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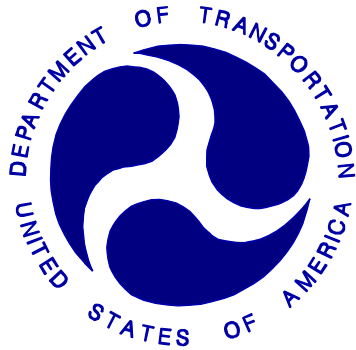
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**GENERAL MOTORS CORP.
2001 BUICK PARK AVENUE
4-DOOR SEDAN**

NHTSA NUMBER: M10101

VERIDIAN TEST NUMBER: 8602-15

VERIDIAN ENGINEERING
TRANSPORTATION SCIENCES CENTER
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January 12, 2001

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
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Manager, New Car Assessment Program (NCAP)
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15. <i>Supplementary Notes</i>					
16. <i>Abstract</i> A frontal load cell barrier test of a 2001 Buick Park Avenue 4-Door Sedan was performed at Veridian Engineering crash test facility in Buffalo, New York, on January 12, 2001. The impact velocity was 56.49 kph and the temperature at the barrier face was 21.1 °C. The maximum post-test vehicle crush was 647 mm. The test vehicle was equipped with 3-point restraint systems, knee bolsters, and airbags at both the driver and right outboard passenger seating positions. With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements.					
ATD Position	HIC	Clip (g's)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)
Driver (061)	639.5	44.4	25.3	4088.8	3234.4
Passenger (064)	689.8	47.4	24.1	3643.5	2782.0
17. <i>Key Words</i> 56 kph Frontal Barrier Impact test New Car Assessment Program (NCAP)				18. <i>Distribution Statement</i> <u>Copies of this report are available from:</u> NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, DC 20590	
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SECTION 1

PURPOSE AND SUMMARY OF TEST M10101

PURPOSE

This 56.49 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-96-D-02010. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48.3 kph requirements.

The 56.49 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2001 Buick Park Avenue 4-Door Sedan at a velocity of 56.49 kph. The test was performed at Veridian Engineering on January 12, 2001. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by 1 real-time camera and 16 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 061) and the right-front passenger (position 2) ATD (Serial No. 064) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 131 channels of data were recorded on an on-board data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces.

The driver's HIC was 639.5. The maximum chest deceleration over 3 milliseconds was 44.4 g's and maximum chest deflection was 25.3 mm. Compressive femur loads were 4088.8 Newtons on the left and 3234.4 Newtons on the right.

The right front passenger's HIC was 689.8. Maximum chest deceleration over 3 milliseconds was 47.4 g's and maximum chest deflection was 24.1 mm. Compressive femur loads were 3643.5 Newtons on the left and 2782.0 Newtons on the right.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : M10101 Test Mode : 56.3 kph Frontal Barrier

Test Date : January 12, 2001 Time: 14:06 Temperature : 1.7 °C

Vehicle Make/Model/Body Style : 2001 Buick Park Avenue 4-Door Sedan

Vehicle Test Weight : 1944.0 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.49 kph

Maximum Static Crush : 647 mm

Vehicle Rebound : 934 mm

<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Type :	<u> 572E </u>	<u> 572E </u>
Restraint System :	<u> Airbag, 3-Point Active Seat Belt, Knee Bolster </u>	<u> Airbag, 3-Point Active Seat Belt, Knee Bolster </u>

Number of Data Channels : 131

Number of Cameras : 1 Real Time

 16 High Speed

DOOR OPENING DATA : Closed / Operable - Left Front

 Closed / Operable - Right Front

Front Seat(s) Data :	<u>DRIVER</u>	<u>PASSENGER</u>
Seat Track Failure :(mm of shift)	<u> 0 </u>	<u> 0 </u>
Seat Back Failure :	<u> None </u>	<u> None </u>

<u>VISIBLE DUMMY CONTACT POINTS :</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Head :	<u> Face to center of airbag; Back of head to center of head restraint </u>	<u> Face to center of airbag; Back of head to center of head restraint </u>
Abdomen :	<u> Airbag </u>	<u> Airbag </u>
Chest:	<u> None </u>	<u> None </u>
Knees:	<u> Left knee to bolster left of steering column; Right knee to bolster right of steering column </u>	<u> Left knee to left edge of glove compartment door; Right knee to center of glove compartment door </u>

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 2001 Buick Park Avenue 4-Door Sedan
NHTSA No. : M10101 ; VIN: 1G4CW54K014194667 ; Color : Bronze
Engine Data: 6 cylinders; - CID; 3.8 Liters; - cc
Placement : - Longitudinal or In-Line; X Transverse or Lateral
Transmission Data : 4 speeds; - Manual; X Automatic; X Overdrive
Final Drive : - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive
Major Options : X A/C; X Pwr.Strg.; X Pwr. Brakes
X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel
Date Received : 12/20/00 ; Odometer Reading 159 km
Selling Dealer : Zigrossi Pontiac Buick GMC, Inc.
& Address: 5069 E. Main St., Batavia NY 14020

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : General Motors Corp.
Date of Manufacture 10/00
GVWR : 2244 kg; GAWR: 1195 kg FRONT; 1049 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 300 kpa FRONT
300 kpa REAR
Recommended Tire Size : P225/60R16
* Recommended Cold Tire Pressure : 210 kpa FRONT; 210 kpa REAR
Size of Tires on Test Vehicle: P225/60R16 ; Manufacturer: Goodyear
Vehicle Capacity Data :
Type of Front Seats: - Bench; - Bucket; X Split Bench
Number of Occupants: 3 Front; 3 Rear; 6 Total
Vehicle Capacity Weight (VCW) = 500.0 kg
No. of Occupants x 68 kg = 408.2 kg
Rated Cargo/Luggage Weight (RCLW) = 91.8 kg

*Tire pressure used for test

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front	=	<u>534.0</u>	kg	Right Rear	=	<u>329.0</u>	kg
Left Front	=	<u>526.5</u>	kg	Left Rear	=	<u>319.0</u>	kg
TOTAL FRONT	=	<u>1060.5</u>	kg	TOTAL REAR	=	<u>648.0</u>	kg
TOTAL DELIVERED WEIGHT	=	<u>1708.5</u>	kg				
% of Total Front of Vehicle Weight	=	<u>62.1</u>	%	% of Total Rear Weight	=	<u>37.9</u>	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	<u>1708.5</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>91.8</u>	kg
Weight of 2 p.572 Dummies @ 76 each	=	<u>152.0</u>	kg
TARGET TEST WEIGHT	=	<u>1952.3</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 84 KG OF CARGO WEIGHT:

Right Front	=	<u>569.5</u>	kg	Right Rear	=	<u>401.0</u>	kg
Left Front	=	<u>559.5</u>	kg	Left Rear	=	<u>414.0</u>	kg
TOTAL FRONT	=	<u>1129.0</u>	kg	TOTAL REAR	=	<u>815.0</u>	kg
TOTAL TEST WEIGHT	=	<u>1944.0</u>	kg				
% of Total Front Weight	=	<u>58.1</u>	%	% of Total Rear Weight	=	<u>41.9</u>	%
Weight of Ballast Secured in Vehicle Trunk Area	=	<u>20</u>	kg				
Vehicle Components Removed for Weight Reduction:		<u>None</u>					

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	<u>726</u>	LF	<u>730</u>	RR	<u>721</u>	LR	<u>732</u>
FULLY LOADED :	RF	<u>711</u>	LF	<u>721</u>	RR	<u>693</u>	LR	<u>693</u>
AS TESTED : †	RF	<u>714</u>	LF	<u>718</u>	RR	<u>718</u>	LR	<u>722</u>
Vehicle's Wheel Base :		<u>2890</u>	mm					
Location of Vehicle's C.G. :		<u>1212</u>	mm rearward of front wheel center.					

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	<u>70.0</u>	liters
Usable Capacity Figure Furnished by COTR	=	<u>70.0</u>	liters
Test Volume Range (92 to 94% of Usable Capacity)	=	<u>64.4</u>	to <u>65.8</u> liters
ACTUAL TEST VOLUME	=	<u>64.7</u>	liters (with entire fuel system filled)
Test Fluid Type:	<u>Stoddard Solution</u> ;	Spec. Grav. =	<u>0.764</u>
	Kinematic Viscosity =	<u>0.96</u>	centistokes; Color = <u>Orange</u>
Type of Fuel Pump:	Electric- <u>X</u> ;	Mechanical-	<u>-</u>
Does Electric Pump operate with ignition switch "ON" & engine "OFF"		Yes- <u>X</u>	No- <u>-</u>
Details of Fuel System	<u>Fuel Tank: Located between the rear wheels; Fuel lines: Routed along the vehicle underbody inboard of the left frame rail; Fuel Filler: Located on left rear quarter panel above the rear wheel</u>		

† Vehicle was equipped with an automatic load leveling system.

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°
Test Date : January 12, 2001 Time: 14:06 Temperature: 1.7 °C
Vehicle NHTSA No. : M10101
Required Impact Velocity Range : 55.5 to 57.1 kph

BARRIER IMPACT VELOCITY : (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 56.49 kph; Trap No. 2 = 56.49 kph
Distance from vehicle to barrier : (1) entering trap = 813 mm
(2) exiting trap = 305 mm

VEHICLE STATIC CRUSH: (mm) (For frontal and rear impacts only.)

Vehicle Length:

Pre-Test Right = 5202 ; C/L = 5263 ; Left = 5207
Post-Test Right = 4614 ; C/L = 4616 ; Left = 4619
Crush Right = 588 ; C/L = 647 ; Left = 588
AVERAGE = 608 mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

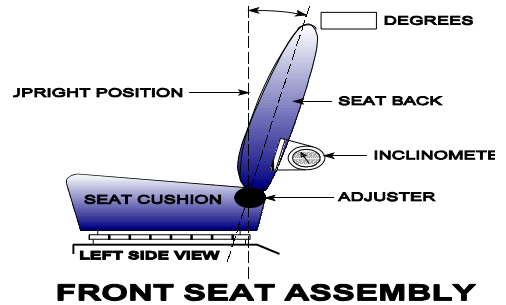
Right = 930 ; C/L = 925 ; Left = 946
AVERAGE = 934 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2001 Vehicle Model: Buick Park Avenue Body Style : 4-Door Sedan

1. 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.



Seat back angle for driver's seat: 21 degrees

Measurement instructions: Remove the seat belt tower plastic escutcheon, hold seat belt to the side, measure the seat back frame / belt tower with an inclinometer. With vehicle sills level, recline seat back to 21 degrees from vertical.

Seat back angle for passenger's seat: 21 degrees

Measurement instructions: Remove the seat belt tower plastic escutcheon, hold seat belt to the side, measure the seat back frame / belt tower with an inclinometer. With vehicle sills level, recline seat back to 21 degrees from vertical.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Place the seat cushion in the middle of its fore/aft travel.

Positioning of the passenger's seat: Place the seat cushion in the middle of its fore/aft travel.

3. Fuel Tank Capacity Data

- 3.1 A. "Usable Capacity" of the standard equipment fuel tank is 70 liters
B. "Usable Capacity" of the optional equipment fuel tank is - liters
C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 70 liters
- 3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 64.7 liters
- 3.3 Is vehicle equipped with electric fuel pump? Yes- X ; No- -

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

Fuel pump operates briefly when ignition key is turned to "run" position and vehicle is not started. Fuel pump runs continuously when the engine is running.

DATA SHEET NO. 4 TEST VEHICLE INFORMATION (cont.)

4. STEERING COLUMN ADJUSTMENTS :

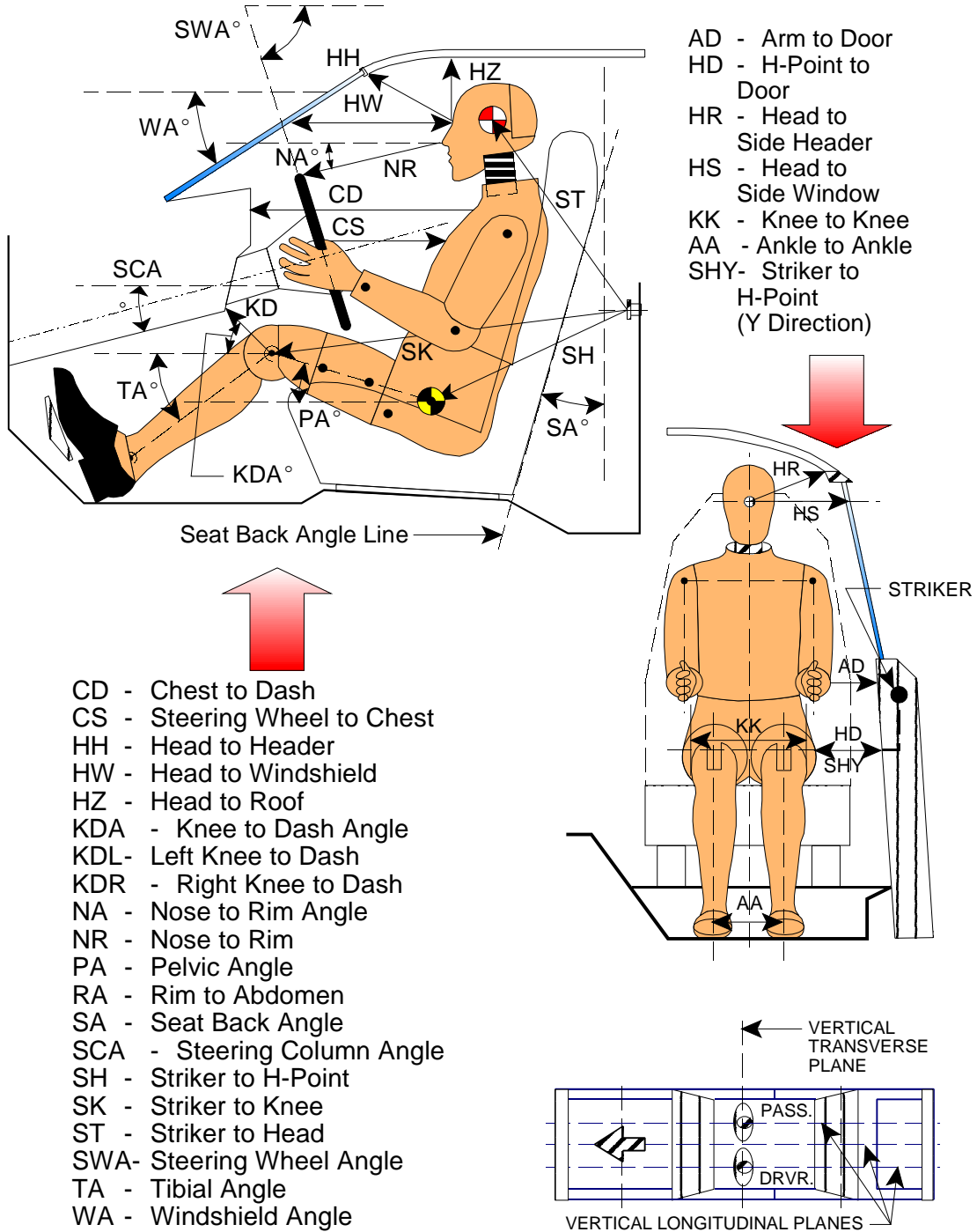
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions: Place in mid-travel position (detent 2, where the uppermost detent is 0). A
total of 5 positions were available.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: Place in mid-position.

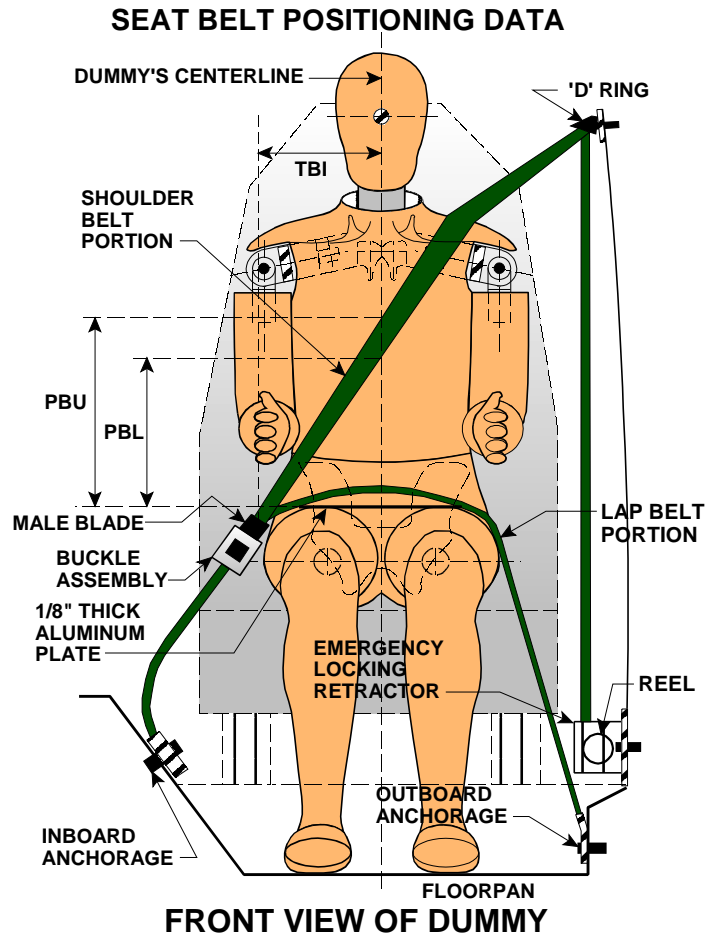
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

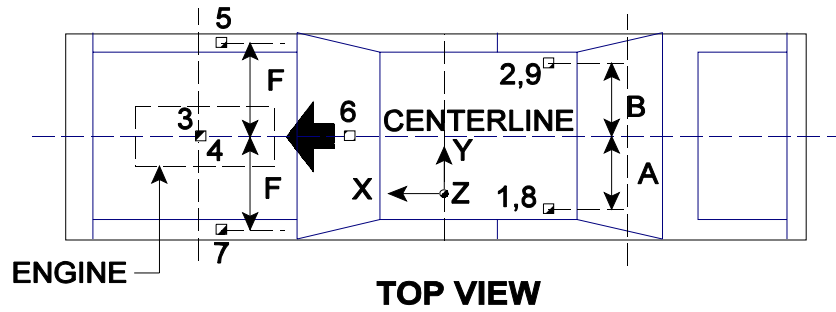
	DRIVER (Serial #061)			PASS. (Serial # 064)		
WA ^o	29 deg.			N/A		
SWA ^o	19 deg.			N/A		
SCA ^o	71 deg.			N/A		
SA ^o	21 deg.			21 deg.		
HZ	205			210		
HH	365			365		
HW	656			676		
HR	225			233		
NR	369	Angle	6 deg.	N/A		
CD	499			510		
CS	311			N/A		
RA	205			N/A		
KDL	189	Angle (KDA)	36 deg.	183		
KDR	180			183	Angle (KDA)	35 deg.
PA ^o	24.0 deg.			22.8 deg.		
TA ^o	32.0 deg.			34.6 deg.		
KK	344			275		
AA	350			235		
ST	520	Angle	6 deg.	493	Angle	7 deg.
SK	588	Angle	95 deg.	580	Angle	94 deg.
SH	238	Angle	124 deg.	240	Angle	127 deg.
SHY	282			271		
HS	355			367		
HD	190			180		
AD	132			135		

Dimensions in millimeters

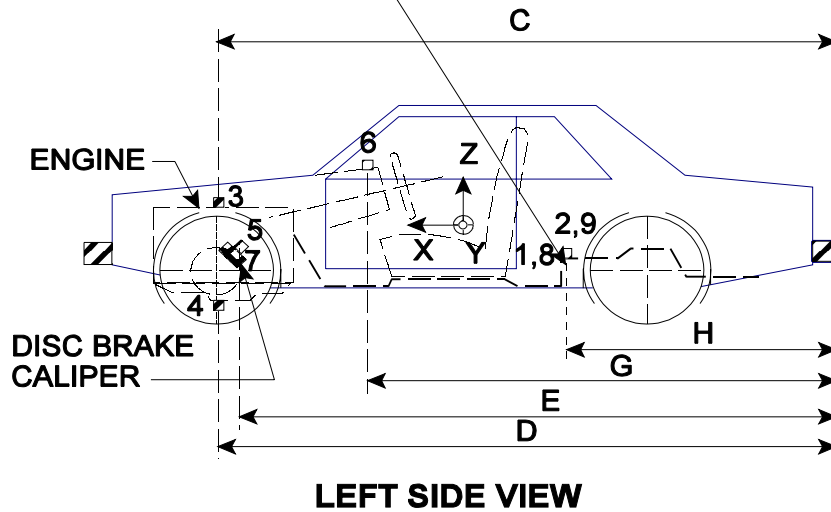


	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	328	328
PBL-- Top surface of alum. plate to belt lower edge	245	242
<u>LAP BELT TENSION</u>	Retractor	Retractor
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



Note: Vehicle accelerometer location and data summary shown in DATA SHEET NO. 7

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY (cont.)

DIMENSION	PRE-TEST LENGTH (mm)
A Left Rear Seat Crossmember Y	-668
B Right Rear Seat Crossmember Y	668
C Top of Engine X	4447
D Bottom of Engine X	4323
E Disc Brake Calipers X	4168
F Disc Brake Calipers Y	±685
G Instrument Panel X	3382
H Rear Seat Crossmembers X	2170

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	1.4	-11.6	-29.3	69.3
2	Rear Seat X-Member @ Right Side	1.5	141.2	-29.9	70.4
3	Top of Engine Block	56.6	57.7	-138.0	36.9
4	Bottom of Engine	26.8	52.1	-90.3	34.8
5	Disc Brake Caliper @ Right Side	1.4	12.5	-115.7	52.1
6	Instrument Panel	24.4	27.0	-60.6	58.3
7 †	Disc Brake Caliper @Left Side	-	-	-	-
8	Rear Seat X-Member @ Left-Redundant	1.4	-11.7	-28.9	69.2
9	Rear Seat X-Member @ Right-Redundant	2.0	141.4	-30.0	70.3

† Transducer cable was damaged at 44 ms.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2001 Buick Park Avenue 4-Door Sedan

NHTSA Test No.: M10101 Test Date: January 12, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head X	g	17.3	227.5	-59.4	86.1	19.0	242.5	-71.2	75.2
Head Y	g	3.4	206.3	-11.3	85.3	6.8	67.4	-14.5	89.3
Head Z	g	15.2	75.2	-5.0	55.9	15.9	66.0	-15.0	95.5
Head Resultant	g	61.2	80.7	-	-	72.6	75.2	-	-
Redundant Head X	g	17.0	229.2	-58.8	87.7	19.6	241.6	-72.5	75.6
Redundant Head Y	g	3.2	204.3	-10.9	99.9	7.3	67.4	-13.4	89.7
Redundant Head Z	g	15.9	75.6	-5.4	55.9	16.5	66.0	-14.1	95.5
Redundant Head Resultant	g	60.1	86.9	-	-	73.9	75.5	-	-
Upper Neck Fx	N	1103.7	89.5	-299.3	124.0	546.5	84.4	-414.4	64.6
Upper Neck Fy	N	171.7	89.8	-156.2	128.0	220.4	92.4	-364.2	132.0
Upper Neck Fz	N	1433.5	75.0	-106.0	53.3	1917.5	74.6	-86.1	160.8
Upper Neck F Resultant	N	1595.7	75.1	-	-	1926.5	74.6	-	-
Upper Neck Mx	N-m	9.6	59.9	-14.4	124.9	7.8	195.8	-31.6	134.2
Upper Neck My	N-m	52.0	89.7	-25.5	226.2	34.6	157.5	-32.7	225.6
Upper Neck Mz	N-m	16.3	96.1	-7.7	155.8	32.5	106.3	-15.3	160.8
Upper Neck M Resultant	N-m	54.3	90.2	-	-	39.4	110.5	-	-
Chest X	g	9.6	201.5	-46.5	67.8	6.6	195.7	-46.3	83.8
Chest Y	g	1.3	224.4	-3.9	56.5	0.9	52.0	-13.8	77.8
Chest Z	g	16.0	91.8	-9.6	56.1	7.4	84.4	-1.9	38.1
Chest Resultant	g	46.6	67.9	-	-	48.6	83.9	-	-
Redundant Chest X	g	9.7	201.4	-46.1	67.7	6.7	202.2	-46.6	76.0
Redundant Chest Y	g	1.3	224.6	-4.6	56.5	0.9	52.2	-13.7	77.6
Redundant Chest Z	g	15.8	91.7	-9.7	56.1	7.6	86.2	-1.8	38.1
Redundant Chest Resultant	g	46.2	67.7	-	-	48.7	76.2	-	-
Chest Displacement	mm	0.0	-1.7	-25.3	89.2	0.0	11.6	-24.1	77.8

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

Vehicle Year/Make/Model/Body Style: 2001 Buick Park Avenue 4-Door Sedan

NHTSA Test No.: M10101 Test Date: January 12, 2001

DESCRIPTION	Unit	MAXIMUM VALUE							
		Driver				Passenger			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
Pelvic X	g	5.0	212.8	-60.1	58.2	7.3	209.3	-62.6	62.3
Pelvic Y	g	4.0	96.3	-6.4	39.1	4.8	104.3	-9.6	75.5
Pelvic Z	g	3.2	219.3	-25.3	66.3	3.3	233.2	-22.2	65.9
Pelvic Resultant	g	63.7	58.2	-	-	65.6	62.3	-	-
Left Femur	N	343.8	46.1	-4088.8	61.5	218.7	130.6	-3643.5	62.9
Right Femur	N	262.6	50.1	-3234.4	62.3	203.9	142.7	-2782.0	61.8
Left Upper Tibia Mx	N-m	14.4	32.8	-28.8	62.5	14.0	45.7	-14.9	82.5
Left Upper Tibia My	N-m	45.1	61.7	-65.3	33.9	58.9	62.9	-69.2	76.4
Left Lower Tibia Fz	N	145.8	179.4	-2529.8	33.2	156.8	112.1	-2754.5	41.7
Left Lower Tibia Mx	N-m	50.9	62.2	-5.2	29.6	6.0	141.2	-45.3	82.5
Left Lower Tibia My	N-m	19.9	85.4	-1.0	-15.7	38.9	86.9	-18.1	66.8
Right Upper Tibia Mx	N-m	14.0	210.4	-24.2	40.5	19.4	36.0	-23.7	75.1
Right Upper Tibia My	N-m	21.6	126.2	-104.3	44.1	12.7	188.2	-111.1	65.0
Right Lower Tibia Fz	N	141.9	142.3	-4013.8	43.0	145.2	152.5	-2967.2	82.0
Right Lower Tibia Mx	N-m	53.1	43.9	-3.5	145.6	9.4	33.6	-46.5	82.0
Right Lower Tibia My	N-m	38.2	82.3	-17.3	53.4	71.0	82.0	-18.4	56.5
Left Foot Aft Ax	g	5.8	238.5	-41.3	59.9	9.9	90.1	-49.9	56.9
Left Foot Aft Az	g	5.3	218.3	-42.0	32.1	8.9	73.1	-40.6	43.0
Left Foot Fore Az	g	7.4	265.2	-53.3	28.1	37.6	73.3	-67.8	66.0
Right Foot Aft Ax	g	5.5	32.6	-56.9	41.0	7.8	80.8	-65.9	57.5
Right Foot Aft Az	g	4.1	277.7	-52.5	43.8	6.0	14.4	-48.1	32.3
Right Foot Fore Az	g	29.1	57.8	-136.6	37.6	21.4	71.2	-82.9	32.0
Lap Belt Load	N	3969.2	61.3	-10.1	223.3	4777.7	64.1	-16.1	284.0
Torso Belt	N	4695.3	73.0	-47.1	197.6	4406.3	69.7	-44.1	185.8

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

Vehicle Year/Make/Model/Body Style: 2001 Buick Park Avenue 4-Door Sedan

NHTSA Test No.: M10101 Test Date: January 12, 2001

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	639.5	65.8	101.8	50.1
Position #2 - Passenger	689.8	63.9	94.1	55.4

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 36 milliseconds.

CLIP SUMMARY*				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	44.4	74.6	77.6	455.1
Position #2 - Passenger	47.4	82.2	85.2	480.6

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
REDUNDANT DATA

Vehicle Year/Make/Model/Body Style: 2001 Buick Park Avenue 4-Door Sedan

NHTSA Test No.: M10101 Test Date: January 12, 2001

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	628.1	65.6	101.6	49.7
Position #2 - Passenger	716.9	63.9	93.9	56.4

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 36 milliseconds.

CLIP SUMMARY* REDUNDANT				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	44.0	66.4	69.4	441.5
Position #2 - Passenger	48.0	82.2	85.2	493.4

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:

	<u>Driver</u>	<u>Passenger</u>
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	<u>1390</u>	<u>1384</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>820</u>	<u>814</u>
Lap belt length as measured on Part 572 Dummy.	<u>570</u>	<u>570</u>

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.	<u>†</u>	<u>†</u>
As determined mechanically.	<u>64</u>	<u>48</u>
As determined electronically.	<u>†</u>	<u>†</u>

BELT STRETCH DATA:

Measured electronically between shoulder belt load cell and the "D" ring.	<u>32 mm/M</u>	<u>32 mm/M</u>
Measured mechanically.	<u>30 mm/M</u>	<u>30 mm/M</u>

_____ Dimensions in millimeters

† Vehicle front seat belts were integrated into the seat back, instrumentation could not be installed.

DATA SHEET NO.10 SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC.:

Windshield is bonded in place and covered with a 17 mm molding.

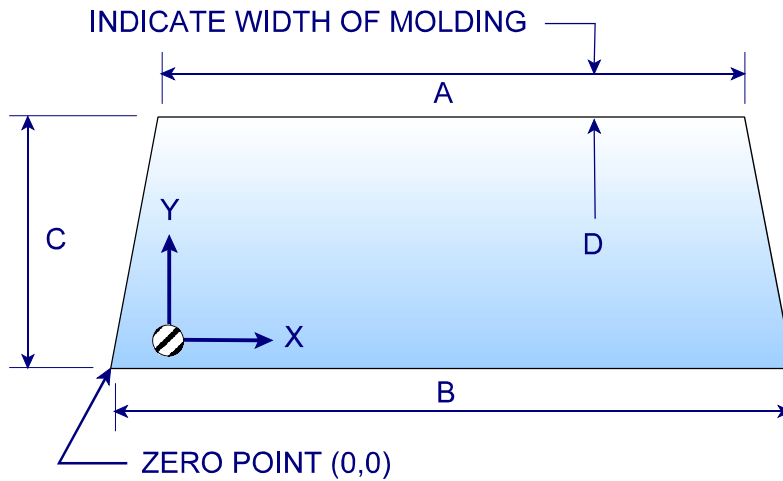
FMVSS 212 REQUIREMENTS:

The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of the windshield for vehicles equipped with automatic restraint systems for front occupants,

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		% OF RETENTION
	PRE-TEST (mm)	POST-TEST(mm)	
RIGHT SIDE	2304	2304	100
LEFT SIDE	2304	2304	100
TOTAL	4608	4608	100

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1264
B	1744
C	800
D	17

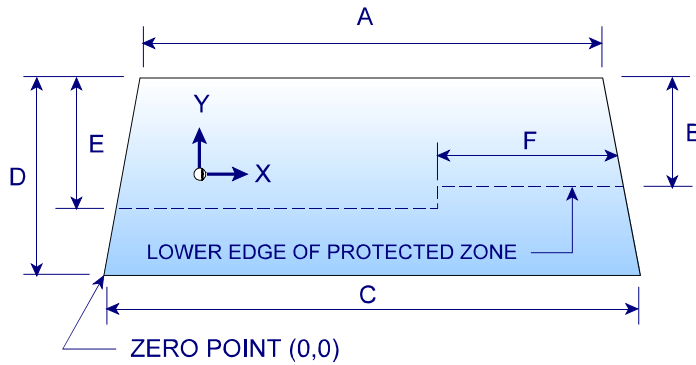
FRONT VIEW OF WINDSHIELD

FAILURE DETAILS: None

DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 165 mm diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points extend the locus line horizontally to the edges of the windshield, then draw a line on the inner surface of the windshield below and 13 mm distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield.



FMVSS 219 TEST DATA:

DIMENSIONS (mm)	
A	1264
B	408
C	1744
D	800
E	464
F	885

FRONT VIEW OF WINDSHIELD

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

(Show location of penetration on the above sketch)

	COORDINATES	
	X	Y
1.	-	-
2.	-	-
3.	-	-
4.	-	-

DATA SHEET NO. 12 FMVSS NO. 301-75 "FUEL SYSTEM INTEGRITY" POST IMPACT TEST DATA

NHTSA TEST No.: M10101 TEST DATE: January 12, 2001

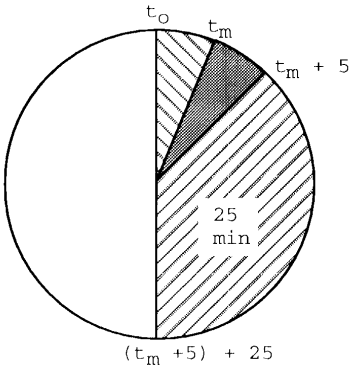
VEHICLE MAKE/MODEL: 2001 Buick Park Avenue

The test vehicle was filled from 92% to 94% of the manufacture's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

=====

TEST VEHICLE IMPACT TYPE: X Frontal (56 kph)
 Oblique (48 kph) with _____ deg. barrier face first contacting _____
 (driver/passenger) side
 _____ -
 _____ - Rear Moving Barrier (48 kph)
 _____ - Lateral Moving Barrier (32 kph)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For 5 minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

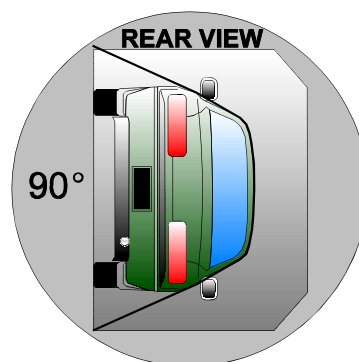
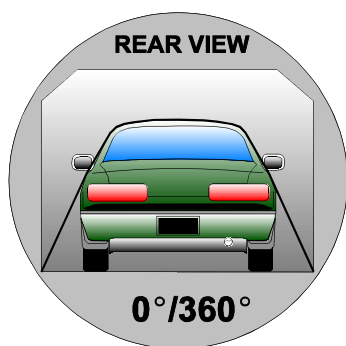
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

Vehicle: 2001 Buick Park Avenue

NHTSA No. M10101

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u>	minutes	<u>15</u>	seconds
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>15</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

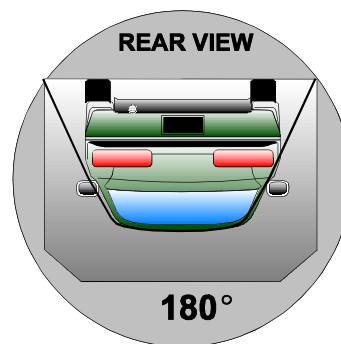
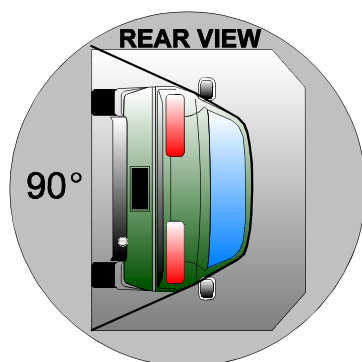
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Buick Park Avenue

NHTSA No. M10101

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u> minutes	<u>2</u> seconds
FMVSS 301 Position Hold Time +	<u>5</u> minutes	<u>0</u> seconds
TOTAL	<u>6</u> minutes	<u>2</u> seconds
Next whole minute interval	<u>7</u> minutes	

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

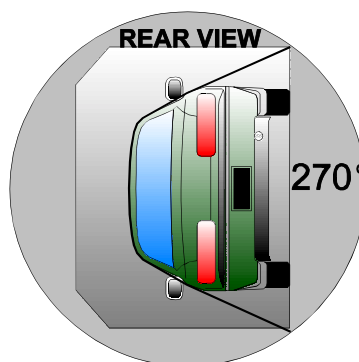
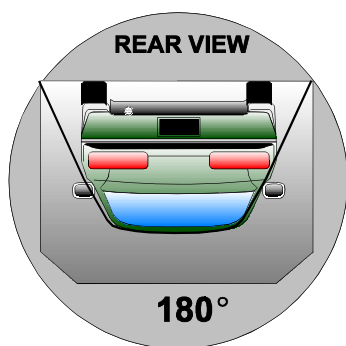
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Buick Park Avenue

NHTSA No. M10101

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

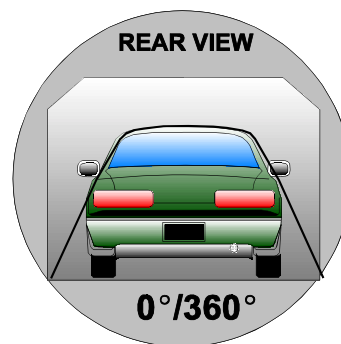
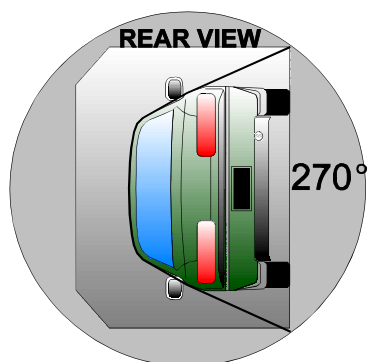
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Buick Park Avenue

NHTSA No. M10101

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u>	minutes	<u>11</u>	seconds
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>11</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

