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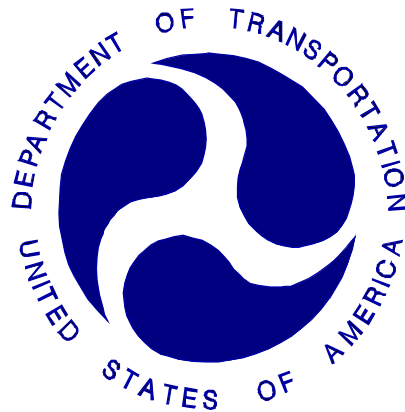
**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

MERCEDES-BENZ US INTL, INC.
2006 MERCEDES-BENZ ML350
MULTIPURPOSE VEHICLE

NHTSA NUMBER: M60516

CALSPAN TEST NUMBER: 8765-SNCAP-11

CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225



August 3, 2005

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Rulemaking
Office of Crashworthiness Standards
Mail Code: NVS-111
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-03-D-22005. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

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15. Supplementary Notes																																									
16. Abstract A 55/28 kph 90 ⁰ Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2006 Mercedes-Benz ML350 Multipurpose Vehicle 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 Calspan Corporation Crash Test Facility in Buffalo, New York, on August 3, 2005. The impact velocity of the Moving Deformable Barrier (MDB) was 61.64 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 22 ⁰ C. The target vehicle post-test maximum crush was 222 mm at level 2. The test or target vehicle's performance is given below:																																									
<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Front SID H3</th> <th style="width: 10%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Rear SID H3</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td style="text-align: center; border-bottom: 1px solid black;">13.3</td> <td style="text-align: right;">g's</td> <td style="text-align: center; border-bottom: 1px solid black;">23.7</td> <td style="text-align: right;">g's</td> <td></td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td style="text-align: center; border-bottom: 1px solid black;">15.7</td> <td style="text-align: right;">g's</td> <td style="text-align: center; border-bottom: 1px solid black;">25.4</td> <td style="text-align: right;">g's</td> <td></td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td style="text-align: center; border-bottom: 1px solid black;">26</td> <td style="text-align: right;">g's</td> <td style="text-align: center; border-bottom: 1px solid black;">34.3¹</td> <td style="text-align: right;">g's</td> <td></td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td style="text-align: center; border-bottom: 1px solid black;">21</td> <td style="text-align: right;">g's</td> <td style="text-align: center; border-bottom: 1px solid black;">30¹</td> <td style="text-align: right;">g's</td> <td></td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center; border-bottom: 1px solid black;">30</td> <td style="text-align: right;">g's</td> <td style="text-align: center; border-bottom: 1px solid black;">37</td> <td style="text-align: right;">g's</td> <td></td> </tr> </tbody> </table> <p>The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.</p>							Front SID H3		Rear SID H3			Left Upper Rib Acceleration:	13.3	g's	23.7	g's		Left Lower Rib Acceleration:	15.7	g's	25.4	g's		Lower Spine Acceleration:	26	g's	34.3 ¹	g's		Thoracic Trauma Index (TTI):	21	g's	30 ¹	g's		Pelvis Acceleration (PEV):	30	g's	37	g's	
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17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy Hybrid III (SID H3)			18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division Room 5111 (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 FY2004 New Car Assessment Program Side Impact Protection sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-03-D-22005. The purpose of this test was to generate comparative side impact performance in a 2006 Mercedes-Benz ML350 Multipurpose Vehicle. The test was conducted in accordance with the Office of Crashworthiness Standards' Laboratory Test Procedure dated July 1997.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2006 Mercedes-Benz ML350 Multipurpose Vehicle 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 61.64 kph (38.3 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 Calspan Corporation in Buffalo, New York on August 3, 2005. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the Side Impact Hybrid III Dummies (SID H3s) are included in Appendix A.

Two restrained Side Impact Hybrid III Dummies (SID H3s) 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 10 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID H3s 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)
6. Upper neck force and moment (X-, Y and Z-direction) load cells

A summary of the Side Impact Hybrid III Dummy (SID H3) configuration and verification test data can be found in Appendix C. A total of 65 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 H3	Rear SID H3
TTI (g)	21	30 ¹
PEV (g)	30	37

¹P4 primary lower spine data was questionable; as a result, the TTI was calculated using P4 redundant lower spine data.

AIR BAG DEPLOYMENT STATUS

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

AUTOMATIC DOOR LOCK SUMMARY

ADL Equipped Test Vehicle:	Yes
ADL Activation Status:	Deactivated
Struck Side Door Lock Condition:	Unlocked

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2006 Mercedes-Benz ML350 Multipurpose Vehicle
Vehicle Body Color: Silver VIN: 4JGBB86E66A004685
Vehicle NHTSA No.: M60516 Month & Year of Manufacture: 03/05
Engine Data: 6 Cylinders; - CID; 3.5 Liters; - cc
Engine Placement: X Longitudinal; or - Lateral
Transmission: 7 Speed; - Manual; X Automatic; X Overdrive
Final Drive: - Rear Wheel Drive; - Front Wheel Drive; X Four Wheel Drive
Odometer Reading 248 km
Supplemental Airbag Restraints:
Front Occupant: X Frontal; - Knee; X Side; X Curtain
Rear Occupant: - Frontal; - Knee; - Side; X Curtain
Options:
X ADL; X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P235/65R17
*Recommended Cold Tire Pressure: 220 kpa FRONT; 270 kpa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P235/65R17 104H; Manufacturer: Michelin
Tire Pressure with Maximum Capacity Vehicle Load: Front: 350 kPa; Rear: 350 kPa
Treadwear: 440; Traction: A; Temperature: A

VEHICLE CAPACITY DATA:

Number of Occupants: 2 Front; 3 Rear; 0 3rd Seat; 5 Total
Type of Front Seats: X Bucket; - Bench; - Split Bench
Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
Vehicle Max Capacity Loading = 530 kg (A)
No. of Occupants x 68.04 kg. = 340.2 kg (B)
Vehicle Cargo Capacity = 189.8 kg (A-B) (136.1 kg maximum)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 569.5 kg Left Rear = 501.5 kg
Right Front = 581.5 kg Right Rear = 489.5 kg
TOTAL FRONT = 1151.0 kg TOTAL REAR = 991.0 kg
% of Total Weight = 53.7% % % of Total Weight = 46.3 %
TOTAL WEIGHT = 2142.0 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>2142.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>136.1</u>	kg (B)
Weight of instrumented SID H3 Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>2440.5</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SID H3(s) + CARGO):

Left Front	=	<u>622.0</u>	kg	Left Rear	=	<u>643.0</u>	kg
Right Front	=	<u>588.0</u>	kg	Right Rear	=	<u>592.0</u>	kg
TOTAL FRONT	=	<u>1210.0</u>	kg	TOTAL REAR	=	<u>1235.0</u>	kg
% of Total Weight	=	<u>49.5%</u>	%	% of Total Weight	=	<u>50.5%</u>	%
TOTAL TEST WEIGHT =		<u>2445.0</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (2 SID H3(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>612.0</u>	kg	Left Rear	=	<u>635.0</u>	kg
Right Front	=	<u>588.0</u>	kg	Right Rear	=	<u>597.0</u>	kg
TOTAL FRONT	=	<u>1200.0</u>	kg	TOTAL REAR	=	<u>1232.0</u>	kg
% of Total Weight	=	<u>49.3%</u>	%	% of Total Weight	=	<u>50.7%</u>	%
TOTAL TEST WEIGHT =		<u>2432</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>866</u>	Right Front	<u>873</u>	Left Rear	<u>891</u>	Right Rear	<u>896</u>
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FULLY LOADED:

Left Front	<u>854</u>	Right Front	<u>867</u>	Left Rear	<u>846</u>	Right Rear	<u>861</u>
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READY FOR TEST:

Left Front	<u>856</u>	Right Front	<u>869</u>	Left Rear	<u>847</u>	Right Rear	<u>861</u>
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Test Vehicle Wheelbase: 2914 millimeters

C.G. = 1476.17 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side =	<u>4590</u>	millimeters
Left Side =	<u>4590</u>	millimeters
Centerline =	<u>4780</u>	millimeters

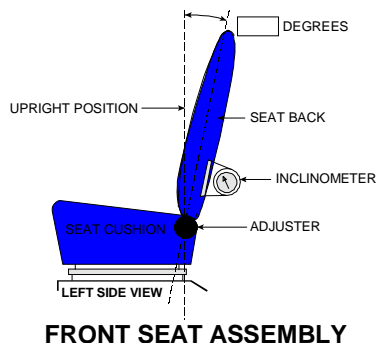
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

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: Placed in mid-position

Total Length of Adjustment Travel: 304 millimeters

Total Number of Adjustment Positions or Detents: Electric Adjuster

FRONT SEAT BACK ADJUSTMENT POSITION: Measured along seat back at rear of seat

Seat Back Torso Angle: 25.3 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Fixed

ADJUSTABLE STEERING COLUMN POSITION: Placed in Mid-tilt (15 mm of 30 mm) 21.5° and mid-telescope (30 mm of 60 mm)

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed
Right Front: Open Right Rear: Open

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

AUTOMATIC DOOR LOCKS: Is test vehicle equipped with ADLs? X Yes - No
Does vehicle owner's manual describe how to deactivate ADLs? X Yes - No - N/A

Comments: None

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

95 liters (Fuel Tank Usable Capacity)

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

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

Wheelbase = 2914 millimeters

Impact Point is 508 millimeters rearward of front axle centerline

Actual Impact Point is 500 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2006 Mercedes-Benz ML350

Body Style: Multipurpose Vehicle

VIN: 4JGBB86E66A004685

NHTSA No.: M60516

Test Date: August 3, 2005

Overall Length = 4780 millimeters; Overall Width = 1884 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 612.0 kg Left Rear = 635.0 kg

Right Front = 588.0 kg Right Rear = 597.0 kg

TOTAL FRONT = 1200.0 kg TOTAL REAR = 1232.0 kg

TOTAL VEHICLE WEIGHT 2432.0 kg

Wheelbase = 2914 millimeters

Longitudinal C.G. from Center of Front Axle = 1476.17 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 8 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 7 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (330 mm above ground) = 53 millimeters

2. LEVEL 2 (727 mm above ground) = 222 millimeters

3. LEVEL 3 (749 mm above ground) = 220 millimeters

4. LEVEL 4 (1049 mm above ground) = 101 millimeters

5. LEVEL 5 (1641 mm above ground) = 14 millimeters

Maximum Post-Test Intrusion = 222 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification SID H3/905

SID H3/906

Restraints Used Three point safety belt with shoulder belt pretensioner and force limiter, seat back mounted side airbag, side curtain airbag.

Three point safety belt with shoulder belt pretensioner and force limiter, side curtain airbag.

INSTRUMENTATION:

Number of Vehicle Data Channels: = 26

Number of Cameras: Onboard = 3

 Offboard = 8

 TOTAL = 11

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore, Inc. 13A0105-1 146A1204

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>61.64</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>264</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>203</u>	millimeters
3. Row C at Mid Level	=	<u>175</u>	millimeters
4. Row D at Top of Stack Level	=	<u>194</u>	millimeters

INSTRUMENTATION:

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

POST-TEST OBSERVATIONS

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/905	SID H3/906
Head Contact:	The left side and the top of the head to the side curtain airbag; The back of the head to the head restraint.	The left side and the top of the head to the side curtain airbag; The back of the head to the head restraint.
Upper Torso Contact:	Side Airbag	Interior Door Trim Panel
Lower Torso Contact:	Side Airbag	Interior Door Trim Panel
Left Knee Contact:	Interior Door Trim Panel	Interior Door Trim Panel
Right Knee Contact:	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

DESCRIPTION	FRONT	REAR
Left Side Doors	Closed, latched and inoperable without tools	Closed, latched and inoperable without tools
Right Side Doors	Closed, latched and operable without tools	Closed, latched and operable without tools
Hatch/Other Door	N/A	Closed, latched and operable without tools
Seat Movement (mm)	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

CRITICAL AREAS OF PERFORMANCE	
Pillar Performance	The A- and B-Pillars were moved inboard during the event with no visible tears or separations
Sill Separation	No visible tears or separations
Windshield Damage	None
Window Damage	None
Other Notable Effects	The secondary impact point was 10 mm forward and on the vertical.

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

MDB LEFT EDGE IMPACT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	± 50 mm	8 mm forward
Vertical Offset	mm	± 20 mm	7 mm below

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

		Front Dummy ID# 905				Rear Dummy ID# 906			
		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	1.0	14.8	-9.7	84.7	6.6	73.6	-5.3	65.9
Lateral	Y	17.3	68.8	-2.5	16.0	41.7	63.0	-3.9	95.0
Vertical	Z	1.8	16.7	-3.4	88.8	10.0	76.1	-5.0	63.1
Resultant	R	19.2	68.8	0.0	-16.4	42.2	63.0	0.0	-5.7
HIC		35.3				96.3			
NECK FORCES:									
Longitudinal	X	240.2	93.4	-104.3	168.9	447.7	84.1	-88.8	162.1
Lateral	Y	109.6	185.3	-283.6	94.5	53.7	173.7	-932.7	68.8
Vertical	Z	73.0	14.4	-270.9	72.8	68.1	123.1	-1112.2	67.8
Resultant	R	452.2	91.7	0.1	3.5	1491.4	68.3	0.1	7.3
NECK MOMENTS:									
	X	8.6	187.7	-20.1	68.8	11.1	93.5	-18.7	74.7
	Y	10.5	161.5	-18.2	87.5	9.2	130.8	-22.2	78.9
	Z	23.3	91.0	-7.3	159.4	22.5	90.6	-5.2	158.6
	Resultant R	29.4	88.1	0.0	2.9	29.9	77.9	0.0	-19.4
RIB ACCELERATIONS:									
Upper Rib Lateral	Y	13.3	75.0	-1.1	16.9	23.7	58.7	-1.5	198.7
Upper Rib Lateral	Y(R)	12.9	75.0	-1.9	16.9	23.6	58.7	-1.5	198.7
Lower Rib Lateral	Y	15.7	58.7	-2.6	16.8	25.4	57.5	-1.6	199.9
Lower Rib Lateral	Y(R)	16.0	58.1	-2.8	16.8	24.9	57.5	-1.4	199.9
SPINE ACCELERATIONS:									
Lower Lateral	Y	26.0	56.8	-1.3	88.7	†	†	†	†
Lower Lateral	Y(R)	25.8	56.8	-1.2	88.7	34.3	56.8	-1.2	193.8
PELVIC ACCELERATIONS:									
Lateral	Y	30.4	52.5	-5.1	73.1	36.6	50.6	-3.1	98.1
Lateral	Y(R)	31.1	52.5	-4.9	73.1	38.3	51.2	-2.1	126.2

† Questionable Data.

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

Note: Rib, Spine and Pelvis data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.

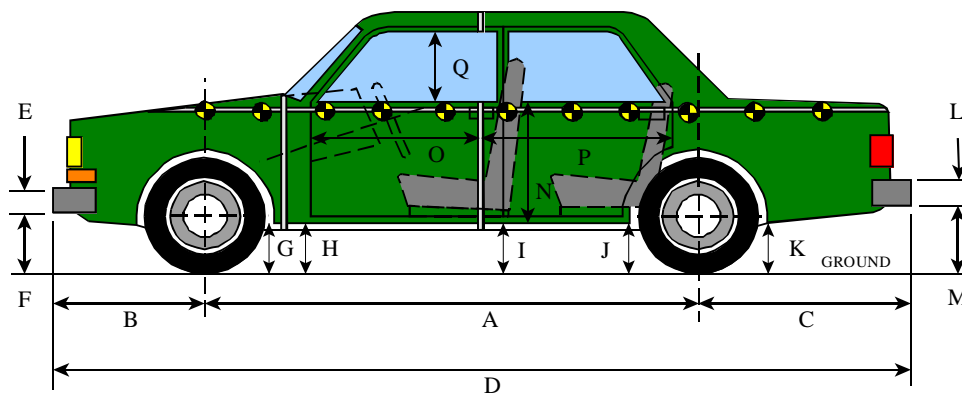
Head Accelerations and Neck Forces are filtered at SAE Class 1000, Neck Moments are filtered at SAE Class 600.

DATA SHEET 6

VEHICLE PRE- AND POST-TEST MEASUREMENTS

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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	2916	2914	2914	0
B	864	-	866	2
C	1000	-	1000	0
D	4780	-	4780	0
E	180	-	180	0
F	410		407	407
G	286		272	272
H	290		264	264
I	307		281	281
J1	295		260	260
J2	311		288	288
K	365		318	318
L	280	-	280	0
M	424		400	400
N	797	-	744	-53
O	758	-	745	-13
P	1184	-	1084	-100
Q	488	-	485	-3
R	4590	-	4590	0
S	4590	-	4590	0
T	1884	-	1790	-94

D = Length at Centerline

E&L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-Pillar

J1 = To Pinch Weld

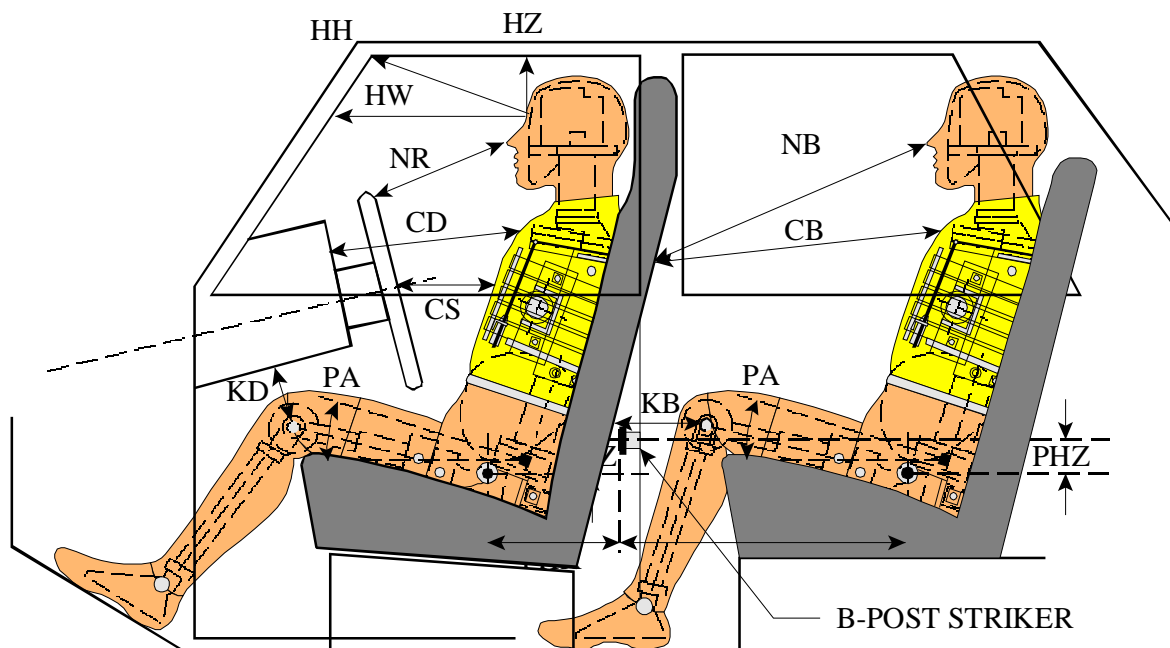
J2 = To Sill

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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# 905	LEFT REAR PASS. ID# 906
HH	435	N/A
HW	707	N/A
HZ	226	200
NR/NB	444	590
CD/CB	530	508
CS	308	N/A
KDL(KDA°)/KBL(KBA°)	187 / (35 °)	256 / (29 °)
KDR(KBA°)/KBR(KBA°)	147 / (38 °)	252 / (21 °)
PA°	23.9°	23.4°
PHX	177	130
PHZ	134	131

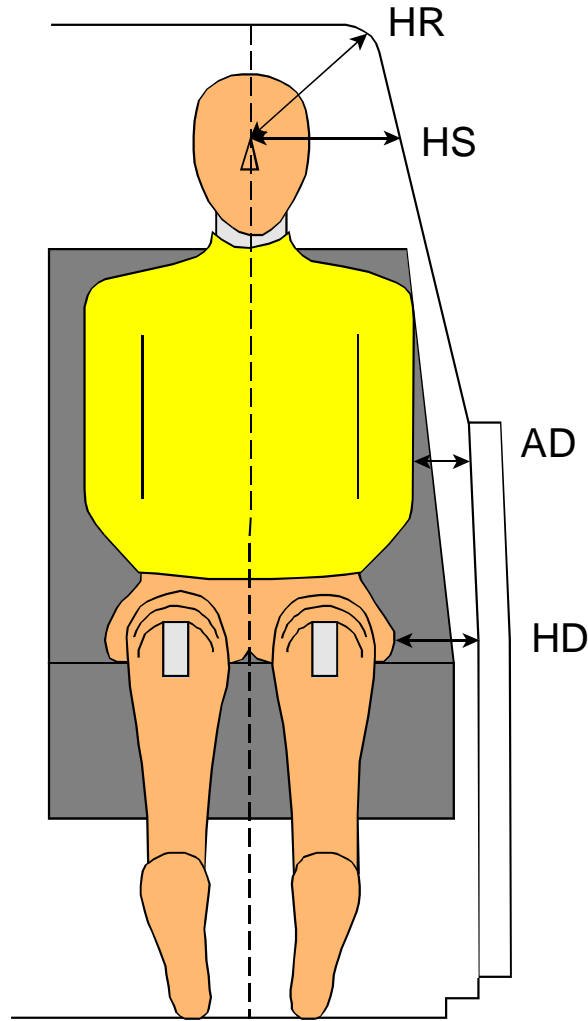
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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

	DRIVER ID # 905		LEFT REAR PASS. ID # 906	
HR	240		211	
HS	352		325	
AD*	LOWER: 122	UPPER: 126	LOWER: 98	UPPER: 94
HD	187		148	

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

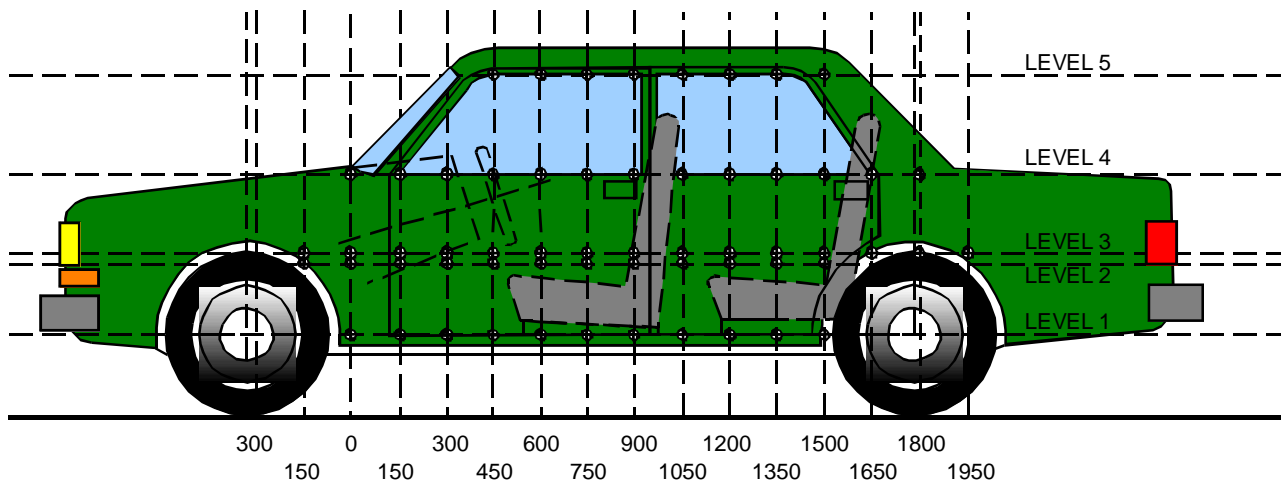
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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:

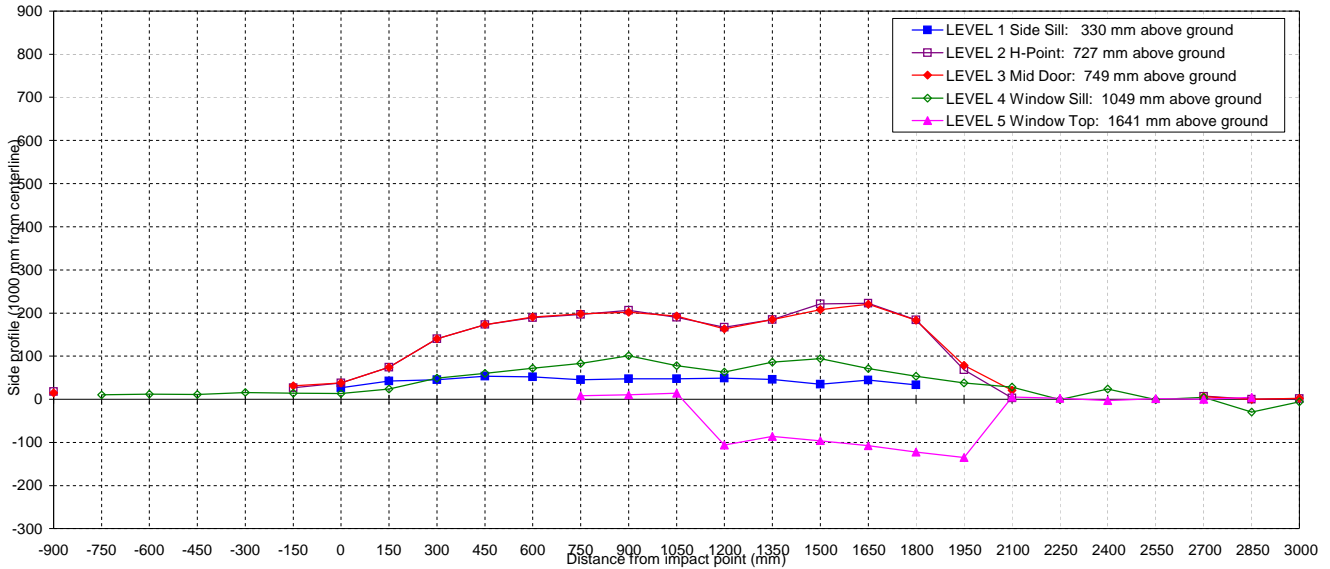
Level 5 @ Window Top	=	<u>1641</u>	millimeters
Level 4 @ Window Sill	=	<u>1049</u>	millimeters
Level 3 @ Mid Door	=	<u>749</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>727</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>330</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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

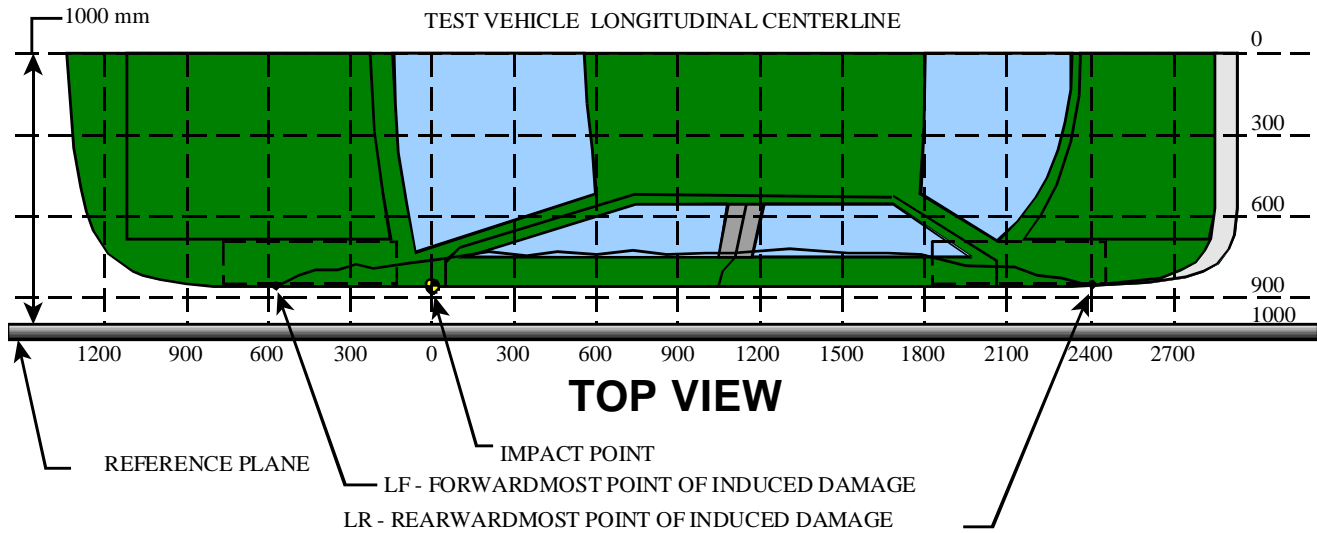
LEVEL	HEIGHT (mm)		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	330	PRE	--	--	--	--	--	95	116	121	121	125	131	131	134	135	135	143	138	126	--	--	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	122	158	166	174	177	176	178	181	184	181	178	182	159	--	--	--	--	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	27	42	45	53	52	45	47	47	49	46	35	44	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	727	PRE	75	--	--	--	58	67	71	71	72	76	78	71	74	74	72	69	67	72	72	68	--	--	--	--	54	98	141	
		POST	93	--	--	--	85	105	145	211	245	265	275	277	264	241	257	290	289	256	140	71	--	--	--	--	61	98	142	
		CRUSH	18	N/A	N/A	N/A	N/A	27	38	74	140	173	189	197	206	190	167	185	221	222	184	68	3	N/A	N/A	N/A	N/A	7	0	1
LEVEL 3 MID DOOR	749	PRE	83	--	--	--	56	67	72	70	72	71	79	78	78	79	79	78	77	71	73	71	--	--	--	--	51	101	150	
		POST	98	--	--	--	87	105	146	210	245	262	277	280	271	242	264	286	297	254	152	92	--	--	--	--	57	101	152	
		CRUSH	15	N/A	N/A	N/A	N/A	31	38	74	140	173	191	198	202	193	163	185	208	220	183	79	21	N/A	N/A	N/A	6	0	2	
LEVEL 4 WINDOW SILL	1049	PRE	--	231	172	154	141	133	130	121	111	103	94	90	89	86	86	88	91	96	102	108	86	113	121	141	147	169	198	
		POST	--	241	184	165	157	147	143	145	160	163	166	173	190	164	149	174	185	167	155	146	114	112	145	140	151	139	192	
		CRUSH	N/A	10	12	11	16	14	13	24	49	60	72	83	101	78	63	86	94	71	53	38	28	-1	24	-1	4	-30	-6	
LEVEL 5 WINDOW TOP	1641	PRE	--	--	--	--	--	--	--	--	--	--	508	340	334	332	336	338	340	345	349	357	366	382	393	429	513	--		
		POST	--	--	--	--	--	--	--	--	--	--	516	350	348	226	250	242	232	222	214	362	368	379	394	429	517	--		
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	10	14	-106	-86	-96	-108	-123	-135	5	2	-3	1	0	4	N/A		

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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.

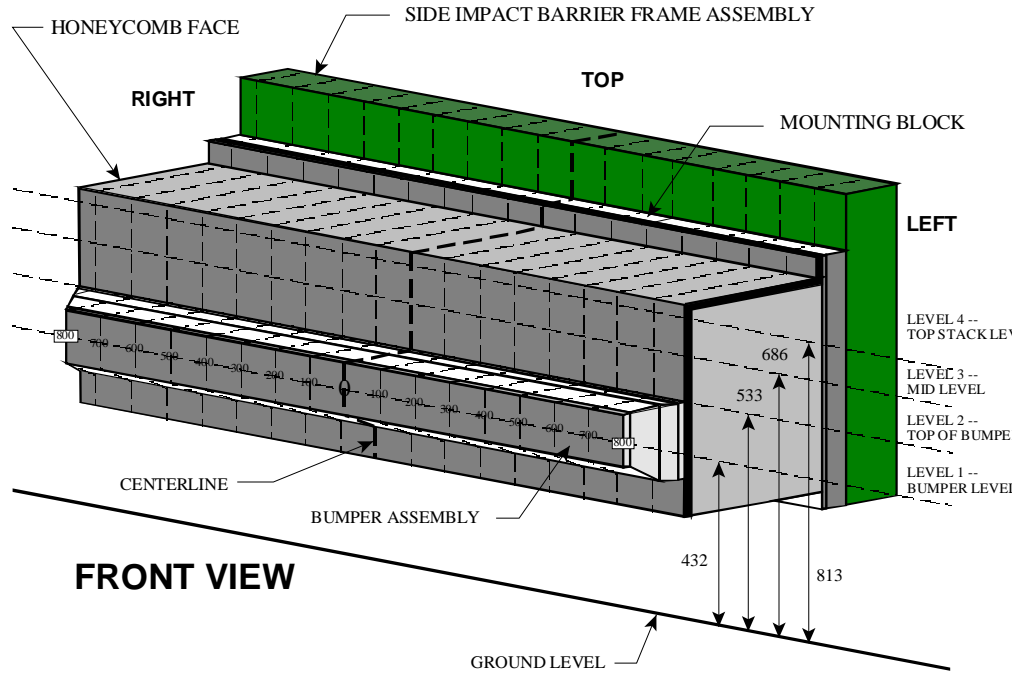
DPD MEASUREMENTS (mm)	POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)	
1 (LR)	2550	394	393	1
2	1950	152	73	79
3	1350	257	72	185
4	750	277	79	198
5	150	145	71	74
6 (LF)	-450	165	154	11

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



NOTE: Dimensions are shown in millimeters, mm

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

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)										DISTANCE LEFT OF CENTER (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		
		POST	712	705	702	710	728	736	710	700	691	687	697	712	726	743	756	783	813	
		CRUSH	93	86	83	91	109	117	91	81	72	68	78	93	107	124	137	164	194	
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	728	718	720	732	759	752	735	715	709	697	699	699	704	707	731	774	794	
		CRUSH	109	99	101	113	140	133	116	96	90	78	80	80	85	88	112	155	175	
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	804	795	797	795	793	790	786	779	777	773	772	770	771	773	772	789	822	
		CRUSH	185	176	178	176	174	171	167	160	158	154	153	151	152	154	153	170	203	
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535		
		POST	797	783	777	776	775	769	769	767	764	755	752	746	743	745	744	748	761	
		CRUSH	262	264	259	258	257	251	251	249	246	237	234	228	225	227	226	229	226	

*Heights measured above ground level.

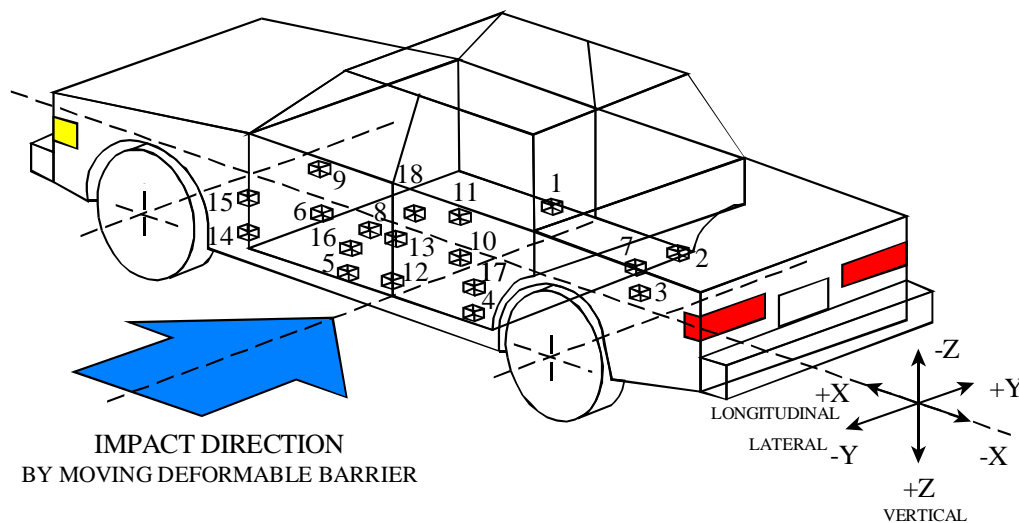
LEVEL	HEIGHT AT CL (mm)*	MAX CRUSH
LEVEL 4 TOP STACK	813	194
LEVEL 3 MID LEVEL	686	175
LEVEL 2 TOP BUMPER	533	203
LEVEL 1 MID BUMPER	432	264

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



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

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

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	3007	656	-423	pos.	2.2	60.6	31.8	8.7	2.5	112.9	33.0	8.7
					neg.	-5.9	7.1	-2.0	84.6	-8.7	10.0	0.0	-12.4
2	Right Side Sill at Rear Seat	2109	618	-393	pos.	2.8	60.1	7.8	7.3	1.6	86.8	34.3	6.2
					neg.	-4.8	8.4	-4.8	39.7	-33.6	6.1	0.0	-13.2
3	Rear Floorpan Above Axle	1276	74	-710	pos.	2.6	59.4	31.1	6.1	9.0	8.4	31.7	6.1
					neg.	-6.7	5.4	-1.7	11.8	-4.1	40.5	0.0	-13.4
4	Left Side Sill at Rear Seat	1872	-663	-431	pos.	-	-	36.2	5.2	-	-	-	-
					neg.	-	-	-1.8	134.1	-	-	-	-
5	Left Side Sill at Front Seat	3128	-672	-447	pos.	-	-	62.0	5.9	-	-	-	-
					neg.	-	-	-18.3	11.9	-	-	-	-
6	Left Front Door on Centerline	2707	-778	-910	pos.	-	-	88.4	14.3	-	-	-	-
					neg.	-	-	-55.1	20.0	-	-	-	-
7	Right Rear Occupant Compartment	2048	401	-401	pos.	-	-	33.6	5.7	-	-	-	-
					neg.	-	-	-1.8	84.3	-	-	-	-
8	Midrear of Left Front Door	2612	-769	-982	pos.	-	-	113.5	15.8	-	-	-	-
					neg.	-	-	-83.1	27.6	-	-	-	-
9	Left Front Door Upper Centerline	2728	-779	-980	pos.	-	-	120.0	15.8	-	-	-	-
					neg.	-	-	-47.7	27.6	-	-	-	-
10	Midrear of Left Rear Door	1700	-769	-1017	Pos.	-	-	113.0	12.5	-	-	-	-
					neg.	-	-	-68.6	19.3	-	-	-	-
11	Left Rear Door Upper Centerline	1969	-738	-1139	pos.	-	-	74.4	8.5	-	-	-	-
					neg.	-	-	-24.0	56.8	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

**Accelerometer was not requested by COTR.

4-11

8765-SNCAP-11

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516

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	2112	-739	-449	pos.	-	-	125.4	4.1	-	-	-	-
					neg.	-	-	-55.6	31.8	-	-	-	-
13	Left Middle B-Pillar	2111	-708	-1012	pos.	-	-	83.7	5.0	-	-	-	-
					neg.	-	-	-67.9	10.3	-	-	-	-
14	Left Lower A-Pillar	3141	-704	-494	pos.	-	-	152.5	5.3	-	-	-	-
					neg.	-	-	-45.7	9.4	-	-	-	-
15	Left Middle A-Pillar	3153	-686	-1177	pos.	-	-	53.5	36.2	-	-	-	-
					neg.	-	-	-37.4	19.1	-	-	-	-
16	Front Seat Track	2246	-577	-441	pos.	-	-	43.0	5.7	-	-	-	-
					neg.	-	-	-5.6	11.8	-	-	-	-
17	Rear Seat Track	1292	-474	-720	pos.	-	-	26.8	6.0	-	-	-	-
					neg.	-	-	-2.4	10.8	-	-	-	-
18	Vehicle CG	2704	28	-696	pos.	10.7	56.5	29.7	13.2	29.4	19.6	33.0	26.5
					neg.	-13.9	24.5	-5.5	95.0	-31.4	26.6	0.0	-8.1

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

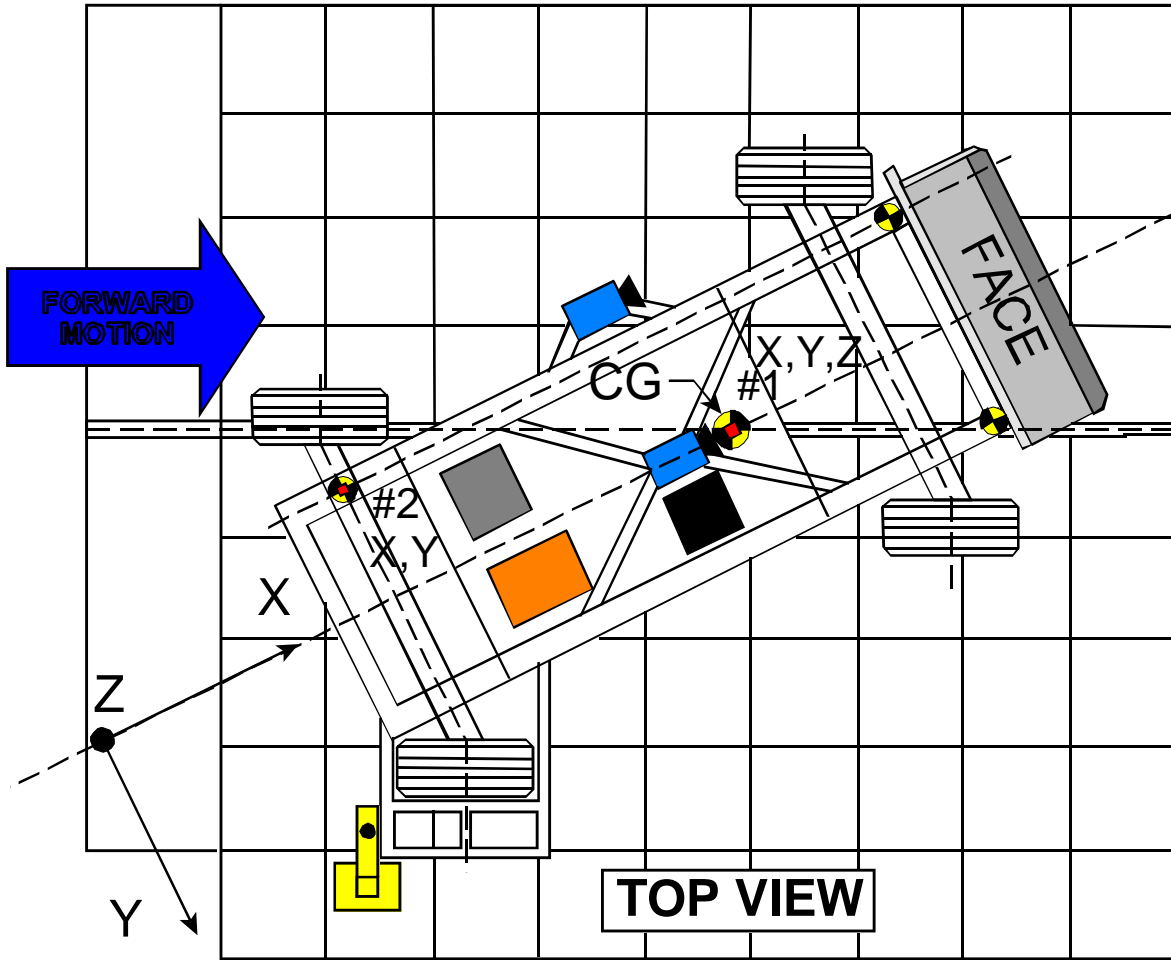
4-12

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	0.4	-2.6	-22.7	43.7
	Lateral..... Y				1.1	66.4	-7.1	23.1
	Vertical..... Z				15.4	12.6	-17.5	20.2
	Resultant..... R				25.9	19.9	0.3	-12.1
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.8	90.3	-25.0	37.5
	Lateral..... Y				3.5	20.0	-2.8	65.4

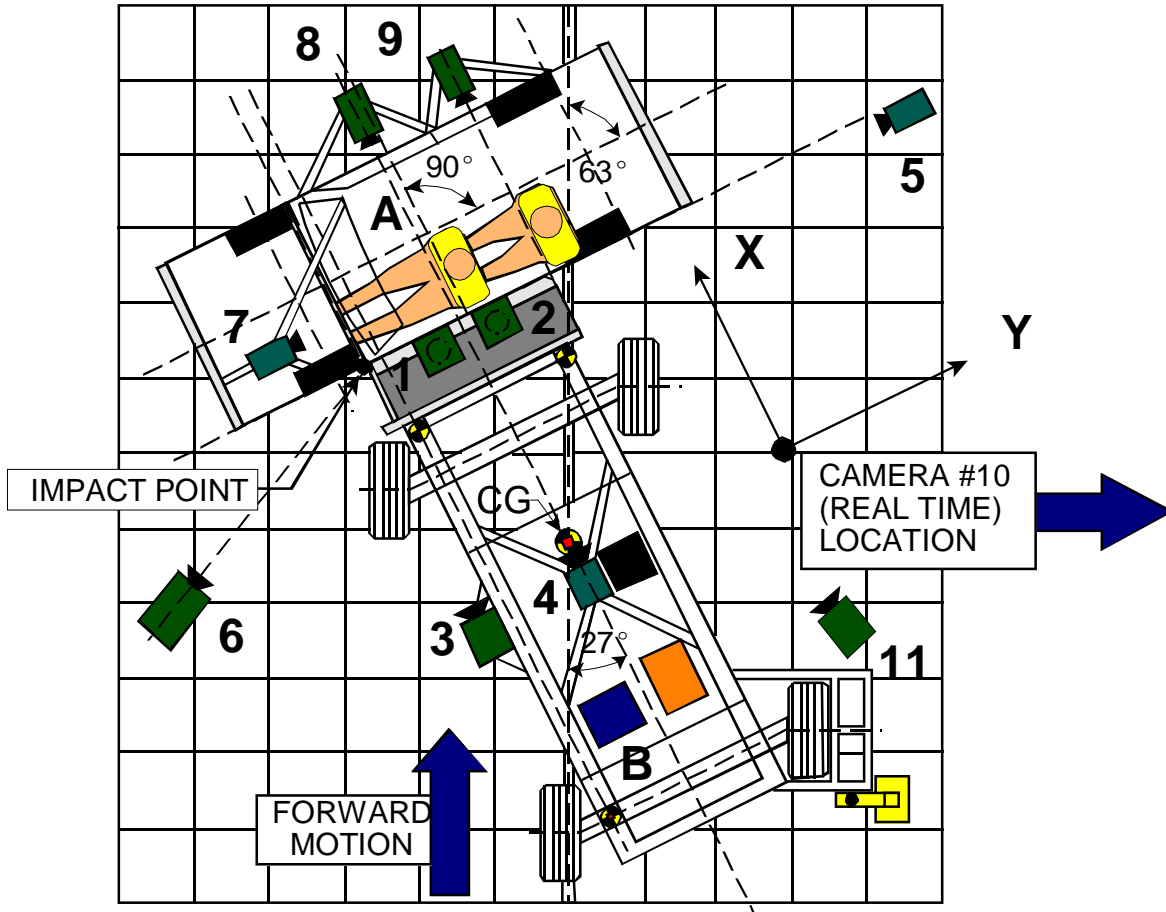
*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Down)
 All measurements accurate to within ±3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No. M60516



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	72	812	-4880	-90	20	500
2	Overhead closeup view of impact plane	195	855	-4880	-90	28	500
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	NA†
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	500
5	Right side ground level overall view	9640	261	-1130	-4	52	500
6	Left side ground level overall view	-2261	-1720	-1030	-5	13	500
7	Test vehicle onboard driver front view	612	-380	-1560	-10	25	1000
8	Test vehicle onboard driver side view	1712	912	-1258	-5	12.5	1000
9	Test vehicle onboard passenger side view	1712	1832	-1334	-10	12.5	1000
10	Real time film coverage of test	-	-	-	-	-	30
11	Secondary impact point view	-4880	3103	-1108	-3	25	500

* 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

†Camera failed

SECTION 5

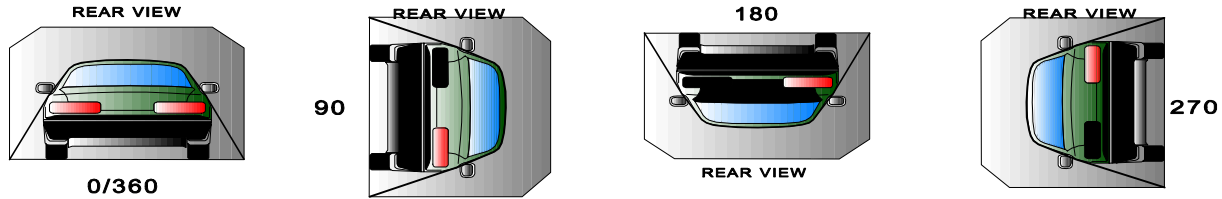
FUEL SYSTEM INTEGRITY

DATA SHEET 17

FMVSS 301 ROLLOVER DATA

Vehicle: 2006 Mercedes-Benz ML350 Multipurpose Vehicle

NHTSA No.: M60516



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	
	1	minutes	17	seconds	5	minutes	6	minutes	17	seconds	7	minutes
0° - 90°	1	minutes	07	seconds	5	minutes	6	minutes	7	seconds	7	minutes
90° - 180°	1	minutes	03	seconds	5	minutes	6	minutes	3	seconds	7	minutes
180°-270°	1	minutes	08	seconds	5	minutes	6	minutes	8	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

TABLE OF PHOTOGRAPHS

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
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Figure A- 2	POST-TEST FRONTAL VIEW OF TEST VEHICLE	A- 4
Figure A- 3	PRE-TEST REAR VIEW OF TEST VEHICLE	A- 5
Figure A- 4	POST-TEST REAR VIEW OF TEST VEHICLE	A- 6
Figure A- 5	PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE	A- 7
Figure A- 6	POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE	A- 8
Figure A- 7	PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE	A- 9
Figure A- 8	POST-TEST LEFT FRONT VIEW OF TEST VEHICLE	A- 10
Figure A- 9	PRE-TEST LEFT REAR VIEW OF TEST VEHICLE	A- 11
Figure A- 10	POST-TEST LEFT REAR VIEW OF TEST VEHICLE	A- 12
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Figure A- 12	POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE	A- 14
Figure A- 13	PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE	A- 15
Figure A- 14	POST-TEST RIGHT REAR VIEW OF TEST VEHICLE	A- 16
Figure A- 15	PRE-TEST FRONTAL VIEW OF IMPACTOR FACE	A- 17
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Figure A- 17	PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 19
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Figure A- 20	POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 22
Figure A- 21	PRE-TEST TOP VIEW OF IMPACTOR FACE	A- 23
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Figure A- 23	PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE	A- 25
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Figure A- 33	PRE-TEST INTERIOR OF FRONT DOOR	A- 35
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Figure A- 39	POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET	A- 41
Figure A- 40	CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL	A- 42
Figure A- 41	CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL	A- 43
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Figure A- 44	ROLLOVER 180 DEGREES	A- 46
Figure A- 45	ROLLOVER 270 DEGREES	A- 47
Figure A- 46	ROLLOVER 360 DEGREES	A- 48



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



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

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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 LEFT FRONT VIEW OF TEST VEHICLE



Figure A-8 POST-TEST LEFT FRONT VIEW OF TEST VEHICLE



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



Figure A-10 POST-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-11 PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE



Figure A-12 POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE



Figure A-13 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE



Figure A-14 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE

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Figure A-15 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-16 POST-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-17 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-18 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-19 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-20 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

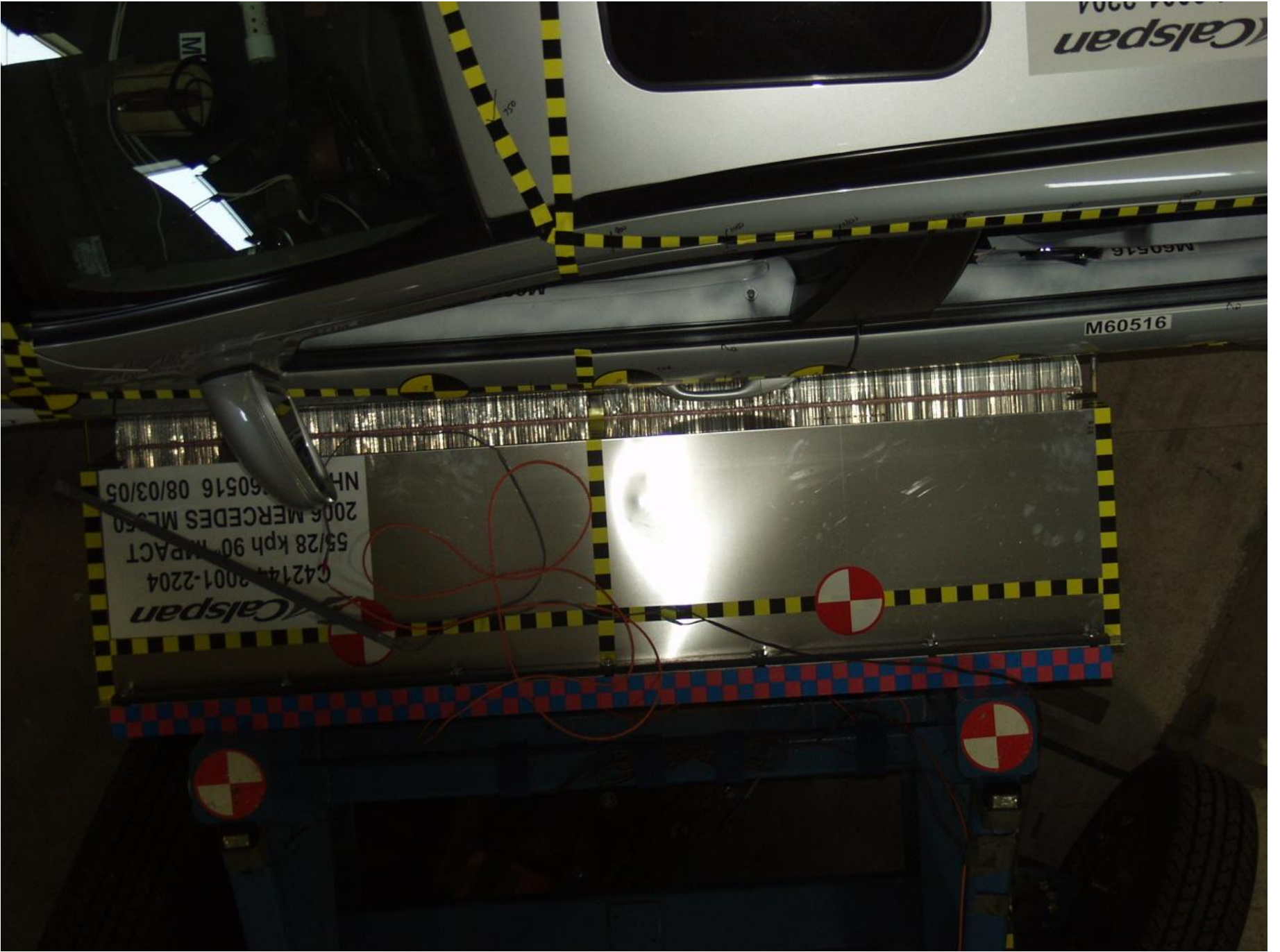


Figure A-21 PRE-TEST TOP VIEW OF IMPACTOR FACE

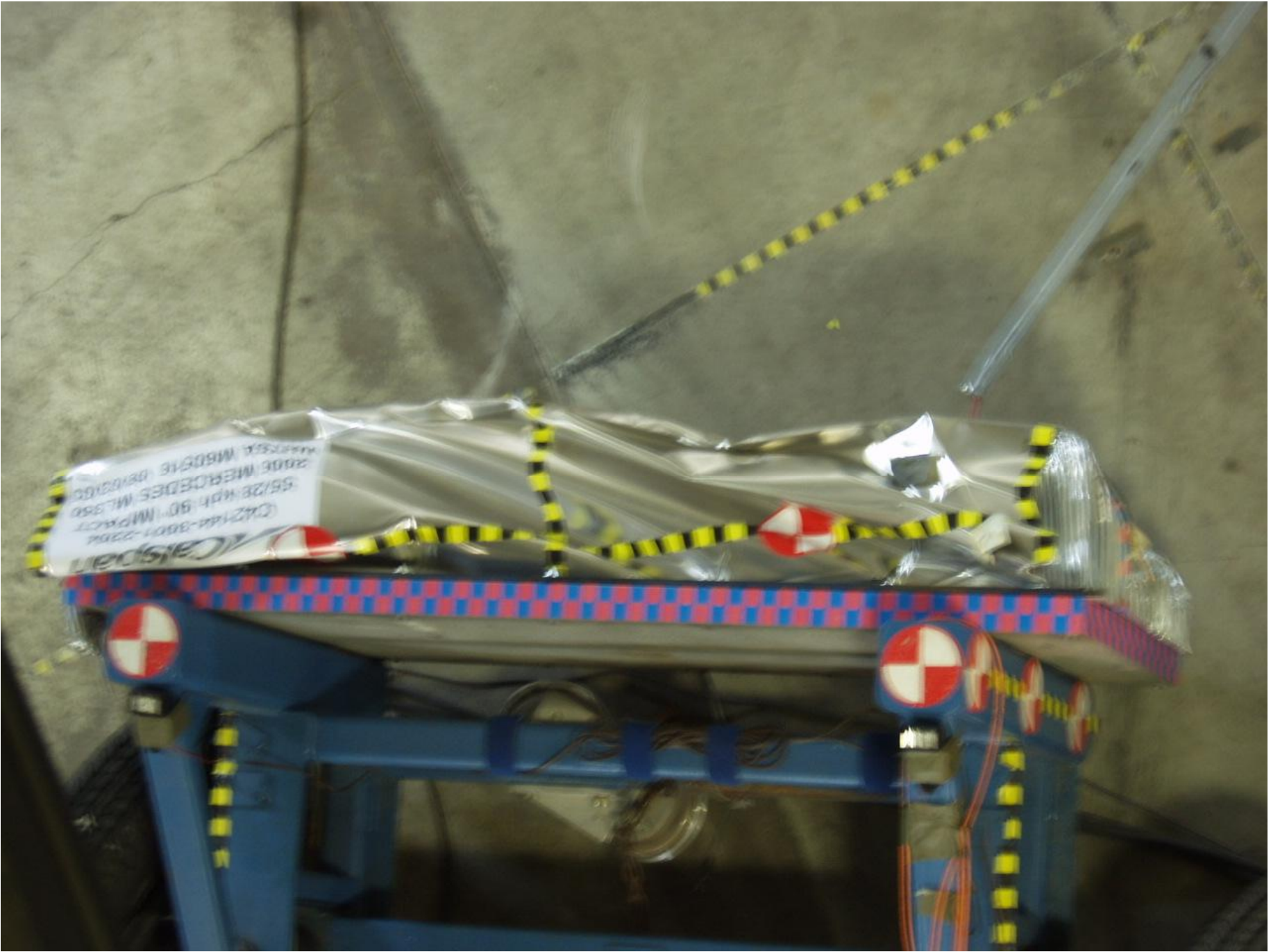


Figure A-22 POST-TEST TOP VIEW OF IMPACTOR FACE



Figure A-23 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE

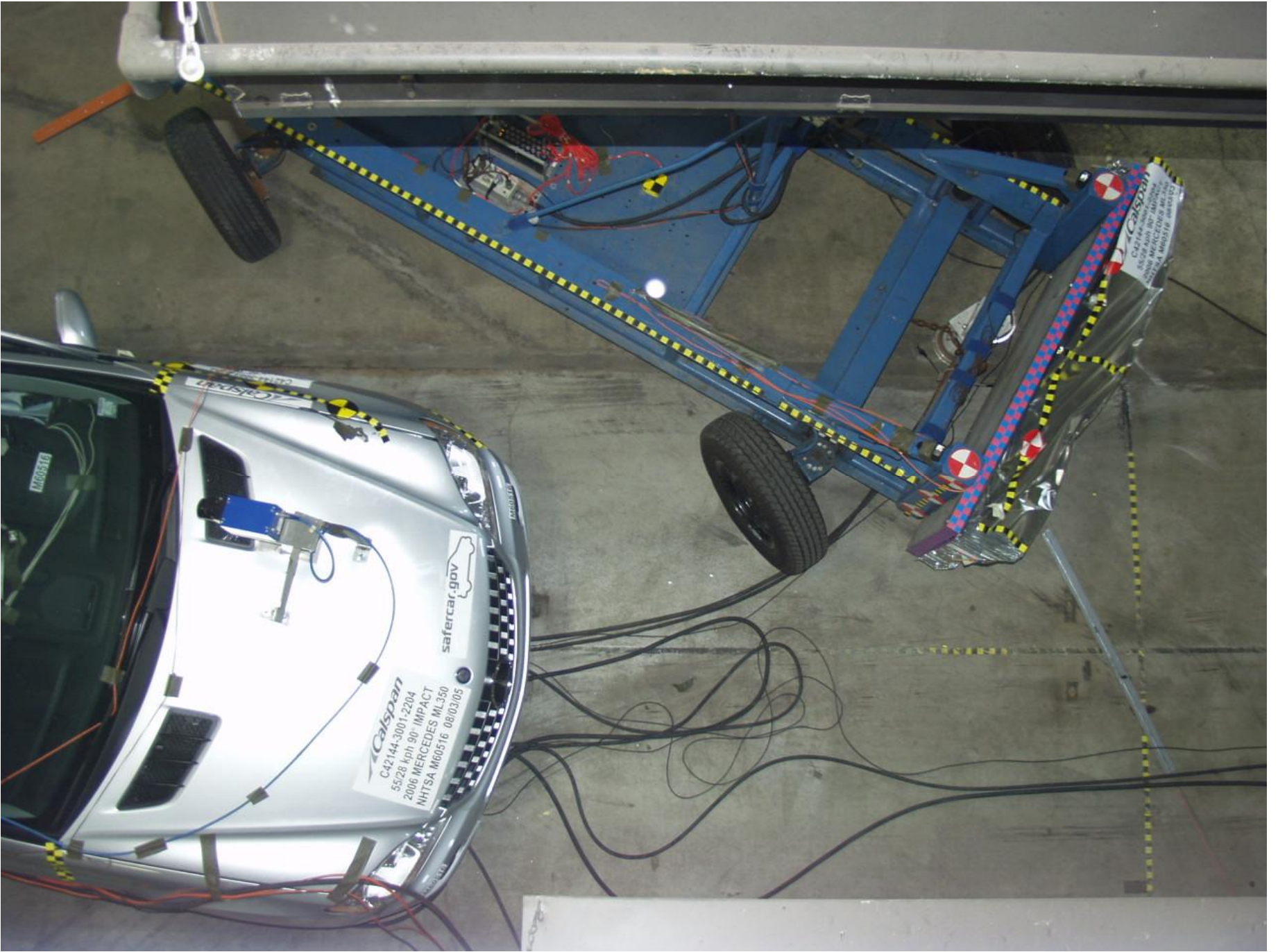


Figure A-24 POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE



Figure A-25 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-26 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-27 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-28 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-29 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-30 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-31 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-32 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-33 PRE-TEST INTERIOR OF FRONT DOOR



Figure A-34 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-35 PRE-TEST INTERIOR OF REAR DOOR



Figure A-36 POST-TEST INTERIOR OF REAR DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-37 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-38 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-39 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

VEHICLE TIRE INFORMATION

VEHICLE CAPACITY WEIGHT **530 KG (1165 LBS)**
 SEATING CAPACITY **5** FRONT **2** REAR **3**
 RECOMMENDED TIRE SIZE **235/65 R17 104H**
 COLD TIRE PRESSURE FRONT **32 PSI** REAR **39 PSI**

FOR ADDITIONAL INFORMATION SEE INSIDE FILLER PIPE COVER AND OWNER'S MANUAL.

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2006331

MFD BY MERCEDES-BENZ U.S. INTL., INC

TUSCALOOSA COUNTY, ALABAMA (USA), UNDER CONTRACT
 FOR DAIMLERCHRYSLER AG, STUTTGART (GERMANY)

03/05
C775

	KG	LB	TIRES	RIM SIZE	COLD KPA (PSI)
GAWR FRONT	1335	2945	235/65 R17	7.5x17	220(32)
GAWR REAR	1495	3295	235/65 R17	7.5x17	270(39)
GVWR	2830	6240			

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

4JGBB86E66A004685

TYPE: **MPV**



Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL

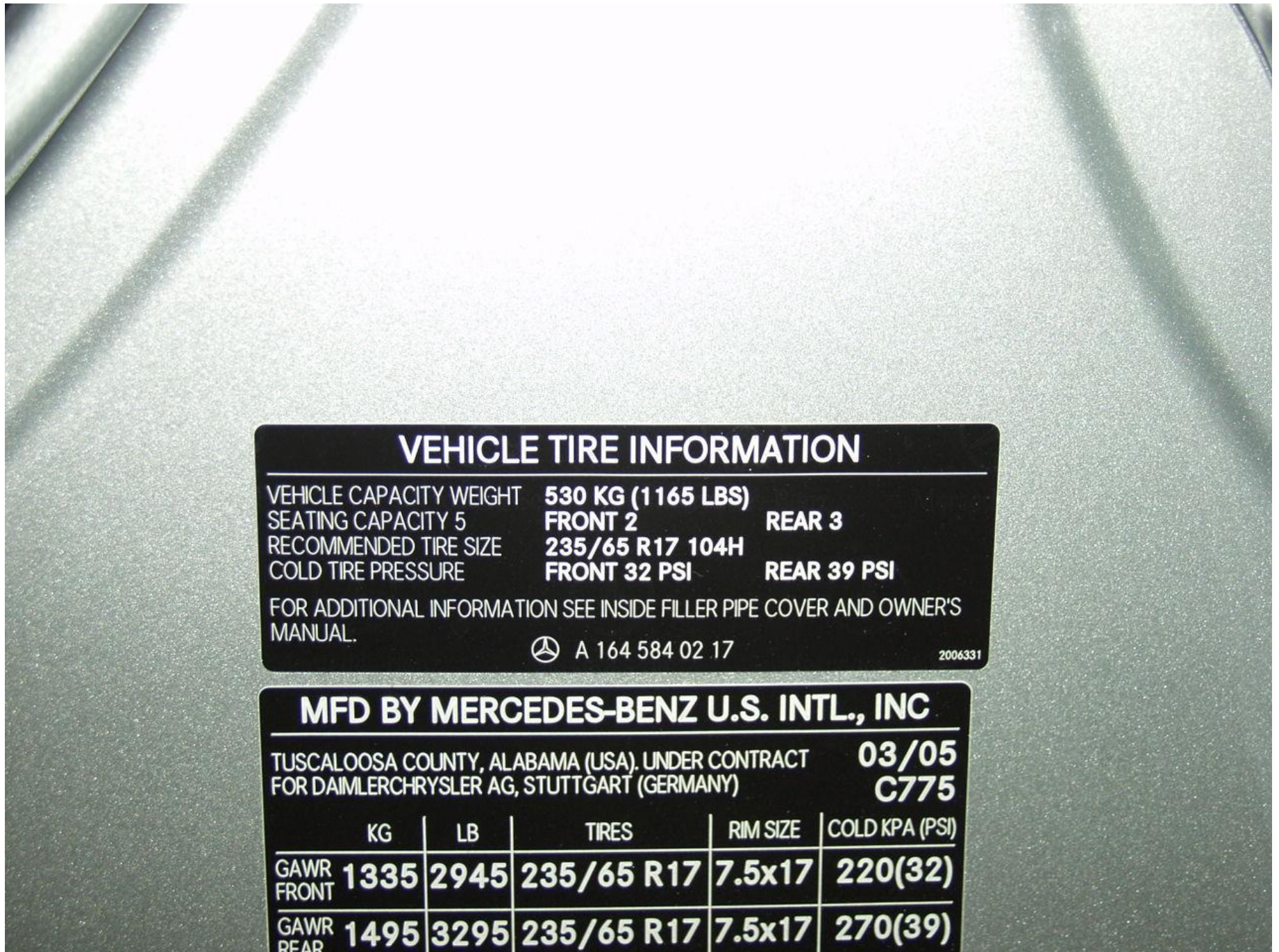


Figure A-41 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL



Figure A-42 IMPACT PHOTO



Figure A-43 ROLLOVER 90 DEGREES



Figure A-44 ROLLOVER 180 DEGREES

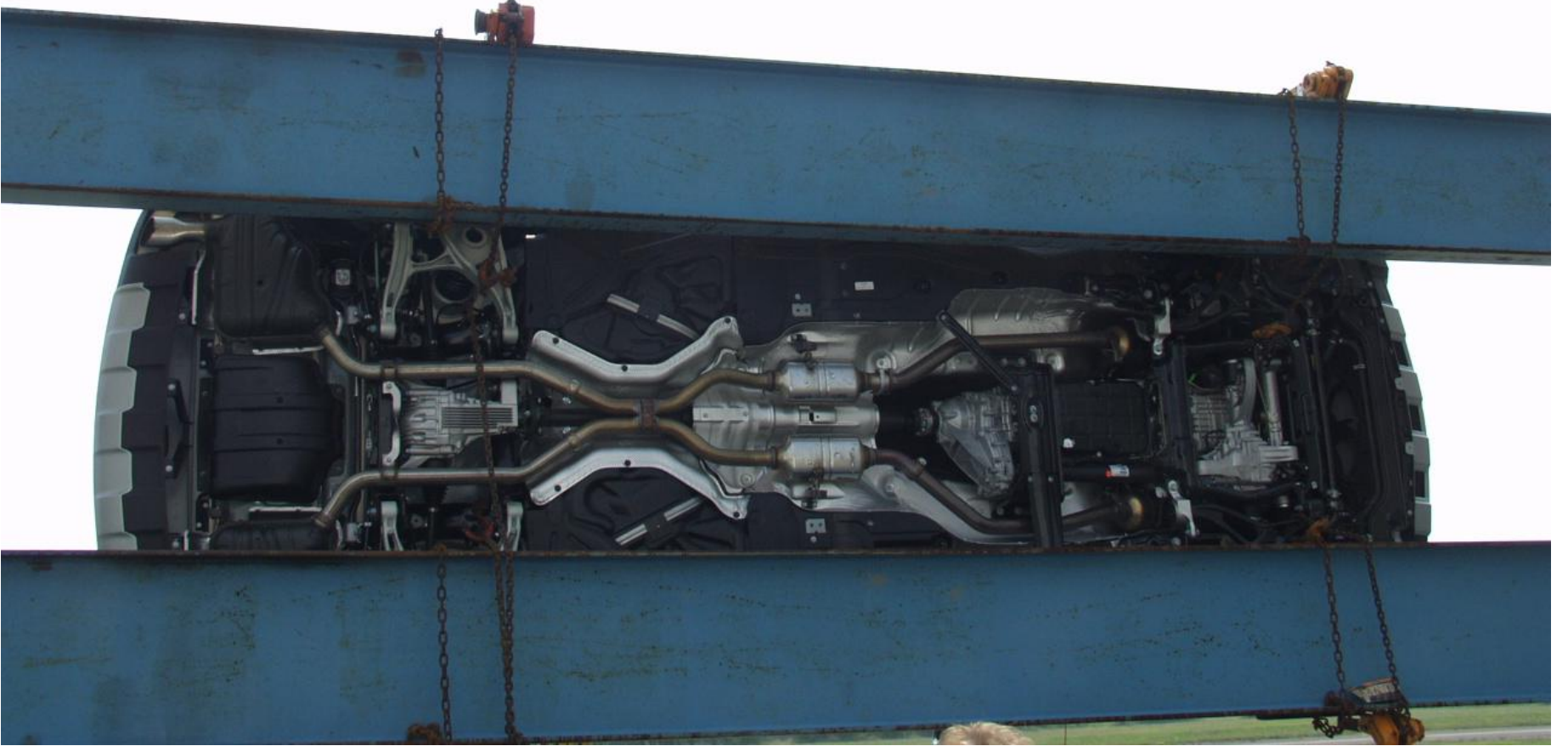


Figure A-45 ROLLOVER 270 DEGREES

A-47

8765-SNCAP-11



Figure A-46 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID HYBRID III RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION, FORCE AND MOMENT 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 NECK (X) FORCE VS TIME	B- 13
9	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 14
10	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 15
11	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 16
12	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 17
13	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 18
14	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 19
15	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 20
16	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 21
17	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 22
18	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 23
19	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 24
20	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 25
21	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 26
22	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 27
23	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 28
24	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 29
25	PASSENGER HEAD (X) VELOCITY VS TIME	B- 30
26	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 31
27	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 32
28	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 33
29	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 34
30	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 35
31	PASSENGER UPPER NECK (X) FORCE VS TIME	B- 36
32	PASSENGER UPPER NECK (Y) FORCE VS TIME	B- 37
33	PASSENGER UPPER NECK (Z) FORCE VS TIME	B- 38
34	PASSENGER UPPER NECK RESULTANT FORCE VS TIME	B- 39
35	PASSENGER UPPER NECK (X) MOMENT VS TIME	B- 40
36	PASSENGER UPPER NECK (Y) MOMENT VS TIME	B- 41
37	PASSENGER UPPER NECK (Z) MOMENT VS TIME	B- 42
38	PASSENGER UPPER NECK RESULTANT MOMENT VS TIME	B- 43
39	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 44
40	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 45
41	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 46
42	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 47
43	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 48
44	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 49
45	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 50
46	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 51

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
47	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 52
48	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 53
49	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 54
50	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 55
51	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 56
52	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 57
53	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 58
54	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 59

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>
55	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 60
56	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 61
57	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 62
58	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 63
59	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 64
60	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 65
61	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 66
62	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 67
63	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 68
64	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 69
65	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 70
66	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 71
67	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 72
68	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 73
69	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 74
70	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 75
71	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 76
72	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 77
73	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 78
74	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 79
75	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 80
76	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 81
77	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 82
78	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 83
79	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 84
80	LEFT FRONT DOOR ON CENTERLINE (Y) ACCELERATION VS TIME	B- 85
81	LEFT FRONT DOOR ON CENTERLINE (Y) VELOCITY VS TIME	B- 86
82	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 87
83	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 88
84	MID REAR OF LEFT FRONT DOOR (Y) ACCELERATION VS TIME	B- 89
85	MID REAR OF LEFT FRONT DOOR (Y) VELOCITY VS TIME	B- 90
86	LEFT FRONT DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 91
87	LEFT FRONT DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 92
88	MID REAR OF LEFT REAR DOOR (Y) ACCELERATION VS TIME	B- 93
89	MID REAR OF LEFT REAR DOOR (Y) VELOCITY VS TIME	B- 94
90	LEFT REAR DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 95
91	LEFT REAR DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 96
92	LOWER B-POST (Y) ACCELERATION VS TIME	B- 97
93	LOWER B-POST (Y) VELOCITY VS TIME	B- 98
94	UPPER B-POST (Y) ACCELERATION VS TIME	B- 99
95	UPPER B-POST (Y) VELOCITY VS TIME	B- 100
96	LOWER A-POST (Y) ACCELERATION VS TIME	B- 101

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>
97	LOWER A-POST (Y) VELOCITY VS TIME	B- 102
98	UPPER A-POST (Y) ACCELERATION VS TIME	B- 103
99	UPPER A-POST (Y) VELOCITY VS TIME	B- 104
100	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 105
101	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 106
102	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 107
103	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 108
104	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 109
105	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 110
106	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 111
107	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 112
108	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 113
109	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 114
110	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 115

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>
111	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 116
112	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 117
113	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 118
114	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 119
115	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 120
116	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 121
117	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 122
118	MDB REAR (X) ACCELERATION VS TIME	B- 123
119	MDB REAR (X) VELOCITY VS TIME	B- 124
120	MDB REAR (Y) ACCELERATION VS TIME	B- 125
121	MDB REAR (Y) VELOCITY VS TIME	B- 126

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>
122	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 127
123	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 128
124	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 129
125	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 130
126	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 131
127	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 132
128	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 133
129	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 134
130	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 135
131	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 136
132	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 137
133	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 138
134	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 139
135	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 140
136	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 141
137	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 142

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

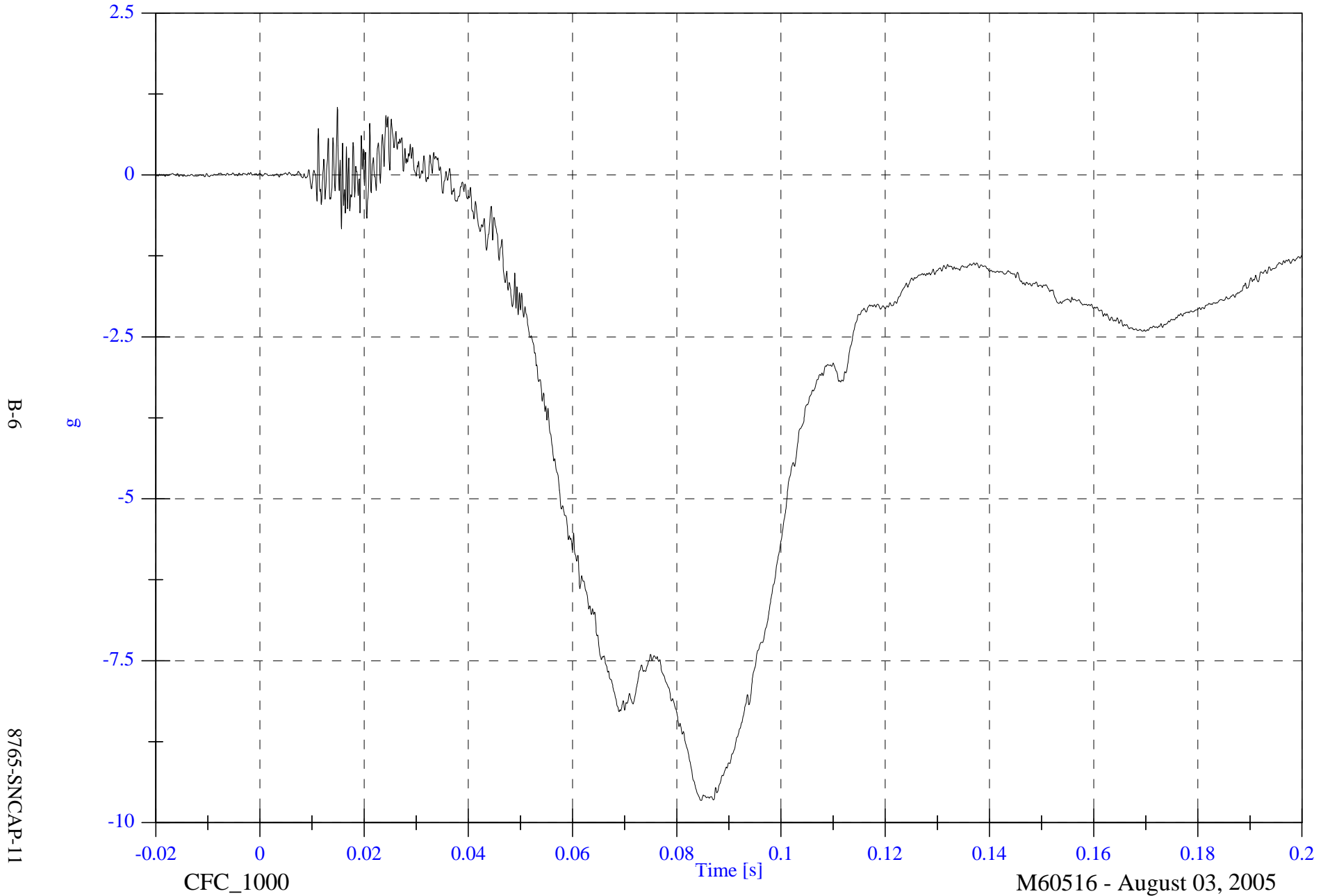
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
138	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 143
139	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 144
140	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 145
141	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 146
142	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 147
143	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 148
144	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 149
145	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 150

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Head x

Max: 1.0 [g] at 0.015 [s]

Min: -9.7 [g] at 0.085 [s]



B-6

8765-SNCAP-11

CFC_1000

Time [s]

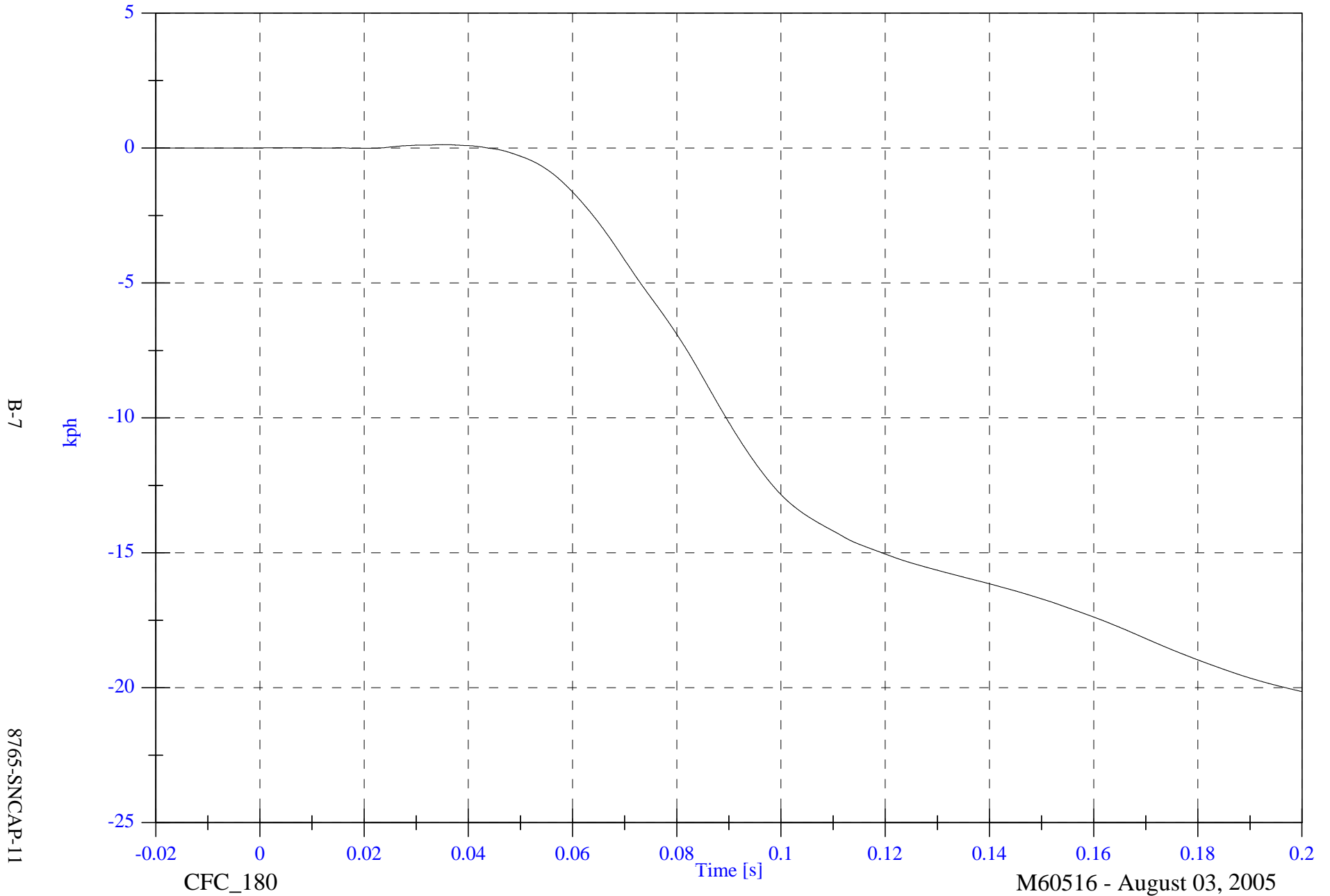
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Head x Velocity

Max: 0.1 [kph] at 0.035 [s]

Min: -20.1 [kph] at 0.200 [s]



B-7

8765-SNCAP-11

CFC_180

Time [s]

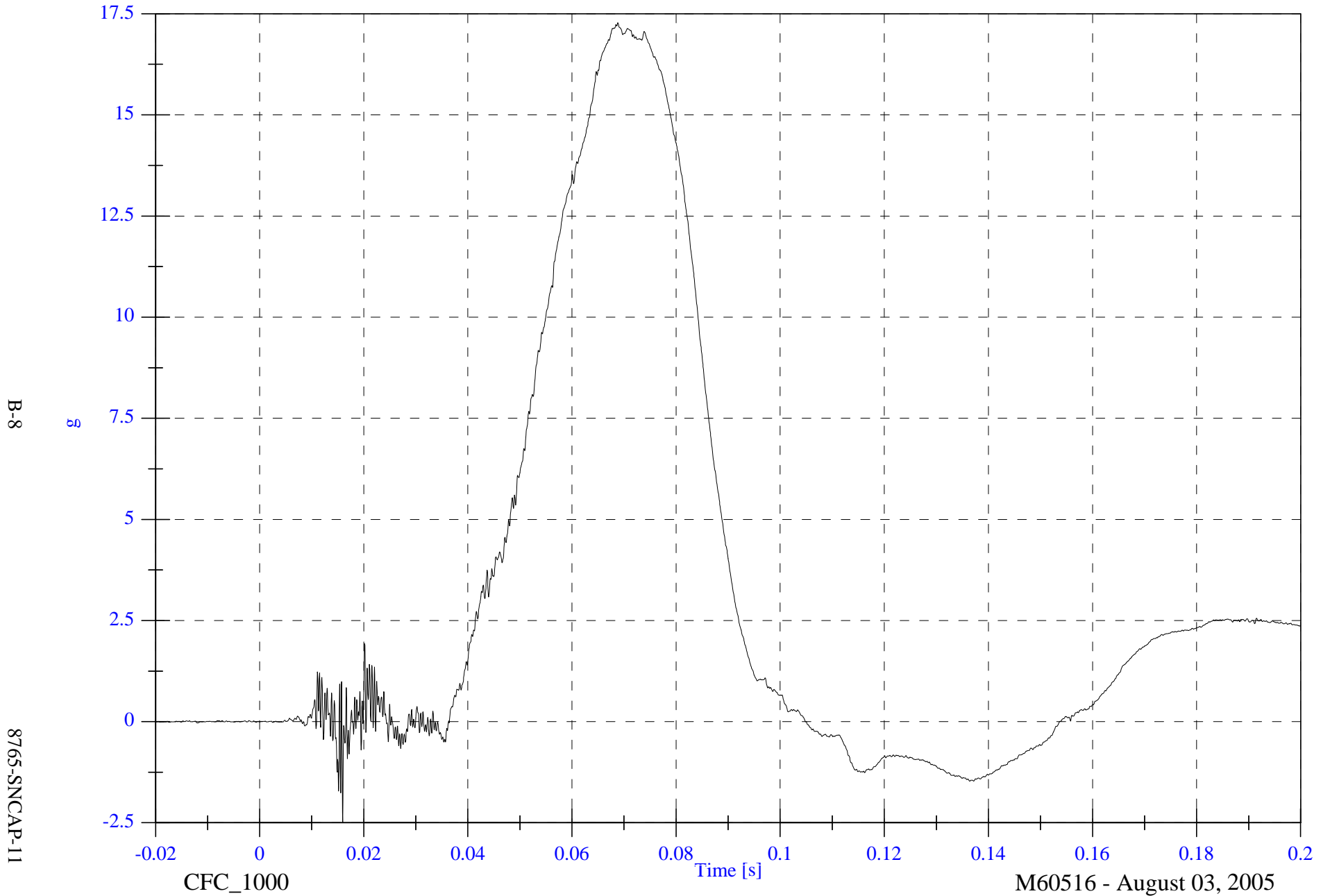
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 17.3 [g] at 0.069 [s]

Min: -2.5 [g] at 0.016 [s]

V2P1 Head y



B-8

8765-SNCAP-11

CFC_1000

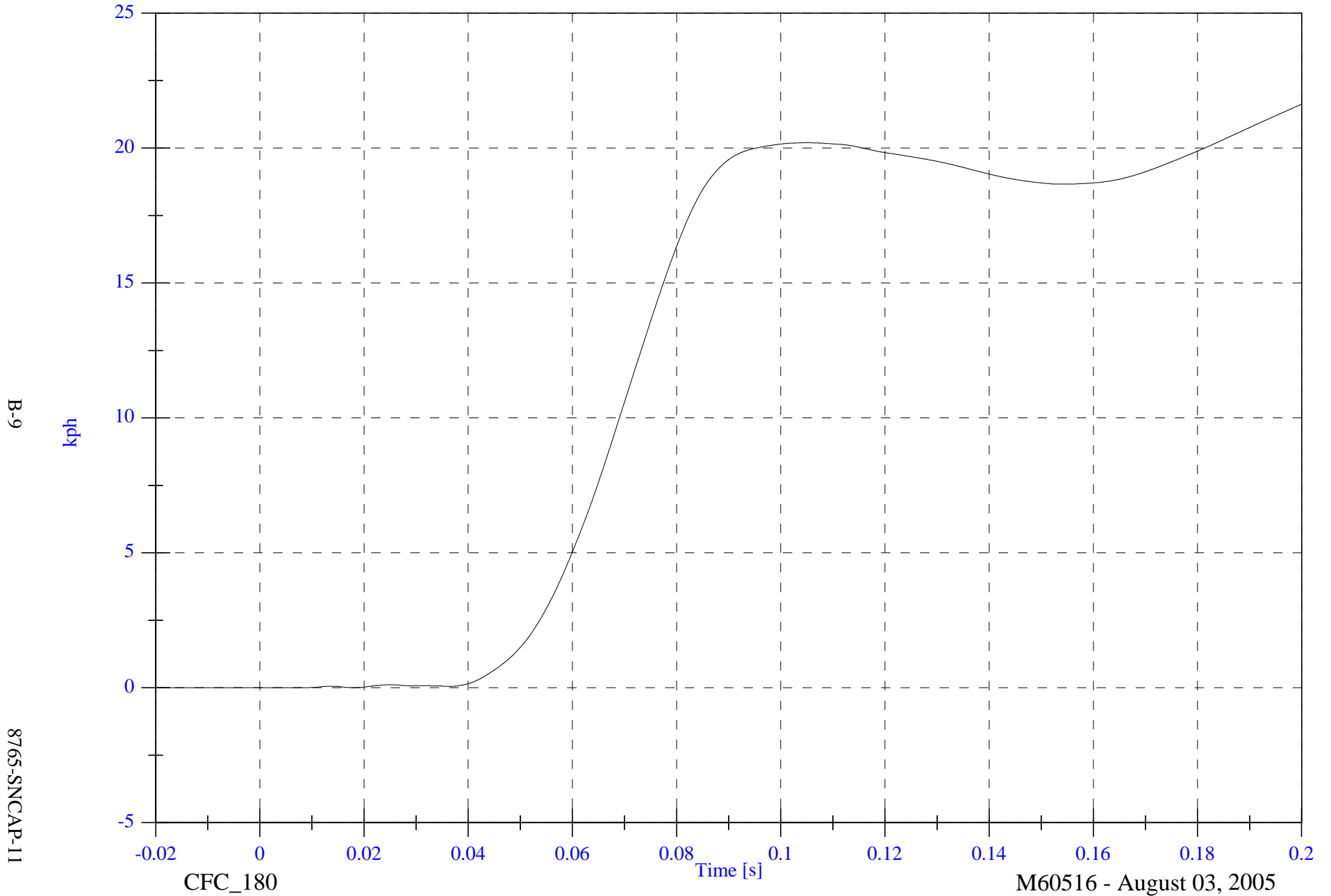
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Head y Velocity

Max: 21.6 [kph] at 0.200 [s]

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



B-9

8765-SNCAP-11

CFC_180

Time [s]

