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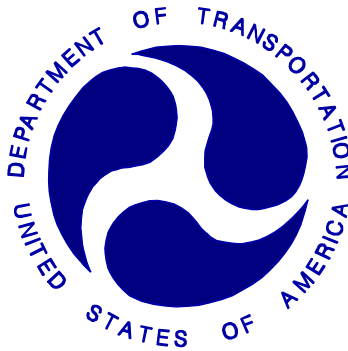
**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

DAIMLERCHRYSLER
2001 DODGE GRAND CARAVAN
MPV

NHTSA NUMBER: M10308

VERIDIAN ENGINEERING TEST NUMBER: 8506-18

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



February 28, 2001

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 No. 5313
Washington, DC 20590

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Prepared By:

Lawrence Q. Valvo, Project Engineer

Approved By:

David J. Travale, Program Manager
Transportation Sciences Center

Approval Date:

FINAL REPORT ACCEPTANCE BY:

Accepted By:

Acceptance Date:

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16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2001 Dodge Grand Caravan Minivan in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on February 28, 2001. The impact velocity of the Moving Deformable Barrier (MDB) was 61.80 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21 °C. The target vehicle post-test maximum crush was 313 mm at level 2. The test or target vehicle's performance is given below: <table border="0"> <thead> <tr> <th></th><th align="center"><u>Front SID</u></th><th></th><th align="center"><u>Rear SID</u></th></tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td><td align="center"><u>49</u></td><td align="center">g's</td><td align="center"><u>48</u> g's</td></tr> <tr> <td>Left Lower Rib Acceleration:</td><td align="center"><u>40</u></td><td align="center">g's</td><td align="center"><u>51</u> g's</td></tr> <tr> <td>Lower Spine Acceleration:</td><td align="center"><u>50</u></td><td align="center">g's</td><td align="center"><u>64</u> g's</td></tr> <tr> <td>Thoracic Trauma Index (TTI):</td><td align="center"><u>49</u></td><td align="center">g's</td><td align="center"><u>58</u> g's</td></tr> <tr> <td>Pelvis Acceleration (PEV):</td><td align="center"><u>50</u></td><td align="center">g's</td><td align="center"><u>98</u> g's</td></tr> </tbody> </table> The left side sliding door unlatched, the upper trolley detached, and the middle trolley partially detached during the side impact event. The lower door trolley remained attached during the impact.					<u>Front SID</u>		<u>Rear SID</u>	Left Upper Rib Acceleration:	<u>49</u>	g's	<u>48</u> g's	Left Lower Rib Acceleration:	<u>40</u>	g's	<u>51</u> g's	Lower Spine Acceleration:	<u>50</u>	g's	<u>64</u> g's	Thoracic Trauma Index (TTI):	<u>49</u>	g's	<u>58</u> g's	Pelvis Acceleration (PEV):	<u>50</u>	g's	<u>98</u> g's
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17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy (SID)		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division Room 5108 (NAD-52) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946 ATTN: Robert Hornicle																									
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY2001 New Car Assessment Program Side Impact Protection sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-98-C-02001. The purpose of this test was to generate comparative side impact performance in a 2001 Dodge Grand Caravan Minivan. The test was conducted in accordance with the Office of Crashworthiness Standards's Laboratory Test Procedure dated July, 1997.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2001 Dodge Grand Caravan MPV was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 61.80 kph (38.4 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Veridian Engineering Transportation Sciences Center in Buffalo, New York on February 28, 2001. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SIDs) are included in Appendix A.

Two restrained Side Impact Dummies (SIDs) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OCWS Side Impact Laboratory Test Procedure which is dated July, 1997. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SIDs were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Head triaxial accelerometers (X-, Y- and Z-direction)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 54 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID	Rear SID
TTI (g)	49	58
PEV (g)	50	98

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2001 Dodge Grand Caravan MPV
 Vehicle Body Color: Tan VIN: 2B8GP44341R219620
 Vehicle NHTSA No.: M10308 Month & Year of Manufacture: 11-00
 Engine Data: 6 Cylinders; - CID; 3.3 Liters; - cc
 Engine Placement: - Longitudinal; or X Lateral
 Transmission: 4 Speed; - Manual; X Automatic; X Overdrive
 Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel
 Odometer Reading 14 km
 Options: X A/C; X Power Steering; X Pwr.Brakes; X Pwr. Windows

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity); 248 kPa FRONT
248 kPa REAR
 Recommended Tire Size: P215/70R15
 Tires on Test Vehicle: P215/70R15 ; Manufacturer: Goodyear
 Vehicle Capacity Data:
 Number of Occupants: 2 Front; 2 Rear; 3 3rd Seat; 7 Total
 Type of Front Seats: X Bucket; - Bench; - Split Bench
 Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
 Vehicle Max Capacity Loading = 522.0 kg (A)
 No. of Occupants x 68.04 kg. = 476.3 kg (B)
 Vehicle Cargo Capacity = 45.7 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>567.5</u> kg	Left Rear	=	<u>410.5</u> kg
Right Front	=	<u>510.0</u> kg	Right Rear	=	<u>404.5</u> kg
TOTAL FRONT	=	<u>1077.5</u> kg	TOTAL REAR	=	<u>815.0</u> kg
% of Total Weight	=	<u>56.9</u> %	% of Total Weight	=	<u>43.1</u> %
TOTAL WEIGHT	=	<u>1892.5</u> kg			

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1892.5</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>45.7</u>	kg (B)
Weight of instrumented Side Impact Dummies (1 or 2 X <u>81.2</u> kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>2100.6</u>	kg (A+B+C)

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

Left Front	=	<u>638.0</u>	kg	Left Rear	=	<u>490.5</u>	kg
Right Front	=	<u>508.5</u>	kg	Right Rear	=	<u>464.0</u>	kg
TOTAL FRONT	=	<u>1146.5</u>	kg	TOTAL REAR	=	<u>954.5</u>	kg
% of Total Weight	=	<u>54.6</u>	%	% of Total Weight	=	<u>45.4</u>	%
TOTAL TEST WEIGHT	=	<u>2101.0</u>	kg				

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

Left Front	=	<u>631.0</u>	kg	Left Rear	=	<u>486.5</u>	kg
Right Front	=	<u>511.5</u>	kg	Right Rear	=	<u>465.0</u>	kg
TOTAL FRONT	=	<u>1142.5</u>	kg	TOTAL REAR	=	<u>951.5</u>	kg
% of Total Weight	=	<u>54.6</u>	%	% of Total Weight	=	<u>45.4</u>	%
TOTAL TEST WEIGHT	=	<u>2094.0</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>773</u>	Right Front	<u>777</u>	Left Rear	<u>796</u>	Right Rear	<u>797</u>
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FULLY LOADED:

Left Front	<u>757</u>	Right Front	<u>771</u>	Left Rear	<u>764</u>	Right Rear	<u>776</u>
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READY FOR TEST:

Left Front	<u>758</u>	Right Front	<u>774</u>	Left Rear	<u>768</u>	Right Rear	<u>781</u>
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Test Vehicle Wheelbase: 3026 millimeters

C.G. = 1375 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side	=	<u>4937</u>	millimeters
Left Side	=	<u>4936</u>	millimeters
Centerline	=	<u>5099</u>	millimeters

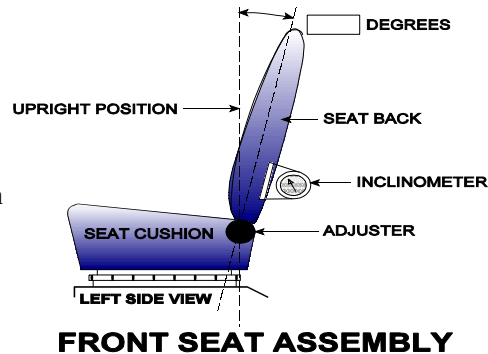
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

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



FRONT SEAT CUSHION PLACEMENT: Mid-position (detent 11, where the forward most detent is defined as 0)

Total Length of Adjustment Travel: 218 millimeters

Total Number of Adjustment Positions or Detents: 23

FRONT SEAT BACK ADJUSTMENT POSITION: 4° Rearward

Seat Back Torso Angle: 18 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: Fixed millimeters

Seat Back Adjustment Position: 6 degrees back from full upright

ADJUSTABLE STEERING COLUMN POSITION: Mid-Position

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Removed Right Rear: Removed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

75.7 liters (Fuel Tank Usable Capacity)

70.0 liters used for test (92%-94% of Fuel Tank Usable Capacity)

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

Wheelbase = 3026 millimeters

Impact Point is 573 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 566 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2001 Dodge Grand Caravan

Body Style: Minivan

VIN: 2B8GP44341R219620

NHTSA No.: M10308

Test Date: February 28, 2001

Overall Length = 5099 millimeters; Overall Width = 1948 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 631.0 kg Left Rear = 486.5 kg

Right Front = 511.5 kg Right Rear = 465.0 kg

TOTAL FRONT = 1142.5 kg TOTAL REAR = 951.5 kg

TOTAL VEHICLE WEIGHT 2094.0 kg

Wheelbase = 3026 millimeters

Longitudinal C.G. from Center of Front Axle = 1375.0 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 7 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 8 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (274 mm above ground) = 164 millimeters

2. LEVEL 2 (753 mm above ground) = 313 millimeters

3. LEVEL 3 (657 mm above ground) = 303 millimeters

4. LEVEL 4 (949 mm above ground) = 228 millimeters

5. LEVEL 5 (1649 mm above ground) = 19 millimeters

Maximum Post-Test Intrusion = 313 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification 026 027

Restraints Used 3-Point Safety Belt, Side Airbag 3-Point Safety Belt

INSTRUMENTATION:

Number of Vehicle Data Channels: = 52

Number of Cameras: Onboard = 3

Offboard = 8

TOTAL = 11

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore; 094A1200-2, 001B1200

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT =		<u>782.0</u>	kg	TOTAL REAR =		<u>580.5</u>	kg
TOTAL MDB WEIGHT =		<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>61.80</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>140</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>94</u>	millimeters
3. Row C at Mid Level	=	<u>122</u>	millimeters
4. Row D at Top of Stack Level	=	<u>140</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

VISIBLE DUMMY CONTACT POINTS:

	<u>LEFT FRONT SID</u>	<u>LEFT REAR SID</u>
Head:	<u>Side Airbag</u>	<u>Rear Door Trim</u>
Upper Torso:	<u>Side Airbag</u>	<u>Rear Door Trim</u>
Lower Torso:	<u>Side Airbag;; Pelvis - Rear door trim below armrest</u>	<u>Pelvis to lower rear door trim</u>
Left Knee:	<u>Front door trim below window control cluster</u>	<u>Forward Door Trim</u>
Right Knee:	<u>Left Knee</u>	<u>Forward Door Trim</u>

DOOR OPENING:

	<u>LEFT DOOR</u>	<u>RIGHT DOOR</u>
Front:	<u>Closed/Inoperable</u>	<u>Closed/Operable</u>
Rear:	<u>Partially Detached/Inoperable</u>	<u>Closed/Operable</u>

MDB DISTANCE FROM TARGET IMPACT POINT:

<u>Vertical: 8 mm below</u>
<u>Horizontal: 7 mm forward</u>

ARM REST LOCATIONS:

Front:	<u>150 mm below the window opening</u>
Rear:	<u>None</u>

SEAT MOVEMENT:

Front:	<u>Inboard</u>
Rear:	<u>Bolster moved inboard</u>

GLAZING DAMAGE:

Windshield:	<u>Cracked from upper left corner</u>
Window:	<u>Driver door glass shattered during impact</u>

PILLAR PERFORMANCE:

<u>No visible tears or separations</u>
--

SILL SEPARATION:

<u>None</u>

AIR BAG DEPLOYMENT STATUS:

	<u>DRIVER</u>	<u>FRONT PASSENGER</u>	<u>REAR PASSENGER</u>
<u>FRONT</u>	<u>No</u>	<u>No</u>	<u>-</u>
<u>SIDE</u>	<u>Yes</u>	<u>No</u>	<u>-</u>

OTHER NOTABLE IMPACT EFFECTS:

<u>The left side sliding door unlatched, the upper trolley detached, and the middle trolley partially detached during the side impact event. The lower door trolley remained attached during the impact. The secondary impact point (MDB right side) was 7 mm forward and 3 mm below target as determined from film analysis.</u>

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

	Front Dummy ID# 026				Rear Dummy ID# 027			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS:								
Longitudinal X	7.0	75.0	-16.1	87.3	26.6	153.4	-10.3	68.2
Lateral Y	33.2	89.0	-5.4	38.7	24.2	69.5	-16.3	54.3
Vertical Z	45.4	70.5	-2.2	21.5	47.0	78.5	-21.6	65.7
Resultant R	47.2	67.9	-	-	47.2	78.3	-	-
HIC	219.1				197.2			
RIB ACCELERATIONS:								
Upper Rib Lateral . . Y	48.7	50.0	-13.6	21.9	48.2	59.4	-4.7	98.2
Upper Rib Lateral . . Y(R)	48.4	50.0	-14.5	21.9	47.8	59.4	-4.5	98.2
Lower Rib Lateral . . Y	40.2	41.9	-8.5	21.3	51.1	50.6	-6.9	124.4
Lower Rib Lateral . . Y(R)	46.3	42.5	-9.7	21.3	51.0	50.6	-6.5	124.4
SPINE ACCELERATIONS:								
Lower Lateral Y	49.8	45.6	-8.3	61.3	64.0	49.4	-6.4	73.2
Lower Lateral Y(R)	49.1	45.6	-9.5	61.3	64.3	49.4	-6.8	73.2
PELVIC ACCELERATIONS:								
Lateral Y	49.8	32.5	-13.3	56.3	98.0	44.4	-14.6	59.4
Lateral Y(R)	48.6	32.5	-13.4	56.3	99.5	44.4	-14.5	59.4

REFERENCE: Positive Direction - Longitudinal (X) = forward
 Lateral (Y) = to right
 Vertical (Z) = up
 Negative Direction - Longitudinal (X) = rearward
 Lateral (Y) = to left
 Vertical (Z) = down

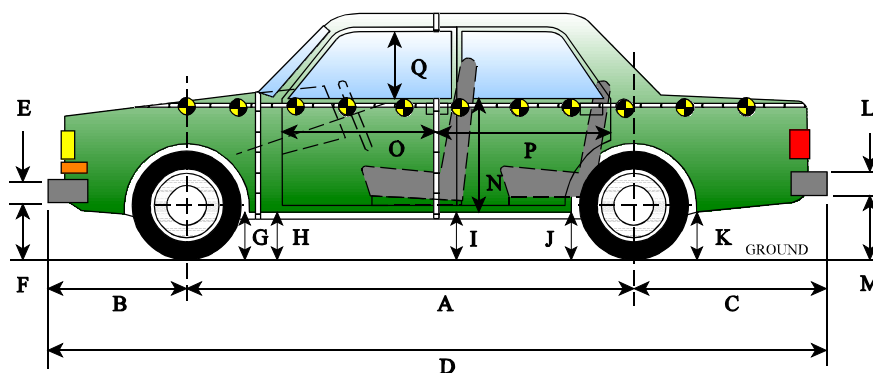
Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.
 Head Accelerations are filtered at SAE Class 1000.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



LEFT SIDE VIEW

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

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	3032	3026	3015	-11
B	960	961	975	14
C	1107	1112	1098	-14
D	5099	-	5088	-11
E	195	-	195	0
F	375	368	415	47
G	250	233	249	16
H	251	233	252	19
I	262	240	240	0
J1	266	237	224	-13
J2	287	259	246	-13
K	286	255	223	-32
L	211	-	211	0
M	353	322	256	-66
N	776	-	696	-80
O	626	-	877	251
P	1103	-	1049	-54
Q	601	-	627	26
R	4937	-	4936	-1
S	4936	-	4900	-36
T	1948	-	1696	-252

D = Length at Centerline
T = Width at B-Pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

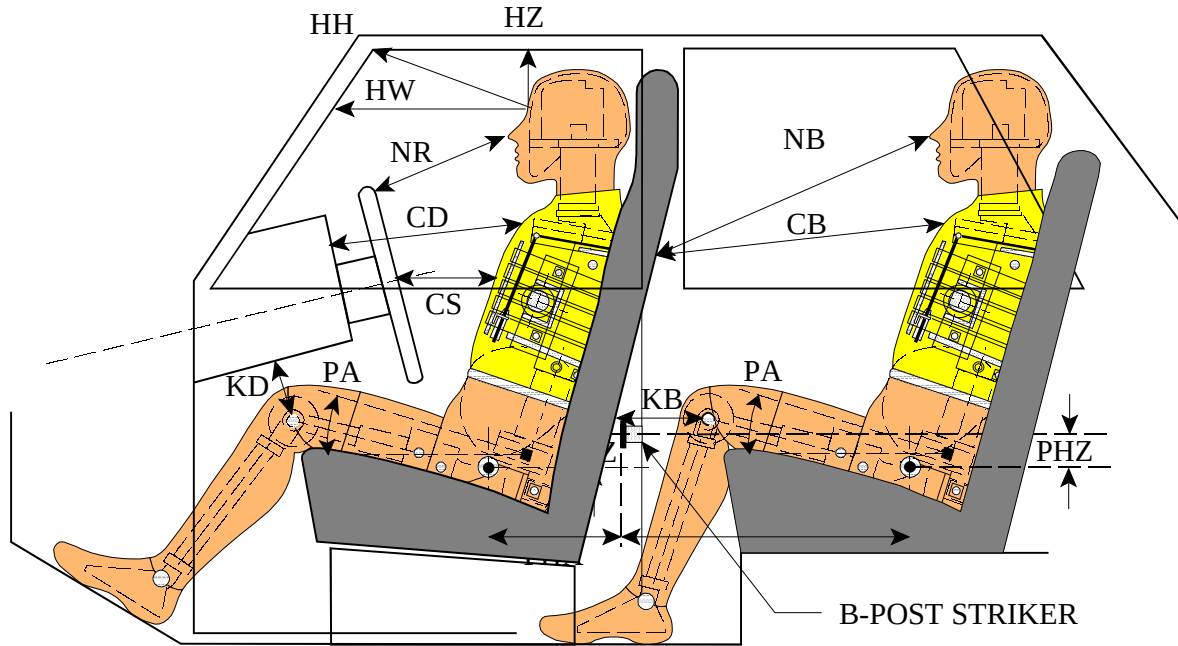
S = Left Side Length

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



LEFT SIDE VIEW

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

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

	DRIVER ID# <u>026</u>	LEFT REAR PASS. ID# <u>027</u>
HH	307	N/A
HW	556	N/A
HZ	167	200
NR/NB	356	693
CD/CB	519	643
CS	252	N/A
KDL(KDA°)/KBL(KDA°)	183 / (30 °)	290 / (20 °)
KDR(KBA°)/KBR(KBA°)	23 / (20 °)	284 / (20 °)
PA°	23.1 °	24.0 °
PHX	203	191
PHZ	17	67

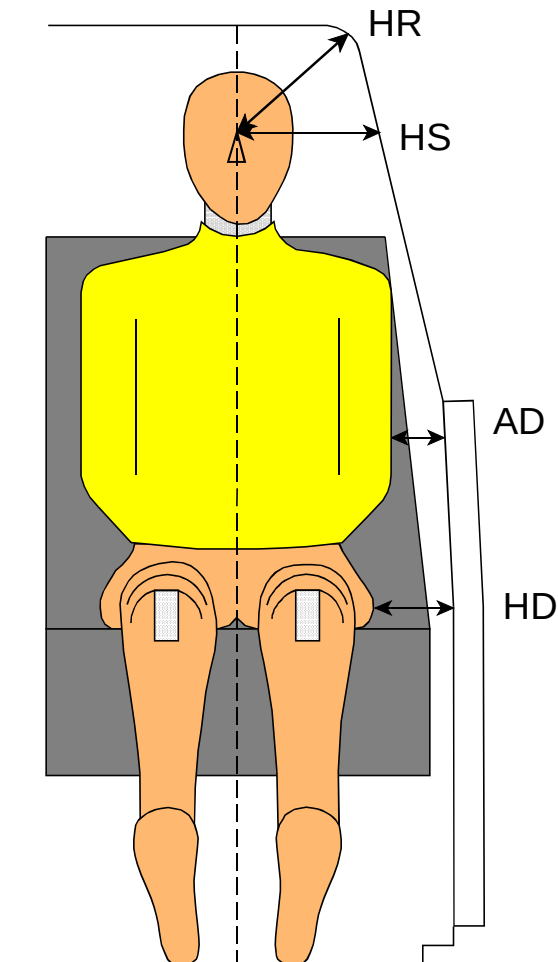
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



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

	DRIVER ID # <u>026</u>		LEFT REAR PASS. ID # <u>027</u>	
HR	228		265	
HS	336		400	
AD*	LOWER: 141	UPPER: 196	LOWER: 220	UPPER: 260
HD	157		315	

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

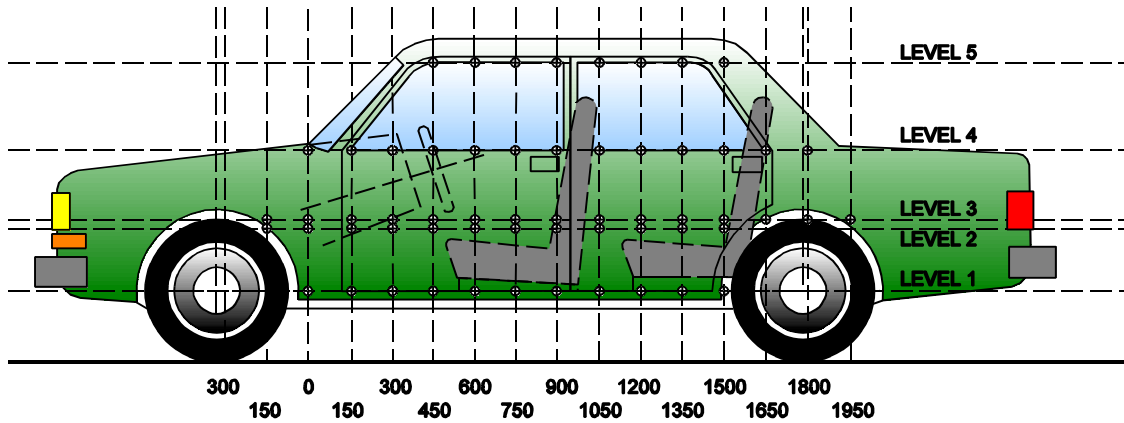
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

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 Shown Above:

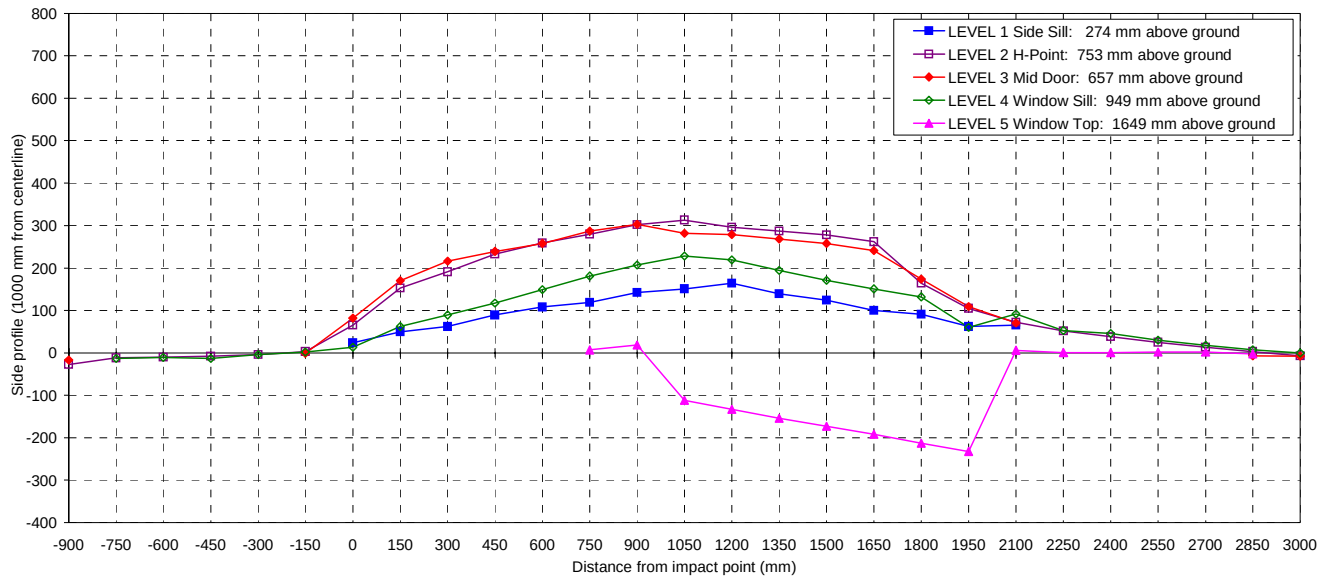
Level 5 @ Window Top	=	<u>1649</u>	millimeters
Level 4 @ Window Sill	=	<u>949</u>	millimeters
Level 3 @ Mid Door	=	<u>657</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>753</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>274</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



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

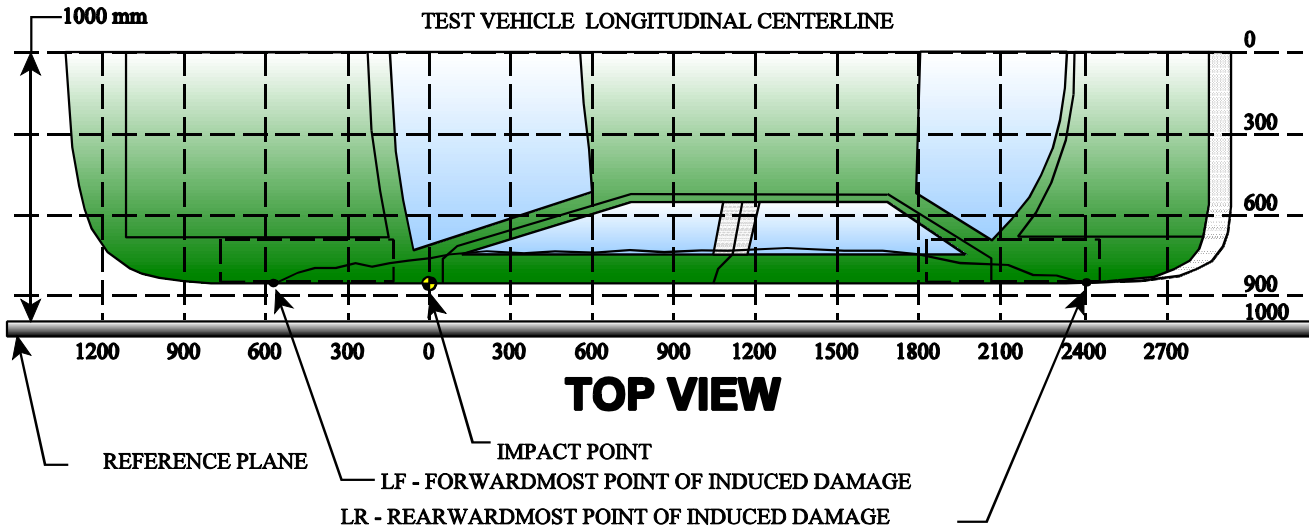
			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	274	PRE	--	--	--	--	--	--	169	161	158	160	159	159	158	159	160	162	159	163	163	171	178	--	--	--	--	--	--	--
		POST	--	--	--	--	--	--	193	211	220	249	267	278	300	310	324	301	283	263	254	233	243	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	24	50	62	89	108	119	142	151	164	139	124	100	91	62	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	753	PRE	160	117	82	69	68	72	61	56	54	48	43	40	38	38	42	42	41	43	45	55	58	54	50	51	54	89	101	
		POST	133	105	72	61	64	75	126	209	245	281	302	320	340	351	338	329	319	305	209	160	130	106	88	76	67	92	94	
		CRUSH	-27	-12	-10	-8	-4	3	65	153	191	233	259	280	302	313	296	287	278	262	164	105	72	52	38	25	13	3	-7	
LEVEL 3 MID DOOR	657	PRE	142	--	--	--	--	63	62	54	51	51	45	44	42	45	46	46	49	52	55	61	64	--	--	--	--	75	114	
		POST	125	--	--	--	--	62	144	224	267	290	303	331	345	327	325	314	307	293	229	170	135	--	--	--	--	68	106	
		CRUSH	-17	N/A	N/A	N/A	N/A	-1	82	170	216	239	258	287	303	282	279	268	258	241	174	109	71	N/A	N/A	N/A	N/A	-7	-8	
LEVEL 4 WINDOW SILL	949	PRE	--	233	176	148	125	106	92	79	70	62	56	48	42	42	42	42	45	51	54	55	58	65	70	76	82	91	97	
		POST	--	220	165	135	121	108	105	141	159	179	205	229	249	270	261	236	216	202	186	115	150	118	116	106	100	98	97	
		CRUSH	N/A	-13	-11	-13	-4	2	13	62	89	117	149	181	207	228	219	194	171	151	132	60	92	53	46	30	18	7	0	
LEVEL 5 WINDOW TOP	1649	PRE	--	--	--	--	--	--	--	--	--	--	--	385	364	353	345	338	333	330	328	328	331	336	340	346	357	376	--	
		POST	--	--	--	--	--	--	--	--	--	--	--	--	392	383	241	212	184	160	138	115	96	337	337	341	348	359	374	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7	19	-112	-133	-154	-173	-192	-213	-232	6	1	1	2	2	-2	N/A	

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (—).
Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

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

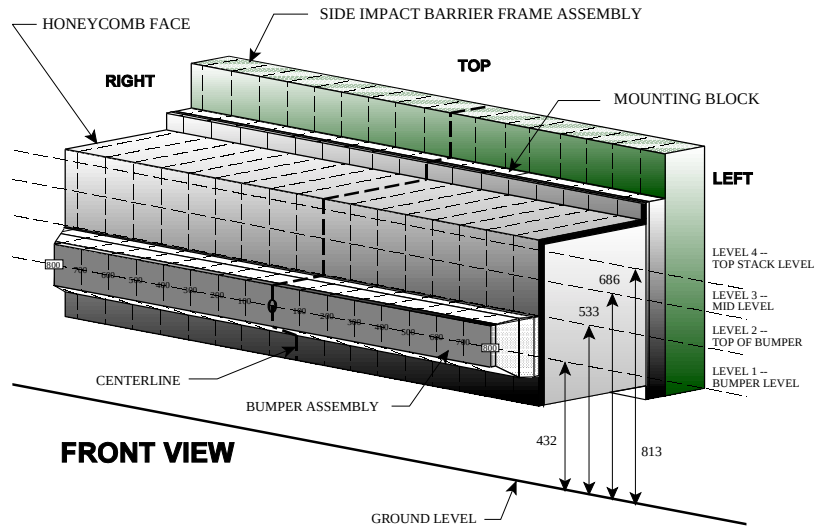
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = <u>3000</u> mm)	97	97	0
2	2356	117	69	48
3	1712	265	44	221
4	1068	349	38	311
5	424	286	51	235
6	(LF = <u>-220</u> mm)	70	70	0

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



NOTE: Dimensions are shown in millimeters, mm

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

			DISTANCE RIGHT OF CENTER (mm)									DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	704	684	689	649	627	628	636	640	649	652	657	658	665	678	697	723	759
		CRUSH	85	65	70	30	8	9	17	21	30	33	38	39	46	59	78	104	140
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	707	677	660	640	630	629	629	636	642	637	634	632	637	644	663	699	741
		CRUSH	88	58	41	21	11	10	10	17	23	18	15	13	18	25	44	80	122
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	713	707	694	689	685	683	682	684	680	670	668	665	668	670	673	683	707
		CRUSH	94	88	75	70	66	64	63	65	61	51	49	46	49	51	54	64	88
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535
		POST	675	656	645	641	637	633	636	633	629	619	617	615	616	616	615	627	648
		CRUSH	140	137	127	123	119	115	118	115	111	101	99	97	98	98	97	108	113

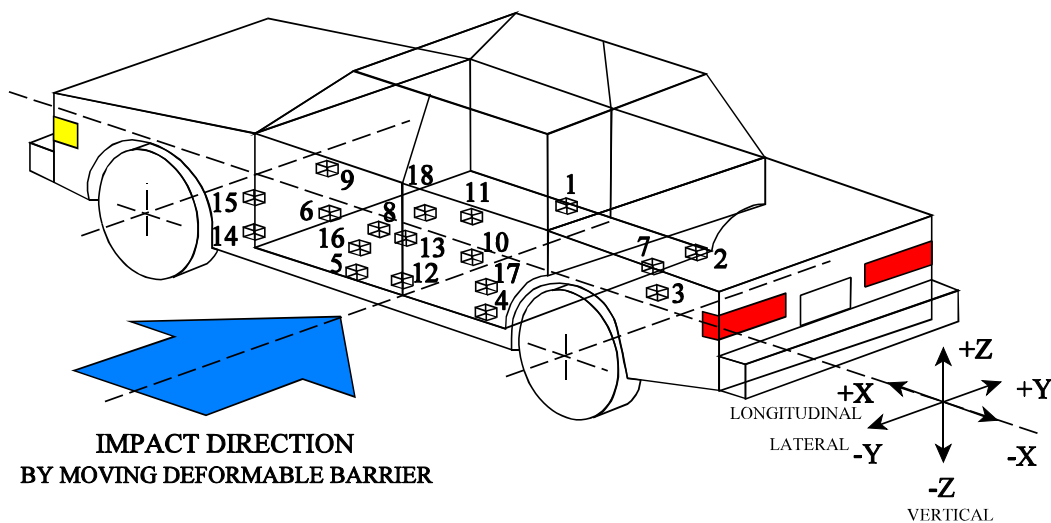
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1	Right Side Sill at Front Seat	3300	534	-397	pos.	2.8	61.5	18.5	7.9	3.8	80.5	19.4	7.8
					neg.	-6.1	23.8	-2.7	145.9	-5.2	14.4	-	-
2	Right Side Sill at Rear Seat	2285	634	-437	pos.	2.4	60.5	20.4	7.2	5.8	105.4	21.2	7.2
					neg.	-6.1	24.0	-2.7	147.5	-12.3	25.3	-	-
3	Rear Floorpan Above Axle	1066	102	-490	pos.	1.0	37.0	17.5	36.1	8.5	20.6	18.4	16.1
					neg.	-3.9	24.9	-1.9	140.7	-11.6	16.2	-	-
4	Left Side Sill at Rear Seat	2326	-656	-430	pos.	-	-	182.4	7.0	-	-	-	-
					neg.	-	-	-54.5	18.9	-	-	-	-
5	Left Side Sill at Front Seat	3288	-535	-390	pos.	-	-	66.3	16.2	-	-	-	-
					neg.	-	-	-21.0	27.0	-	-	-	-
6	Left Front Door on Centerline	3121	-663	-722	pos.	-	-	233.8	7.0	-	-	-	-
					neg.	-	-	-262.7	13.9	-	-	-	-
7	Right Rear Occupant Compartment	2395	381	-439	pos.	-	-	17.8	7.0	-	-	-	-
					neg.	-	-	-2.8	146.9	-	-	-	-
8	Midrear of Left Front Door	-	-	-	pos.	-	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-
9	Left Front Door Upper Centerline	3133	-790	-967	pos.	-	-	166.4	16.8	-	-	-	-
					neg.	-	-	-119.1	27.9	-	-	-	-
10	Midrear of Left Rear Door	-	-	-	pos.	-	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-
11	Left Rear Door Upper Centerline	2200	-821	-1064	pos.	-	-	170.9	55.1	-	-	-	-
					neg.	-	-	-205.2	35.5	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right)

Z - Ground Level (+ Down)

**Accelerometer was not requested by COTR.

4-11

8506-18

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2644	-653	-497	pos.	-	-	264.4	4.3	-	-	-	-
					neg.	-	-	-116.0	12.8	-	-	-	-
13	Left Middle B-Pillar	2622	-763	-1034	pos.	-	-	108.0	11.1	-	-	-	-
					neg.	-	-	-174.0	23.2	-	-	-	-
14	Left Lower A-Pillar	3766	-669	-605	pos.	-	-	50.7	8.7	-	-	-	-
					neg.	-	-	-25.4	14.7	-	-	-	-
15	Left Middle A-Pillar	3699	-710	-1117	pos.	-	-	27.0	12.6	-	-	-	-
					neg.	-	-	-7.2	24.7	-	-	-	-
16	Front Seat Track	2816	-576	-538	pos.	-	-	53.6	15.0	-	-	-	-
					neg.	-	-	-12.9	51.7	-	-	-	-
17	Rear Seat Track	1844	-457	-554	pos.	-	-	56.2	27.2	-	-	-	-
					neg.	-	-	-24.4	56.9	-	-	-	-
18	Vehicle CG	2823	124	-405	pos.	3.9	61.1	18.7	7.8	14.2	26.4	23.1	57.8
					neg.	-4.6	6.7	-2.8	148.4	-22.5	57.8	-	-

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right)

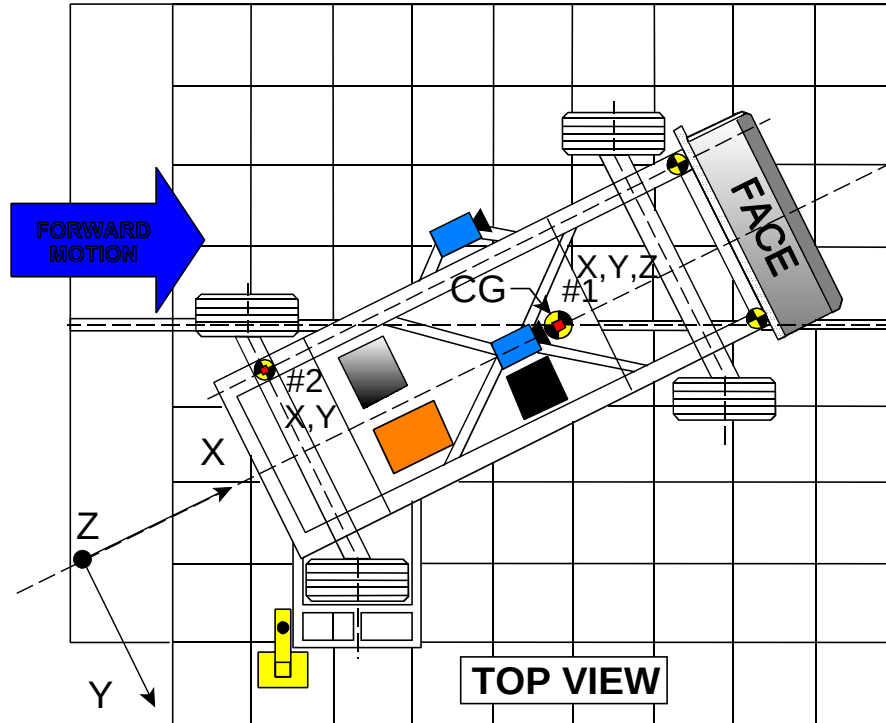
Z - Ground Level (+ Down)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
					Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*				
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.5	118.6	-22.3	42.4
	Lateral..... Y				0.5	164.2	-9.6	12.9
	Vertical..... Z				10.9	65.0	-13.7	20.3
	Resultant..... R				24.6	41.1	-	-
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	2.0	122.9	-21.9	34.3
	Lateral..... Y				6.6	17.5	-2.3	72.7

*Reference: X = Rear Bumper (+ Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

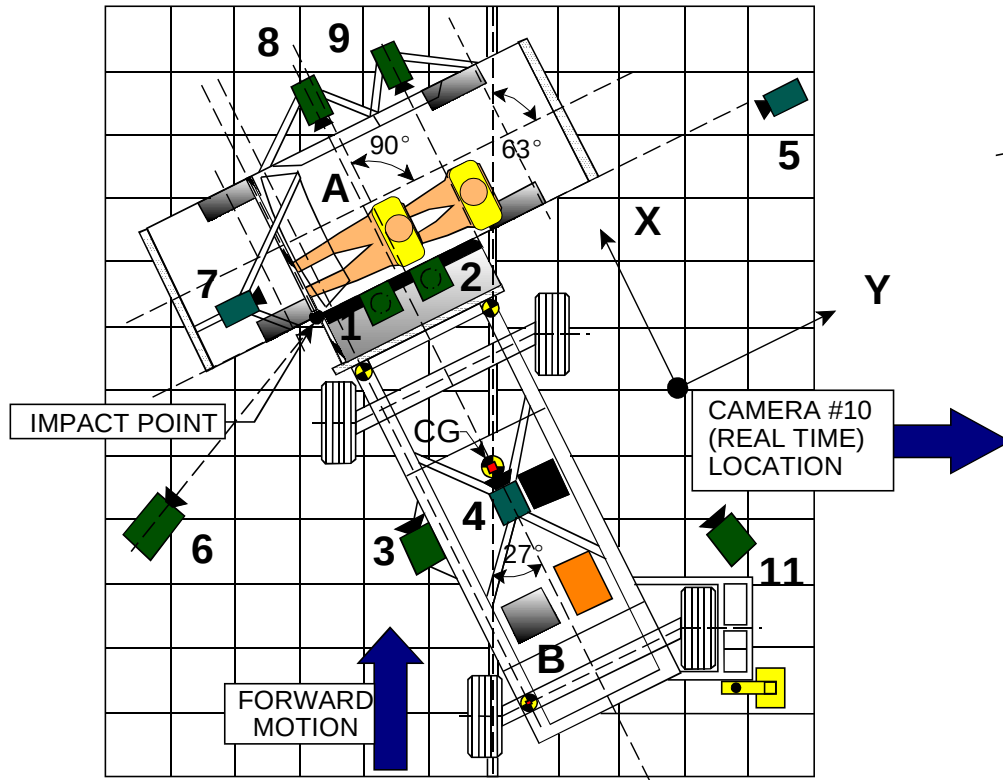
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	58	800	-4880	-90	8	1010
2	Overhead closeup view of impact plane	194	865	-4880	-90	12.5	1005
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	755
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	**
5	Right side ground level overall view	92	9795	1100	-1.6	25	1015
6	Left side ground level overall view	-2028	-1710	1072	-5.1	13	1005
7	Test vehicle onboard driver front view	494	-763	1389	-4.2	13	1015
8	Test vehicle onboard driver side view	1875	574	1125	-4.4	8	905
9	Test vehicle onboard passenger side view	1893	1522	1174	-5.0	8	1015
10	Real time film coverage of test	-	-	-	-	-	24
11	Secondary impact point view	-4030	3538	1057	-3.5	25	1000

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

X = (Impact Point) + Forward; Y = (Impact Point) + To Right; Z = (Ground Level) + Down

** No timing available, circuit failed.

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

FMVSS 301 FUEL SYSTEM INTEGRITY DATA

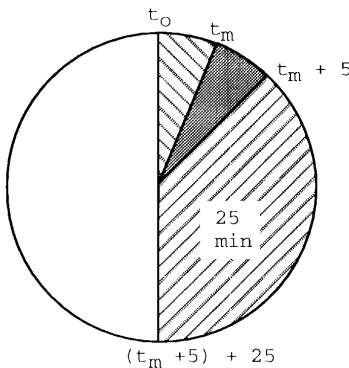
NHTSA No.: M10308 TEST DATE: February 28, 2001

Vehicle Mfgr./Make/Model : 2001 Dodge Grand Caravan Minivan

TEST VEHICLE IMPACT TYPE :

- Frontal (48.28 kph)
- Oblique (48.28 kph) with - ° barrier face first
contacting the - side
(driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.0 kph)
contacting the driver side side
(driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS :

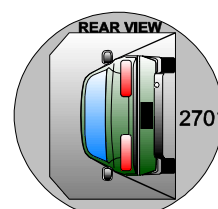
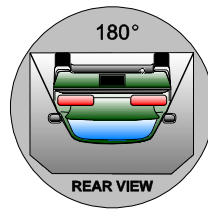
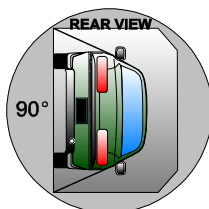
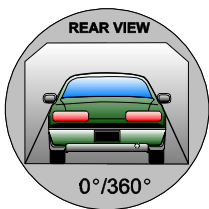
None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2001 Dodge Grand Caravan

NHTSA No. M10308



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes
90° - 180°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes
180° - 270°	1	minutes	01	seconds	5	minutes	6	minutes	1	seconds	7	minutes
270° - 360°	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes

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

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S):

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

APPENDIX A

PHOTOGRAPHS

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Figure A- 26	POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS	A- 28
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Figure A- 36	ROLLOVER 180 DEGREES	A- 38
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Figure A- 38	ROLLOVER 360 DEGREES	A- 40



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 REAR VIEW OF TEST VEHICLE



Figure A-4: POST-TEST REAR VIEW OF TEST VEHICLE



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



Figure A-6: POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



Figure A-7: PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-8: POST-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-9: PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-10: POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-11: PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-12: POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-13: PRE-TEST TOP VIEW OF IMPACTOR FACE



Figure A-14: POST-TEST TOP VIEW OF IMPACTOR FACE

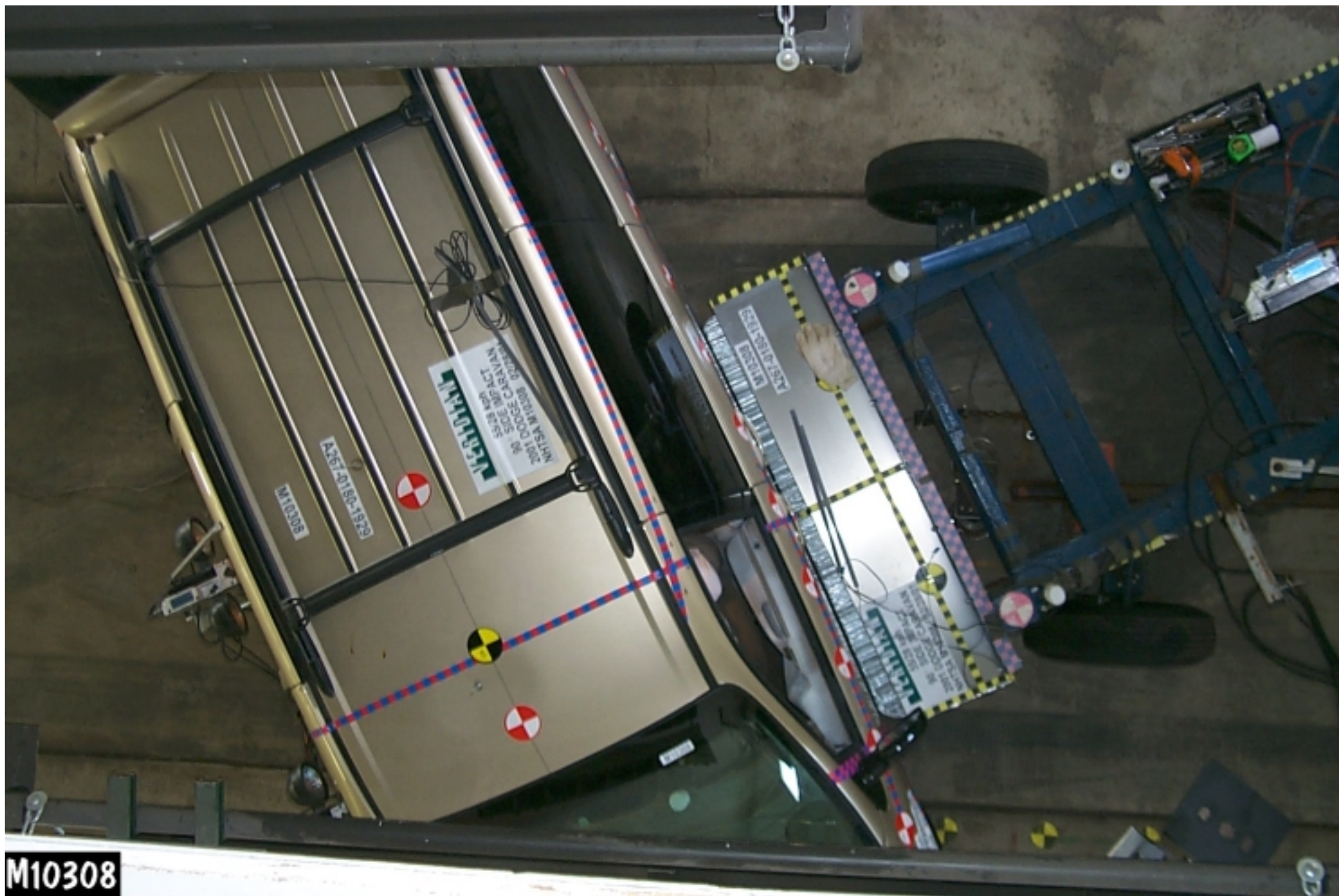


Figure A-15: PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



Figure A-16: POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE



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



Figure A-18: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-19: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-20: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-21: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-22: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-23: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-24: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-25: PRE-TEST FRONT INTERIOR TRIM



Figure A-26: POST-TEST FRONT INTERIOR TRIM SHOWING SID IMPACT LOCATIONS



Figure A-27: PRE-TEST REAR INTERIOR TRIM



Figure A-28: POST-TEST REAR INTERIOR TRIM SHOWING SID IMPACT LOCATIONS



Figure A-29: PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-30: PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

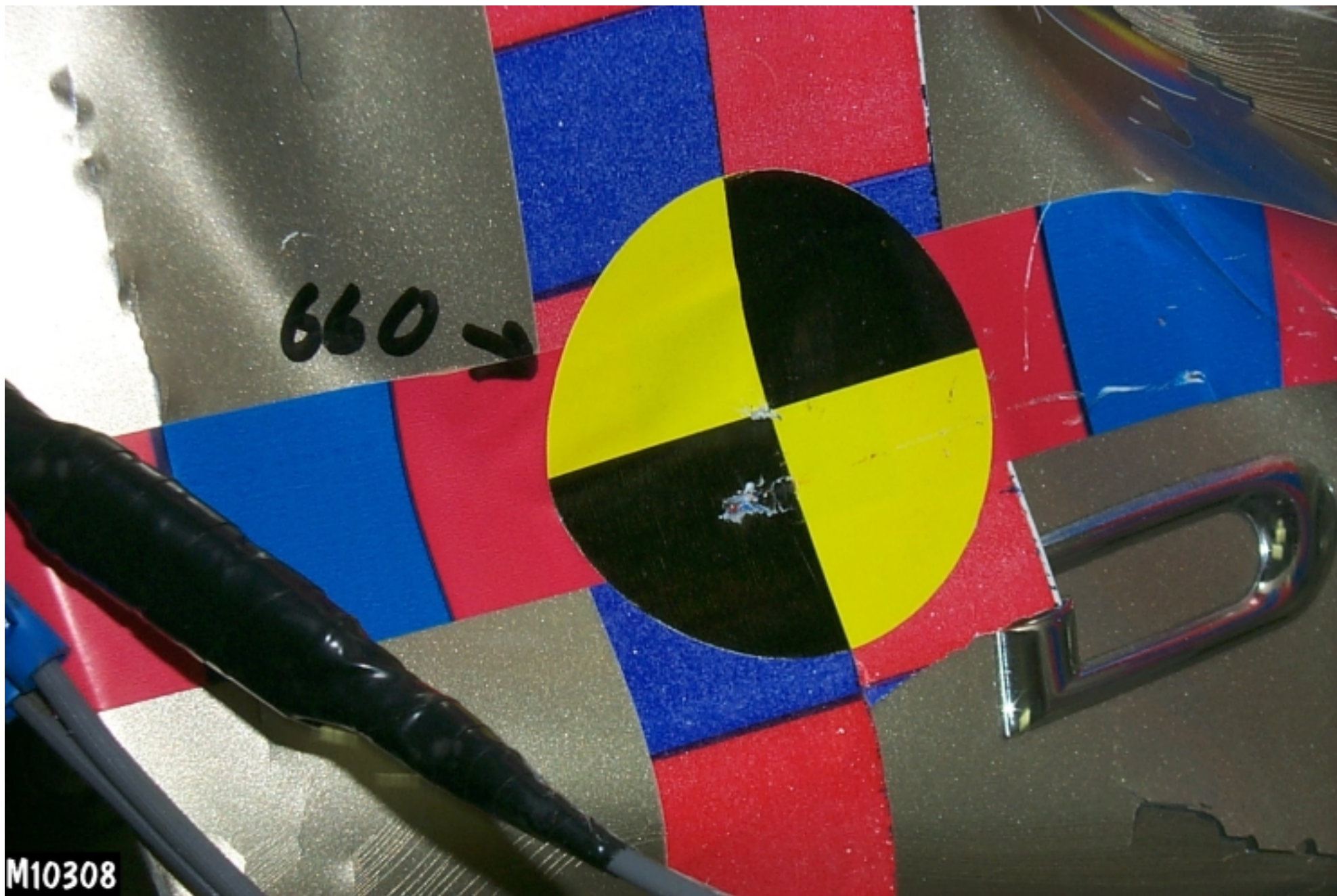


Figure A-31: POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

MFC BY DAIMLERCHRYSLER CORPORATION DATE OF MFR 11-00 GWR 2495 KG(5500 LB)

GWR FRONT	WITH TIRES	RDMS AT	COLD
1293 KG(2850 LB)	215/70R15 A/S	15X6.5	248 KPA(36 PSI)
GWR REAR	WITH TIRES	RDMS AT	COLD
1293 KG(2850 LB)	215/70R15 A/S	15X6.5	248 KPA(36 PSI)

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

VIN: 2B8GP44341R219620 TYPE: MPV SINGLE X DUAL



MDH: 111507 474AA PNT: PTE VEHICLE MADE IN CANADA TRN: E775 4648505

M10308

Figure A-32: CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL



Figure A-33: CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL



Figure A-34: IMPACT PHOTO



Figure A-35: ROLLOVER 90 DEGREES



Figure A-36: ROLLOVER 180 DEGREES



Figure A-37: ROLLOVER 270 DEGREES



Figure A-38: ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD (X) ACCELERATION VS TIME	B- 6
2	DRIVER HEAD (X) VELOCITY VS TIME	B- 7
3	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD (Y) VELOCITY VS TIME	B- 9
5	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 10
6	DRIVER HEAD (Z) VELOCITY VS TIME	B- 11
7	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 12
8	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 13
9	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 14
10	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 15
11	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 16
12	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 17
13	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 18
14	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 19
15	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 20
16	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 21
17	PASSENGER HEAD (X) VELOCITY VS TIME	B- 22
18	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 23
19	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 24
20	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 25
21	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 26
22	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 27
23	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 28
24	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 29
25	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 30
26	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 31
27	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 32
28	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 33
29	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 34
30	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 35

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
31	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 36
32	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 37
33	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 38
34	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 39
35	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 40
36	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 41
37	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 42
38	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 43

TEST VEHICLE INSTRUMENTATION PLOTS

ACCELERATION DATA - FILTER CLASS 60

INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
39	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 44
40	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 45
41	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 46
42	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 47
43	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 48
44	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 49
45	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 50
46	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 51
47	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 52
48	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 53
49	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 54
50	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 55
51	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 56
52	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 57
53	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 58
54	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 59
55	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 60
56	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 61
57	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 62
58	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 63
59	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 64
60	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 65
61	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 66
62	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 67
63	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 68
64	LEFT FRONT DOOR ON CENTERLINE (Y) ACCELERATION VS TIME	B- 69
65	LEFT FRONT DOOR ON CENTERLINE (Y) VELOCITY VS TIME	B- 70
66	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 71
67	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 72
68	LEFT FRONT DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 73
69	LEFT FRONT DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 74
70	LEFT REAR DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 75
71	LEFT REAR DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 76
72	LOWER B-POST (Y) ACCELERATION VS TIME	B- 77
73	LOWER B-POST (Y) VELOCITY VS TIME	B- 78
74	UPPER B-POST (Y) ACCELERATION VS TIME	B- 79
75	UPPER B-POST (Y) VELOCITY VS TIME	B- 80
76	LOWER A-POST (Y) ACCELERATION VS TIME	B- 81
77	LOWER A-POST (Y) VELOCITY VS TIME	B- 82
78	UPPER A-POST (Y) ACCELERATION VS TIME	B- 83

TEST VEHICLE INSTRUMENTATION PLOTS

ACCELERATION DATA - FILTER CLASS 60

INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
79	UPPER A-POST (Y) VELOCITY VS TIME	B- 84
80	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 85
81	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 86
82	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 87
83	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 88
84	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 89
85	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 90
86	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 91
87	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 92
88	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 93
89	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 94
90	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 95

MDB INSTRUMENTATION PLOTS

ACCELERATION DATA - FILTER CLASS 60

INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
91	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 96
92	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 97
93	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 98
94	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 99
95	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 100
96	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 101
97	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 102
98	MDB REAR (X) ACCELERATION VS TIME	B- 103
99	MDB REAR (X) VELOCITY VS TIME	B- 104
100	MDB REAR (Y) ACCELERATION VS TIME	B- 105
101	MDB REAR (Y) VELOCITY VS TIME	B- 106

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)

ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180

INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
102	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 107
103	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 108
104	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 109
105	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 110
106	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 111
107	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 112
108	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 113
109	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 114
110	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 115
111	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 116
112	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 117
113	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 118
114	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 119
115	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 120
116	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 121
117	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 122

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

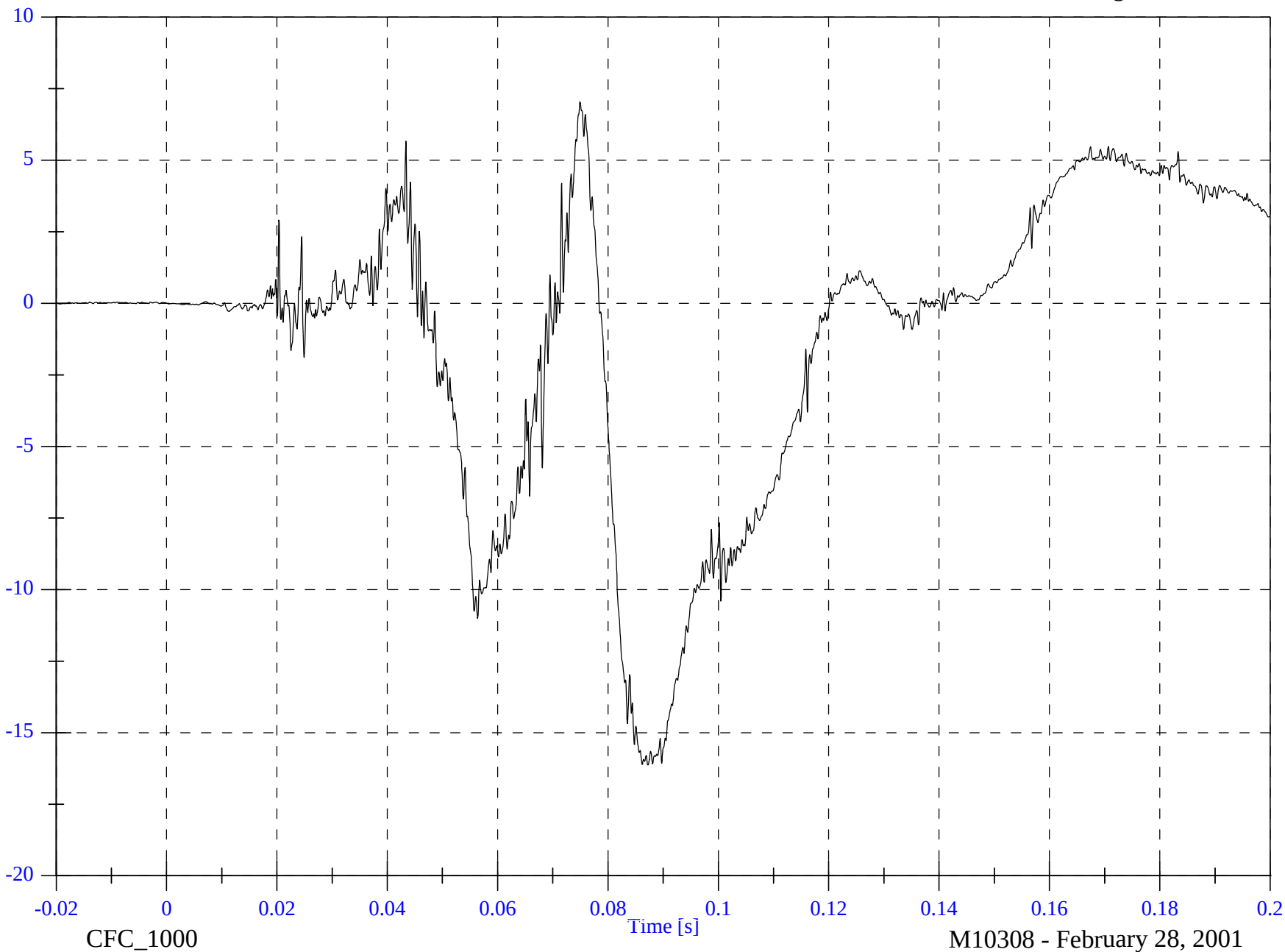
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
118	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 123
119	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 124
120	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 125
121	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 126
122	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 127
123	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 128
124	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 129
125	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 130

SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Head x

Max: 7.0 [g] at 0.075 [s]

Min: -16.1 [g] at 0.087 [s]

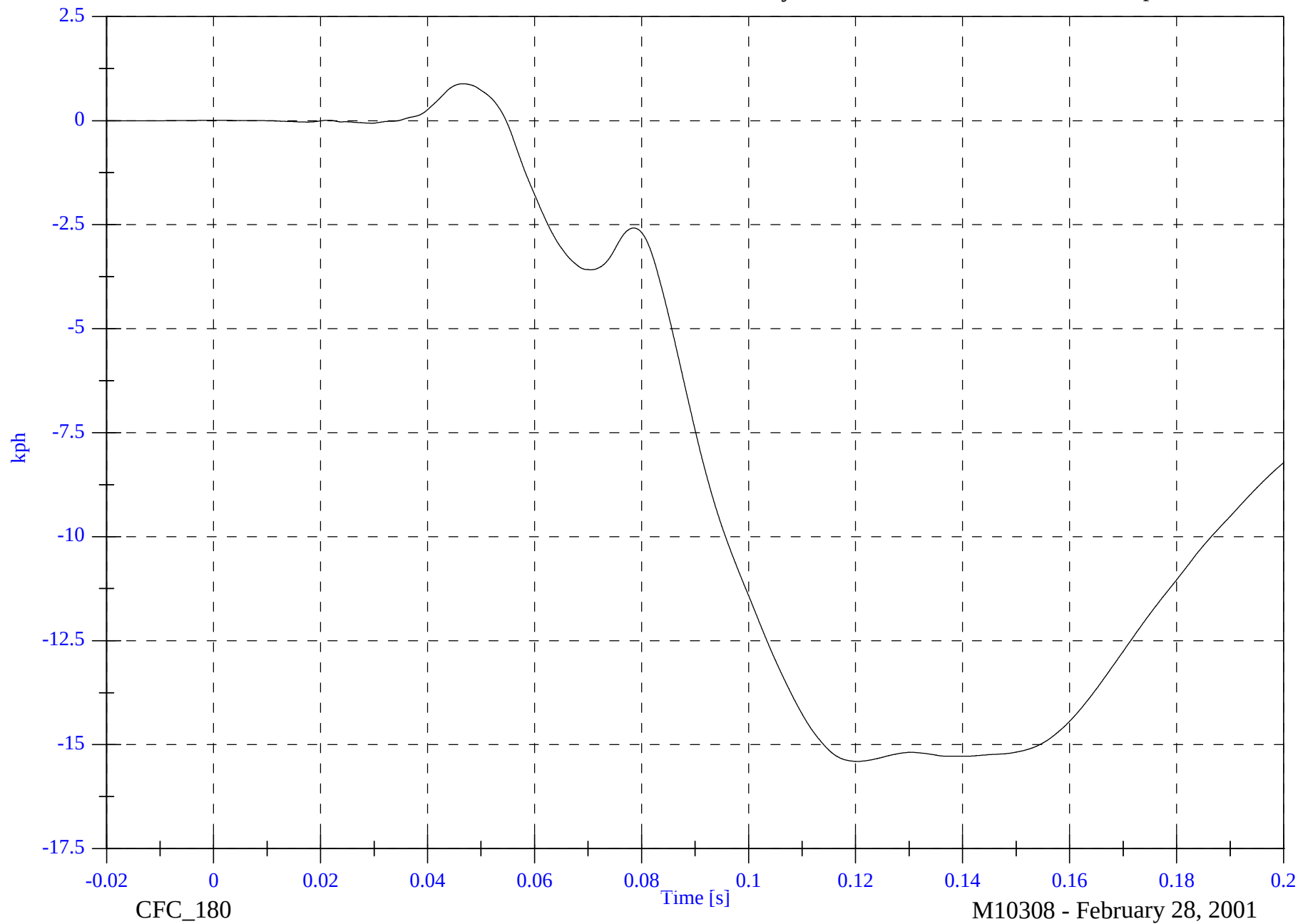


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Head x Velocity

Max: 0.9 [kph] at 0.047 [s]

Min: -15.4 [kph] at 0.120 [s]



B-7

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

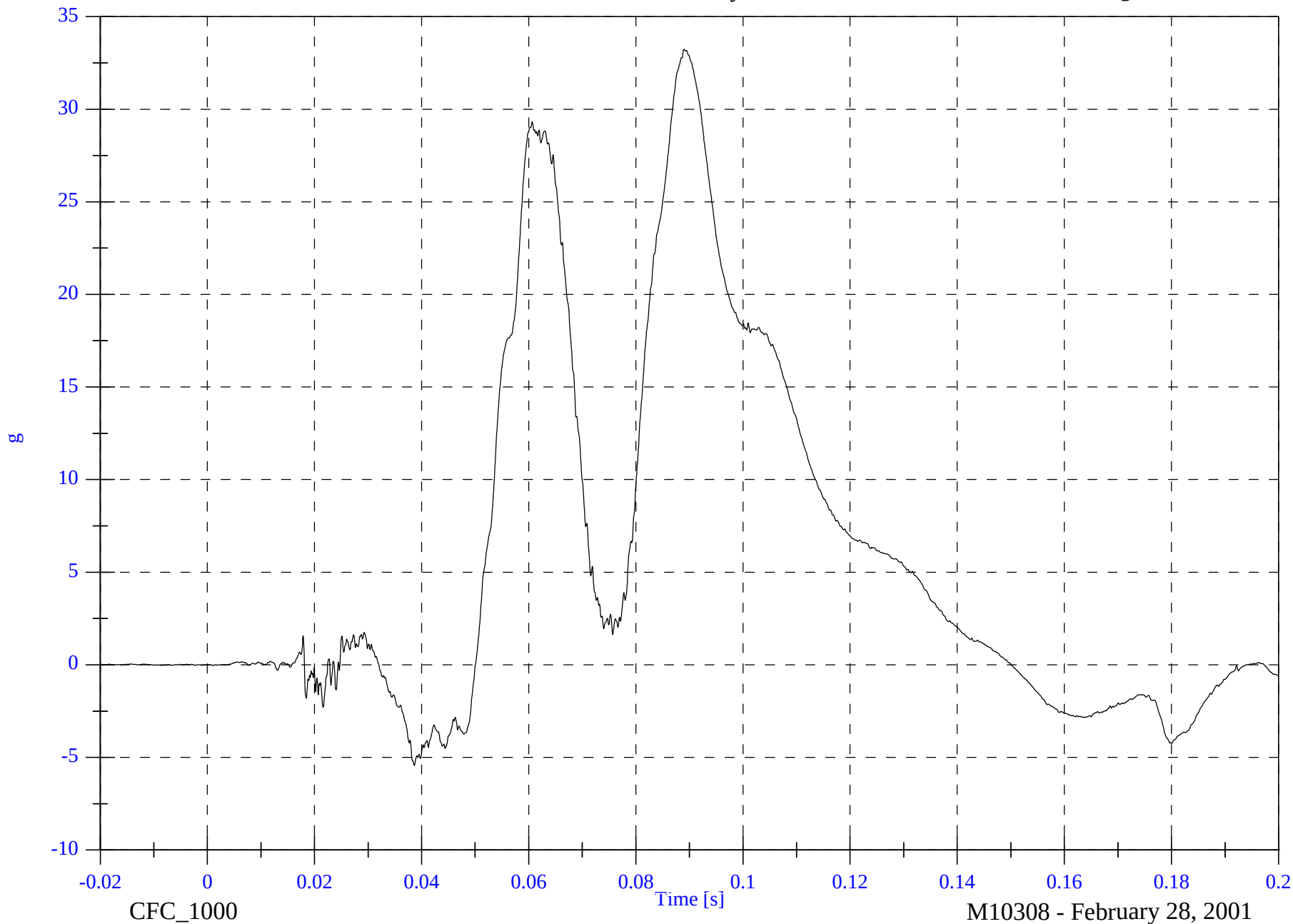
P1 Head y

Max: 33.2 [g] at 0.089 [s]

Min: -5.4 [g] at 0.039 [s]

B-8

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

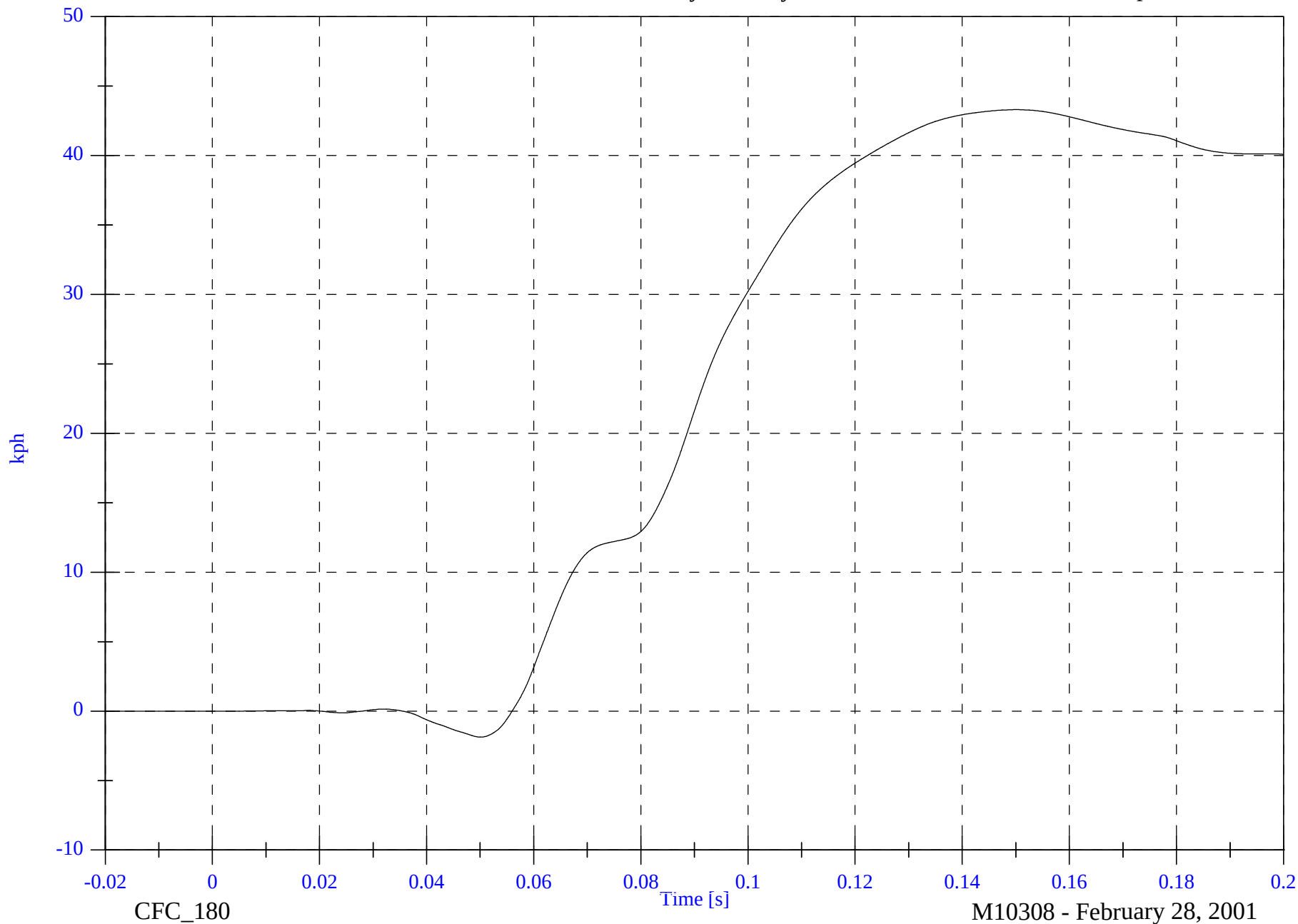
P1 Head y Velocity

Max: 43.3 [kph] at 0.150 [s]

Min: -1.9 [kph] at 0.050 [s]

B-9

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

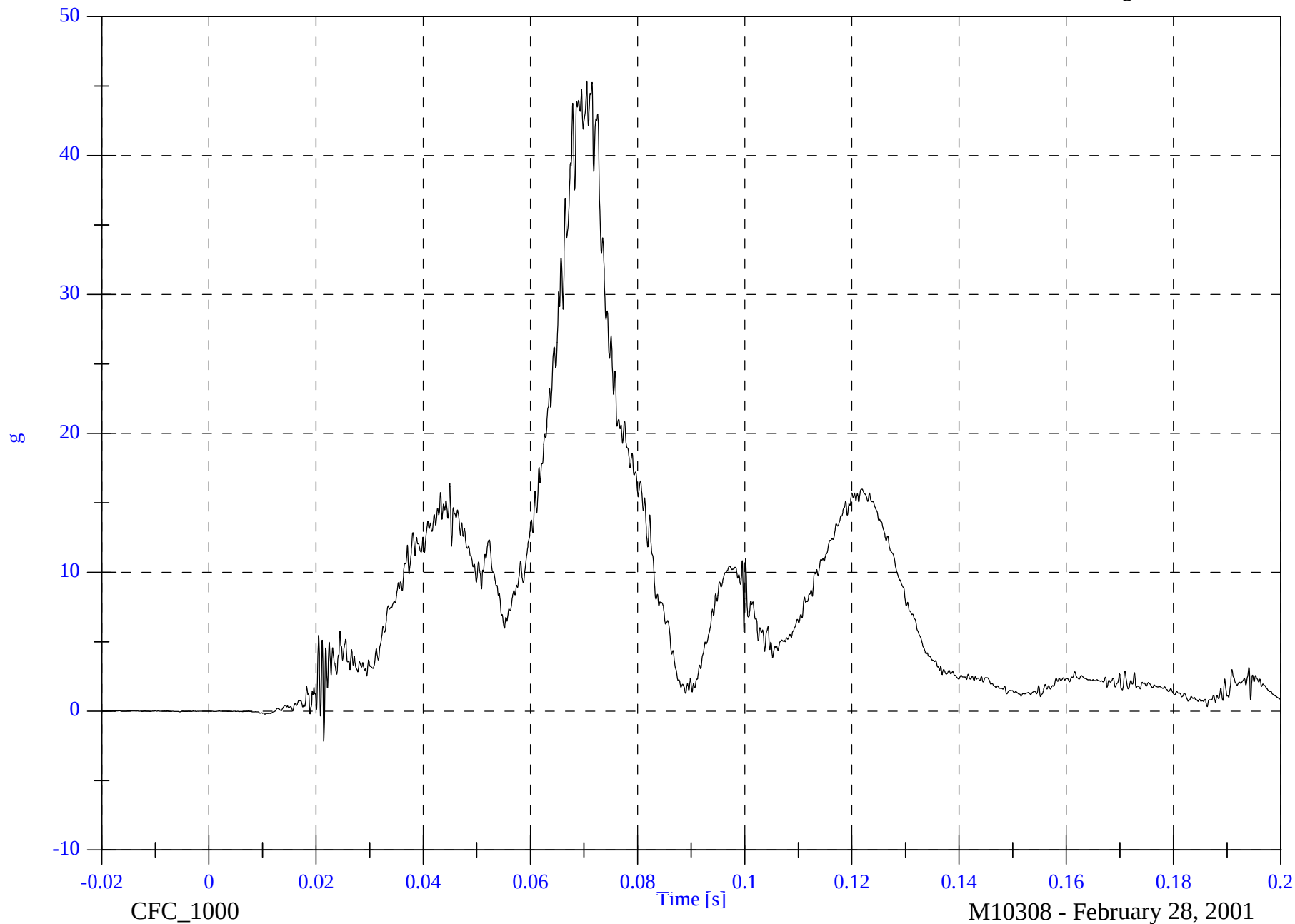
P1 Head z

Max: 45.4 [g] at 0.071 [s]

Min: -2.2 [g] at 0.021 [s]

B-10

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

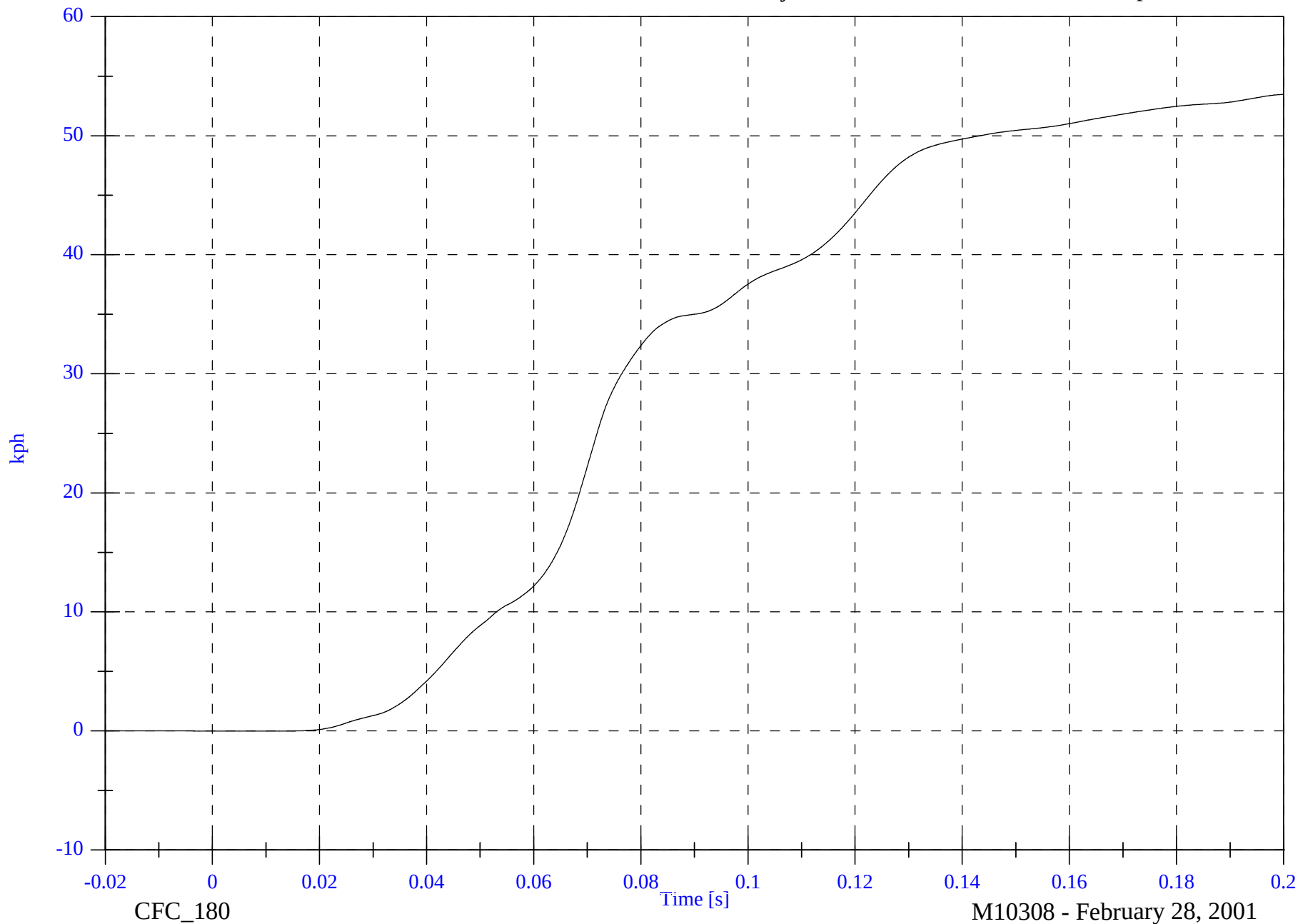
P1 Head z Velocity

Max: 53.5 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.012 [s]

B-11

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

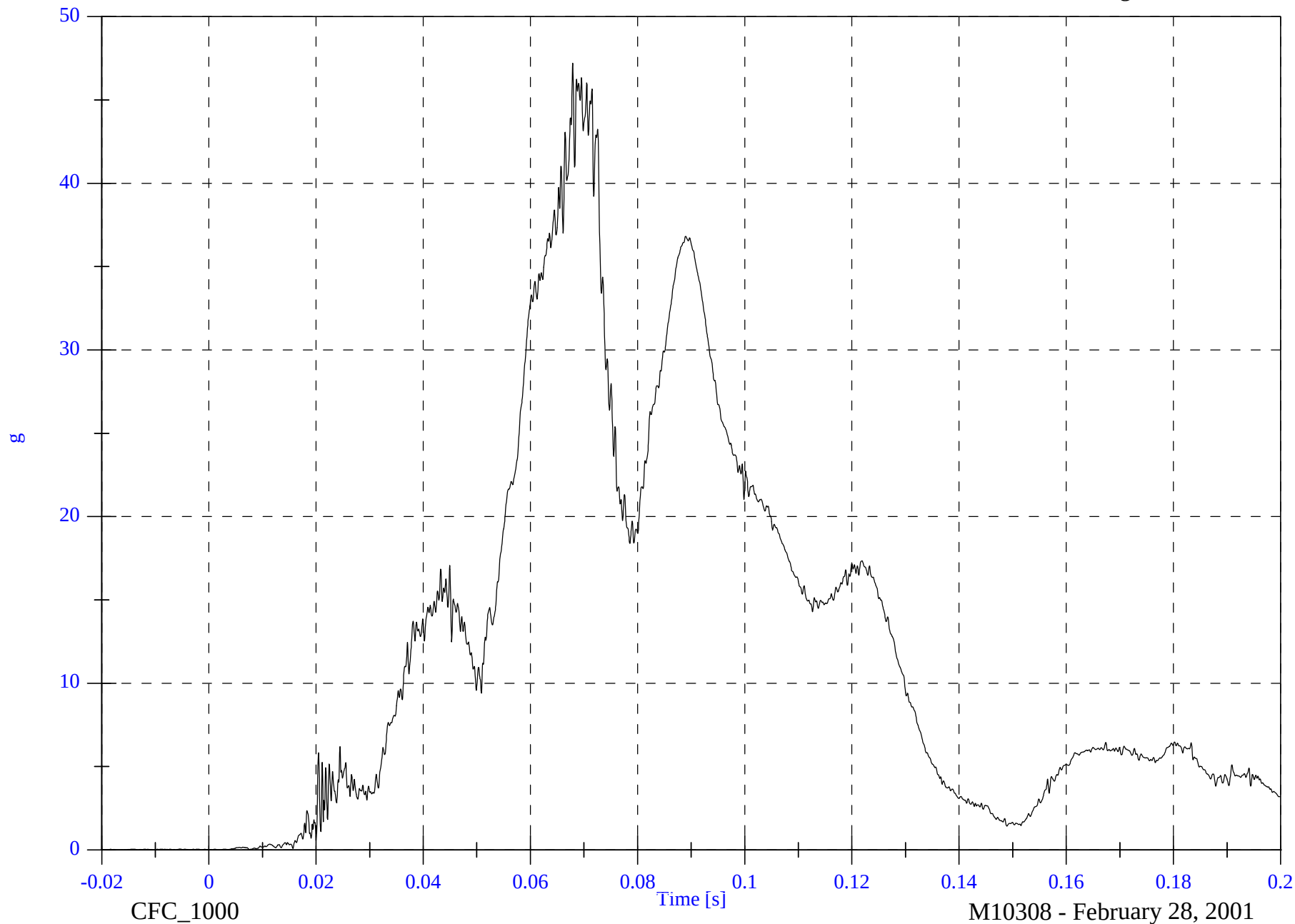
P1 Head Resultant

Max: 47.2 [g] at 0.068 [s]

Min: 0.0 [g] at -0.016 [s]

B-12

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

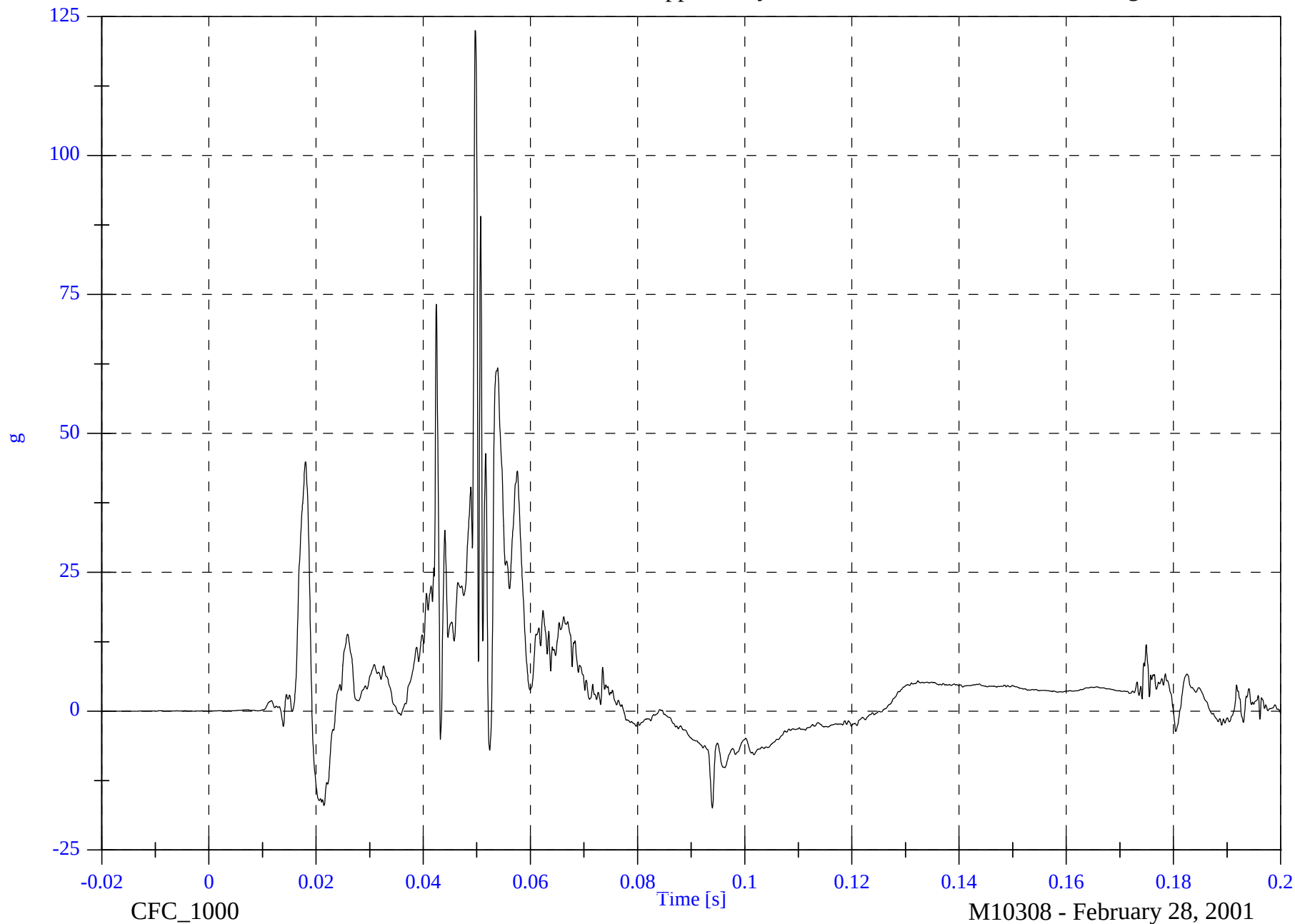
P1 Upper Rib y

Max: 122.5 [g] at 0.050 [s]

Min: -17.4 [g] at 0.094 [s]

B-13

8506-18

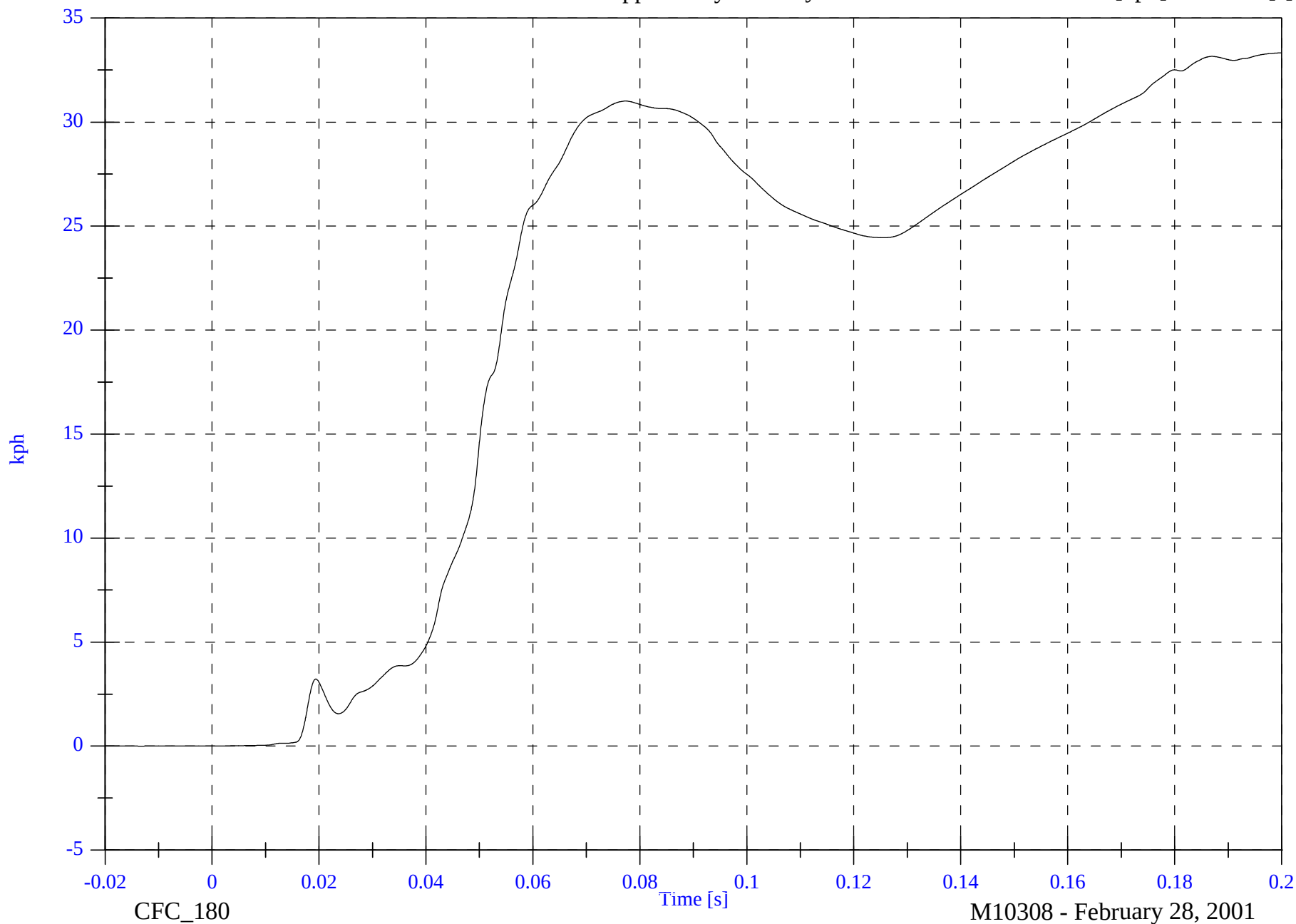


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Upper Rib y Velocity

Max: 33.3 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.013 [s]



B-14

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

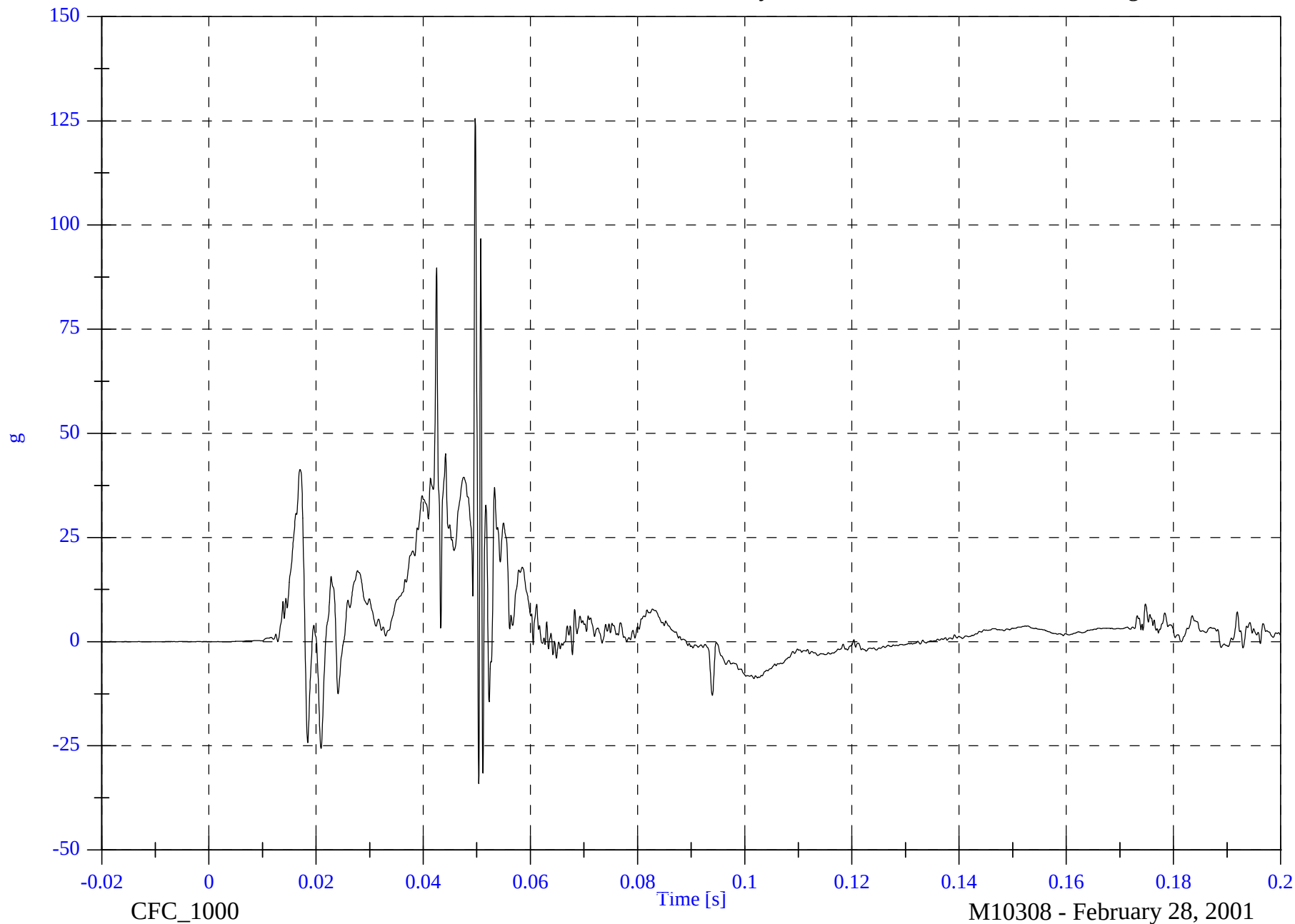
P1 Lower Rib y

Max: 125.5 [g] at 0.050 [s]

Min: -34.1 [g] at 0.050 [s]

B-15

8506-18

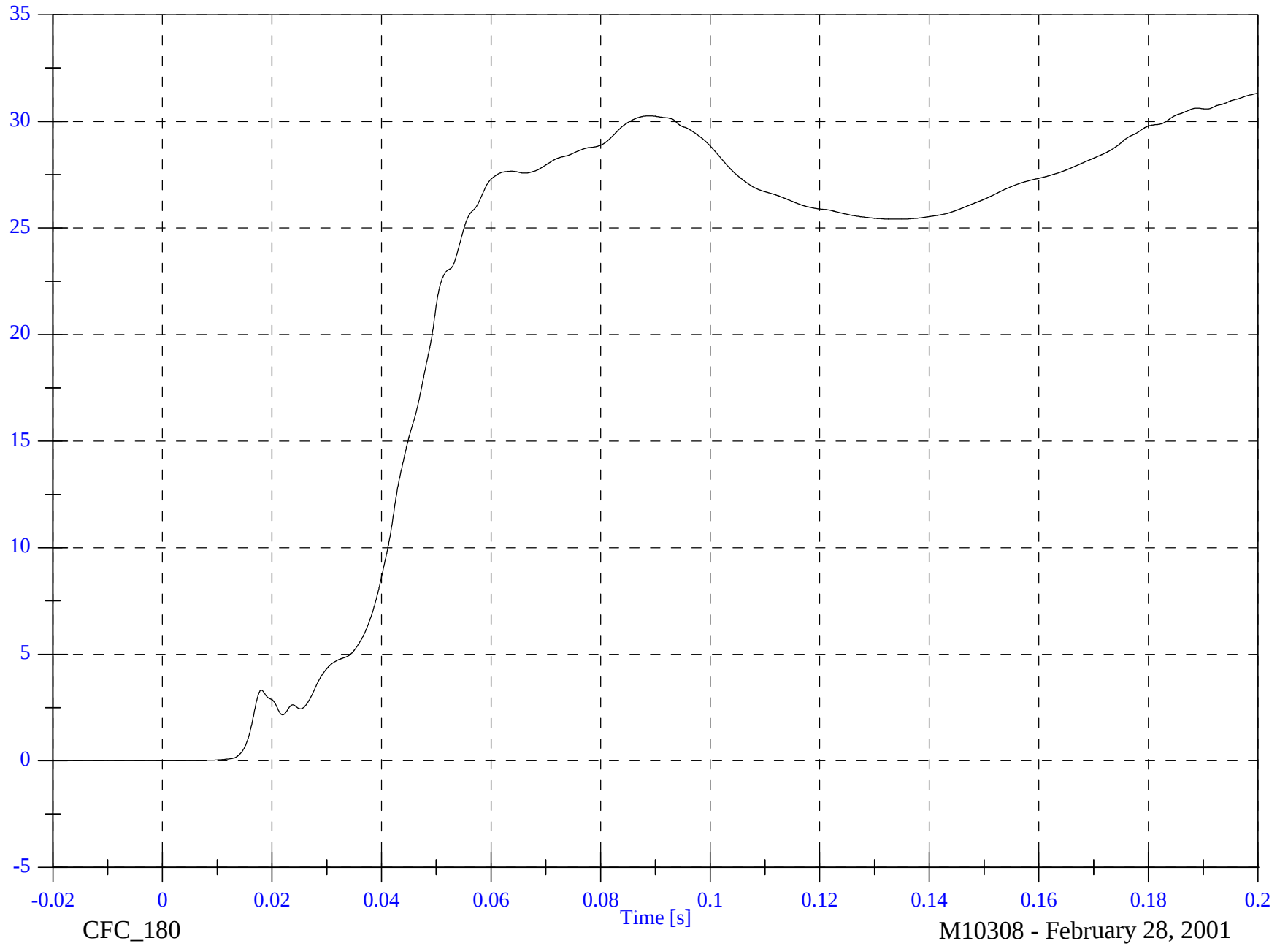


SNCAP Test 18 - 2001 Dodge Grand Caravan

Max: 31.3 [kph] at 0.200 [s]

P1 Lower Rib y Velocity

Min: -0.0 [kph] at -0.020 [s]



