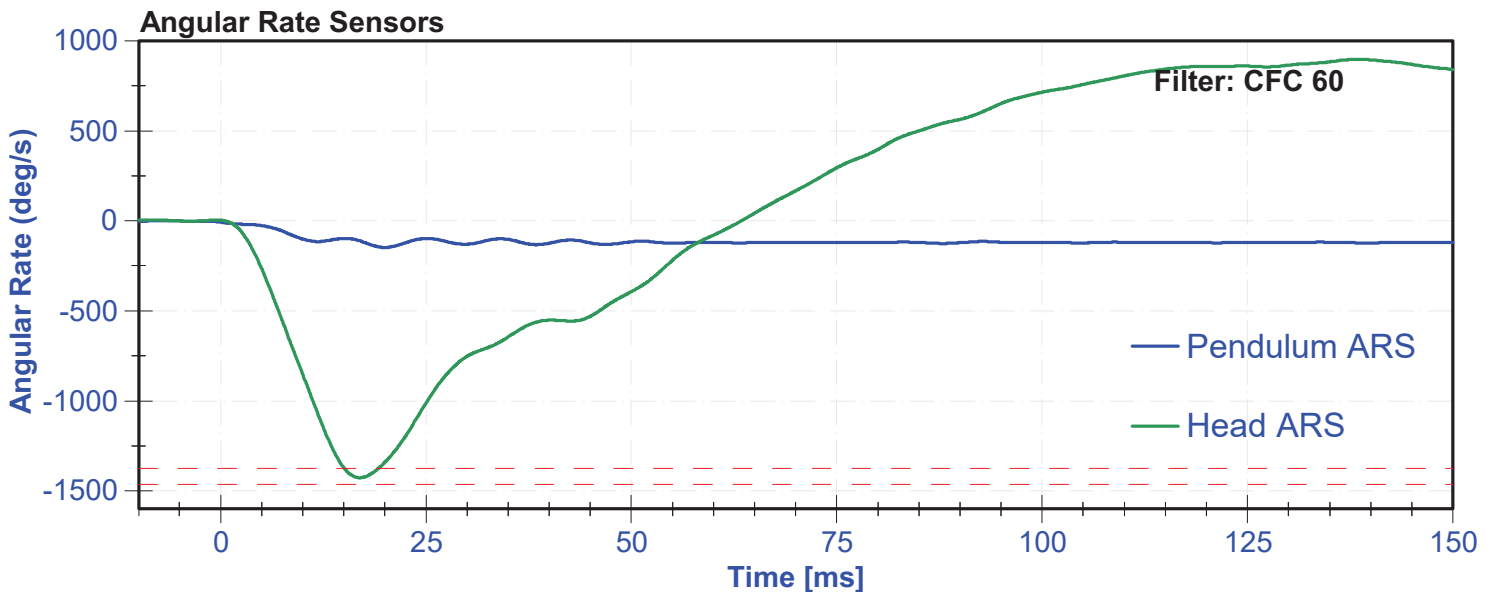
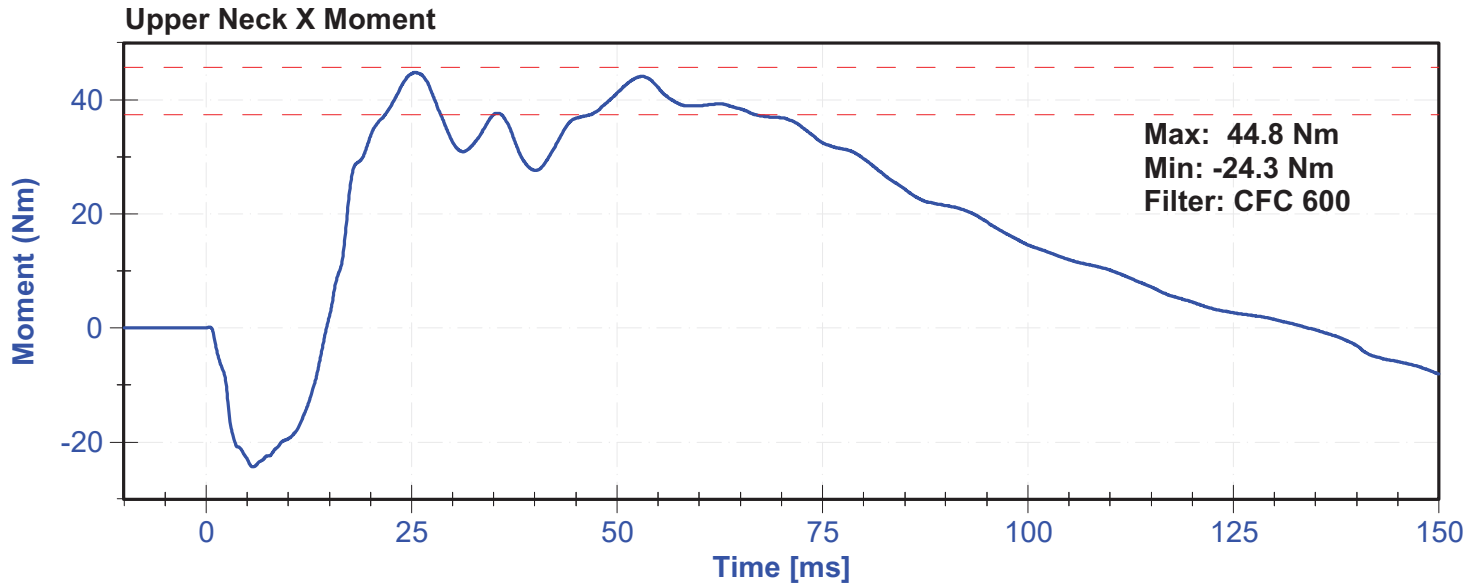
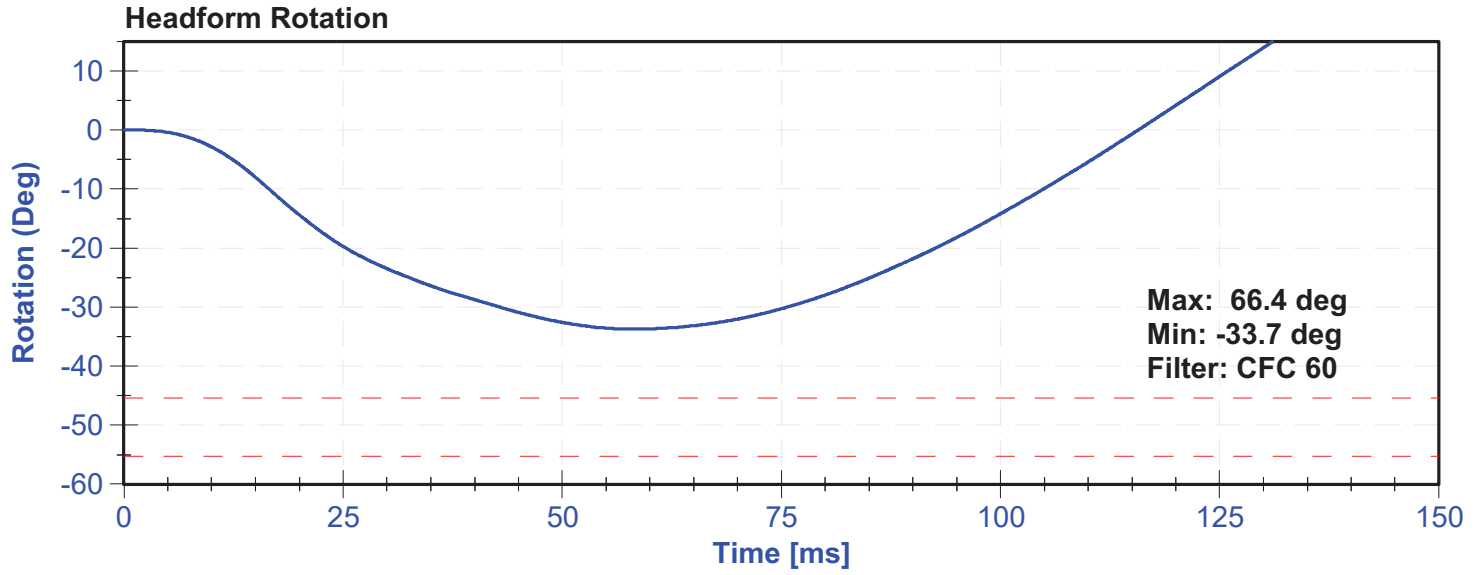
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	38.5	Pass
Velocity	3.35	3.45	m/s	3.432	Pass
Pendulum Impulse at 4ms	0.89	1.08	m/s	0.983	Pass
Pendulum Impulse at 8ms	2.04	2.36	m/s	2.114	Pass
Pendulum Impulse at 12ms	3.21	3.46	m/s	3.233	Pass
Peak Upper Neck X Moment after 40ms	37.4	45.7	Nm	44.09	Pass
Peak Head X Angular Rate	-1462	-1375	deg/s	-1426.3	Pass
Peak Head X Rotation	-55.3	-45.4	deg	-33.70	Fail
Rotational Decay Time to Zero	83.7	90.9	ms	57.50	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DP3956 Mx	3/5/2016	3/5/2017
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head X ARS	DTS ARS-18K	ARS-4740	3/30/2015	3/29/2016





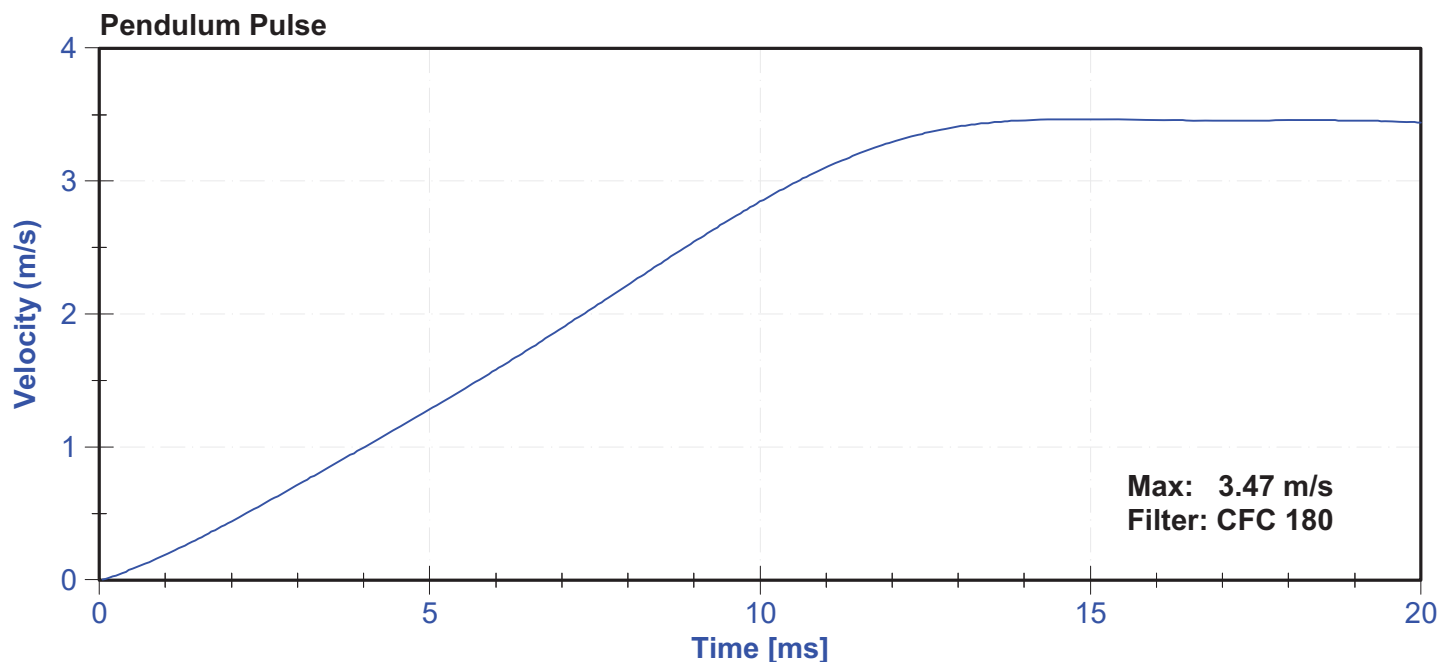
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

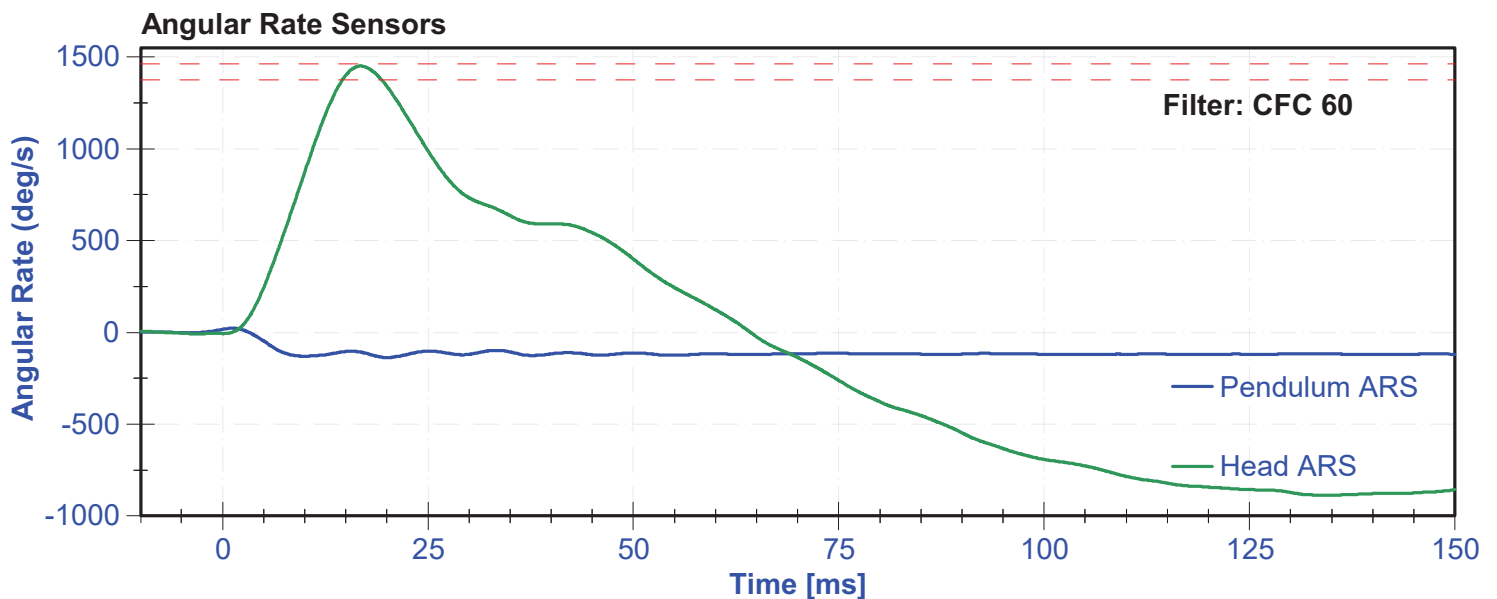
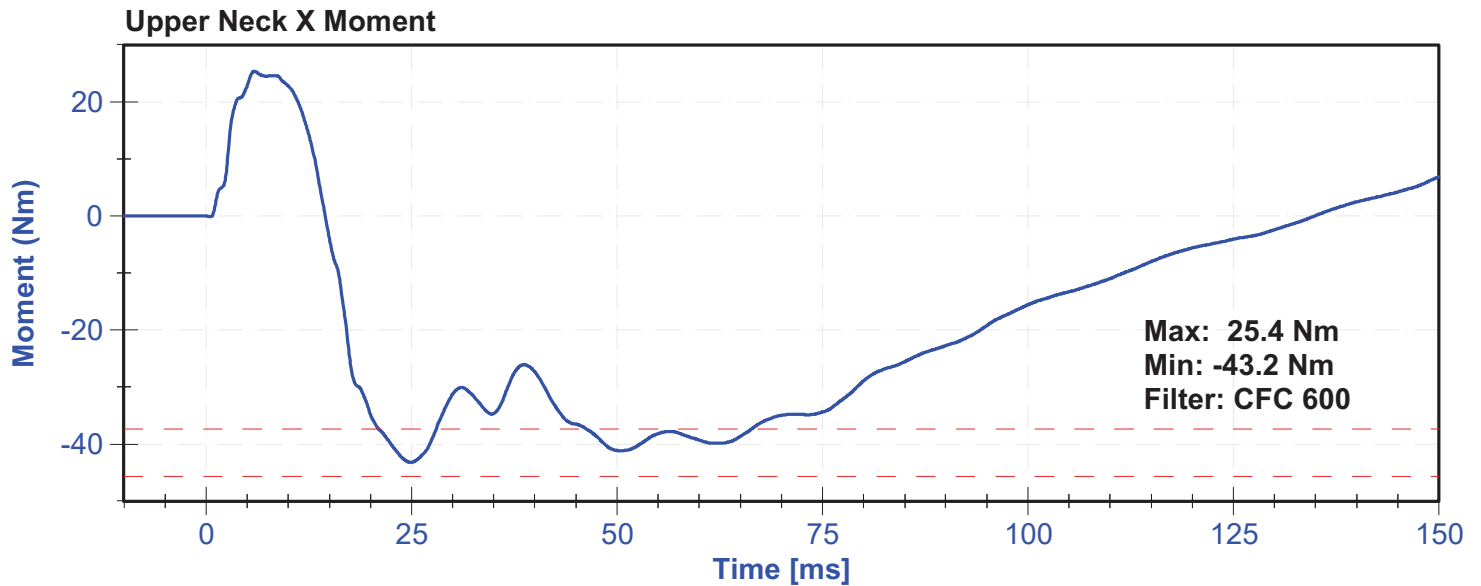
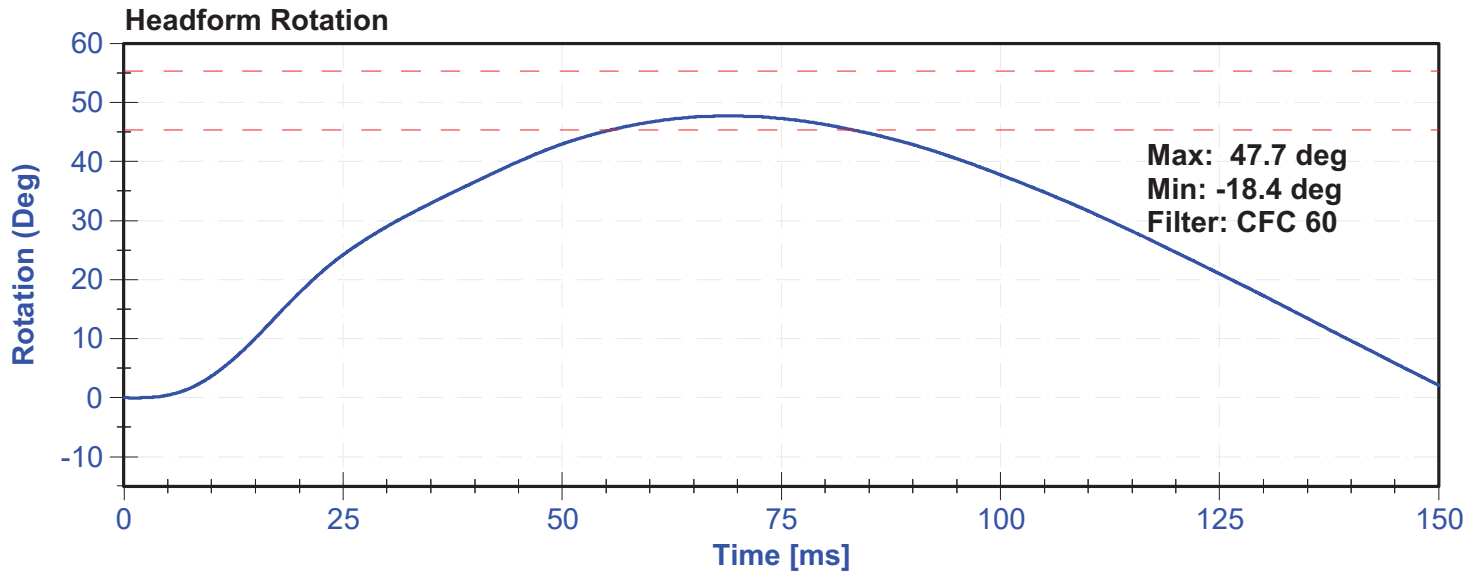
Results

Test Parameter	Minimum Specificatio	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	39.0	Pass
Velocity	3.35	3.45	m/s	3.40	Pass
Pendulum Impulse at 4ms	0.89	1.08	m/s	0.997	Pass
Pendulum Impulse at 8ms	2.04	2.36	m/s	2.220	Pass
Pendulum Impulse at 12ms	3.21	3.46	m/s	3.294	Pass
Peak Upper Neck X Moment after 40ms	-45.7	-37.4	Nm	-41.21	Pass
Peak Head X Angular Rate	1375	1462	deg/s	1450.2	Pass
Peak Head X Rotation	45.4	55.3	deg	47.72	Pass
Rotation Decay Time to Zero	83.7	90.9	ms	83.95	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DP3956 Mx	3/5/2016	3/5/2017
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head X ARS	DTS ARS-18K	ARS-4740	3/30/2015	3/29/2016





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

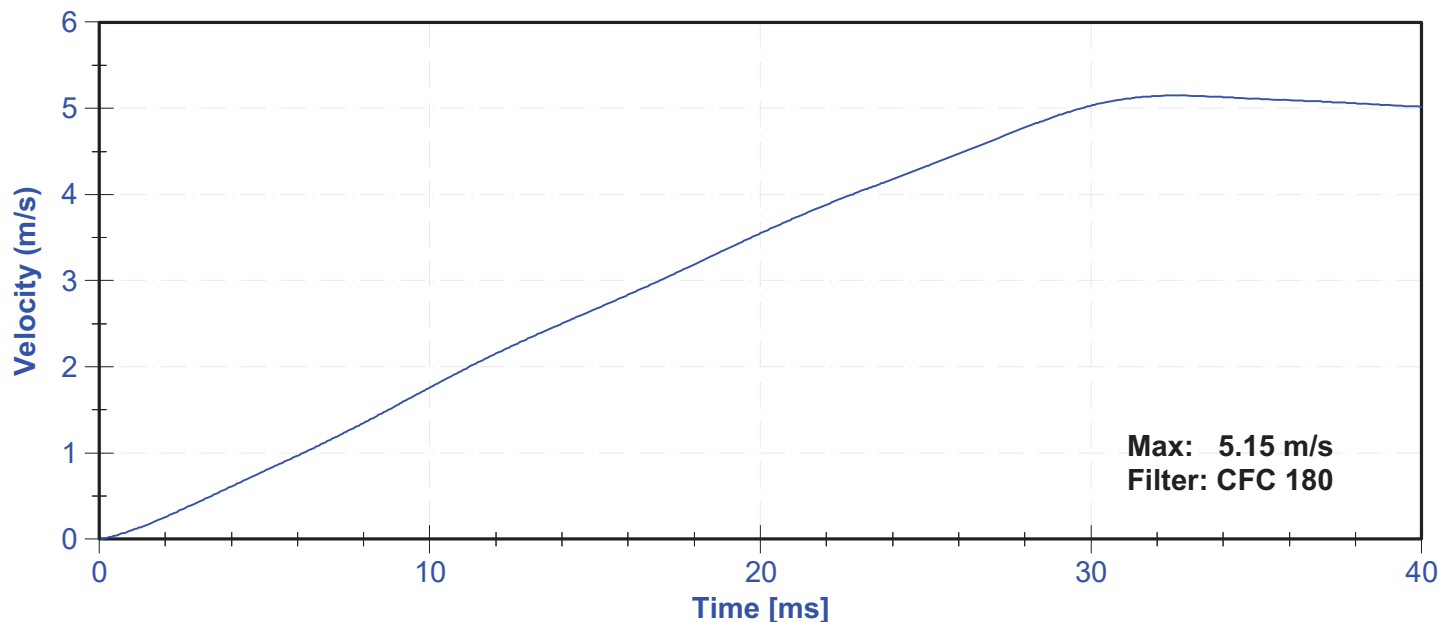
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.7	Pass
Humidity	10	70	%	38.1	Pass
Velocity	4.95	5.05	m/s	5.015	Pass
Pendulum Impulse at 10ms	1.76	1.91	m/s	1.761	Pass
Pendulum Impulse at 20ms	3.50	3.75	m/s	3.550	Pass
Pendulum Impulse at 30ms	4.88	5.20	m/s	5.030	Pass
Peak Upper Neck Y Moment	-21.3	-17.5	Nm	-23.06	Fail
Peak Upper Neck X Force	967	1182	N	1016.4	Pass
Peak Upper Neck Z Force	-2893	-2603	N	-2560.1	Fail
Peak Front Neck Cable Force	2482	2809	N	2388.4	Fail
Peak Head Y Angular Rate	1907	2043	deg/s	2024.9	Pass
Peak Head Y Rotation	57.6	64.2	deg	46.38	Fail
Rotational Decay Time to Zero	79.3	82.5	ms	54.75	Fail

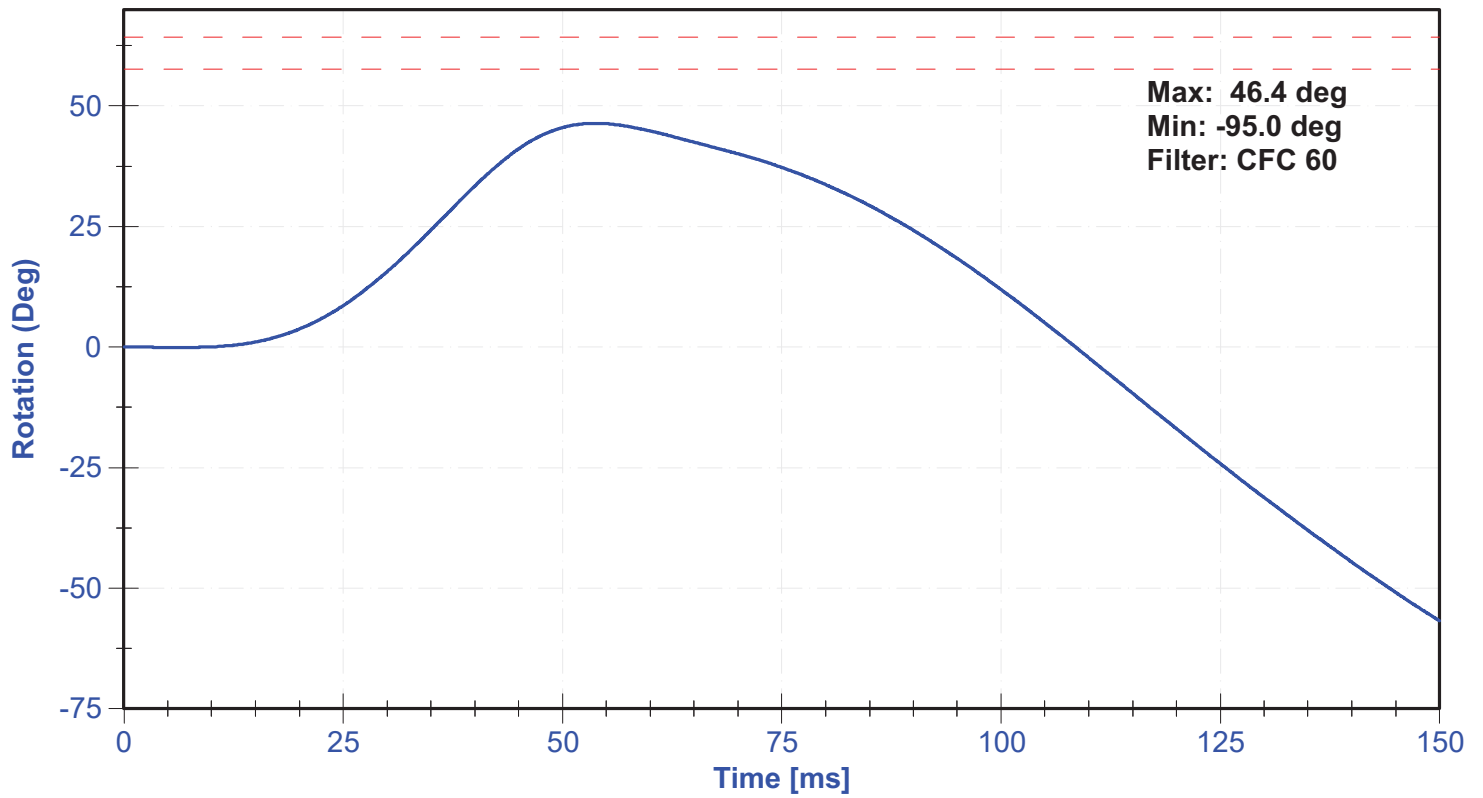
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DP3956 Fx	3/5/2016	3/5/2017
Fr Neck Cable Load	Humanetics 10386J14	LC-DO9740	3/6/2016	3/6/2017
Pendulum ARS	DTS ARS-PRO-8K	ARS-6419	1/19/2016	1/18/2017
Head ARS Y-Axis	DTS ARS-18K	ARS-4737	3/30/2015	3/29/2016