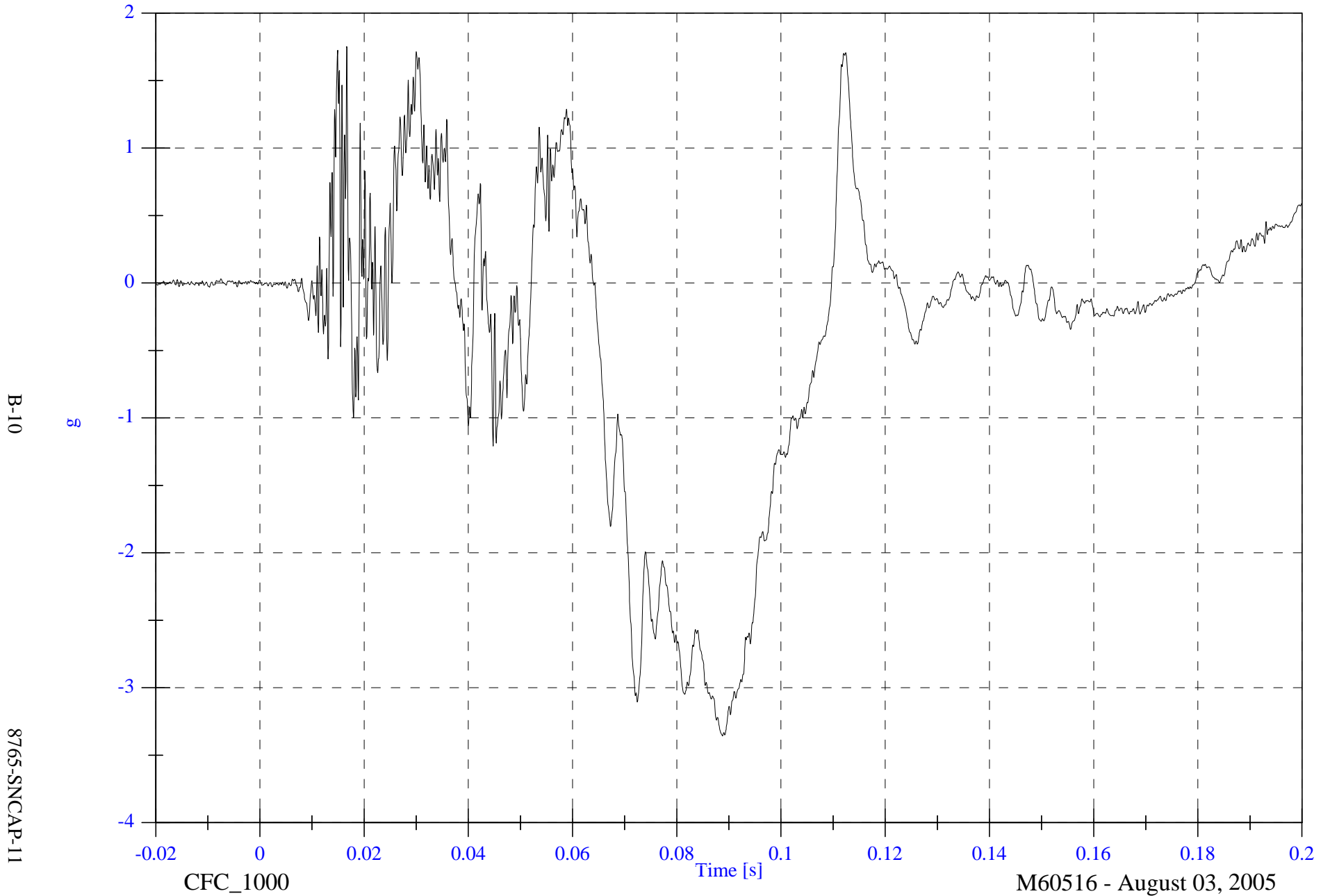
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Head z

Max: 1.8 [g] at 0.017 [s]

Min: -3.4 [g] at 0.089 [s]

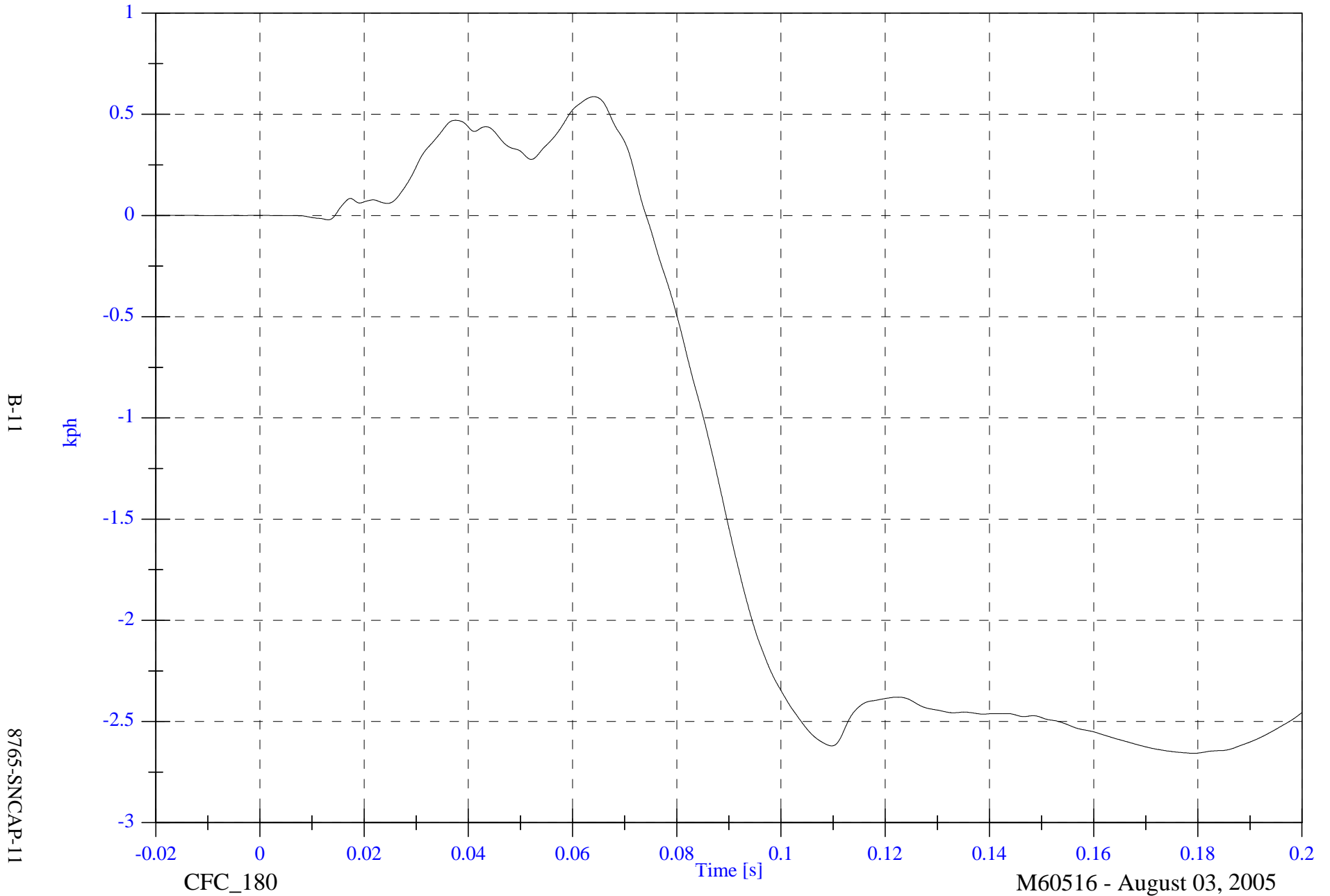


2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Head z Velocity

Max: 0.6 [kph] at 0.064 [s]

Min: -2.7 [kph] at 0.179 [s]



B-11

8765-SNCAP-11

CFC_180

Time [s]

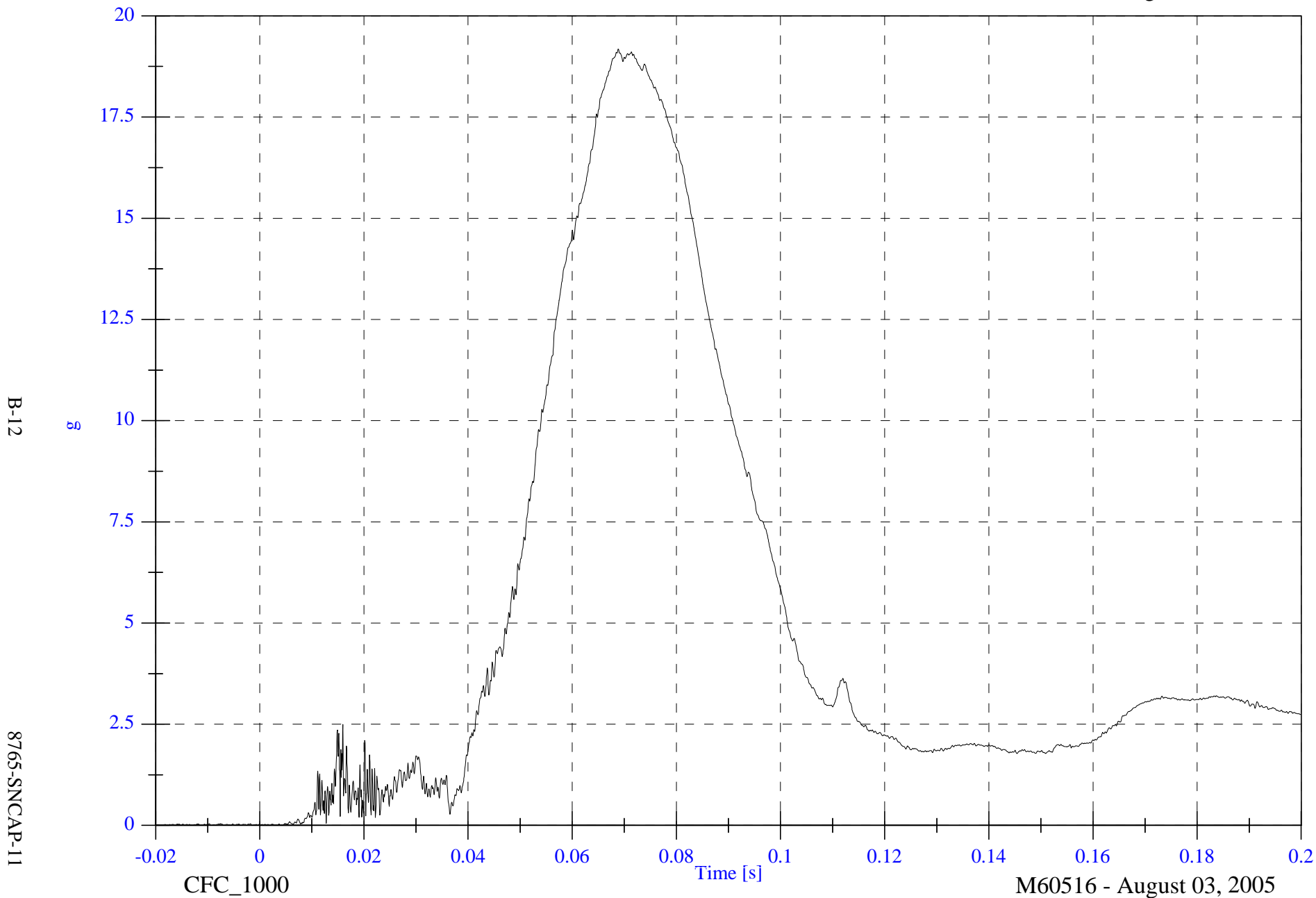
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 19.2 [g] at 0.069 [s]

V2P1 Head Resultant

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



B-12

8765-SNCAP-11

CFC_1000

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 240.2 [N] at 0.093 [s]

Min: -104.3 [N] at 0.169 [s]

V2P1 Upper Neck Fx



B-13

8765-SNCAP-11

CFC_1000

Time [s]

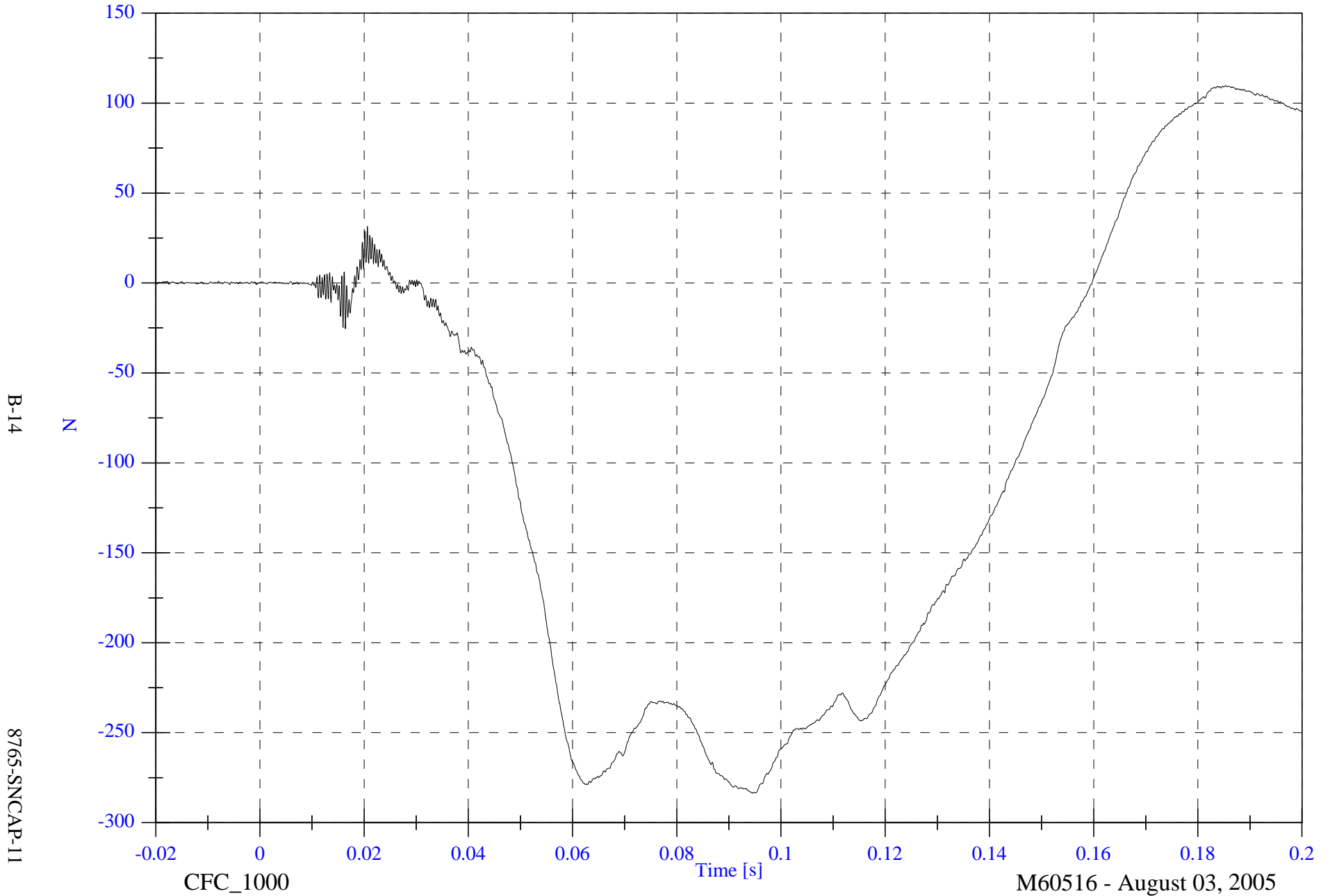
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 109.6 [N] at 0.185 [s]

V2P1 Upper Neck Fy

Min: -283.6 [N] at 0.095 [s]



B-14

N

8765-SNCAP-11

CFC_1000

Time [s]

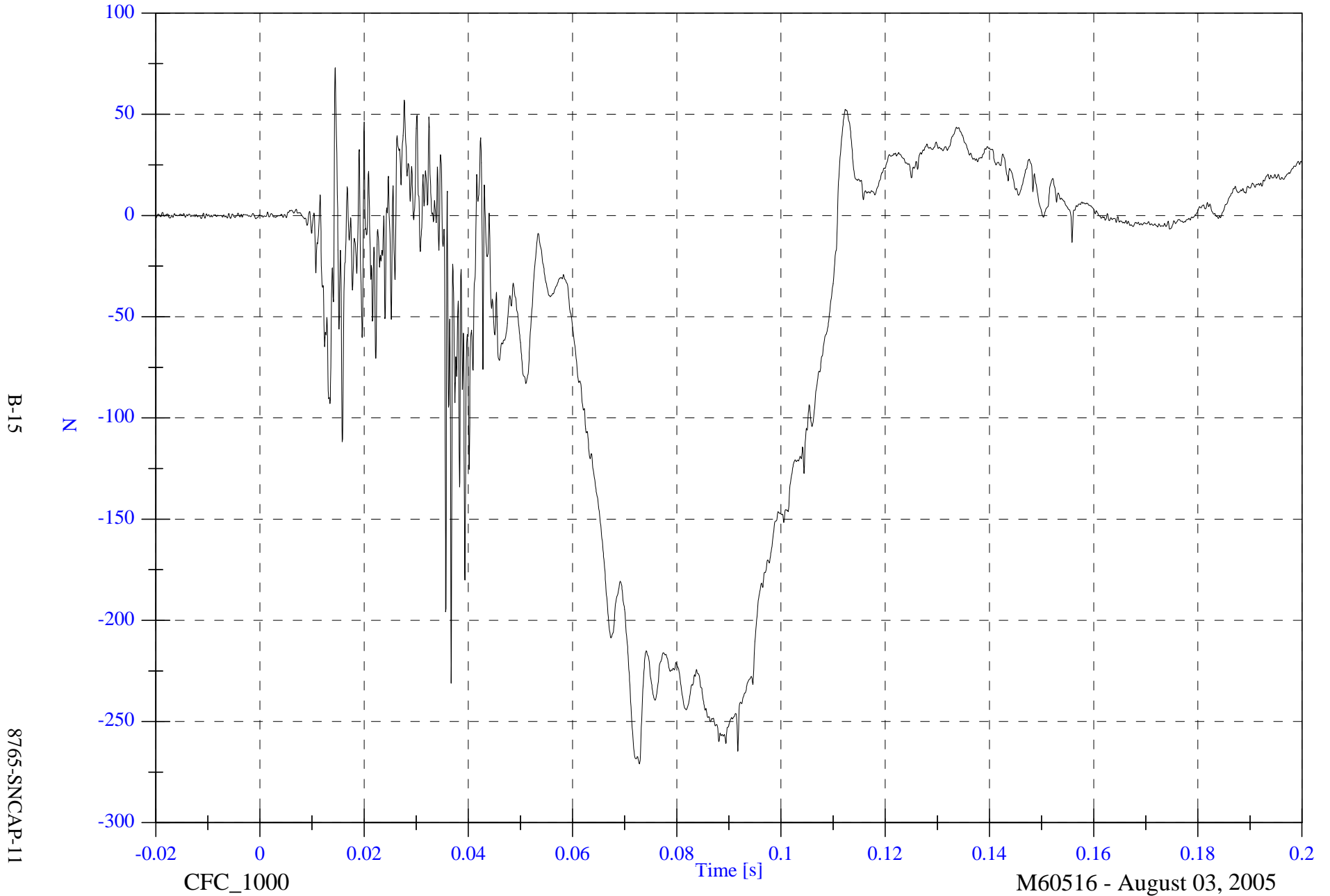
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Upper Neck Fz

Max: 73.0 [N] at 0.014 [s]

Min: -270.9 [N] at 0.073 [s]

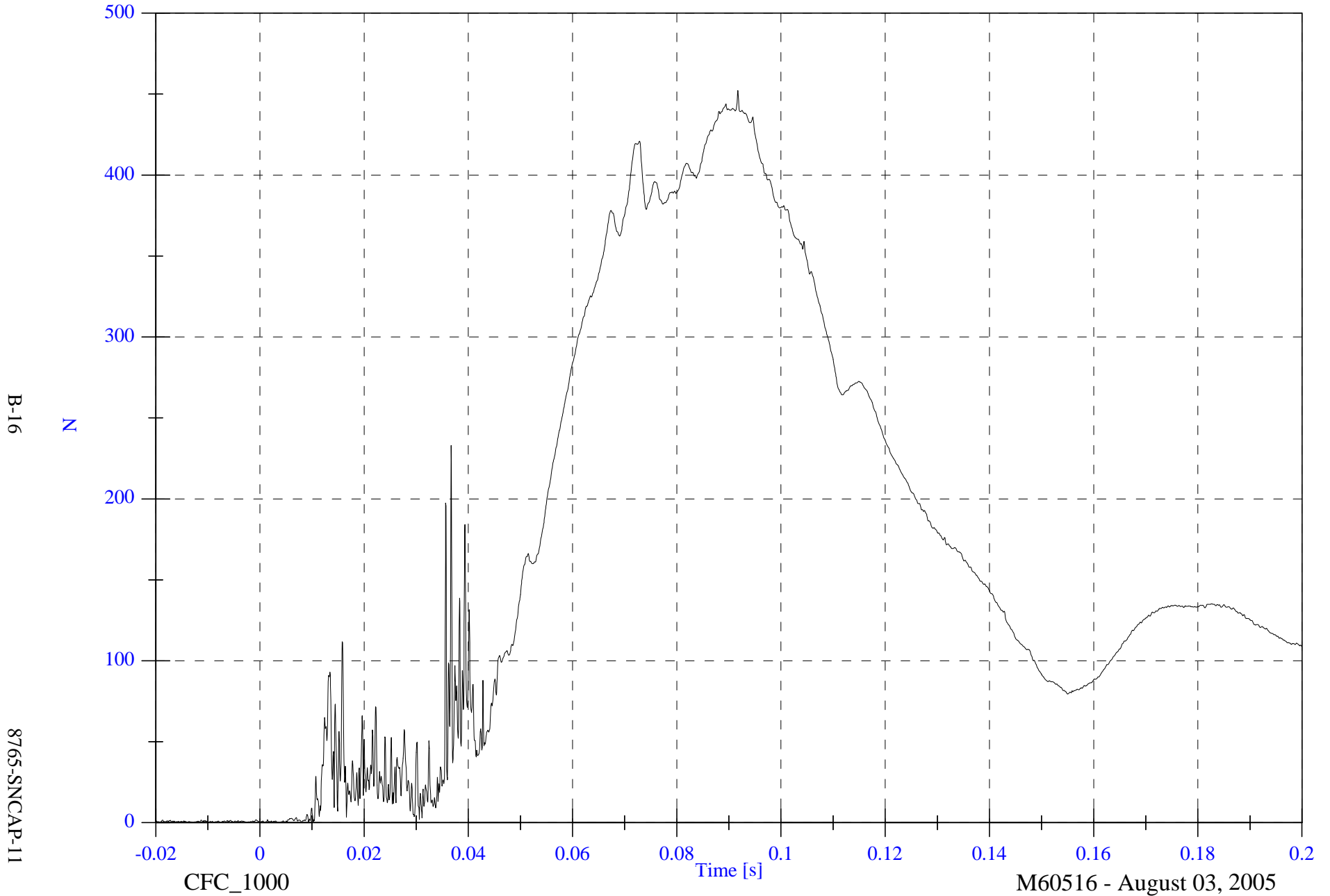


2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Upper Neck F Resultant

Max: 452.2 [N] at 0.092 [s]

Min: 0.1 [N] at 0.004 [s]



B-16

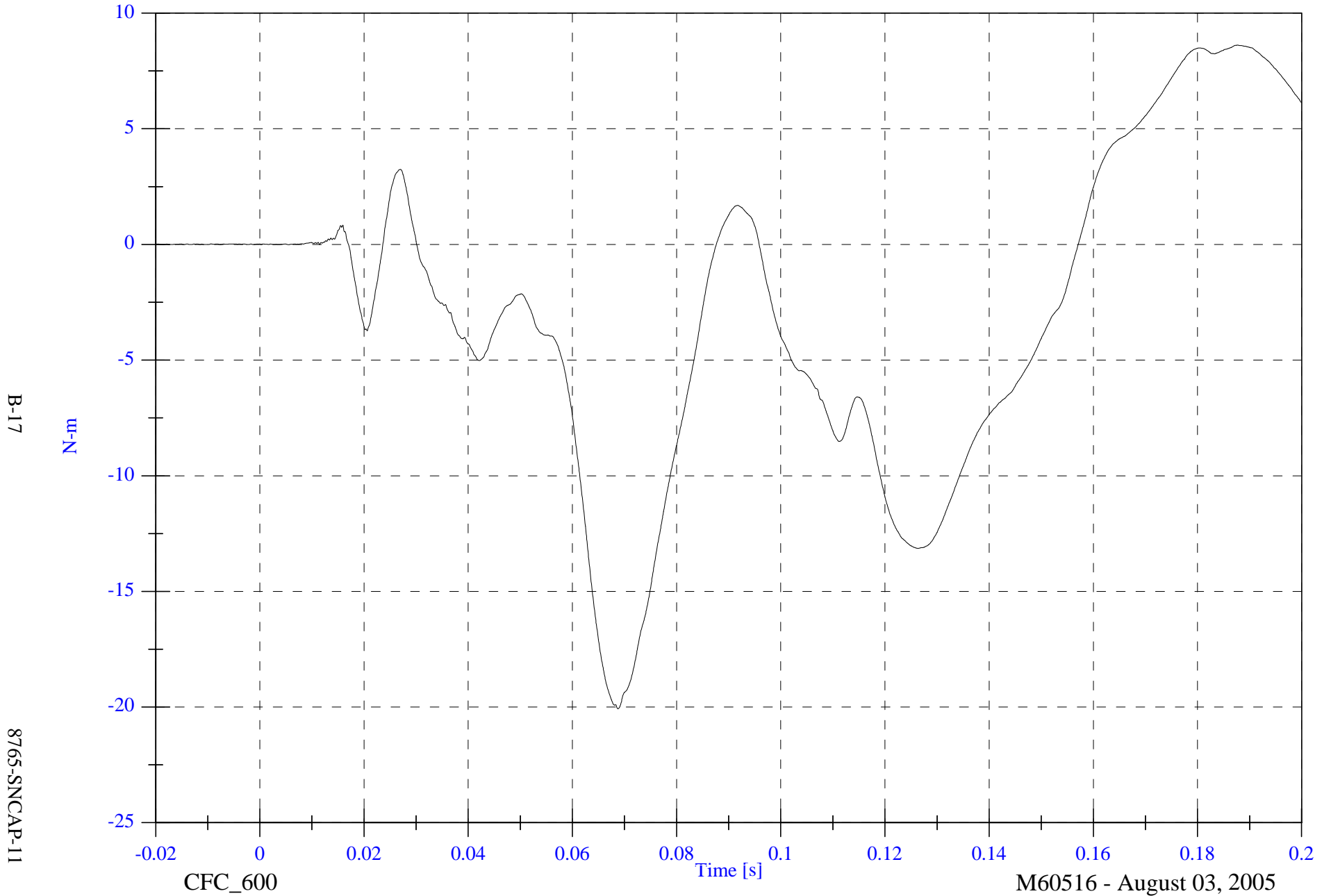
8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Upper Neck Mx

Max: 8.6 [N-m] at 0.188 [s]

Min: -20.1 [N-m] at 0.069 [s]



B-17

8765-SNCAP-11

CFC_600

Time [s]

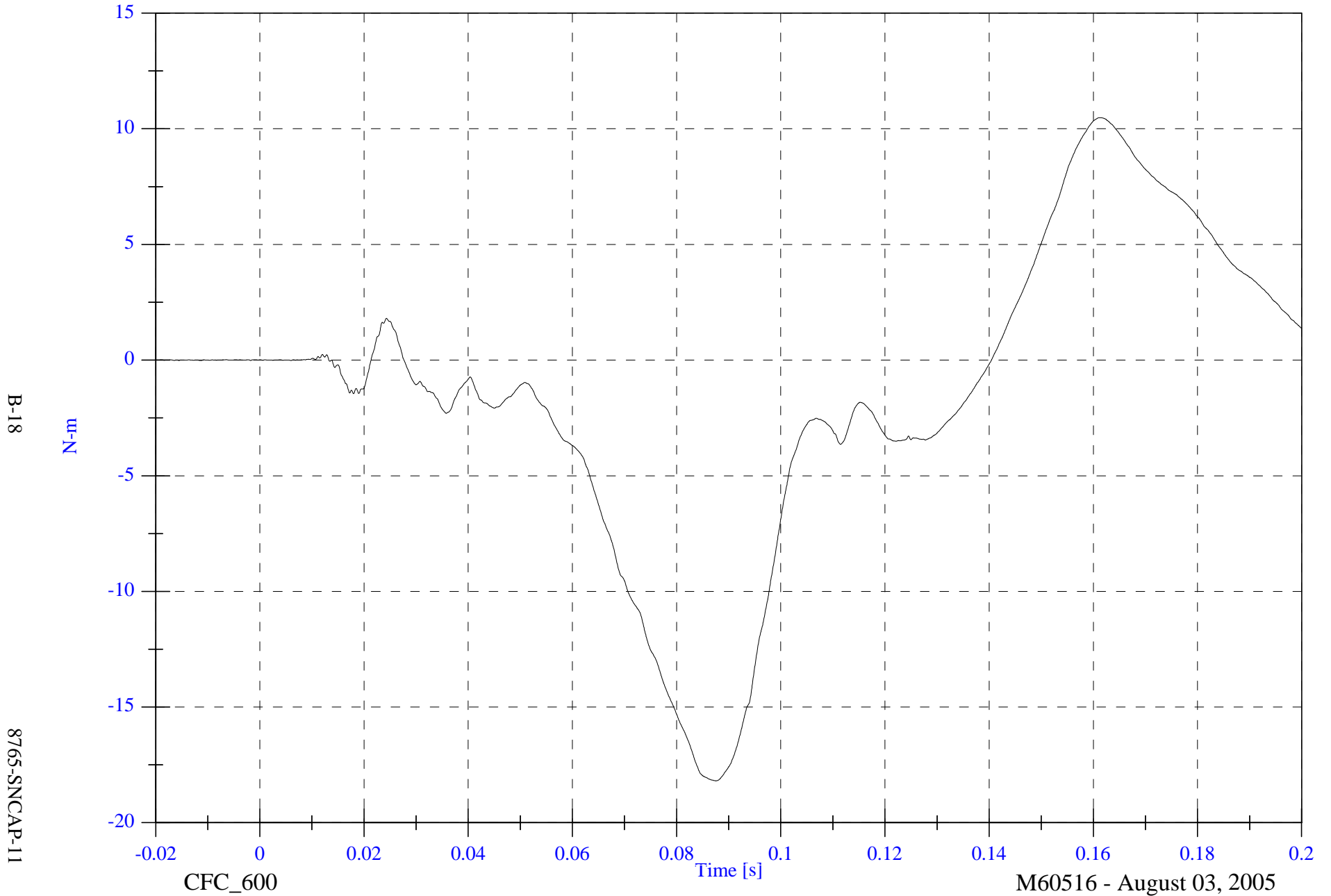
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Upper Neck My

Max: 10.5 [N-m] at 0.161 [s]

Min: -18.2 [N-m] at 0.087 [s]



B-18

8765-SNCAP-11

CFC_600

Time [s]

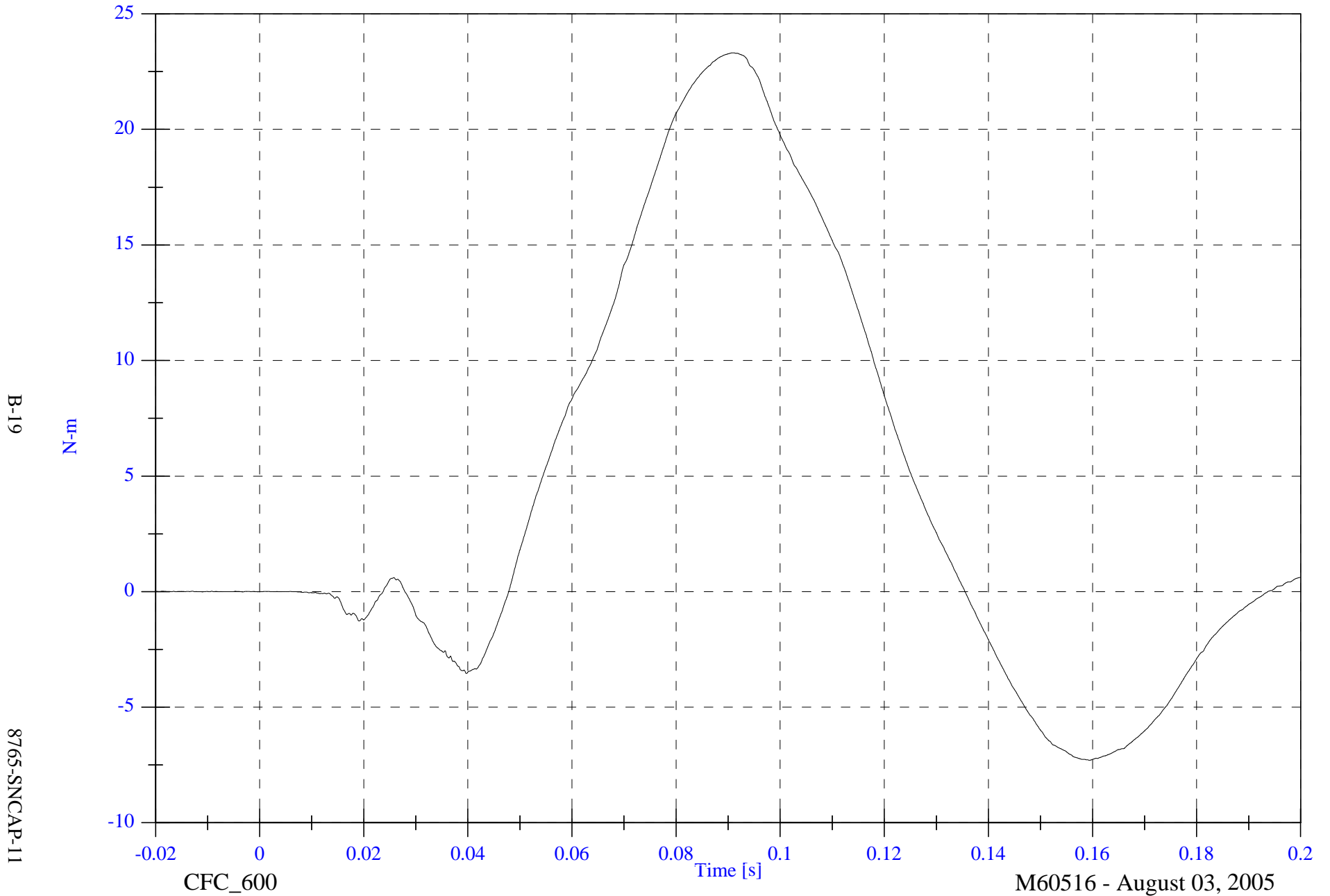
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 23.3 [N-m] at 0.091 [s]

V2P1 Upper Neck Mz

Min: -7.3 [N-m] at 0.159 [s]



B-19

8765-SNCAP-11

CFC_600

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

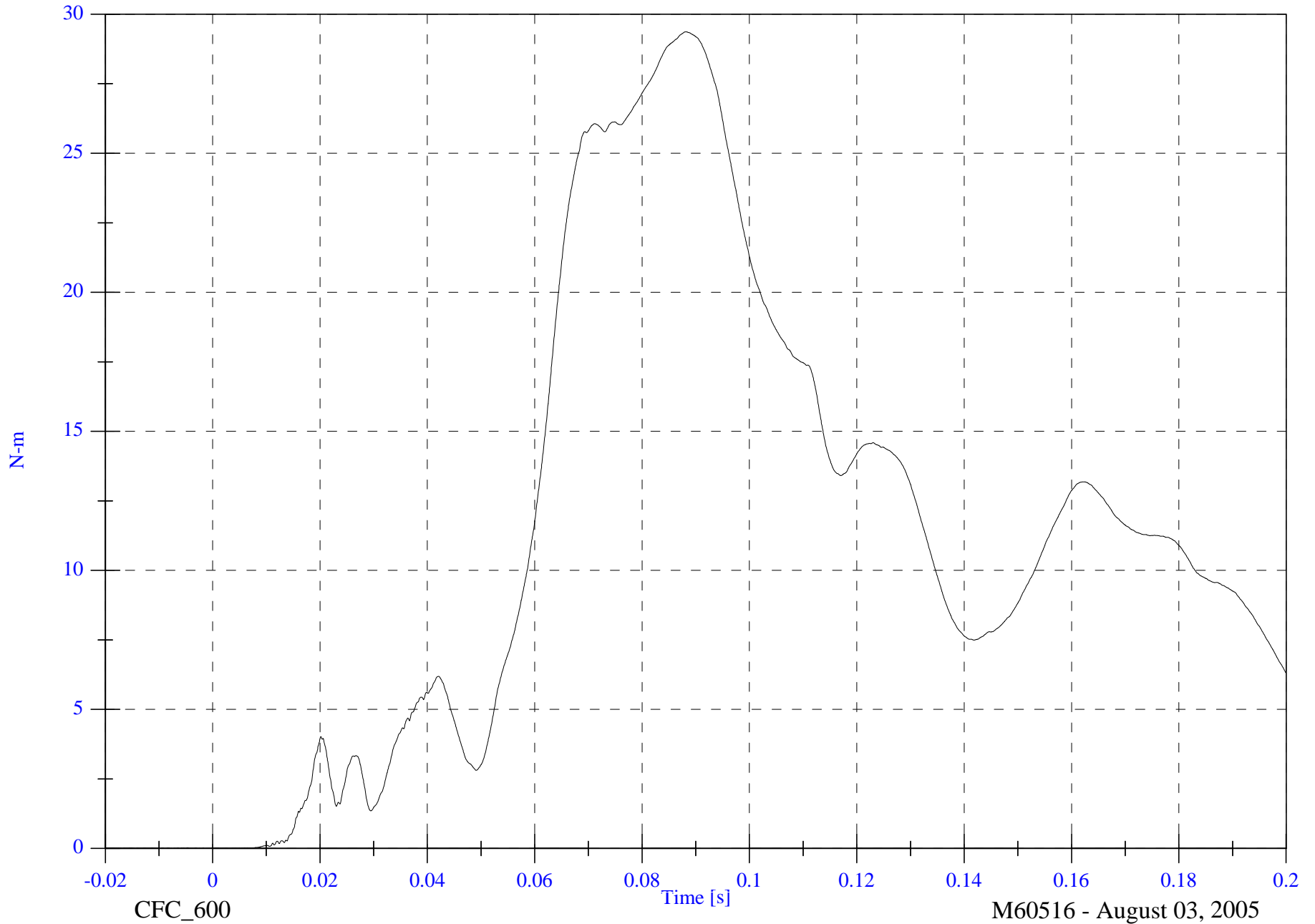
V2P1 Upper Neck M Resultant

Max: 29.4 [N-m] at 0.088 [s]

Min: 0.0 [N-m] at 0.003 [s]

B-20

8765-SNCAP-11



CFC_600

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

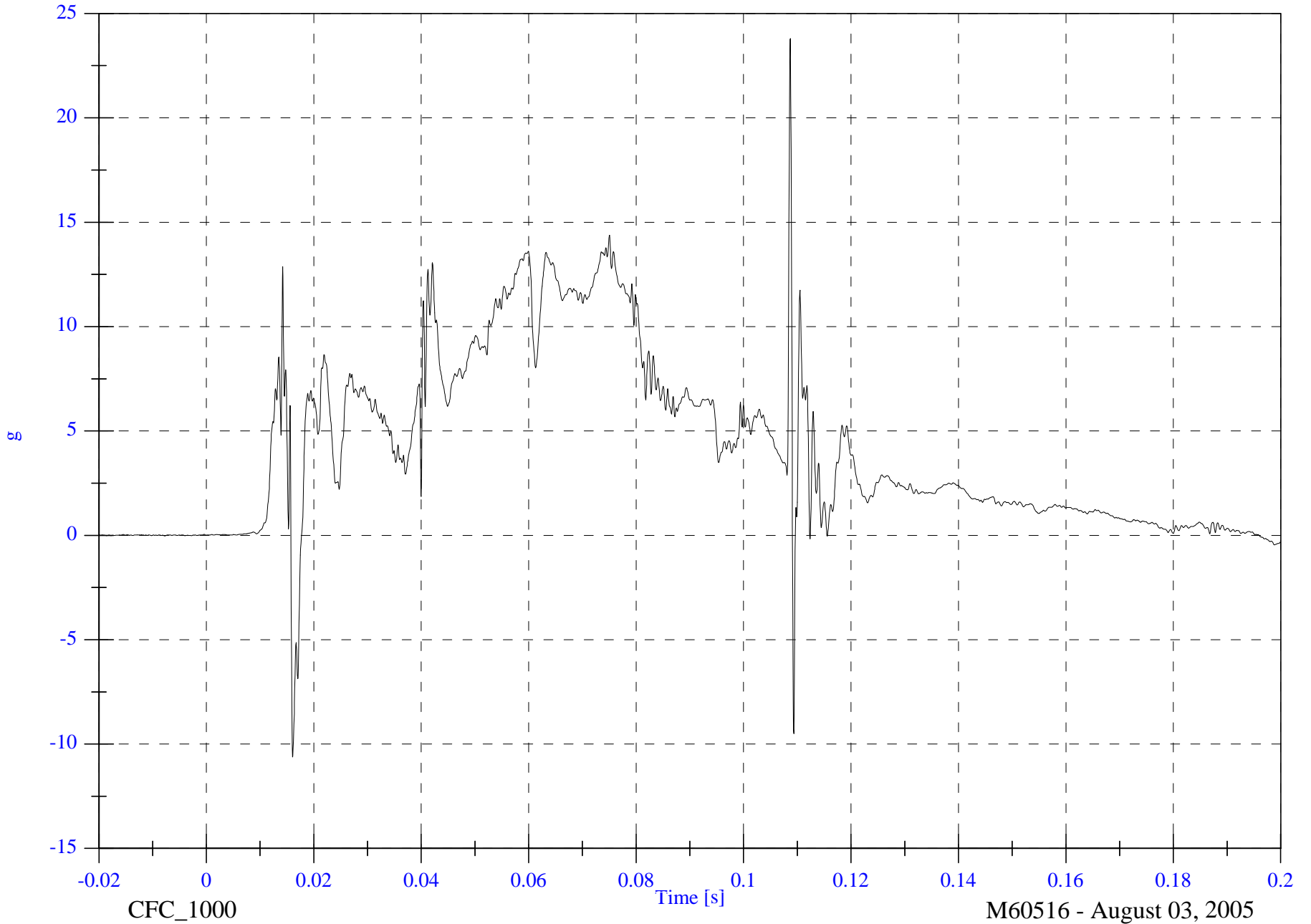
V2P1 Upper Rib y

Max: 23.8 [g] at 0.109 [s]

Min: -10.6 [g] at 0.016 [s]

B-21

8765-SNCAP-11



CFC_1000

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

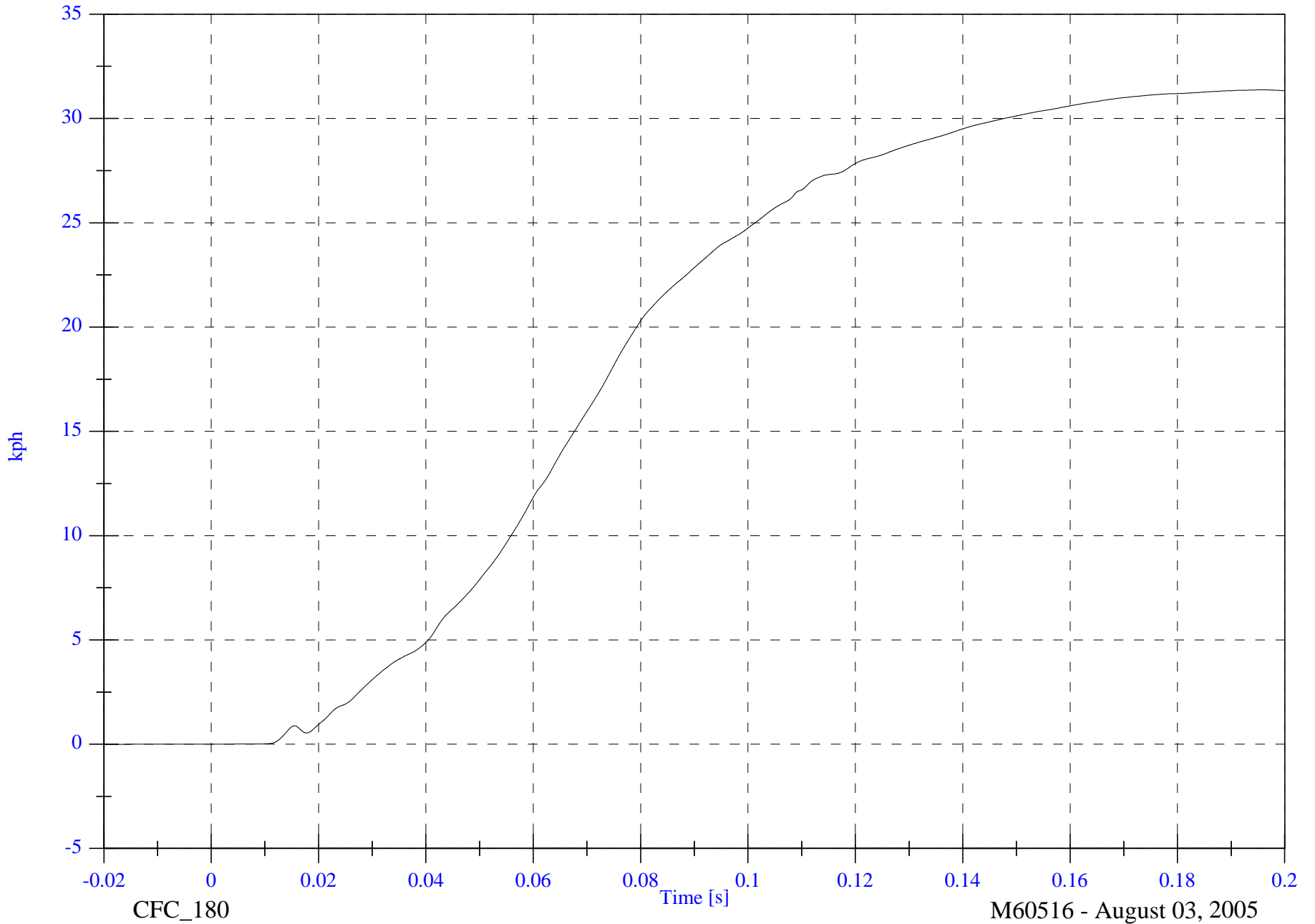
V2P1 Upper Rib y Velocity

Max: 31.4 [kph] at 0.196 [s]

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

B-22

8765-SNCAP-11



CFC_180

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

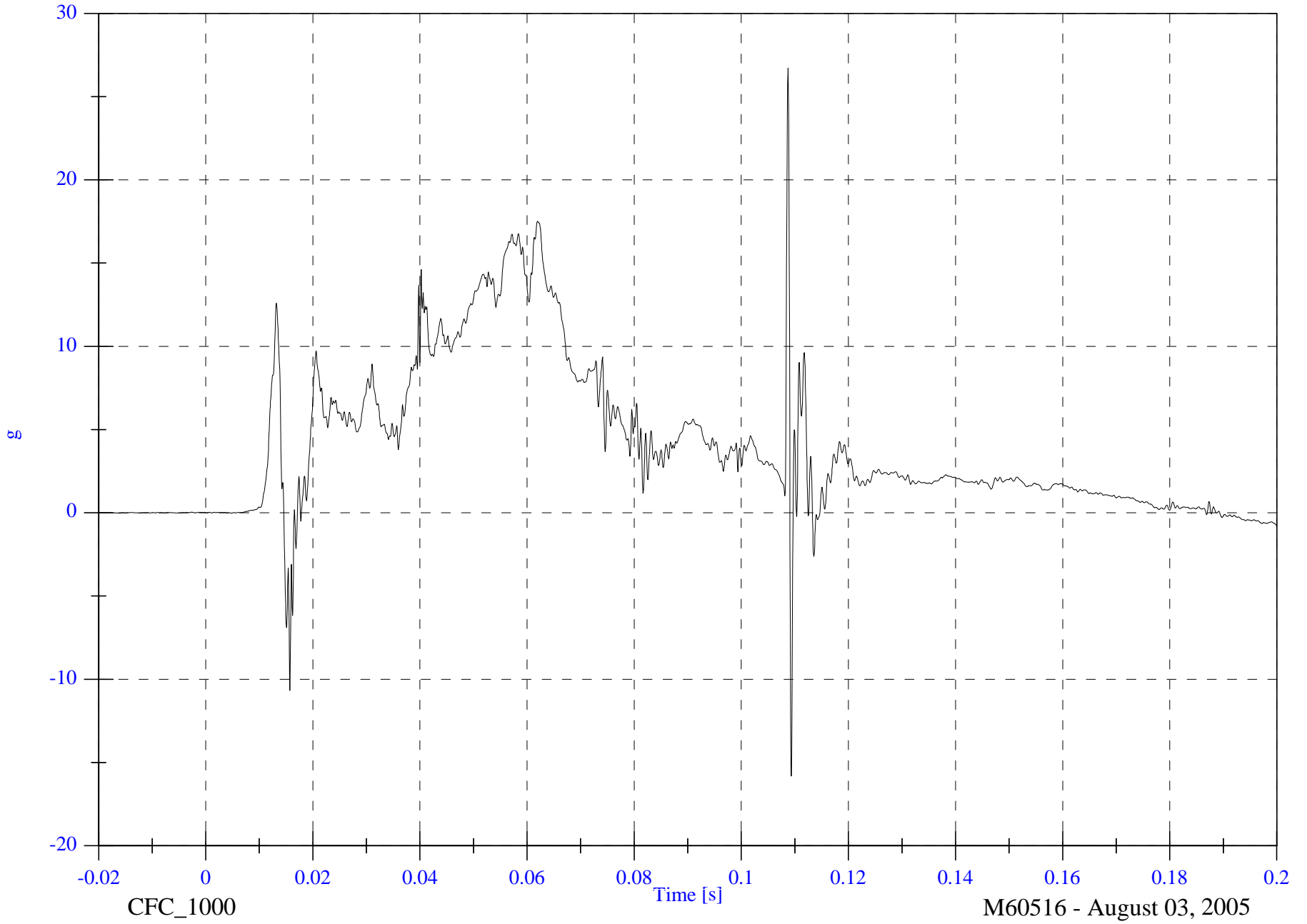
V2P1 Lower Rib y

Max: 26.7 [g] at 0.109 [s]

Min: -15.8 [g] at 0.109 [s]

B-23

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

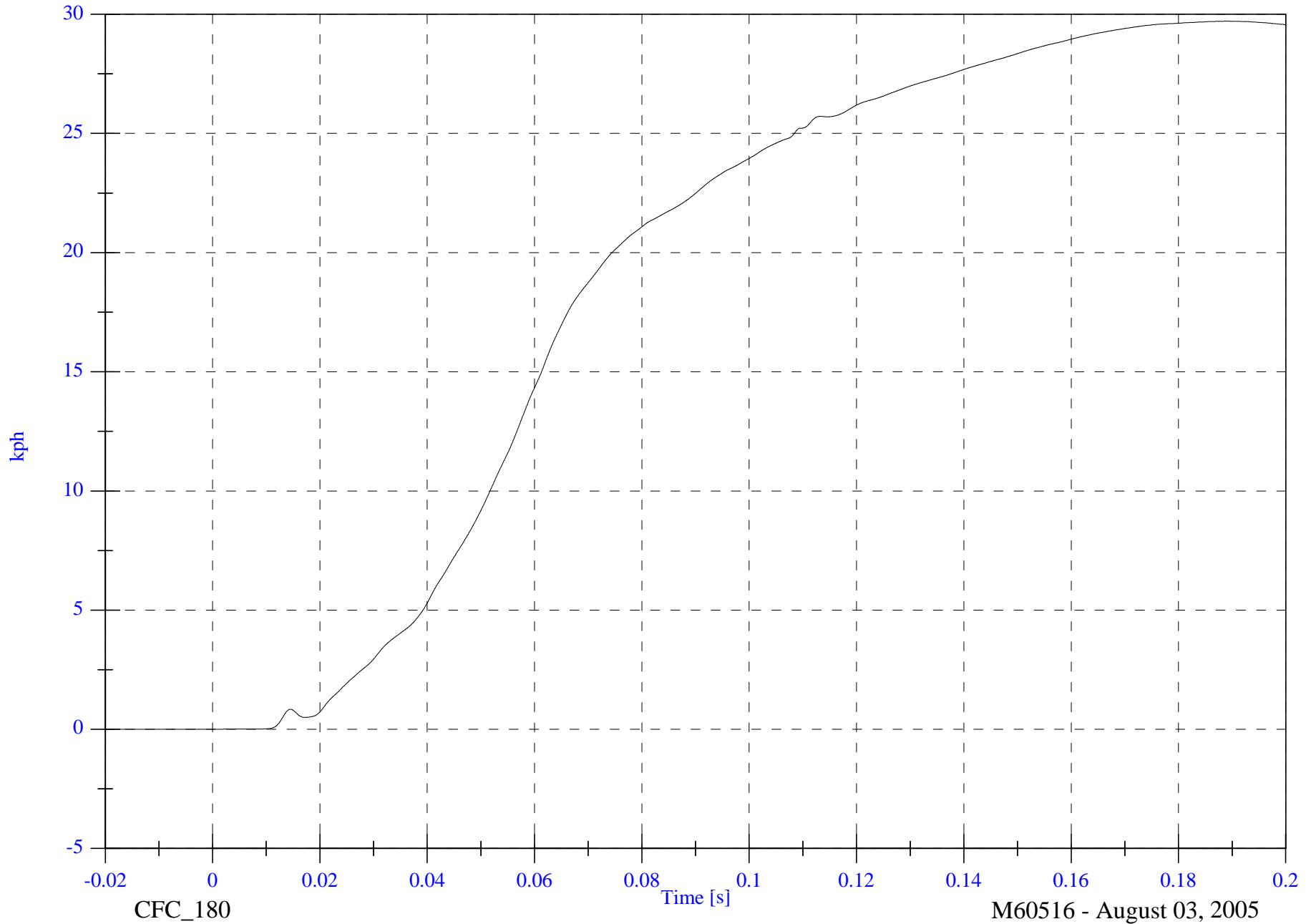
V2P1 Lower Rib y Velocity

Max: 29.7 [kph] at 0.189 [s]

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

B-24

8765-SNCAP-11



CFC_180

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 26.1 [g] at 0.056 [s]

V2P1 Lower Spine y

Min: -1.3 [g] at 0.087 [s]



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8765-SNCAP-11

CFC_180

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

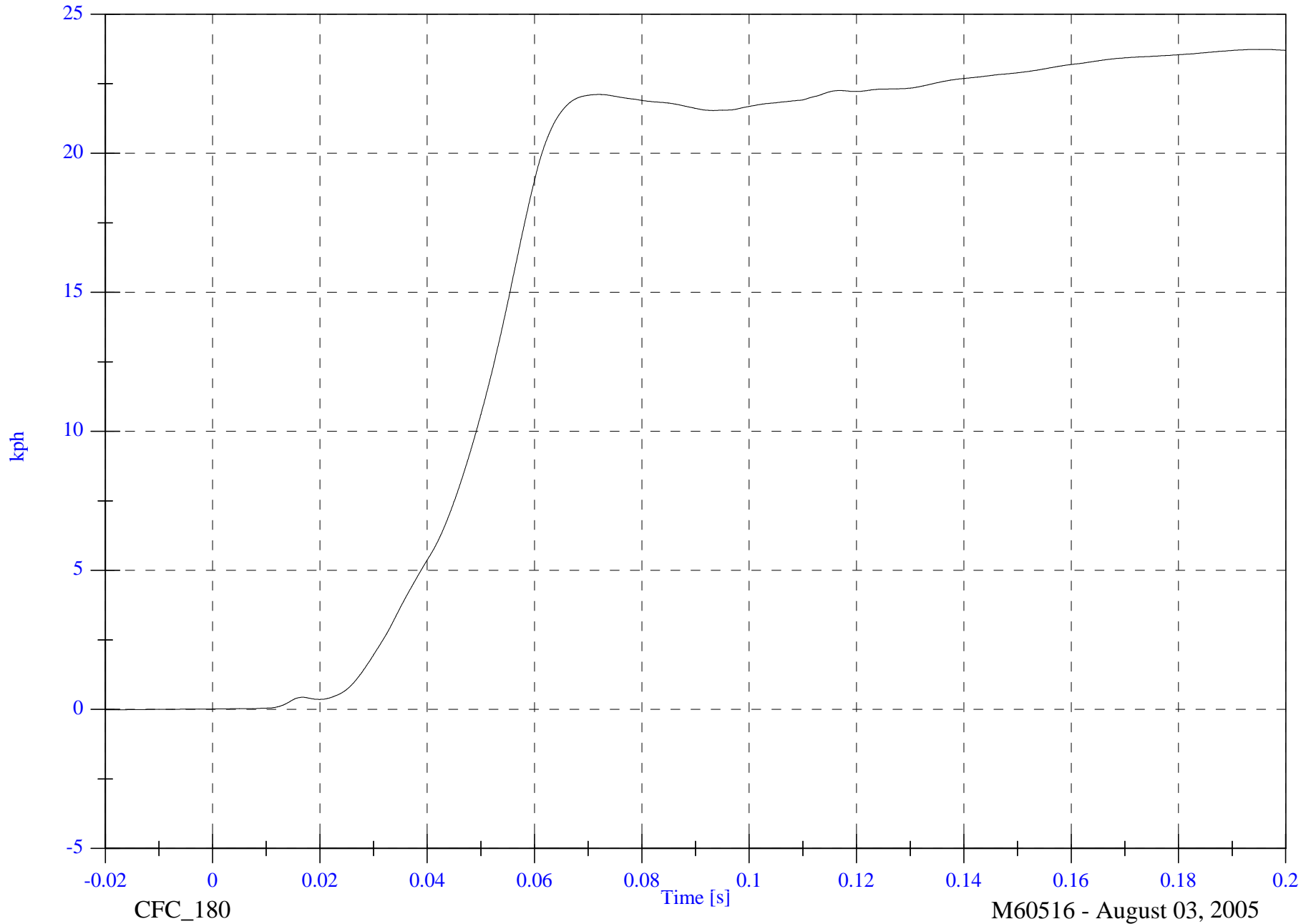
V2P1 Lower Spine y Velocity

Max: 23.7 [kph] at 0.195 [s]

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

B-26

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Pelvic y

Max: 30.8 [g] at 0.053 [s]

Min: -5.3 [g] at 0.073 [s]



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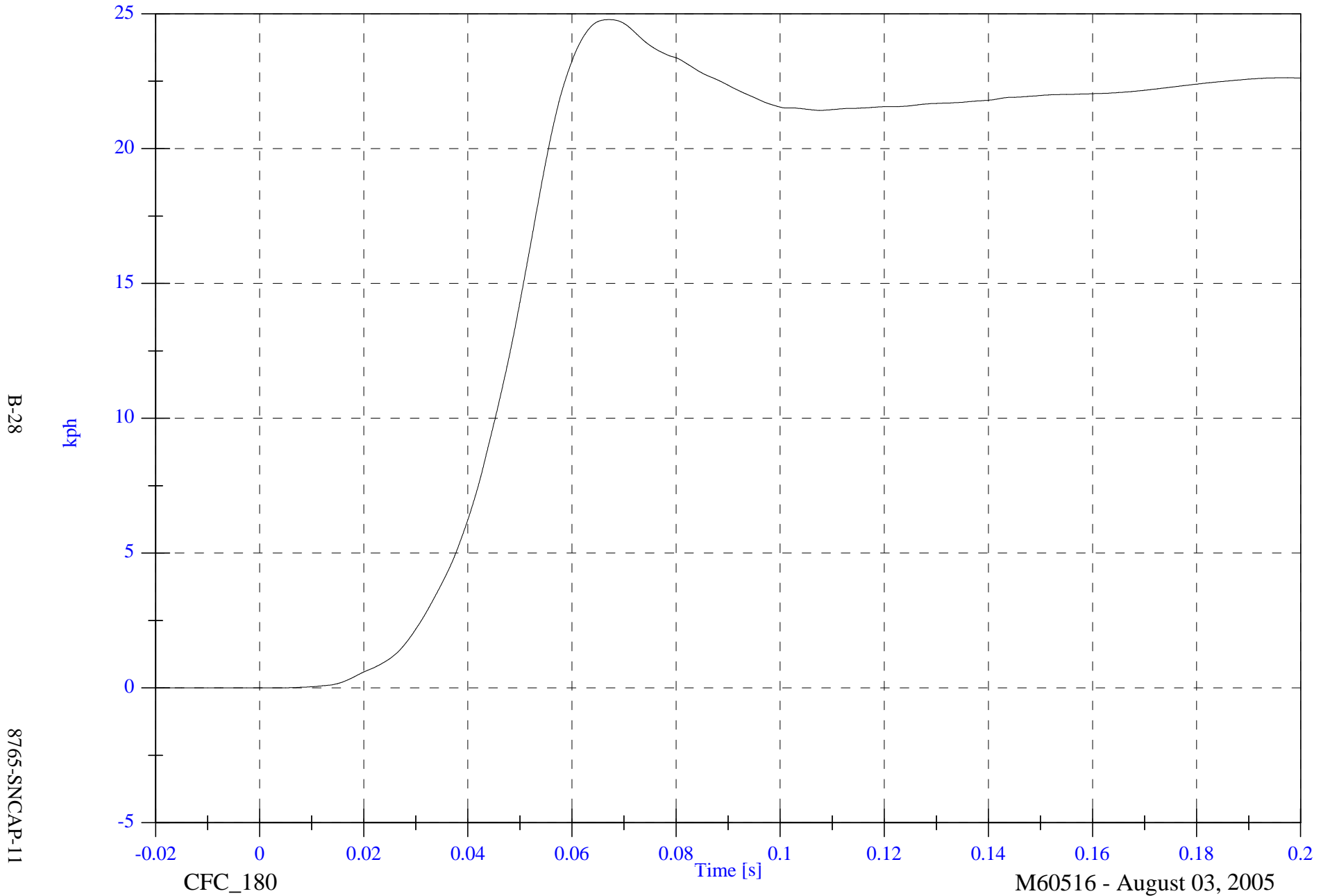
8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 24.8 [kph] at 0.067 [s]

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

V2P1 Pelvic y Velocity



B-28

8765-SNCAP-11

CFC_180

Time [s]

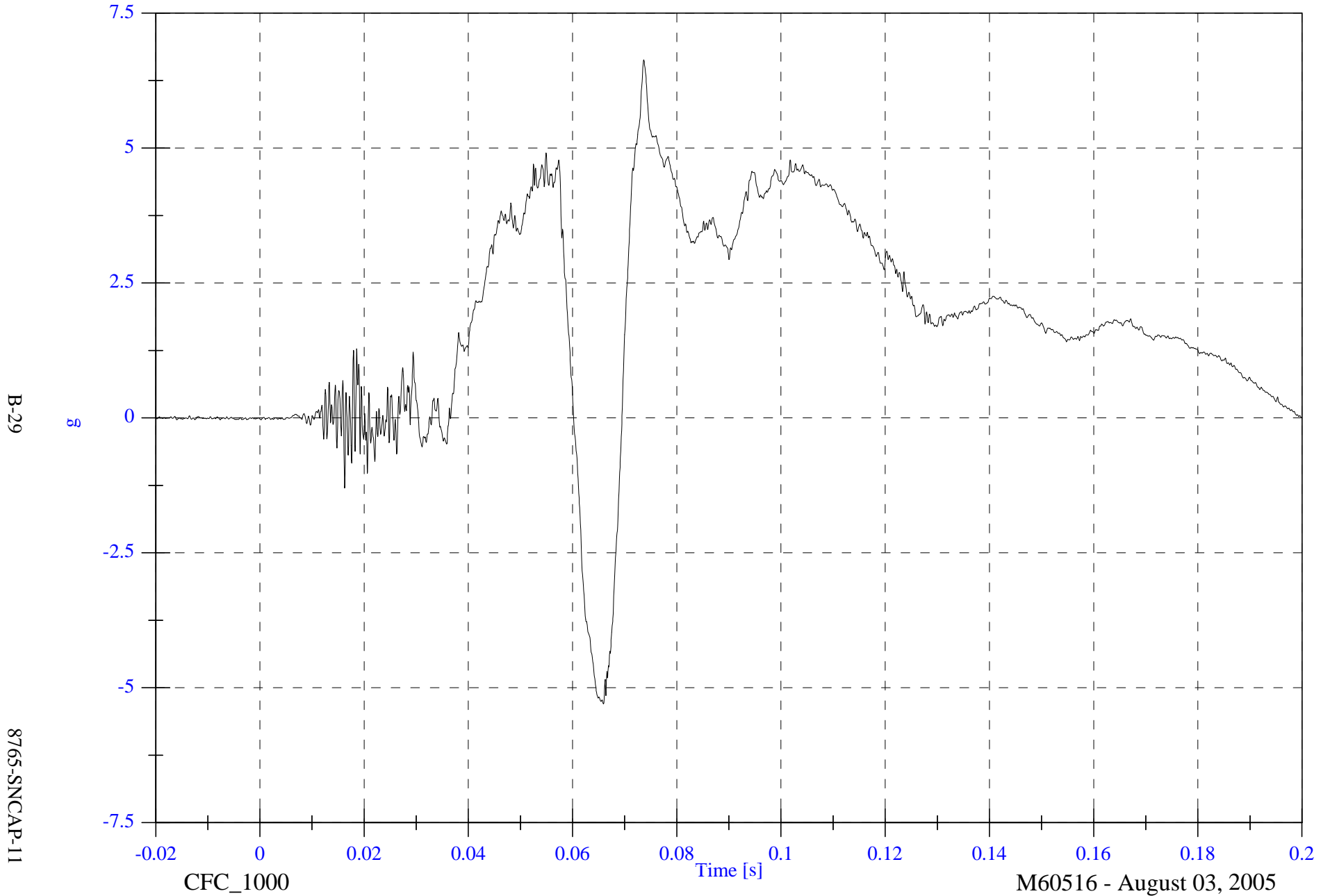
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Head x

Max: 6.6 [g] at 0.074 [s]

Min: -5.3 [g] at 0.066 [s]

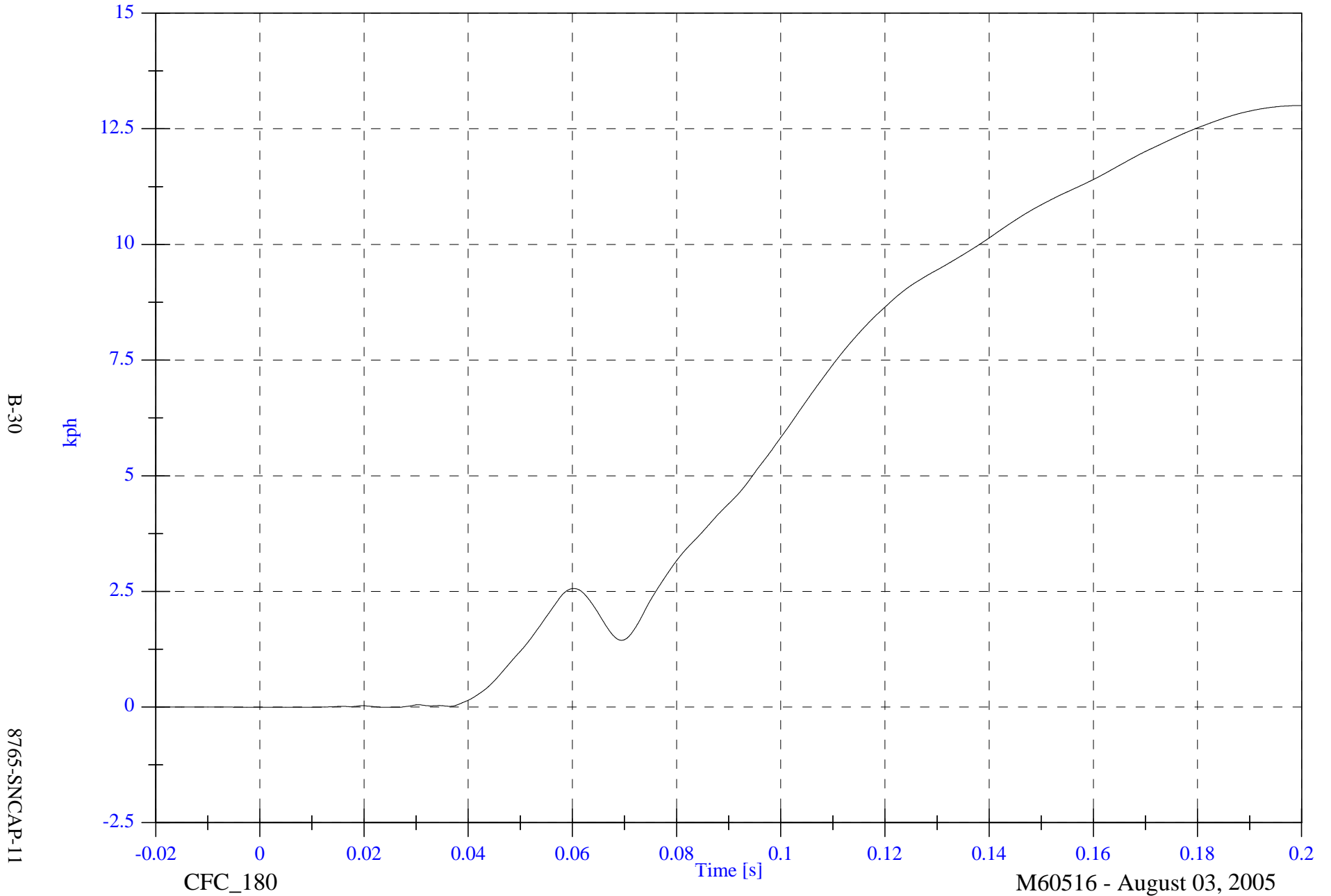


2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Head x Velocity

Max: 13.0 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.026 [s]



B-30

8765-SNCAP-11

CFC_180

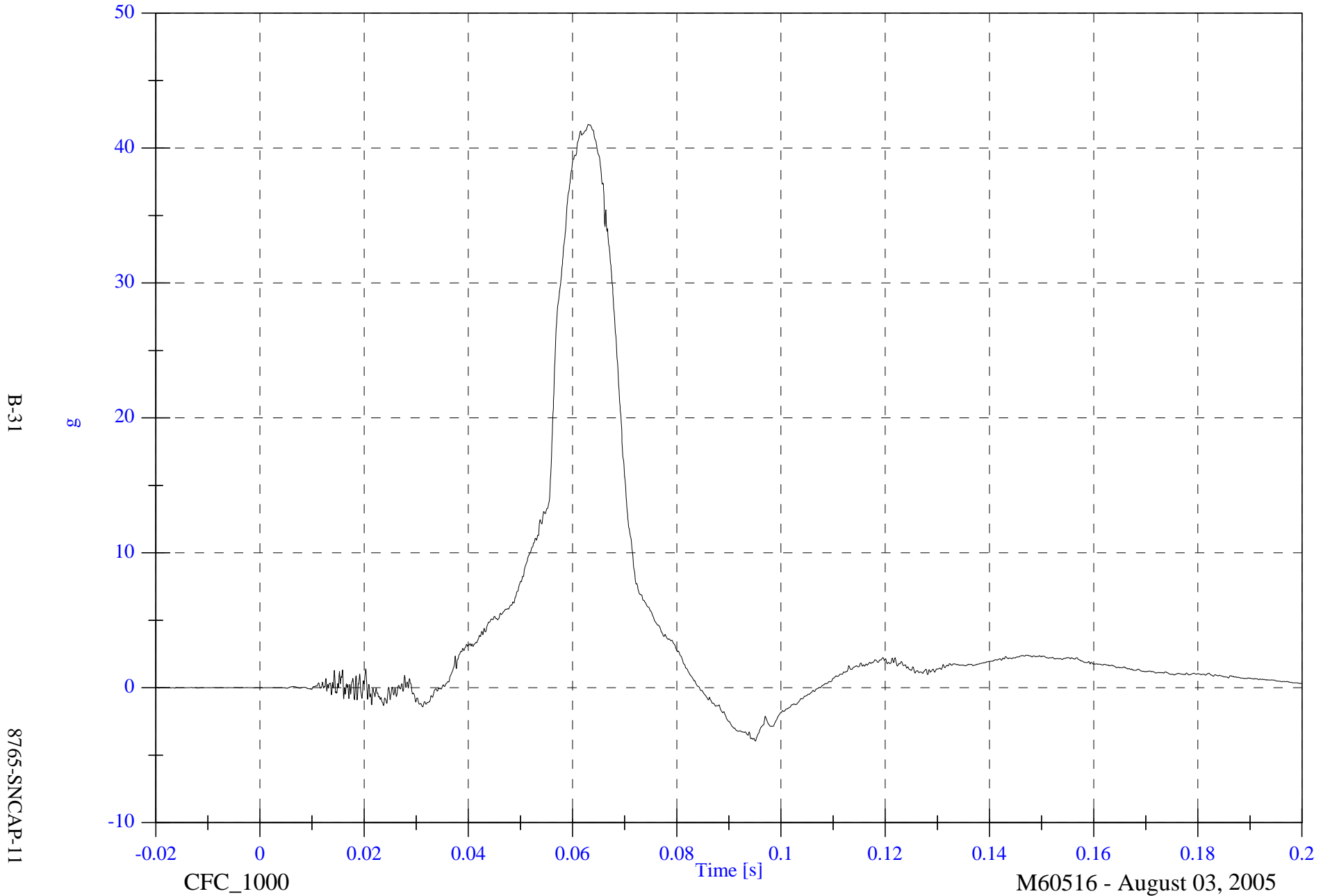
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Head y

Max: 41.7 [g] at 0.063 [s]

Min: -3.9 [g] at 0.095 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

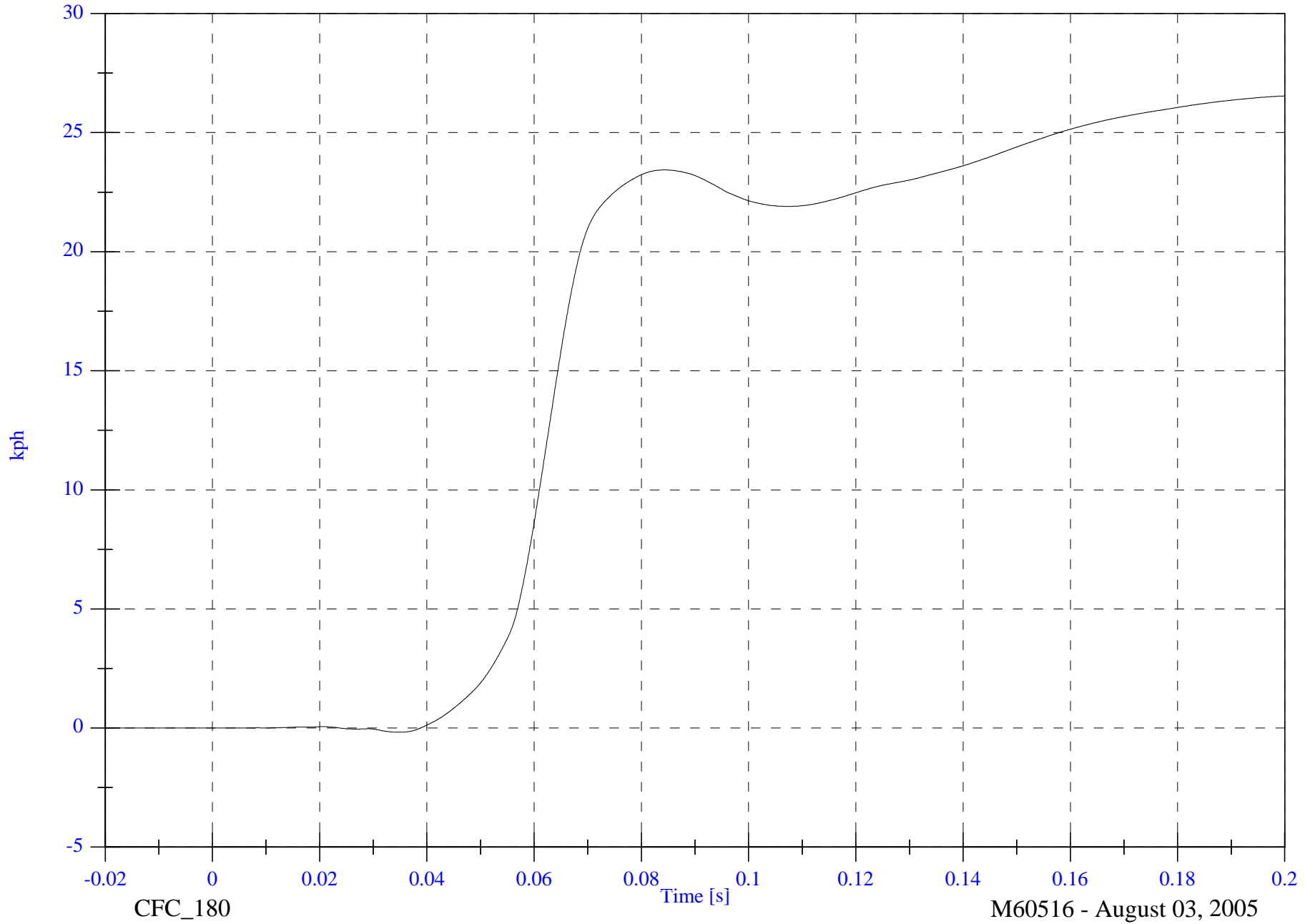
V2P4 Head y Velocity

Max: 26.5 [kph] at 0.200 [s]

Min: -0.2 [kph] at 0.035 [s]

B-32

8765-SNCAP-11



CFC_180

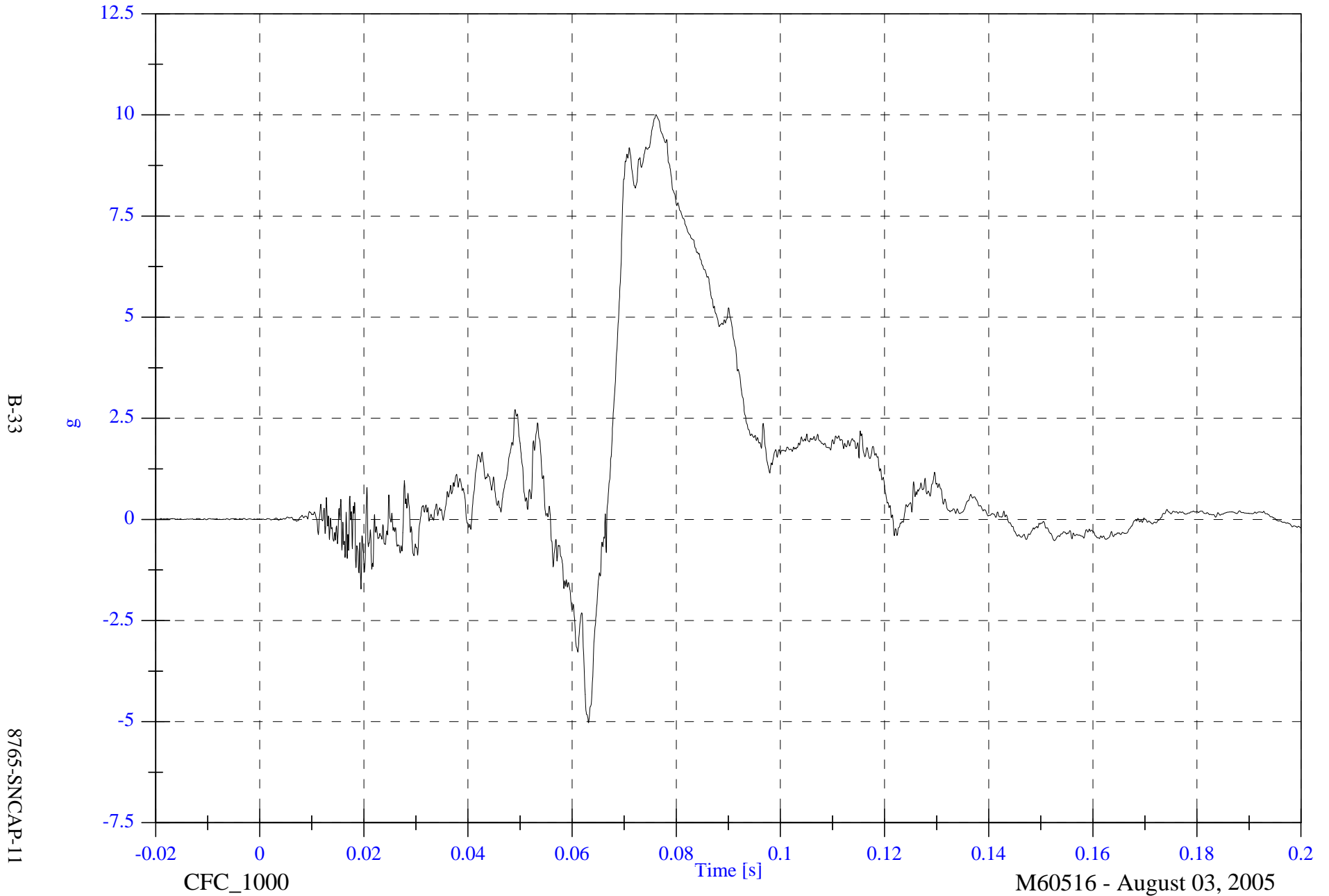
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Head z

Max: 10.0 [g] at 0.076 [s]

Min: -5.0 [g] at 0.063 [s]

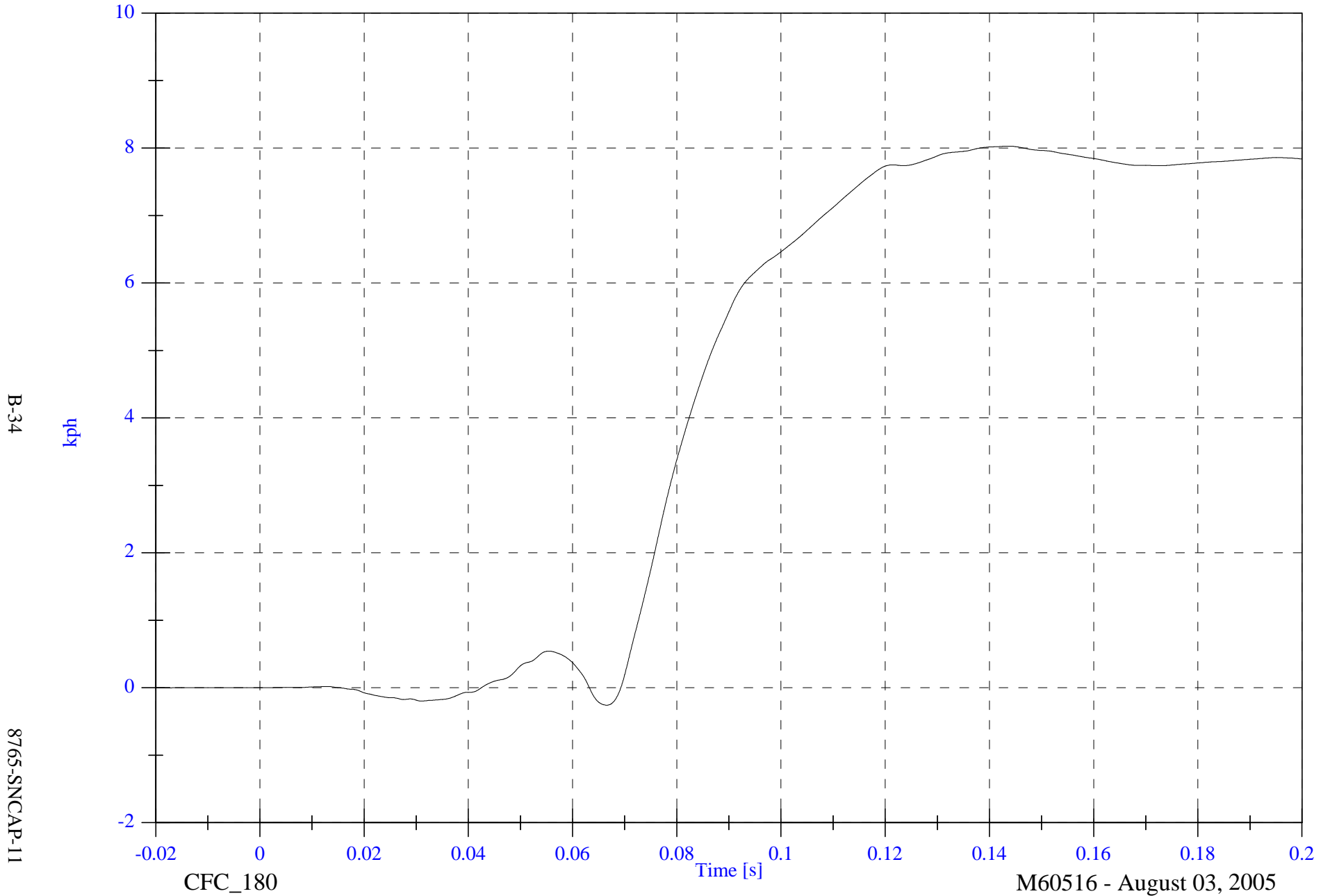


2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Head z Velocity

Max: 8.0 [kph] at 0.144 [s]

Min: -0.3 [kph] at 0.067 [s]



B-34

8765-SNCAP-11

CFC_180

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

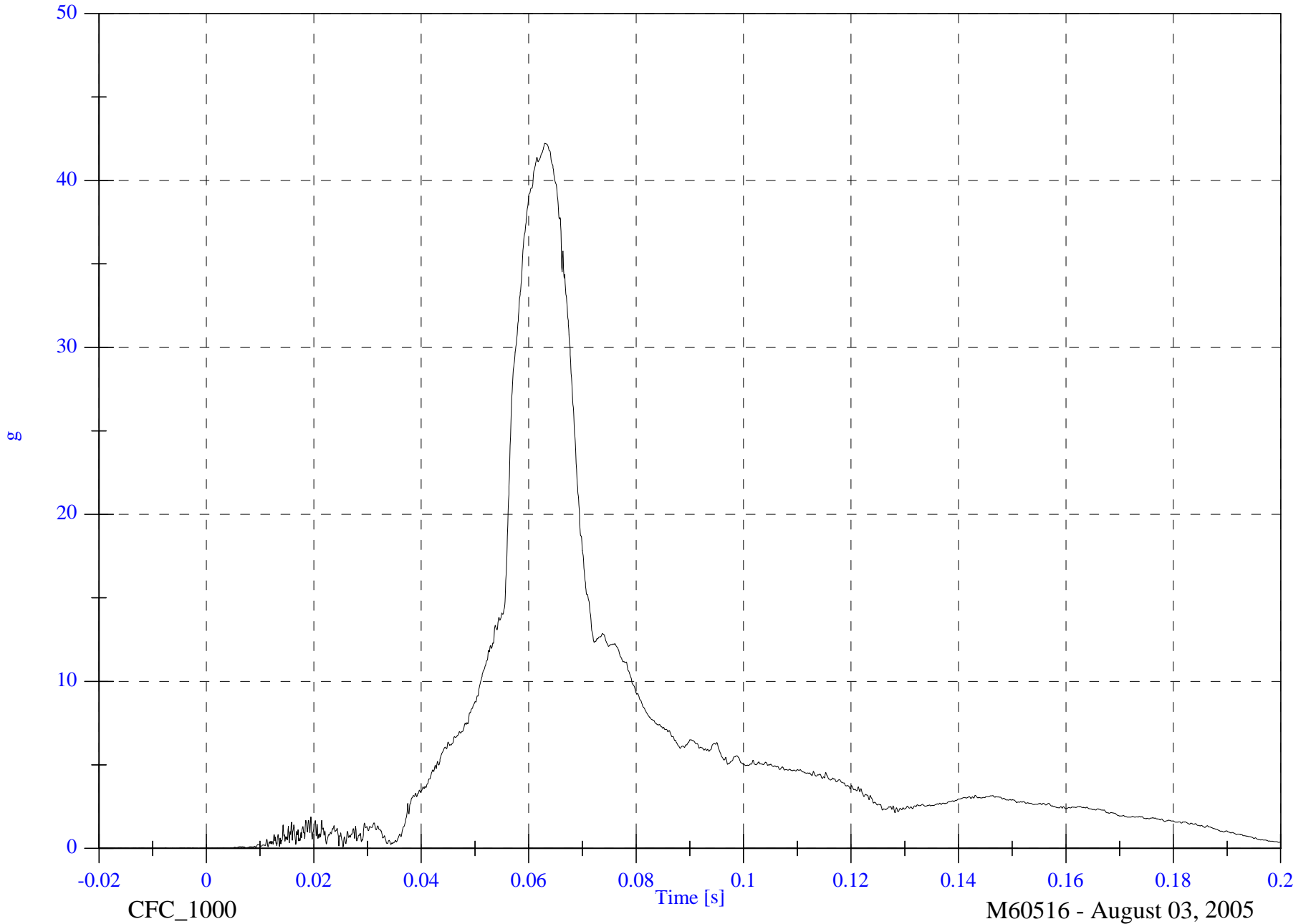
V2P4 Head Resultant

Max: 42.2 [g] at 0.063 [s]

Min: 0.0 [g] at -0.006 [s]

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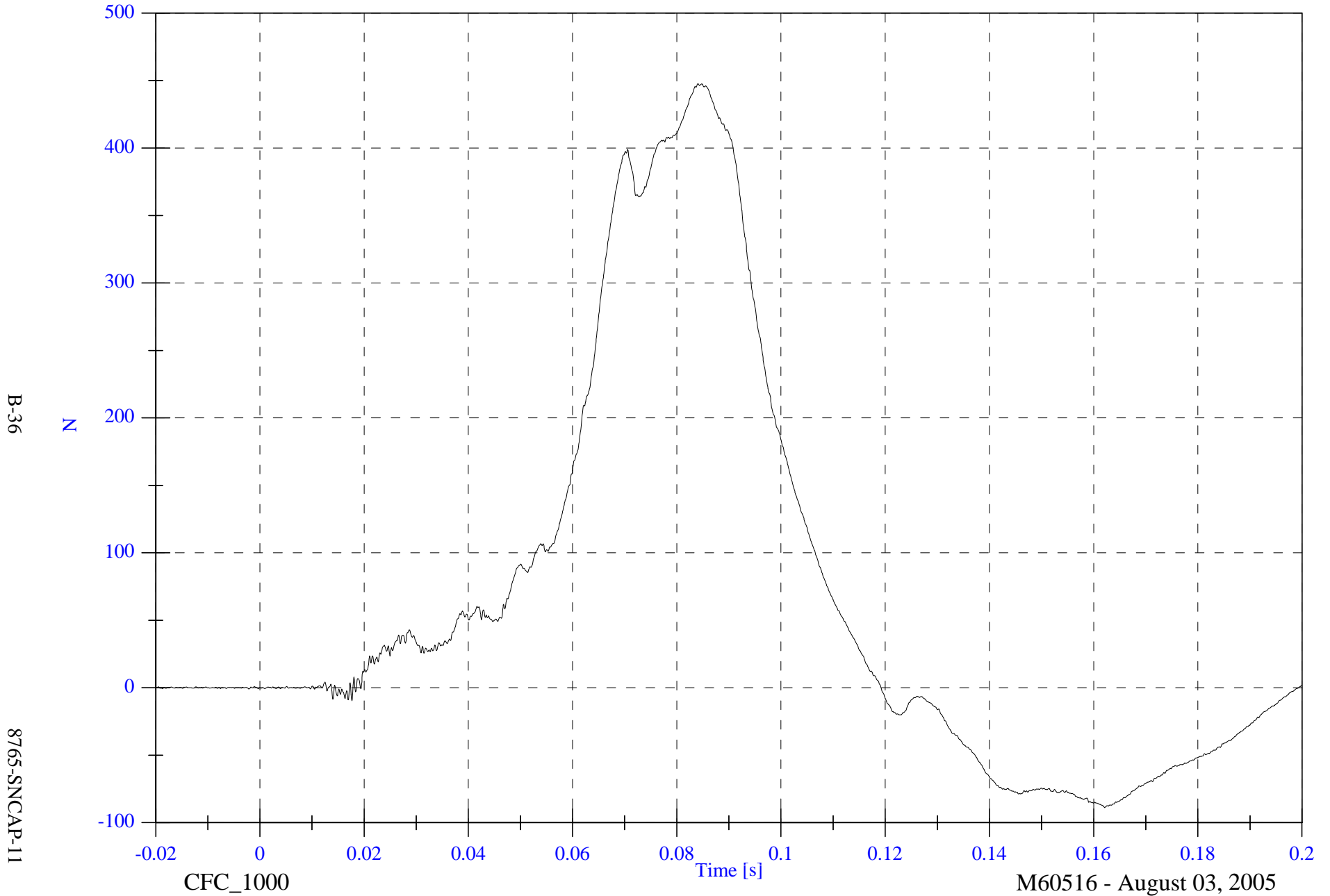