B-16

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

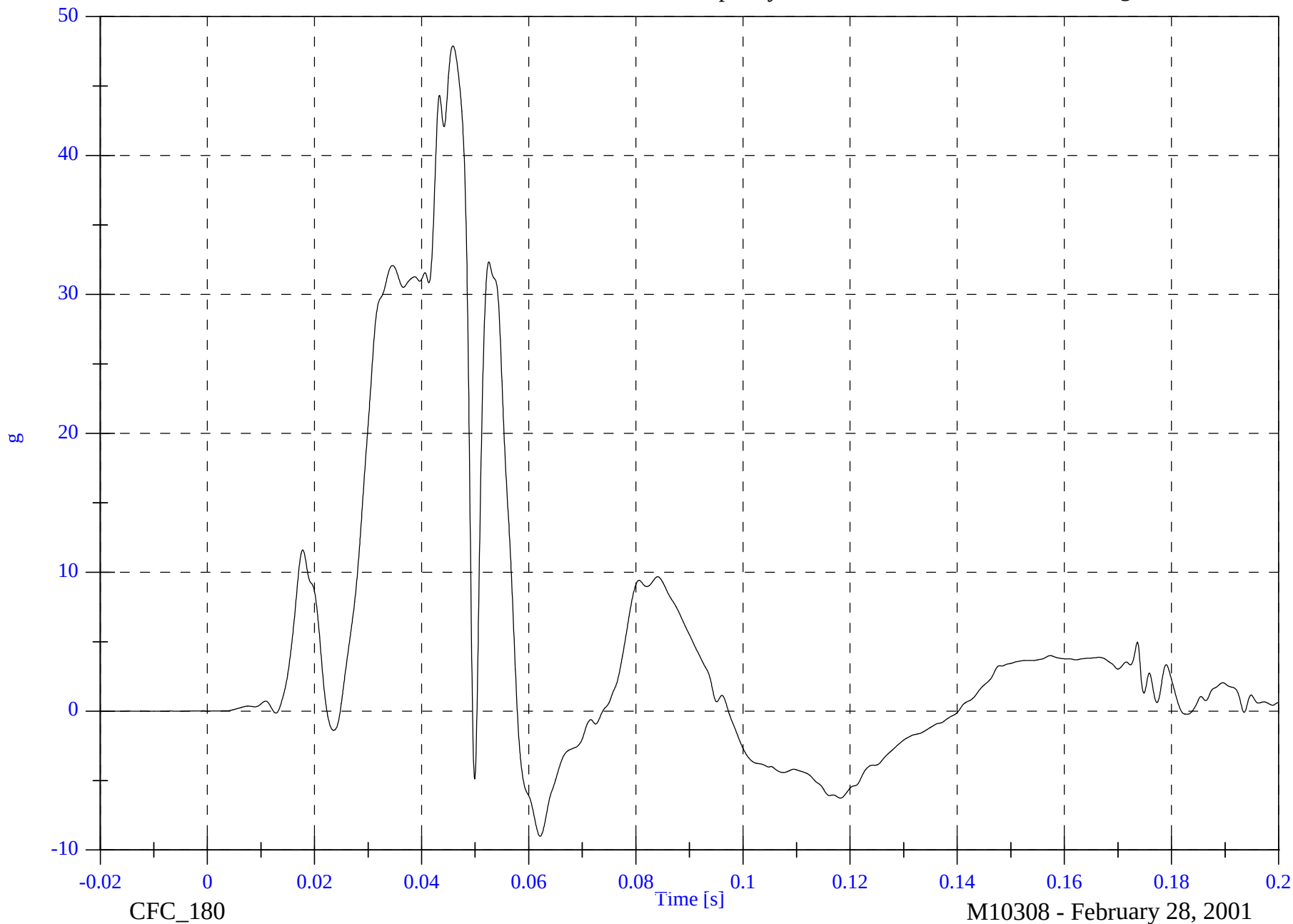
P1 Lower Spine y

Max: 47.9 [g] at 0.046 [s]

Min: -9.0 [g] at 0.062 [s]

B-17

8506-18

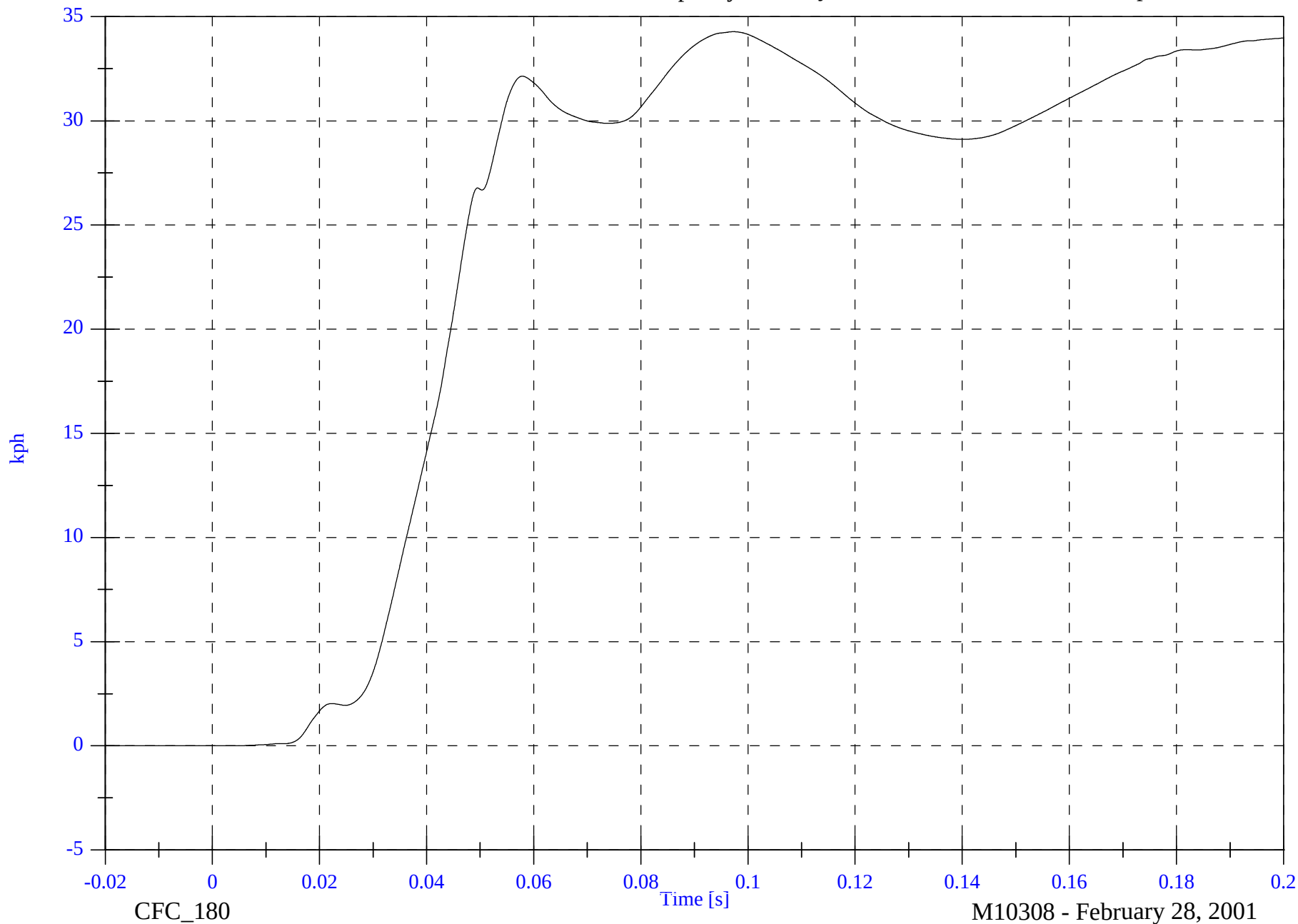


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Lower Spine y Velocity

Max: 34.3 [kph] at 0.097 [s]

Min: -0.0 [kph] at -0.019 [s]



B-18

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

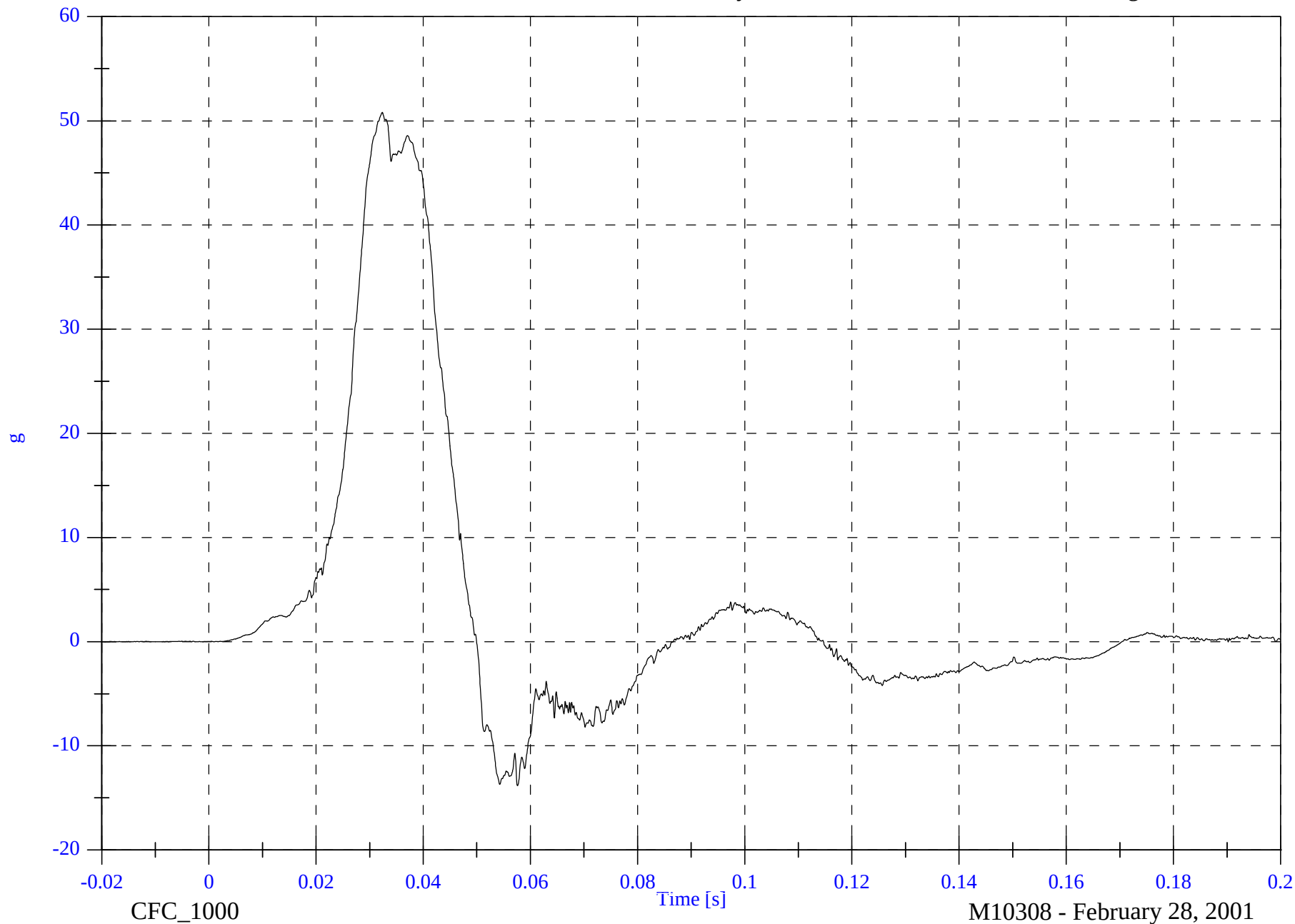
P1 Pelvic y

Max: 50.8 [g] at 0.032 [s]

Min: -13.8 [g] at 0.058 [s]

B-19

8506-18

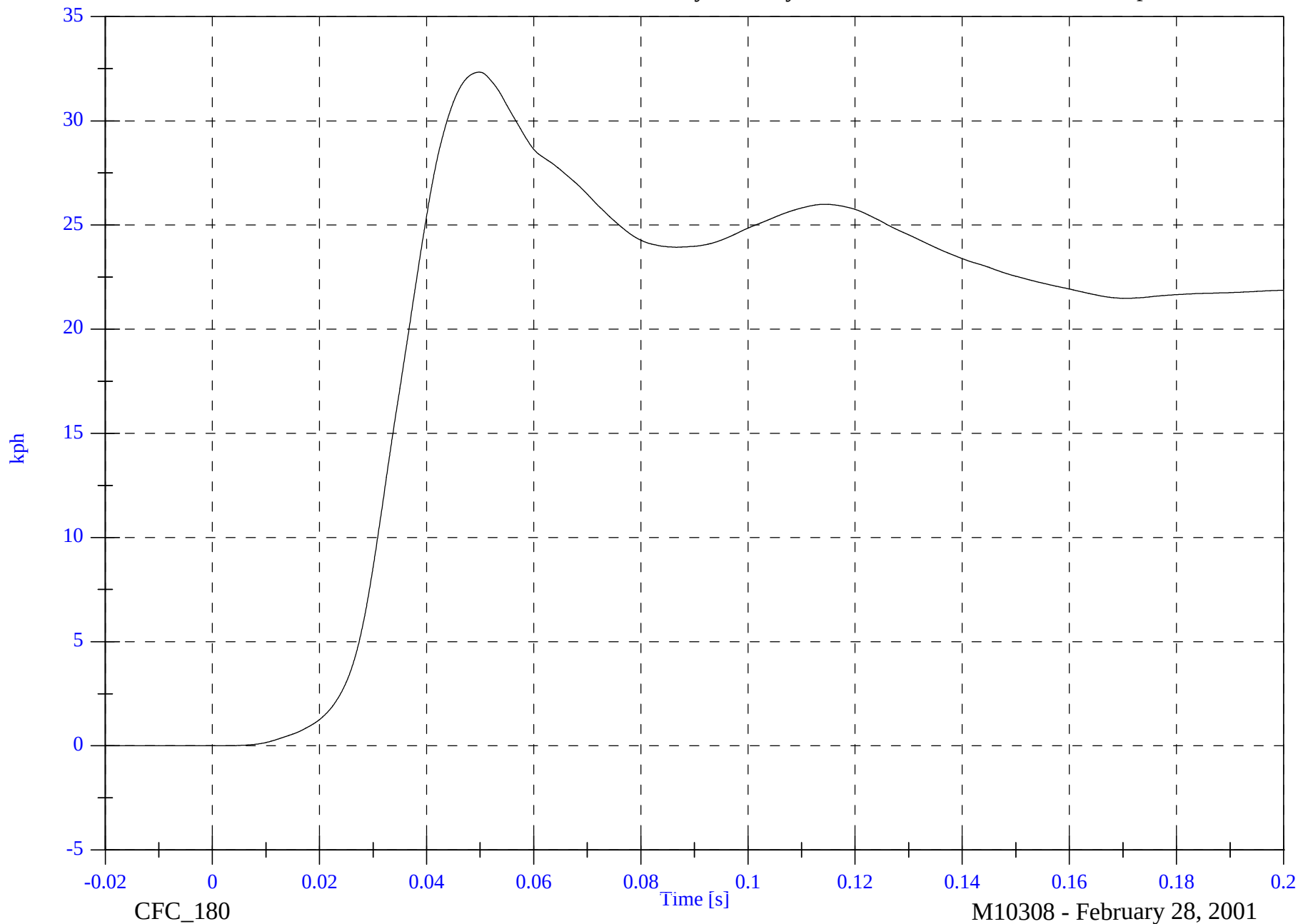


SNCAP Test 18 - 2001 Dodge Grand Caravan

Max: 32.3 [kph] at 0.050 [s]

P1 Pelvic y Velocity

Min: -0.0 [kph] at -0.014 [s]



B-20

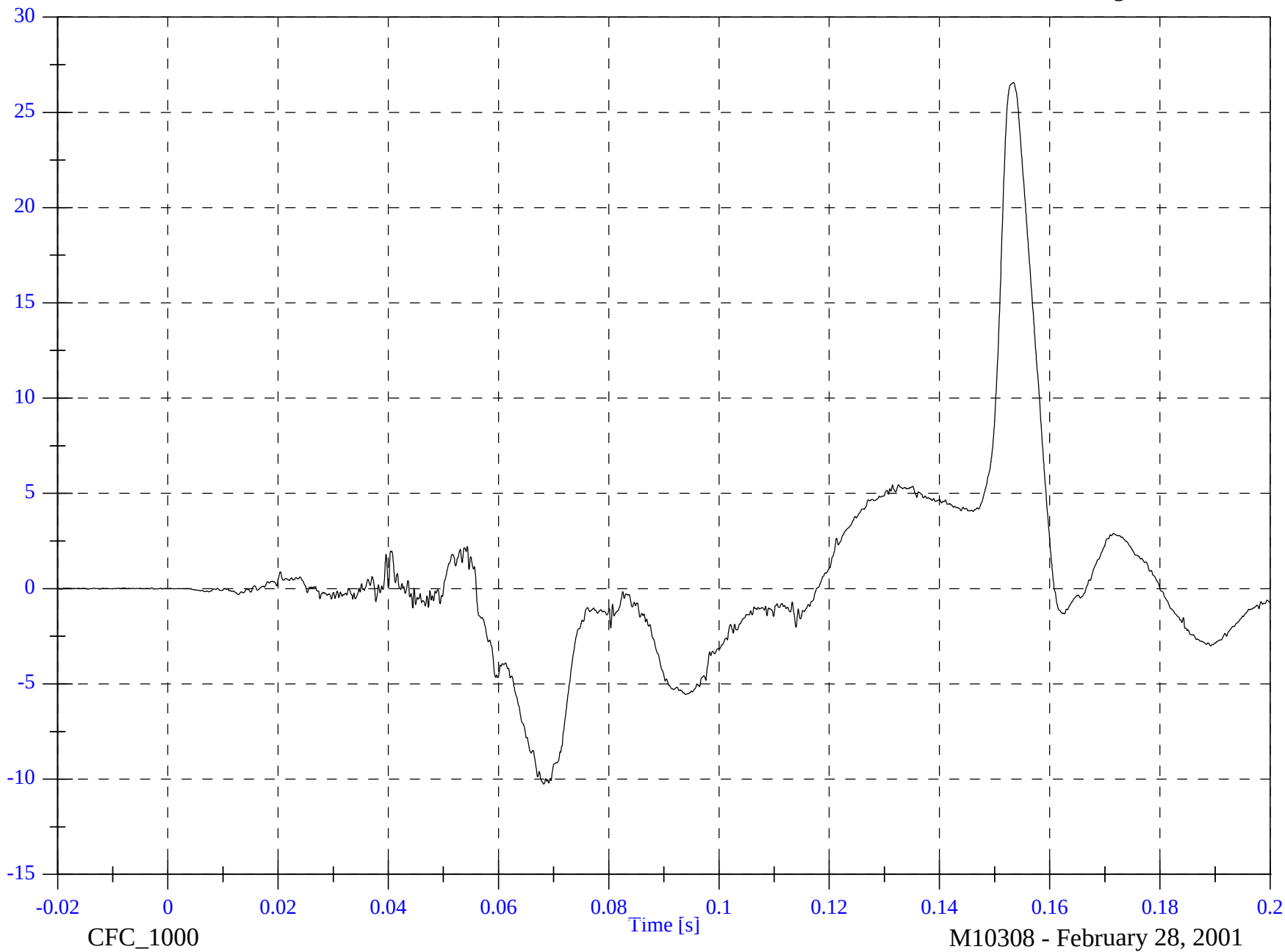
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Head x

Max: 26.6 [g] at 0.153 [s]

Min: -10.3 [g] at 0.068 [s]



B-21

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

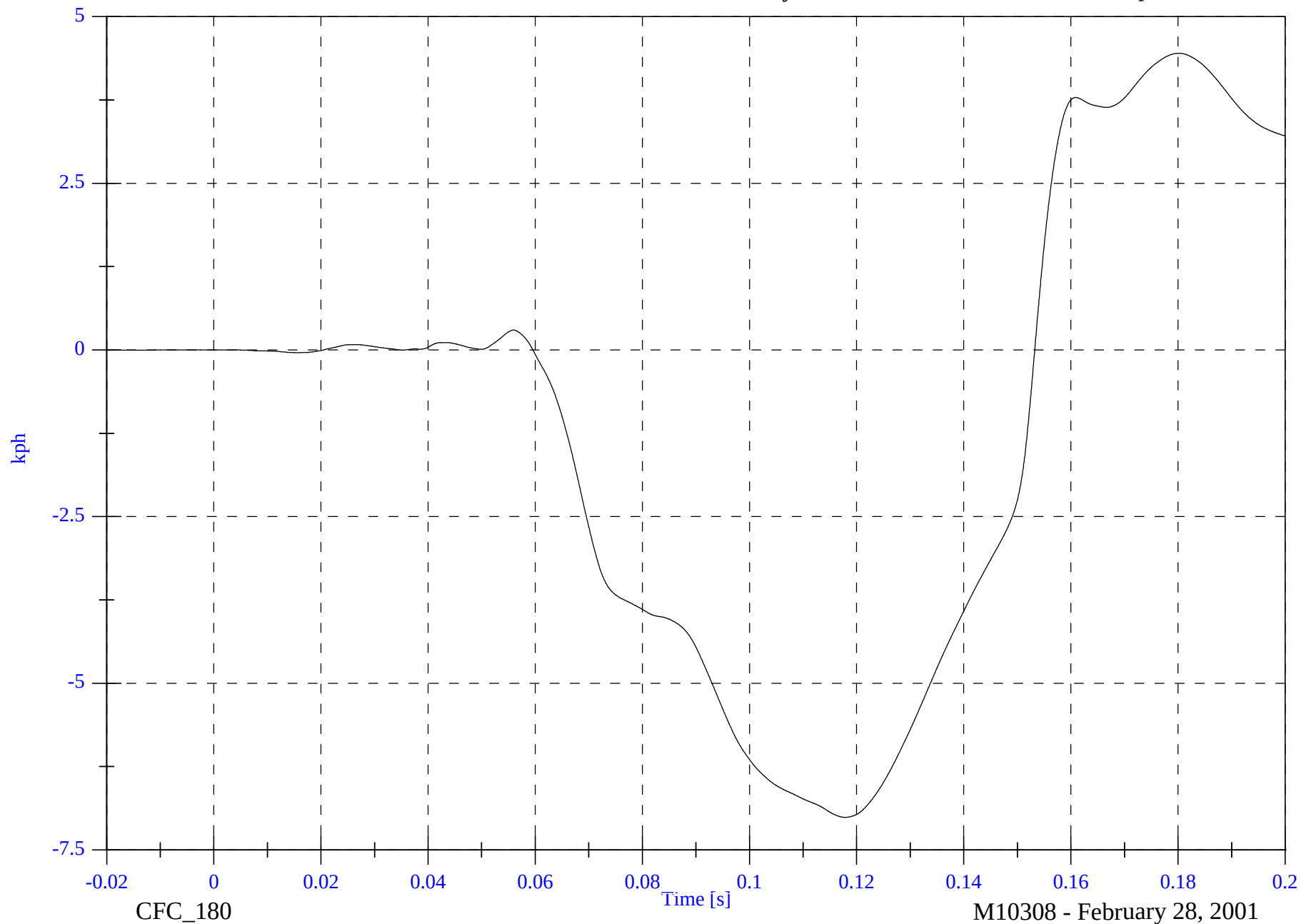
P4 Head x Velocity

Max: 4.5 [kph] at 0.180 [s]

Min: -7.0 [kph] at 0.118 [s]

B-22

8506-18

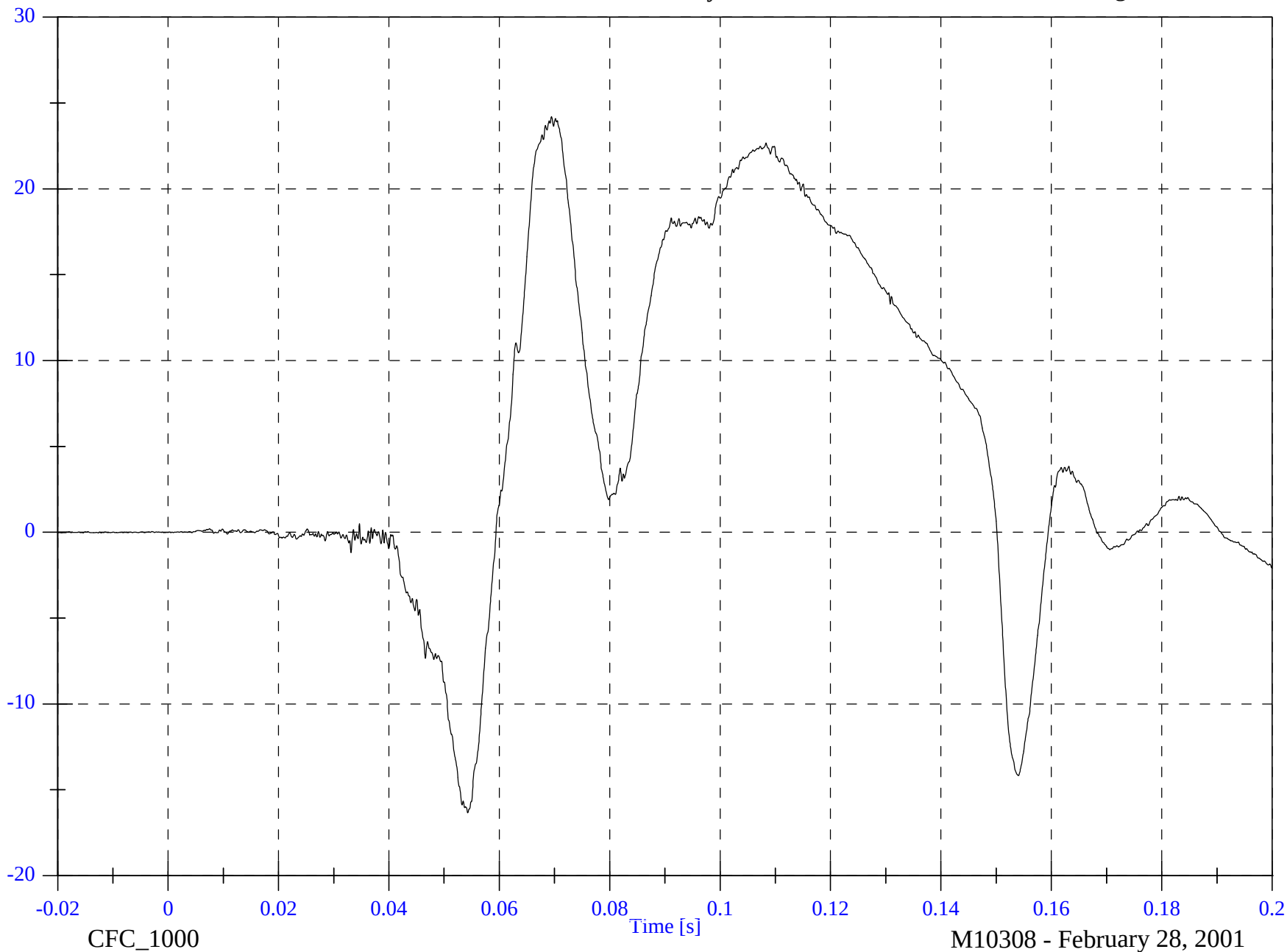


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Head y

Max: 24.2 [g] at 0.069 [s]

Min: -16.3 [g] at 0.054 [s]



B-23

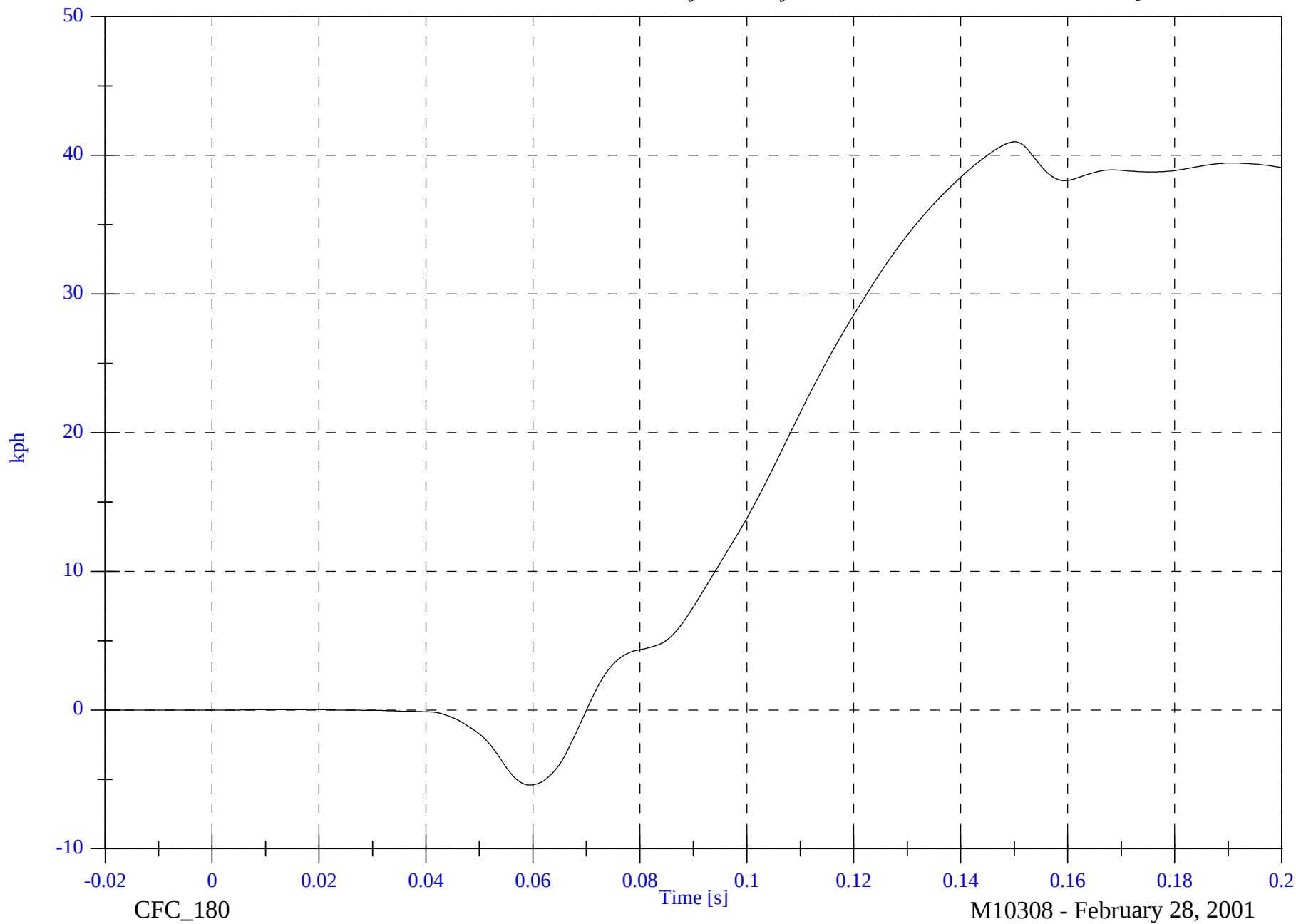
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Head y Velocity

Max: 41.0 [kph] at 0.150 [s]

Min: -5.4 [kph] at 0.059 [s]



B-24

8506-18

CFC_180

M10308 - February 28, 2001

SNCAP Test 18 - 2001 Dodge Grand Caravan

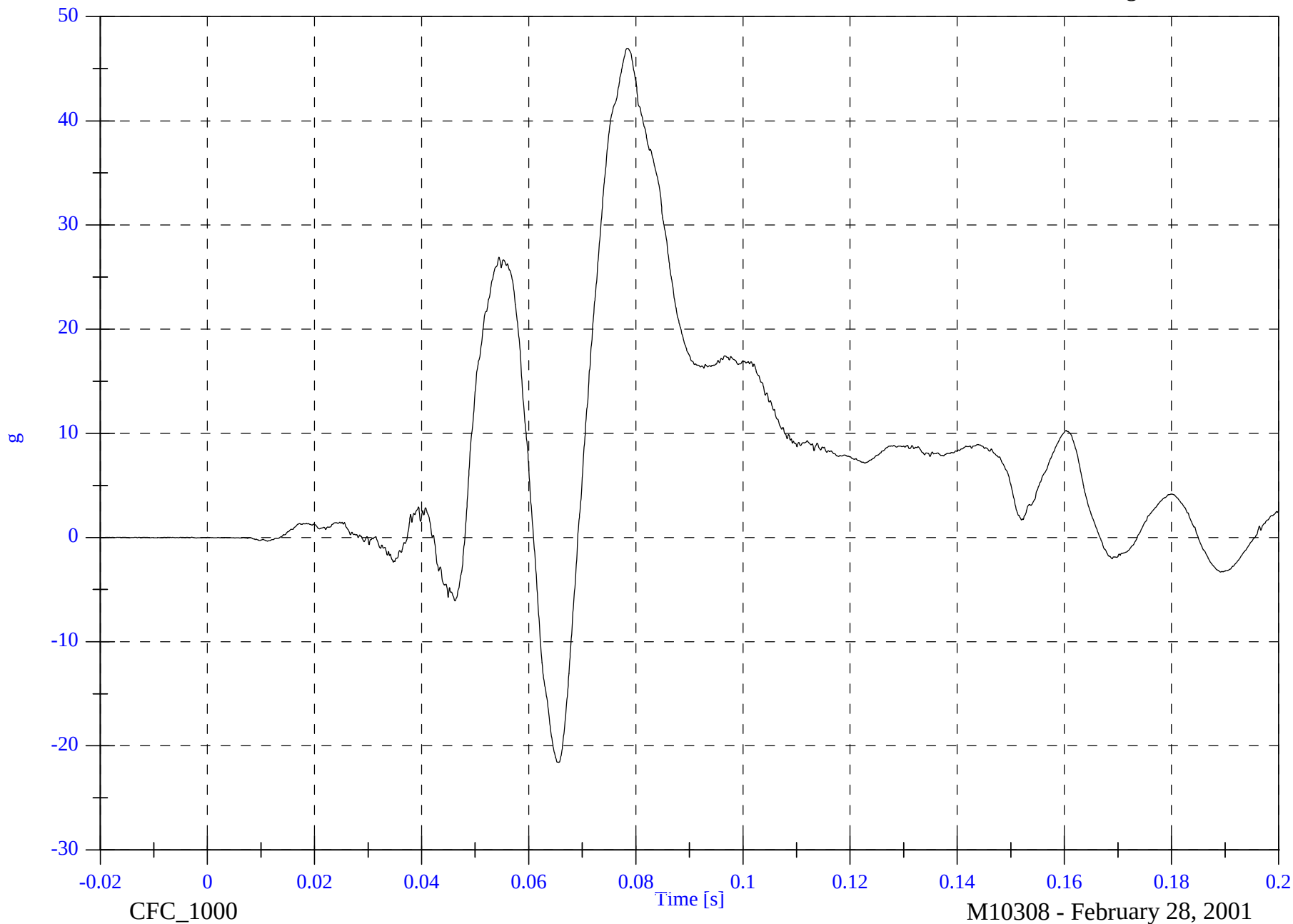
P4 Head z

Max: 47.0 [g] at 0.078 [s]

Min: -21.6 [g] at 0.066 [s]

B-25

8506-18

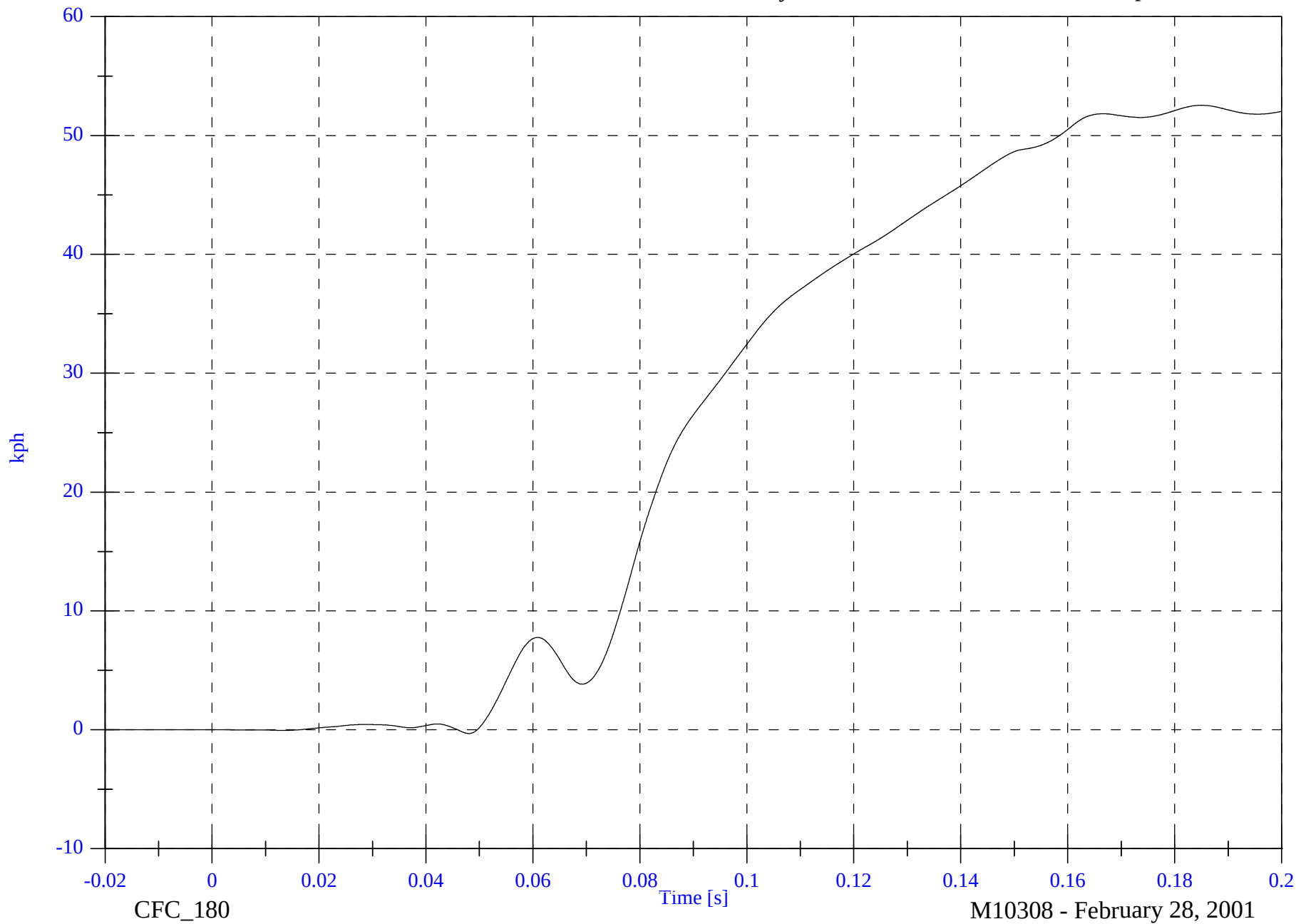


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Head z Velocity

Max: 52.5 [kph] at 0.185 [s]

Min: -0.3 [kph] at 0.048 [s]



B-26

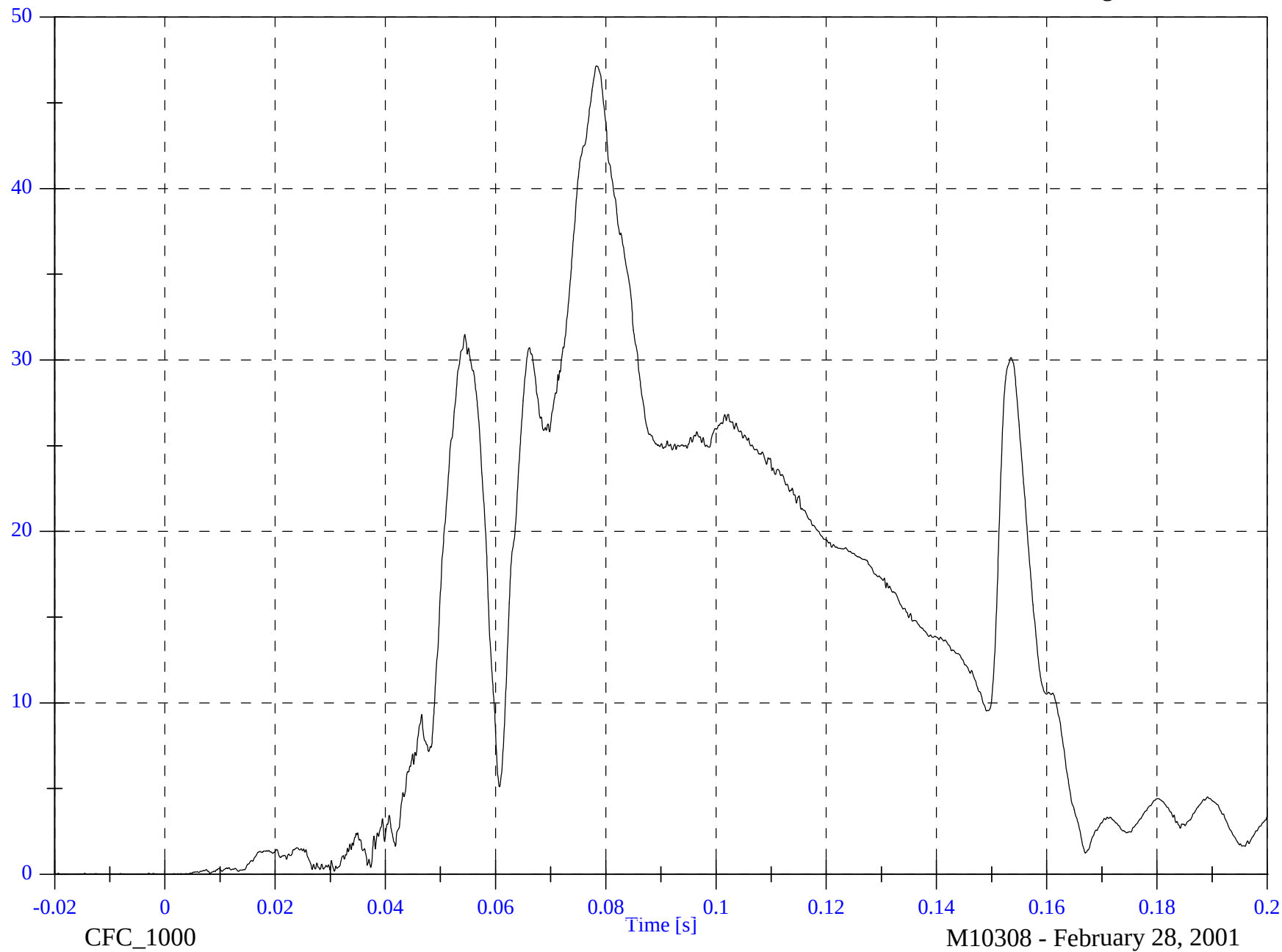
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Head Resultant

Max: 47.2 [g] at 0.078 [s]

Min: 0.0 [g] at -0.004 [s]



B-27

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Upper Rib y

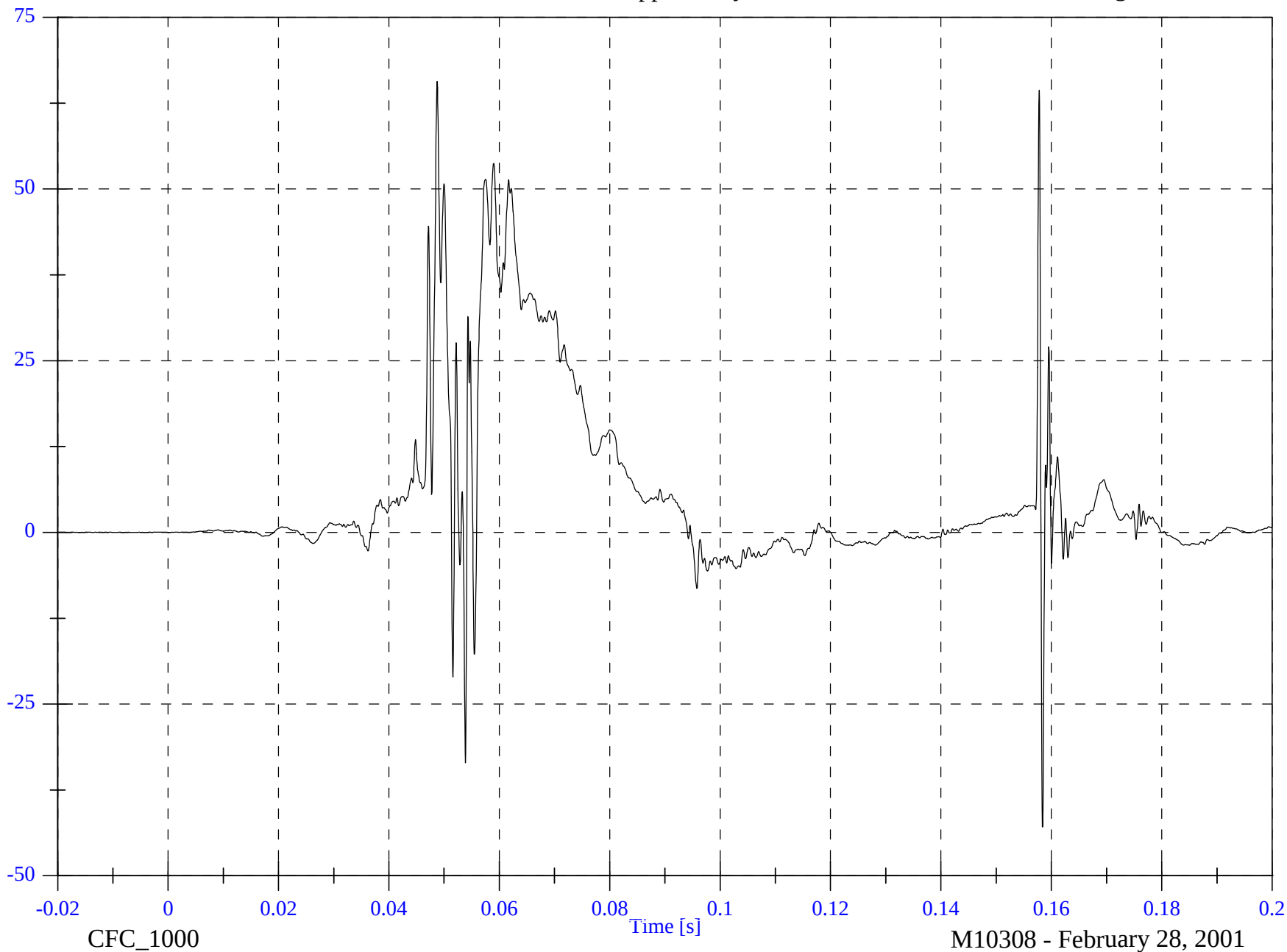
Max: 65.7 [g] at 0.049 [s]

Min: -42.9 [g] at 0.158 [s]

B-28

8506-18

g

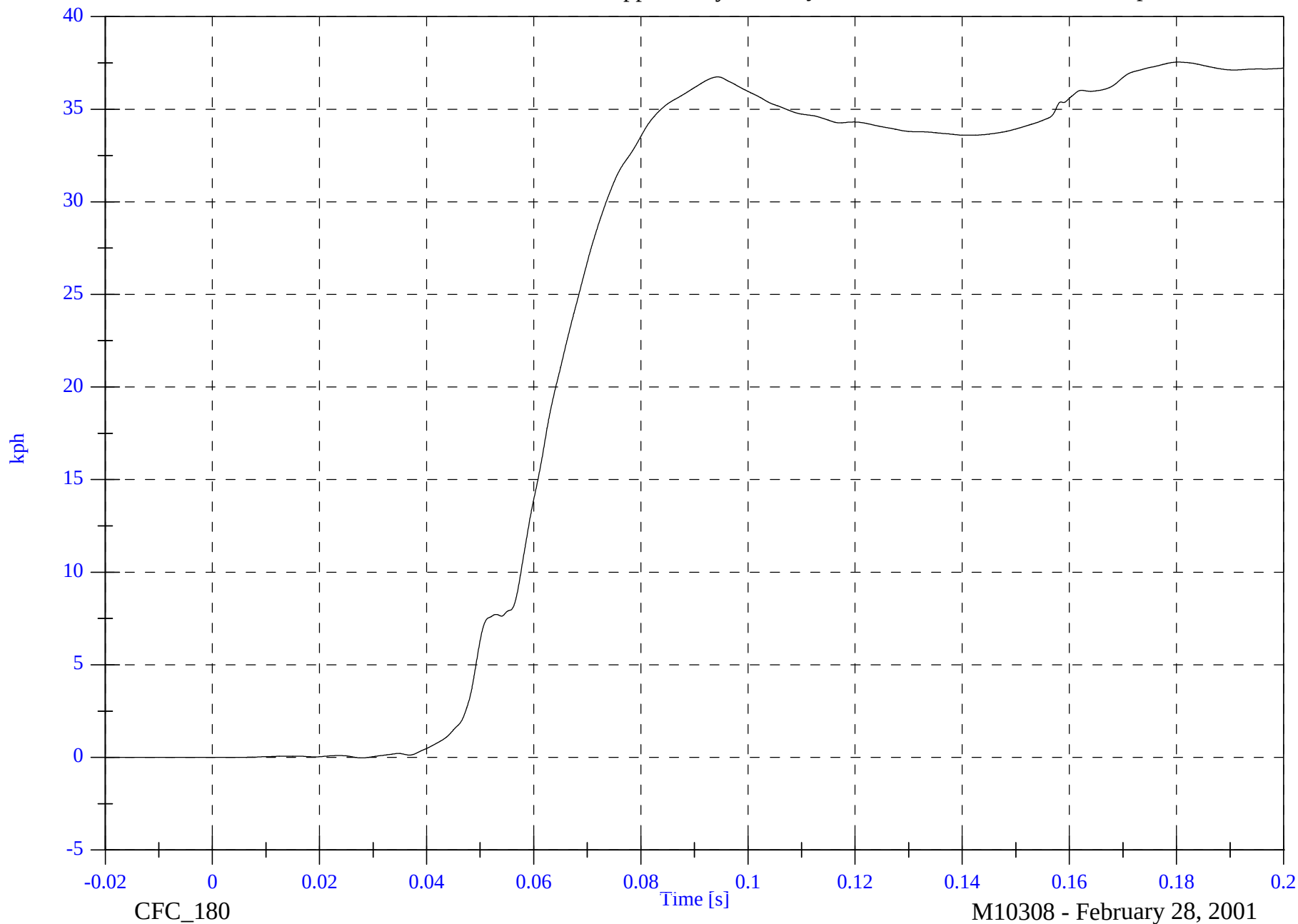


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Upper Rib y Velocity

Max: 37.5 [kph] at 0.180 [s]

Min: -0.0 [kph] at 0.028 [s]



B-29

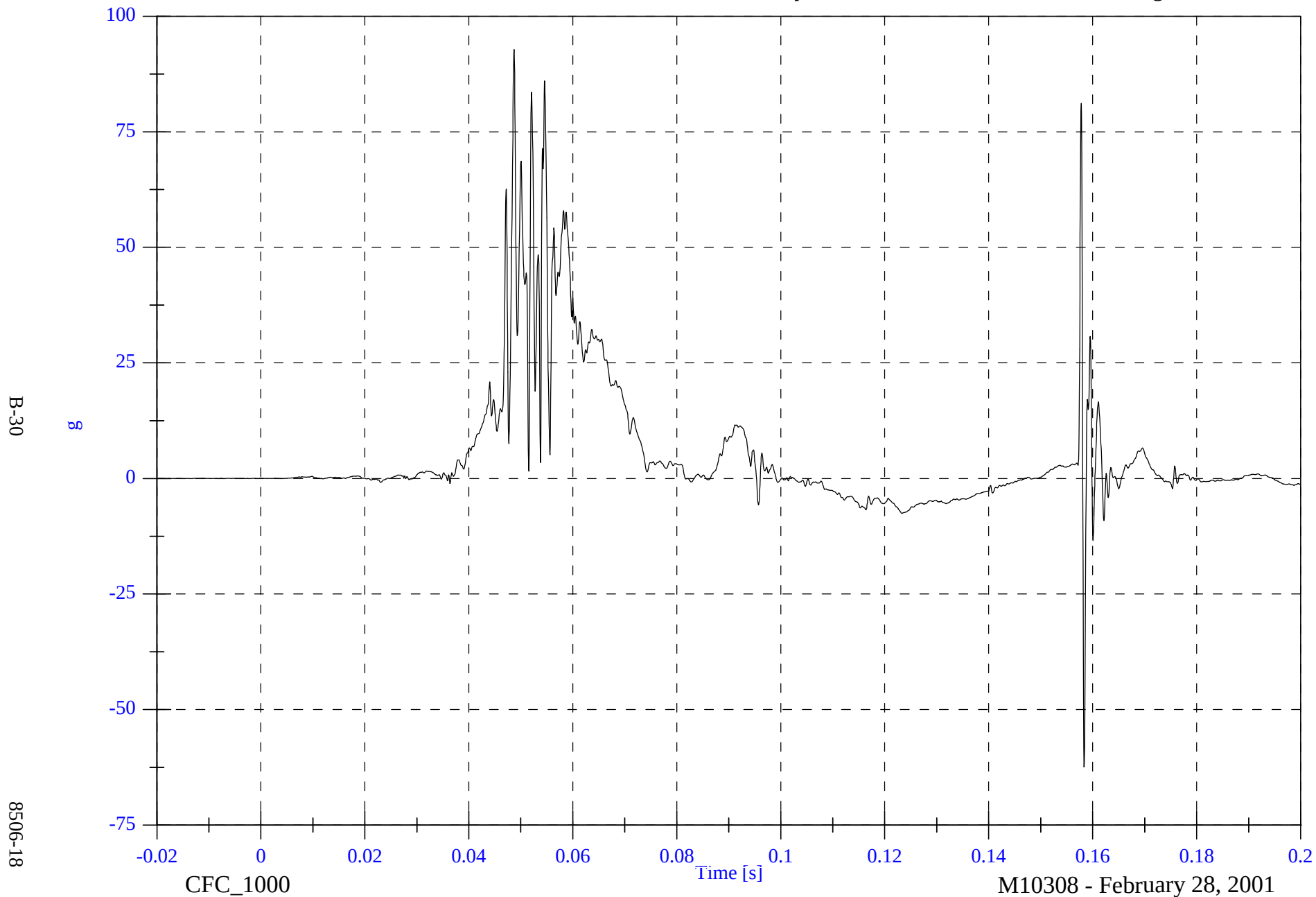
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Lower Rib y

Max: 92.8 [g] at 0.049 [s]

Min: -62.4 [g] at 0.158 [s]

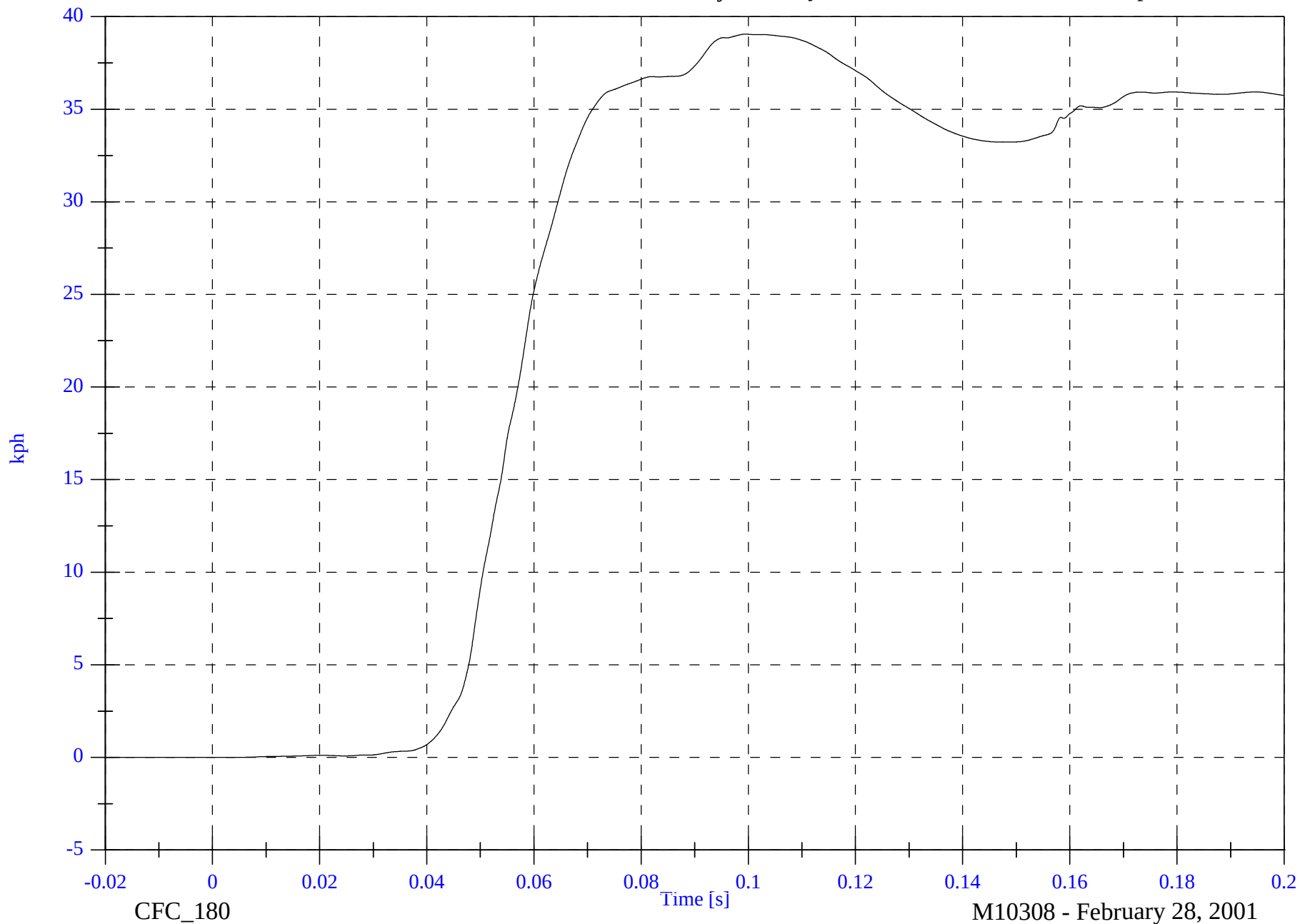


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Lower Rib y Velocity

Max: 39.1 [kph] at 0.099 [s]

Min: -0.0 [kph] at -0.020 [s]



B-31

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

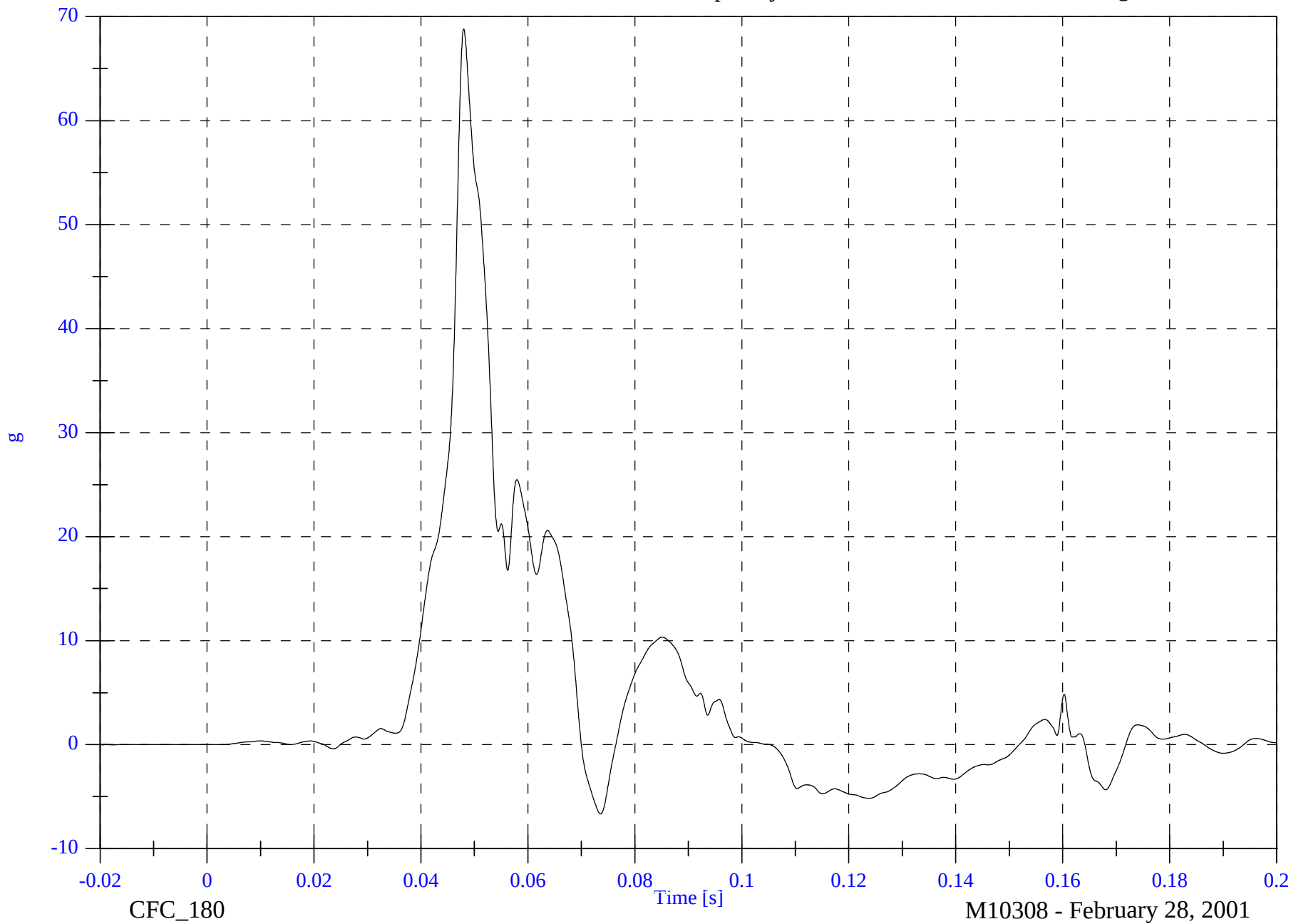
P4 Lower Spine y

Max: 68.8 [g] at 0.048 [s]

Min: -6.7 [g] at 0.074 [s]

B-32

8506-18

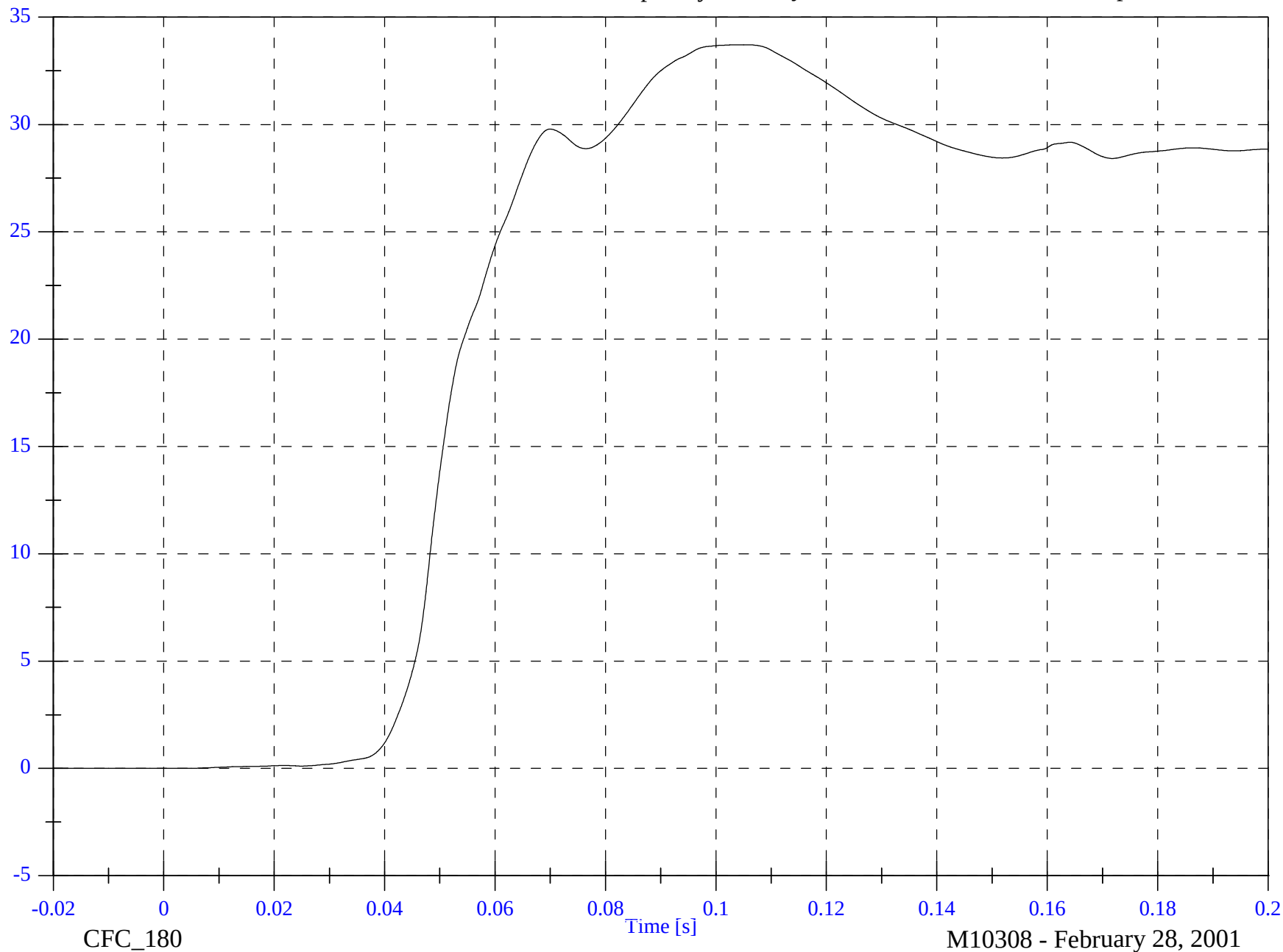


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Lower Spine y Velocity

Max: 33.7 [kph] at 0.105 [s]

Min: -0.0 [kph] at -0.015 [s]



B-33

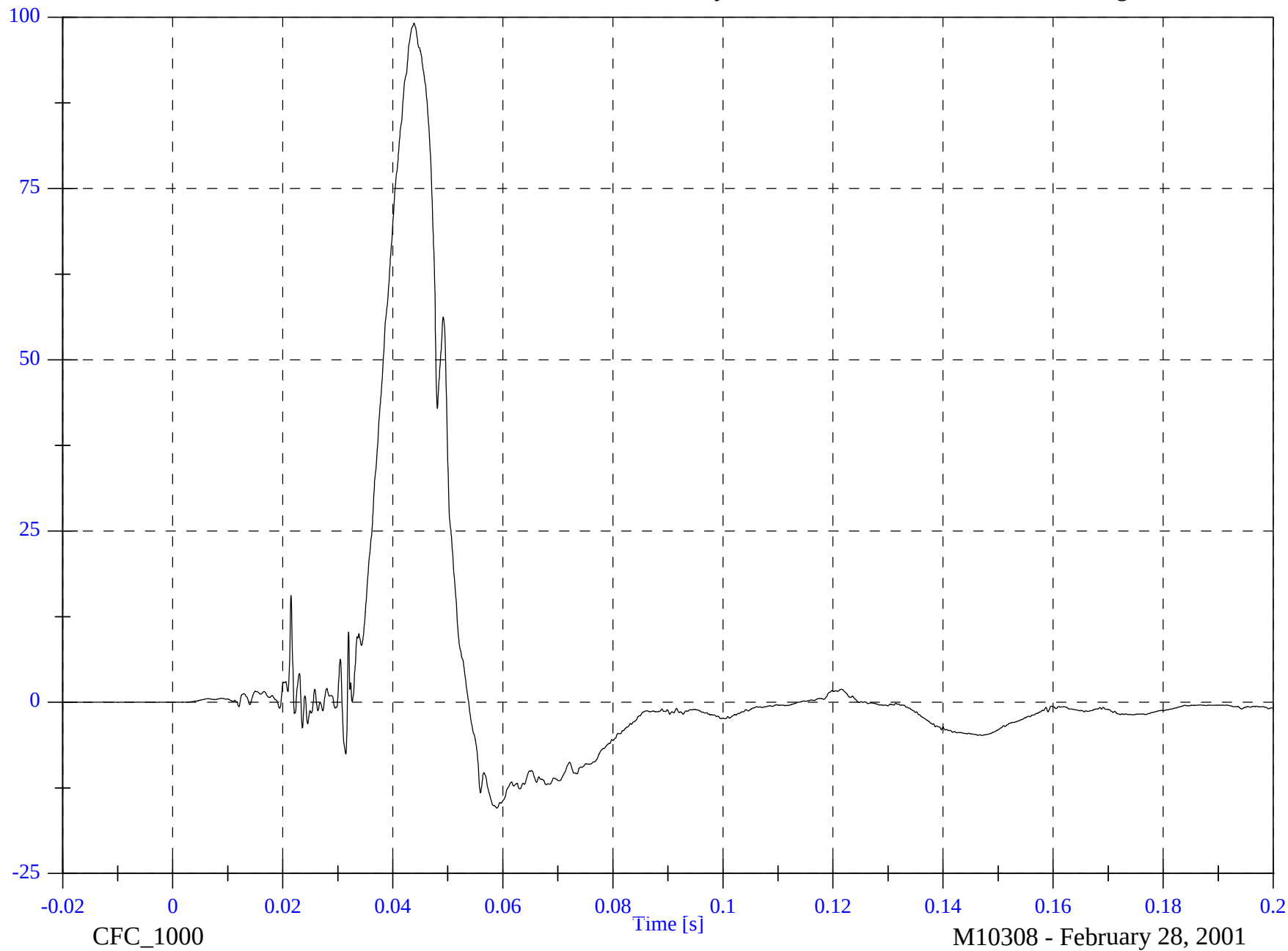
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Pelvic y

Max: 99.1 [g] at 0.044 [s]

Min: -15.5 [g] at 0.059 [s]



B-34

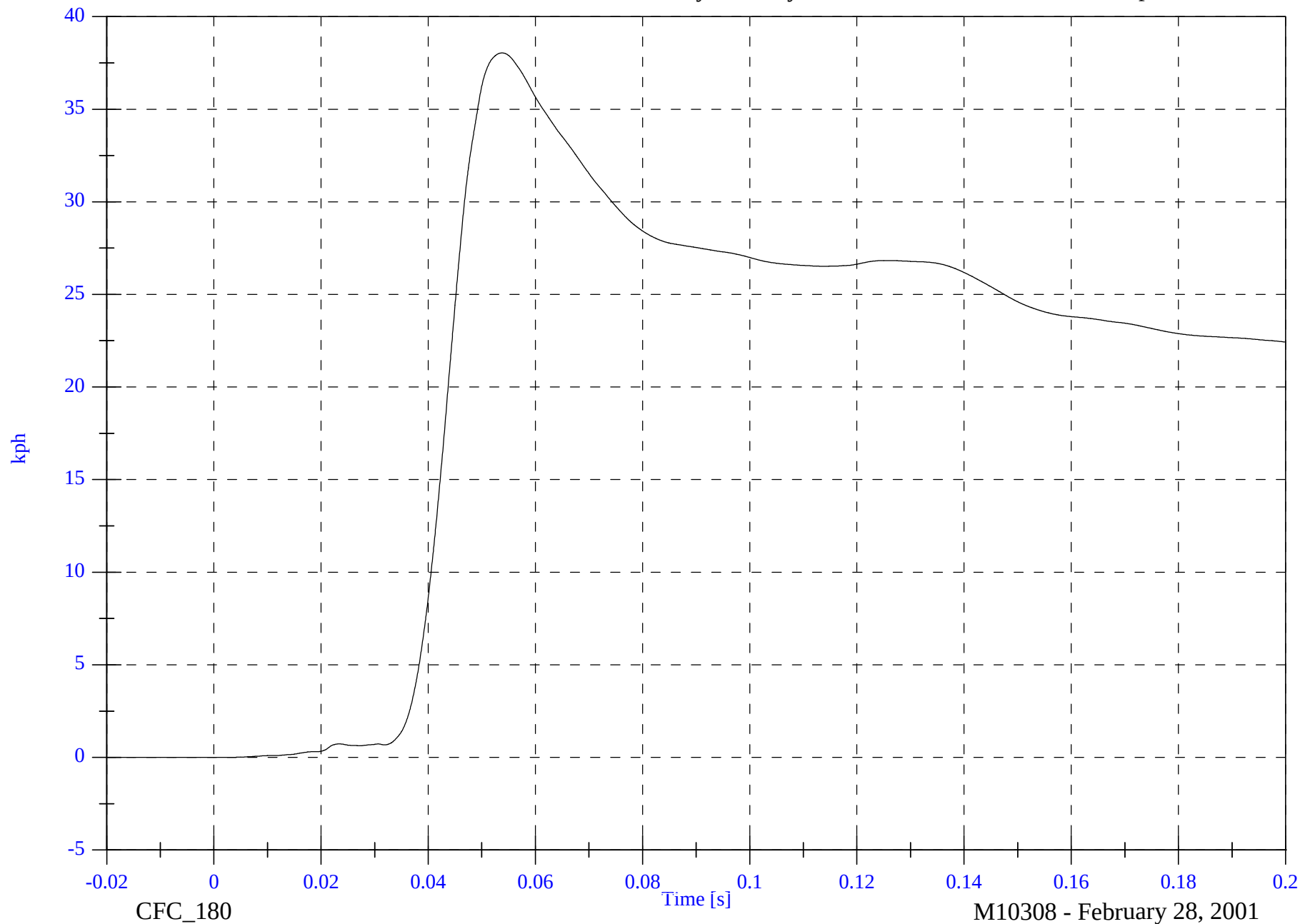
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Pelvic y Velocity

Max: 38.0 [kph] at 0.054 [s]

Min: -0.0 [kph] at -0.020 [s]



B-35

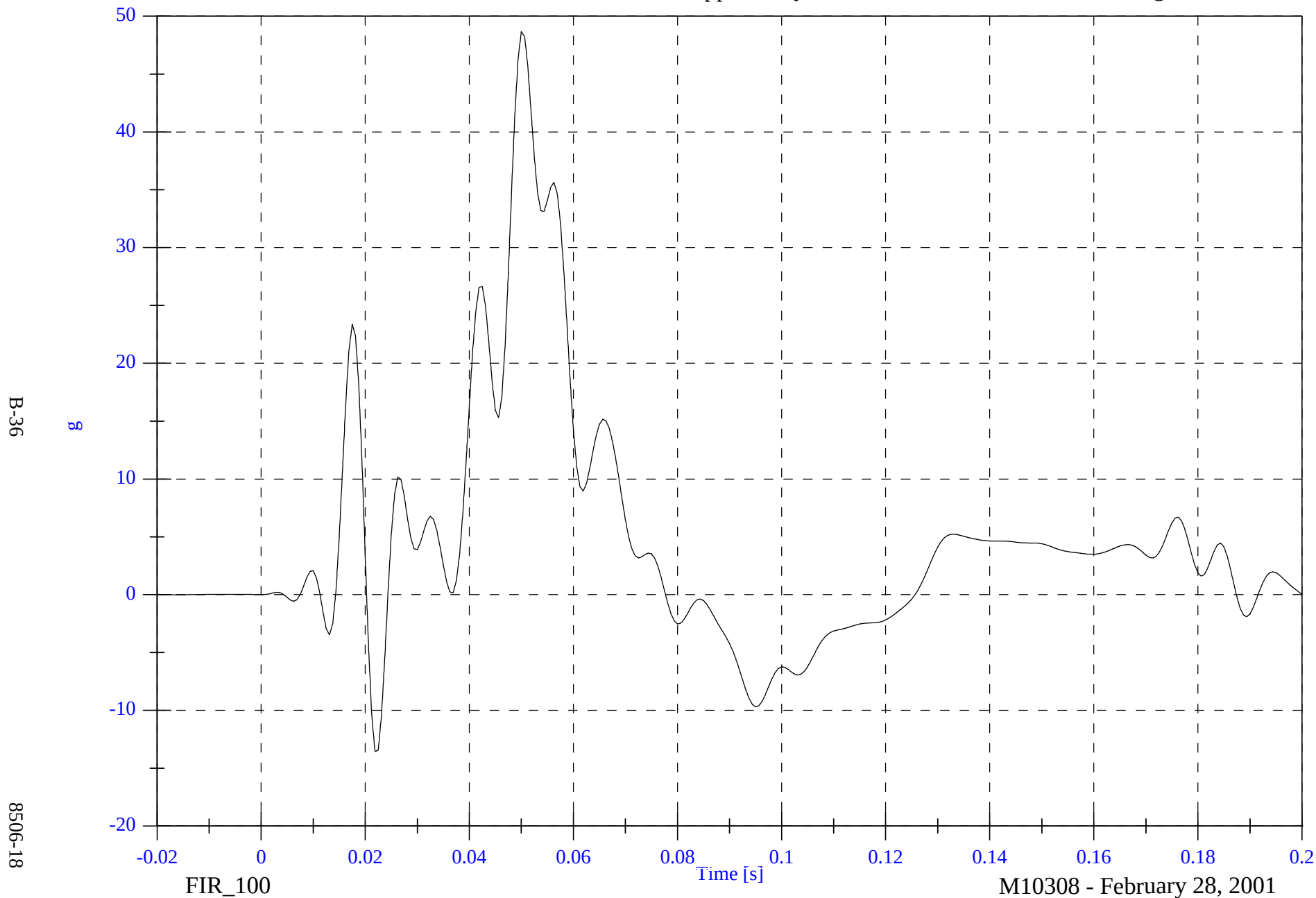
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Upper Rib y

Max: 48.7 [g] at 0.050 [s]

Min: -13.6 [g] at 0.022 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

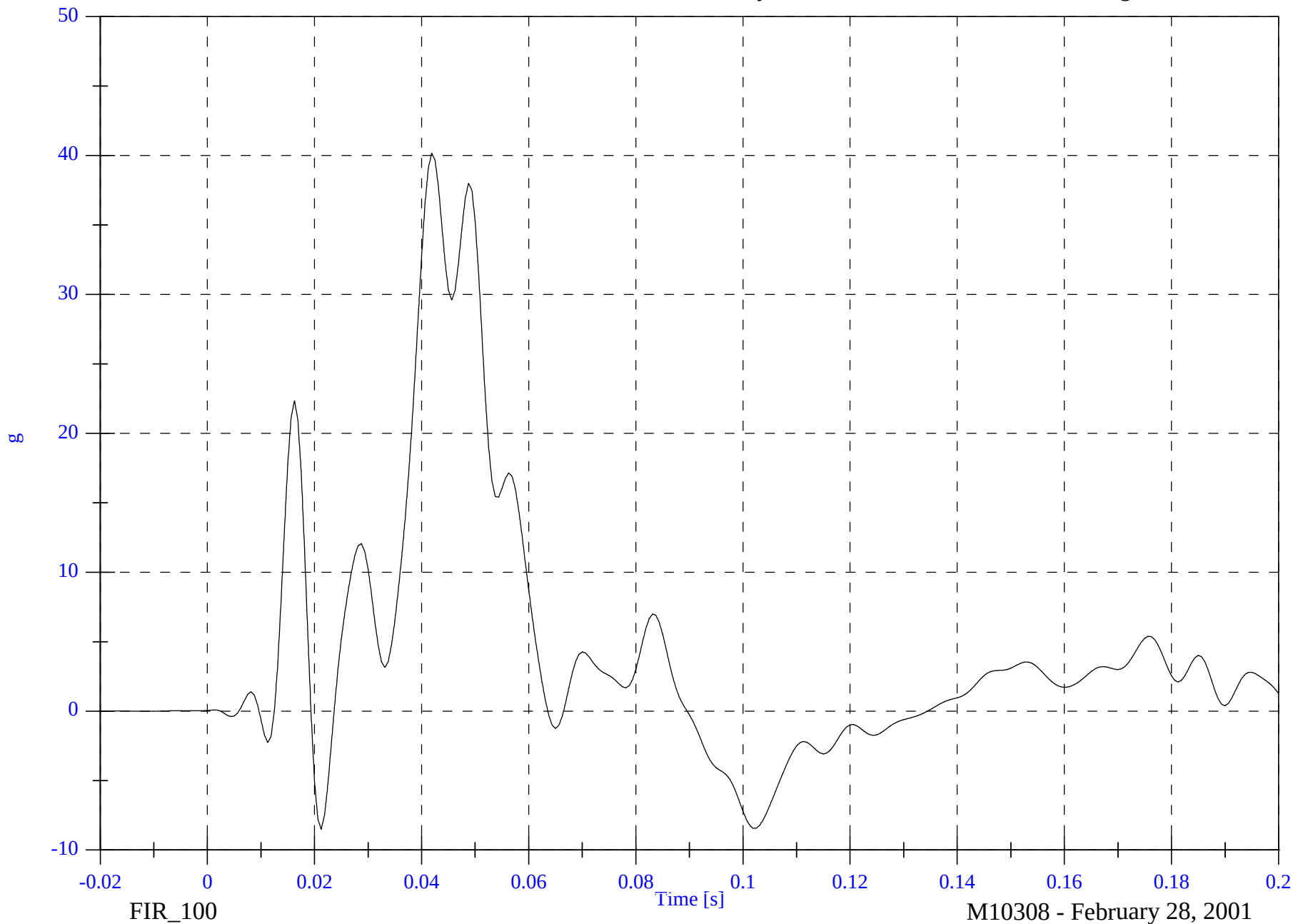
P1 Lower Rib y

Max: 40.2 [g] at 0.042 [s]

Min: -8.5 [g] at 0.021 [s]

B-37

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

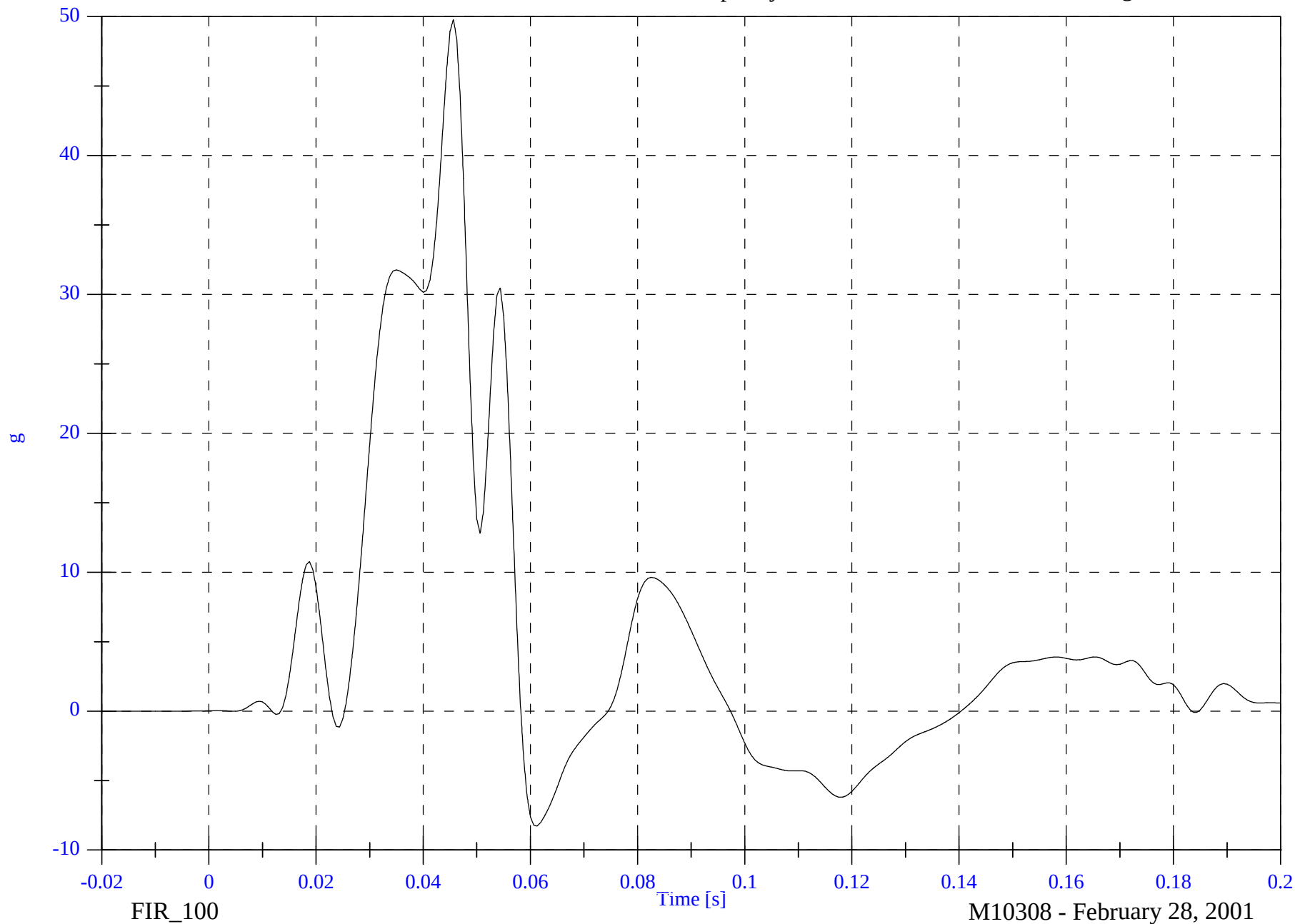
P1 Lower Spine y

Max: 49.8 [g] at 0.046 [s]

Min: -8.3 [g] at 0.061 [s]

B-38

8506-18

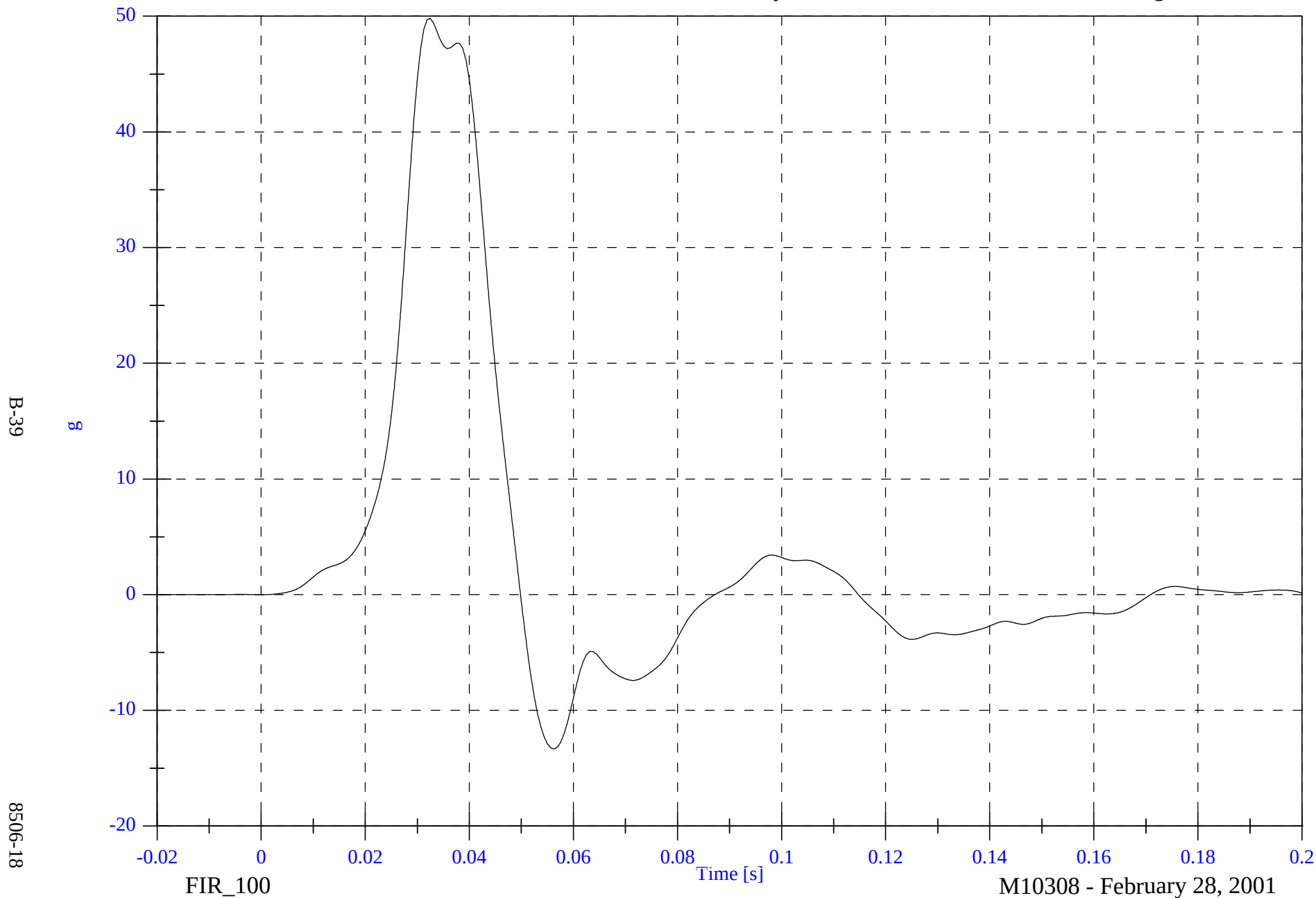


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Pelvic y

Max: 49.8 [g] at 0.033 [s]

Min: -13.3 [g] at 0.056 [s]

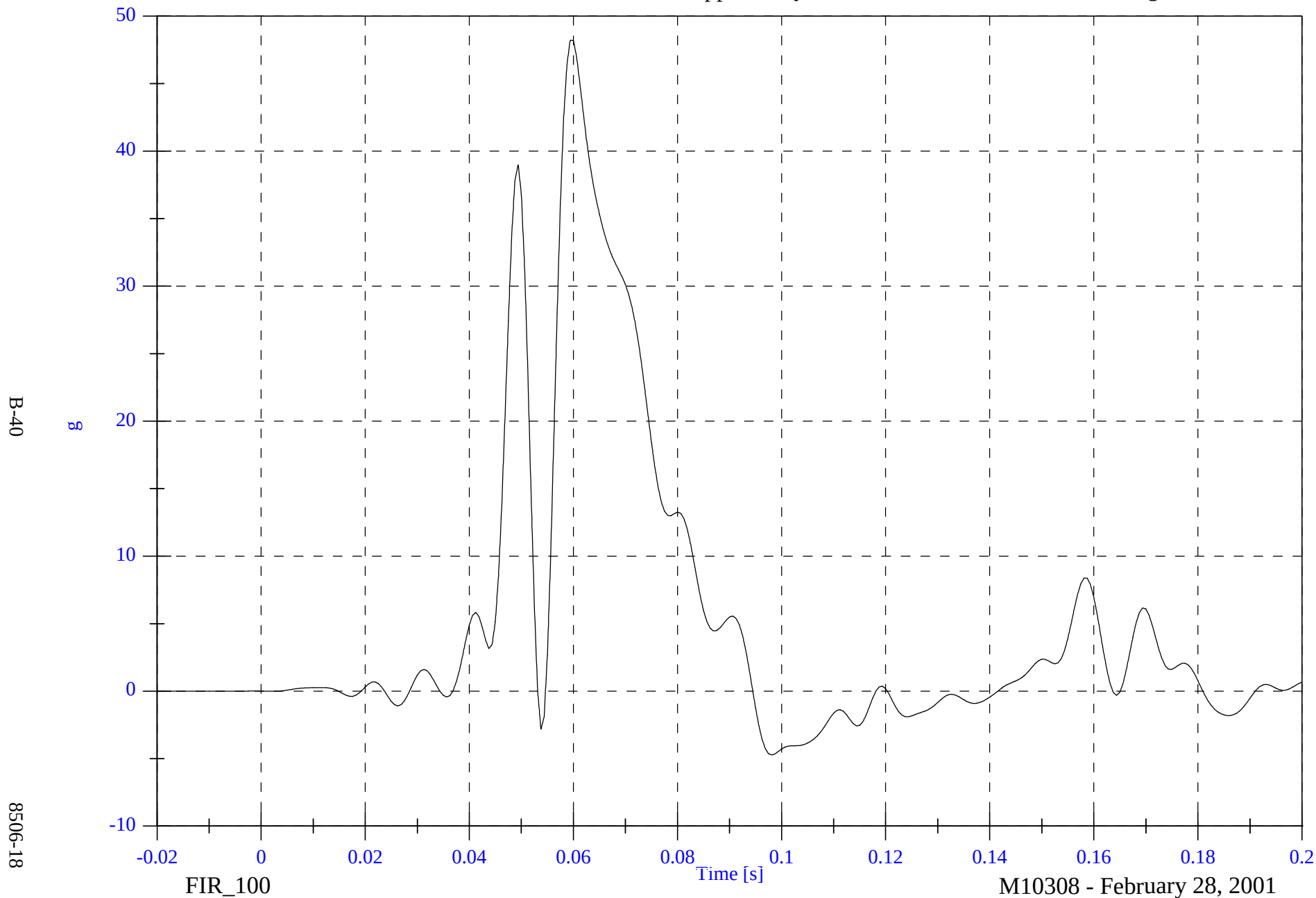


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Upper Rib y

Max: 48.2 [g] at 0.059 [s]

Min: -4.7 [g] at 0.098 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

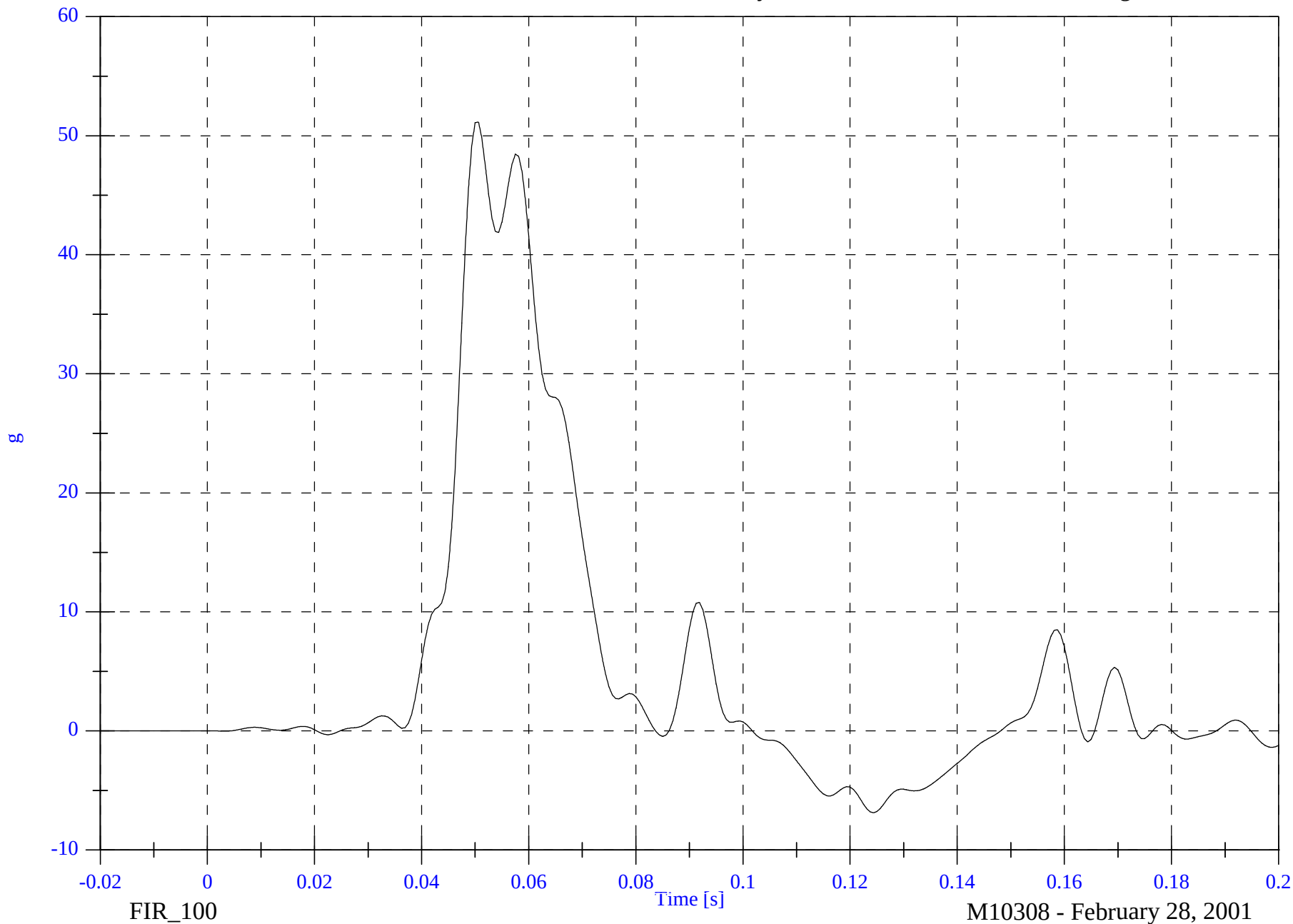
P4 Lower Rib y

Max: 51.1 [g] at 0.051 [s]

Min: -6.9 [g] at 0.124 [s]

B-41

8506-18

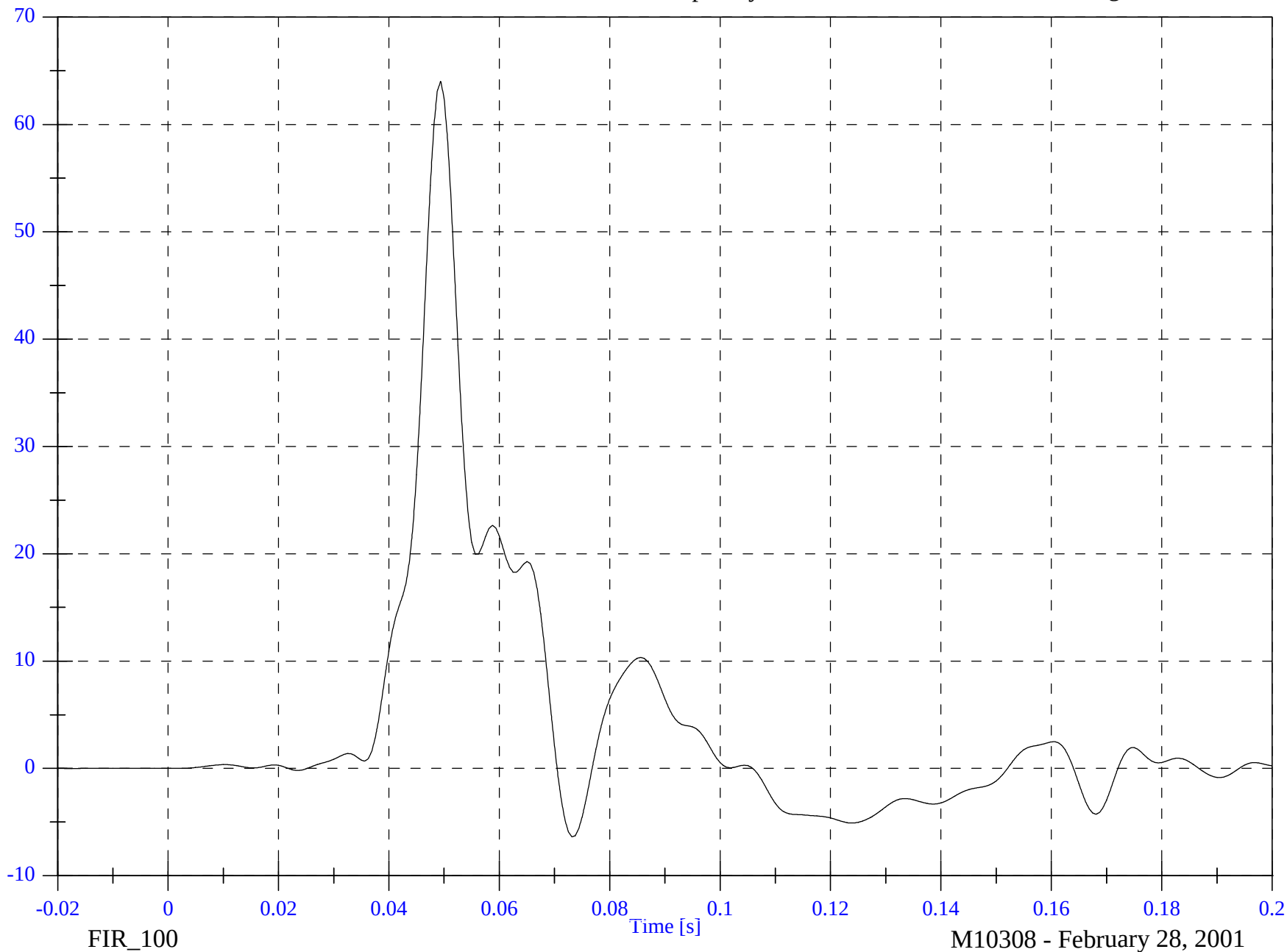


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Lower Spine y

Max: 64.0 [g] at 0.049 [s]

Min: -6.4 [g] at 0.073 [s]