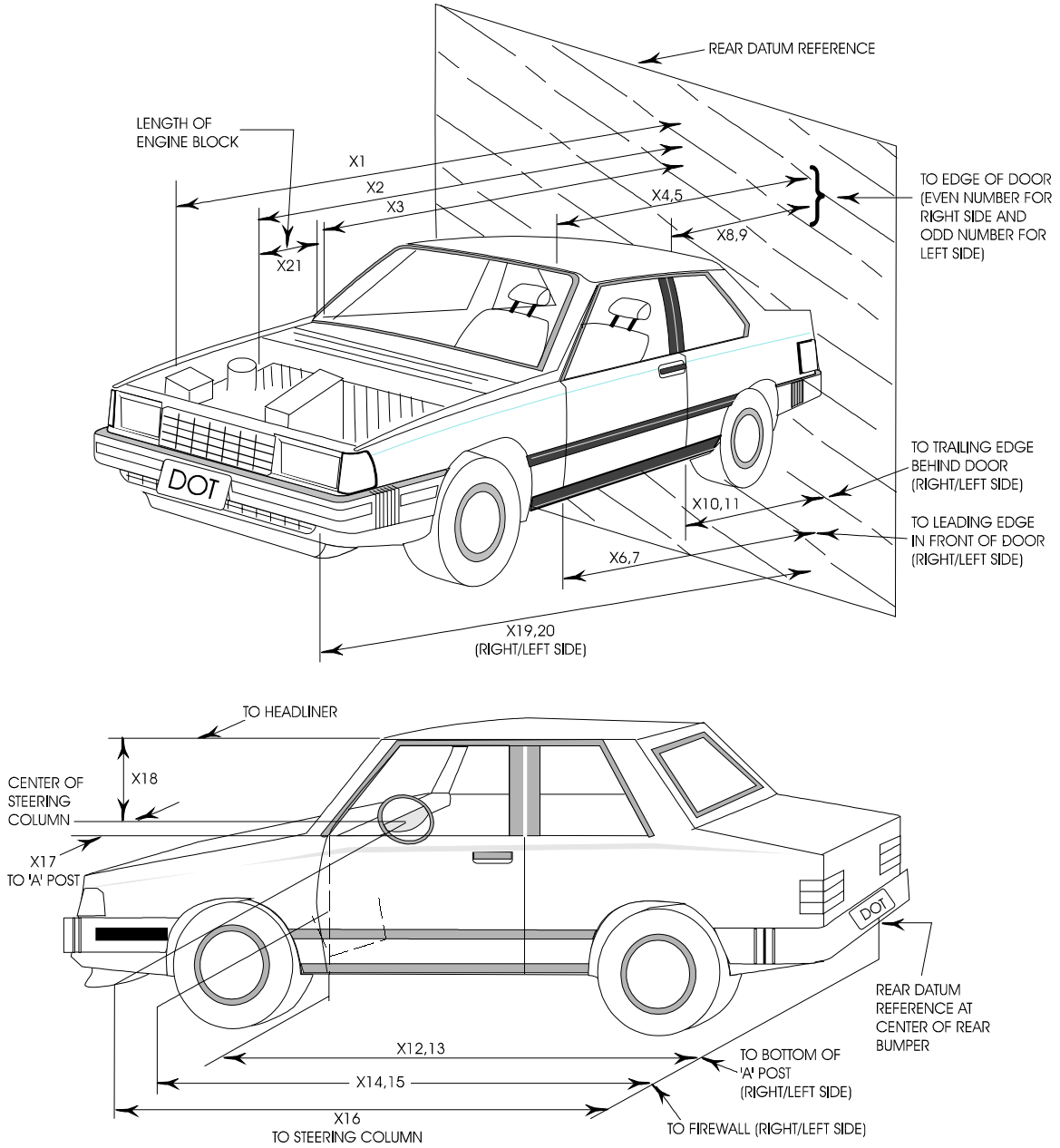
0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS

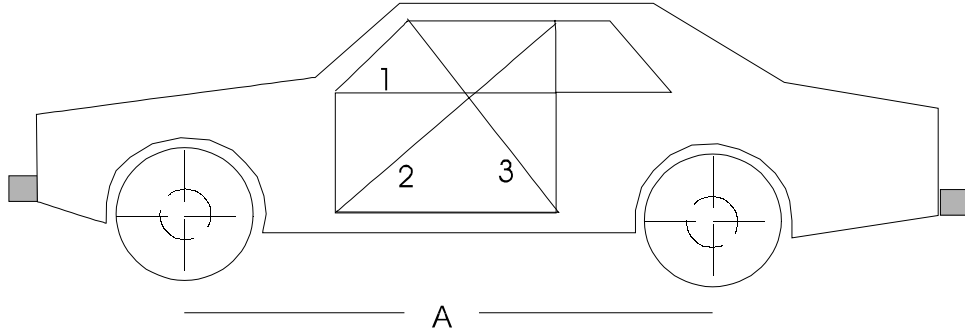


DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5263	4616	647
X2	Rear Surface of Vehicle to Front of Engine	4688	4485	203
X3	Rear Surface of Vehicle to Firewall	3943	3906	37
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3633	3633	0
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3638	3644	-6
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3622	3624	-2
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3625	3639	-14
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2529	2531	-2
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2531	2538	-7
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2521	2526	-5
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2525	2535	-10
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3754	3746	8
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3753	3774	-21
X14	Rear Surface of Vehicle to Firewall, Right Side	4010	4006	4
X15	Rear Surface of Vehicle to Firewall, Left Side	4020	4000	20
X16	Rear Surface of Vehicle to Steering Column	3161	3227	-66
X17	Center of Steering Column to "A" Post	306	297	9
X18	Center of Steering Column to Headliner	417	430	-13
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5202	4614	588
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5207	4619	588
X21	Length of Engine Block	588	588	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3358	3367	-9
CD	Rear Surface of Vehicle to Center of Dash Panel	3350	3345	5
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3353	3363	-10

All Dimensions in mm

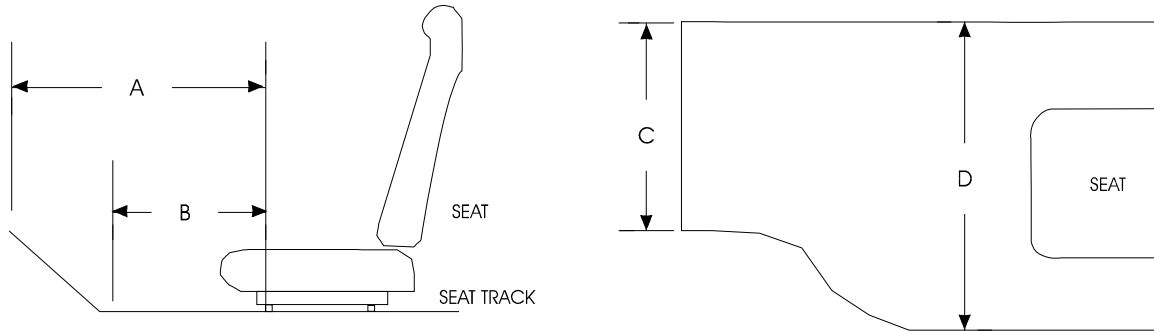
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	974	1479	1020	978	1483	1019
AFTER TEST	977	1483	1021	978	1485	1019
DIFFERENCE	-3	-4	-1	0	-2	0

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2889	2891
AFTER TEST	2803	2786
DIFFERENCE	86	105

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC FOOTWELL DEFORMATION



DRIVER

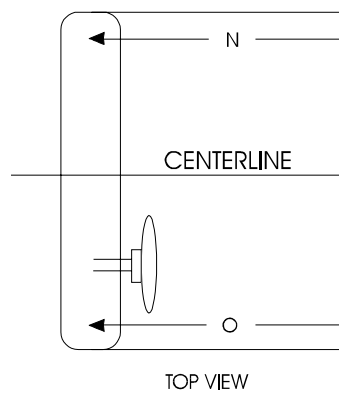
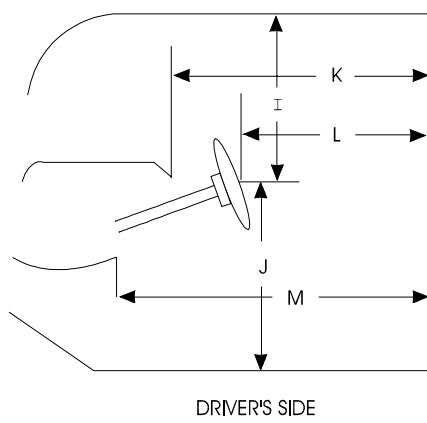
Measurement	Pre-Test	Post-Test	Difference
A	748	721	27
B	526	526	0
C	489	486	3
D	499	496	3

PASSENGER

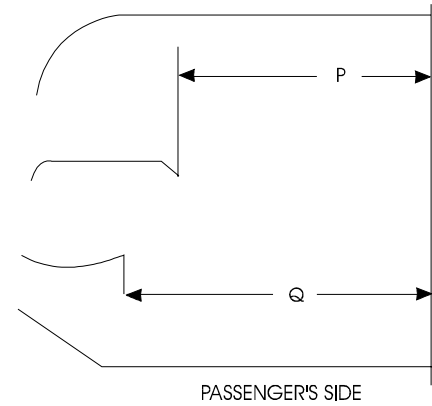
Measurement	Pre-Test	Post-Test	Difference
A	728	659	69
B	536	540	-4
C	484	477	7
D	496	505	-9

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC PASSENGER COMPARTMENT INTRUSION



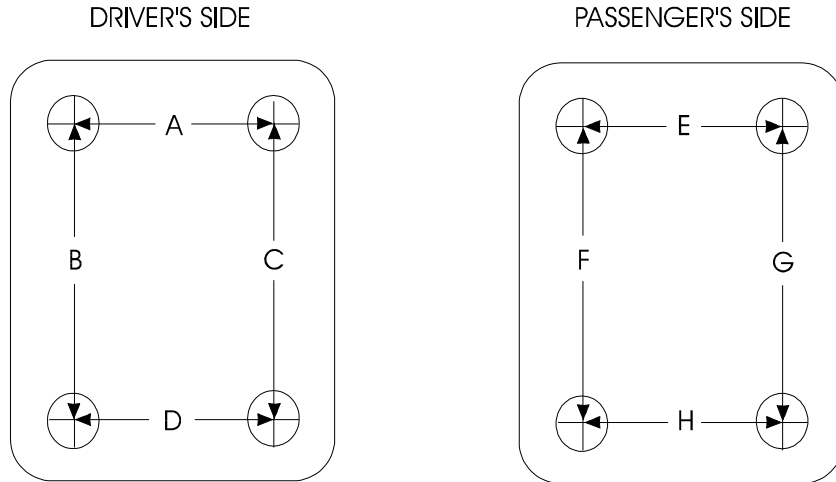
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	417	430	-13
J	650	659	-9
K	2036	2050	-14
L	1871	1940	-69
M	2082	2086	-4
N	2072	2085	-13
O	2063	2076	-13
P = K (PASS.)	2094	2103	-9
Q = M (PASS.)	2064	2063	1

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
FLOORBOARD DEFORMATION

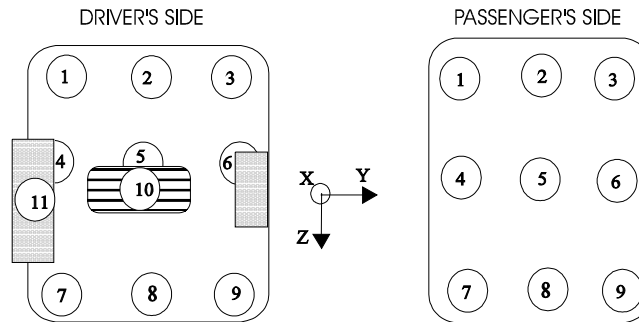


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	300	292	8
B	600	600	0
C	600	600	0
D	300	300	0
E	300	302	-2
F	600	594	6
G	600	596	4
H	300	300	0

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
TOE-PAN INTRUSION



Driver Side Floorpan Measurements

Floorpan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3832	3803	29	-566	-593	27
2	3863	3835	28	-557	-589	32
3	3877	3838	39	-538	-573	35
4	3774	3759	15	-423	-451	28
5	3784	3745	39	-405	-439	34
6	3797	3763	34	-378	-406	28
7	3642	3636	6	-295	-319	24
8	3641	3641	0	-285	-299	14
9	3641	3637	4	-282	-271	-11
10	3688	3652	36	-477	-496	19
11	3697	3685	12	-395	-420	25

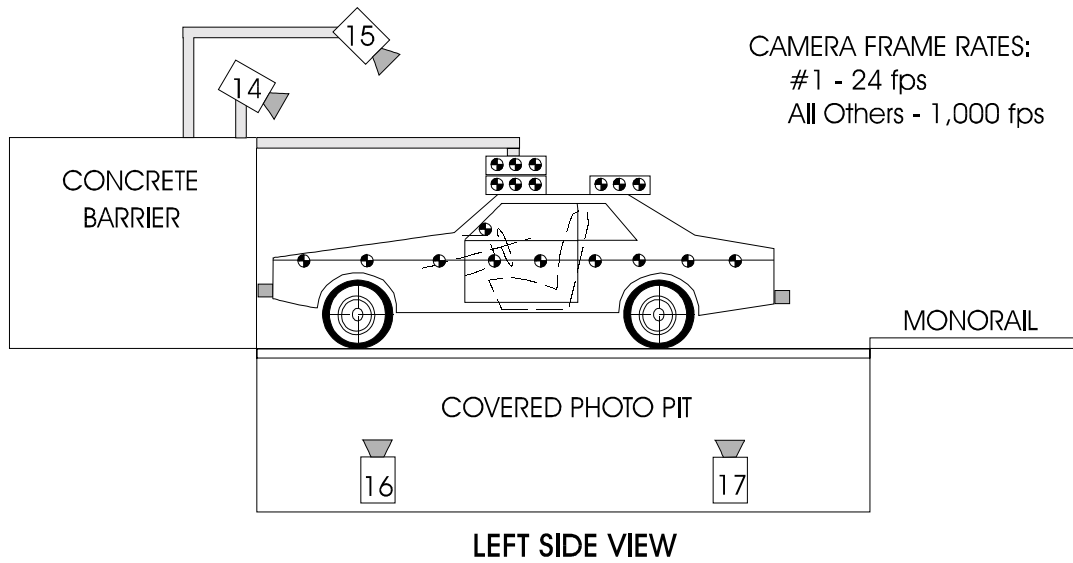
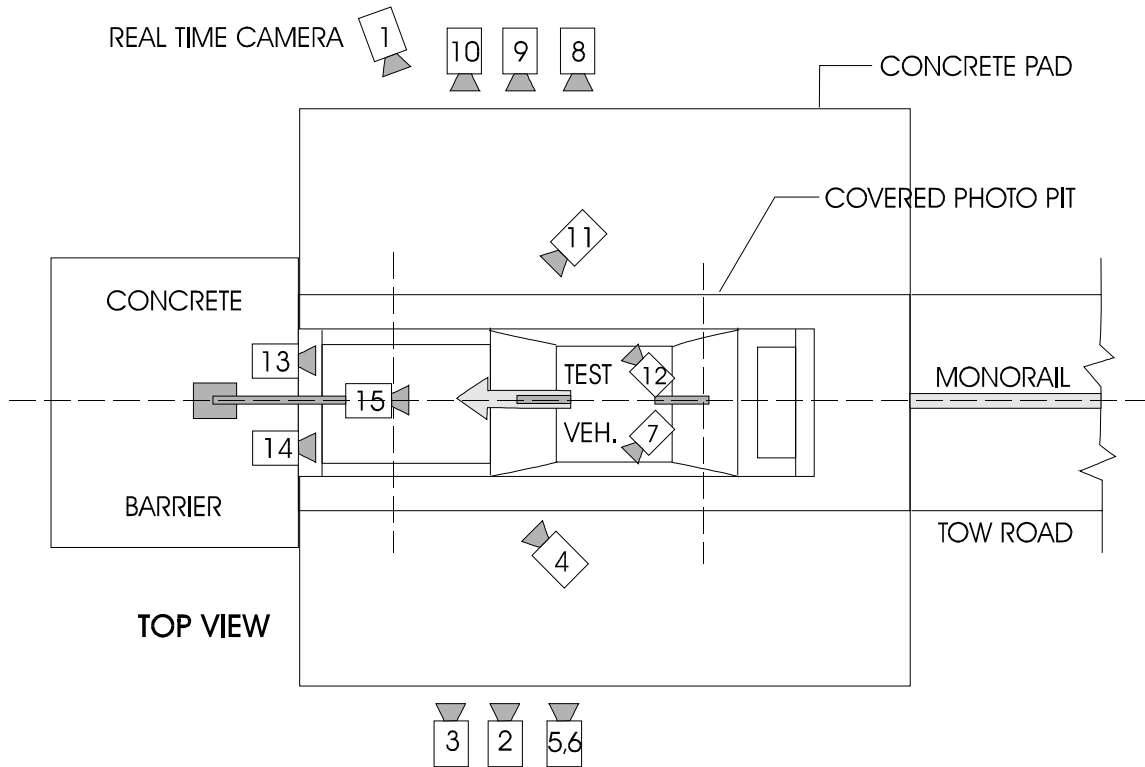
Passenger Side Floorpan Measurements

Floorpan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3834	3768	66	-477	-463	-14
2	3850	3772	78	-468	-512	44
3	3809	3739	70	-501	-541	40
4	3750	3742	8	-371	-386	15
5	3755	3726	29	-374	-399	25
6	3728	3706	22	-390	-407	17
7	3655	3662	-7	-299	-284	-15
8	3658	3653	5	-303	-299	-4
9	3660	3650	10	-309	-331	22

Reference: X = Rear Bumper; Z = Ground

DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

NOTE: Camera information shown in DATA SHEET NO. 15.



DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS (cont.)

NHTSA Test No.: M10101 Vehicle: 2001 Buick Park Avenue 4-Door Sedan

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE (deg)**	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	7305	1769	1075	-3.0	6877	12.5	1000
3	Left Side View	8709	955	1095	-2.0	8281	25	1020
4	Driver and Interior View	7259	2613	1940	-9.2	-	35	1055
5	Steering Column (Bottom)	8020	1880	1160	-2.9	7592	25	1025
6	Steering Column (Top)	8020	1880	1775	-7.5	7592	25	1020
7 †	Left Belt	-	-	-	-	-	-	-
8	Overall Right Side	7275	2032	1114	-1.8	6847	12.5	1015
9	Right Side View	8495	1045	1095	-2.3	8067	25	1010
10	Right Passenger View	8360	2085	1418	-3.2	7932	35	1010
11	Passenger and Interior View	7220	2929	1955	-7.9	-	35	1005
12 †	Right Belt	-	-	-	-	-	-	-
13	Passenger Front View	605	-55	1985	-32.9	-	13	1020
14	Driver Front View	605	-55	1985	-32.4	-	13	1001
15	Windshield View	0	-673	3560	-50.0	-	13	1005
16	Pit View of Engine	0	595	-3048	90.0	-	13	1005
17	Pit View of Fuel Tank	0	2900	-3048	90.0	-	13	965

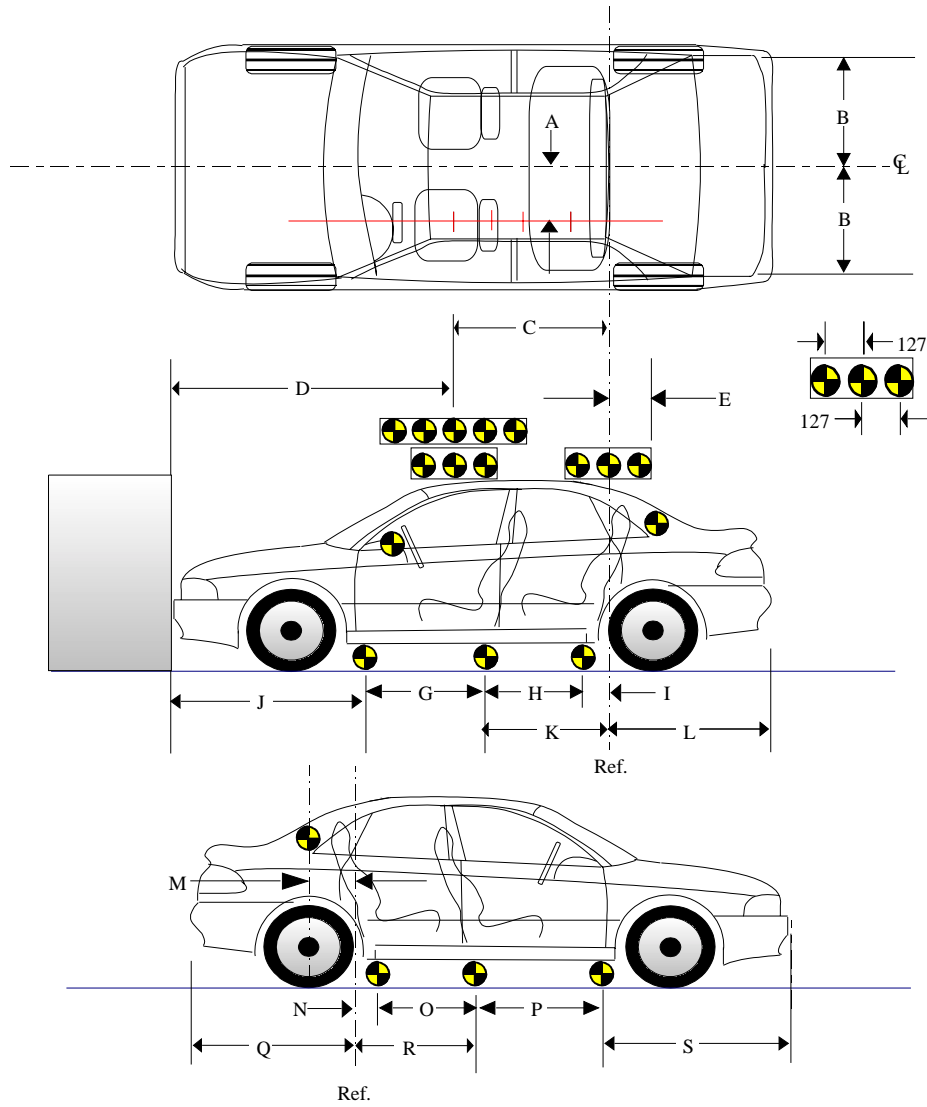
- *X = film plane to monorail centerline ** = referenced to horizontal plane
 Y = film plane to impact location N.T. indicates No Timing
 Z = film plane to ground

† Vehicle front seat belts were integrated into the seat back and were not visible from the rear occupant compartment, camera was not installed.

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

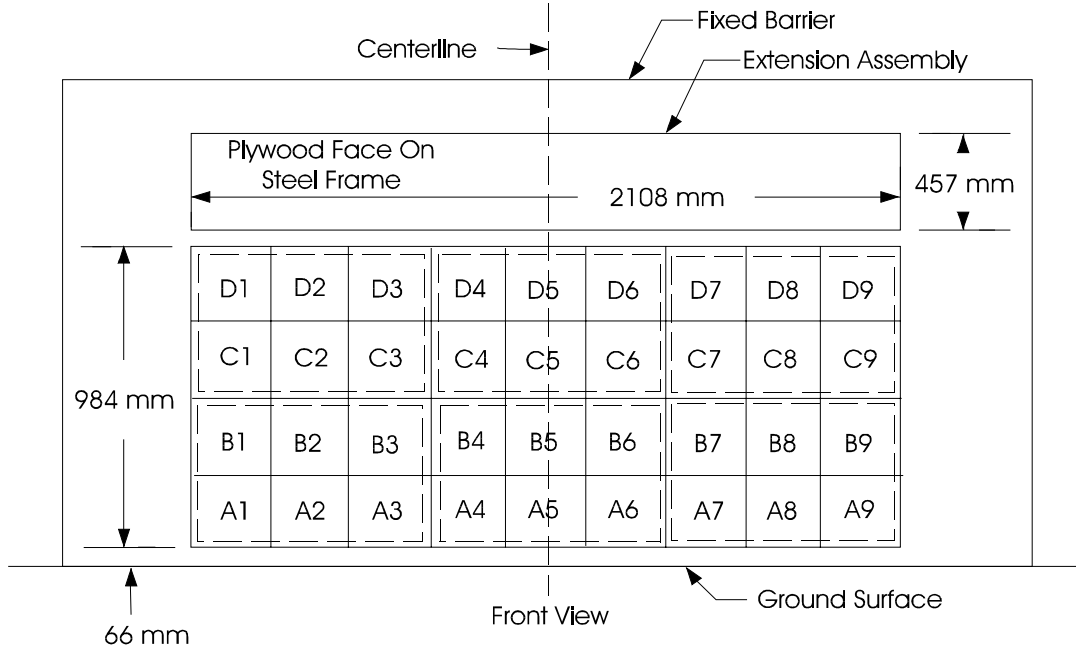
(Dimensions in millimeters)

A	352
B	681
C	1215
D	2434
E	331
F	1743
G	993
H	987
I	107
J	1545
K	1094
L	1631
M	333
N	115
O	988
P	991
Q	1618
R	1103
S	1553



DATA SHEET NO. 17 LOAD CELL LOCATIONS ON FIXED BARRIER

- 36 Load Cells
- 4 Rows
- 9 Columns
- 6 Groupings (6 cells/group)



6 GROUPS OF 6 LOAD CELLS EACH

Group 4 C1 thru D3	Group 5 C4 thru D6	Group 6 C7 thru D9
Group 1 A1 thru B3	Group 2 A4 thru B6	Group 3 A7 thru B9

The following data is presented in Appendix B:

- (1) Data from 36 individual load cells
- (2) Total or Sum of 36 individual load cells
- (3) Data from 6 Groupings shown above (6 cells/group)

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Buick Park Avenue 4-Door Sedan

NHTSA Test No.: M10101 VIN: 1G4CW54K014194667

Model Year: 2001 Build Date: 10/00 Test Date: January 12, 2001

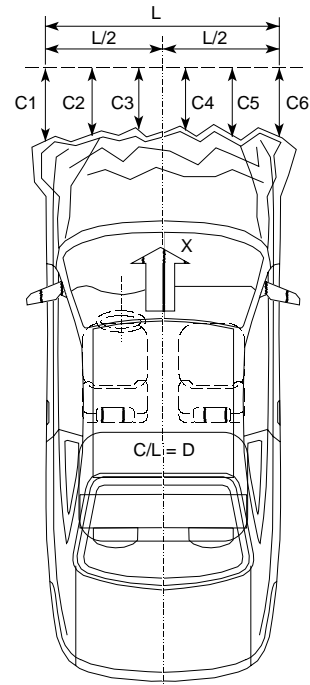
Vehicle Size Category: Large Test Weight: 1944.0 kg

Vehicle Wheelbase: 2890 mm; Front Overhang: 1089 mm; Overall Width: 1897 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	5114	4593	521	mm
C2 =	5232	4627	605	mm
C3 =	5261	4619	642	mm
C4 =	5259	4618	641	mm
C5 =	5223	4624	599	mm
C6 =	5105	4579	526	mm



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region: L1= 1576 mm
 L2= 788 mm
 L5= 315 mm

APPENDIX A
PHOTOGRAPHS

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Figure A-1: LOAD CELL LOCATIONS.



Figure A-2: PRE-TEST FRONT VIEW



Figure A-3: POST-TEST FRONT VIEW.



Figure A-4: PRE-TEST LEFT SIDE VIEW



Figure A-5: POST-TEST LEFT SIDE VIEW



Figure A-6: PRE-TEST RIGHT SIDE VIEW



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M10101

Figure A-7: POST-TEST RIGHT SIDE VIEW



M10101

Figure A-8: PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-9: POST-TEST RIGHT FRONT THREE-QUARTER VIEW



M10101

Figure A-10: PRE-TEST LEFT REAR THREE-QUARTER VIEW



M10101

Figure A-11: POST-TEST LEFT REAR THREE-QUARTER VIEW



Figure A-12: PRE-TEST WINDSHIELD VIEW



Figure A-13: POST-TEST WINDSHIELD VIEW



Figure A-14: PRE-TEST ENGINE COMPARTMENT VIEW



Figure A-15: FUEL CAP VIEW

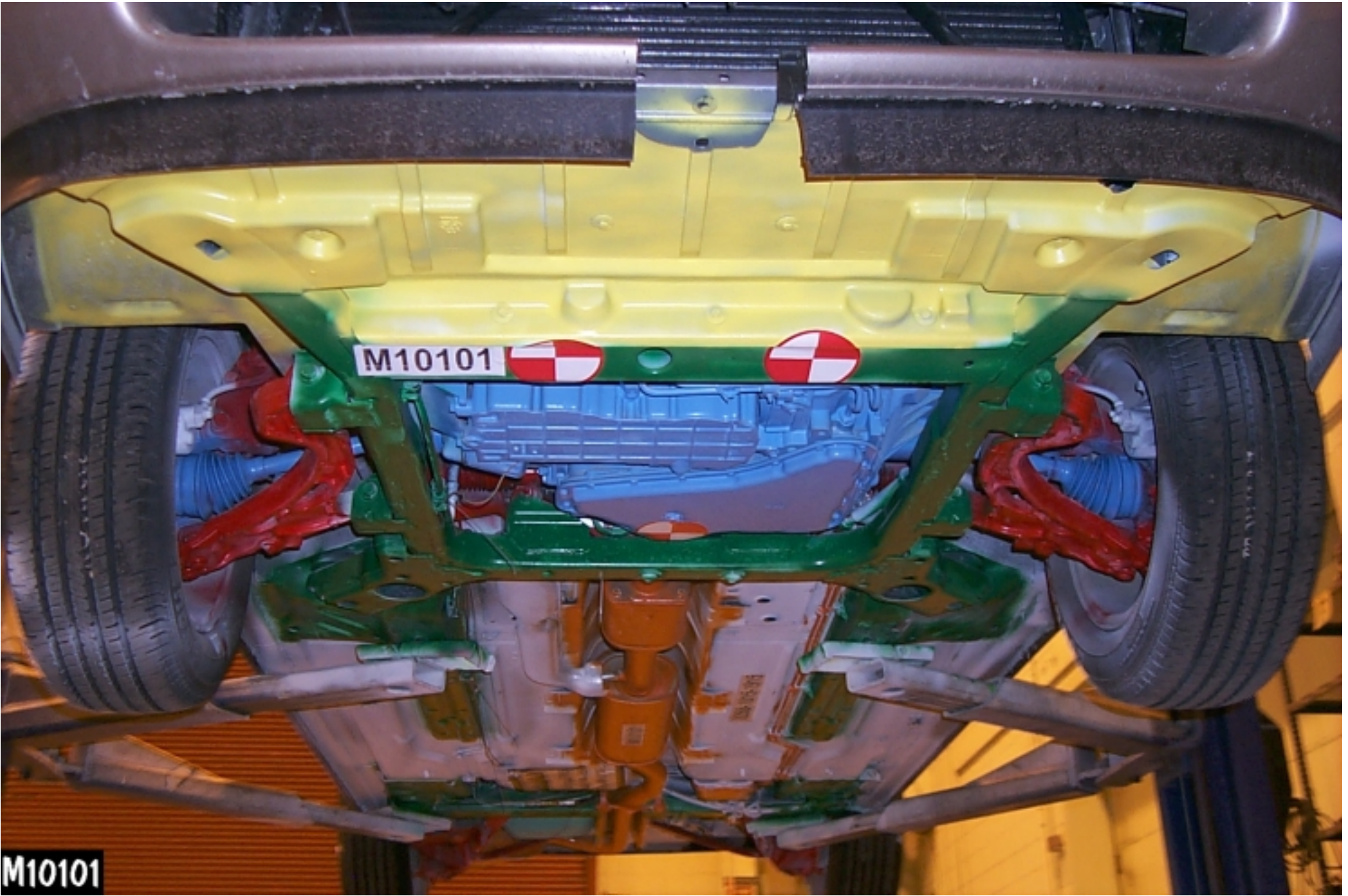


Figure A-16: PRE-TEST FRONT UNDERBODY VIEW



Figure A-17: POST-TEST FRONT UNDERBODY VIEW



Figure A-18: PRE-TEST FRONT SIDE UNDERBODY VIEW



Figure A-19: POST-TEST FRONT SIDE UNDERBODY VIEW



Figure A-20: PRE-TEST REAR UNDERBODY VIEW



Figure A-21: POST-TEST REAR UNDERBODY VIEW



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Figure A-22: PRE-TEST DRIVER POSITION VIEW



Figure A-23: POST-TEST DRIVER POSITION VIEW



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M10101

Figure A-24: PRE-TEST PASSENGER POSITION VIEW



A-27

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M10101

Figure A-25: POST-TEST PASSENGER POSITION VIEW



Figure A-26: PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-27: POST-TEST DRIVER AND INTERIOR VIEW



Figure A-28: PRE-TEST PASSENGER AND INTERIOR VIEW



Figure A-29: POST-TEST PASSENGER AND INTERIOR VIEW



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Figure A-30: PRE-TEST DRIVER HEAD LOCATION



A-33

8602-15

Figure A-31: POST-TEST DRIVER HEAD LOCATION



Figure A-32: PRE-TEST PASSENGER HEAD LOCATION



A-35

8602-15

Figure A-33: POST-TEST PASSENGER HEAD LOCATION



Figure A-34: PRE-TEST DRIVER FLOOR PAN VIEW



A-37

8602-15

Figure A-35: POST-TEST DRIVER FLOOR PAN VIEW



Figure A-36: PRE-TEST PASSENGER FLOOR PAN VIEW



Figure A-37: POST-TEST PASSENGER FLOOR PAN VIEW



A-40

8602-15

Figure A-38: ROLLOVER VIEW



Figure A-39: IMPACT VIEW

APPENDIX B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

**Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers**

Transducer	SAE Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head rearward Fy Head left Fz Neck in tension Mx Left ear to left shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	Fx Chest rearward Fy Chest left Fz Spine in tension
Femur Load Cell	Compression is negative
Upper Tibia Load Cell (right and left leg)	Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center
Lower Tibia Load Cell (right and left leg)	Fz Tibia in tension Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center

DATA CHANNEL FILTER CLASS SUMMARY

NHTSA TEST NO. M10101

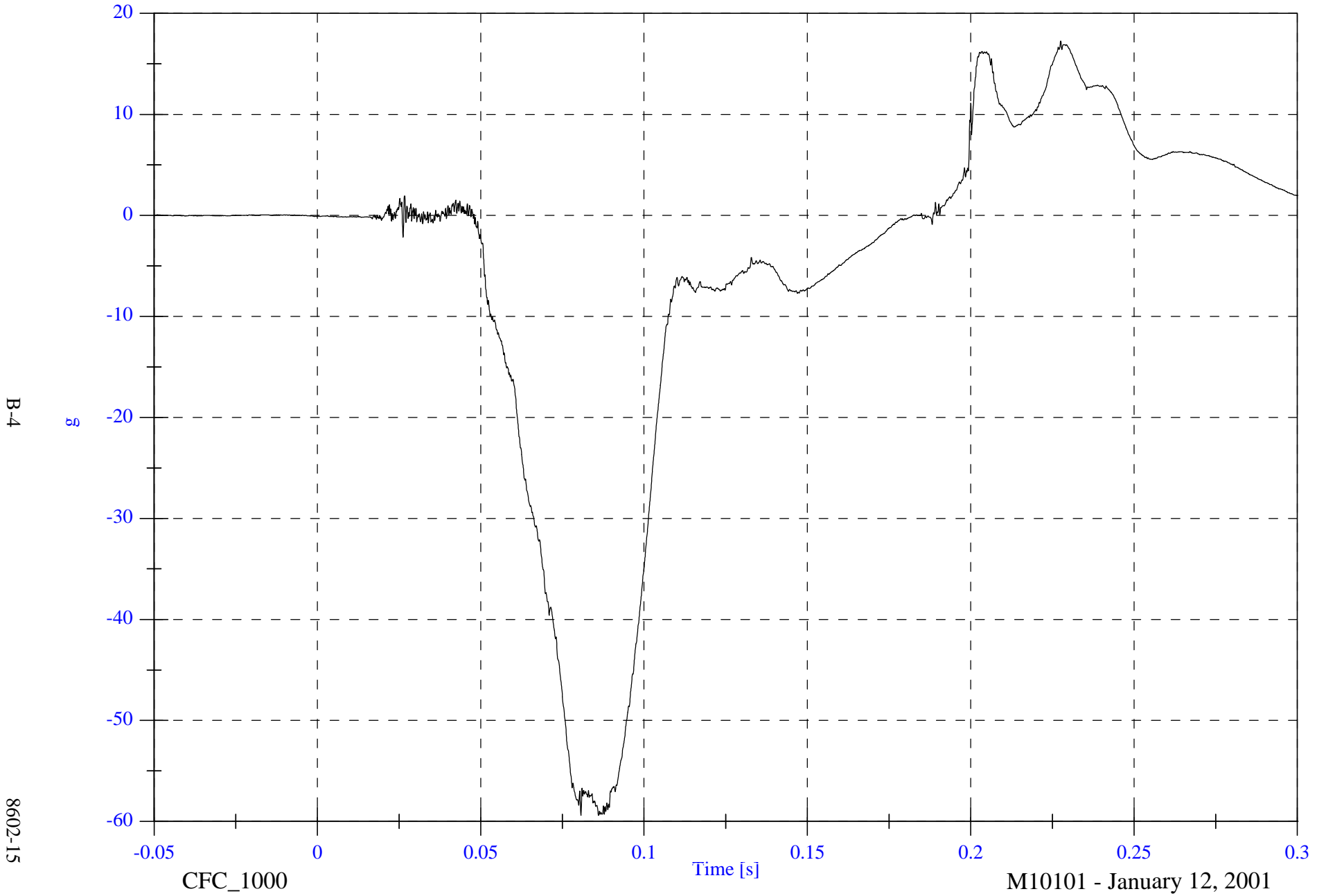
DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	60
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle Displacement Integrations	180
Load Cell Barrier Forces	60

NCAP Test 15 - 2001 Buick Park Avenue

P1 Head x

Max: 17.3 [g] at 0.228 [s]

Min: -59.4 [g] at 0.086 [s]



B-4

8602-15

CFC_1000

Time [s]

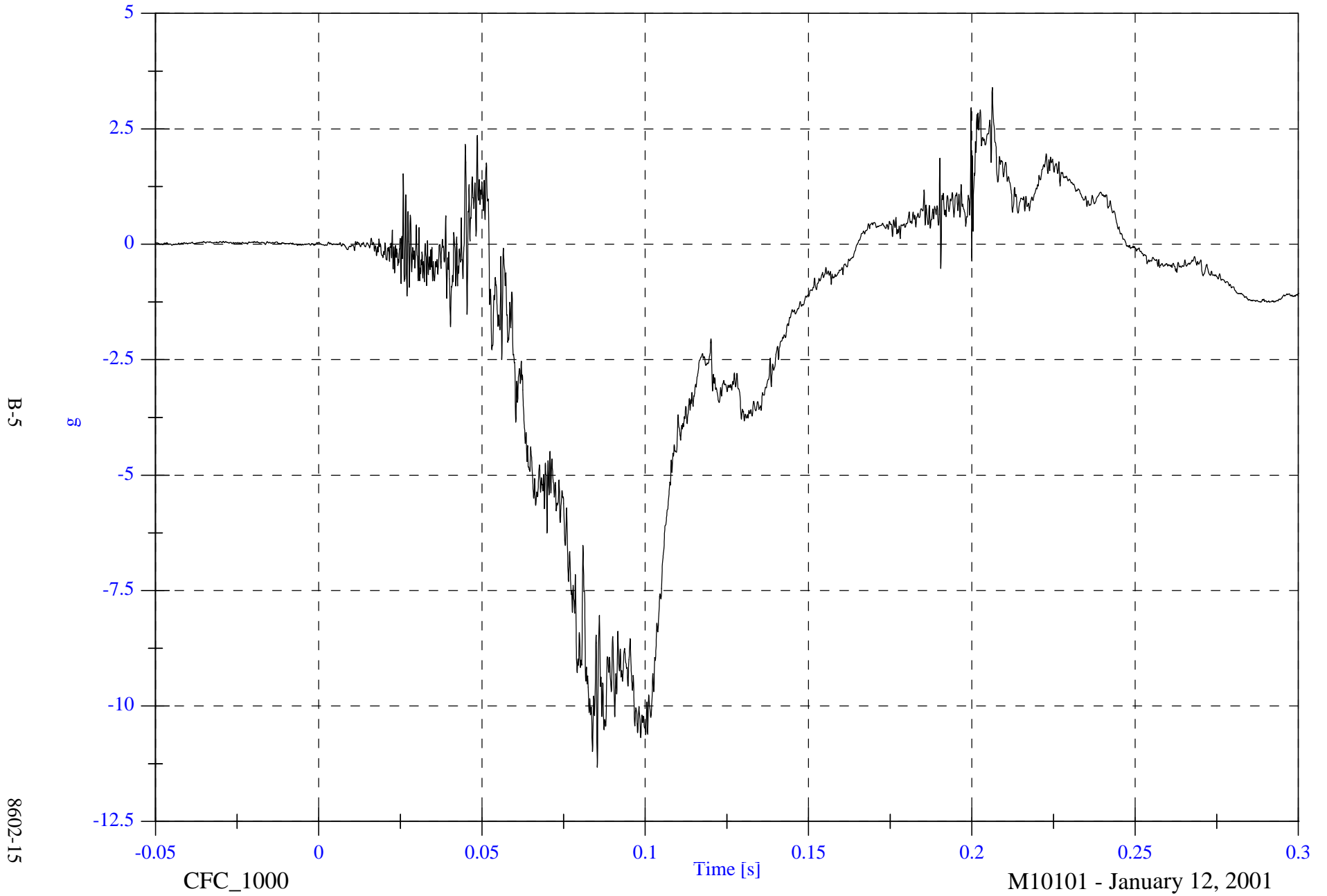
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 3.4 [g] at 0.206 [s]