2006 SNCAP Test 1 2006 Mercedes ML350

Max: 447.7 [N] at 0.084 [s]

Min: -88.8 [N] at 0.162 [s]

V2P4 Upper Neck Fx



B-36

8765-SNCAP-11

CFC_1000

Time [s]

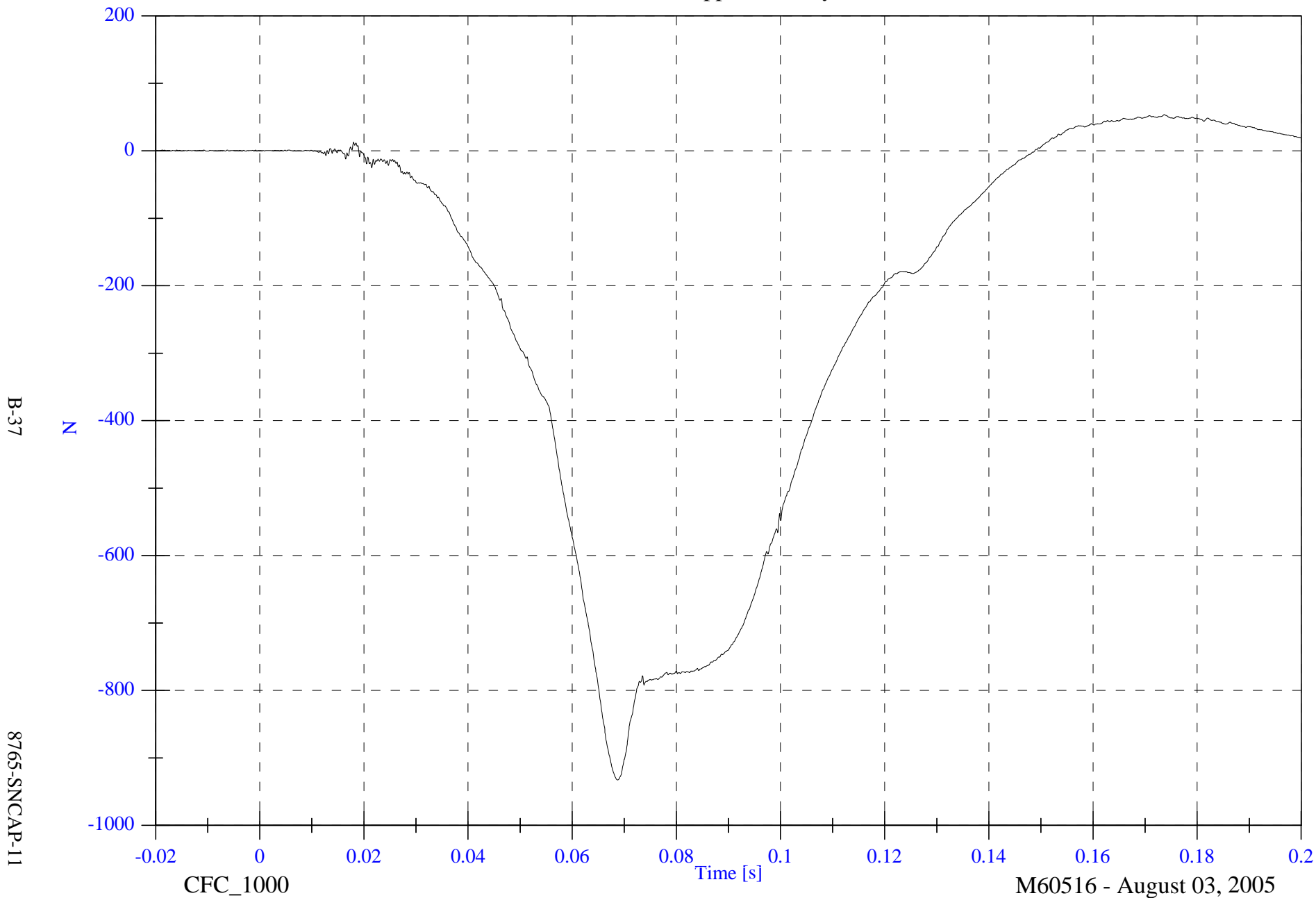
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Neck Fy

Max: 53.7 [N] at 0.174 [s]

Min: -932.7 [N] at 0.069 [s]



B-37

8765-SNCAP-11

CFC_1000

Time [s]

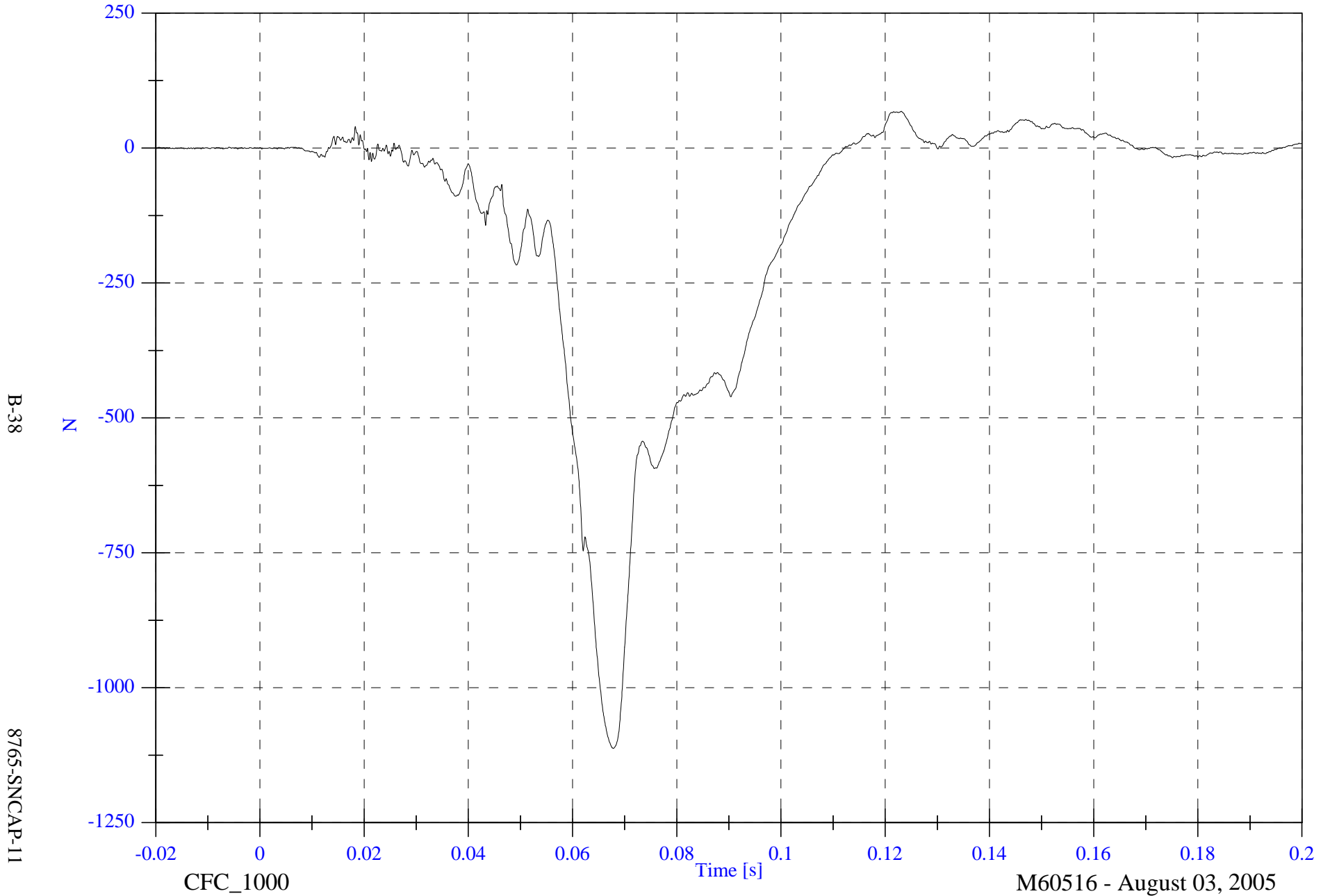
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 68.1 [N] at 0.123 [s]

V2P4 Upper Neck Fz

Min: -1112.2 [N] at 0.068 [s]



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8765-SNCAP-11

CFC_1000

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

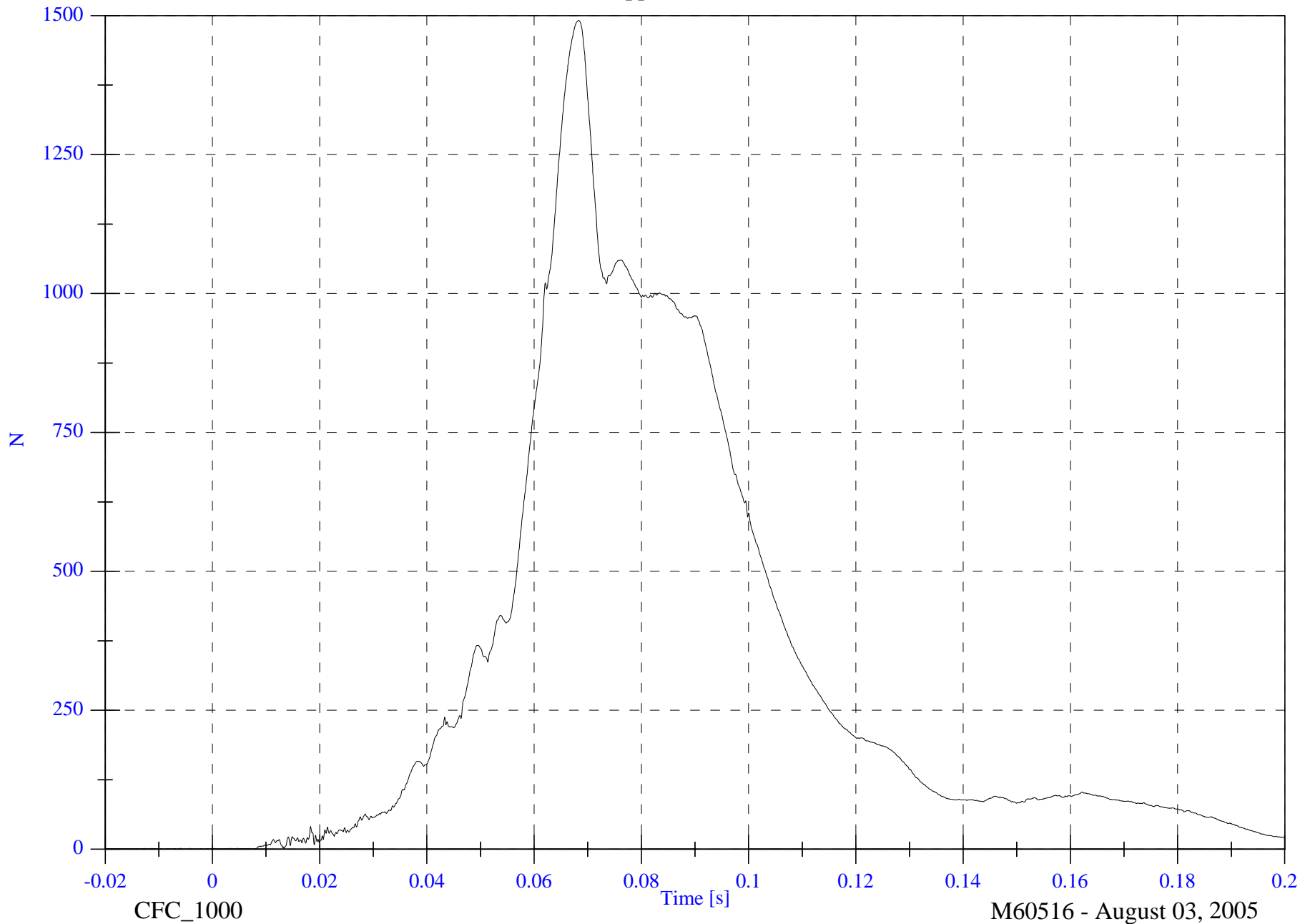
Max: 1491.4 [N] at 0.068 [s]

V2P4 Upper Neck F Resultant

Min: 0.1 [N] at 0.007 [s]

B-39

8765-SNCAP-11



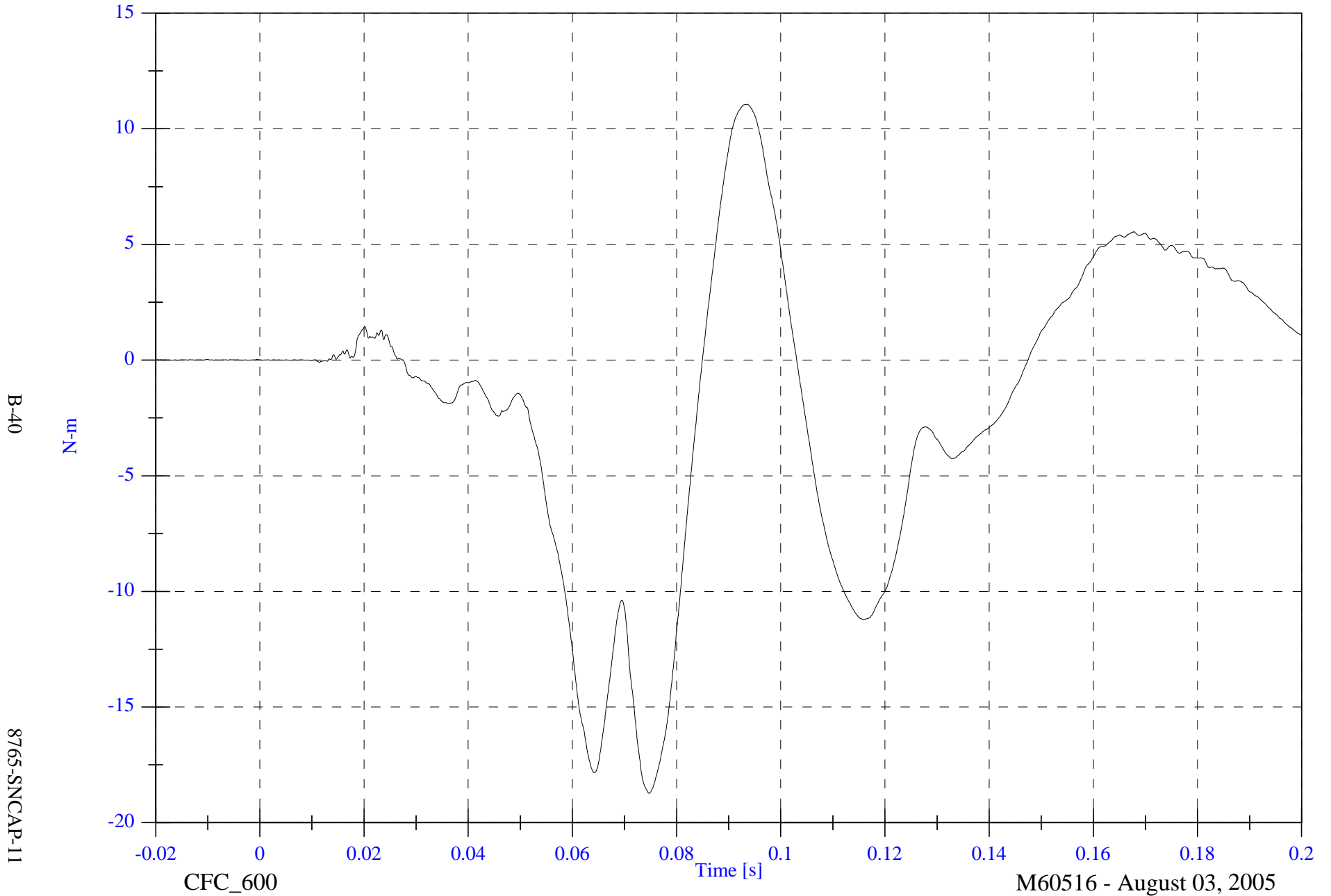
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Neck Mx

Max: 11.1 [N-m] at 0.094 [s]

Min: -18.7 [N-m] at 0.075 [s]



B-40

8765-SNCAP-11

CFC_600

Time [s]

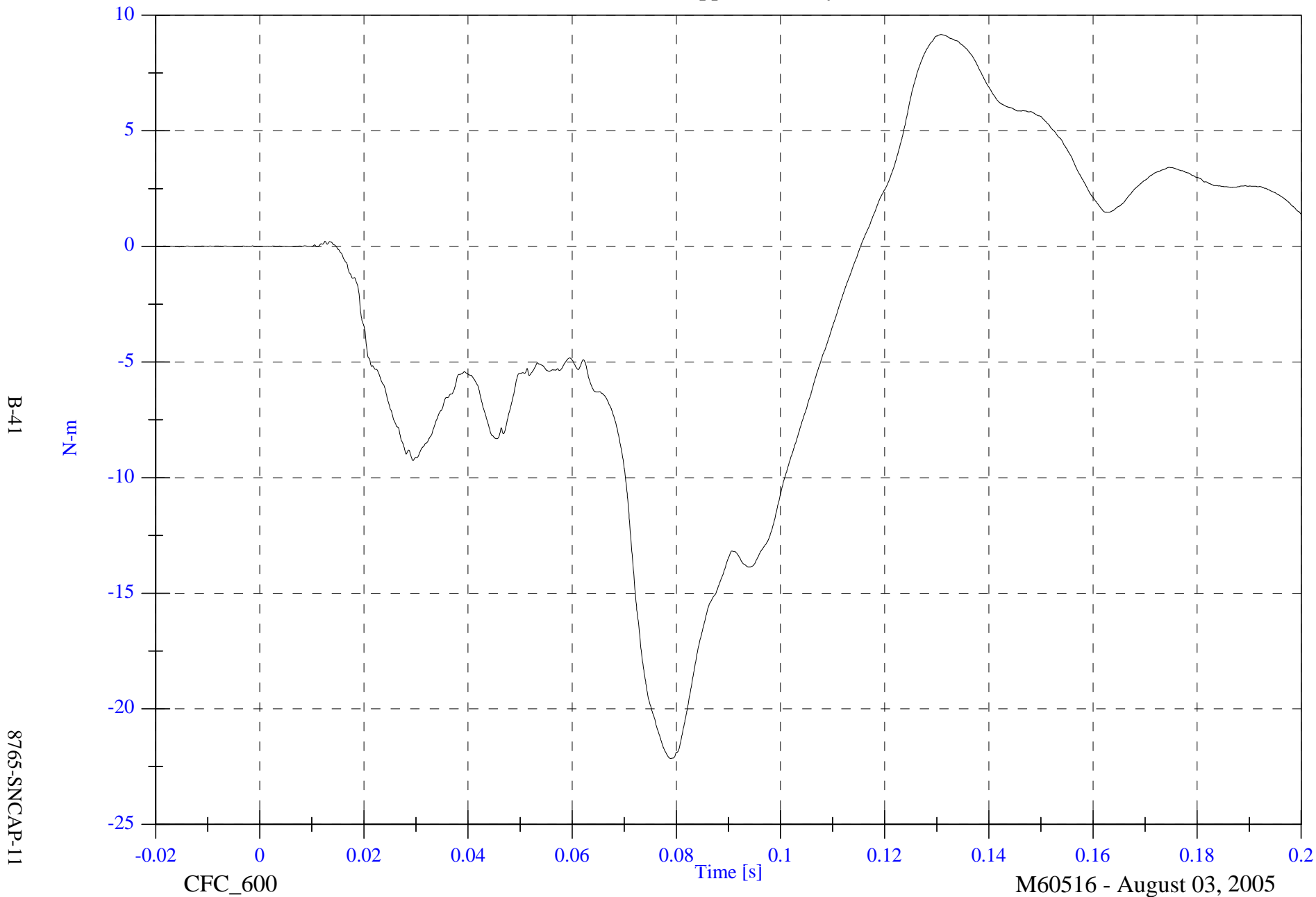
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Neck My

Max: 9.2 [N-m] at 0.131 [s]

Min: -22.2 [N-m] at 0.079 [s]



B-41

8765-SNCAP-11

CFC_600

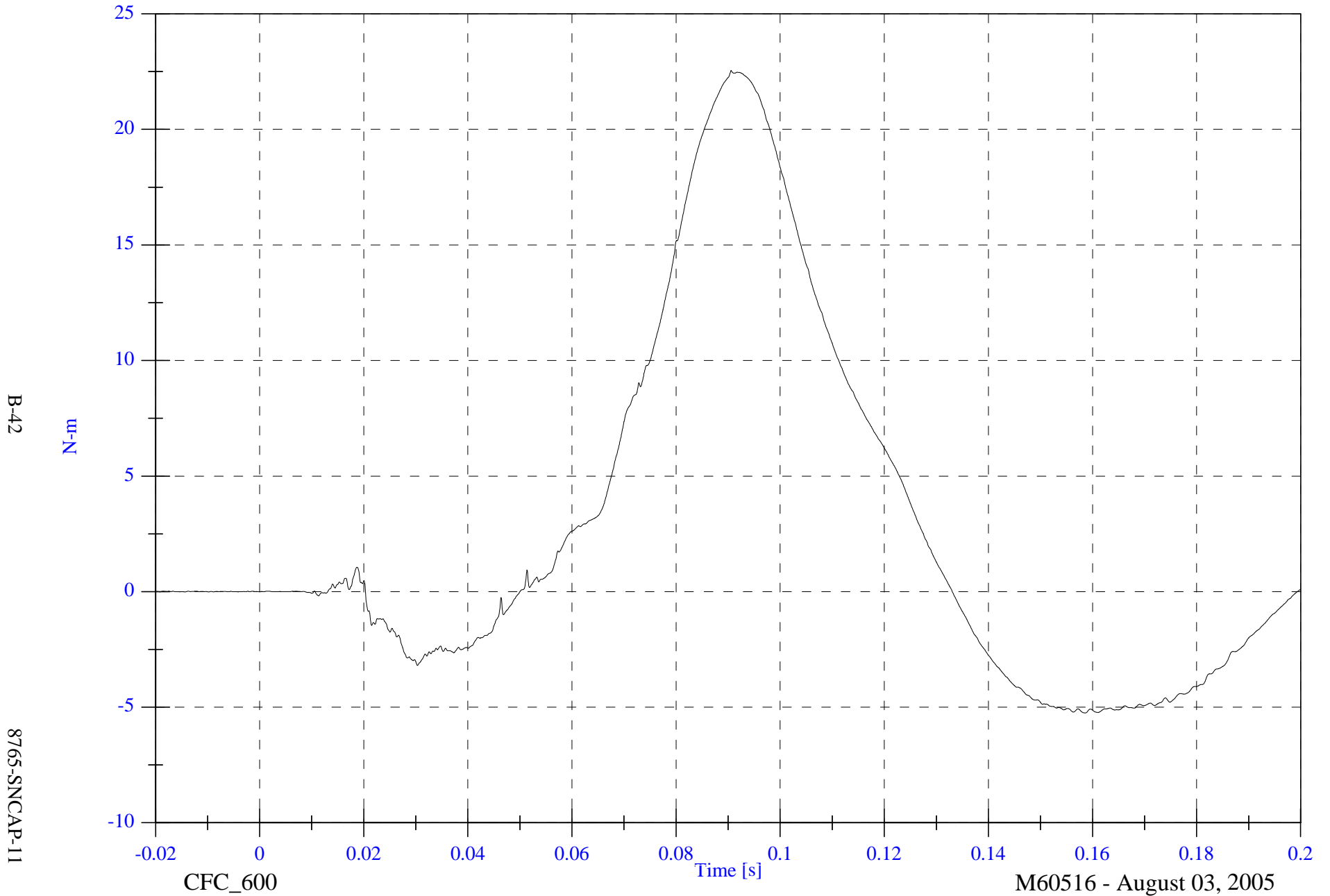
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 22.5 [N-m] at 0.091 [s]

V2P4 Upper Neck Mz

Min: -5.2 [N-m] at 0.159 [s]



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8765-SNCAP-11

CFC_600

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

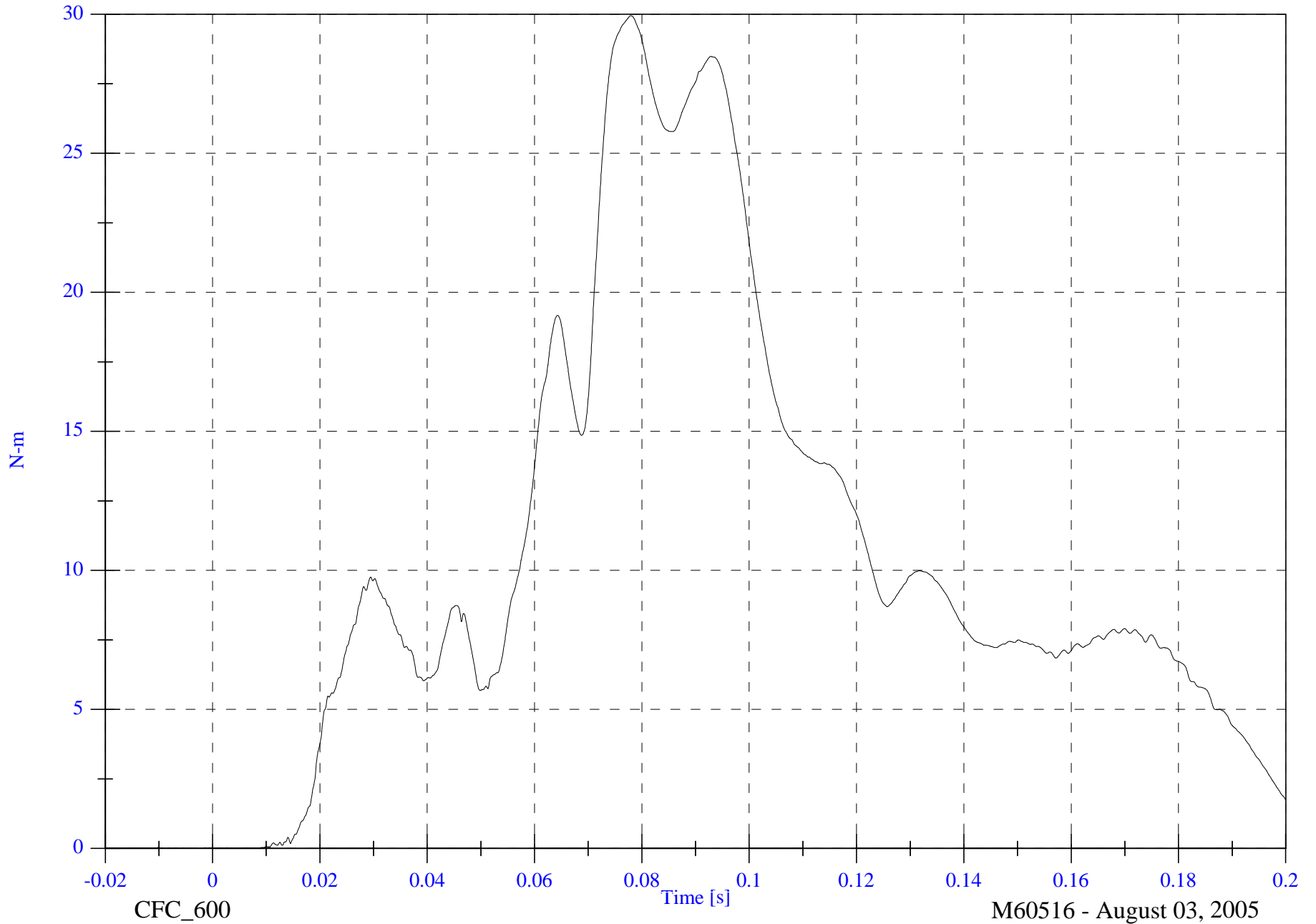
V2P4 Upper Neck M Resultant

Max: 29.9 [N-m] at 0.078 [s]

Min: 0.0 [N-m] at -0.019 [s]

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8765-SNCAP-11



CFC_600

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

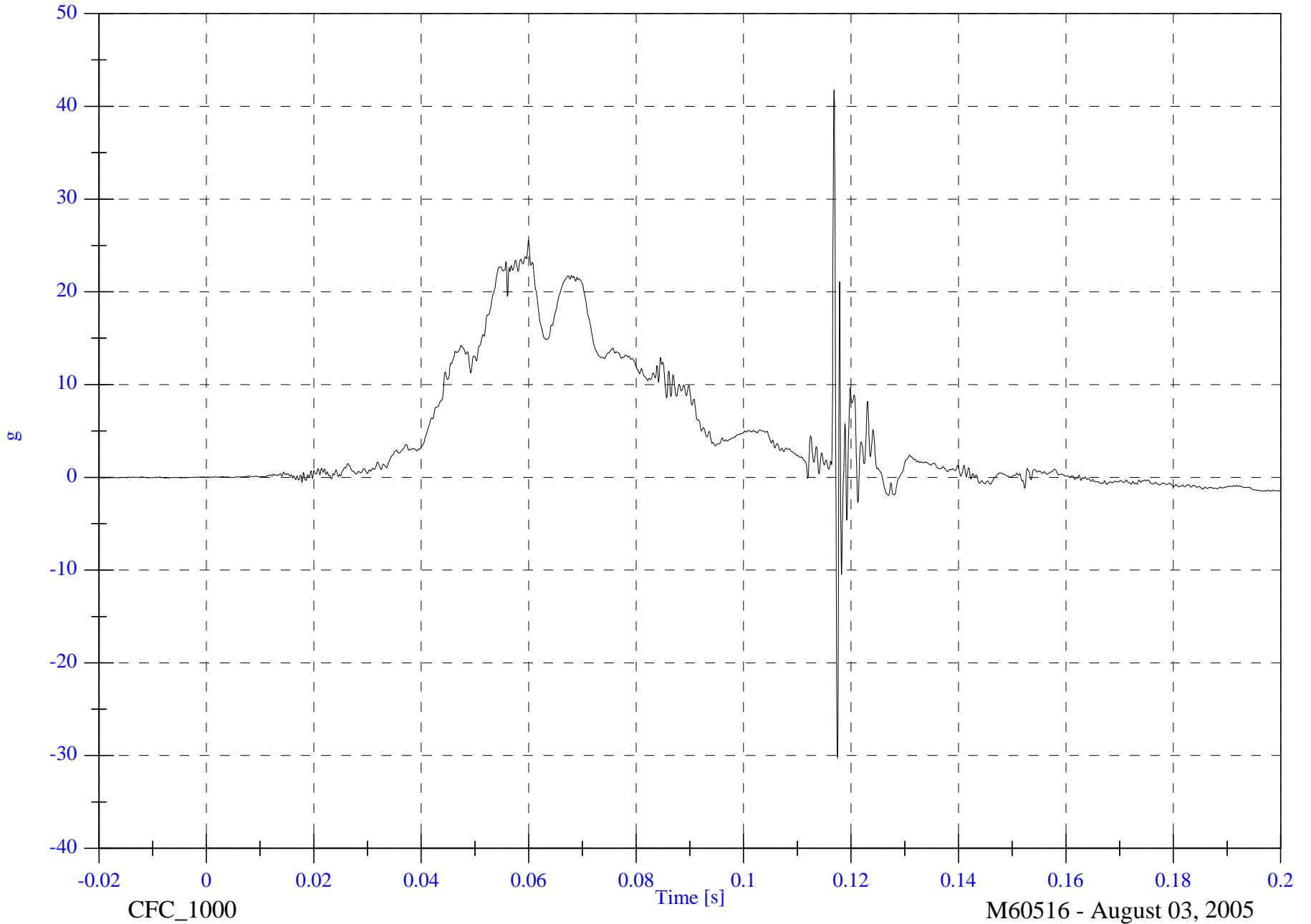
V2P4 Upper Rib y

Max: 41.8 [g] at 0.117 [s]

Min: -30.2 [g] at 0.117 [s]

B-44

8765-SNCAP-11



CFC_1000

Time [s]

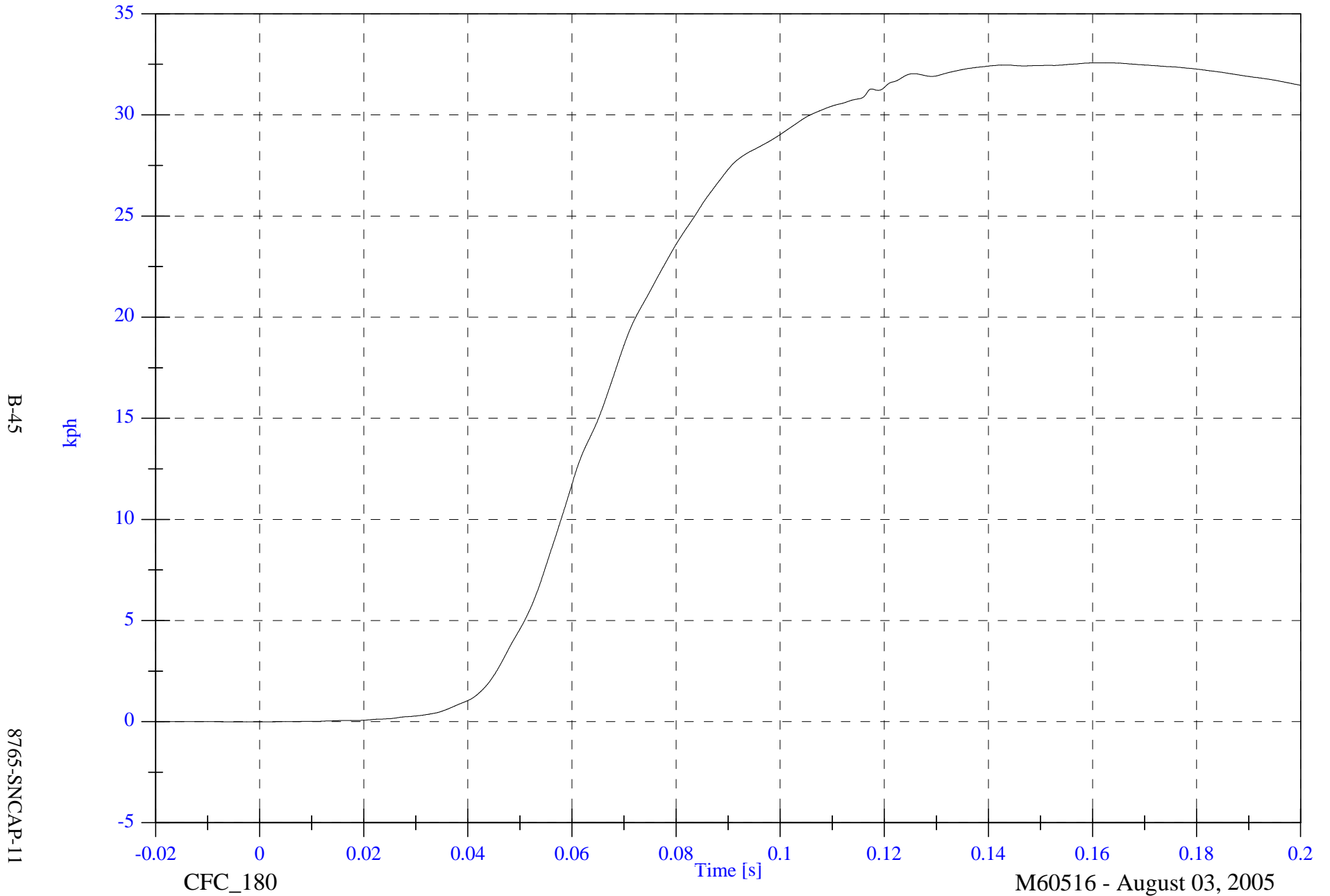
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Rib y Velocity

Max: 32.6 [kph] at 0.161 [s]

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



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8765-SNCAP-11

CFC_180

Time [s]

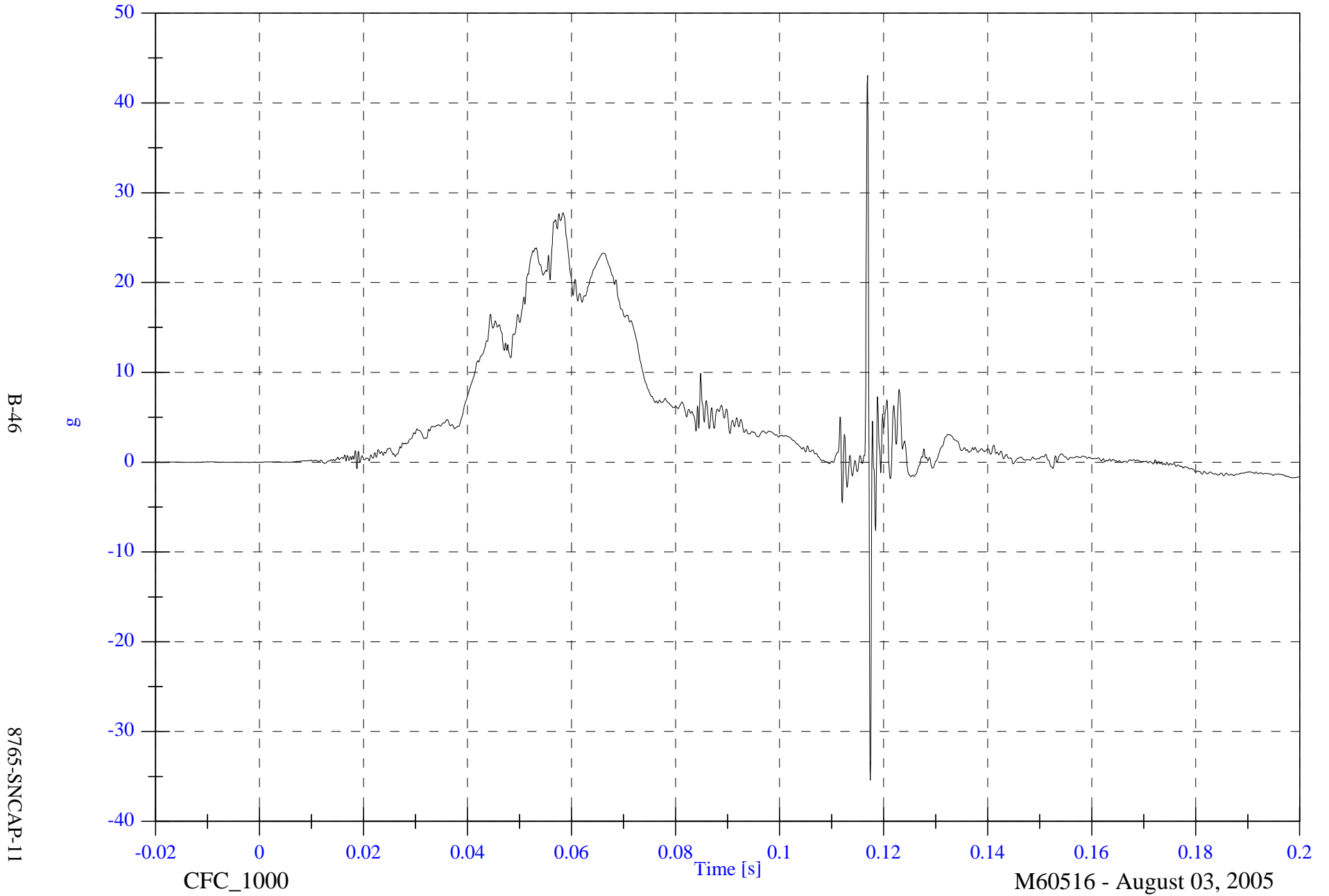
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Rib y

Max: 43.1 [g] at 0.117 [s]

Min: -35.4 [g] at 0.117 [s]



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8765-SNCAP-11

CFC_1000

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

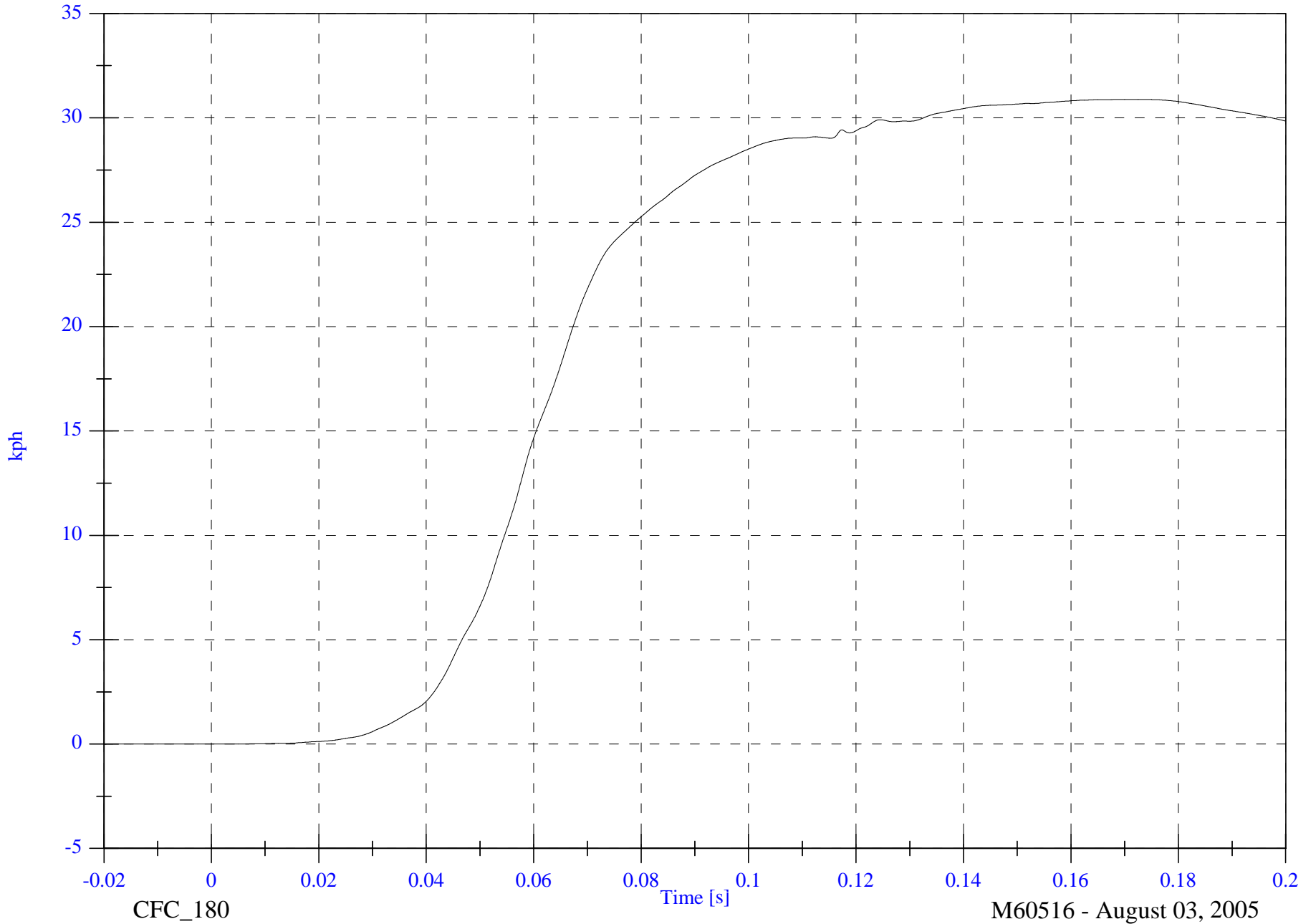
V2P4 Lower Rib y Velocity

Max: 30.9 [kph] at 0.171 [s]

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

B-47

8765-SNCAP-11



CFC_180

Time [s]

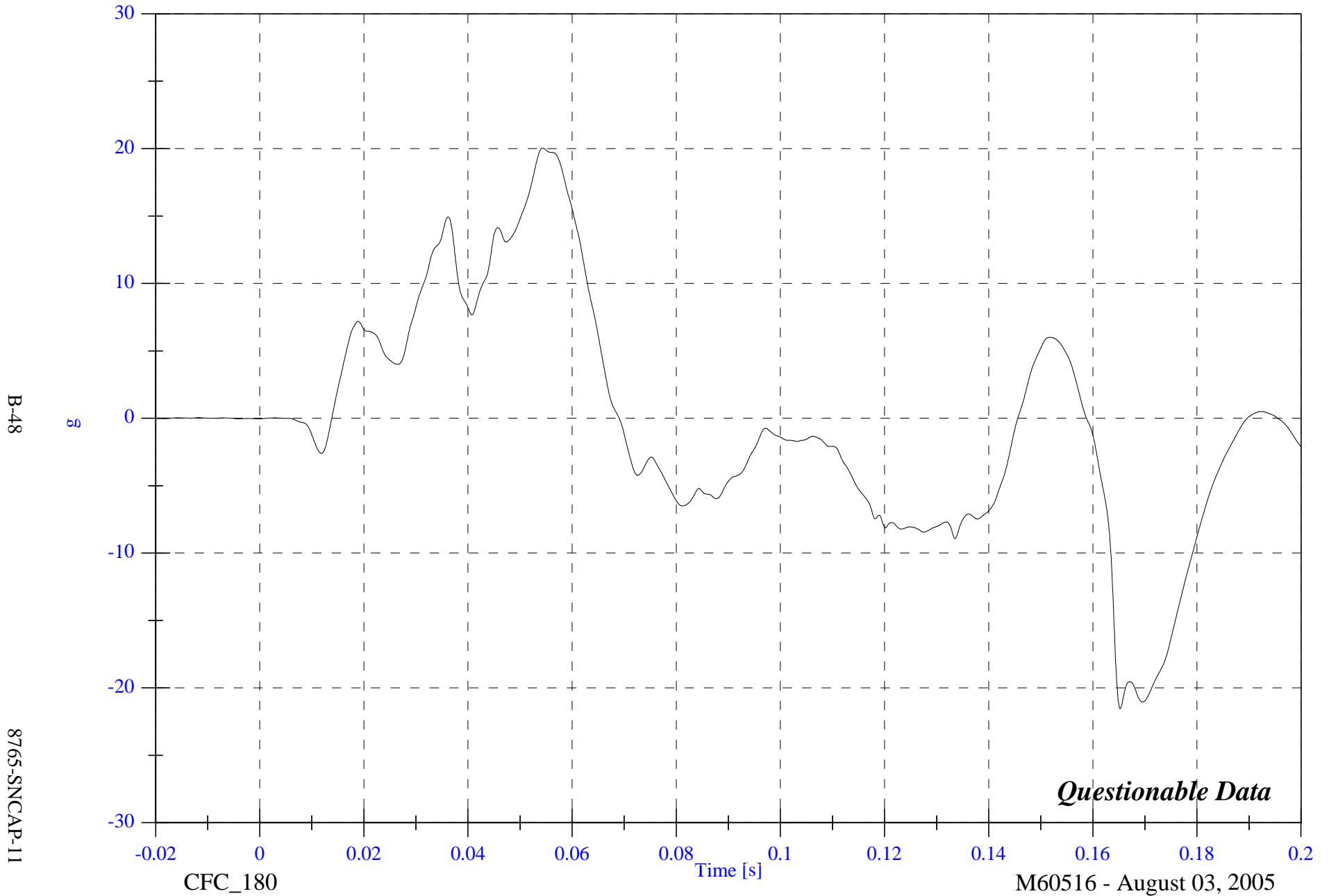
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Spine y

Max: 20.0 [g] at 0.054 [s]

Min: -21.5 [g] at 0.165 [s]



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CFC_180

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

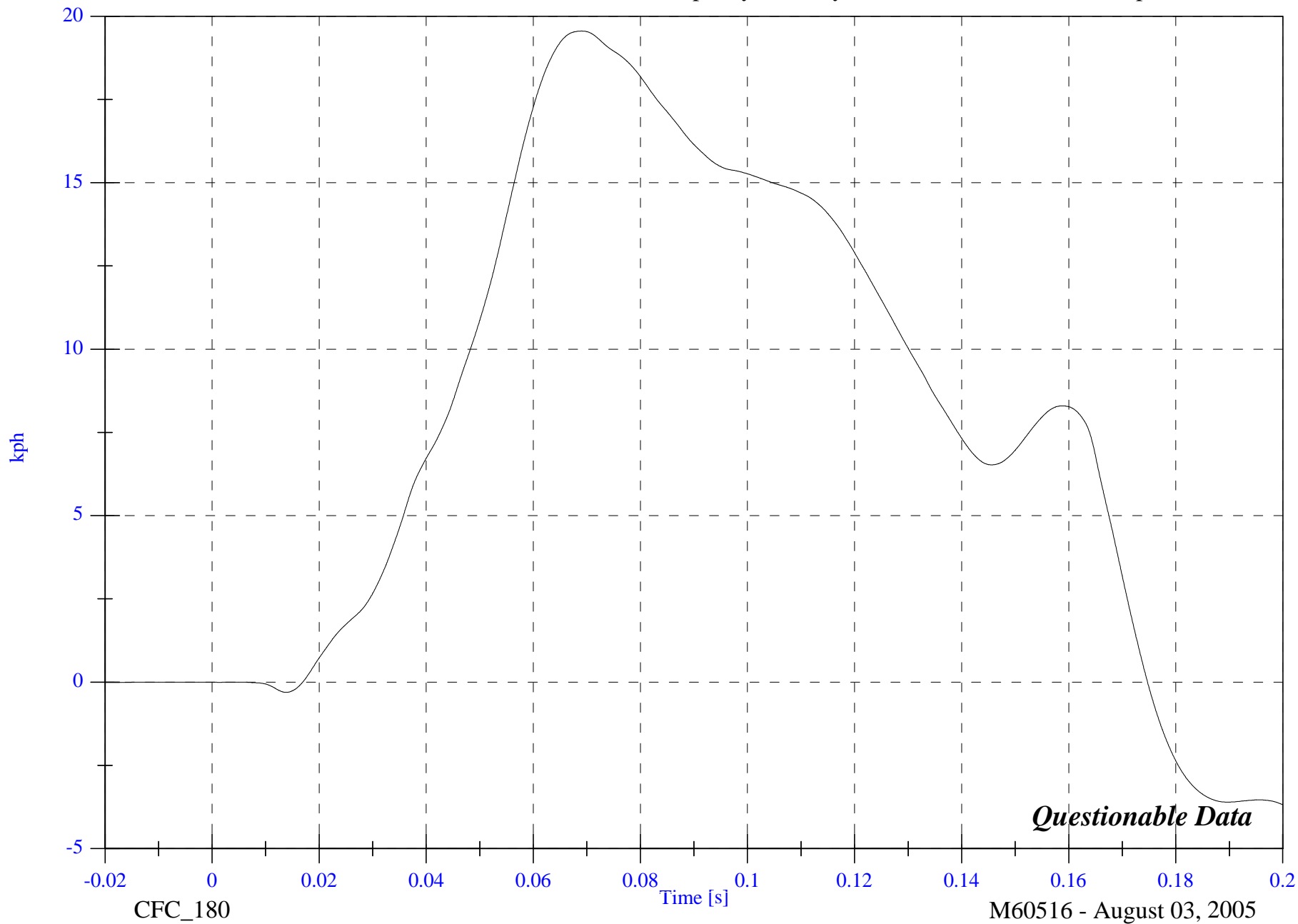
Max: 19.6 [kph] at 0.069 [s]

V2P4 Lower Spine y Velocity

Min: -3.7 [kph] at 0.200 [s]

B-49

8765-SNCAP-11



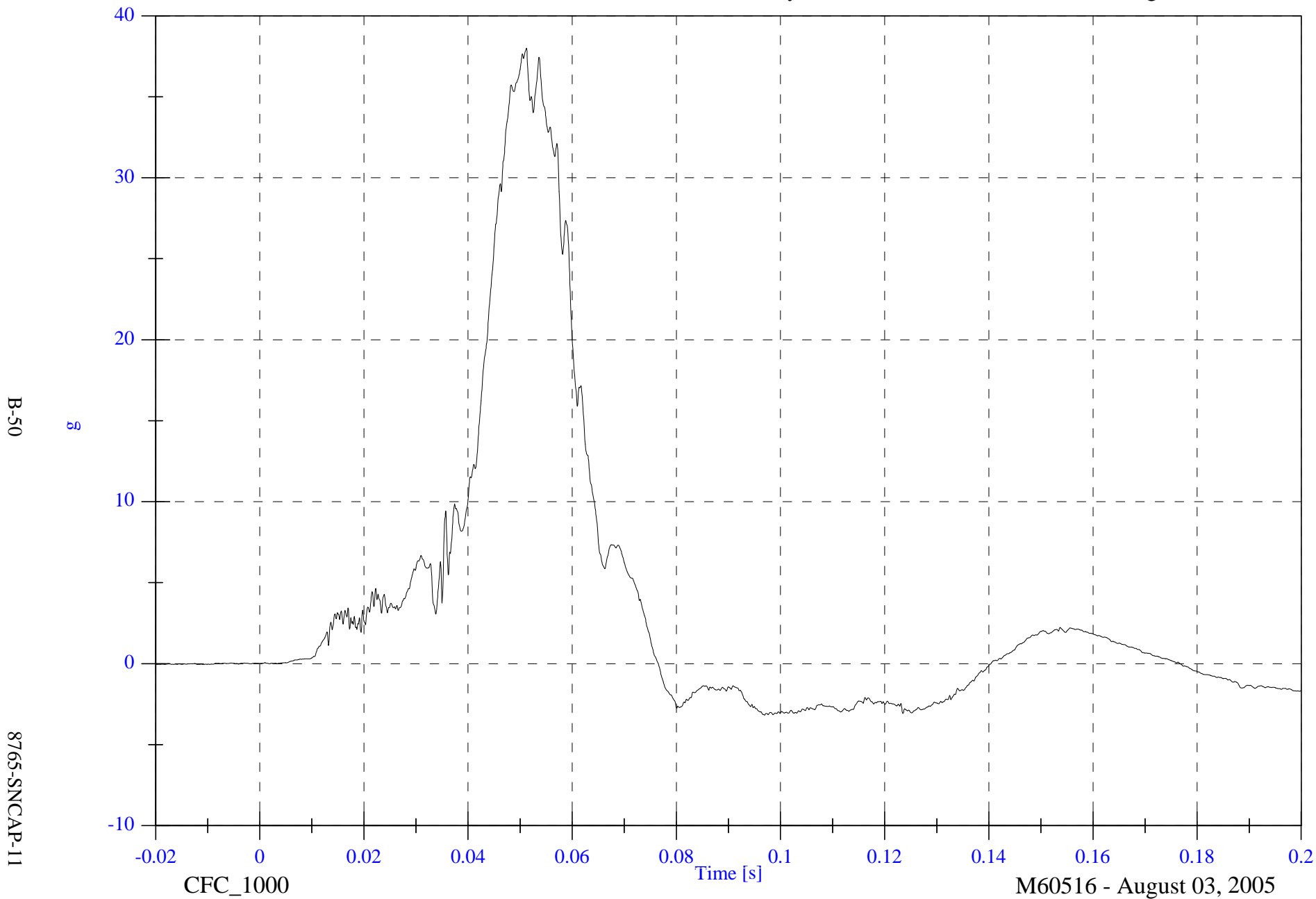
Questionable Data

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 38.0 [g] at 0.051 [s]

Min: -3.2 [g] at 0.097 [s]

V2P4 Pelvic y



B-50

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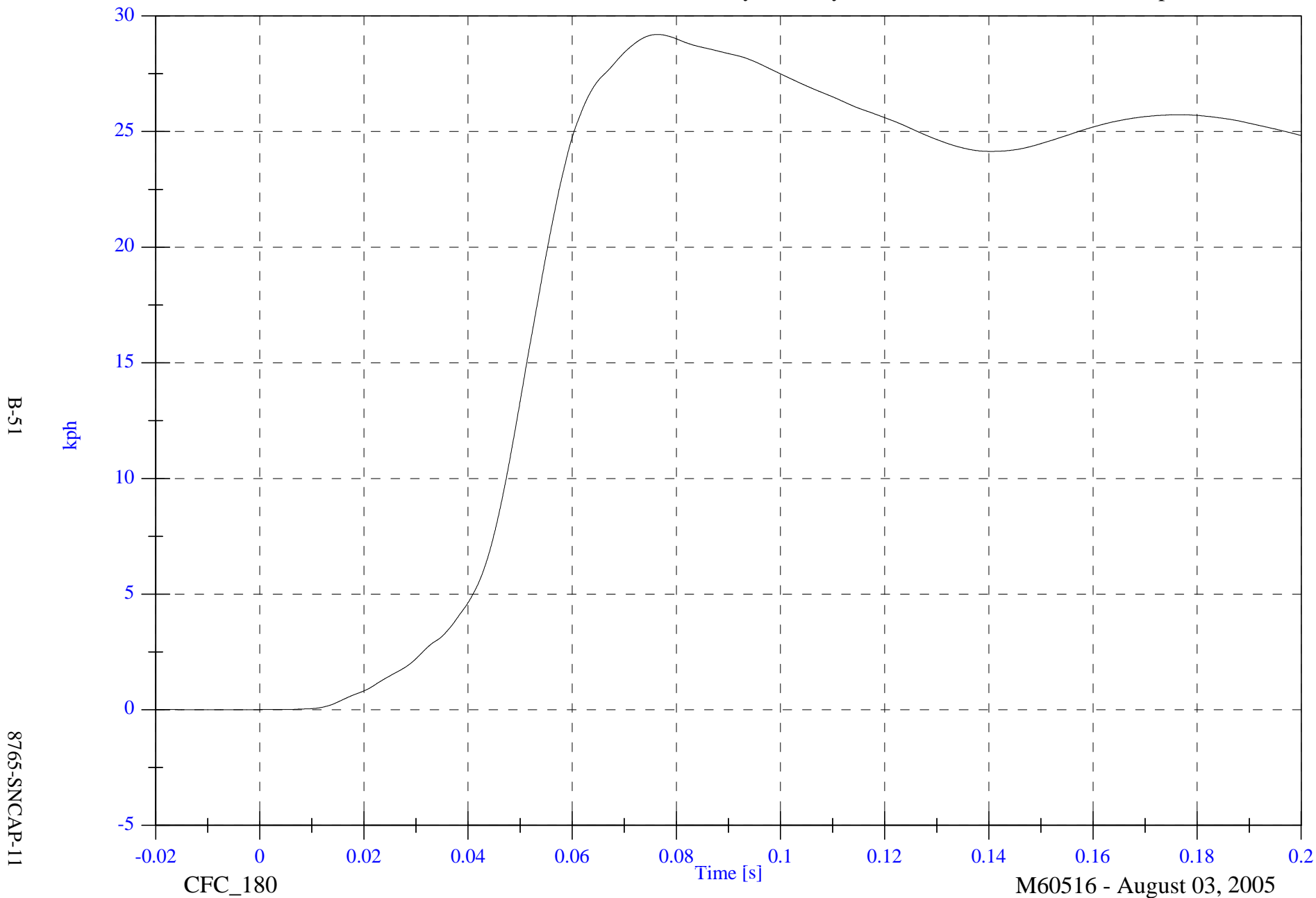
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 29.2 [kph] at 0.076 [s]

Min: -0.0 [kph] at -0.009 [s]

V2P4 Pelvic y Velocity



B-51

8765-SNCAP-11

CFC_180

Time [s]

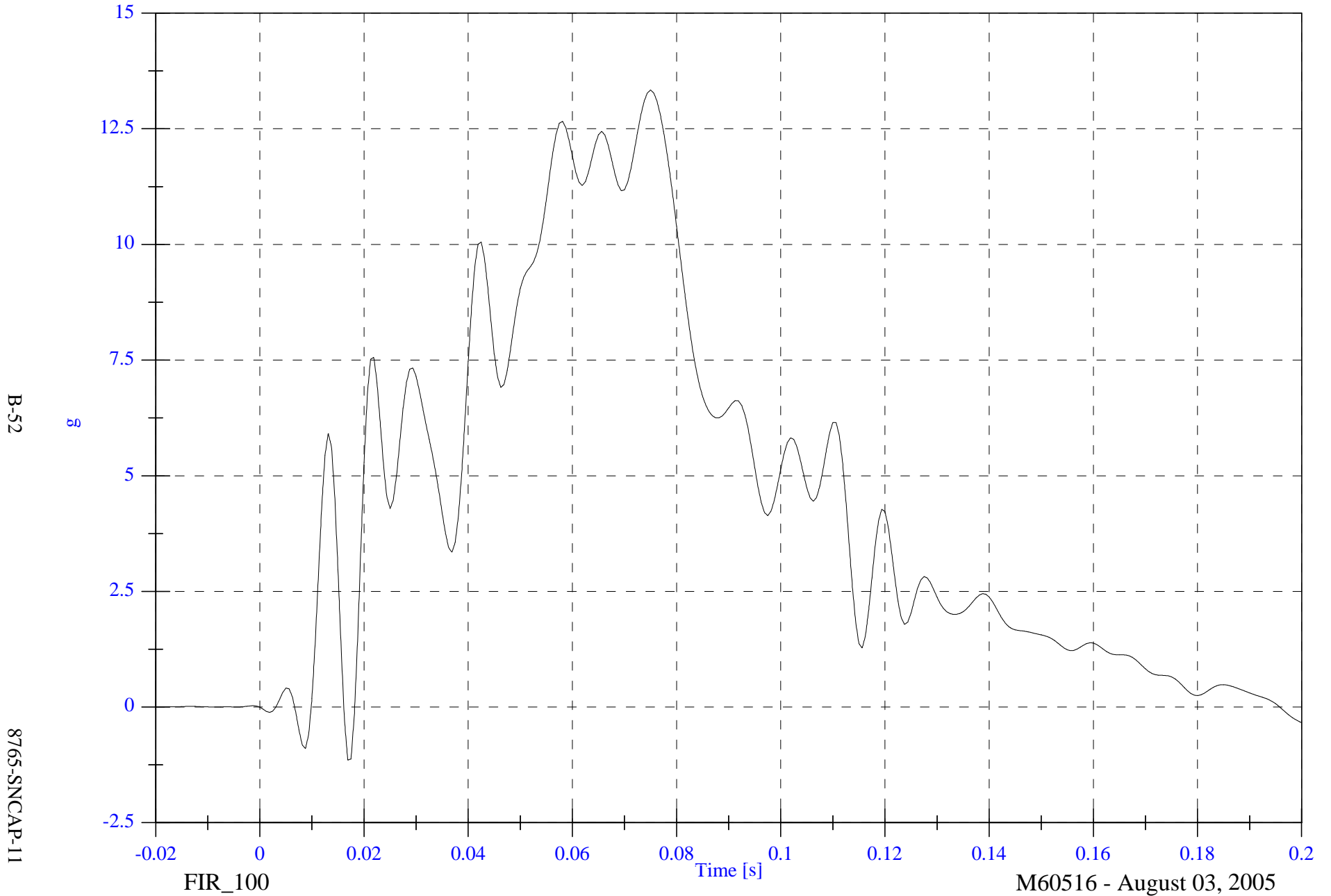
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Upper Rib y

Max: 13.3 [g] at 0.075 [s]

Min: -1.1 [g] at 0.017 [s]



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8765-SNCAP-11

FIR_100

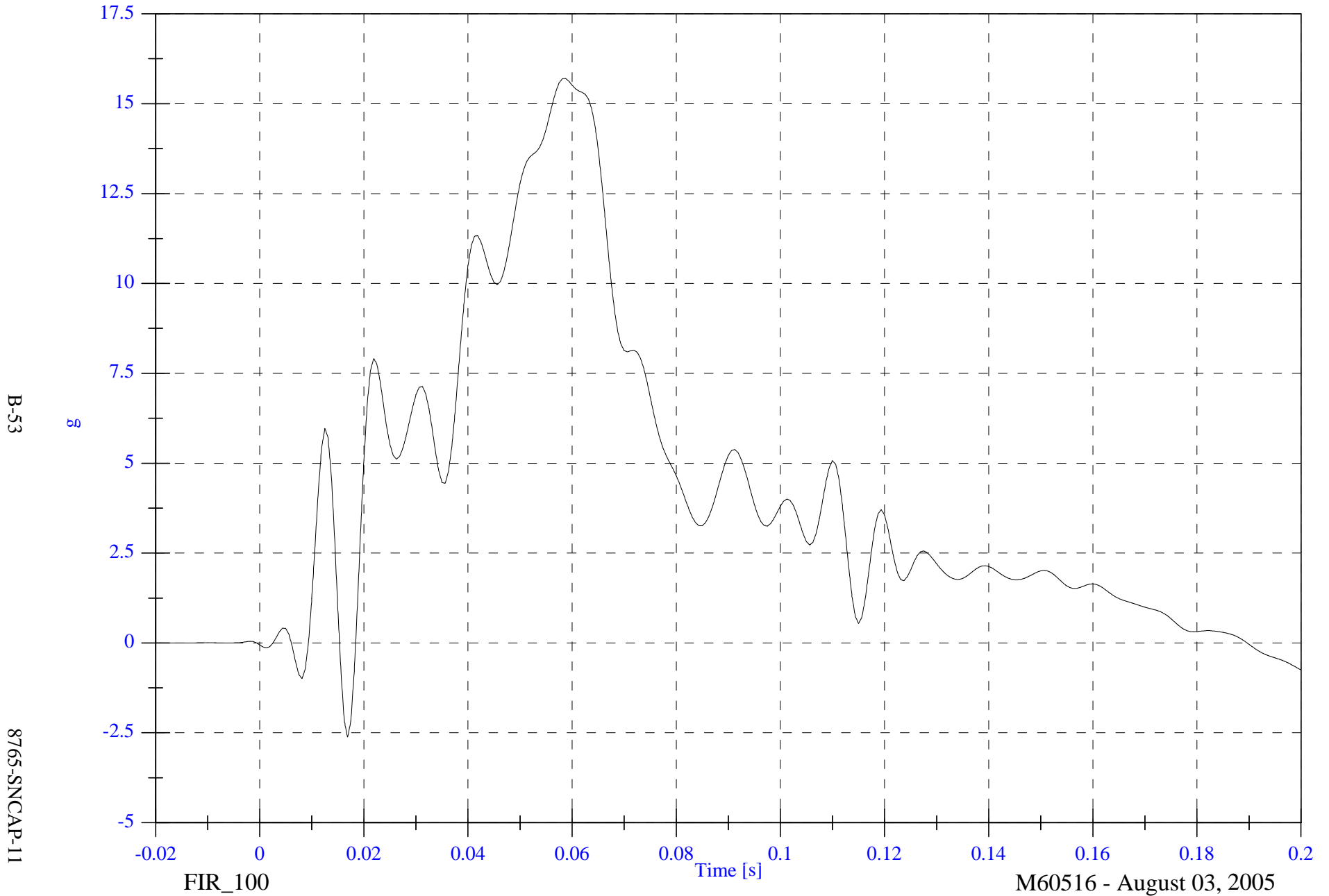
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Lower Rib y

Max: 15.7 [g] at 0.059 [s]

Min: -2.6 [g] at 0.017 [s]



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8765-SNCAP-11

FIR_100

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 26.0 [g] at 0.057 [s]

V2P1 Lower Spine y

Min: -1.3 [g] at 0.089 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

Max: 30.4 [g] at 0.052 [s]

Min: -5.1 [g] at 0.073 [s]

V2P1 Pelvic y



B-55

8765-SNCAP-11

FIR_100

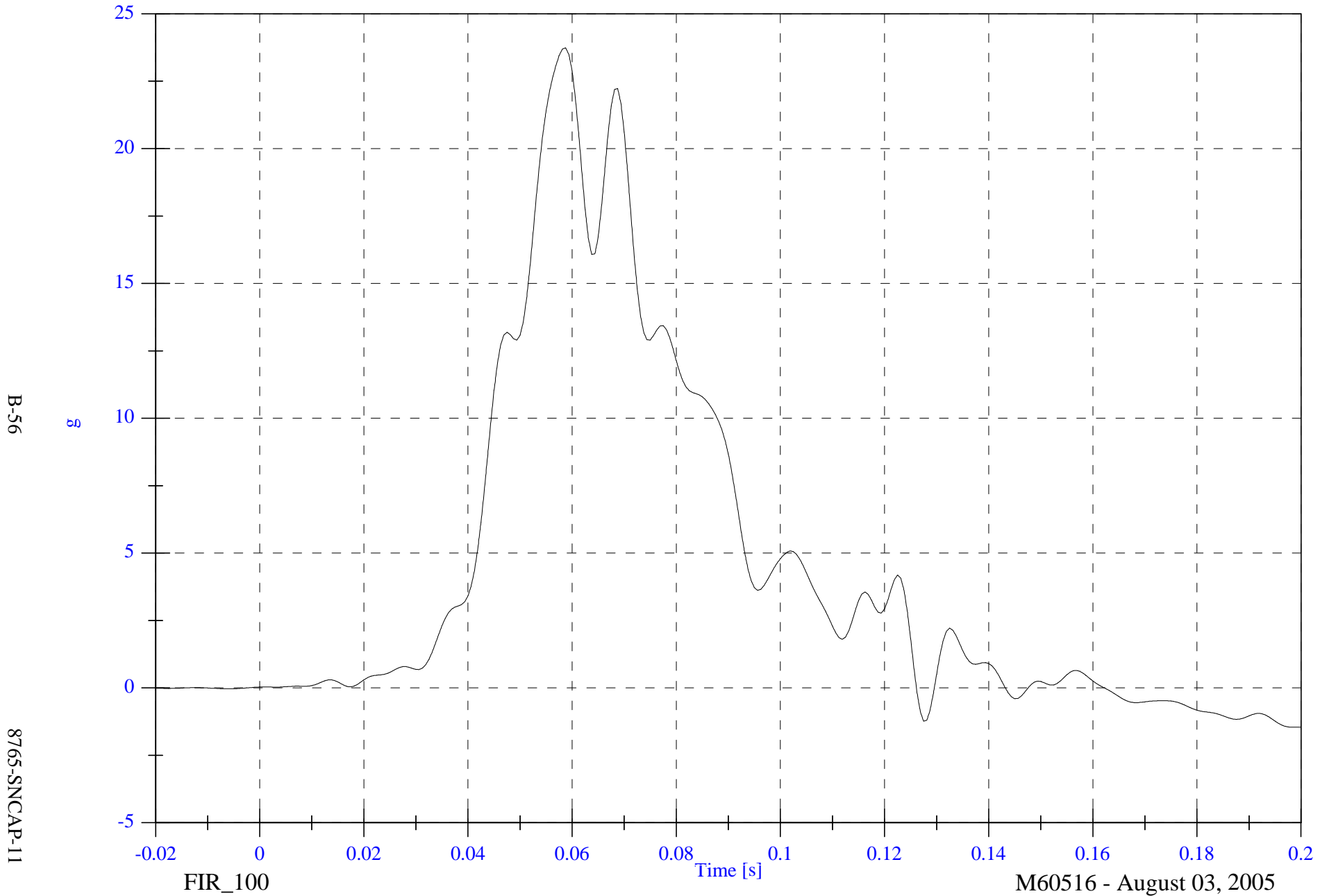
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Rib y

Max: 23.7 [g] at 0.059 [s]

Min: -1.5 [g] at 0.199 [s]



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8765-SNCAP-11

FIR_100

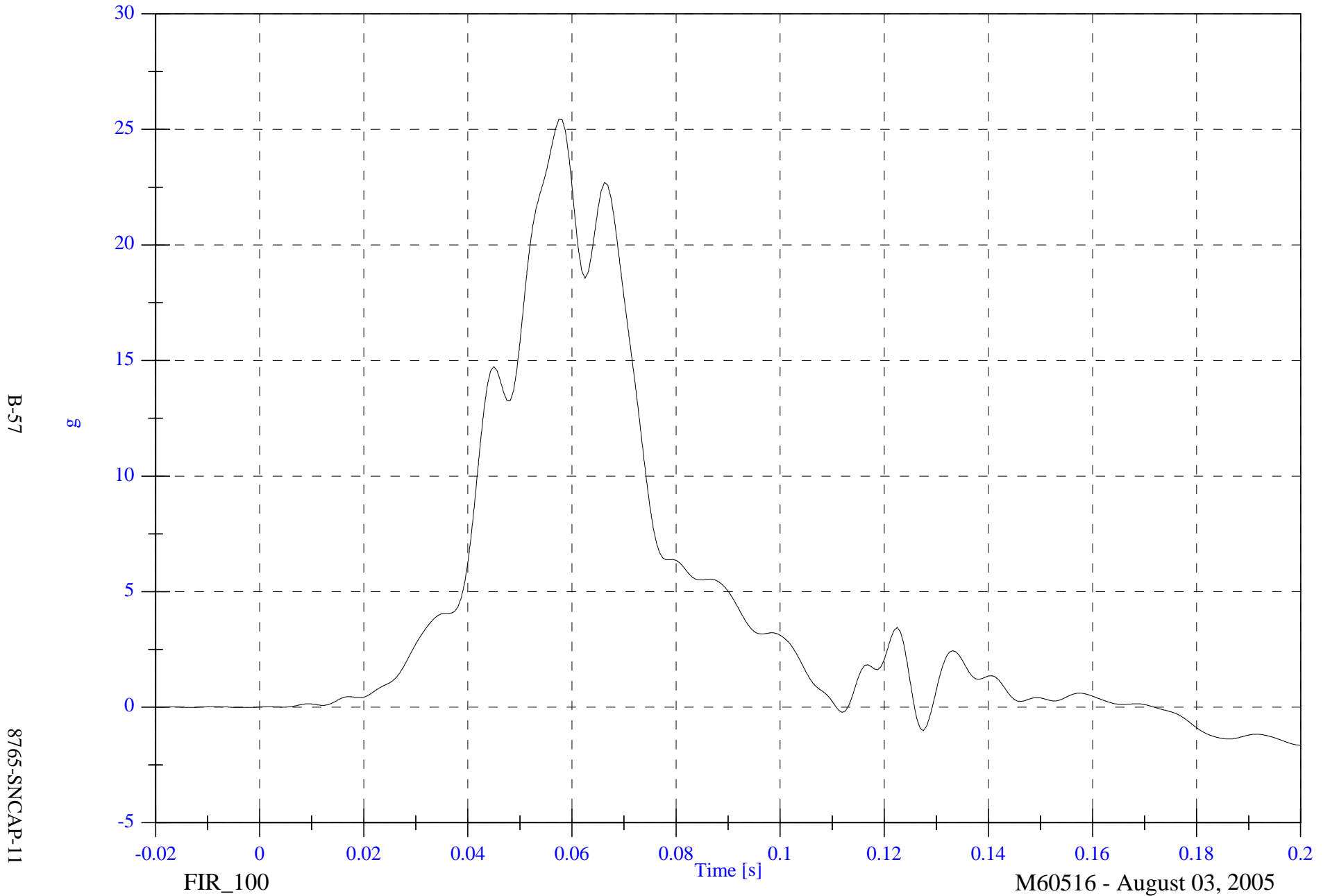
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Rib y

Max: 25.4 [g] at 0.057 [s]

Min: -1.6 [g] at 0.200 [s]



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g

8765-SNCAP-11

FIR_100

Time [s]

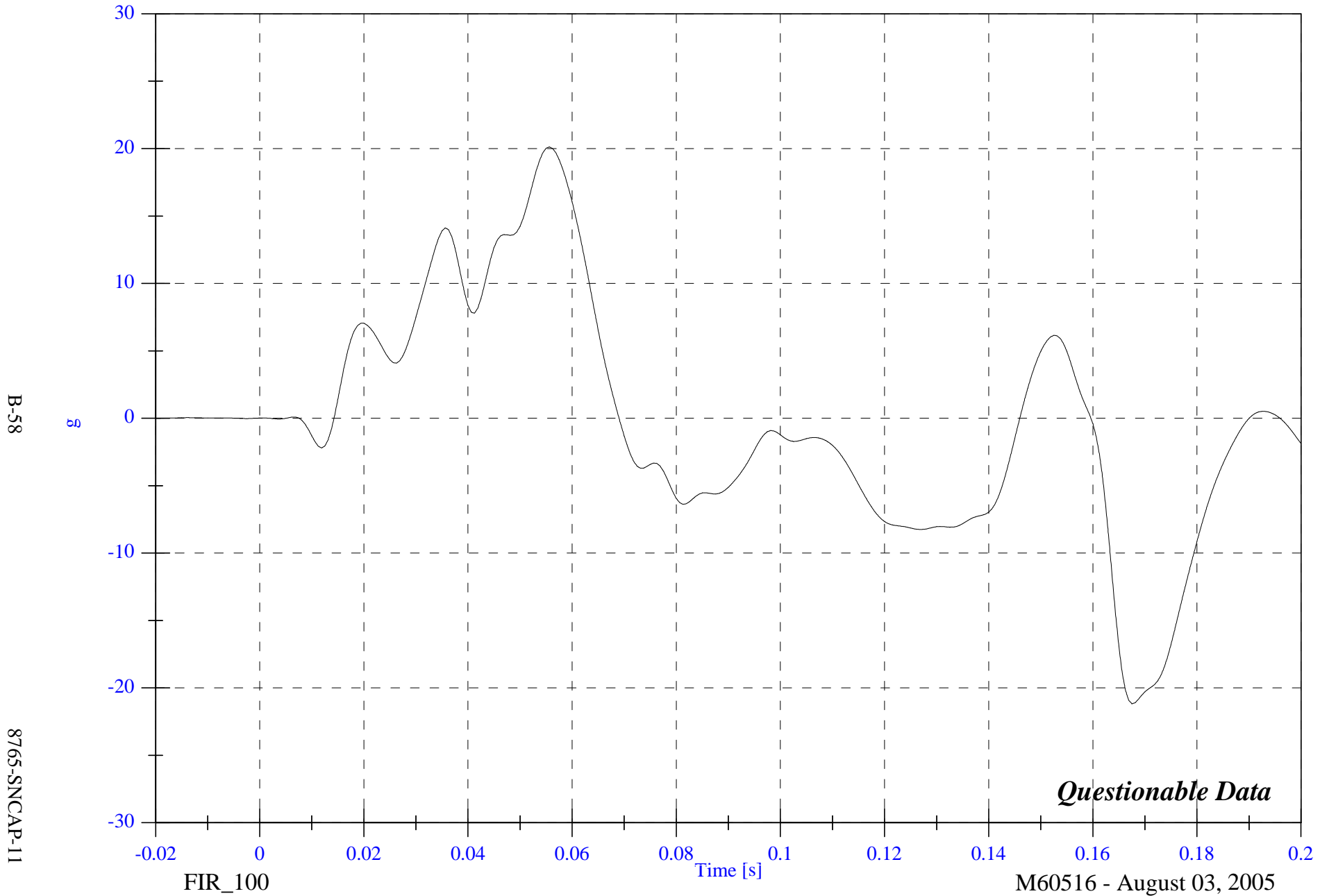
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Spine y

Max: 20.1 [g] at 0.056 [s]

Min: -21.2 [g] at 0.167 [s]



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8765-SNCAP-11

FIR_100

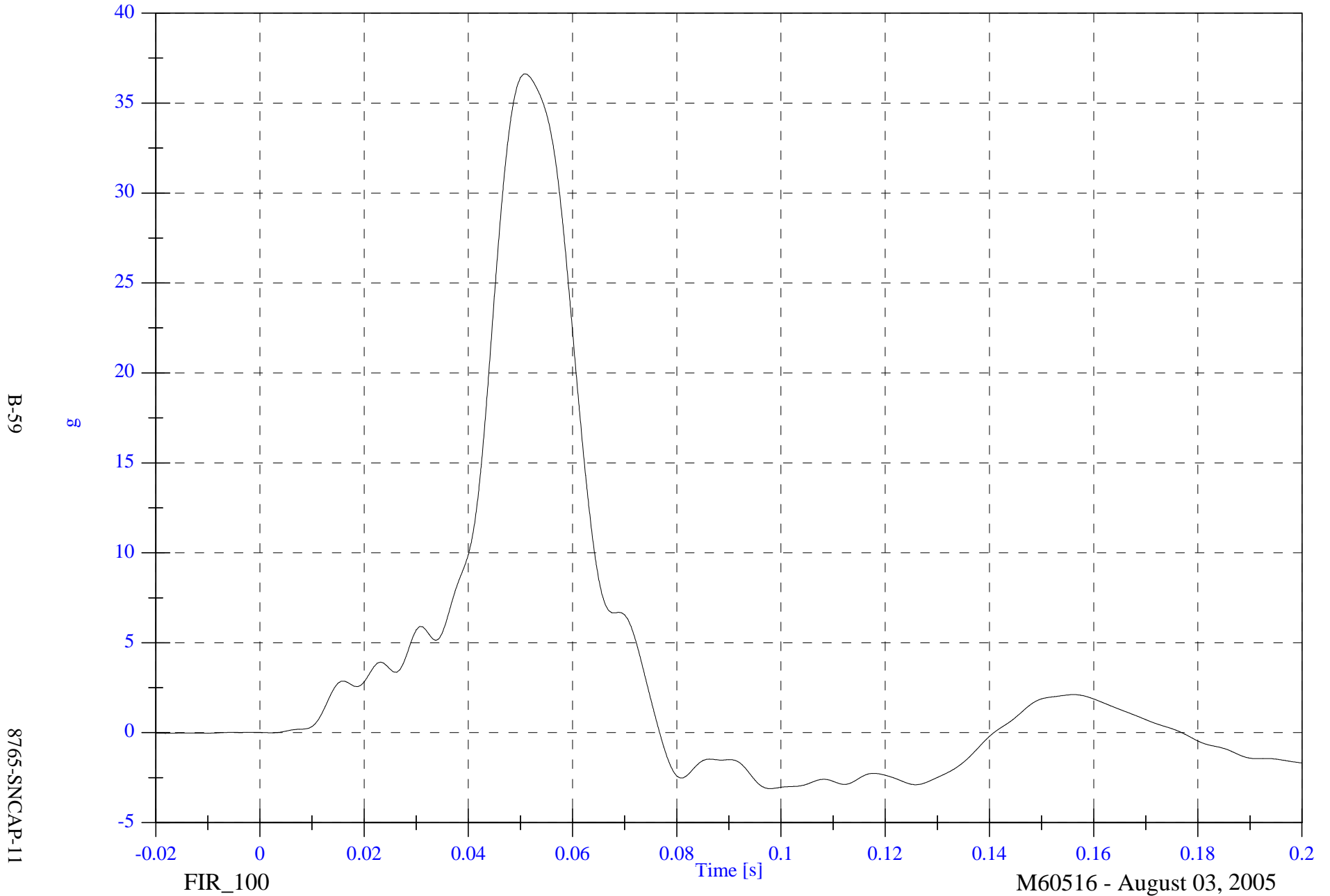
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Pelvic y

Max: 36.6 [g] at 0.051 [s]

Min: -3.1 [g] at 0.098 [s]



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8765-SNCAP-11

FIR_100

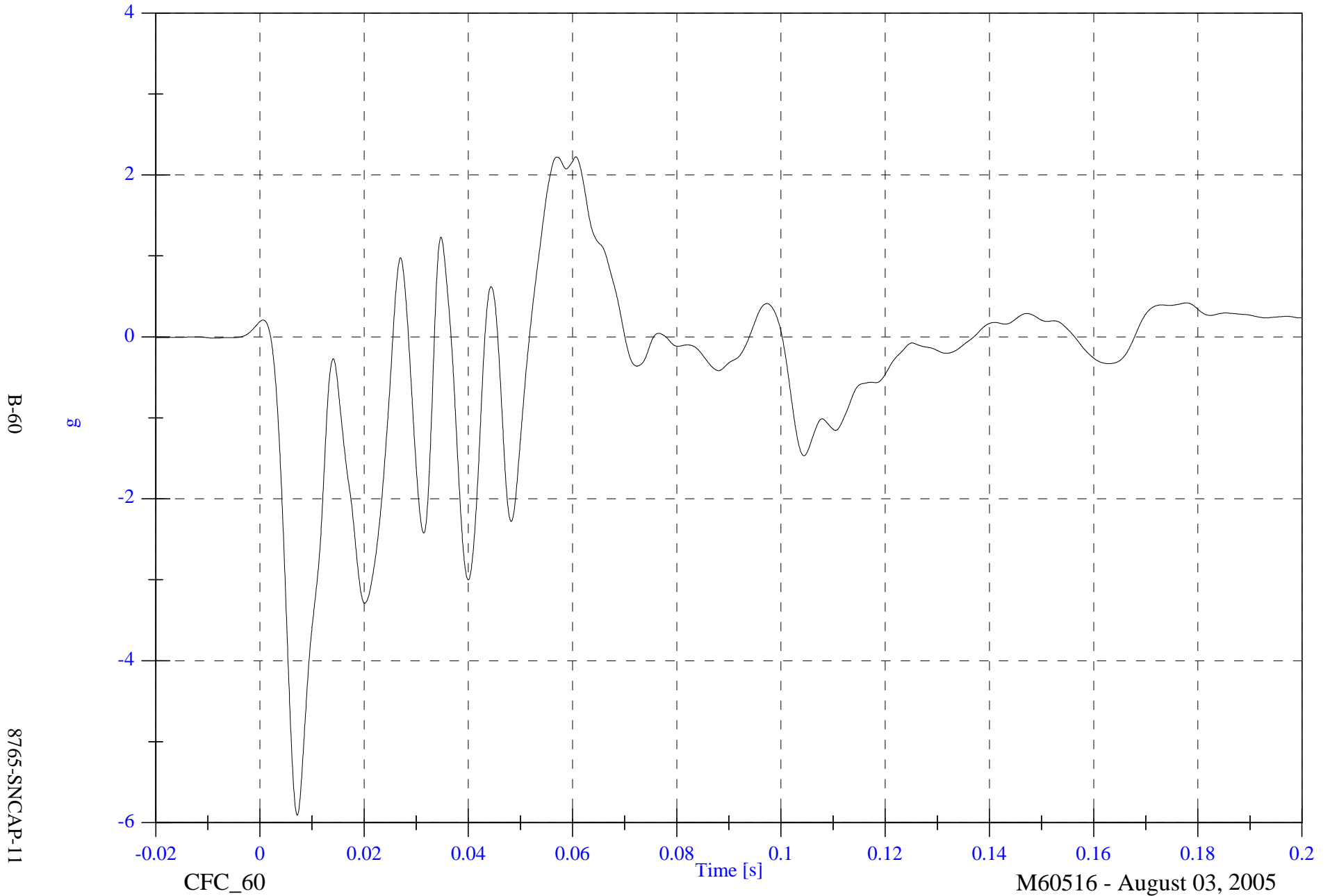
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A1 Right Front Sill X

Max: 2.2 [g] at 0.061 [s]

Min: -5.9 [g] at 0.007 [s]

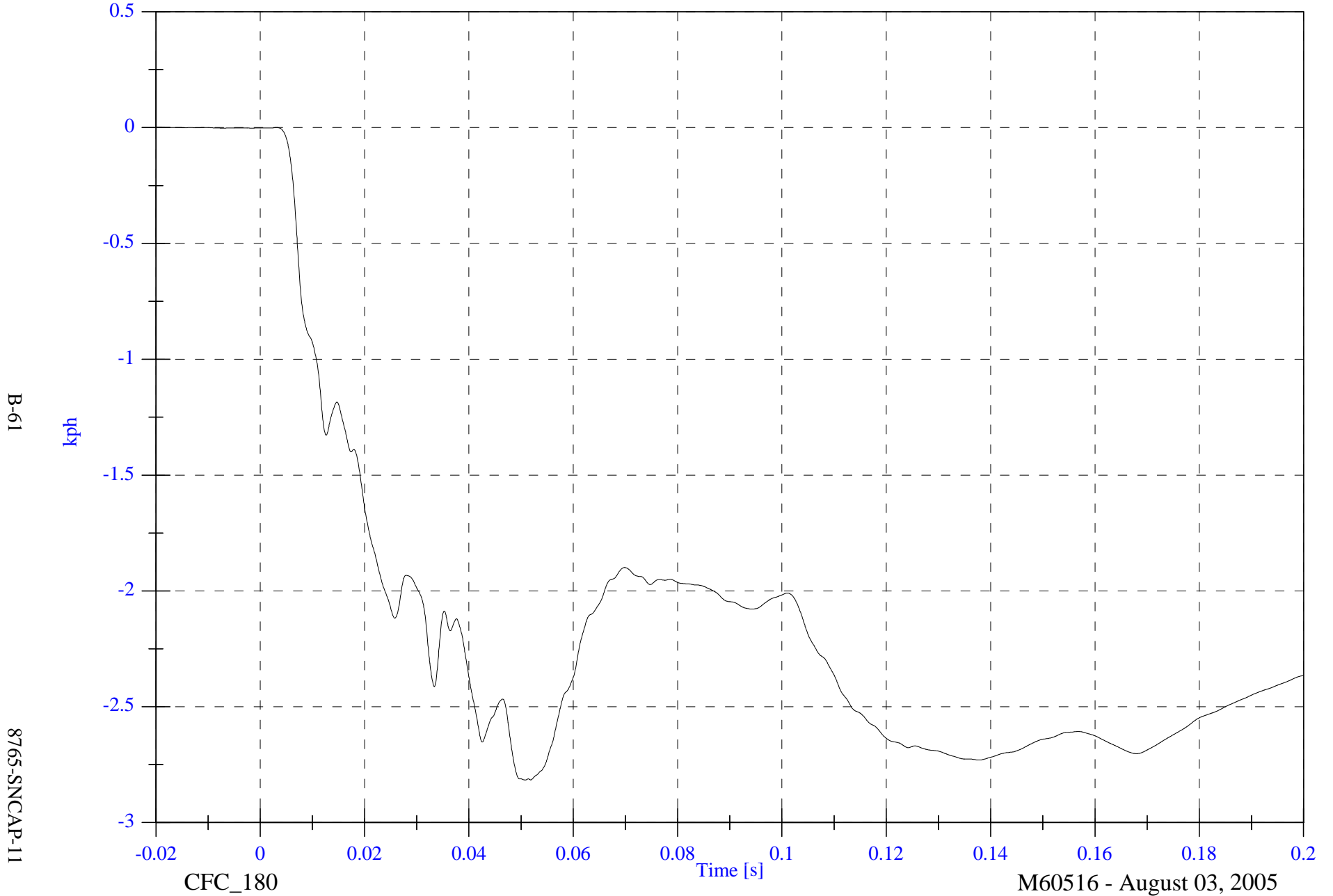


2006 SNCAP Test 1 2006 Mercedes ML350

V2 A1 Right Front Sill X Velocity

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

Min: -2.8 [kph] at 0.051 [s]



