

REPORT NUMBER: MCW-DOT-08SN07C

DETERMINATION OF CHILD RESTRAINT SYSTEM CRASHWORTHINESS

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

2008 HONDA ACCORD 4-DOOR SEDAN

NHTSA NUMBER: M85303

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TEST DATE: 15 NOVEMBER 2007

REPORT DATE: 28 NOVEMBER 2007

CRABI REPORT

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

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Date:

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16. Abstract A 55/28 km/h 90° Moving Deformable Barrier (MDB) New Car Assessment Program (NCAP) side impact was conducted on the subject Child Restraint System (CRS) Graco Snugride in conjunction with side impact testing on a 2008 Honda Accord 4-door sedan to obtain new car assessment and research data indicant of FMVSS No. 214D performance and in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness. The test was conducted at the Medical College of Wisconsin (MCW) in Milwaukee, Wisconsin on 15 November 2007. The test vehicle's occupant performance is as follows: <table border="1" data-bbox="154 1281 1364 1407"> <thead> <tr> <th><u>Measurement Description</u></th> <th><u>Units</u></th> <th><u>Threshold</u></th> <th><u>Right Rear (P3)</u></th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC15)</td> <td>N/a</td> <td>390</td> <td>70.3</td> </tr> <tr> <td>3 msec. Chest Clip</td> <td>G's</td> <td>50</td> <td>20.6</td> </tr> </tbody> </table> 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 the side impact event.				<u>Measurement Description</u>	<u>Units</u>	<u>Threshold</u>	<u>Right Rear (P3)</u>	Head Injury Criteria (HIC15)	N/a	390	70.3	3 msec. Chest Clip	G's	50	20.6
<u>Measurement Description</u>	<u>Units</u>	<u>Threshold</u>	<u>Right Rear (P3)</u>												
Head Injury Criteria (HIC15)	N/a	390	70.3												
3 msec. Chest Clip	G's	50	20.6												
17. Key Words New Car Assessment Program (NCAP) Side impact Side Impact Hybrid III Dummy (SID/HIII) Occupant side impact protection Child Restraint Airbag Interaction (CRABI) Child Restraint System (CRS)		18. Distribution Statement Copies of this report are available from: U.S. Department of Transportation National Highway Traffic Safety Administration Rulemaking, Office of Crashworthiness Standards NVS-111 1200 New Jersey Ave, SE, Room W43-410 Washington, D.C. 20590													
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test was conducted as part of the FY'08 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-03-D-42005. The purpose of this test was to evaluate side impact protection of a manufactured by Honda of America Mfg., Inc. and obtain CRS performance data.

TEST PROCEDURE

The side impact test was conducted in accordance with the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002 and of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

SECTION 2

SUMMARY OF NCAP SIDE IMPACT TEST

A 2008 Honda Accord 4-door sedan was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) modeling a 90° impact as if the test vehicle were moving forward at 28 km/h perpendicular to and across the path of the MDB traveling forward at 55 km/h. Here the test vehicle was stationary and positioned 27° from perpendicular to the MDB tow road guidance system and the MDB was towed 27° ("crabbed") from the guidance system. The 1675.4 kg test vehicle was impacted by the 1360 kg MDB traveling at a speed of 61.7 km/h (measured inline with the guidance system.) The test was conducted at the Medical College of Wisconsin on 15 November 2007.

One (1) CRABI 12-month-old Infant Crash Test Dummy was placed in a Child Restraint System (CRS) in a designated seating position within the test vehicle: (1) rearward facing CRS, right rear passenger; serial number 074. The CRABI was instrumented in the following locations:

- Head center of gravity tri-axial (X, Y, Z) accelerometers (primary and redundant)
- Upper neck tri-axial (X, Y, Z) force load cells and tri-axial (X, Y, Z) moment load cells
- Chest tri-axial (X, Y, Z) accelerometers

The CRS was instrumented with six (6) structural accelerometers. All data channels were recorded with a fully self contained on-board DTS TDAS Pro Data Acquisition System. The data were digitally sampled at 12.5 kHz and processed according to SAEJ211-1 (March 1995).

One (1) high-speed video camera was used to document the impact event. Camera location and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the CRS and dummy can be found in Appendix A.

All of the above was conducted in accordance to the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated November 2002 and the Office of Crashworthiness Standards.

2.2 GENERAL COMMENTS

Test summaries, post test observations, vehicle, camera, and occupant measurements are presented in datasheets 1-8. Appendix A contains the still photograph prints. Appendix B contains CRABI and CRS response data traces. Appendix C contains the CRABI's configuration and performance verification data.

OCCUPANT SUMMARY	
Injury criteria	CRABI (P3)
HIC15	70.3
T ₁ (ms)	102.0
T ₂ (ms)	117.0
3 Msec. Chest Clip	20.6

Head Injury Criterion (HIC) is the standardized calculation using resultant head acceleration to assess head injury. Generally, a higher HIC represents an increase in the likelihood of a serious head injury. HIC15 specifies a time 'window' of 15 milliseconds over which the integral is calculated. T₁ and T₂ represent the time of the lower and upper bounds of the window in which the HIC is calculated. Based on this separation, the maximum HIC value for an adult 50th percentile male anthropomorphic test dummy is 700. For a 12 month-old infant the value is reduced to 390.

The 3 msec. Chest Clip is a calculation using the resultant chest acceleration to assess thoracic injury. As the number increases, a greater probability of a serious thoracic injury also increases. The integral is calculated over a time window of 3 milliseconds. The maximum 3 msec. Chest Clip for an adult 50th percentile male anthropomorphic test dummy is 60, and 50 for a 12 month-old.

CHILD RESTRAINT SYSTEM INFORMATION	
Restraint type	Right rear (passenger) occupant Location 03 CRS
Manufacturer	Graco
Model name	Snugride
Model no.	8F19CSE3
Type	Infant
Forward/rearward	Rearward

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION		
Restraint type	Right rear (passenger) occupant Location 03	
	Installed	Operation
Front airbag	No	N/a
Side airbag	No	N/a
Head airbag	No	N/a
Curtain airbag	Yes – side header	Did not deploy
Seat belt pretensioner	No	N/a
Seat belt load limiter	No	N/a

These test data and report can be found in detail on the NHTSA website at www.nhtsa.dot.gov.

A brief summary of the crash test can be located at www.safercar.gov

TEST NOTES

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

VEHICLE INFORMATION		VEHICLE OPTIONS	
Year	2008	Air conditioning	Yes
Make	Honda	Anti-lock brakes	Yes
Model	Accord	AM/FM radio	Yes
Body style	4-door sedan	All wheel drive	No
NHTSA number	M85303	Combo bag	No
MCW test ID	08SN07	Console	Yes
VIN	1HGCP26348A024606	Cruise/speed control	Yes
Color	Royal blue pearl	Disc brakes	Yes – front and rear
Build date	October 2007	Frontal bag	Yes
Engine No. of cylinders	4	Head bag	Yes – front and rear
Engine Displacement (L)	2.4	Power brakes	Yes
Engine Placement	Lateral	Power door locks	Yes
Transmission	Automatic with O/D	Power steering	Yes
Final drive	Front wheel drive	Power windows	Yes
Delivery date	November 2, 2007	Torso bag	Yes – front only
Odometer reading	30	Tilt steering wheel	Yes

CERTIFICATION LABEL INFORMATION			
Manufacturer	Honda of America Mfg., Inc.	GVWR (kg)	1954.1
		GAWR front (kg)	1062.3
Date of manufacture	October 2007	GAWR rear (kg)	916.8

SEAT INFORMATION			
	Number of occupants	Seat type	Seat back type
Front	2	Bucket	Adjustable
Back	3	Split bench	Fixed
Third	0		
Total	5		

CARGO CAPACITY CALCULATION			
	Units	Value	Reference label
Vehicle maximum capacity	kg	386.4	(A)
Number of occupants (7) X 68.04 kg	kg	340.9	(B)
Cargo capacity (RCLW) †	kg	45.5	(C) = (A)-(B) †

† Note if RCLW is > 136.1 kg (300 lbs), use 136.1 kg

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

TEST VEHICLE MASS INFORMATION				
	Units	As delivered	As tested	Fully loaded
Left front	kg	455.9	465.0	466.8
Right front	kg	440.5	444.1	444.1
Left rear	kg	288.6	398.6	401.9
Right rear	kg	290.5	367.7	369.6
Total front	kg	896.4	909.1	910.9
% Total front	%	60.8	54.3	54.1
Total rear	kg	579.1	766.3	771.5
%Total rear	%	39.2	45.7	45.9
Total	kg	1475.5	1675.4	1682.4

As delivered mass is vehicle mass with maximum fluids

Fully loaded mass is the as delivered mass + 1 or 2 ATD's + RCLW

As tested mass is the mass of test vehicle with 1 or 2 ATD's + instrumentation + ballast (if necessary)

CALCULATION OF TEST VEHICLE TARGET MASS			
	Units	Value	Reference label
As delivered test vehicle mass	kg	1475.5	(D)
Maximum cargo capacity (RCLW)	kg	45.5	(C)
Mass of SID HIII's (1 or 2)	kg	161.4	(E)
Test vehicle target mass (TVTW)	kg	1682.4	(D) + (C) + (E)

As tested mass must be 4.5 kg to 9 kg less than the test vehicle target mass

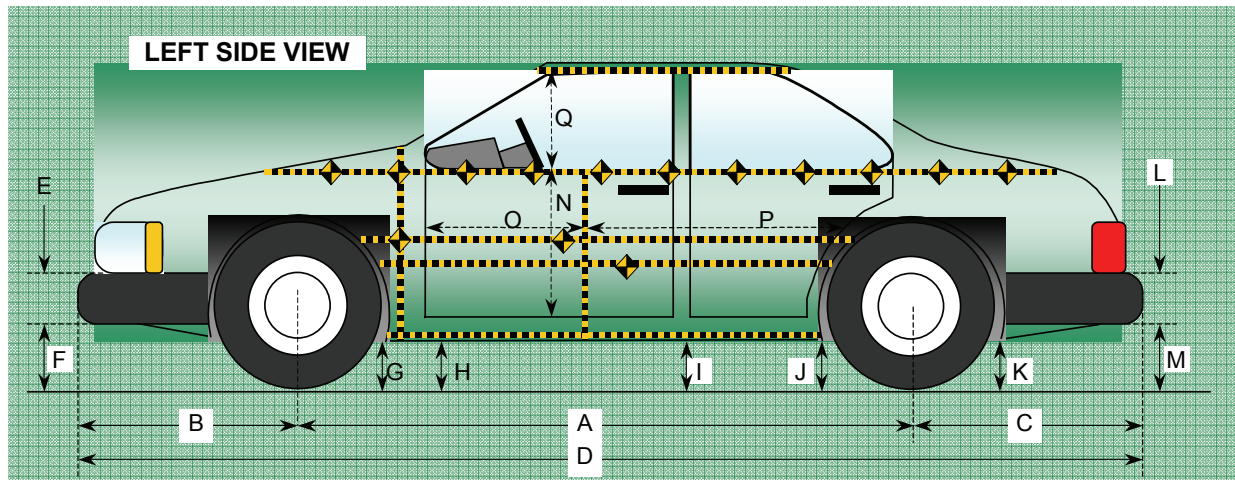
IMPACT LOCATION ON TEST VEHICLE	
Wheelbase	2800 mm
Nominal impact point	460 mm rearward of front axle
Actual impact point	465 mm rearward of front axle

**DATA SHEET NUMBER 2
POST TEST OBSERVATIONS**

TEST DUMMY INFORMATION AND CONTACT POINTS	
Description	Left rear seat
Dummy type / serial no.	CRABI 12-month-old Infant/074
Head contact	None
Chest contact	None
Abdomen contact	None
Left knee contact	None
Right knee contact	None
Left leg contact	None
Right leg contact	None
Left foot contact	None
Right foot contact	None

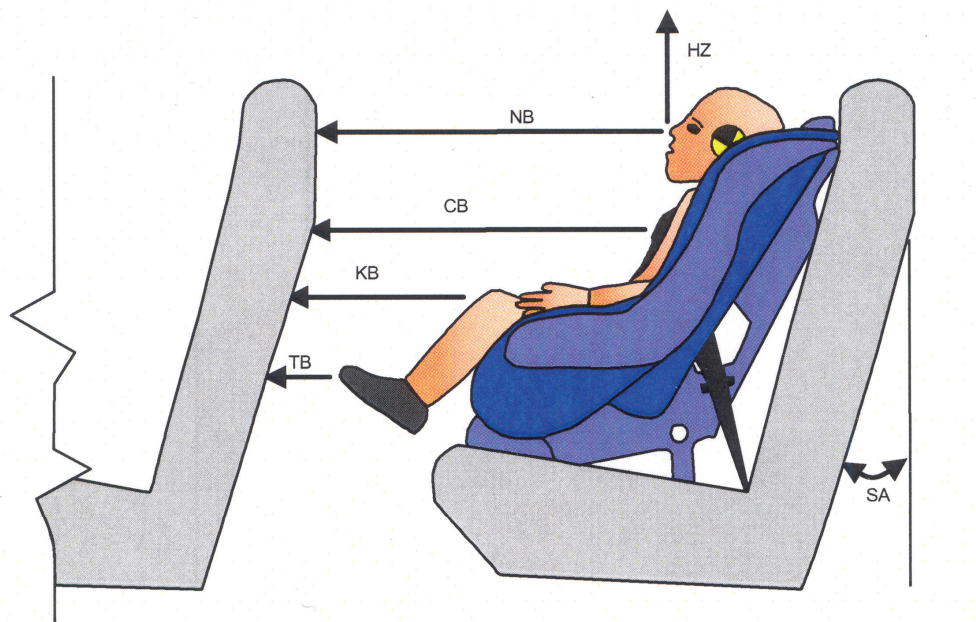
POST TEST DOOR OPENING AND SEAT TRACK INFORMATION	
Description	Rear (03 position)
Locked/unlocked doors	Unlocked
Door opening	None
Seat movement	None
Seat back failure	None