B-42

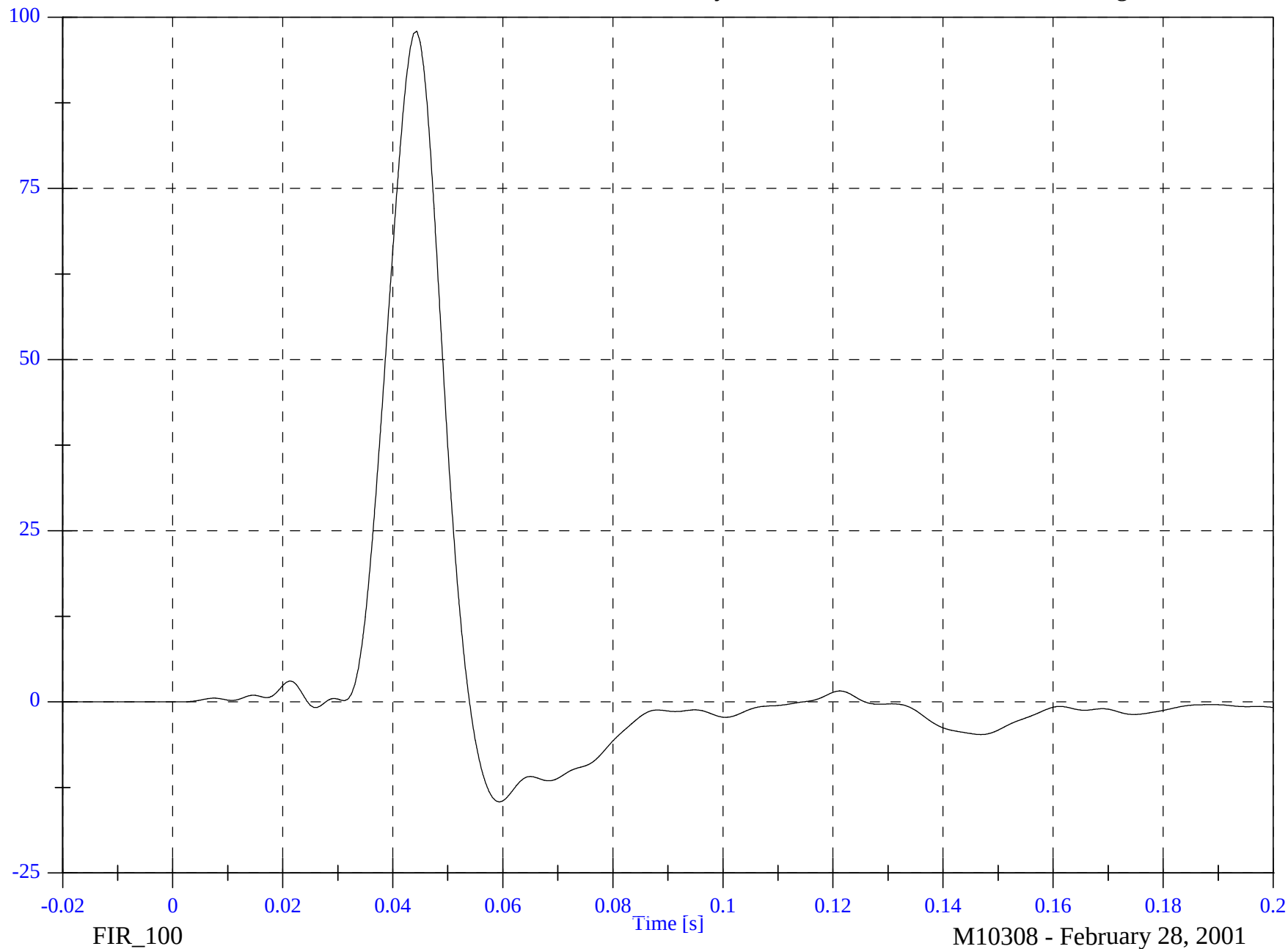
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Pelvic y

Max: 98.0 [g] at 0.044 [s]

Min: -14.6 [g] at 0.059 [s]



B-43

8506-18

FIR_100

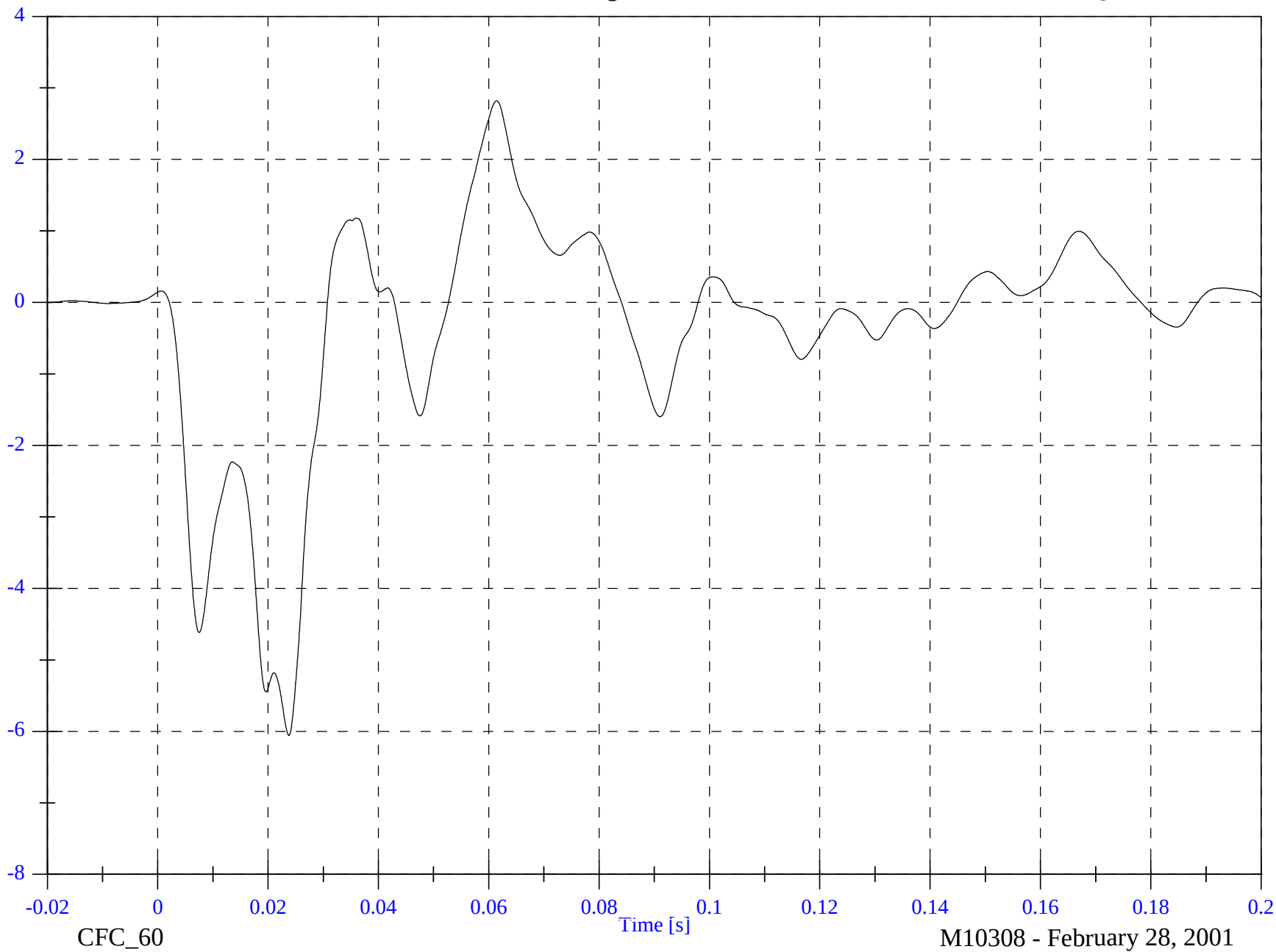
M10308 - February 28, 2001

SNCAP Test 18 - 2001 Dodge Grand Caravan

A1 Right Front Sill X

Max: 2.8 [g] at 0.061 [s]

Min: -6.1 [g] at 0.024 [s]



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8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

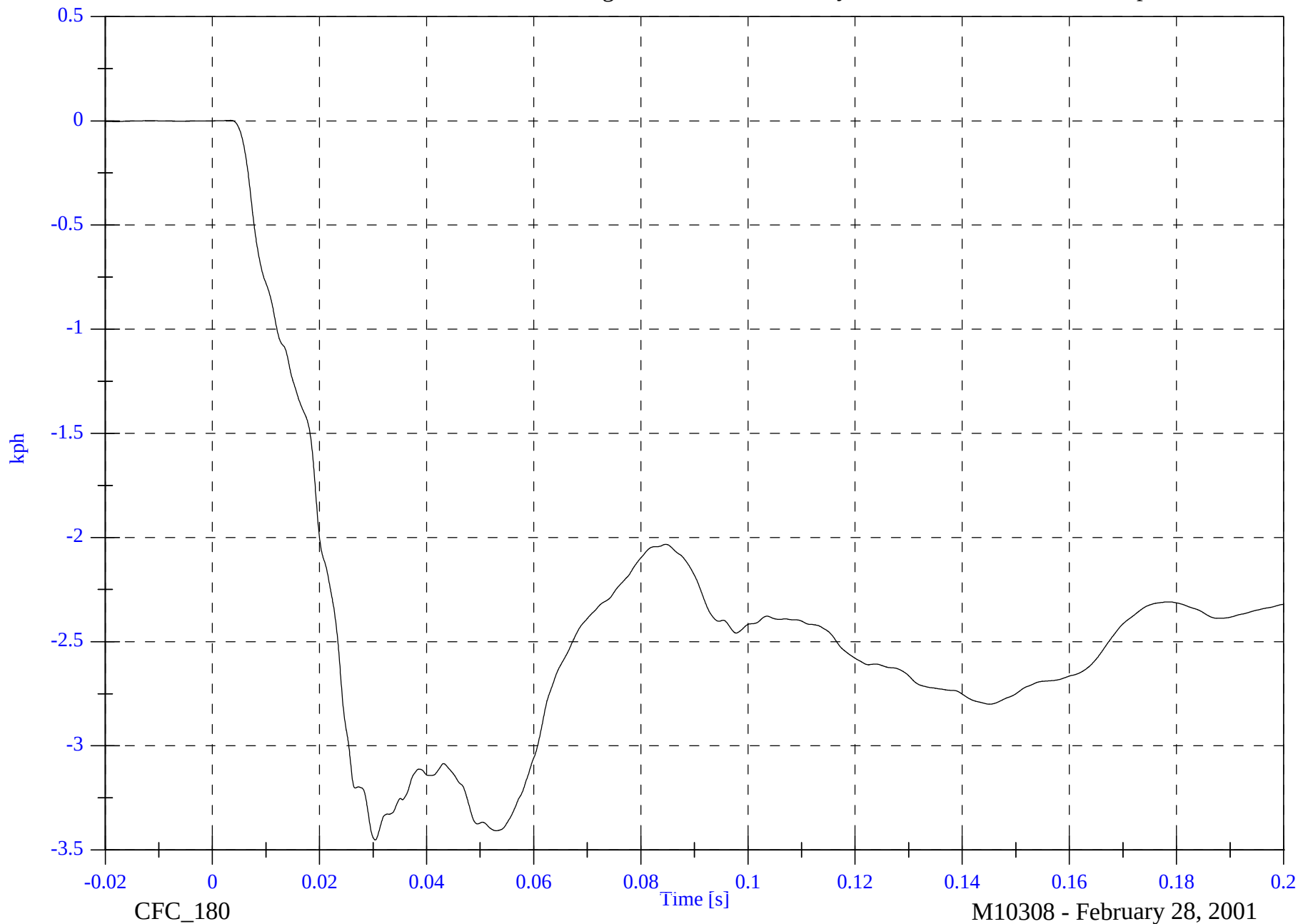
A1 Right Front Sill X Velocity

Max: 0.0 [kph] at 0.003 [s]

Min: -3.5 [kph] at 0.030 [s]

B-45

8506-18

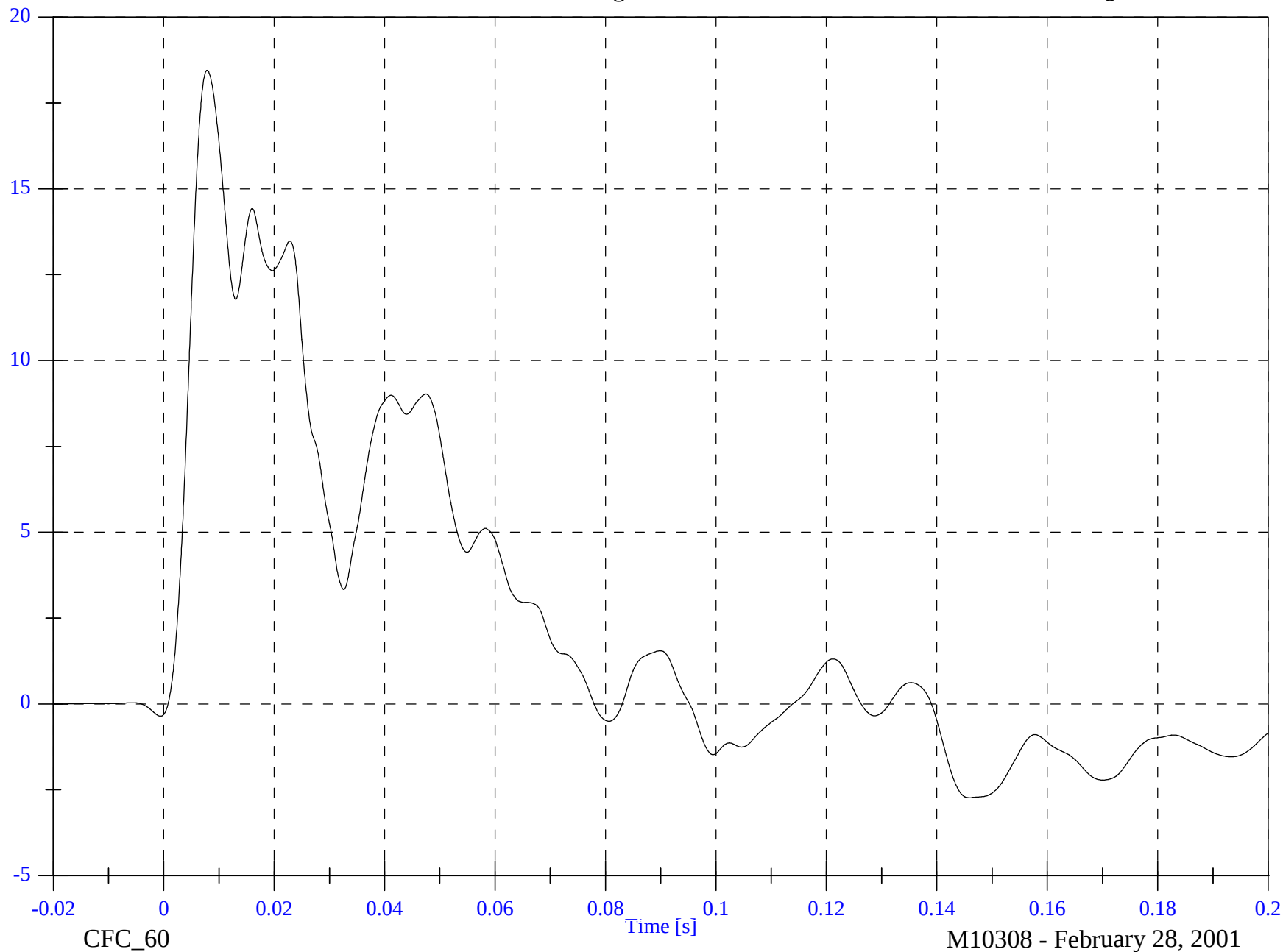


SNCAP Test 18 - 2001 Dodge Grand Caravan

A1 Right Front Sill Y

Max: 18.5 [g] at 0.008 [s]

Min: -2.7 [g] at 0.146 [s]



B-46

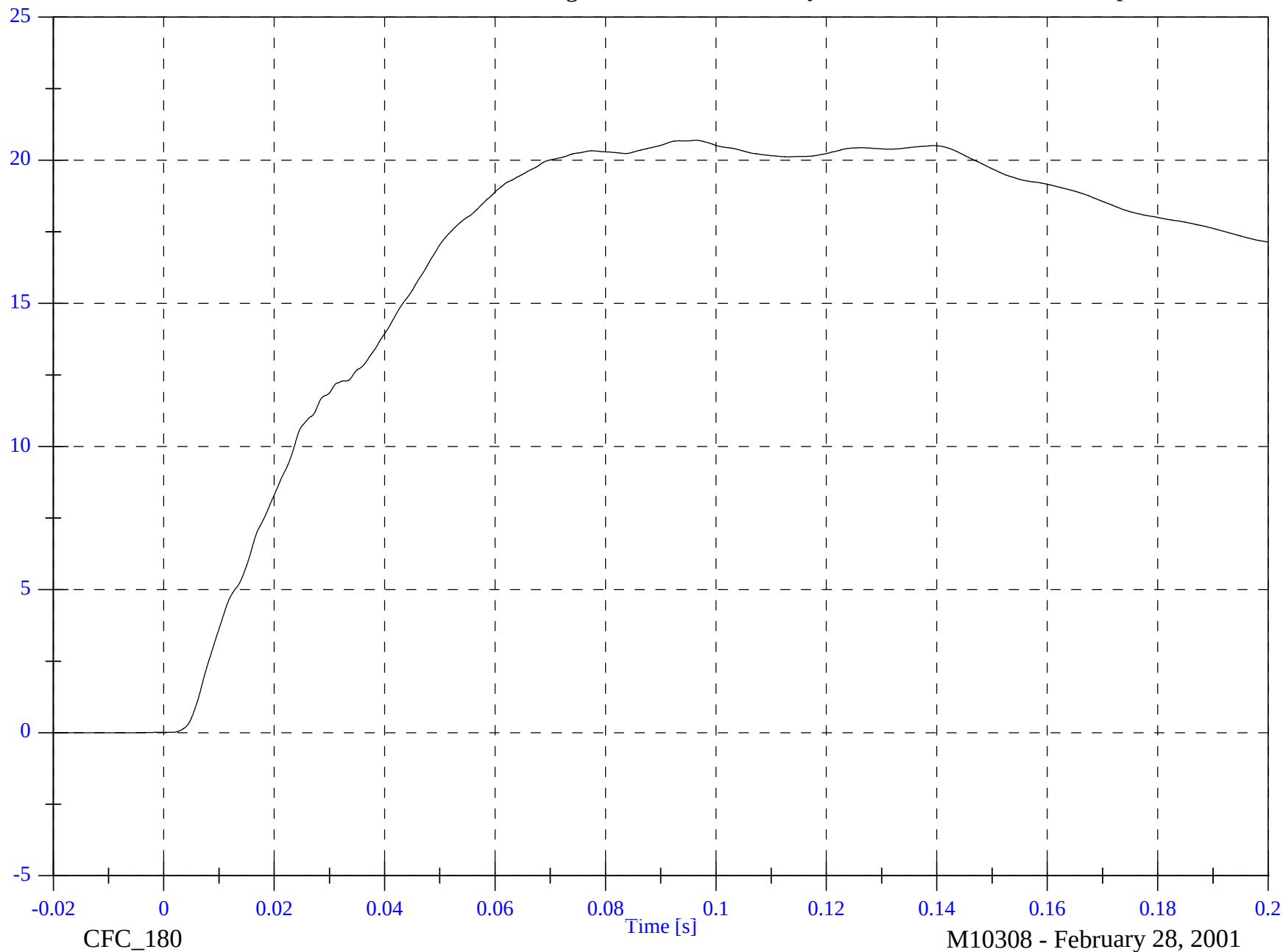
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A1 Right Front Sill Y Velocity

Max: 20.7 [kph] at 0.096 [s]

Min: -0.0 [kph] at -0.020 [s]



B-47

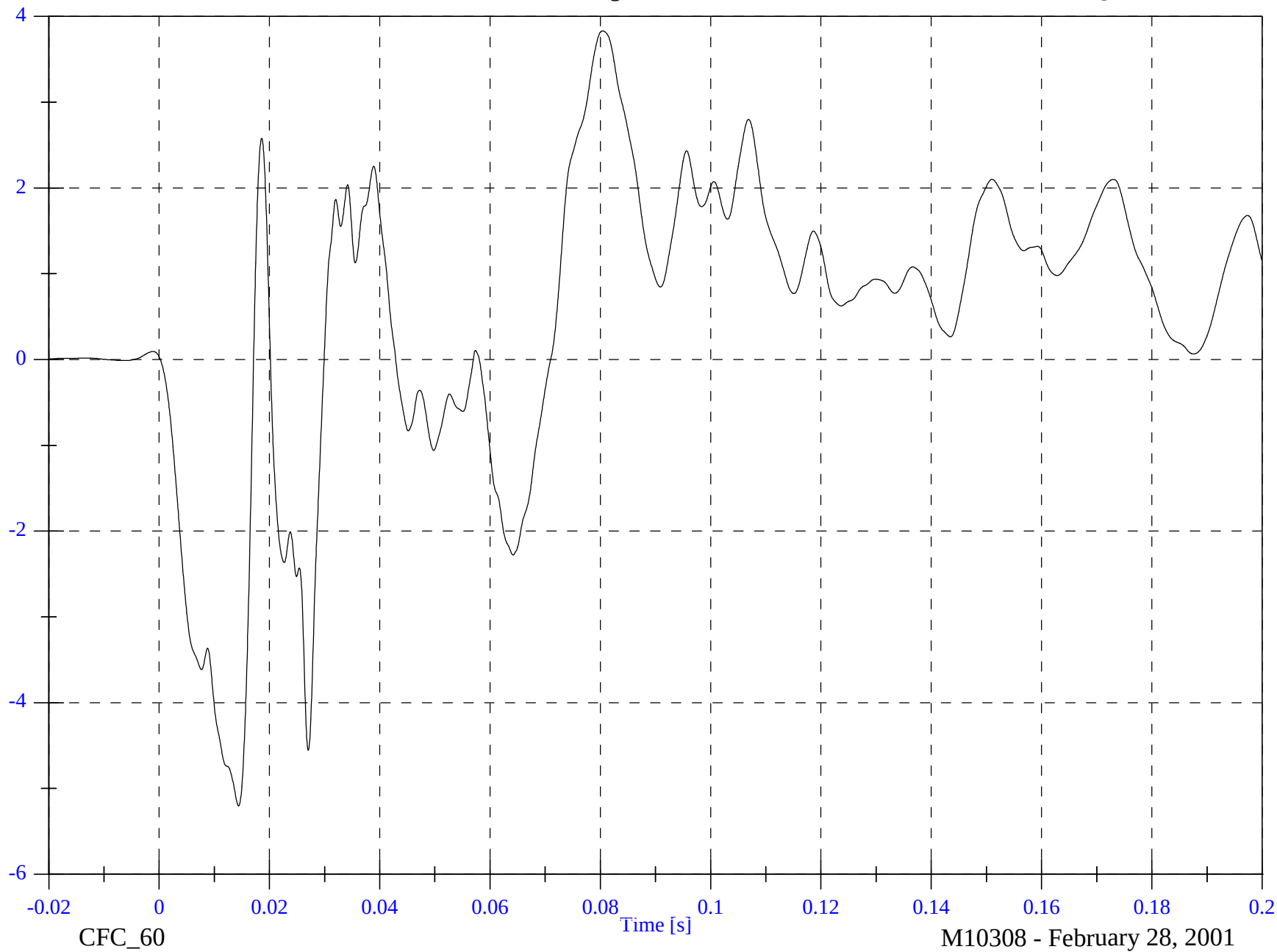
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A1 Right Front Sill Z

Max: 3.8 [g] at 0.080 [s]

Min: -5.2 [g] at 0.014 [s]



B-48

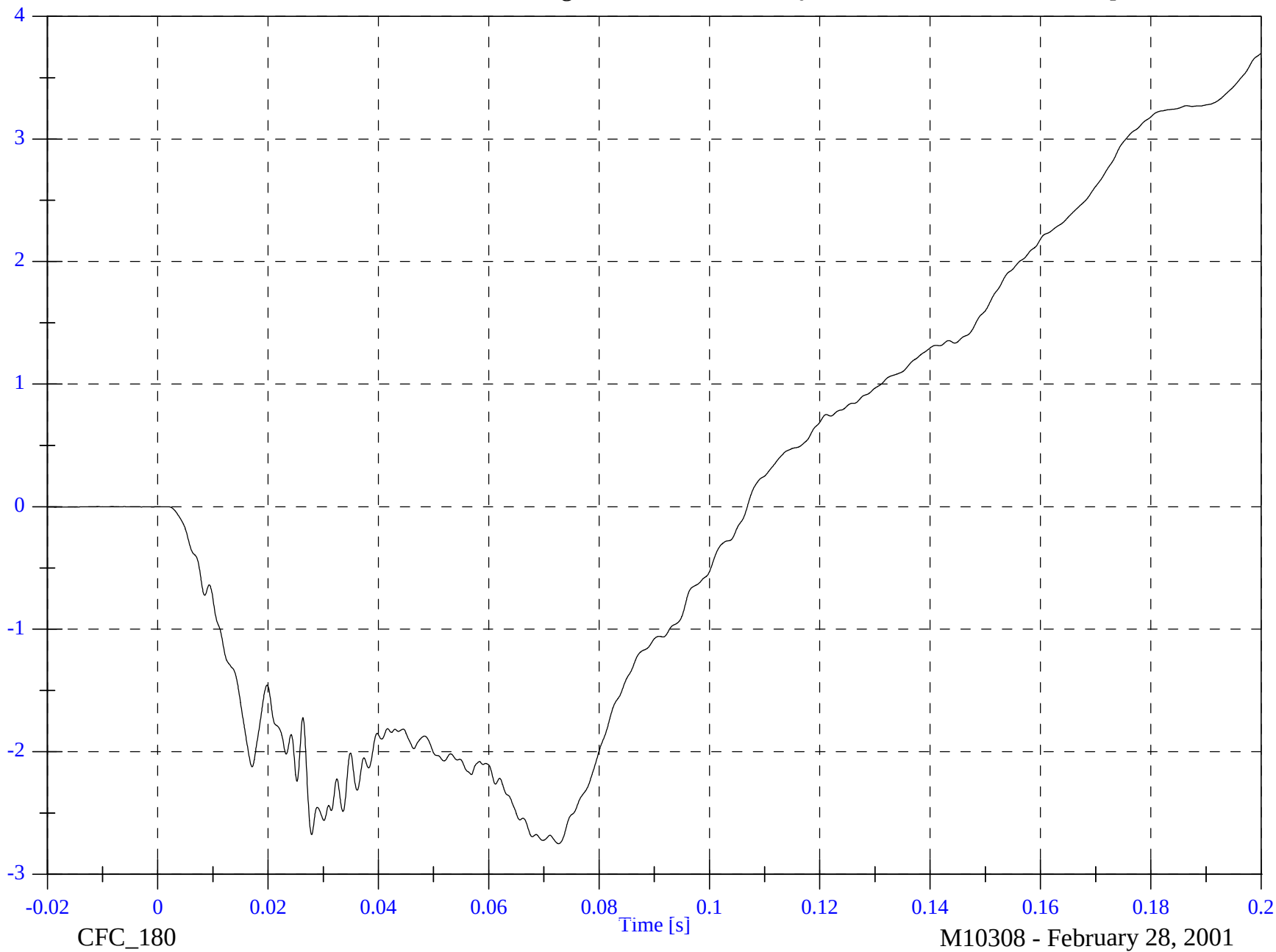
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A1 Right Front Sill Z Velocity

Max: 3.7 [kph] at 0.200 [s]

Min: -2.8 [kph] at 0.073 [s]



B-49

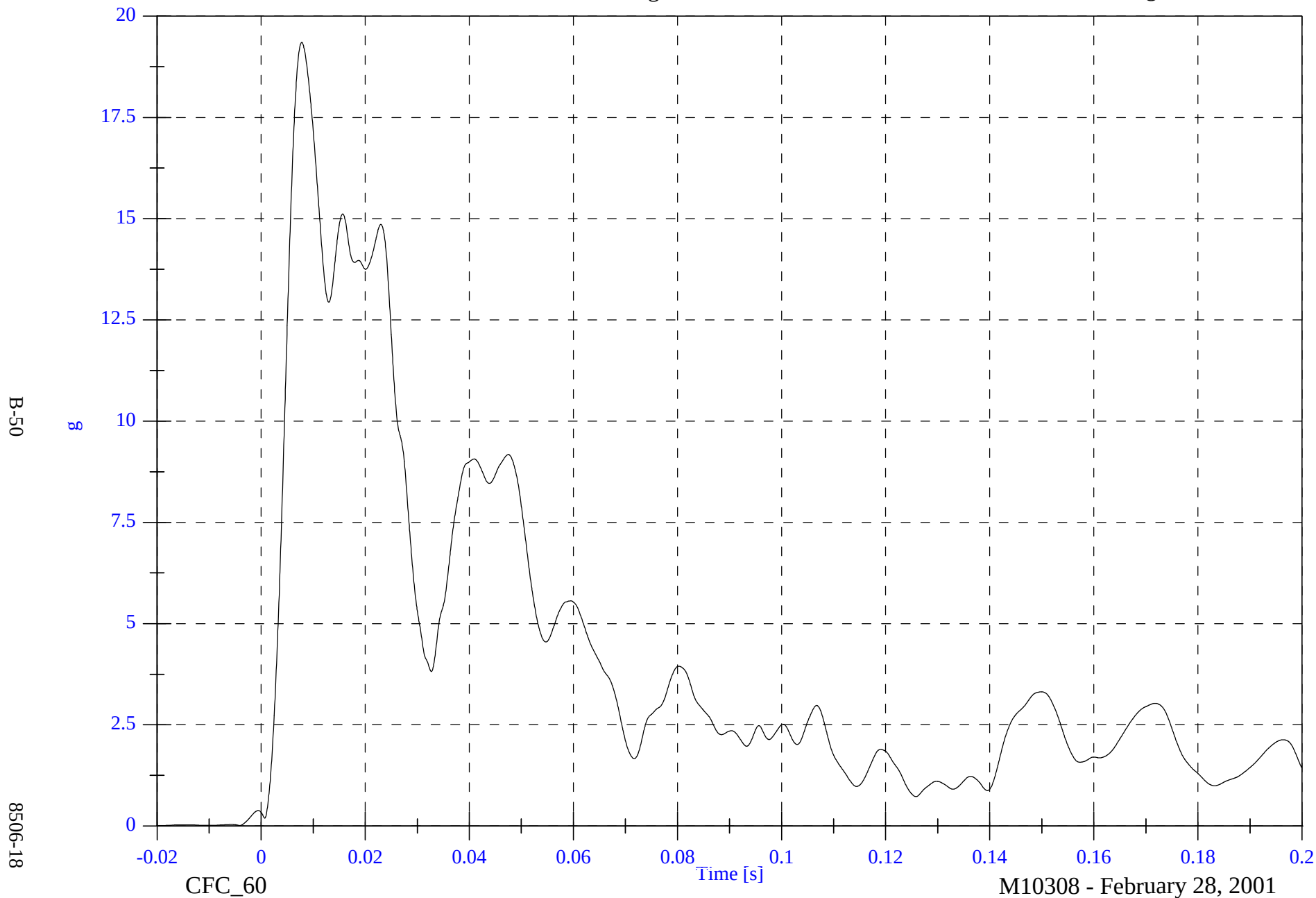
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A1 Right Front Sill Resultant

Max: 19.4 [g] at 0.008 [s]

Min: 0.0 [g] at -0.019 [s]

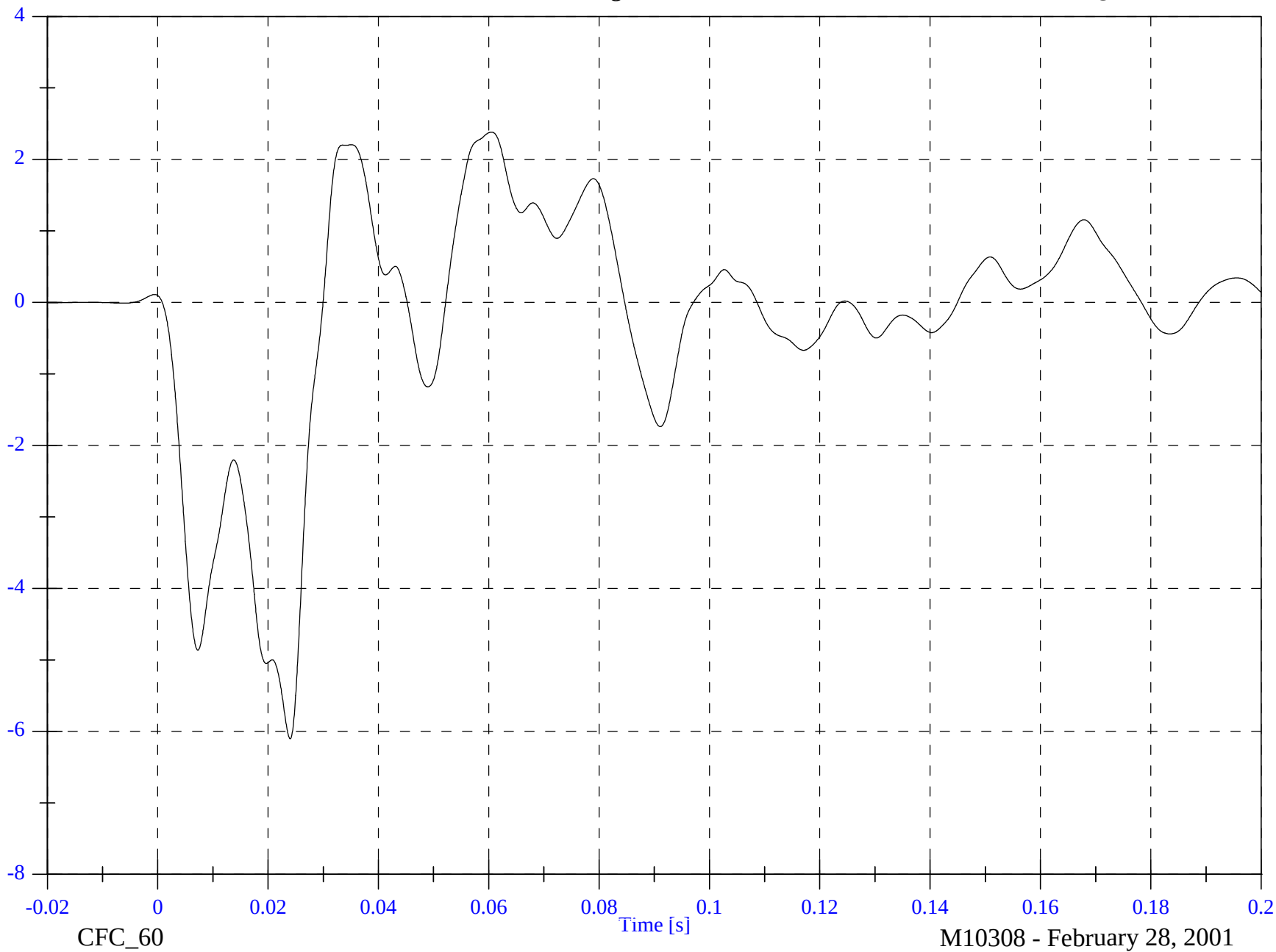


SNCAP Test 18 - 2001 Dodge Grand Caravan

A2 Right Rear Sill X

Max: 2.4 [g] at 0.060 [s]

Min: -6.1 [g] at 0.024 [s]



B-51

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

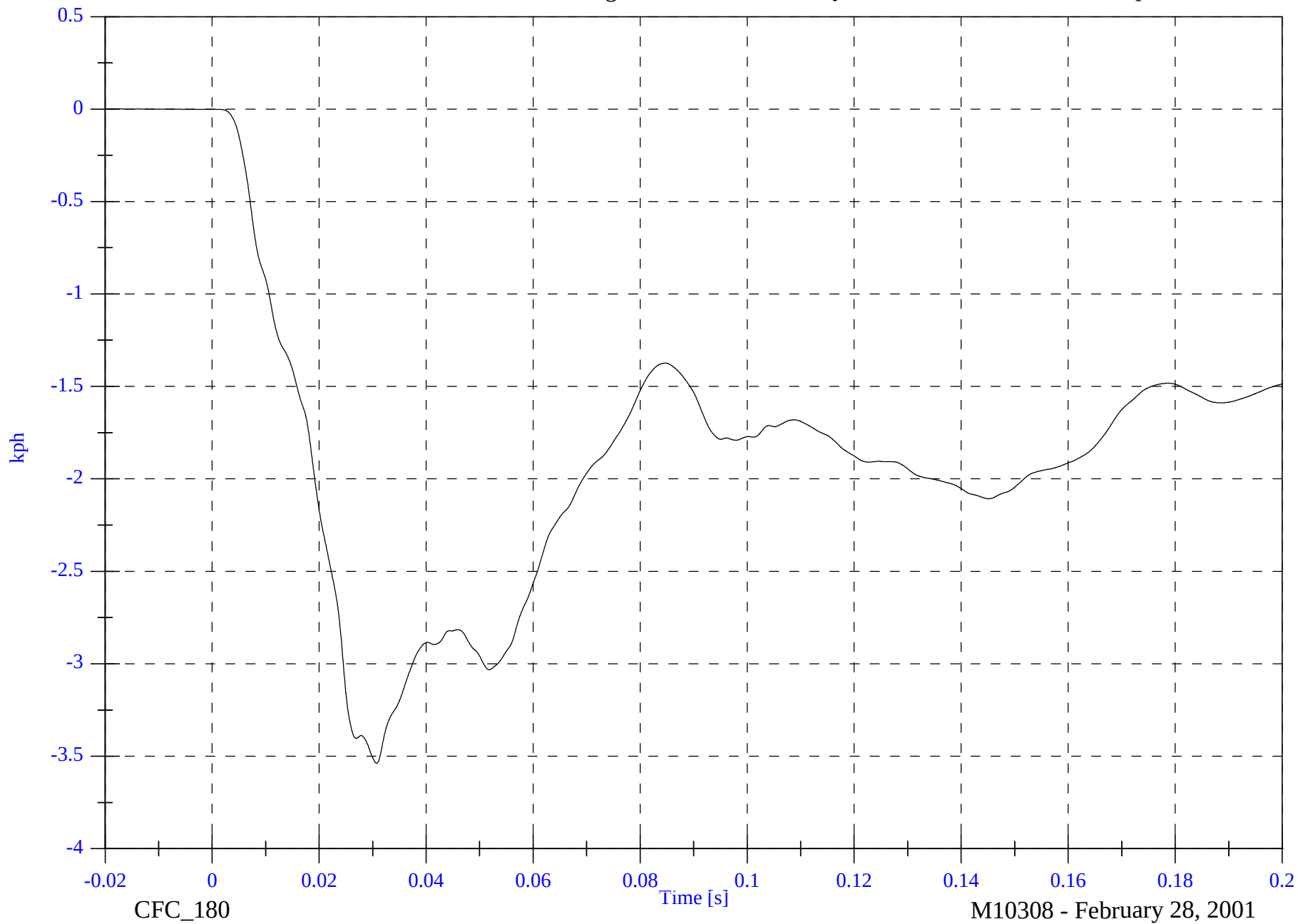
A2 Right Rear Sill X Velocity

Max: 0.0 [kph] at -0.020 [s]

Min: -3.5 [kph] at 0.031 [s]

B-52

8506-18

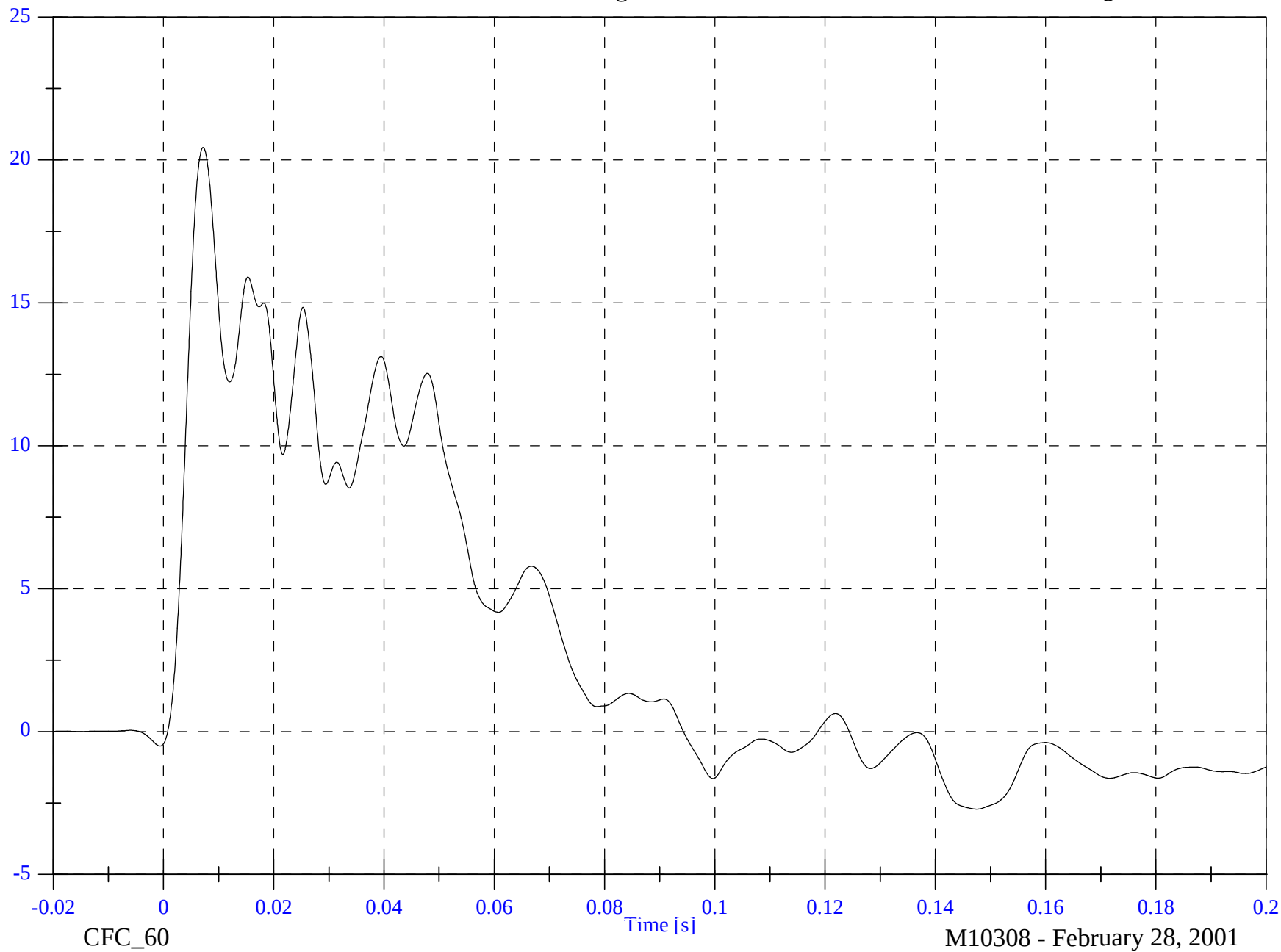


SNCAP Test 18 - 2001 Dodge Grand Caravan

A2 Right Rear Sill Y

Max: 20.4 [g] at 0.007 [s]

Min: -2.7 [g] at 0.148 [s]



B-53

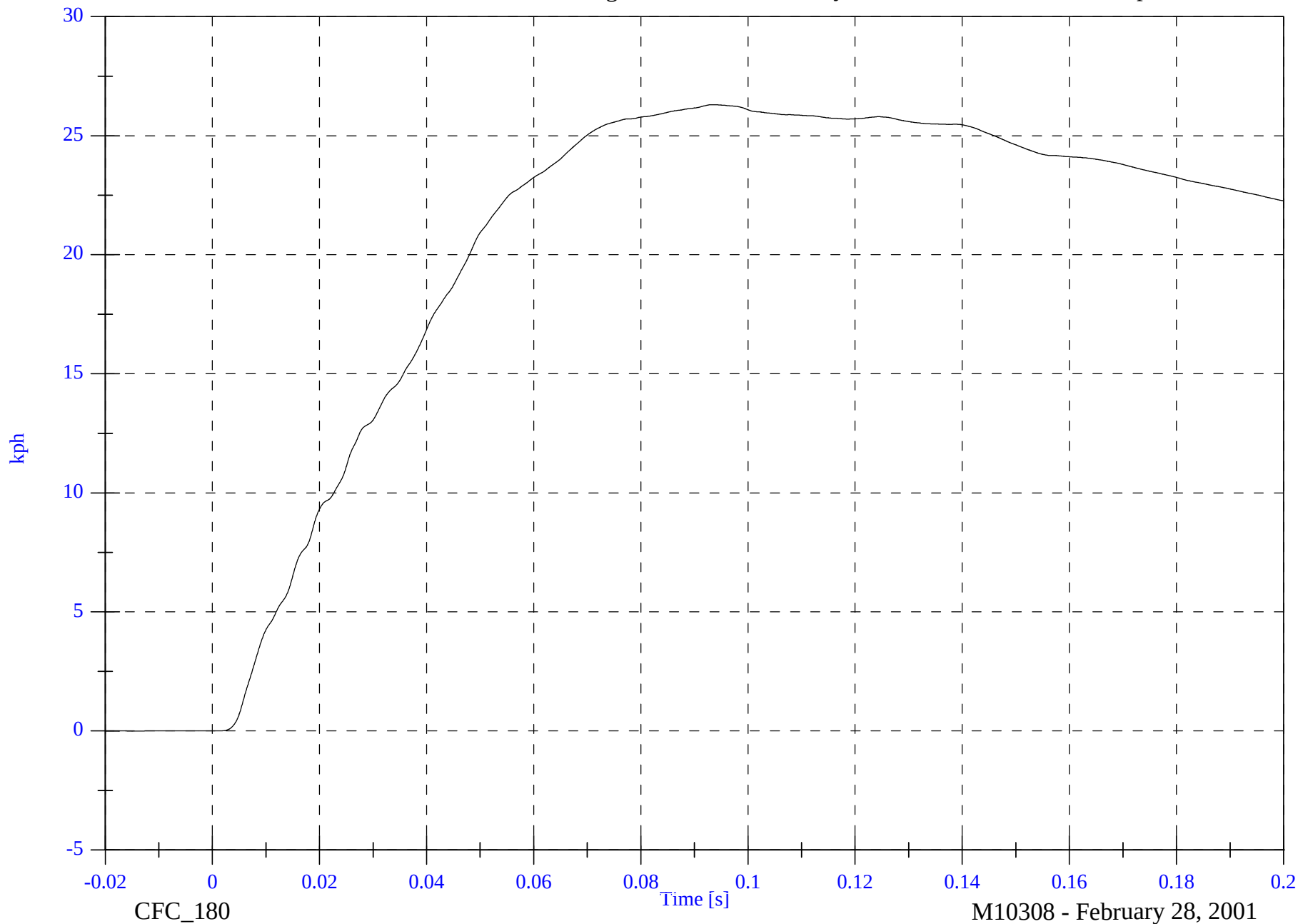
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A2 Right Rear Sill Y Velocity

Max: 26.3 [kph] at 0.093 [s]

Min: -0.0 [kph] at -0.020 [s]



B-54

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A2 Right Rear Sill Z

Max: 5.8 [g] at 0.105 [s]

Min: -12.3 [g] at 0.025 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

A2 Right Rear Sill Z Velocity

Max: 4.8 [kph] at 0.200 [s]

Min: -4.5 [kph] at 0.034 [s]

B-56

8506-18

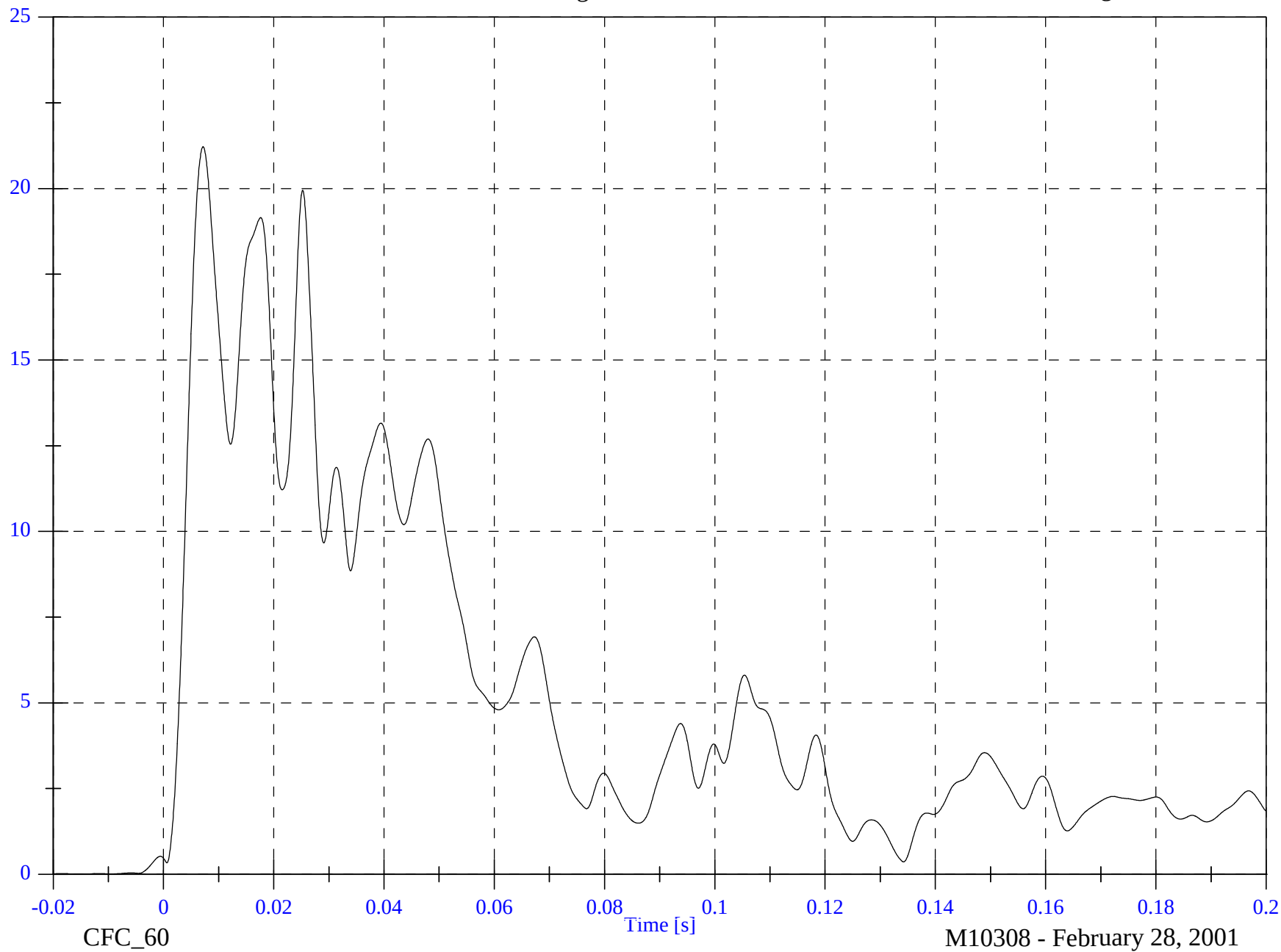


SNCAP Test 18 - 2001 Dodge Grand Caravan

A2 Right Rear Sill Resultant

Max: 21.2 [g] at 0.007 [s]

Min: 0.0 [g] at -0.014 [s]



B-57

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A3 Rear Floorpan X

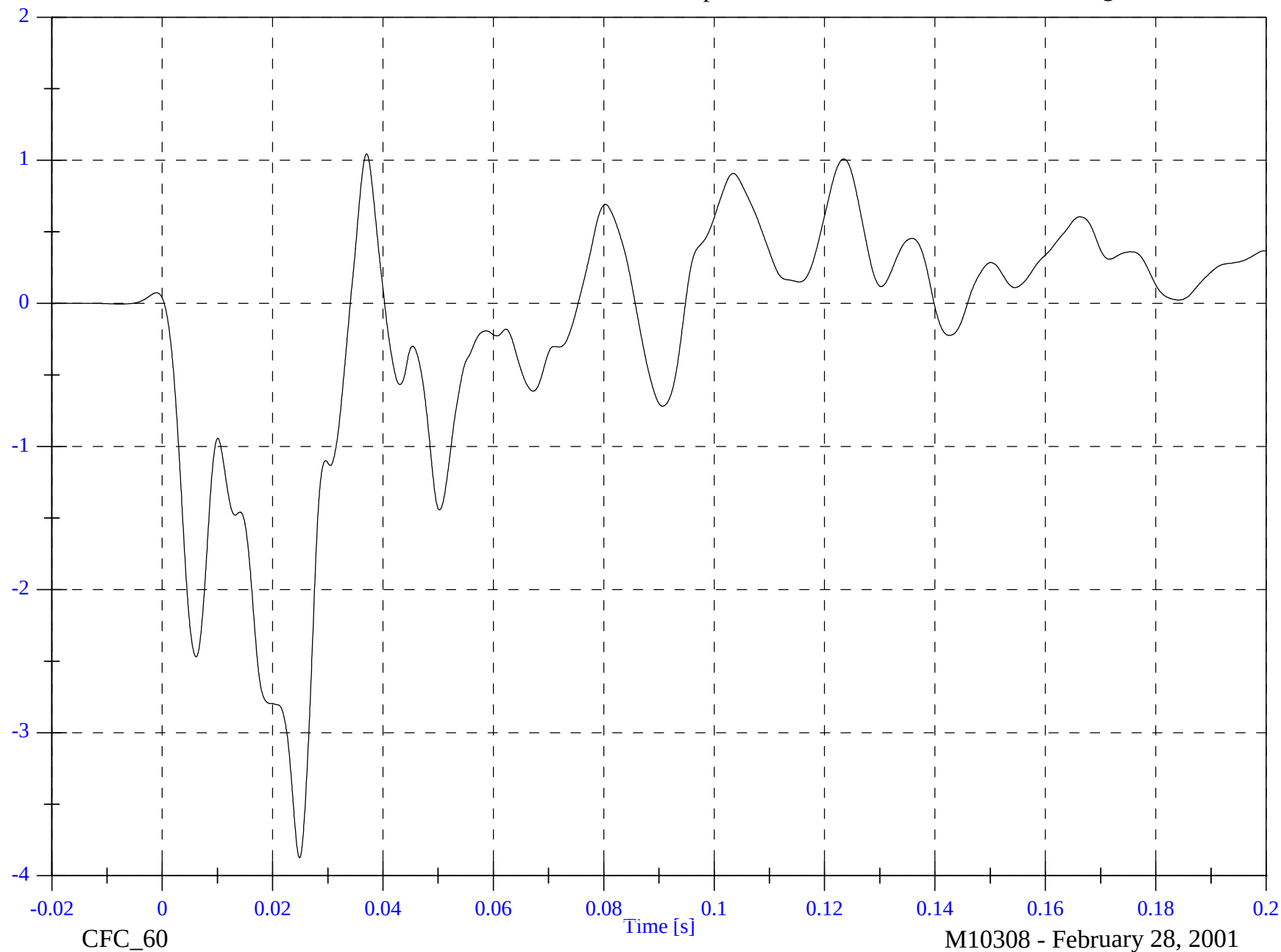
Max: 1.0 [g] at 0.037 [s]

Min: -3.9 [g] at 0.025 [s]

B-58

8506-18

g



SNCAP Test 18 - 2001 Dodge Grand Caravan

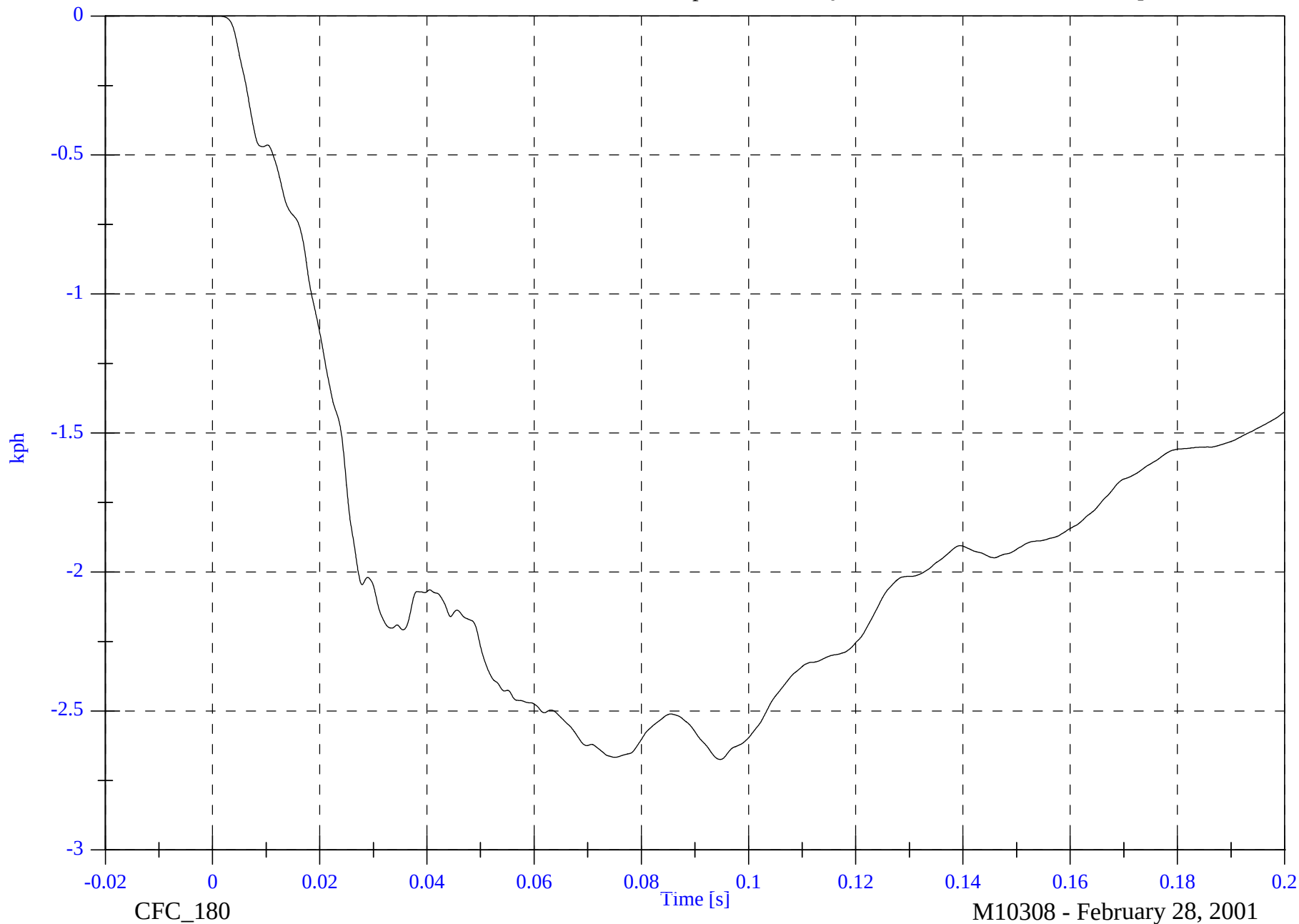
A3 Rear Floorpan X Velocity

Max: 0.0 [kph] at -0.011 [s]

Min: -2.7 [kph] at 0.095 [s]

B-59

8506-18

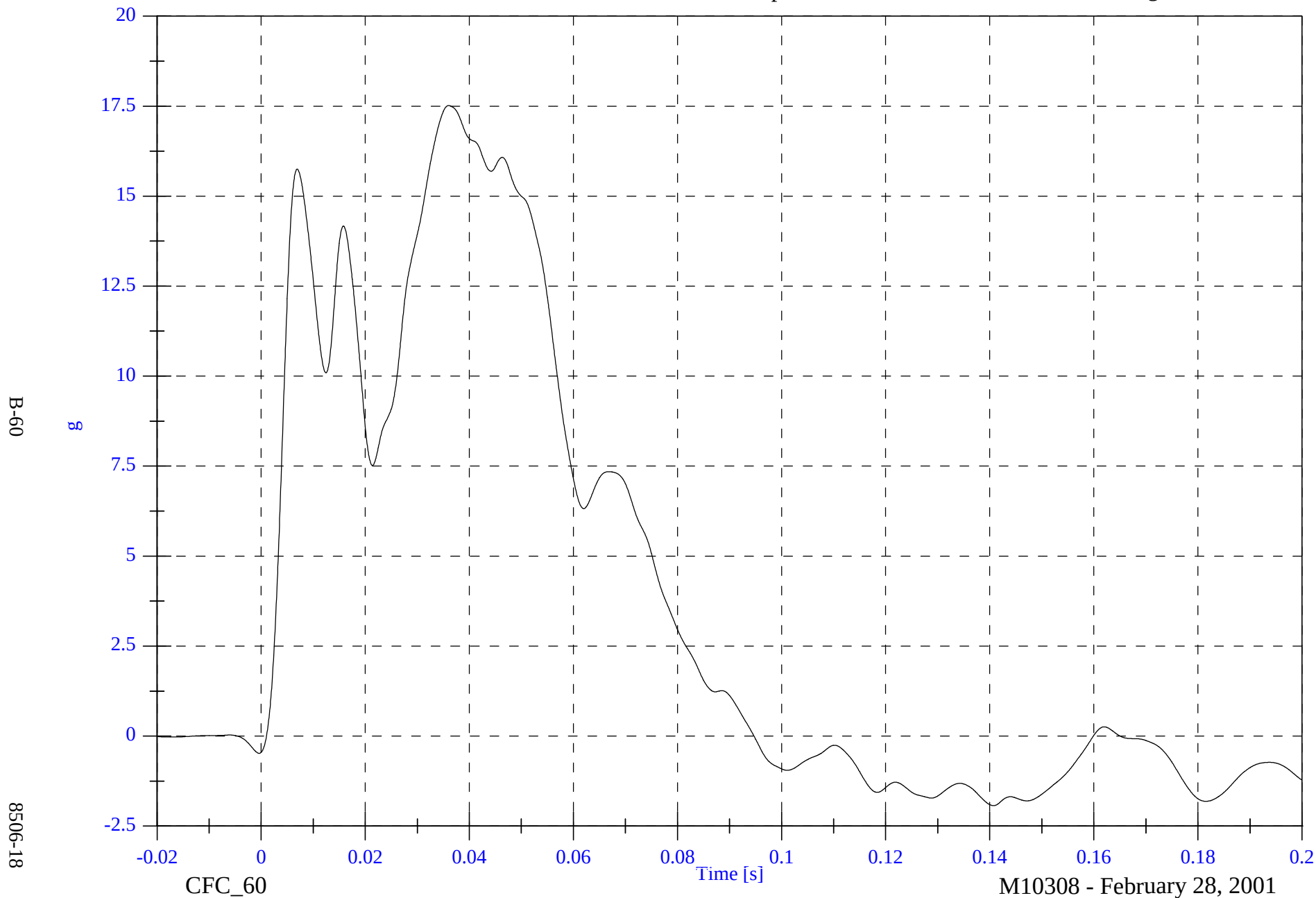


SNCAP Test 18 - 2001 Dodge Grand Caravan

A3 Rear Floorpan Y

Max: 17.5 [g] at 0.036 [s]

Min: -1.9 [g] at 0.141 [s]

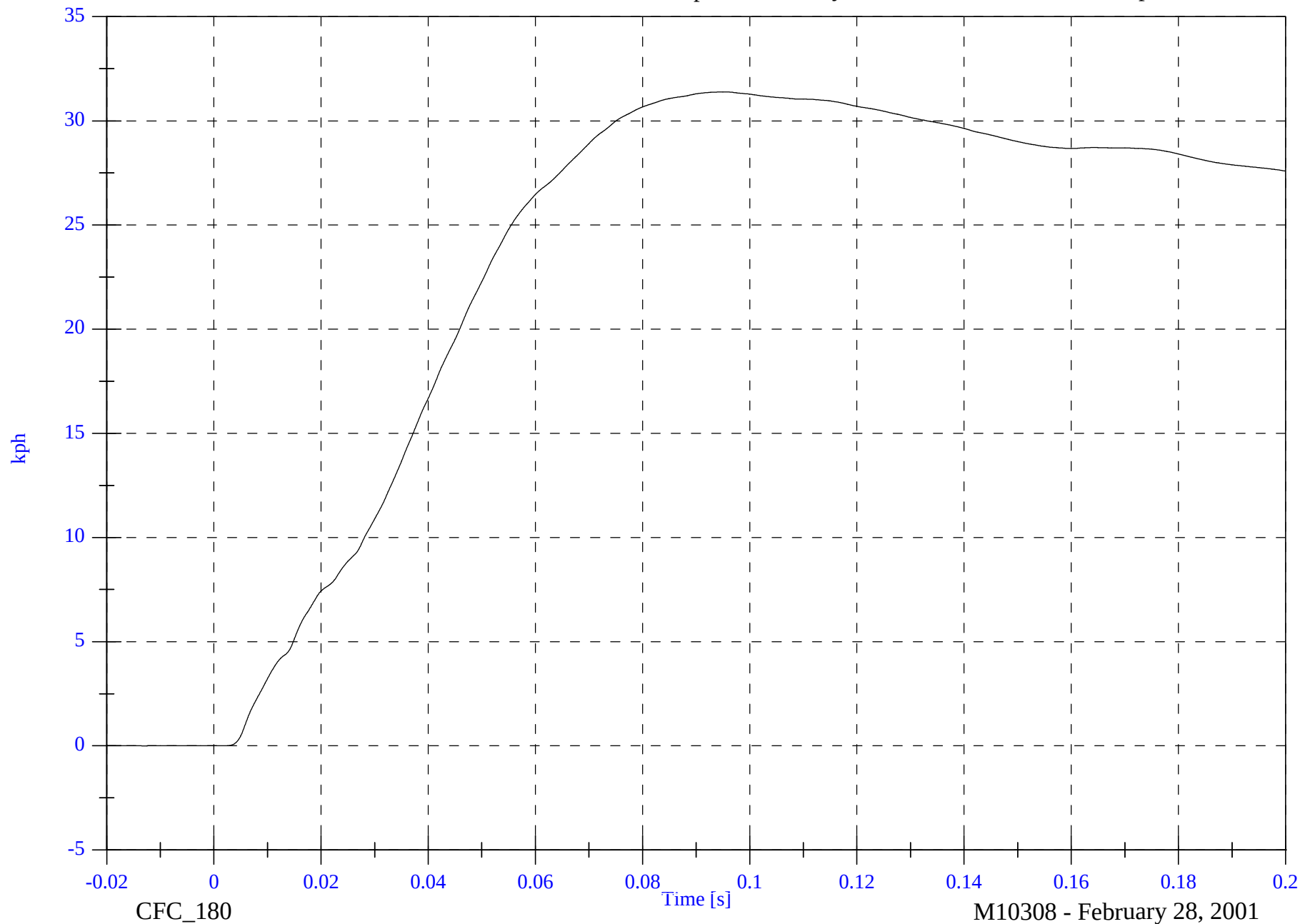


SNCAP Test 18 - 2001 Dodge Grand Caravan

A3 Rear Floorpan Y Velocity

Max: 31.4 [kph] at 0.095 [s]

Min: -0.0 [kph] at -0.013 [s]



B-61

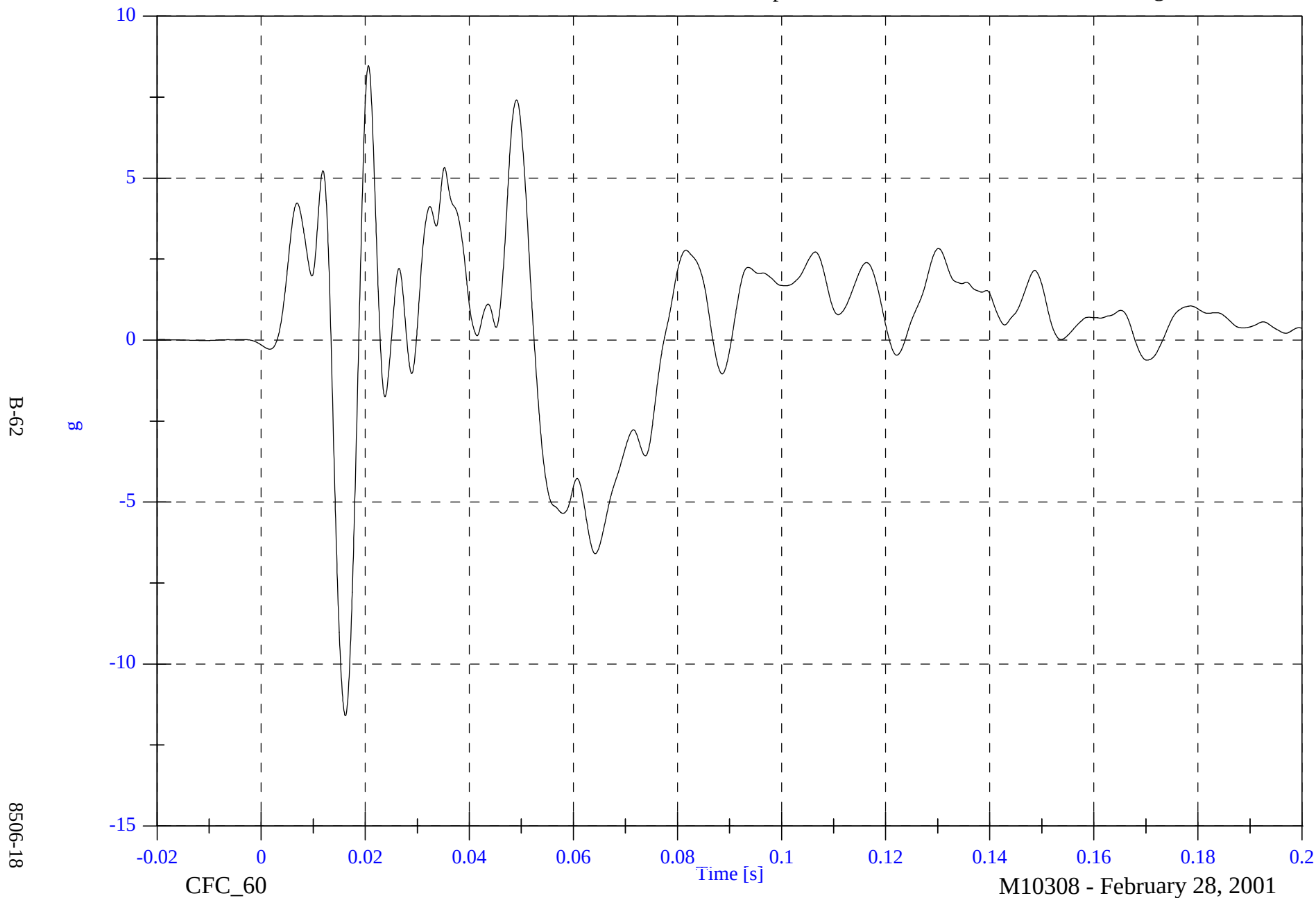
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A3 Rear Floorpan Z

Max: 8.5 [g] at 0.021 [s]

Min: -11.6 [g] at 0.016 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

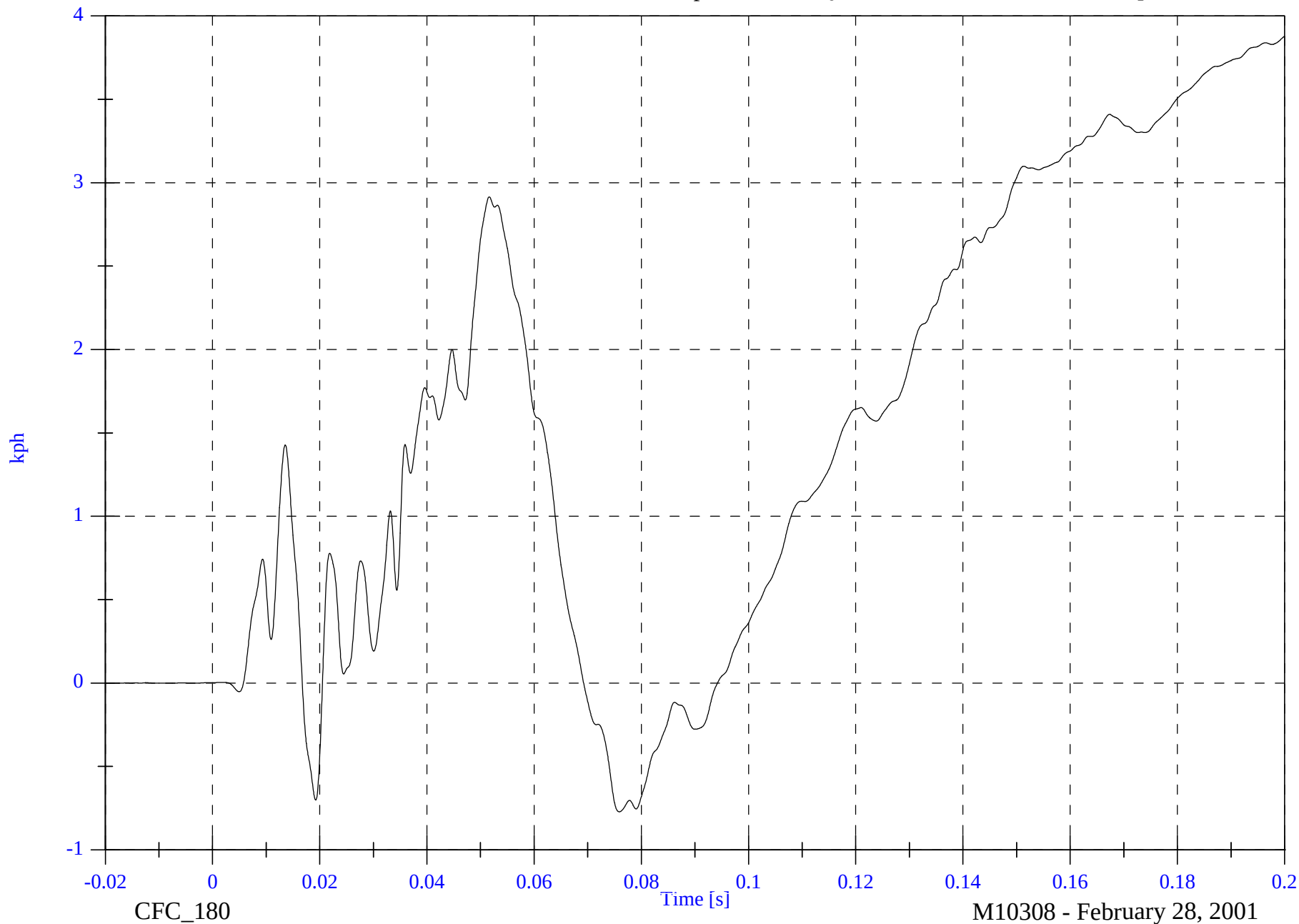
A3 Rear Floorpan Z Velocity

Max: 3.9 [kph] at 0.200 [s]

Min: -0.8 [kph] at 0.076 [s]

B-63

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

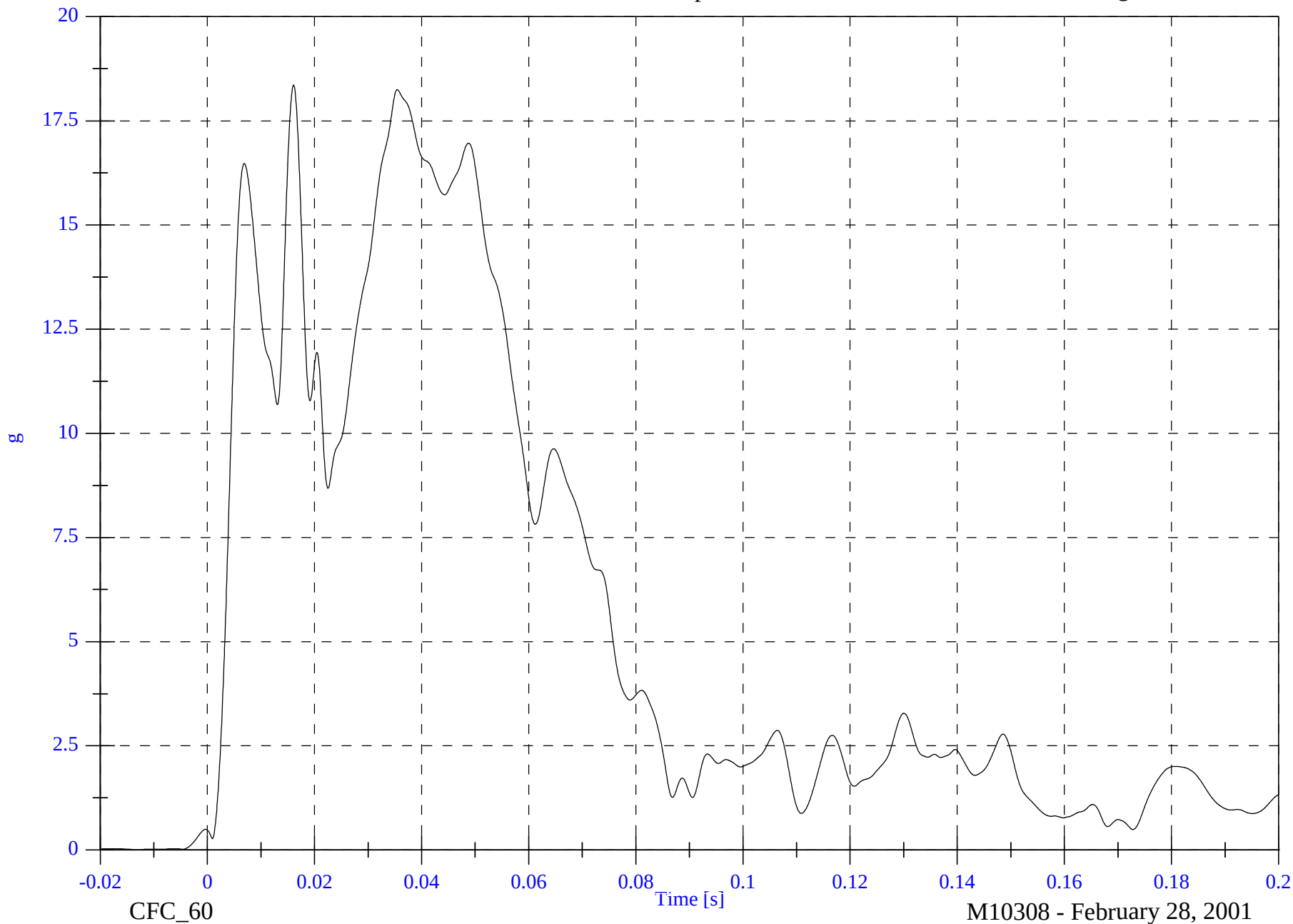
A3 Rear Floorpan Resultant

Max: 18.4 [g] at 0.016 [s]

Min: 0.0 [g] at -0.013 [s]

B-64

8506-18

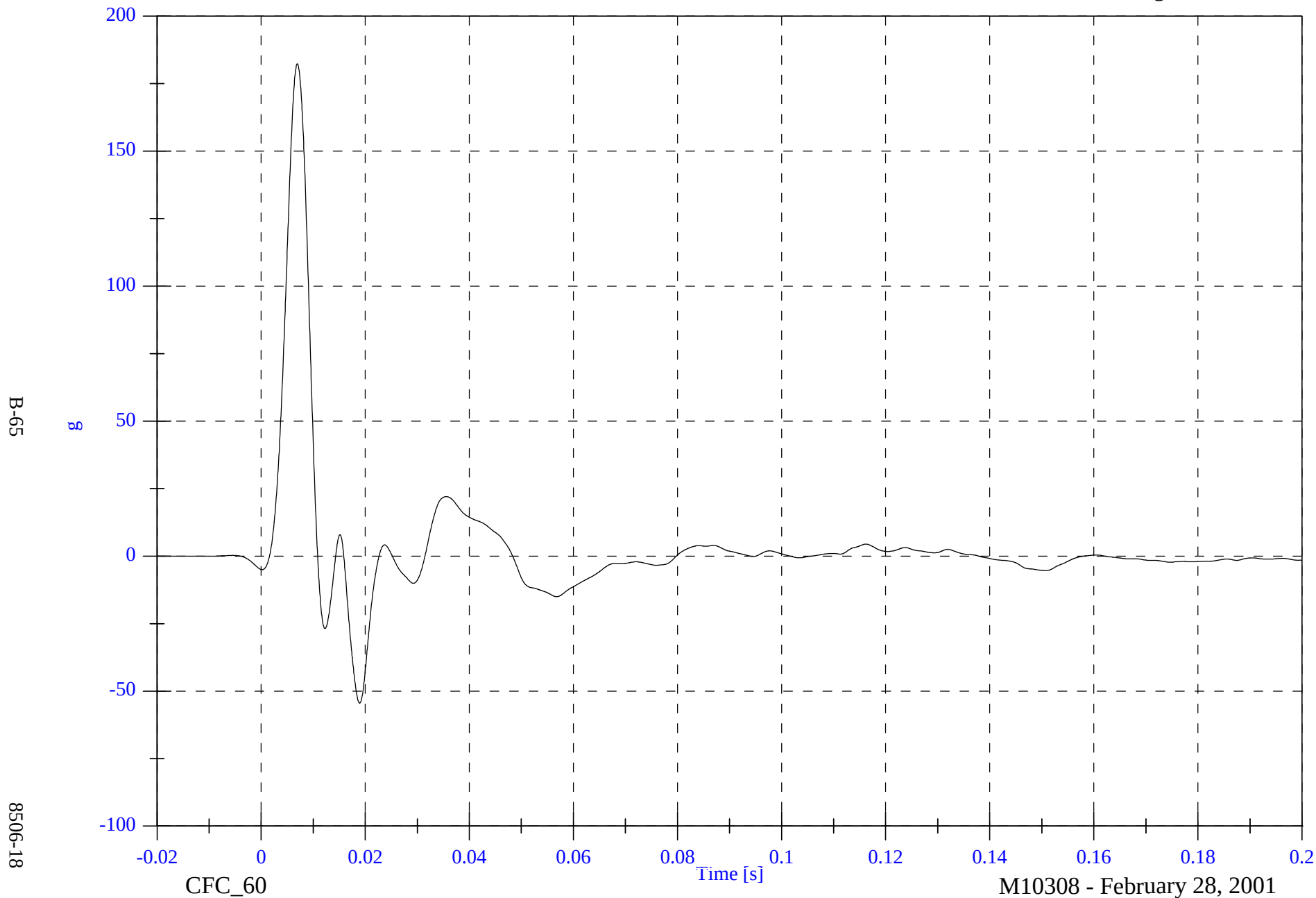


SNCAP Test 18 - 2001 Dodge Grand Caravan

A4 Left Rear Sill Y

Max: 182.4 [g] at 0.007 [s]

Min: -54.5 [g] at 0.019 [s]

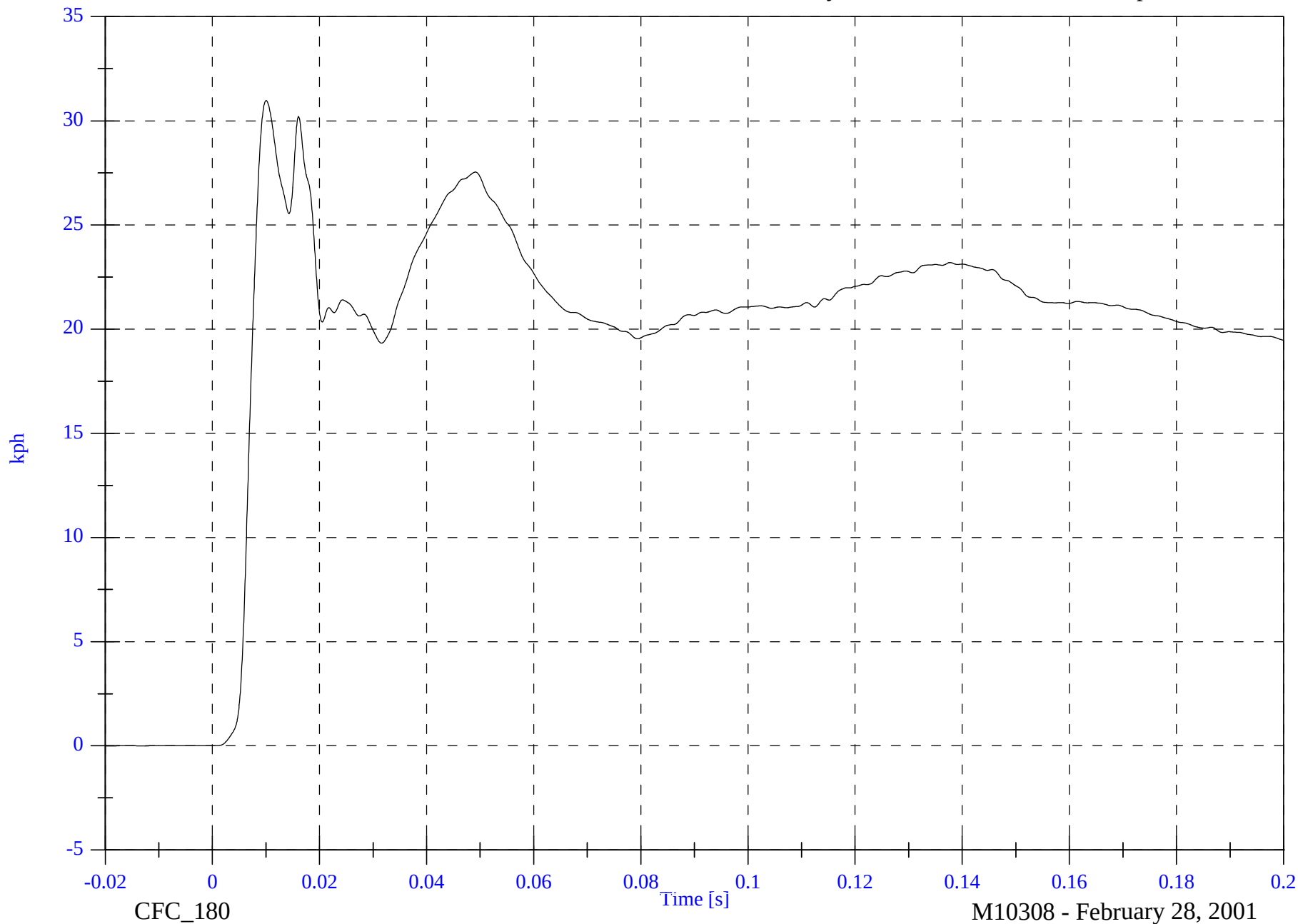


SNCAP Test 18 - 2001 Dodge Grand Caravan

A4 Left Rear Sill Y Velocity

Max: 31.0 [kph] at 0.010 [s]

Min: -0.0 [kph] at -0.020 [s]



B-66

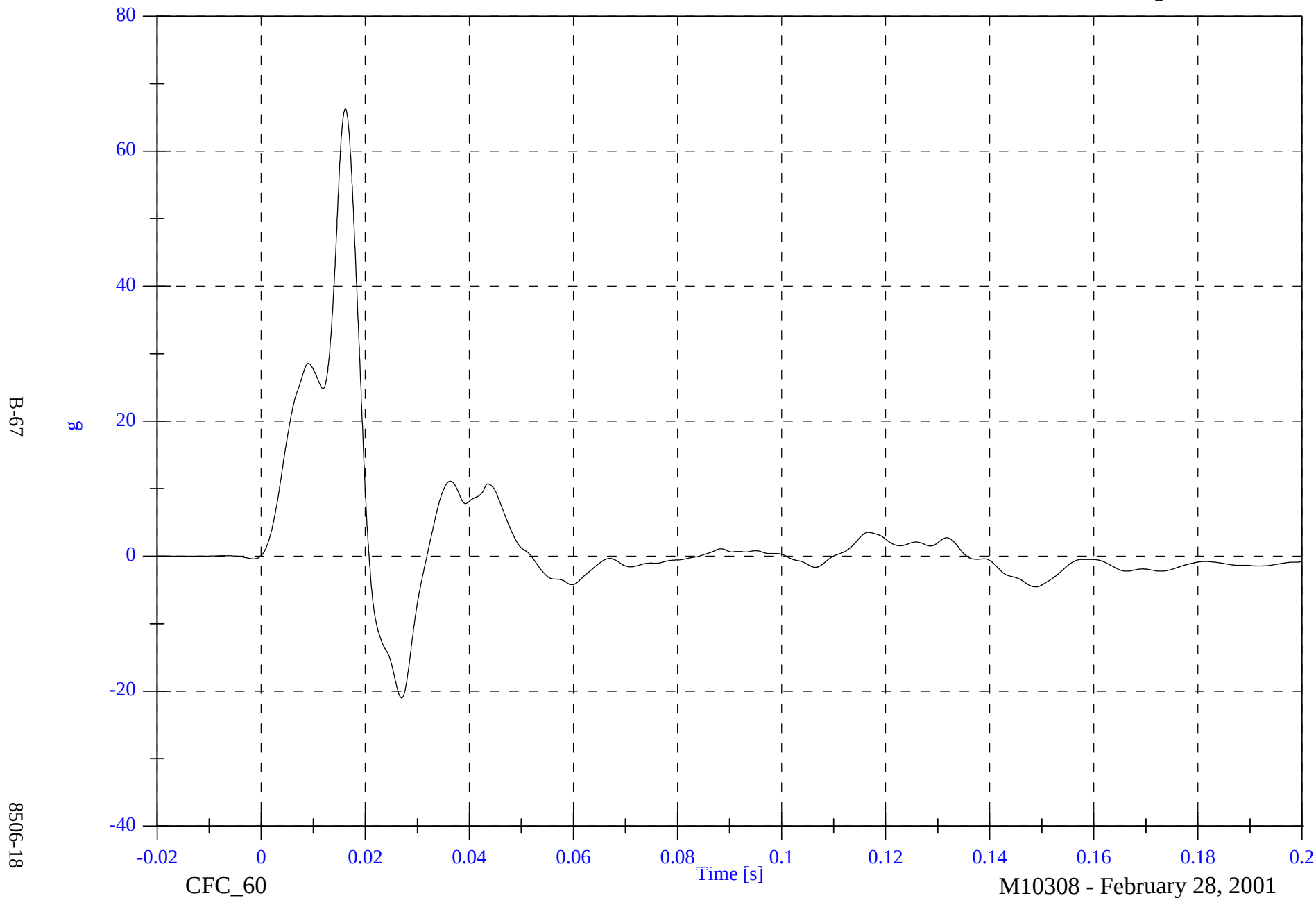
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A5 Left Front Sill Y

Max: 66.3 [g] at 0.016 [s]

Min: -21.0 [g] at 0.027 [s]

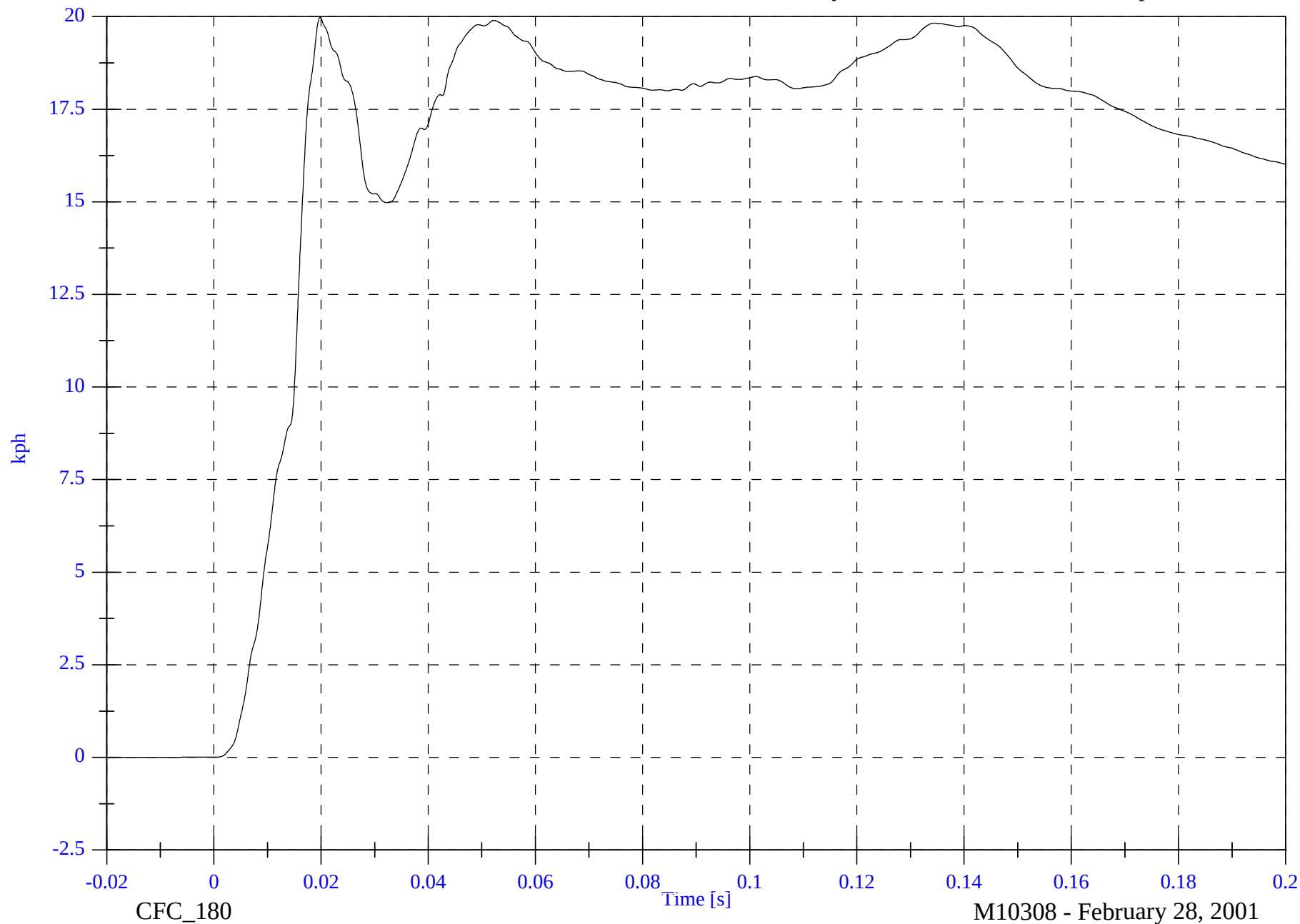


SNCAP Test 18 - 2001 Dodge Grand Caravan

A5 Left Front Sill Y Velocity

Max: 20.0 [kph] at 0.020 [s]

Min: -0.0 [kph] at -0.018 [s]



B-68

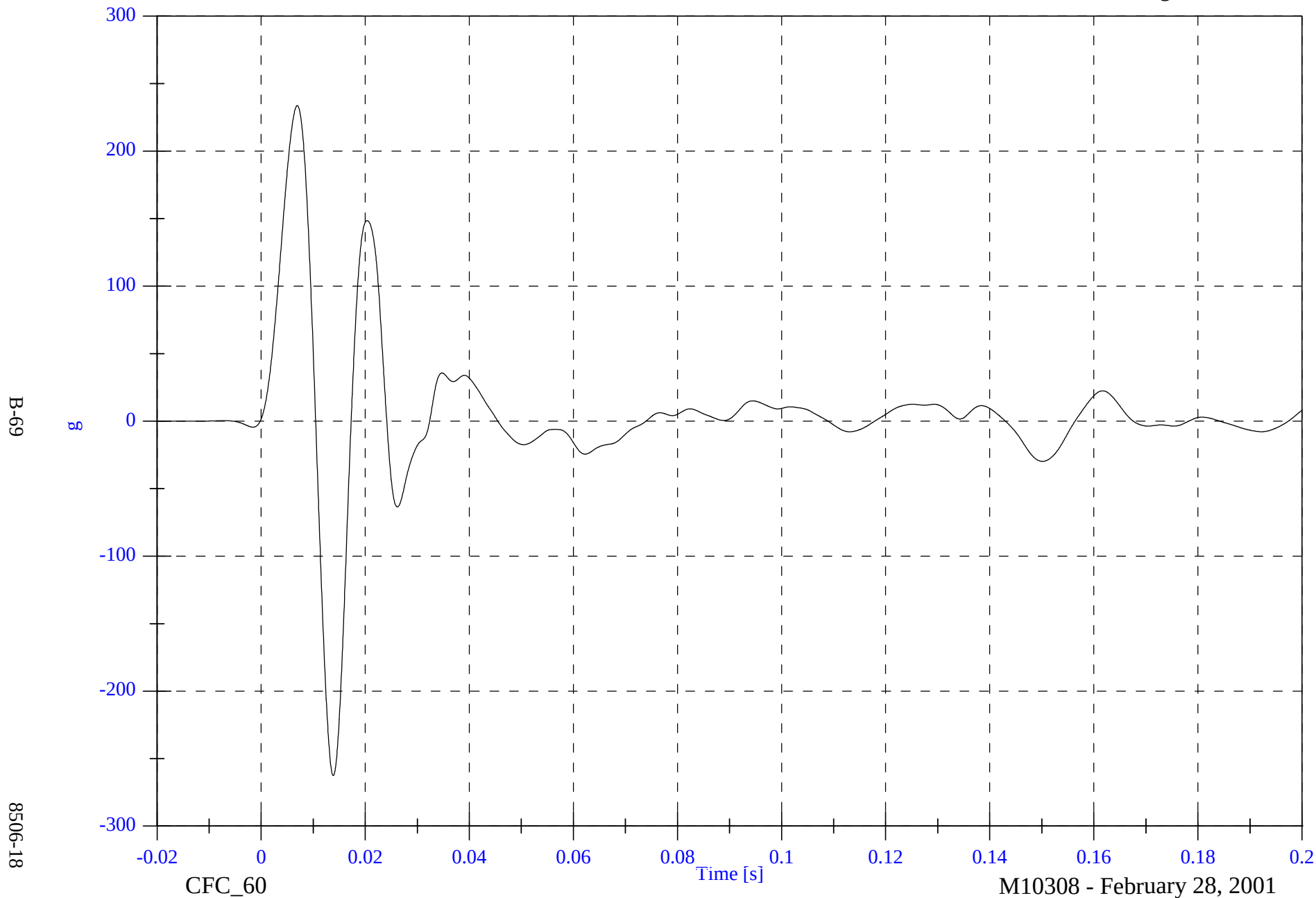
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A6 Left Front Door CL Y

Max: 233.8 [g] at 0.007 [s]

Min: -262.7 [g] at 0.014 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

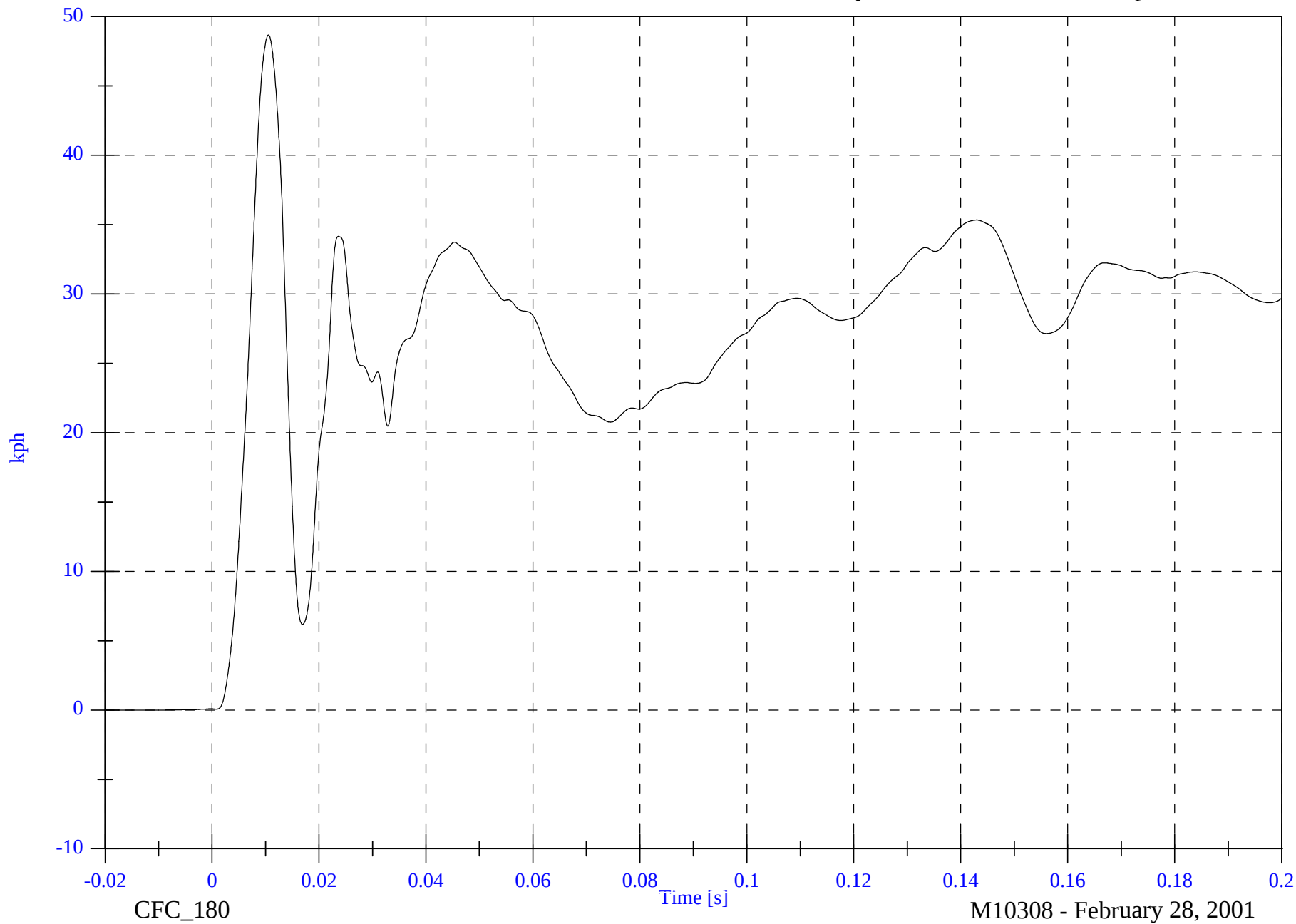
A6 Left Front Door CL Y Velocity

Max: 48.7 [kph] at 0.011 [s]