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8765-SNCAP-11

CFC_180

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

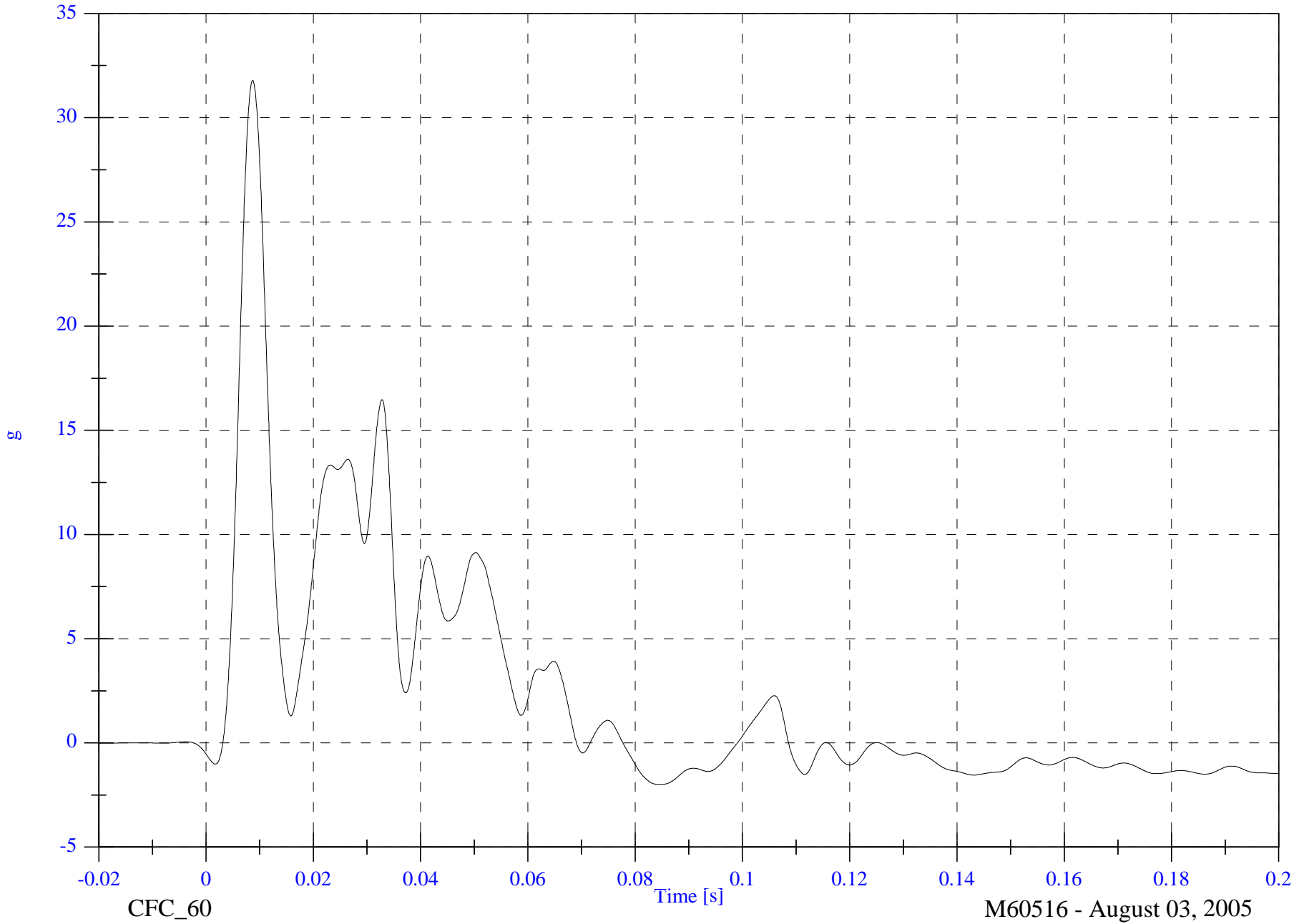
V2 A1 Right Front Sill Y

Max: 31.8 [g] at 0.009 [s]

Min: -2.0 [g] at 0.085 [s]

B-62

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2006 SNCAP Test 1 2006 Mercedes ML350

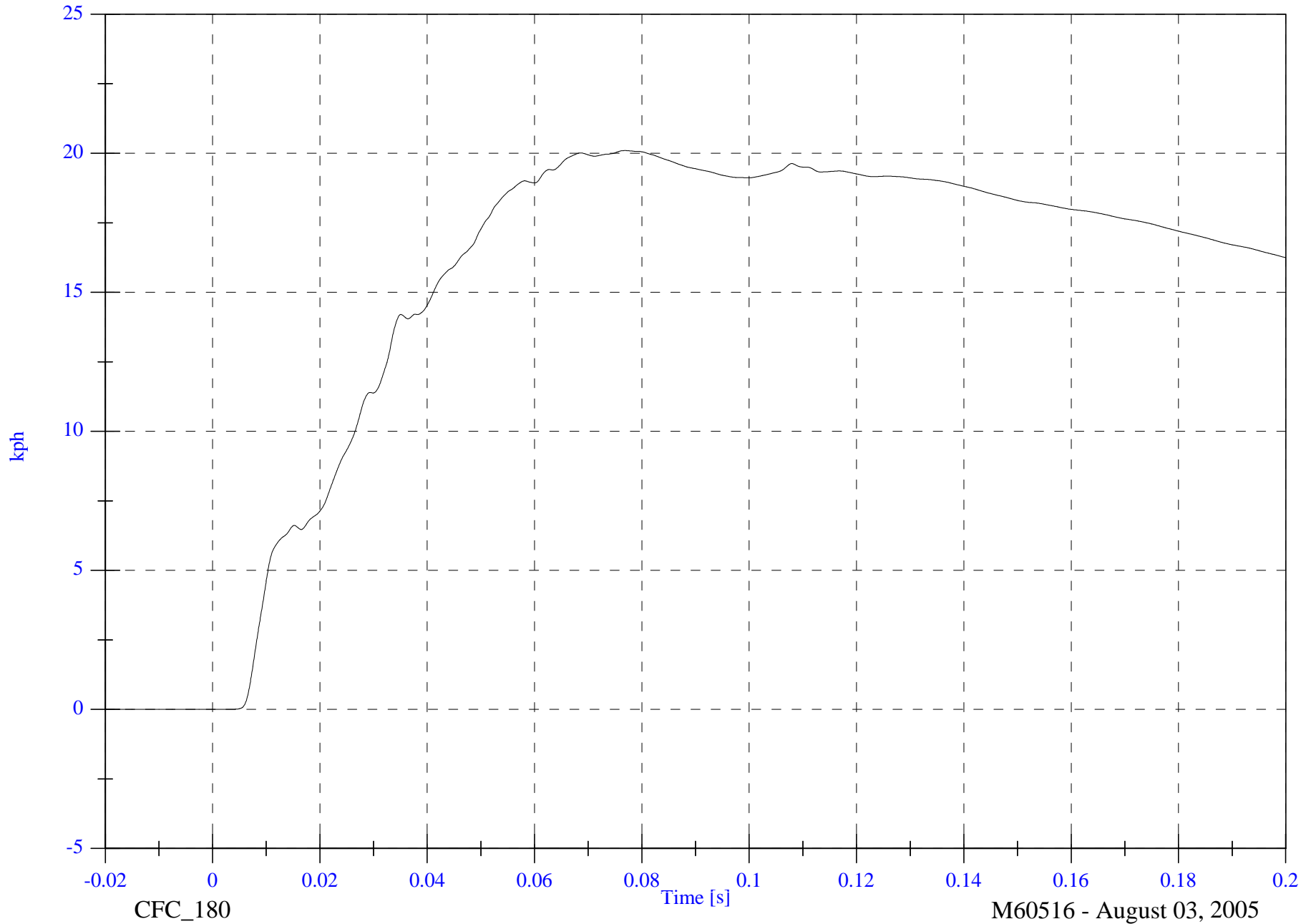
V2 A1 Right Front Sill Y Velocity

Max: 20.1 [kph] at 0.077 [s]

Min: -0.0 [kph] at -0.005 [s]

B-63

8765-SNCAP-11



CFC_180

Time [s]

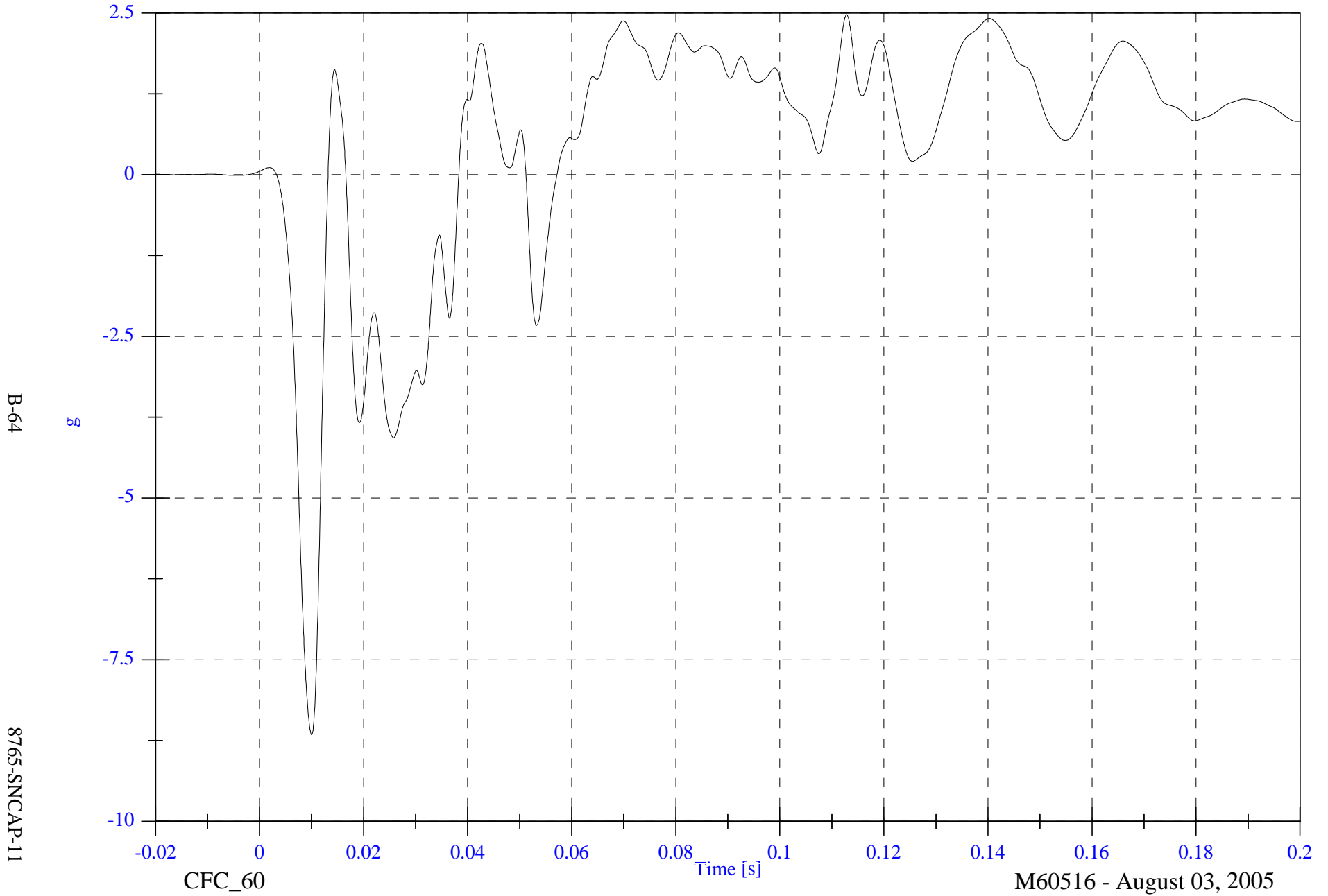
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 2.5 [g] at 0.113 [s]

Min: -8.7 [g] at 0.010 [s]

V2 A1 Right Front Sill Z



2006 SNCAP Test 1 2006 Mercedes ML350

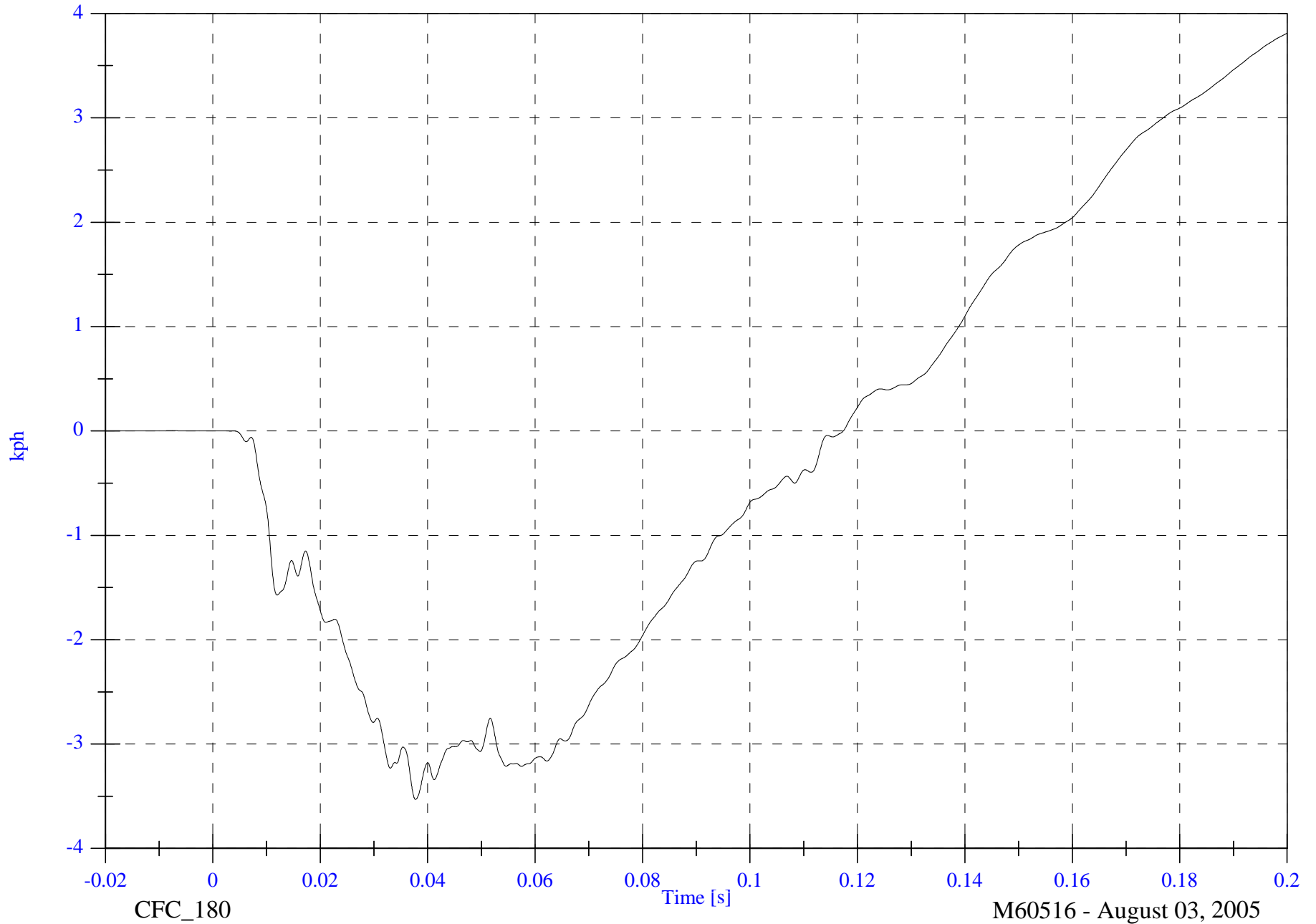
V2 A1 Right Front Sill Z Velocity

Max: 3.8 [kph] at 0.200 [s]

Min: -3.5 [kph] at 0.038 [s]

B-65

8765-SNCAP-11



CFC_180

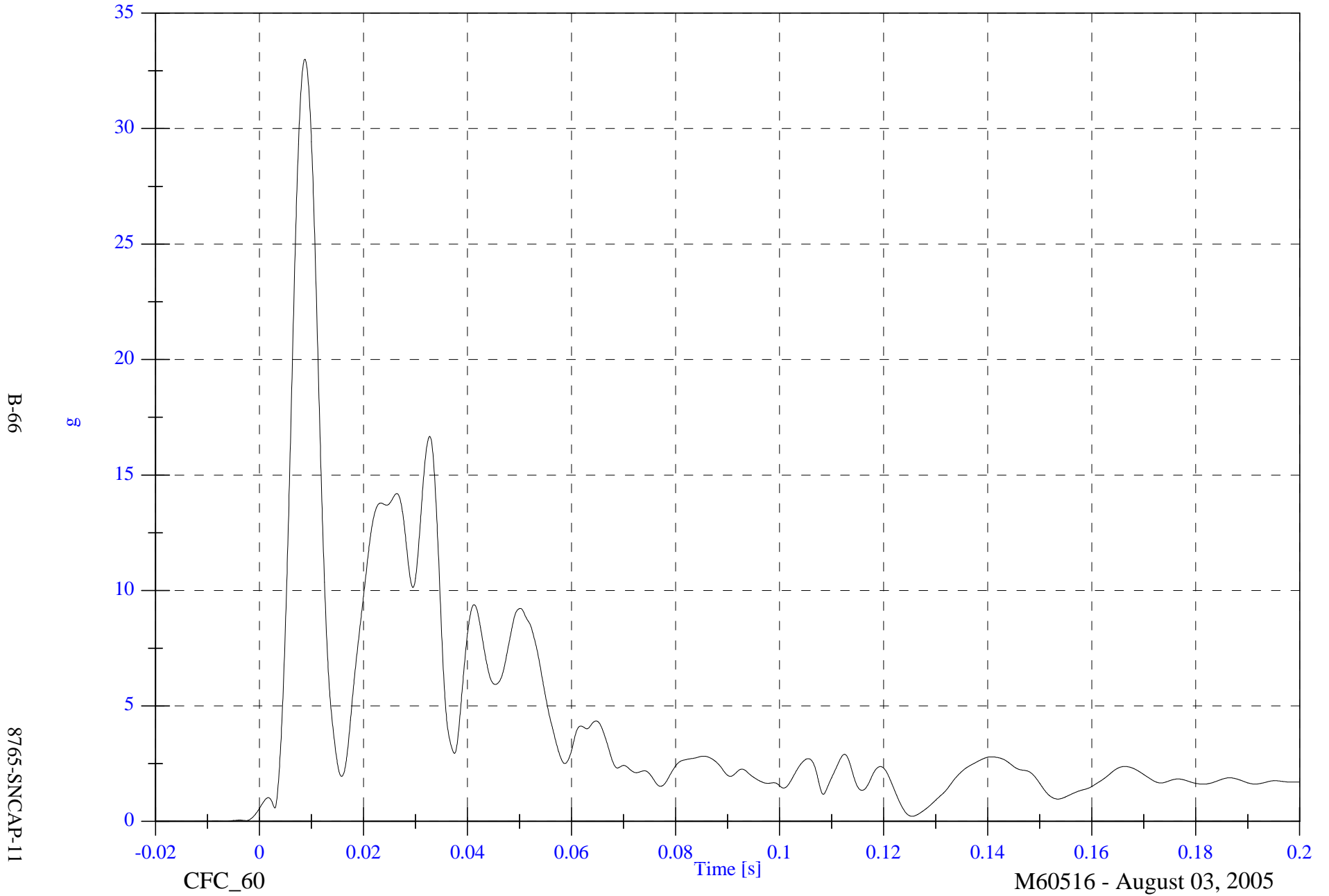
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A1 Right Front Sill Resultant

Max: 33.0 [g] at 0.009 [s]

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



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CFC_60

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

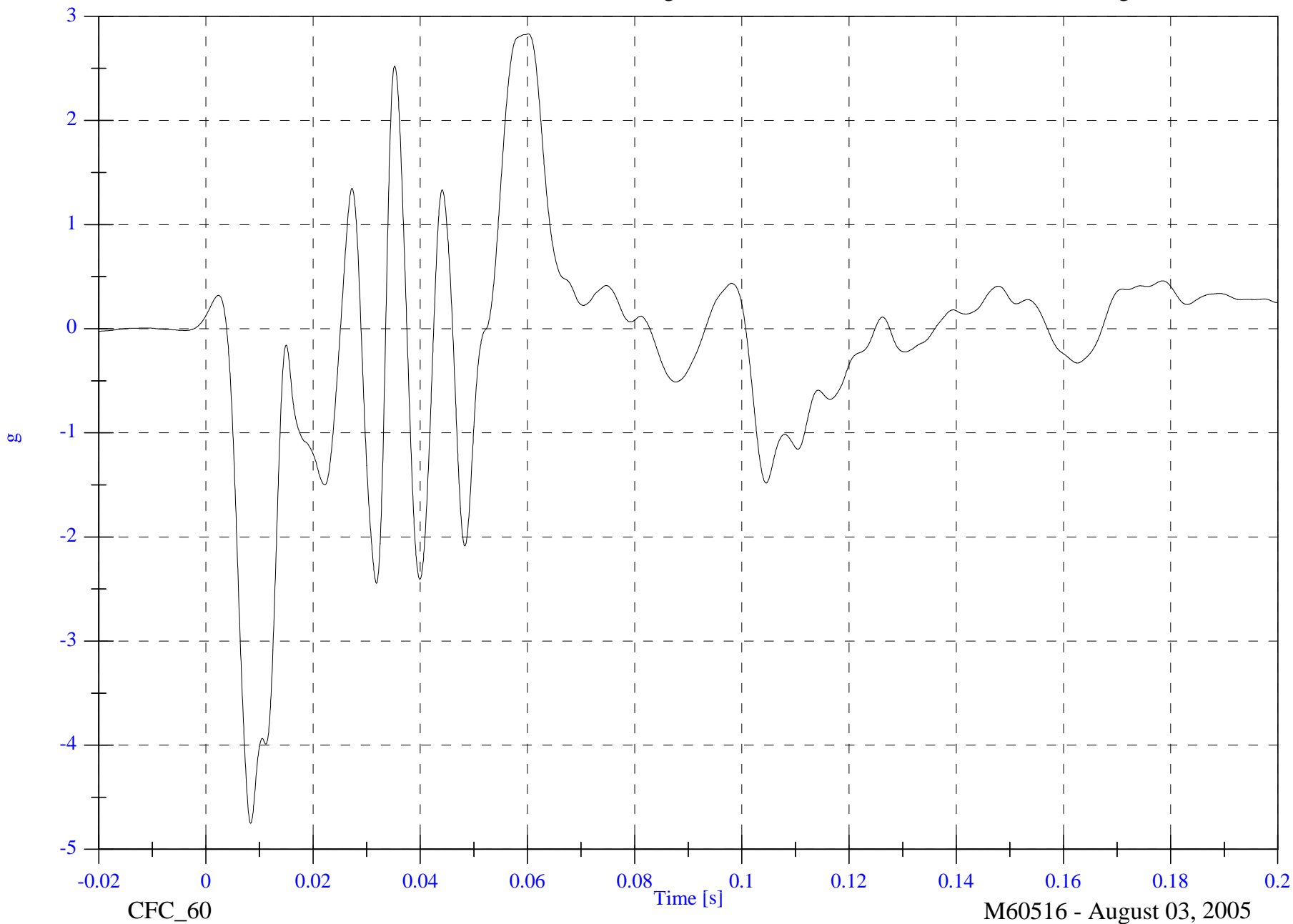
V2 A2 Right Rear Sill X

Max: 2.8 [g] at 0.060 [s]

Min: -4.8 [g] at 0.008 [s]

B-67

8765-SNCAP-11



CFC_60

Time [s]

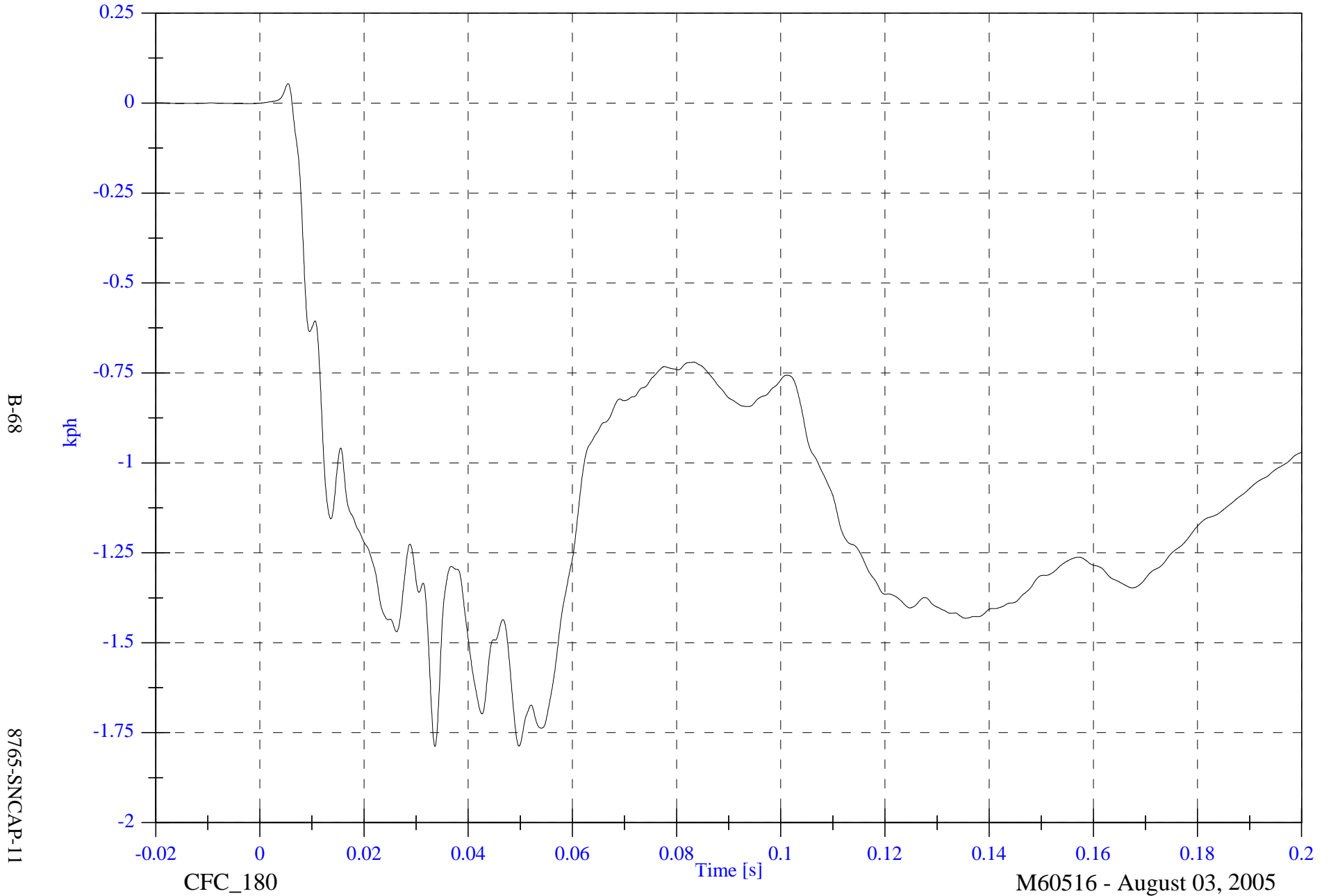
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A2 Right Rear Sill X Velocity

Max: 0.1 [kph] at 0.005 [s]

Min: -1.8 [kph] at 0.034 [s]

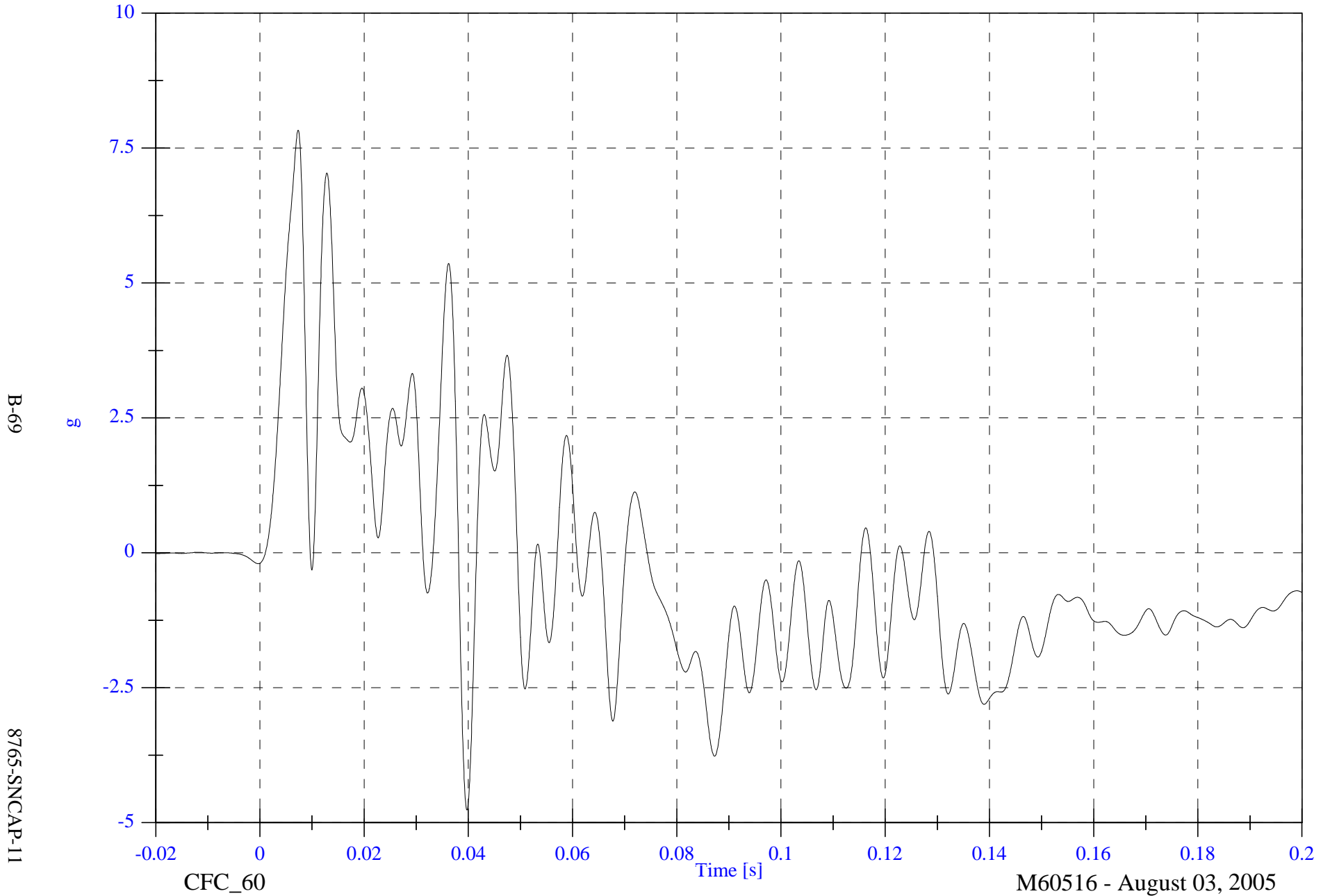


2006 SNCAP Test 1 2006 Mercedes ML350

V2 A2 Right Rear Sill Y

Max: 7.8 [g] at 0.007 [s]

Min: -4.8 [g] at 0.040 [s]



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CFC_60

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A2 Right Rear Sill Y Velocity

Max: 4.2 [kph] at 0.050 [s]

Min: -2.7 [kph] at 0.200 [s]

B-70

8765-SNCAP-11



CFC_180

Time [s]

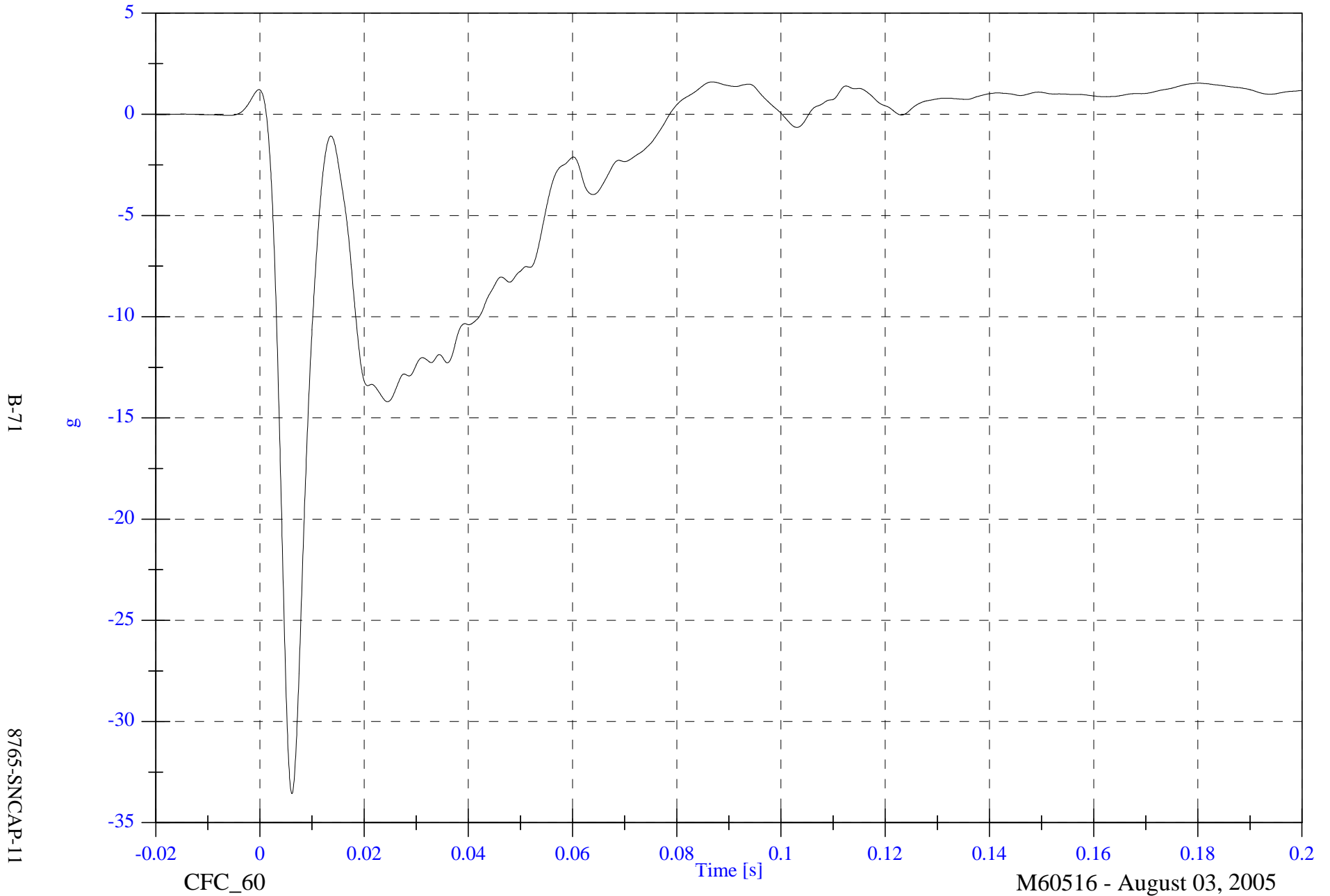
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A2 Right Rear Sill Z

Max: 1.6 [g] at 0.087 [s]

Min: -33.6 [g] at 0.006 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

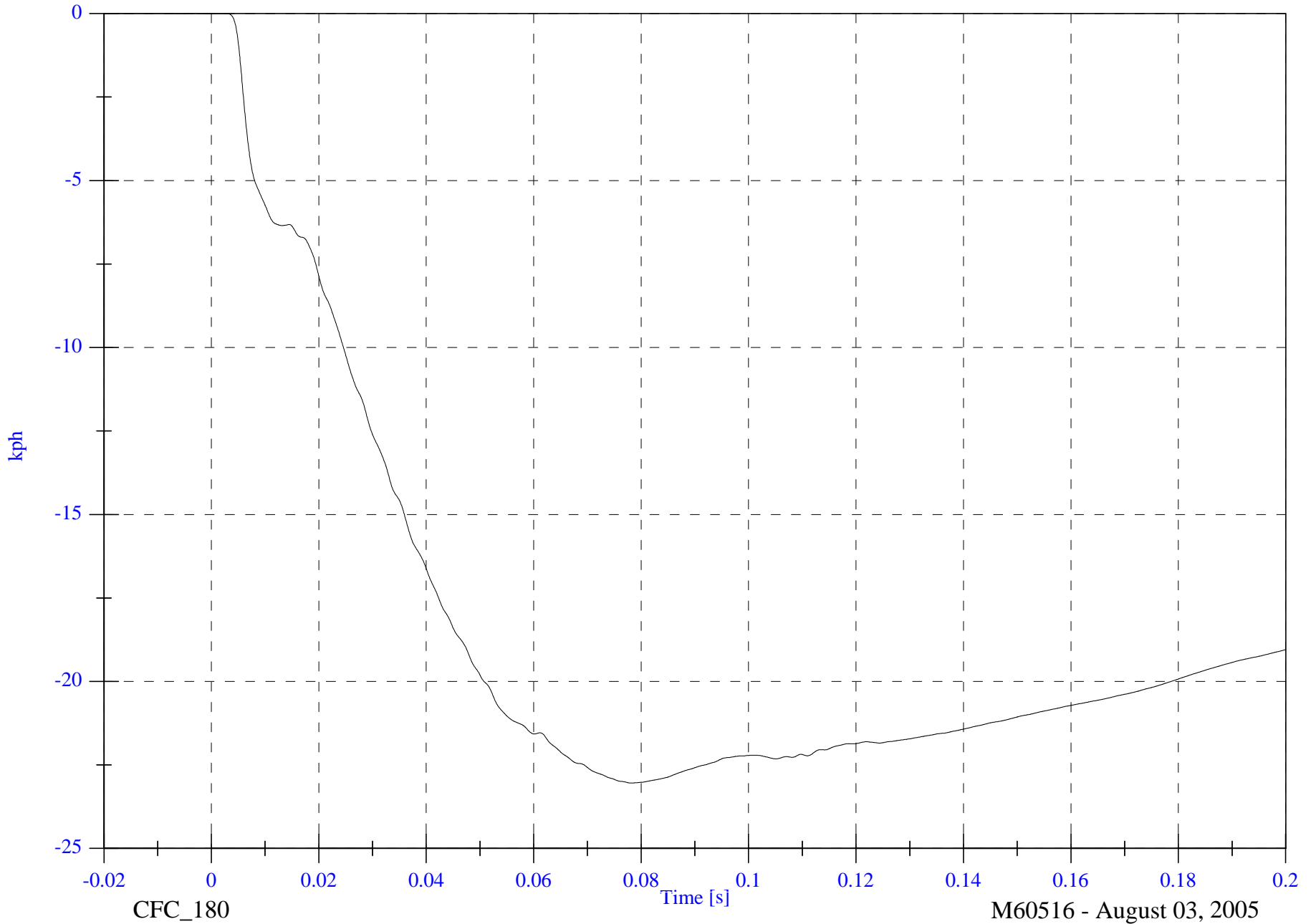
V2 A2 Right Rear Sill Z Velocity

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

Min: -23.0 [kph] at 0.078 [s]

B-72

8765-SNCAP-11



CFC_180

Time [s]

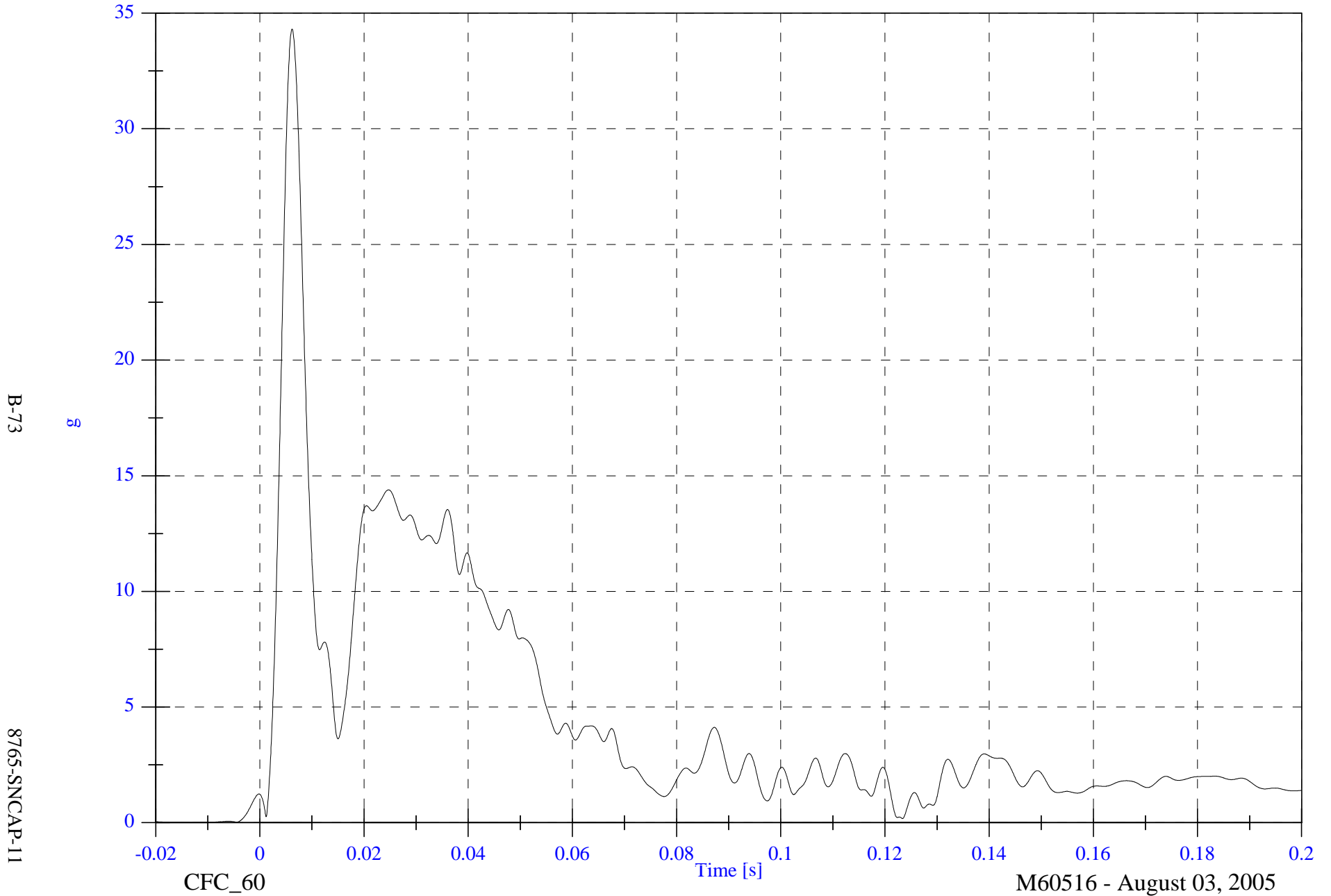
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A2 Right Rear Sill Resultant

Max: 34.3 [g] at 0.006 [s]

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



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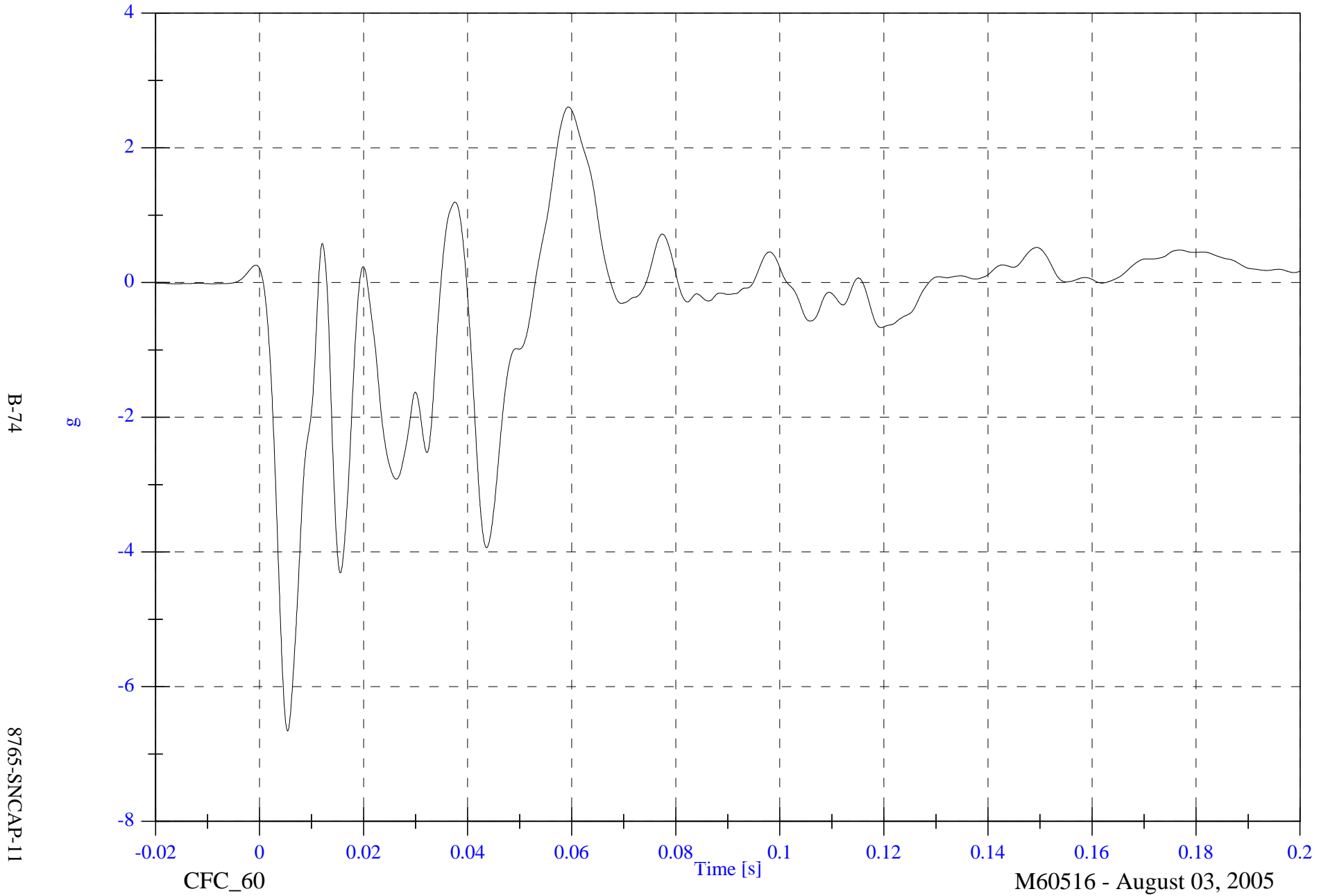
8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A3 Rear Floorpan X

Max: 2.6 [g] at 0.059 [s]

Min: -6.7 [g] at 0.005 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

V2 A3 Rear Floorpan X Velocity

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

Min: -3.4 [kph] at 0.052 [s]

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CFC_180

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A3 Rear Floorpan Y

Max: 31.1 [g] at 0.006 [s]

Min: -1.7 [g] at 0.012 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

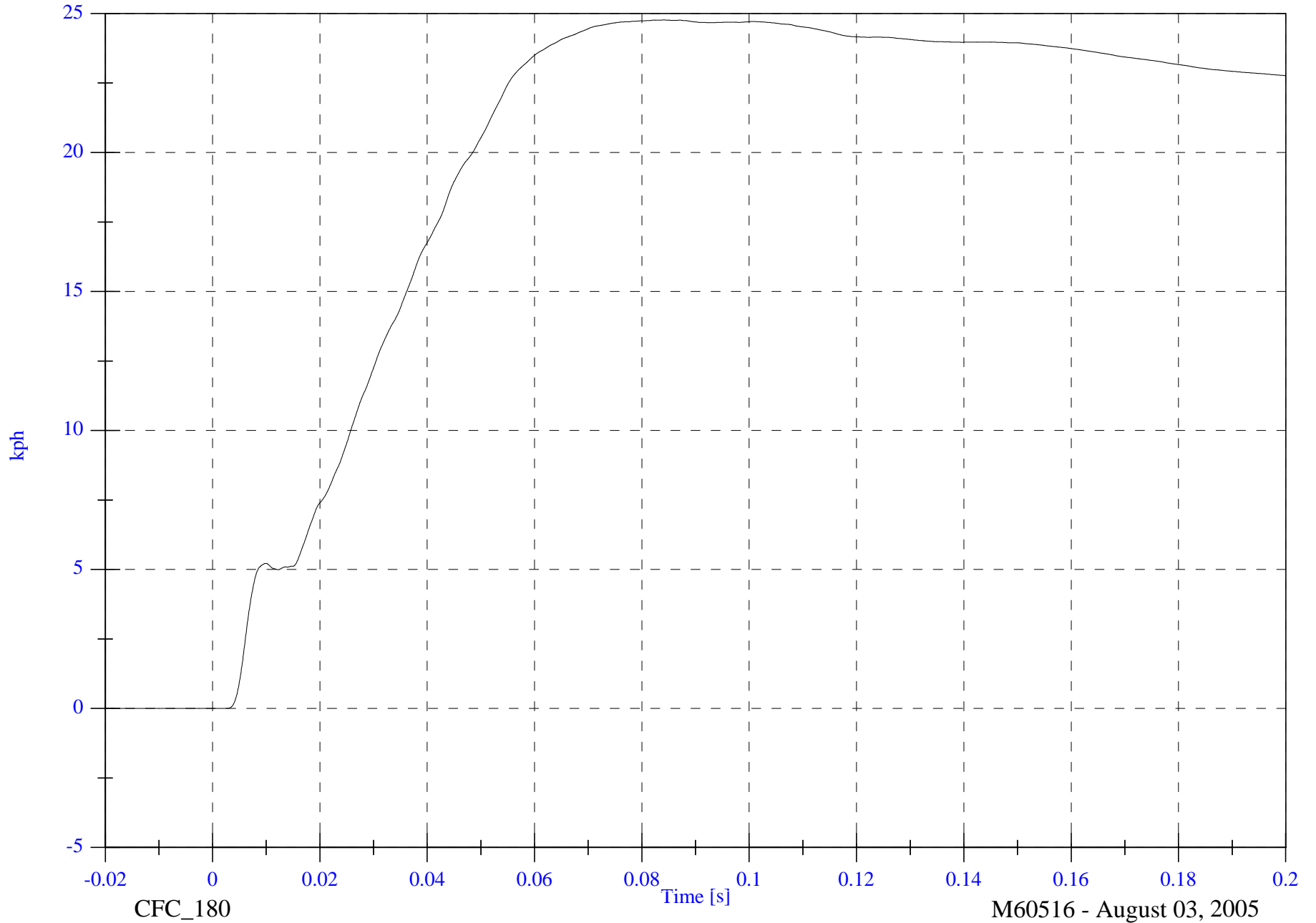
V2 A3 Rear Floorpan Y Velocity

Max: 24.8 [kph] at 0.084 [s]

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

B-77

8765-SNCAP-11



CFC_180

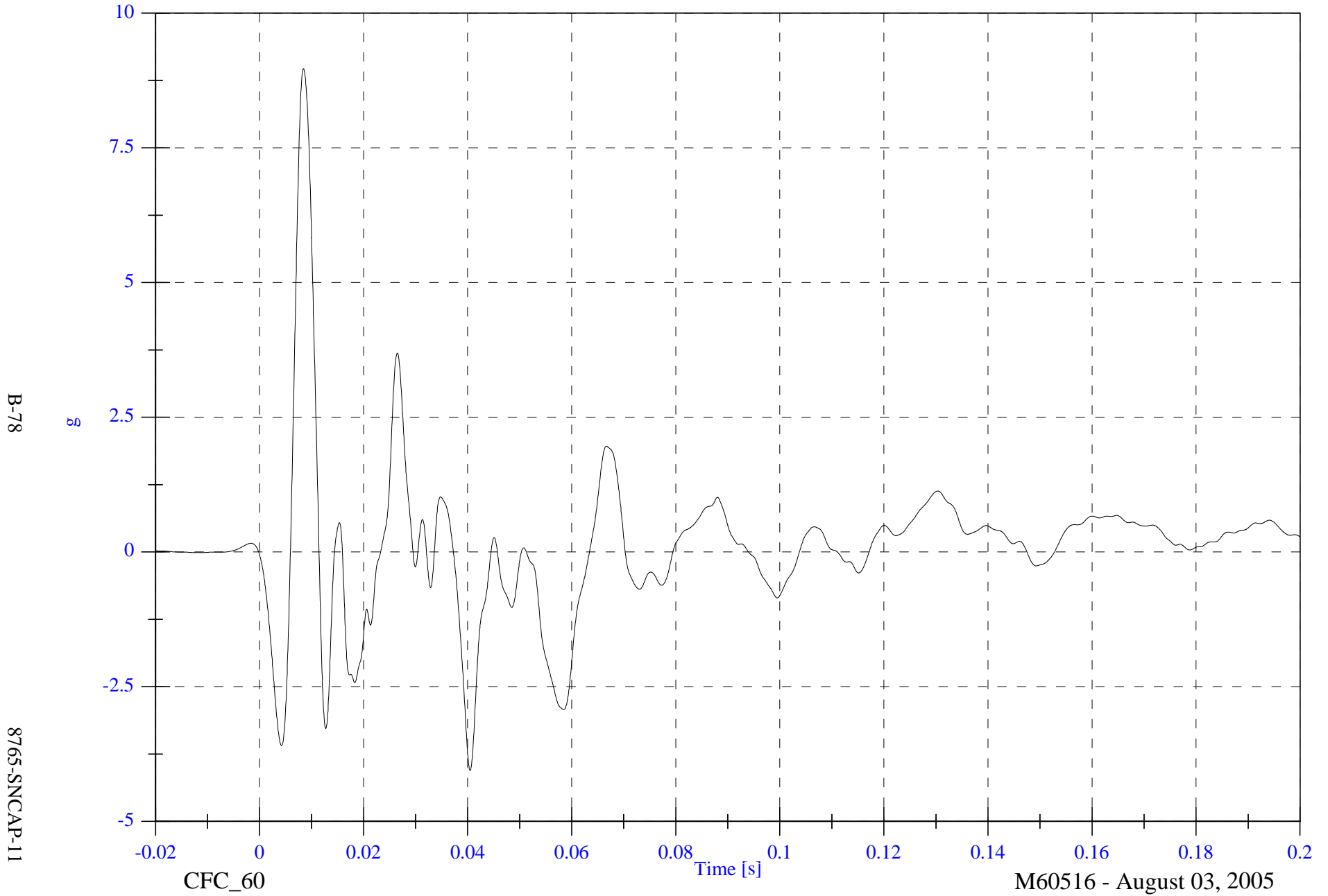
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A3 Rear Floorplan Z

Max: 9.0 [g] at 0.008 [s]

Min: -4.1 [g] at 0.040 [s]

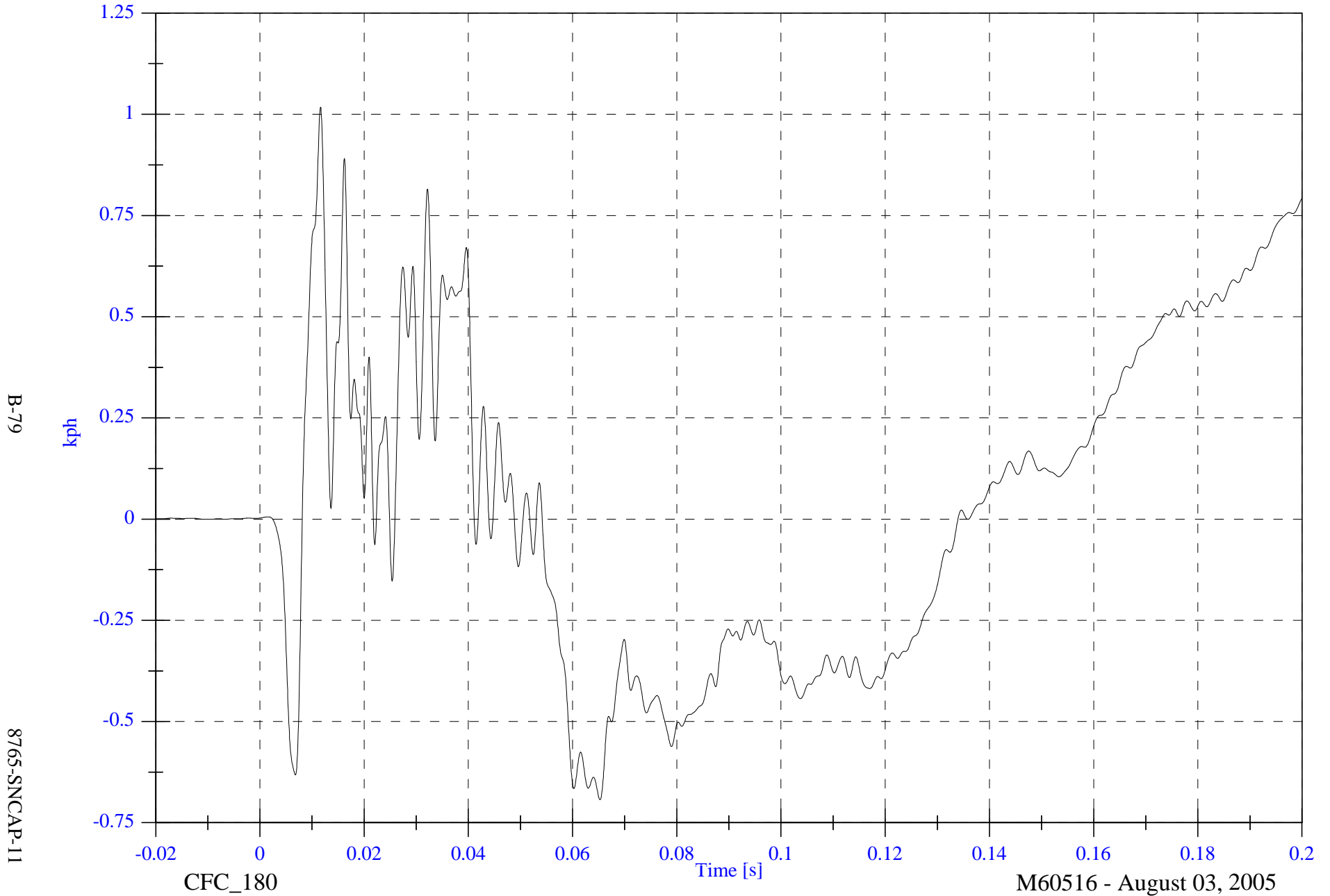


2006 SNCAP Test 1 2006 Mercedes ML350

V2 A3 Rear Floorplan Z Velocity

Max: 1.0 [kph] at 0.012 [s]

Min: -0.7 [kph] at 0.065 [s]



B-79

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CFC_180

Time [s]

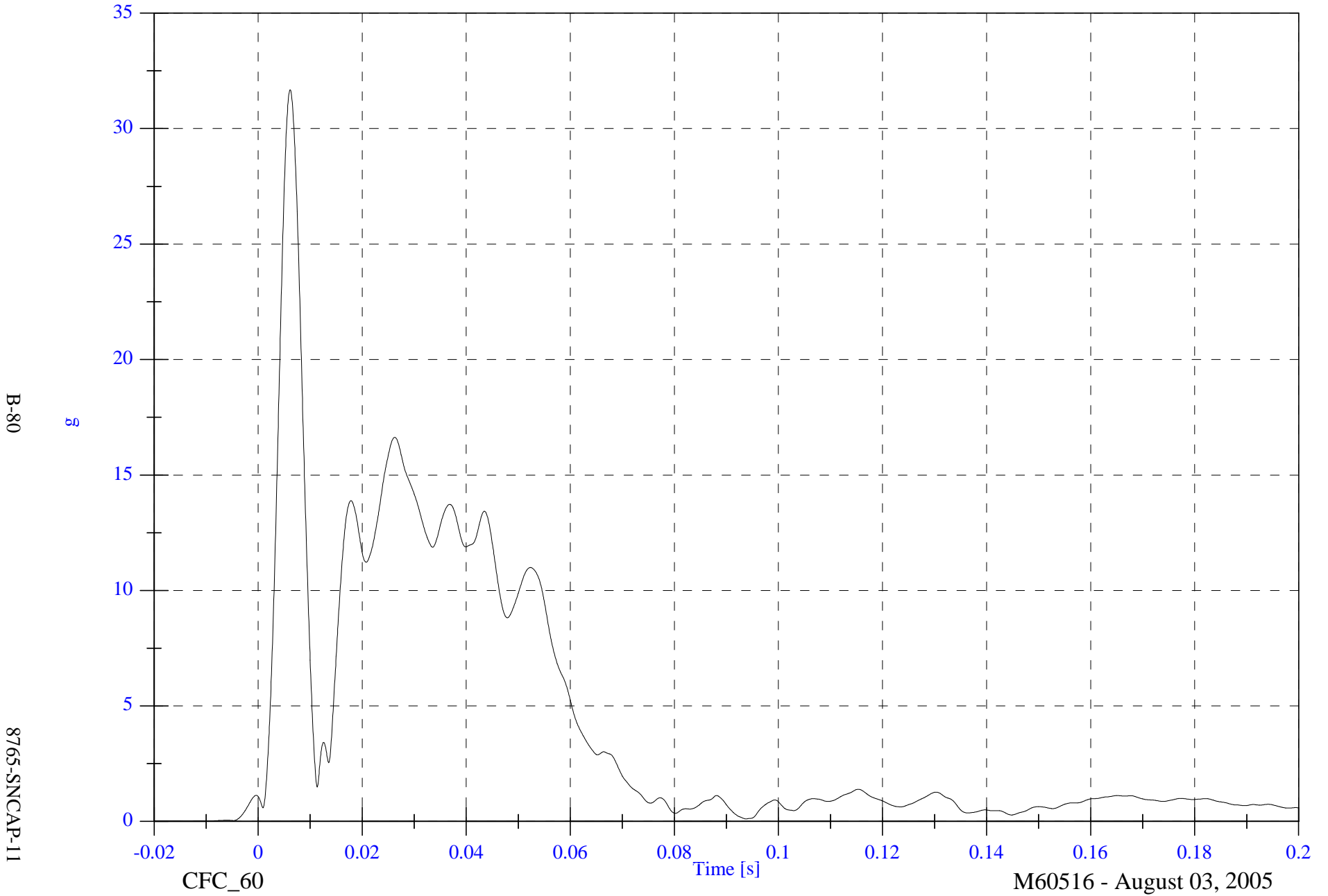
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A3 Rear Floorpan Resultant

Max: 31.7 [g] at 0.006 [s]

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



B-80

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CFC_60

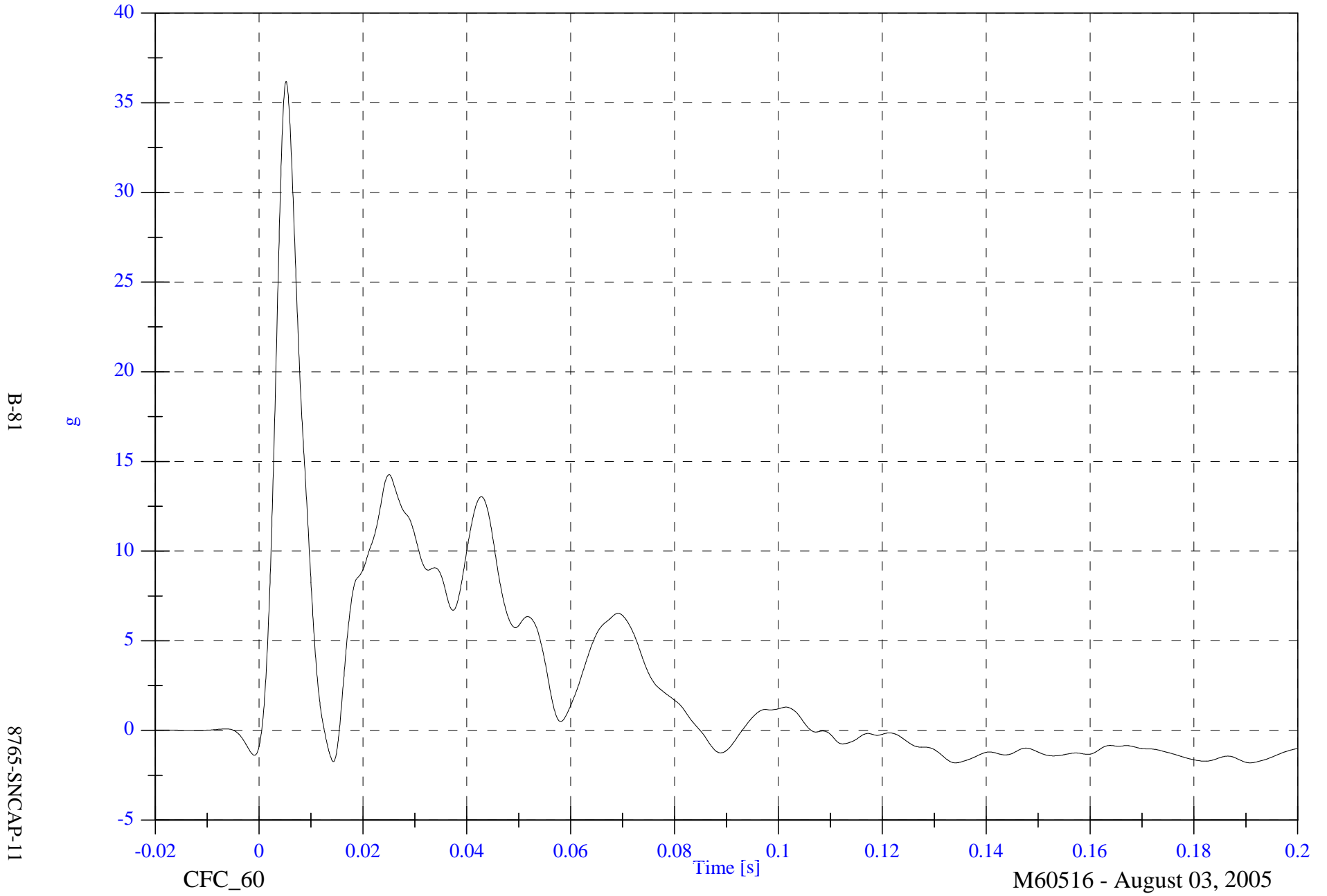
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A4 Left Rear Sill Y

Max: 36.2 [g] at 0.005 [s]

Min: -1.8 [g] at 0.134 [s]



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CFC_60

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

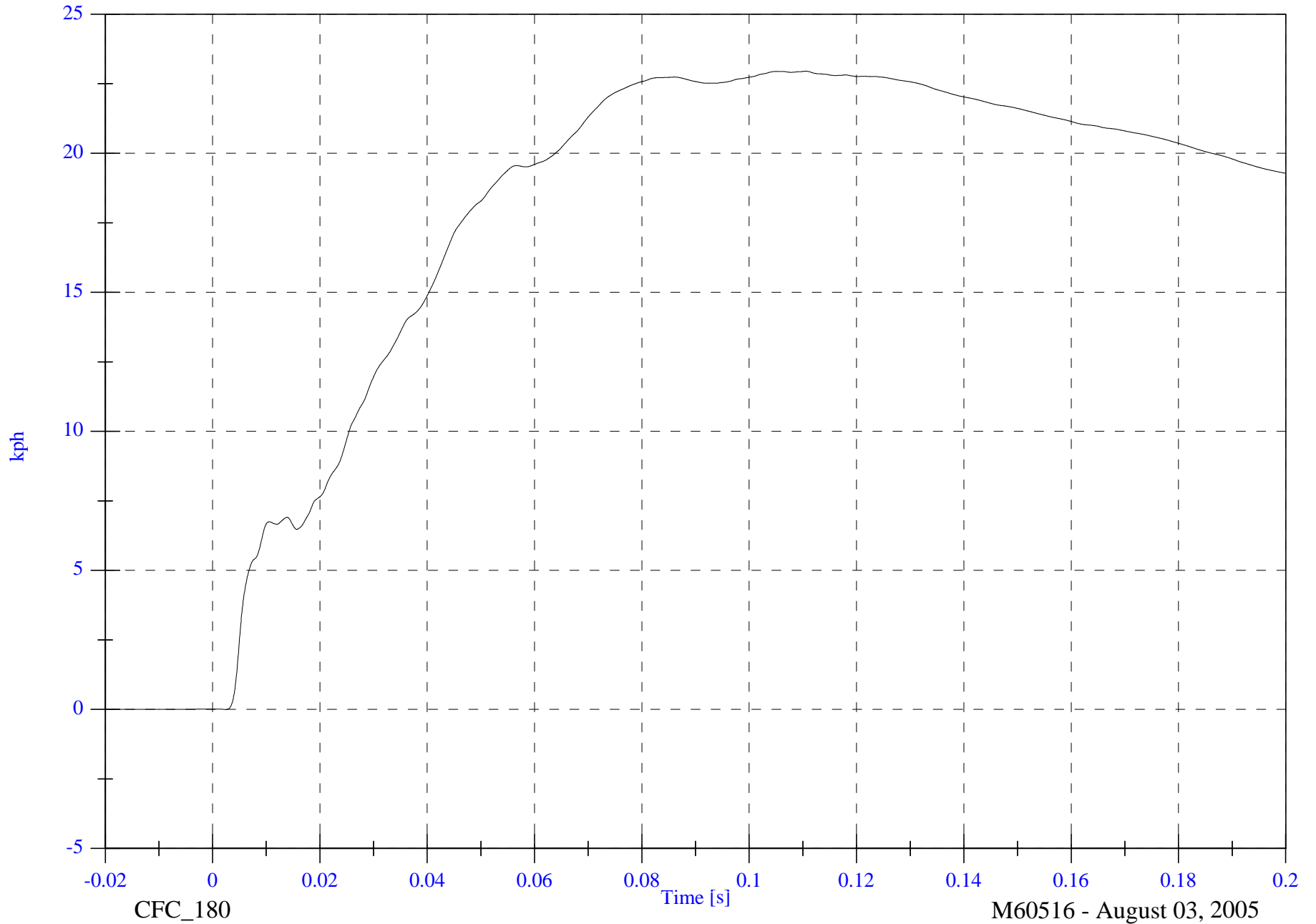
V2 A4 Left Rear Sill Y Velocity

Max: 23.0 [kph] at 0.111 [s]

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

B-82

8765-SNCAP-11



CFC_180

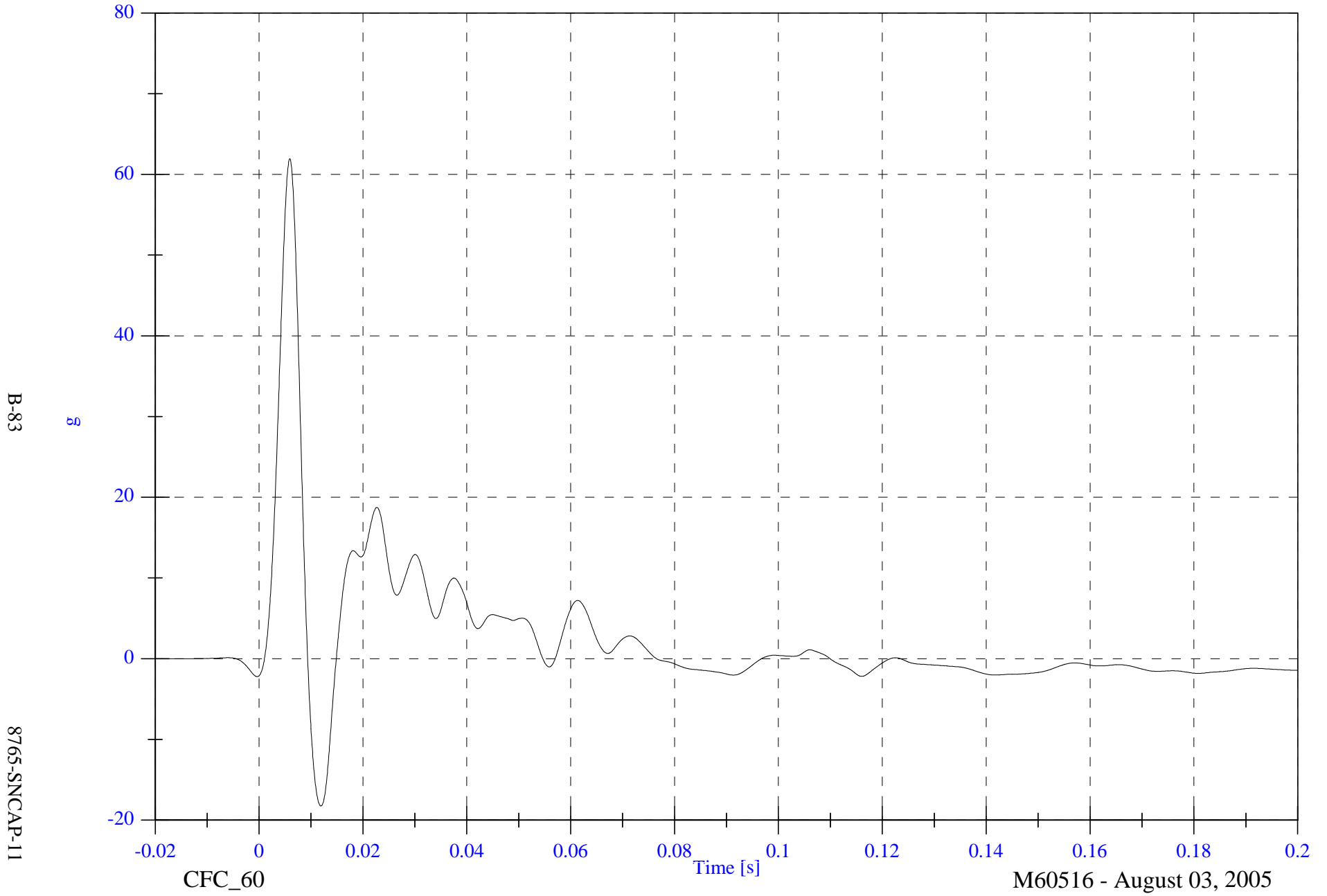
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A5 Left Front Sill Y

Max: 62.0 [g] at 0.006 [s]

Min: -18.3 [g] at 0.012 [s]



B-83

8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

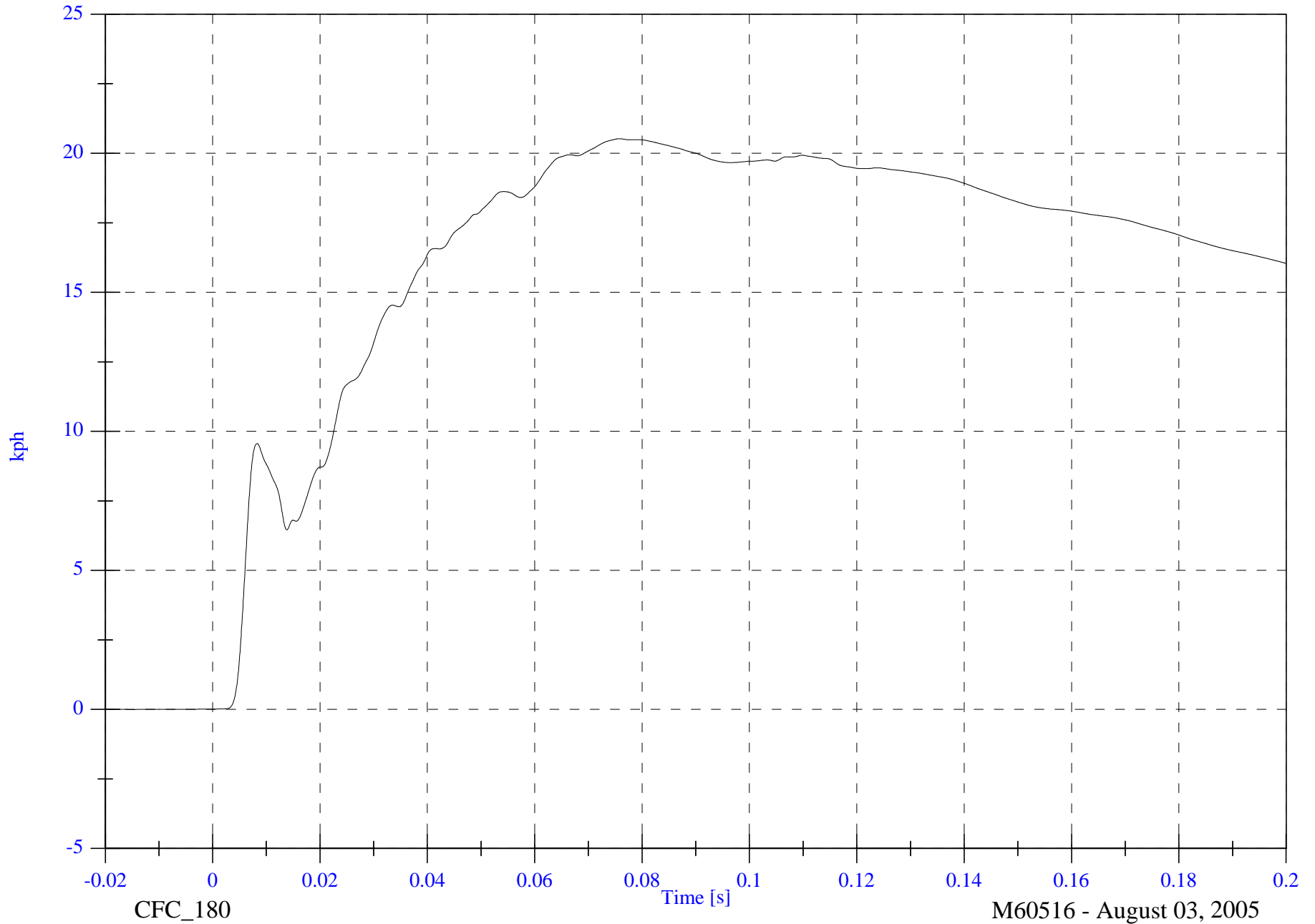
V2 A5 Left Front Sill Y Velocity

Max: 20.5 [kph] at 0.076 [s]

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

B-84

8765-SNCAP-11

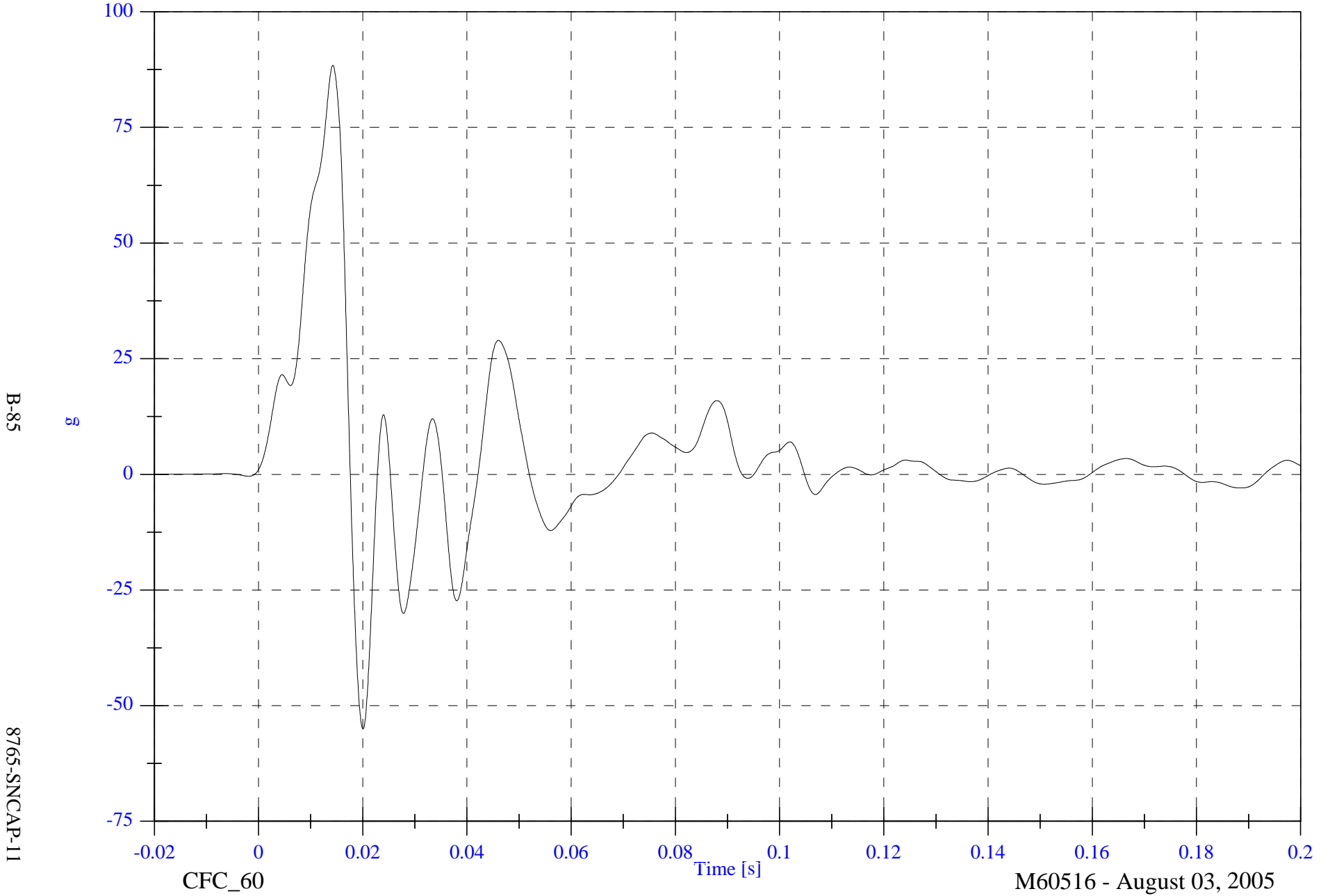


2006 SENCAP Test 1 2006 Mercedes ML350

V2 A6 Left Front Door C/L Y

Max: 88.4 [g] at 0.014 [s]

Min: -55.1 [g] at 0.020 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

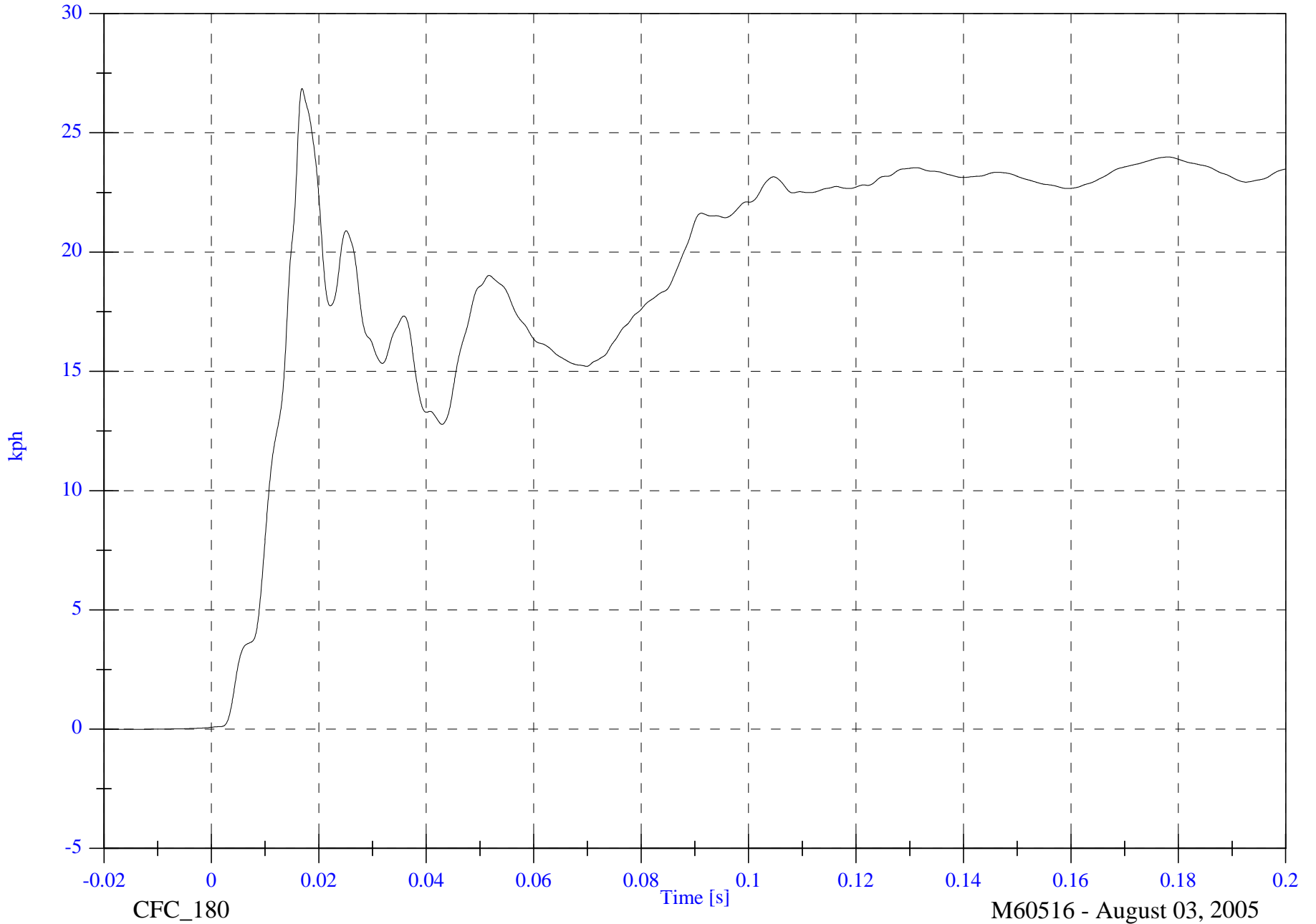
V2 A6 Left Front Door C/L Y Velocity

Max: 26.9 [kph] at 0.017 [s]

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

B-86

8765-SNCAP-11



CFC_180

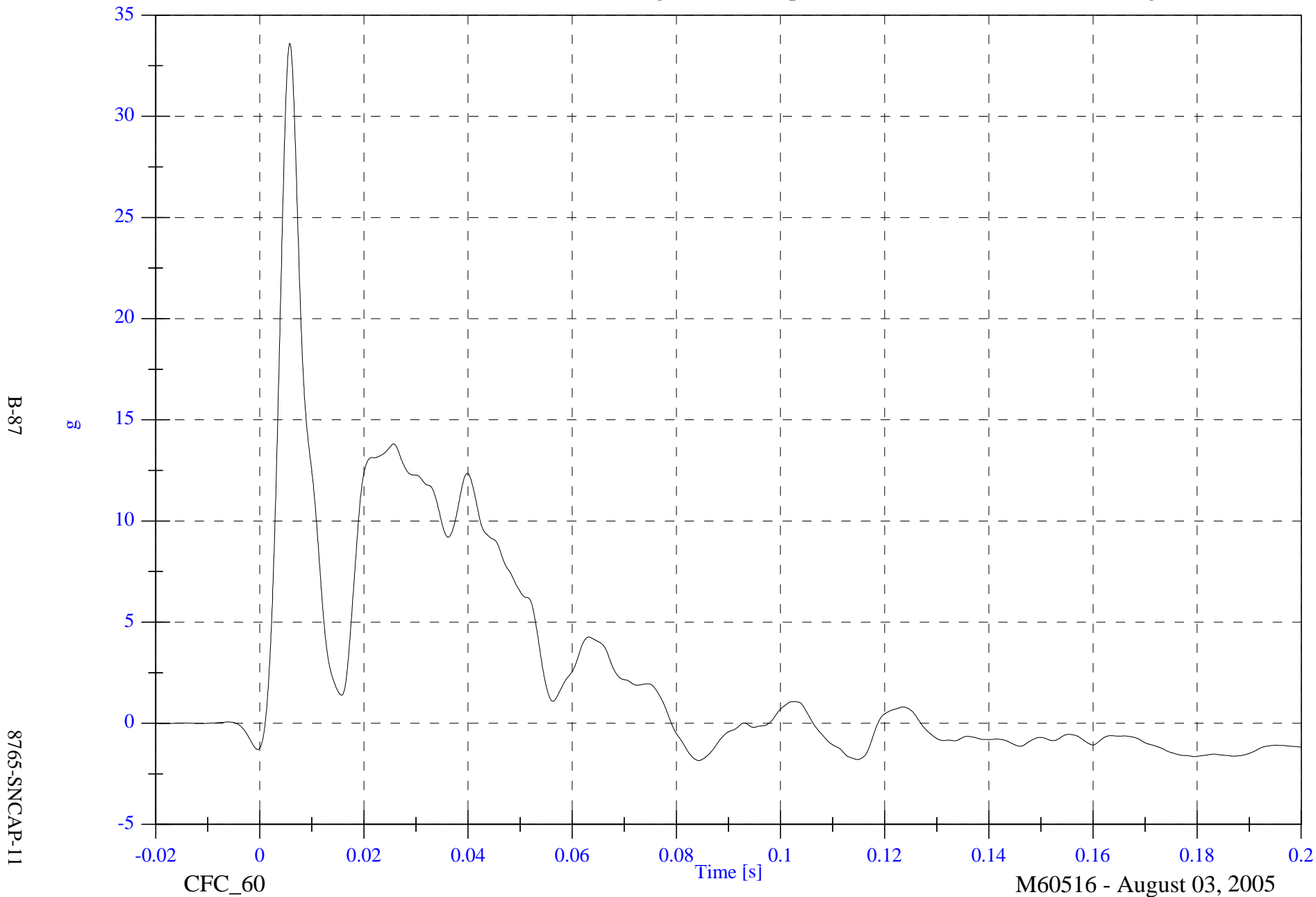
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A7 Right Rear Compartment Y

Max: 33.6 [g] at 0.006 [s]

Min: -1.8 [g] at 0.084 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

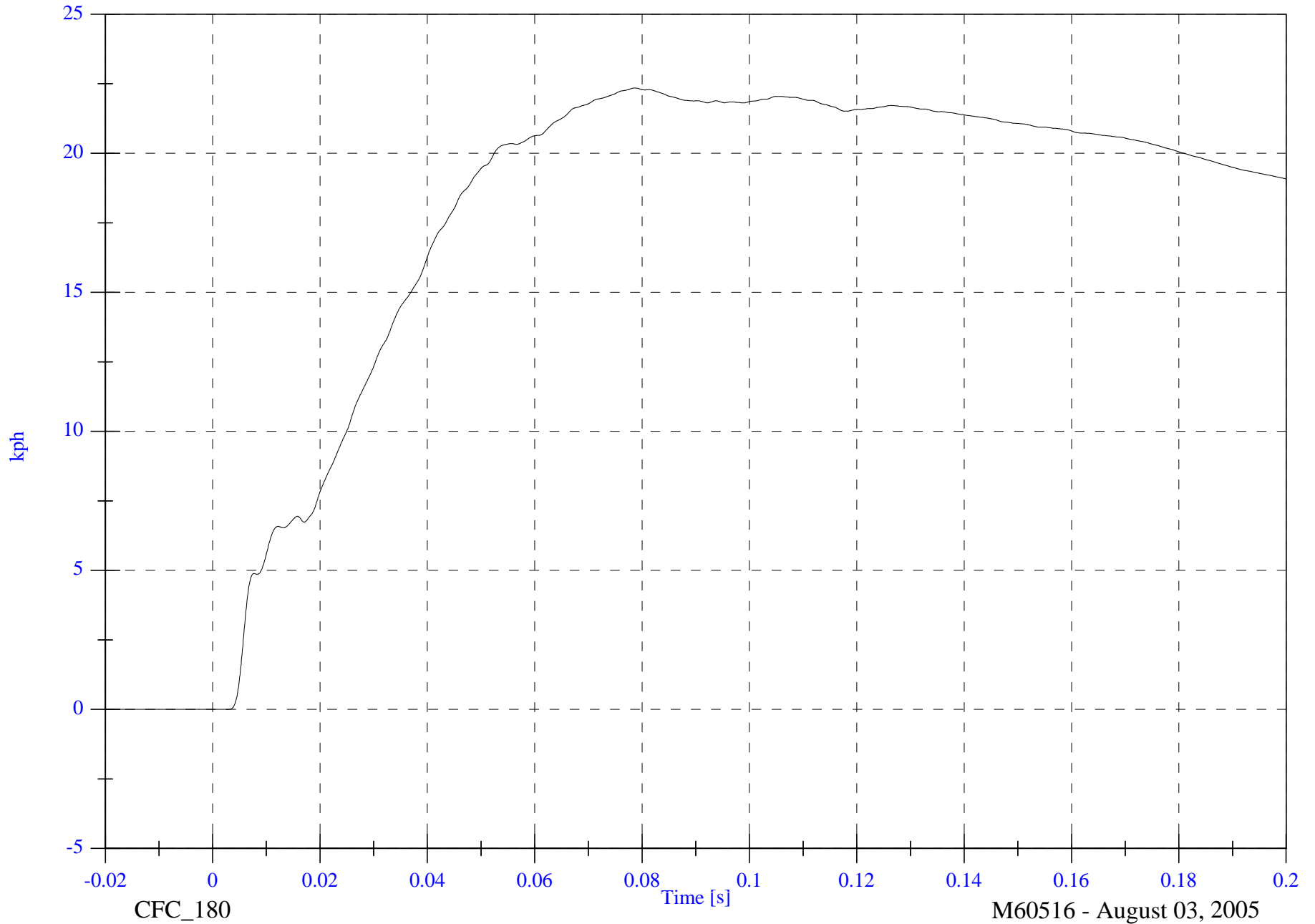
V2 A7 Right Rear Compartment Y Velocity

Max: 22.3 [kph] at 0.079 [s]