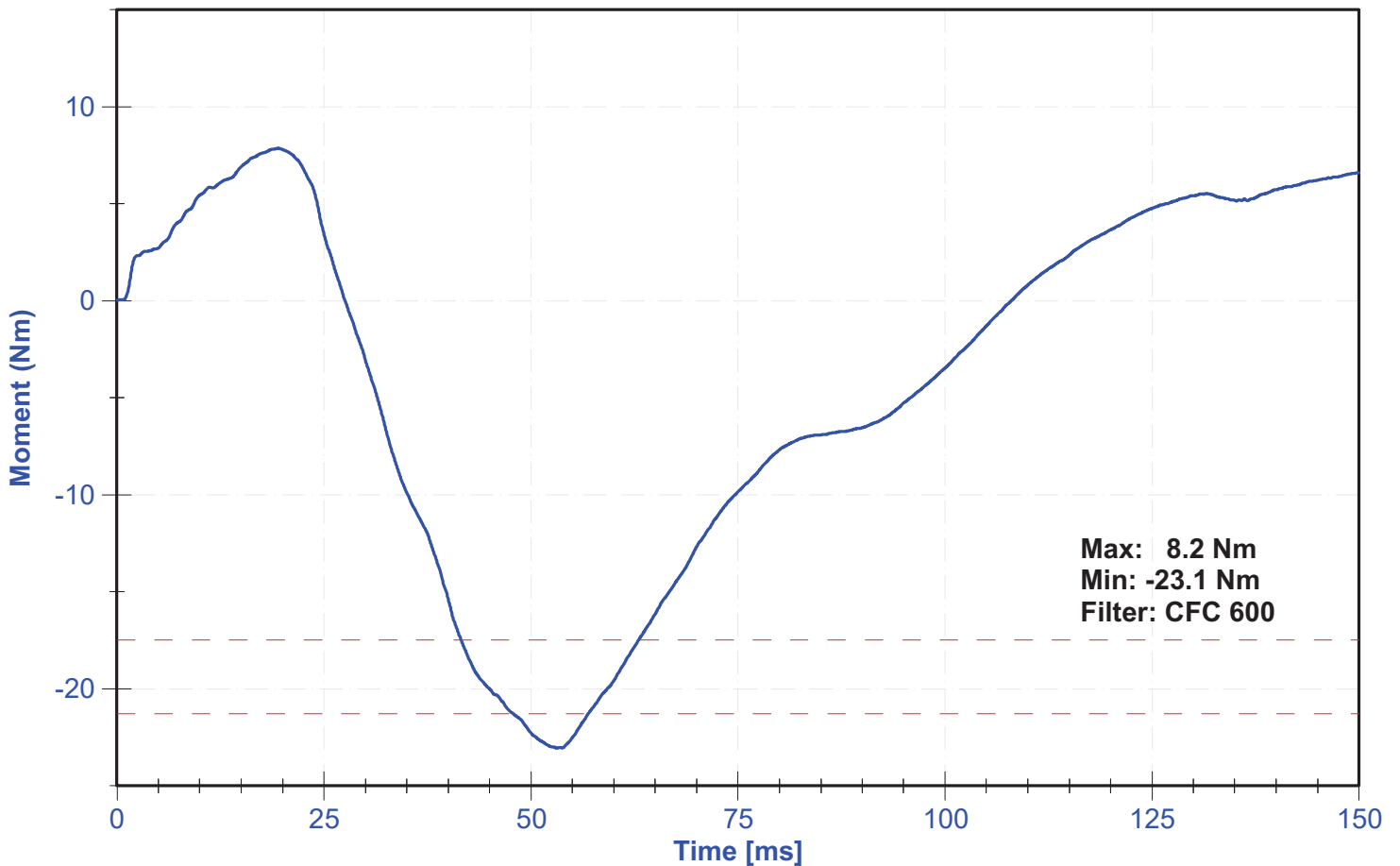
Pendulum Pulse



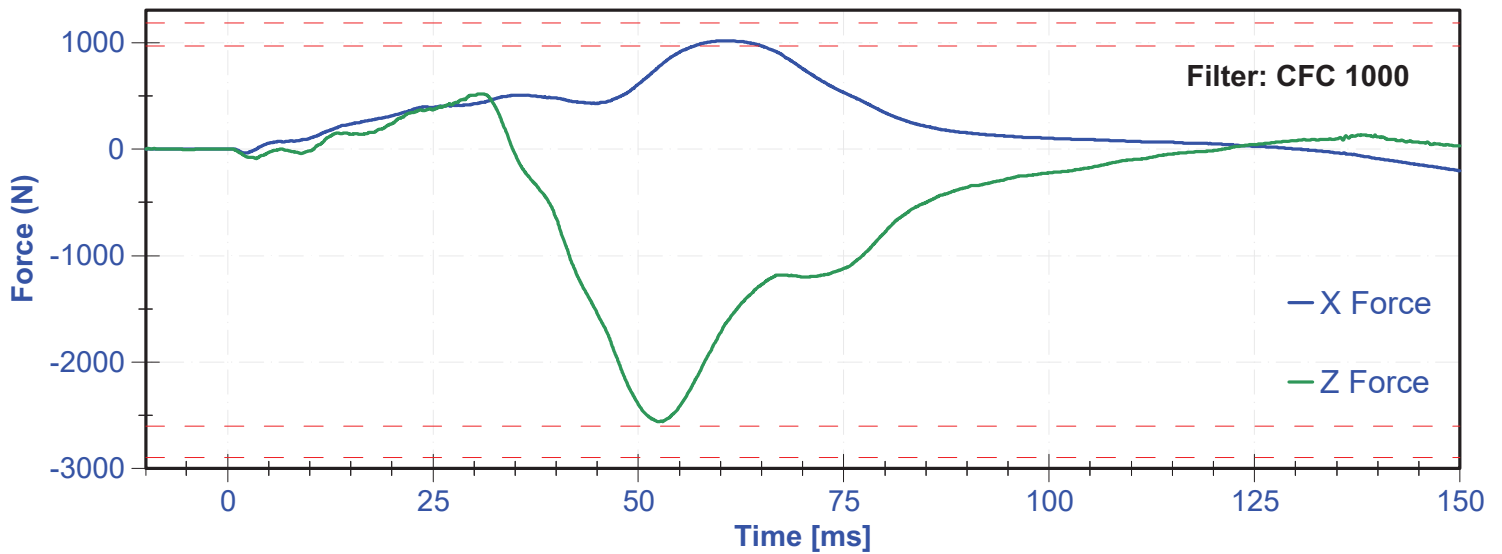
Headform Rotation



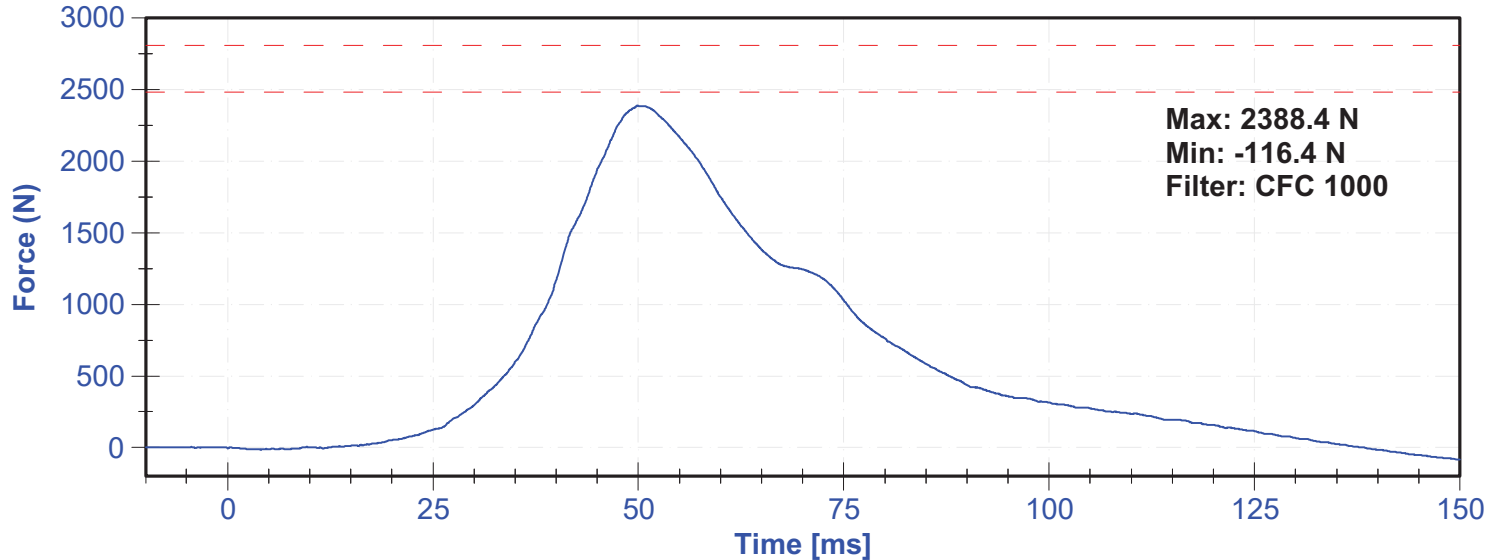
Upper Neck Y Moment



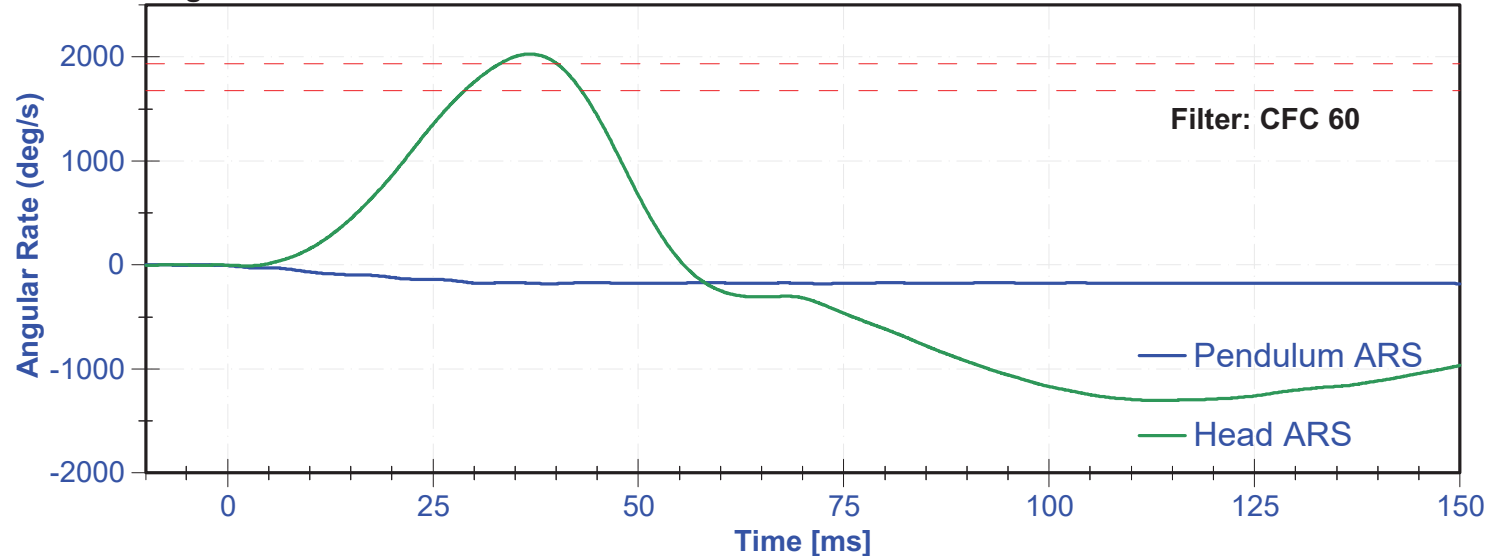
Upper Neck Force



Rear Neck Cable Z Force



Angular Rate Sensors



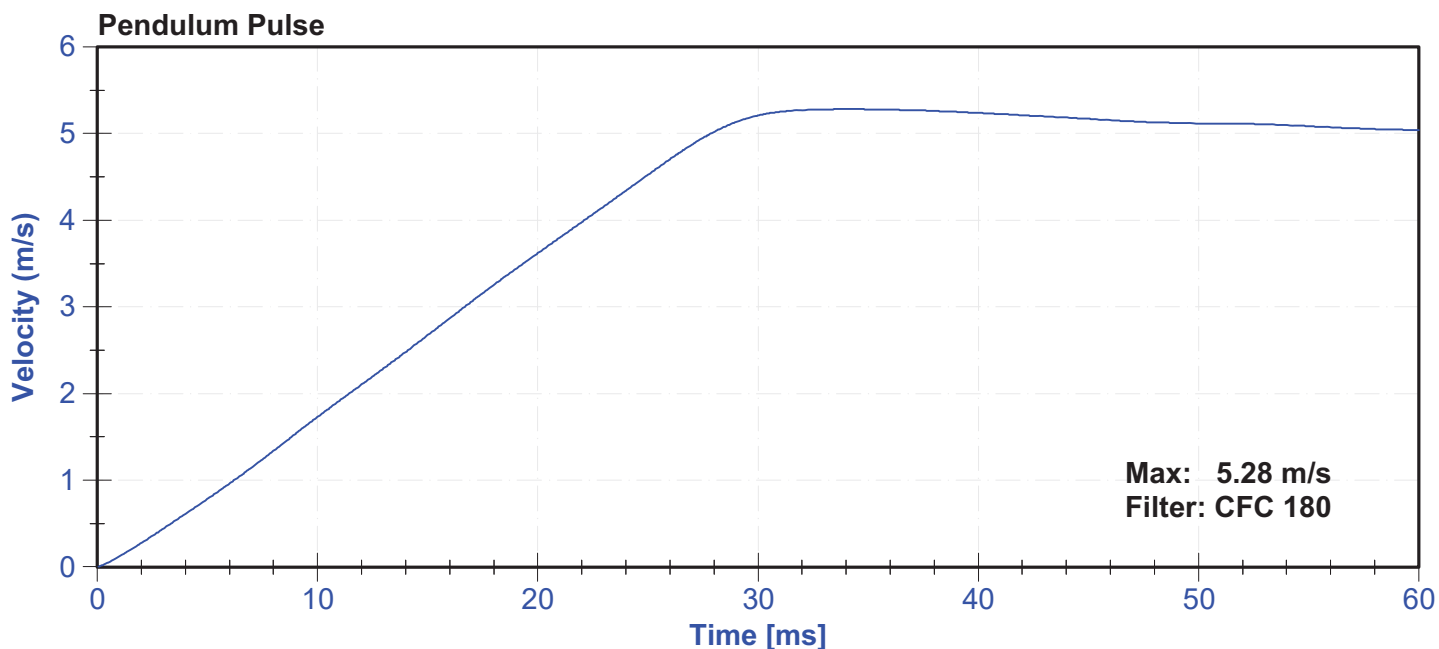
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

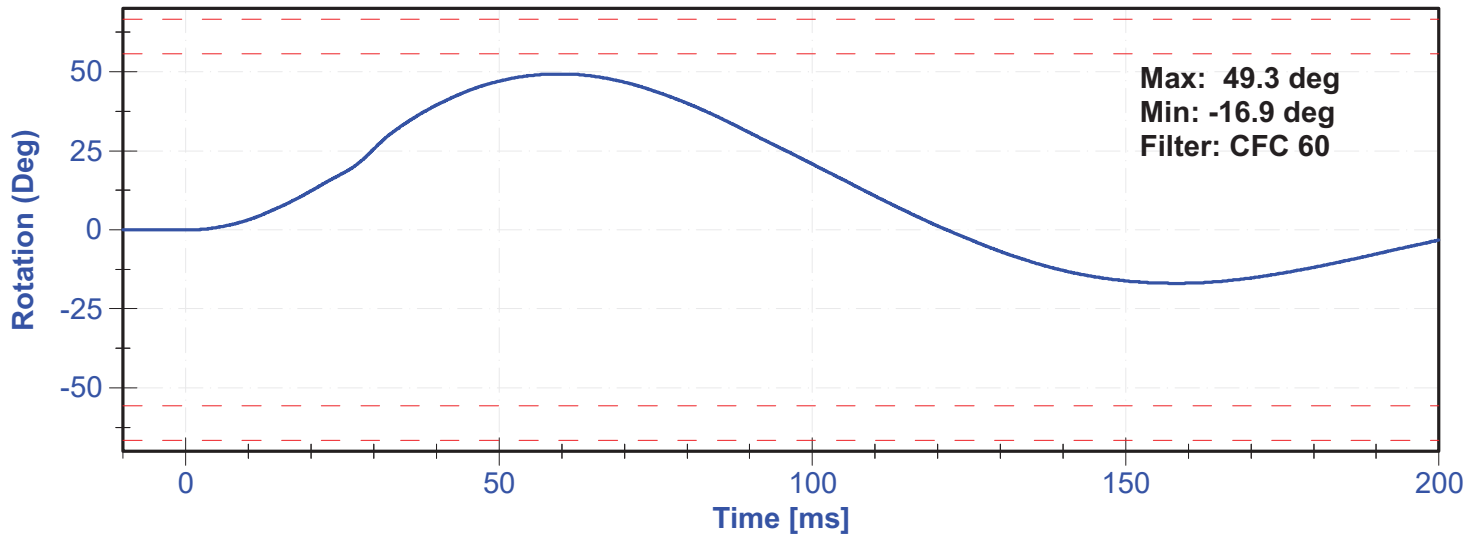
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.8	Pass
Humidity	10	70	%	39.0	Pass
Velocity	4.95	5.05	m/s	5.045	Pass
Pendulum Impulse at 10ms	1.72	1.98	m/s	1.730	Pass
Pendulum Impulse at 15ms	2.67	2.97	m/s	2.673	Pass
Pendulum Impulse at 20ms	3.59	3.98	m/s	3.619	Pass
Pendulum Impulse at 25ms	4.43	4.92	m/s	4.523	Pass
Peak Upper Neck Z Moment	32.6	38.3	Nm	36.82	Pass
Peak Neck Axial Rotation	55.6	66.6	deg	49.31	Fail
Rotation Decay Time to Zero	58.0	61.6	ms	61.65	Fail
Peak Upper Neck Angular Velocity	1559	1709	deg/s	1559.9	Pass

Transducer Calibrations

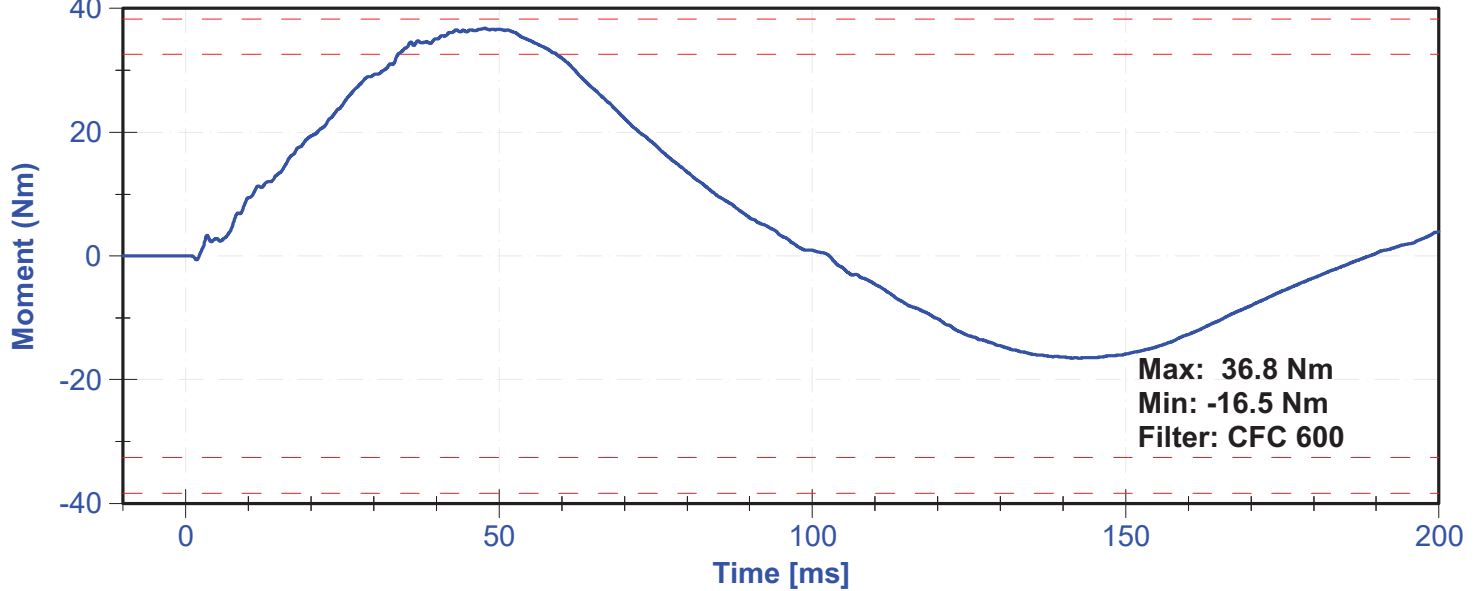
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Neck Fixture Potentiometer	Servo 14CB1-3615	DS-0001	10/21/2015	10/20/2016
Upper Neck Load Cell	Humanetics 10380J14	LC-DP3956 Mz	3/5/2016	3/5/2017
Upper Neck ARS	DTS ARS-PRO-8K	ARS-6424	1/19/2016	1/18/2017



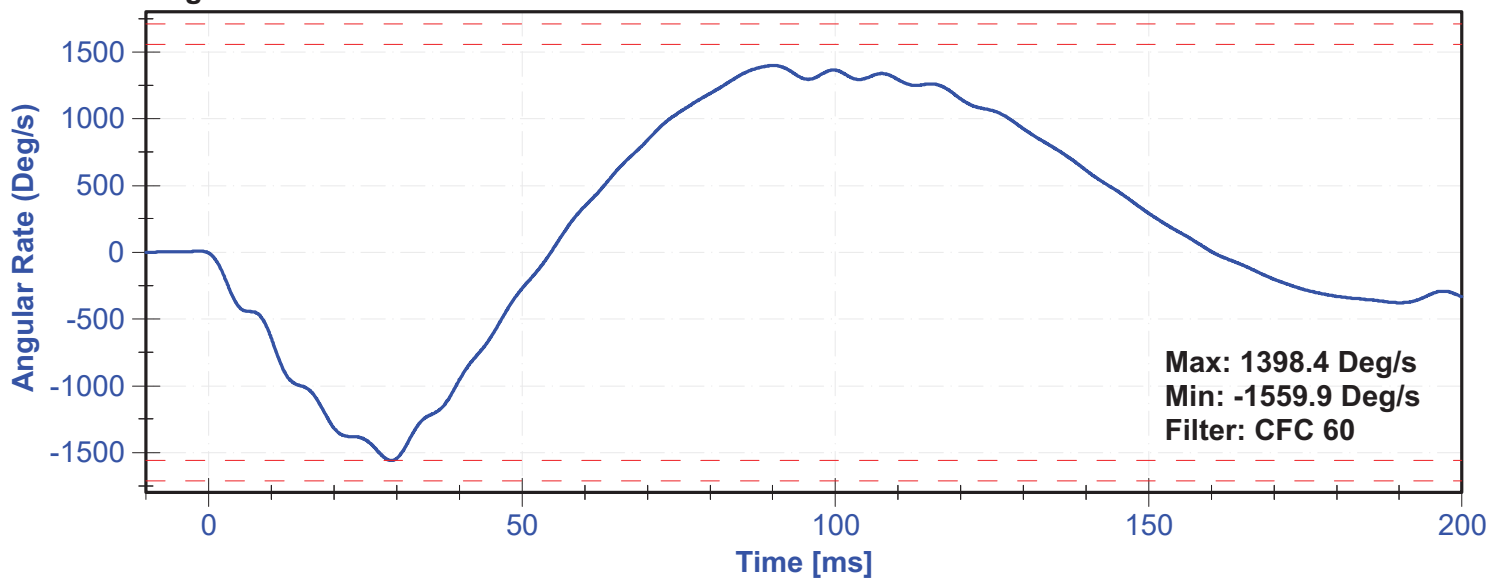
Axial Rotation



Moment



Angular Rate



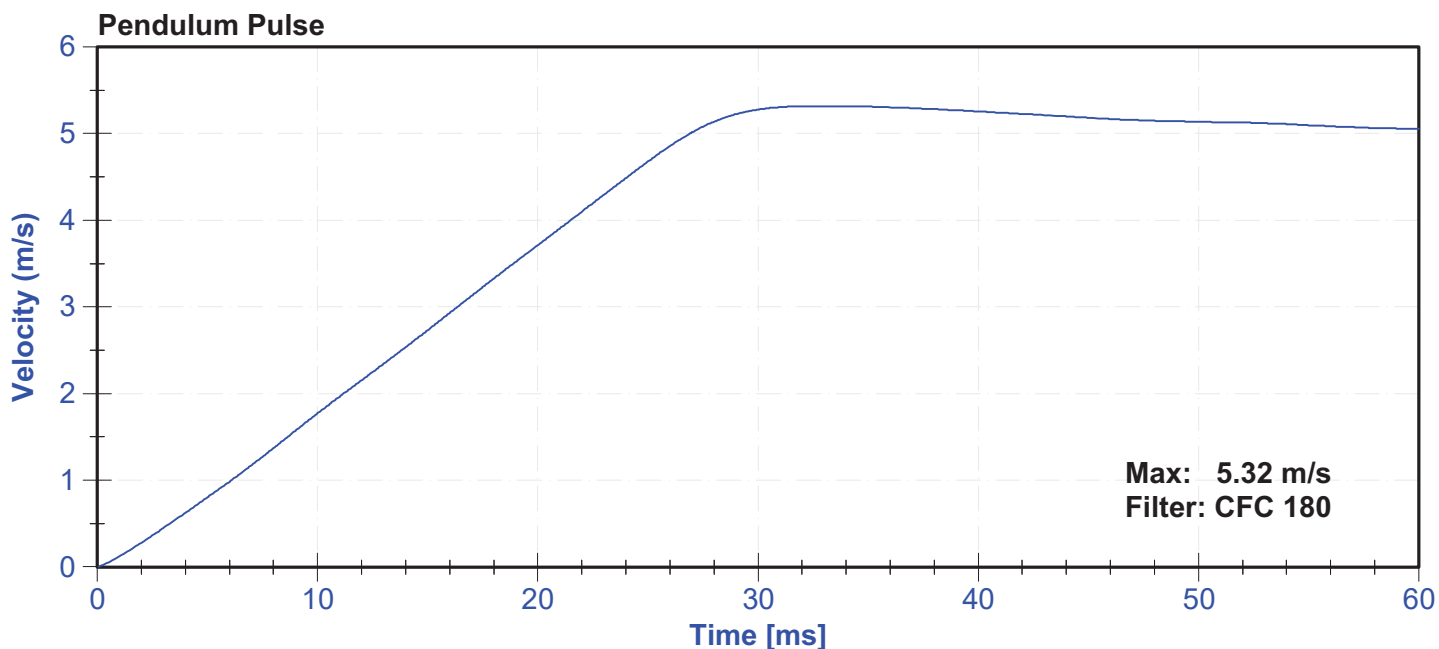
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