P1 Head y

Min: -11.3 [g] at 0.085 [s]

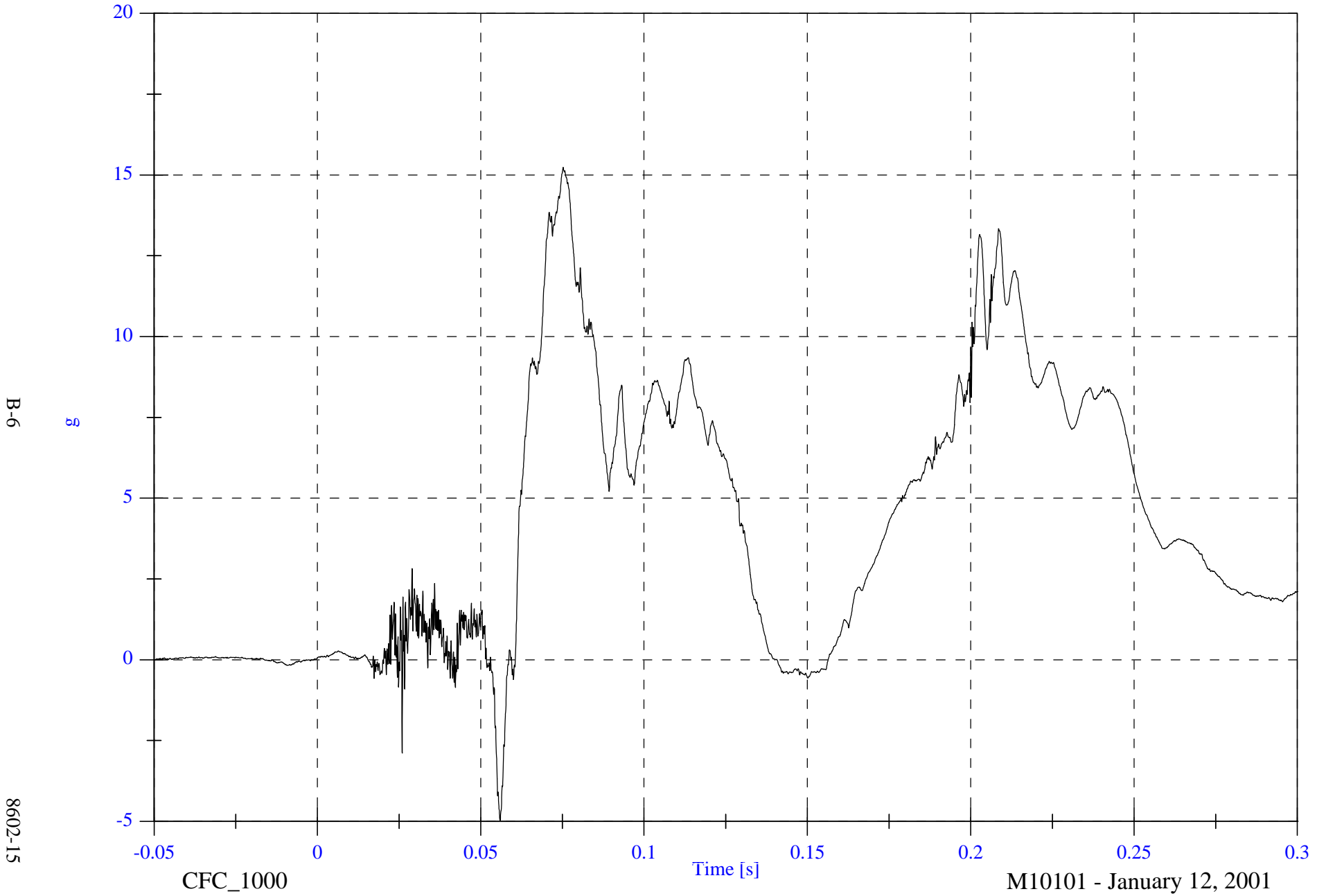


NCAP Test 15 - 2001 Buick Park Avenue

P1 Head z

Max: 15.2 [g] at 0.075 [s]

Min: -5.0 [g] at 0.056 [s]



NCAP Test 15 - 2001 Buick Park Avenue

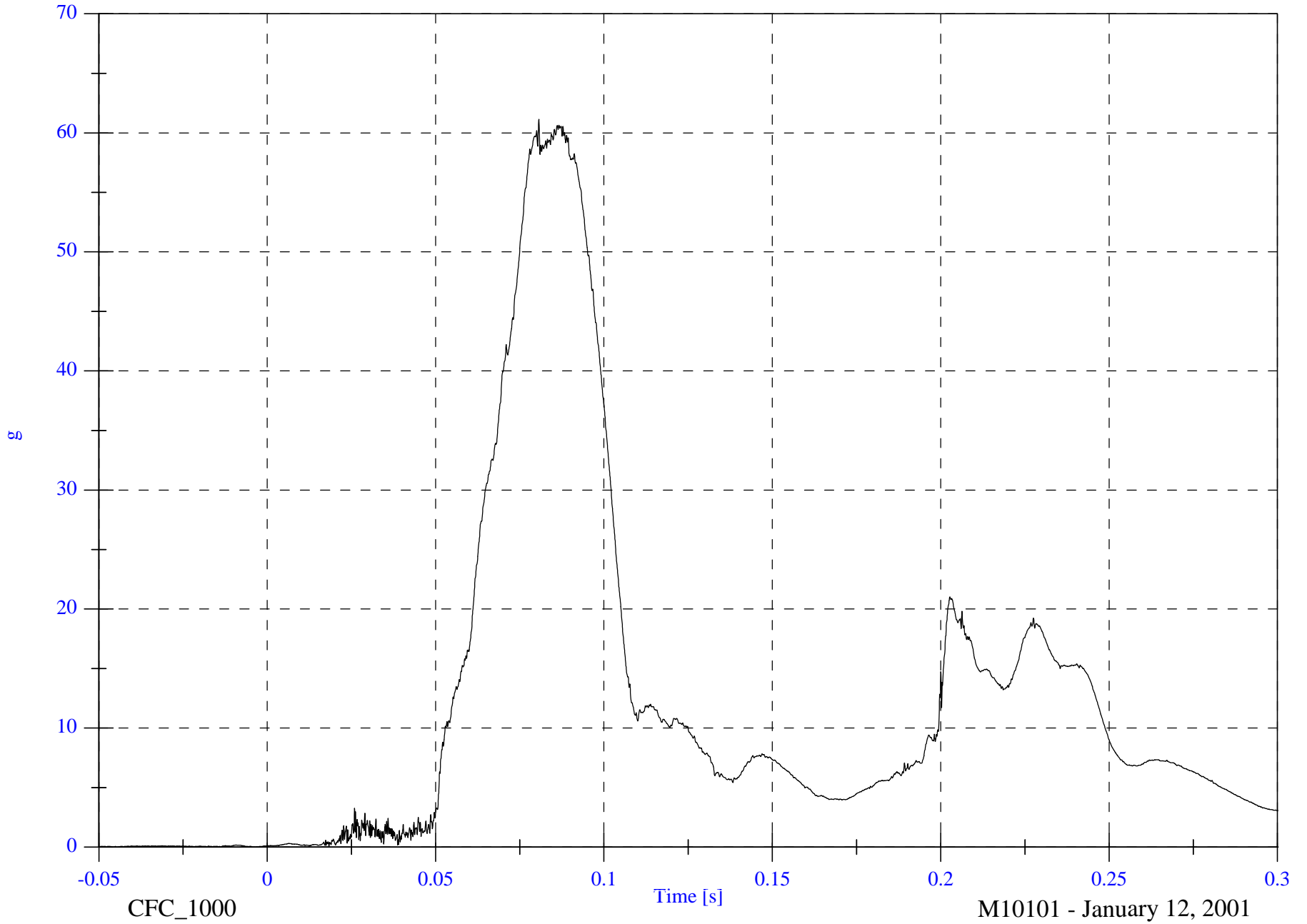
P1 Head Resultant

Max: 61.2 [g] at 0.081 [s]

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

B-7

8602-15

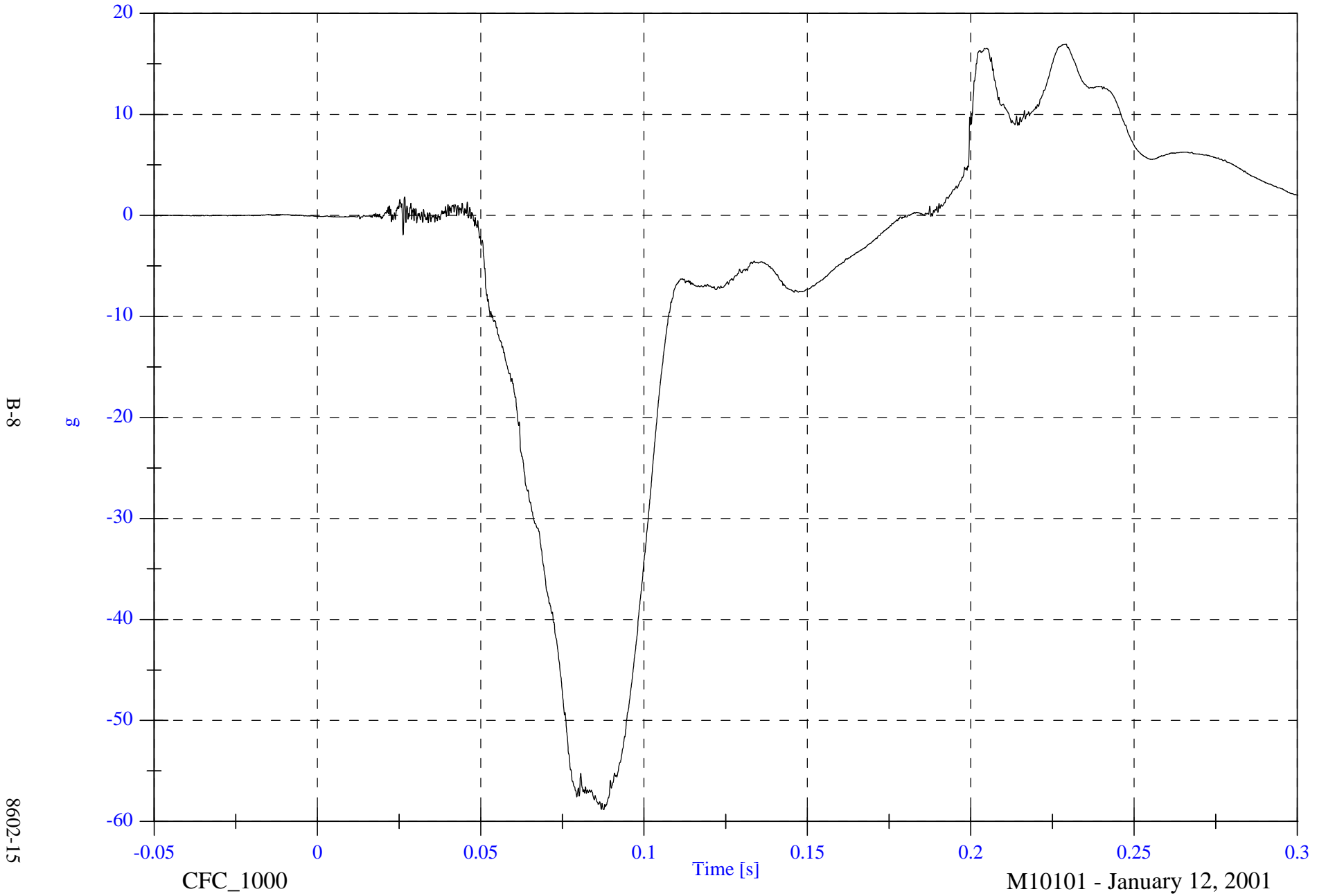


NCAP Test 15 - 2001 Buick Park Avenue

P1 Head Red x

Max: 17.0 [g] at 0.229 [s]

Min: -58.8 [g] at 0.088 [s]



B-8

8602-15

CFC_1000

Time [s]

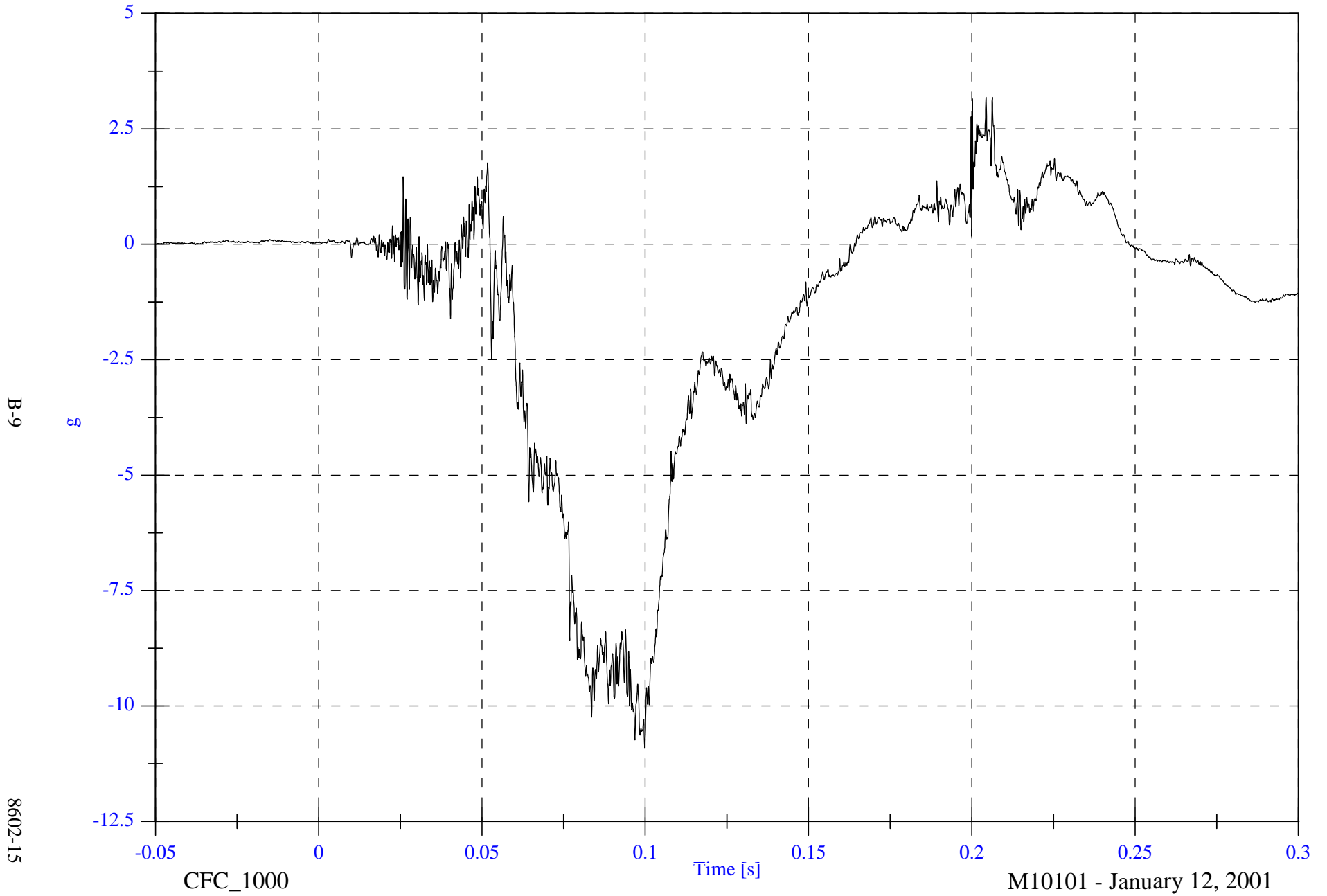
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Head Red y

Max: 3.2 [g] at 0.204 [s]

Min: -10.9 [g] at 0.100 [s]



B-9

g

8602-15

CFC_1000

Time [s]

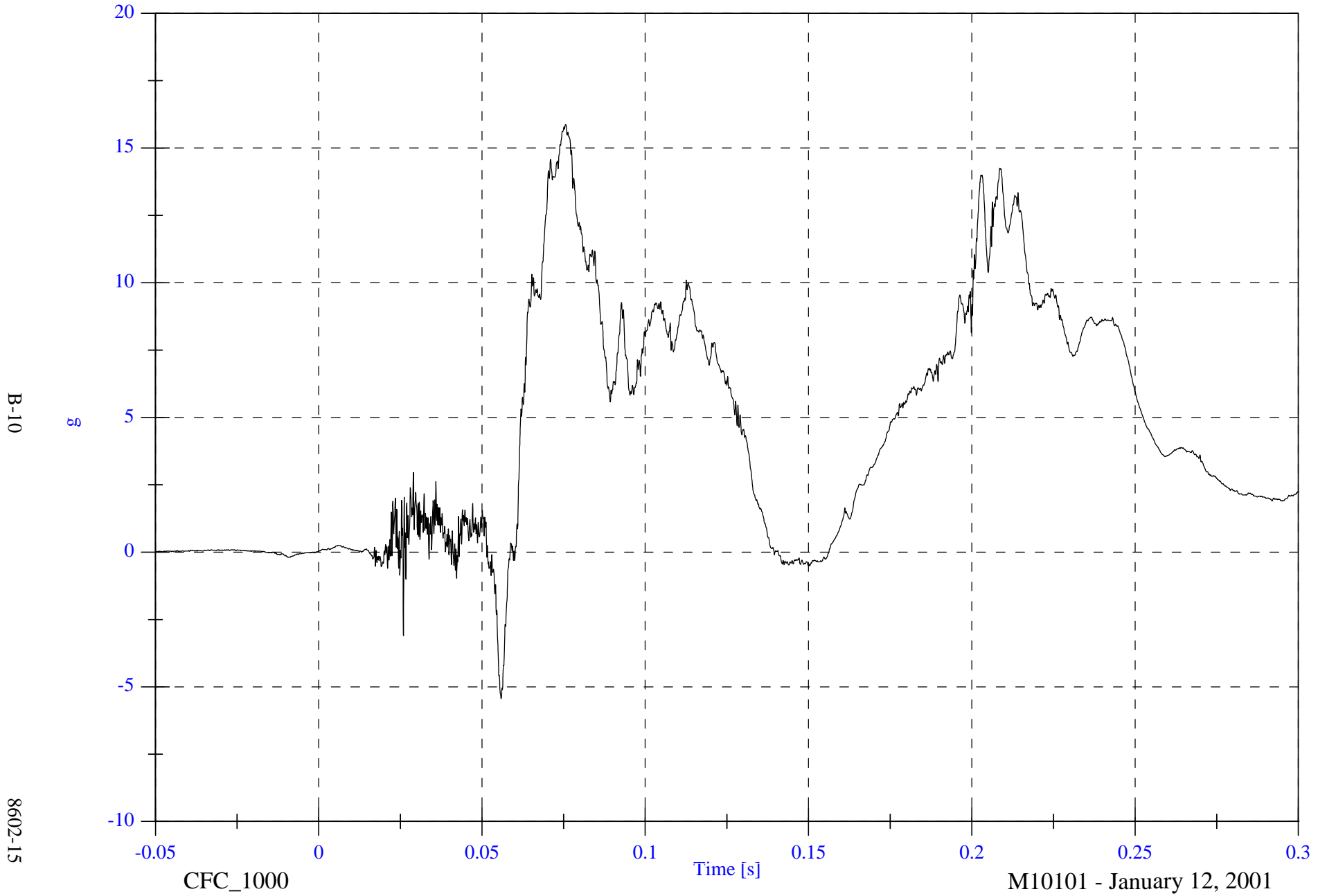
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Head Red z

Max: 15.9 [g] at 0.076 [s]

Min: -5.4 [g] at 0.056 [s]

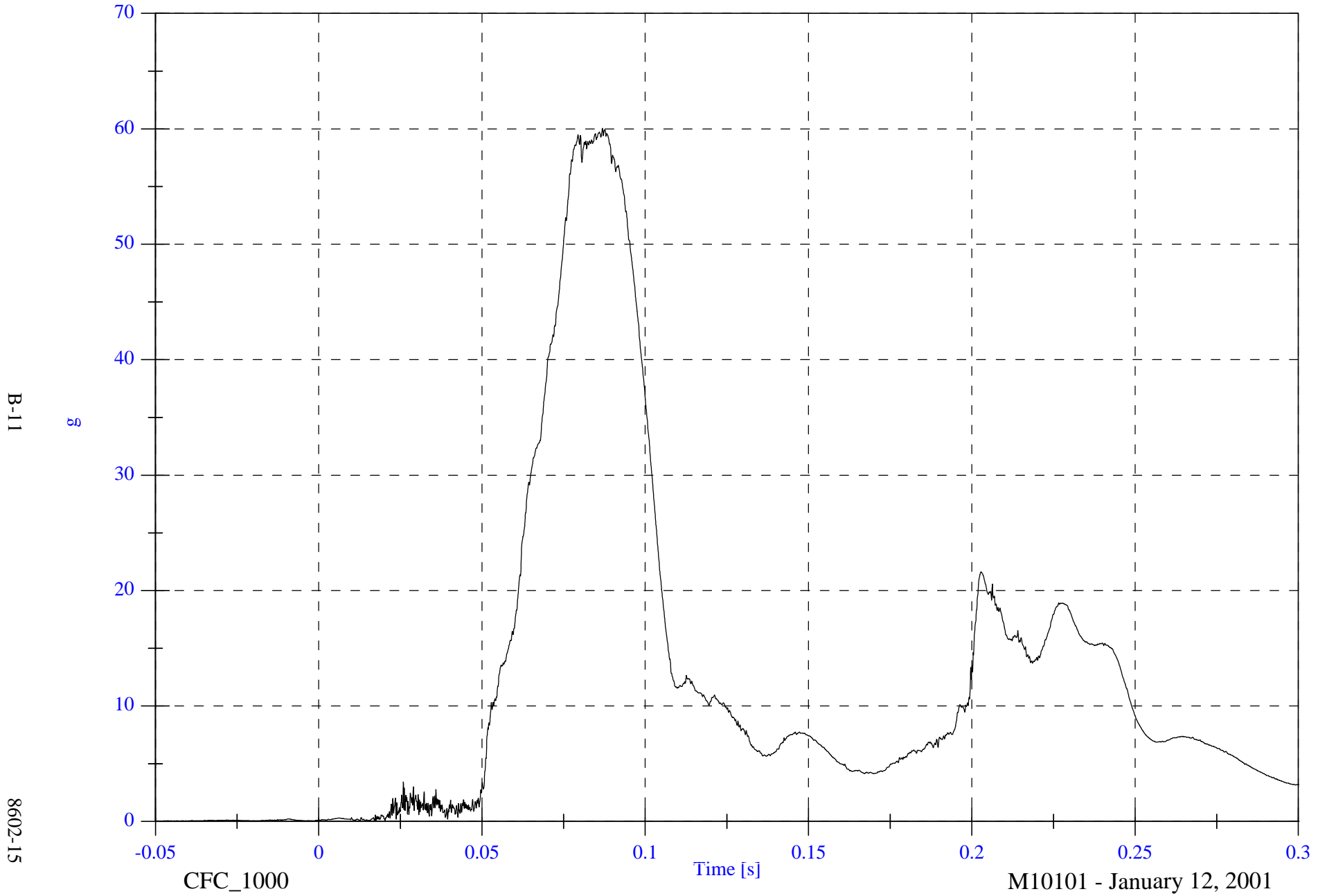


NCAP Test 15 - 2001 Buick Park Avenue

P1 Head Red Resultant

Max: 60.1 [g] at 0.087 [s]

Min: 0.0 [g] at -0.045 [s]



B-11

8602-15

CFC_1000

Time [s]

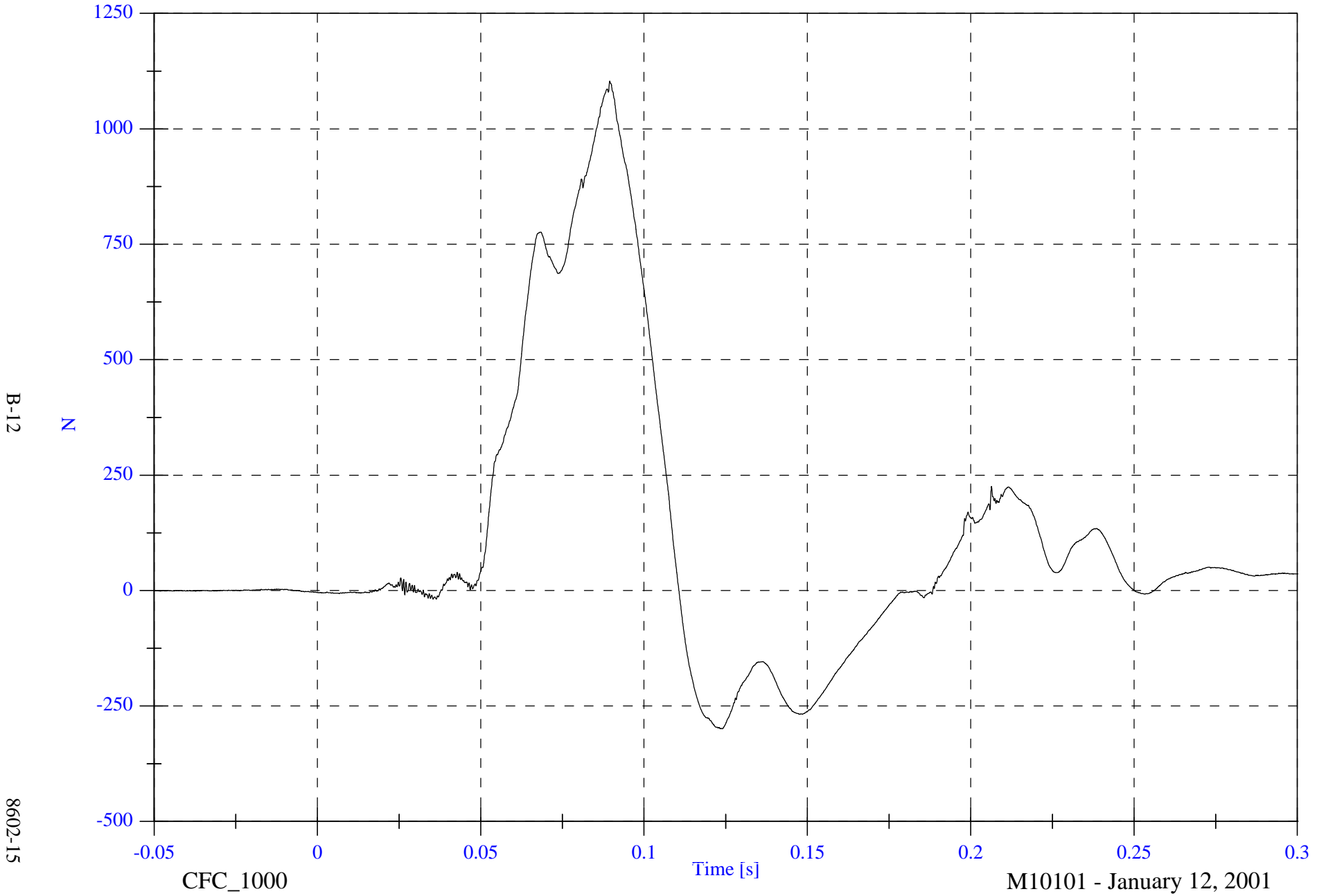
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Upper Neck Fx

Max: 1103.7 [N] at 0.089 [s]

Min: -299.3 [N] at 0.124 [s]



B-12

8602-15

CFC_1000

Time [s]

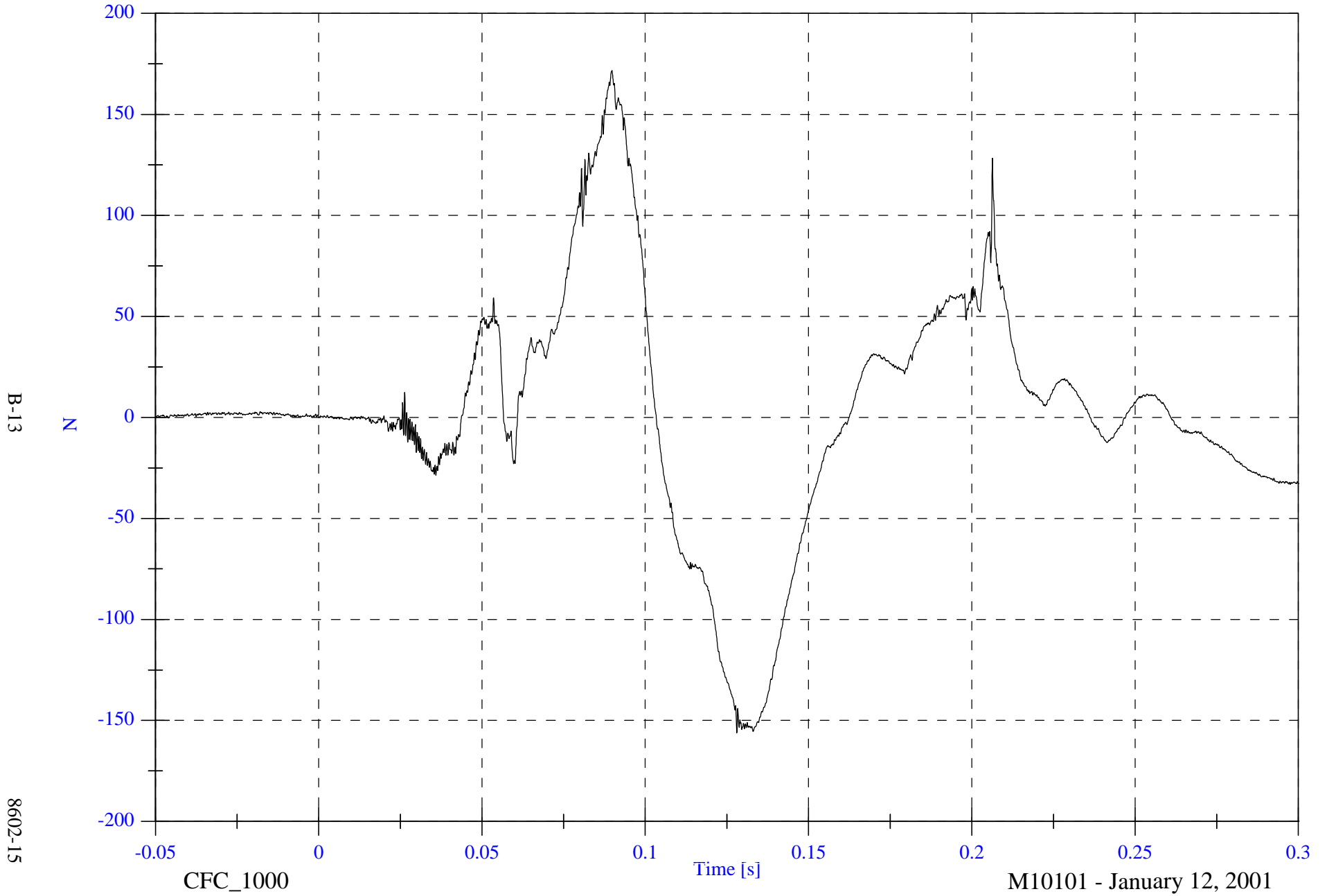
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Upper Neck Fy

Max: 171.7 [N] at 0.090 [s]

Min: -156.2 [N] at 0.128 [s]



B-13

8602-15

CFC_1000

Time [s]

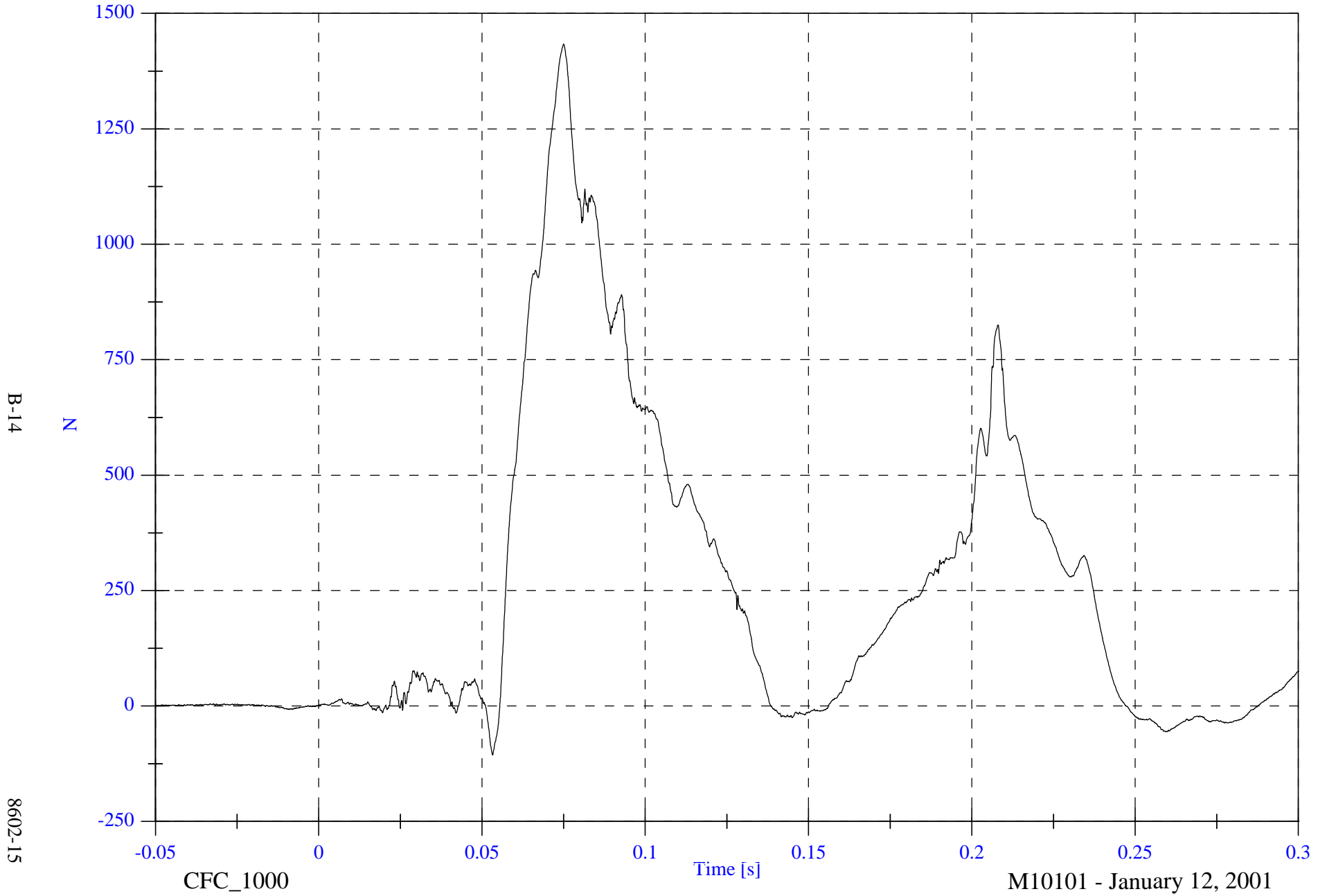
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Upper Neck Fz

Max: 1433.5 [N] at 0.075 [s]

Min: -106.0 [N] at 0.053 [s]



B-14

8602-15

CFC_1000

Time [s]

