

REPORT NUMBER: NCAP-MGA-2005-001

**NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST**

**Daimler Chrysler Corporation
2005 Chrysler 300
NHTSA NUMBER: M50300**

**PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105**



Test Date: August 11, 2004

Final Report Date: September 21, 2004

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
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WASHINGTON, D.C. 20590**

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Manager, New Car Assessment Program

Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

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16. Abstract A 35.1 mph (56.5 km/h) frontal barrier impact was conducted on a 2005 Chrysler 300 at MGA Research Corporation on August 11, 2004. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and foot well intrusion performance. The impact velocity was 56.5 km/h. The ambient temperature at the barrier face at the time of impact was 21 degrees Celsius. The vehicle's maximum post test static crush is 679 mm located at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and an airbag in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows: <table border="1" style="width: 100%; margin-top: 10px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Measurement Description</u></th> <th style="text-align: left;"><u>Units</u></th> <th style="text-align: left;"><u>Threshold</u></th> <th style="text-align: left;"><u>Driver ATD</u></th> <th style="text-align: left;"><u>Pass. ATD</u></th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC)</td> <td>N/A</td> <td>1000</td> <td>216</td> <td>433</td> </tr> <tr> <td>Max. Thorax Accel. (3ms Clip)</td> <td>G's</td> <td>60</td> <td>37</td> <td>35</td> </tr> <tr> <td>Left Femur Force</td> <td>Newton</td> <td>10009</td> <td>-4167</td> <td>-3553</td> </tr> <tr> <td>Right Femur Force</td> <td>Newton</td> <td>10009</td> <td>-2974</td> <td>-3299</td> </tr> </tbody> </table>				<u>Measurement Description</u>	<u>Units</u>	<u>Threshold</u>	<u>Driver ATD</u>	<u>Pass. ATD</u>	Head Injury Criteria (HIC)	N/A	1000	216	433	Max. Thorax Accel. (3ms Clip)	G's	60	37	35	Left Femur Force	Newton	10009	-4167	-3553	Right Femur Force	Newton	10009	-2974	-3299
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SECTION 1

PURPOSE AND SUMMARY OF TEST

PURPOSE

This 56.3 km/h frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under contract number DTNH22-01-D-12005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact in excess of the current 48.3 kph requirements.

SUMMARY

A load cell barrier consisting of 30 load cells was impacted by a 2005 Chrysler 300 at a velocity of 56.5 kph. The test was performed at MGA Research Corporation on August 11, 2004. Pre-and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time camera and sixteen high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head, chest and pelvis tri-axial accelerometers, chest displacement potentiometer, upper neck transducers, right/left femur load cells, and lower leg instrumentation. The driver (position 1) ATD (Serial No. 065) and right-front passenger (position 2) ATD (Serial No. 066) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 162 channels of data were recorded on an on-board data acquisition system. Appendix B contains the vehicle and dummy response data traces.

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the event. There was no Stoddard Solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 679 mm and both the driver and passenger side doors remained closed and latched during the impact event and were operable after the impact.

The driver's head, chest, and abdomen contacted the airbag. The driver's head also contacted the headrest. The driver's knees contacted the bolster. The passenger's head, chest and abdomen contacted the airbag. The passenger's head contacted the headrest. The passenger's knees contacted the glove box.

The occupant data is summarized below:

ATD position	HIC	Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver	216.2	37.2	-29.9	-4167	-2974
Passenger	433.2	35.1	-27.6	-3553	-3299

TEST NOTES

The following channels did not collect any data:

Bottom of Engine x – after 60ms

LRP Belt Stretch – after 60ms

Passenger Left Lower Tibia MY – after 120ms

Passenger Left Lower Tibia FZ – after 120ms

Passenger Upper Neck FZ did not collect any valid data.

No valid data was collected for the barrier load cells.

SECTION 2
OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	English Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressure	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

*Based on the Recommended Practice in SAE J916, May 85

**DATA SHEET NO. 1
CRASH TEST SUMMARY**

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/hr	56.5
Test Weight	kg	1886.0
Average Rebound	mm	811
Maximum Static Crush	mm	679
Impact Angle	degrees	0.0

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Locked/Unlocked Doors	Doors were unlocked	Doors were unlocked
Front Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Rear Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Seat Track Shift (mm)	0	0
Seat Back Failure	None	None
Glazing Damage	The windshield cracked.	

TEST DUMMY INFORMATION

Description	Driver	Passenger
Dummy Type / Serial No.	HIII 50 th / 065	HIII 50 th / 066
Head Contact	Airbag, Headrest	Airbag, Headrest
Chest Contact	Airbag	Airbag
Abdomen Contact	Airbag	Airbag
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

16mm MOVIE COVERAGE

High Speed	16
Real Time	1
Total	17

Driver ATD Sensors	52
Passenger ATD Sensors	48
Belt Assessment Sensors	6
Vehicle Structure Accelerometers	12
Total	118

DATA SHEET NO. 2

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

TEST VEHICLE INFORMATION

Manufacturer	DaimlerChrysler
Model	Chrysler 300
Body Style	4-Dr Sedan
NHTSA No.	M50300
VIN	2C3JA43R95H176636
Color	Satin Jade Pearl
Delivery Date	08/03/04
Odometer Reading (mile)	63
Dealer	Frank Boucher
Transmission	Automatic
Final Drive	Rear
Number of Cylinders	6
Engine Displacement (L)	2.7
Engine Placement	Longitudinal
Automatic Door Lock (ADL)	Yes
Owner's Manual Details Instructions on Disabling ADLs	Yes

TEST VEHICLE OPTIONS

Driver Airbag	Yes
Passenger Airbag	Yes
Force Limiter	Yes
Pretensioner	Yes
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Telescope Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	Yes
Anti-lock Brakes	Yes
AM/FM/CD	Yes
Anti-theft System	Yes
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	DaimlerChrysler Corporation	GVWR (kg)	2225
Date of Manufacture	07/04	GAWR Front (kg)	1273
		GAWR Rear (kg)	1273

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	210	210
Recommended Tire Size	P215/65R17	P215/65R17
Tire Size on Vehicle	P215/65R17	P215/65R17
Tire Manufacturer	Goodyear	Goodyear

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				392
Cargo Wt. (RCLW) (kg)				52.2

DATA SHEET NO. 2... (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	445.0	383.7		466.2	480.4	
Right	kg	451.8	402.3		450.0	489.4	
Ratio	%	53.3	46.7		48.6	51.4	
Totals	kg	896.8	786.0	1682.8	916.2	969.8	1886.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1682.8
Weight of 2 P572E ATDs	kg	156.0
Rated Cargo/Luggage Weight (RCLW)	kg	52.2
Calculated Vehicle Target Weight (TVTW)	kg	1891.0

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	779	774	787	780	1422
As Tested	mm	763	764	767	763	1566
Post Test	mm	852	804	764	750	

Vehicle Wheelbase (mm): 3045

Weight of Ballast secured in cargo area (kg): 0.0

Vehicle Components Removed: spare tire, jack, trunk lid, rear bumper, exhaust, trunk interior
 Ballast weight does not include instrumentation and data acquisition system.

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 68.1

Usable Capacity Figure Furnished by COTR (L): 68.1

Actual Test Volume (L): 20.9

Test Fluid Type: Stoddard Solvent; Specific Gravity: 0.77

Is Vehicle Fuel Pump Electric or Mechanical? Electric

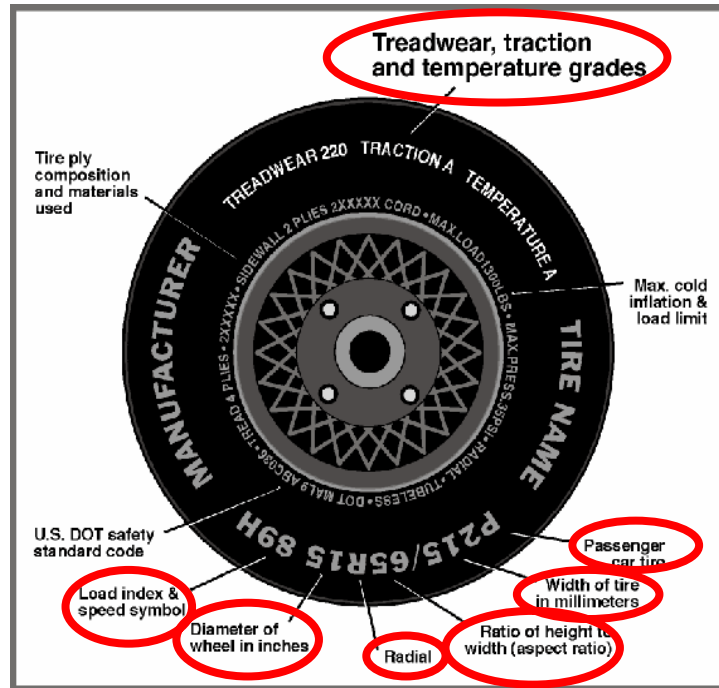
If electric, does pump operate with ignition switch "ON" & engine "OFF"? Yes

DATA SHEET NO. 3
TEST VEHICLE TIRE INFORMATION

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

Vehicle Year	2005	Vehicle Make	Chrysler
VIN	2C3JA43R95H176636	Vehicle Model	300



	Front	Rear
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Integrity	Integrity
Tire Type	Touring	Touring
Tire Width (mm)	215	215
Ratio of Height to Width (aspect ratio)	65	65
Radial	R	R
Wheel Diameter	17	17
Load Index & Speed Symbol	98T	98T
Treadwear	460	460
Traction Grade	A	A
Temperature Grade	B	B

DATA SHEET NO. 4
POST IMPACT DATA

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.5 – 57.1	56.5
Trap No. 1 Entry Distance	mm	<1524	1300
Trap No. 1 Exit Distance	mm	<1524	300
Trap No. 2 Velocity (Redundant)	km/h	55.5 – 57.1	56.5
Trap No. 2 Entry Distance	mm	<1524	1425
Trap No. 2 Exit Distance	mm	<1524	425

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	4903	4272	631
Center	mm	4934	4255	679
Right Side	mm	4904	4280	624

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	790
Center	mm	832
Right Side	mm	810
Average	mm	811

DATA SHEET NO. 5
TEST VEHICLE INFORMATION

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

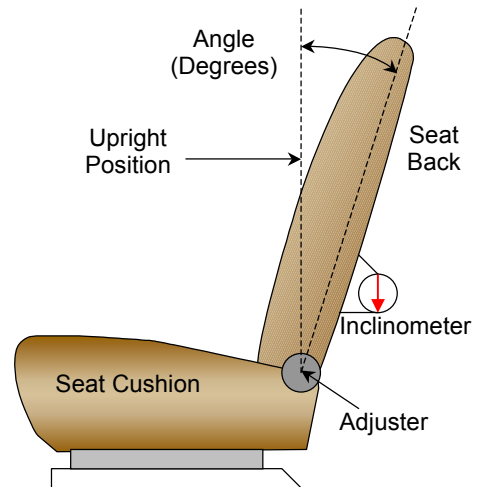
NHTSA No.: M50300
Test Date: 08/11/04

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle. The procedure is as follows: Adjust seatback rearward such that the head restraint post is positioned 76° relative to vertical. The seat back angle for the driver and the passenger is 14°.

Driver seat back angle: 13.8°

Passenger seat back angle: 13.9°



FRONT SEAT ASSEMBLY

SEAT FORE/AFT POSITIONS

The driver seat was power adjustable and the passenger seat was manual.

Power seat for driver: Adjust seat to the lowest position and most rearward position.

Mark position. Adjust seat cushion and seat track until seat is at its most forward position. Mark position. Adjust cushion to full down. Calculate mid track by dividing distance in half. Driver side mid position should be 106 mm rearward of full forward.

Manual seat for passenger: Passenger side mid position should be 110 mm rearward of full forward.

Driver seat fore/aft position: 105 mm rearward of full forward

Passenger seat fore/aft position: 110 mm rearward of full forward

DATA SHEET NO. 5... (continued)

TEST VEHICLE INFORMATION

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

FUEL TANK CAPACITY DATA

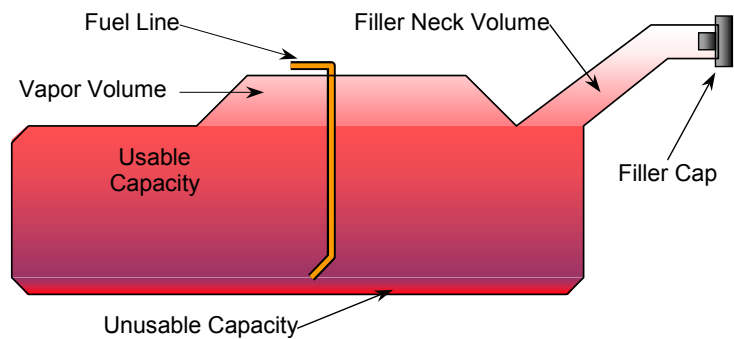
The "Usable Capacity" of the standard equipment fuel tank is: 68.1 liters

The "Usable Capacity" of any optional equipment fuel tank is: N/A liters

The "Usable Capacity" used for certification to FMVSS 301 requirements: 68.1 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 20.9 liters

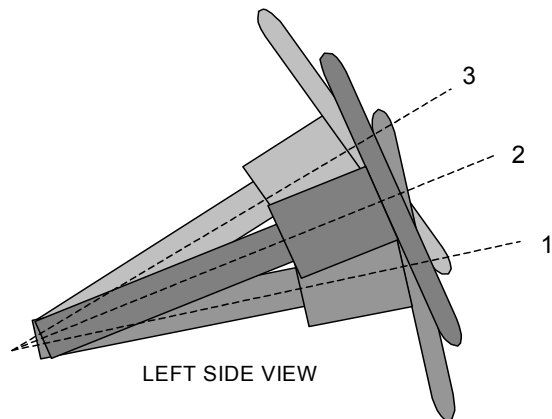
The fuel door is located on the left hand side of the vehicle.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Adjustable steering controls are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. The column also telescopes for-aft. To determine mid position, release telescope feature and push full forward at mid-tilt, mark position. Pull full rear at mid-tilt and mark position. Measure travel distance and divide in half and set telescope at mid position.



STEERING COLUMN ASSEMBLY

Lowermost, Position 1: 19.0°

Geometric Center, Position 2: 22.3°

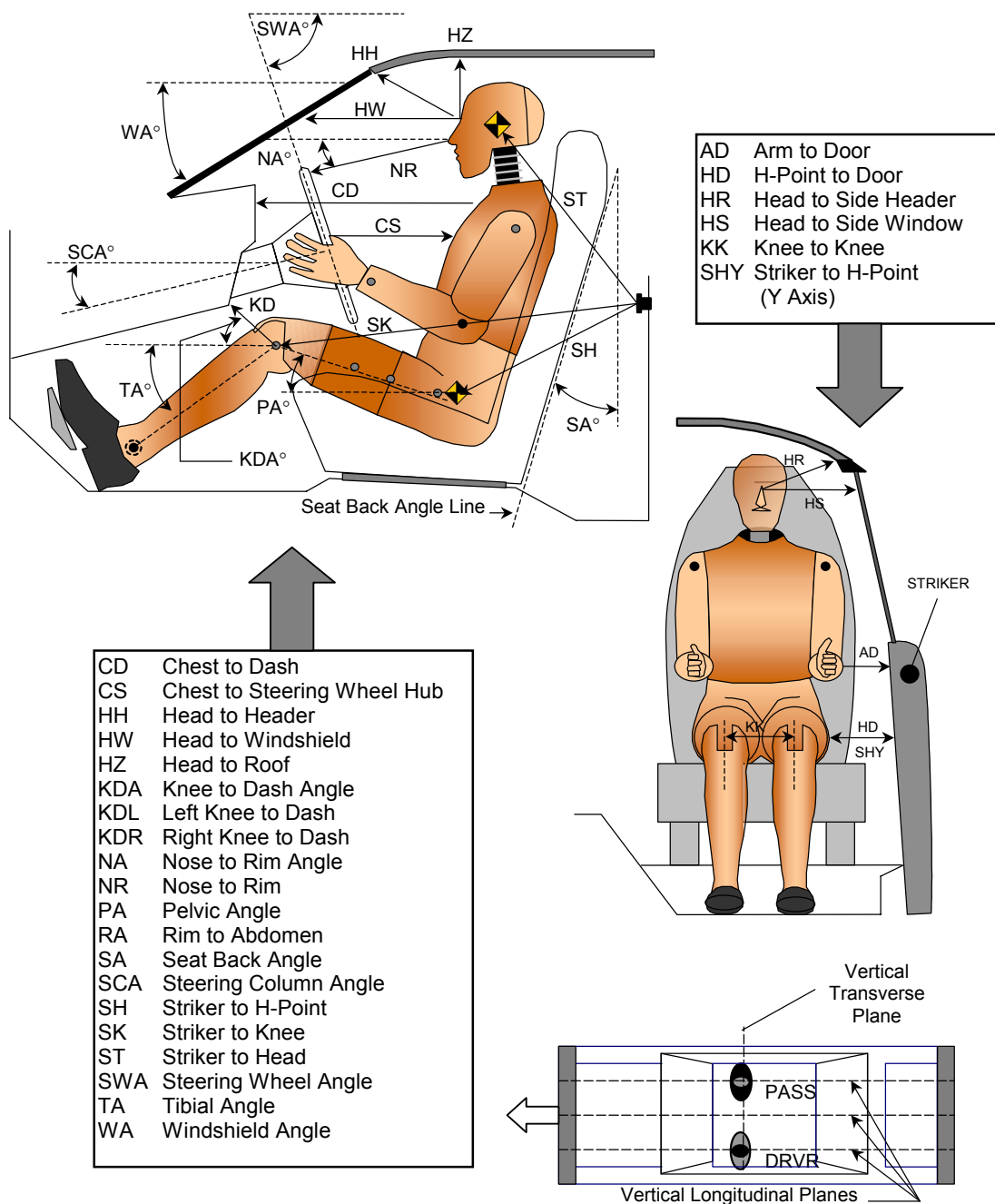
Uppermost, Position 3: 25.7°

DATA SHEET NO. 6 **DUMMY POSITIONING IN VEHICLE**

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



DATA SHEET NO. 6... (continued)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

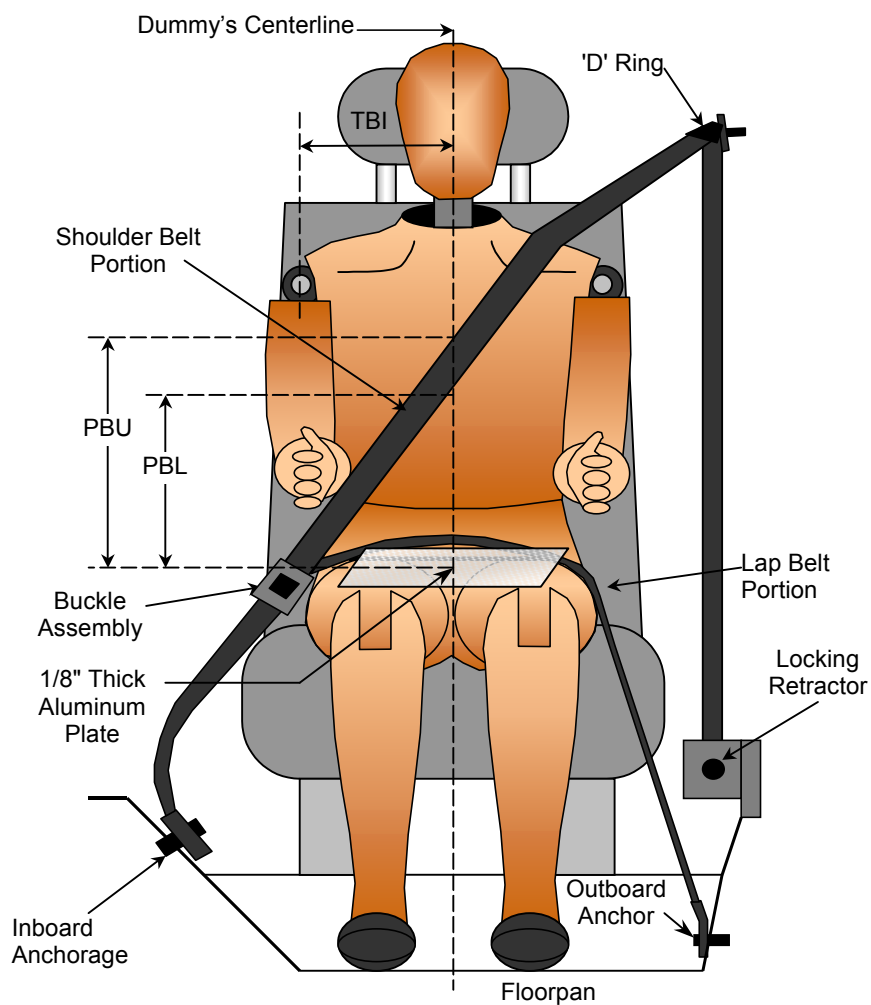
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		30.4		
SWA	Steering Wheel Angle		68.4		
SCA	Steering Column Angle		21.3		
SA	Seat Back Angle (headrest post)		13.8		13.9
HZ	Head to Roof (Z)	212	90.0	180	90.0
HH	Head to Header	554	12.7	574	10.2
HW	Head to Windshield	789	0.0	750	0.0
HR	Head to Side Header (Y)	198		180	
NR	Nose to Rim	380	5.7		
CD	Chest to Dash	570		550	
CS	Chest to Steering Hub	335	8.2		
RA	Rim to Abdomen	194	0.0		
KDL	Left Knee to Dash	181	29.1	156	
KDR	Right Knee to Dash	189		165	31.8
PA	Pelvic Angle		23.3		24.7
TA	Tibia Angle		49.1		45.2
KK	Knee to Knee (Y)	272		261	
SK	Striker to Knee	562	94.2	577	97.9
ST	Striker to Head	505	7.5	537	6.3
SH	Striker to H-Point	229	127.8	227	114.5
SHY	Striker to H-Point (Y)	279		278	
HS	Head to Side Window	343		332	
HD	H-Point to Door (Y)	159		139	
AD	Arm to Door (Y)	148		155	
AA	Ankle to Ankle	260		207	

DATA SHEET NO. 7 **SEAT BELT POSITIONING DATA**

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy centerline to shoulder bolt	mm	170	170
PBU - Top surface of reference to belt upper edge	mm	325	357
PBL - To surface of reference to belt lower edge	mm	244	278

DATA SHEET NO. 8

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

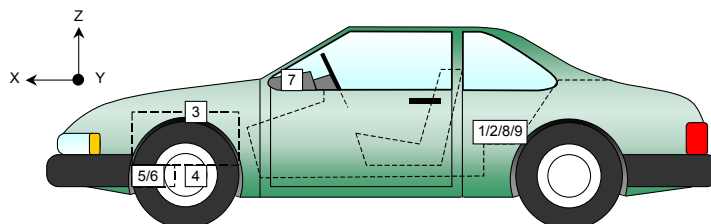
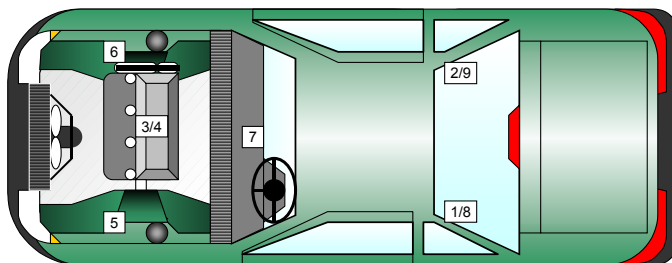
NHTSA No.: M50300
 Test Date: 08/11/04

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member X	1890	-574	385	G's	1.8	138	-35.7	75
2	Right Rear X-Member X	1890	574	385	G's	1.7	136	-33.2	64
3	Engine Top X	3994	-7	858	G's	40.4	50	-163.5	34
4	Engine Bottom X	4345	6	190	G's	*	*	*	*
5	Left Brake Caliper X	3880	-682	283	G's	32.3	68	-70.2	43
6	Right Brake Caliper X	3880	682	283	G's	34.7	68	-73.3	44
7	Instrument Panel X	3115	0	1065	G's	21.2	32	-46.8	67
8	Left Rear X-Member Z	1890	-574	385	G's	4.1	44	-8.9	32
9	Right Rear X-Member Z	1890	574	385	G's	3.8	62	-8.7	53

* No valid data collected after 40ms

Reference Points: X - Rear Surface of Vehicle (+ forward)
 Y - Vehicle Centerline (+ to right)
 Z - Ground Plane (+ up)



DATA SHEET NO. 9
HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	5.2	289	-37.0	71	3.1	300	-46.9	104
Head CG	Y	G's	3.2	142	-4.8	53	21.5	104	-16.3	104
Head CG	Z	G's	13.4	51	-1.5	21	26.3	88	-1.1	158
Head CG Resultant	N/A	G's	38.5	71			54.1	104		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.0	297	-37.2	70	0.8	177	-34.7	82
Chest CG	Y	G's	2.5	106	-7.7	55	8.5	86	-2.3	80
Chest CG	Z	G's	5.9	27	-4.1	82	7.8	103	-10.1	80
Chest CG Resultant	N/A	G's	37.7	70			35.3	79		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	699	37	-4167	57	728	38	-3553	61
Right Femur	Z	Newtons	577	49	-2974	55	667	32	-3299	66

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	5255	58			4939	56		
Shoulder Belt Force	N/A	Newtons								

HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg. G's	T ¹	T ²	HIC	Avg. G's	T ¹	T ²
Head CG Primary	216.2	32.5	50.8	86.8	433.2	42.9	77.4	113.4

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	37.2	68.4	71.4	35.1	78.7	82.6

DATA SHEET NO. 9... (continued)

HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	2.8	217	-58.0	53	1.7	126	-50.6	53
Pelvis	Y	G's	7.9	77	-7.9	54	4.0	62	-3.9	96
Pelvis	Z	G's	2.9	234	-28.0	72	3.9	117	-31.0	79

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	630	62	-495	139	352	96	-321	57
Neck Force	Y	Newtons	142	130	-69	49	208	103	-96	167
Neck Force	Z	Newtons	1110	58	-143	149	*	*	*	*
Neck Moment	X	N•m	12.1	135	-17.8	79	18.7	82	-5.2	164
Neck Moment	Y	N•m	62.4	63	-29.4	104	24.4	96	-17.9	112
Neck Moment	Z	N•m	3.2	164	-5.5	104	7.4	122	-3.5	172

* No valid data collected

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	15.1	57	-94.6	65	16.7	56	-54.8	50
Left Foot Aft	Z	G's	20.6	45	-43.4	68	1.7	76	-79.4	66
Left Foot Fore	Z	G's	45.4	45	-85.8	68	48.4	59	-107.4	49
Right Foot Aft	X	G's	34.8	53	-39.5	38	14.2	61	-89.5	49
Right Foot Aft	Z	G's	4.9	167	-43.2	69	2.2	156	-58.5	62
Right Foot Fore	Z	G's	30.6	55	-57.6	69	59.6	56	-177.0	47

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Lower Moment	X	N•m	26.6	46	-47.4	75	11.5	101	-106.5	64
Left Lower Moment	Y	N•m	52.9	65	-45.5	46	**	**	**	**
Left Lower Force	Z	Newtons	697	61	-691	34	**	**	**	**
Left Upper Moment	X	N•m	22.0	34	-74.5	46	36.6	106	-81.7	66
Left Upper Moment	Y	N•m	36.3	89	-24.7	207	60.9	37	-136.4	68
Left Upper Force	Z	Newtons	795	66	-961	34	380	32	-3943	67
Right Lower Moment	X	N•m	8.3	60	-13.6	97	82.5	60	-8.1	58
Right Lower Moment	Y	N•m	43.1	53	-19.0	41	43.7	64	-36.9	49
Right Lower Force	Z	Newtons	207	132	-2697	57	206	33	-4261	64
Right Upper Moment	X	N•m	57.6	73	-19.9	127	20.2	81	-41.8	61
Right Upper Moment	Y	N•m	21.5	102	-68.7	57	65.6	46	-72.0	65
Right Upper Force	Z	Newtons	188	116	-2195	57	329	35	-3715	64

** No valid data collected after 100ms

DATA SHEET NO. 9... (continued)

HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest	X	mm			-29.9	59			-27.6	58

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	5.3	300	-37.3	55	3.1	300	-46.3	104
Head CG	Y	G's	2.8	142	-6.2	53	21.5	104	-16.0	104
Head CG	Z	G's	14.1	51	-1.4	149	25.9	86	-0.5	16
Head CG Resultant	N/A	G's	39.3	55			52.6	104		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.2	139	-36.6	84	0.9	165	-34.2	83
Chest CG	Y	G's	3.1	102	-6.7	65	8.8	86	-2.4	126
Chest CG	Z	G's	5.6	27	-4.1	82	7.7	104	-10.1	80
Chest CG Resultant	N/A	G's	36.8	84			34.8	79		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg.	T ¹	T ²	HIC	Avg.	T ¹	T ²
Head CG Primary Redundant	227.9	33.2	50.7	86.7	419.2	42.3	77.4	113.4

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary Redundant	35.9	69.1	72.9	34.2	78.1	81.1

DATA SHEET NO. 10
SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy centerline to shoulder bolt	mm	170	170
PBU - Top surface of reference to belt upper edge	mm	325	357
PBL - Top surface of reference to belt lower edge	mm	244	278

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to "D" ring	mm	218	218
Shoulder belt length as measured on ATD	mm	852	827
Lap belt length as measured on ATD	mm	611	607
Remainder of belt on reel	mm	1194	1193
Total belt length for continuous webbing systems	mm	2875	2845

SHOULDER BELT SPOOL-OUT DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	Not recorded	
As determined electronically	mm	Not recorded	

DATA SHEET NO. 11
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

Windshield Mounting Details:

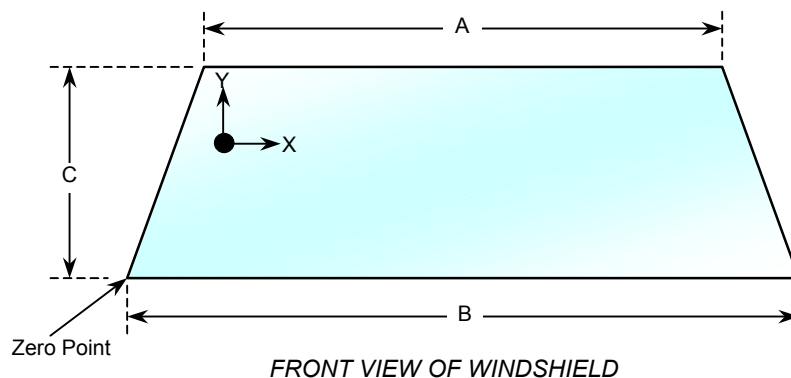
Windshield glass is secured to the vehicle frame with a rubber trim and glue.

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

Temperature of windshield molding during test: 21 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% of Retention
Left Side	2204	2204	100
Right Side	2204	2204	100
Total	4408	4408	100



WINDSHIELD DIMENSIONS

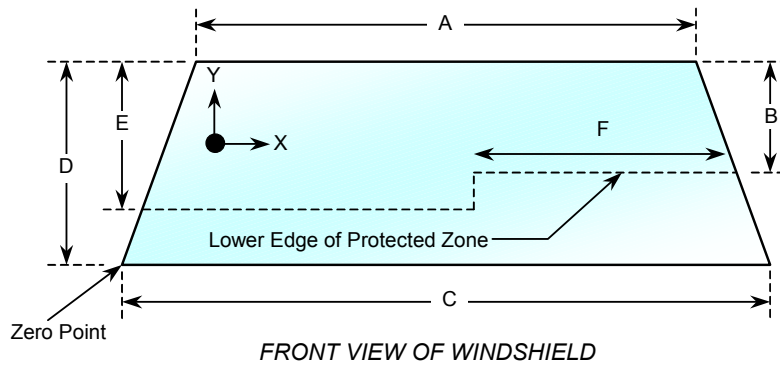
Item	Units	Segment Length	Molding Width
A	mm	1298	15
B	mm	1650	17
C	mm	720	30

DATA SHEET NO. 12

WINDSHIELD ZONE INTRUSION FMVSS 219 (Partial) DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04



Item	Units	Value
A	mm	1298
B	mm	385
C	mm	1650
D	mm	720
E	mm	435
F	mm	516

AREA OF PROTECTED ZONE FAILURES - NONE

- 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. **None**

X	Y

- B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component. **None**

X	Y

DATA SHEET NO. 13

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

Temperature at Time of Impact: 21° C Test Time: 4:37 pm

Stoddard Solvent Spillage Measurements

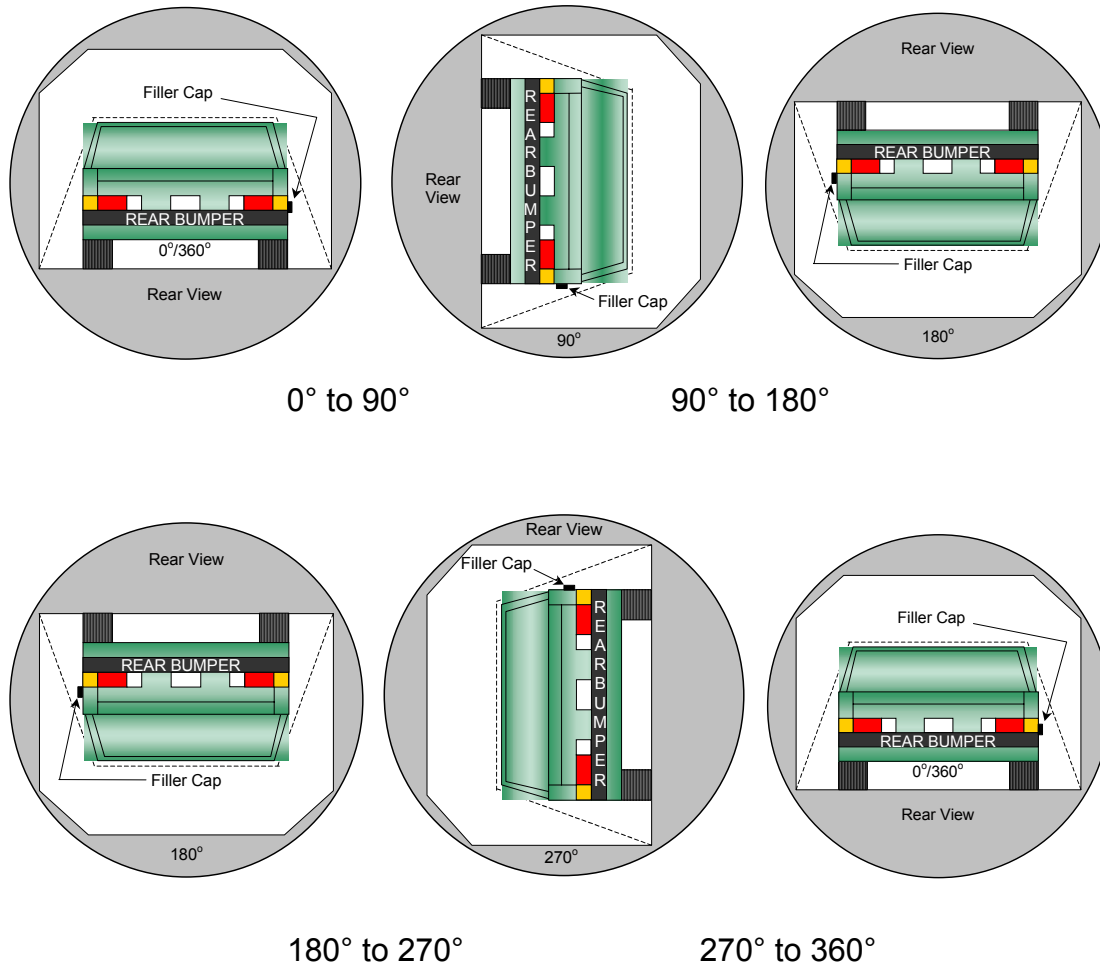
- A. From impact until vehicle motion ceases: 0 oz.
 (Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0 oz.
 (Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0 oz.
 (Maximum Allowable = 1 oz. /minute)
- D. Spillage: None

DATA SHEET NO. 14
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

Test Time: 4:37 pm



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 locations: None

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° to 90°	164	300	0
90° to 180°	155	300	0
180° to 270°	138	300	0
270° to 360°	159	300	0

DATA SHEET NO. 15
VEHICLE MEASUREMENTS

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

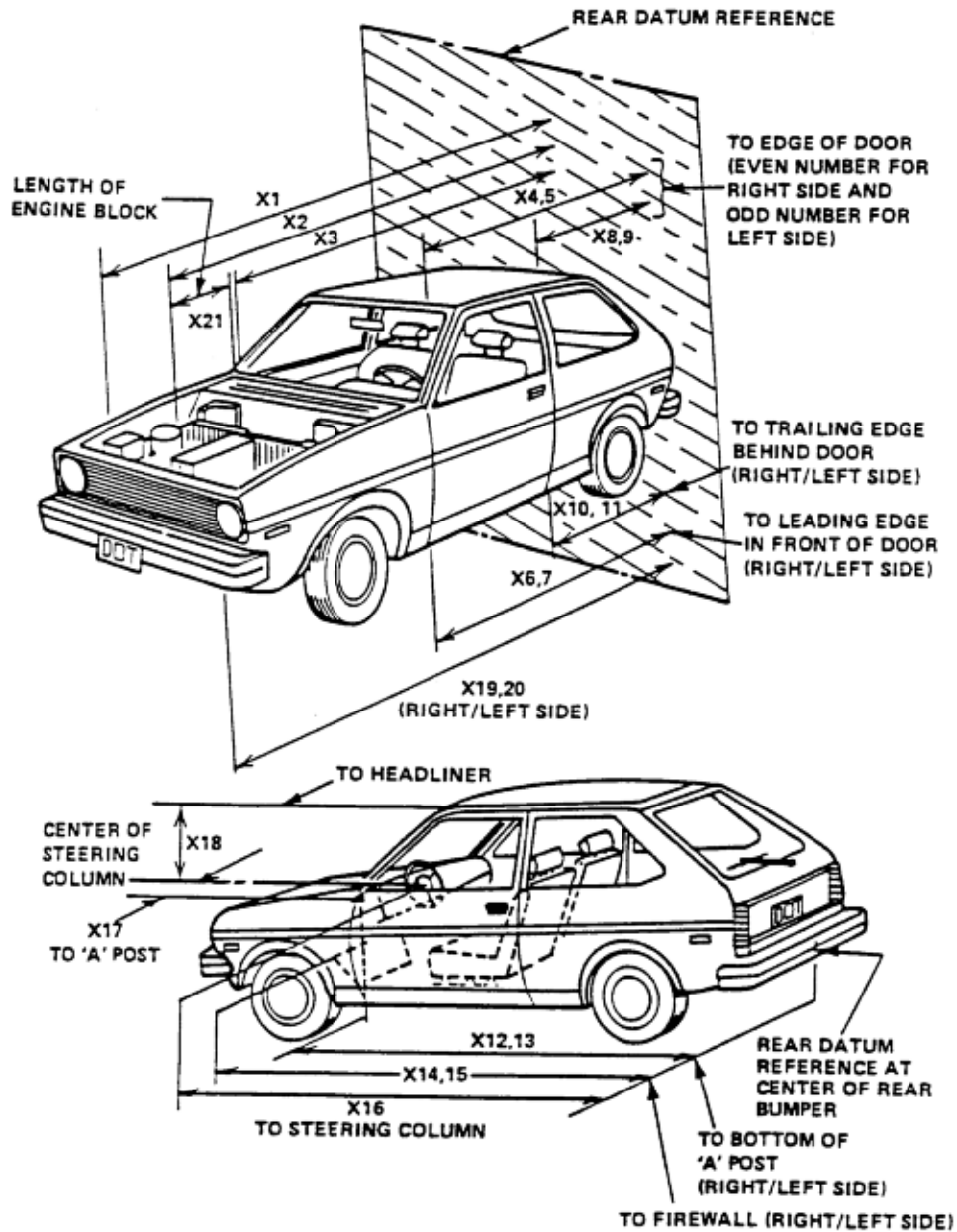
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4934	4255	679
2	RSOV to front of engine	mm	4204	3965	239
3	RSOV to firewall centerline	mm	3839	3780	59
4	RSOV to leading edge of right door	mm	3314	3320	-6
5	RSOV to leading edge of left door	mm	3310	3323	-13
6	RSOV to lower leading edge of right door	mm	3370	3362	8
7	RSOV to lower leading edge of left door	mm	3368	3383	-15
8	RSOV to upper leading edge of right door	mm	2212	2213	-1
9	RSOV to upper leading edge of left door	mm	2205	2220	-15
10	RSOV to lower trailing edge of right door	mm	2240	2233	7
11	RSOV to lower trailing edge of left door	mm	2236	2241	-5
12	RSOV to bottom of right 'A' pillar	mm	3370	3364	6
13	RSOV to bottom of left 'A' pillar	mm	3362	3365	-3
14	RSOV to firewall on right side	mm	3865	3822	43
15	RSOV to firewall on left side	mm	3868	3822	46
16	RSOV to steering column	mm	2829	2827	2
17	Center of steering column to left 'A' pillar	mm	391	358	33
18	Center of steering column to headlining	mm	414	380	34
19	RSOV to right side of front bumper	mm	4744	4241	503
20	RSOV to left side of front bumper	mm	4745	4192	553
21	Length of engine block	mm	495	495	0
RD	RSOV to right side of dash panel	mm	3070	3080	-10
CD	RSOV to center of dash panel	mm	3115	3122	-7
LD	RSOV to left side of dash panel	mm	2971	2993	-22

DATA SHEET NO. 15... (continued)

VEHICLE MEASUREMENTS

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04



DATA SHEET NO. 15... (continued)**VEHICLE MEASUREMENTS**

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

Target Vehicle Structural Measurement

	Elements	Pre-Test (mm)
1	Total Length	4934
2	Total Width	1885
3	Bumper Top Height	442
4	Bumper Bottom Height	265
5	Longitudinal Member Top Height	423
6	Distance between Longitudinal Members	873
7	Longitudinal Member Width	67
8	Engine Top Height	920
9	Engine Bottom Height	194
10	Engine and gearbox width	594
11	Front bumper-engine distance	580
12	Front shock absorber fixing height	880
13	Bonnet leading edge height	876
14	Front shock absorber fixing width	1000
15	Front bumper – front axle distance	920
16	Front axle – a pillar distance	675
17	A-pillar – B-pillar distance	1143
18	B-Pillar – rear axle distance	1219
19	B-pillar – C-pillar distance	1060
20	Roof sill bottom height	1427
21	Roof sill top height	1465
22	Floor sill bottom height	180
23	Floor sill top height	283

DATA SHEET NO. 16
CAMERA LOCATIONS

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

No.	Camera View	Location (mm) *			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Side View				13	24
2	Left Front View	993	-7930	1320	24	1000
3	Steering Column Top	2345	-7440	1570	19	1000
4	Steering Column Bottom	2320	-7440	1045	19	1000
5	Driver Close-up	1780	-5610	1332	50	1000
6	Driver Angle	5960	-5260	1980	50	1000
7	Left Rear				13	503
8	Right Rear				13	503
9	Right Overall	2346	6932	1565	19	1000
10	Right Passenger Half	1030	5460	1443	14	1000
11	Right Close-up	1631	6080	1495	50	1000
12	Right Angle	6180	5310	1970	50	1000
13	Windshield	240	0	2830	19	1000
14	Top Driver	102	-455	1765	13	1000
15	Top Passenger	70	470	1710	13	1000
16	Pit Front	1320	0	-3150	19	1000
17	Pit Rear	2690	0	-3150	19	1000

***COORDINATES:**

+X = forward of impact plane
+Y = right of monorail centerline
+Z = above ground level

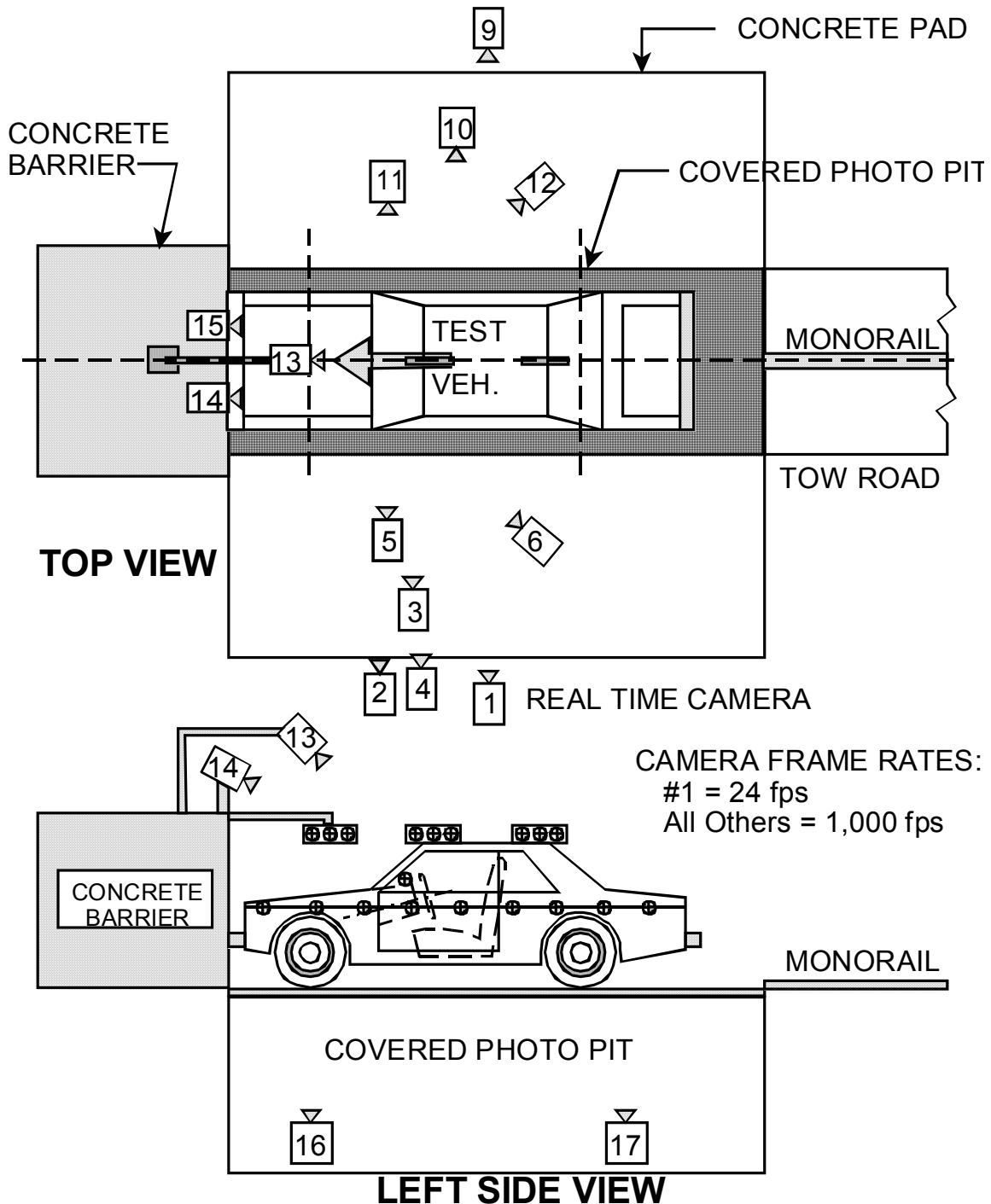
DATA SHEET NO. 16... (continued)

CAMERA LOCATIONS

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

CAMERA POSITIONS FOR FRONTAL IMPACTS



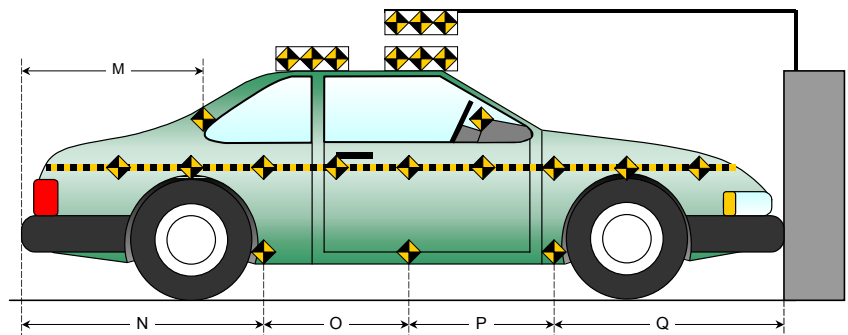
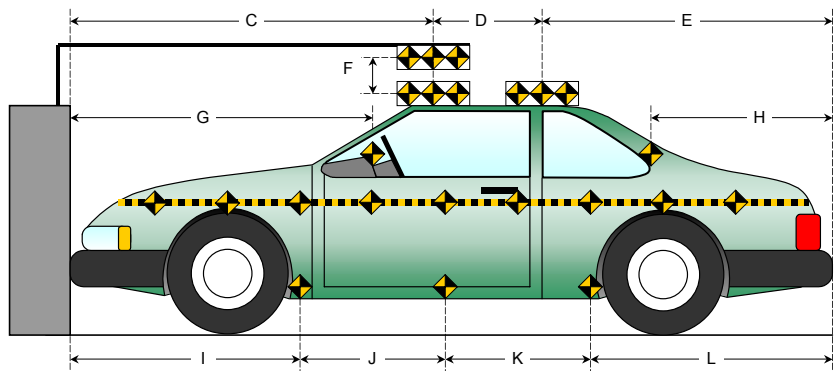
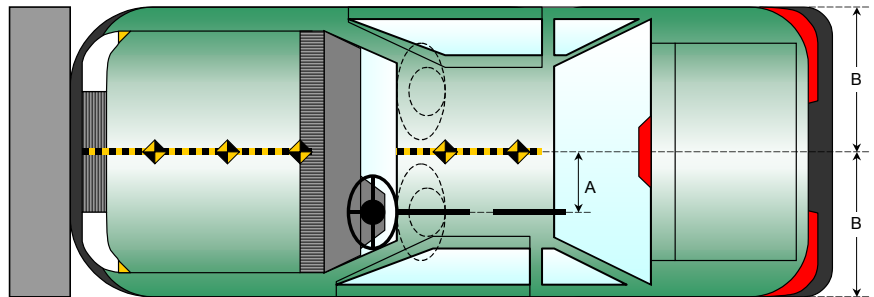
DATA SHEET NO. 17

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

Item	Value
A	399
B	951
C	2572
D	609
E	1753
F	1508
G	
H	1187
I	1359
J	1047
K	1046
L	1482
M	1210
N	1500
O	1036
P	1040
Q	1358



DATA SHEET NO. 18
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

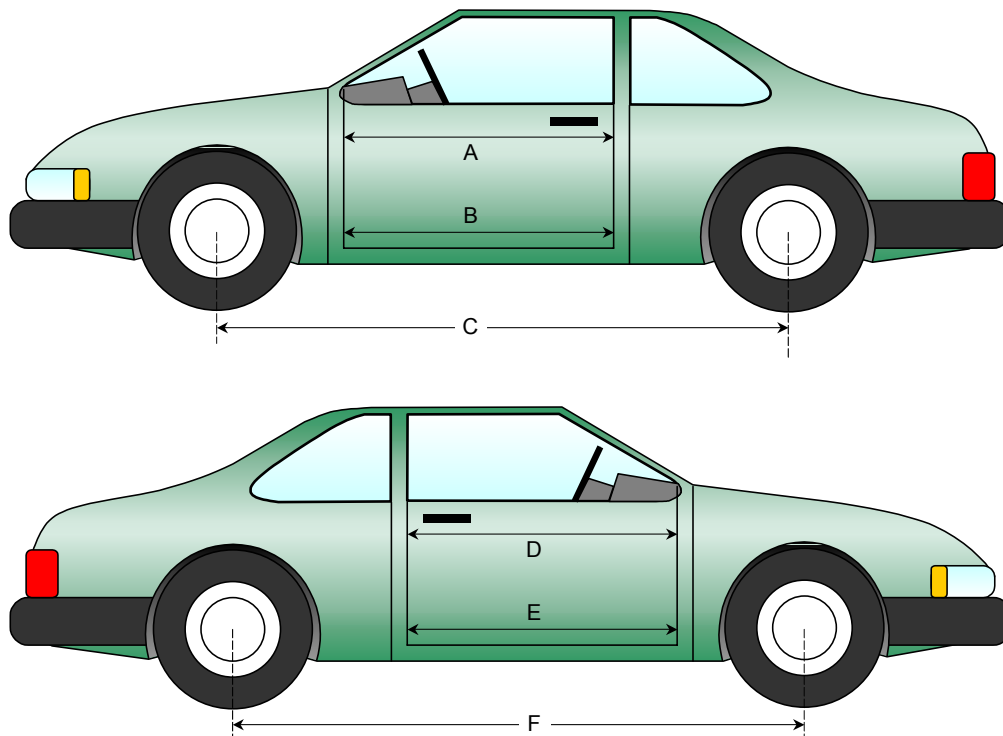
NHTSA No.: M50300
 Test Date: 08/11/04

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1070	1070	0
B	Left Side Lower	mm	1036	1037	-1
D	Right Side Upper	mm	1070	1068	2
E	Right Side Lower	mm	1028	1028	0

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheelbase	mm	3045	2907	138
F	Right Side Wheelbase	mm	3045	2920	125



DATA SHEET NO. 18... (continued)
VEHICLE INTRUSION MEASUREMENTS

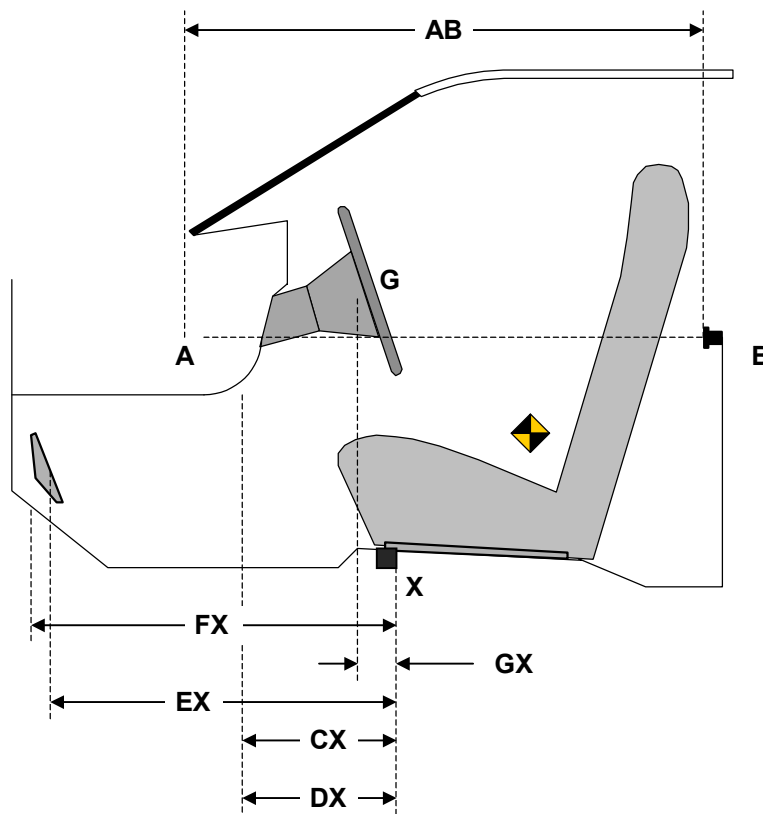
Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	1064	1059	5
CX	Left Knee Bolster to X	mm	297	296	1
DX	Right Knee Bolster to X	mm	397	310	87
EX	Brake Pedal to X	mm	590	558	32
FX	Foot Rest to X	mm	627	622	5
GX	Center of Steering Column Wheel Hub to X	mm	118	103	15

X = Front of Seat Track (stationary)



DRIVER COMPARTMENT

DATA SHEET NO. 18... (continued)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

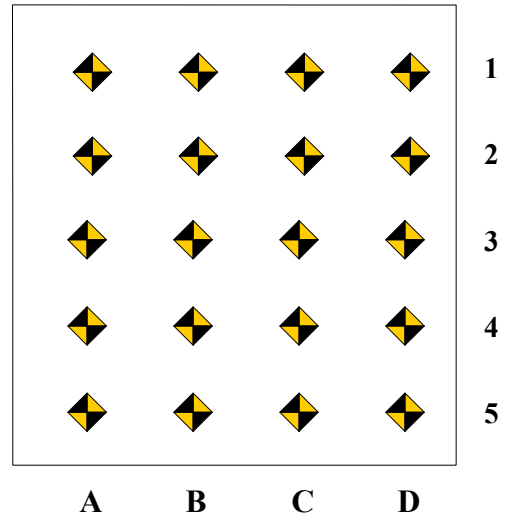
NHTSA No.: M50300
 Test Date: 08/11/04

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3, 4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		805	818	823		782	790	792		23	28	31
2		716	715	718		705	701	703		11	14	15
3		607	602	607		598	593	596		9	9	11
4	494	494	492	495	485	486	481	485	9	8	11	10
5	332	332	327	329	324	323	316	318	8	9	11	11

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		120	121	118		132	134	134		-12	-13	-16
2		-57	-72	-30		-47	-58	-19		-10	-14	-11
3		-65	-84	-63		-59	-75	-53		-6	-9	-10
4	-92	-73	-79	-60	-87	-69	-73	-52	-5	-4	-6	-8
5	-87	-86	-71	-59	-85	-85	-68	-58	-2	-1	-3	-1

DATA SHEET NO. 18... (continued)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

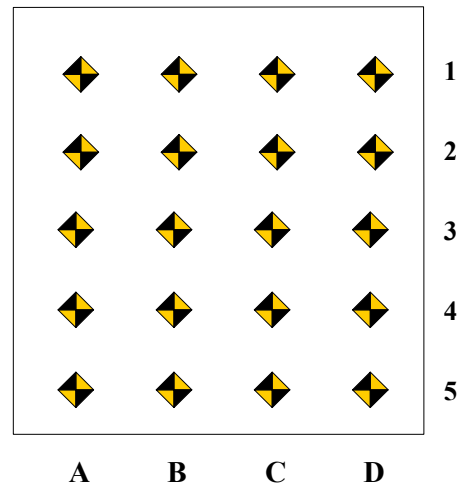
NHTSA No.: M50300
 Test Date: 08/11/04

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3, 4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	748	742	726	711	731	725	710	701	17	17	16	10
2	698	681	672	665	688	678	666	655	10	3	6	10
3	603	596	594	591	598	589	589	585	5	7	5	6
4	472	484	479	479	468	478	475	473	4	6	4	6
5			318	316			313	310			5	6

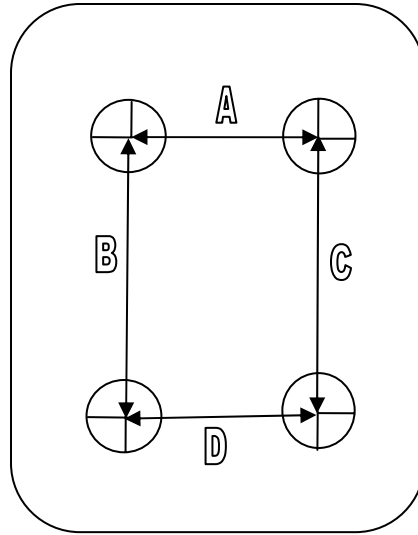
PASSENGER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	21	11	8	18	26	15	8	18	-5	-4	0	0
2	-61	-61	-61	-54	-55	-62	-62	-50	-6	1	1	-4
3	-57	-99	-98	-96	-52	-99	-97	-92	-5	0	-1	-4
4	-67	-101	-77	-111	-61	-99	-78	-110	-6	-2	1	-1
5			-83	-101			-81	-100			-2	-1

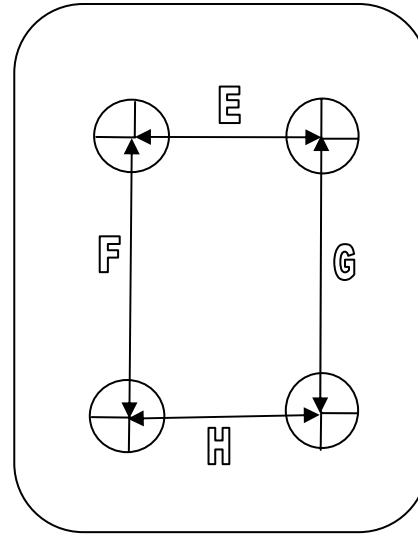
DATA SHEET NO. 18... (continued)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04



Driver



Passenger

UNDERBODY FLOORBOARD DEFORMATION

Measurement	Pre-Test	Post-Test	Difference
A	243	240	3
B	286	285	1
C	285	285	0
D	242	239	3
E	282	282	0
F	251	250	1
G	237	236	1
H	279	278	1

DATA SHEET NO. 19

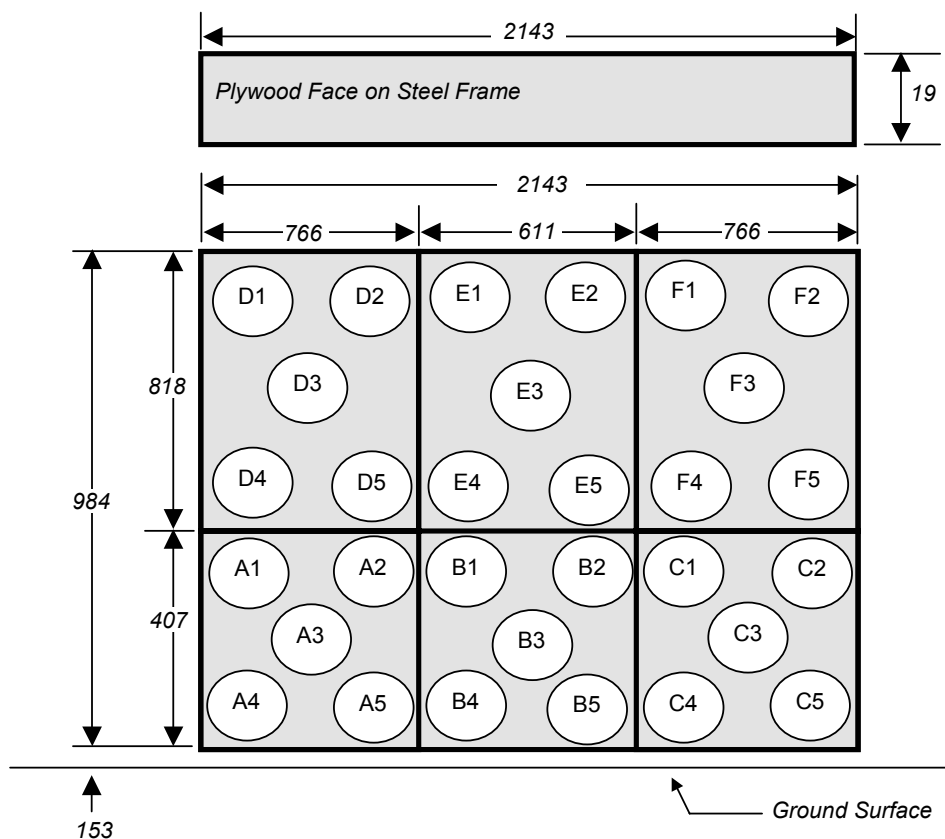
LOAD CELL LOCATIONS ON FIXED BARRIER

Test Vehicle: 2005 Chrysler 300
 Test Program: 35mph Frontal Impact

NHTSA No.: M50300
 Test Date: 08/11/04

30 Load Cell Rigid Barrier

Load Cell Locations on Fixed Barrier



Group 4 D1-D5	Group 5 E1-E5	Group 6 F1-F5
Group 1 A1-A5	Group 2 B1-B5	Group 3 C1-C5

6 Groups of 5 Load Cells Each

The Data is presented in Appendix B with the following requirements:

1. Sum data from 6 groupings shown above (5 cells/group)
2. Sum of left 2 groupings, center 2 groupings and right 2 groupings.
3. Total or sum of all 30 individual load cells.
4. Total versus average rear seat cross member displacement.

DATA SHEET NO. 20**ACCIDENT INVESTIGATION DIVISION DATA**

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04

VEHICLE INFORMATION

VIN: 2C3JA43R95H176636 Wheelbase (mm) : 3045
Vehicle Size Category: 4-door Sedan Test Weight (kg) : 1886.0

ACCELEROMETER DATA

Accelerometer Locations: As per measurements on Page 14
Cal. Procedure/Interval: MGA procedure / 6 month
Integration Algorithm: Trapezoidal Linearity: > 99%
Impact Velocity (km/h): 56.5
Velocity Change (km/h): 64.9 Time of Separation (msec): 108

CRUSH PROFILE

Collision Deformation Classification: Frontal Midpoint of Damage: Centerline
Damage Region Length (mm): 1570 Impact Mode: Frontal

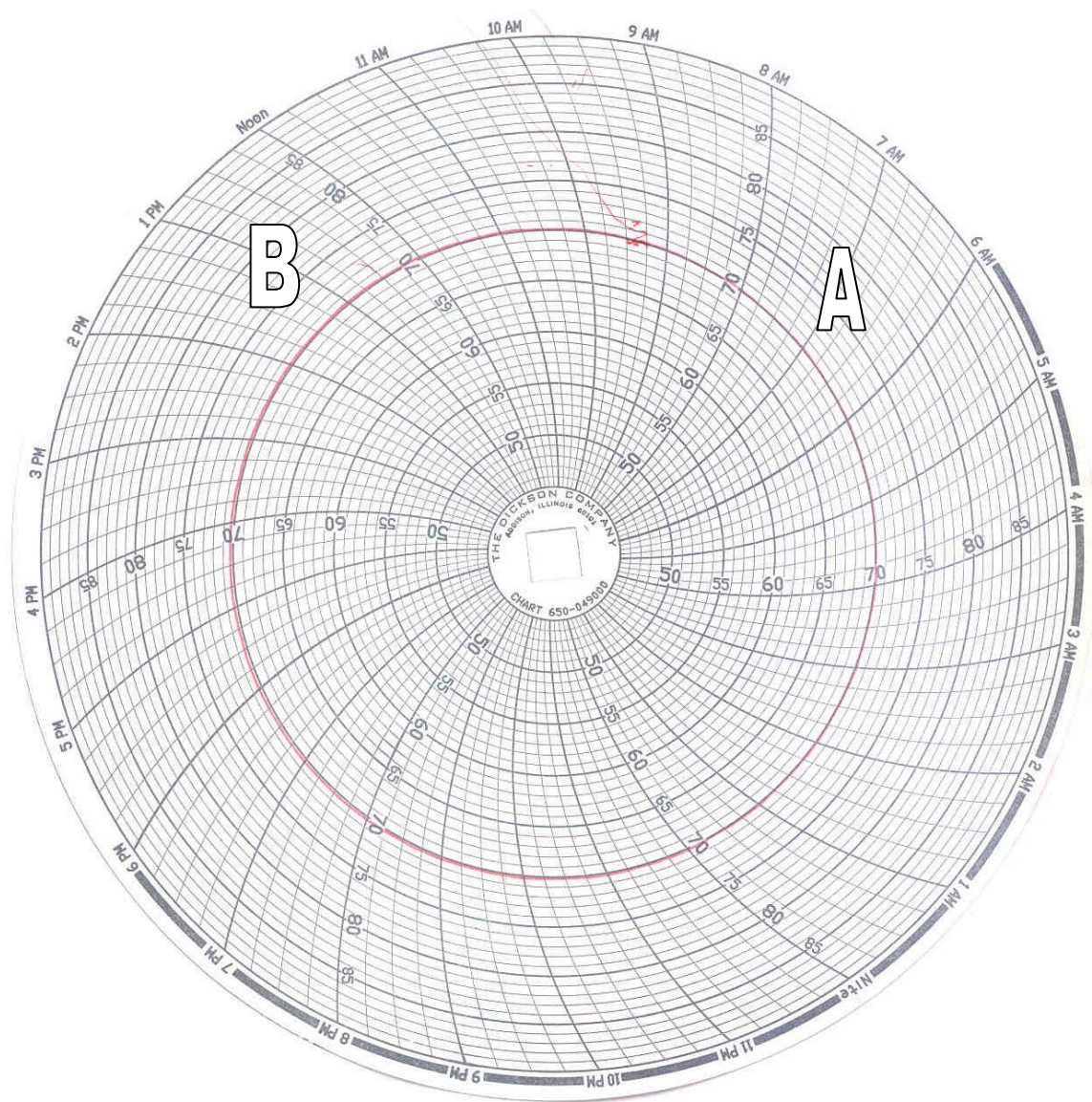
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	4745	4192	553
C2	Crush zone 2 at left side	mm	4842	4287	555
C3	Crush zone 3 at left side	mm	4903	4272	631
C4	Crush zone 4 at right side	mm	4904	4280	624
C5	Crush zone 5 at right side	mm	4843	4292	551
C6	Crush zone 6 at right side	mm	4744	4241	503
L	C1 TO C6	mm	1570	1355	215

DATA SHEET NO. 21

DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle: 2005 Chrysler 300
Test Program: 35mph Frontal Impact

NHTSA No.: M50300
Test Date: 08/11/04



A = Dummies installed in vehicle at 7:00 am

B = Test conducted at 12:03 pm

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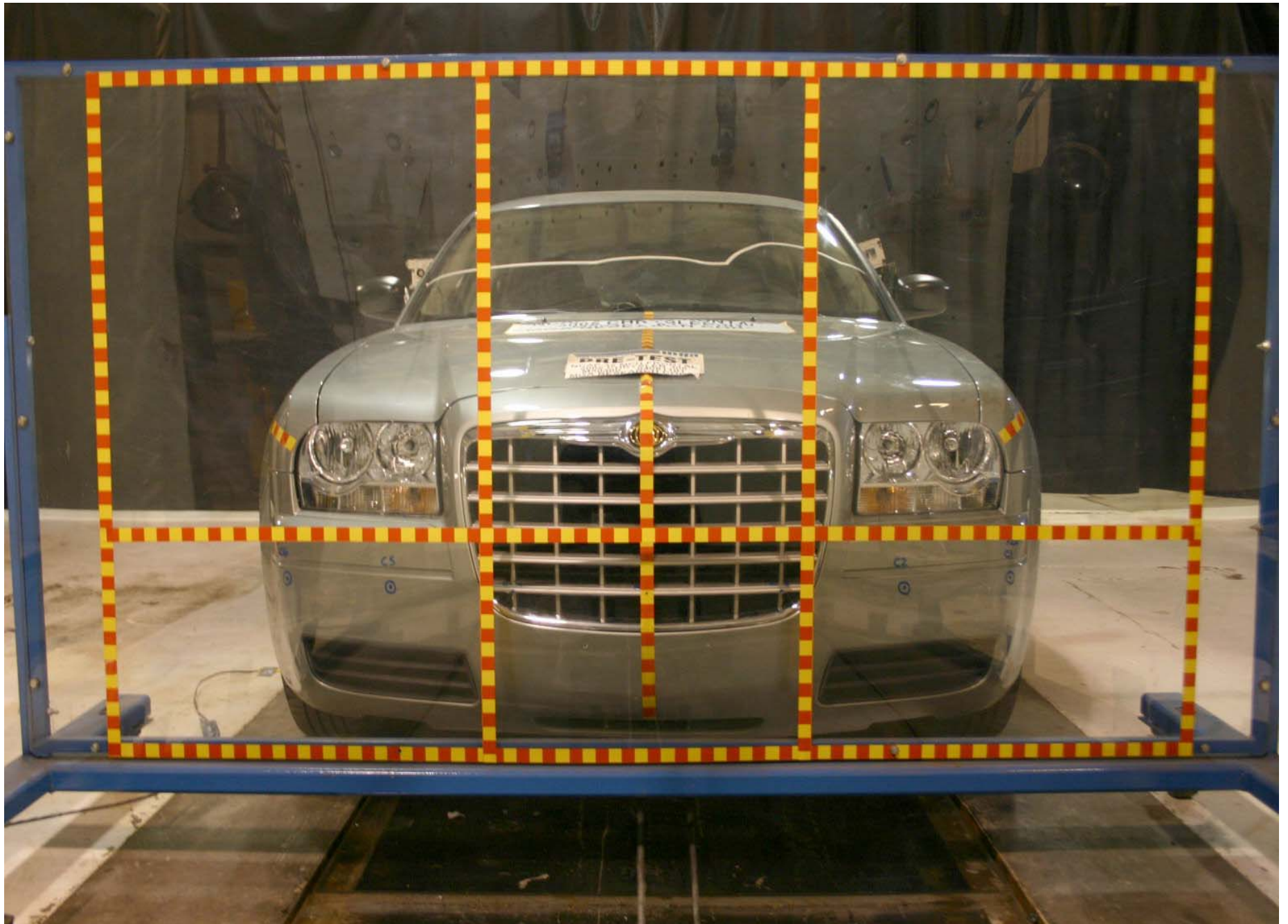
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Load Cell Location

MFD BY DAIMLERCHRYSLER CORPORATION

DATE OF MFR: 7-04

GVWR 2225 KG
04905 LB

GAWR 1273 KG
FRONT 2806 LB

GAWR 1273 KG
REAR 2806 LB

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER AND
THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 2C3JA43R95H176636

TYPE: PASSENGER CAR



MDH: 063016 183AB PNT:PP4

VEHICLE MADE IN CANADA TRM:Q5DD

4648104



TIRE AND LOADING INFORMATION

SEATING CAPACITY – TOTAL 5 FRONT 2 REAR 3

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED
392 KG OR 865 LB

TIRE	FRONT	REAR	SPARE
ORIGINAL TIRE SIZE	P215/65R17	P215/65R17	T135/90D17
COLD TIRE INFLATION PRESSURE	210 kPa, 30 PSI	210 kPa, 30 PSI	420 kPa, 60 PSI

SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION 

5H176636

Tire Placard



Left Side View of Test Vehicle, as received

A-5.