Min: -0.0 [kph] at -0.020 [s]

B-70

8506-18

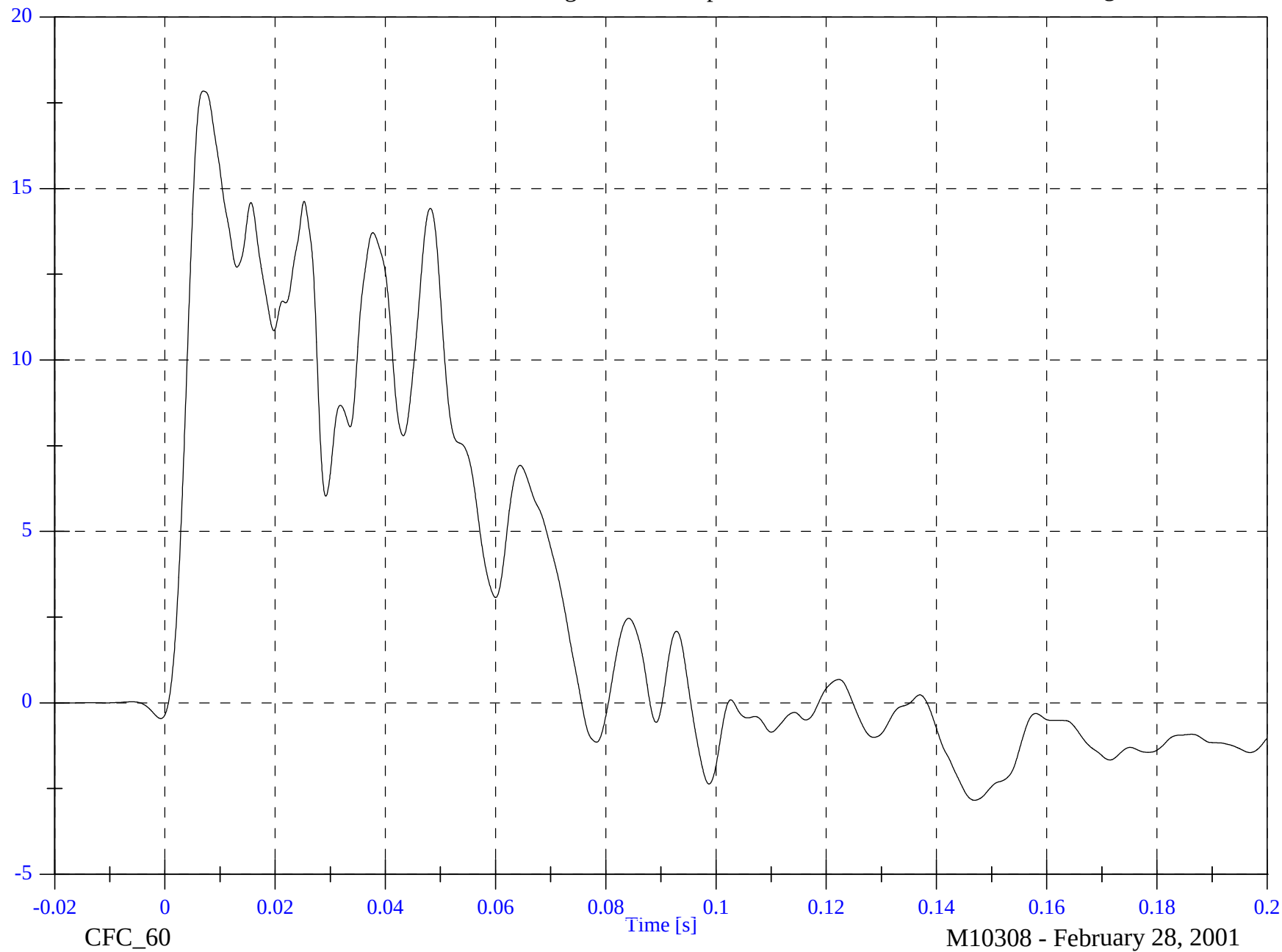


SNCAP Test 18 - 2001 Dodge Grand Caravan

A7 Right Rear Compartment Y

Max: 17.8 [g] at 0.007 [s]

Min: -2.8 [g] at 0.147 [s]



B-71

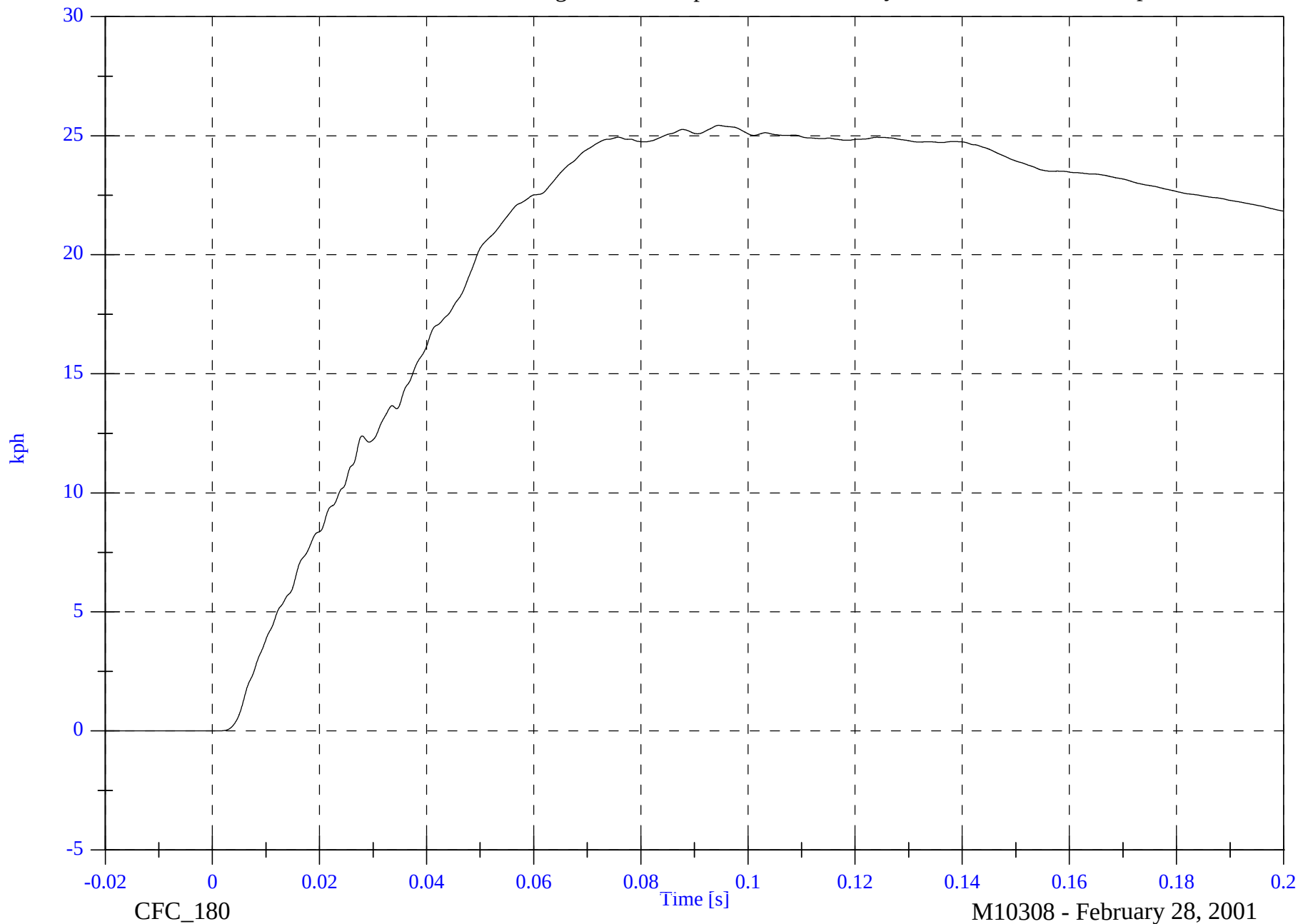
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A7 Right Rear Compartment Y Velocity

Max: 25.4 [kph] at 0.095 [s]

Min: -0.0 [kph] at -0.019 [s]



B-72

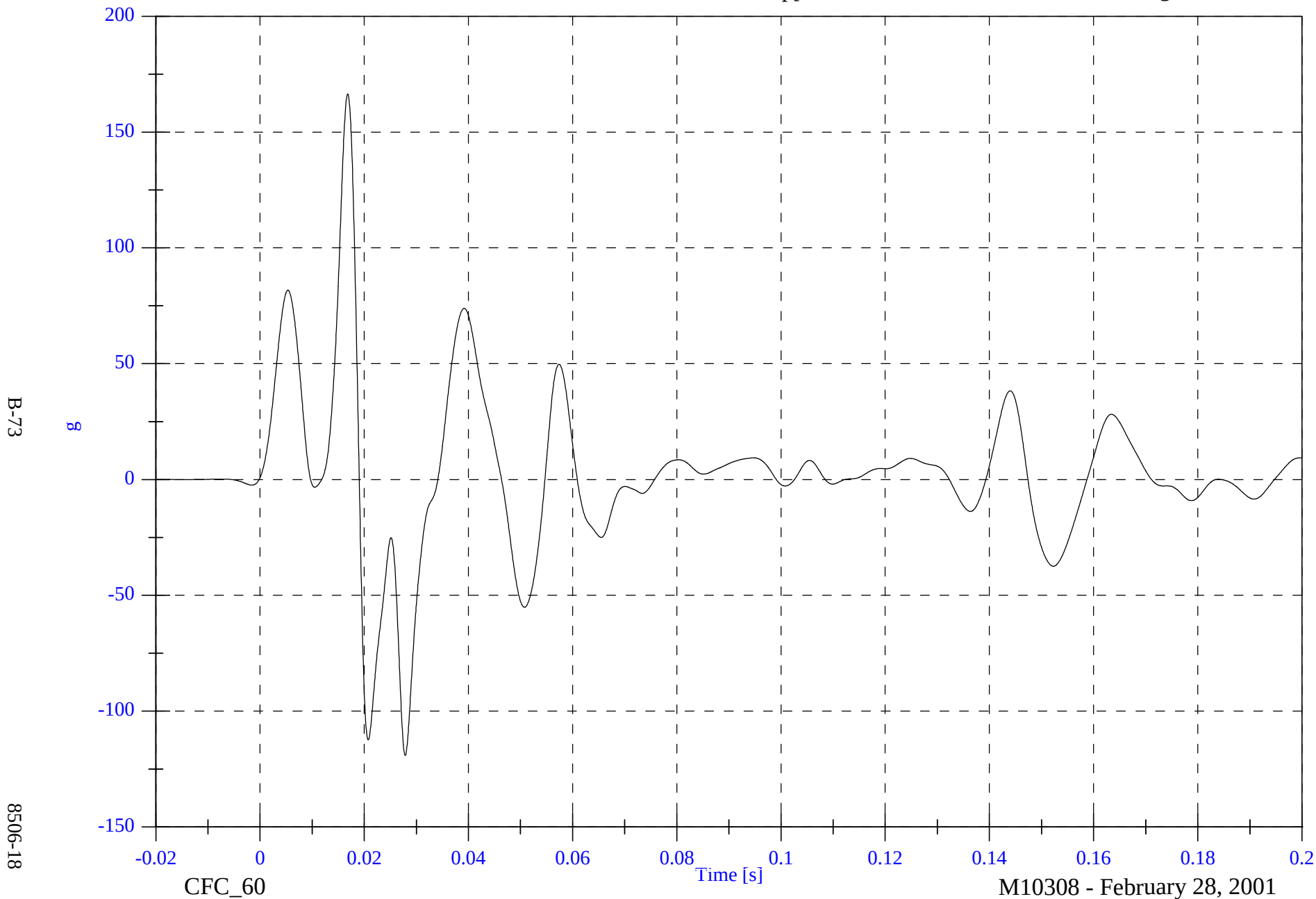
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A9 Left Front Door Upper C/L Y

Max: 166.4 [g] at 0.017 [s]

Min: -119.1 [g] at 0.028 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

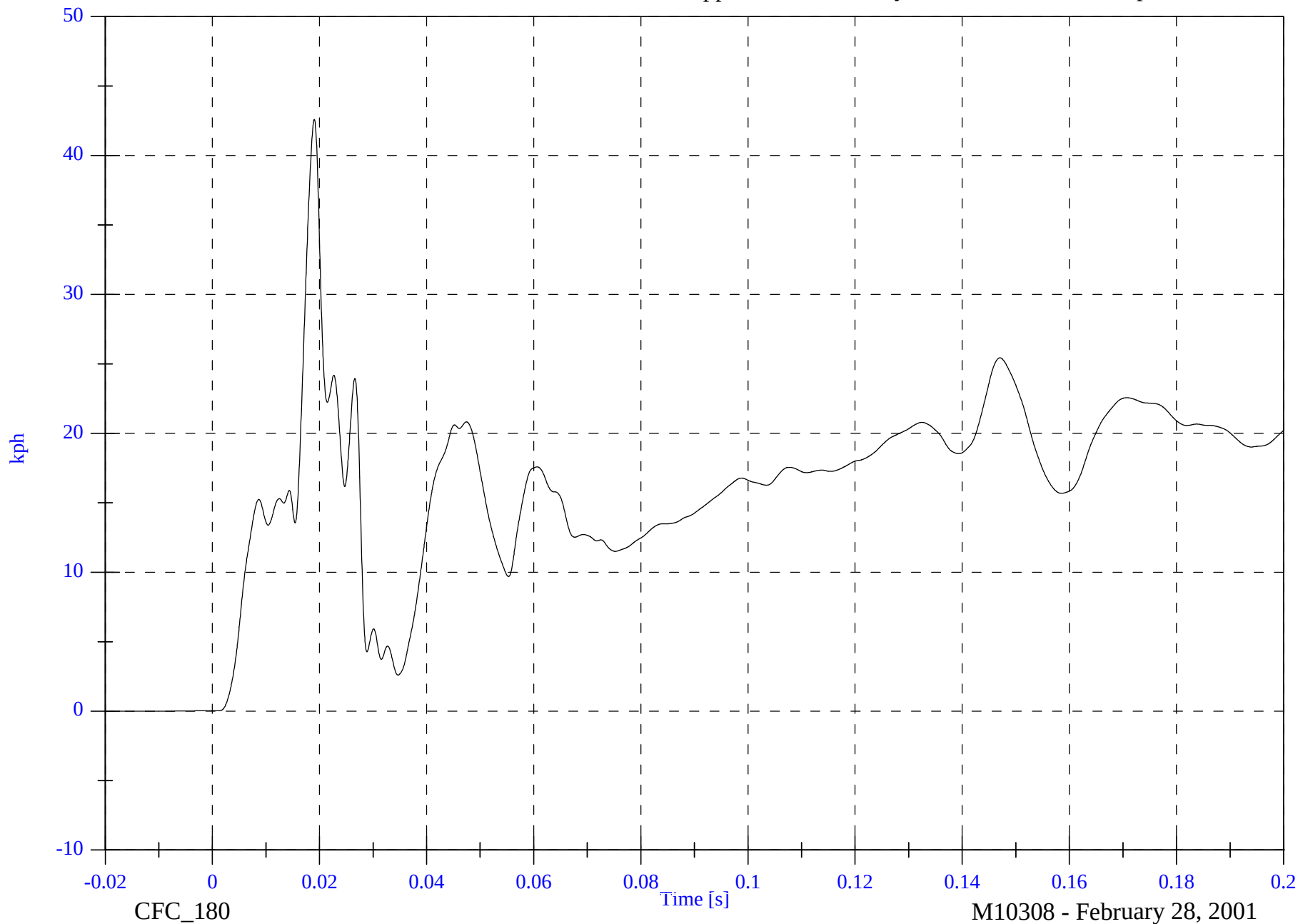
A9 Left Front Door Upper C/L Y Velocity

Max: 42.6 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.020 [s]

B-74

8506-18

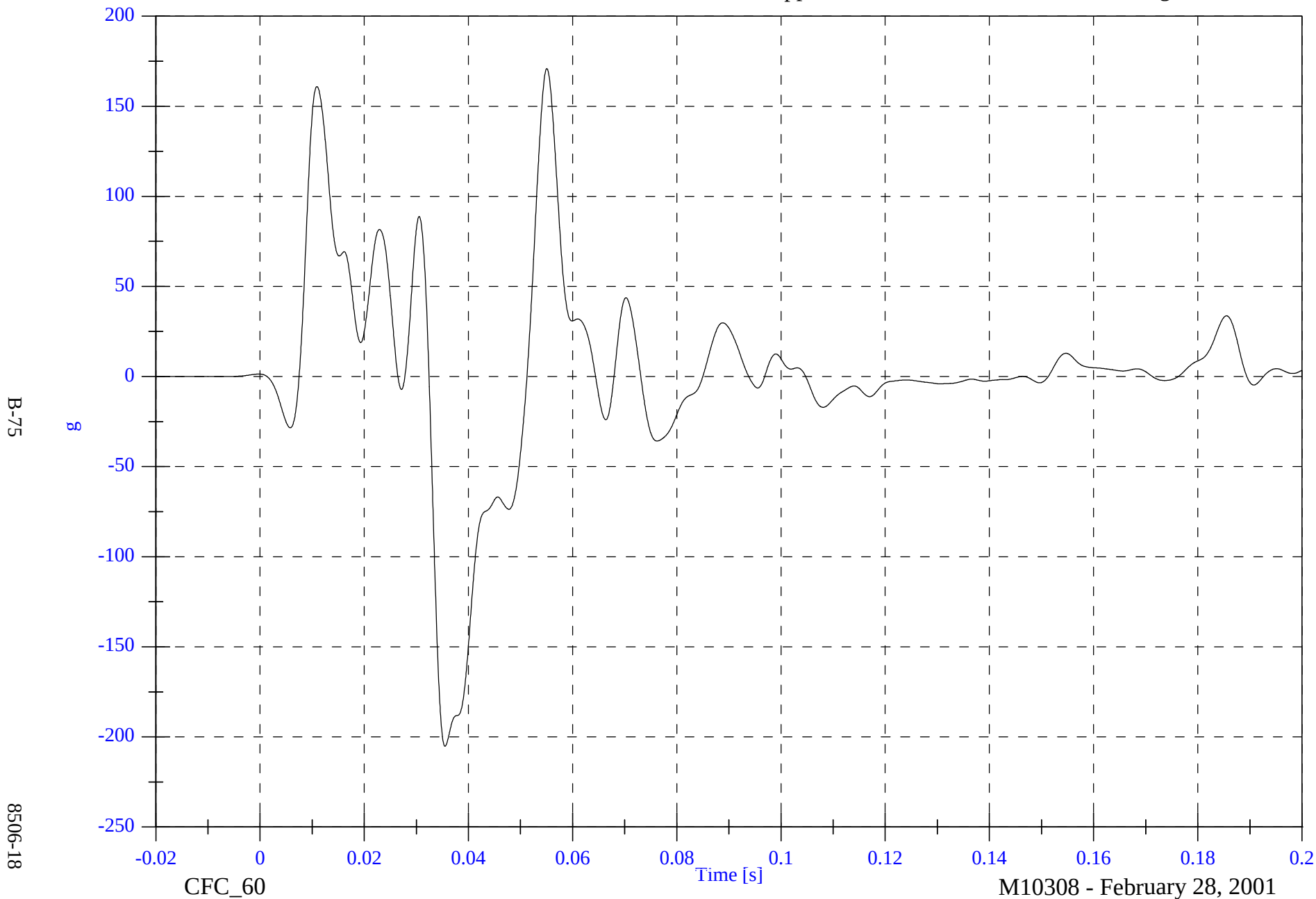


SNCAP Test 18 - 2001 Dodge Grand Caravan

A11 Left Rear Door Upper C/L Y

Max: 170.9 [g] at 0.055 [s]

Min: -205.2 [g] at 0.036 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

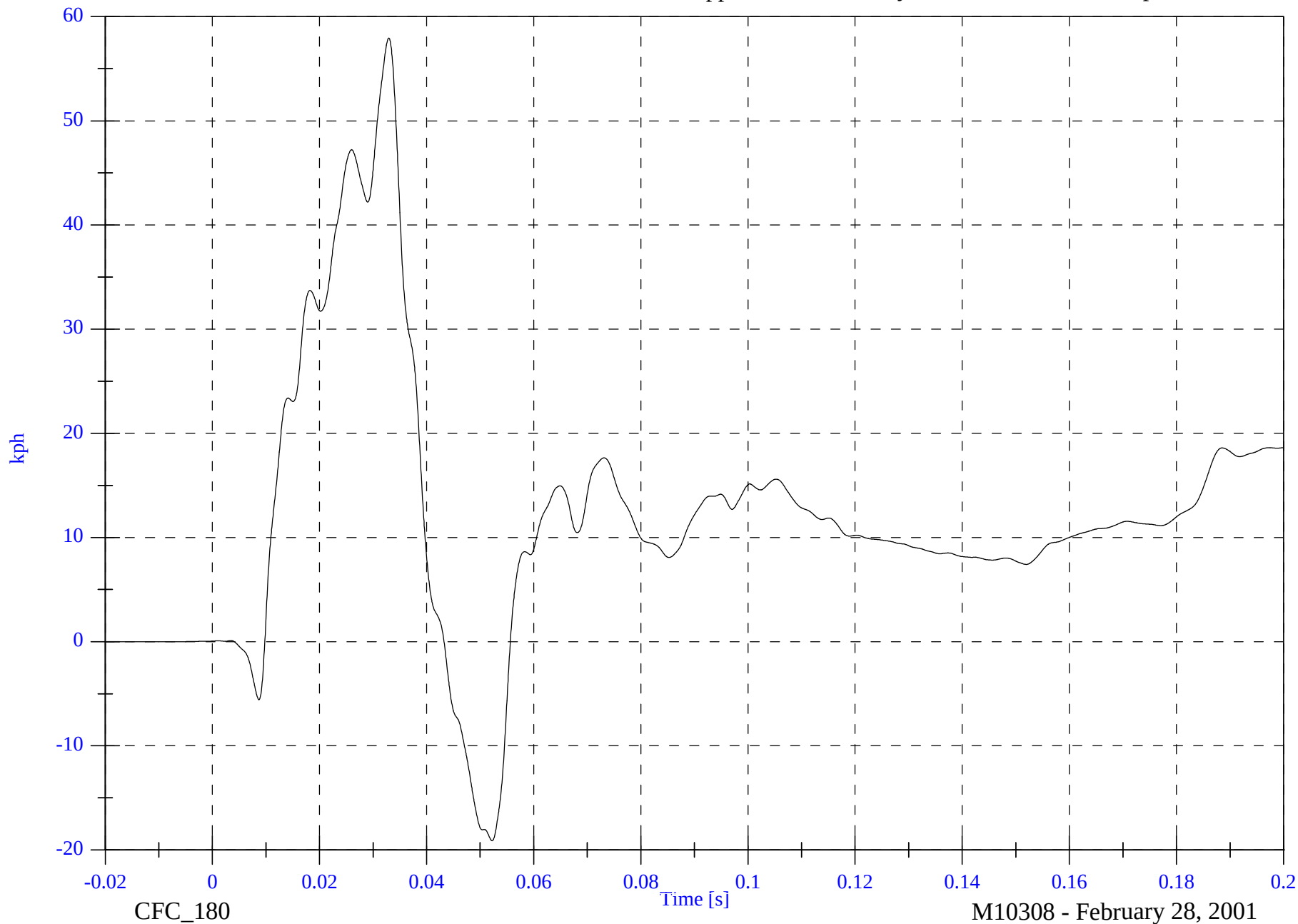
A11 Left Rear Door Upper C/L Y Velocity

Max: 57.9 [kph] at 0.033 [s]

Min: -19.1 [kph] at 0.052 [s]

B-76

8506-18

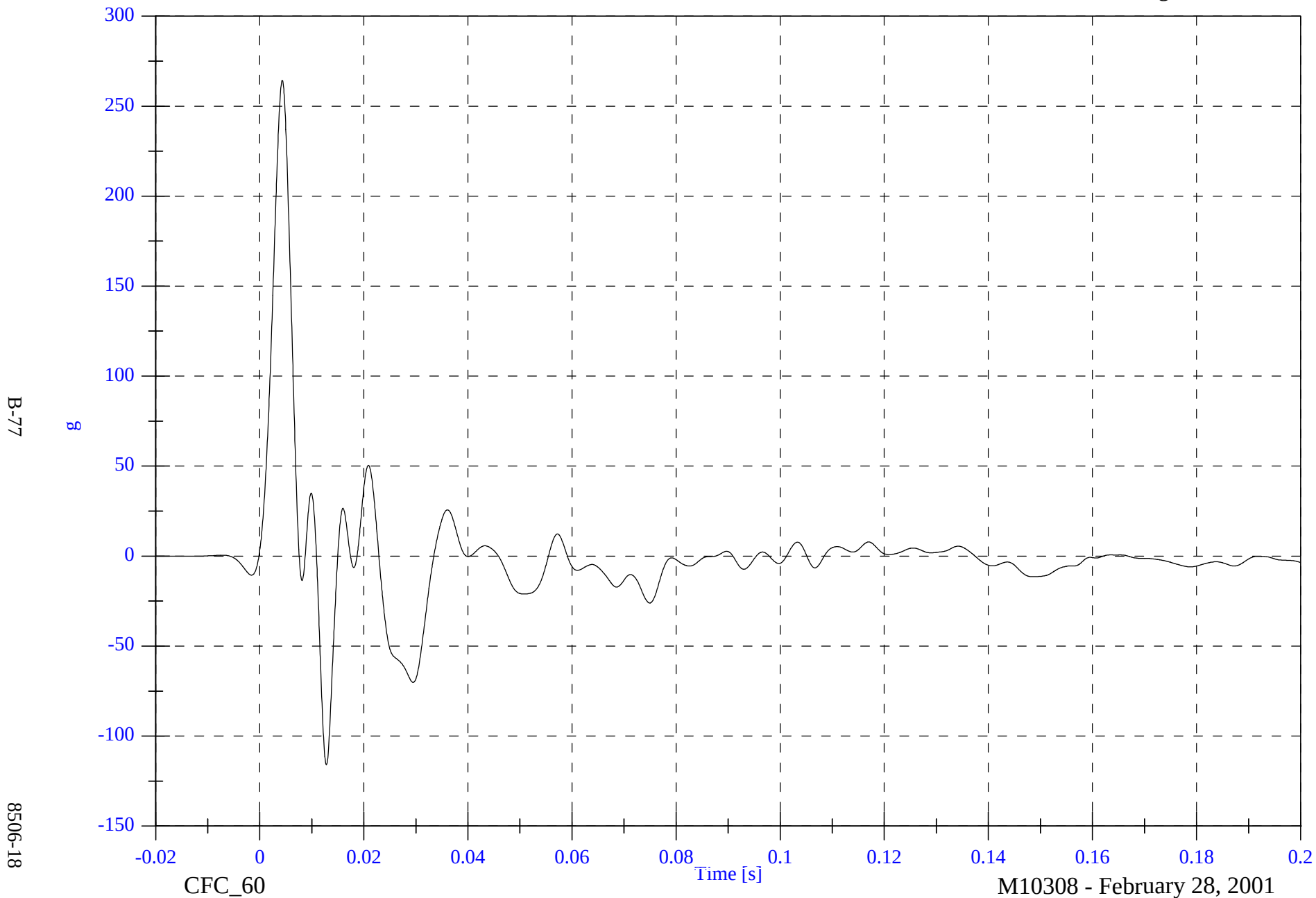


SNCAP Test 18 - 2001 Dodge Grand Caravan

A12 Left Lower B Post Y

Max: 264.4 [g] at 0.004 [s]

Min: -116.0 [g] at 0.013 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

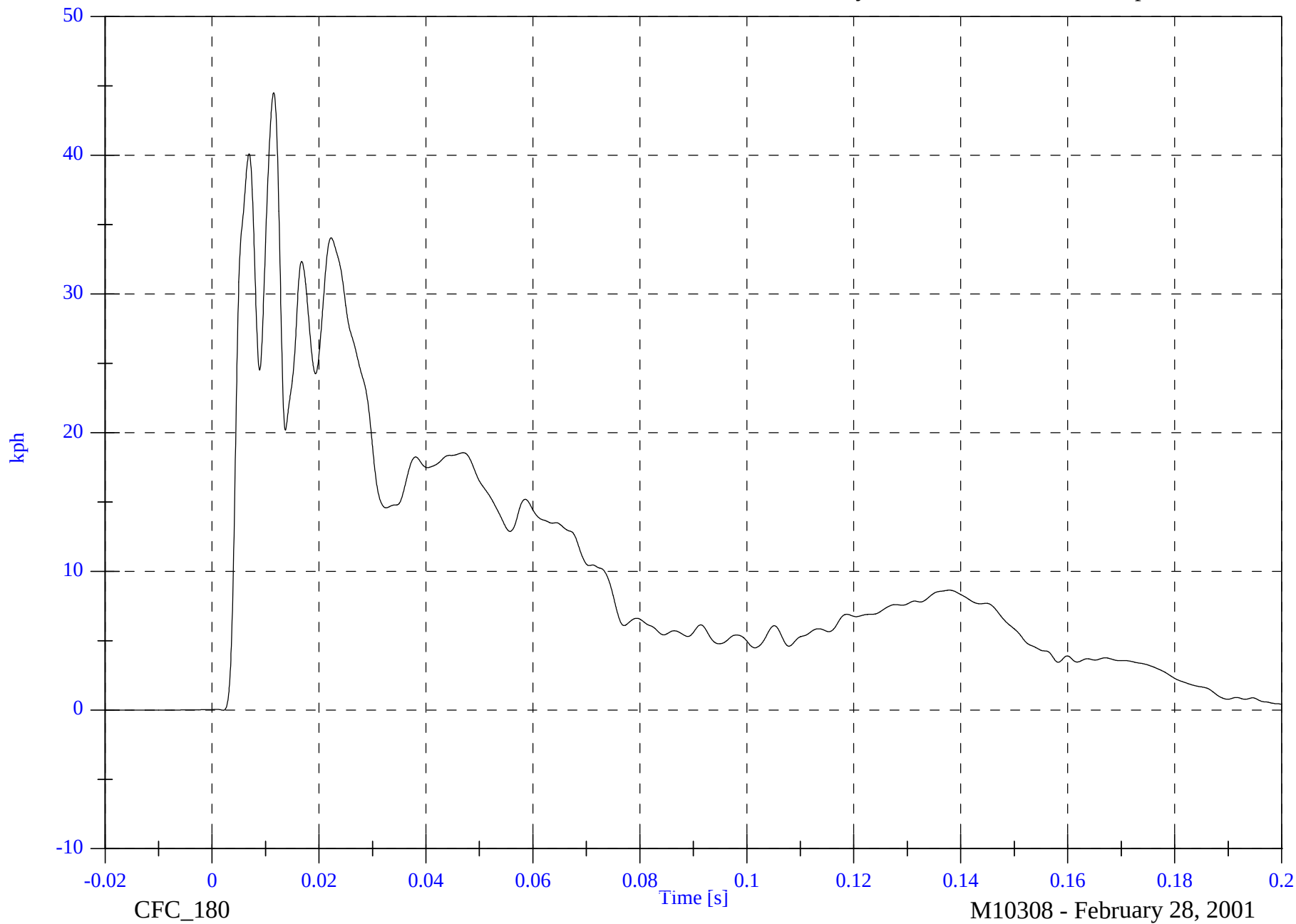
A12 Left Lower B Post Y Velocity

Max: 44.5 [kph] at 0.012 [s]

Min: -0.0 [kph] at 0.002 [s]

B-78

8506-18

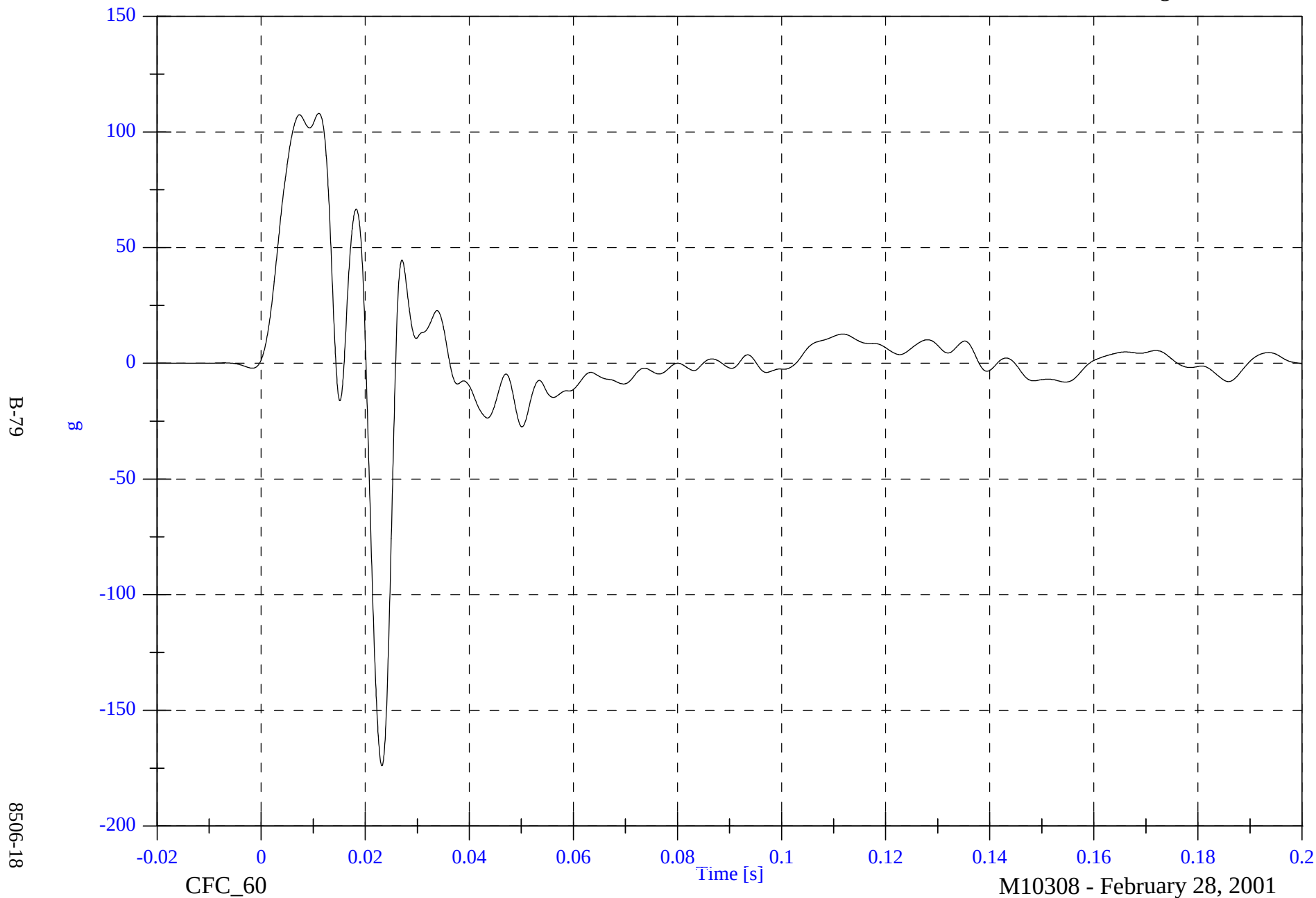


SNCAP Test 18 - 2001 Dodge Grand Caravan

A13 Left Mid B Post Y

Max: 108.0 [g] at 0.011 [s]

Min: -174.0 [g] at 0.023 [s]

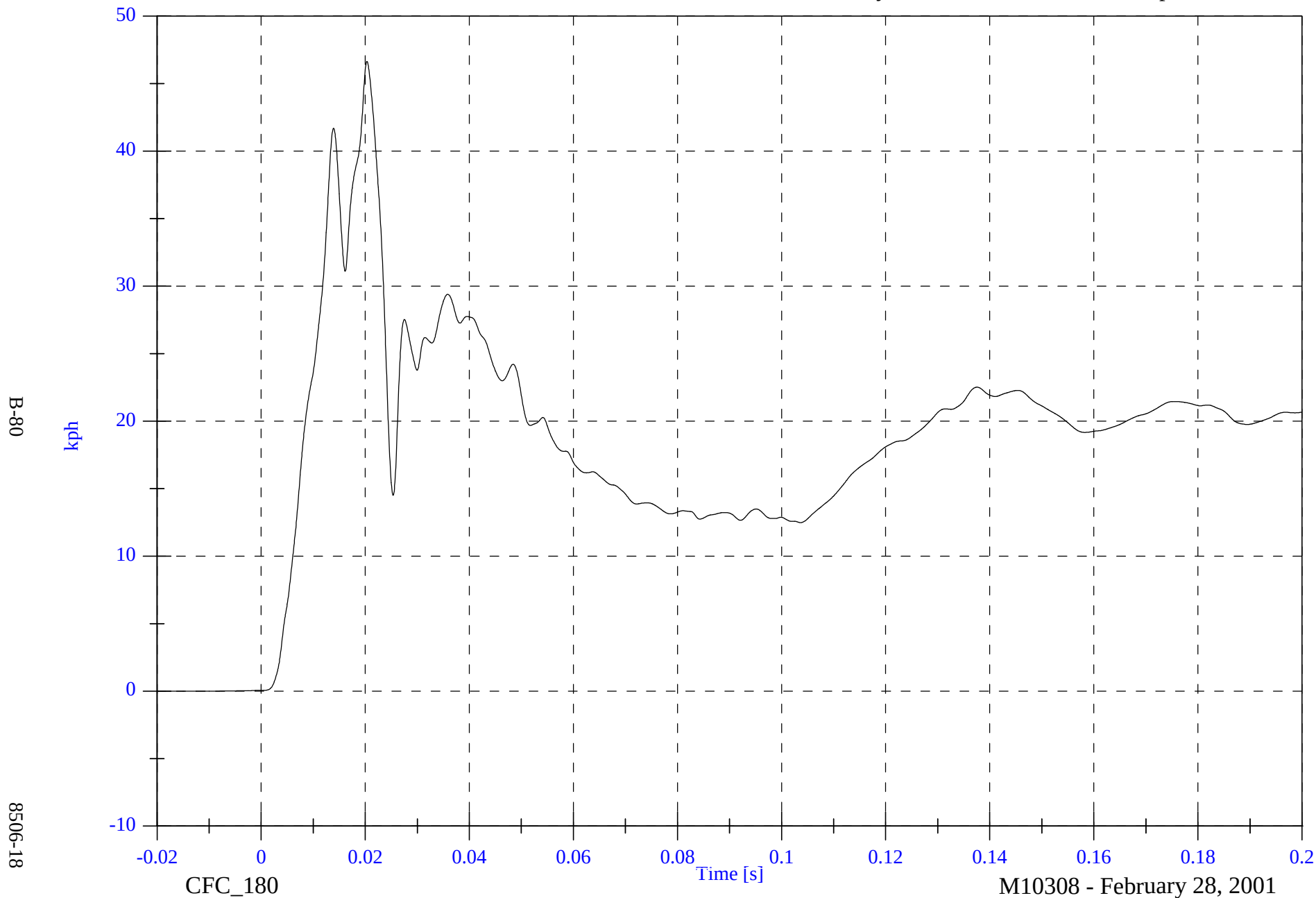


SNCAP Test 18 - 2001 Dodge Grand Caravan

A13 Left Mid B Post Y Velocity

Max: 46.7 [kph] at 0.020 [s]

Min: -0.0 [kph] at -0.017 [s]

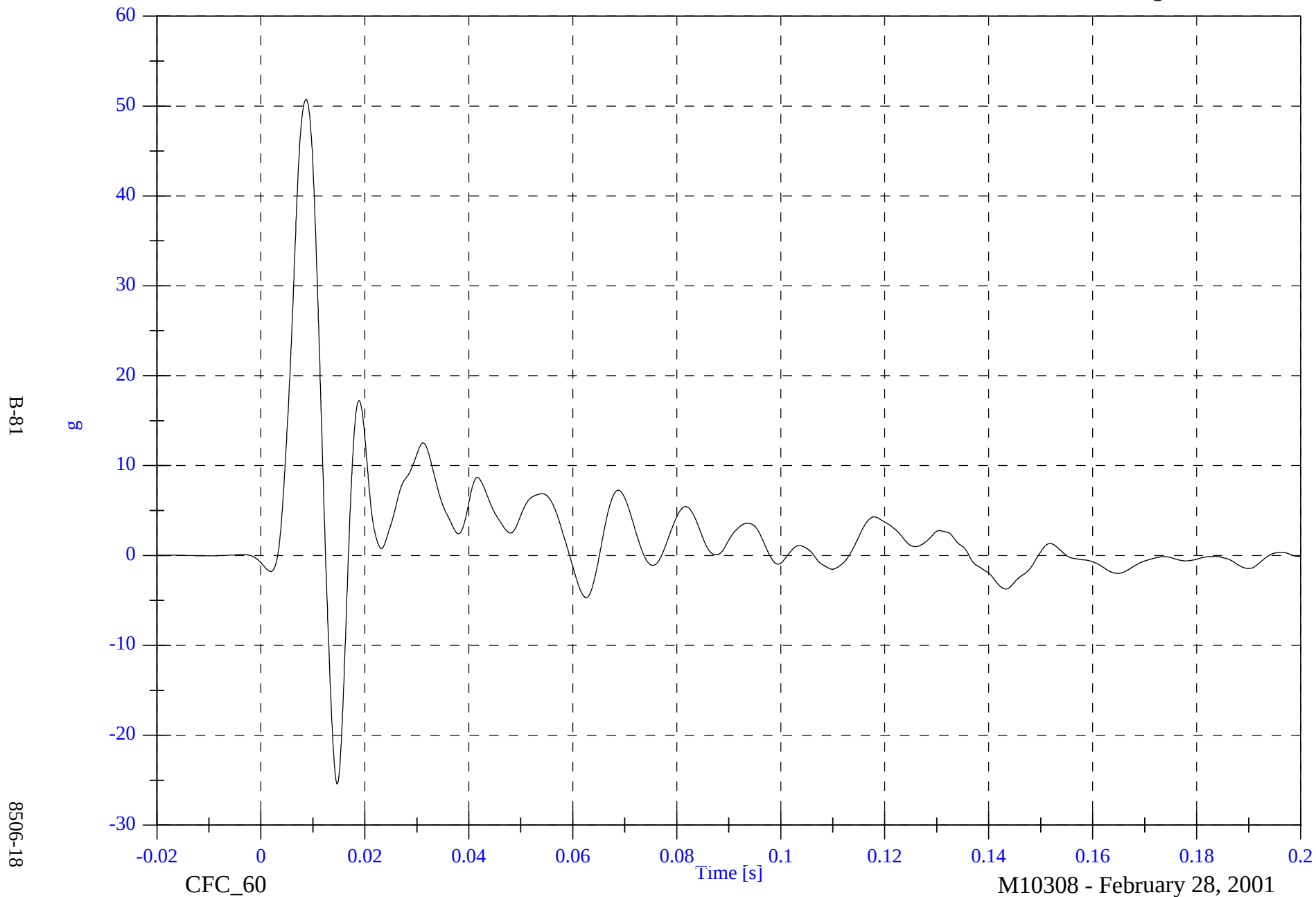


SNCAP Test 18 - 2001 Dodge Grand Caravan

A14 Left Lower A Post Y

Max: 50.7 [g] at 0.009 [s]

Min: -25.4 [g] at 0.015 [s]

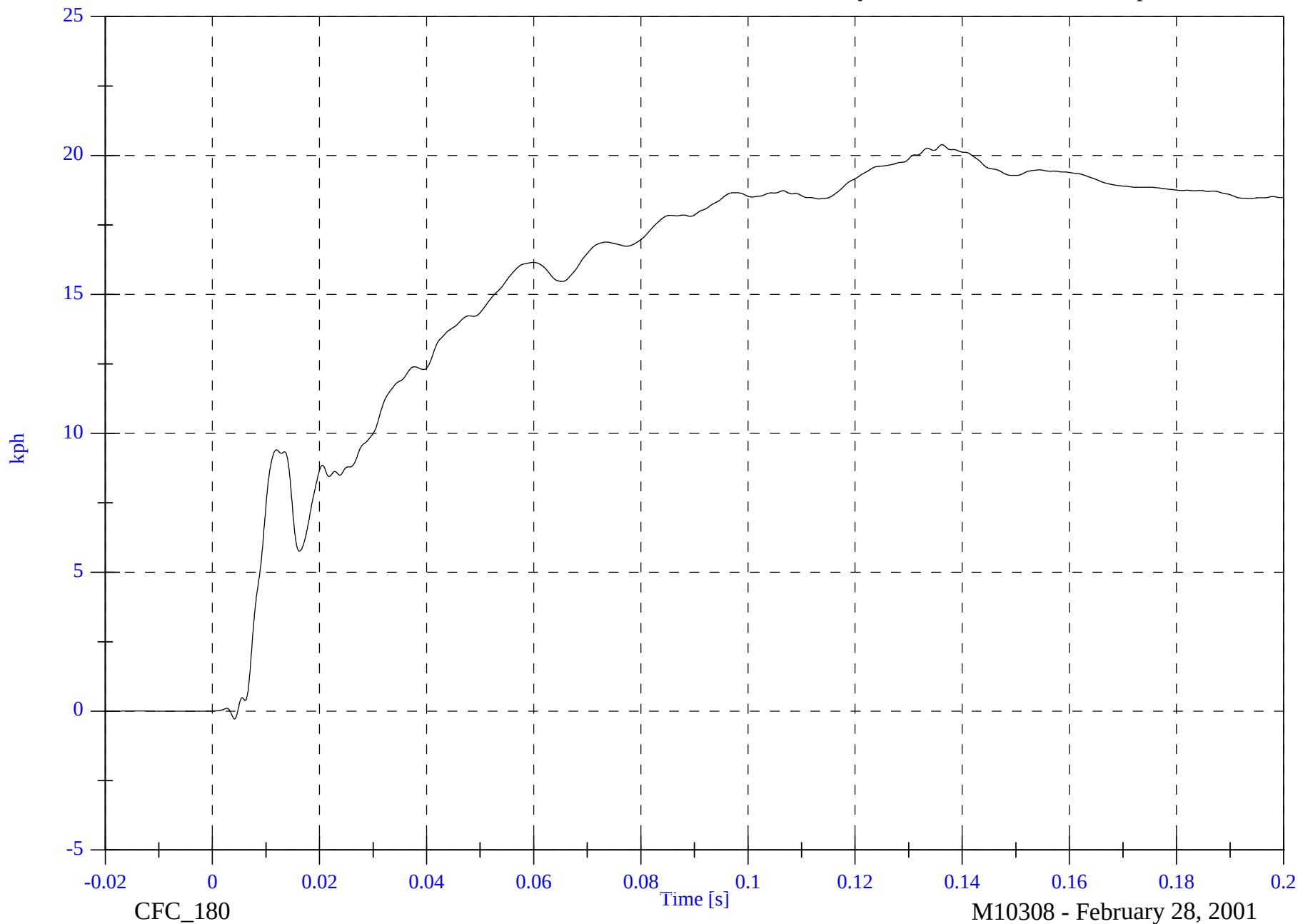


SNCAP Test 18 - 2001 Dodge Grand Caravan

A14 Left Lower A Post Y Velocity

Max: 20.4 [kph] at 0.136 [s]

Min: -0.3 [kph] at 0.004 [s]



B-82

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

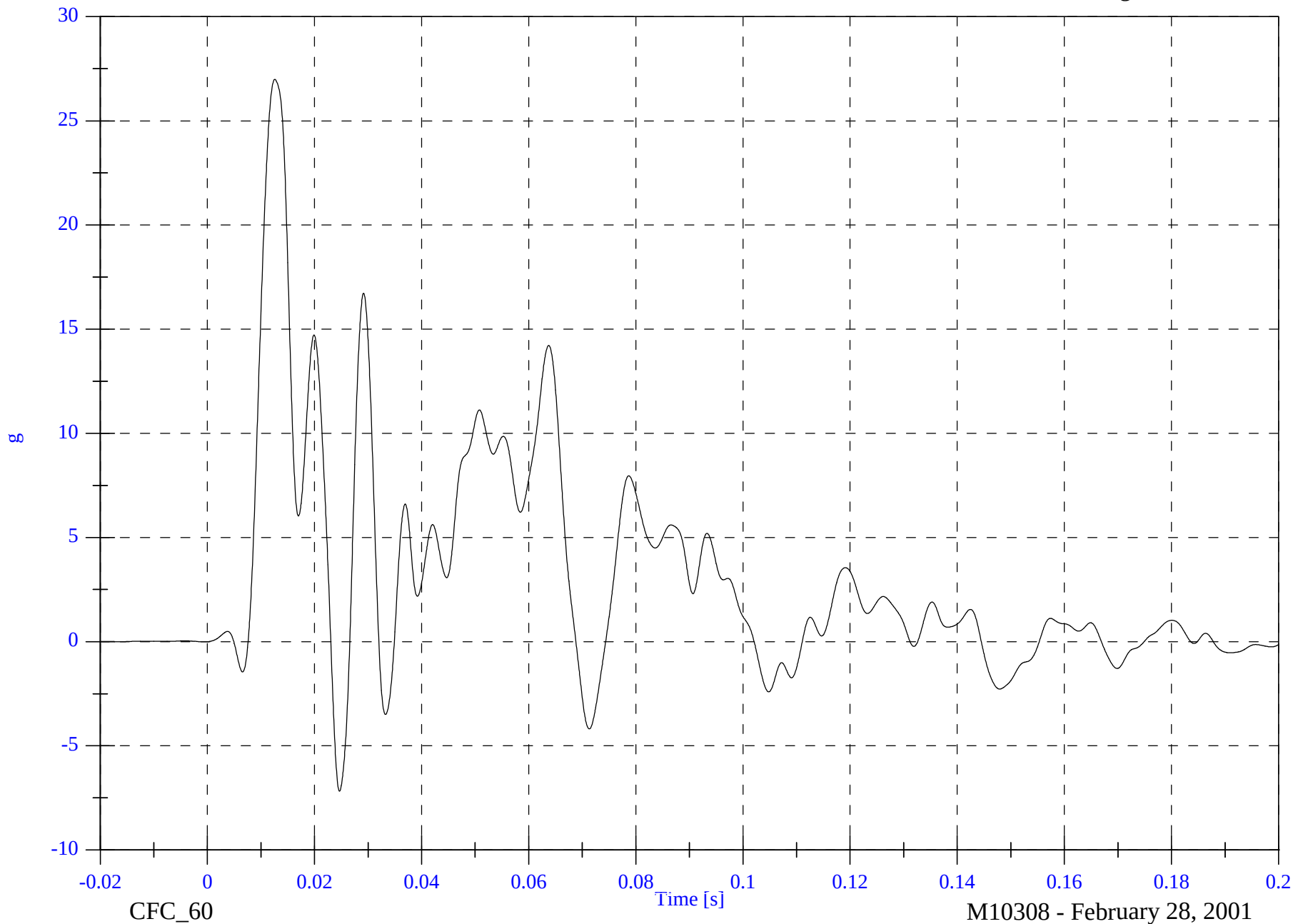
A15 Left Mid A Post Y

Max: 27.0 [g] at 0.013 [s]

Min: -7.2 [g] at 0.025 [s]

B-83

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

A15 Left Mid A Post Y Velocity

Max: 22.2 [kph] at 0.144 [s]

Min: -0.2 [kph] at 0.009 [s]



B-84

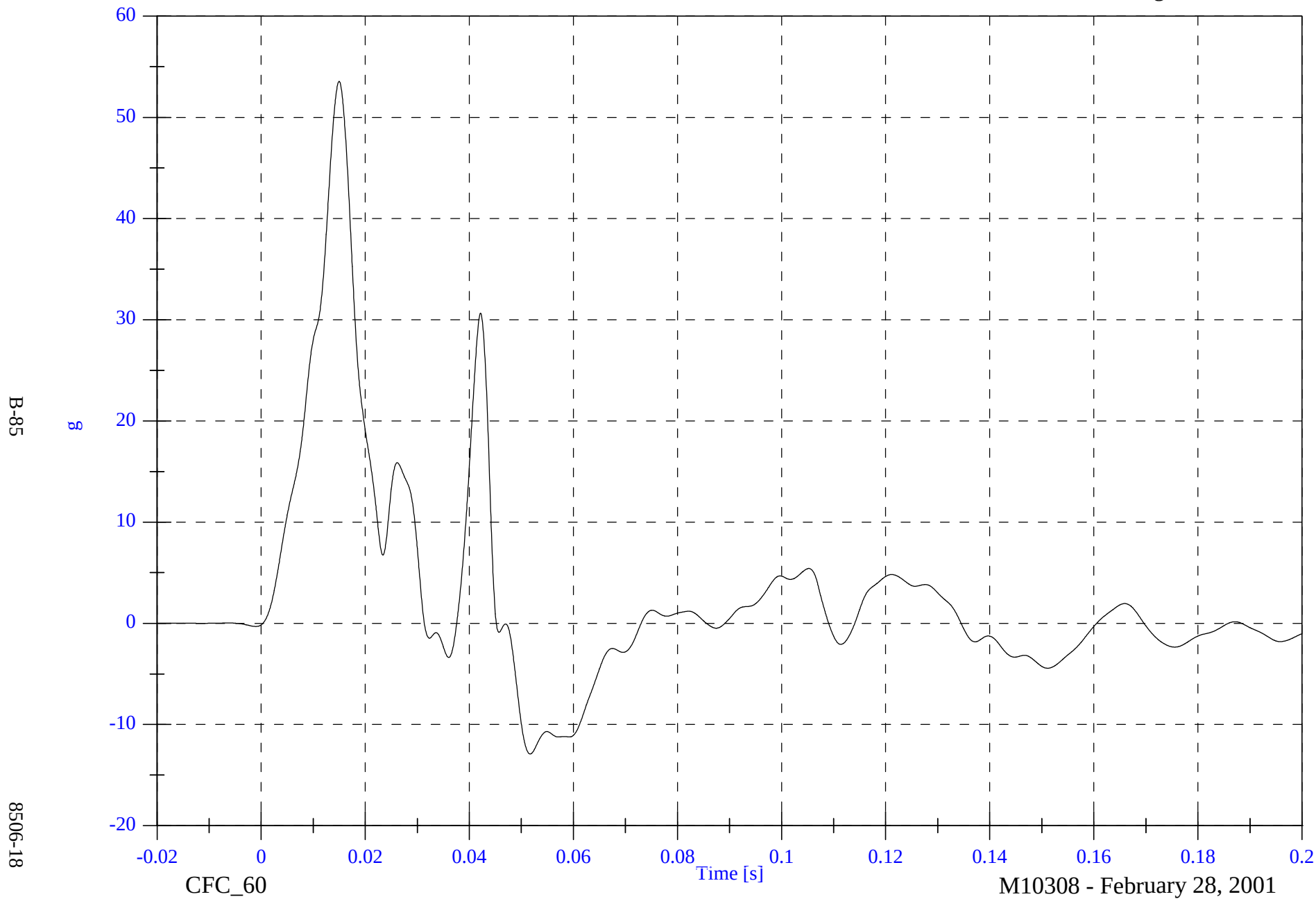
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A16 Front Seat Track Y

Max: 53.6 [g] at 0.015 [s]

Min: -12.9 [g] at 0.052 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

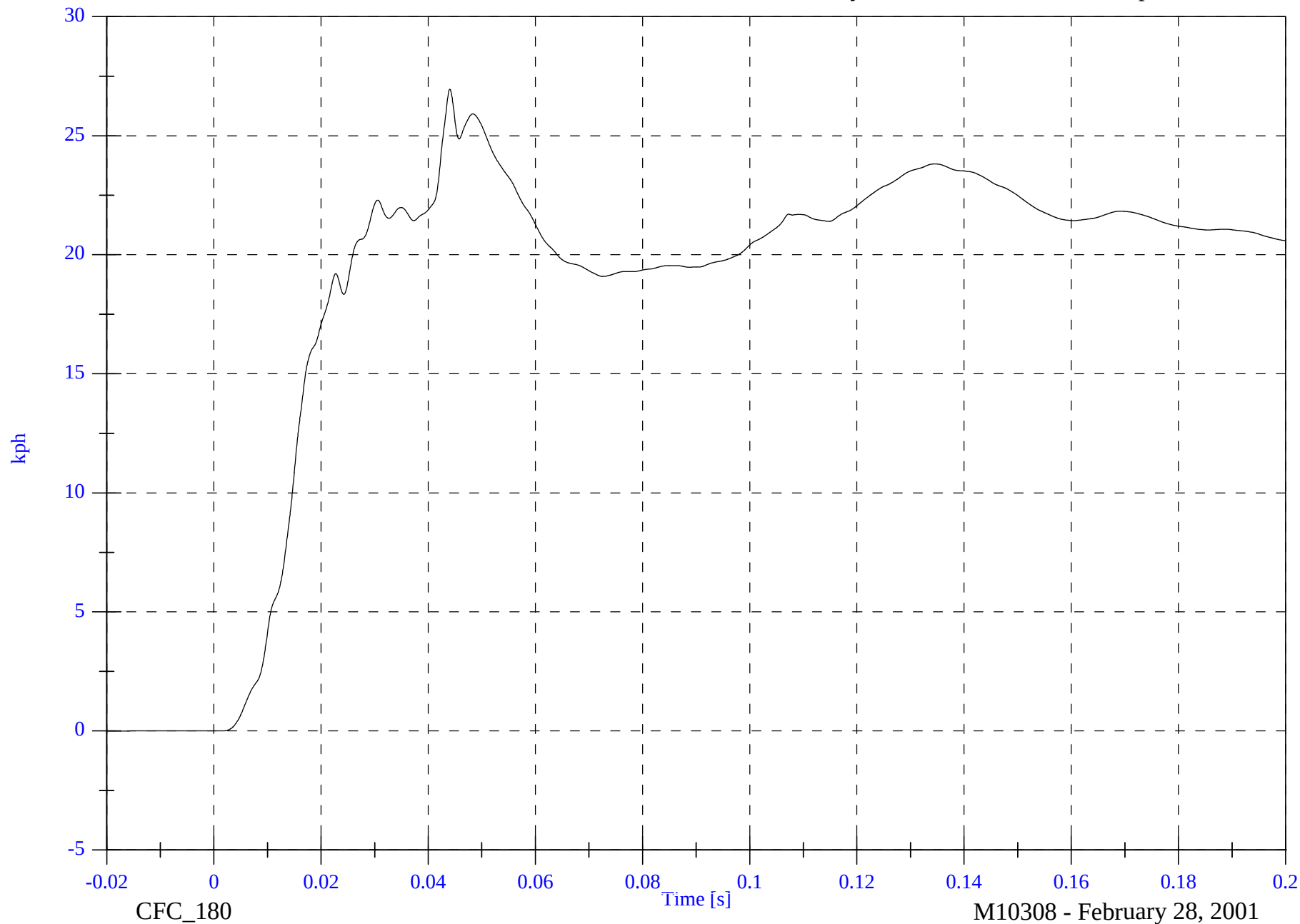
A16 Front Seat Track Y Velocity

Max: 27.0 [kph] at 0.044 [s]

Min: -0.0 [kph] at -0.020 [s]

B-86

8506-18

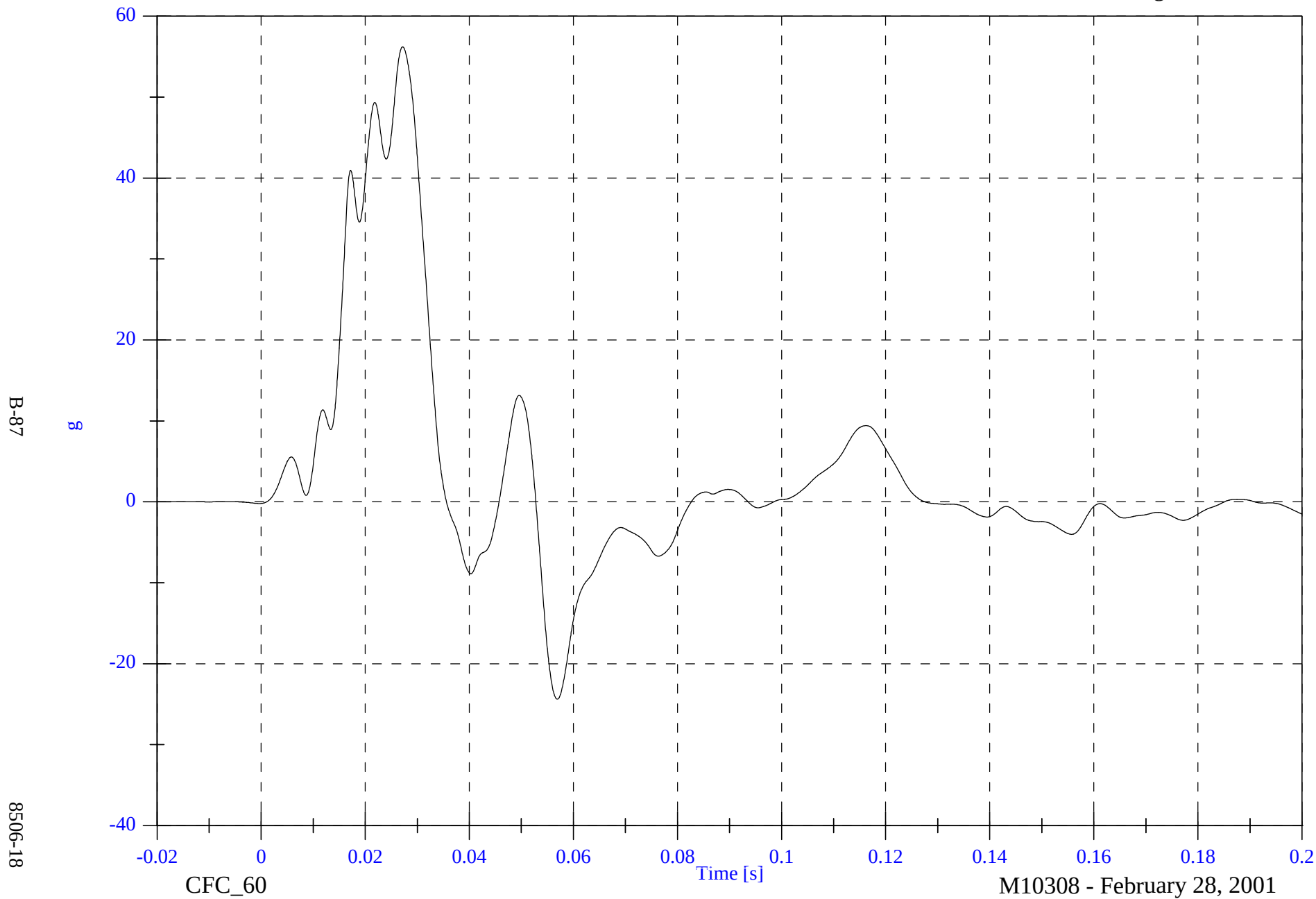


SNCAP Test 18 - 2001 Dodge Grand Caravan

A17 Rear Seat Track Y

Max: 56.2 [g] at 0.027 [s]

Min: -24.4 [g] at 0.057 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

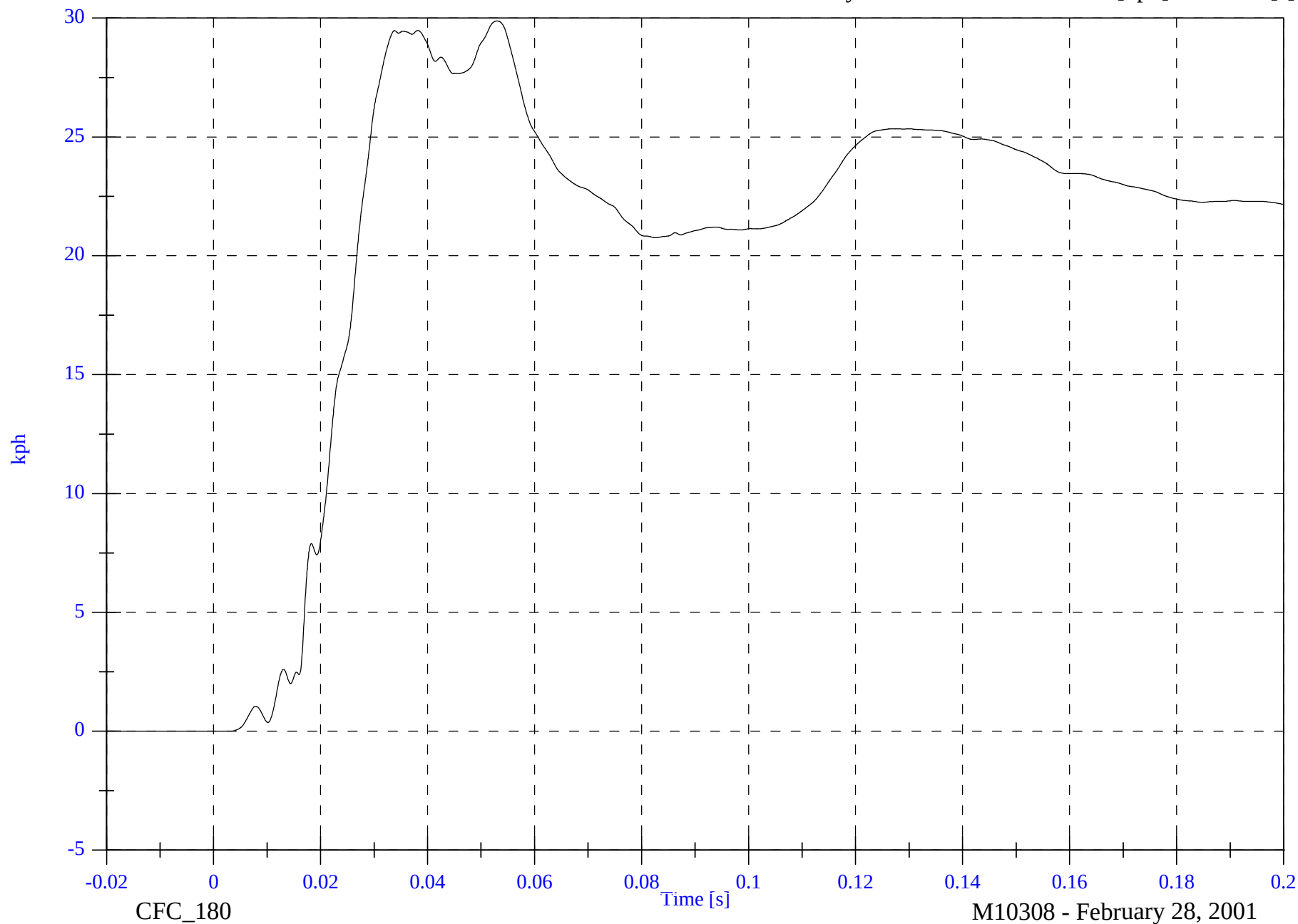
Max: 29.9 [kph] at 0.053 [s]

A17 Rear Seat Track Y Velocity

Min: -0.0 [kph] at -0.016 [s]

B-88

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

A18 Target CG X

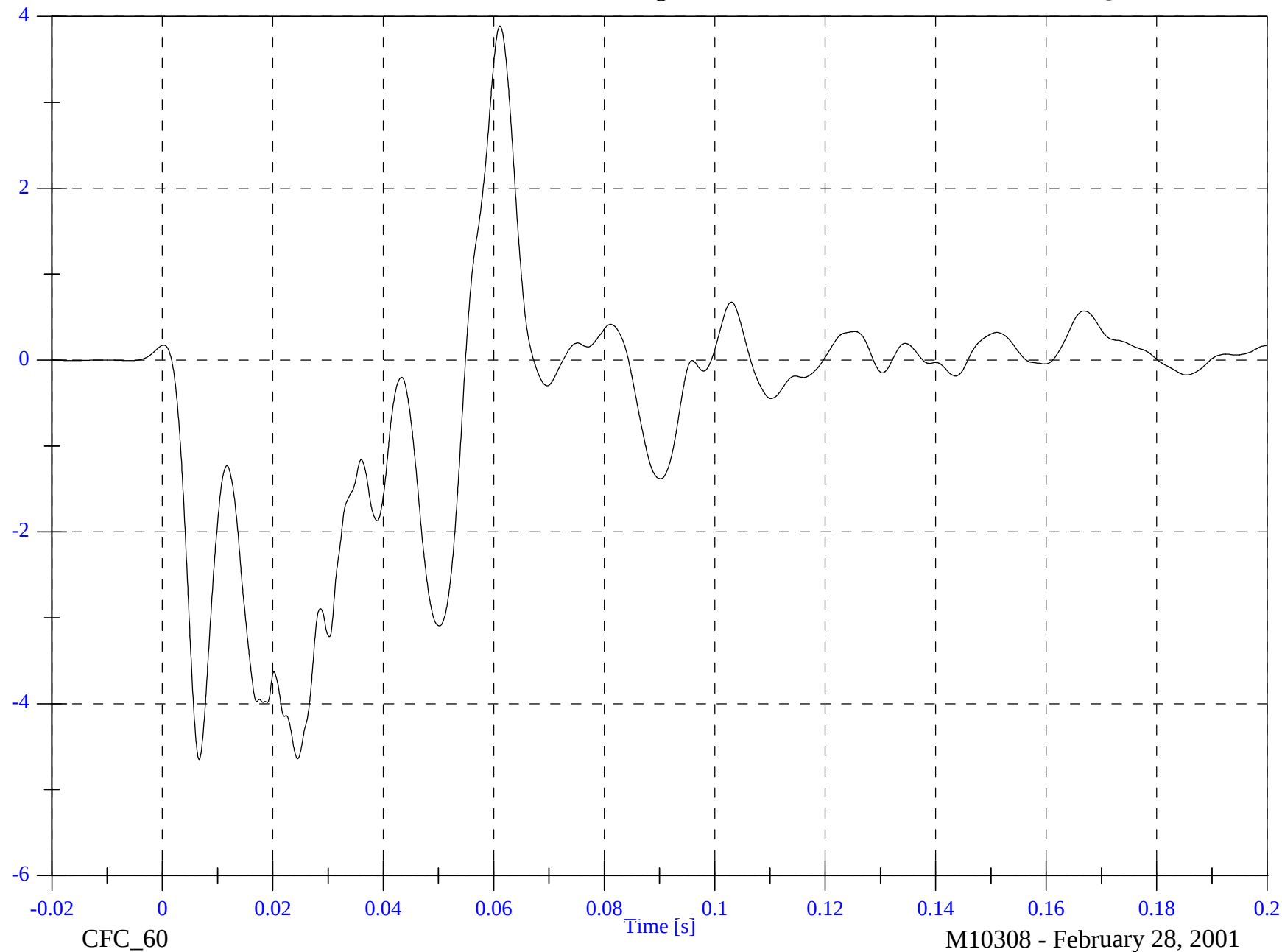
Max: 3.9 [g] at 0.061 [s]

Min: -4.6 [g] at 0.007 [s]

B-89

8506-18

g

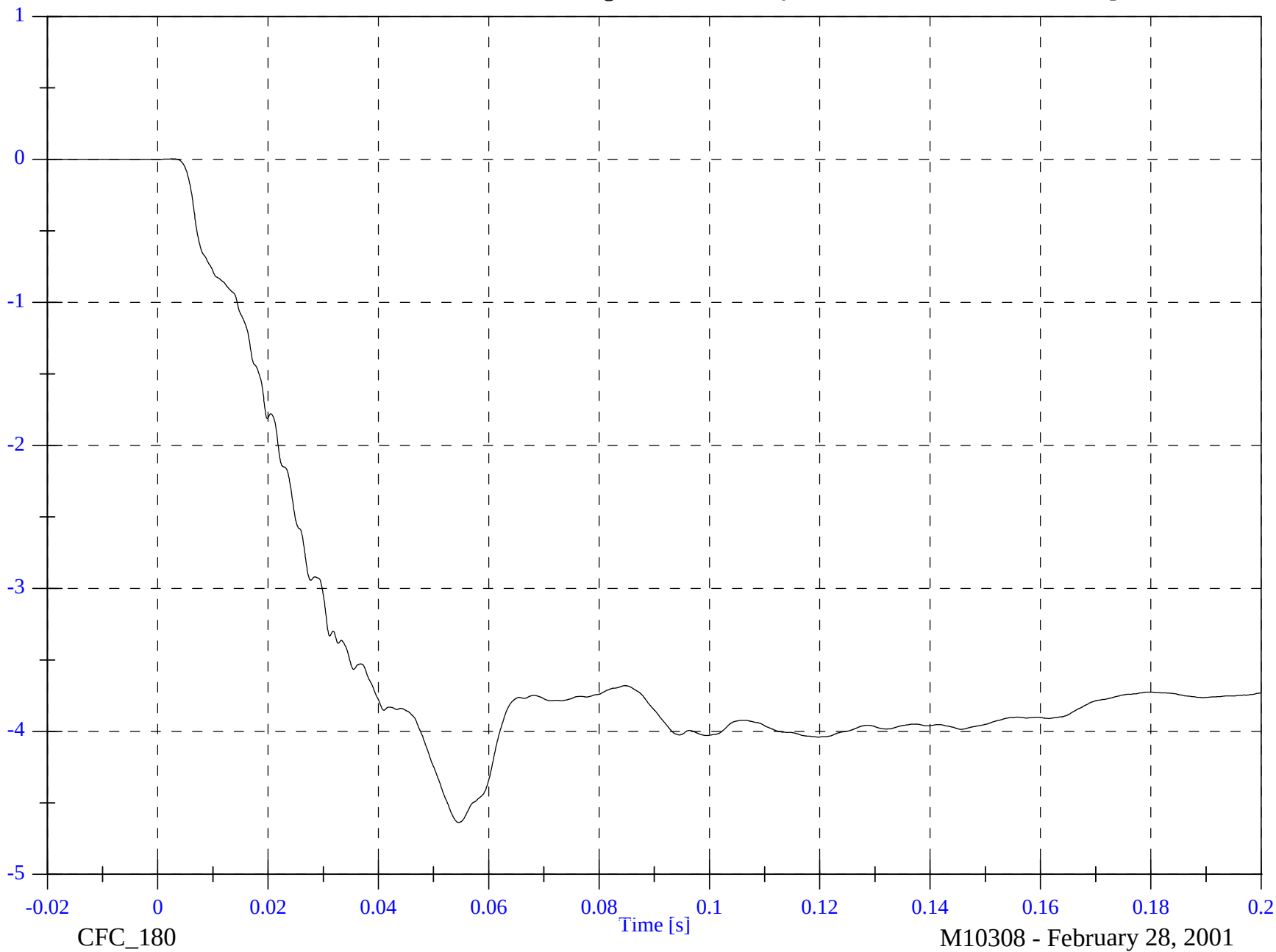


SNCAP Test 18 - 2001 Dodge Grand Caravan

A18 Target CG X Velocity

Max: 0.0 [kph] at 0.003 [s]

Min: -4.6 [kph] at 0.055 [s]



B-90

8506-18

CFC_180

Time [s]

M10308 - February 28, 2001

SNCAP Test 18 - 2001 Dodge Grand Caravan

A18 Target CG Y

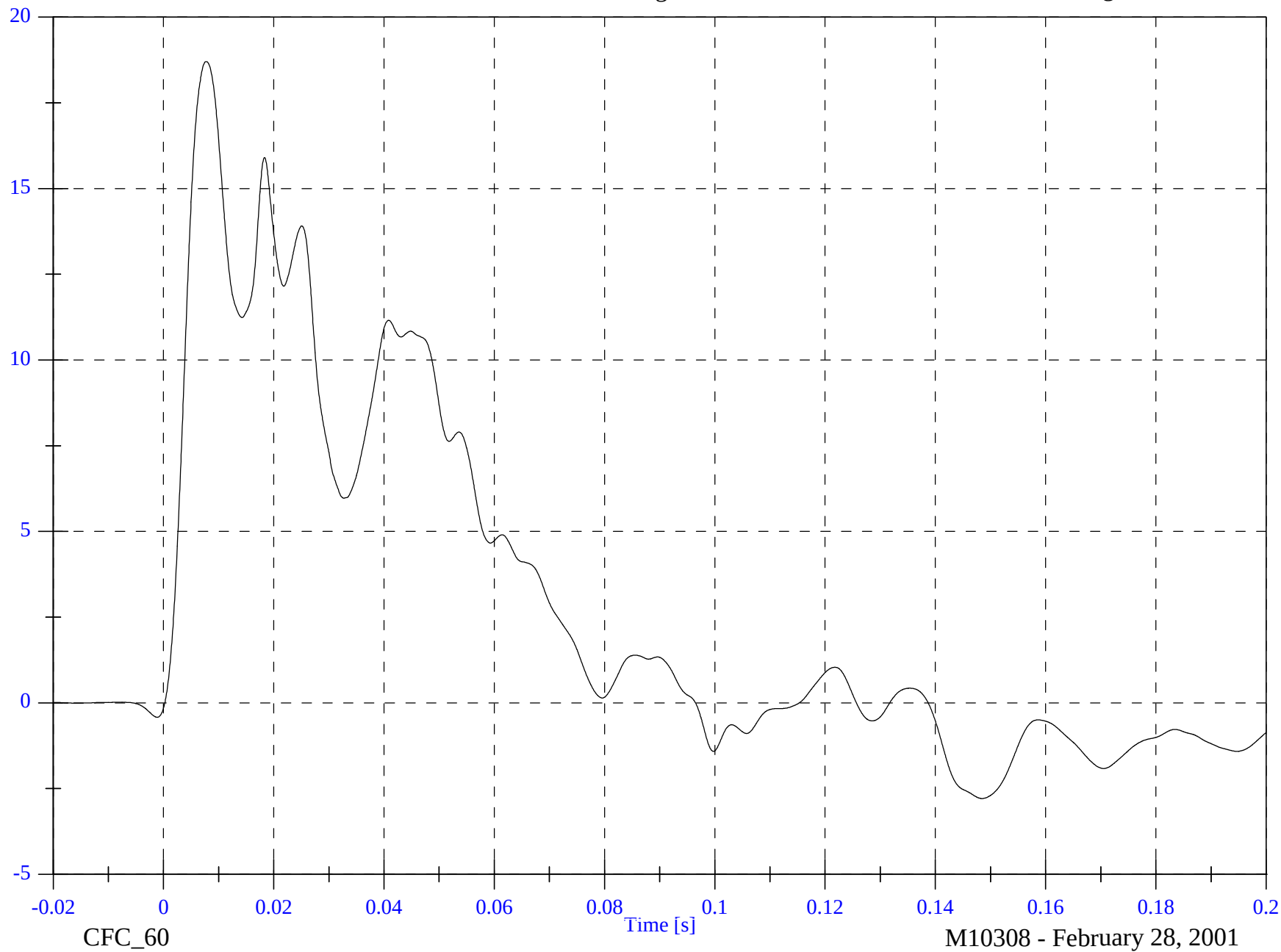
Max: 18.7 [g] at 0.008 [s]

Min: -2.8 [g] at 0.148 [s]

B-91

8506-18

g

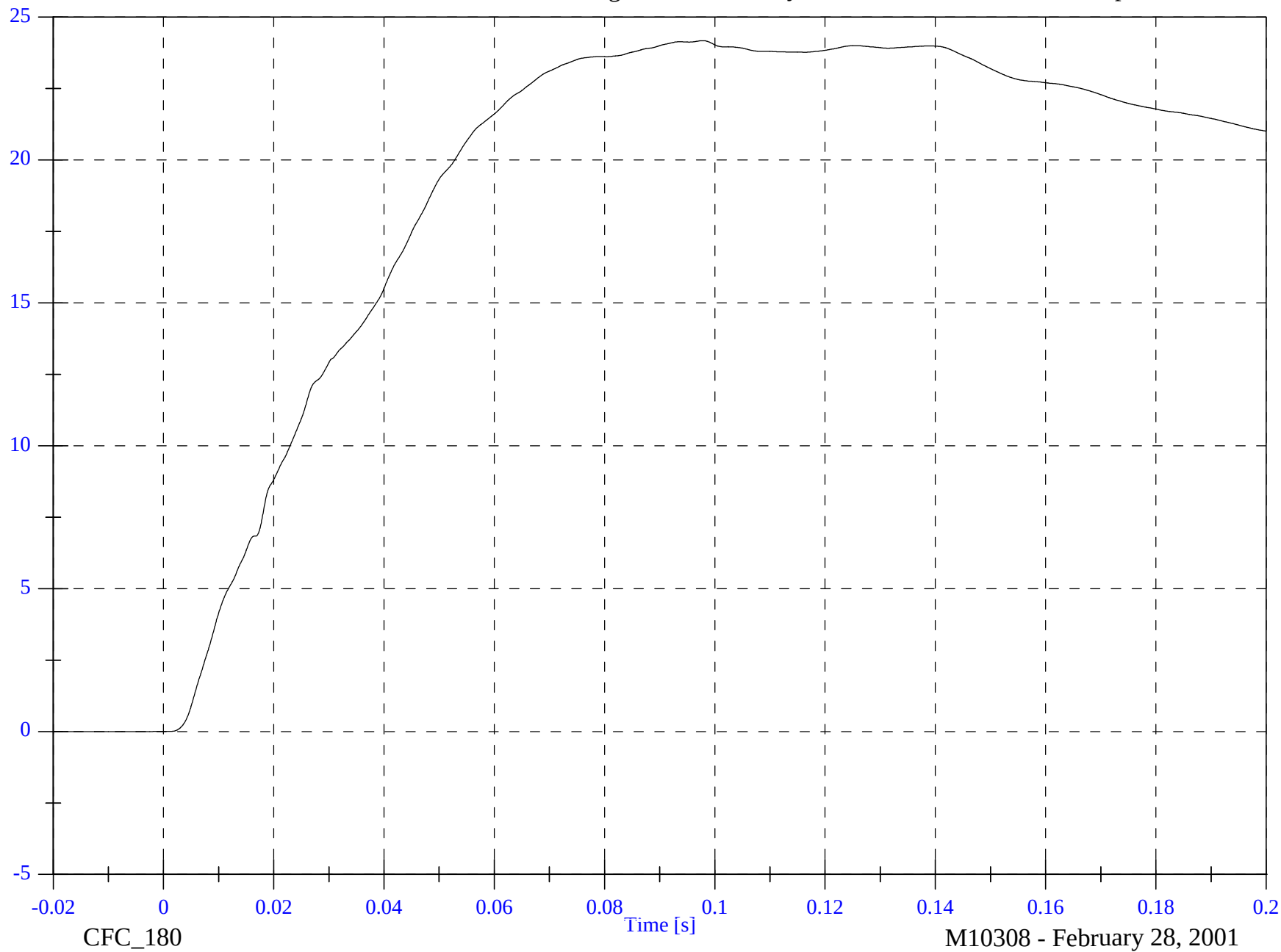


SNCAP Test 18 - 2001 Dodge Grand Caravan

A18 Target CG Y Velocity

Max: 24.2 [kph] at 0.098 [s]

Min: -0.0 [kph] at -0.014 [s]



B-92

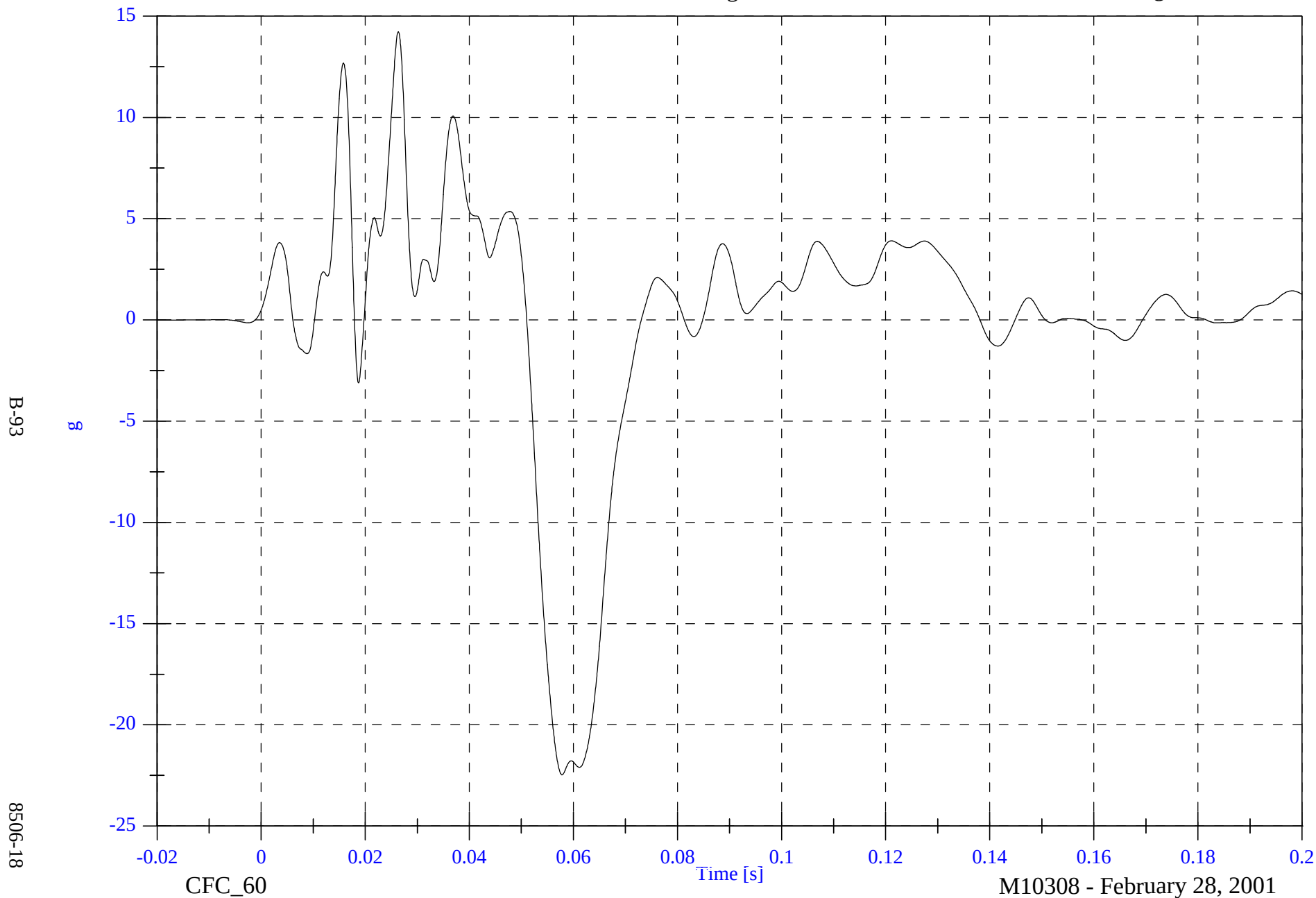
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

A18 Target CG Z

Max: 14.2 [g] at 0.026 [s]

Min: -22.5 [g] at 0.058 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

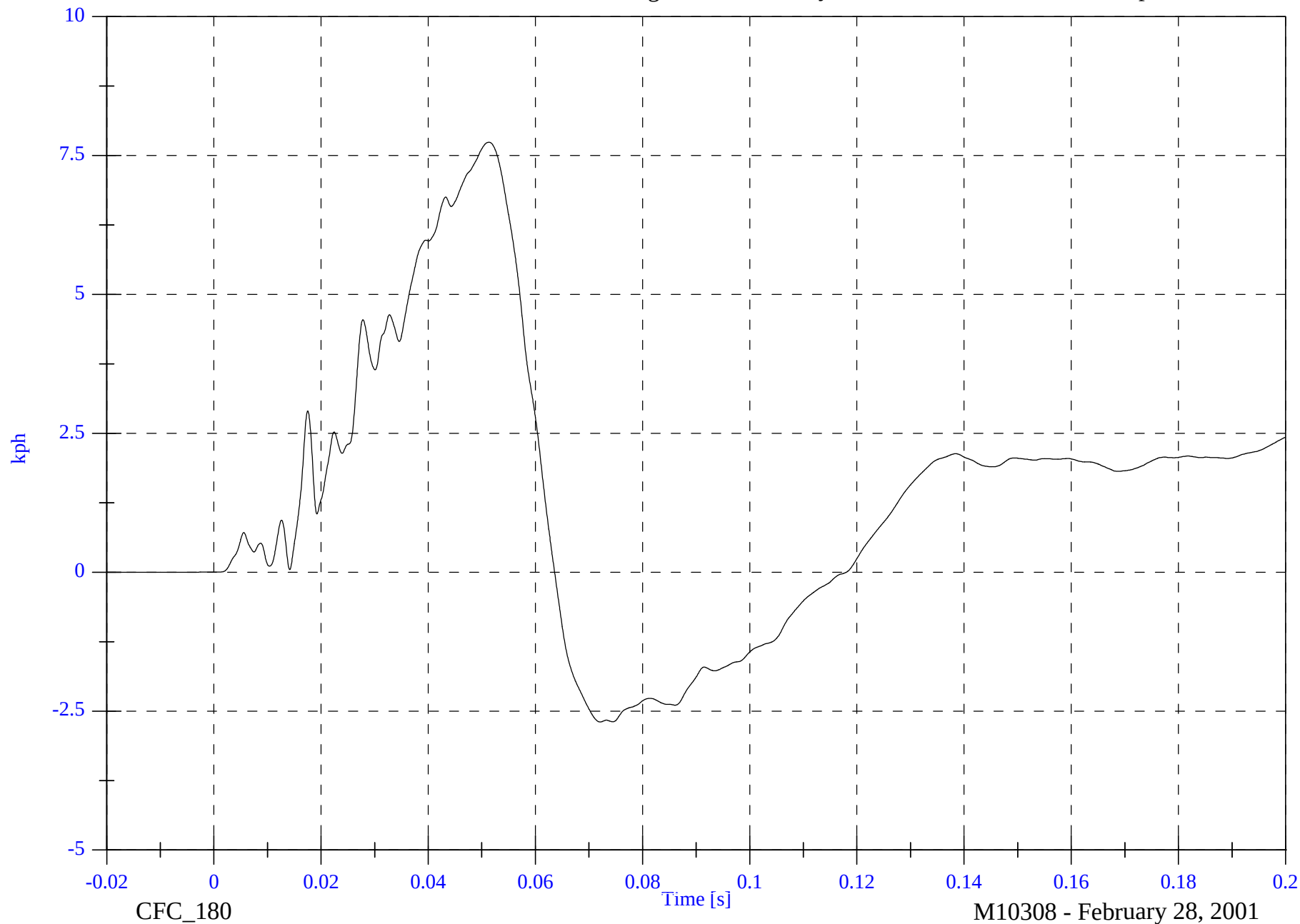
A18 Target CG Z Velocity

Max: 7.7 [kph] at 0.051 [s]

Min: -2.7 [kph] at 0.072 [s]

B-94

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

A18 Target CG Resultant

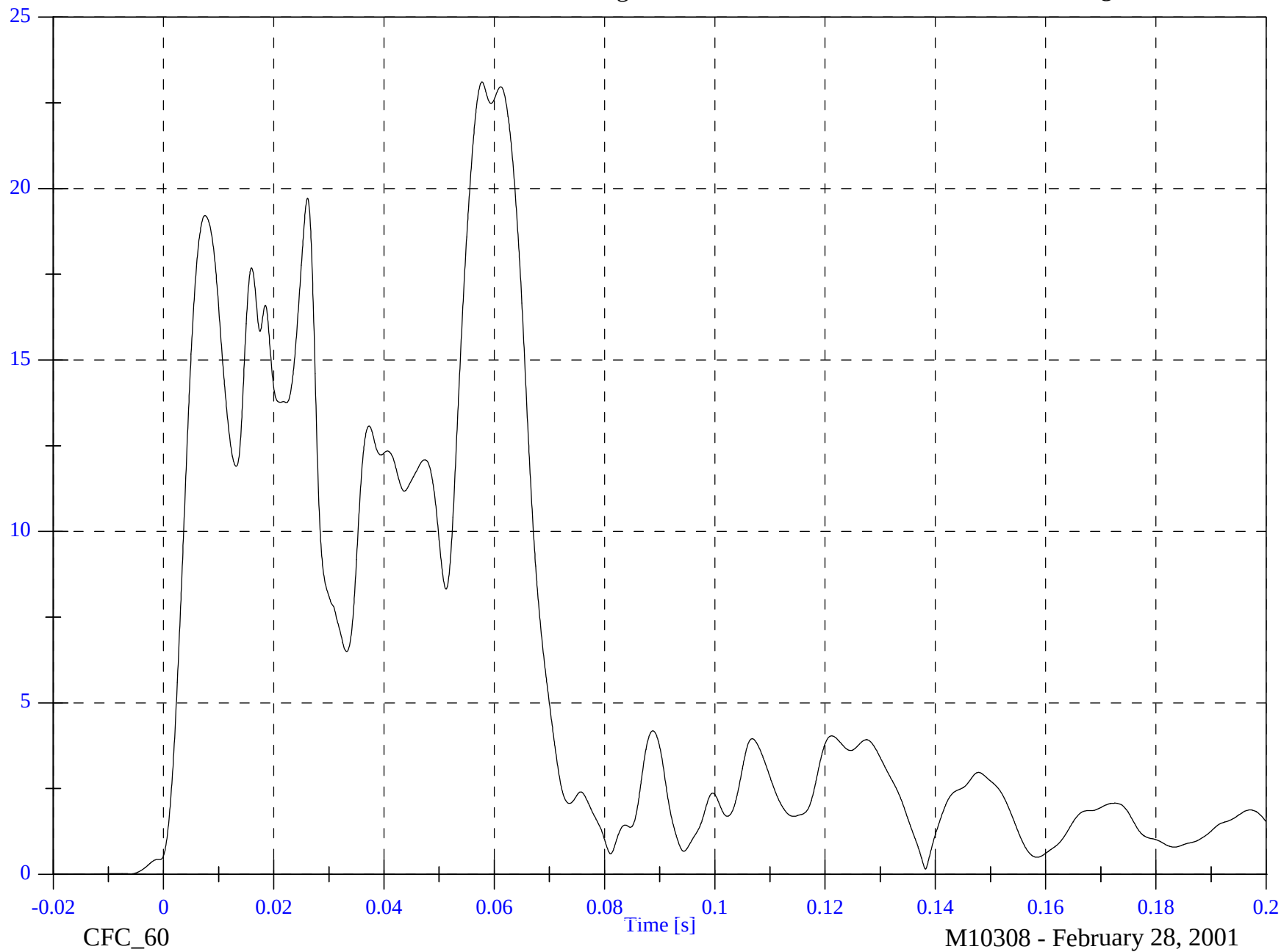
Max: 23.1 [g] at 0.058 [s]

Min: 0.0 [g] at -0.014 [s]

B-95

8506-18

g

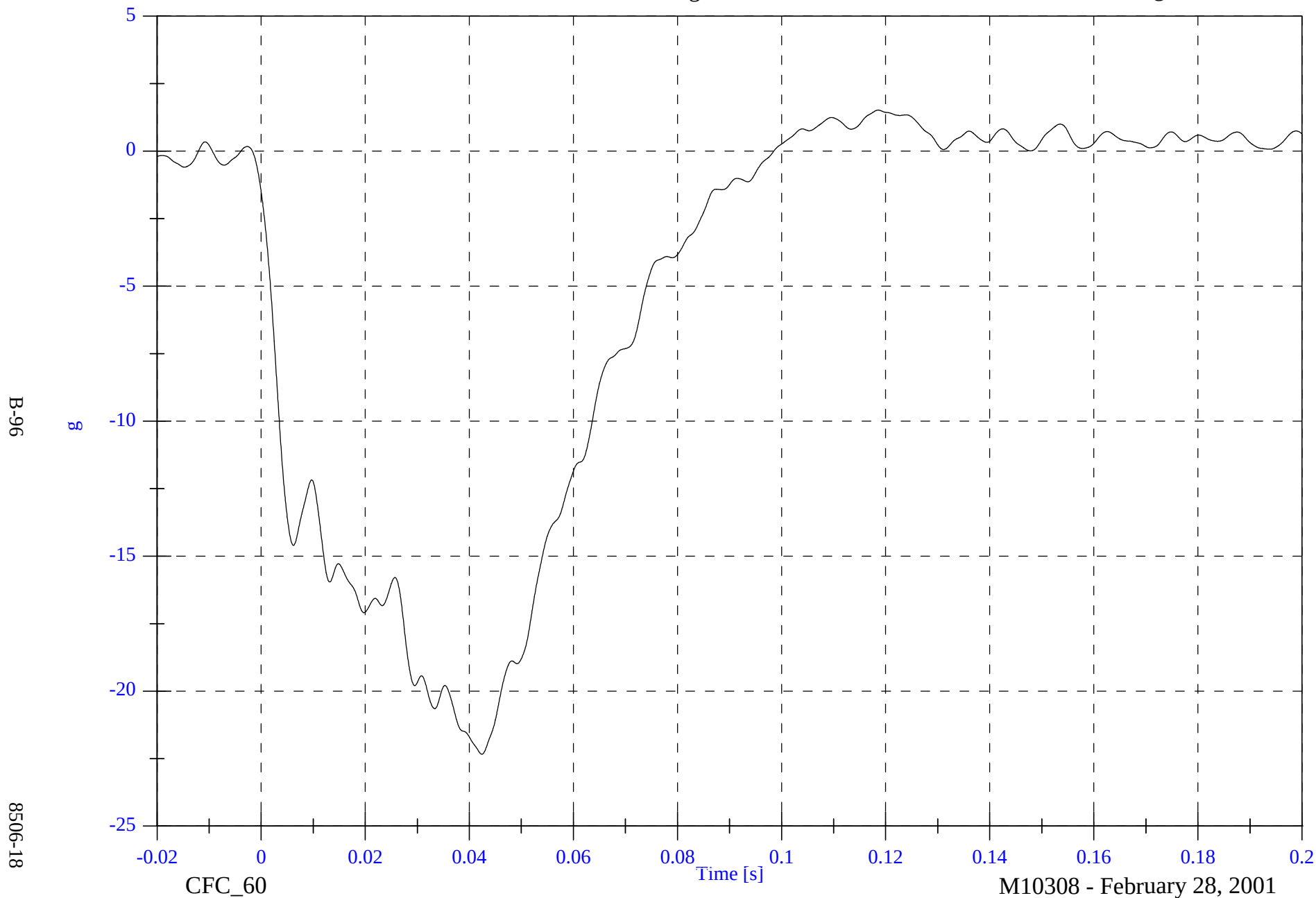


SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier CG X

Max: 1.5 [g] at 0.119 [s]

Min: -22.3 [g] at 0.042 [s]