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

B-88

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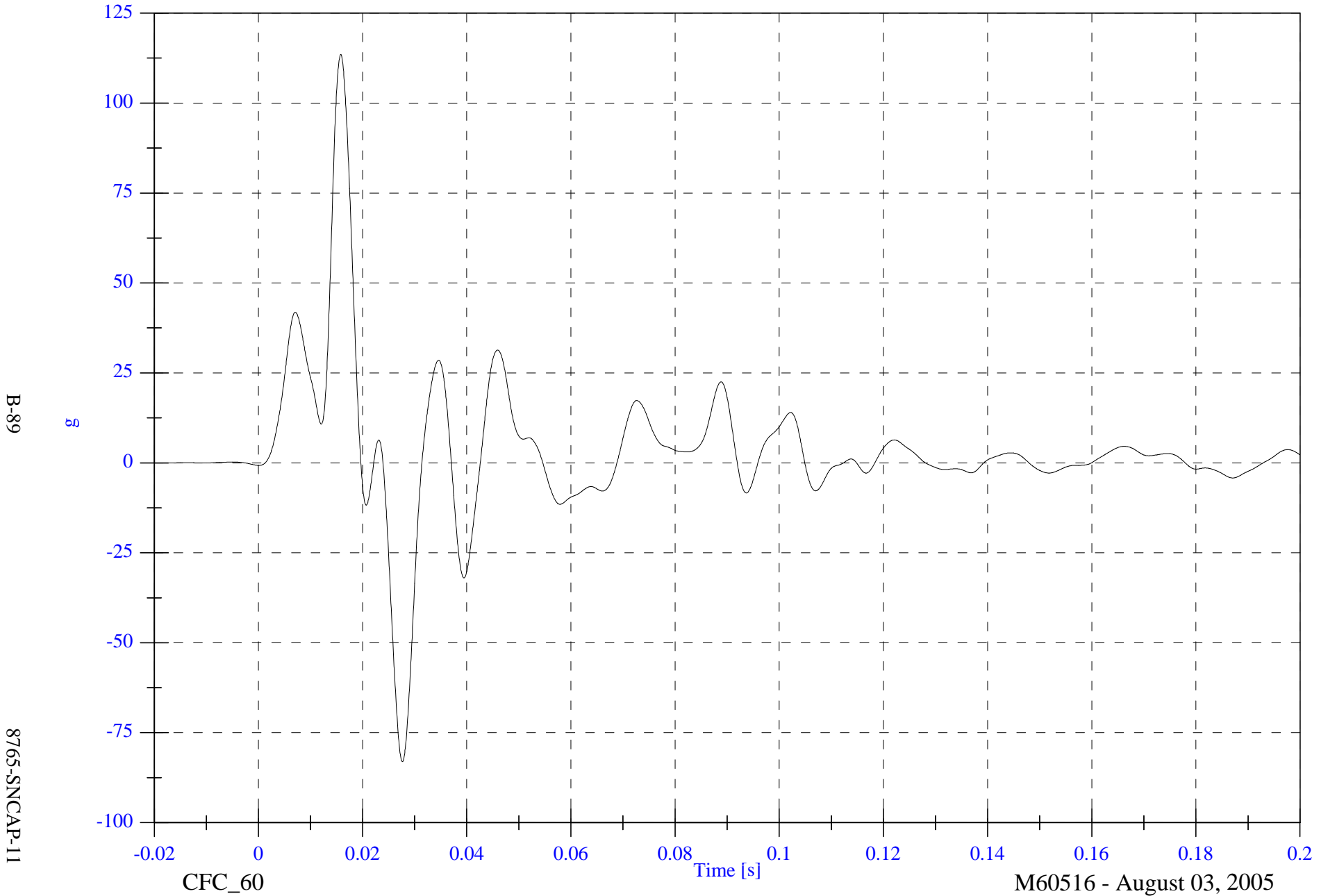


2006 SENCAP Test 1 2006 Mercedes ML350

V2 A8 Left Front Door Midrear Y

Max: 113.5 [g] at 0.016 [s]

Min: -83.1 [g] at 0.028 [s]

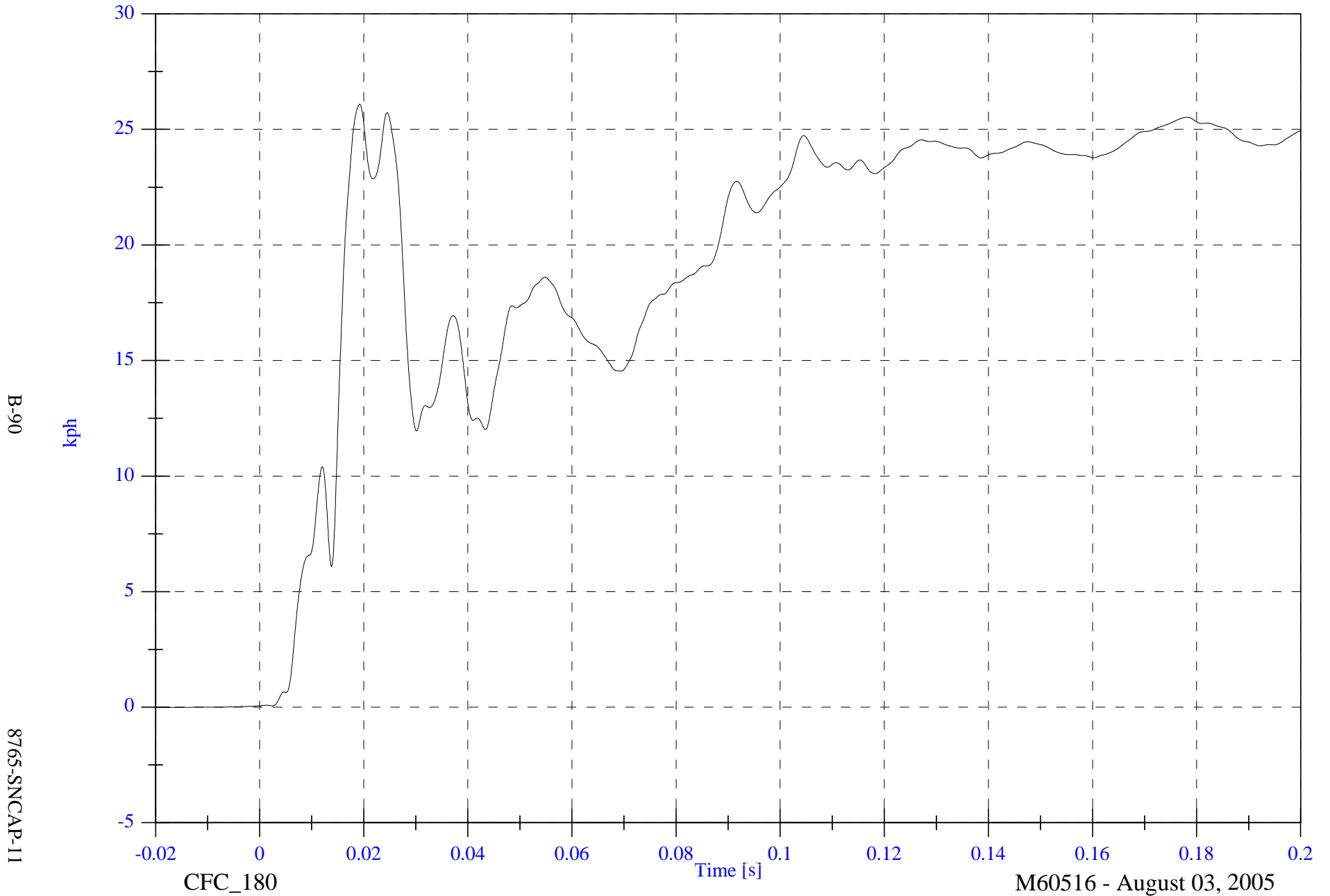


2006 SNCAP Test 1 2006 Mercedes ML350

V2 A8 Left Front Door Midrear Y Velocity

Max: 26.1 [kph] at 0.019 [s]

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



B-90

8765-SNCAP-11

CFC_180

Time [s]

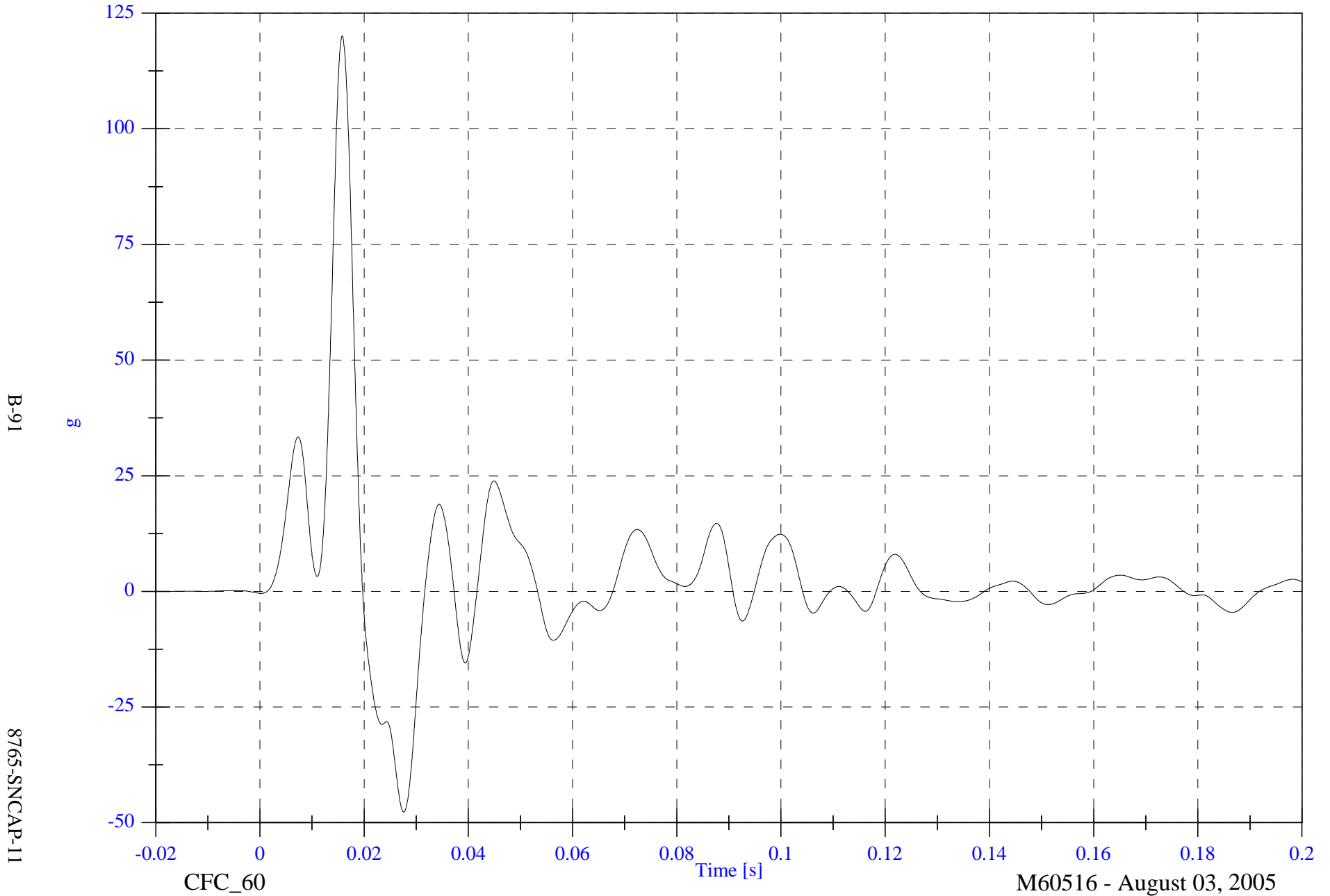
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A9 Left Front Door Upper C/L Y

Max: 120.0 [g] at 0.016 [s]

Min: -47.7 [g] at 0.028 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

V2 A9 Left Front Door Upper C/L Y Velocity

Max: 24.8 [kph] at 0.177 [s]

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

B-92

8765-SNCAP-11



CFC_180

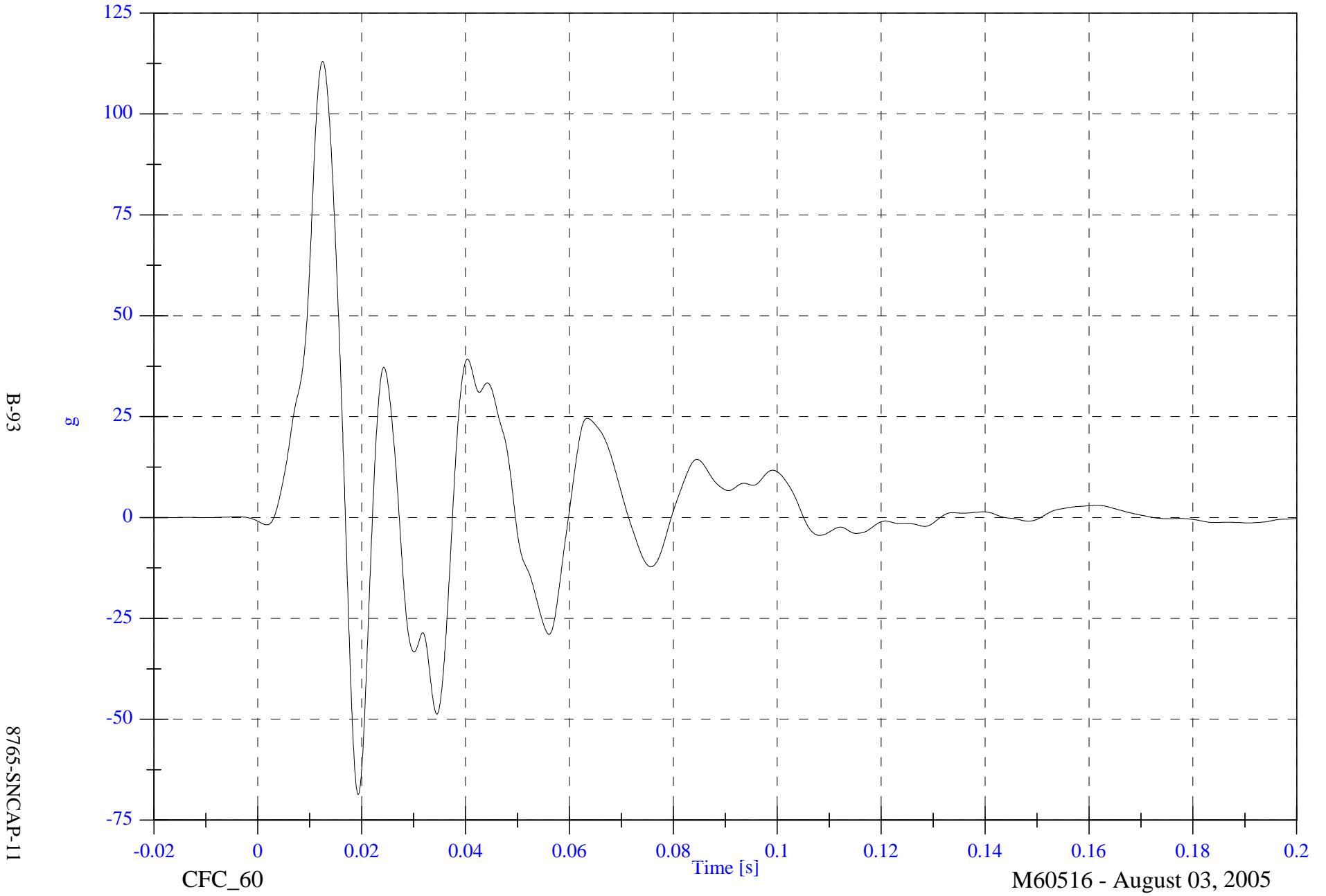
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A10 Left Rear Door Midrear Y

Max: 113.0 [g] at 0.012 [s]

Min: -68.6 [g] at 0.019 [s]



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CFC_60

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

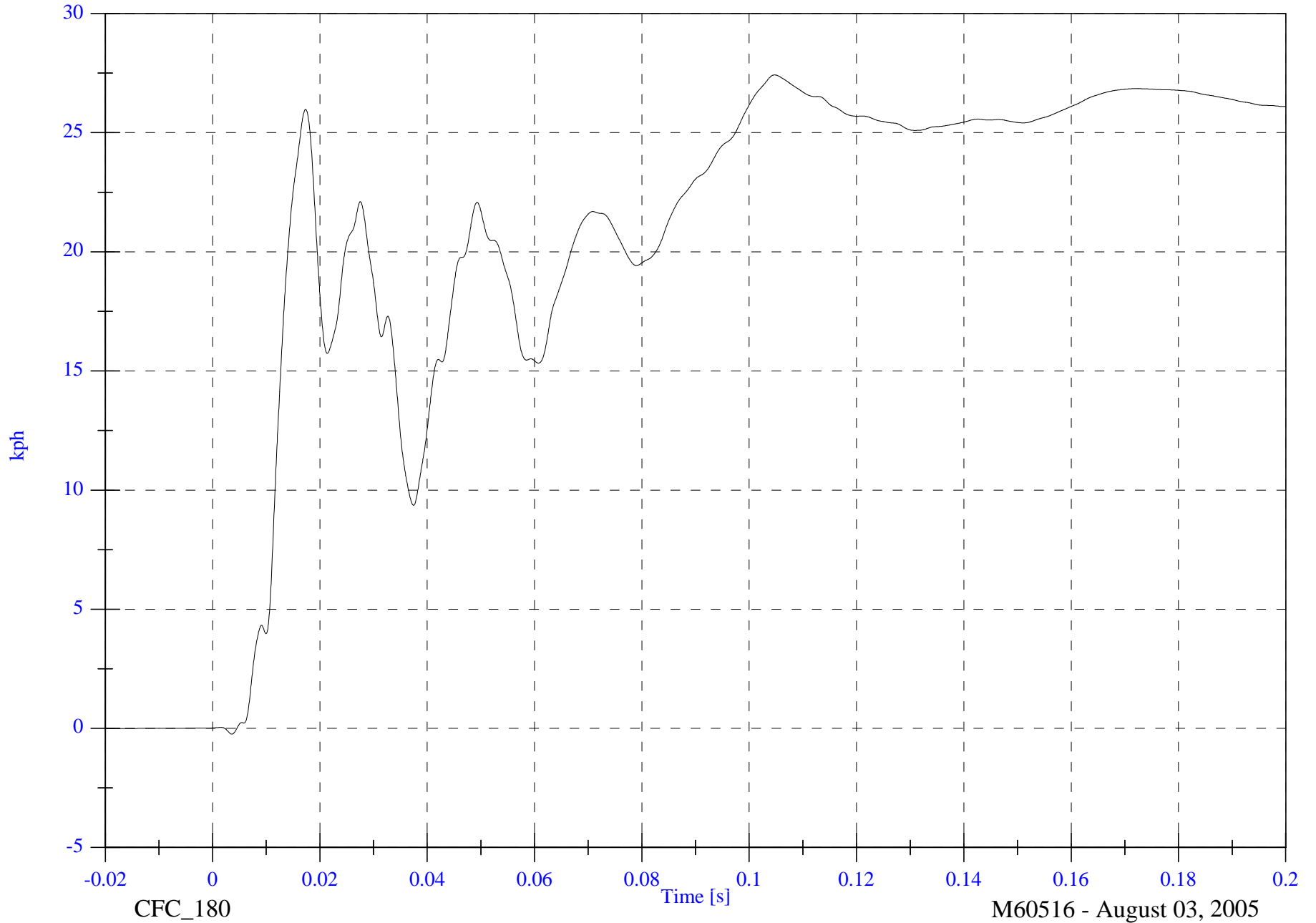
V2 A10 Left Rear Door Midrear Y Velocity

Max: 27.4 [kph] at 0.105 [s]

Min: -0.2 [kph] at 0.004 [s]

B-94

8765-SNCAP-11



CFC_180

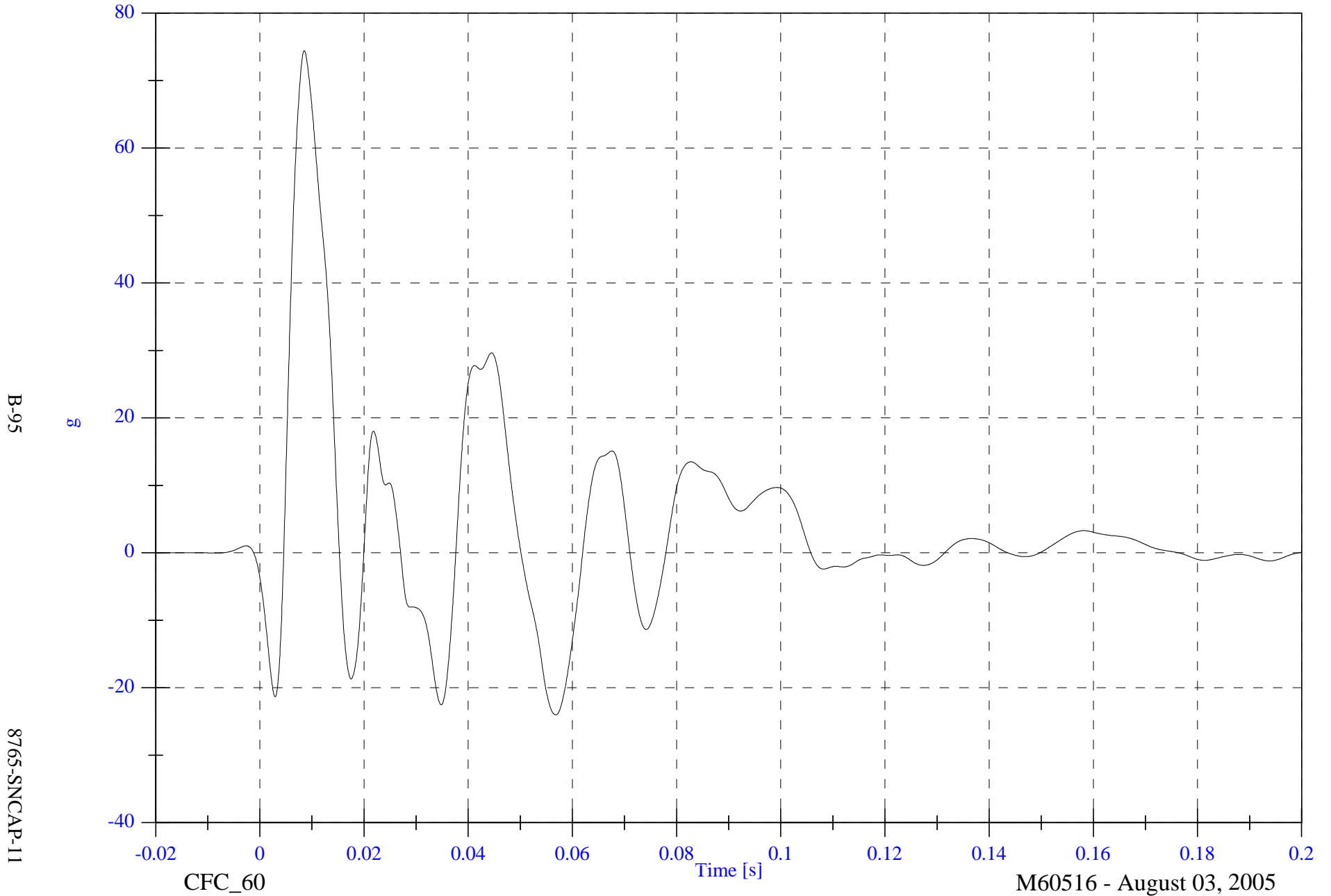
M60516 - August 03, 2005

2006 SENCAP Test 1 2006 Mercedes ML350

V2 A11 Left Rear Door Upper C/L Y

Max: 74.4 [g] at 0.009 [s]

Min: -24.0 [g] at 0.057 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

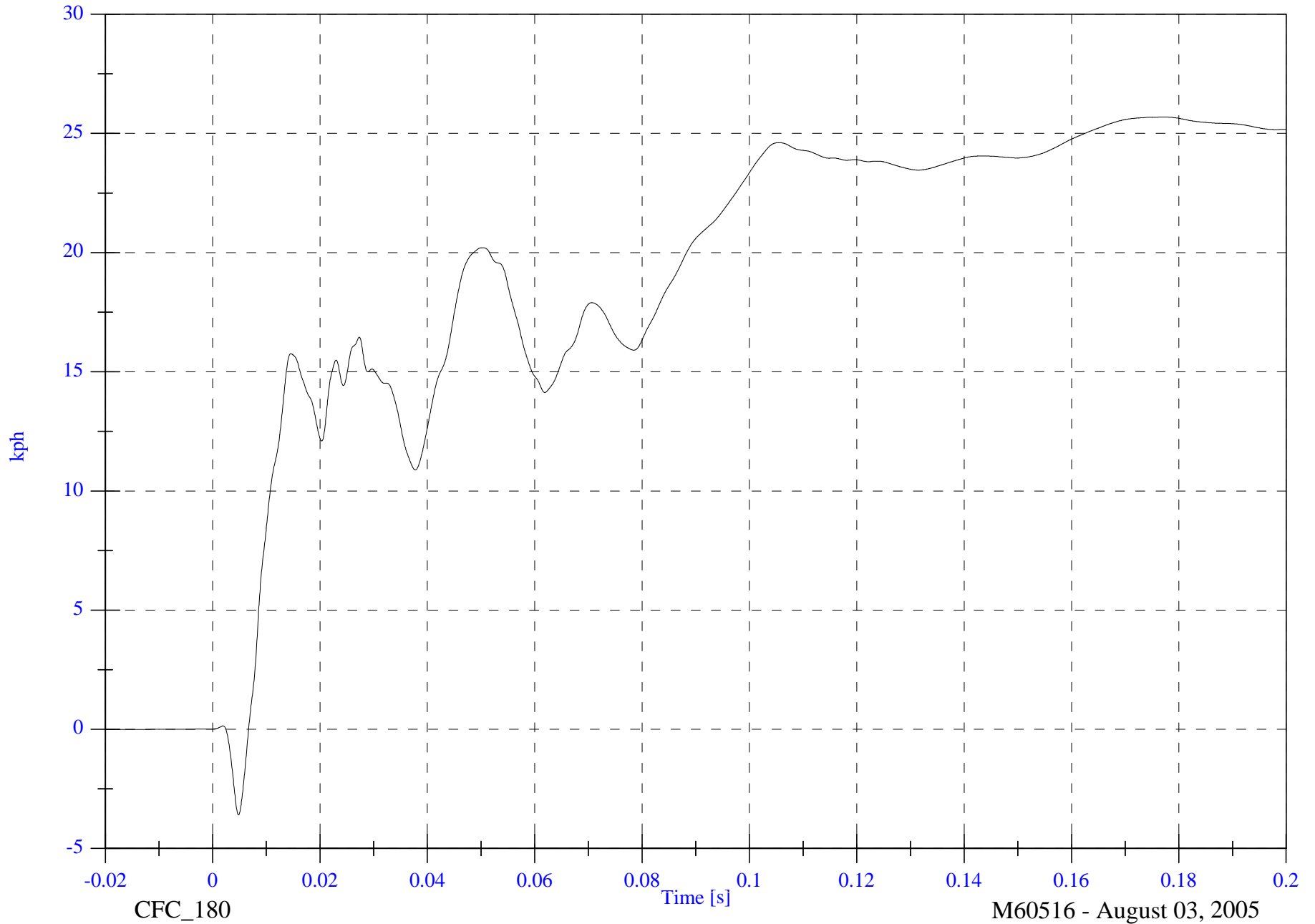
V2 A11 Left Rear Door Upper C/L Y Velocity

Max: 25.7 [kph] at 0.177 [s]

Min: -3.6 [kph] at 0.005 [s]

B-96

8765-SNCAP-11



CFC_180

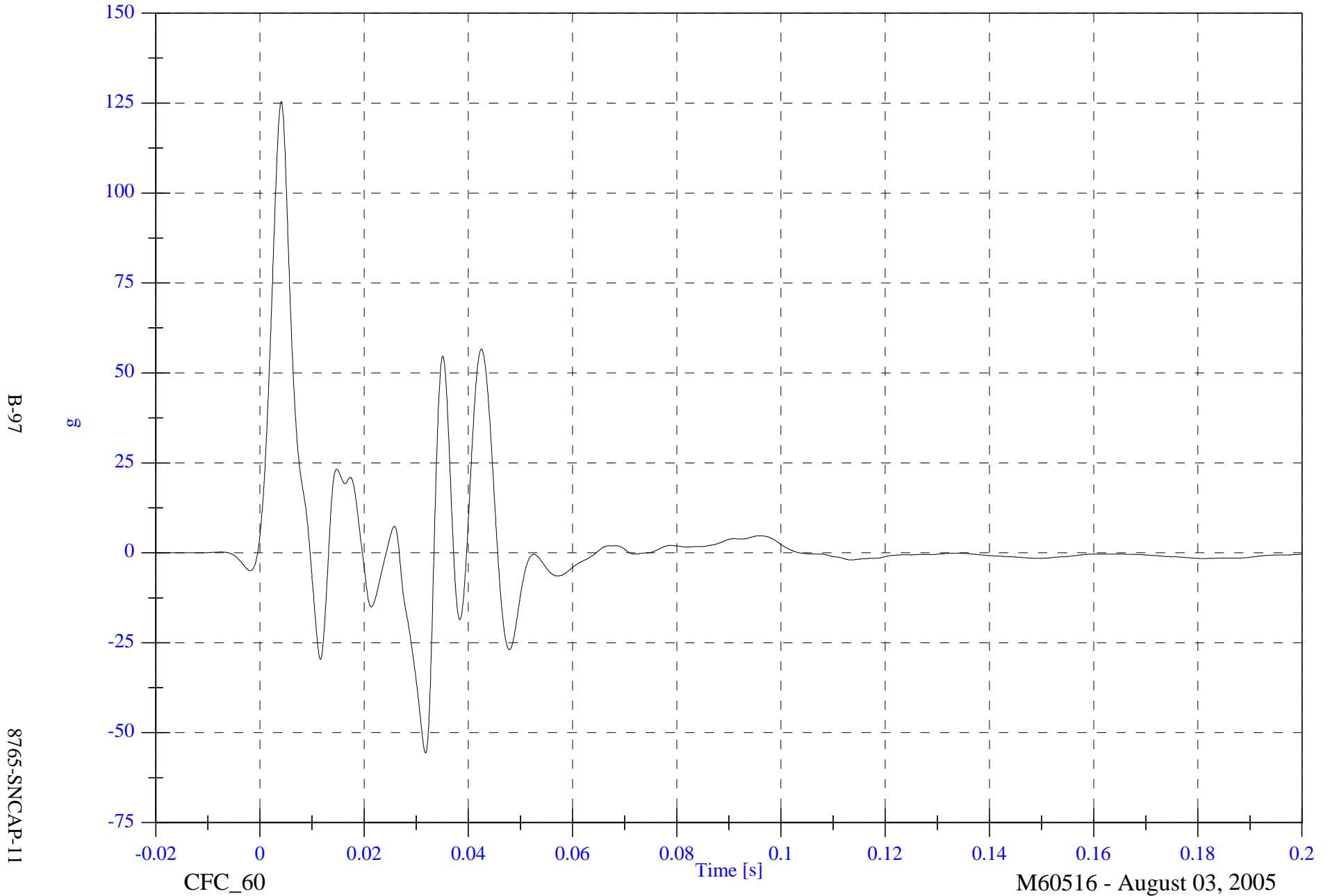
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A12 Left Lower B Post Y

Max: 125.4 [g] at 0.004 [s]

Min: -55.6 [g] at 0.032 [s]



B-97

g

8765-SNCAP-11

CFC_60

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

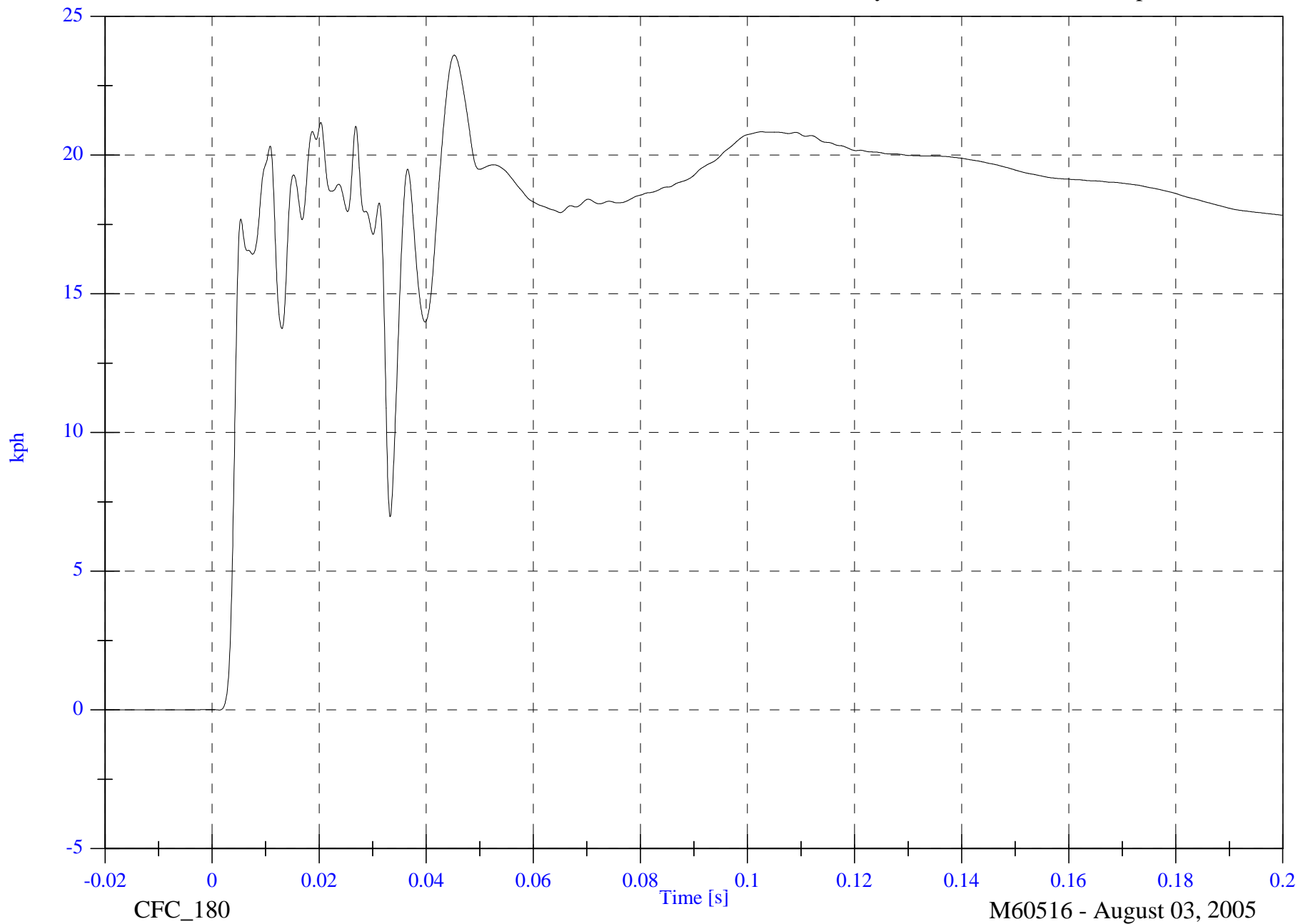
Max: 23.6 [kph] at 0.045 [s]

V2 A12 Left Lower B Post Y Velocity

Min: -0.0 [kph] at 0.001 [s]

B-98

8765-SNCAP-11



CFC_180

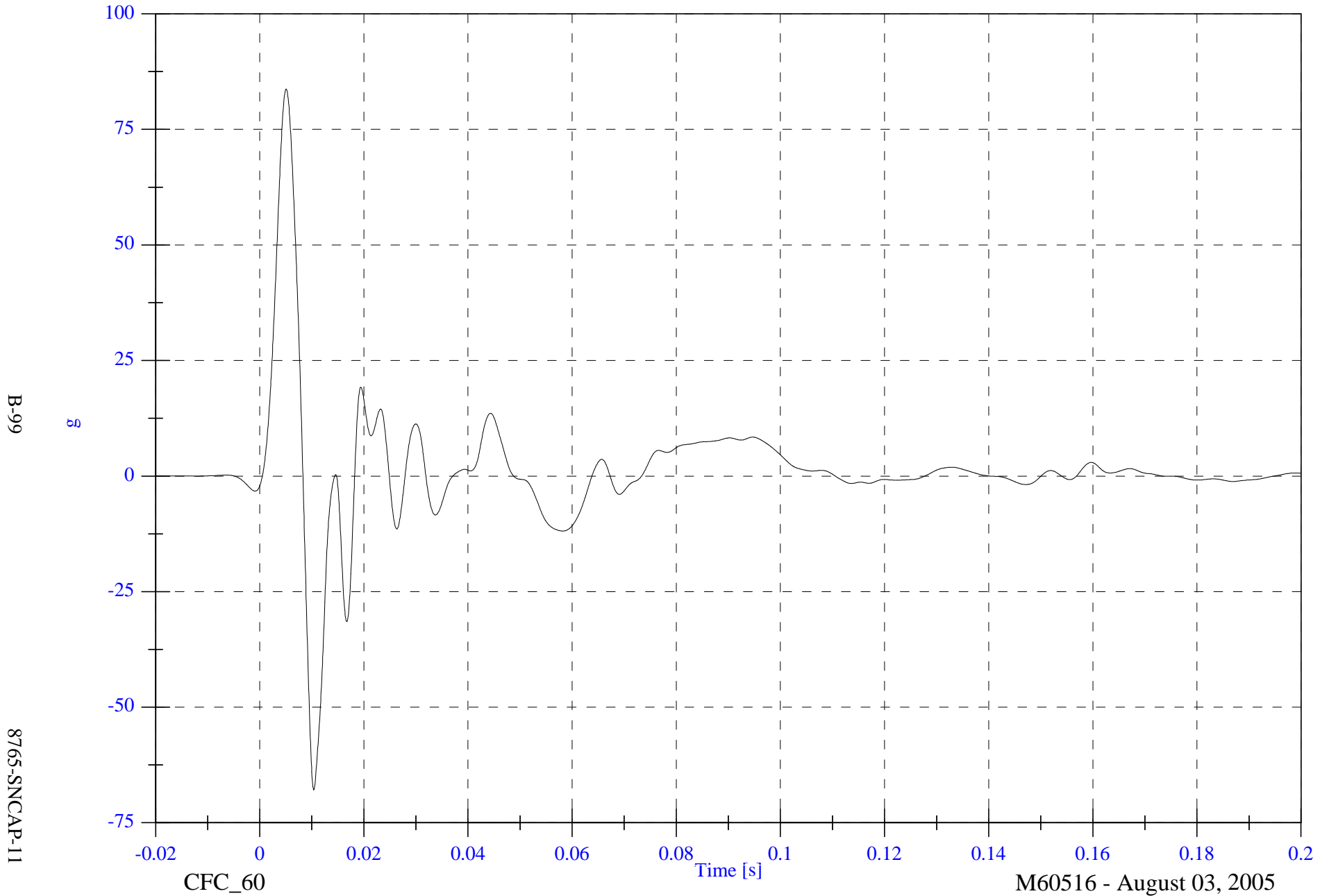
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A13 Left Mid B Post Y

Max: 83.7 [g] at 0.005 [s]

Min: -67.9 [g] at 0.010 [s]



B-99

8765-SNCAP-11

CFC_60

Time [s]

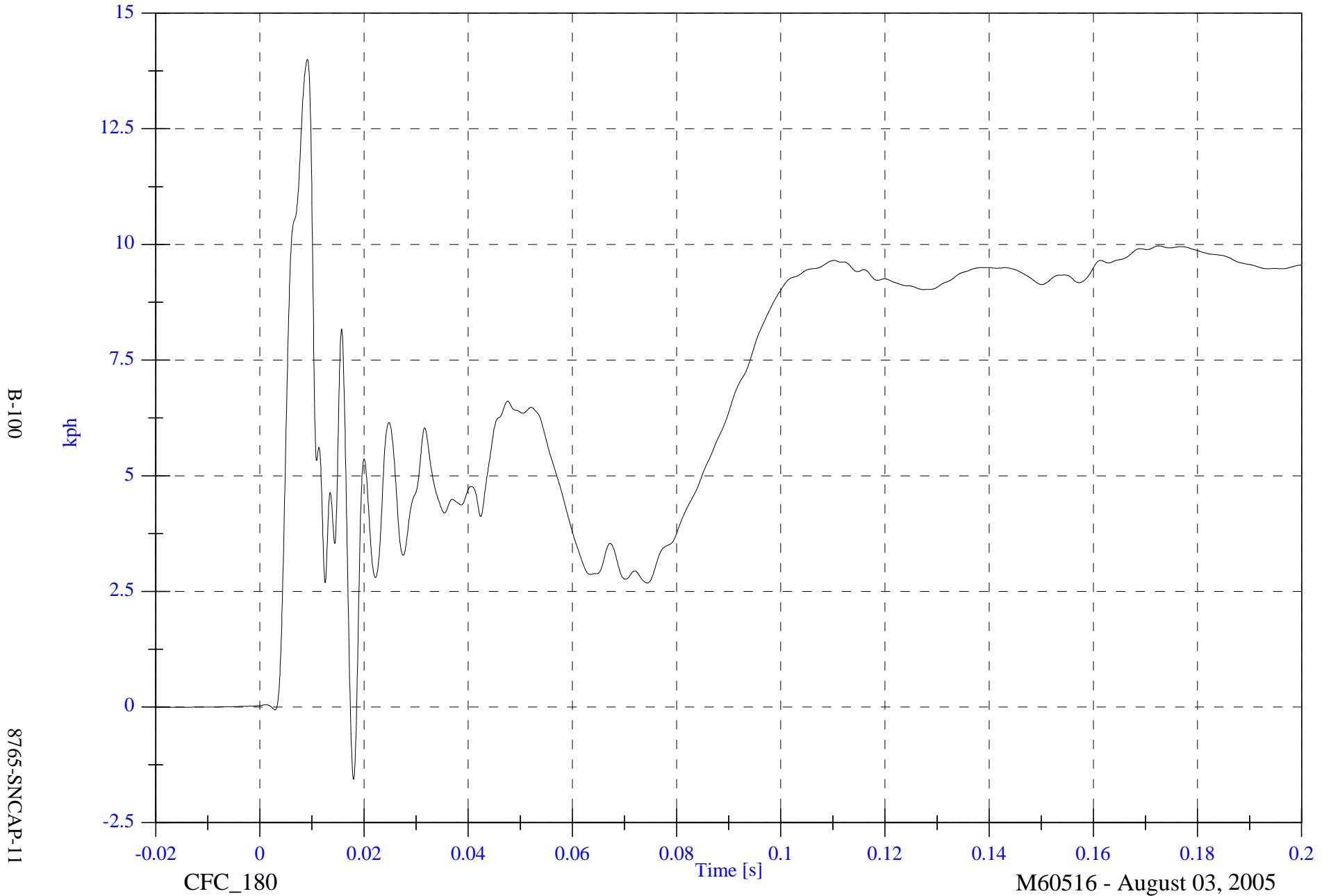
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A13 Left Mid B Post Y Velocity

Max: 14.0 [kph] at 0.009 [s]

Min: -1.6 [kph] at 0.018 [s]



B-100

8765-SNCAP-11

CFC_180

Time [s]

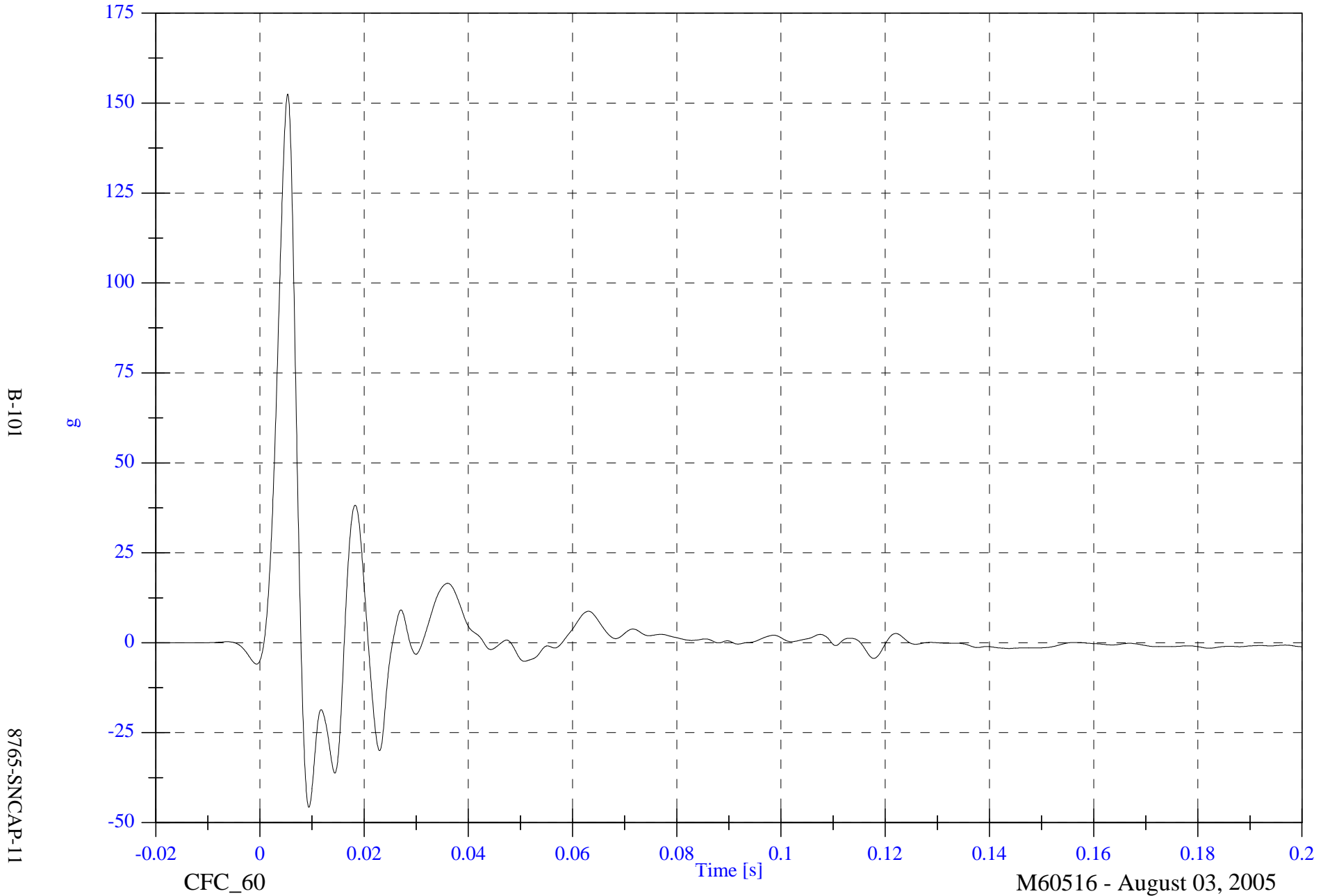
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A14 Left Lower A Post Y

Max: 152.5 [g] at 0.005 [s]

Min: -45.7 [g] at 0.009 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

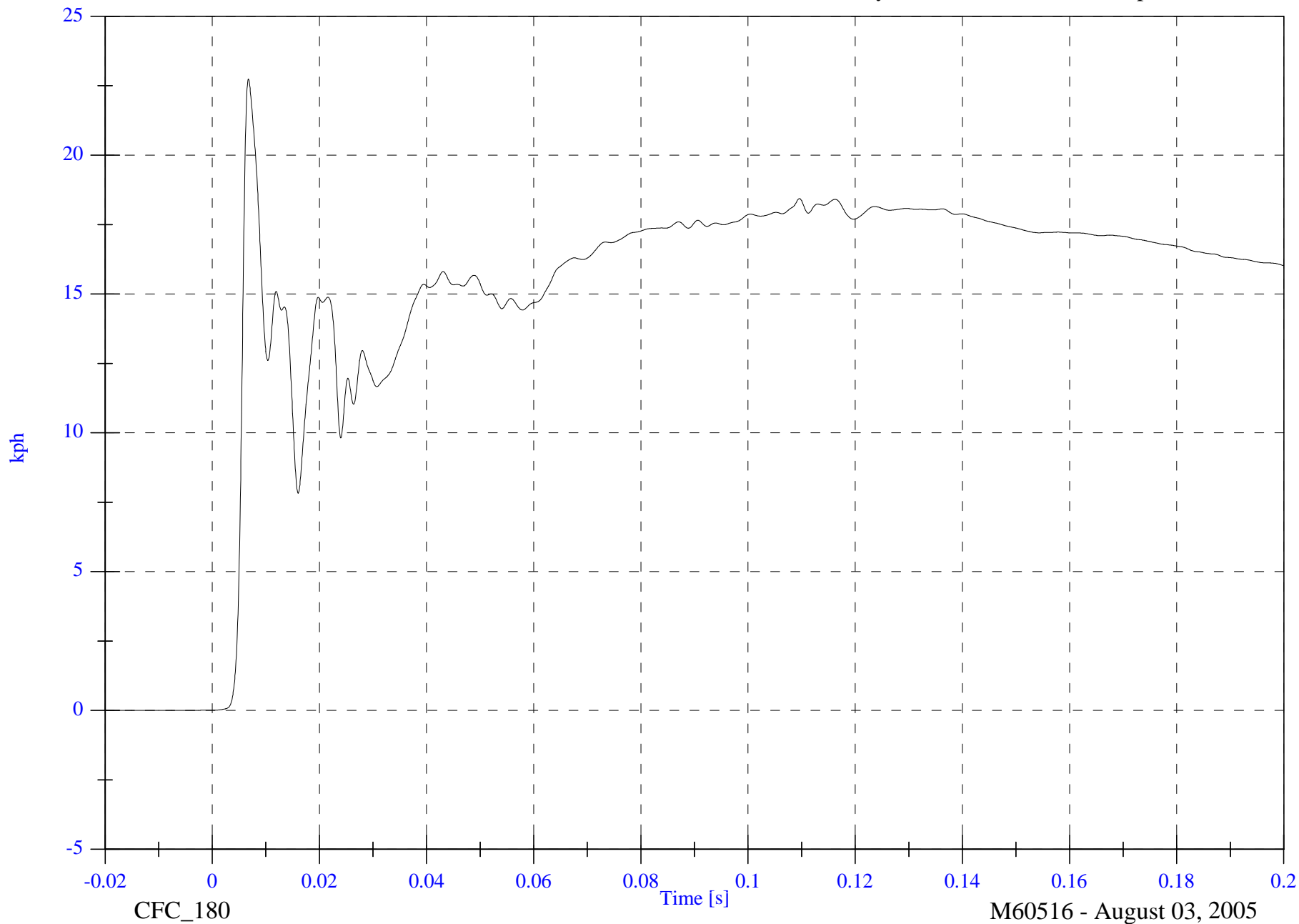
V2 A14 Left Lower A Post Y Velocity

Max: 22.7 [kph] at 0.007 [s]

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

B-102

8765-SNCAP-11



CFC_180

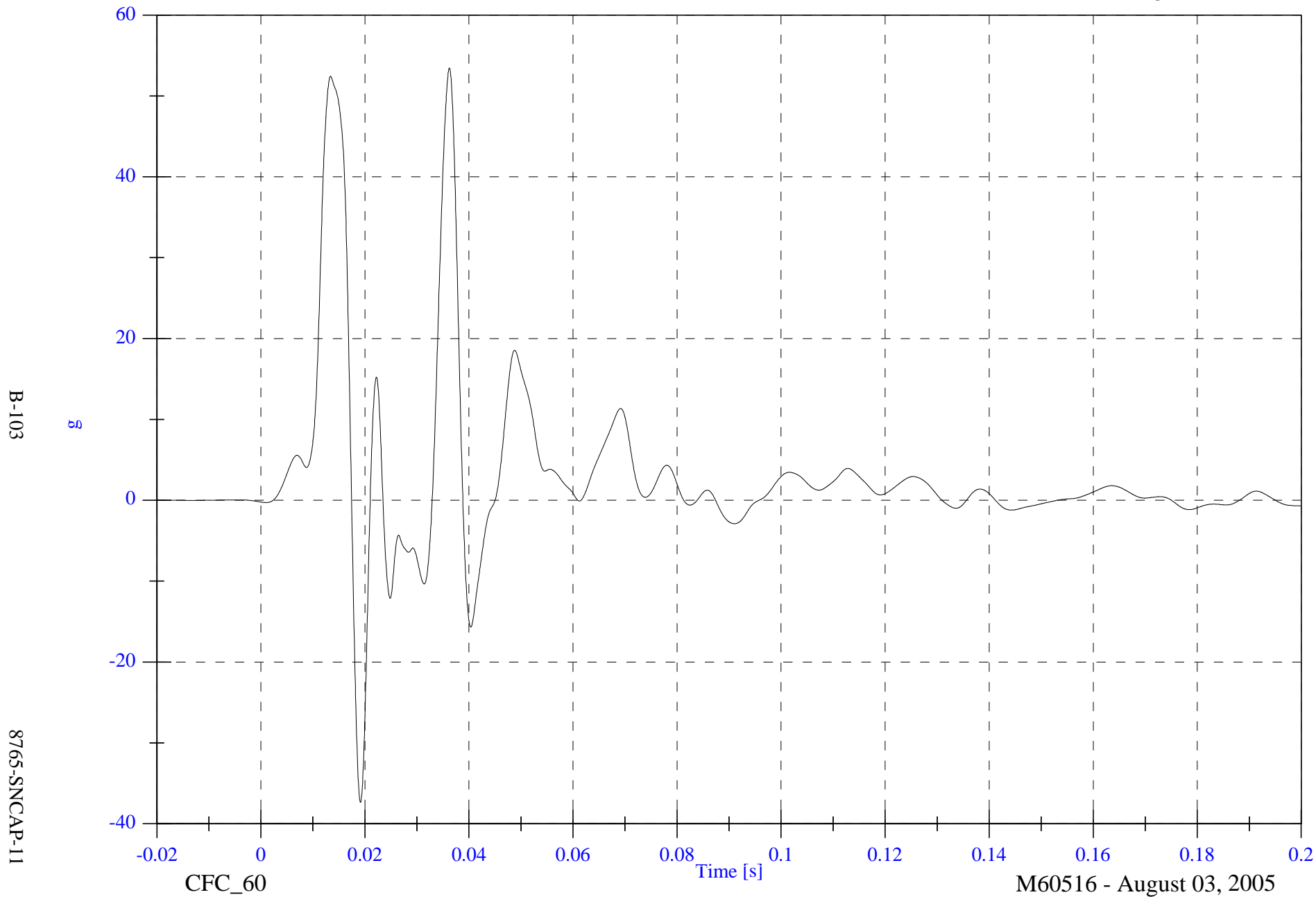
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A15 Left Mid A Post Y

Max: 53.5 [g] at 0.036 [s]

Min: -37.4 [g] at 0.019 [s]



B-103

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CFC_60

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

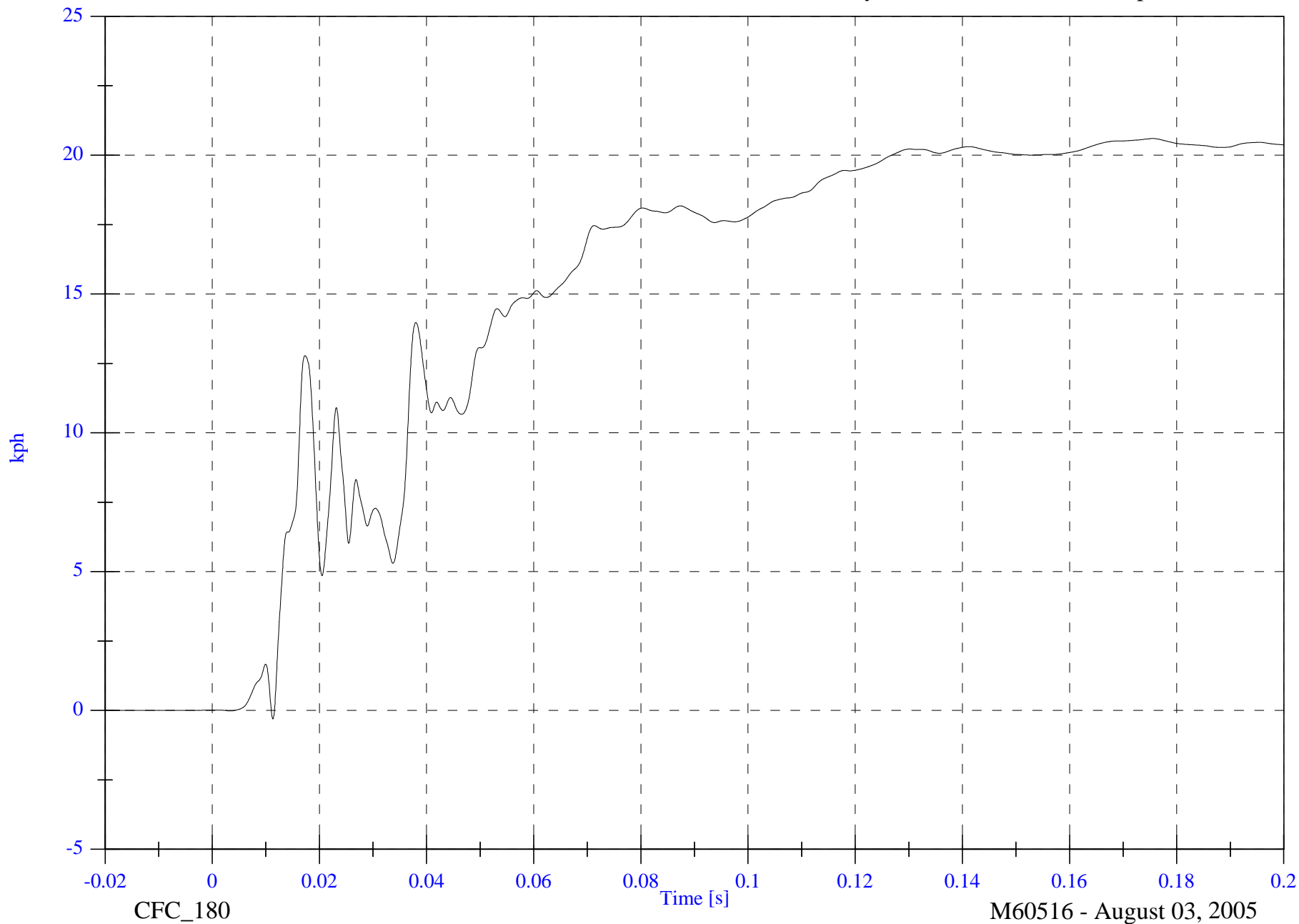
V2 A15 Left Mid A Post Y Velocity

Max: 20.6 [kph] at 0.176 [s]

Min: -0.3 [kph] at 0.011 [s]

B-104

8765-SNCAP-11



CFC_180

Time [s]

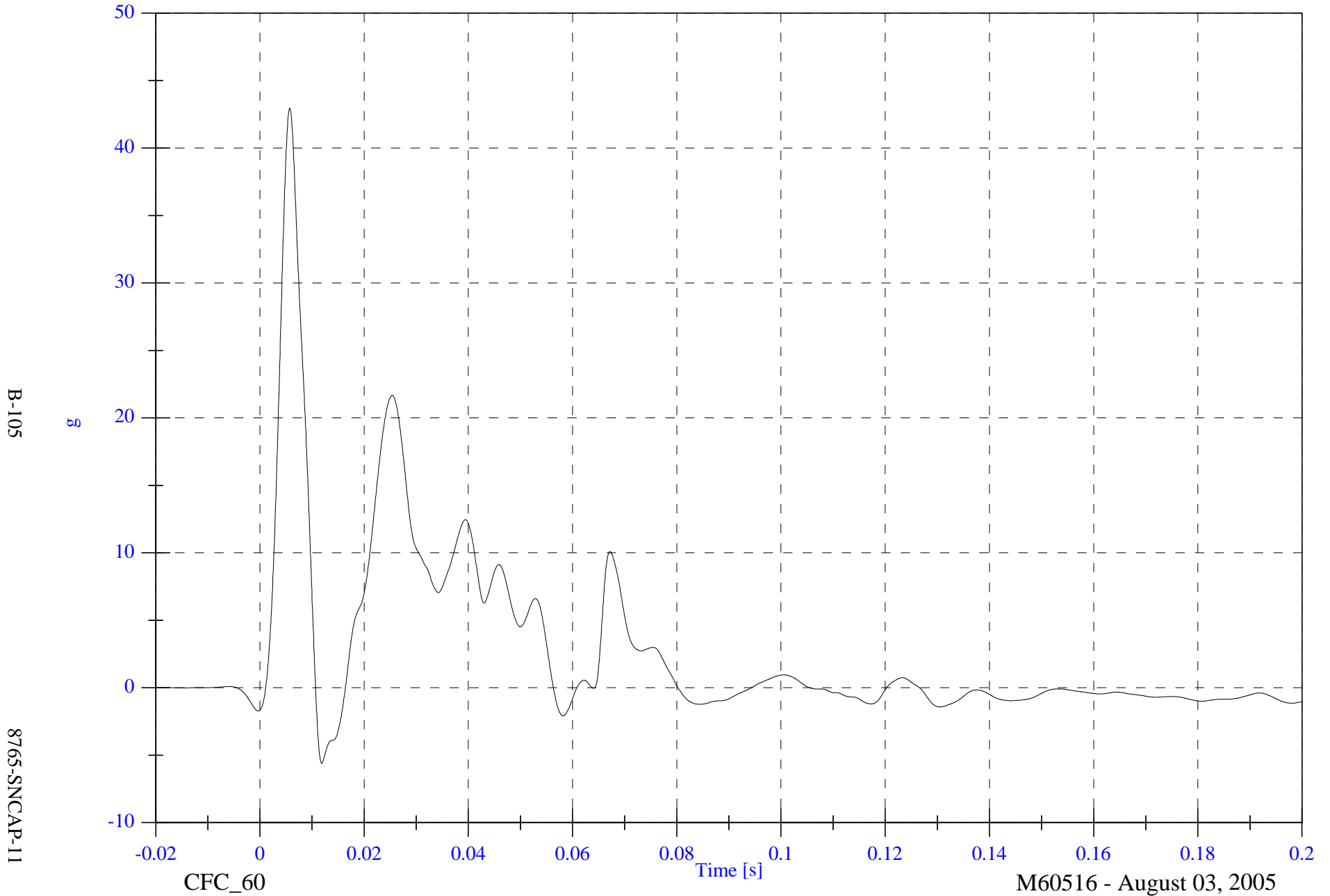
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A16 Front Seat Track Y

Max: 43.0 [g] at 0.006 [s]

Min: -5.6 [g] at 0.012 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

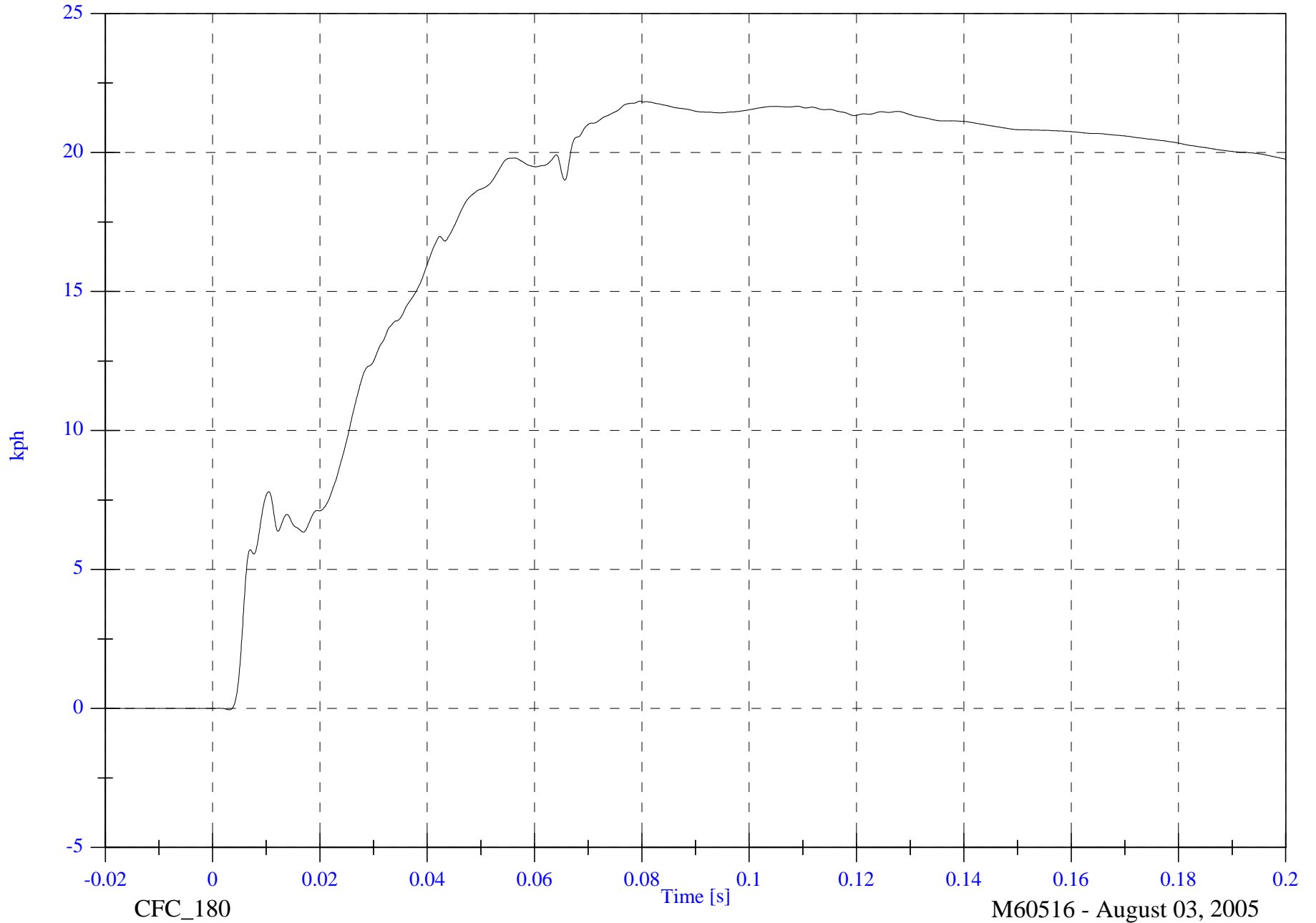
V2 A16 Front Seat Track Y Velocity

Max: 21.8 [kph] at 0.080 [s]

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

B-106

8765-SNCAP-11



CFC_180

Time [s]

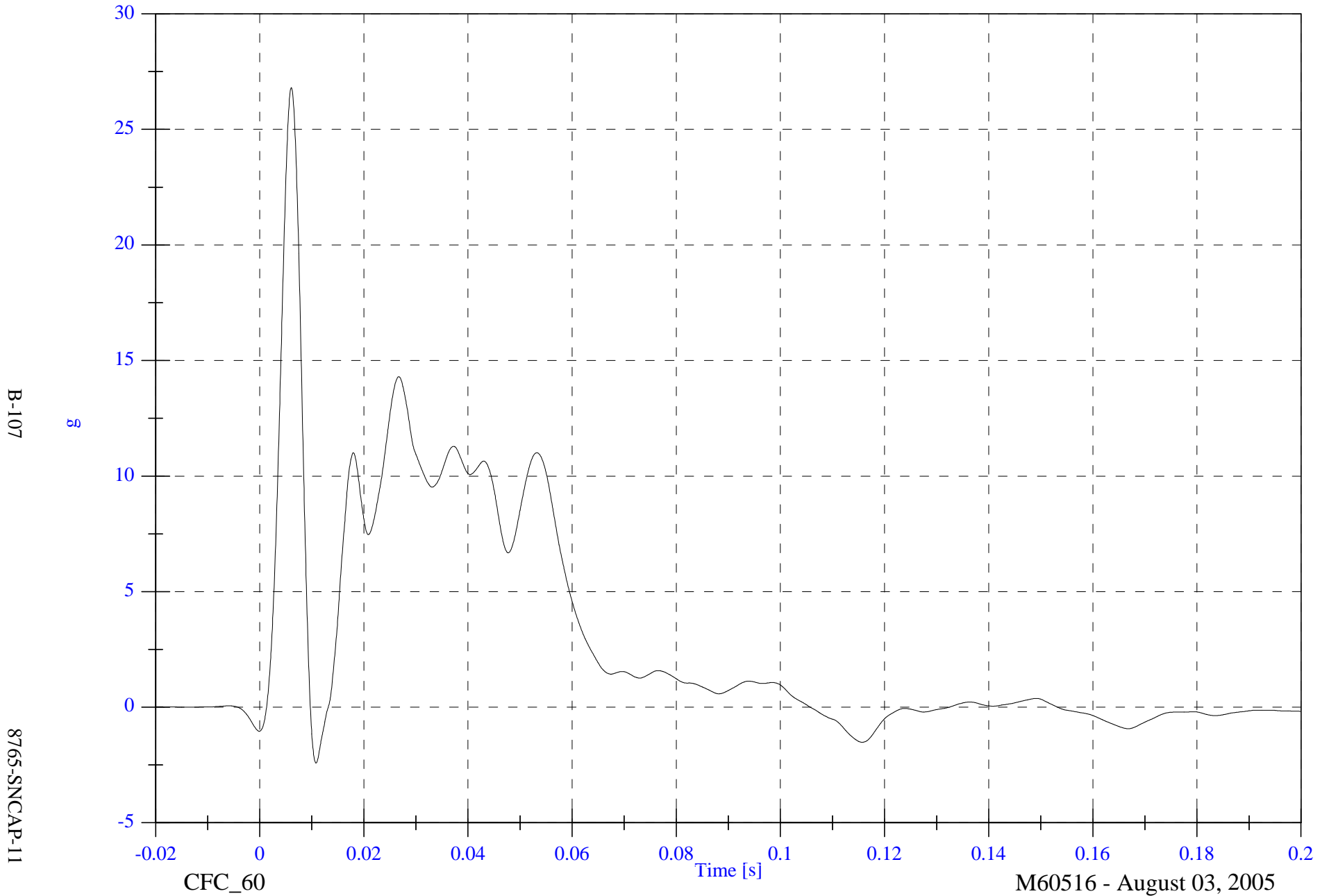
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A17 Rear Seat Track Y

Max: 26.8 [g] at 0.006 [s]

Min: -2.4 [g] at 0.011 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

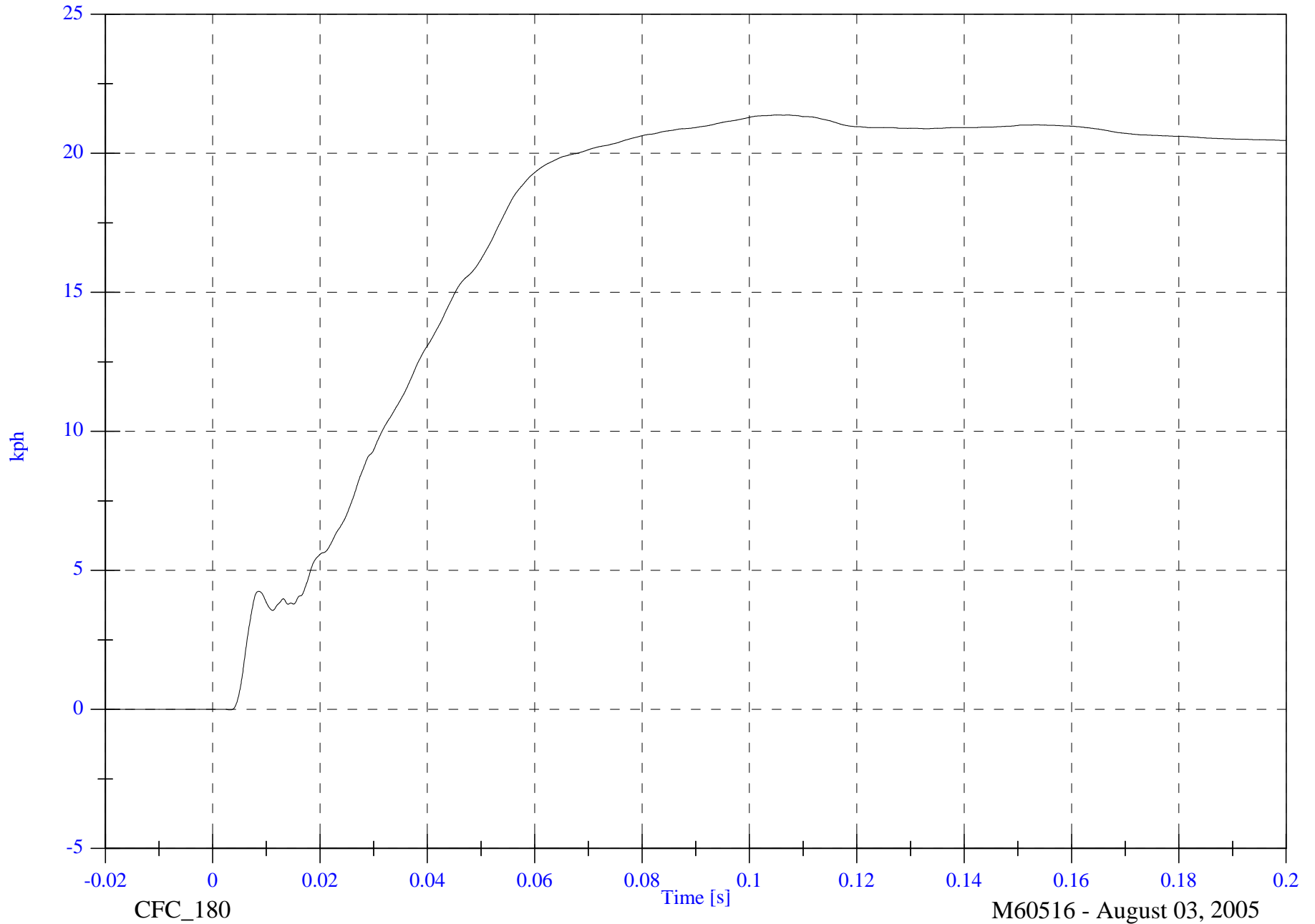
V2 A17 Rear Seat Track Y Velocity

Max: 21.4 [kph] at 0.105 [s]

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

B-108

8765-SNCAP-11



CFC_180

Time [s]

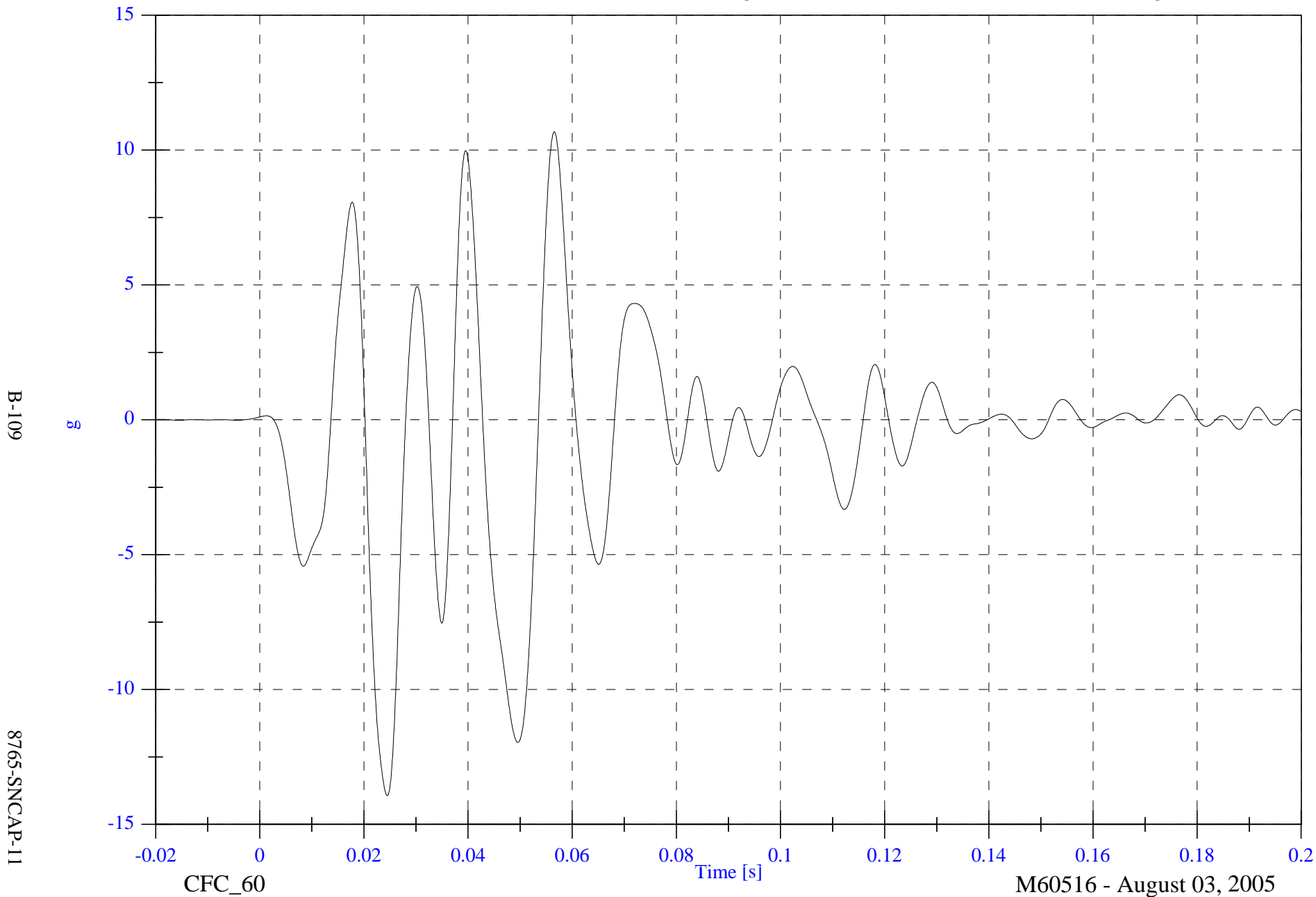
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A18 Target CG X

Max: 10.7 [g] at 0.057 [s]

Min: -13.9 [g] at 0.025 [s]



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CFC_60

Time [s]

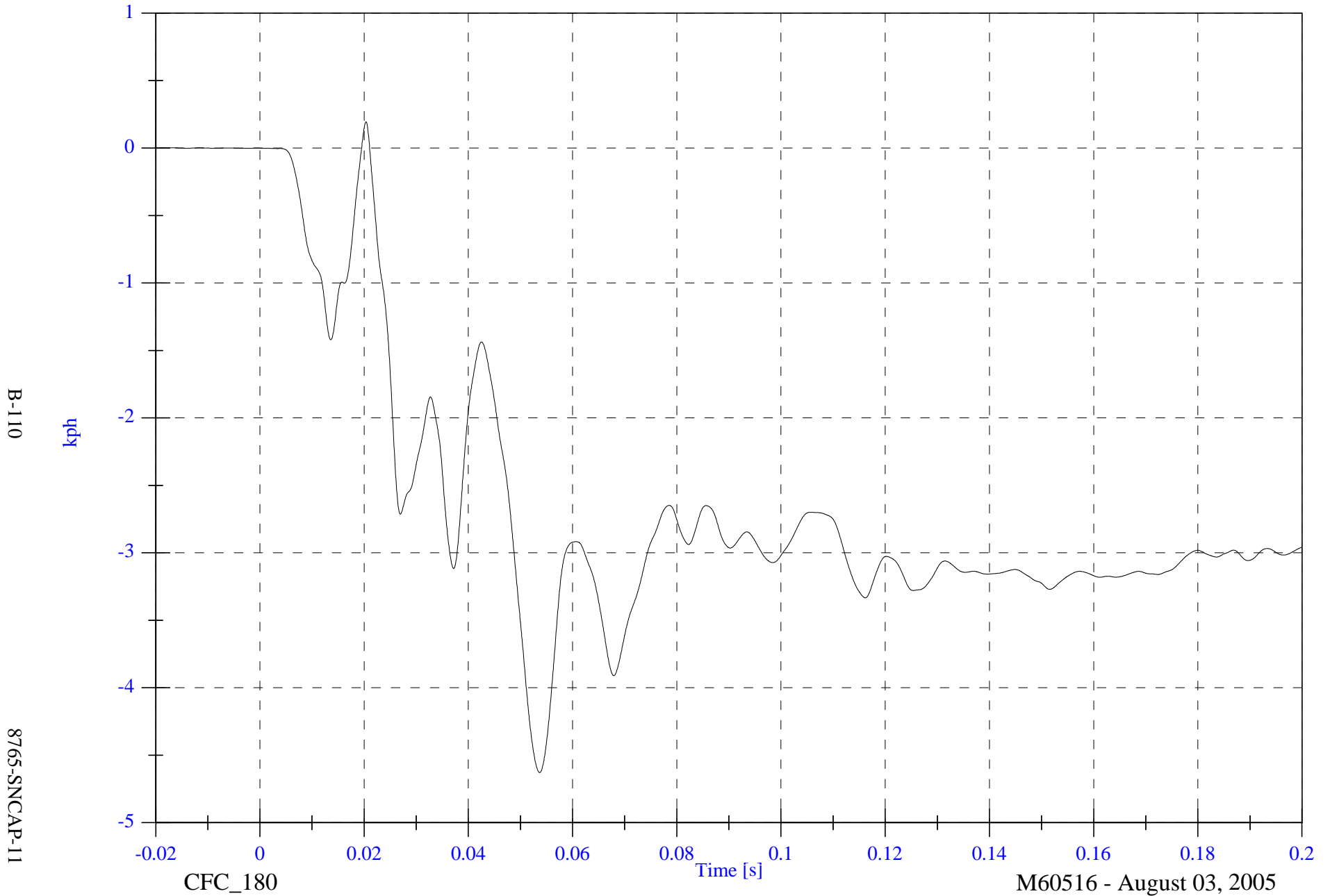
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A18 Target CG X Velocity

Max: 0.2 [kph] at 0.020 [s]

Min: -4.6 [kph] at 0.054 [s]



B-110

8765-SNCAP-11

CFC_180

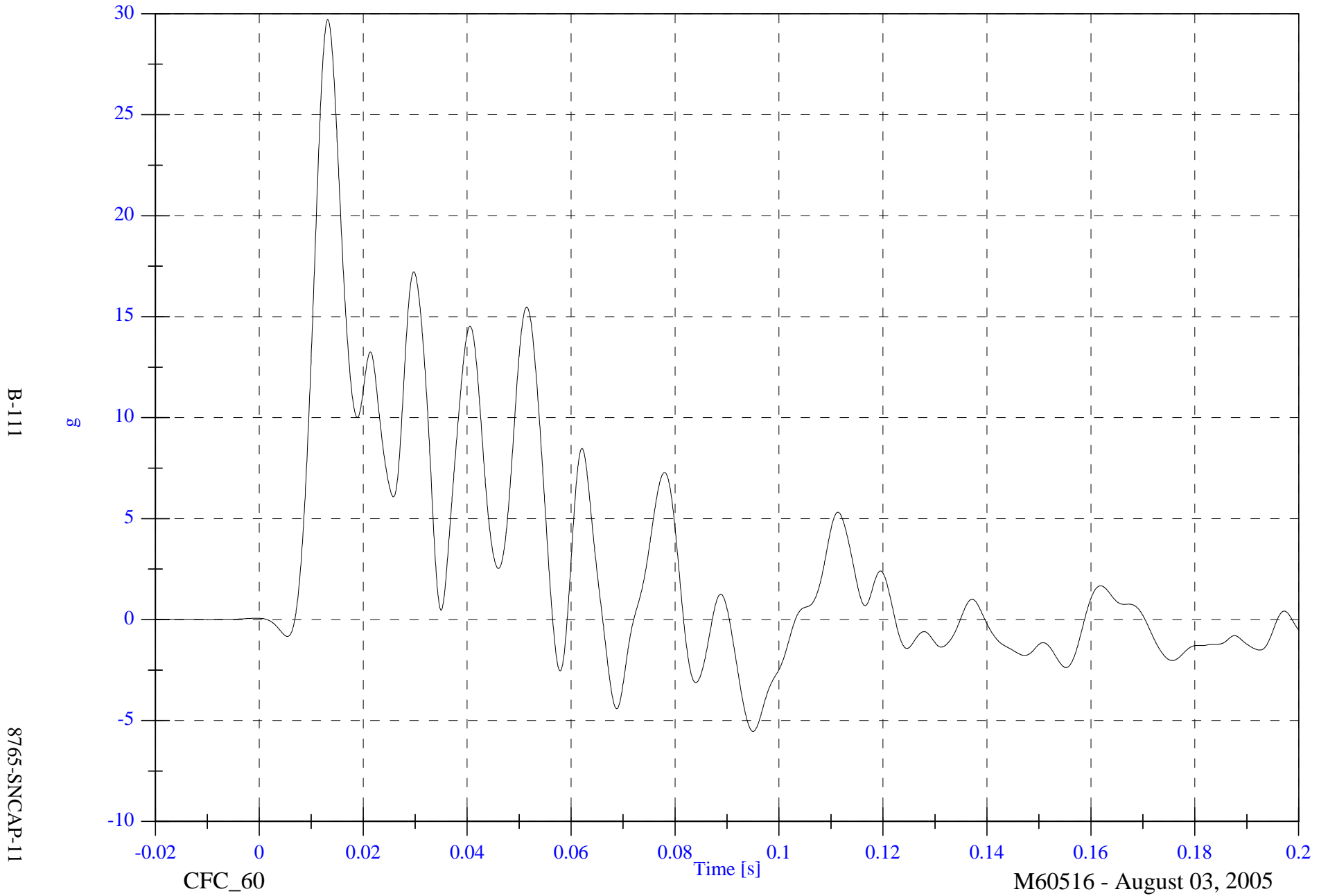
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A18 Target CG Y

Max: 29.7 [g] at 0.013 [s]

Min: -5.5 [g] at 0.095 [s]



B-111

8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

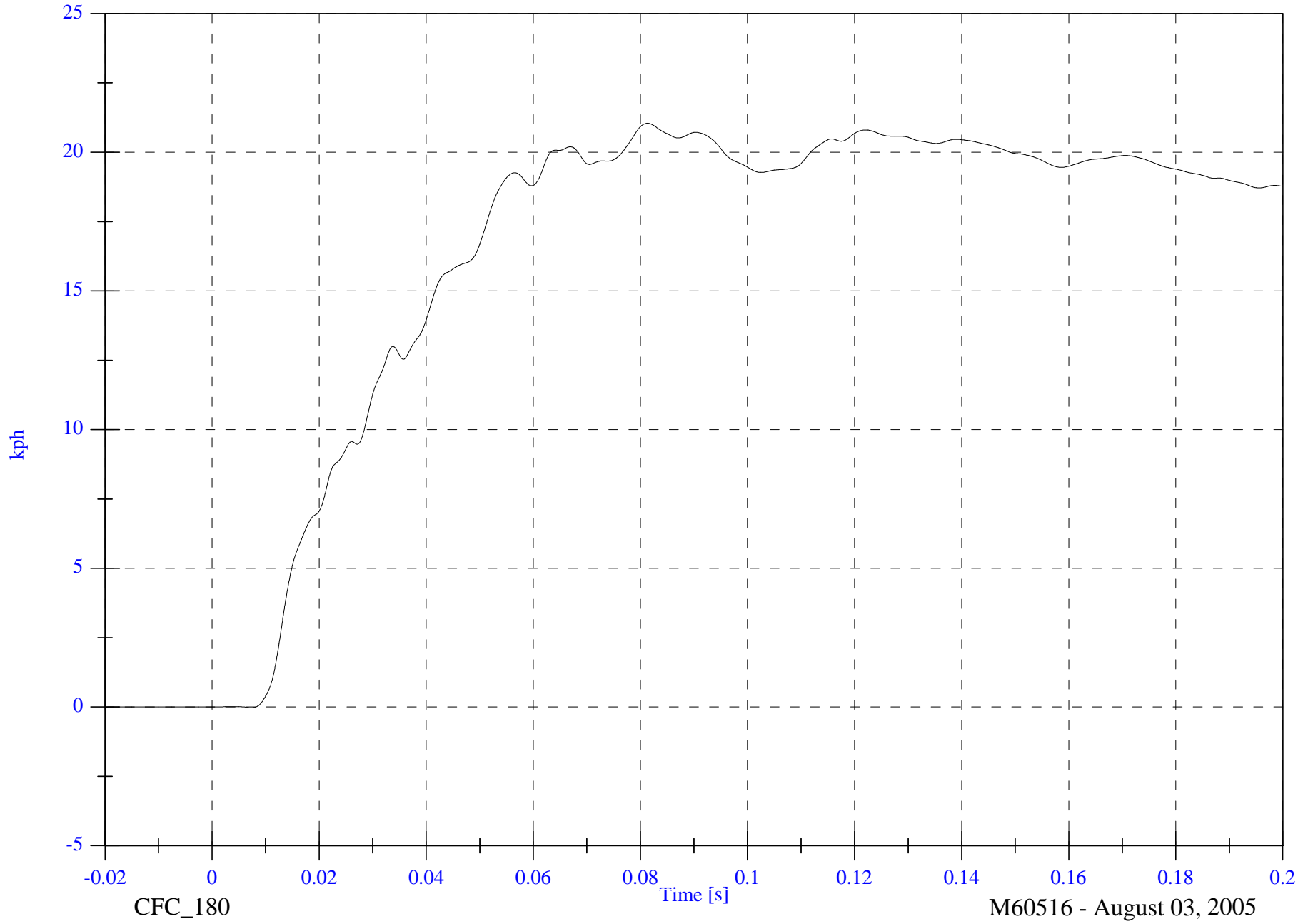
V2 A18 Target CG Y Velocity

Max: 21.0 [kph] at 0.081 [s]

Min: -0.0 [kph] at 0.007 [s]