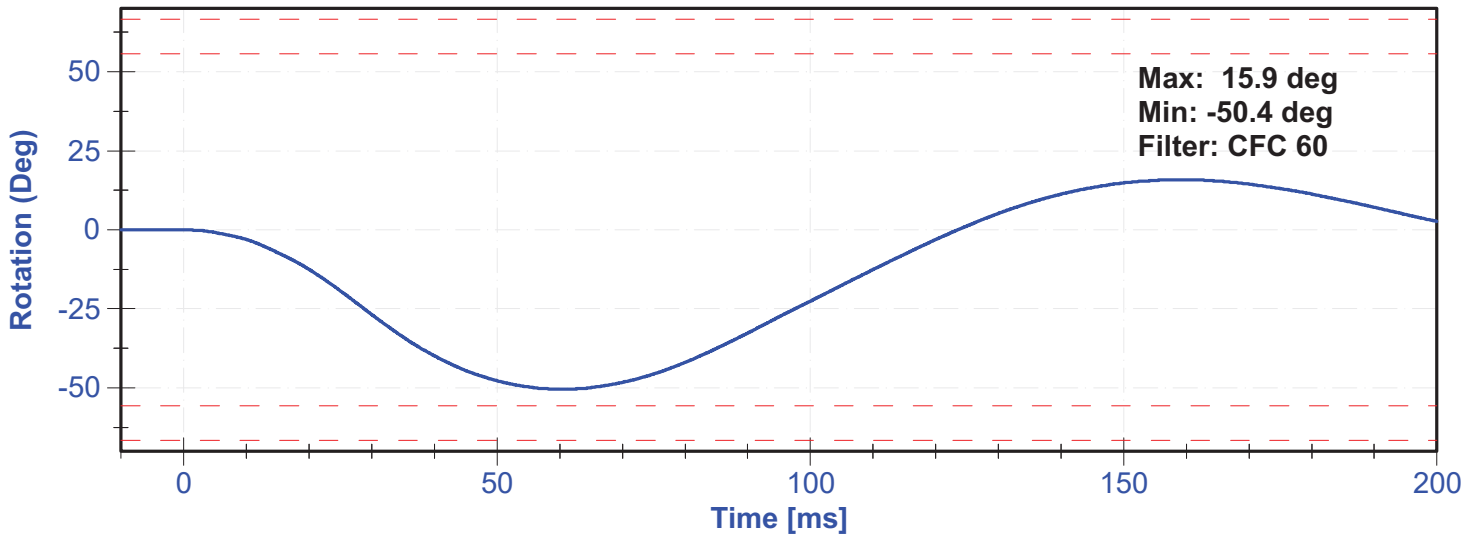
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.8	Pass
Humidity	10	70	%	39.2	Pass
Velocity	4.95	5.05	m/s	5.045	Pass
Pendulum Impulse at 10ms	1.72	1.98	m/s	1.772	Pass
Pendulum Impulse at 15ms	2.67	2.97	m/s	2.730	Pass
Pendulum Impulse at 20ms	3.59	3.98	m/s	3.712	Pass
Pendulum Impulse at 25ms	4.43	4.92	m/s	4.675	Pass
Peak Upper Neck Z Moment	32.6	38.3	Nm	36.84	Pass
Peak Neck Axial Rotation	55.6	66.6	deg	50.43	Fail
Rotation Decay Time to Zero	58.0	61.6	ms	47.15	Fail
Peak Upper Neck Angular Velocity	1559	1709	deg/s	1585.0	Pass

Transducer Calibrations

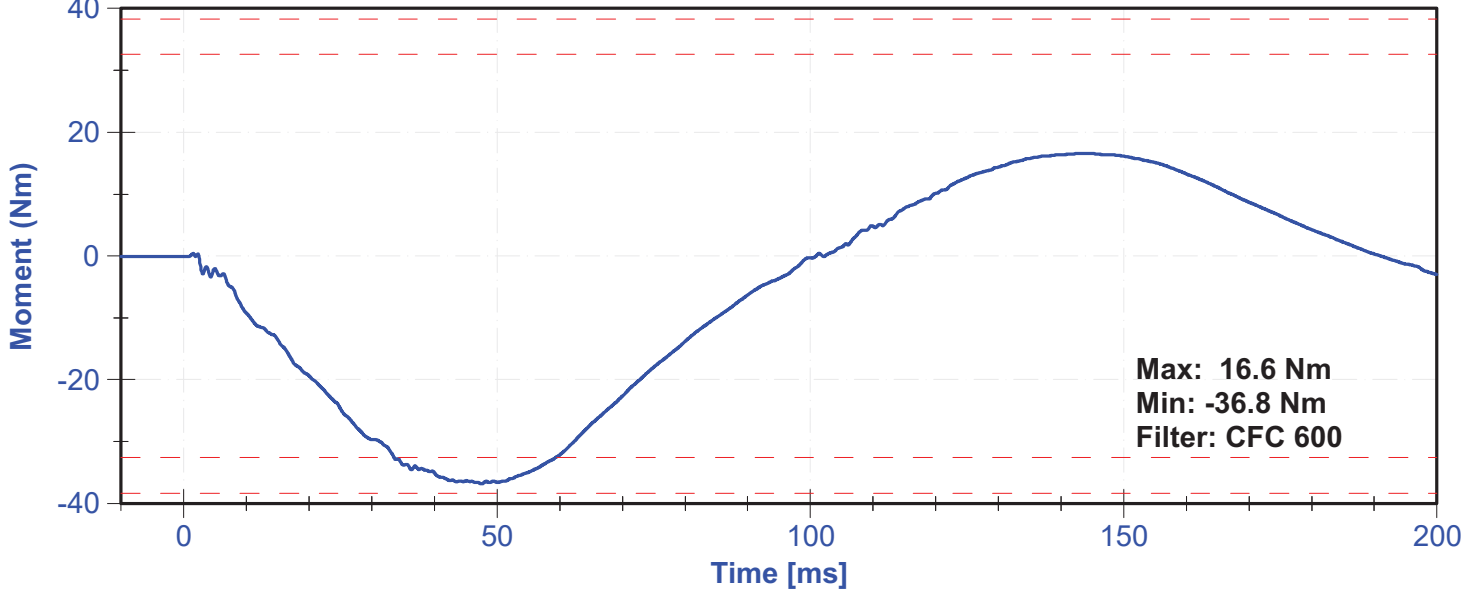
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7231CT	AC-AH5F3	5/7/2015	5/6/2016
Neck Fixture Potentiometer	Servo 14CB1-3615	DS-0001	10/21/2015	10/20/2016
Upper Neck Load Cell	Humanetics 10380JI4	LC-DP3956 Mz	3/5/2016	3/5/2017
Upper Neck ARS	DTS ARS-PRO-8K	ARS-6424	1/19/2016	1/18/2017



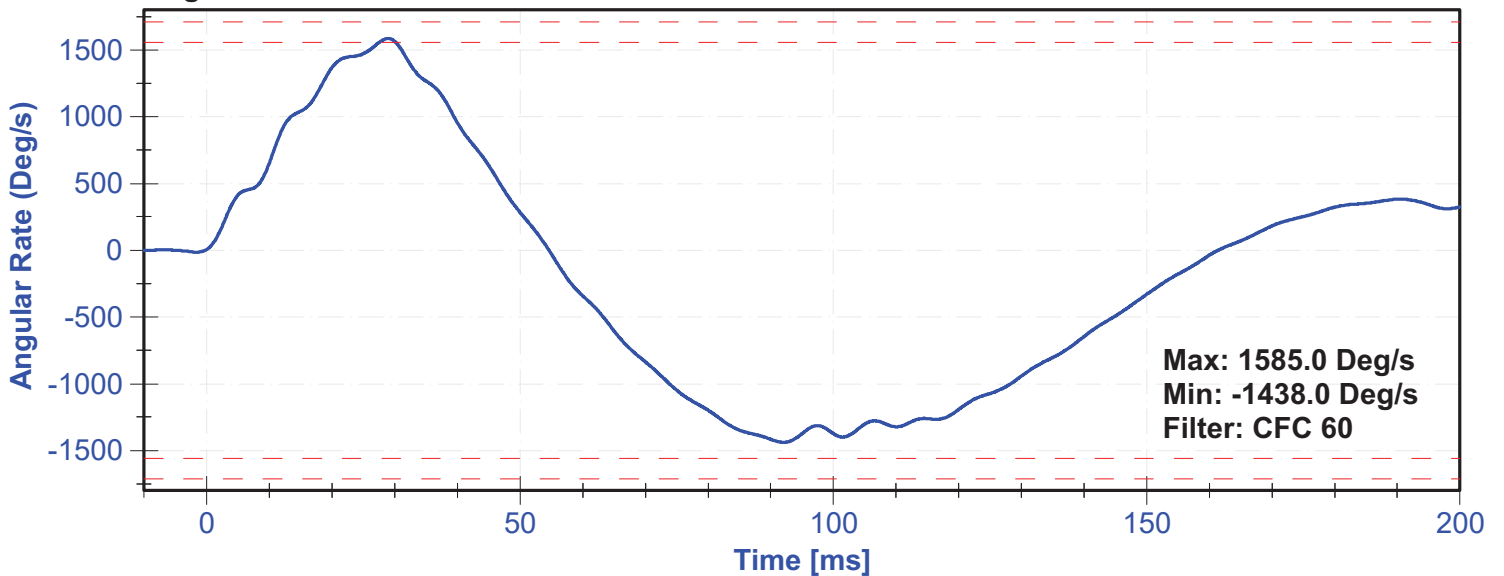
Axial Rotation



Moment



Angular Rate



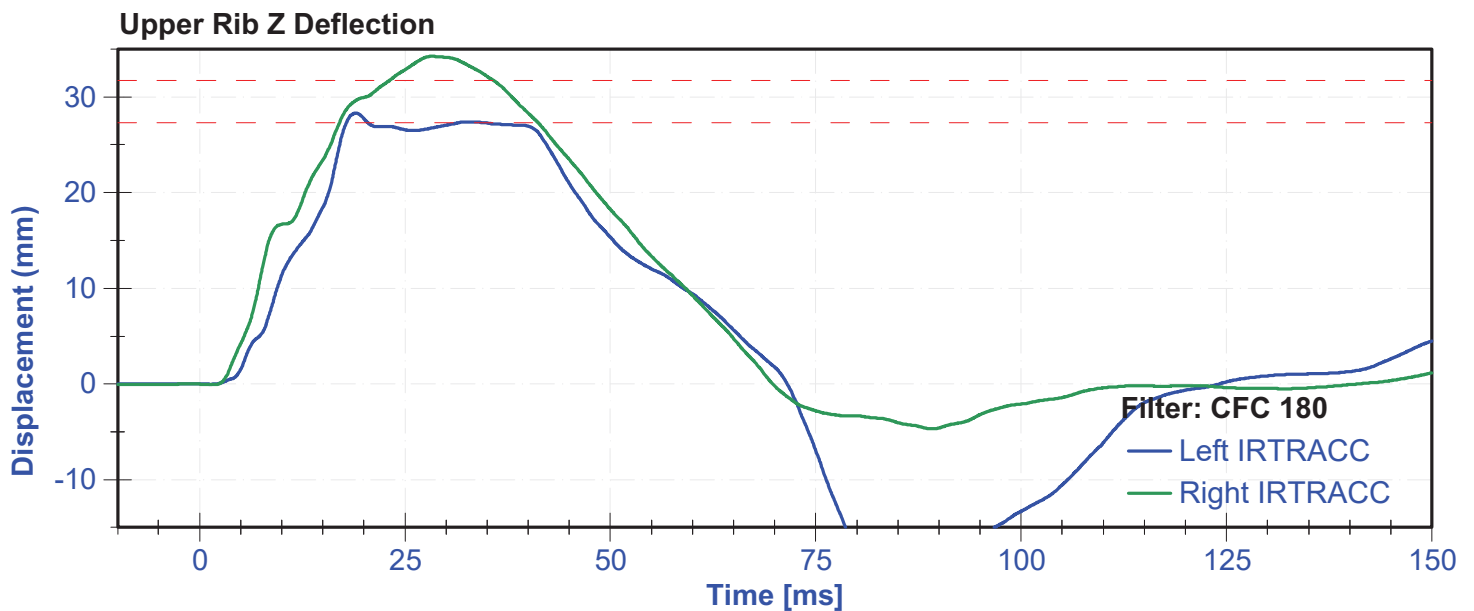
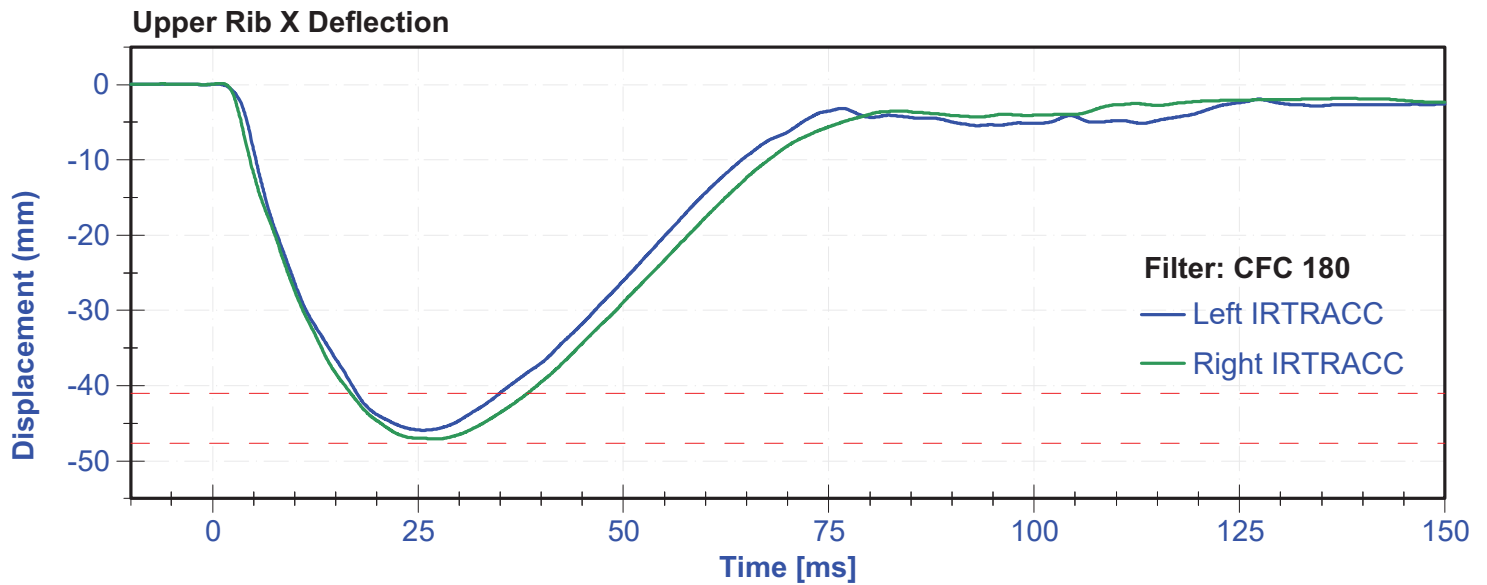
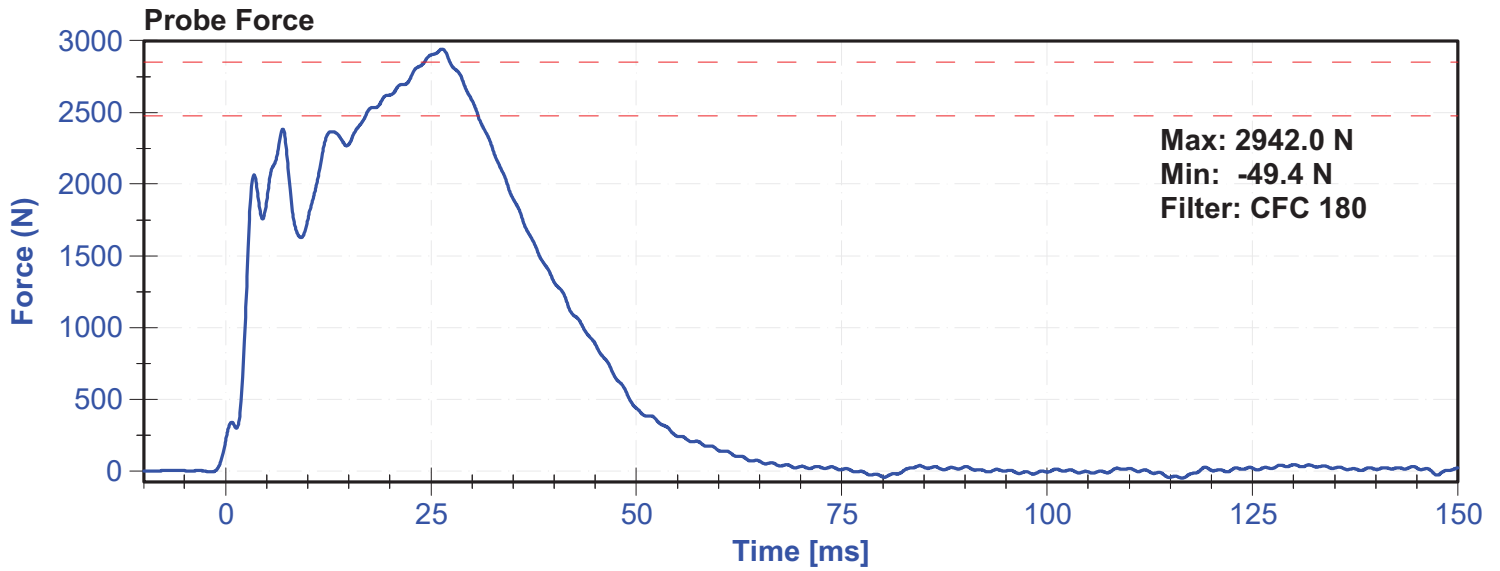
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

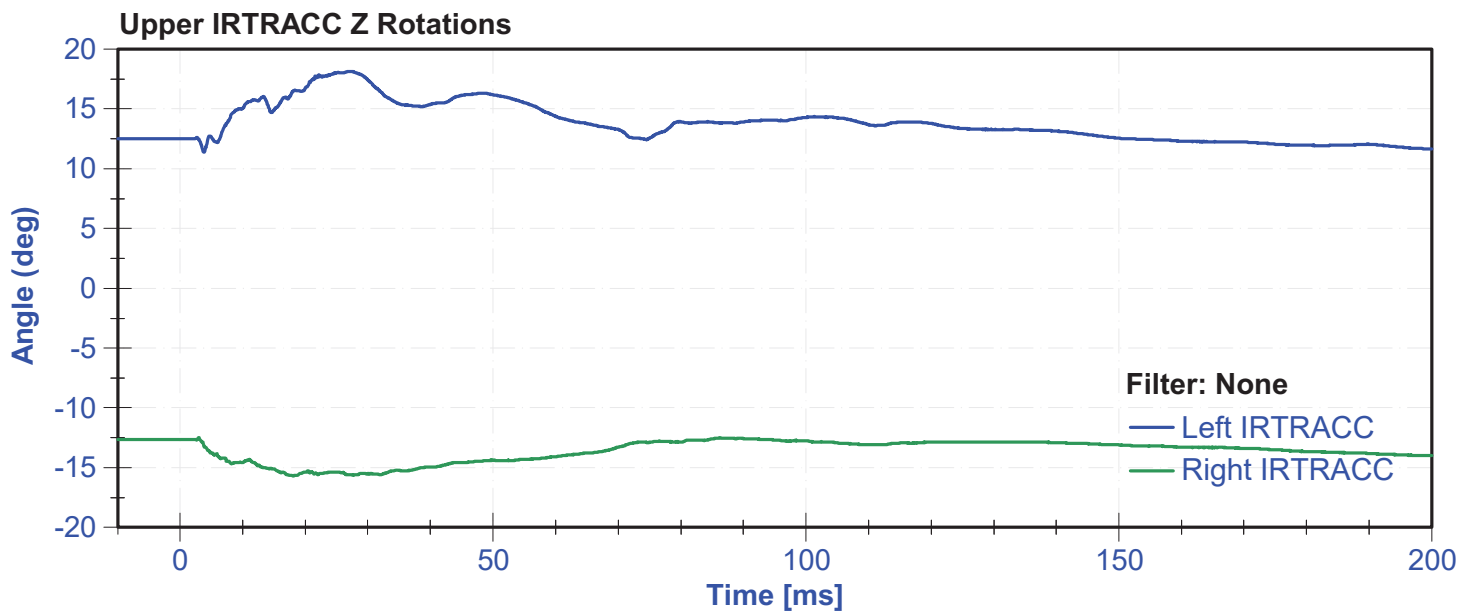
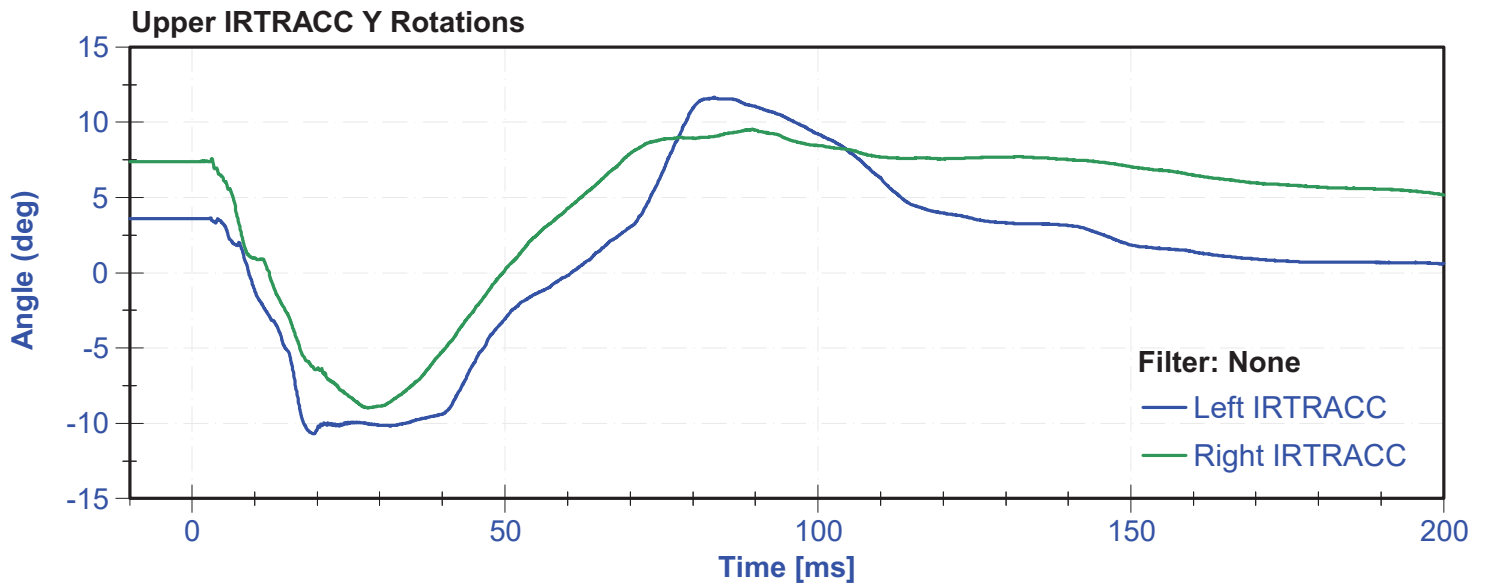
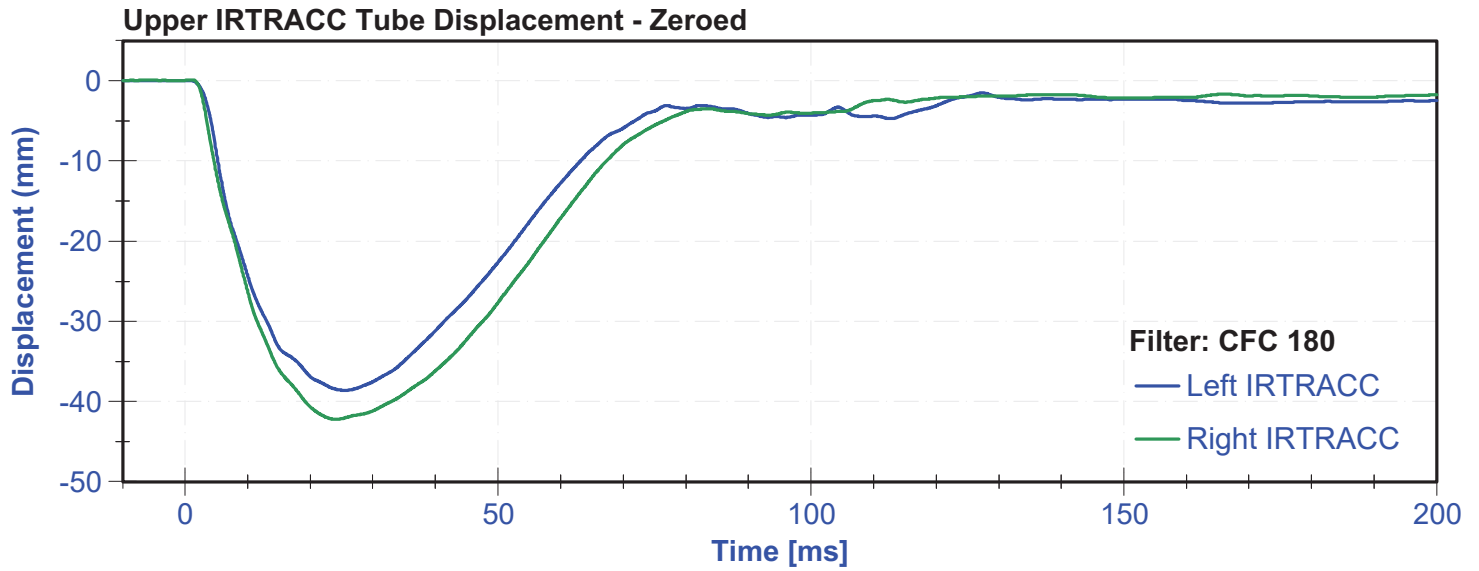
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	18.9	25.6	°C	21.1	Pass
Humidity	10	70	%	45.6	Pass
Impact Velocity	4.25	4.35	m/s	4.336	Pass
Probe Force	2474	2850	N	2942.0	Fail
Upper Left X Rib Deflection	-47.6	-41.0	mm	-45.91	Pass
Upper Right X Rib Deflection	-47.6	-41.0	mm	-47.06	Pass
Left/Right X Rib Deviation	-7.00	7.00	mm	1.152	Pass
Upper Left Z Rib Deflection	27.3	31.7	mm	28.31	Pass
Upper Right Z Rib Deflection	27.3	31.7	mm	34.25	Fail
Left/Right Z Rib Deviation	-7.00	7.00	mm	-5.941	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Upper Left IRTRACC	Humanetics IF-364-C-R3	DS-DS6355	11/10/2015	11/9/2016
Upper Left Y Potentiometer	Humanetics 9945	DS-DI2382	4/8/2015	4/7/2016
Upper Left Z Potentiometer	Humanetics 9945	DS-DI2383	4/8/2015	4/7/2016
Upper Right IRTRACC	Humanetics IF-364-C-R3	DS-DJ2613	4/8/2015	4/7/2016
Upper Right Y Potentiometer	Humanetics 9945	DS-DI7753	4/9/2015	4/8/2016
Upper Right Z Potentiometer	Humanetics 9945	DS-DI7752	4/9/2015	4/8/2016