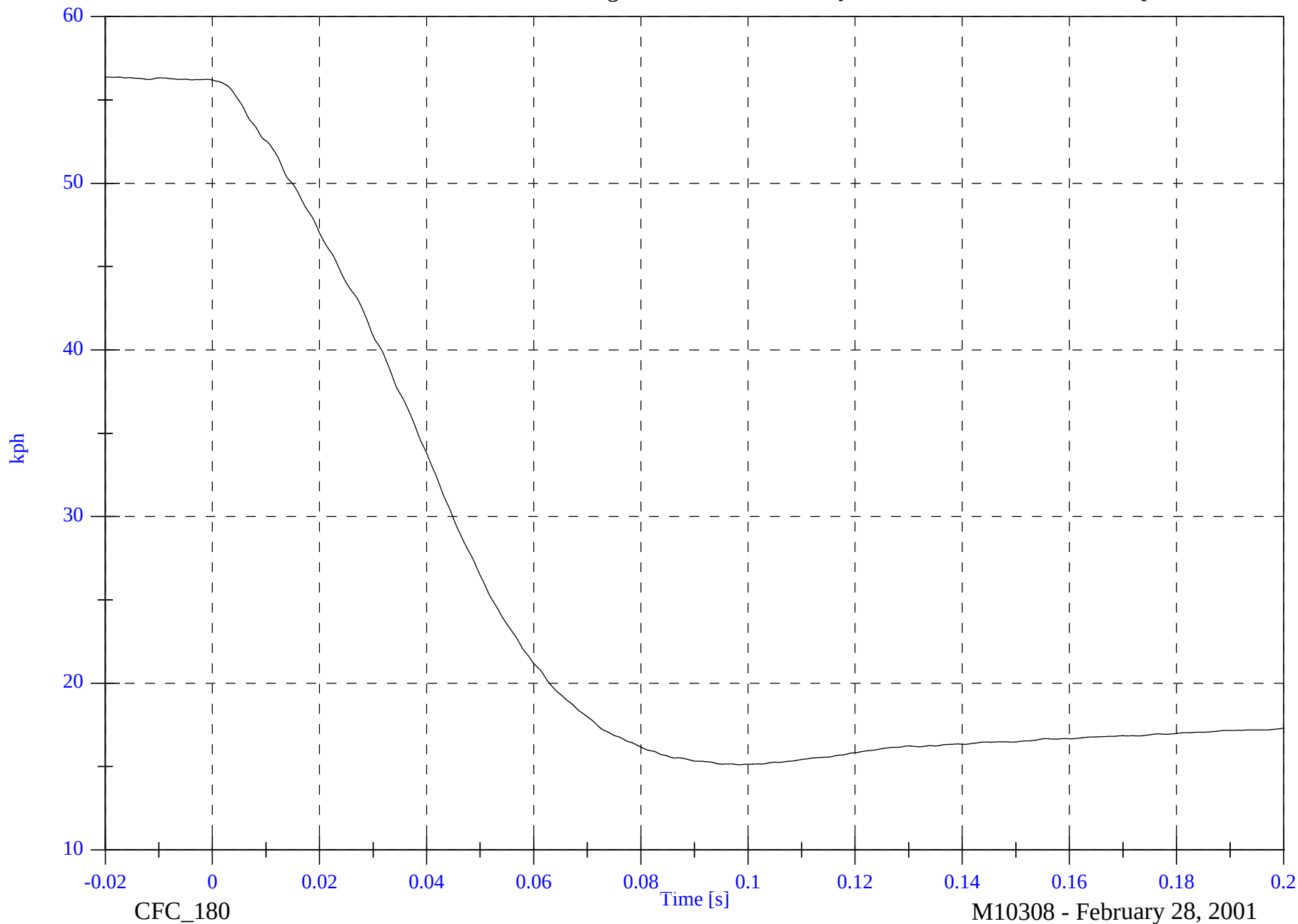


SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier CG X Velocity

Max: 56.4 [kph] at -0.019 [s]

Min: 15.1 [kph] at 0.098 [s]



B-97

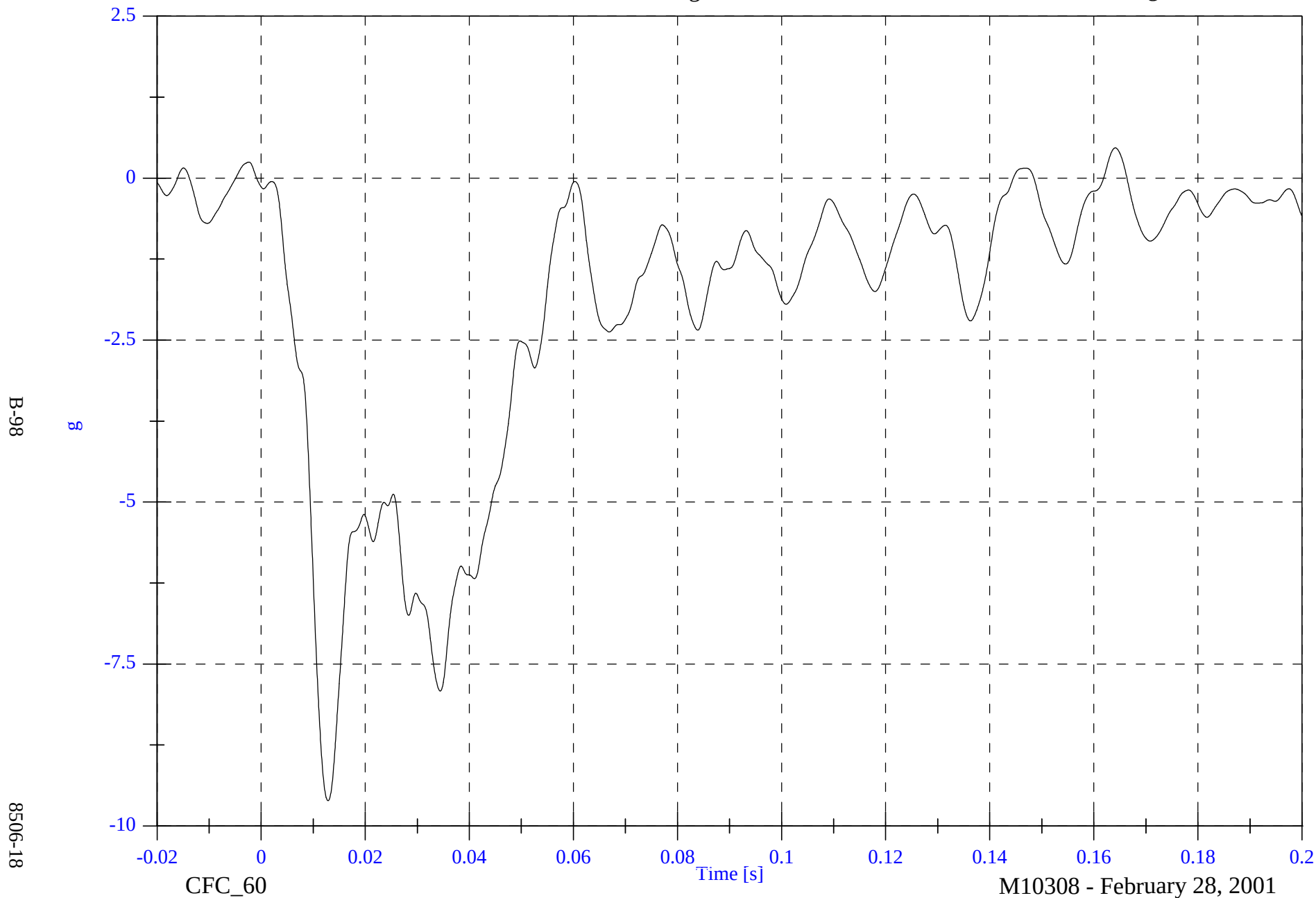
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier CG Y

Max: 0.5 [g] at 0.164 [s]

Min: -9.6 [g] at 0.013 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

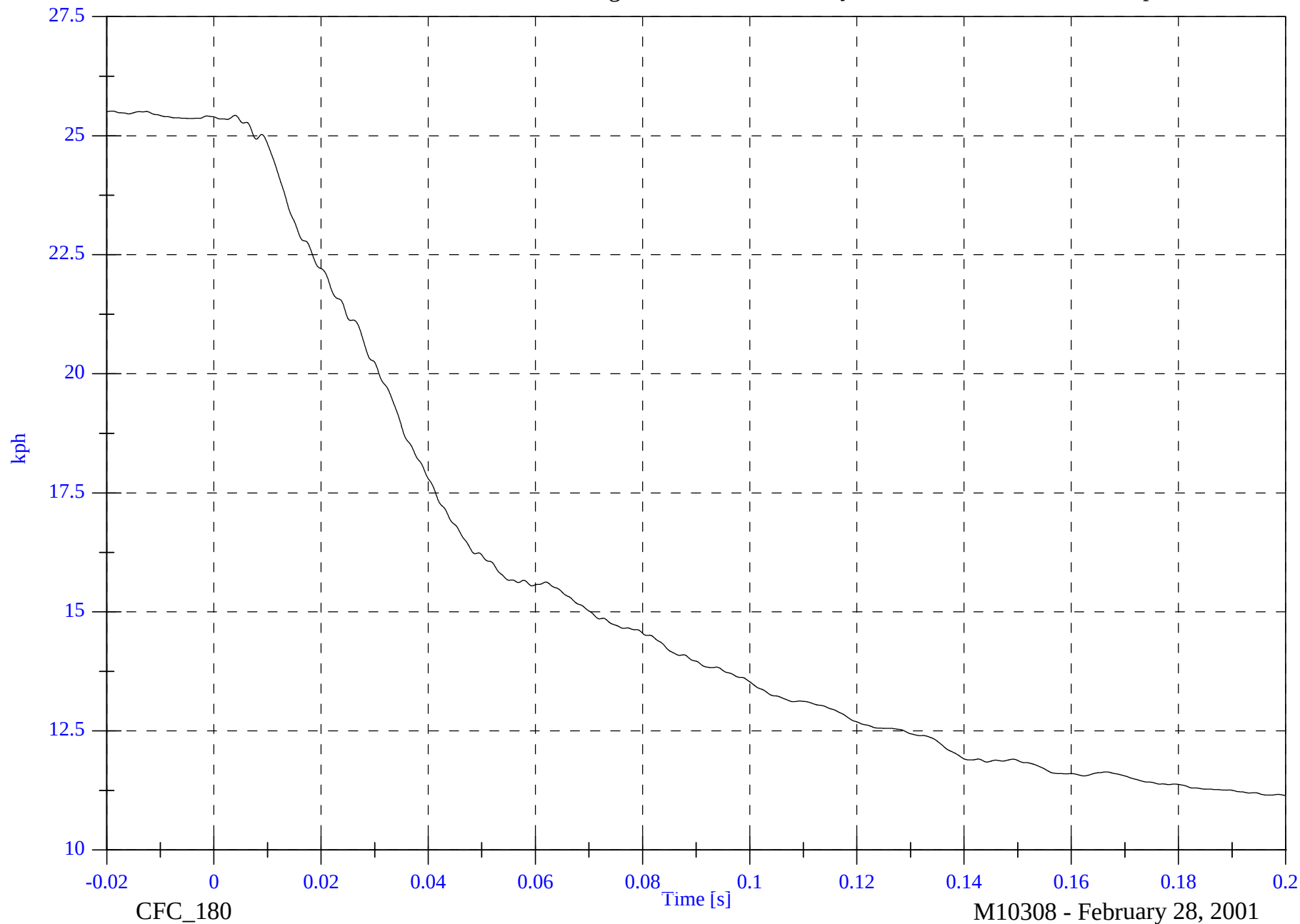
Moving Barrier CG Y Velocity

Max: 25.5 [kph] at -0.019 [s]

Min: 11.1 [kph] at 0.200 [s]

B-99

8506-18

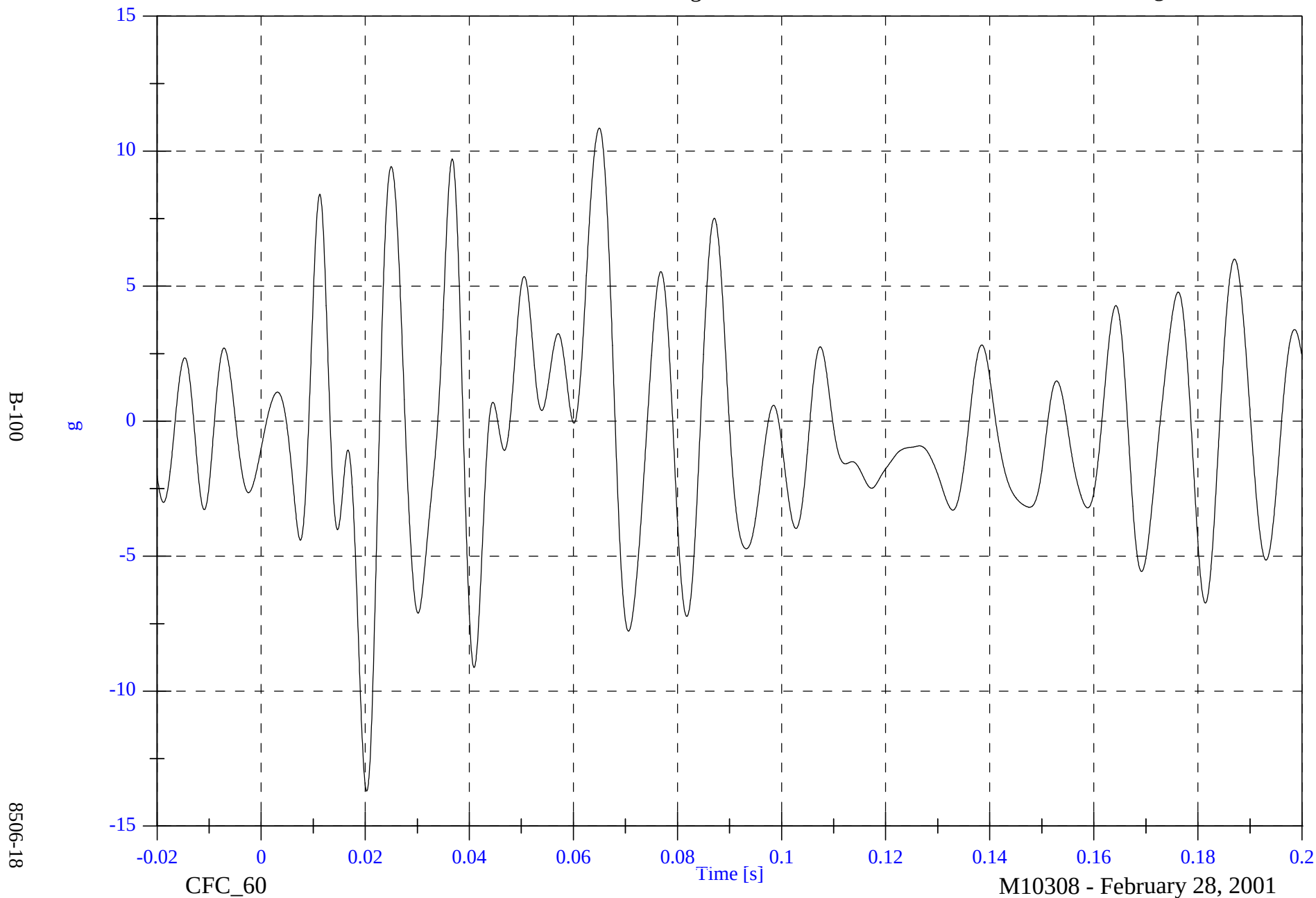


SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier CG Z

Max: 10.9 [g] at 0.065 [s]

Min: -13.7 [g] at 0.020 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

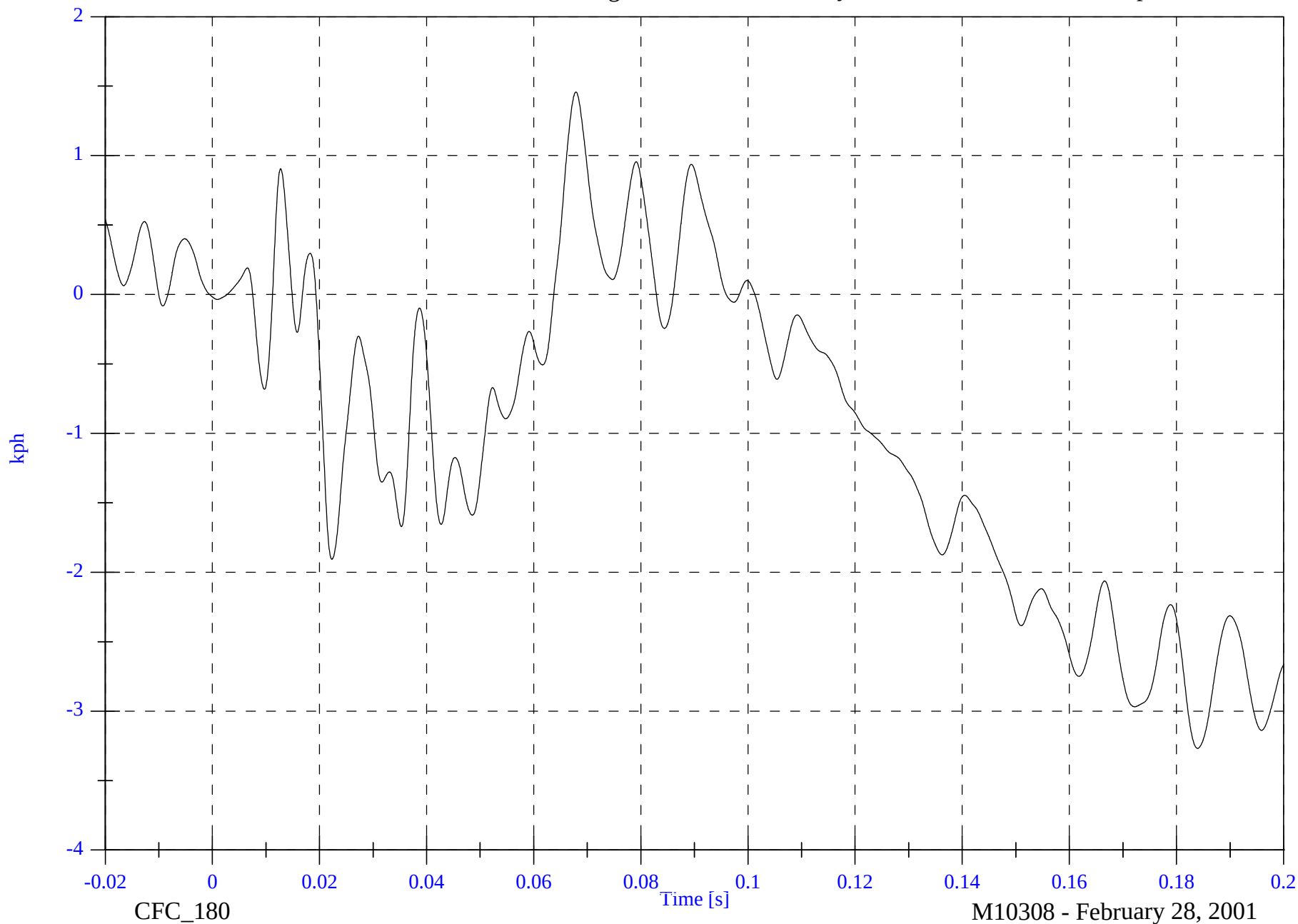
Moving Barrier CG Z Velocity

Max: 1.5 [kph] at 0.068 [s]

Min: -3.3 [kph] at 0.184 [s]

B-101

8506-18

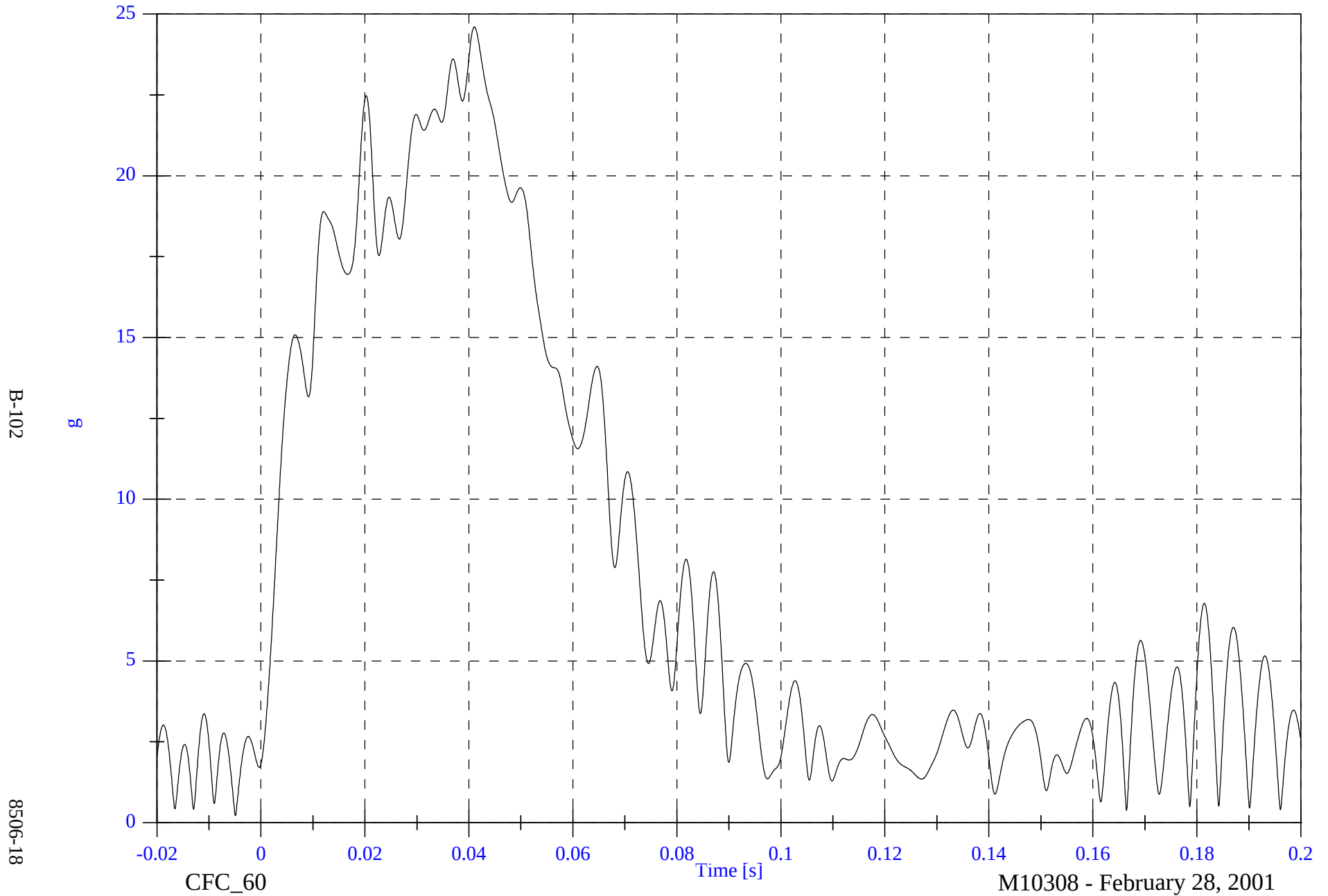


SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier CG Resultant

Max: 24.6 [g] at 0.041 [s]

Min: 0.2 [g] at -0.005 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

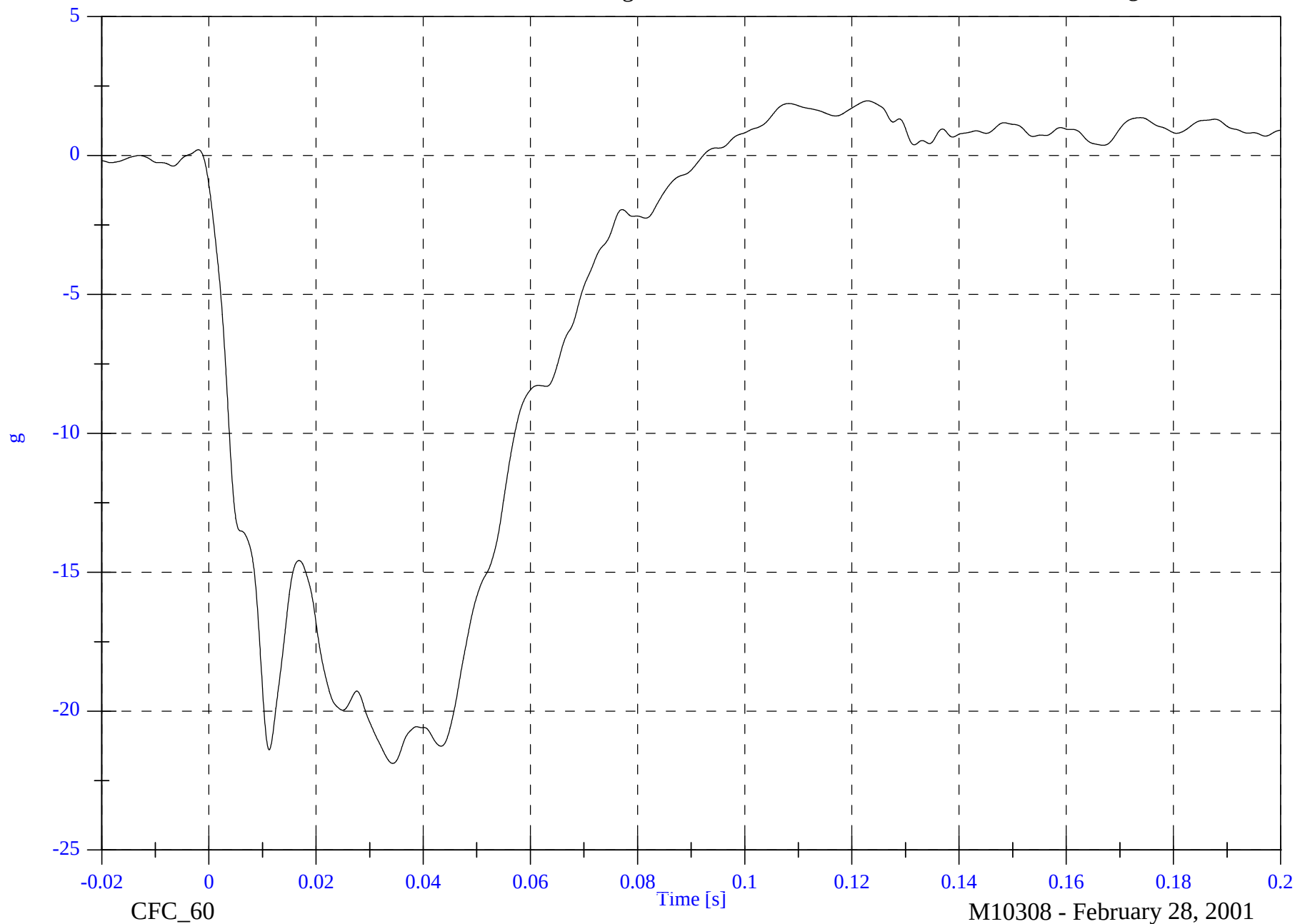
Moving Barrier Left Rail X

Max: 2.0 [g] at 0.123 [s]

Min: -21.9 [g] at 0.034 [s]

B-103

8506-18

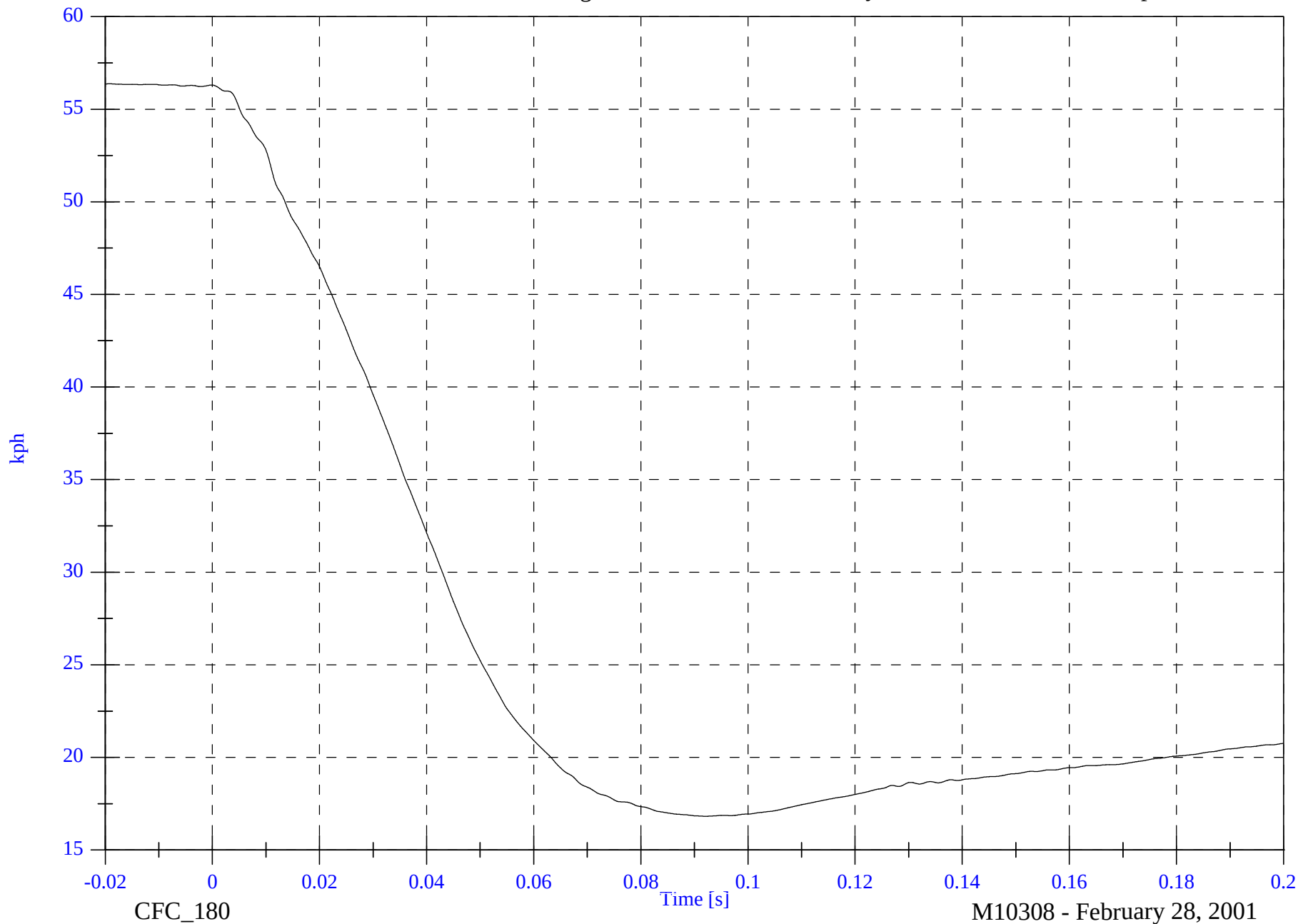


SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier Left Rail X Velocity

Max: 56.4 [kph] at -0.019 [s]

Min: 16.8 [kph] at 0.092 [s]



B-104

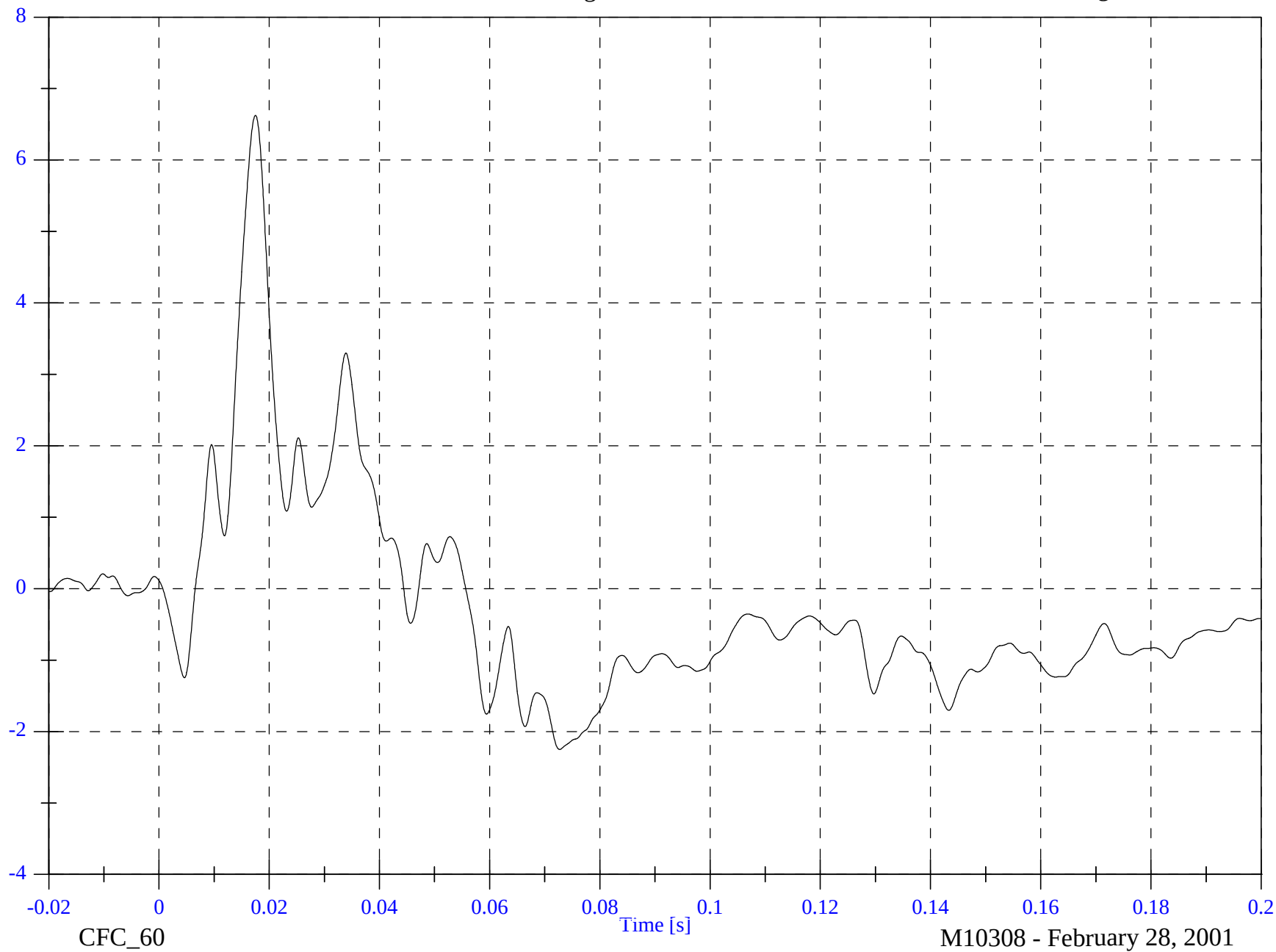
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier Left Rail Y

Max: 6.6 [g] at 0.018 [s]

Min: -2.3 [g] at 0.073 [s]



B-105

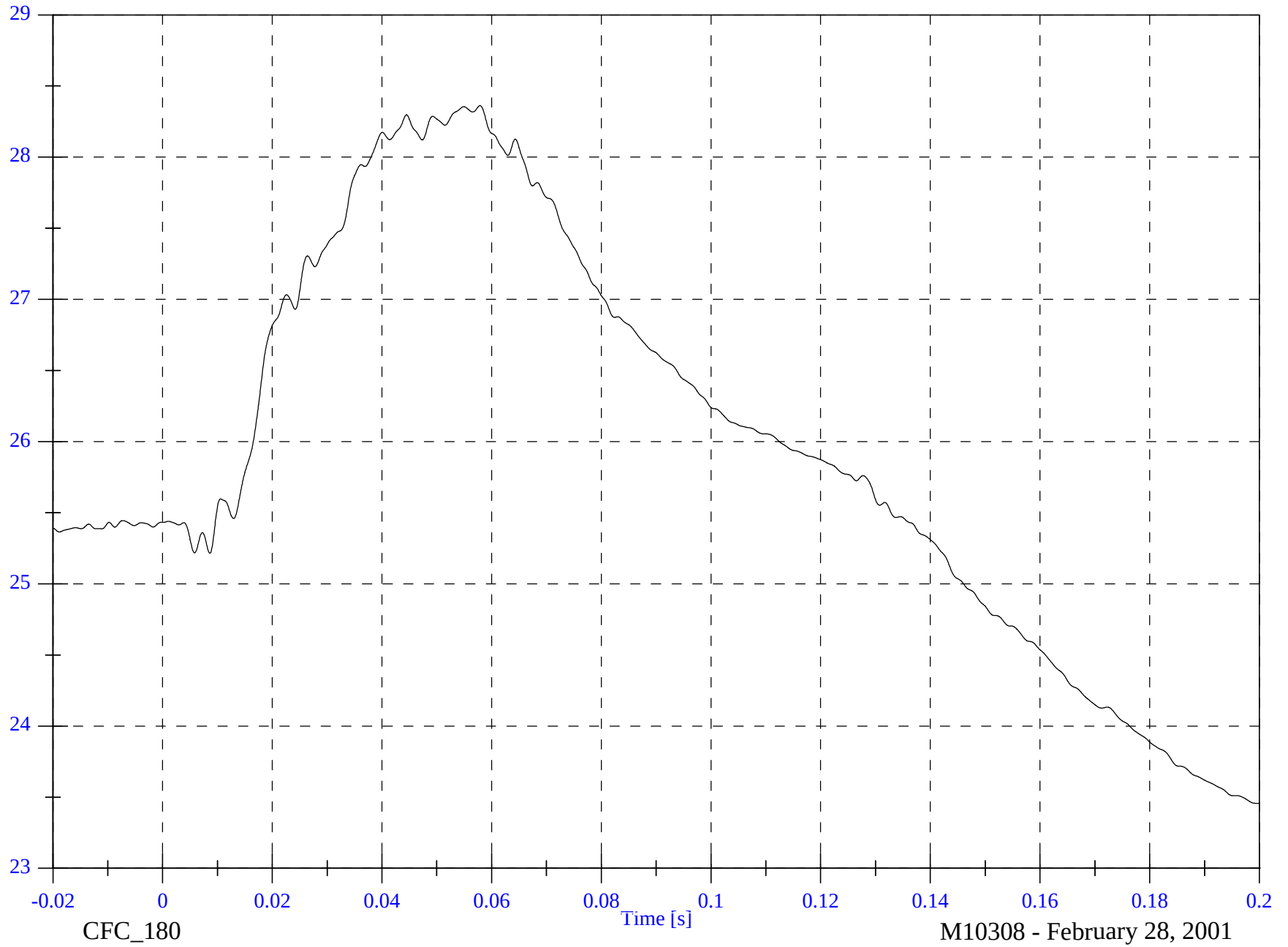
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

Moving Barrier Left Rail Y Velocity

Max: 28.4 [kph] at 0.058 [s]

Min: 23.5 [kph] at 0.200 [s]



B-106

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

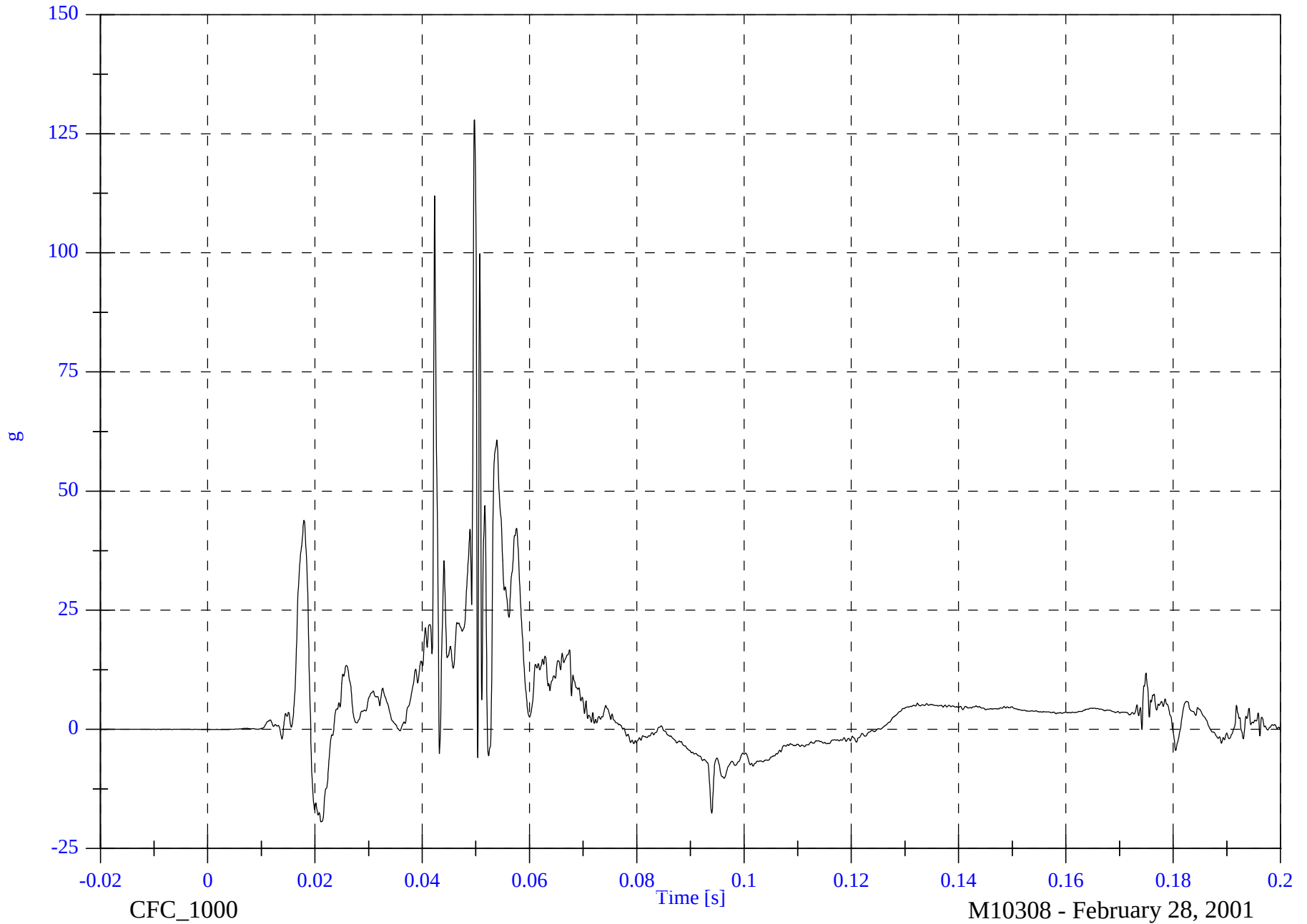
P1 Upper Rib Ry

Max: 127.9 [g] at 0.050 [s]

Min: -19.4 [g] at 0.021 [s]

B-107

8506-18

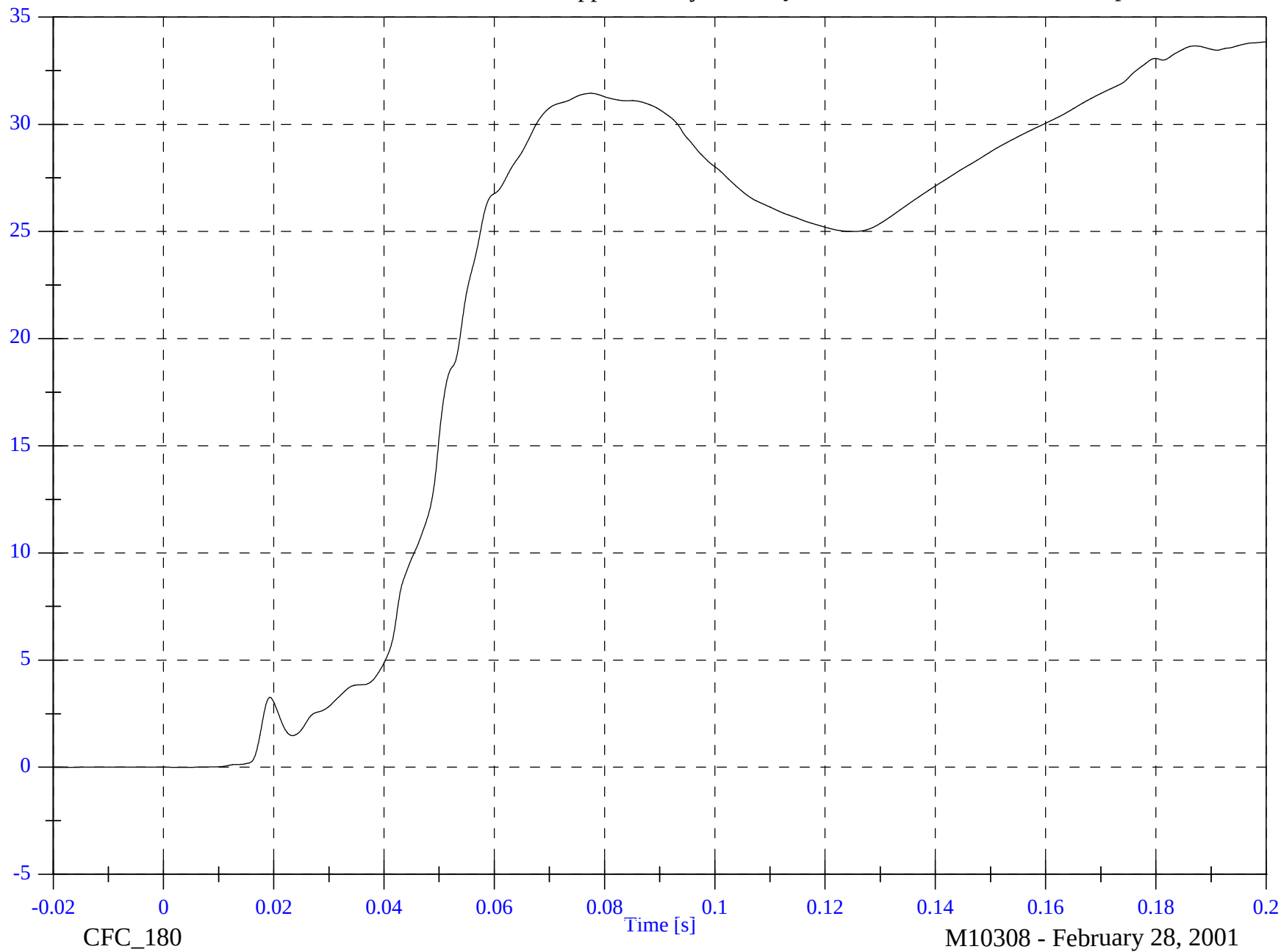


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Upper Rib Ry Velocity

Max: 33.8 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.019 [s]



B-108

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

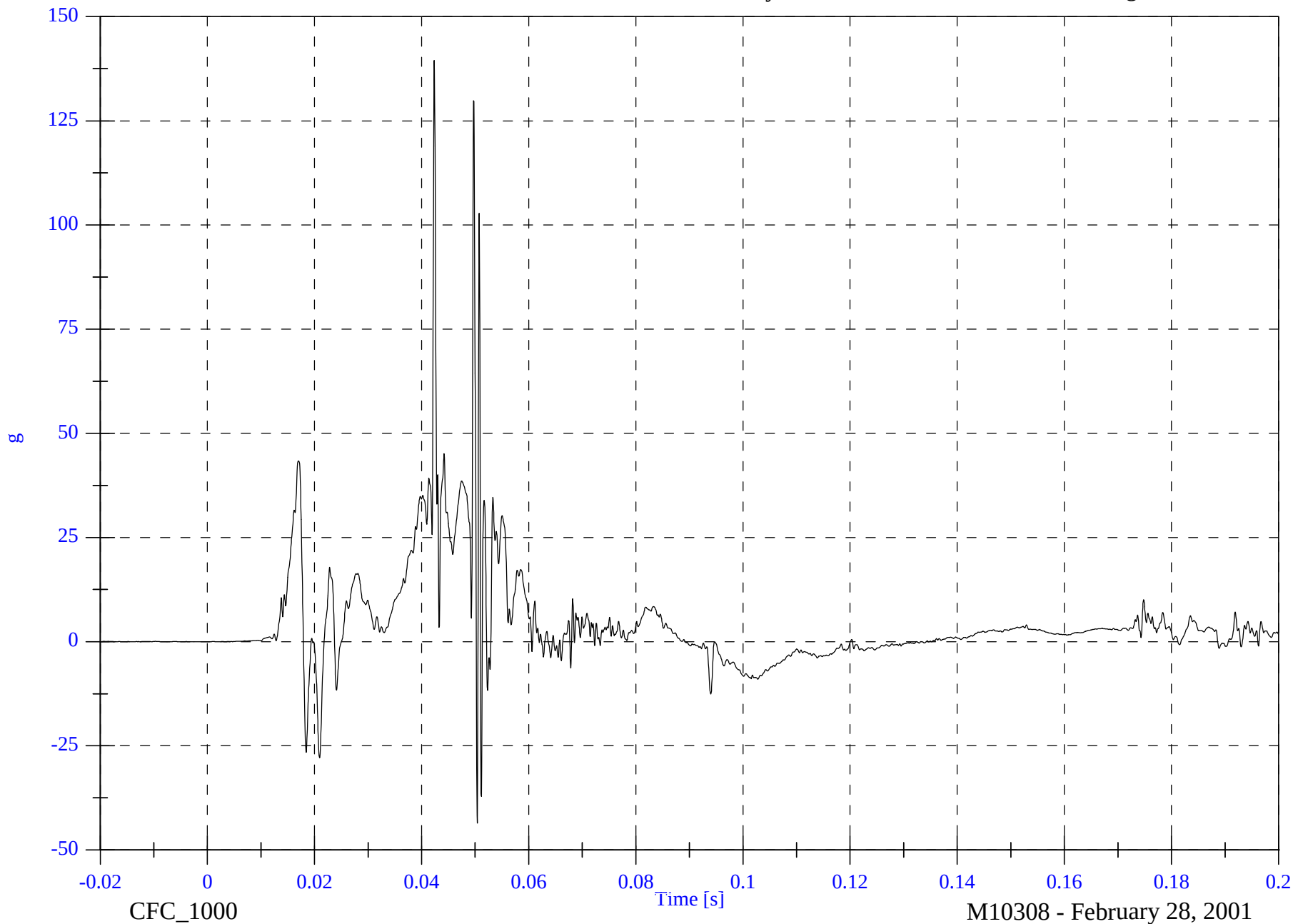
P1 Lower Rib Ry

Max: 139.5 [g] at 0.042 [s]

Min: -43.6 [g] at 0.050 [s]

B-109

8506-18

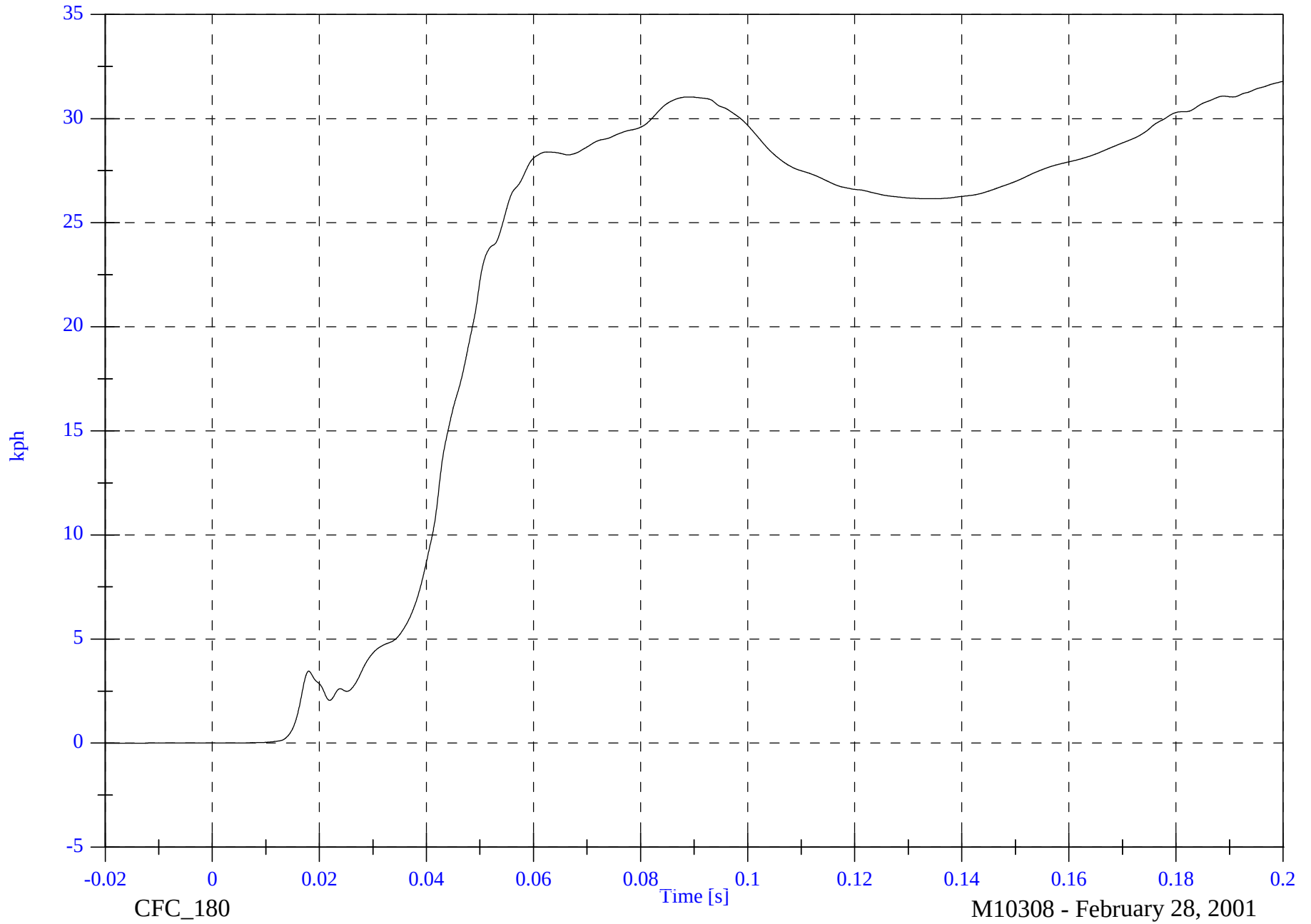


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Lower Rib Ry Velocity

Max: 31.8 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]



B-110

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

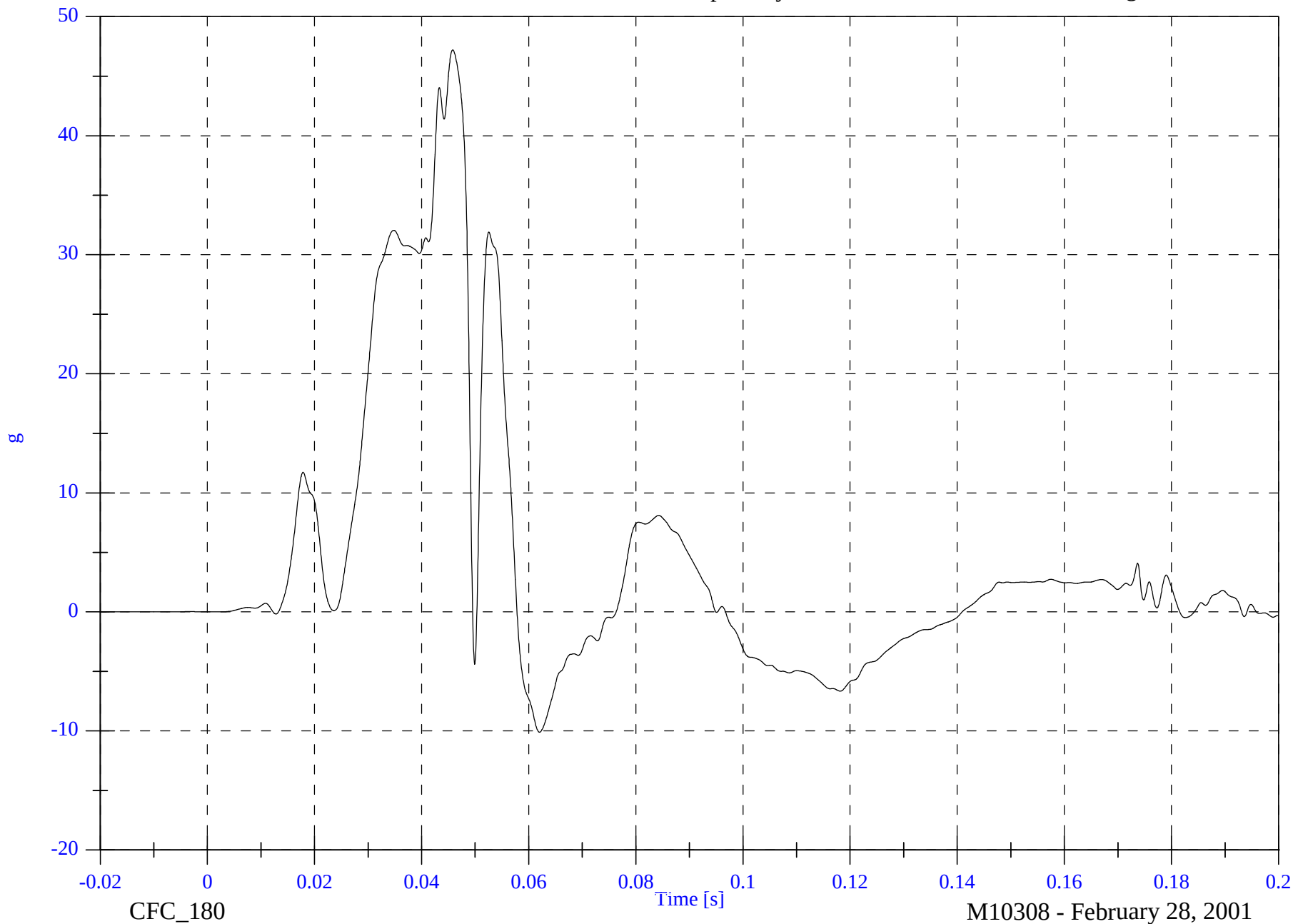
P1 Lower Spine Ry

Max: 47.2 [g] at 0.046 [s]

Min: -10.1 [g] at 0.062 [s]

B-111

8506-18

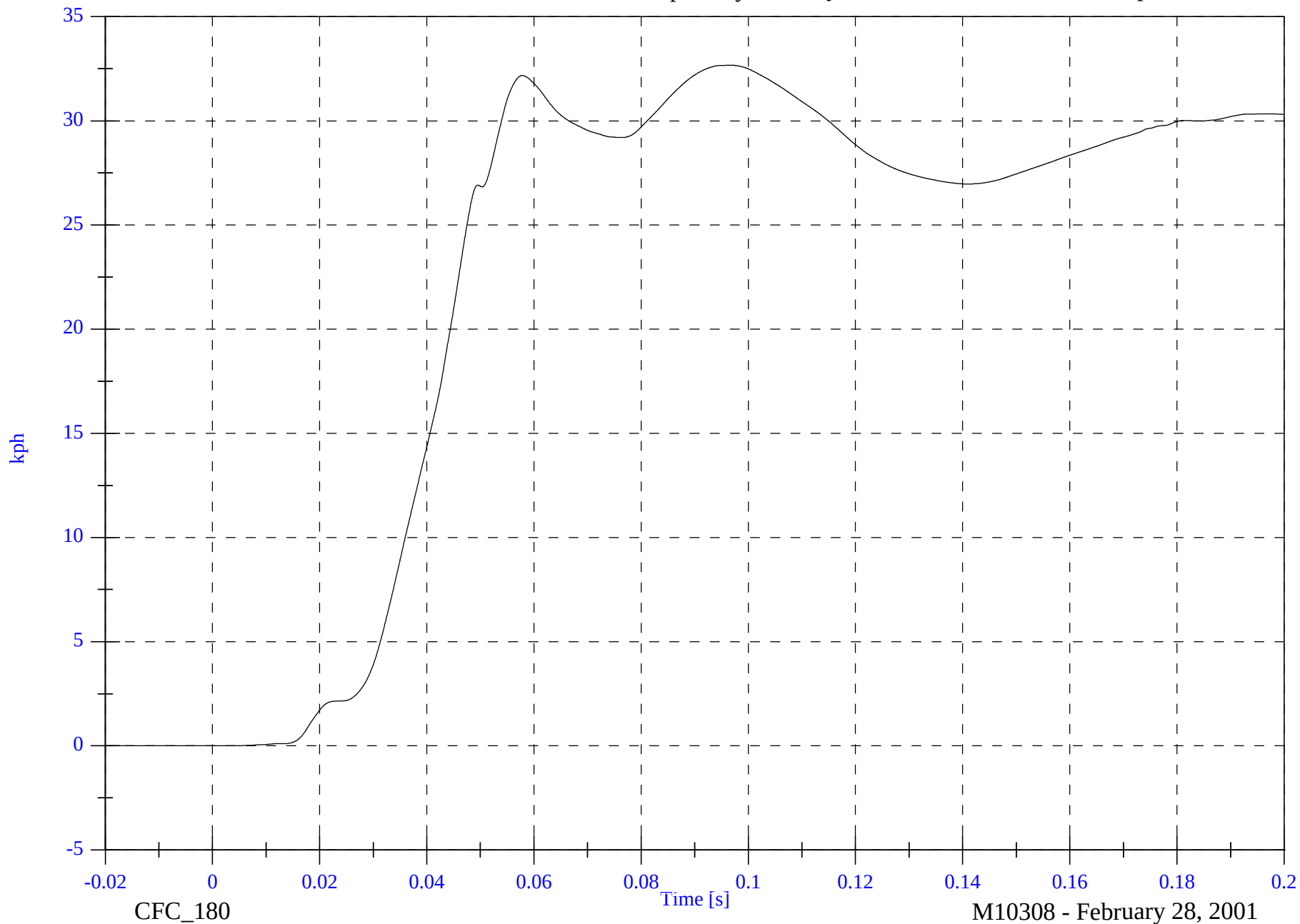


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Lower Spine Ry Velocity

Max: 32.7 [kph] at 0.097 [s]

Min: -0.0 [kph] at -0.019 [s]



B-112

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

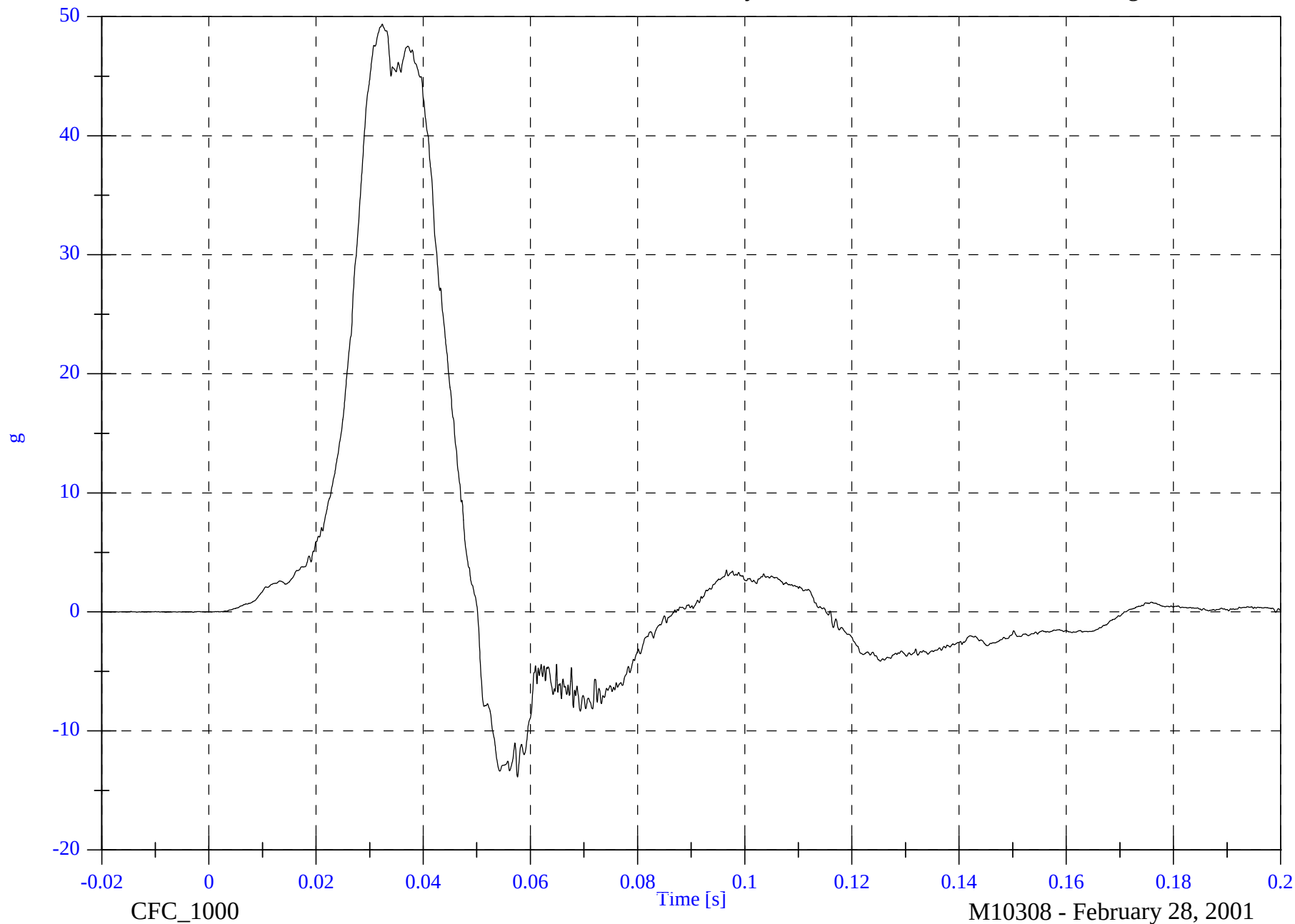
P1 Pelvic Ry

Max: 49.4 [g] at 0.032 [s]

Min: -13.9 [g] at 0.058 [s]

B-113

8506-18

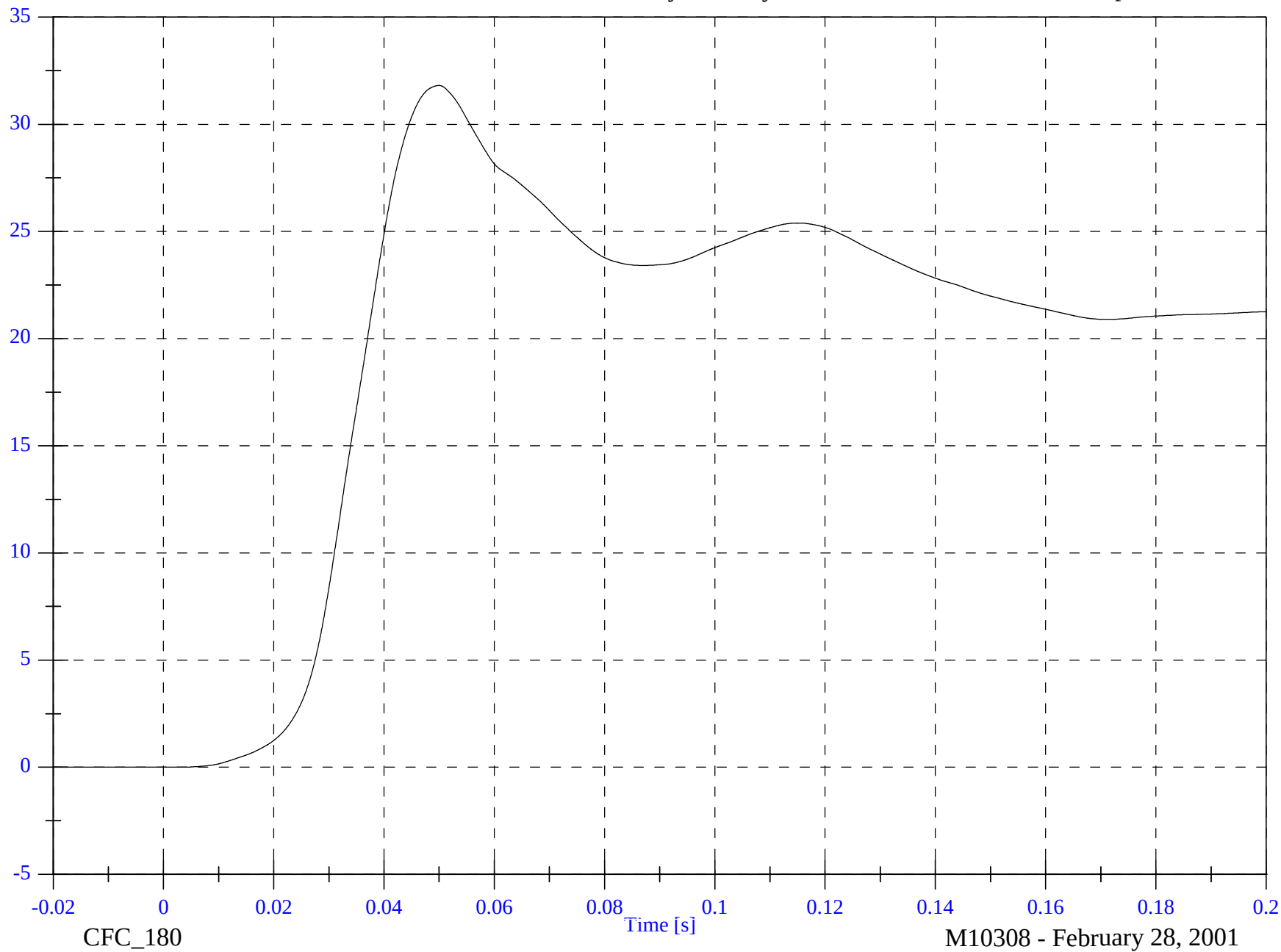


SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Pelvic Ry Velocity

Max: 31.8 [kph] at 0.050 [s]

Min: -0.0 [kph] at -0.003 [s]



B-114

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Upper Rib Ry

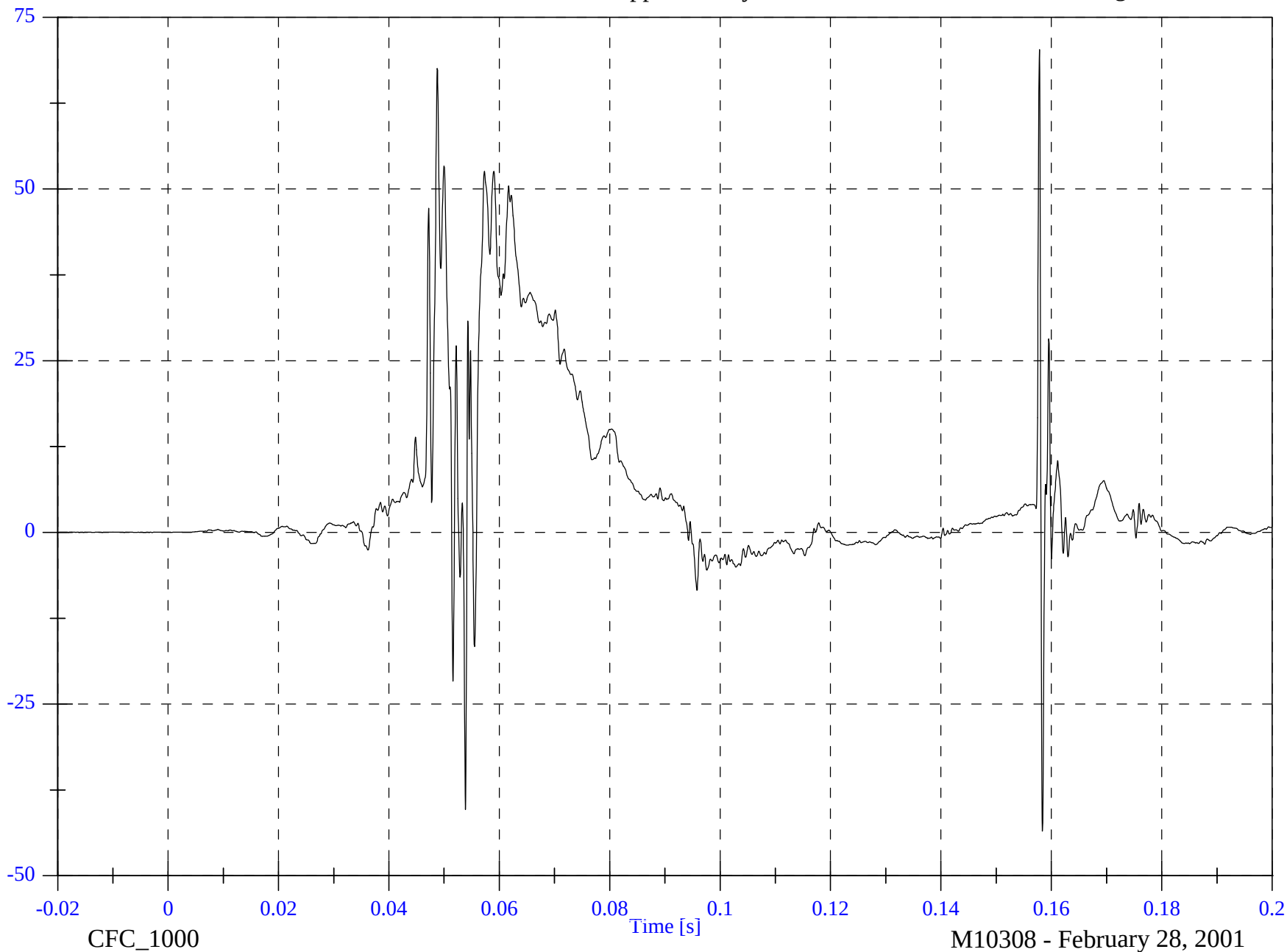
Max: 70.3 [g] at 0.158 [s]

Min: -43.5 [g] at 0.158 [s]

B-115

8506-18

g

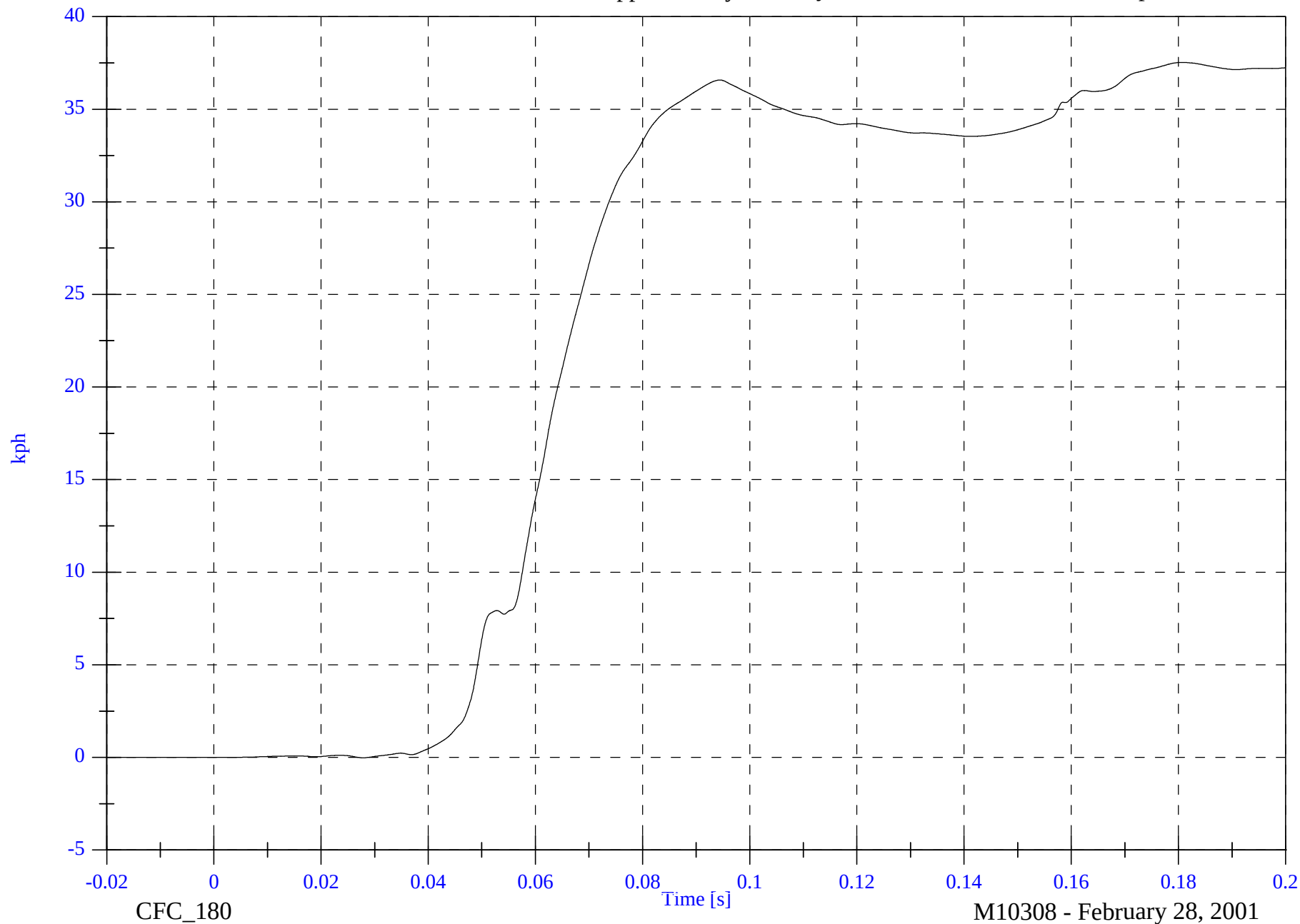


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Upper Rib Ry Velocity

Max: 37.5 [kph] at 0.181 [s]

Min: -0.0 [kph] at 0.028 [s]



B-116

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

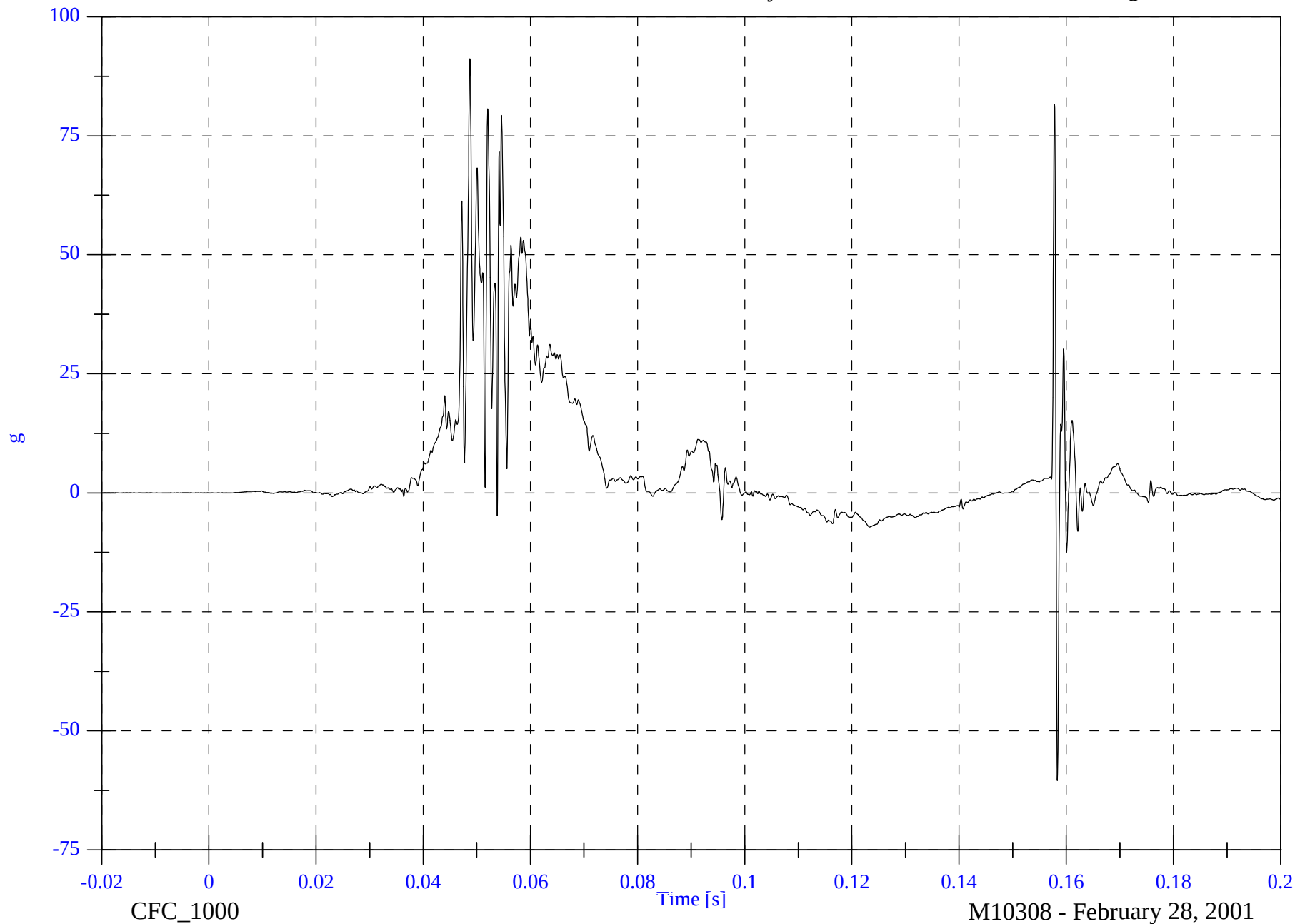
P4 Lower Rib Ry

Max: 91.2 [g] at 0.049 [s]

Min: -60.5 [g] at 0.158 [s]

B-117

8506-18

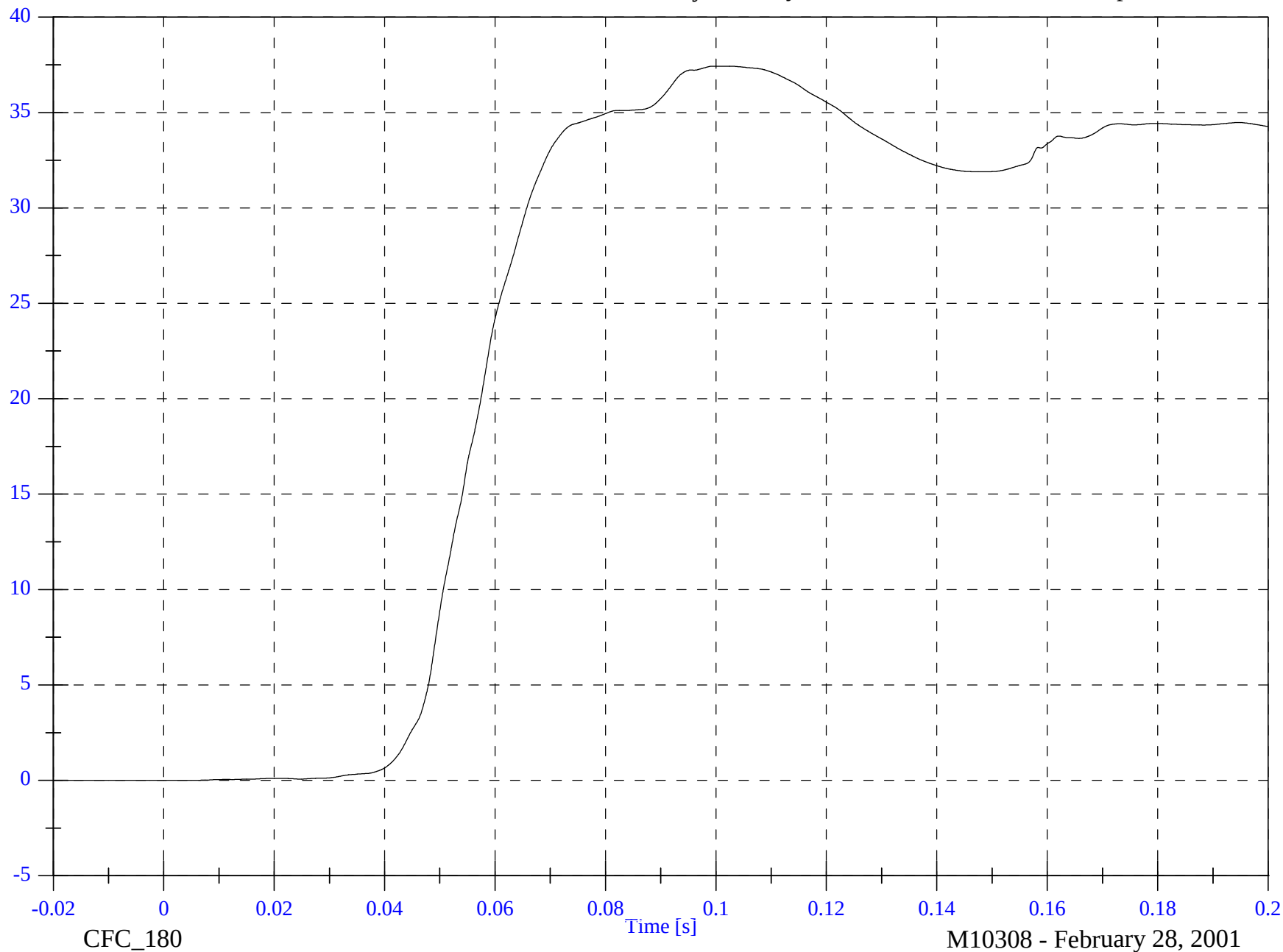


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Lower Rib Ry Velocity

Max: 37.4 [kph] at 0.100 [s]

Min: -0.0 [kph] at -0.020 [s]



B-118

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

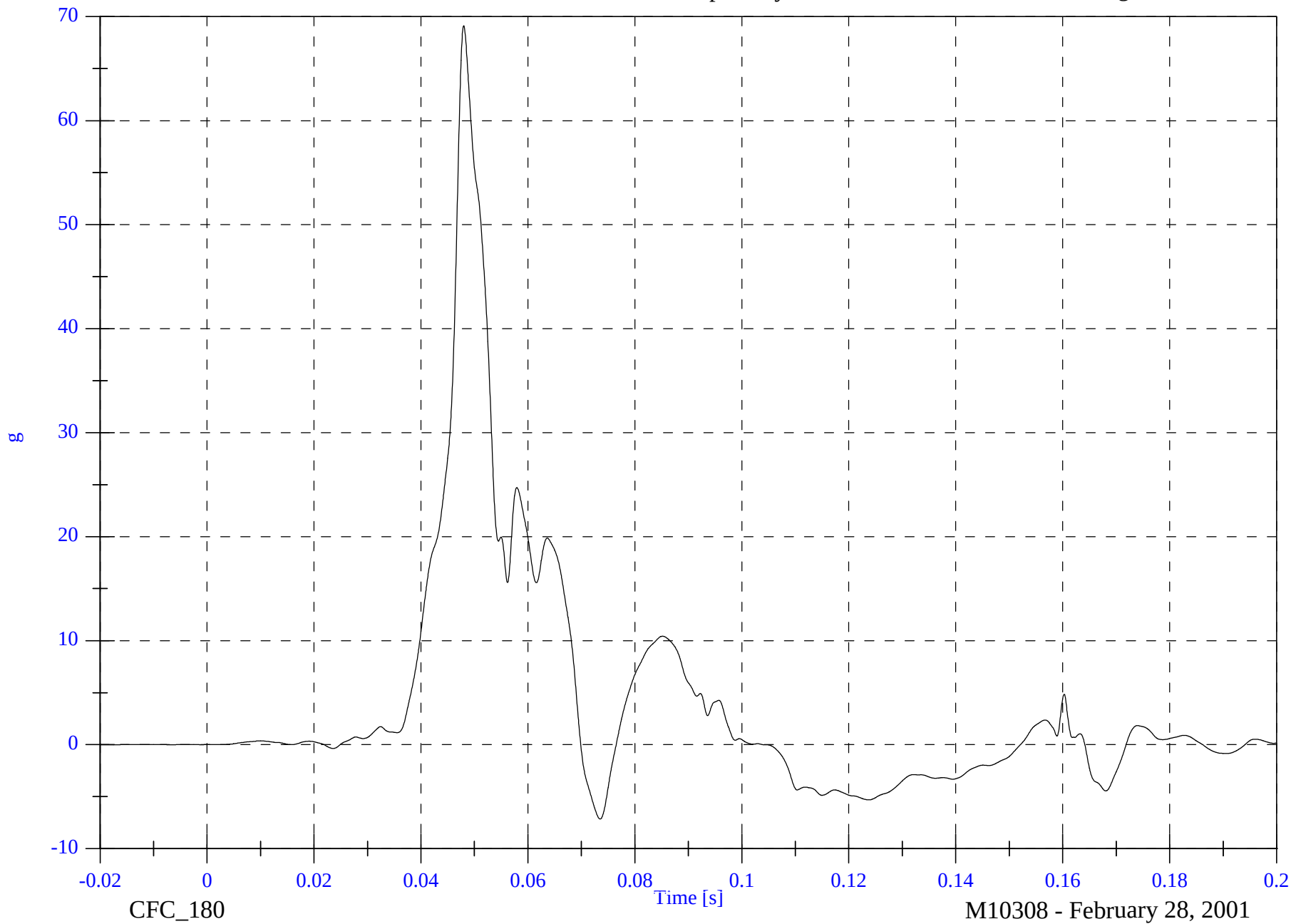
P4 Lower Spine Ry

Max: 69.1 [g] at 0.048 [s]

Min: -7.2 [g] at 0.074 [s]

B-119

8506-18

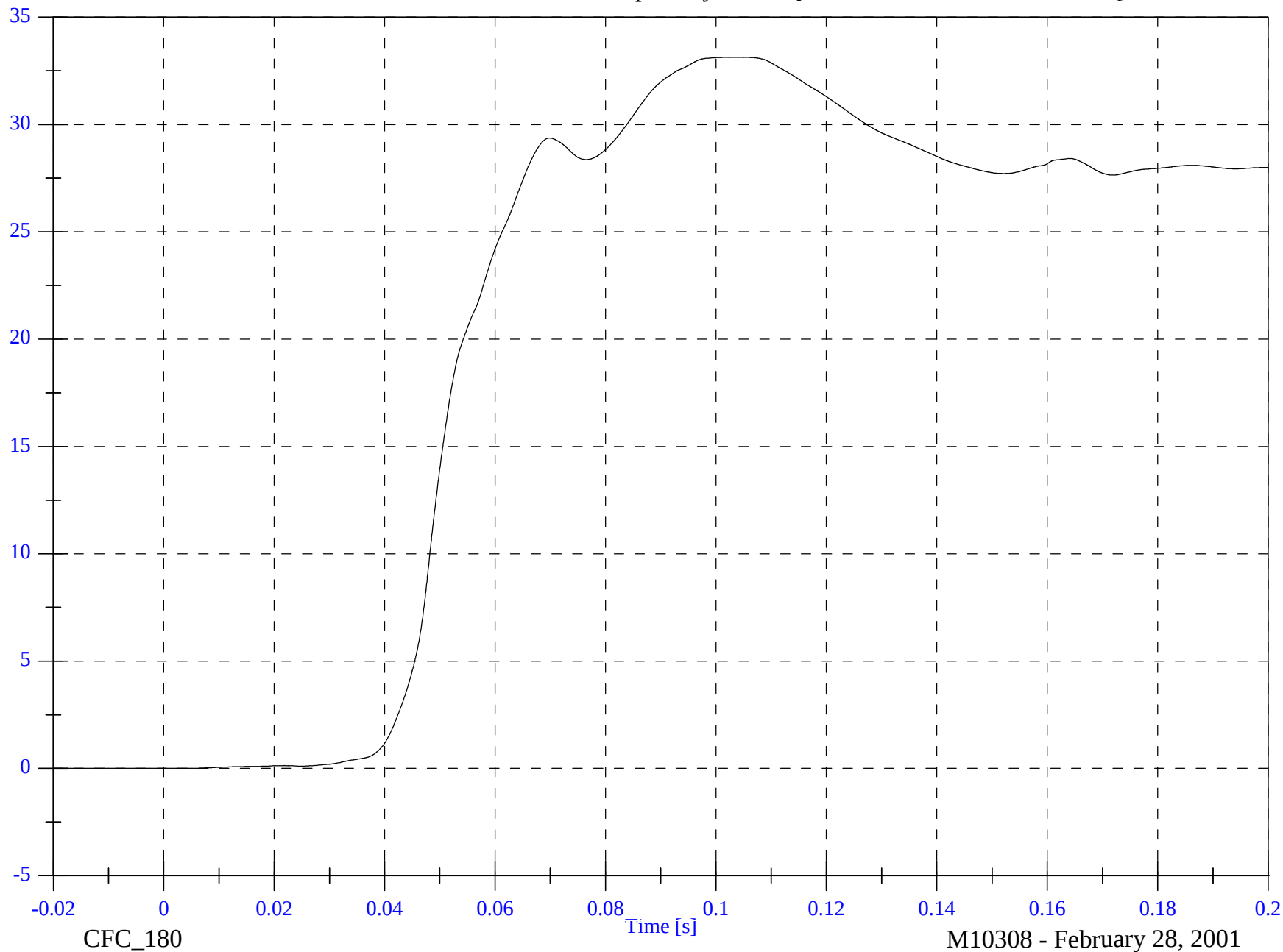


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Lower Spine Ry Velocity

Max: 33.1 [kph] at 0.104 [s]

Min: -0.0 [kph] at -0.016 [s]



B-120

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

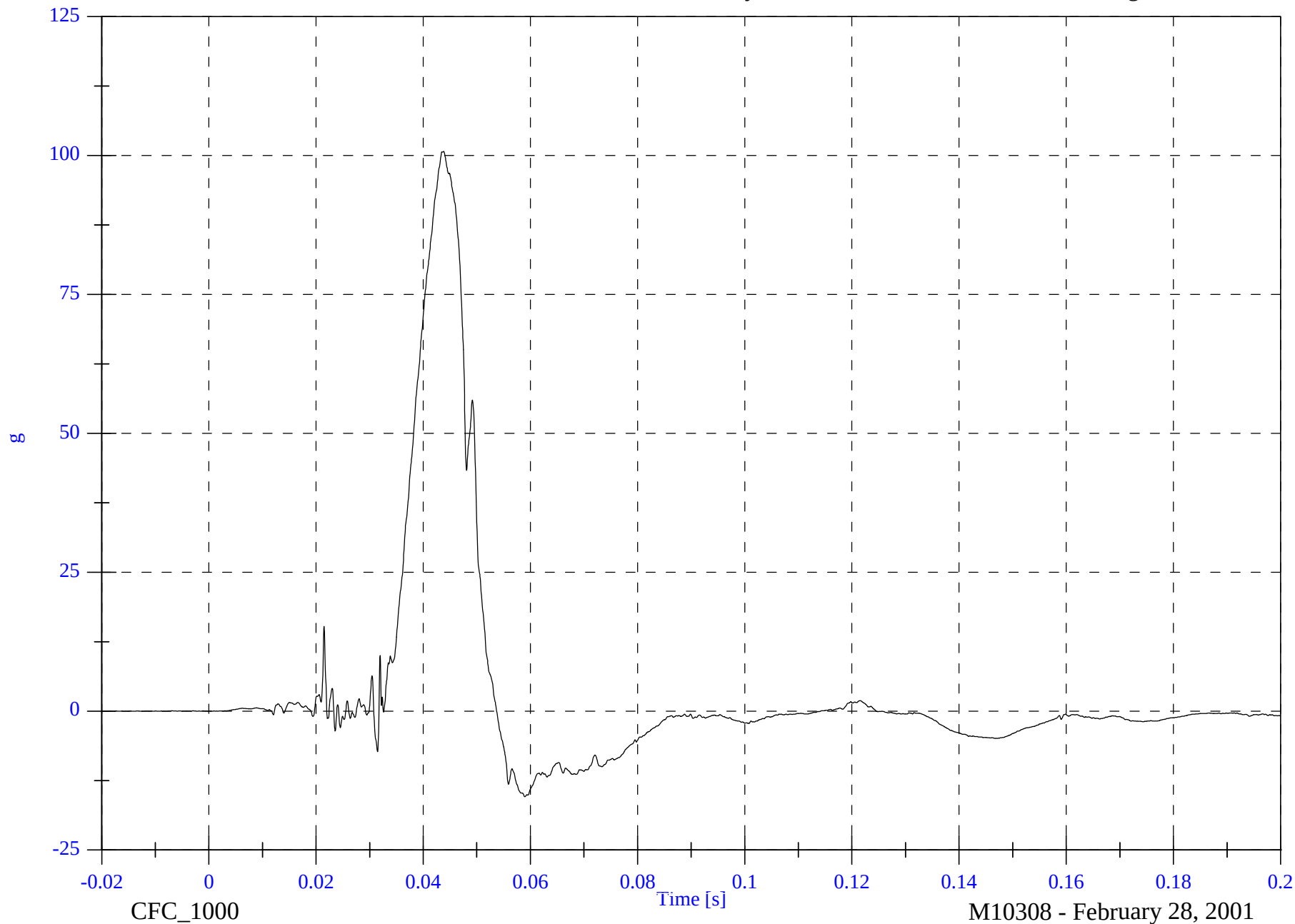
P4 Pelvic Ry

Max: 100.8 [g] at 0.044 [s]

Min: -15.4 [g] at 0.059 [s]

B-121

8506-18

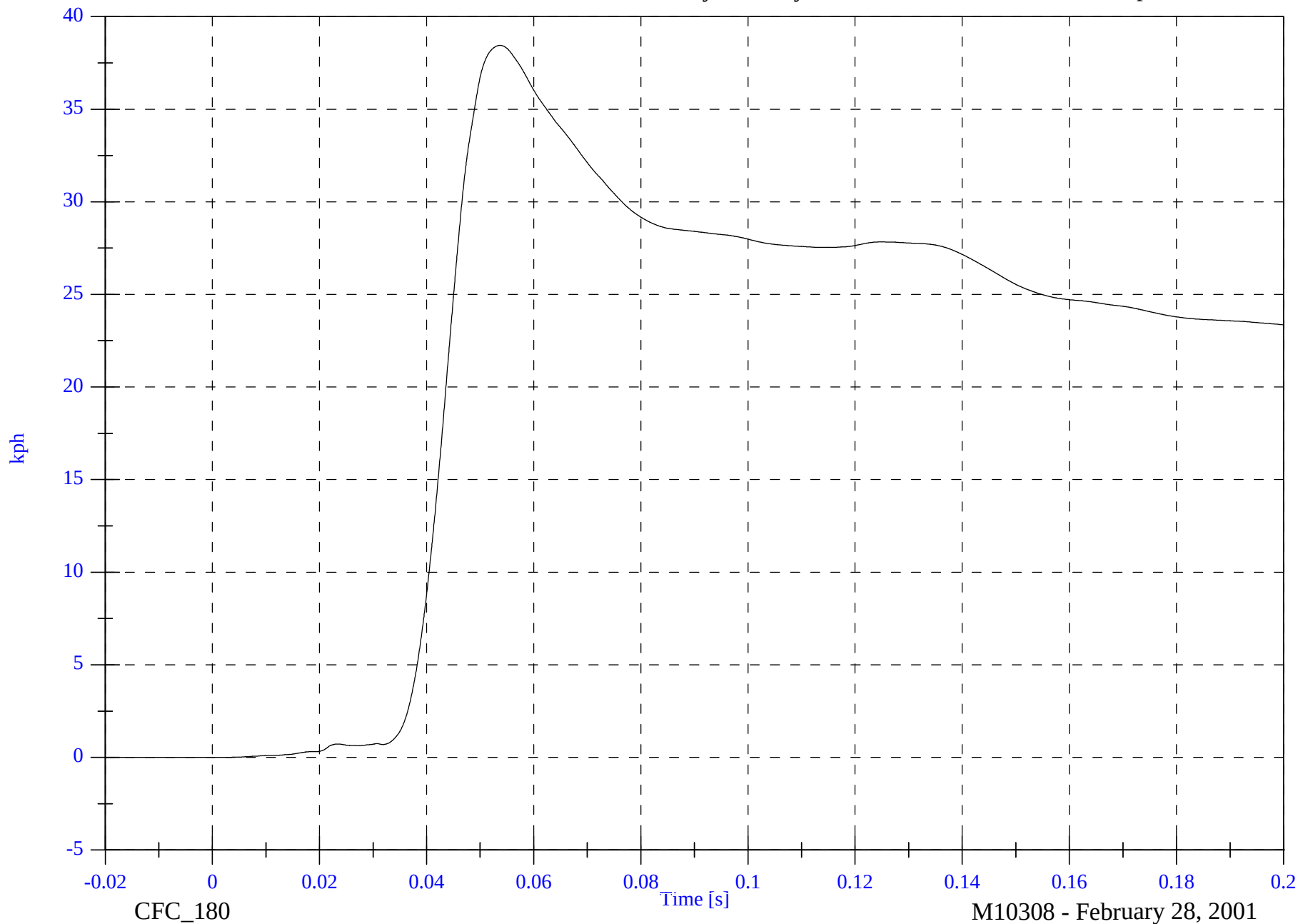


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Pelvic Ry Velocity

Max: 38.5 [kph] at 0.054 [s]

Min: -0.0 [kph] at -0.015 [s]



