REPORT NUMBER: 201P-CAL-08-01

SAFETY COMPLIANCE TESTING FOR FMVSS 201
RIGID POLE SIDE IMPACT TEST

HONDA OF AMERICA MFG. INC.
2008 HONDA ACCORD
4-DOOR SEDAN

NHTSA NUMBER: C85304

CALSPAN TEST NUMBER: 8863-01

CALSPAN
TRANSPORTATION SCIENCES CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225

Test Date: 7/02/08

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Enforcement
Office of Vehicle Safety Compliance
Mail Code: NVS-220, West Building 4th Floor
1200 New Jersey Avenue, SE
Washington, DC 20590

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

Prepared by:

James A. Czarnecki, Project Engineer

Approved by:

David J. Travale, Program Manager
Transportation Science Center

Approval Date:

APPROVED
By james.czarnecki at 1:59 pm, 12/5/08

FINAL REPORT ACCEPTANCE BY:

NHTSA, Office of Vehicle Safety Compliance

Date of Report Acceptance

TECHNICAL REPORT STANDARD TITLE PAGE

1. *Report No.* 201P-CAL-08-01	*2. Government Accession No.*	*3. Recipient's Catalog No.*
4. Title and Subtitle Final Report of FMVSS 201 Safety Compliance Rigid Pole Side Impact Test of a 2008 Honda Accord, 4-door Sedan, NHTSA No: C85304		*5. Report Date* 7/02/08
		6. Performing Organization Code CAL
7. Author(s) David J. Travale, Program Manager James A. Czarnecki, Project Engineer		*8. Performing Organization Report No.* 8863-01
9. Performing Organization Name and Address Calspan 4455 Genesee Street Buffalo, New York 14225		*10. Work Unit No.*
		11. Contract or Grant No. DTNH22-06-C-00031
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Vehicle Safety Compliance Mail Code: NVS-220, West building 4th Floor 1200 New Jersey Avenue, SE Washington, D.C. 20590		*13. Type of Report and Period Covered* Final Report July 2008
		14. Sponsoring Agency Code NVS-220

15. Supplementary Notes

16. Abstract

A rigid pole side impact test was conducted on the subject 2008 Honda Accord 4-door Sedan in accordance with FMVSS 201, "Occupant Protection in Interior Impact, S6.2(b)(3) and the Office of Vehicle Safety Compliance Test Procedure No. TP-201-02 "Rigid Pole Side Impact Test". The test was conducted at the Calspan's facility in Buffalo, New York on 7/02/08

The impact velocity of the vehicle was 27.6 kph, and the ambient temperature at the struck side (Driver) of the target vehicle at the time of impact was 22ºC. The post test maximum crush was 332 mm at level 3. The test vehicle's performance follows:

Measurement Description	**Threshold**	**P1 (269)**
Head Injury Criteria (HIC- 36 ms)	1000	214.0

Test Failures:

NONE

The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.

17. Key Words Compliance Testing Rigid Pole Side Impact Test FMVSS 201	*18. Distribution Statement* Copies of this report are available from: NHTSA Technical Information Services National Highway Traffic Safety Admin. 1200 New Jersey Avenue, SE Washington, DC 20590

19. Security Classif. (of this report) UNCLASSIFIED	*20. Security Classif. (of this page)* UNCLASSIFIED	*21. No. of Pages*	*22. Price*

Form DOT F1700.7 (8-69)

TABLE OF CONTENTS

LIST OF DATA SHEETS

SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY FMVSS 201 “Occupant protection in interior impact” compliance test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-04-C-01027. The purpose of this test was to evaluate the dynamic head protection system in a 2008 Honda Accord 4-door Sedan, NHTSA Number: C85304. The rigid pole side impact test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-201P-02, dated October 21, 2001).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A rigid pole side impact test was conducted on a 2008 Honda Accord 4-door Sedan. The subject vehicle was towed into the rigid pole at a velocity of 27.6 kph. The test was conducted by Calspan in Buffalo, New York, on 7/02/08.

Pretest and post test photographs of the test vehicle, and the side impact dummy (SID/HIII) are included in Appendix A of this report.

One SID/HIII was placed in the LEFT front outboard designated seating position according to instructions specified in TP201P-02 dated (October 21, 2001). The side impact event was documented by thirteen (13) cameras. Camera locations and other pertinent camera information are included in this report.

The SID/HIII was instrumented with the following accelerometers:

1. Head CG triaxial accelerometers
2. Upper neck 6 channel load cell (X,Y and Z force and moment)
3. Left Upper Rib (LUR) uniaxial accelerometer (Y-direction)
4. Left Lower Rib (LLR) uniaxial accelerometer (Y-direction)
5. Lower Thoracic Spine (T12) uniaxial accelerometer (Y-direction)
6. Pelvic (PEV) section uniaxial accelerometer (Y-direction)

Appendix B contains the vehicle and dummy response data traces. A summary of the side impact dummy (SID/HIII) configuration and performance verification test data is shown in Appendix C. Dummy and vehicle calibration data can be found in Appendix D of this report.

The following table summarizes the results of the test.

INJURY CRITERIA	P1 SID/HIII (269)
HIC (≤1000)	214.0
TTI (g) [1]	43
Pelvic (g) [1]	45
Neck X Force (N)[1]	-290.8
Neck Y Force (N)[1]	368.5
Neck Z Force (N)[1]	379.6
Neck X Moment (N-m)[1]	-76.8
Neck Y Moment (N-m)[1]	-22
Neck Z Moment (N-m)[1]	-24.1

[1] Information purposes only.

SECTION 3

SIDE IMPACT DUMMY (SID/HIII) AND VEHICLE TEST DATA

DATA SHEET 1
GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Vehicle Manufacturer: Honda of America MFG. INC.

Year/Make/Model/Body Style: 2008 Honda Accord 4-door Sedan

Vehicle Body Color: Blue VIN: IHGCP26308A052483

Vehicle NHTSA No.: C85304 Month & Year of Manufacture: 12/07

Engine Data: 4 Cylinders; - CID; 2.4 Liters; - cc

Engine Placement: - Longitudinal; or x Lateral

Transmission: 5 Speed; - Manual; x Automatic; - Overdrive

Final Drive: - Rear Wheel Drive; x Front Wheel Drive; - Four Wheel Drive

Odometer Reading 93 km

Options: x A/C; x Power Steering; x Power Brakes; x Power Windows

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity); 210 kPa FRONT

210 kPa REAR

Recommended Tire Size: P215/60R16

Tires on Test Vehicle: P215/60R16 ; Manufacturer: Dunlop

Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total

Type of Front Seats: x Bucket ; - Bench; - Split Bench

Type of Front Seat Back: - Fixed; x Adjustable with x Lever or - Knob

Vehicle Max Capacity Loading = 385 kg (A)

No. of Occupants x 68.04 kg. = 340.20 kg (B)

Vehicle Cargo Capacity = 44.80 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

	LEFT SIDE (kg)	RIGHT SIDE (kg)	TOTAL (kg)	PERCENT
FRONT =	460	441	901.0	60.9%
REAR=	286	293	579.0	39.1%

TOTAL DELIVERED WEIGHT (UDW) : 1480.0 kg

* Tire pressure used in test.

DATA SHEET 1
GENERAL TEST AND VEHICLE PARAMETER DATA (Continued)

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	1480	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	44.8	kg (B)
Weight of instrumented SID H3 (81.2 kg)	=	81.2	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	1606.0	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + SID H3 + CARGO):

	LEFT SIDE	RIGHT SIDE (kg)	TOTAL (kg)	PERCENT
FRONT =	486	450	936.0	58.2%
REAR=	344	327	671.0	41.8%

TOTAL FULLY LOADED WEIGHT : 1607.0 kg

AS TESTED WEIGHT OF TEST VEHICLE (1 SID H3 + CARGO + EQUIPMENT &

	LEFT SIDE	RIGHT SIDE (kg)	TOTAL (kg)	PERCENT
FRONT =	478.5	457.0	935.5	58.6%
REAR=	336.0	325.5	661.5	41.4%

TOTAL TEST WEIGHT: 1597.0 kg

TEST VEHICLE ATTITUDE;

	As Delivered	Fully Loaded	Ready for Test
Left Front (mm)	708	699	708
Left Rear (mm)	733	715	719
Right Front (mm)	711	707	707
Right Rear (mm)	728	718	722
Front Bumper Angle	0.4↓	0.1↓	0.7↓
Left Door Sill Angle	0.7↓	0.6↓	0.6↓
Rear Bumper Angle	0.3↓	0.4↓	0.3↓
Right Door Sill	↓0.4	↓0.2	↓0.3

Test Vehicle Wheelbase: 2800 millimeters

C.G. = 1159.8 millimeters rearward of front wheel centerline

DATA SHEET 1
GENERAL TEST AND VEHICLE PARAMETER DATA (Continued)

TOTAL VEHICLE LENGTH: (Pre Test)

Right Side = 4789 mm
Centerline = 4930 mm
Left Side = 4793 mm

FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel = 280 mm
Total Number of Adjustment Positions or Detents = 0-24

As-Tested Position:

Detent: 10
Distance from full forward: 140 mm

FRONT SEAT BACK ADJUSTMENT POSITION:

Seat Back Torso Angle = 13 degrees

As-Tested Position:

Seat Back Torso Angle = 13 degrees

ADJUSTABLE STEERING COLUMN POSITION:

Telescoping Distance: Set at 20 mm
Test Angle: 22.8 degrees

WINDOW POSITIONS:

Right Front= OPEN Right Rear= OPEN
Left Front = OPEN Left Rear = OPEN

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Capacity= 70 L
Test Volume = 64.7 L (92% to 94% of Useable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2800 mm
Impact Reference Line is 1440 mm rearward of front axle centerline

DATA SHEET 2
TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2008 Honda Accord

Body Style: 4-door Sedan VIN: IHGCP26308A052483

NHTSA No.: C85304 Test Date: 7/02/08

Overall Length = 4930 millimeters; Overall Width = 1851 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front	=	460 kg	Left Rear	=	286 kg
Right Front	=	441 kg	Right Rear	=	293 kg
TOTAL FRONT	=	901.0 kg	TOTAL REAR	=	579.0 kg

TOTAL VEHICLE WEIGHT 1480.0 kg

Wheelbase = 2800 millimeters

Longitudinal C.G. from Center of Front Axle = 1095.4 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 22 mm fwd of nominal impact ref. line (Lateral)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (	254 mm above ground)	=	283 millimeters
2. LEVEL 2 (	512 mm above ground)	=	313 millimeters
3. LEVEL 3 (	632 mm above ground)	=	332 millimeters
4. LEVEL 4 (	911 mm above ground)	=	306 millimeters
5. LEVEL 5 (	1429 mm above ground)	=	89 millimeters

Maximum Post-Test Intrusion = 332 millimeters

OCCUPANTS: Front Passenger:

Dummy Identification 269

Restraints Used 3-point belt system with deployed curtain and torso bag

INSTRUMENTATION:

Number of Vehicle Data Channels:		=	21
Number of Cameras:	Onboard	=	3
	Offboard	=	10
	TOTAL	=	13

DATA SHEET 3
POST TEST OBSERVATIONS

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304

VISIBLE DUMMY CONTACT POINTS:

	SID HIII
Head:	Left side curtain airbag
Upper Torso:	Torso airbag
Lower Torso:	Torso airbag
Left Knee:	Door trim
Right Knee:	Left knee

DOOR OPENING:

	LEFT DOOR	RIGHT DOOR
Front:	Closed – tools required	Closed – operable without tools
Rear:	Closed – tools required	Closed – operable without tools

ARM REST LOCATIONS:

Front: Intact after impact

Rear: Intact after impact

SEAT MOVEMENT:

Front: None

Rear: None

GLAZING DAMAGE:

Windshield: Left side severe cracking

Window: Broken inside door

PILLAR PERFORMANCE:

OK

SILL SEPARATION:

None

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	NO	NO	NO
SIDE	YES	NO	NO

OTHER NOTABLE IMPACT EFFECTS:

Lateral impact 22 mm forward of impact line

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 4
SID/HIII INSTRUMENTATION DATA

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304

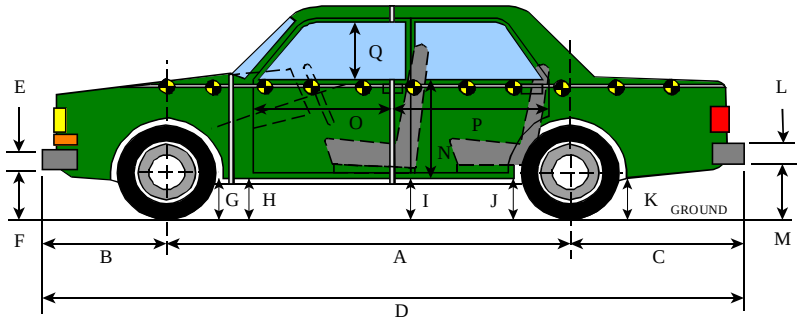
	Front Dummy ID# 269			
	Pos. Direction		Neg. Direction	
	Max	Time	Max	Time
HEAD ACCELERATIONS:	(g)	(msec)	(g)	(msec)
Longitudinal X	2.3	90.2	-10.1	60.1
Lateral Y	48.6	57.9	-10.4	127.5
VerticalZ	7.6	23.2	-10.0	52.7
Resultant R	50.0	57.9	0.1	-55.3
HIC	214.0			
NECK LOADS:	(N)	(msec)	(N)	(msec)
Longitudinal X	5.1	-52.9	-290.8	59.7
Lateral Y	368.5	58.4	-223.4	129
Vertical Z	379.6	44.8	-96.6	54.5
Resultant R	482	58.8	3.6	-56.6
NECK MOMENTS:	(N-m)	(msec)	(N-m)	(msec)
Longitudinal X	20.6	101.2	-76.8	54.1
Lateral Y	16.4	84.1	-22	59.9
Vertical Z	10.8	62.2	-24.1	133.6
Resultant R	78.3	54.3	0.4	-59.7
RIB ACCELERATIONS:	(g)	(msec)	(g)	(msec)
Upper Rib Lateral Y	39.5	46.8	-9.2	103.7
Upper Rib Lateral Y(R)	39.5	46.8	-8.6	103.7
Lower Rib Lateral Y	42.1	45.6	-10.6	88.1
Lower Rib Lateral Y(R)	42.4	45.6	-10.8	88
SPINE ACCELERATIONS:	(g)	(msec)	(g)	(msec)
Lower Lateral Y	44.5	46.2	-13.2	88.1
Lower Lateral Y(R)	44.0	46.2	-13.3	88.1
PELVIC ACCELERATIONS:	(g)	(msec)	(g)	(msec)
Lateral Y	45.4	40.0	-13.7	76.2
Lateral Y(R)	45.7	40.0	-13.5	76.2

REFERENCE: Positive Direction –
Longitudinal (X) = forward
Lateral (Y) = to right
Vertical (Z) = down

Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.
Head Accelerations are filtered at SAE Class 1000, Neck Force uses Class 1000, Neck Moment uses Class 600

DATA SHEET 5
VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



LEFT SIDE VIEW

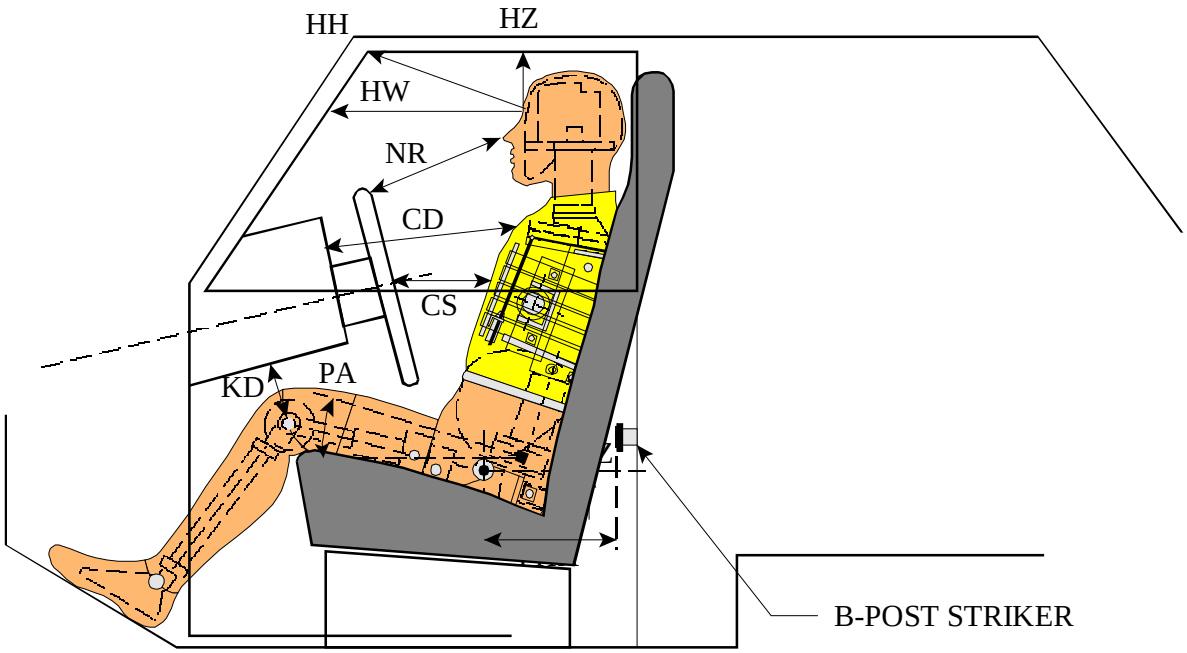
NOTE: all dimensions are in millimeters with tolerance of ±3 mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	∇ CHANGE
A	2800	2800	2746	-54
B	994	994	1037	43
C	1136	1136	1146	10
D	4930	-	4929	-1
E	95	-	95	0
F	415	411	434	23
G	190	178	174	-4
H	192	180	181	1
I	191	179	185	6
J1	172	158	170	12
J2	195	180	198	18
K	242	225	240	15
L	210	-	210	0
M	430	412	409	-3
N	724	-	717	-7
O	955	-	2577	1622
P	1022	-	1011	-11
Q	450	-	408	-42
R	4789	-	4786	-3
S	4793	-	4792	-1
T	1851	-	1617	-234

D = Length at Centerline E&L = Bumper Thickness R = Right Side Length S = Left Side Length
T = Width at B-Pillar J1 = To Pinch Weld J2 = To Sill

DATA SHEET 6
SID / HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



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

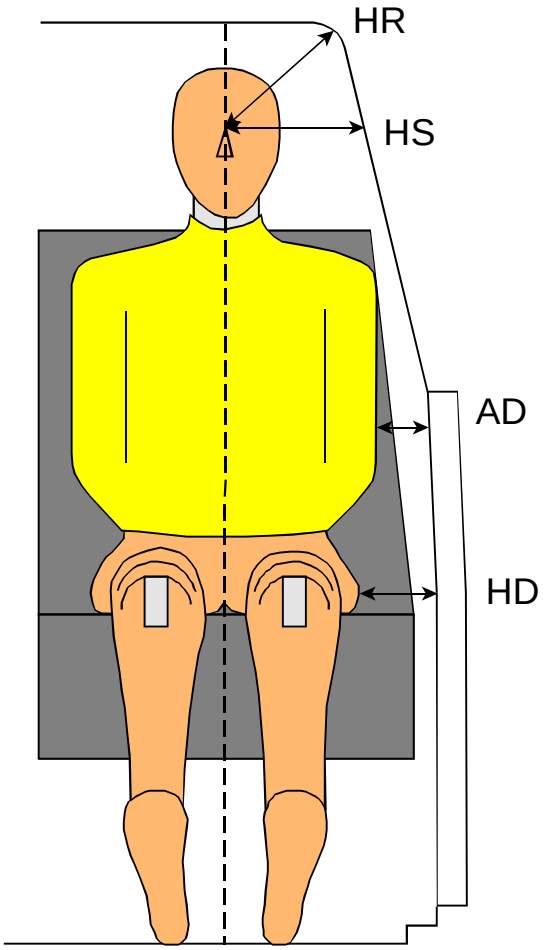
LEFT SIDE VIEW

NOTE: All dimensions are in millimeters with tolerance of ±3 mm

	SID/HIII ID# 269
HH	349
HW	597
HZ	205
NR/NB	392
CD/CB	542
CS	309
KDL(KDA°)/KBL(KDA°)	150 / (32°)
KDR(KBA°)/KBR(KBA°)	145 / (30°)
PA°	23.9 °
PHX	230
PHZ	169

DATA SHEET 7
SID / HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



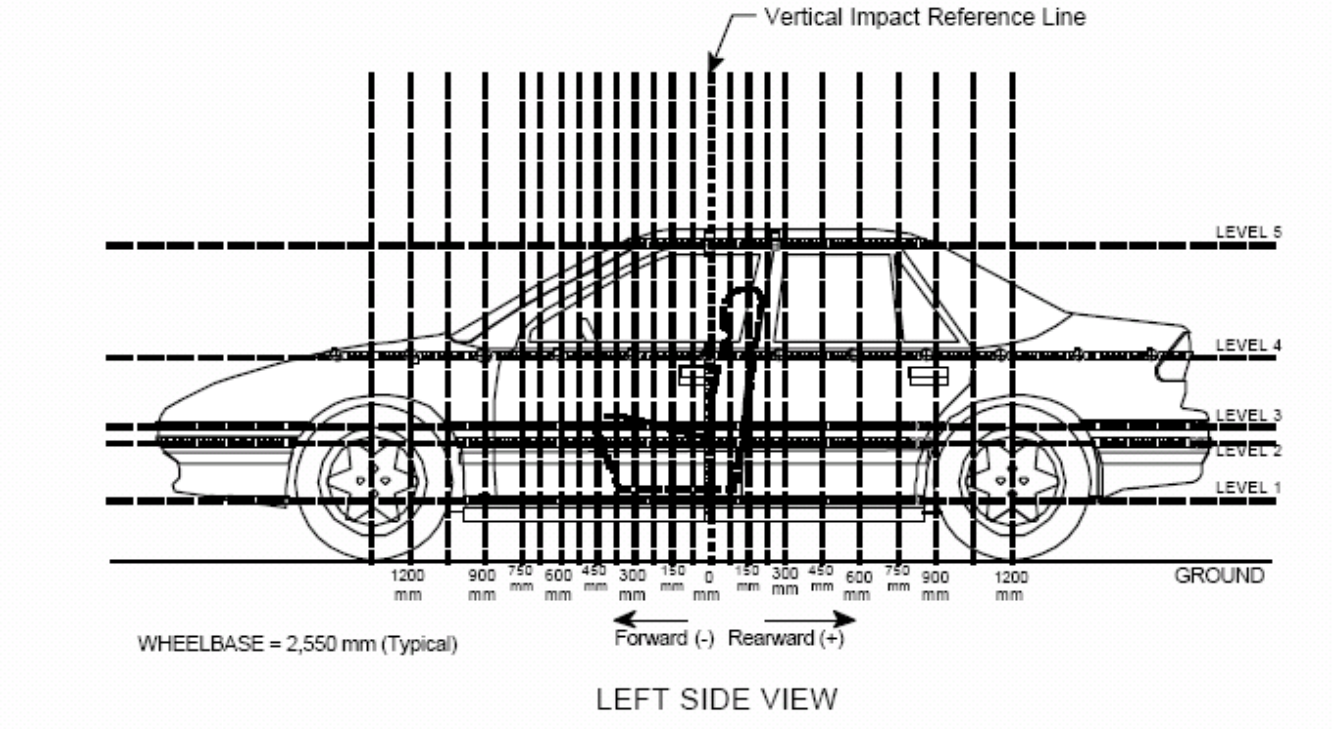
NOTE: All dimensions are in millimeters with tolerance of ±3 mm

	SID / HIII ID # 269			
HR	198			
HS	332			
AD*	LOWER:	122	UPPER:	122
HD	161			

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID / HIII arm to the closest part of the vehicle side. Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID / HIII arm to the closest part of the vehicle side.

DATA SHEET 8
VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



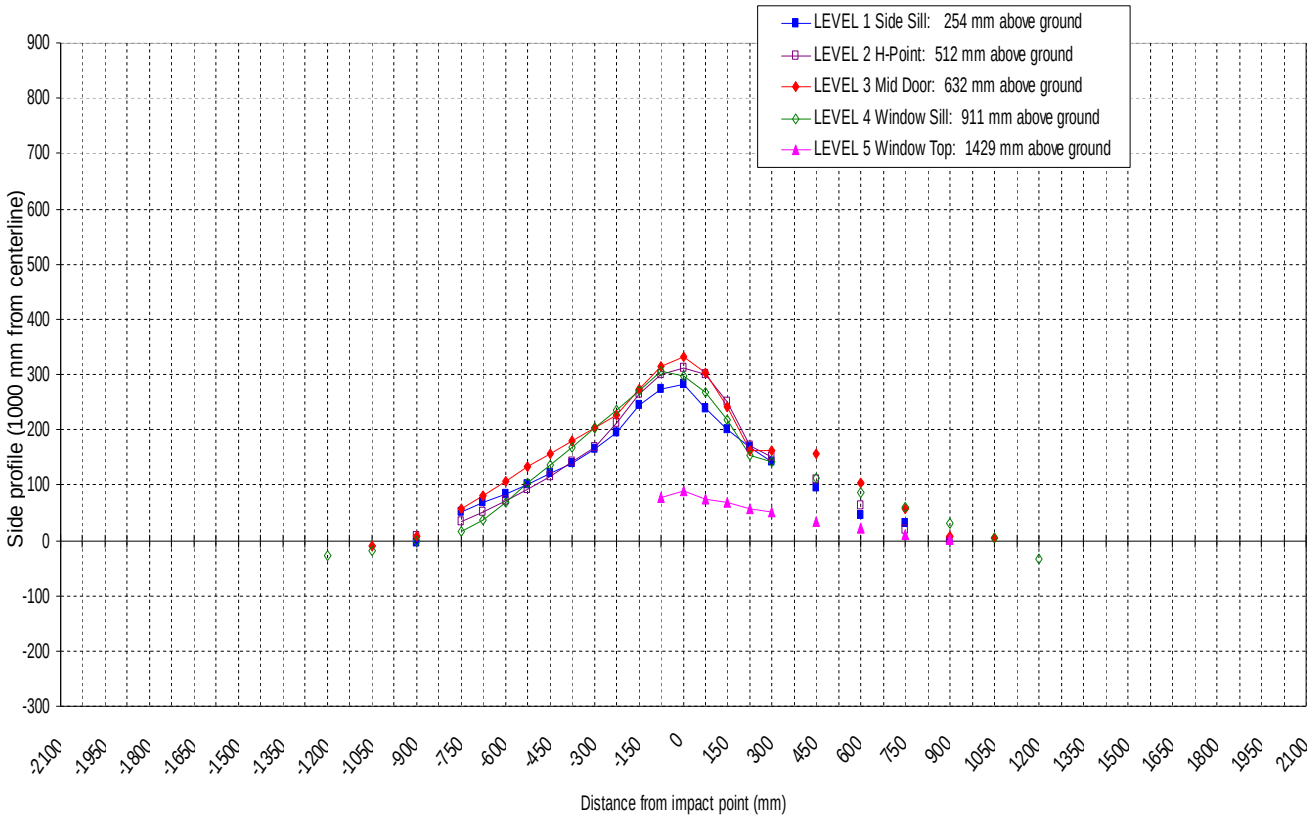
MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.

Measurements Along the Vertical 0 mm Line Shown Above:

Level 5 @ Window Top	=	89	millimeters
Level 4 @ Window Sill	=	306	millimeters
Level 3 @ Mid Door	=	332	millimeters
Level 2 @ Occupant H-Point	=	313	millimeters
Level 1 @ Sill Top Height	=	283	millimeters

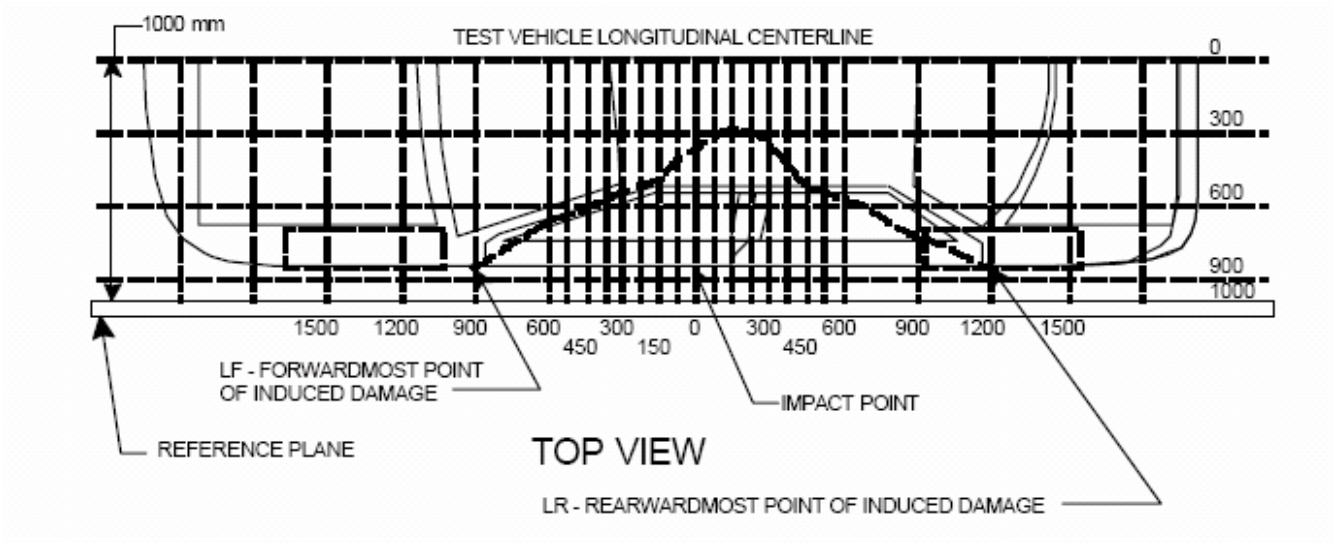
DATA SHEET 9
VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



DATA SHEET 10
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



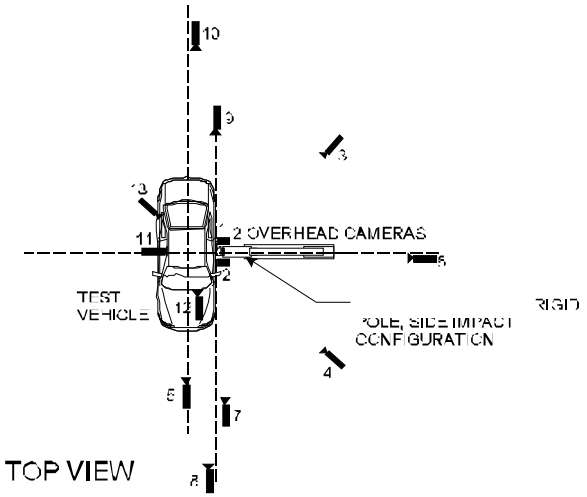
MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (-).
Rearward of the impact point (toward rear of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of ±3 mm.

DPD MEASUREMENTS (mm)		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1 (LR)	900	429	430	1
2	540	83	188	105
3	180	80	299	219
4	-180	114	371	257
5	-540	79	206	127
6 (LF)	-900	113	110	-3

DATA SHEET 11
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2008HondaAccord 4-door Sedan NHTSA No. C85304



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	970	180	-4375	90	8	1000
2	Overhead closeup view of impact plane	390	180	-4375	90	28	1000
3	Left side 45° – rearward pole view	2241	2509	1241	-6	24	1000
4	Left side 45° – forward pole view	2669	2989	1333	-5	24	1000
5	Real time (30 fps) film coverage of test	-	-	-	-	-	30
6	Left side – rear pole view	615	1736	2030	22	24	1000
7	Front ground level – vehicle/pole impact	9830	409	916	0	24	1000
8	Front ground level – vehicle roof targets and vehicle/pole impact	7932	784	1072	-2	50	1000
9	Rear ground level – vehicle/pole impact	7259	665	924	-3	50	1000
10	Rear ground level – view of rear roof targets	7548	348	927	-1	28	1000
11	Test vehicle onboard -- side view of SID H3	1722	261	1069	5	12	1000
12	Test vehicle onboard– front view of SID H3	471	1561	1249	9.5	25	1000
13	Test vehicle onboard– 3/4 rear view of SID H3	1753	661	1141	7	12.5	1000

* Reference (from point of impact); all measurements accurate to within ±6 mm.

