REPORT NO. MCW-DOT-02SN03

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING

FORD MOTOR CORPORATION
2002 FORD THUNDERBIRD 2-DOOR CONVERTIBLE

NHTSA NUMBER: M2 0204

MEDICAL COLLEGE OF WISCONSIN
5000 WEST NATIONAL AVENUE
MILWAUKEE, WI 53295

05 February 2002

FINAL REPORT

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
400 Seventh Street, SW, Room 5307
Washington, DC 20590

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16. Abstract

A 55/28 km/h 90 degree Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2002 Ford Thunderbird in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for generation of consumer information on vehicle side crash protection. This test was conducted at the Medical College of Wisconsin Vehicle Crashworthiness Lab in Milwaukee, Wisconsin, on 05 February 2002.

The impact velocity of the Moving Deformable Barrier (MDB) was 61.9 km/h, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 22.5 degrees C. The target vehicle post-test maximum crush was 186 mm at Level 2. The test vehicle's performance follows:

	DRIVER	PASSENGER
Left Upper Rib Acceleration G	48.4	N/a
Left Lower Rib Acceleration G	43.3	N/a
Lower Spine Acceleration G	50.9	N/a
Thoracic Trauma Index TTI	50	N/a
Pelvis Acceleration G	51	N/a

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.

17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy (SID) NHTSA No. 02SN03		**18. Distribution Statement** Copies of this report are available from: National Highway Traffic Safety Administration Technical Reference Division, Room 5108(NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590	
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test was part of the FY02 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-01-D-02003. The purpose of this test was to evaluate side impact protection of a 2002 Ford Thunderbird 2-door Convertible. This side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated May 1999.

The Medical College of Wisconsin does not endorse or certify products. The manufacturer's name appears solely for identification purposes only.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2002 Ford Thunderbird 2-door Convertible was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) that was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.9 km/h (38.4 mph). The target vehicle was stationary and positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Medical College of Wisconsin in Milwaukee, Wisconsin, on 05 February 2002.

One restrained Side Impact Dummies (SID) was placed in the driver seating position, according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated May 1999. The side impact event was documented by eight high-speed cameras, one real-time camera, and one high-speed video. Camera locations and other pertinent camera information can be found in this report.

The SID was instrumented with the following accelerometers.

1. Left Upper Rib (LUR) uniaxial accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial accelerometer (Y-direction)
3. Lower Thoracic Spine (T_{12}) uniaxial accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial accelerometer (Y-direction)
5. Head Center of Gravity triaxial accelerometers (X-, Y-, and Z-direction)

Pre- and post-test photographs of the test vehicle, the MDB, and the side impact dummy (SID) are included in Appendix A. Appendix B contains the vehicle, MDB, and dummy response data traces. A summary of the side impact dummy (SID) 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 this test.

Injury Criteria	Front SID	Rear SID
TTI (G)	50	N/a
PELVIS (G)	51	N/a
HIC36	80	N/a

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET NO. 1

GENERAL VEHICLE TEST PARAMETER DATA

TEST VEHICLE INFORMATION

Year/ Make/ Model/ Body Style	2002 Ford Thunderbird 2-Door Convertible							
Vehicle NHTSA Number.	M2 0204			VIN	1FAHP60A52Y107193			
Vehicle Body Color	Red			Build Date	Dec-01			
Engine Data	8	Cylinders		CID	3.9	Liter		cc
Placement	X	Longitudinal		Lateral				
Transmission	5	Speed		Manual	X	Automatic	X	Overdrive
Final Drive	X	Rear Wheel Drive		Front Wheel Drive		Four Wheel Drive		
Odometer Reading	6 miles	Date	22 Jan 02					
Options	X	A/C	X	Power Steering	X	Power Brakes	X	Power Windows
	X	Cruise Control	X	Tilt Wheel	X	Power Locks		

DATA FROM TIRE PLACARD:

Tire Pressure (at Capacity)	30	PSI Front
	30	PSI Rear
Recommended Tire Size	P235/50R17 (95V)	
Tires on Test Vehicle	P235/50R17 (95V)	Manufacturer Michelin

TEST VEHICLE AIRBAG INFORMATION:

	Frontal	Side-Torso	Side-Torso/Head	Side-Head
Driver	Yes-Steering Wheel	None	Yes-Seat mounted	None
Left Rear Passenger	N/a	N/a	N/a	N/a

VEHICLE CAPACITY DATA:

Number of Occupants:	2	Front		Rear		3rd Seat	2	Total		
Type of Front Seats	X	Bucket		Bench		Split Bench				
Type of Front Seat Back		Fixed	X	Adjustable w/	X	Lever		Knob		
Vehicle Max Capacity Loading			205.4	kg	(A)					
No. of Occupants X 68.04 kg			136.1	kg	(B)					
Cargo Capacity (A) – (B)			69.3	kg						

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	442.3	kg	Left Rear	=	429.1	kg
Right Front	=	463.6	kg	Right Rear	=	420.9	kg
TOTAL FRONT	=	905.9	kg	TOTAL REAR	=	850.0	kg
% Total Weight	=	51.6	%	%Total Weight	=	48.4	%
TOTAL WEIGHT	=	1755.9	kg				

DATA SHEET 1 (continued)

GENERAL VEHICLE TEST PARAMETER DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max Fluids	=	1755.9	kg	(A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	69.3	kg	(B)
Weight of (1) instrumented Side Impact Dummy	=	79.5	kg	(C)
TEST VEHICLE TARGET WEIGHT	=	1904.7	kg	(A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 1 OR 2 SID(s) + CARGO)

Left Front	=	481.6	kg	Left Rear	=	450.3	kg
Right Front	=	493.4	kg	Right Rear	=	479.4	kg
TOTAL FRONT	=	975.0	kg	TOTAL REAR	=	929.7	kg
% Total Weight	=	51.2	%	%Total Weight	=	48.8	%
TOTAL WEIGHT	=	1904.7	kg				

AS TESTED WEIGHT OF TEST VEHICLE (UDVW+ 1 OR 2 SID(s)+CARGO+EQUIPMENT & INSTRUMENTATION)

Left Front	=	477.6	kg	Left Rear	=	450.0	kg
Right Front	=	493.1	kg	Right Rear	=	479.4	kg
TOTAL FRONT	=	970.7	kg	TOTAL REAR	=	929.4	kg
% Total Weight	=	51.1	%	%Total Weight	=	48.9	%
TOTAL WEIGHT	=	1900.1	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED

Left Front	747	Right Front	744	Left Rear	724	Right Rear	721

FULLY LOADED

Left Front	739	Right Front	735	Left Rear	715	Right Rear	713

AS TESTED

Left Front	742	Right Front	737	Left Rear	718	Right Rear	715

Test Vehicle Wheelbase		2727	mm
As Tested CG	=	1331	mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

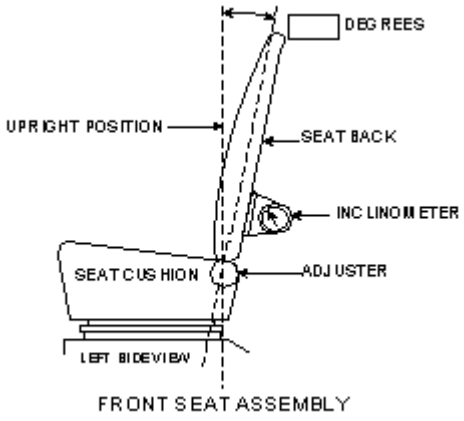
Right Side	=	4395	mm
Left Side	=	4395	mm
Centerline	=	4719	mm

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

Nominal Design Riding Position for adjustable driver and passenger seats. Please describe how to position the inclinometer to measure the seat back angle. Include a description of the adjustment latch detent if applicable



FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel			222 mm
Total Number of Detents	Power Seat	Test Position	Mid position

FRONT SEAT BACK ADJUSTMENT:

Seat Back Angle	18 degrees measured at headrest

SECOND POSITION SEAT:

Total Length Fore/Aft Adjustment	222 mm
Seat Back Adjustment Position	18 degrees measured at headrest

ADJUSTABLE STEERING COLUMN POSITION:

Mid position

WINDOW POSITIONS:

Left Front	Up	Right Front	Down
Left Rear	N/a	Right Rear	N/a

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Fuel System usable Capacity	68.1 L.	
Test Volume	63.4 L	93.1%

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

Wheelbase	2727 mm	
Impact Point is	424 mm forward	of front axle centerline
Actual Impact Point is	429 mm forward	of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY

VEHICLE IDENTIFICATION:

Year/Make/Model/Body Style	2002 Ford Thunderbird 2-Door Convertible		
Body Color	Red	VIN	1FAHP60A52Y107193
NHTSA No.	M2 0204	Test Date	05 February 2002
Overall Length	4719 mm	Overall Width	1812 mm

VEHICLE TEST WEIGHT (Pre-Test):

Left Front	=	479	kg	Left Rear	=	451	kg
Right Front	=	494	kg	Right Rear	=	477	kg
TOTAL FRONT	=	973	kg	TOTAL REAR	=	928	kg
% Total Weight	=	51.1	%	%Total Weight	=	48.9	%
TOTAL WEIGHT	=	1901	kg				

Wheelbase	=	2727 mm
Longitudinal CG from Center of Front Axle	=	1331 mm
Impact Angle with Respect to Impactor	=	90

ACTUAL IMPACT POINT

Actual Impact Point is 5 mm forward of nominal impact reference line (lateral)

Actual Impact Point is 3 mm below nominal impact line (vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1	(205 mm above ground)	=	27	mm
2. LEVEL 2	(468 mm above ground)	=	186	mm
3. LEVEL 3	(595 mm above ground)	=	178	mm
4. LEVEL 4	(910 mm above ground)	=	86	mm
5. LEVEL 5	(1244 mm above ground)	=	13	mm

Maximum Post-Test intrusion at Level 2 is 186 mm

OCCUPANTS	Left Front Passenger	Left Rear Passenger
Dummy Identification	058	N/a
Restraints Used	3-point belt and side air bag	N/a

INSTRUMENTATION:

Number of Vehicle Data Channels		29
Number of Cameras	Onboard	2
	Off board	5
	MDB	2
	TOTAL	9

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore Serial Number 097A1200-2001B1200

POSITION OF IMPACT (MDB) ON TOW SYSTEM

Crabbed 27° to the left

MDB DETAILS:

Overall Width of Framework Carriage	=	1250 mm
Overall Length of MDB (incl. honeycomb impact face)	=	4116 mm
Wheelbase of Framework Carriage	=	2578 mm
Tread of Framework Carriage (Front & Rear)	=	1880 mm
C.G. Location Rearward of Front Axle	=	1109.3 mm
C.G. Location From Center Line	=	-1.9 mm
C.G. Location Above Ground Level	=	477.2 mm

MDB WEIGHT:

Left Front	=	495.2	kg	Left Rear	=	184.8	kg
Right Front	=	278	kg	Right Rear	=	399.2	kg
TOTAL FRONT	=	773.2	kg	TOTAL REAR	=	584	kg
% Total Weight	=	57.0	%	%Total Weight	=	43.0	%
TOTAL WEIGHT	=	1357.2	kg				

MDB IMPACT:

Impact Angle (MDB C/L to Target Vehicle)		90°	
Impact Speed	Primary	61.9 km/h	38.44 mph
	Secondary	61.7 km/h	38.32 mph
	Radar	Data not valid	Data not valid
	On-Board	61.5 km/h	38.2 mph

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Center of Bumper	=	274	mm
2. Row B Top of Bumper	=	227	mm
3. Row C Mid-Level	=	228	mm
4. Row D Top of Stack	=	232	mm

INSTRUMENTATION:

Number of MDB Data Channels = 5

DATA SHEET NO. 4

POST-TEST OBSERVATIONS

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

VISIBLE DUMMY CONTACT POINTS:

	LEFT FRONT SID	LEFT REAR SID
Head	Left side of head to side airbag; top of head to upper window trim	N/a
Upper Torso	To side airbag	N/a
Lower Torso	To left door panel below arm rest	N/a
Left Knee	To front left door panel	N/a
Right Knee	To right knee	N/a

DOOR OPENING:

	LEFT DOOR	RIGHT DOOR
Front	Closed/Inoperable	Closed/Operable
Rear	N/a	N/a

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal 3 mm below Vertical 5 mm forward

ARM REST LOCATIONS:

Front 233 mm below window opening

Rear N/a

SEAT MOVEMENT:

Front Seat bottom crushed 5 mm; Seat back crushed 40 mm

Rear N/a

GLAZING DAMAGE

Windshield Left lower windshield cracked

Window Left side door window shattered during impact

PILLAR PERFORMANCE:

None Noted

SILL SEPARATION

None Noted

AIRBAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	Did not deploy	Did not deploy	N/A
SIDE	Deployed	Did not deploy	N/A

OTHER NOTABLE IMPACT EFFECTS:

None noted

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

	Front Dummy ID 058 Accelerations				Rear Dummy Accelerations			
	Max		Min		Max		Min	
	G's	msec	G's	msec	G's	msec	G's	msec
HEAD ACCELERATIONS								
Longitudinal (X)	1.9	36.3	-15.4	81.8	N/a	N/a	N/a	N/a
Lateral (Y)	27.3	59.3	-5.7	17.9	N/a	N/a	N/a	N/a
Vertical (Z)	21.0	59.1	-4.9	17.9	N/a	N/a	N/a	N/a
Resultant (R)	35.9	59.2	-	-	N/a	N/a		
HIC36	80.4		-	-	N/a			
RIB ACCELERATIONS								
Upper Rib Lateral (Y)	48.4	45.0	-5.6	103.1	N/a	N/a	N/a	N/a
Upper Rib Lateral (Y_R)	47.2	45.0	-5.6	102.5	N/a	N/a	N/a	N/a
Lower Rib Lateral (Y)	43.3	43.1	-5.5	102.5	N/a	N/a	N/a	N/a
Lower Rib Lateral (Y_R)	42.9	43.1	-5.3	102.5	N/a	N/a	N/a	N/a
SPINE ACCELERATIONS								
Lower Lateral (Y)	50.9	46.9	-6.1	76.3	N/a	N/a	N/a	N/a
Lower Lateral (Y_R)	50.2	46.9	-6.6	75.6	N/a	N/a	N/a	N/a
PELVIS ACCELERATIONS								
Lateral (Y)	51.0	46.9	-5.6	143.1	N/a	N/a	N/a	N/a
Lateral (Y_R)	50.7	46.9	-5.6	144.4	N/a	N/a	N/a	N/a

REFERENCE:

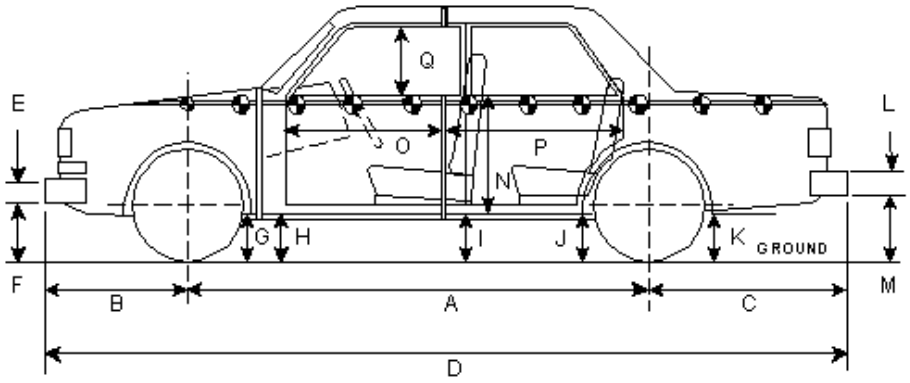
Positive Direction -	Anterior/Posterior	+(X) = posterior
	Lateral	+(Y)= right
	Superior/Inferior	+(Z)= superior
Negative Direction	Anterior/Posterior	-(X) = anterior
	Lateral	-(Y)= left
	Superior/Inferior	-(Z)= inferior

All the above data (except head accelerations) has been filtered using FIR (Version 1.0; July 16, 1990)
Head Accelerations have been filtered at SAE Class 1000
Y_R denotes redundant Y-direction accelerometer

DATA SHEET 6

VEHICLE PRE- AND POST- MEASUREMENTS

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



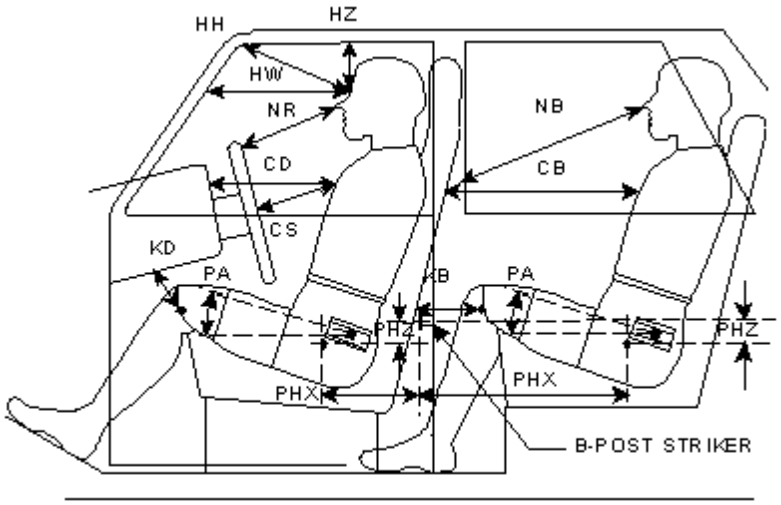
LEFT SIDE VIEW

	PRE-TEST As Delivered (mm)	PRE-TEST As Tested (mm)	POST-TEST (mm)	Δ CHANGE (mm)
A	2727	-	2713	-14
B	653	-	665	12
C	1015	-	1018	3
D	4719	-	4722	3
E	204	-	204	0
F	216	213	214	1
G	188	180	168	-12
H	192	185	175	-10
I	205	199	192	-7
J1	169	162	153	-9
J2	208	203	195	-8
K	263	255	257	2
L	317	-	317	0
M	293	280	291	11
N	650	-	618	-32
O	1390	-	1367	-23
P	372	-	359	-13
Q	428	-	406	-22
R	4395	-	4409	14
S	4395	-	4396	1
T	1812	-	1703	-109

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



LEFT SIDE VIEW

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

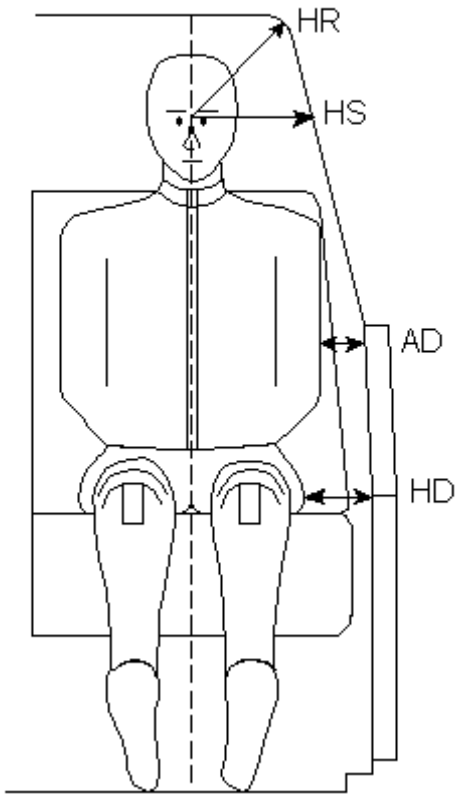
	DRIVER ID# 058	LEFT REAR PASSENGER ID# N/a
HH	406	N/a
HW	619	N/a
HZ	124	N/a
NR/NB	484	N/a
CD/CB	559	N/a
CS	345	N/a
KDL(KDA°)/KBL(KDA°)	145/32.5	N/a
KDR(KDA°)/KBR(KDA°)	131/37	N/a
PA°	24.0	N/a
PHX	479	N/a
PHZ	173	N/a

Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-Pillar striker as a reference point

DATASHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



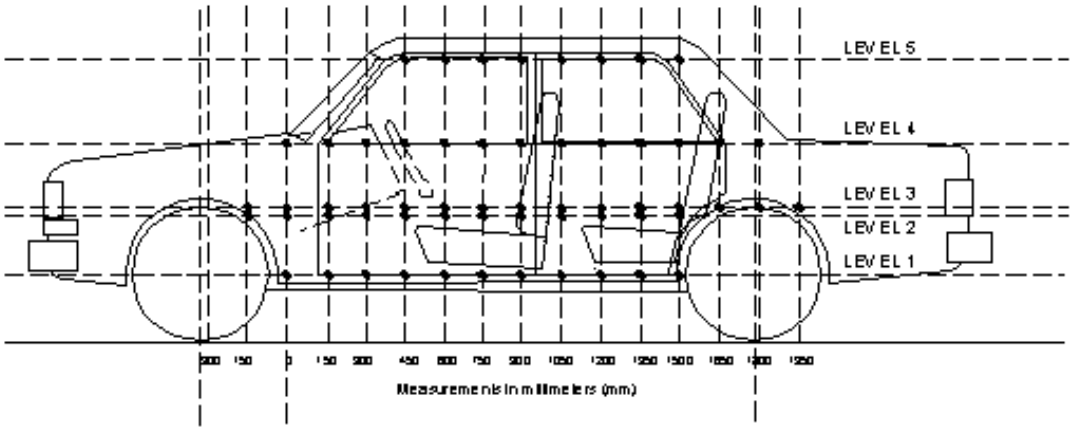
NOTE: All dimensions are in millimeters with tolerance of ±3 mm

	DRIVER ID# 058		LEFT REAR PASSENGER ID# N/a	
HR	171		N/a	
HS	280		N/a	
AD	Upper 144	Lower 82	Upper N/a	Lower N/a
HD	184		N/a	

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



LEFT SIDE VIEW

LEVEL 5 = WINDOW TOP
LEVEL 4 = WINDOW SILL
LEVEL 3 = MID-DOOR
LEVEL 2 = OCCUPANT H-POINT
LEVEL 1 = AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION
Measurements along the Vertical 750 mm line as shown

Level 5 @ Window Top	1244 mm
Level 4 @ Window Sill	910 mm
Level 3 @ Mid-Door	595 mm
Level 2 @ Occupant H-Point	468 mm
Level 1 @ Axle Centerline or Sill Top Height	205 mm

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES – ALL LEVELS

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

Note: All Dimensions are in millimeters with a tolerance of ±3 mm

			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																										
HEIGHT			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
LEVEL 1	205	PRE	0	0	0	0	0	0	258	255	255	250	250	248	247	247	247	247	247	250	256	0	0	0	0	0	0	0	0
		POST	0	0	0	0	0	0	271	267	271	270	274	275	272	270	269	269	268	266	268	0	0	0	0	0	0	0	0
		CRUSH	0	0	0	0	0	0	13	12	16	20	24	27	25	23	22	22	21	16	12	0	0	0	0	0	0	0	0
LEVEL 2	468	PRE	216	0	0	0	0	0	172	169	167	164	161	160	158	159	160	161	163	165	167	172	0	0	0	0	210	226	245
		POST	220	0	0	0	0	0	230	282	329	350	344	338	333	328	317	308	292	279	240	191	0	0	0	0	212	226	243
		CRUSH	4	0	0	0	0	0	58	113	162	186	183	178	175	169	157	147	129	114	73	19	0	0	0	0	2	0	-2
LEVEL 3	595	PRE	217	178	0	0	0	0	159	158	153	152	150	149	148	148	149	150	152	155	160	160	0	0	0	0	205	223	241
		POST	214	181	0	0	0	0	214	265	298	303	305	310	322	325	327	327	278	244	245	188	0	0	0	0	209	226	243
		CRUSH	-3	3	0	0	0	0	55	107	145	151	155	161	174	177	178	177	126	89	85	28	0	0	0	0	4	3	2
LEVEL 4	910	PRE	324	302	285	276	263	256	249	245	238	235	234	231	230	231	233	233	235	237	242	249	255	264	273	285	300	318	339
		POST	325	304	291	284	274	268	266	267	282	273	291	290	302	317	308	297	289	288	280	270	270	280	288	298	312	323	344
		CRUSH	1	2	6	8	11	12	17	22	44	38	57	59	72	86	75	64	54	51	38	21	15	16	15	13	12	5	5
LEVEL 5	1244	PRE	0	0	0	0	0	0	0	0	0	0	0	0	487	485	482	475	468	457	449	0	0	0	0	0	0	0	0
		POST	0	0	0	0	0	0	0	0	0	0	0	0	500	493	489	482	472	459	450	0	00	0	0	0	0	0	0
		CRUSH	0	0	0	0	0	0	0	0	0	0	0	0	13	8	7	7	4	2	1	0	0	0	0	0	0	0	0

DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

SIDE PROFILE LEVEL 1

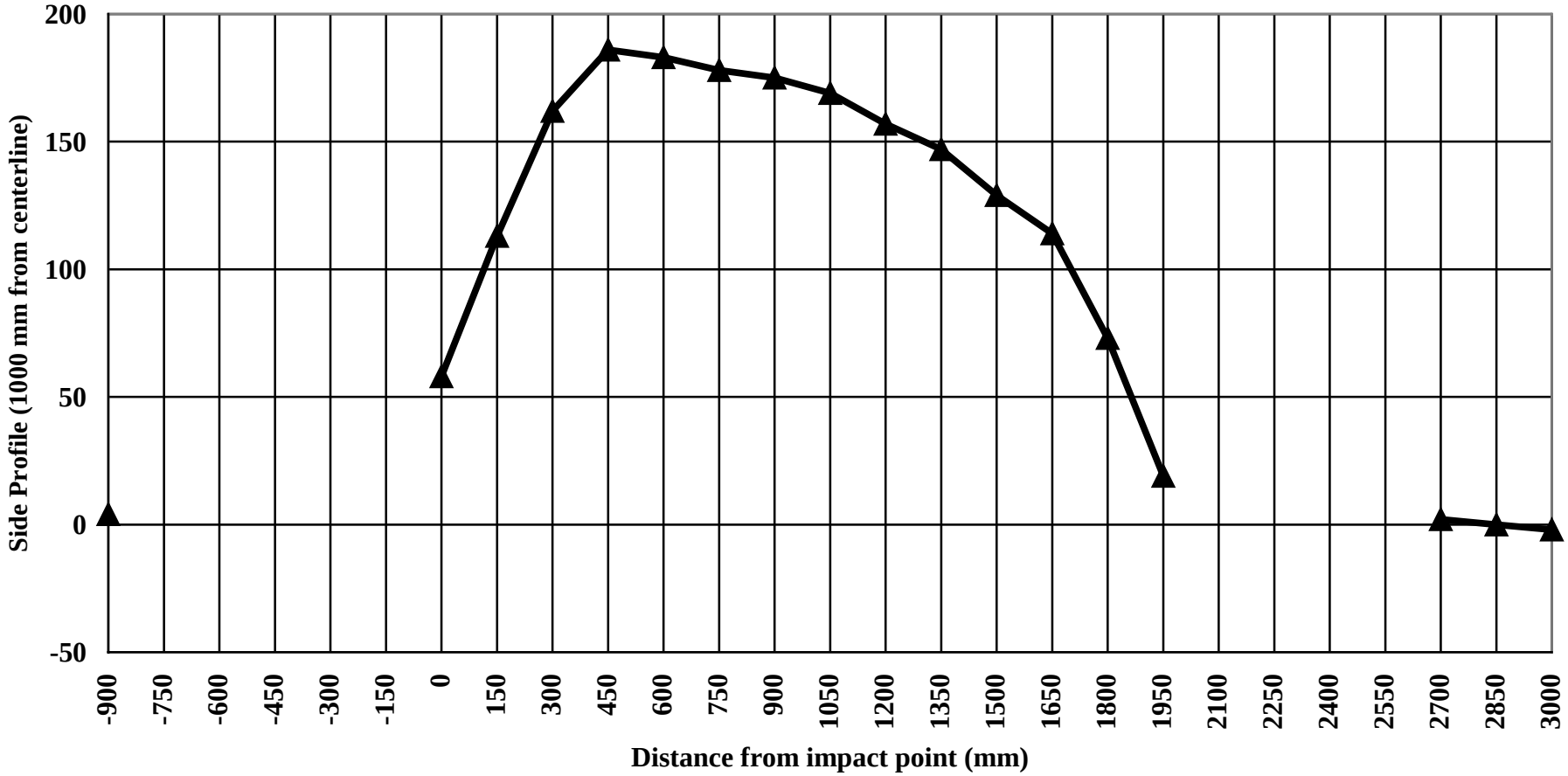
205 mm above ground

DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

SIDE PROFILE LEVEL 2 -
468 mm above ground



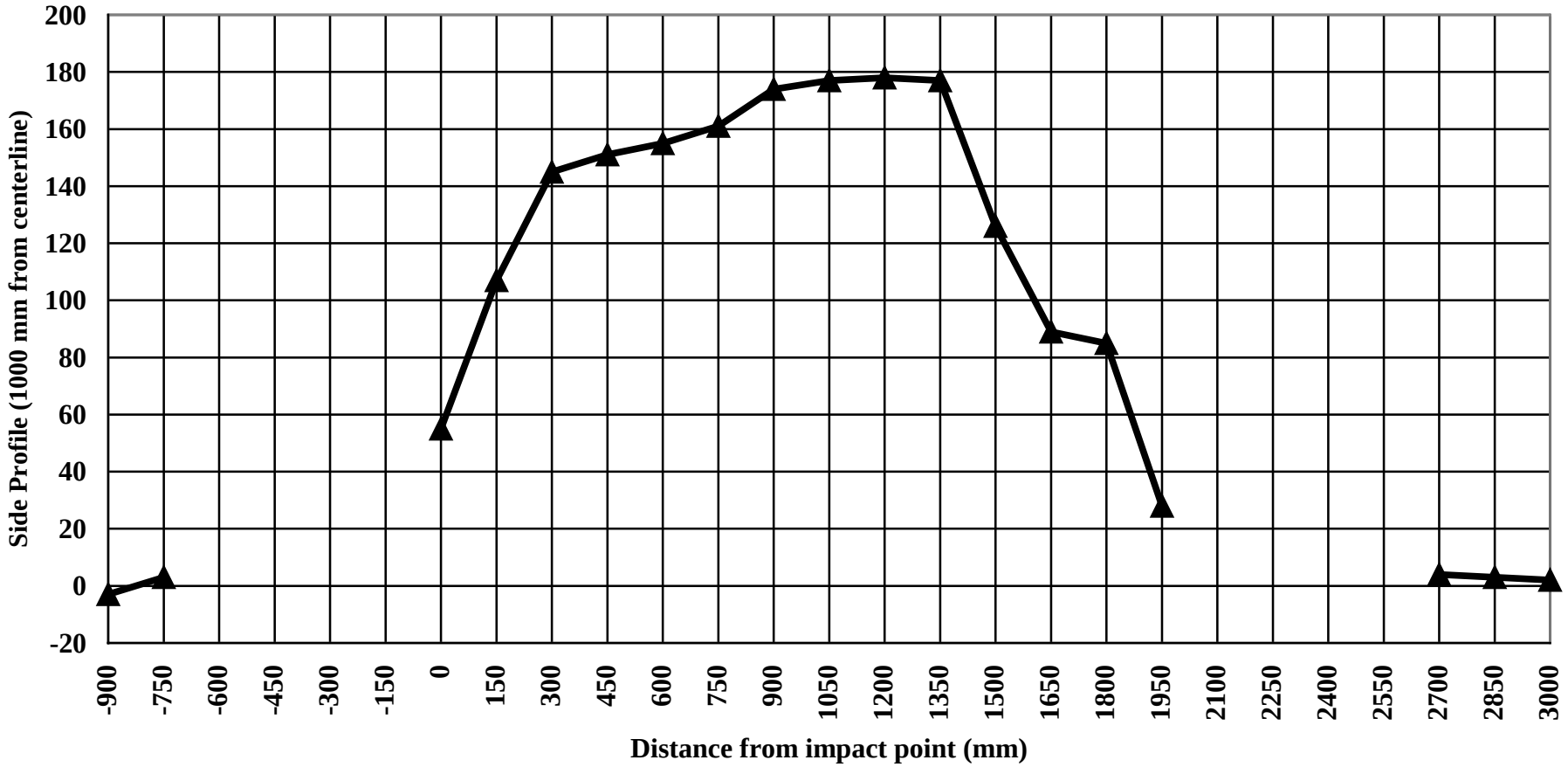
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

SIDE PROFILE LEVEL 3

595 mm above ground



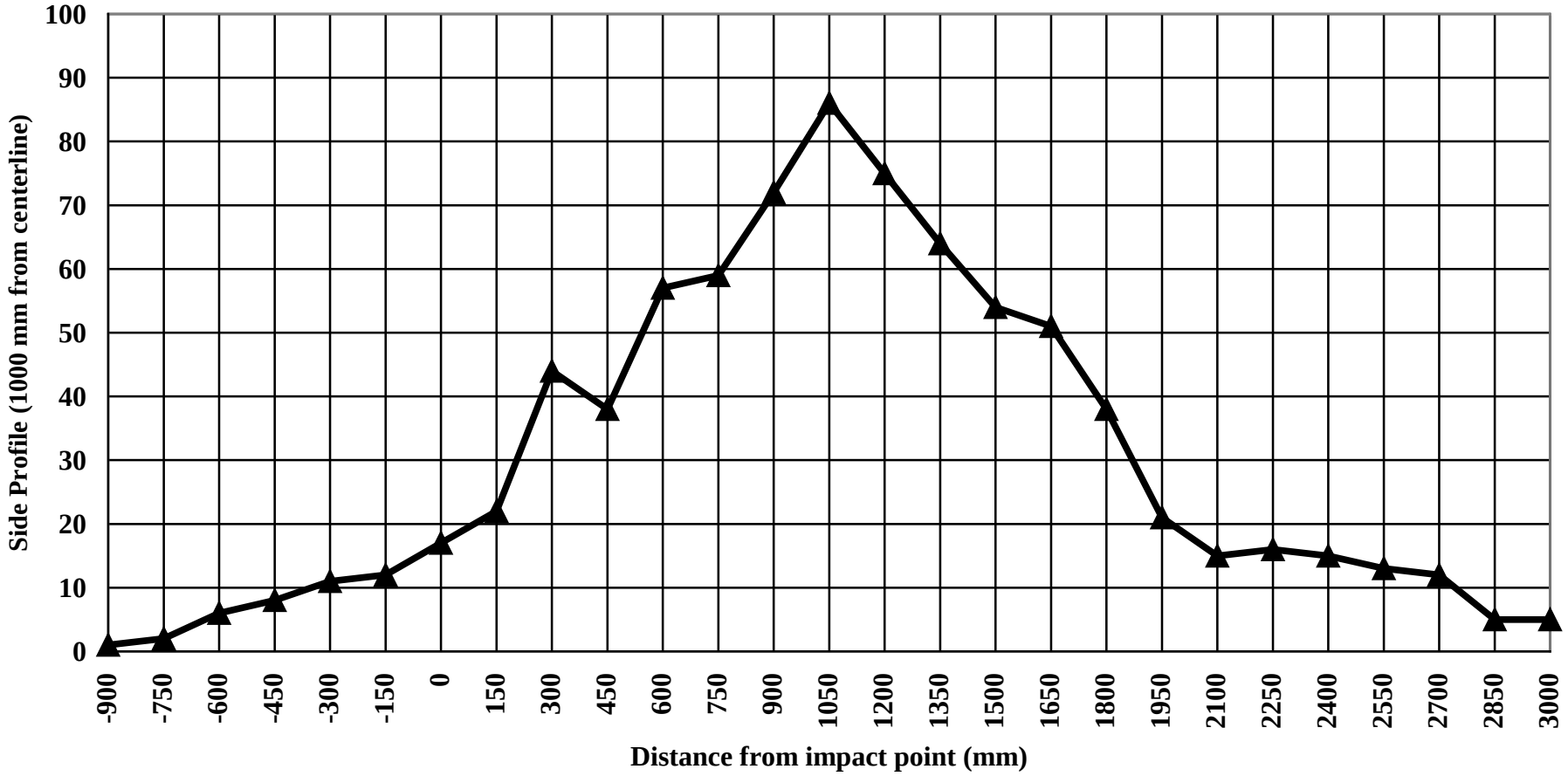
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

SIDE PROFILE LEVEL 4

910 mm above ground



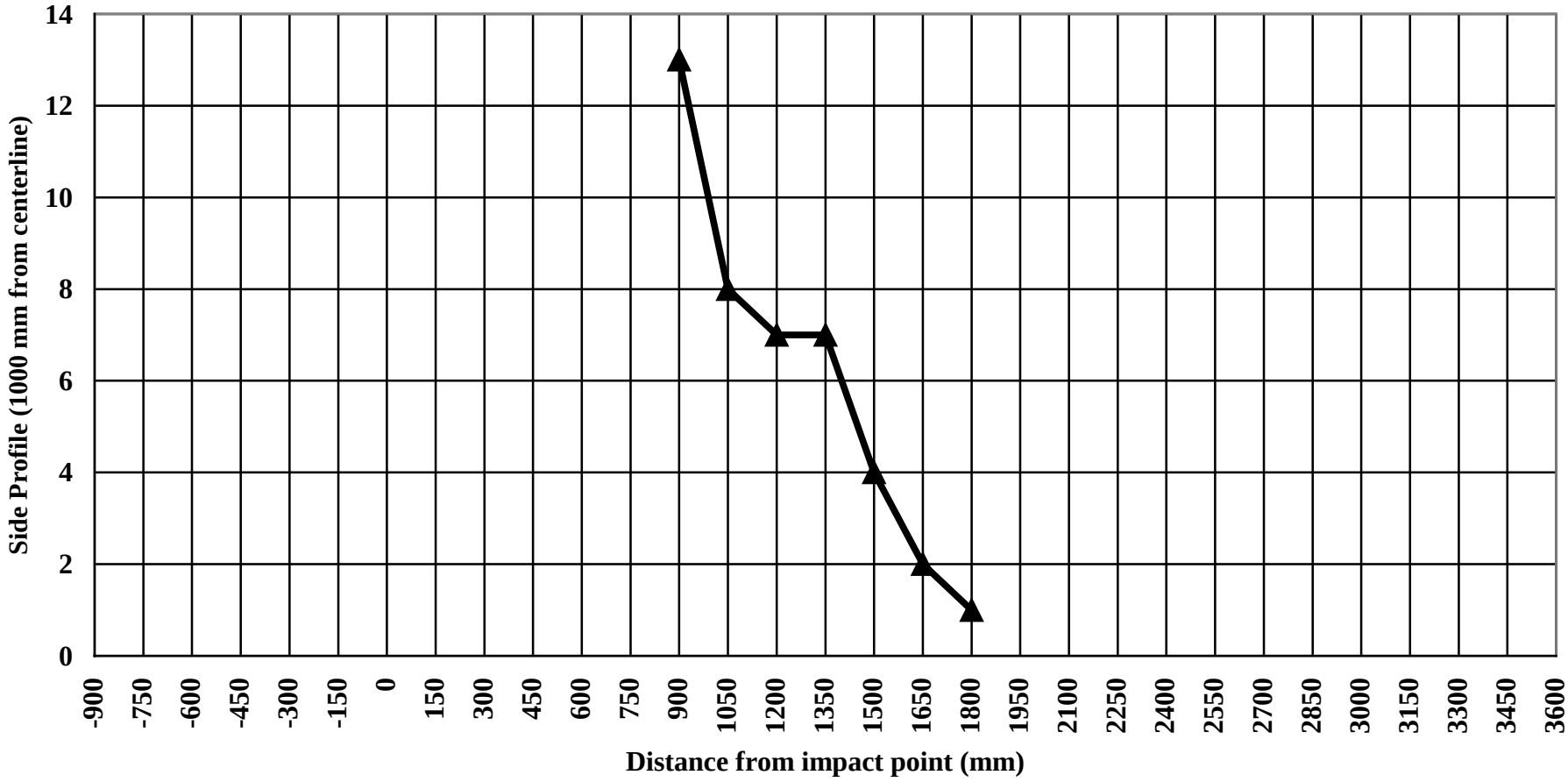
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

SIDE PROFILE LEVEL 5

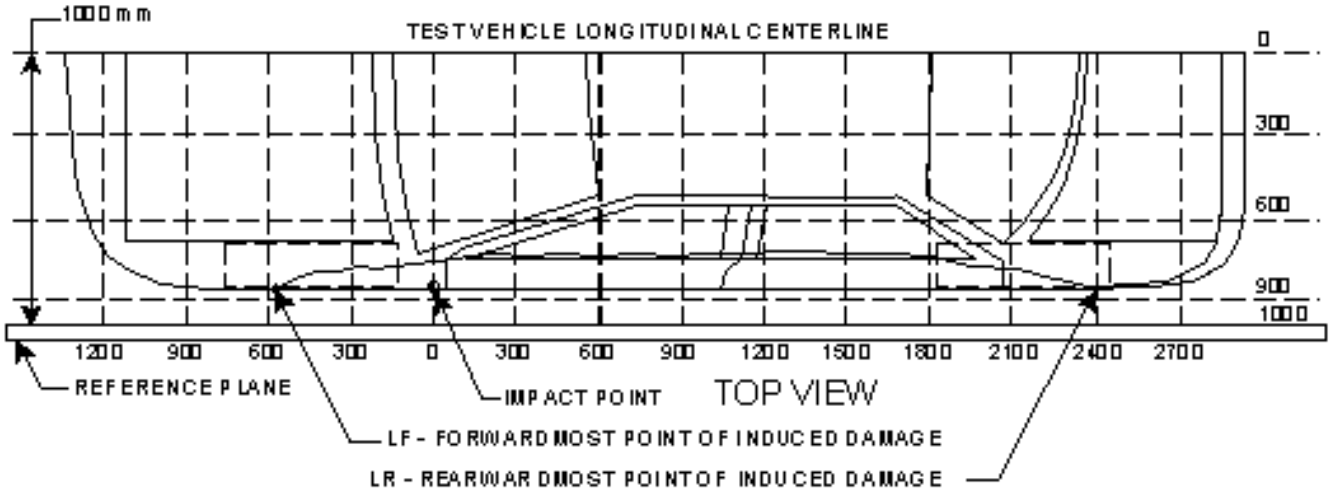
1244 mm above ground



DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



DPD MEASUREMENTS (mm)		POST-TEST (mm)	PRE-TEST (mm)	STATIC CRUSH (mm)
1	1 (-300)	180	180	0
2	2 (180)	292	181	111
3	3 (660)	339	182	157
4	4 (1140)	320	184	136
5	5 (1620)	278	183	95
6	6 (2100)	182	182	0

DATA SHEET 12

STATIC CRUSH OF IMPACTOR FACE
(Grid as looking at MDB from front)

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

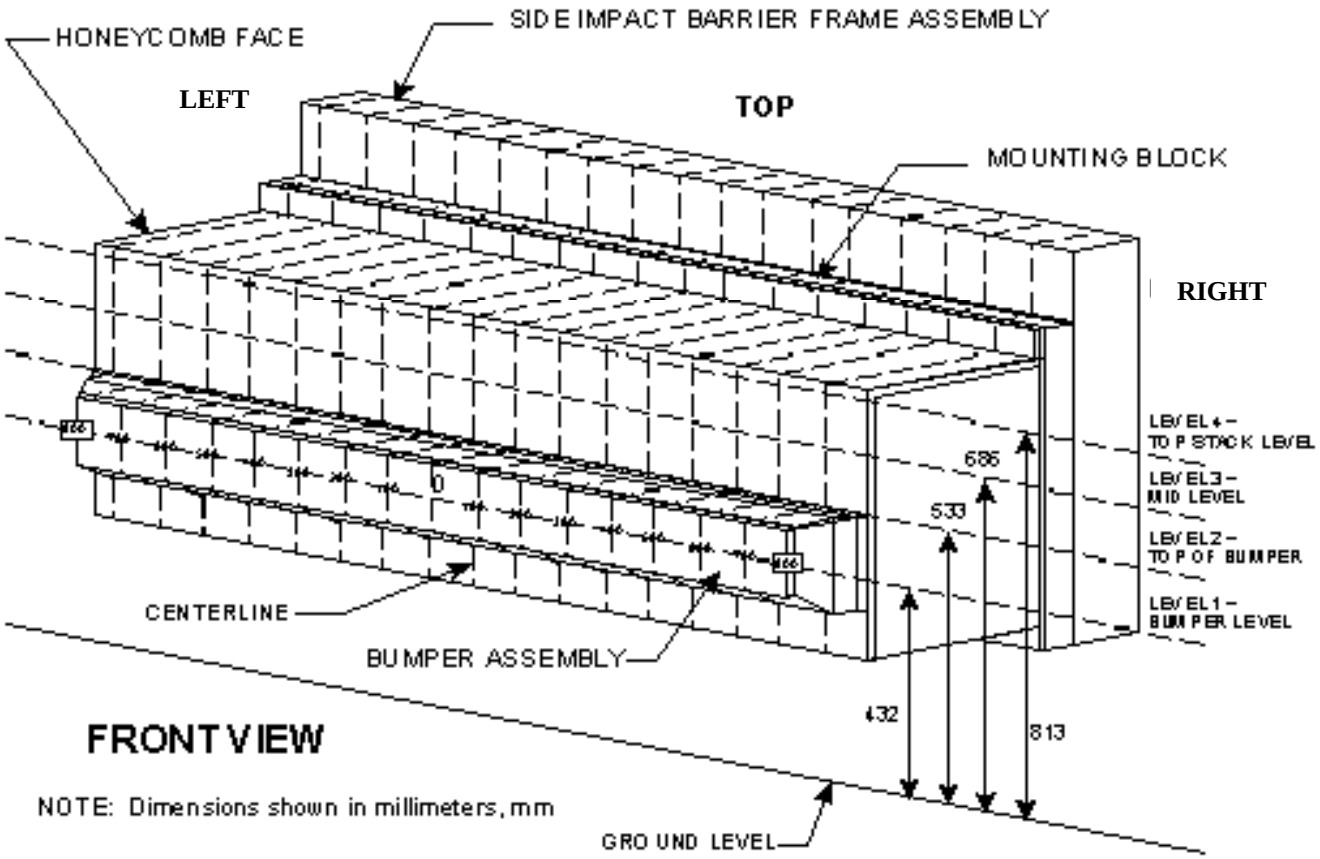
Note: All Dimensions are in millimeters with a tolerance of ±3 mm

LEVEL	HEIGHT AT CL (mm)		DISTANCE LEFT OF CENTER									DISTANCE RIGHT OF CENTER							
			800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
LEVEL 4 TOP STACK	810	PRE-	583	582	582	581	581	581	580	580	580	580	579	579	579	579	578	578	578
		POST-	815	780	730	690	648	641	631	612	623	639	653	667	677	698	730	740	762
		CRUSH	232	198	148	109	67	60	51	32	43	59	74	88	98	119	152	162	184
LEVEL 3 MID-LEVEL	685	PRE-	580	580	580	579	579	579	578	578	578	578	577	577	577	576	576	576	576
		POST-	808	790	736	685	656	633	620	611	612	615	620	628	644	670	717	708	715
		CRUSH	228	210	156	106	77	54	42	33	34	37	43	51	67	94	141	132	139
LEVEL 2 TOP BUMPER	560	PRE-	578	577	577	577	576	576	576	576	576	576	575	575	575	575	575	574	574
		POST-	805	799	762	747	720	705	689	687	688	693	697	697	698	711	710	713	714
		CRUSH	227	222	185	170	144	129	113	111	112	117	122	122	123	136	135	139	140
LEVEL 1 MID-BUMPER	432	PRE-	484	473	473	473	472	472	472	472	472	472	472	471	471	471	471	470	483
		POST-	758	736	714	689	670	655	643	637	638	640	642	642	645	656	672	660	673
		CRUSH	274	263	241	216	198	183	171	165	166	168	170	171	174	185	201	190	190

DATA SHEET 12 (continued)

STATIC CRUSH OF IMPACTOR FACE

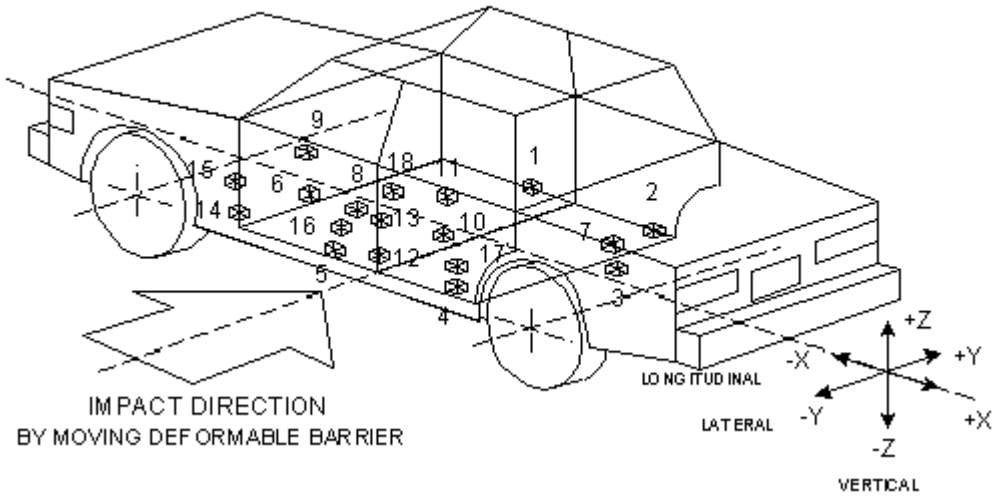
Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



1. Right Side Sill at Front Seat	10. Mid-rear of Left Rear Door
2. Right Side Sill at Rear Seat	11. Left Rear Door Upper Centerline
3. Rear Floorpan Above Axle	12. Left Lower B-Pillar
4. Left Side Sill at Rear Seat	13. Left Middle B-Pillar
5. Left Side Sill at Front Seat	14. Left Lower A-Pillar
6. Left Front Door on Centerline	15. Left Middle A-Pillar
7. Right Rear Occupant Compartment	16. Front Seat Track
8. Mid-rear of Left Front Door	17. Rear Seat Track
9. Left Front Door Upper Centerline	18. Vehicle CG

DATASHEET 13

VEHICLE ACCELEROMETER LOCATIONS AND SUMMARY DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
1	Right Side Sill at Front Seat	2360	685	447	2.5	54.6	-8.2	14.6	23.8	6.6	-1.3	194.6	5.9	18.9	-9.5	7.9	25.3	6.7
2	Right Side Sill at Rear Seat *	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
3	Rear Floorpan Above Axle	1125	0	10	2.0	55.7	-10.6	15.5	23.4	29.3	-2.2	79.8	10.8	18.6	-10.4	8.6	24.5	27.0
4	Left Side Sill at Rear Seat *	N/a	N/a	N/a					N/a	N/a	N/a	N/a						
5	Left Side Sill at Front Seat	2520	-670	425					21.1	9	-1.7	82.5						
6	Left Front Door on Centerline	2354	-758	175					151.8	4.6	-59.8	11.2						
7	Right Rear Occupant Compartment *	N/a	N/a	N/a					N/a	N/a	N/a	N/a						
8	Midrear of Left Front Door	2163	-760	155					161.2	4.5	-145.6	9.8						
9	Left Front Door Upper Centerline**	2361	-763	-247					161.0	12.5	-13.0	13.9						
10	Midrear of Left Rear Door *	N/a	N/a	N/a					N/a	N/a	N/a	N/a						

Axis Origin X – Front Bumper
Y – Vehicle Centerline
Z – Test Surface

Axis Orientation +(X) Rearward
+(Y) Right
+(Z) Up

* No rear seat in 2002 Ford Thunderbird

** Wire broken approximately 14 msec after impact

DATASHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND SUMMARY DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
11	Left Rear Door Upper Centerline *	N/a	N/a	N/a					N/a	N/a	N/a	N/a						
12	Left Lower B-Pillar	1960	-710	-160					29.6	35.8	-3.5	46.6						
13	Left Middle B-Pillar	1856	-720	40					42.9	35.4	-17.9	47.4						
14	Left Lower A-Pillar	2948	-665	110					86.3	3.7	-64.0	14.9						
15	Left Middle A-Pillar	3017	-701	-318					44.4	11.4	-9.2	50.0						
16	Front Seat Track	2050	-535	385					36.0	14.4	-19.5	21.8						
17	Rear Seat Track *	N/a	N/a	N/a					N/a	N/a	N/a	N/a						
18	Vehicle CG	1790	0	-5	9.3	43.2	-15.9	35.8	22.1	28.7	-1.6	134.8	33.2	36.0	-16.8	43.8	37.0	36.0

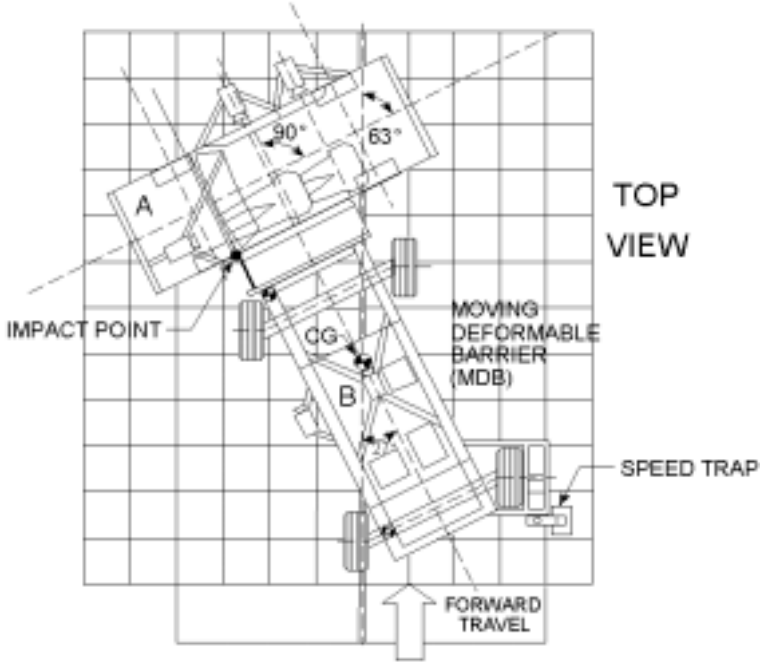
Axis Origin X – Front Bumper
Y – Vehicle Centerline
Z – Test Surface

Axis Orientation +(X) Rearward
+(Y) Right
+(Z) Up

* No rear seat in 2002 Ford Thunderbird

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY



Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
1	MDB Center of Gravity	1113	-1	311	14.4	0.0	-39	31.6	7.6	7.0	-24.8	9.9	15.6	49	-22.6	43	77.2	31.6
2	MDB Rear Frame Member	2812	-614	585	0.8	82.4	-28.5	38.9	4.8	19.3	-2.1	54.5						

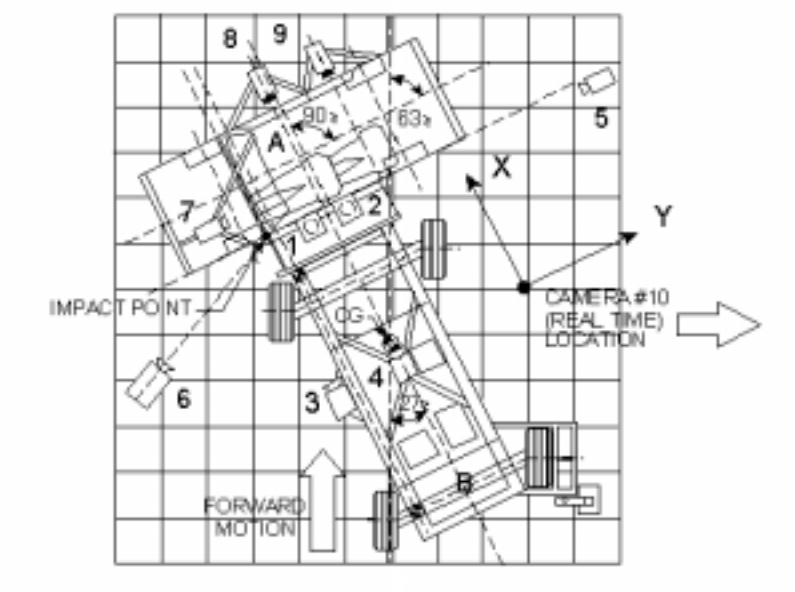
Axis Origin X – Front Bumper
Y – Vehicle Centerline
Z – Test Surface

Axis Orientation +(X) Rearward
+(Y) Right
+(Z) Up

DATA SHEET 15

HIGH-SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



Camera No.	View	Coordinates (mm)*			Angle wrt Horiz.	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead view of test vehicle	60	640	4727	-90	7	1000
2	Overhead close-up view of impact plane	500	1150	4733	-90	12	1000
3	MDB onboard close-up view of impact point	-2333	-60	-32	1	13	1000
4	MDB onboard view of driver dummy	-2262	840	468	-4	13	1000
5	Right side ground level overall view	730	13100	704	-4	45	1000
6	Left side ground level overall view	760	-3450	604	-10	13	1000
7	Test vehicle onboard driver front view	880	441	411	-10	10	1000
8	Test vehicle onboard driver side view	1723	1048	354	-8	7.5	1000
9	High speed video of left side of vehicle	-3004	-5349	953	-10	40	1000
10	Real-time film coverage of test	-	-	-	-	-	-

* Reference: (from point of impact)
+ X = Forward
+ Y = To Right
+ Z = Upward

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

FUEL SYSTEM INTEGRITY DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204

TEST REQUIREMENTS:

Drain the test vehicle's fuel system and operate the engine until the fuel system is dry. Add Stoddard solvent, which has been dyed purple, until 92-94% of the stated usable capacity is reached. Operate the engine to assure the Stoddard solvent is present throughout the entire fuel system.