DATA SHEET NUMBER 3
VEHICLE PRE AND POST MEASUREMENTS



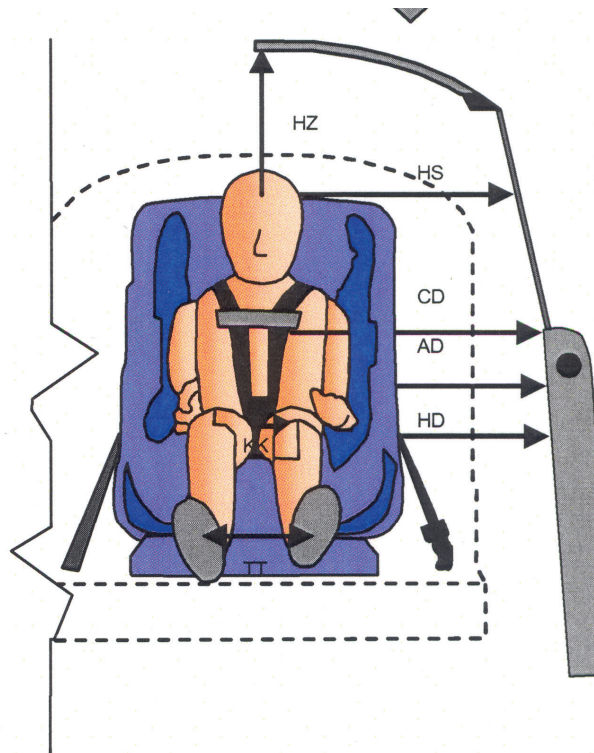
VEHICLE DIMENSIONS				
Code	Description	Pre test	Post test	Change
		mm	mm	mm
A	Wheelbase	2800	2785	-15
B	Front axle to front side of vehicle	468	472	4
C	Rear axle to rear side of vehicle	927	930	3
D	Total length at centerline	4930	4933	3
E	Front bumper thickness	227	227	0
F	Front bumper bottom to ground	288	304	16
G	Sill height at front wheel well	225	204	-21
H	Sill height at front door leading edge	227	298	71
I	Sill height at b-pillar	239	299	60
J1	Sill height at rear wheel well	170	159	-11
J2	Pinch weld height at rear wheel well	246	266	20
K	Sill height aft of rear wheel well	286	247	-39
L	Rear bumper thickness	224	224	0
M	Rear bumper bottom to ground	428	385	-43
N	Sill height to window bottom sill	765	688	-77
O	Front door leading edge to impact C/L	1145	1088	-57
P	Rear door trailing edge to impact C/L	887	788	-99
Q	Front window opening	454	432	-22
R	Right side length	4195	4205	10
S	Left side length	4195	4187	-8
T	Vehicle width at b-pillar	1849	1628	-221

DATA SHEET NUMBER 4
CRABI LONGITUDINAL CLEARANCES



CRABI LONGITUDINAL CLEARANCE MEASUREMENTS			
Code	Measurement description	Units	Left rear seat
	ATD serial number	-	074
CB	Chest to seat back	mm	499
HZ	Head to roof	mm	460
KBL	Left knee to seat back	mm	230
KBR	Right knee to seat back	mm	230
NB	Nose to seat back	mm	562
SA	Seat back angle	°	27.0
TBL	Left toe to seat back	mm	122
TBR	Right toe to seat back	mm	118

DATA SHEET NUMBER 5
CRABI LATERAL CLEARANCES



CRABI LATERAL CLEARANCE MEASUREMENTS			
Code	Measurement description	Units	Left rear seat
-	ATD serial number	-	074
AD	Arm to door	mm	297
CD	Chest to door	mm	395
HD	H-point to door	mm	368
HS	Head to side window	mm	405
KK	Knee to knee	mm	105
FF	Foot to foot	mm	110

DATA SHEET NUMBER 6
CRS PERFORMANCE CHARACTERISTICS

CRS PERFORMANCE CHARACTERISTICS		
Location	CRS (P3)	
	Damage	Post-Test
Upper tether strap	N/a	N/a
Upper tether buckle	N/a	N/a
Upper tether hook	N/a	N/a
Vehicle upper tether anchor	N/a	N/a
Lower anchor strap	No	None
Lower anchor buckle	No	None
Lower anchor hooks	No	None
Vehicle lower CRS anchors	No	None
5-point harness connections	No	None
Cracks on CRS	No	None
Fabric tears on CRS	No	None
Vehicle seat structure	No	None
Vehicle seat fabric tears	No	None

DATA SHEET 7
CRS ACCELEROMETER LOCATIONS

TEST VEHICLE ACCELEROMETER LOCATIONS				
Loc. no.	Accelerometer location	Measurements (mm)		
		X	Y	Z
1	CRS	1423	327	-191
2	CRS base	1439	357	-153

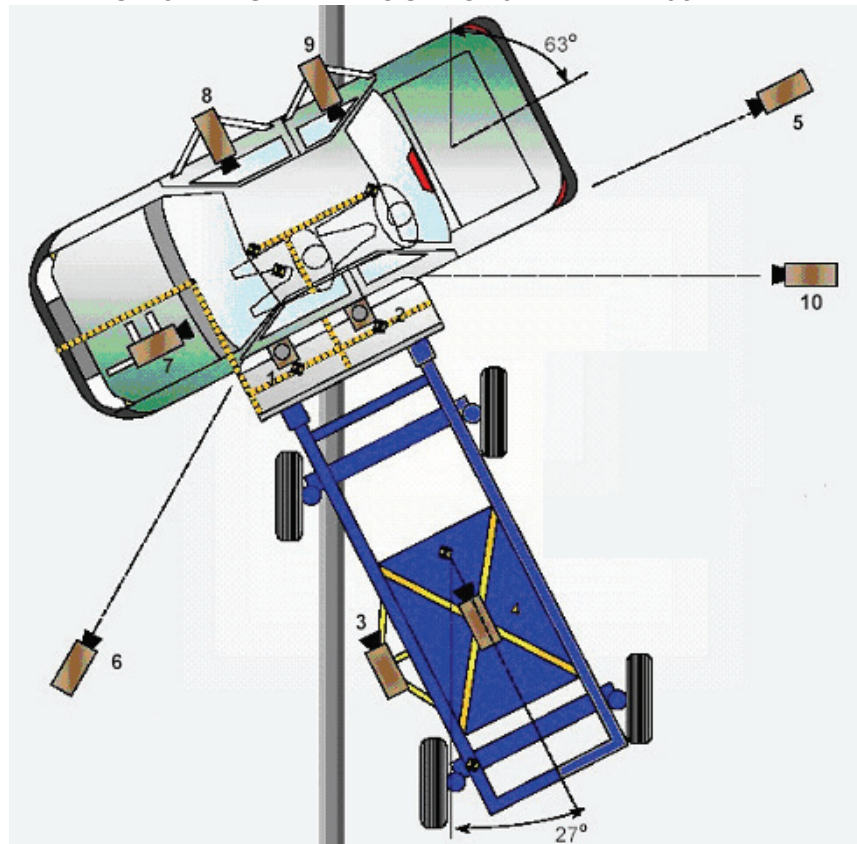
Origin

X Rear bumper
 Y Midline of vehicle
 Z Top of rear bumper

Orientation

X +(X) Forward
 Y +(Y) Right
 Z +(Z) Down

DATA SHEET 8
HIGH-SPEED CAMERA LOCATIONS AND DATA SUMMARY



	View	Coordinates †			Angle °	Lens mm	Rate fps
		X	Y	Z			
		mm	mm	mm			
1	Overhead view of test vehicle	-310	-658	-4900	90	12.5	1000
2	Overhead close-up view of impact plane	-599	-148	-4426	90	16	1000
3	MDB onboard close-up view of impact point †	-2081	-87	-129	0.4	25.4	1000
4	MDB onboard view of driver dummy †	-2303	838	-900	4.0	13	1000
5	Right side ground level overall view	-604	12108	-961	2.6	50	1000
6	Left side ground level overall view	-1608	-3824	-1021	6.1	25	1000
7	Test vehicle onboard driver front view	-436	-504	-464	12.5	25	1000
8	Test vehicle onboard driver side view	1717	933	-341	15.1	12.5	1000
9	Test vehicle onboard passenger side view	1704	1719	-399	16.1	12.5	1000
10	Real-time film coverage of test	-	-	-	-	-	-
11	Test vehicle onboard CRS view	-711	253	-622	45.0	12.5	1000

Origin

X

Y

Z

Impact Point

Impact Point

Impact Point

† Cameras triggered pre-impact

Orientation

X

Y

Z

+(X) Forward

+(Y) Right

+(Z) Down

APPENDIX A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

Figure	Photograph Description	Page
A-1	CRS label	A-3
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A-3	Post test frontal view	A-4
A-4	Pre test rear view	A-5
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A-6	Pre test left view	A-6
A-7	Post test left view	A-6
A-8	Pre test right view	A-7
A-9	Post test right view	A-7
A-10	Pre test front view (head and seatbelt)	A-8
A-11	Post test front view (head and seatbelt)	A-8
A-12	Pre test front view (seatbelt)	A-9
A-13	Post test right side view (seatbelt)	A-9
A-14	Pre test right side in vehicle view	A-10
A-15	Post test right side in vehicle view	A-10
A-16	Pre test CRABI head	A-11
A-17	Post test CRABI head	A-11
A-18	Pre test CRABI legs	A-12
A-19	Post test CRABI legs	A-12

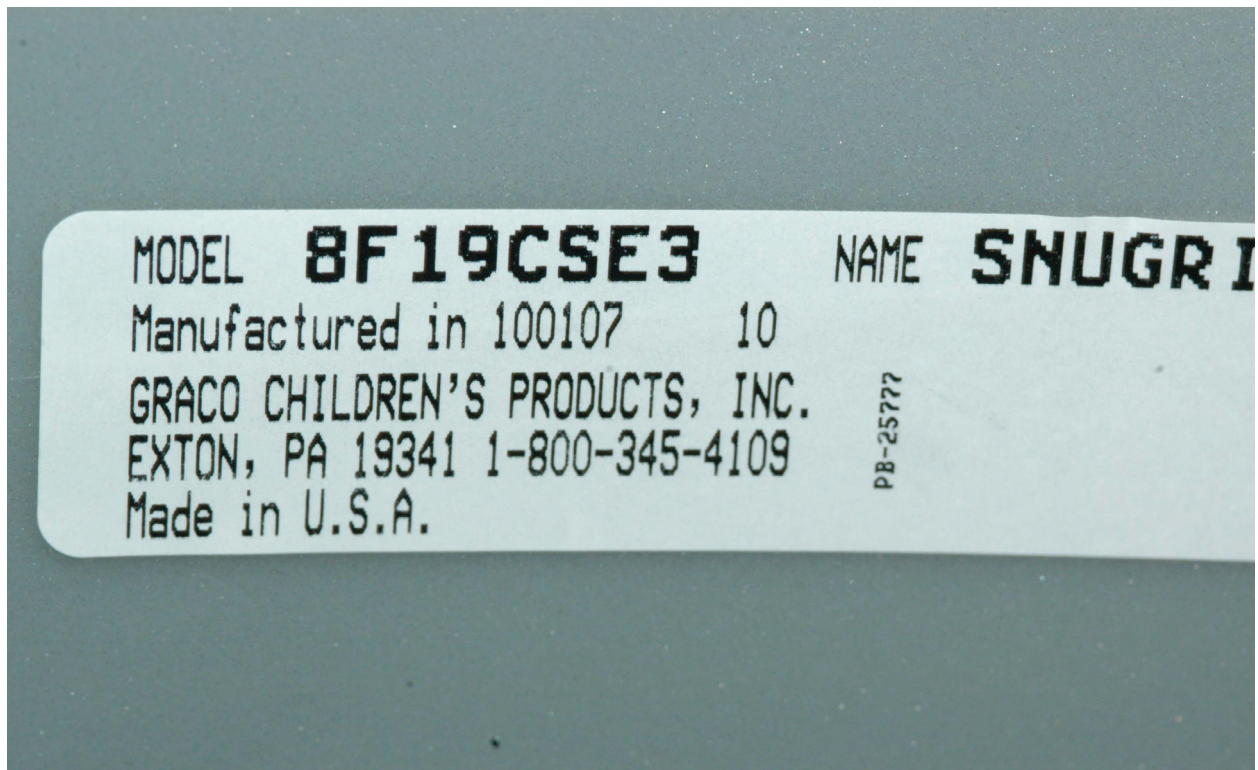


Figure A-1: CRS label



Figure A-2: Pre test frontal view



Figure A-3: Post test frontal view



Figure A-4: Pre test rear view



Figure A-5: Post test rear view



Figure A-6: Pre test left side view



Figure A-7: Post test left side view



Figure A-8: Pre test right side



Figure A-9: Post test right side



Figure A-10: Pre test front view (head and seatbelt)



Figure A-11: Post test front view (head and seatbelt)



Figure A-12: Pre test front view (seatbelt)



Figure A-13: Post test right side view (seatbelt)



Figure A-14: Pre test right side in vehicle view



Figure A-15: Post test right side in vehicle view



Figure A-16: Pre test CRABI head



Figure A-17: Post test CRABI head



Figure A-18: Pre test CRABI legs



Figure A-19: Post test CRABI legs

APPENDIX B
CRABI RESPONSE DATA

The following plots are provided in the test report

Data Plot	Description	Page
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B-2	CRABI 074 head cg (y)	B-4
B-3	CRABI 074 head cg (z)	B-5
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B-5	Upper neck force (y)	B-7
B-6	Upper neck force (z)	B-8
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B-10	CRABI 074 chest (x)	B-12
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B-12	CRABI 074 chest (z)	B-14
B-13	Child seat base (x)	B-15
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B-17	Child seat (y)	B-19
B-18	Child seat (z)	B-20