B-122

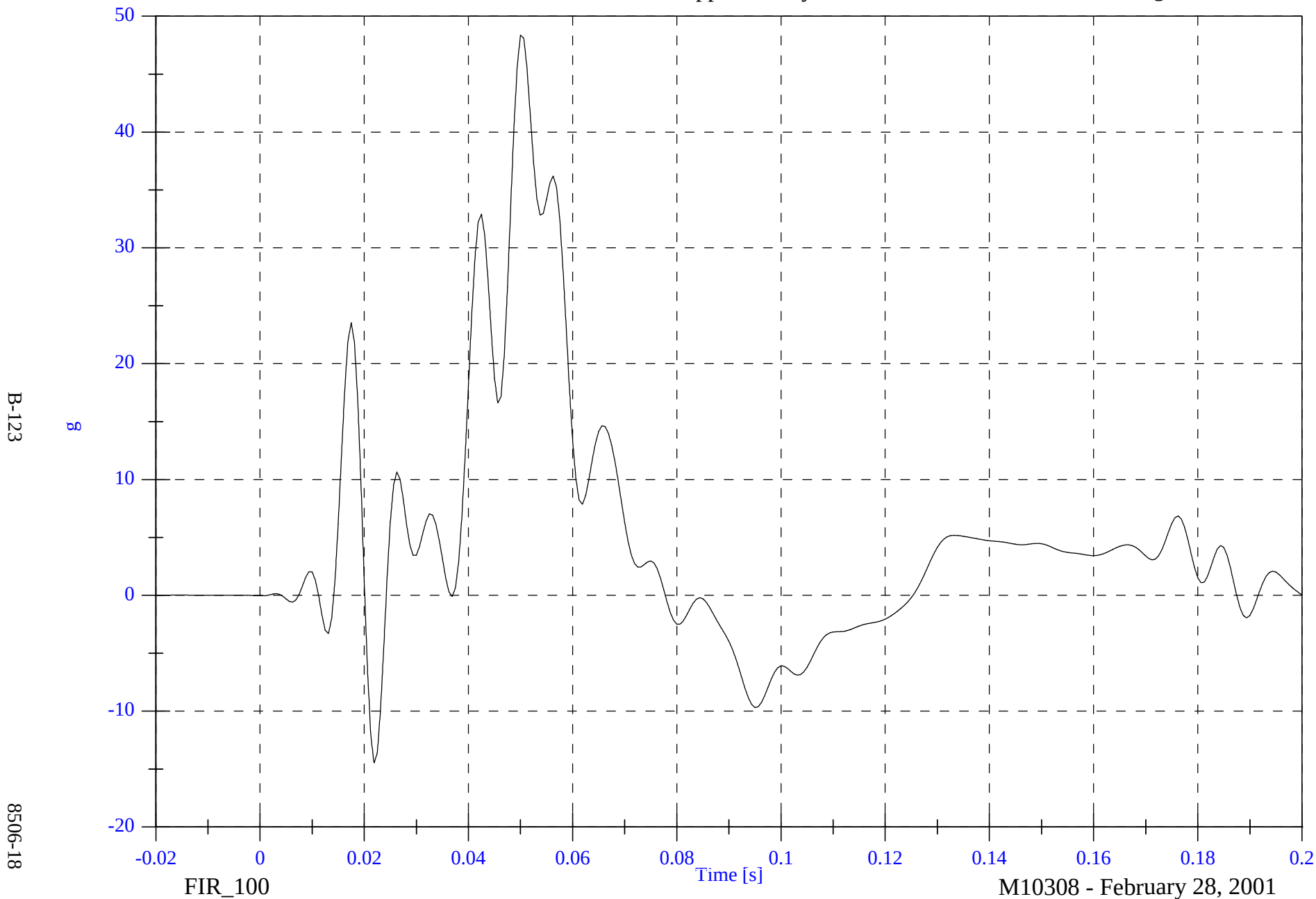
8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

P1 Upper Rib Ry

Max: 48.4 [g] at 0.050 [s]

Min: -14.5 [g] at 0.022 [s]



SNCAP Test 18 - 2001 Dodge Grand Caravan

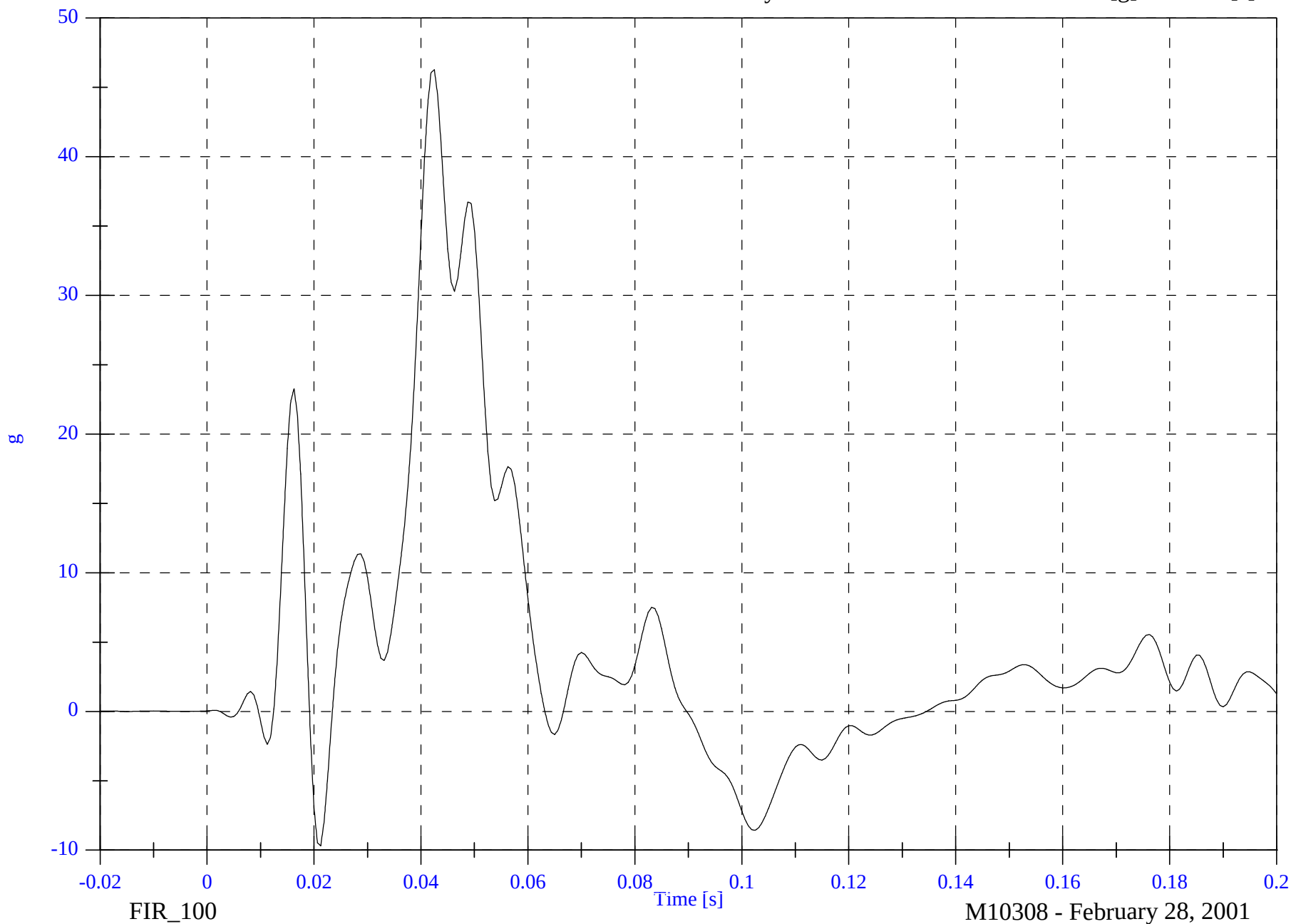
P1 Lower Rib Ry

Max: 46.3 [g] at 0.043 [s]

Min: -9.7 [g] at 0.021 [s]

B-124

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

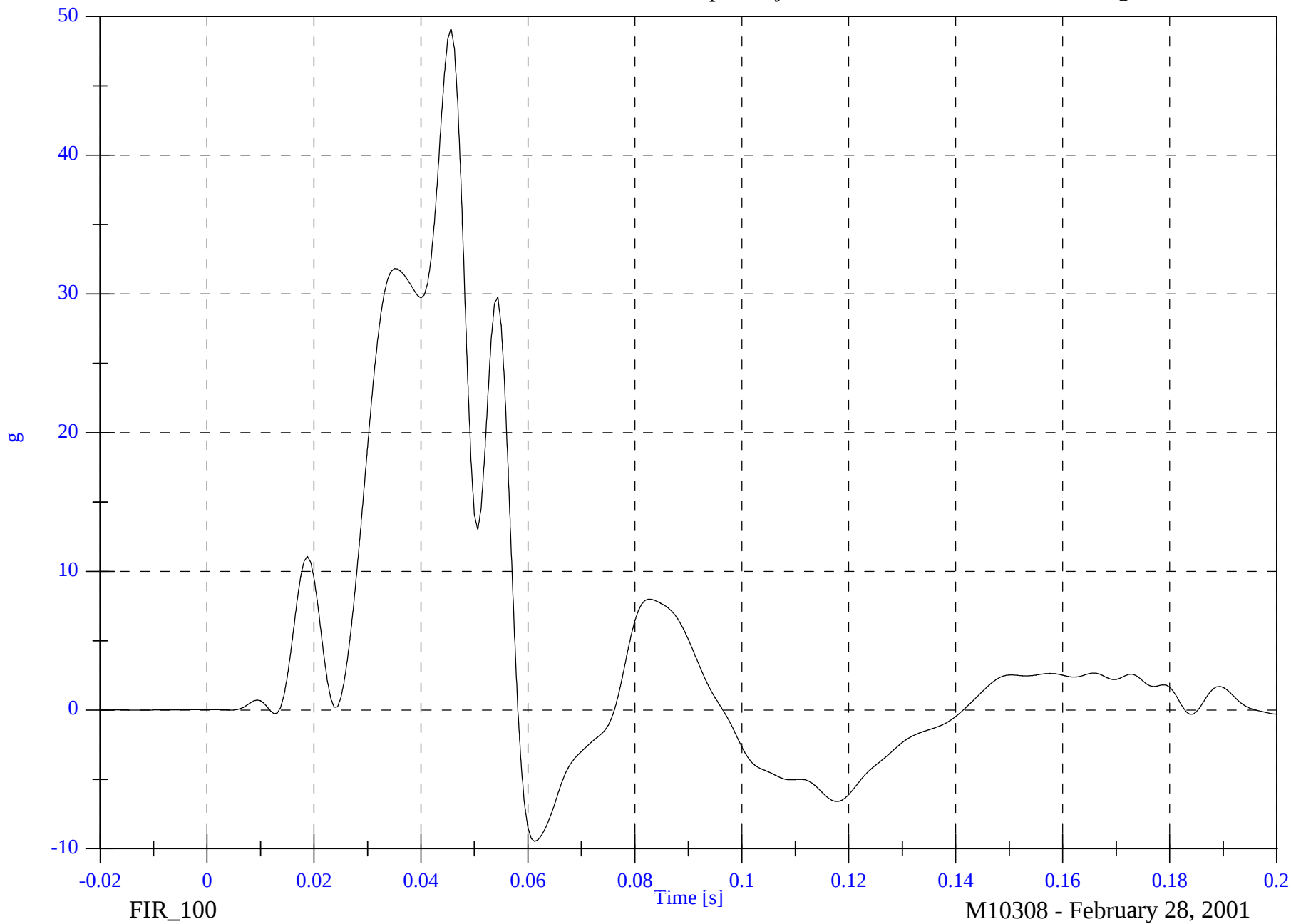
P1 Lower Spine Ry

Max: 49.1 [g] at 0.046 [s]

Min: -9.5 [g] at 0.061 [s]

B-125

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

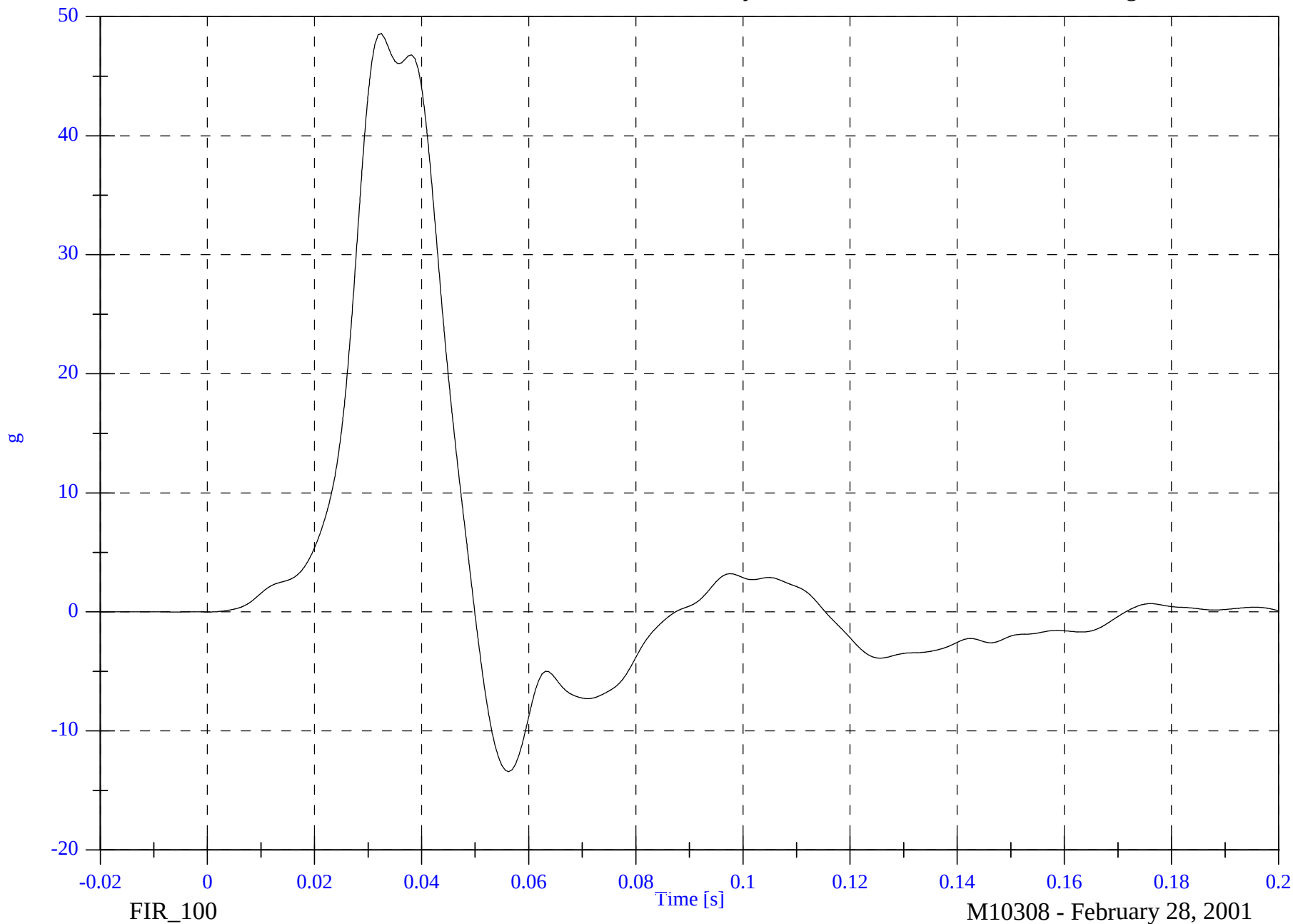
P1 Pelvic Ry

Max: 48.6 [g] at 0.033 [s]

Min: -13.4 [g] at 0.056 [s]

B-126

8506-18

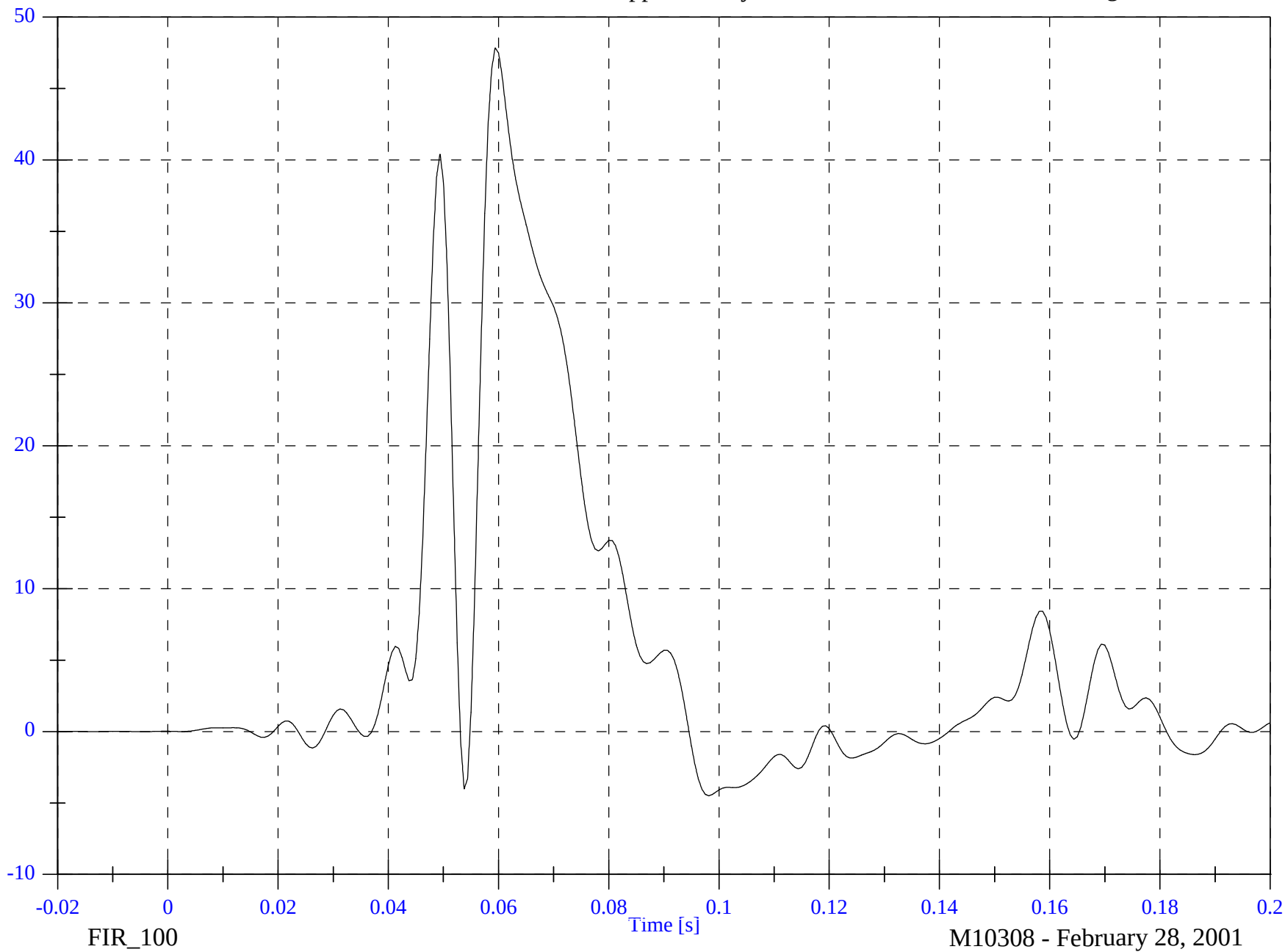


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Upper Rib Ry

Max: 47.8 [g] at 0.059 [s]

Min: -4.5 [g] at 0.098 [s]



B-127

8506-18

SNCAP Test 18 - 2001 Dodge Grand Caravan

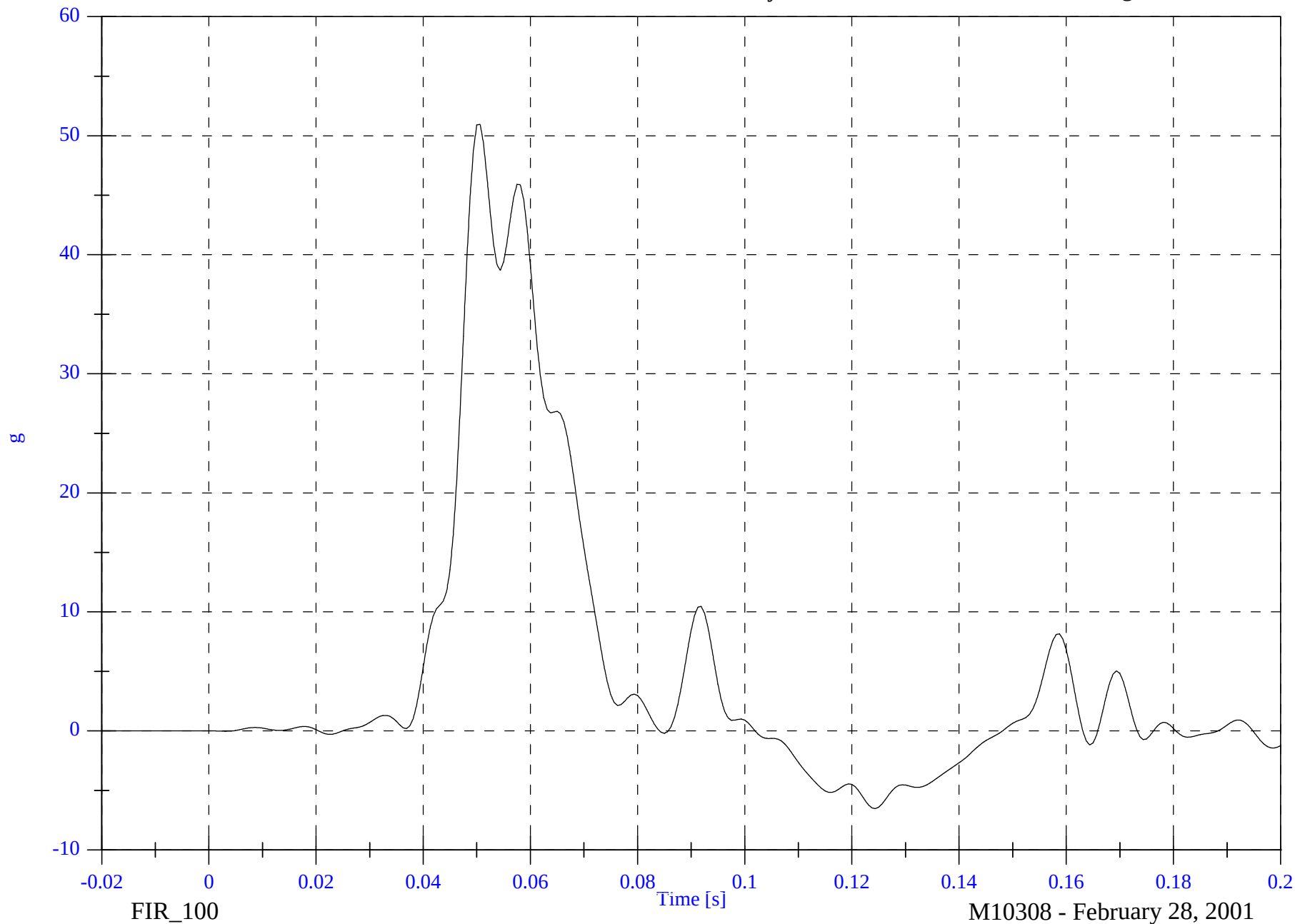
P4 Lower Rib Ry

Max: 51.0 [g] at 0.051 [s]

Min: -6.5 [g] at 0.124 [s]

B-128

8506-18



SNCAP Test 18 - 2001 Dodge Grand Caravan

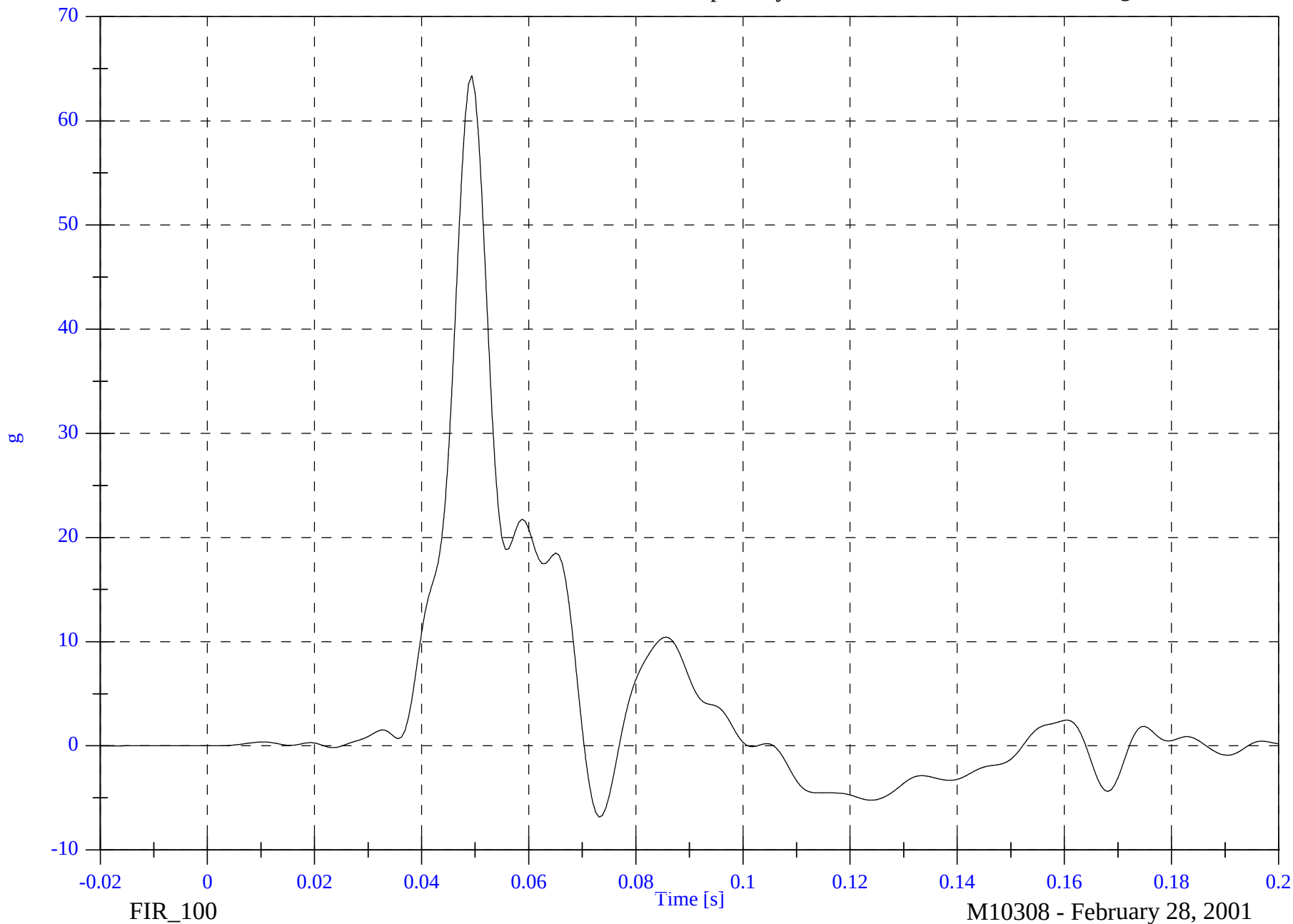
P4 Lower Spine Ry

Max: 64.3 [g] at 0.049 [s]

Min: -6.8 [g] at 0.073 [s]

B-129

8506-18

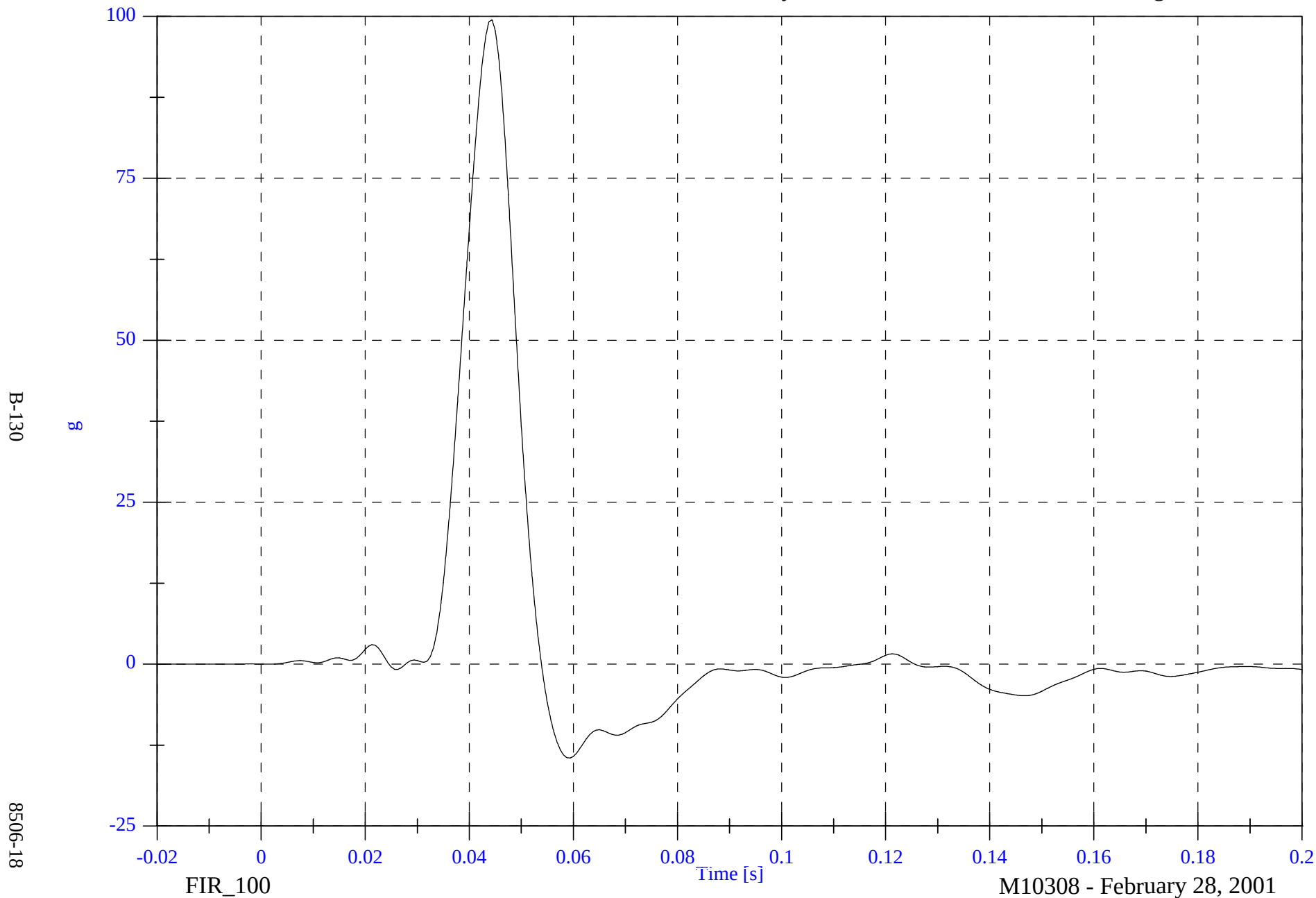


SNCAP Test 18 - 2001 Dodge Grand Caravan

P4 Pelvic Ry

Max: 99.5 [g] at 0.044 [s]

Min: -14.5 [g] at 0.059 [s]



APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 3/2/0; 3/2/01 Sequential Test Number: 1.1; 1.1
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID NO.: 026		SID NO.: 027	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	907	907
RH- Rib Height (mm)	501 - 521	518	518	518	518
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	239	236	236	236
KV- Knee Pivot from Back Line (mm)	511 - 526	518	518	518	518
SW- Knee Pivot to Floor (mm)	490 - 505	495	493	493	493
HW- Hip Width (mm)	356 - 391	371	371	368	370
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.7	21.1	21.1
RELATIVE HUMIDITY (%)	10 -70	30	32	31	32
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.30	4.33	4.32
UPPER RIB (g's)	37 - 46	38.5	37.4	37.2	39.2
LOWER RIB (g's)	37 - 46	37.4	38.3	38.6	39.2
LOWER SPINE (g's)	15 -22	20.1	21.7	21.0	21.1
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.7	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	30	32	31	32
PROBE SPEED (m/s)	4.27 - 4.33	4.29	4.29	4.27	4.27
PELVIS (g's)	40 -60	43.8	40.6	49.7	50.1

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 026

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 2/19/01 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 2/19/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

THORACIC SHOCK ABSORBER TESTS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1.1
Date: 1/16/01 Laboratory Technician: B. Swiecicki

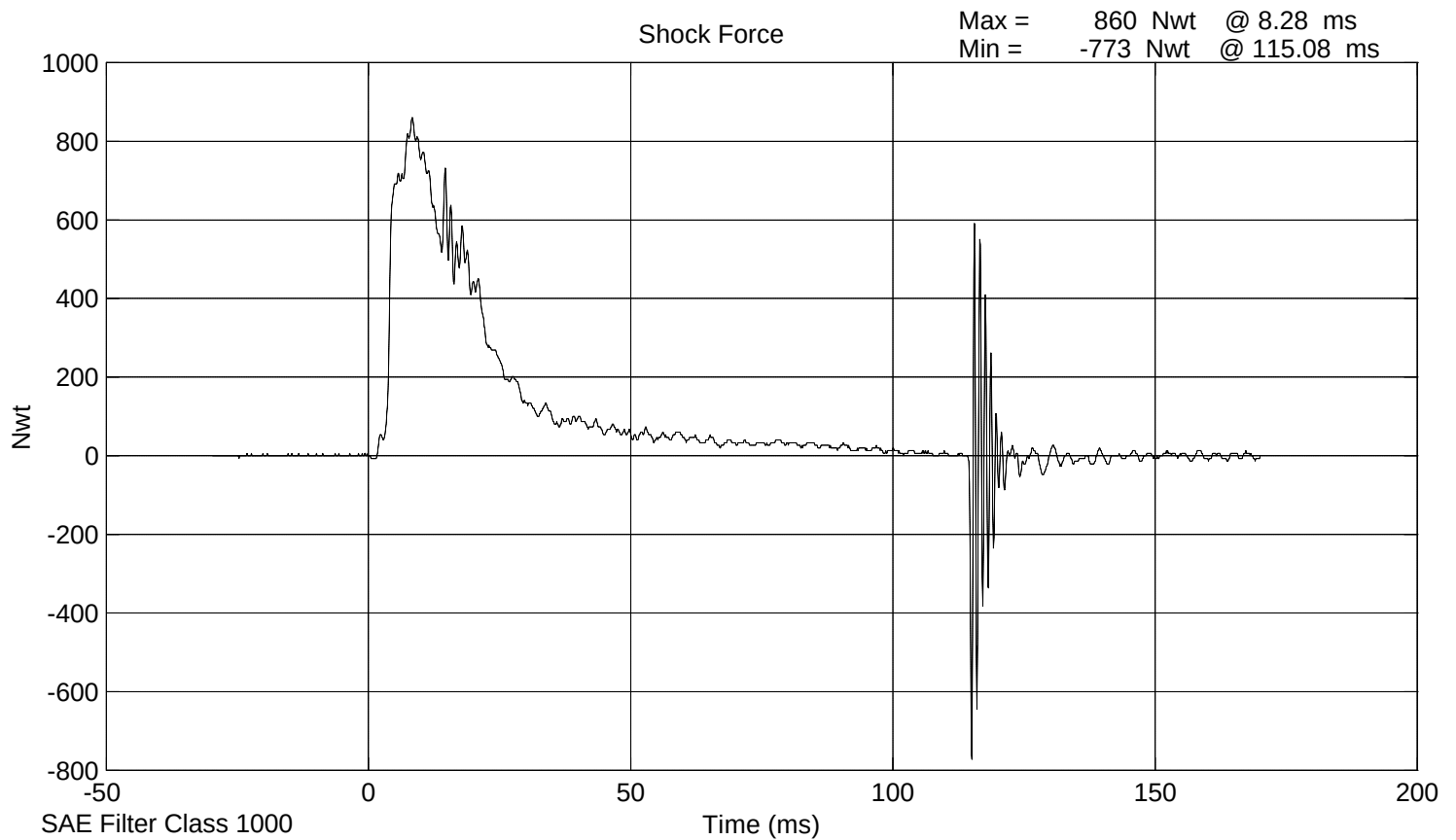
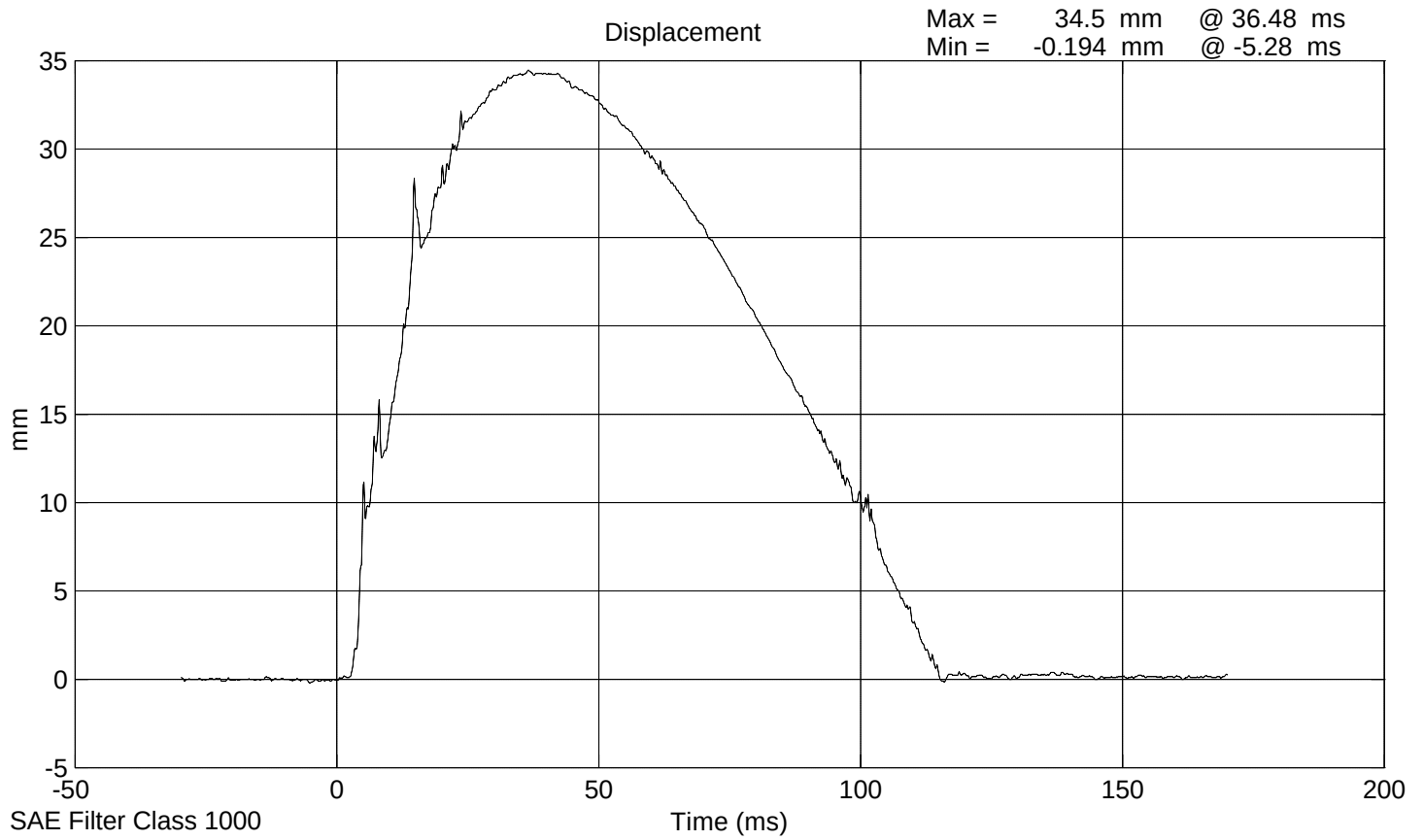
DAMPER IDENTIFICATION: 026

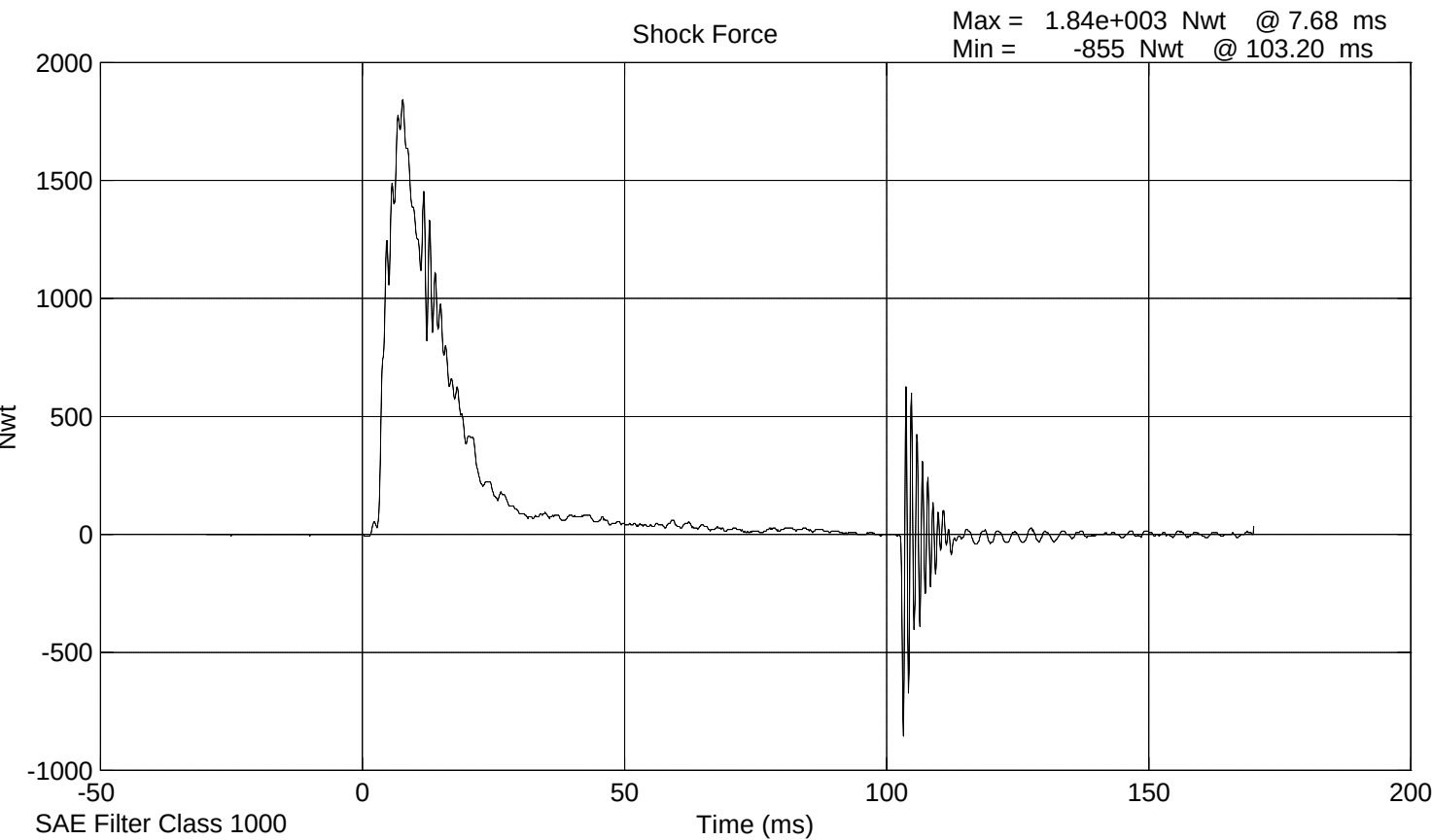
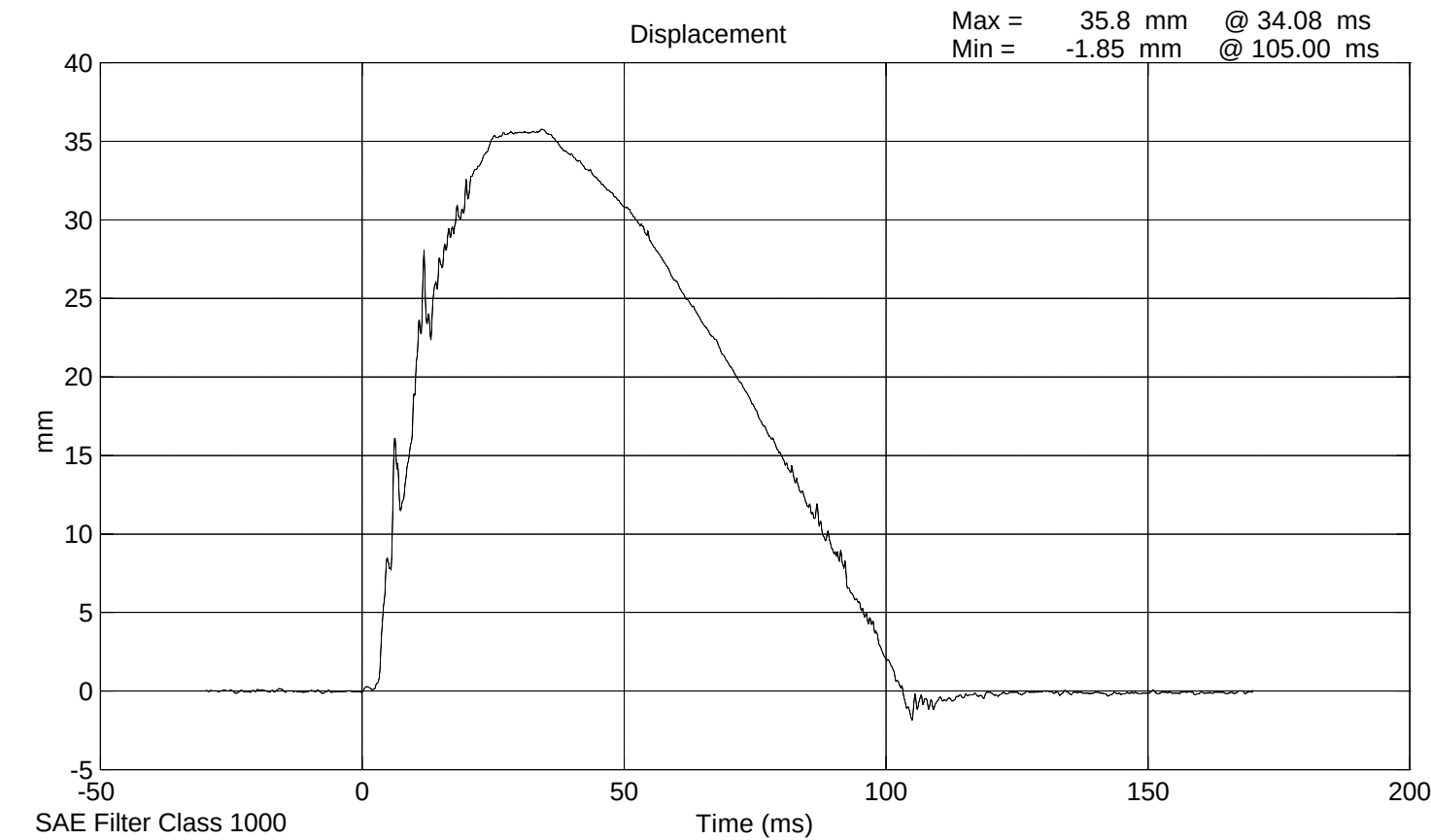
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	30
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	859.7
	DISPLACEMENT (mm)	30 - 35	34.5
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1845.0
	DISPLACEMENT (mm)	32 - 37	35.8
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3917.8
	DISPLACEMENT (mm)	33 - 40	37.7

DAMPER SETTING: 5

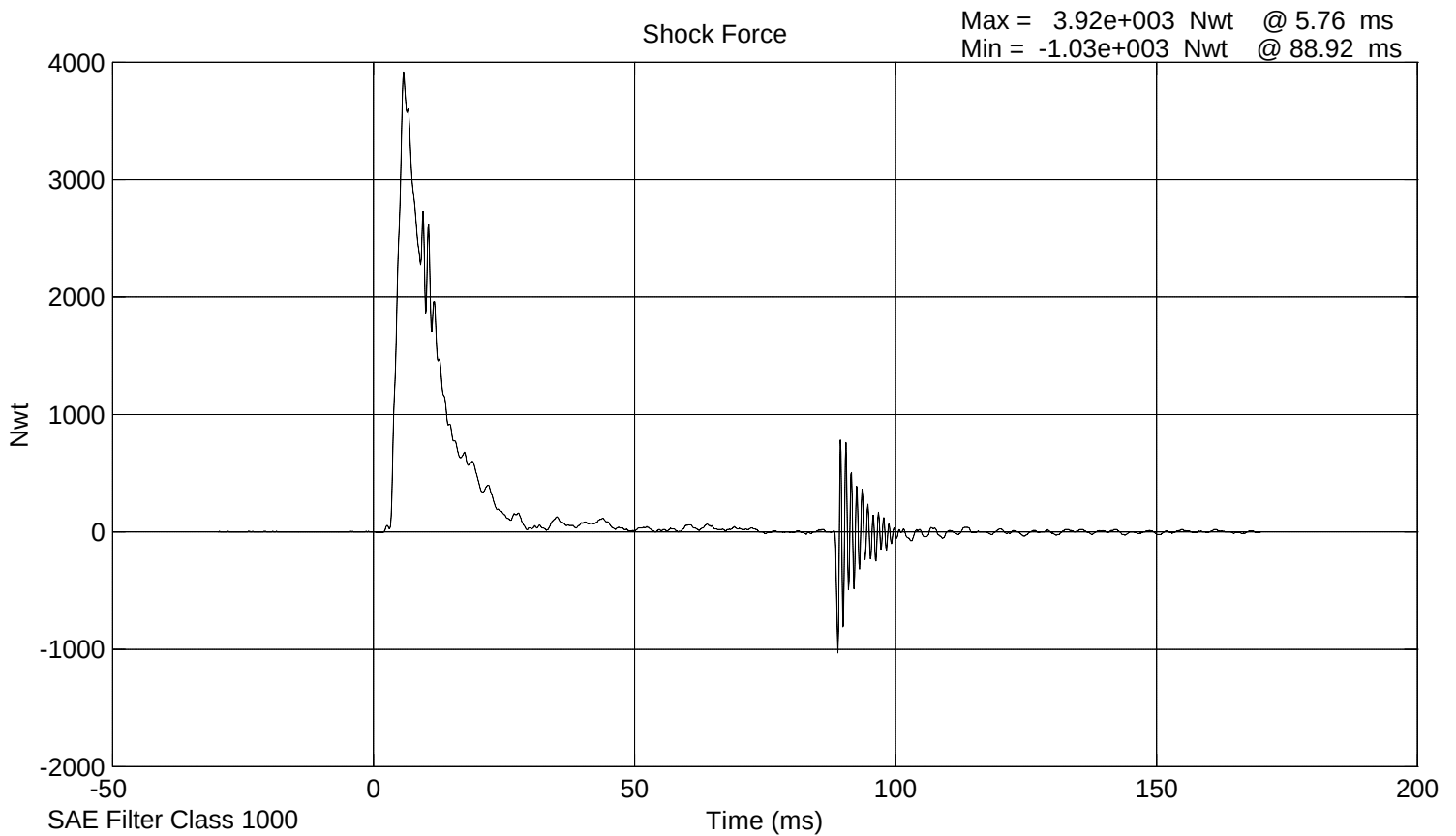
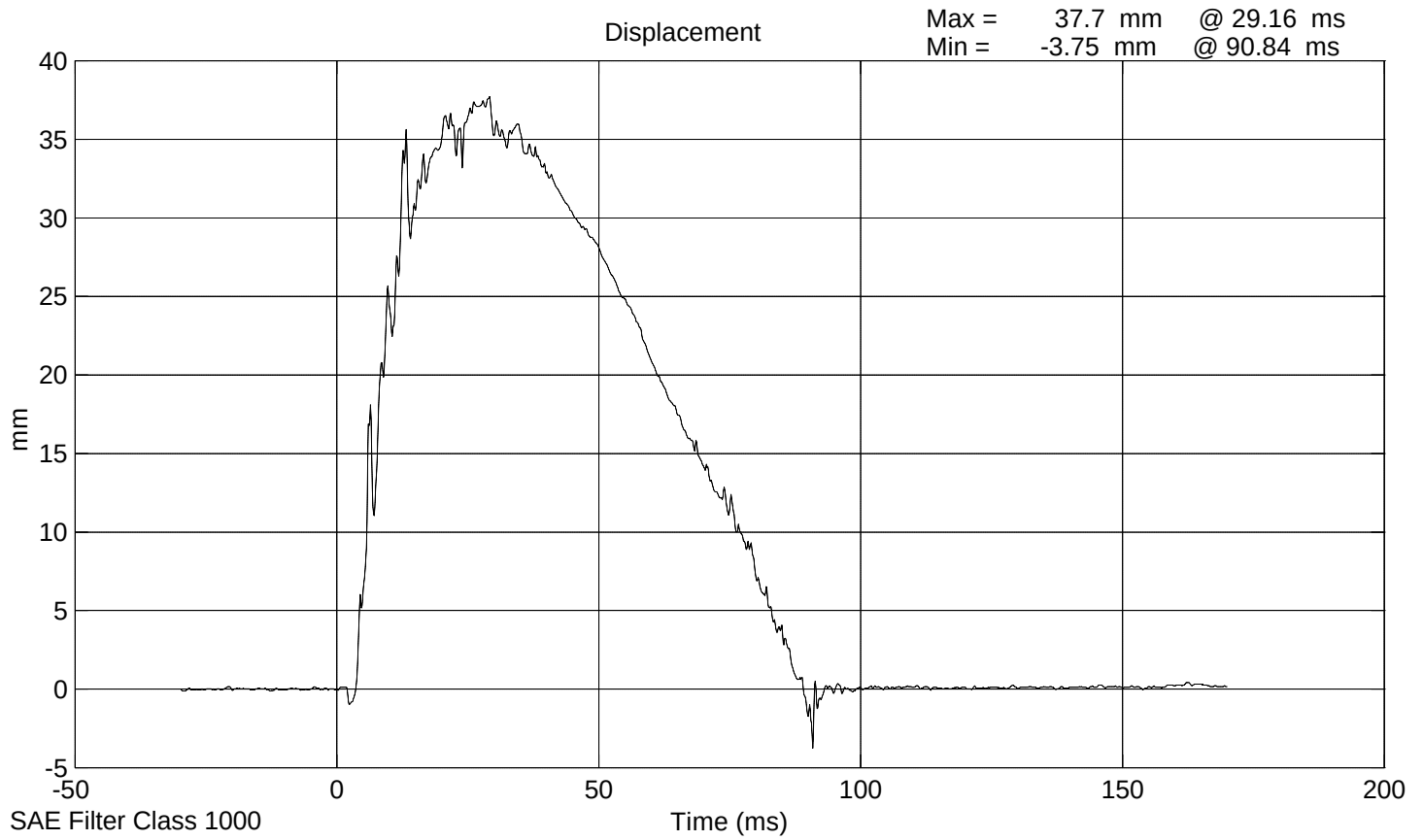
REMARKS: None

sid 026 shock absorber impact test @ 3.048 m/s





sid 026 shock absorber impact test @ 6.096 m/s



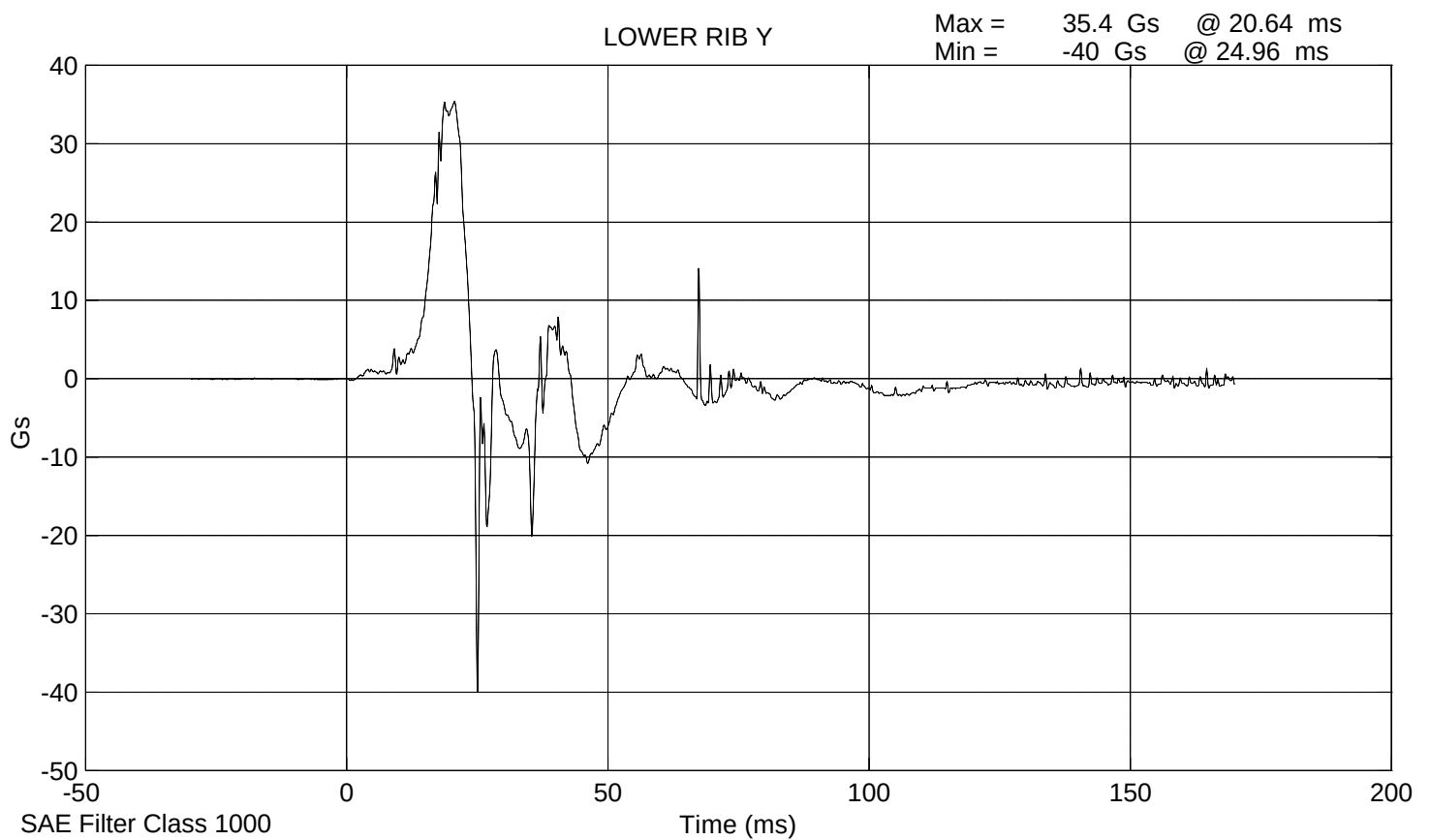
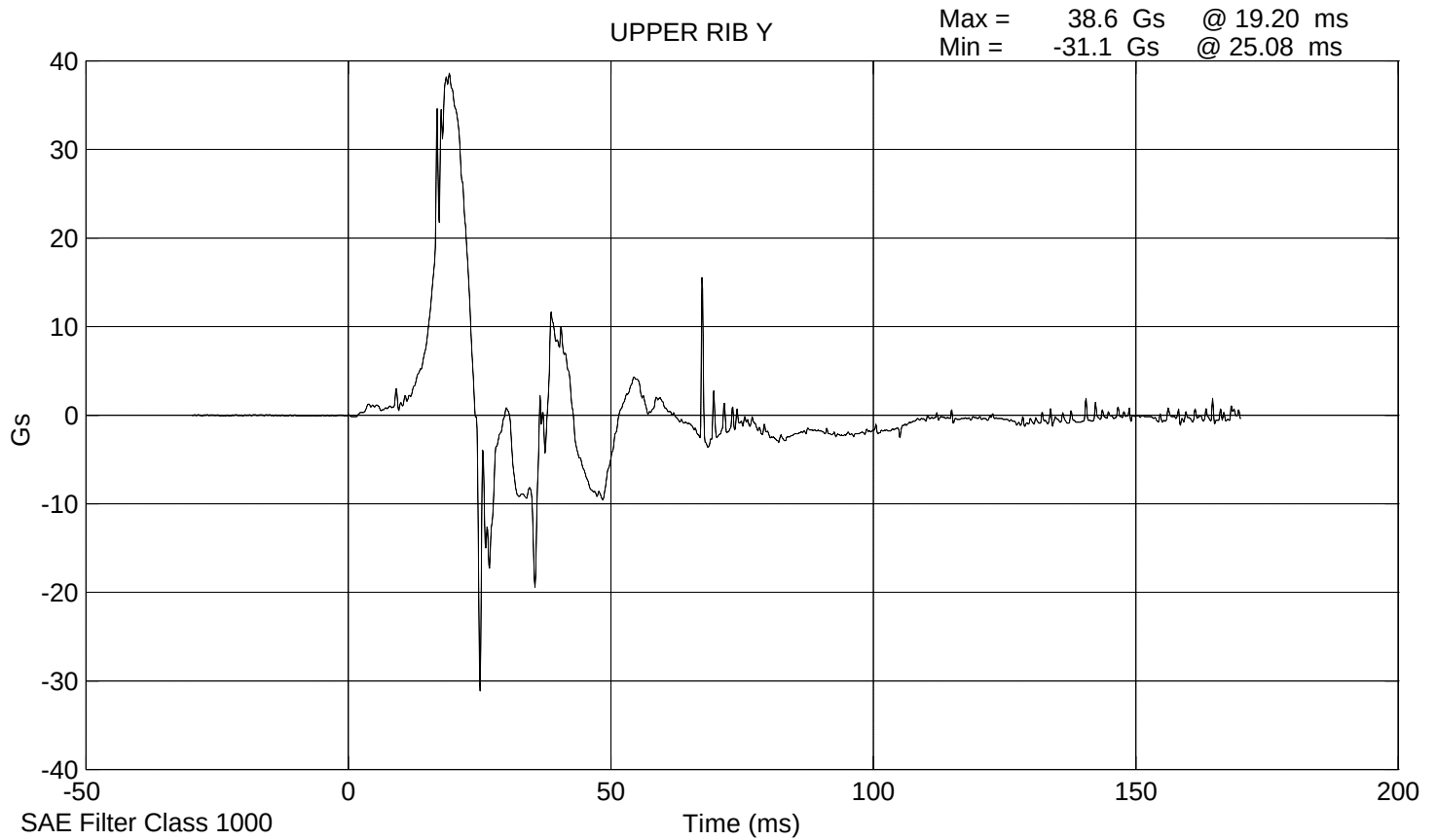
**LATERAL THORAX IMPACT TEST
PRE-TEST**

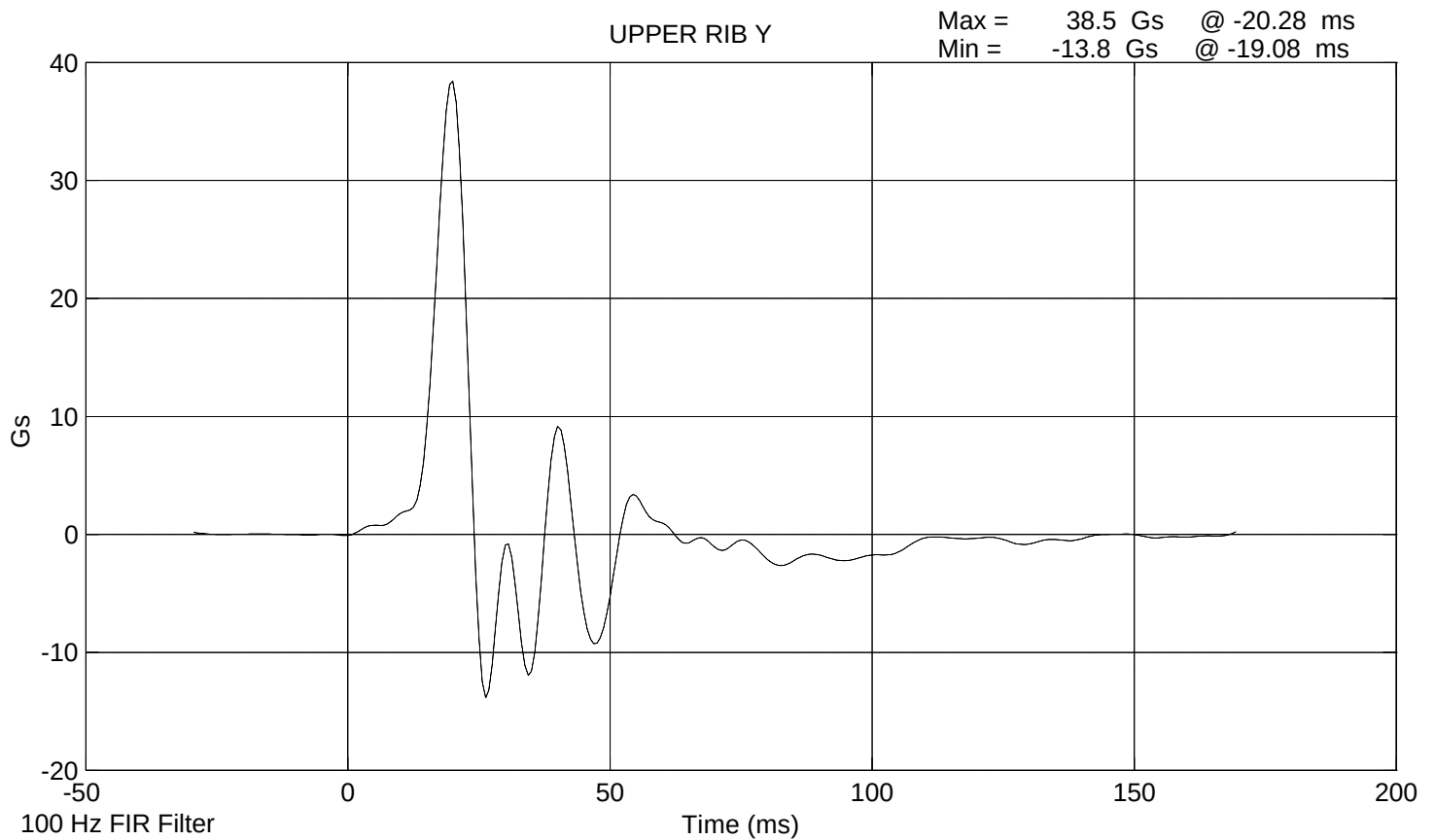
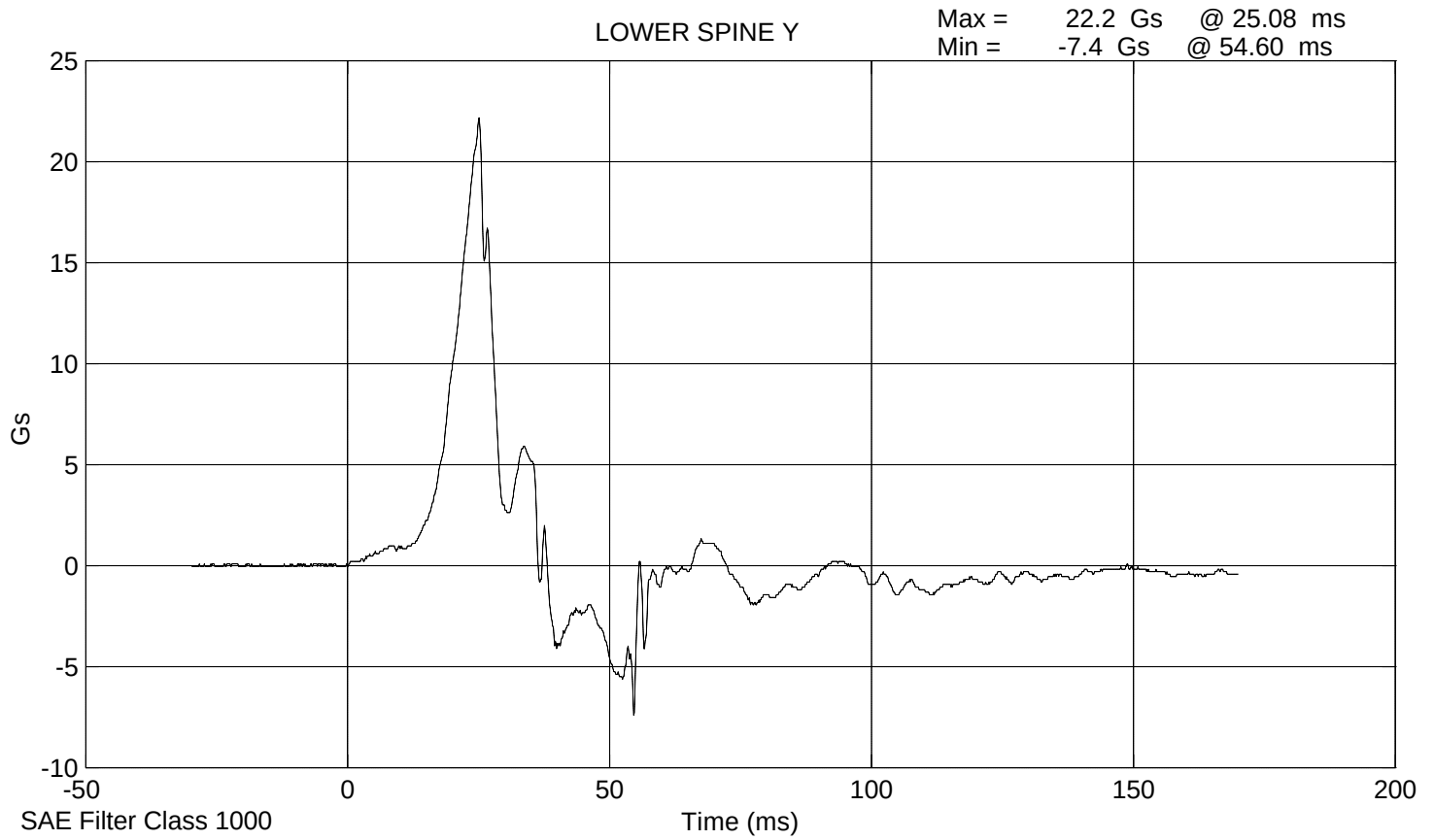
CONFIGURED FOR LEFT SIDE IMPACT

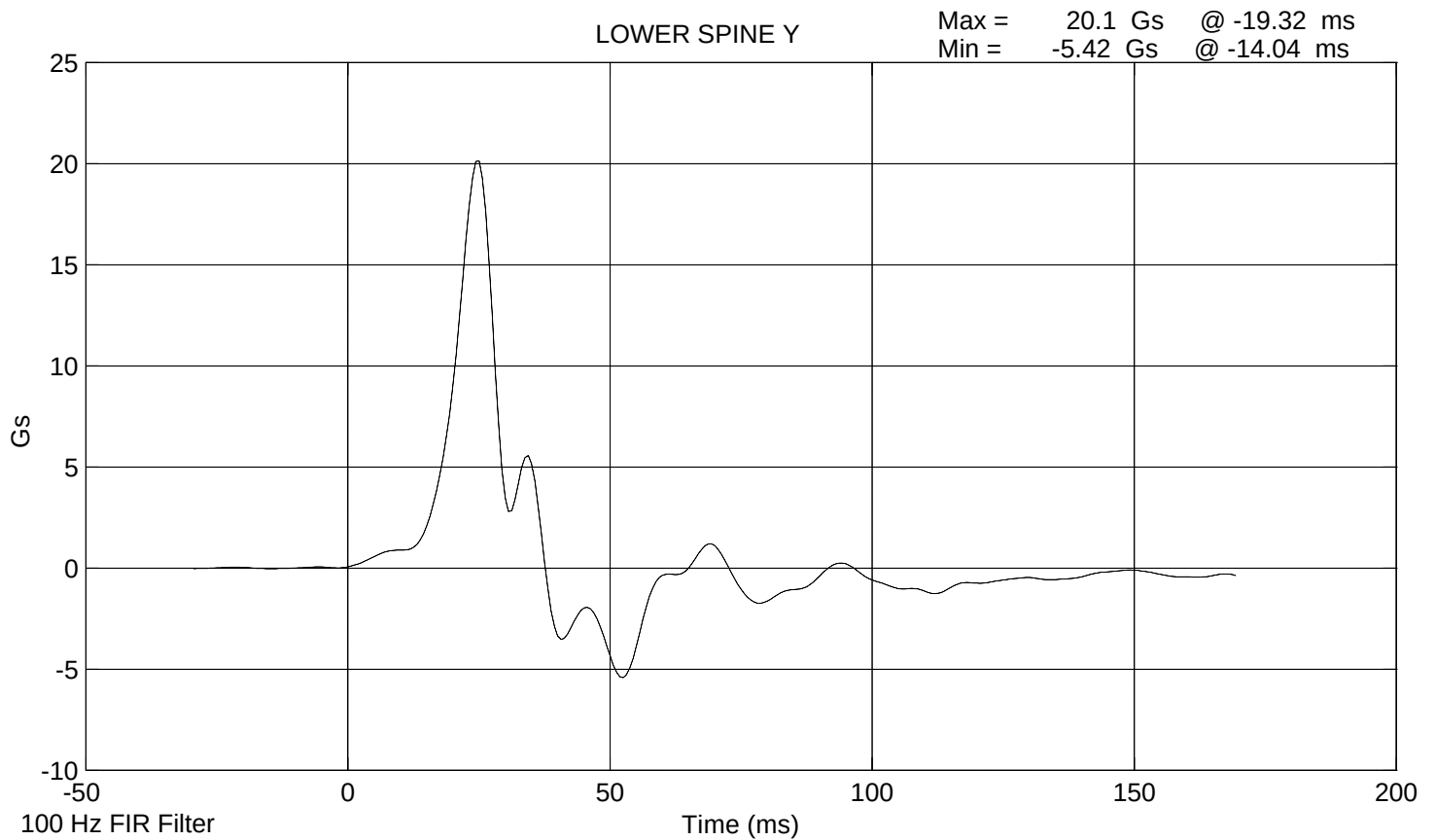
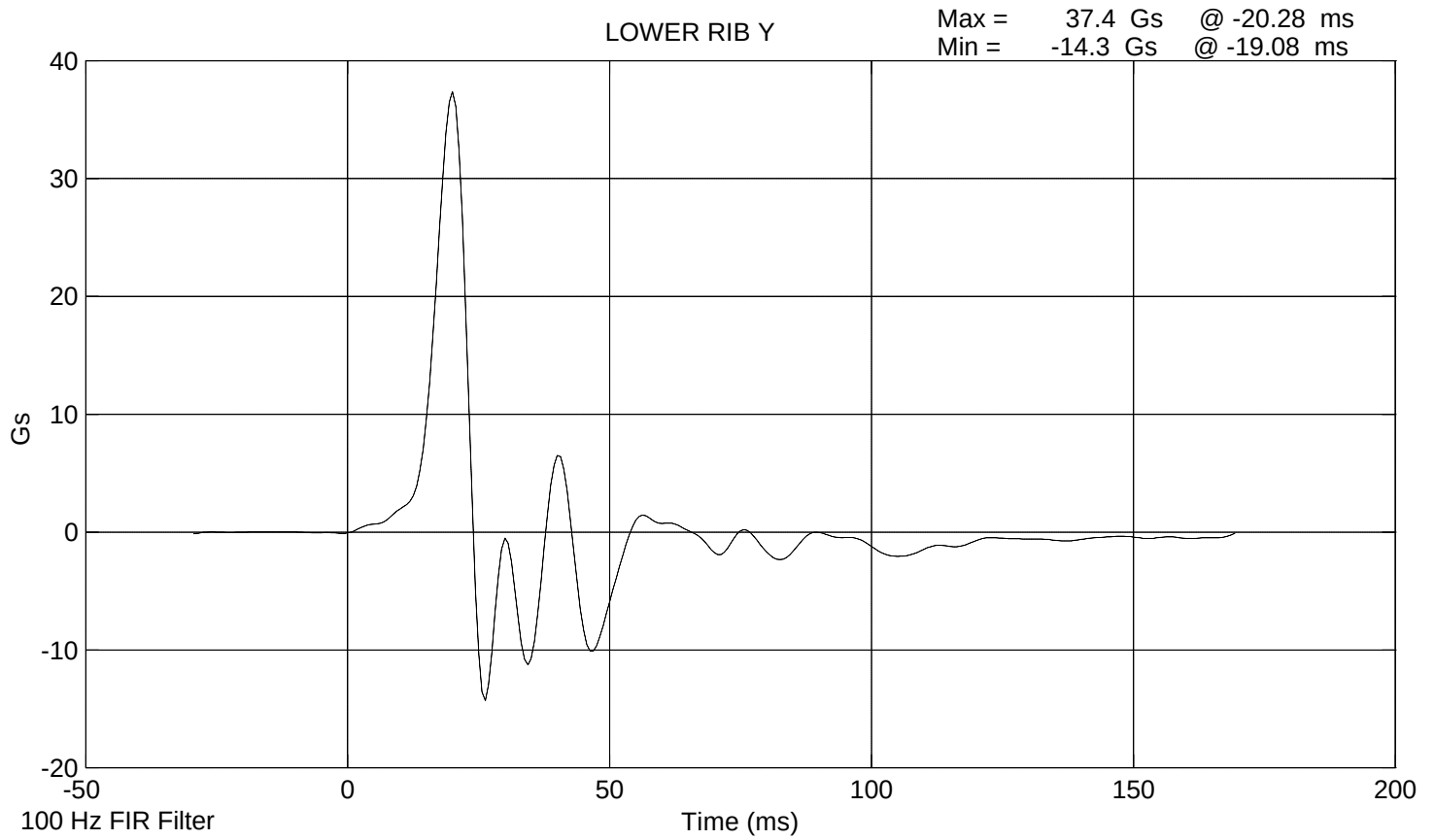
SID Serial No.: 026 Sequential Test Number: 1
Date: 2/19/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	38.5
LOWER RIB (g's)	37 - 46	37.4
LOWER SPINE (g's)	15 - 22	20.1

REMARKS: None







**LATERAL PELVIS IMPACT TEST
PRE-TEST**

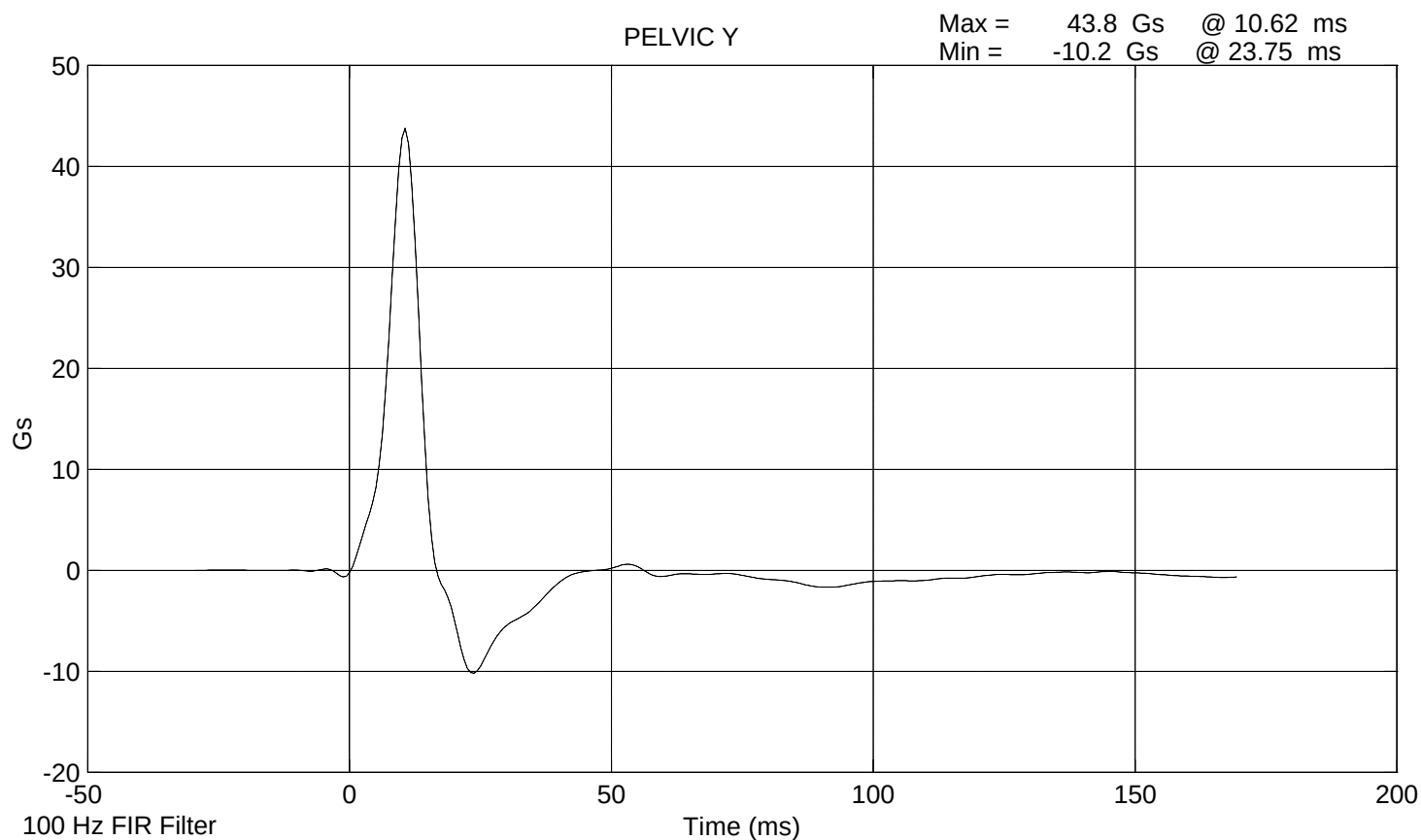
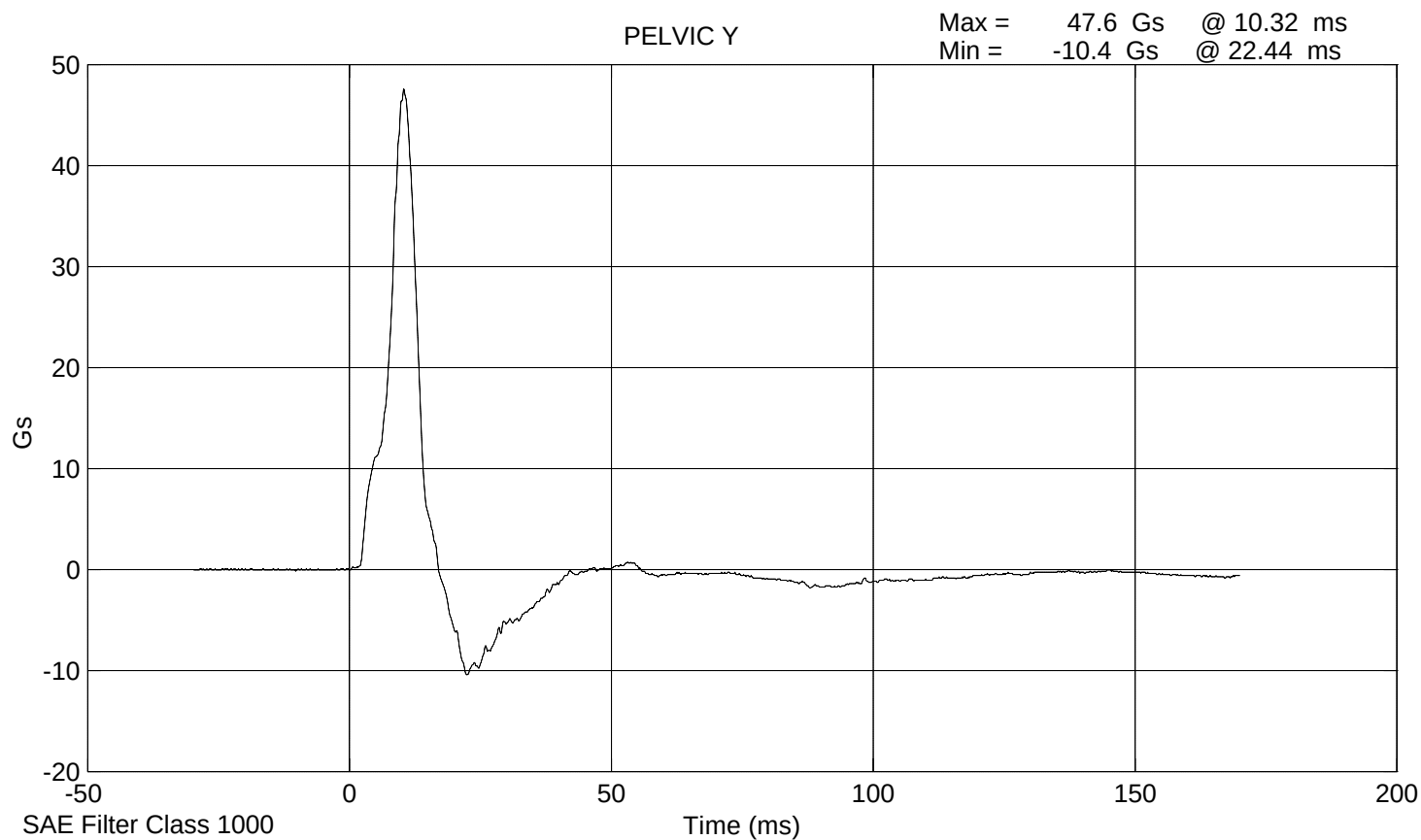
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 2/19/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	43.8

REMARKS: None

sid 026 pelvic impact test @ 4.2916 m/s



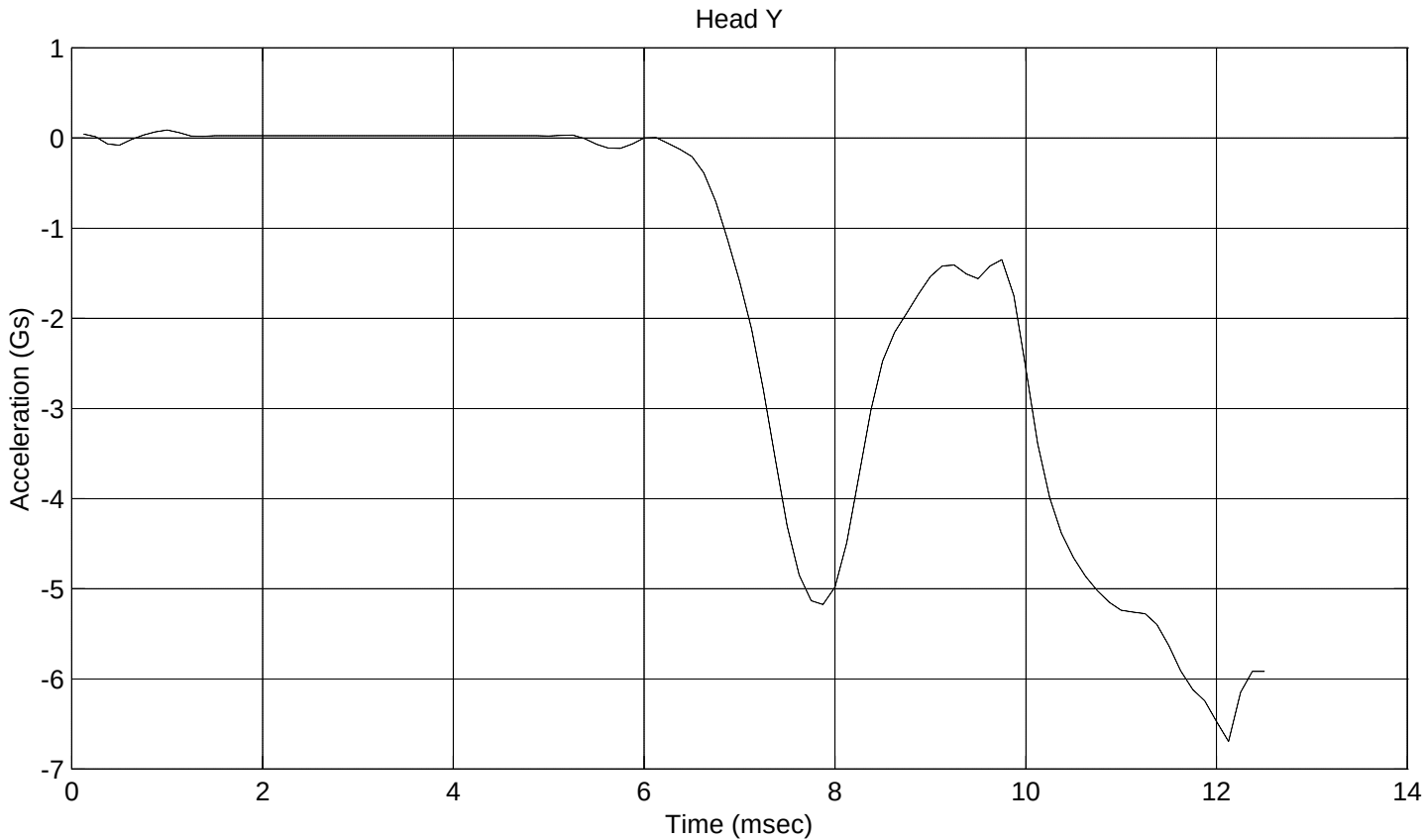
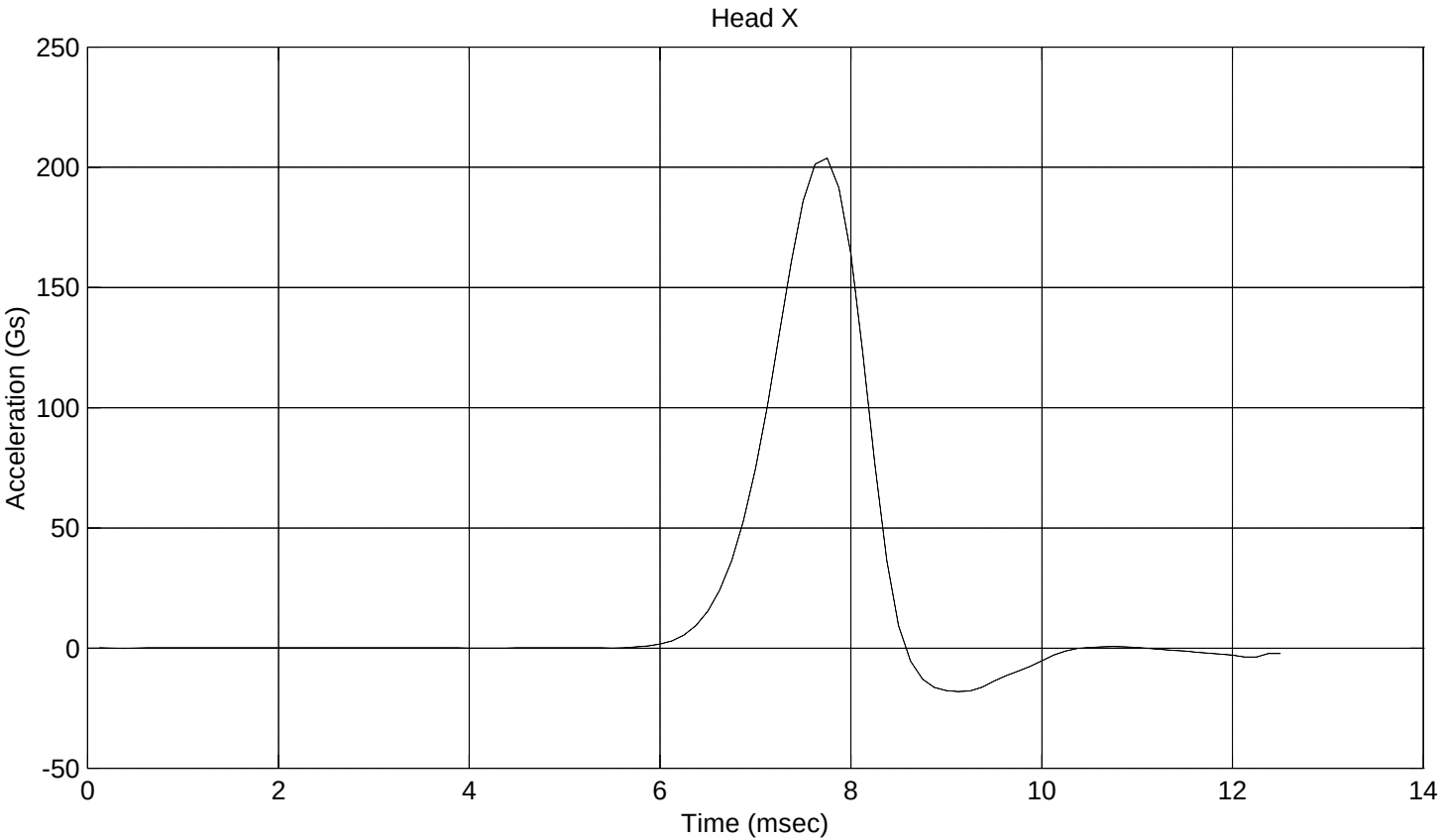
HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

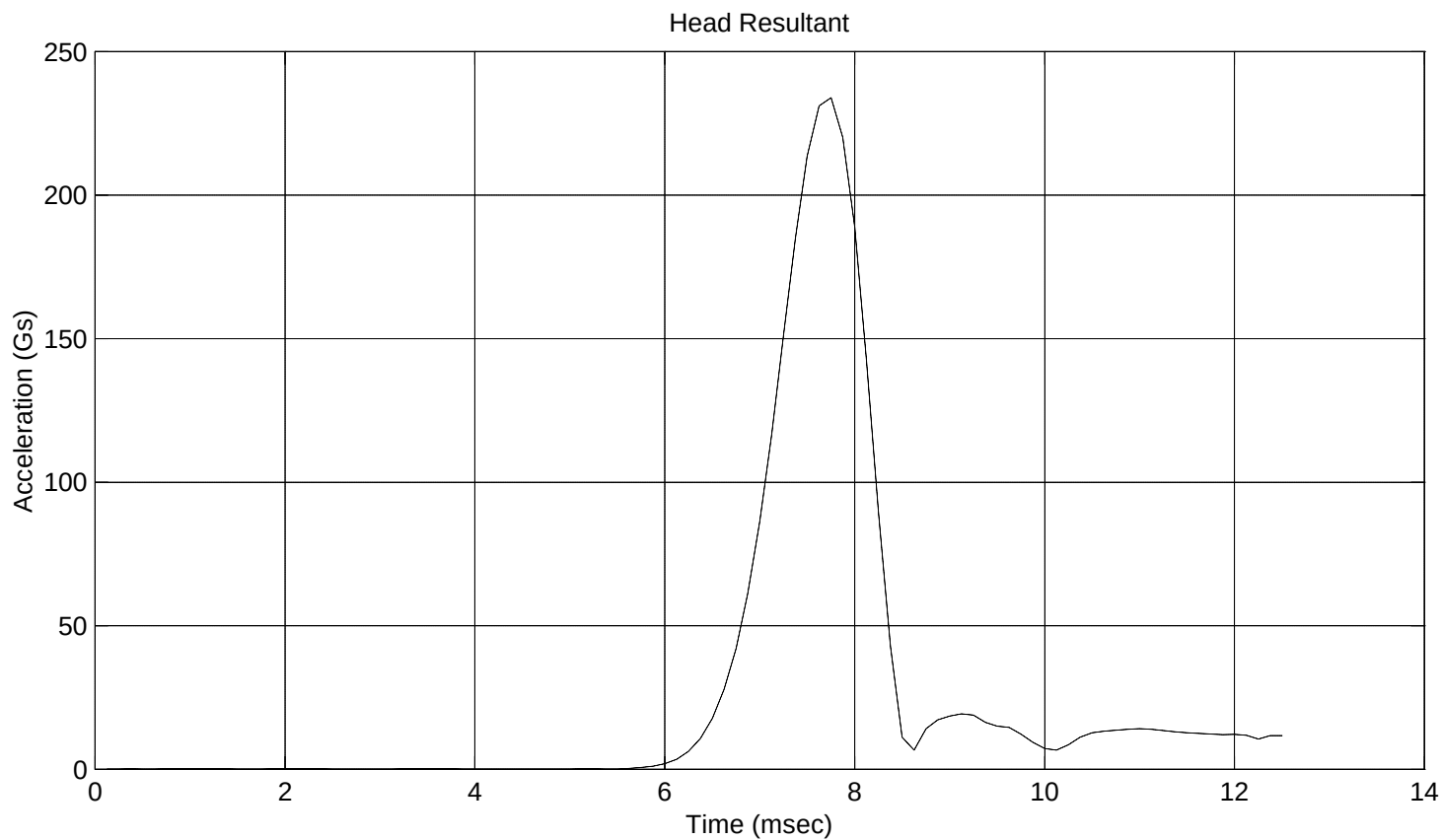
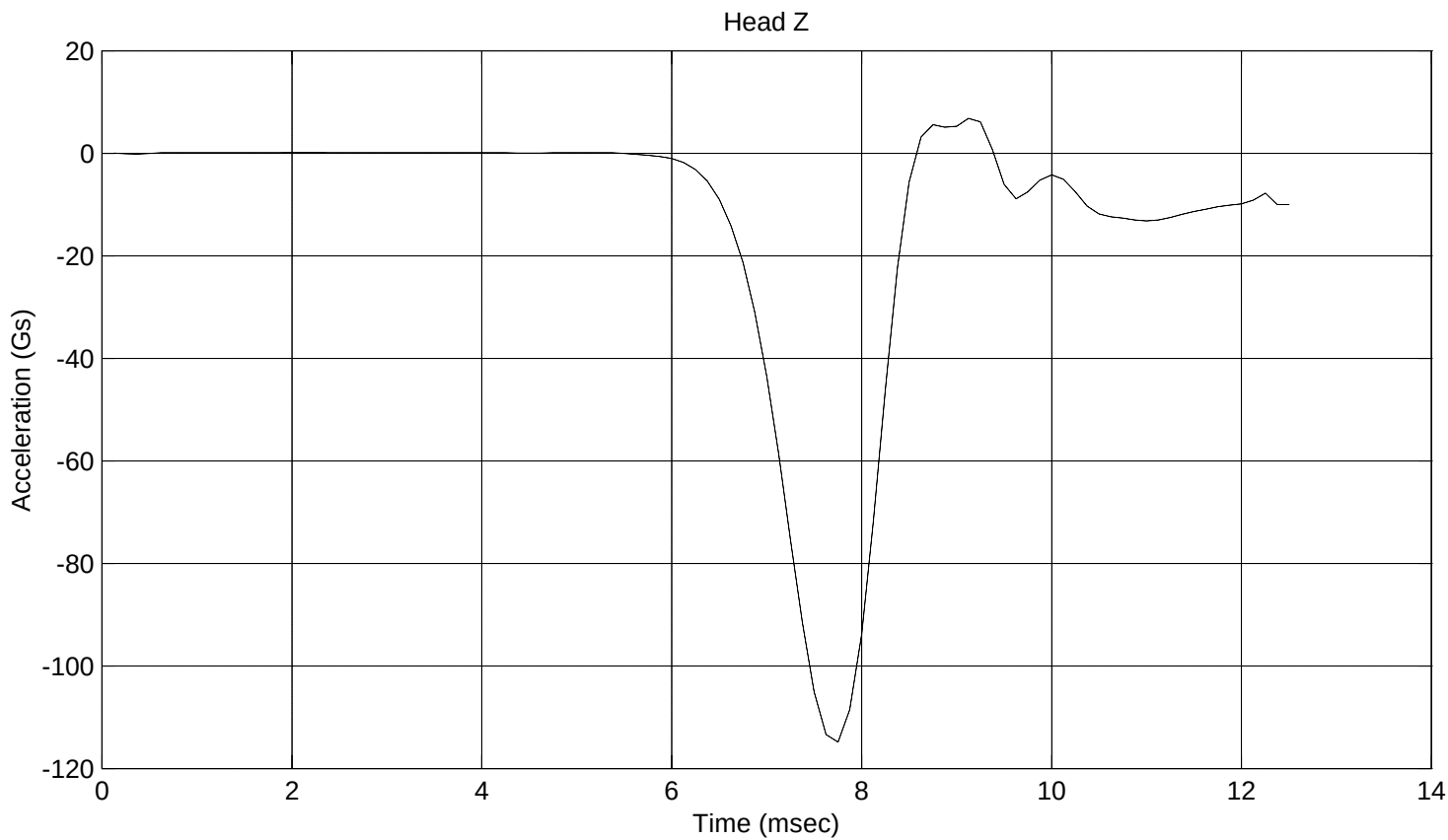
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	233.98
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	6.69
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.25