+X = Forward
+Y = To Right
+Z = Down

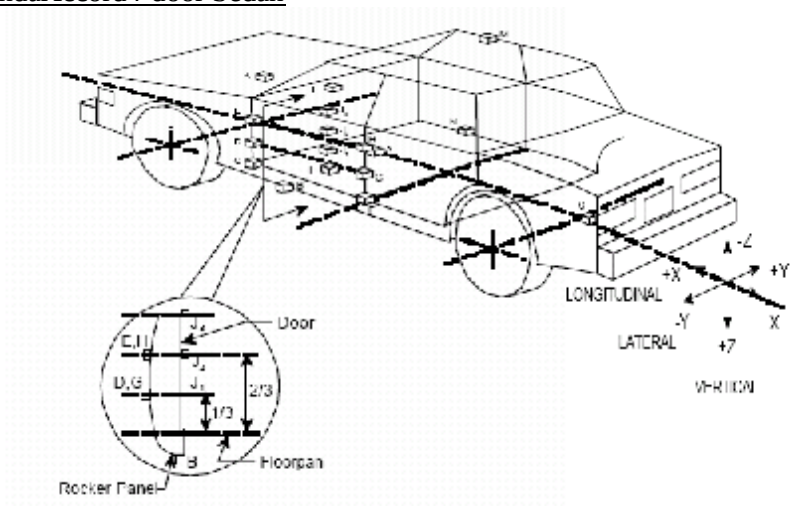
DATA SHEET 12
DUMMY DAMAGE CHECKLIST – SID/HIII

Dummy Serial No. 269 Date: 7/03/08

OK	Damaged	(Begin with general cleaning)
X	-	Outer skin on entire dummy (gashes, rips, etc.)
X	-	Head - Check that ballast is secure
X	-	Gashes, rips, general appearances, etc
X	-	Neck - Broken or cracks in rubber
X	-	Check that upper neck bracket is firmly attached to lower neck
X	-	Check for looseness at the condyle joint
X	-	Nodding blocks – cracked or out of position
X	-	Spine - Broken or cracks in rubber
X	-	Ribs - Check all ribs and rib supports for damage (bent or broken)
X	-	Check damping material or separation or cracks
X	-	Three rubber bumpers in place
X	-	Lateral Shock Absorber - Bent or broken
X	-	Transducer Leads - Torn cables
X	-	Accelerometer Mountings - (head, ribs, spine, and pelvis) - Check for secure mounting).
X	-	Knees- Check outer skin, insert and casting (without removing insert)
X	-	Limbs- Check for normal movement and adjustment
X	-	Head / Neck bracket attachment - Check to see if cracked or broken

DATA SHEET 13
TEST VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2008HondaAccord4-door Sedan NHTSA No. C85304



Accelerometer Location		Pre-Test (mm)			Post Test (mm)		
		X	Y	Z	X	Y	Z
A	Vehicle CG X,Y,Z	2735	-3	-469	2753	17	-508
B	Struck Side Front Sill Y	2735	-3	-469	2753	17	-508
C	Struck Side A-Pillar Sill Y	3126	-687	-291	N/A	N/A	N/A
D	Struck Side Lower A-Pillar Y	3395	-736	-380	N/A	N/A	N/A
E	Struck Side Middle A-Pillar Y	3414	-737	-465	N/A	N/A	N/A
F	Struck Side B-Pillar Sill Y	N/A	N/A	N/A	N/A	N/A	N/A
G	Struck Side Lower B-Pillar Y	2352	-765	-358	2340	-590	-357
H	Struck Side Middle B-Pillar Y	2292	-746	-556	2293	-578	-557
I	Front Outboard Seat Track Y at H-point X	2299	-746	-868	2314	-578	-866
J	Front Door Y (3) – 480 mm forward of impact	2530	-571	-320	N/A	N/A	N/A
K	Top of Engine X,Y	N/A	N/A	N/A	N/A	N/A	N/A
L	Center of Firewall Y	N/A	N/A	N/A	N/A	N/A	N/A
M	Unstruck Side Roof Rail Y at impact line	N/A	N/A	N/A	N/A	N/A	N/A
N	Unstuck Side Floor Sill Y at impact line	4115	25	-836	4113	-27	-842
O	Rear Axle Floorpan X,Y	3833	58	-870	3842	30	-855

*Reference: X - Rear Bumper (Positve Forward)
Y - Vehicle Centerline (Positive To Right)
Z - Ground Level (Positive Up)

DATA SHEET 13
TEST VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY (Continued)

Test Vehicle: 2008HondaAccord4-door Sedan NHTSA No. C85304

		Longitudinal		Lateral		Vertical		Resultant	
Accelerometer		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
A	Pos.	28.1	87.8	37.6	102.3	30.8	118	47.1	95.4
	Neg.	-44.8	95.3	-37.3	87	-26	79.8	0	-51.5
B	Pos.	-	-	33.1	12.9	-	-	-	-
	Neg.	-	-	-0.6	228.2	-	-	-	-
C	Pos.	-	-	19.8	13.3	-	-	-	-
	Neg.	-	-	-1	228.2	-	-	-	-
D	Pos.	-	-	18.7	12.9	-	-	-	-
	Neg.	-	-	-0.7	227.9	-	-	-	-
E	Pos.	-	-	38.1	93	-	-	-	-
	Neg.	-	-	-15.4	80.6	-	-	-	-
F	Pos.	-	-	66.8	12.2	-	-	-	-
	Neg.	-	-	-39.1	39.3	-	-	-	-
G	Pos.	-	-	29.6	26	-	-	-	-
	Neg.	-	-	-27.3	20	-	-	-	-
H	Pos.	-	-	73.8	14.8	-	-	-	-
	Neg.	-	-	-14.9	5.2	-	-	-	-
I	Pos.	-	-	127.8	21.8	-	-	-	-
	Neg.	-	-	-79.8	26.5	-	-	-	-
J	Pos.	-	-	-	-	-	-	-	-
	Neg.	-	-	-	-	-	-	-	-
K	Pos.	4.7	38.6	13.1	76	-	-	-	-
	Neg.	-2.2	116.4	-2.9	197.1	-	-	-	-
L	Pos.	-	-	12	56.3	-	-	-	-
	Neg.	-	-	-1	243.1	-	-	-	-
M	Pos.	-	-	15.9	46.9	-	-	-	-
	Neg.	-	-	-1.4	339.9	-	-	-	-
N	Pos.	-	-	13.7	58.5	-	-	-	-
	Neg.	-	-	-1	224.2	-	-	-	-
O	Pos.	181.6	223.6	13.3	53.7	-	-	-	-
	Neg.	-508.1	131.3	-0.8	177.2	-	-	-	-

SECTION 5

FMVSS NO. 301 DATA

DATA SHEET 14
SUMMARY OF FMVSS NO. 301 DATA

NHTSA TEST No.: C85304 TEST DATE: 7/02/08

VEHICLE MAKE/MODEL: 2008 Honda Accord 4-door Sedan

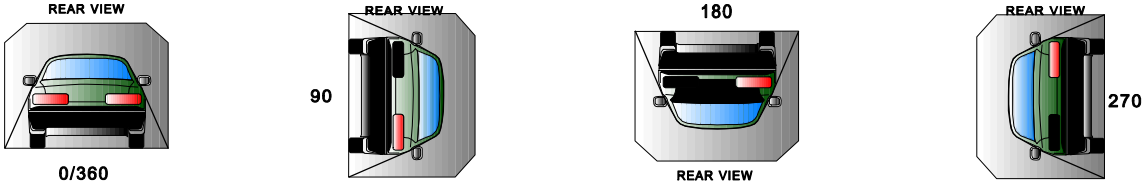
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

FUEL SPILLAGE MEASUREMENT:

Time Interval	Amount	Maximum Allowable Spillage
Impact Until Motion Ceases	0	**28 g**
First Five Minutes Following Impact	0	**142 g**
Next 25 Minutes	0	**28 g / 1 minute**

SOLVENT SPILLAGE DETAILS: None

FMVSS 301 STATIC ROLLOVER DATA



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0º - 90º	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes
90º - 180º	1	minutes	12	seconds	5	minutes	6	minutes	12	seconds	7	minutes
180º-270º	1	minutes	12	seconds	5	minutes	6	minutes	12	seconds	7	minutes
270º-360º	1	minutes	11	seconds	5	minutes	6	minutes	11	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0º - 90º	0	0	0	N/A
90º - 180º	0	0	0	N/A
180º-270º	0	0	0	N/A
270º-360º	0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0º - 90º	None
90º - 180º	None
180º-270º	None
270º-360º	None

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (continued)

Figure A-1: As Received Left Front ¾ View

Figure A-2: As Received Right Rear ¾ View

Figure A-3: Vehicle Certification Label

Figure A-4: Vehicle Tire Placard Label

Figure A-5: Pre-Test Front View

Figure A-6: Post-Test Front View

Figure A-7: Pre-Test Left Front ¾ View

Figure A-8: Post-Test Left Front ¾ View

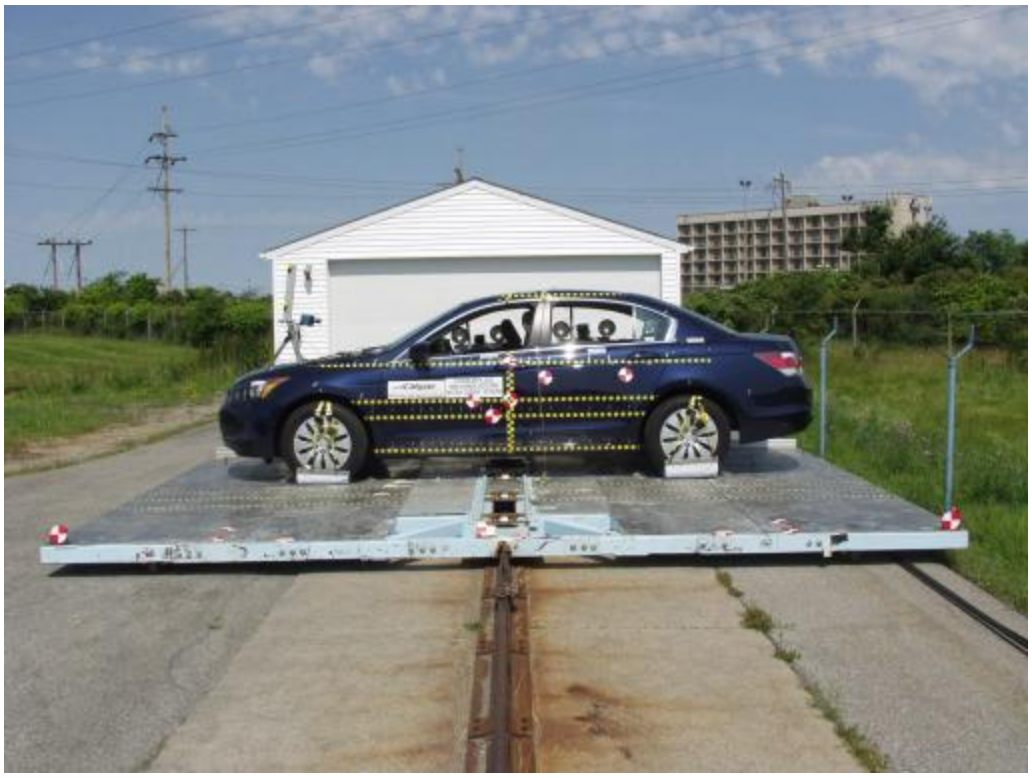


Figure A-9: Pre-Test Left Side View

Figure A-10: Post-Test Left Side View

Figure A-11: Pre-Test Left Rear ¾ View

Figure A-12: Post-Test Left Rear ¾ View

Figure A-13: Pre-Test Rear View

Figure A-14: Post-Test Rear View

Figure A-15: Pre-Test Right Rear ¾ View

Figure A-16: Post-Test Right Rear ¾ View

Figure A-17: Pre-Test Right Side View

Figure A-18: Post-Test Right Side View

Figure A-19: Pre-Test Right Front ¾ View

Figure A-20: Post-Test Right Front ¾ View

Figure A-21: Pre-Test Left Side View of Aligned Vehicle and Pole

Figure A-22: Pre-Test Right Side View of Aligned Vehicle and Pole

Figure A-23: Pre-Test Overhead View of Aligned Vehicle and Pole

Photo not Available

Figure A-24: Post-Test Overhead View of Vehicle and Pole

Figure A-25: Pre-Test Close-Up View of Impact Point Target

Figure A-26: Post-Test Close-Up View of Impact Point Target

Figure A-27: Pre-Test Opposite Side View of SID / HIII

Figure A-28: Post-Test Opposite Side View of SID / HIII

Figure A-29: Pre-Test Impact Side View of SID / HIII with Door Open

Figure A-30: Pre-Test Impact Side View of SID / HIII

Figure A-31: Post-Test Impact Side View of SID / HIII

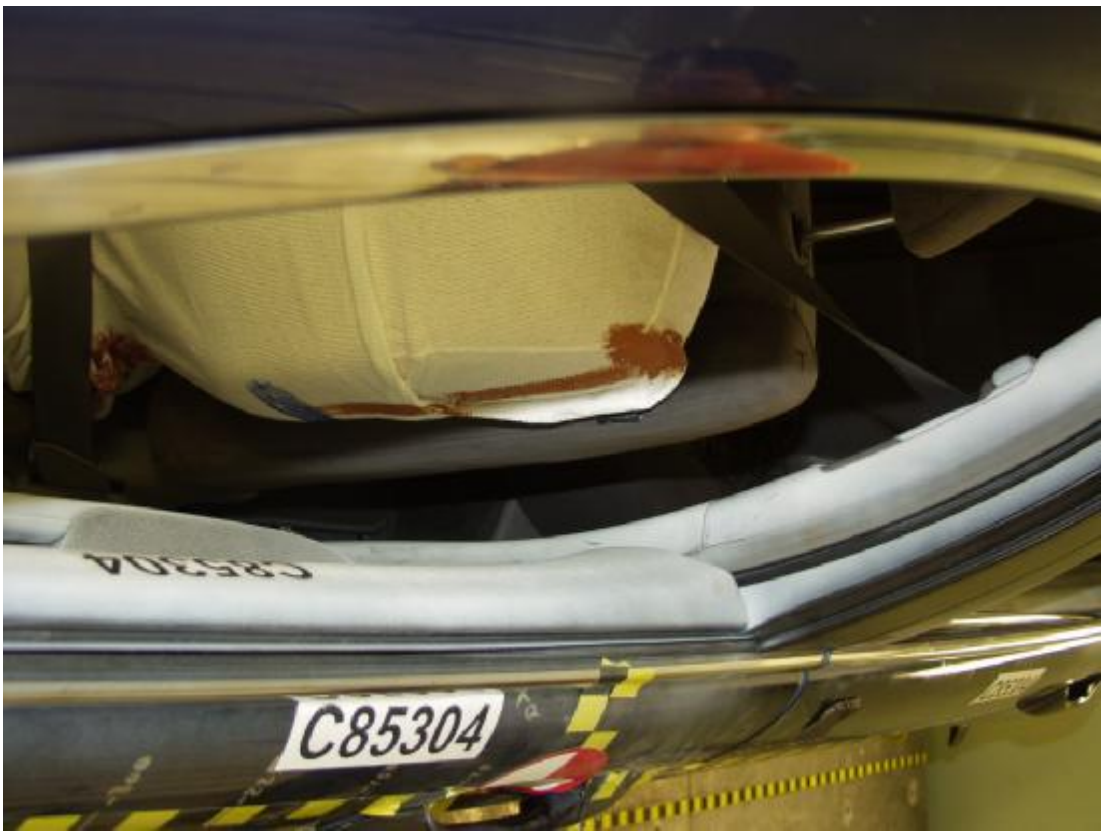


Figure A-32: Pre-Test Dummy Shoulder and Door Top View

Figure A-33: Post-Test Dummy Shoulder and Door Top View

Figure A-34: Pre-Test Impact Side Front Interior Trim

Figure A-35: Post-Test Impact Side Front Interior Trim

Figure A-36: Pre-Test Left Front ¾ View of Impact Zone

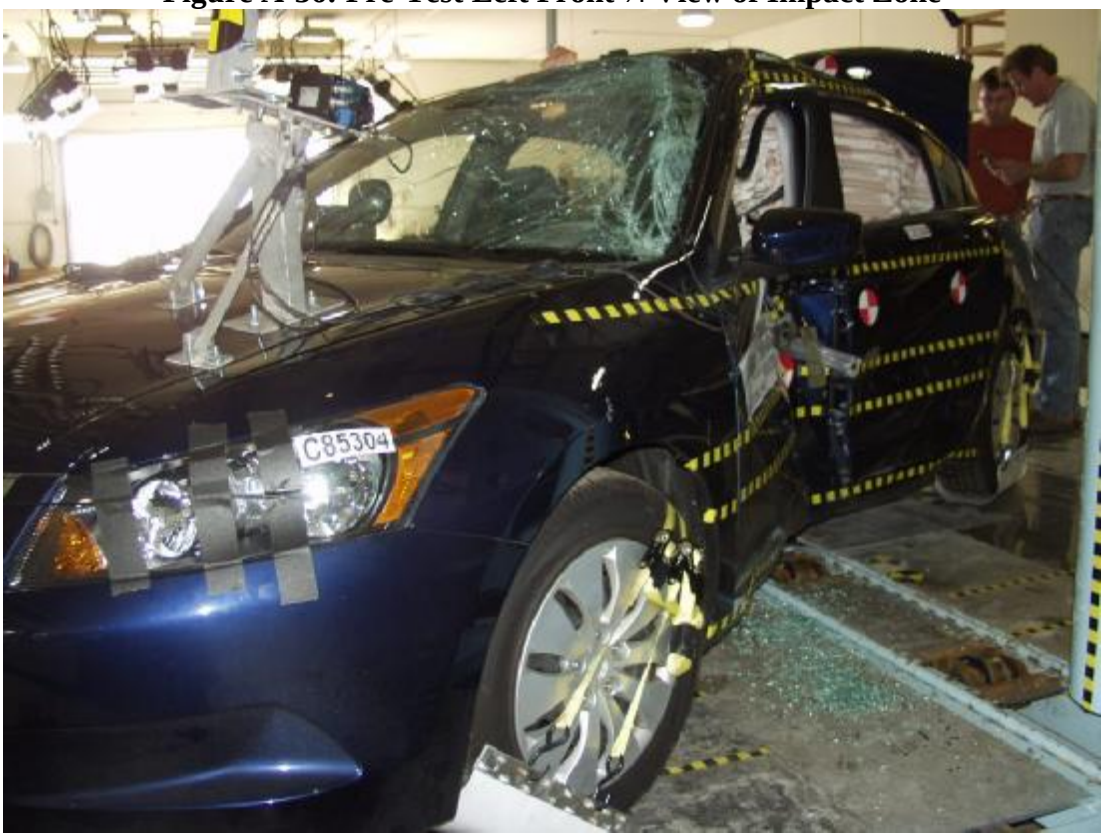


Figure A-37: Post-Test Left Front ¾ View of Impact Zone

Figure A-38: Pre-Test Left Rear ¾ View of Impact Zone

Figure A-39: Post-Test Left Rear ¾ View of Impact Zone

Figure A-40: Rollover 90 Degrees

Figure A-41: Rollover 180 Degrees

Figure A-42: Rollover 270 Degrees

Figure A-43: Rollover 360 Degrees

Figure A-44: Impact Photo

APPENDIX B

SID/HIII AND VEHICLE RESPONSE DATA

(SAE sign convention)

DATA CHANNEL FILTER CLASS SUMMARY

Data Type	SAE Filter Class
Dummy Head Accelerations	CFC 1000
Rib Accelerations	FIR 100
Spine Accelerations	FIR 100
Pelvis Accelerations	FIR 100

DATA CHANNEL TITLE KEY

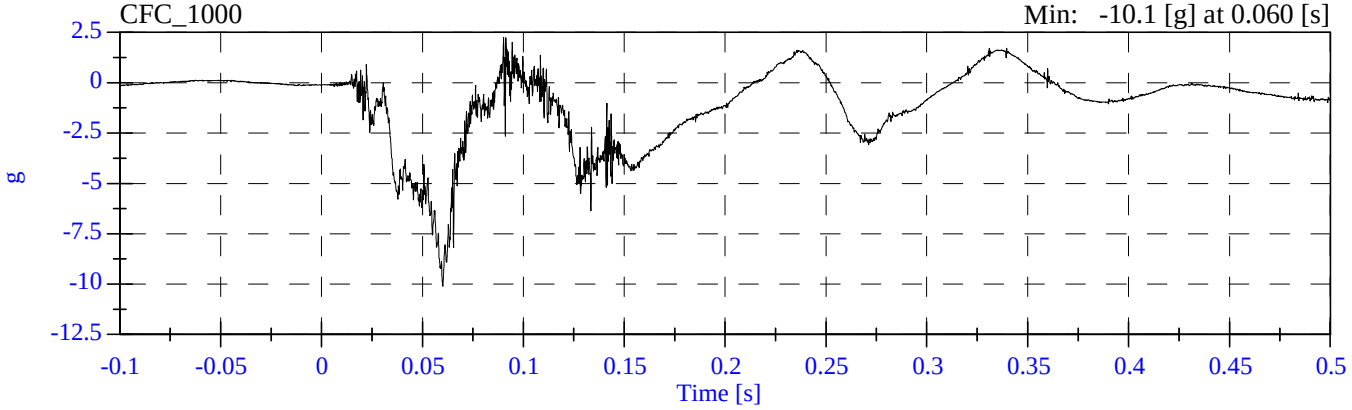
Prefix	Suffix
V1 = Vehicle 1 (Test Vehicle)	Ax = Acceleration, X-direction
P1 = Left Front Seating Position (Driver)	Ay = Acceleration, Y-direction
P2 = Left Front Seating Position (Passenger)	Az = Acceleration, Z-direction
A1-A17 = Accelerometer Location Number	Fx = Force, X-direction
	Fy = Force, Y-direction
	Fz = Force, Z-direction
	Mx = Moment about X
	My = Moment about Y
	Mz = Moment about Z
	Vx = Velocity, X-direction
	Vy = Velocity, Y-direction
	Vz = Velocity, Z-direction
	R = Redundant

TABLE OF DATA PLOTS

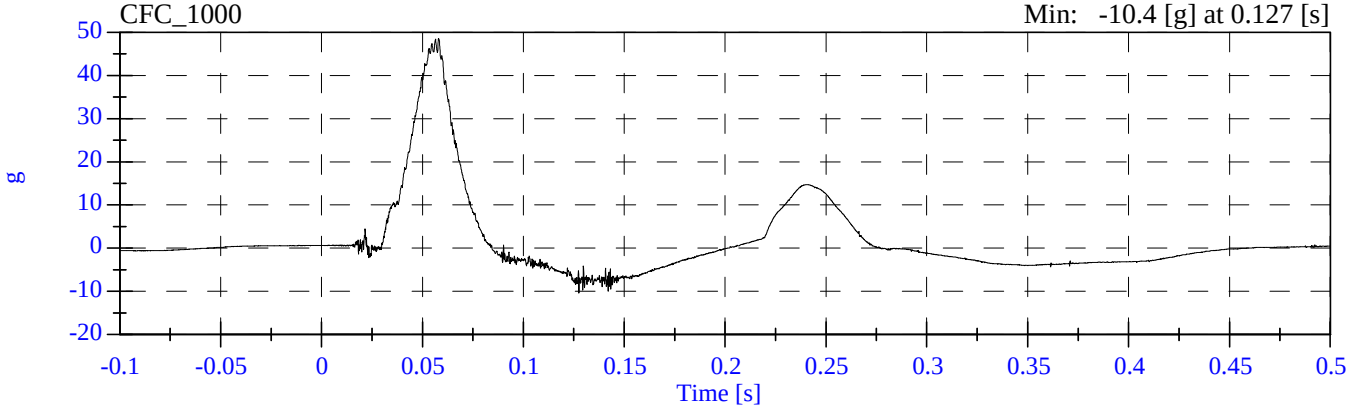
TABLE OF DATA PLOTS (continued)

2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

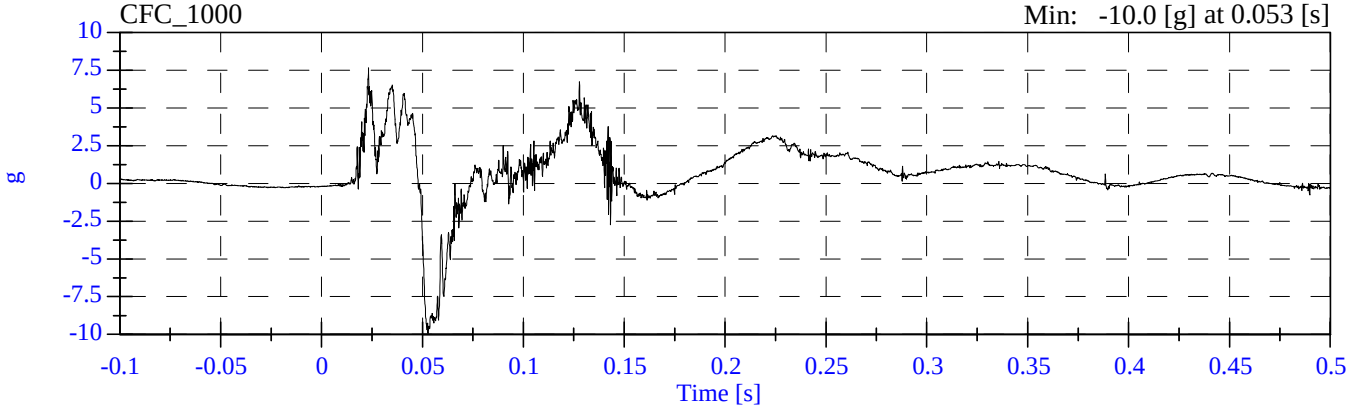
V1P1 Head x
CFC_1000
Max: 2.3 [g] at 0.090 [s]
Min: -10.1 [g] at 0.060 [s]



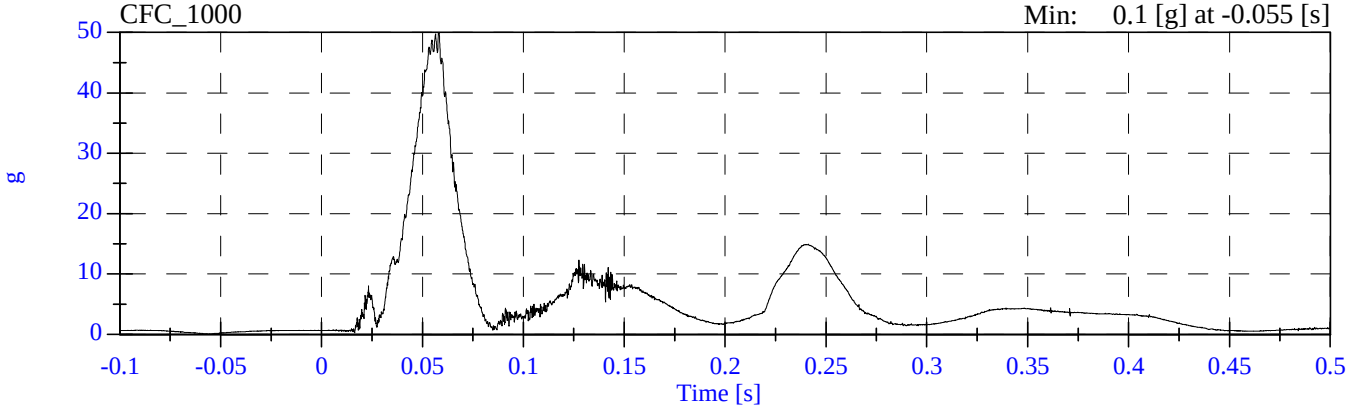
V1P1 Head y
CFC_1000
Max: 48.6 [g] at 0.058 [s]
Min: -10.4 [g] at 0.127 [s]



V1P1 Head z
CFC_1000
Max: 7.6 [g] at 0.023 [s]
Min: -10.0 [g] at 0.053 [s]

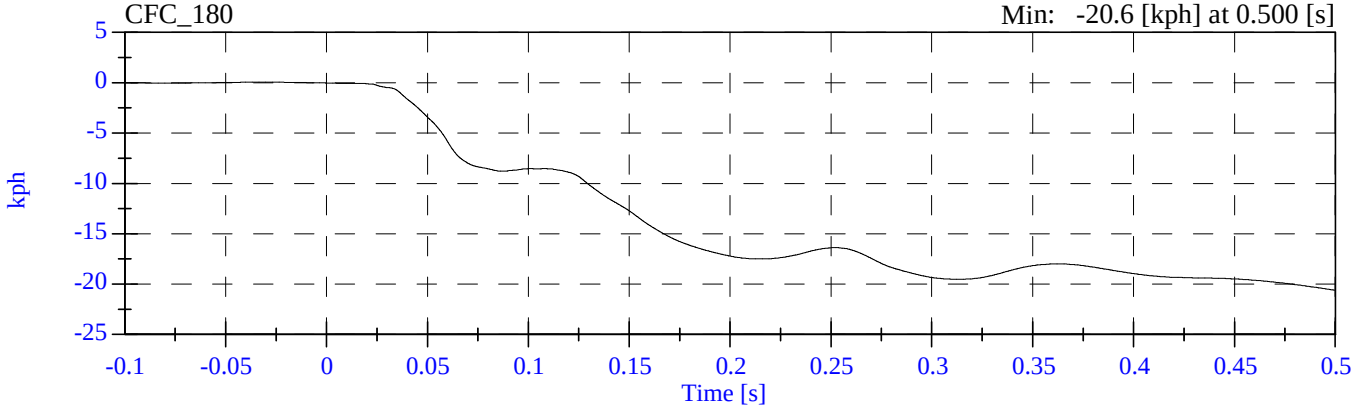


V1P1 Head Resultant
CFC_1000
Max: 50.0 [g] at 0.058 [s]
Min: 0.1 [g] at -0.055 [s]

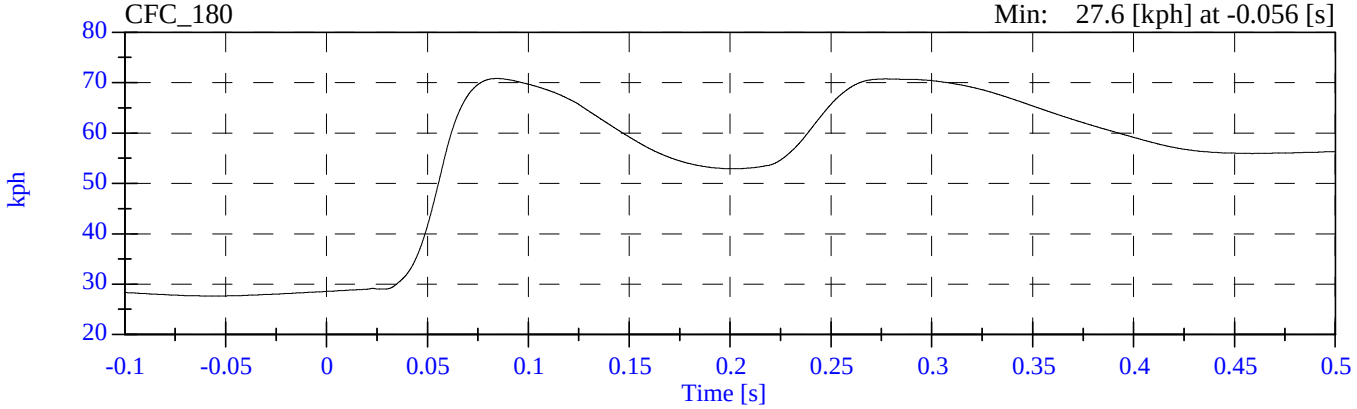


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

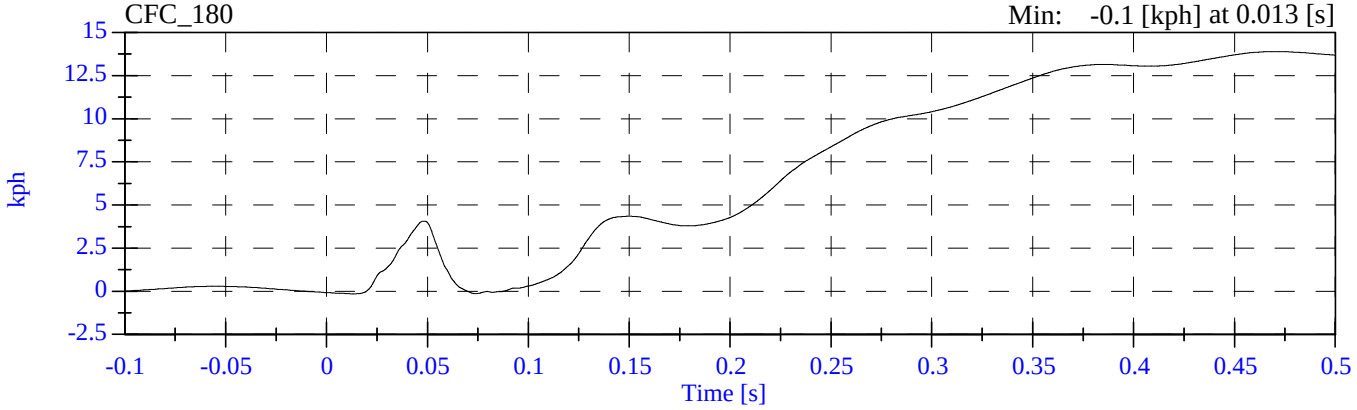
V1P1 Head x Velocity
CFC_180
Max: 0.1 [kph] at -0.034 [s]
Min: -20.6 [kph] at 0.500 [s]



V1P1 Head y Velocity
CFC_180
Max: 70.8 [kph] at 0.085 [s]
Min: 27.6 [kph] at -0.056 [s]

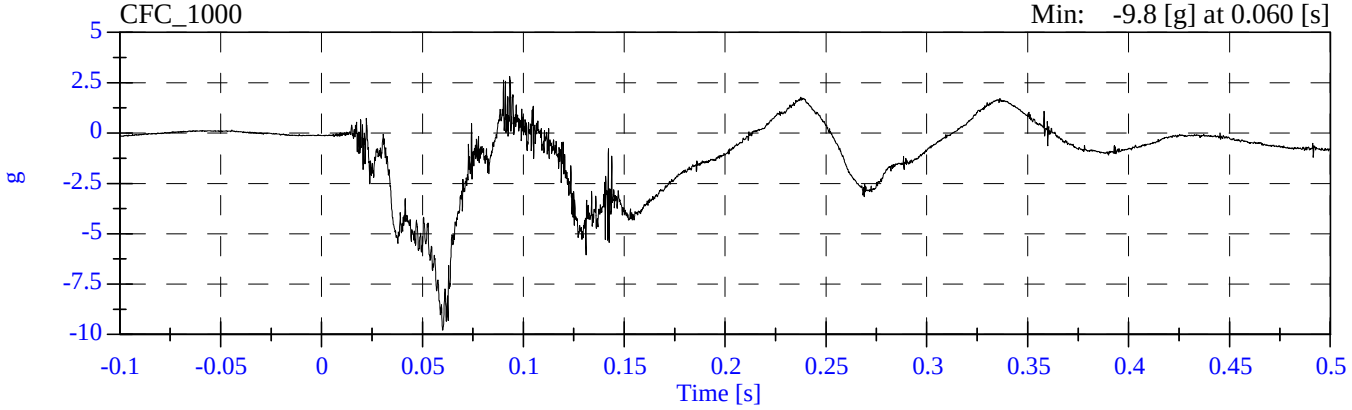


V1P1 Head z Velocity
CFC_180
Max: 13.9 [kph] at 0.470 [s]
Min: -0.1 [kph] at 0.013 [s]

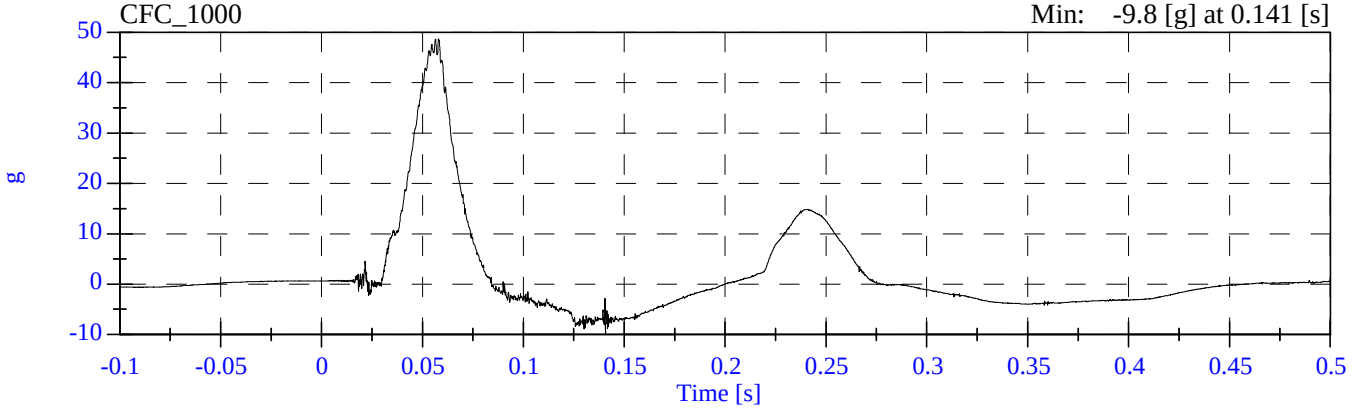


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

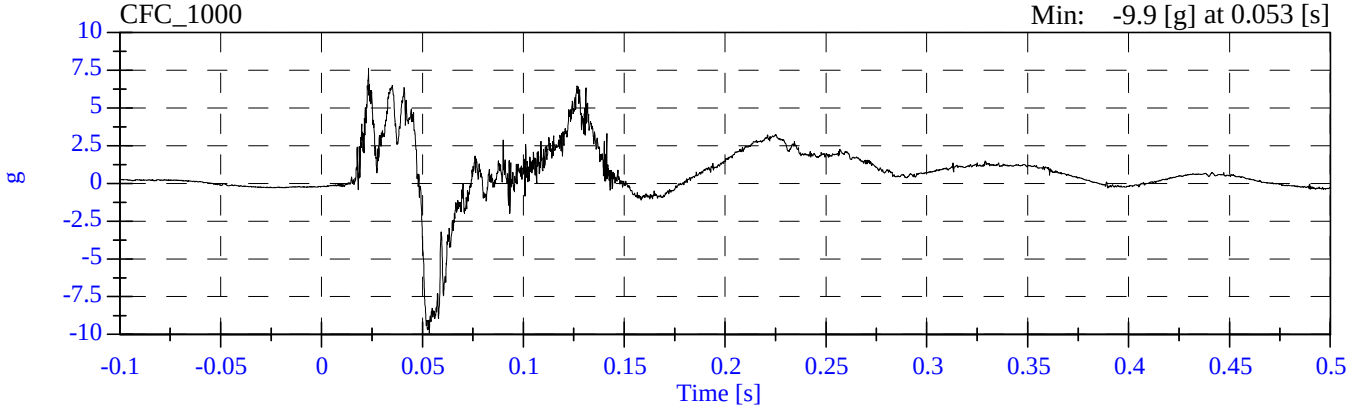
V1P1 Head Rx
CFC_1000
Max: 2.8 [g] at 0.093 [s]
Min: -9.8 [g] at 0.060 [s]



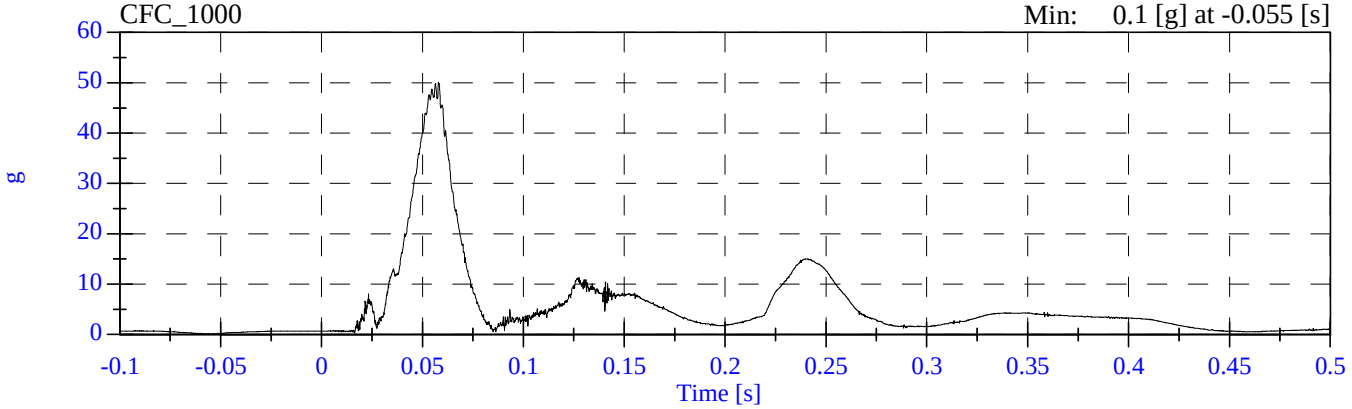
V1P1 Head Ry
CFC_1000
Max: 48.7 [g] at 0.058 [s]
Min: -9.8 [g] at 0.141 [s]