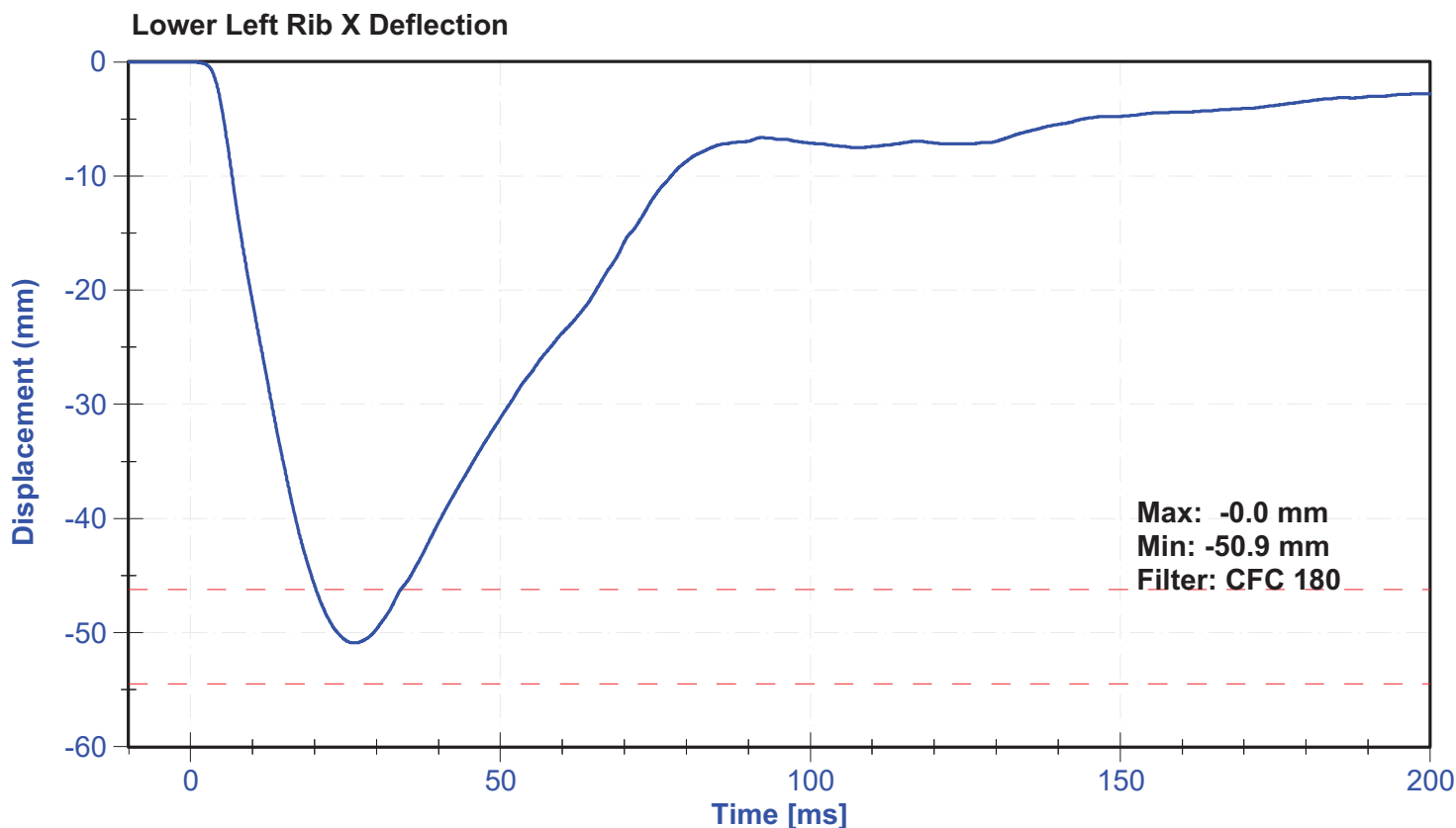
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

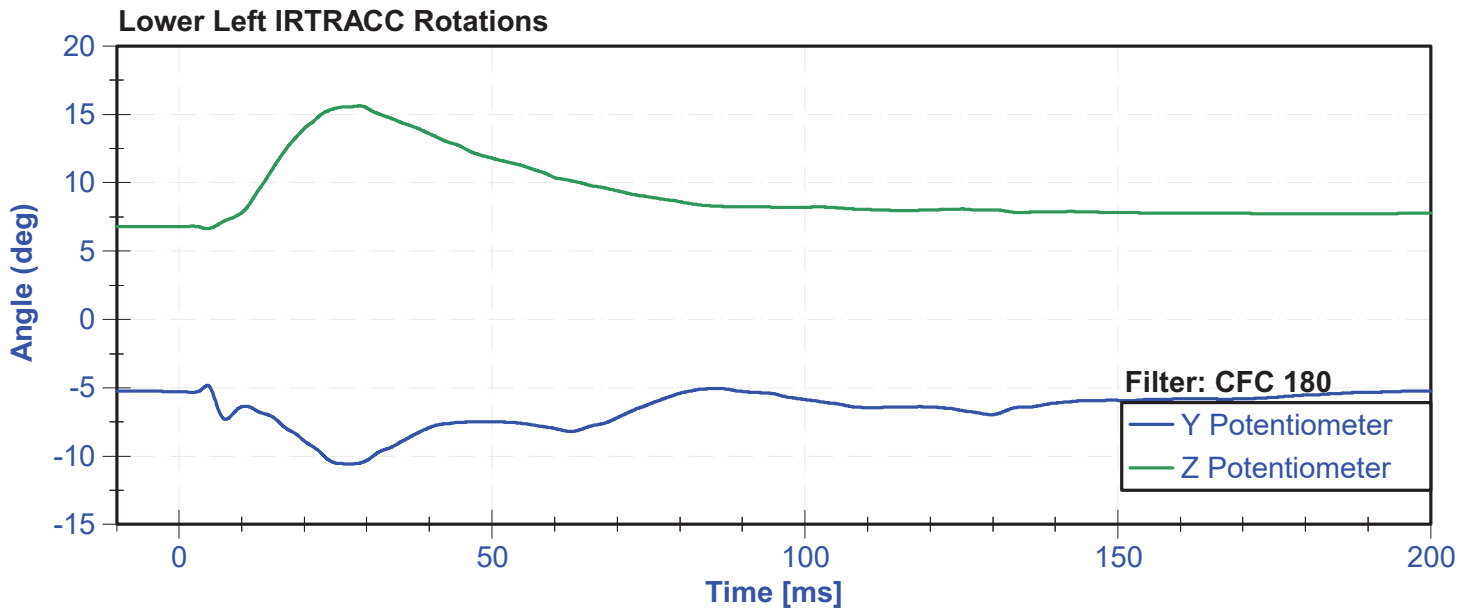
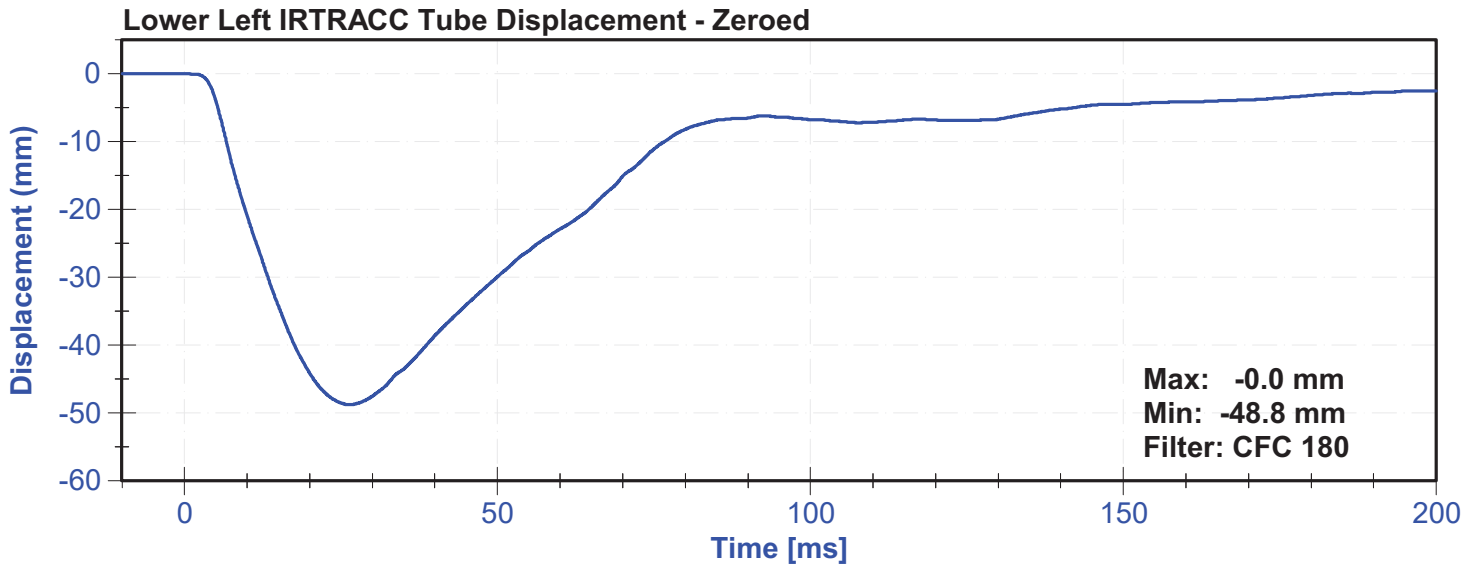
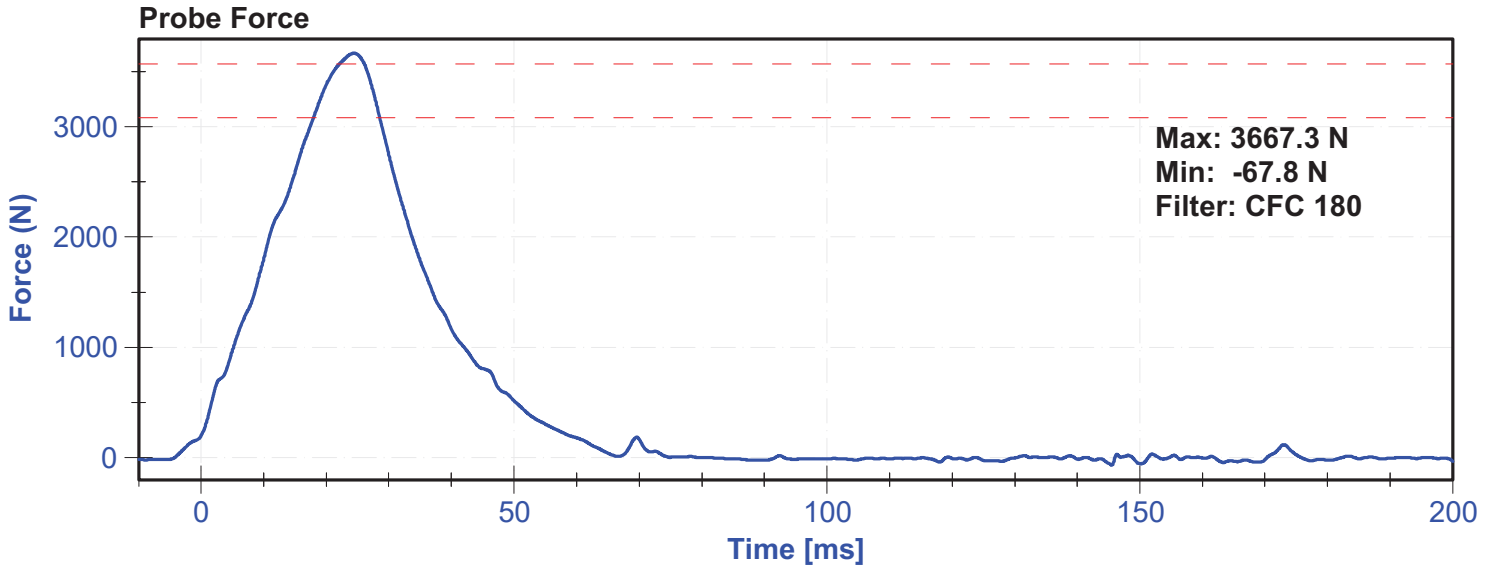
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	49.0	Pass
Impact Velocity	4.25	4.35	m/s	4.342	Pass
Peak Left X Rib Deflection	-54.5	-46.2	mm	-50.92	Pass
Probe Force during Peak Deflection	3083	3571	N	3667.3	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Lower Left IRTRACC	Humanetics IF-364-C-R3	DS-DS6353	11/10/2015	11/9/2016
Lower Left Y Potentiometer	Humanetics 9945	DS-DM4781	4/7/2015	4/6/2016
Lower Left Z Potentiometer	Humanetics 9945	DS-DS4092	4/7/2015	4/6/2016





ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

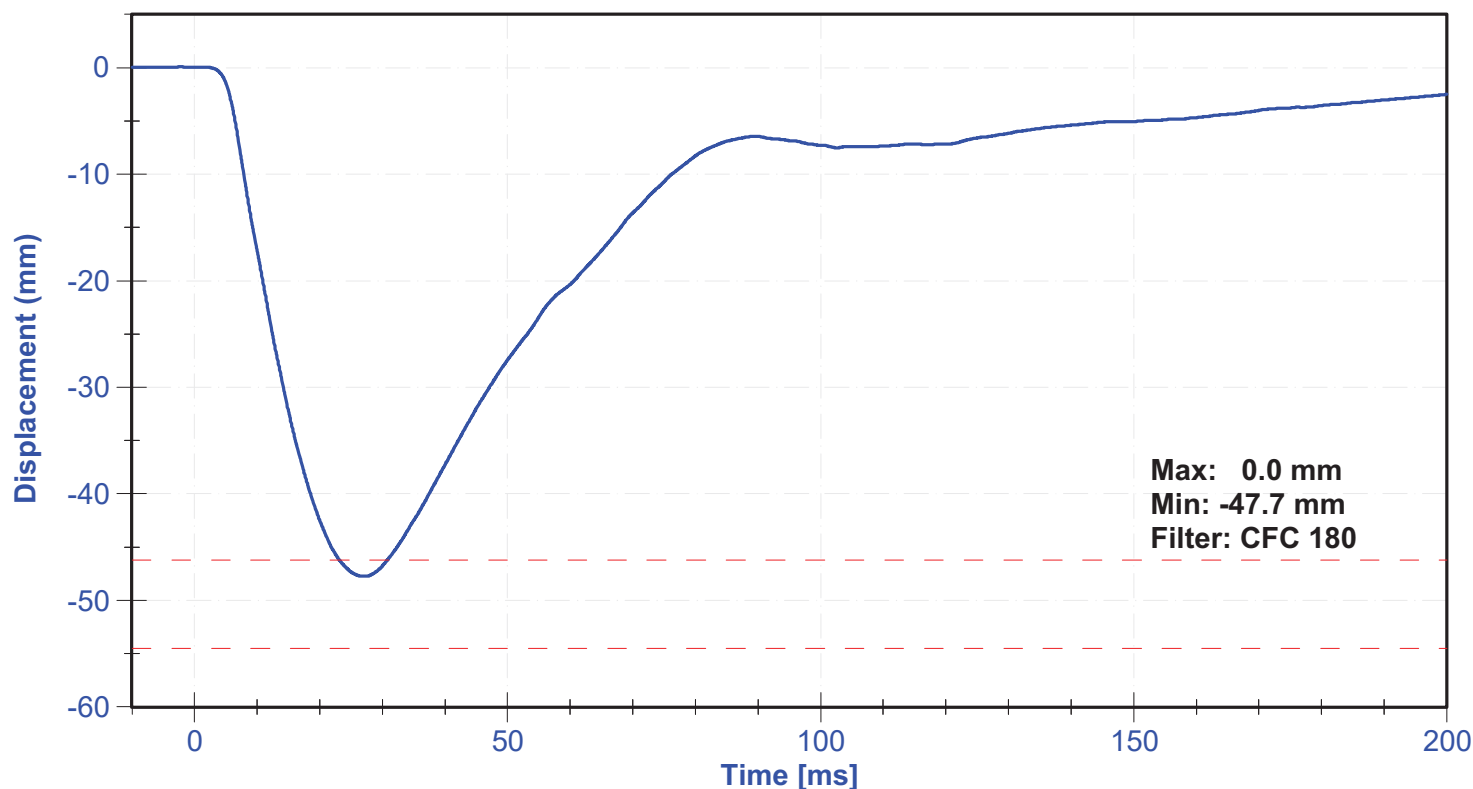
Results

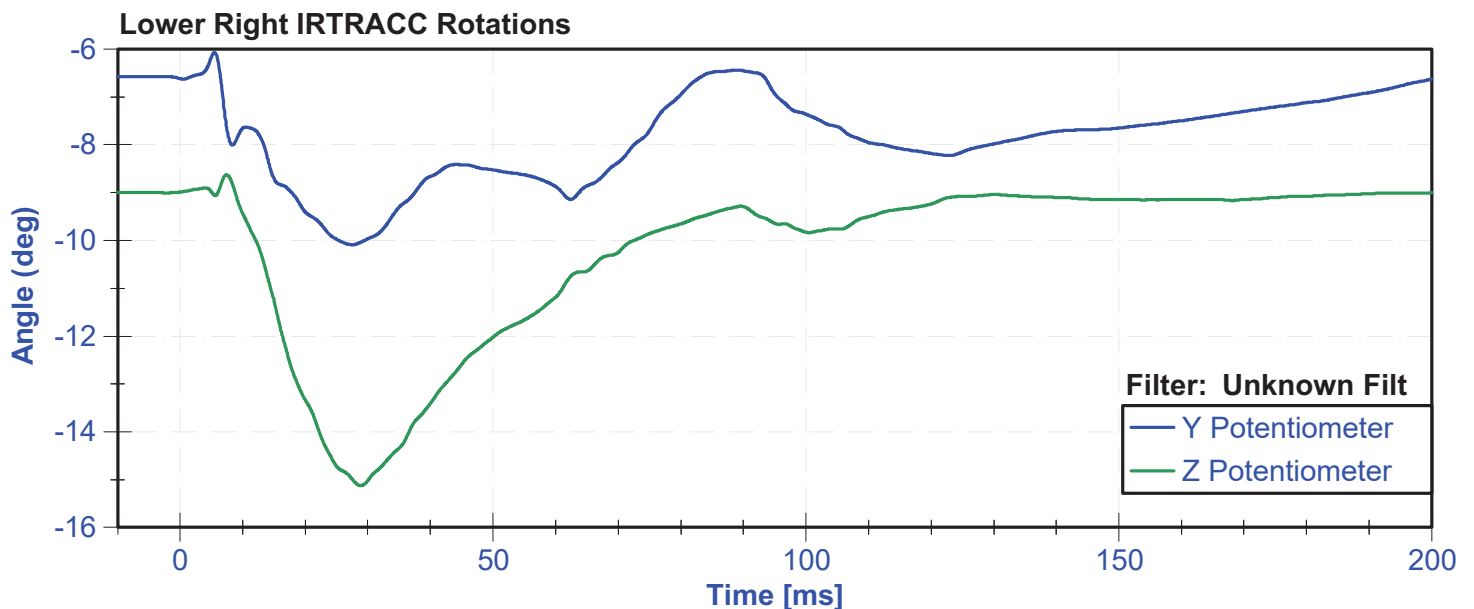
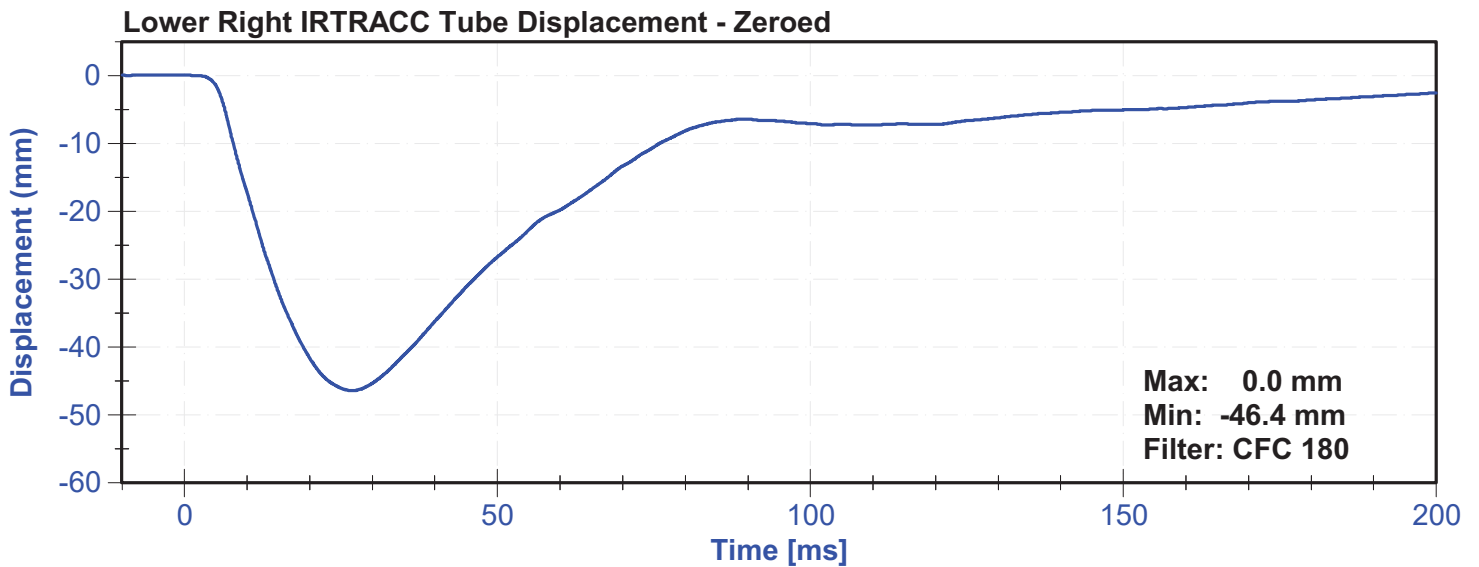
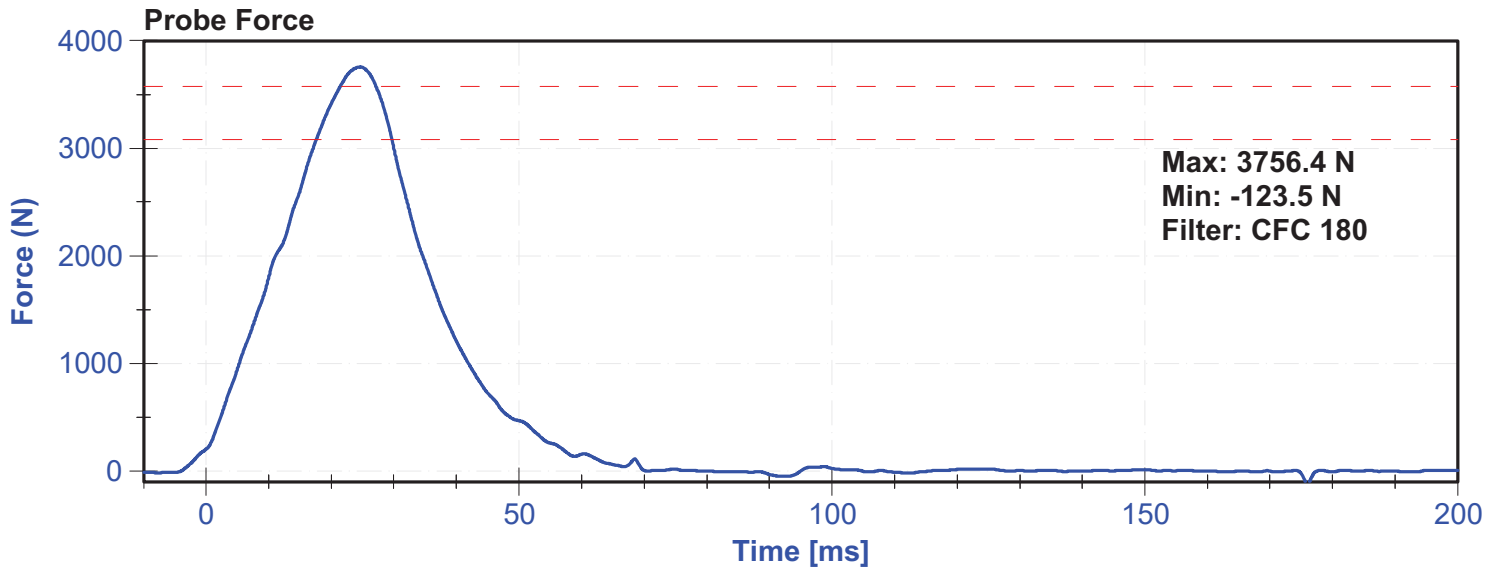
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	49.2	Pass
Impact Velocity	4.25	4.35	m/s	4.330	Pass
Peak Right X Rib Deflection	-54.5	-46.2	mm	-47.74	Pass
Probe Force during Peak Deflection	3083	3571	N	3756.4	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Lower Right IRTACC	Humanetics IF-364-C-R3	DS-DS6354	11/10/2015	11/9/2016
Lower Right Y Potentiometer	Humanetics 9945	DS-DM4776	4/7/2015	4/6/2016
Lower Right Z Potentiometer	Humanetics 9945	DS-DM4777	4/7/2015	4/6/2016