TEST VEHICLE IMPACT TYPE: Side impacting Moving Deformable Barrier contacting the driver side.

FUEL SPILLAGE MEASUREMENT:

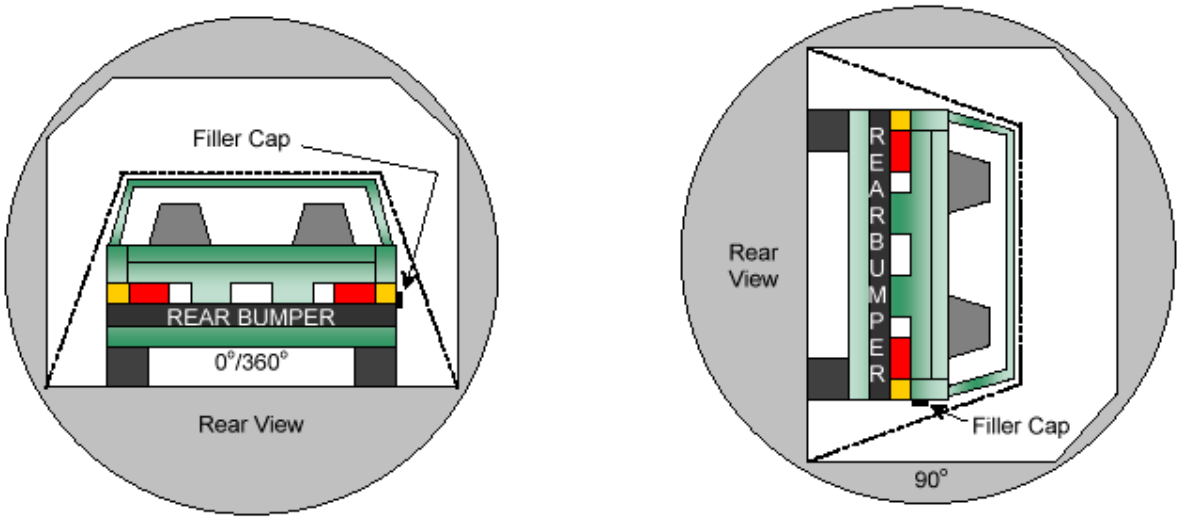
POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0	29.6 ml
2. For 5 minute period after vehicle motion ceases	0	147.9 ml
3. For next 25 minutes	0	29.6 ml / 1 min.

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



0° TO 90°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	1	minutes	6	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	5	minutes	0	seconds
TOTAL	6	minutes	6	seconds
Next whole minute interval	7	minutes		

FUEL SPILLAGE MEASUREMENT:

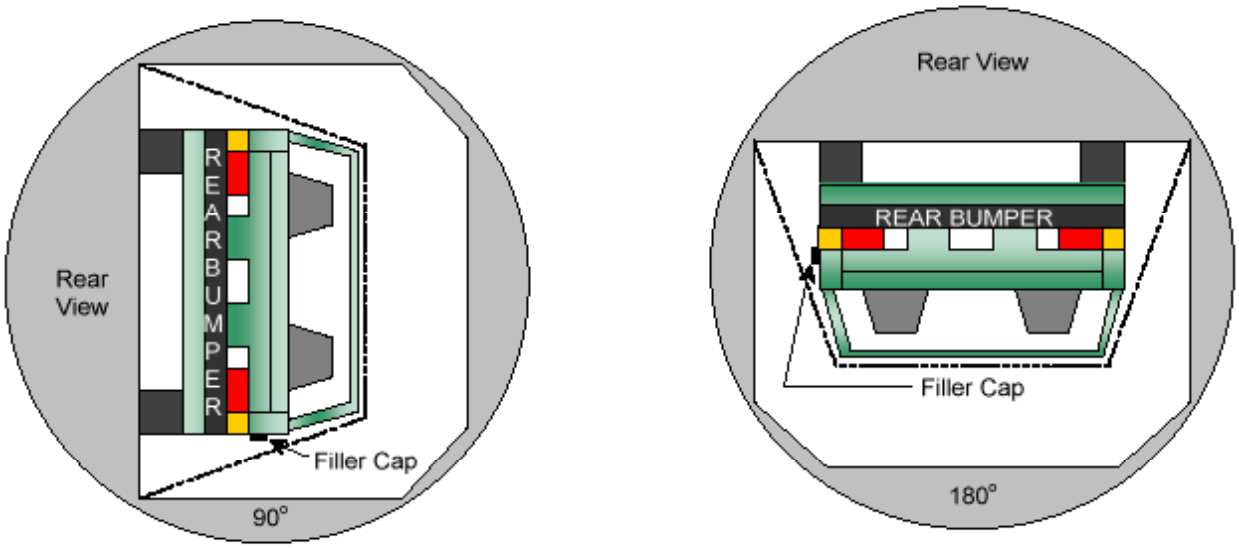
0° TO 90° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute if Required	-	29.6 ml

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



90° TO 180°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	1	minutes	6	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	5	minutes	0	seconds
TOTAL	6	minutes	6	seconds
Next whole minute interval	7	minutes		

FUEL SPILLAGE MEASUREMENT:

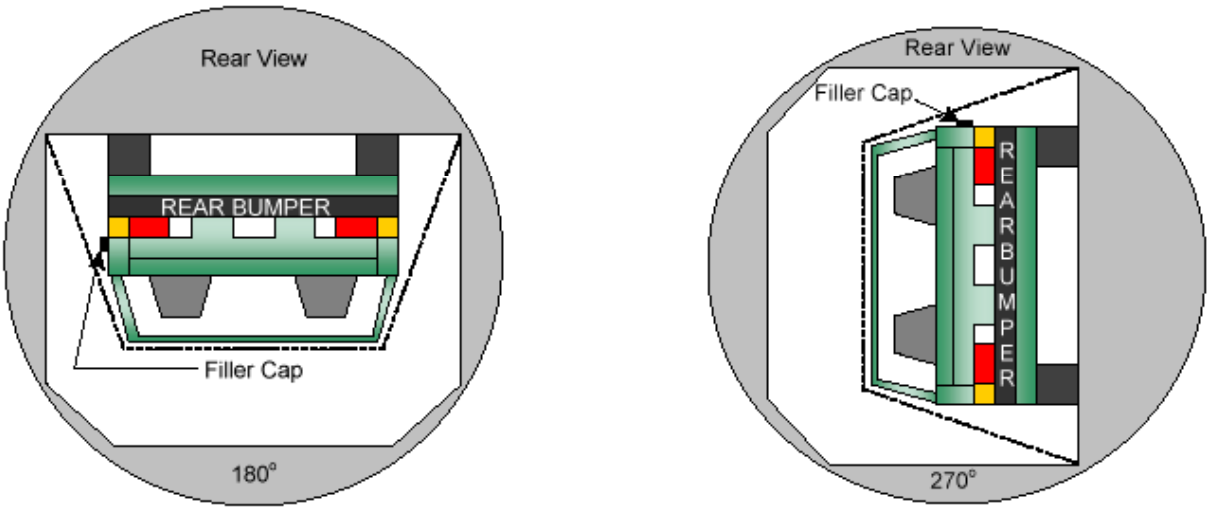
90° TO 180° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute if Required	-	29.6 ml

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



180° TO 270°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	1	minutes	8	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	5	minutes	10	seconds
TOTAL	6	minutes	18	seconds
Next whole minute interval	7	minutes		

FUEL SPILLAGE MEASUREMENT:

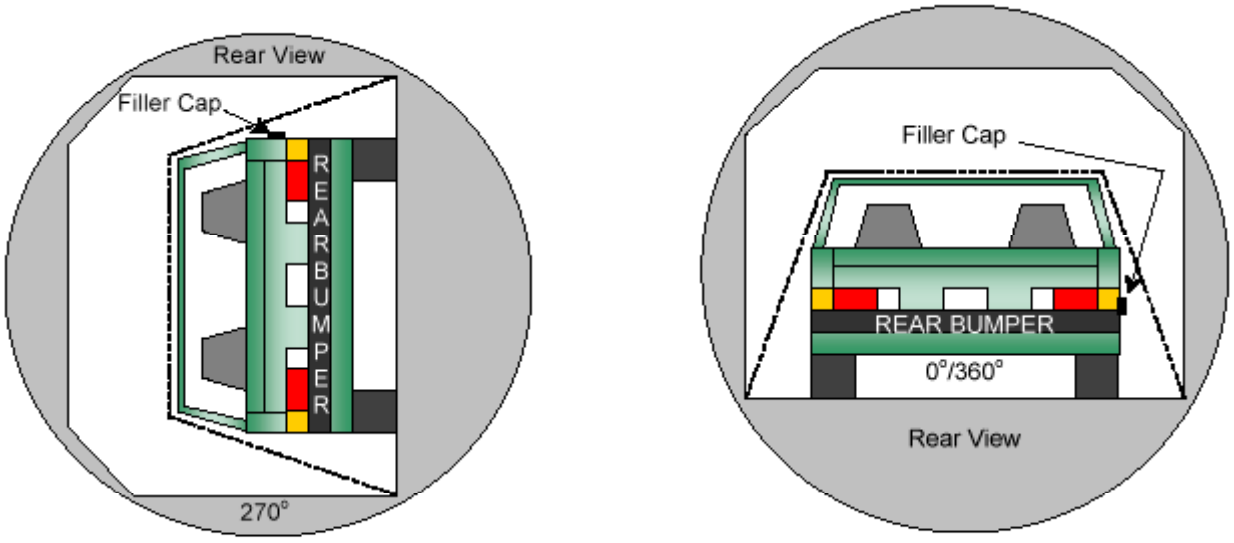
180° TO 270° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute From Onset of Rotation	-	29.6 ml

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

Vehicle: 2002 Ford Thunderbird Convertible NHTSA No. M2 0204



270° TO 360°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	1	minutes	4	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	5	minutes	0	seconds
TOTAL	6	minutes	4	seconds
Next whole minute interval	7	minutes		

FUEL SPILLAGE MEASUREMENT:

270° TO 360° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute if Required	-	29.6 ml

FUEL SPILLAGE LOCATION(S): None

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Figure A-1: PRE-TEST FRONTAL VIEW OF TEST VEHICLE

Figure A-2: POST-TEST FRONTAL VIEW OF TEST VEHICLE

Figure A-3: PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE

Figure A-4: POST-TEST LEFT FRONT VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-5: PRE-TEST LEFT SIDE VIEW OF TEST VEHICLE

Figure A-6: POST-TEST LEFT SIDE VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-7: PRE-TEST LEFT REAR VIEW OF TEST VEHICLE

Figure A-8: POST-TEST LEFT REAR VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-9: PRE-TEST REAR VIEW OF TEST VEHICLE

Figure A-10: POST-TEST REAR VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-11: PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE

Figure A-12: POST-TEST RIGHT REAR VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-13: PRE-TEST RIGHT SIDE VIEW OF TEST VEHICLE

Figure A-14: POST-TEST RIGHT SIDE VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-15: PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE

Figure A-16: POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE (MDB MOVED)

Figure A-17: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID

Figure A-18: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID (MDB MOVED)

Figure A-19: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

Figure A-20: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID (MDB MOVED)

Figure A-21: PRE-TEST INTERIOR OF FRONT DOOR

Figure A-22: POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS

Figure A-23: PRE-TEST LEFT SIDE VIEW OF MDB IN IMPACT POSITION

Figure A-24: POST-TEST LEFT SIDE VIEW OF MDB

Figure A-25: PRE-TEST RIGHT SIDE VIEW OF MDB IN IMPACT POSITION

Figure A-26: POST-TEST RIGHT SIDE VIEW OF MDB

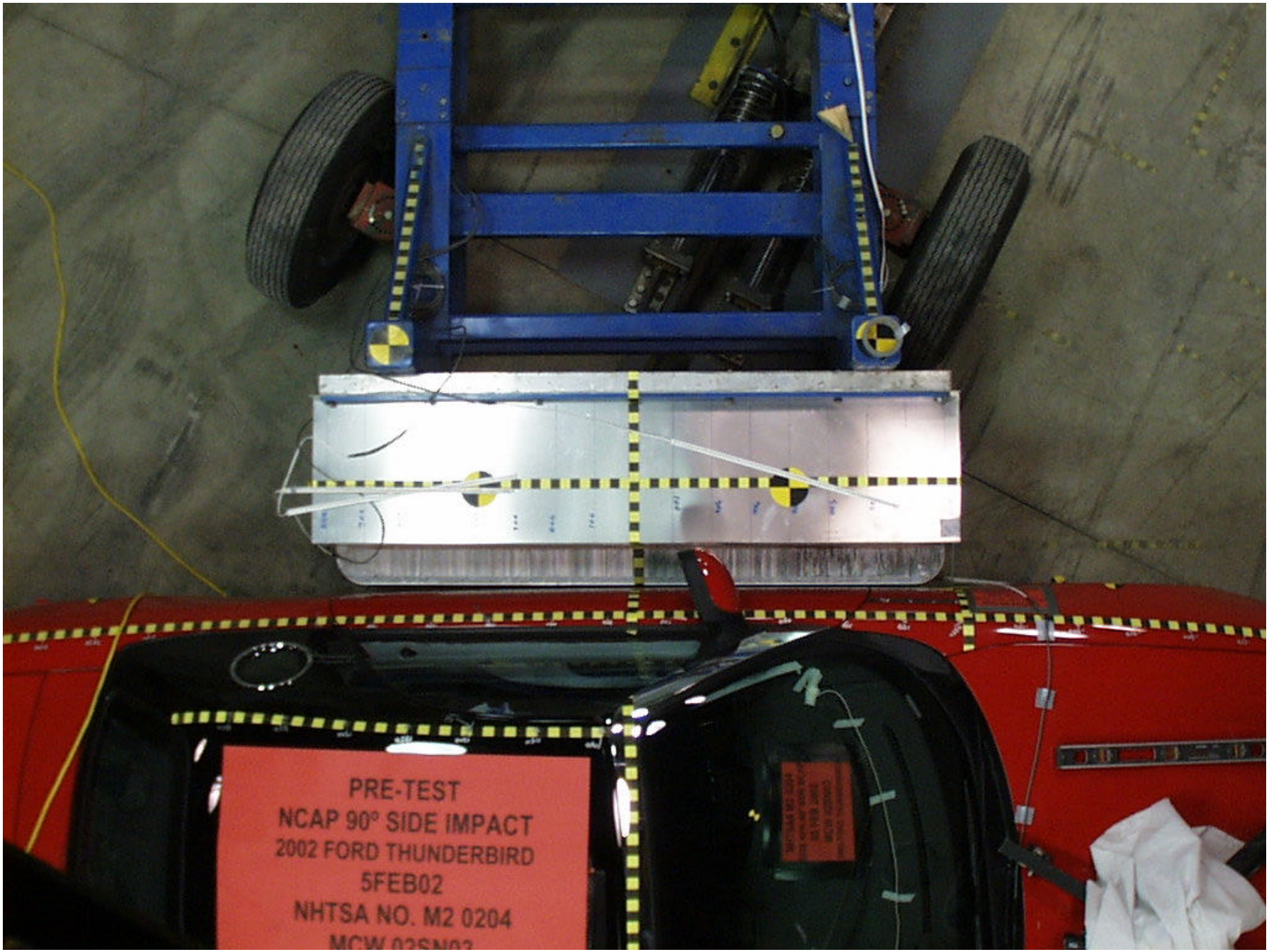


Figure A-27: PRE-TEST OVERHEAD VIEW OF MDB IN IMPACT POSITION

Figure A-28: POST-TEST OVERHEAD VIEW OF MDB

Figure A-29: PRE-TEST CLOSE-UP OF IMPACT POINT TARGET SHOWING WELDING ROD

Figure A-30: POST-TEST CLOSE-UP OF IMPACT POINT TARGET

Figure A-31: CLOSE-UP OF VEHICLE'S CERTIFICATION LABELS

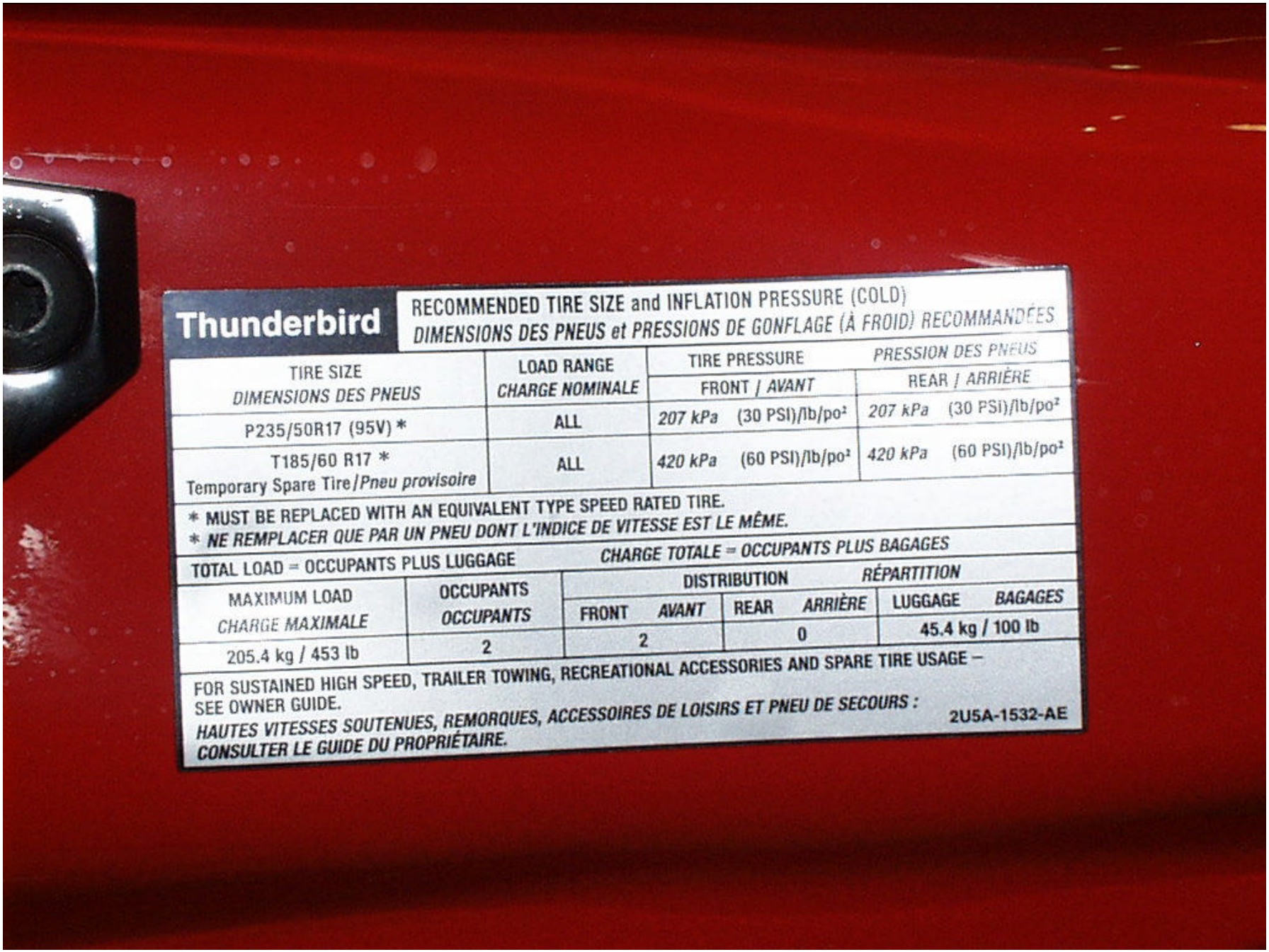


Figure A-32: CLOSE-UP OF VEHICLE'S TIRE PLACARD LABELS

Figure A-33: IMPACT

Figure A-34: ROLLOVER 0 DEGREES

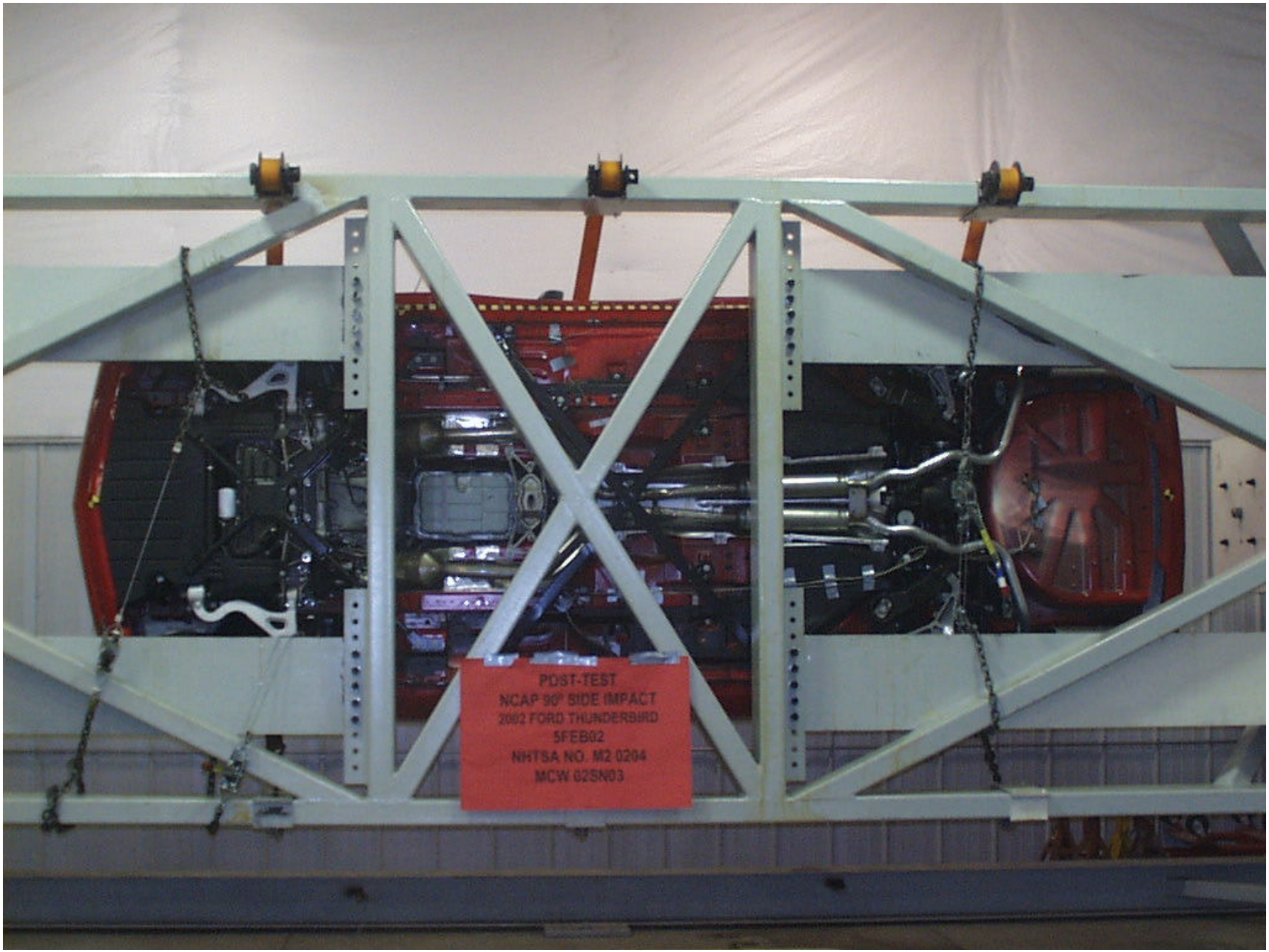


Figure A-35: ROLLOVER 90 DEGREES

Figure A-36: ROLLOVER 180 DEGREES

Figure A-37: ROLLOVER 270 DEGREES

Figure A-38: ROLLOVER 360 DEGREES

Figure A-39: PRE-TEST ALUMINUM BARRIER FRONT

Figure A-40: POST-TEST ALUMINUM BARRIER FRONT

Figure A-41: PRE-TEST ALUMINUM BARRIER LEFT SIDE

Figure A-42: POST-TEST ALUMINUM BARRIER LEFT SIDE

Figure A-43: PRE-TEST ALUMINUM BARRIER RIGHT SIDE

Figure A-44: POST-TEST ALUMINUM BARRIER RIGHT SIDE

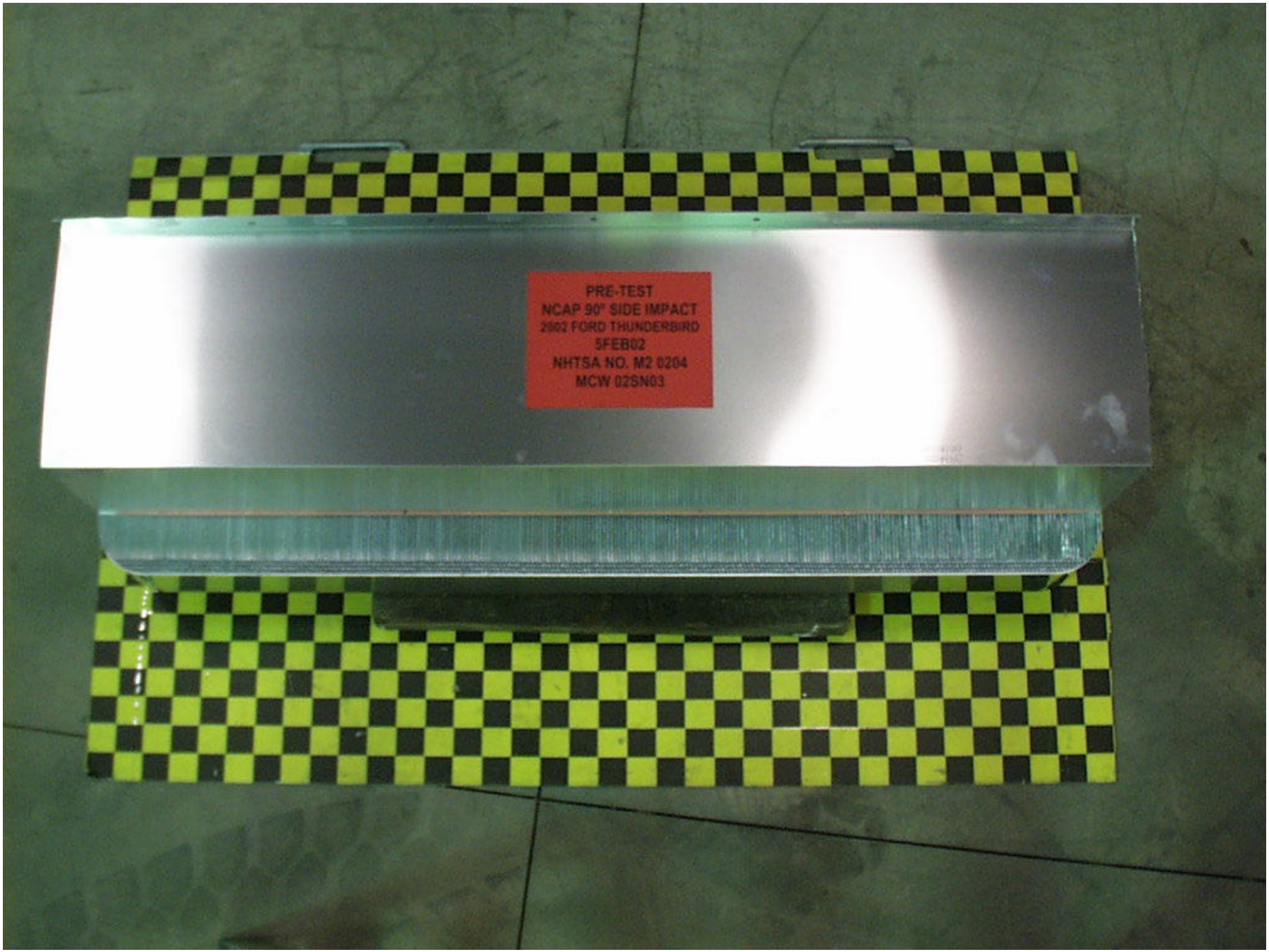


Figure A-45: PRE-TEST ALUMINUM BARRIER OVERHEAD

Figure A-46: POST-TEST ALUMINUM BARRIER OVERHEAD

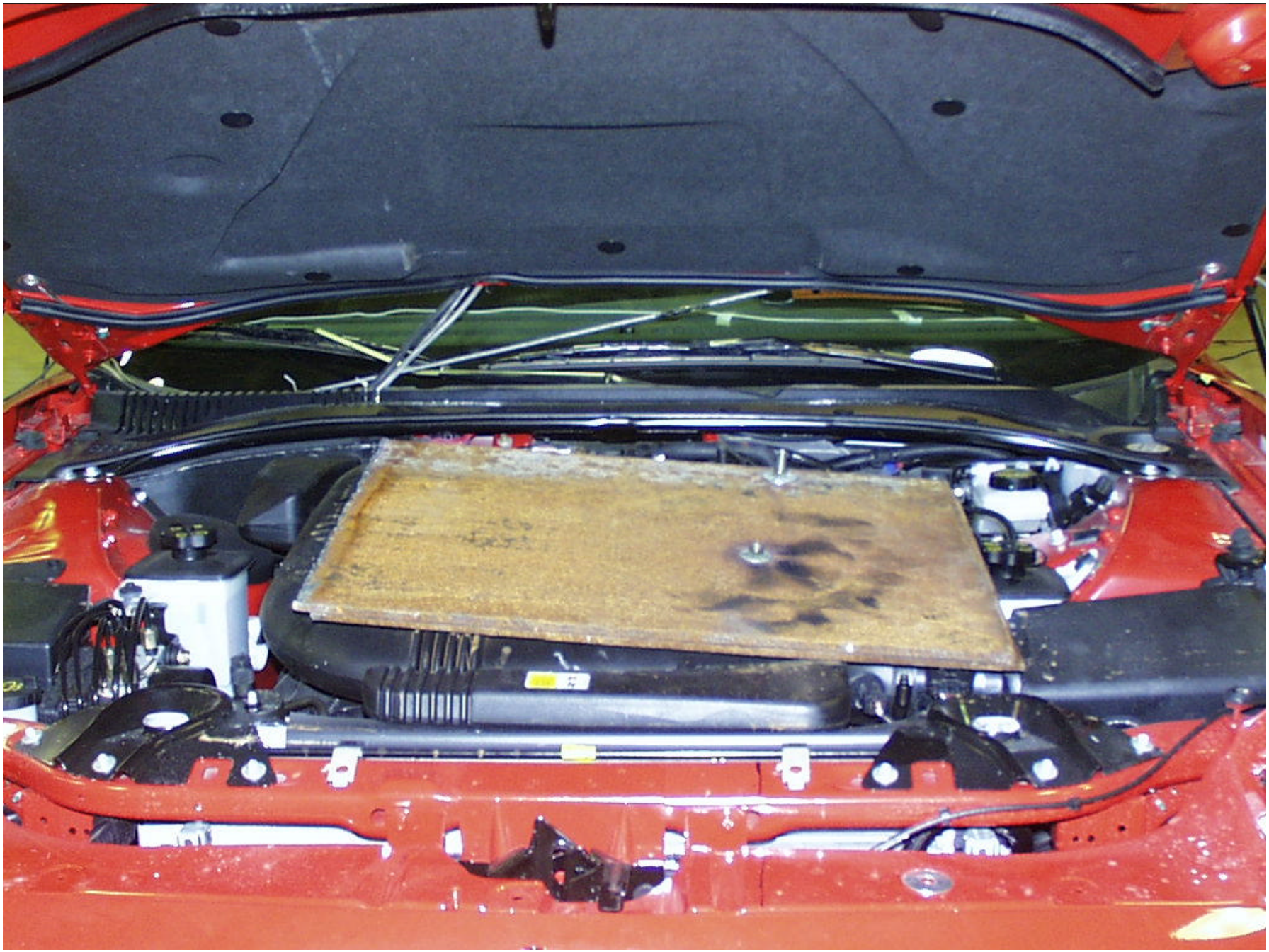


Figure A-47: BALLAST

APPENDIX B

VEHICLE, MDB, AND SID RESPONSE DATA

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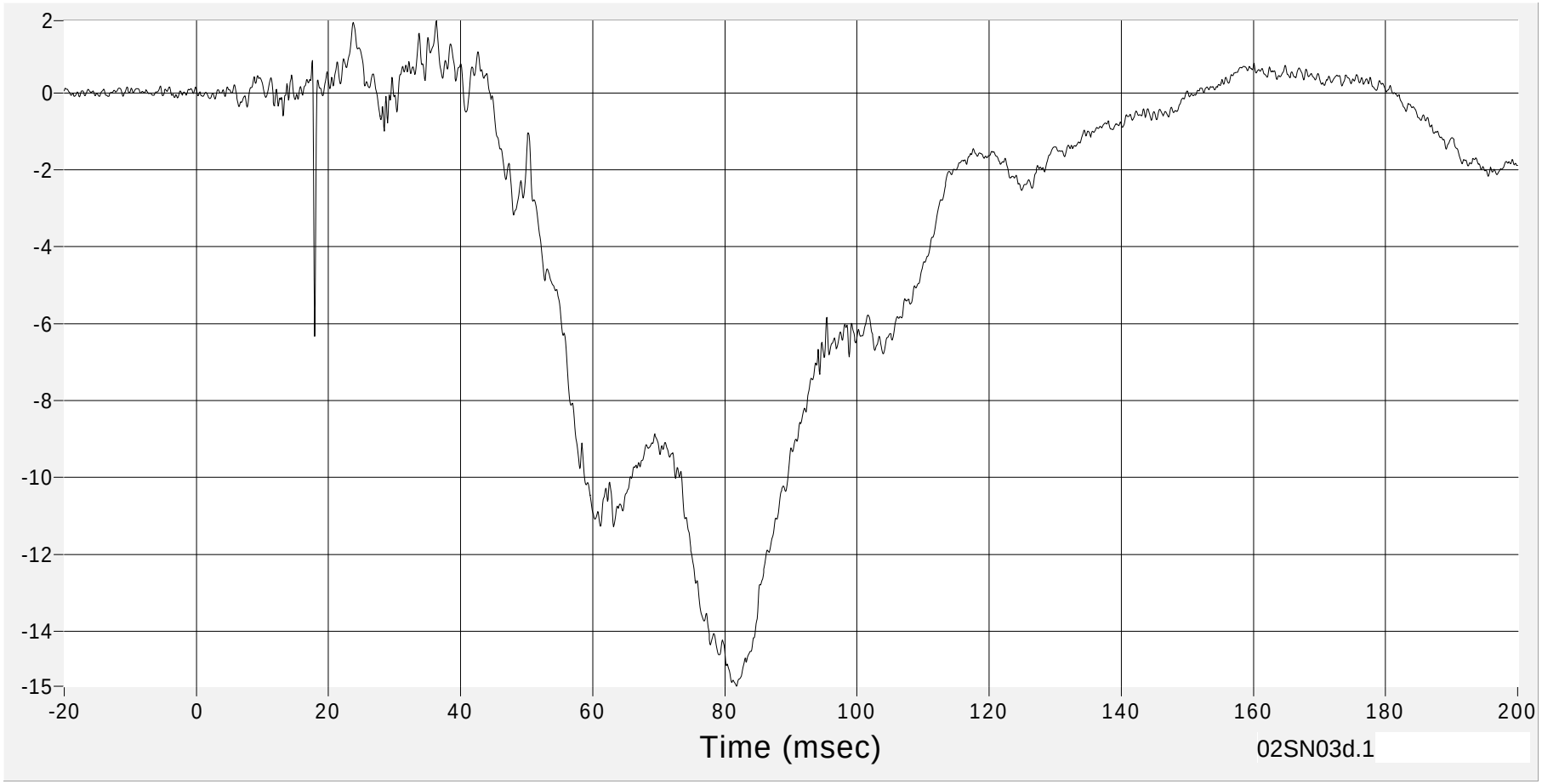
DRIVER DUMMY INSTRUMENTATION PLOT (REDUNDANT)
ACCELERATION DATA – FIR FILTERED

Driver Head CG (X) Acceleration

Max	**1.9**	**G's**	**at**	**36.3**	**msec**
Min	**-15.4**	**G's**	**at**	**81.8**	**msec**

Acceleration (G's) CFC1000



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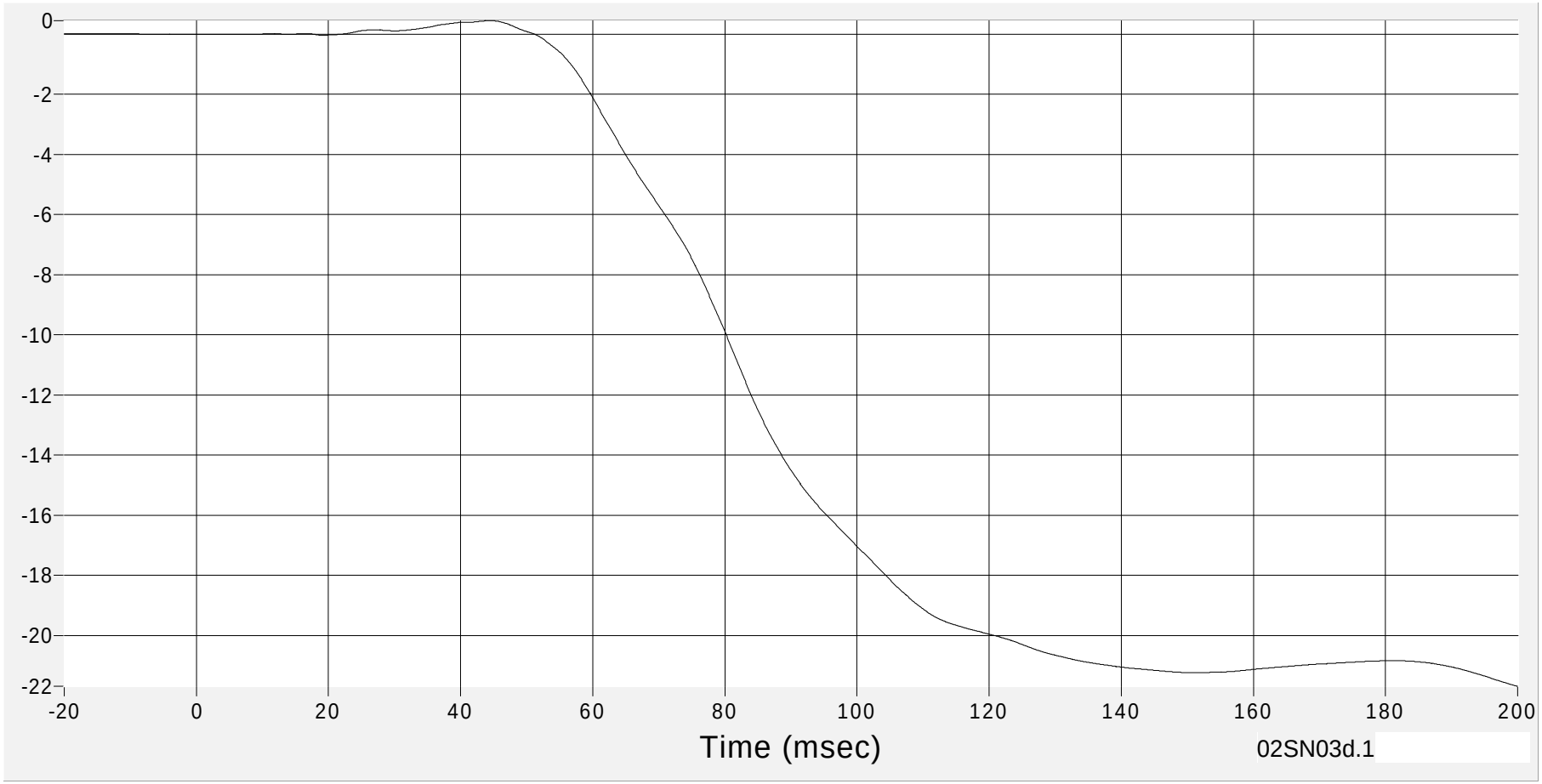
Driver Head CG (X) Velocity

Max	**0.4**	**km/h**	**at**	**44.5**	**msec**
Min	**-21.7**	**km/h**	**at**	**199.9**	**msec**

Velocity (km/h) CFC180



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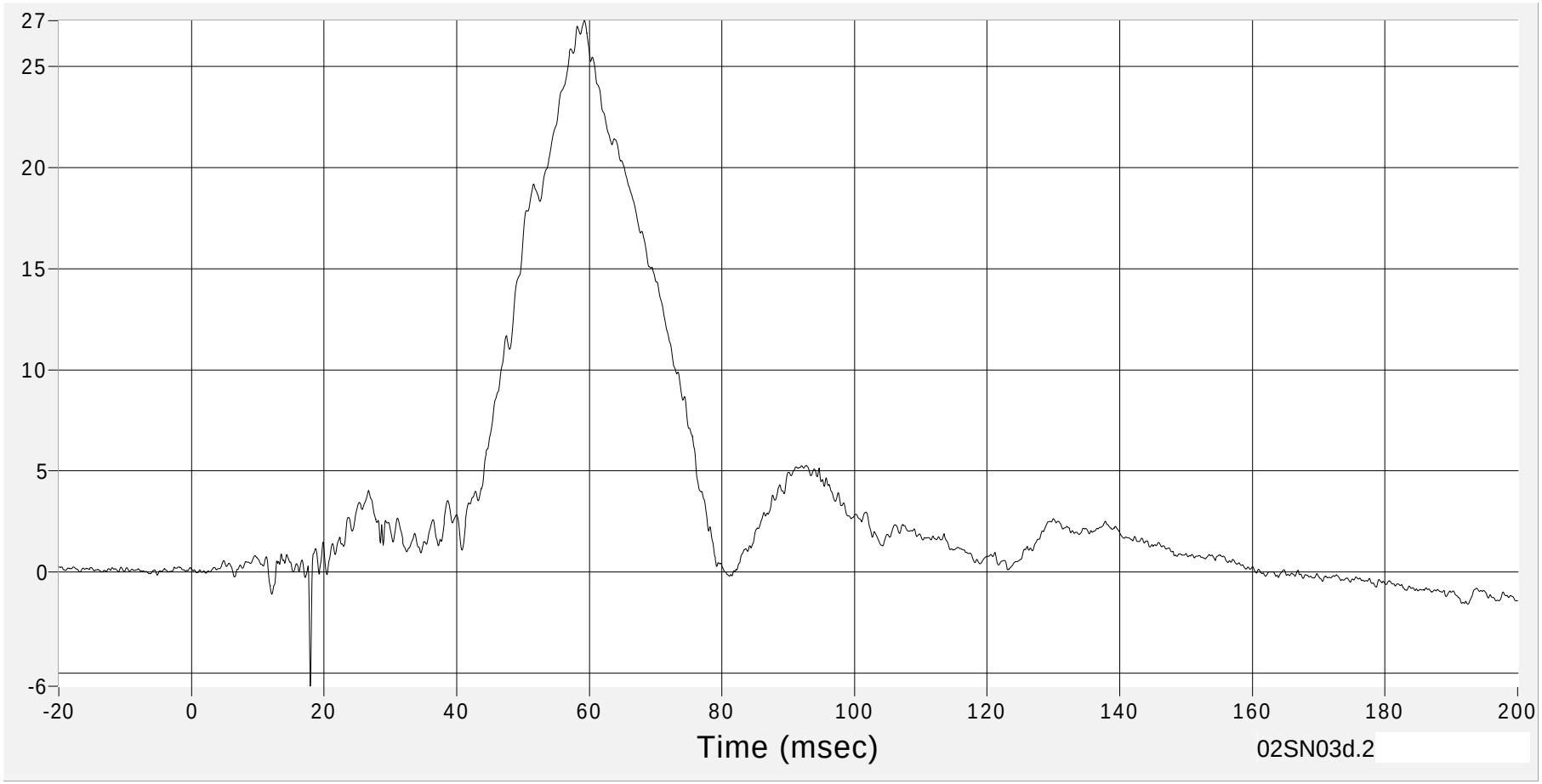
Driver Head CG (Y) Acceleration

Max	**27.3**	**G's**	**at**	**59.3**	**msec**
Min	**-5.6**	**G's**	**at**	**17.9**	**msec**

Acceleration (G's) CFC1000



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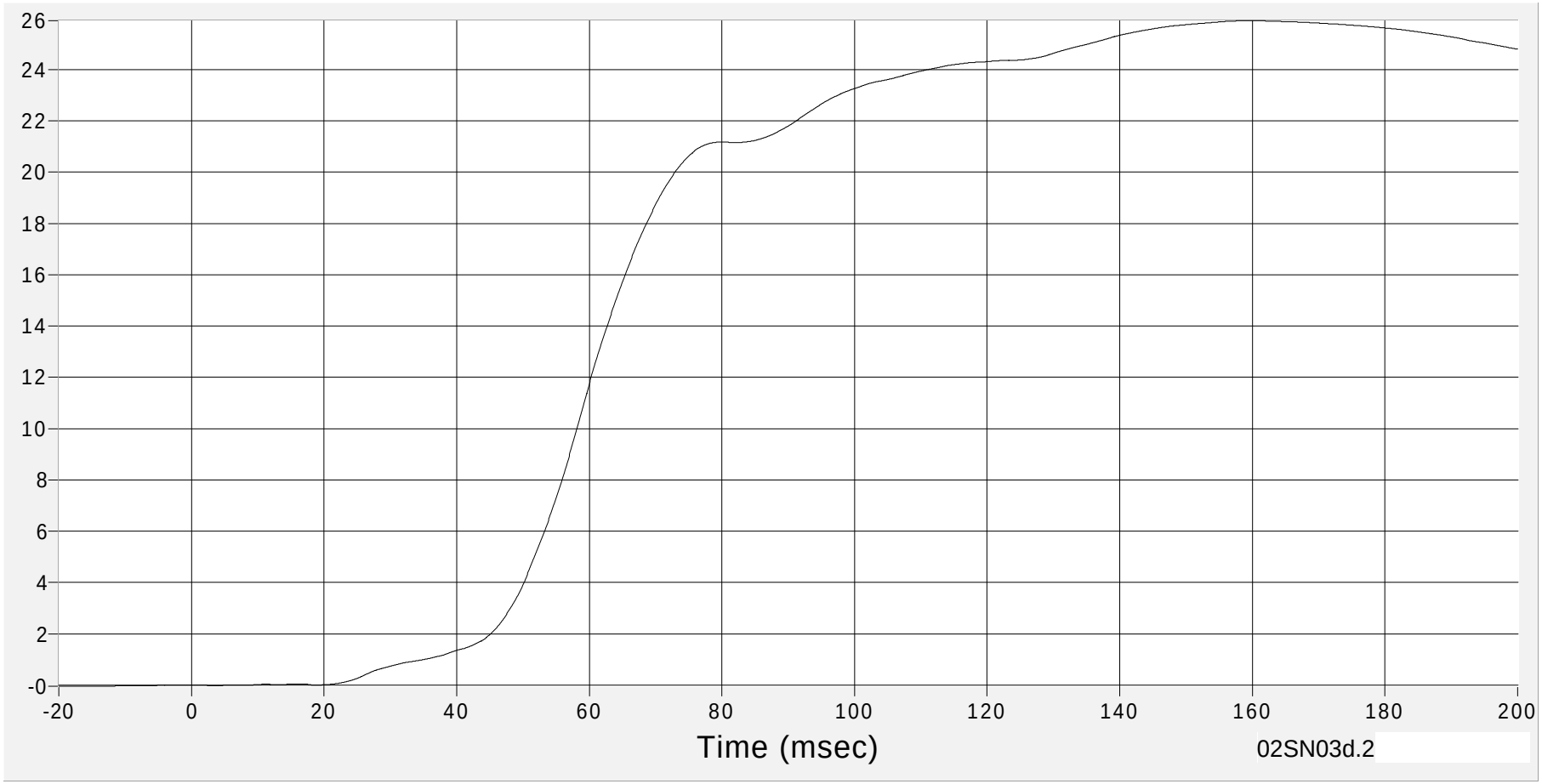
Driver Head CG (Y) Velocity

Max	**25.9**	**km/h**	**at**	**159.8**	**msec**
Min	**0.0**	**km/h**	**at**	**3.6**	**msec**