V1P1 Head Rz
CFC_1000
Max: 7.6 [g] at 0.023 [s]
Min: -9.9 [g] at 0.053 [s]

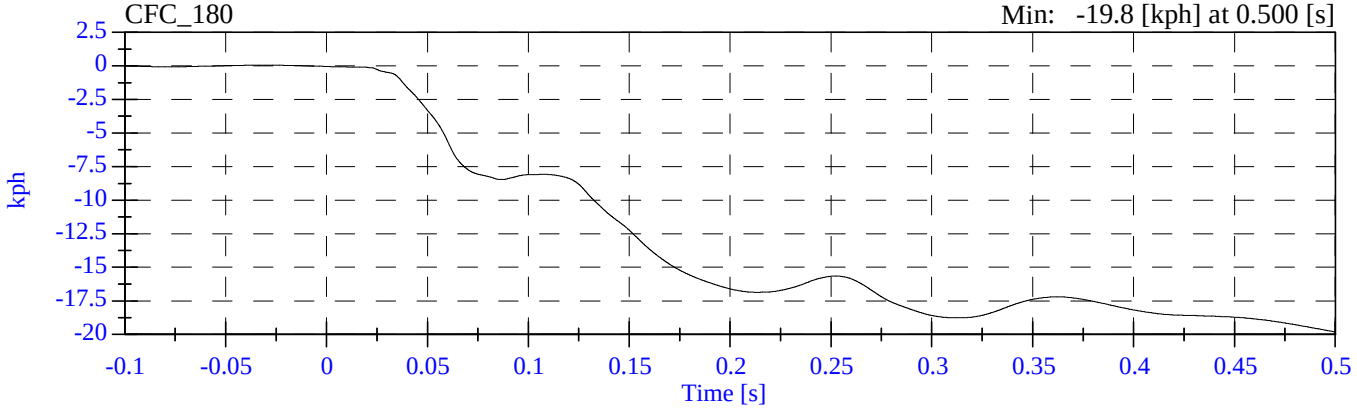


V1P1 Head R Resultant
CFC_1000
Max: 50.1 [g] at 0.058 [s]
Min: 0.1 [g] at -0.055 [s]

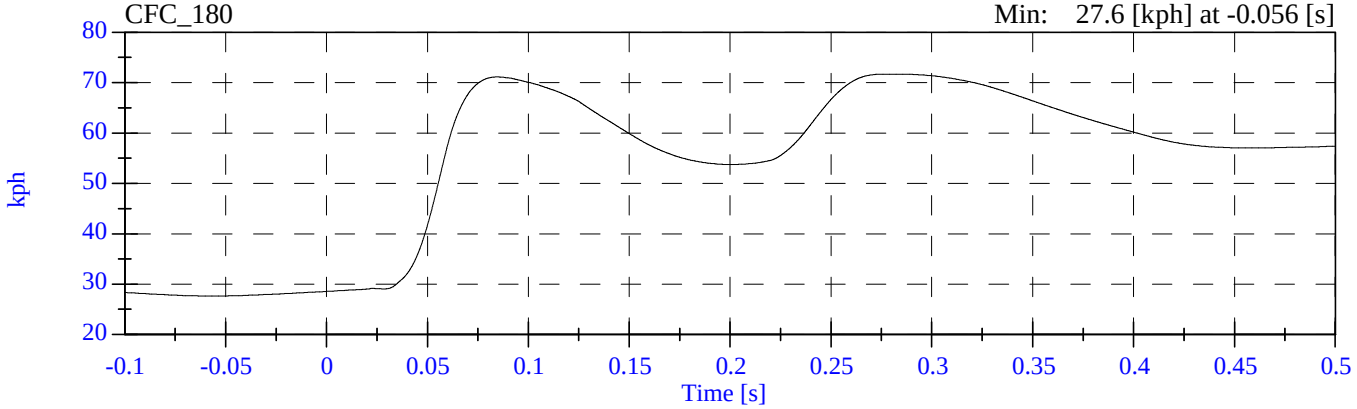


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

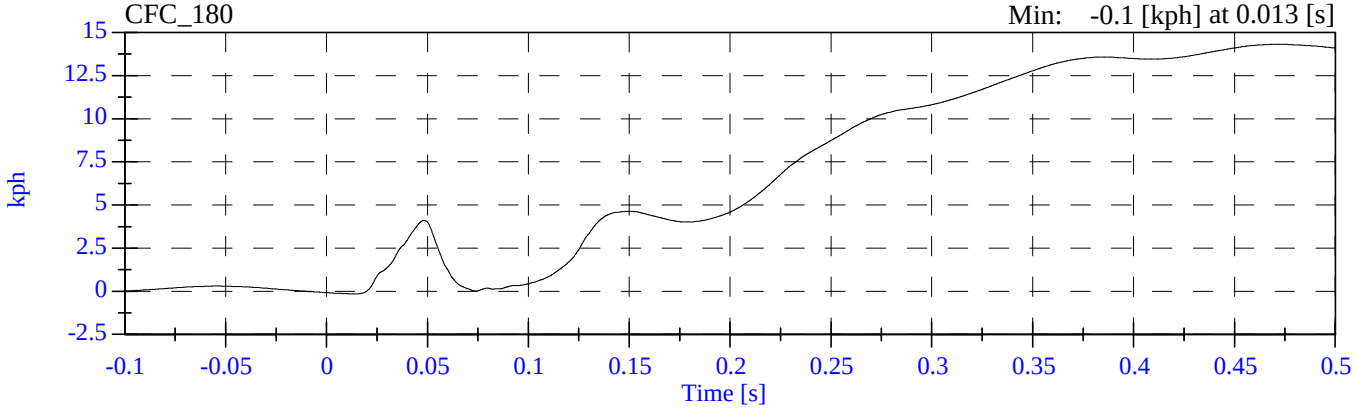
V1P1 Head Rx Velocity
CFC_180
Max: 0.1 [kph] at -0.032 [s]
Min: -19.8 [kph] at 0.500 [s]



V1P1 Head Ry Velocity
CFC_180
Max: 71.7 [kph] at 0.277 [s]
Min: 27.6 [kph] at -0.056 [s]

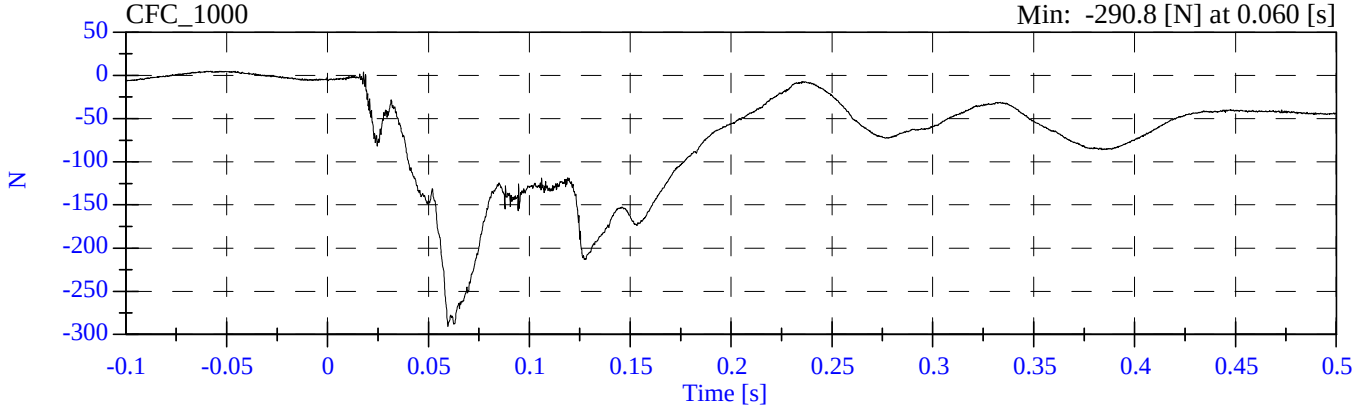


V1P1 Head Rz Velocity
CFC_180
Max: 14.3 [kph] at 0.472 [s]
Min: -0.1 [kph] at 0.013 [s]

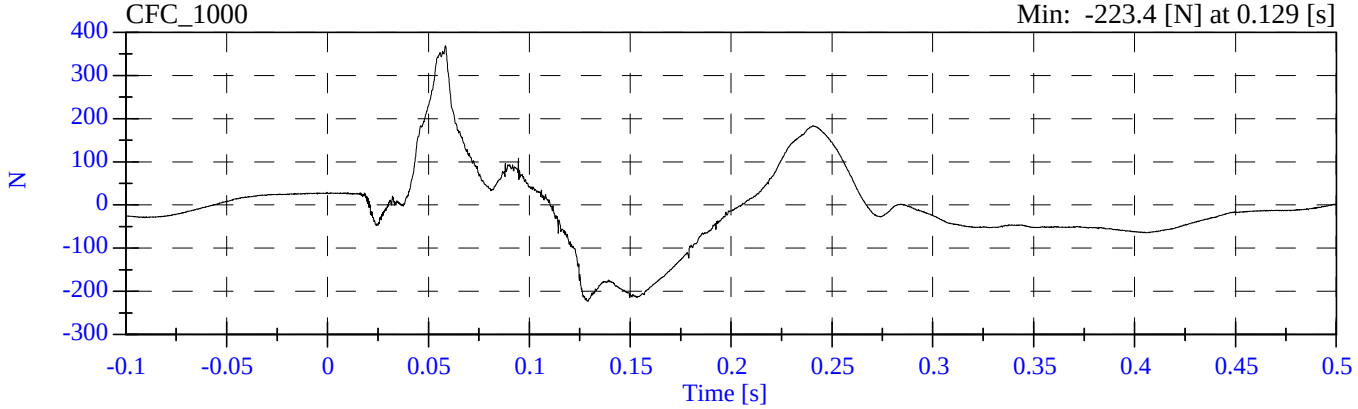


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

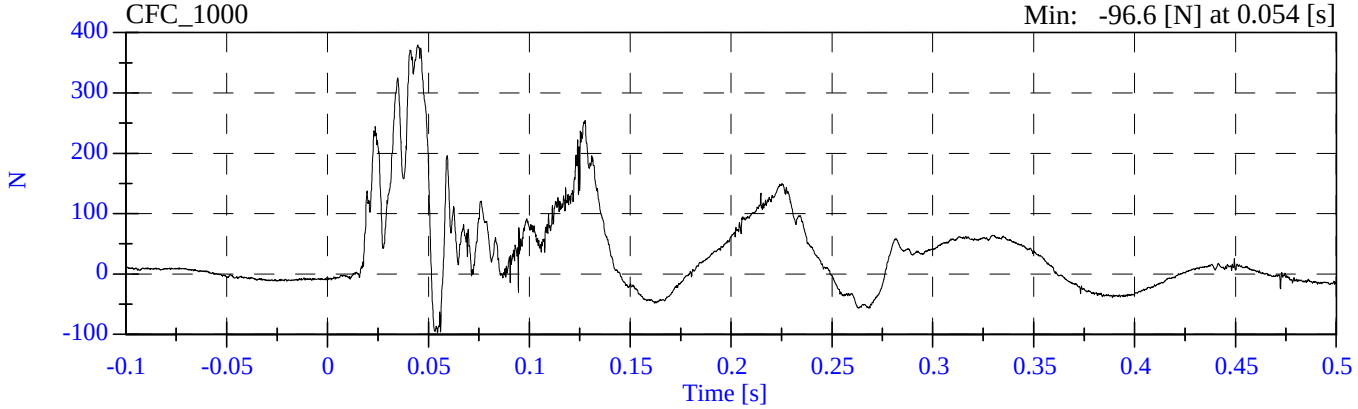
V1P1 Upper Neck Fx
CFC_1000
Max: 5.1 [N] at -0.053 [s]
Min: -290.8 [N] at 0.060 [s]



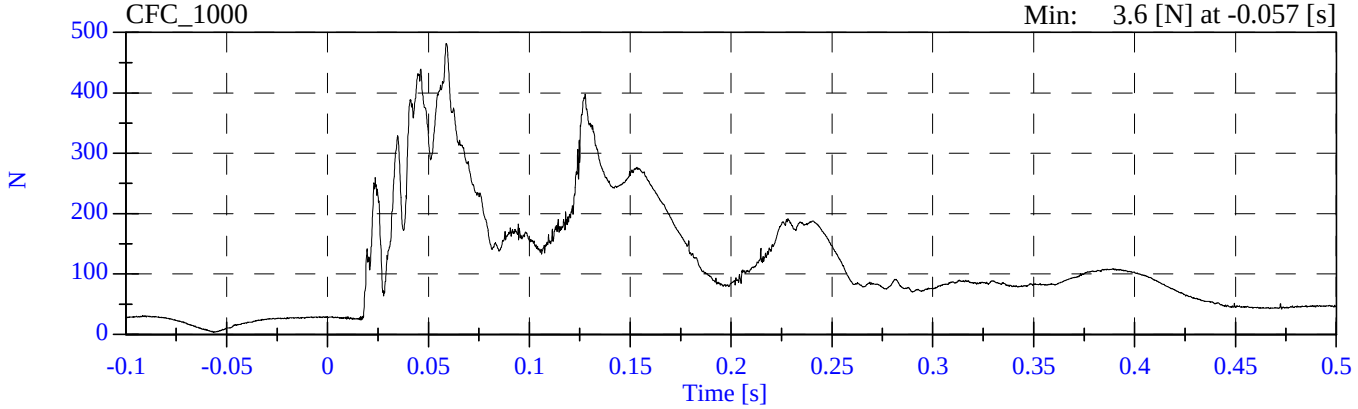
V1P1 Upper Neck Fy
CFC_1000
Max: 368.5 [N] at 0.058 [s]
Min: -223.4 [N] at 0.129 [s]



V1P1 Upper Neck Fz
CFC_1000
Max: 379.6 [N] at 0.045 [s]
Min: -96.6 [N] at 0.054 [s]

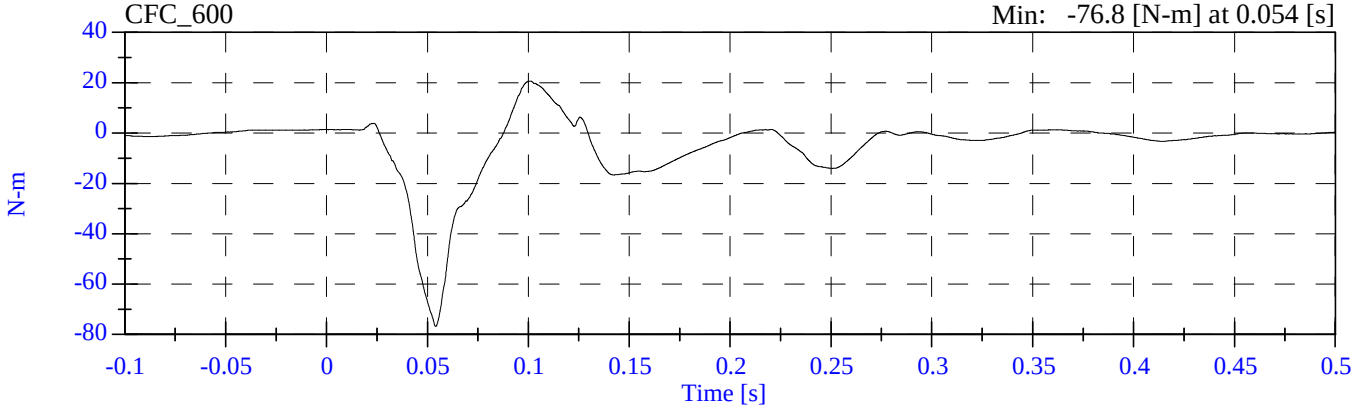


V1P1 Upper Neck F Resultant
CFC_1000
Max: 482.0 [N] at 0.059 [s]
Min: 3.6 [N] at -0.057 [s]

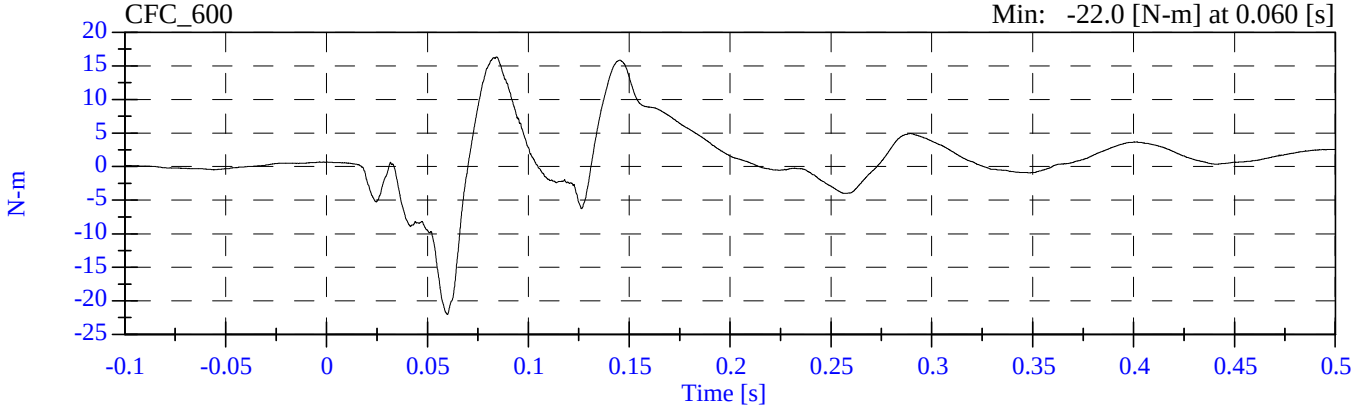


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

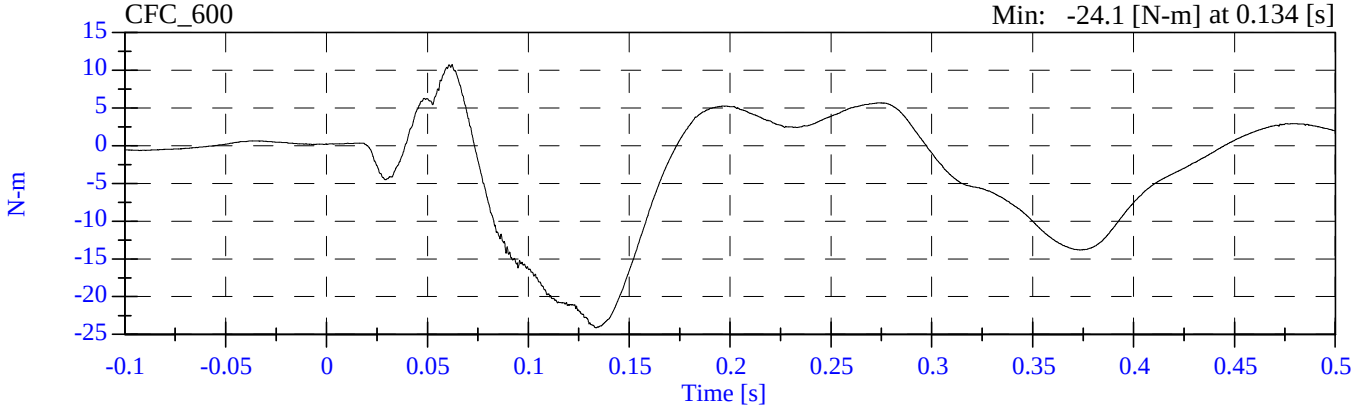
V1P1 Upper Neck Mx
CFC_600
Max: 20.6 [N-m] at 0.101 [s]
Min: -76.8 [N-m] at 0.054 [s]



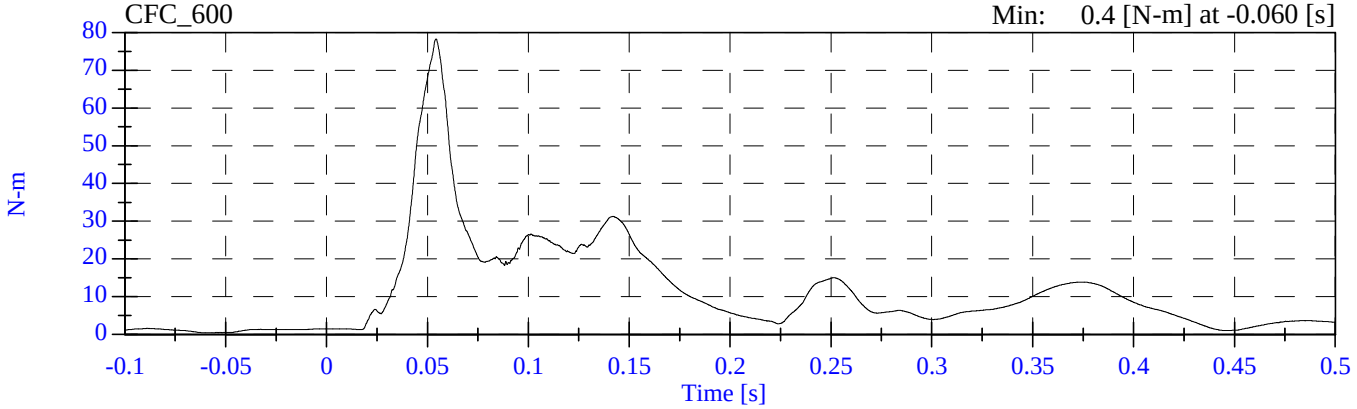
V1P1 Upper Neck My
CFC_600
Max: 16.4 [N-m] at 0.084 [s]
Min: -22.0 [N-m] at 0.060 [s]



V1P1 Upper Neck Mz
CFC_600
Max: 10.8 [N-m] at 0.062 [s]
Min: -24.1 [N-m] at 0.134 [s]

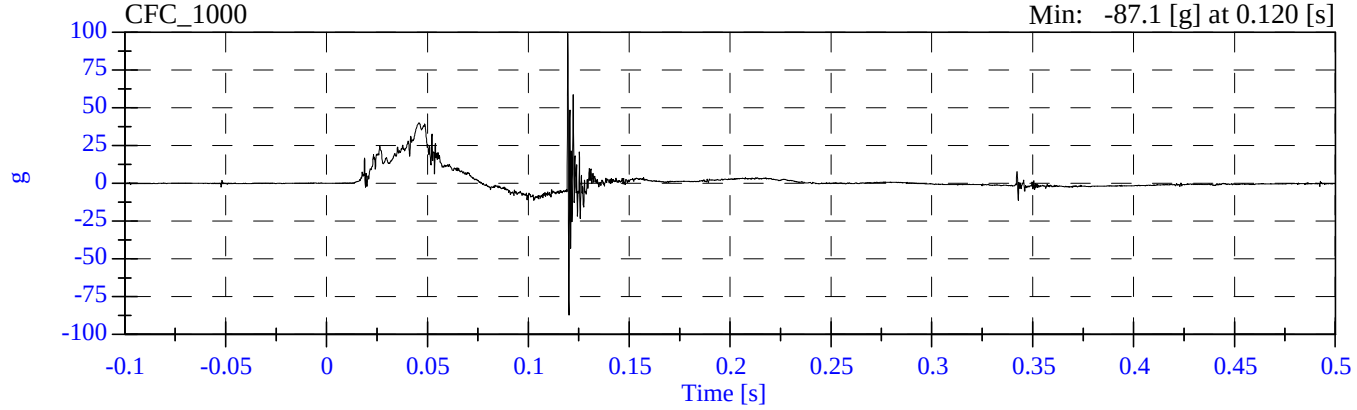


V1P1 Upper Neck M Resultant
CFC_600
Max: 78.3 [N-m] at 0.054 [s]
Min: 0.4 [N-m] at -0.060 [s]

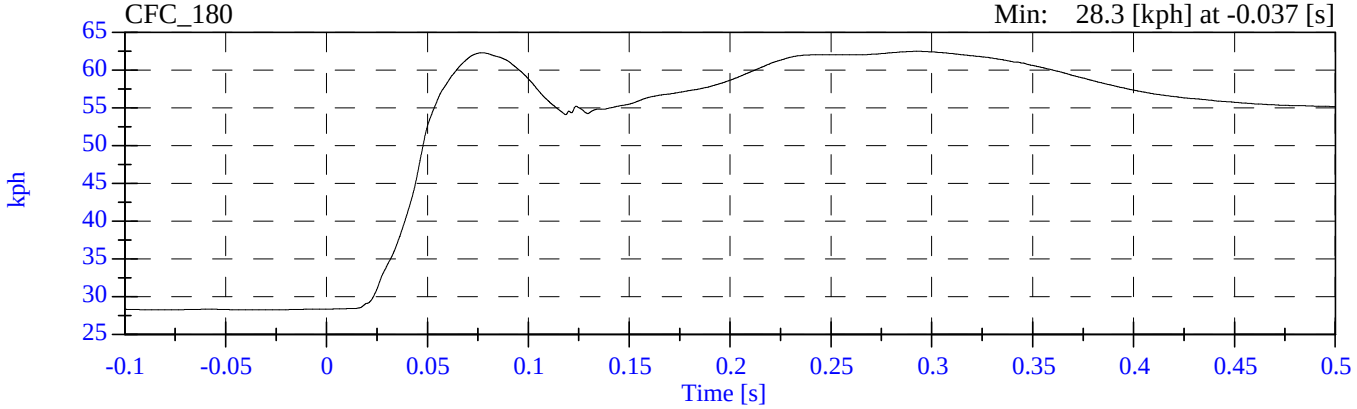


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

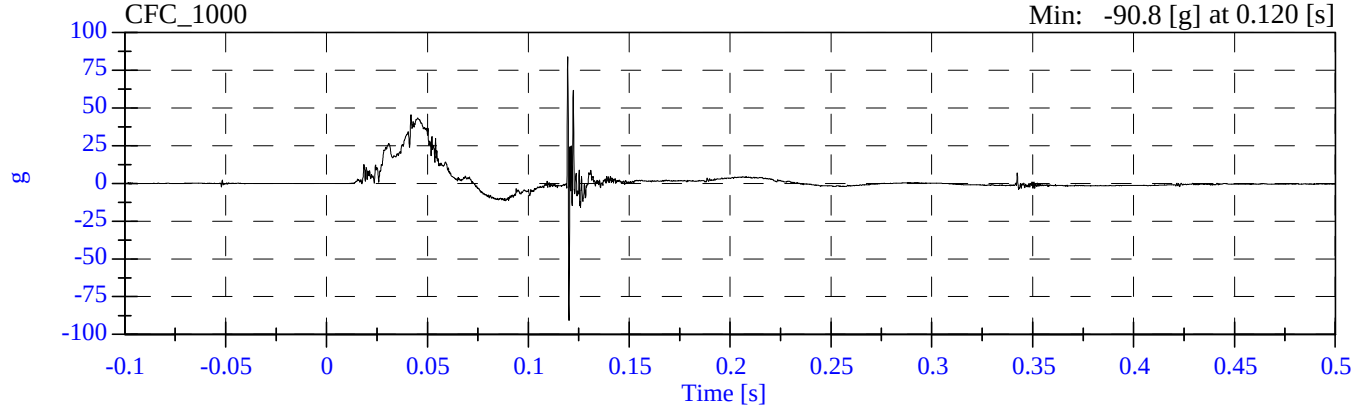
V1P1 Upper Rib y
CFC_1000
Max: 99.2 [g] at 0.120 [s]
Min: -87.1 [g] at 0.120 [s]



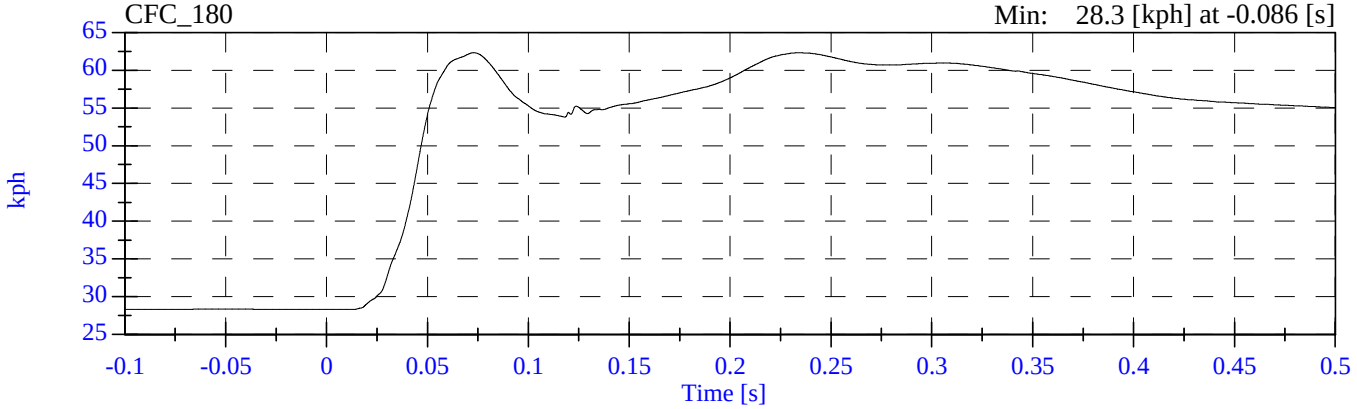
V1P1 Upper Rib y Velocity
CFC_180
Max: 62.5 [kph] at 0.293 [s]
Min: 28.3 [kph] at -0.037 [s]



V1P1 Lower Rib y
CFC_1000
Max: 83.9 [g] at 0.120 [s]
Min: -90.8 [g] at 0.120 [s]



V1P1 Lower Rib y Velocity
CFC_180
Max: 62.3 [kph] at 0.073 [s]
Min: 28.3 [kph] at -0.086 [s]



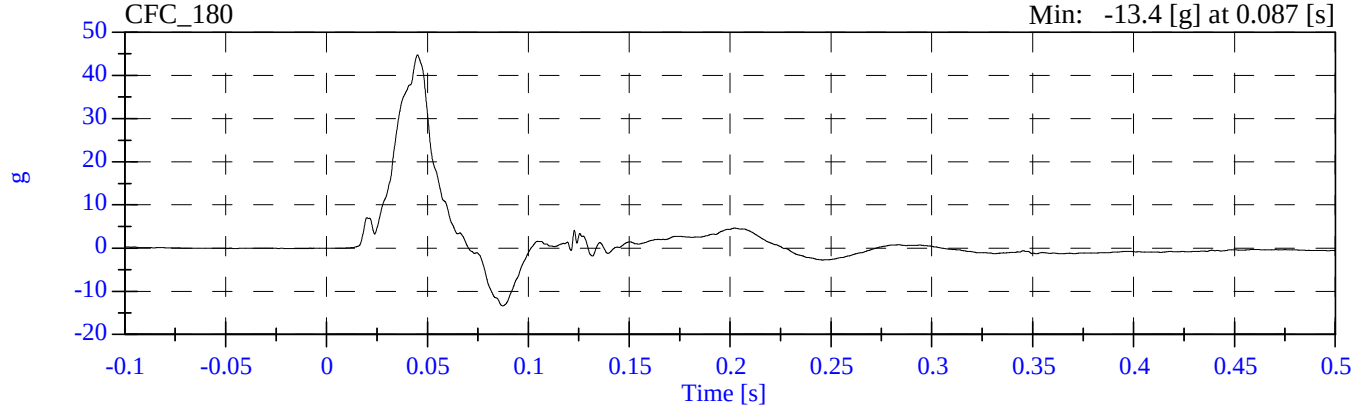
2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

V1P1 Lower Spine y

CFC_180

Max: 44.8 [g] at 0.045 [s]

Min: -13.4 [g] at 0.087 [s]

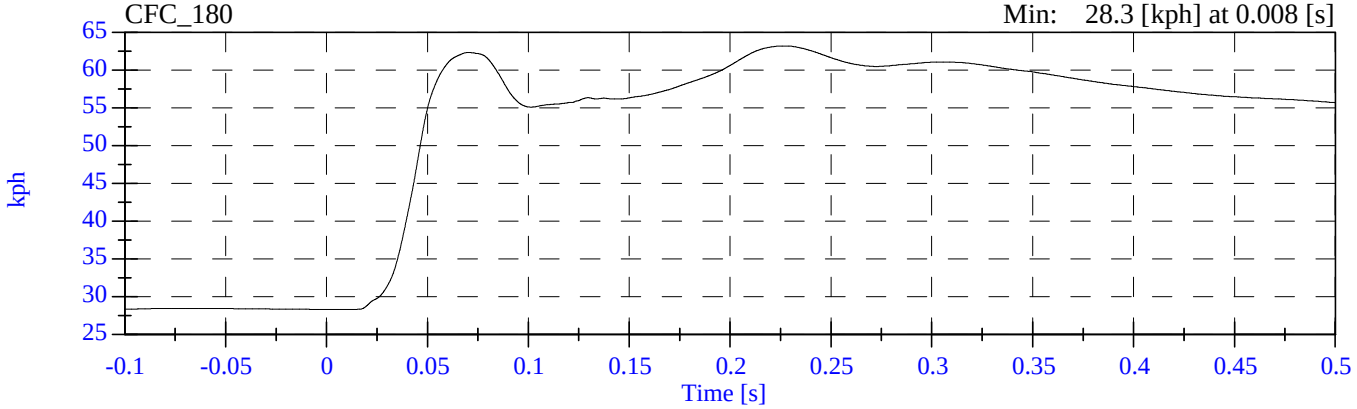


V1P1 Lower Spine y Velocity

CFC_180

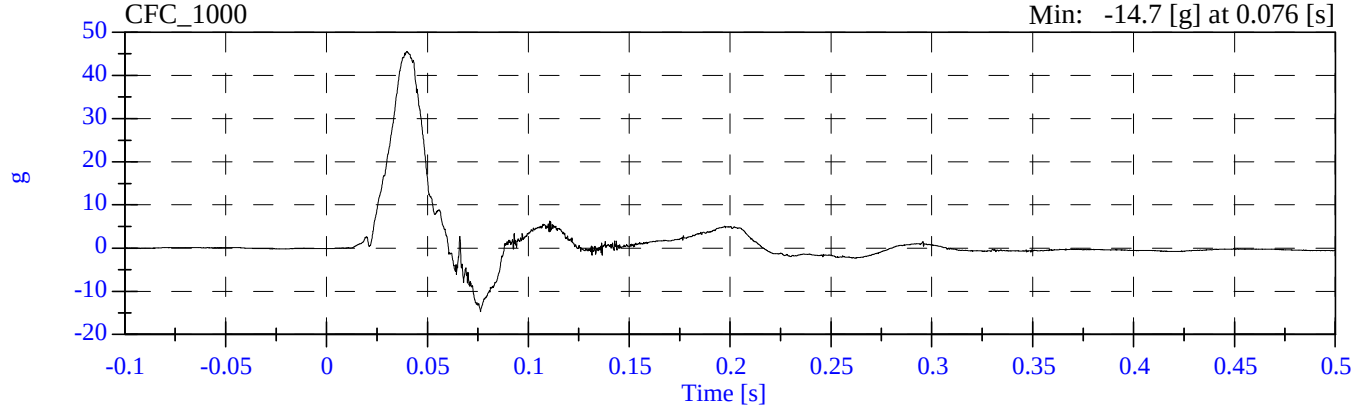
Max: 63.2 [kph] at 0.226 [s]

Min: 28.3 [kph] at 0.008 [s]

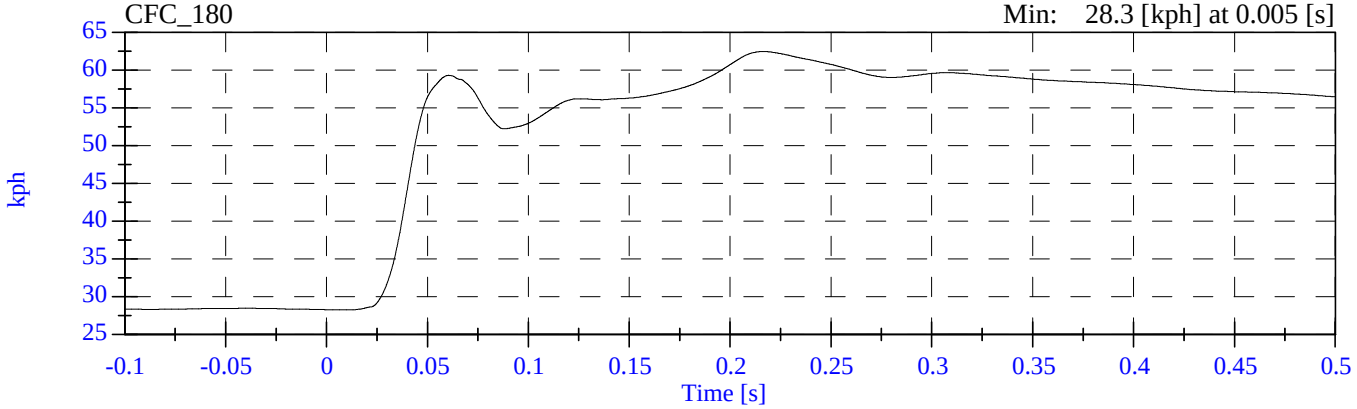


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

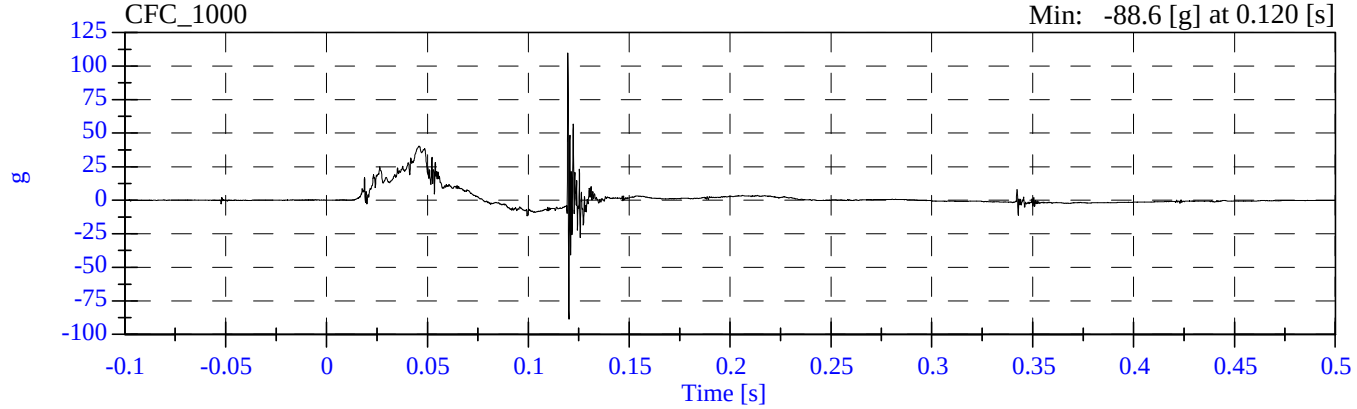
V1P1 Pelvic y
CFC_1000
Max: 45.6 [g] at 0.040 [s]
Min: -14.7 [g] at 0.076 [s]