Right Side View of Test Vehicle, as received



Pre-Test Front View of Test Vehicle



Post-Test Front View of Test Vehicle



Pre-Test Left Side View of Test Vehicle



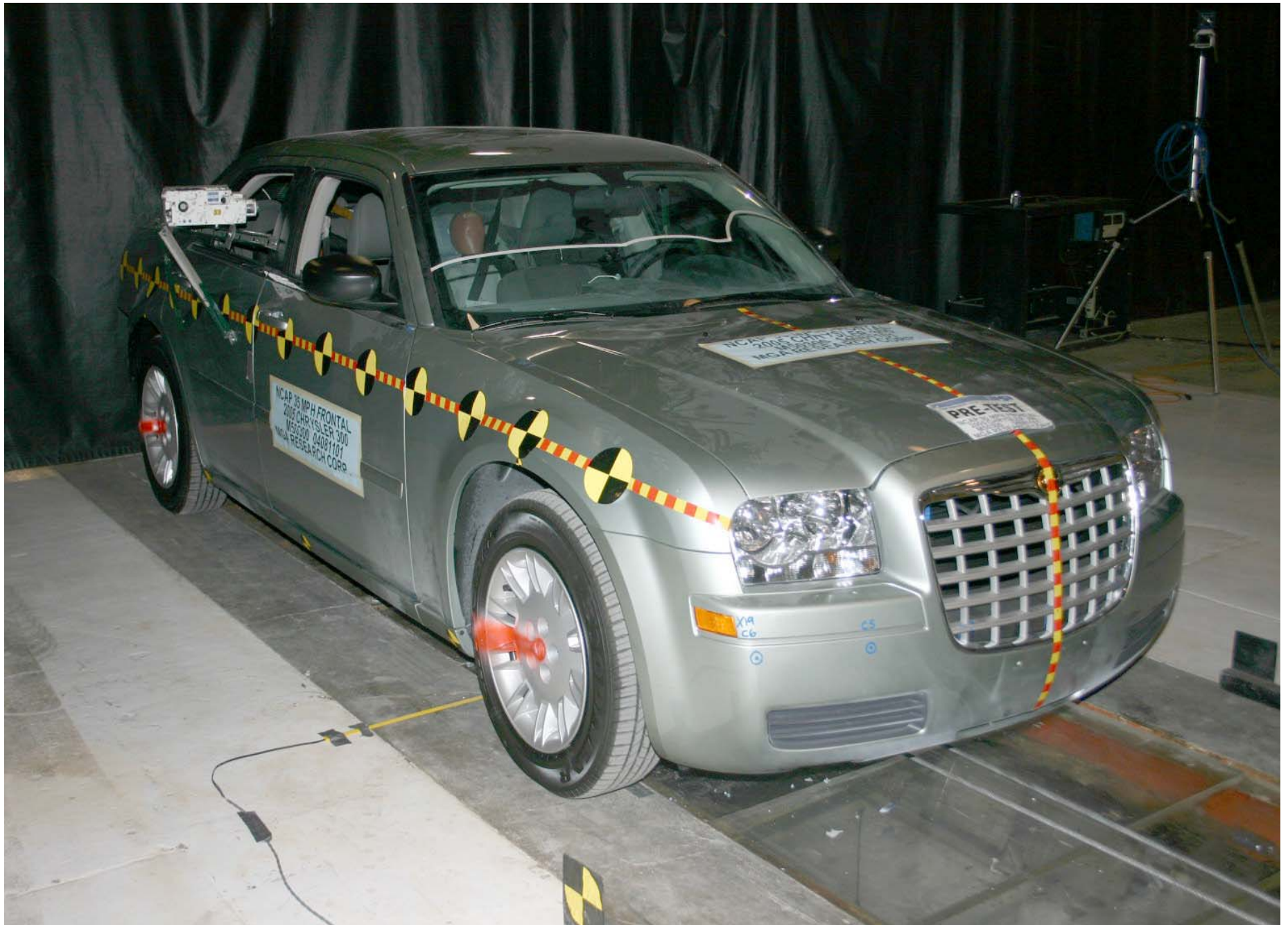
Post-Test Left Side View of Test Vehicle



Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle



Pre-Test Right Front Three-Quarter View of Test Vehicle



Post-Test Right Front Three-Quarter View of Test Vehicle



Pre-Test Left Rear Three-Quarter View of Test Vehicle



Post-Test Left Rear Three-Quarter View of Test Vehicle



Pre-Test Left Front Three-Quarter View of Door



Pre-Test Left Rear Three-Quarter View of Door



Pre-Test Right Front Three-Quarter View of Door



Pre-Test Right Rear Three-Quarter View of Door



Post-Test Left Side Three-Quarter View of Doors After Impact



Post-Test Right Side Three-Quarter View of Doors After Impact



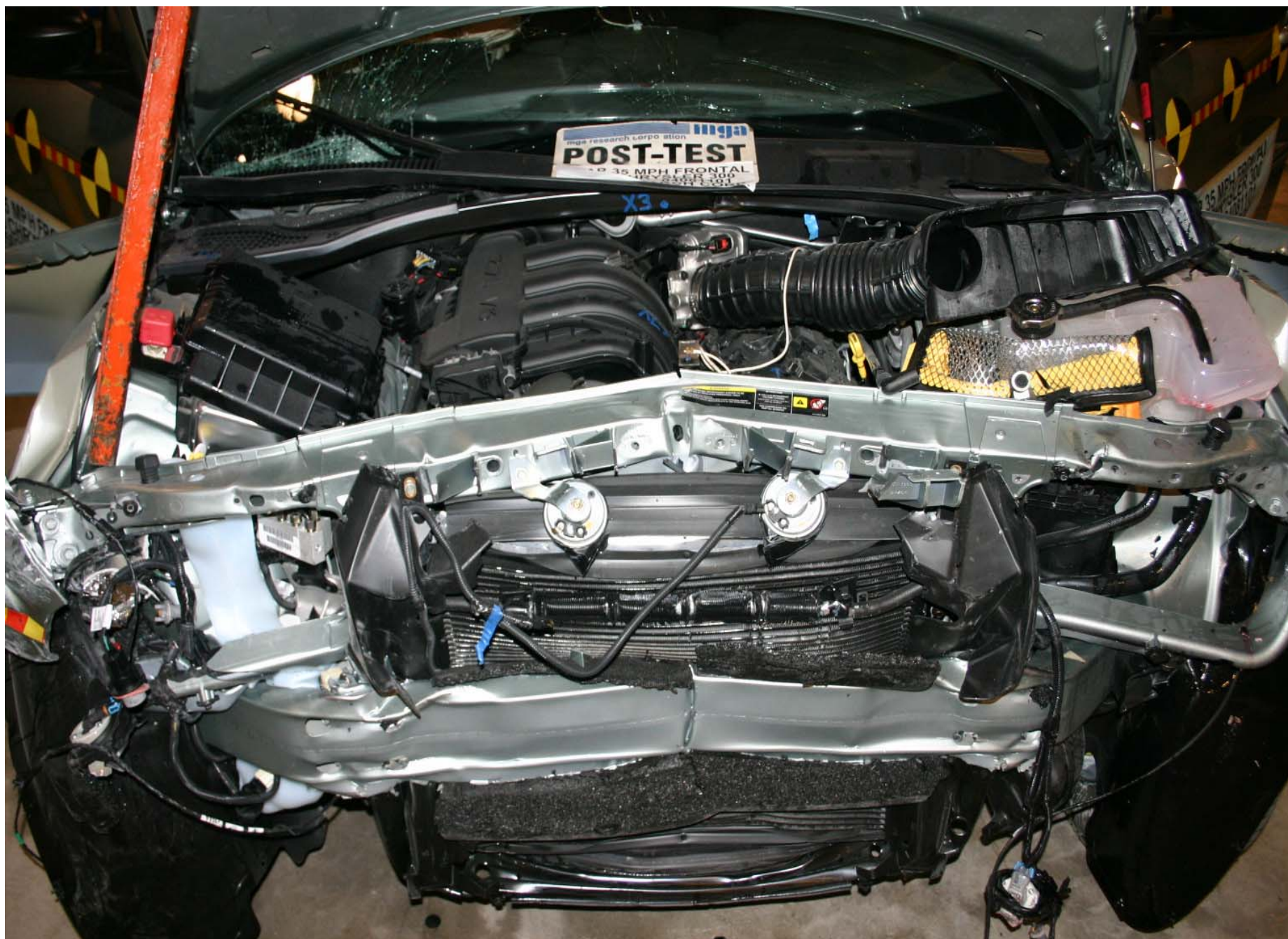
Pre-Test Windshield View



Post-Test Windshield View



Pre-Test Engine Compartment View



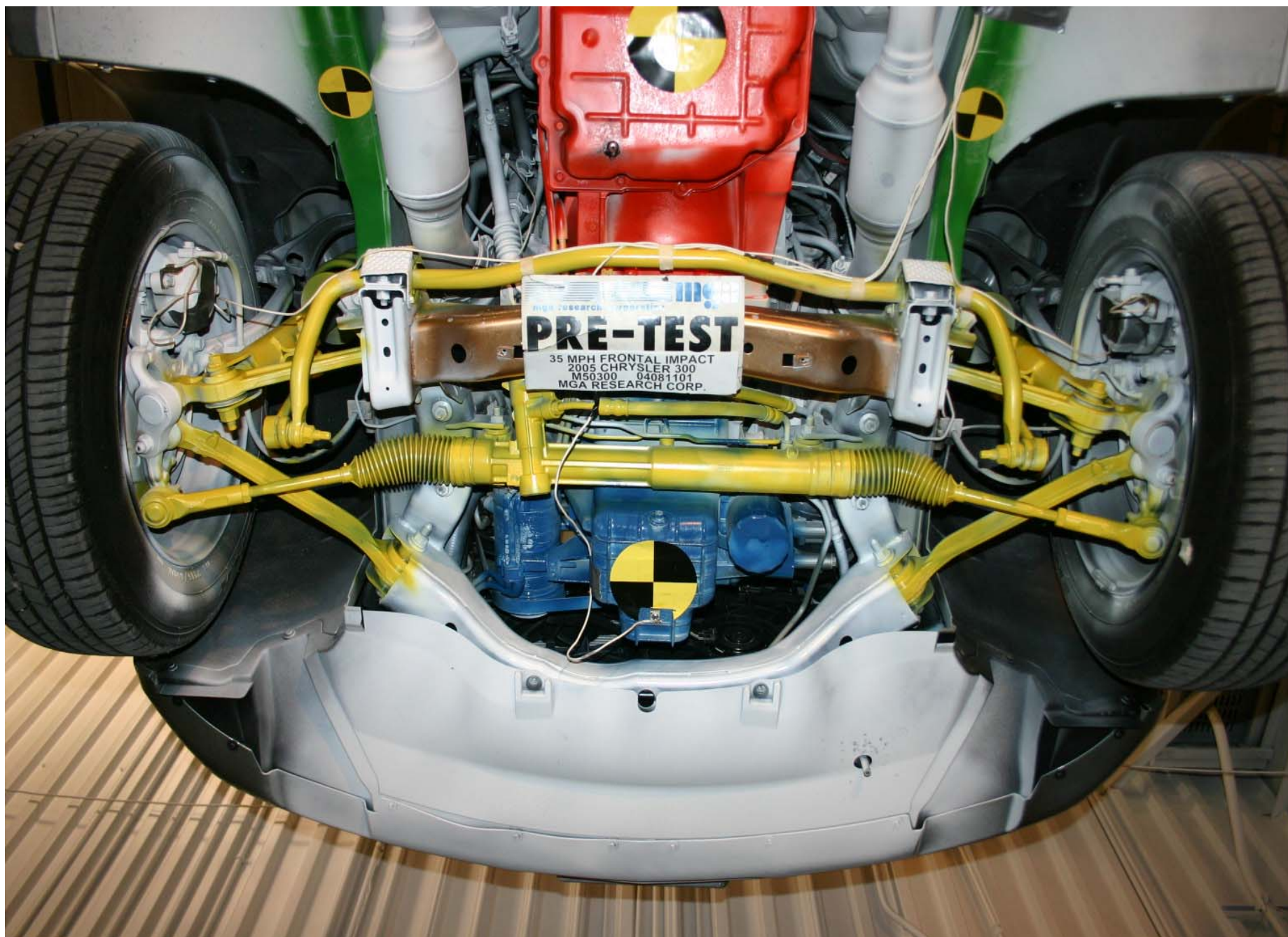
Post-Test Engine Compartment View



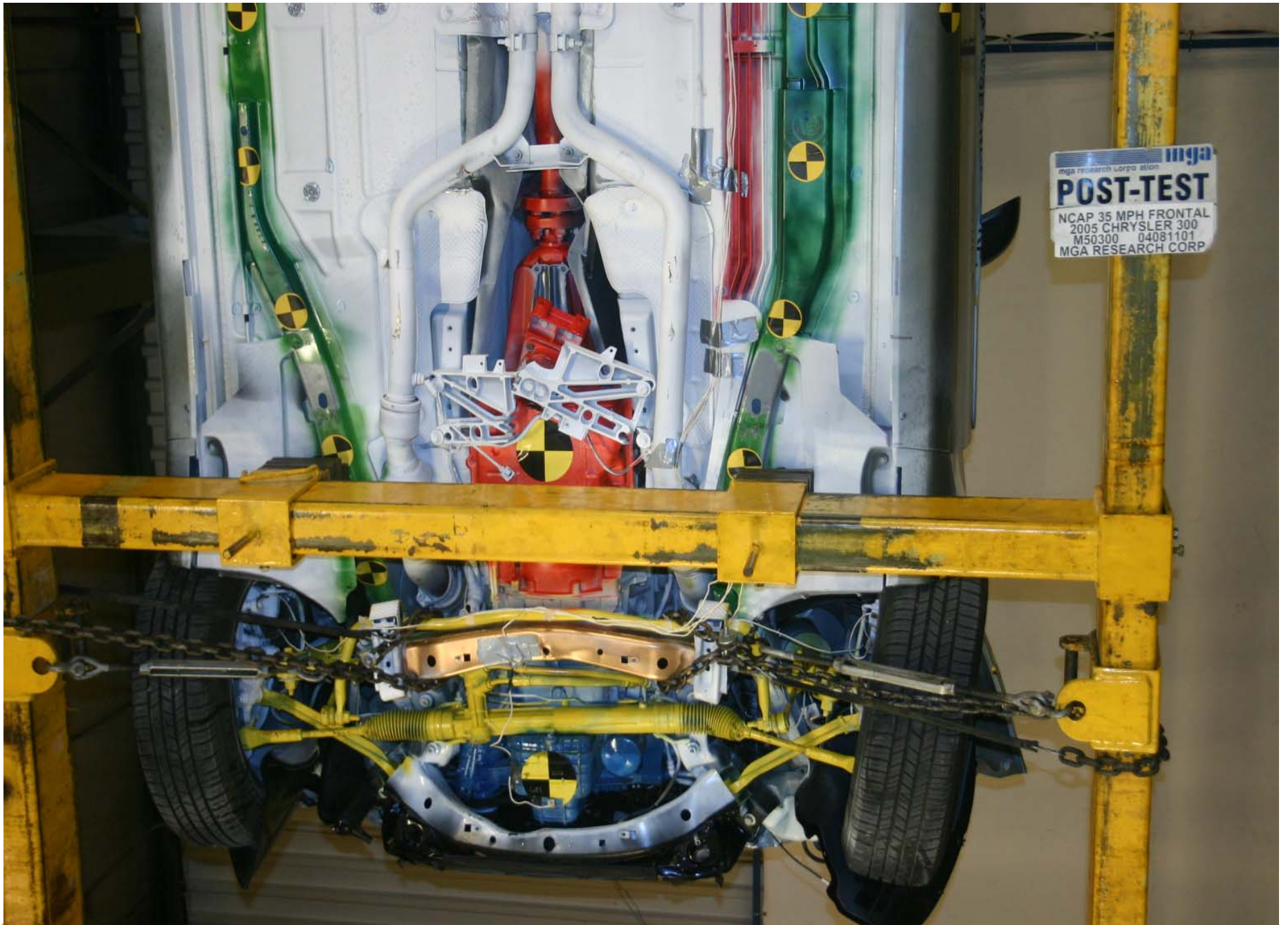
Pre-Test Fuel Filler Cap View



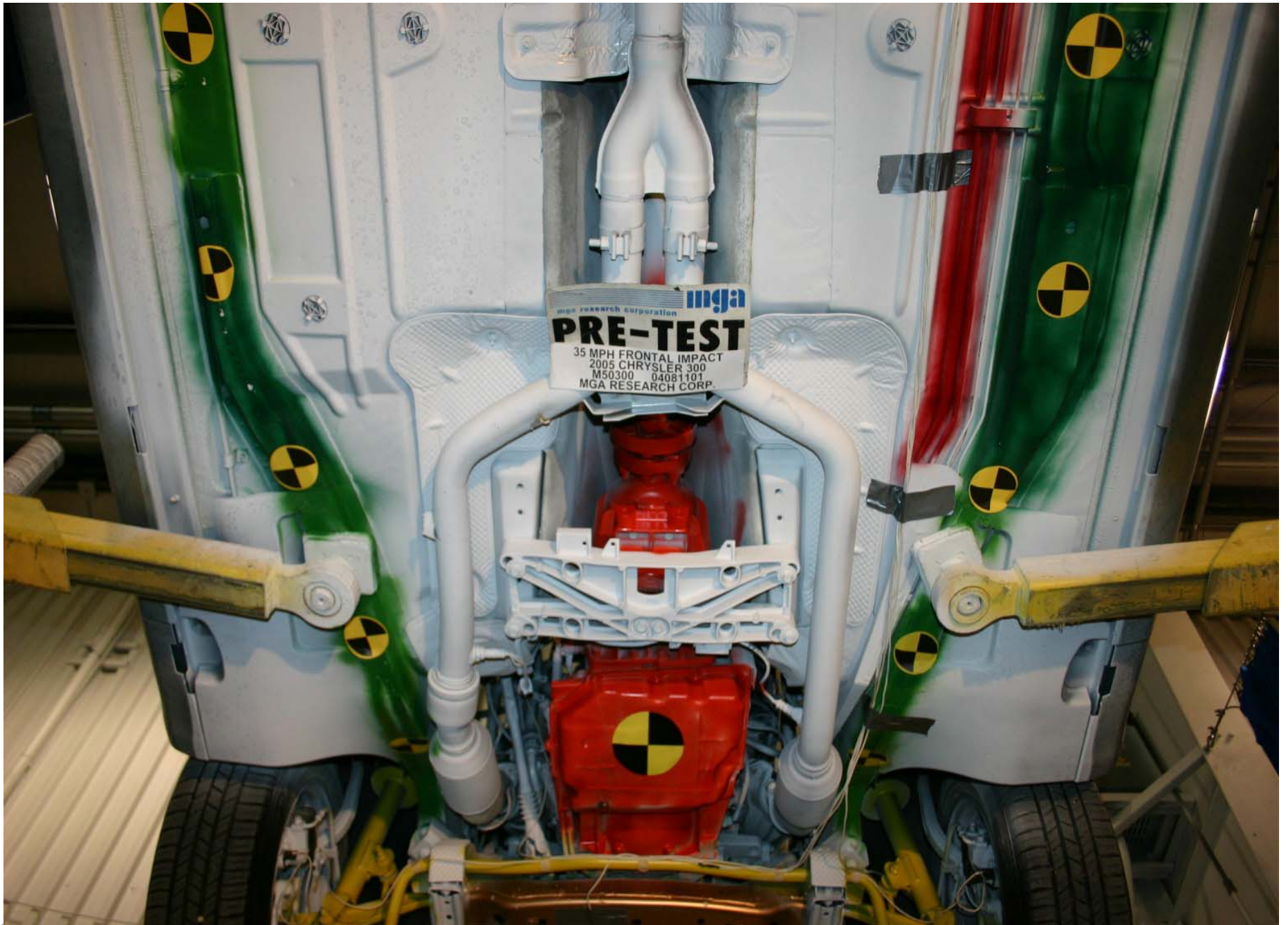
Post-Test Fuel Filler Cap View



Pre-Test Front Underbody View



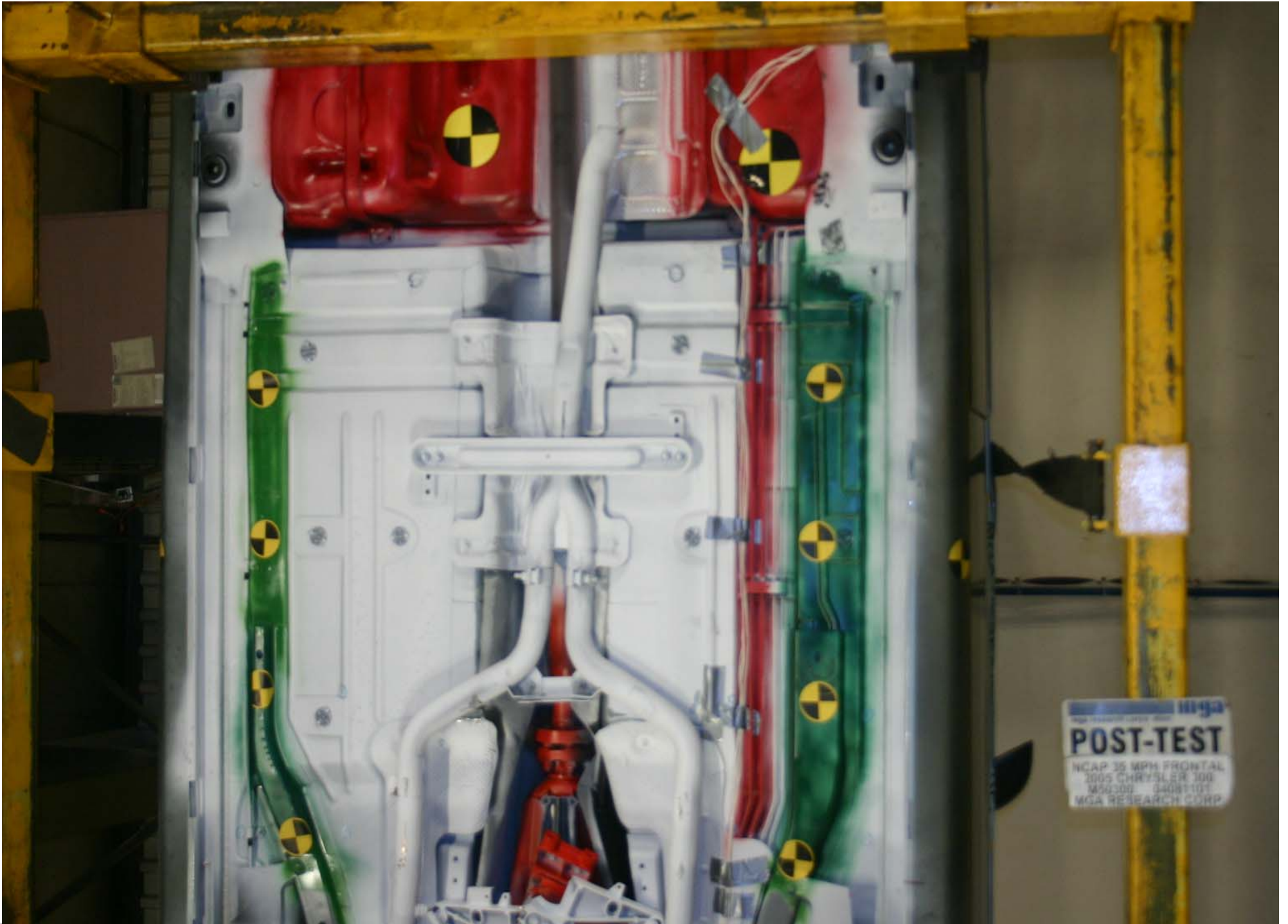
Post-Test Front Underbody View



Pre-Test Front Mid Underbody

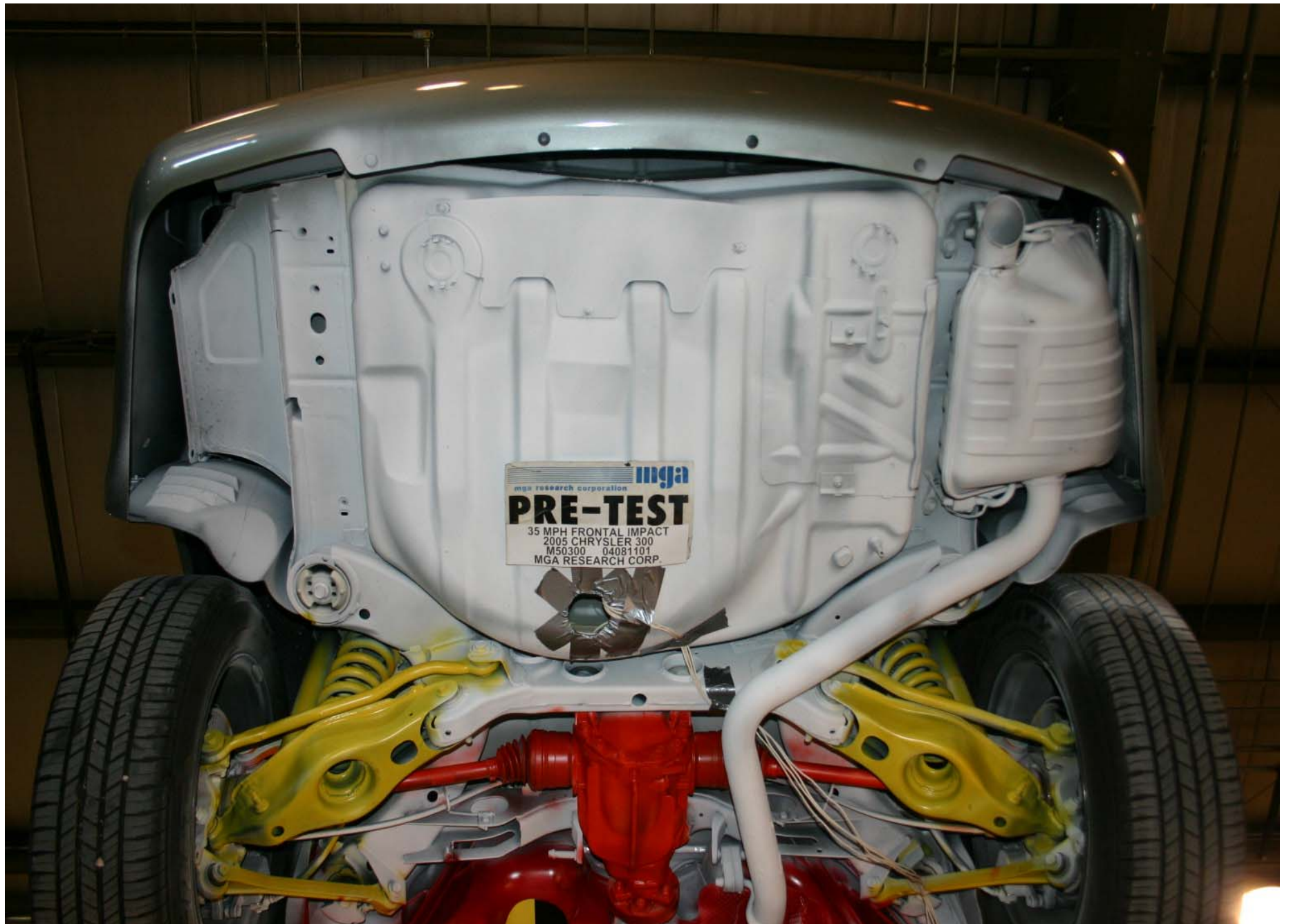


Pre-Test Rear Mid Underbody



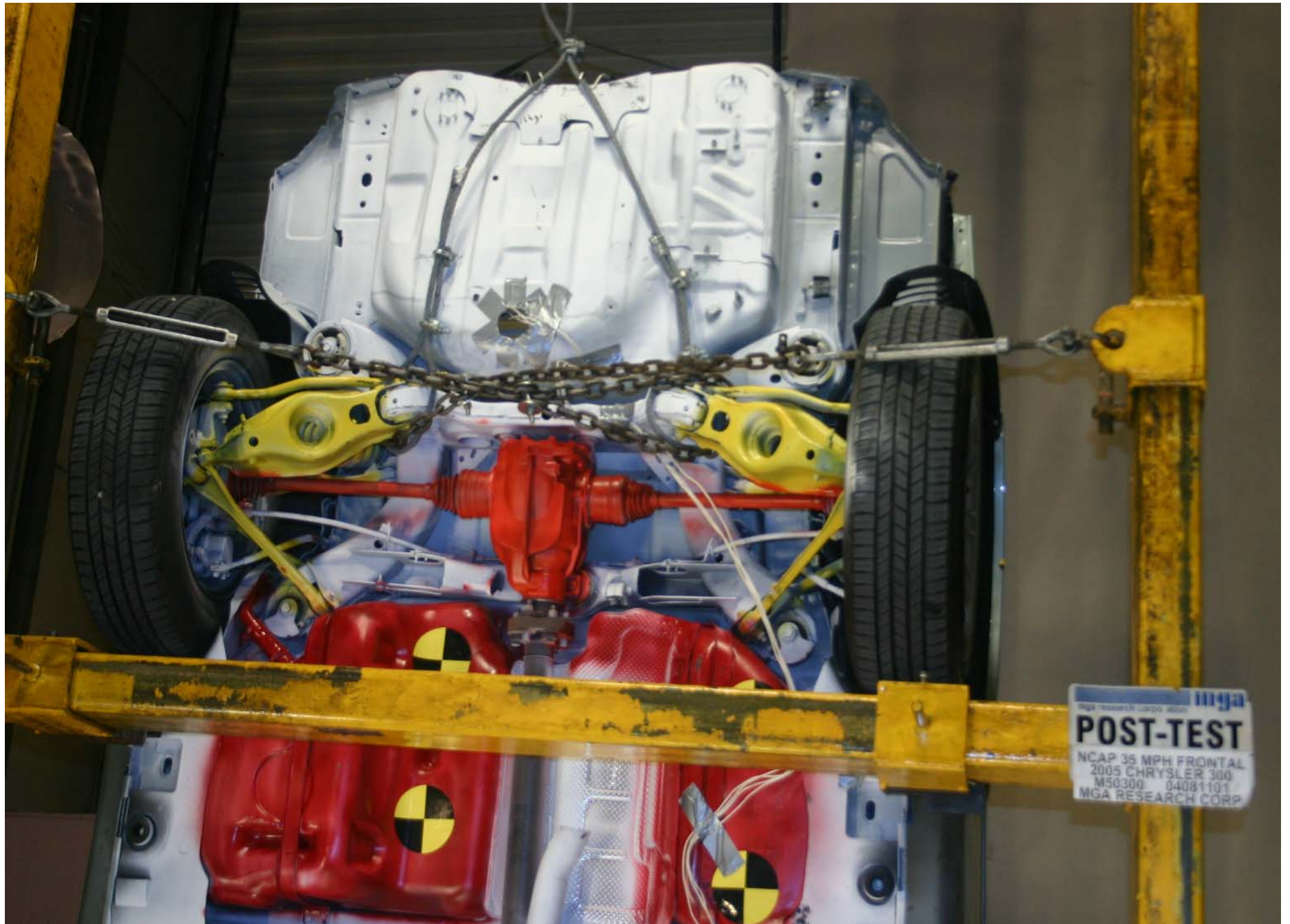
POST-TEST
NCAP 35 MPH FRONTAL
2005 CHRYSLER 100
W50300 14081101
MGA RESEARCH CORP

Post-Test Mid Underbody

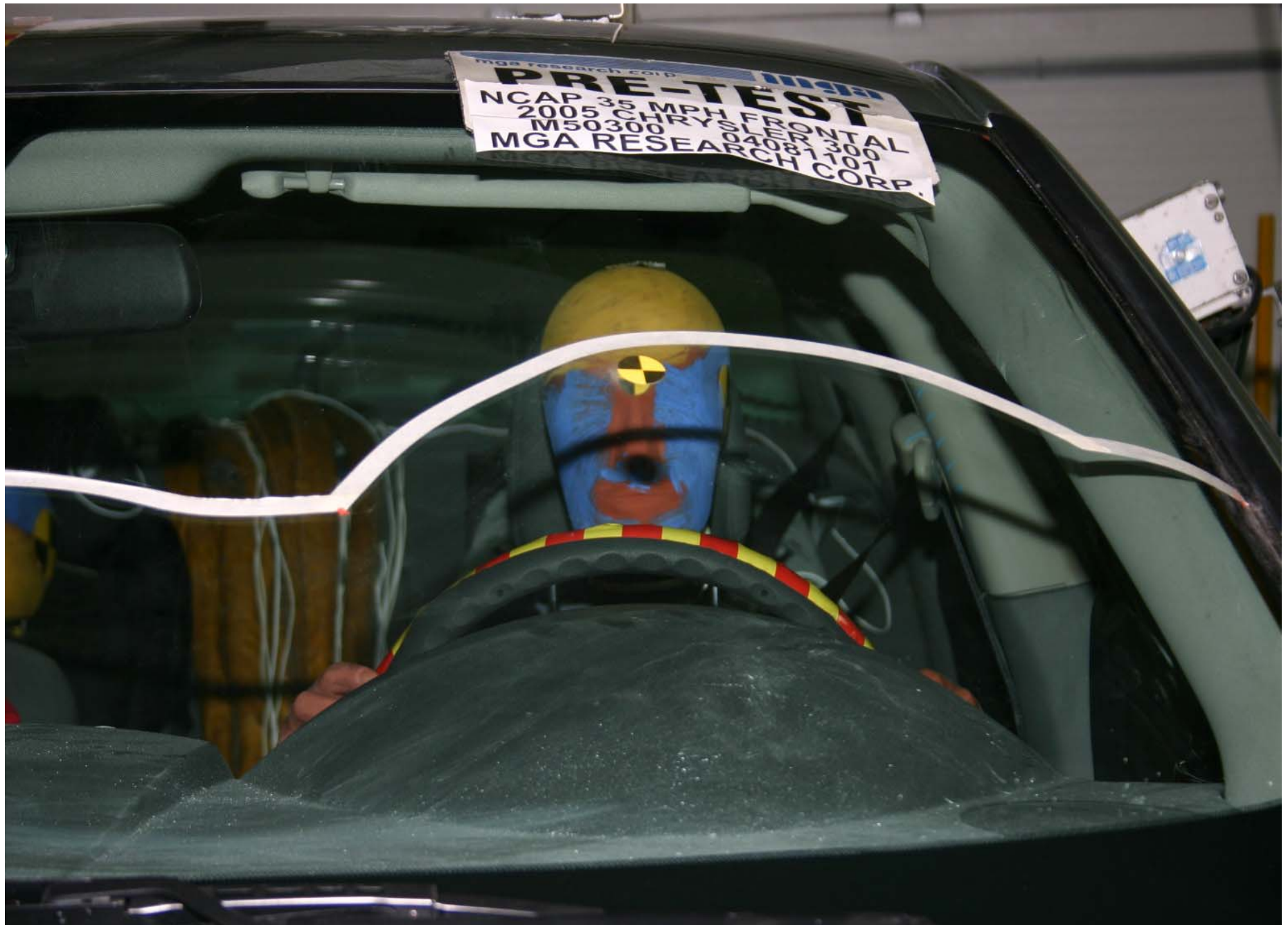


Pre-Test Rear Underbody View

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Post-Test Rear Underbody View



Pre-Test Driver Dummy Front View (head position)



Post-Test Driver Dummy Front View (head position)



Pre-Test Driver Dummy Position Left Side View



Post-Test Driver Dummy Position Left Side View



Pre-Test Driver Dummy Position Left Side View (Door Open)



Post-Test Driver Dummy Position Left Side View (Door Open)



Pre-Test Driver Dummy Seat Position View



Post-Test Driver Dummy Seat Position View



Pre-Test Driver Dummy Feet Position



Post-Test Driver Dummy Feet Position



Pre-Test Driver Side Knee Bolster View



Post-Test Driver Side Knee Bolster View



Pre-Test Driver Side Floor Pan View



Post-Test Driver Side Floor Pan View



Post-Test Driver Dummy Head Contact

A-50.



Post-Test Driver Dummy Knee Contact



Post-Test Driver Dummy Airbag Contact



Pre-Test Passenger Dummy Front View (head position)



Post-Test Passenger Dummy Front View (head position)



Pre-Test Passenger Dummy Position Right Side View

A-55.



Post-Test Passenger Dummy Position Right Side View



Pre-Test Passenger Dummy Position Right Side View (Door Open)



Post-Test Passenger Dummy Position Right Side View (Door Open)



Pre-Test Passenger Dummy Seat Position View



Post-Test Passenger Dummy Seat Position View



Pre-Test Passenger Dummy Feet Position



Post-Test Passenger Dummy Feet Position



Pre-Test Passenger Side Knee Bolster View



Post-Test Passenger Side Knee Bolster View



Pre-Test Passenger Side Floor Pan View



Post-Test Passenger Side Floor Pan View



Post-Test Passenger Dummy Head Contact



Post-Test Passenger Dummy Knee Contact



Post-Test Passenger Dummy Airbag Contact



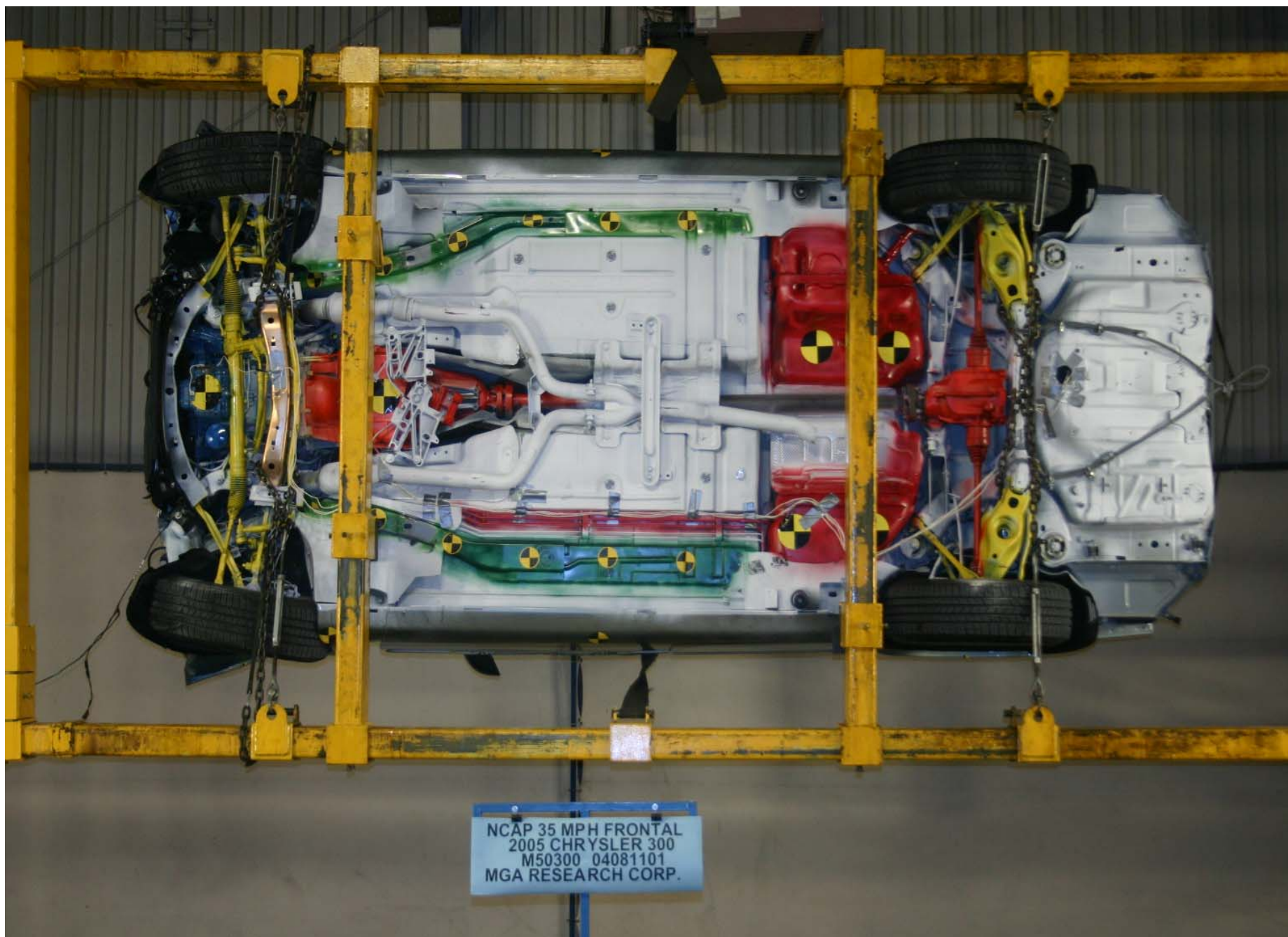
NCAP 35 MPH FRONTAL
2005 CHRYSLER 300
M50300 04081101
MGA RESEARCH CORP.

NCAP 35 MPH FRONTAL
2005 CHRYSLER 300
M50300 04081101
MGA RESEARCH CORP.

Rollover 90 Degrees



Rollover 180 Degrees



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Rollover 270 Degrees



Rollover 360 Degrees



Vehicle Impact

APPENDIX B

DUMMY AND VEHICLE RESPONSE DATA TRACES

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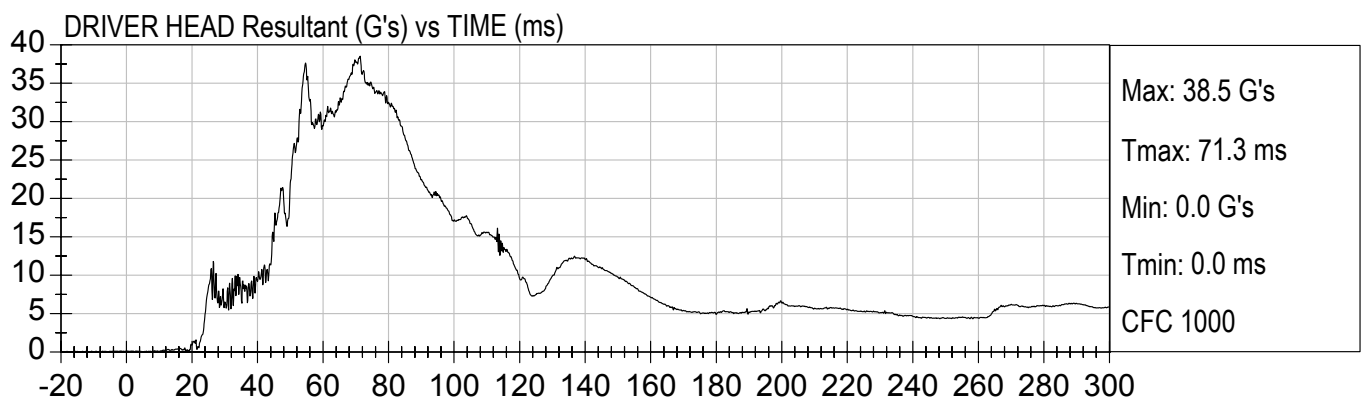
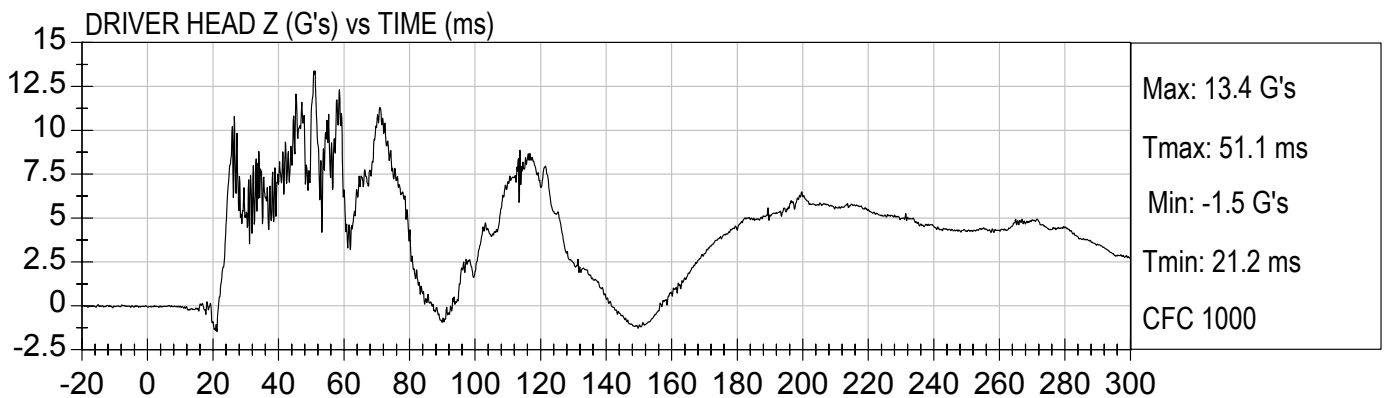
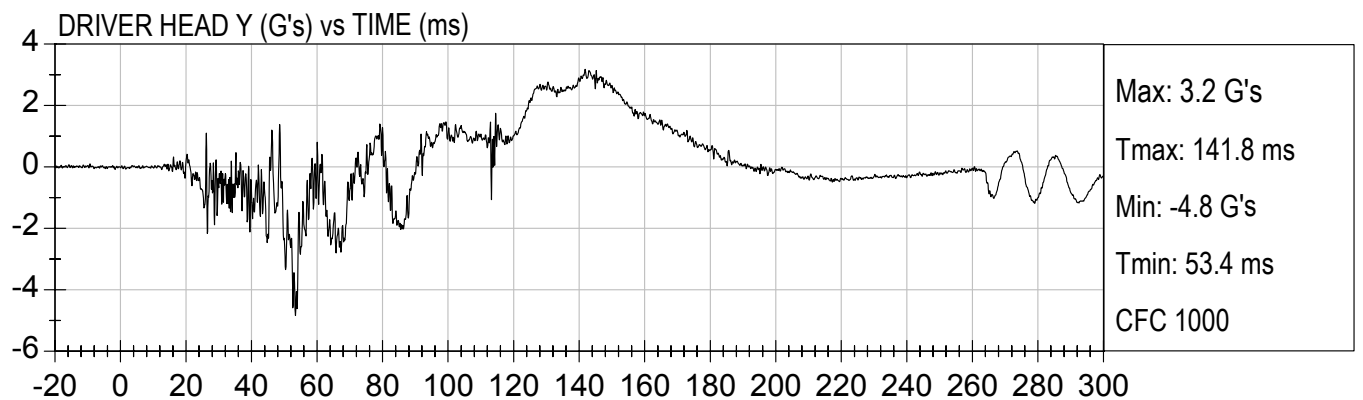
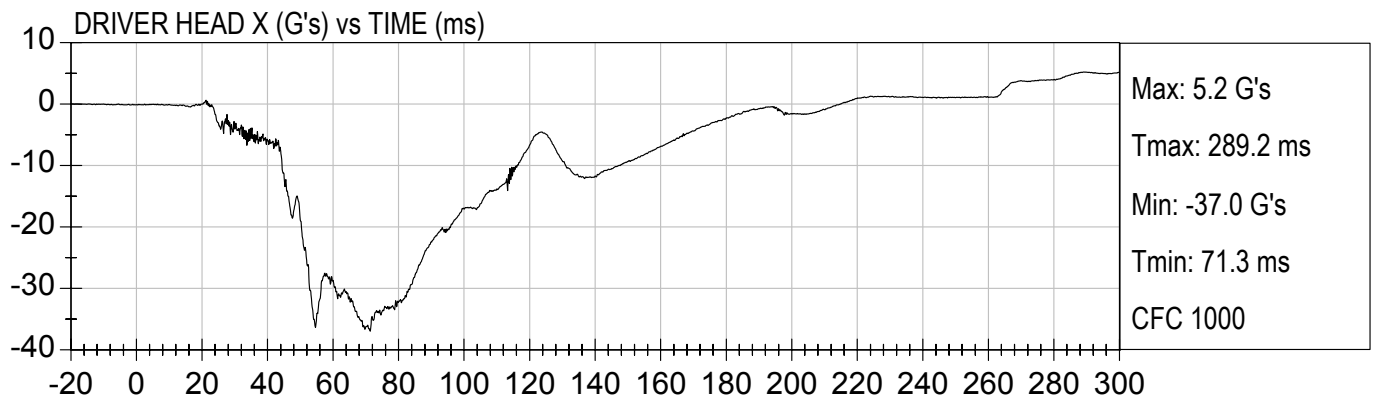
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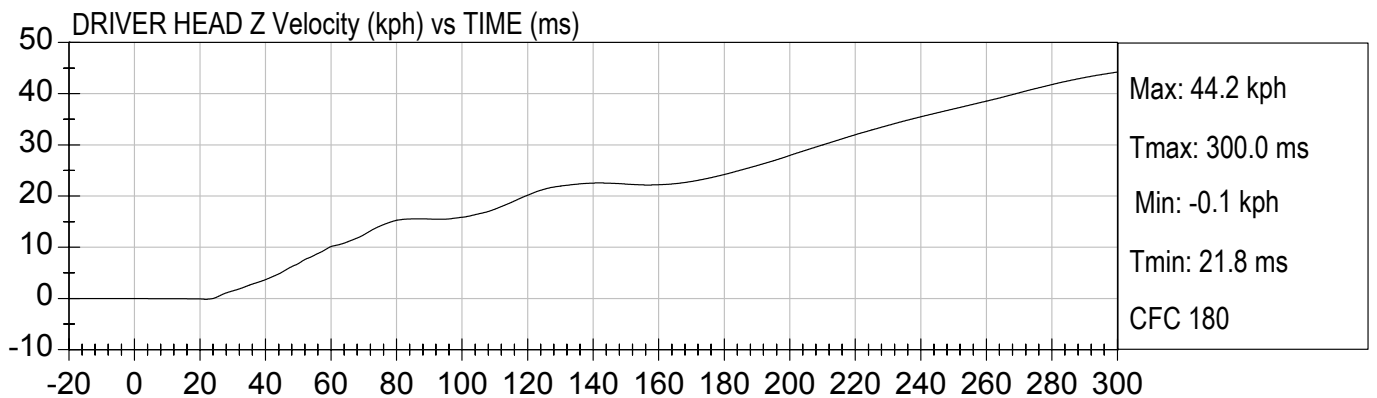
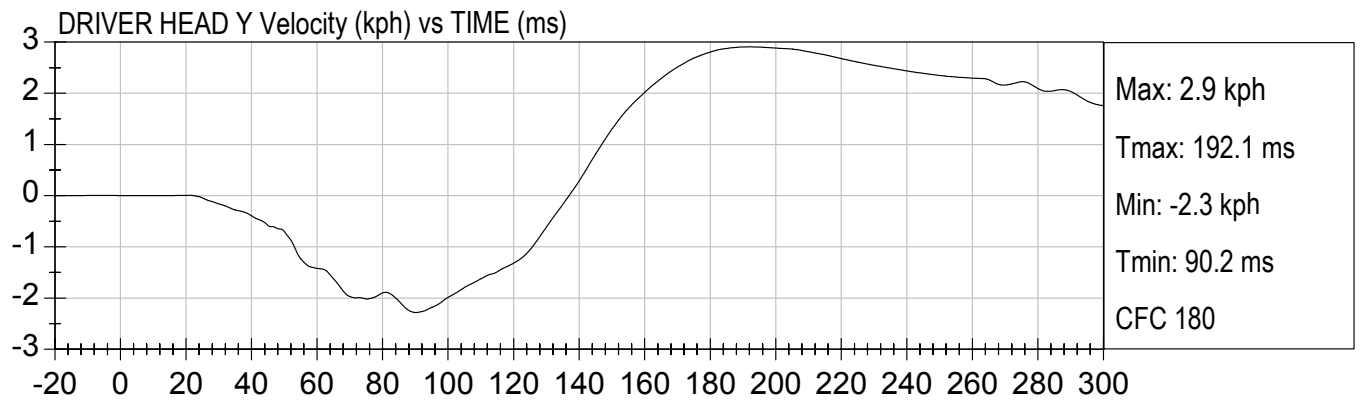
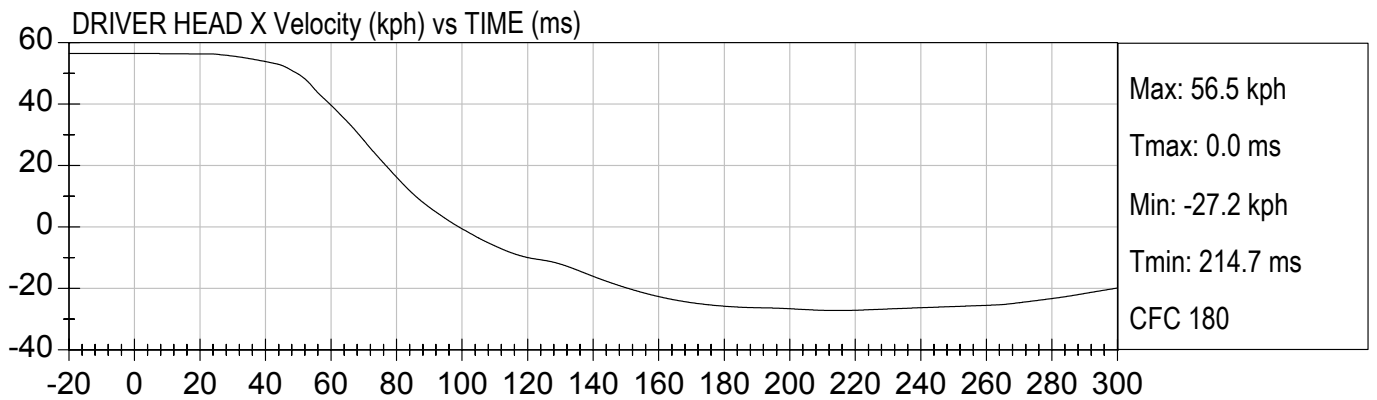
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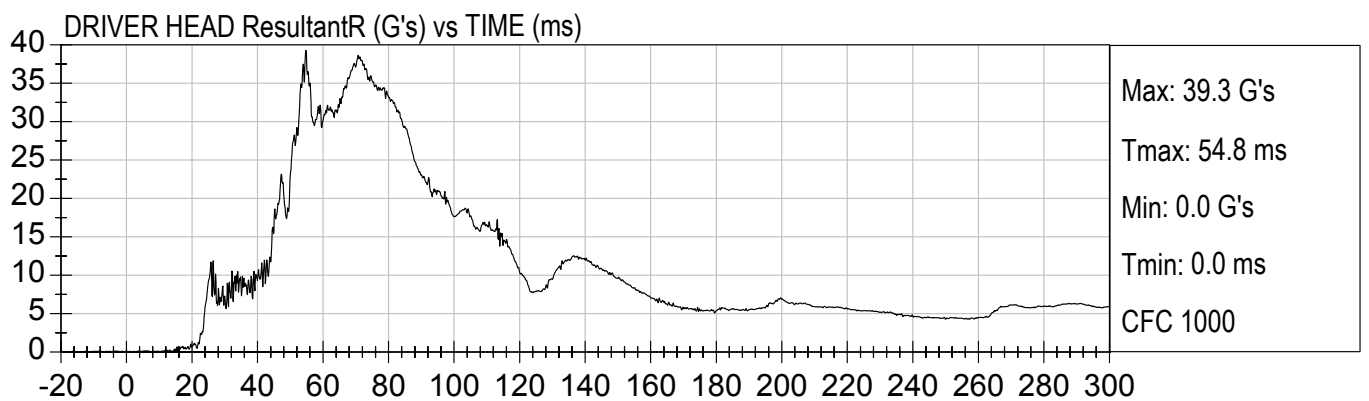
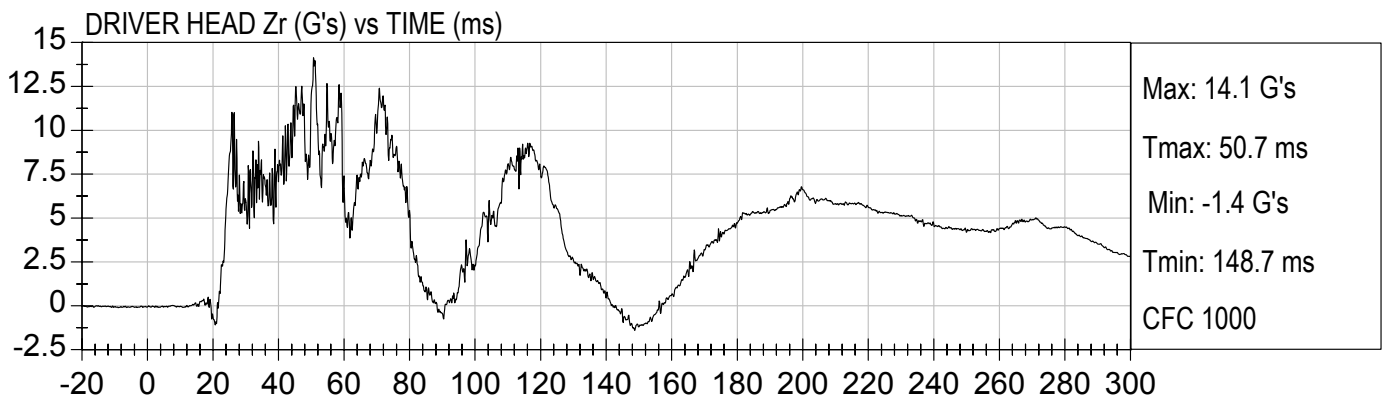
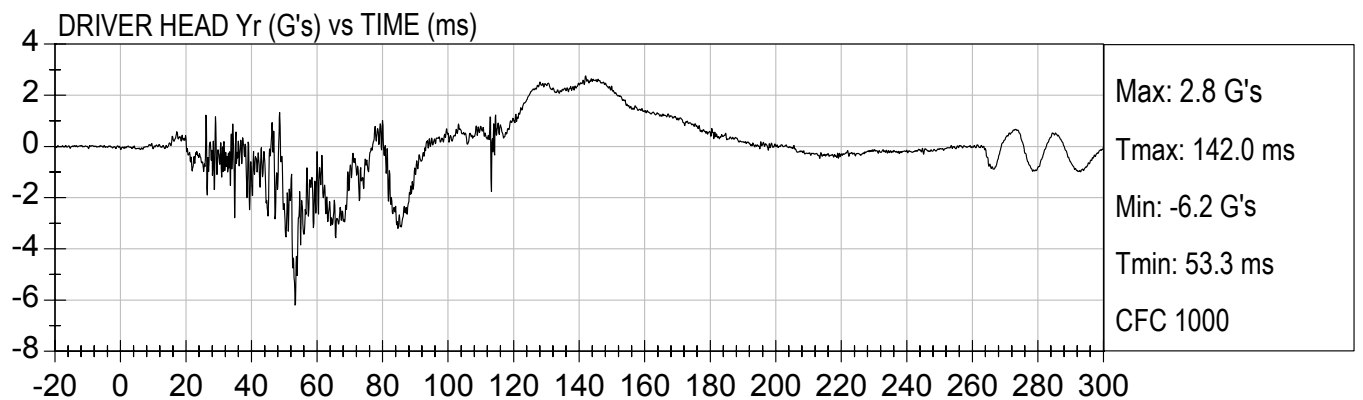
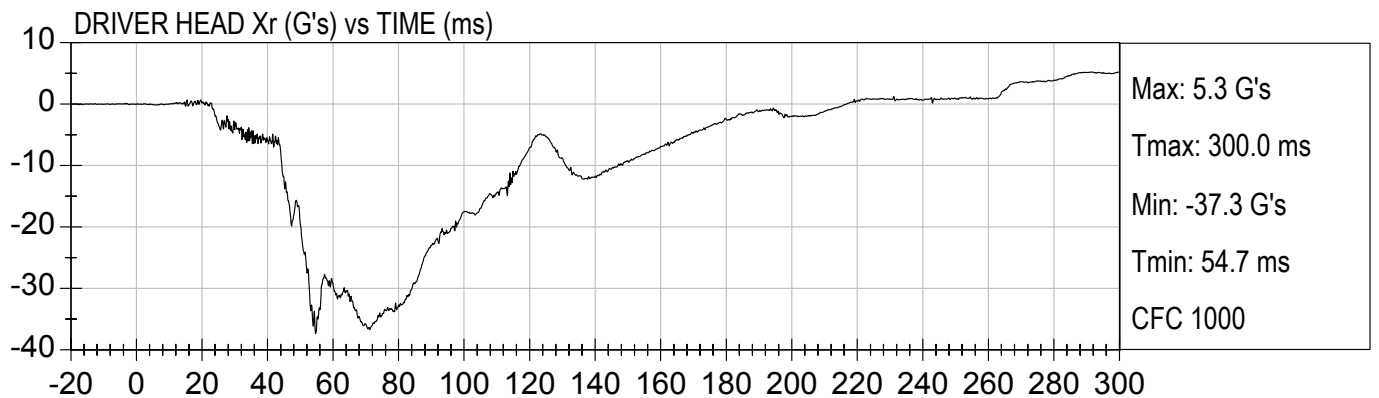


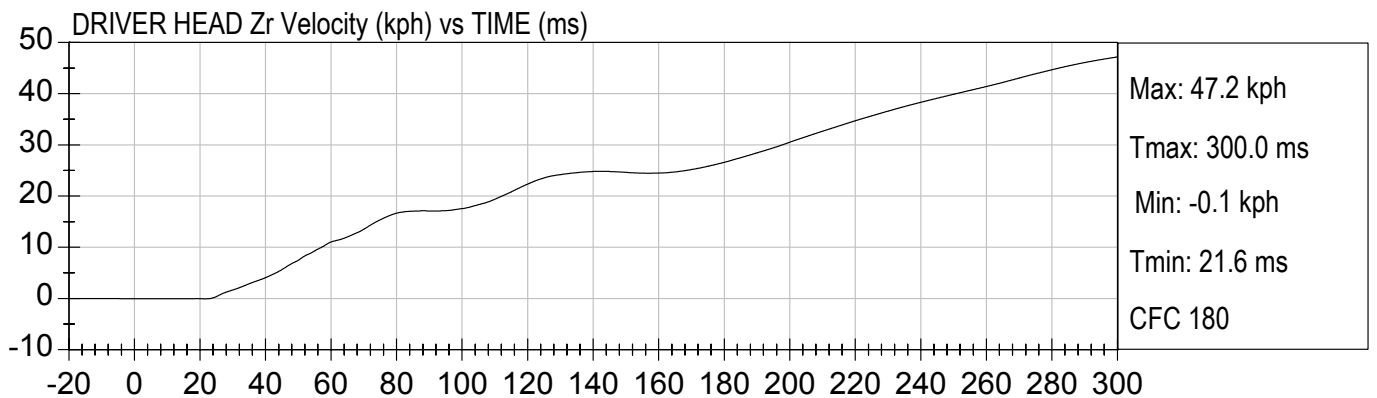
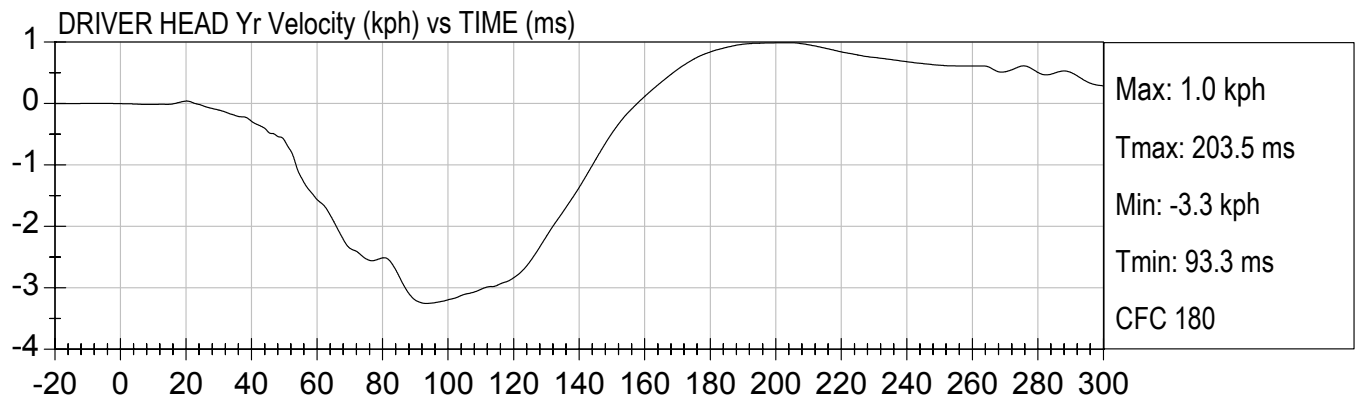
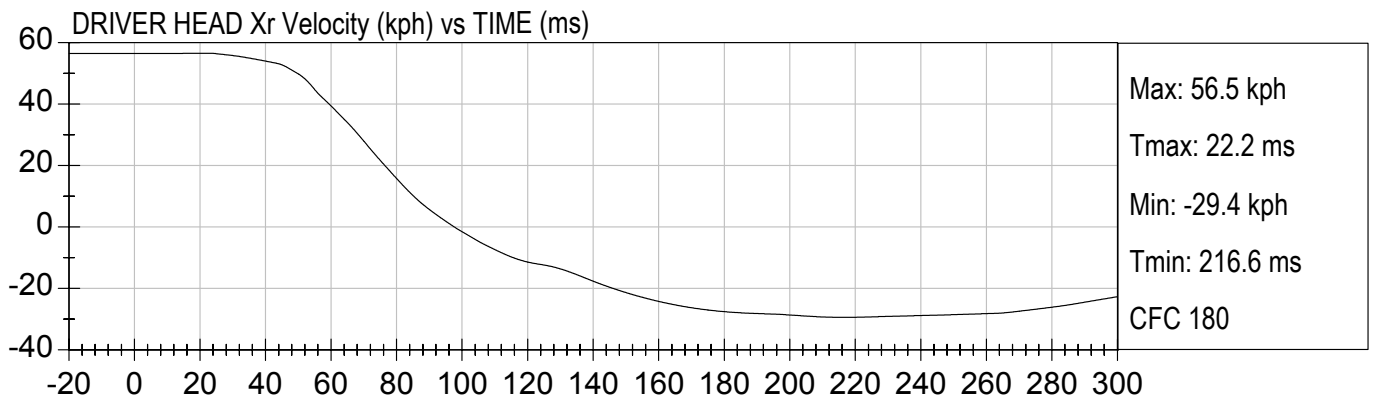
35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

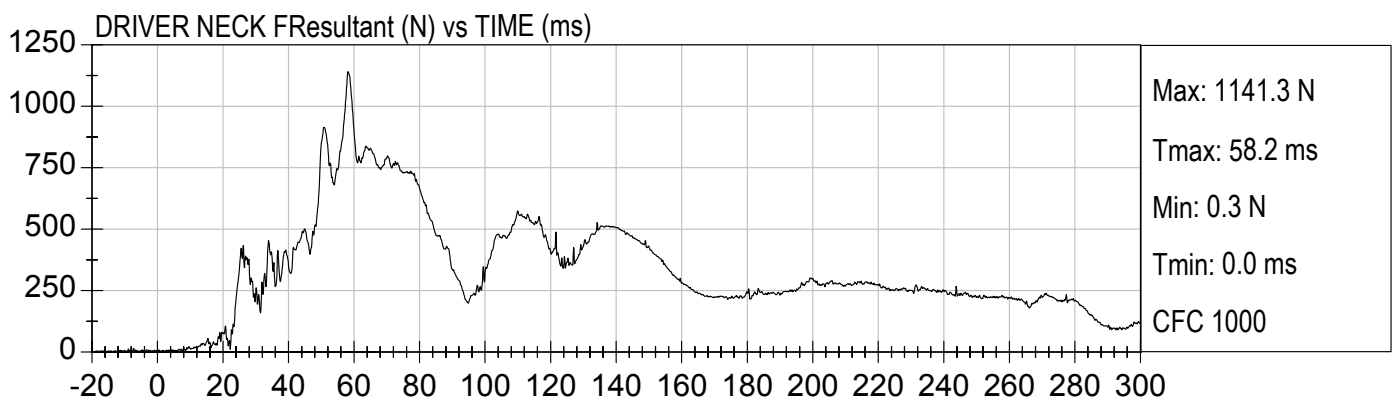
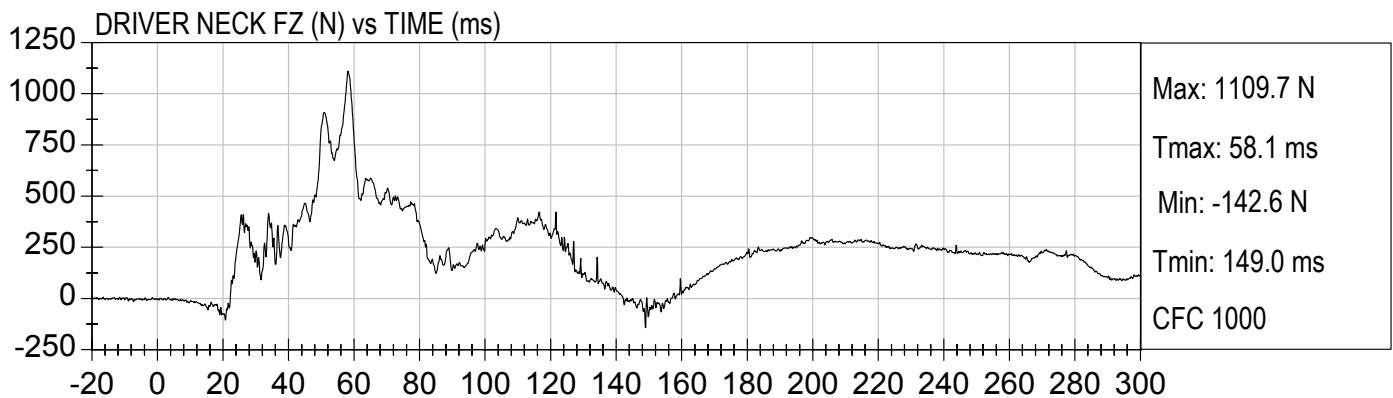
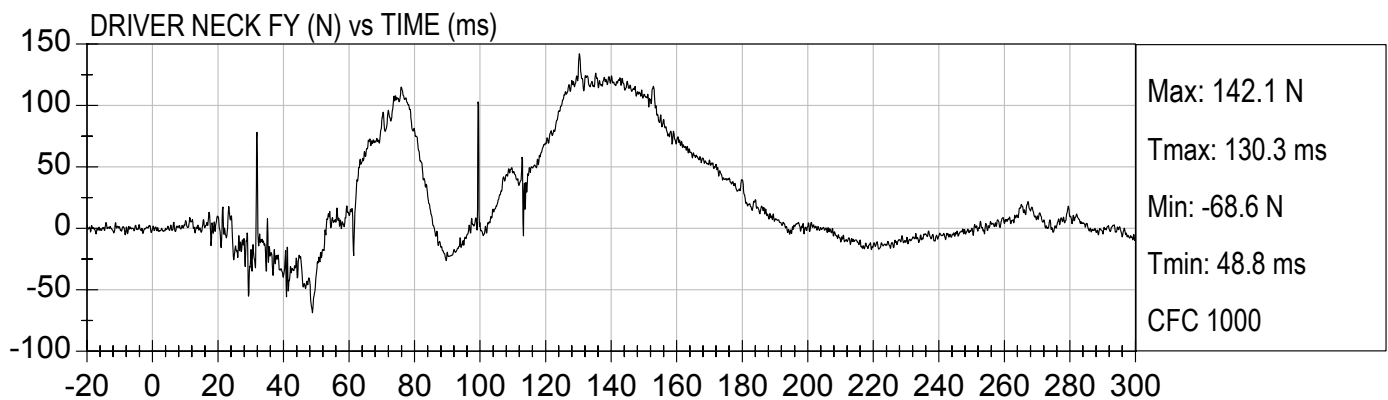
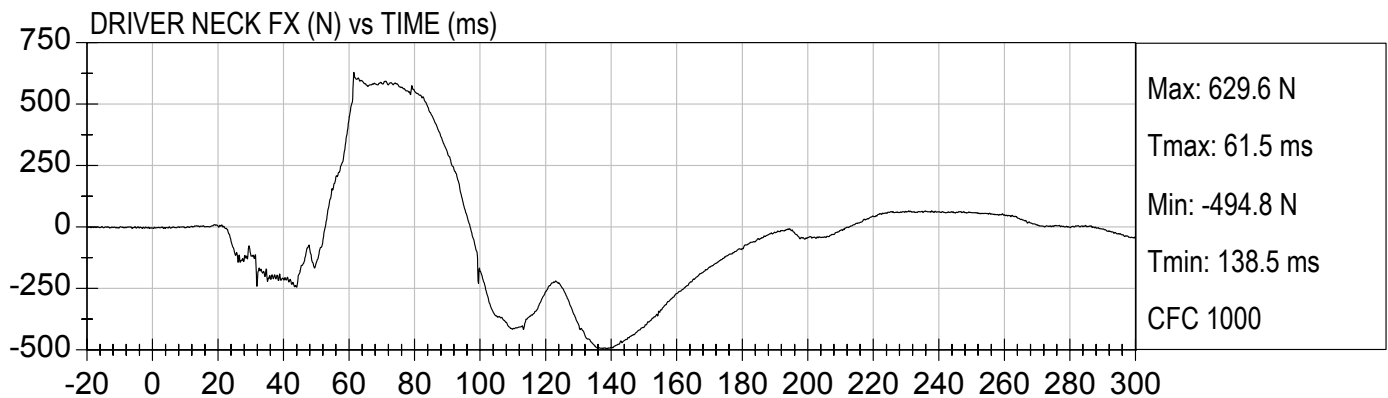
Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)