Velocity (km/h) CFC180



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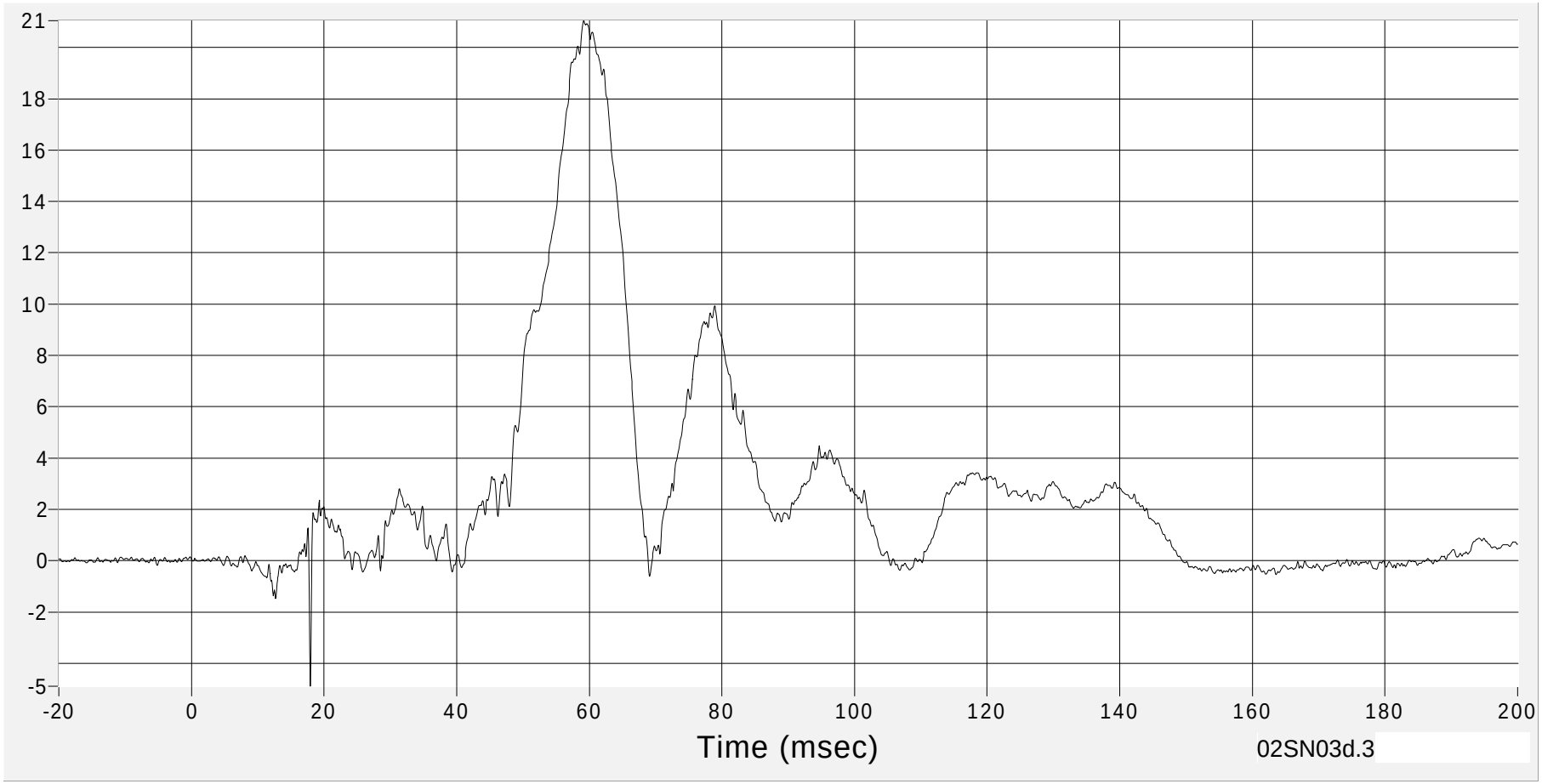
Driver Head CG (Z) Acceleration

Max	**21.0**	**G's**	**at**	**59.1**	**msec**
Min	**-4.9**	**G's**	**at**	**17.9**	**msec**

Acceleration (G's) CFC1000



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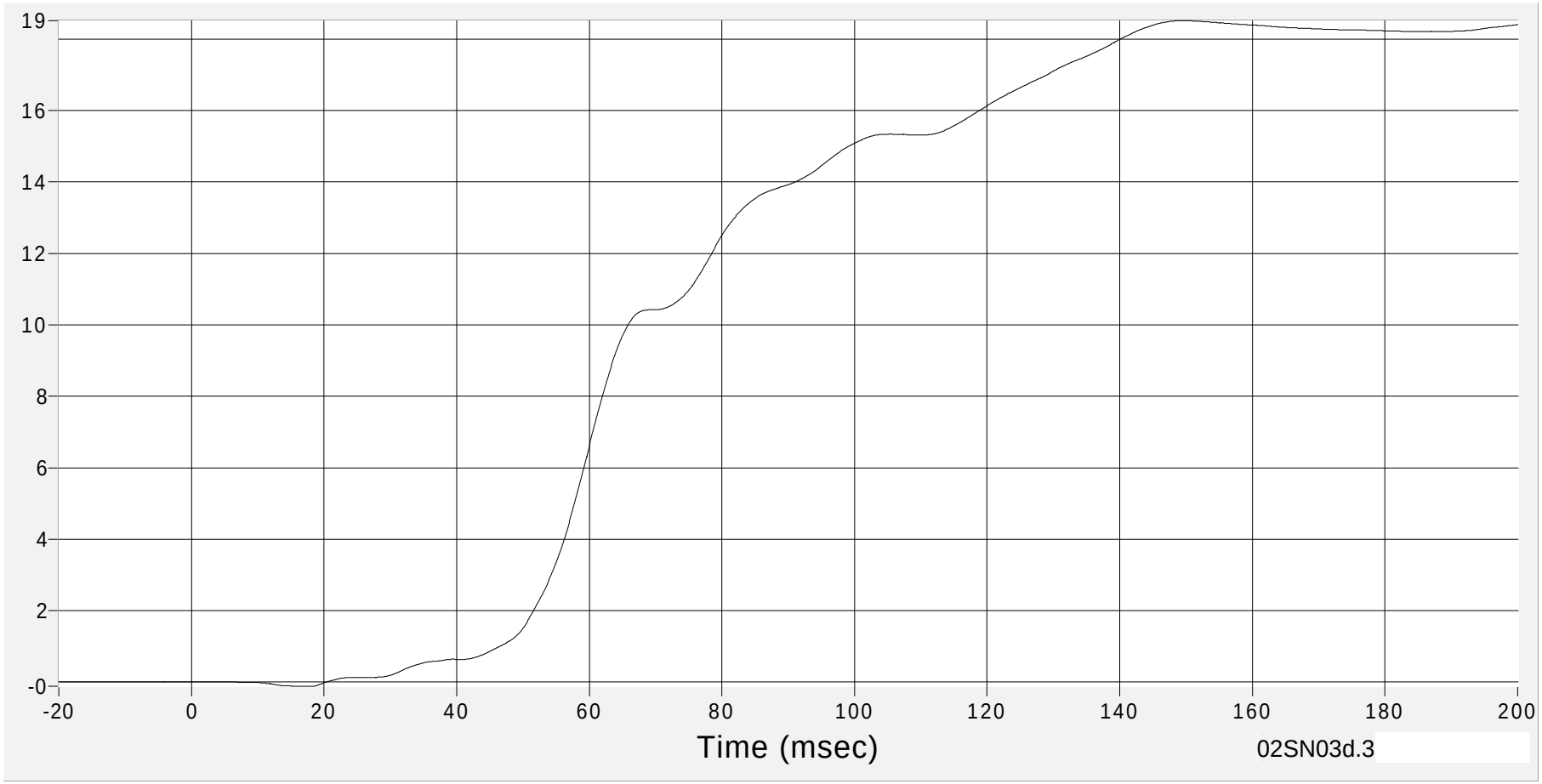
Driver Head CG (Z) Velocity

Max	**18.5**	**km/h**	**at**	**149.5**	**msec**
Min	**-0.1**	**km/h**	**at**	**16.1**	**msec**

Velocity (km/h) CFC180



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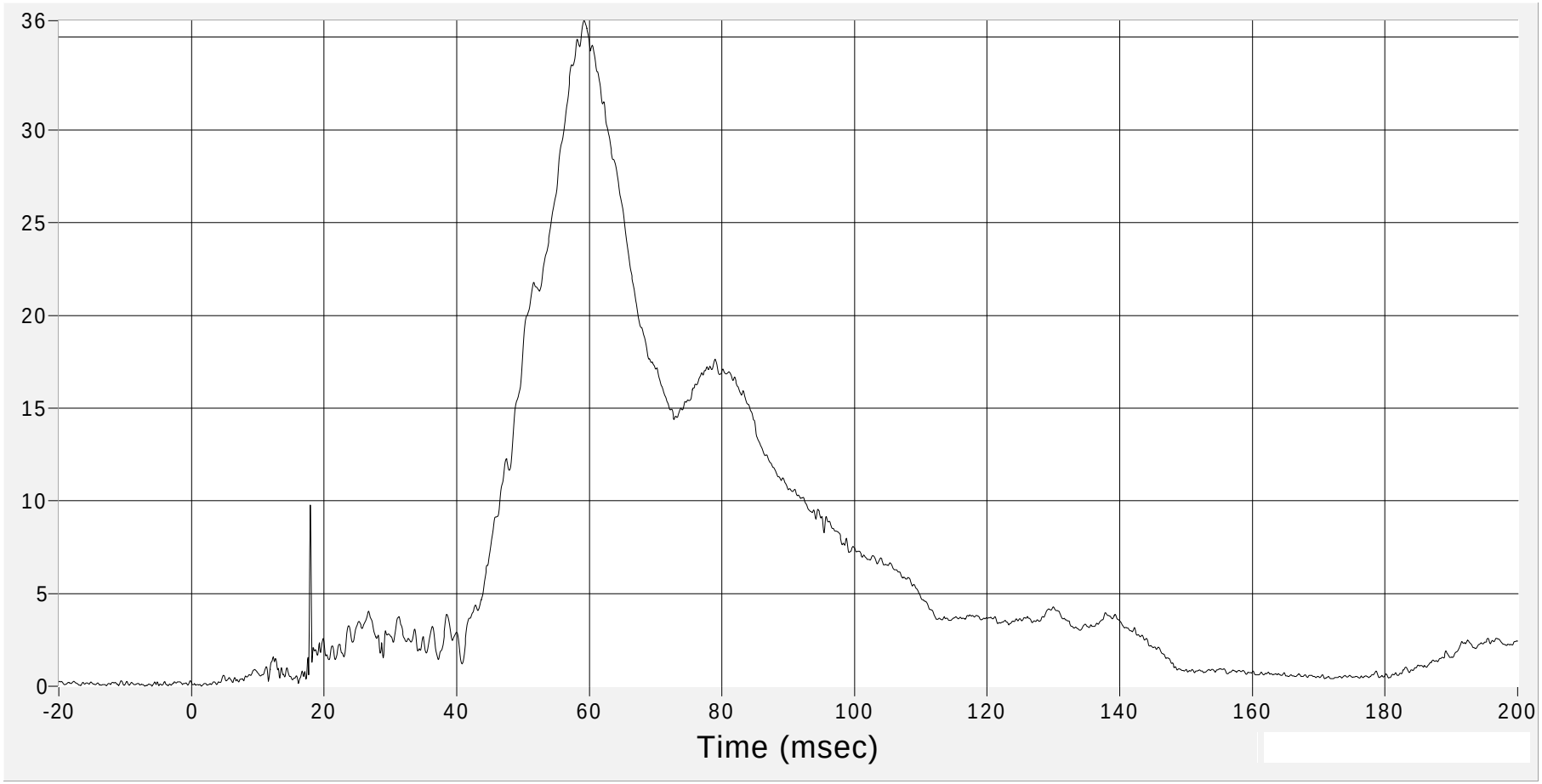
Driver Head Resultant Acceleration

Max	**35.9**	**G's**	**at**	**59.2**	**msec**
Min	**0.0**	**G's**	**at**	**1.5**	**msec**

Acceleration (G's) CFC1000



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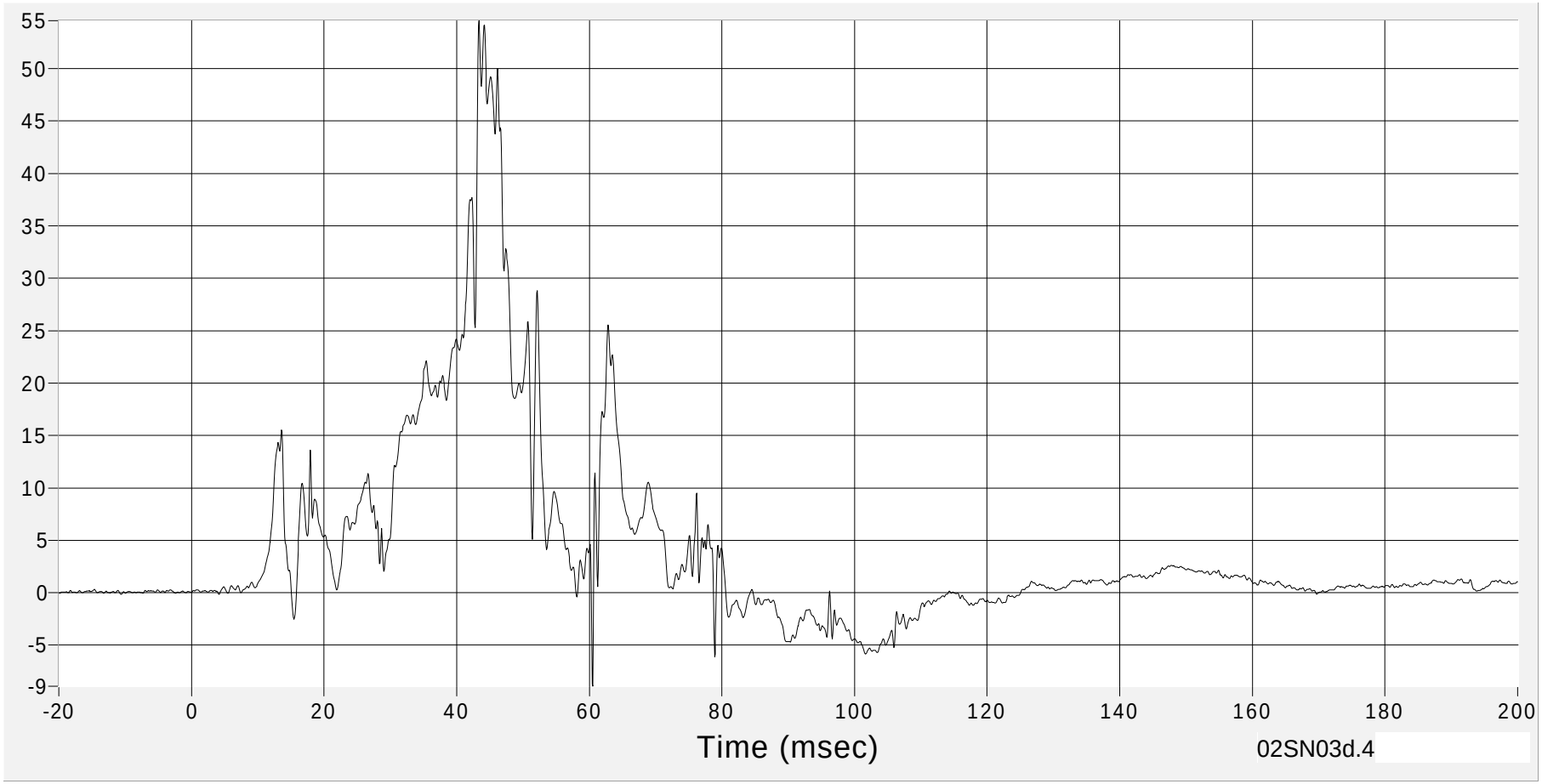
Driver Upper Rib (Y) Acceleration

Max	**54.6**	**G's**	**at**	**43.4**	**msec**
Min	**-8.9**	**G's**	**at**	**60.6**	**msec**

Acceleration (G's) CFC1000



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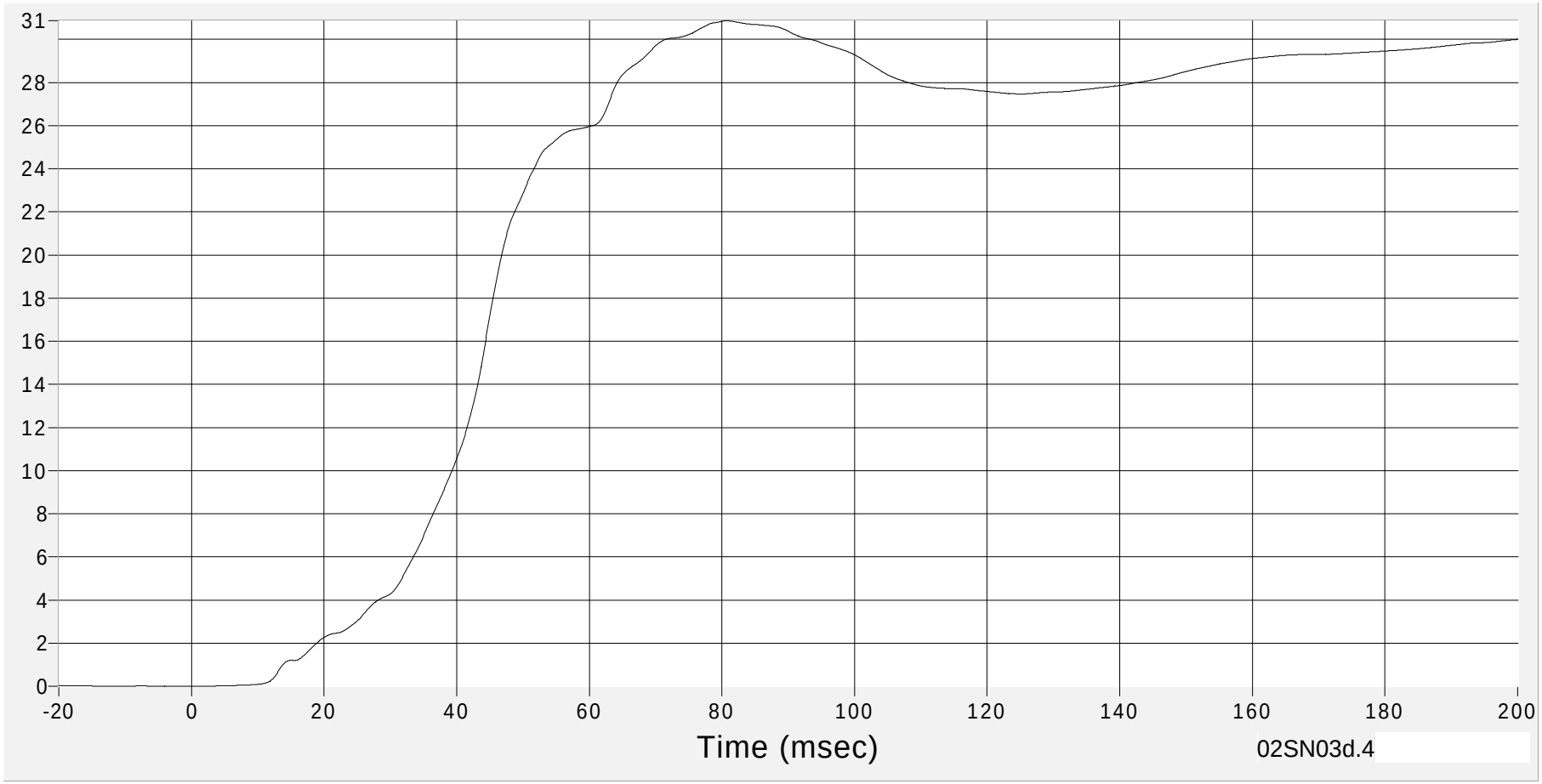
Driver Upper Rib (Y) Velocity

Max	**30.9**	**km/h**	**at**	**80.7**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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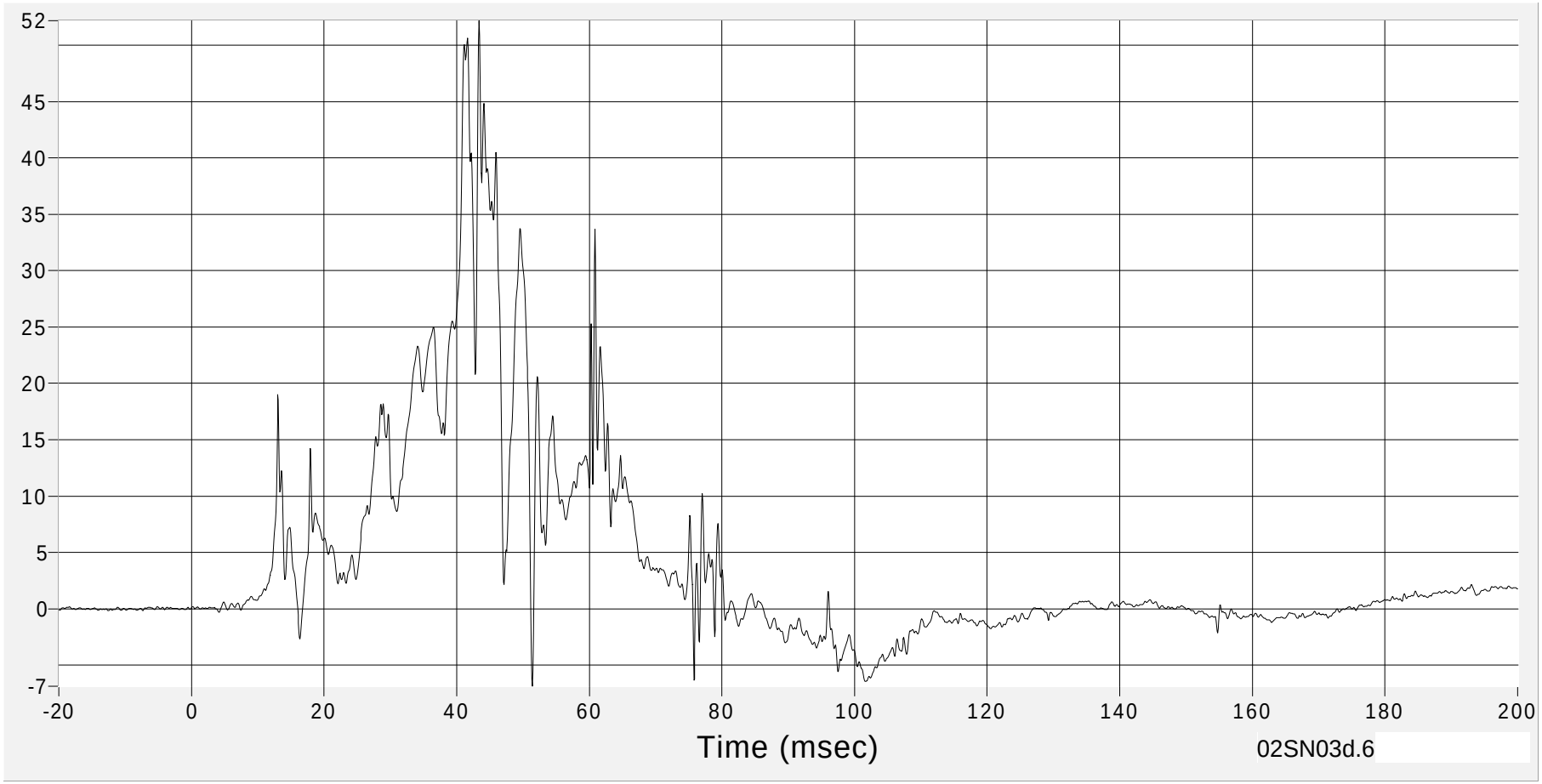
Driver Lower Rib (Y) Acceleration

Max	**52.2**	**G's**	**at**	**43.4**	**msec**
Min	**-6.9**	**G's**	**at**	**51.4**	**msec**

Acceleration (G's) CFC1000



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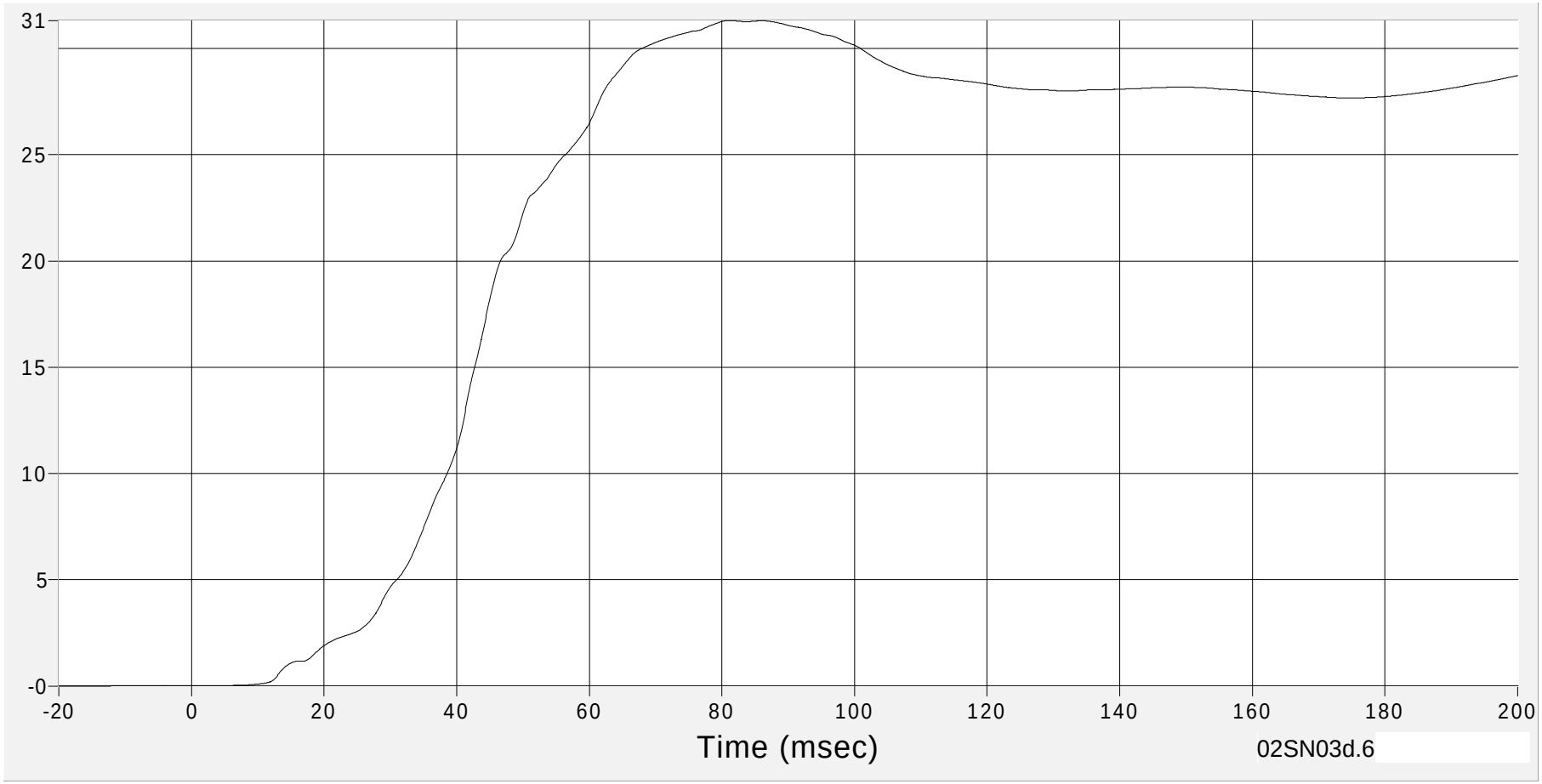
Driver Lower Rib (Y) Velocity

Max	**31.3**	**km/h**	**at**	**81.2**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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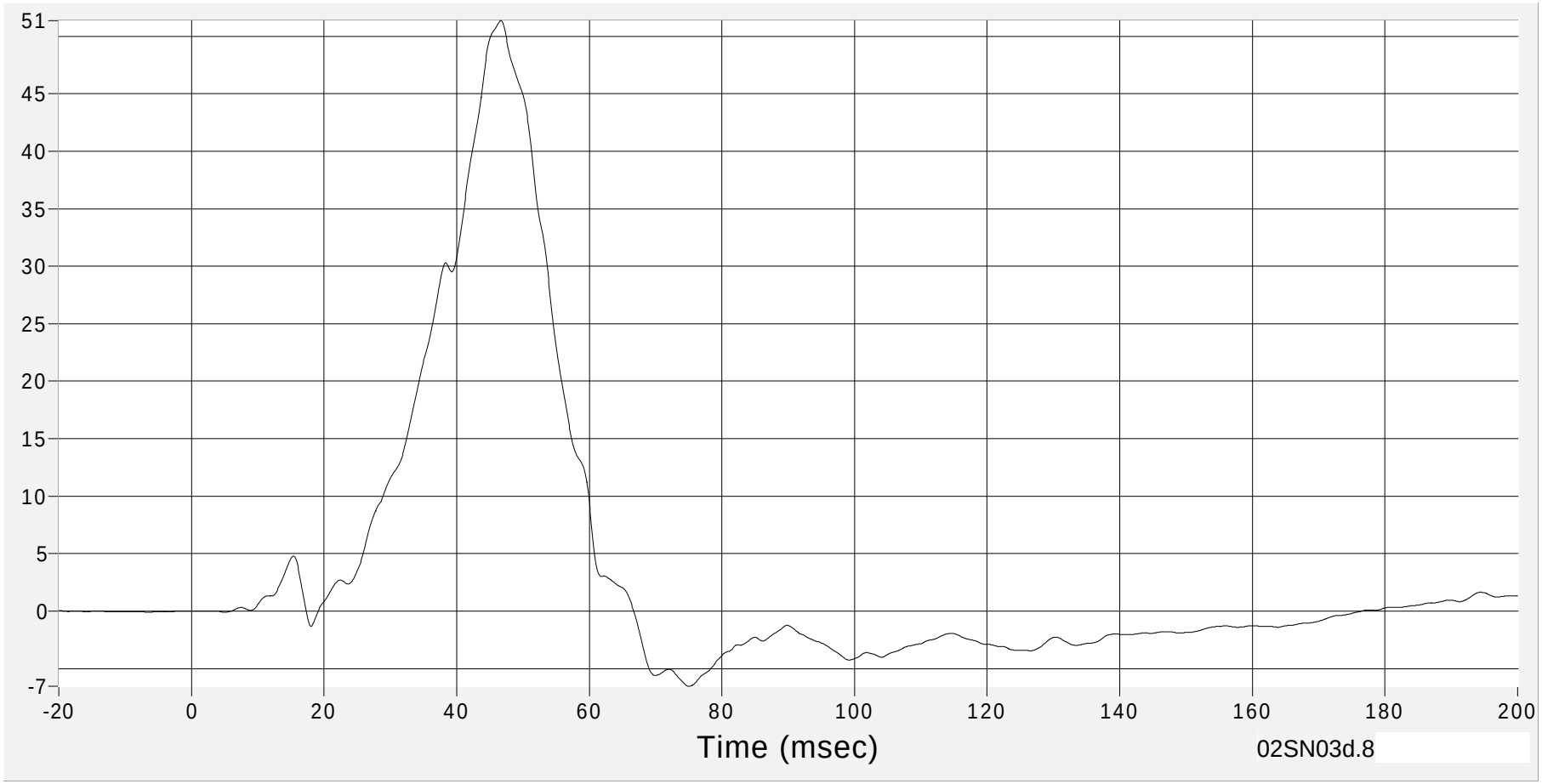
Driver Lower Spine (Y) Acceleration

Max	**51.4**	**G's**	**at**	**46.6**	**msec**
Min	**-6.5**	**G's**	**at**	**75.0**	**msec**

Acceleration (G's) CFC180



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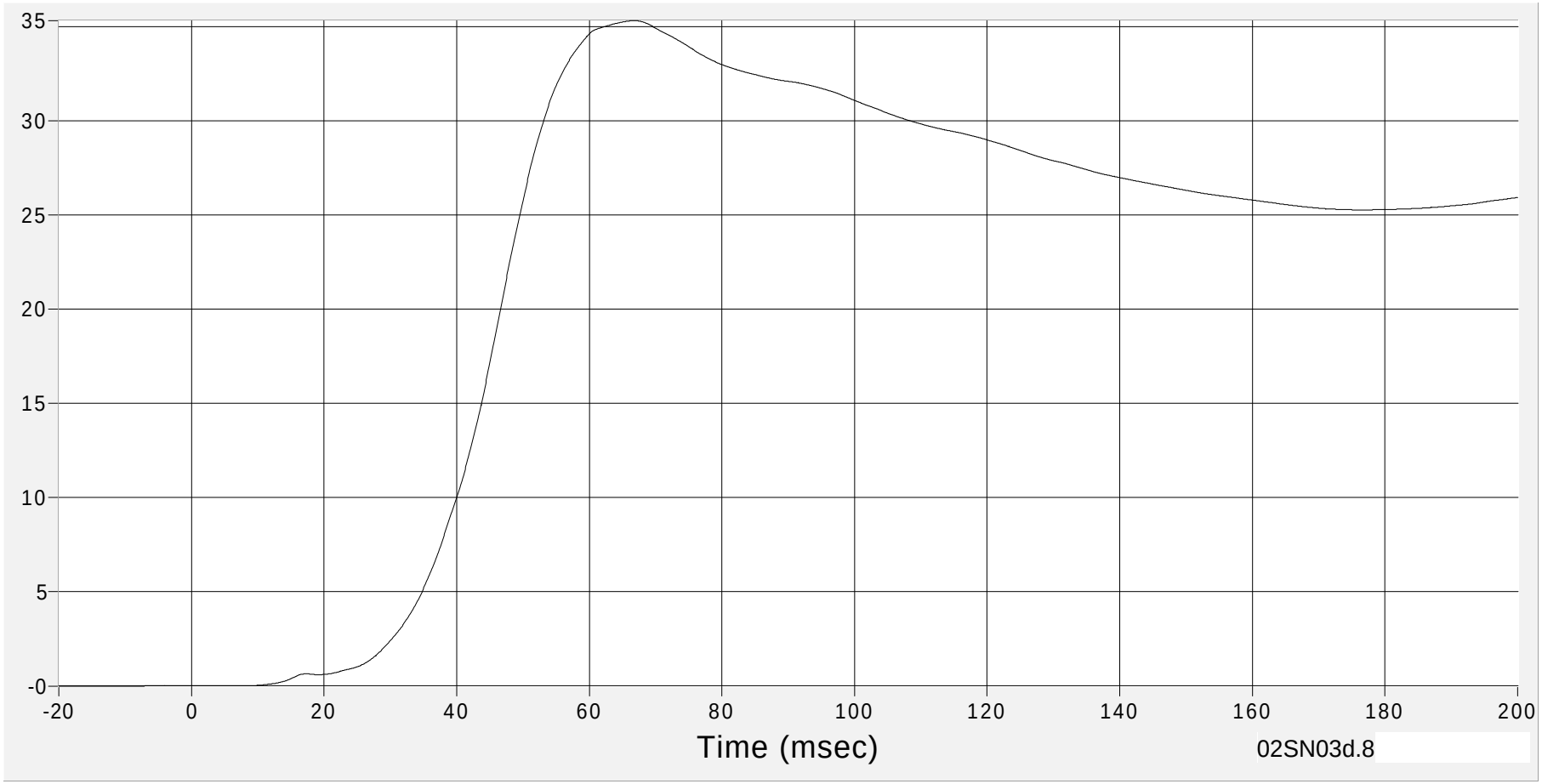
Driver Lower Spine (Y) Velocity

Max	**35.3**	**km/h**	**at**	**66.7**	**msec**
Min	**0.0**	**km/h**	**at**	**6.0**	**msec**

Velocity (km/h) CFC180



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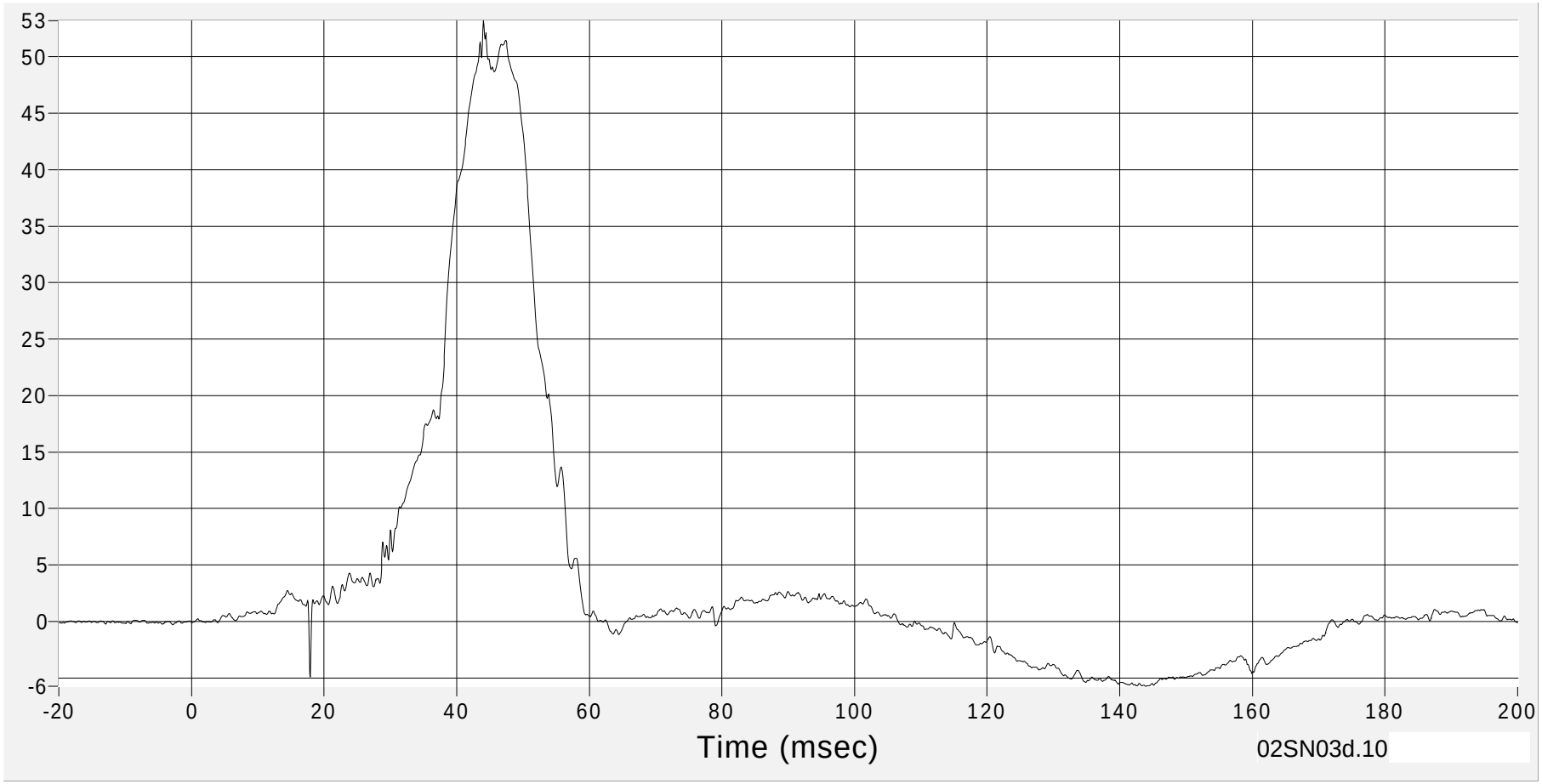
Driver Pelvic (Y) Acceleration

Max	**53.2**	**G's**	**at**	**44.0**	**msec**
Min	**-5.7**	**G's**	**at**	**143.9**	**msec**

Acceleration (G's) CFC1000



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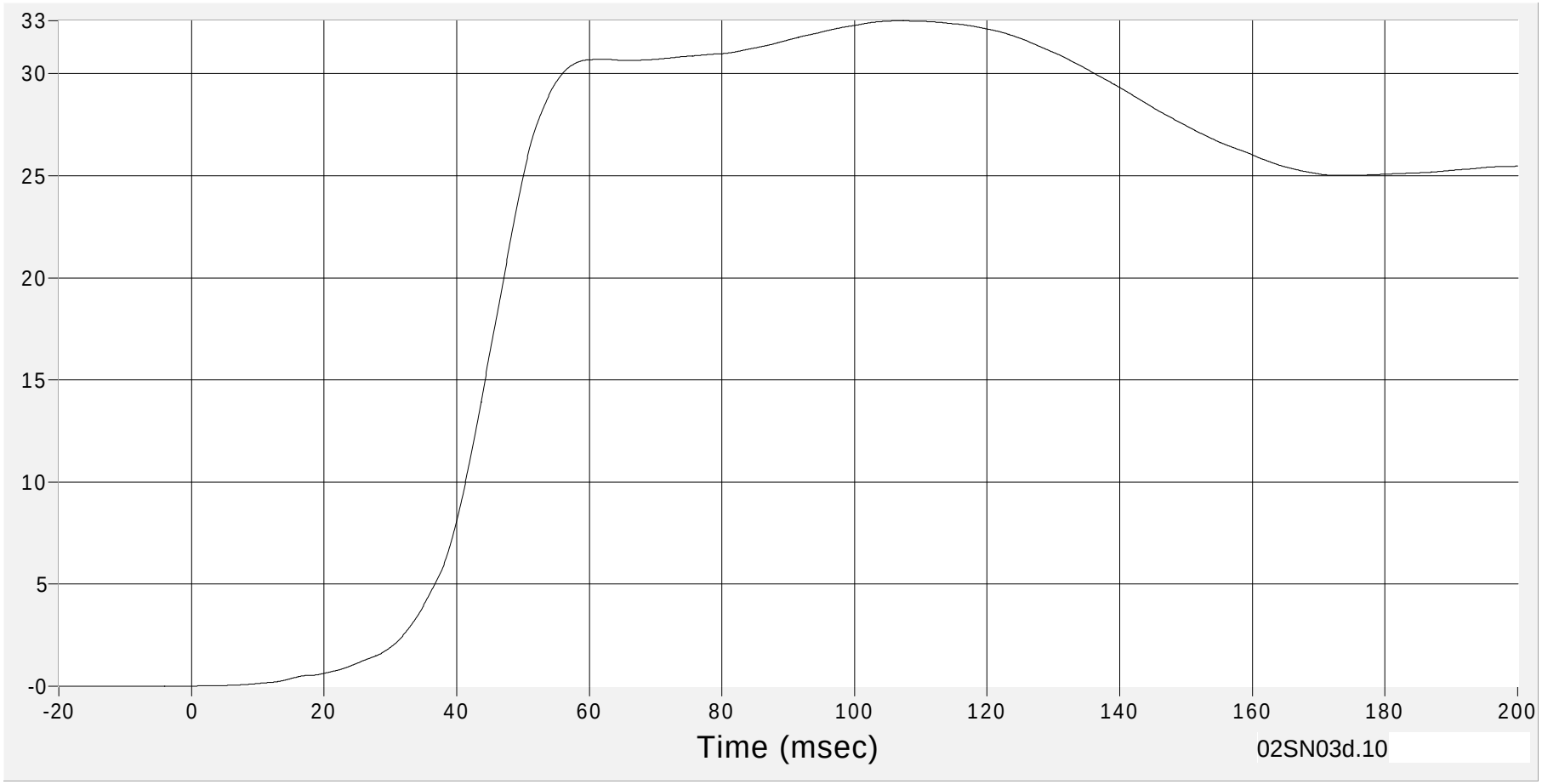
Driver Pelvic (Y) Velocity

Max	**32.6**	**km/h**	**at**	**106.8**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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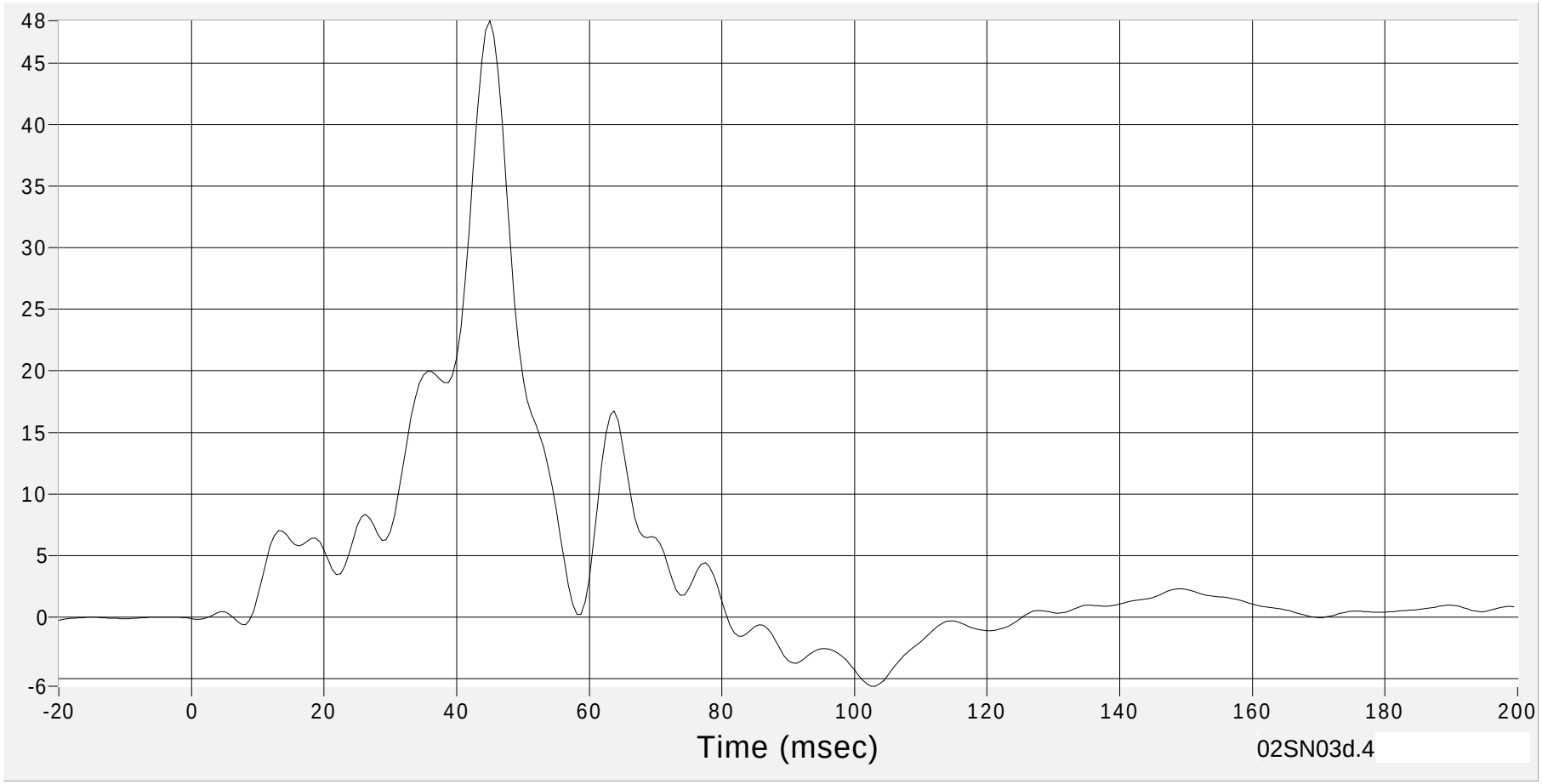
Driver Upper Rib (Y) Acceleration

Max	**48.4**	**G's**	**at**	**45.0**	**msec**
Min	**-5.6**	**G's**	**at**	**103.1**	**msec**

Acceleration (G's) FIR100



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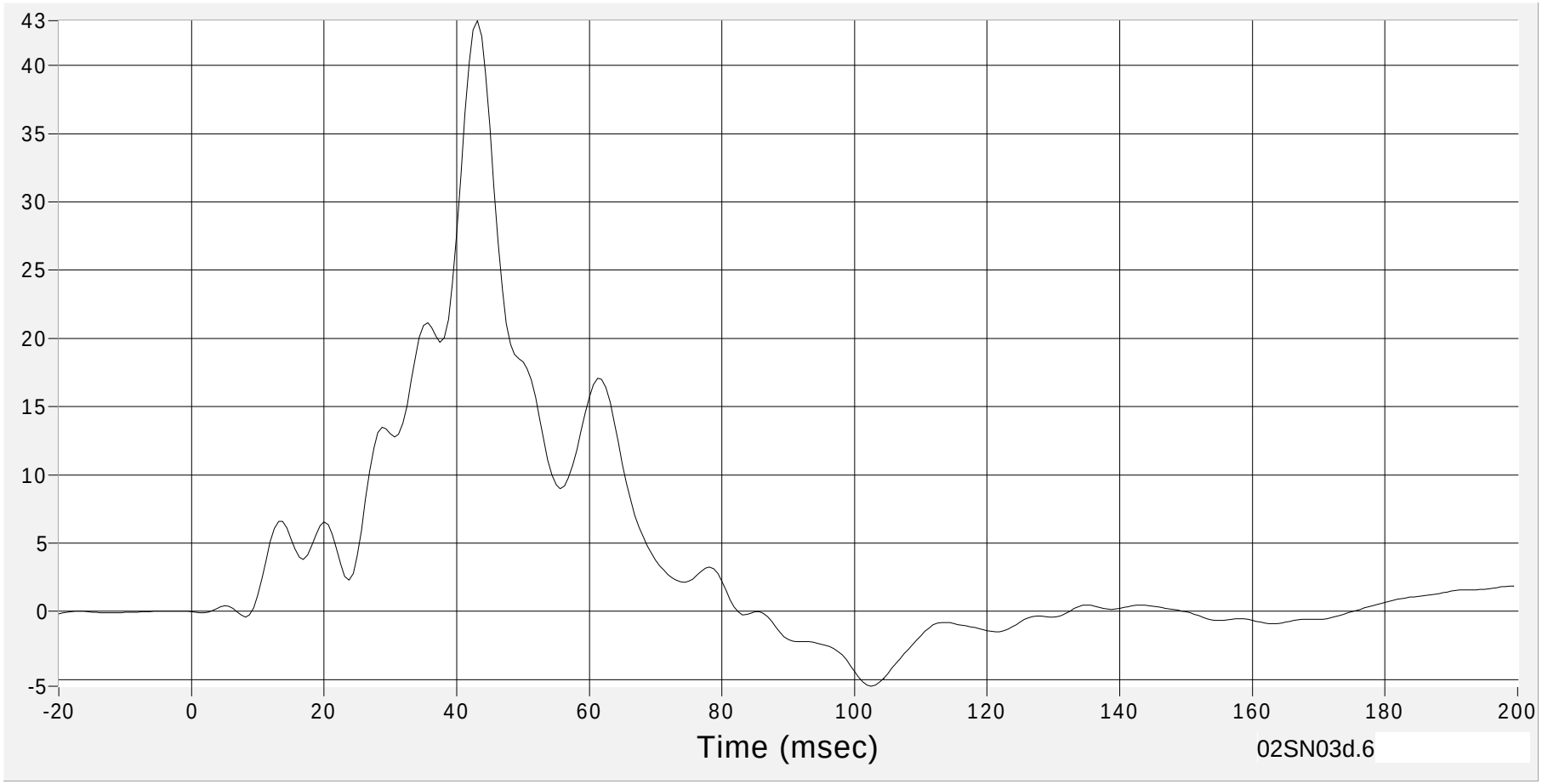
Driver Lower Rib (Y) Acceleration

Max	**43.3**	**G's**	**at**	**43.1**	**msec**
Min	**-5.5**	**G's**	**at**	**102.5**	**msec**