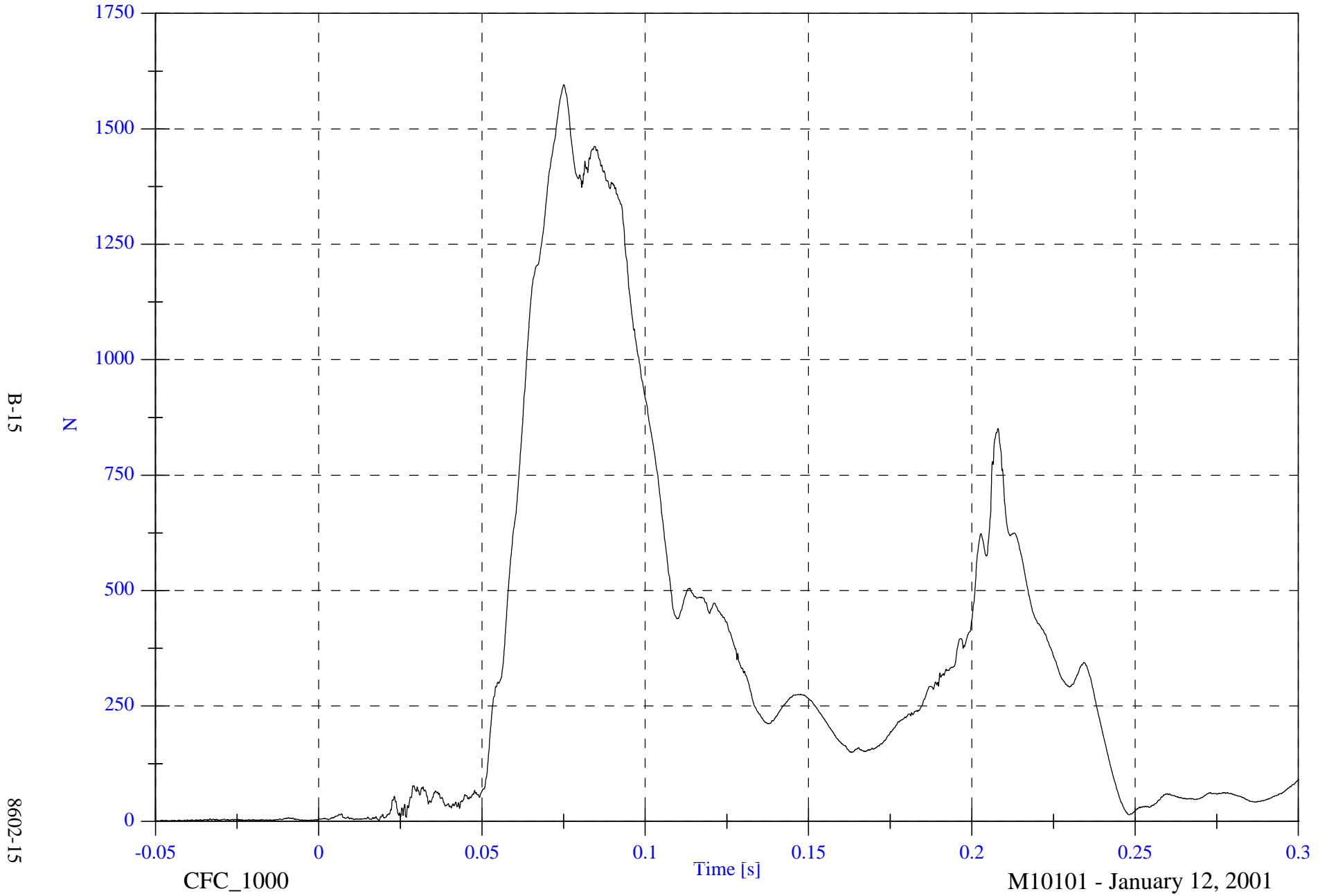
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 1595.7 [N] at 0.075 [s]

P1 Upper Neck F Resultant

Min: 0.1 [N] at -0.050 [s]

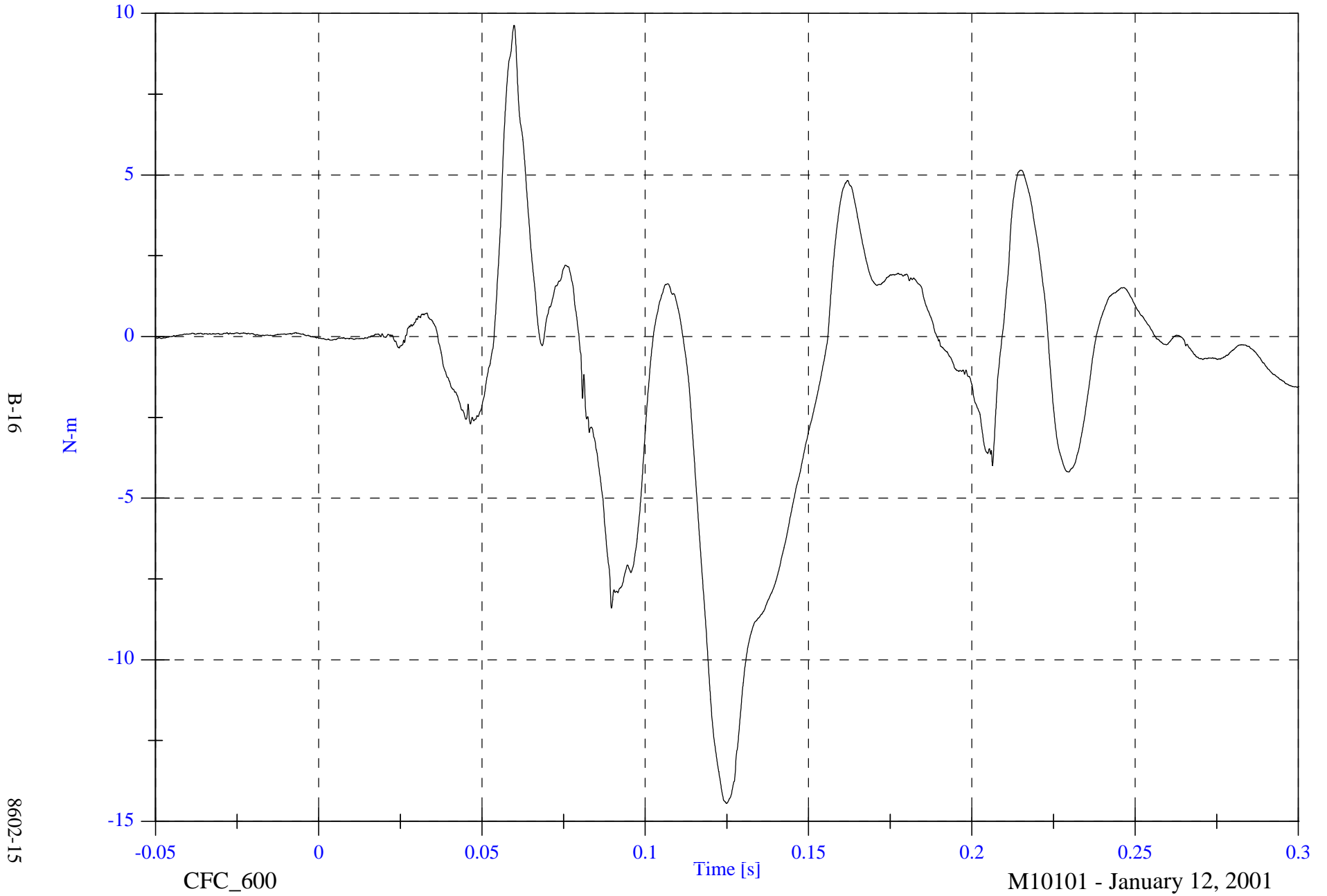


NCAP Test 15 - 2001 Buick Park Avenue

P1 Upper Neck Mx

Max: 9.6 [N-m] at 0.060 [s]

Min: -14.4 [N-m] at 0.125 [s]



B-16

8602-15

CFC_600

Time [s]

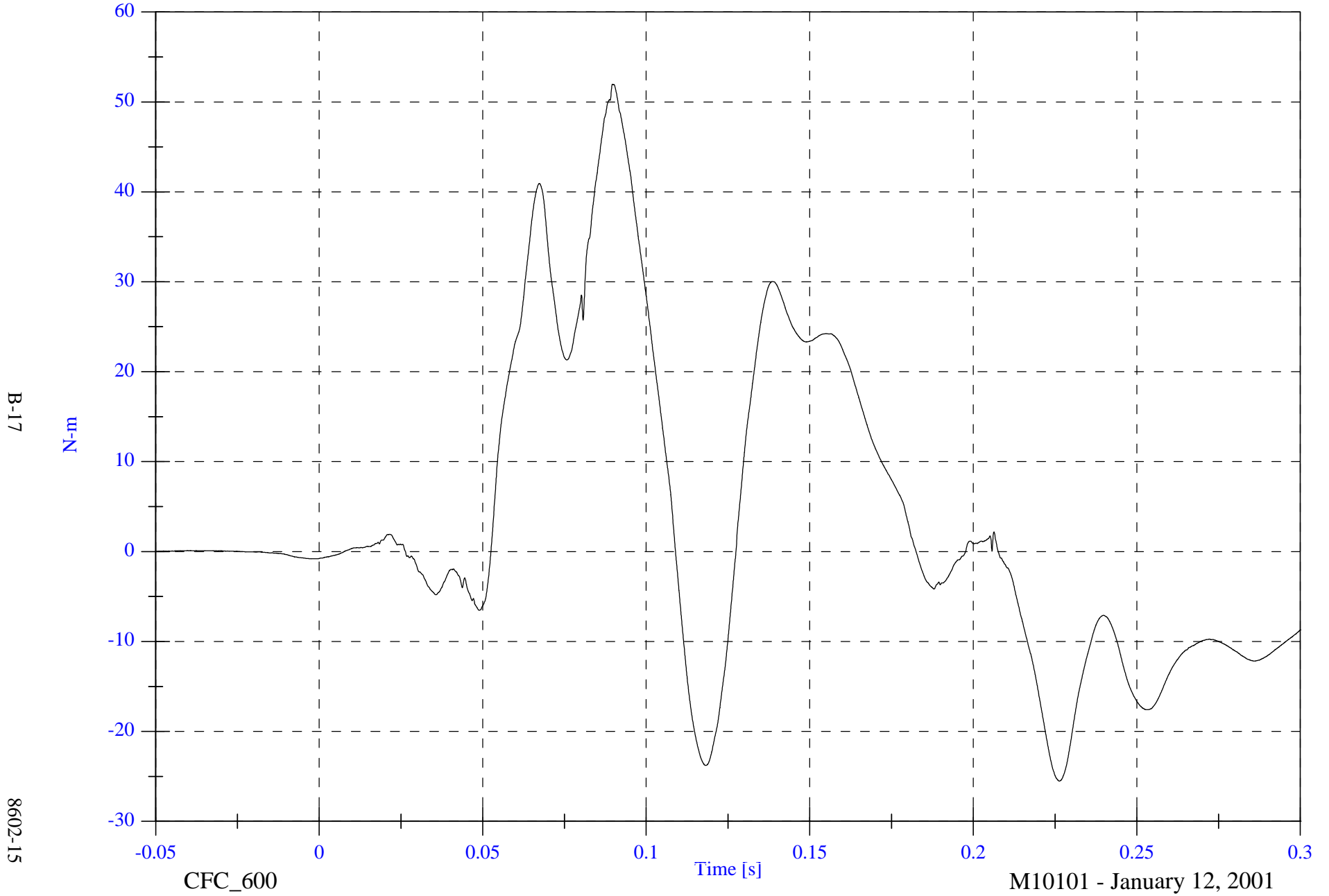
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Upper Neck My

Max: 52.0 [N-m] at 0.090 [s]

Min: -25.5 [N-m] at 0.226 [s]



B-17

8602-15

CFC_600

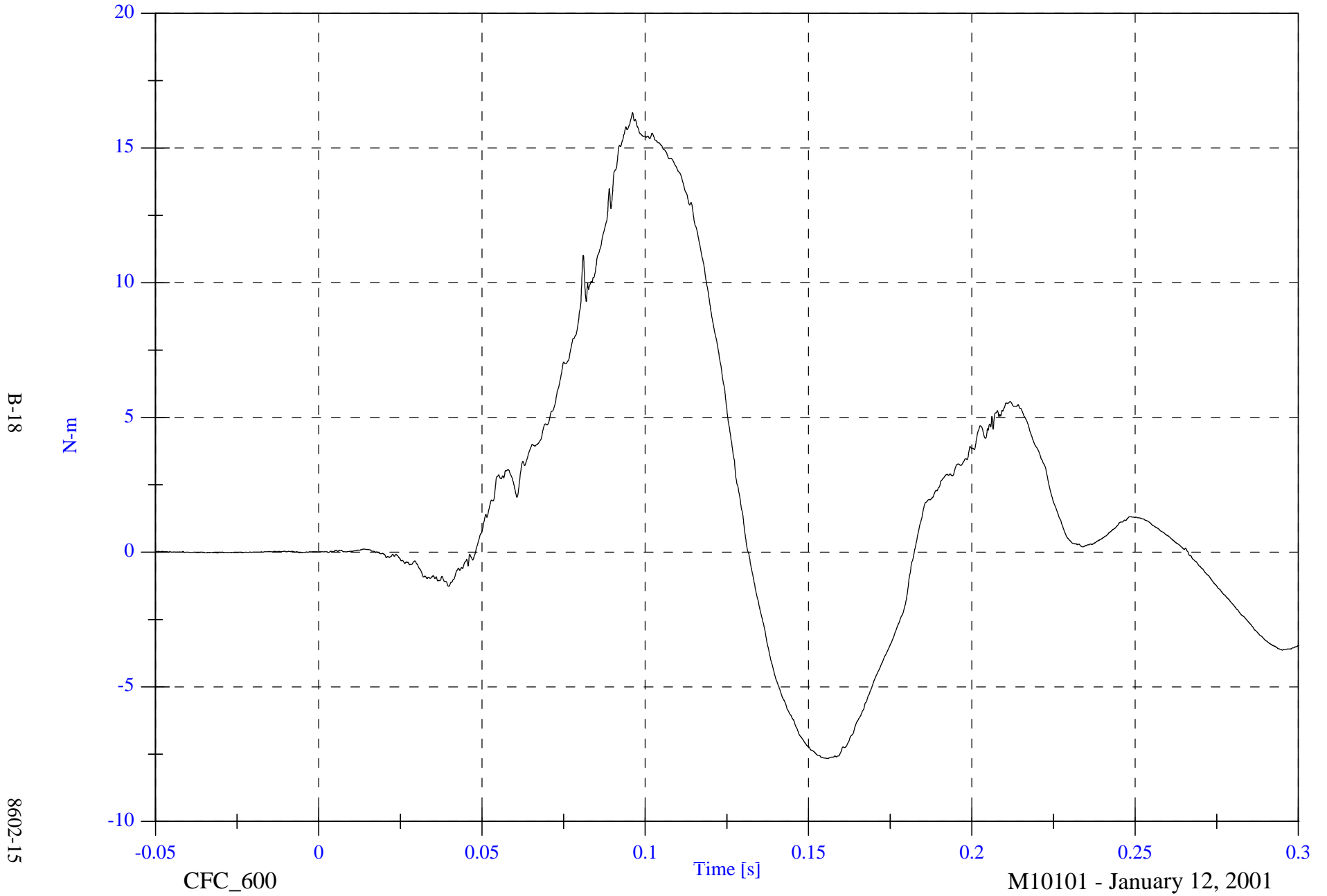
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 16.3 [N-m] at 0.096 [s]

P1 Upper Neck Mz

Min: -7.7 [N-m] at 0.156 [s]



B-18

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

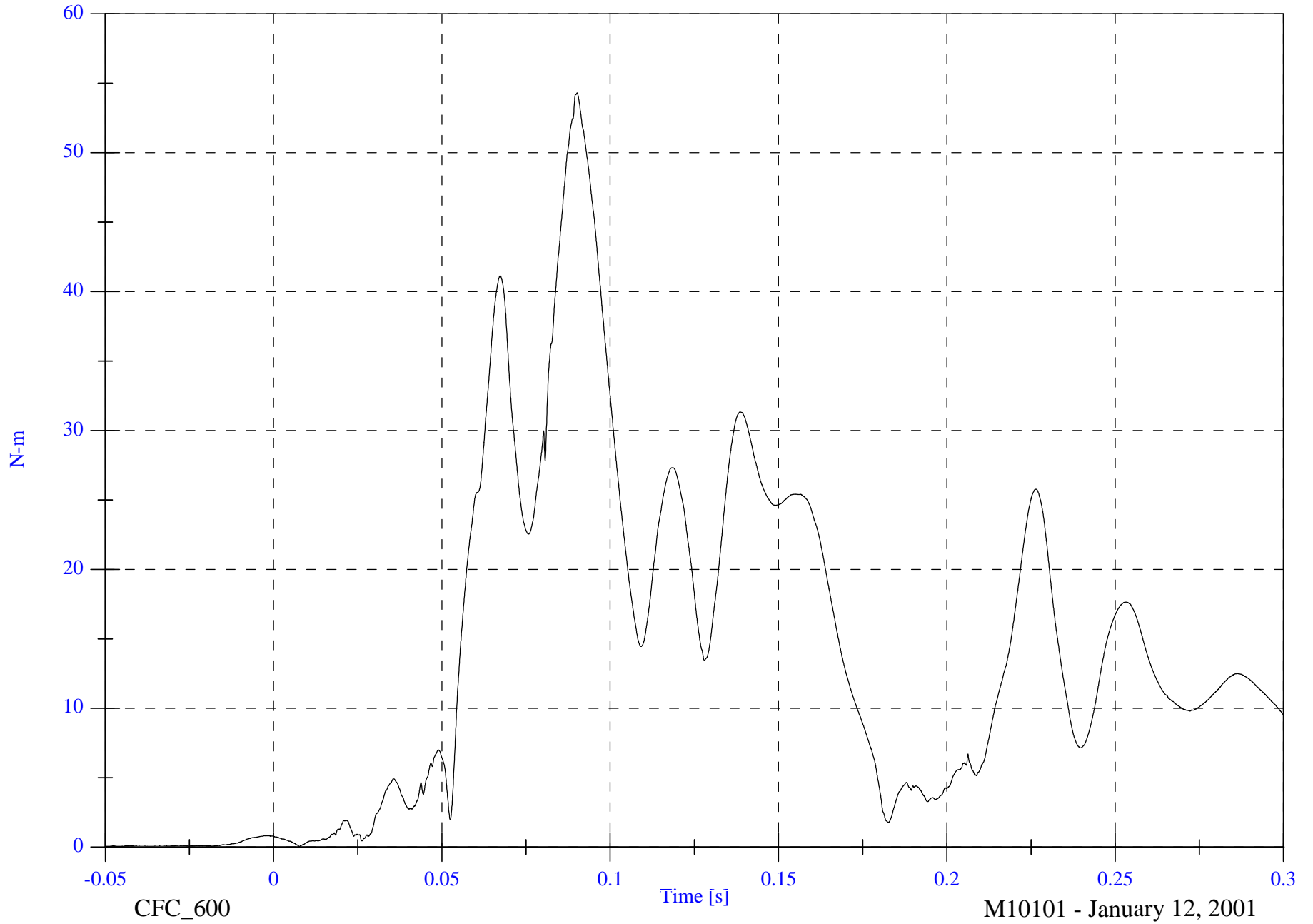
P1 Upper Neck M Resultant

Max: 54.3 [N-m] at 0.090 [s]

Min: 0.0 [N-m] at 0.008 [s]

B-19

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

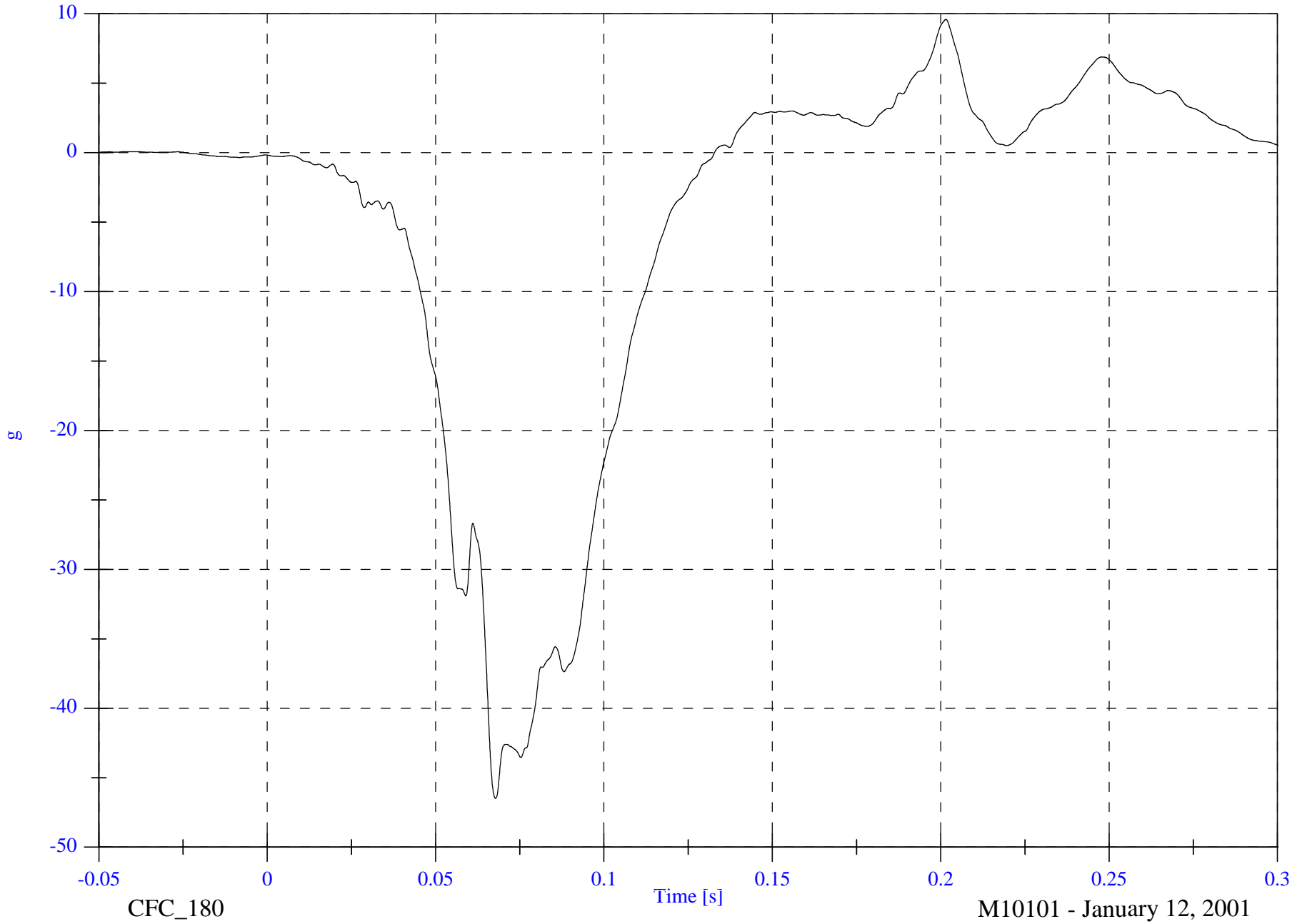
P1 Chest x

Max: 9.6 [g] at 0.202 [s]

Min: -46.5 [g] at 0.068 [s]

B-20

8602-15

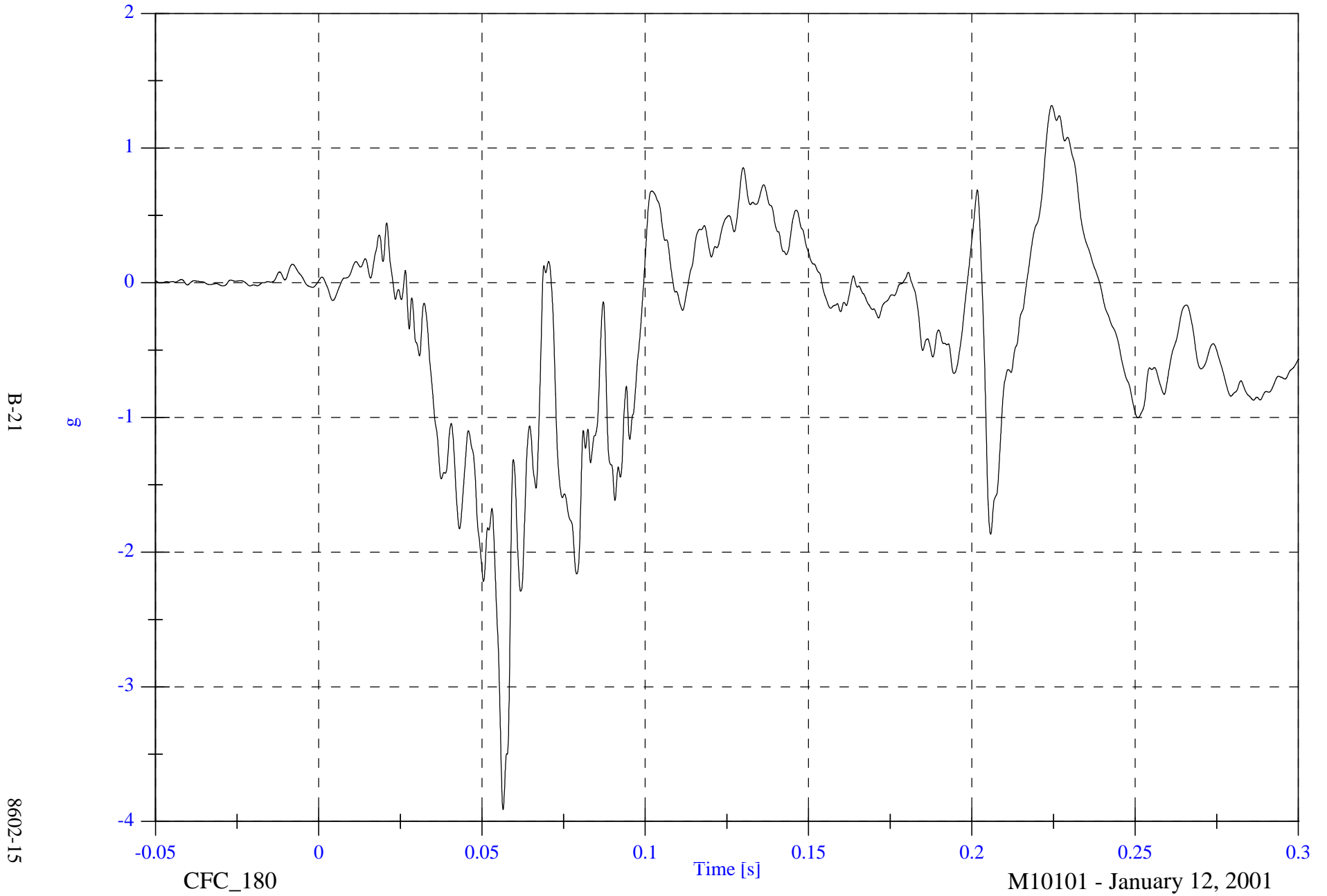


NCAP Test 15 - 2001 Buick Park Avenue

Max: 1.3 [g] at 0.224 [s]

Min: -3.9 [g] at 0.056 [s]

P1 Chest y



NCAP Test 15 - 2001 Buick Park Avenue

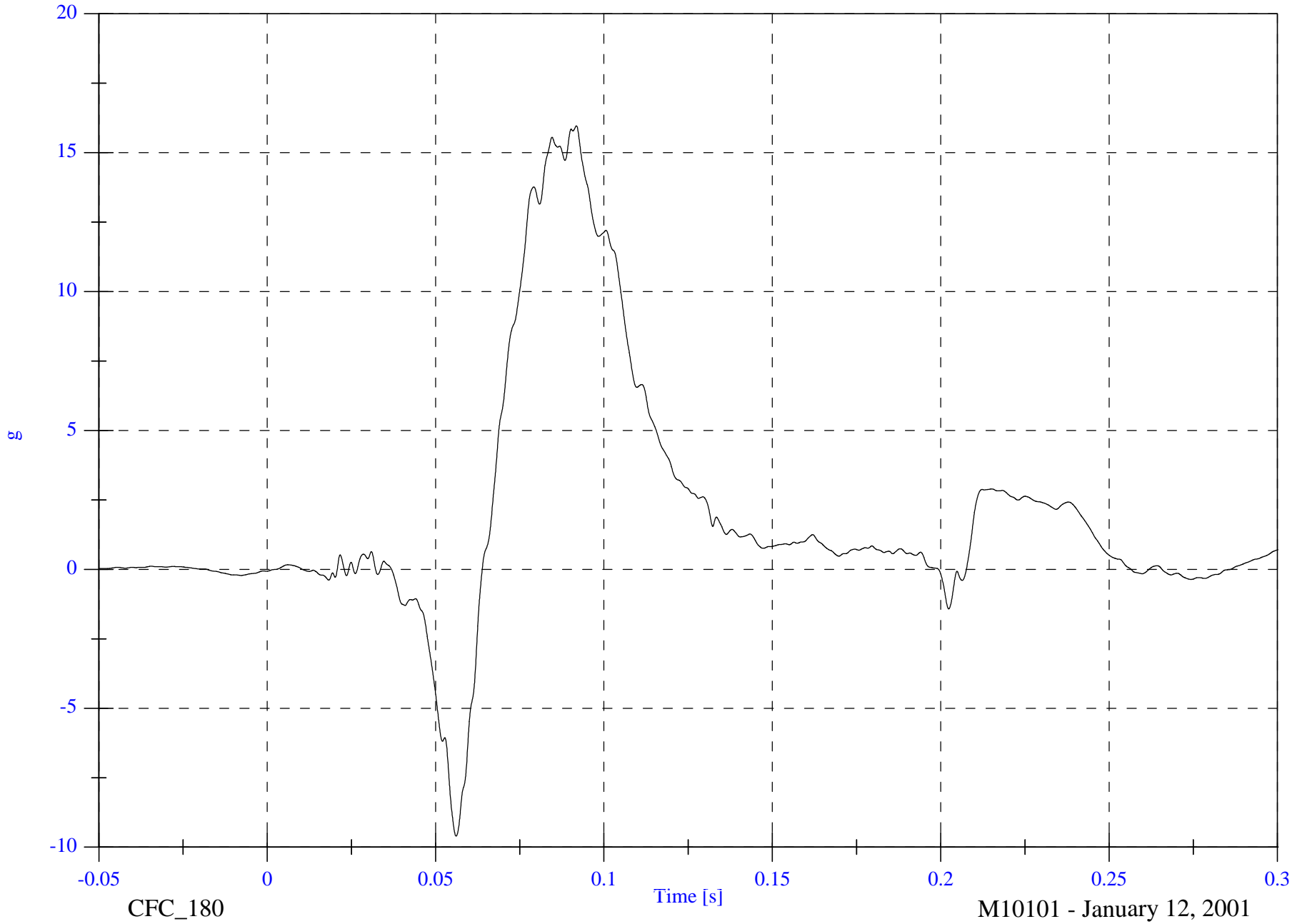
P1 Chest z

Max: 16.0 [g] at 0.092 [s]

Min: -9.6 [g] at 0.056 [s]

B-22

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

P1 Chest Resultant

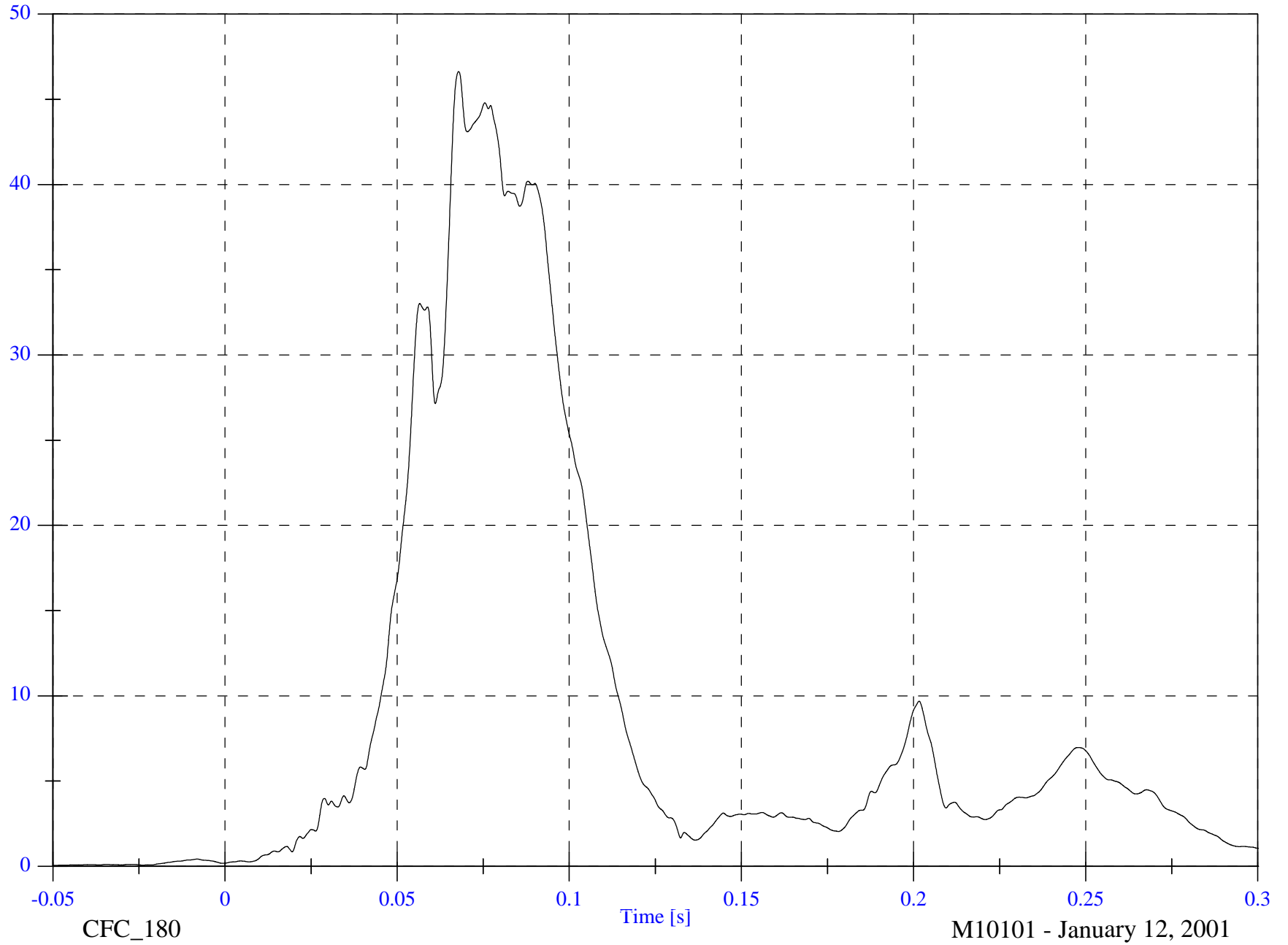
Max: 46.6 [g] at 0.068 [s]

Min: 0.1 [g] at -0.049 [s]

B-23

g

8602-15



CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

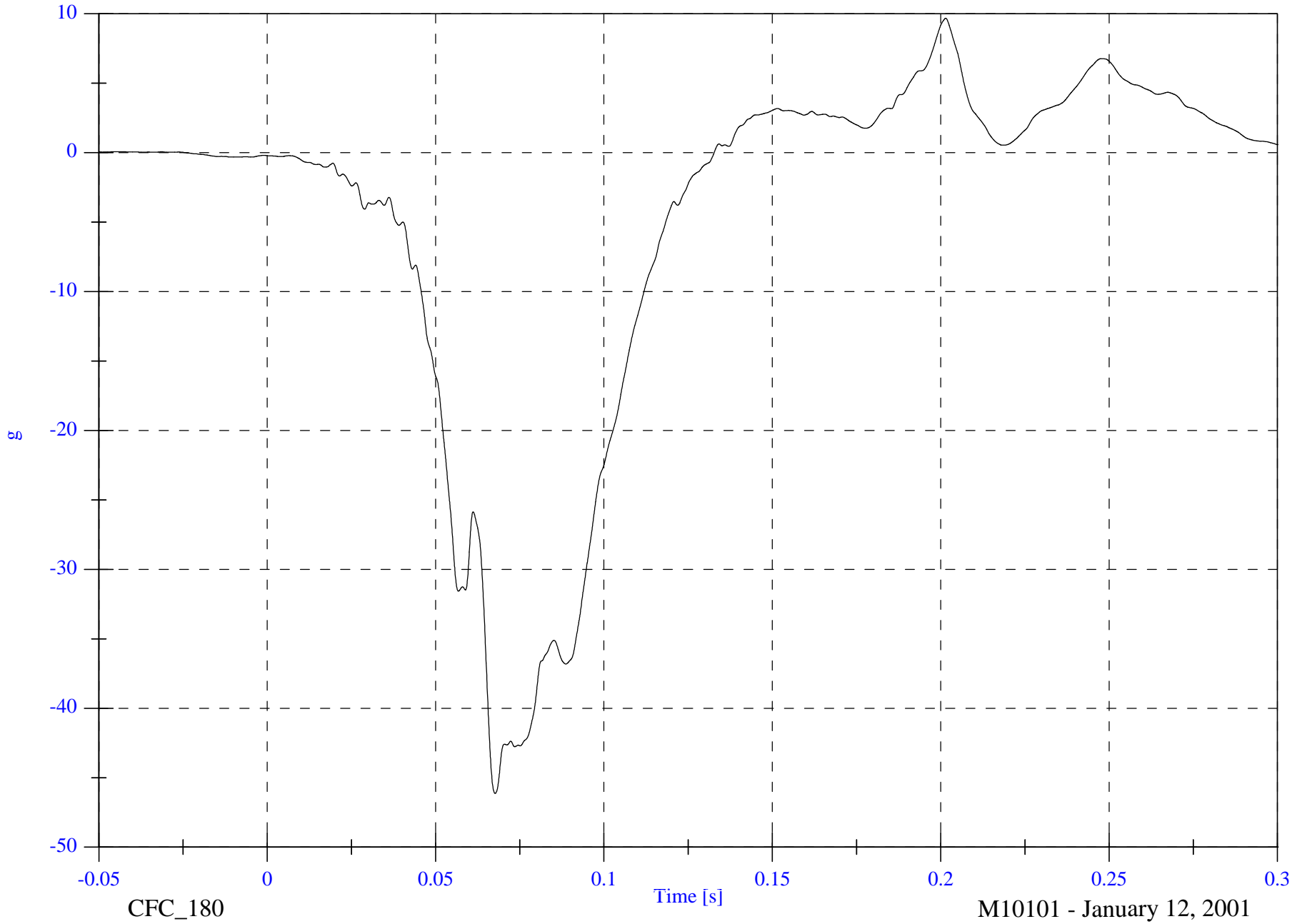
P1 Chest Red x

Max: 9.7 [g] at 0.201 [s]

Min: -46.1 [g] at 0.068 [s]