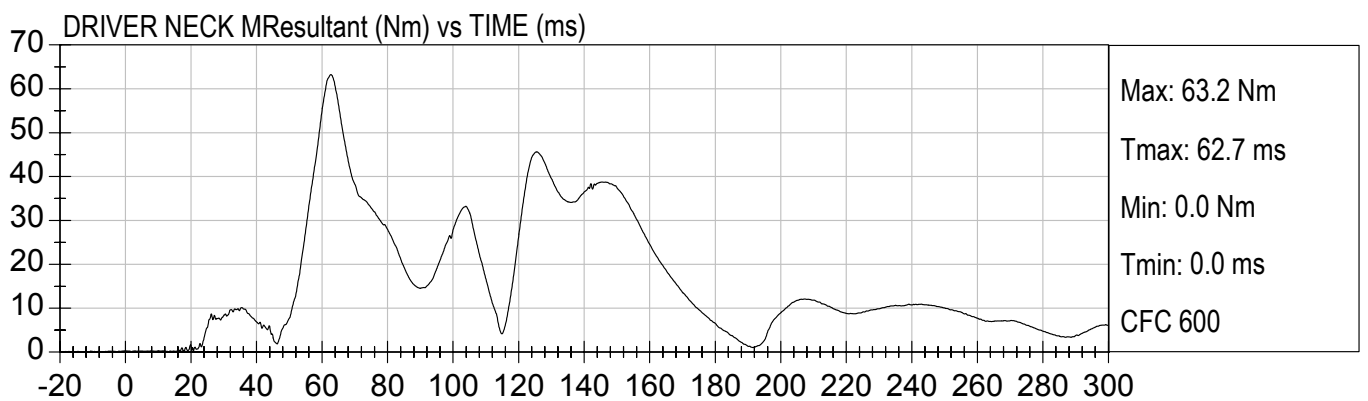
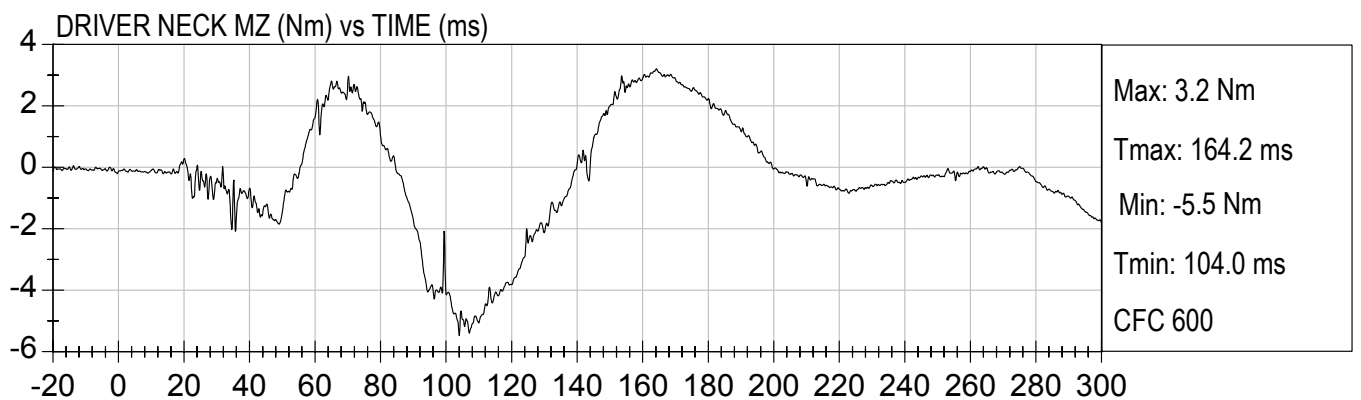
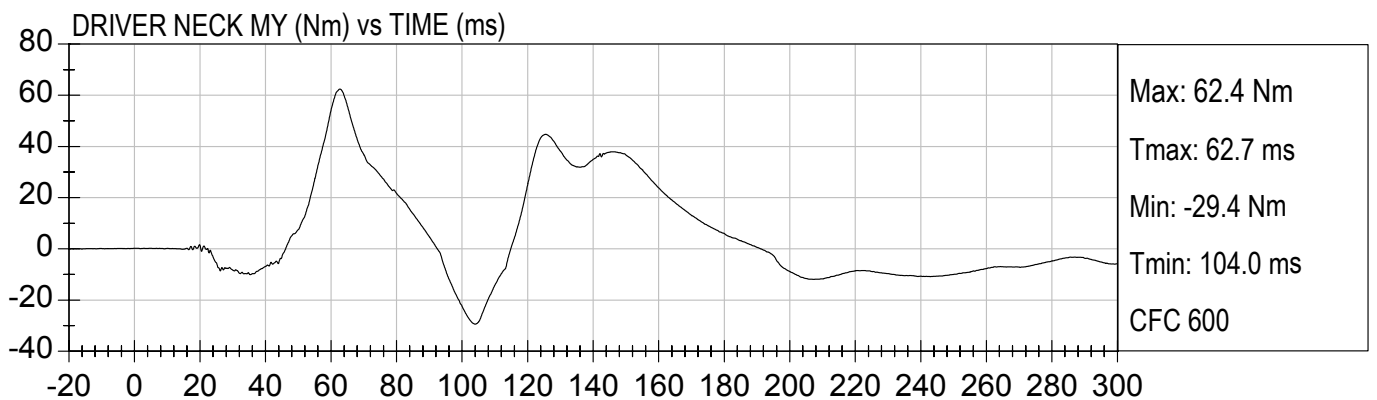
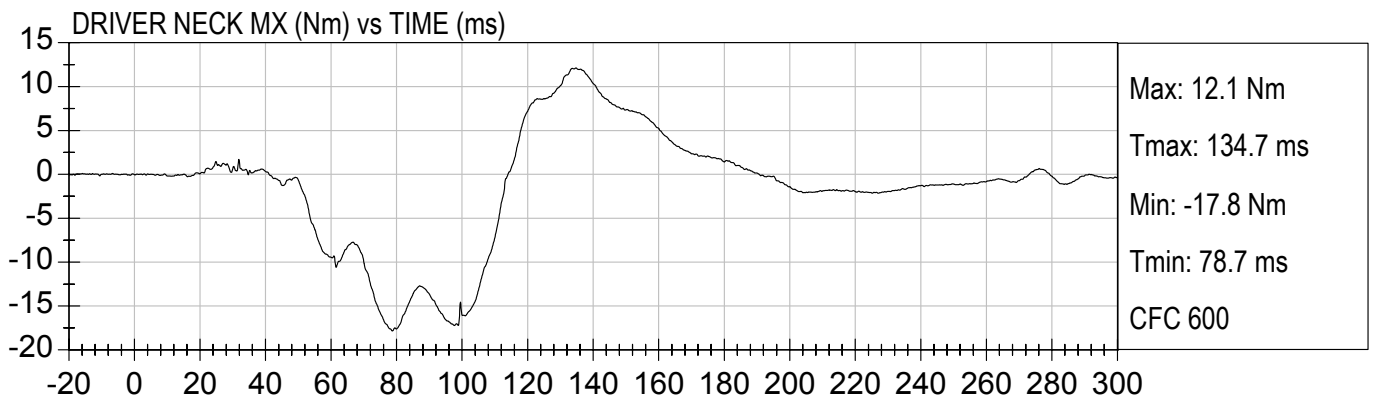






35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

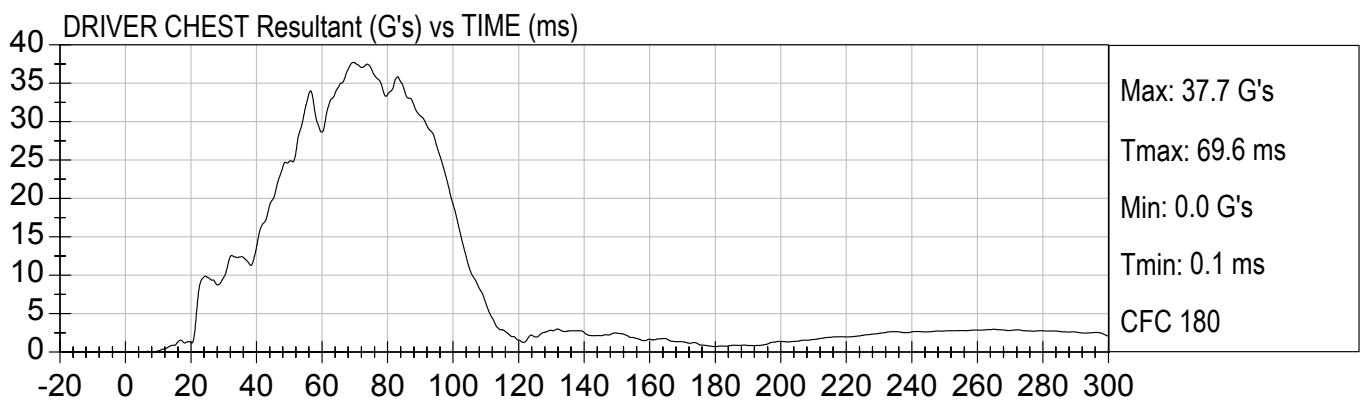
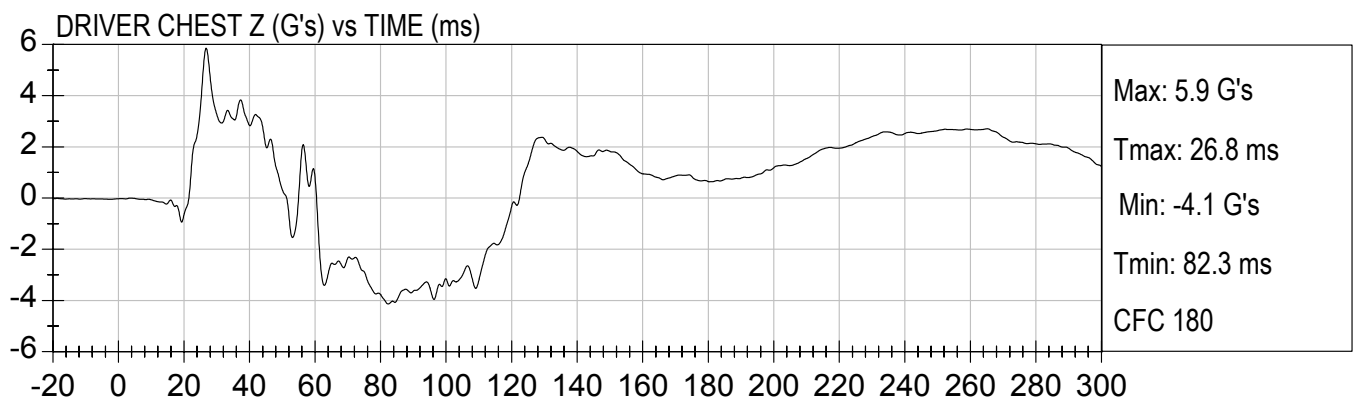
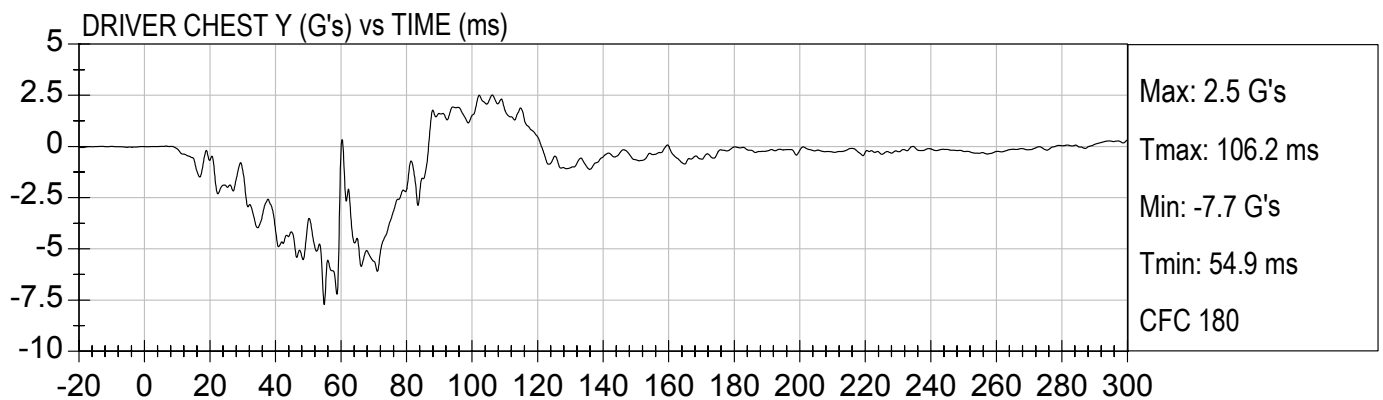
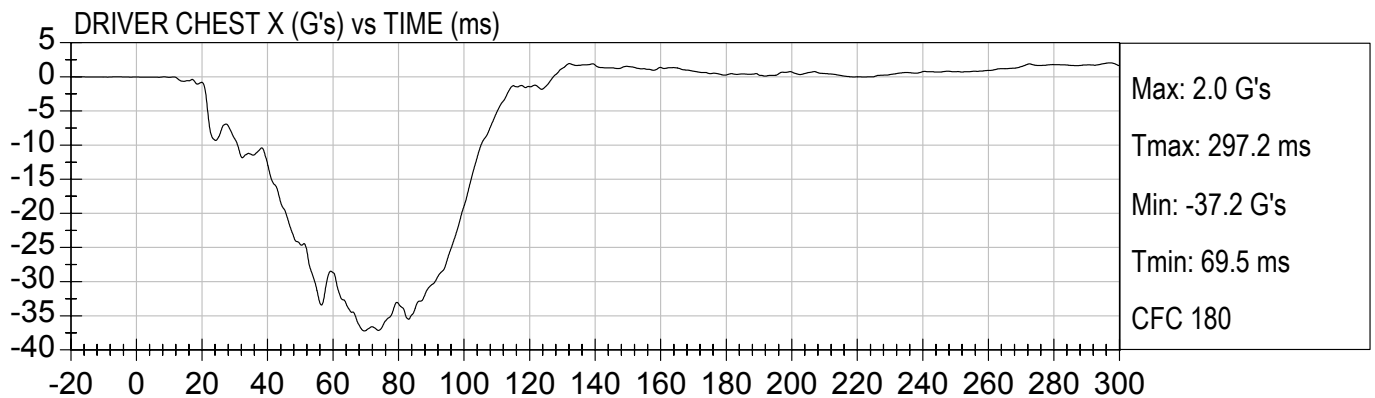
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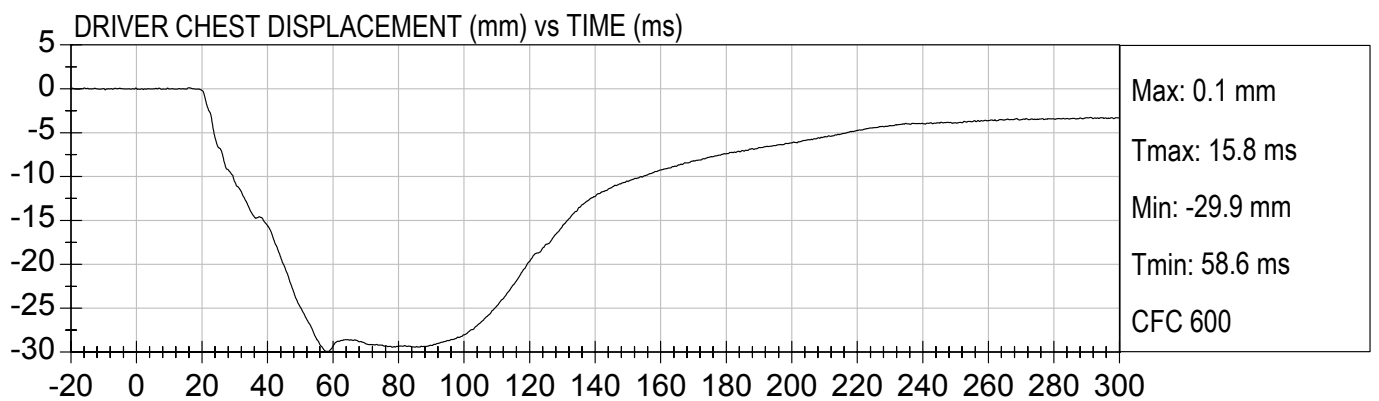
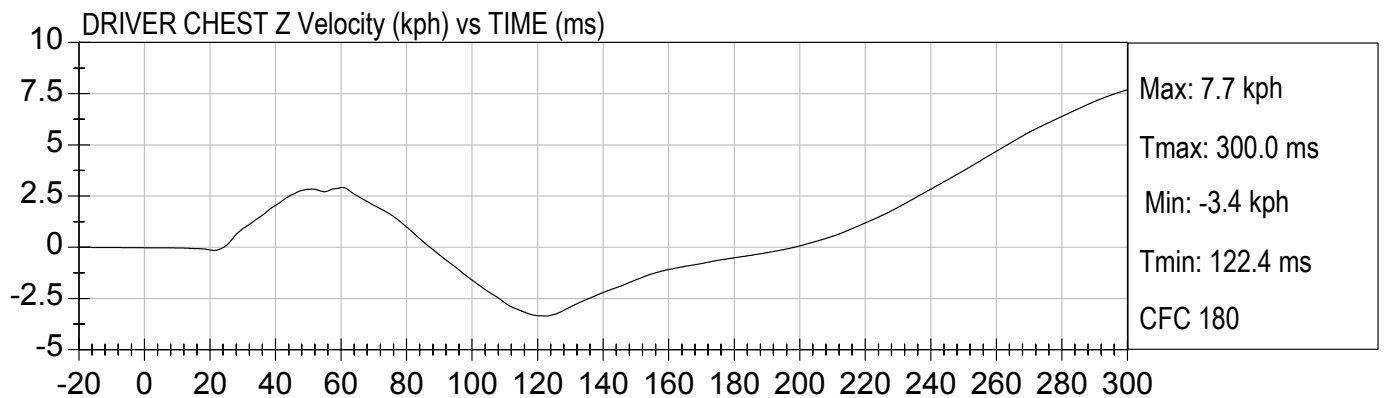
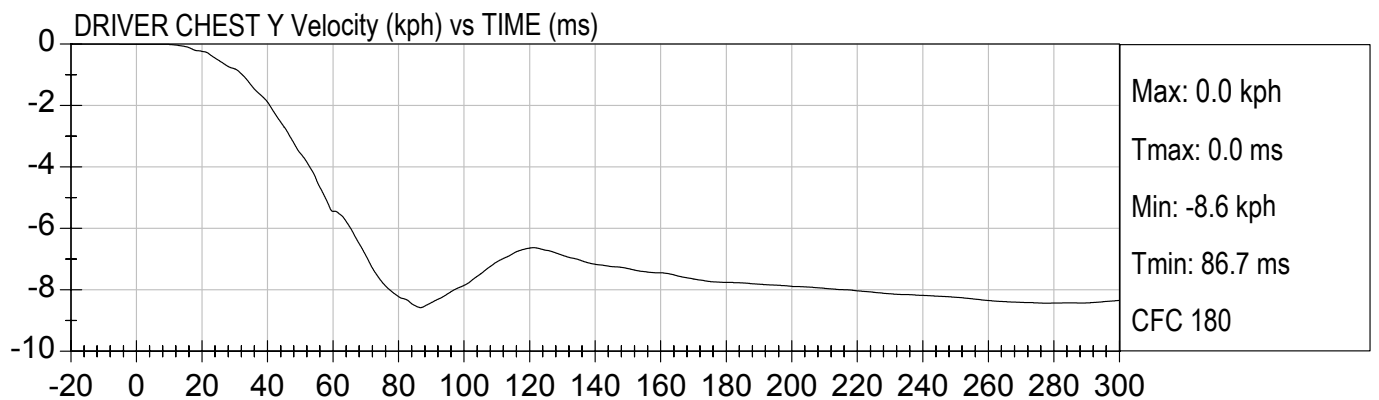
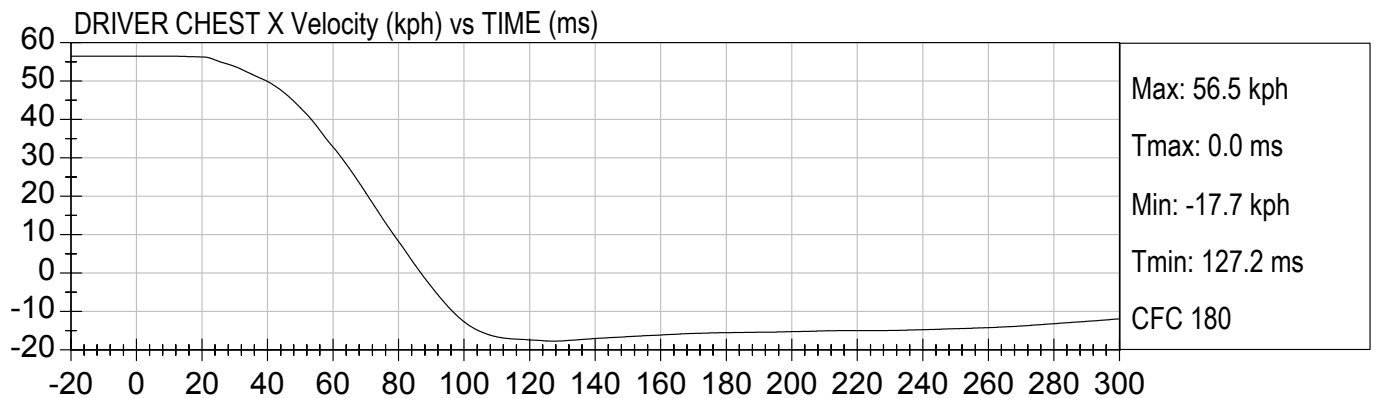


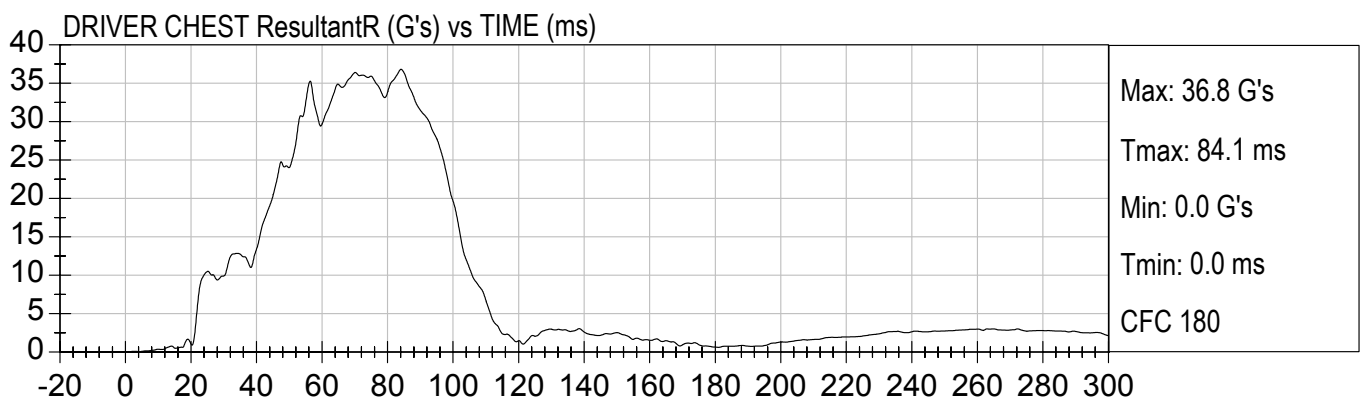
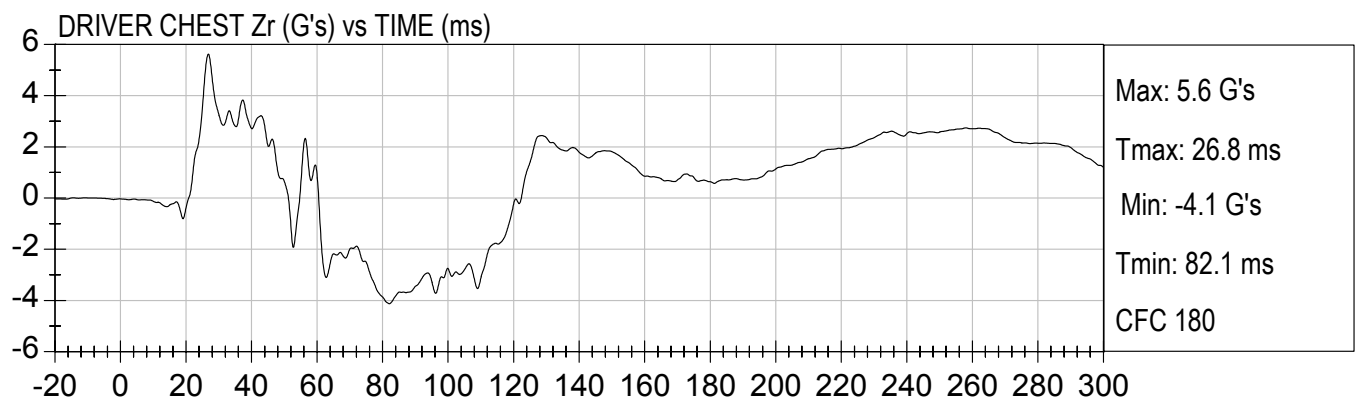
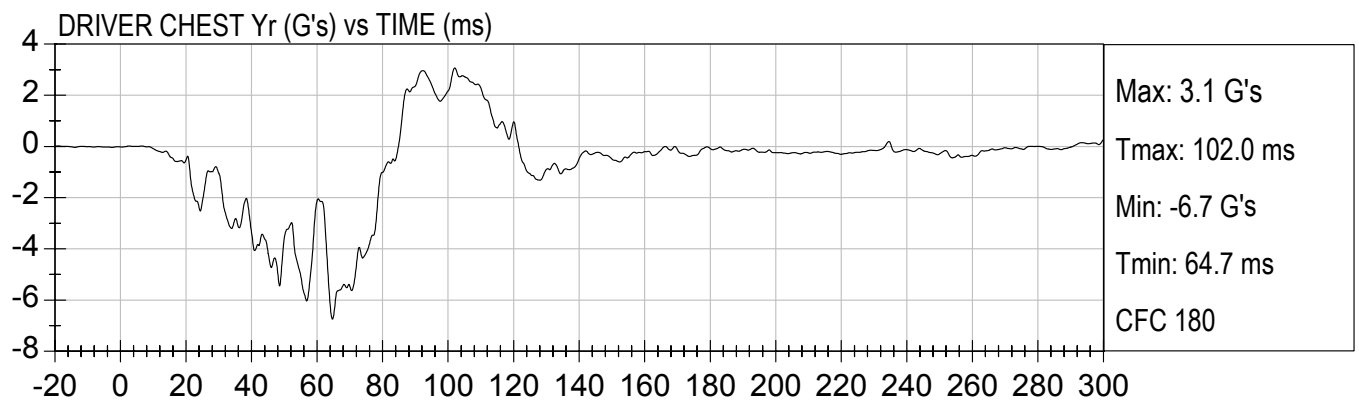
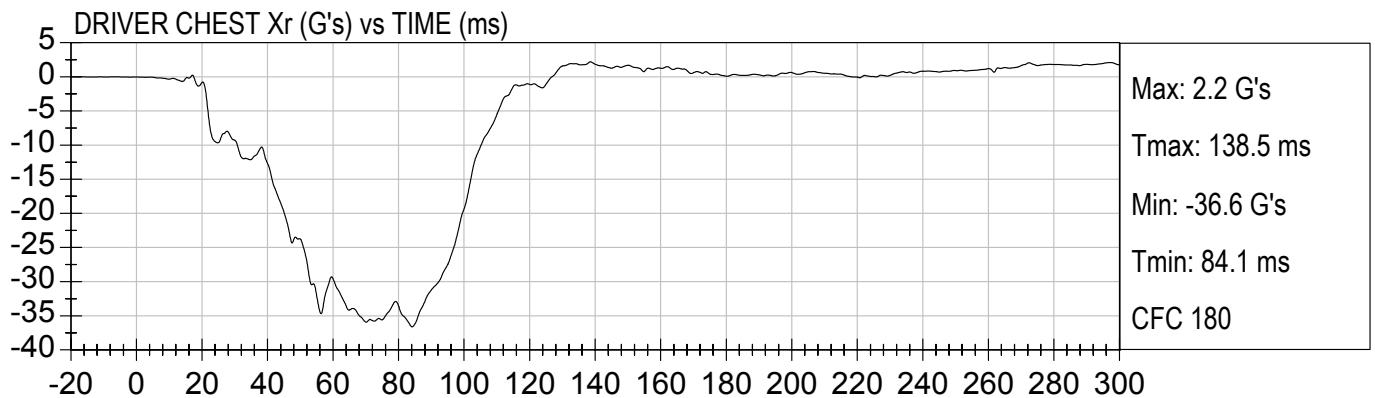


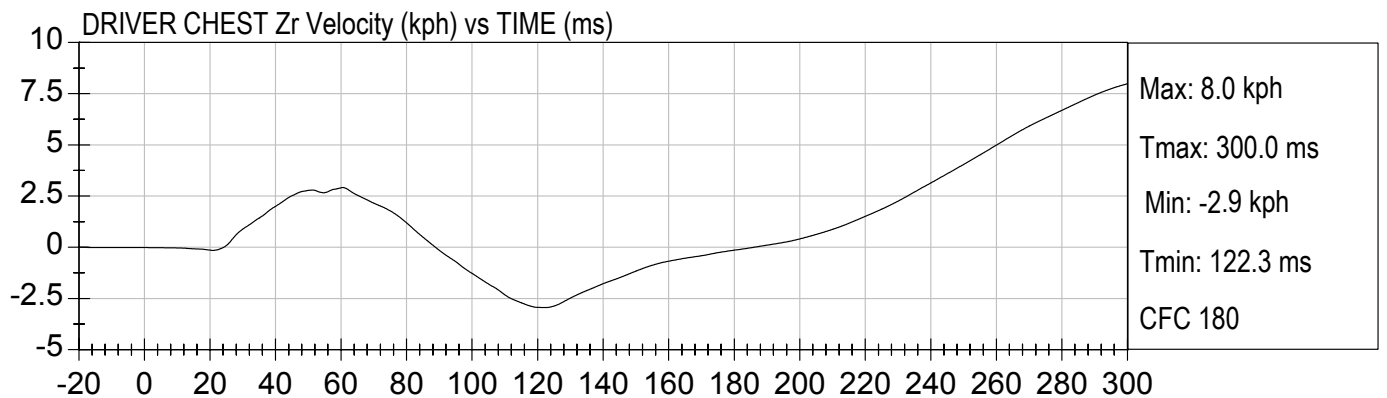
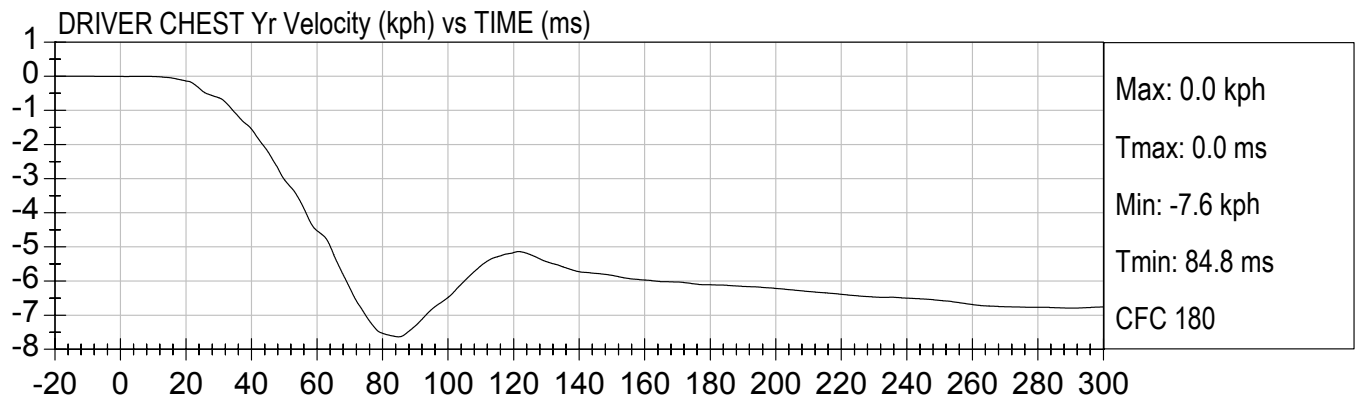
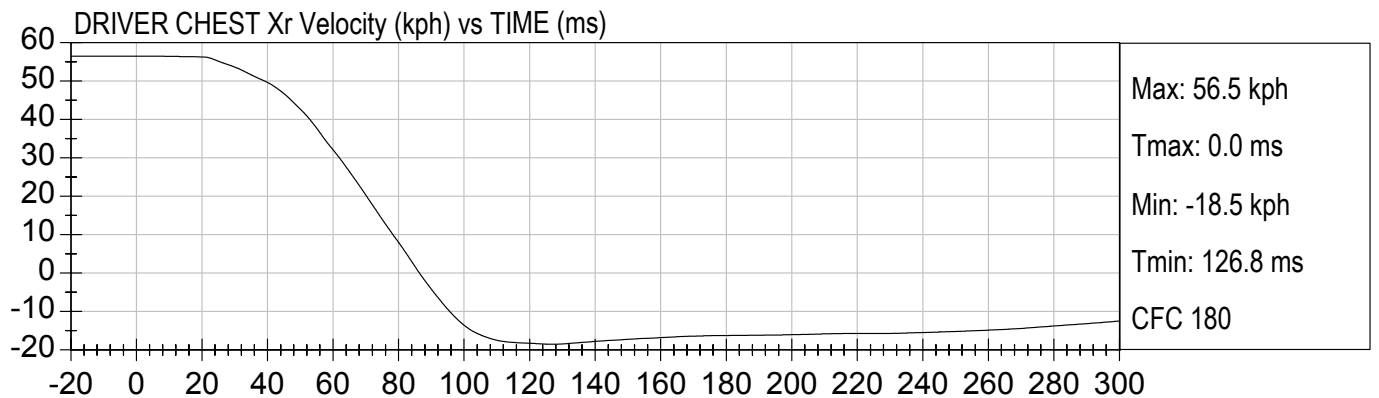
35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

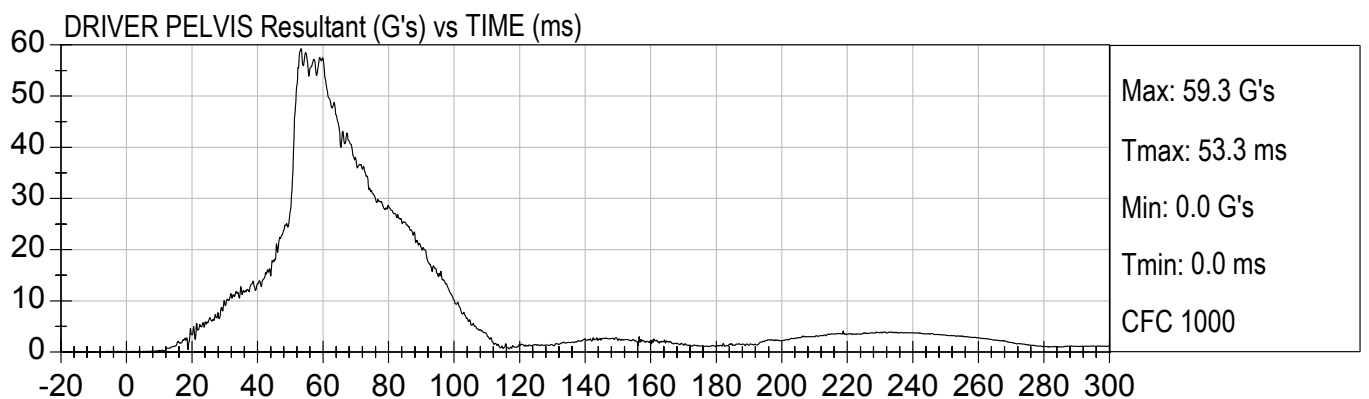
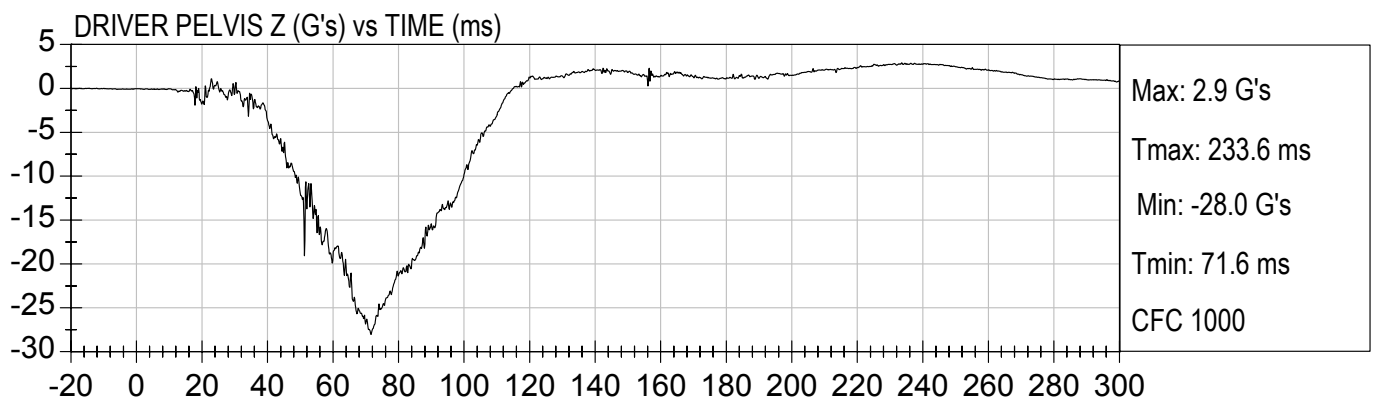
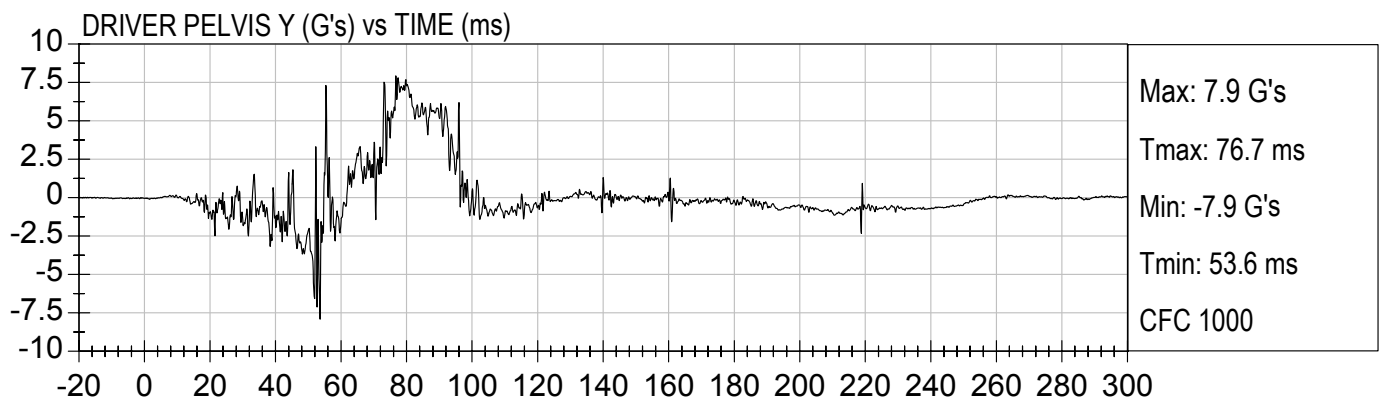
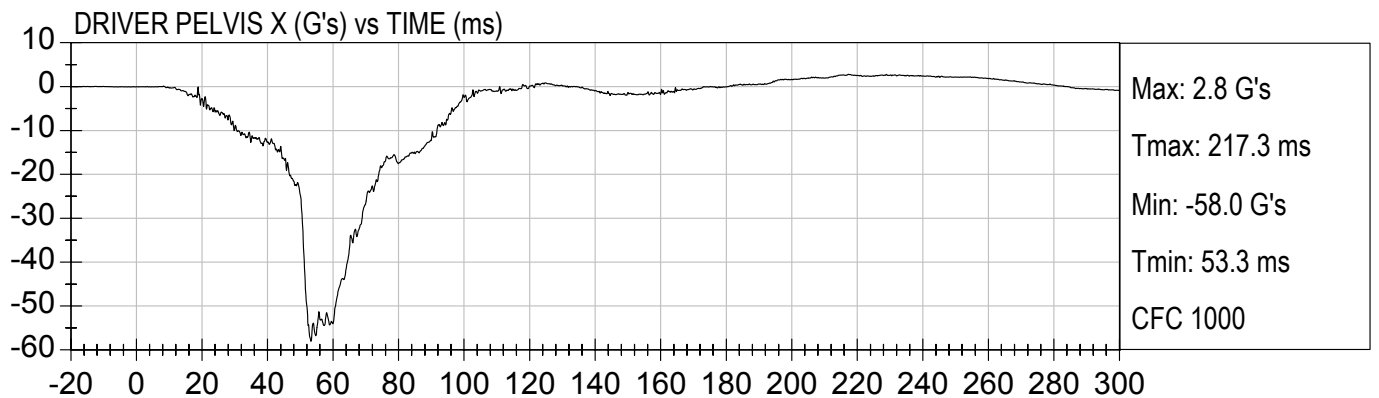
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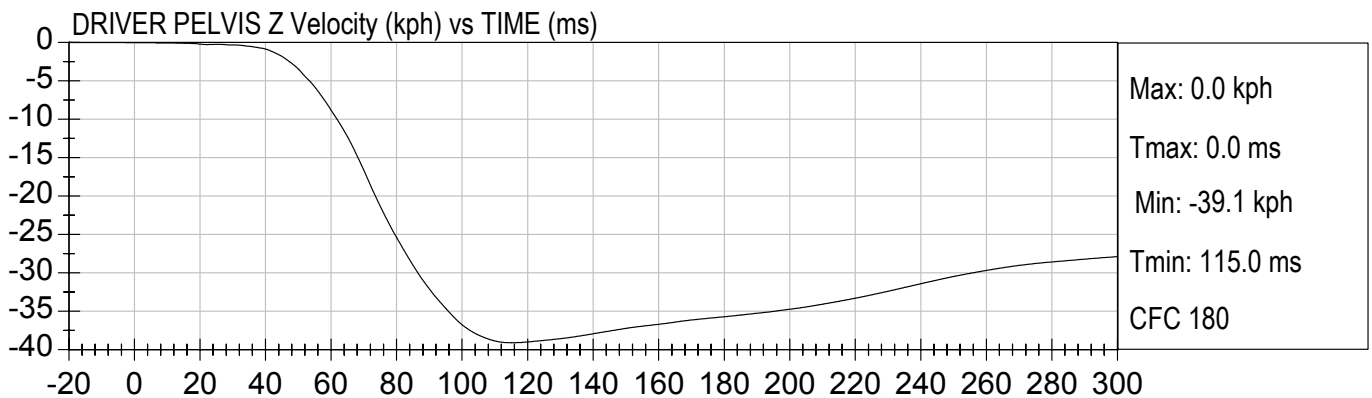
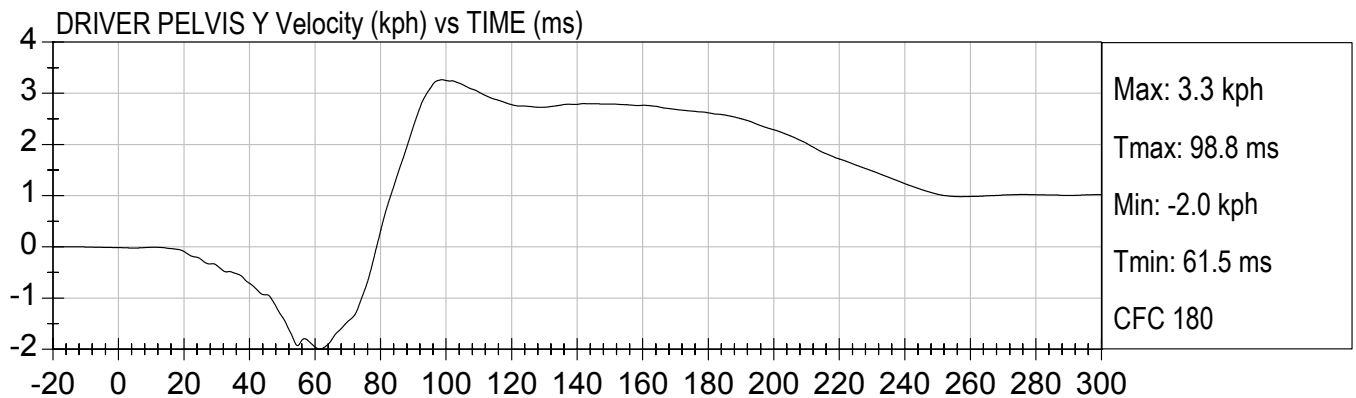
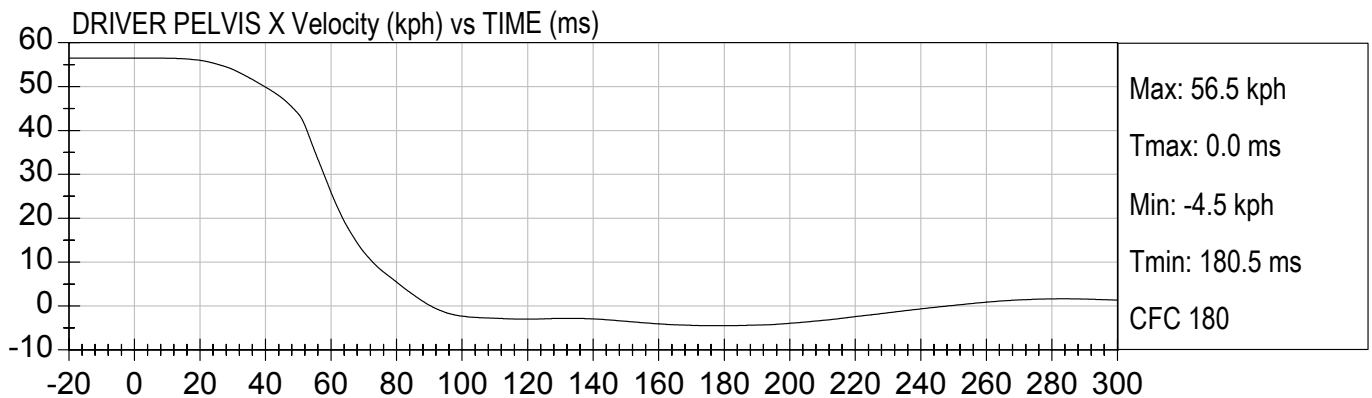


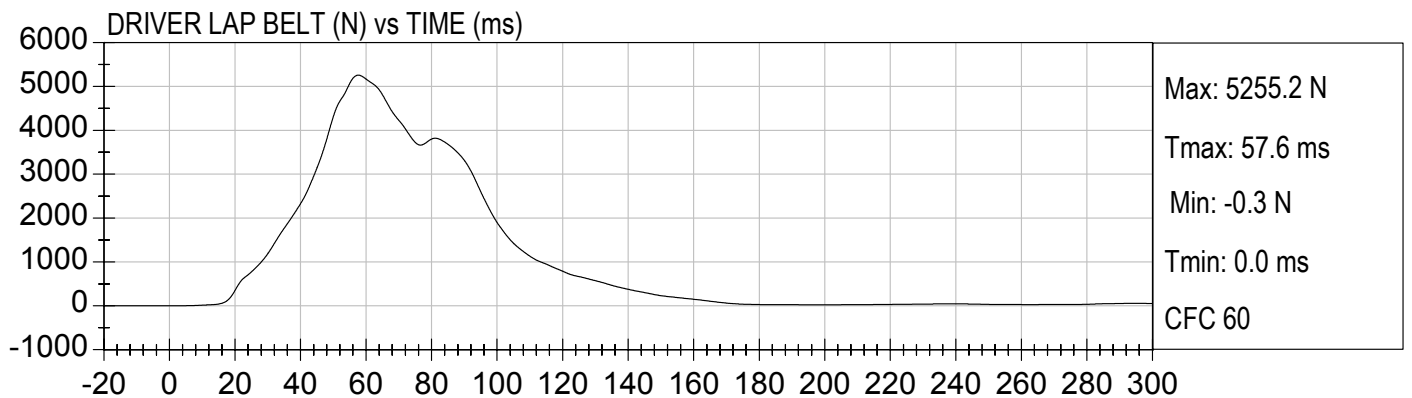
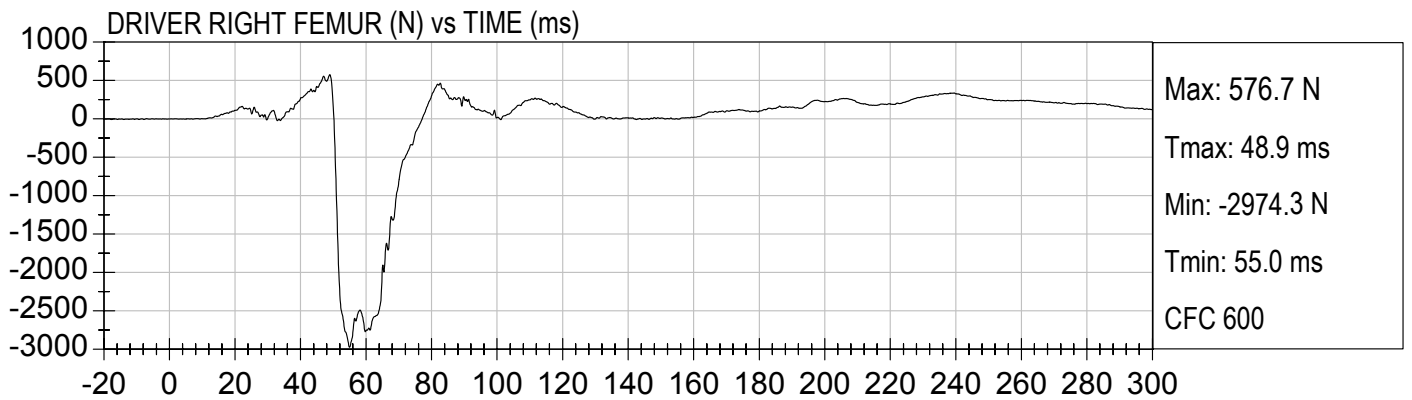
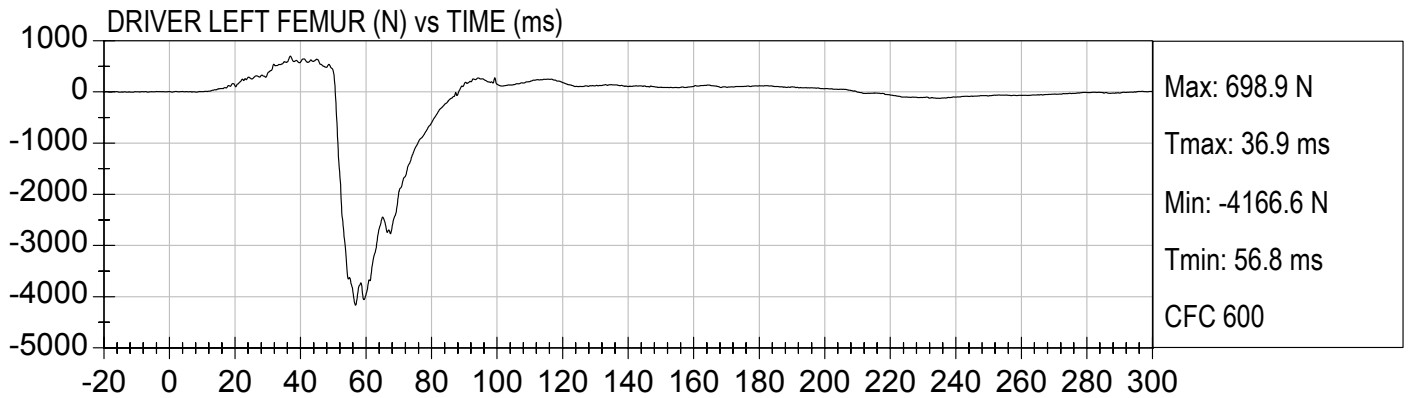


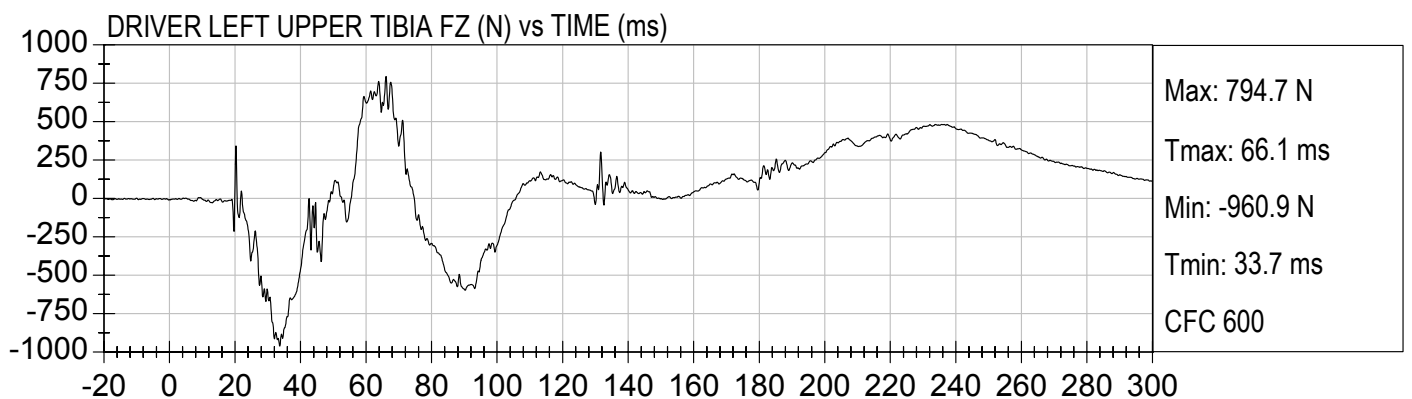
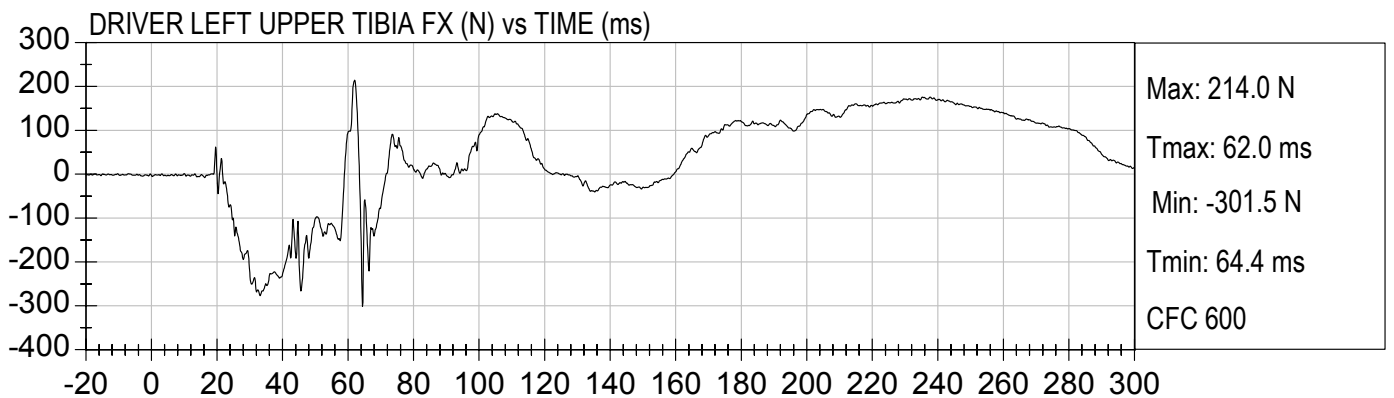
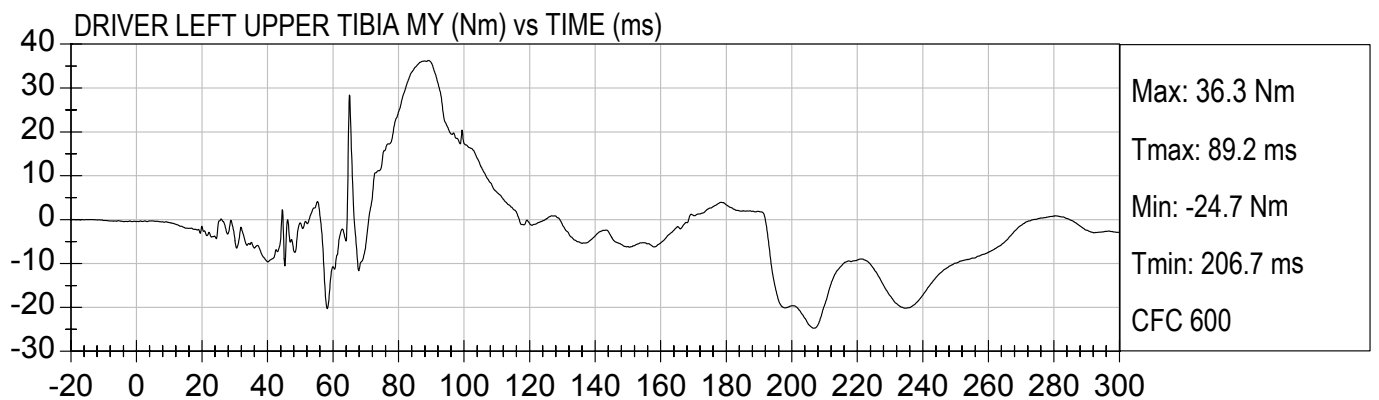
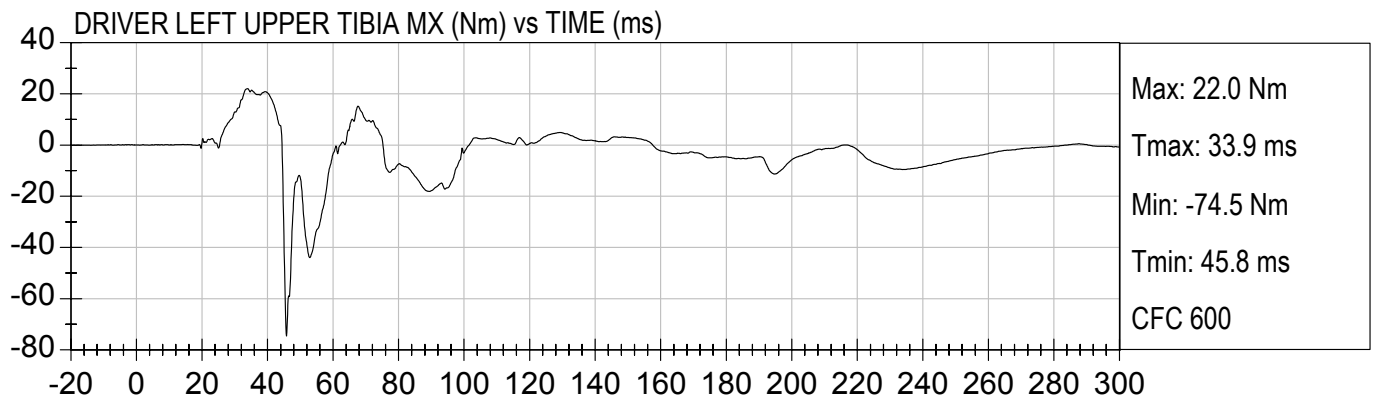






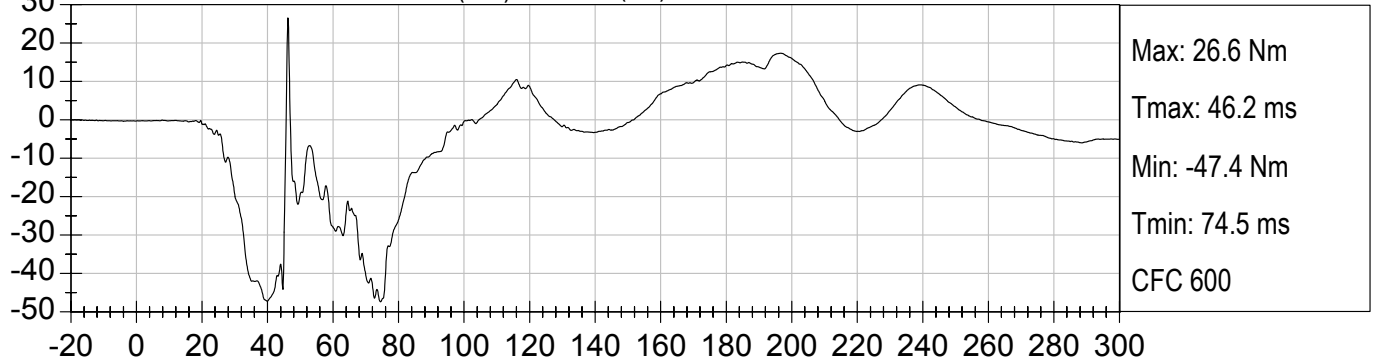




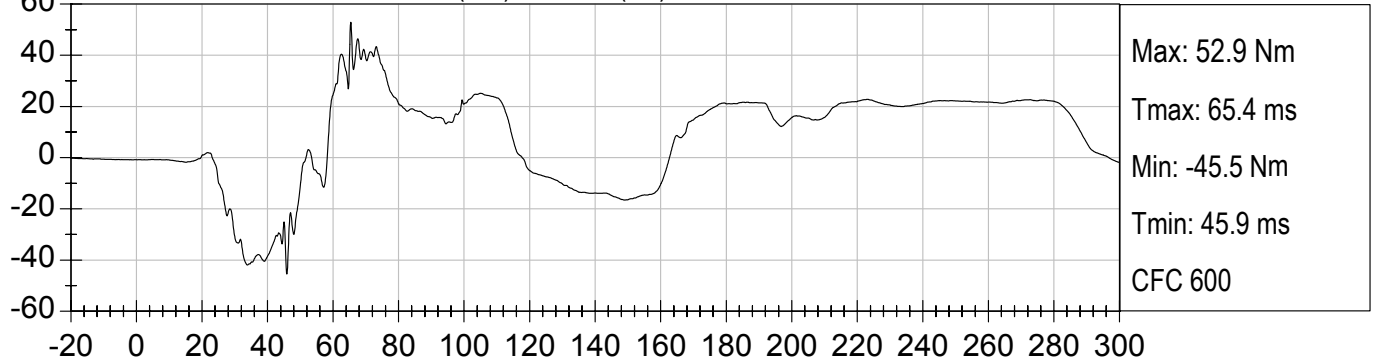




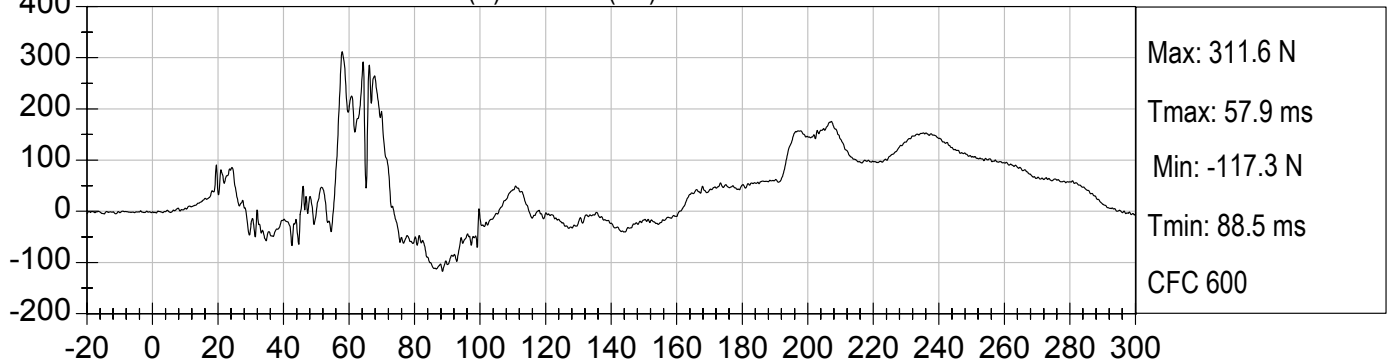
DRIVER LEFT LOWER TIBIA MX (Nm) vs TIME (ms)



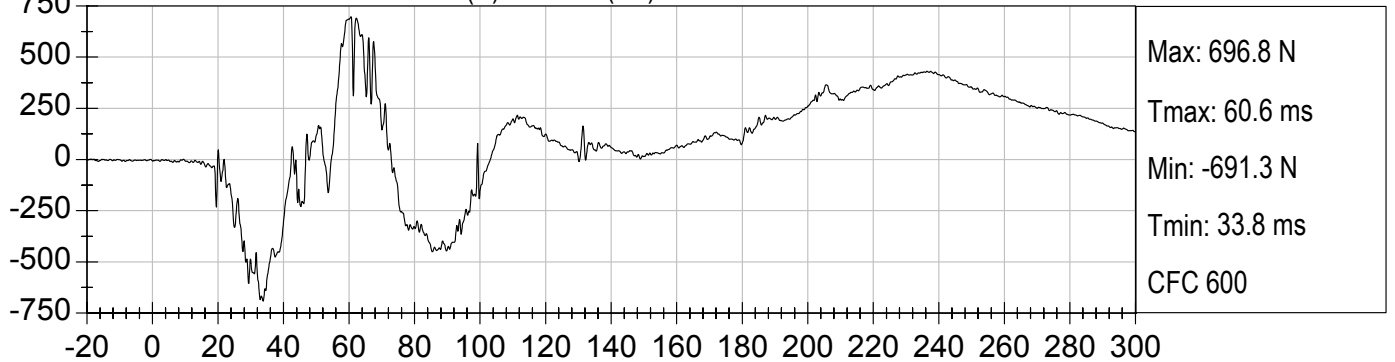
DRIVER LEFT LOWER TIBIA MY (Nm) vs TIME (ms)



DRIVER LEFT LOWER TIBIA FX (N) vs TIME (ms)

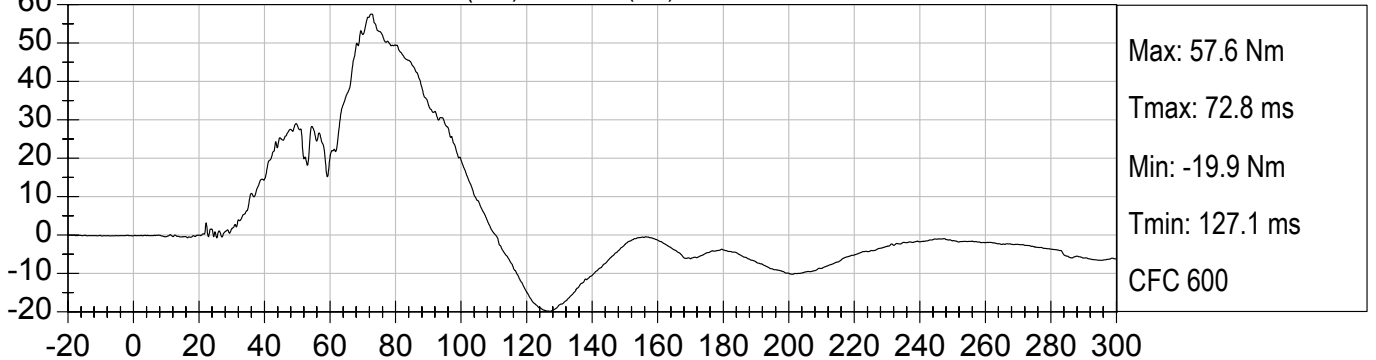


DRIVER LEFT LOWER TIBIA FZ (N) vs TIME (ms)

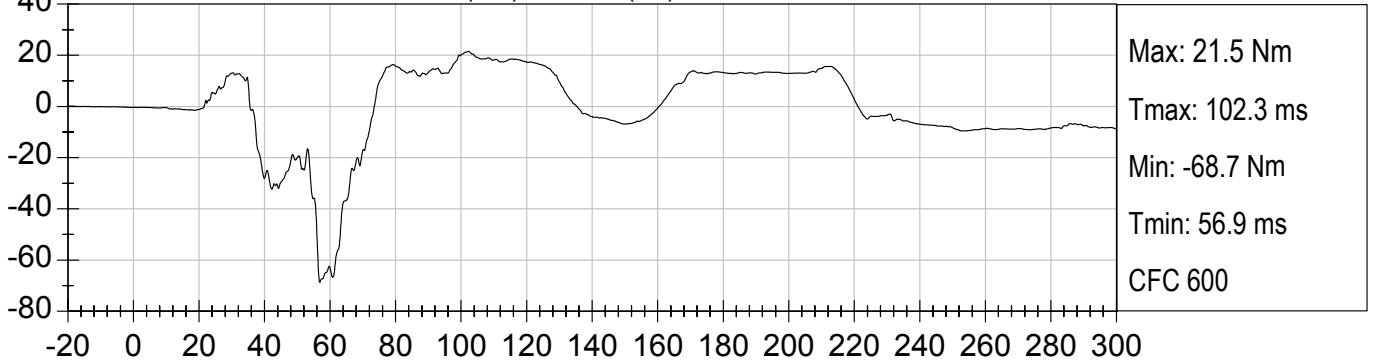




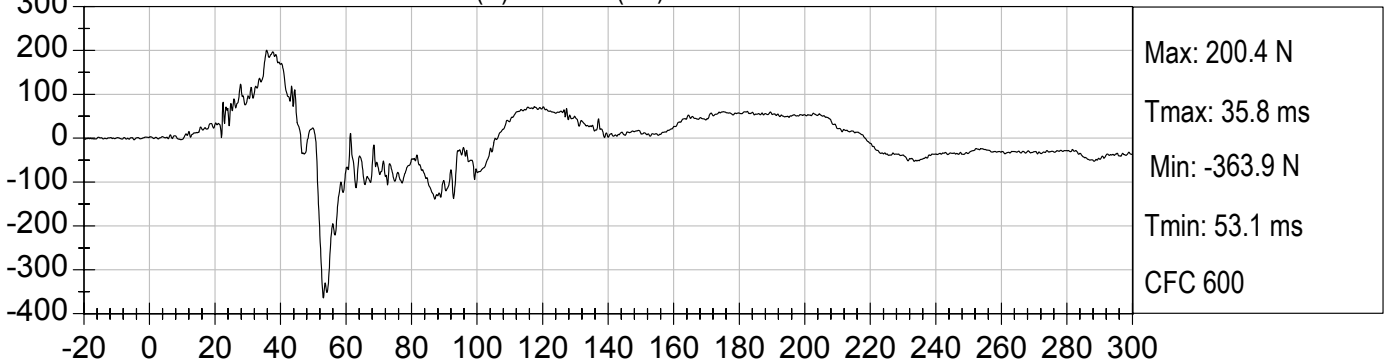
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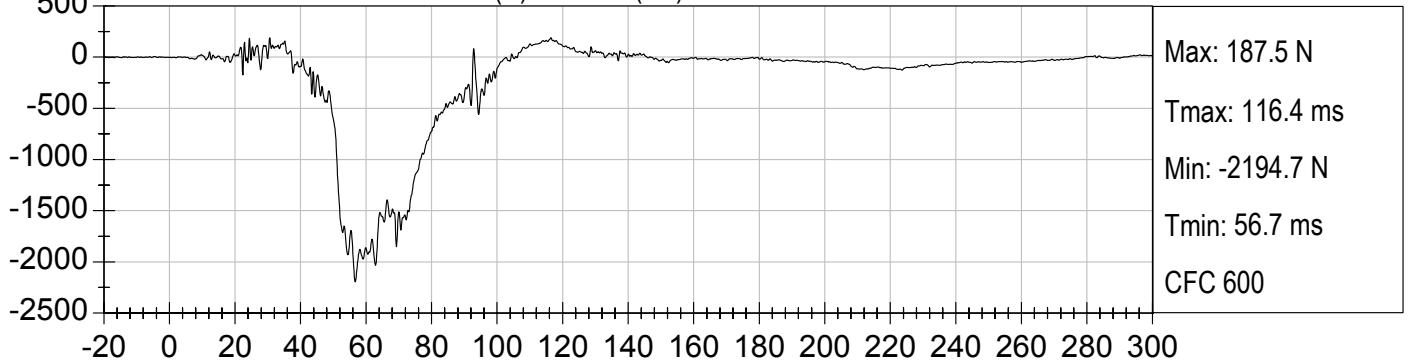
DRIVER RIGHT UPPER TIBIA MY (Nm) vs TIME (ms)