Acceleration (G's) FIR100



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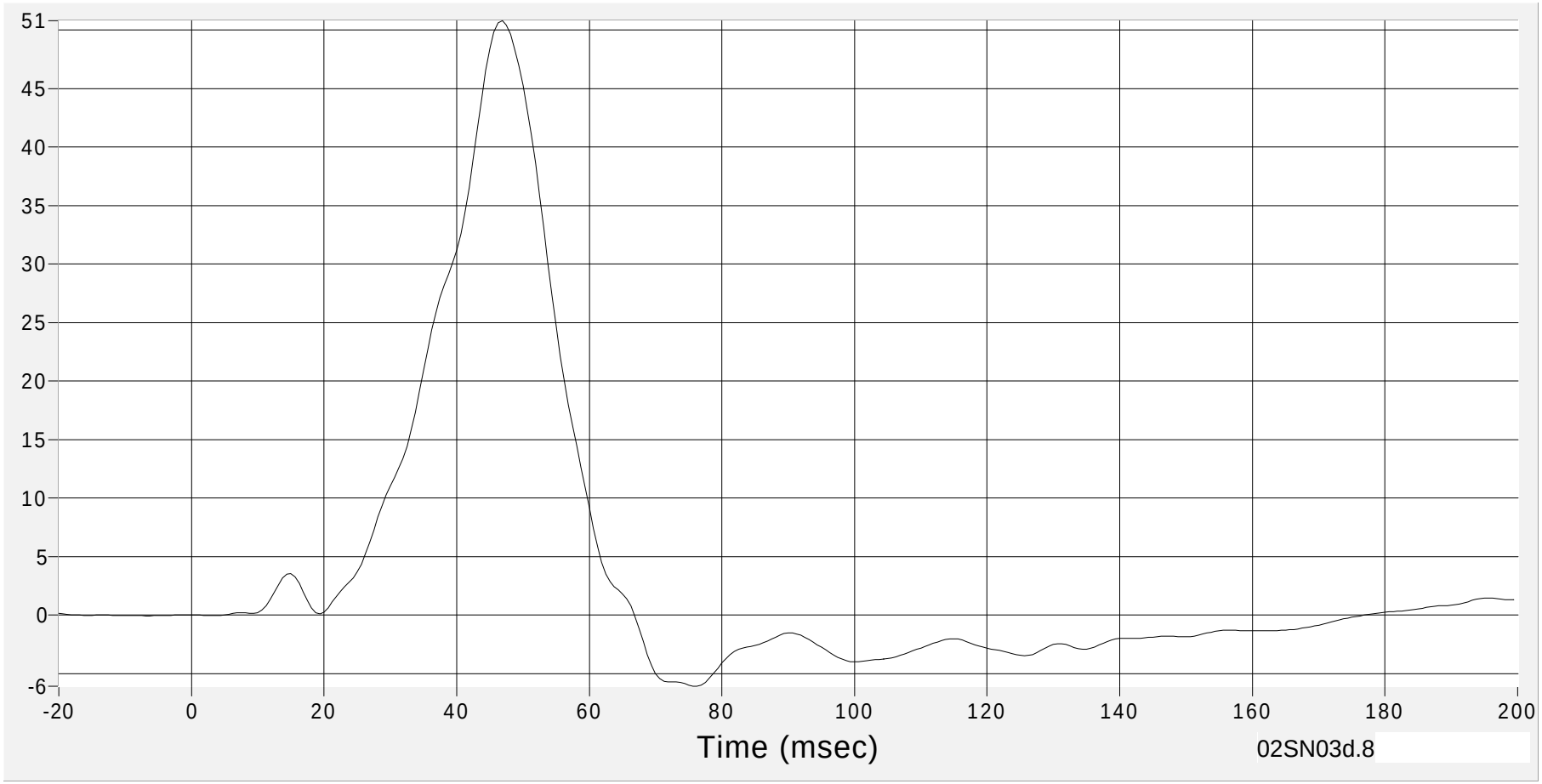
Driver Lower Spine (Y) Acceleration

Max	**50.8**	**G's**	**at**	**46.9**	**msec**
Min	**-6.1**	**G's**	**at**	**76.2**	**msec**

Acceleration (G's) FIR100



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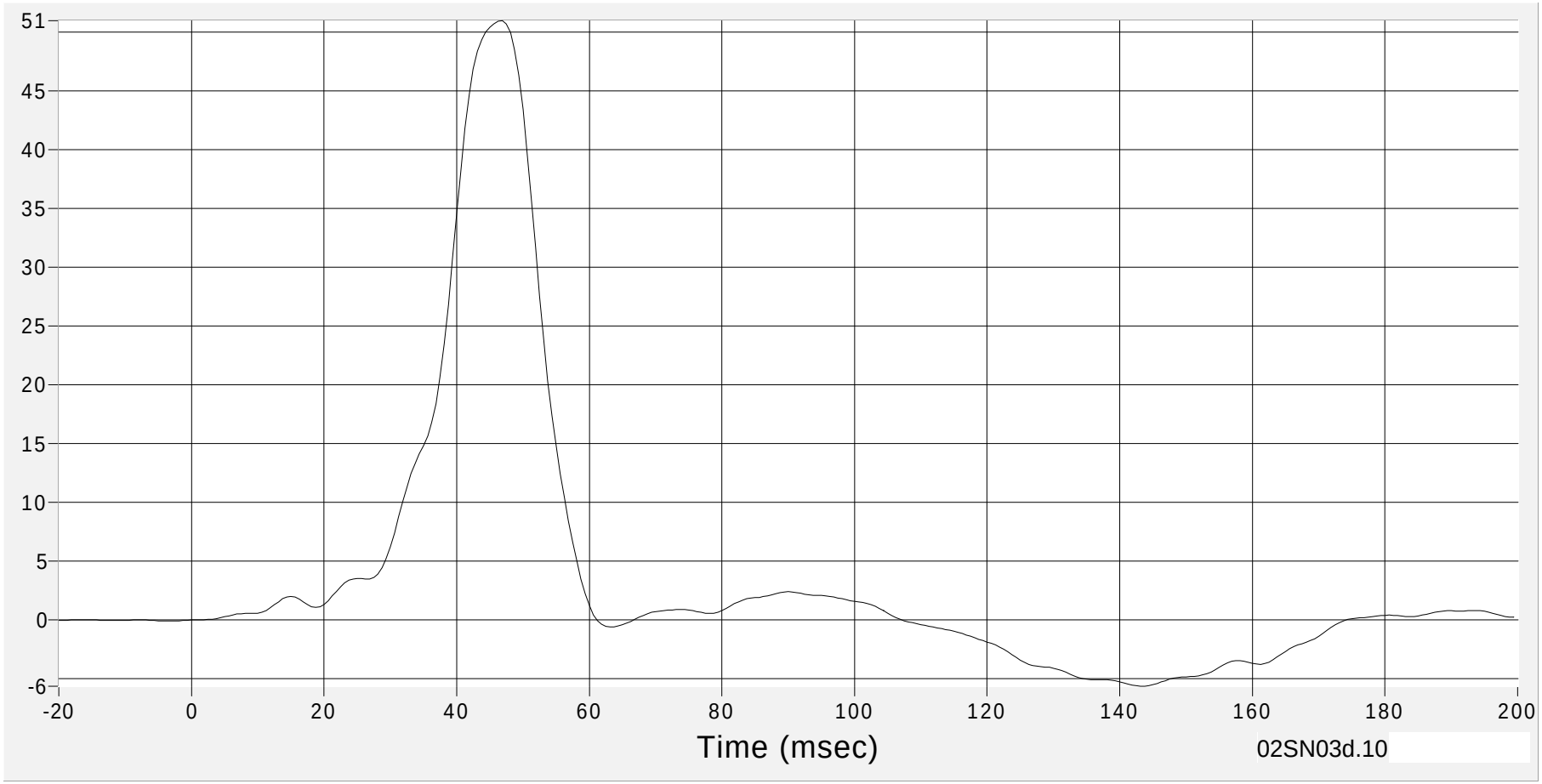
Driver Pelvic (Y) Acceleration

Max	**51.0**	**G's**	**at**	**46.9**	**msec**
Min	**-5.6**	**G's**	**at**	**143.1**	**msec**

Acceleration (G's) FIR100



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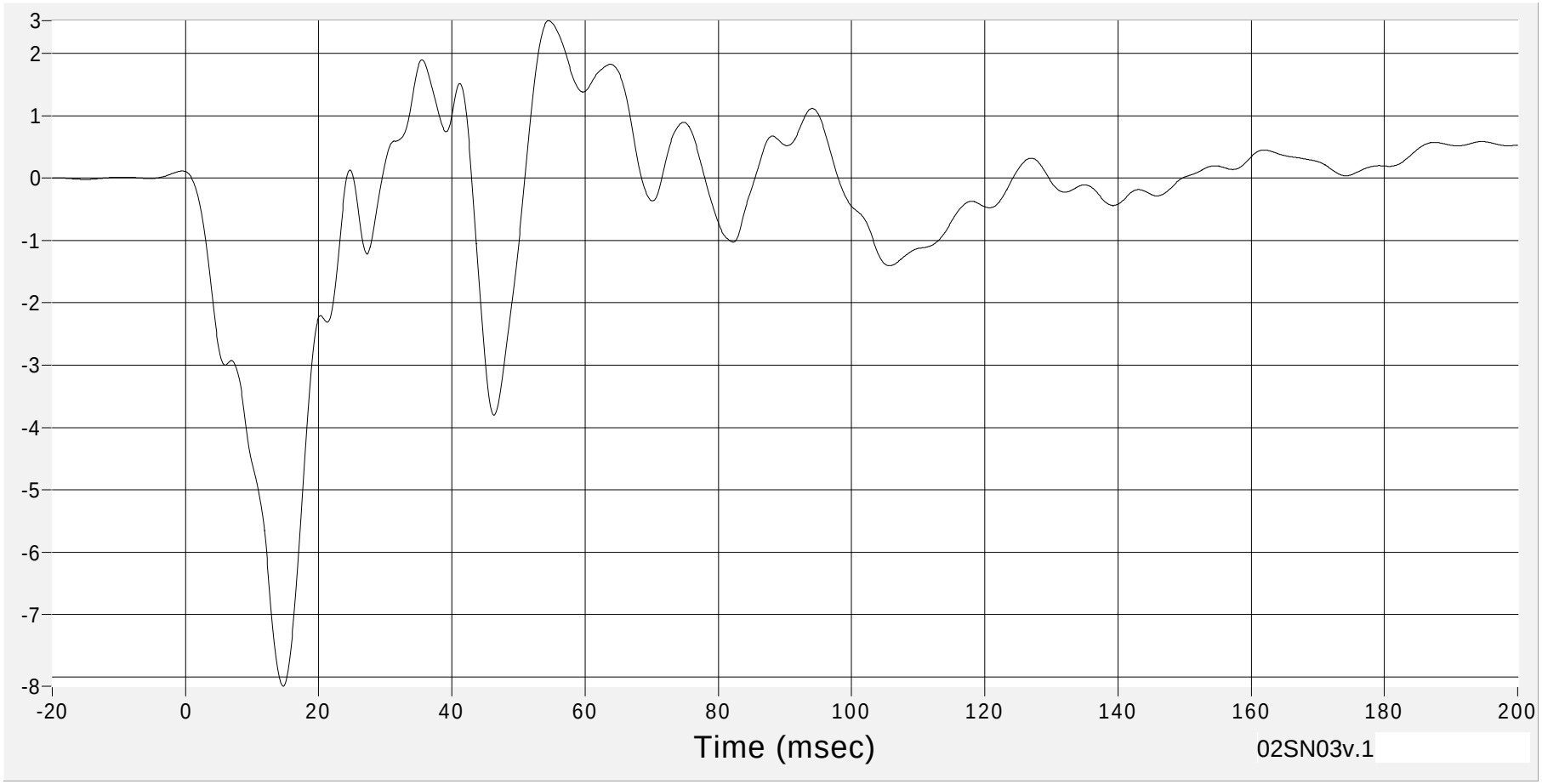
Right Side Sill at Front Seat (X) Acceleration

Max	**2.5**	**G's**	**at**	**54.6**	**msec**
Min	**-8.2**	**G's**	**at**	**14.6**	**msec**

Acceleration (G's) CFC60



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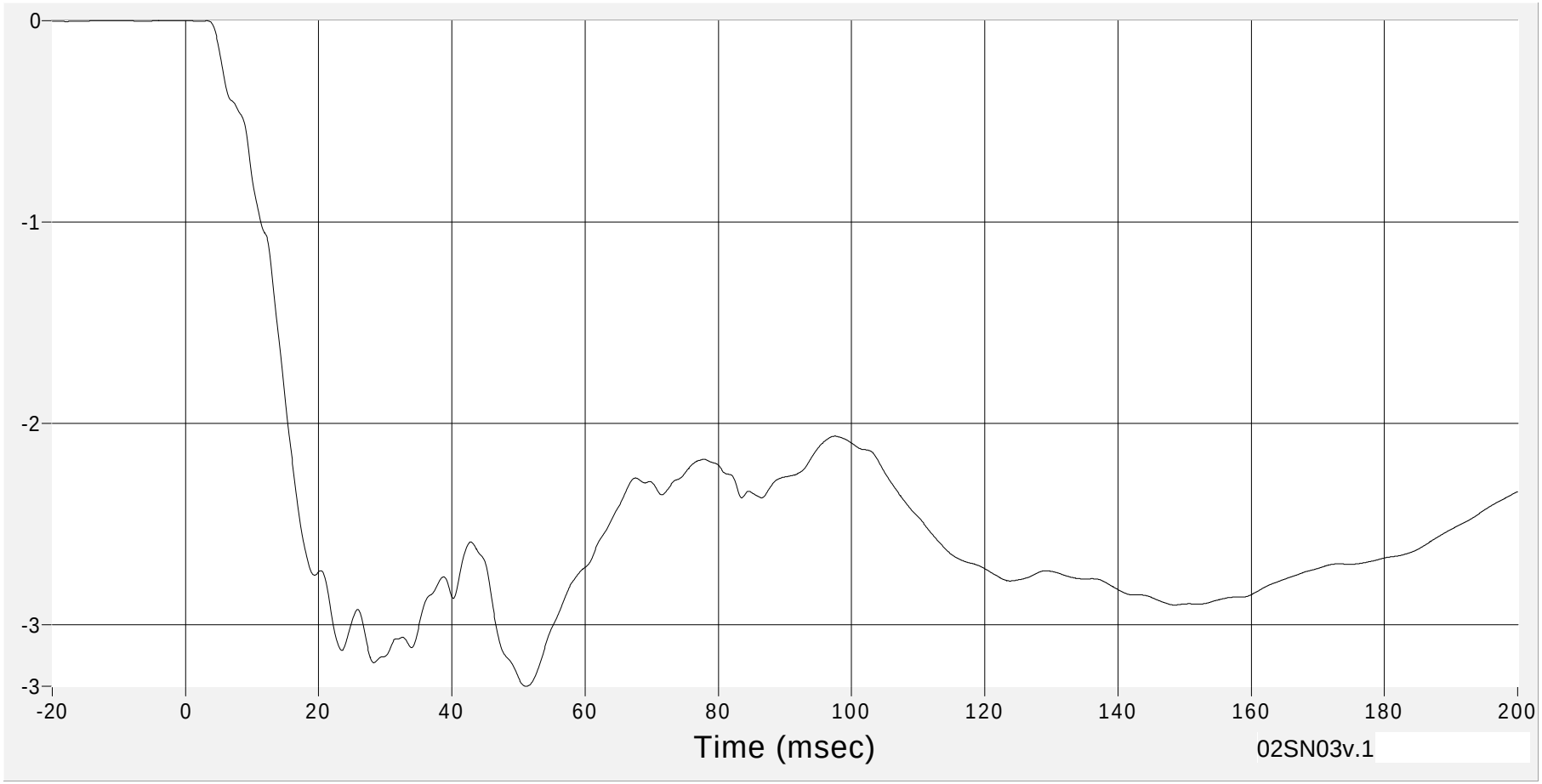
Right Side Sill at Front Seat (X) Velocity

Max	**0.0**	**km/h**	**at**	**3.3**	**msec**
Min	**-3.3**	**km/h**	**at**	**51.2**	**msec**

Velocity (km/h) CFC180



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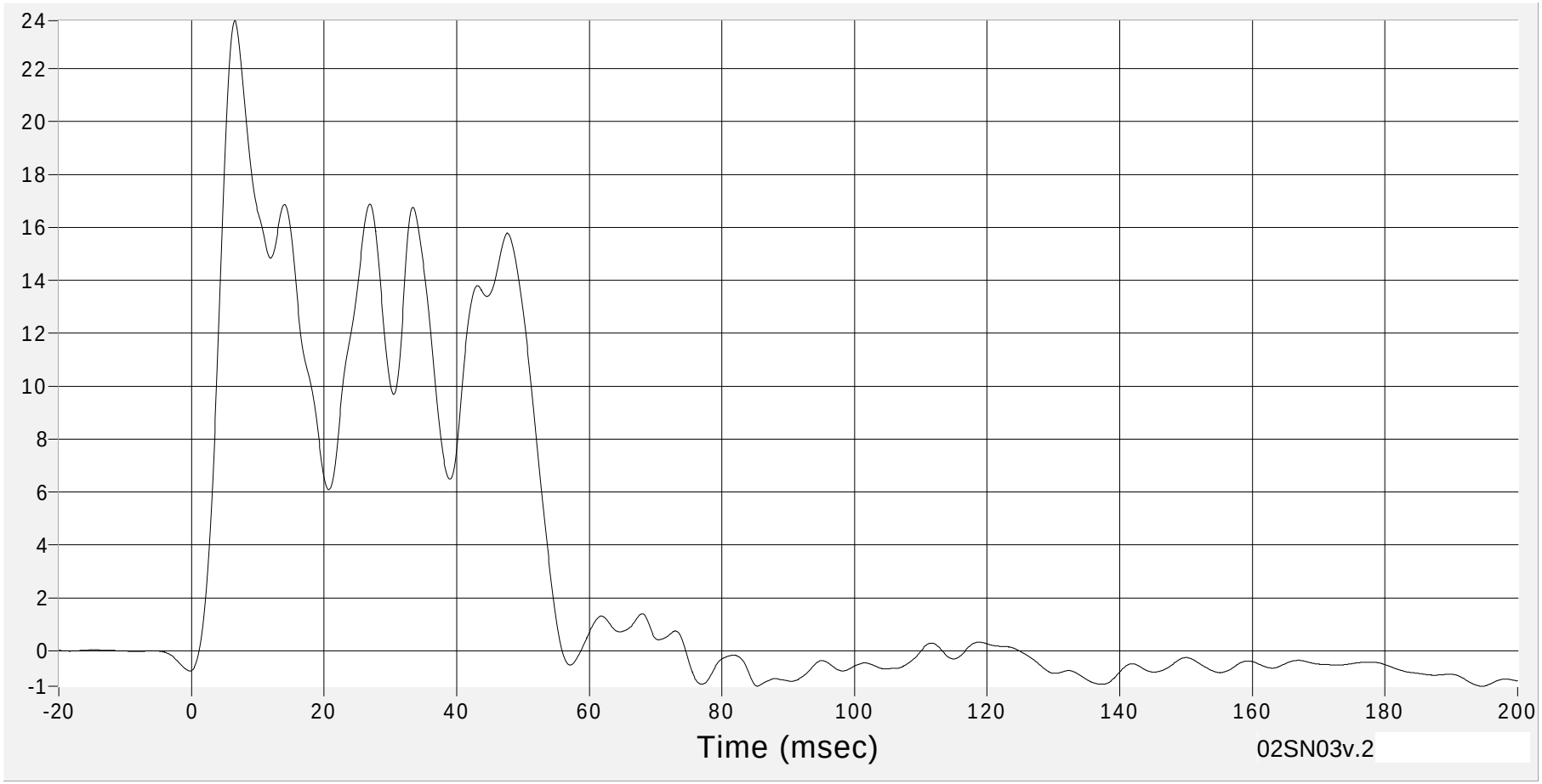
Right Side Sill at Front Seat (Y) Acceleration

Max	**23.8**	**G's**	**at**	**6.6**	**msec**
Min	**-1.3**	**G's**	**at**	**194.6**	**msec**

Acceleration (G's) CFC60



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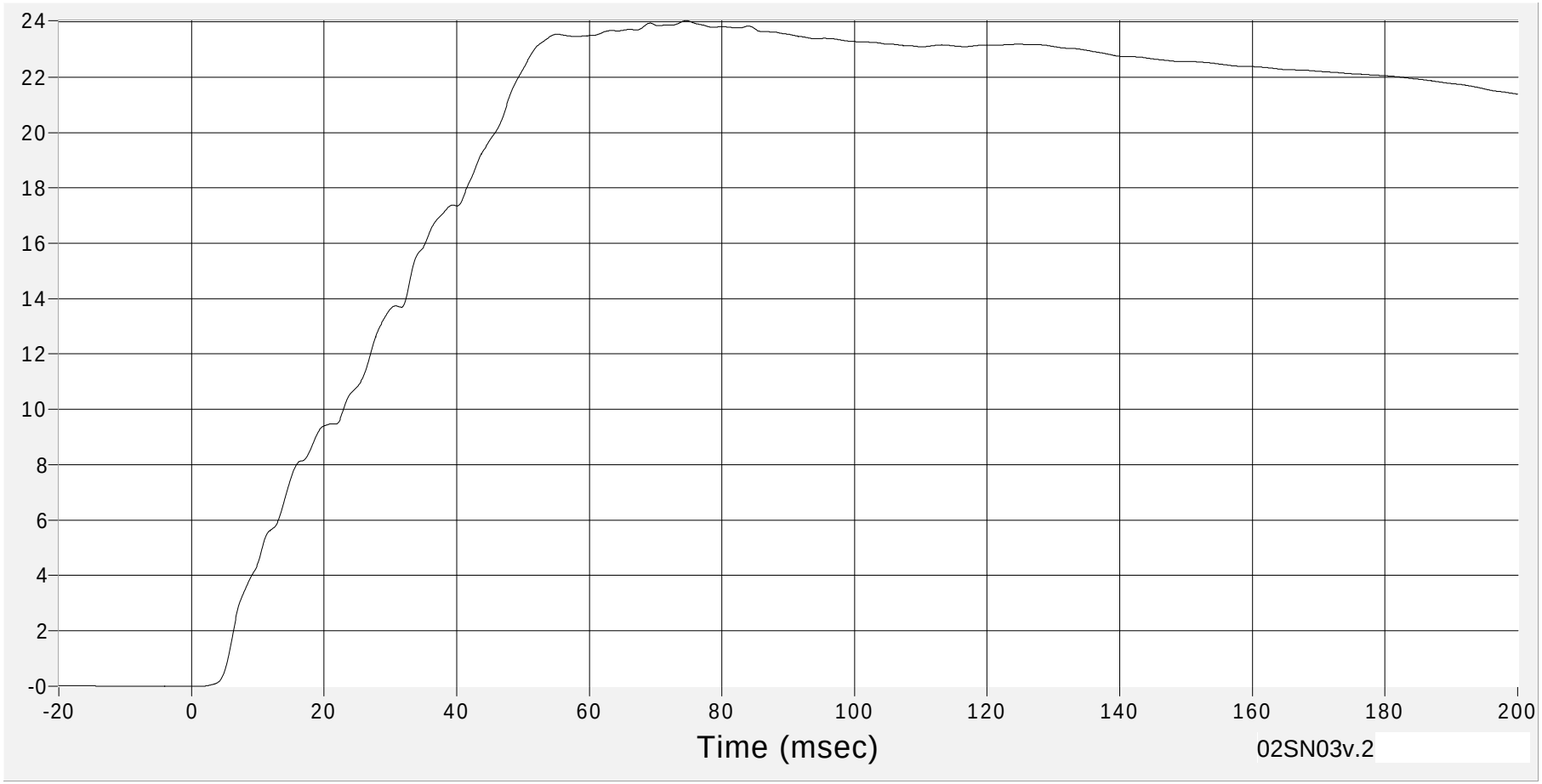
Right Side Sill at Front Seat (Y) Velocity

Max	**24.0**	**km/h**	**at**	**74.6**	**msec**
Min	**0.0**	**km/h**	**at**	**1.3**	**msec**

Velocity (km/h) CFC180



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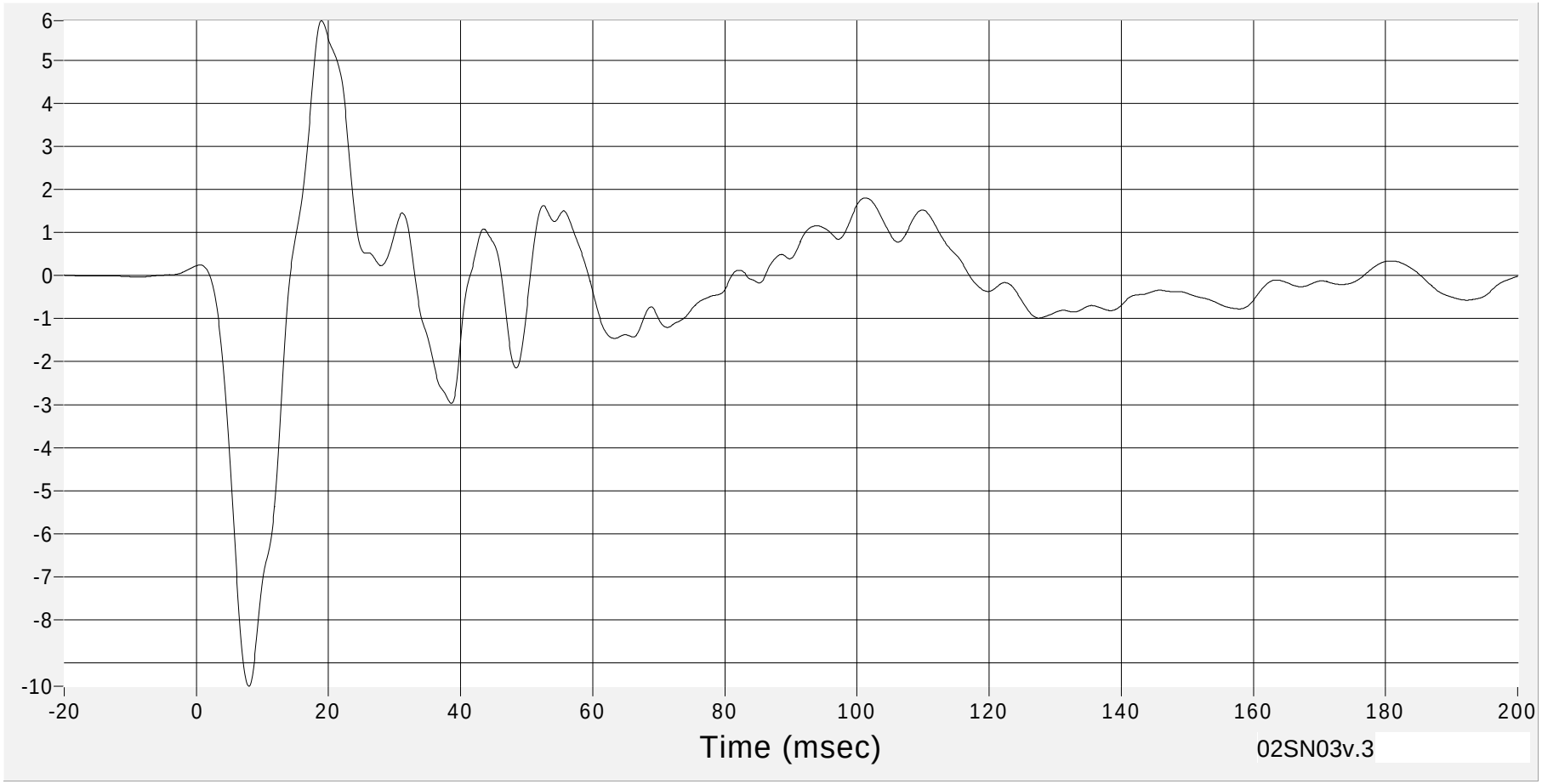
Right Side Sill at Front Seat (Z) Acceleration

Max	**5.9**	**G's**	**at**	**18.9**	**msec**
Min	**-9.5**	**G's**	**at**	**7.9**	**msec**

Acceleration (G's) CFC60



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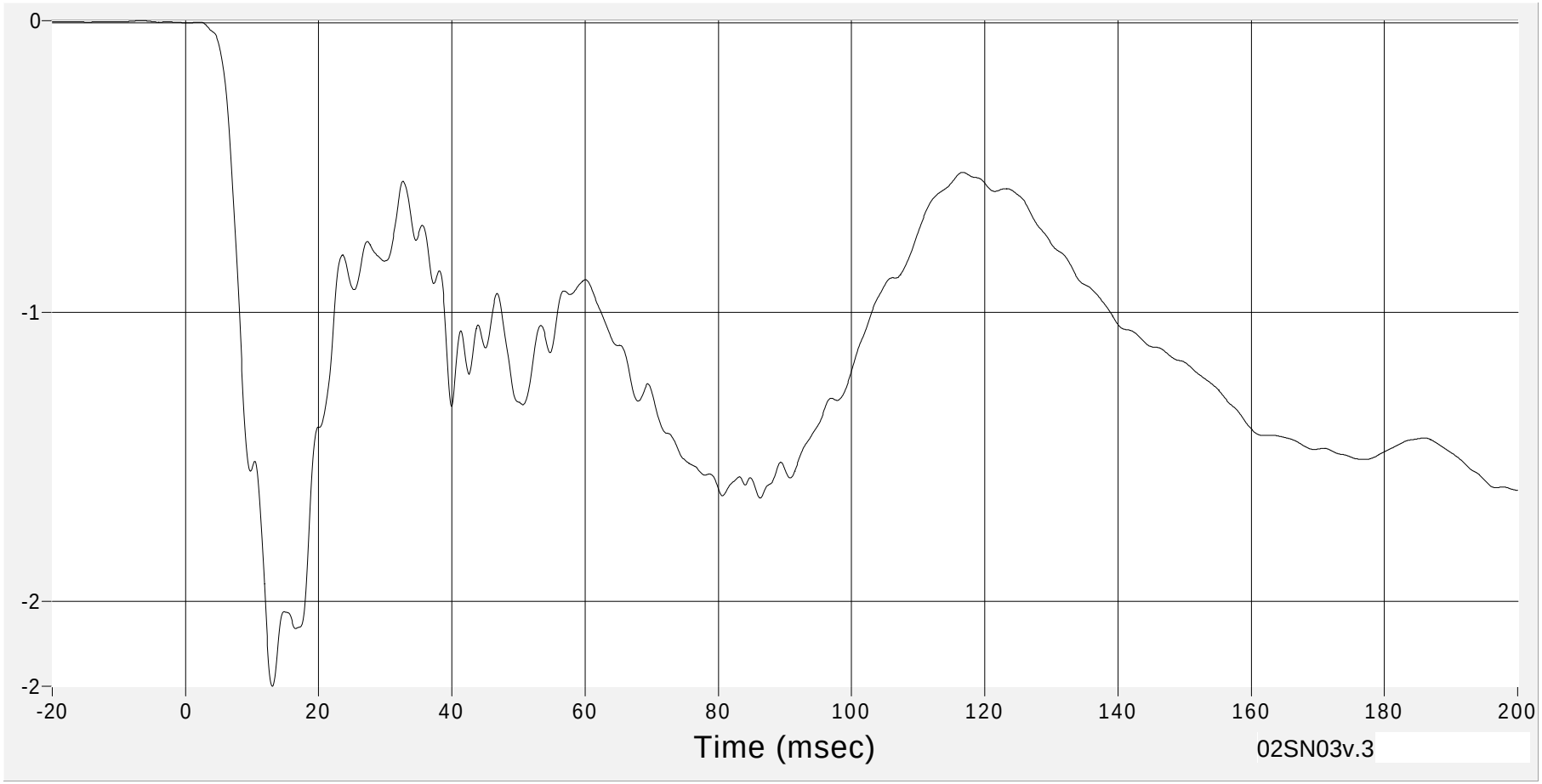
Right Side Sill at Front Seat (Z) Velocity

Max	**0.0**	**km/h**	**at**	**2.2**	**msec**
Min	**-2.3**	**km/h**	**at**	**13.0**	**msec**

Velocity (km/h) CFC180



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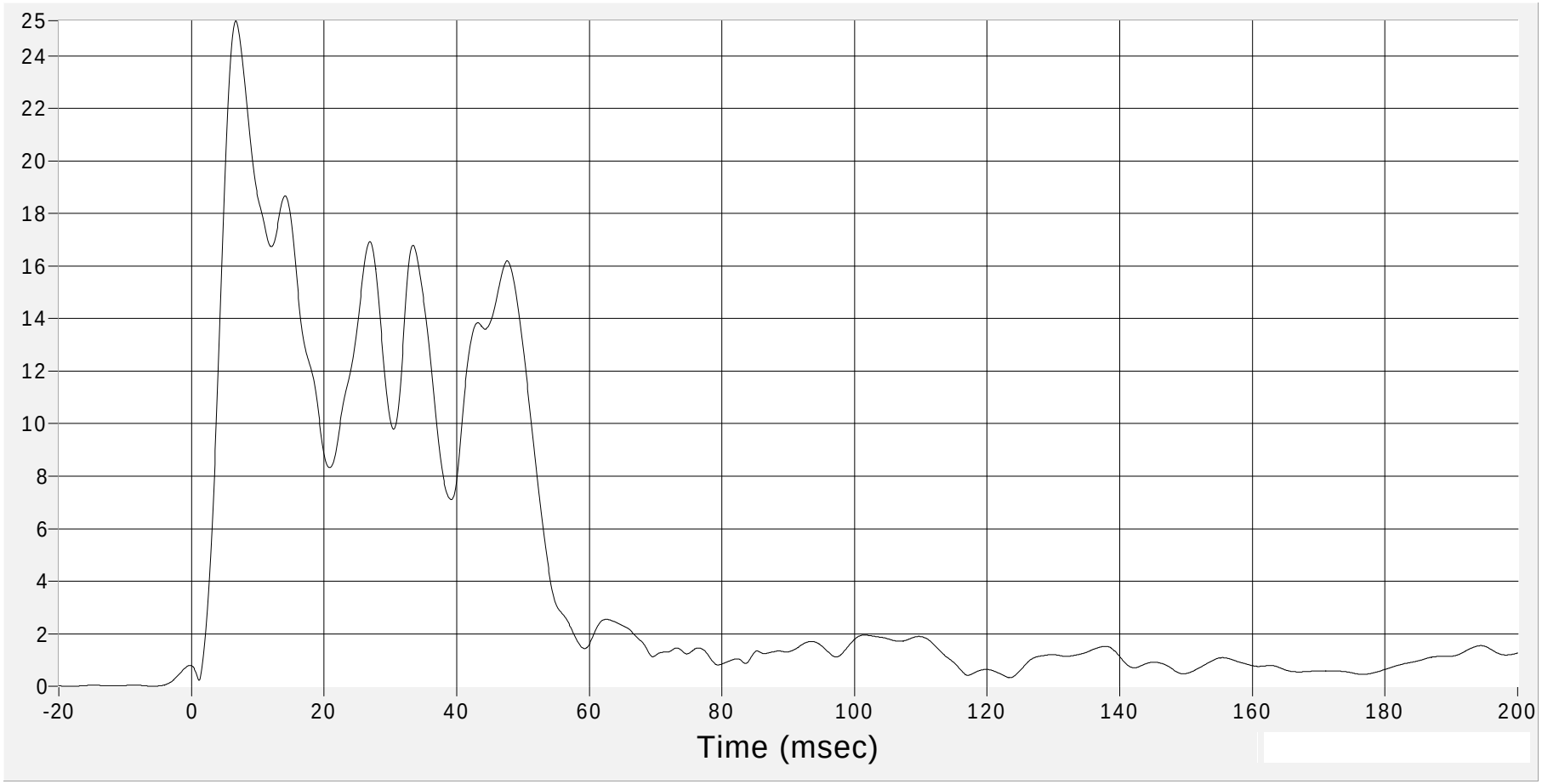
Right Side Sill at Front Seat Resultant Acceleration

Max	**25.3**	**G's**	**at**	**6.7**	**msec**
Min	**0.2**	**G's**	**at**	**1.2**	**msec**

Acceleration (G's) CFC60



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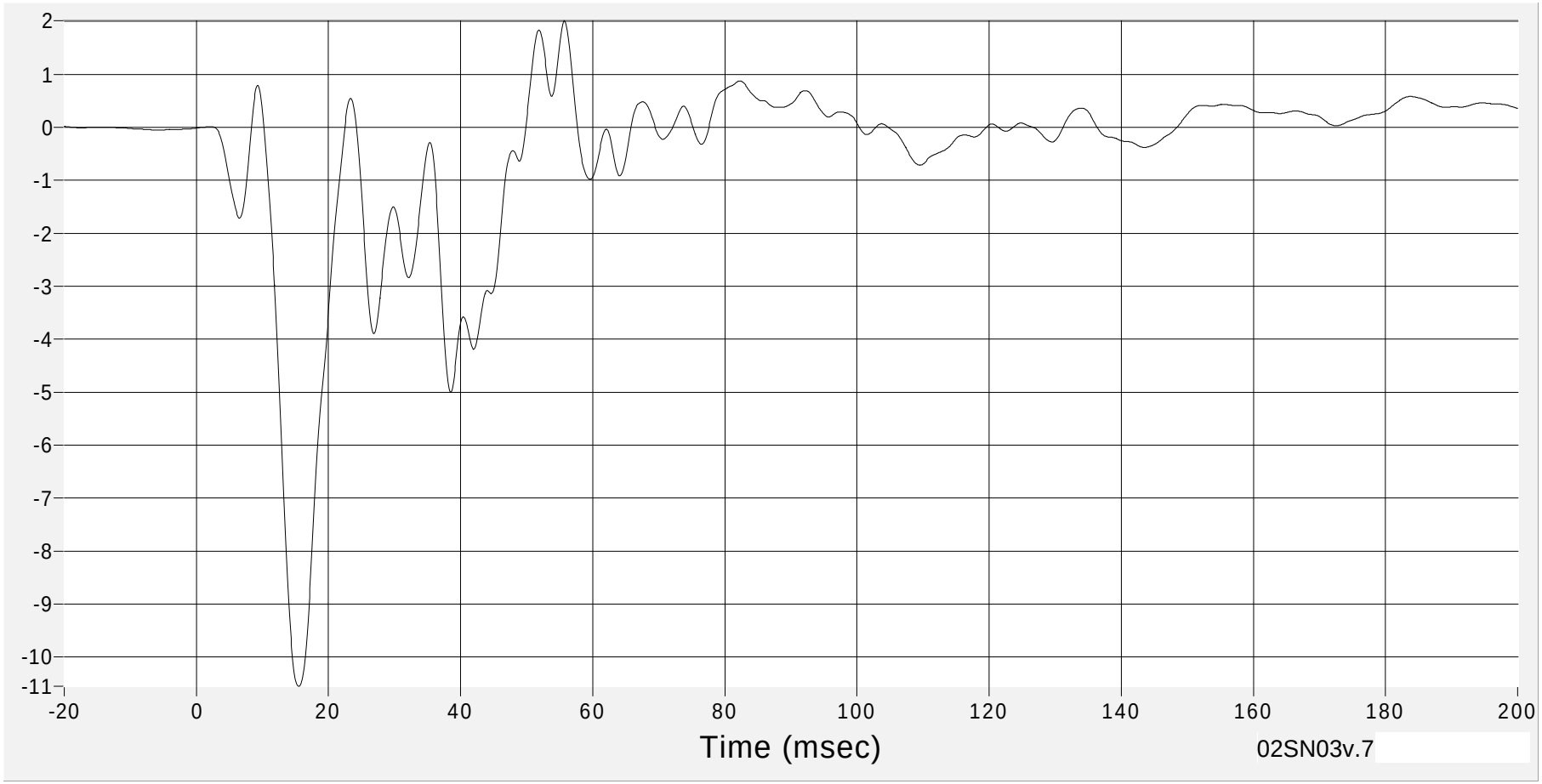
Rear Floorpan Above Axle (X) Acceleration

Max	**2.0**	**G's**	**at**	**55.7**	**msec**
Min	**-10.6**	**G's**	**at**	**15.5**	**msec**

Acceleration (G's) CFC60



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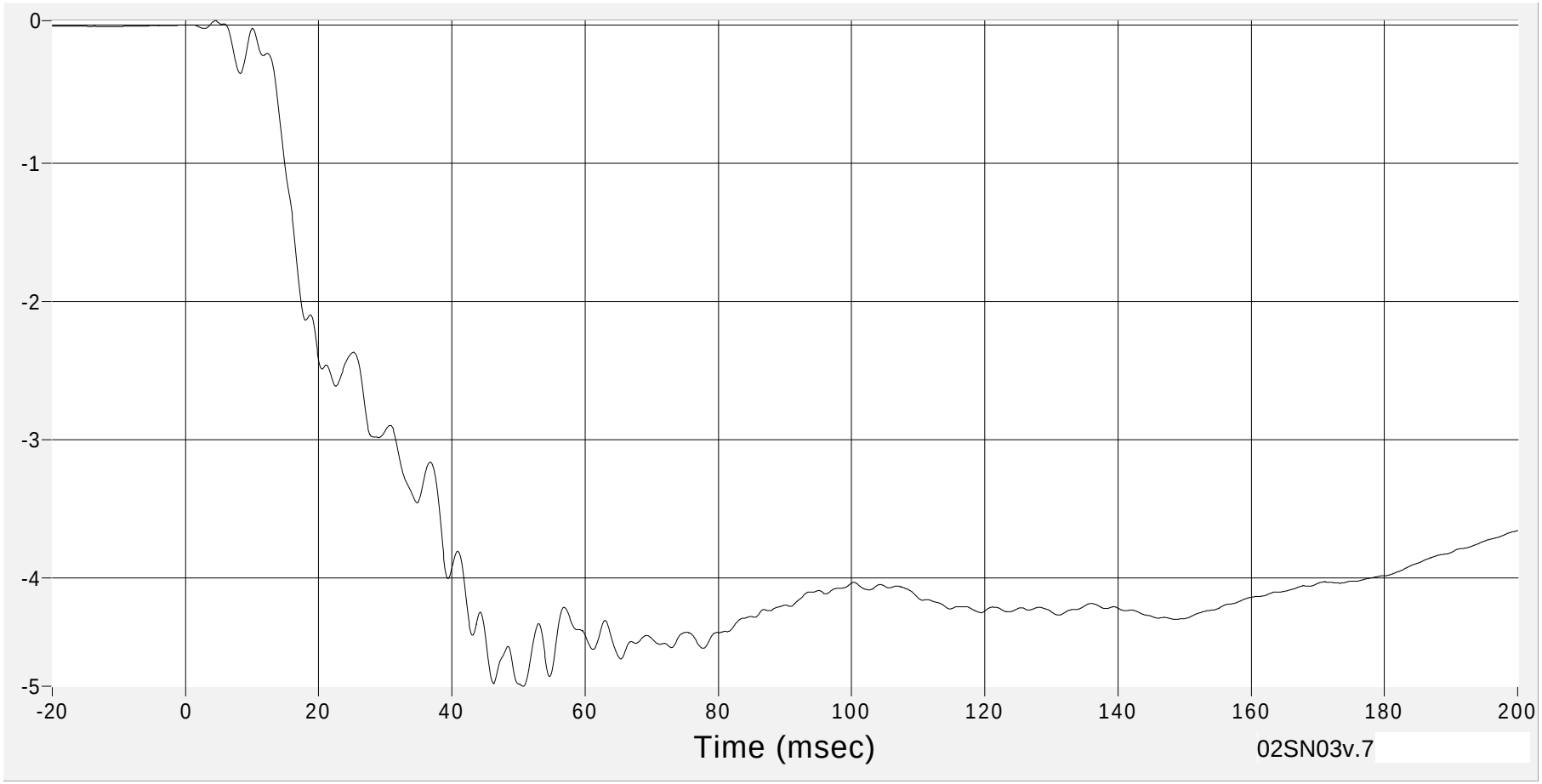
Rear Floorpan Above Axle (X) Velocity

Max	**0.0**	**km/h**	**at**	**4.5**	**msec**
Min	**-4.8**	**km/h**	**at**	**50.7**	**msec**

Velocity (km/h) CFC180



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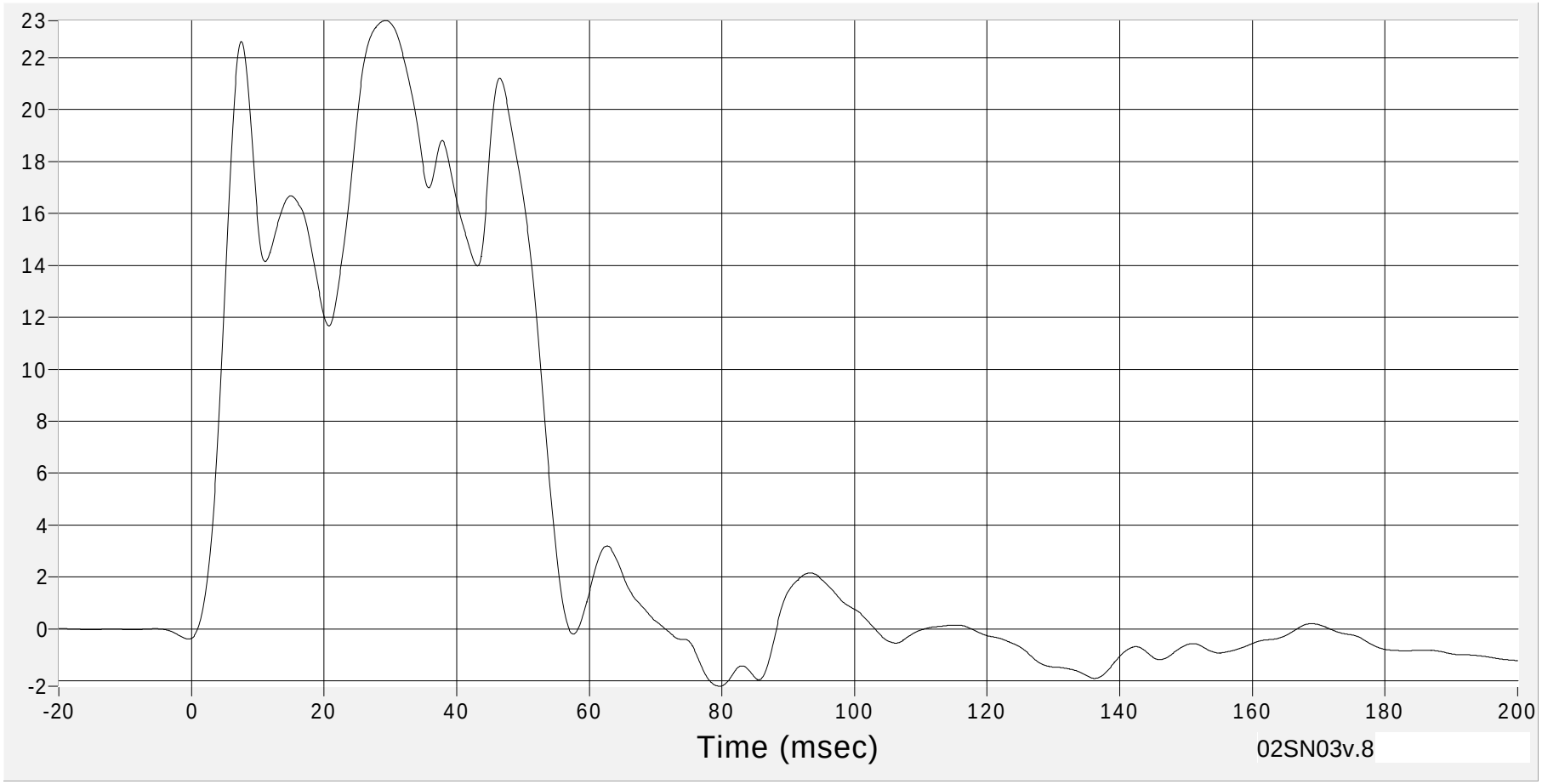
Rear Floorpan Above Axle (Y) Acceleration

Max	**23.4**	**G's**	**at**	**29.3**	**msec**
Min	**-2.2**	**G's**	**at**	**79.8**	**msec**

Acceleration (G's) CFC60



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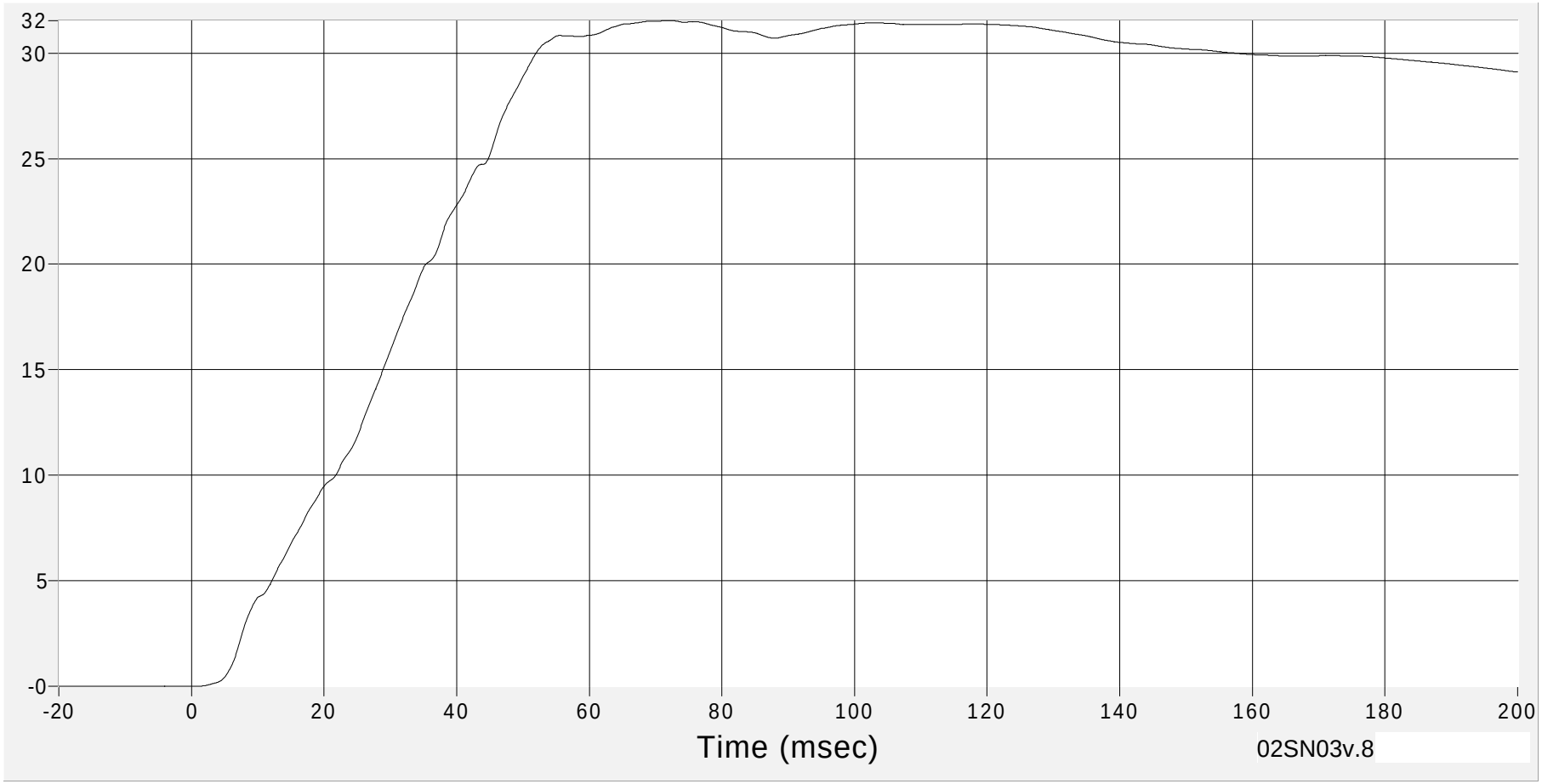
Rear Floorpan Above Axle (Y) Velocity

Max	**31.5**	**km/h**	**at**	**72.4**	**msec**
Min	**0.0**	**km/h**	**at**	**0.6**	**msec**

Velocity (km/h) CFC180



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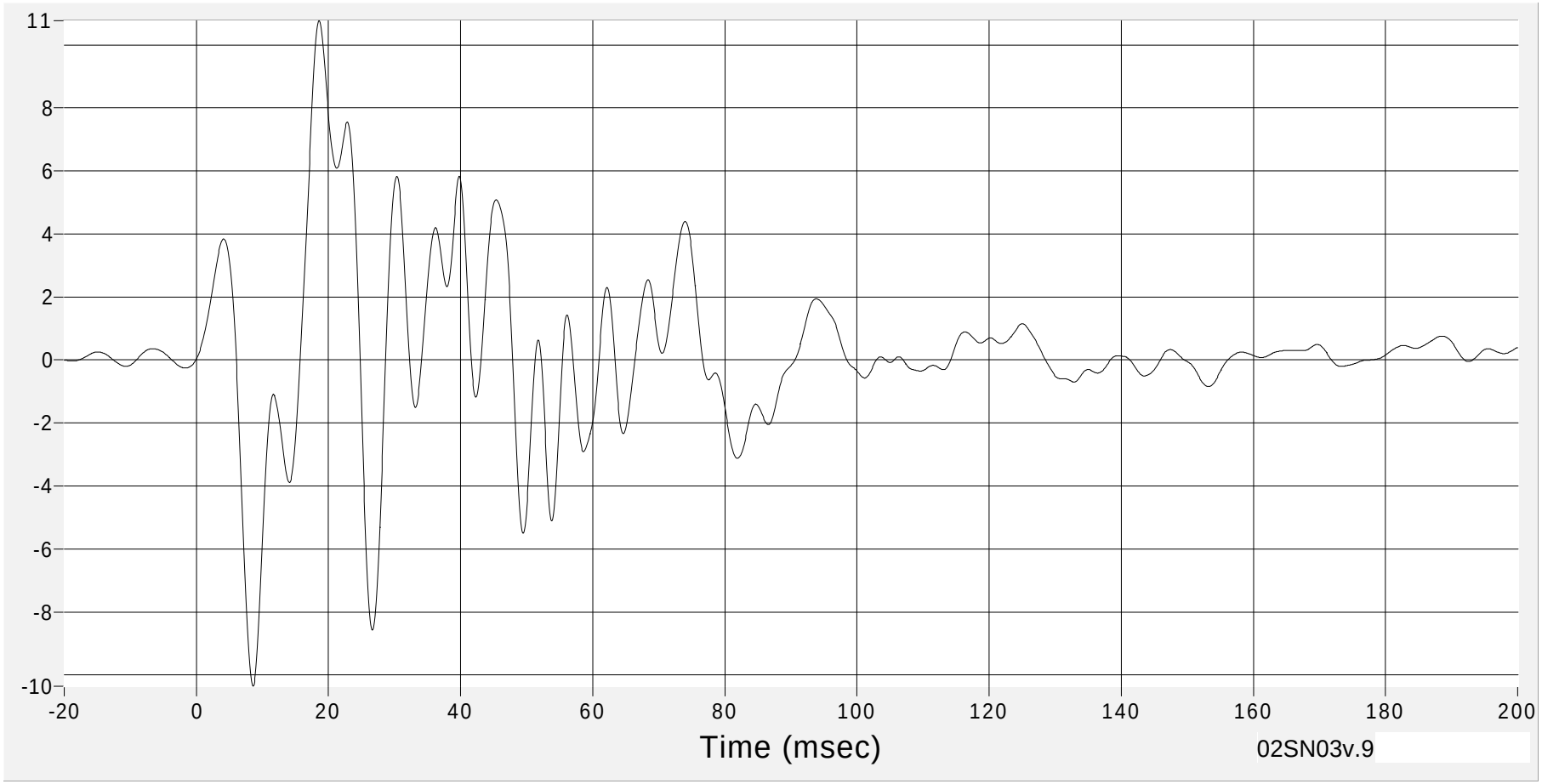
Rear Floorpan Above Axle (Z) Acceleration