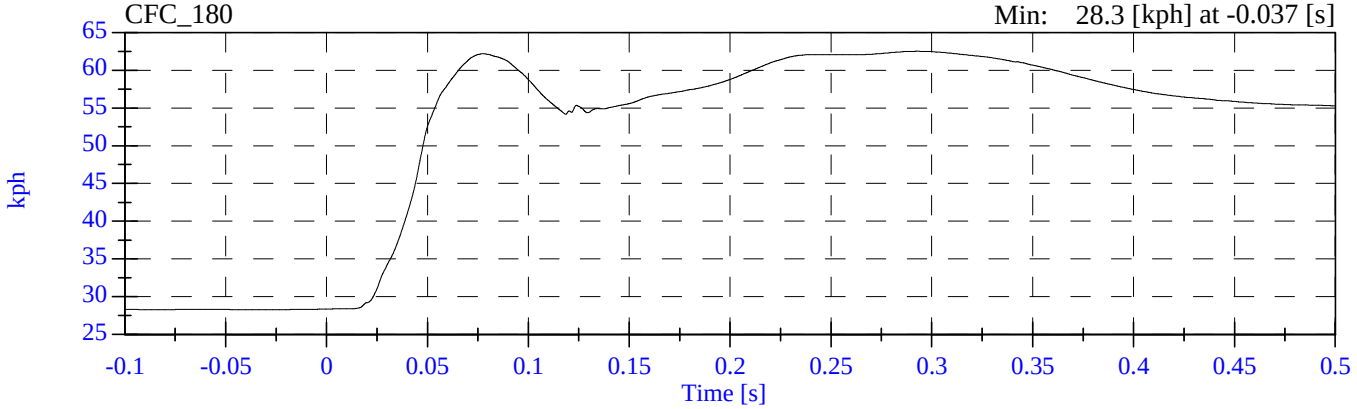
V1P1 Pelvic y Velocity
CFC_180
Max: 62.5 [kph] at 0.216 [s]
Min: 28.3 [kph] at 0.005 [s]



V1P1 Upper Rib Ry
CFC_1000
Max: 109.7 [g] at 0.120 [s]
Min: -88.6 [g] at 0.120 [s]

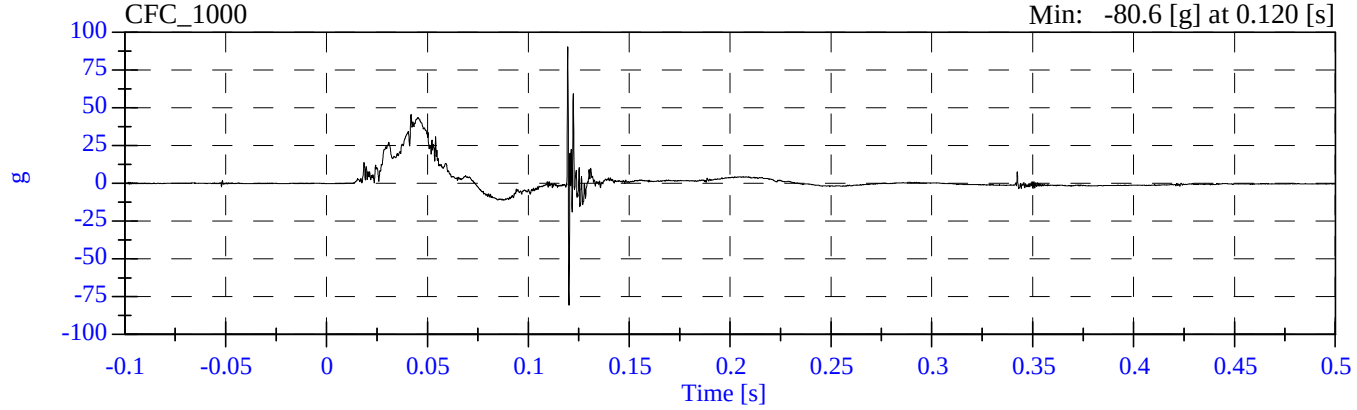


V1P1 Upper Rib Ry Velocity
CFC_180
Max: 62.5 [kph] at 0.293 [s]
Min: 28.3 [kph] at -0.037 [s]

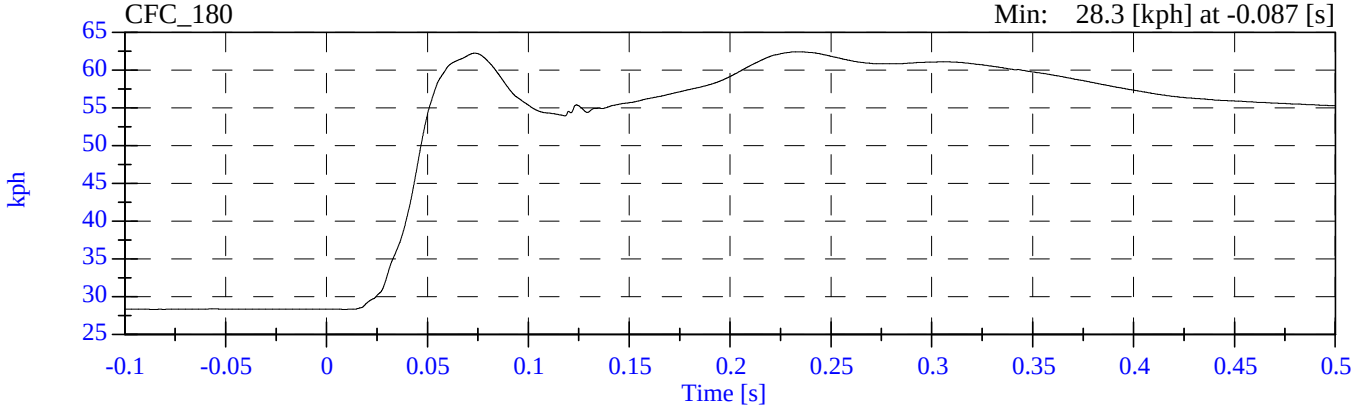


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

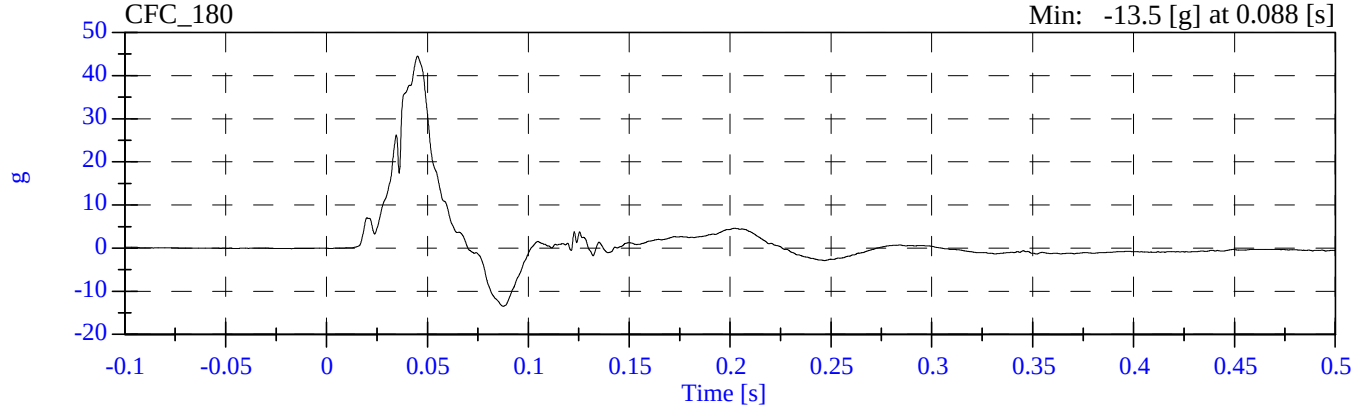
V1P1 Lower Rib Ry
CFC_1000
Max: 90.3 [g] at 0.120 [s]
Min: -80.6 [g] at 0.120 [s]



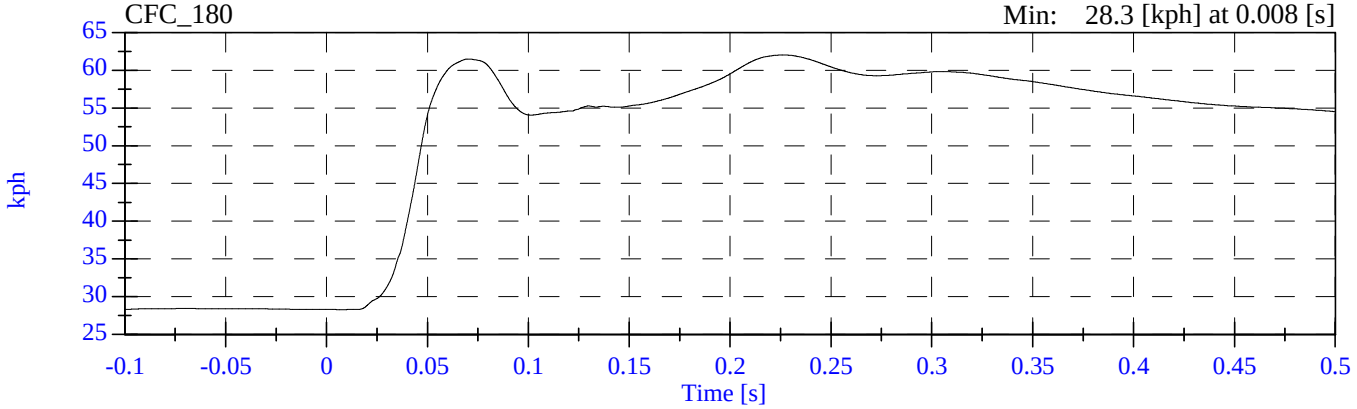
V1P1 Lower Rib Ry Velocity
CFC_180
Max: 62.4 [kph] at 0.234 [s]
Min: 28.3 [kph] at -0.087 [s]



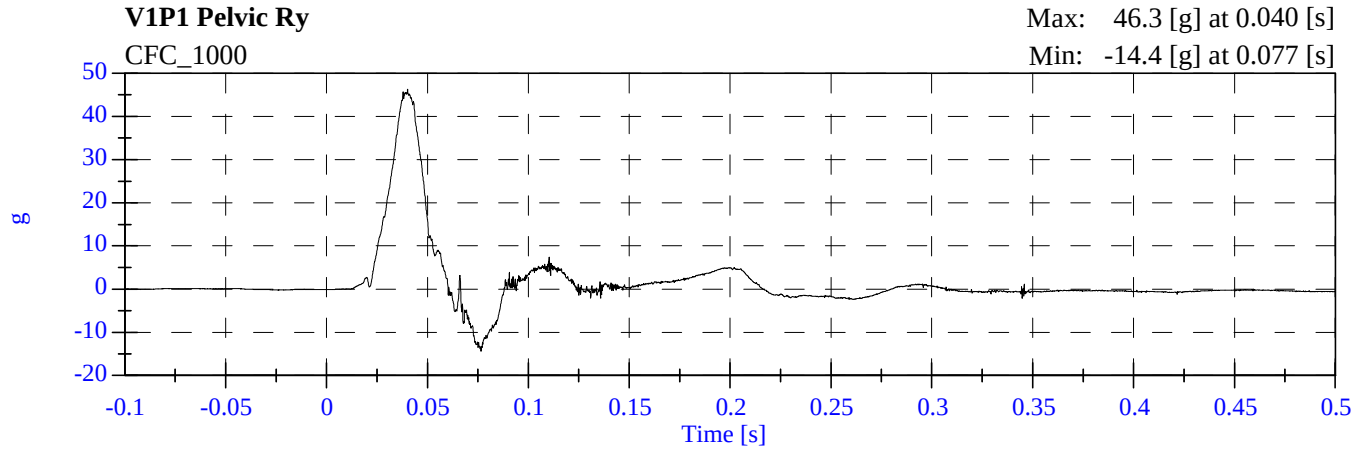
V1P1 Lower Spine Ry
CFC_180
Max: 44.5 [g] at 0.045 [s]
Min: -13.5 [g] at 0.088 [s]

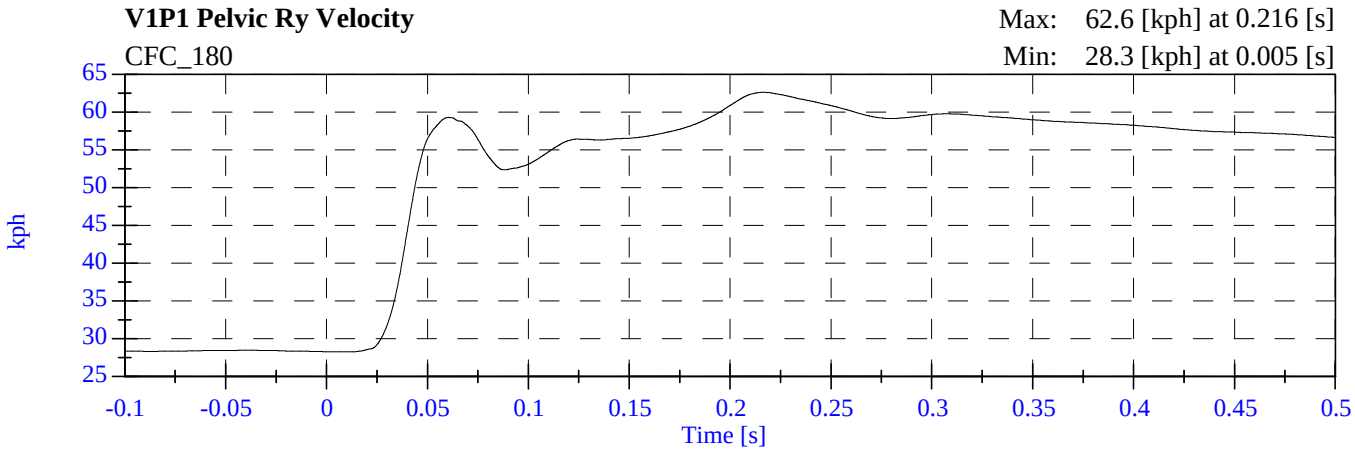


V1P1 Lower Spine Ry Velocity
CFC_180
Max: 62.0 [kph] at 0.226 [s]
Min: 28.3 [kph] at 0.008 [s]



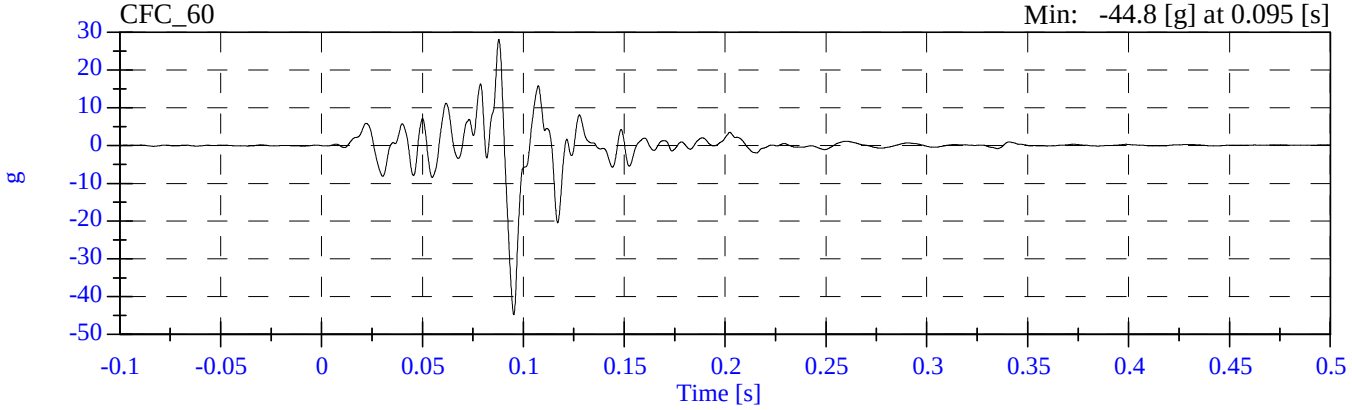
2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008



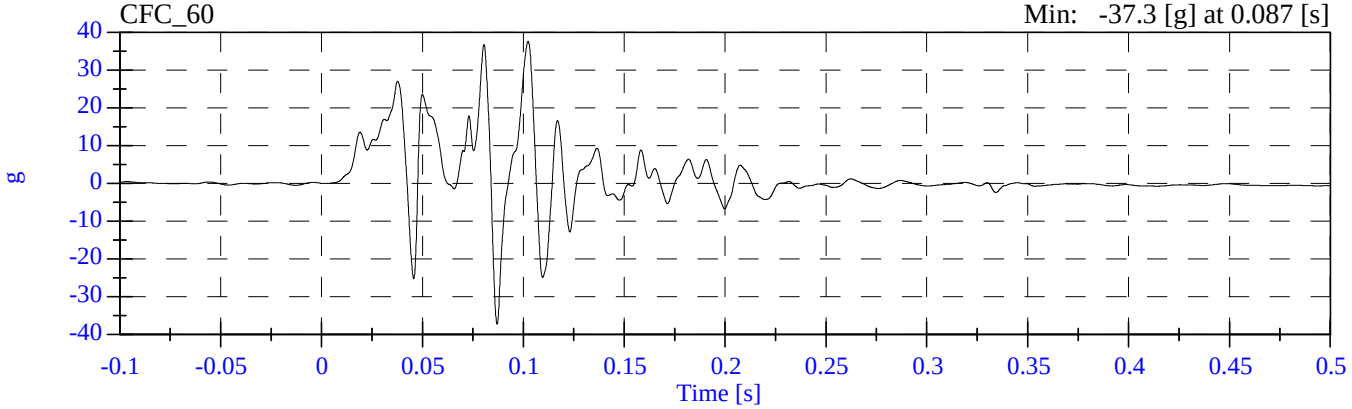


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

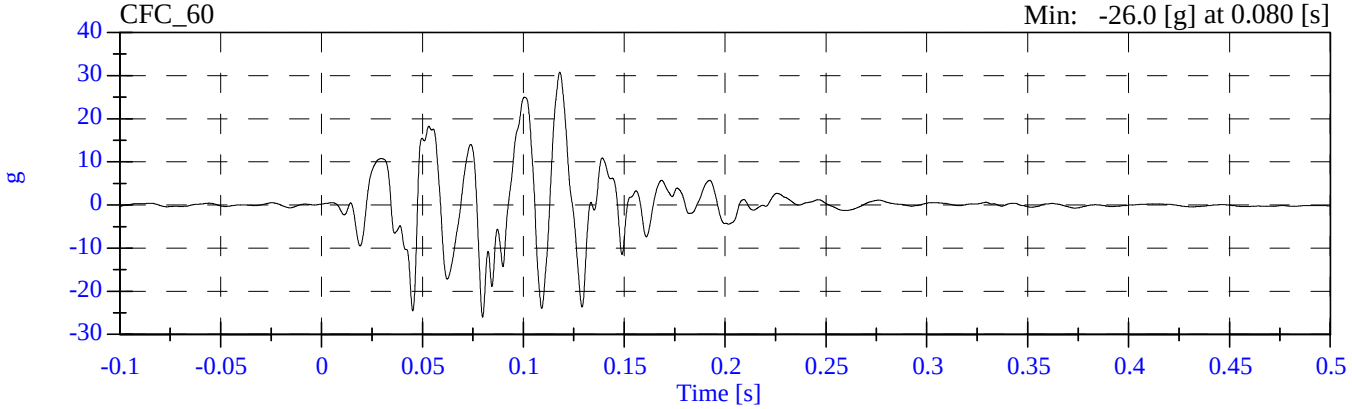
V1 A1 Vehicle CG x
CFC_60
Max: 28.1 [g] at 0.088 [s]
Min: -44.8 [g] at 0.095 [s]



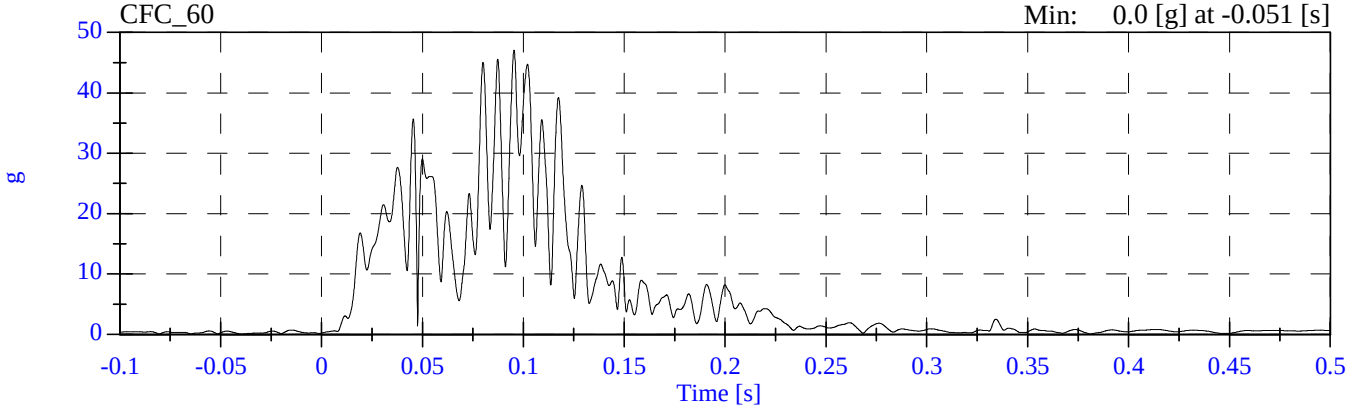
V1 A1 Vehicle CG y
CFC_60
Max: 37.6 [g] at 0.102 [s]
Min: -37.3 [g] at 0.087 [s]



V1 A1 Vehicle CG z
CFC_60
Max: 30.8 [g] at 0.118 [s]
Min: -26.0 [g] at 0.080 [s]

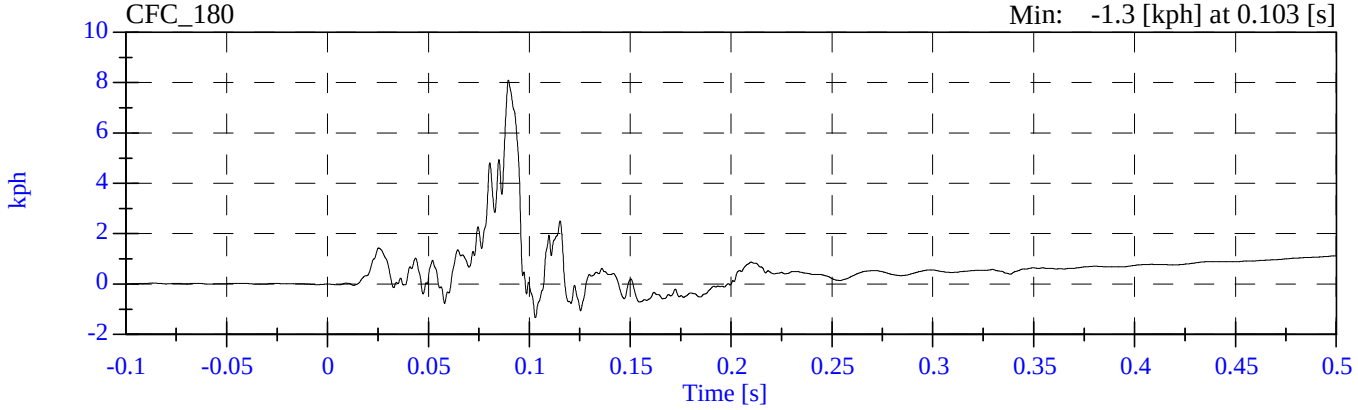


V1 A1 Vehicle CG Resultant
CFC_60
Max: 47.1 [g] at 0.095 [s]
Min: 0.0 [g] at -0.051 [s]

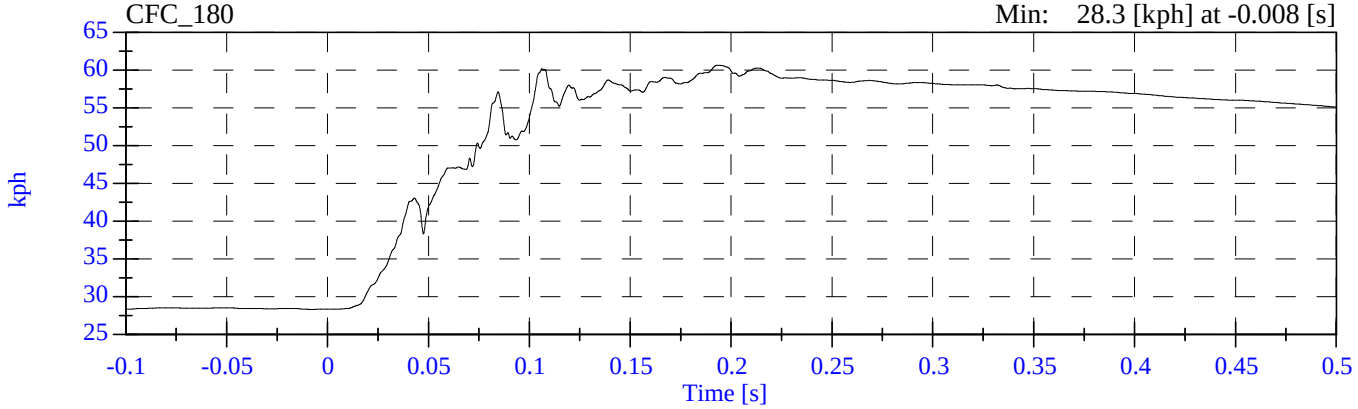


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

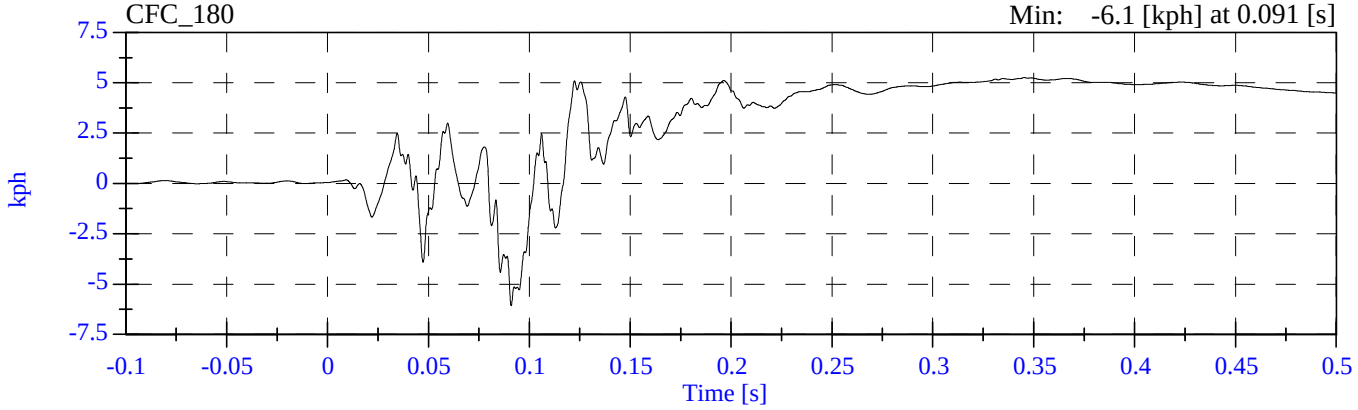
V1 A1 Vehicle CG x Velocity
CFC_180
Max: 8.1 [kph] at 0.090 [s]
Min: -1.3 [kph] at 0.103 [s]



V1 A1 Vehicle CG y Velocity
CFC_180
Max: 60.7 [kph] at 0.193 [s]
Min: 28.3 [kph] at -0.008 [s]



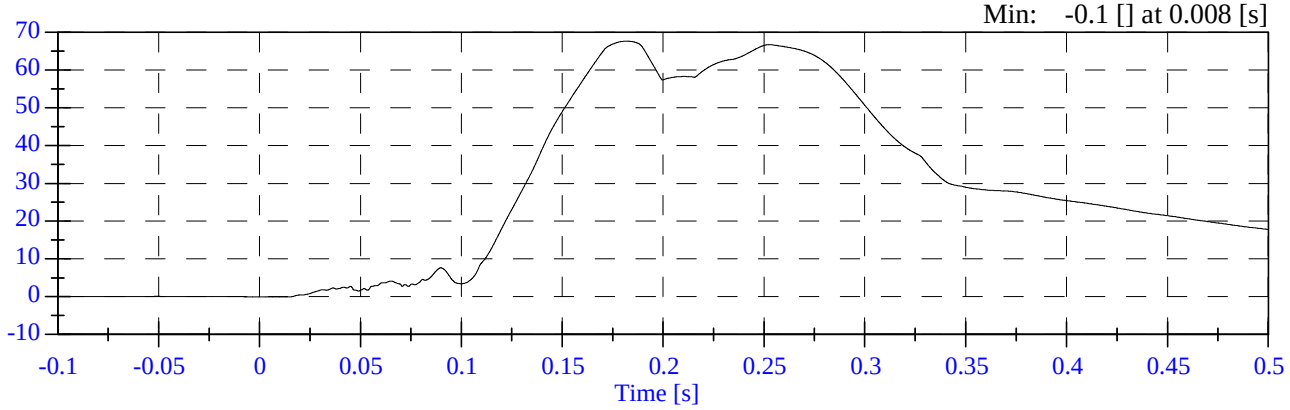
V1 A1 Vehicle CG z Velocity
CFC_180
Max: 5.3 [kph] at 0.345 [s]
Min: -6.1 [kph] at 0.091 [s]



2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

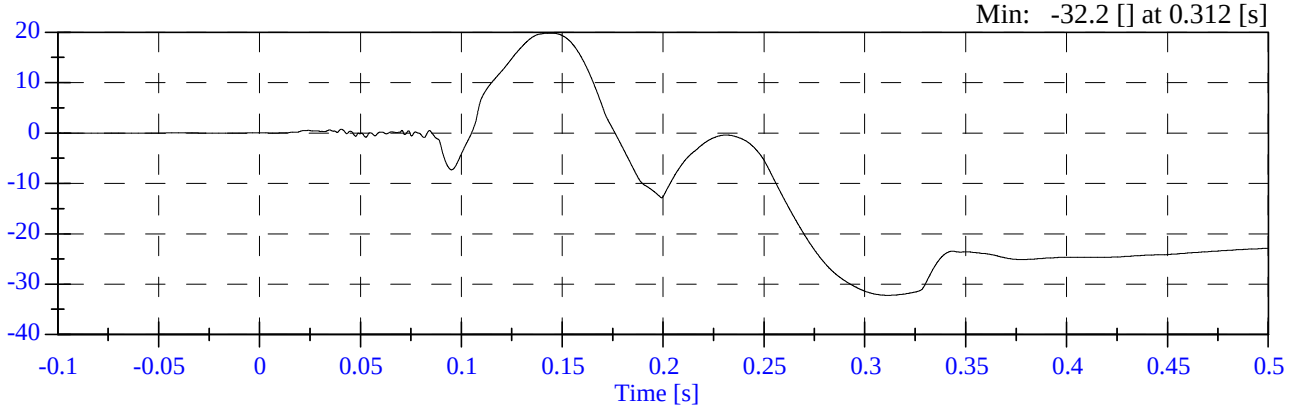
V1 A2 VEHICLE CG x (deg)

Max: 67.7 [] at 0.182 [s]
Min: -0.1 [] at 0.008 [s]



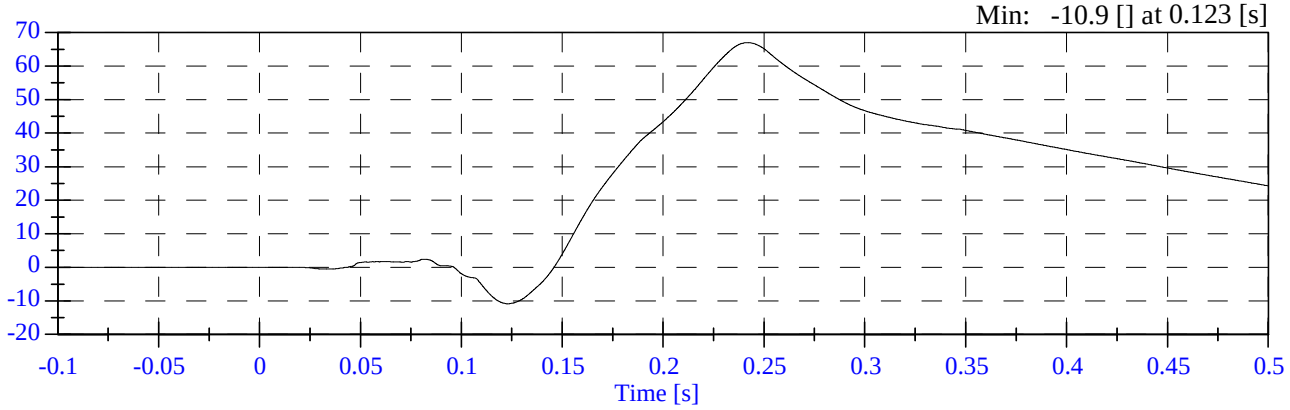
V1 A2 VEHICLE CG y (deg)

Max: 19.8 [] at 0.144 [s]
Min: -32.2 [] at 0.312 [s]



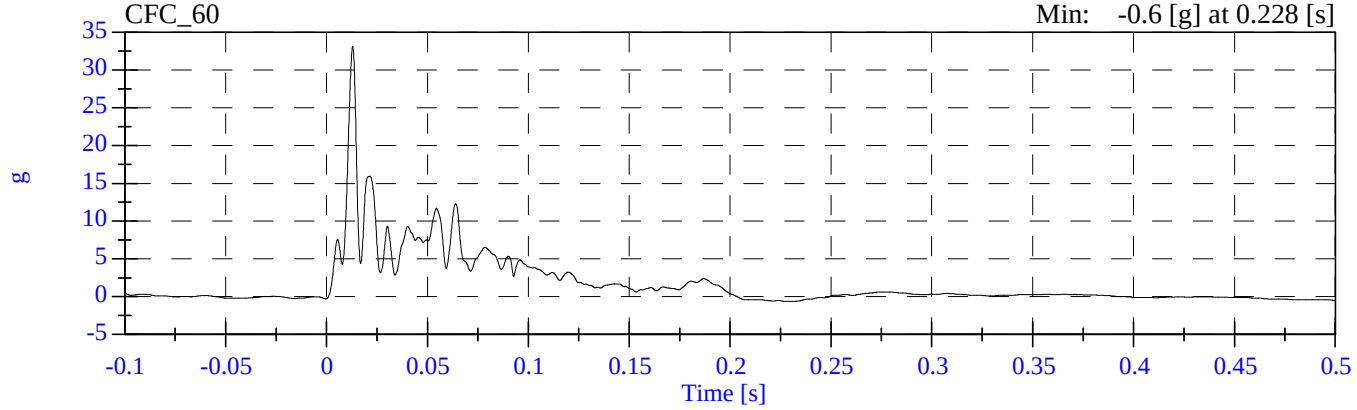
V1 A2 VEHICLE CG z (deg)

Max: 67.0 [] at 0.242 [s]
Min: -10.9 [] at 0.123 [s]