DRIVER RIGHT UPPER TIBIA FX (N) vs TIME (ms)

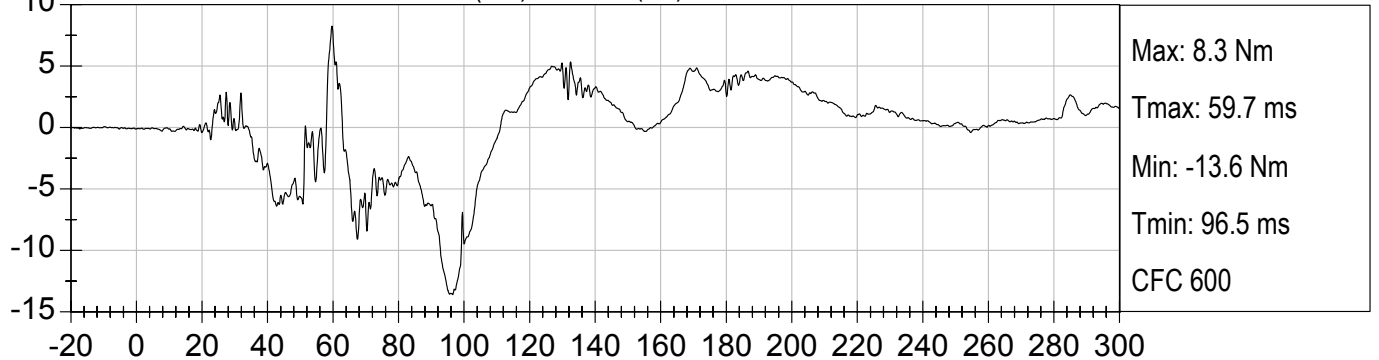


DRIVER RIGHT UPPER TIBIA FZ (N) vs TIME (ms)

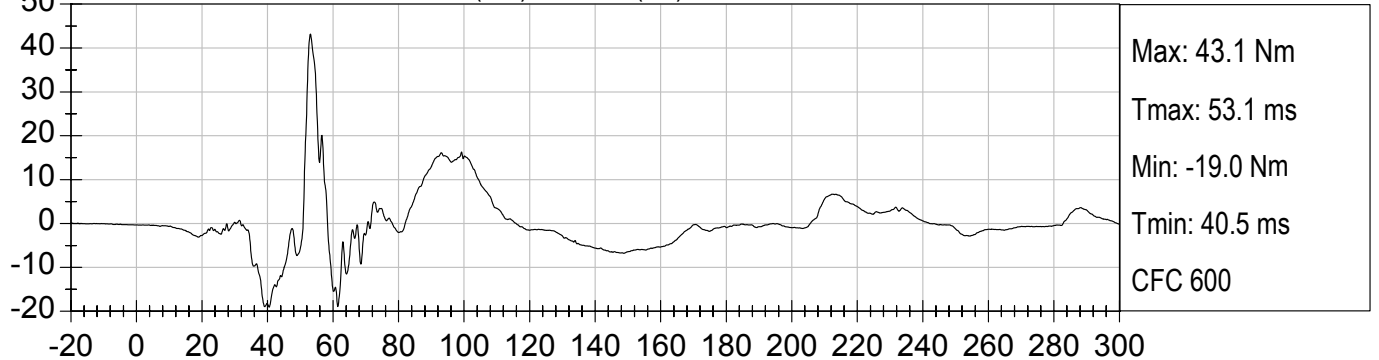




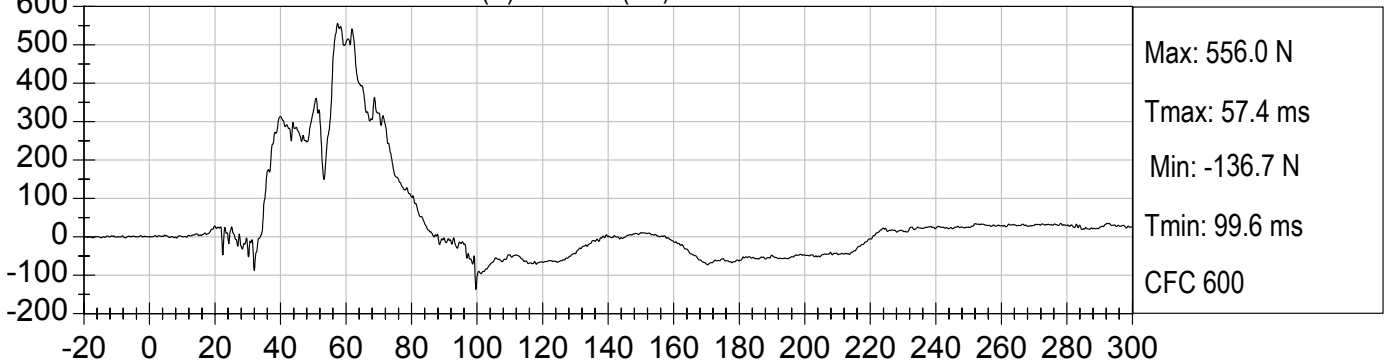
DRIVER RIGHT LOWER TIBIA MX (Nm) vs TIME (ms)



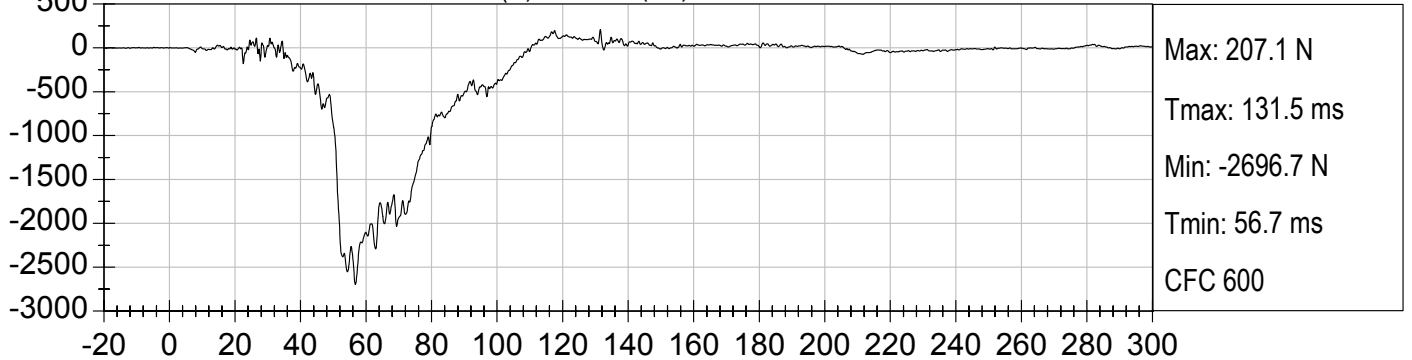
DRIVER RIGHT LOWER TIBIA MY (Nm) vs TIME (ms)

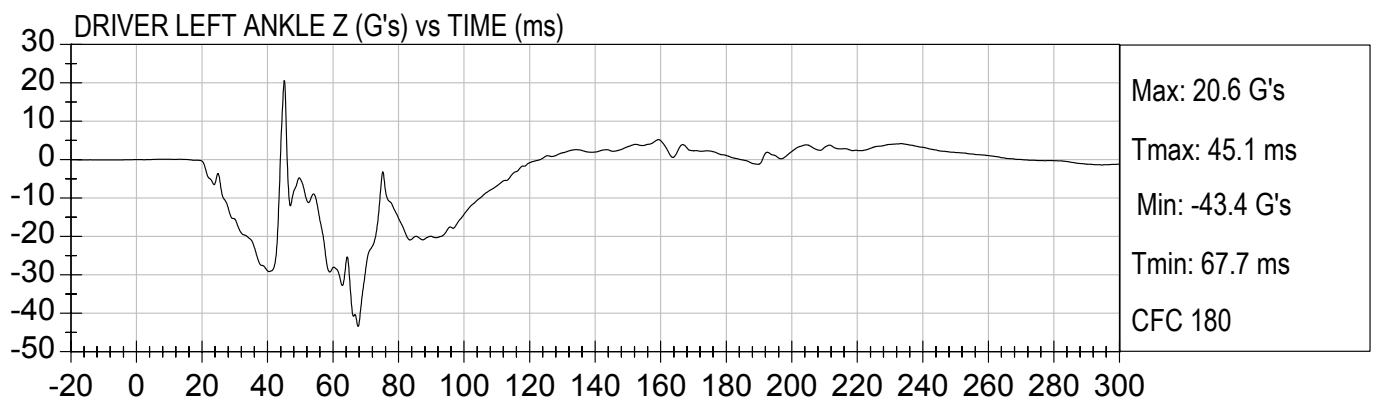
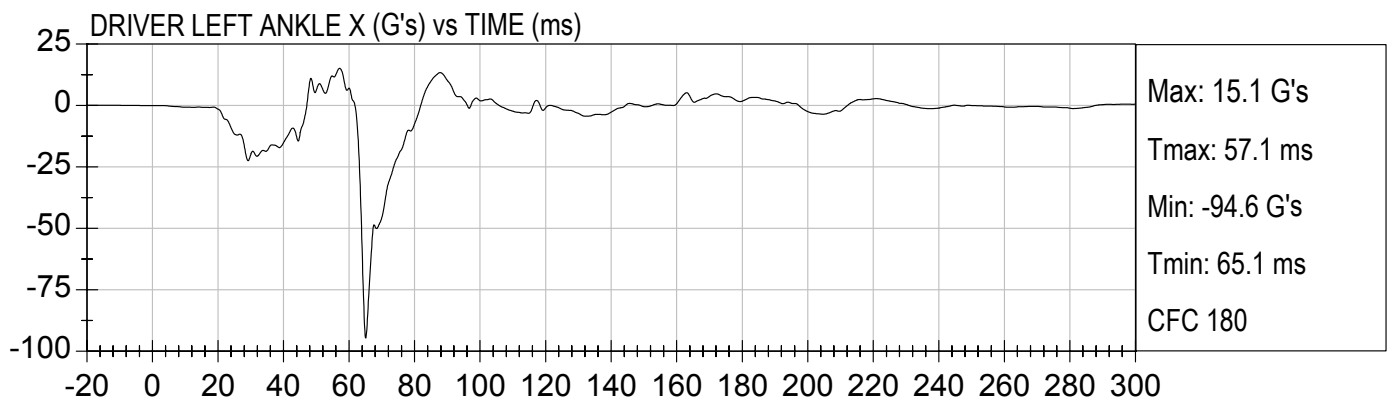
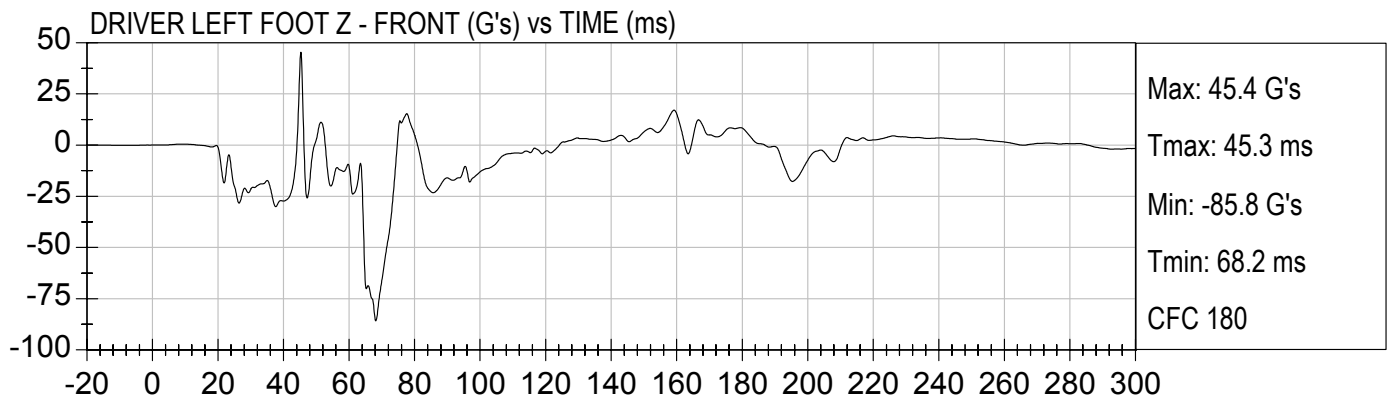


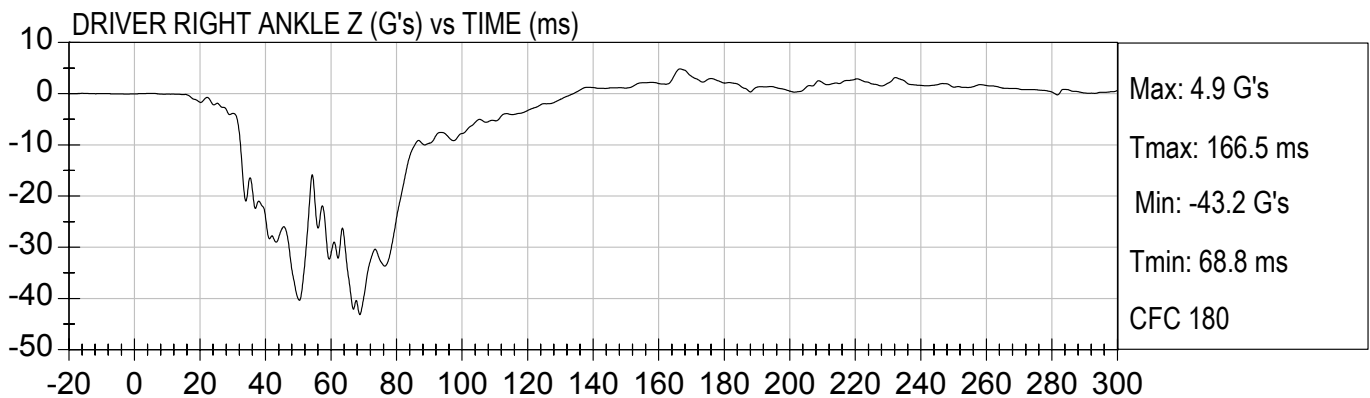
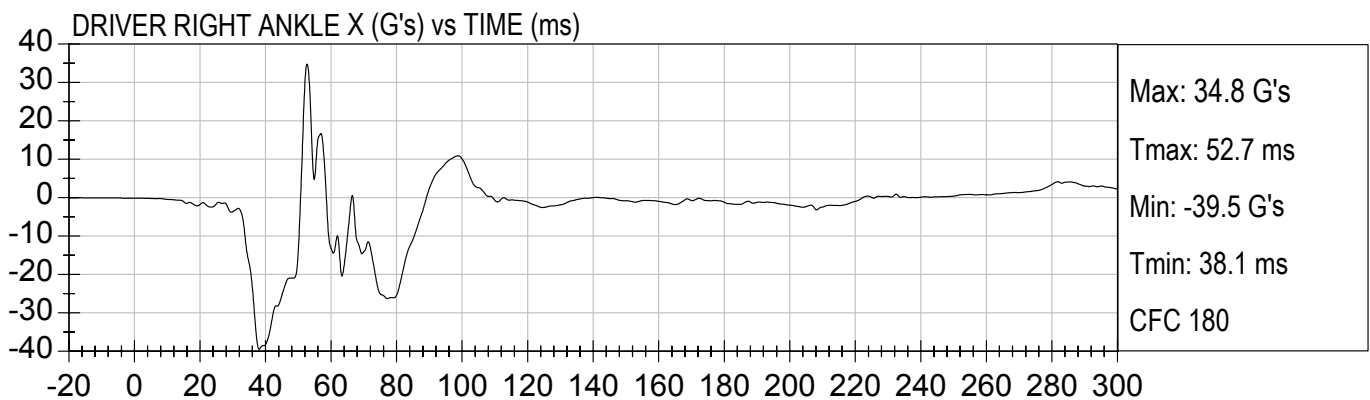
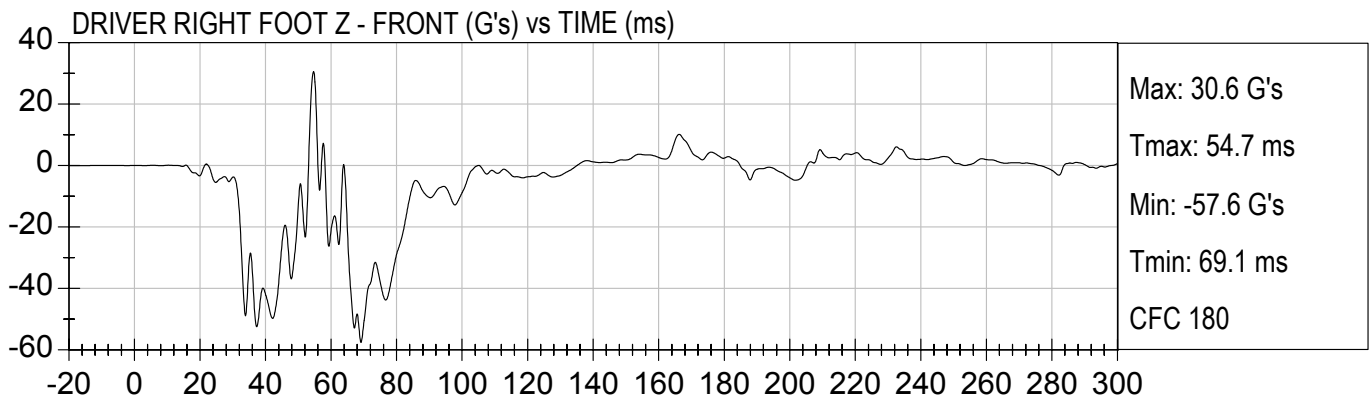
DRIVER RIGHT LOWER TIBIA FX (N) vs TIME (ms)



DRIVER RIGHT LOWER TIBIA FZ (N) vs TIME (ms)



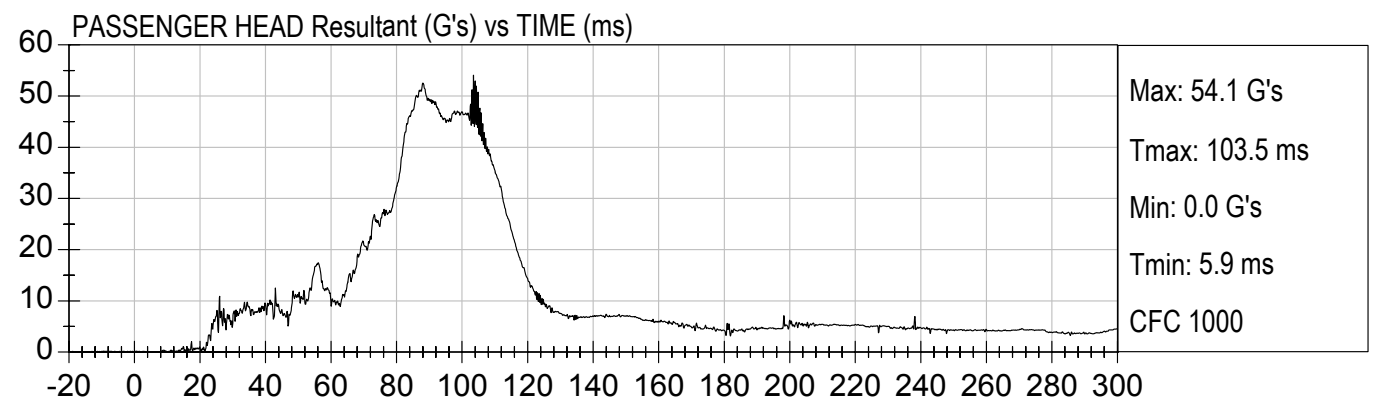
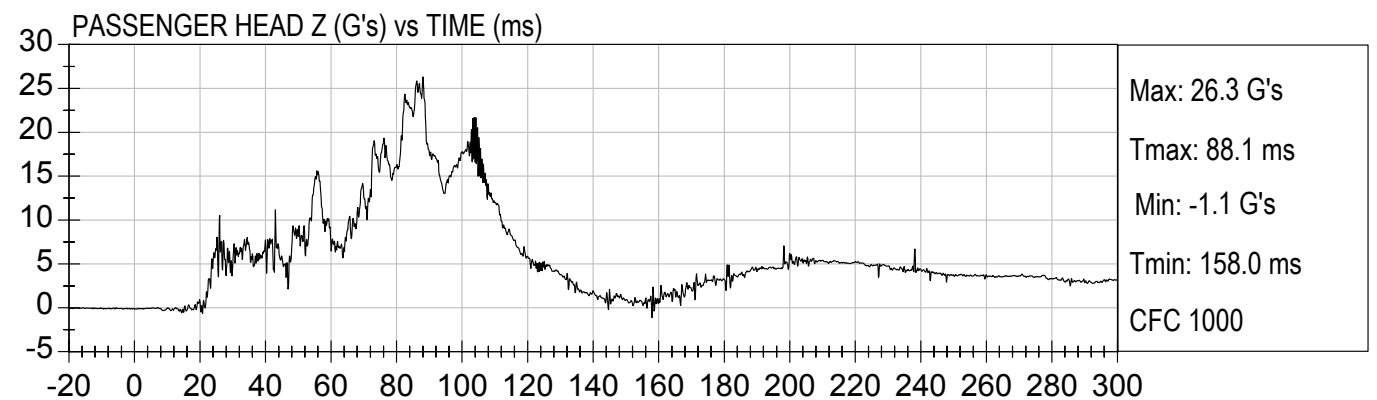
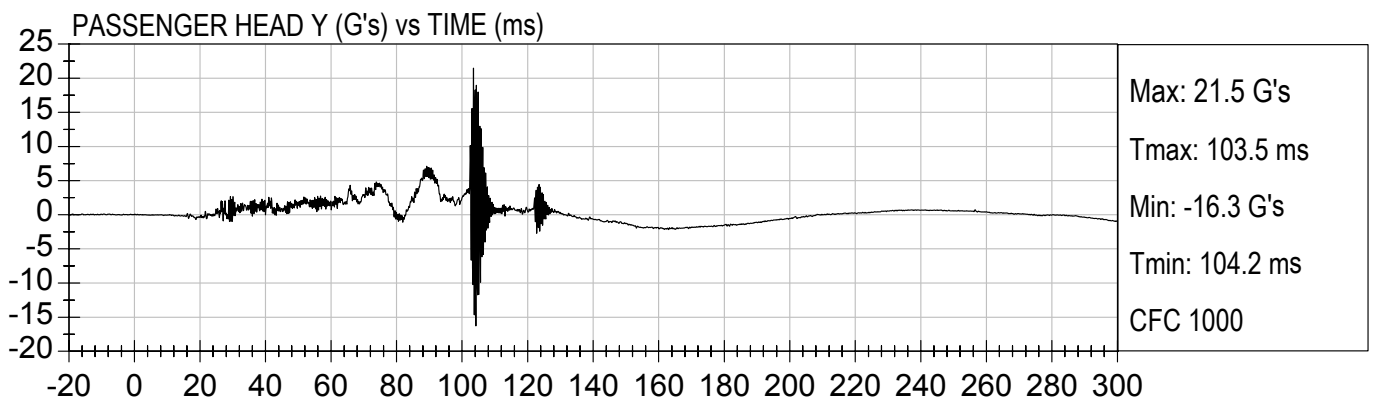
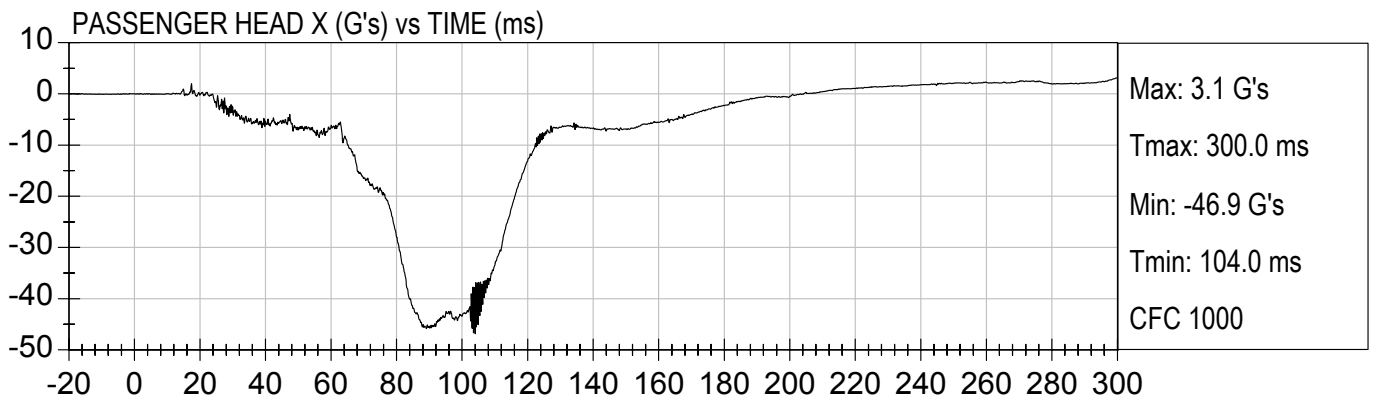


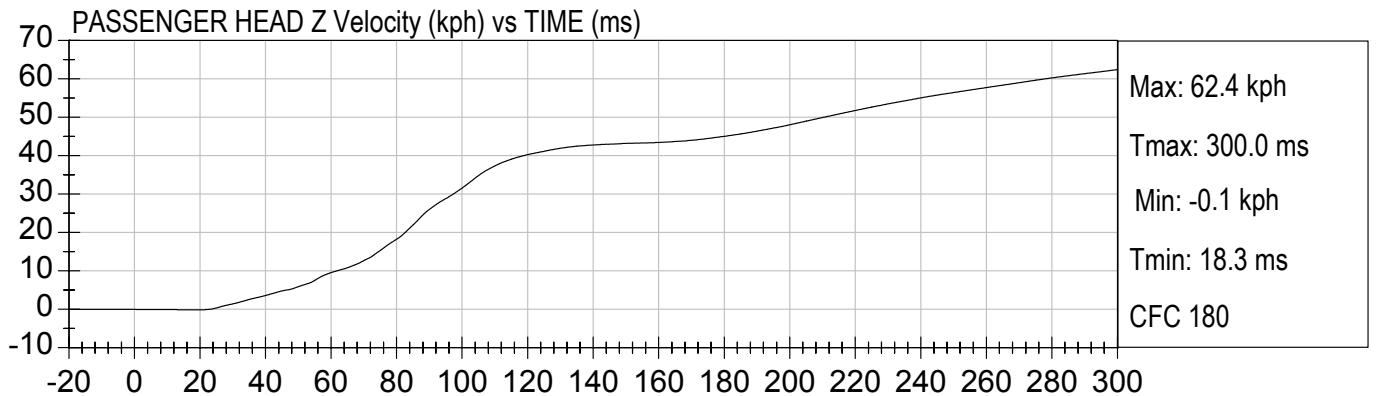
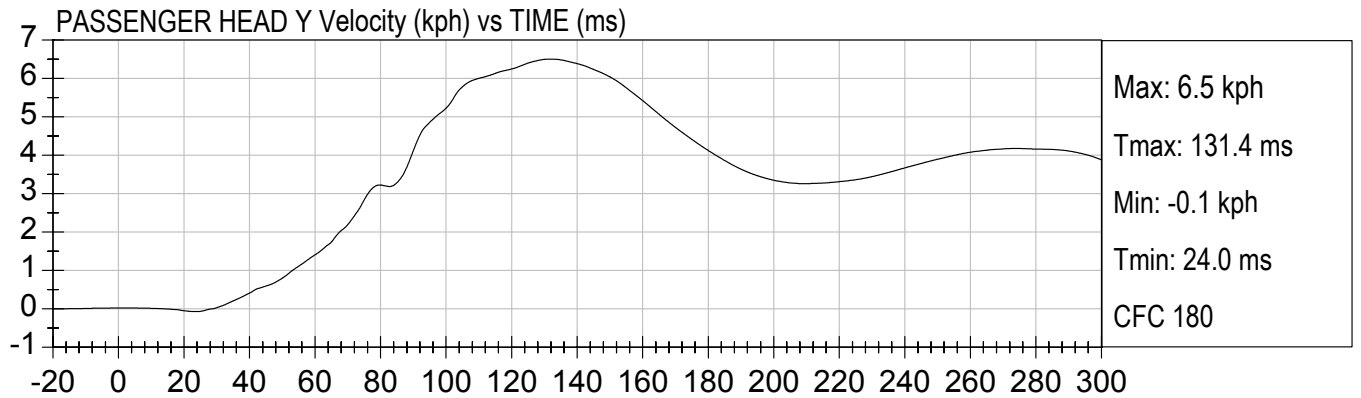
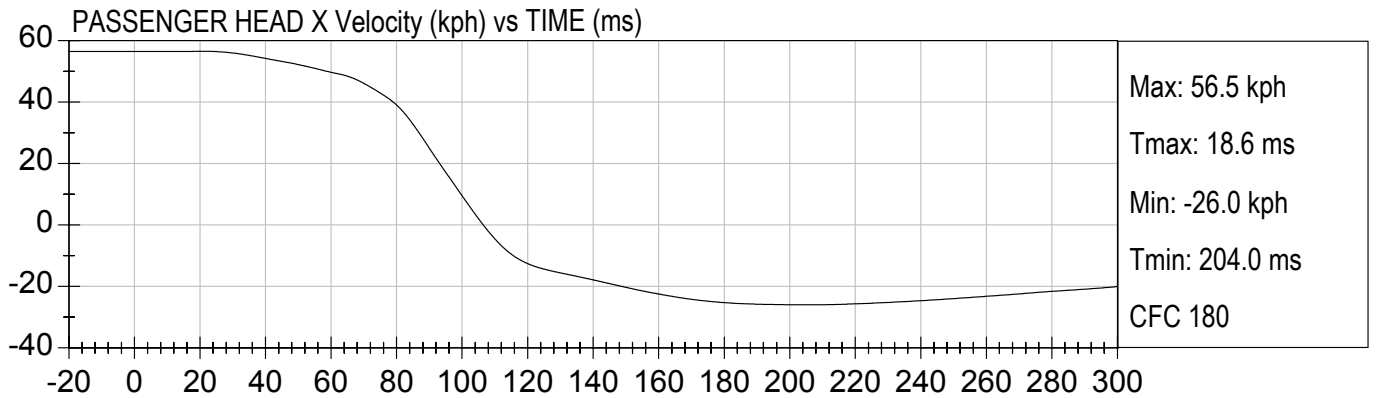




35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)

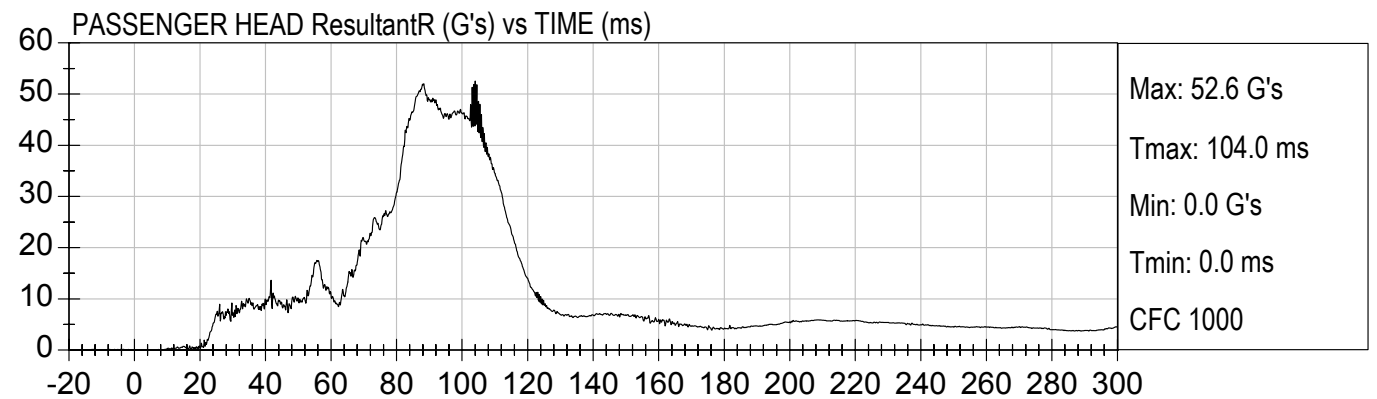
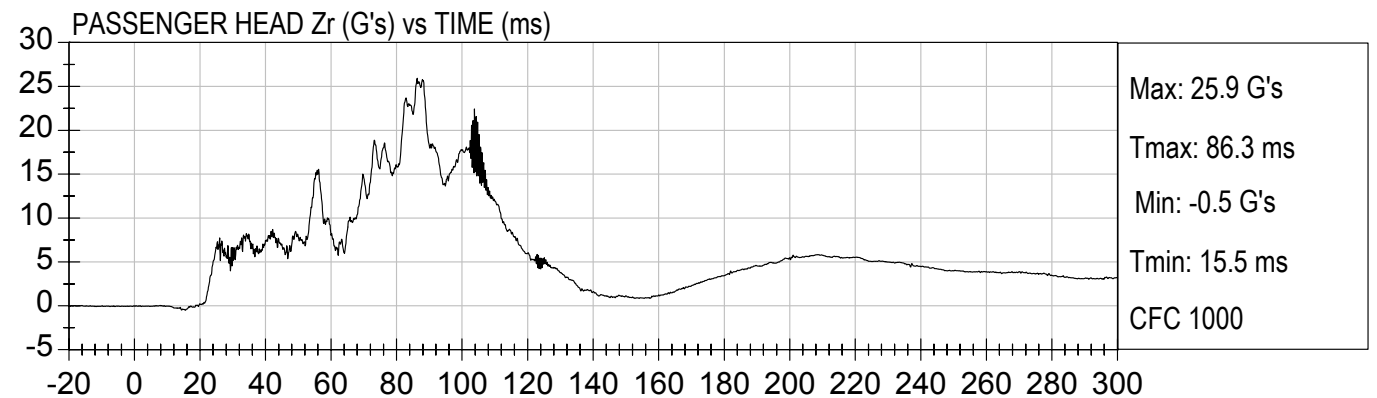
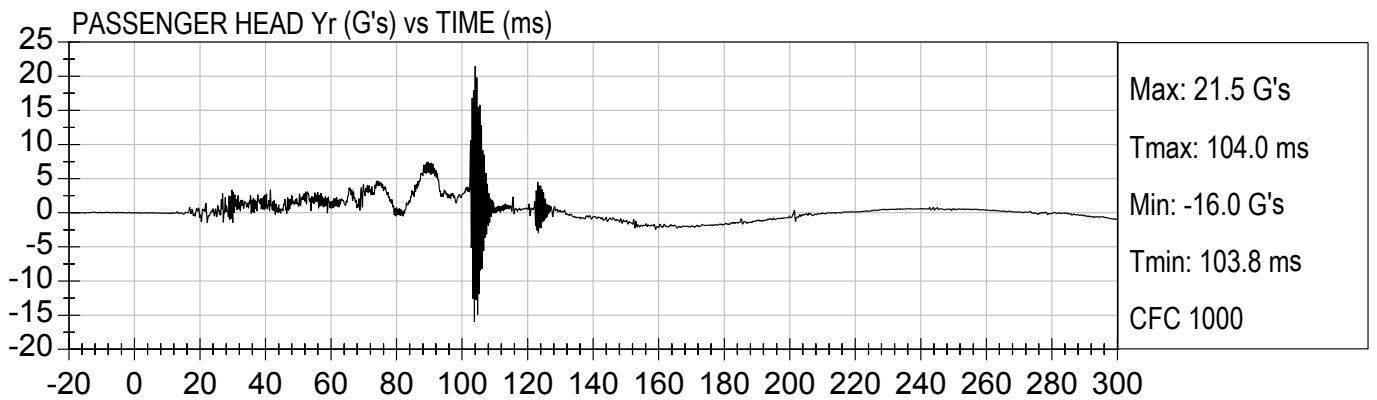
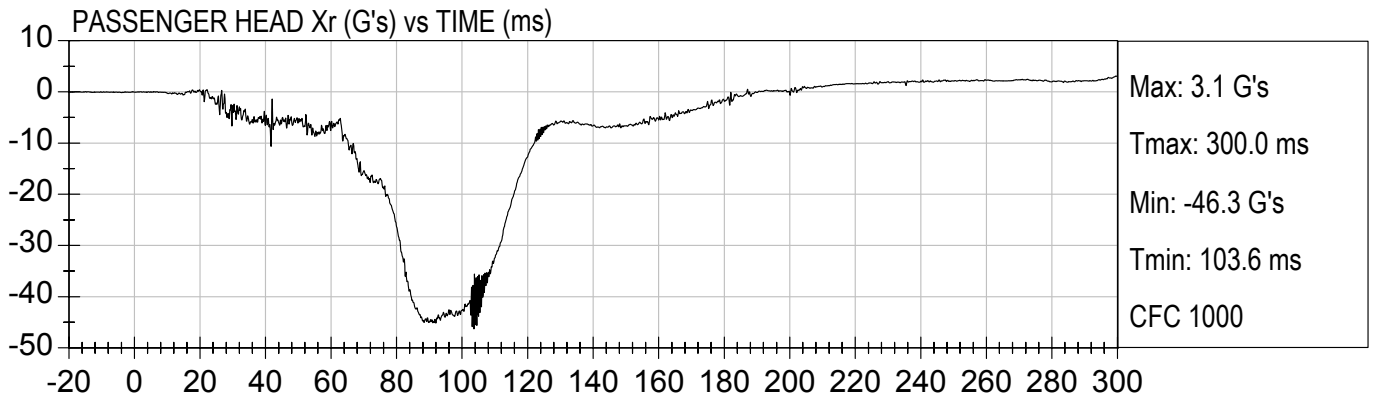


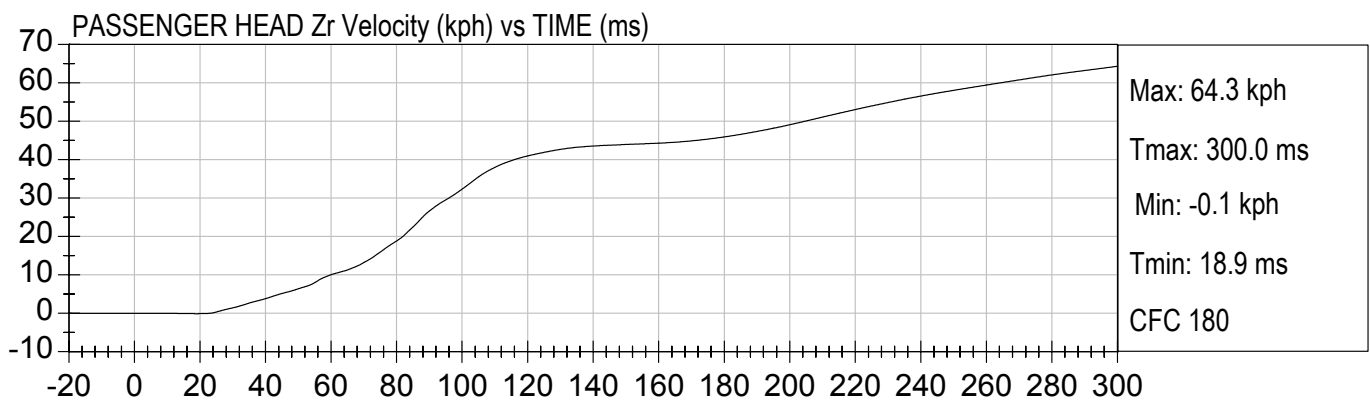
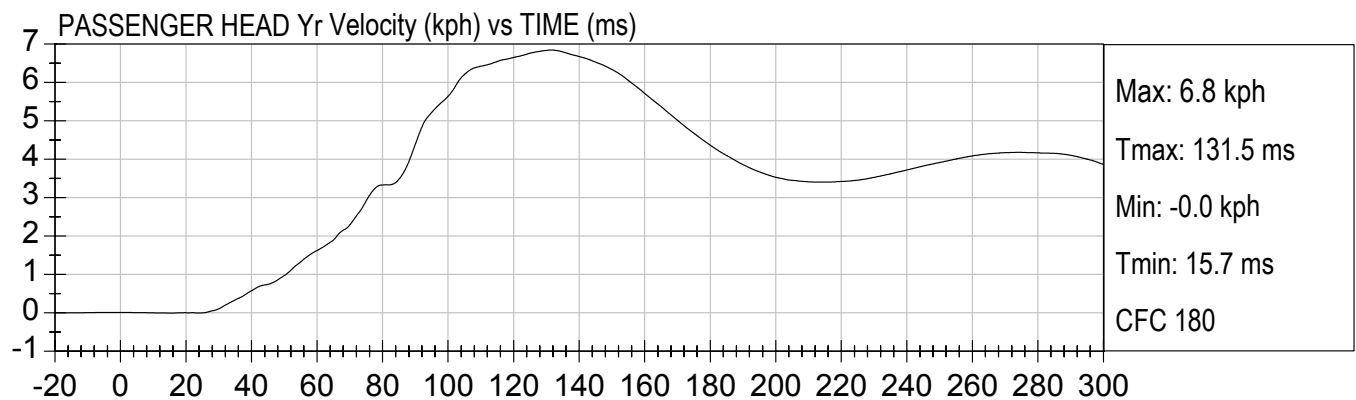
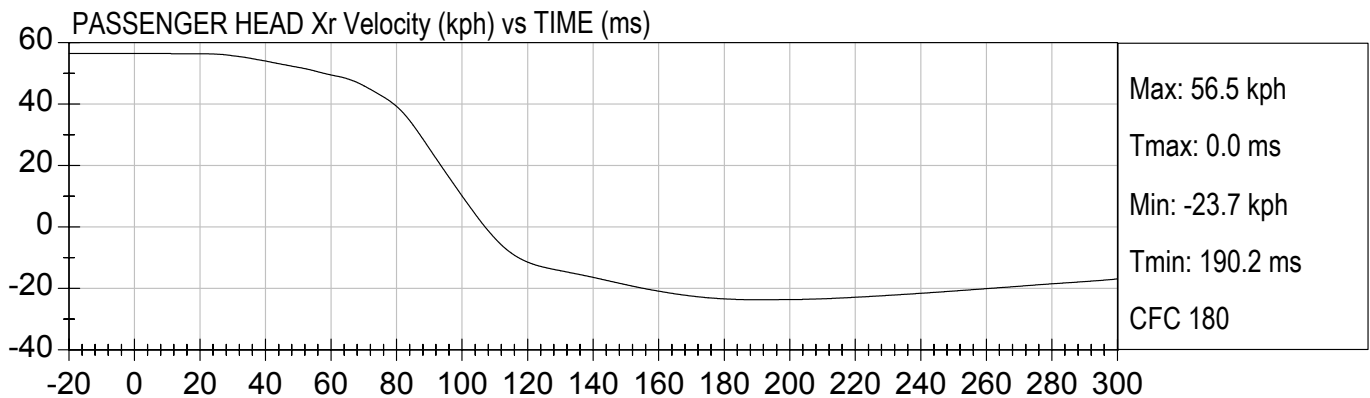




35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)



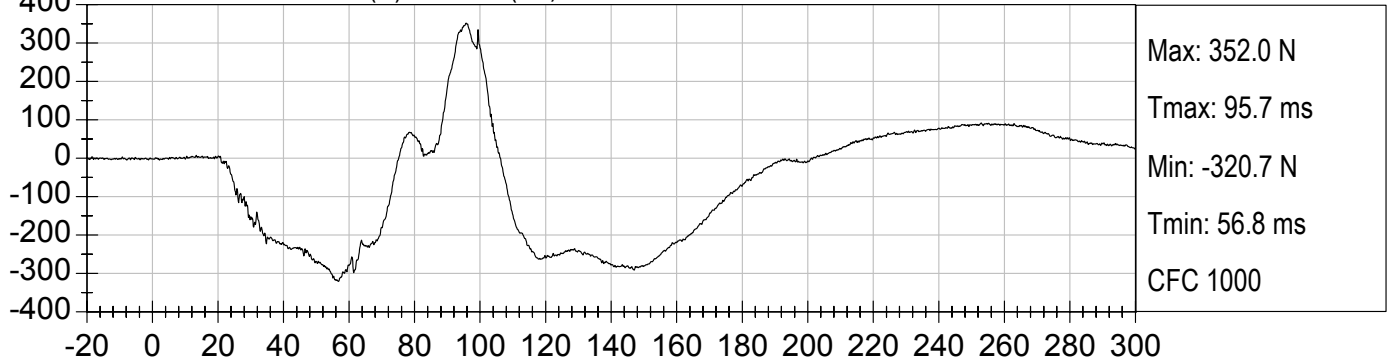




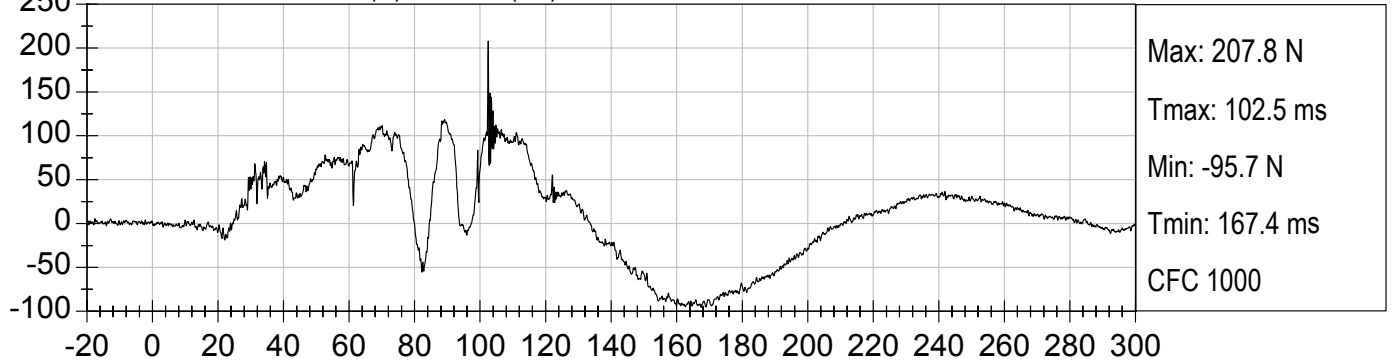
35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)

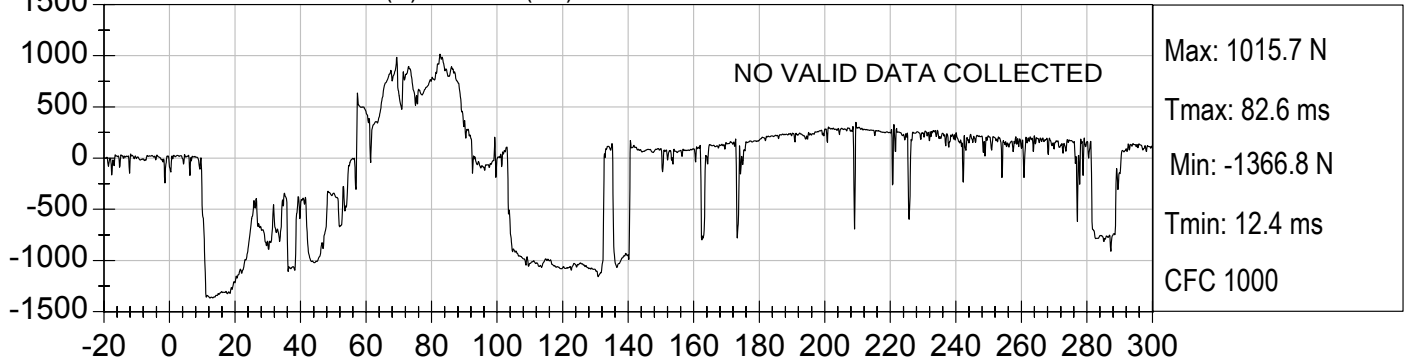
PASSENGER NECK FX (N) vs TIME (ms)



PASSENGER NECK FY (N) vs TIME (ms)



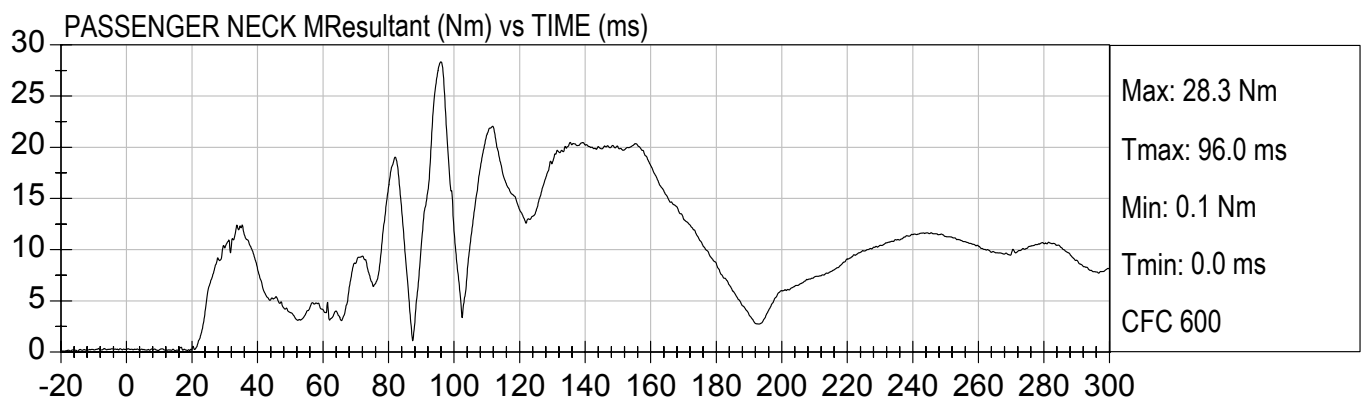
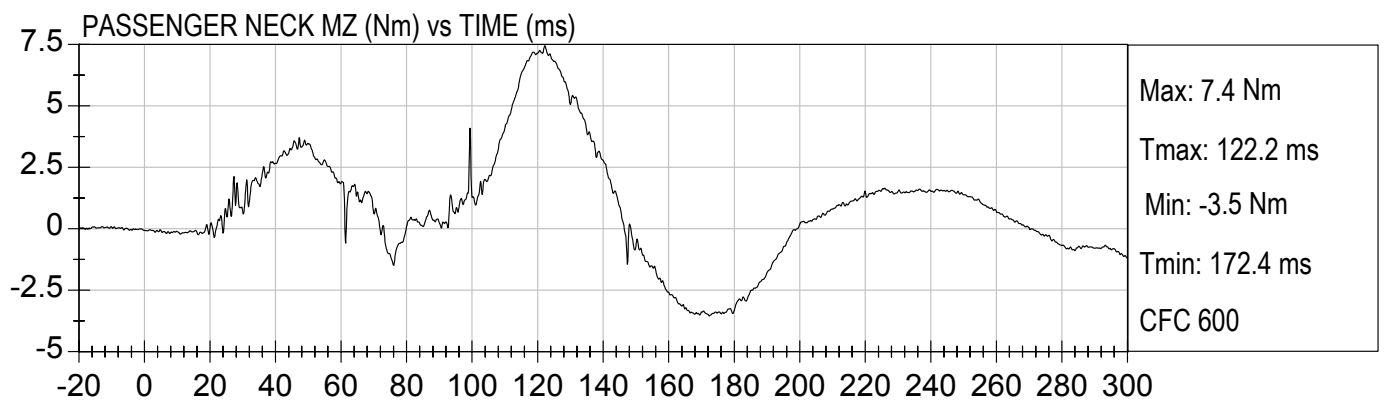
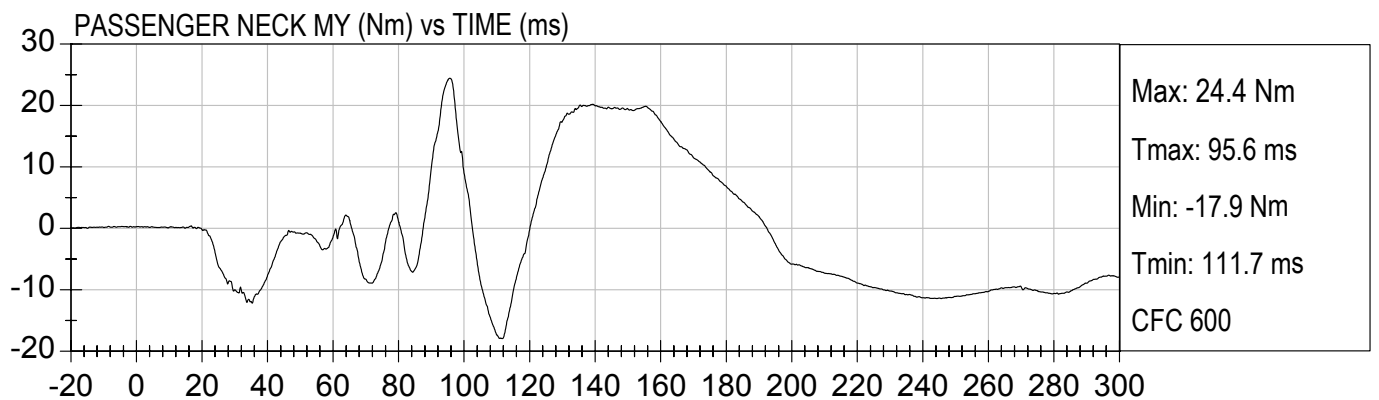
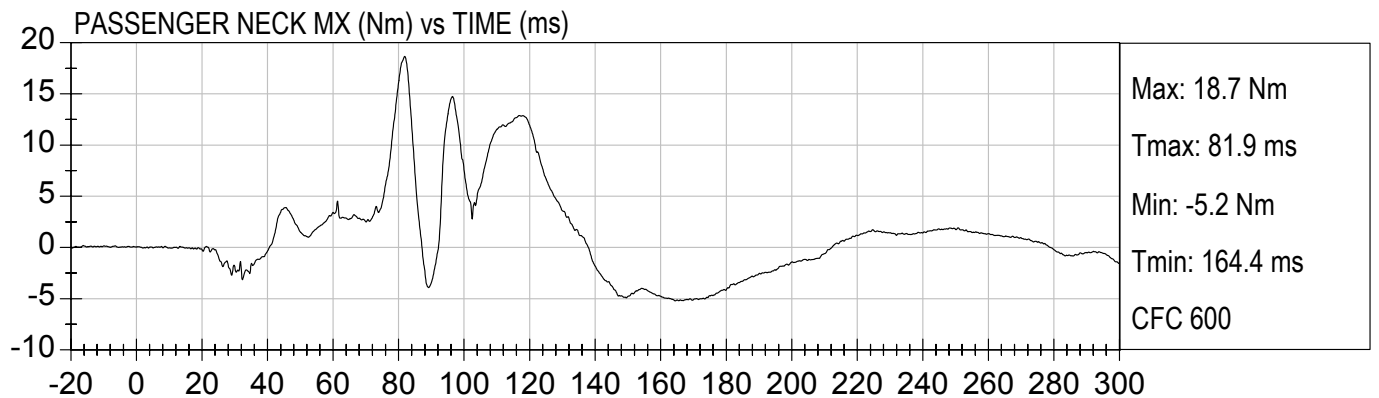
PASSENGER NECK FZ (N) vs TIME (ms)





35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)

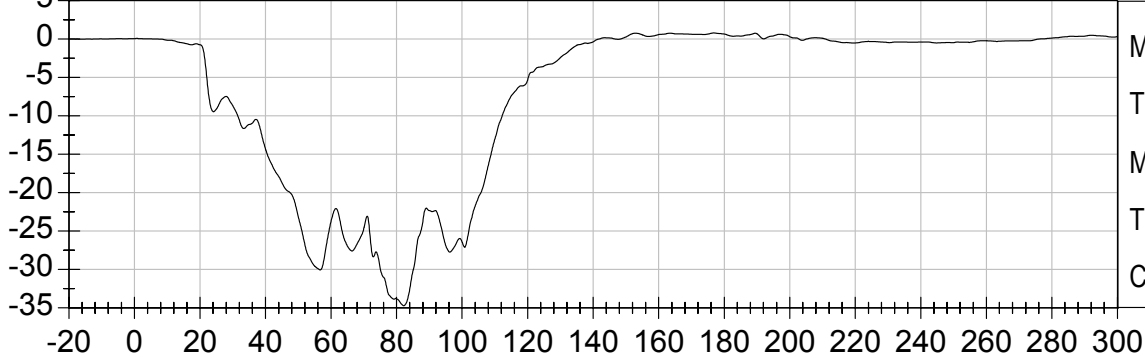




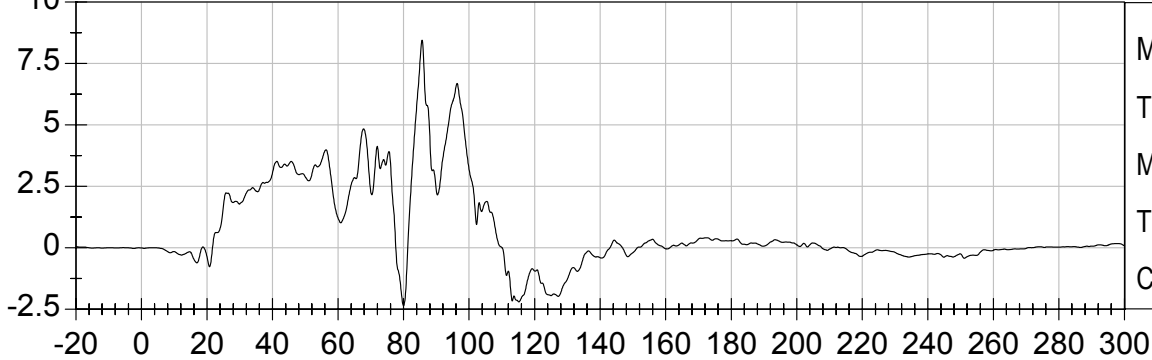
35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)

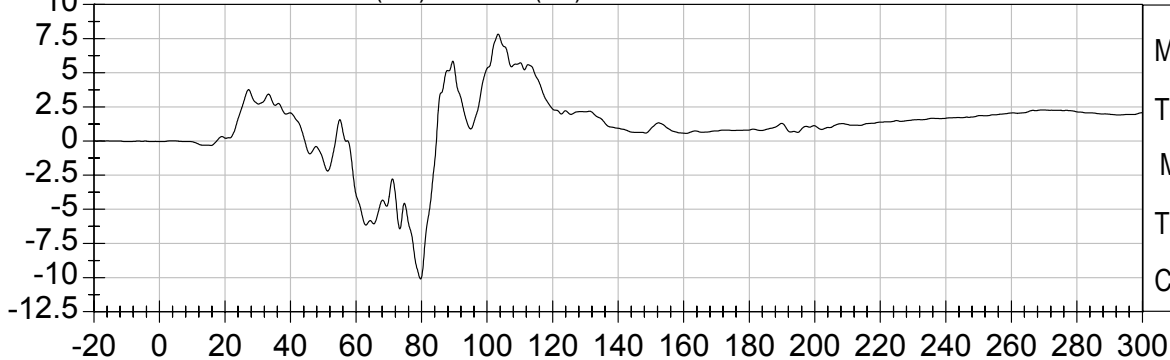
PASSENGER CHEST X (G's) vs TIME (ms)



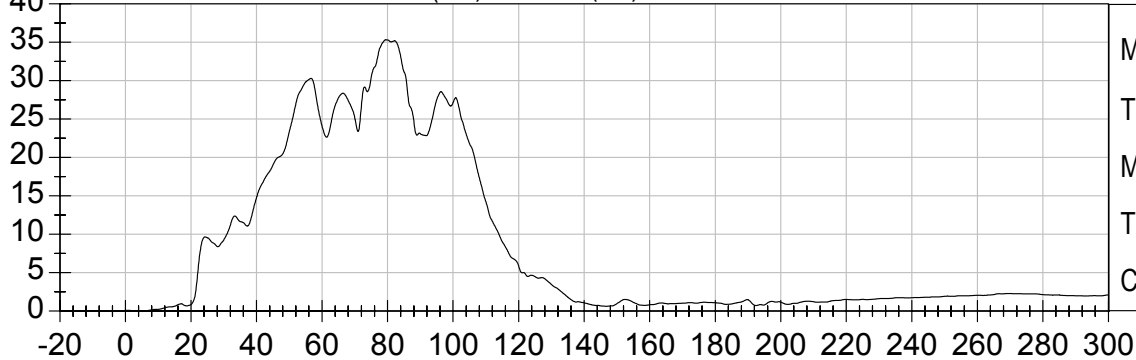
PASSENGER CHEST Y (G's) vs TIME (ms)

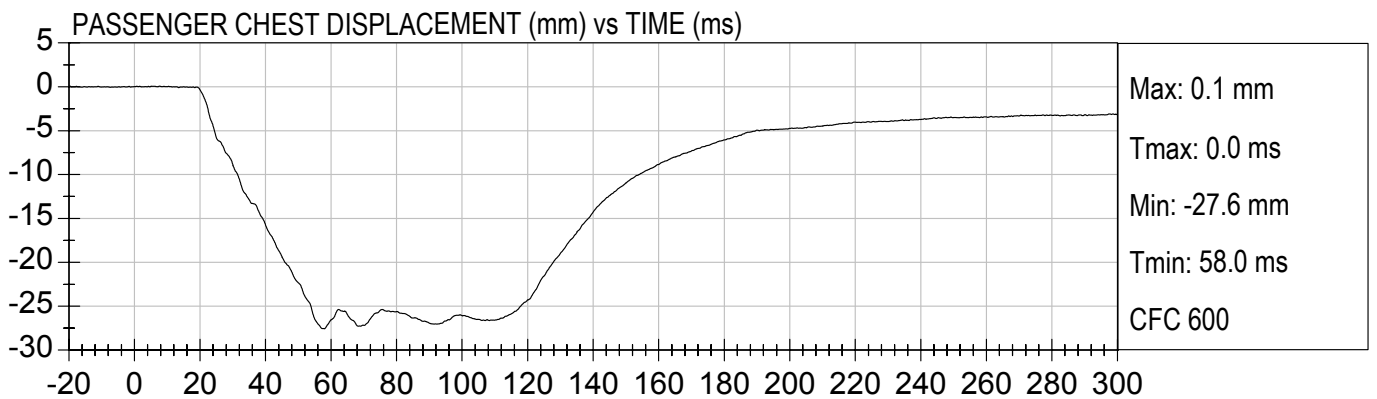
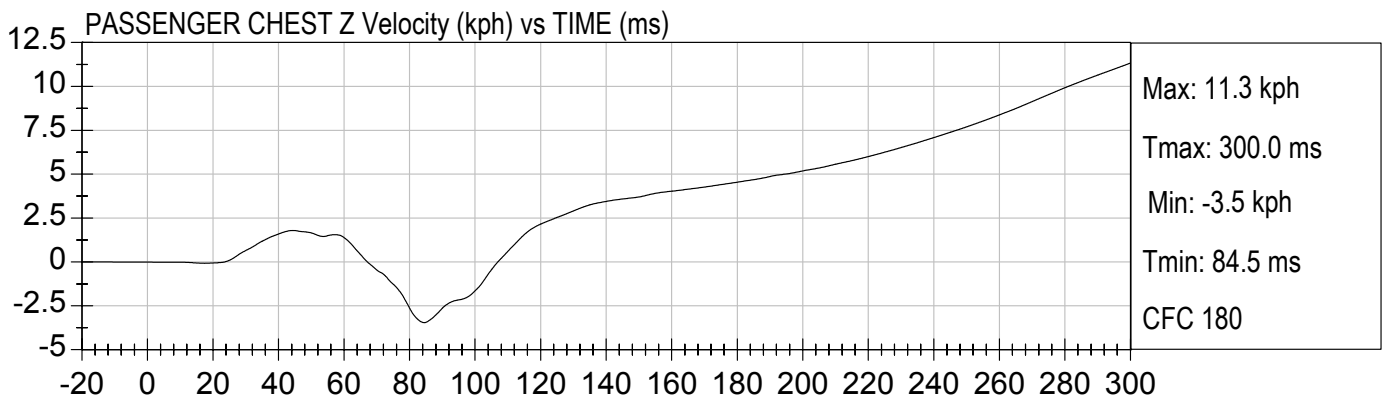
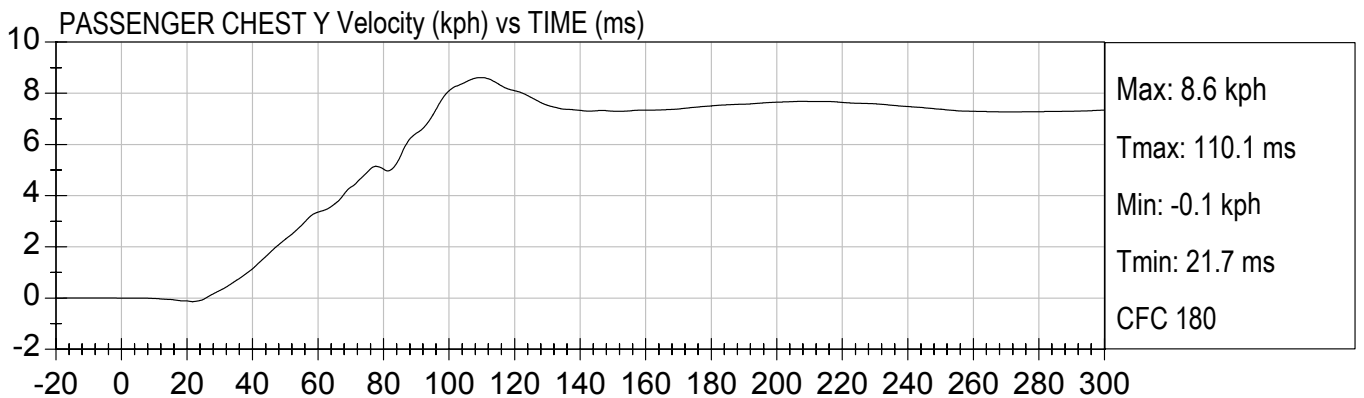
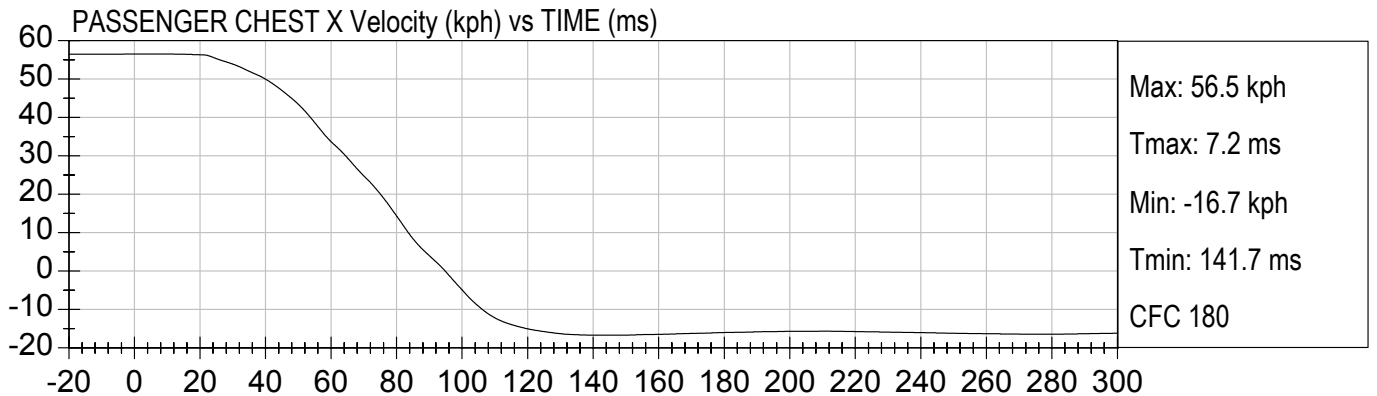


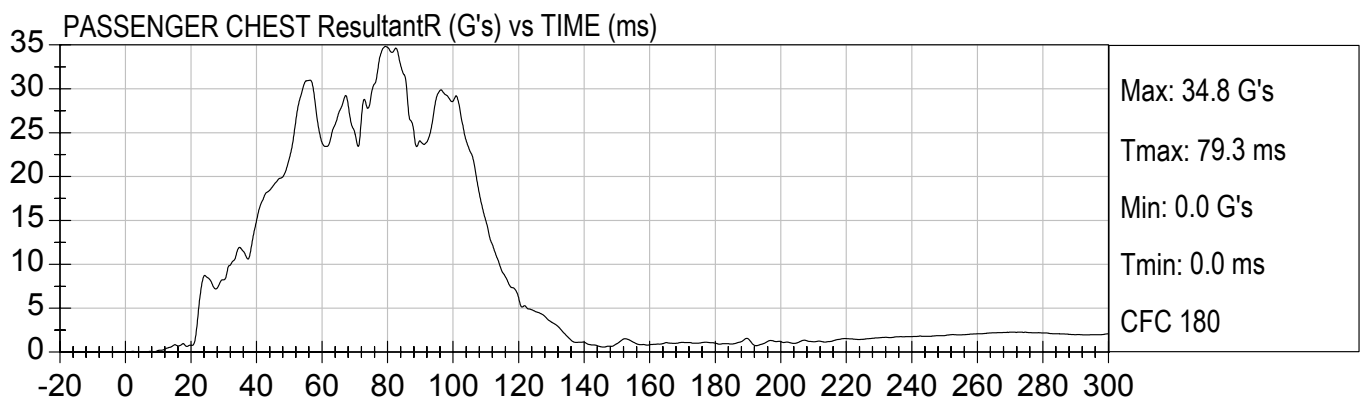
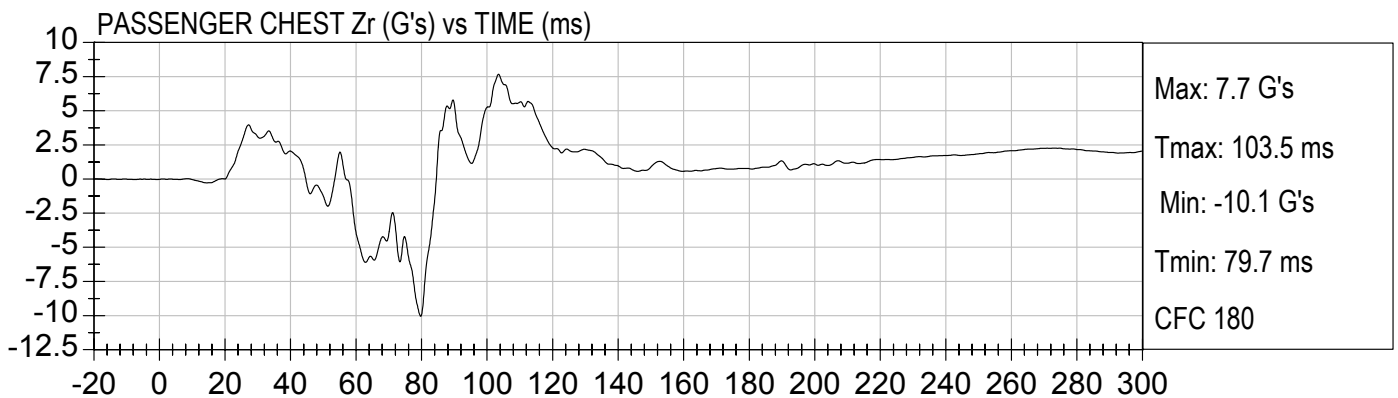
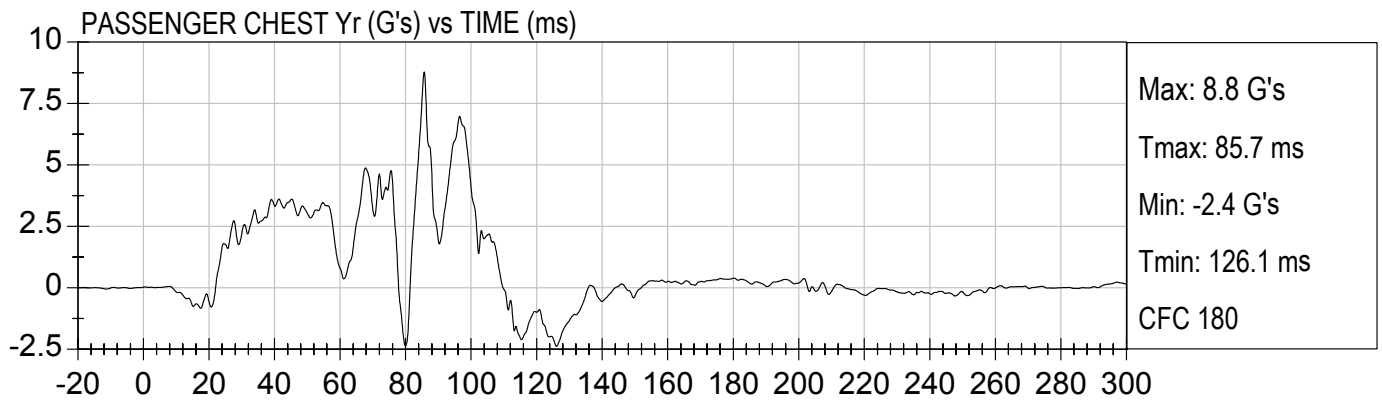
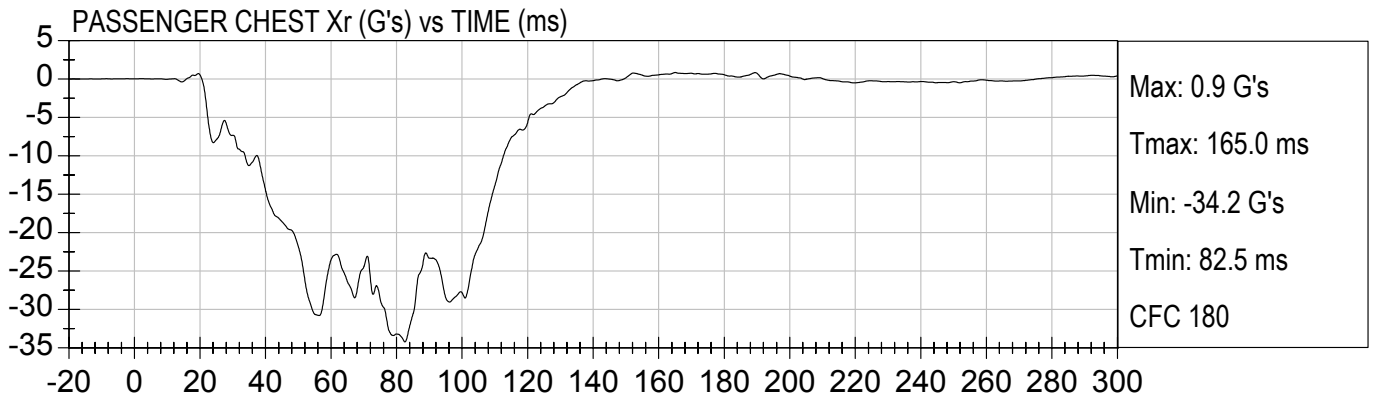
PASSENGER CHEST Z (G's) vs TIME (ms)