Dummy, vehicle, and MDB response data can be found in the R&D section of the NHTSA website at:

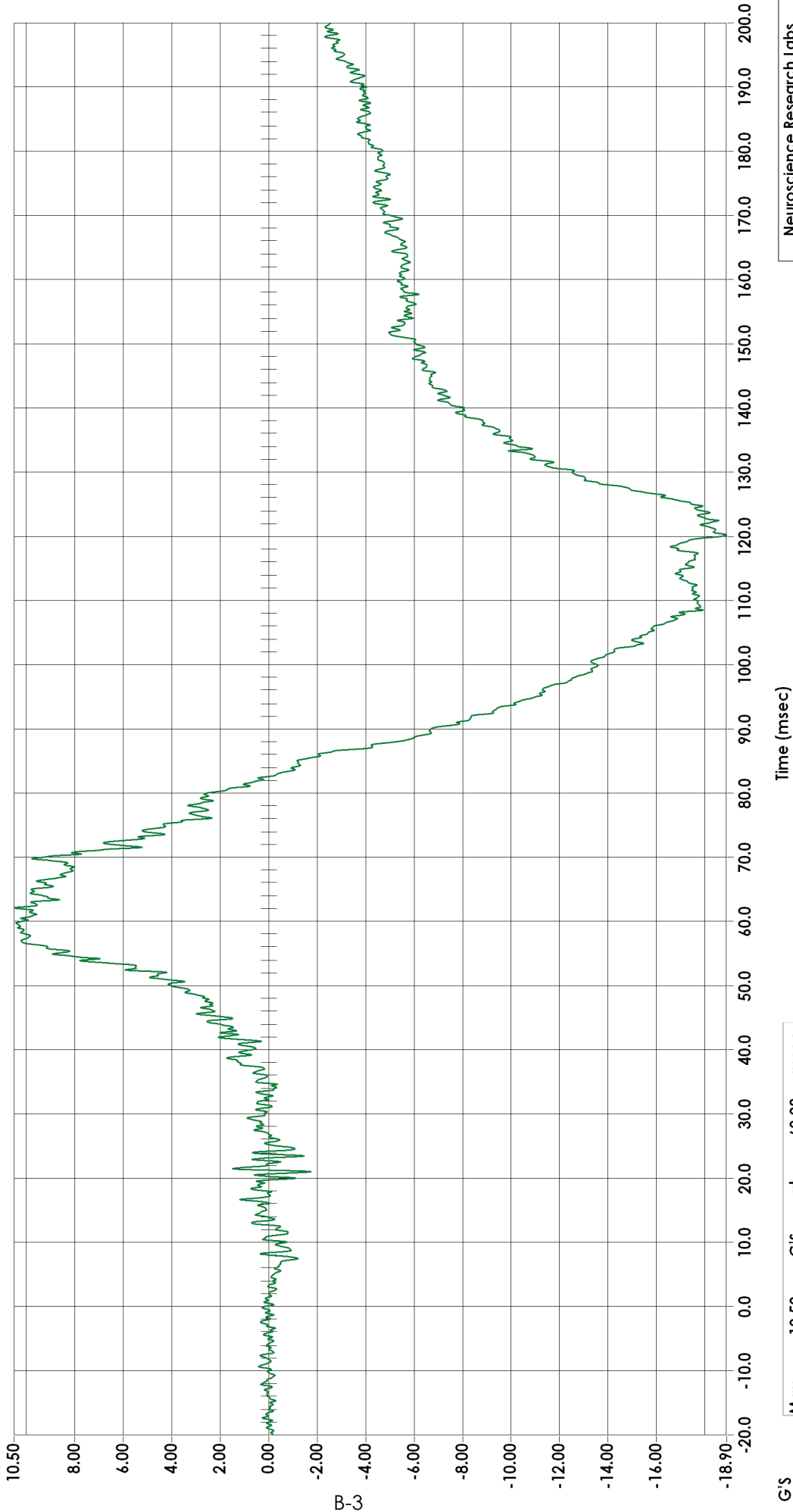
www-nrd.nhtsa.dot.gov/database/nrd-11/veh_db.html.

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC1000	Sensor Location	HDCG
Sampling Rate (Hz)	12500	Sensor Mnf & Model	NA
Number of Points	2751	Serial Number	NA
Pretrigger Points	250		



Crabi head linear acceleration XL



Max	10.50	G's	at	62.08	msec
Min	-18.90	G's	at	120.16	msec

08SN07 Plot 041

Time (msec)

G's

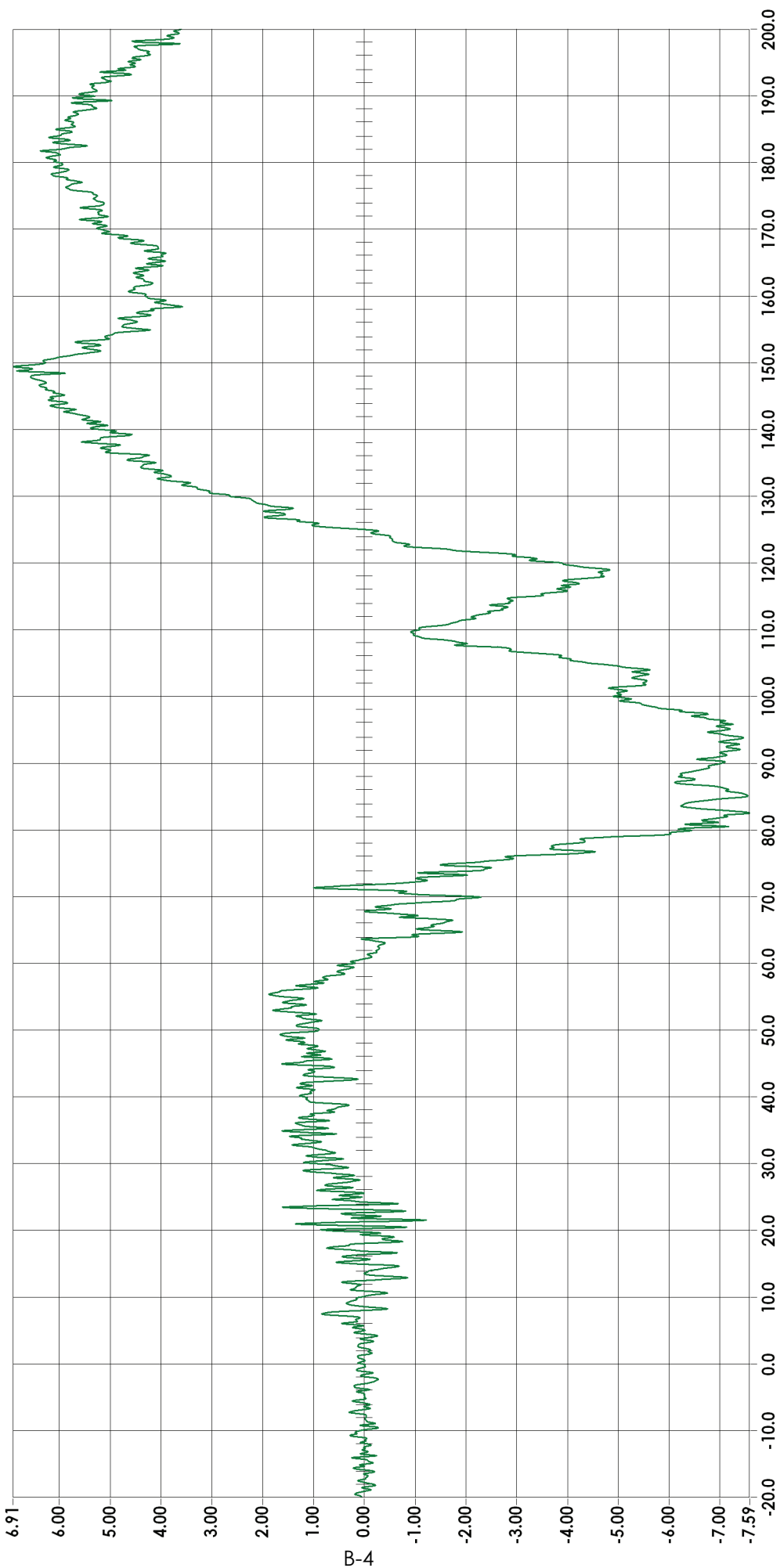
Neuroscience Research Labs
5000 West National Ave
Research 151
Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC1000
Sampling Rate (Hz)	12500
Number of Points	2751
Pretigger Points	250
Sensor Location	HDCG
Sensor Mnf & Model	NA
Serial Number	NA



Crabi head linear acceleration YL



Max	6.91	G's	at	149.44	msec
Min	-7.59	G's	at	82.56	msec

08SN07 Plot 042

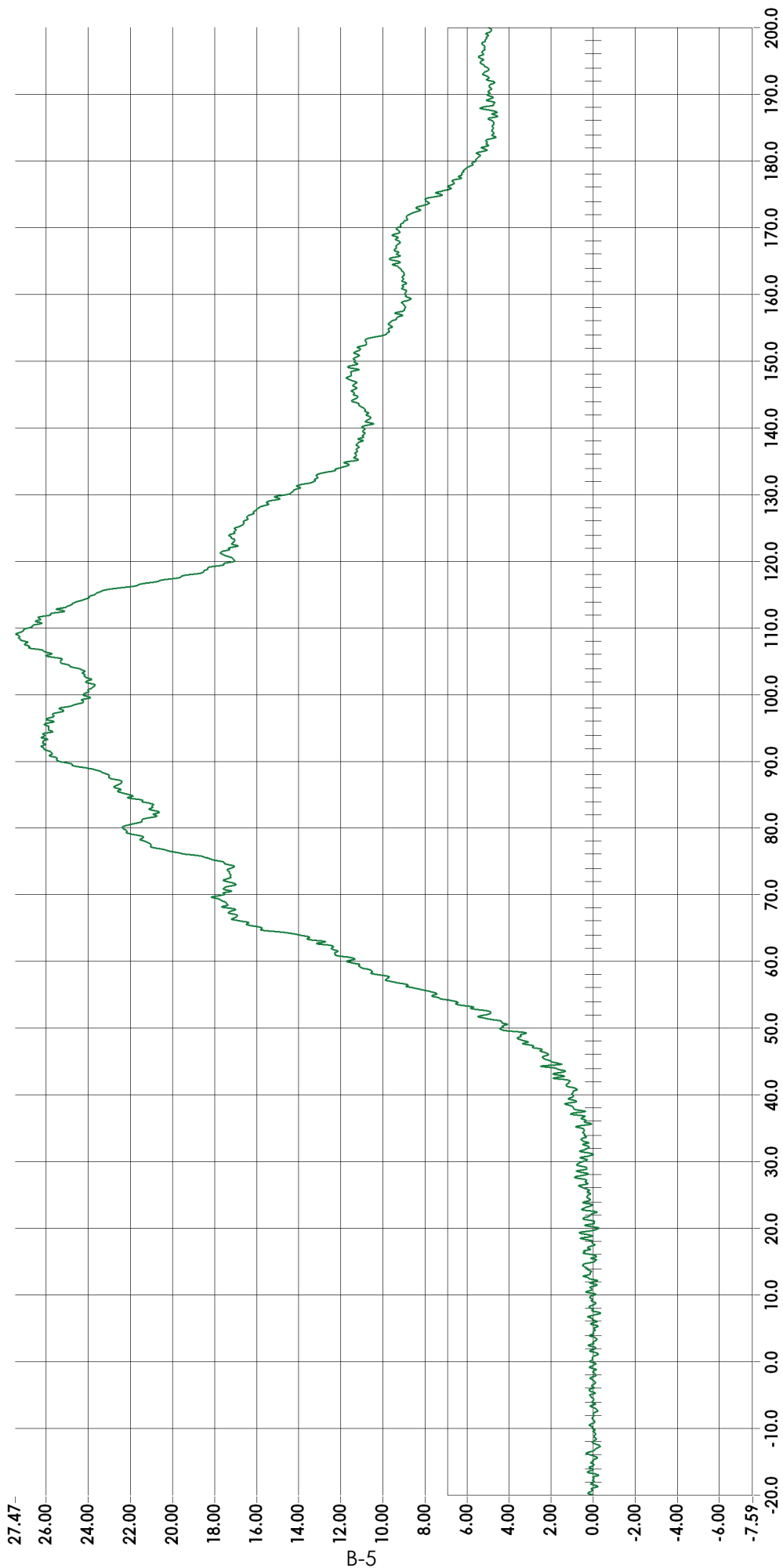
Neuroscience Research Labs
5000 West National Ave
Research 151
Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC1000	Sensor Location	HDCG
Sampling Rate (Hz)	12500	Sensor Mnf & Model	NA
Number of Points	2751	Serial Number	NA
Pretrigger Points	250		



Crabi head linear acceleration ZL



Max	27.47	G's	at	109.04	msec
Min	-0.35	G's	at	7.28	msec

08SN07 Plot 043

Time (msec)