B-112

8765-SNCAP-11



CFC_180

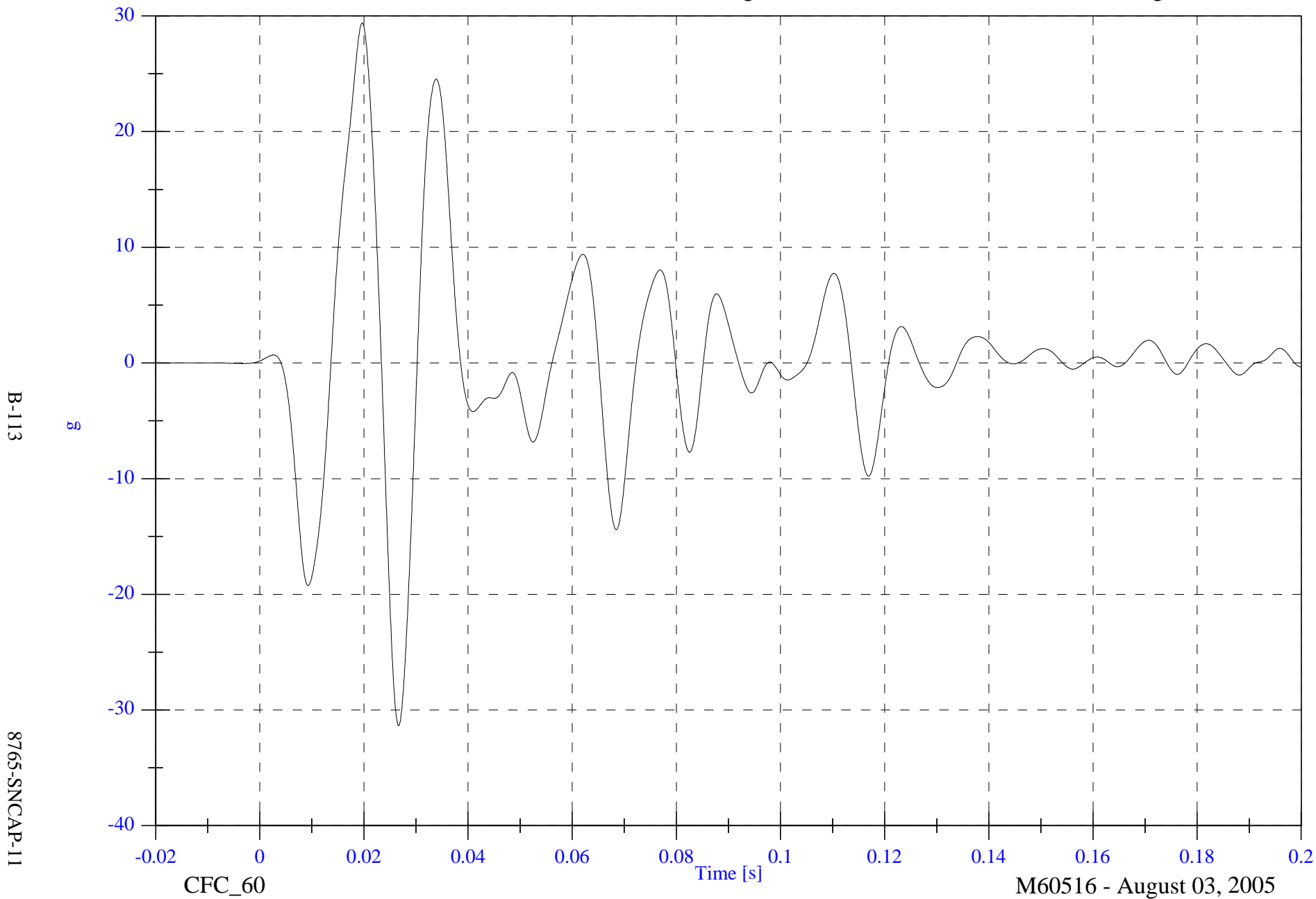
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A18 Target CG Z

Max: 29.4 [g] at 0.020 [s]

Min: -31.4 [g] at 0.027 [s]



B-113

8765-SNCAP-11

CFC_60

Time [s]

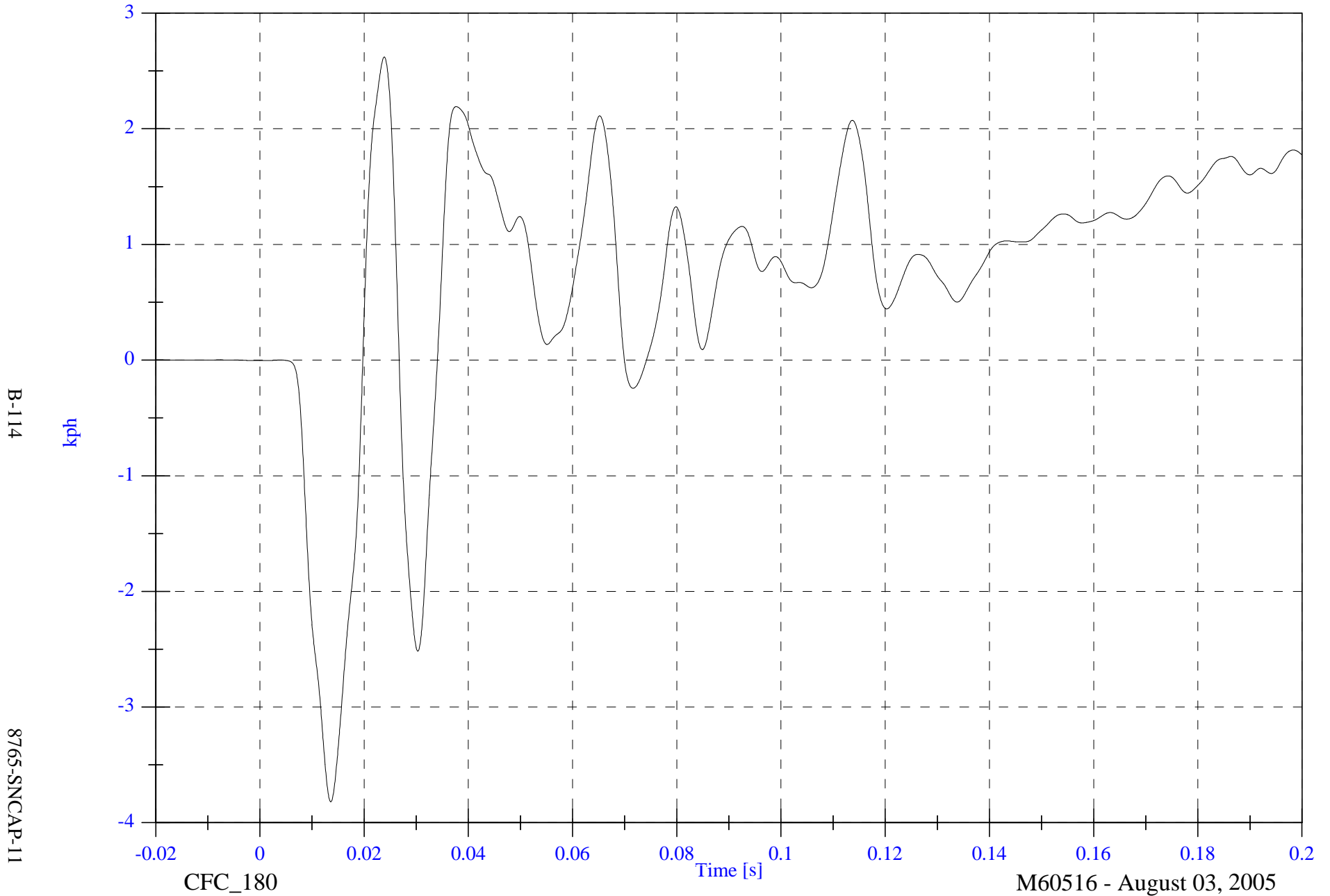
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A18 Target CG Z Velocity

Max: 2.6 [kph] at 0.024 [s]

Min: -3.8 [kph] at 0.014 [s]



B-114

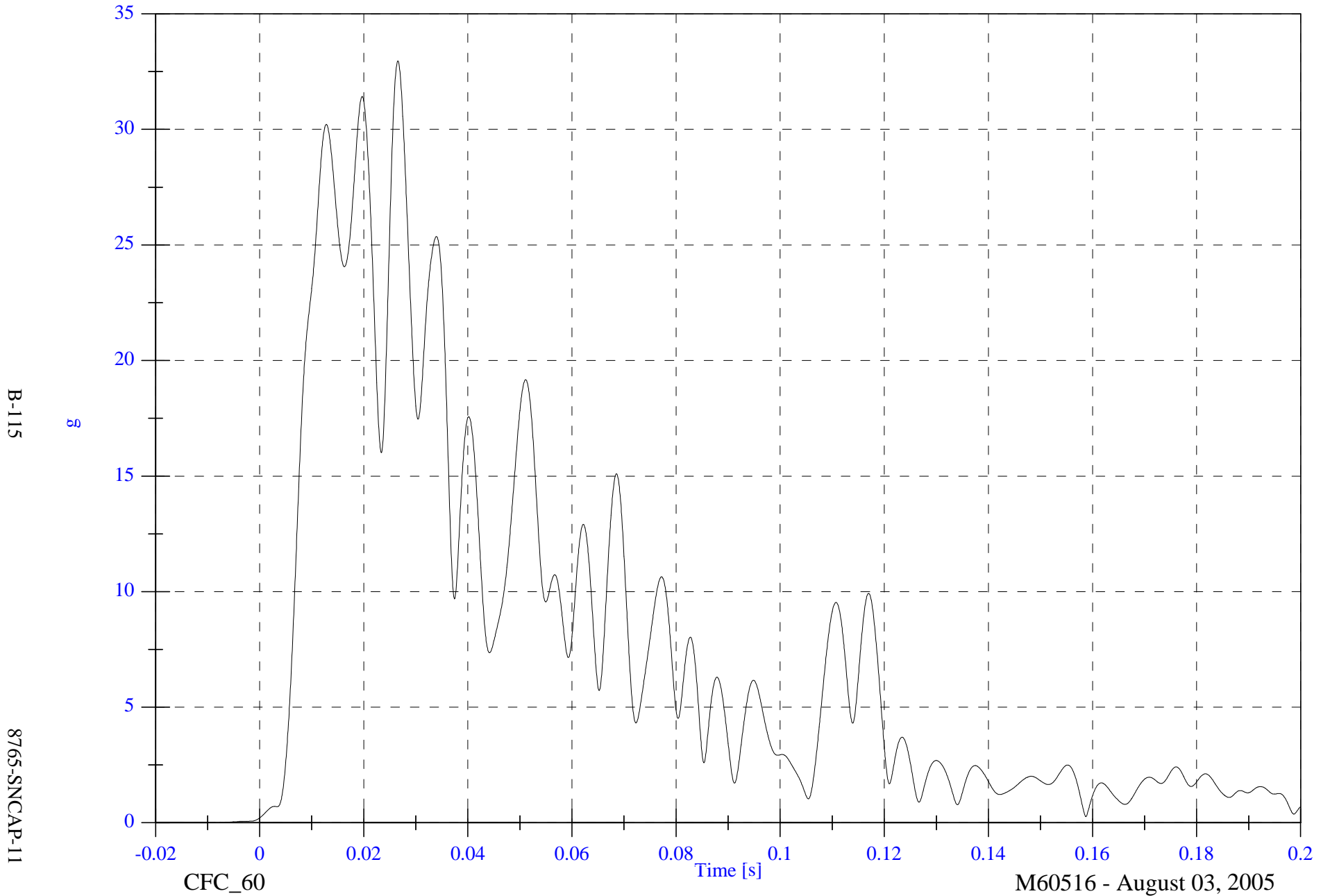
8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

V2 A18 Target CG Resultant

Max: 33.0 [g] at 0.027 [s]

Min: 0.0 [g] at -0.008 [s]



B-115

8765-SNCAP-11

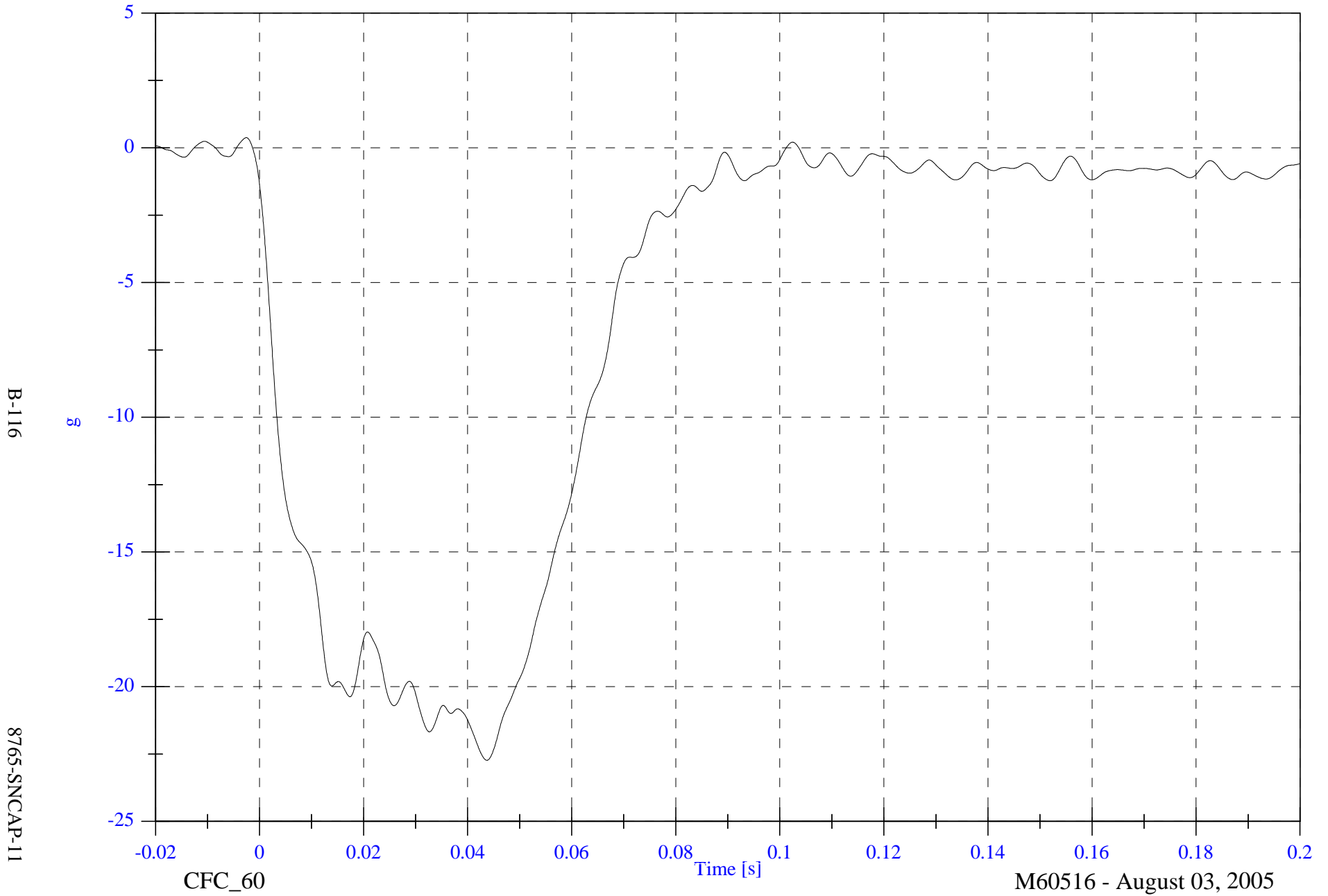
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V1 Moving Barrier CG X

Max: 0.4 [g] at -0.003 [s]

Min: -22.7 [g] at 0.044 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

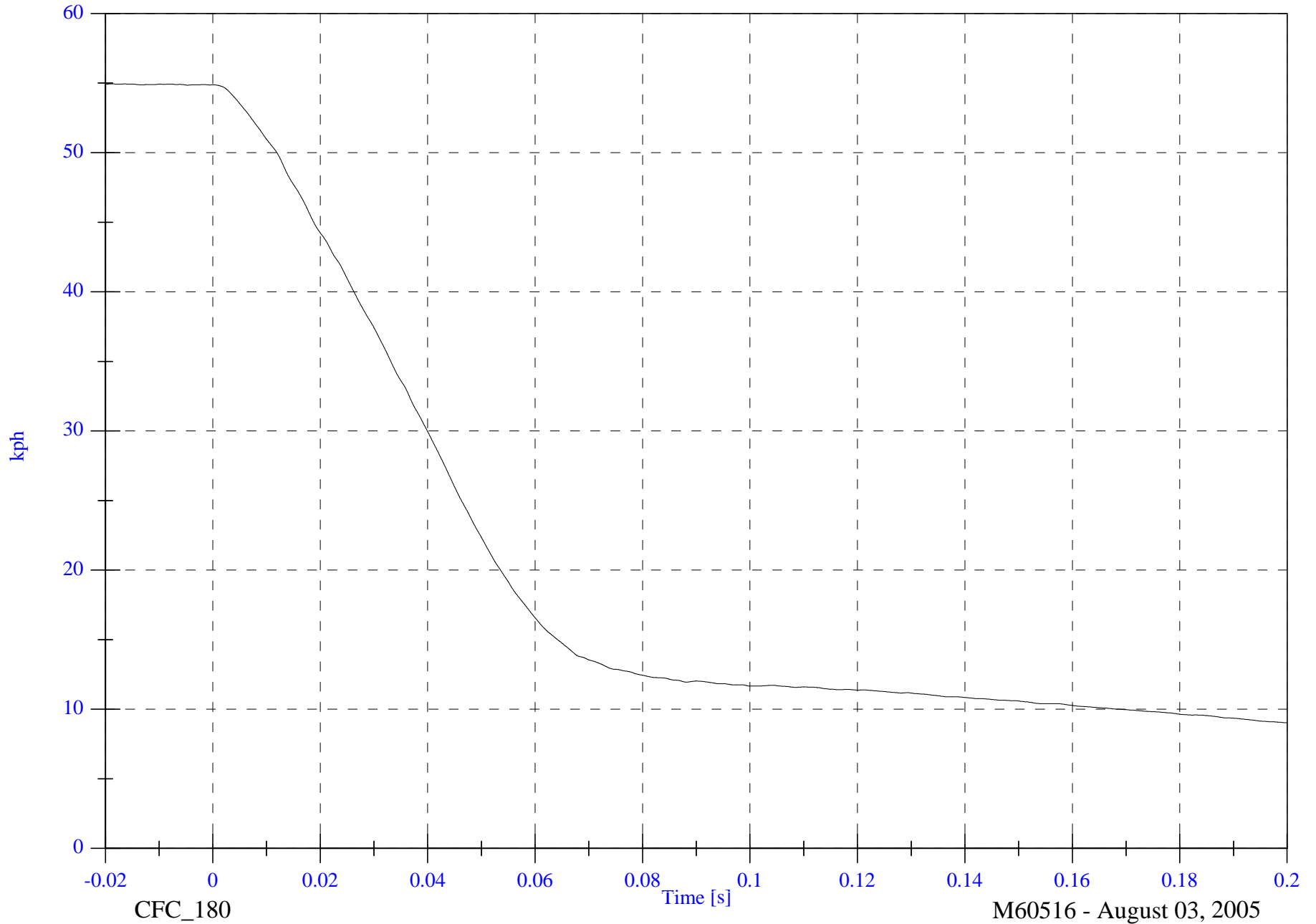
Max: 54.9 [kph] at -0.019 [s]

V1 Moving Barrier CG X Velocity

Min: 9.0 [kph] at 0.200 [s]

B-117

8765-SNCAP-11



CFC_180

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 1.1 [g] at 0.066 [s]

V1 Moving Barrier CG Y

Min: -7.1 [g] at 0.023 [s]



B-118

8765-SNCAP-11

CFC_60

Time [s]

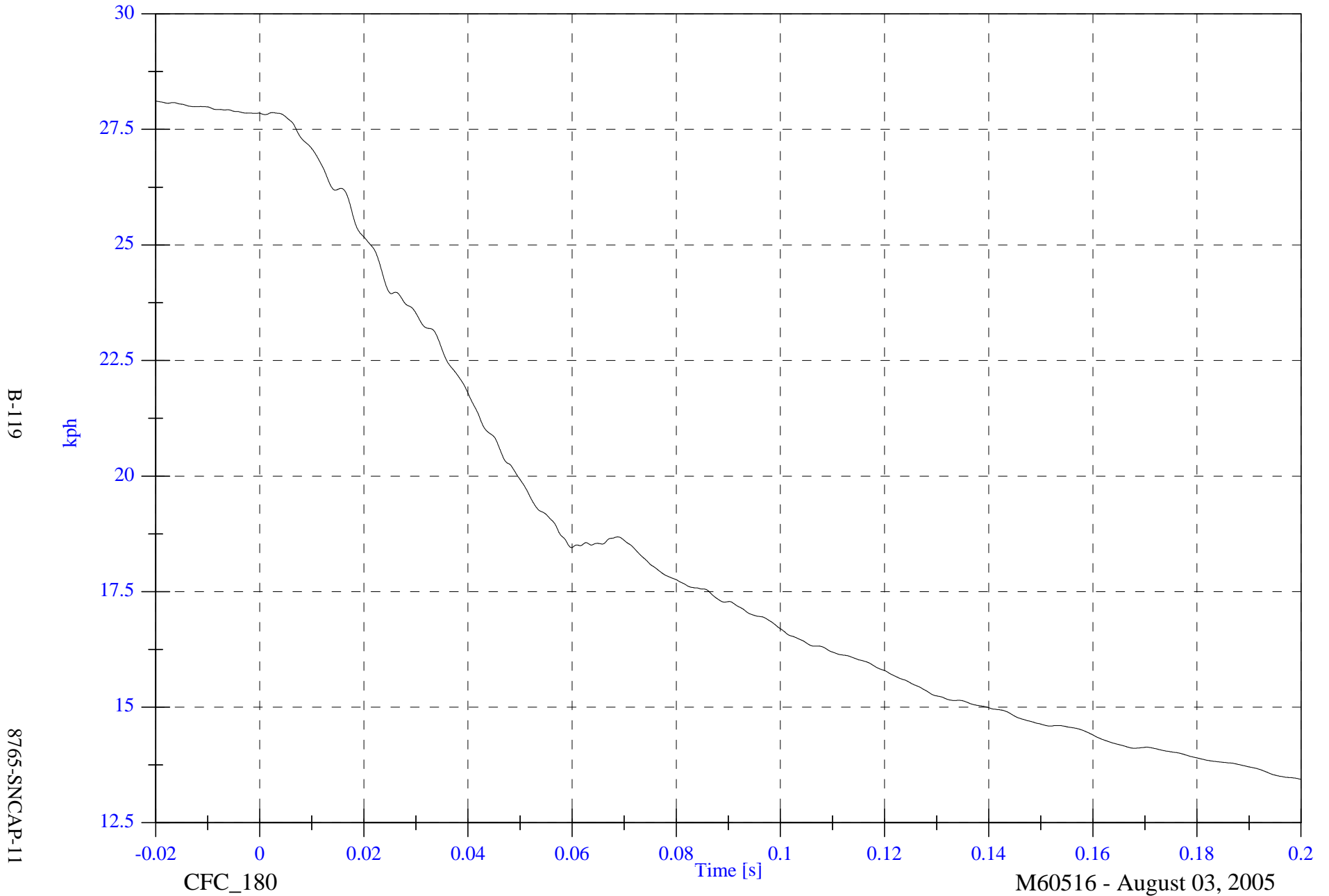
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 28.1 [kph] at -0.020 [s]

V1 Moving Barrier CG Y Velocity

Min: 13.4 [kph] at 0.200 [s]

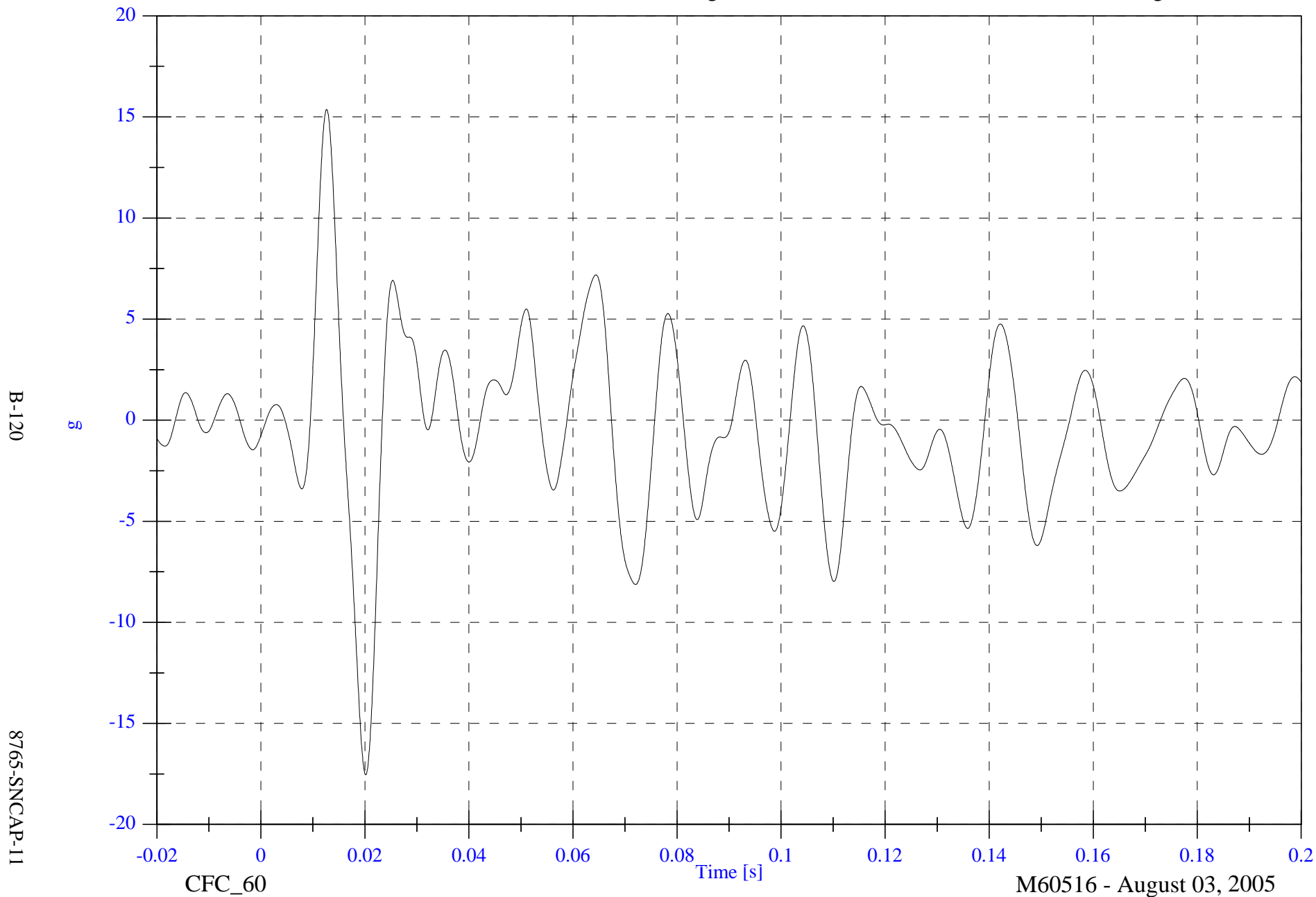


2006 SNCAP Test 1 2006 Mercedes ML350

V1 Moving Barrier CG Z

Max: 15.4 [g] at 0.013 [s]

Min: -17.5 [g] at 0.020 [s]

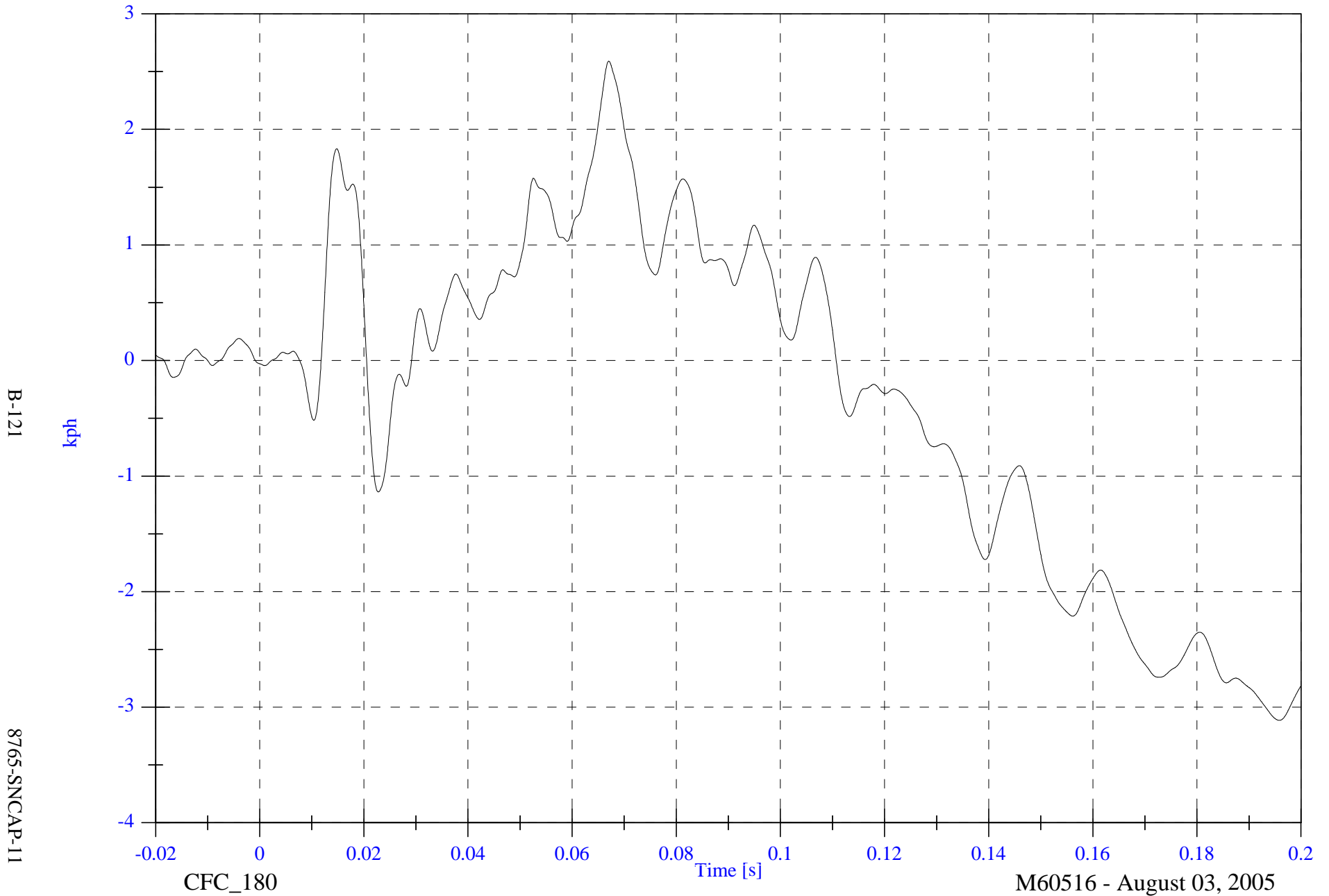


2006 SNCAP Test 1 2006 Mercedes ML350

Max: 2.6 [kph] at 0.067 [s]

V1 Moving Barrier CG Z Velocity

Min: -3.1 [kph] at 0.196 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

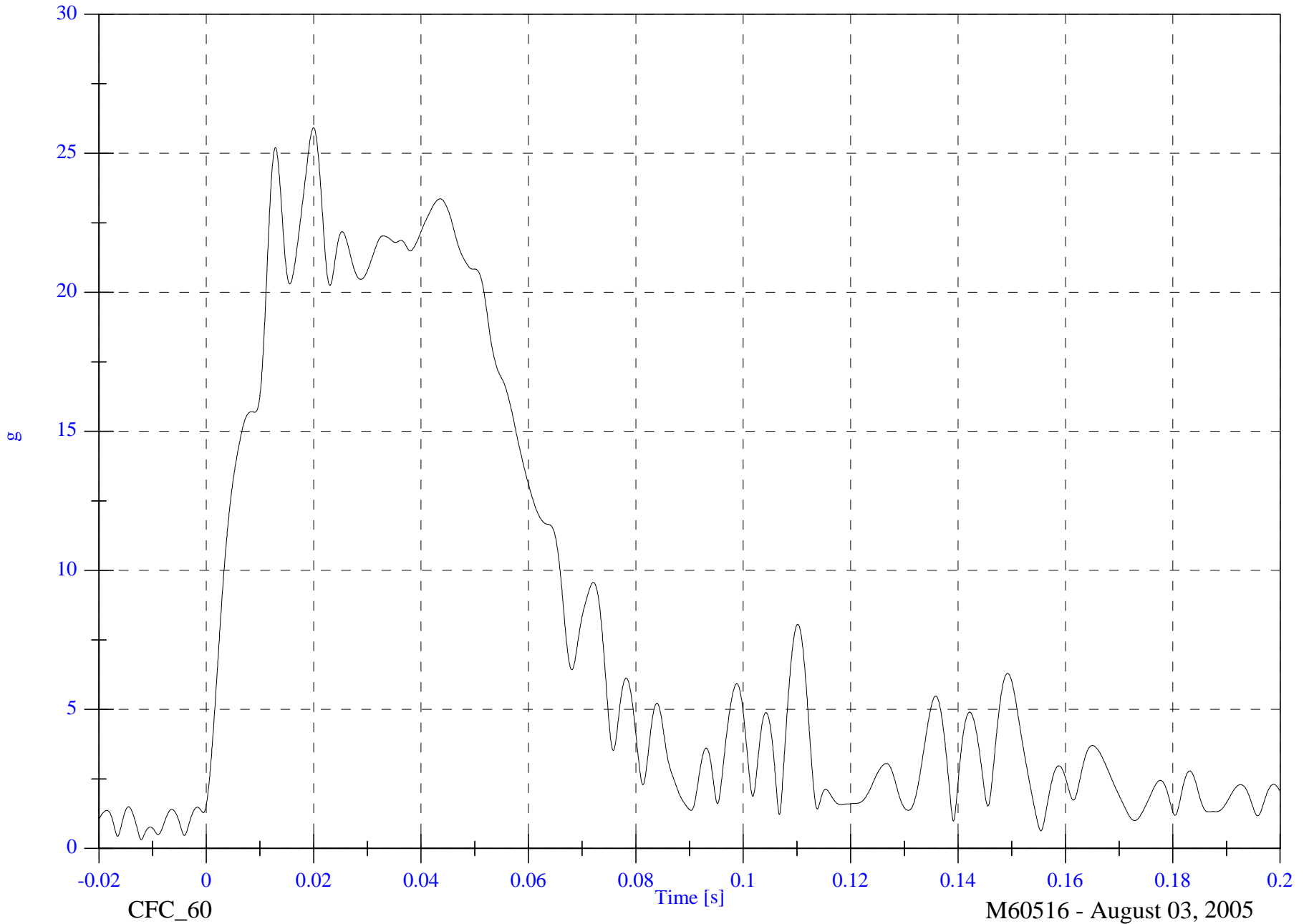
V1 Moving Barrier CG Resultant

Max: 25.9 [g] at 0.020 [s]

Min: 0.3 [g] at -0.012 [s]

B-122

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

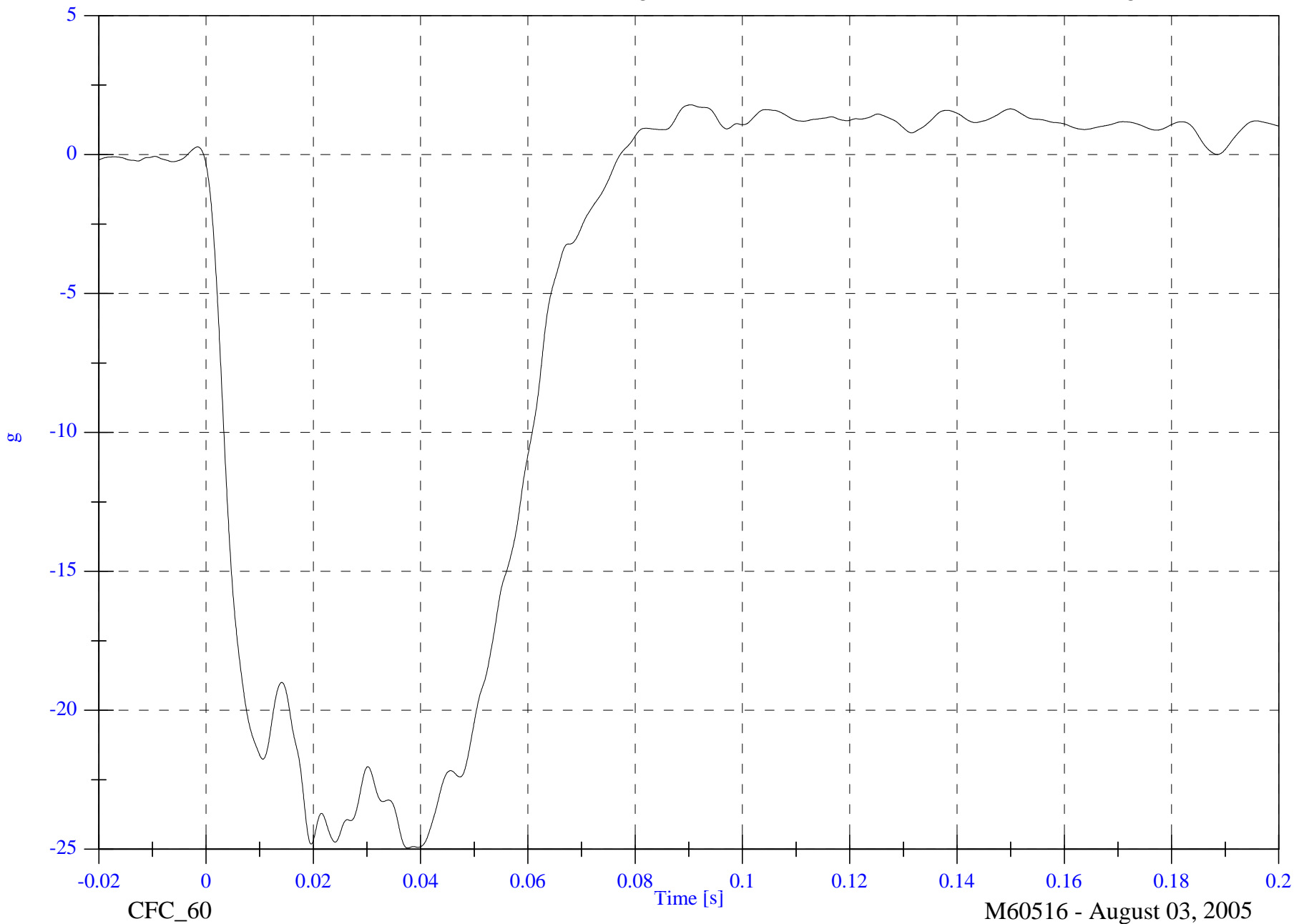
V1 Moving Barrier Left Rail X

Max: 1.8 [g] at 0.090 [s]

Min: -25.0 [g] at 0.038 [s]

B-123

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

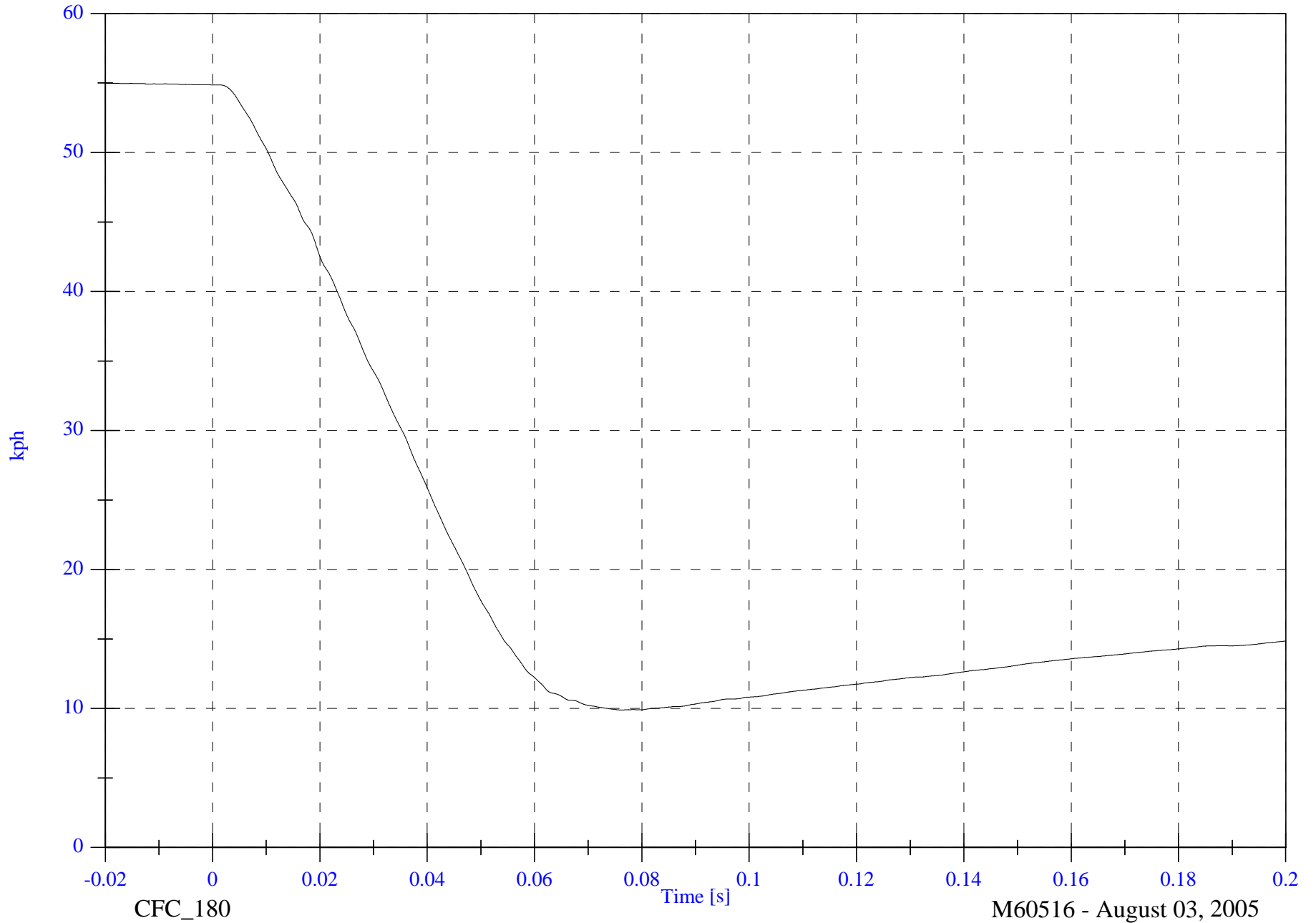
Max: 55.0 [kph] at -0.020 [s]

V1 Moving Barrier Left Rail X Velocity

Min: 9.9 [kph] at 0.076 [s]

B-124

8765-SNCAP-11



CFC_180

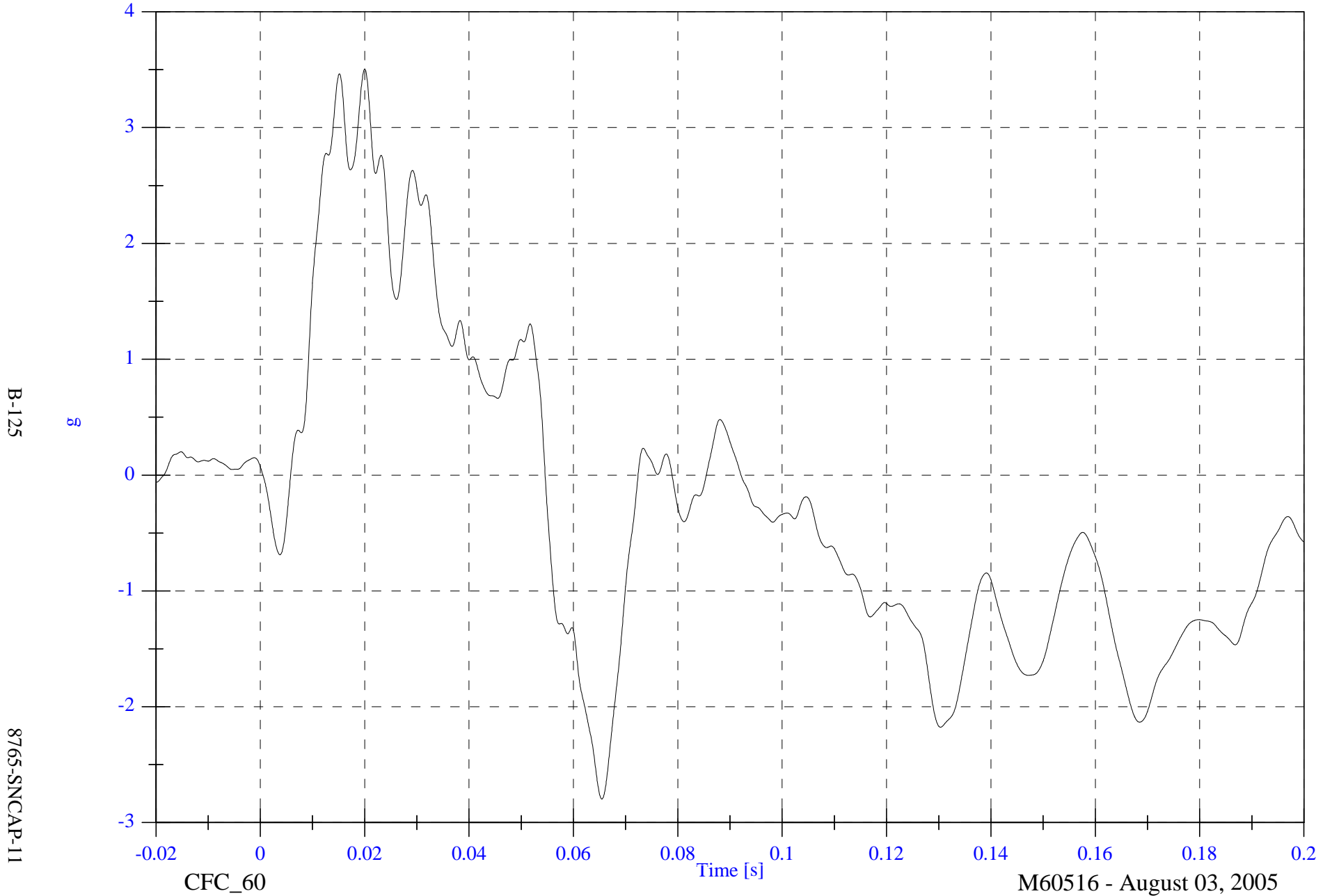
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V1 Moving Barrier Left Rail Y

Max: 3.5 [g] at 0.020 [s]

Min: -2.8 [g] at 0.065 [s]



B-125

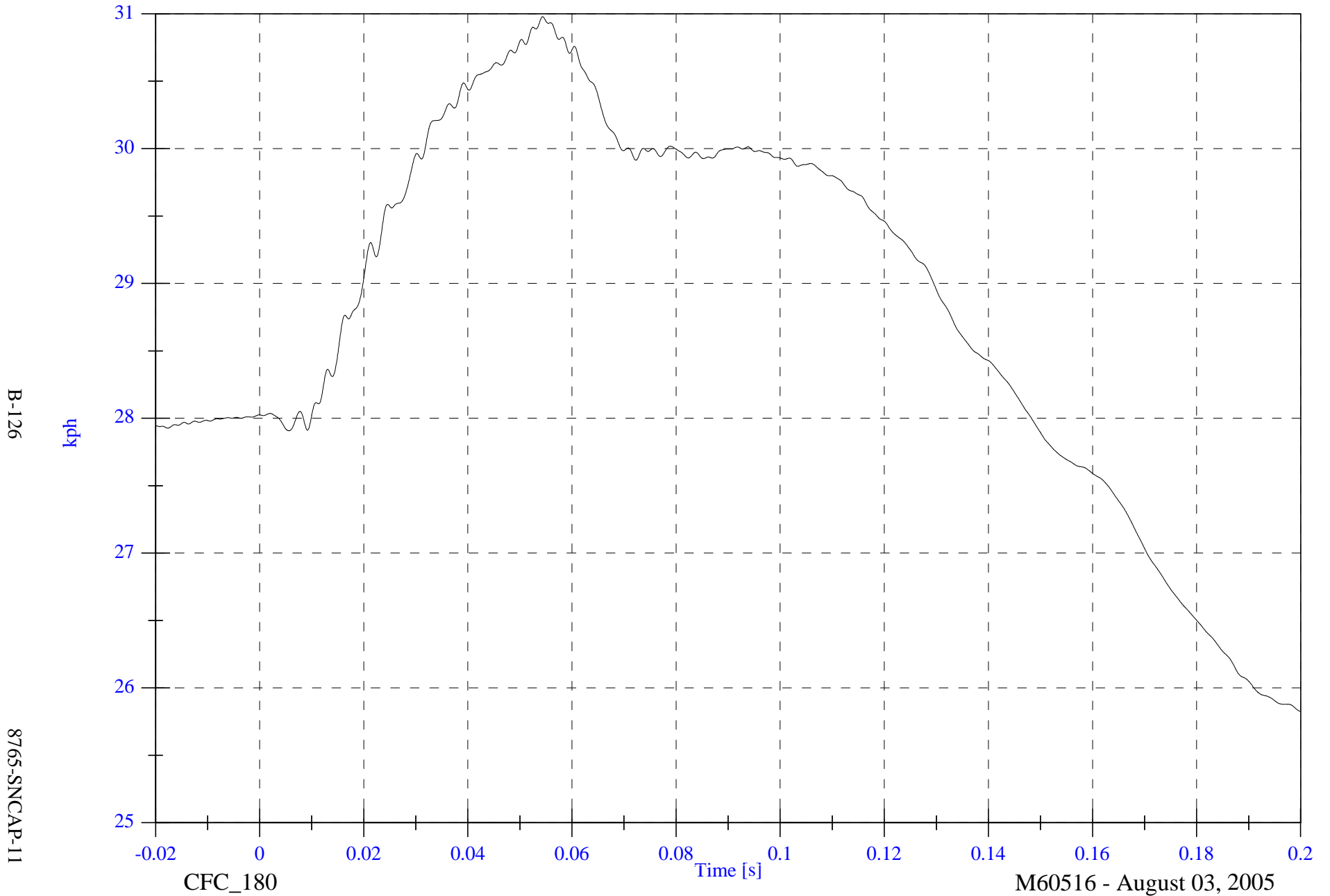
8765-SNCAP-11

2006 SNCAP Test 1 2006 Mercedes ML350

Max: 31.0 [kph] at 0.054 [s]

V1 Moving Barrier Left Rail Y Velocity

Min: 25.8 [kph] at 0.200 [s]



B-126

8765-SNCAP-11

CFC_180

Time [s]

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

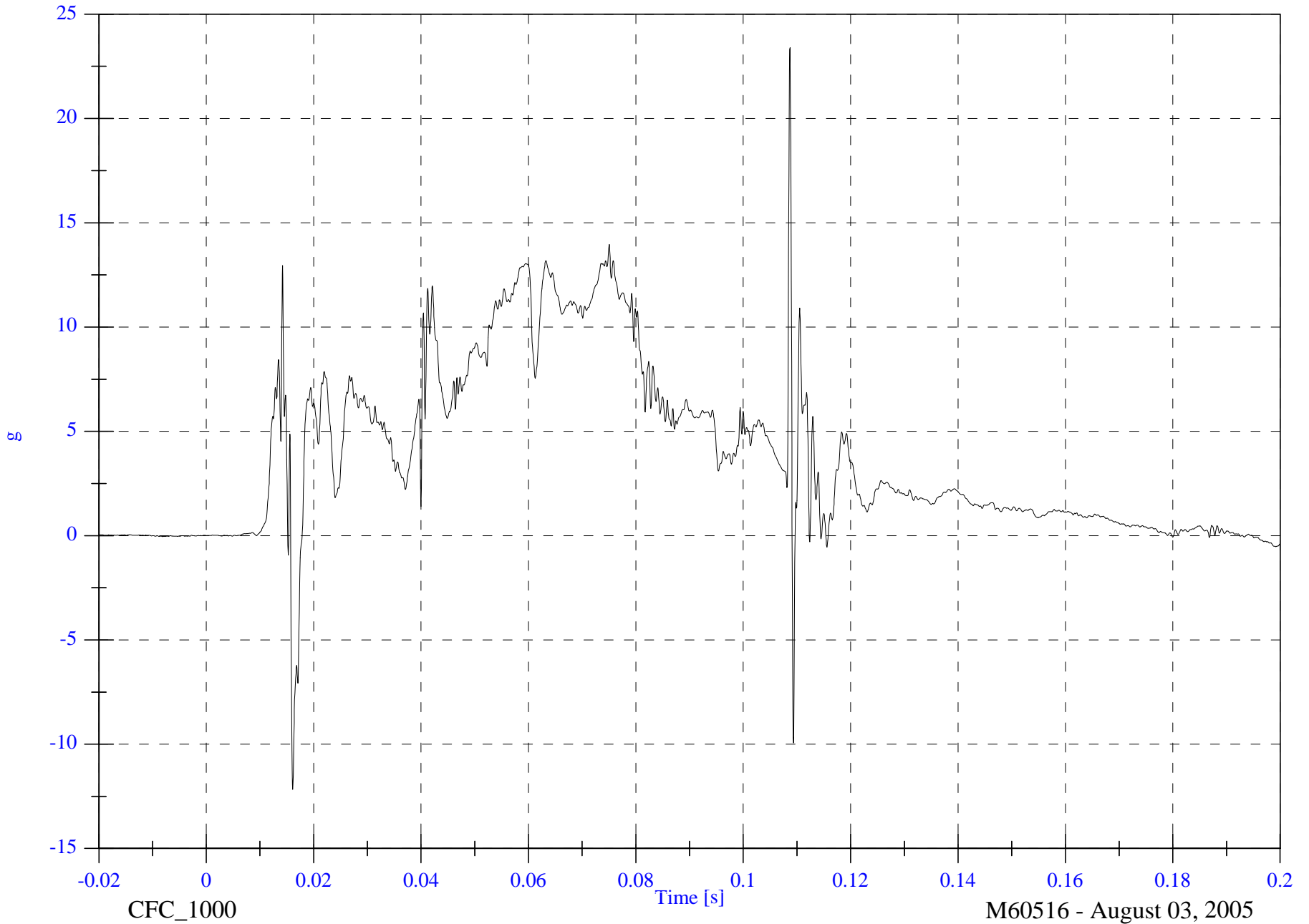
V2P1 Upper Rib Ry

Max: 23.4 [g] at 0.109 [s]

Min: -12.2 [g] at 0.016 [s]

B-127

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

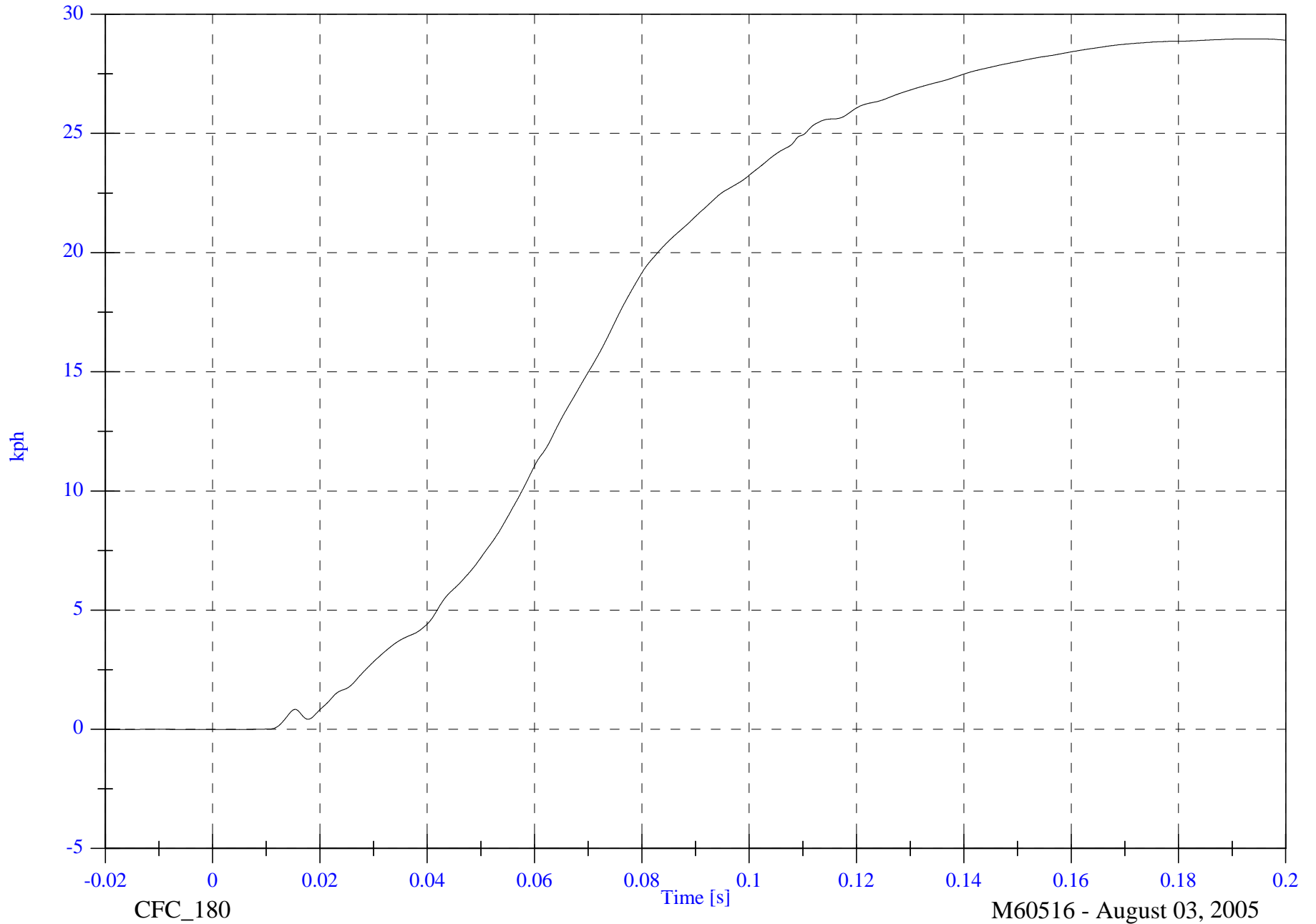
V2P1 Upper Rib Ry Velocity

Max: 29.0 [kph] at 0.195 [s]

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

B-128

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

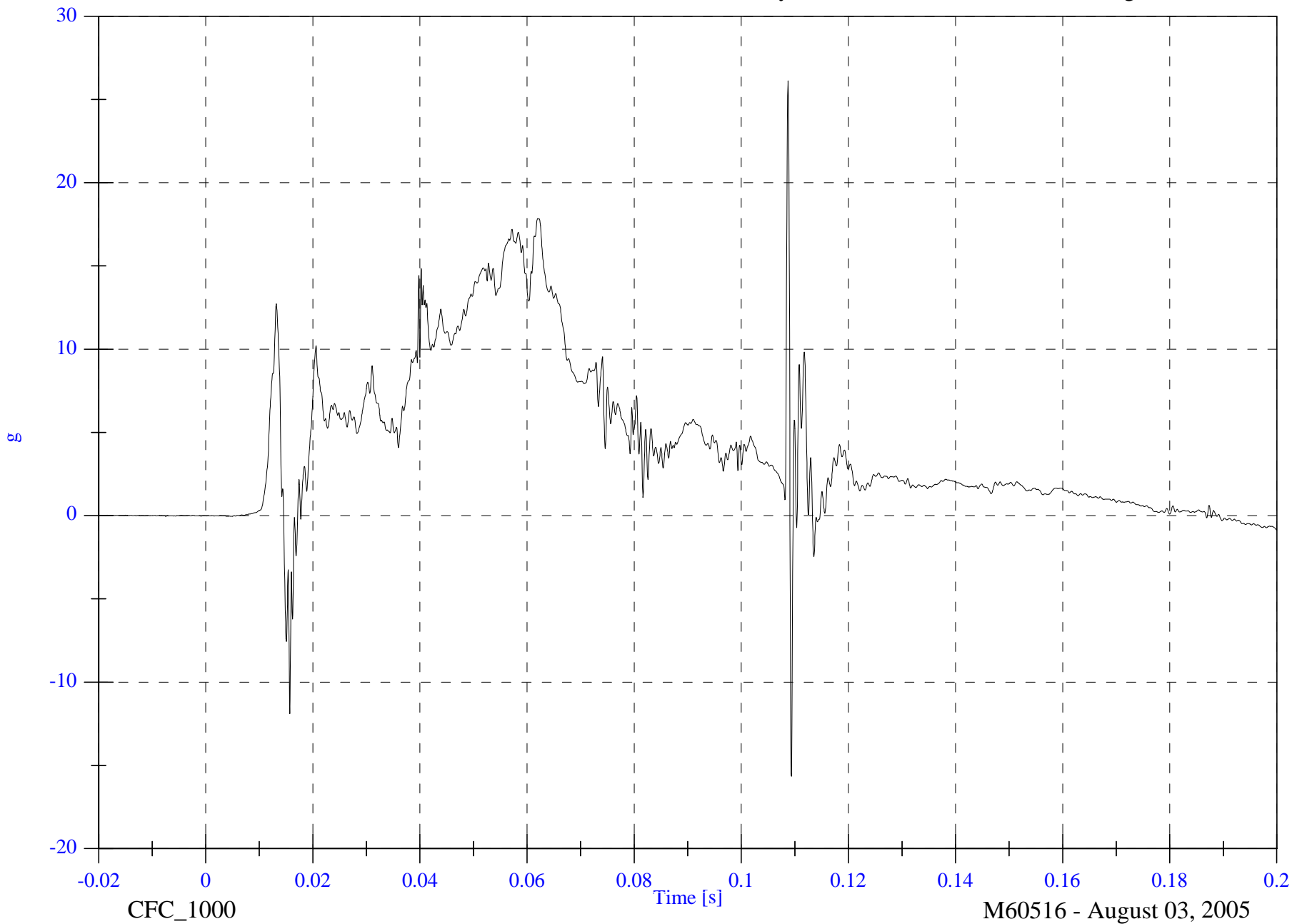
V2P1 Lower Rib Ry

Max: 26.1 [g] at 0.109 [s]

Min: -15.7 [g] at 0.109 [s]

B-129

8765-SNCAP-11



2006 SNCAP Test 1 2006 Mercedes ML350

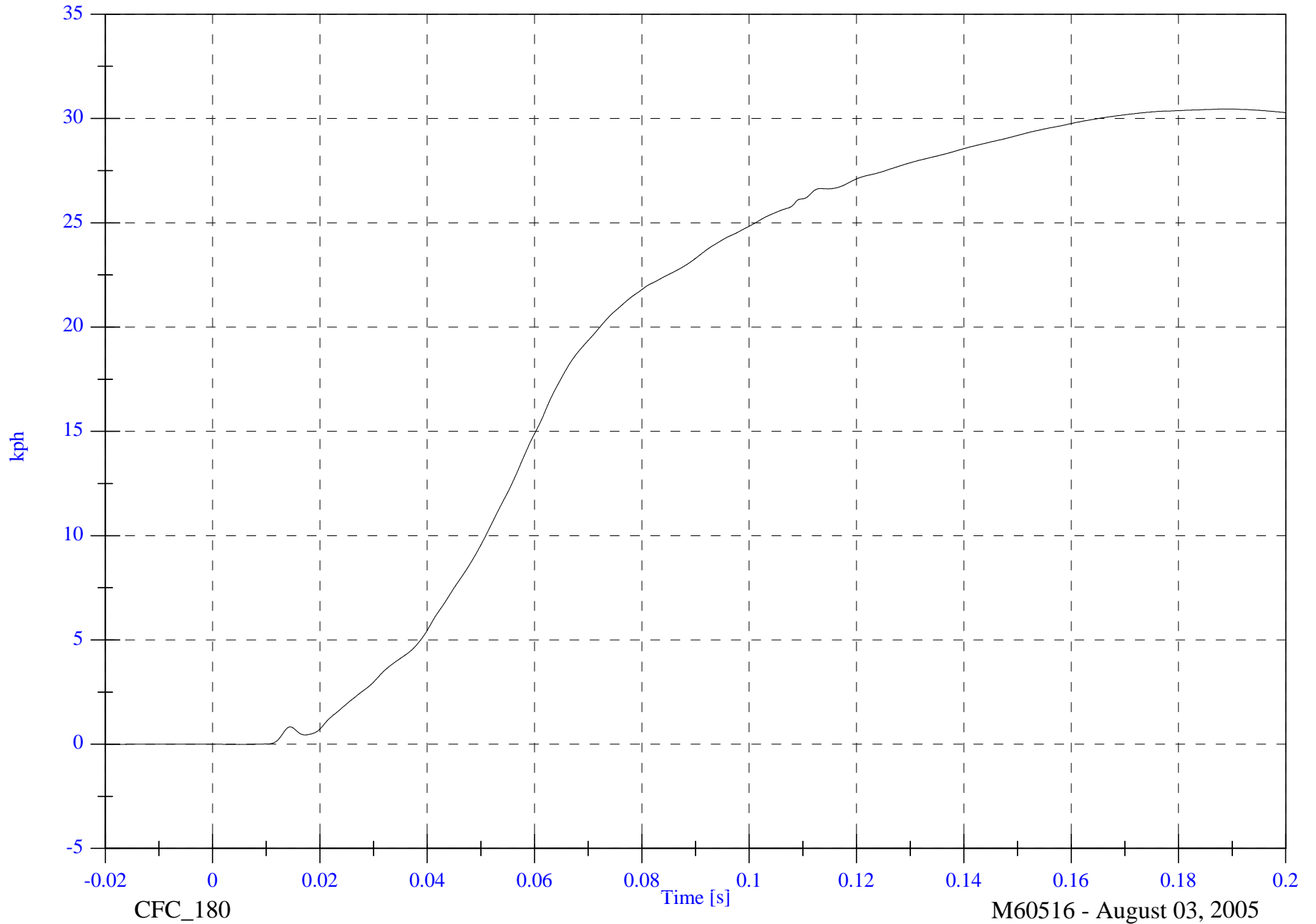
V2P1 Lower Rib Ry Velocity

Max: 30.5 [kph] at 0.189 [s]

Min: -0.0 [kph] at 0.006 [s]

B-130

8765-SNCAP-11



CFC_180

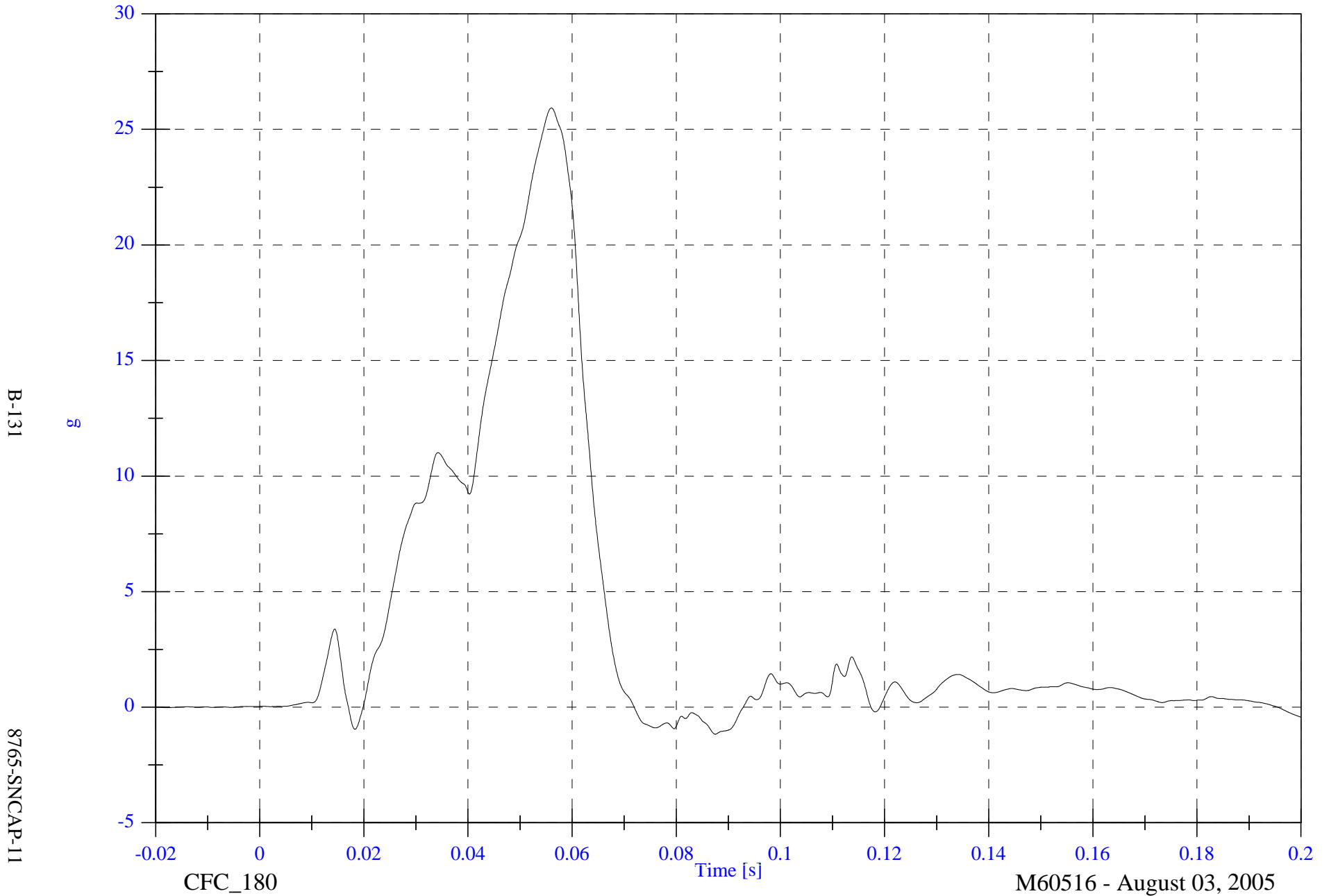
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Lower Spine Ry

Max: 25.9 [g] at 0.056 [s]

Min: -1.2 [g] at 0.087 [s]



B-131

8765-SNCAP-11

CFC_180

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

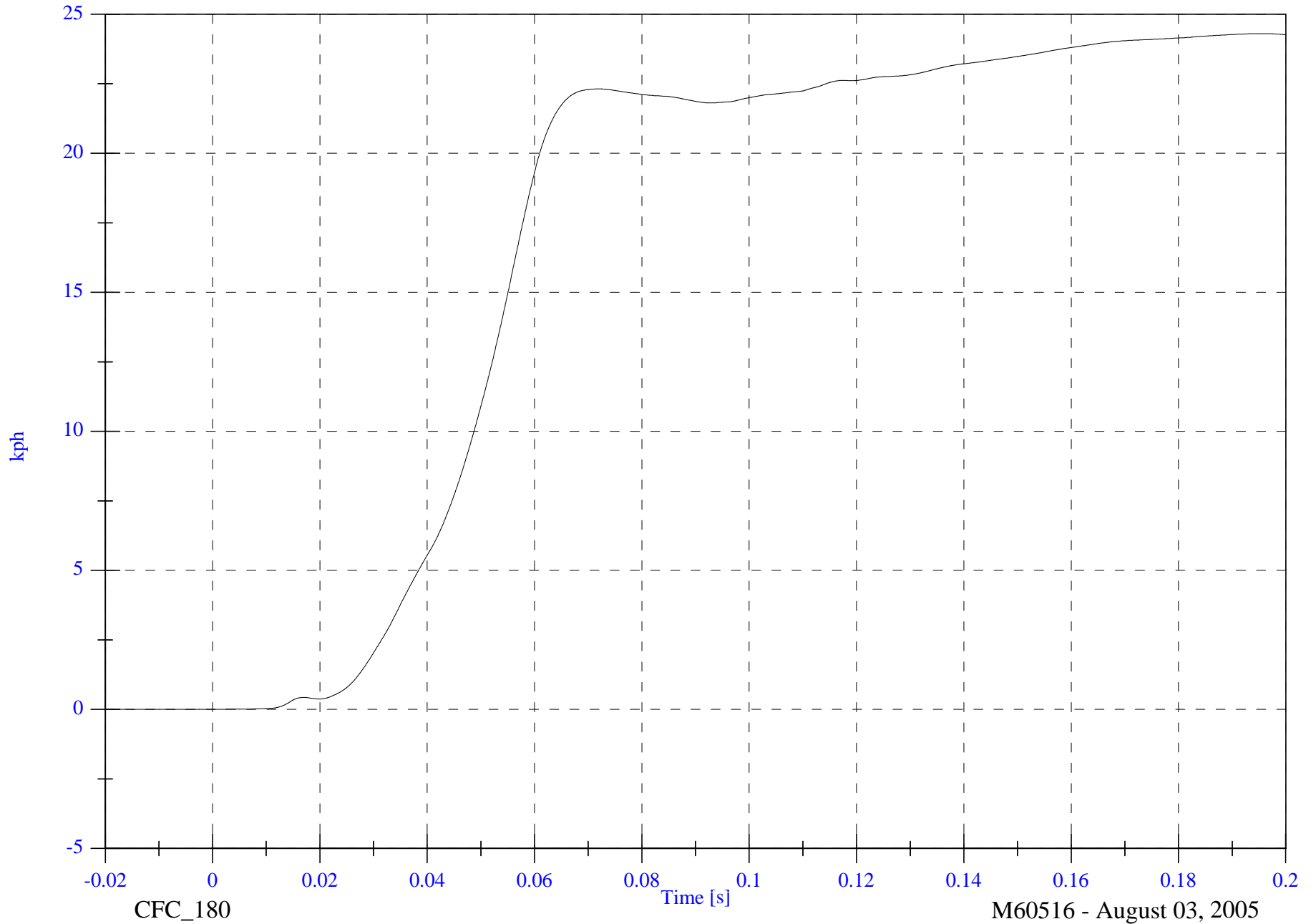
V2P1 Lower Spine Ry Velocity

Max: 24.3 [kph] at 0.195 [s]

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

B-132

8765-SNCAP-11



CFC_180

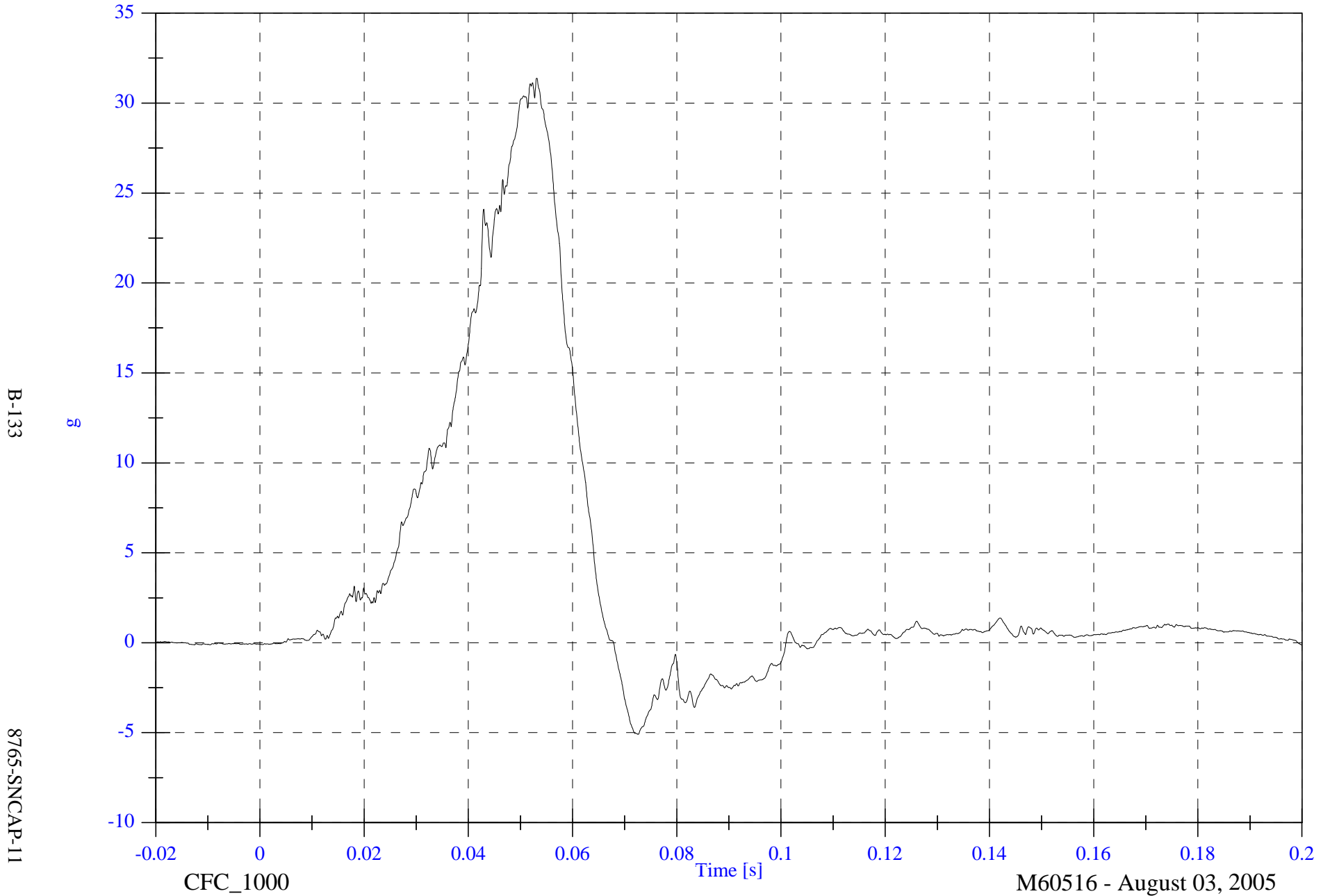
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Pelvic Ry

Max: 31.4 [g] at 0.053 [s]

Min: -5.1 [g] at 0.073 [s]

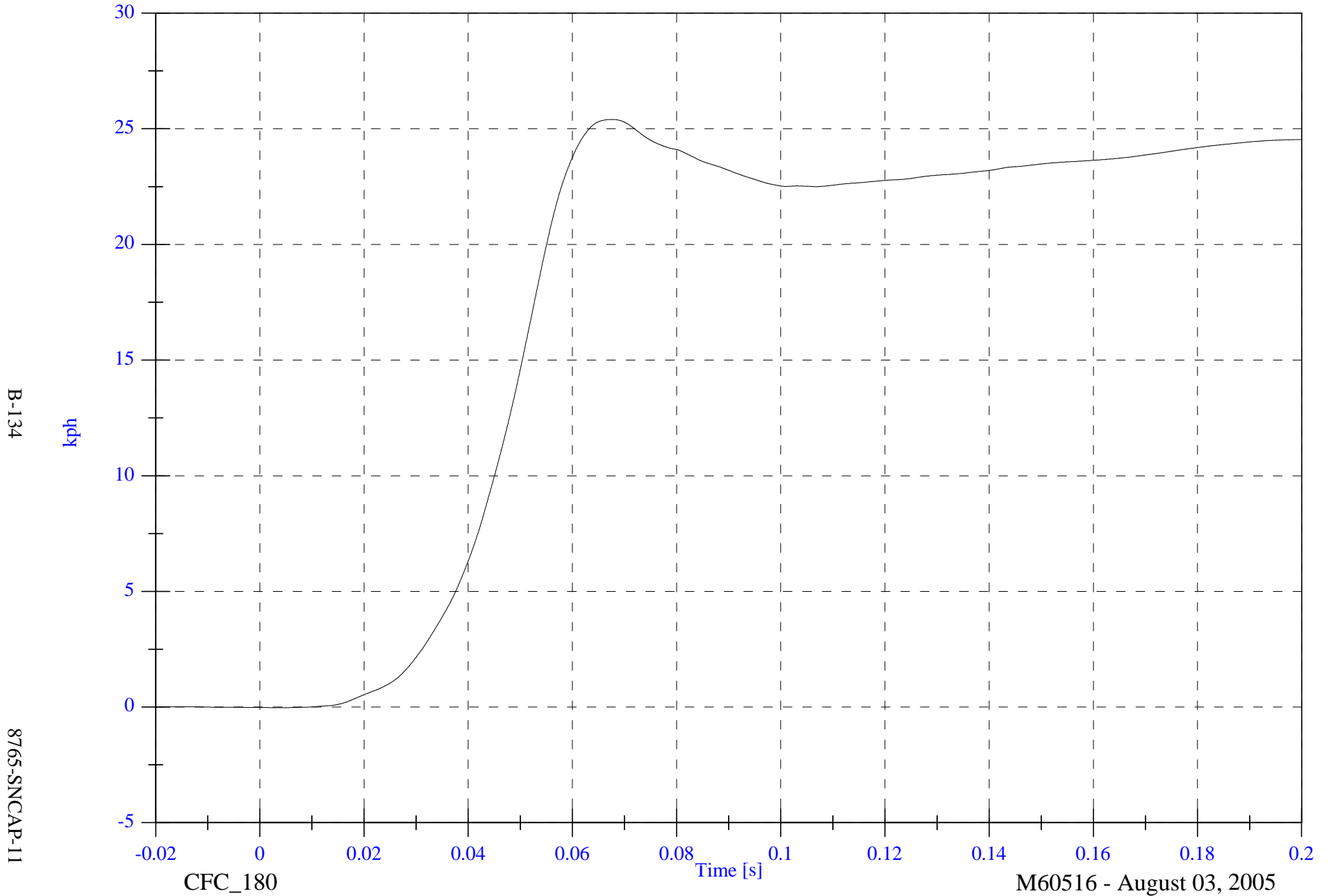


2006 SNCAP Test 1 2006 Mercedes ML350

Max: 25.4 [kph] at 0.068 [s]

V2P1 Pelvic Ry Velocity

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



B-134

8765-SNCAP-11

CFC_180

Time [s]

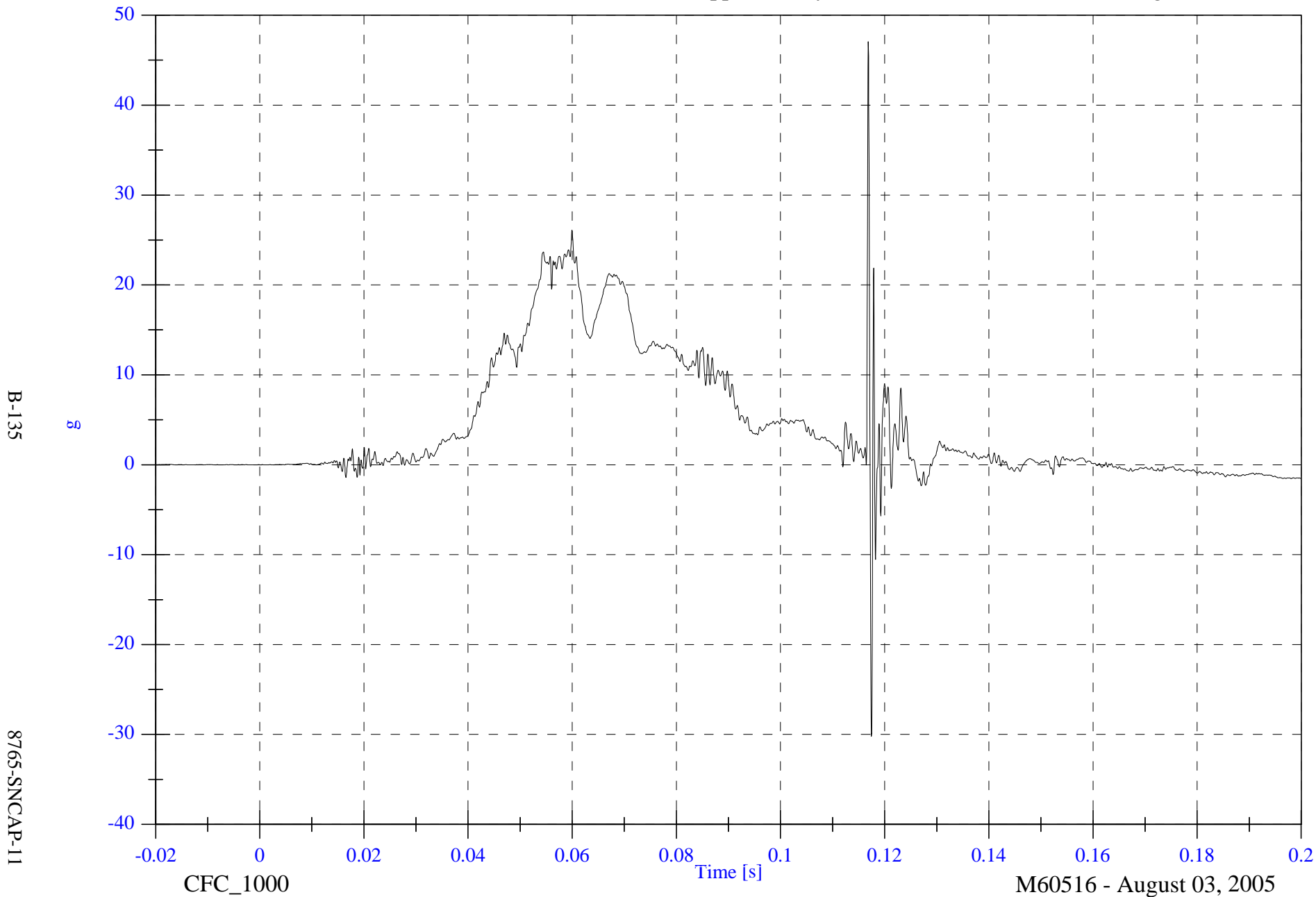
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Rib Ry

Max: 47.1 [g] at 0.117 [s]

Min: -30.2 [g] at 0.117 [s]



B-135

8765-SNCAP-11

CFC_1000

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

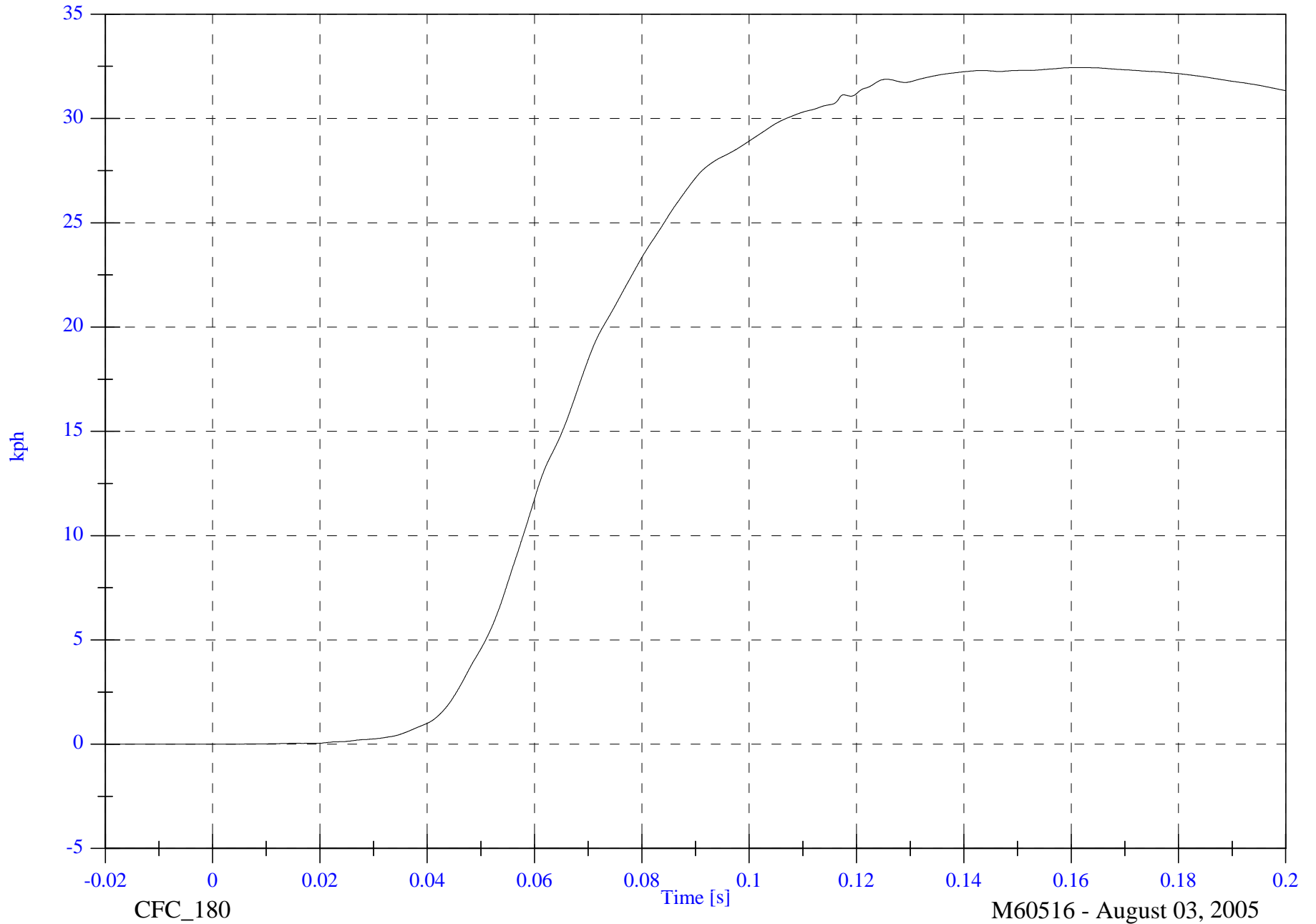
V2P4 Upper Rib Ry Velocity

Max: 32.4 [kph] at 0.161 [s]

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

B-136

8765-SNCAP-11



CFC_180

Time [s]

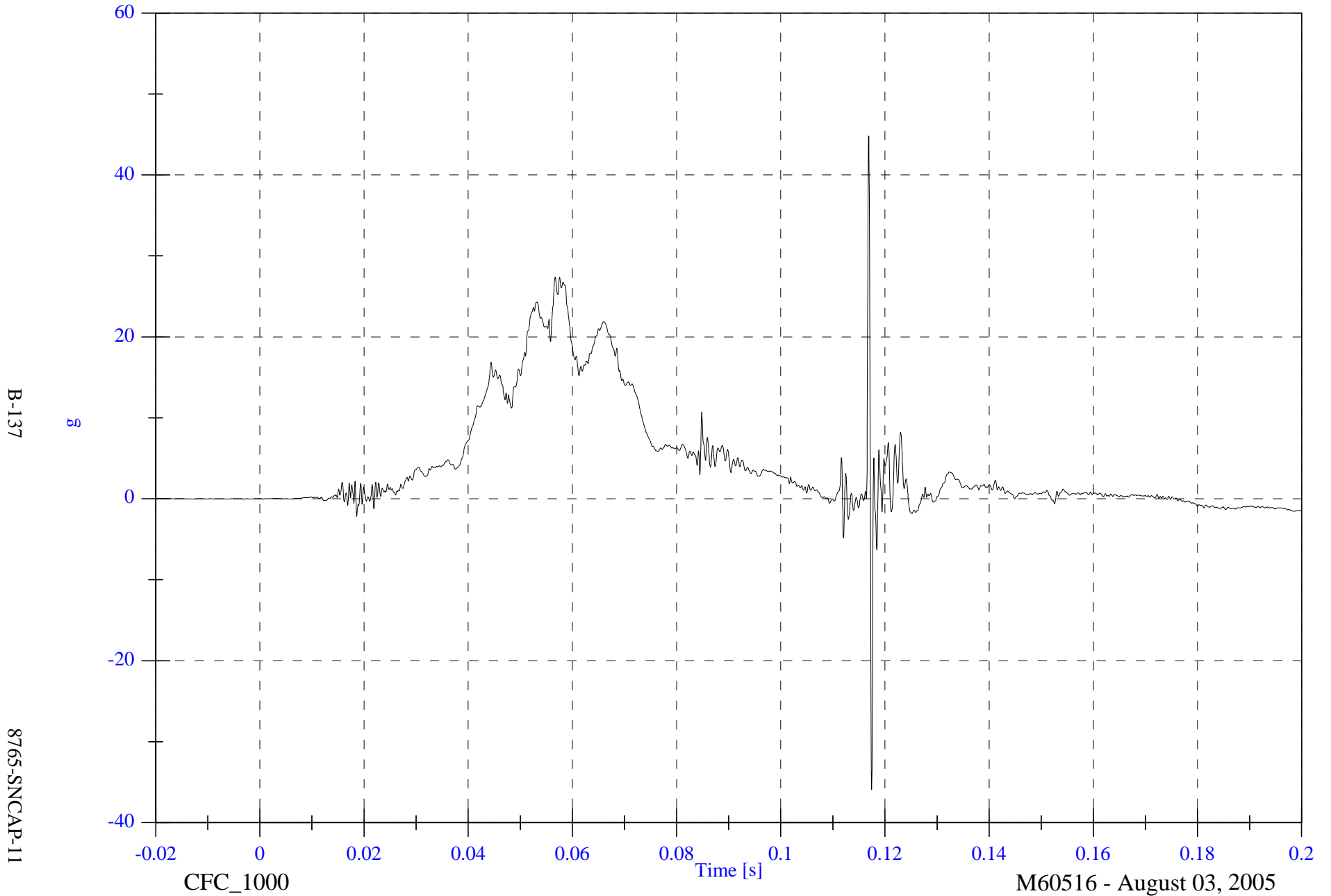
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Rib Ry