Max	**10.8**	**G's**	**at**	**18.6**	**msec**
Min	**-10.4**	**G's**	**at**	**8.6**	**msec**

Acceleration (G's) CFC60



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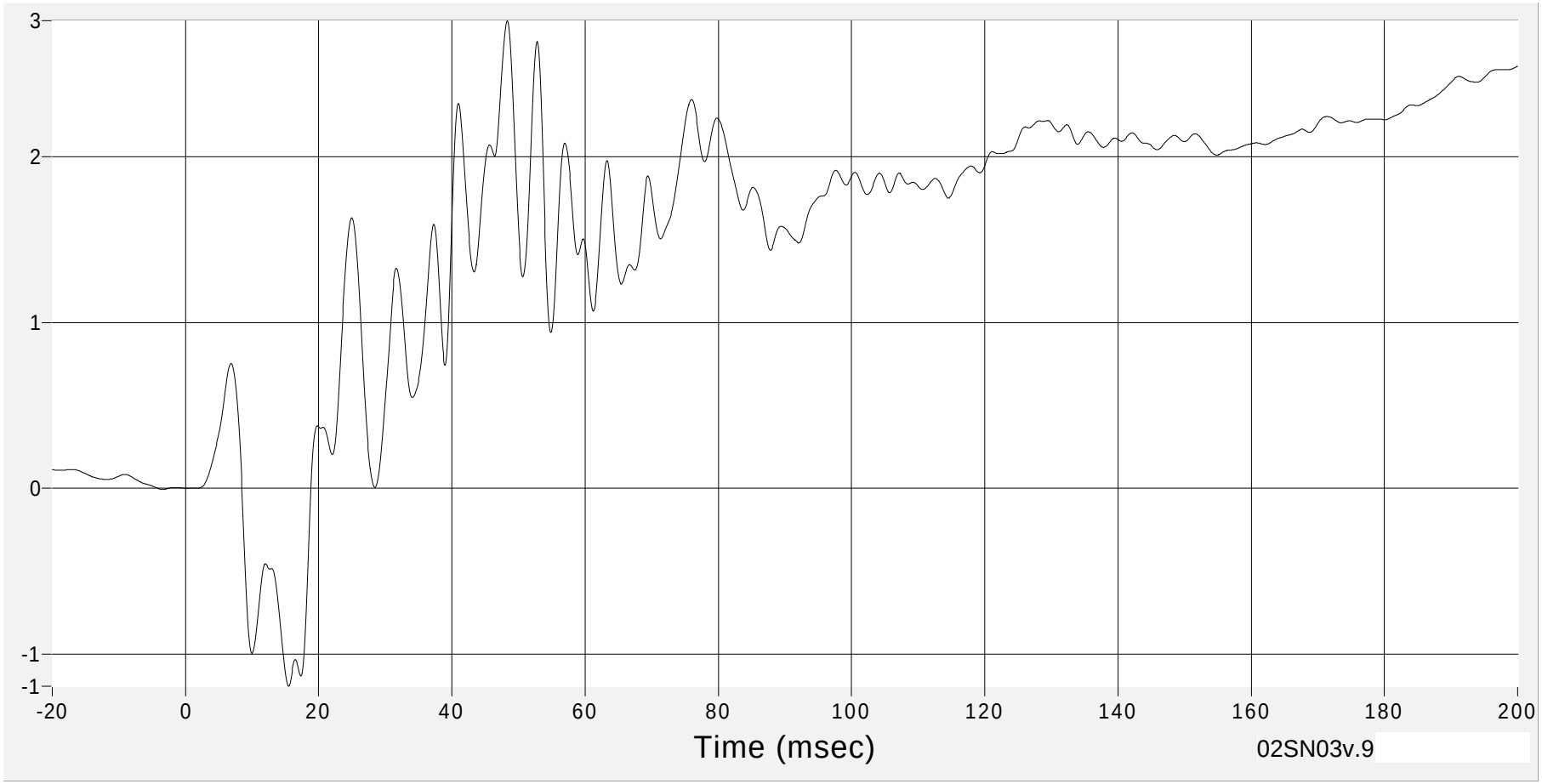
Rear Floorpan Above Axle (Z) Velocity

Max	**2.8**	**km/h**	**at**	**48.3**	**msec**
Min	**-1.2**	**km/h**	**at**	**15.4**	**msec**

Velocity (km/h) CFC180



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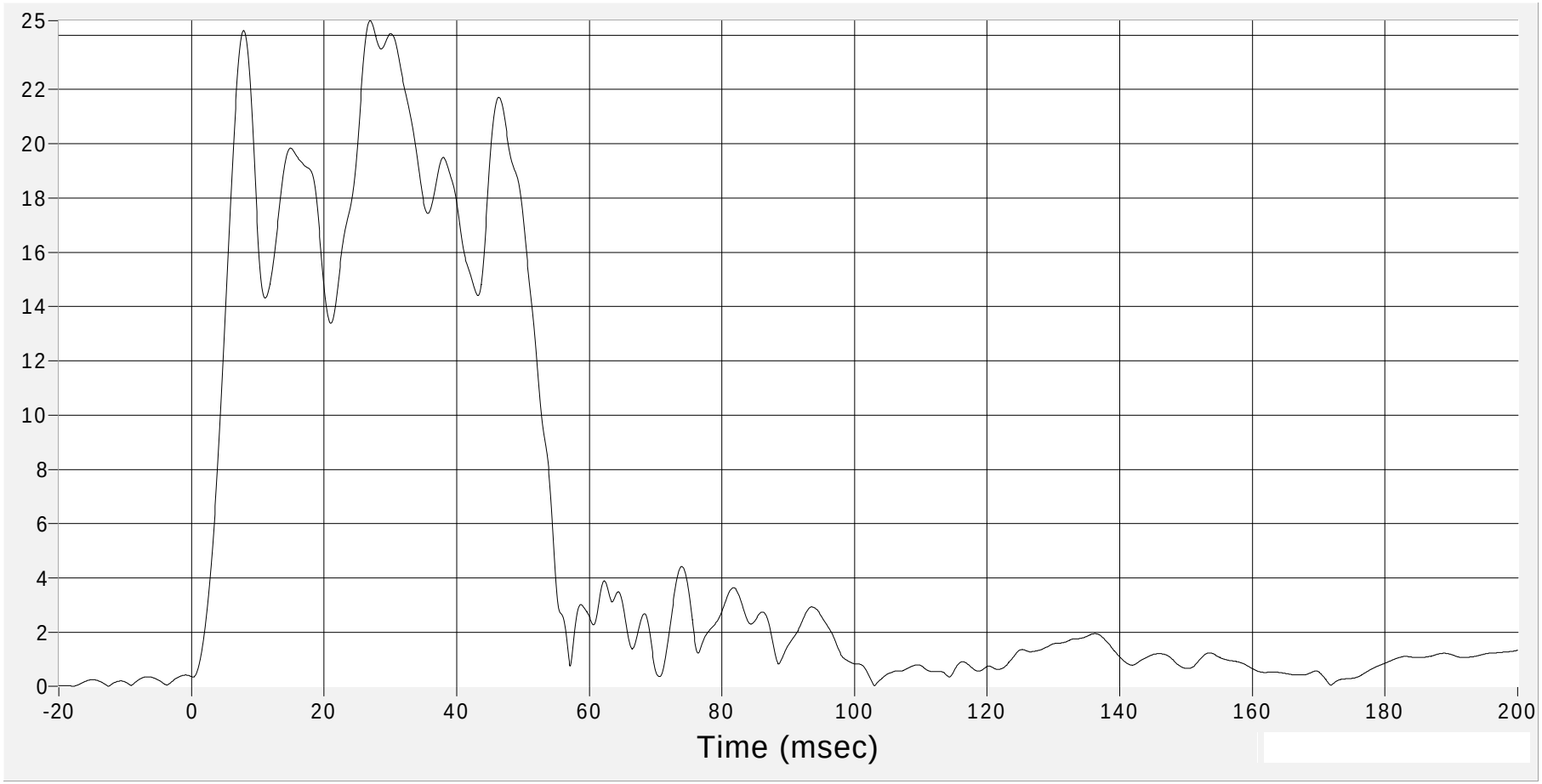
Rear Floorpan Above Axle Resultant Acceleration

Max	**24.5**	**G's**	**at**	**27.0**	**msec**
Min	**0.0**	**G's**	**at**	**103.0**	**msec**

Acceleration (G's) CFC60



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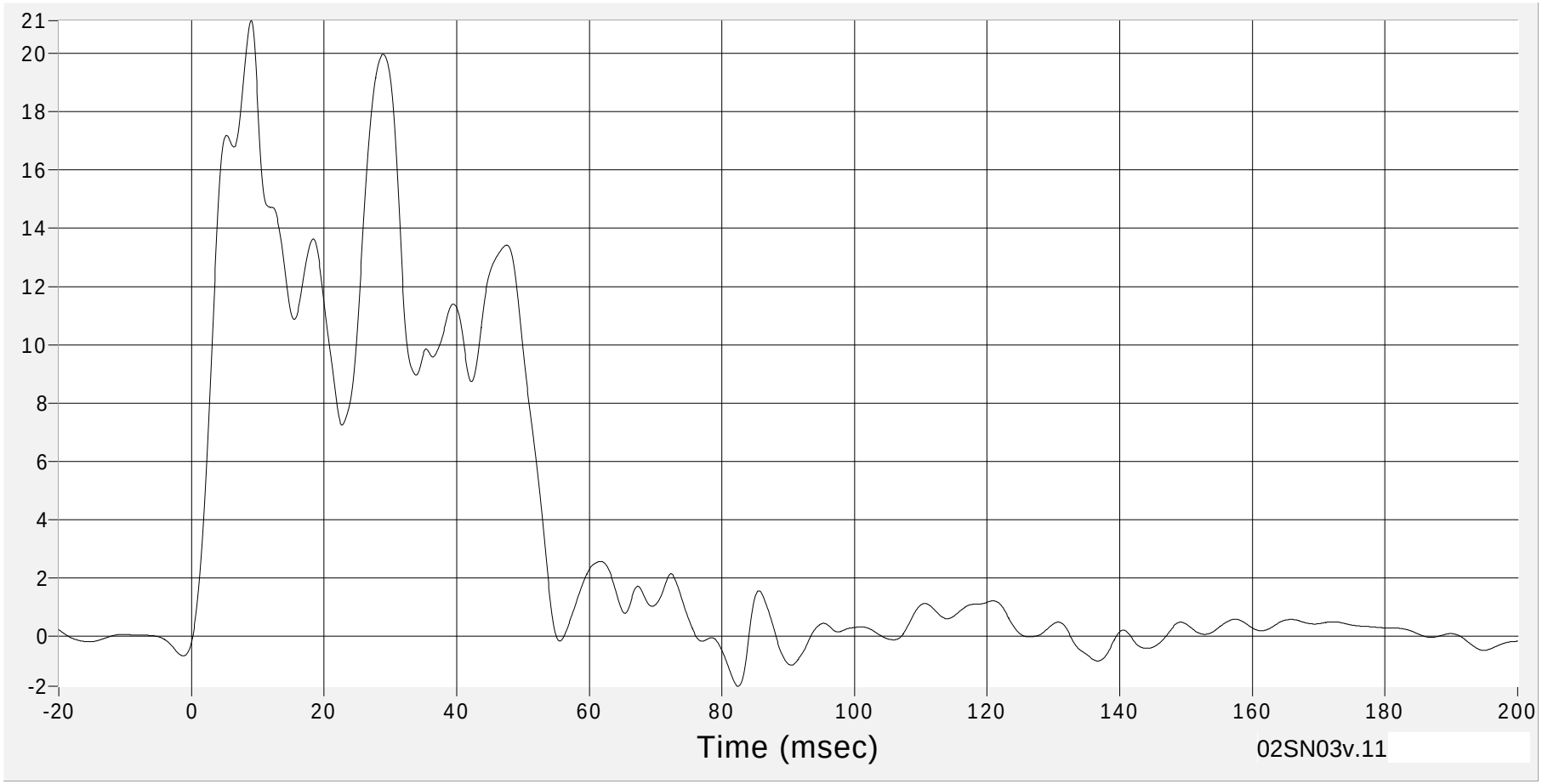
Left Side Sill at Front Seat (Y) Acceleration

Max	**21.1**	**G's**	**at**	**9.0**	**msec**
Min	**-1.7**	**G's**	**at**	**82.5**	**msec**

Acceleration (G's) CFC60



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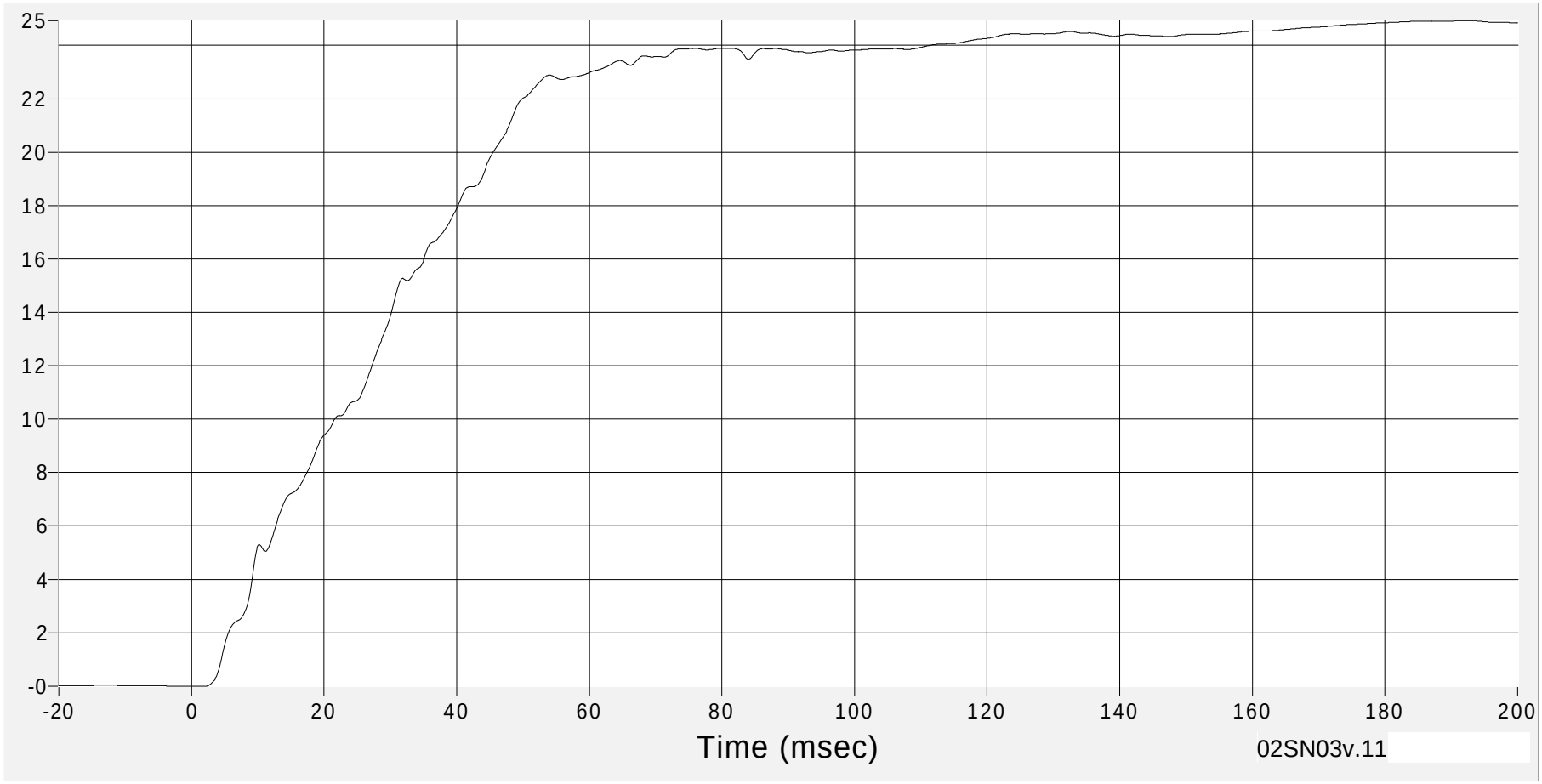
Left Side Sill at Front Seat (Y) Velocity

Max	**24.9**	**km/h**	**at**	**191.8**	**msec**
Min	**0.0**	**km/h**	**at**	**2.0**	**msec**

Velocity (km/h) CFC180



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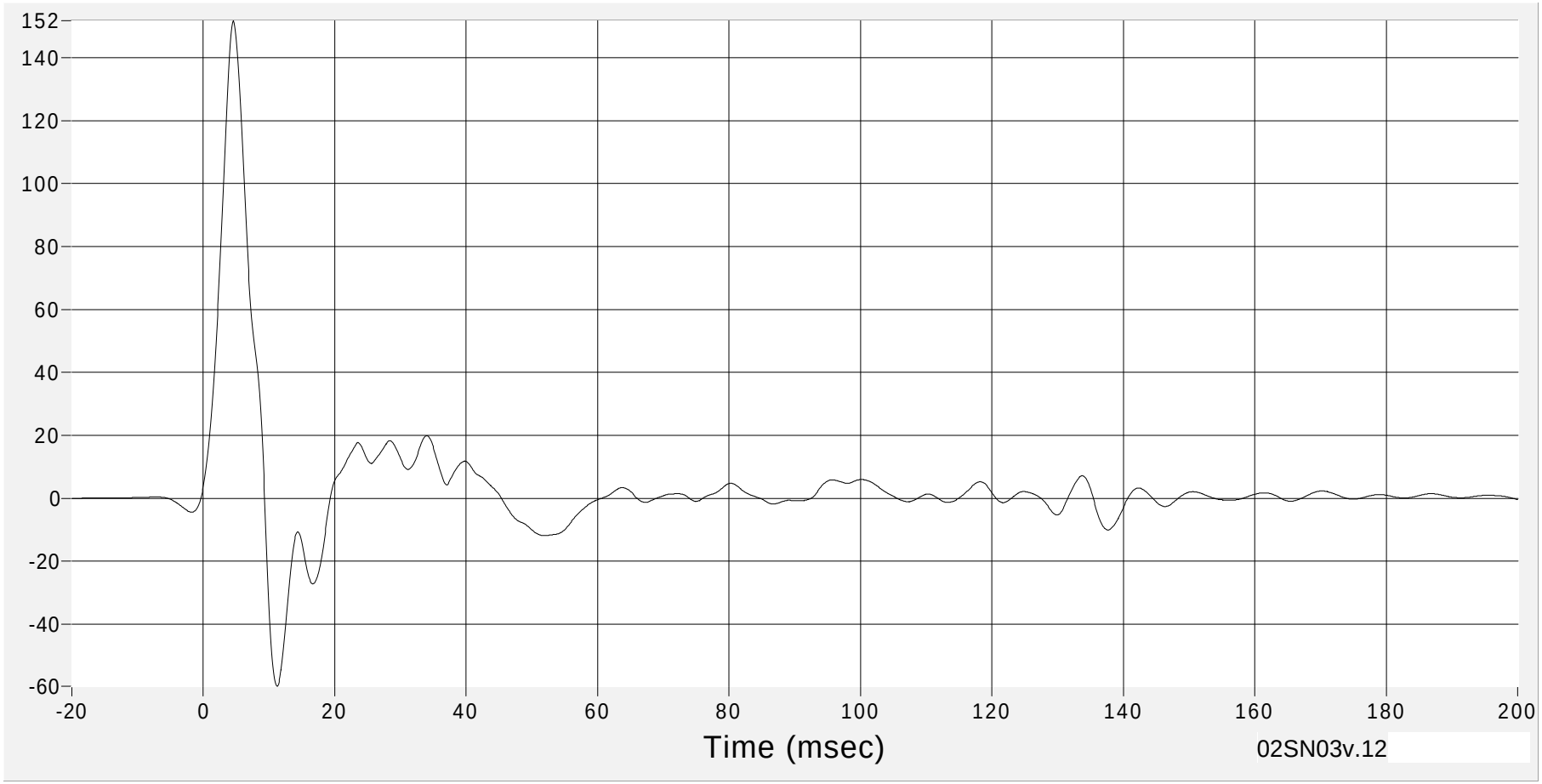
Left Front Door on Centerline (Y) Acceleration

Max	**151.8**	**G's**	**at**	**4.6**	**msec**
Min	**-59.8**	**G's**	**at**	**11.2**	**msec**

Acceleration (G's) CFC60



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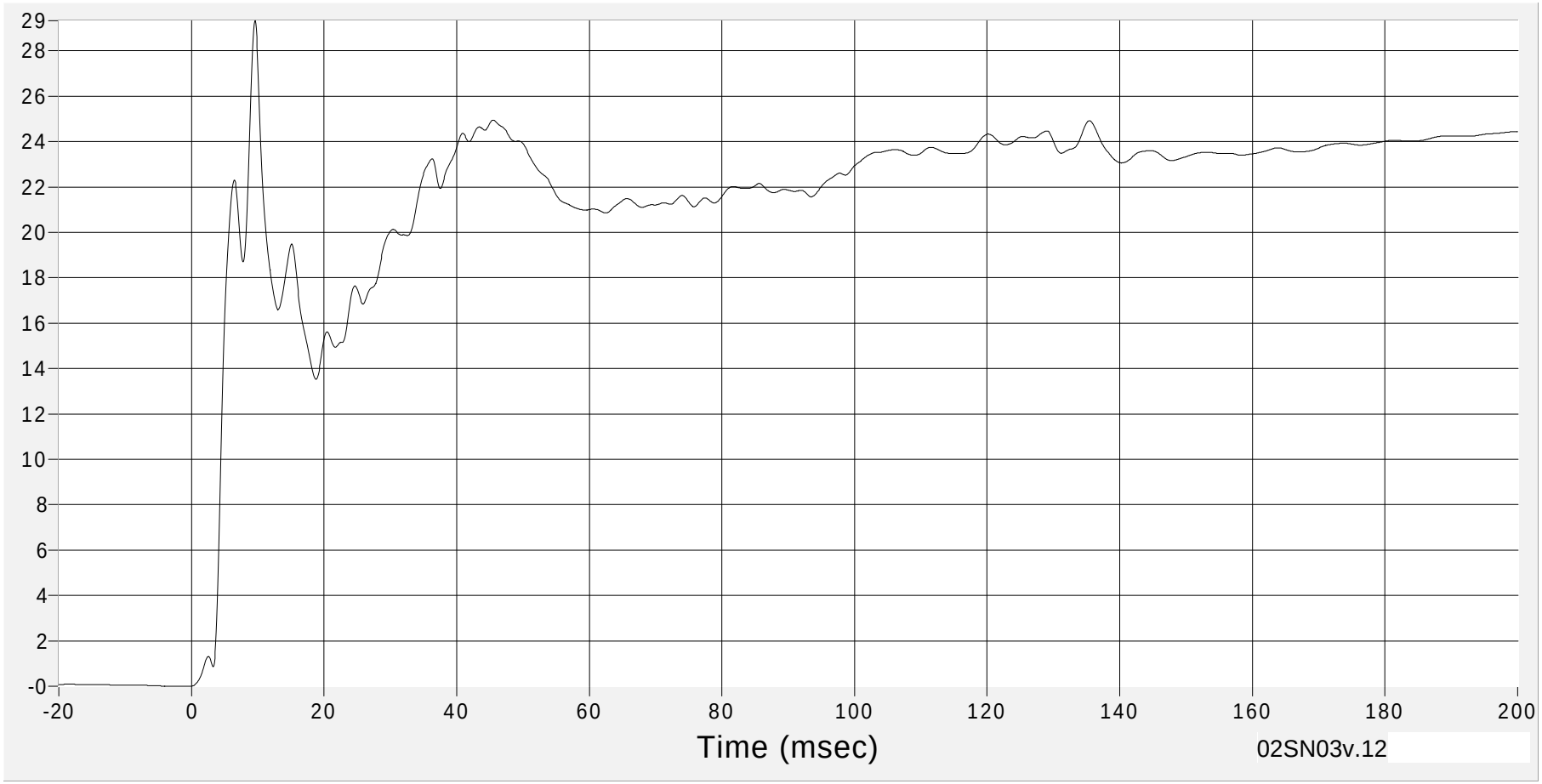
Left Front Door on Centerline (Y) Velocity

Max	**29.3**	**km/h**	**at**	**9.6**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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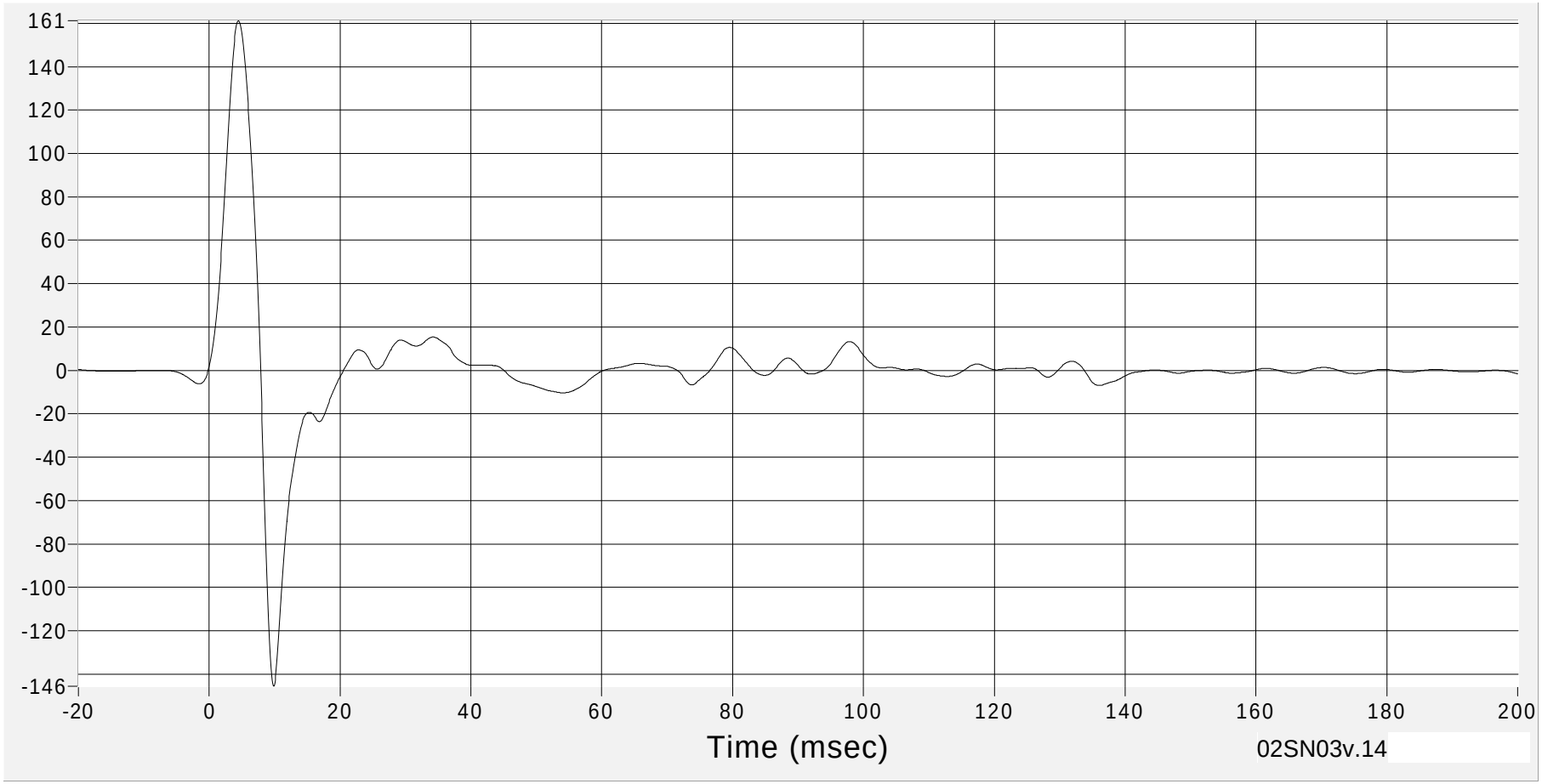
Mid-Rear of Left Front Door (Y) Acceleration

Max	**161.2**	**G's**	**at**	**4.5**	**msec**
Min	**-145.6**	**G's**	**at**	**9.8**	**msec**

Acceleration (G's) CFC60



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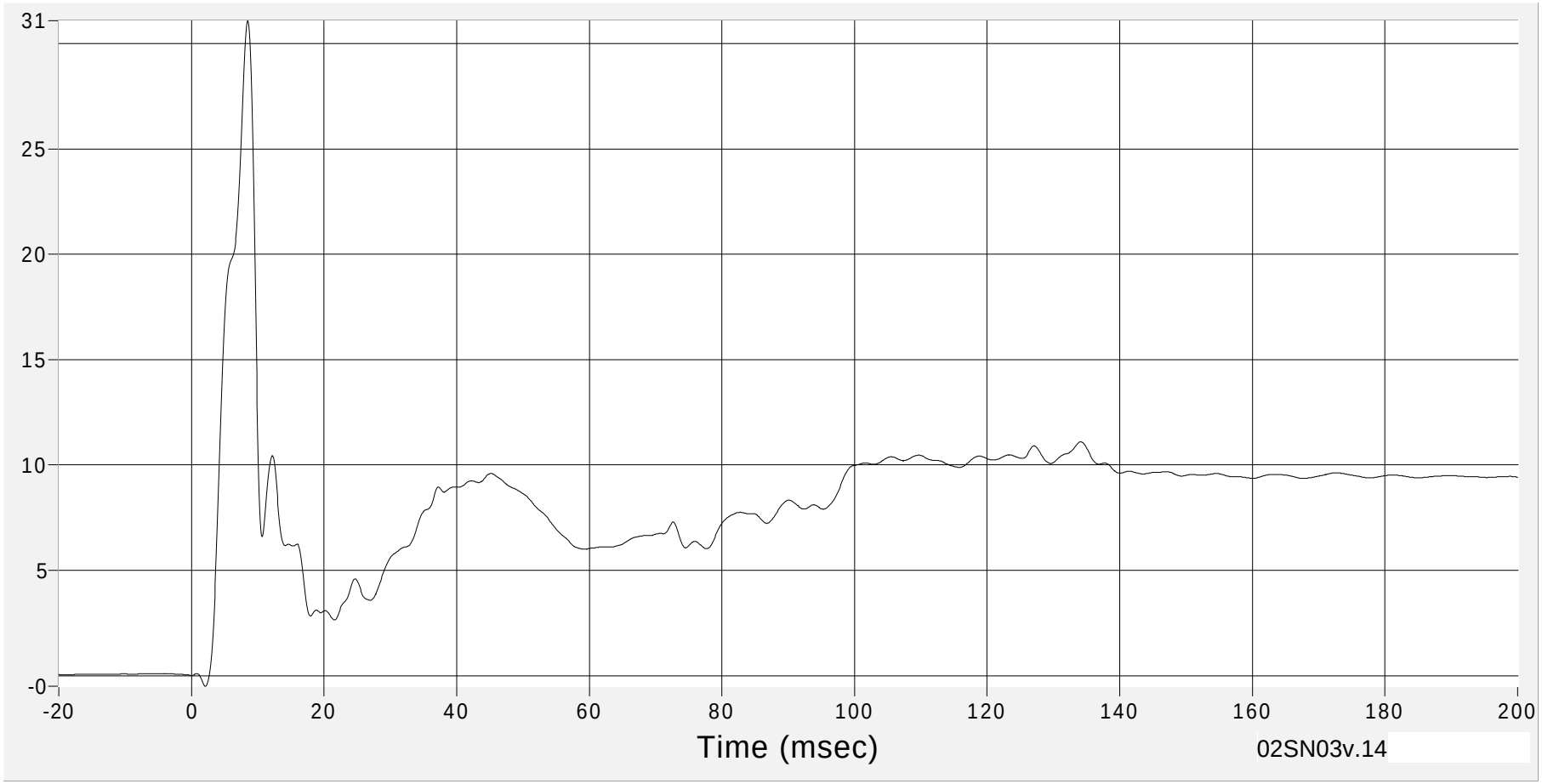
Mid-Rear of Left Front Door (Y) Velocity

Max	**31.1**	**km/h**	**at**	**8.5**	**msec**
Min	**-0.5**	**km/h**	**at**	**2.1**	**msec**

Velocity (km/h) CFC180



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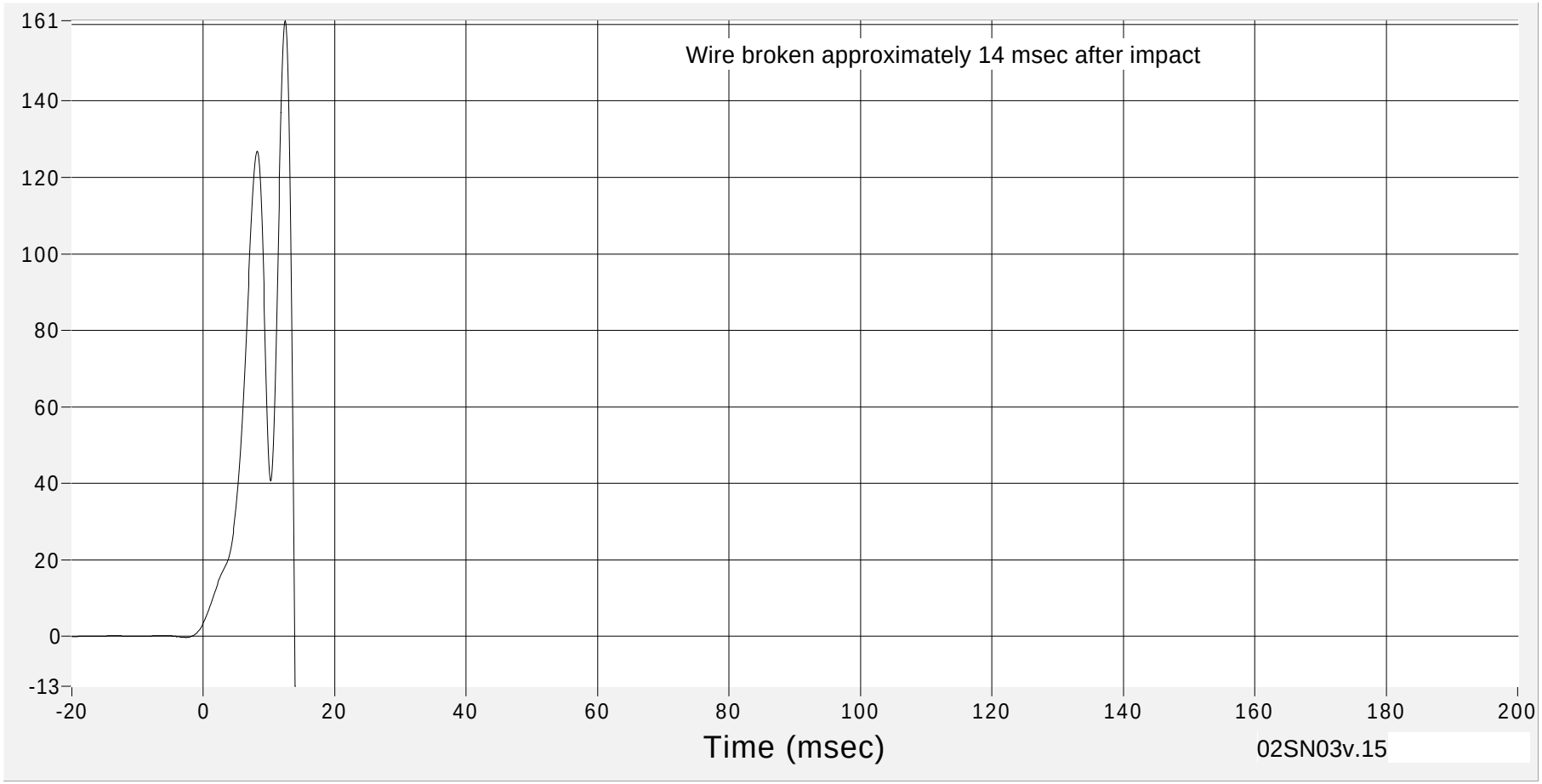
Left Front Door Upper Centerline (Y) Acceleration

Max	**161.0**	**G's**	**at**	**12.5**	**msec**
Min	**-13.0**	**G's**	**at**	**13.9**	**msec**

Acceleration (G's) CFC60



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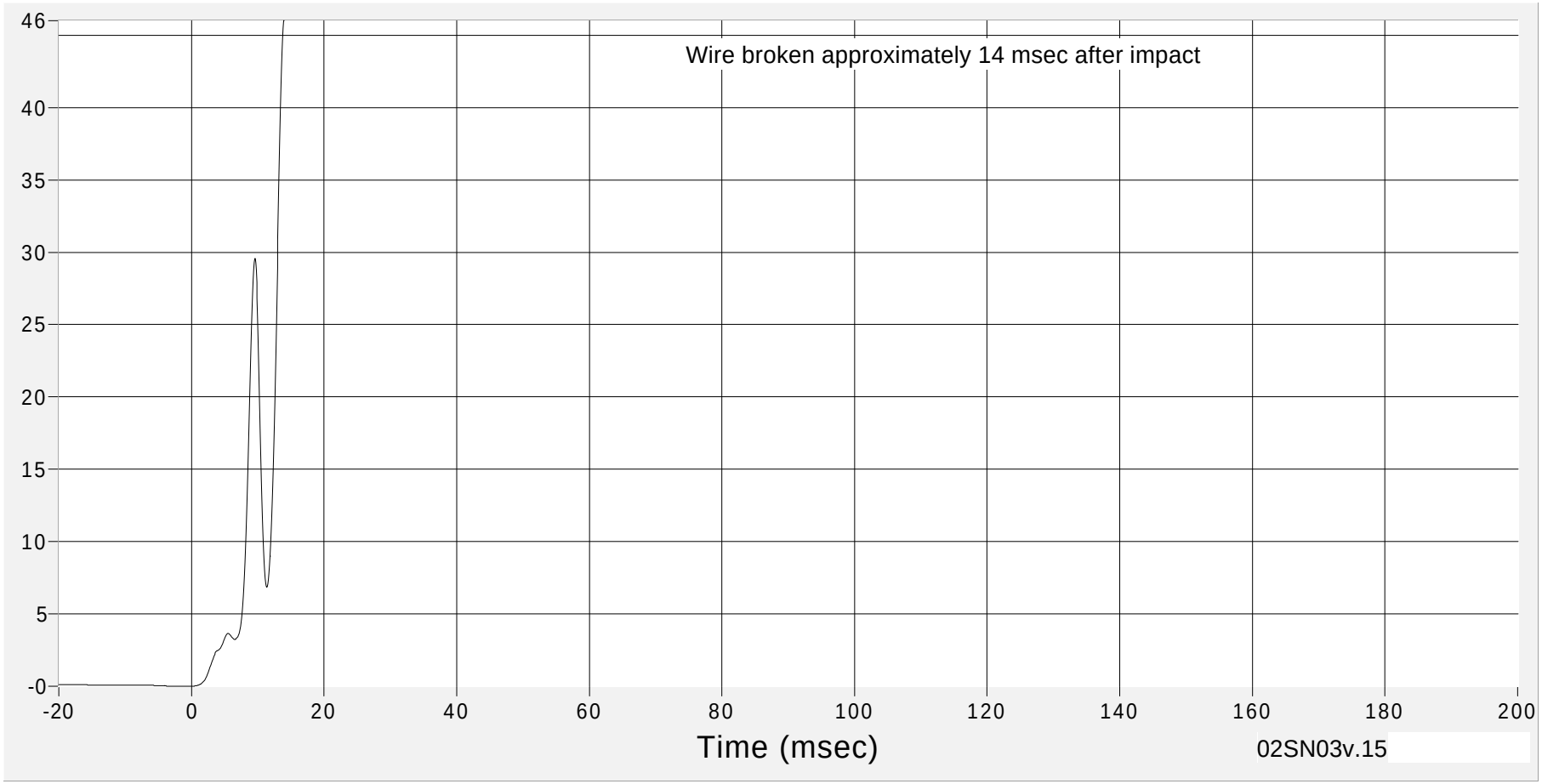
Left Front Door Upper Centerline (Y) Velocity

Max	**46.0**	**km/h**	**at**	**13.9**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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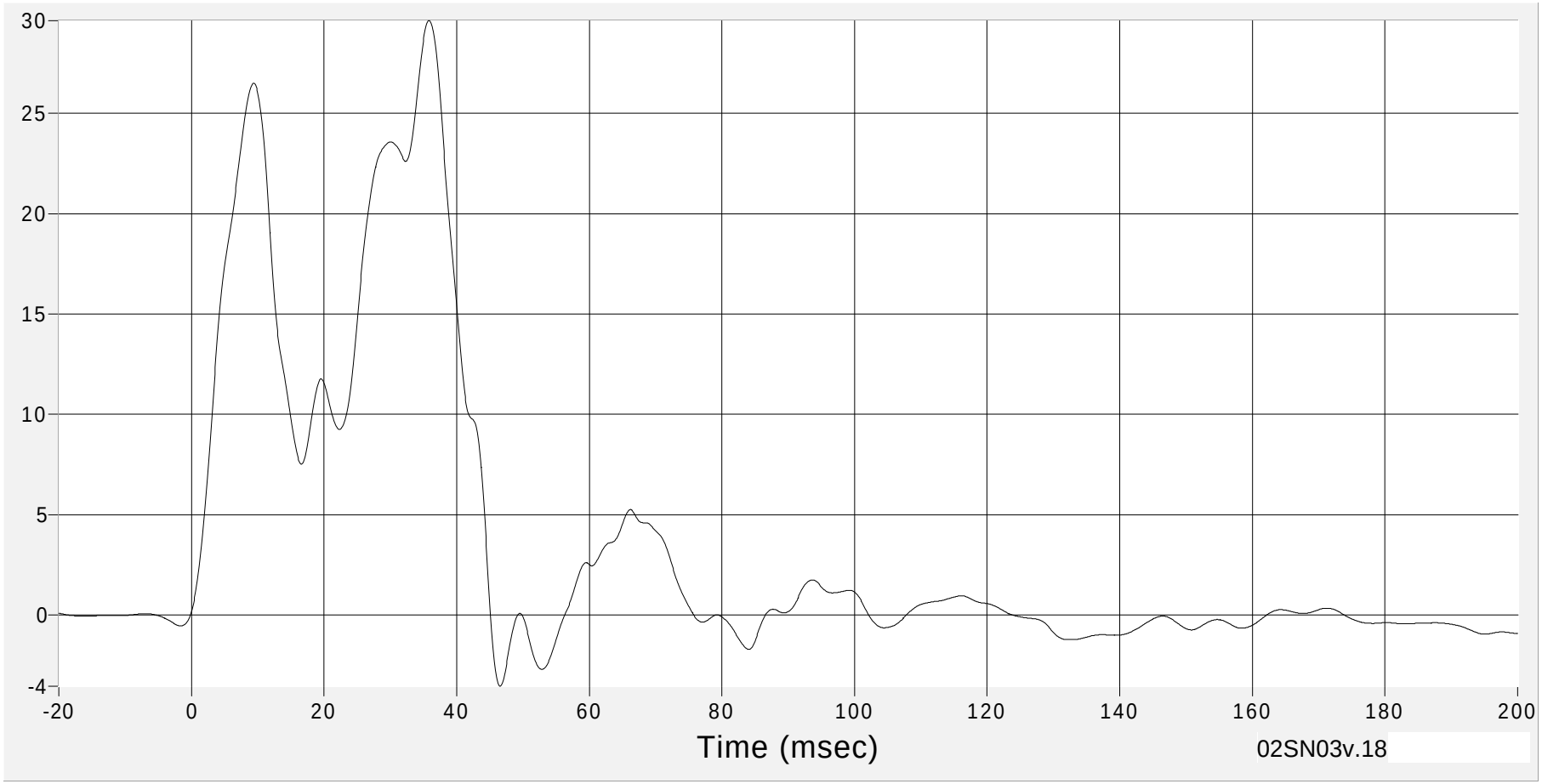
Left Lower B-Pillar (Y) Acceleration

Max	**29.6**	**G's**	**at**	**35.8**	**msec**
Min	**-3.5**	**G's**	**at**	**46.6**	**msec**

Acceleration (G's) CFC60



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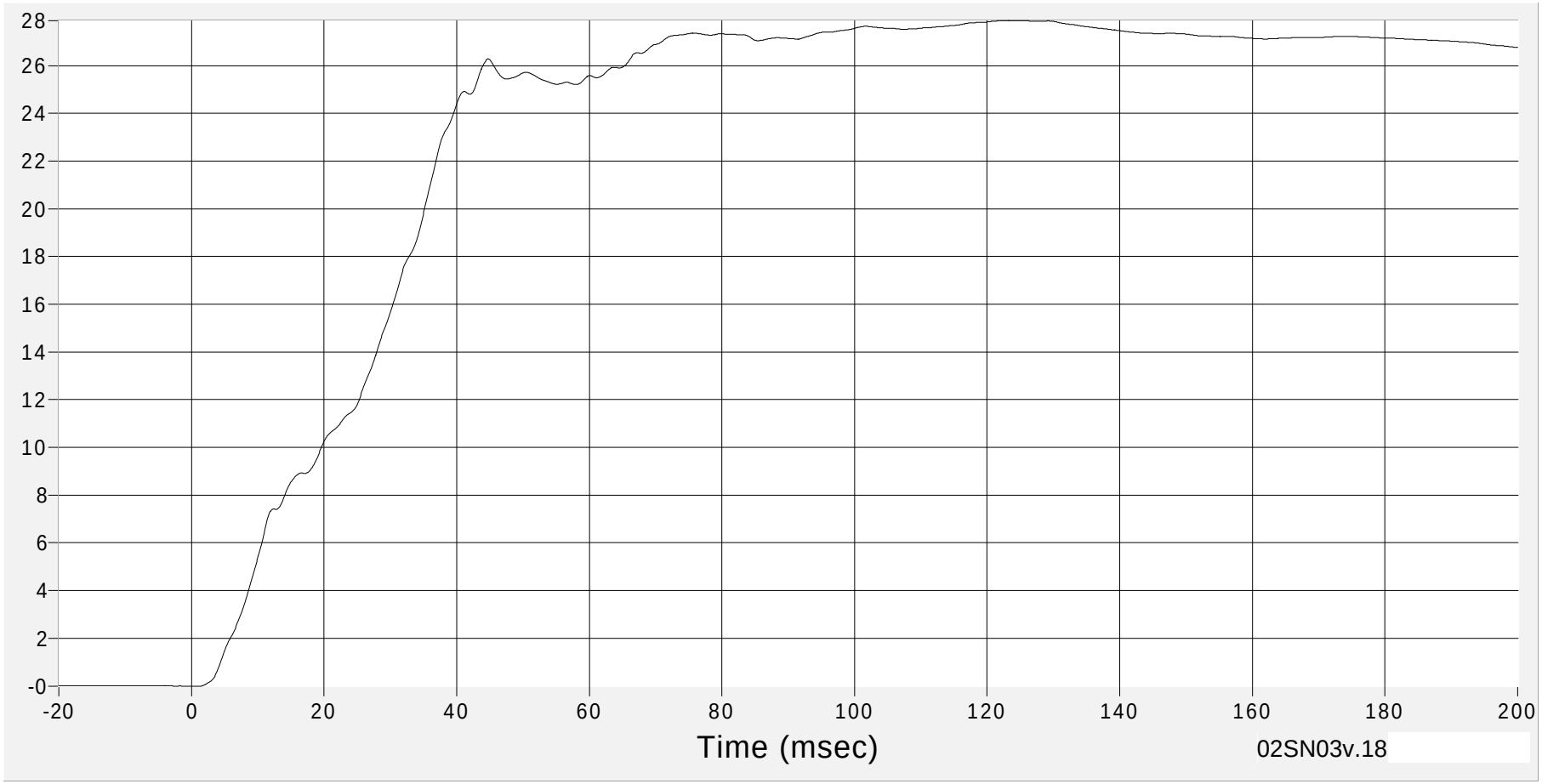
Left Lower B-Pillar (Y) Velocity

Max	**27.9**	**km/h**	**at**	**122.6**	**msec**
Min	**0.0**	**km/h**	**at**	**1.0**	**msec**

Velocity (km/h) CFC180



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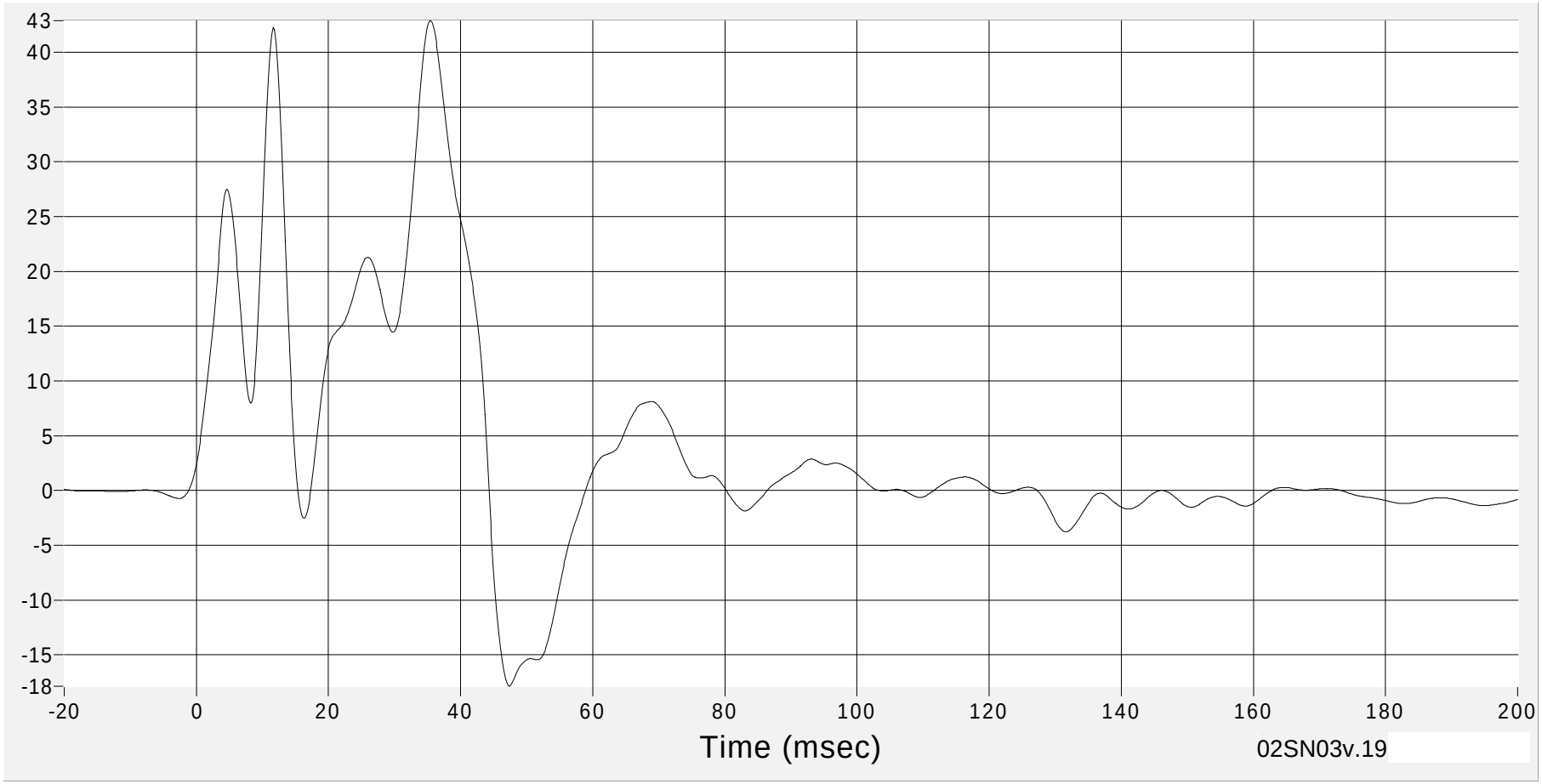
Left Middle B-Pillar (Y) Acceleration