G's

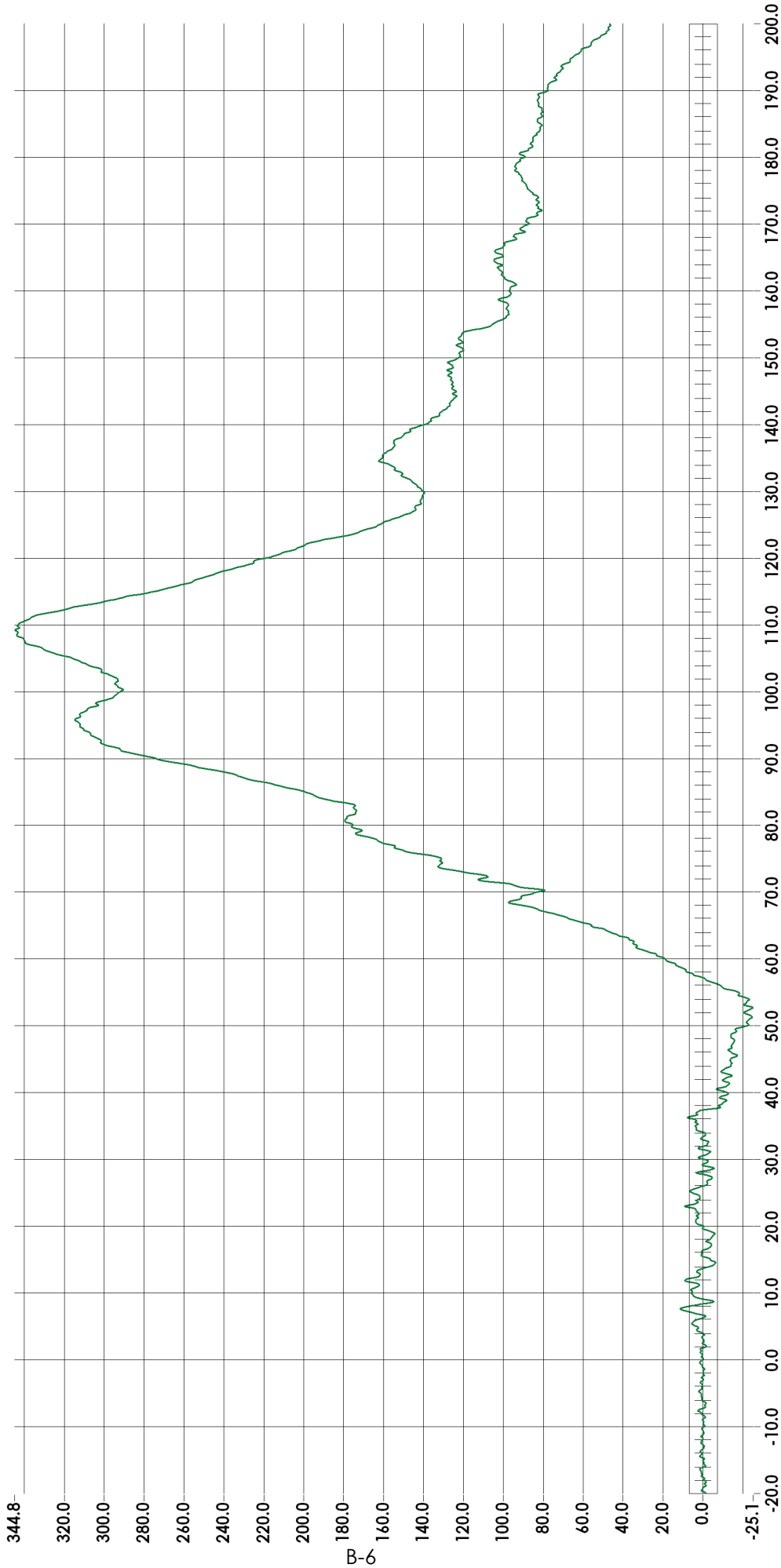
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Test ID 08SN07
Date 15/NOV/2007
Description SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class CFC1000
Sampling Rate (Hz) 12500
Number of Points 2751
Pretrigger Points 250
Sensor Location NEKU
Sensor Mnf & Model NA
Serial Number NA



Crabi upper neck force XL



NWT

Time (msec)

Max	344.82	NWT	at	109.20	msec
Min	-25.14	NWT	at	52.72	msec

08SN07 Plot 044

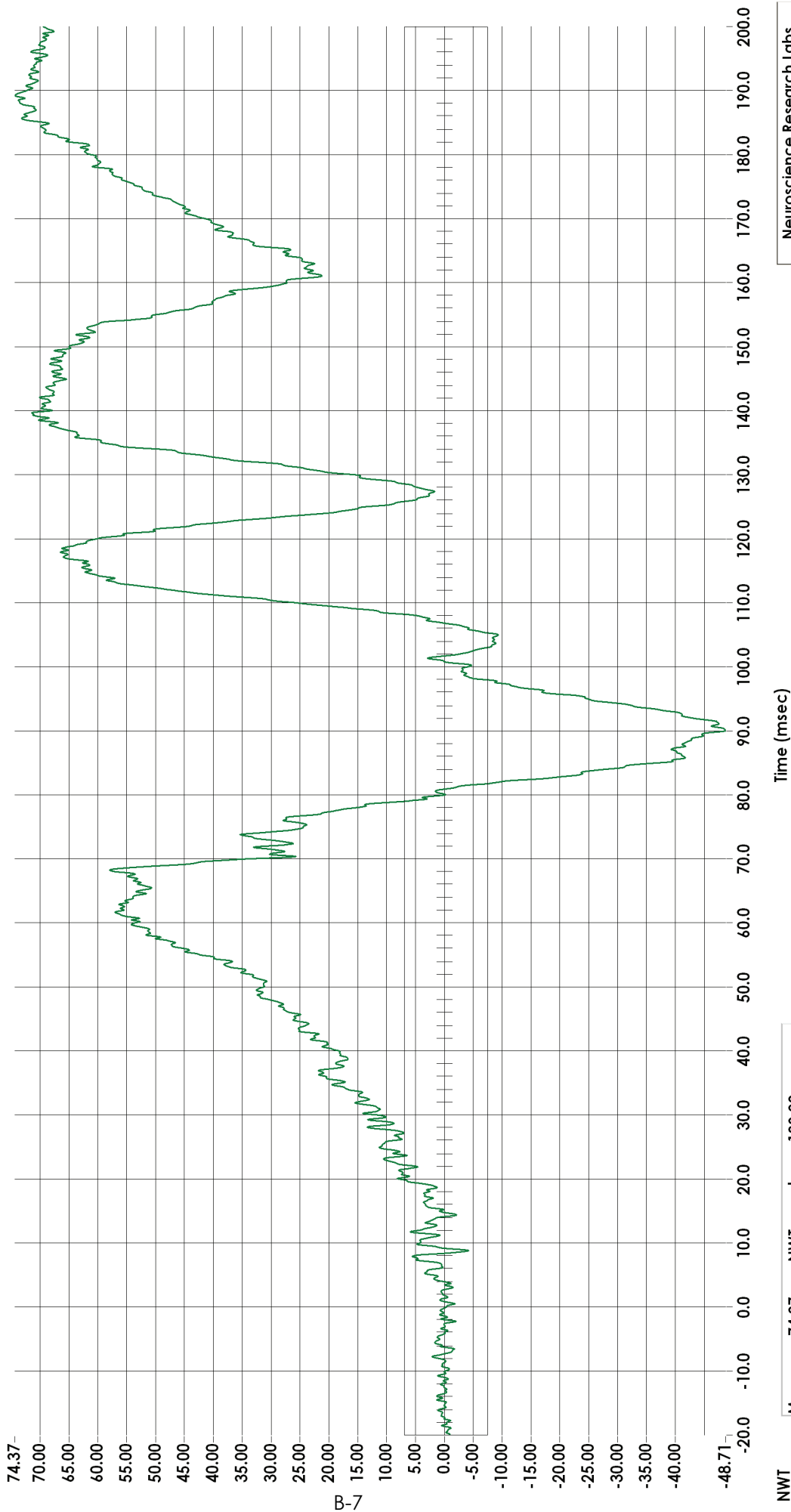
Neuroscience Research Labs
 5000 West National Ave
 Research 151
 Milwaukee, WI 53295

Test ID 08SN07
Date 15/NOV/2007
Description SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class CFC1000
Sampling Rate (Hz) 12500
Number of Points 2751
Pretrigger Points 250
Sensor Location NEKU
Sensor Mnf & Model NA
Serial Number NA



Crabi upper neck force YL



NWT

Max	74.37	NWT	at	189.20	msec
Min	-48.71	NWT	at	90.08	msec

08SN07 Plot 045

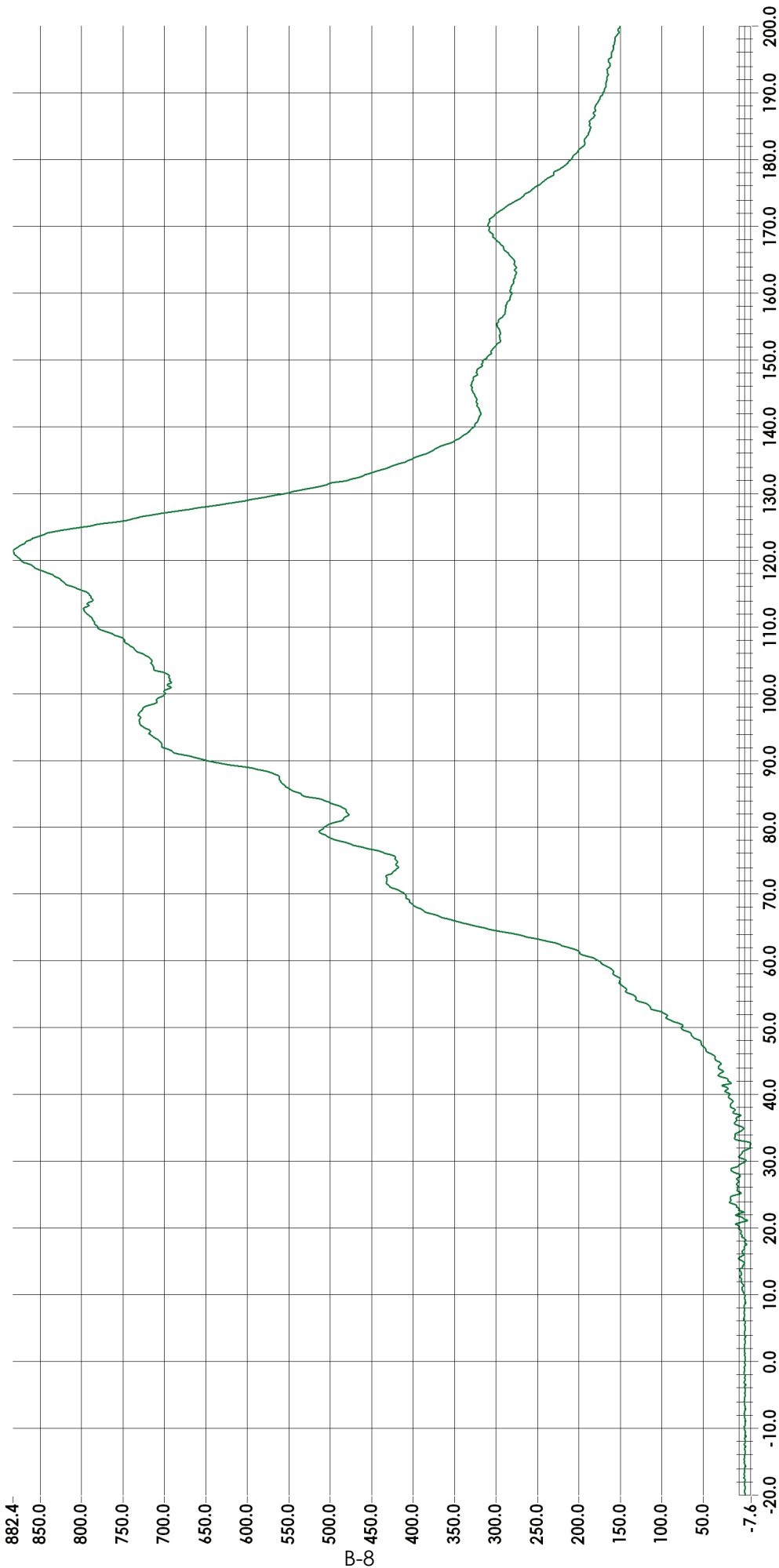
Neuroscience Research Labs
5000 West National Ave
Research 151
Milwaukee, WI 53295

Test ID 08SN07
Date 15/NOV/2007
Description SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class CFC1000
Sampling Rate (Hz) 12500
Number of Points 2751
Pretrigger Points 250
Sensor Location NEKU
Sensor Mnf & Model NA
Serial Number NA



Crabi upper neck force ZL



NWT

Time (msec)