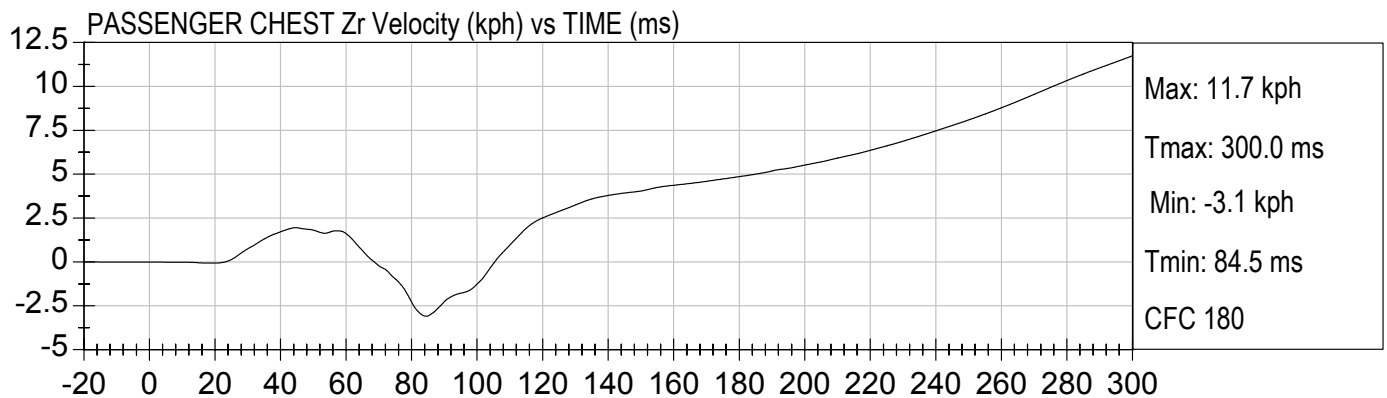
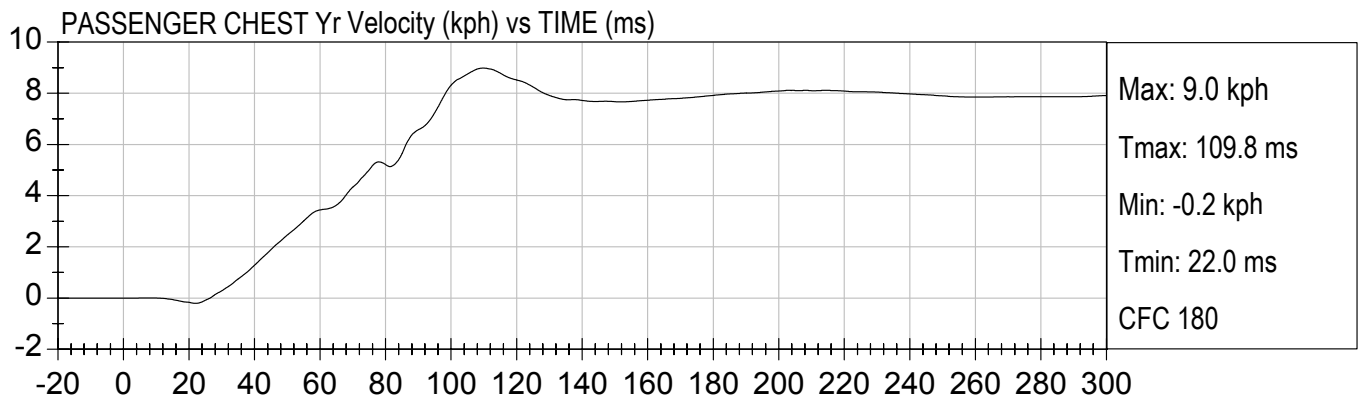
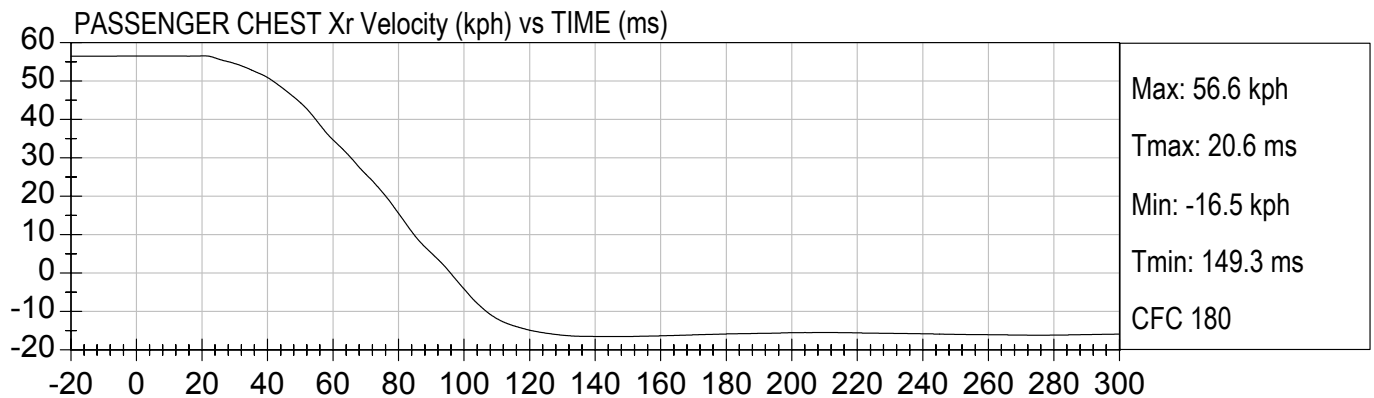


PASSENGER CHEST Resultant (G's) vs TIME (ms)





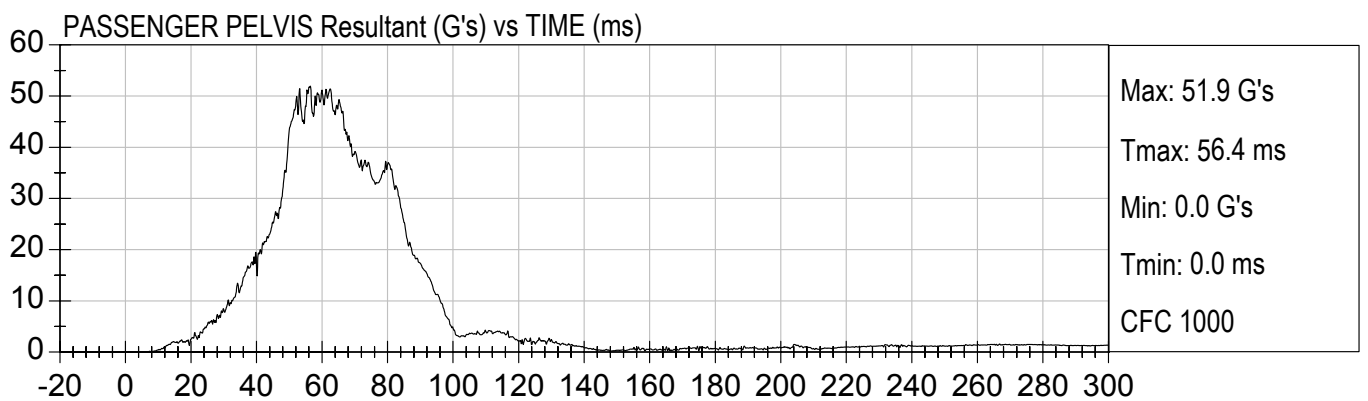
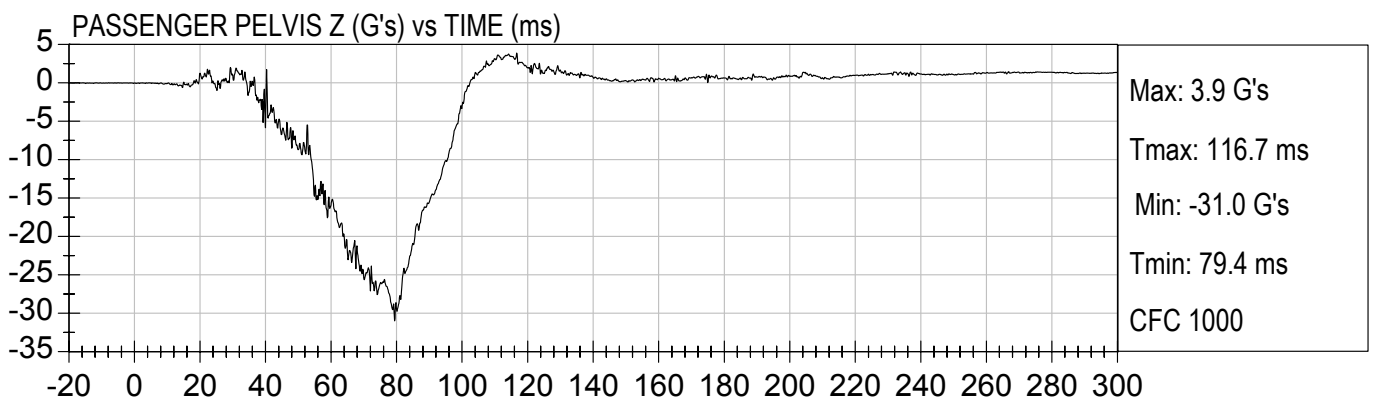
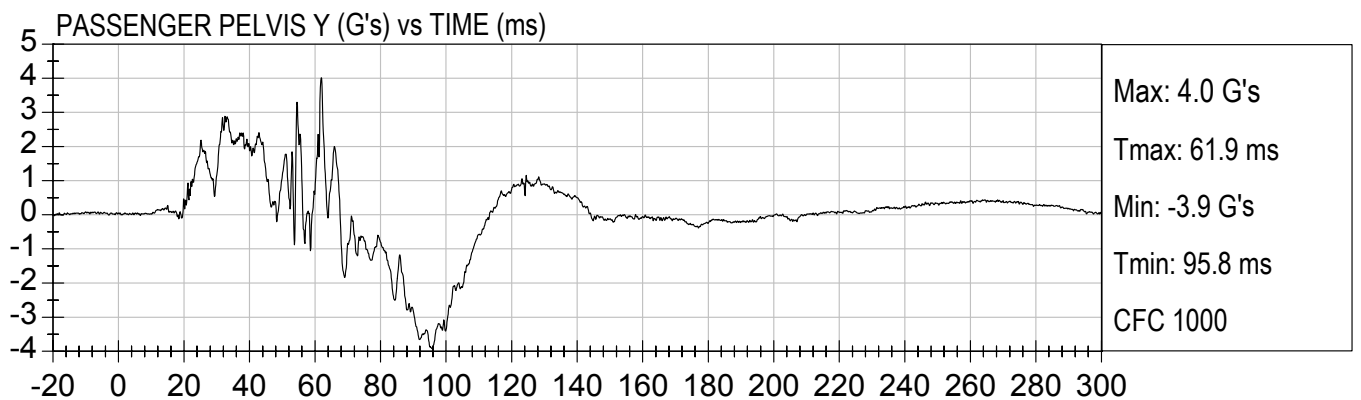
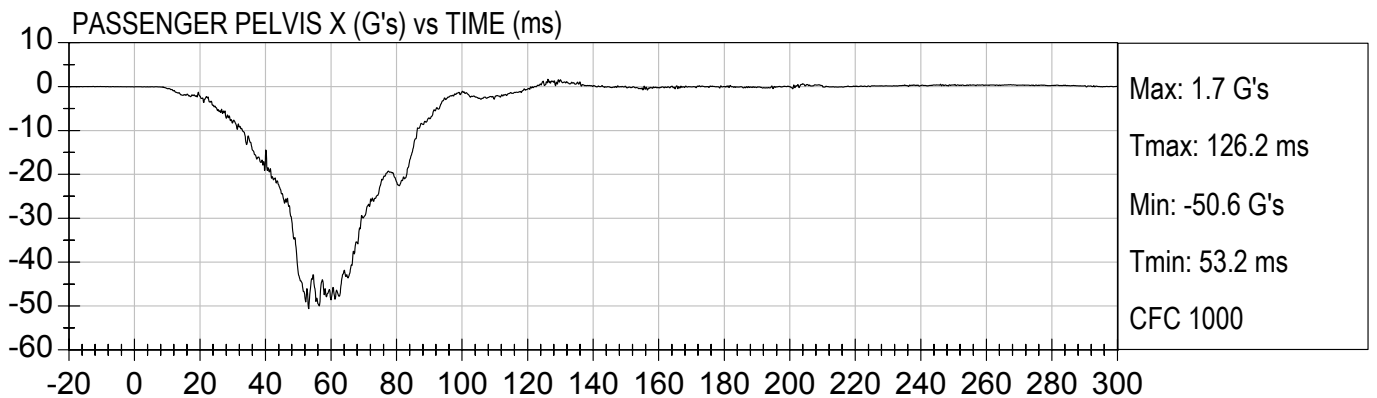


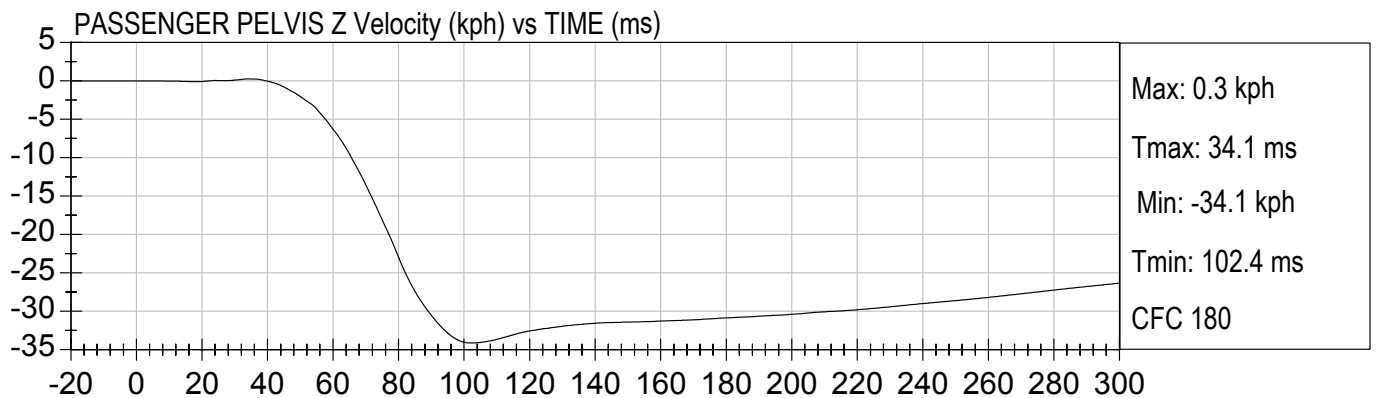
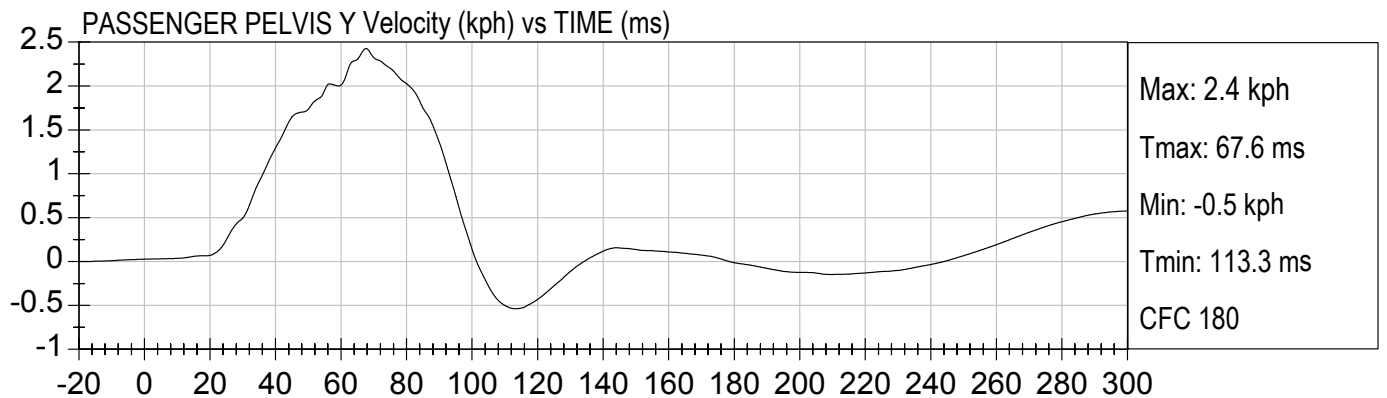
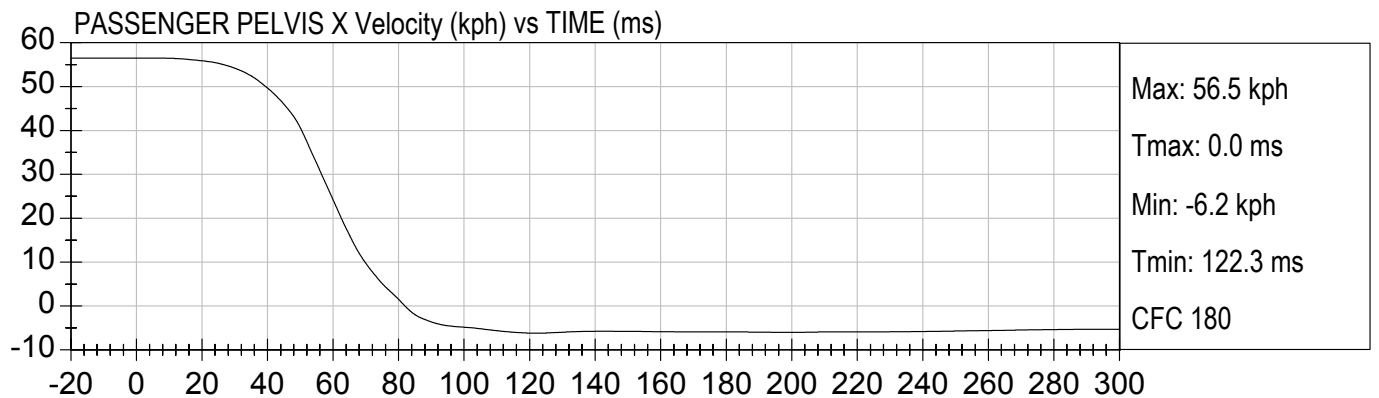


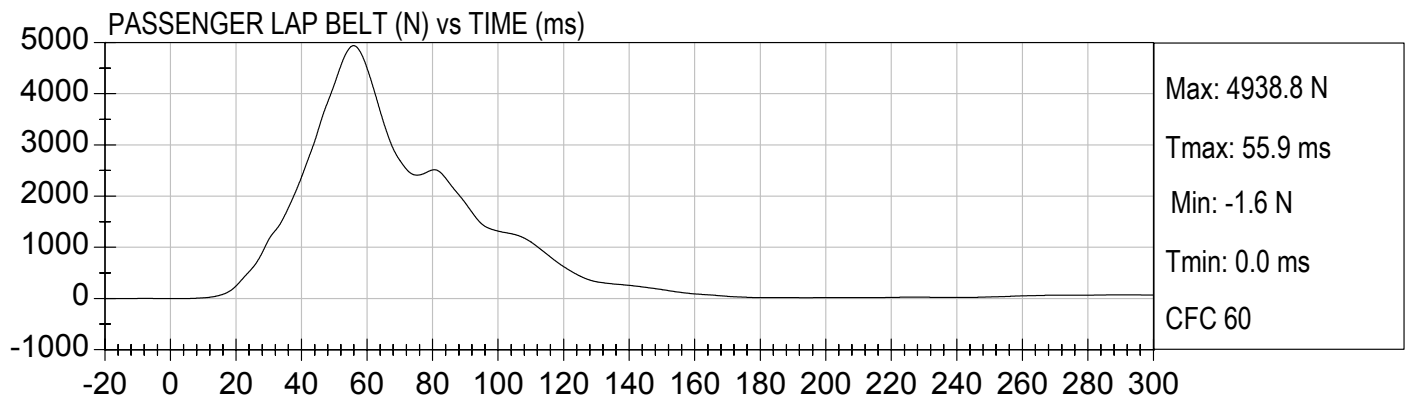
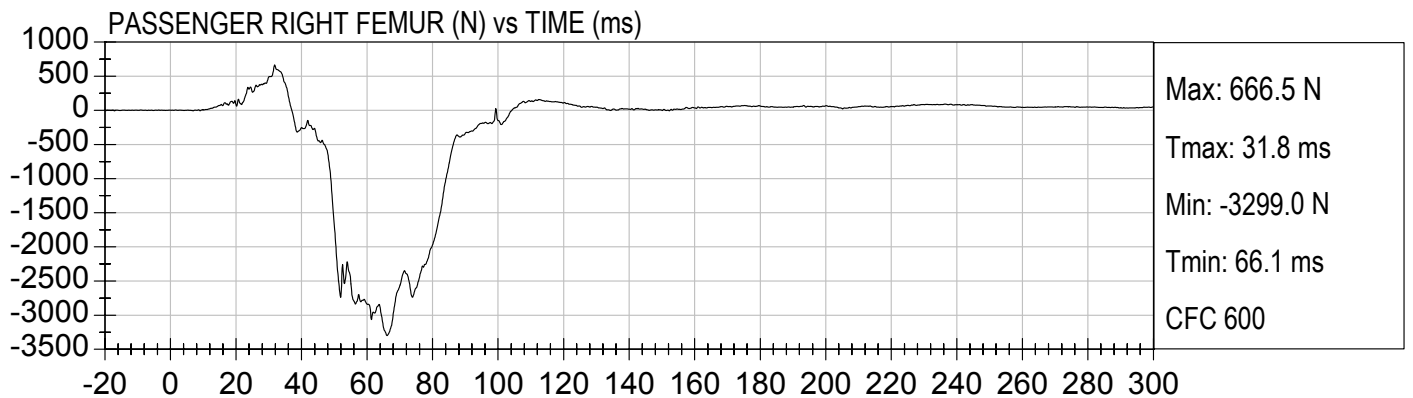
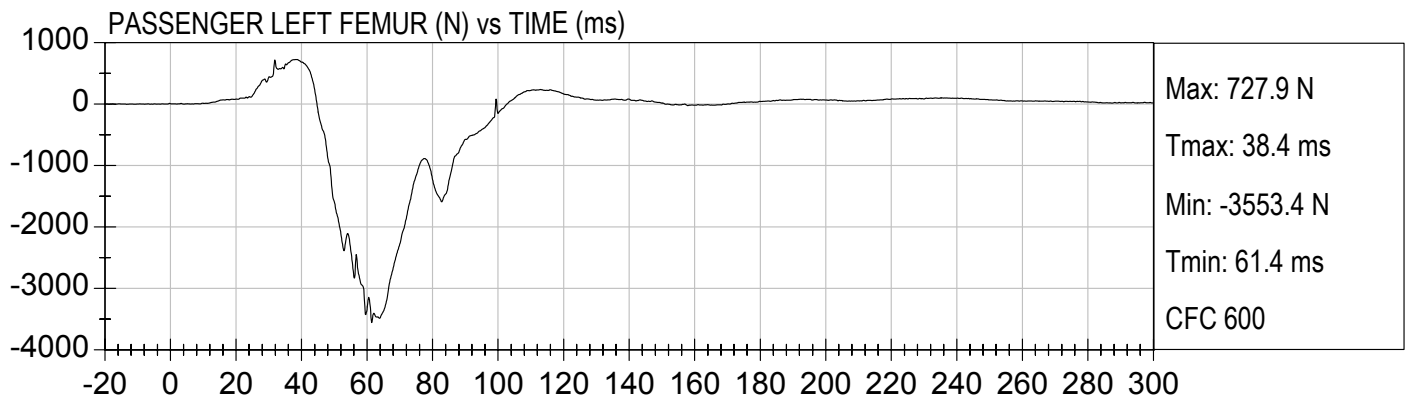


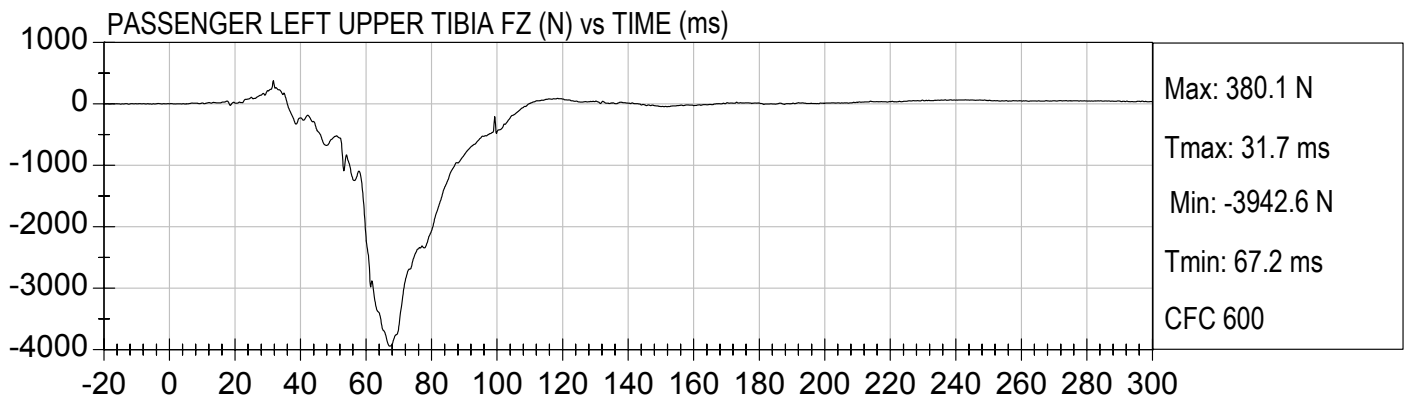
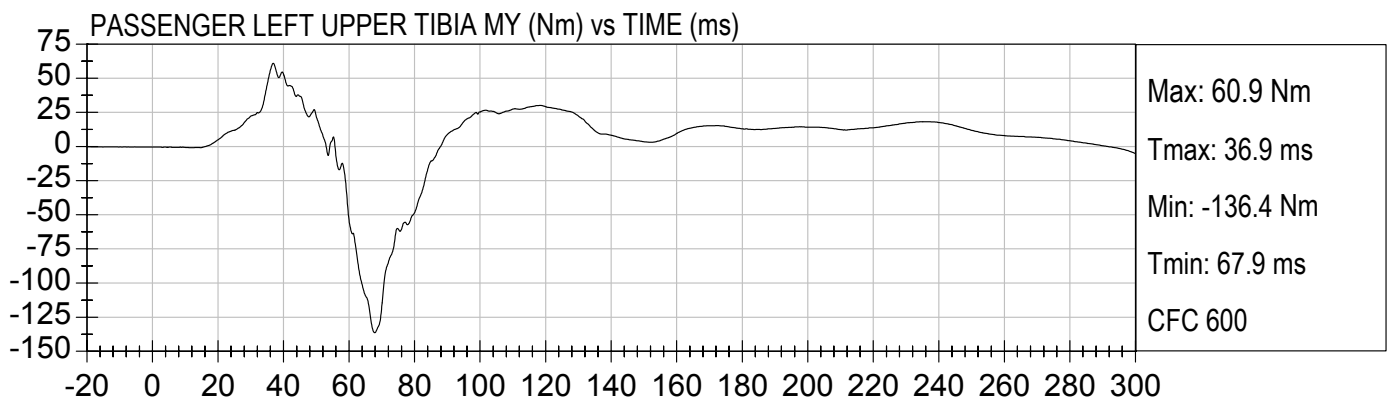
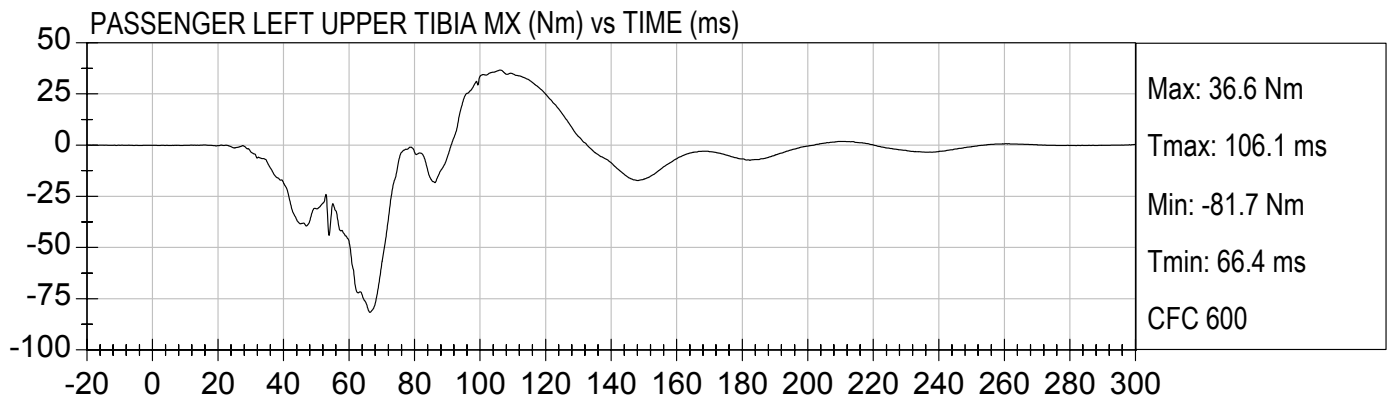
35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

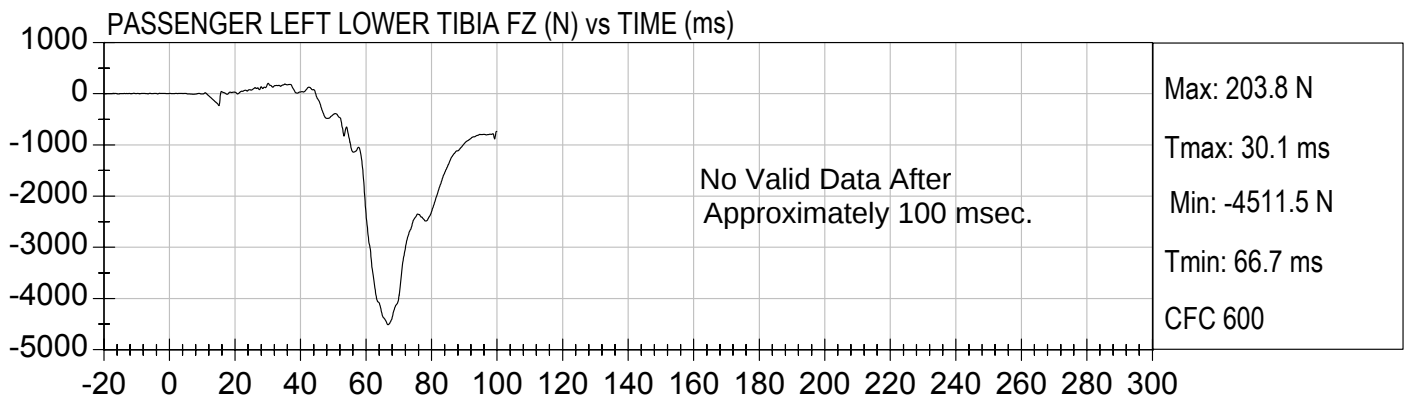
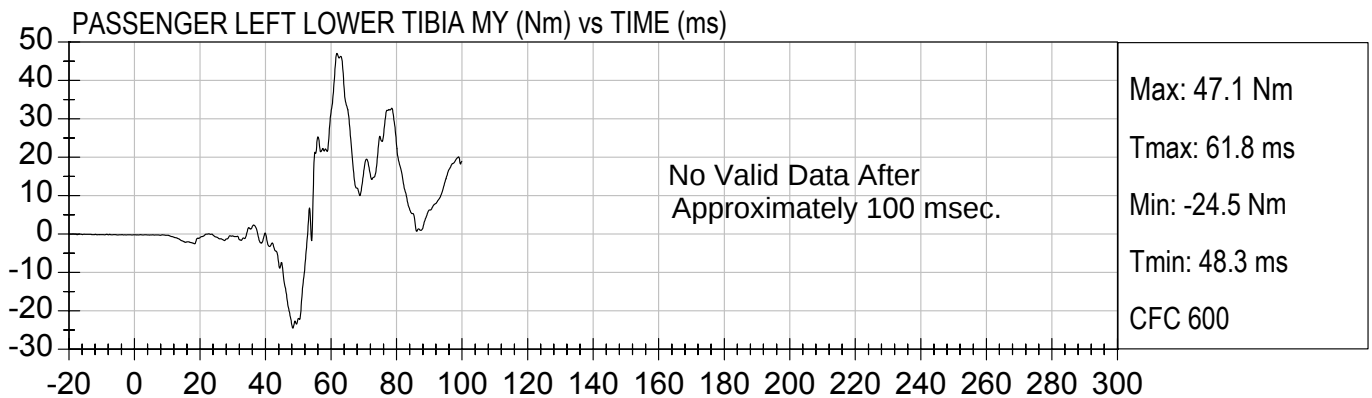
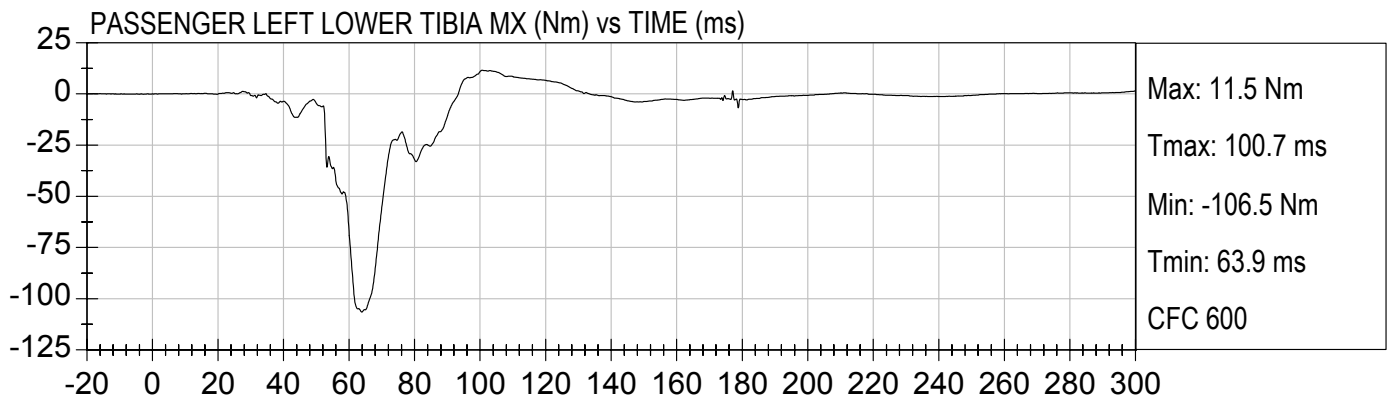
Test Date: 08/11/04
Speed: 35.1 mph (56.5 km/h)





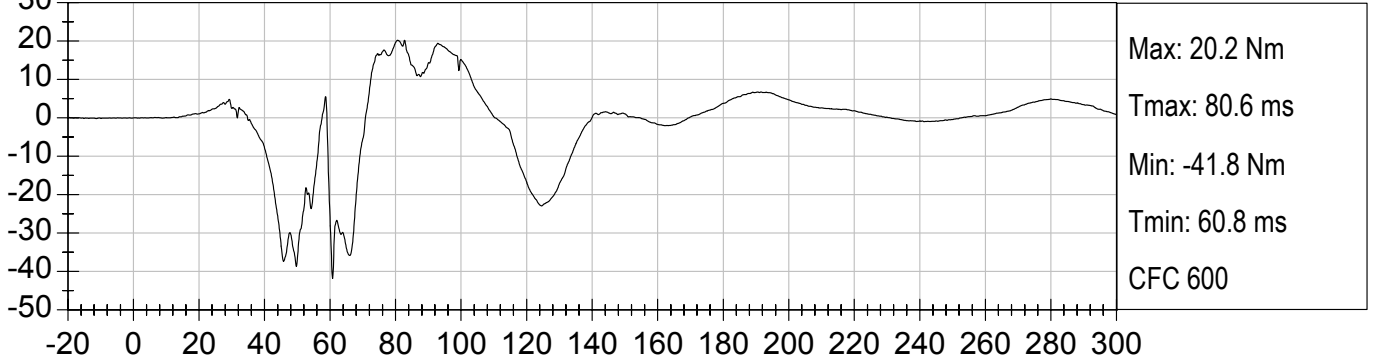




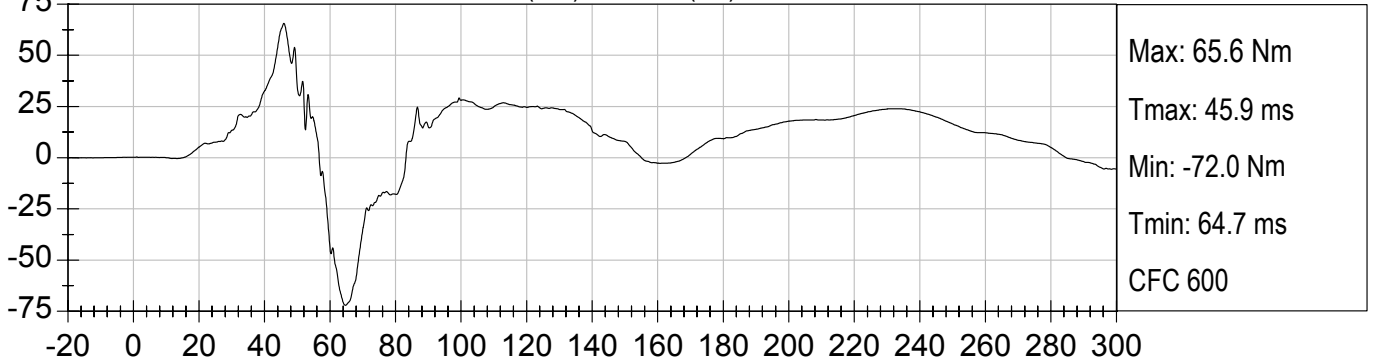




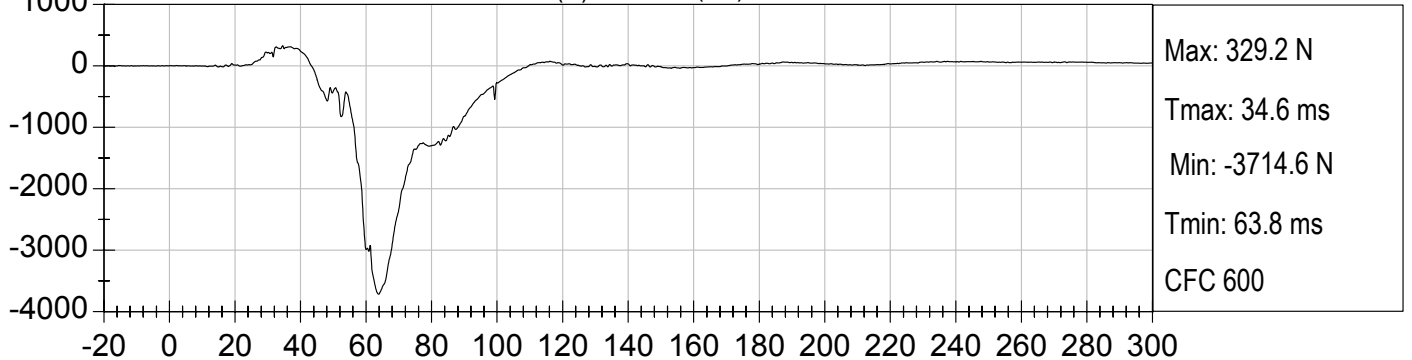
PASSENGER RIGHT UPPER TIBIA MX (Nm) vs TIME (ms)



PASSENGER RIGHT UPPER TIBIA MY (Nm) vs TIME (ms)

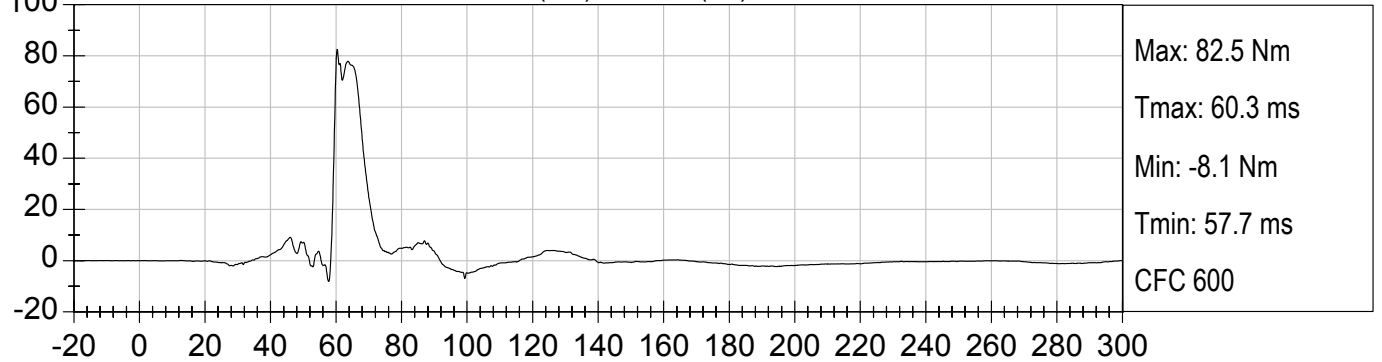


PASSENGER RIGHT UPPER TIBIA FZ (N) vs TIME (ms)

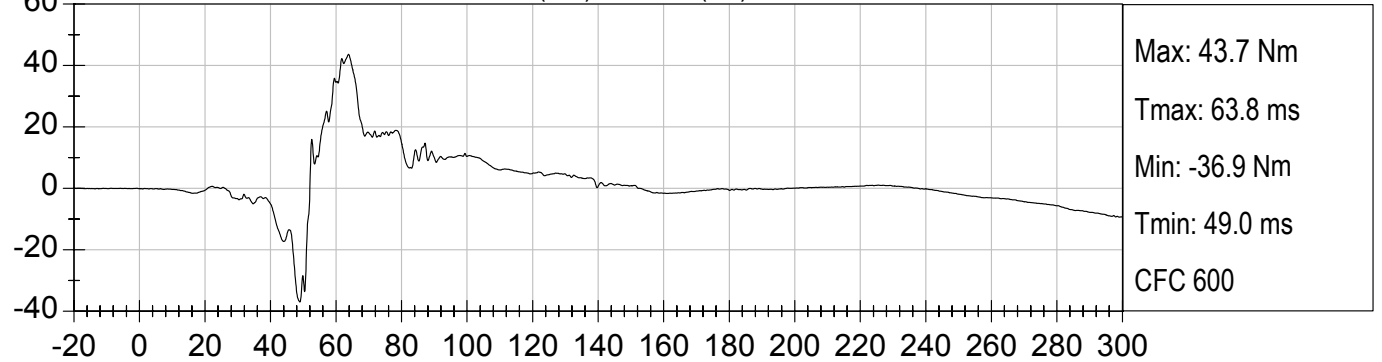




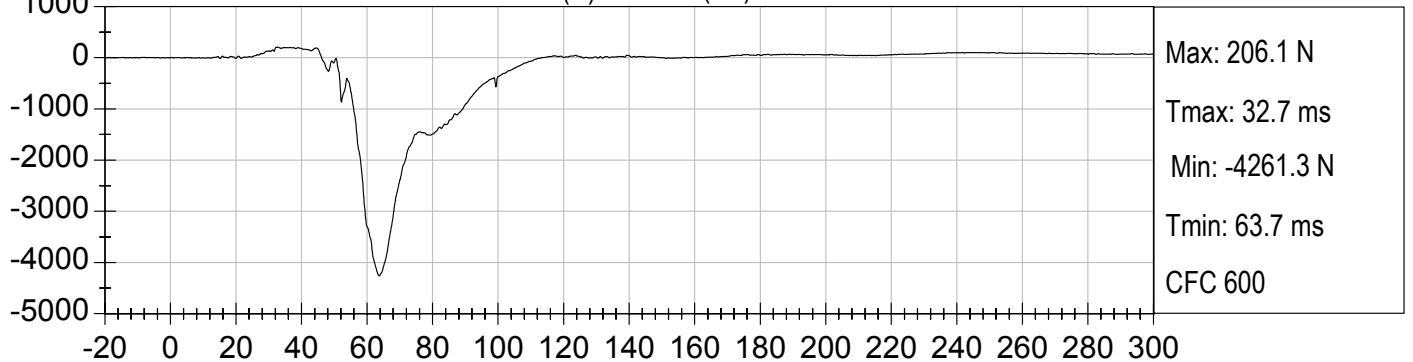
PASSENGER RIGHT LOWER TIBIA MX (Nm) vs TIME (ms)

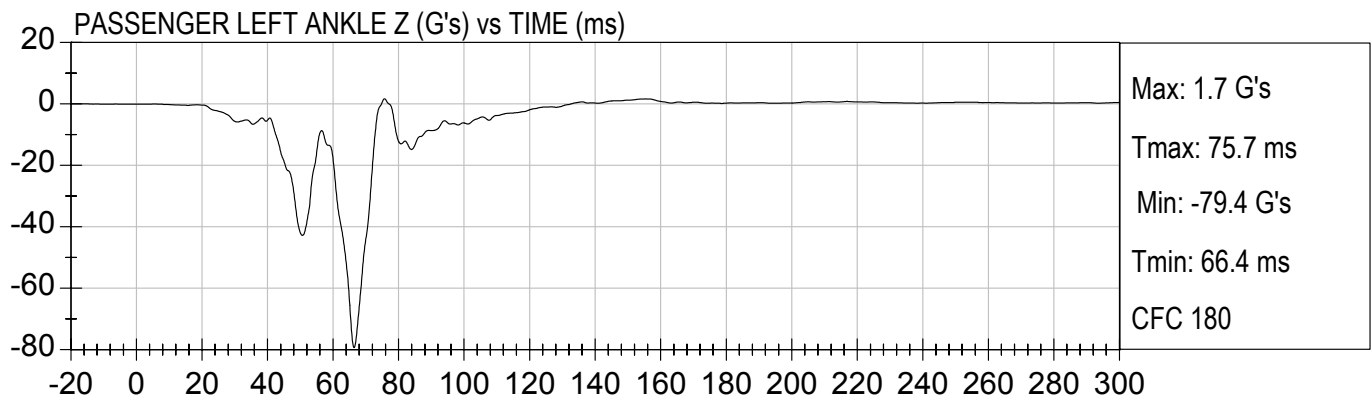
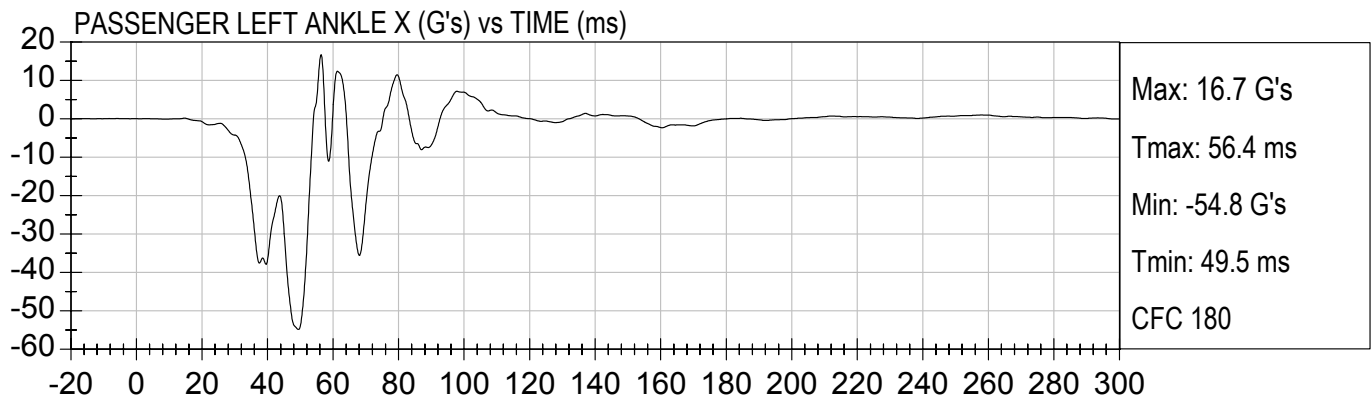
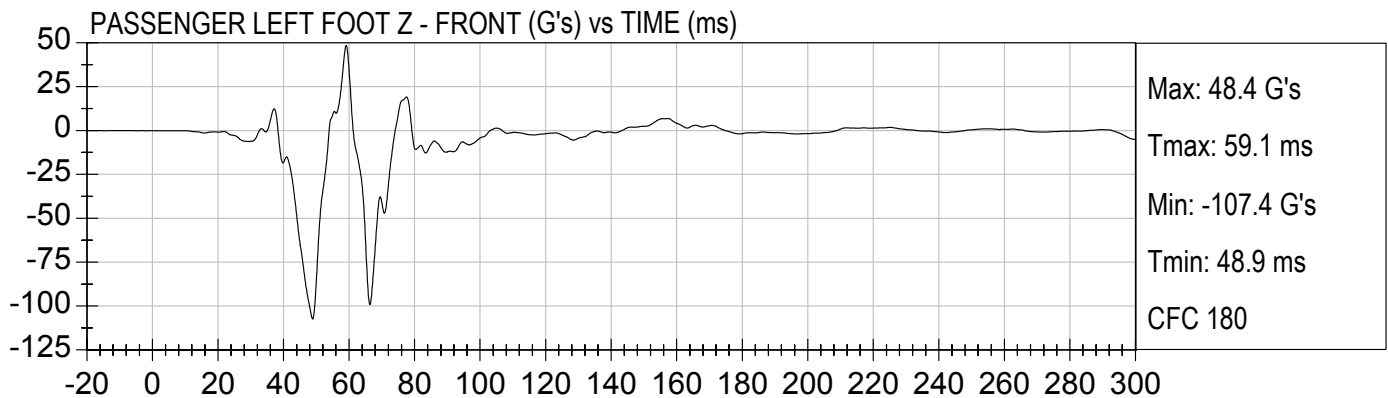


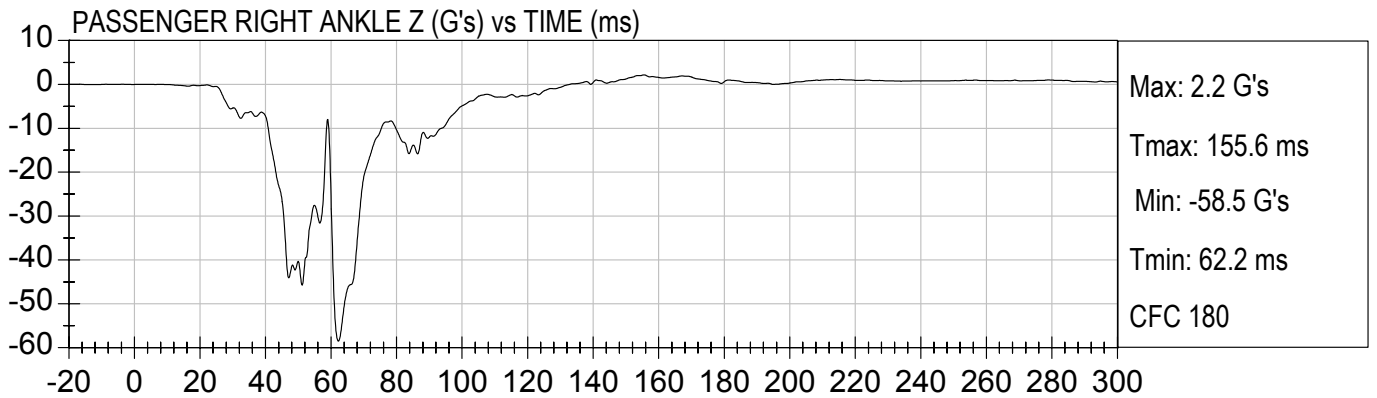
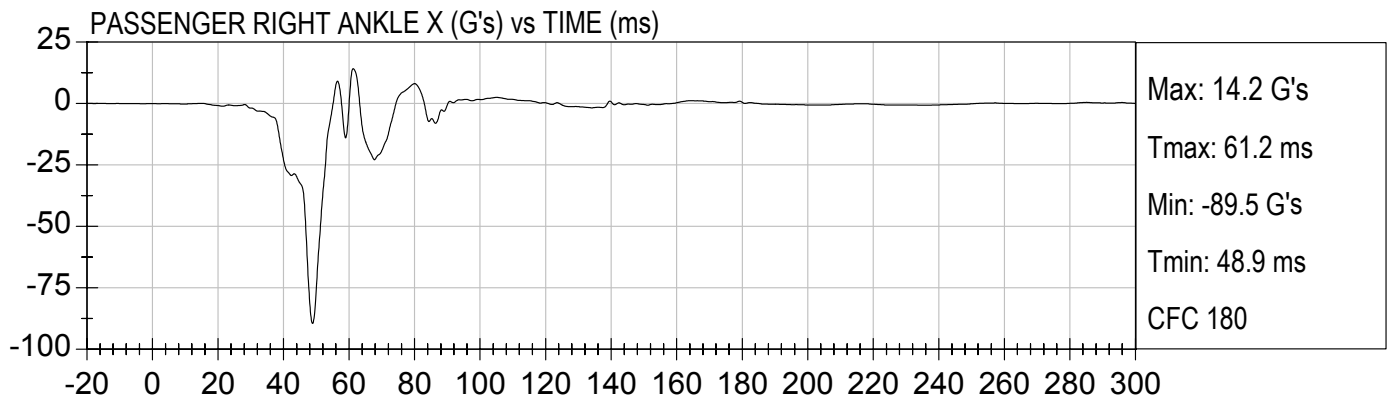
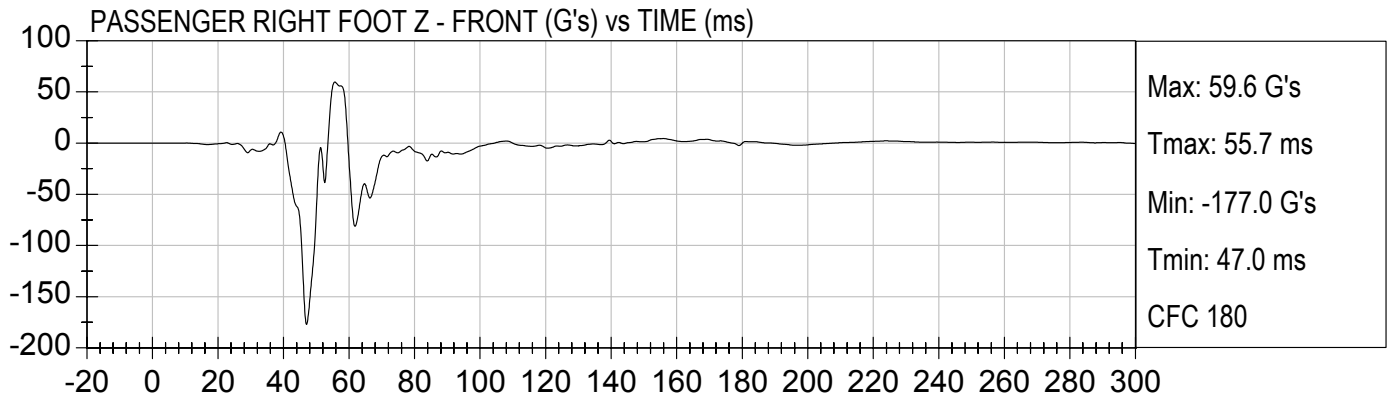
PASSENGER RIGHT LOWER TIBIA MY (Nm) vs TIME (ms)

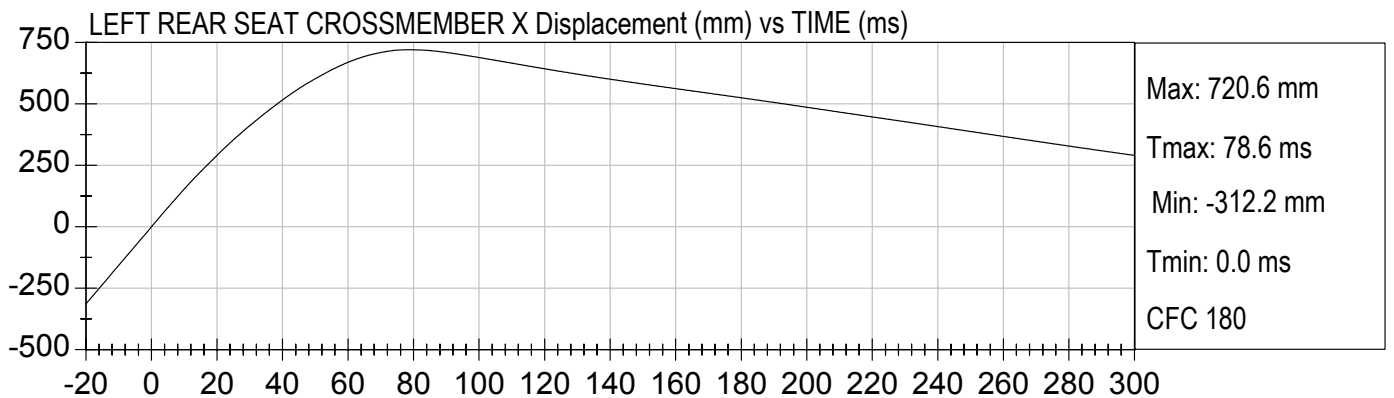
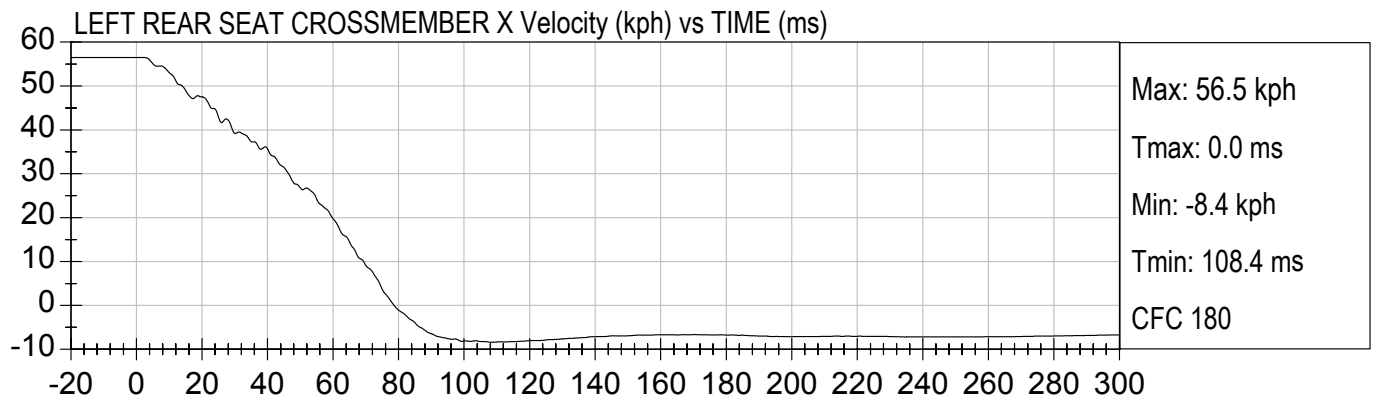
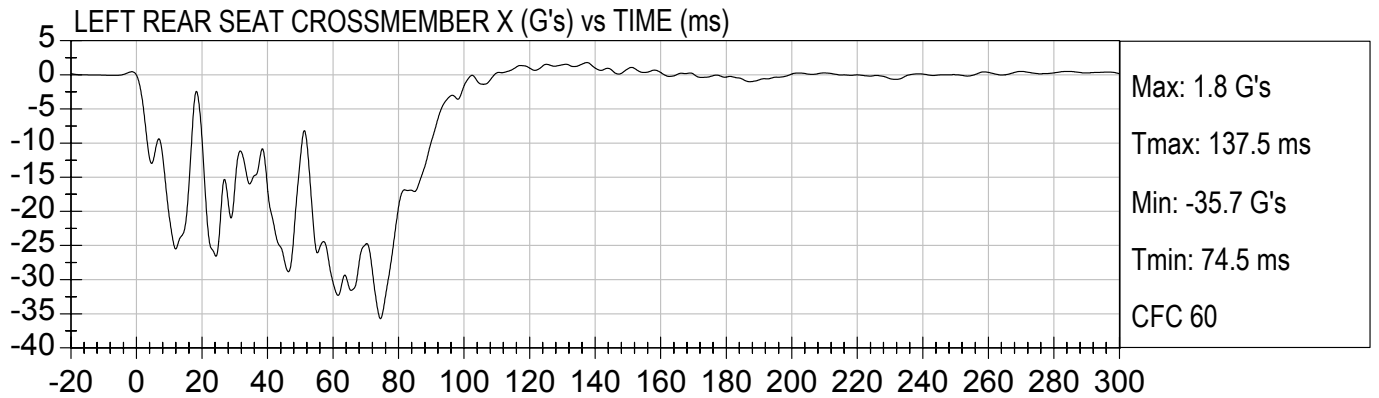


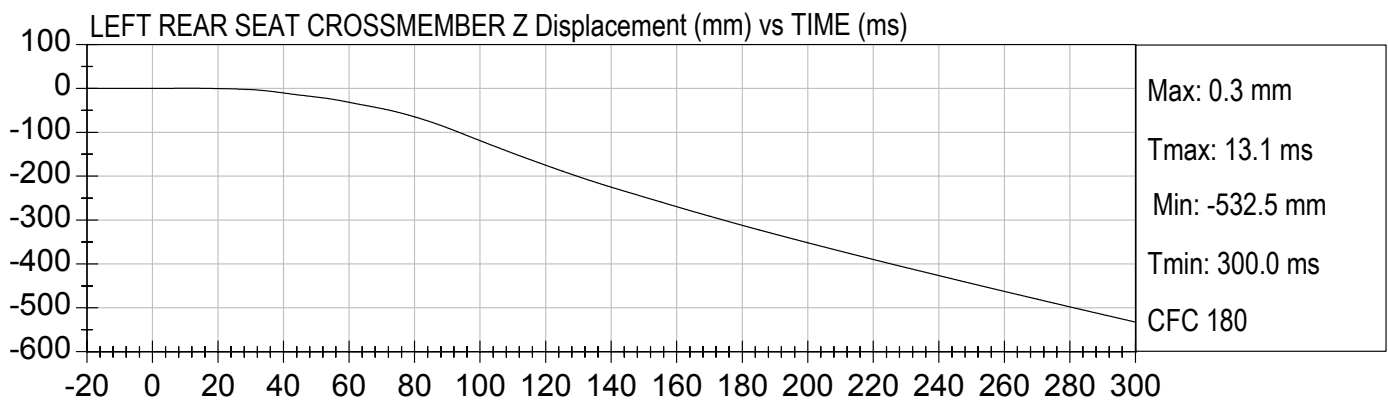
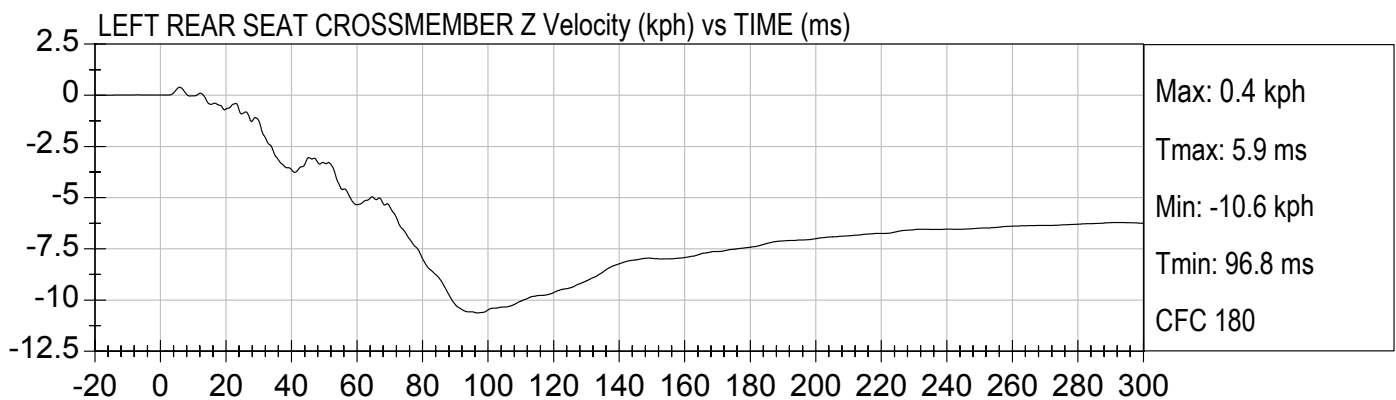
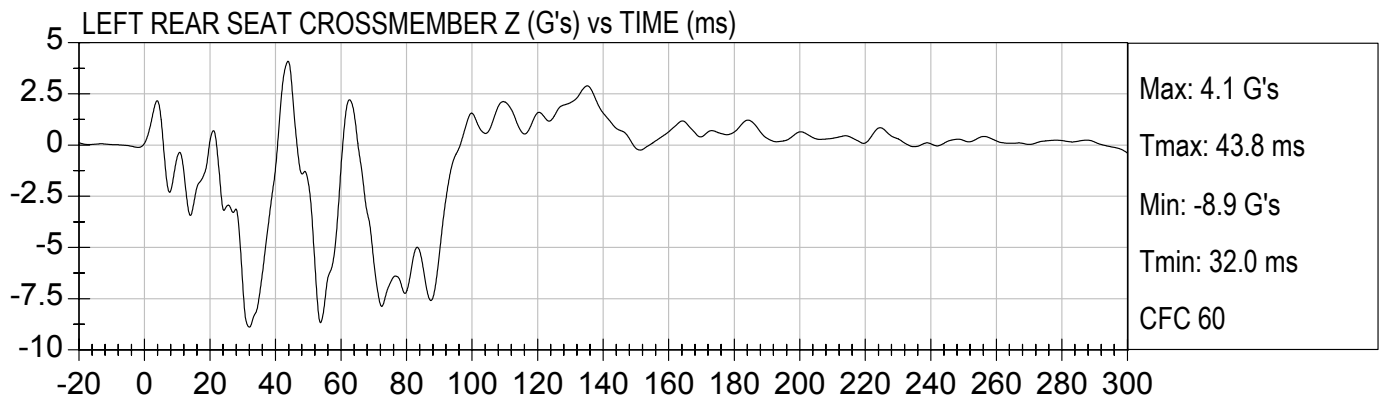
PASSENGER RIGHT LOWER TIBIA FZ (N) vs TIME (ms)

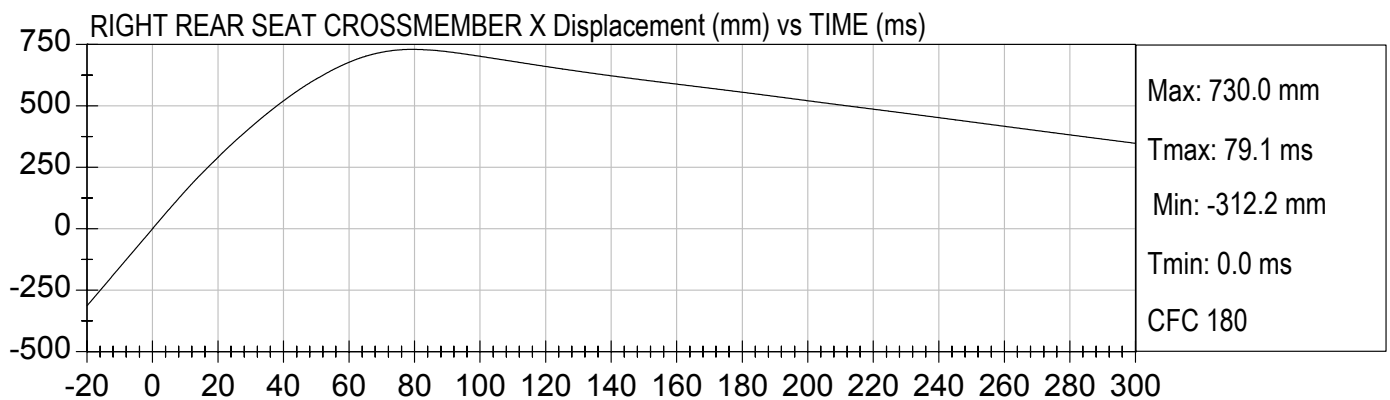
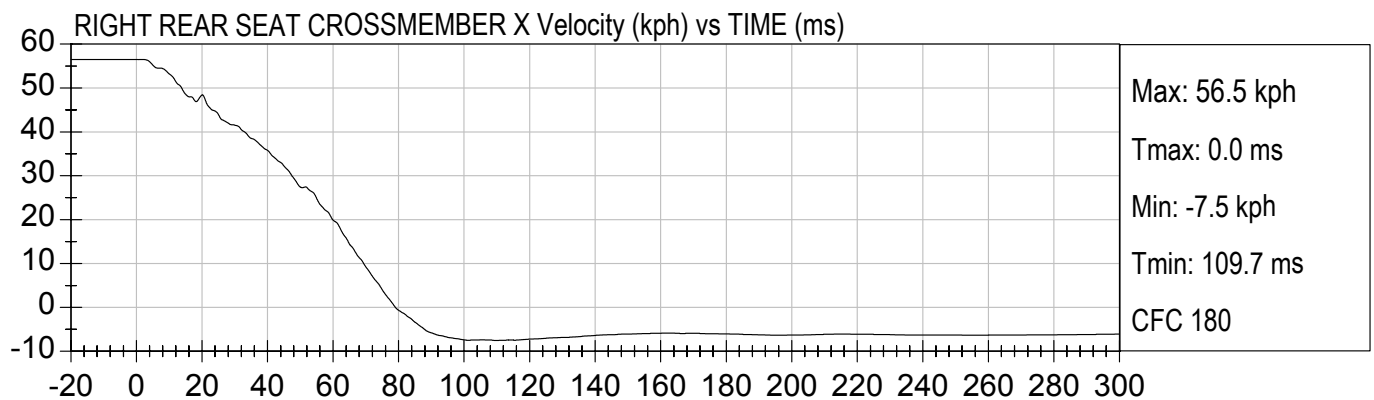
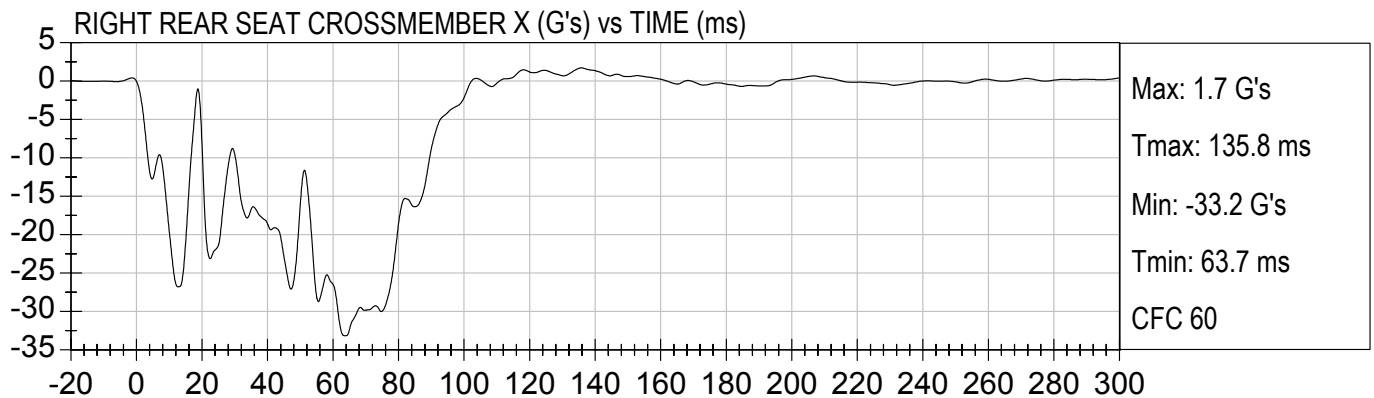