B-24

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

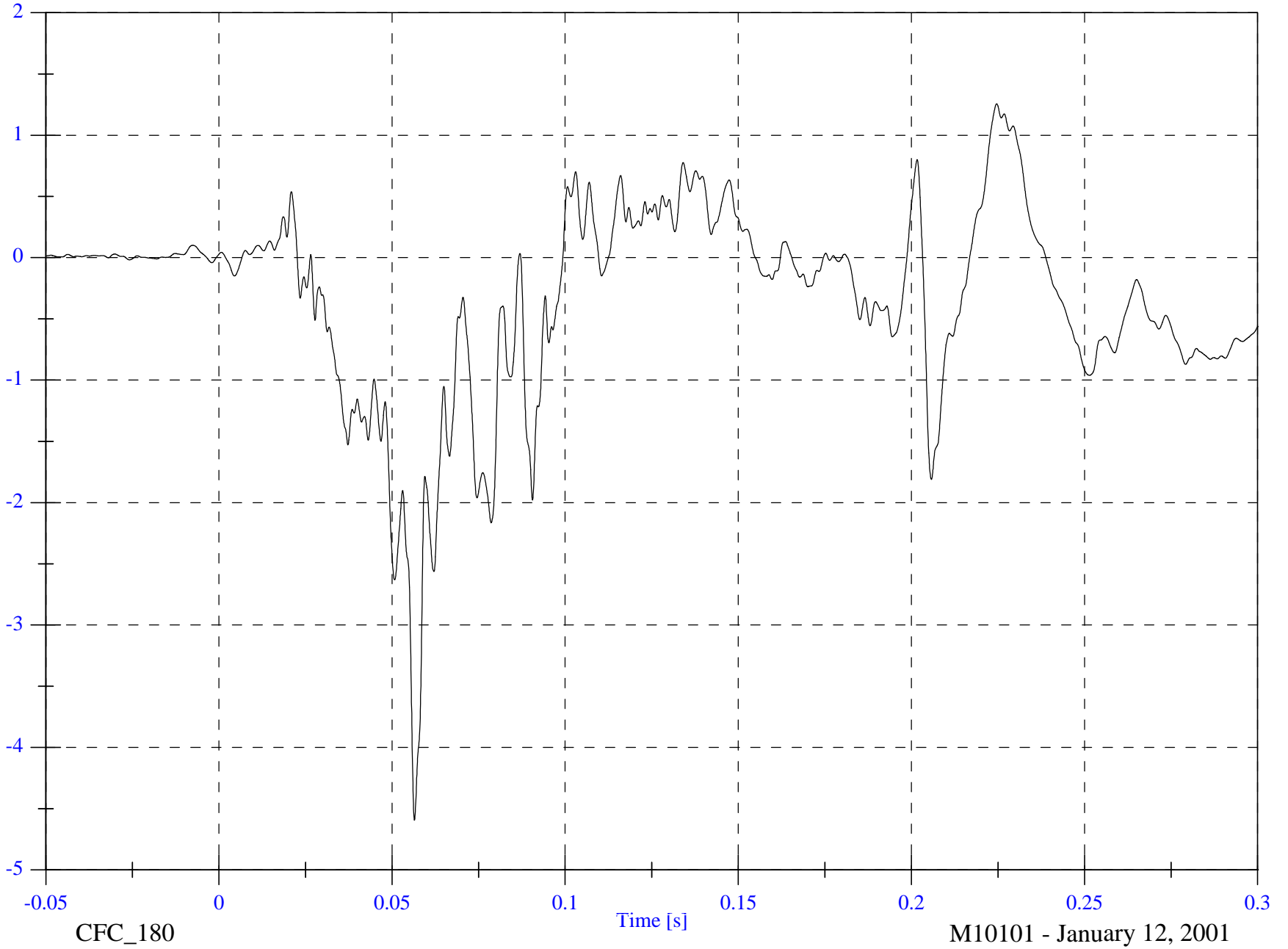
P1 Chest Red y

Max: 1.3 [g] at 0.225 [s]

Min: -4.6 [g] at 0.056 [s]

B-25

g



8602-15

CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 15.8 [g] at 0.092 [s]

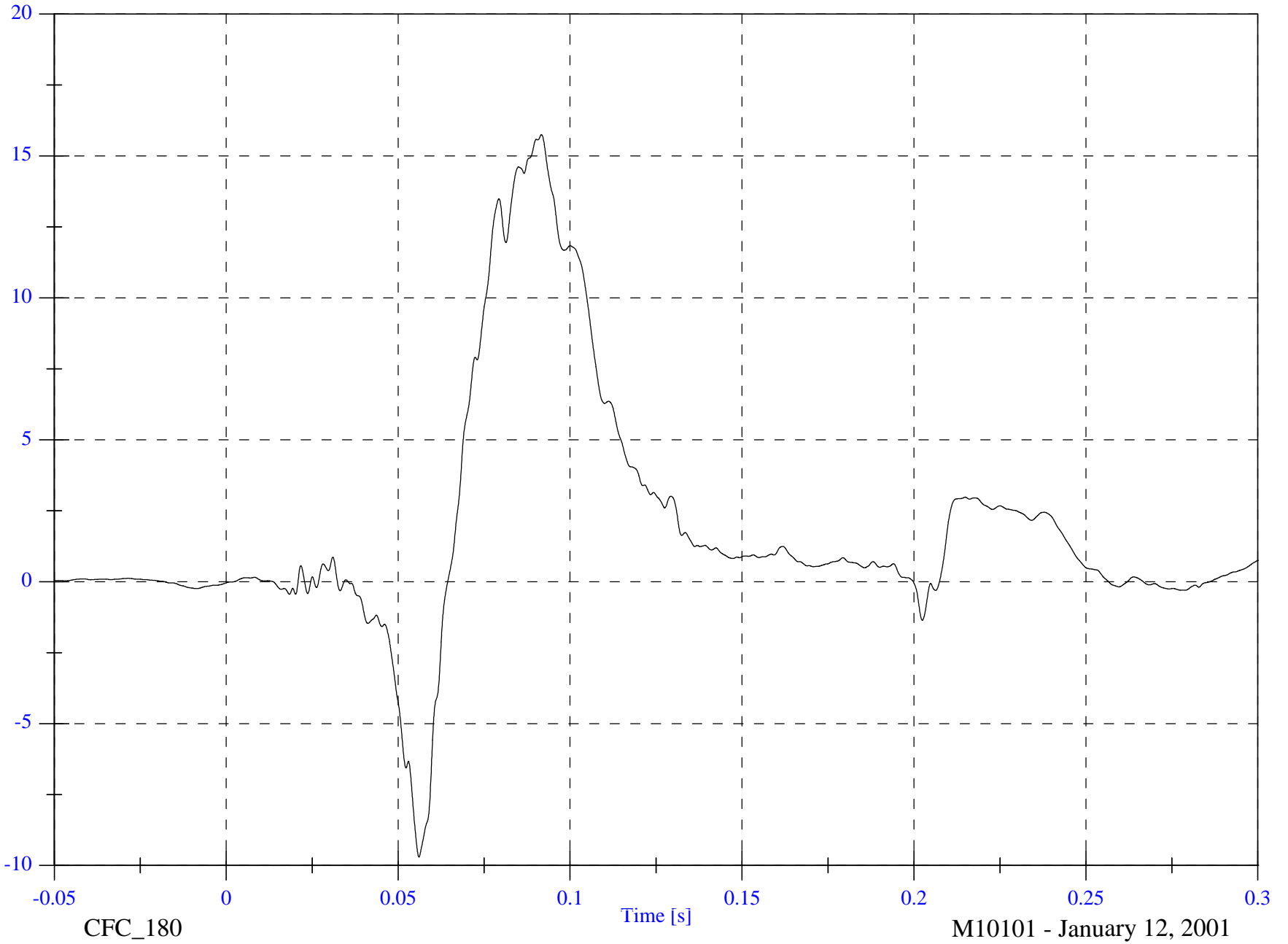
P1 Chest Red z

Min: -9.7 [g] at 0.056 [s]

B-26

g

8602-15



CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

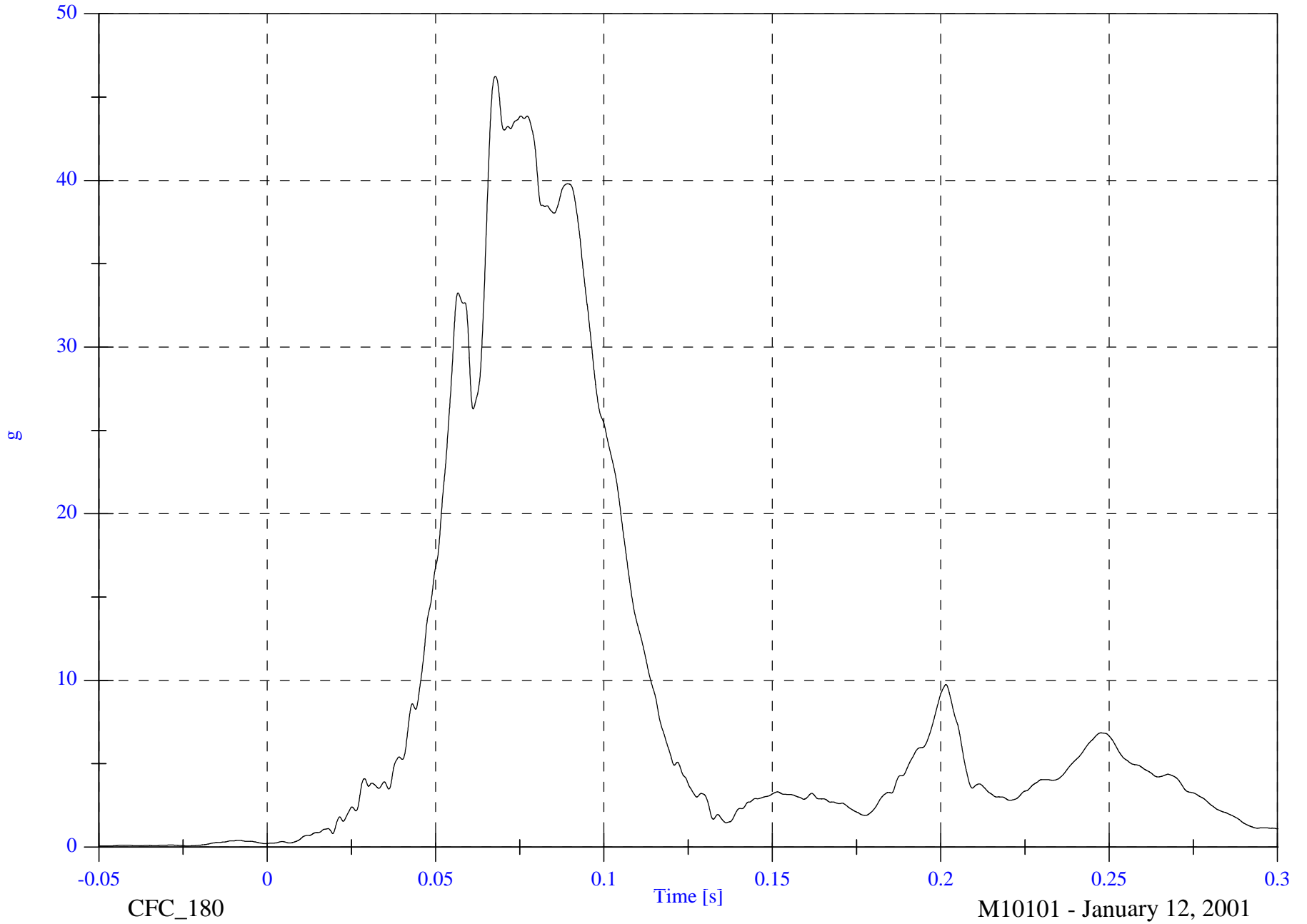
P1 Chest Red Resultant

Max: 46.2 [g] at 0.068 [s]

Min: 0.1 [g] at -0.047 [s]

B-27

8602-15

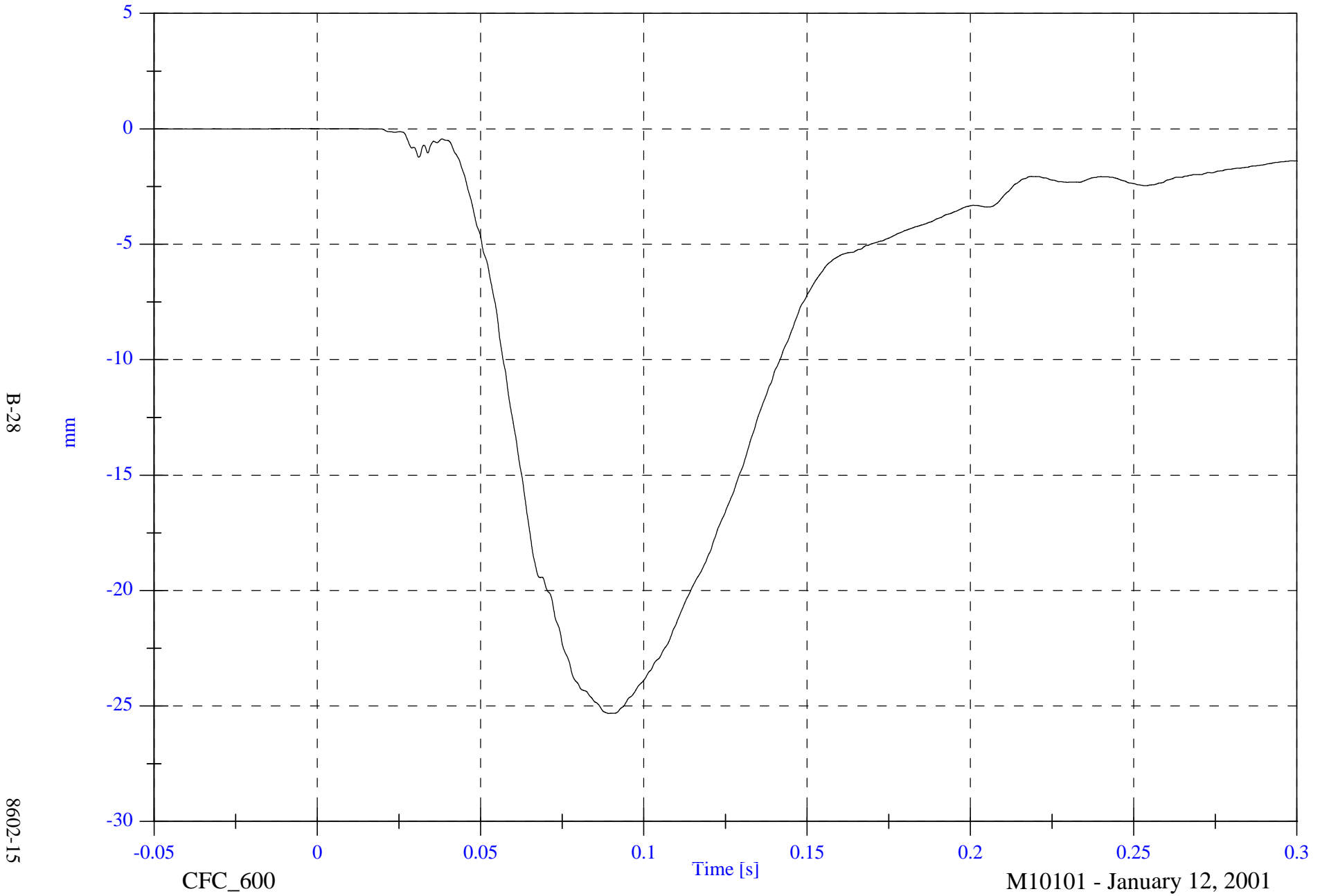


NCAP Test 15 - 2001 Buick Park Avenue

Max: 0.0 [mm] at -0.002 [s]

P1 Chest Compression x

Min: -25.3 [mm] at 0.089 [s]



B-28

8602-15

CFC_600

Time [s]

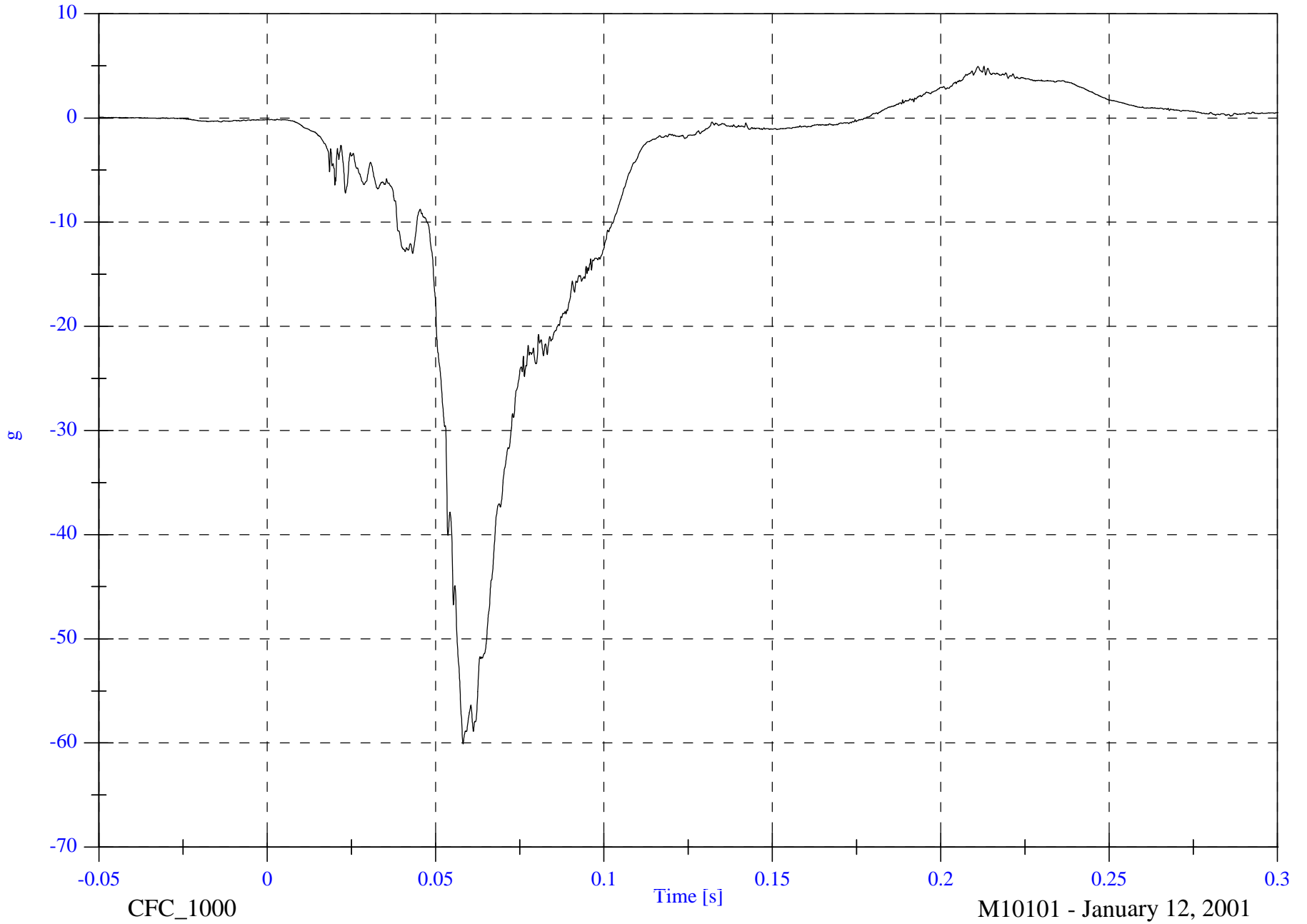
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 5.0 [g] at 0.213 [s]

P1 Pelvic x

Min: -60.1 [g] at 0.058 [s]



B-29

8602-15

CFC_1000

Time [s]

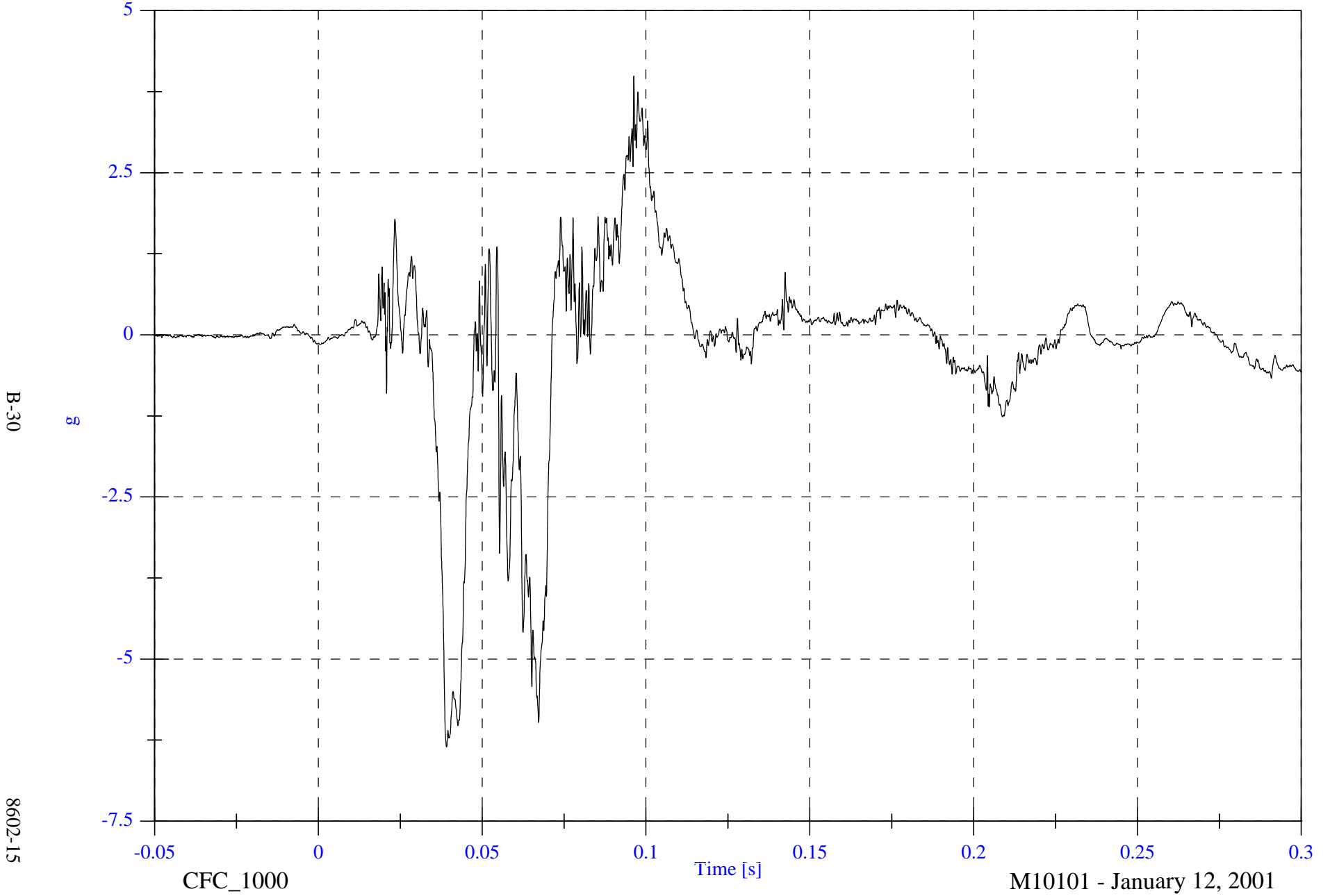
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 4.0 [g] at 0.096 [s]

Min: -6.4 [g] at 0.039 [s]

P1 Pelvic y



NCAP Test 15 - 2001 Buick Park Avenue

Max: 3.2 [g] at 0.219 [s]

Min: -25.3 [g] at 0.066 [s]

P1 Pelvic z



B-31

8602-15

CFC_1000

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

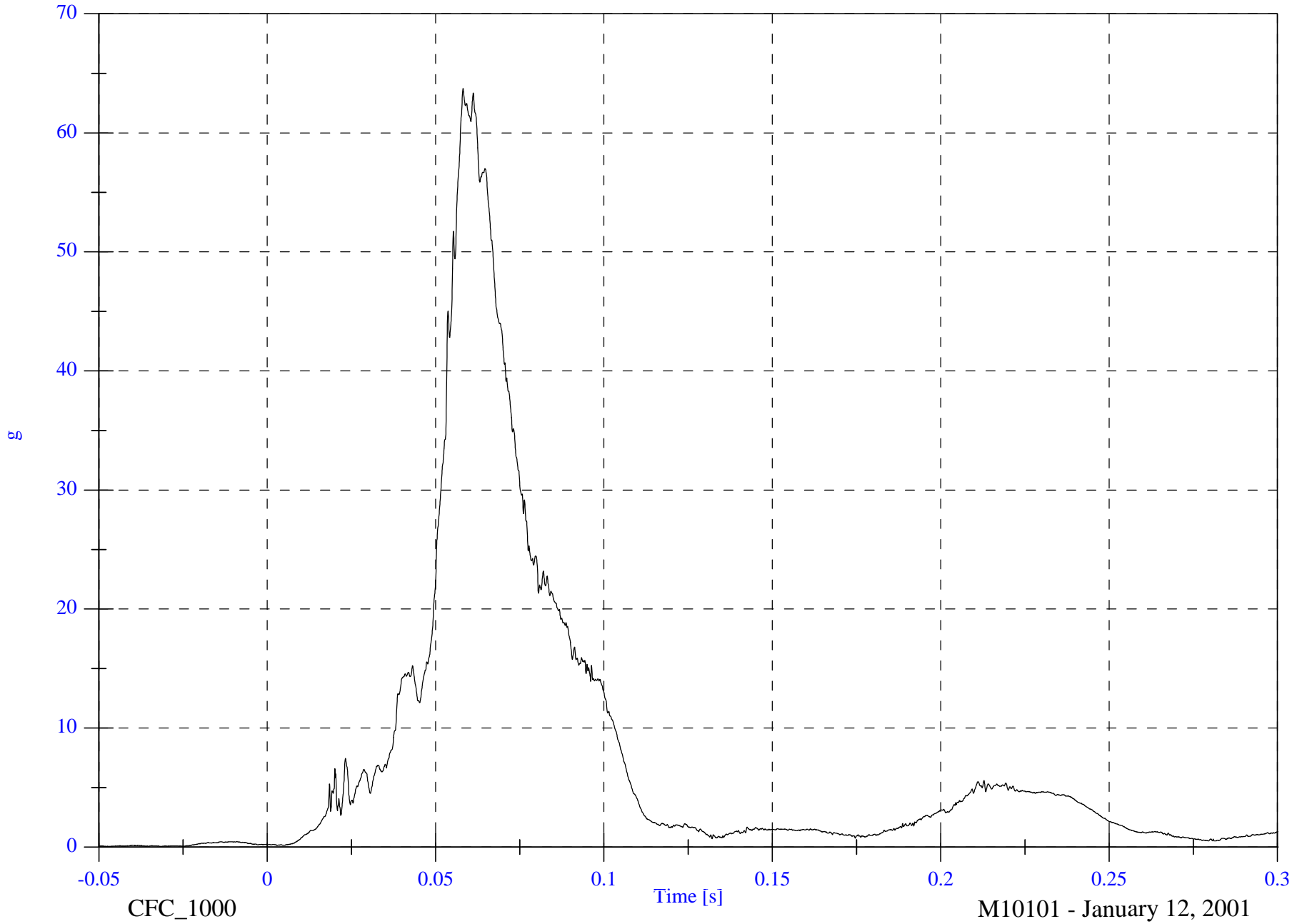
P1 Pelvic Resultant

Max: 63.7 [g] at 0.058 [s]

Min: 0.1 [g] at -0.048 [s]

B-32

8602-15

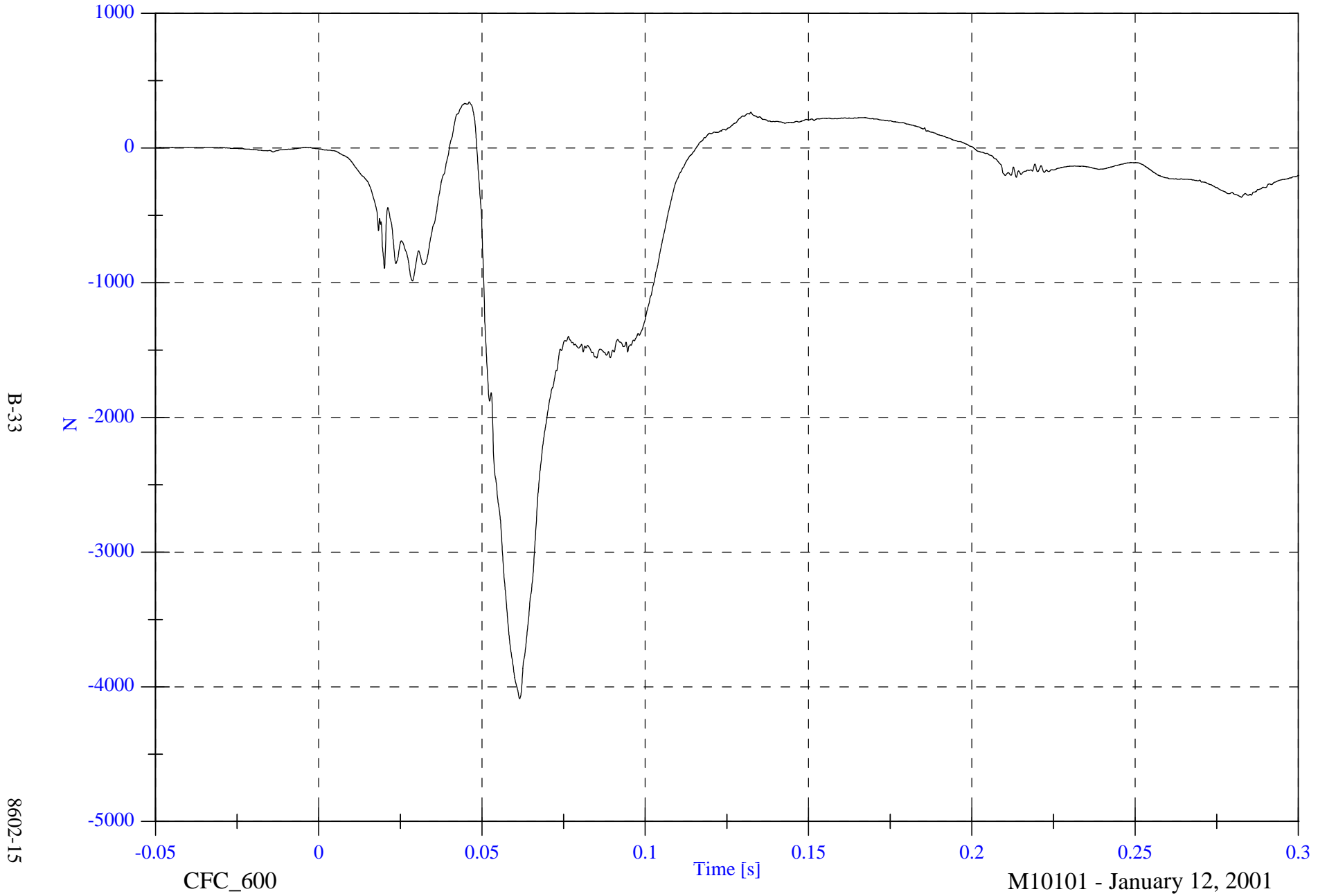


NCAP Test 15 - 2001 Buick Park Avenue

P1 Left Femur z

Max: 343.8 [N] at 0.046 [s]

Min: -4088.8 [N] at 0.062 [s]



B-33

8602-15

CFC_600

Time [s]

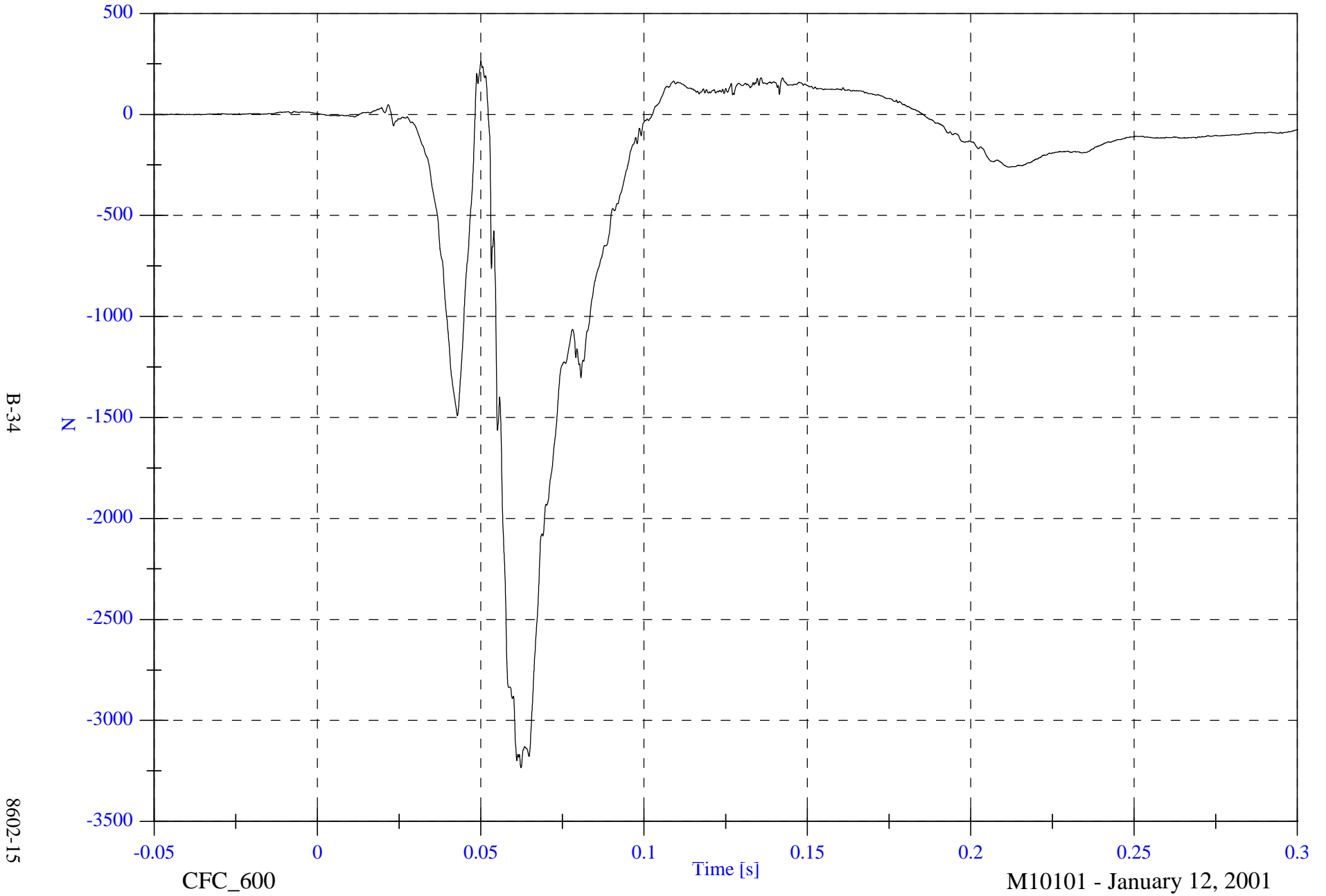
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Right Femur z

Max: 262.6 [N] at 0.050 [s]

Min: -3234.4 [N] at 0.062 [s]



B-34

8602-15

CFC_600

Time [s]

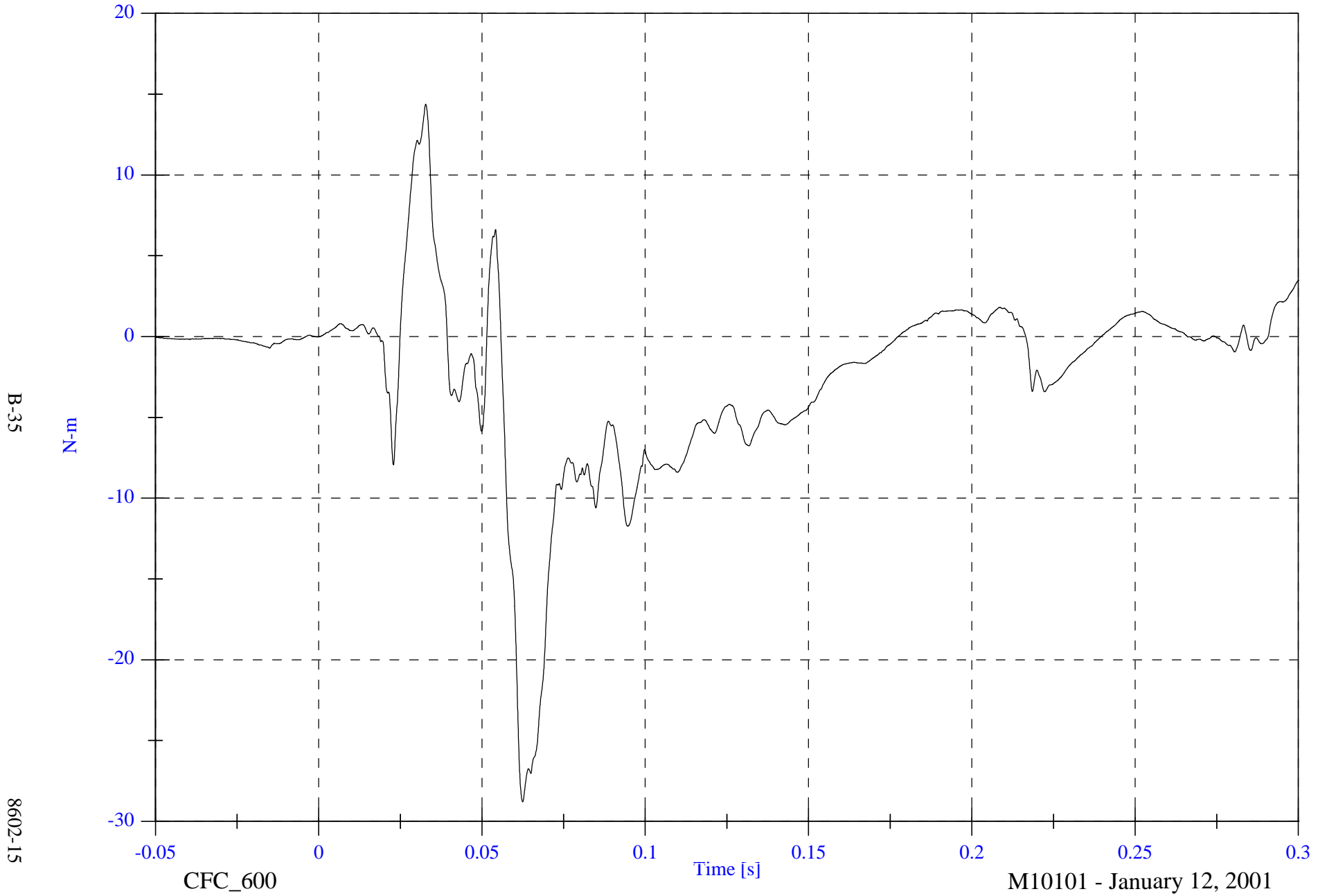
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 14.4 [N-m] at 0.033 [s]

P1 Left Upper Tibia Mx

Min: -28.8 [N-m] at 0.062 [s]



B-35

8602-15

CFC_600

Time [s]