Max	882.43	NWT	at	121.44	msec
Min	-7.20	NWT	at	32.72	msec

08SN07 Plot 046

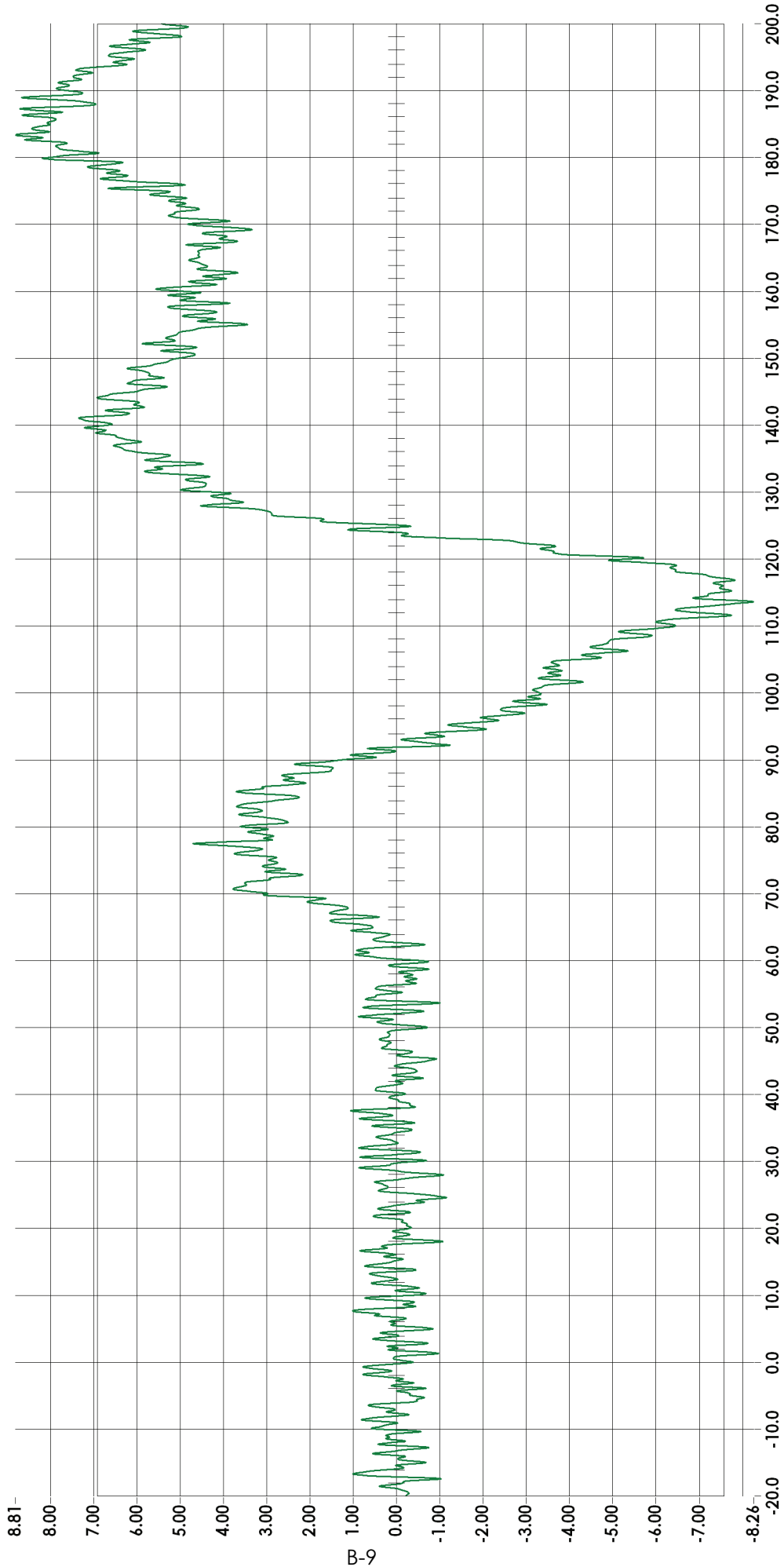
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5000 West National Ave
Research 151
Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC600
Sampling Rate (Hz)	12500
Number of Points	2751
Pretrigger Points	250
Sensor Location	NEKU
Sensor Mnf & Model	NA
Serial Number	NA



Crabi upper neck moment XL



NWM	Max	8.81	NWM	at	183.36	msec
	Min	-8.26	NWM	at	113.60	msec

08SN07 Plot 047

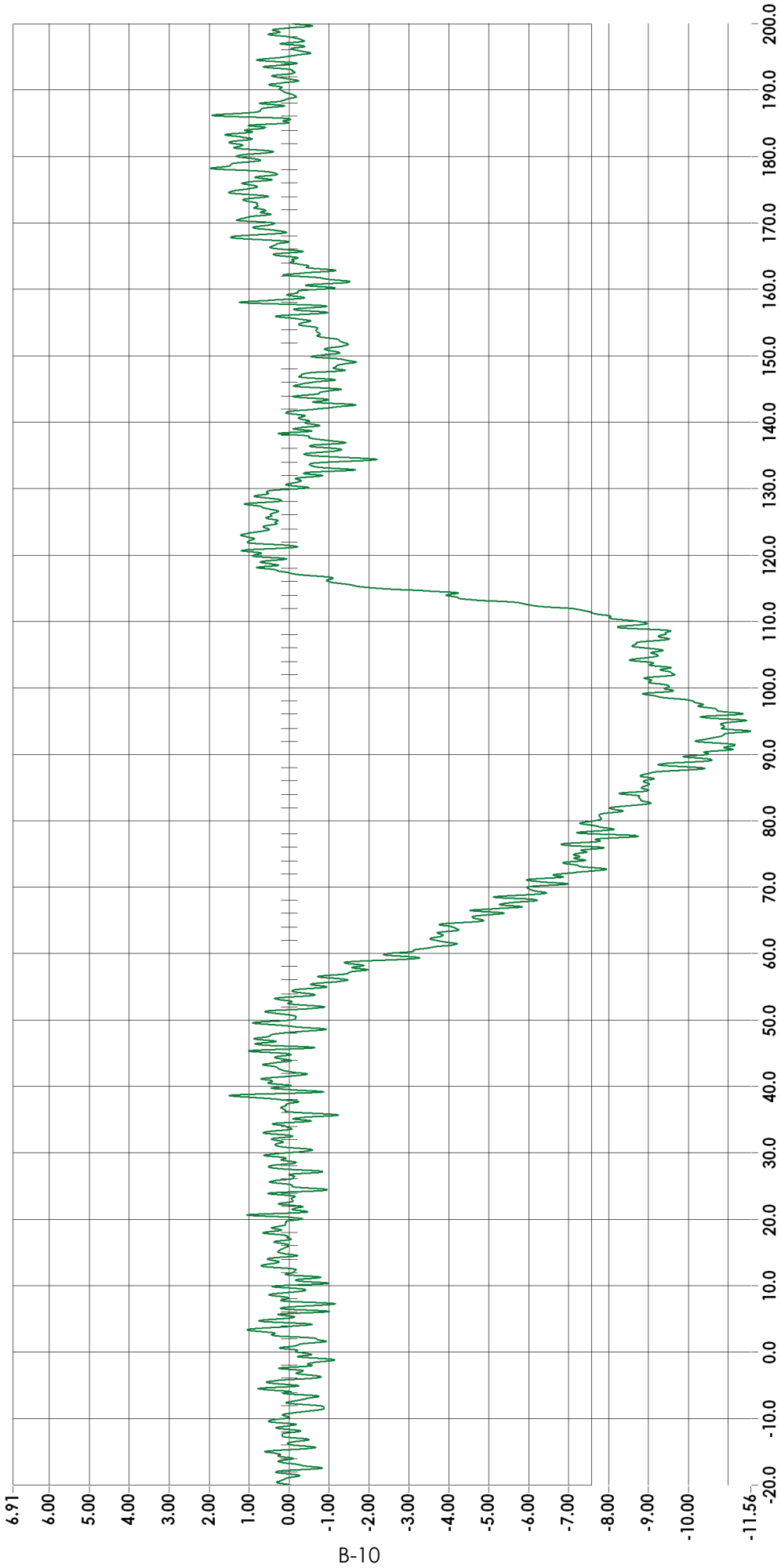
Neuroscience Research Labs
5000 West National Ave
Research 151
Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC600
Sampling Rate (Hz)	12500
Number of Points	2751
Pretrigger Points	250
Sensor Location	NEKU
Sensor Mnf & Model	NA
Serial Number	NA



Crabi upper neck moment YL



NWM	Max	1.97	NWM	at	178.24	msec
	Min	-11.56	NWM	at	93.52	msec

08SN07 Plot 048

Time (msec)

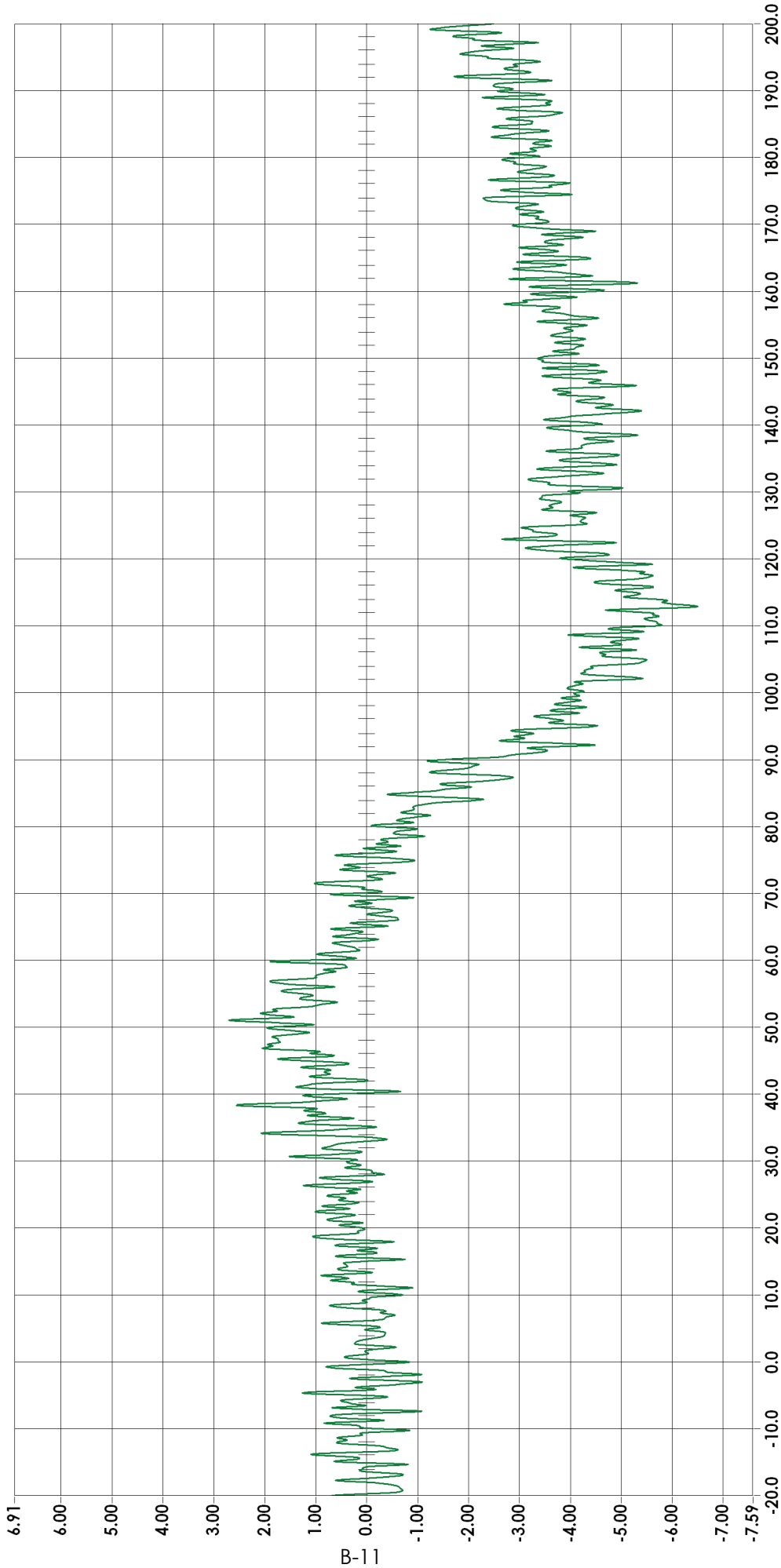
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Research 151
Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC600
Sampling Rate (Hz)	12500
Number of Points	2751
Pretigger Points	250
Sensor Location	NEKU
Sensor Mnf & Model	NA
Serial Number	NA



Crabi upper neck moment ZL



NWM	Max	2.71	NWM	at	51.04	msec
	Min	-6.50	NWM	at	112.88	msec

08SN07 Plot 049

Time (msec)

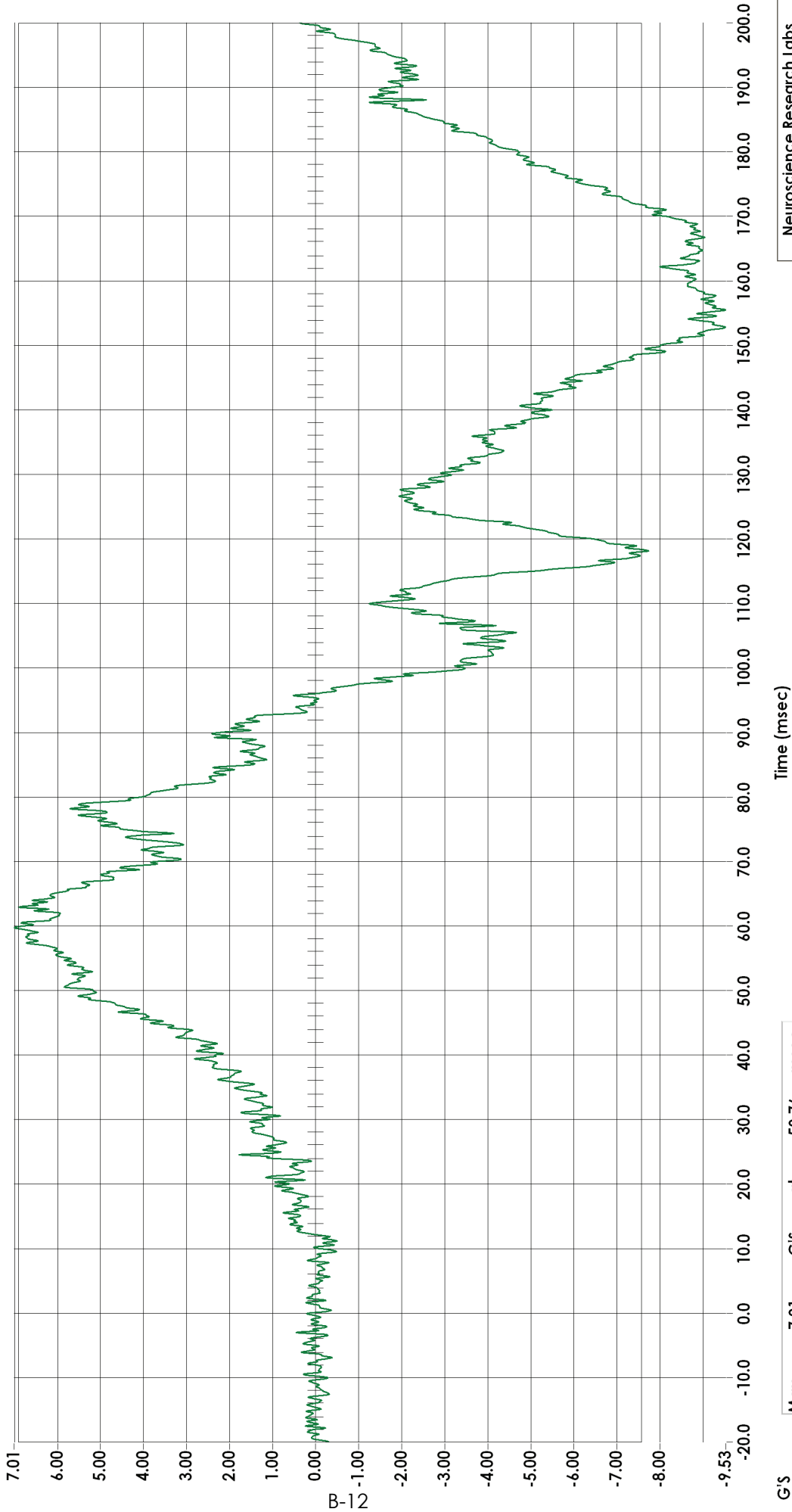
Neuroscience Research Labs
5000 West National Ave
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Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC1000
Sampling Rate (Hz)	12500
Number of Points	2751
Pretigger Points	250
Sensor Location	CHST
Sensor Mnf & Model	NA
Serial Number	NA