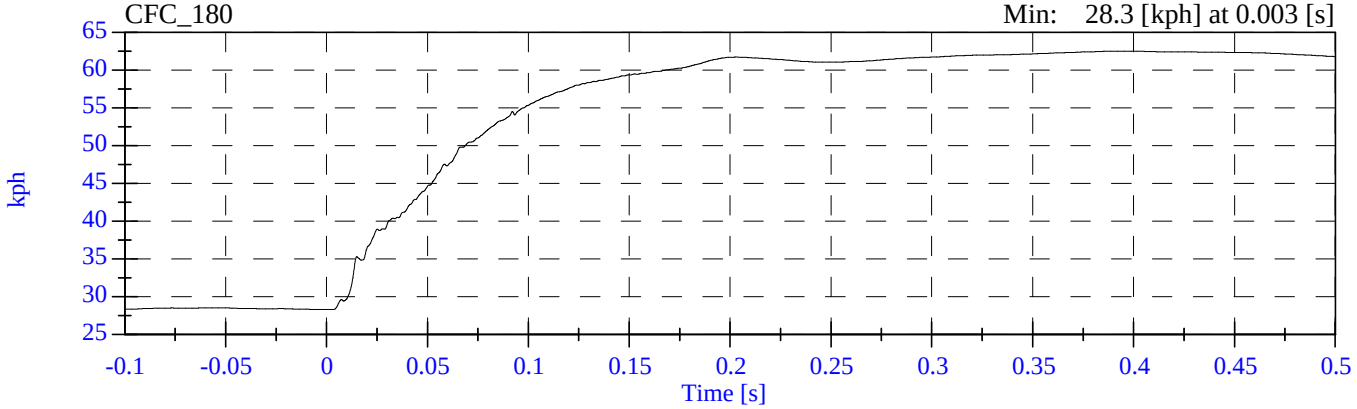


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

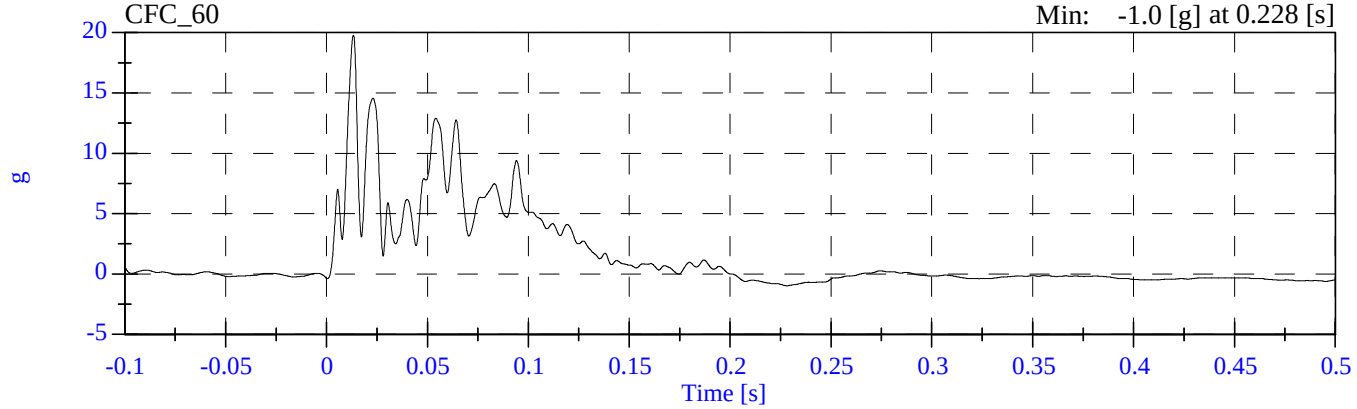
V1 A3 Left Sill y
CFC_60
Max: 33.1 [g] at 0.013 [s]
Min: -0.6 [g] at 0.228 [s]



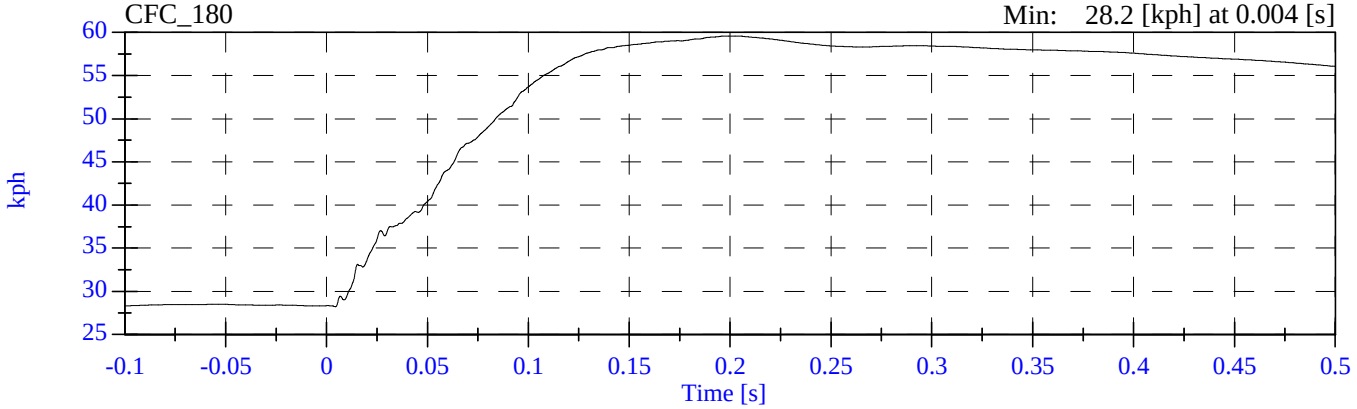
V1 A3 Left Sill y Velocity
CFC_180
Max: 62.5 [kph] at 0.397 [s]
Min: 28.3 [kph] at 0.003 [s]



V1 A4 Left Sill A Pillar y
CFC_60
Max: 19.8 [g] at 0.013 [s]
Min: -1.0 [g] at 0.228 [s]

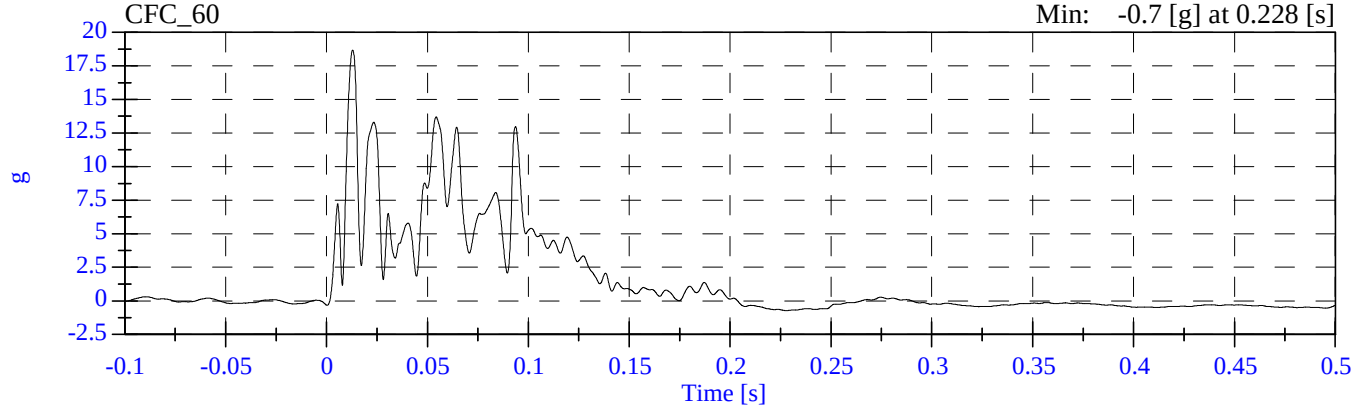


V1 A4 Left Sill A Pillar y Velocity
CFC_180
Max: 59.6 [kph] at 0.199 [s]
Min: 28.2 [kph] at 0.004 [s]

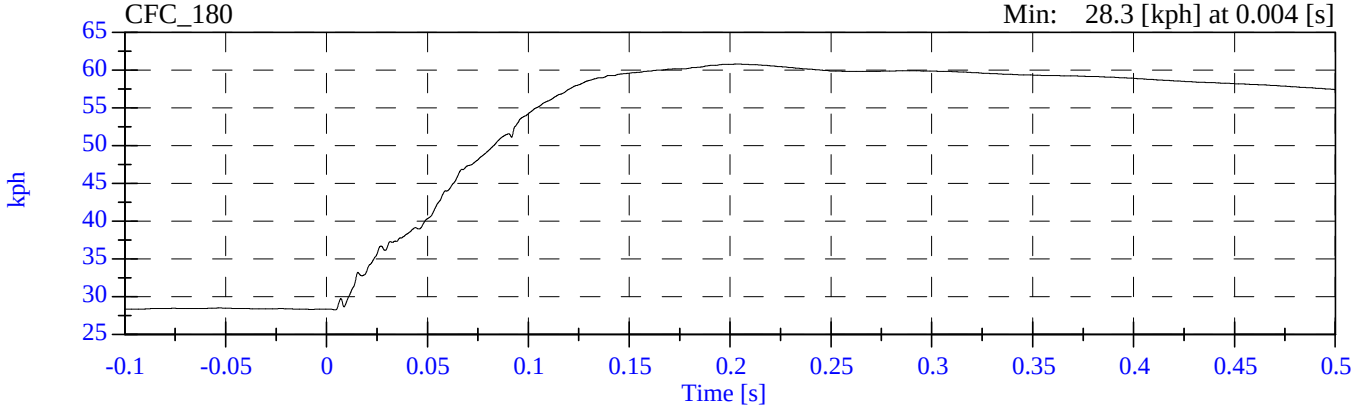


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

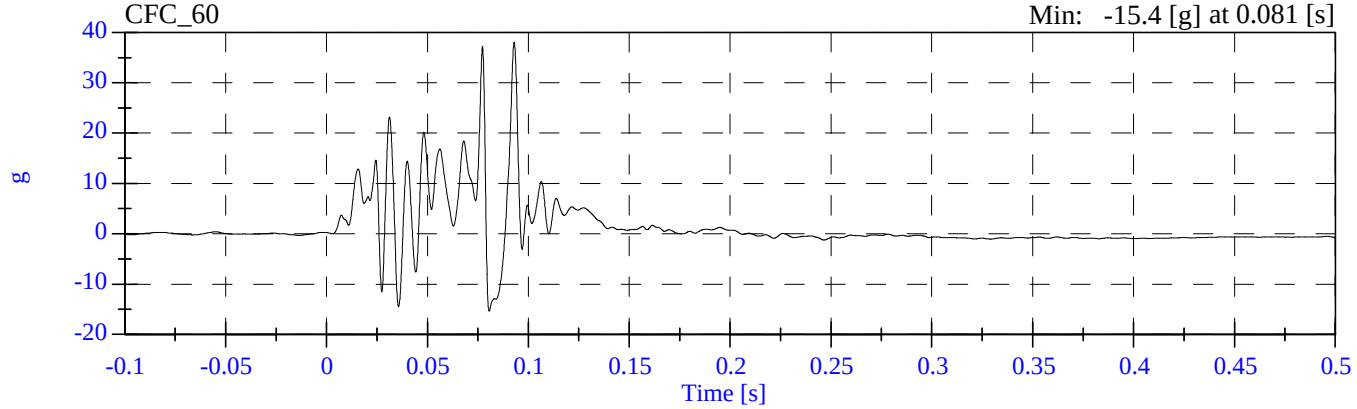
V1 A5 Left Lower A Pillar y
CFC_60
Max: 18.7 [g] at 0.013 [s]
Min: -0.7 [g] at 0.228 [s]



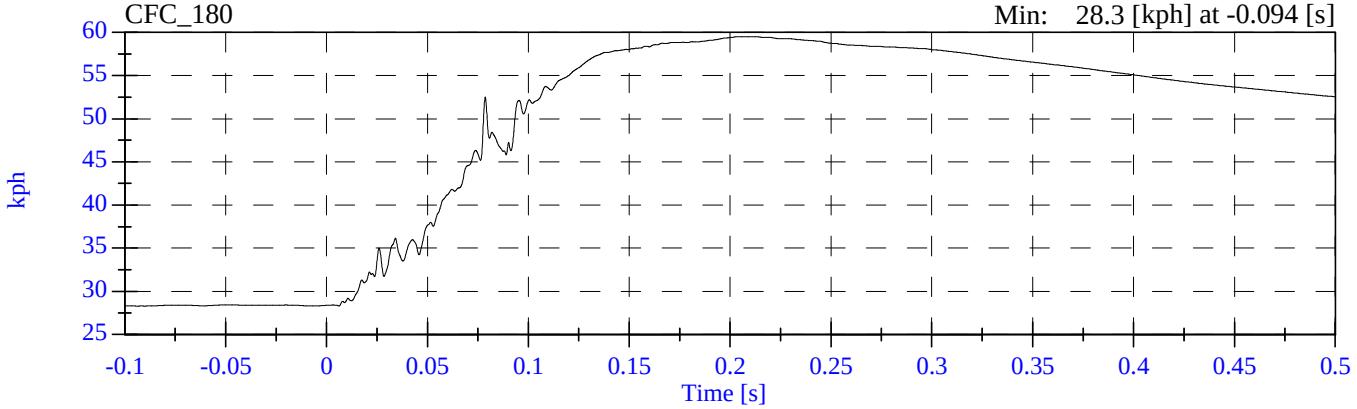
V1 A5 Left Lower A Pillar y Velocity
CFC_180
Max: 60.8 [kph] at 0.204 [s]
Min: 28.3 [kph] at 0.004 [s]



V1 A6 Left Mid A Pillar y
CFC_60
Max: 38.1 [g] at 0.093 [s]
Min: -15.4 [g] at 0.081 [s]

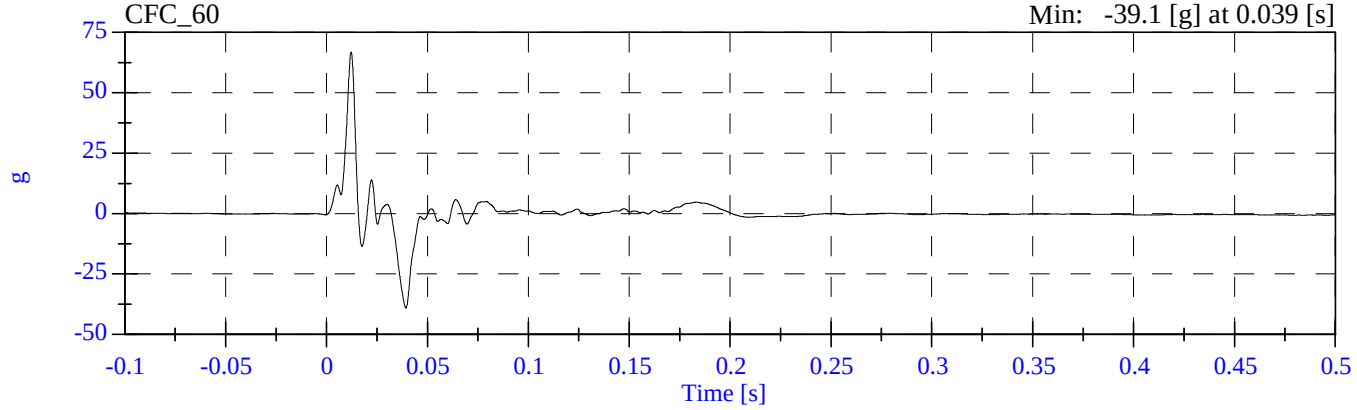


V1 A6 Left Mid A Pillar y Velocity
CFC_180
Max: 59.5 [kph] at 0.205 [s]
Min: 28.3 [kph] at -0.094 [s]

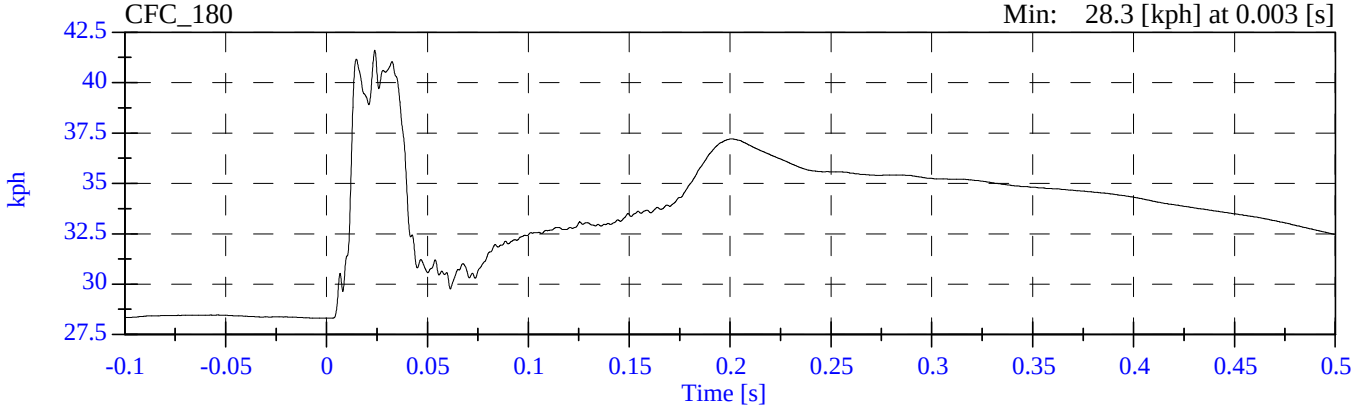


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

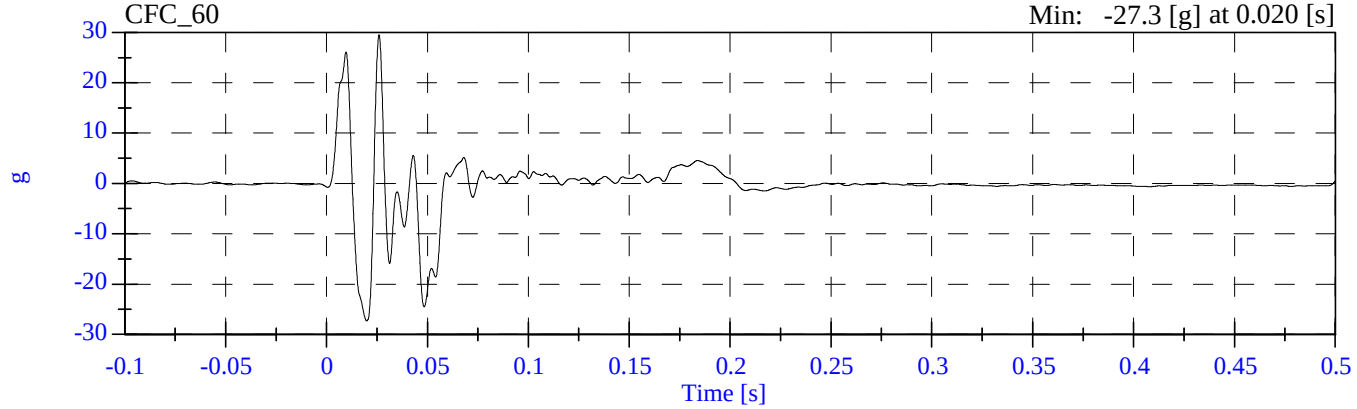
V1 A7 B Pillar Sill y
CFC_60
Max: 66.8 [g] at 0.012 [s]
Min: -39.1 [g] at 0.039 [s]



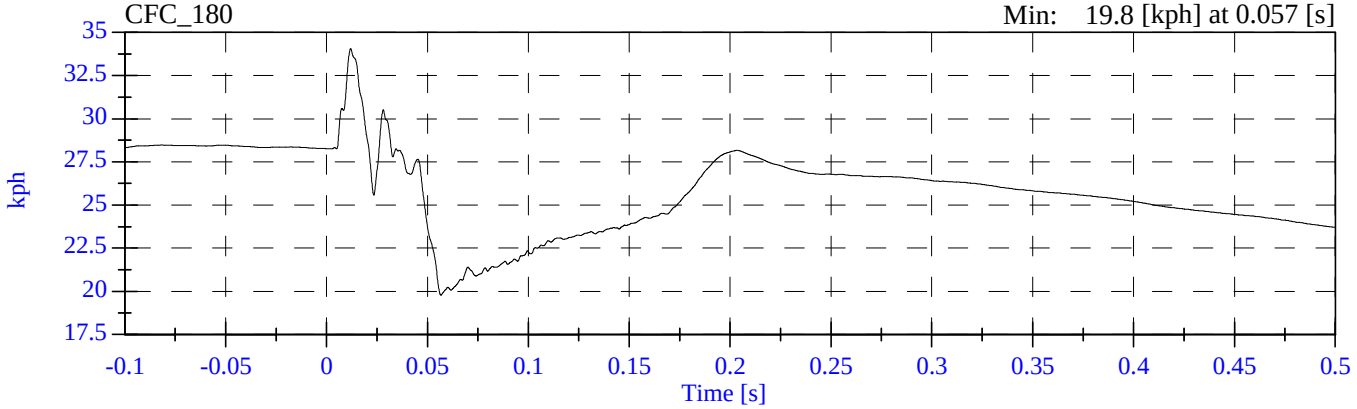
V1 A7 B Pillar Sill y Velocity
CFC_180
Max: 41.6 [kph] at 0.024 [s]
Min: 28.3 [kph] at 0.003 [s]



V1 A8 B Pillar Lower y
CFC_60
Max: 29.6 [g] at 0.026 [s]
Min: -27.3 [g] at 0.020 [s]

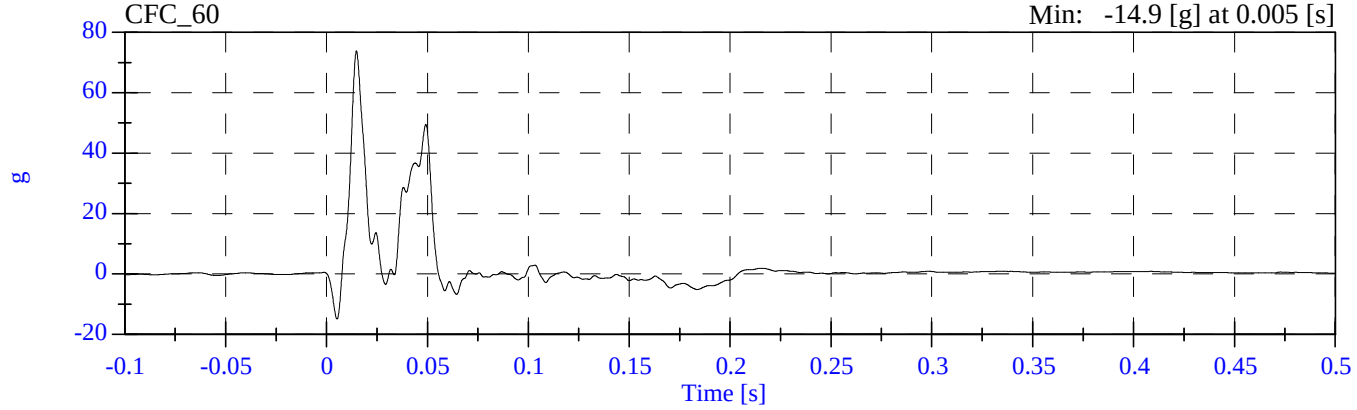


V1 A8 B Pillar Lower y Velocity
CFC_180
Max: 34.1 [kph] at 0.012 [s]
Min: 19.8 [kph] at 0.057 [s]

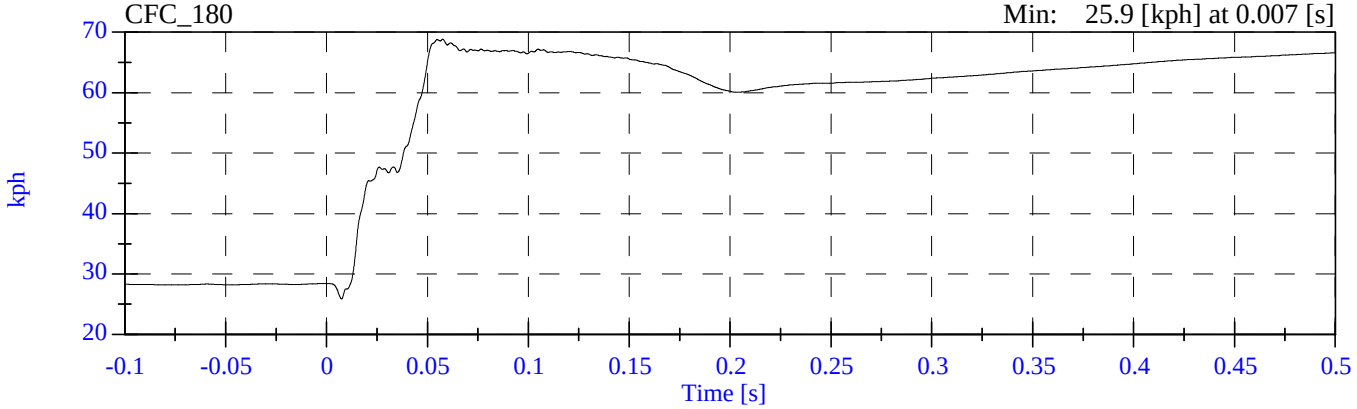


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

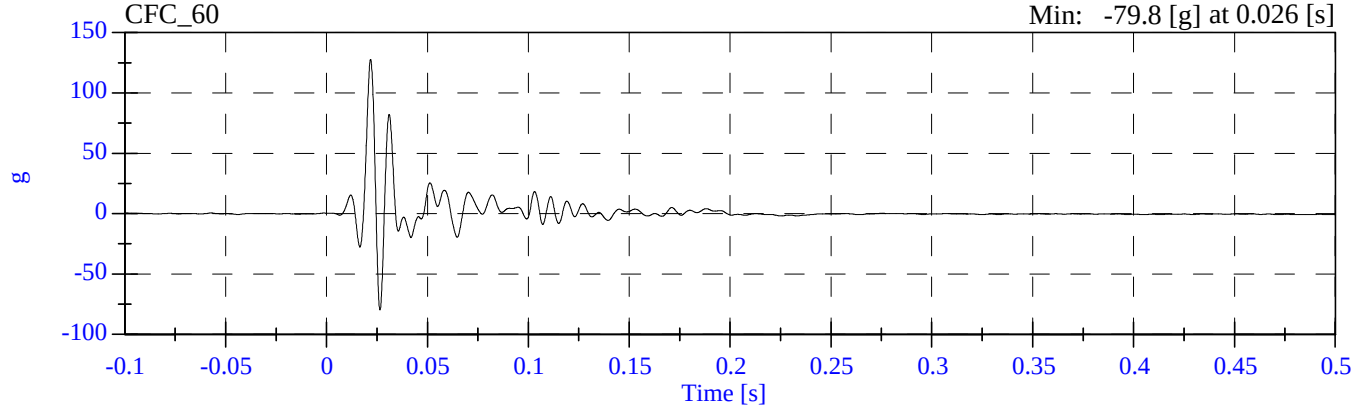
V1 A9 B Pillar Mid y
CFC_60
Max: 73.8 [g] at 0.015 [s]
Min: -14.9 [g] at 0.005 [s]



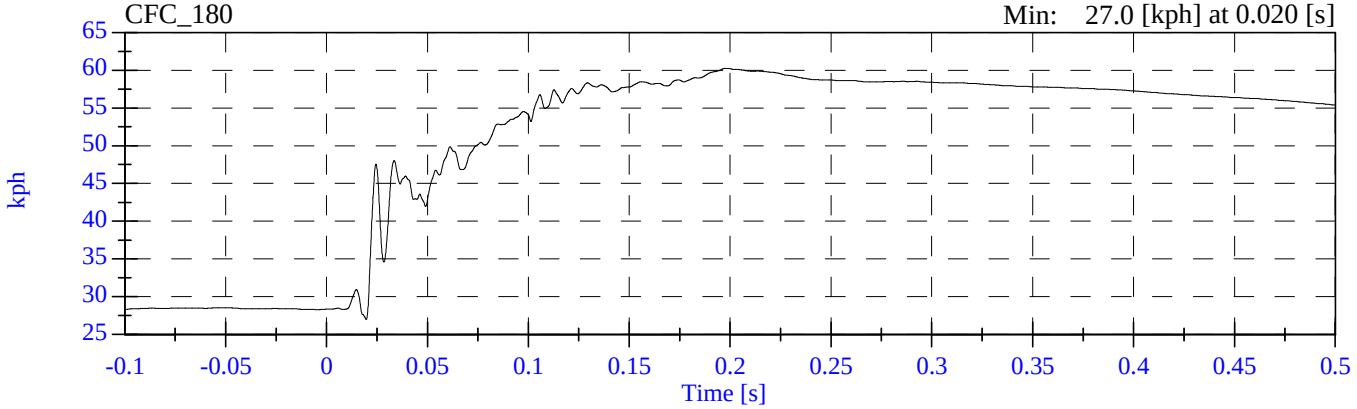
V1 A9 B Pillar Mid y Velocity
CFC_180
Max: 68.9 [kph] at 0.058 [s]
Min: 25.9 [kph] at 0.007 [s]



V1 A10 Driver Seat y
CFC_60
Max: 127.8 [g] at 0.022 [s]
Min: -79.8 [g] at 0.026 [s]

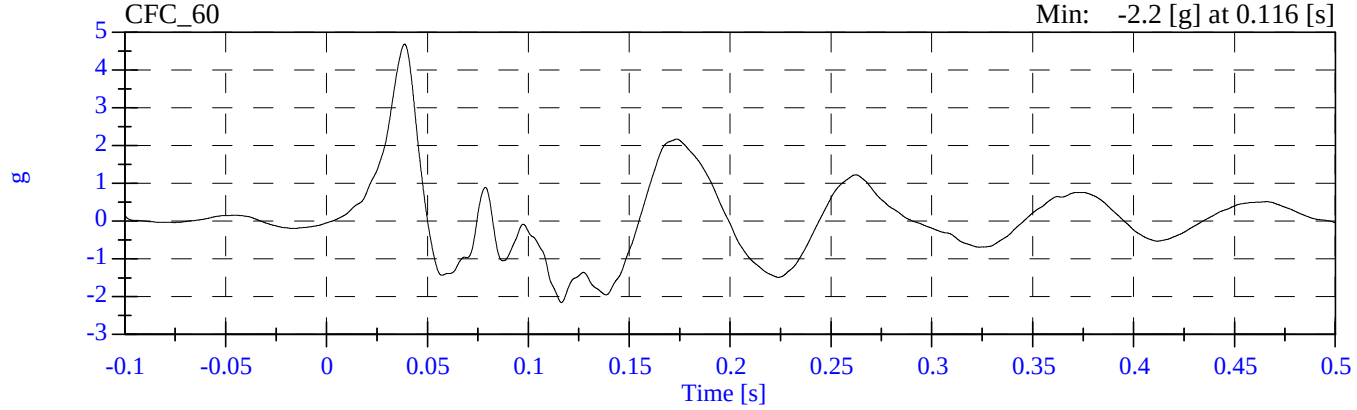


V1 A10 Driver Seat y Velocity
CFC_180
Max: 60.3 [kph] at 0.198 [s]
Min: 27.0 [kph] at 0.020 [s]

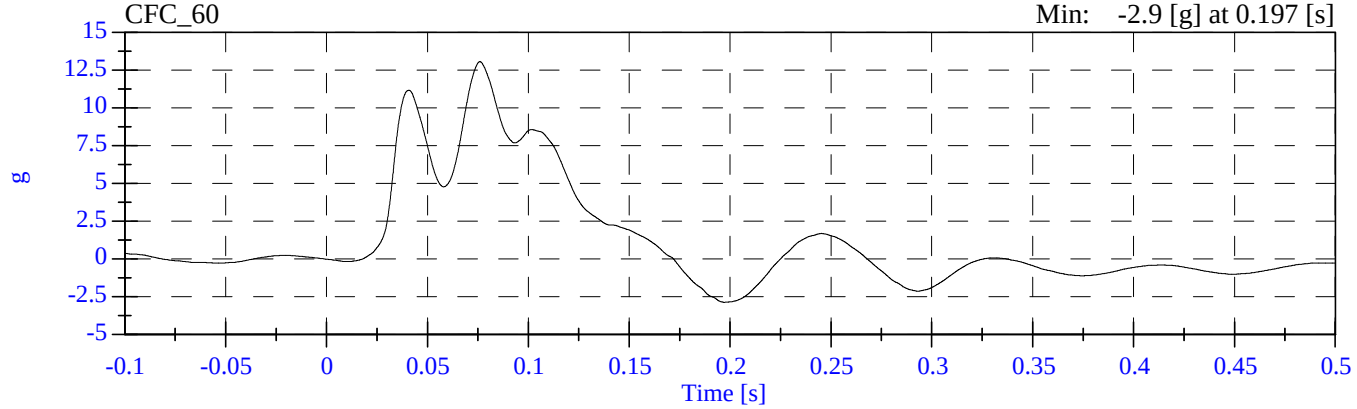


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

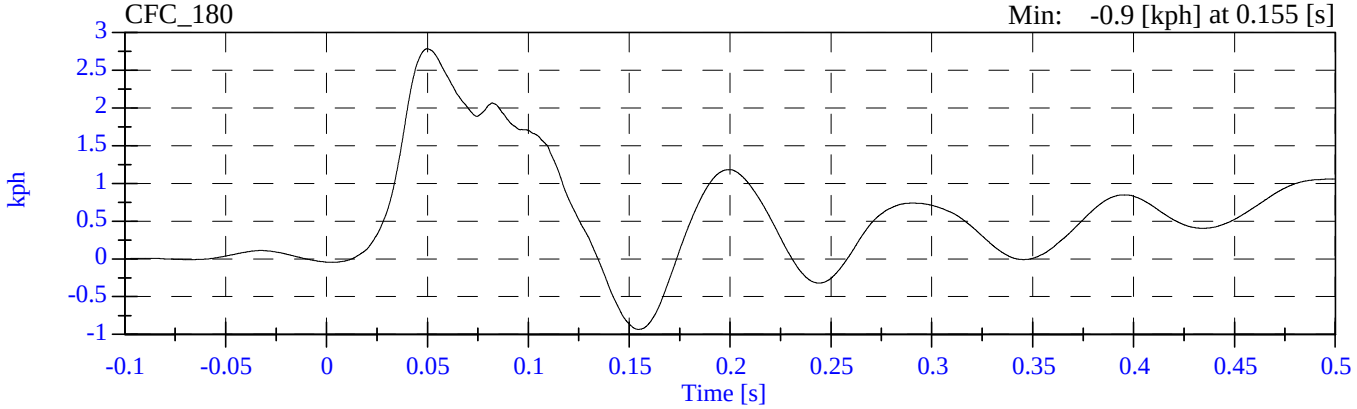
V1 A11 Engine Top x
CFC_60
Max: 4.7 [g] at 0.039 [s]
Min: -2.2 [g] at 0.116 [s]



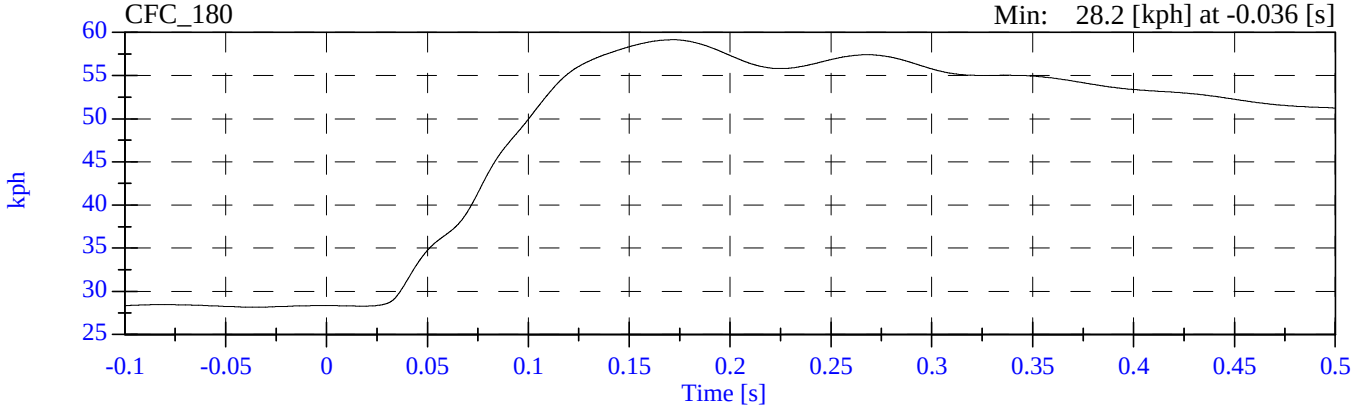
V1 A11 Engine Top y
CFC_60
Max: 13.1 [g] at 0.076 [s]
Min: -2.9 [g] at 0.197 [s]



V1 A11 Engine Top x Velocity
CFC_180
Max: 2.8 [kph] at 0.050 [s]
Min: -0.9 [kph] at 0.155 [s]