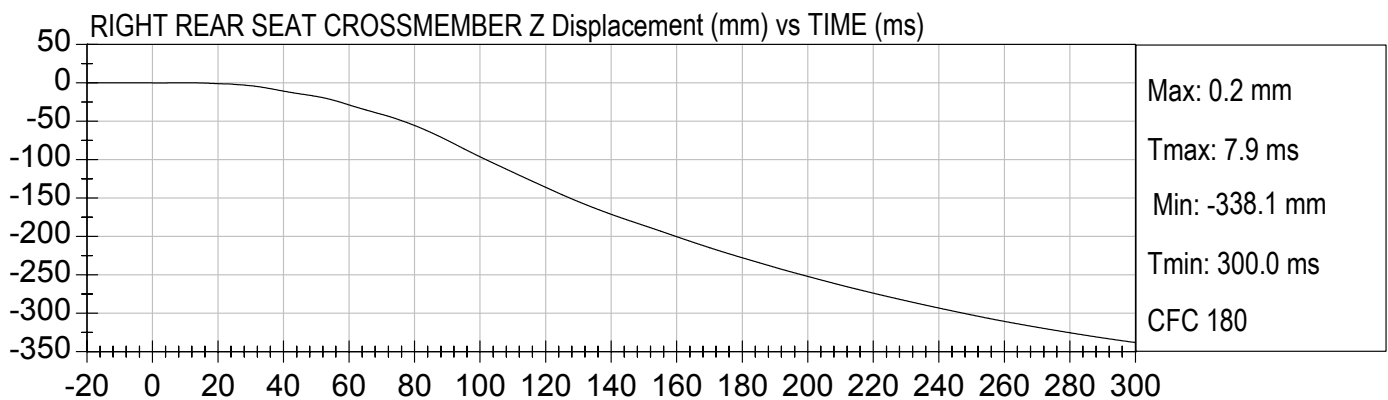
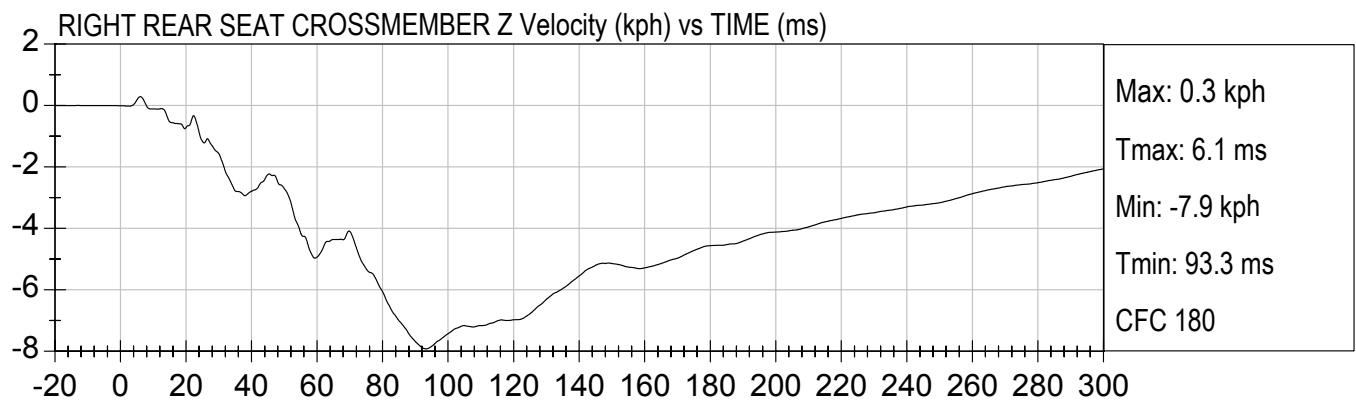
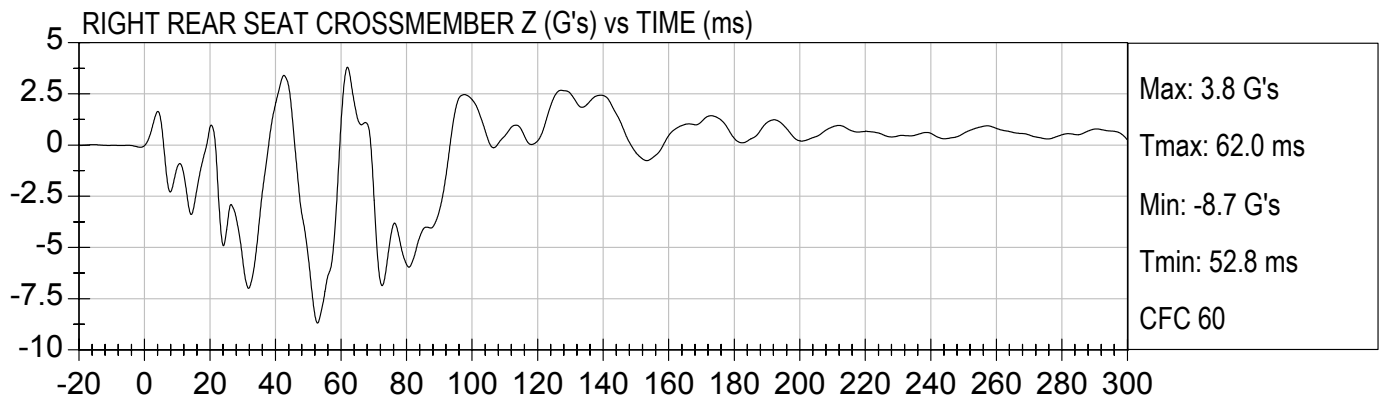


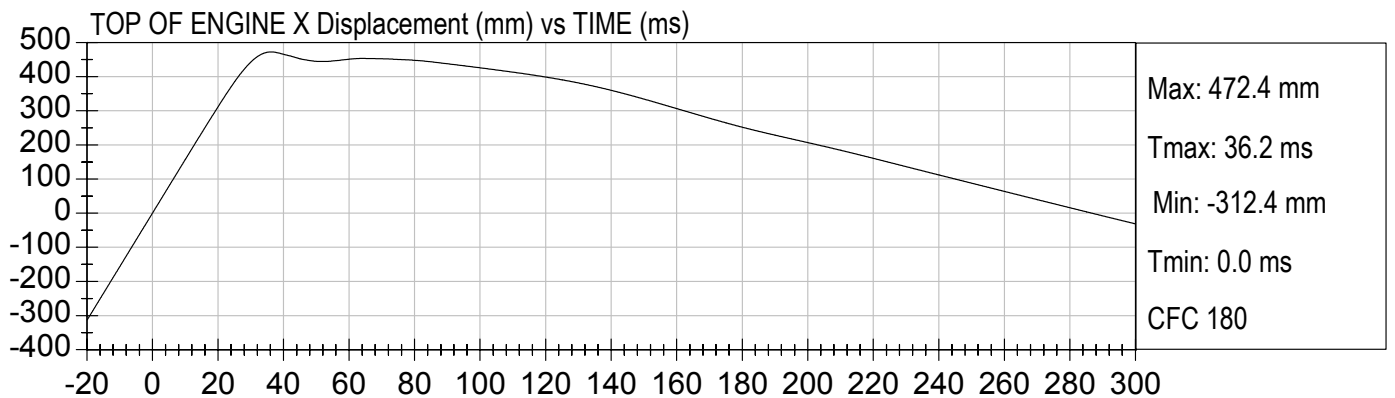
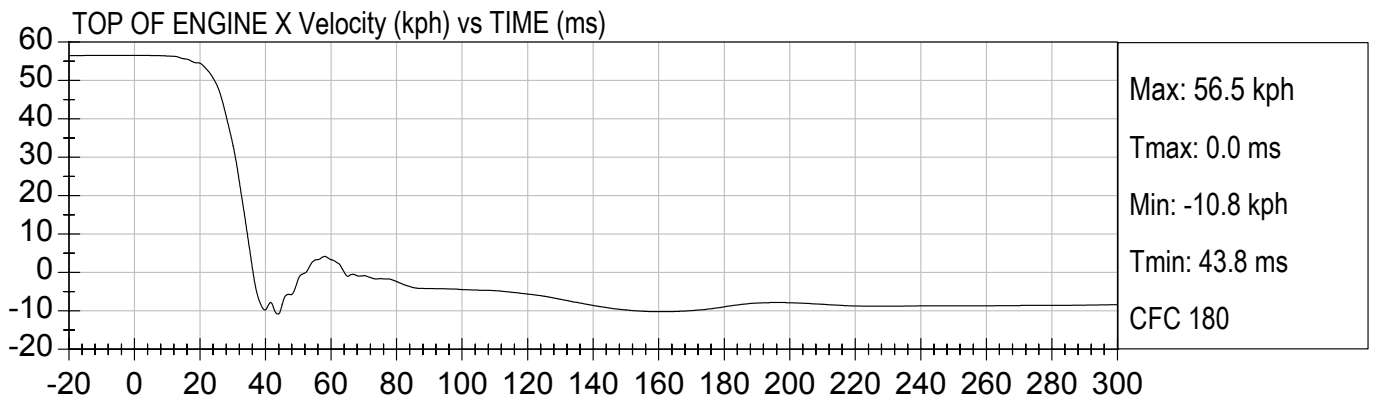
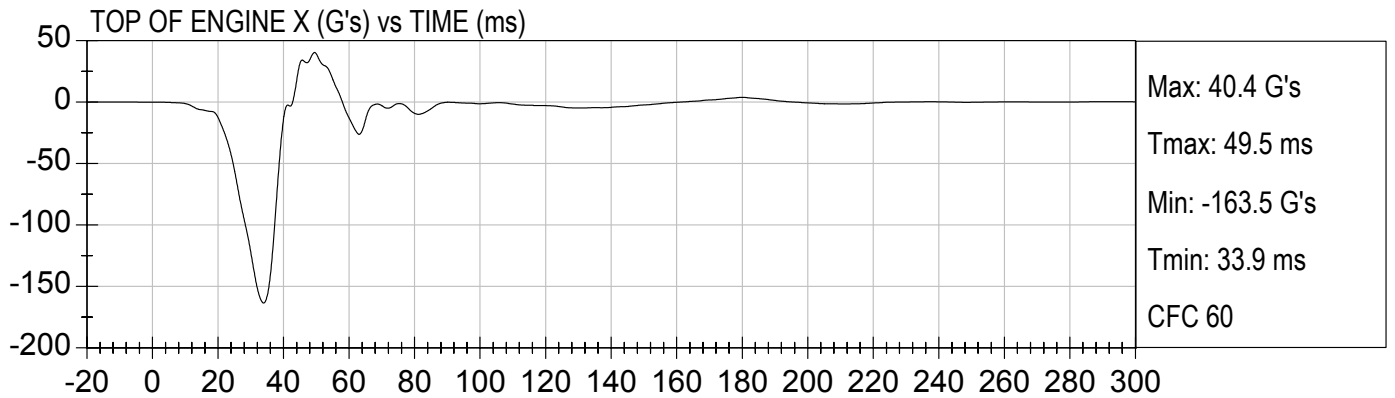


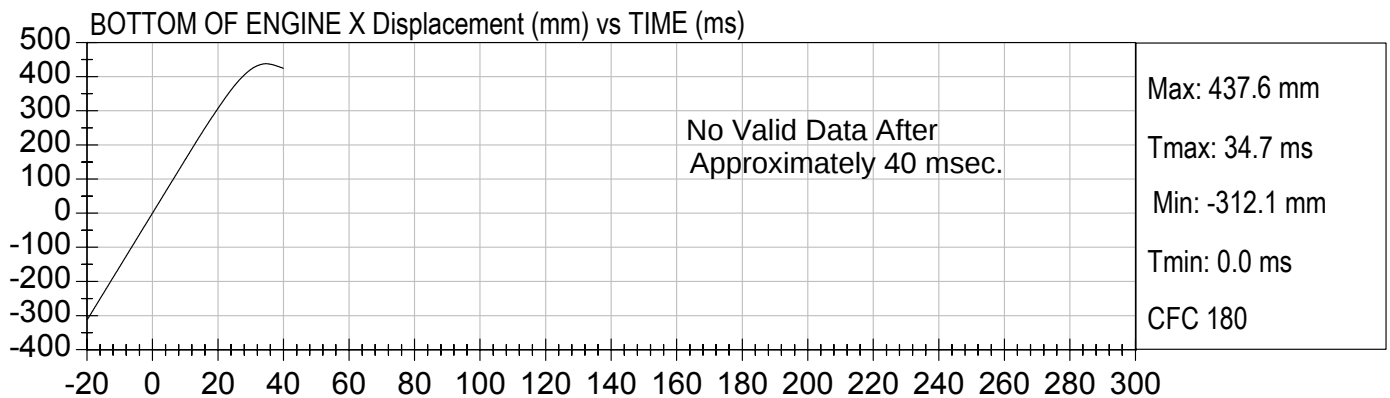
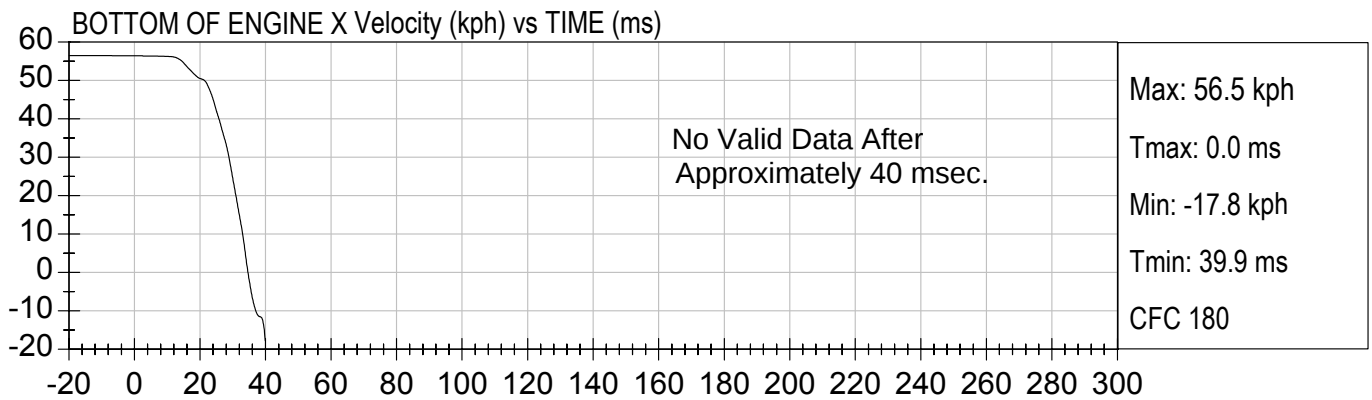
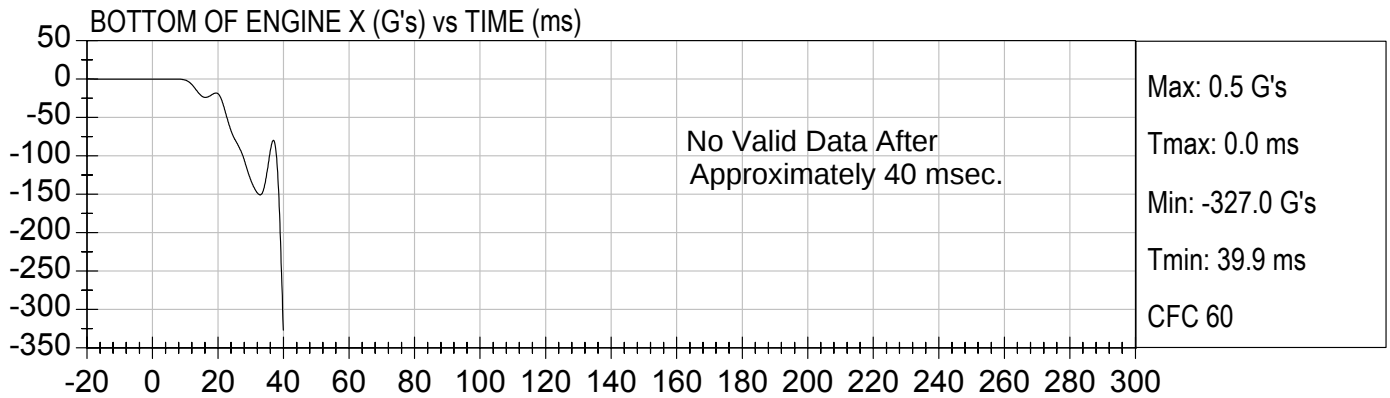


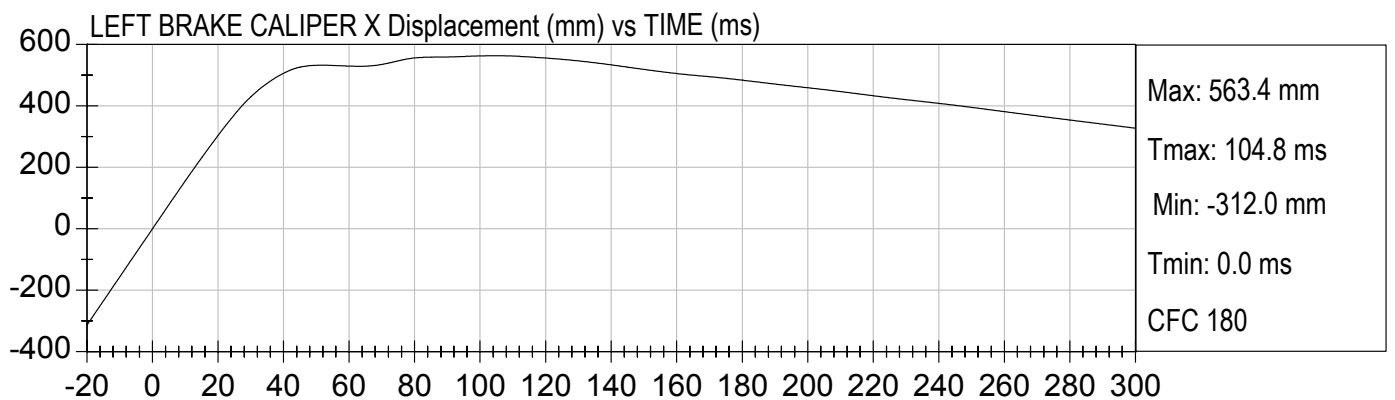
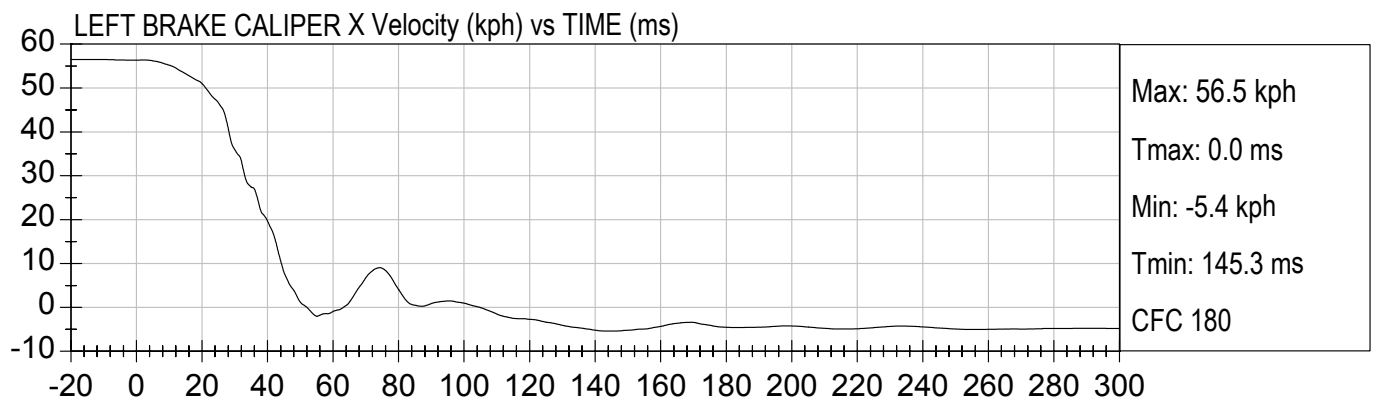
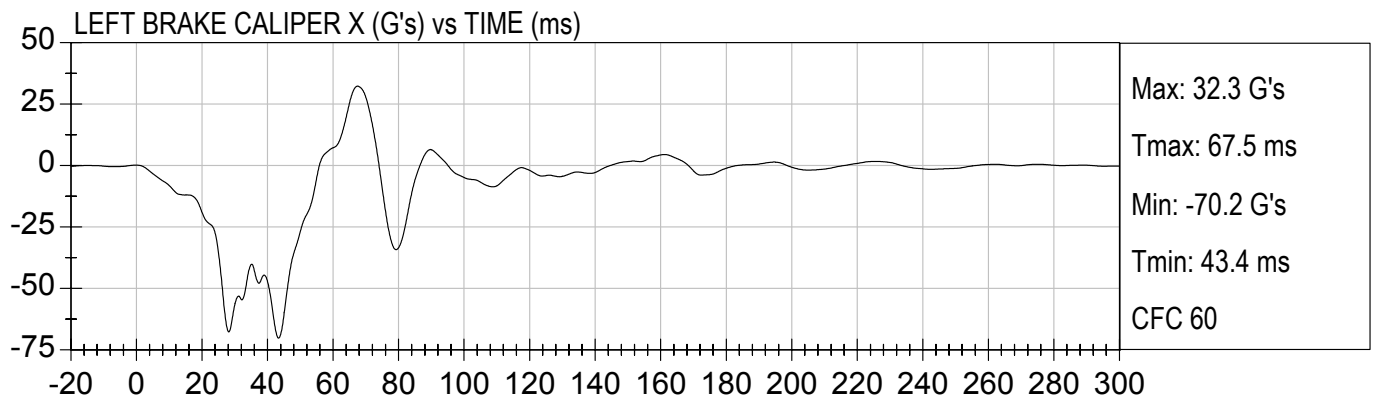


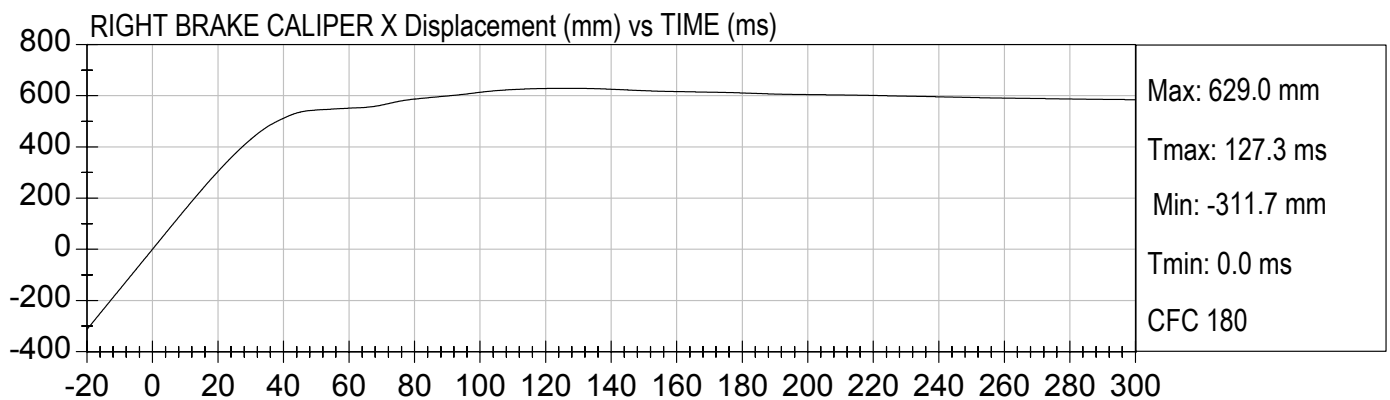
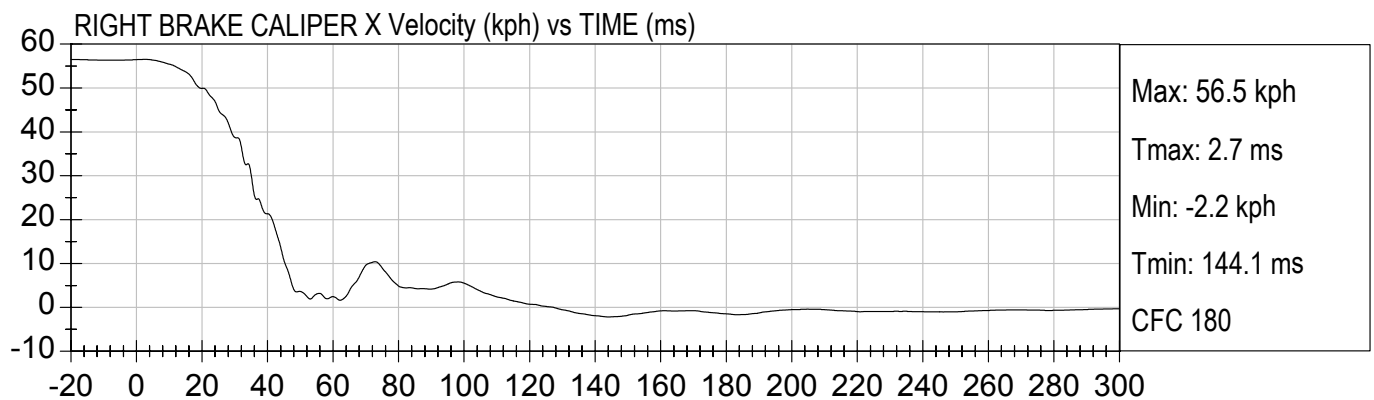
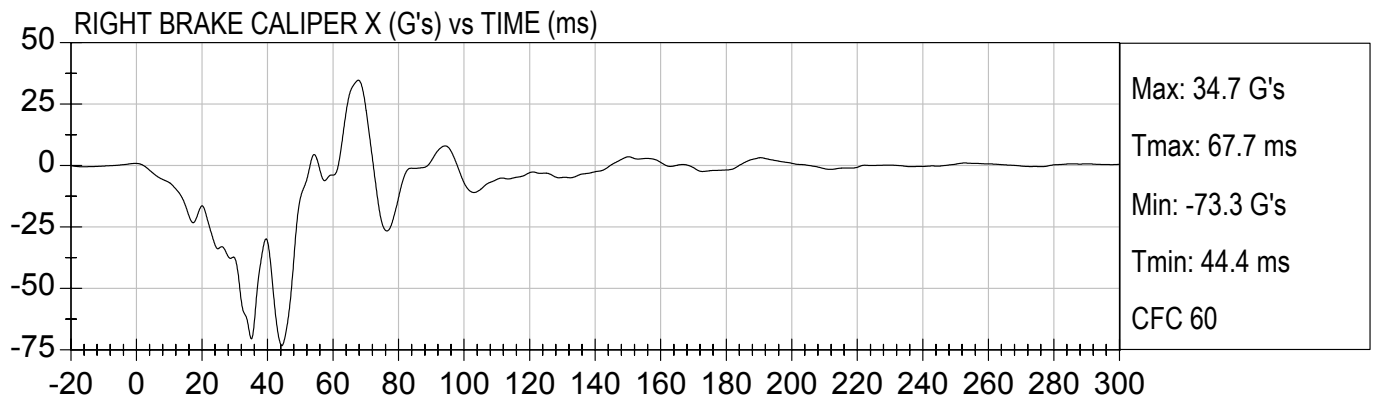






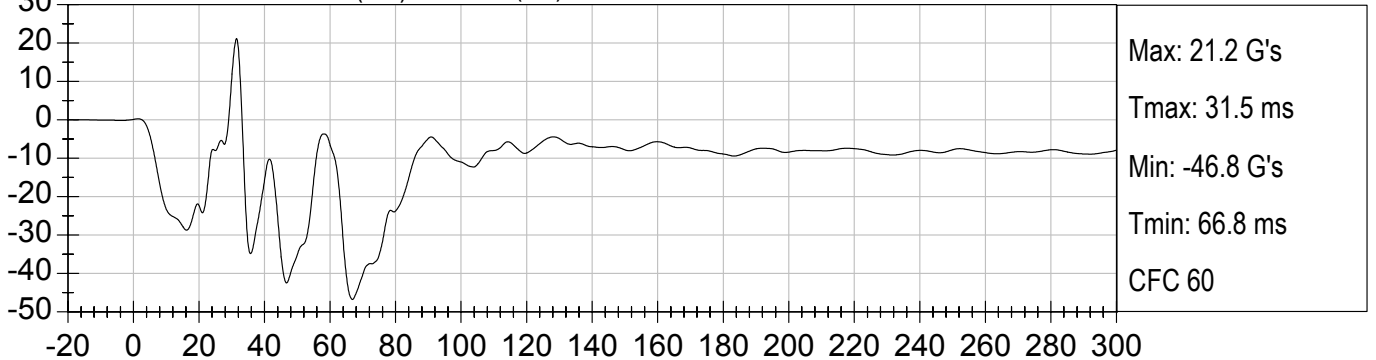




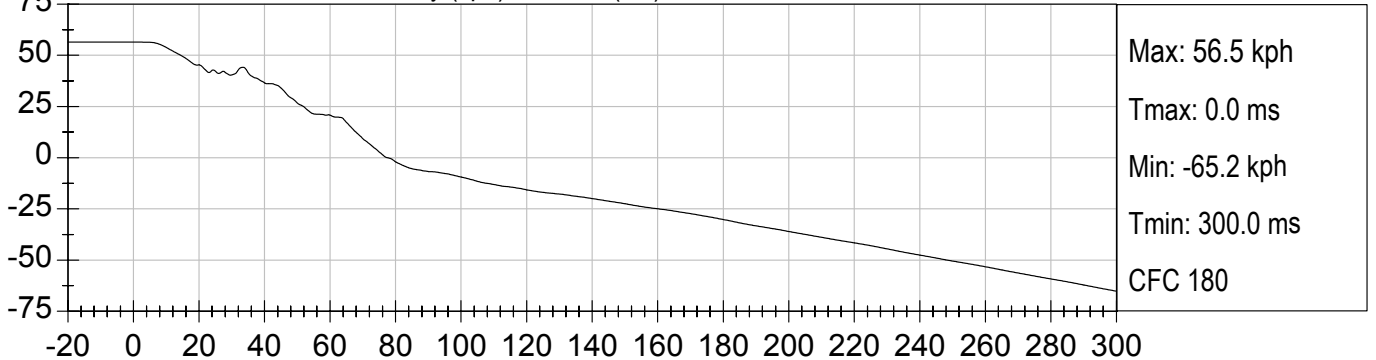




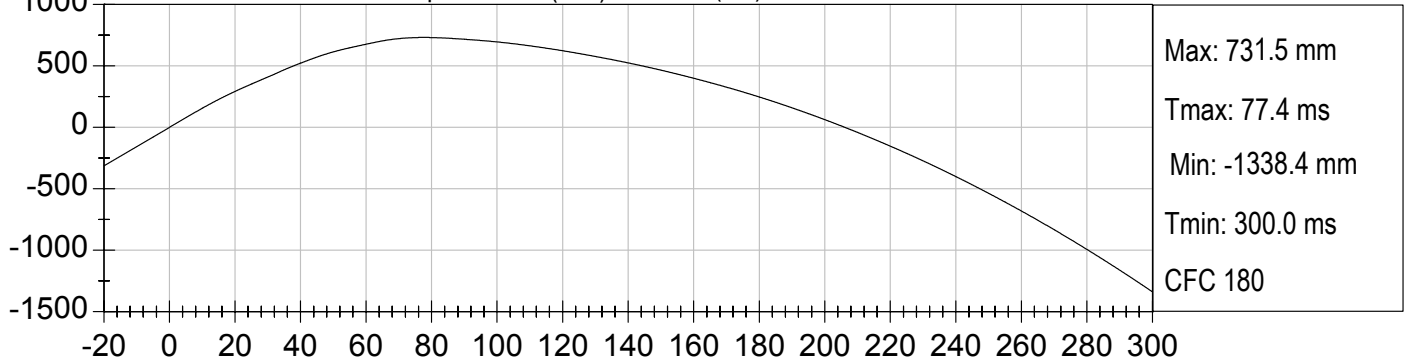
INSTRUMENT PANEL X (G's) vs TIME (ms)



INSTRUMENT PANEL X Velocity (kph) vs TIME (ms)



INSTRUMENT PANEL X Displacement (mm) vs TIME (ms)



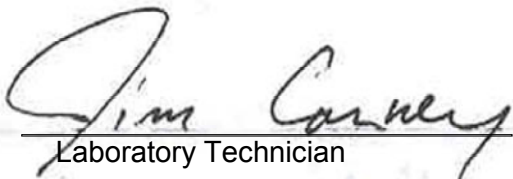
APPENDIX C
DUMMY CALIBRATION DATA TRACES AND TABLES

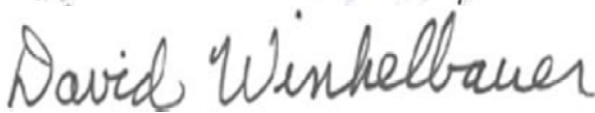
MGA RESEARCH CORPORATION
HEAD DROP TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test ID: D041771

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.6	20.9	Pass
Laboratory Relative Humidity	%	10 to 70	46	Pass
Peak Resultant Acceleration	G's	225 - 275	248	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	6.7	Pass
Unimodal	Yes/No	NA	Yes	Pass
Oscillations	Yes/No	within 10% of peak	Yes	Pass
Overall Test Results			Pass	


Laboratory Technician


Approved By

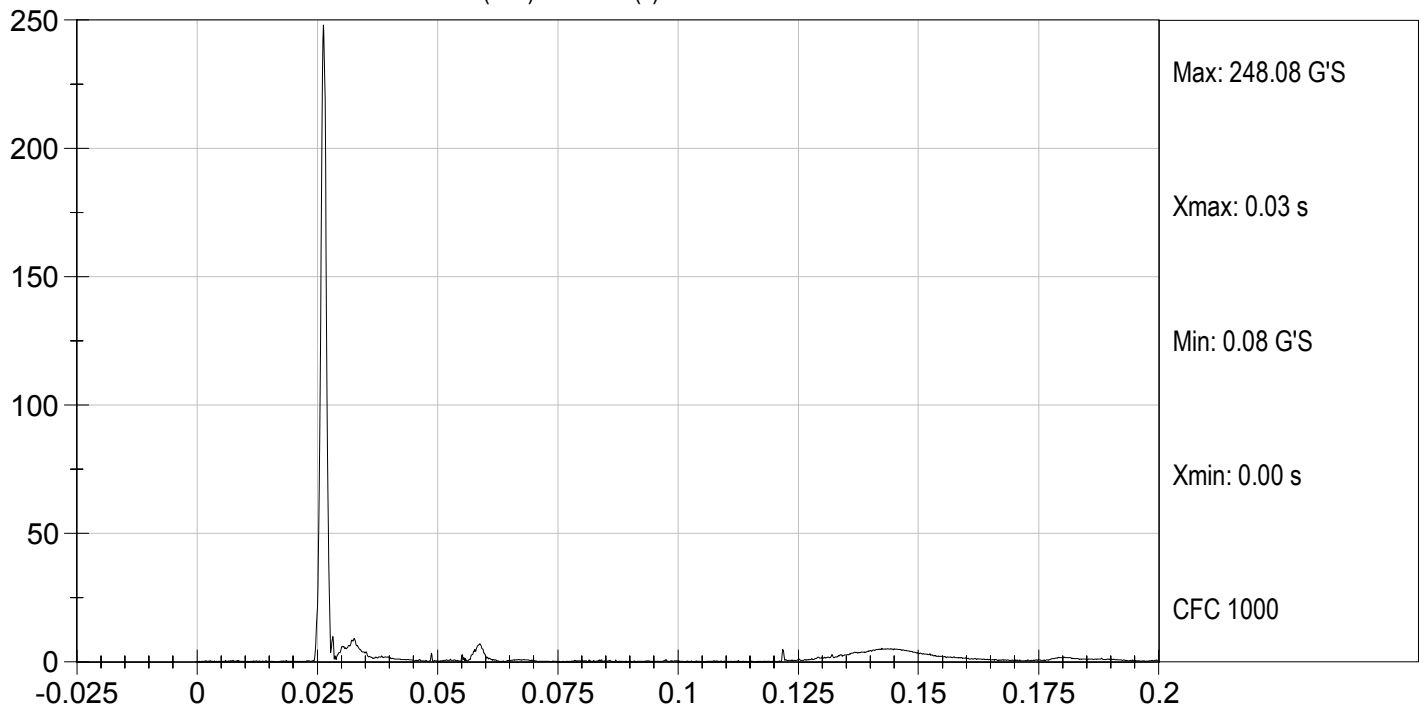
08/02/2004
Test Date



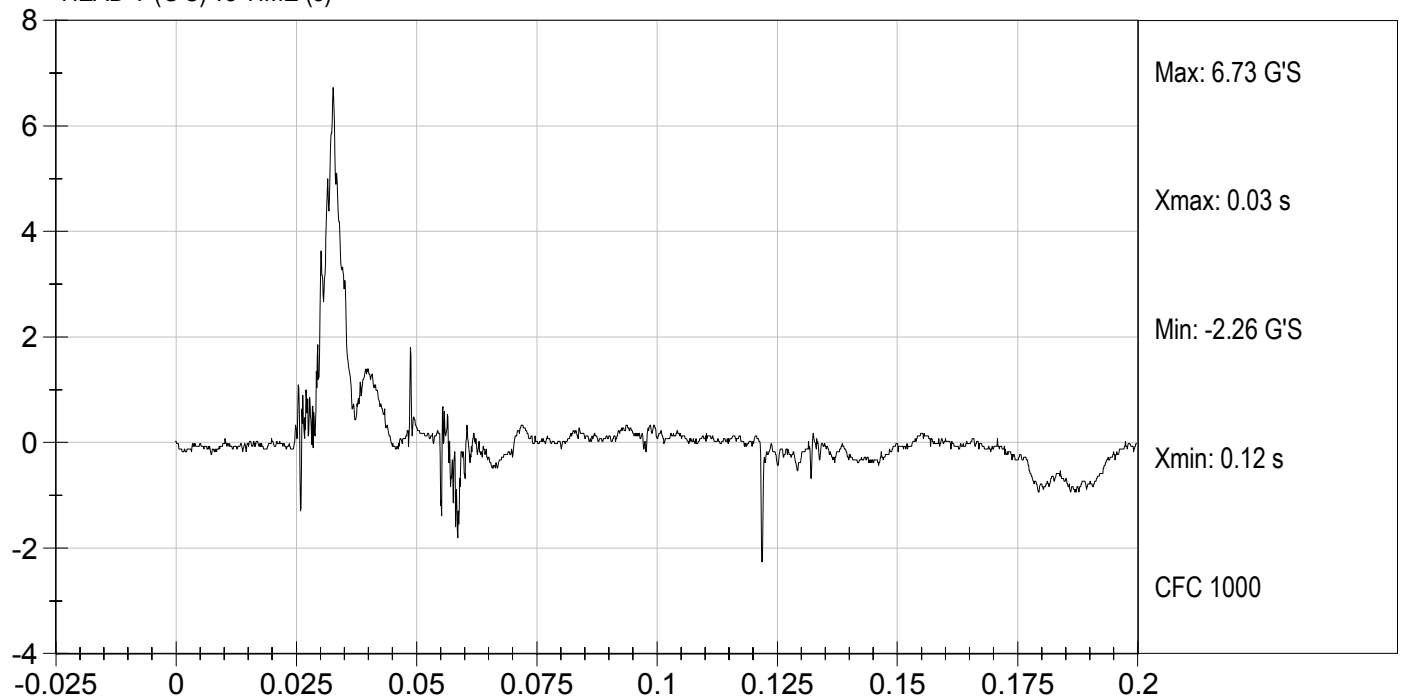
Test Desc: Head Drop
Componet ID: D041771

Test Date: 08/02/2004
Velocity: 0 ft/s, 0.00 m/s

PEAK RESULTANT ACCELERATION (G'S) vs TIME (s)



HEAD Y (G'S) vs TIME (s)

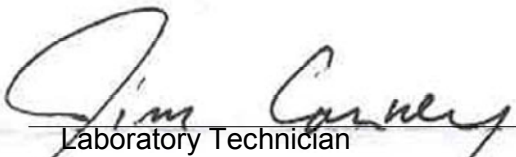


MGA RESEARCH CORPORATION
NECK FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test I.D: D041772

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	20.7	Pass
Laboratory Relative Humidity		%	10 to 70	46	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.98	Pass
Pendulum Deceleration	10 msec	G's	22.50 to 27.50	22.69	Pass
	20 msec	G's	17.60 to 22.60	19.62	Pass
	30 msec	G's	12.50 to 18.50	14.00	Pass
Peak Pendulum Deceleration After 30 msec		G's	<= 29.0	13.92	Pass
Deceleration Decay Time to Cross 5 G's		msec	34.0 to 42.0	39.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	68.7	Pass
	Time	msec	57.0 to 64.0	59.9	Pass
"D" Plane Rotation Decay Time To Zero Crossing		msec	113.0 to 128.0	119.3	Pass
Moment About Occipital Condyle	Maximum	N m	88.1 to 108.5	95.5	Pass
	Time	msec	47.0 to 58.0	52.2	Pass
Positive Moment Decay Time To Zero Crossing		msec	97.0 to 107.0	105.2	Pass
Overall Test Results					Pass


Laboratory Technician



Approved By

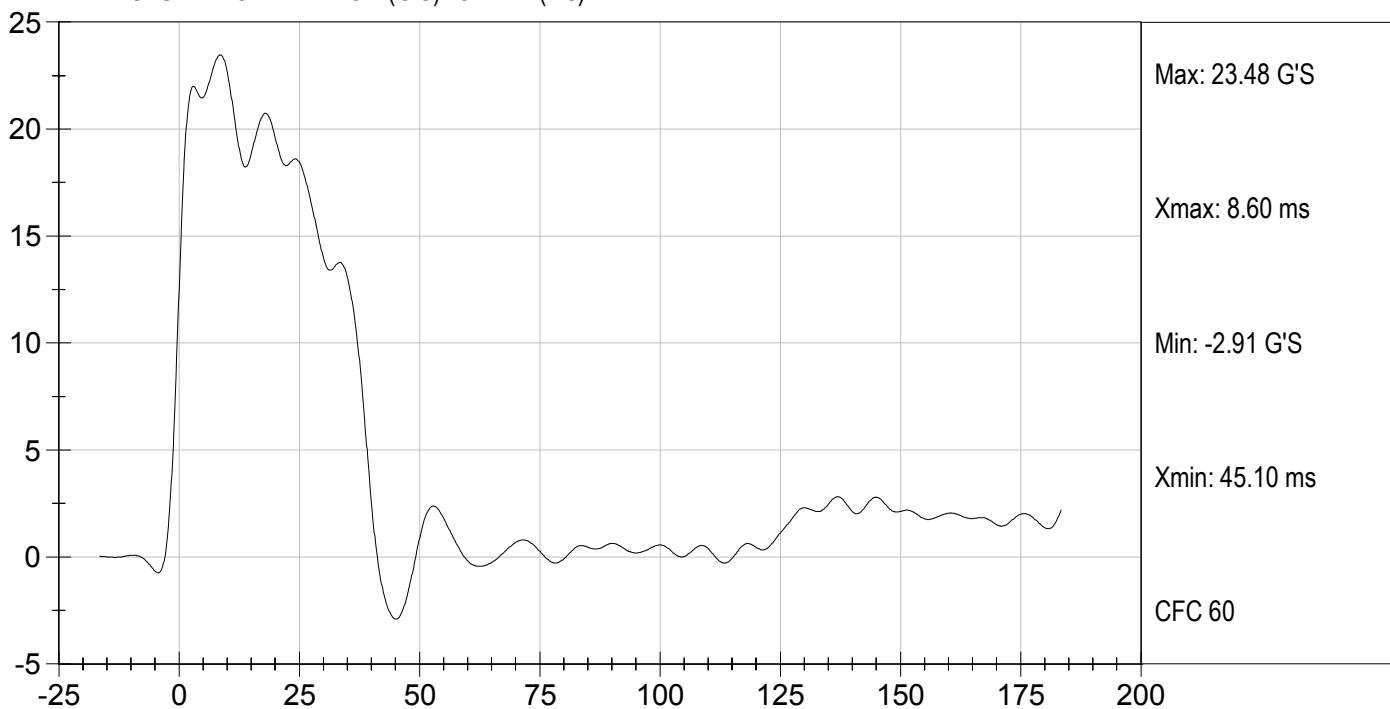
08/02/2004
Test Date



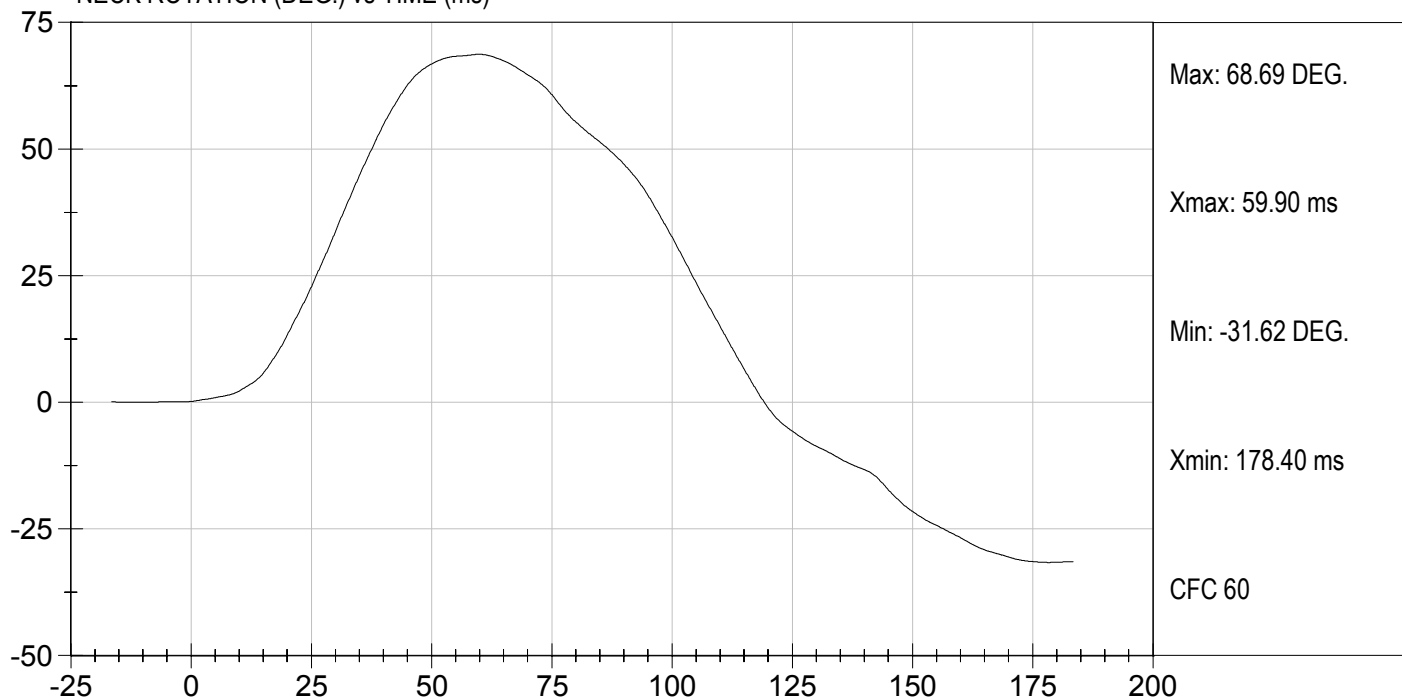
Test Desc: Neck Flexion
Componet ID: D041772

Test Date: 08/02/2004
Velocity: 22.9 ft/s, 6.98 m/s

PENDULUM DECELERATION (G'S) vs TIME (ms)



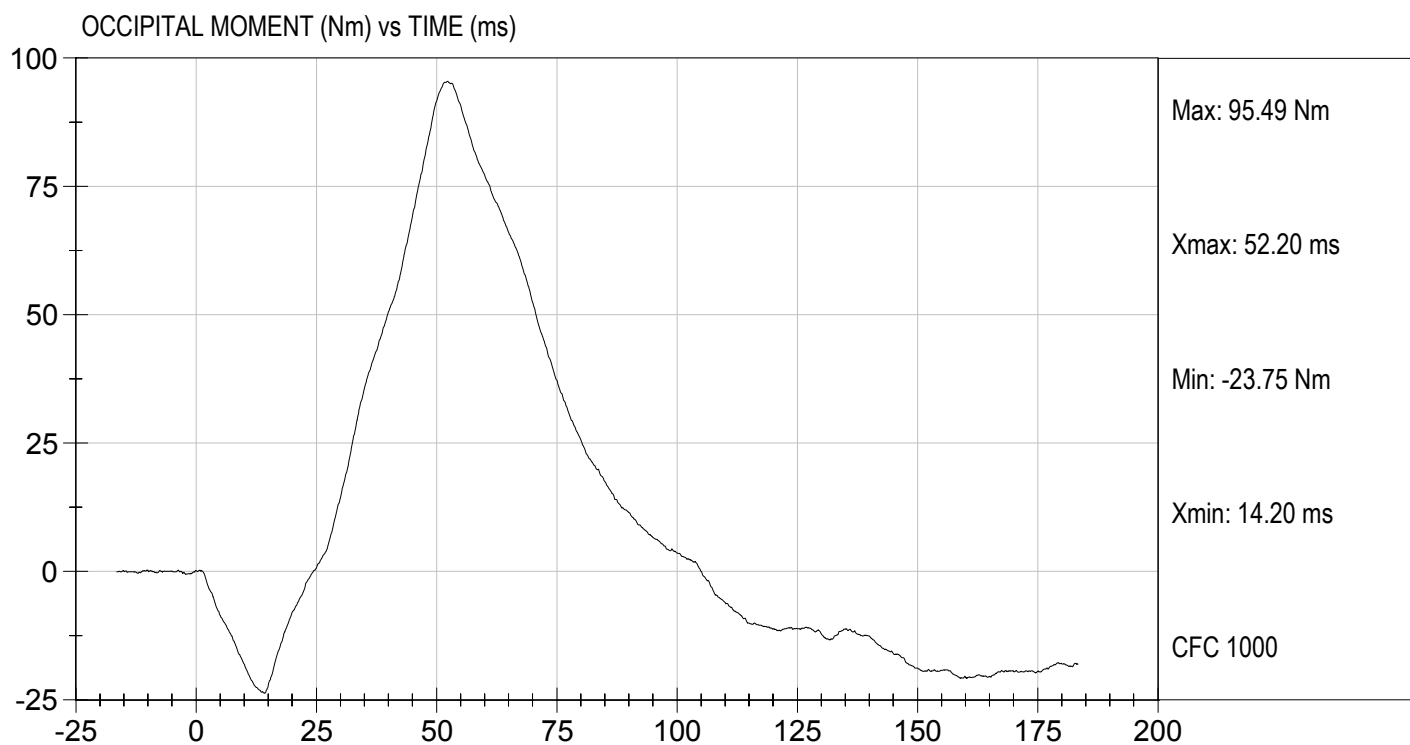
NECK ROTATION (DEG.) vs TIME (ms)





Test Desc: Neck Flexion
Componet ID: D041772

Test Date: 08/02/2004
Velocity: 22.9 ft/s, 6.98 m/s

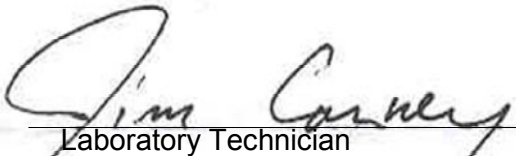


MGA RESEARCH CORPORATION
NECK EXTENSION TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test I.D: D041773

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	20.9	Pass
Laboratory Relative Humidity		%	10 to 70	46	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.05	Pass
Pendulum Deceleration	10 msec	G's	17.20 to 21.20	18.46	Pass
	20 msec	G's	14.00 to 19.00	16.54	Pass
	30 msec	G's	11.00 to 16.00	11.73	Pass
Peak Pendulum Deceleration After 30 msec		G's	<= 22.0	11.80	Pass
Deceleration Decay Time to Cross 5 G's		msec	38.0 to 46.0	42.1	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	101.1	Pass
	Time	msec	72.0 to 82.0	80.5	Pass
"D" Plane Rotation Decay Time To Zero Crossing		msec	147.0 to 174.0	159.0	Pass
Moment About Occipital Condyle	Maximum	N m	-52.9 to -79.9	-65.0	Pass
	Time	msec	65.0 to 79.0	74.7	Pass
Positive Moment Decay Time To Zero Crossing		msec	120.0 to 148.0	145.6	Pass
Overall Test Results					Pass


Laboratory Technician

08/03/2004
Test Date



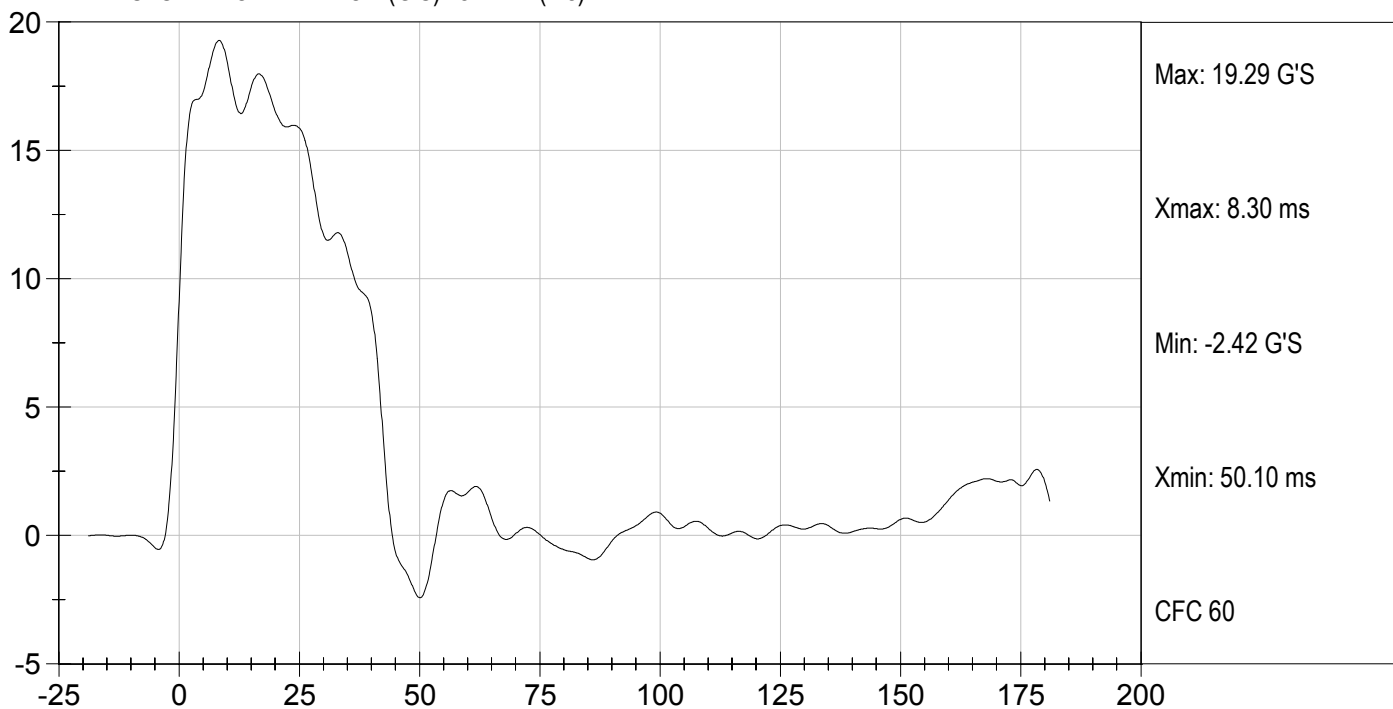
Approved By



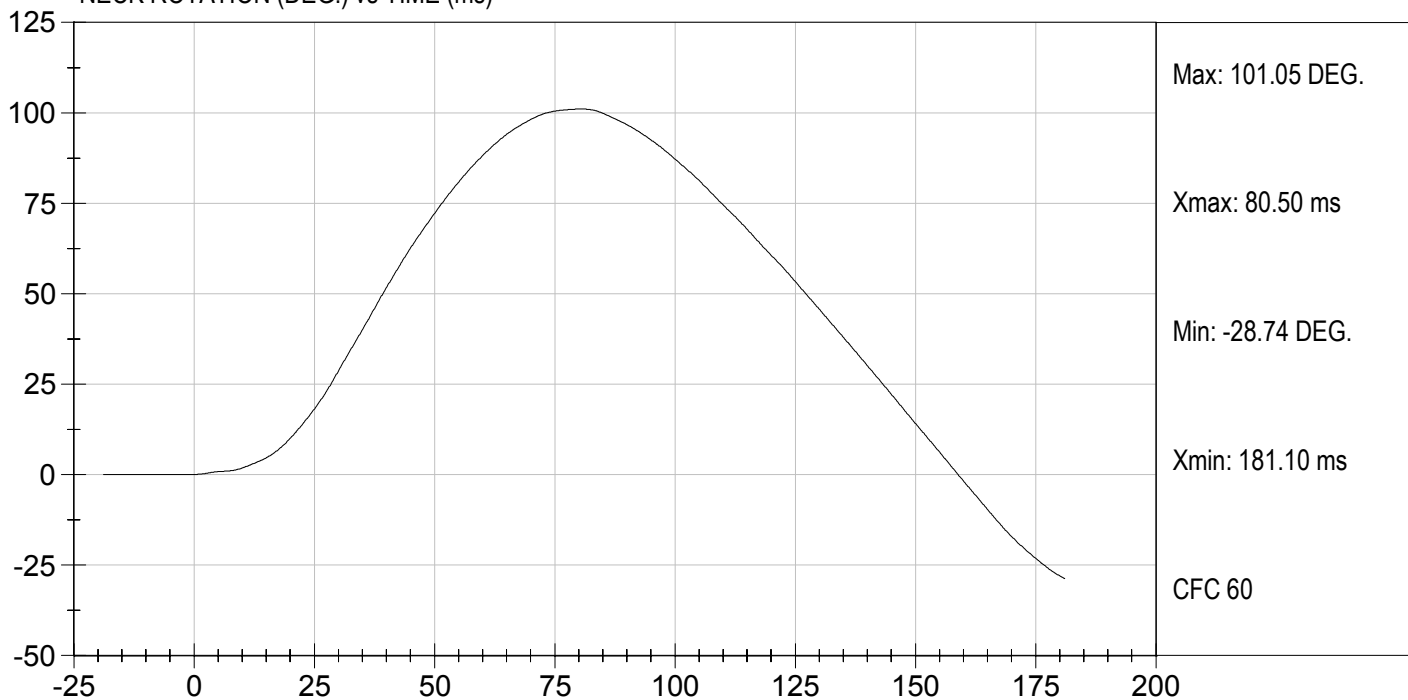
Test Desc: Neck Extension
Componet ID: D041773

Test Date: 08/03/2004
Velocity: 19.85 ft/s, 6.05 m/s

PENDULUM DECELERATION (G'S) vs TIME (ms)



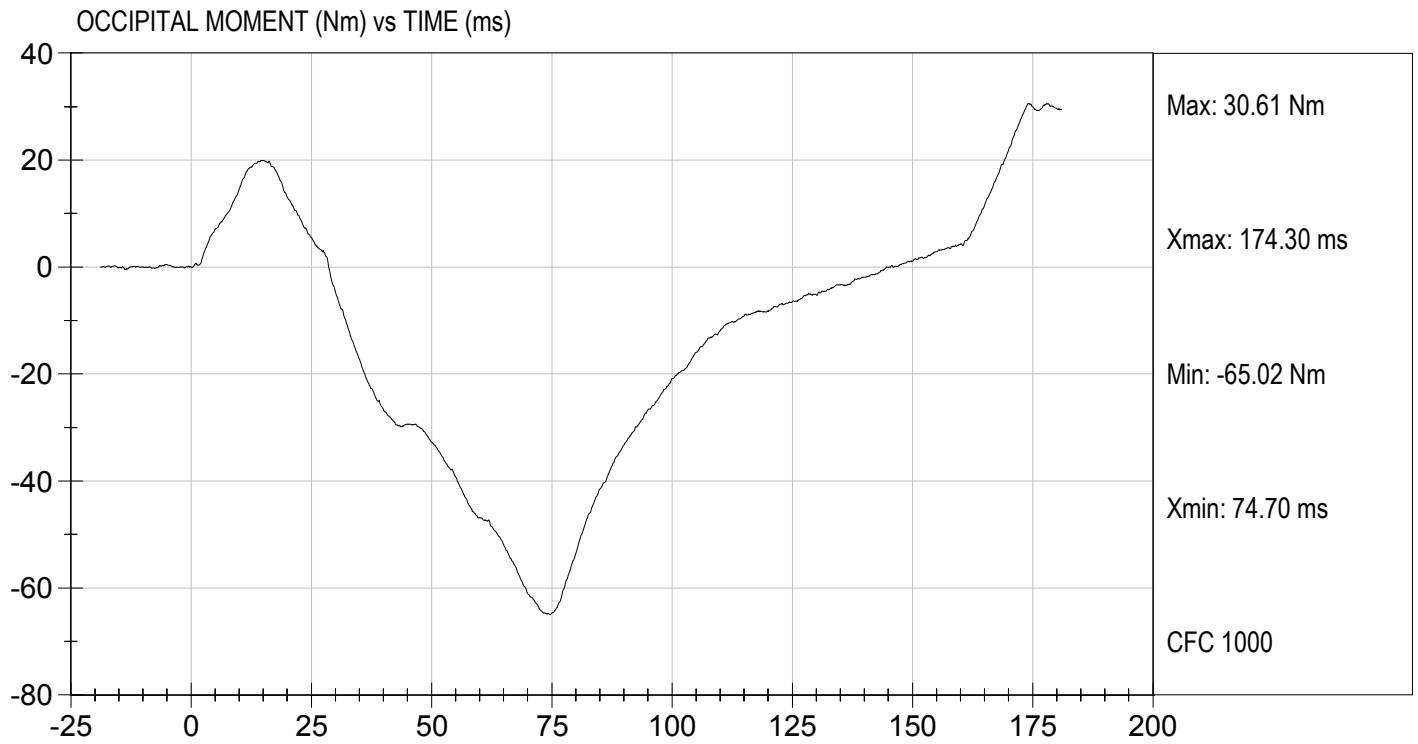
NECK ROTATION (DEG.) vs TIME (ms)





Test Desc: Neck Extension
Componet ID: D041773

Test Date: 08/03/2004
Velocity: 19.85 ft/s, 6.05 m/s



MGA RESEARCH CORPORATION
THORAX IMPACT
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test I.D: D041774

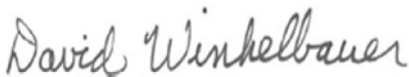
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	49	Pass
Probe Velocity	m/s	6.58 to 6.82	6.80	Pass
Peak Probe Force	N	5159 to 5893	5,648	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.68	Pass
Internal Hysteresis	%	69 to 85	73	Pass
			Overall Test Results	Pass



Laboratory Technician

08/03/2004

Test Date

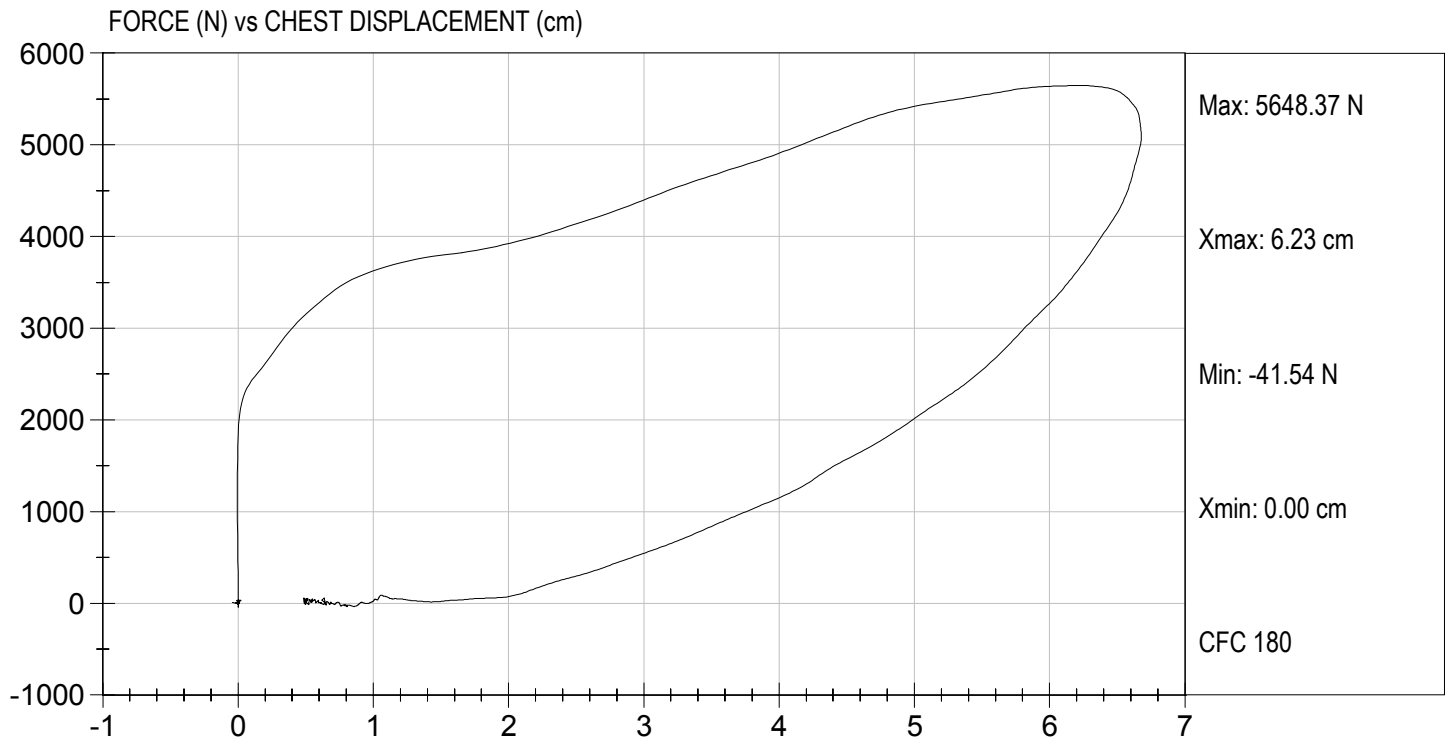


Approved By



Test Desc: Thorax Impact
Componet ID: D041774

Test Date: 08/03/2004
Velocity: 22.31 ft/s, 6.80 m/s

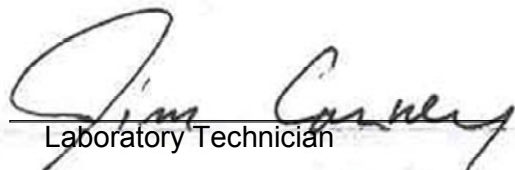


MGA RESEARCH CORPORATION
RIGHT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test I.D: D041775

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.0	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Probe Velocity	m/sec	2.07 to 2.13	2.07	Pass
Peak Probe Force	Newtons	4715 to 5782	5,334	Pass
Overall Test Results				Pass


Laboratory Technician

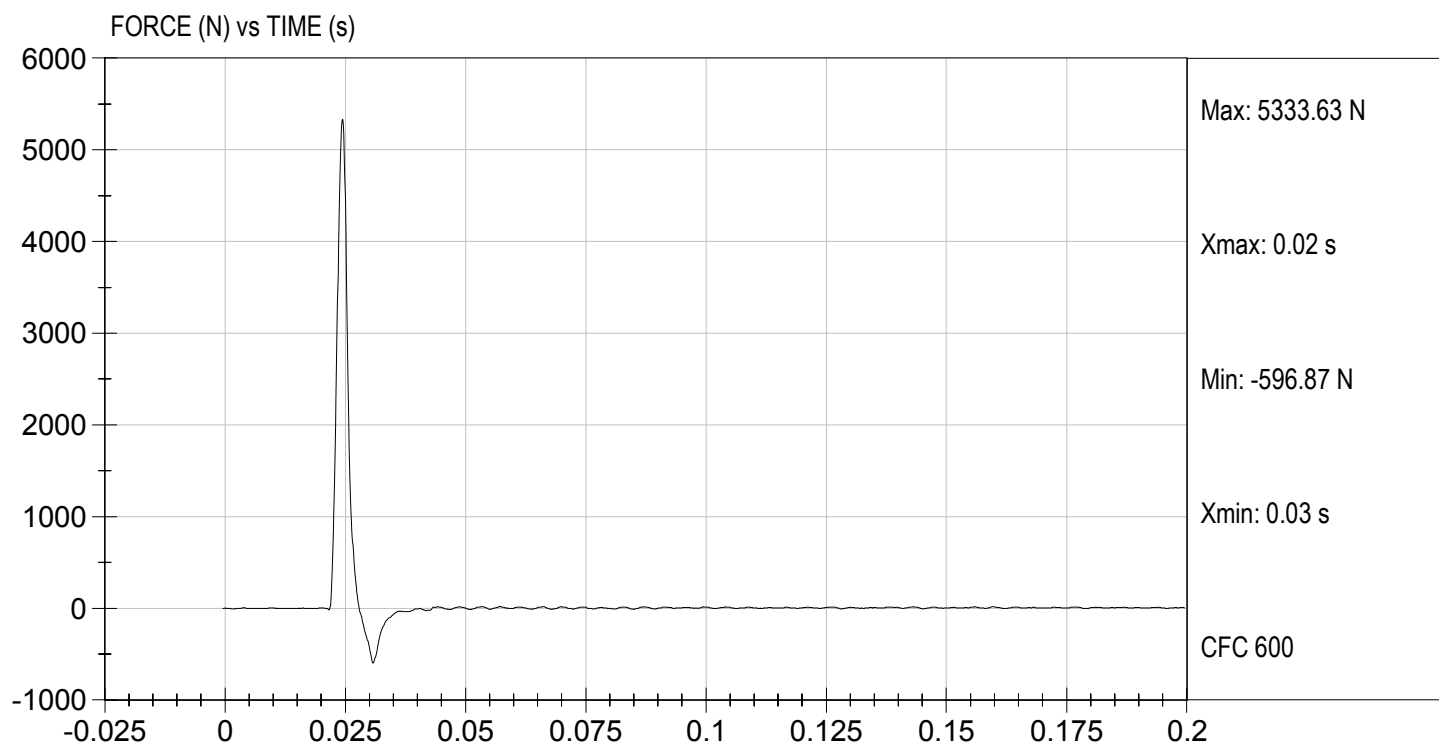

Approved By

08/03/2004
Test Date



Test Desc: Right Knee
Componet ID: D041775

Test Date: 08/03/2004
Velocity: 6.79 ft/s, 2.07 m/s

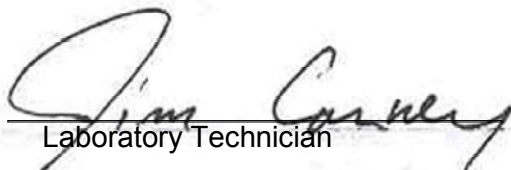


MGA RESEARCH CORPORATION
LEFT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test I.D: D041776

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.0	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Probe Velocity	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	Newtons	4715 to 5782	5,731	Pass
Overall Test Results				Pass