Lower Right Rib X Deflection





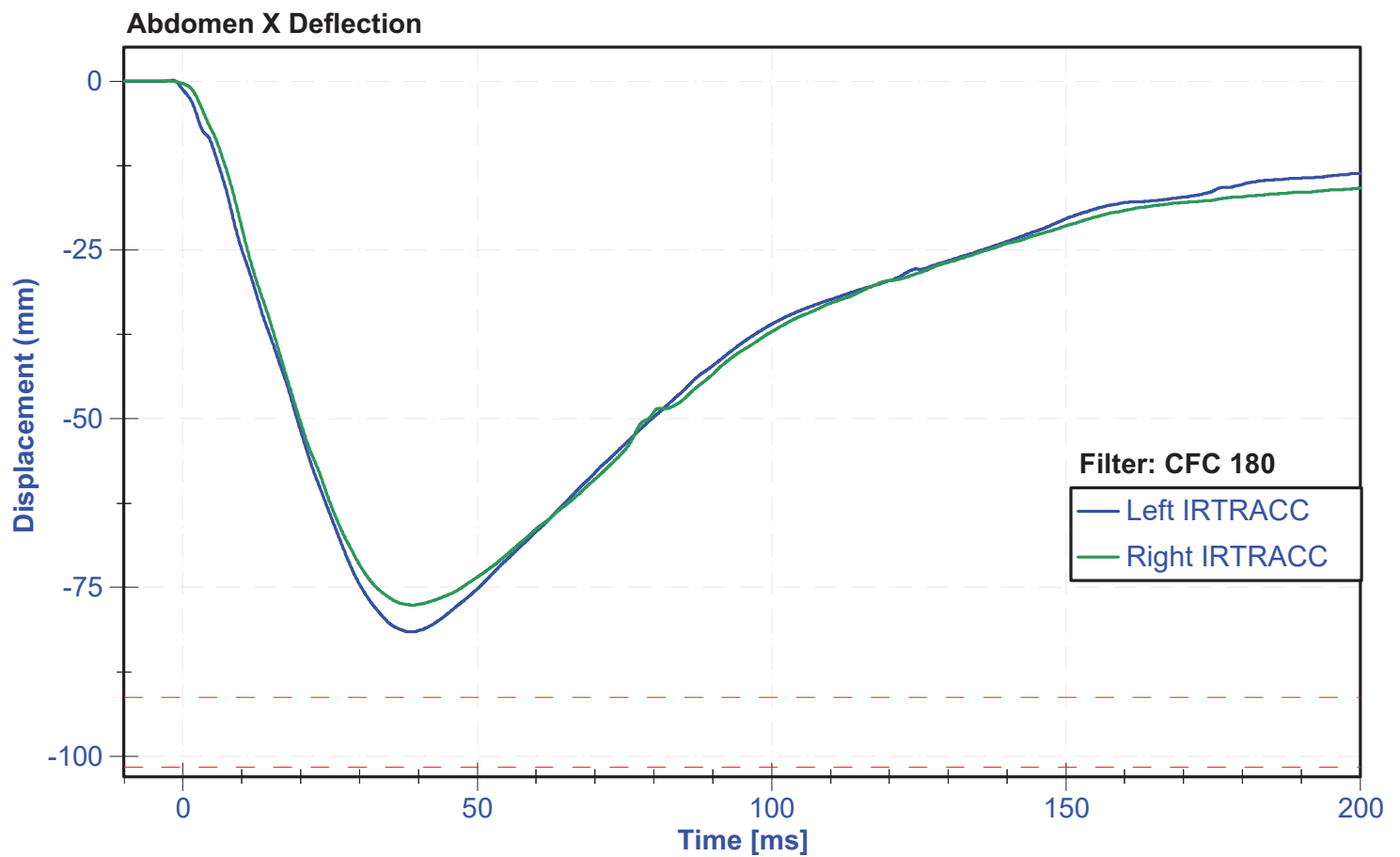
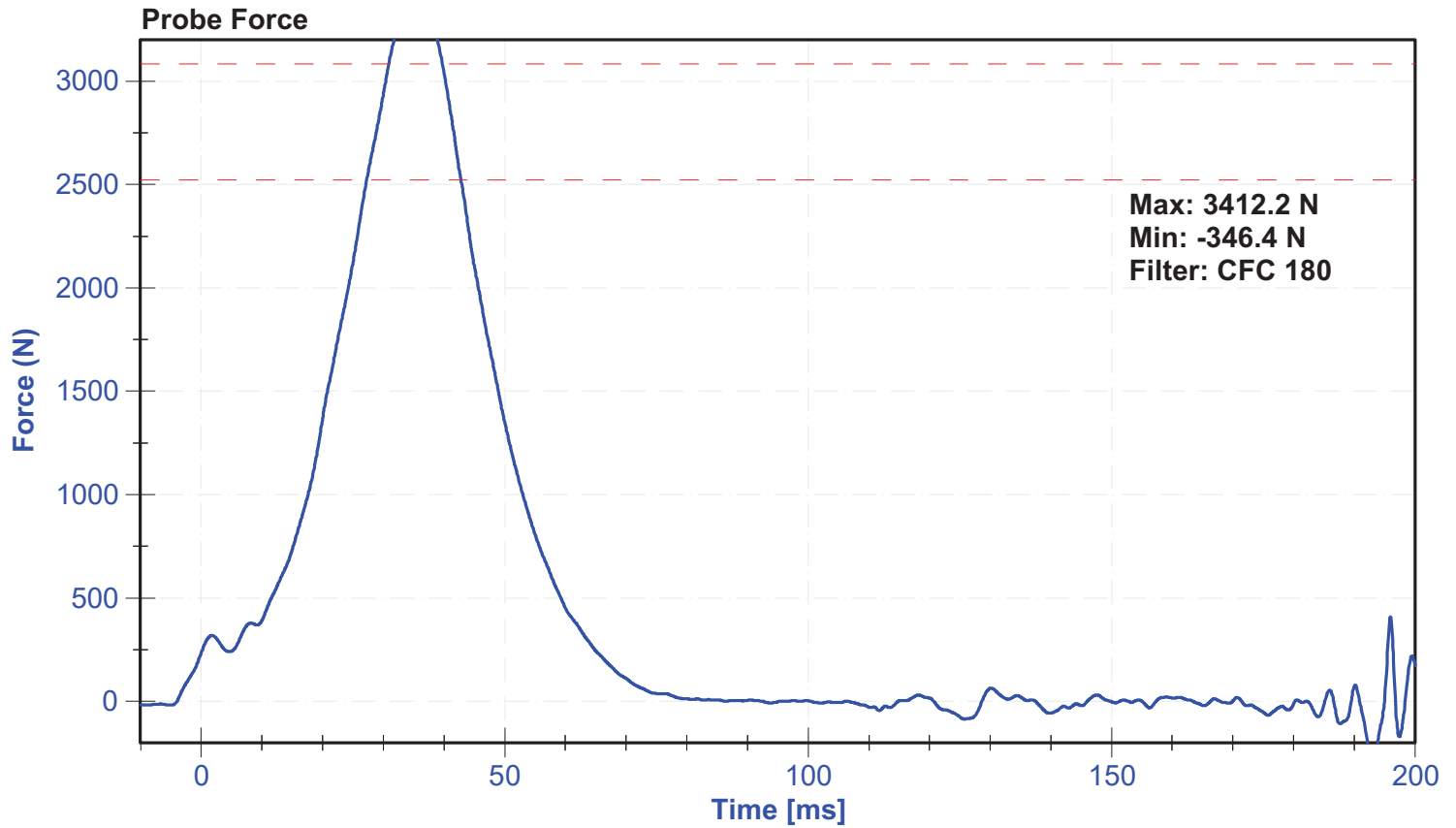
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

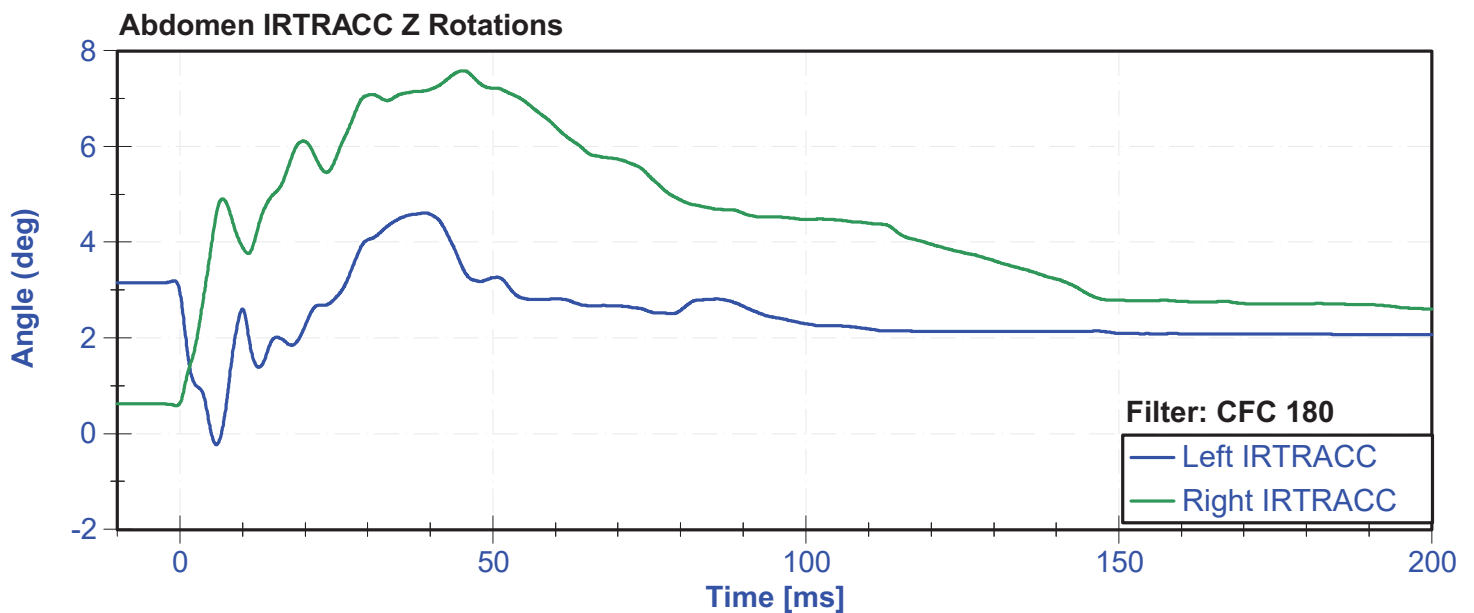
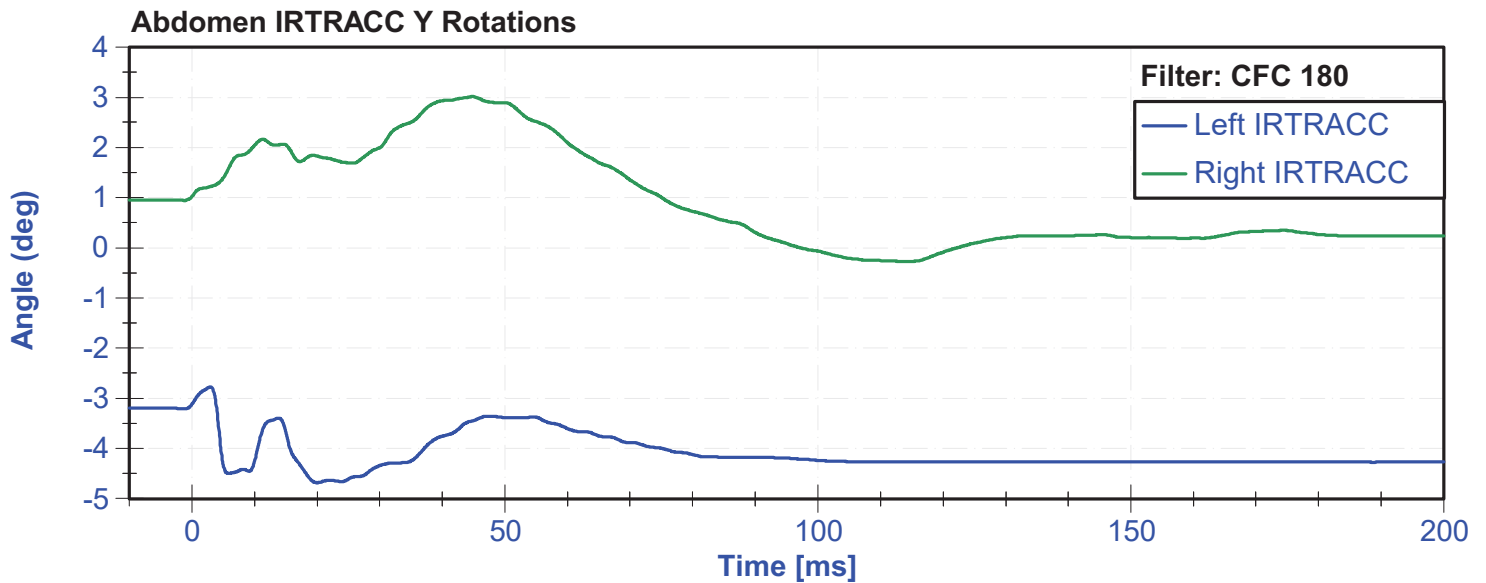
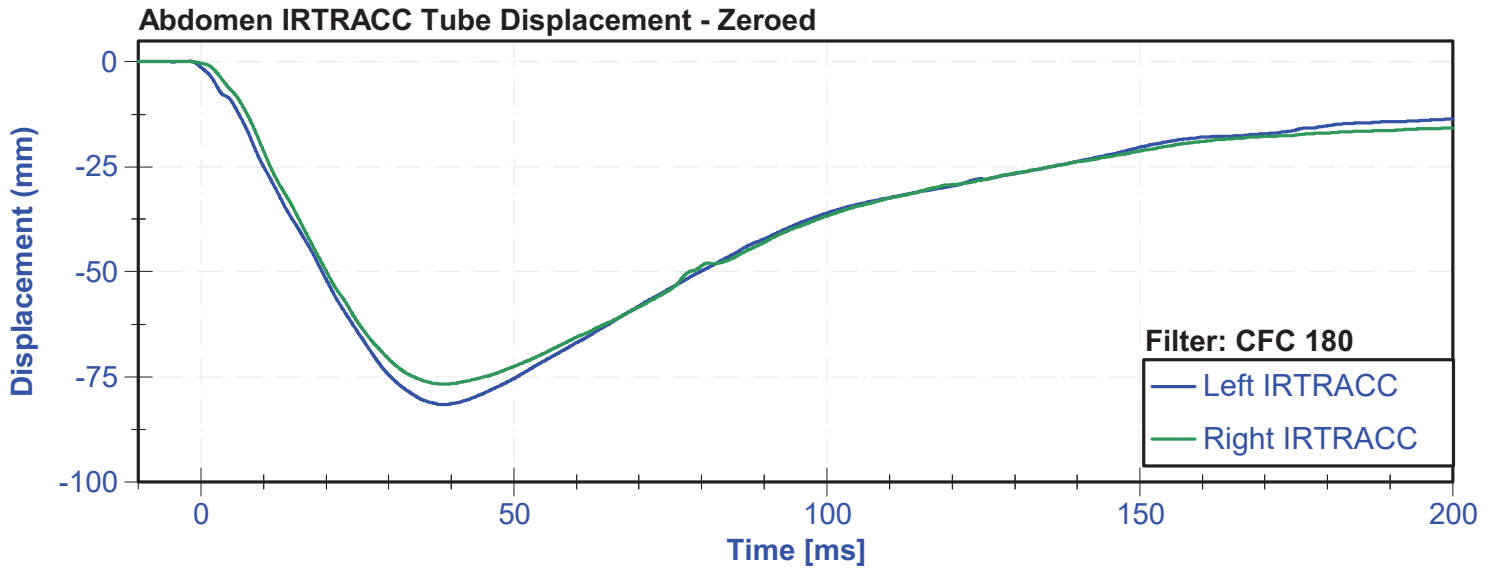
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	49.3	Pass
Impact Velocity	3.25	3.35	m/s	3.337	Pass
Probe Force	2523	3083	N	3412.2	Fail
Left Abdomen X Deflection	-101.6	-91.2	mm	-81.56	Fail
Right Abdomen X Deflection	-101.6	-91.2	mm	-77.57	Fail
Left/Right X Deviation	-7.00	7.00	mm	-3.991	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Abdomen Left IRTRACC	Humanetics 9910	DS-DQ2303	4/13/2015	4/12/2016
Abdomen Left Y Potentiometer	Humanetics 9945	DS-DS8363	12/16/2015	12/15/2016
Abdomen Left Z Potentiometer	Humanetics 9945	DS-DS8361	12/16/2015	12/15/2016





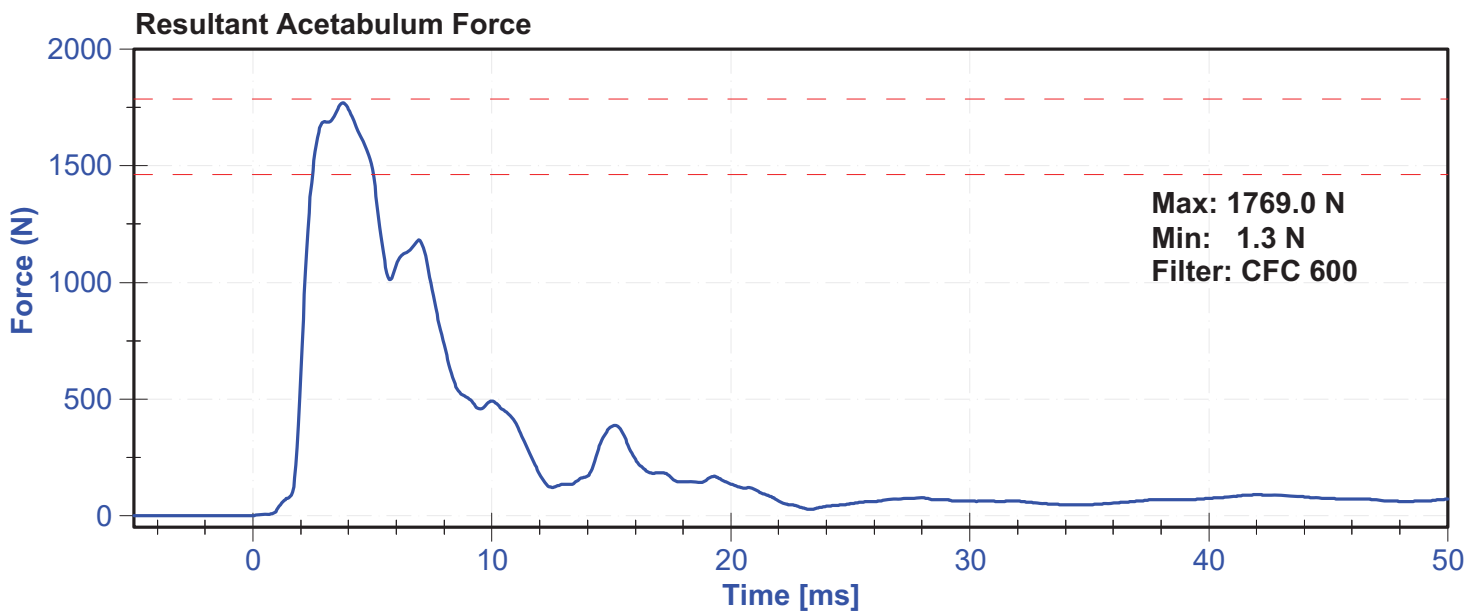
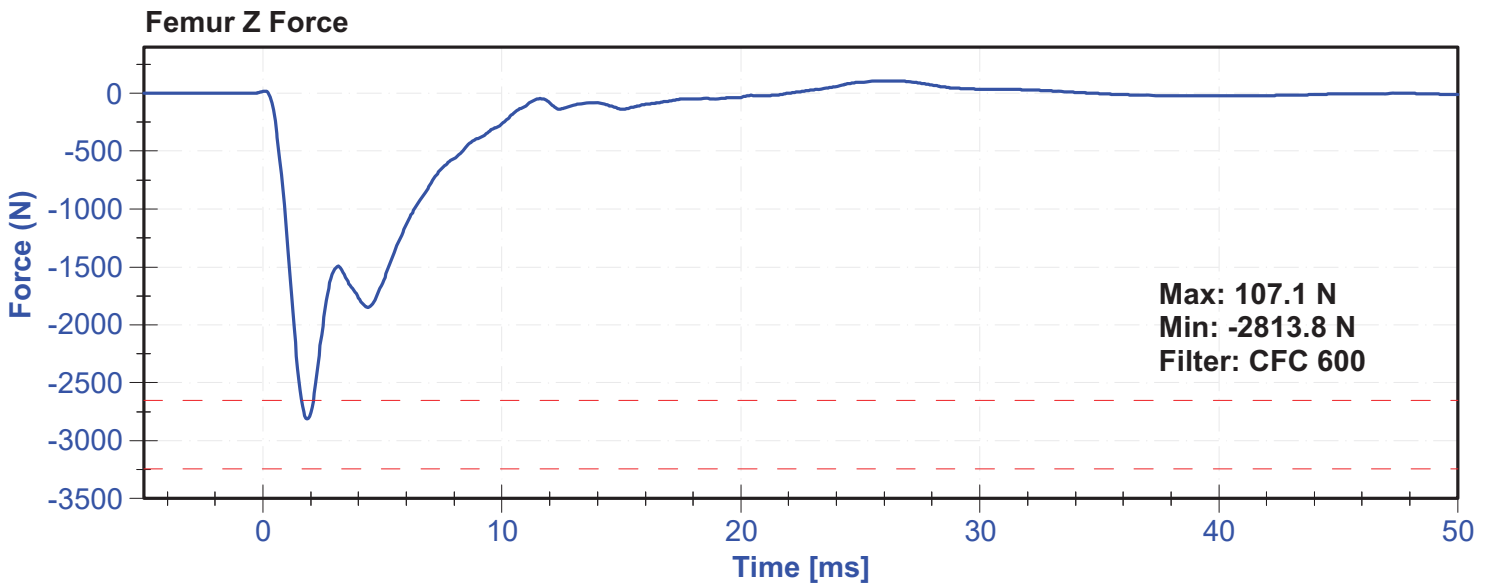
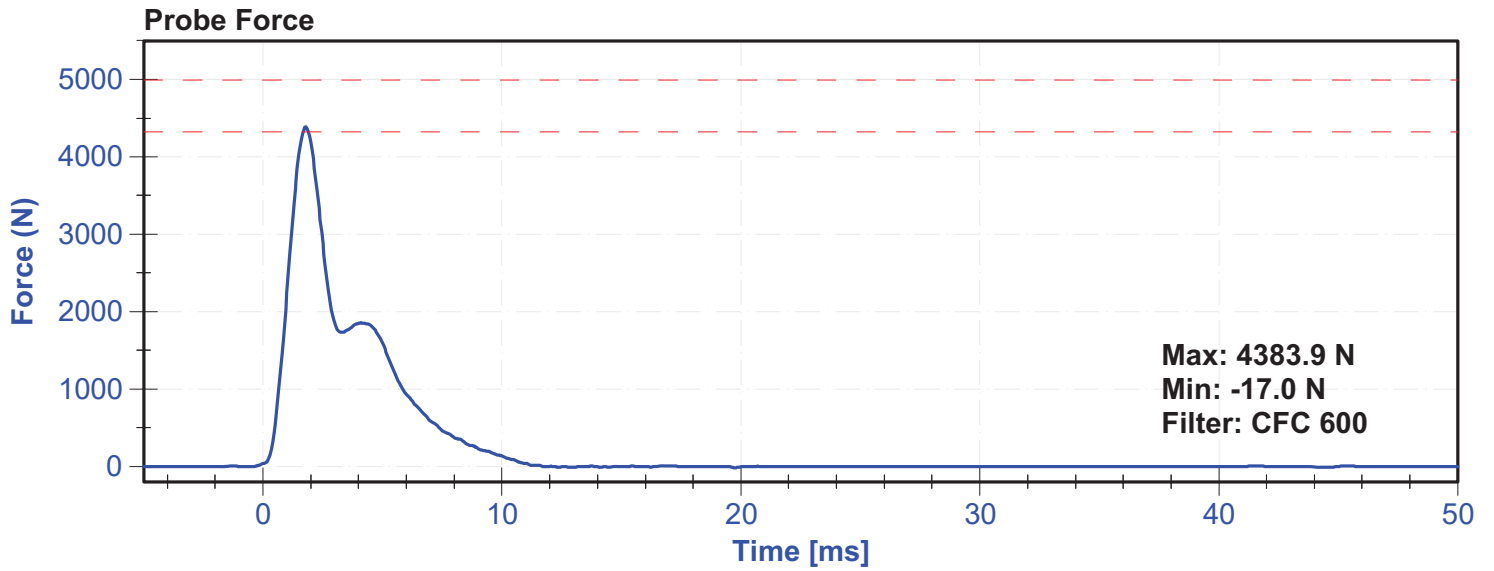
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.0	Pass
Humidity	10	70	%	41.3	Pass
Impact Velocity	2.55	2.65	m/s	2.612	Pass
Probe Force	4318	4989	N	4383.9	Pass
Peak Femur Z Force	-3241	-2652	N	-2813.80	Pass
Peak Resultant Acetabulum Force	1462	1787	N	1769.03	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Left Femur Load Cell	Denton W50-7101051	LC-DM4975 Fz	2/20/2016	2/19/2017
Left Acetabulum Load Cell	Humanetics 10530JI4	LC-DP4639 Fx	3/6/2016	3/6/2017