REMARKS: None





ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 2/6/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	112
FORCE @ 19 mm (N)	163 - 221	178
FORCE @ 25 mm (N)	222 - 280	256
FORCE @ 33 mm (N)	325 - 391	378

REMARKS: None

Dummy S/N 026

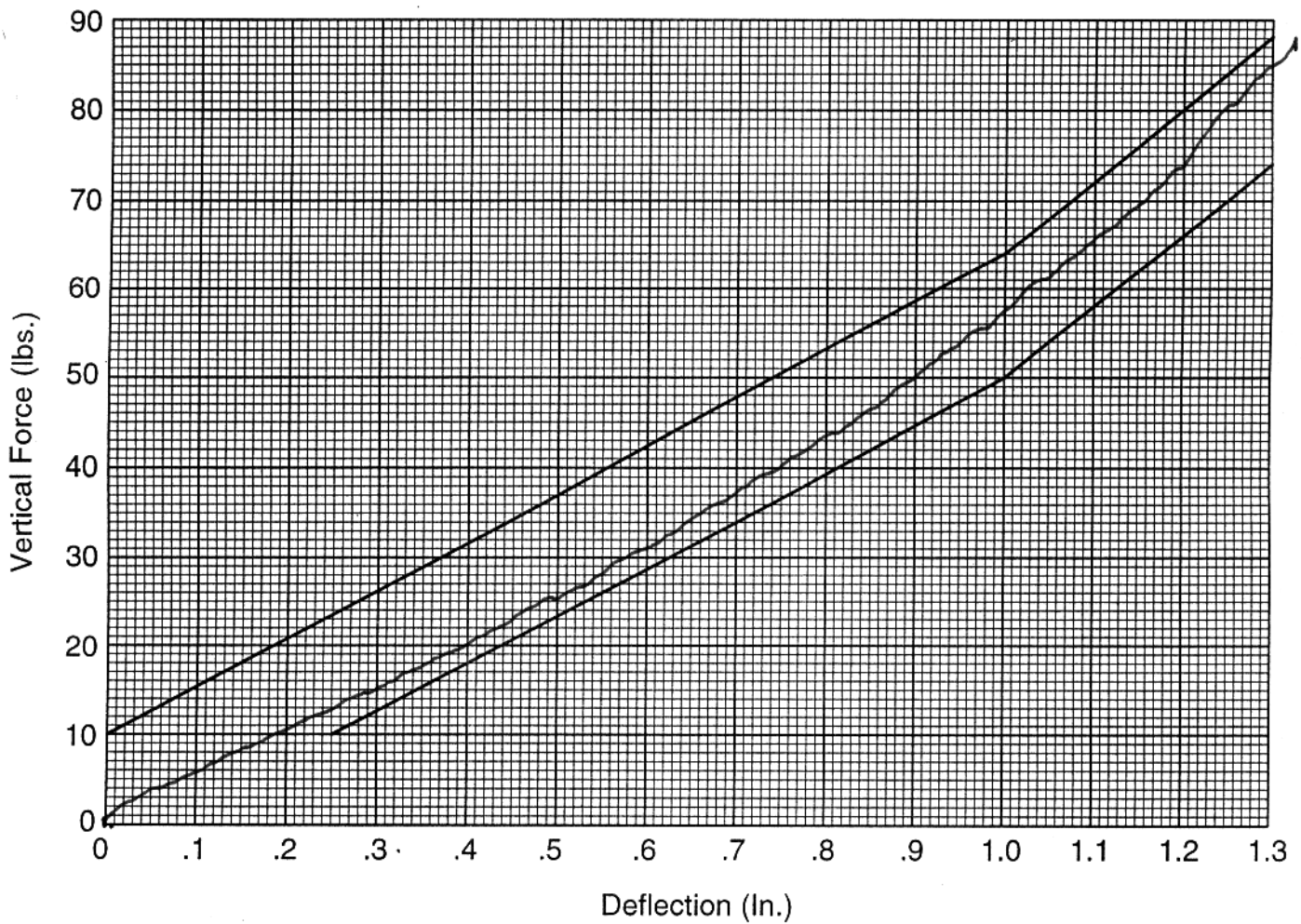
W/A _____

Date 2-6-2008

Performed By [Signature]

Temp. 71°

Humidity 31%



Hybrid II
Abdomen Static Press

ORIGINAL

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

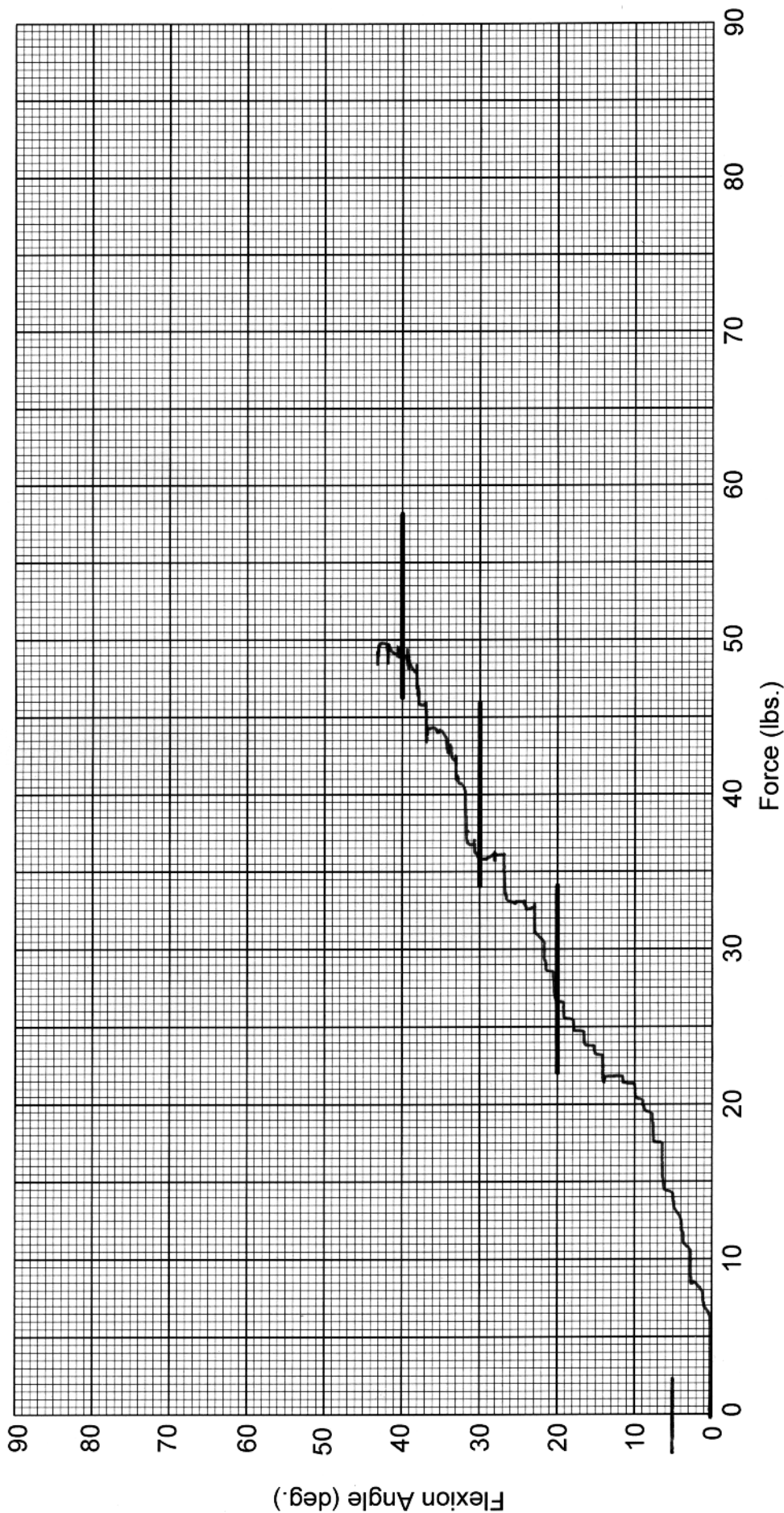
SID Serial No.: 026 Sequential Test Number: 1
Date: 2/6/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	118.3
FORCE @ 30° (N)	151.2 - 204.6	158.8
FORCE @ 40° (N)	204.6 - 258	217.1
RETURN ANGLE	12° max.	5.0°

REMARKS: None

ORIGINAL

Dummy S/N 026
W/A _____
Date 2-6-2001
Performed By BR
Temp. 71°
Humidity 31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 2/19/01 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS
PRE-TEST

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

THORACIC SHOCK ABSORBER TESTS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1.1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

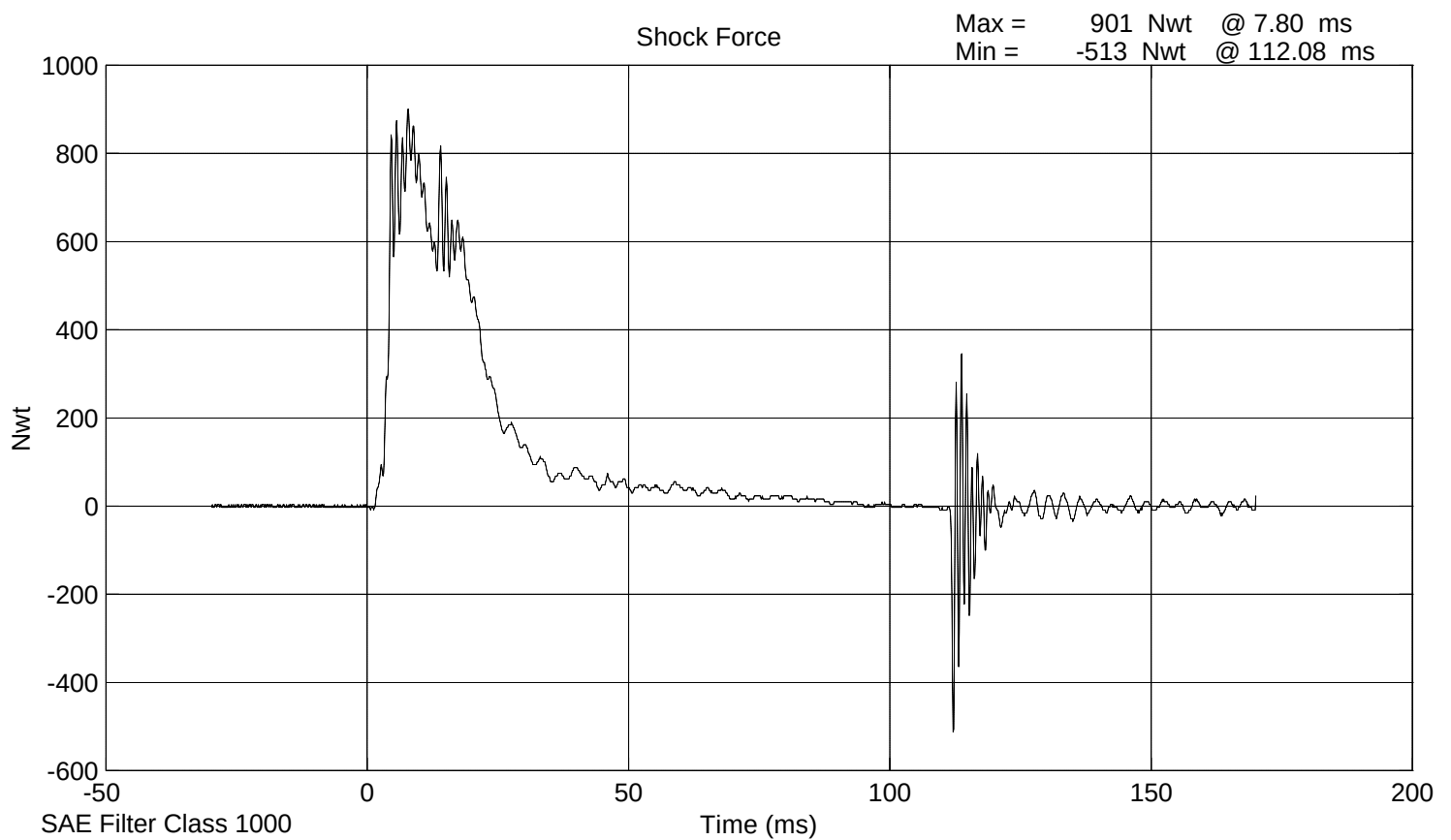
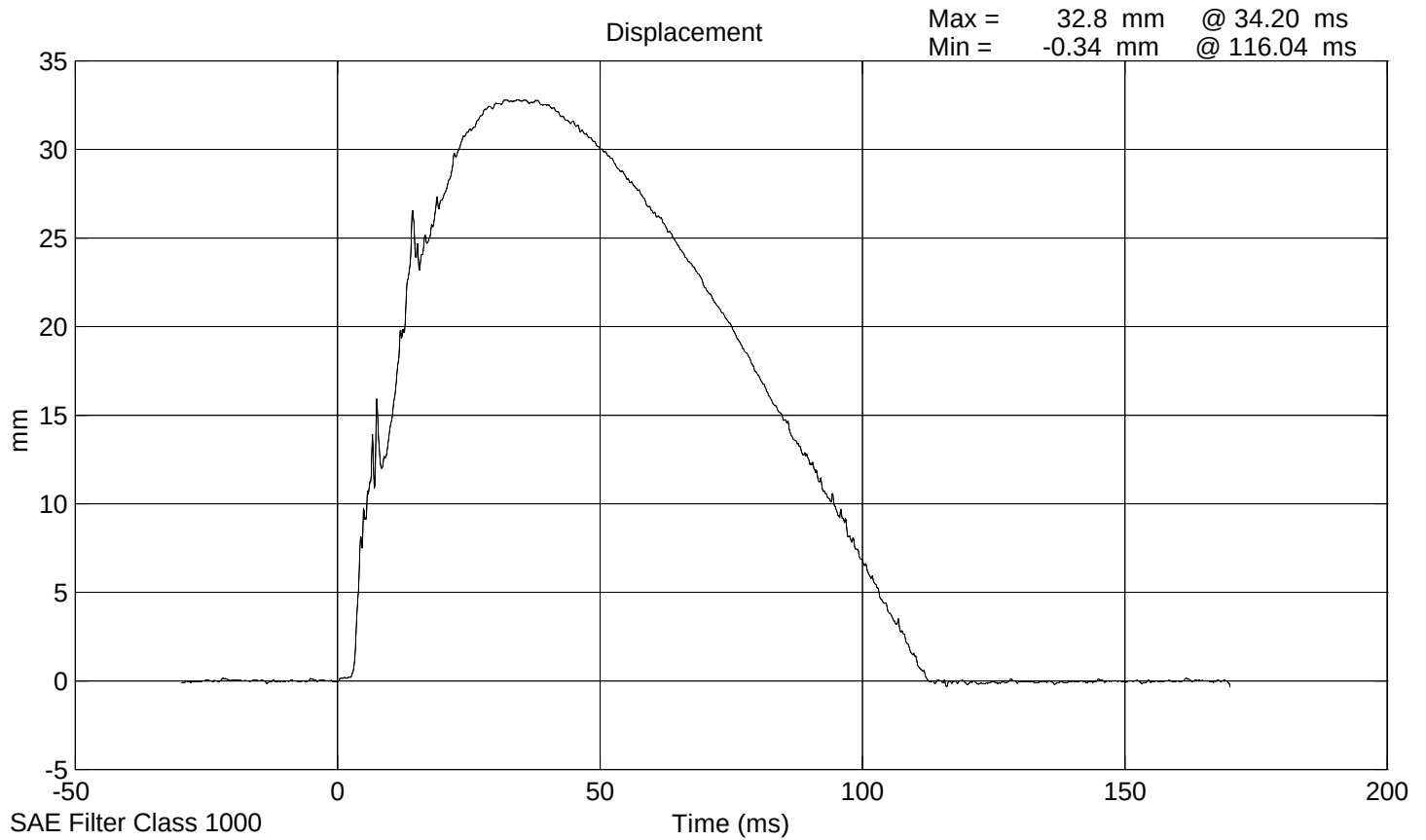
DAMPER IDENTIFICATION: 027

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	31
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	900.8
	DISPLACEMENT (mm)	30 - 35	32.8
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1846.2
	DISPLACEMENT (mm)	32 - 37	35.8
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4222.4
	DISPLACEMENT (mm)	33 - 40	37.5

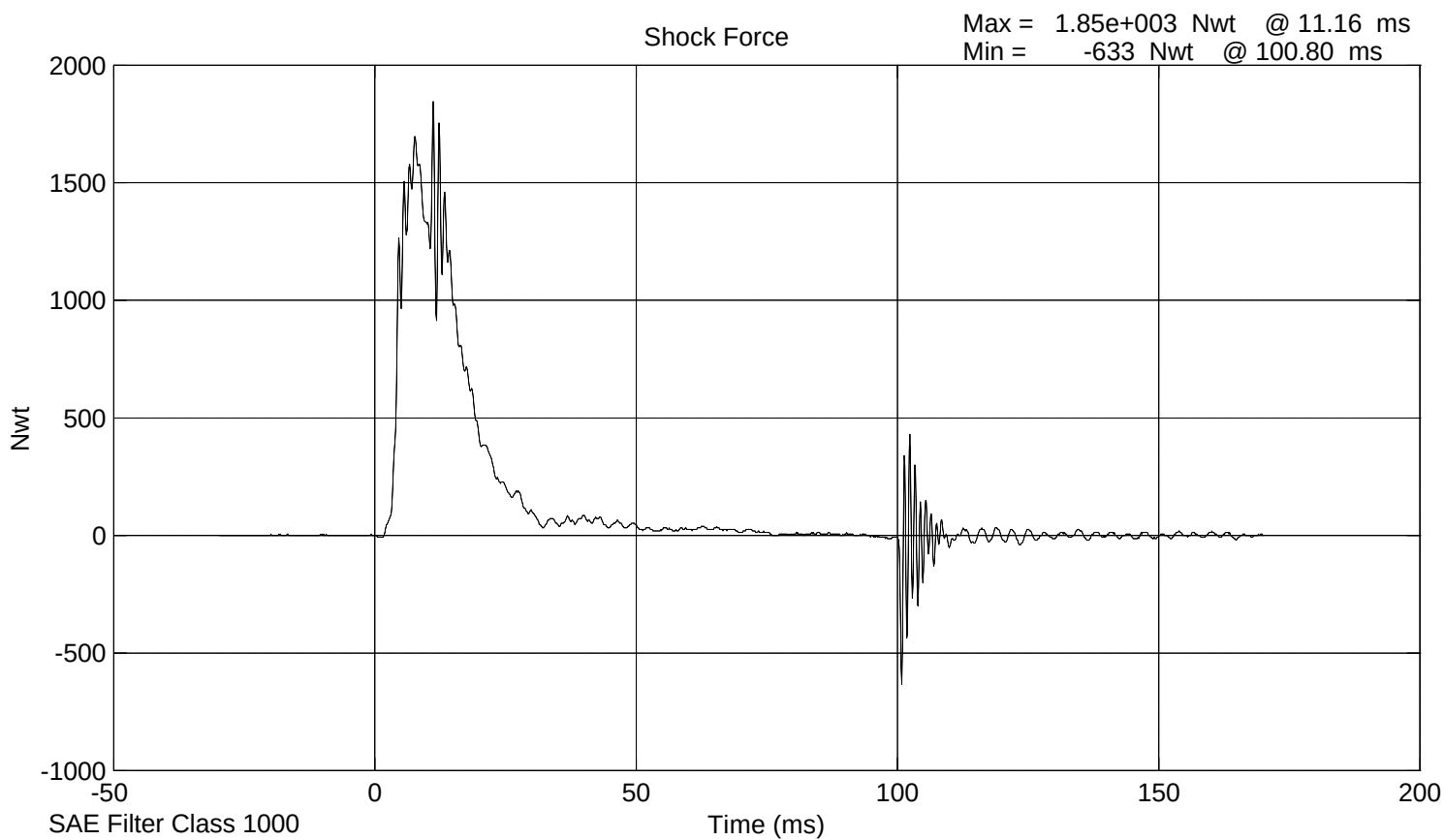
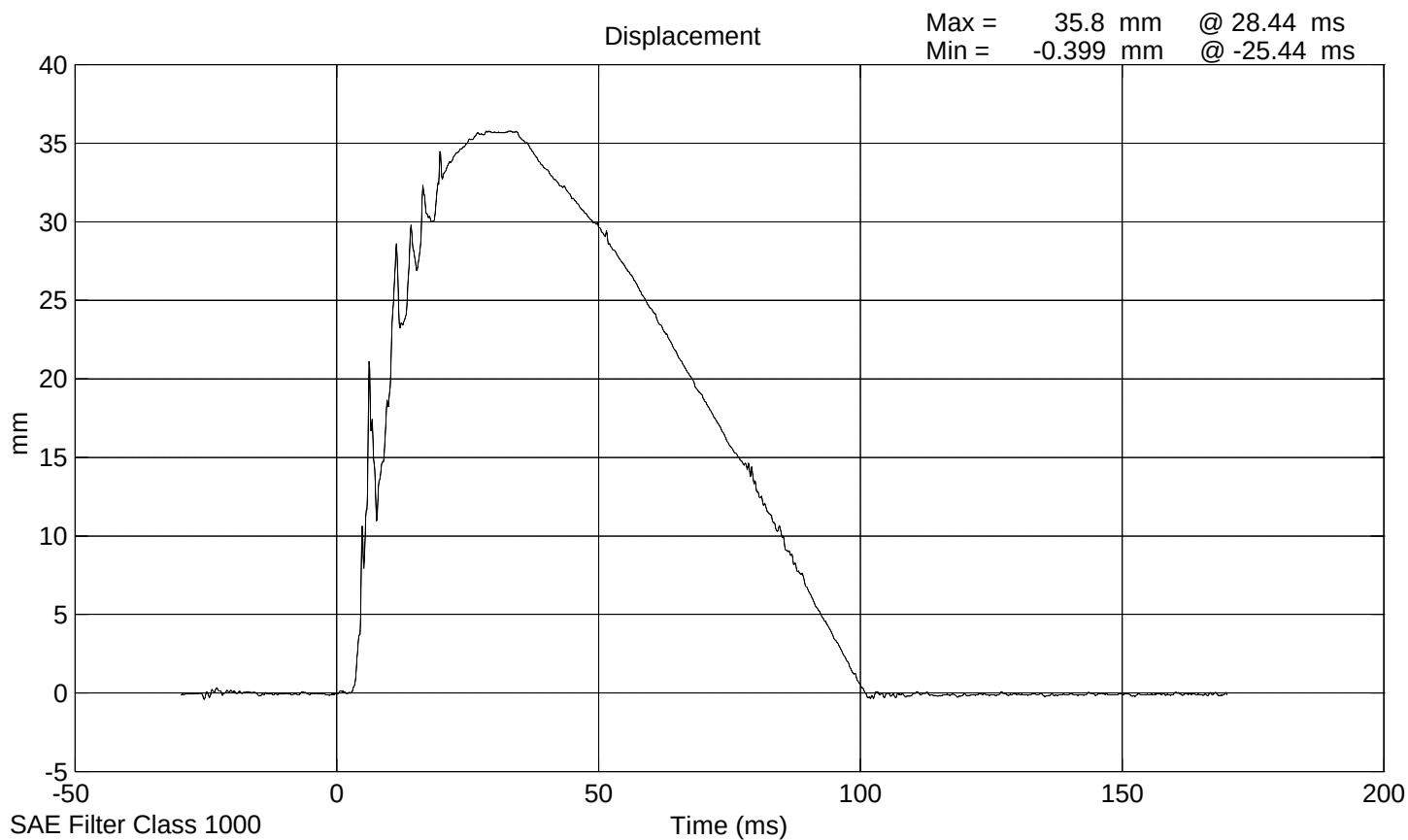
DAMPER SETTING: 5

REMARKS: None

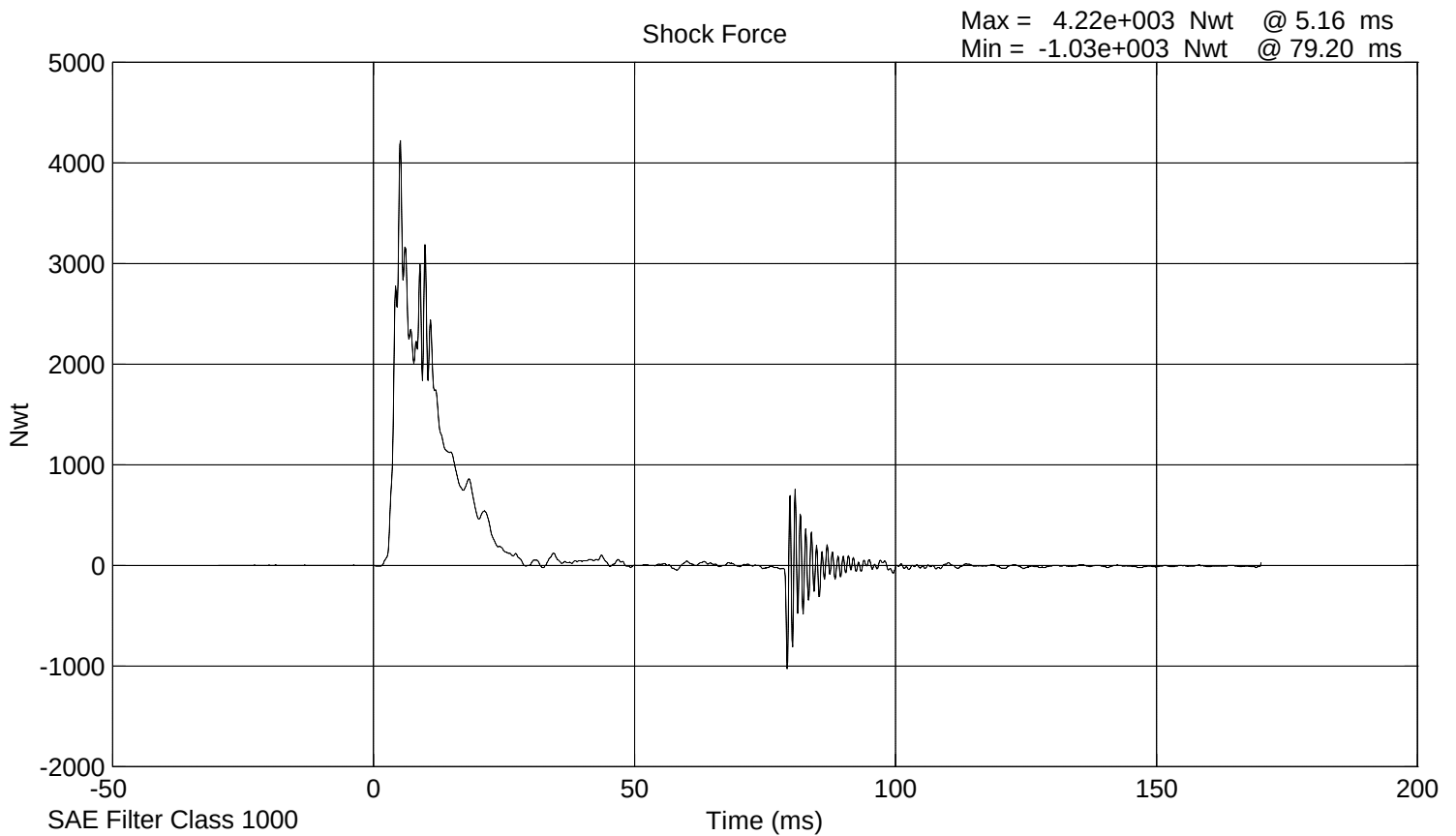
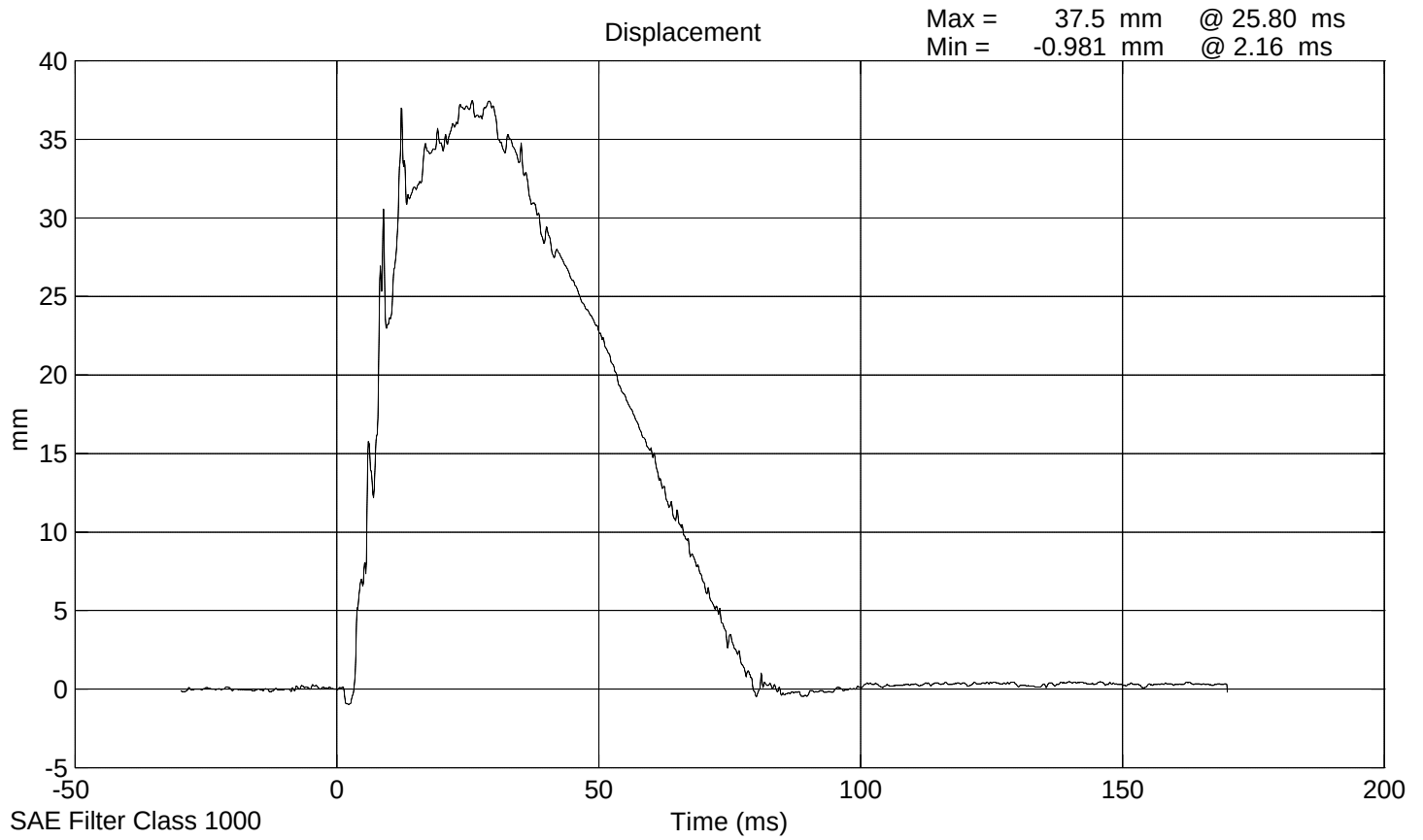
SID 027 Shock Absorber Impact Test @ 3.048 m/s



SID 027 Shock Absorber Impact Test @ 4.2672 m/s



SID 027 Shock Absorber Impact Test @ 6.096 m/s



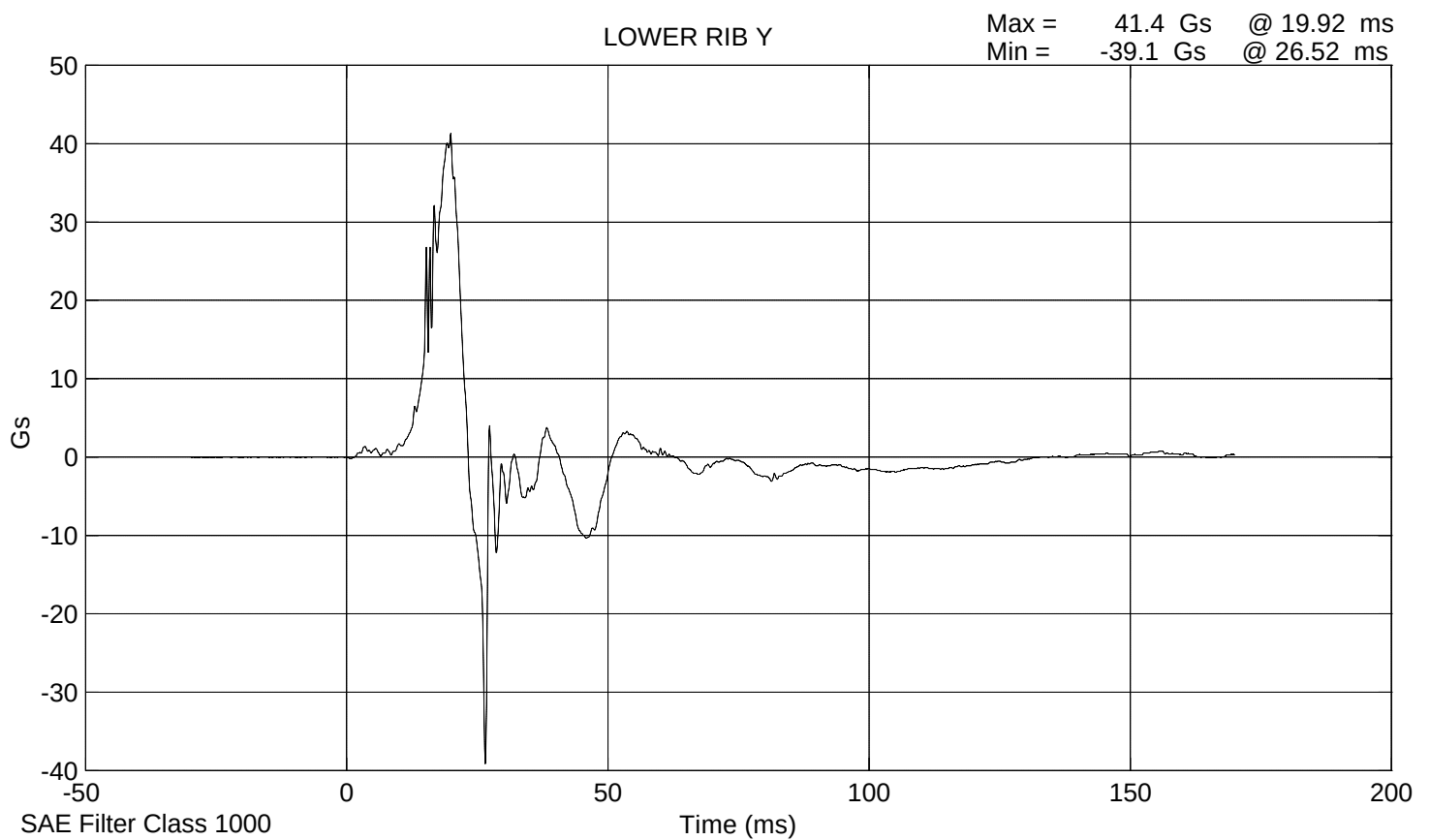
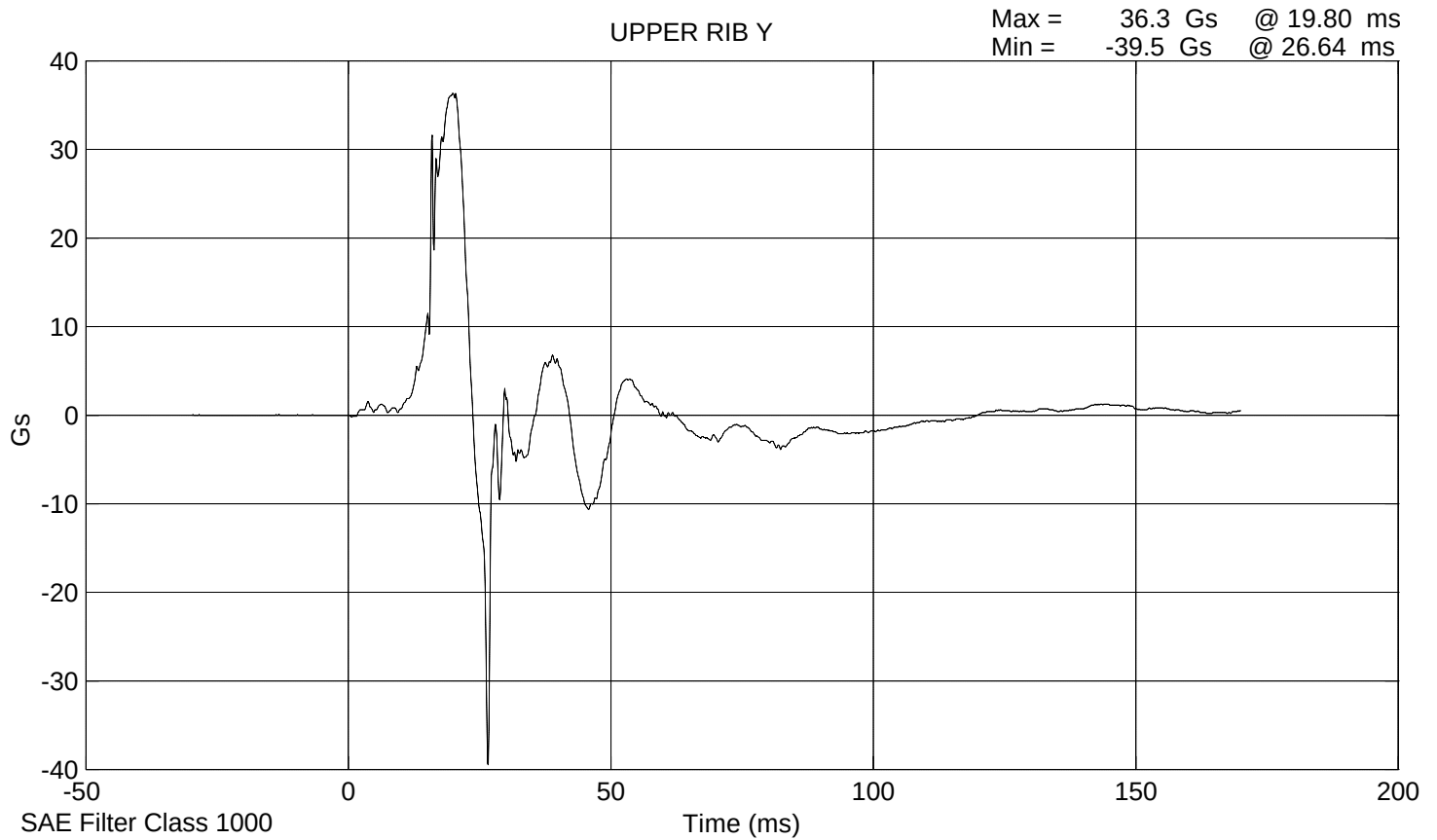
**LATERAL THORAX IMPACT TEST
PRE-TEST**

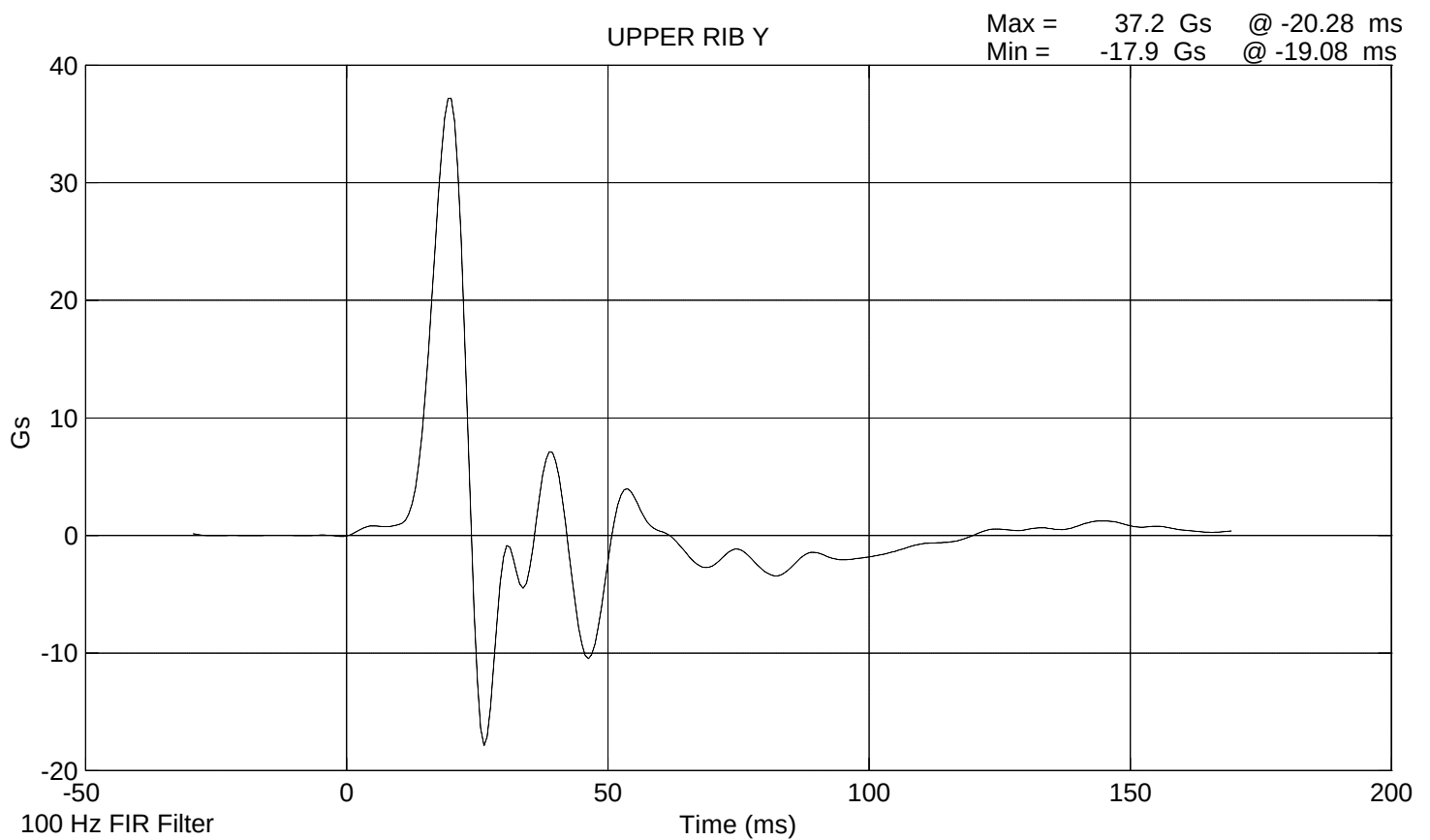
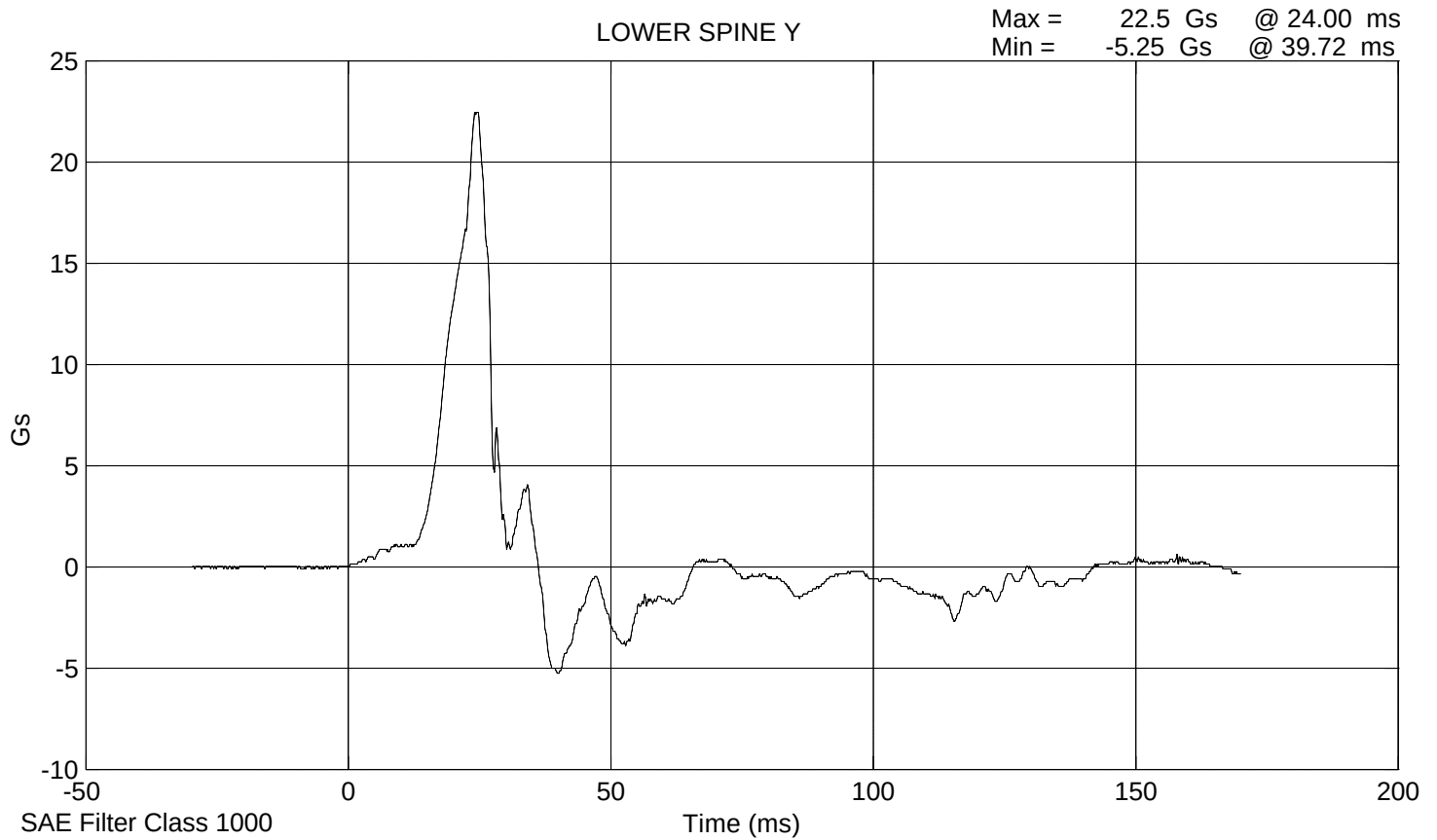
CONFIGURED FOR LEFT SIDE IMPACT

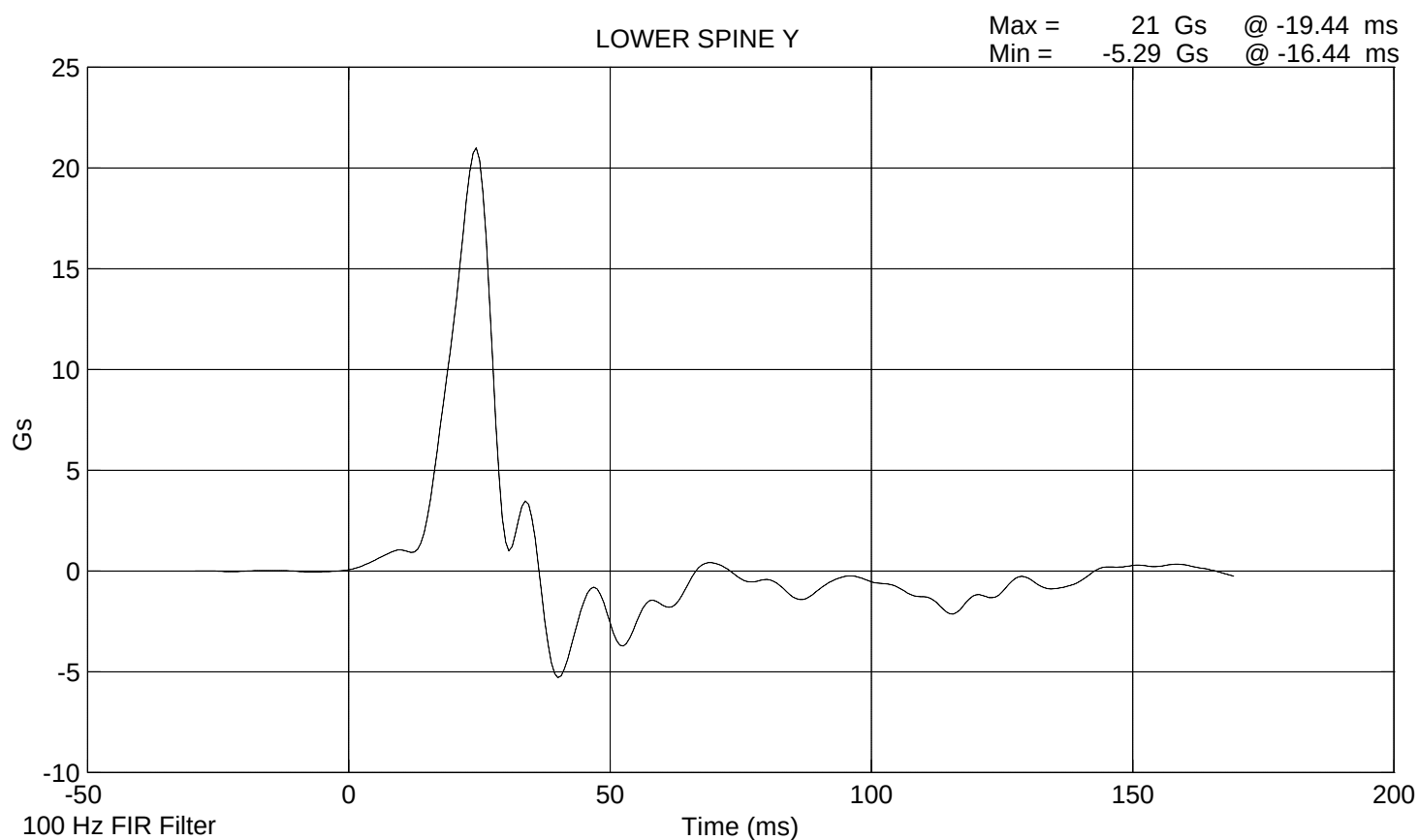
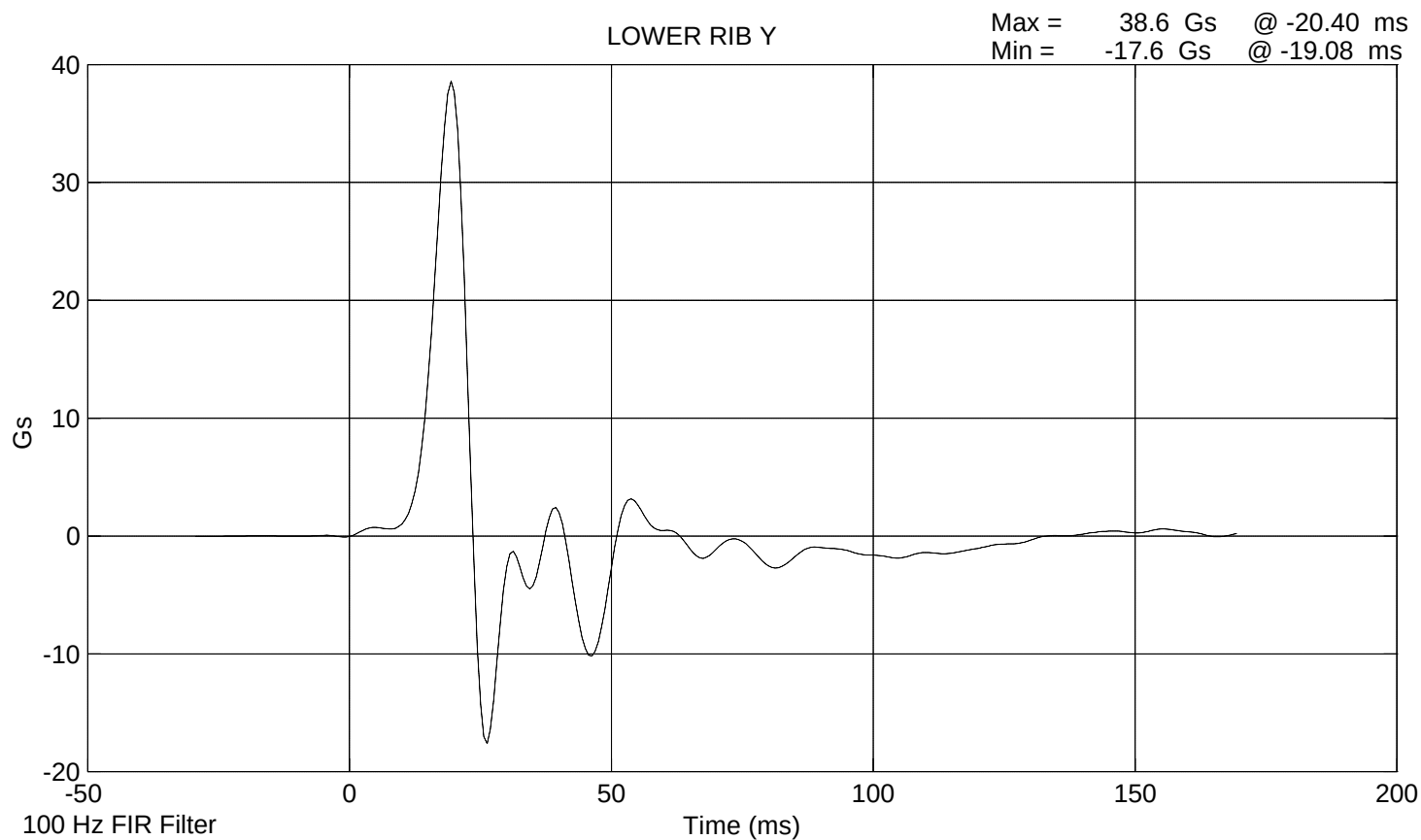
SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.33
UPPER RIB (g's)	37 - 46	37.2
LOWER RIB (g's)	37 - 46	38.6
LOWER SPINE (g's)	15 - 22	21.0

REMARKS: None







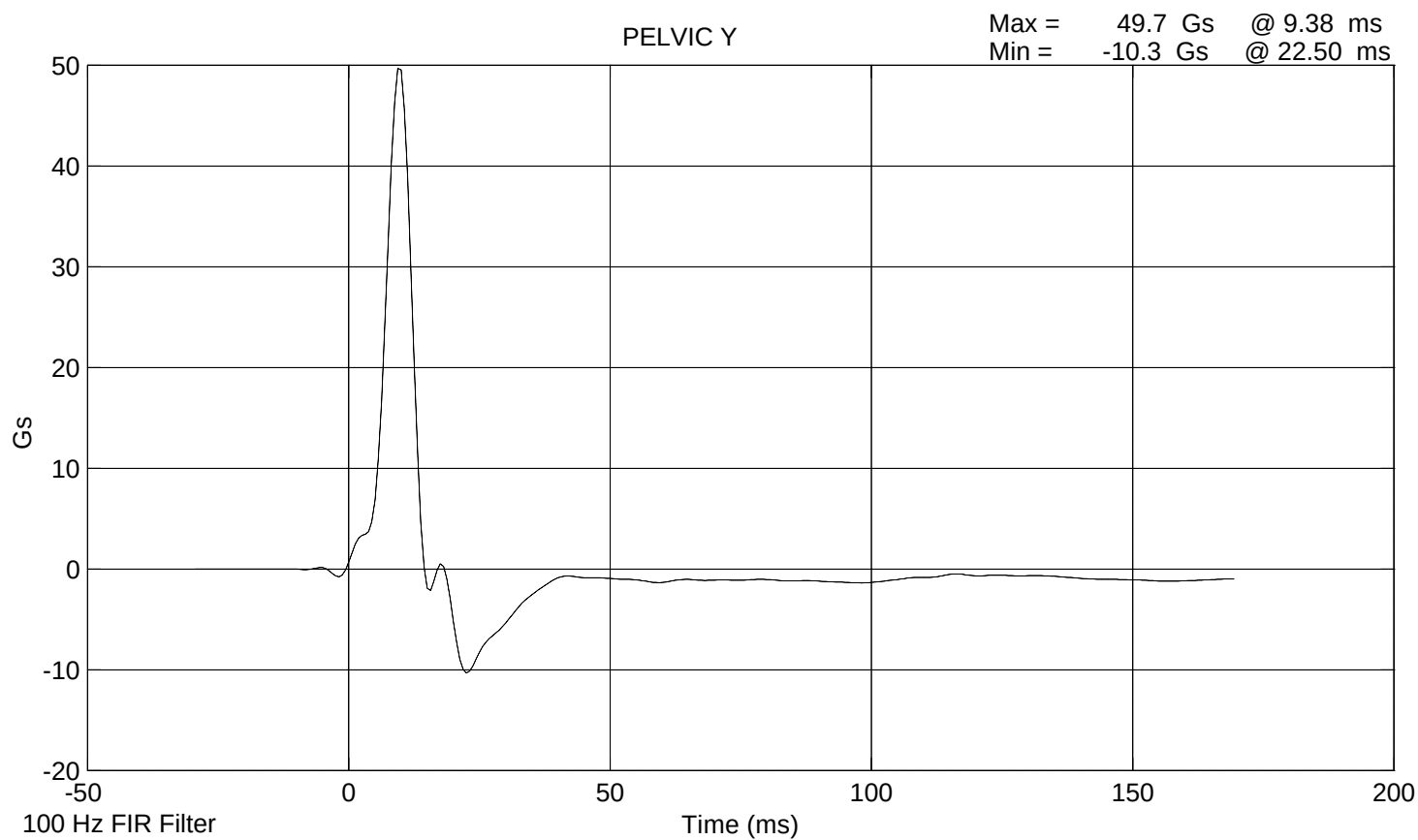
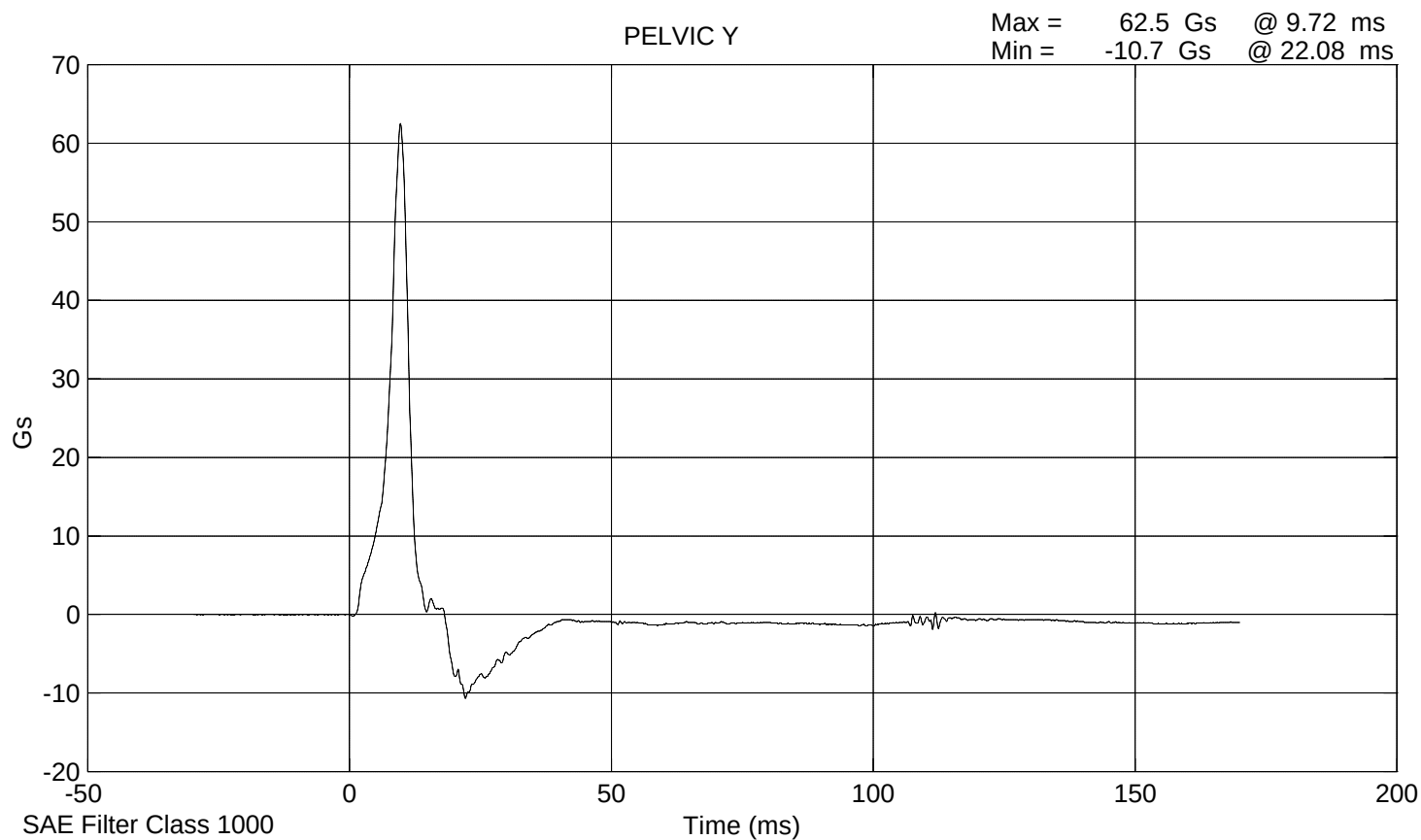
**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.27
PELVIS ACCELERATION (g's)	40 - 60	49.7

REMARKS: None



HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

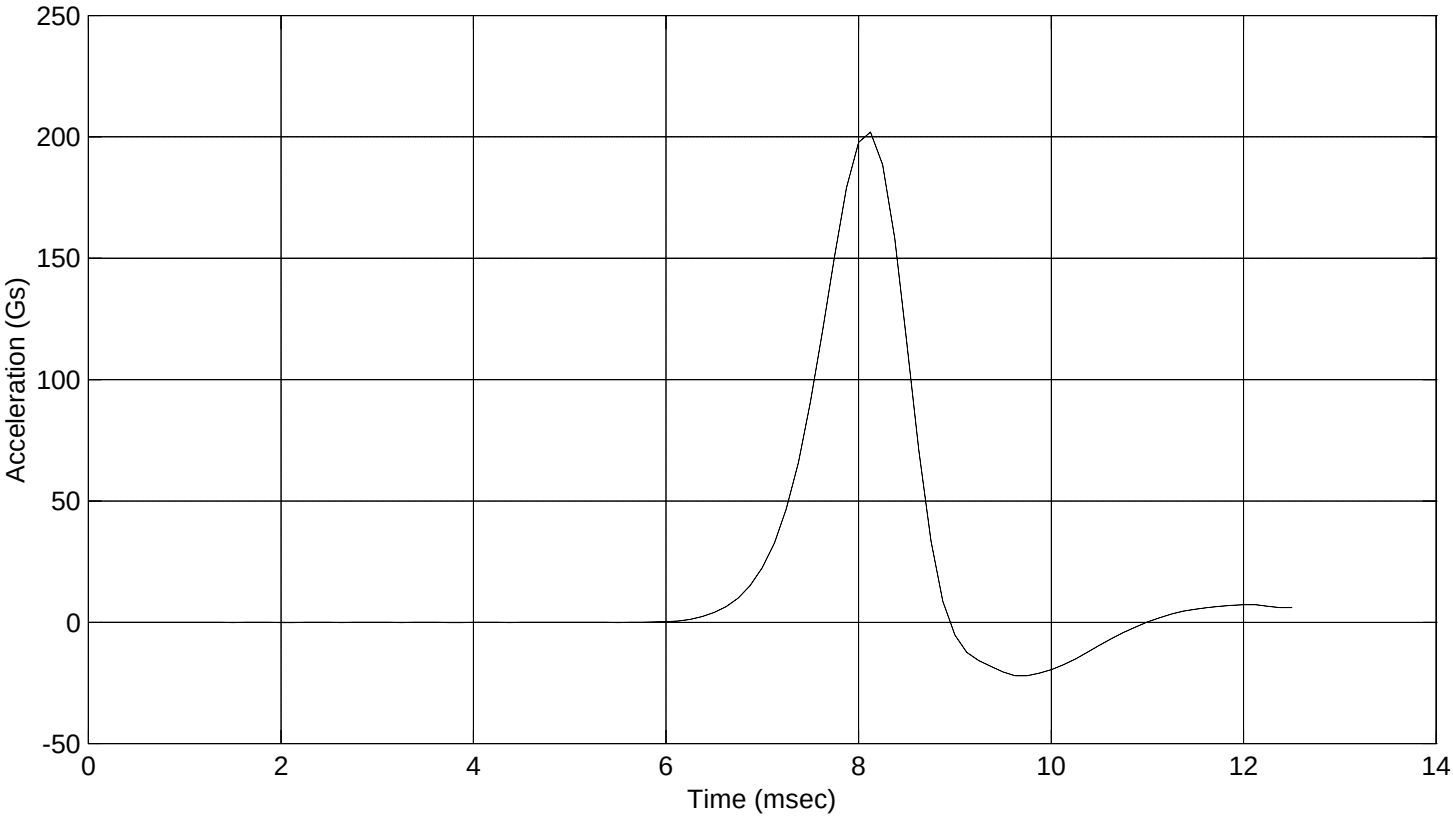
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 2/15/01 Laboratory Technician: B. Swiecicki

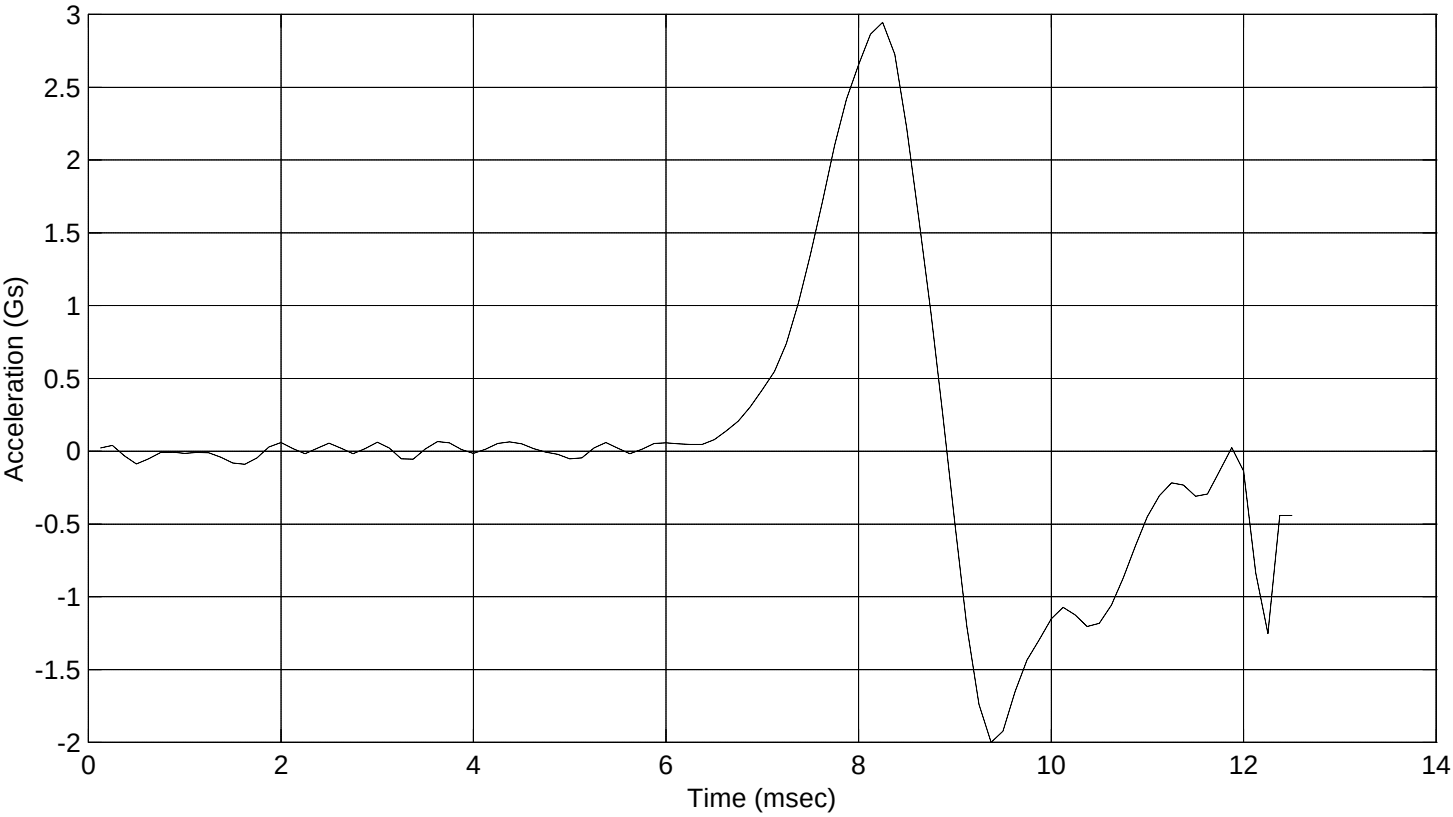
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	30.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	252.07
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	2.94
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

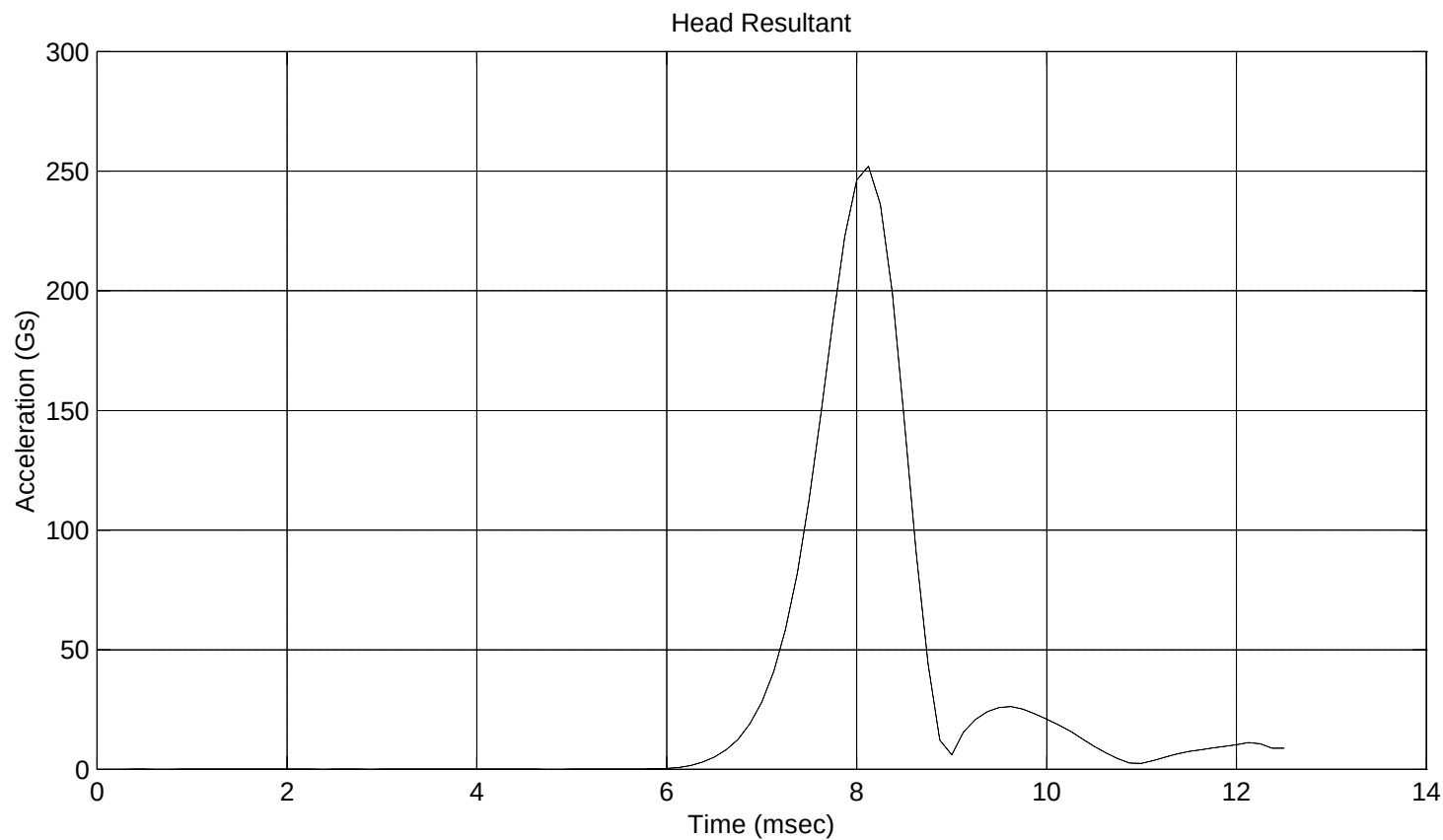
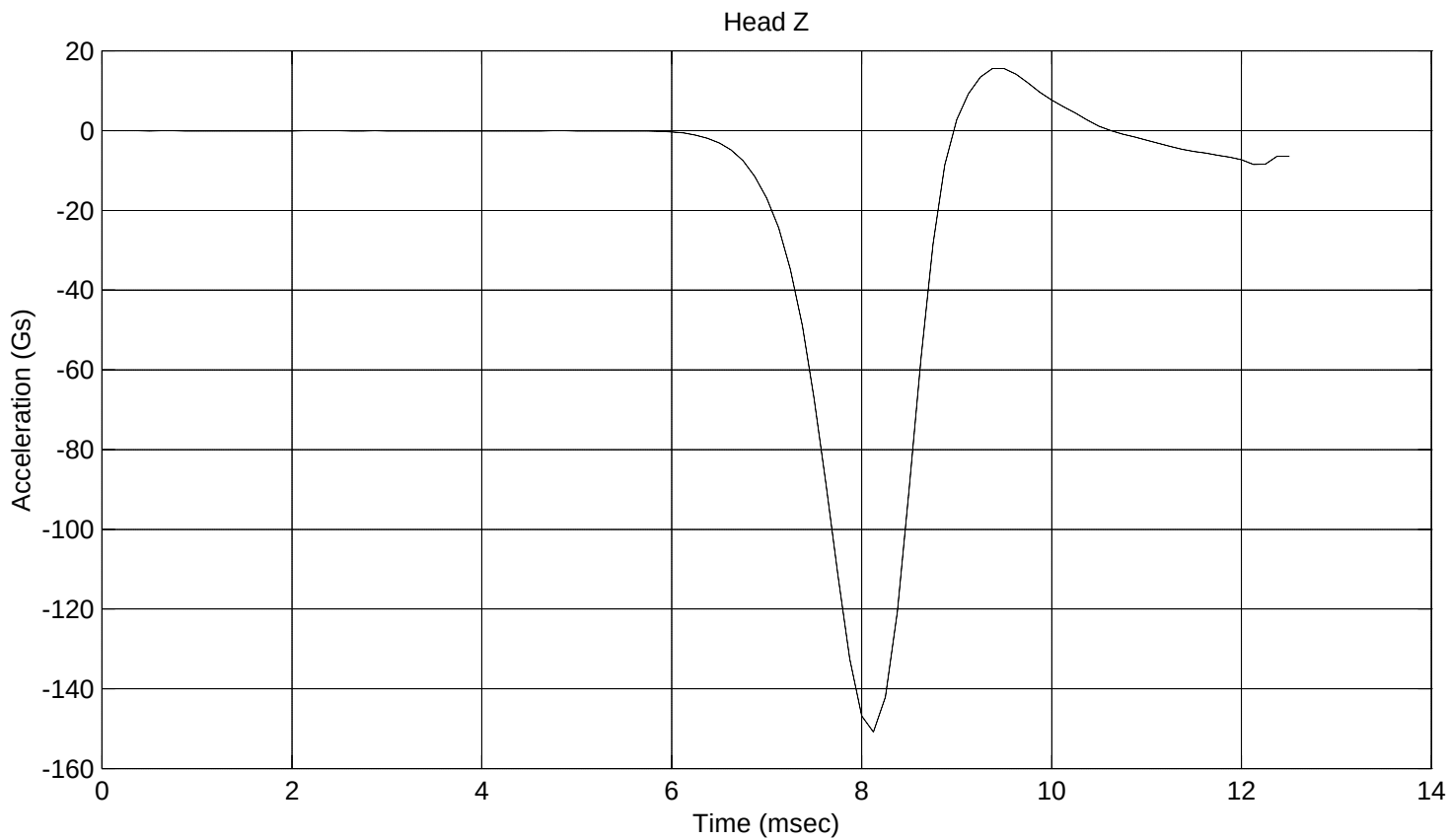
REMARKS: None

Head X



Head Y





ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

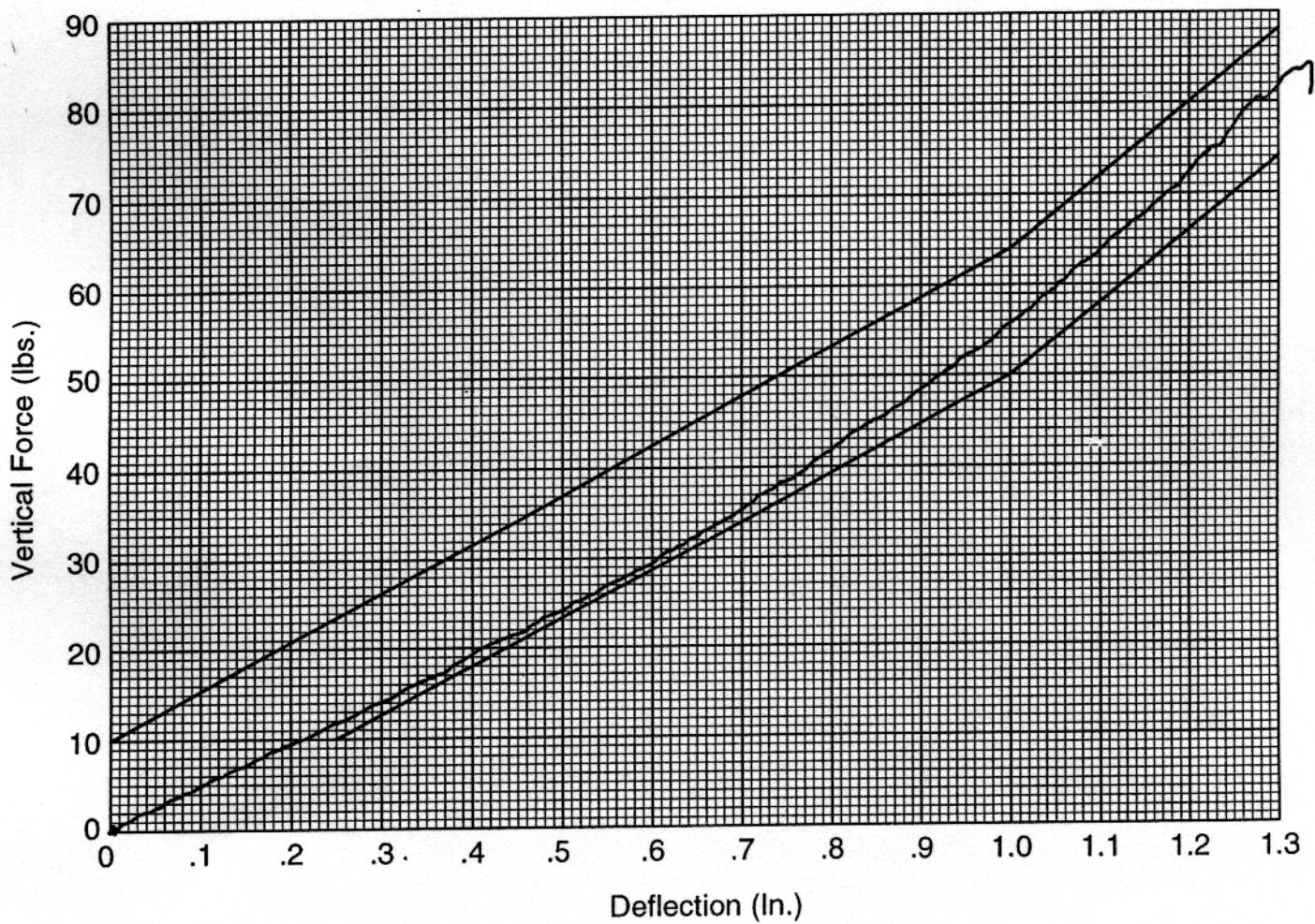
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	107
FORCE @ 19 mm (N)	163 - 221	170
FORCE @ 25 mm (N)	222 - 280	248
FORCE @ 33 mm (N)	325 - 391	364

REMARKS: None

Dummy S/N 027
W/A _____
Date 2-16-2009
Performed By [Signature]
Temp. 70°
Humidity 31%



Hybrid II
Abdomen Static Press

ORIGINAL

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

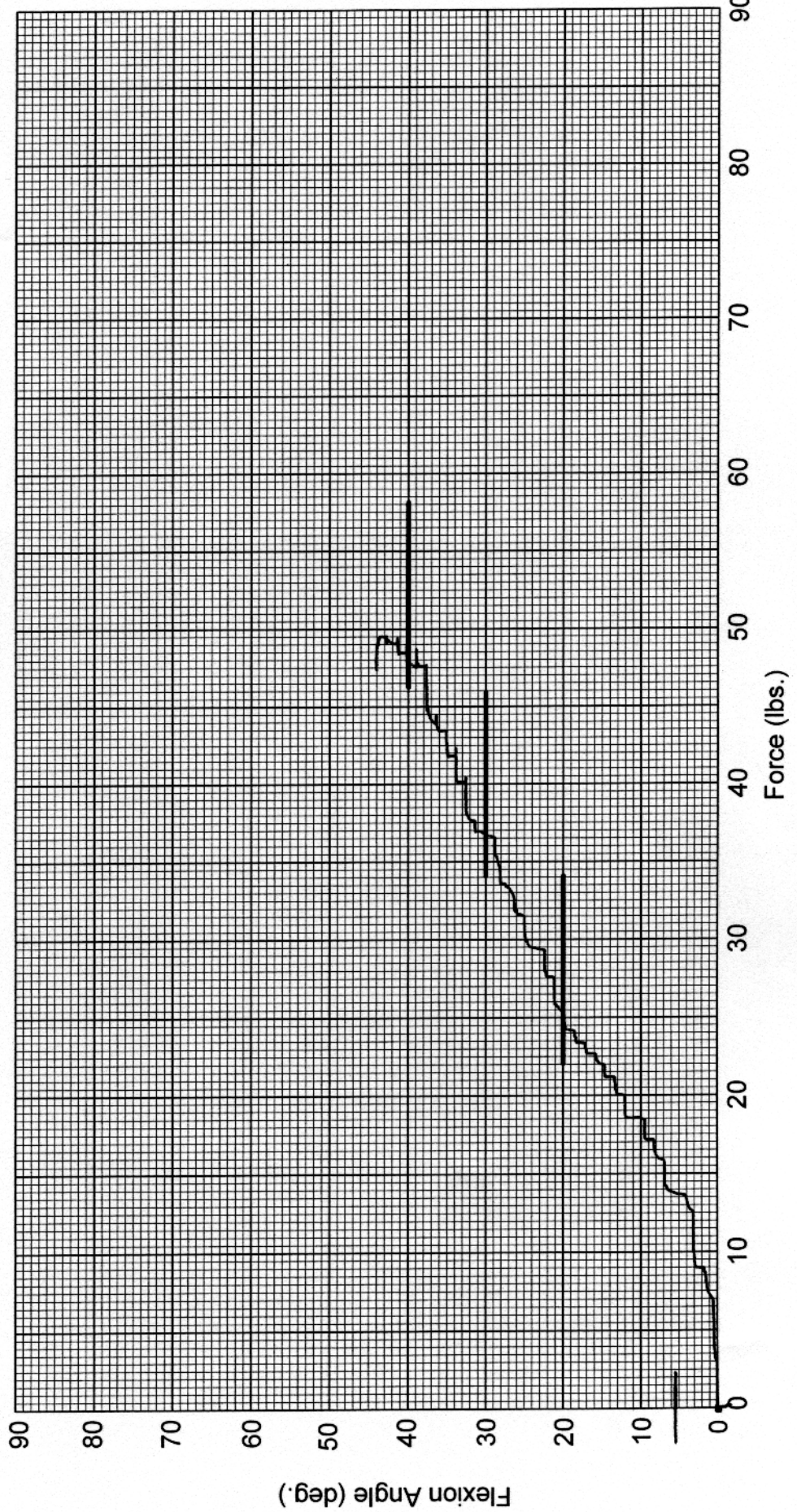
SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	111.2
FORCE @ 30° (N)	151.2 - 204.6	163.2
FORCE @ 40° (N)	204.6 - 258	212.6
RETURN ANGLE	12° max.	5.5°

REMARKS: None

ORIGINAL

Dummy S/N 027
W/A _____
Date 2-16-2001
Performed By [Signature]
Temp. 70°
Humidity 31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 2/16/01 Laboratory Technician: B. Swiecicki

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

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 026

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

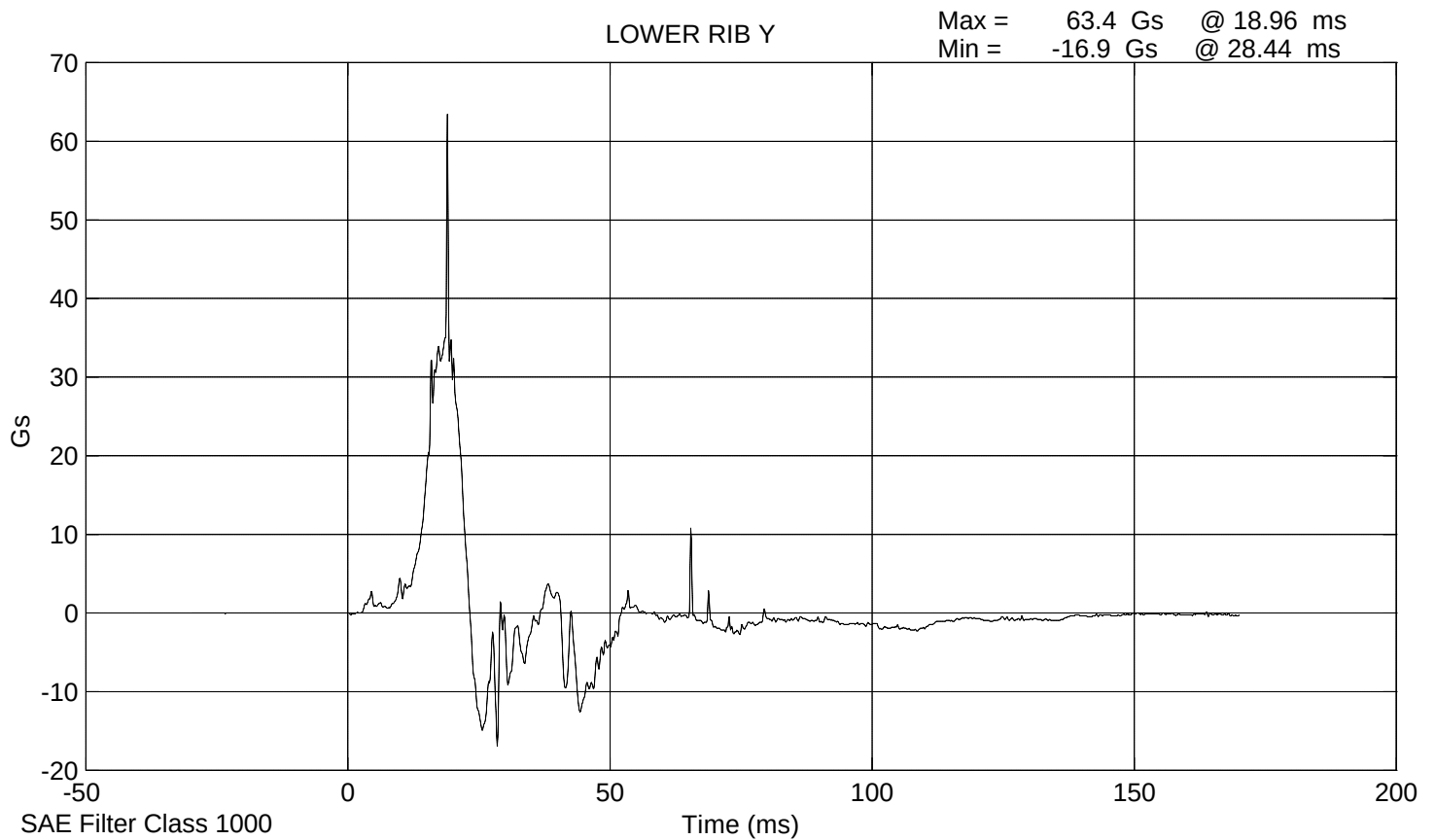
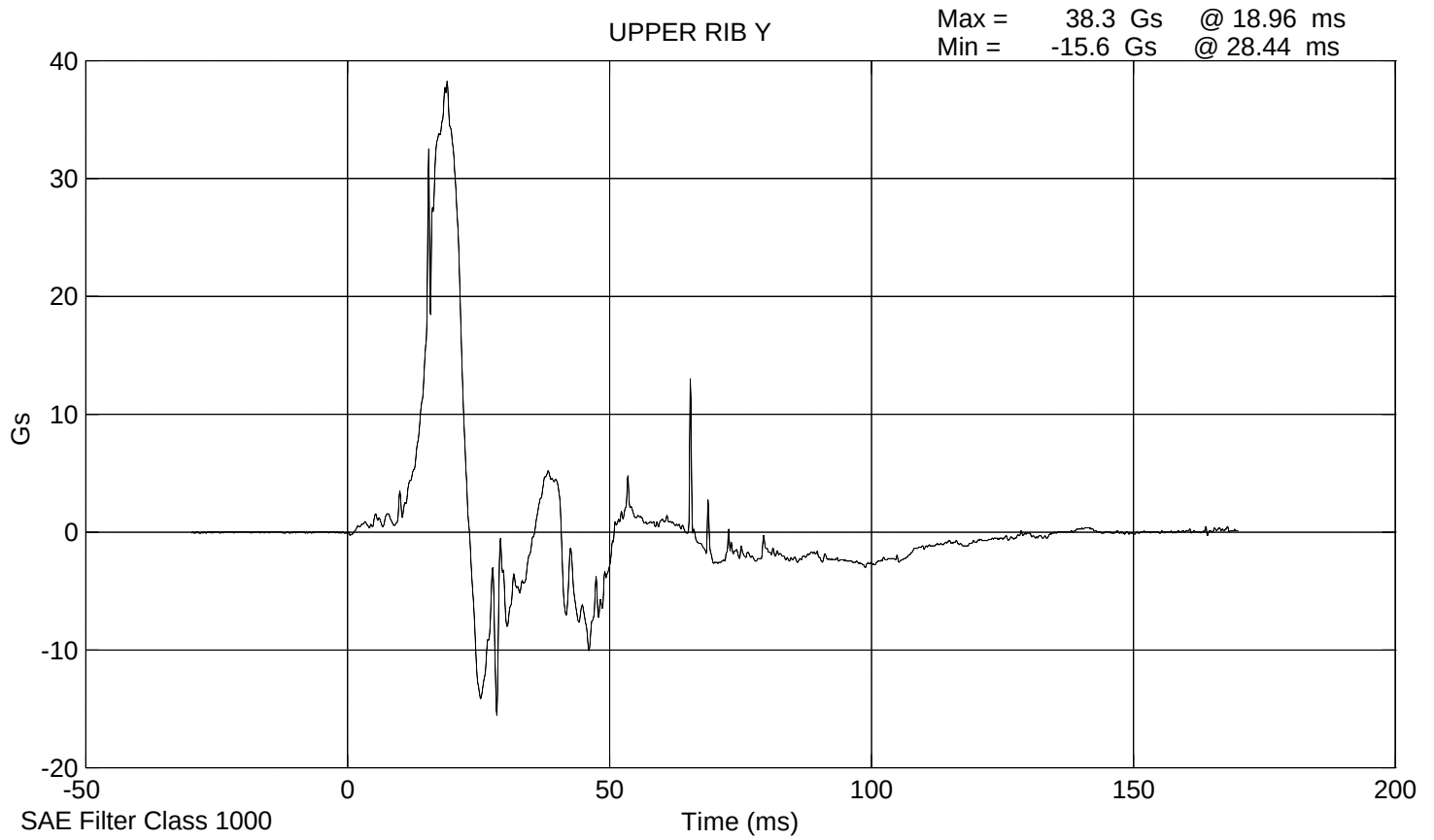
**LATERAL THORAX IMPACT TEST
POST TEST**

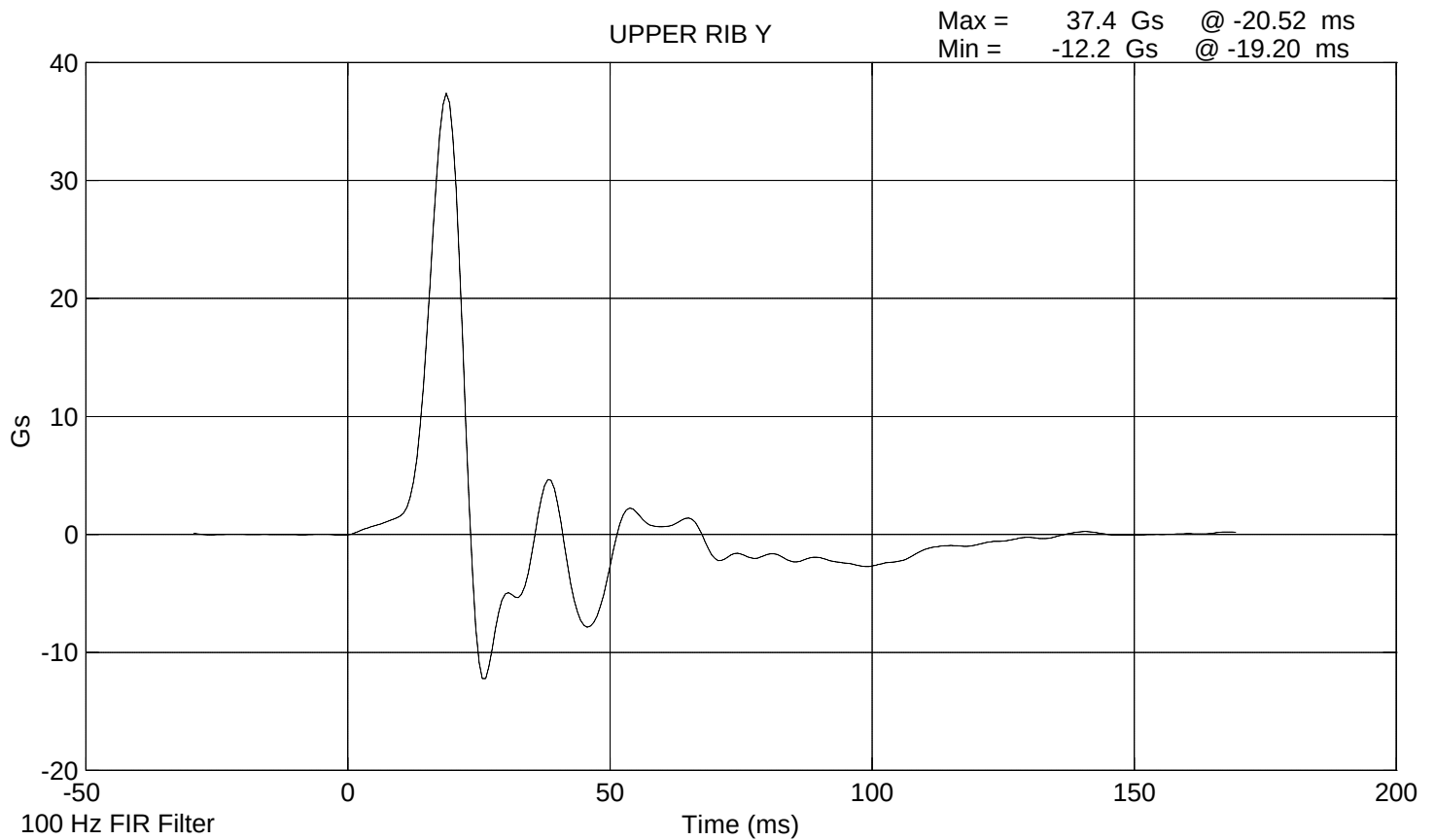
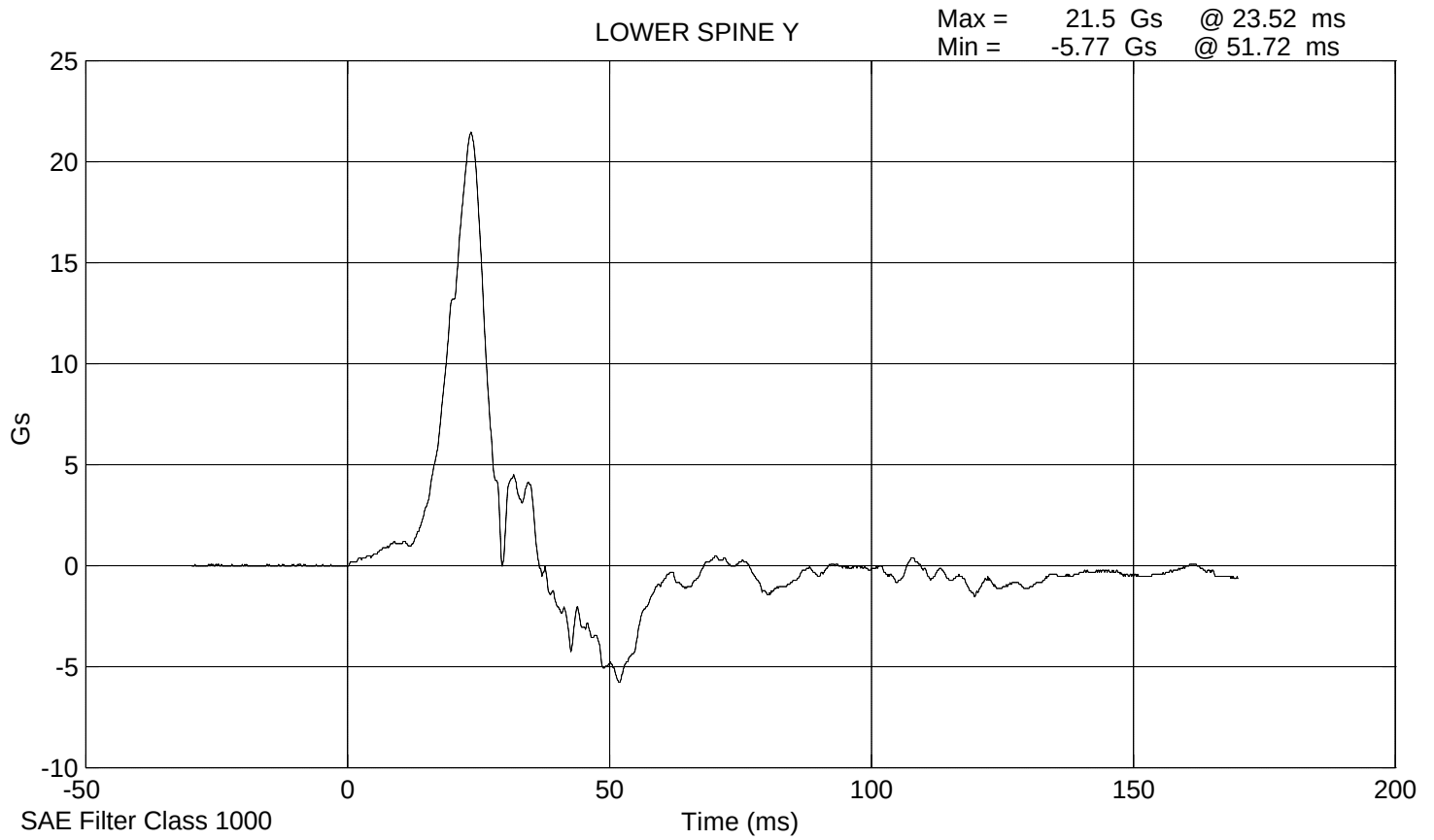
CONFIGURED FOR LEFT SIDE IMPACT