Chest linear acceleration XL



Max	7.01	G's	at	59.76	msec
Min	-9.53	G's	at	152.80	msec

08SN07 Plot 050

Time (msec)

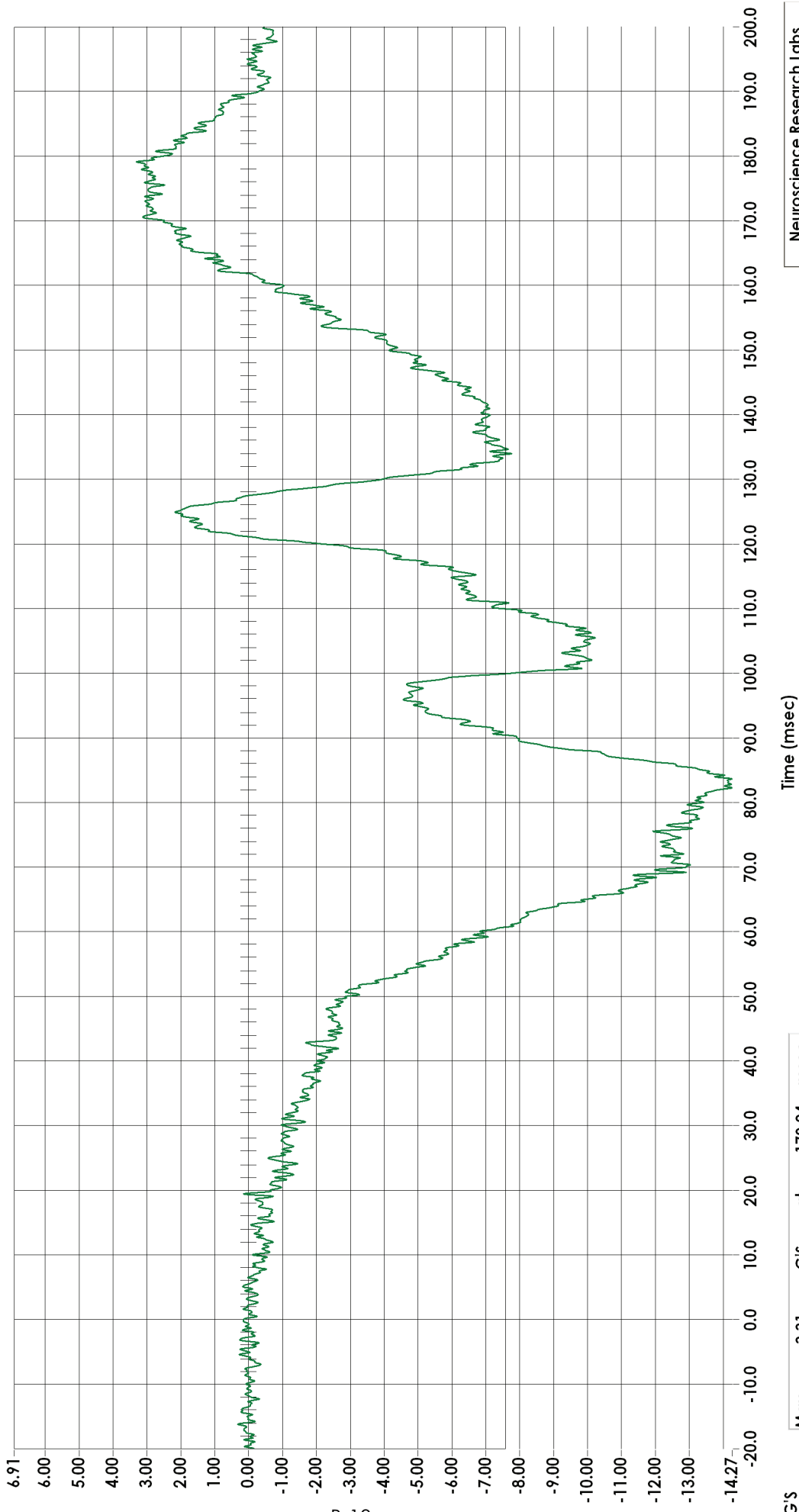
G's

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Test ID		08SN07	Filter Class		CFC1000
Date		15/NOV/2007	Sampling Rate (Hz)		12500
Description		SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN	Number of Points		2751
			Pretrigger Points		250
			Sensor Location		CHST
			Sensor Mnf & Model		NA
			Serial Number		NA

Chest linear acceleration YL



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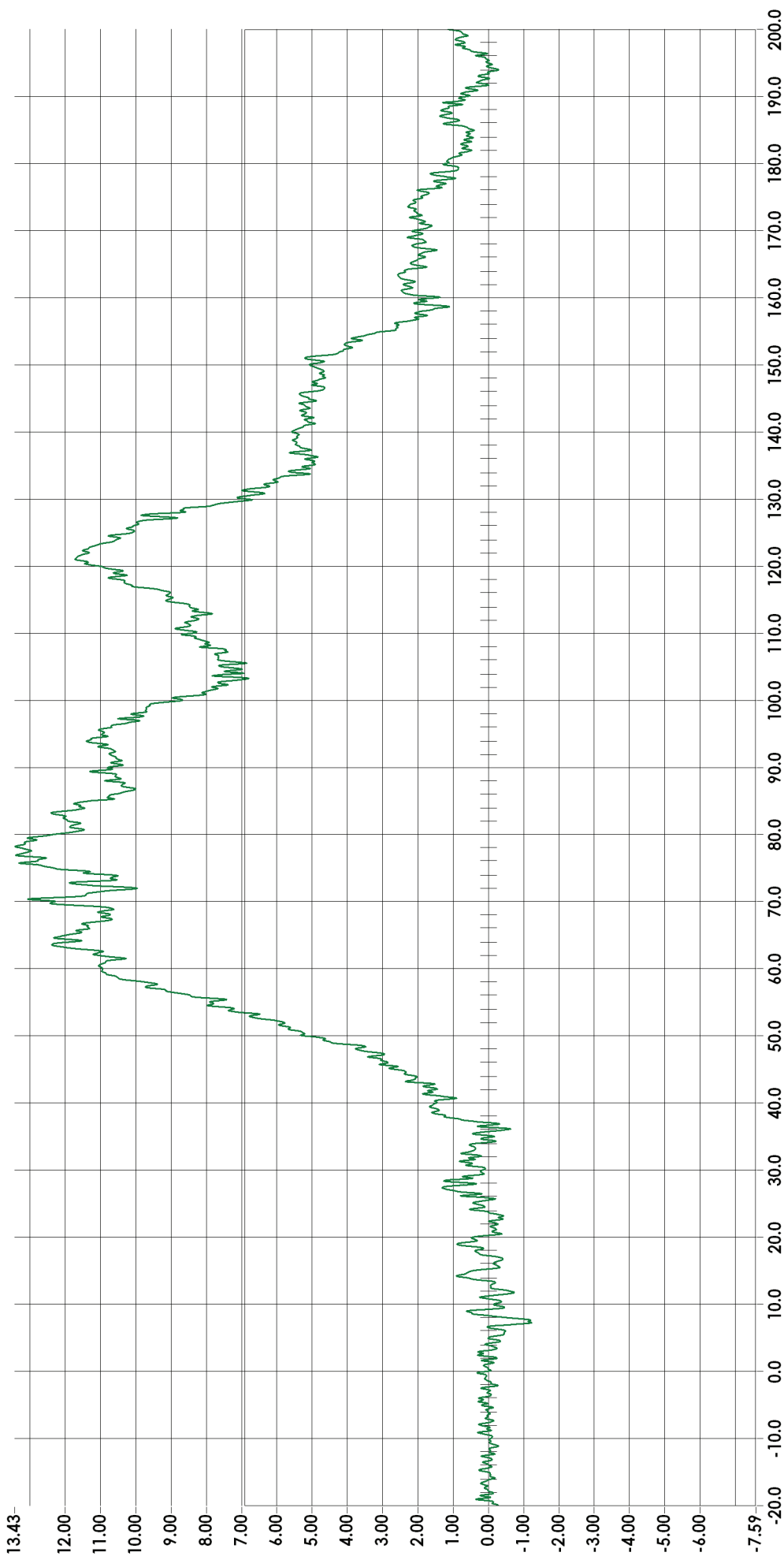
Max	3.31	G's	at	179.04	msec
Min	-14.27	G's	at	82.24	msec
08SN07 Plot 051					

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC1000
Sampling Rate (Hz)	12500
Number of Points	2751
Pretrigger Points	250
Sensor Location	CHST
Sensor Mnf & Model	NA
Serial Number	NA



Chest linear acceleration ZL



B-14

Max	13.43	G's	at	78.24	msec
Min	-1.22	G's	at	7.20	msec

08SN07 Plot 052

Time (msec)

G's

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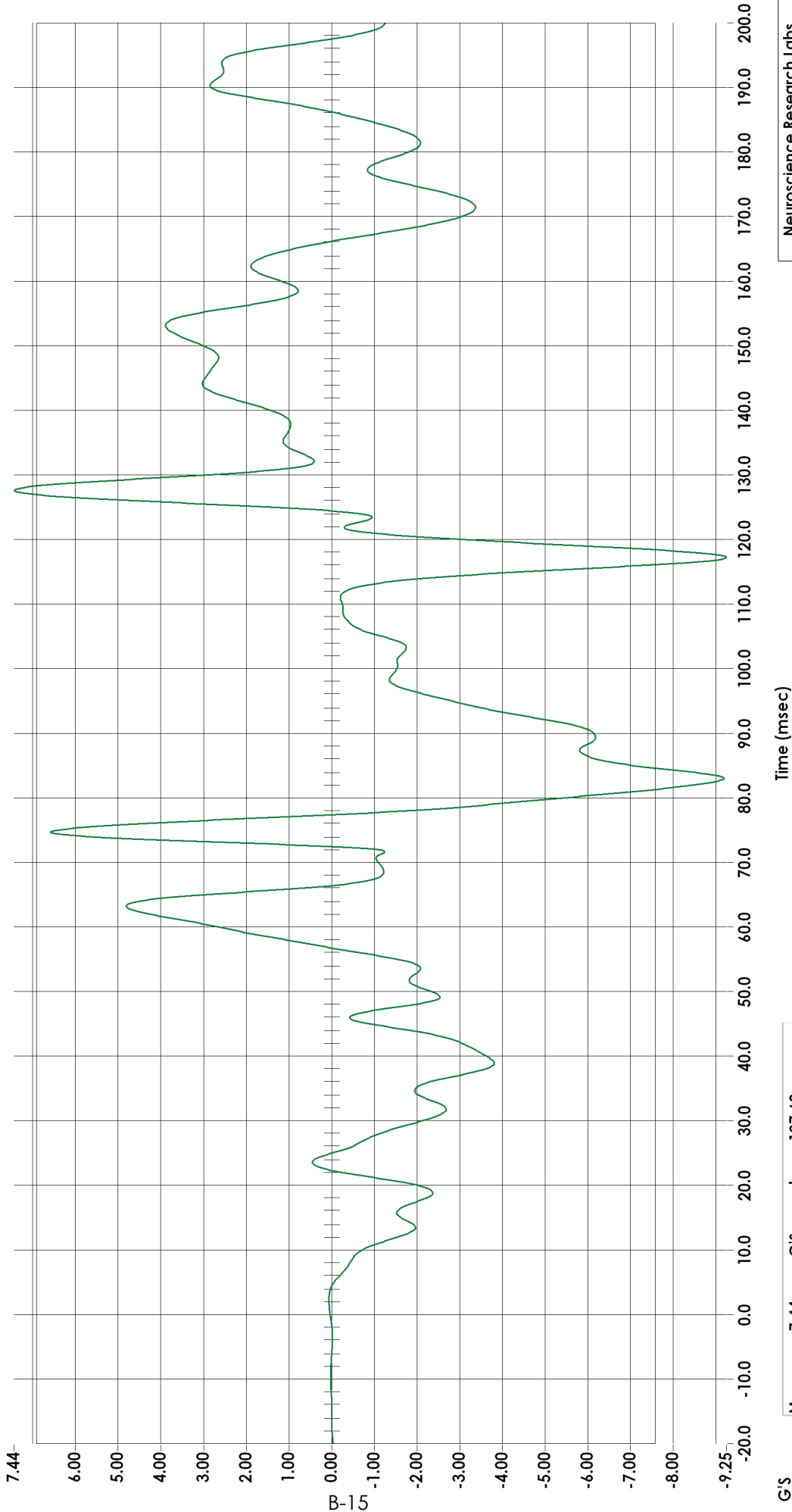
Test ID 08SN07
Date 15/NOV/2007
Description SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class CFC60
Sampling Rate (Hz) 12500
Number of Points 2751
Pretrigger Points 250