Laboratory Technician

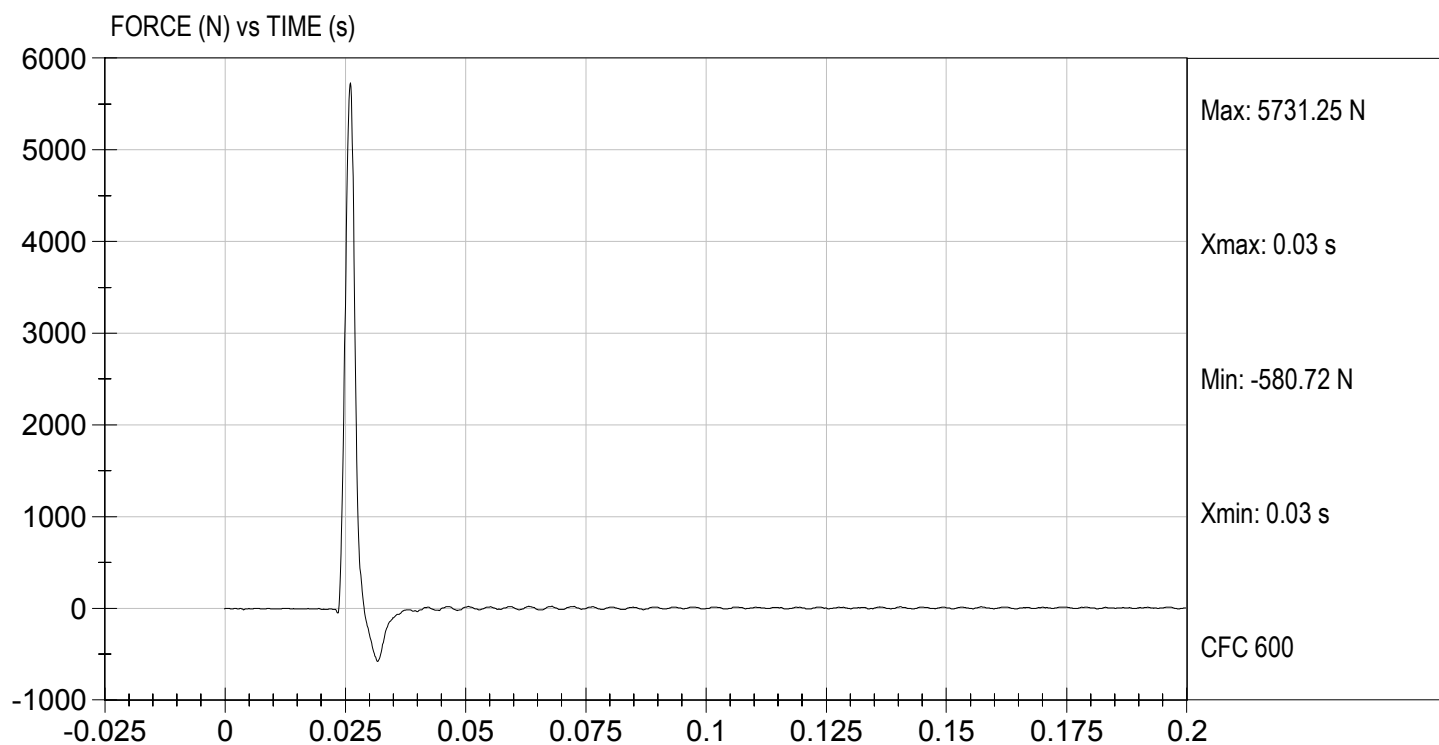

Approved By

08/03/2004
Test Date



Test Desc: Left Knee
Componet ID: D041776

Test Date: 08/03/2004
Velocity: 6.97 ft/s, 2.12 m/s



MGA RESEARCH CORPORATION
HIP-FEMUR FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 065

Test I.D: D041770

Tested Parameter	Units	Specification	Result		Pass/Fail
			Right	Left	
Laboratory Temperature	deg C	18.9 to 25.6	21.0	21.0	Pass
Laboratory Relative Humidity	%	10 to 70	48	48	Pass
Rotation Rate	deg/sec	5 -10	8	8	Pass
30 Degrees	Nm	94.9 Nm Max	73.3	79.2	Pass
150 ft-lbf / 203.4 Nm	Deg	40- 50 Degree Max Rotation	42	40	Pass
Overall Test Results					Pass


Laboratory Technician

08/02/2004

Test Date

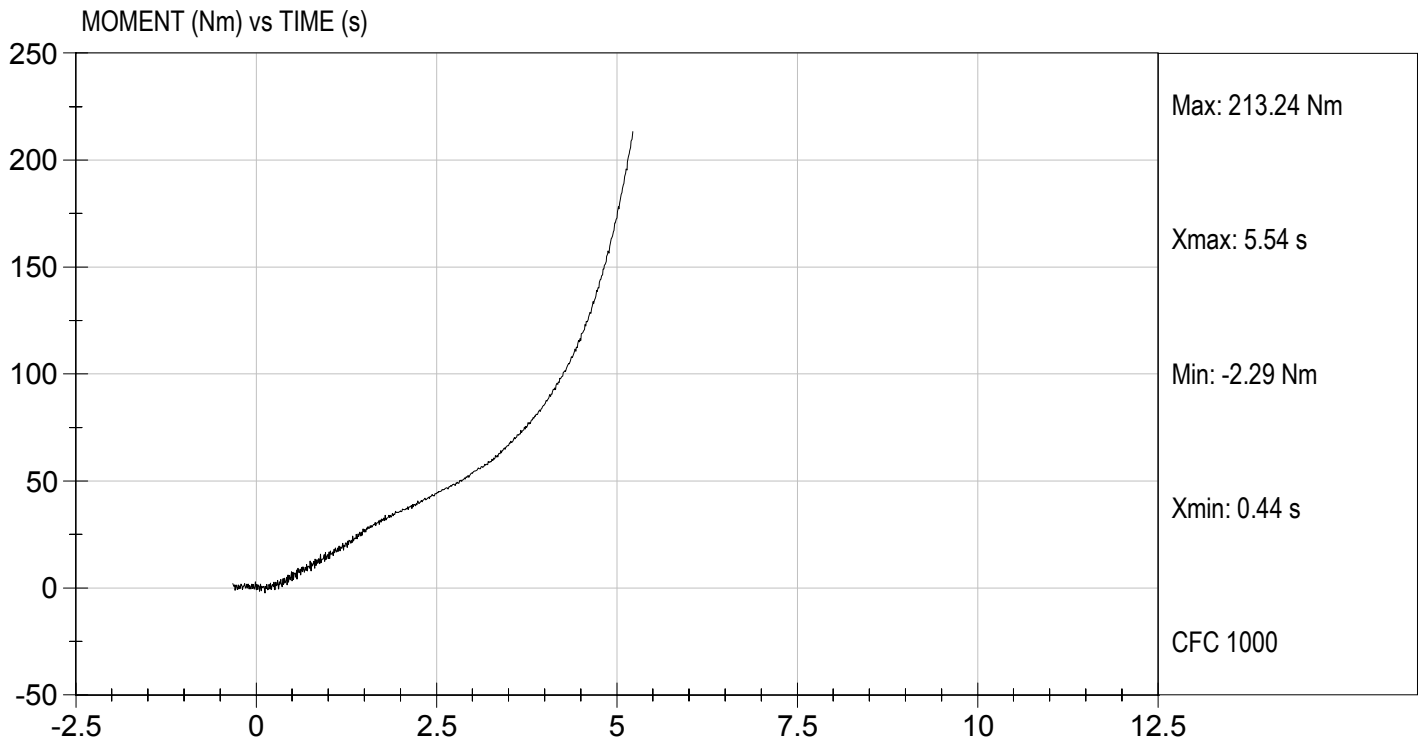


Approved By



Test Desc: Hip Femur Flexion
Componet ID: D041779

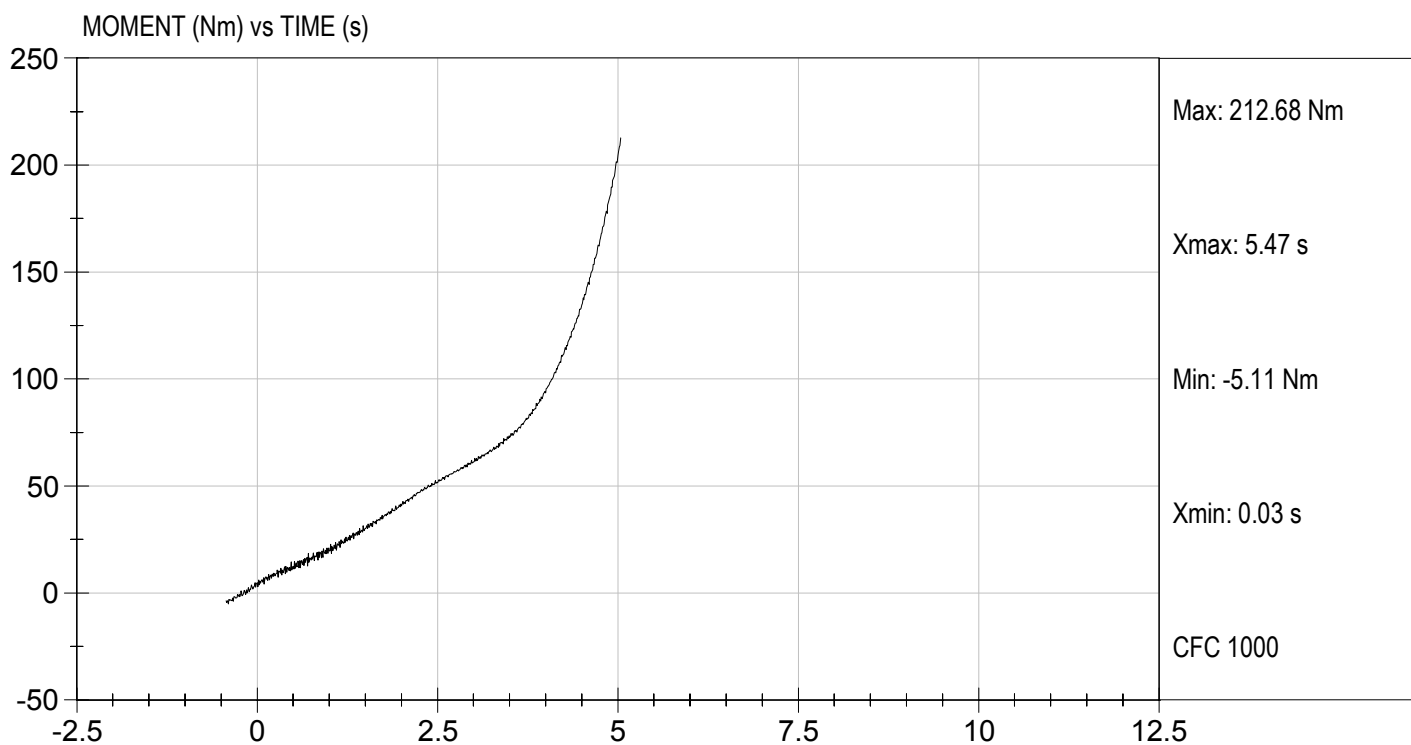
Test Date: 08/02/2004
Velocity: 0 ft/s, 0.00 m/s





Test Desc: Hip Femur Flexion
Componet ID: D041770

Test Date: 08/02/2004
Velocity: 0 ft/s, 0.00 m/s

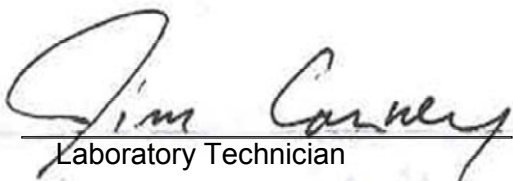


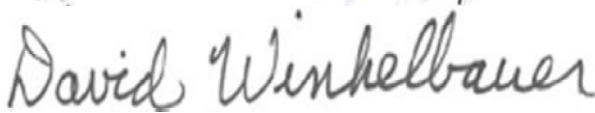
MGA RESEARCH CORPORATION
HEAD DROP TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test ID: D041781

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 - 25.6	20.9	Pass
Laboratory Relative Humidity	%	10 to 70	46	Pass
Peak Resultant Acceleration	G's	225 - 275	239	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	9.2	Pass
Unimodal	Yes/No	NA	Yes	Pass
Oscillations	Yes/No	within 10% of peak	Yes	Pass
Overall Test Results			Pass	


Laboratory Technician


Approved By

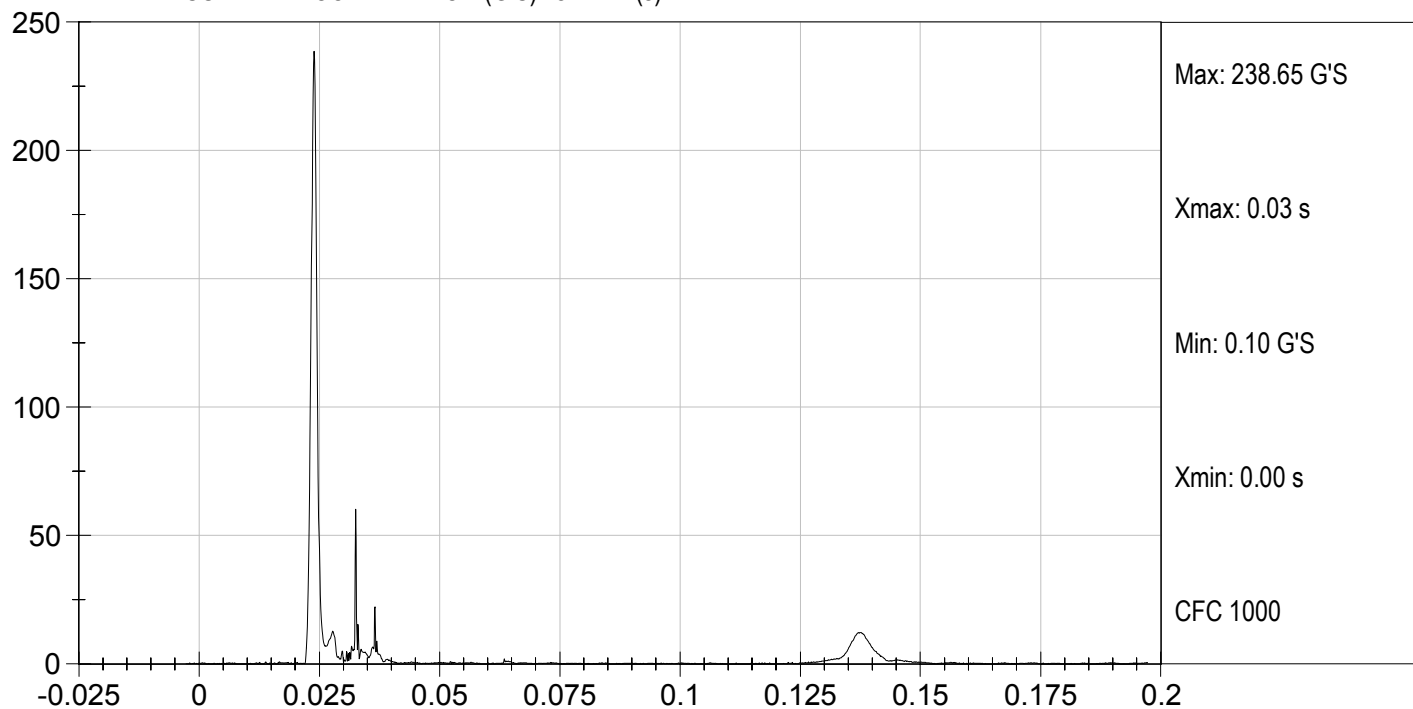
08/02/2004
Test Date



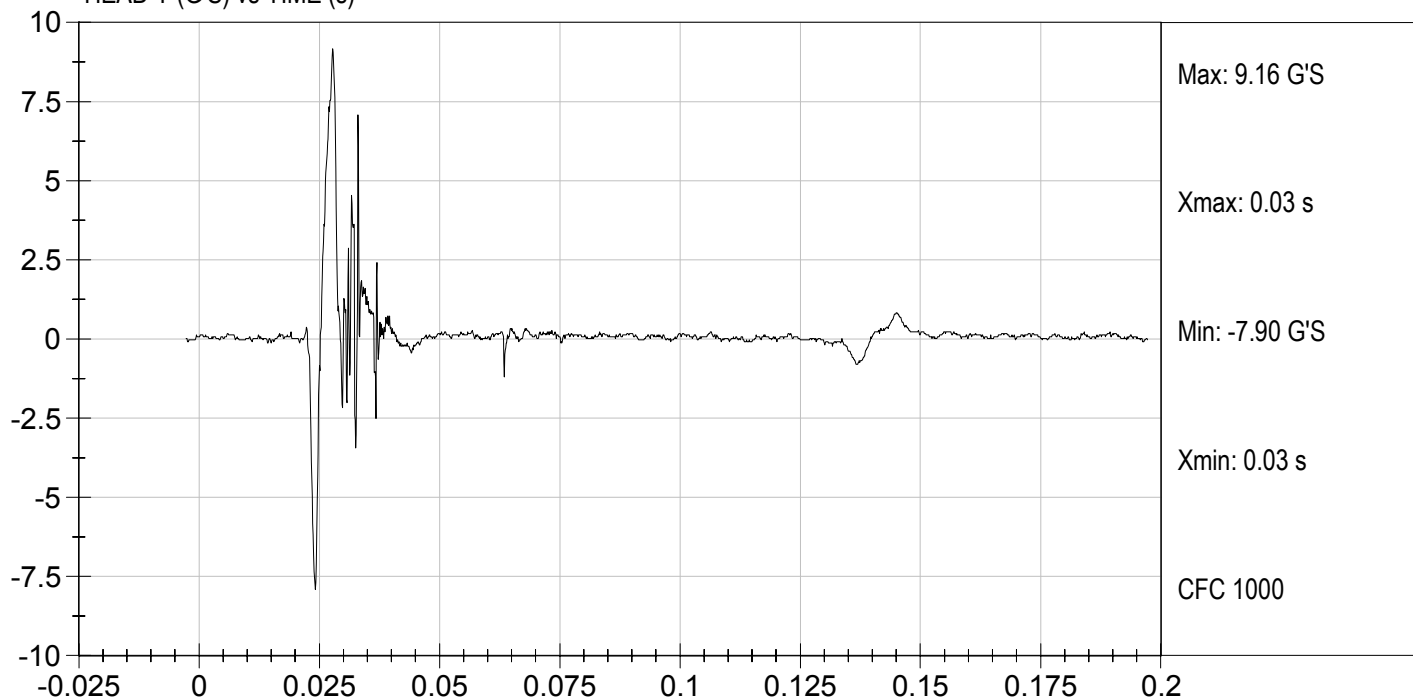
Test Desc: Head Drop
Componet ID: D041781

Test Date: 08/02/2004
Velocity: 0 ft/s, 0.00 m/s

PEAK RESULTANT ACCELERATION (G'S) vs TIME (s)



HEAD Y (G'S) vs TIME (s)

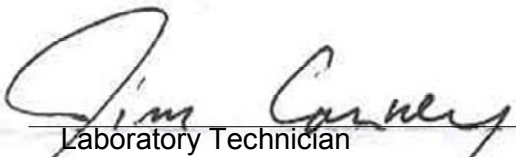


MGA RESEARCH CORPORATION
NECK FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test I.D: D041782

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	20.9	Pass
Laboratory Relative Humidity		%	10 to 70	47	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.00	Pass
Pendulum Deceleration	10 msec	G's	22.50 to 27.50	22.75	Pass
	20 msec	G's	17.60 to 22.60	19.95	Pass
	30 msec	G's	12.50 to 18.50	14.40	Pass
Peak Pendulum Deceleration After 30 msec		G's	<= 29.0	14.28	Pass
Deceleration Decay Time to Cross 5 G's		msec	34.0 to 42.0	38.8	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	73.2	Pass
	Time	msec	57.0 to 64.0	58.3	Pass
"D" Plane Rotation Decay Time To Zero Crossing		msec	113.0 to 128.0	116.1	Pass
Moment About Occipital Condyle	Maximum	N m	88.1 to 108.5	93.0	Pass
	Time	msec	47.0 to 58.0	51.3	Pass
Positive Moment Decay Time To Zero Crossing		msec	97.0 to 107.0	102.2	Pass
Overall Test Results					Pass


 Laboratory Technician



Approved By

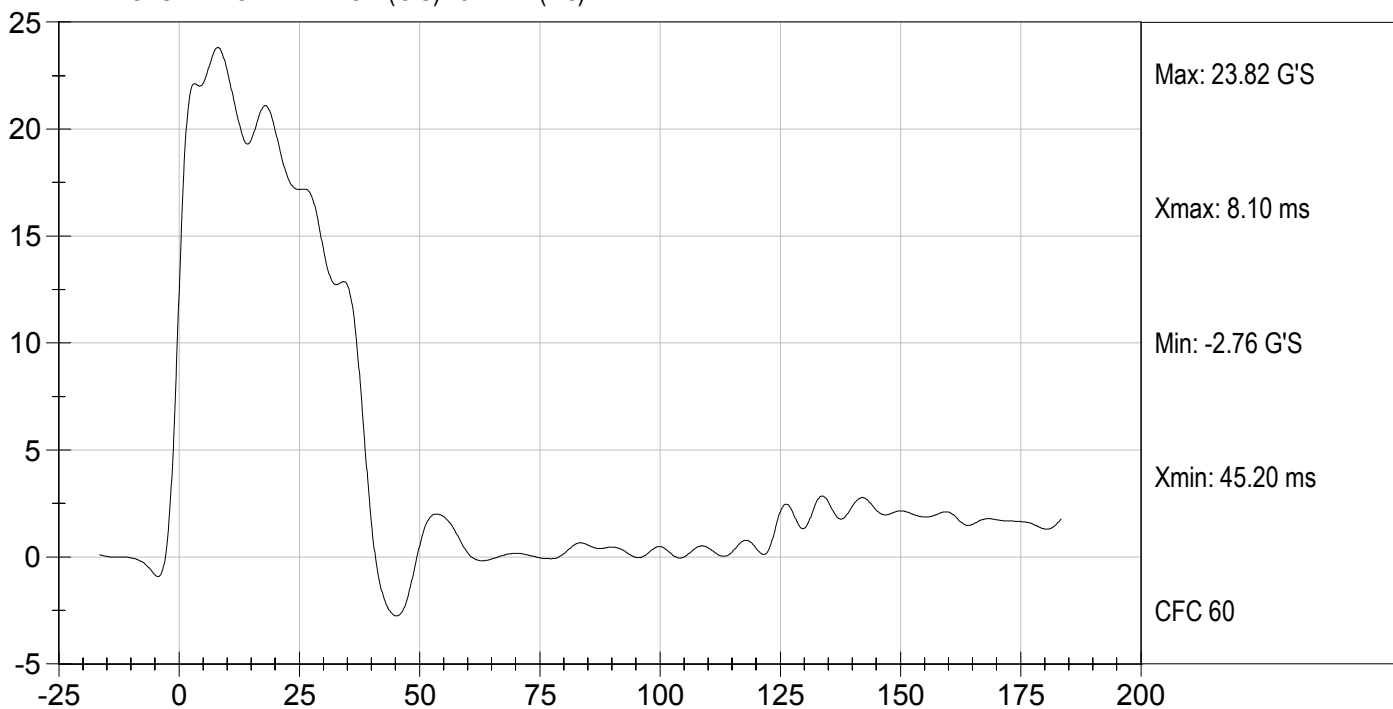
08/03/2004
 Test Date



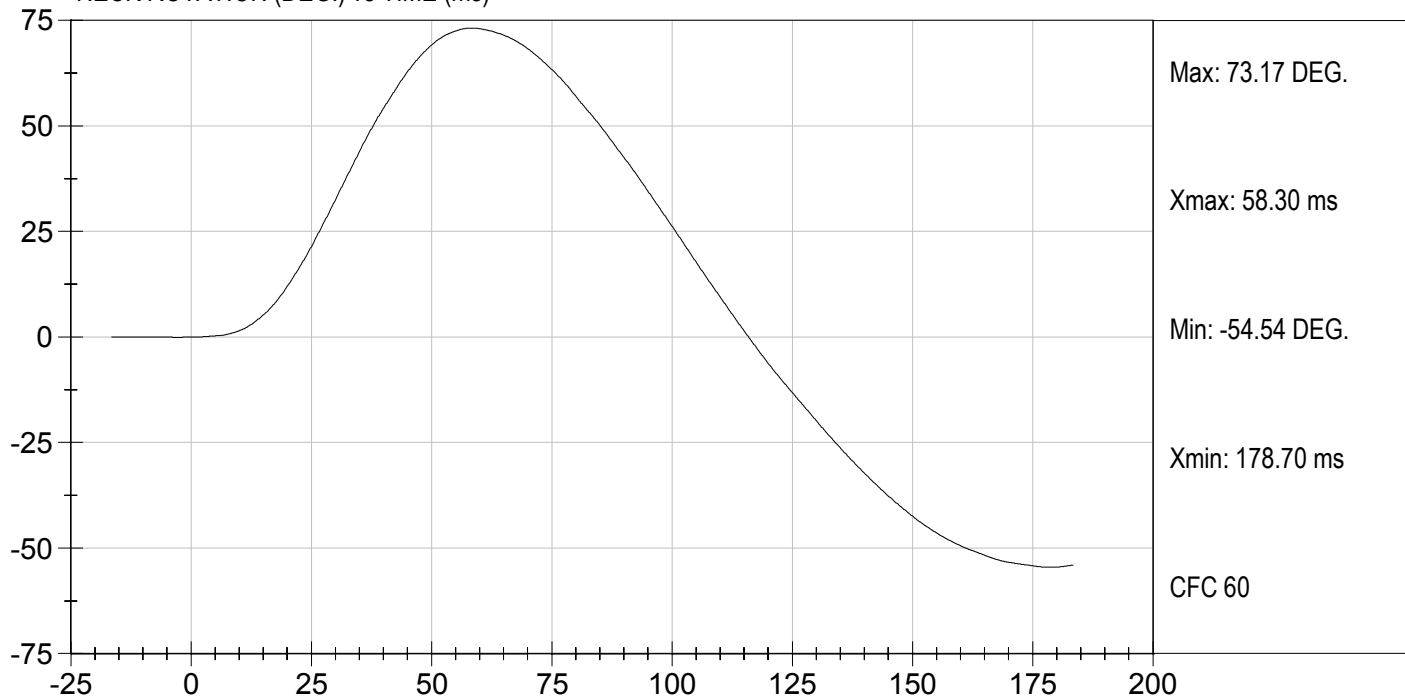
Test Desc: Neck Flexion
Componet ID: D041782

Test Date: 08/03/2004
Velocity: 22.95 ft/s, 7.00 m/s

PENDULUM DECELERATION (G'S) vs TIME (ms)



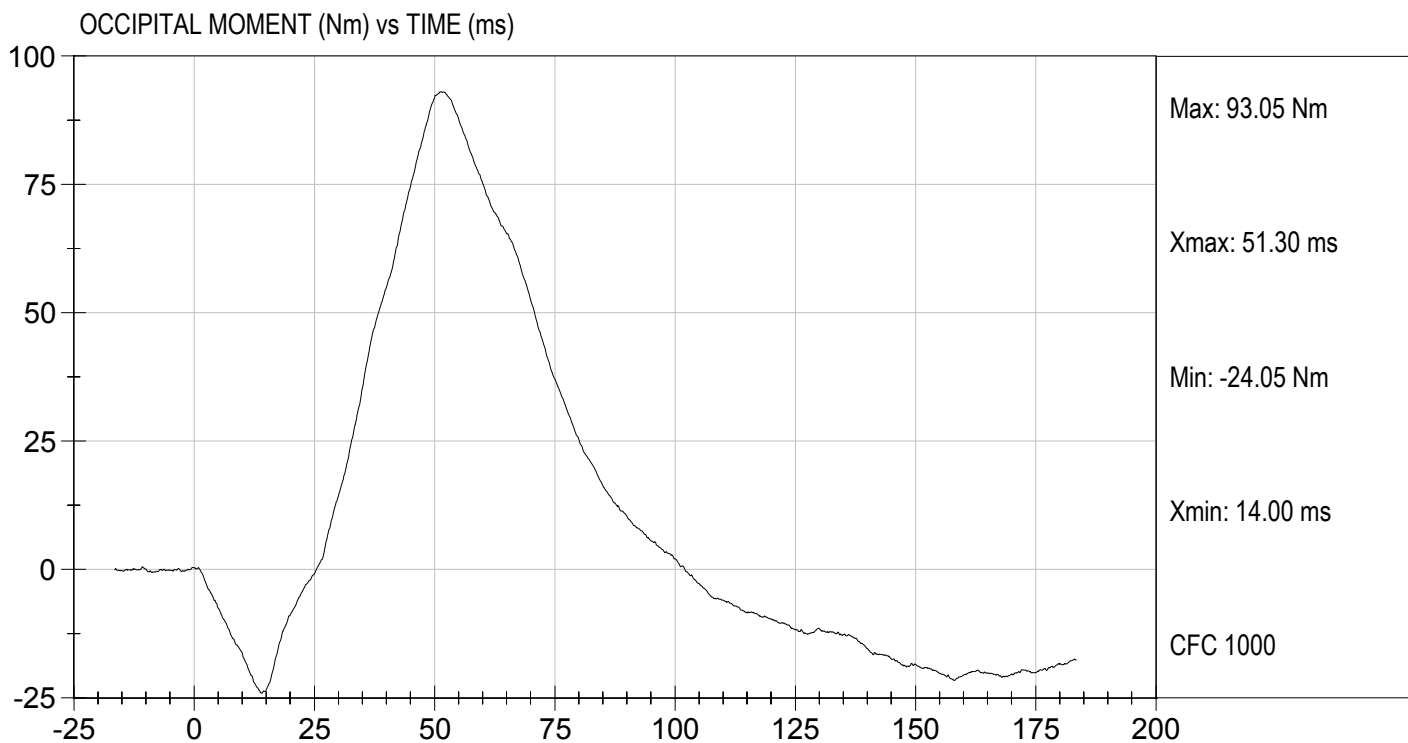
NECK ROTATION (DEG.) vs TIME (ms)





Test Desc: Neck Flexion
Componet ID: D041782

Test Date: 08/03/2004
Velocity: 22.95 ft/s, 7.00 m/s

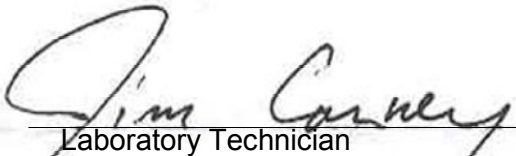


MGA RESEARCH CORPORATION
NECK EXTENSION TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test I.D: D041783

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.0	Pass
Laboratory Relative Humidity		%	10 to 70	48	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.06	Pass
Pendulum Deceleration	10 msec	G's	17.20 to 21.20	18.44	Pass
	20 msec	G's	14.00 to 19.00	16.27	Pass
	30 msec	G's	11.00 to 16.00	12.23	Pass
Peak Pendulum Deceleration After 30 msec		G's	<= 22.0	12.18	Pass
Deceleration Decay Time to Cross 5 G's		msec	38.0 to 46.0	42.7	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	100.6	Pass
	Time	msec	72.0 to 82.0	78.8	Pass
"D" Plane Rotation Decay Time To Zero Crossing		msec	147.0 to 174.0	158.4	Pass
Moment About Occipital Condyle	Maximum	N m	-52.9 to -79.9	-65.9	Pass
	Time	msec	65.0 to 79.0	73.3	Pass
Positive Moment Decay Time To Zero Crossing		msec	120.0 to 148.0	145.4	Pass
Overall Test Results					Pass


Laboratory Technician

08/03/2004
Test Date



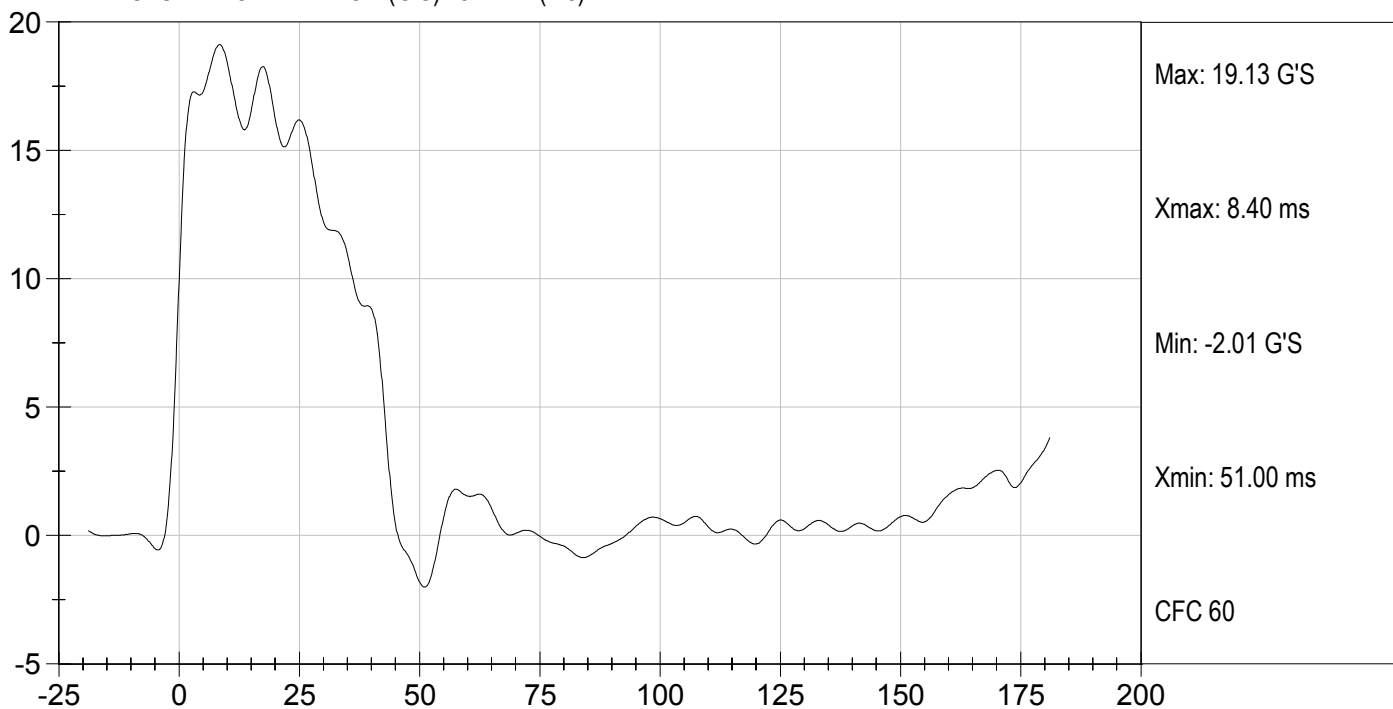
Approved By



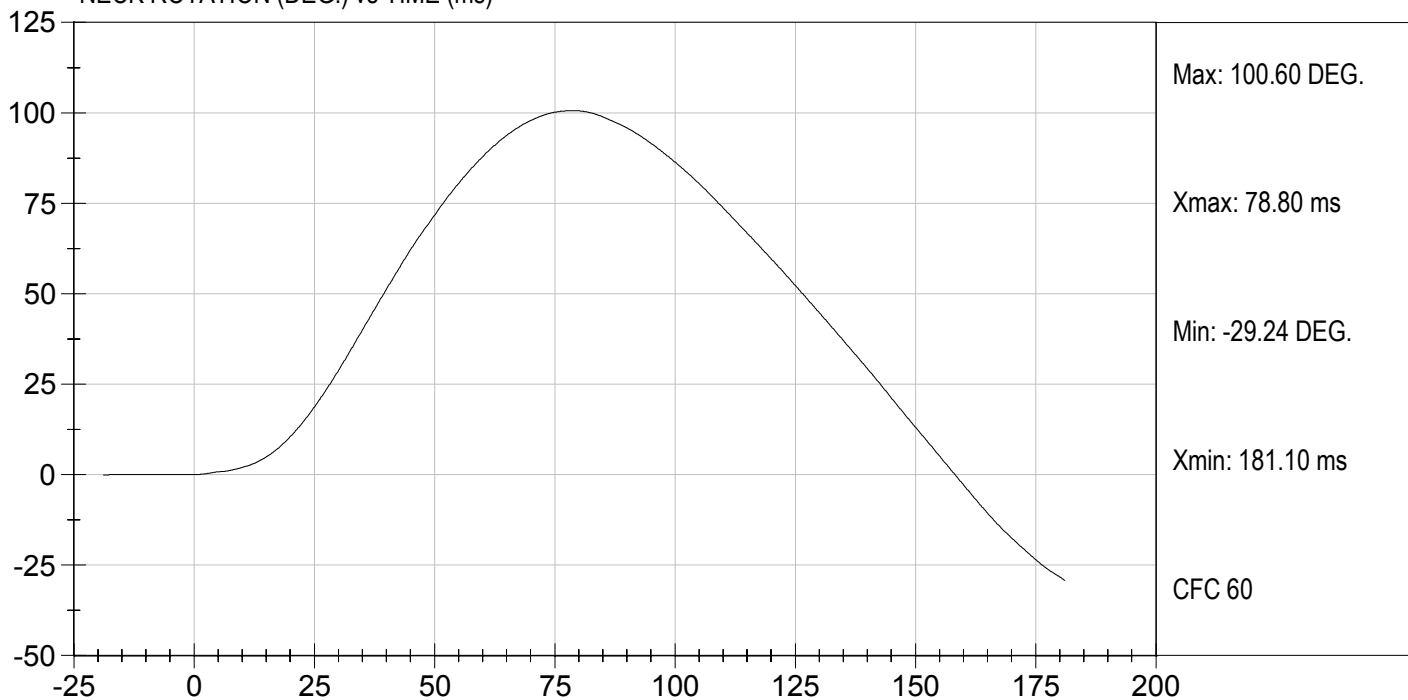
Test Desc: Neck Extension
Componet ID: D041783

Test Date: 08/03/2004
Velocity: 19.87 ft/s, 6.06 m/s

PENDULUM DECELERATION (G'S) vs TIME (ms)



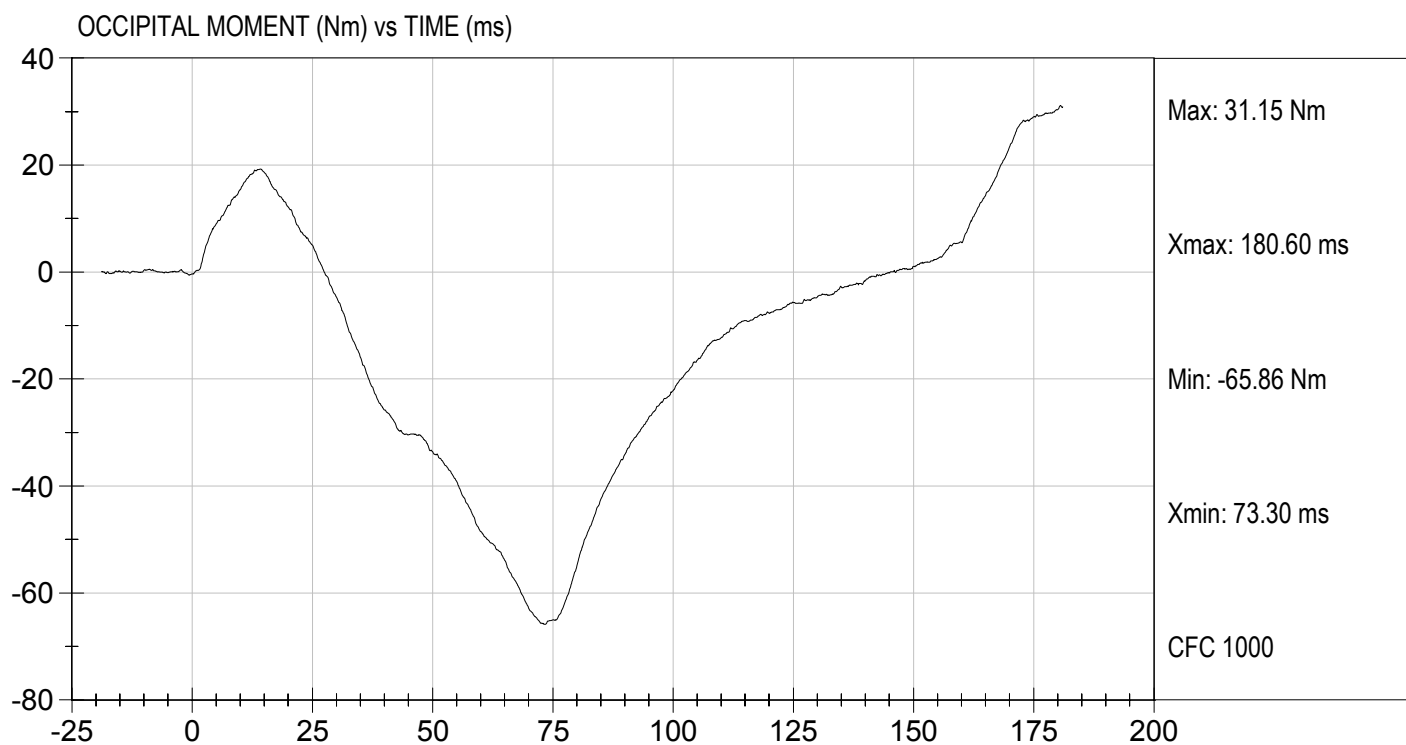
NECK ROTATION (DEG.) vs TIME (ms)





Test Desc: Neck Extension
Componet ID: D041783

Test Date: 08/03/2004
Velocity: 19.87 ft/s, 6.06 m/s



MGA RESEARCH CORPORATION
THORAX IMPACT
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test I.D: D041784

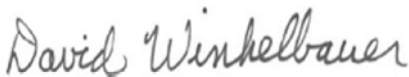
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	49	Pass
Probe Velocity	m/s	6.58 to 6.82	6.71	Pass
Peak Probe Force	N	5159 to 5893	5,665	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.88	Pass
Internal Hysteresis	%	69 to 85	71	Pass
			Overall Test Results	Pass



Laboratory Technician

08/03/2004

Test Date

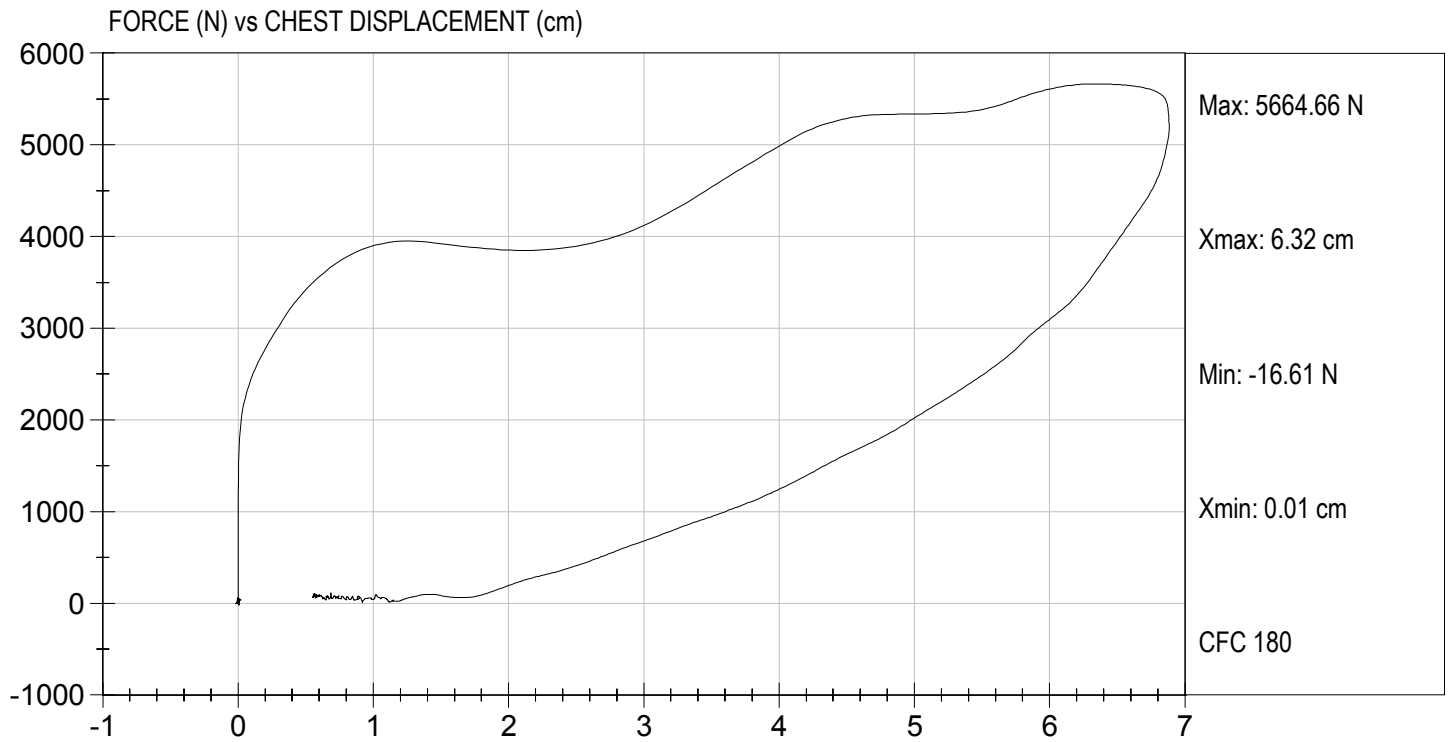


Approved By



Test Desc: Thorax Impact
Componet ID: D041784

Test Date: 08/03/2004
Velocity: 22.03 ft/s, 6.71 m/s

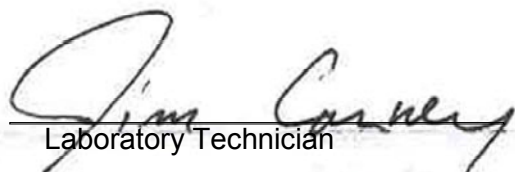


MGA RESEARCH CORPORATION
RIGHT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test I.D: D041785

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	47	Pass
Probe Velocity	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	Newtons	4715 to 5782	4,799	Pass
Overall Test Results				Pass


Laboratory Technician

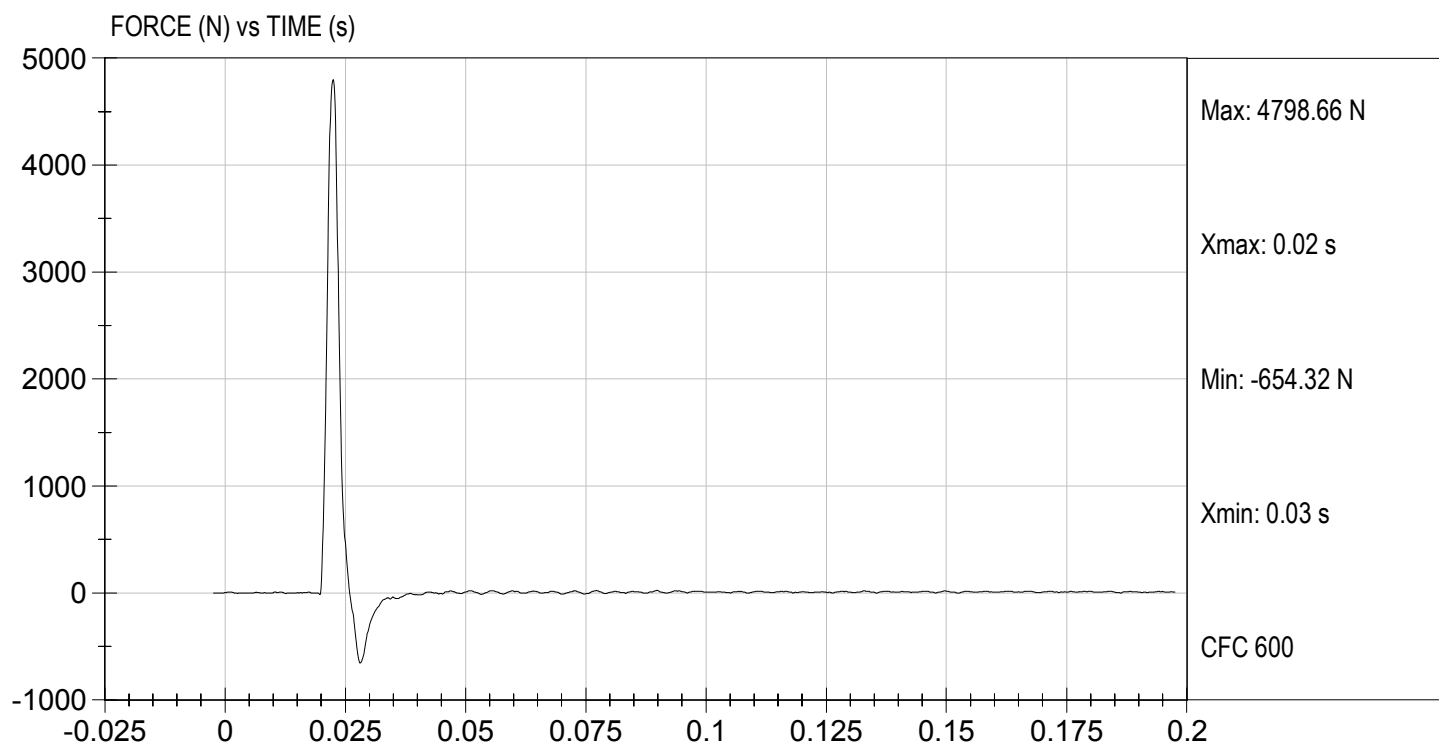

Approved By

08/03/2004
Test Date



Test Desc: Right Knee
Componet ID: D041785

Test Date: 08/03/2004
Velocity: 7.0 ft/s, 2.13 m/s

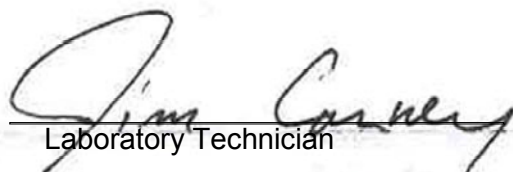


MGA RESEARCH CORPORATION
LEFT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test I.D: D041786

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.5	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	47	Pass
Probe Velocity	m/sec	2.07 to 2.13	2.08	Pass
Peak Probe Force	Newtons	4715 to 5782	5,071	Pass
Overall Test Results				Pass


Laboratory Technician

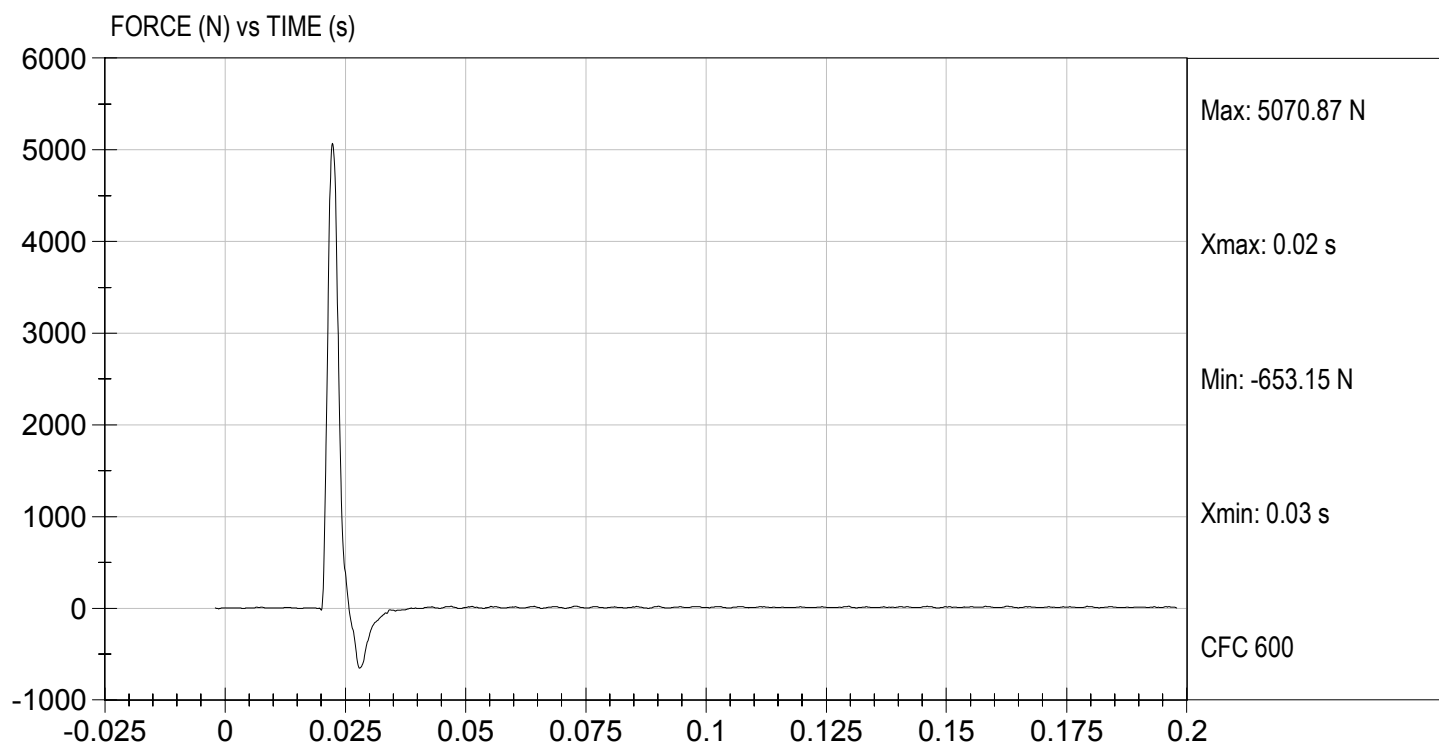

Approved By

08/03/2004
Test Date



Test Desc: Right Knee
Componet ID: D041786

Test Date: 08/03/2004
Velocity: 6.84 ft/s, 2.08 m/s



MGA RESEARCH CORPORATION
HIP-FEMUR FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 066

Test I.D: D041780

Tested Parameter	Units	Specification	Result		Pass/Fail
			Right	Left	
Laboratory Temperature	deg C	18.9 to 25.6	21.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	49	49	Pass
Rotation Rate	deg/sec	5 -10	8	8	Pass
30 Degrees	Nm	94.9 Nm Max	84.5	73.1	Pass
150 ft-lbf / 203.4 Nm	Deg	40- 50 Degree Max Rotation	41	40	Pass
Overall Test Results					Pass


Laboratory Technician

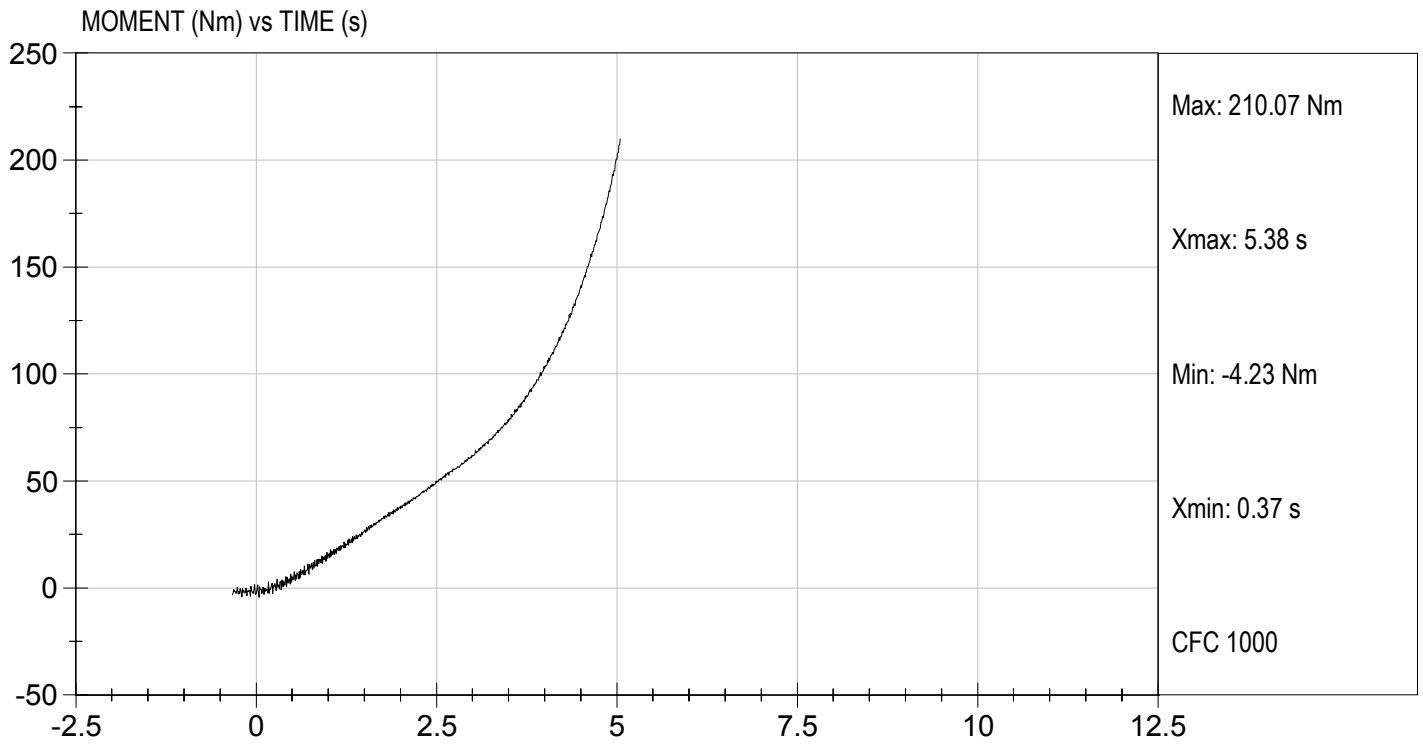

Approved By

08/02/2004
Test Date



Test Desc: Hip Femur Flexion
Componet ID: D041789

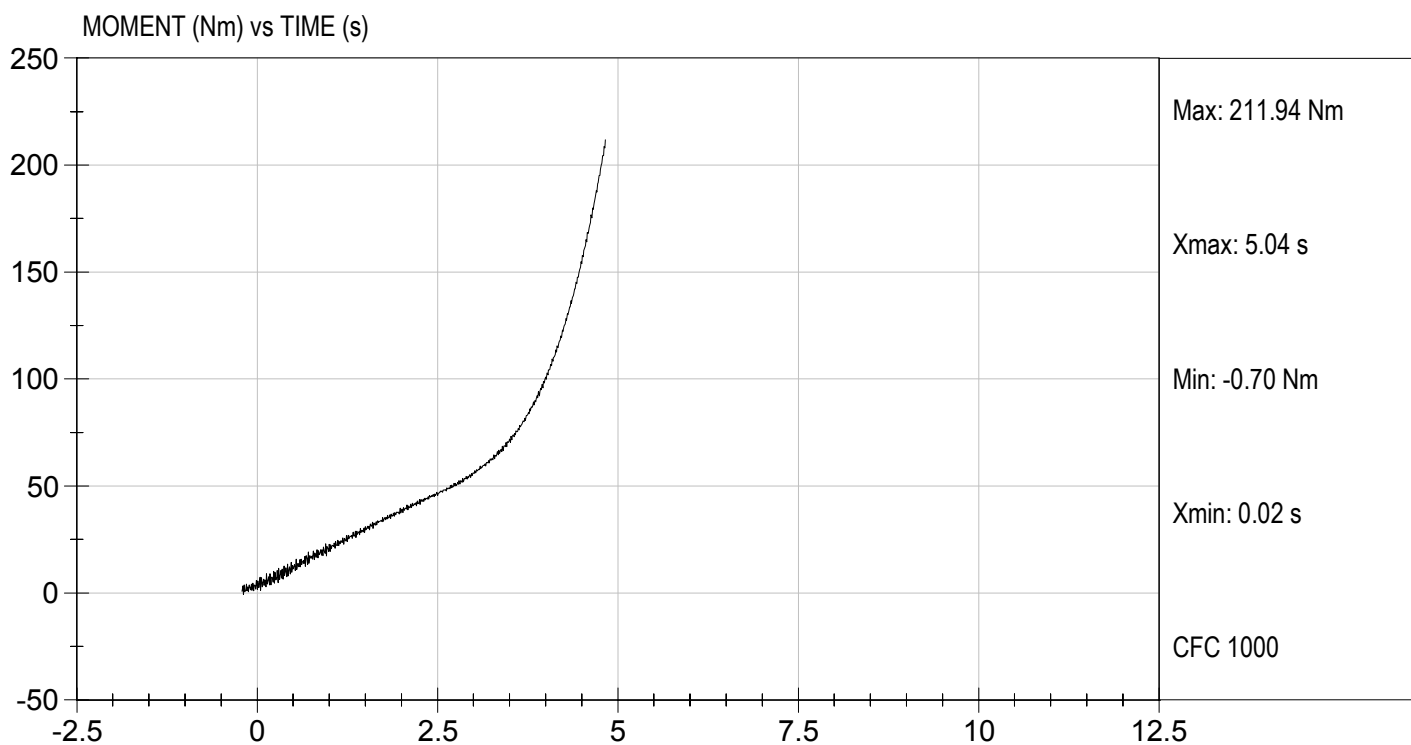
Test Date: 08/02/2004
Velocity: 0 ft/s, 0.00 m/s





Test Desc: Hip Femur Flexion
Componet ID: D041780

Test Date: 08/02/2004
Velocity: 0 ft/s, 0.00 m/s



APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

INSTRUMENTS FOR DRIVER DUMMY NO. 065

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	P27020	Endevco	8/04/04
Head Y	P27025	Endevco	8/04/04
Head Z	P22692	Endevco	8/04/04
Head X Redundant	J10431	Endevco	8/04/04
Head Y Redundant	P26986	Endevco	8/04/04
Head Z Redundant	AN9E3	Endevco	8/04/04
Head Y – Front	J19173	Endevco	8/04/04
Head Z – Front	J13656	Endevco	8/04/04
Head X – Left	J13424	Endevco	8/04/04
Head Z – Left	J14007	Endevco	8/04/04
Head X – Upper	J33415	Endevco	8/04/04
Head Y – Upper	J13630	Endevco	8/04/04
Neck Load Cell	443	Denton	7/20/04
Chest X	AMT78	Endevco	8/04/04
Chest Y	AP1Y8	Endevco	8/04/04
Chest Z	J11361	Endevco	8/04/04
Chest Deflection Gauge	065	Servo	8/03/04
Chest X Redundant	ALFP5	Endevco	8/04/04
Chest Y Redundant	AP138	Endevco	8/04/04
Chest Z Redundant	AJ9Y3	Endevco	8/04/04
Pelvis X	P26988	Endevco	5/25/04
Pelvis Y	AMP12	Endevco	5/25/04
Pelvis Z	AJ4K2	Endevco	5/25/04
Left Femur Load Cell	261	Denton	7/20/04
Right Femur Load Cell	262	Denton	7/20/04
Left Upper Tibia Load Cell	266	Denton	7/22/04
Left Lower Tibia Load Cell	179	Denton	7/22/04
Right Upper Tibia Load Cell	263	Denton	7/22/04
Right Lower Tibia Load Cell	174	Denton	7/22/04
Left Foot Z – Front	AJ9A7	Endevco	5/25/04
Left Ankle X	AHTB2	Endevco	4/08/04
Left Ankle Z	L20-A38	Entran	4/06/04
Right Foot Z – Front	P10148	Endevco	5/25/04
Right Ankle X	P26999	Endevco	5/25/04
Right Ankle Z	J12465	Endevco	5/25/04
Lap Belt Load Cell	199	Denton	6/08/04

INSTRUMENTS FOR PASSENGER DUMMY NO. 066

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	APY13	Endevco	3/05/04
Head Y	AN8L6	Endevco	3/05/04
Head Z	ALDD6	Endevco	3/05/06
Head X Redundant	AGT18	Endevco	3/05/04
Head Y Redundant	AJ619	Endevco	3/05/04
Head Z Redundant	J20392	Endevco	3/05/04
Head Y – Front	J13938	Endevco	8/04/04
Head Z – Front	ANAT6	Endevco	8/04/04
Head X – Left	AP2A4	Endevco	8/04/04
Head Z – Left	AP2D8	Endevco	8/04/04
Head X – Upper	AP1T8	Endevco	8/04/04
Head Y – Upper	AP2D7	Endevco	8/04/04
Neck Load Cell	442	Denton	7/20/04
Chest X	P22086	Endevco	8/04/04
Chest Y	AJ9D2	Endevco	8/04/04
Chest Z	P24265	Endevco	8/04/04
Chest Deflection Gauge	066	Servo	8/03/04
Chest X Redundant	P22652	Endevco	8/04/04
Chest Y Redundant	AJ417	Endevco	8/04/04
Chest Z Redundant	P22150	Endevco	8/04/04
Pelvis X	J13851	Endevco	8/02/04
Pelvis Y	AJ808	Endevco	8/02/04
Pelvis Z	AH0F0	Endevco	8/02/04
Left Femur Load Cell	256	Denton	7/20/04
Right Femur Load Cell	259	Denton	7/20/04
Left Upper Tibia Load Cell	107	Denton	7/22/04
Left Lower Tibia Load Cell	136	Denton	7/22/04
Right Upper Tibia Load Cell	103	Denton	7/22/04
Right Lower Tibia Load Cell	133	Denton	7/22/04
Left Foot Z – Front	A05-A20	Entran	8/04/04
Left Ankle X	A05-A21	Entran	8/04/04
Left Ankle Z	A07-J01	Entran	8/04/04
Right Foot Z – Front	ANBP7	Endevco	7/23/04
Right Ankle X	L30-Z18	Entran	8/04/04
Right Ankle Z	A12-Z11	Entran	8/04/04
Lap Belt Load Cell	198	Denton	6/08/04

INSTRUMENTS FOR VEHICLE AND LABORATORY

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	A29-J06	Entran	3/12/04
Left Rear Seat Crossmember Z	A29-B14	Entran	3/12/04
Right Rear Seat Crossmember X	A08-M05	Entran	4/16/04
Right Rear Seat Crossmember Z	L17-D30	Entran	7/02/04
Top of Engine X	L17-D01	Entran	3/30/04
Bottom of Engine X	A29-J03	Entran	3/12/04
Left Brake Caliper X	K20-J05	Entran	6/04/04
Right Brake Caliper X	L17-D05	Entran	3/30/04
Instrument Panel X	A29-J17	Entran	3/12/04
Left Rear Seat Back X	G10-F04	Entran	4/19/04
Left Rear Seat Back Y	K18-D17	Entran	7/02/04
Left Rear Seat Back Z	L17-D29	Entran	7/02/04

APPENDIX E
DUMMY HEAD RESPONSE DATA TRACES

TABLE OF DATA PLOTS

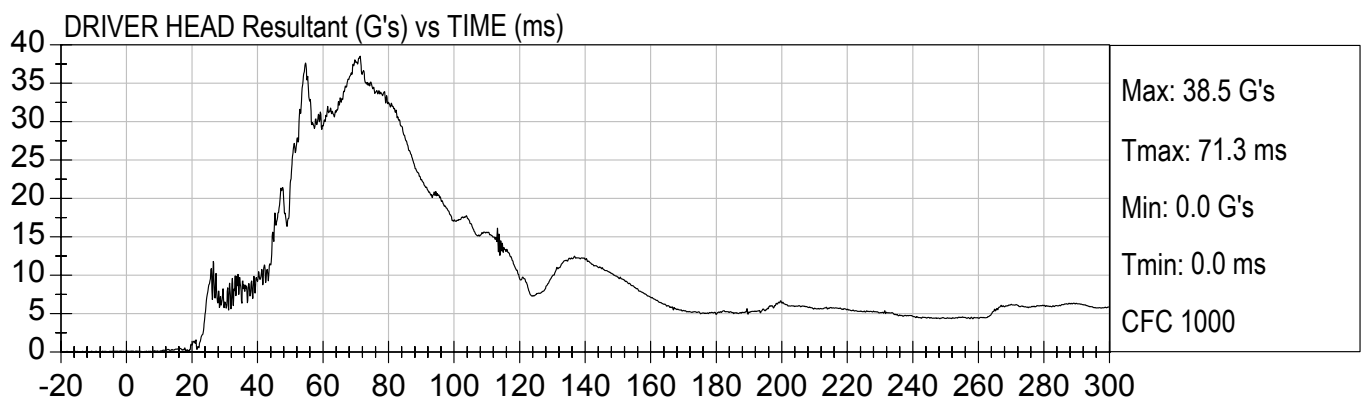
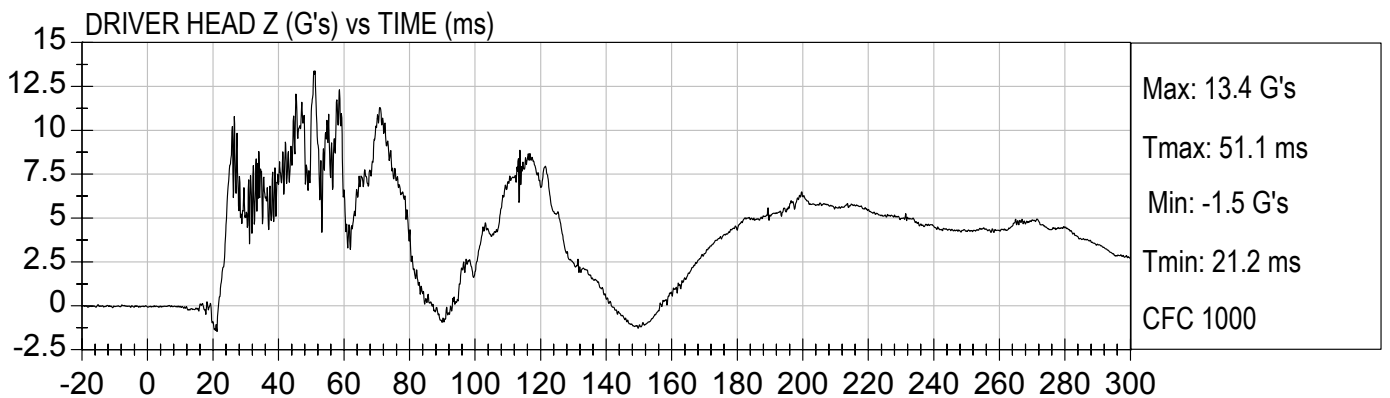
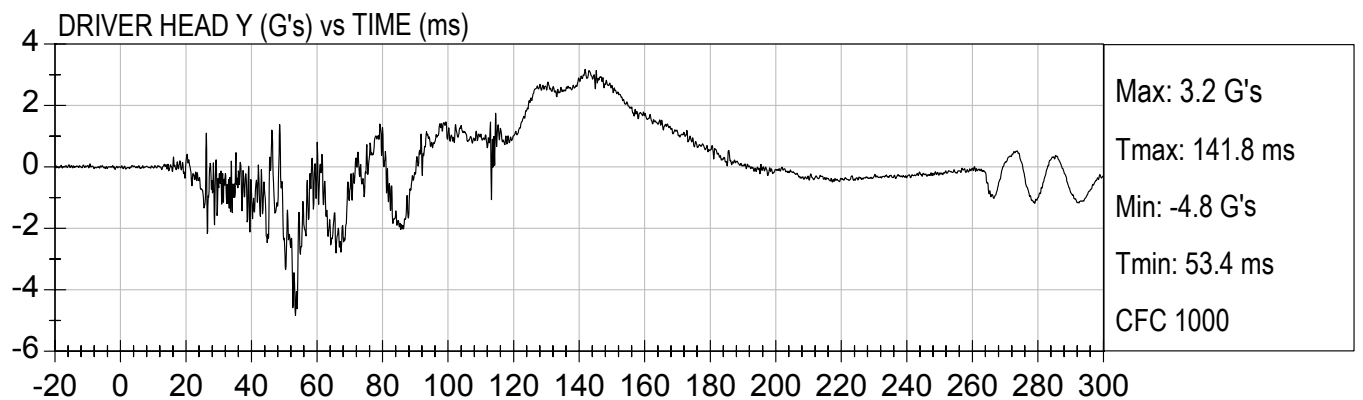
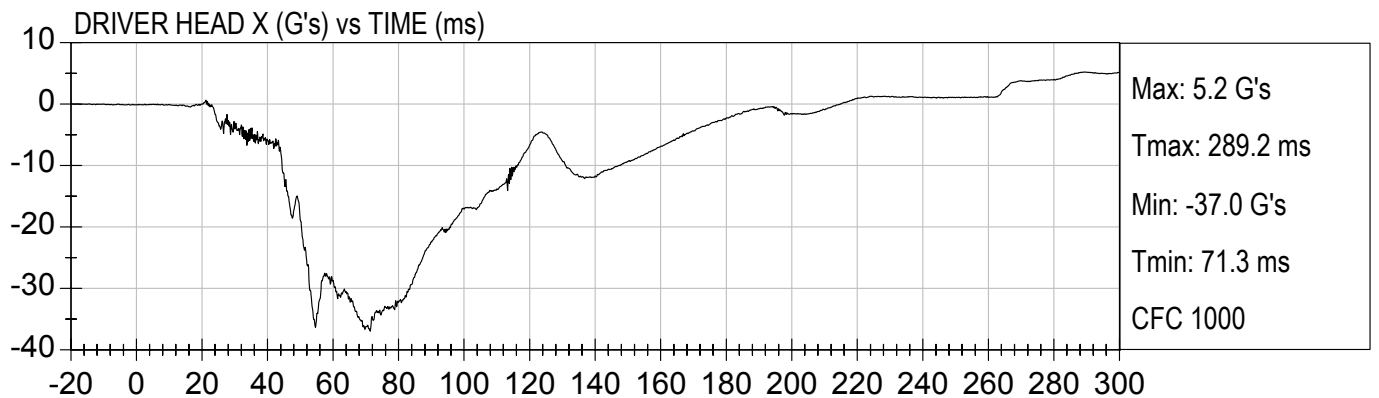
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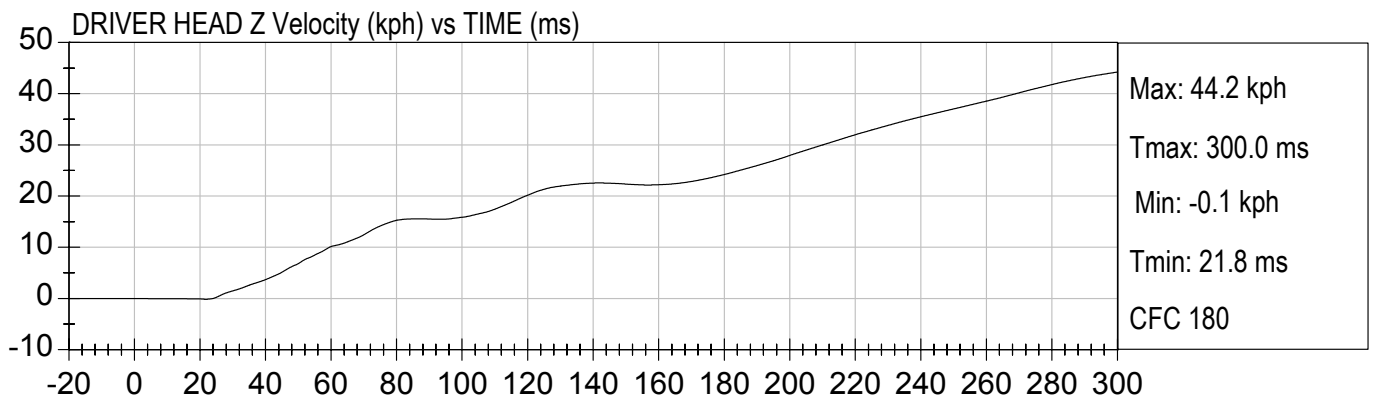
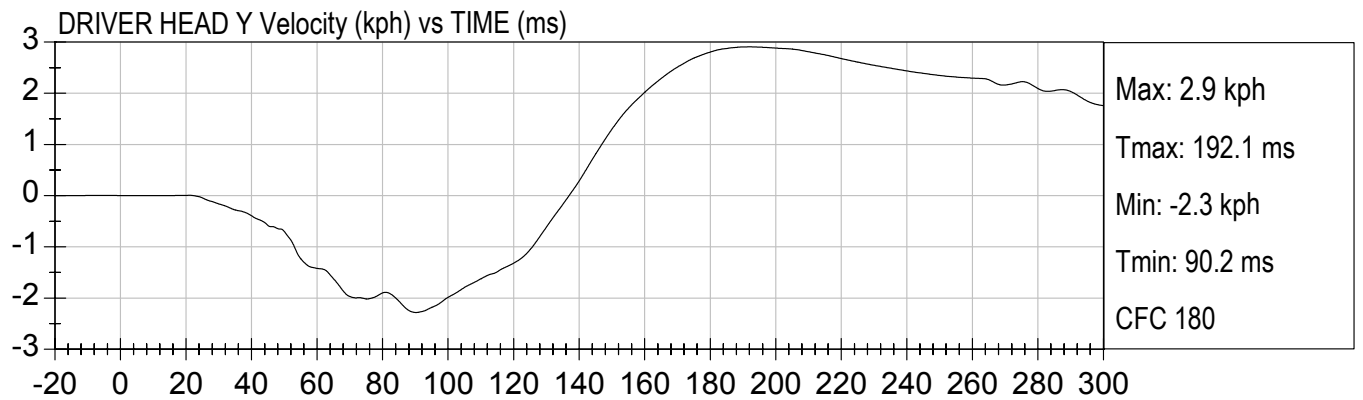
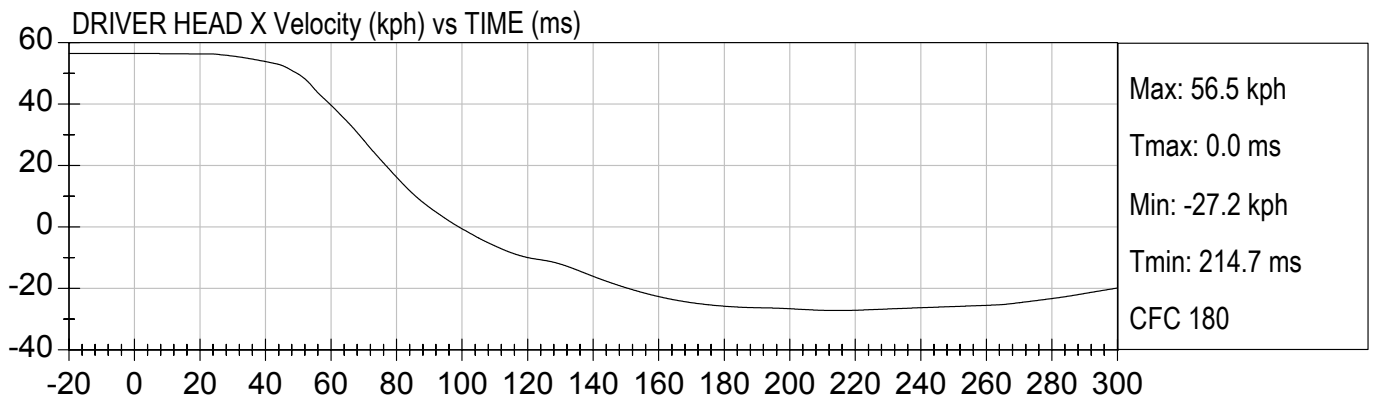
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35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