V1 A11 Engine Top y Velocity
CFC_180
Max: 59.2 [kph] at 0.172 [s]
Min: 28.2 [kph] at -0.036 [s]



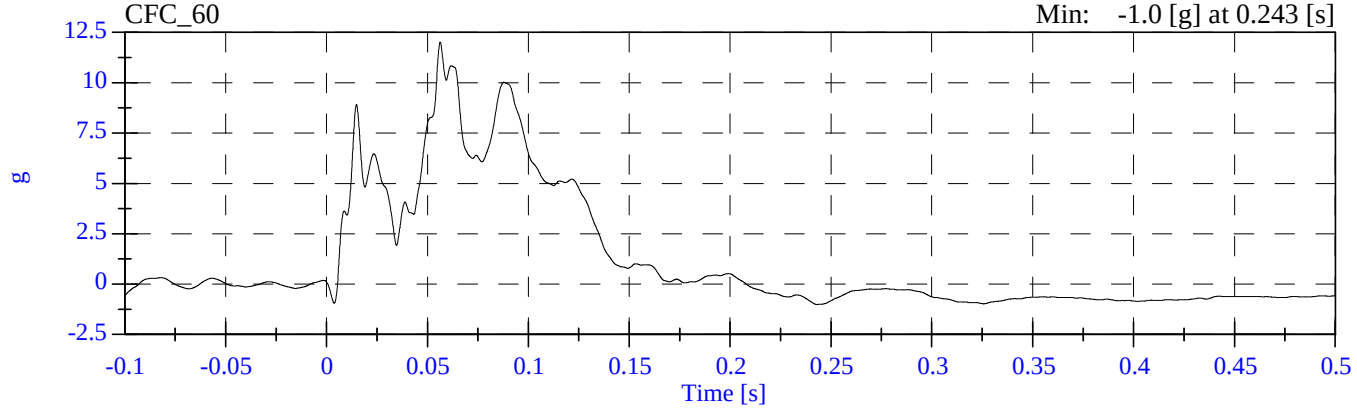
2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

V1 A12 Firewall Center y

CFC_60

Max: 12.0 [g] at 0.056 [s]

Min: -1.0 [g] at 0.243 [s]

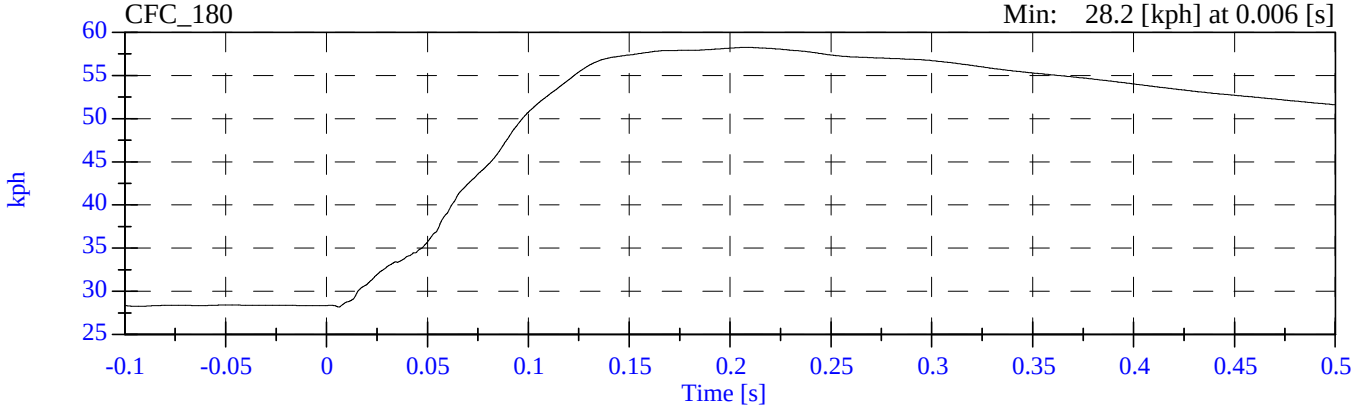


V1 A12 Firewall Center y Velocity

CFC_180

Max: 58.2 [kph] at 0.208 [s]

Min: 28.2 [kph] at 0.006 [s]

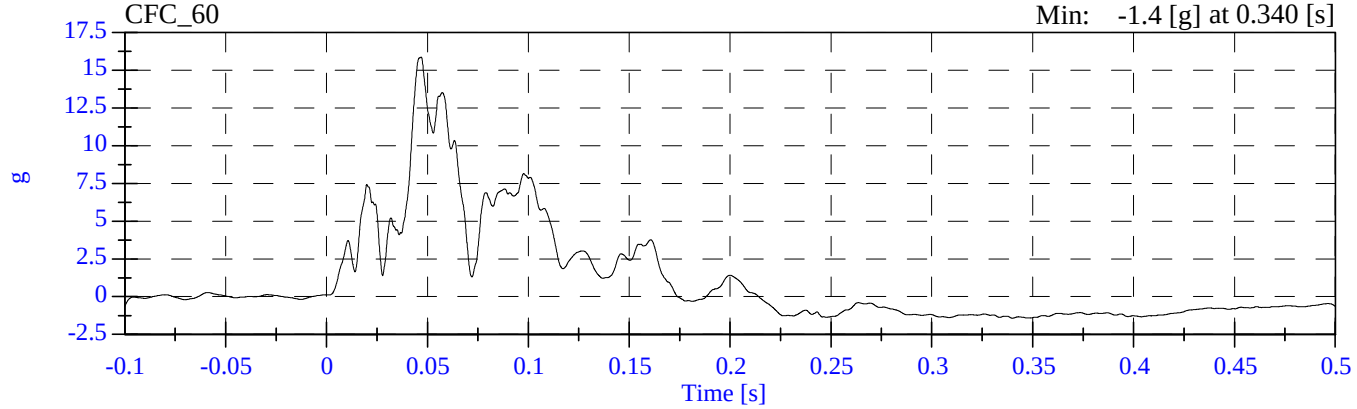


V1 A13 Right Roof y

CFC_60

Max: 15.9 [g] at 0.047 [s]

Min: -1.4 [g] at 0.340 [s]

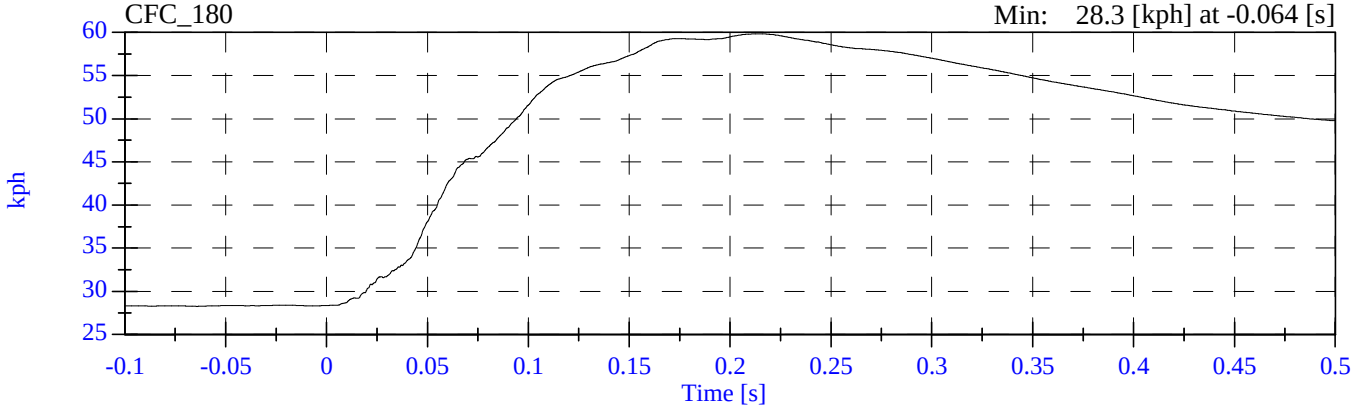


V1 A13 Right Roof y Velocity

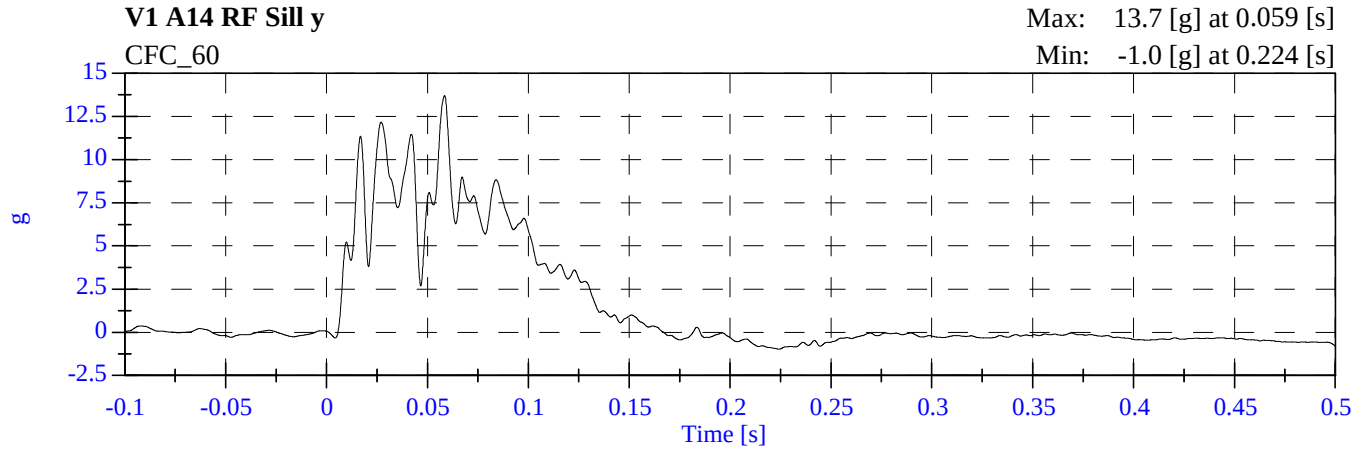
CFC_180

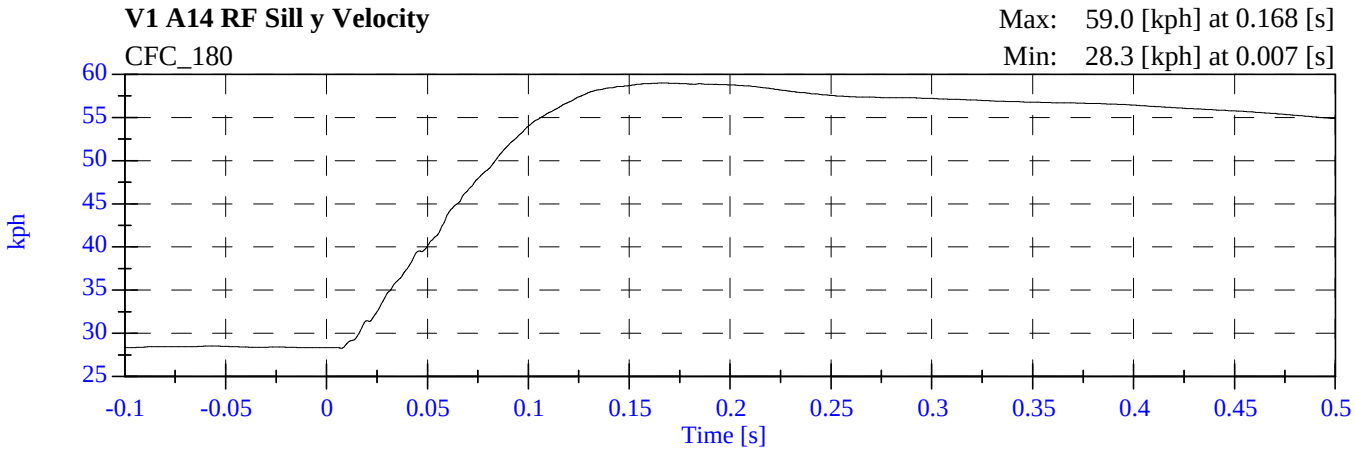
Max: 59.8 [kph] at 0.214 [s]

Min: 28.3 [kph] at -0.064 [s]



2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008





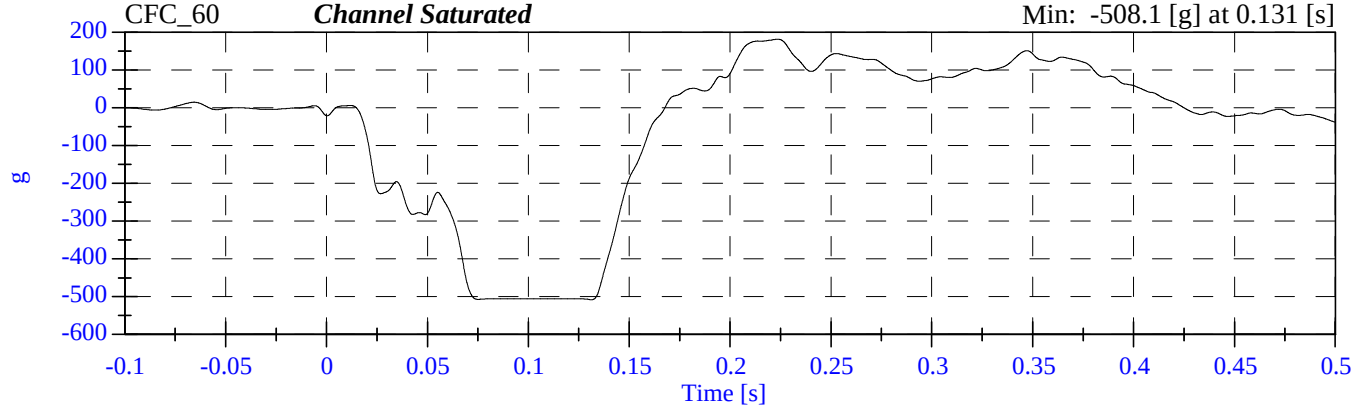
2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

V1 A15 Rear Deck x

Max: 181.6 [g] at 0.224 [s]

CFC_60 ***Channel Saturated***

Min: -508.1 [g] at 0.131 [s]

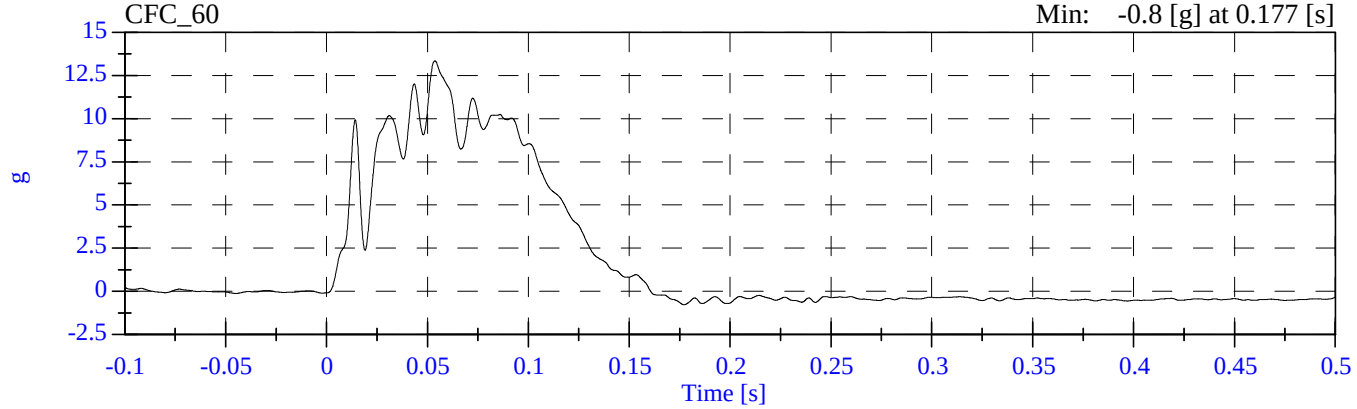


V1 A15 Rear Deck y

Max: 13.3 [g] at 0.054 [s]

CFC_60

Min: -0.8 [g] at 0.177 [s]

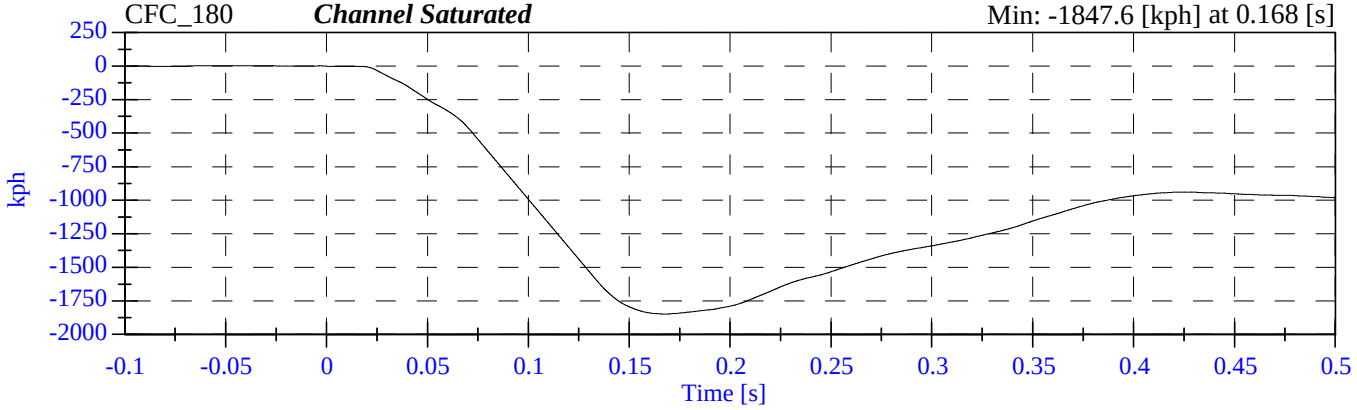


V1 A15 Rear Deck x Velocity

Max: 3.5 [kph] at -0.058 [s]

CFC_180 ***Channel Saturated***

Min: -1847.6 [kph] at 0.168 [s]

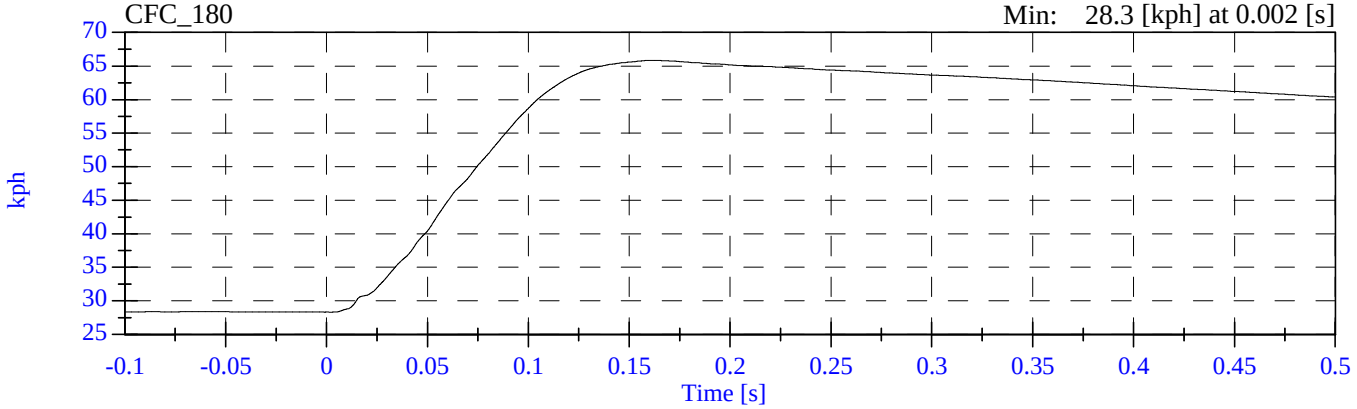


V1 A15 Rear Deck y Velocity

Max: 65.8 [kph] at 0.160 [s]

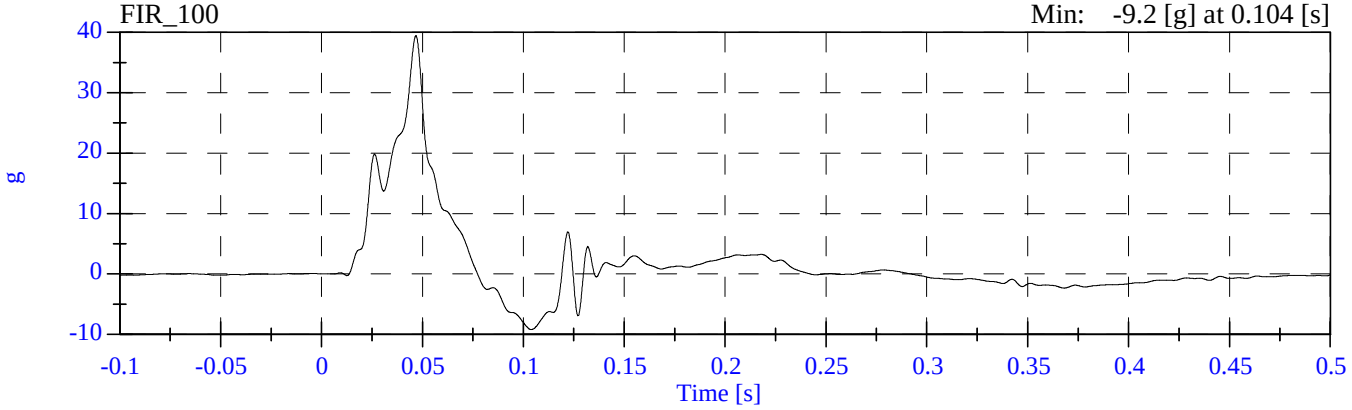
CFC_180

Min: 28.3 [kph] at 0.002 [s]

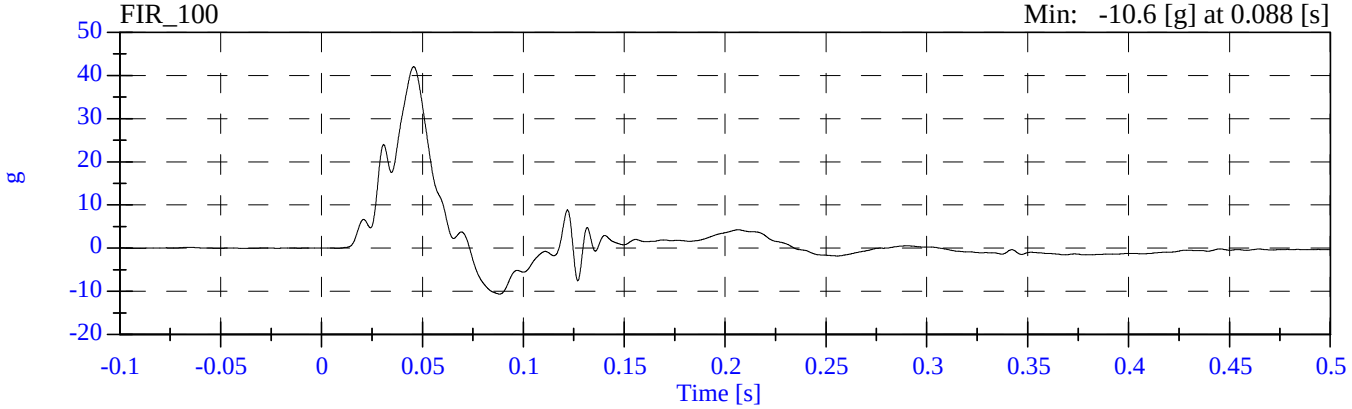


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

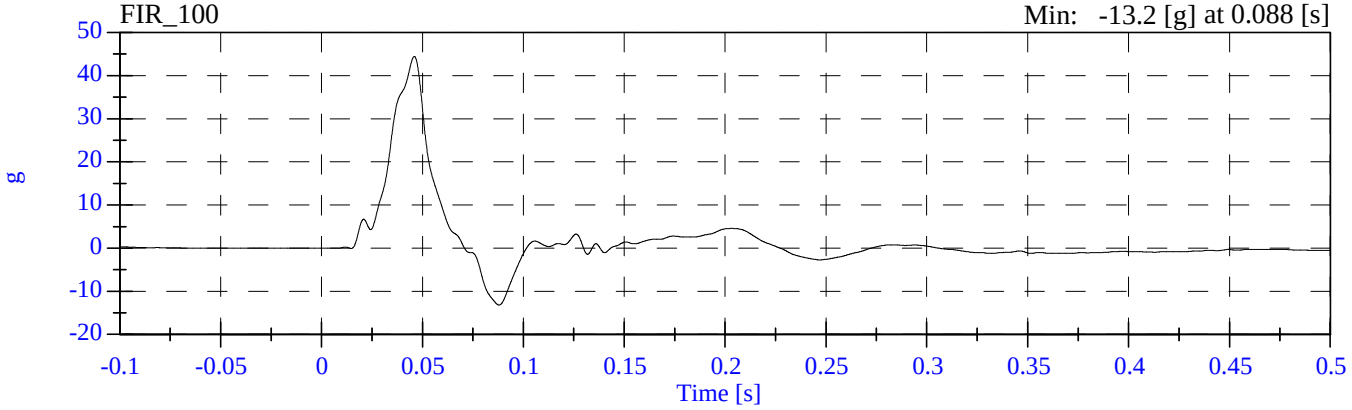
V1P1 Upper Rib y
FIR_100
Max: 39.5 [g] at 0.047 [s]
Min: -9.2 [g] at 0.104 [s]



V1P1 Lower Rib y
FIR_100
Max: 42.1 [g] at 0.046 [s]
Min: -10.6 [g] at 0.088 [s]

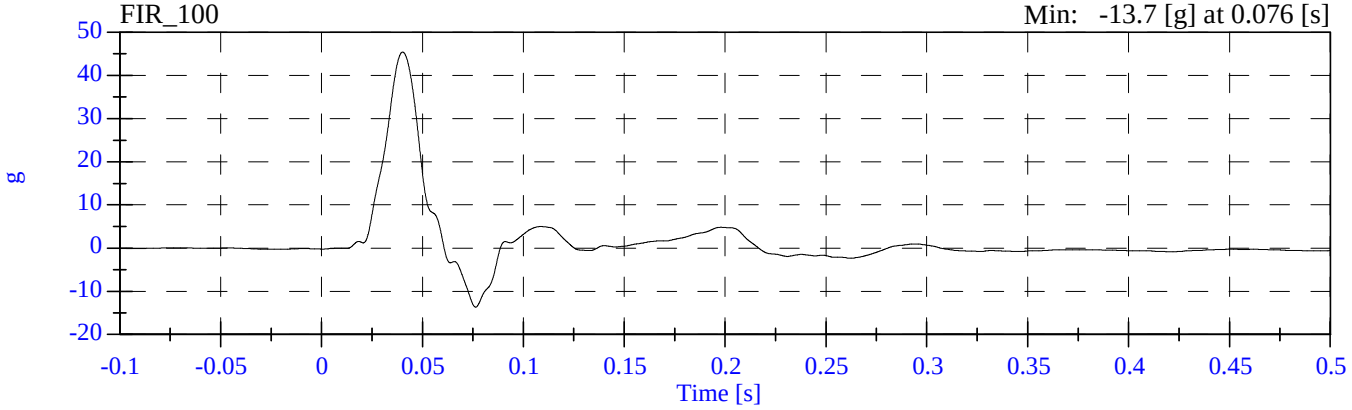


V1P1 Lower Spine y
FIR_100
Max: 44.5 [g] at 0.046 [s]
Min: -13.2 [g] at 0.088 [s]

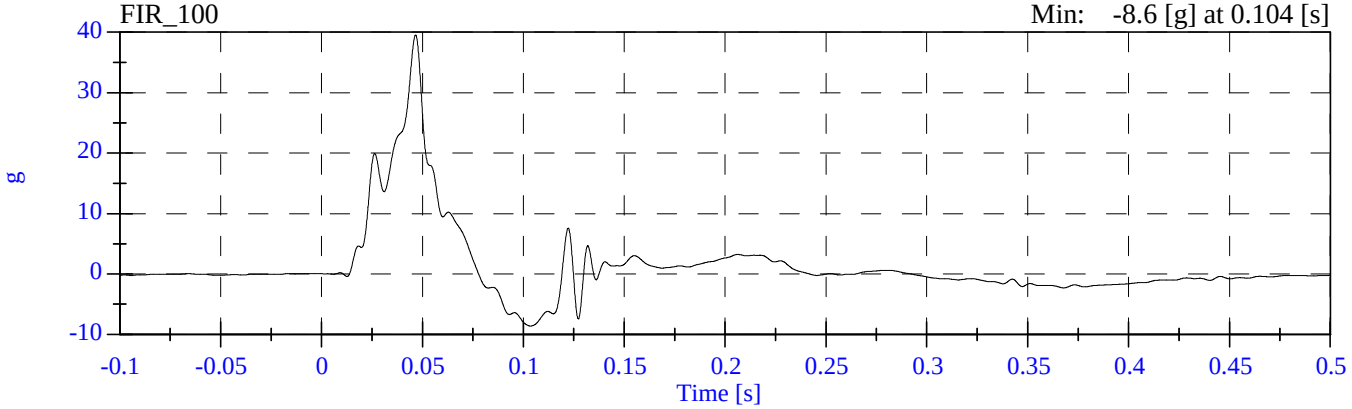


2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008

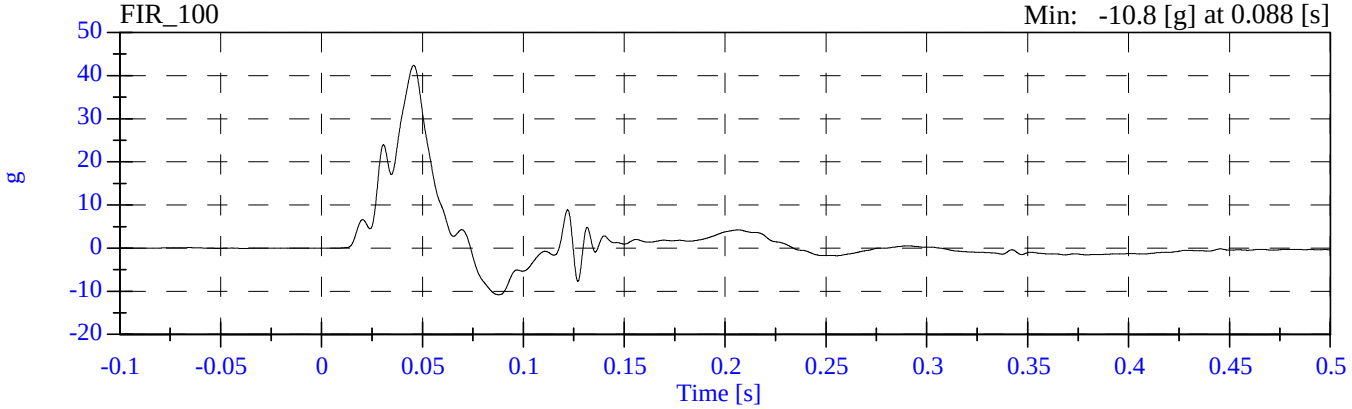
V1P1 Pelvic y
FIR_100
Max: 45.4 [g] at 0.040 [s]
Min: -13.7 [g] at 0.076 [s]



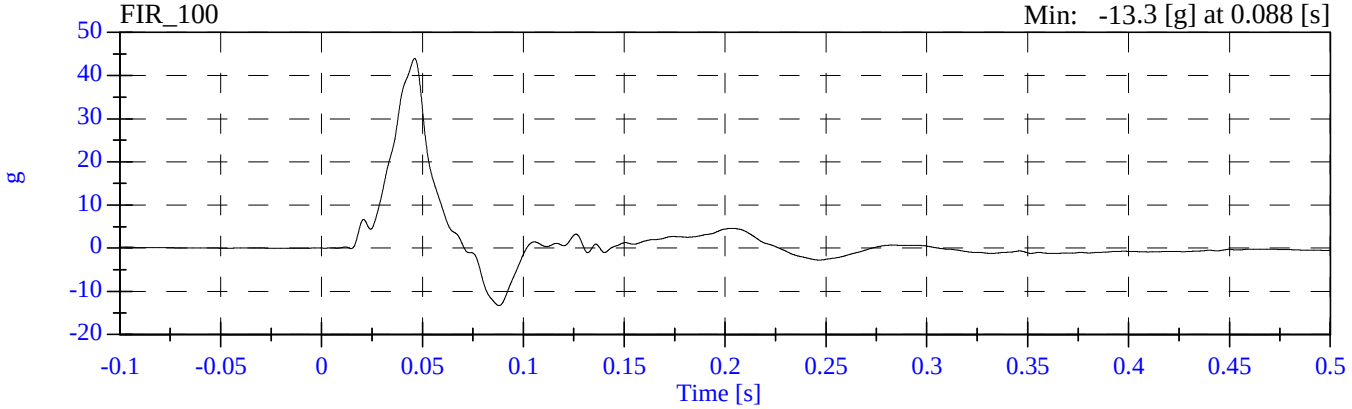
V1P1 Upper Rib Ry
FIR_100
Max: 39.5 [g] at 0.047 [s]
Min: -8.6 [g] at 0.104 [s]



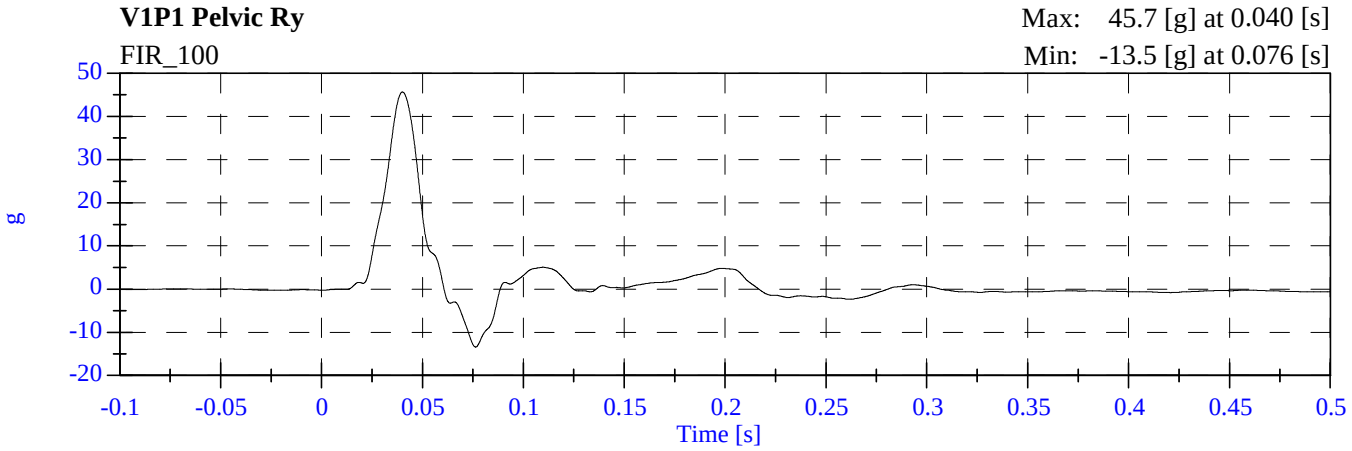
V1P1 Lower Rib Ry
FIR_100
Max: 42.4 [g] at 0.046 [s]
Min: -10.8 [g] at 0.088 [s]



V1P1 Lower Spine Ry
FIR_100
Max: 44.0 [g] at 0.046 [s]
Min: -13.3 [g] at 0.088 [s]



2008 FMVSS 201P Test 2 2008 Honda Accord
C85304 - July 02, 2008



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 6/24/08; 7/16/08 Sequential Test Number: 1
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 269 PRE TEST	SID H3 NO.: 269 POST TEST
SH- Seated Height (mm)	889 - 909	898	898
RH- Rib Height (mm)	501 - 520	509	509
HP- Hip Pivot Height (mm)	99 ref.	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234
KH- Knee Pivot from Back Line (mm)	511 - 526	516	516
KV- Knee Pivot to Floor (mm)	490 - 505	499	499
HW- Hip Width (mm)	356 - 391	371	371
HEAD DROP			
TEMPERATURE (C)	18.9 - 25.6	22.2	21.7
RELATIVE. HUMIDITY (%)	10 -70	53.0	51
PEAK RESULTANT ACCELERATION.	120-150 Gs	137.41	143.79
PEAK LATERAL ACCELERATION	15 Gs Max	6.30	2.55
CURVE PERCENT NONMODAL	< 15%	2.22	2.38
NECK TEST			
TEMPERATURE (C^o)	20.6 – 22.2	21.7	21.7
HUMIDITY (%)	10-70%	55	53
IMPACT VELOCITY (m/s)	6.89-7.13	7.00	7.00
PENDULUM DELTA V			
DELTA V at 10 ms.	1.96-2.55 m/s	2.22	2.20
DELTA V at 20 ms.	4.12-5.10 m/s	4.61	4.57
DELTA V at 30 ms.	5.73-7.01 m/s	6.68	6.55
DELTA V between 40-70 ms.	6.27-7.64 m/s	7.07	7.05

SUMMARY (cont'd)
SID H3 PRE & POST TEST CALIBRATION

D PLANE ROTATION			
MAXIMUM ROTATION (deg.)	66.0-82.0	73.57	72.80
ROTATION ANGLE DECAY	58.0-67.0 ms	63.50	60.60
MOMENT ABOUT THE OCCIPITAL CONDYLE			
MAX OCCIPITAL MOMENT	73.0-88.0 N-m	79.14	82.13
OCCIPITAL MOMENT DECAY	49.0-64.0 ms	59.10	56.80
HEAD ROTATION TIME WITH RESPECT TO OCCIPITAL CONDYLE MOMENT			
MOMENT TO ROTATION PEAK	2.0-16.0 ms	8.90	11.00
THORAX IMPACTS			
TEMPERATURE (C)	18.9 - 25.5	22.2	21.7
RELATIVE. HUMIDITY (%)	10 -70	65	51
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.28
UPPER RIB (g's)	37 - 46	44.25	38.01
LOWER RIB (g's)	37 - 46	37.89	38.12
LOWER SPINE (g's)	15 -22	19.72	17.07
PELVIS IMPACT			
TEMPERATURE (C)	18.9 - 25.5	21.7	21.7
RELATIVE HUMIDITY (%)	10 - 70	55	51
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.28
PELVIS (g's)	40 -60	45.66	46.15

REMARKS: None

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT **SIDE IMPACT**

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 6/15/08 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST	Passed all requirements.
LATERAL NECK BEND TEST	Passed all requirements.
ABDOMINAL COMPRESSION TEST	Passed all requirements.
LUMBAR FLEXION TEST	Passed all requirements.