Max	**42.9**	**G's**	**at**	**35.4**	**msec**
Min	**-17.9**	**G's**	**at**	**47.4**	**msec**

Acceleration (G's) CFC60



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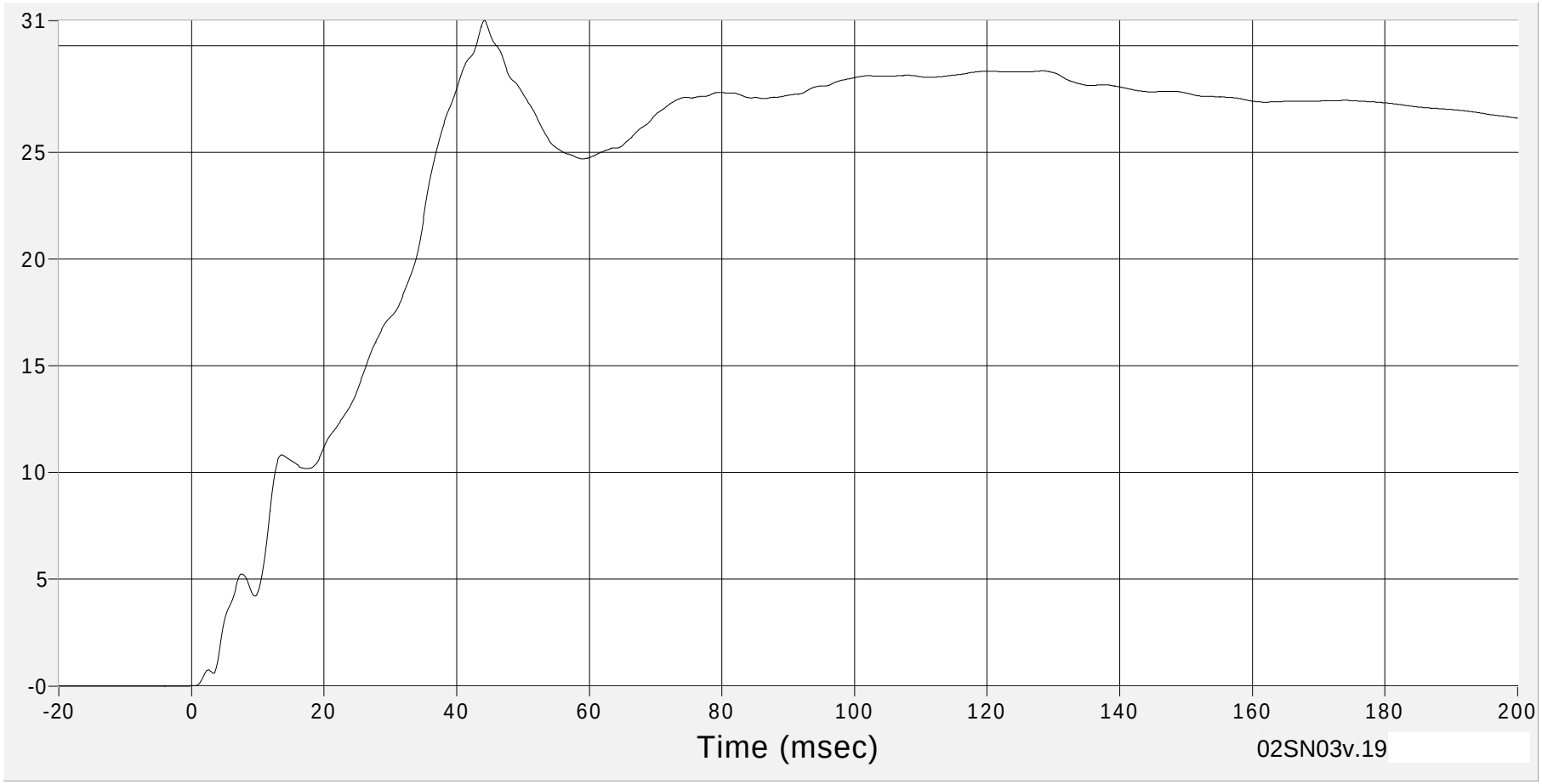
Left Middle B-Pillar (Y) Velocity

Max	**31.2**	**km/h**	**at**	**44.2**	**msec**
Min	**0.0**	**km/h**	**at**	**0.3**	**msec**

Velocity (km/h) CFC180



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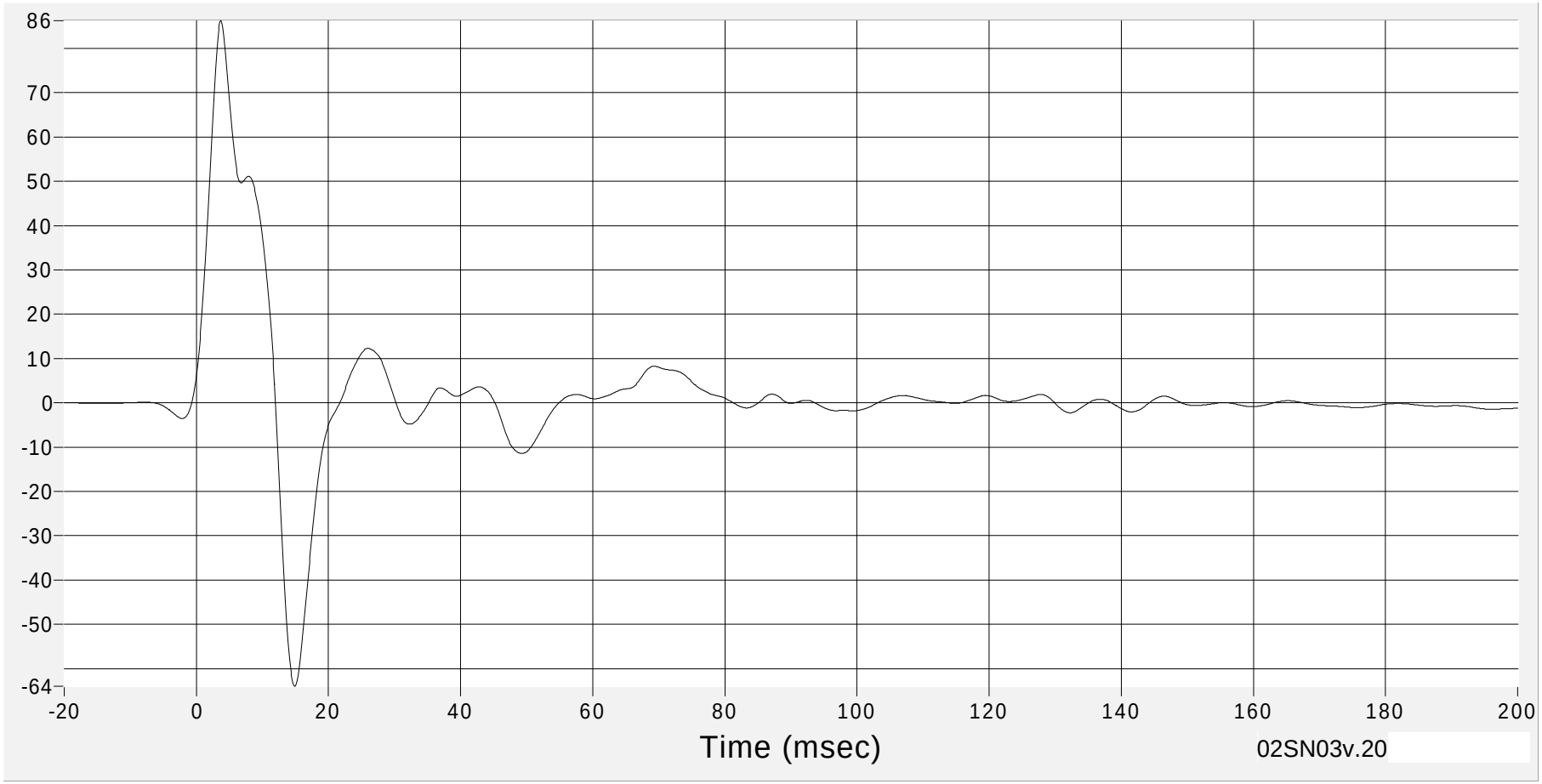
Left Lower A-Pillar (Y) Acceleration

Max	**86.3**	**G's**	**at**	**3.7**	**msec**
Min	**-64.0**	**G's**	**at**	**14.9**	**msec**

Acceleration (G's) CFC60



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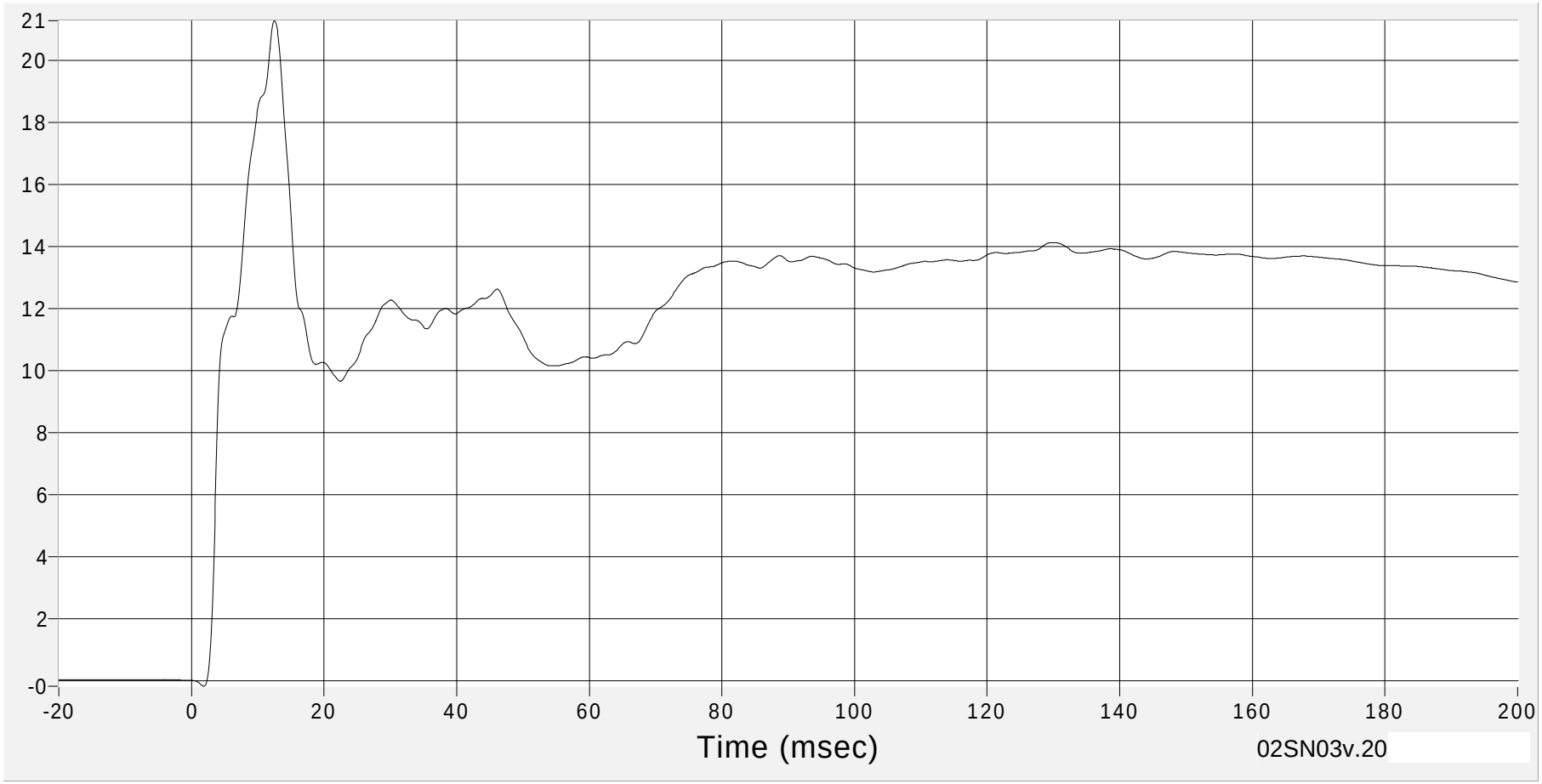
Left Lower A-Pillar (Y) Velocity

Max	**21.3**	**km/h**	**at**	**12.5**	**msec**
Min	**-0.2**	**km/h**	**at**	**1.8**	**msec**

Velocity (km/h) CFC180



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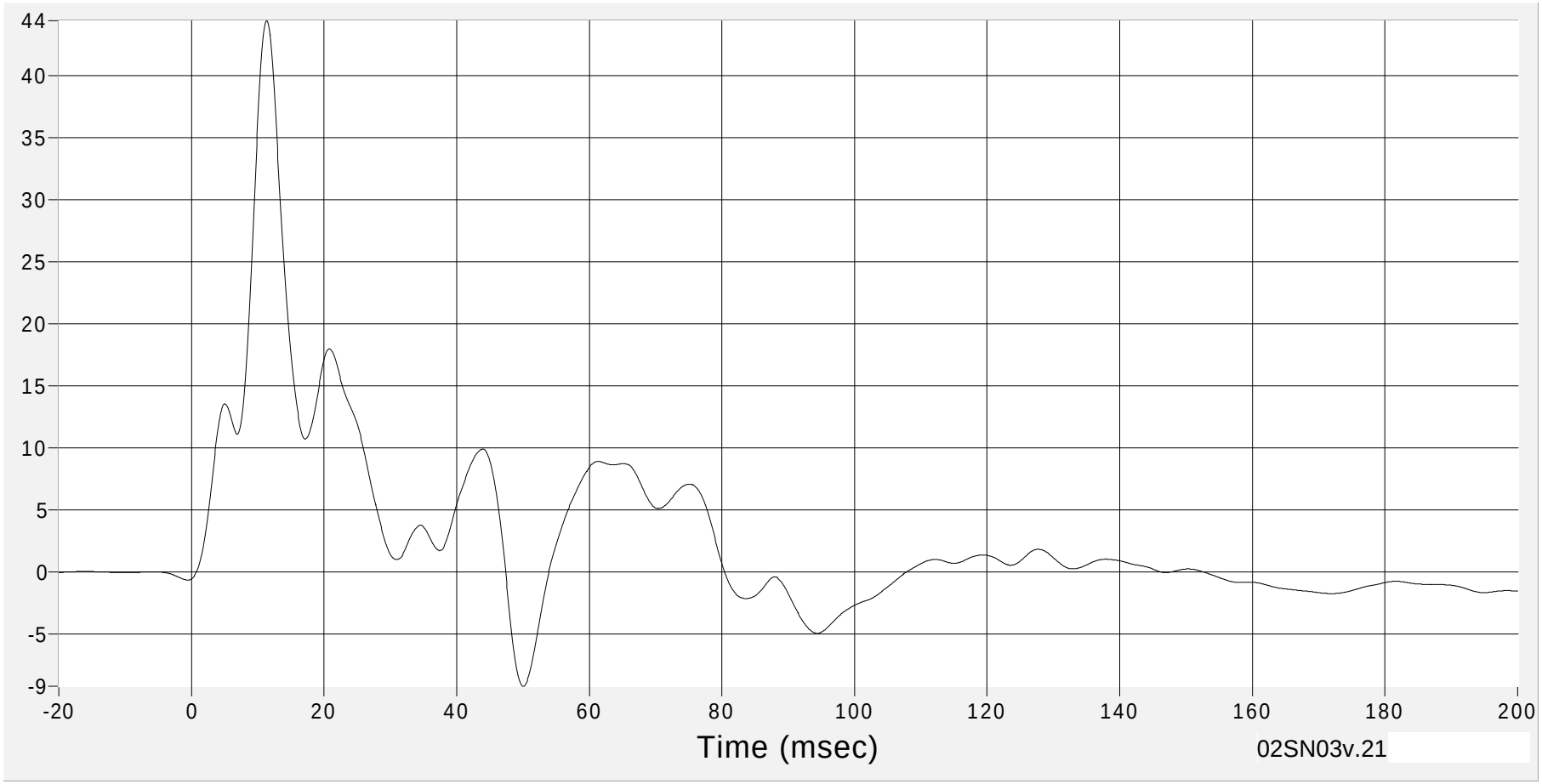
Left Middle A-Pillar (Y) Acceleration

Max	**44.4**	**G's**	**at**	**11.4**	**msec**
Min	**-9.2**	**G's**	**at**	**50.0**	**msec**

Acceleration (G's) CFC60



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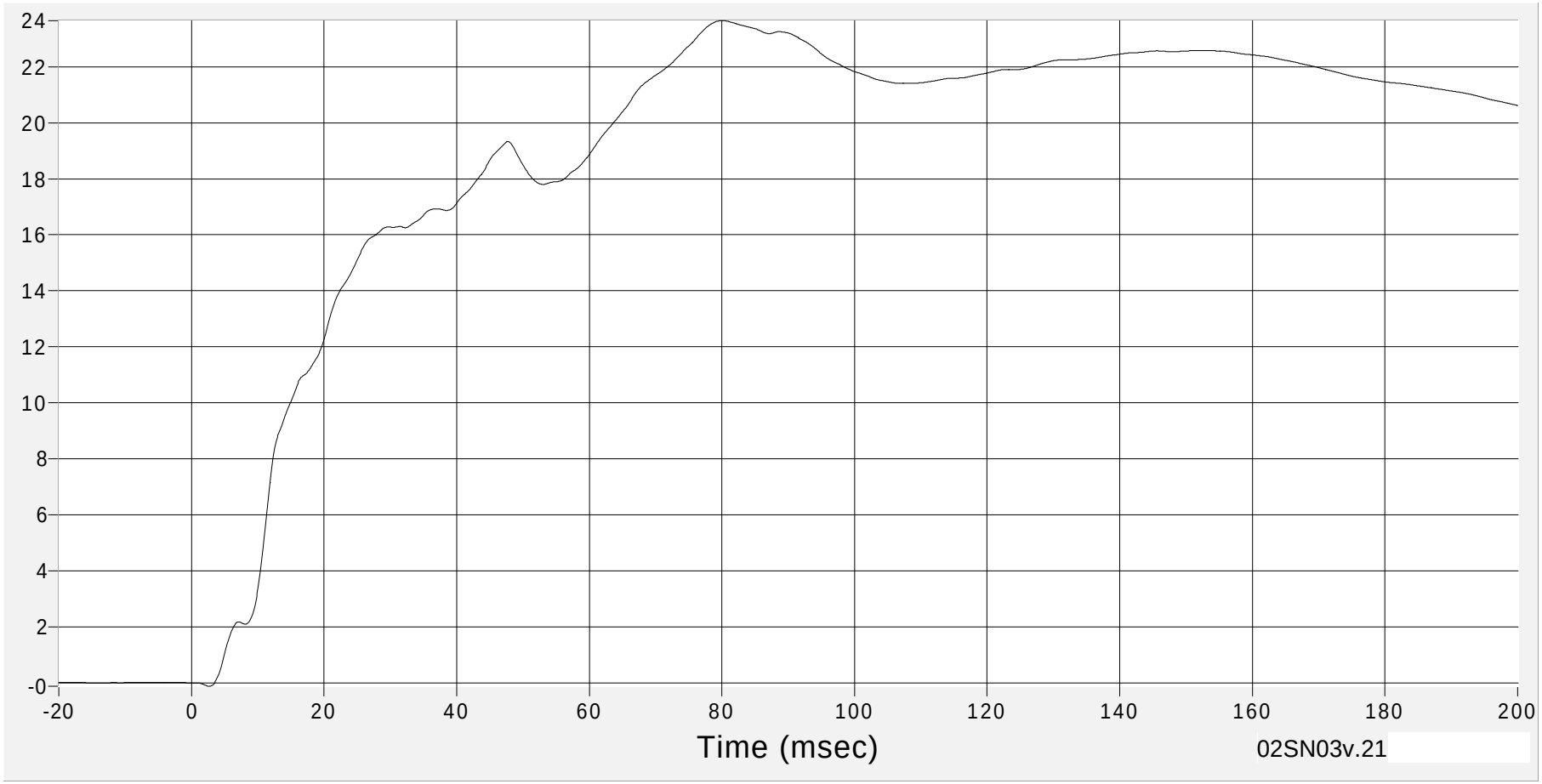
Left Middle A-Pillar (Y) Velocity

Max	**23.6**	**km/h**	**at**	**80.1**	**msec**
Min	**-0.1**	**km/h**	**at**	**2.7**	**msec**

Velocity (km/h) CFC180



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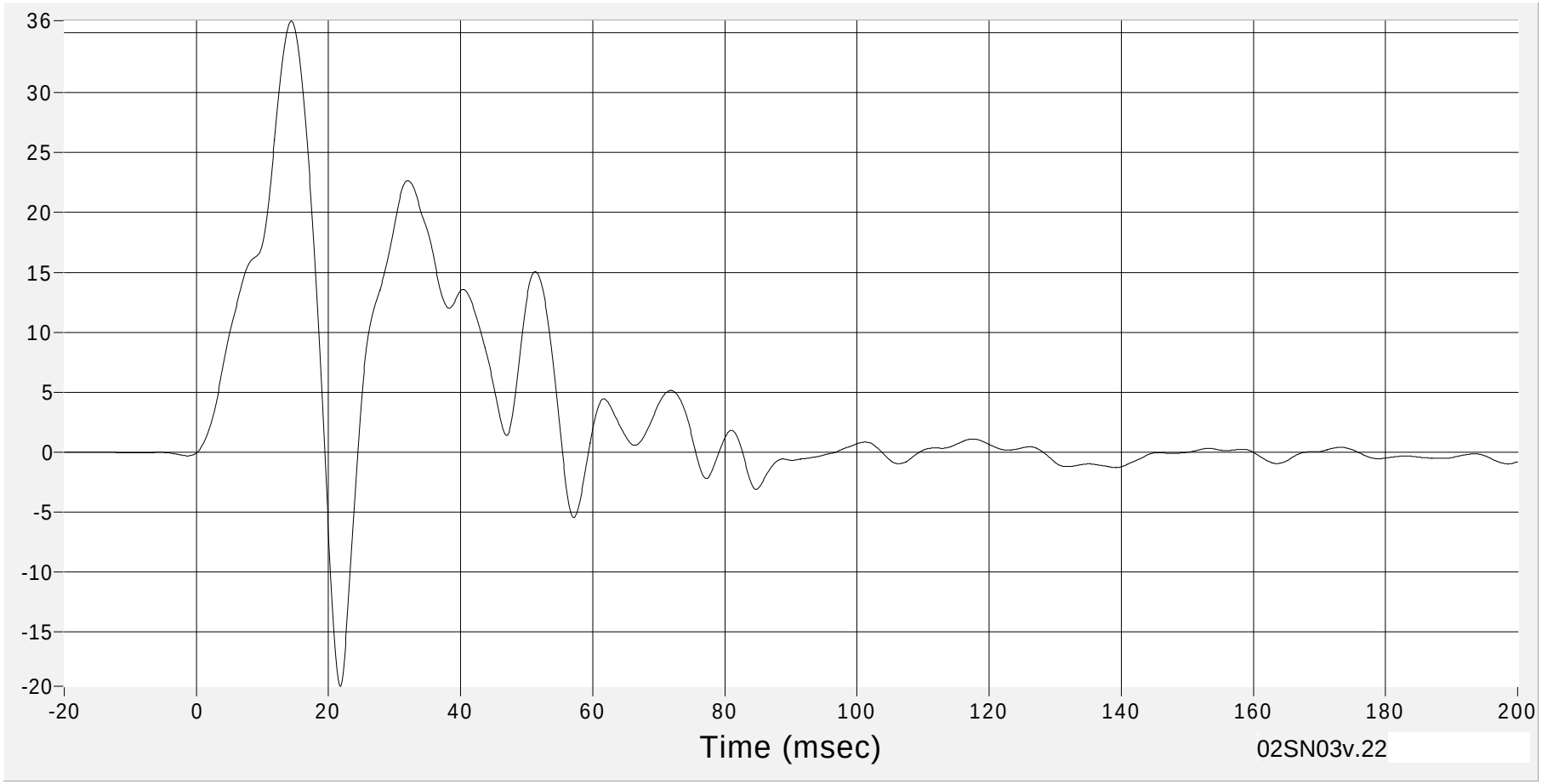
Front Seat Track (Y) Acceleration

Max	**36.0**	**G's**	**at**	**14.4**	**msec**
Min	**-19.5**	**G's**	**at**	**21.8**	**msec**

Acceleration (G's) CFC60



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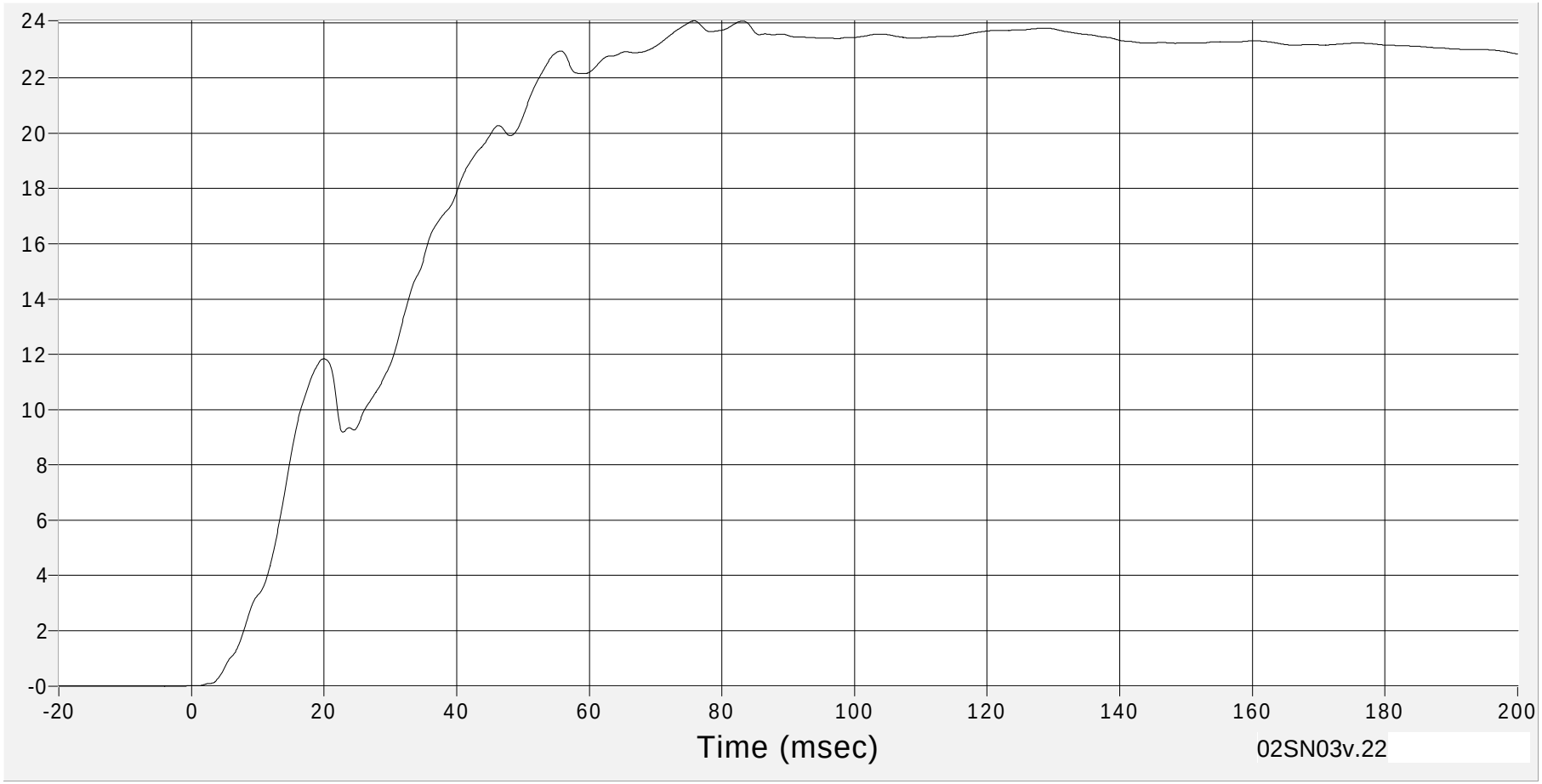
Front Seat Track (Y) Velocity

Max	**24.1**	**km/h**	**at**	**75.8**	**msec**
Min	**0.0**	**km/h**	**at**	**0.5**	**msec**

Velocity (km/h) CFC180



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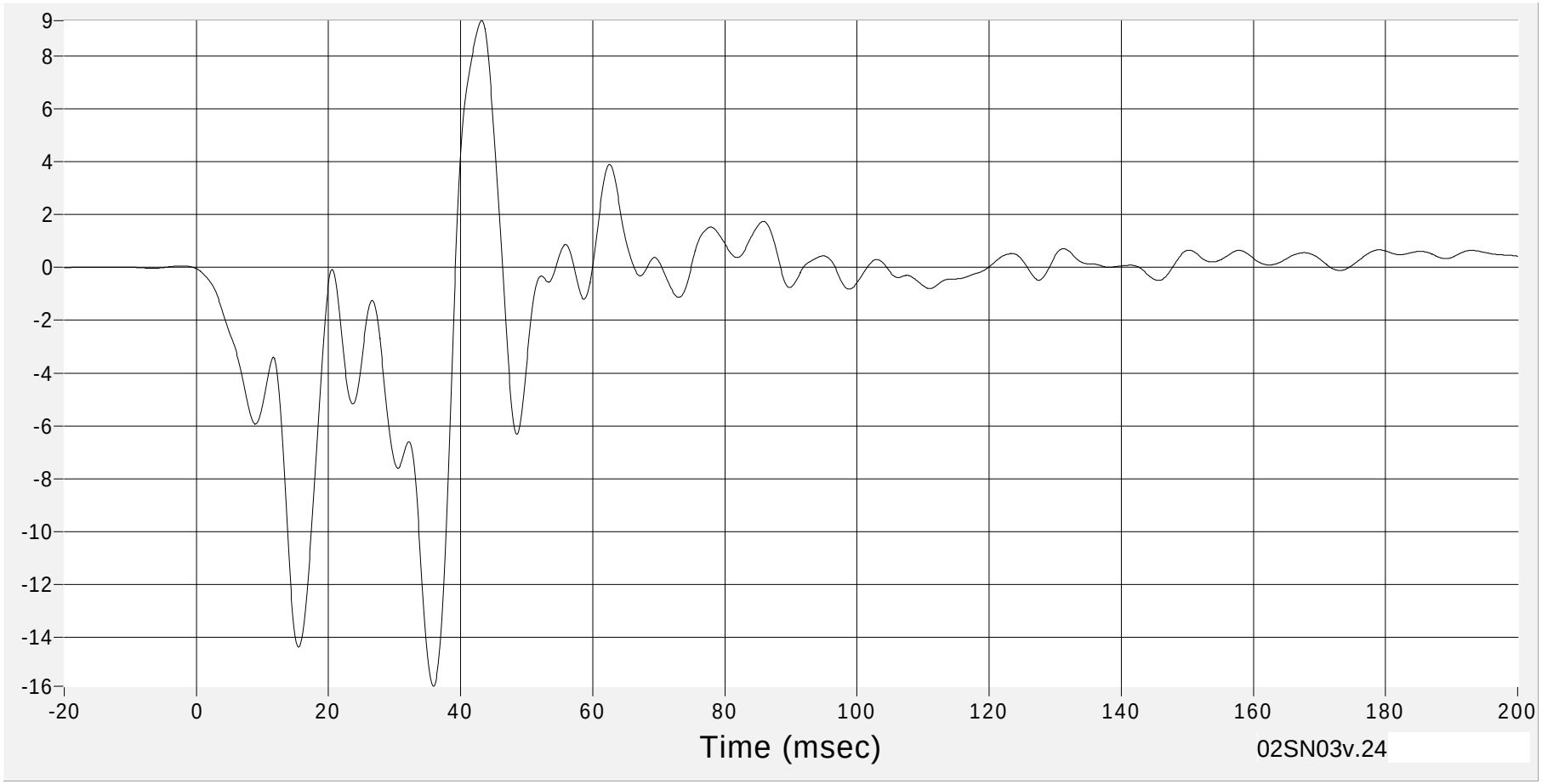
Vehicle Center of Gravity (X) Acceleration

Max	**9.3**	**G's**	**at**	**43.2**	**msec**
Min	**-15.9**	**G's**	**at**	**35.8**	**msec**

Acceleration (G's) CFC60



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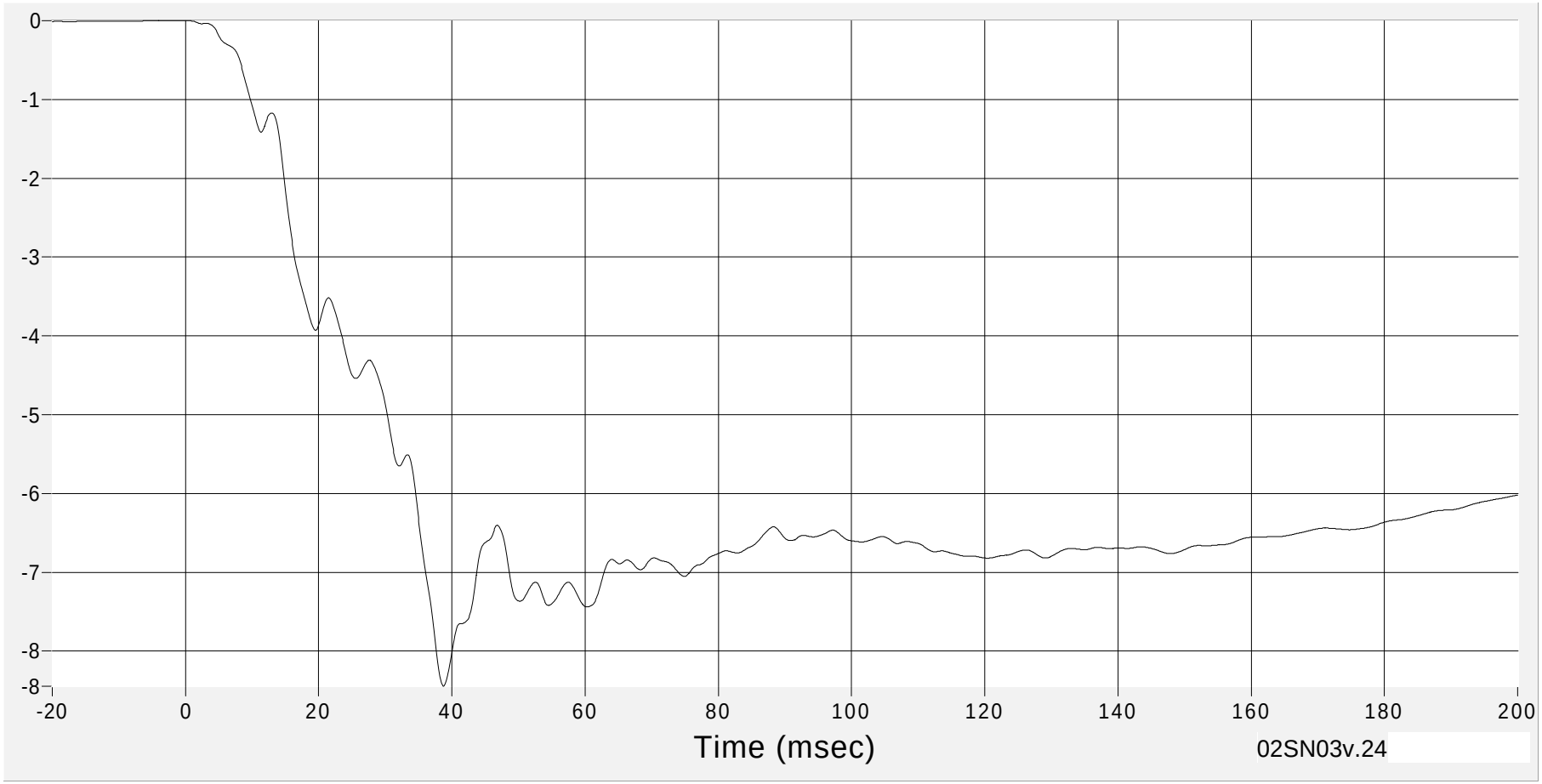
Vehicle Center of Gravity (X) Velocity

Max	**0.0**	**km/h**	**at**	**0.2**	**msec**
Min	**-8.4**	**km/h**	**at**	**38.7**	**msec**

Velocity (km/h) CFC180



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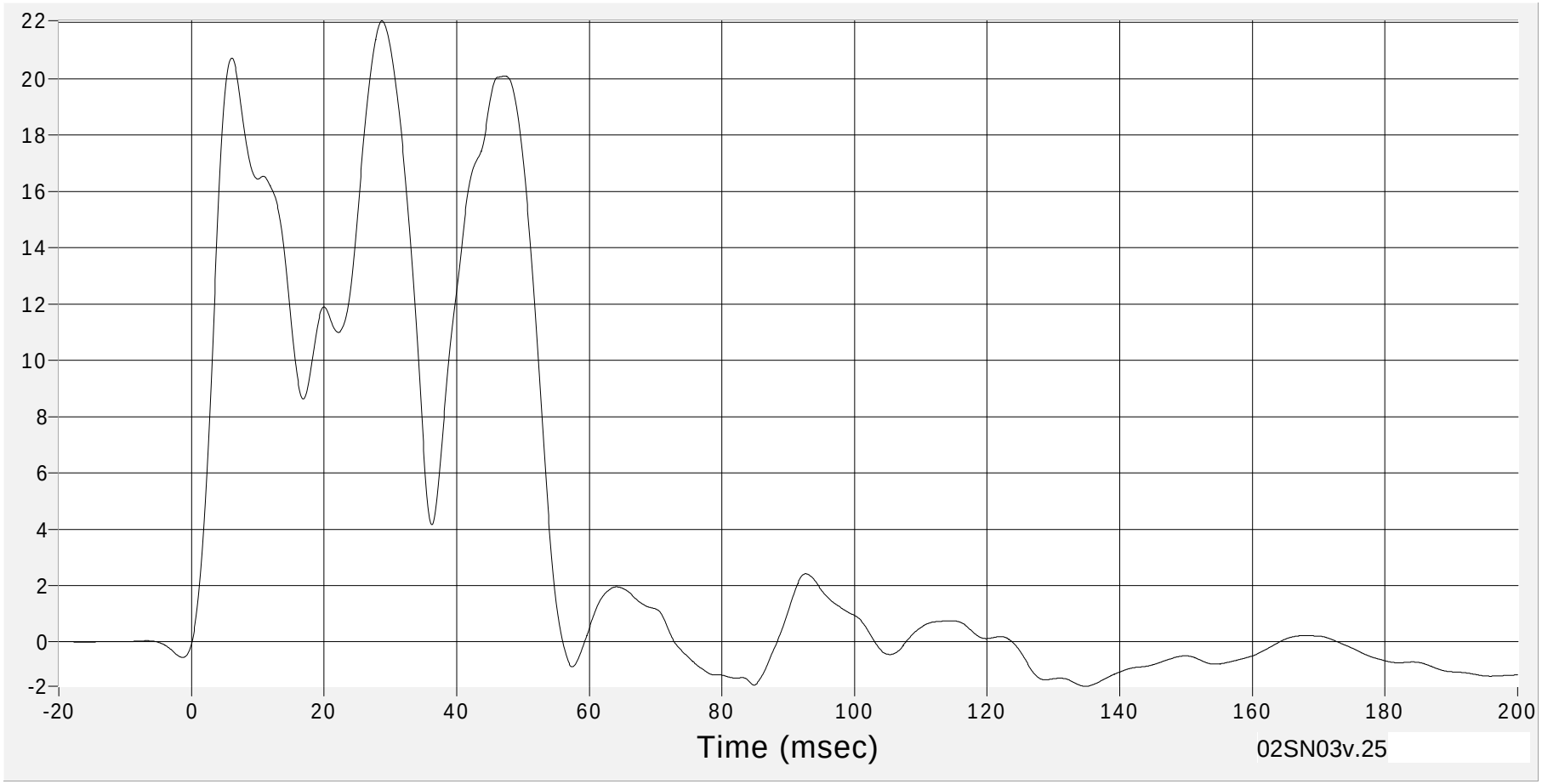
Vehicle Center of Gravity (Y) Acceleration

Max	**22.1**	**G's**	**at**	**28.7**	**msec**
Min	**-1.6**	**G's**	**at**	**134.8**	**msec**

Acceleration (G's) CFC60



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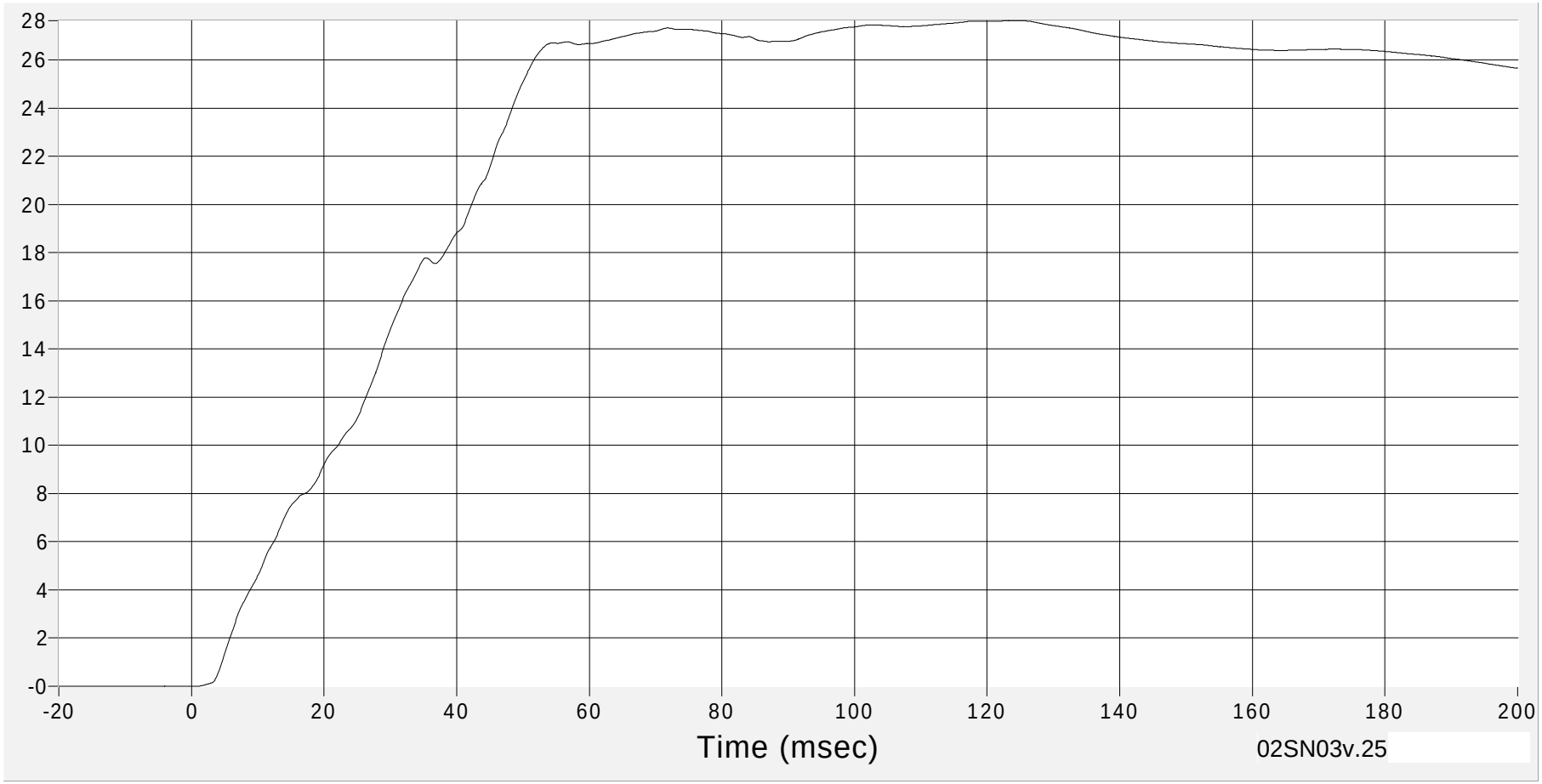
Vehicle Center of Gravity (Y) Velocity

Max	**27.6**	**km/h**	**at**	**124.2**	**msec**
Min	**0.0**	**km/h**	**at**	**0.5**	**msec**

Velocity (km/h) CFC180



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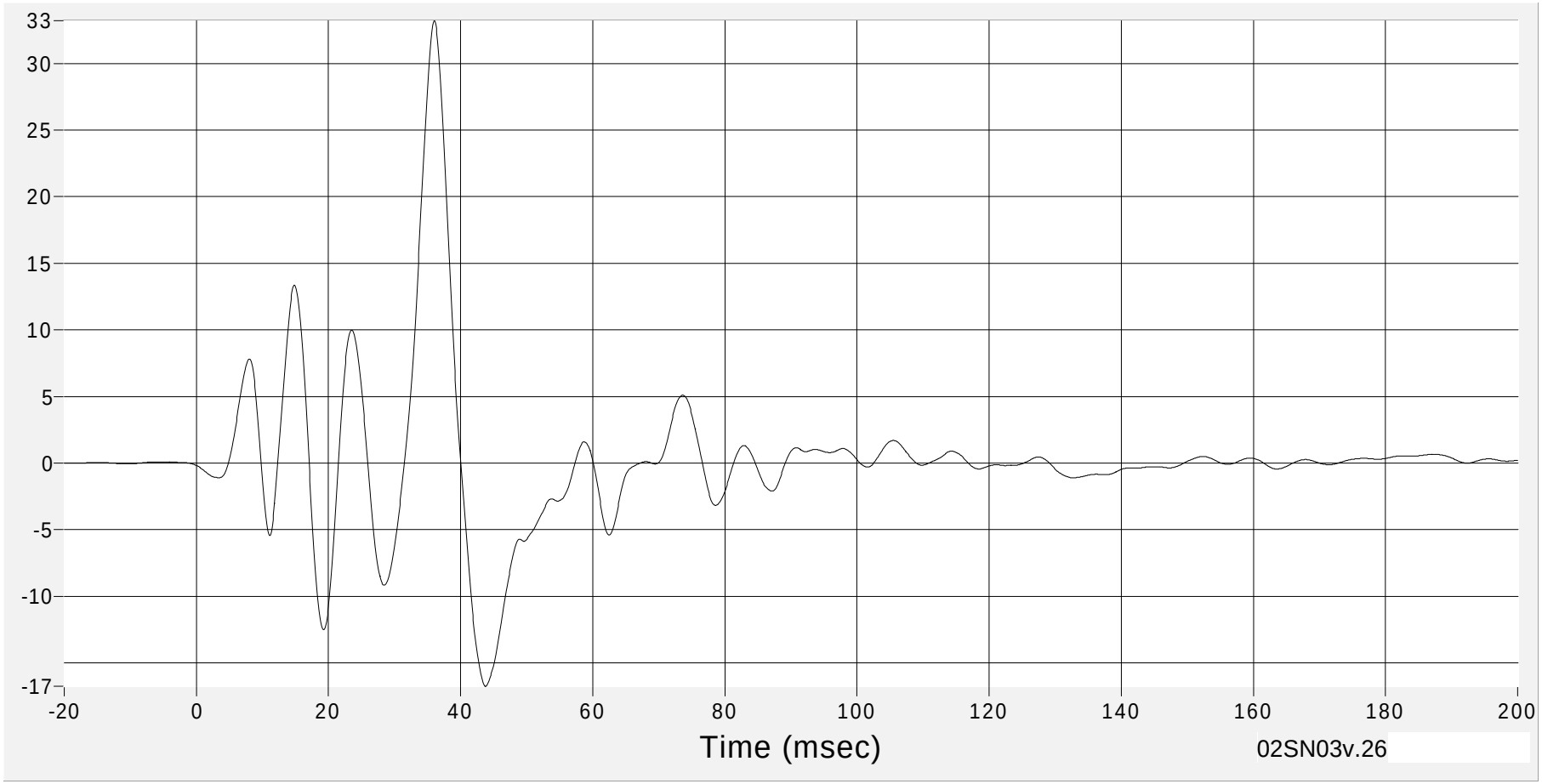
Vehicle Center of Gravity (Z) Acceleration

Max	**33.2**	**G's**	**at**	**36.0**	**msec**
Min	**-16.8**	**G's**	**at**	**43.8**	**msec**

Acceleration (G's) CFC60



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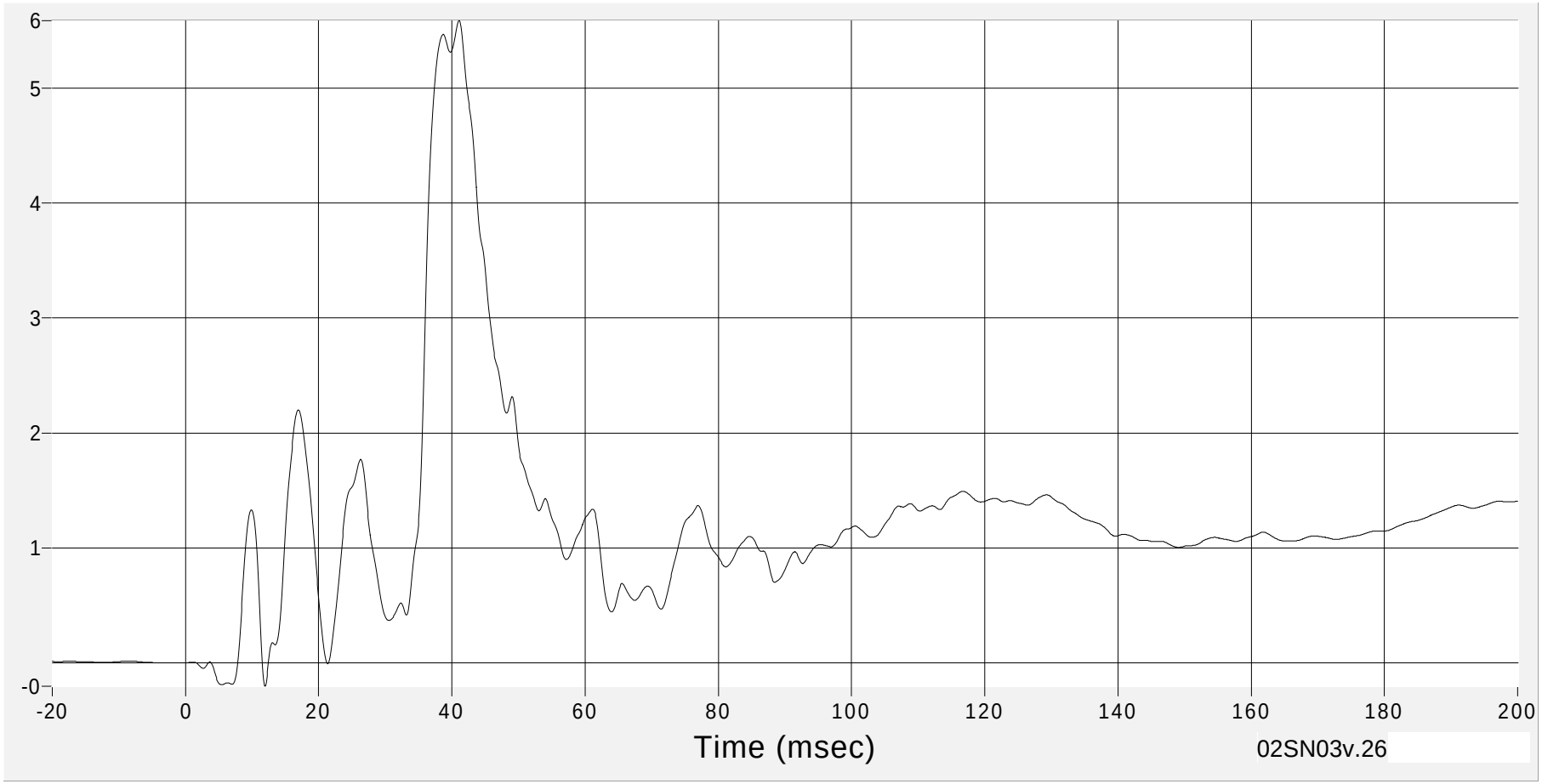
Vehicle Center of Gravity (Z) Velocity

Max	**5.6**	**km/h**	**at**	**41.0**	**msec**
Min	**-0.2**	**km/h**	**at**	**11.9**	**msec**