Sensor Location SELR
Sensor Mnf & Model NA
Serial Number NA



Child seat base acceleration XG



Max	7.44	G'S	at	127.60	msec
Min	-9.25	G'S	at	117.20	msec

08SN07 Plot 074

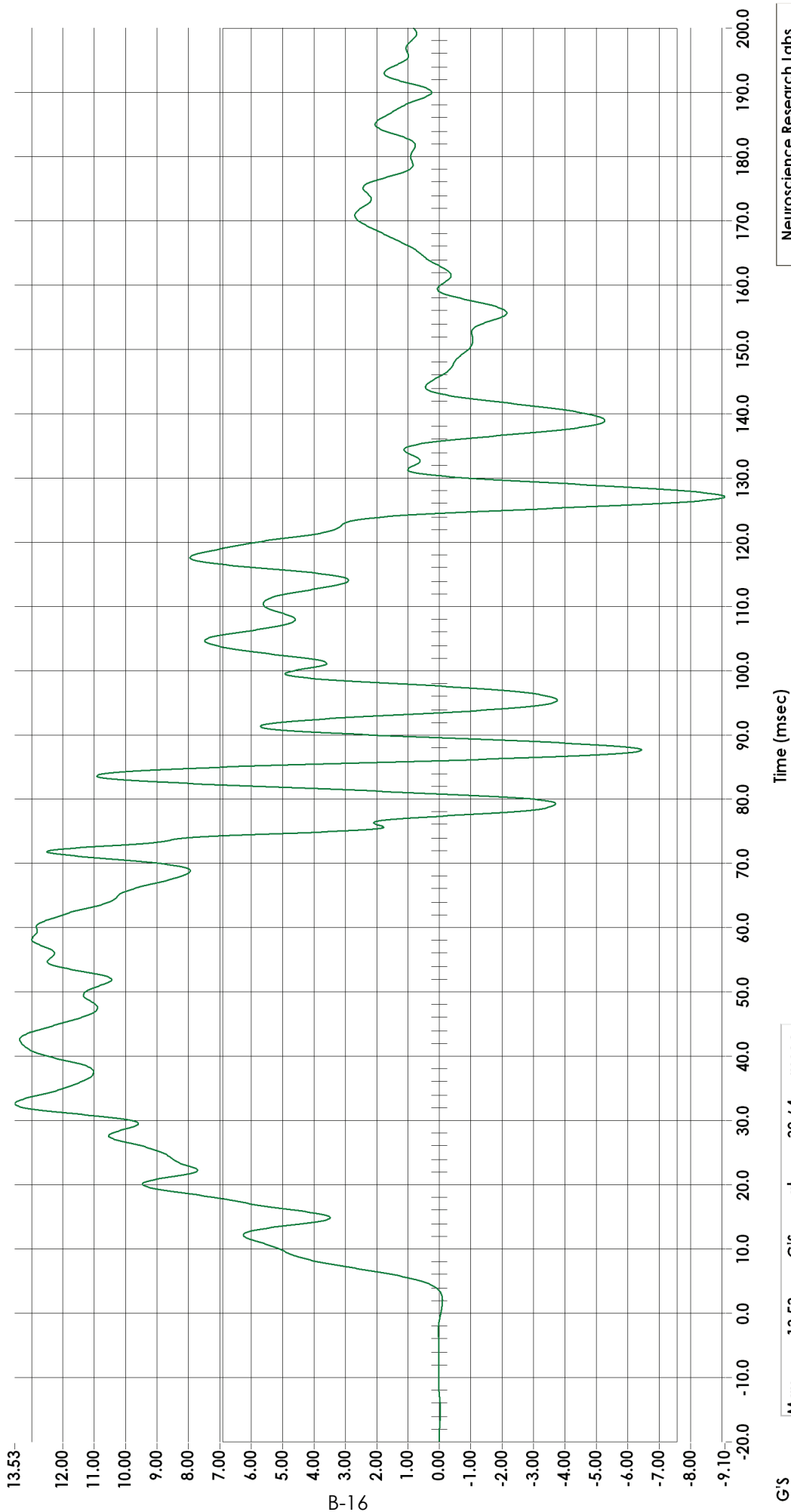
Neuroscience Research Labs
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 Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC60
Sampling Rate (Hz)	12500
Number of Points	2751
Pretrigger Points	250
Sensor Location	SELR
Sensor Mnf & Model	NA
Serial Number	NA



Child seat base acceleration YG



Max	13.53	G's	at	32.64	msec
Min	-9.10	G's	at	127.04	msec

08SN07 Plot 075

Time (msec)

G's

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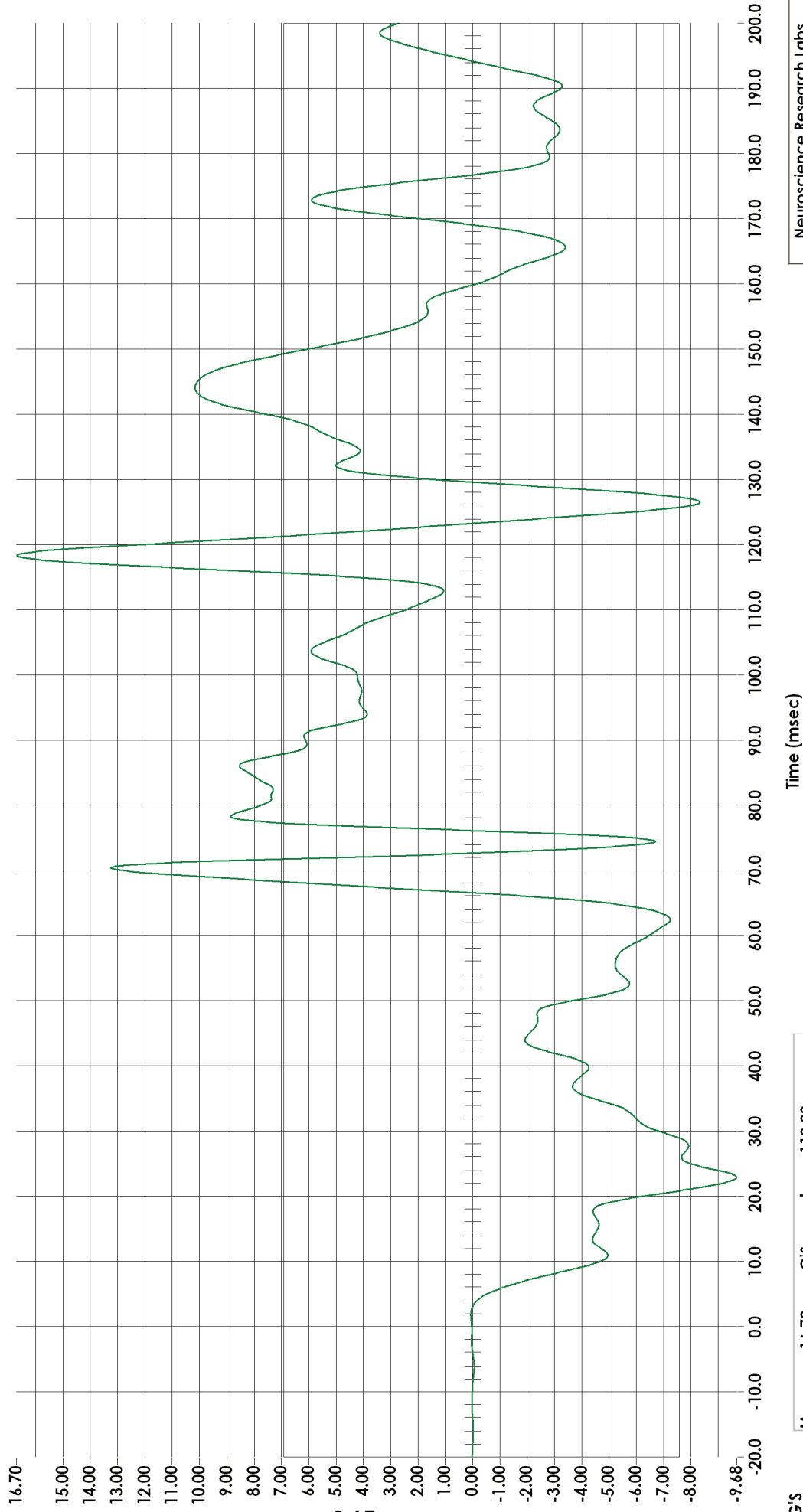
Test ID 08SN07
Date 15/NOV/2007
Description SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class CFC60
Sampling Rate (Hz) 12500
Number of Points 2751
Pretrigger Points 250

Sensor Location SELR
Sensor Mnf & Model NA
Serial Number NA



Child seat base acceleration ZG



Max	16.70	G'S	at	118.32	msec
Min	-9.68	G'S	at	22.96	msec

08SN07 Plot 076

Time (msec)

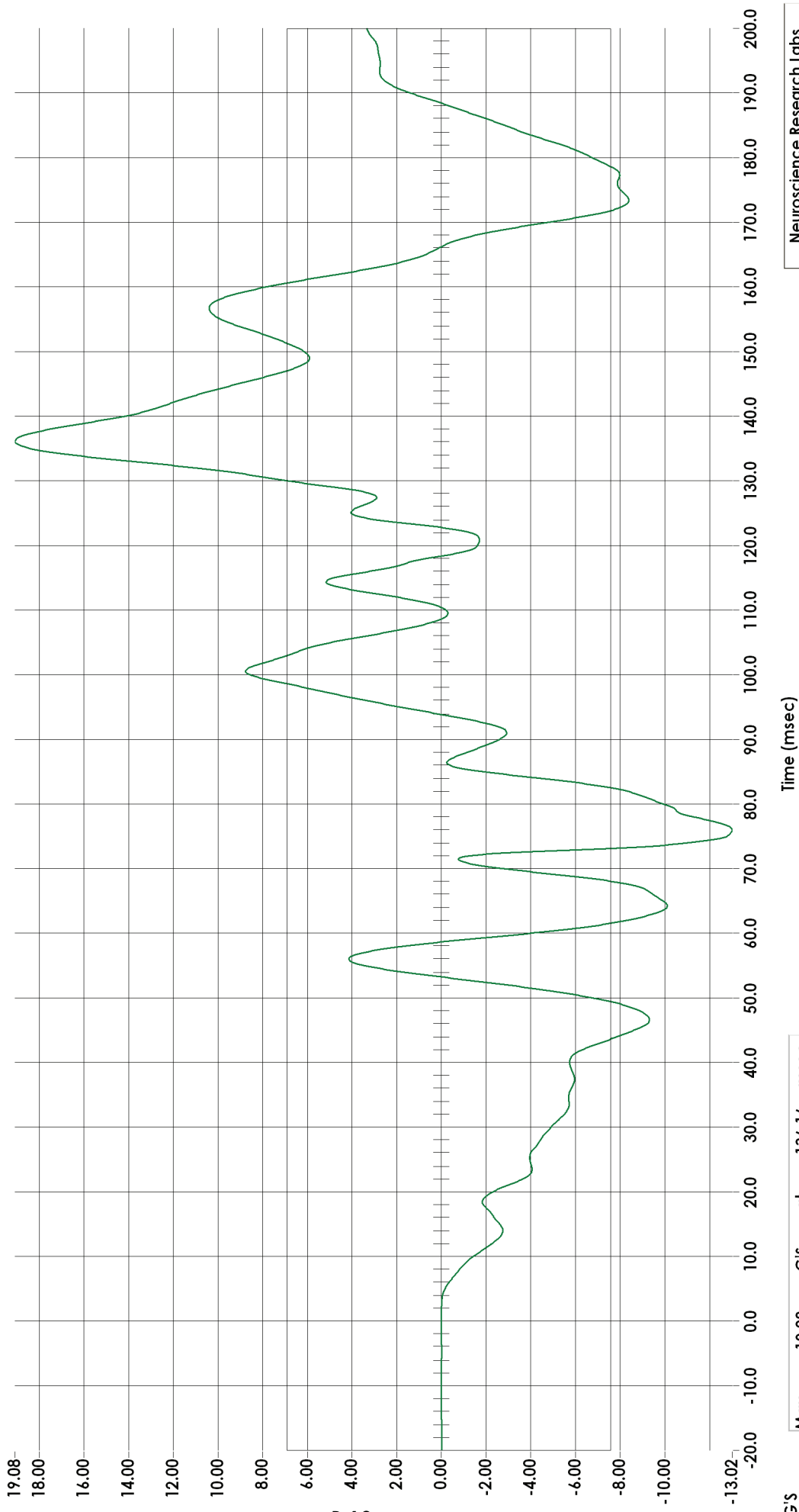
G'S

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Filter Class		CFC60	
Sampling Rate (Hz)	12500	Sensor Location	SELR
Number of Points	2751	Sensor Mnf & Model	NA
Pretrigger Points	250	Serial Number	NA