REMARKS: None

EXTERNAL DIMENSIONS
PRE-TEST

CONFIGURED FOR LEFT **SIDE IMPACT**

SID H3 Serial No.:	269	Sequential Test Number:	1
Date:	6/15/08	Laboratory Technician:	B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	898
RH- Rib Height (mm)	502 – 520	509
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	234
KH- Knee Pivot from Back Line (mm)	511 – 526	516
KV- Knee Pivot to Floor (mm)	490 – 505	499
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

Shock Test (3.05 m/s)

PRE TEST

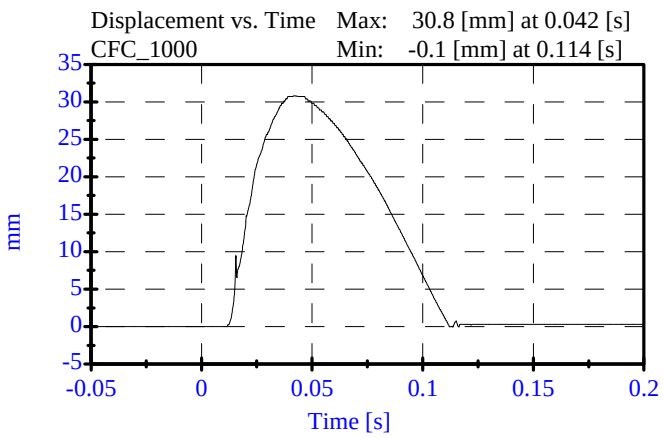
CONFIGURED FOR LEFT SIDE IMPACT

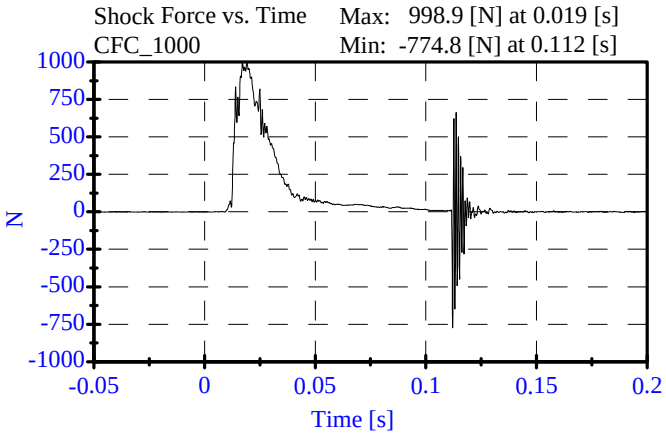
ATD Serial No: 269 Sequential Test Number: 1 File: 269 Shock10 06-25-08

Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Displacement:	30.00-35.00 mm	30.82 mm	Passed
Maximum Force:	836.00-1125.00 N	998.86 N	Passed

Impact Test Velocity: 3.05 m/s
Damper Identification: 269
Damper Setting: 5





Shock Test (4.27 m/s)

PRE TEST

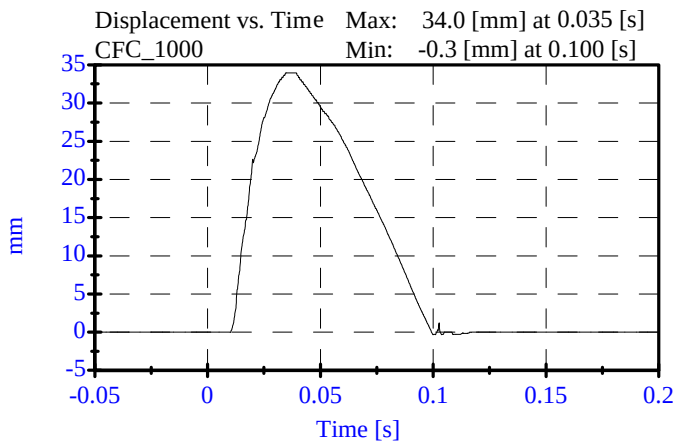
CONFIGURED FOR LEFT SIDE IMPACT

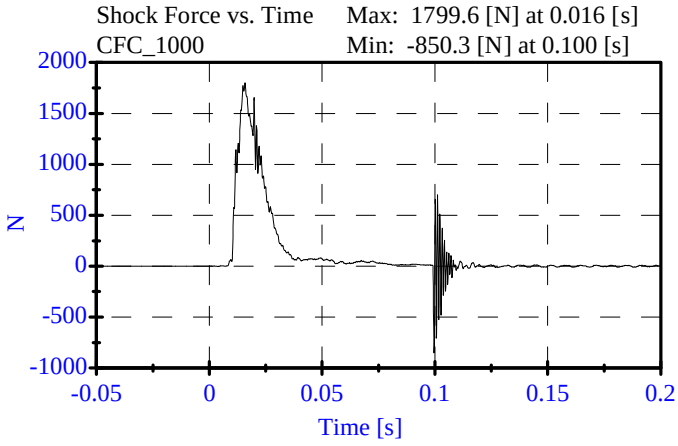
ATD Serial No: 269 Sequential Test Number: 1 File: 269 Shock14 06-25-08

Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Displacement:	32.00-37.00 mm	33.97 mm	Passed
Maximum Force:	1730.00-2099.00 N	1799.59 N	Passed

Impact Test Velocity: 4.27 m/s
Damper Identification: 269
Damper Setting: 5





Shock Test (6.10 m/s)

PRE TEST

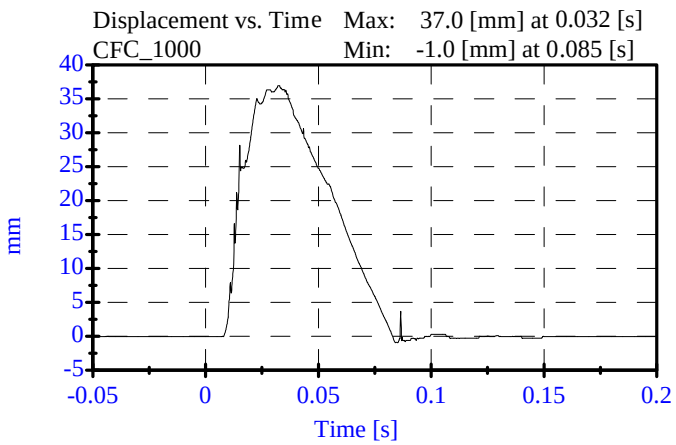
CONFIGURED FOR LEFT SIDE IMPACT

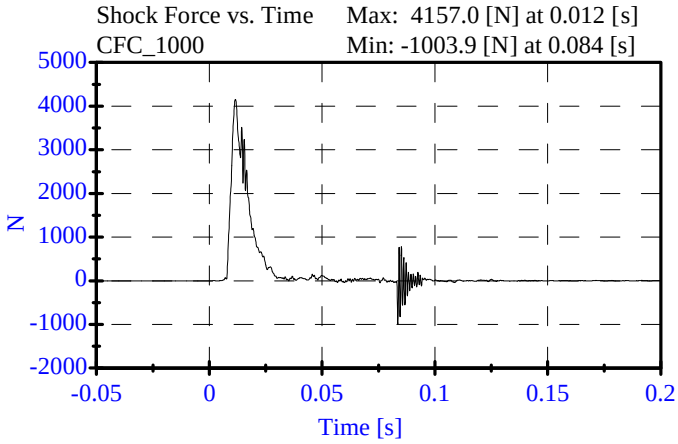
ATD Serial No: 269 Sequential Test Number: 1 File: 269 Shock20 06-25-08

Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Displacement:	33.00-40.00 mm	36.96 mm	Passed
Maximum Force:	3741.00-4448.00 N	4156.98 N	Passed

Impact Test Velocity: 6.10 m/s
Damper Identification: 269
Damper Setting: 5





Thorax Impact Test

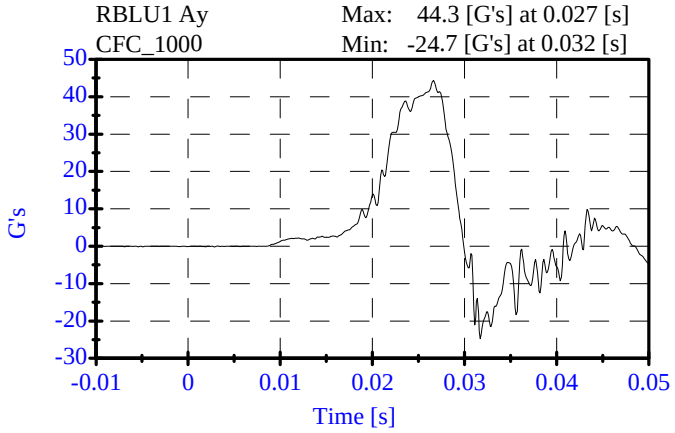
Pre-Test

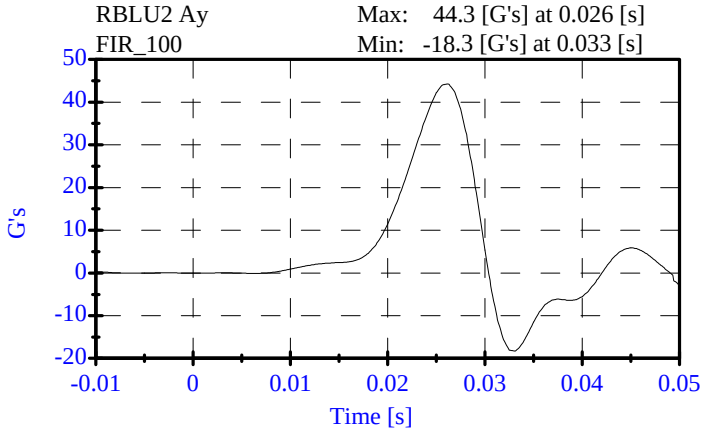
CONFIGURED FOR LEFT SIDE IMPACT

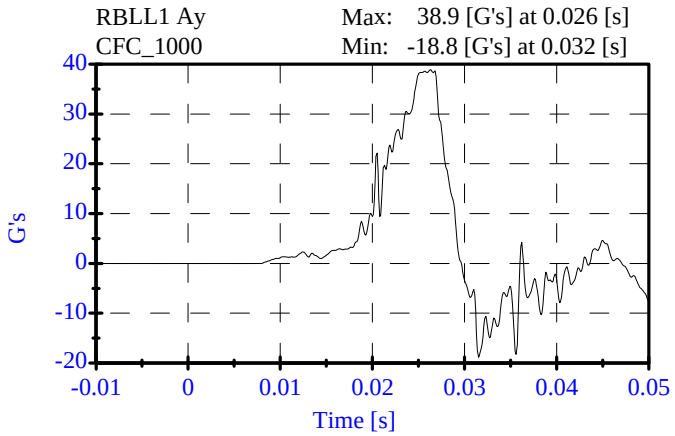
ATD Serial No: 269 Sequential Test Number: 1 File: 269T2 06-25-08

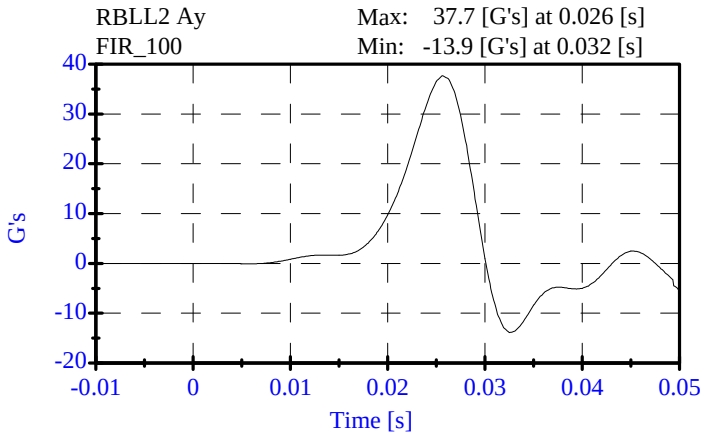
Date: 06-26-08 Laboratory Technician: B. Swiecicki

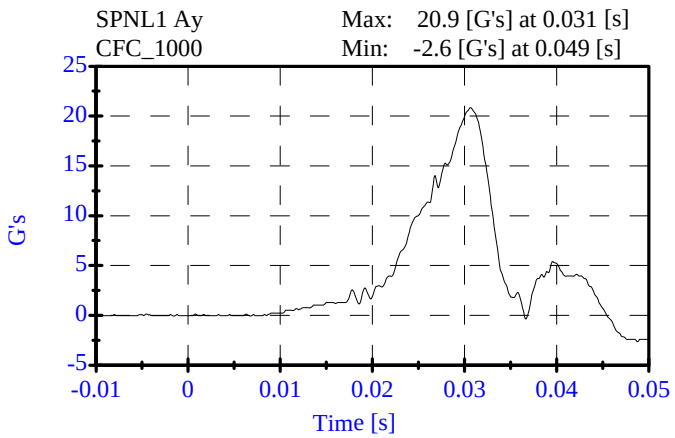
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	22.2 C	Passed
Lab Humidity:	10-70 %	65.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	44.25 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.69 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.72 G's	Passed

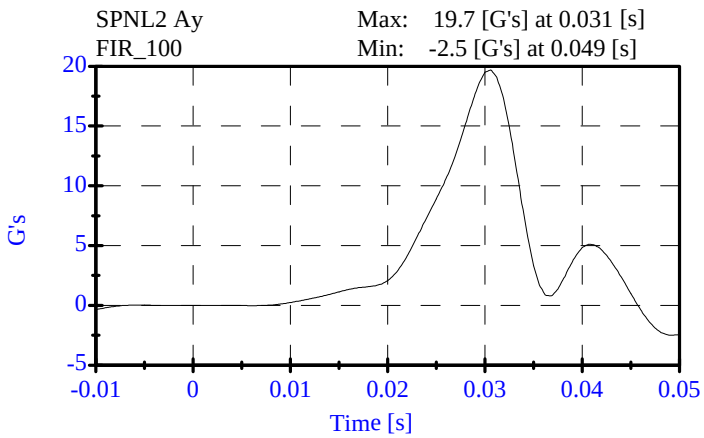












Pelvic Impact Test

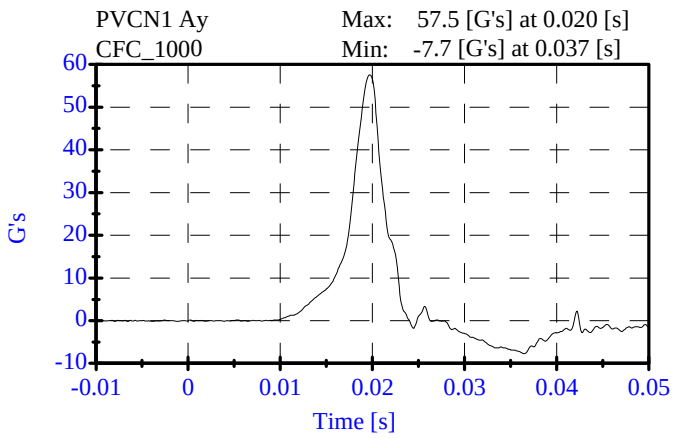
Pre-Test

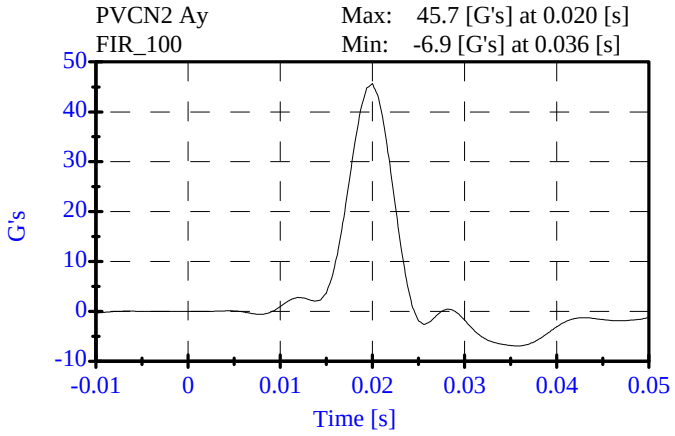
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269P 06-25-08

Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	45.66 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.6 ms	Passed





Head Drop Test

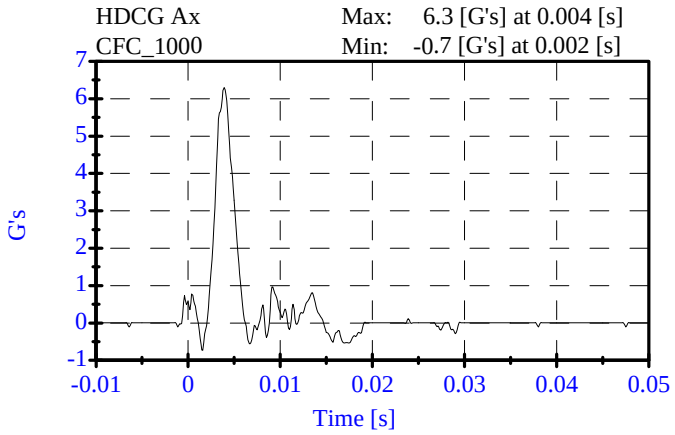
Pre-Test

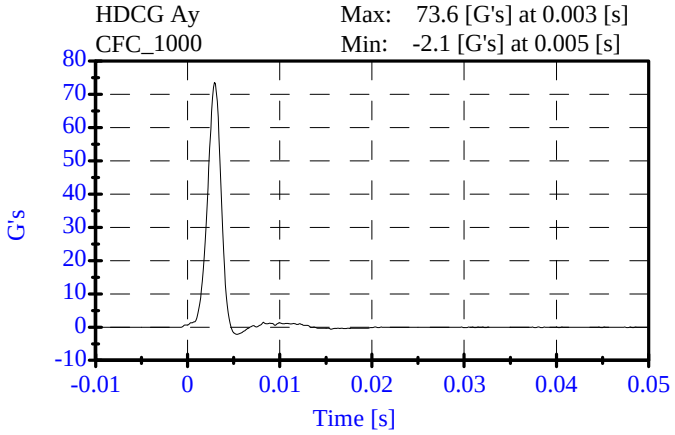
CONFIGURED FOR LEFT SIDE IMPACT

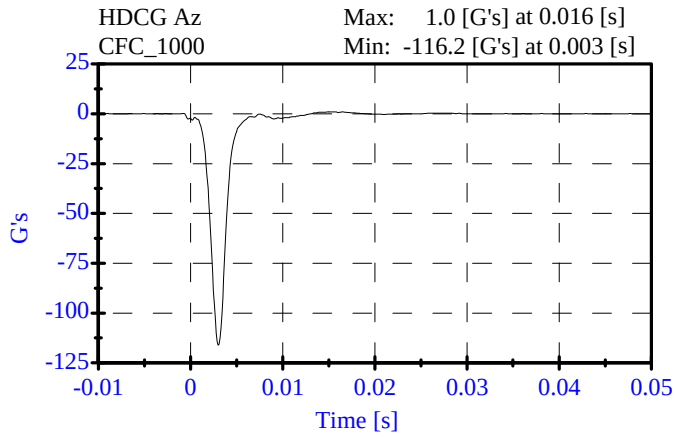
ATD Serial No: 269 Sequential Test Number: 1 File: 269H 06-25-08

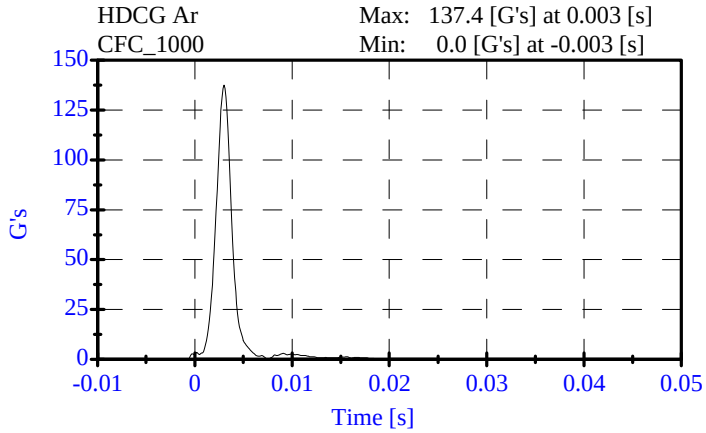
Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	22.2 C	Passed
Lab Humidity:	10-70 %	53.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	137.41 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	6.30 Gs	Passed
Curve PerCent NonModal:	< 15%	2.22 %	Passed









Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269N1 06-25-08

Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.22 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.61 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.68 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.07 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	73.57 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	63.50 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	79.14 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	59.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.90 ms	Passed

Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

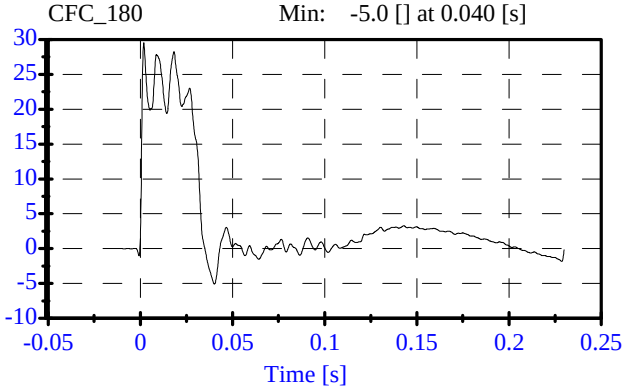
ATD Serial No: 269

Sequential Test Number: 1 File: 269N1 06-25-08

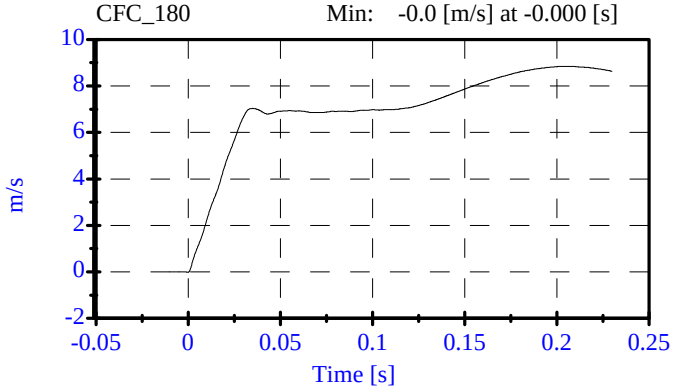
Date: 06-25-08

Laboratory Technician: B. Swiecicki

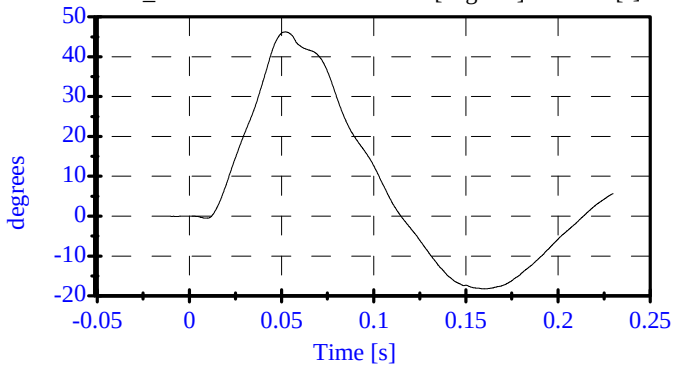
Pend Ax Max: 29.5 [] at 0.002 [s]
CFC_180 Min: -5.0 [] at 0.040 [s]



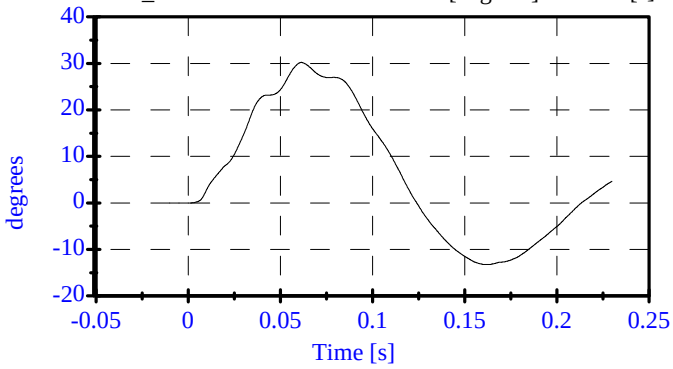
Pend Vx Max: 8.8 [m/s] at 0.205 [s]
CFC_180 Min: -0.0 [m/s] at -0.000 [s]



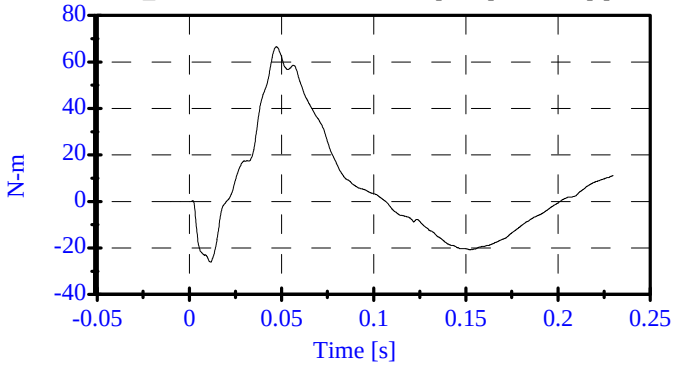
Head Rot Max: 46.3 [degrees] at 0.052 [s]
CFC_180 Min: -18.2 [degrees] at 0.159 [s]



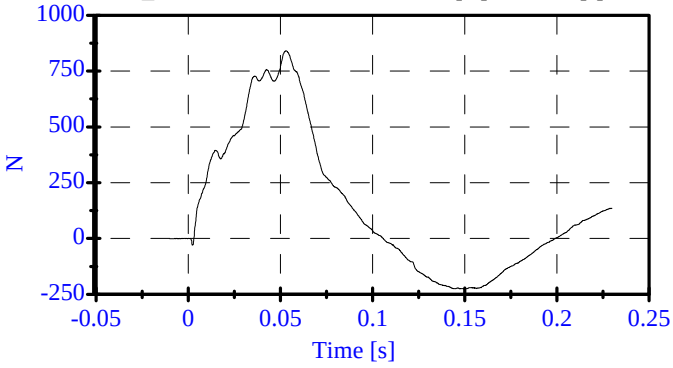
Arm Rot Max: 30.2 [degrees] at 0.061 [s]
CFC_180 Min: -13.2 [degrees] at 0.162 [s]



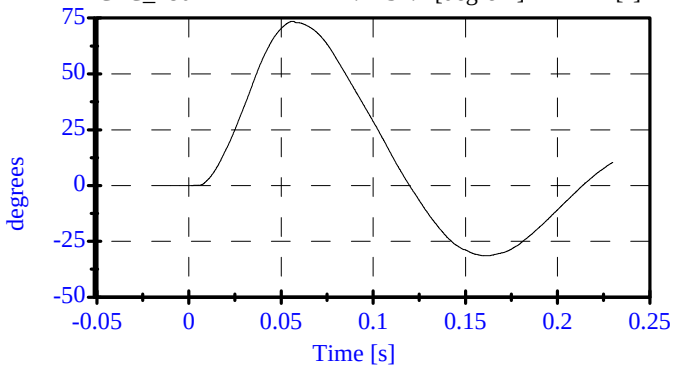
Neck Mx Max: 66.5 [N-m] at 0.047 [s]
CFC_600 Min: -26.2 [N-m] at 0.012 [s]



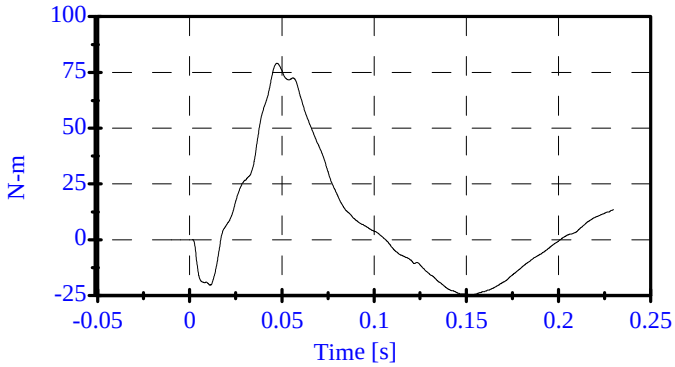
Neck Fy Max: 841.1 [N] at 0.053 [s]
CFC_1000 Min: -225.8 [N] at 0.150 [s]



Tot Rot Max: 73.6 [degrees] at 0.056 [s]
CFC_180 Min: -31.4 [degrees] at 0.162 [s]



MOCX Max: 79.1 [N-m] at 0.047 [s]
Min: -24.7 [N-m] at 0.152 [s]



Abdominal Compression Test

Pre-Test

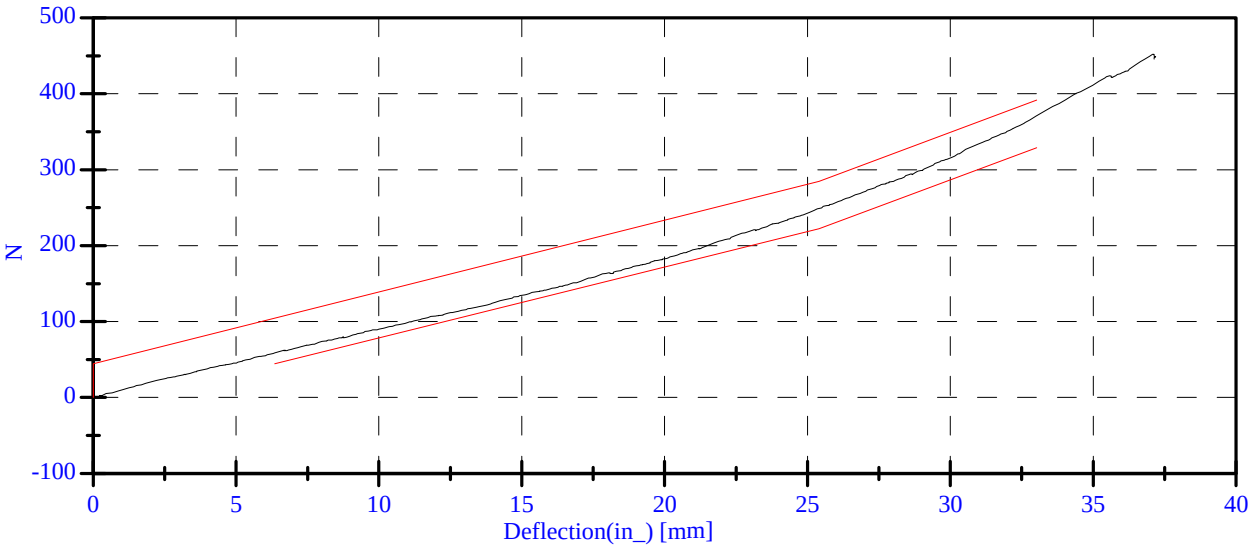
CONFIGURED FOR LEFT SIDE IMPACT

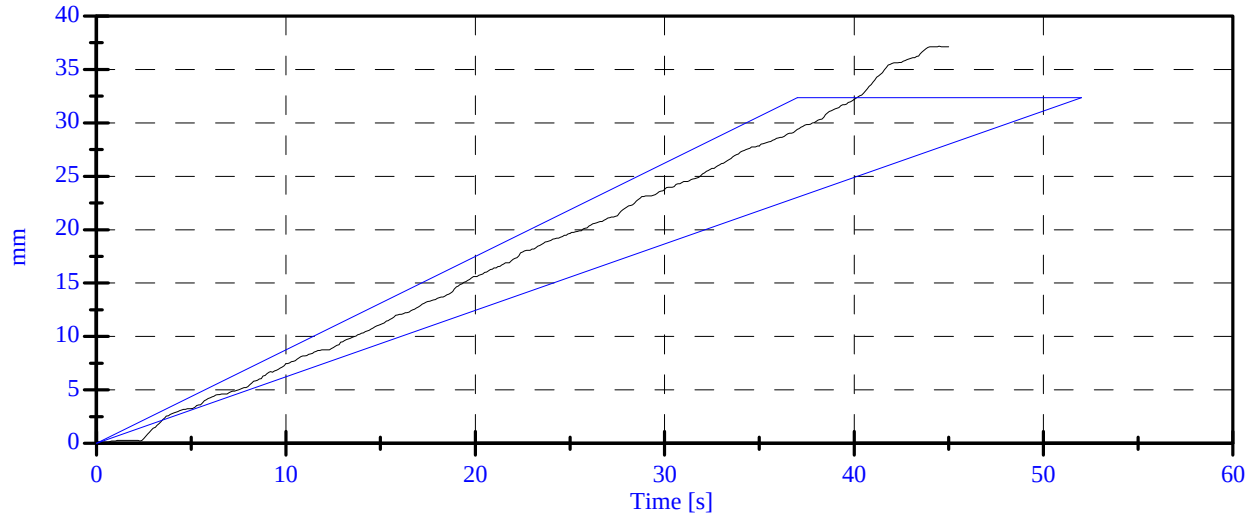
ATD Serial No: 269 Sequential Test Number: 1 File: 269 Ab 06-25-08

Date: 06-25-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	114.71 N	Passed
Force at 19.05 mm :	162.98-220.99 N	173.43 N	Passed
Force at 25.40 mm :	221.97-280.02 N	248.47 N	Passed
Force at 33.02 mm :	324.99-391.00 N	370.62 N	Passed

ABDOMINAL COMPRESSION TEST





Lumbar Spine Test
Pre-Test

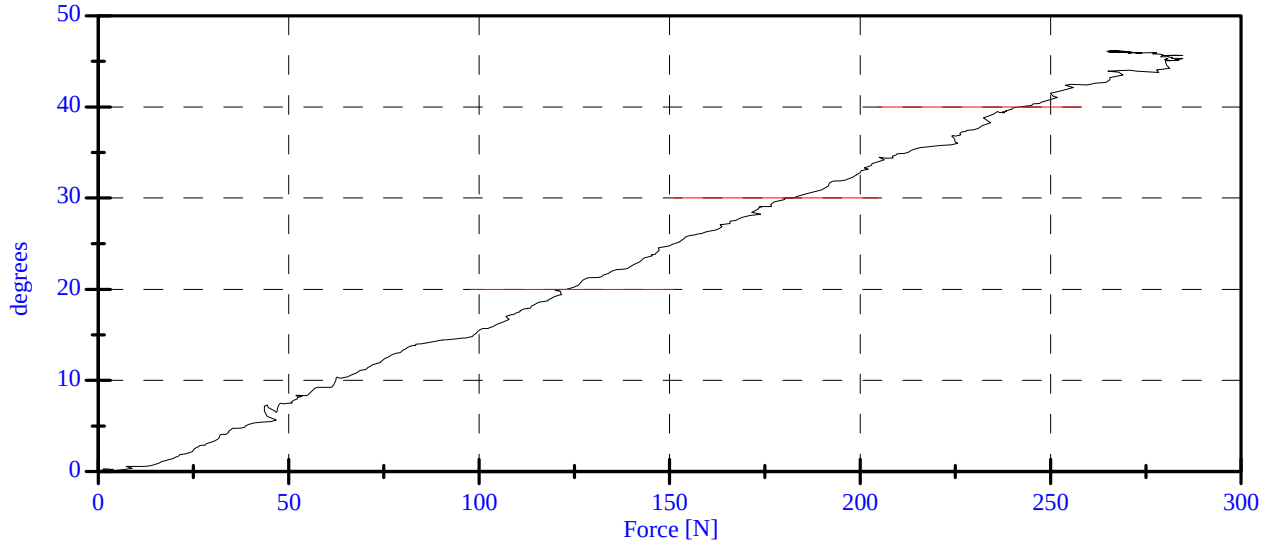
CONFIGURED FOR LEFT SIDE IMPACT

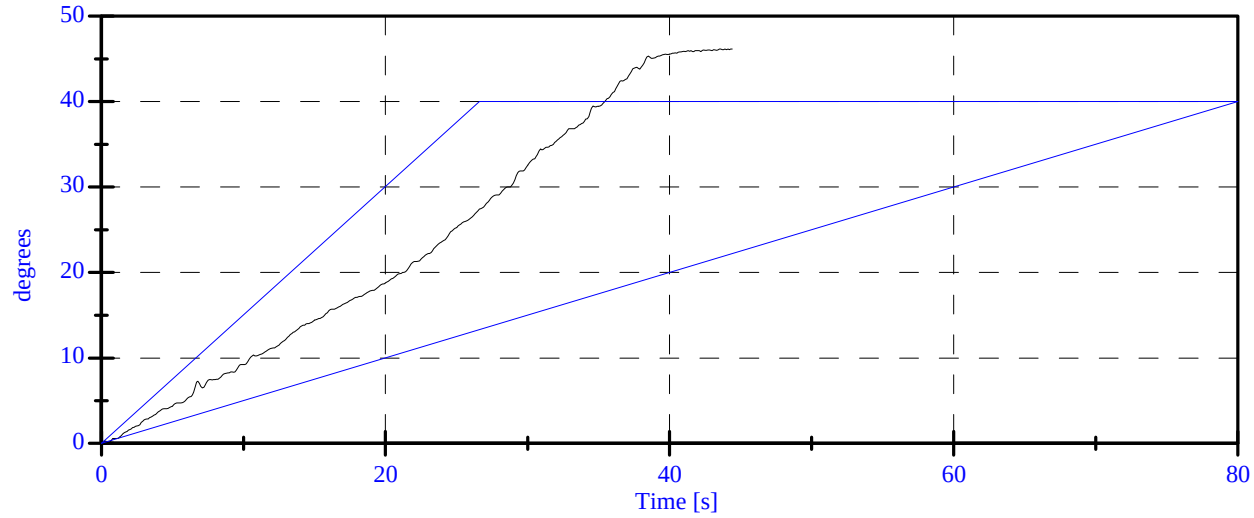
ATD Serial No: 269
Date: 06-25-08

Sequential Test Number: 1 File: 269 Spine 06-25-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	55.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	4.18 N	Passed
Force at 20 Deg:	97.86-151.24 N	121.70 N	Passed
Force at 30 Deg	151.24-204.62 N	180.19 N	Passed
Force at 40 Deg	204.62-258.00 N	240.26 N	Passed
Return Angle	12 Deg Max	5.48 deg	Passed

LUMBAR SPINE FLEXION TEST





PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT **SIDE IMPACT**

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 6/15/08 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT **SIDE IMPACT**

CALIBRATION TEST RESULTS SUMMARY
POST TEST

CONFIGURED FOR LEFT **SIDE IMPACT**

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 7/16/08 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST	Passed all requirements.
LATERAL NECK BEND TEST	Passed all requirements.
ABDOMINAL COMPRESSION TEST	Passed all requirements.
LUMBAR FLEXION TEST	Passed all requirements.