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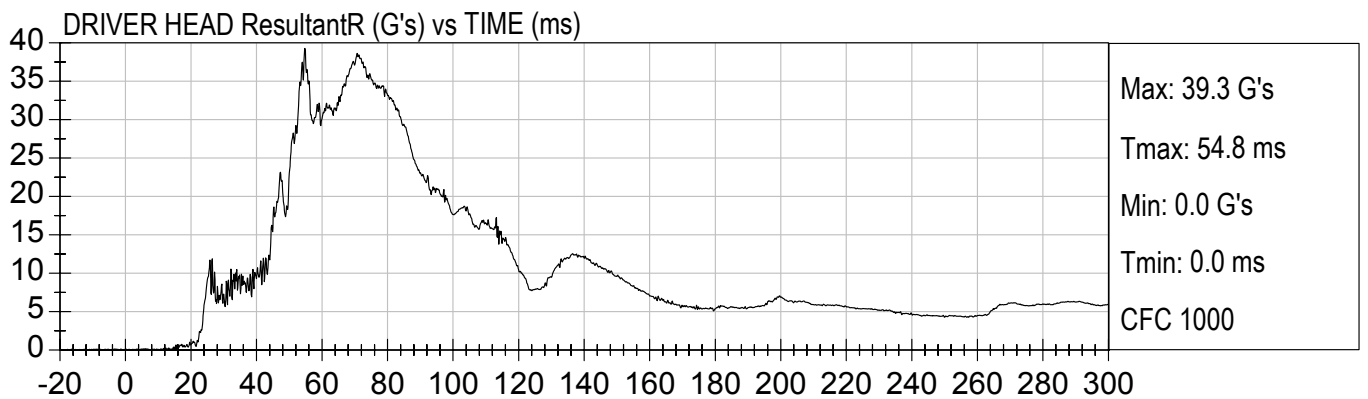
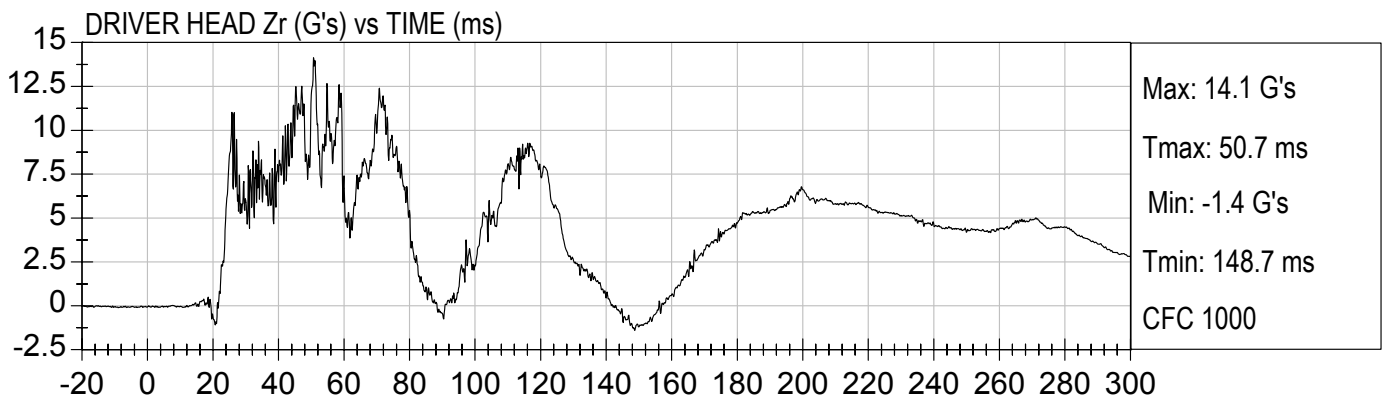
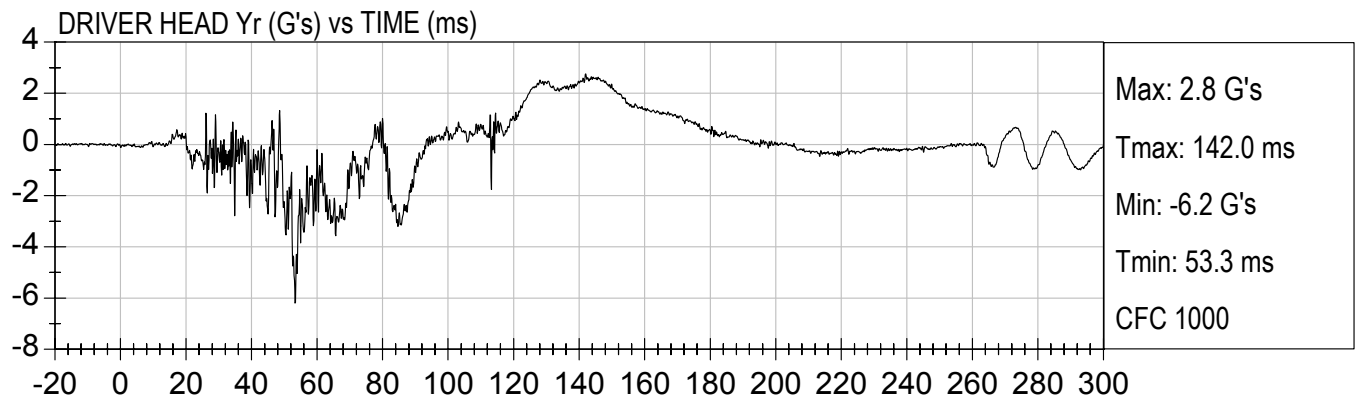
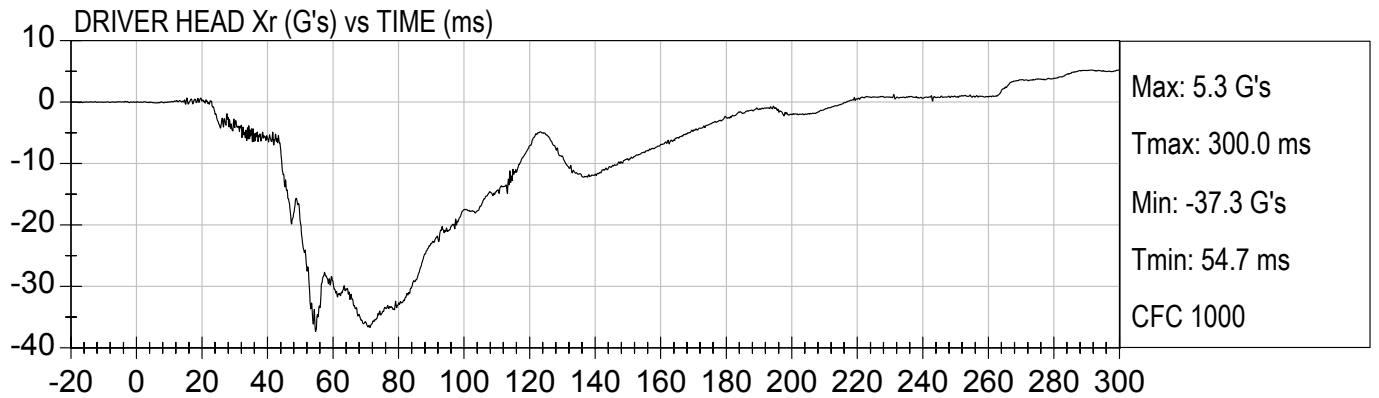


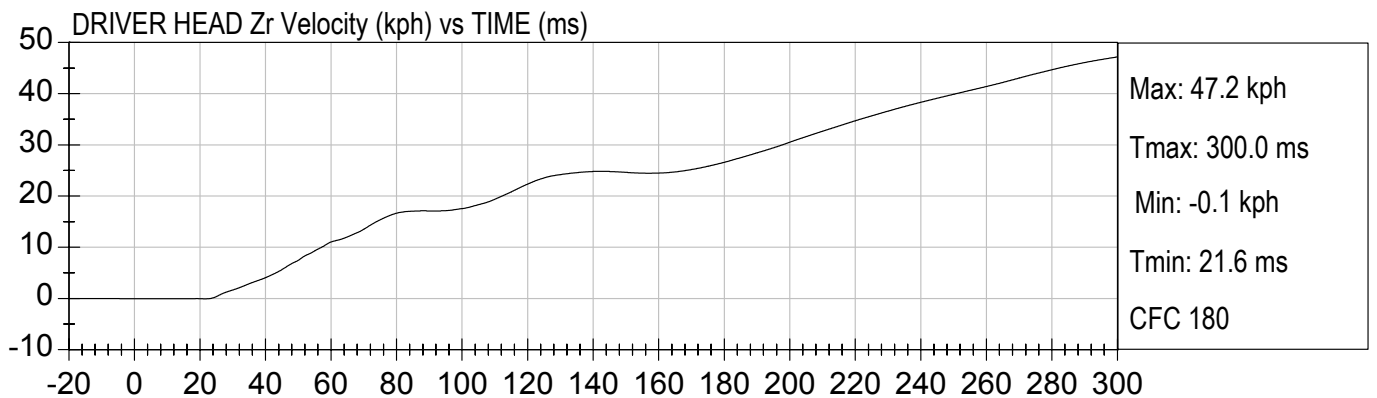
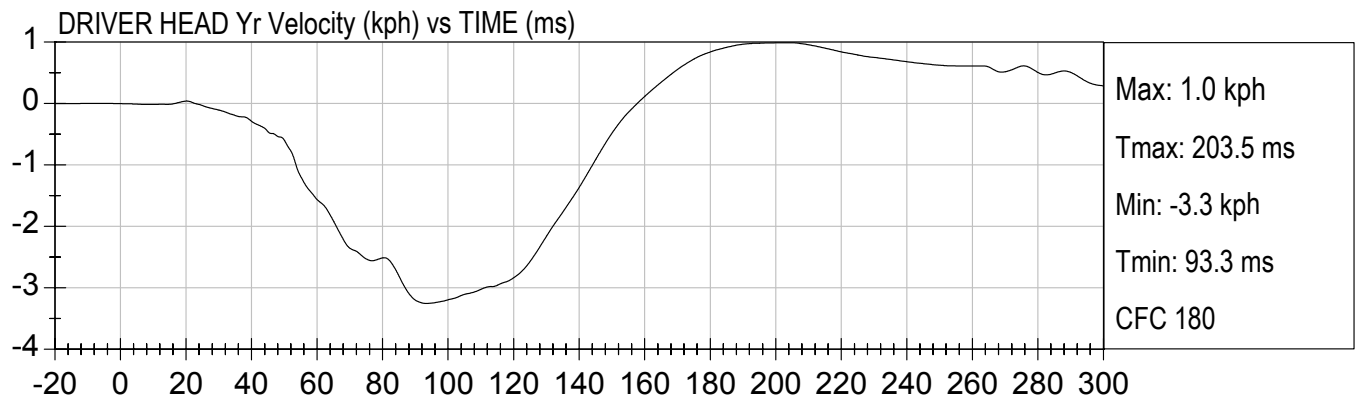
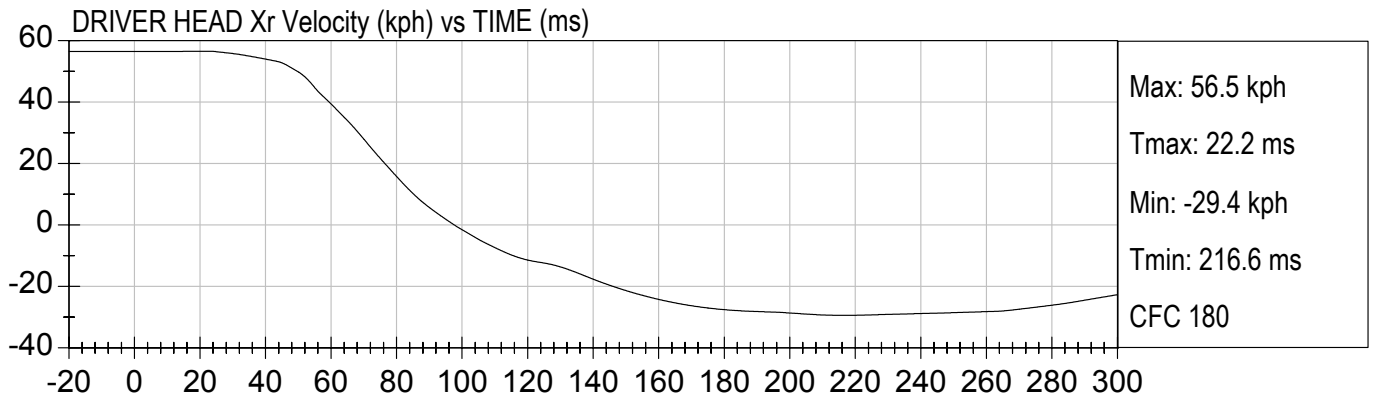




35MPH NCAP FRONTAL
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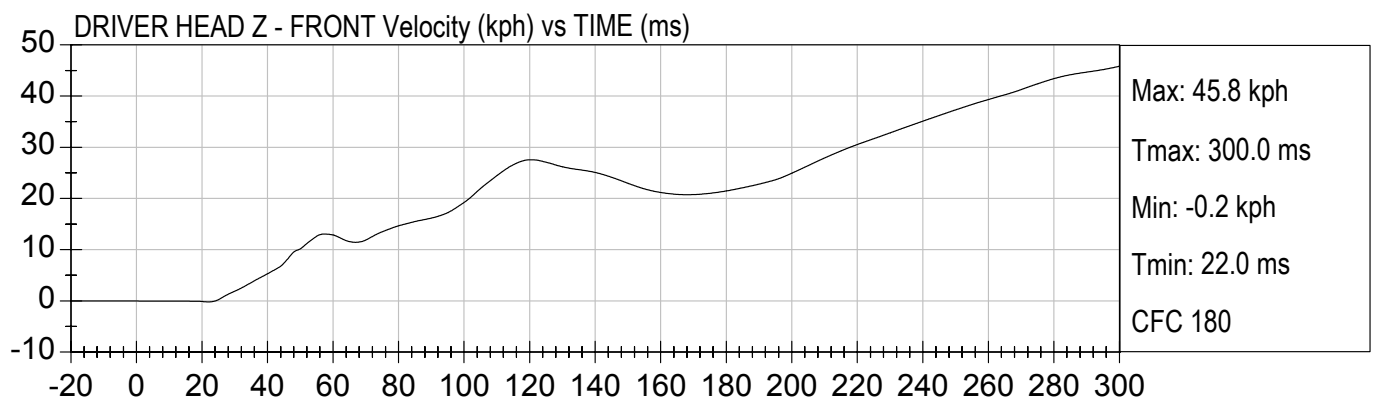
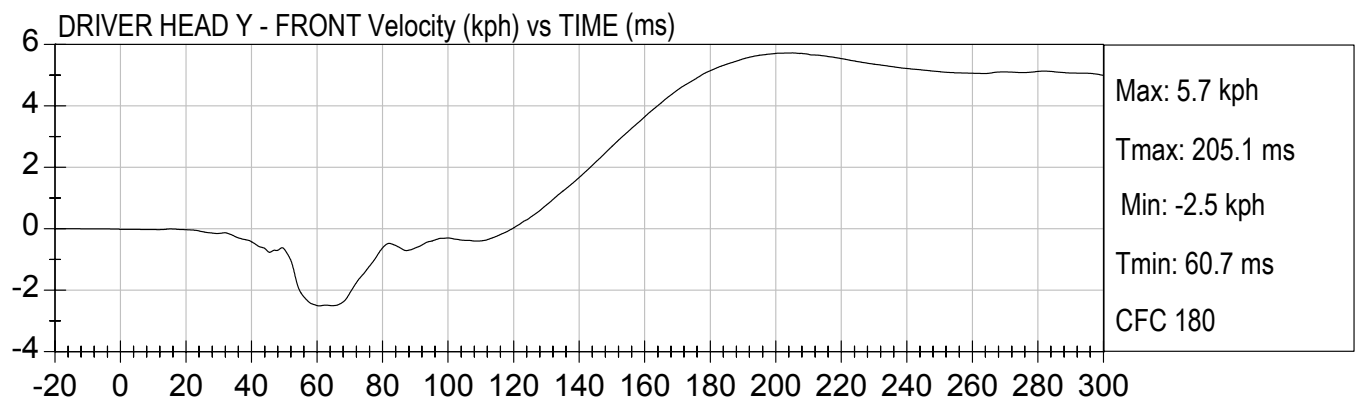
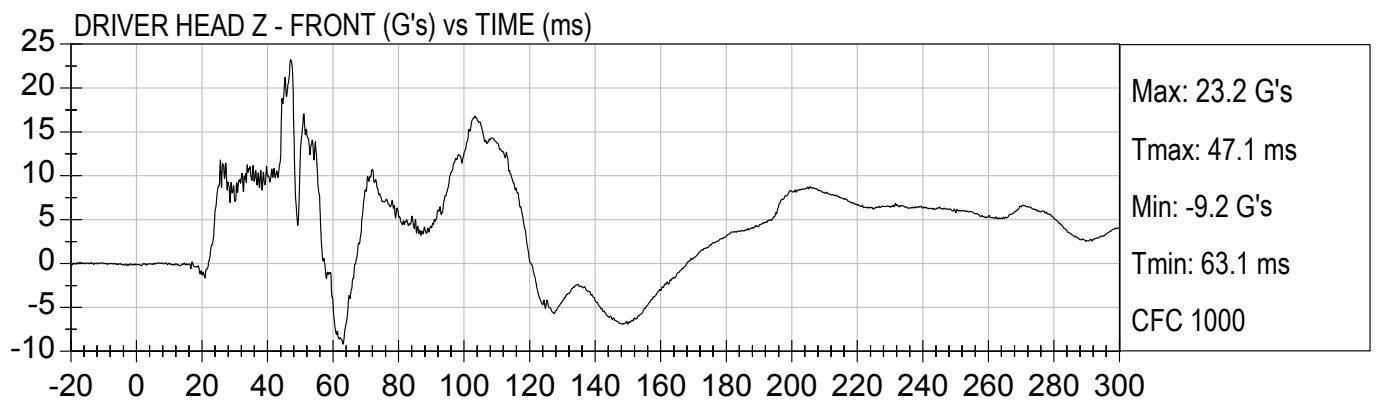
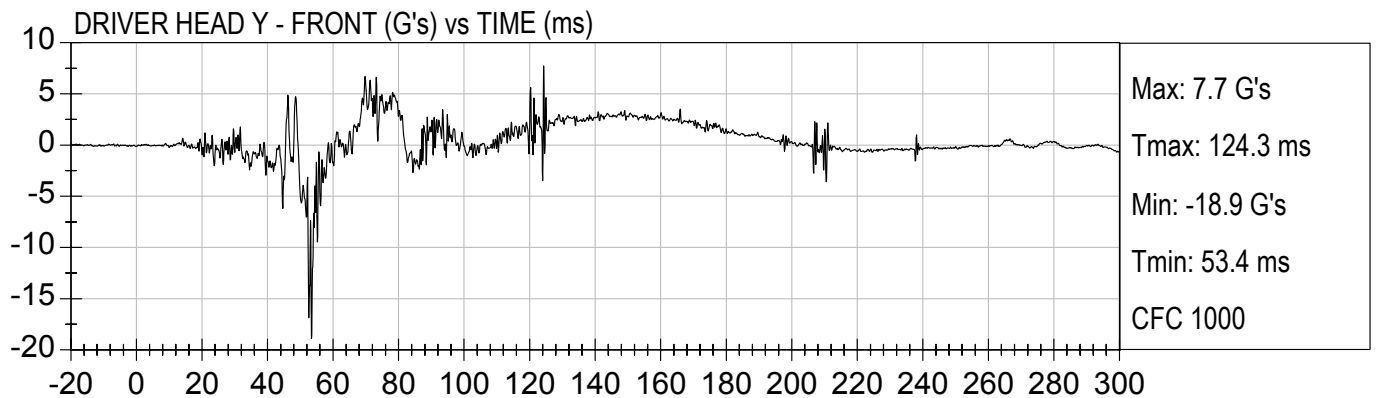






35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

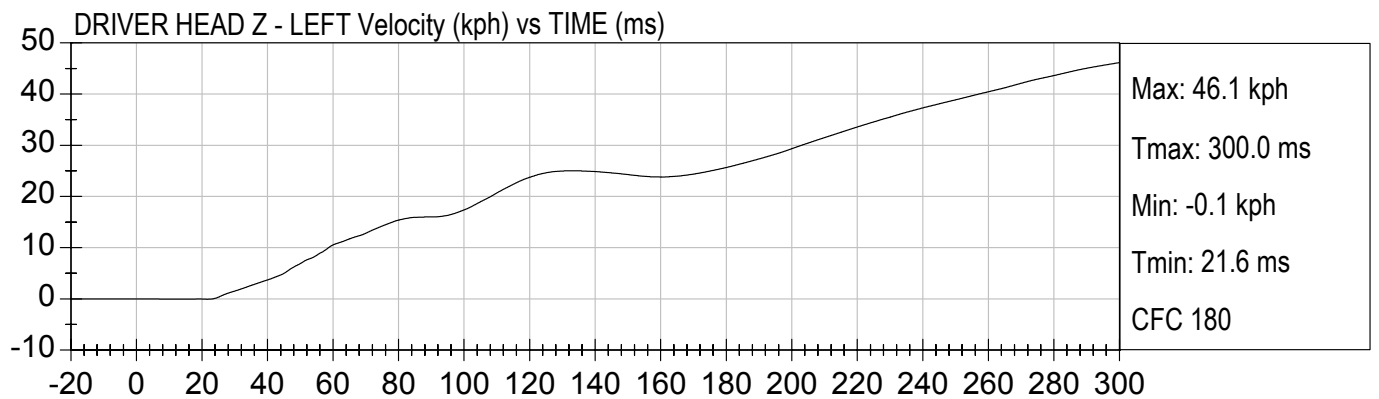
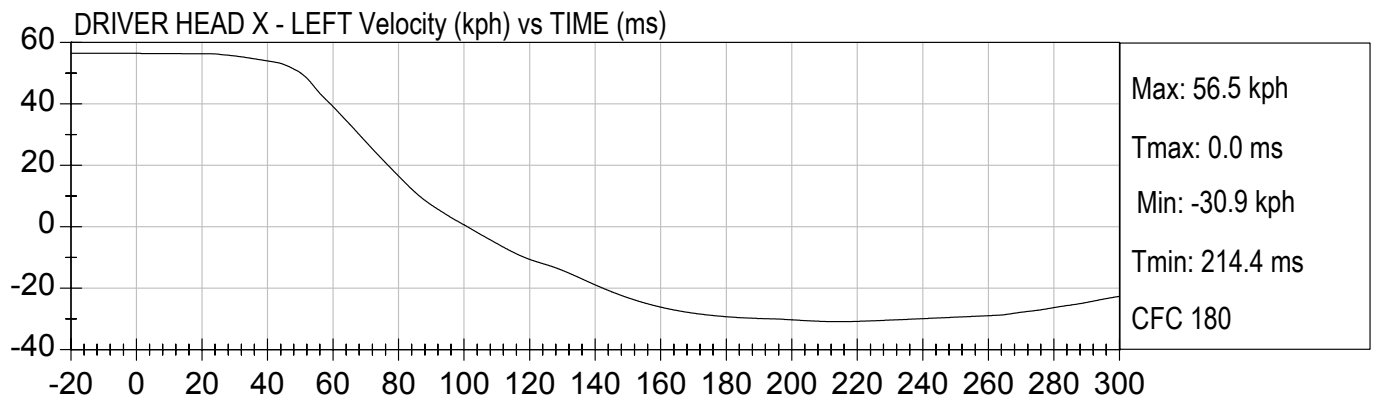
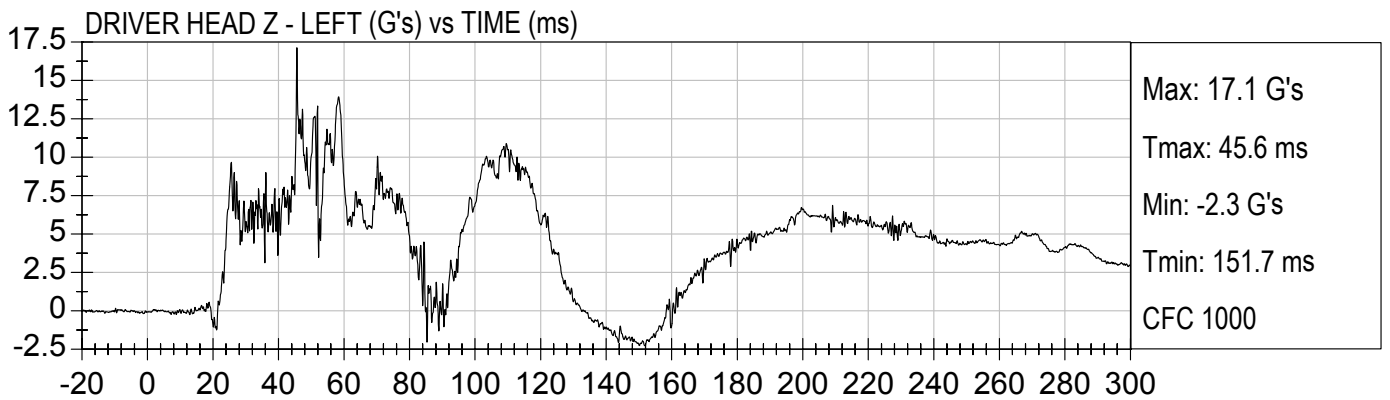
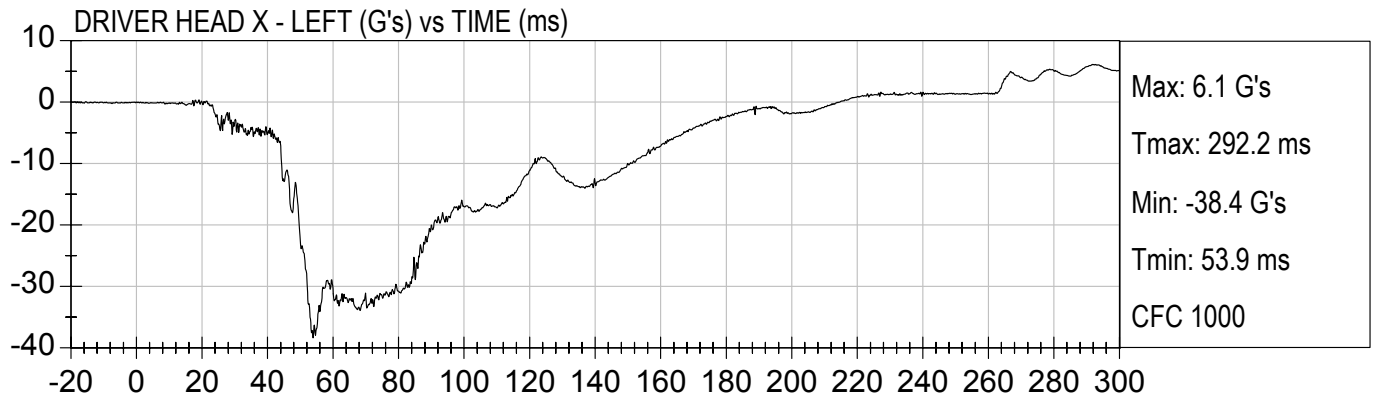
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35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

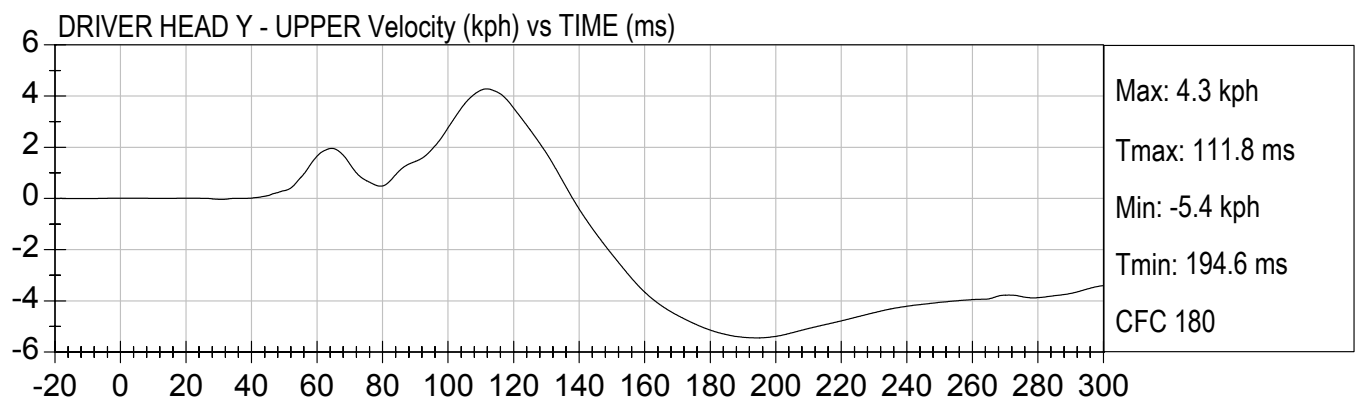
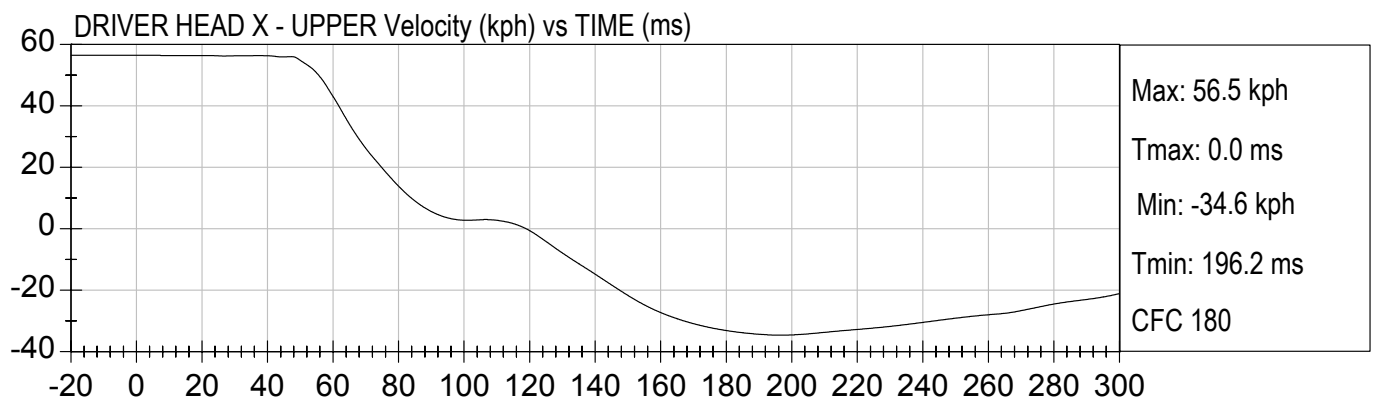
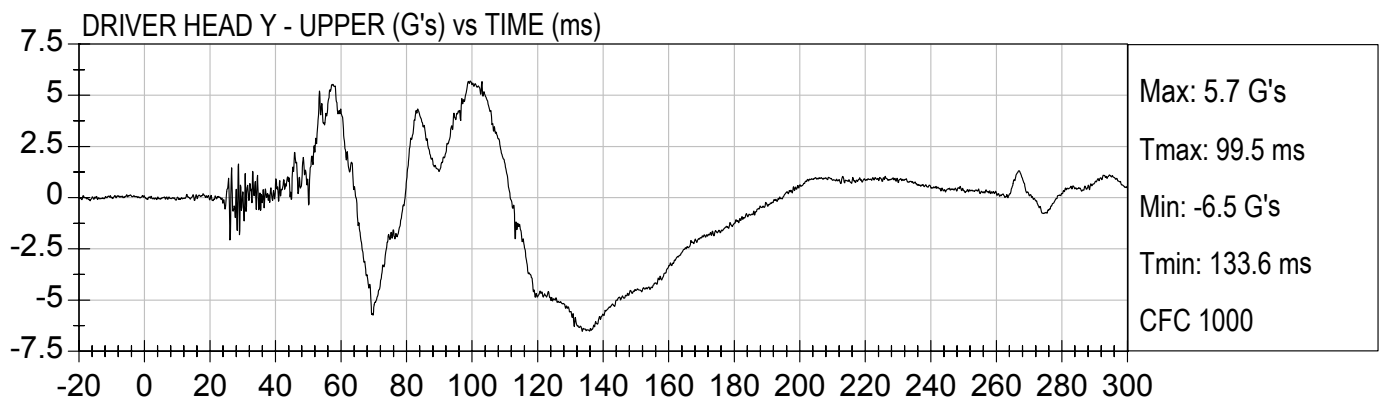
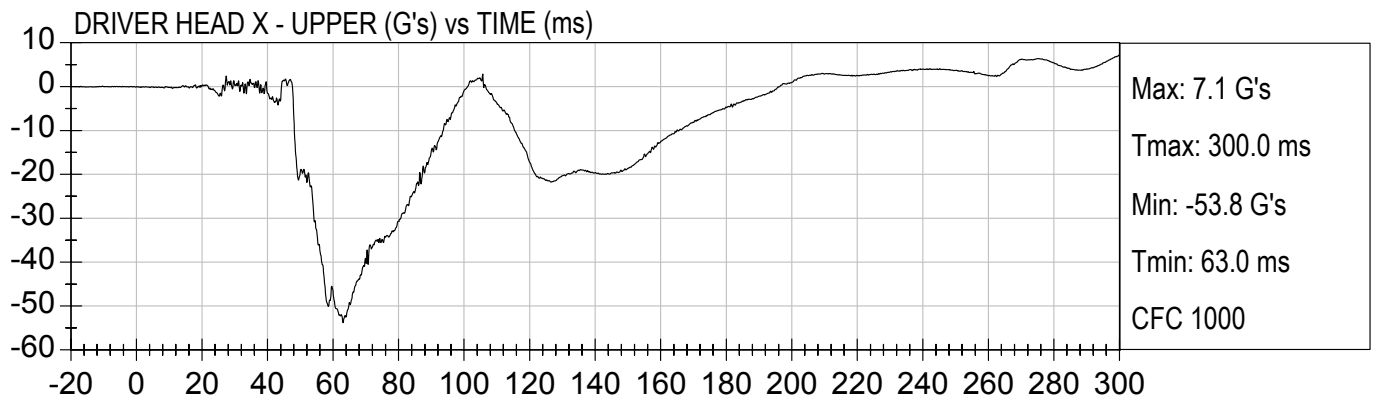
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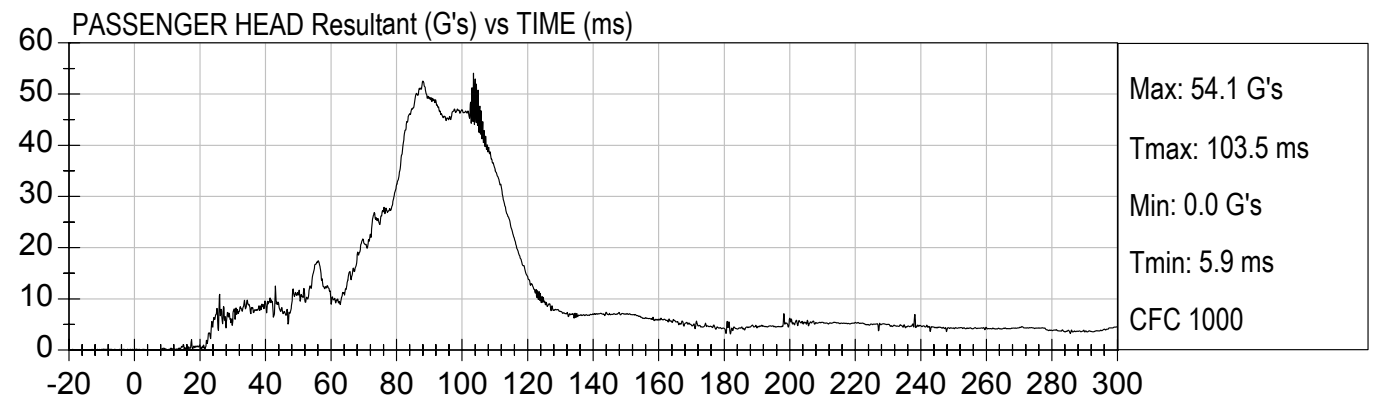
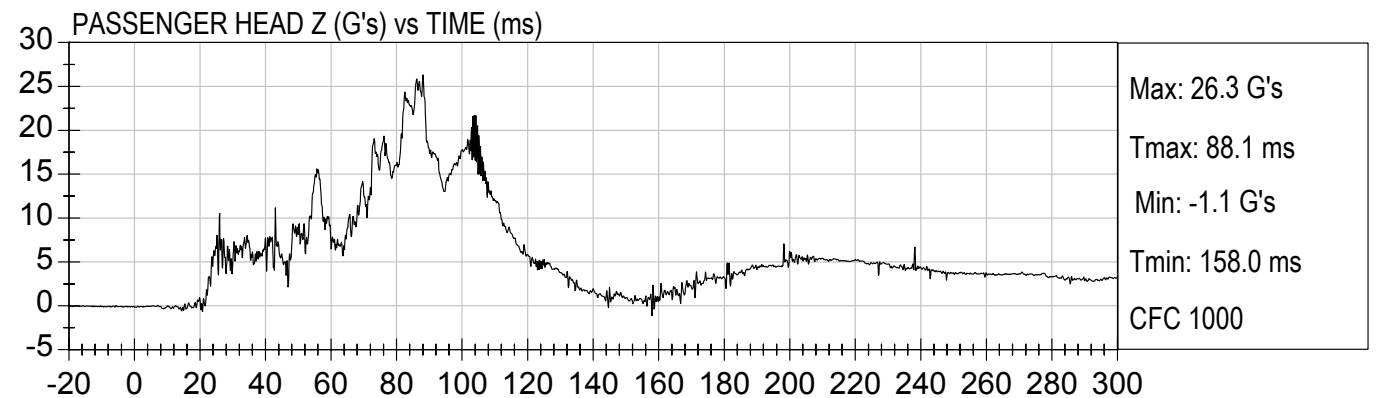
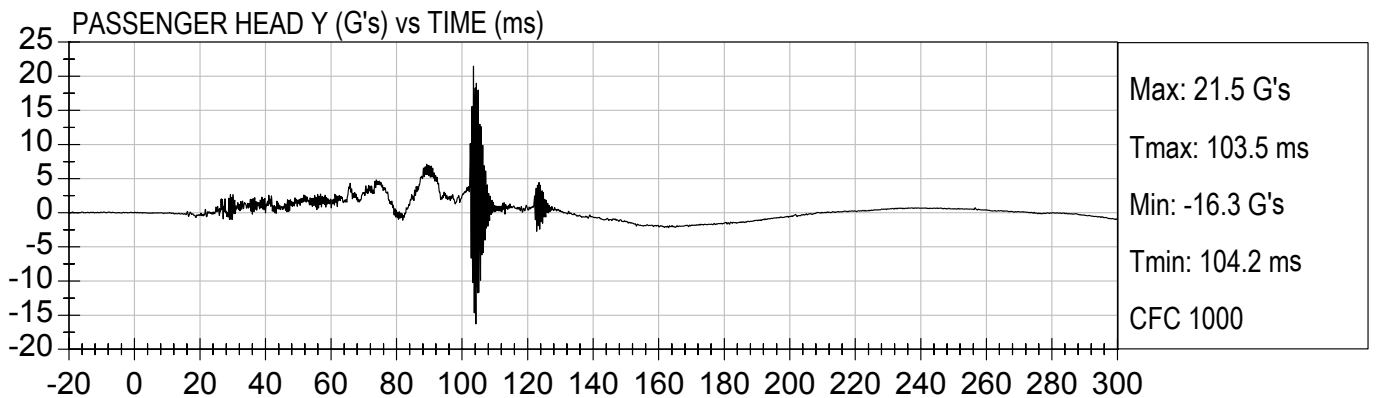
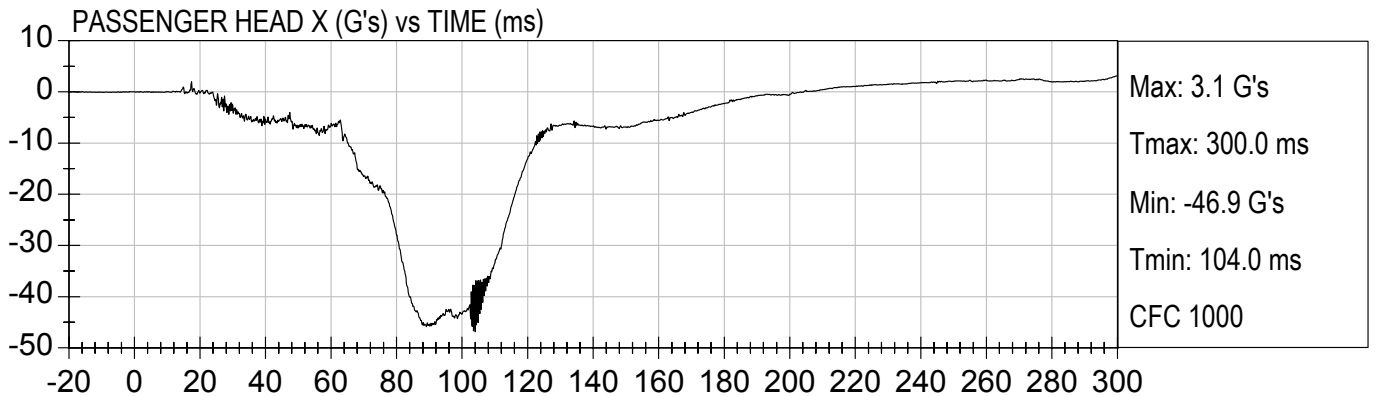


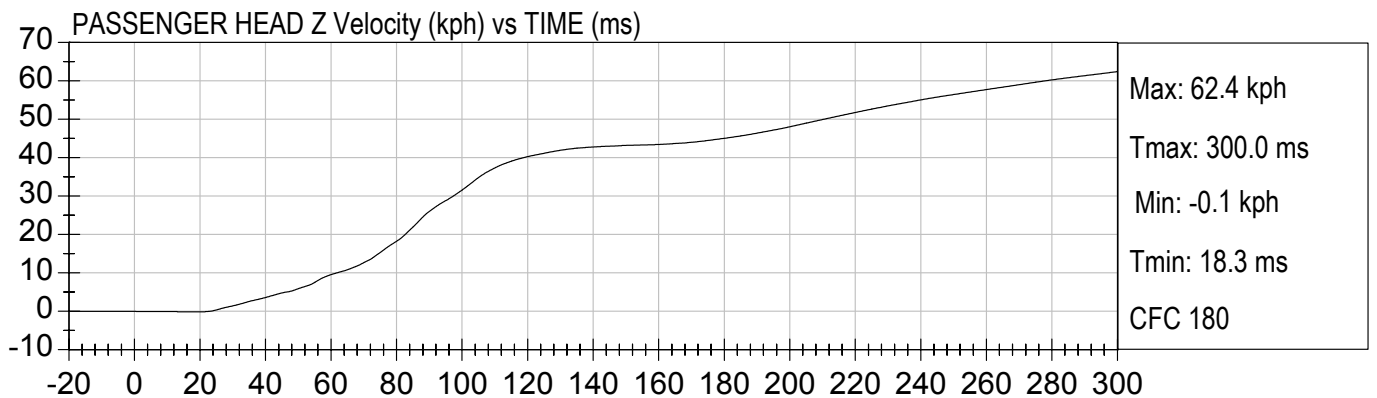
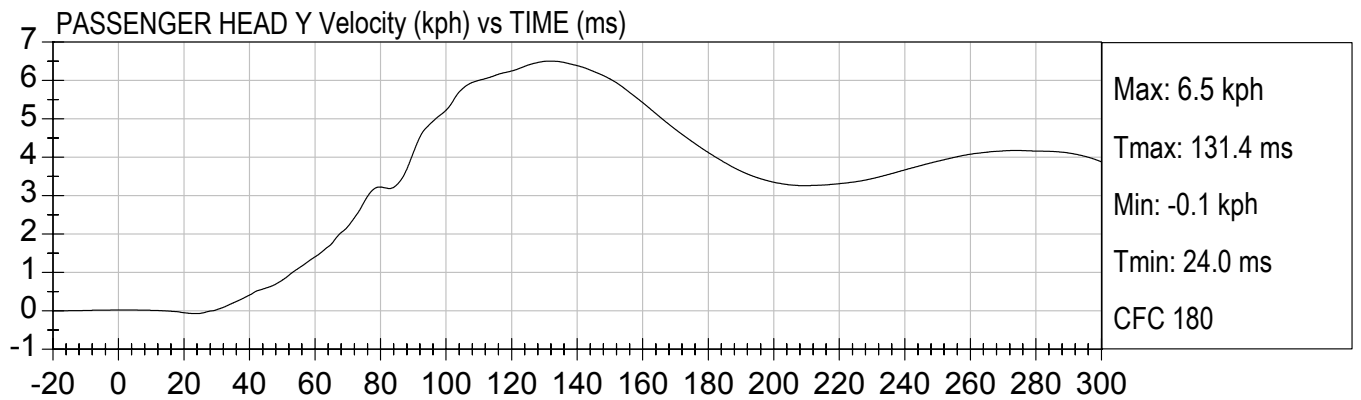
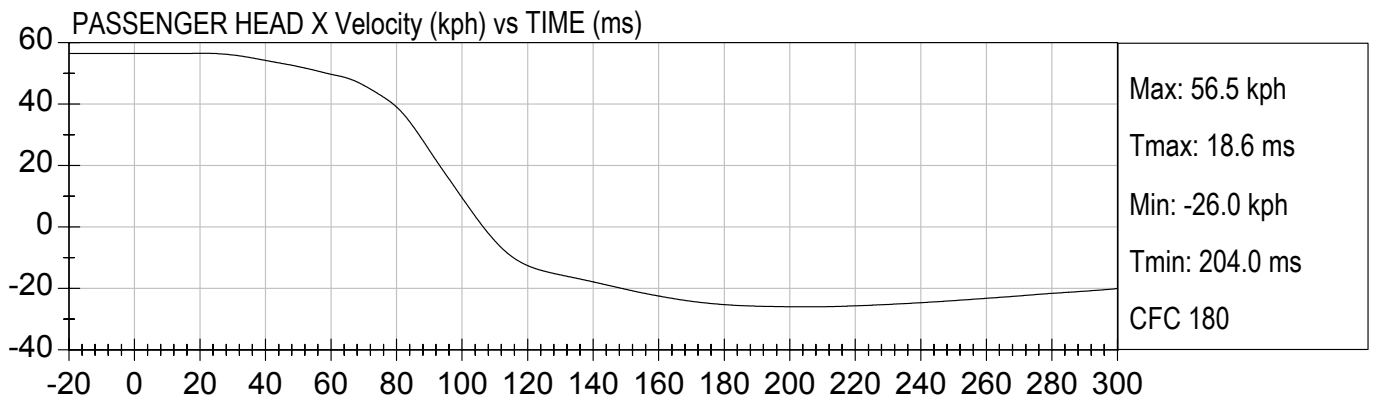
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35MPH NCAP FRONTAL
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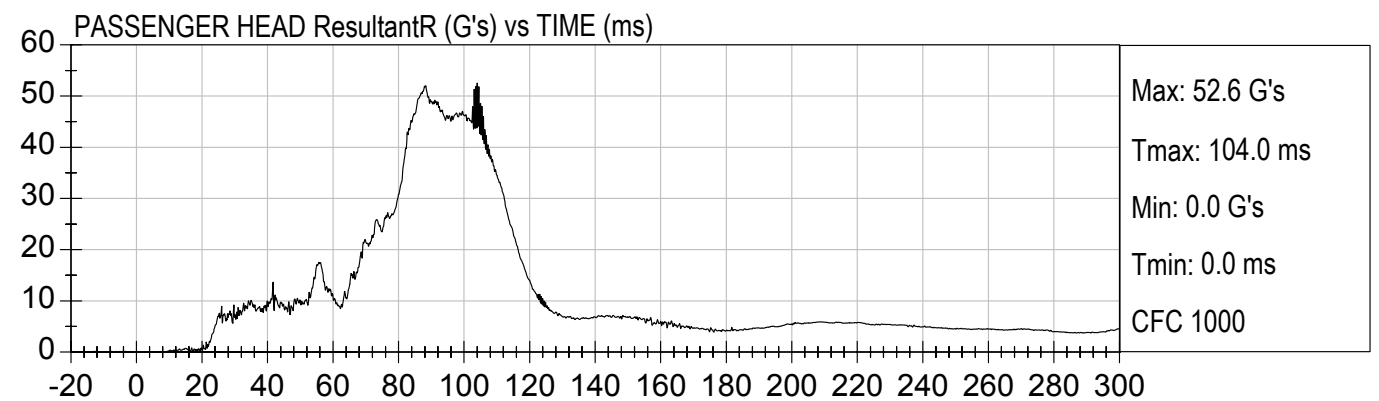
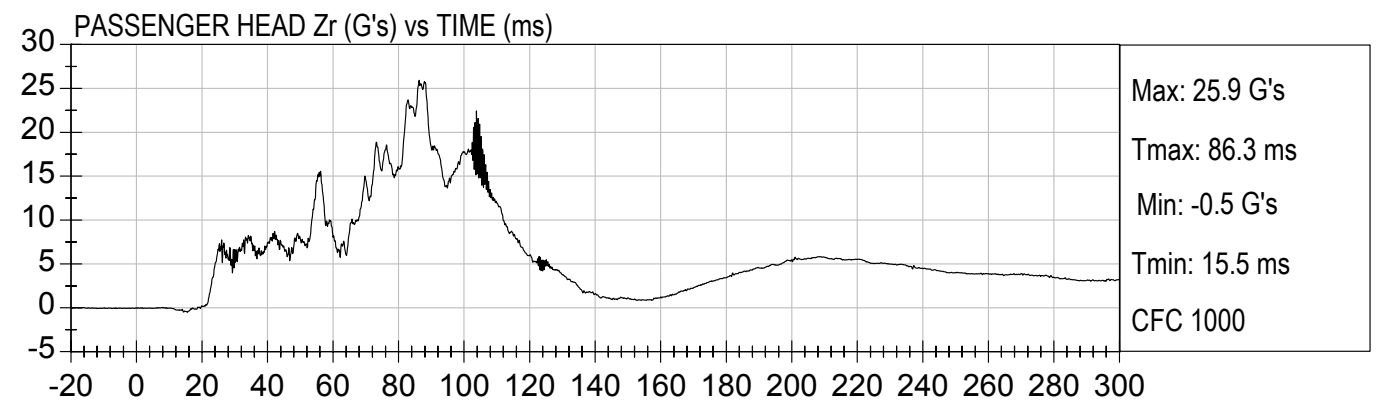
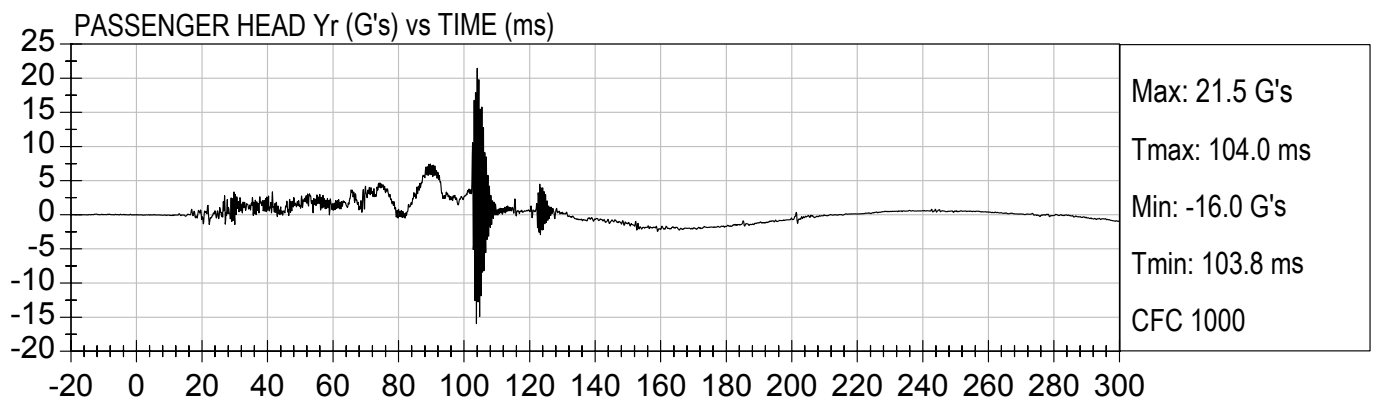
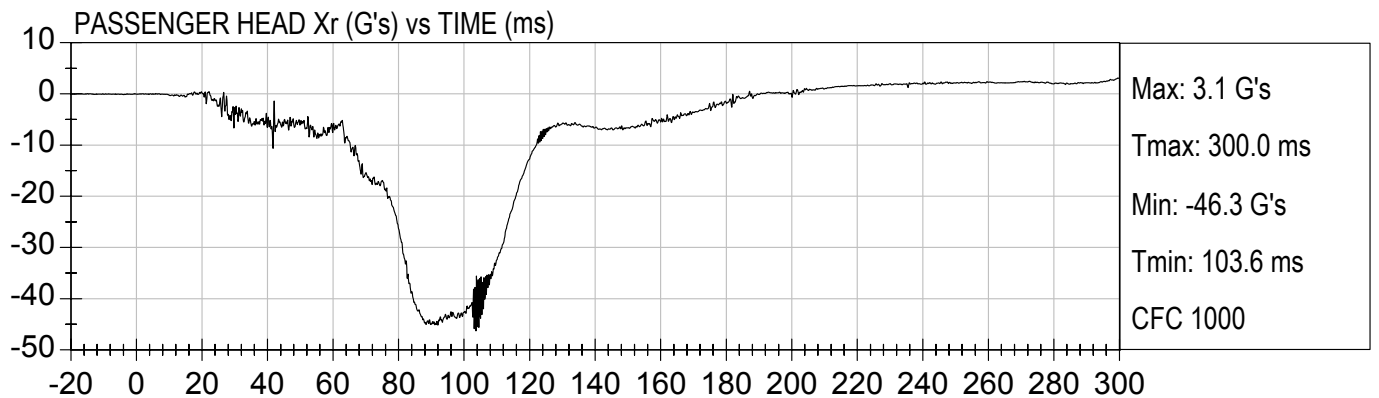


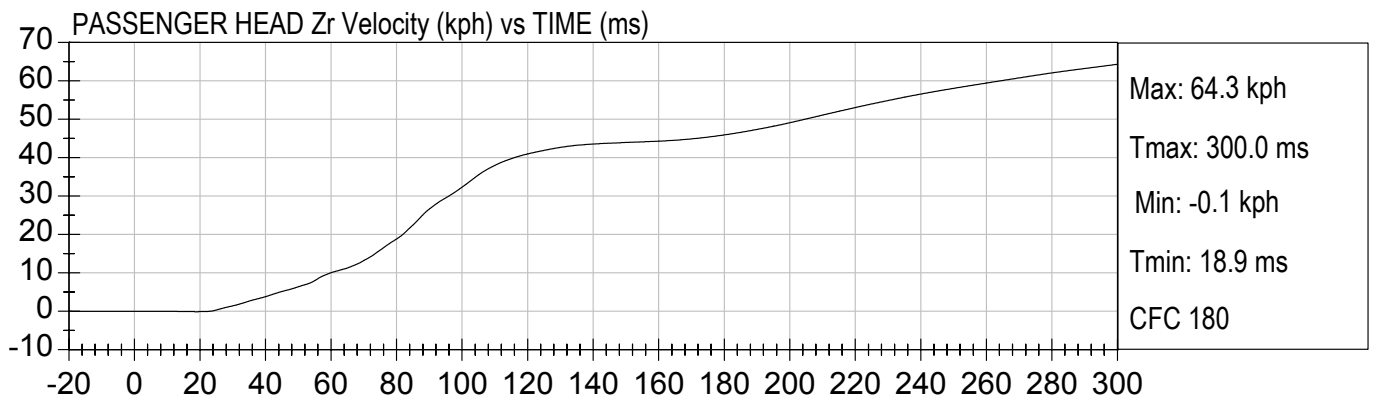
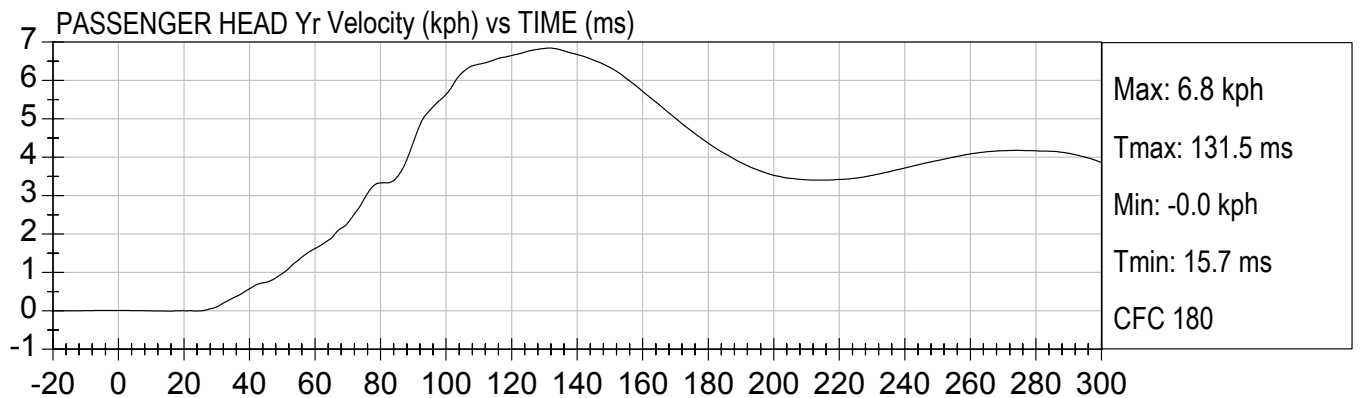
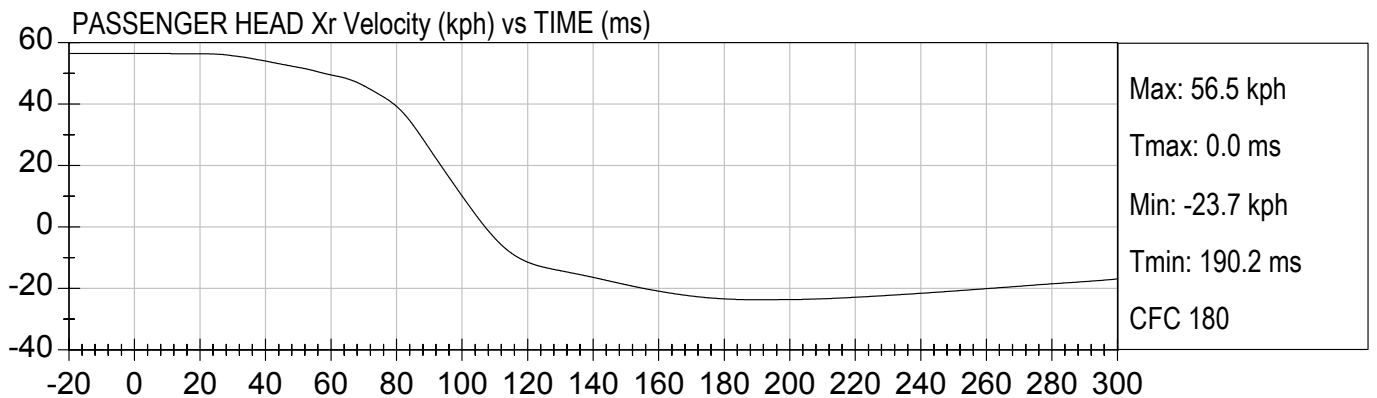




35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

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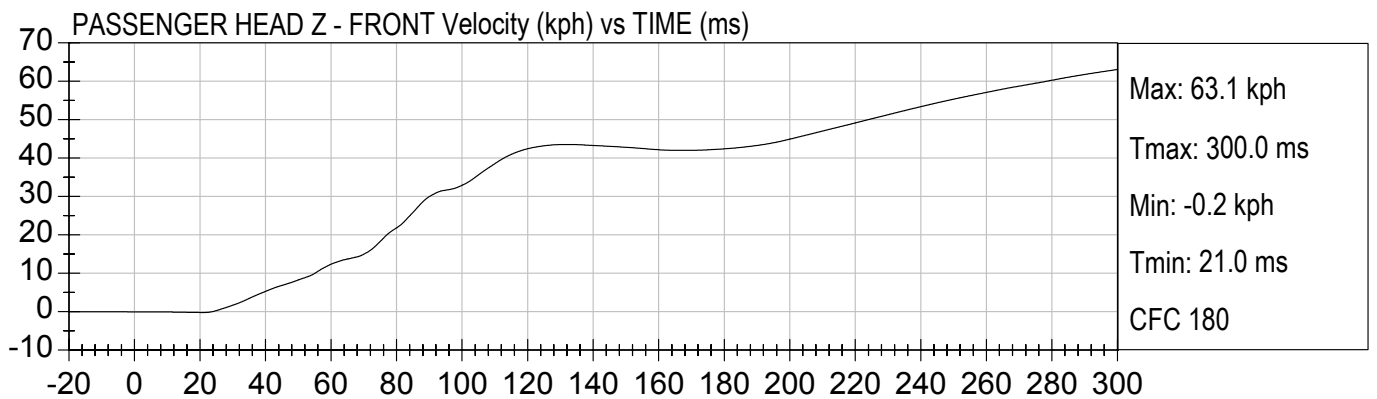
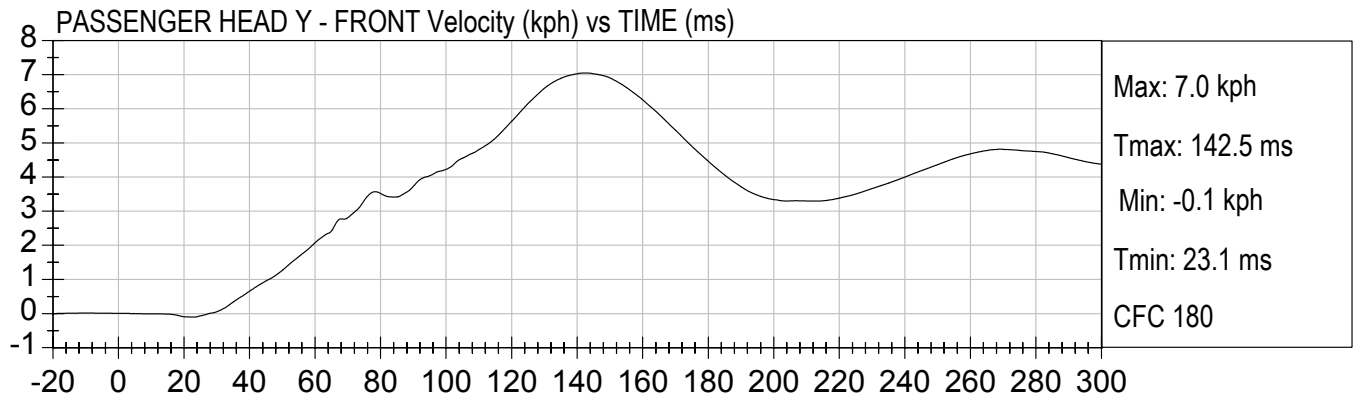
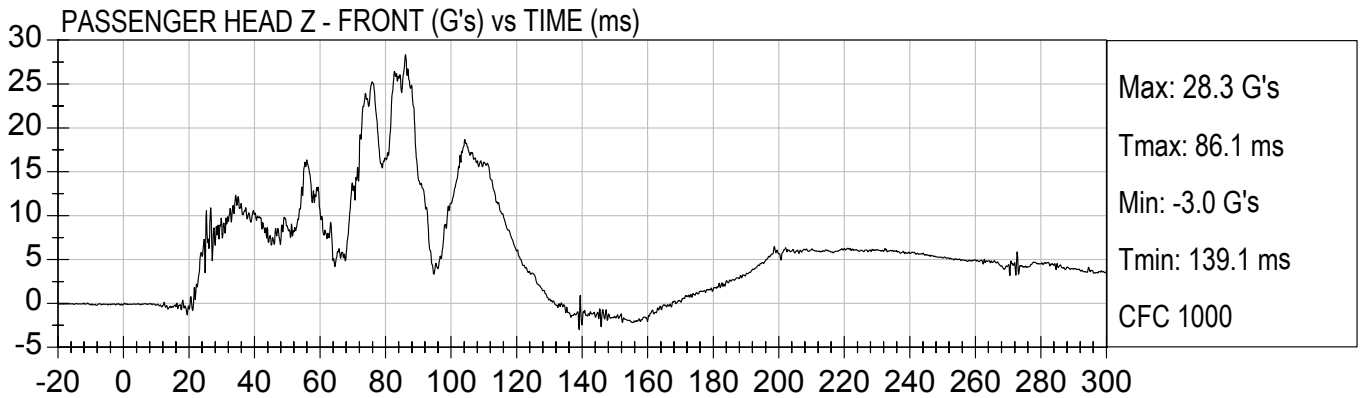
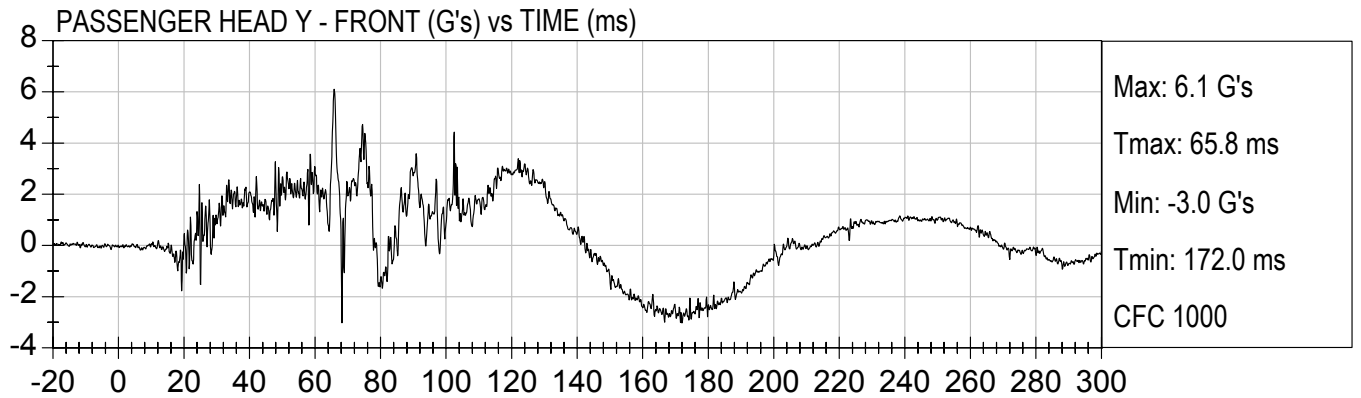






35MPH NCAP FRONTAL
2005 CHRYSLER 300 (M50300)

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