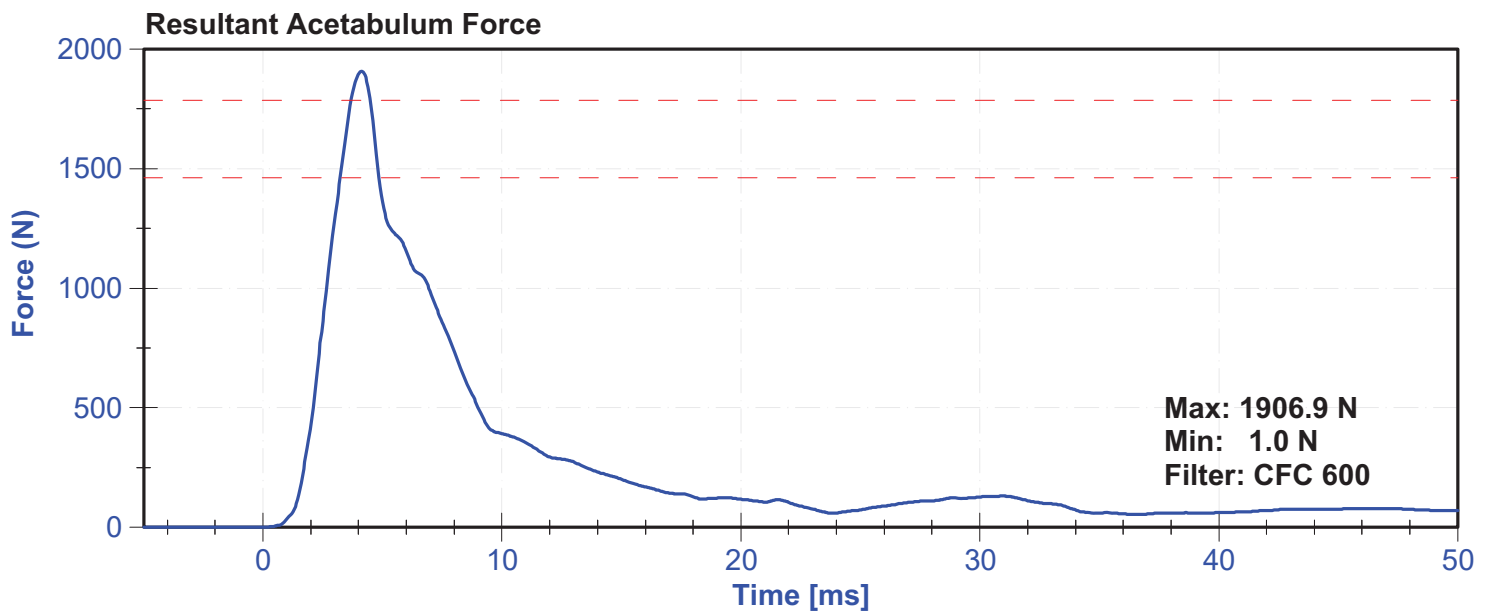
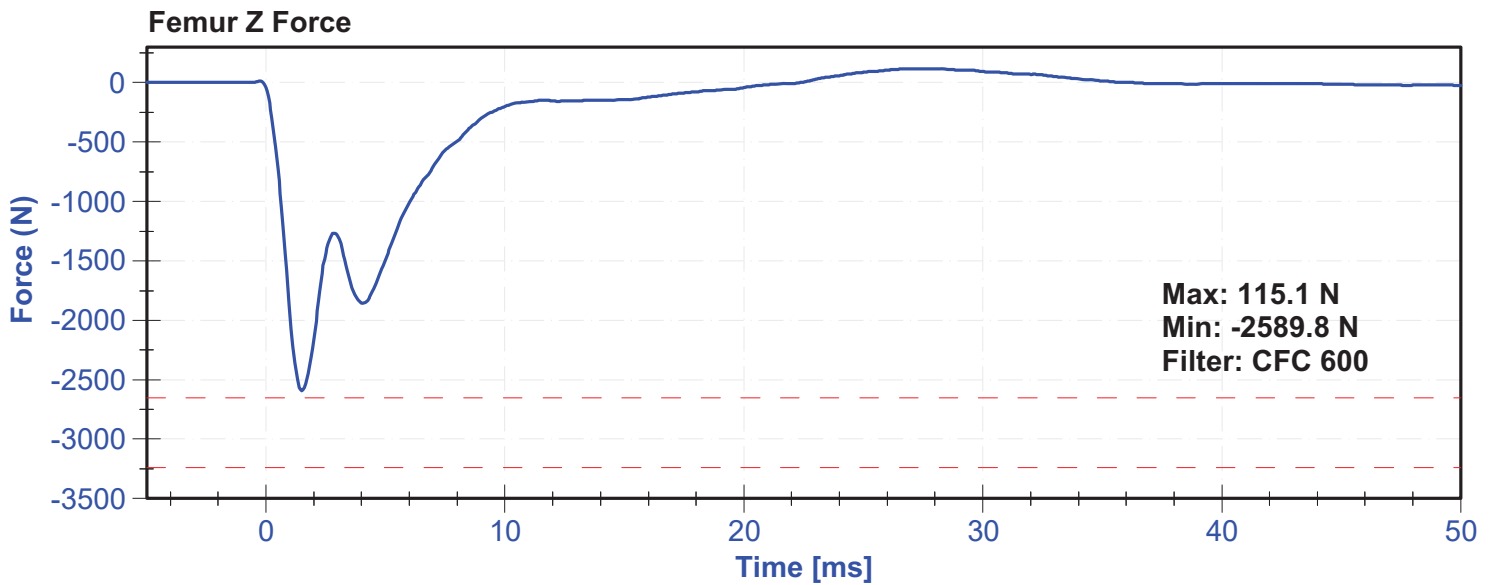
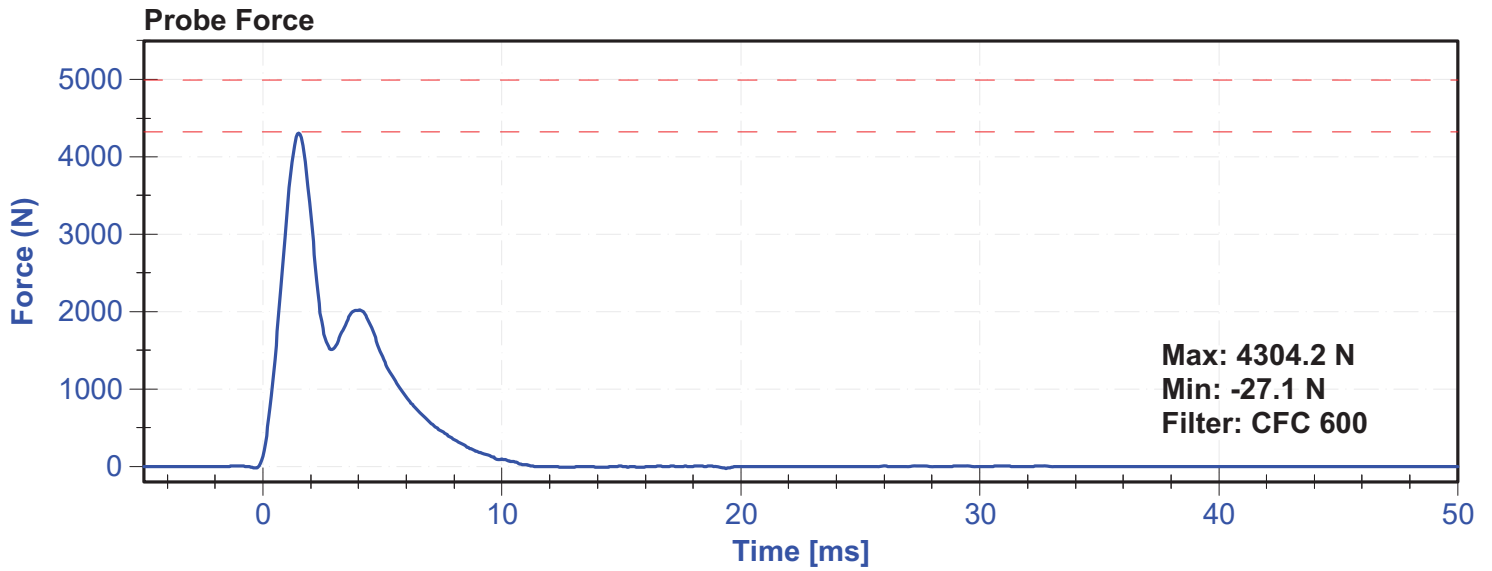
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.7	Pass
Humidity	10	70	%	40.0	Pass
Impact Velocity	2.55	2.65	m/s	2.598	Pass
Probe Force	4318	4989	N	4304.2	Fail
Peak Femur Z Force	-3241	-2652	N	-2589.84	Fail
Peak Resultant Acetabulum Force	1462	1787	N	1906.90	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Left Femur Load Cell	Denton W50-7101051	LC-DM4976 Fz	2/23/2016	2/22/2017
Left Acetabulum Load Cell	Humanetics 10670JI4	LC-DP3835 Fx	3/7/2016	3/7/2017



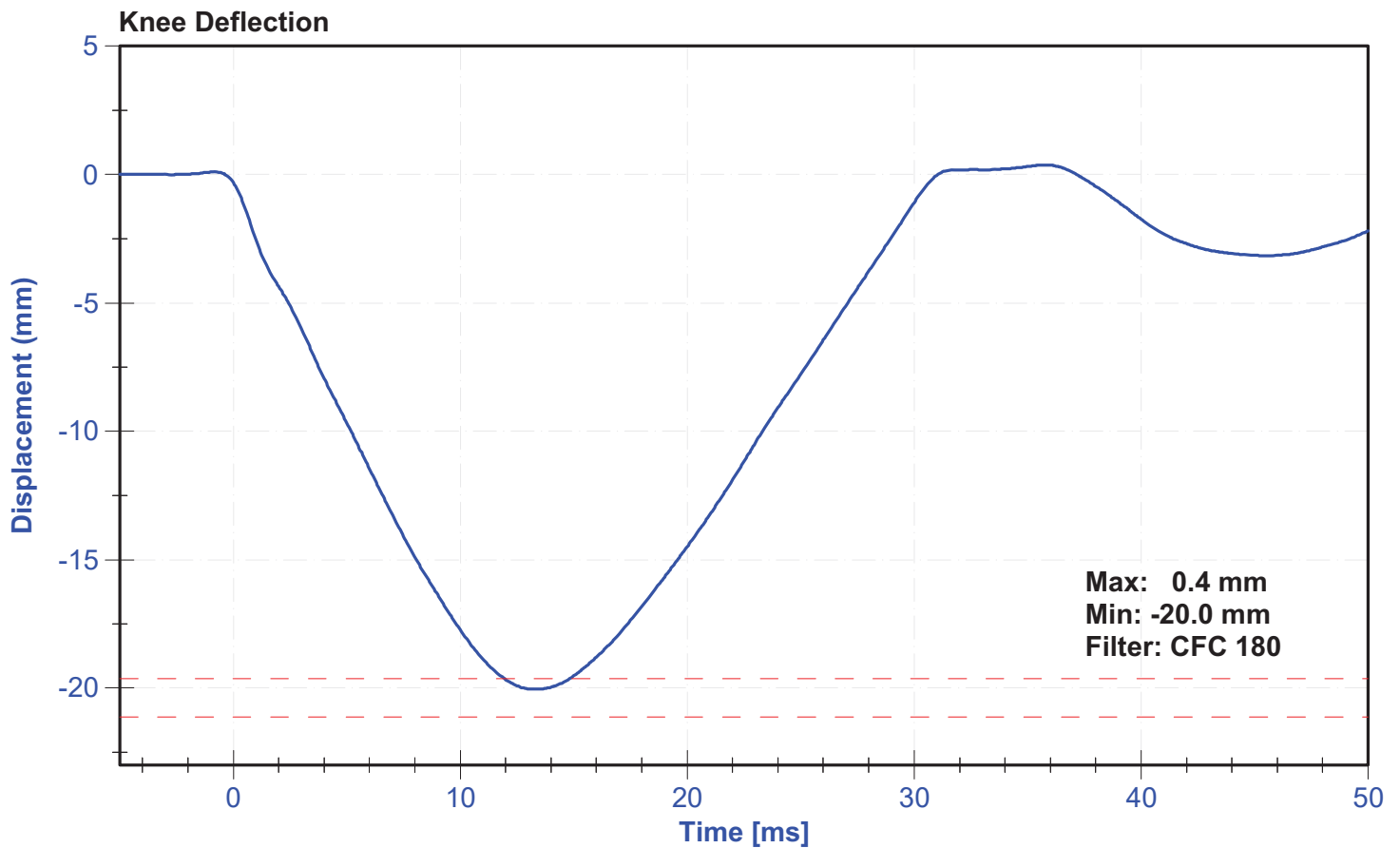
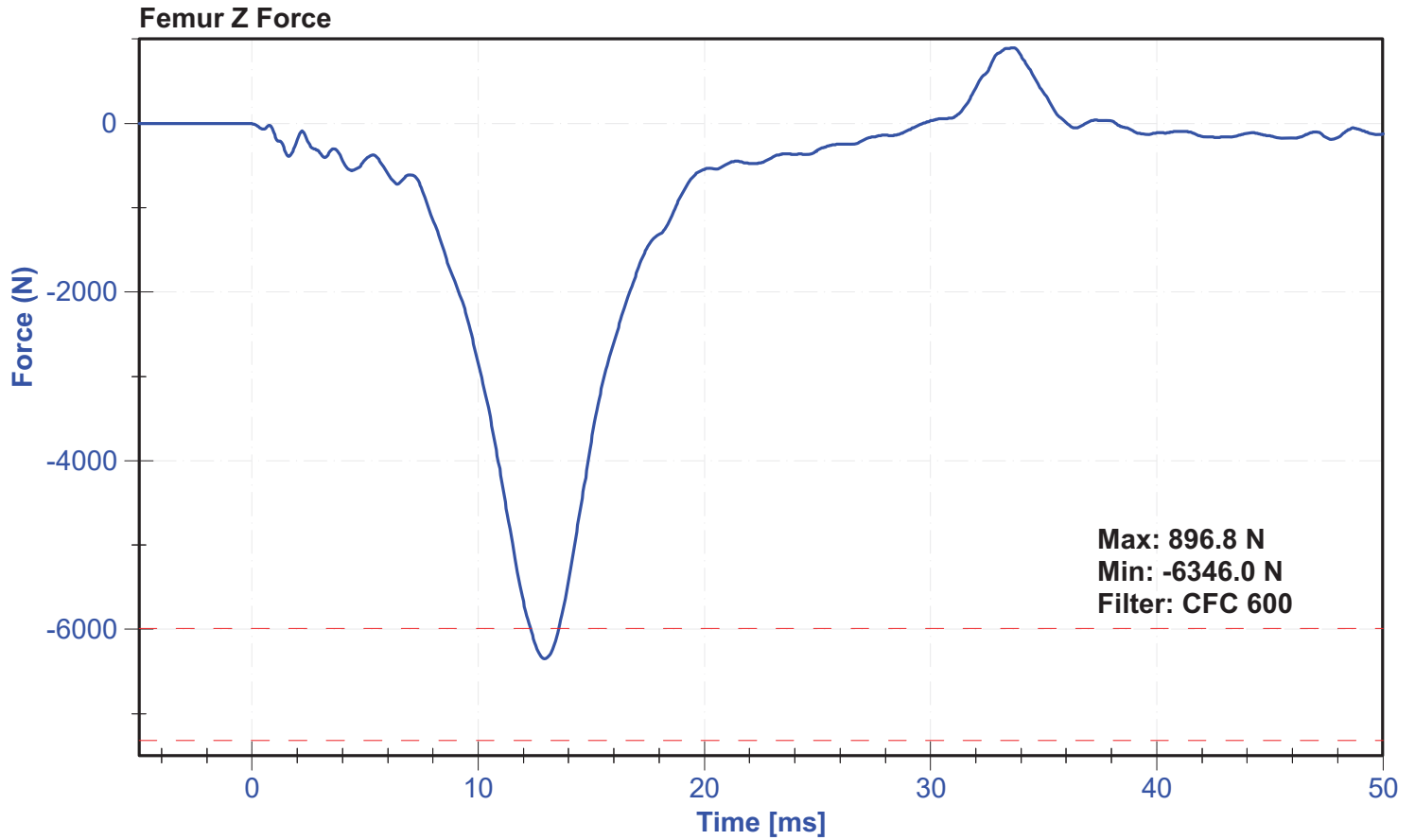
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	37.4	Pass
Impact Velocity	2.15	2.25	m/s	2.248	Pass
Peak Femur Z Force	-7317	-5987	N	-6346.0	Pass
Knee Deflection at Peak Force	-21.12	-19.62	mm	-20.05	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Femur Load Cell	Denton W50-7101051	LC-DM4975 Fz	2/20/2016	2/19/2017
Knee Potentiometer	Space Age 150-0121V	DS-C2102639B	2/17/2016	2/16/2017



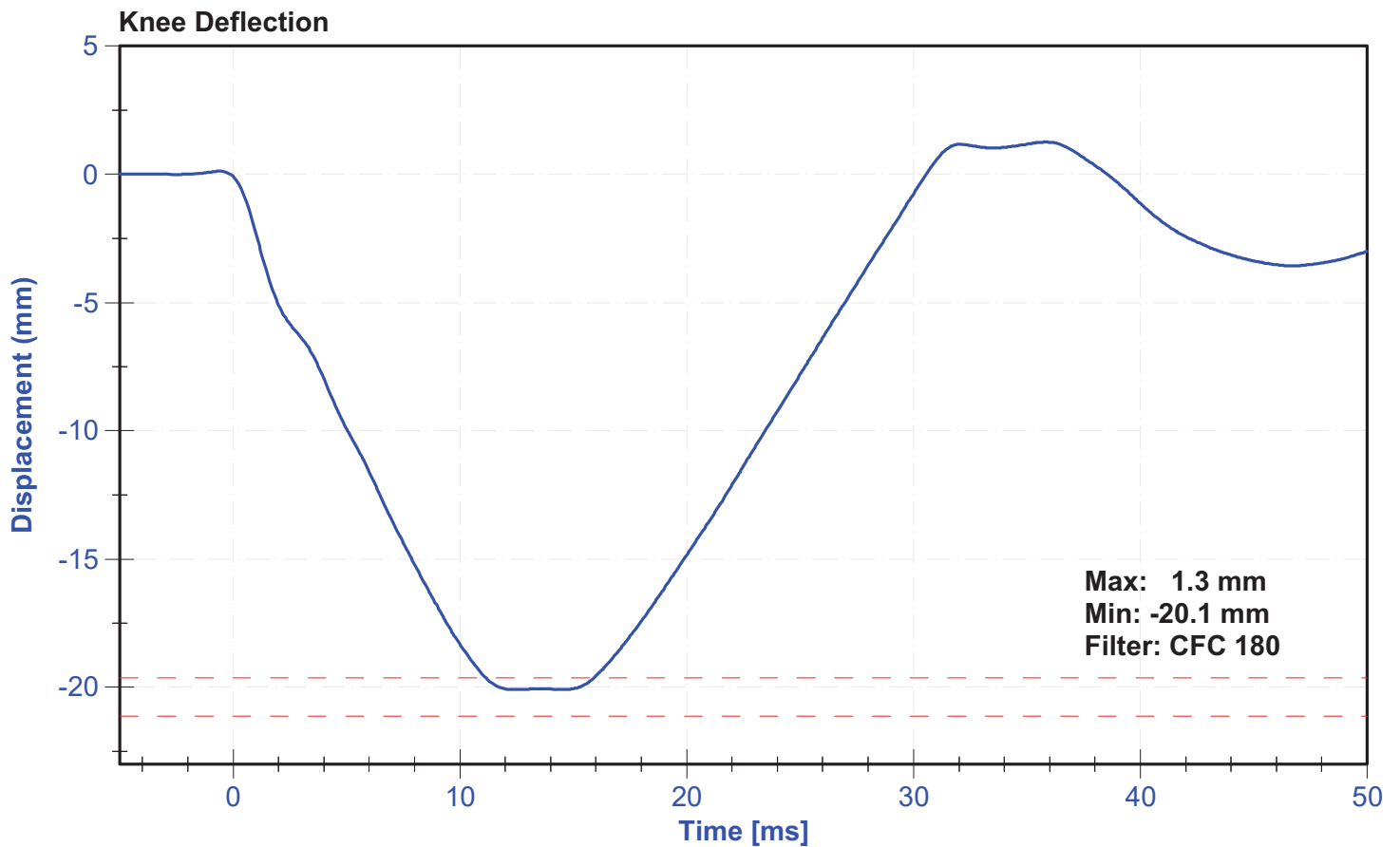
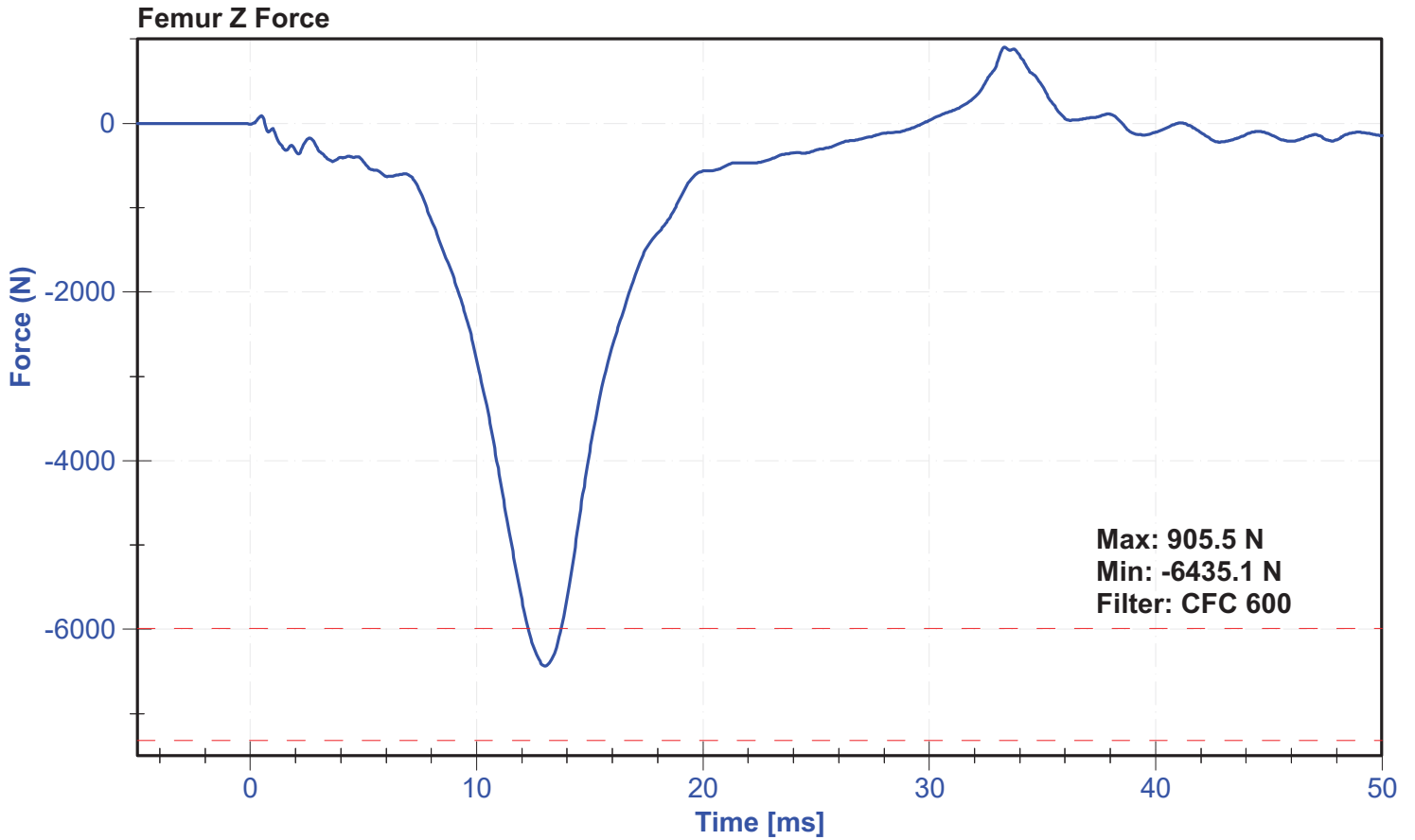
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.3	Pass
Humidity	10	70	%	41.5	Pass
Impact Velocity	2.15	2.25	m/s	2.243	Pass
Peak Femur Z Force	-7317	-5987	N	-6435.1	Pass
Knee Deflection at Peak Force	-21.12	-19.62	mm	-20.09	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accel	ENDEVCO 7264CT	AC-P23155	1/13/2016	7/14/2016
Femur Load Cell	Denton W50-7101051	LC-DM4976 Fz	2/23/2016	2/22/2017
Knee Potentiometer	Space Age 150-0121VL	DS-021033	3/18/2015	3/17/2016