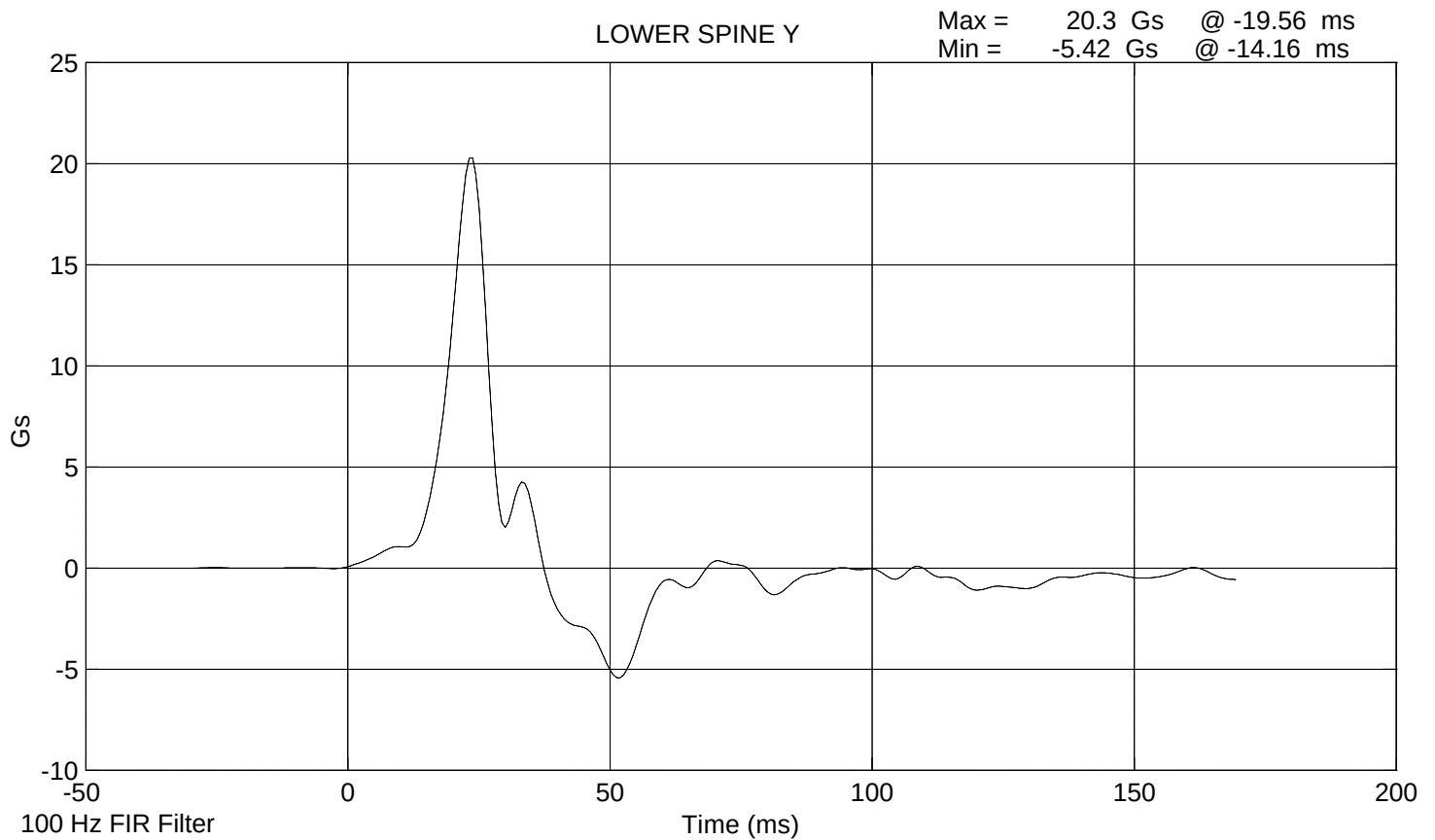
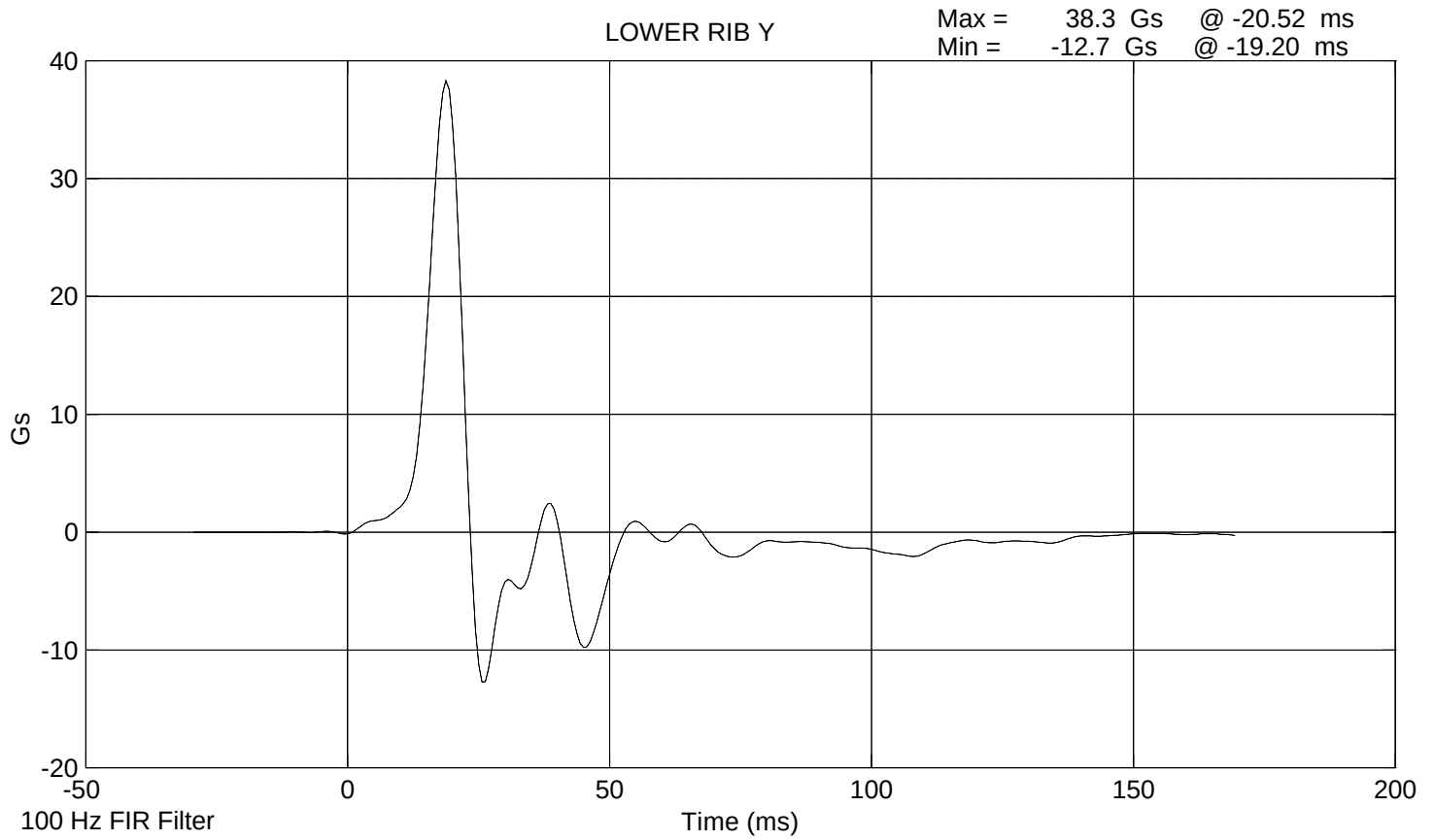
SID Serial No.: 026 Sequential Test Number: 1
Date: 3/1/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	37.4
LOWER RIB (g's)	37 - 46	38.3
LOWER SPINE (g's)	15 - 22	20.3

REMARKS: None







**LATERAL PELVIS IMPACT TEST
POST TEST**

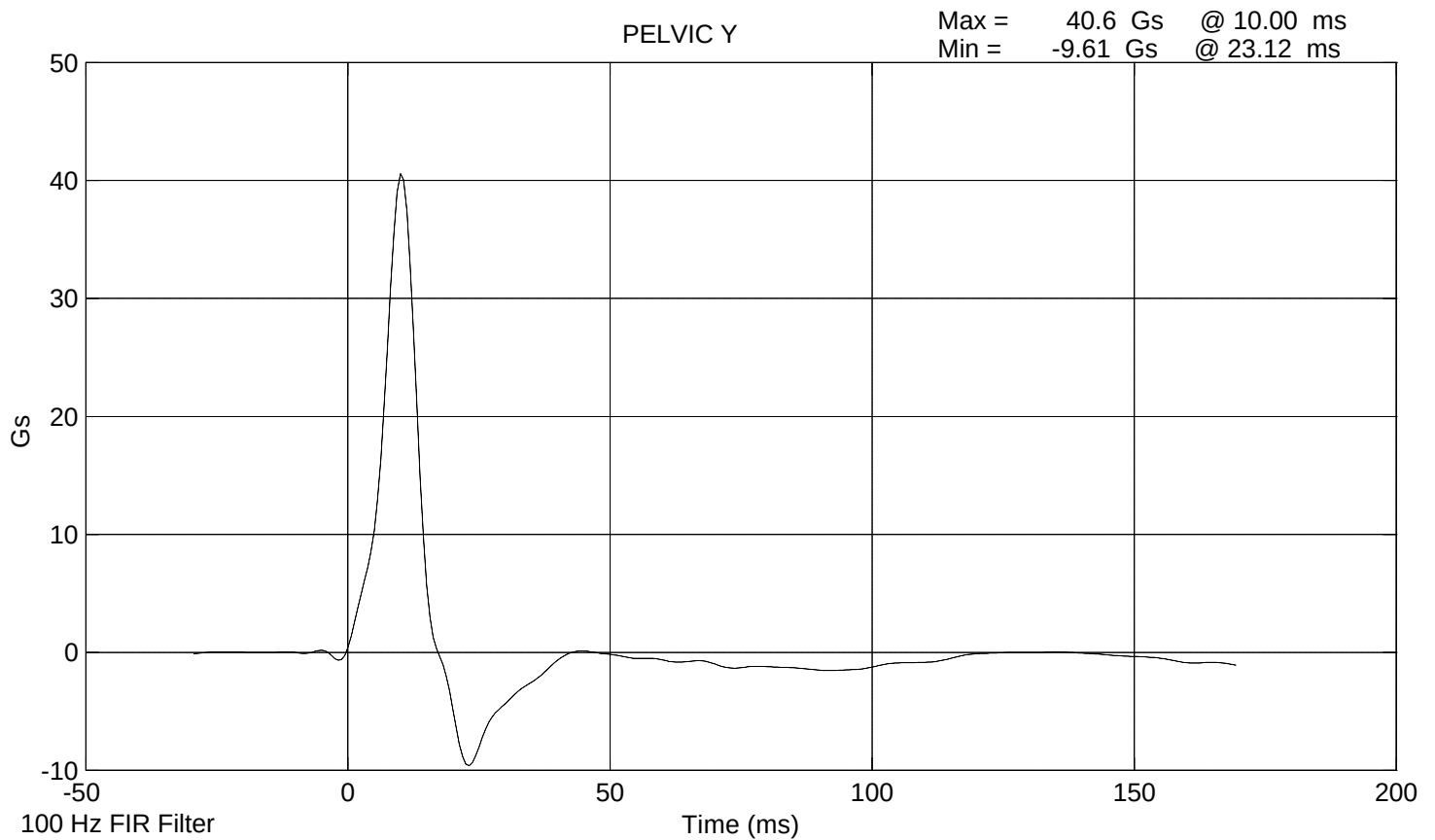
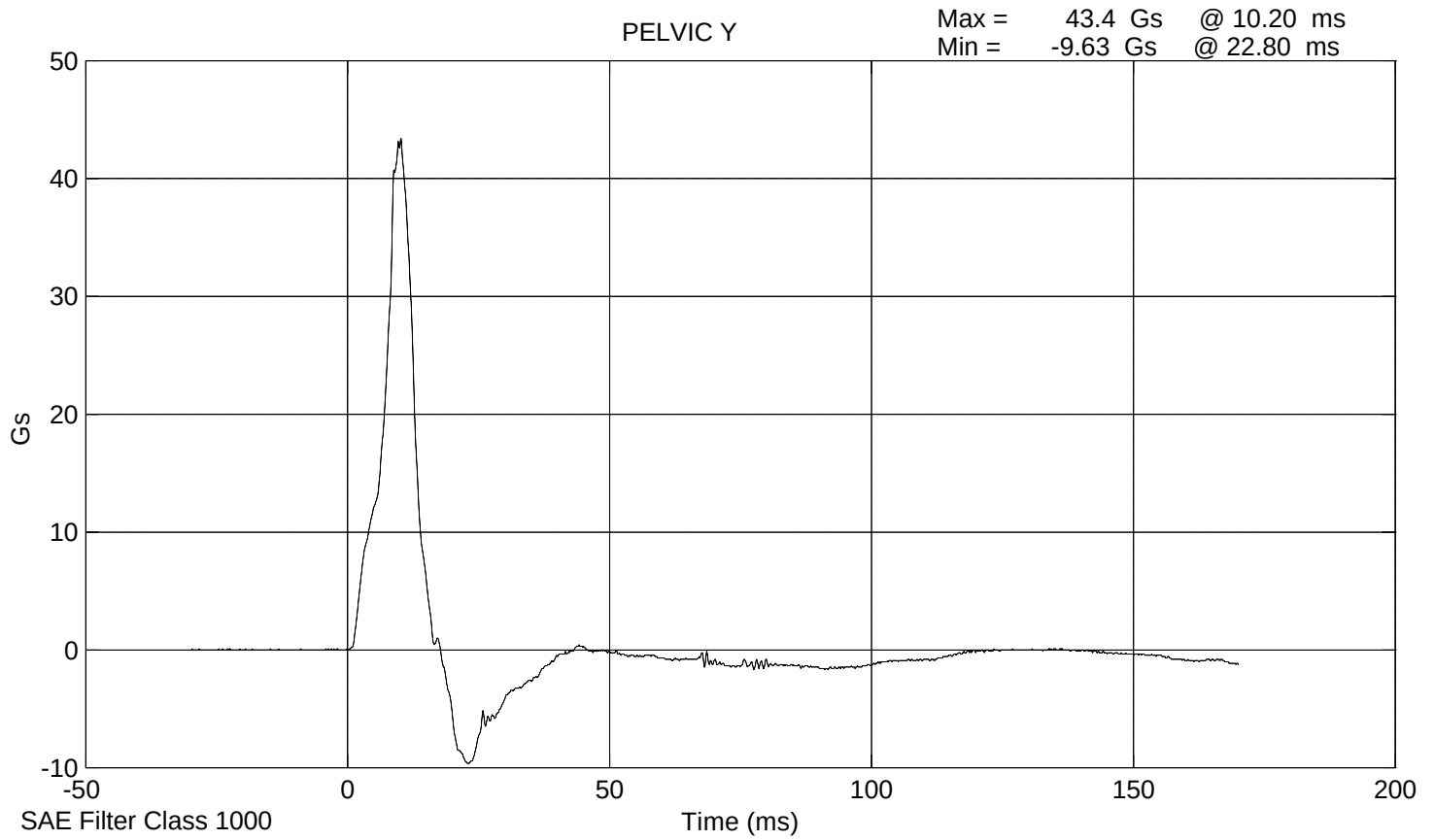
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/1/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	40.6

REMARKS: None

SID 026 Pelvic Impact Test @ 4.2916 m/s



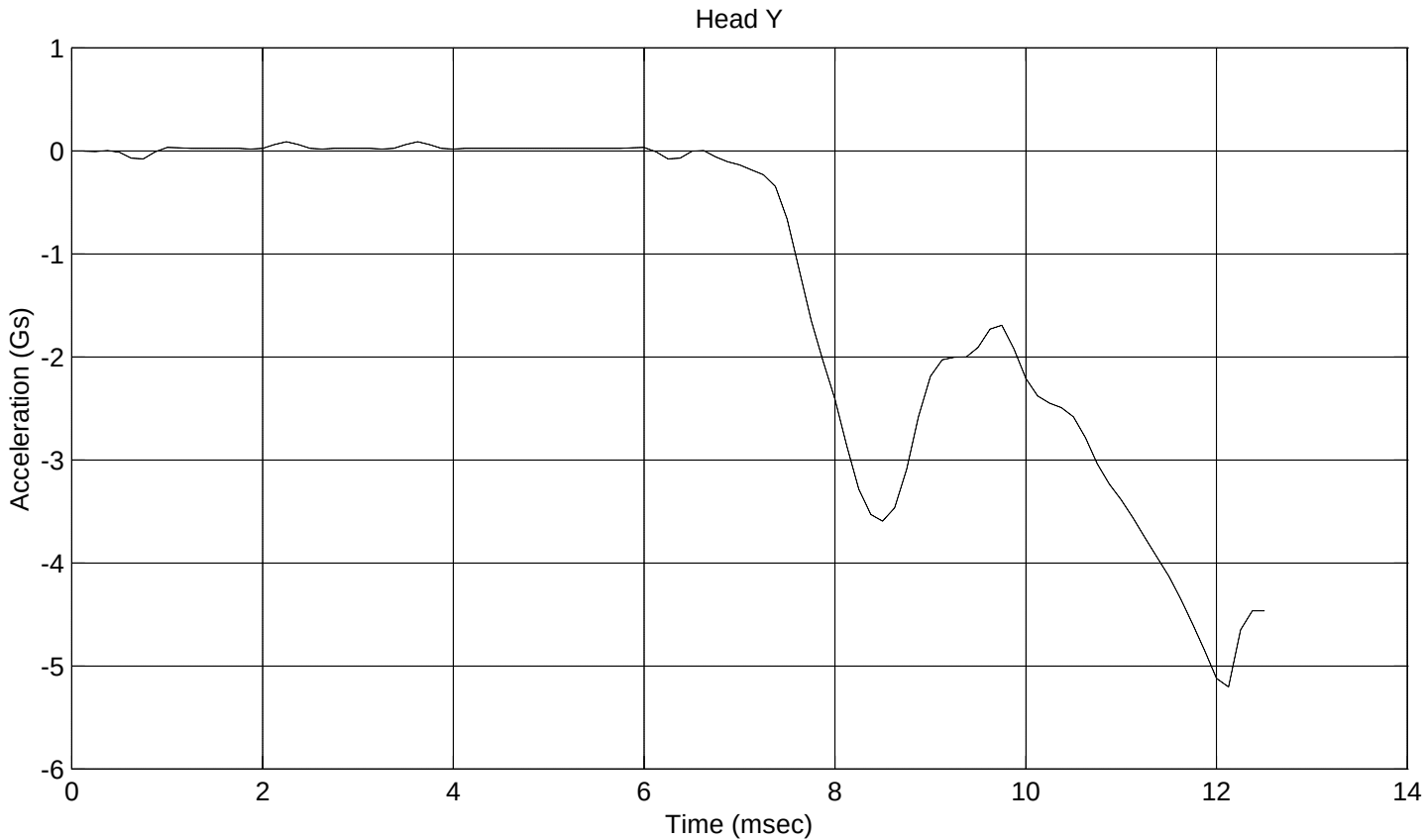
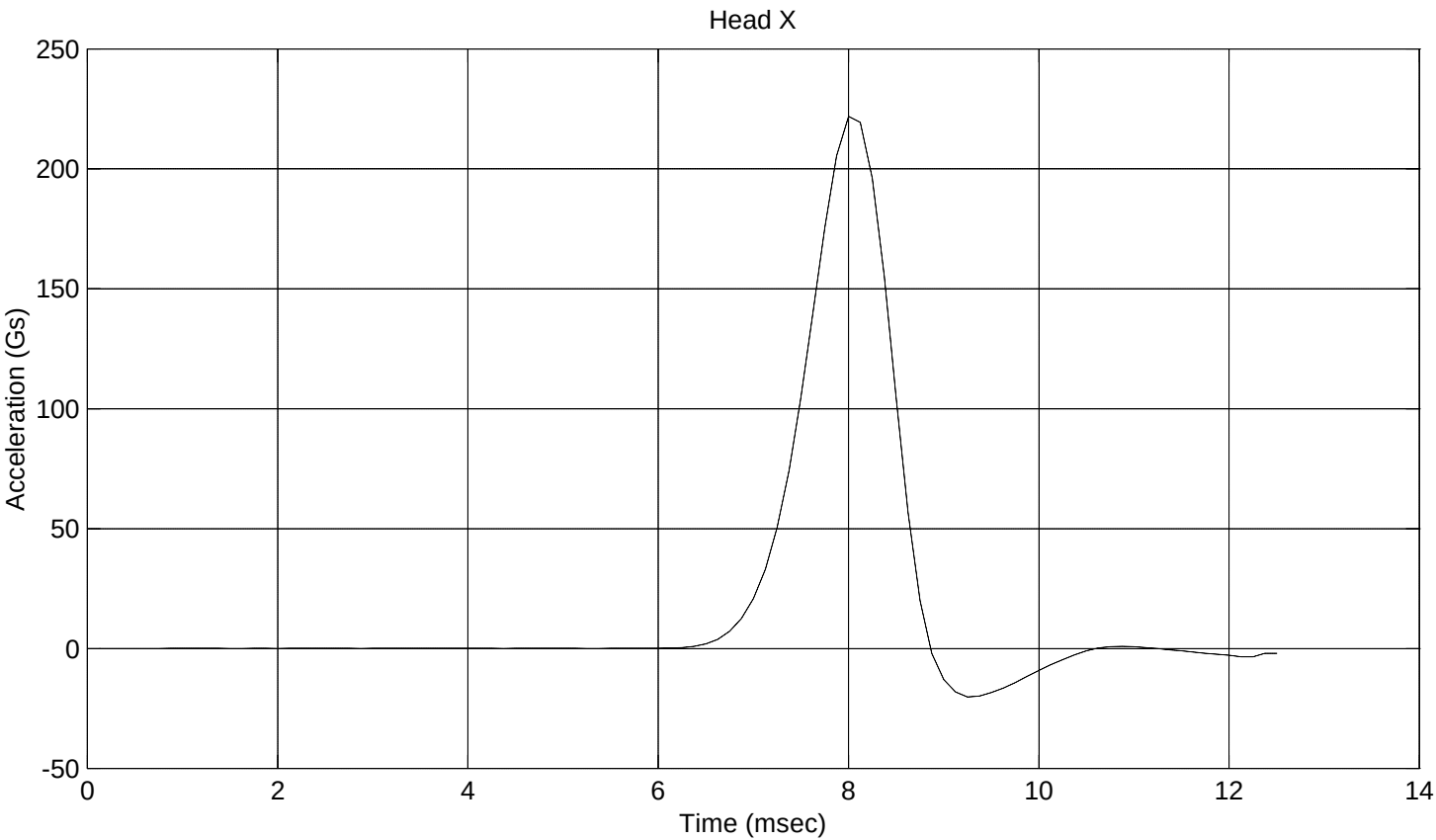
HEAD DROP TEST
POST-TEST
(Test not required for SID certification)

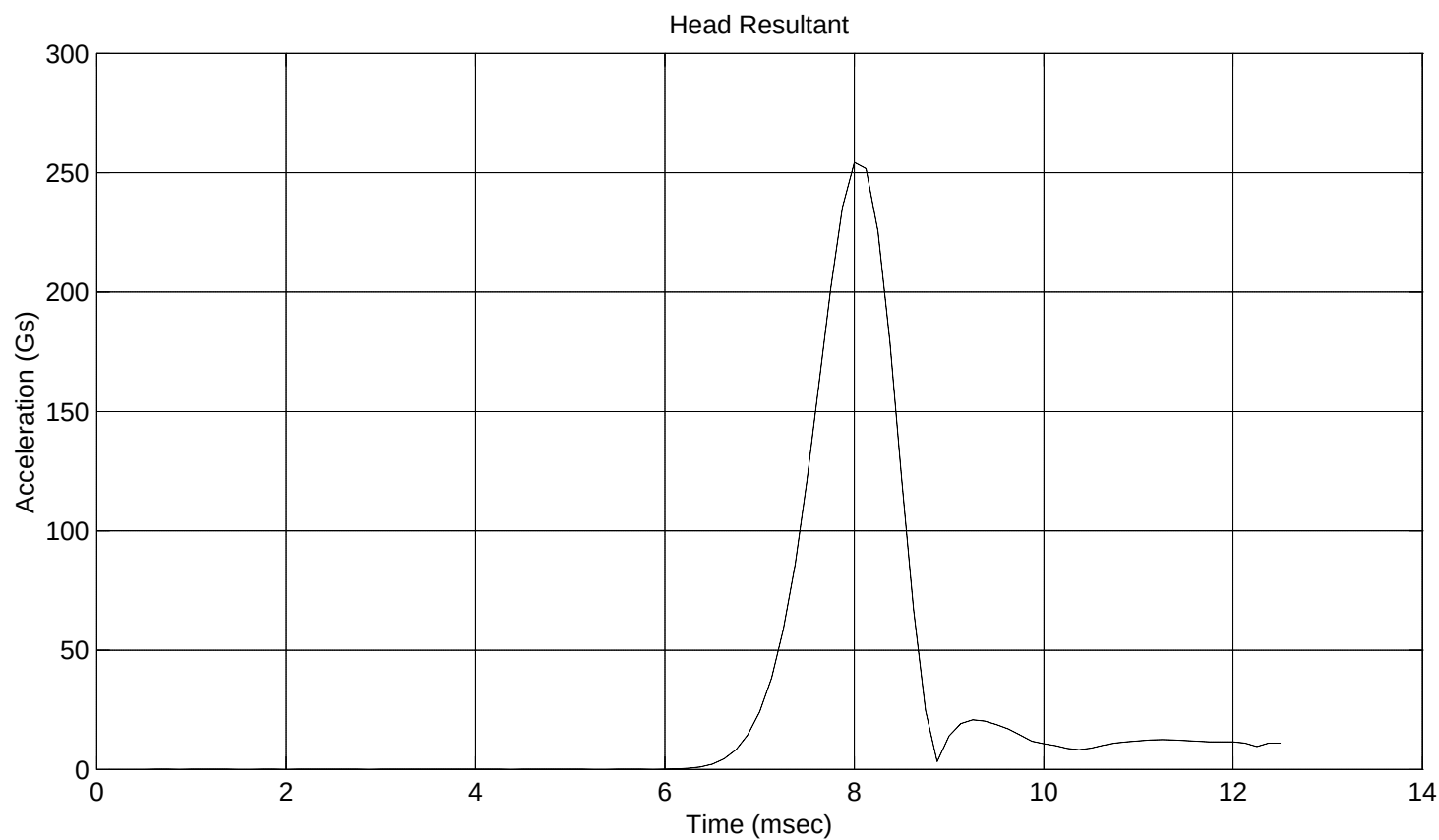
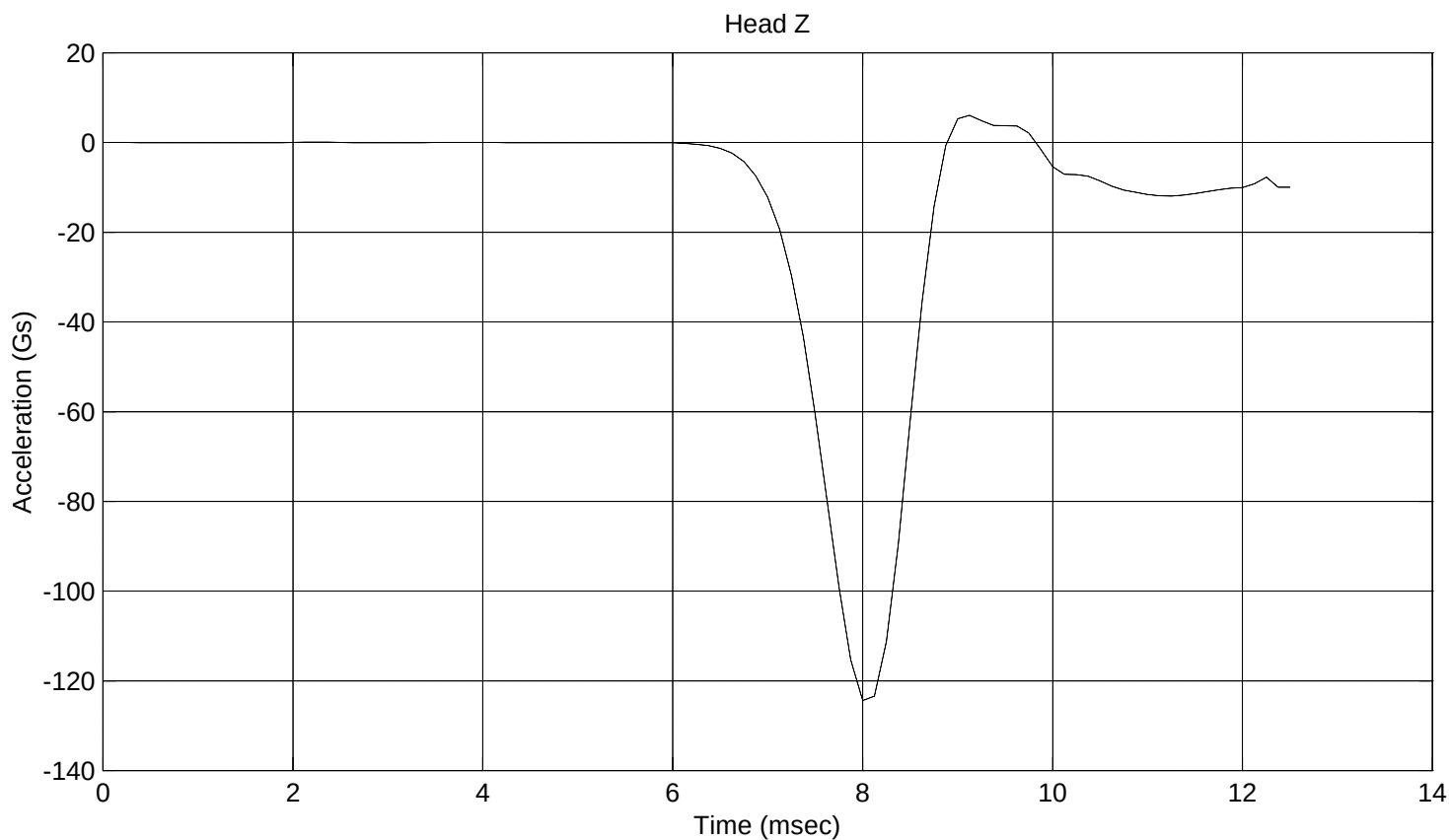
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/1/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	254.4
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	5.2
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.1

REMARKS: None





ABDOMINAL COMPRESSION TEST**POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	110
FORCE @ 19 mm (N)	163 - 221	173
FORCE @ 25 mm (N)	222 - 280	248
FORCE @ 33 mm (N)	325 - 391	369

REMARKS: None

Dummy S/N 026

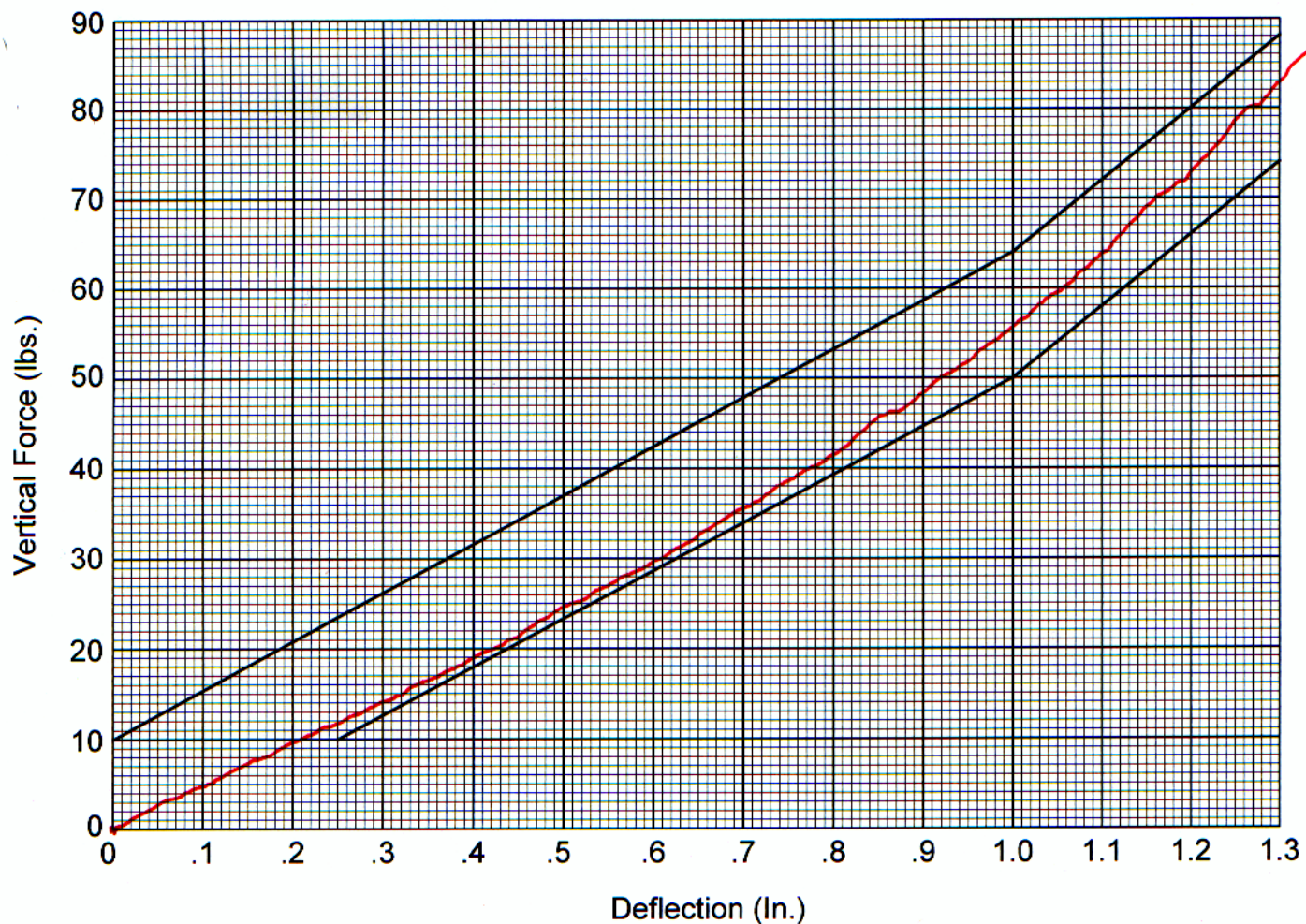
W/A _____

Date 3-2-2001

Performed By PE

Temp. 70°

Humidity 32%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

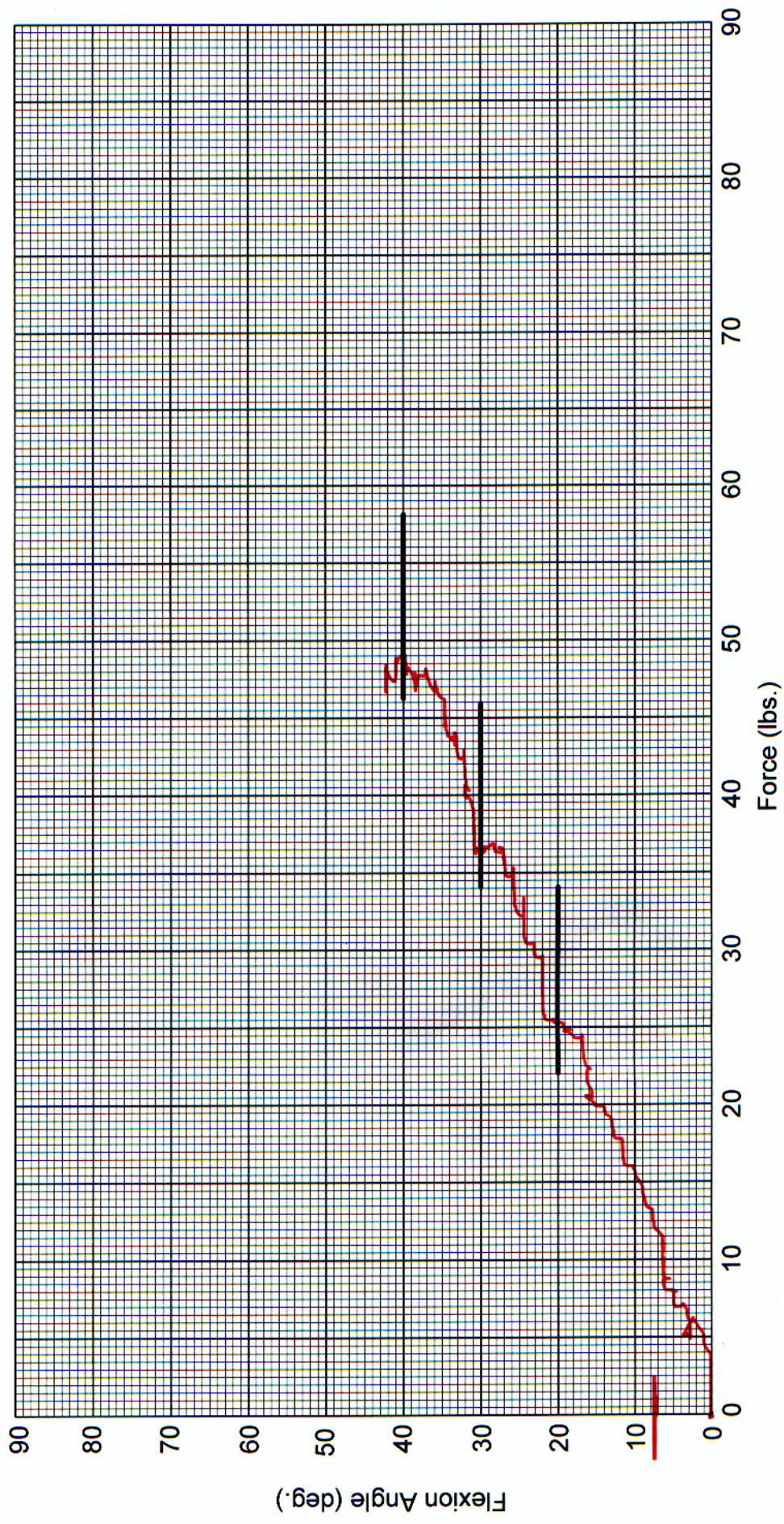
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	112.5
FORCE @ 30° (N)	151.2 - 204.6	161.9
FORCE @ 40° (N)	204.6 - 258	217.5
RETURN ANGLE	12° max.	7.4°

REMARKS: None

Dummy S/N 026
 W/A _____
 Date 3-2-2001
 Performed By [Signature]
 Temp. 70°
 Humidity 32%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 026 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

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

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	370

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

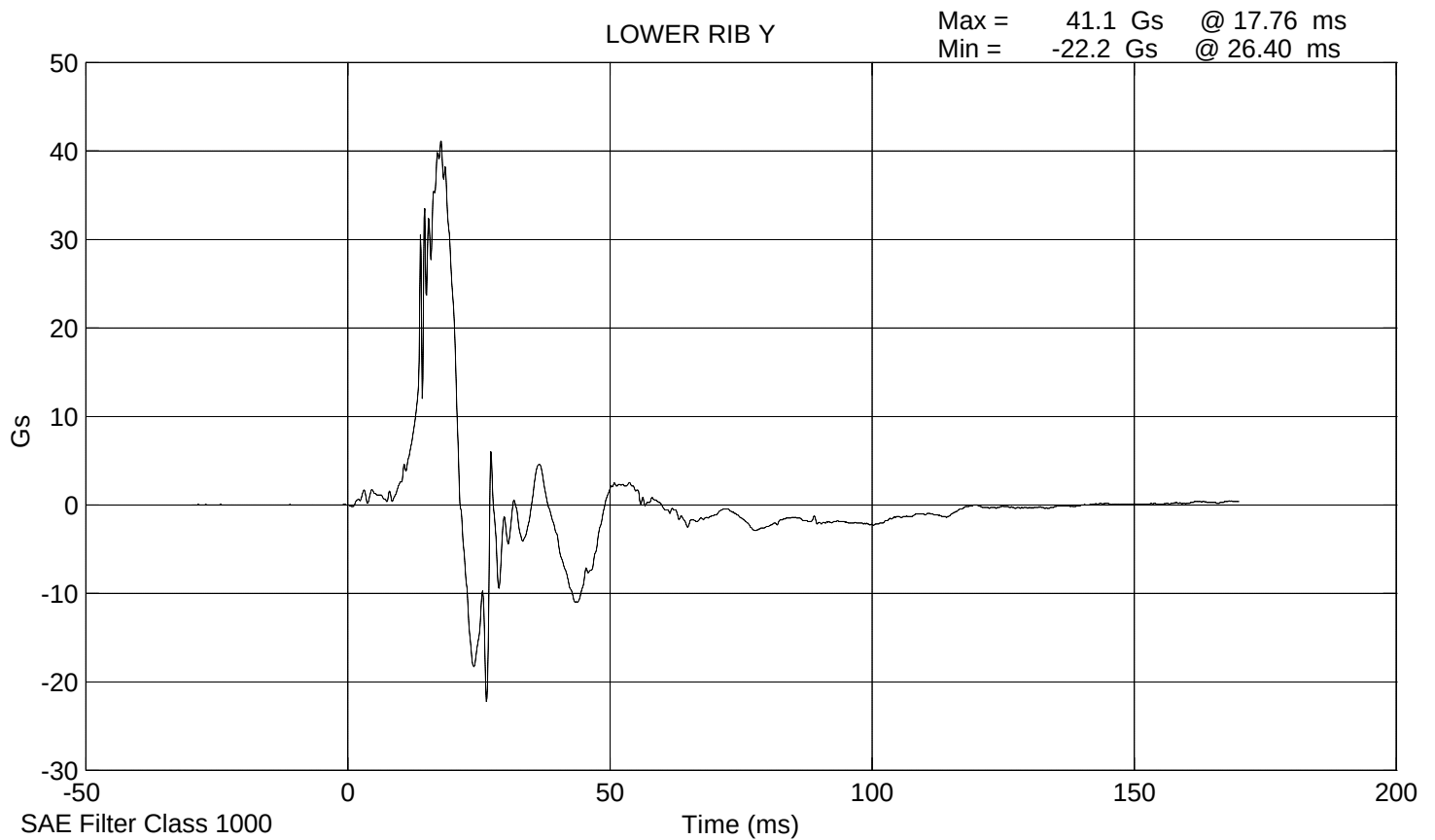
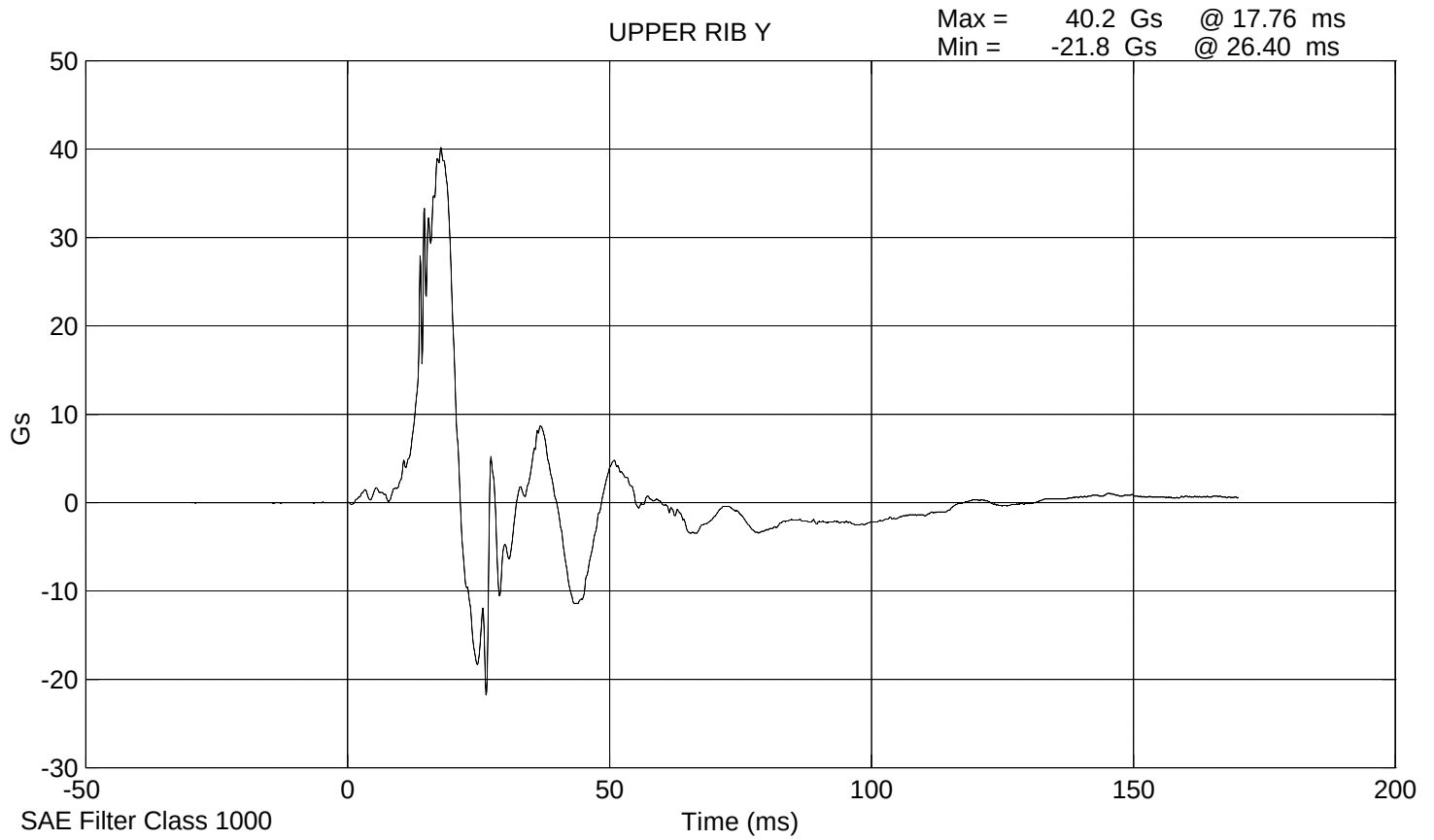
CONFIGURED FOR LEFT SIDE IMPACT

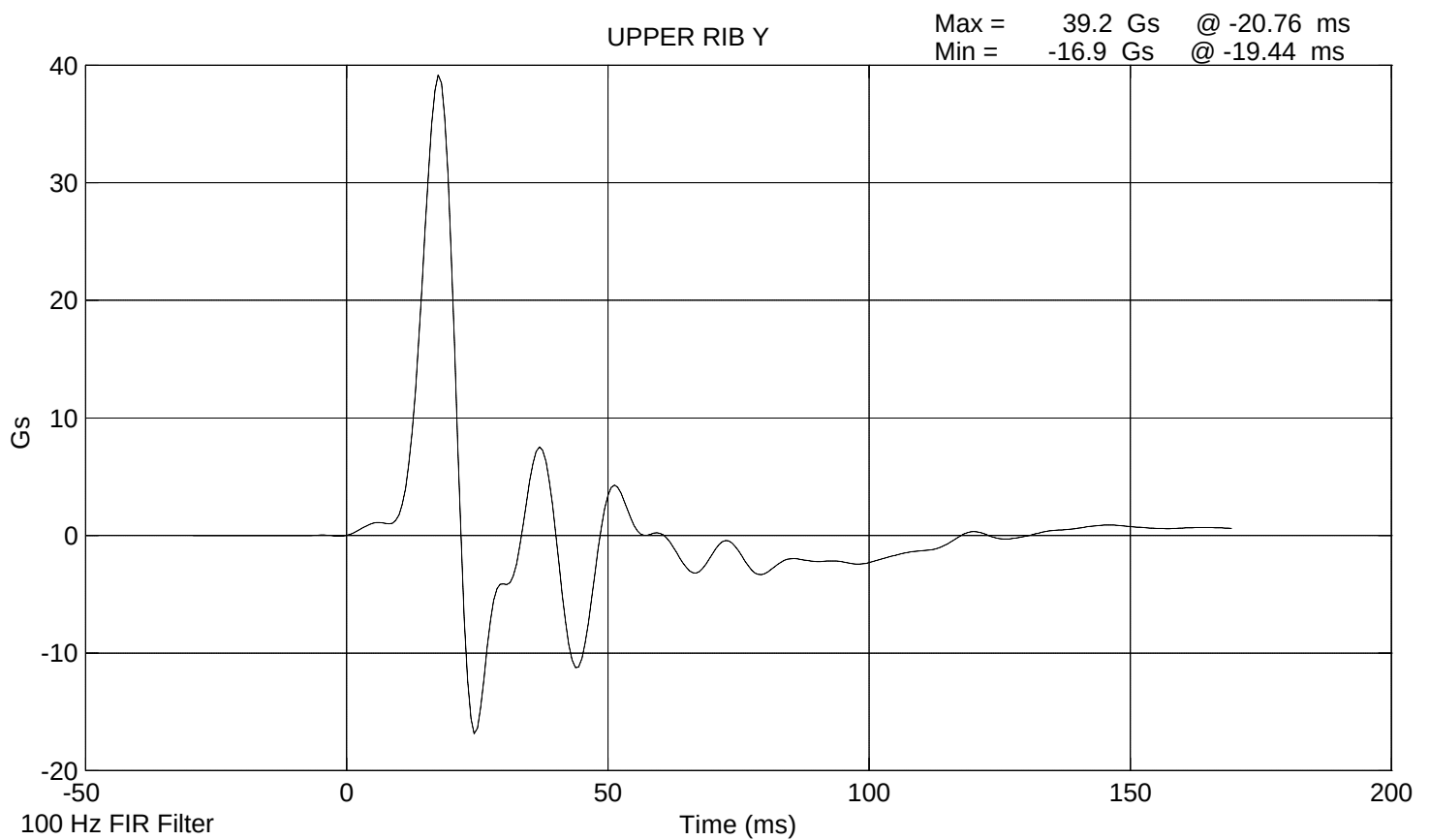
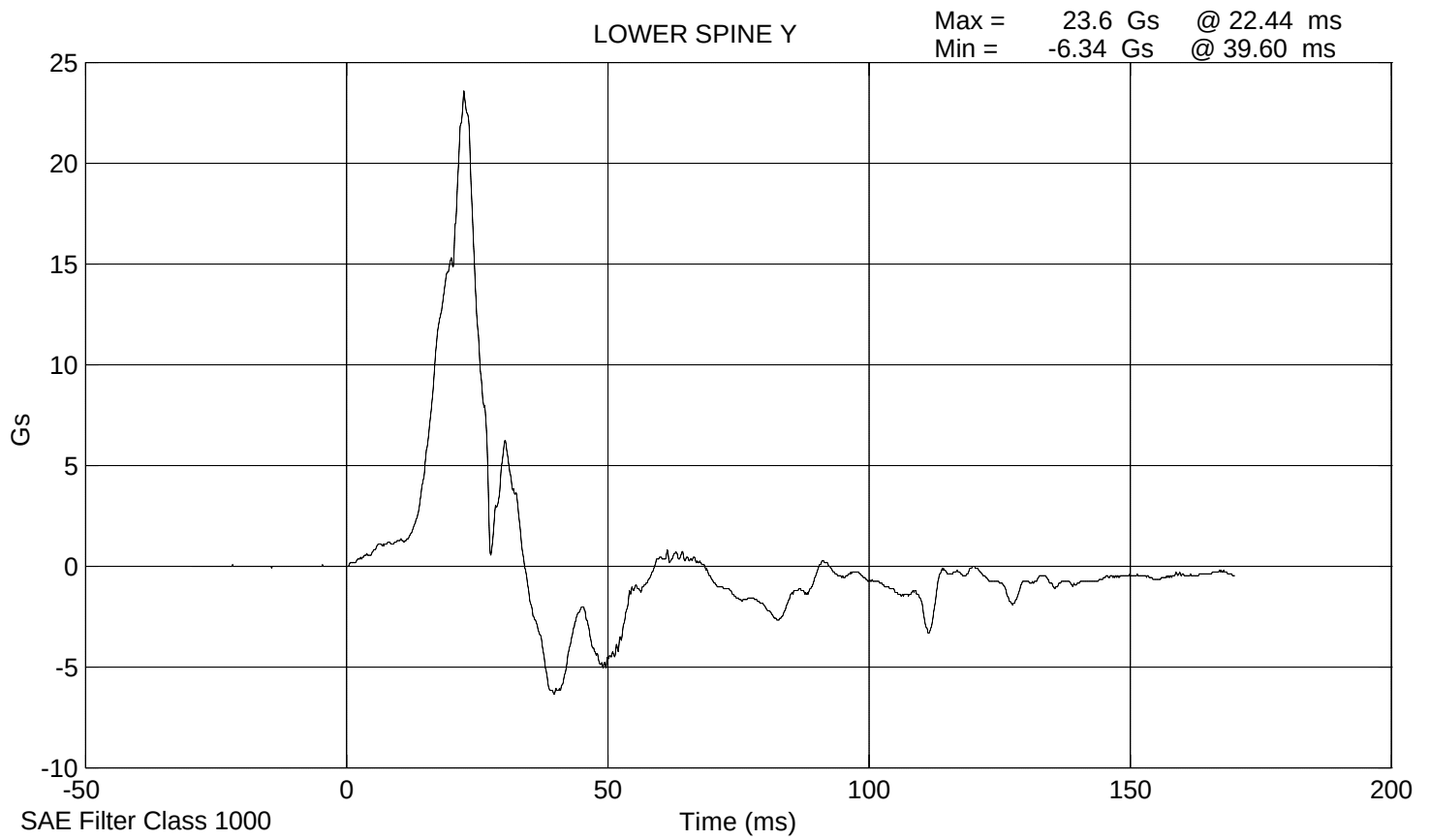
SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

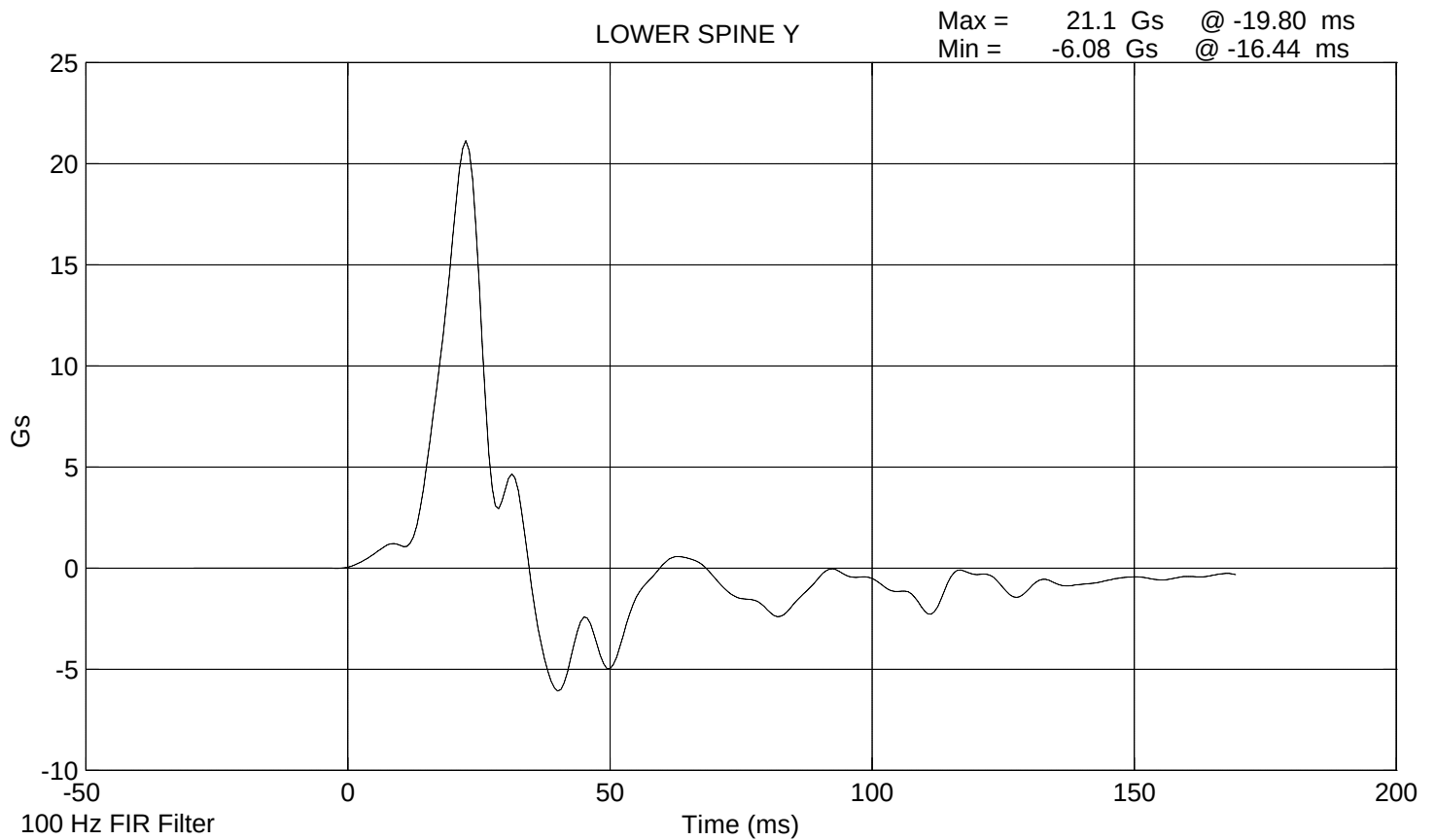
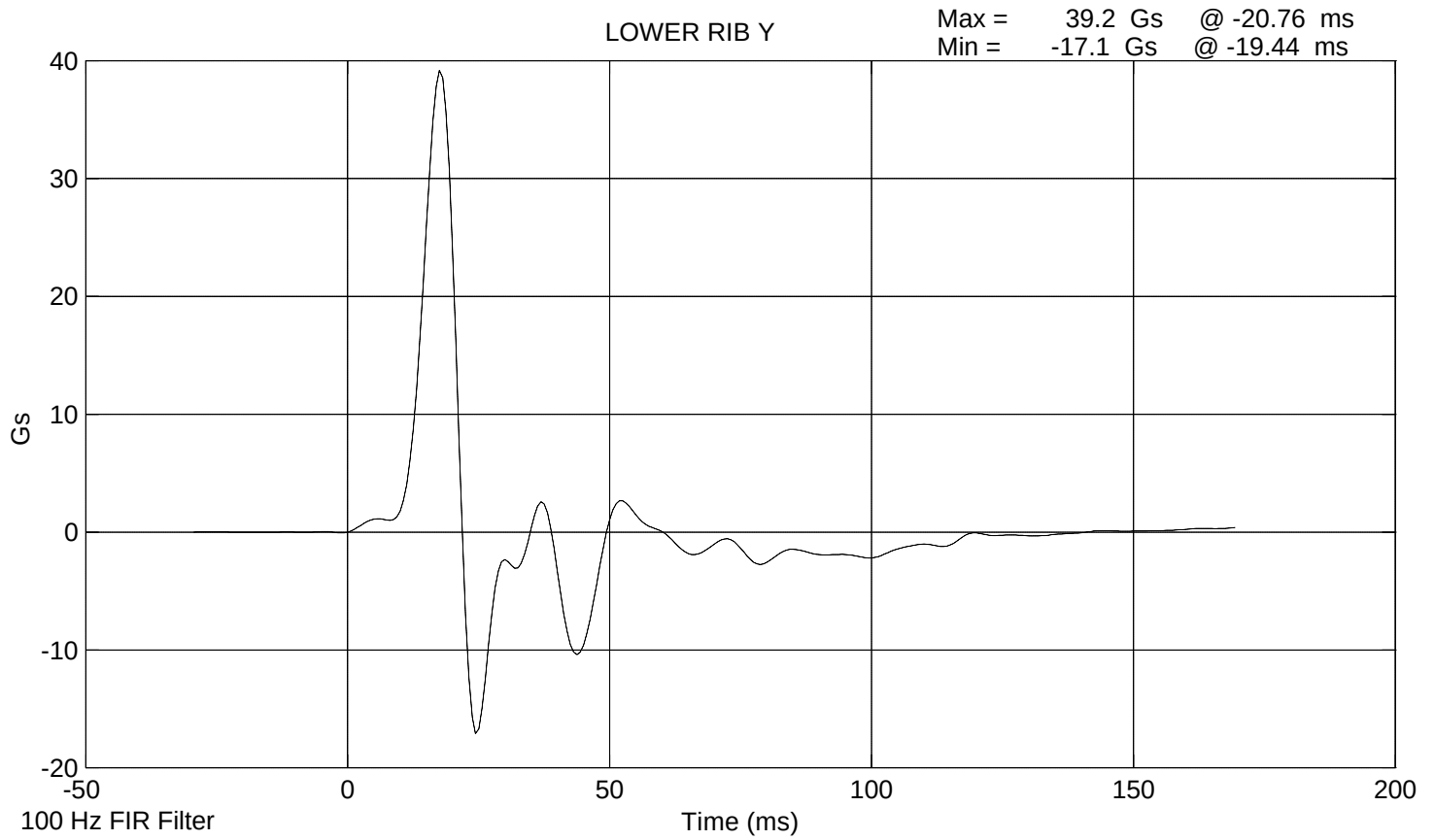
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	39.2
LOWER RIB (g's)	37 - 46	39.2
LOWER SPINE (g's)	15 - 22	21.1

REMARKS: None

SID 027 Thorax Impact Test @ 4.319 m/s







**LATERAL PELVIS IMPACT TEST
POST TEST**

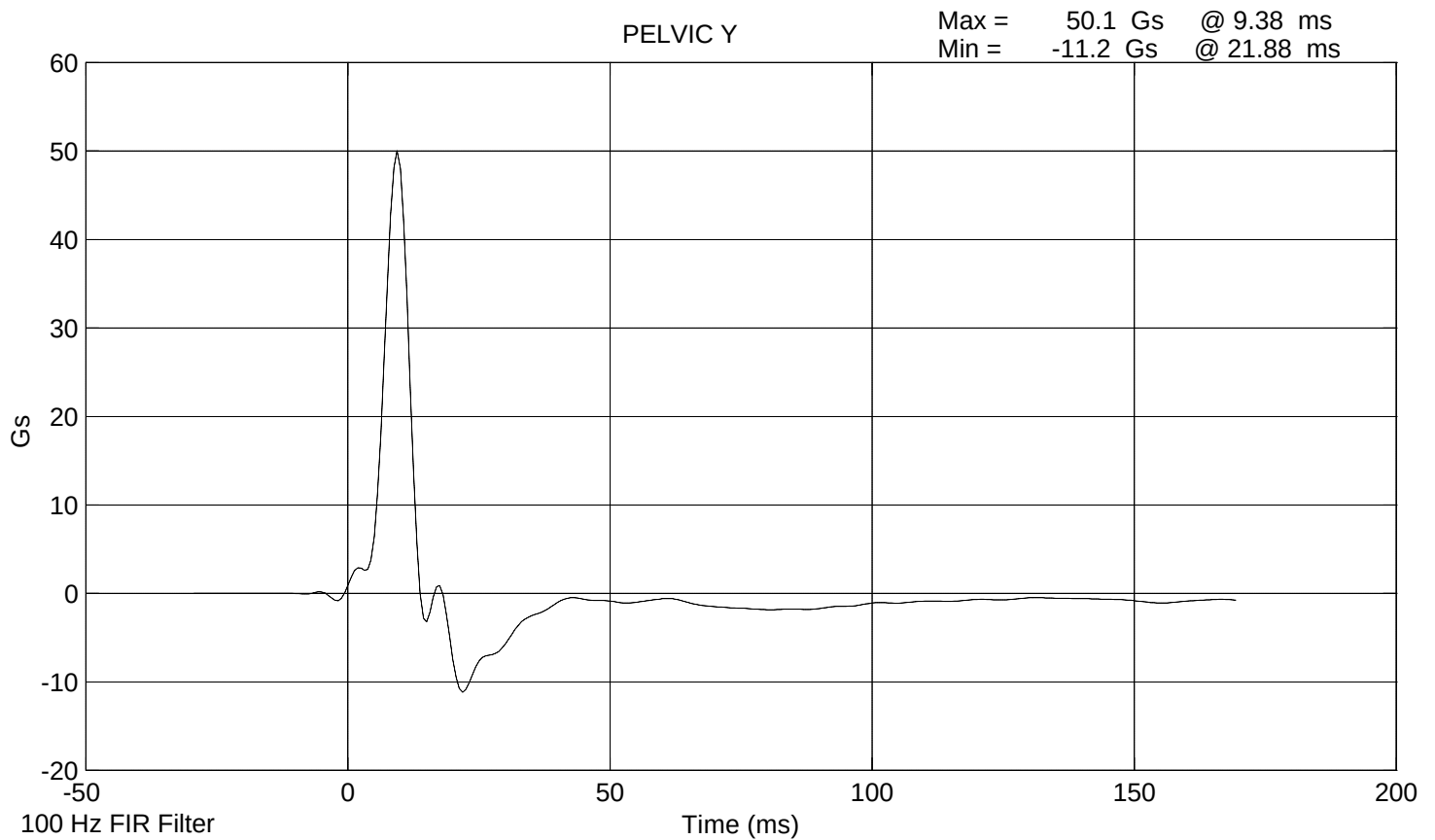
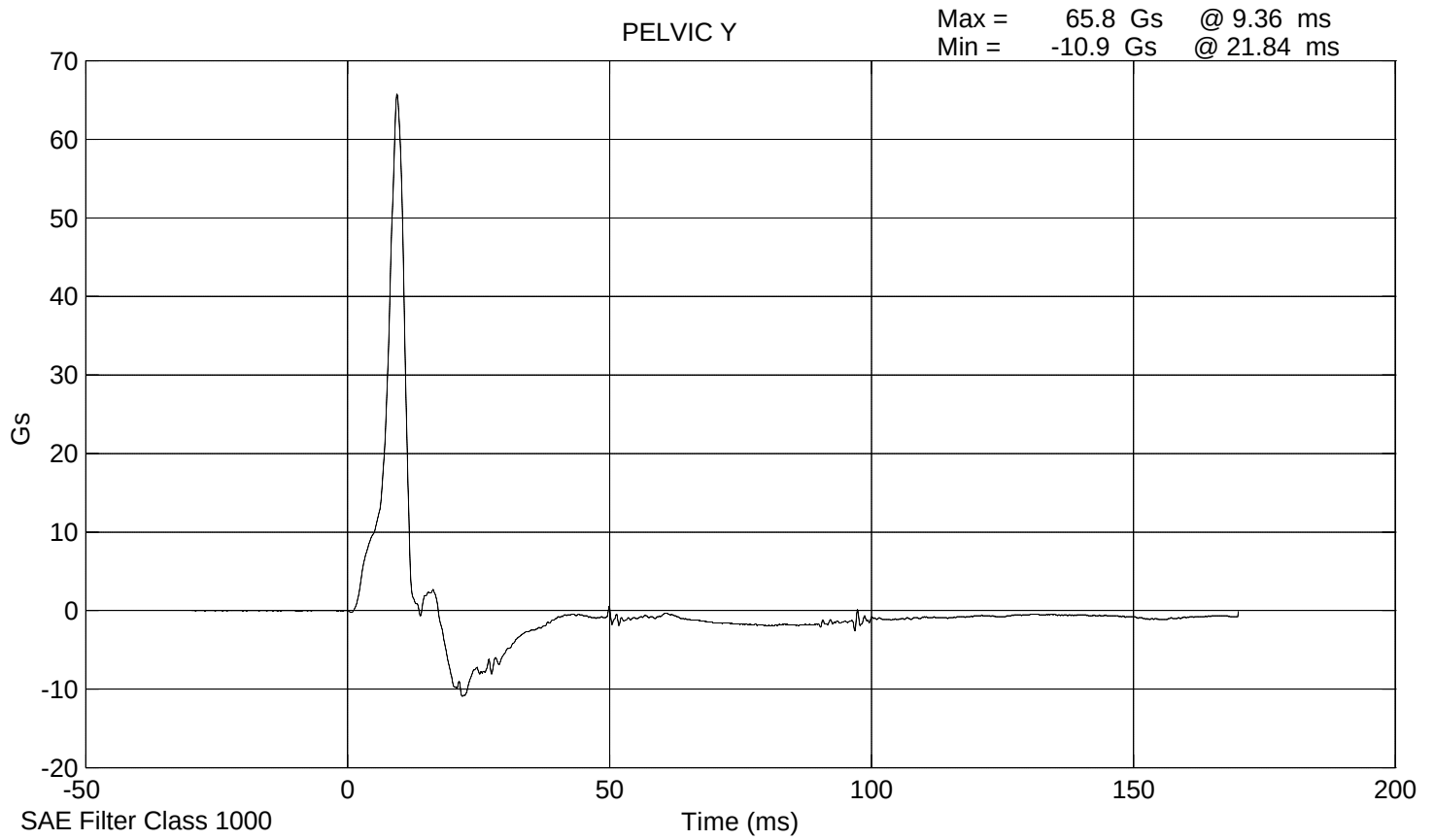
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.27
PELVIS ACCELERATION (g's)	40 - 60	50.1

REMARKS: None

SID 027 Pelvic Impact Test @ 4.2733 m/s



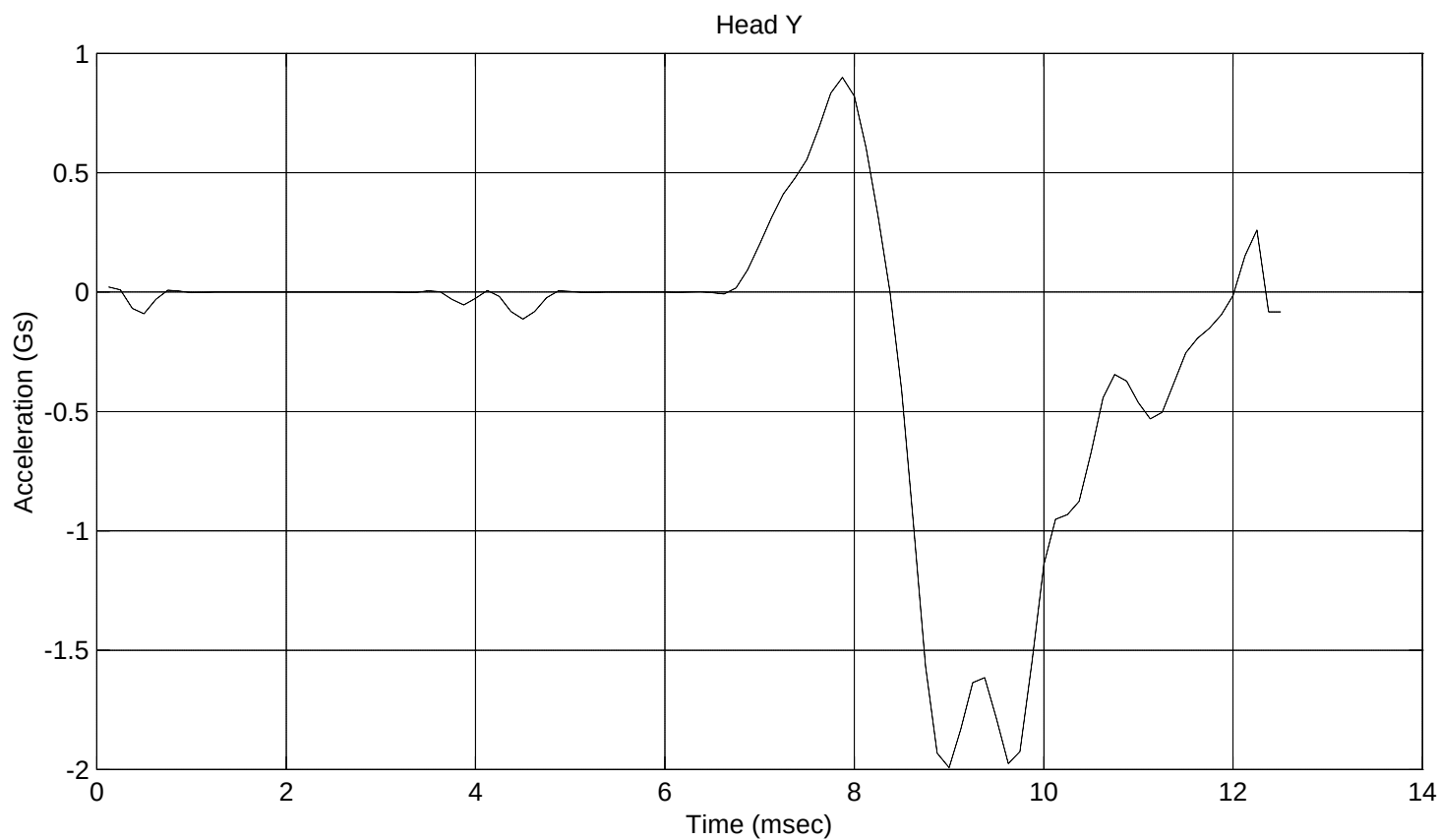
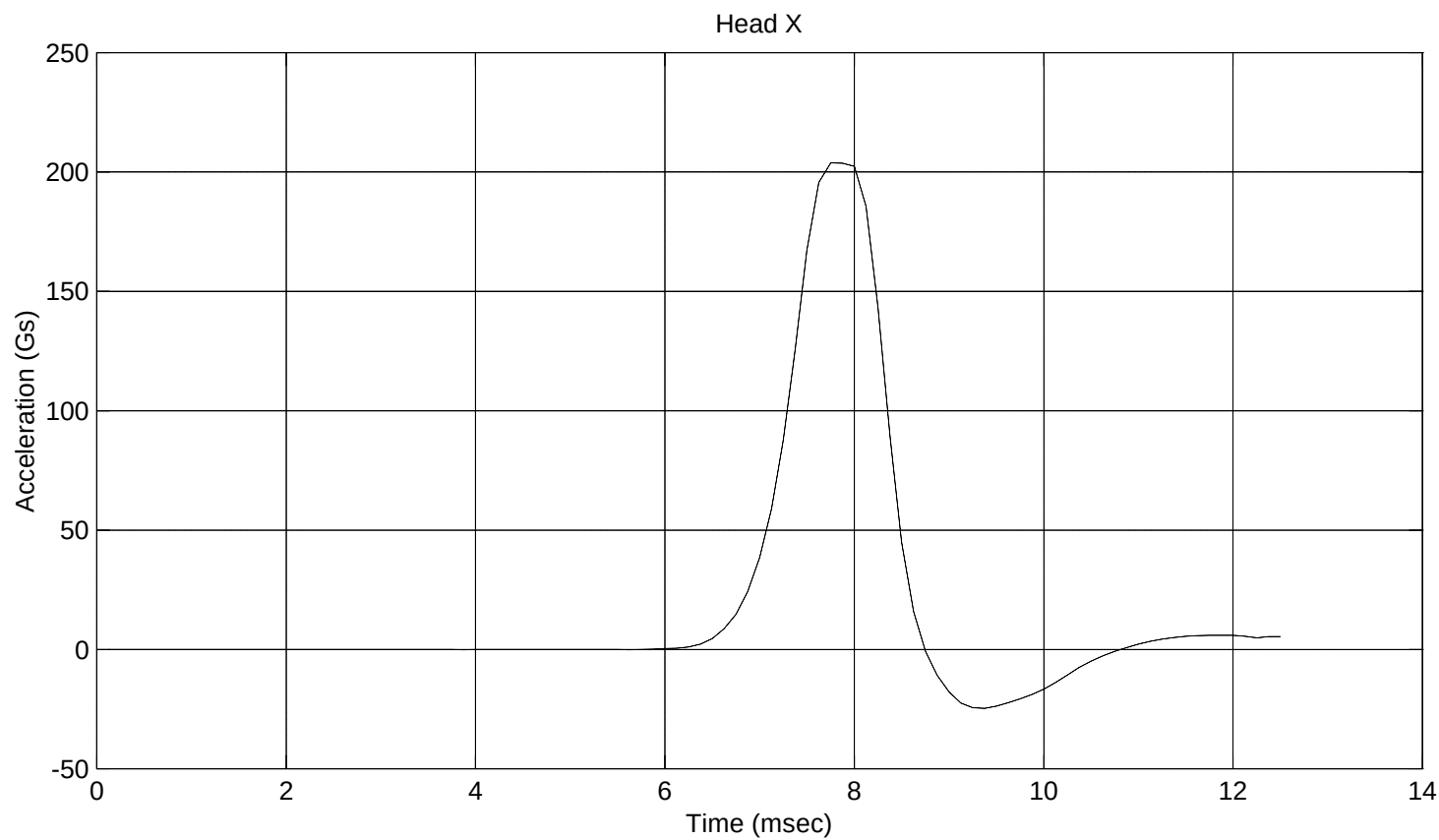
HEAD DROP TEST
POST-TEST
(Test not required for SID certification)

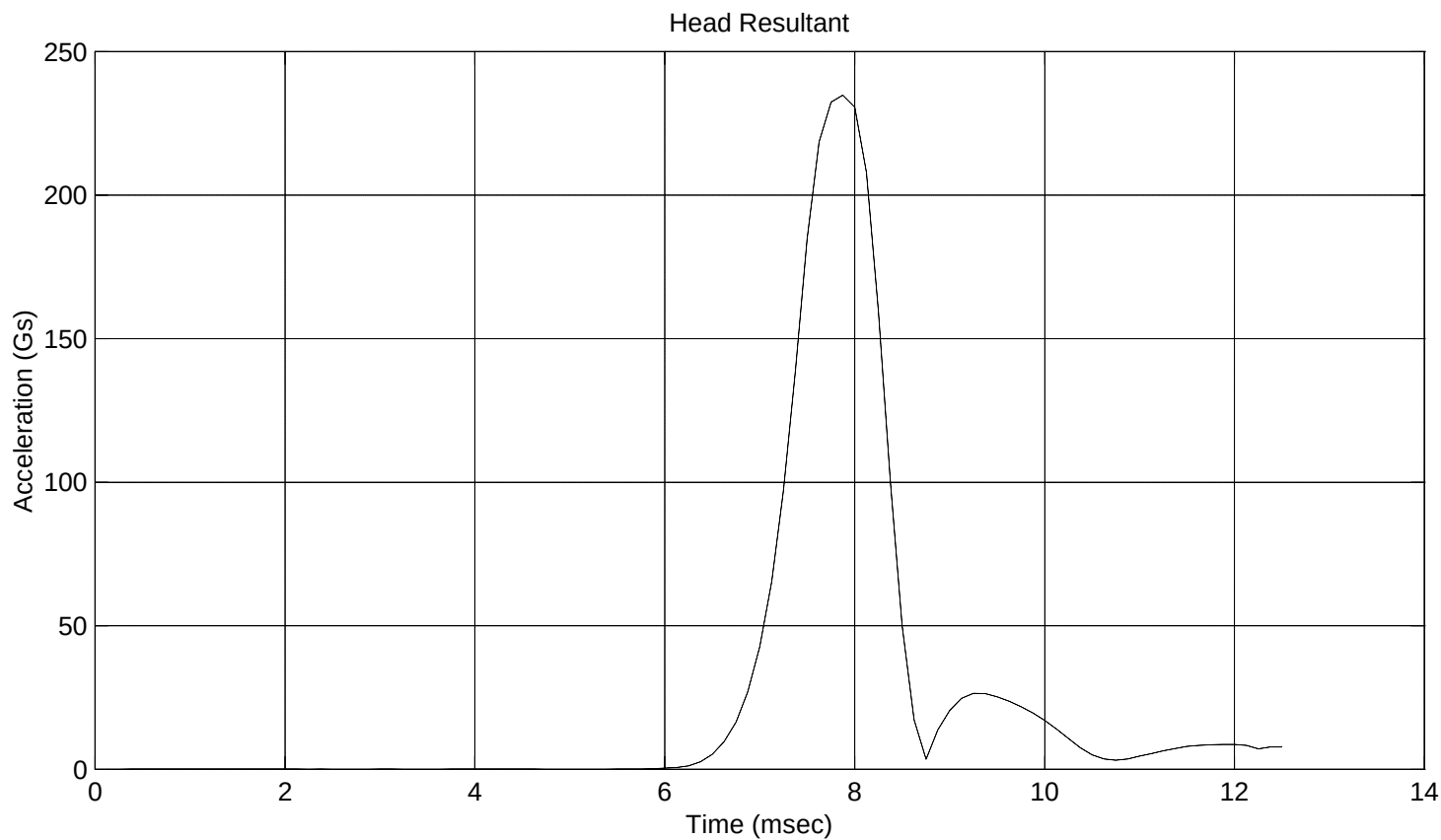
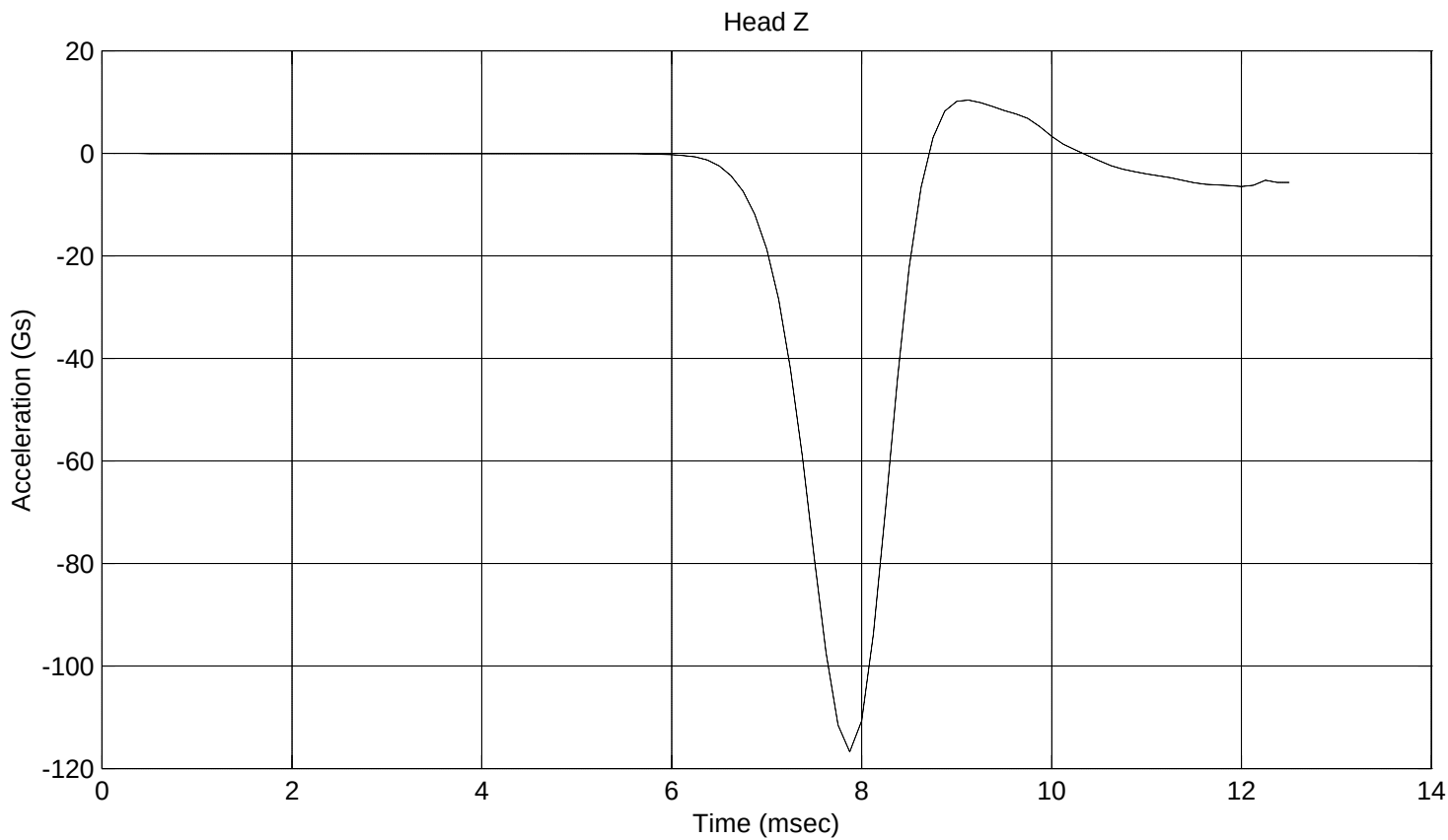
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/1/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	234.8
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	2.0
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.1

REMARKS: None





ABDOMINAL COMPRESSION TEST
POST TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	112
FORCE @ 19 mm (N)	163 - 221	176
FORCE @ 25 mm (N)	222 - 280	253
FORCE @ 33 mm (N)	325 - 391	366

REMARKS: None

Dummy S/N 027

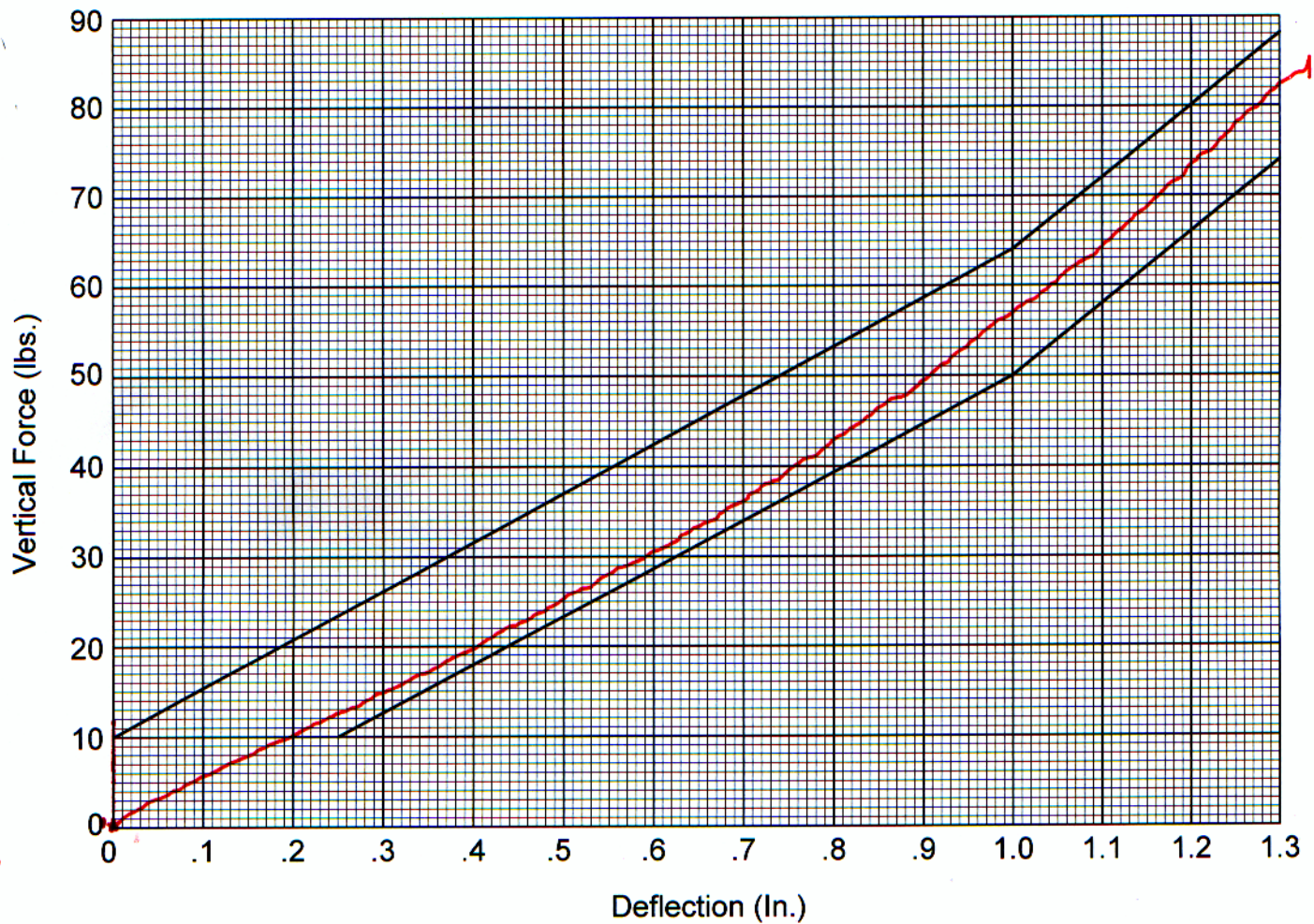
W/A _____

Date 3-2-2001

Performed By [Signature]

Temp. 70°

Humidity 32%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

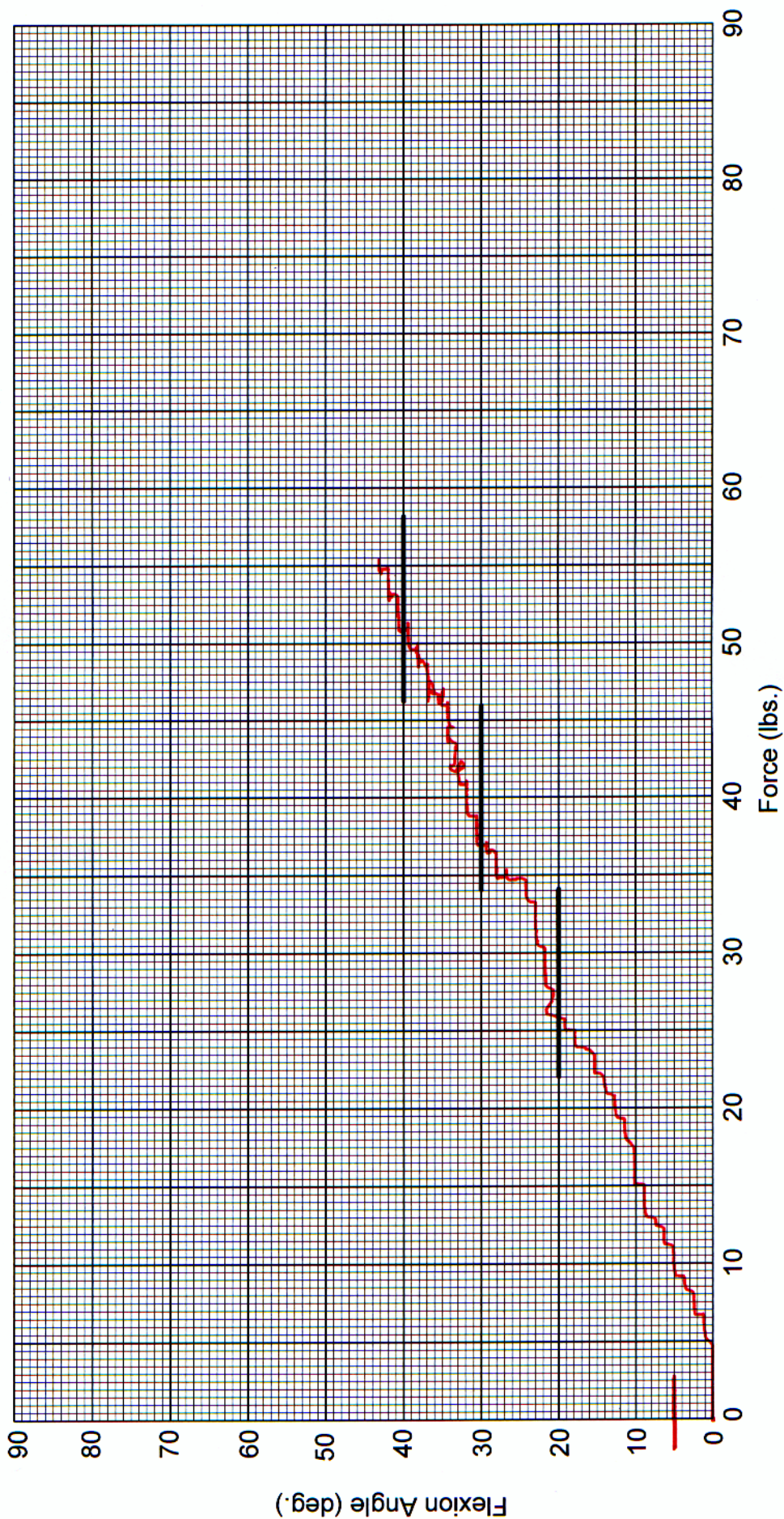
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	115
FORCE @ 30° (N)	151.2 - 204.6	164
FORCE @ 40° (N)	204.6 - 258	226
RETURN ANGLE	12° max.	5.0°

REMARKS: None

Dummy S/N 027
W/A _____
Date 3-2-2001
Performed By RS
Temp. 70°
Humidity 32%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST

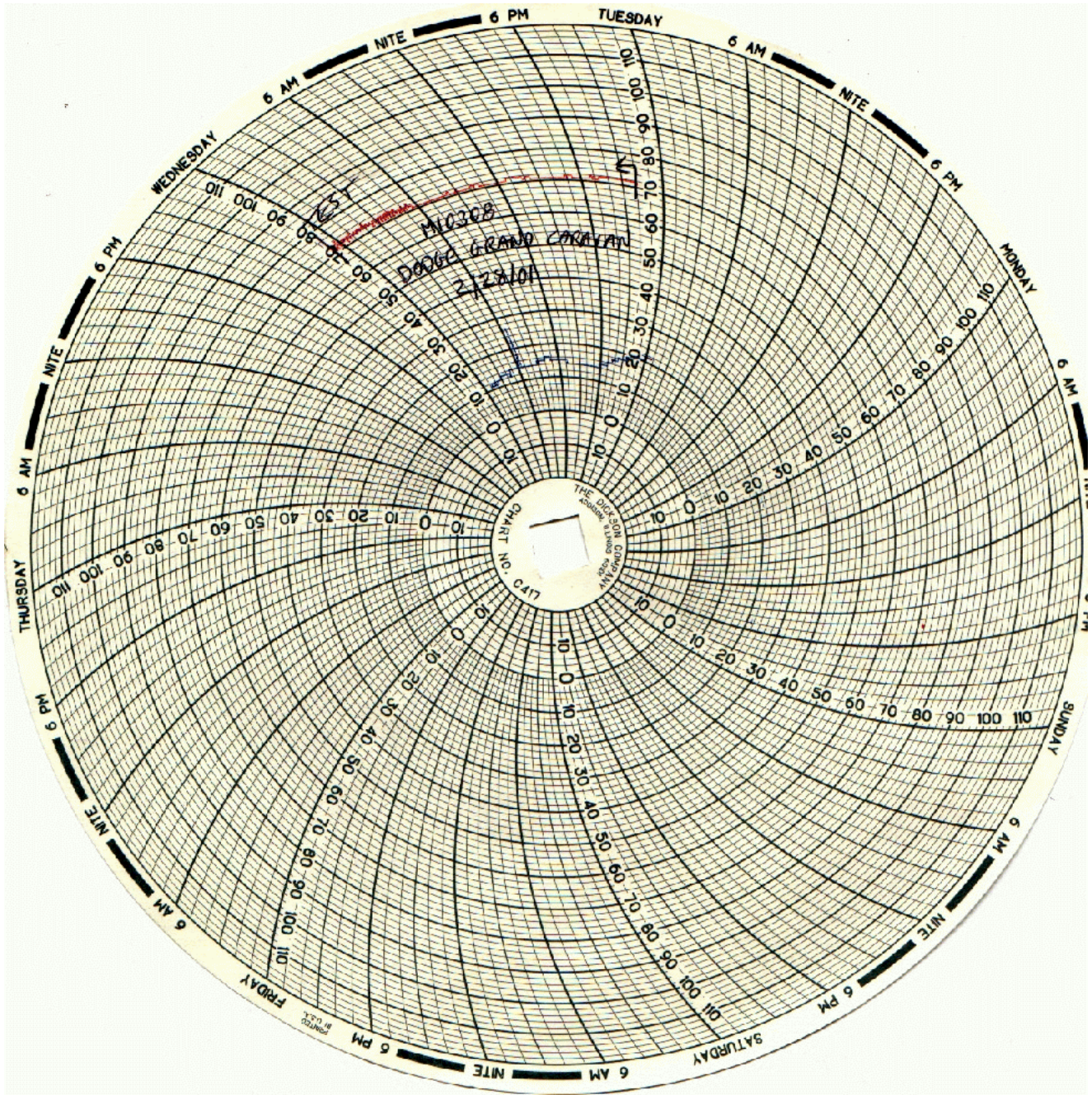
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 3/2/01 Laboratory Technician: B. Swiecicki

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

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

	FRONT SID NO.: 026		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-J33019	ENDEVCO	30-Nov-00
HEAD AY	AC-J32782	ENDEVCO	30-Nov-00
HEAD AZ	AC-J33127	ENDEVCO	30-Nov-00
UPPER RIB	AC-J32787	ENDEVCO	30-Nov-00
LOWER RIB	AC-J33156	ENDEVCO	30-Nov-00
LOWER SPINE	AC-P15534	ENDEVCO	23-Feb-01
PELVIS	AC-P16585	ENDEVCO	23-Feb-01
UPPER RIB REDUNDANT	AC-J33020	ENDEVCO	30-Nov-00
LOWER RIB REDUNDANT	AC-J32791	ENDEVCO	30-Nov-00
LOWER SPINE REDUNDANT	AC-P15526	ENDEVCO	23-Feb-01
PELVIS REDUNDANT	AC-P16576	ENDEVCO	23-Feb-01

	REAR SID NO.: 027		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P17237	ENDEVCO	16-Jan-01
HEAD AY	AC-P15747	ENDEVCO	16-Jan-01
HEAD AZ	AC-P14438	ENDEVCO	16-Jan-01
UPPER RIB	AC-P18545	ENDEVCO	6-Jan-01
LOWER RIB	AC-P18532	ENDEVCO	9-Jan-01
LOWER SPINE	AC-P18525	ENDEVCO	6-Jan-01
PELVIS	AC-P18531	ENDEVCO	6-Jan-01
UPPER RIB REDUNDANT	AC-P18536	ENDEVCO	6-Jan-01
LOWER RIB REDUNDANT	AC-P18792	ENDEVCO	6-Jan-01
LOWER SPINE REDUNDANT	AC-P18682	ENDEVCO	6-Jan-01
PELVIS REDUNDANT	AC-P18519	ENDEVCO	6-Jan-01

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-J33021	ENDEVCO	16-Jan-01
RIGHT FRONT SILL (Y)	AC-J33030	ENDEVCO	16-Jan-01
RIGHT FRONT SILL (Z)	AC-J27941	ENDEVCO	15-Feb-01
RIGHT REAR SILL (X)	AC-B11407	ENDEVCO	14-Feb-01
RIGHT REAR SILL (Y)	AC-B10827	ENDEVCO	14-Feb-01
RIGHT REAR SILL (Z)	AC-B11408	ENDEVCO	14-Feb-01
REAR FLOORPAN ABOVE AXLE (X)	AC-J32174	ENDEVCO	5-Sep-00
REAR FLOORPAN ABOVE AXLE (Y)	AC-J32143	ENDEVCO	30-Nov-00
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32838	ENDEVCO	30-Nov-00
LEFT REAR SILL (Y)	AC-Y17	ICS	15-Feb-01
LEFT FRONT SILL (Y)	AC-D80	ICS	15-Feb-01
LEFT FRONT DOOR CENTERLINE (Y)	AC-B10481	ENDEVCO	23-Feb-01
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-X83	ICS	15-Feb-01
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER CL (Y)	AC-B11073	ENDEVCO	15-Feb-01
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER CL (Y)	AC-P16964	ENDEVCO	13-Sep-00
LOWER LEFT B- PILLAR (Y)	AC-B10954	ENDEVCO	15-Feb-01
MIDDLE LEFT B-PILLAR (Y)	AC-ACC06	ENDEVCO	23-Feb-01
LOWER LEFT A-PILLAR (Y)	AC-BA80	ENDEVCO	28-Sep-00
UPPER LEFT A-PILLAR (Y)	AC-B10951	ENDEVCO	28-Sep-00
FRONT SEAT TRACK (Y)	AC-A13513	ENDEVCO	12-Jan-01
REAR SEAT TRACK (Y)	AC-A14433	ENDEVCO	15-Feb-01
VEHICLE CG (X)	AC-AP064	ENDEVCO	18-Sep-00
VEHICLE CG (Y)	AC-BB14	ENDEVCO	18-Sep-00
VEHICLE CG (Z)	AC-B10955	ENDEVCO	18-Sep-00
MDB CG (X)	AC-CL60	ENDEVCO	31-Aug-00
MDB CG (Y)	AC-CJ54	ENDEVCO	31-Aug-00
MDB CG (Z)	AC-GK12	ENDEVCO	31-Aug-00
MDB REAR FRAME MEMBER (X)	AC-CX05	ENDEVCO	31-Aug-00
MDB REAR FRAME MEMBER (Y)	AC-A27F	ENDEVCO	31-Aug -00

REMARKS: None