Max: 44.8 [g] at 0.117 [s]

Min: -35.9 [g] at 0.117 [s]



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8765-SNCAP-11

M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

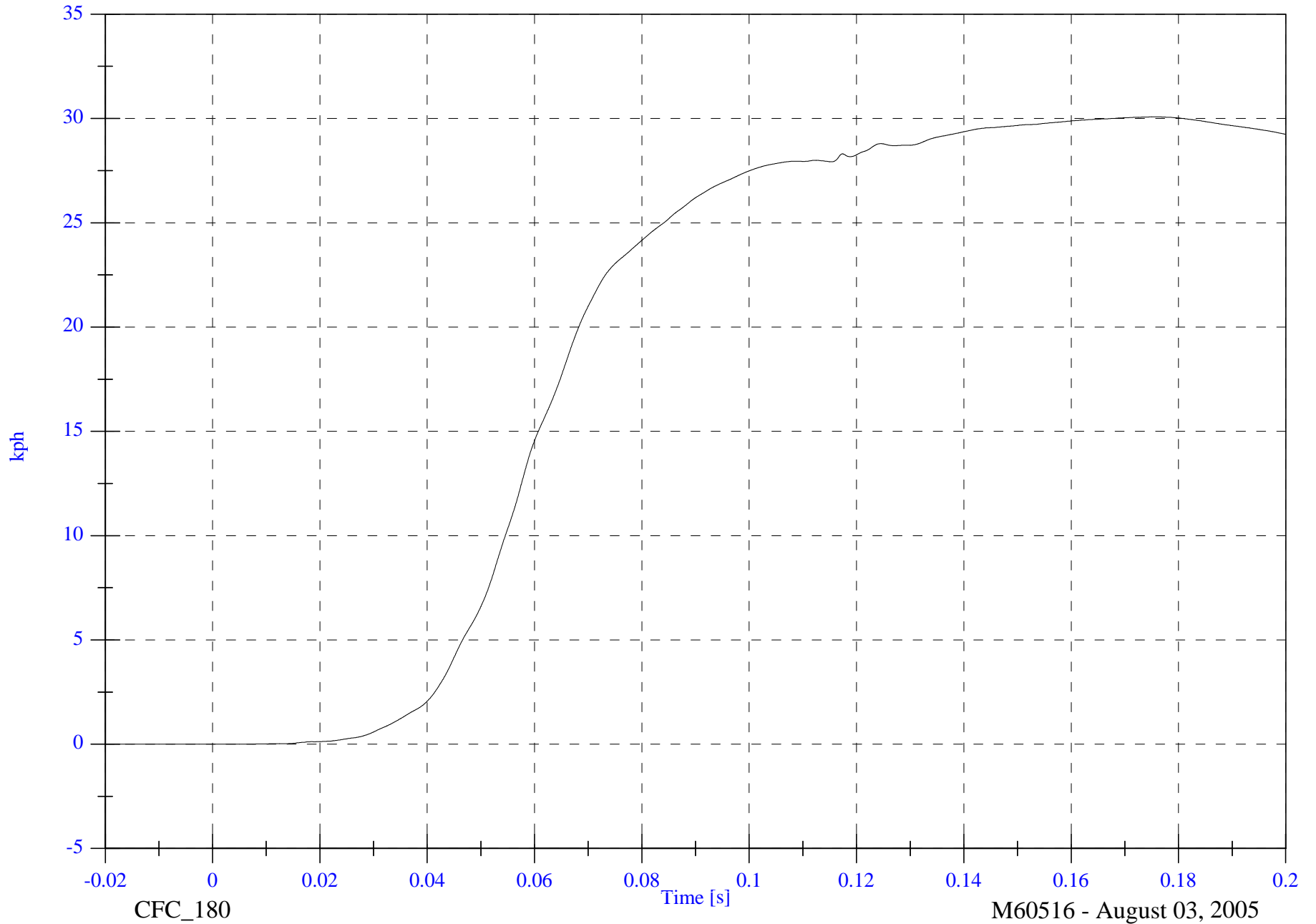
V2P4 Lower Rib Ry Velocity

Max: 30.1 [kph] at 0.176 [s]

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

B-138

8765-SNCAP-11



CFC_180

Time [s]

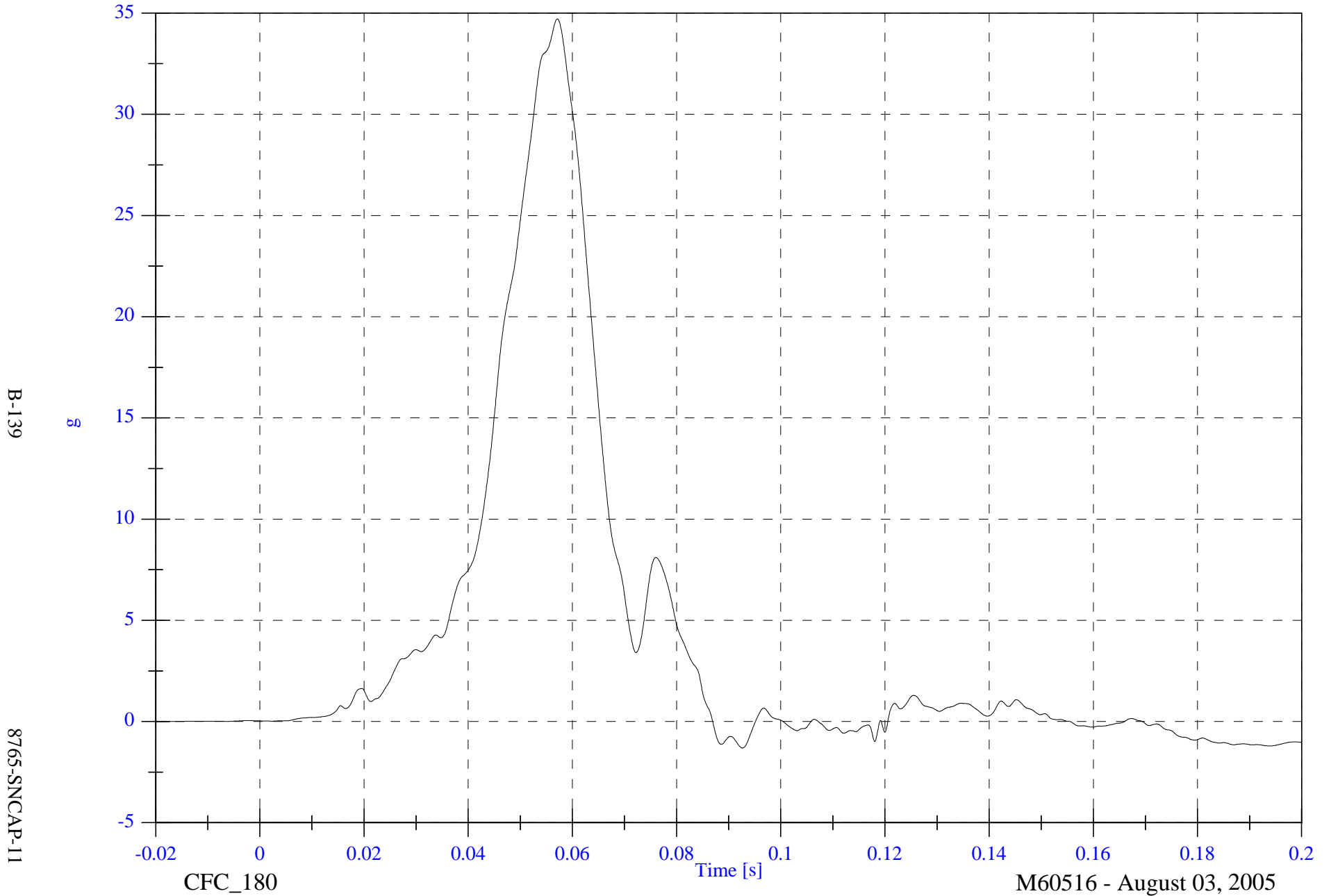
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Spine Ry

Max: 34.7 [g] at 0.057 [s]

Min: -1.3 [g] at 0.093 [s]

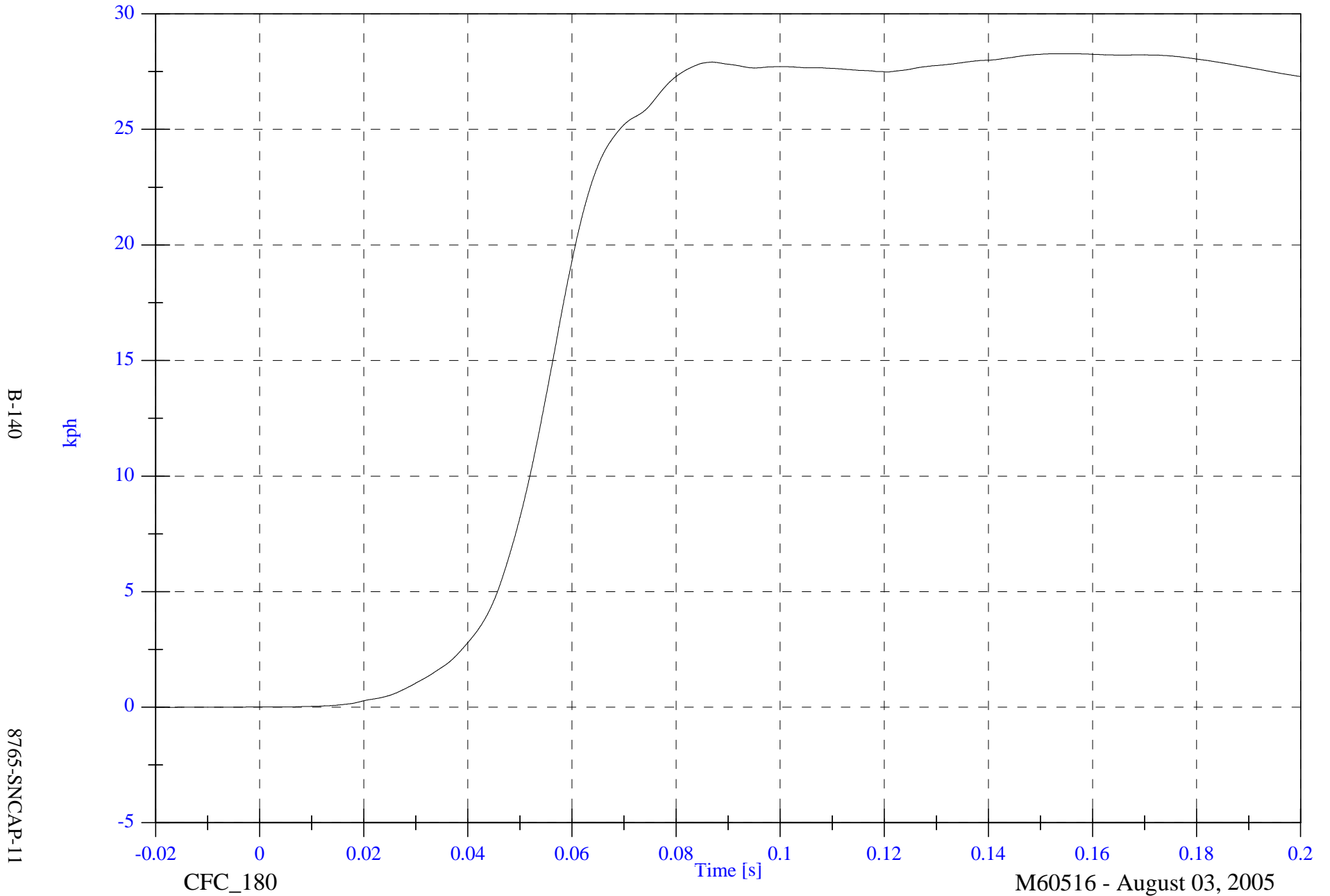


2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Spine Ry Velocity

Max: 28.3 [kph] at 0.155 [s]

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



B-140

8765-SNCAP-11

CFC_180

Time [s]

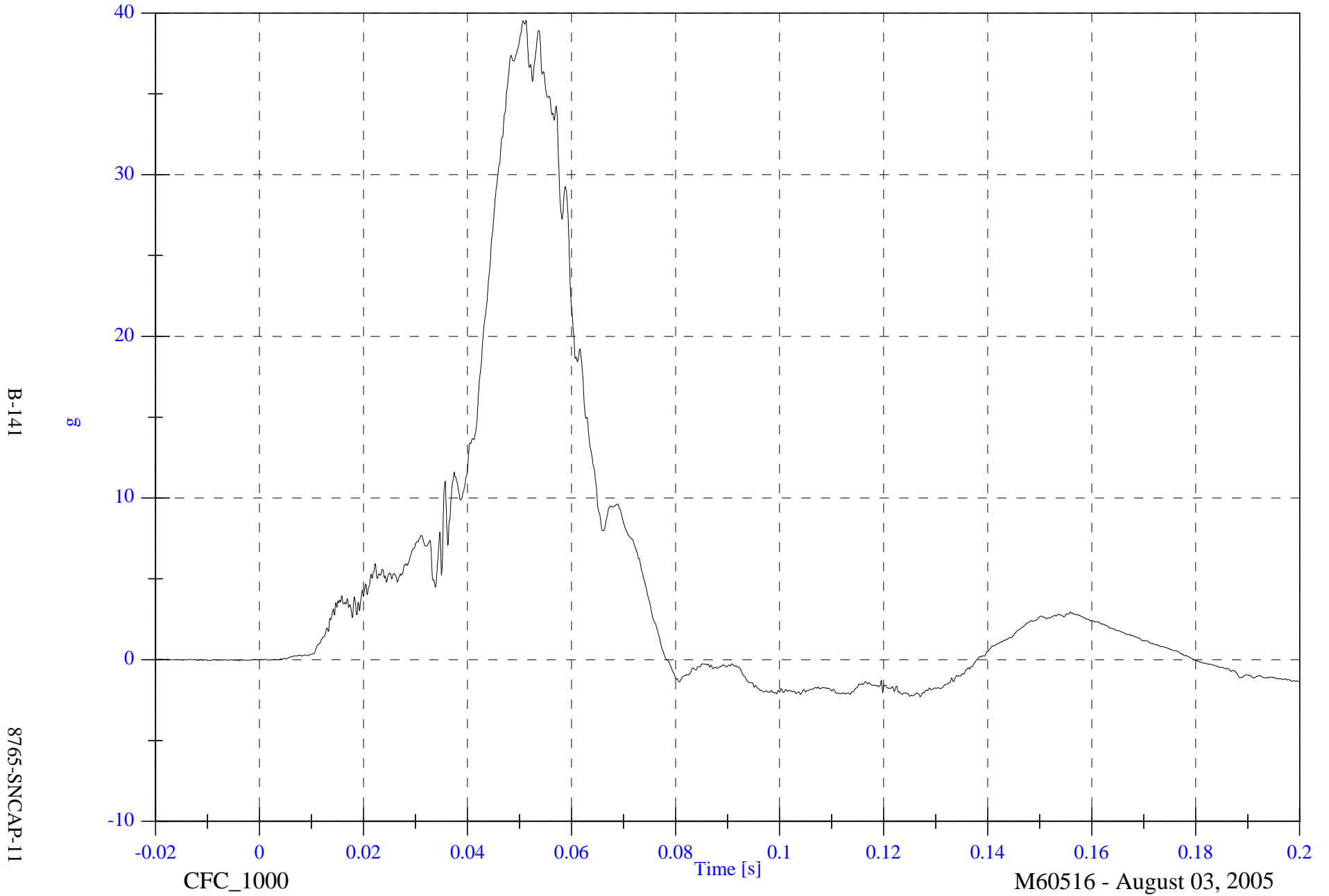
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Pelvic Ry

Max: 39.6 [g] at 0.051 [s]

Min: -2.3 [g] at 0.127 [s]

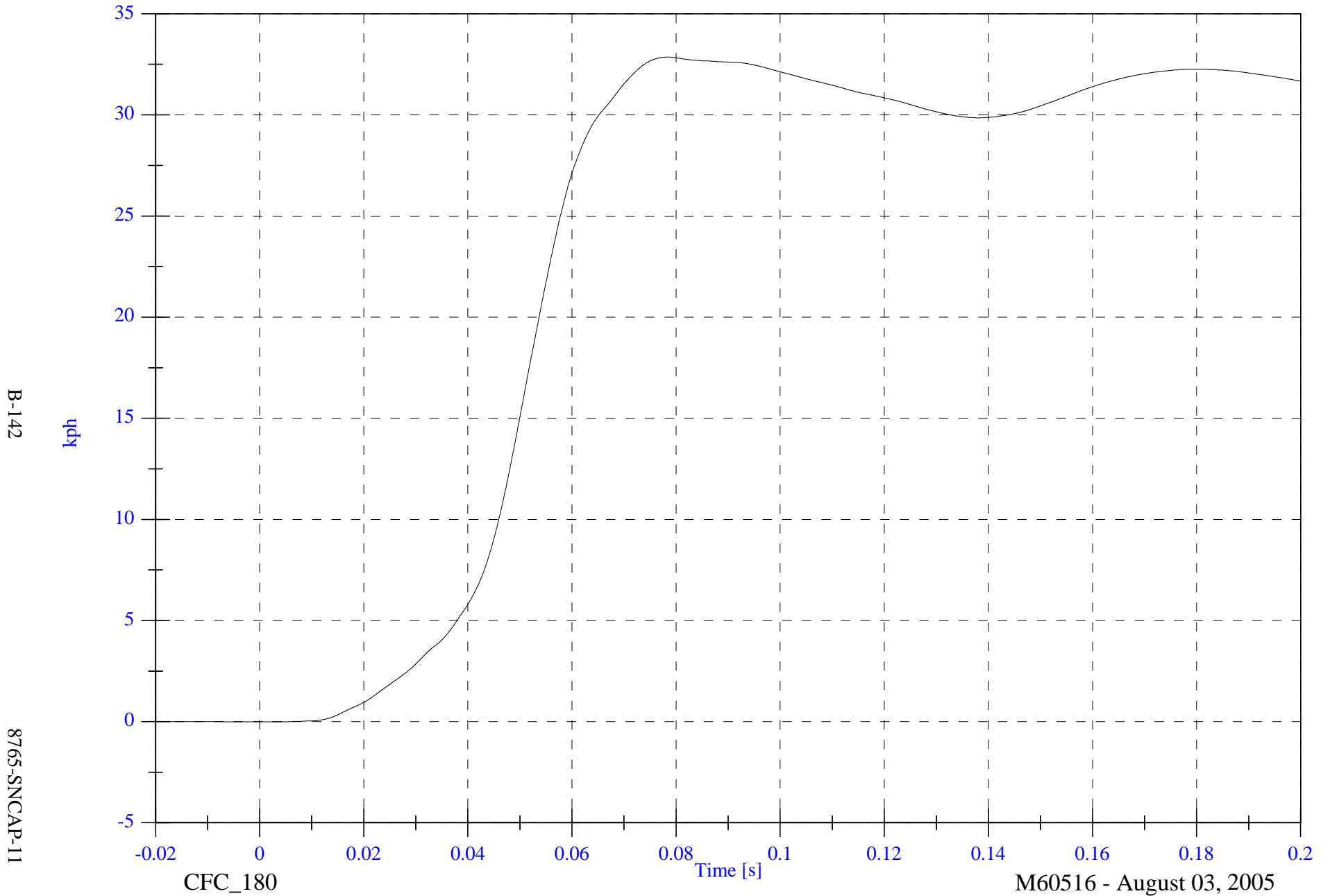


2006 SNCAP Test 1 2006 Mercedes ML350

Max: 32.9 [kph] at 0.078 [s]

V2P4 Pelvic Ry Velocity

Min: -0.0 [kph] at -0.001 [s]



B-142

8765-SNCAP-11

CFC_180

Time [s]

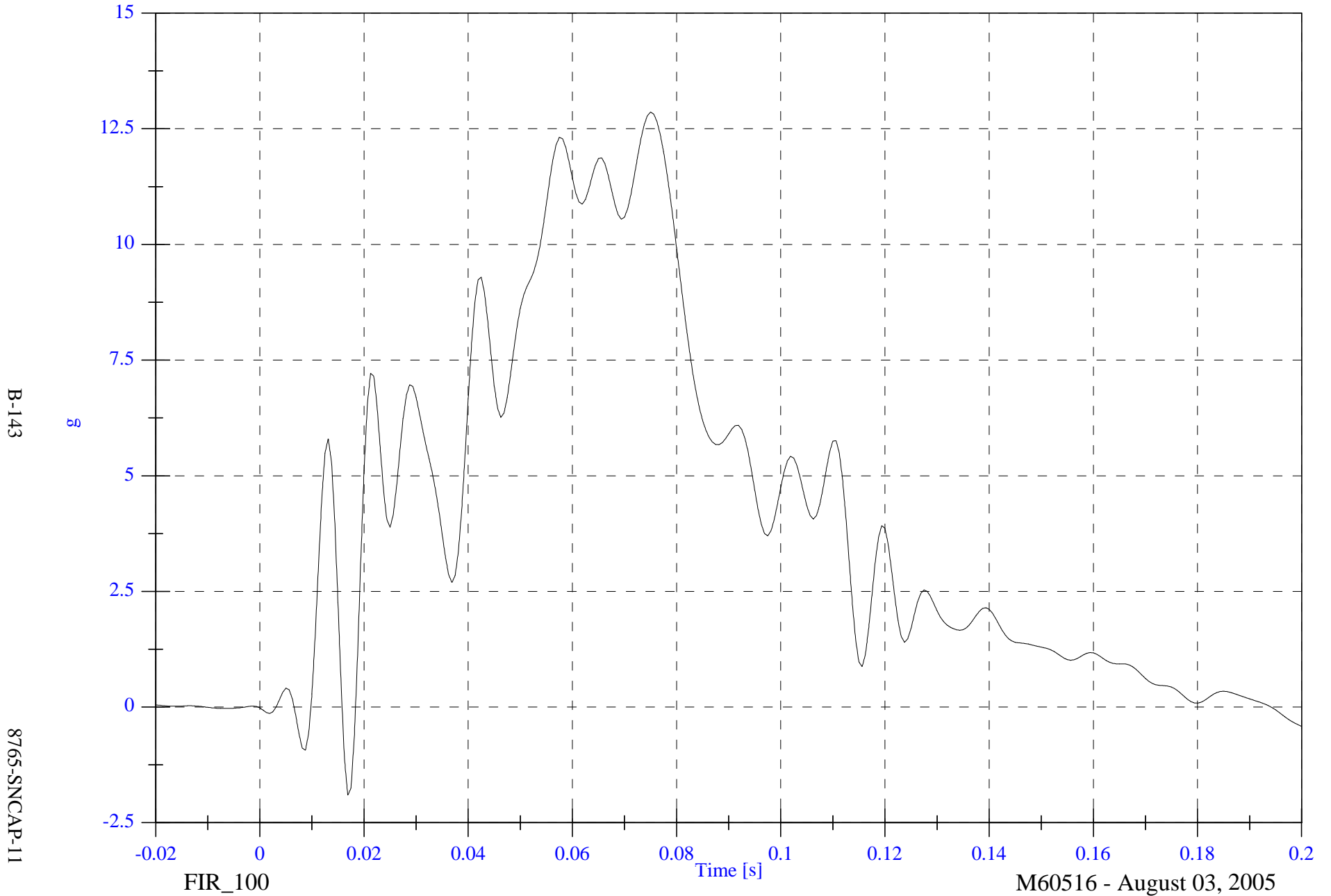
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Upper Rib Ry

Max: 12.9 [g] at 0.075 [s]

Min: -1.9 [g] at 0.017 [s]



B-143

8765-SNCAP-11

FIR_100

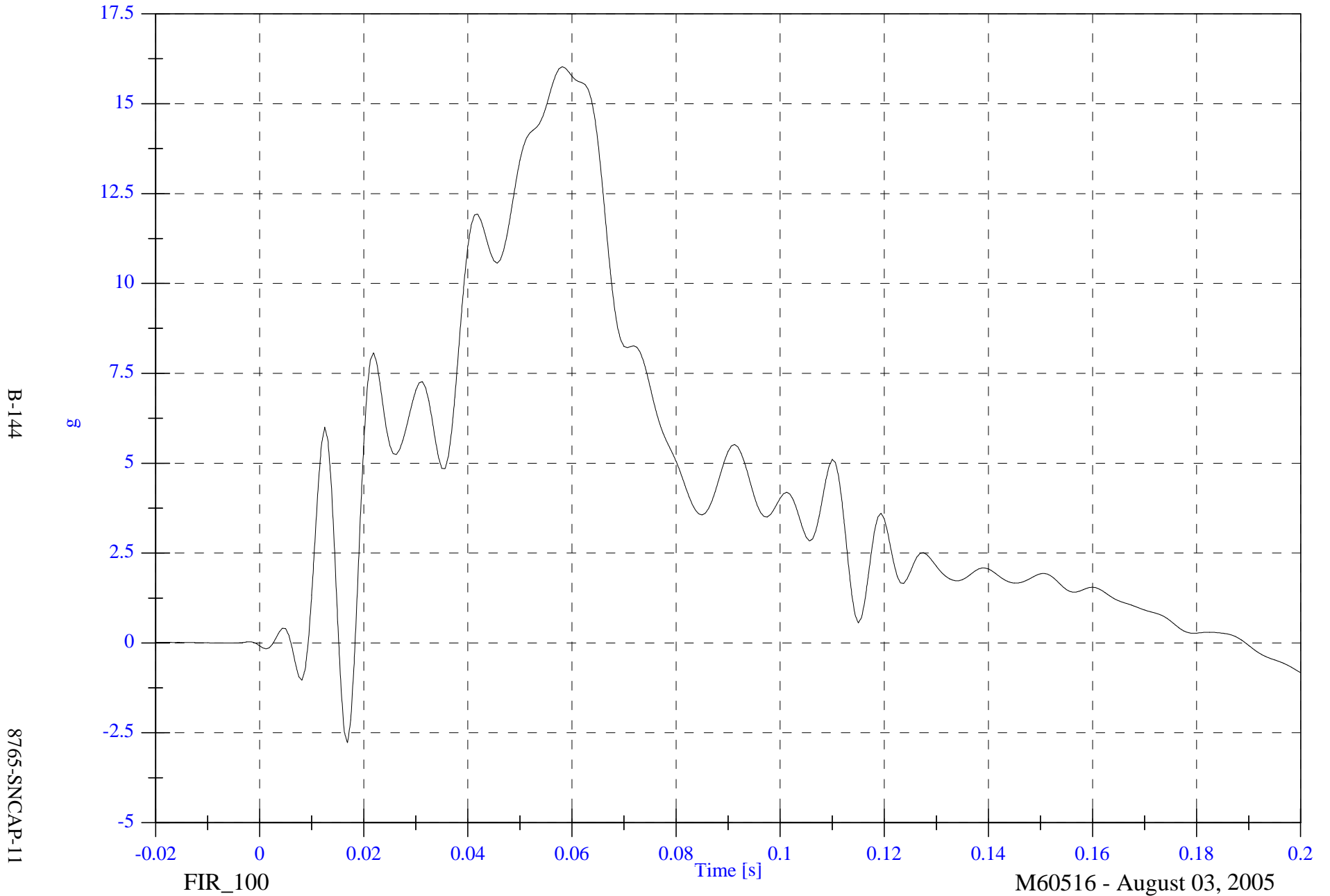
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Lower Rib Ry

Max: 16.0 [g] at 0.058 [s]

Min: -2.8 [g] at 0.017 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Lower Spine Ry

Max: 25.8 [g] at 0.057 [s]

Min: -1.2 [g] at 0.089 [s]



B-145

8765-SNCAP-11

FIR_100

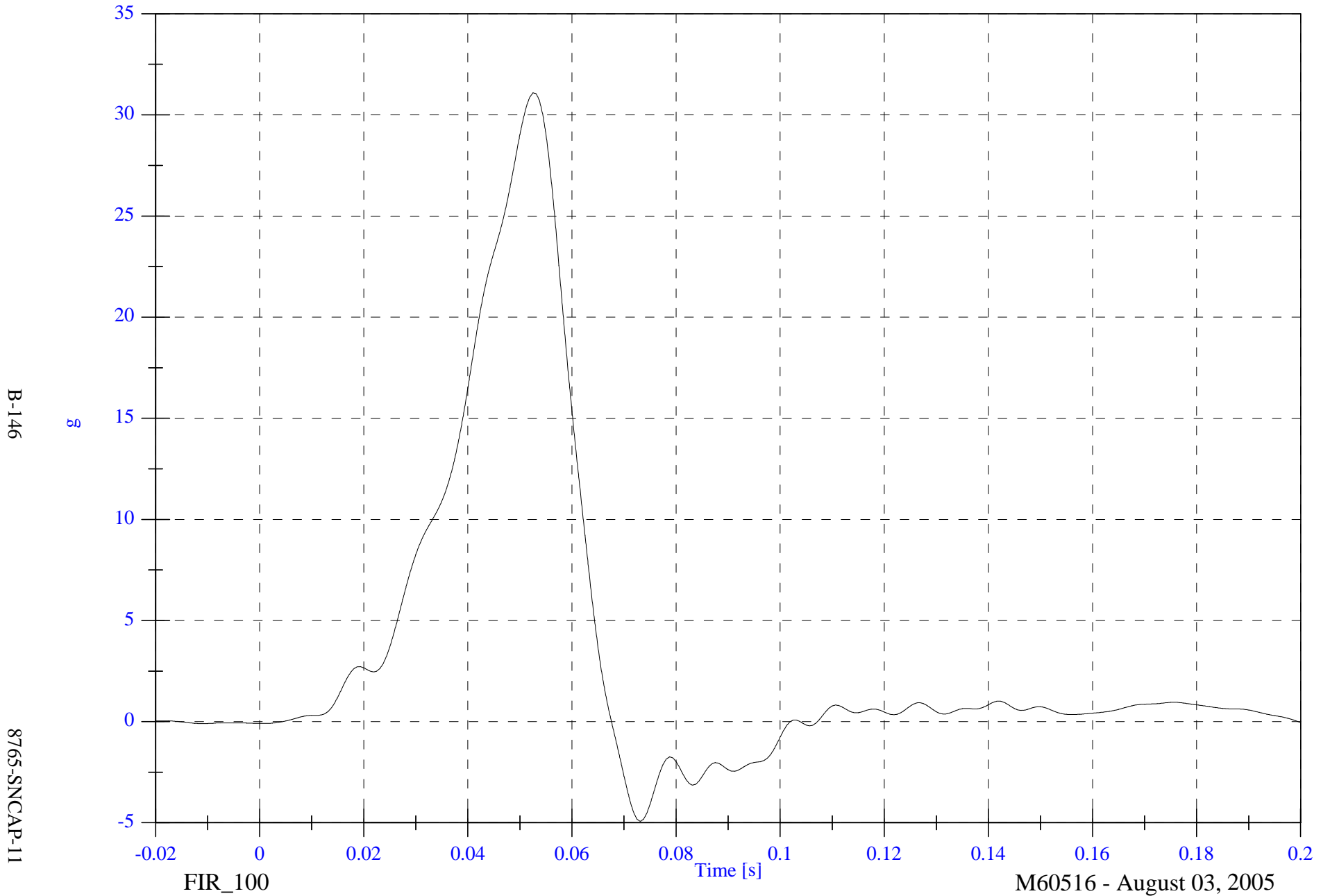
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P1 Pelvic Ry

Max: 31.1 [g] at 0.052 [s]

Min: -4.9 [g] at 0.073 [s]



B-146

8765-SNCAP-11

FIR_100

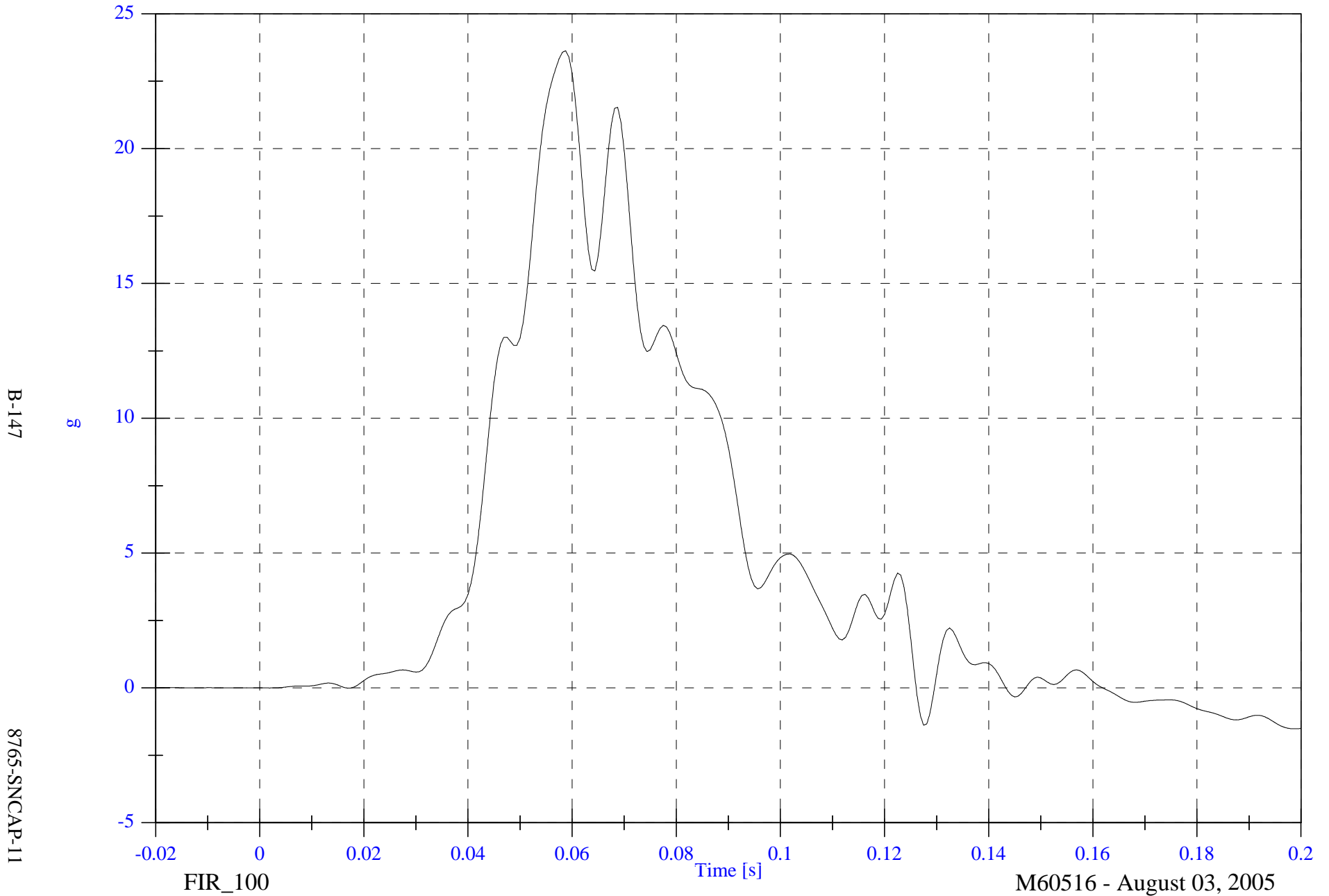
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Upper Rib Ry

Max: 23.6 [g] at 0.059 [s]

Min: -1.5 [g] at 0.199 [s]



B-147

8765-SNCAP-11

FIR_100

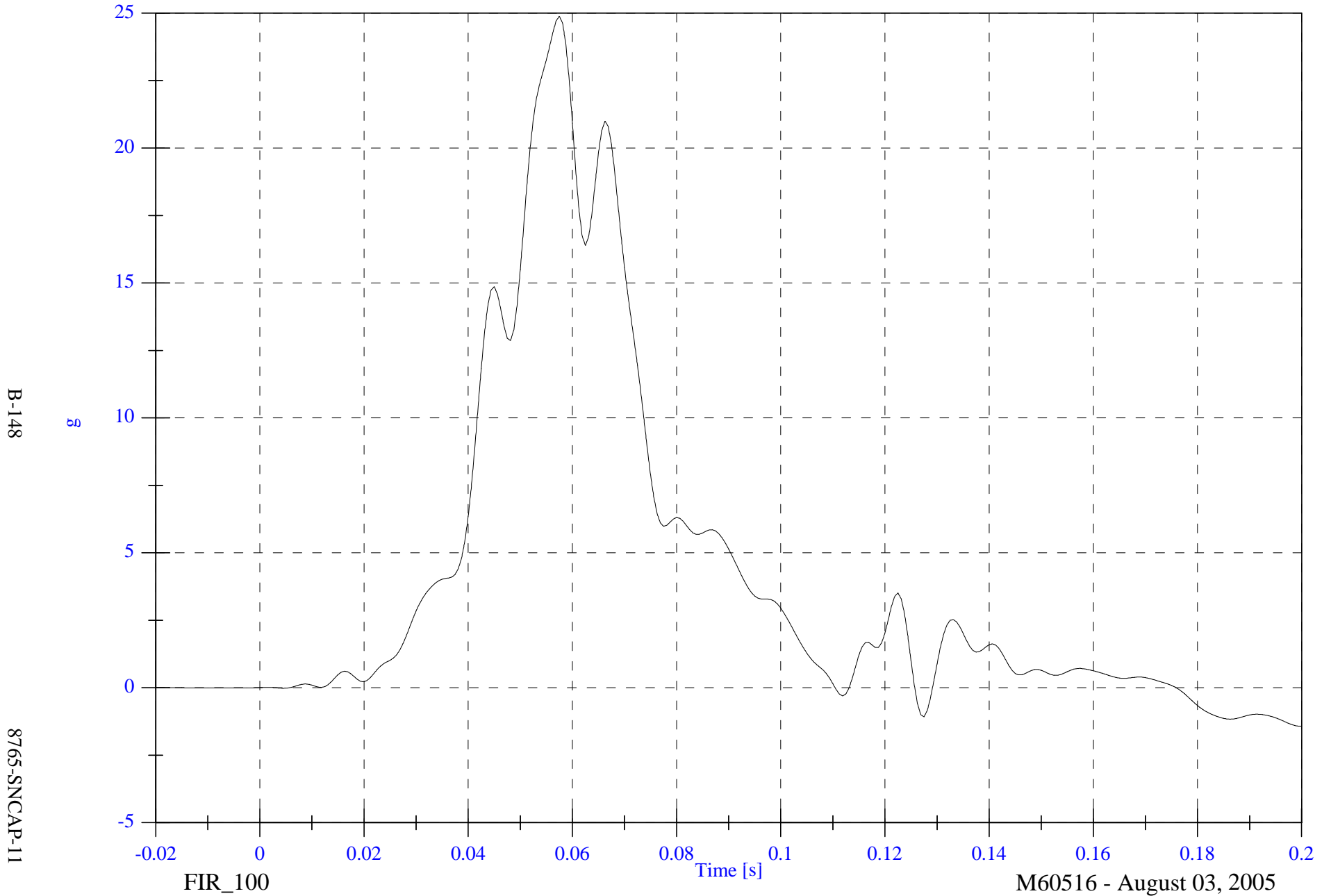
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Rib Ry

Max: 24.9 [g] at 0.057 [s]

Min: -1.4 [g] at 0.200 [s]



B-148

8765-SNCAP-11

FIR_100

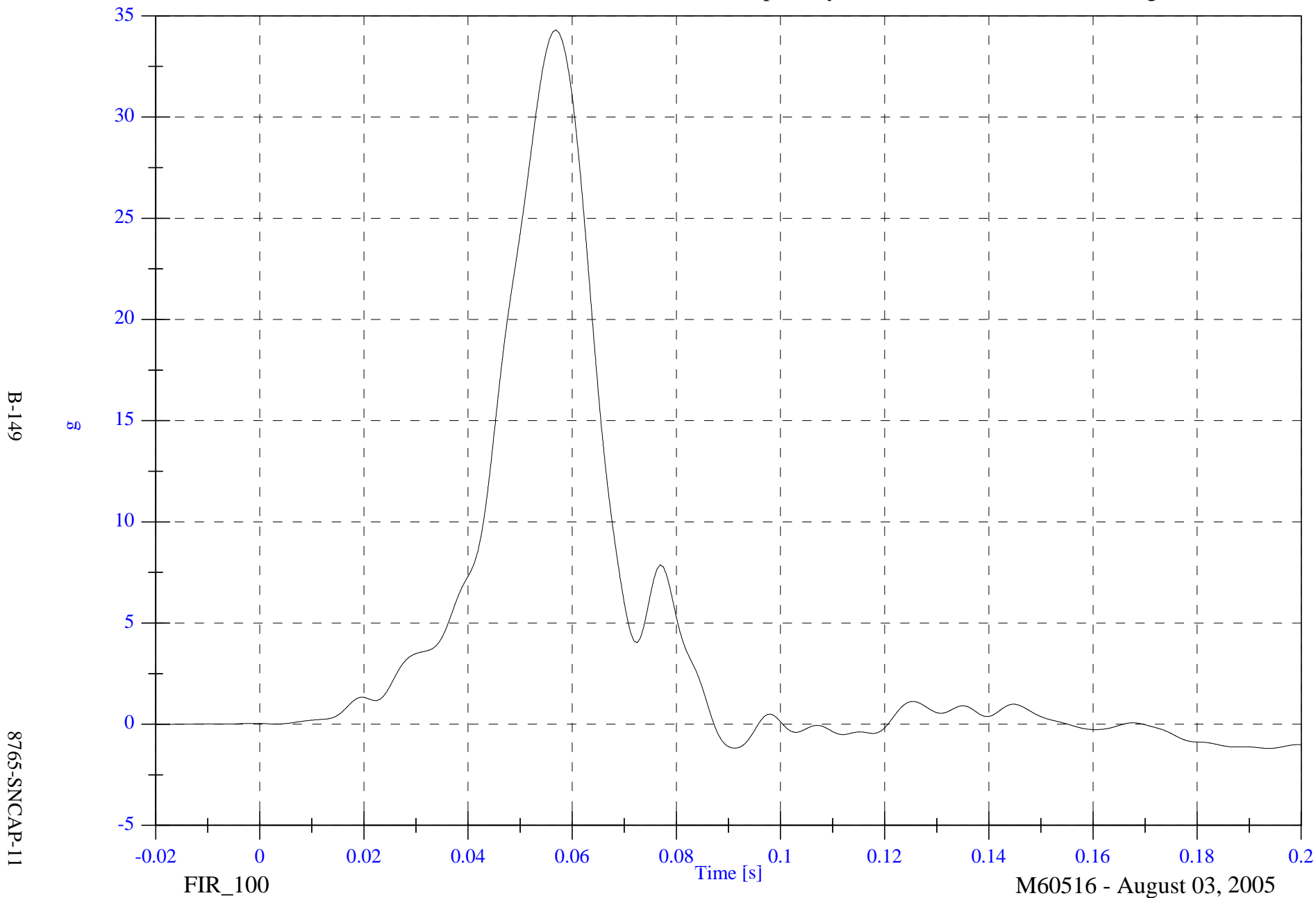
M60516 - August 03, 2005

2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Lower Spine Ry

Max: 34.3 [g] at 0.057 [s]

Min: -1.2 [g] at 0.194 [s]



2006 SNCAP Test 1 2006 Mercedes ML350

V2P4 Pelvic Ry

Max: 38.3 [g] at 0.051 [s]

Min: -2.1 [g] at 0.126 [s]



APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: August 1, 2005; August 15, 2005

Sequential Test Number:

1.1; 1.2

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 905		SID H3 906	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	907	907	907	907
RH- Rib Height (mm)	501 - 521	518	518	516	516
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	241	241	241	241
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	516	516
SW- Knee Pivot to Floor (mm)	490 - 505	493	493	493	493
HW- Hip Width (mm)	356 - 391	366	366	381	381
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	41.0
RELATIVE HUMIDITY (%)	10 - 70	31.00	37.00	31.00	40.00
PROBE SPEED (m/s)	4.27 - 4.33	4.29	4.32	4.29	4.32
UPPER RIB (g's)	37 - 46	38.63	38.49	42.93	42.30
LOWER RIB (g's)	37 - 46	38.18	38.08	43.86	42.16
LOWER SPINE (g's)	15 - 22	21.62	20.98	19.82	20.46
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00	37.00	31.00	40.00
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.27	4.29	4.31
PELVIS (g's)	40 - 60	41.91	46.22	52.11	43.06
Time above 20 g's (ms)	3.0 - 7.0	5.7	5.4	5.6	5.5

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 905

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1.1
Date: August 1, 2005 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1.1
Date: August 1, 2005 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	241
KH- Knee Pivot from Back Line (mm)	511 – 526	521
KV- Knee Pivot to Floor (mm)	490 – 505	493
HW- Hip Width (mm)	356 - 391	366

REMARKS: None

Shock Impact (3.05 m/s)

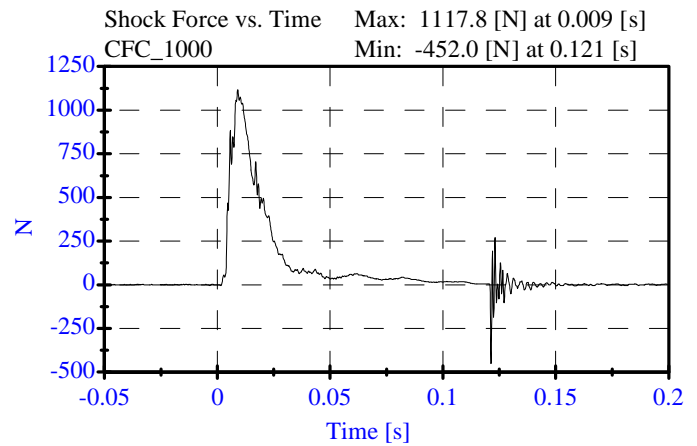
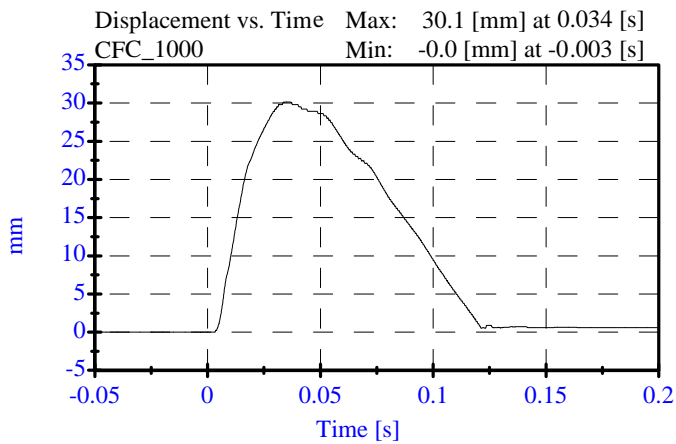
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 08-01-05

Sequential Test Number: 1 File: 905SL 08-01-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	30.00-35.00 mm	30.15 mm	Passed
Maximum Force:	836.00-1125.00 N	1117.76 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	905		
Damper Setting:	5		



Shock Impact (4.27 m/s)

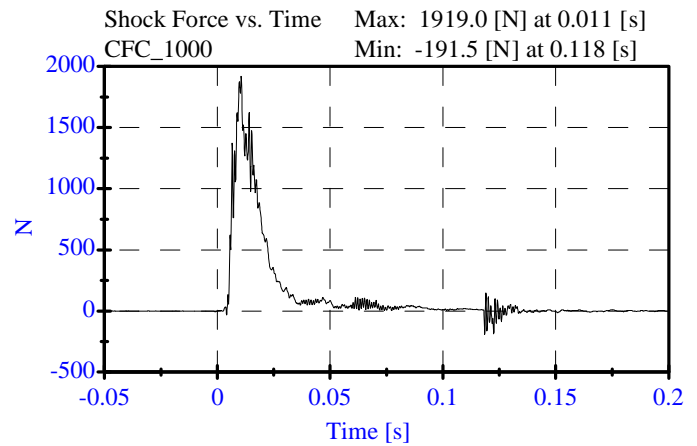
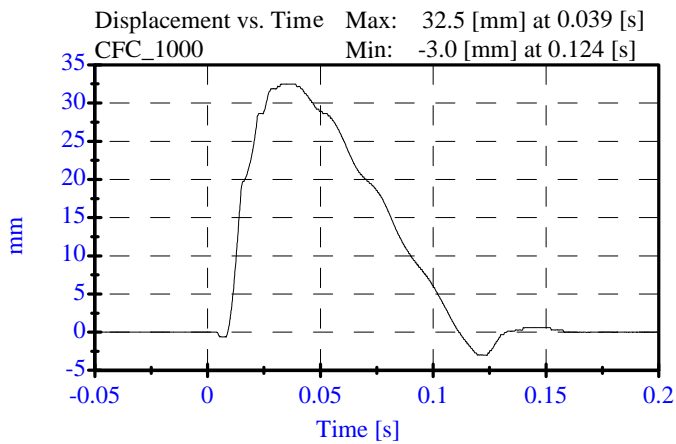
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 08-01-05

Sequential Test Number: 1 File: 905SM1 08-01-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	32.00-37.00 mm	32.50 mm	Passed
Maximum Force:	1730.00-2099.00 N	1918.95 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	905		
Damper Setting:	5		

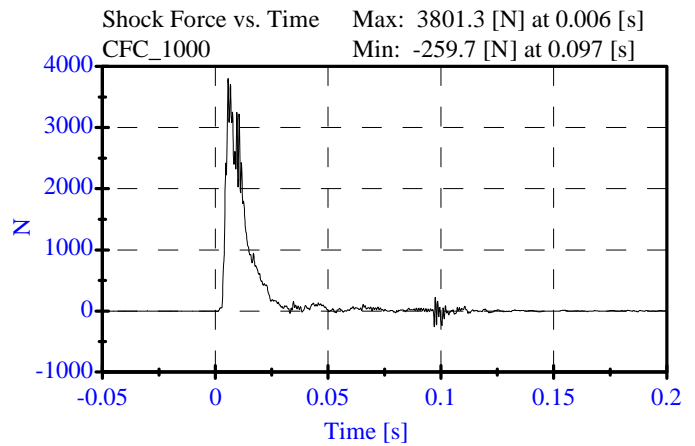
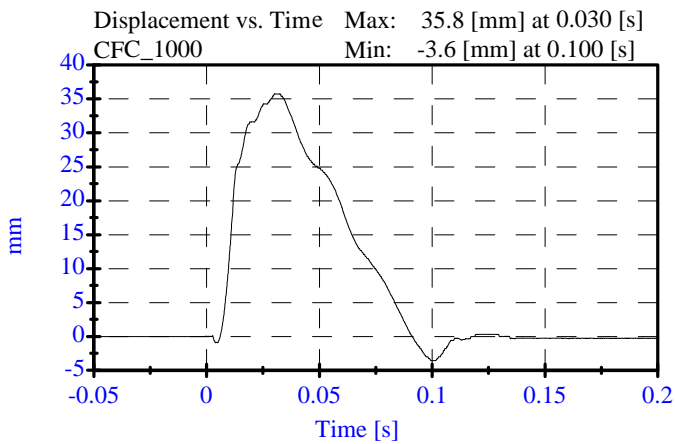


Shock Impact (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
 Date: 08-01-05

Sequential Test Number: 1 File: 905SH1 08-01-05
 Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	33.00-40.00 mm	35.75 mm	Passed
Maximum Force:	3741.00-4448.00 N	3801.26 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	905		
Damper Setting:	5		

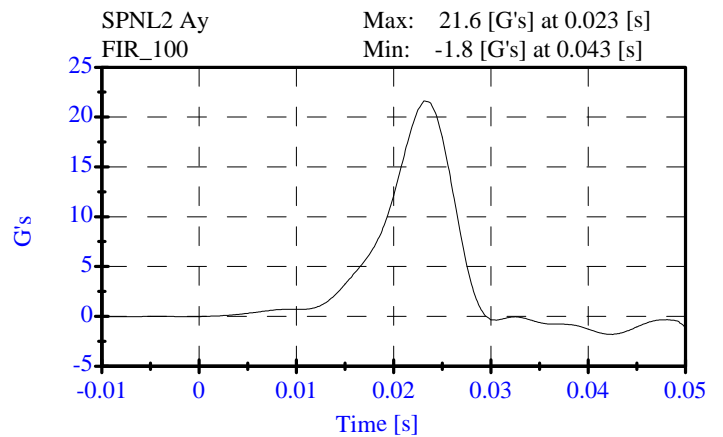
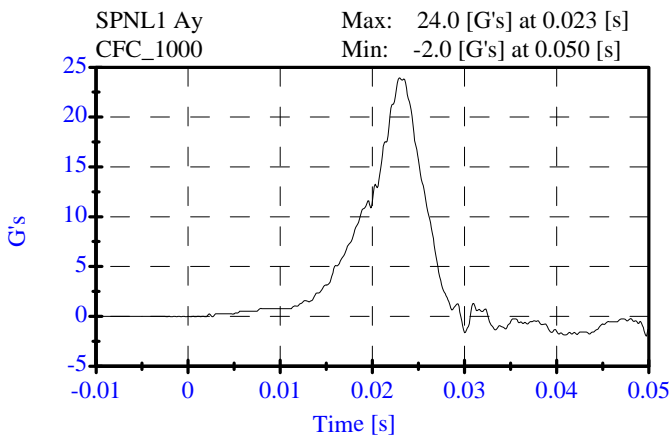
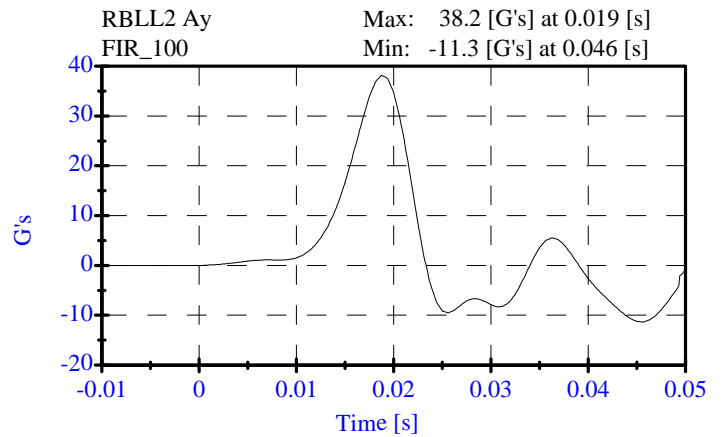
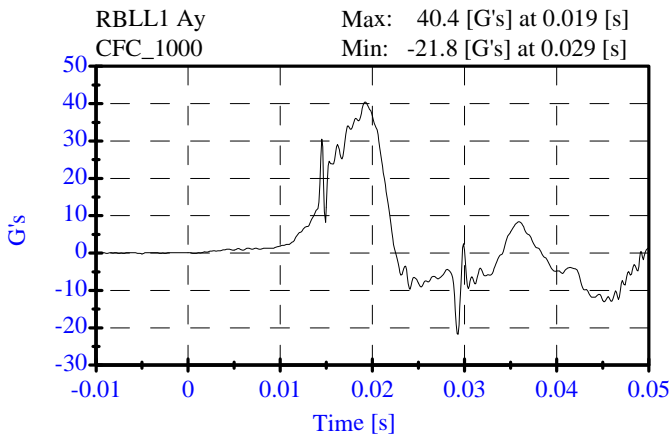
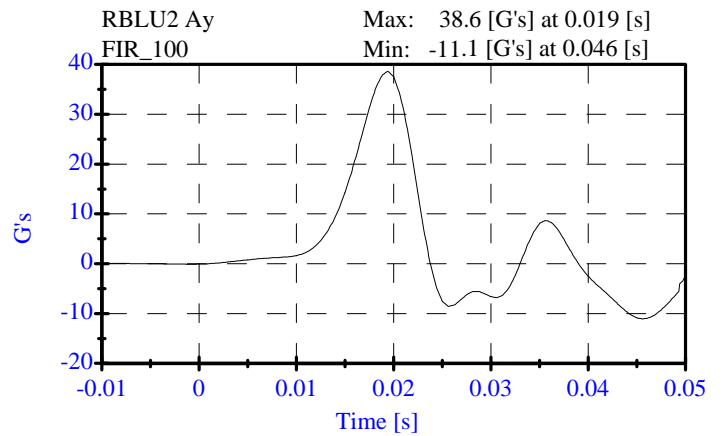
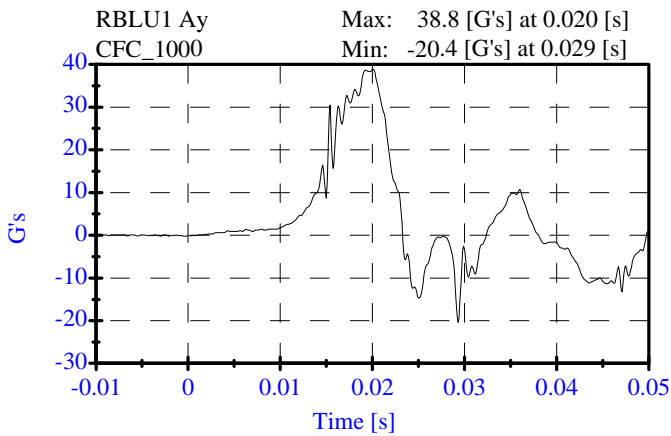


**Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905
Date: 08-01-05

Sequential Test Number: 1 File: 905T 08-01-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.63 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.18 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.62 G's	Passed



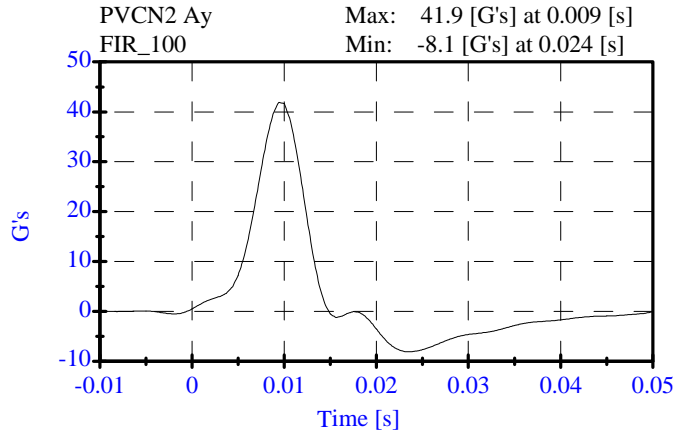
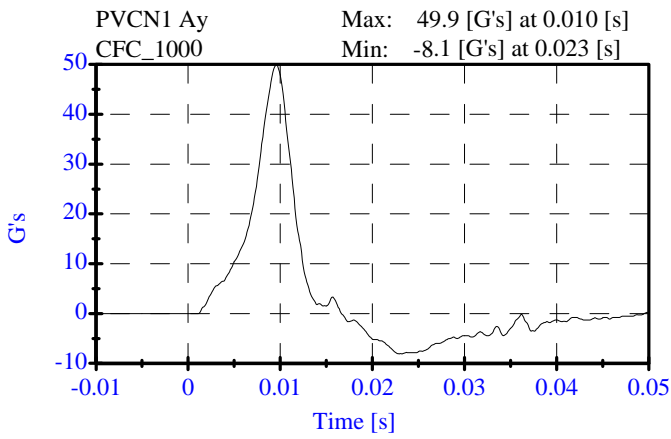
**Pelvic Impact
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 08-01-05

Sequential Test Number: 1 File: 905P 08-01-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	41.91 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed



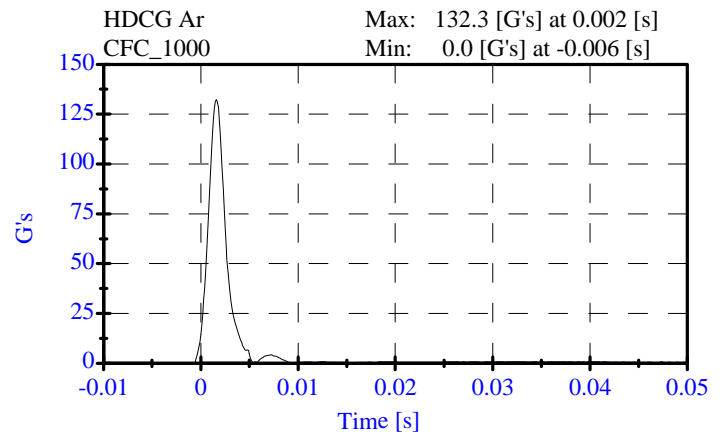
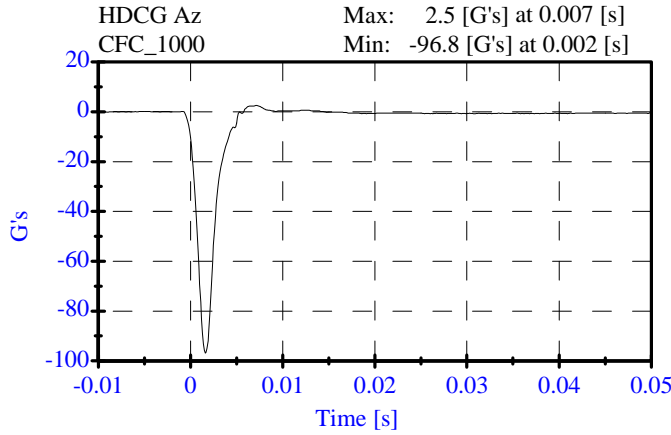
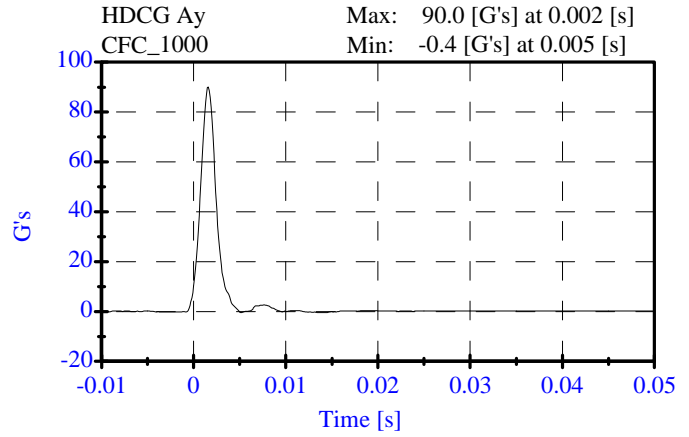
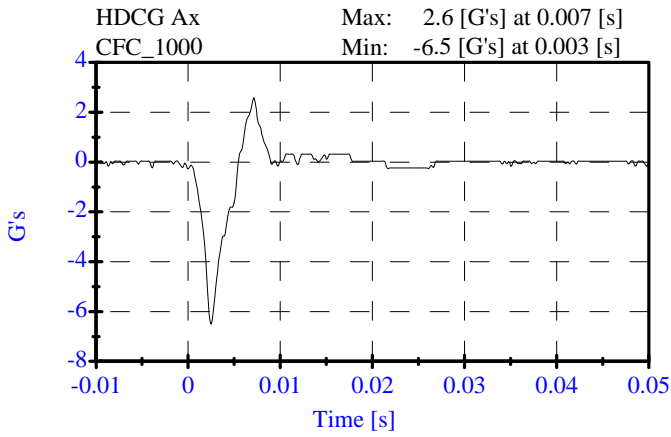
**Head Drop
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 07-28-05

Sequential Test Number: 1 File: 905H1 07-28-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	132.25 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	2.58 Gs	Passed
Curve PerCent NonModal:	< 15%	5.08 %	Passed



**Neck Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 07-28-05

Sequential Test Number: 1 File: 905N 07-28-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.00 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.22 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.10 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.31 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.91 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	83.17 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.50 ms	Passed

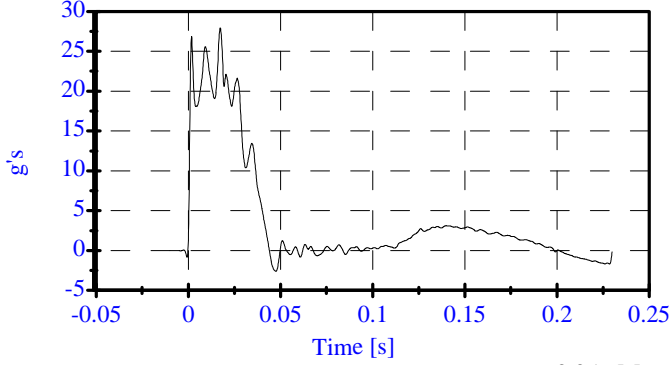
**Neck Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

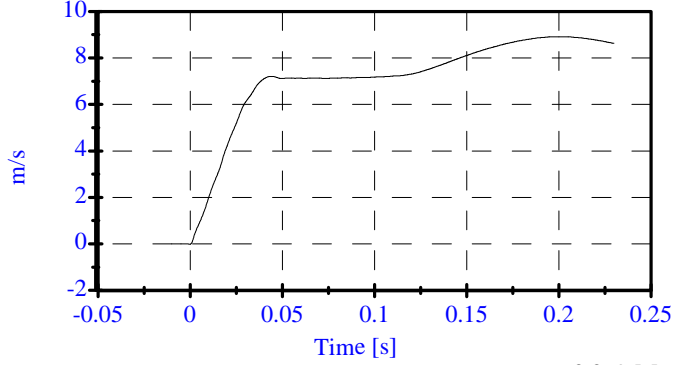
ATD Serial No: 905
Date: 07-28-05

Sequential Test Number: 1 File: 905N 07-28-05
Laboratory Technician: B. Swiecicki

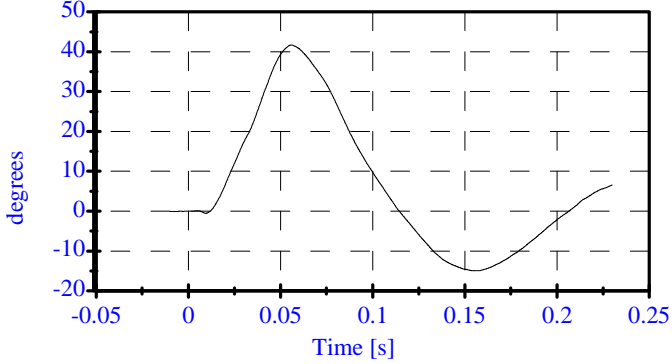
Pend Ax CFC_180 Max: 27.9 [g's] at 0.017 [s]
Min: -2.6 [g's] at 0.048 [s]



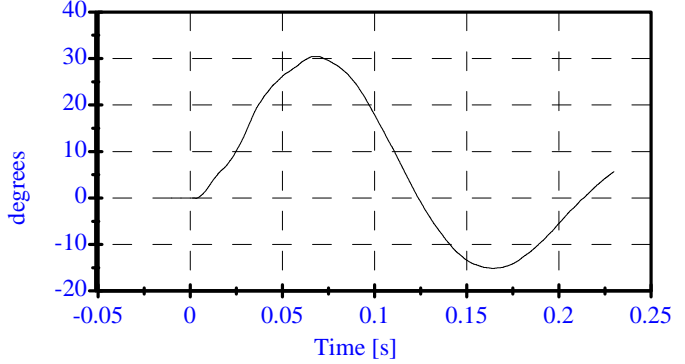
Pend Vx CFC_180 Max: 8.9 [m/s] at 0.199 [s]
Min: -0.0 [m/s] at -0.000 [s]



Head Rot CFC_180 Max: 41.7 [degrees] at 0.056 [s]
Min: -14.9 [degrees] at 0.157 [s]



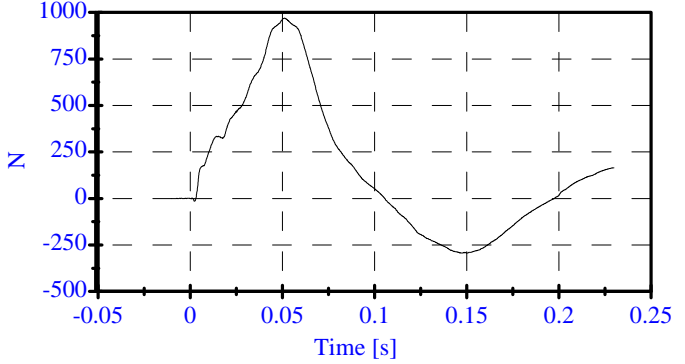
Arm Rot CFC_180 Max: 30.4 [degrees] at 0.069 [s]
Min: -15.1 [degrees] at 0.164 [s]



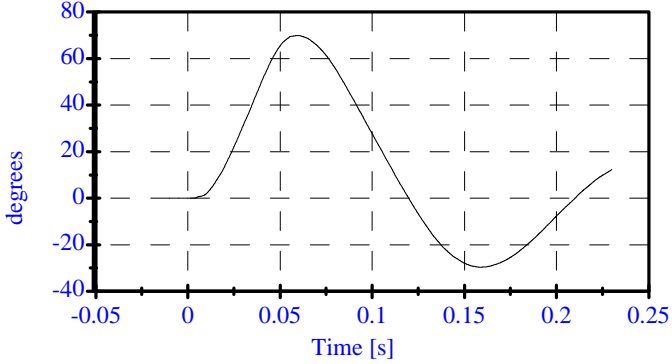
Neck Mx CFC_600 Max: 66.1 [N-m] at 0.053 [s]
Min: -22.5 [N-m] at 0.006 [s]



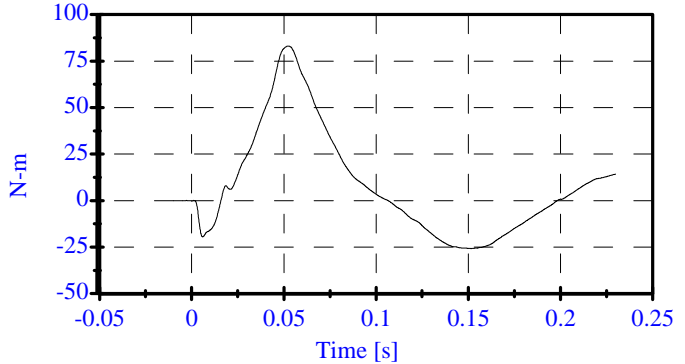
Neck Fy CFC_1000 Max: 969.6 [N] at 0.051 [s]
Min: -293.7 [N] at 0.148 [s]



Tot Rot CFC_180 Max: 69.9 [degrees] at 0.060 [s]
Min: -29.7 [degrees] at 0.159 [s]



MOCX Max: 83.2 [N-m] at 0.052 [s]
Min: -25.8 [N-m] at 0.152 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

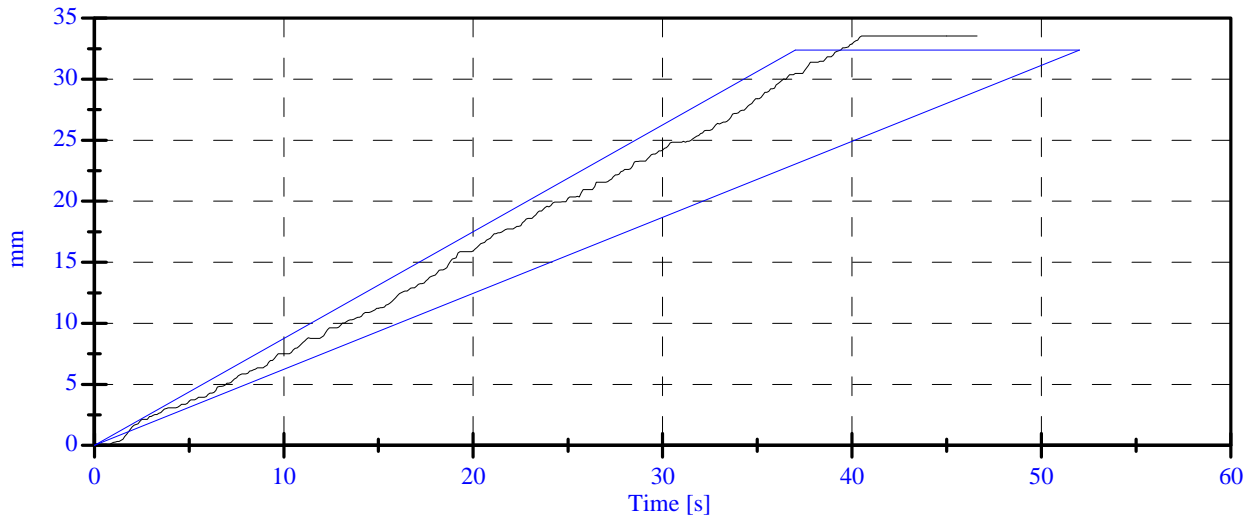
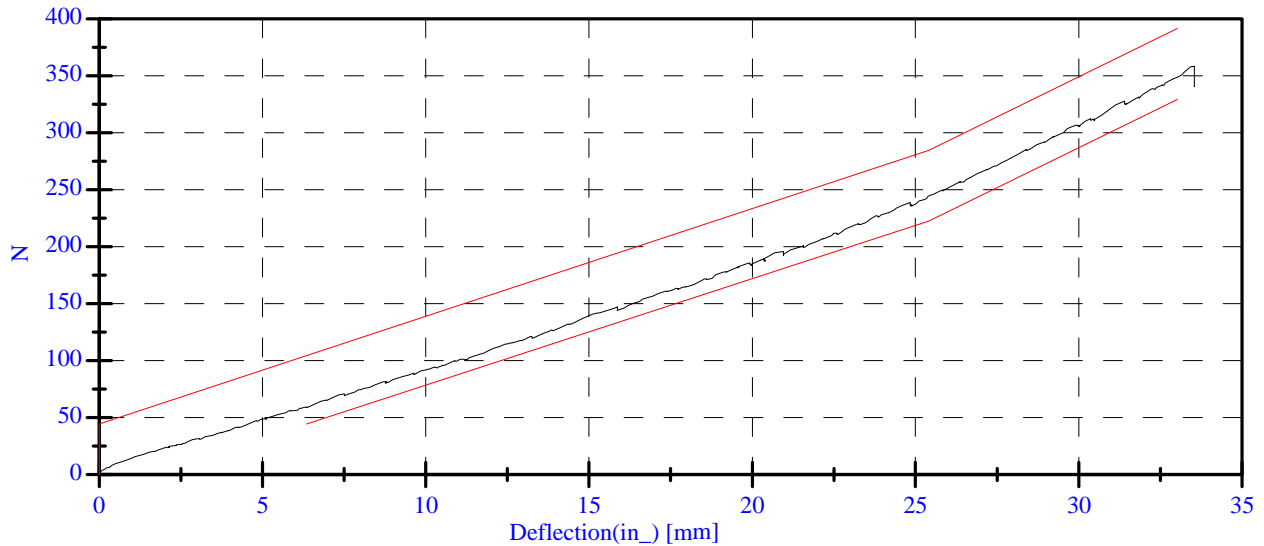
Date: 08-01-05

Sequential Test Number: 1 File: 905 Ab 08-01-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	30.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	117.88 N	Passed
Force at 19.05 mm :	162.98-220.99 N	177.69 N	Passed
Force at 25.40 mm :	221.97-280.02 N	244.39 N	Passed
Force at 33.02 mm :	324.99-391.00 N	349.14 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

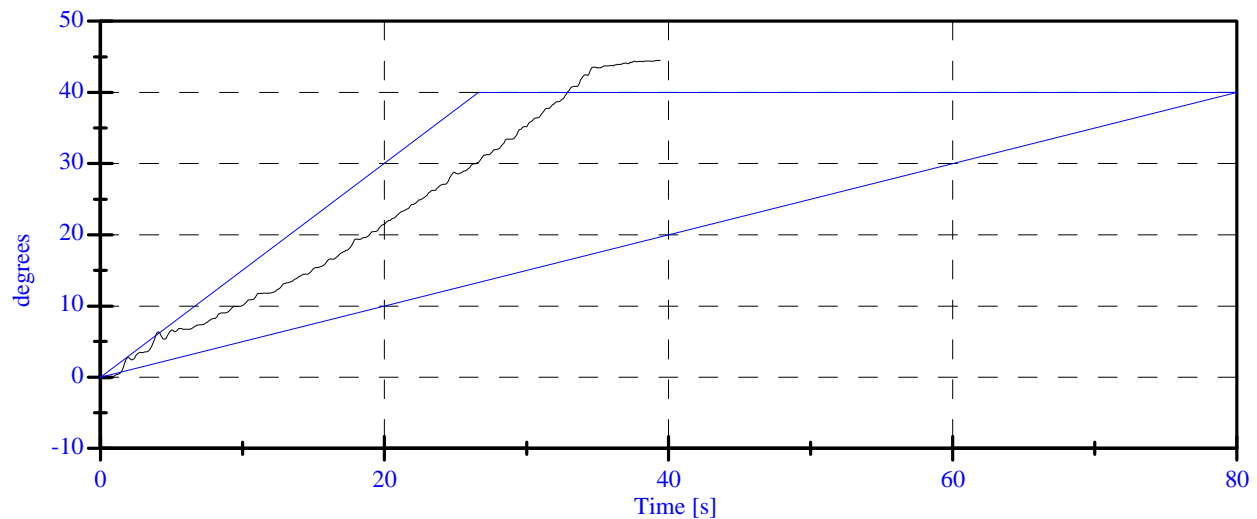
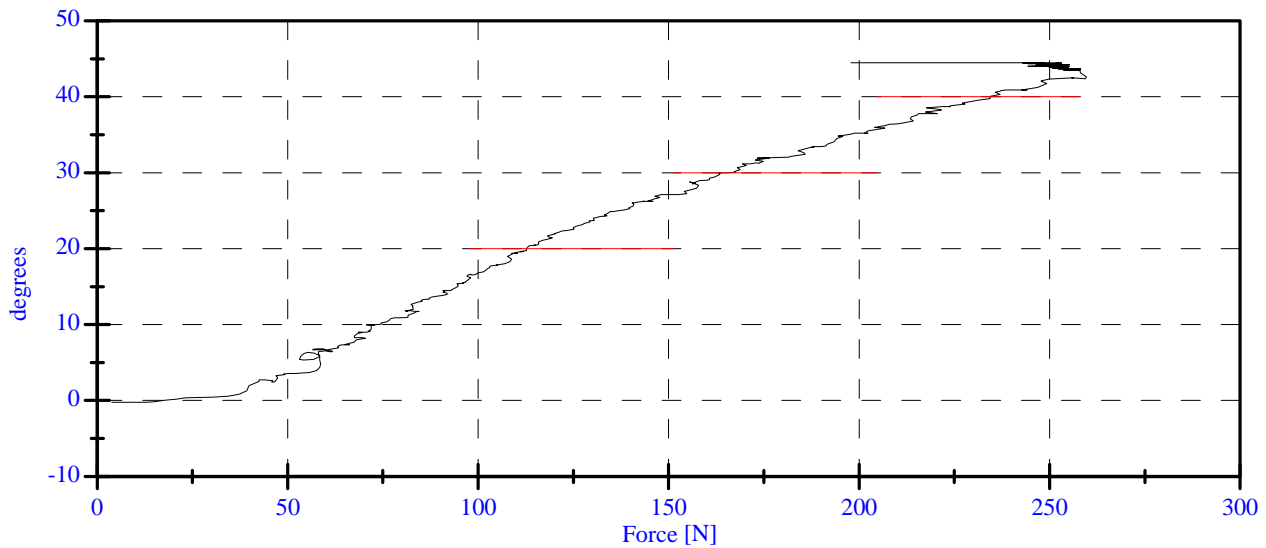
Date: 08-01-05

Sequential Test Number: 1 File: 905 Spine 08-01-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	30.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	17.37 N	Passed
Force at 20 Deg:	97.86-151.24 N	112.69 N	Passed
Force at 30 Deg:	151.24-204.62 N	163.10 N	Passed
Force at 40 Deg:	204.62-258.00 N	234.39 N	Passed
Return Angle	12 Deg Max	4.53 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1.1
 Date: August 1, 2005 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 H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1.1
Date: August 1, 2005 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1.1
Date: August 1, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	241
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

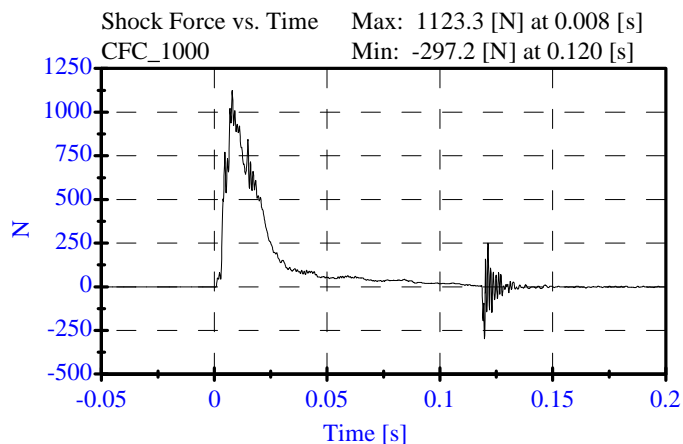
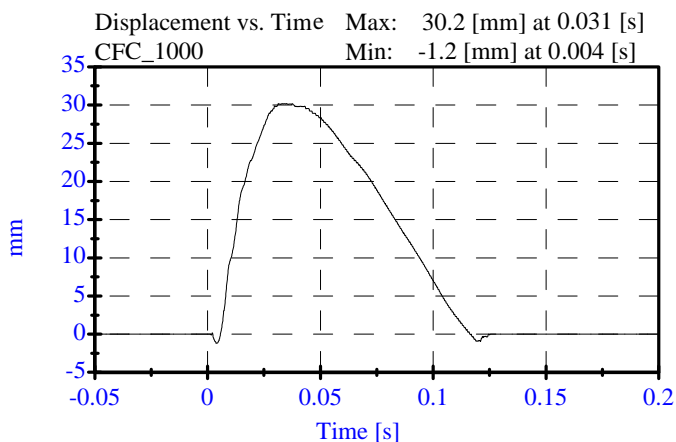
ATD Serial No: 906

Date: 07-29-05

Sequential Test Number: 1 File: 906SL 07-29-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Displacement:	30.00-35.00 mm	30.17 mm	Passed
Maximum Force:	836.00-1125.00 N	1123.31 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	906		
Damper Setting:	5		



Shock Impact - Med (4.27 m/s)

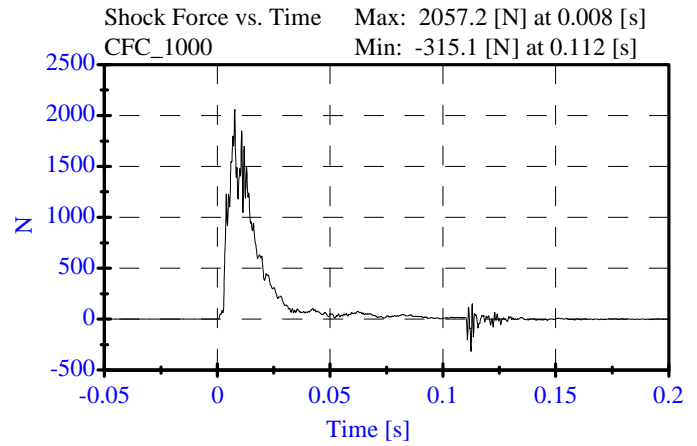
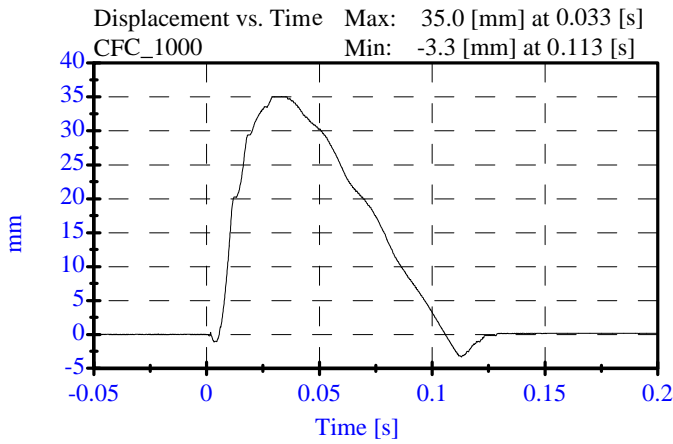
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 07-29-05

Sequential Test Number: 1 File: 906SM1 07-29-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Displacement:	32.00-37.00 mm	35.03 mm	Passed
Maximum Force:	1730.00-2099.00 N	2057.25 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	906		
Damper Setting:	5		



Shock Impact - high (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

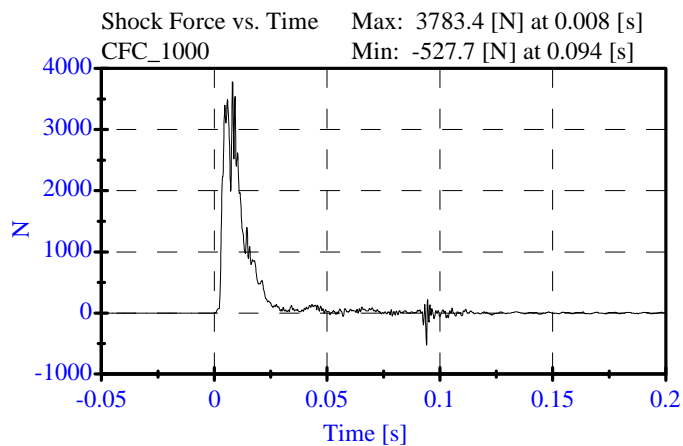
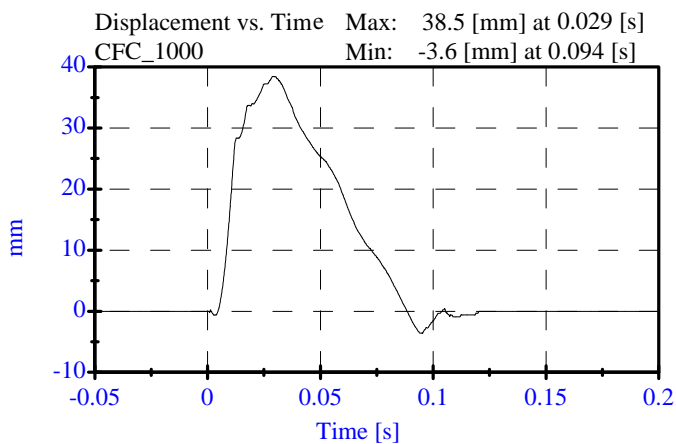
ATD Serial No: 906

Date: 07-29-05

Sequential Test Number: 1 File: 906SH 07-29-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Displacement:	33.00-40.00 mm	38.46 mm	Passed
Maximum Force:	3741.00-4448.00 N	3783.39 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	906		
Damper Setting:	5		

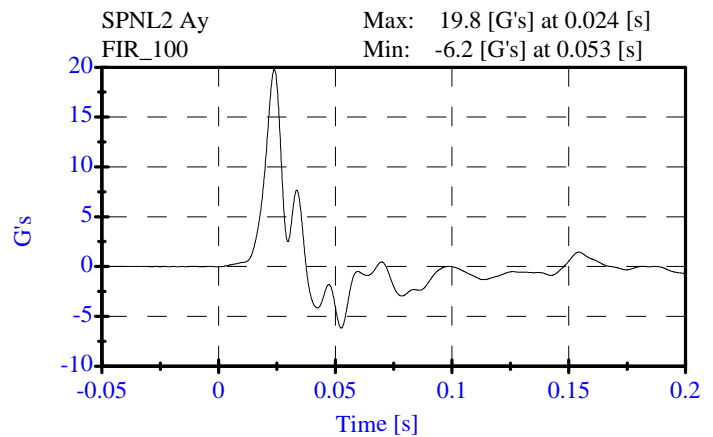
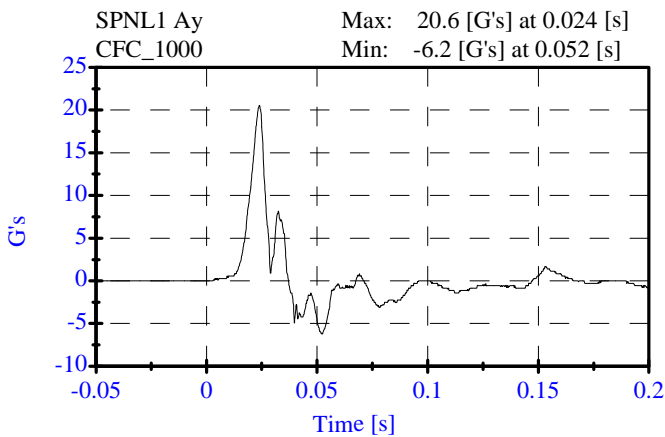
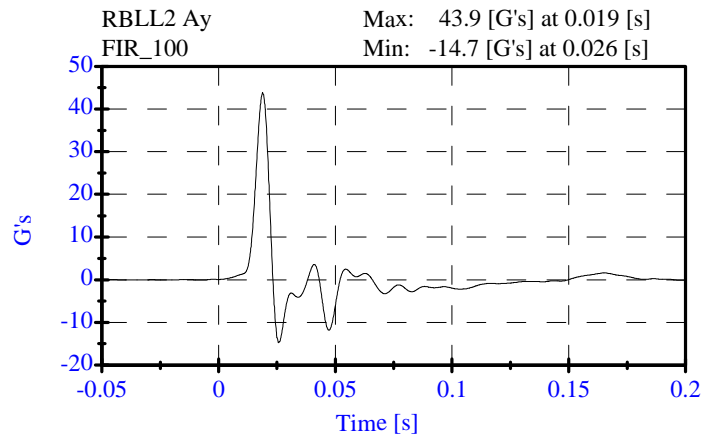
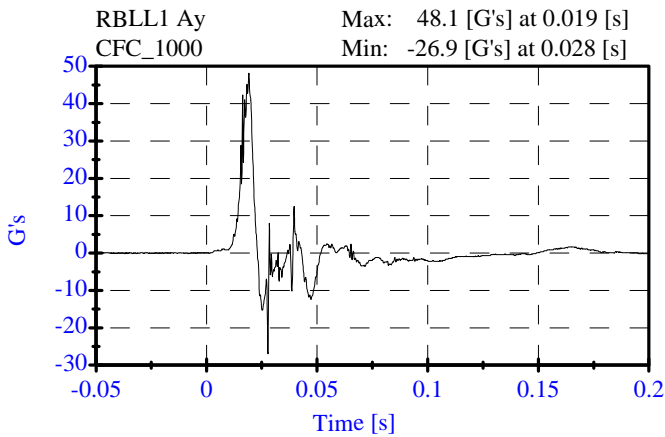
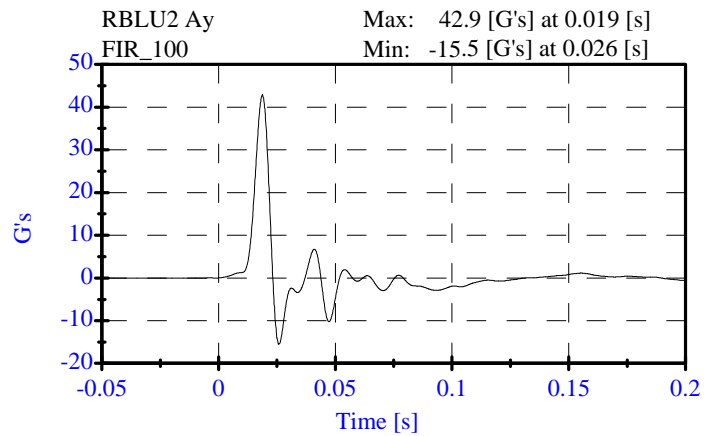
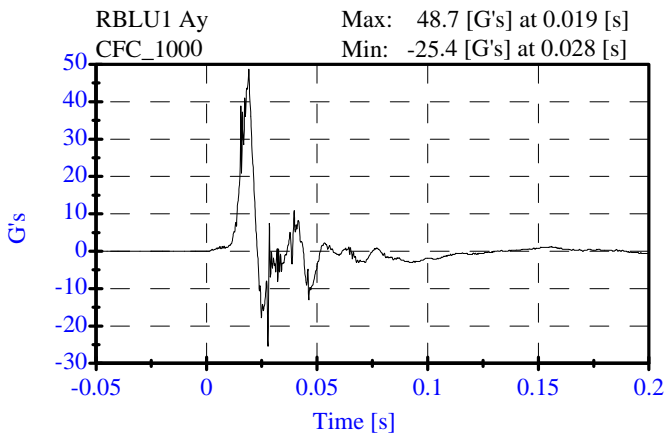


**Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906
Date: 08-01-05

Sequential Test Number: 1 File: 906T 08-01-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	42.93 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	43.86 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.82 G's	Passed



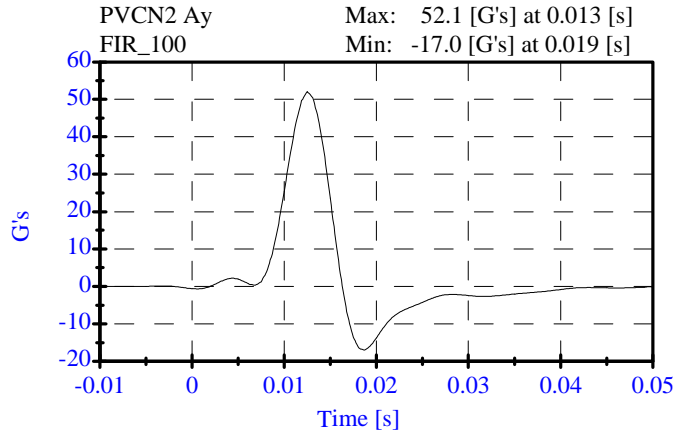
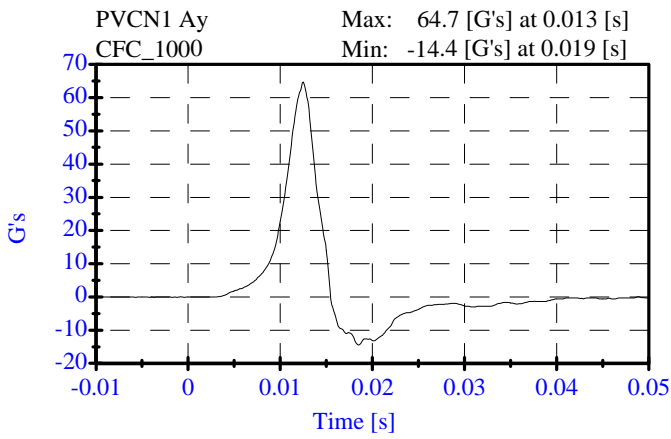
**Pelvic Impact
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 08-01-05

Sequential Test Number: 1 File: 906P 08-01-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	52.11 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.6 ms	Passed



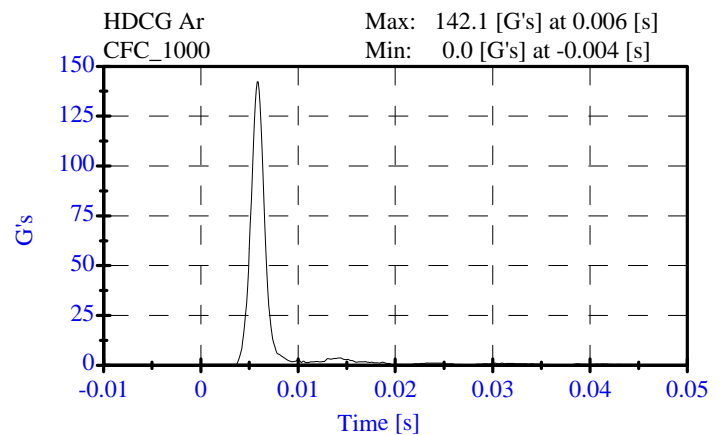
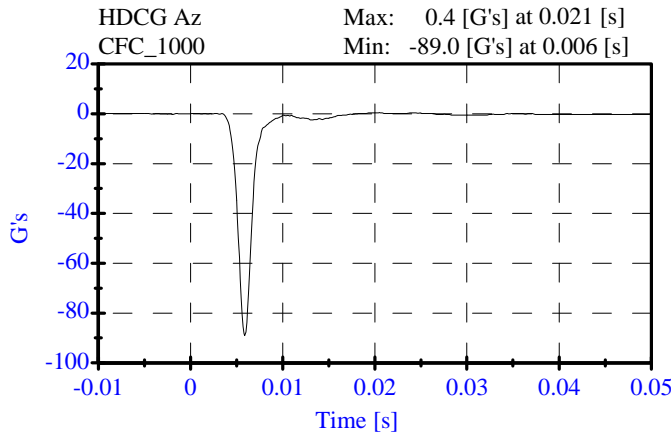
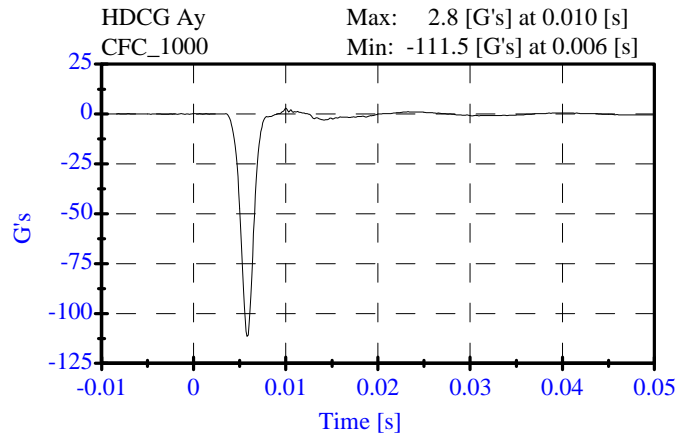
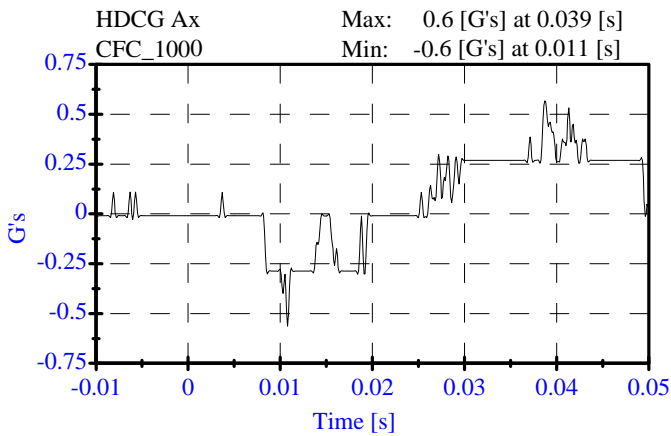
**Head Drop
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 07-29-05

Sequential Test Number: 1 File: 906H 07-28-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	142.15 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	0.57 Gs	Passed
Curve PerCent NonModal:	< 15%	2.63 %	Passed



**Neck Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 07-29-05

Sequential Test Number: 1 File: 906N 07-29-05
Laboratory Technician: B. Swiecicki

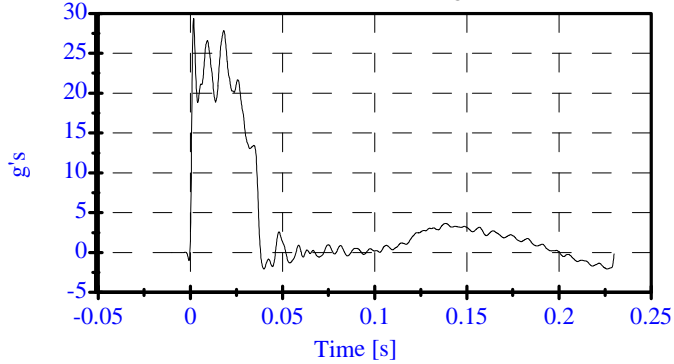
<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.16 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.47 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.44 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.48 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.38 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	83.34 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.70 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.90 ms	Passed

**Neck Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT**

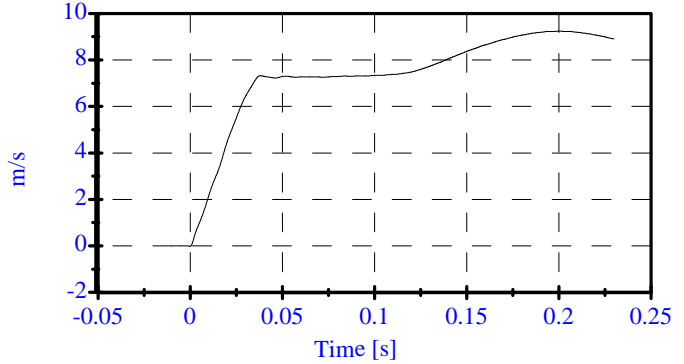
ATD Serial No: 906
Date: 07-29-05

Sequential Test Number: 1 File: 906N 07-29-05
Laboratory Technician: B. Swiecicki

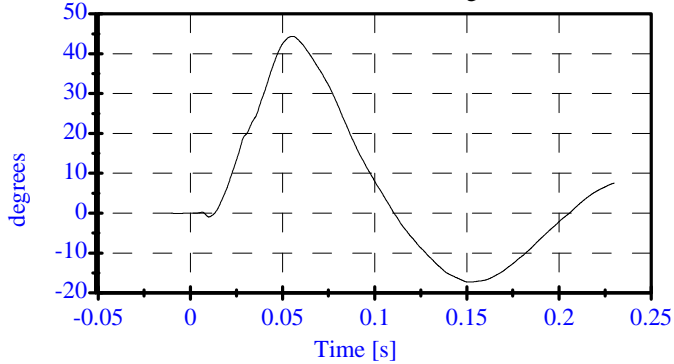
Pend Ax CFC_180 Max: 29.4 [g's] at 0.002 [s]
Min: -2.0 [g's] at 0.226 [s]



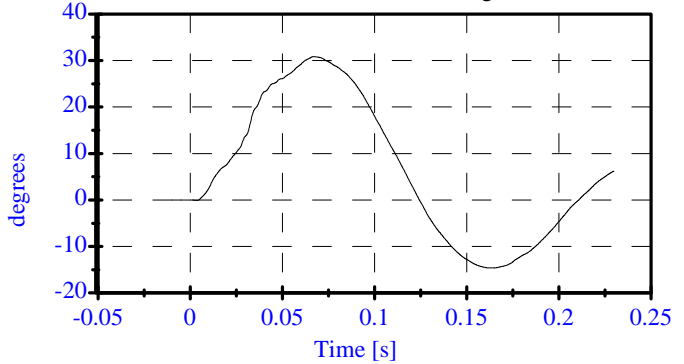
Pend Vx CFC_180 Max: 9.2 [m/s] at 0.201 [s]
Min: -0.0 [m/s] at -0.000 [s]



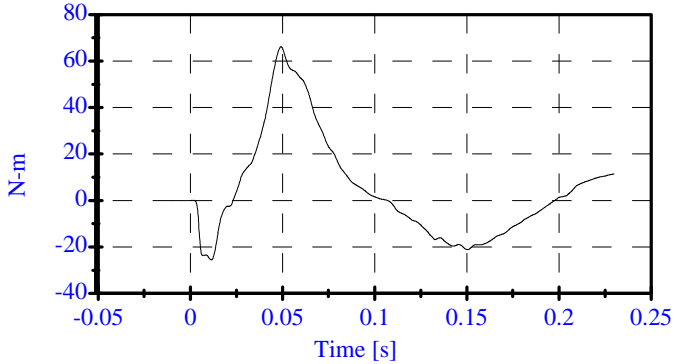
Head Rot CFC_180 Max: 44.4 [degrees] at 0.056 [s]
Min: -17.3 [degrees] at 0.152 [s]



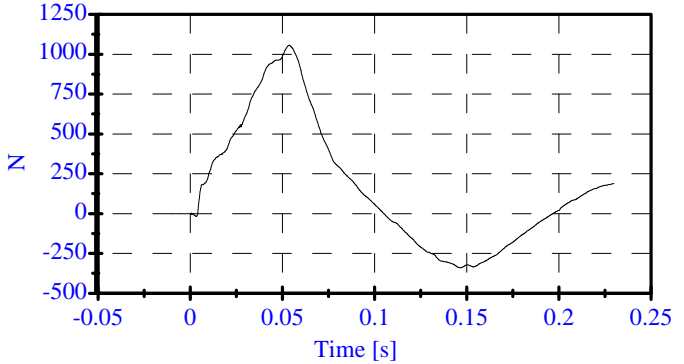
Arm Rot CFC_180 Max: 30.9 [degrees] at 0.067 [s]
Min: -14.6 [degrees] at 0.162 [s]



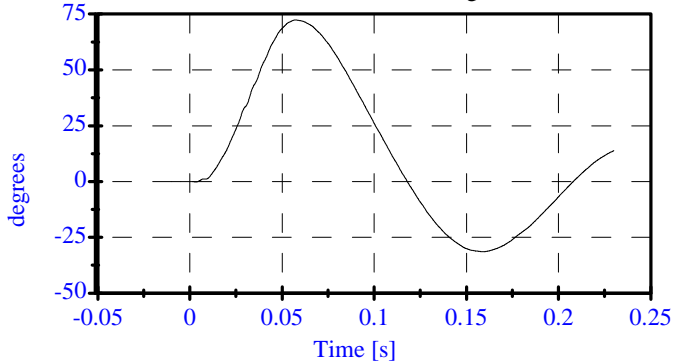
Neck Mx CFC_600 Max: 66.1 [N-m] at 0.049 [s]
Min: -25.5 [N-m] at 0.012 [s]



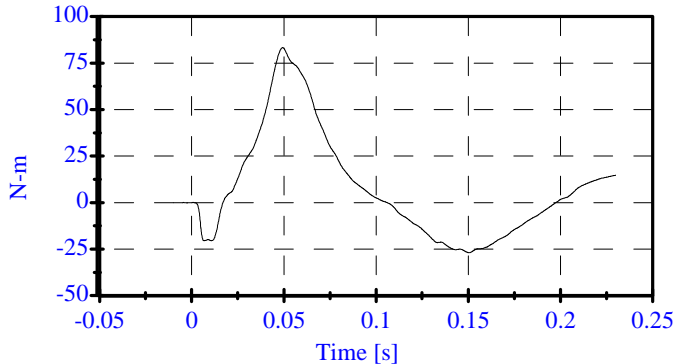
Neck Fy CFC_1000 Max: 1056.3 [N] at 0.054 [s]
Min: -339.7 [N] at 0.146 [s]



Tot Rot CFC_180 Max: 72.4 [degrees] at 0.057 [s]
Min: -31.3 [degrees] at 0.159 [s]



MOCX Max: 83.3 [N-m] at 0.049 [s]
Min: -26.9 [N-m] at 0.150 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

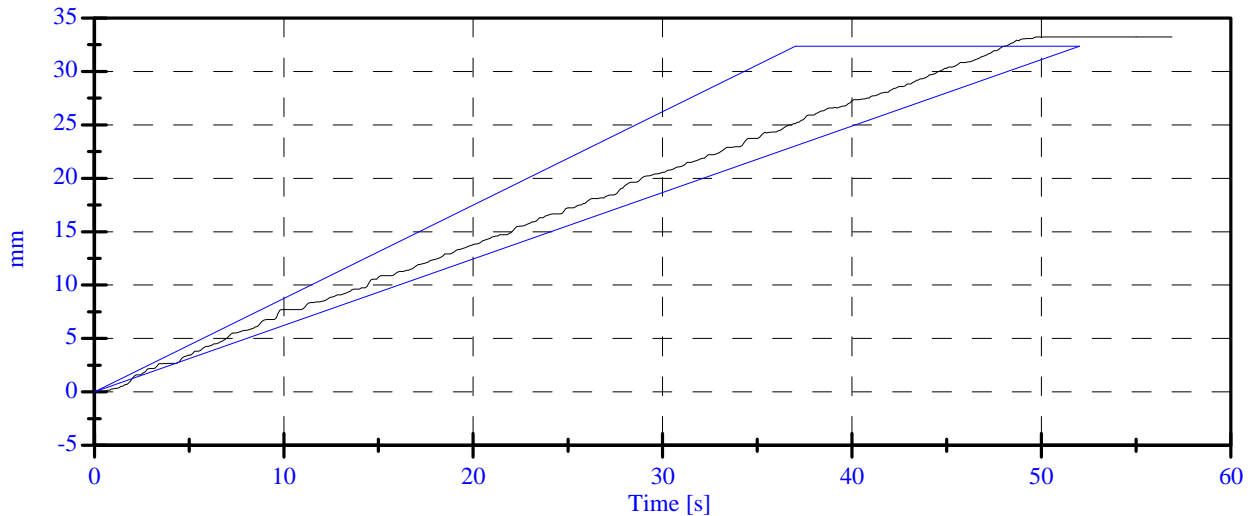
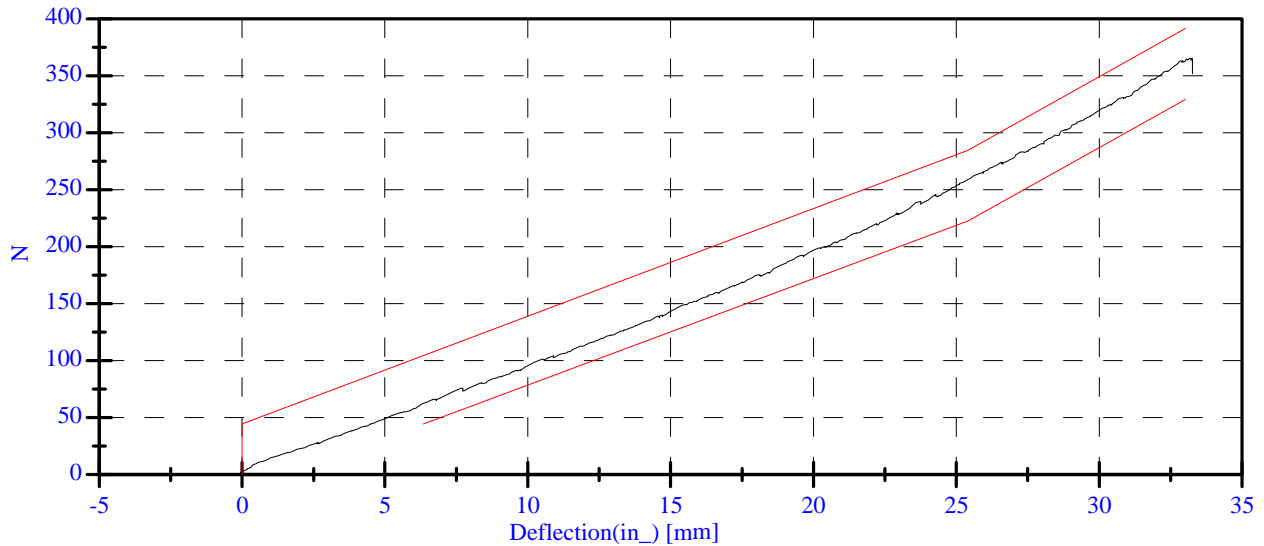
Date: 08-01-05

Sequential Test Number: 1 File: 906 Ab2 08-01-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	30.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	122.59 N	Passed
Force at 19.05 mm :	162.98-220.99 N	185.66 N	Passed
Force at 25.40 mm :	221.97-280.02 N	258.52 N	Passed
Force at 33.02 mm :	324.99-391.00 N	364.37 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

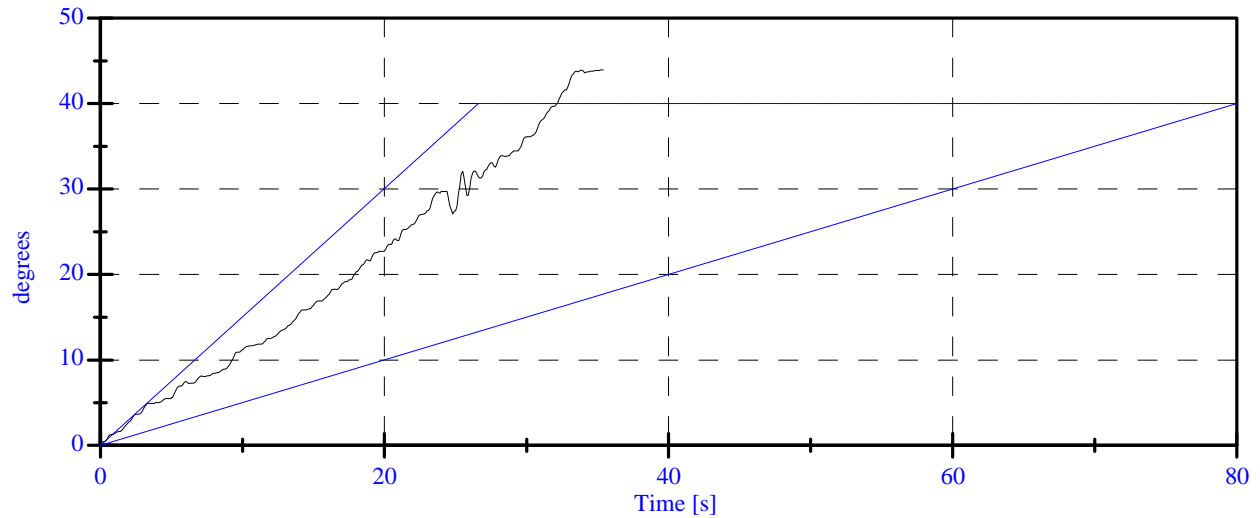
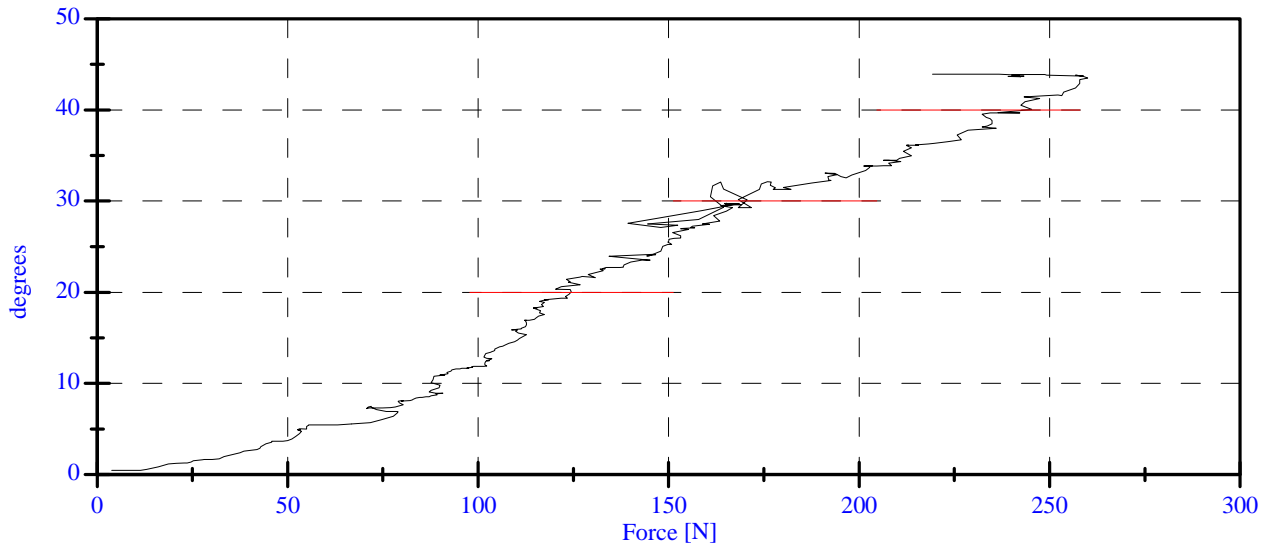
Date: 08-01-05

Sequential Test Number: 1 File: 906 Spine 08-01-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	30.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	3.79 N	Passed
Force at 20 Deg:	97.86-151.24 N	124.44 N	Passed
Force at 30 Deg:	151.24-204.62 N	170.67 N	Passed
Force at 40 Deg:	204.62-258.00 N	242.22 N	Passed
Return Angle	12 Deg Max	2.40 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1.1
 Date: August 1, 2005 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 905

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1.2
Date: August 15, 2005 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1.2
Date: August 15, 2005 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	241
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	366

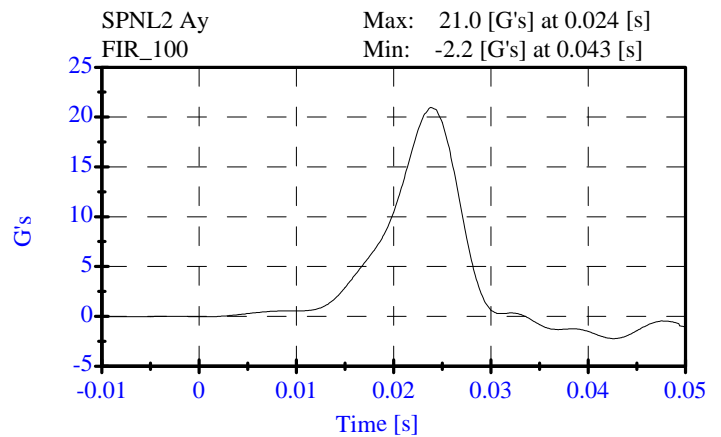
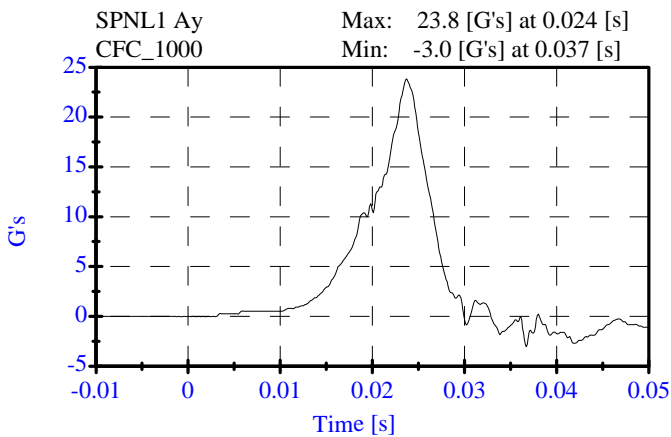
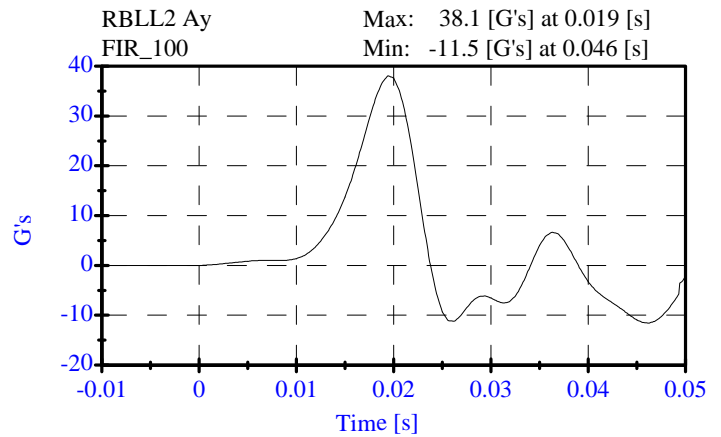
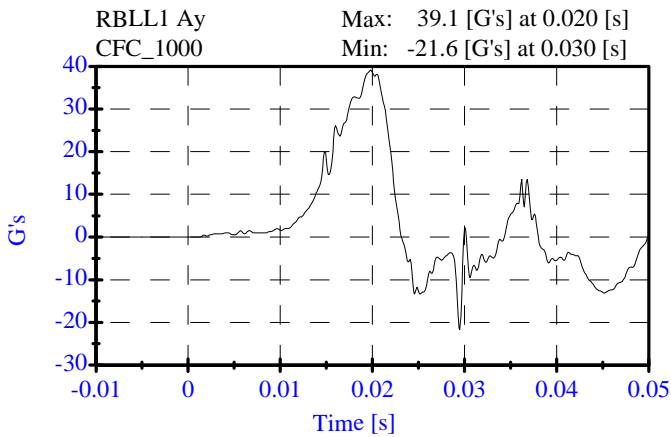
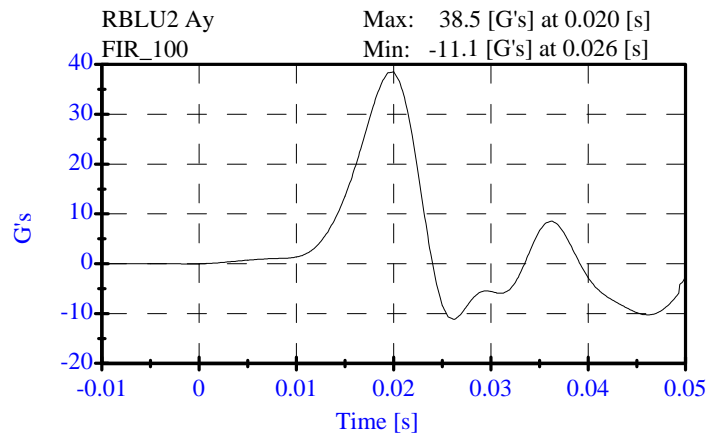
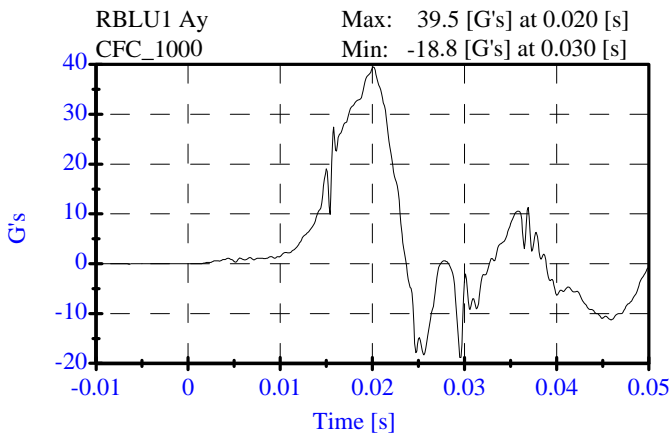
REMARKS: None

**Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905
Date: 08-15-05

Sequential Test Number: 1 File: 905T1 08-15-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.49 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.08 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.98 G's	Passed



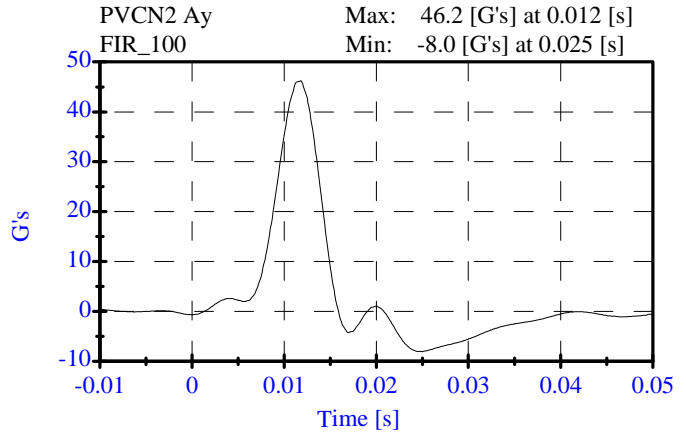
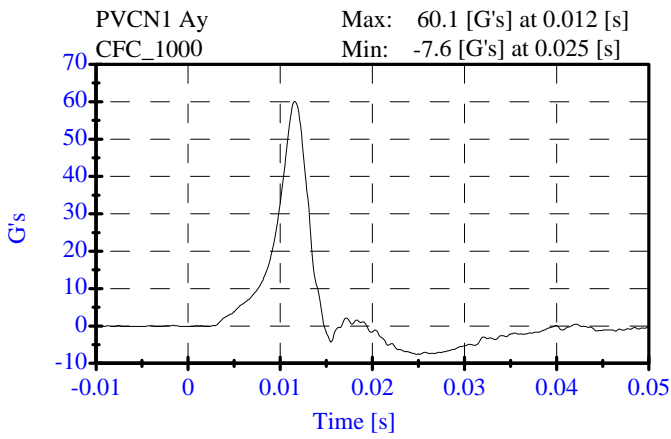
**Pelvic Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 08-15-05

Sequential Test Number: 1 File: 905P 08-15-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	46.22 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



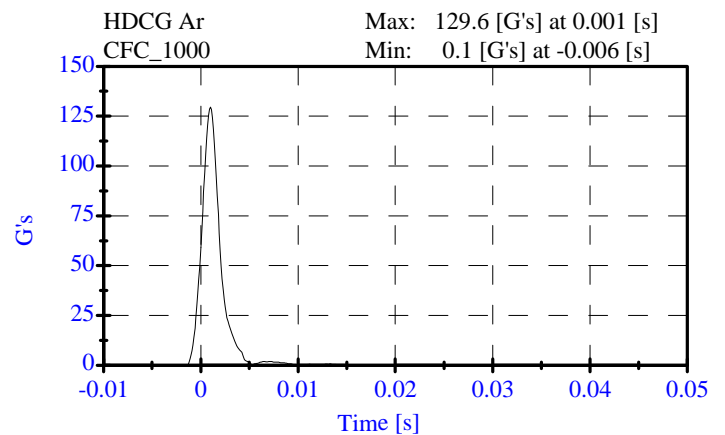
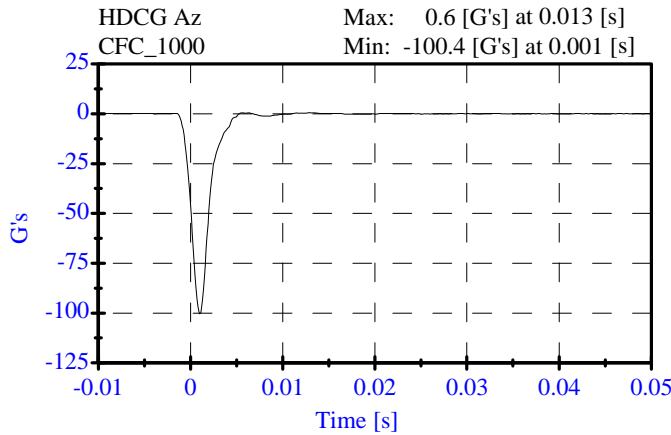
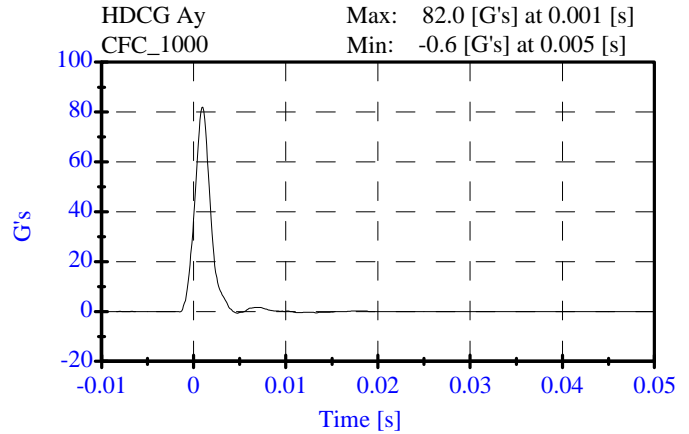
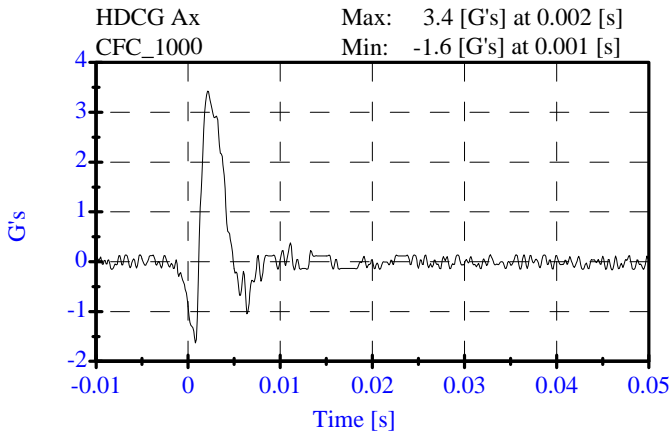
**Head Drop
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 08-11-05

Sequential Test Number: 1 File: 905H1 08-10-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	129.60 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	3.42 Gs	Passed
Curve PerCent NonModal:	< 15%	1.45 %	Passed



**Neck Test
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 08-11-05

Sequential Test Number: 1 File: 905N 08-11-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.01 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.18 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.15 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.64 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	71.00 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.30 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	82.00 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.60 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.30 ms	Passed

**Neck Test
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

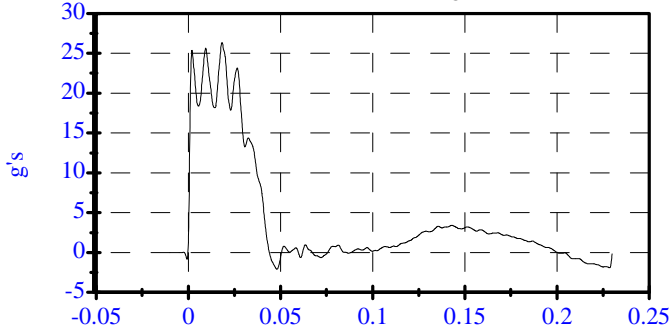
ATD Serial No: 905

Date: 08-11-05

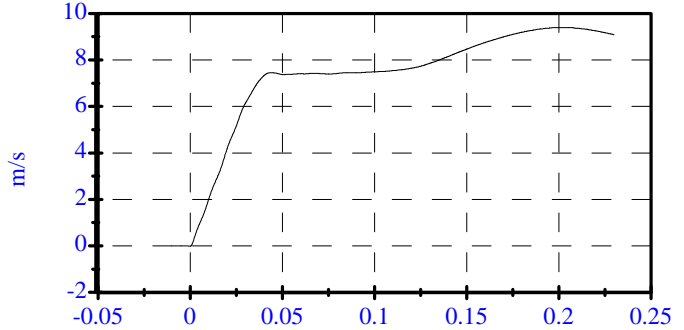
Sequential Test Number: 1 File: 905N 08-11-05

Laboratory Technician: B. Swiecicki

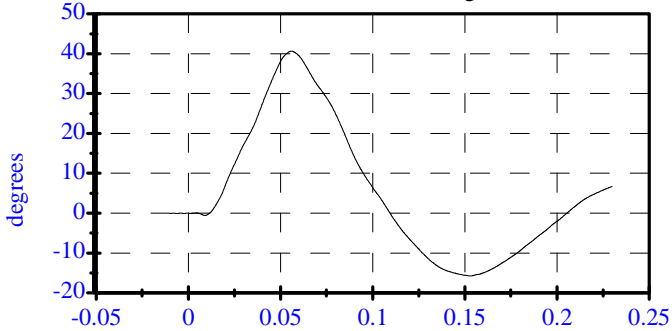
Pend Ax CFC_180 Max: 26.4 [g's] at 0.018 [s]
Min: -2.1 [g's] at 0.048 [s]



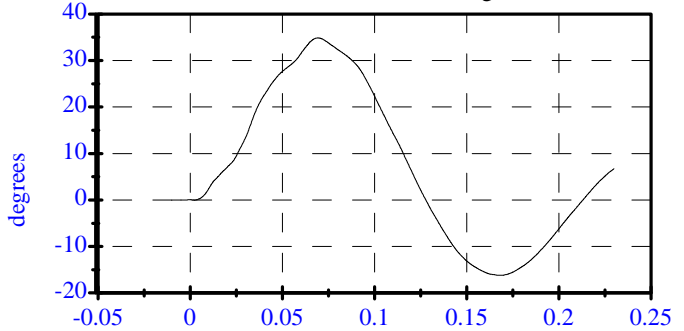
Pend Vx CFC_180 Max: 9.4 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at -0.000 [s]



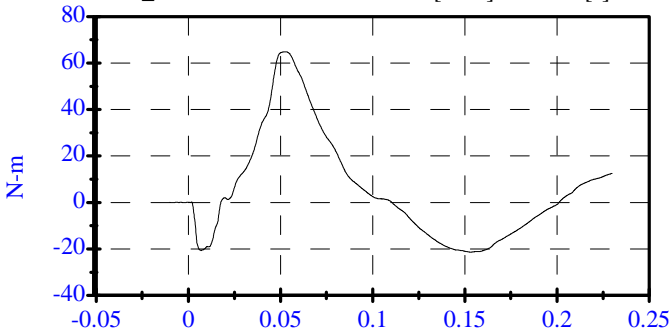
Head Rot CFC_180 Max: 40.7 [degrees] at 0.056 [s]
Min: -15.7 [degrees] at 0.153 [s]



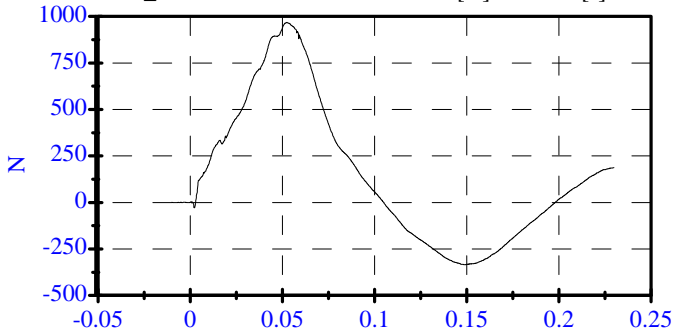
Arm Rot CFC_180 Max: 34.9 [degrees] at 0.069 [s]
Min: -16.2 [degrees] at 0.169 [s]



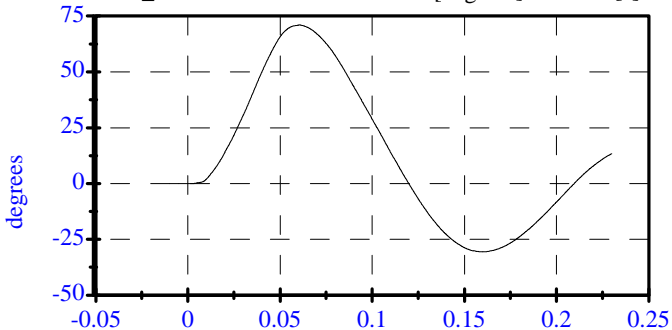
Neck Mx CFC_600 Max: 64.8 [N-m] at 0.053 [s]
Min: -21.4 [N-m] at 0.154 [s]



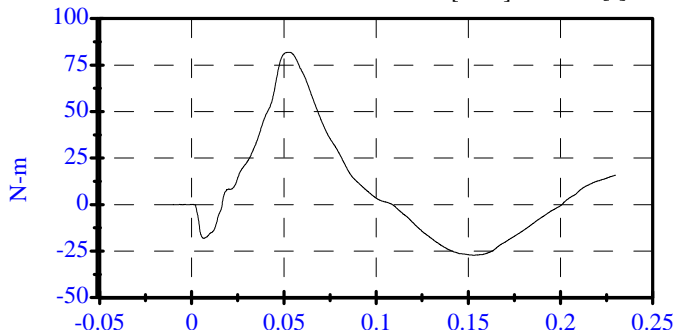
Neck Fy CFC_1000 Max: 968.3 [N] at 0.052 [s]
Min: -334.7 [N] at 0.149 [s]



Tot Rot CFC_180 Max: 71.0 [degrees] at 0.061 [s]
Min: -30.5 [degrees] at 0.161 [s]



MOCX Max: 82.0 [N-m] at 0.052 [s]
Min: -27.2 [N-m] at 0.153 [s]



Abdomen Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

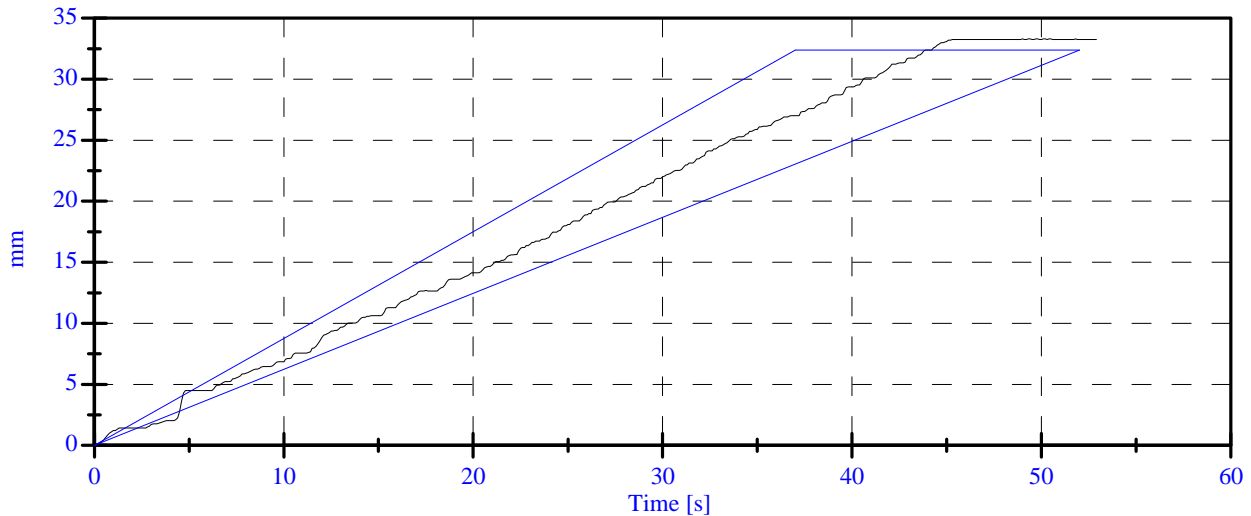
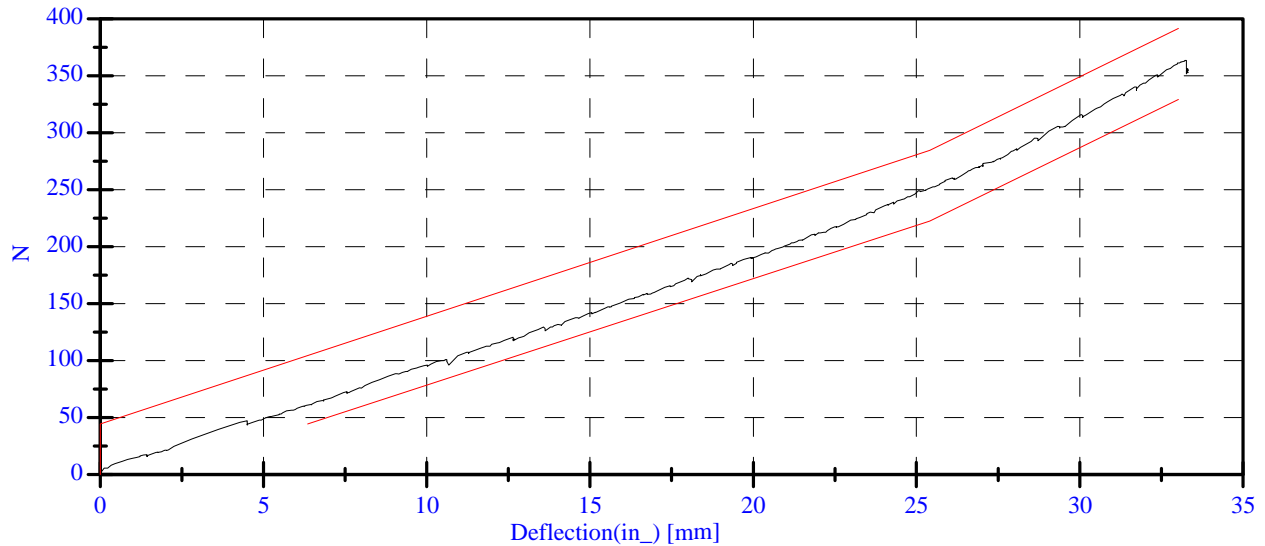
Date: 08-15-05

Sequential Test Number: 1 File: 905Ab 08-15-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	121.50 N	Passed
Force at 19.05 mm :	162.98-220.99 N	180.23 N	Passed
Force at 25.40 mm :	221.97-280.02 N	250.55 N	Passed
Force at 33.02 mm :	324.99-391.00 N	361.11 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

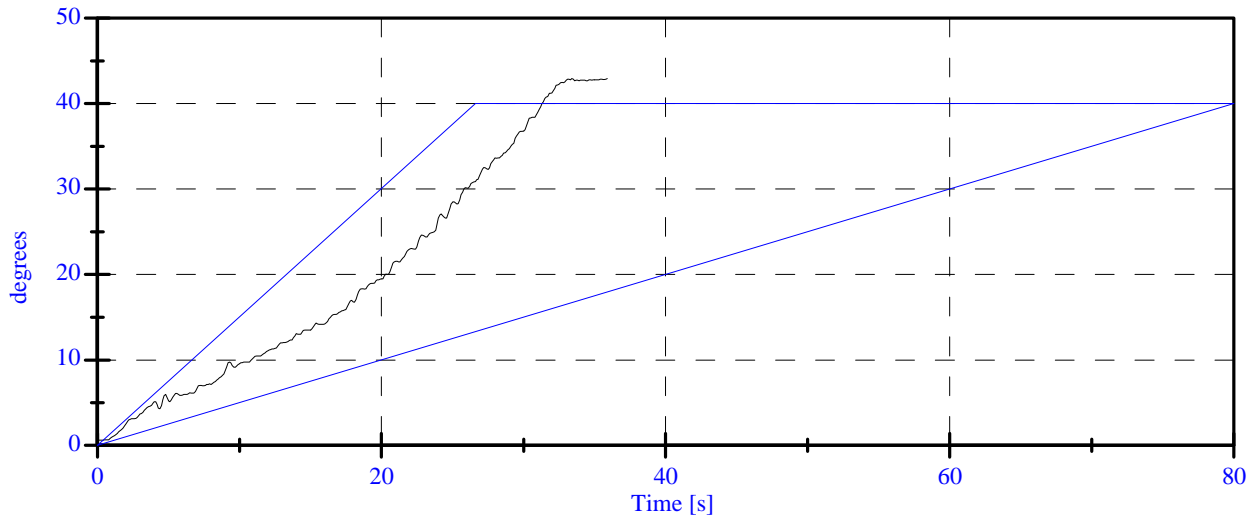
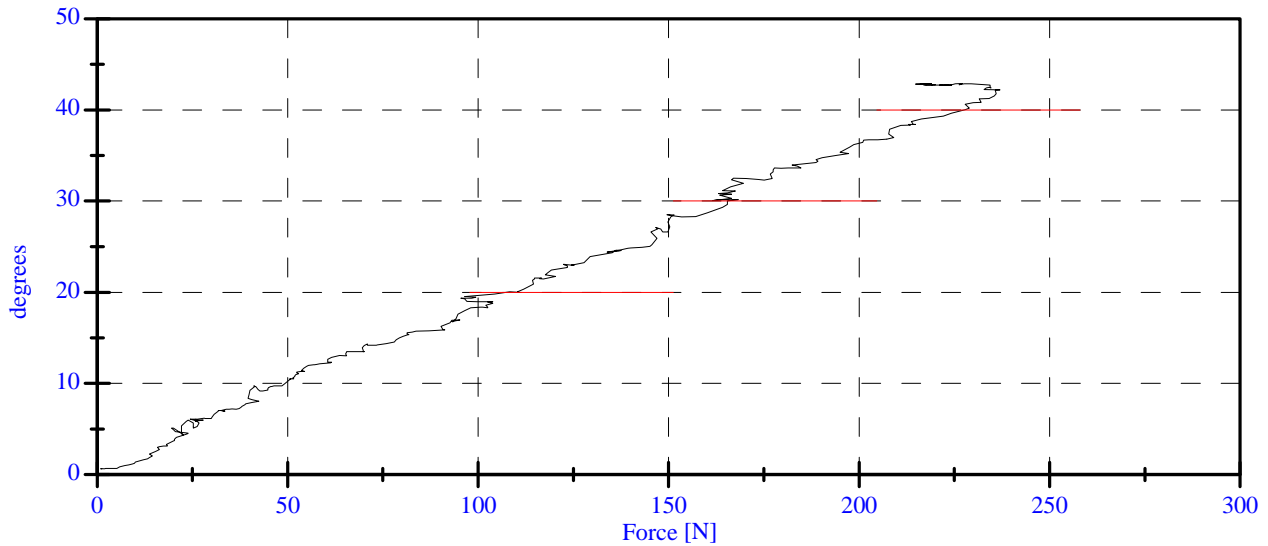
Date: 08-15-05

Sequential Test Number: 1 File: 905Spine 08-15-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.18 N	Passed
Force at 20 Deg:	97.86-151.24 N	110.86 N	Passed
Force at 30 Deg:	151.24-204.62 N	165.45 N	Passed
Force at 40 Deg:	204.62-258.00 N	227.86 N	Passed
Return Angle	12 Deg Max	2.98 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1.2
 Date: August 15, 2005 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1.2
Date: August 15, 2005 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1.2
Date: August 15, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	241
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

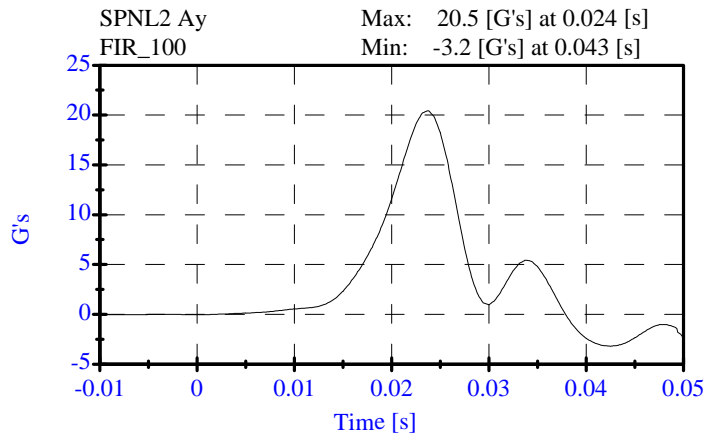
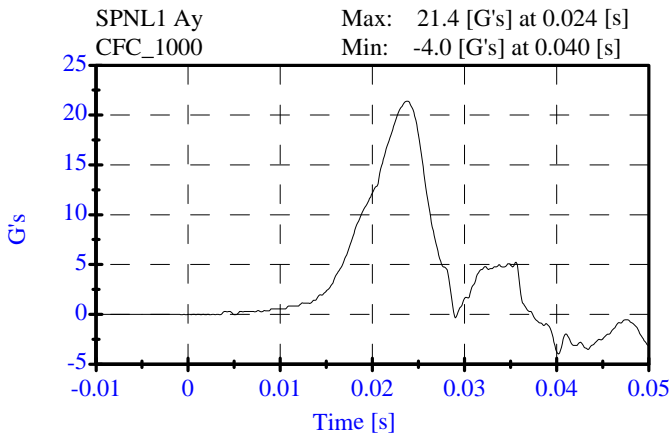
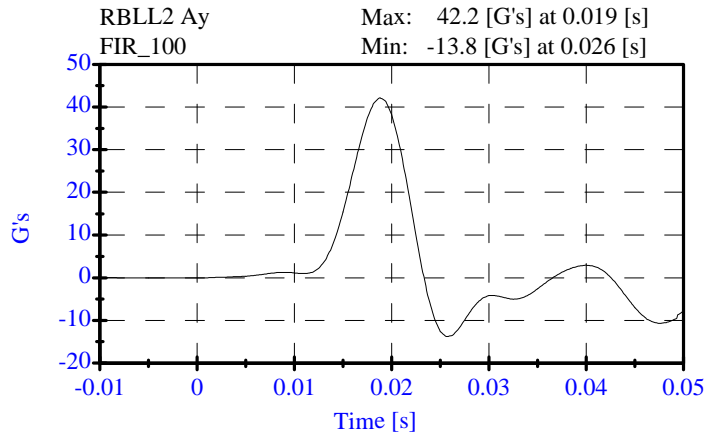
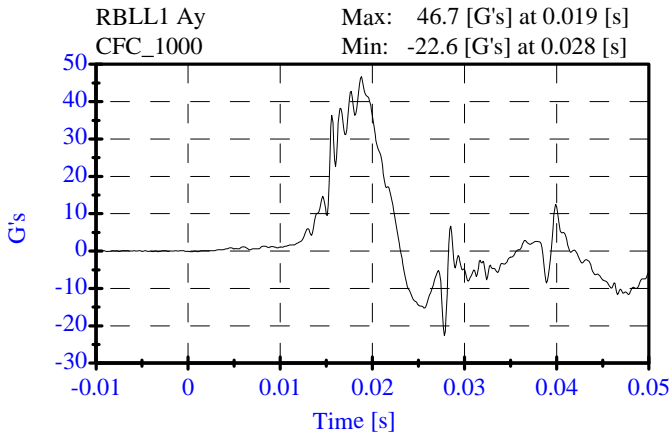
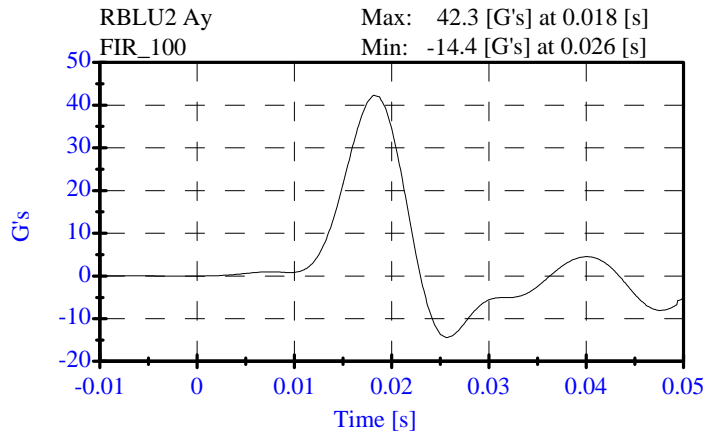
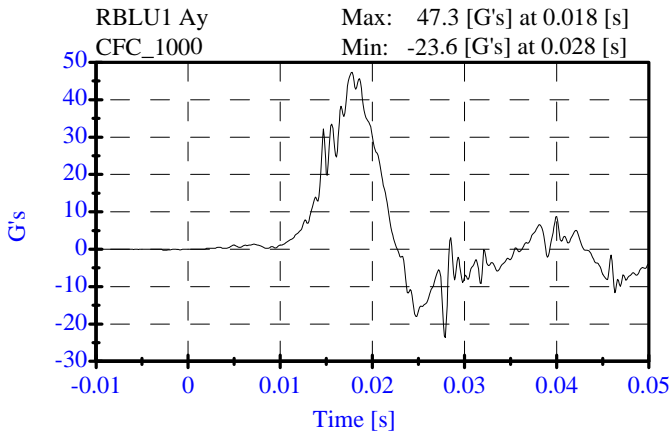
**Thorax Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 08-12-05

Sequential Test Number: 1 File: 906T1 08-12-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	42.30 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.16 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.46 G's	Passed



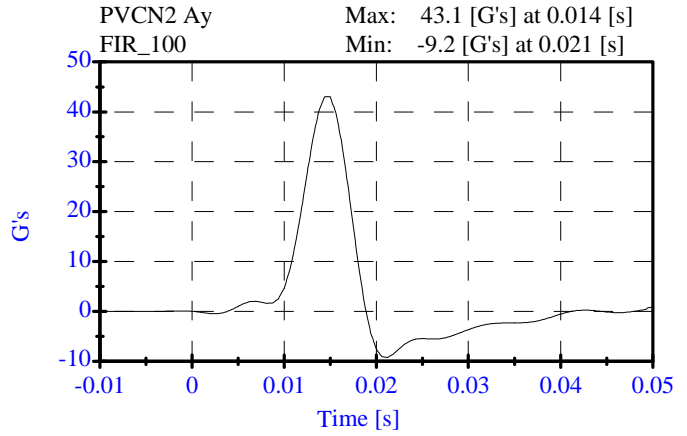
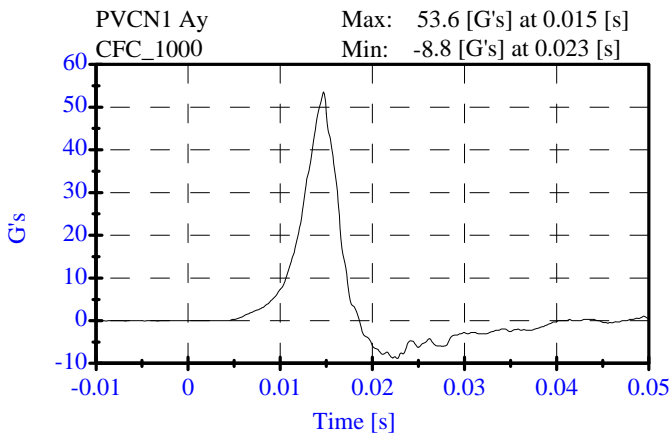
**Pelvic Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 08-12-05

Sequential Test Number: 1 File: 906P 08-12-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	43.06 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



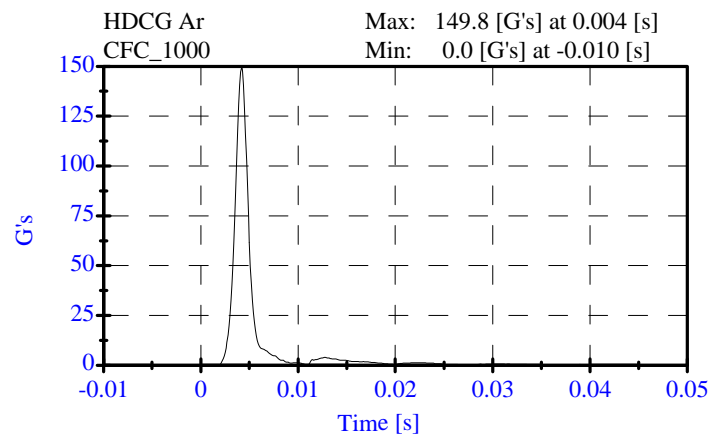
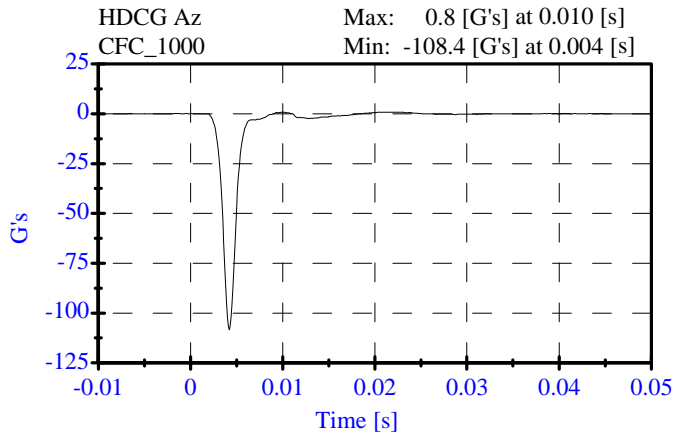
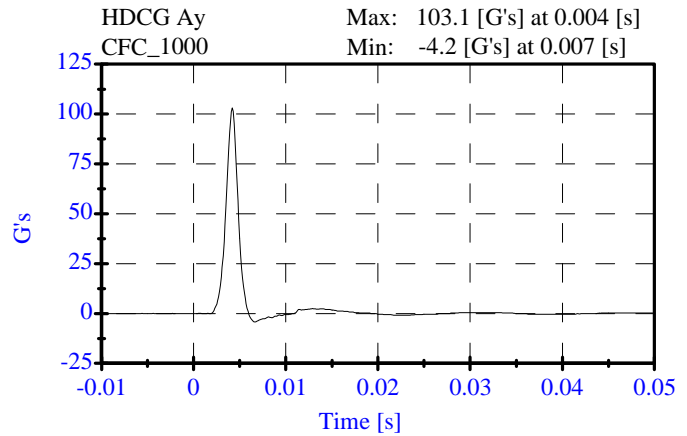
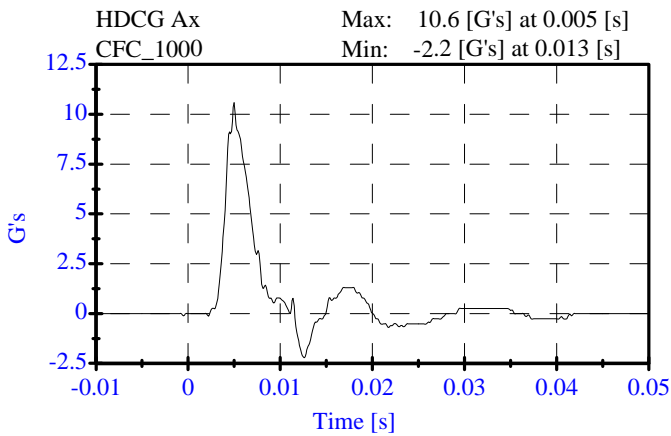
**Head Drop
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 08-11-05

Sequential Test Number: 1 File: 906H1 08-10-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	149.81 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	10.57 Gs	Passed
Curve PerCent NonModal:	< 15%	3.25 %	Passed



**Neck Test
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 08-11-05

Sequential Test Number: 1 File: 906N 08-11-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.00 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.18 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.14 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.53 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	70.38 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.70 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	79.84 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.90 ms	Passed

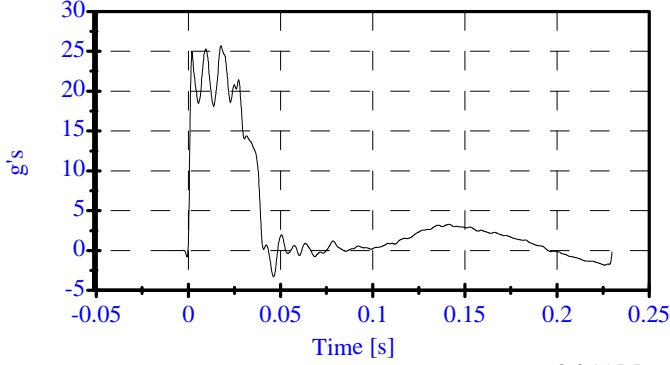
Neck Test
Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

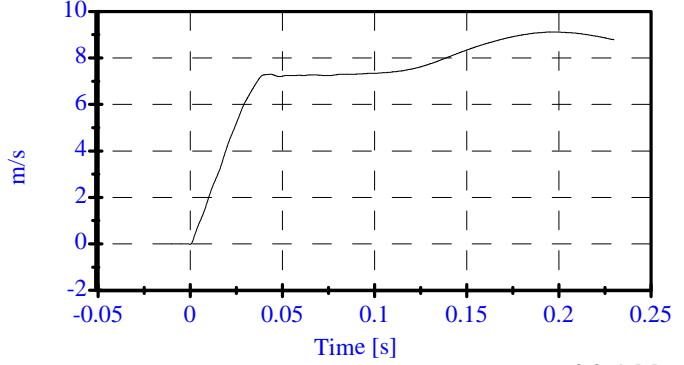
ATD Serial No: 906
Date: 08-11-05

Sequential Test Number: 1 File: 906N 08-11-05
Laboratory Technician: B. Swiecicki

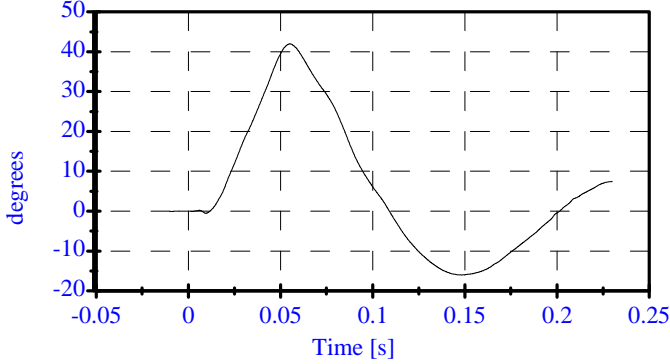
Pend Ax CFC_180 Max: 25.7 [g/s] at 0.018 [s]
Min: -3.3 [g/s] at 0.046 [s]



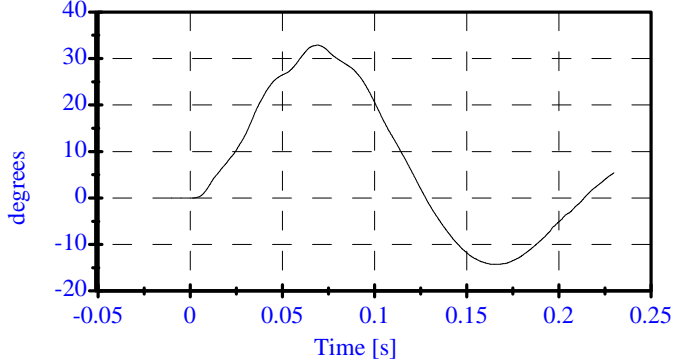
Pend Vx CFC_180 Max: 9.1 [m/s] at 0.195 [s]
Min: -0.0 [m/s] at -0.000 [s]



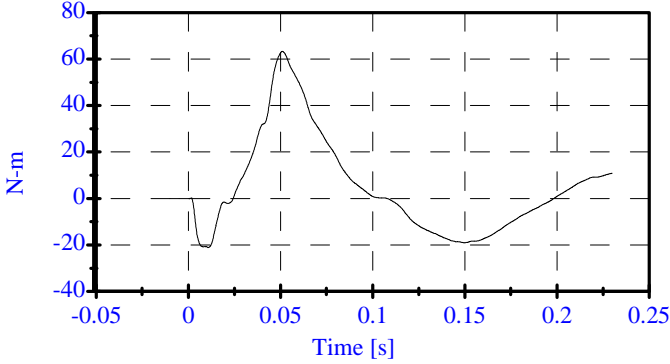
Head Rot CFC_180 Max: 42.0 [degrees] at 0.055 [s]
Min: -16.0 [degrees] at 0.148 [s]



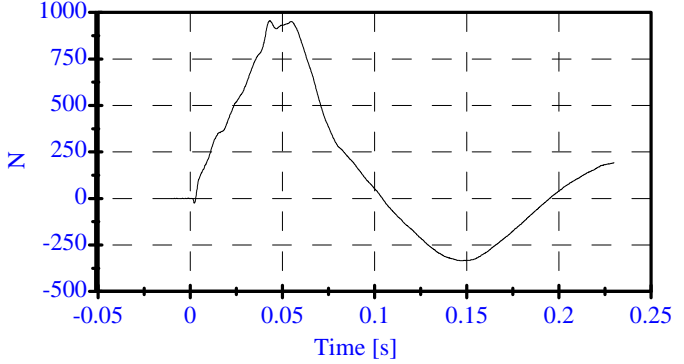
Arm Rot CFC_180 Max: 32.9 [degrees] at 0.069 [s]
Min: -14.3 [degrees] at 0.165 [s]



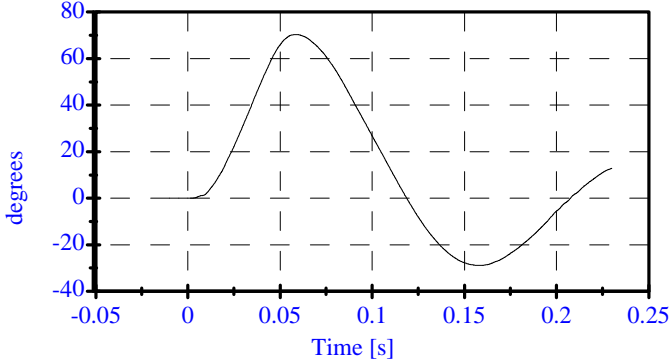
Neck Mx CFC_600 Max: 63.2 [N-m] at 0.051 [s]
Min: -21.1 [N-m] at 0.011 [s]



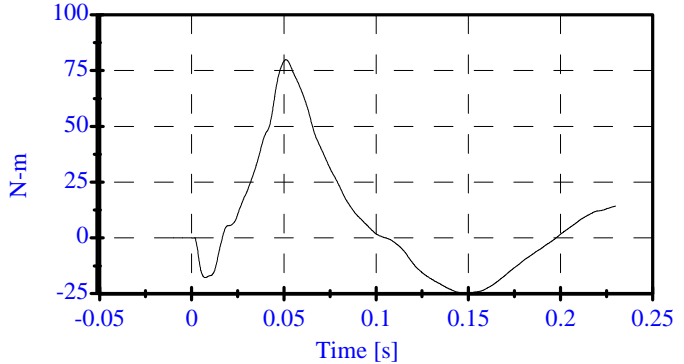
Neck Fy CFC_1000 Max: 955.3 [N] at 0.043 [s]
Min: -336.0 [N] at 0.147 [s]



Tot Rot CFC_180 Max: 70.4 [degrees] at 0.059 [s]
Min: -28.9 [degrees] at 0.158 [s]



MOCX Max: 79.8 [N-m] at 0.051 [s]
Min: -25.0 [N-m] at 0.150 [s]



Abdomen Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

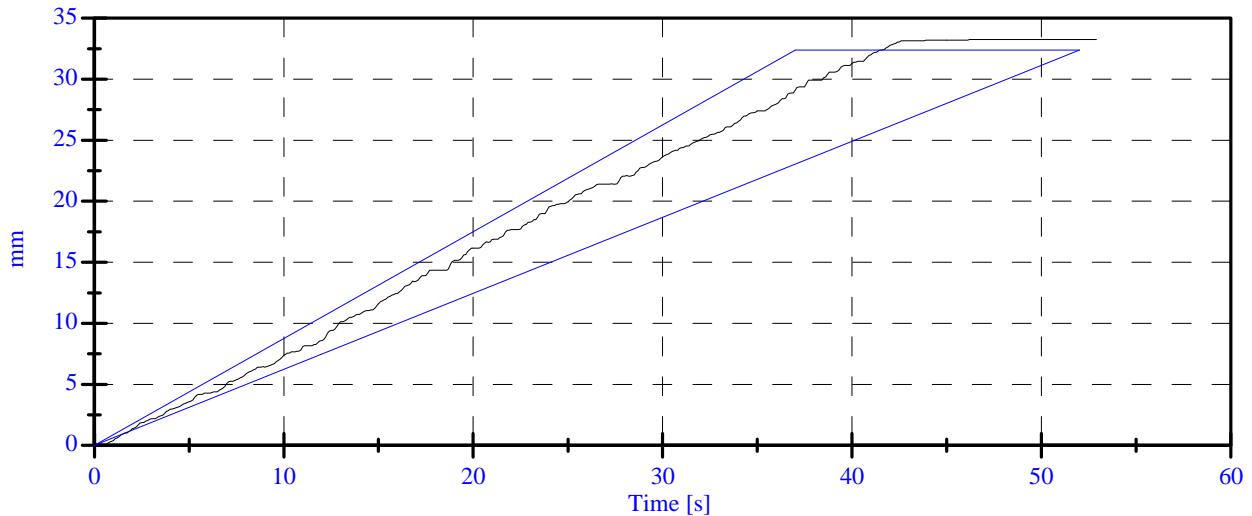
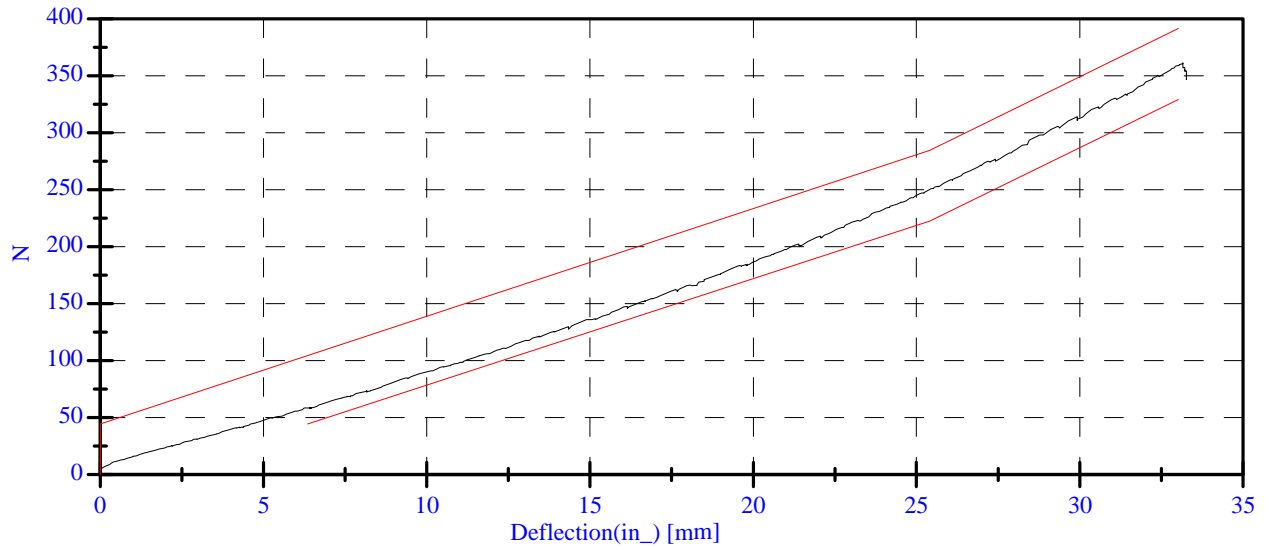
Date: 08-15-05

Sequential Test Number: 1 File: 906Ab 08-15-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	117.88 N	Passed
Force at 19.05 mm :	162.98-220.99 N	175.88 N	Passed
Force at 25.40 mm :	221.97-280.02 N	250.91 N	Passed
Force at 33.02 mm :	324.99-391.00 N	359.29 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

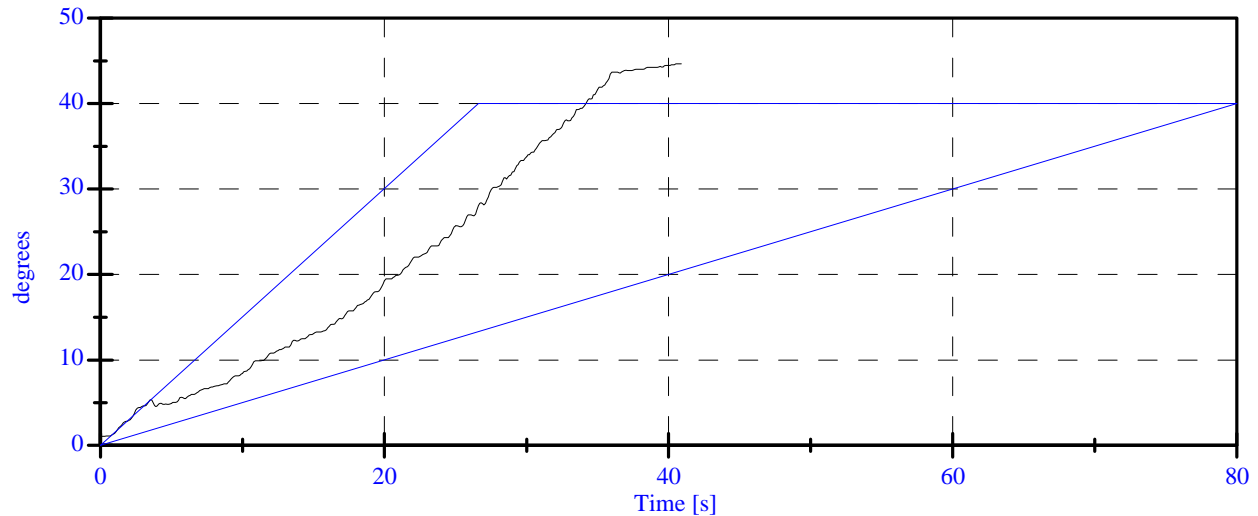
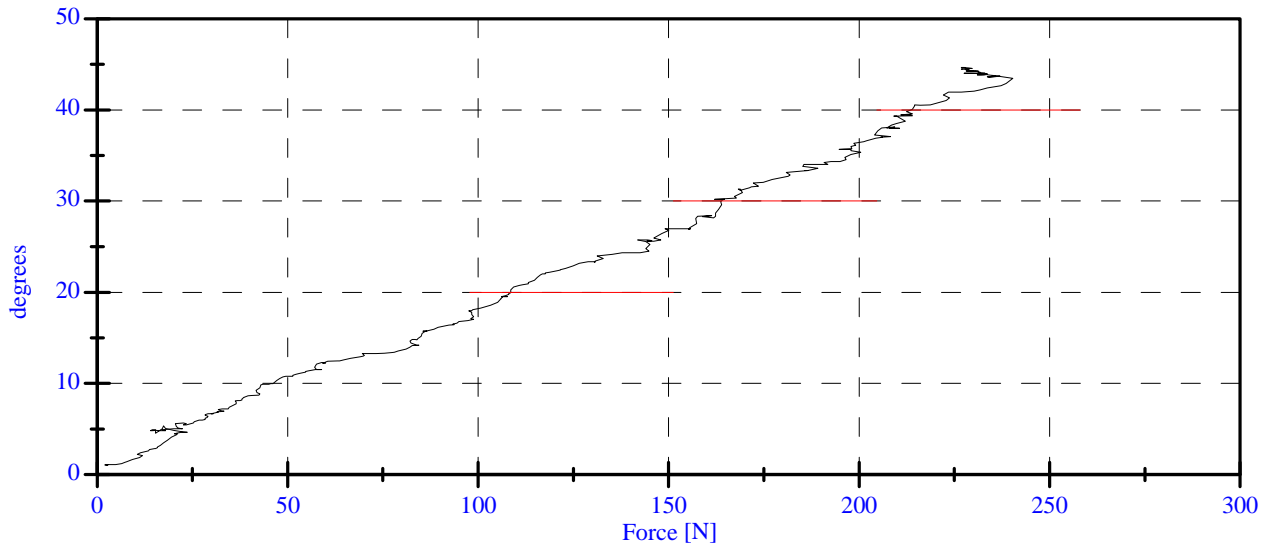
Date: 08-15-05

Sequential Test Number: 1 File: 906Spine 08-15-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.96 N	Passed
Force at 20 Deg:	97.86-151.24 N	108.51 N	Passed
Force at 30 Deg:	151.24-204.62 N	163.62 N	Passed
Force at 40 Deg:	204.62-258.00 N	214.02 N	Passed
Return Angle	12 Deg Max	3.60 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

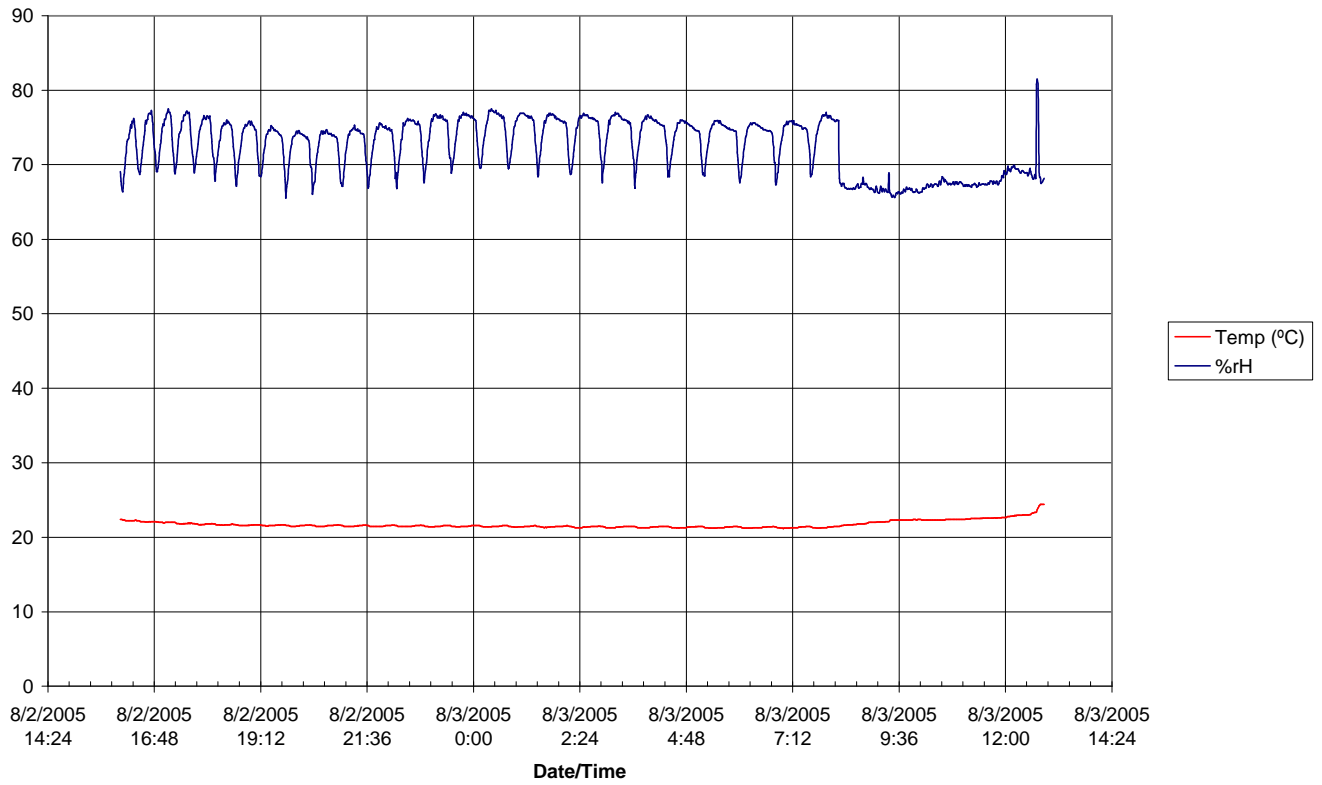
SID H3 Serial No.: 906 Sequential Test Number: 1.2
 Date: August 15, 2005 Laboratory Technician: B. Swiecicki

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

Mercedes ML350 M60516 Environmental Conditions



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

	FRONT SID NO.: 905		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P19212	ENDEVCO	15-Jul-05
HEAD AY	AC-P35812	ENDEVCO	15-Jul-05
HEAD AZ	AC-P18739	ENDEVCO	15-Jul-05
UPPER NECK FX	LC-1626Fx	DENTON	25-Jun-05
UPPER NECK FY	LC-1626Fy	DENTON	25-Jun-05
UPPER NECK FZ	LC-1626Fz	DENTON	25-Jun-05
UPPER NECK MX	LC-1626Mx	DENTON	25-Jun-05
UPPER NECK MY	LC-1626My	DENTON	25-Jun-05
UPPER NECK MZ	LC-1626Mz	DENTON	25-Jun-05
UPPER RIB	AC-04J04I01-R02	ENTRAN	14-Jul-05
LOWER RIB	AC-03E03E20-N16	ENTRAN	15-Jul-05
LOWER SPINE	AC-03F03F09-N10	ENTRAN	15-Jul-05
PELVIS	AC-04J04I01-R23	ENTRAN	15-Jul-05
UPPER RIB REDUNDANT	AC-J19868	ENDEVCO	13-Jul-05
LOWER RIB REDUNDANT	AC-04J04I20-Z11	ENTRAN	14-Jul-05
LOWER SPINE REDUNDANT	AC-98H13-F20	ENTRAN	15-Jul-05
PELVIS REDUNDANT	AC-02A18-N15	ENTRAN	15-Jul-05

	REAR SID NO.: 906		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P22943	ENDEVCO	18-Jul-05
HEAD AY	AC-P17236	ENDEVCO	11-Jul-05
HEAD AZ	AC-P16597	ENDEVCO	11-Jul-05
UPPER NECK FX	LC-798Fx	DENTON	31-May-05
UPPER NECK FY	LC-798Fy	DENTON	31-May-05
UPPER NECK FZ	LC-798Fz	DENTON	31-May-05
UPPER NECK MX	LC-798Mx	DENTON	31-May-05
UPPER NECK MY	LC-798My	DENTON	31-May-05
UPPER NECK MZ	LC-798Mz	DENTON	31-May-05
UPPER RIB	AC-P17196	ENDEVCO	14-Jul-05
LOWER RIB	AC-J18736	ENDEVCO	15-Jul-05
LOWER SPINE	AC-J27072	ENDEVCO	14-Jul-05
PELVIS	AC-B02A18-N03	ENTRAN	15-Jul-05
UPPER RIB REDUNDANT	AC-AJ7F7	ENDEVCO	14-Jul-05
LOWER RIB REDUNDANT	AC-ACCT1	ENDEVCO	14-Jul-05
LOWER SPINE REDUNDANT	AC-AGAG0	ENDEVCO	13-Jul-05
PELVIS REDUNDANT	AC-02A09-F12	ENTRAN	15-Jul-05

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-J32838	ENDEVCO	18-Jul-05
RIGHT FRONT SILL (Y)	AC-P23358	ENDEVCO	18-Jul-05
RIGHT FRONT SILL (Z)	AC-J32143	ENDEVCO	18-Jul-05
RIGHT REAR SILL (X)	AC-J30491	ENDEVCO	18-Jul-05
RIGHT REAR SILL (Y)	AC-J33071	ENDEVCO	18-Jul-05
RIGHT REAR SILL (Z)	AC-J31011	ENDEVCO	18-Jul-05
REAR FLOORPAN ABOVE AXLE (X)	AC-P23976	ENDEVCO	18-Jul-05
REAR FLOORPAN ABOVE AXLE (Y)	AC-P18628	ENDEVCO	18-Jul-05
REAR FLOORPAN ABOVE AXLE (Z)	AC-P18545	ENDEVCO	18-Jul-05
LEFT REAR SILL (Y)	AC-9440-024	GS SENSORS	22-Jul-05
LEFT FRONT SILL (Y)	AC-P19253	ENDEVCO	08-Jul-05
LEFT FRONT DOOR CENTERLINE (Y)	AC-P23155	ENDEVCO	19-Jul-05
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-9440-045	GS SENSORS	22-Jul-05
MID REAR OF LEFT FRONT DOOR (Y)	AC-P13323	ENDEVCO	14-Jul-05
LEFT FRONT DOOR UPPER C\L (Y)	AC-P18728	ENDEVCO	19-Jul-05
MID REAR OF LEFT REAR DOOR (Y)	AC-P35789	ENDEVCO	18-Jul-05
LEFT REAR DOOR UPPER C\L (Y)	AC-P19374	ENDEVCO	20-Jun-05
LOWER LEFT B- PILLAR (Y)	AC-P23136	ENDEVCO	18-Jul-05
MIDDLE LEFT B-PILLAR (Y)	AC-P16628	ENDEVCO	14-Apr-05
LOWER LEFT A-PILLAR (Y)	AC-P32204	ENDEVCO	14-Apr-05
UPPER LEFT A-PILLAR (Y)	AC-P19217	ENDEVCO	18-Jul-05
FRONT SEAT TRACK (Y)	AC-P32224	ENDEVCO	14-Apr-05
REAR SEAT TRACK (Y)	AC-P18718	ENDEVCO	18-Jul-05
VEHICLE CG (X)	AC-P23161	ENDEVCO	18-Jul-05
VEHICLE CG (Y)	AC-P19111	ENDEVCO	18-Jul-05
VEHICLE CG (Z)	AC-P24011	ENDEVCO	18-Jul-05
MDB CG (X)	AC-C16433	ENDEVCO	31-Mar-05
MDB CG (Y)	AC-C16416	ENDEVCO	31-Mar-05
MDB CG (Z)	AC-C16499	ENDEVCO	31-Mar-05
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	31-Mar-05
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	31-Mar-05

REMARKS: None