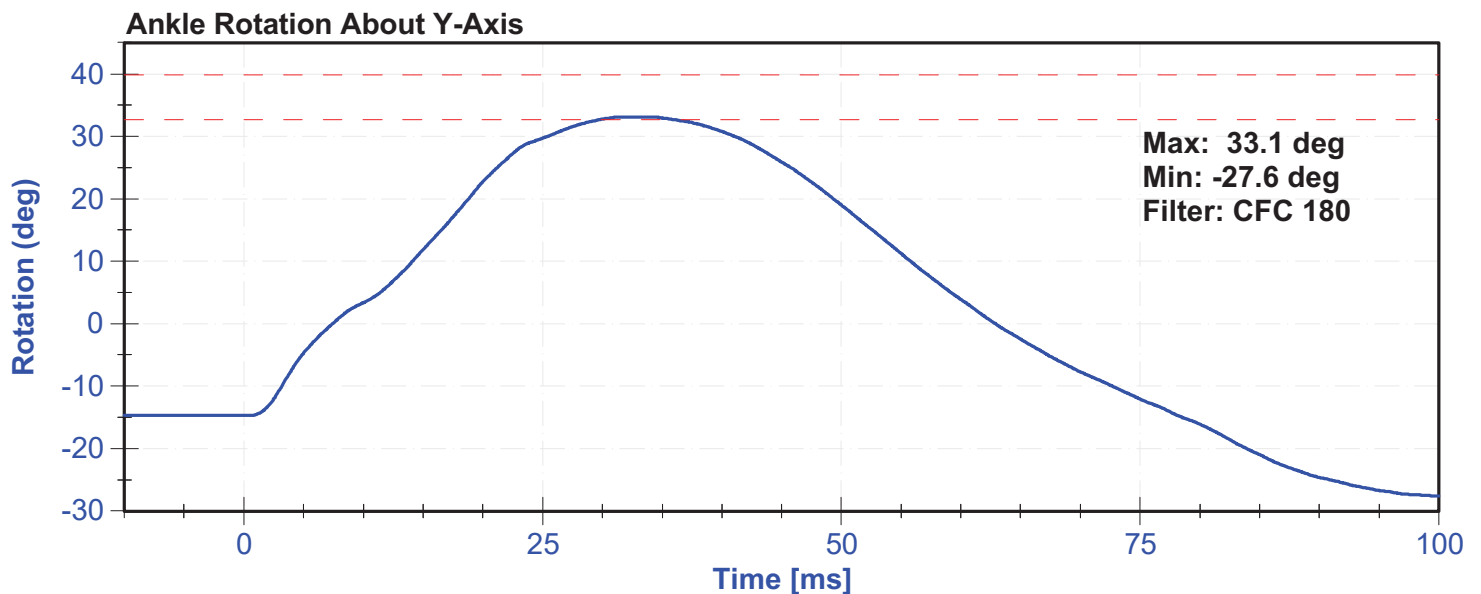
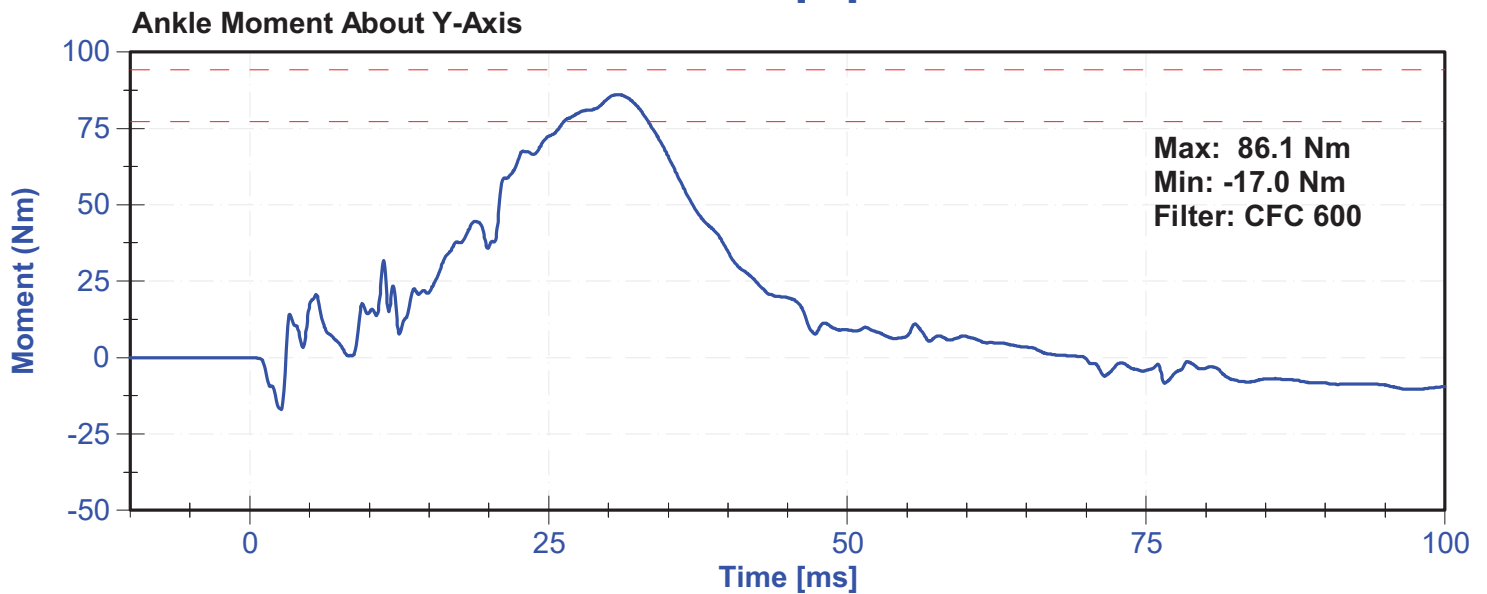
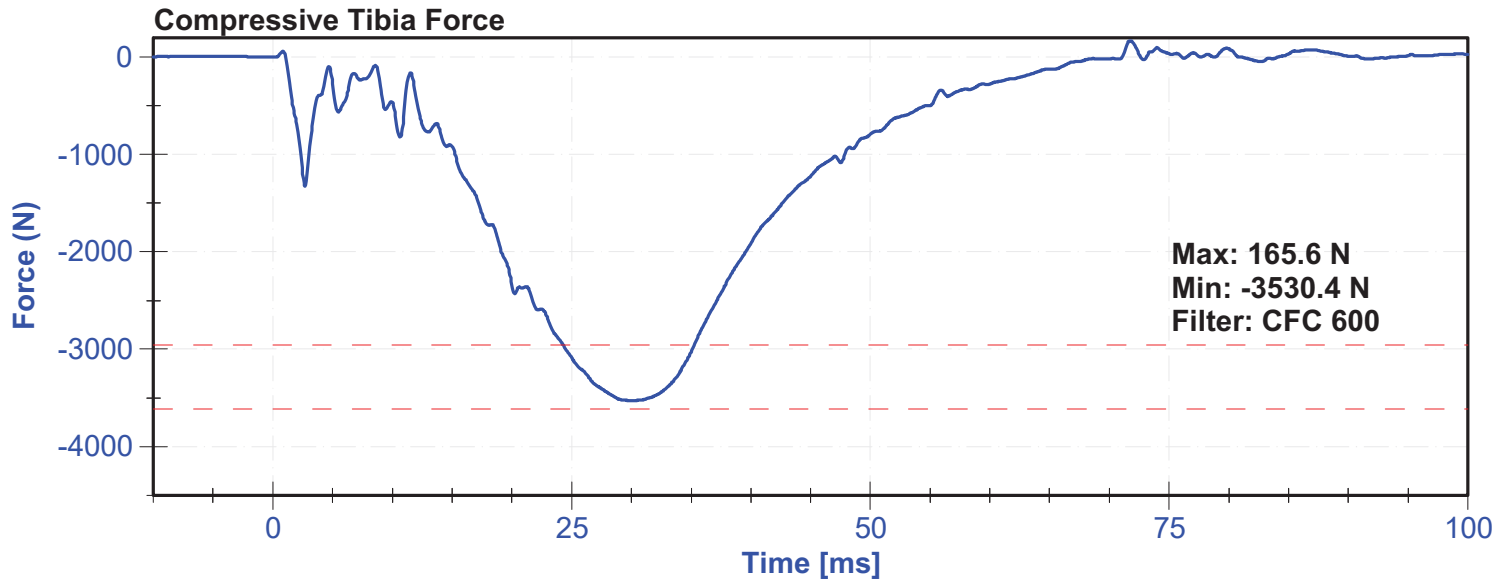
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	38.7	Pass
Velocity	4.9	5.1	m/s	4.961	Pass
Lower Tibia Compressive Force	-3613	-2956	N	-3530.4	Pass
Peak Moment about Y-Axis	77.1	94.2	Nm	86.10	Pass
Peak Rotation about Y-Axis	32.7	39.9	deg	33.05	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-121 Fz	2/10/2016	2/9/2017
Ankle Y Potentiometer	Contelec PD210-4B	DS-0524	2/18/2016	2/17/2017



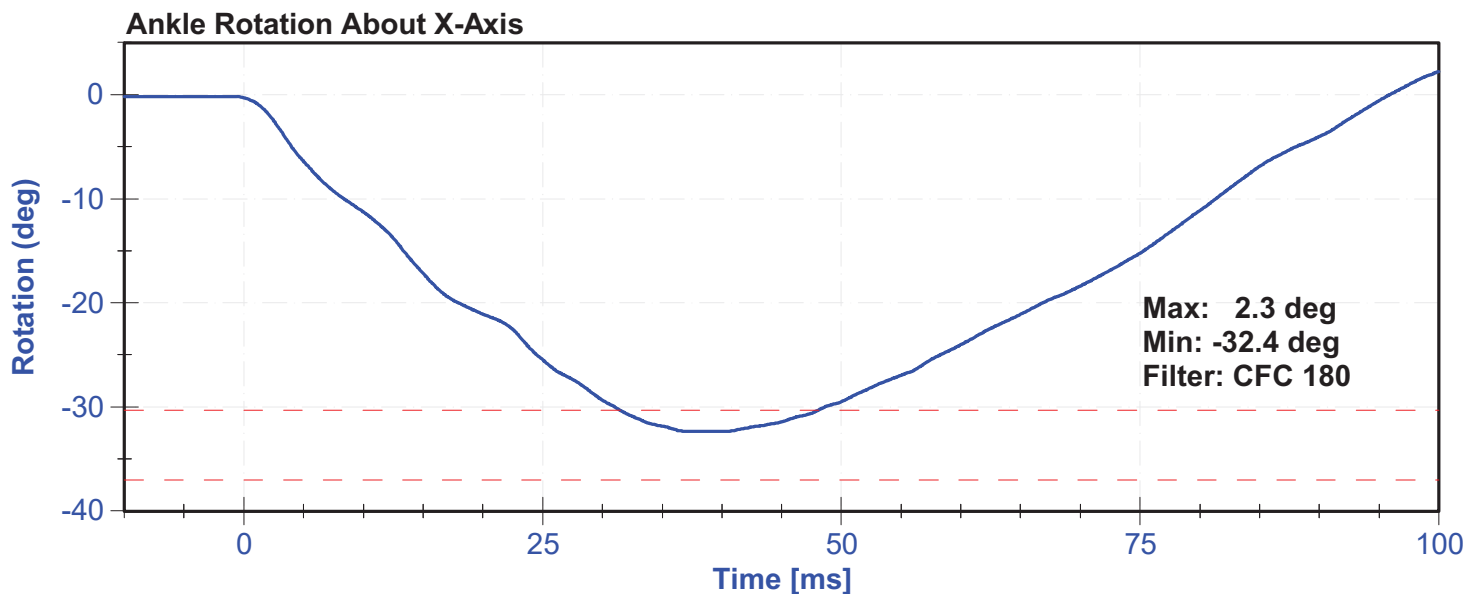
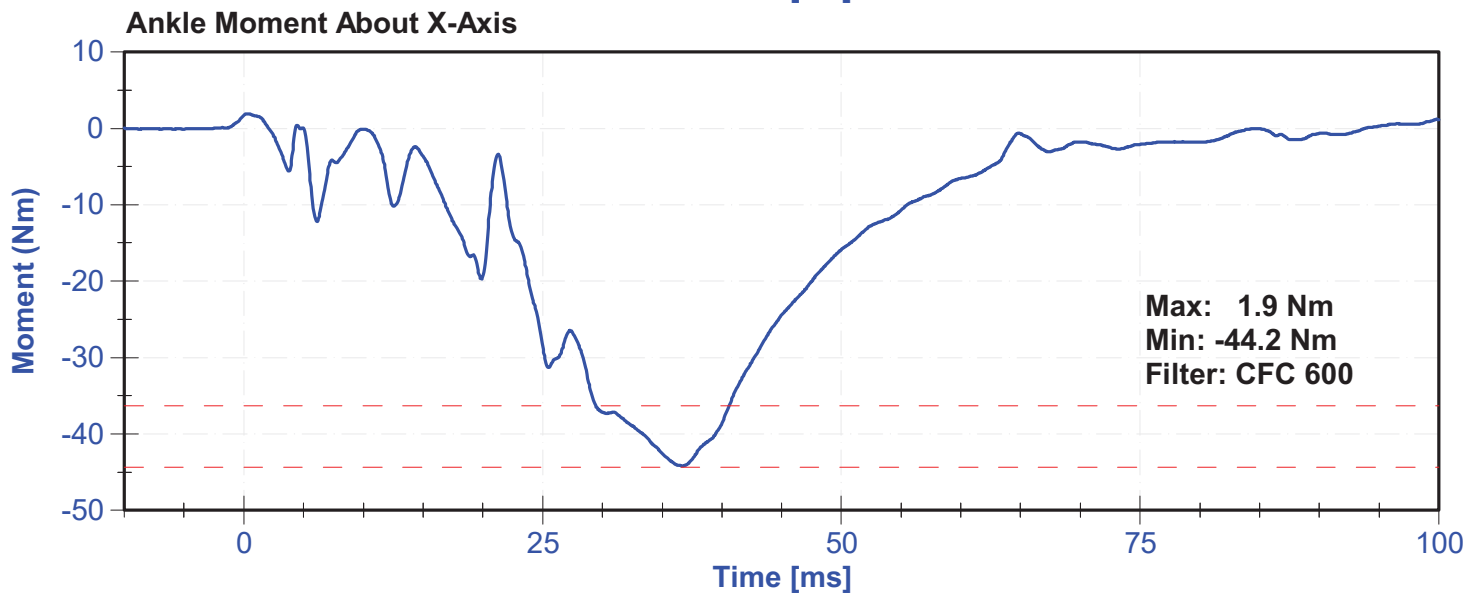
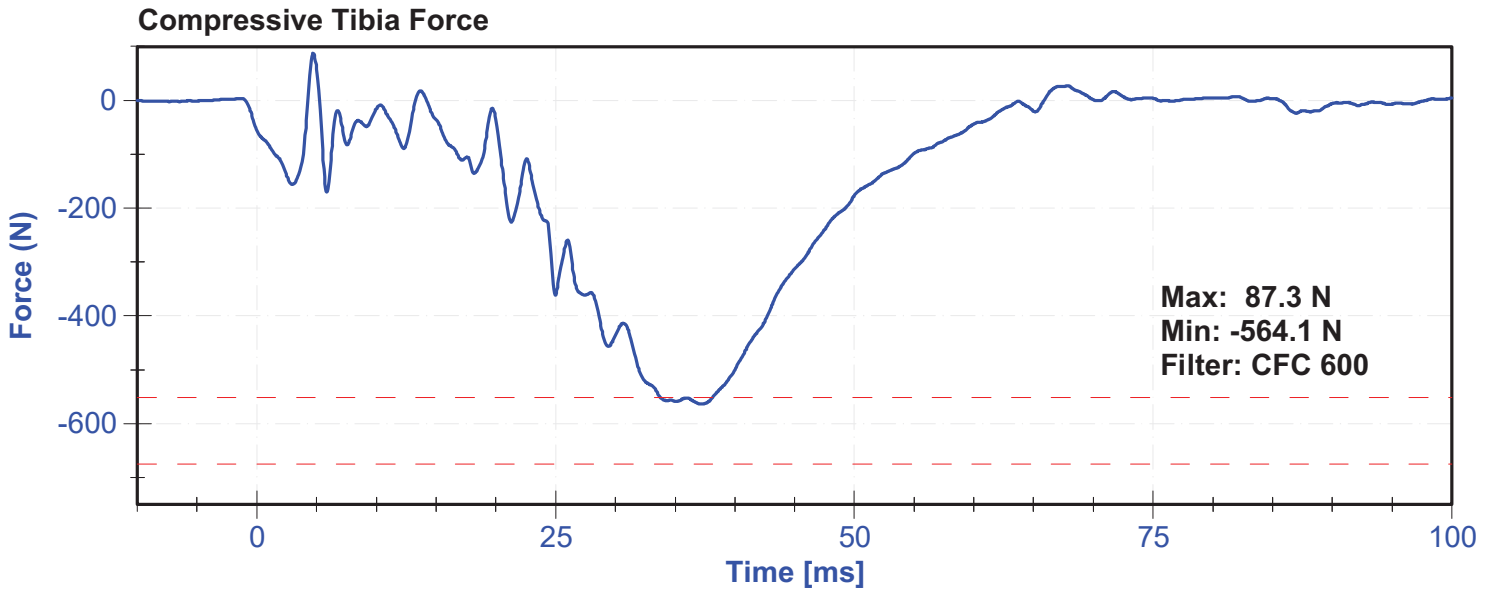
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	38.9	Pass
Velocity	1.9	2.1	m/s	1.924	Pass
Lower Tibia Compressive Force	-675	-552	N	-564.1	Pass
Peak Moment about X-Axis	-44.4	-36.3	Nm	-44.18	Pass
Peak Rotation about X-Axis	-37.0	-30.3	deg	-32.37	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-121 Fz	2/10/2016	2/9/2017
Ankle Y Potentiometer	Contelec PD210-4B	DS-0525	2/18/2016	2/17/2017



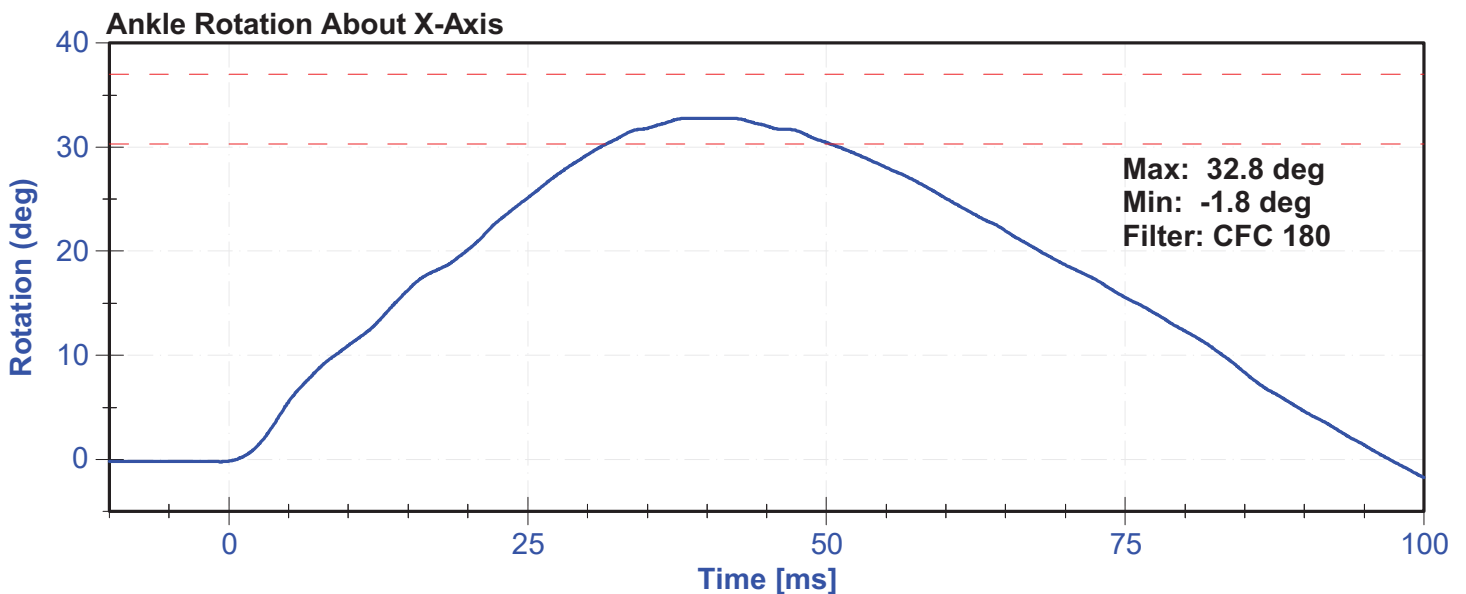
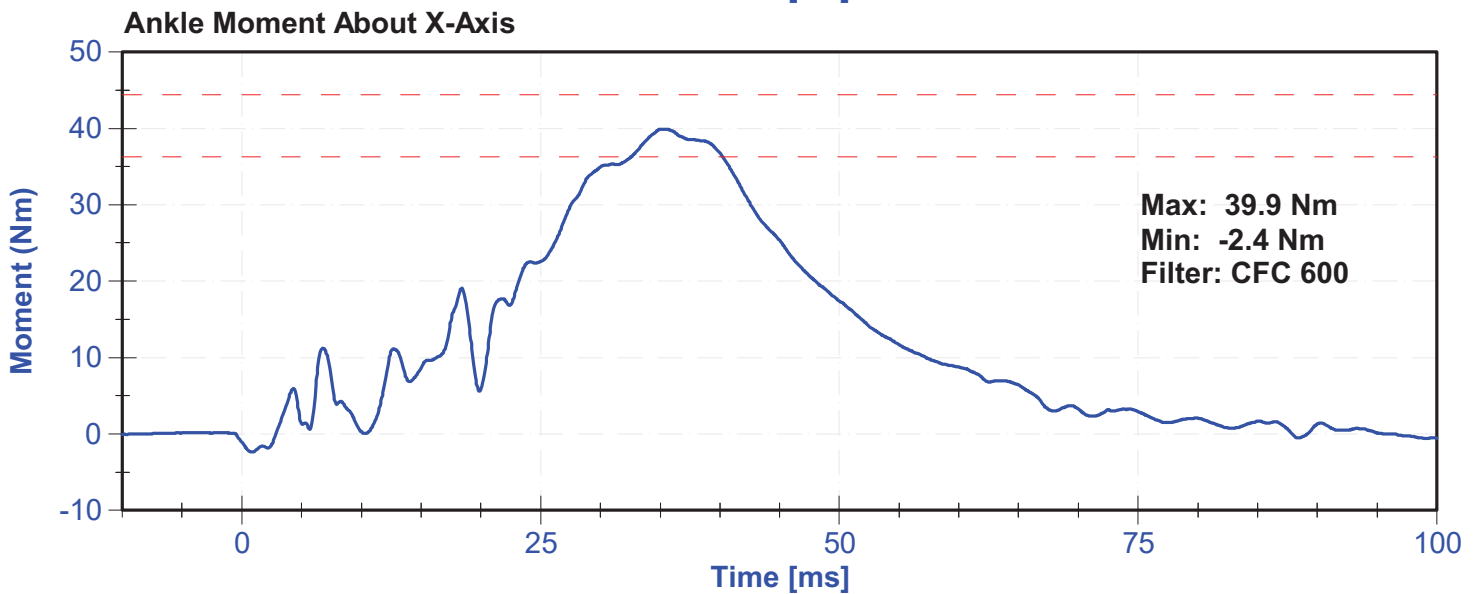
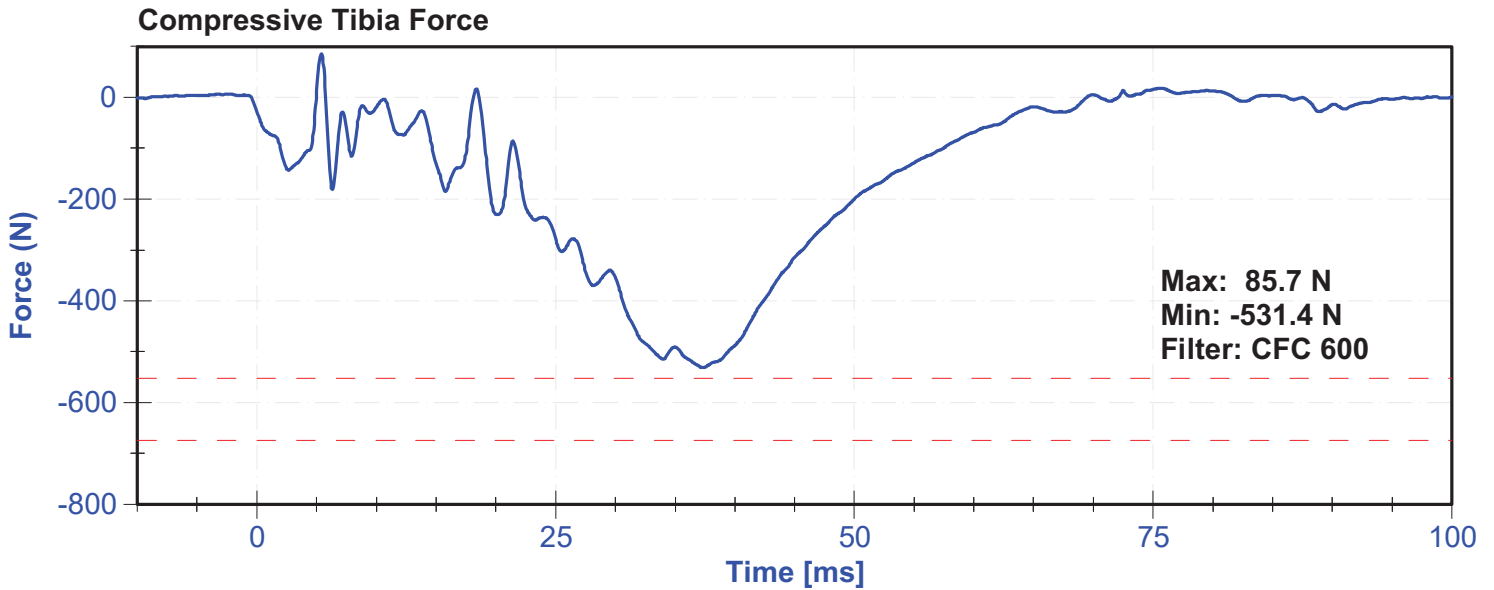
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	38.6	Pass
Velocity	1.9	2.1	m/s	1.991	Pass
Lower Tibia Compressive Force	-675	-552	N	-531.4	Fail
Peak Moment about X-Axis	36.3	44.4	Nm	39.90	Pass
Peak Rotation about X-Axis	30.3	37.0	deg	32.77	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-121 Fz	2/10/2016	2/9/2017
Ankle Y Potentiometer	Contelec PD210-4B	DS-0525	2/18/2016	2/17/2017



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

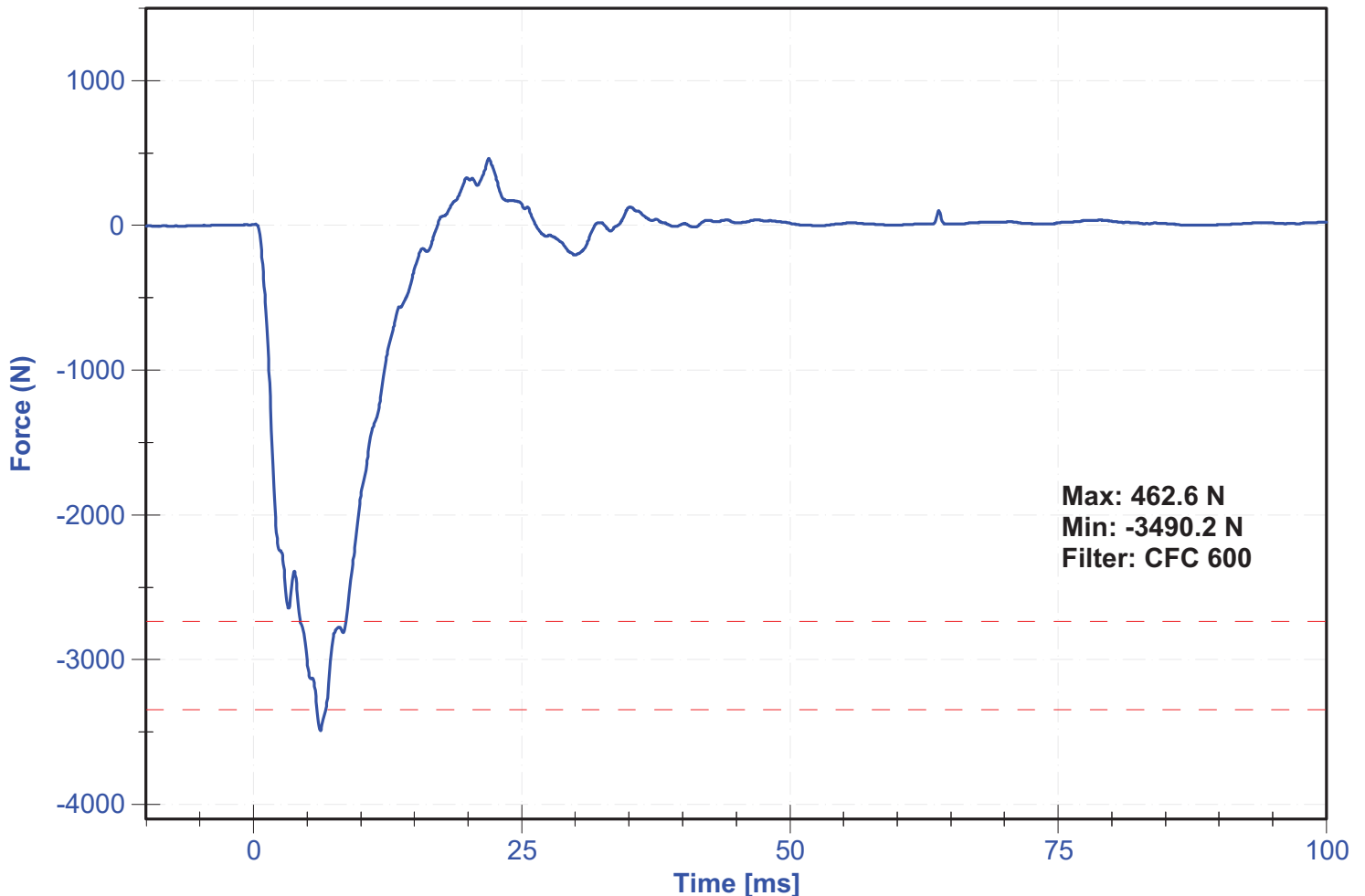
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.2	Pass
Humidity	10	70	%	38.5	Pass
Velocity	3.9	4.1	m/s	3.920	Pass
Lower Tibia Compressive Force	-3346	-2738	N	-3490.2	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-121 Fz	2/10/2016	2/9/2017