Velocity (km/h) CFC180



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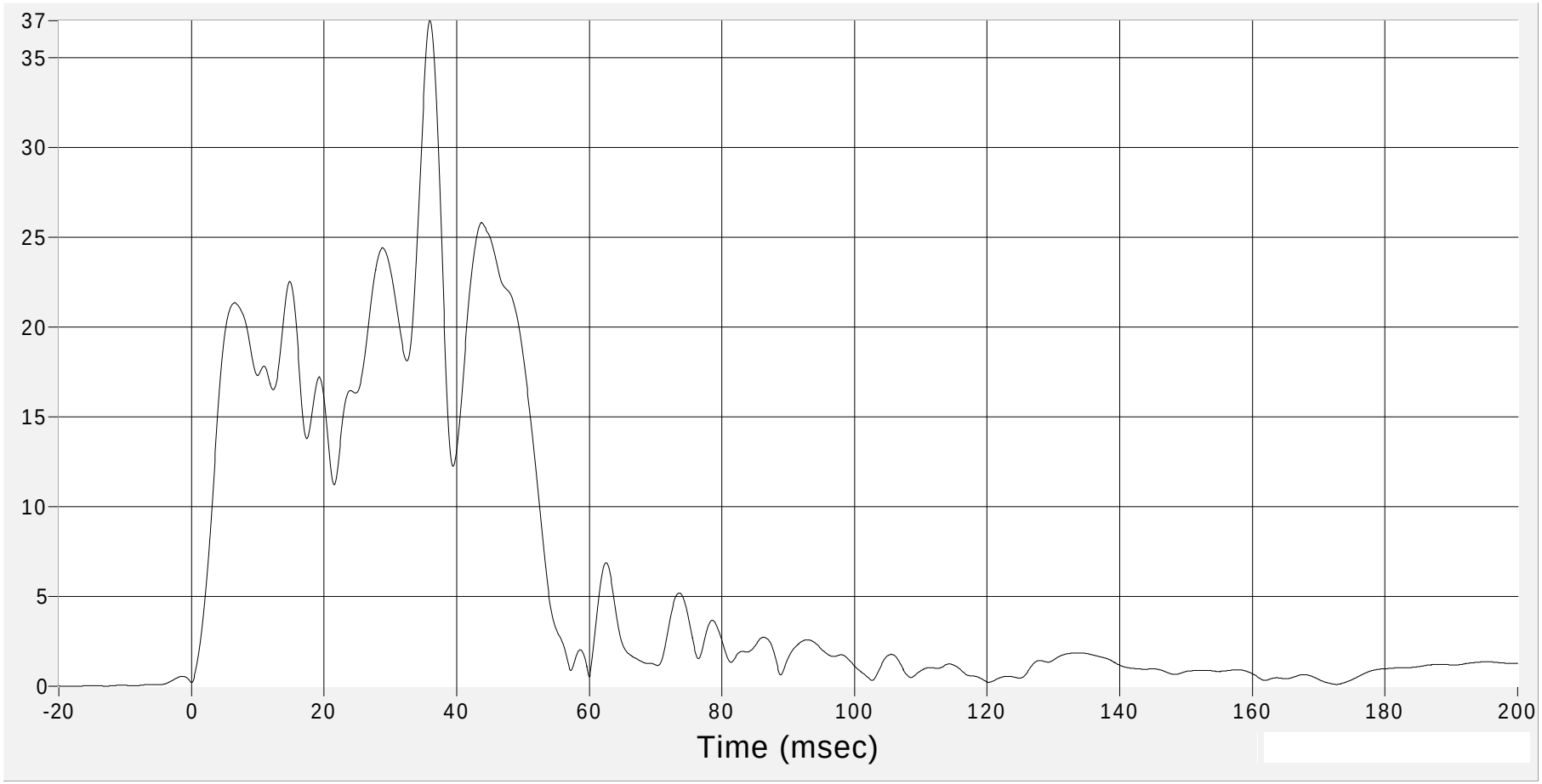
Vehicle Center of Gravity Resultant Acceleration

Max	**37.0**	**G's**	**at**	**36.0**	**msec**
Min	**0.1**	**G's**	**at**	**172.6**	**msec**

Acceleration (G's) CFC60



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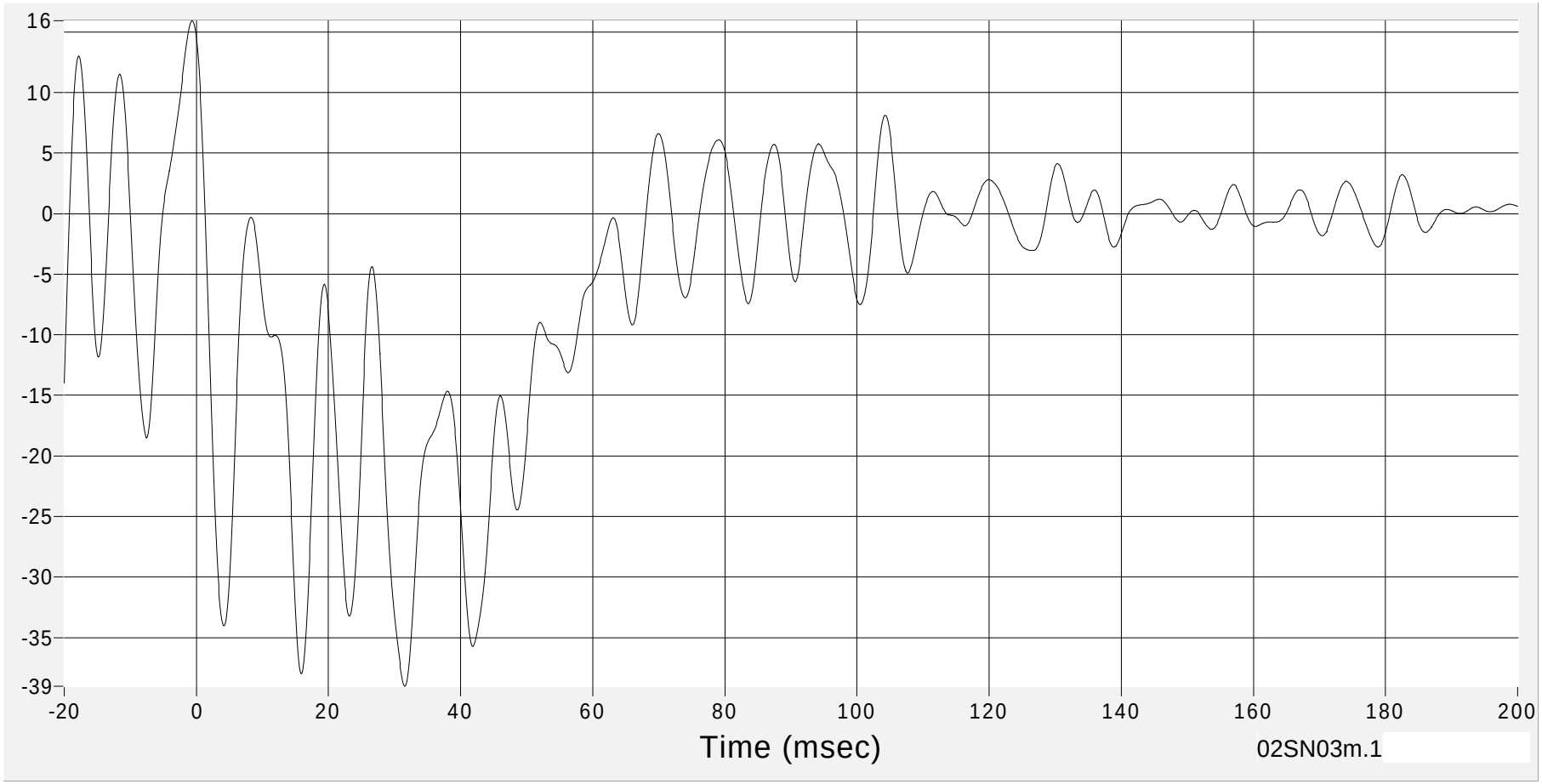
MDB Center of Gravity (X) Acceleration

Max	**14.4**	**G's**	**at**	**0.0**	**msec**
Min	**-39.0**	**G's**	**at**	**31.6**	**msec**

Acceleration (G's) CFC60



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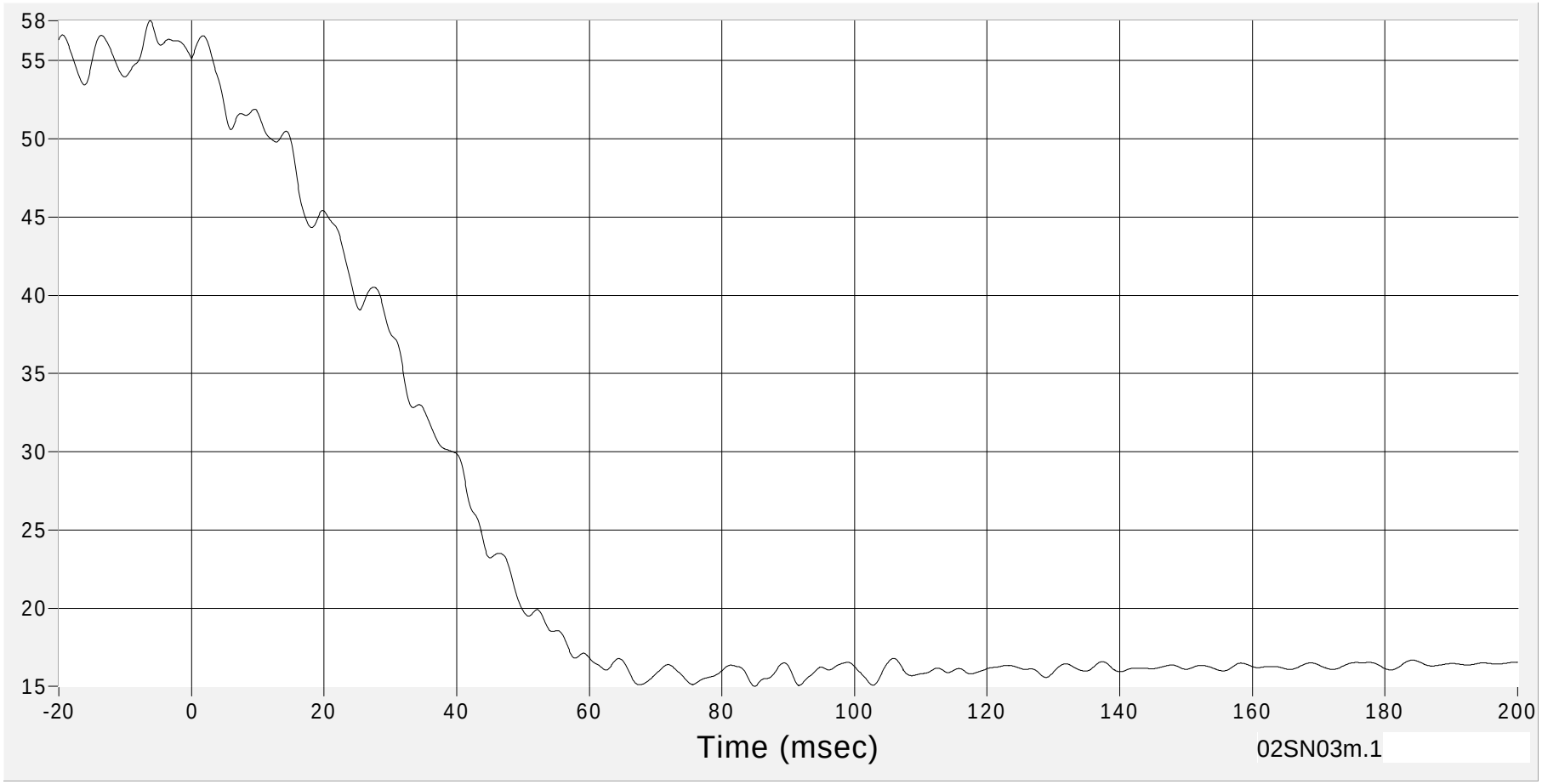
MDB Center of Gravity (X) Velocity

Max	**56.6**	**km/h**	**at**	**1.8**	**msec**
Min	**15.0**	**km/h**	**at**	**84.9**	**msec**

Velocity (km/h) CFC180



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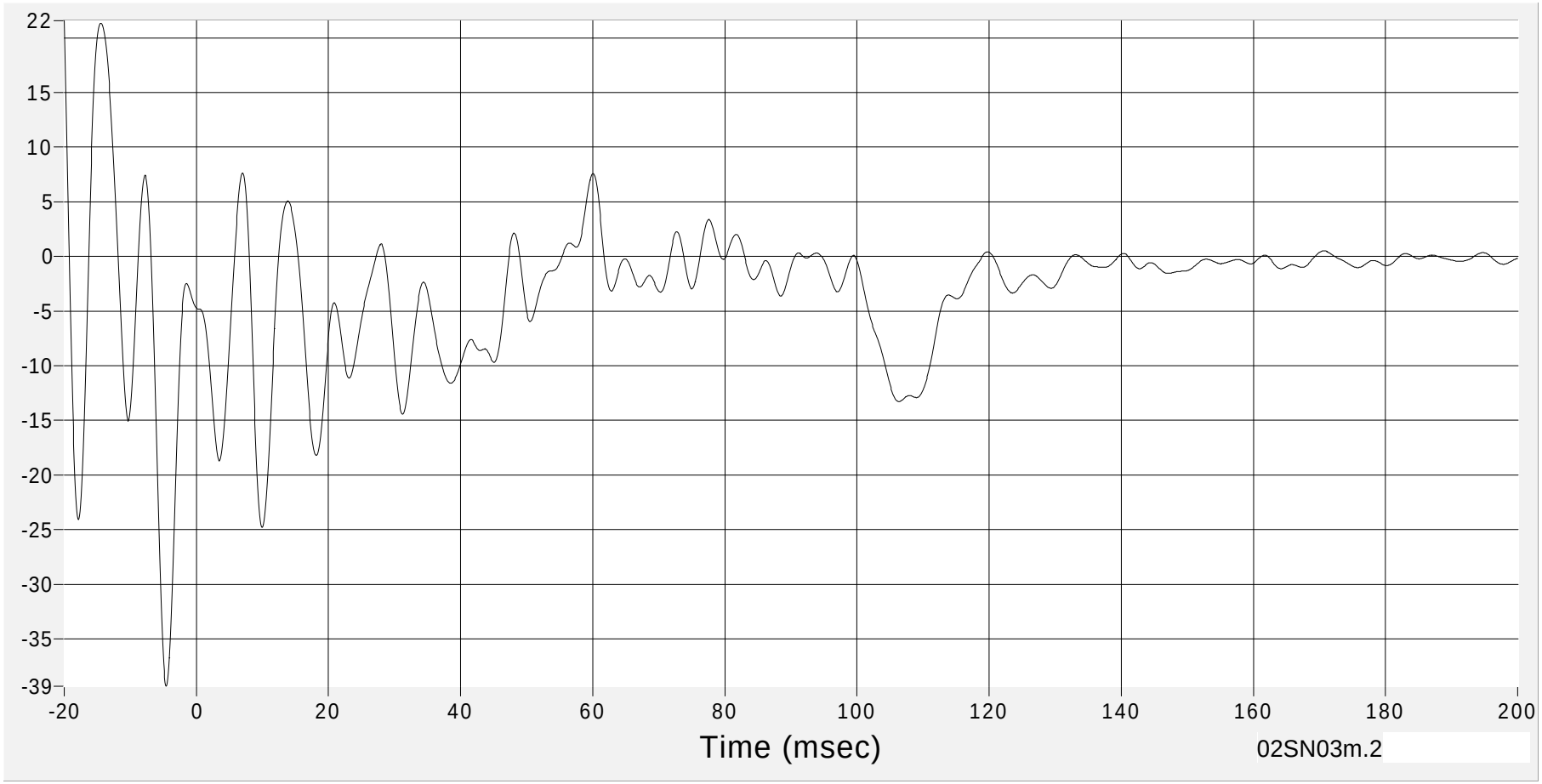
MDB Center of Gravity (Y) Acceleration

Max	**7.6**	**G's**	**at**	**7.0**	**msec**
Min	**-24.8**	**G's**	**at**	**9.9**	**msec**

Acceleration (G's) CFC60



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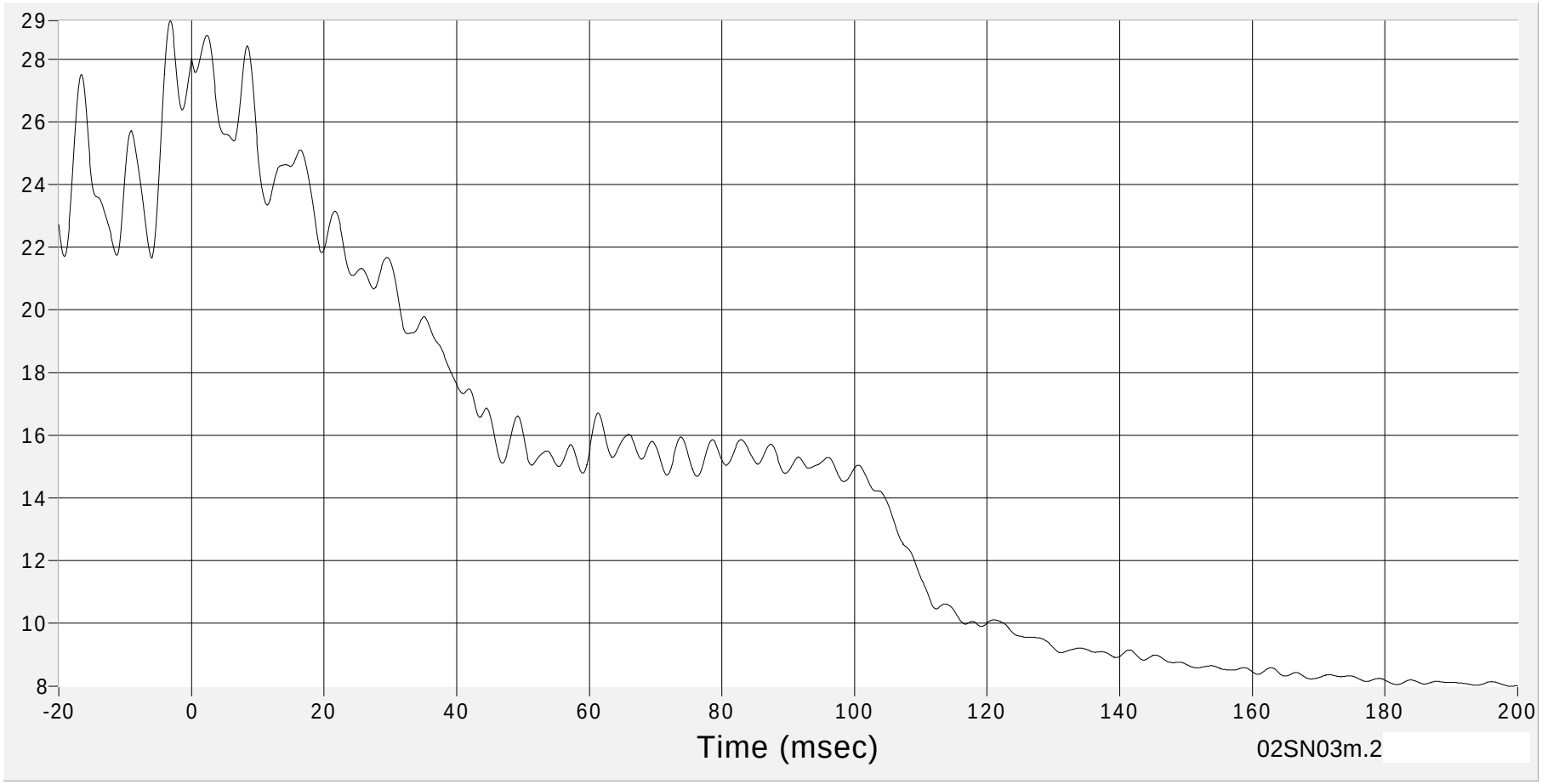
MDB Center of Gravity (Y) Velocity

Max	**28.8**	**km/h**	**at**	**2.3**	**msec**
Min	**8.0**	**km/h**	**at**	**199.0**	**msec**

Velocity (km/h) CFC180



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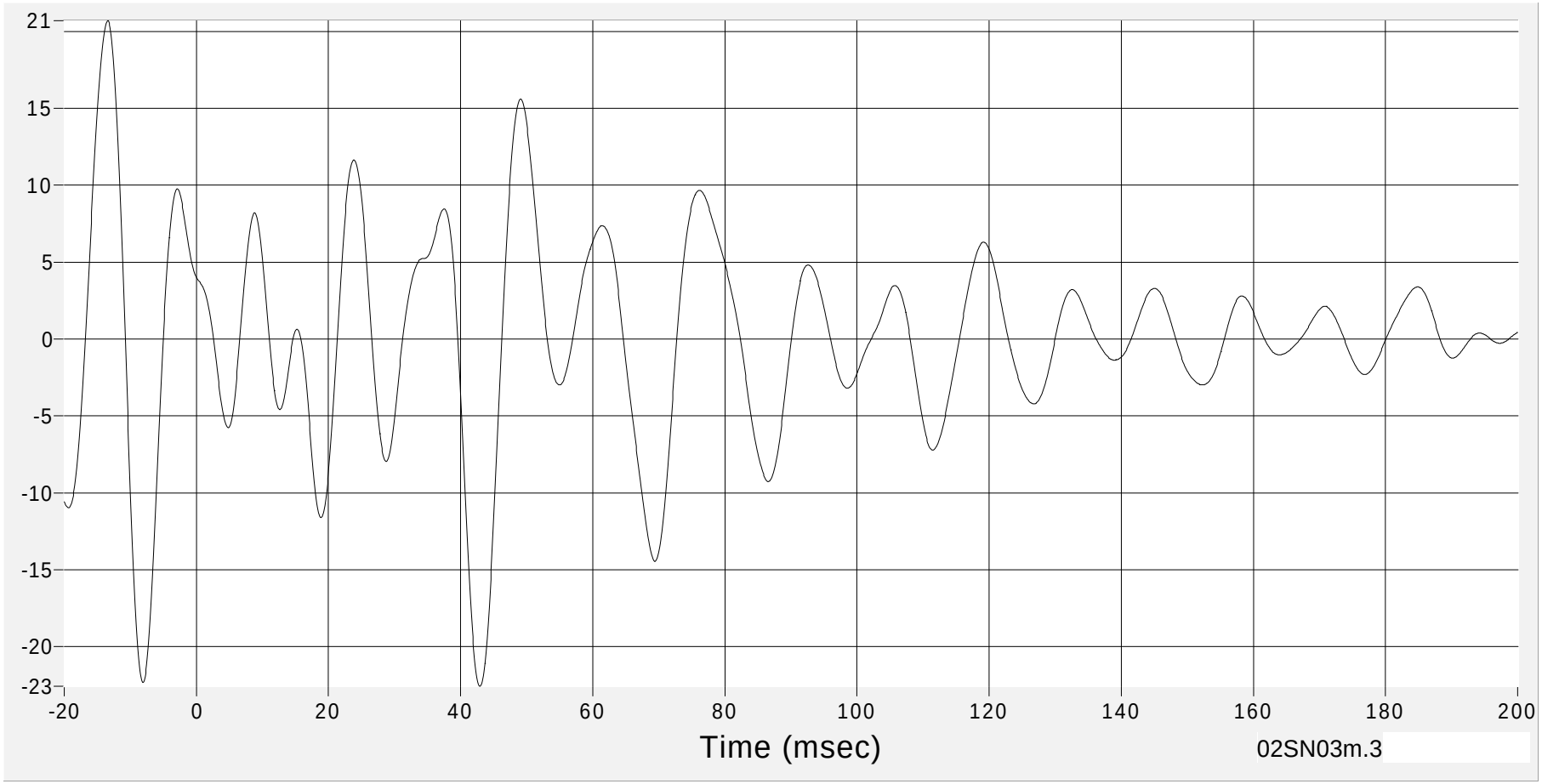
MDB Center of Gravity (Z) Acceleration

Max	**15.6**	**G's**	**at**	**49.0**	**msec**
Min	**-22.6**	**G's**	**at**	**43.0**	**msec**

Acceleration (G's) CFC60



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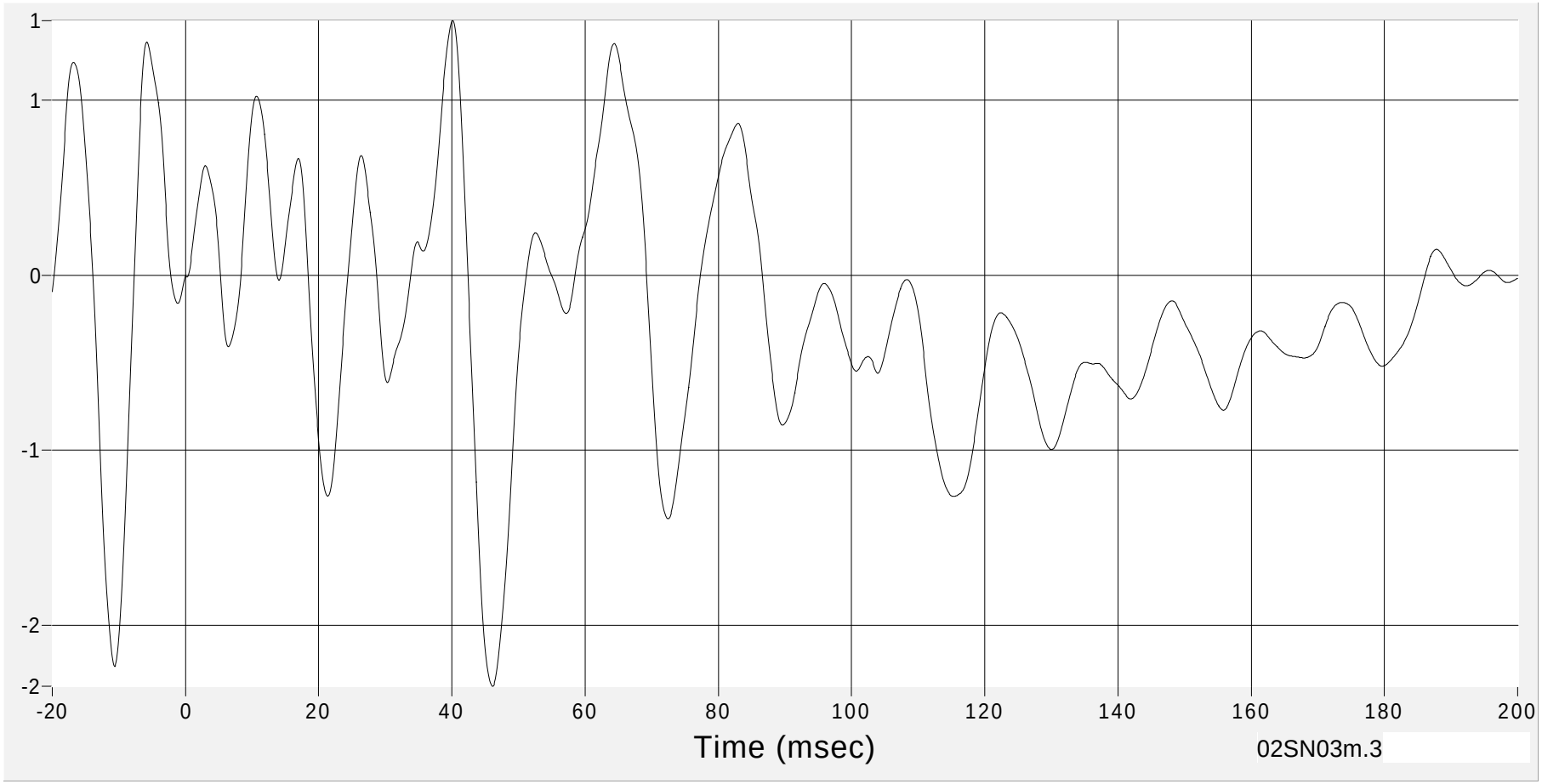
MDB Center of Gravity (Z) Velocity

Max	**1.5**	**km/h**	**at**	**40.2**	**msec**
Min	**-2.3**	**km/h**	**at**	**46.1**	**msec**

Velocity (km/h) CFC180



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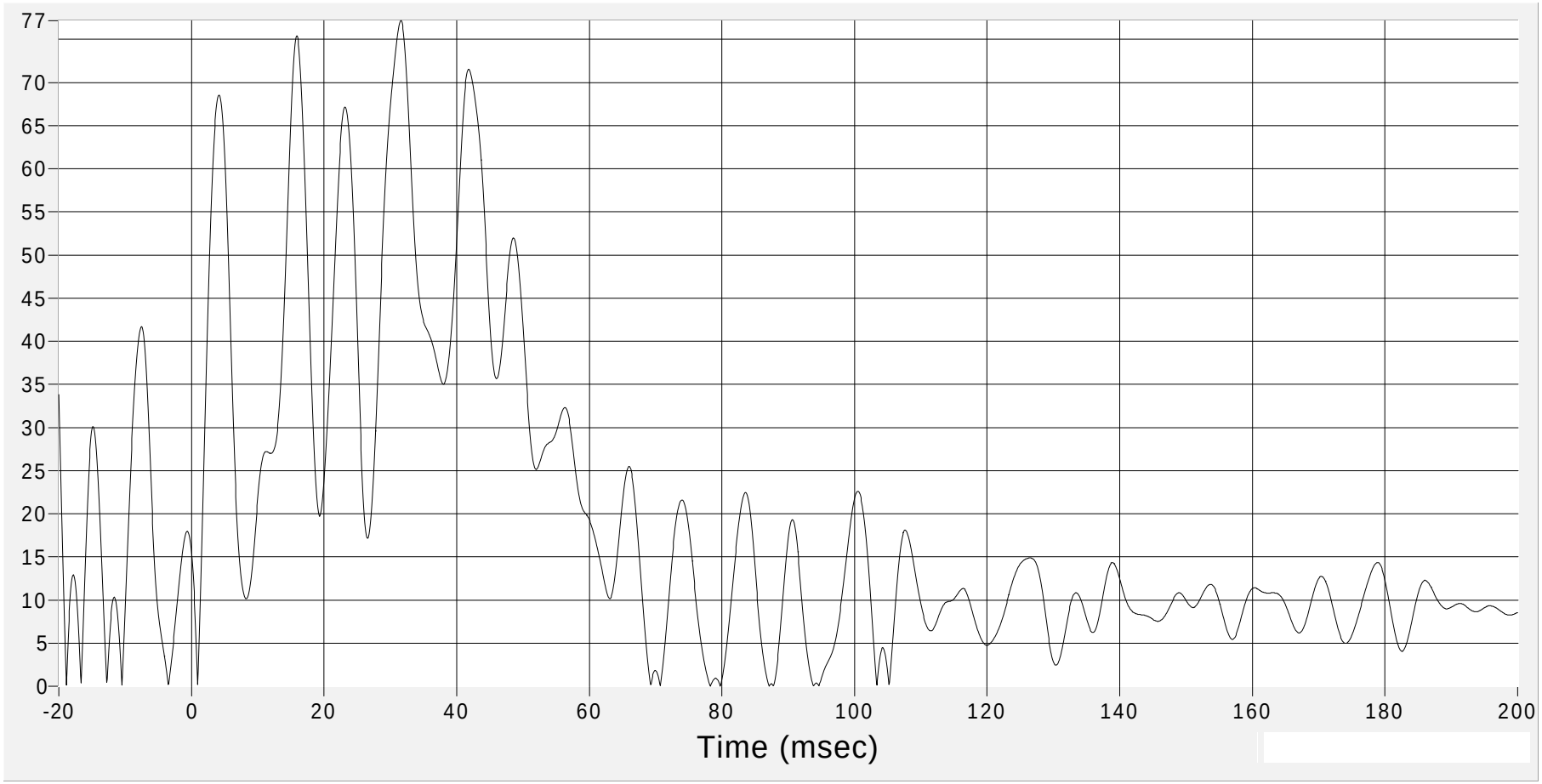
MDB Center of Gravity Resultant Acceleration

Max	**77.2**	**G's**	**at**	**31.6**	**msec**
Min	**0.0**	**G's**	**at**	**87.1**	**msec**

Acceleration (G's) CFC60



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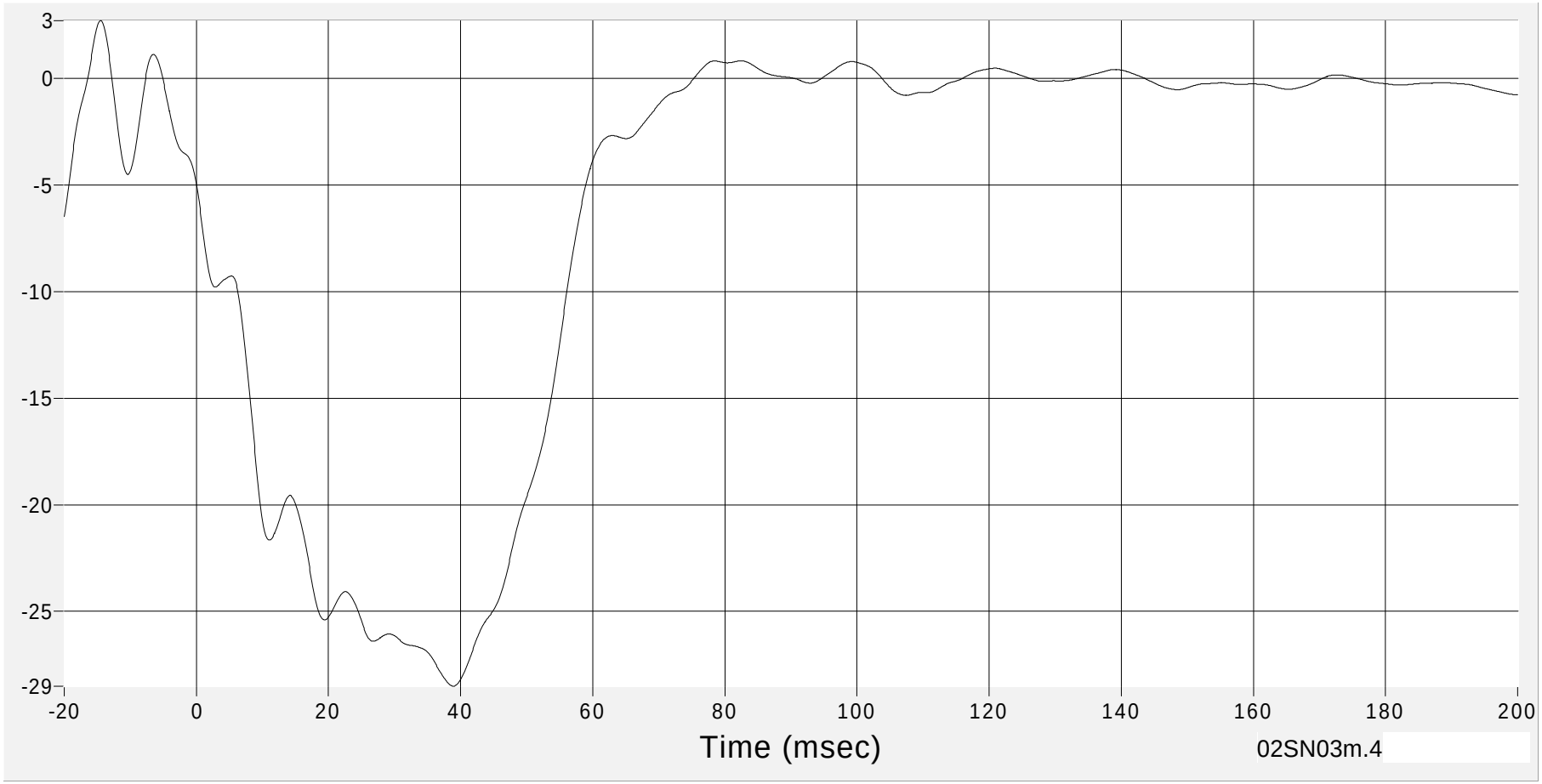
MDB Rear (X) Acceleration

Max	**0.8**	**G's**	**at**	**82.4**	**msec**
Min	**-28.5**	**G's**	**at**	**38.9**	**msec**

Acceleration (G's) CFC60



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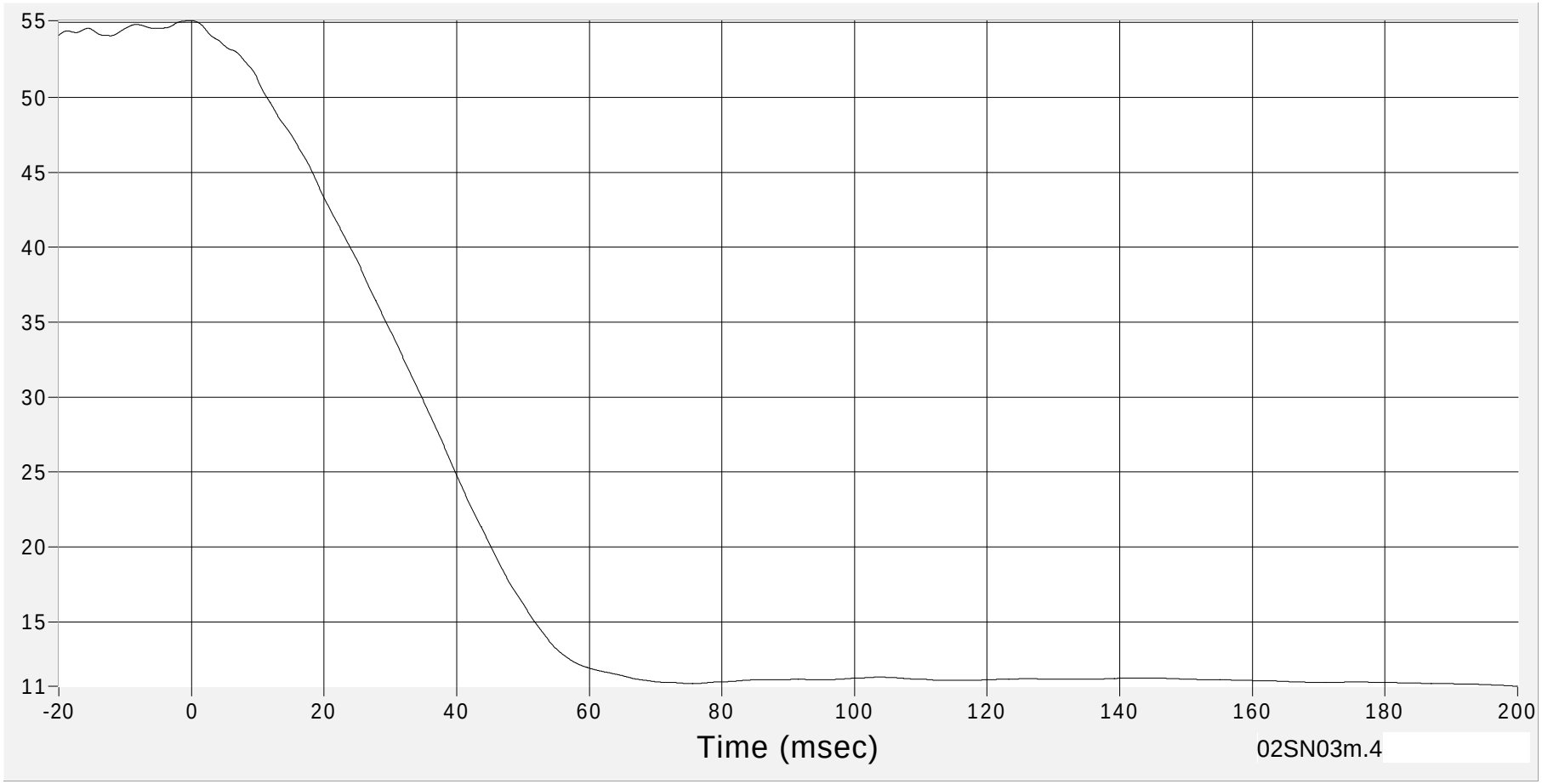
MDB Rear (X) Velocity

Max	**55.1**	**km/h**	**at**	**0.0**	**msec**
Min	**10.7**	**km/h**	**at**	**199.9**	**msec**

Velocity (km/h) CFC180



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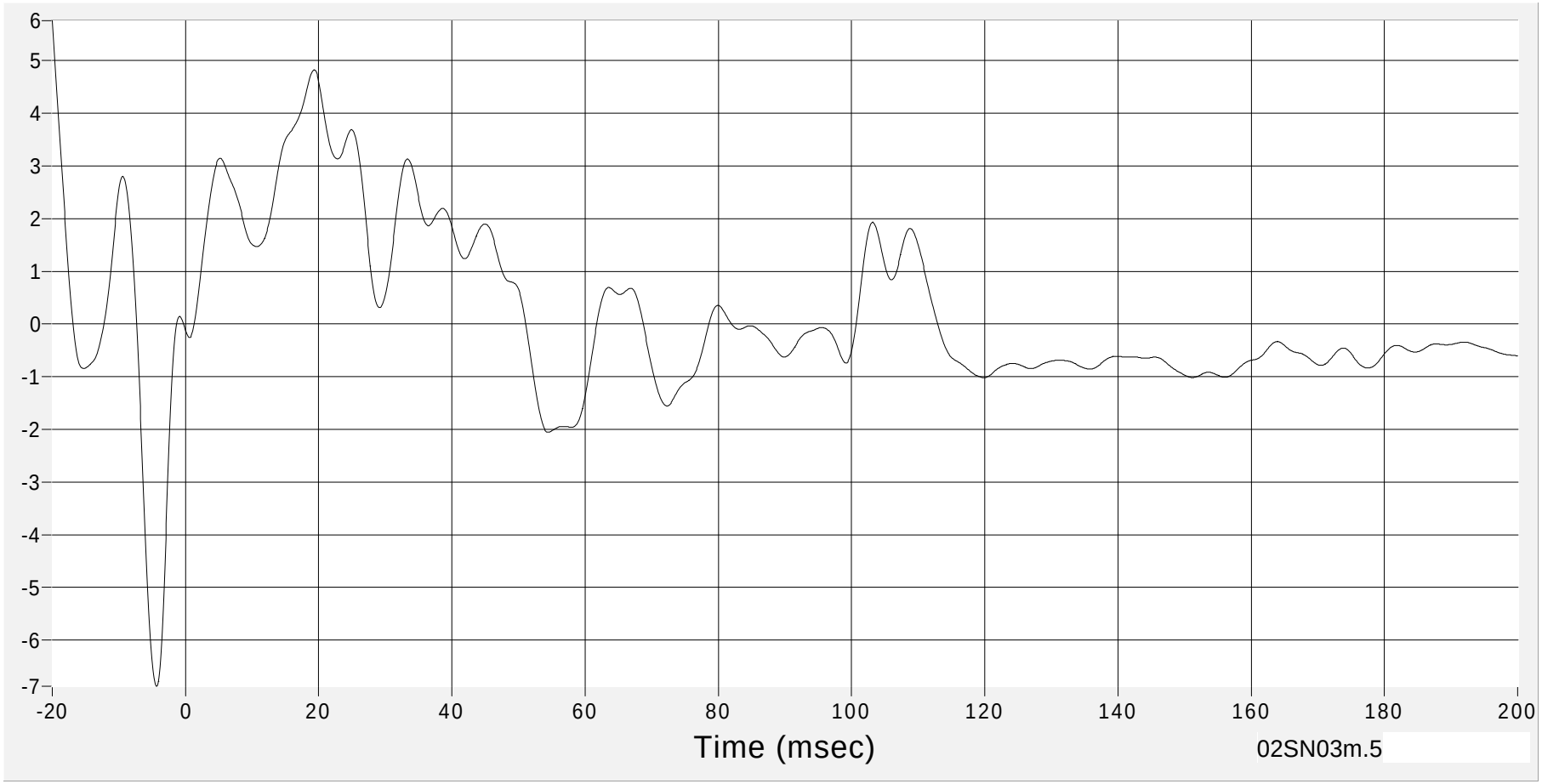
MDB Rear (Y) Acceleration

Max	**4.8**	**G's**	**at**	**19.3**	**msec**
Min	**-2.1**	**G's**	**at**	**54.5**	**msec**

Acceleration (G's) CFC60



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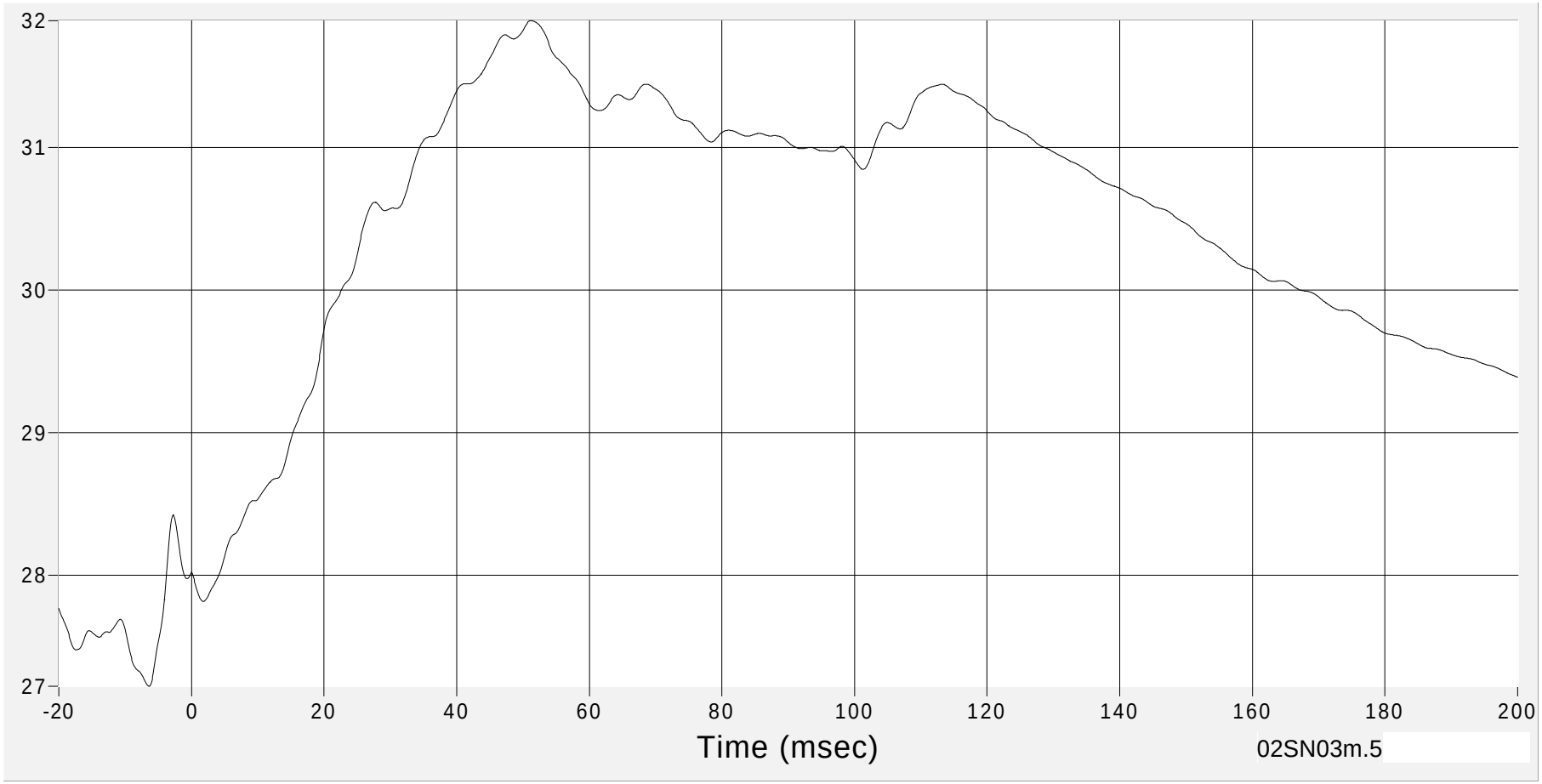
MDB Rear (Y) Velocity

Max	**31.9**	**km/h**	**at**	**51.2**	**msec**
Min	**27.8**	**km/h**	**at**	**1.8**	**msec**

Velocity (km/h) CFC180



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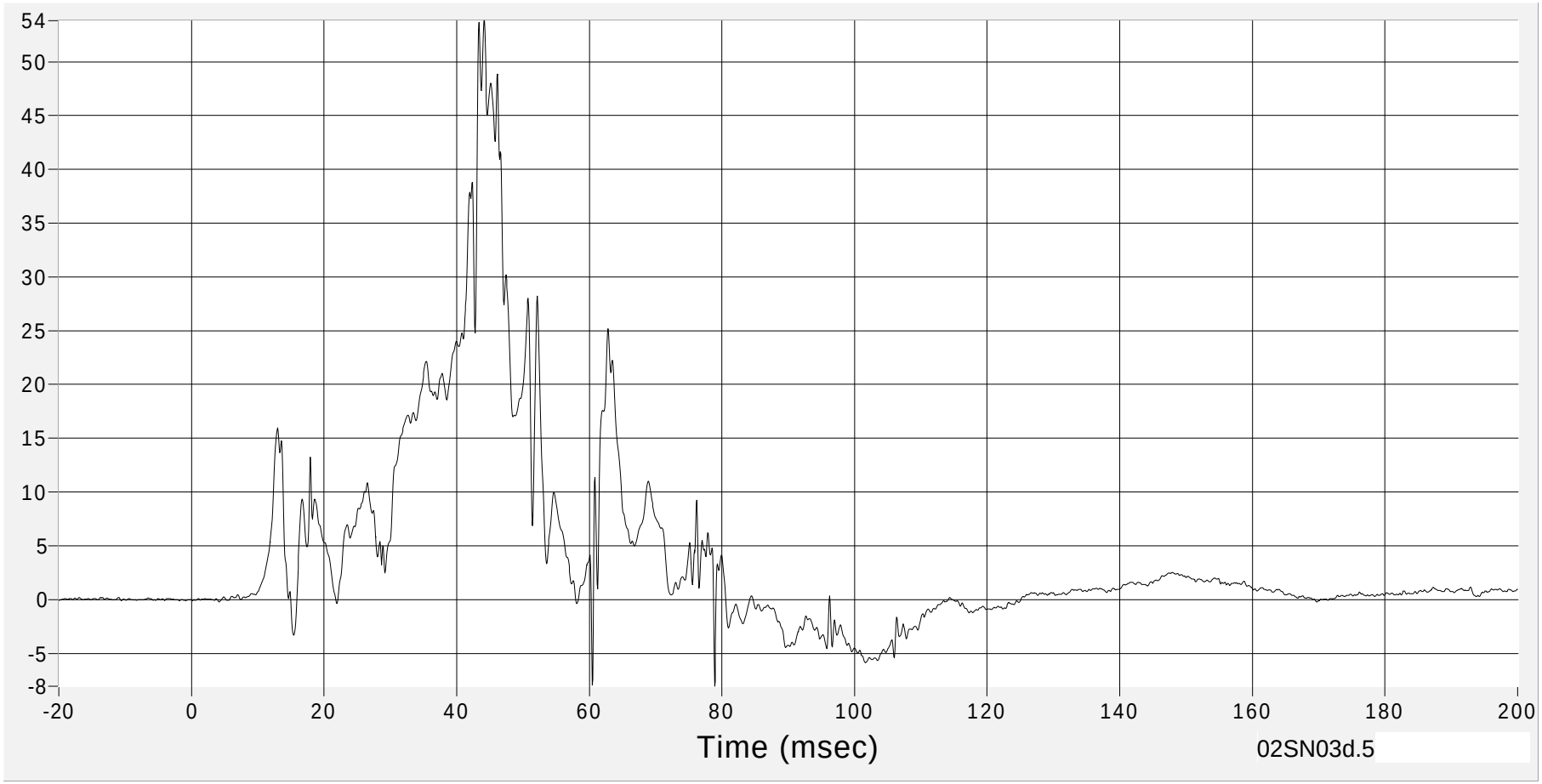
Driver Upper Rib (Y) Acceleration - Redundant

Max	**53.8**	**G's**	**at**	**44.1**	**msec**
Min	**-8.1**	**G's**	**at**	**78.9**	**msec**