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Child seat acceleration XG



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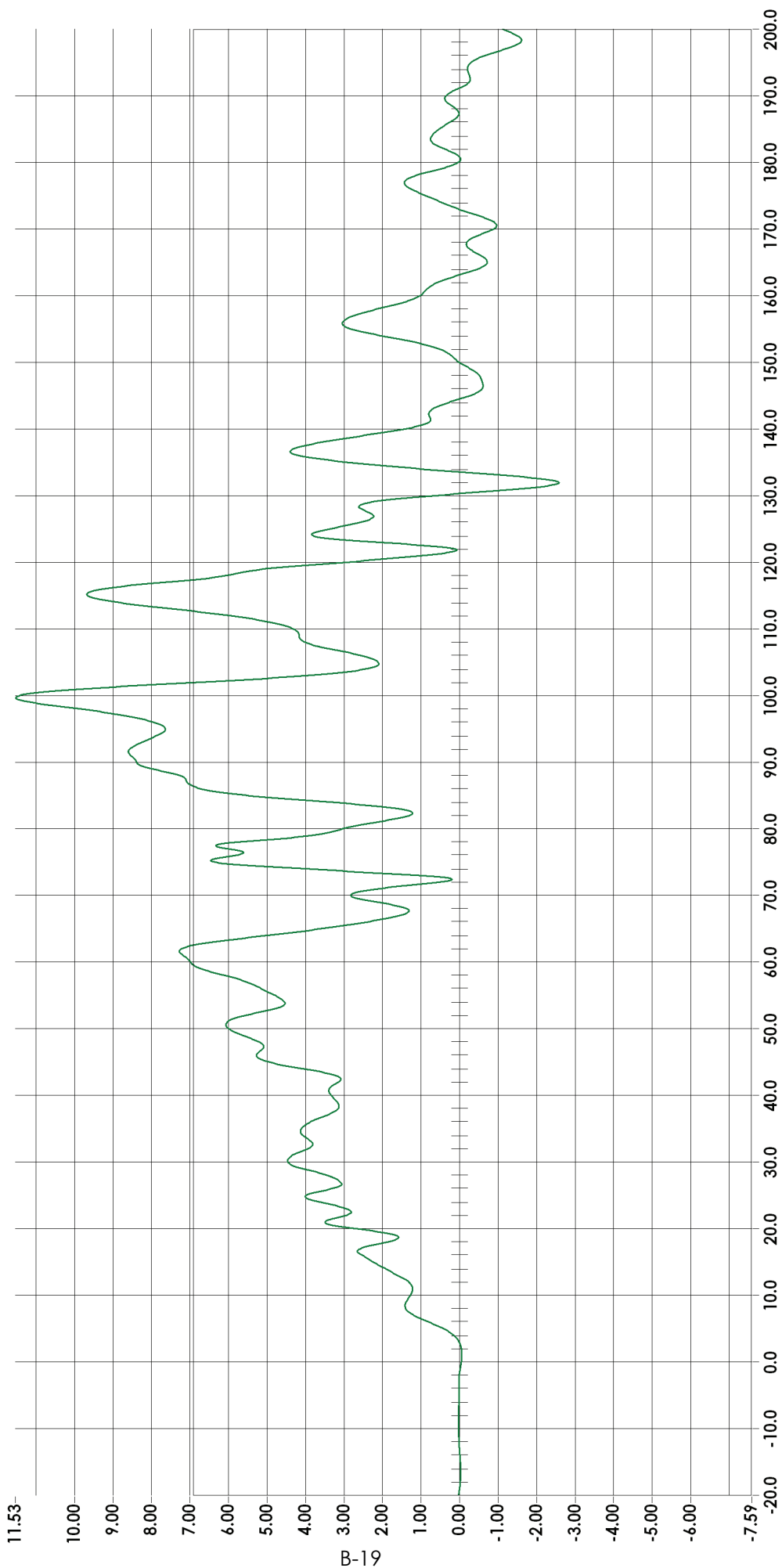
Max	19.08	G'S	at	136.16	msec
Min	-13.02	G'S	at	76.00	msec

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC60
Sampling Rate (Hz)	12500
Number of Points	2751
Pretrigger Points	250
Sensor Location	SELR
Sensor Mnf & Model	NA
Serial Number	NA



Child seat acceleration YG



Max	11.53	G's	at	99.68	msec
Min	-2.59	G's	at	131.92	msec

08SN07 Plot 078

Time (msec)

G's

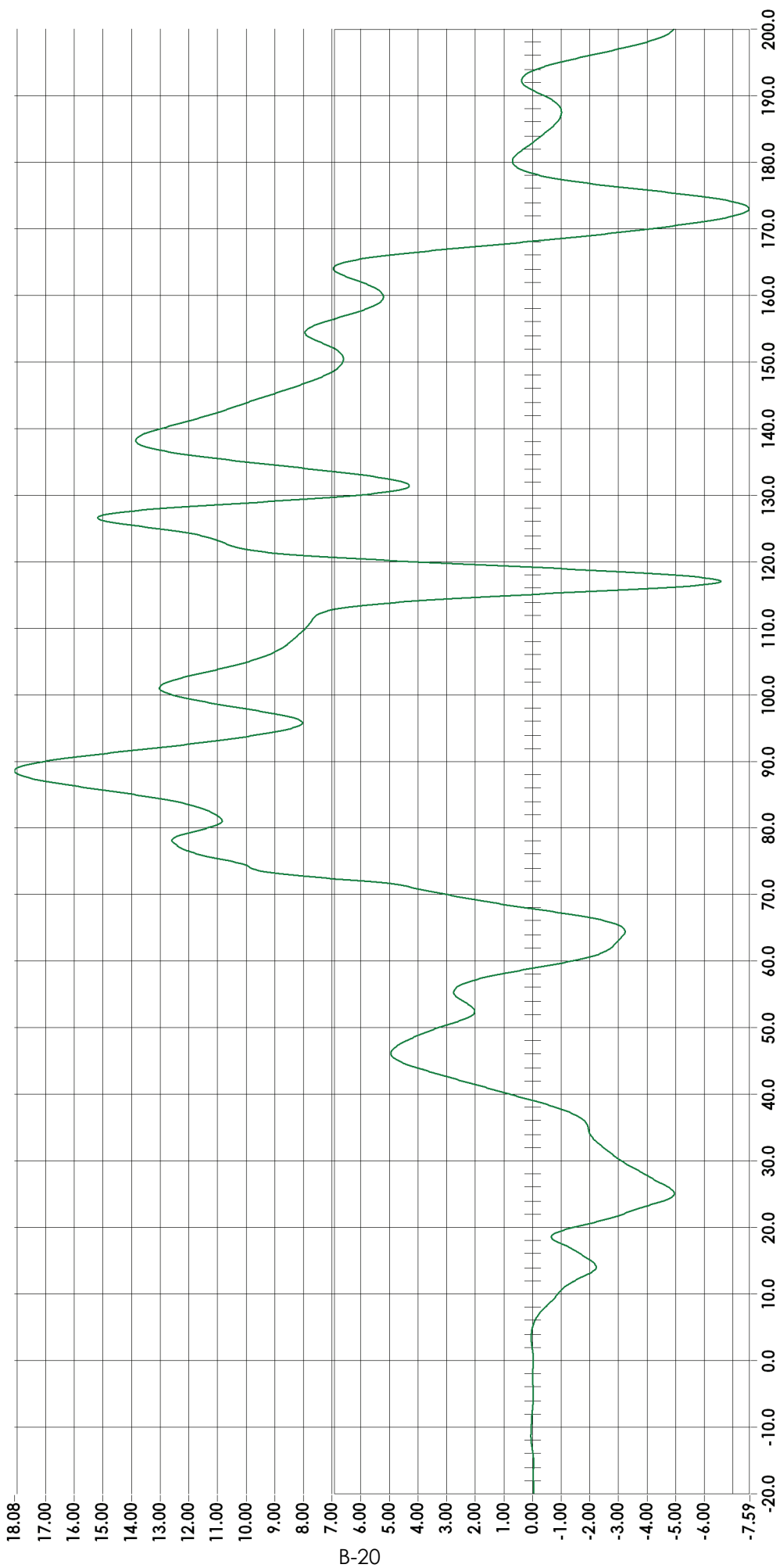
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Milwaukee, WI 53295

Test ID	08SN07
Date	15/NOV/2007
Description	SIDE NCAP 2008 HONDA ACCORD 4-DOOR SEDAN

Filter Class	CFC60
Sampling Rate (Hz)	12500
Number of Points	2751
Pretrigger Points	250
Sensor Location	SELR
Sensor Mnf & Model	NA
Serial Number	NA



Child seat acceleration ZG



Max	18.08	G's	at	88.56	msec
Min	-7.56	G's	at	173.04	msec

08SN07 Plot 079

Time (msec)

G's

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APPENDIX C
DUMMY CALIBRATION DATA

**VERIFICATION TEST RESULTS SUMMARY
PRE AND POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

Serial Number 074Test Sequences 1

TEST	PRE		POST	
	COMMENTS	BY	COMMENTS	BY
FRONT THORAX IMPACT	Pass all requirements	TRC	N/a	N/a
FRONT HEAD DROP	Pass all requirements	TRC	N/a	N/a
REAR HEAD DROP	Pass all requirements	TRC	N/a	N/a
NECK EXTENSION	Pass all requirements	TRC	N/a	N/a
NECK FLEXION	Pass all requirements	TRC	N/a	N/a

SUMMARY
SID H3 PRE AND POST VERIFICATION
CONFIGURED FOR LEFT SIDE IMPACT

TEST PARAMETER	SPEC	CRABI/074	
		PRE	POST
FRONT THORAX IMPACT			
Date	-	17Oct07	-
Sequential Test Number	-	1	-
Temperature (°C)	20.6-22.2	21.3	-
Relative Humidity (%)	10-70	61	-
Probe Speed (m/s)	4.9-5.1	5.07	-
Probe Force (N)	(-1514)-(-1796)	-1662.1	-
FRONT HEAD DROP			
Date	-	19Oct07	-
Sequential Test Number	-	1	-
Temperature (°C)	18.9-25.6	21.1	-
Relative Humidity (%)	10-70	55	-
Peak Head Resultant Acceleration (G's)	100-120	107.7	-
Peak Head Lateral Acceleration (G's)	(-15)-15	2.1	-
Is Acceleration Curve Unimodal w/in 17% of Peak	Yes	Yes	-
REAR HEAD DROP			
Date	-	19Oct07	-
Sequential Test Number	-	1	-
Temperature (°C)	18.9-25.6	21.0	-
Relative Humidity (%)	10-70	54	-
Peak Head Resultant Acceleration (G's)	55-71	64.1	-
Peak Head Lateral Acceleration (G's)	(-15)-15	1.5	-
Is Acceleration Curve Unimodal w/in 17% of Peak	Yes	Yes	-

TEST PARAMETER	SPEC	CRABI/074	
		PRE	POST
NECK EXTENSION			
Date	-	17Oct07	-
Sequential Test Number	-	1	-
Temperature (°C)	-	21.1	-
Relative Humidity (%)	-	62	-
Pendulum Velocity (m/s)	(-2.4)-(-2.6)	-2.47	-
Pendulum Integrated Velocity Change @ 6 ms (m/s)	0.8-1.2	0.99	-
Pendulum Integrated Velocity Change @ 10 ms (m/s)	1.5-2.1	1.75	-
Pendulum Integrated Velocity Change @ 14 ms (m/s)	2.2-2.9	2.37	-
Total Head D-Plane Rotation (°)	80-92	88.5	-
Total Neck Occipital Condyles Moment (Nm)	(-12)-(-23)	-14.8	-
Total Neck Occipital Condyles Moment Decay to -5 ms(Nm)	76-90	83.5	-
NECK FLEXION			
Date	-	17Oct07	-
Sequential Test Number	-	1	-
Temperature (°C)	20.6-22.2	21.2	-
Relative Humidity (%)	10-70	63	-
Pendulum Velocity (m/s)	5.1-5.3	5.22	-
Pendulum Integrated Velocity Change @ 10 ms (m/s)	(-1.6)-(-2.3)	-1.90	-
Pendulum Integrated Velocity Change @ 20 ms (m/s)	(-3.4)-(-4.2)	-3.78	-
Pendulum Integrated Velocity Change @ 25 ms (m/s)	(-4.3)-(-5.2)	-4.64	-
Total Head D-Plane Rotation (°)	(-75)-(-86)	-82.9	-
Total Neck Occipital Condyles Moment (Nm)	36-45	41.3	-
Total Neck Occipital Condyles Moment Decay to 5 ms(Nm)	60-80	74.8	-

**DUMMY INSPECTION LIST
PRE AND POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

		CRABI 074	
		PRE	POST
	Date	14Nov07	16Nov07
	Performed By	Mike Rawski	Mike Rawski
PART	INSPECTION	RESULT	RESULT
Skin	Visual	Pass	Pass
Head	Visual, Ballast, Accelerometer Mount	Pass	Pass
Neck	Visual and Palpated, Cable Torque	Pass	Pass
Spine Box	Visual, Ballast, Weldment, Accelerometer Mount	Pass	Pass
Rib Cage	Visual, Palpated, Measured, Stiffness	Pass	Pass
Sternum	Visual	Pass	Pass
Lumbar Spine	Visual	Pass	Pass
Abdomen	Visual	Pass	Pass
Pelvis	Visual, Palpated, Accelerometer Mount	Pass	Pass
Upper Legs	Visual	Pass	Pass
Knees	Visual, Stops, Inserts	Pass	Pass
Lower Legs	Visual, Range of Motion	Pass	Pass
Ankles	Visual, Range of Motion	Pass	Pass
Feet	Visual, Range of Motion	Pass	Pass
Joints	1 to 2 G Range	Pass	Pass
Other		N/a	N/a