Compressive Tibia Force



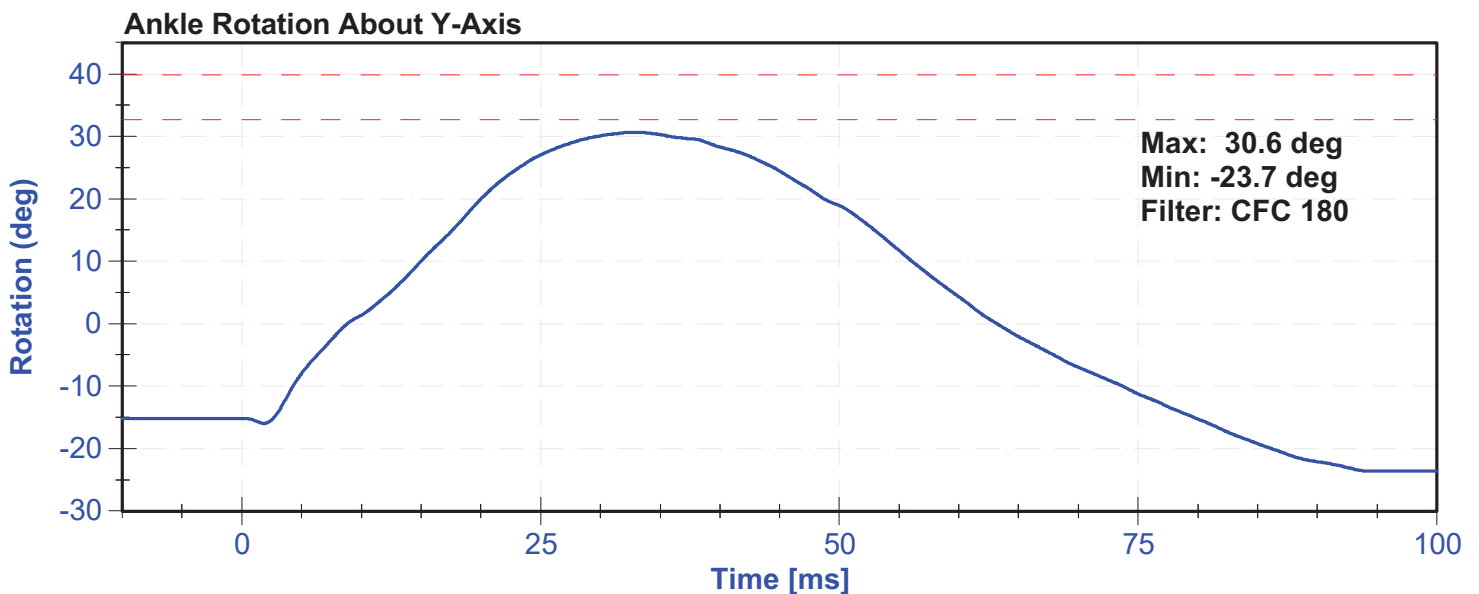
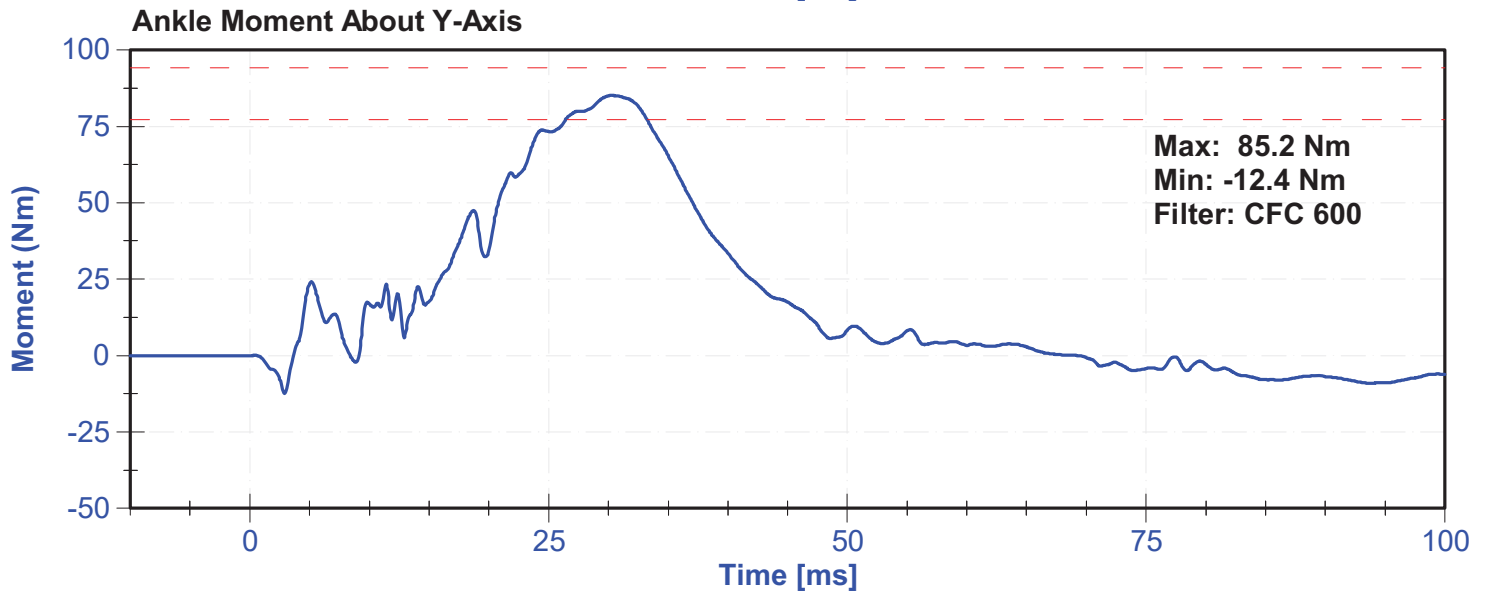
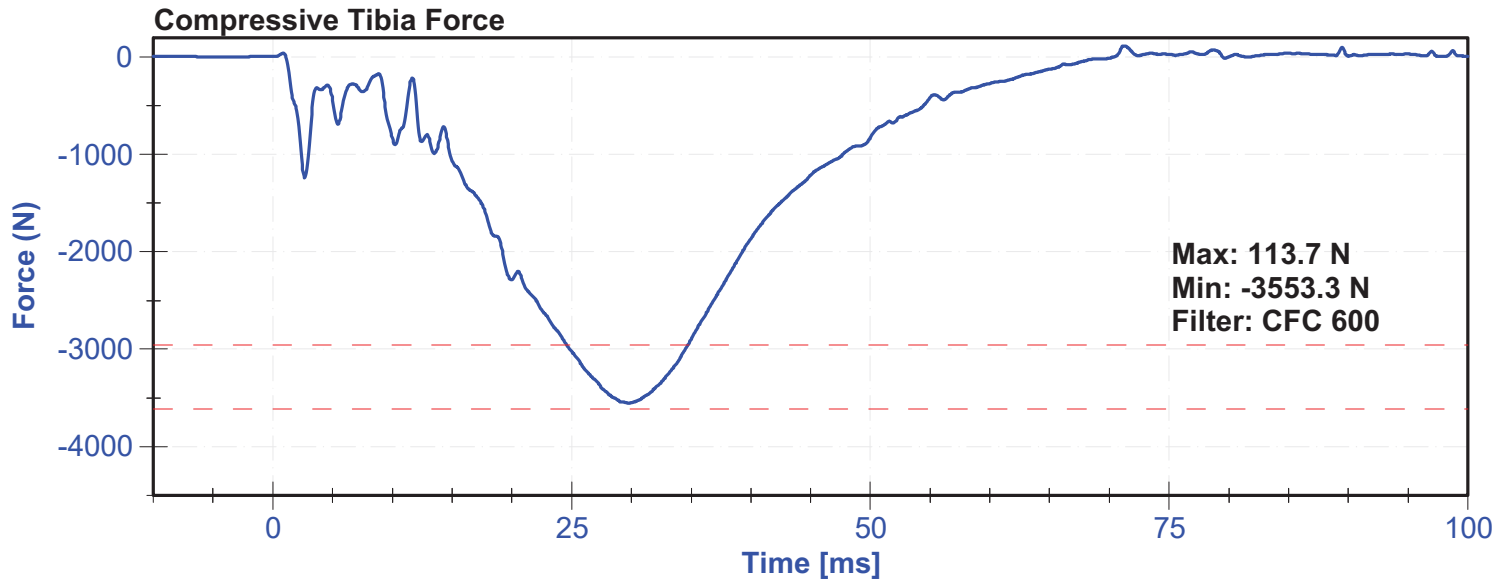
ATD Manufacturer	Humanertics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.9	Pass
Humidity	10	70	%	40.5	Pass
Velocity	4.9	5.1	m/s	4.961	Pass
Lower Tibia Compressive Force	-3613	-2956	N	-3553.3	Pass
Peak Moment about Y-Axis	77.1	94.2	Nm	85.20	Pass
Peak Rotation about Y-Axis	32.7	39.9	deg	30.58	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-166 Fz	2/9/2016	2/8/2017
Ankle Y Potentiometer	Contelec PD210-4B	DS-0526	2/19/2016	2/18/2017



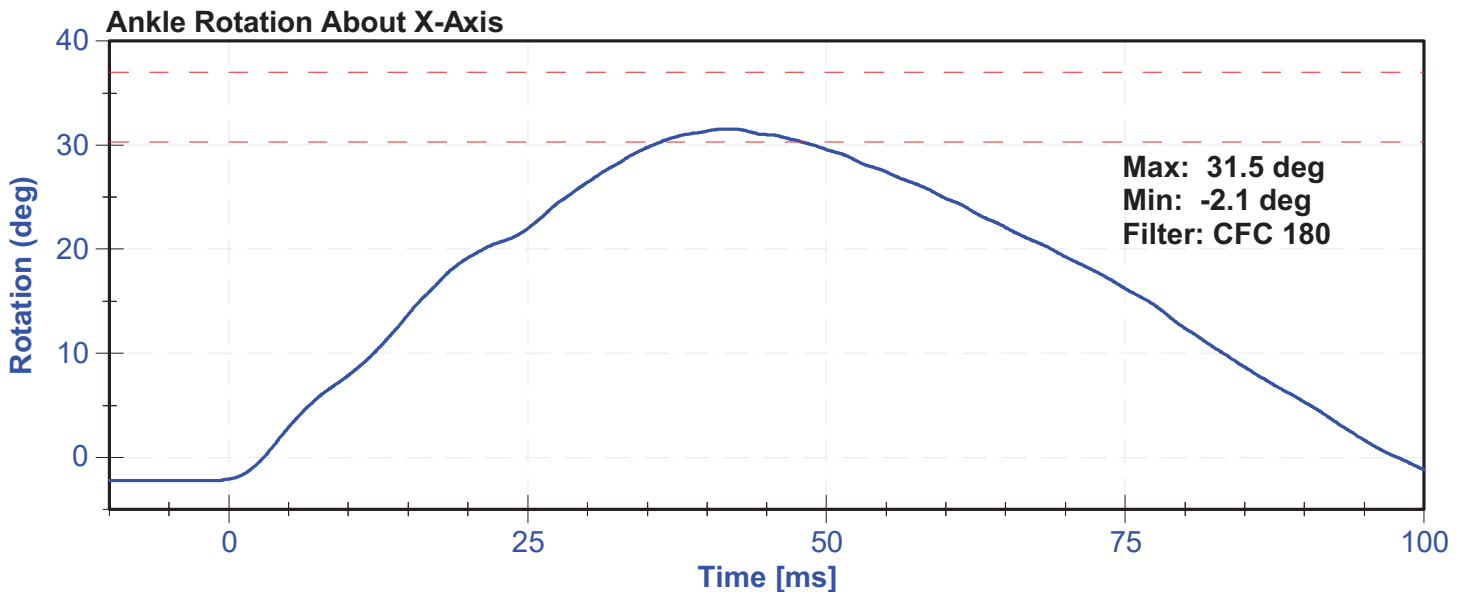
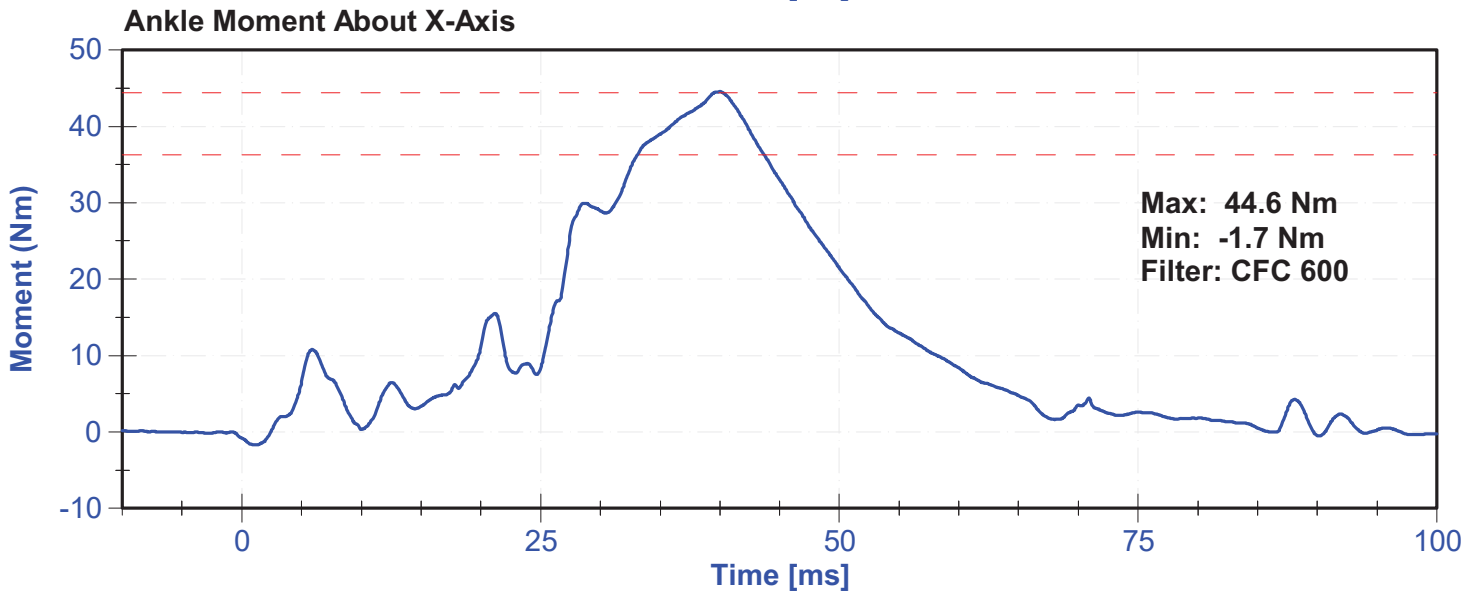
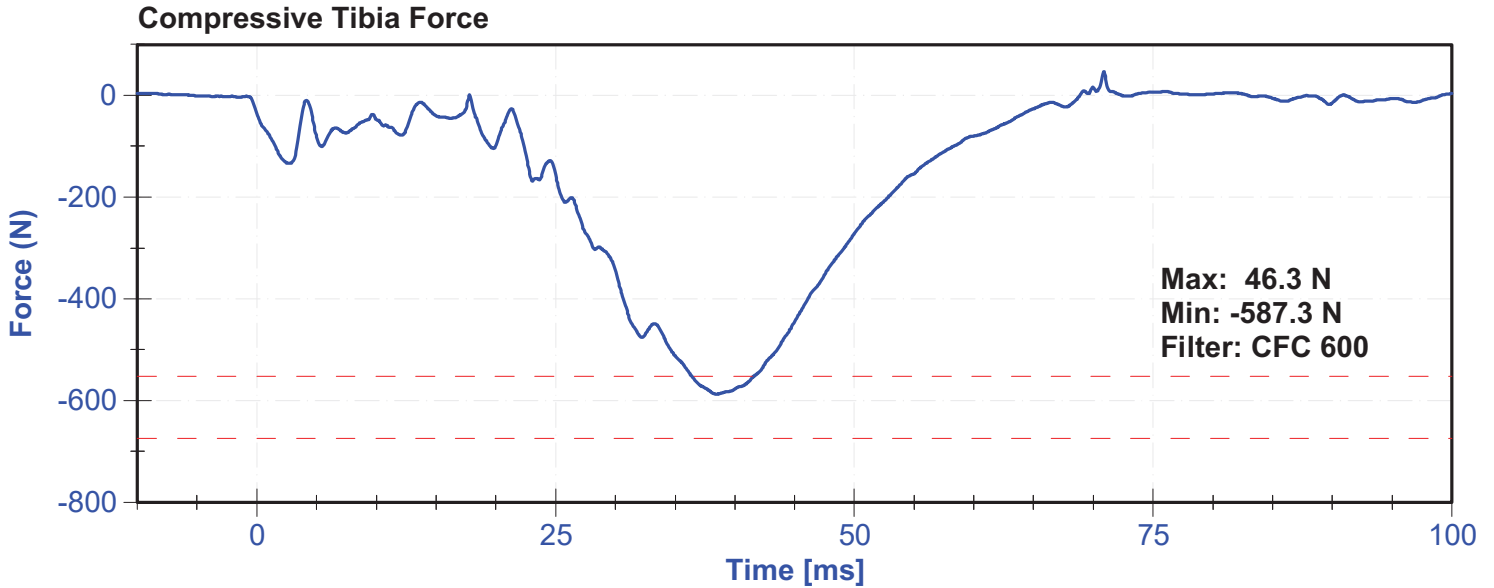
ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	Laboratory Supervisor	M. Goehle

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.6	Pass
Humidity	10	70	%	39.7	Pass
Velocity	1.9	2.1	m/s	1.924	Pass
Lower Tibia Compressive Force	-675	-552	N	-587.3	Pass
Peak Moment about X-Axis	36.3	44.4	Nm	44.56	Fail
Peak Rotation about X-Axis	30.3	37.0	deg	31.54	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-166 Fz	2/9/2016	2/8/2017
Ankle Y Potentiometer	Contelec PD210-4B	DS-0528	2/19/2016	2/18/2017



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	LX045	Laboratory Supervisor	M. Goehle

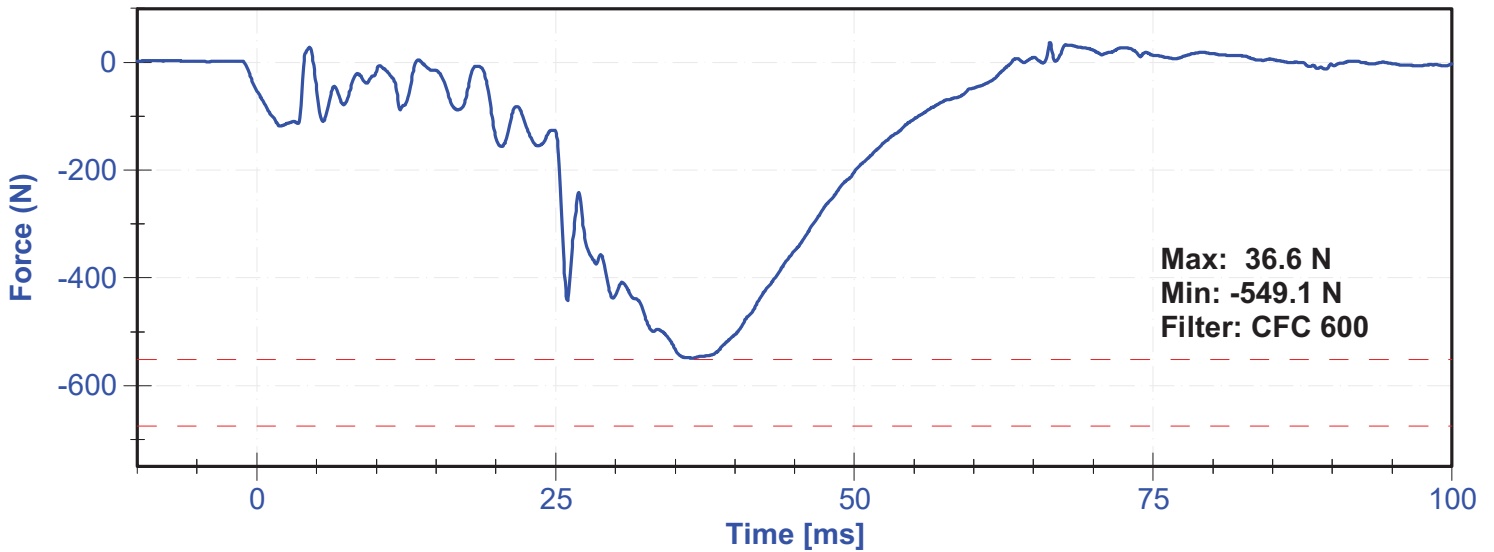
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	20.8	Pass
Humidity	10	70	%	38.5	Pass
Velocity	1.9	2.1	m/s	1.924	Pass
Lower Tibia Compressive Force	-675	-552	N	-549.1	Fail
Peak Moment about X-Axis	-44.4	-36.3	Nm	-43.57	Pass
Peak Rotation about X-Axis	-37.0	-30.3	deg	-33.36	Pass

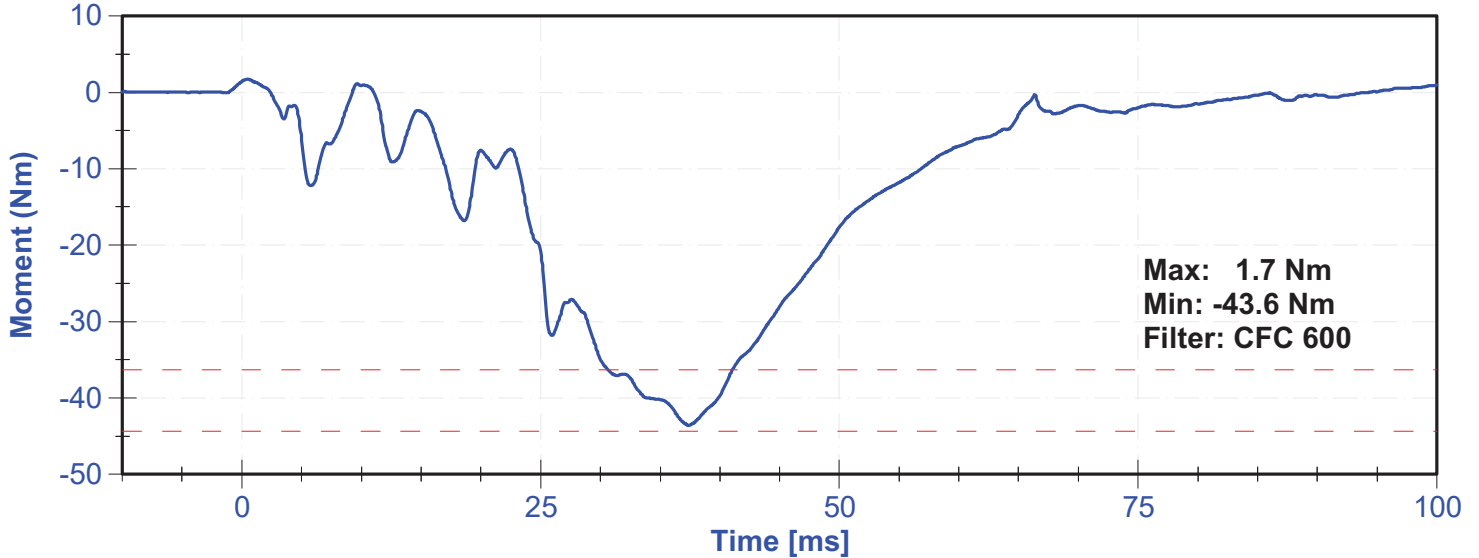
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-166 Fz	2/9/2016	2/8/2017
Ankle Y Potentiometer	Contelec PD210-4B	DS-0528	2/19/2016	2/18/2017

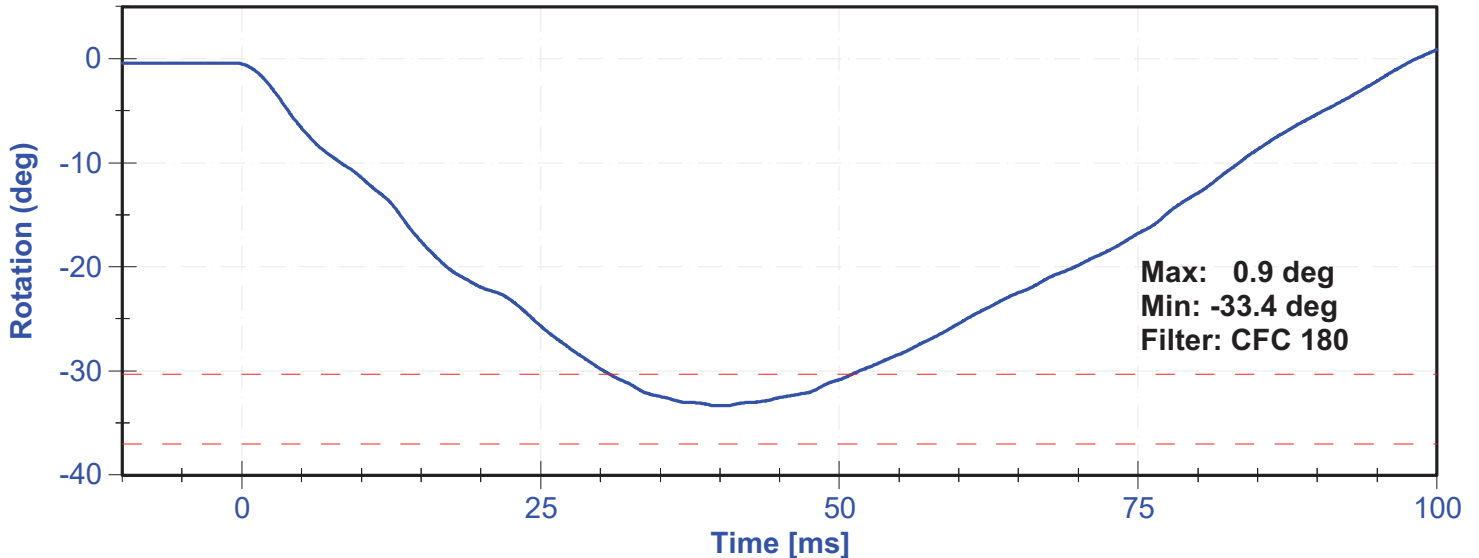
Compressive Tibia Force



Ankle Moment About X-Axis



Ankle Rotation About X-Axis



ATD Manufacturer	Humanetics	Test Technician	M.Hartung
ATD Serial Number	DL9207	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	%	50.1	Pass
Velocity	3.9	4.1	m/s	3.920	Pass
Lower Tibia Compressive Force	-3346	-2738	N	-3788.2	Fail

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	ENDEVCO 7264CT	AC-P32227	8/27/2015	8/26/2016
Lower Tibia Load Cell	Denton 4929J	LC-166 Fz	2/9/2016	2/8/2017

Compressive Tibia Force