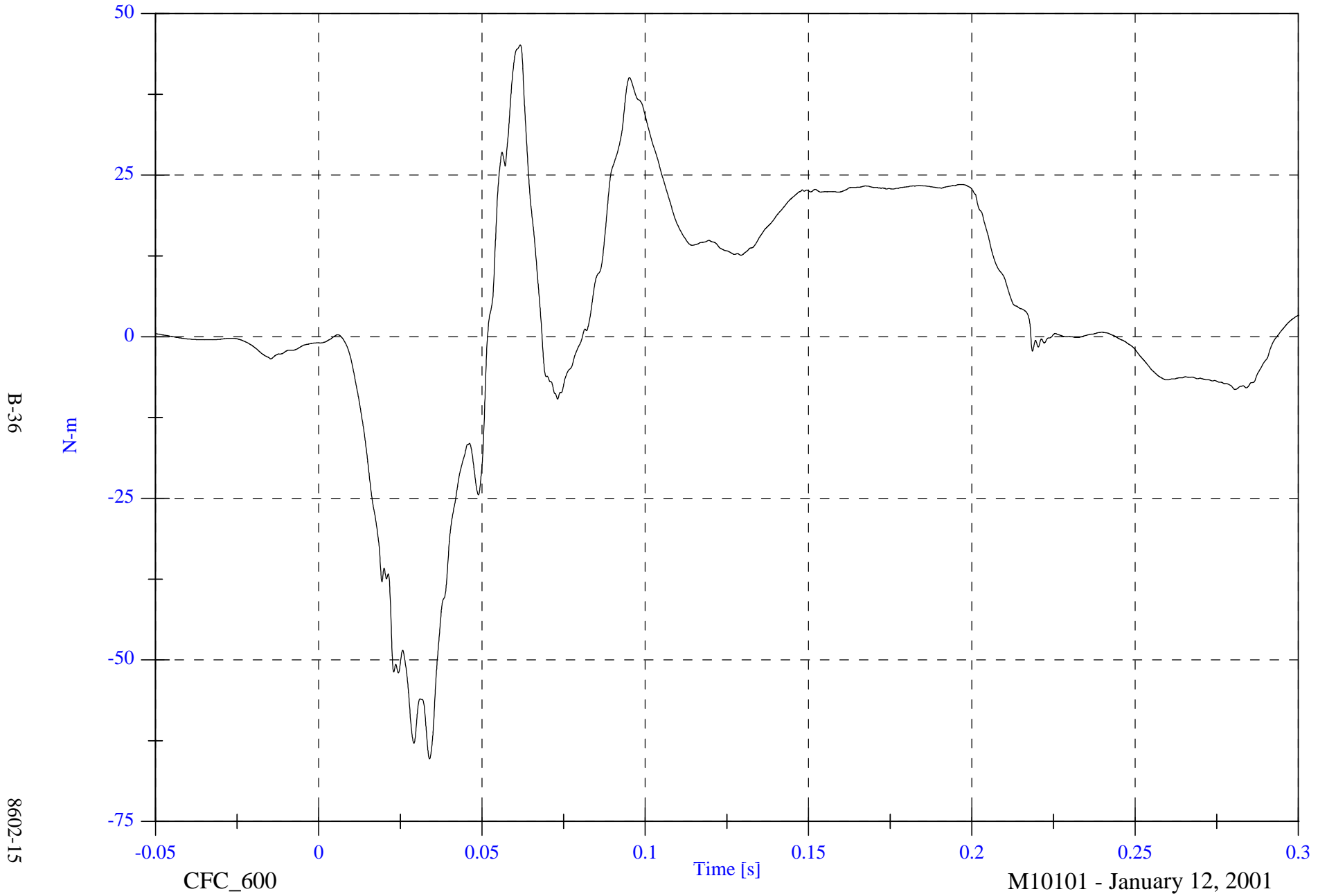
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 45.1 [N-m] at 0.062 [s]

Min: -65.3 [N-m] at 0.034 [s]

P1 Left Upper Tibia My



B-36

8602-15

CFC_600

Time [s]

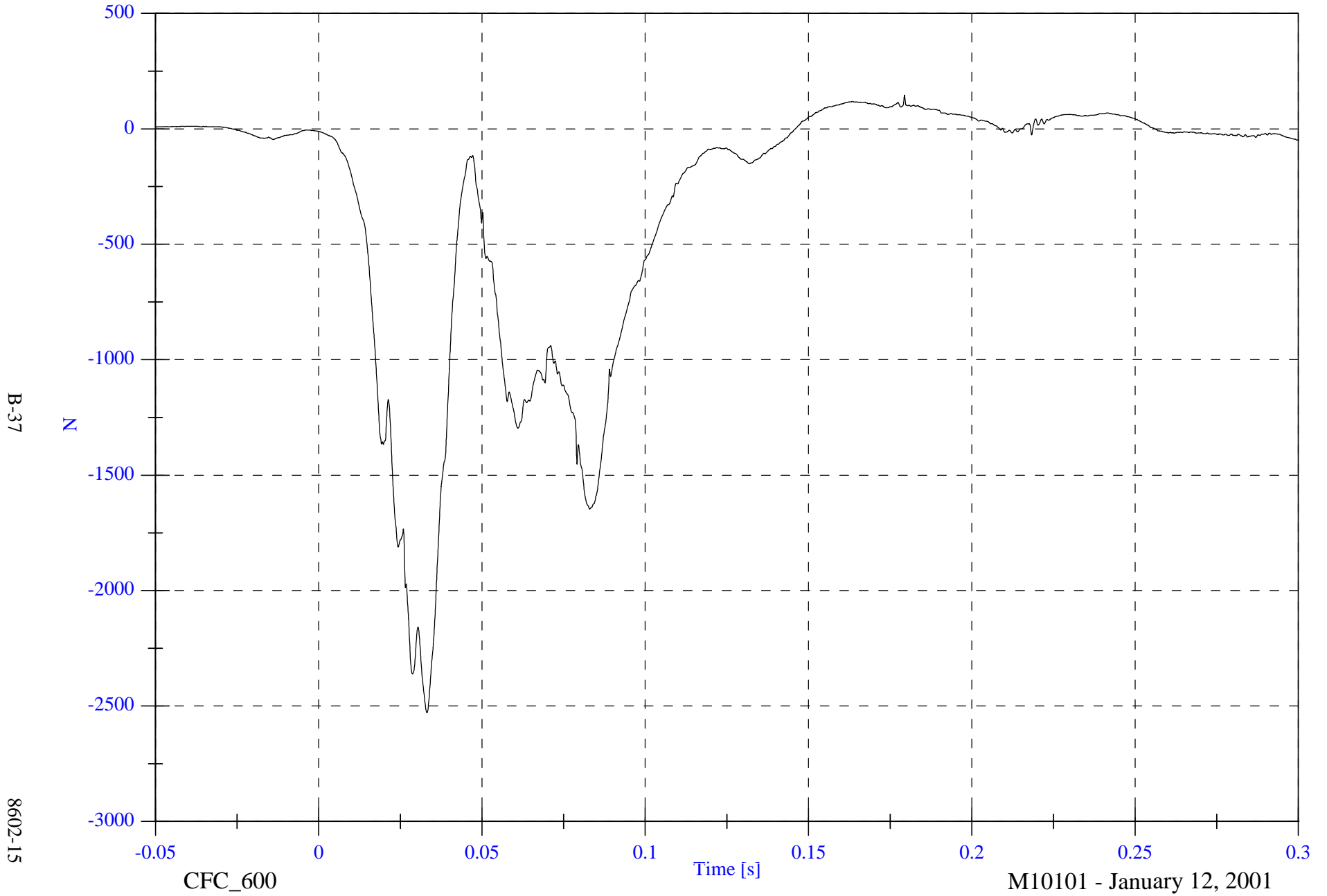
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Left Lower Tibia Fz

Max: 145.8 [N] at 0.179 [s]

Min: -2529.8 [N] at 0.033 [s]



B-37

N

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

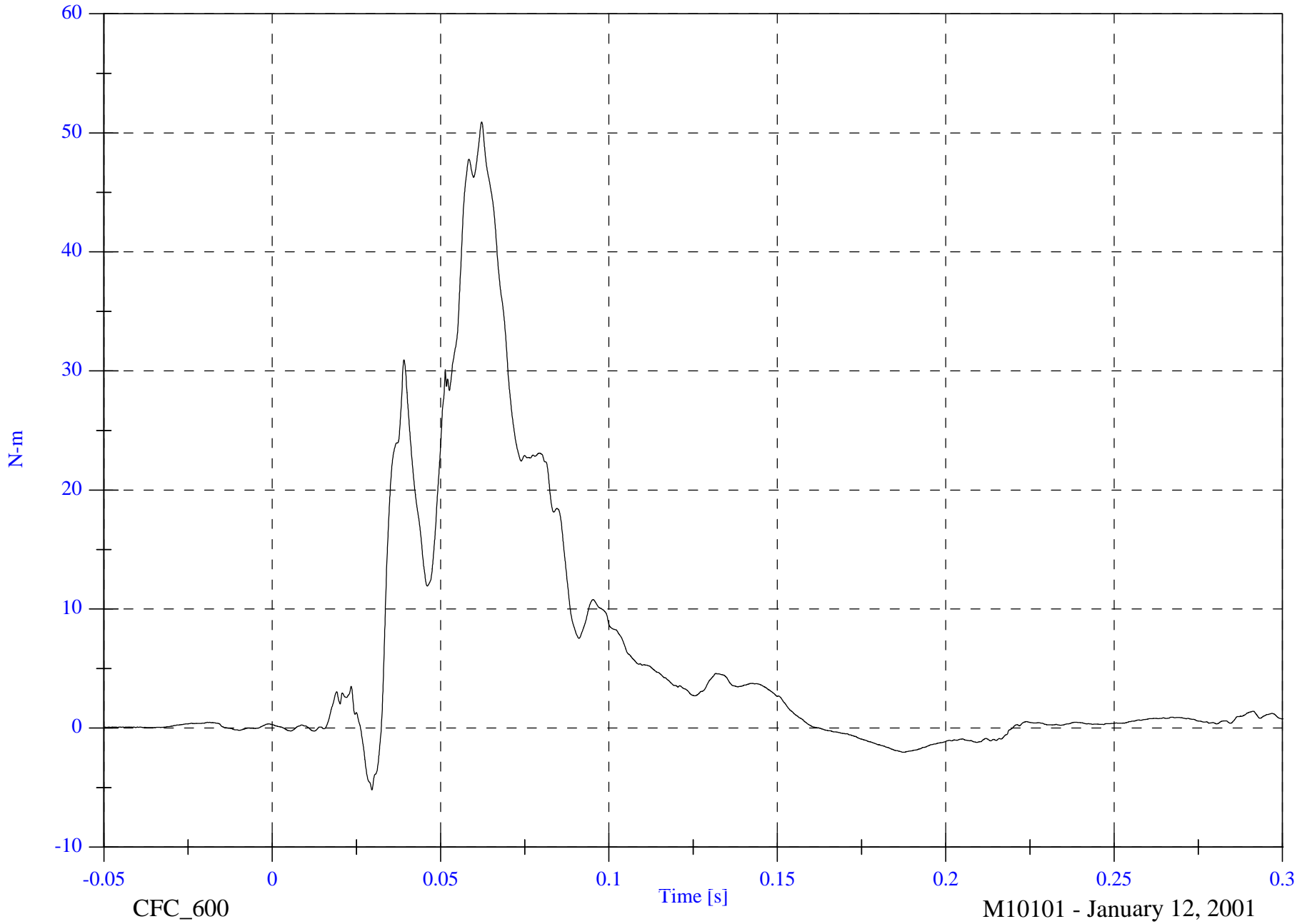
Max: 50.9 [N-m] at 0.062 [s]

P1 Left Lower Tibia Mx

Min: -5.2 [N-m] at 0.030 [s]

B-38

8602-15



CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

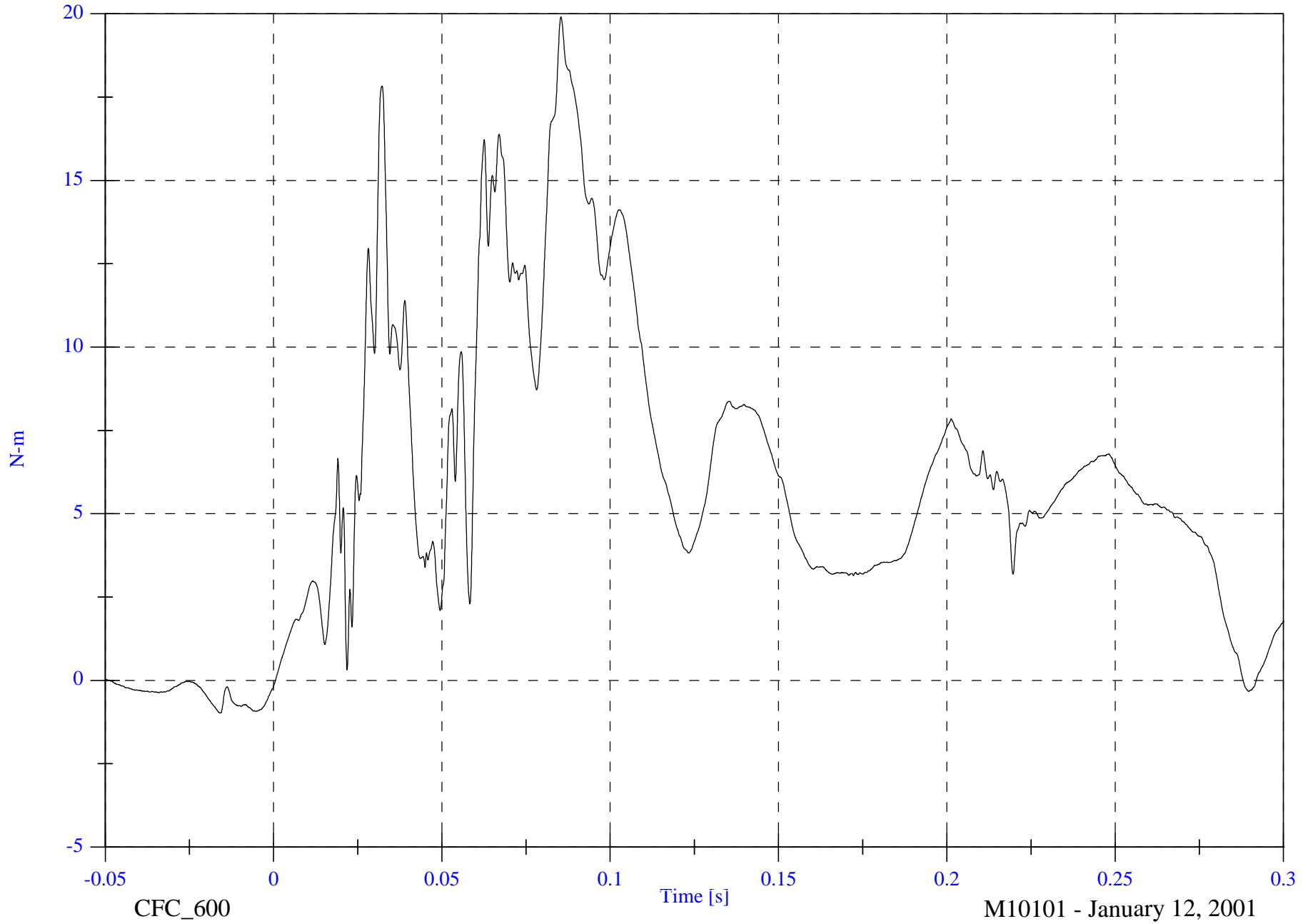
Max: 19.9 [N-m] at 0.085 [s]

Min: -1.0 [N-m] at -0.016 [s]

P1 Left Lower Tibia My

B-39

8602-15



CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

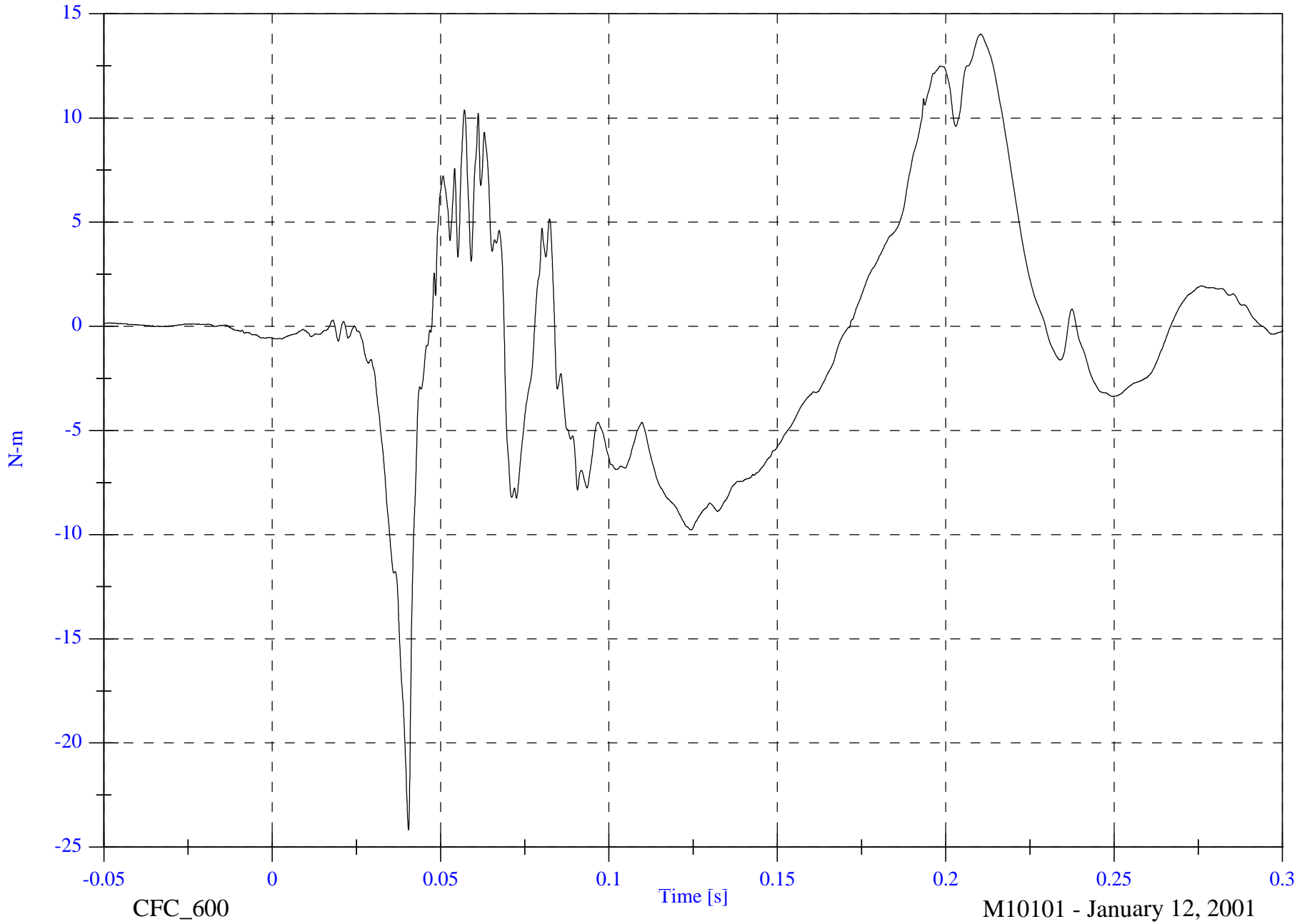
P1 Right Upper Tibia Mx

Max: 14.0 [N-m] at 0.210 [s]

Min: -24.2 [N-m] at 0.040 [s]

B-40

8602-15

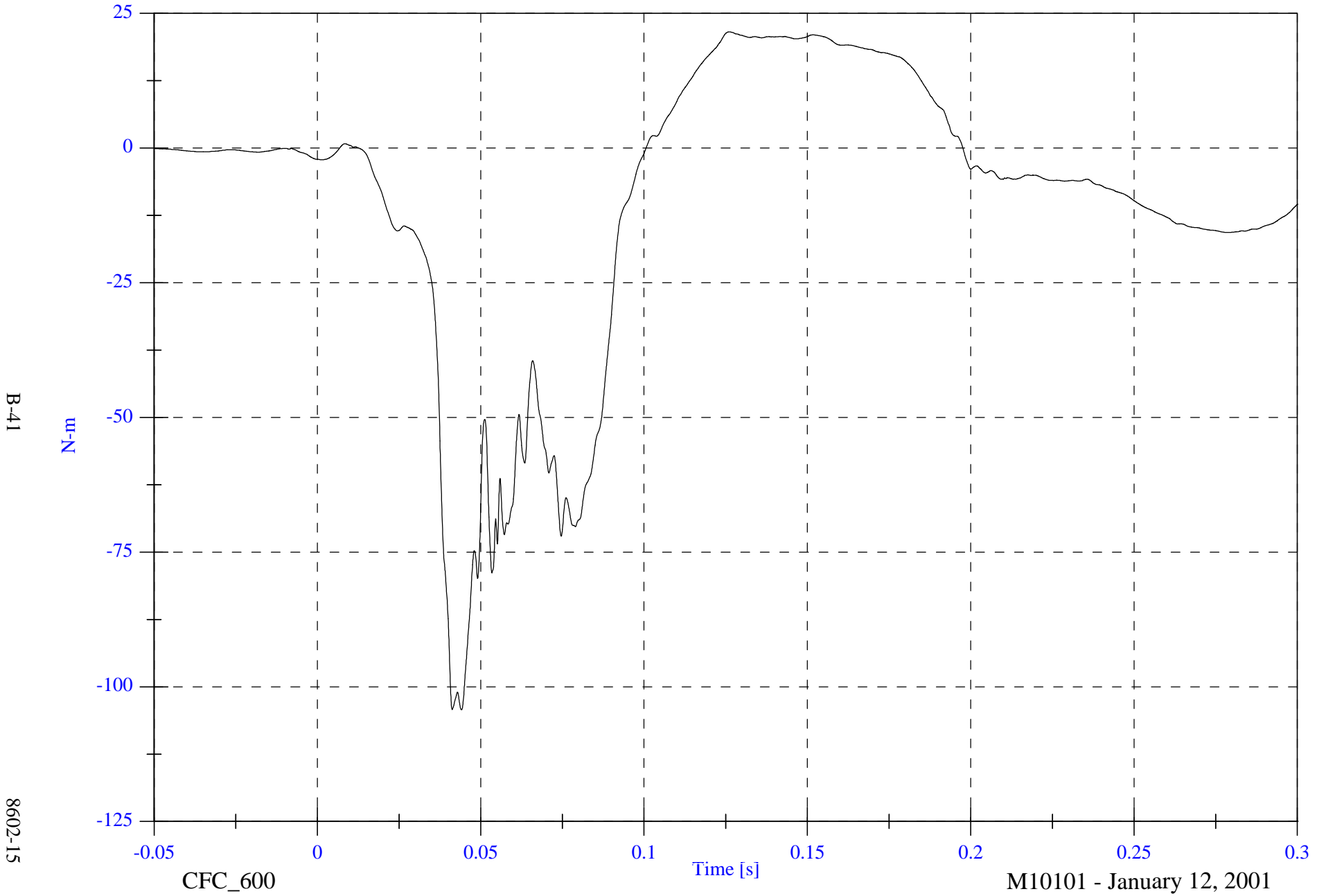


NCAP Test 15 - 2001 Buick Park Avenue

Max: 21.6 [N-m] at 0.126 [s]

P1 Right Upper Tibia My

Min: -104.3 [N-m] at 0.044 [s]



B-41

8602-15

CFC_600

Time [s]

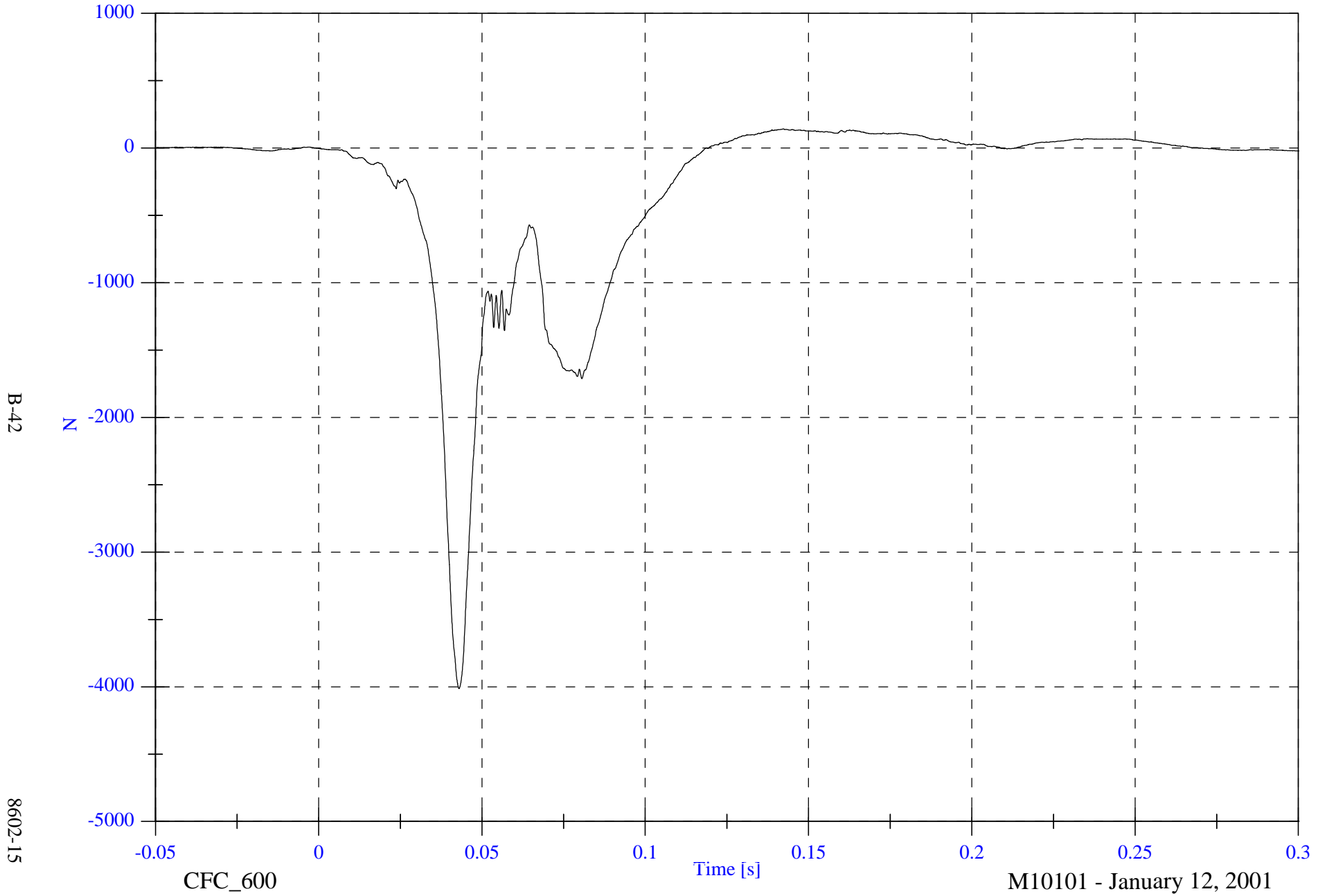
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 141.9 [N] at 0.142 [s]

P1 Right Lower Tibia Fz

Min: -4013.8 [N] at 0.043 [s]



B-42

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

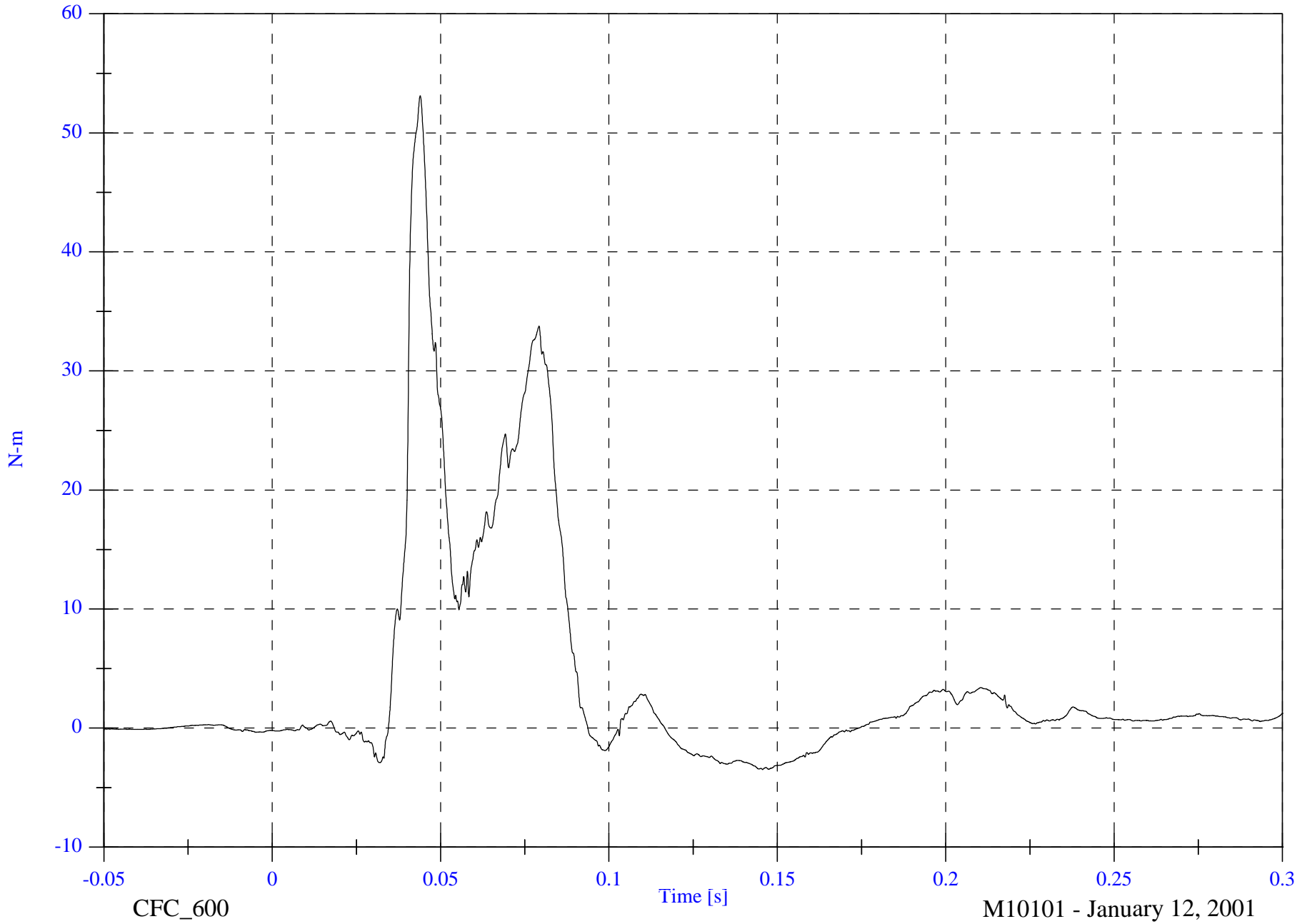
Max: 53.1 [N-m] at 0.044 [s]

P1 Right Lower Tibia Mx

Min: -3.5 [N-m] at 0.146 [s]

B-43

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

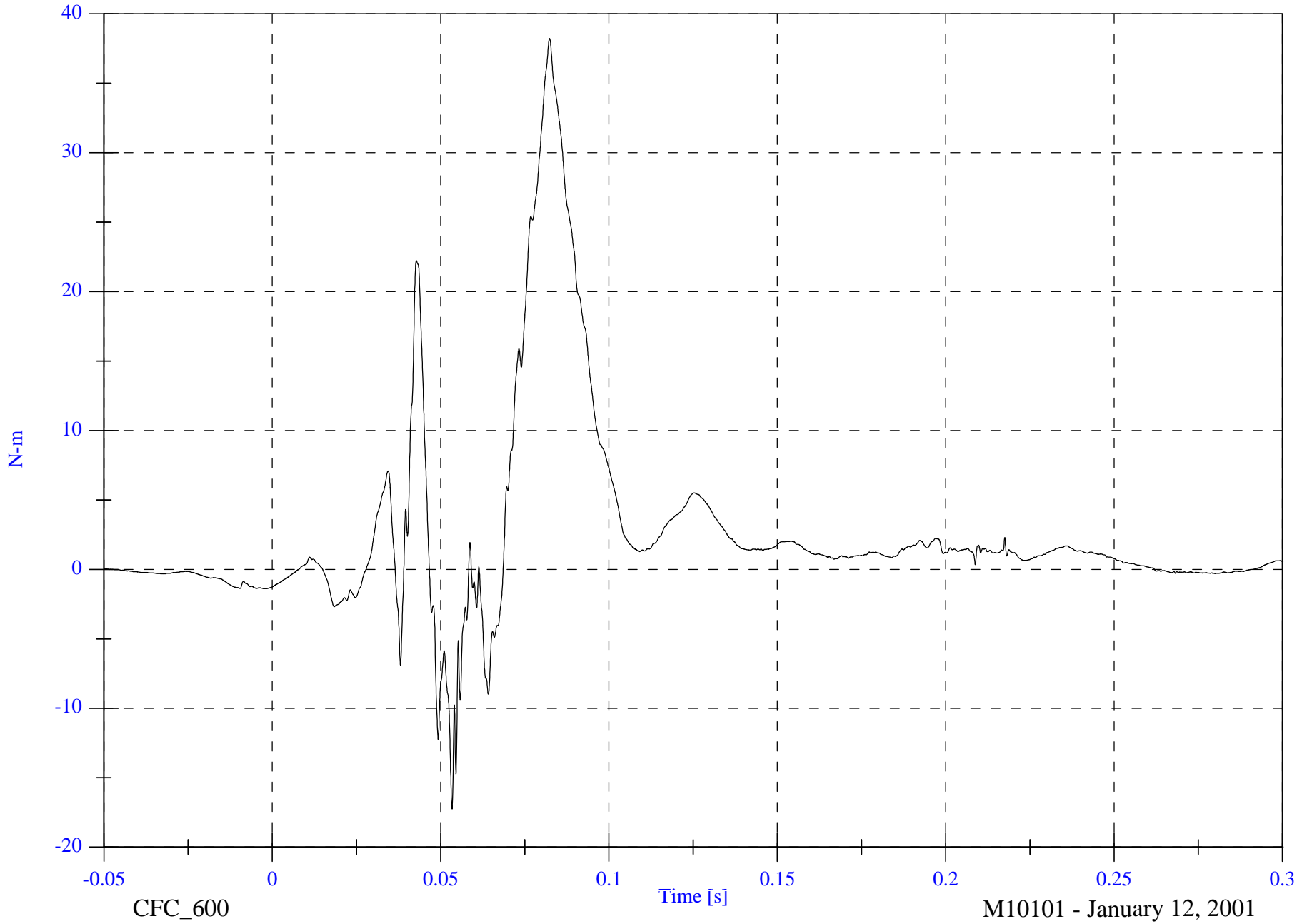
Max: 38.2 [N-m] at 0.082 [s]

P1 Right Lower Tibia My

Min: -17.3 [N-m] at 0.053 [s]

B-44

8602-15

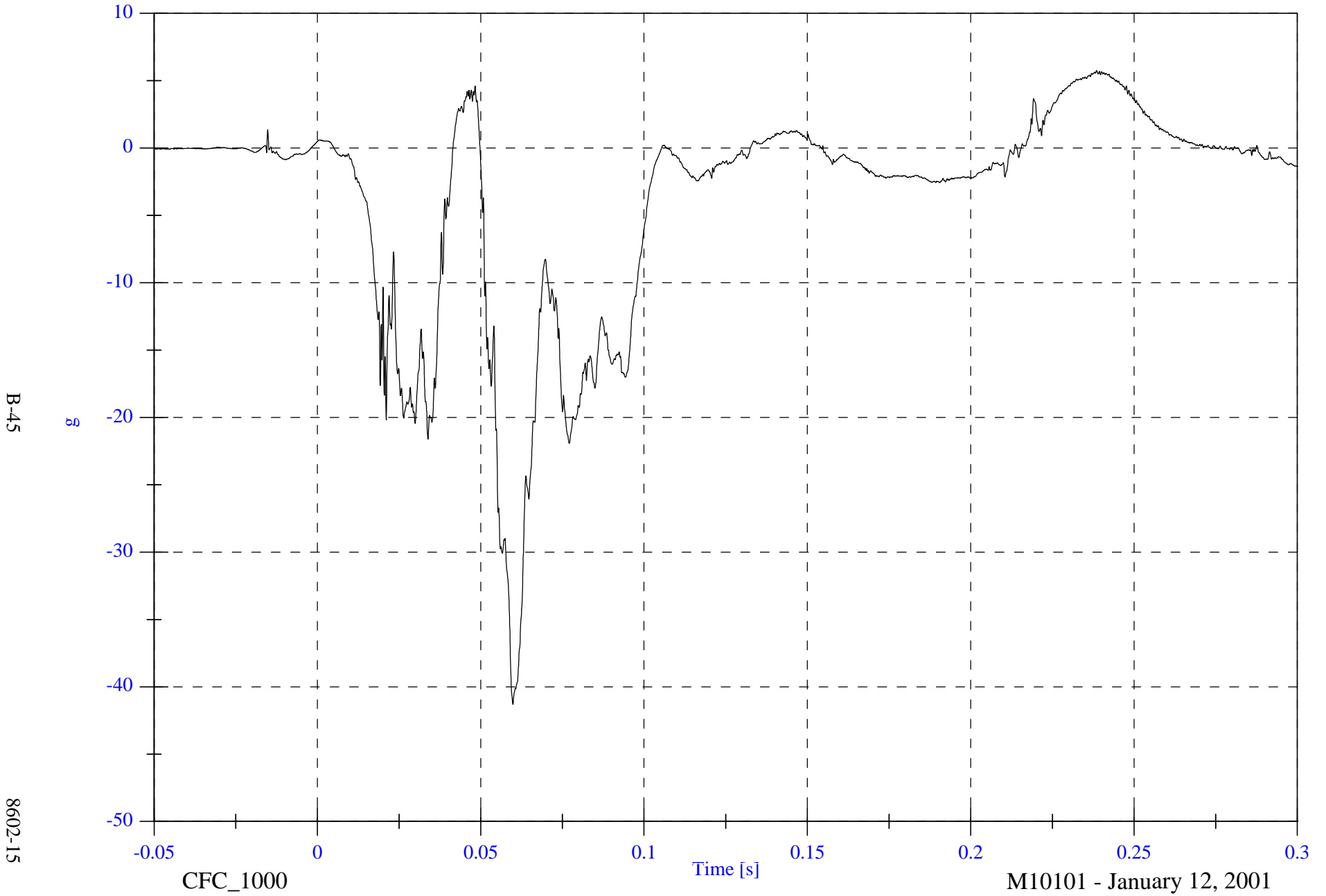


NCAP Test 15 - 2001 Buick Park Avenue

Max: 5.8 [g] at 0.239 [s]

P1 Left Foot Aft x

Min: -41.3 [g] at 0.060 [s]