Acceleration (G's) CFC1000



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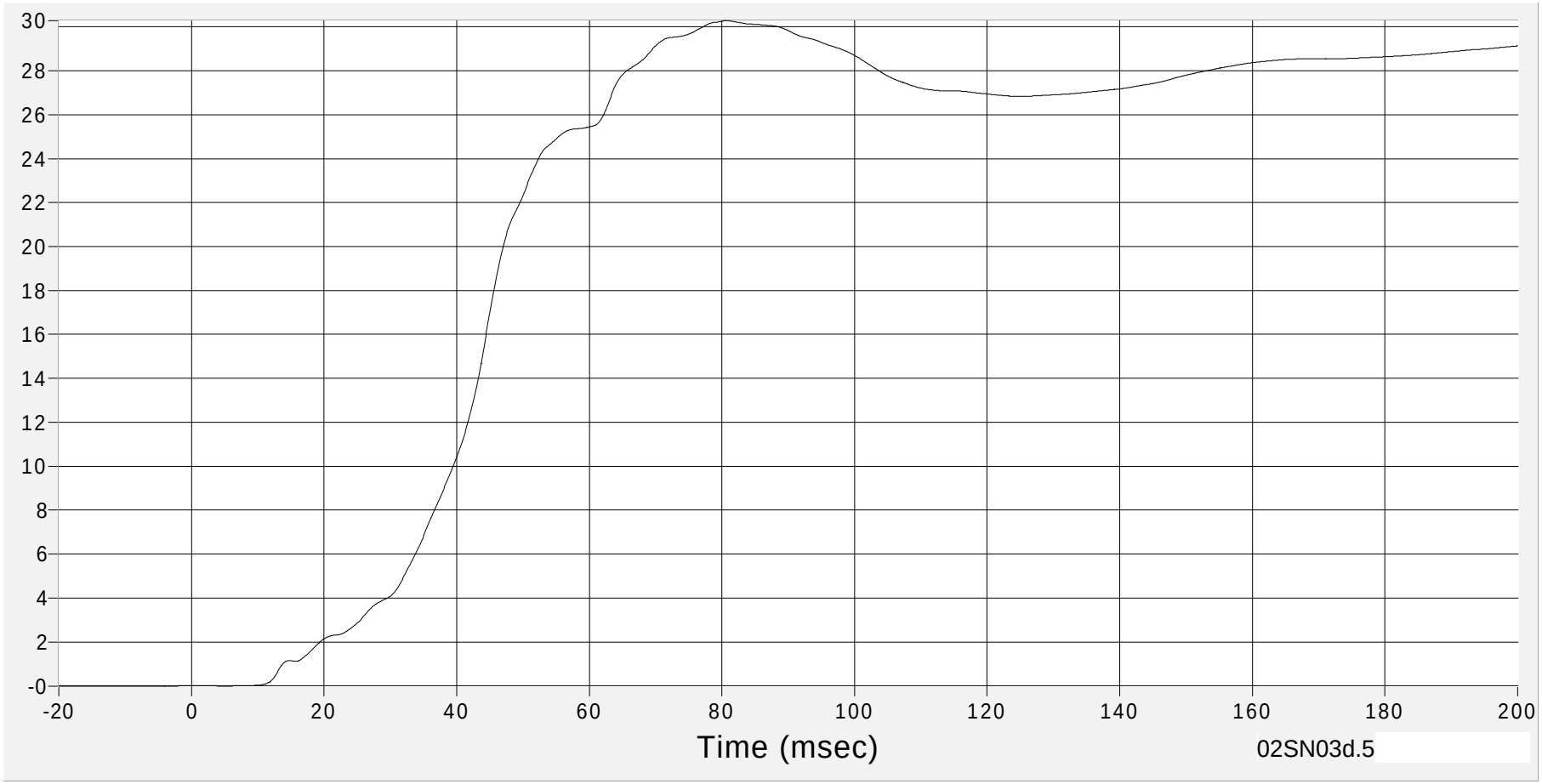
Driver Upper Rib (Y) Velocity - Redundant

Max	**30.3**	**km/h**	**at**	**80.6**	**msec**
Min	**0.0**	**km/h**	**at**	**5.1**	**msec**

Velocity (km/h) CFC180



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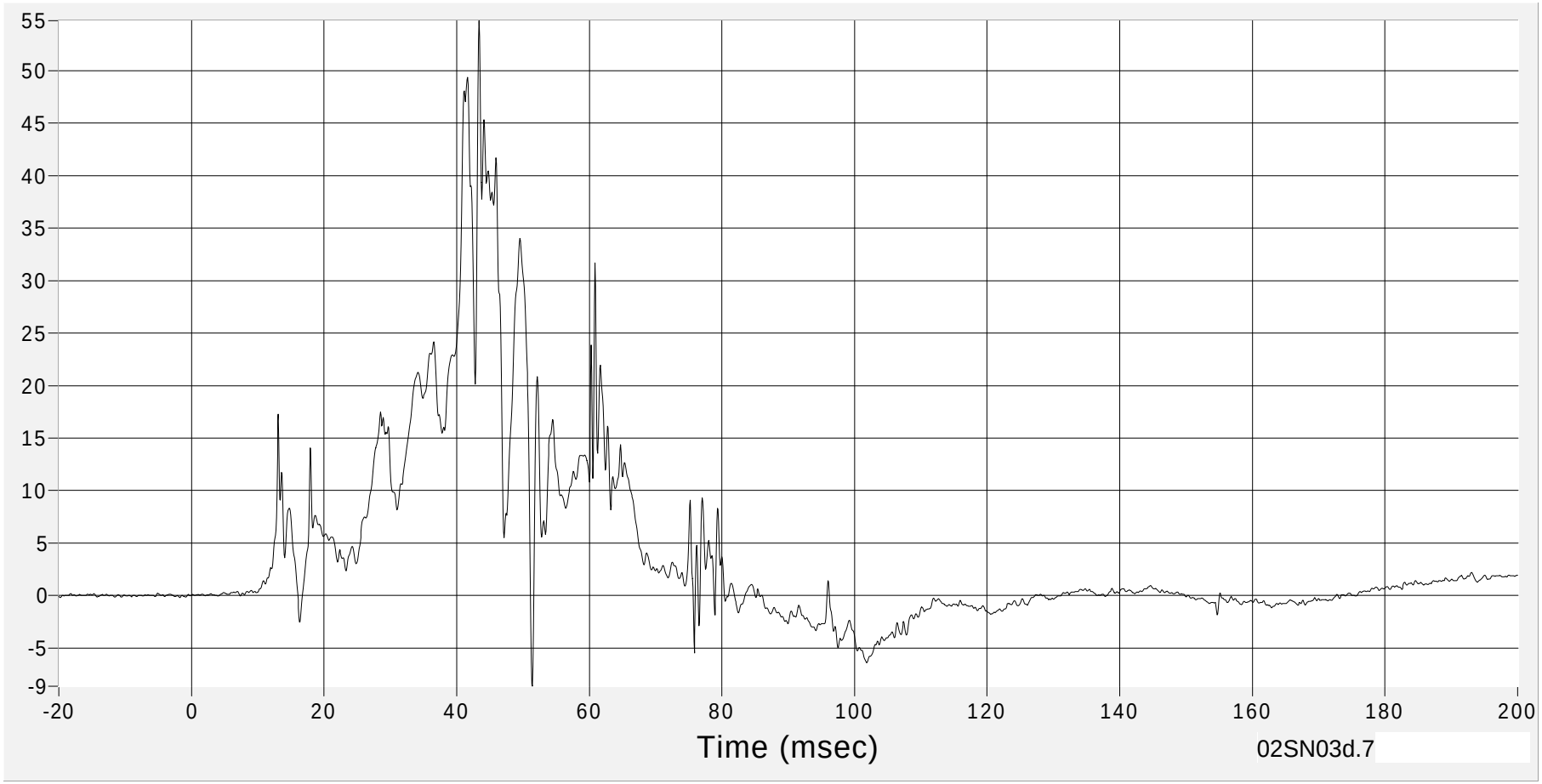
Driver Lower Rib (Y) Acceleration - Redundant

Max	**54.8**	**G's**	**at**	**43.4**	**msec**
Min	**-8.7**	**G's**	**at**	**51.4**	**msec**

Acceleration (G's) CFC1000



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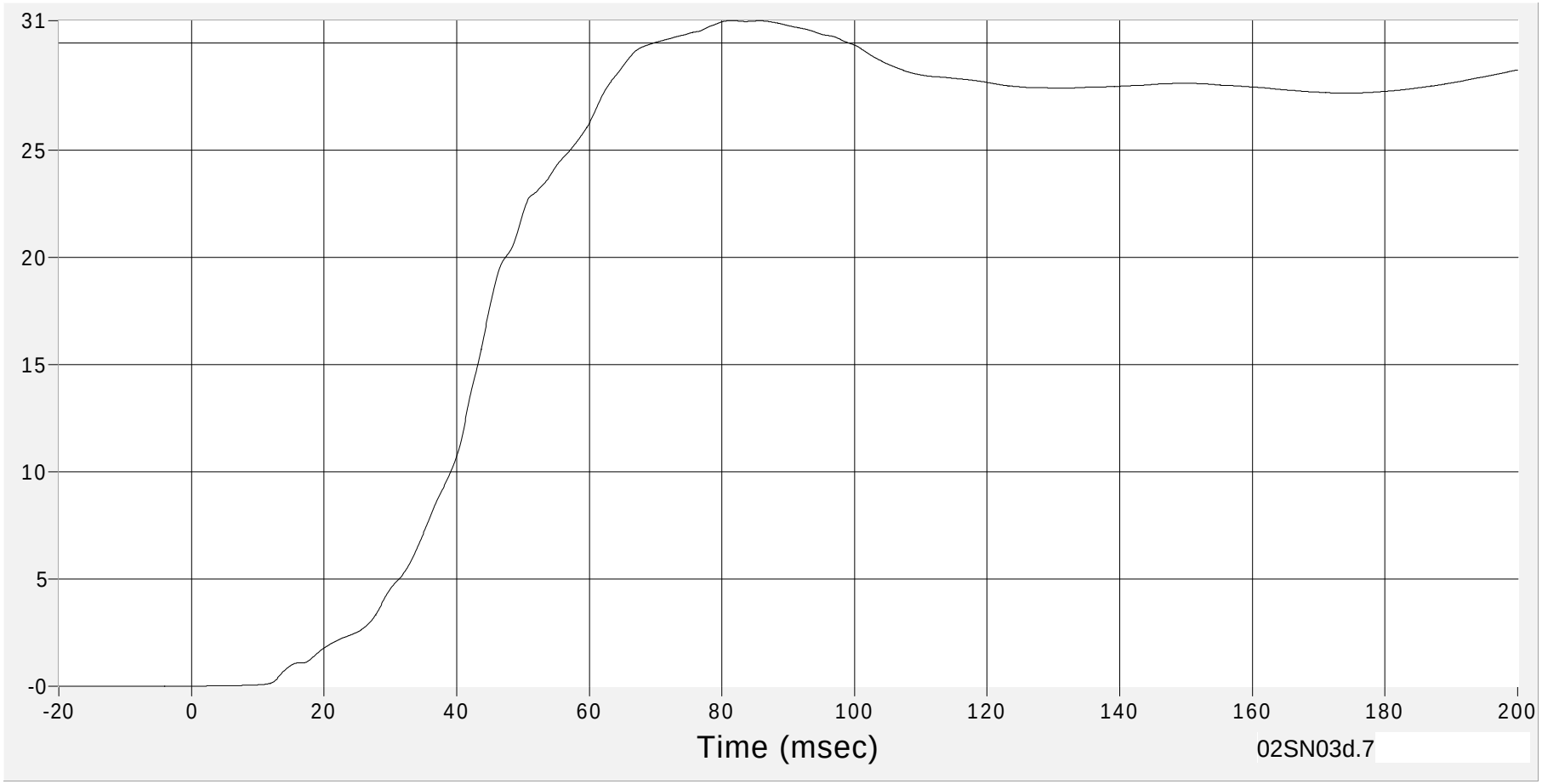
Driver Lower Rib (Y) Velocity - Redundant

Max	**31.0**	**km/h**	**at**	**81.6**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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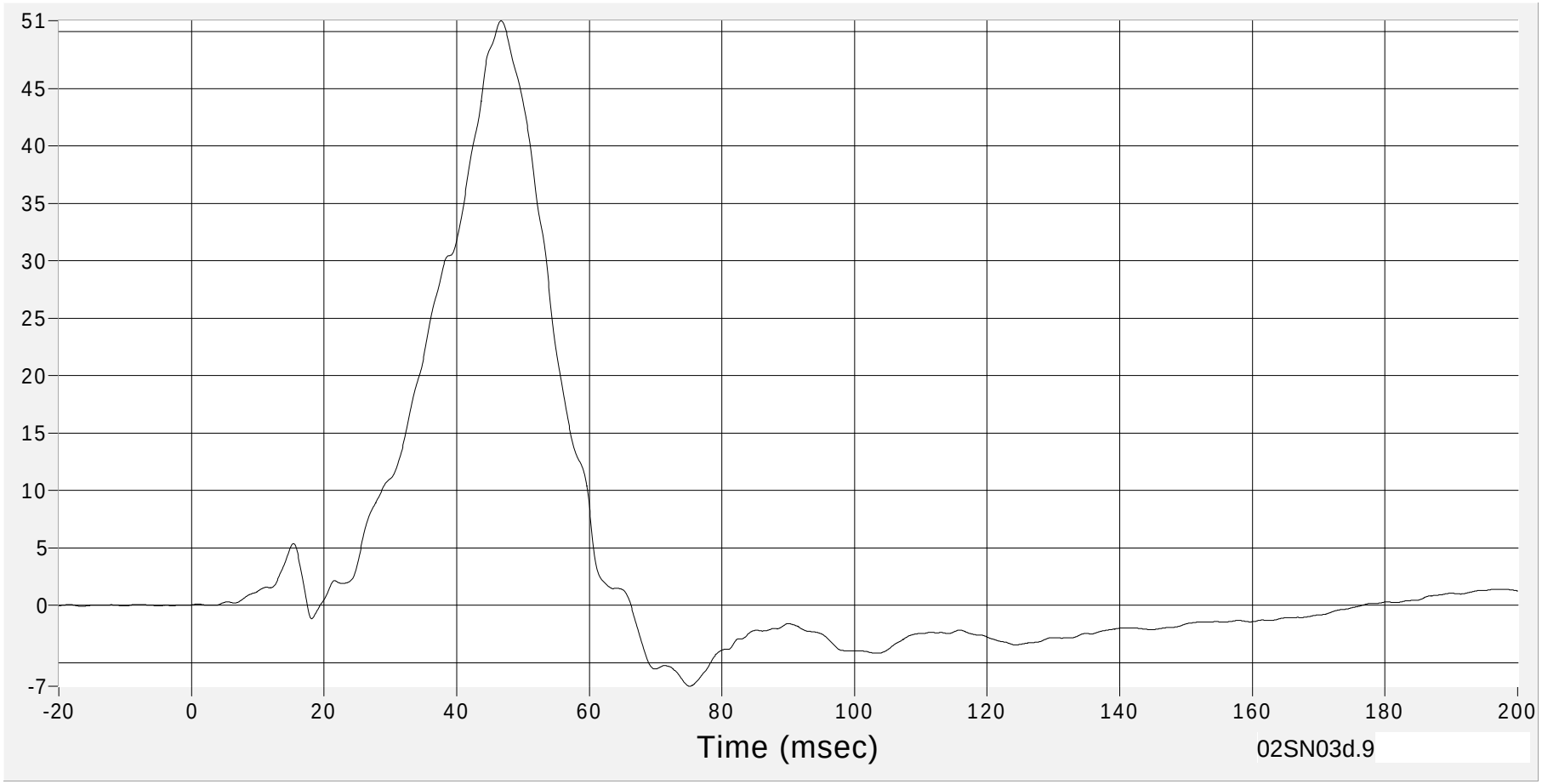
Driver Lower Spine (Y) Acceleration - Redundant

Max	**50.9**	**G's**	**at**	**46.7**	**msec**
Min	**-7.1**	**G's**	**at**	**75.1**	**msec**

Acceleration (G's) CFC180



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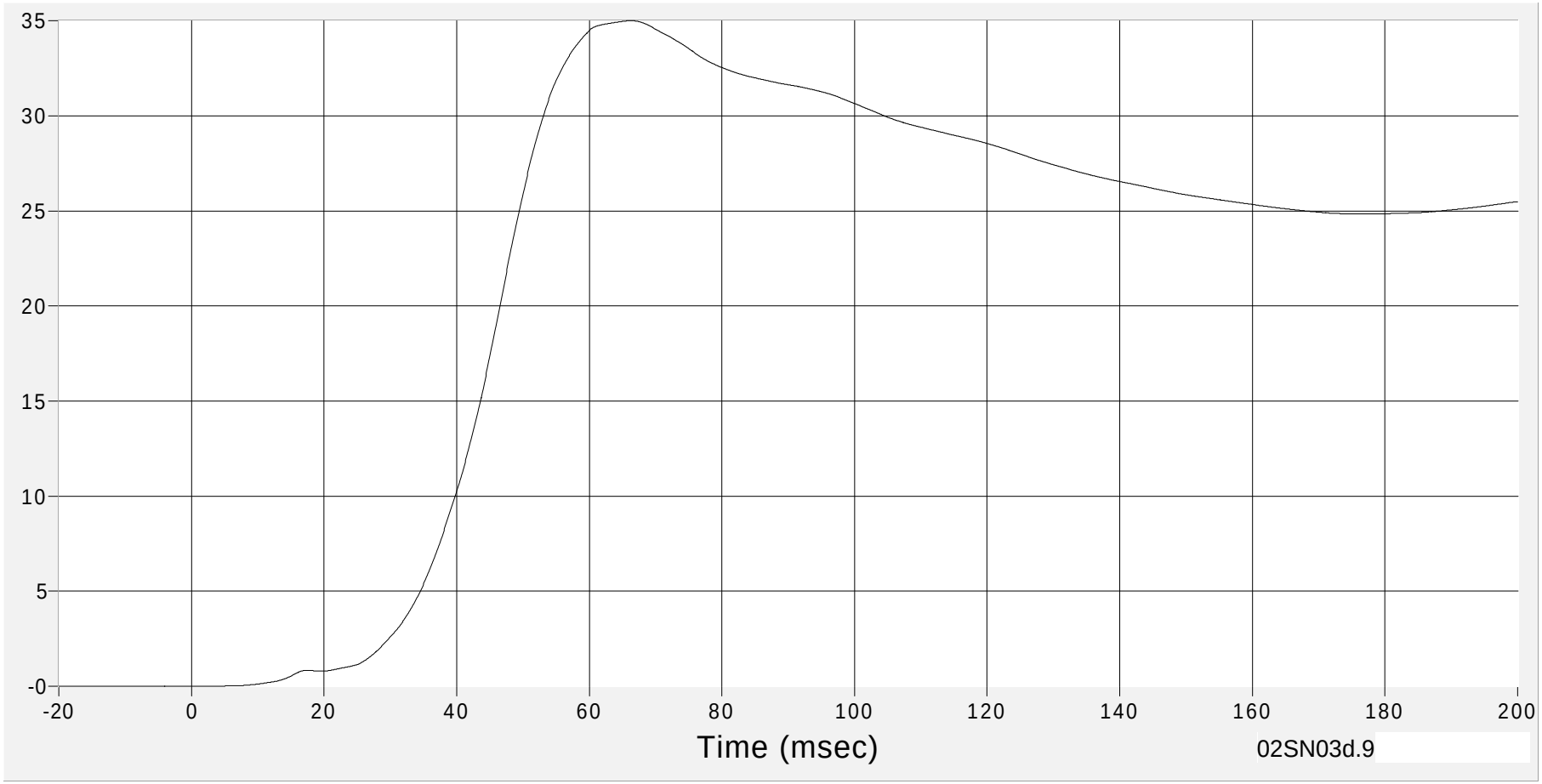
Driver Lower Spine (Y) Velocity - Redundant

Max	**35.0**	**km/h**	**at**	**66.2**	**msec**
Min	**0.0**	**km/h**	**at**	**0.0**	**msec**

Velocity (km/h) CFC180



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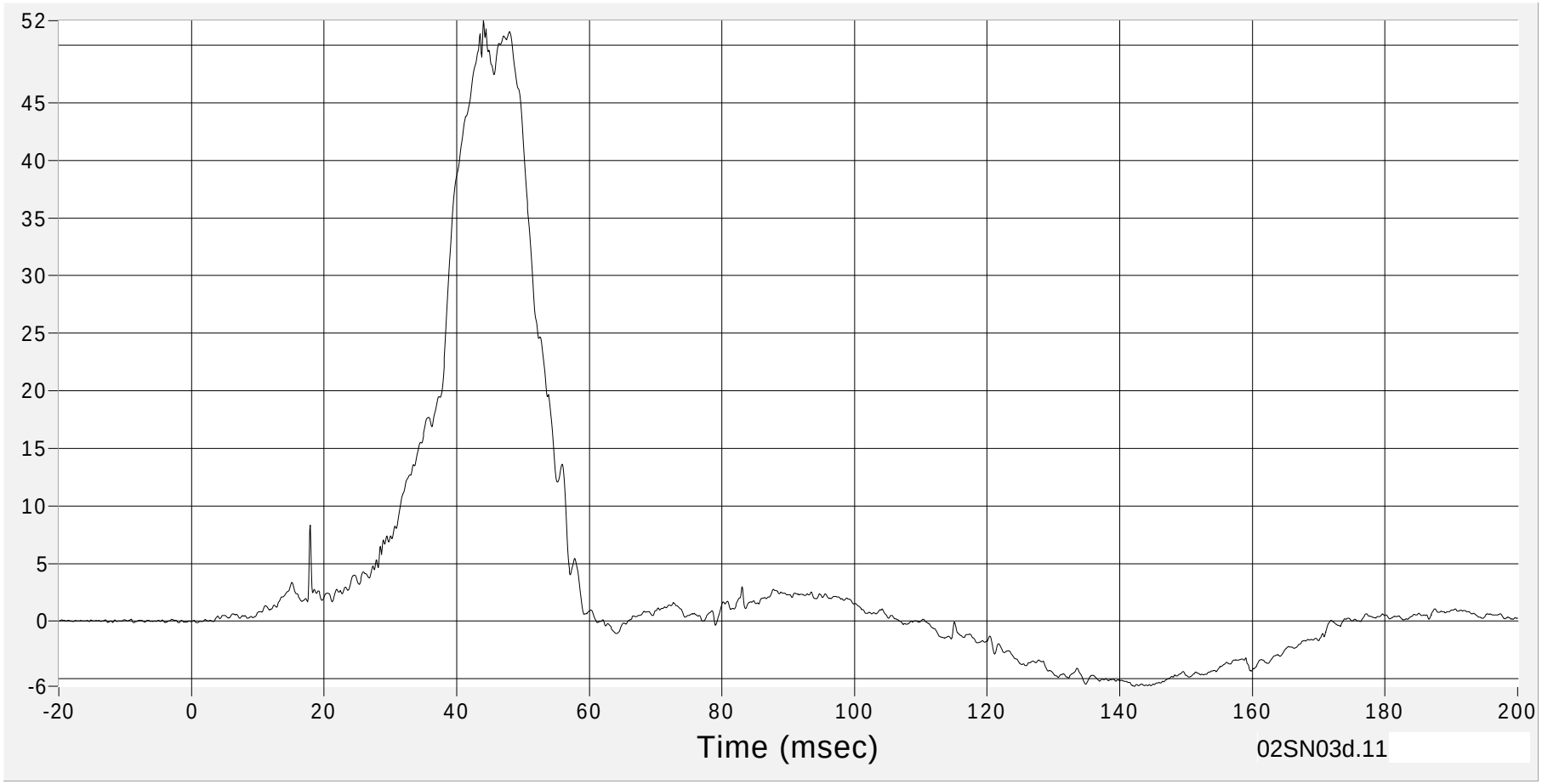
Driver Pelvic (Y) Acceleration - Redundant

Max	**52.1**	**G's**	**at**	**44.0**	**msec**
Min	**-5.6**	**G's**	**at**	**142.2**	**msec**

Acceleration (G's) CFC1000



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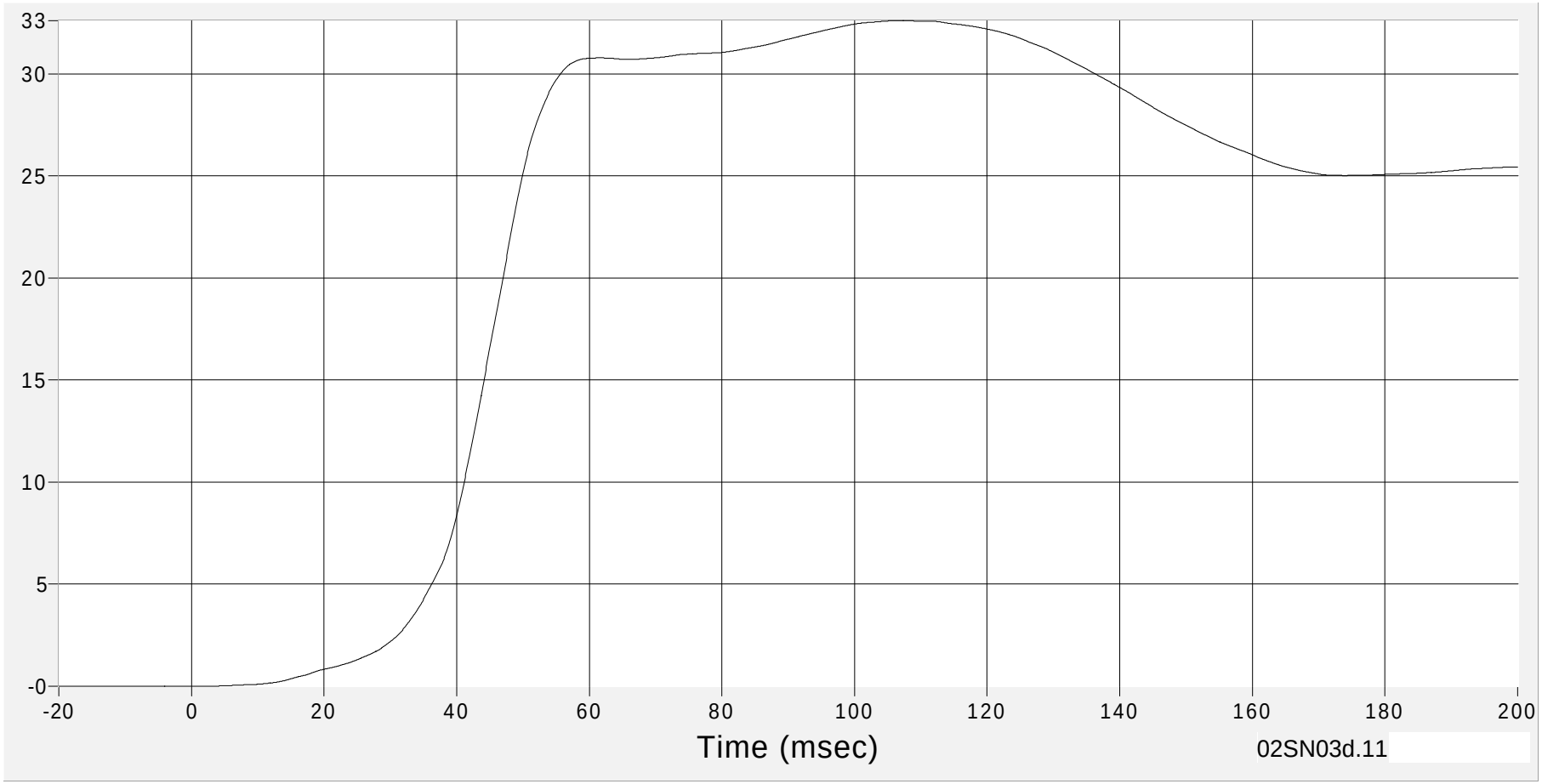
Driver Pelvic (Y) Velocity - Redundant

Max	**32.6**	**km/h**	**at**	**106.6**	**msec**
Min	**0.0**	**km/h**	**at**	**2.6**	**msec**

Velocity (km/h) CFC180



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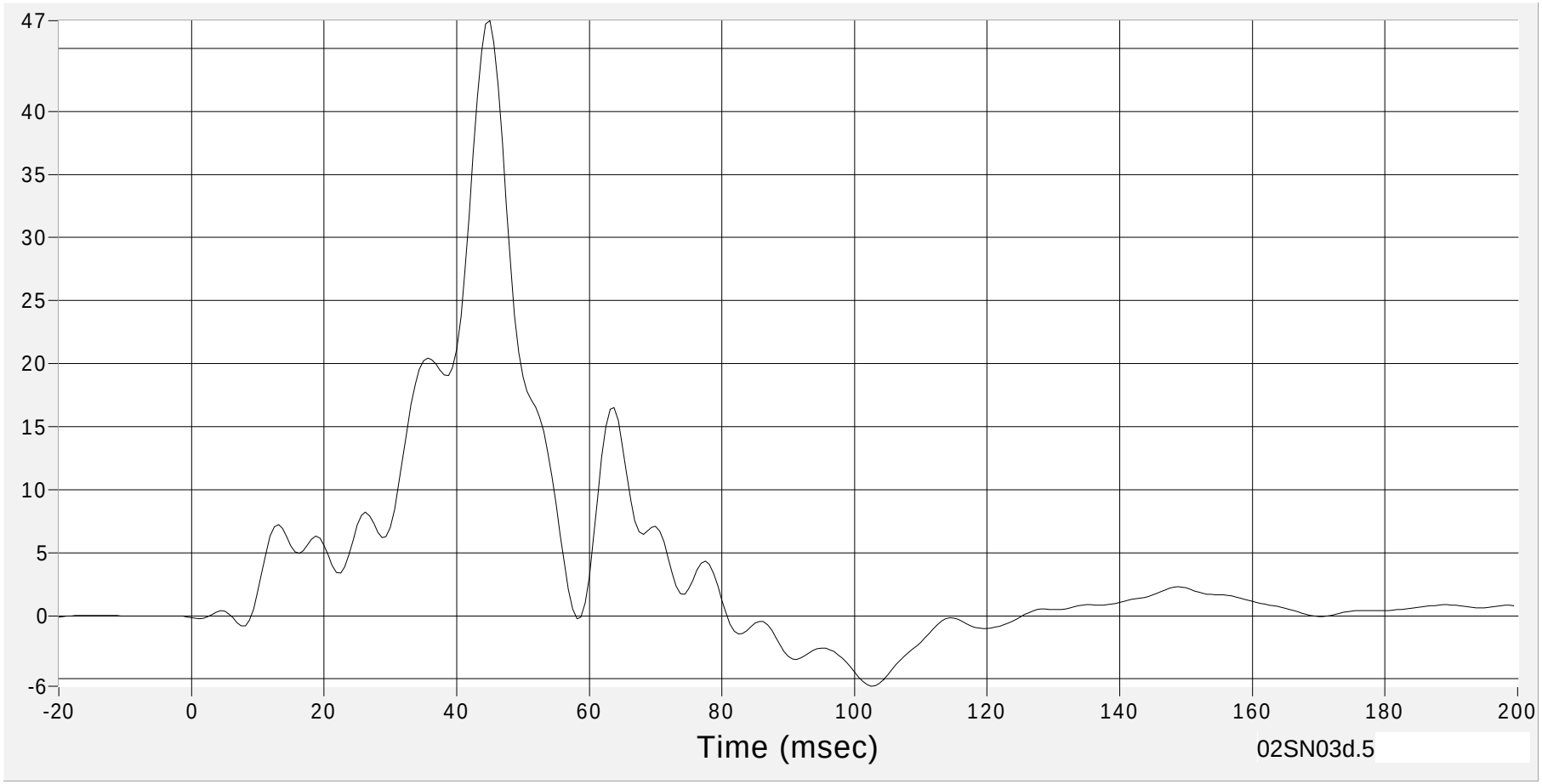
Driver Upper Rib (Y) Acceleration - Redundant

Max	**47.2**	**G's**	**at**	**45.0**	**msec**
Min	**-5.6**	**G's**	**at**	**102.5**	**msec**

Acceleration (G's) FIR100



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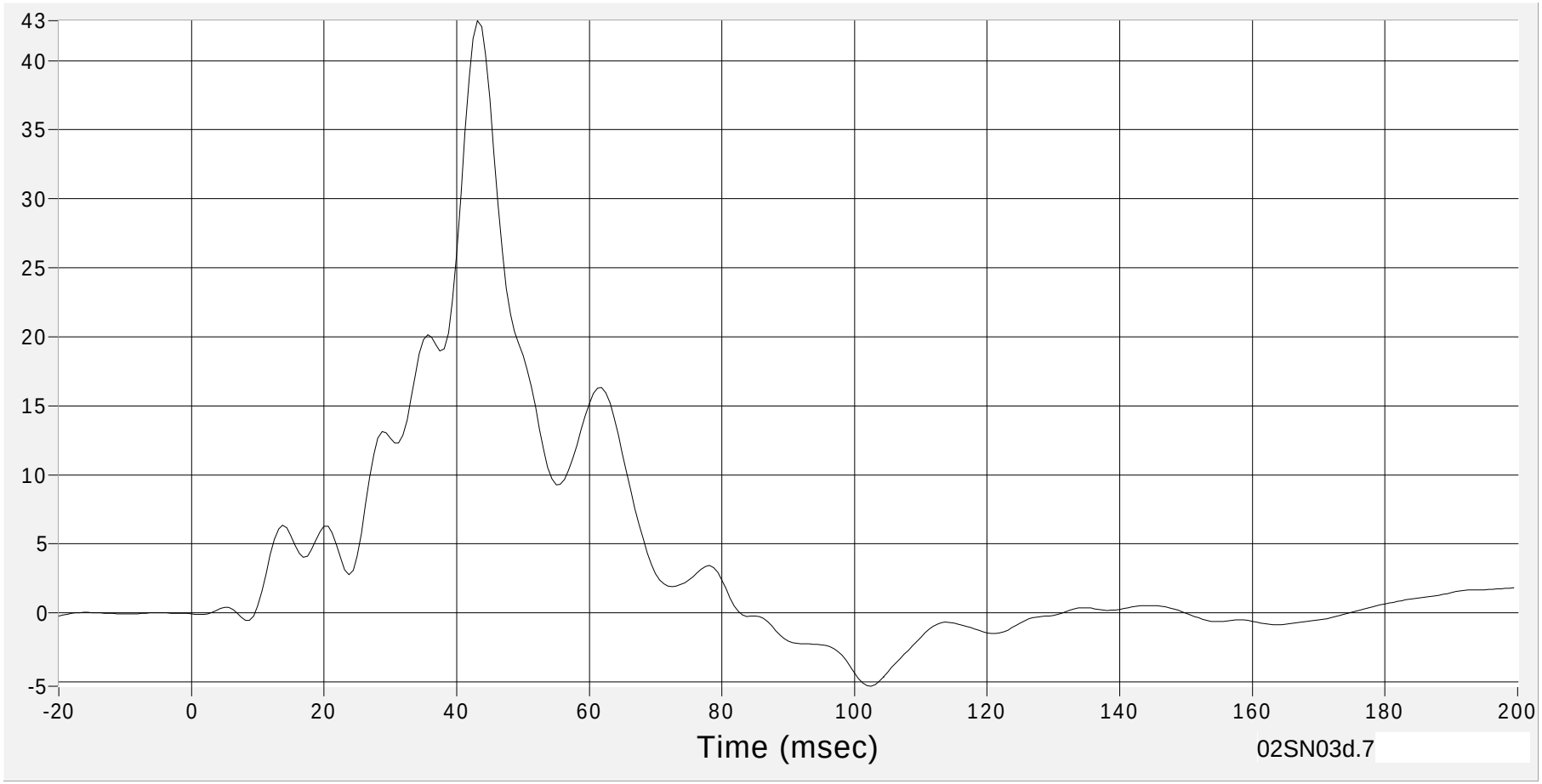
Driver Lower Rib (Y) Acceleration - Redundant

Max	**42.9**	**G's**	**at**	**43.1**	**msec**
Min	**-5.3**	**G's**	**at**	**102.5**	**msec**

Acceleration (G's) FIR100



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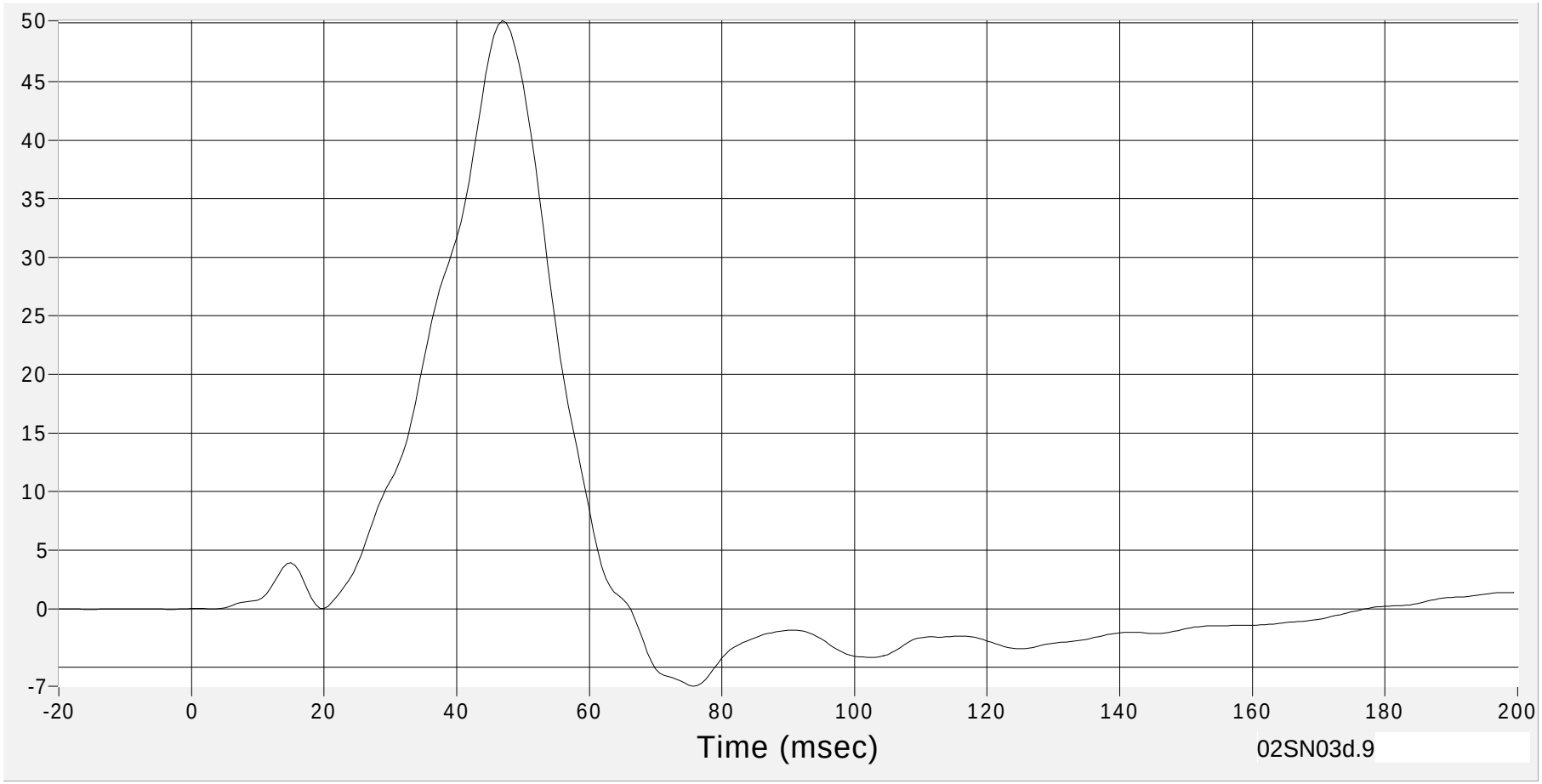
Driver Lower Spine (Y) Acceleration - Redundant

Max	**50.2**	**G's**	**at**	**46.9**	**msec**
Min	**-6.6**	**G's**	**at**	**75.6**	**msec**

Acceleration (G's) FIR100



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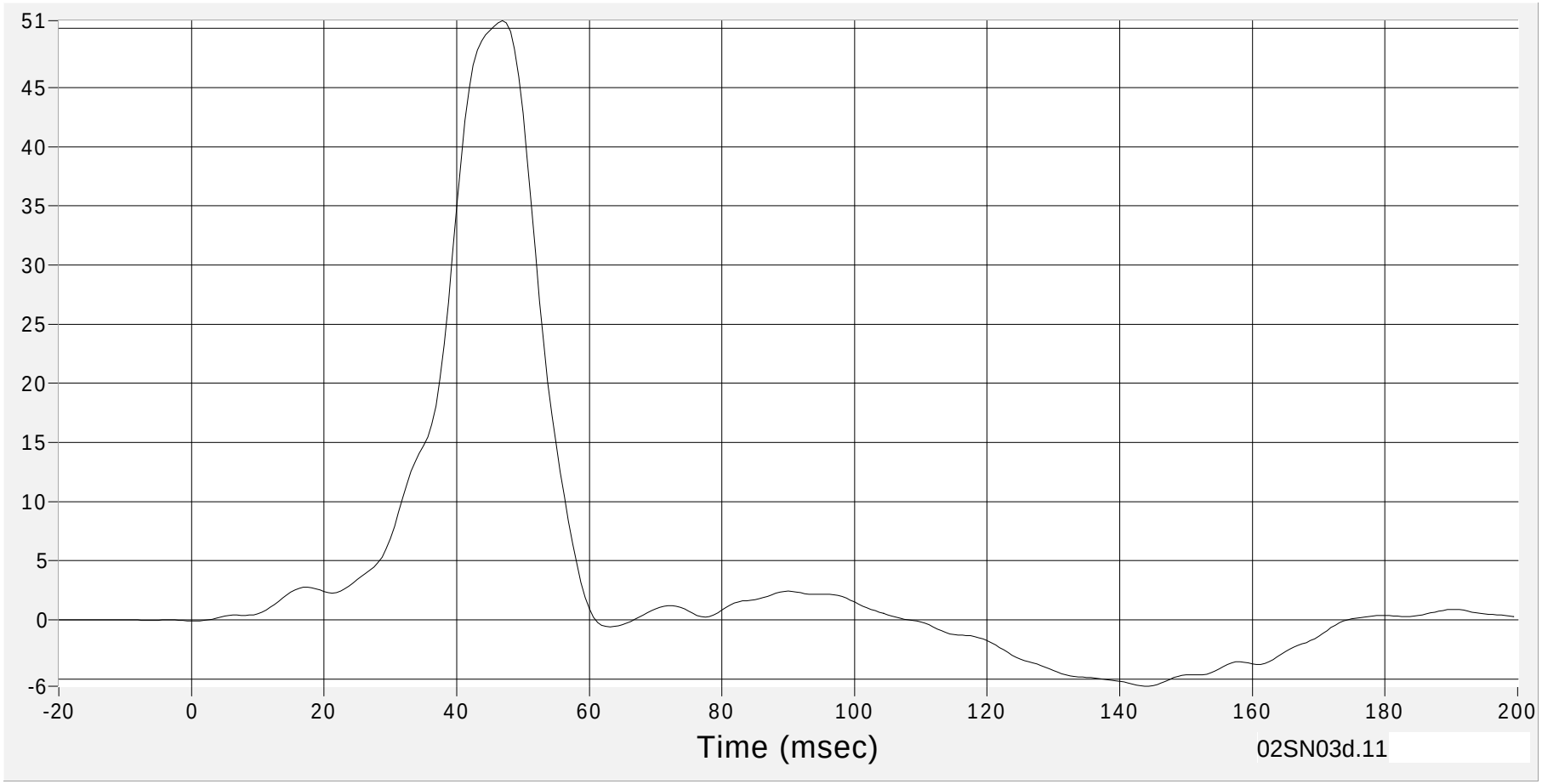
Driver Pelvic (Y) Acceleration - Redundant

Max	**50.7**	**G's**	**at**	**46.9**	**msec**
Min	**-5.6**	**G's**	**at**	**144.4**	**msec**

Acceleration (G's) FIR100



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5 February 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

APPENDIX C

SID CONFIGURATION AND VERIFICATION RESULTS

TABLE OF CONTENTS

VERIFICATION TEST RESULTS SUMMARY
PRE AND POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number 058 Test Sequences 02 and 03

TEST	PRE		POST	
	COMMENTS	BY	COMMENTS	BY
EXTERNAL DIMENSIONS	Pass all requirements	Mark Meyer	Mark Meyer	Pass all requirements
THORACIC SHOCK ABSORBER TEST	Pass all requirements	Mark Meyer	Mark Meyer	
LATERAL THORAX IMPACT TEST	Pass all requirements	Mark Meyer	Mark Meyer	Pass all requirements
LATERAL PELVIS IMPACT TEST	Pass all requirements	Mark Meyer	Mark Meyer	Pass all requirements
ABDOMINAL COMPRESSION	Pass all requirements	Mark Meyer	Mark Meyer	
LUMBAR FLEXION	Pass all requirements	Mark Meyer	Mark Meyer	

SUMMARY
SID PRE AND POST VERIFICATION

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number 058 Test Sequences 02 and 03

TEST PARAMETER	SPECIFICATION	058		N/a	
		PRE	POST	PRE	POST
MEASUREMENTS					
Date	-	4Jan02	7Feb02	N/a	N/a
Sequential Test Number	-	02	03	N/a	N/a
Temperature (°C)	18.9-25.5	21.7	21.5	N/a	N/a
Relative Humidity (%)	10-70	41	35	N/a	N/a
SH – Seated Height (mm)	889-909	905	906	N/a	N/a
RH – Rib Height (mm)	501-521	519	520	N/a	N/a
HP – Hip Pivot Height (mm)	99	99/99	99/99	N/a	N/a
RD – Rib From Back Line (mm)	229-241	230	231	N/a	N/a
KH – Knee Pivot from Back Line (mm)	511-526	523/525	526/525	N/a	N/a
KV – Knee Pivot to Floor (mm)	490-505	496/496	496/493	N/a	N/a
HW – Hip Width (mm)	356-391	368	367	N/a	N/a
THORAX IMPACTS					
Date	-	4Jan02	7Feb02	N/a	N/a
Sequential Test Number	-	02	03	N/a	N/a
Temperature (°C)	18.9-25.5	22.0	21.5	N/a	N/a
Relative Humidity (%)	10-70	41.5	35	N/a	N/a
Probe Speed (m/s)	4.21-4.33	4.27	4.27	N/a	N/a
Upper Rib Acceleration (G)	37-46	40.3	41.3	N/a	N/a
Lower Rib Acceleration (G)	37-46	39.1	40.8	N/a	N/a
Lower Spine Acceleration (G)	15-22	19.0	19.5	N/a	N/a
PELVIS IMPACTS					
Date	-	4Jan02	7Feb02	N/a	N/a
Sequential Test Number	-	02	03	N/a	N/a
Temperature (°C)	18.9-25.5	22.1	21.5	N/a	N/a
Relative Humidity (%)	10-70	41.4	35	N/a	N/a
Probe Speed (m/s)	4.21-4.33	4.27	4.27	N/a	N/a
Pelvis Acceleration (G)	40-60	44.3	47.2	N/a	N/a
THORACIC SHOCK ABSORBER					
Shock Absorber ID Number	-	03130164	-	N/a	N/a
Damper Setting	1-10	5	-	N/a	N/a
Date	-	6Nov01	-	N/a	N/a
Sequential Test Number	-	01	-	N/a	N/a
Temperature	18.9-25.5	22.0	-	N/a	N/a
Relative Humidity	10-70	40	-	N/a	N/a
Probe Speed (m/s) Low	3.05	3.05	-	N/a	N/a
Force (N)	836 – 1125	898.1	-	N/a	N/a
Displacement (mm)	30 – 35	30.6	-	N/a	N/a
Probe Speed (m/s) Middle	4.27	4.27	-	N/a	N/a
Force (N)	1730 – 2099	1739.4	-	N/a	N/a
Displacement (mm)	32 – 37	36.3	-	N/a	N/a
Probe Speed (m/s) High	6.10	6.10	-	N/a	N/a
Force (N)	3741 – 4448	3927.0	-	N/a	N/a
Displacement (mm)	33 - 40	37.4	-	N/a	N/a

TEST PARAMETER	SPECIFICATION	058		N/a	
		PRE	POST	PRE	POST
ABDOMINAL COMPRESSION					
Date	-	28Nov01	-	N/a	N/a
Sequential Test Number	-	01	-	N/a	N/a
Temperature (°C)	18.9-25.5	21.6	-	N/a	N/a
Relative Humidity (%)	10-70	39.8	-	N/a	N/a
Force at 13 mm (N)	104-162	121.5	-	N/a	N/a
Force at 19 mm (N)	163-221	177.9	-	N/a	N/a
Force at 25 mm (N)	222-280	244.8	-	N/a	N/a
Force at 33 mm (N)	325-391	356.1	-	N/a	N/a
LUMBAR FLEXION					
Date	-	7Nov01	-	N/a	N/a
Sequential Test Number	-	01	-	N/a	N/a
Temperature (°C)	18.9-25.5	21.4	-	N/a	N/a
Relative Humidity (%)	10-70	45	-	N/a	N/a
Force at 0° (N)	0-26.7	0	-	N/a	N/a
Force at 0° (N)	97.8-151.2	128	-	N/a	N/a
Force at 0° (N)	151.2-204.6	156	-	N/a	N/a
Force at 0° (N)	204.6-258	208	-	N/a	N/a
Return Angle	12° Maximum	7.7	-	N/a	N/a

DUMMY INSPECTION LIST

PRE AND POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number 058 Test Sequences 02 and 03

		SID 058			
		PRE	POST	PRE	POST
	Date	4Jan02	7Feb02	N/a	N/a
	Performed By	Mark Meyer	Mark Meyer	N/a	N/a
PART	INSPECTION	Pass	Pass	N/a	N/a
Skin	Visual	Pass	Pass	N/a	N/a
Head	Visual, Ballast, Accelerometer Mount	Pass	Pass	N/a	N/a
Neck	Visual and Palpated, Cable Torque	Pass	Pass	N/a	N/a
Spine Box	Visual, Ballast, Weldment, Accelerometer Mount	Pass	Pass	N/a	N/a
Rib Cage	Visual, Palpated, Measured, Stiffness	Pass	Pass	N/a	N/a
Sternum	Visual	Pass	Pass	N/a	N/a
Lumbar Spine	Visual	Pass	Pass	N/a	N/a
Abdomen	Visual	Pass	Pass	N/a	N/a
Pelvis	Visual, Palpated, Accelerometer Mount	Pass	Pass	N/a	N/a
Upper Legs	Visual	Pass	Pass	N/a	N/a
Knees	Visual, Stops, Inserts	Pass	Pass	N/a	N/a
Lower Legs	Visual, Range of Motion	Pass	Pass	N/a	N/a
Ankles	Visual, Range of Motion	Pass	Pass	N/a	N/a
Feet	Visual, Range of Motion	Pass	Pass	N/a	N/a
Joints	1 to 2 G Range	Pass	Pass	N/a	N/a
Other		None	None	N/a	N/a

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TABLE OF CONTENTS

SID INSTRUMENTATION

FRONT SID NO. 058

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X	J35932	ENDEVCO	14Nov01
HEAD Y	J36031	ENDEVCO	14Nov01
HEAD Z	J356411	ENDEVCO	14Nov01
UPPER RIB	J35839	ENDEVCO	14Nov01
LOWER RIB	J32662	ENDEVCO	14Nov01
LOWER SPINE	J35937	ENDEVCO	14Nov01
PELVIS	J366031	ENDEVCO	14Nov01
UPPER RIB REDUNDANT	J36617	ENDEVCO	14Nov01
LOWER RIB REDUNDANT	J32665	ENDEVCO	14Nov01
LOWER SPINE REDUNDANT	J36614	ENDEVCO	14Nov01
PELVIS REDUNDANT	J34364	ENDEVCO	14Nov01

VEHICLE INSTRUMENTATION

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL X	J32565	ENDEVCO	14Nov01
RIGHT FRONT SILL Y	J21505	ENDEVCO	14Nov01
RIGHT FRONT SILL Z	J36018	ENDEVCO	14Nov01
RIGHT REAR SILL X	N/a	N/a	N/a
RIGHT REAR SILL Y	N/a	N/a	N/a
RIGHT REAR SILL Z	N/a	N/a	N/a
REAR FLOORPAN ABOVE AXLE X	J22189	ENDEVCO	14Nov01
REAR FLOORPAN ABOVE AXLE Y	J21367	ENDEVCO	14Nov01
REAR FLOORPAN ABOVE AXLE Z	J22318	ENDEVCO	22Jan02
LEFT REAR SILL Y	N/a	N/a	N/a
LEFT FRONT SILL Y	B13036	ENDEVCO	14Nov01
LEFT FRONT DOOR CENTERLINE Y	98F98D06-F01	ENTRAN	14Nov01
RIGHT REAR OCCUPANT COMP Y	N/a	N/a	N/a
MID-REAR OF LEFT FRONT DOOR Y	B12823	ENDEVCO	14Nov01
LEFT FRONT DOOR UPPER C/L Y	98F98A28-Q02	ENTRAN	14Nov01
MID-REAR OF LEFT REAR DOOR Y	N/a	N/a	N/a
LEFT REAR DOOR UPPER C/L Y	N/a	N/a	N/a
LEFT LOWER B-PILLAR Y	98F98E11-K07	ENTRAN	14Nov01
LEFT MIDDLE B-PILLAR Y	J35768	ENDEVCO	14Nov01
LEFT LOWER A-PILLAR Y	B13281	ENDEVCO	14Nov01
LEFT UPPER A-PILLAR	P13839	ENDEVCO	15Nov01
FRONT SEAT TRACK Y	P23582	ENDEVCO	13Nov01
REAR SEAT TRACK Y	N/a	N/a	N/a
VEHICLE CG X	P13846	ENDEVCO	15Nov01
VEHICLE CG Y	P22577	ENDEVCO	16Nov01
VEHICLE CG Z	P22912	ENDEVCO	15Nov01

MDB INSTRUMENTATION

MDB CG X	P19211	ENDEVCO	14Nov01
MDB CG Y	P23595	ENDEVCO	14Nov01
MDB CG Z	P19145	ENDEVCO	14Nov01
MDB REAR FRAME MEMBER X	P21151	ENDEVCO	14Nov01
MDB REAR FRAME MEMBER Y	P22978	ENDEVCO	14Nov01