REMARKS: None

EXTERNAL DIMENSIONS
POST TEST

CONFIGURED FOR LEFT **SIDE IMPACT**

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 7/16/08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	898
RH- Rib Height (mm)	502 - 520	509
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	499
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

Thorax Impact

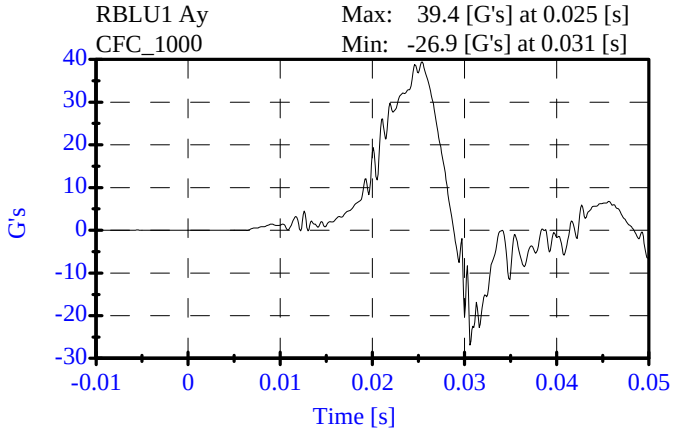
Post-Test

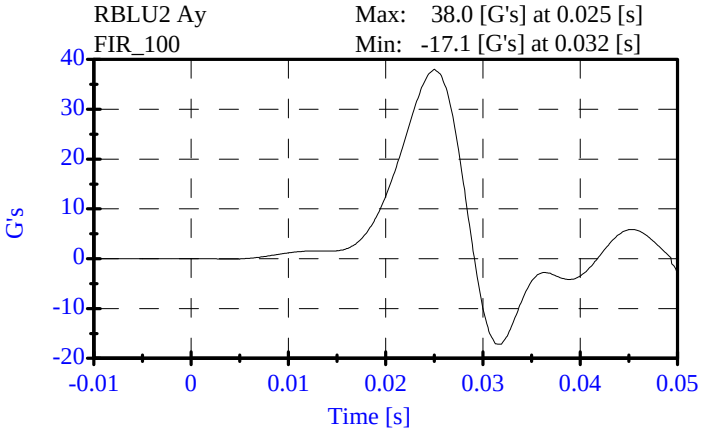
CONFIGURED FOR LEFT SIDE IMPACT

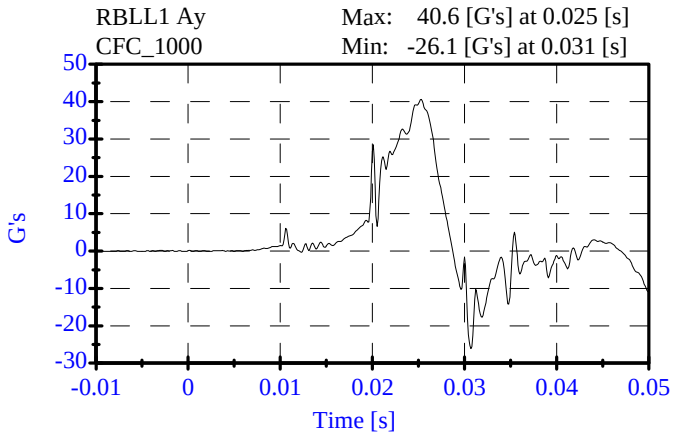
ATD Serial No: 269 Sequential Test Number: 1 File: 269T 07-15-08

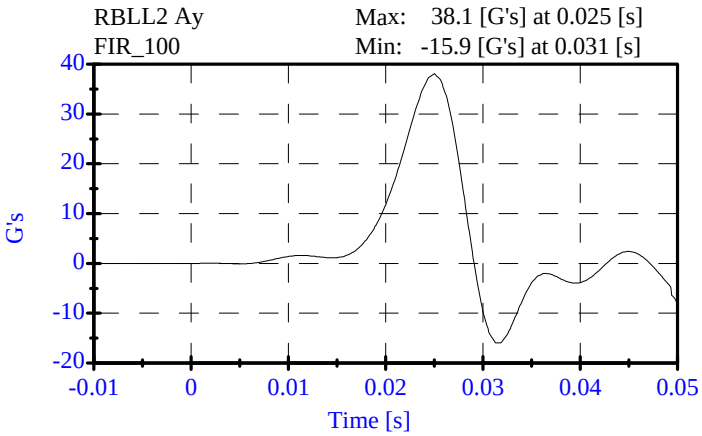
Date: 07-15-08 Laboratory Technician: B. Swiecicki

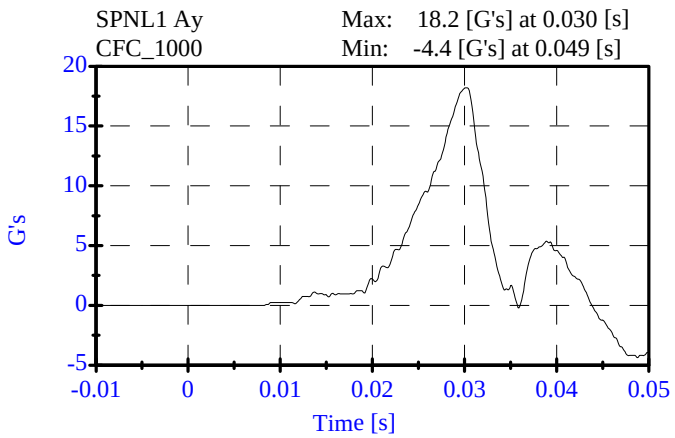
TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	51.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.01 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.12 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	17.07 G's	Passed

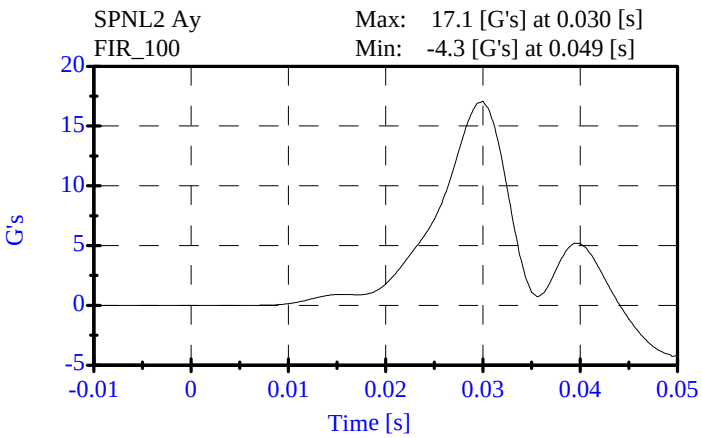












Pelvis Impact

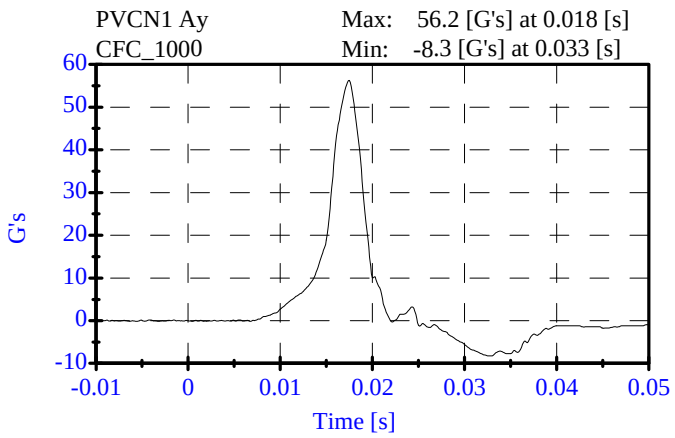
Post-Test

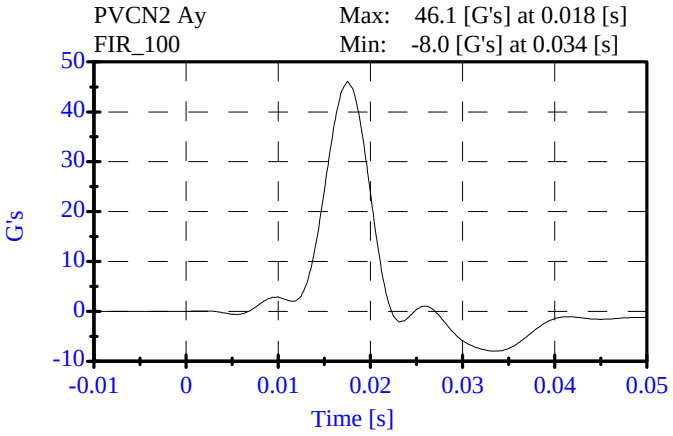
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269P 07-15-08

Date: 07-15-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	51.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	46.15 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.6 ms	Passed





Head Drop

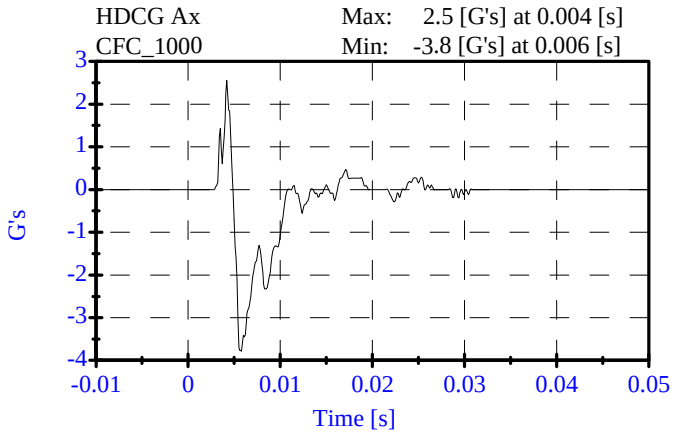
Post-Test

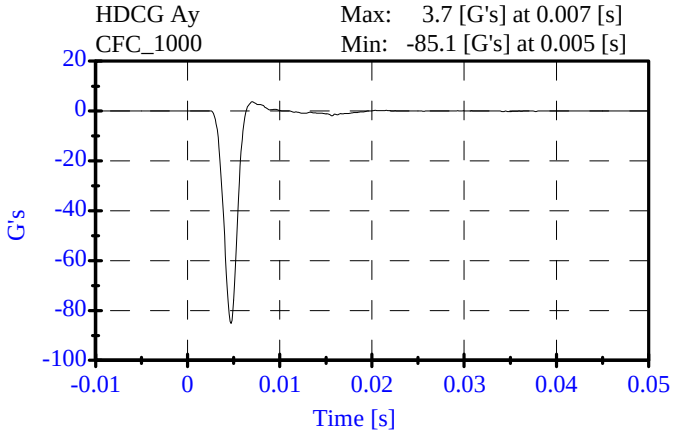
CONFIGURED FOR LEFT SIDE IMPACT

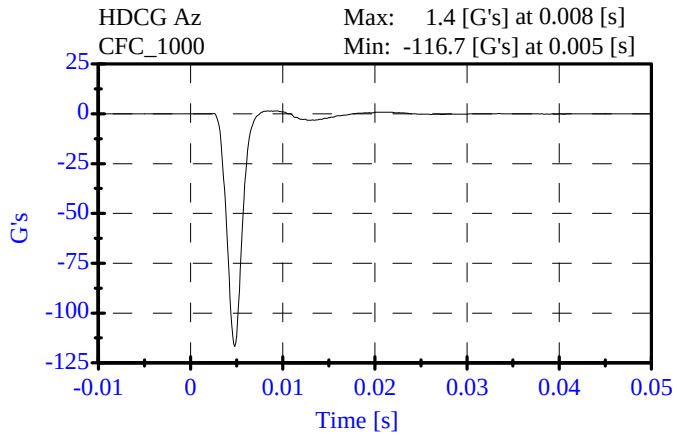
ATD Serial No: 269 Sequential Test Number: 1 File: 269H 07-14-08

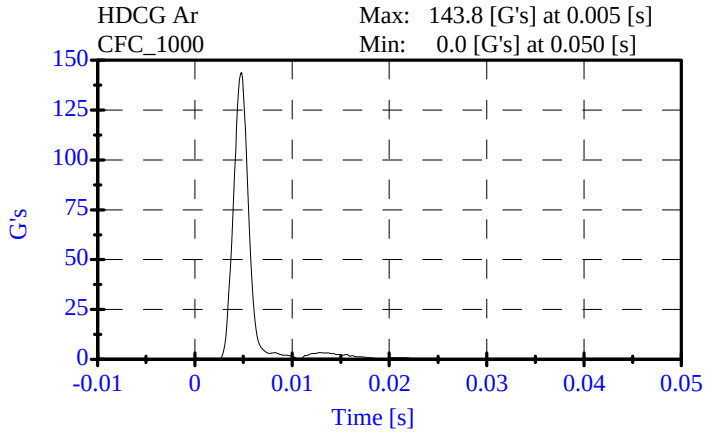
Date: 07-14-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.7 C	Passed
Lab Humidity:	10-70 %	51.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	143.79 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	2.55 Gs	Passed
Curve PerCent NonModal:	< 15%	2.38 %	Passed









Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269 Sequential Test Number: 1 File: 269N 07-15-08

Date: 07-14-08 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	53.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.20 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.57 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.55 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.05 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.80 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.60 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	82.13 N-m	Passed
Occiptal Moment Decay:	49.0-64.0 ms	56.80 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	11.00 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

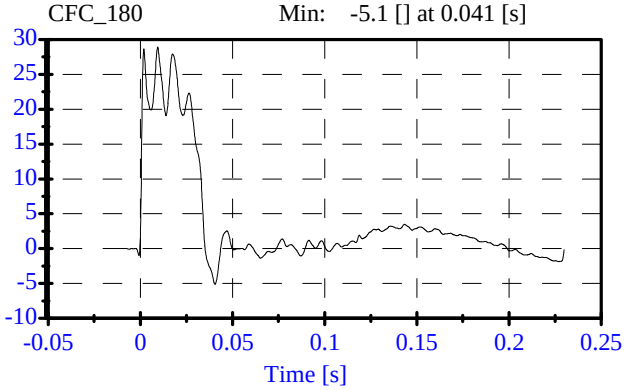
ATD Serial No: 269

Sequential Test Number: 1 File: 269N 07-15-08

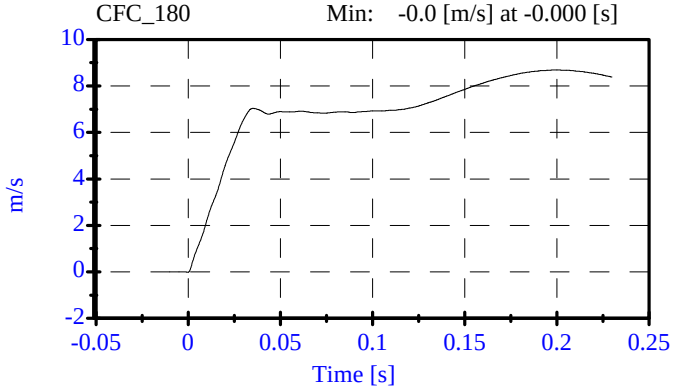
Date: 07-14-08

Laboratory Technician: B. Swiecicki

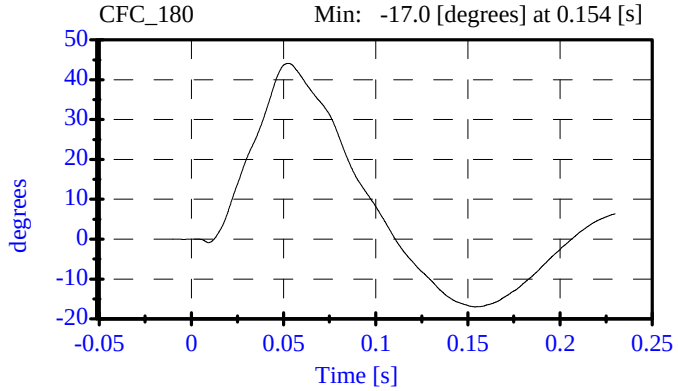
Pend Ax
CFC_180
Max: 28.9 [] at 0.009 [s]
Min: -5.1 [] at 0.041 [s]



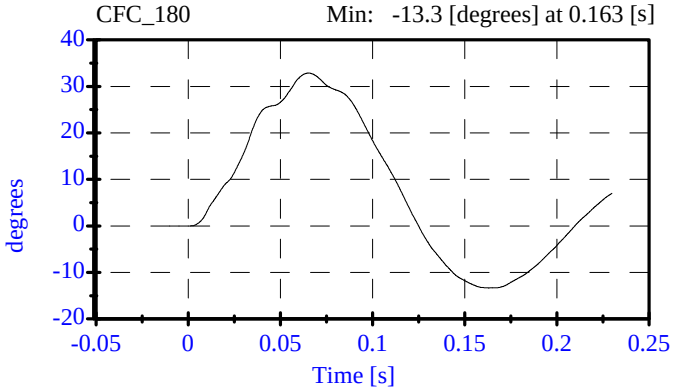
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.199 [s]
Min: -0.0 [m/s] at -0.000 [s]



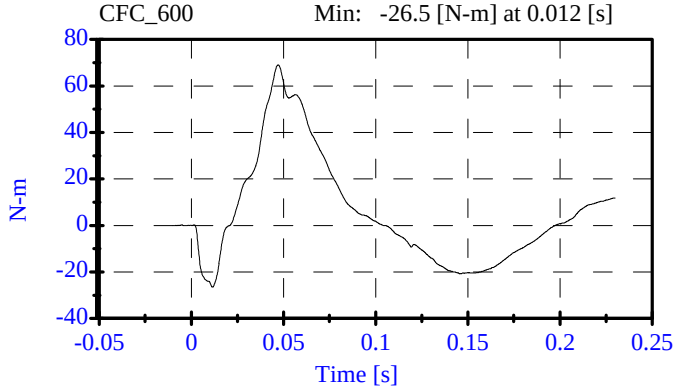
Head Rot
CFC_180
Max: 44.1 [degrees] at 0.053 [s]
Min: -17.0 [degrees] at 0.154 [s]



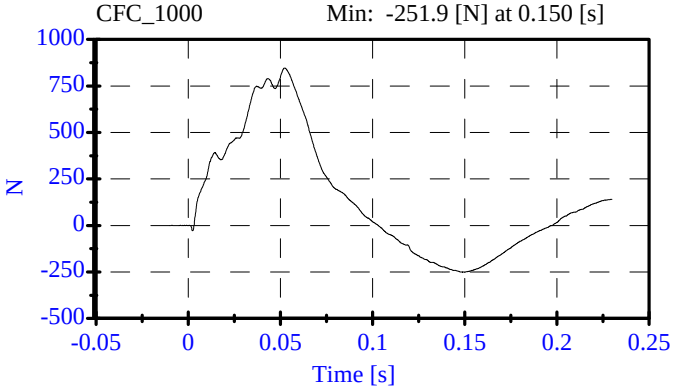
Arm Rot
CFC_180
Max: 32.9 [degrees] at 0.065 [s]
Min: -13.3 [degrees] at 0.163 [s]



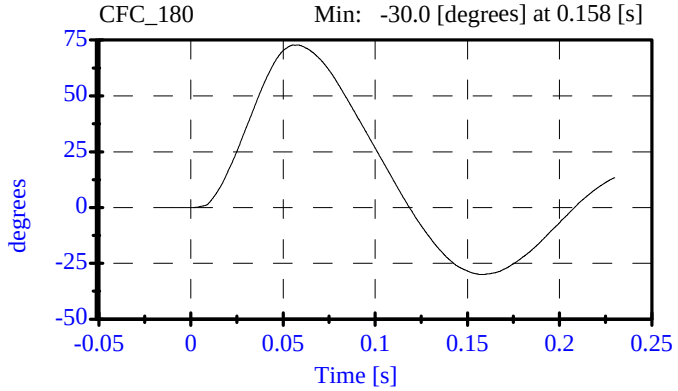
Neck Mx
CFC_600
Max: 69.0 [N-m] at 0.047 [s]
Min: -26.5 [N-m] at 0.012 [s]



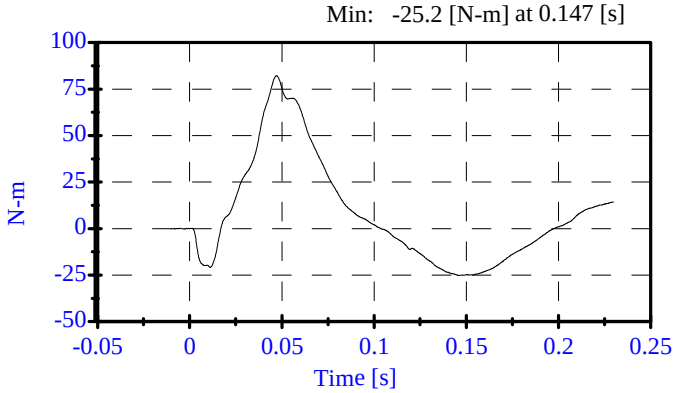
Neck Fy
CFC_1000
Max: 846.2 [N] at 0.053 [s]
Min: -251.9 [N] at 0.150 [s]



Tot Rot
CFC_180
Max: 72.8 [degrees] at 0.058 [s]
Min: -30.0 [degrees] at 0.158 [s]



MOCX
Max: 82.1 [N-m] at 0.047 [s]
Min: -25.2 [N-m] at 0.147 [s]



Abdominal Compression Test
Post-Test

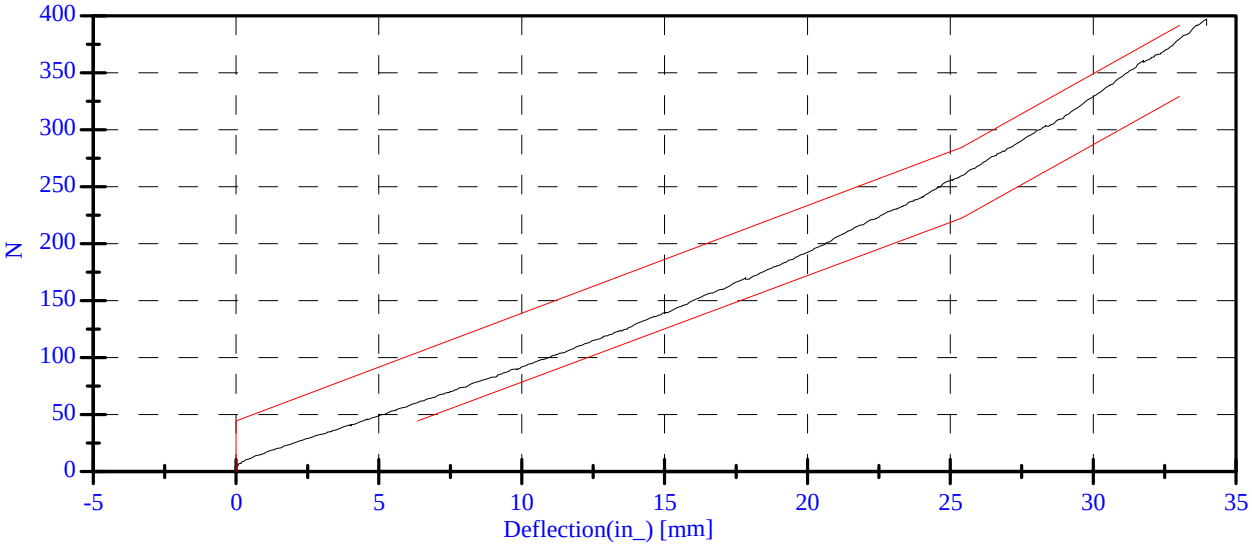
CONFIGURED FOR LEFT SIDE IMPACT

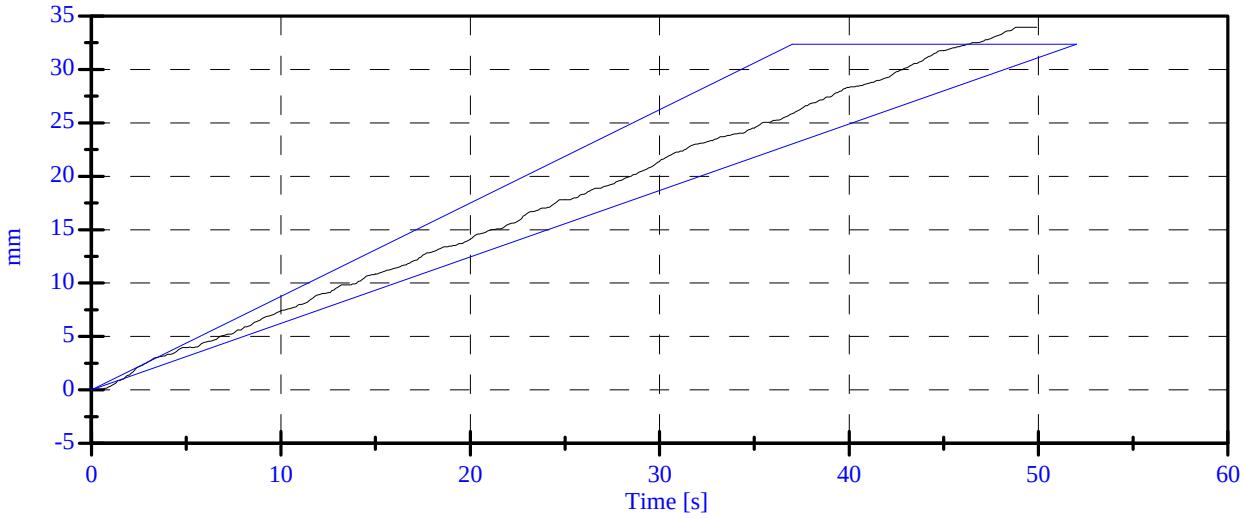
ATD Serial No: 270
Date: 07-16-08

Sequential Test Number: 1 File: 269 Ab 07-16-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	56.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	119.17 N	Passed
Force at 19.05 mm :	162.98-220.99 N	181.59 N	Passed
Force at 25.40 mm :	221.97-280.02 N	260.07 N	Passed
Force at 33.02 mm :	324.99-391.00 N	379.08 N	Passed

ABDOMINAL COMPRESSION TEST





Lumbar Spine Test
Post-Test

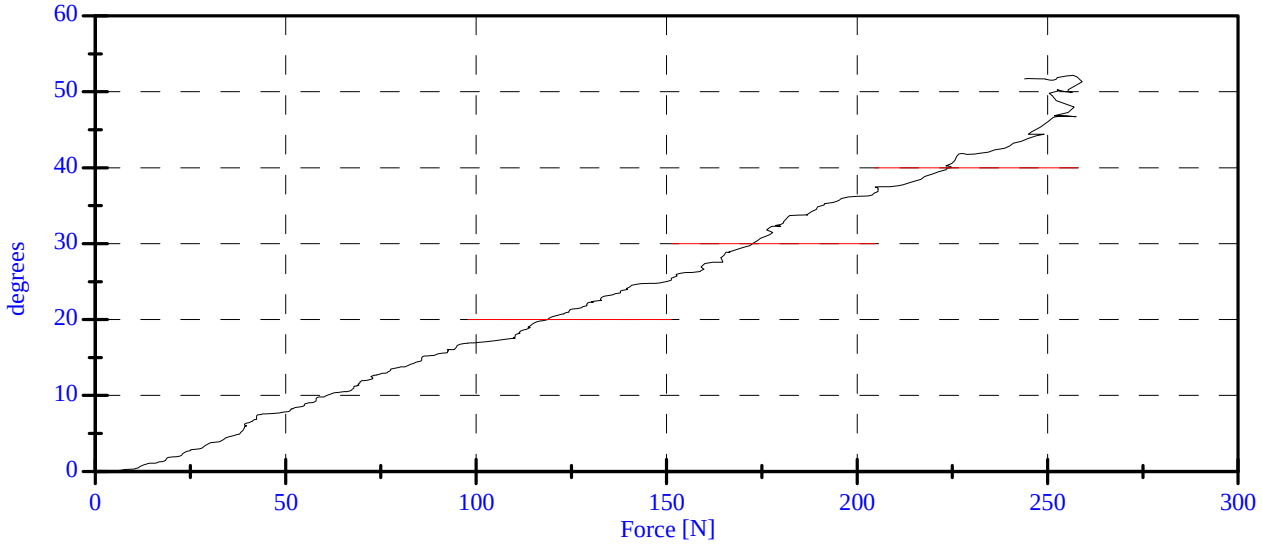
CONFIGURED FOR LEFT SIDE IMPACT

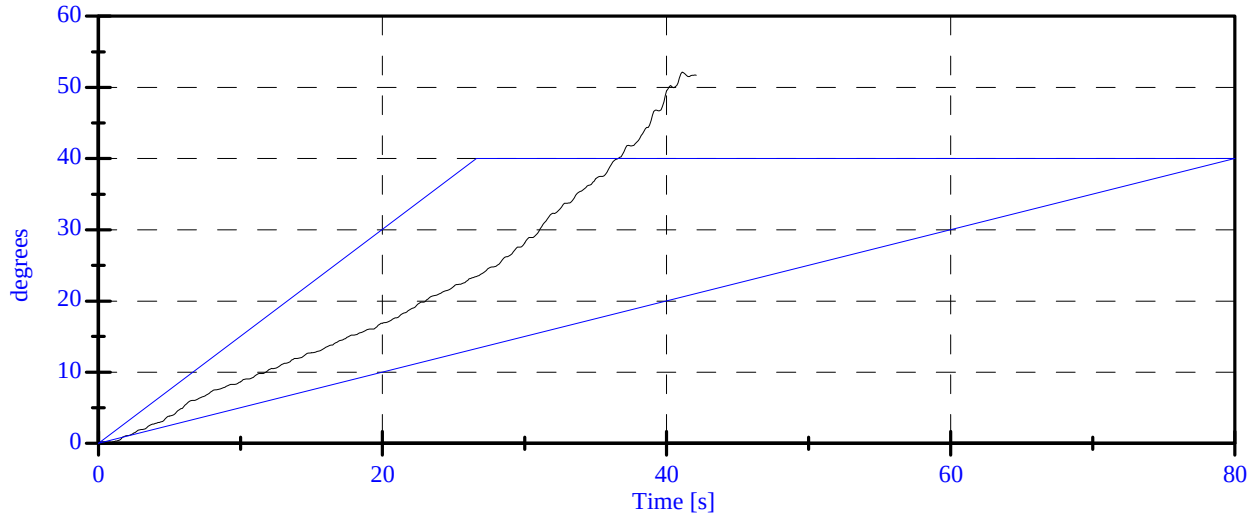
ATD Serial No: 269
Date: 07-15-08

Sequential Test Number: 1 File: 269 Spine 07-15-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	51.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.14 N	Passed
Force at 20 Deg:	97.86-151.24 N	118.56 N	Passed
Force at 30 Deg	151.24-204.62 N	172.88 N	Passed
Force at 40 Deg	204.62-258.00 N	224.85 N	Passed
Return Angle	12 Deg Max	8.00 deg	Passed

LUMBAR SPINE FLEXION TEST





POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT **SIDE IMPACT**

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 7/16/08 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	SID/HIII NO.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	P52088	ENDEVCO	1/18/2008
HEAD AY	P52095	ENDEVCO	1/18/2008
HEAD AZ	P58986	ENDEVCO	3/7/2008
UPPER NECK FX	810Fx	DENTON	11/8/2007
UPPER NECK FY	810Fy	DENTON	11/8/2007
UPPER NECK FZ	810Fz	DENTON	11/8/2007
UPPER NECK MX	810Mx	DENTON	11/8/2007
UPPER NECK MY	810My	DENTON	11/8/2007
UPPER NECK MZ	810Mz	DENTON	11/8/2007
UPPER RIB	P49467	ENDEVCO	2/22/2008
LOWER RIB	P51734	ENDEVCO	2/22/2008
LOWER SPINE	P51689	ENDEVCO	2/22/2008
PELVIS	P58762	ENDEVCO	1/31/2008
UPPER RIB REDUNDANT	P51713	ENDEVCO	2/22/2008
LOWER RIB REDUNDANT	P59020	ENDEVCO	2/22/2008
LOWER SPINE REDUNDANT	P58776	ENDEVCO	1/18/2008
PELVIS REDUNDANT	P58905	ENDEVCO	2/22/2008

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
VEHICLE CG (AX)	P19216	ENDEVCO	6/18/2008
VEHICLE CG (AY)	P16625	ENDEVCO	6/18/2008
VEHICLE CG (AZ)	P23957	ENDEVCO	6/18/2008
VEHICLE CG RATE (VX)	323	ATA	10/5/2007
VEHICLE CG RATE (VY)	336	ATA	10/5/2007
VEHICLE CG RATE (VZ)	321	ATA	10/5/2007
STRUCK SIDE SILL (AY)	APF89	ENDEVCO	3/3/2008
A-PILLAR SILL (AY)	J32832	ENDEVCO	2/6/2008
A-PILLAR LOWER (AY)	J37854	ENDEVCO	1/21/2008
A-PILLAR MIDDLE (AY)	J33376	ENDEVCO	5/1/2008
B-PILLAR SILL (AY)	P19246	ENDEVCO	3/3/2008
B-PILLAR LOWER (AY)	P23960	ENDEVCO	6/30/2008
B-PILLAR MIDDLE (AY)	P16591	ENDEVCO	6/30/2008
SEAT TRACK HP (AY)	P19359	ENDEVCO	6/30/2008
ENGINE (AX)	P23134	ENDEVCO	7/1/2008
ENGINE (AY)	P18792	ENDEVCO	7/1/2008
FIREWALL (AY)	FA2474	ICS	3/27/2008
OPPOSITE SIDE ROOF (AY)	P35786	ENDEVCO	6/16/2008
OPPOSITE SIDE SILL (AY)	P16862	ENDEVCO	6/30/2008
TRUNK (AX)	J32383	ENDEVCO	2/7/2008
TRUNK (AY)	J29805	ENDEVCO	2/7/2008

REMARKS: None