B-45

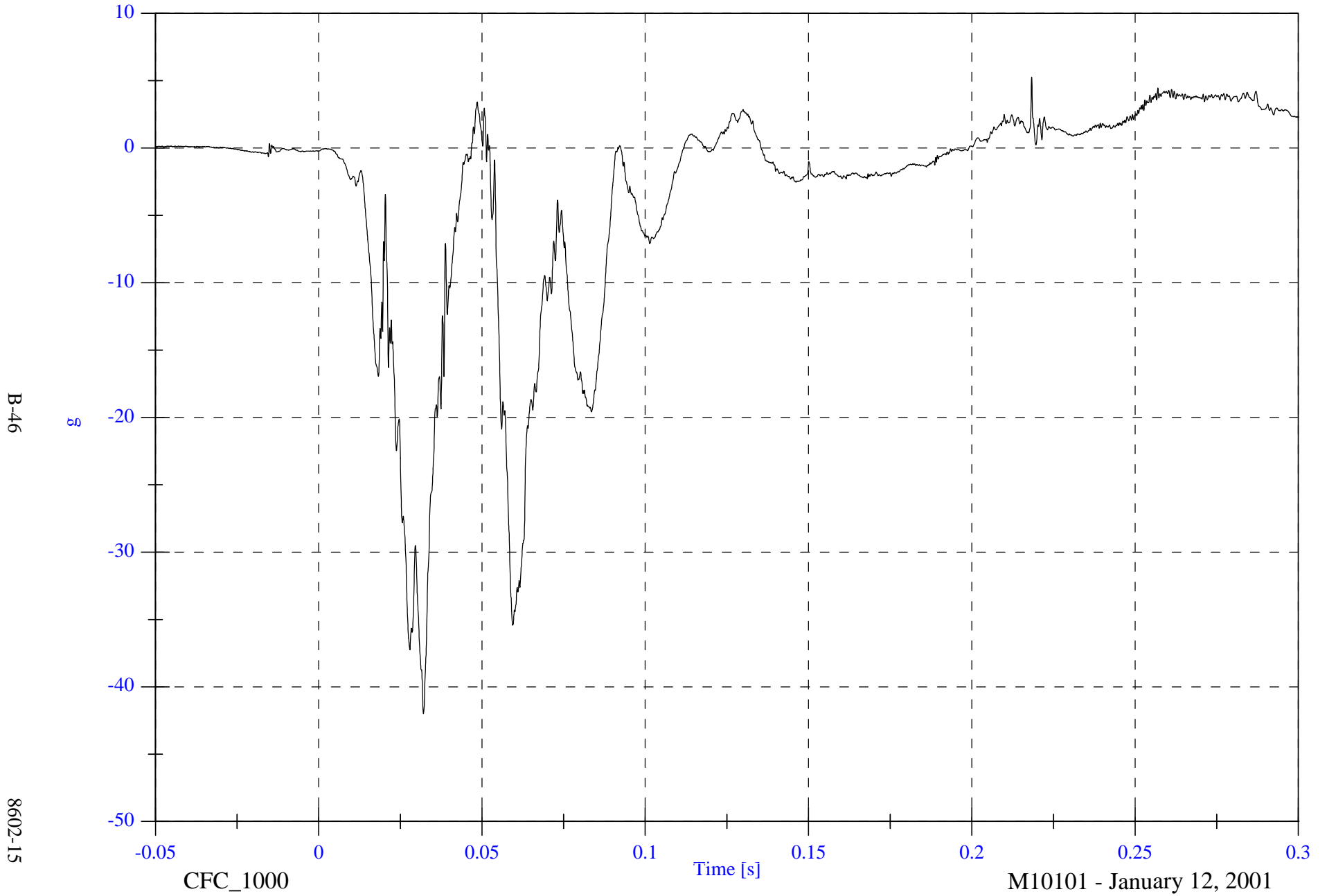
8602-15

NCAP Test 15 - 2001 Buick Park Avenue

P1 Left Foot Aft z

Max: 5.3 [g] at 0.218 [s]

Min: -42.0 [g] at 0.032 [s]



B-46

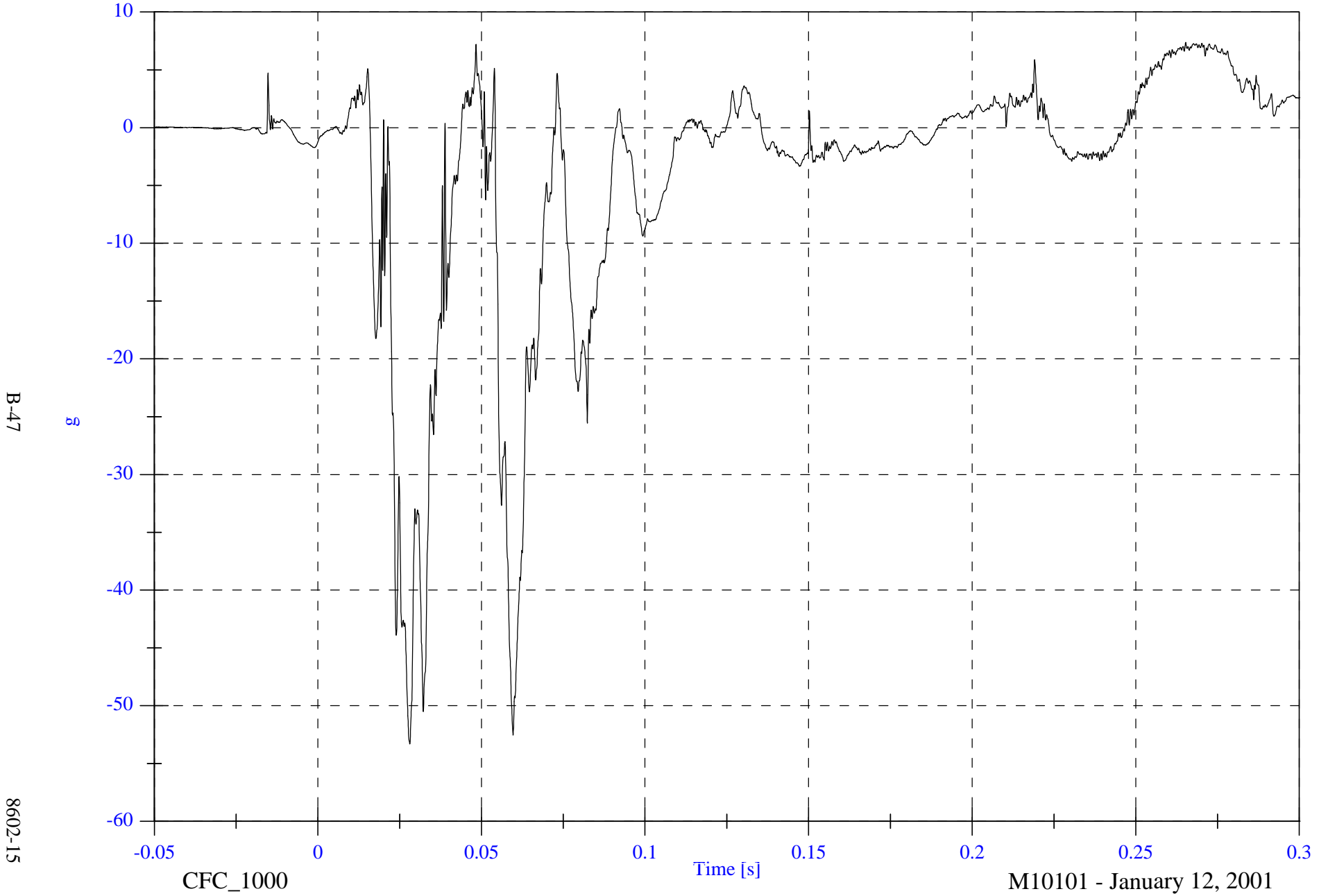
8602-15

NCAP Test 15 - 2001 Buick Park Avenue

Max: 7.4 [g] at 0.265 [s]

P1 Left Foot Fore z

Min: -53.3 [g] at 0.028 [s]



B-47

8602-15

CFC_1000

Time [s]

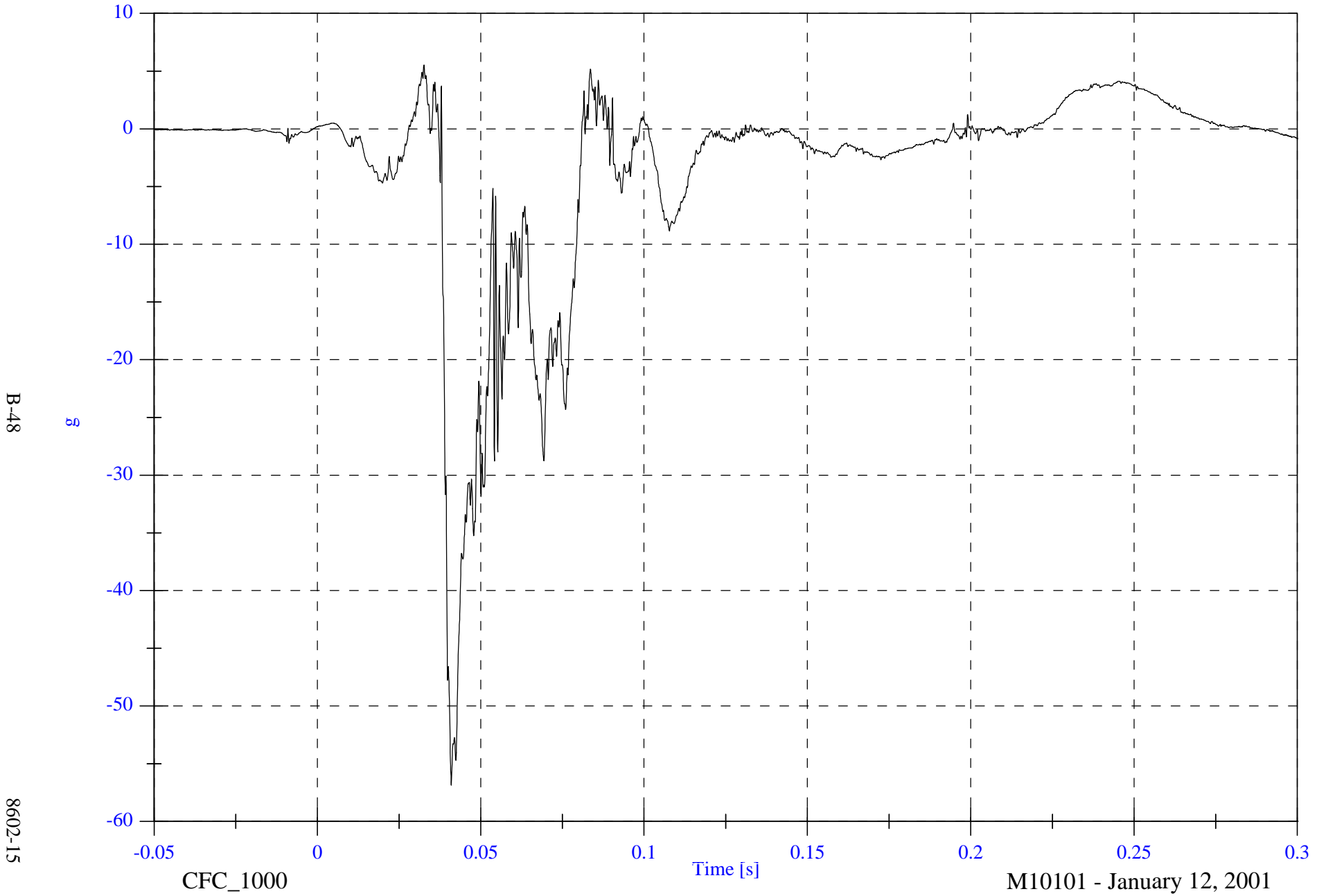
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 5.5 [g] at 0.033 [s]

Min: -56.9 [g] at 0.041 [s]

P1 Right Foot Aft x

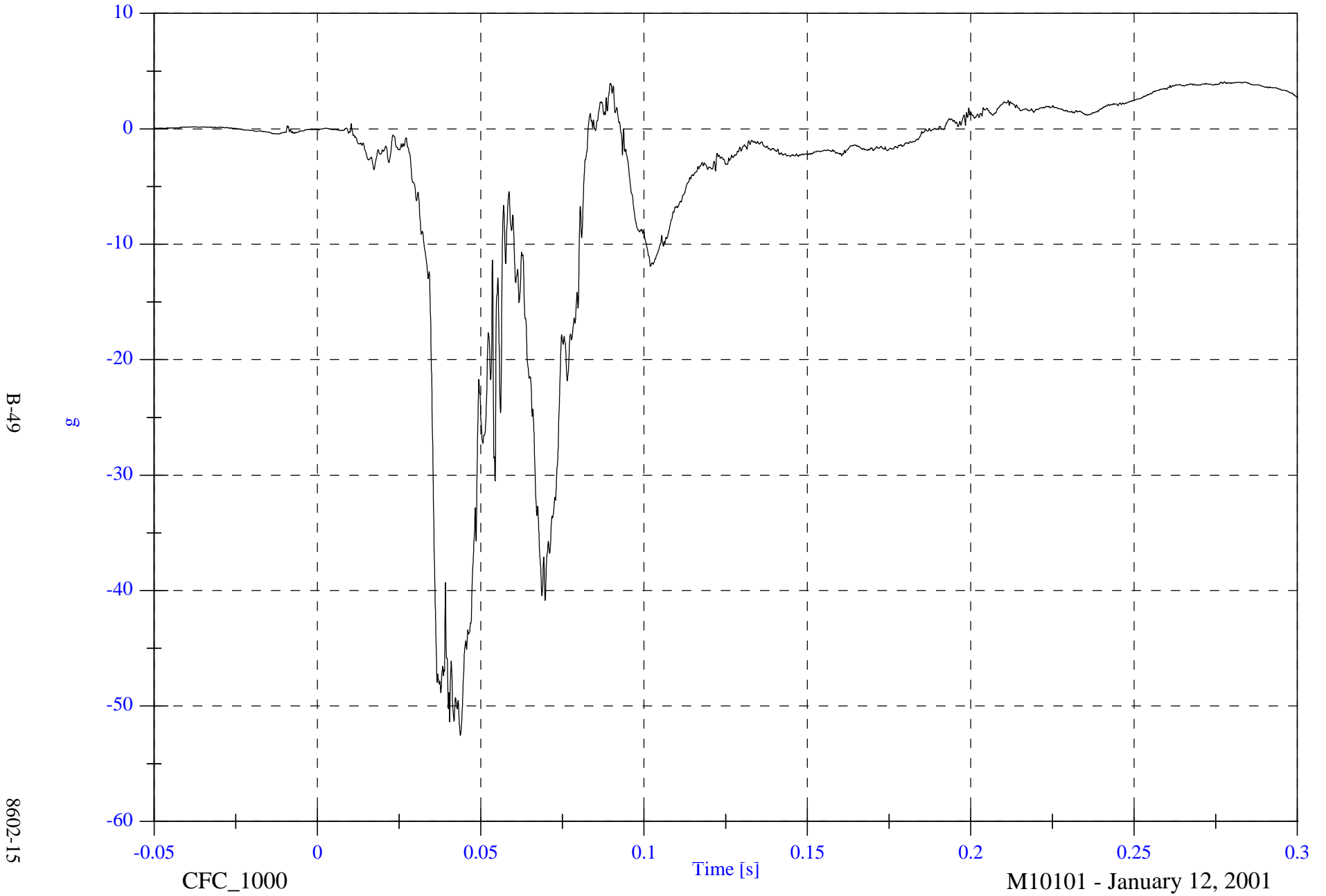


NCAP Test 15 - 2001 Buick Park Avenue

Max: 4.1 [g] at 0.278 [s]

P1 Right Foot Aft z

Min: -52.5 [g] at 0.044 [s]

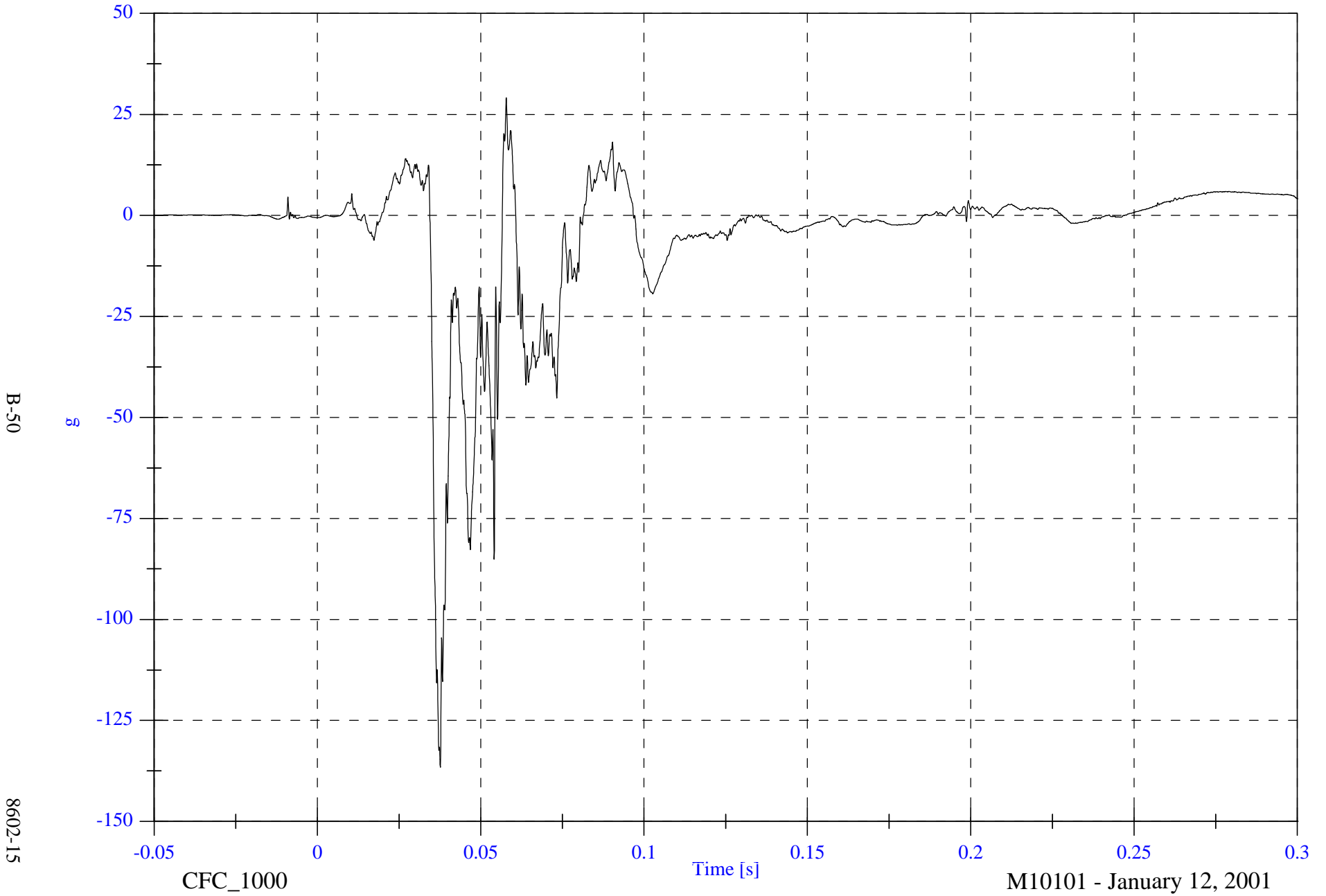


NCAP Test 15 - 2001 Buick Park Avenue

Max: 29.1 [g] at 0.058 [s]

P1 Right Foot Fore z

Min: -136.6 [g] at 0.038 [s]



B-50

8602-15

CFC_1000

Time [s]

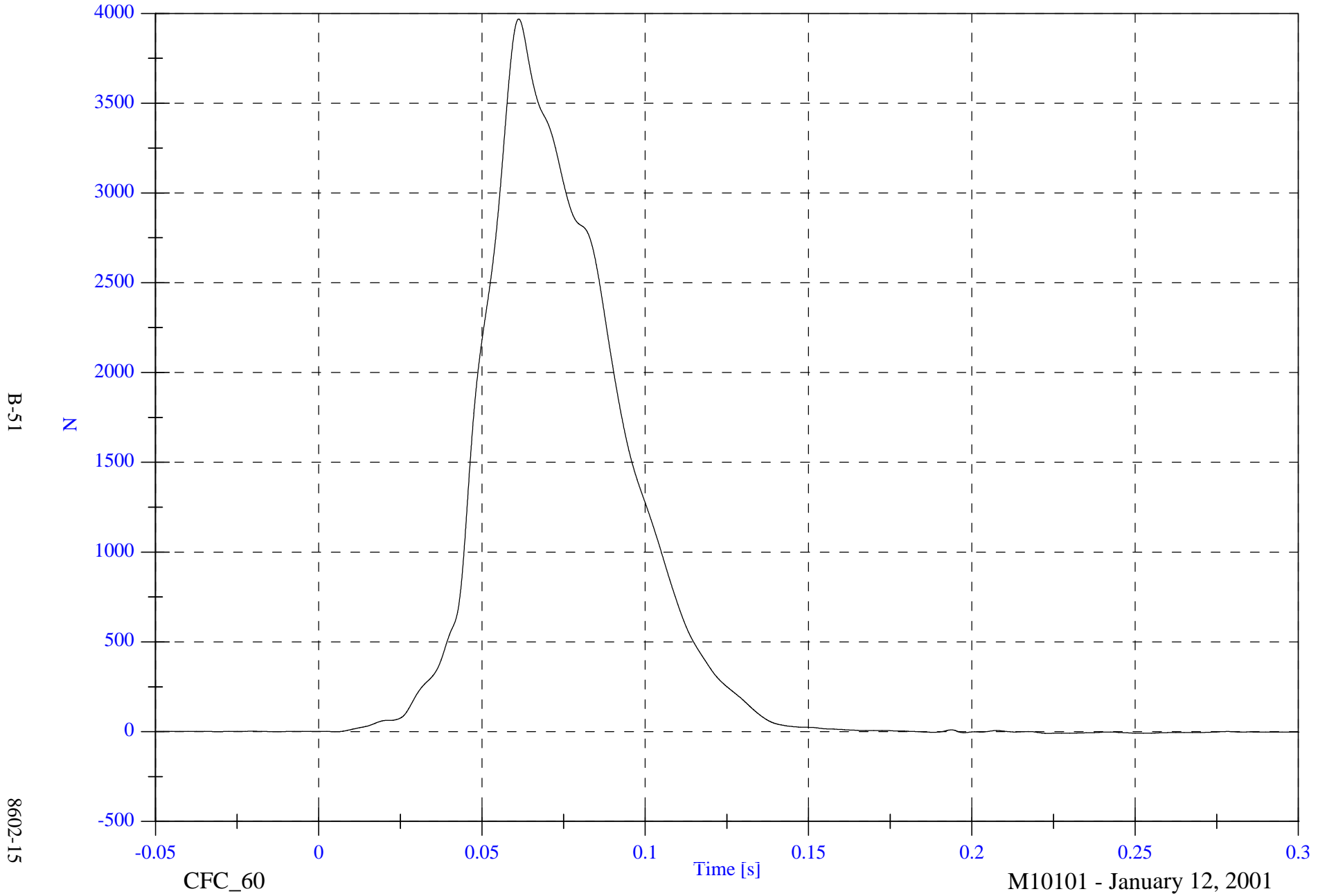
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P1 Lap Belt Force

Max: 3969.2 [N] at 0.061 [s]

Min: -10.1 [N] at 0.223 [s]



B-51

8602-15

CFC_60

Time [s]

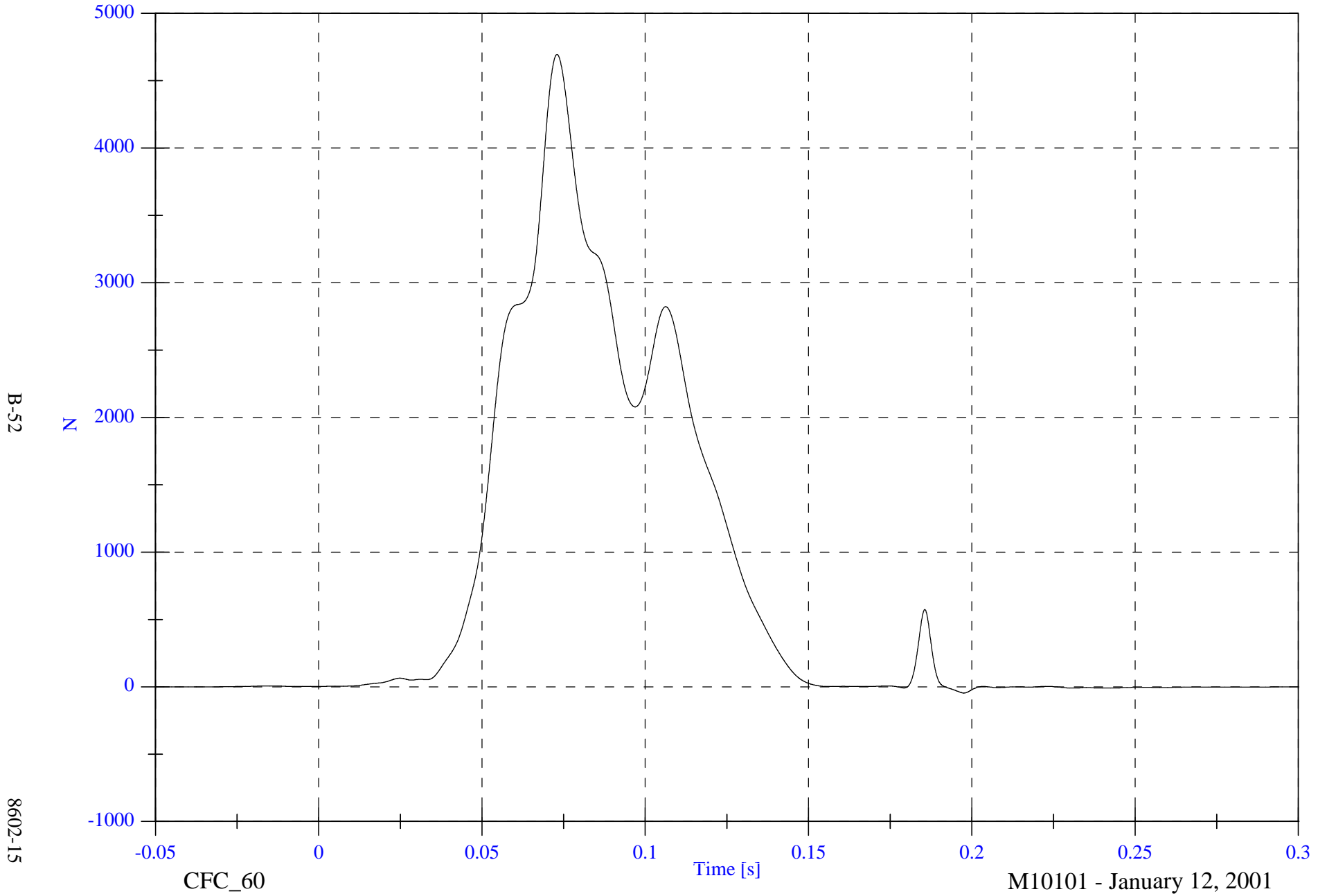
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 4695.3 [N] at 0.073 [s]

P1 Shoulder Belt Force

Min: -47.1 [N] at 0.198 [s]



B-52

8602-15

CFC_60

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

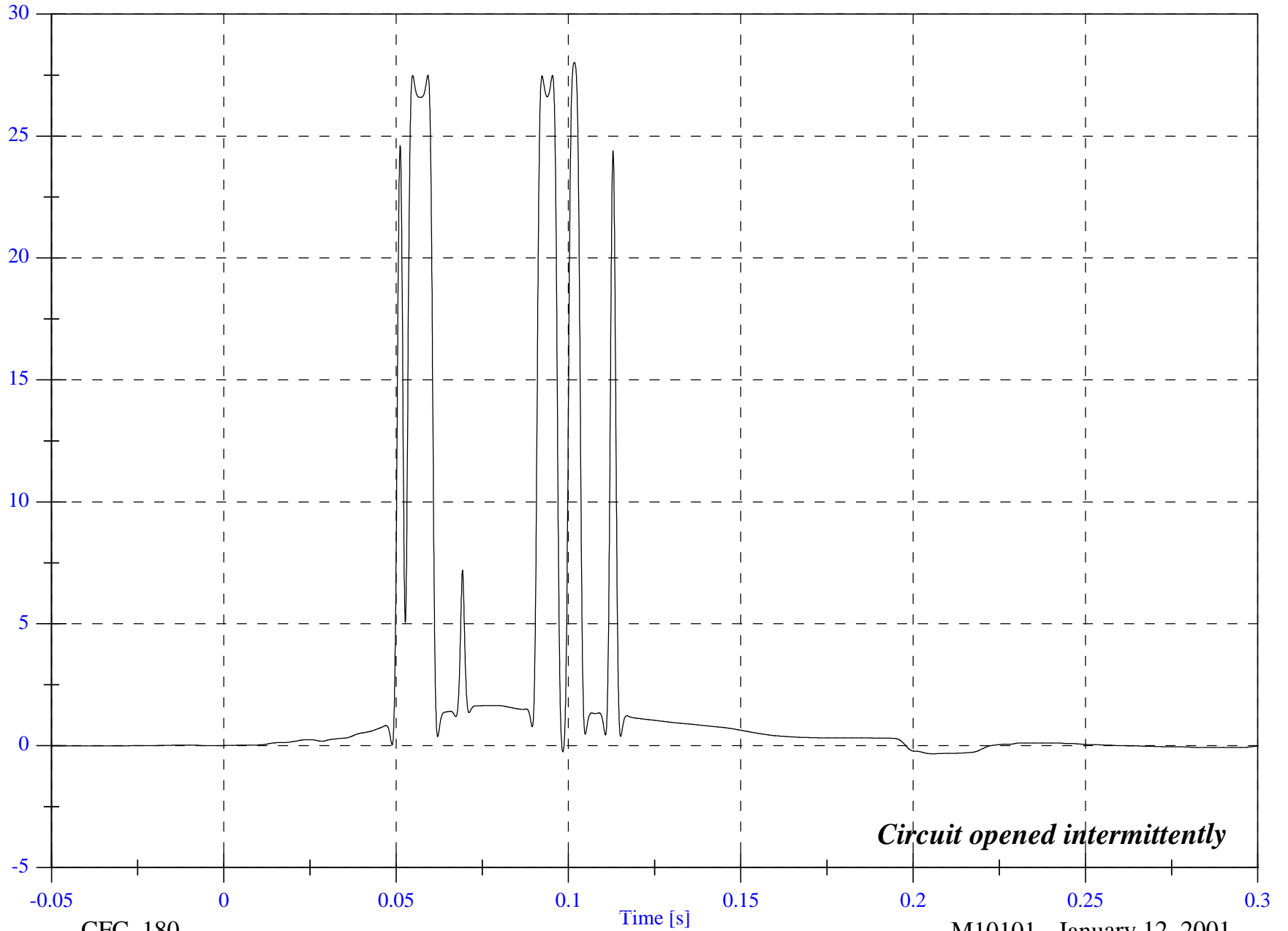
P1 Shoulder Belt Elongation

Max: 28.0 [mm] at 0.102 [s]

Min: -0.3 [mm] at 0.206 [s]

B-53

mm



8602-15

CFC_180

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

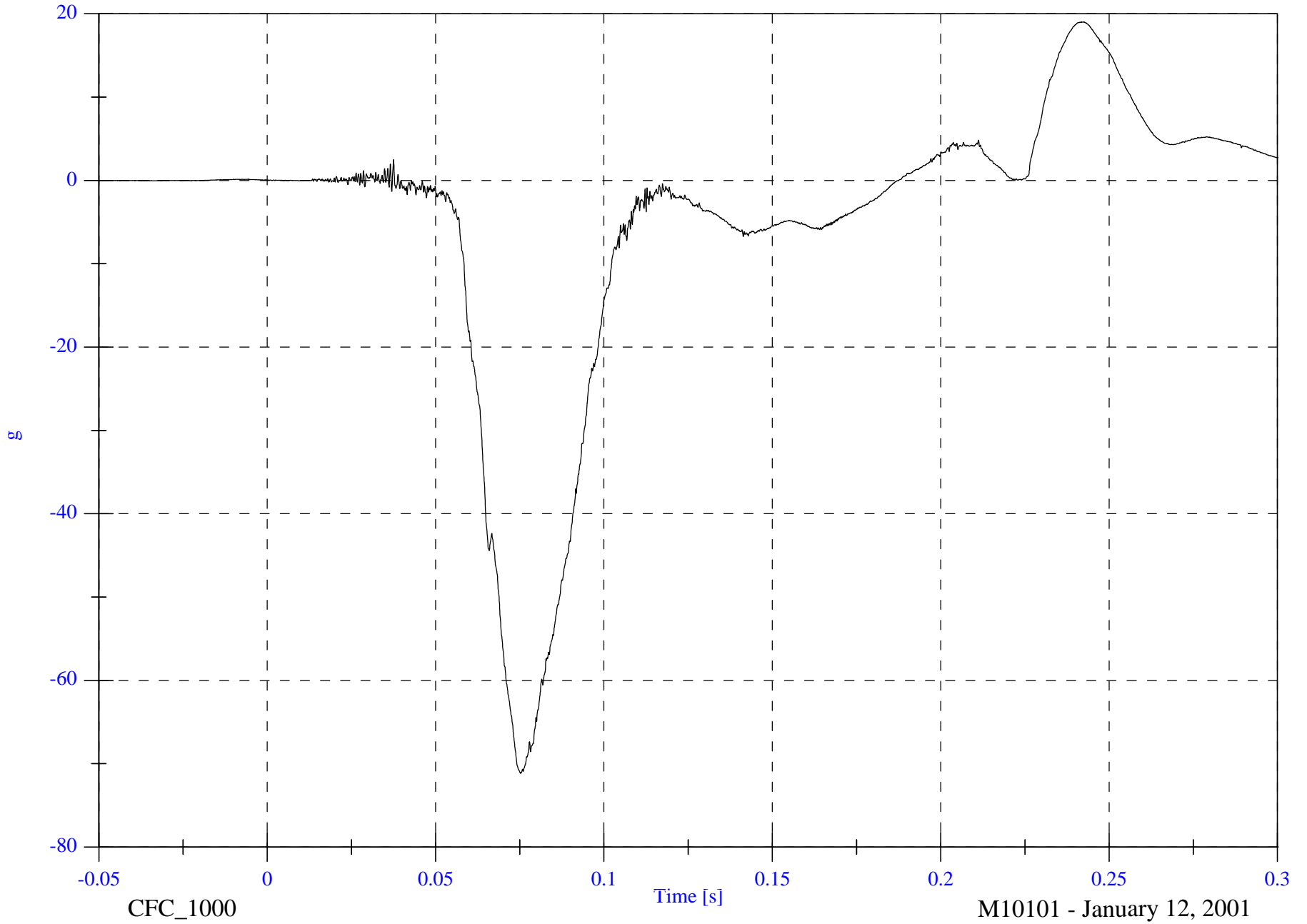
P2 Head x

Max: 19.0 [g] at 0.243 [s]

Min: -71.2 [g] at 0.075 [s]

B-54

8602-15

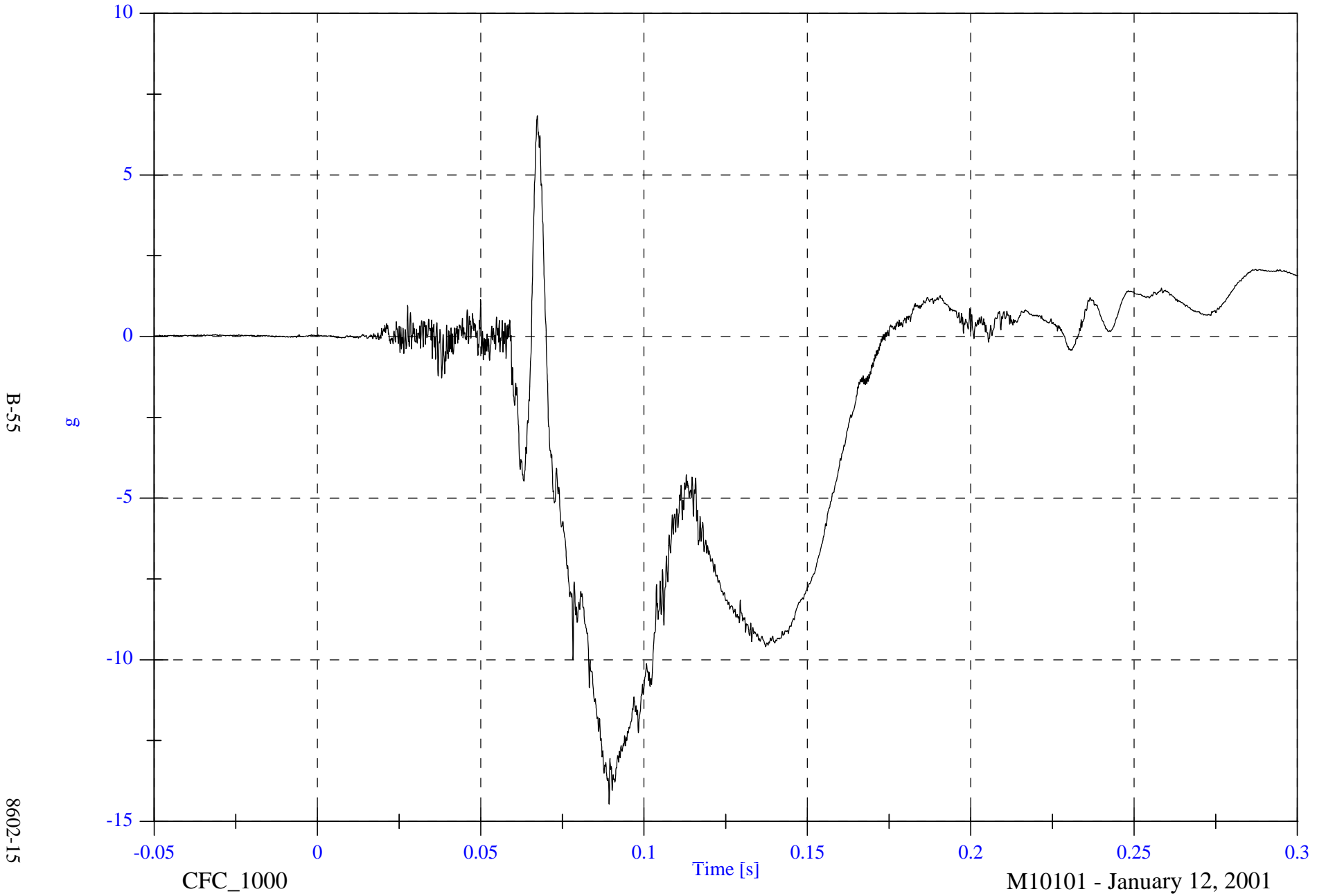


NCAP Test 15 - 2001 Buick Park Avenue

Max: 6.8 [g] at 0.067 [s]

Min: -14.5 [g] at 0.089 [s]

P2 Head y

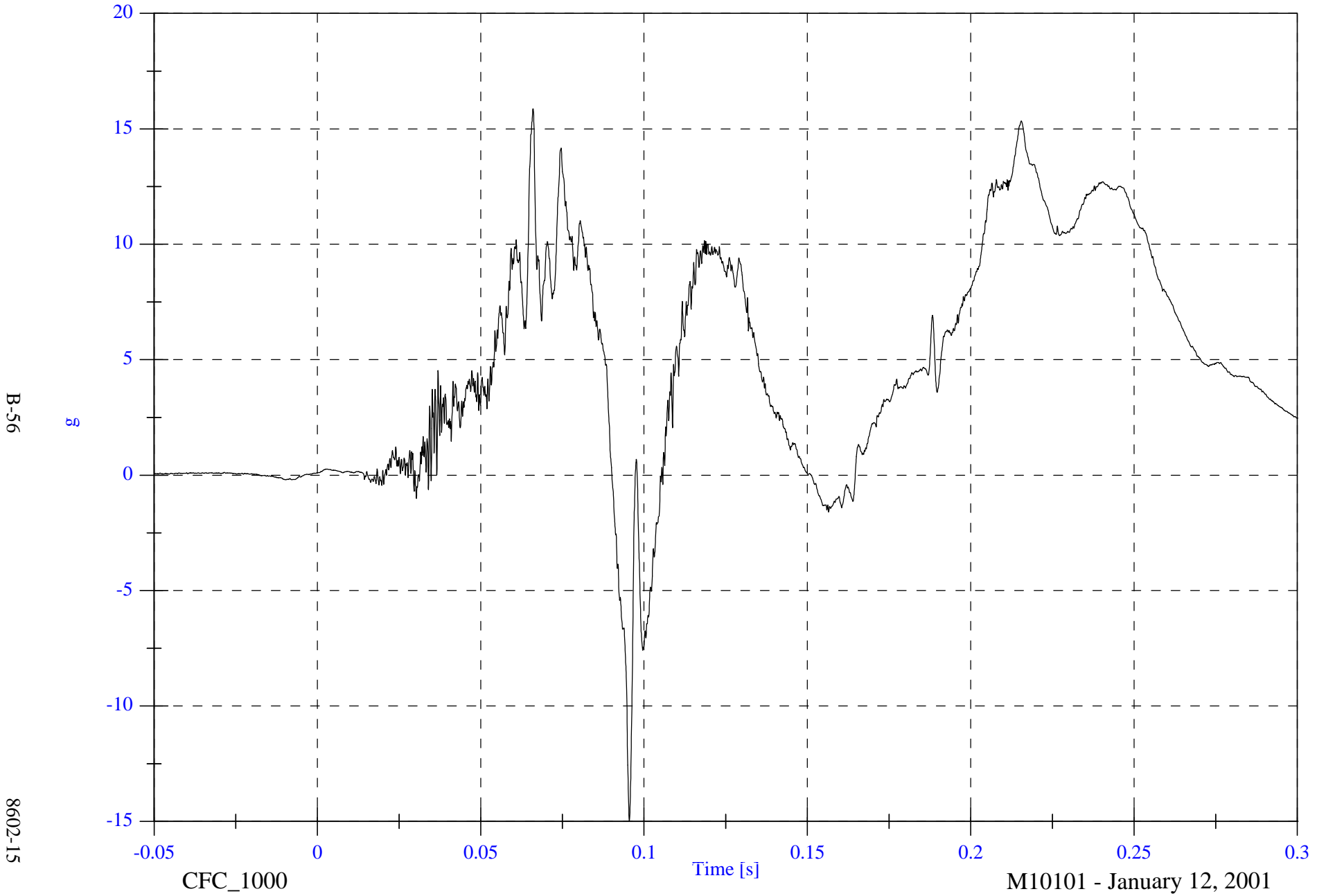


NCAP Test 15 - 2001 Buick Park Avenue

P2 Head z

Max: 15.9 [g] at 0.066 [s]

Min: -15.0 [g] at 0.096 [s]



B-56

g

8602-15

CFC_1000

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

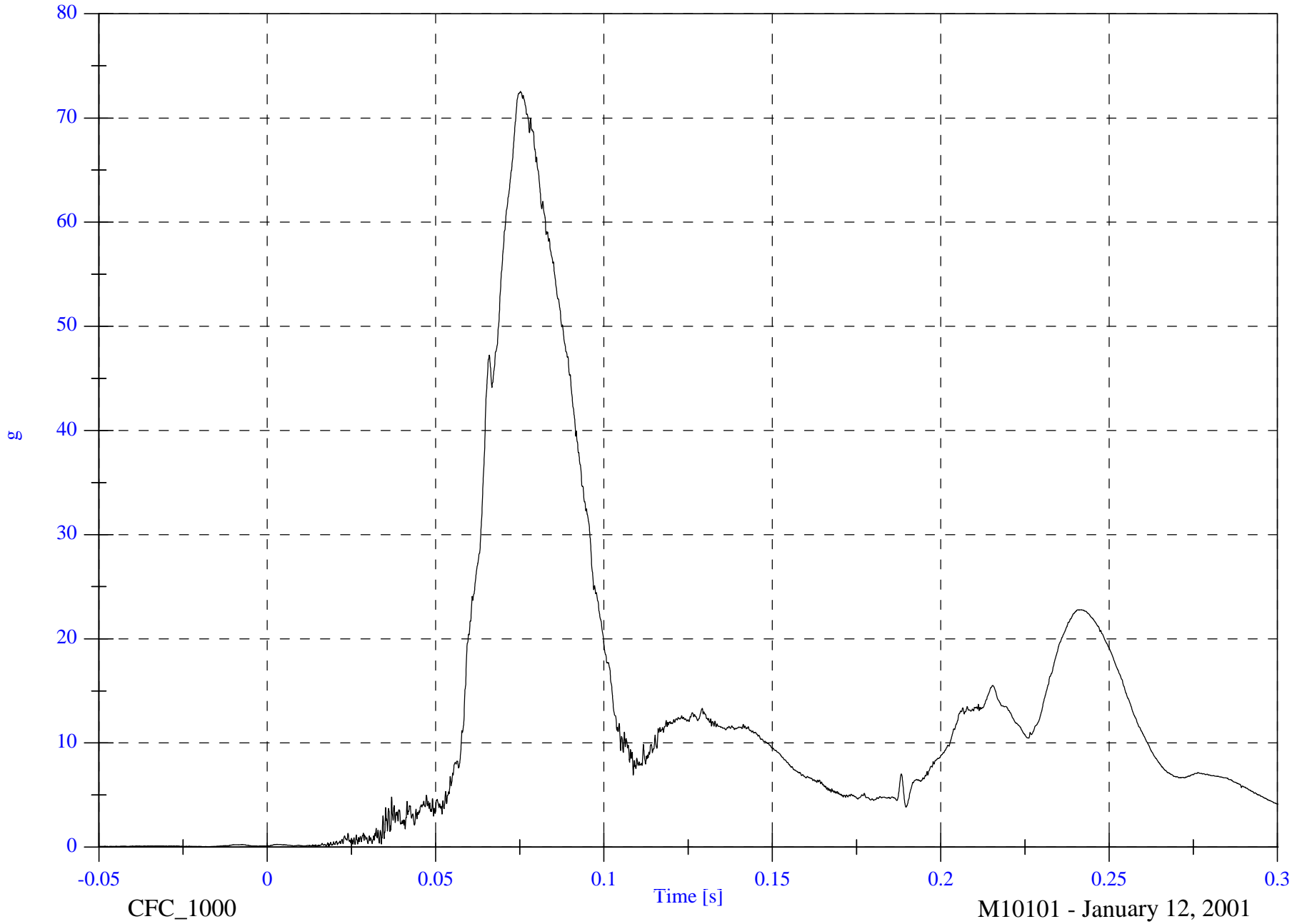
P2 Head Resultant

Max: 72.6 [g] at 0.075 [s]

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

B-57

8602-15

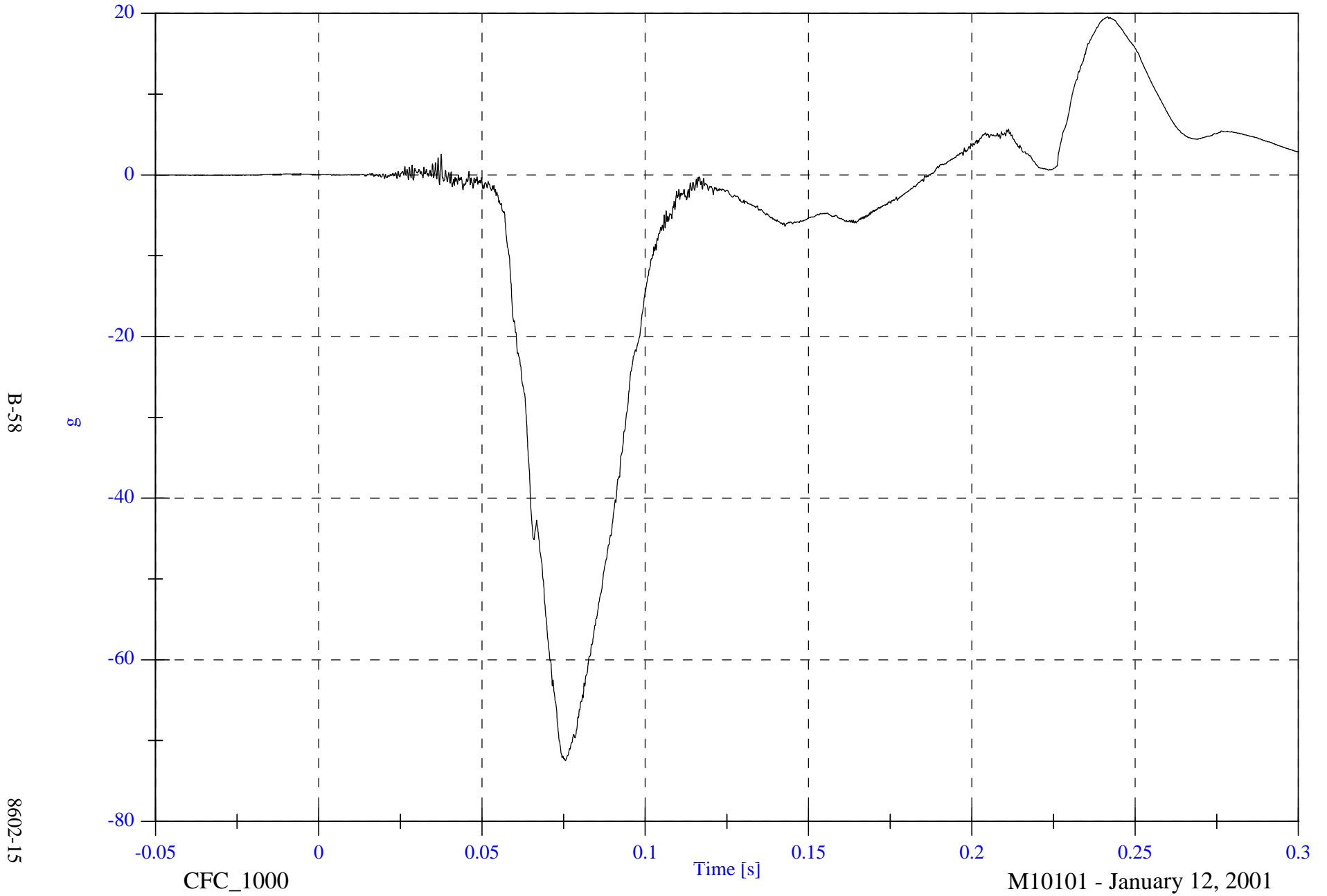


NCAP Test 15 - 2001 Buick Park Avenue

P2 Head Red x

Max: 19.6 [g] at 0.242 [s]

Min: -72.5 [g] at 0.076 [s]



B-58

8602-15

CFC_1000

Time [s]

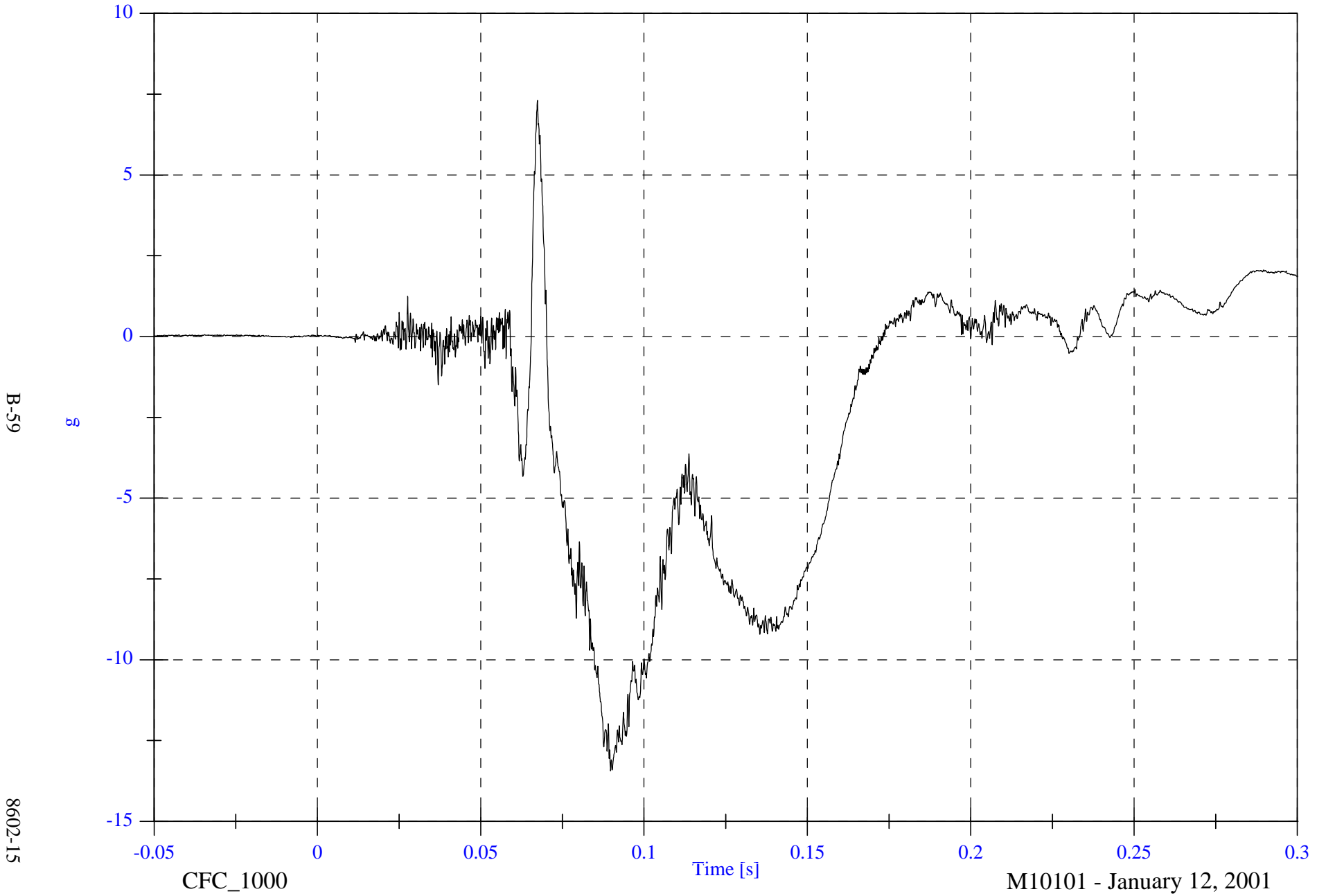
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Head Red y

Max: 7.3 [g] at 0.067 [s]

Min: -13.4 [g] at 0.090 [s]

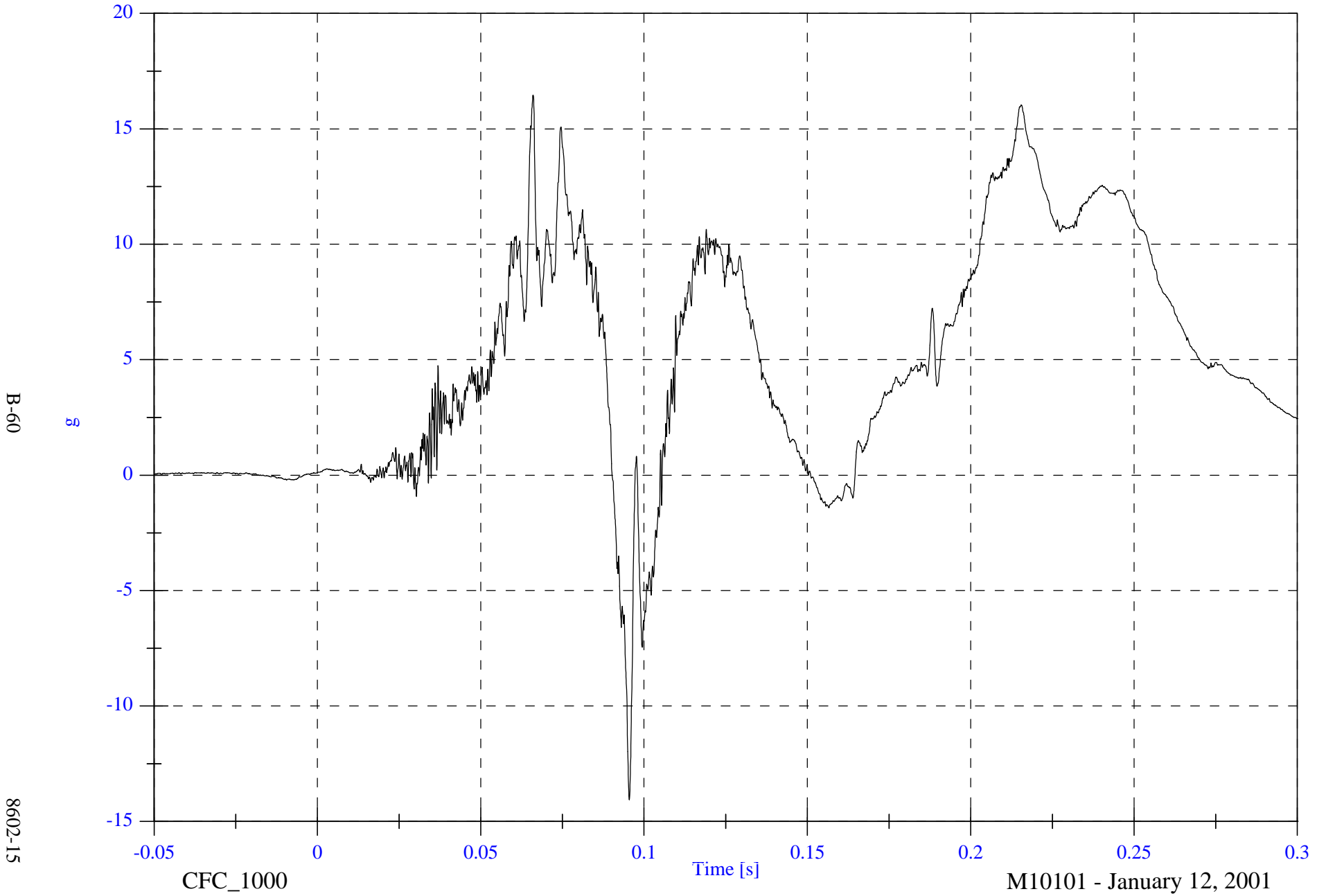


NCAP Test 15 - 2001 Buick Park Avenue

P2 Head Red z

Max: 16.5 [g] at 0.066 [s]

Min: -14.1 [g] at 0.095 [s]



NCAP Test 15 - 2001 Buick Park Avenue

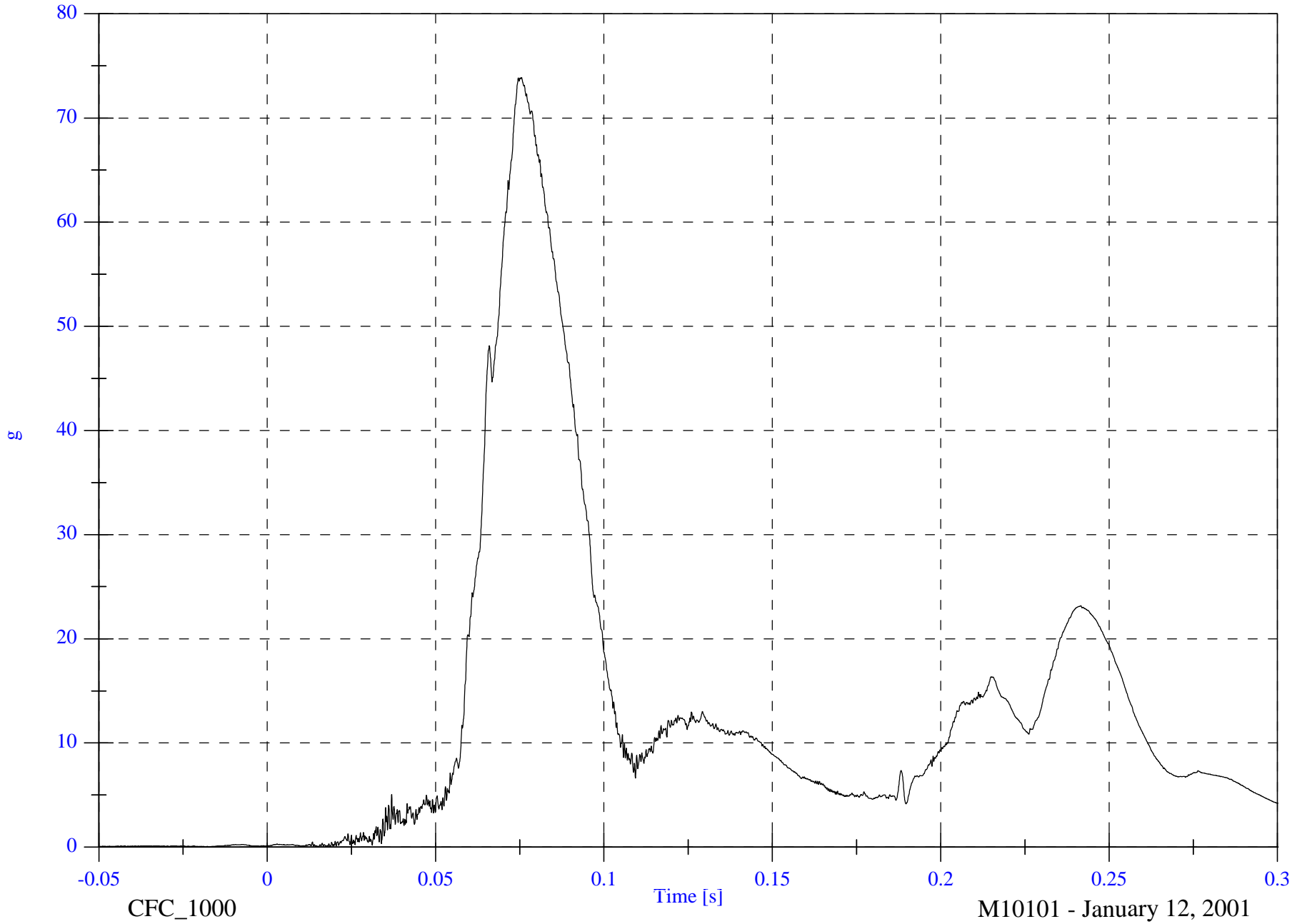
P2 Head Red Resultant

Max: 73.9 [g] at 0.076 [s]

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

B-61

8602-15

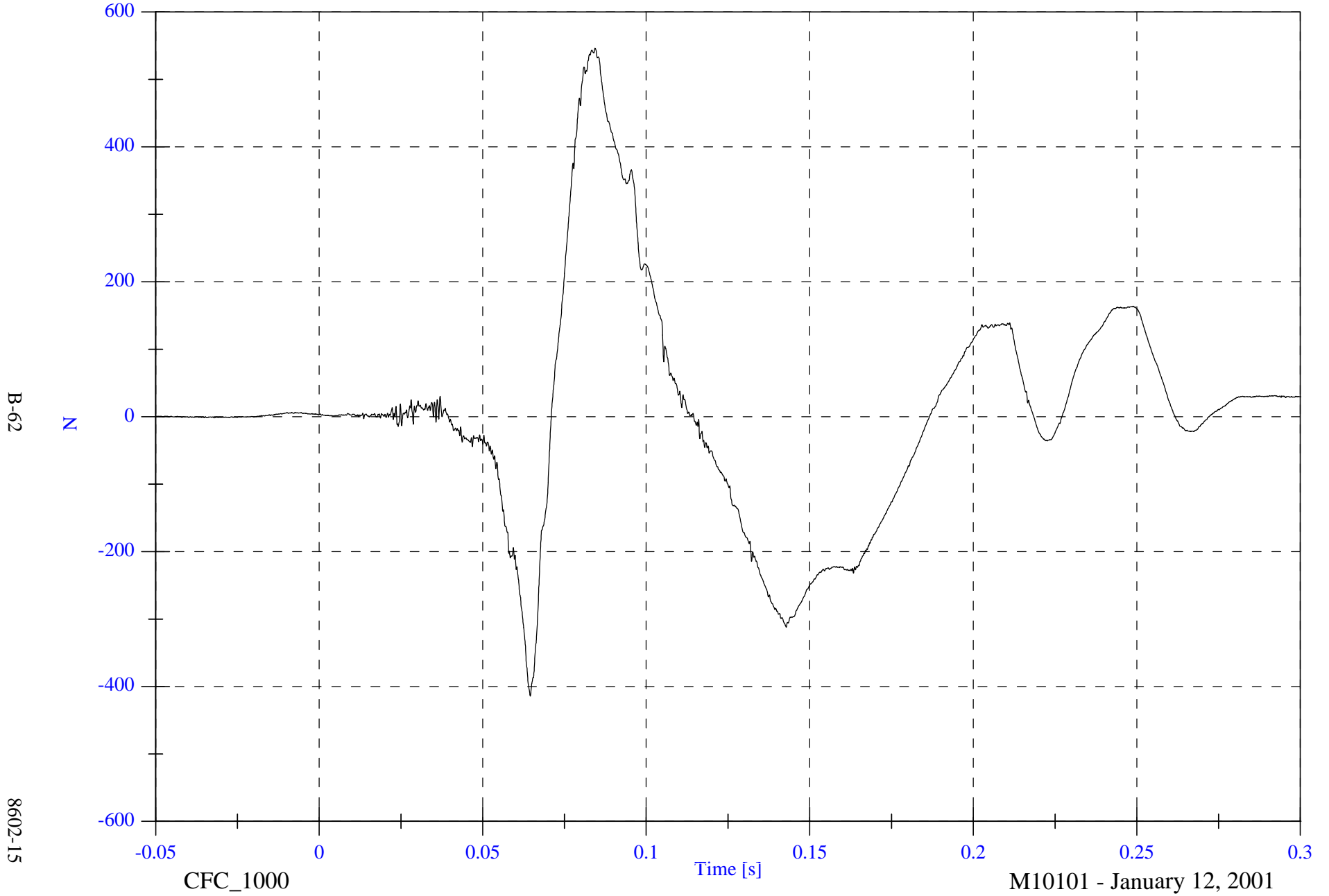


NCAP Test 15 - 2001 Buick Park Avenue

P2 Upper Neck Fx

Max: 546.5 [N] at 0.084 [s]

Min: -414.4 [N] at 0.065 [s]



B-62

8602-15

CFC_1000

Time [s]

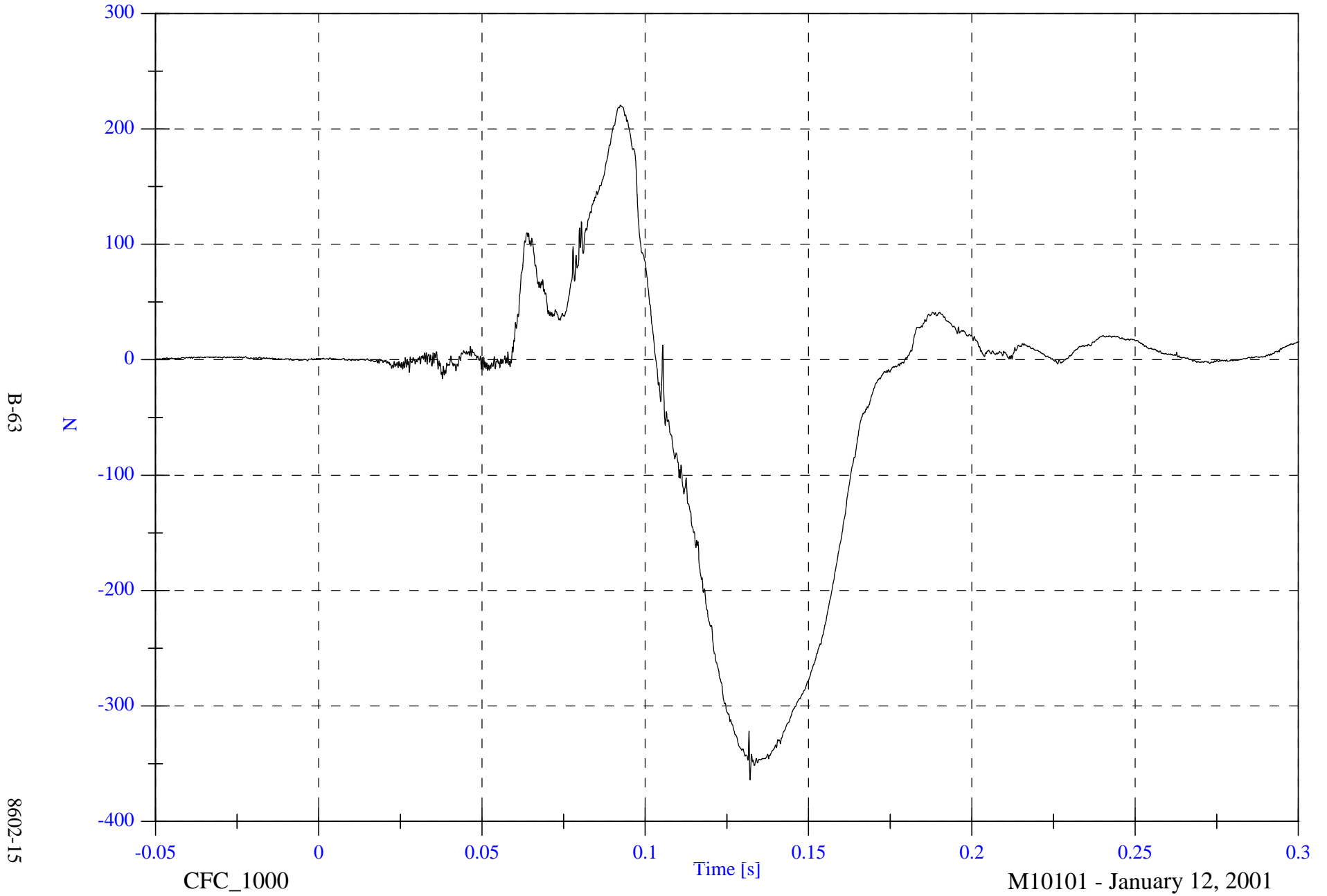
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Upper Neck Fy

Max: 220.4 [N] at 0.092 [s]

Min: -364.2 [N] at 0.132 [s]

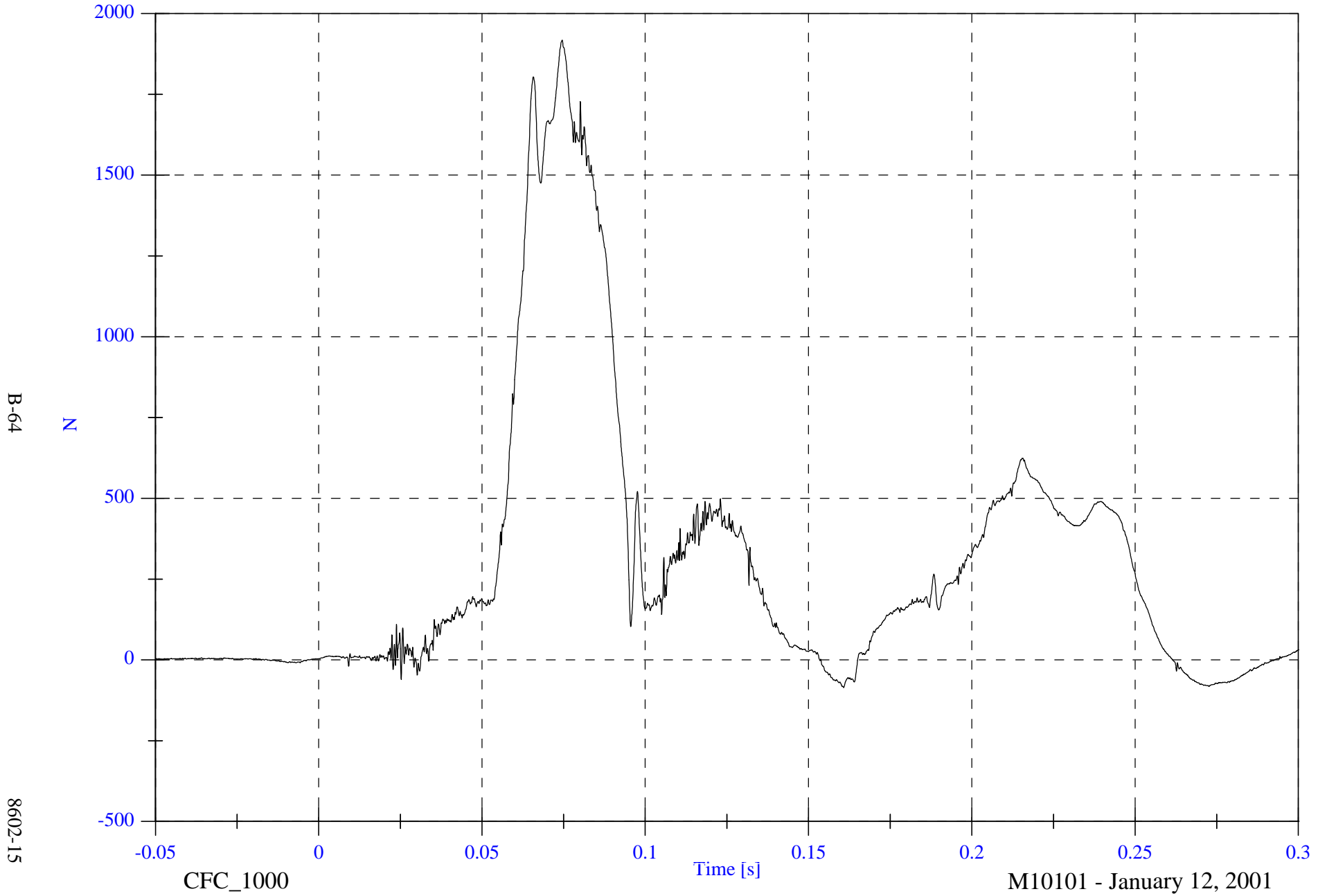


NCAP Test 15 - 2001 Buick Park Avenue

P2 Upper Neck Fz

Max: 1917.5 [N] at 0.075 [s]

Min: -86.1 [N] at 0.161 [s]



B-64

8602-15

CFC_1000

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

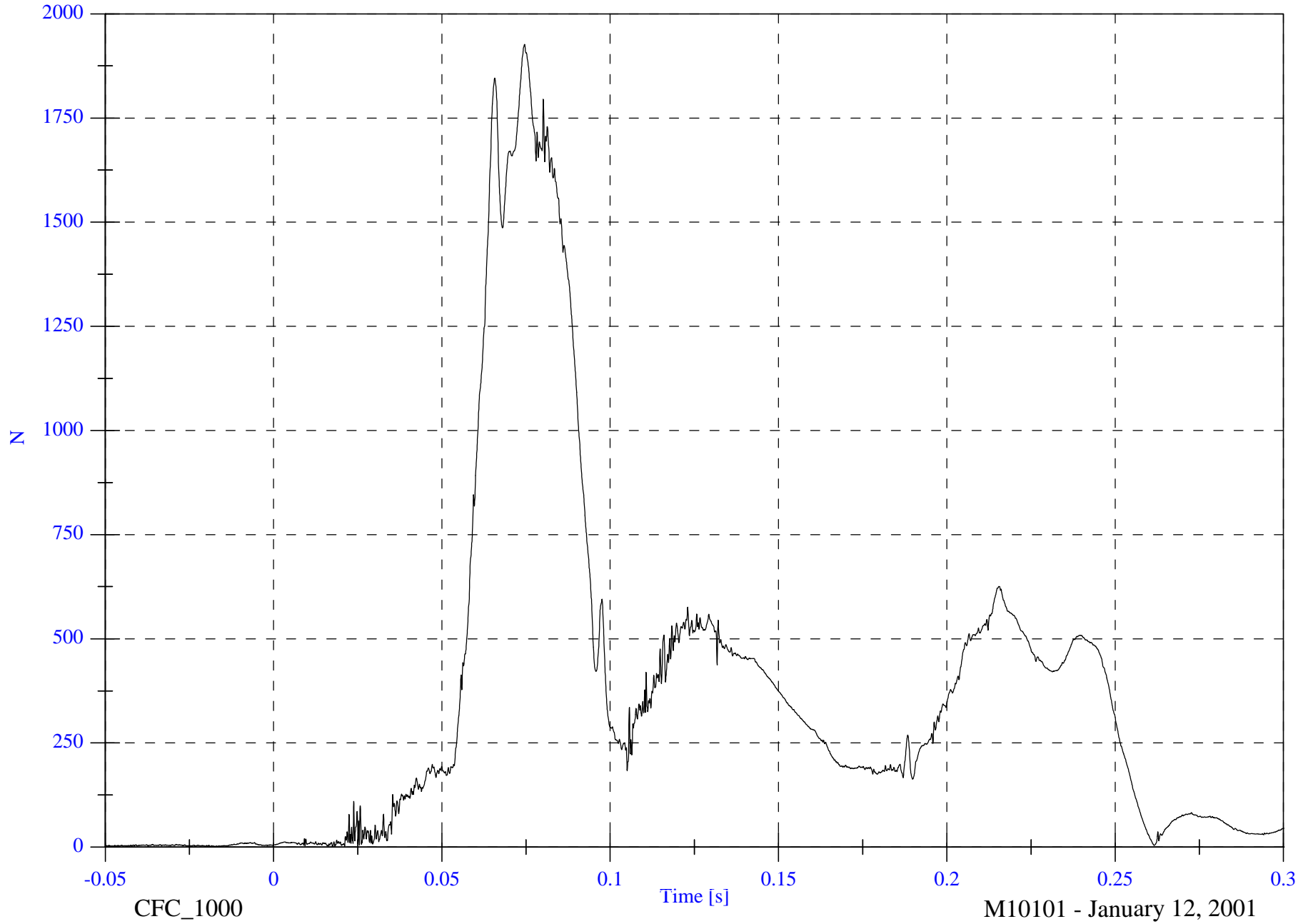
P2 Upper Neck F Resultant

Max: 1926.5 [N] at 0.075 [s]

Min: 1.1 [N] at 0.018 [s]

B-65

8602-15



CFC_1000

Time [s]

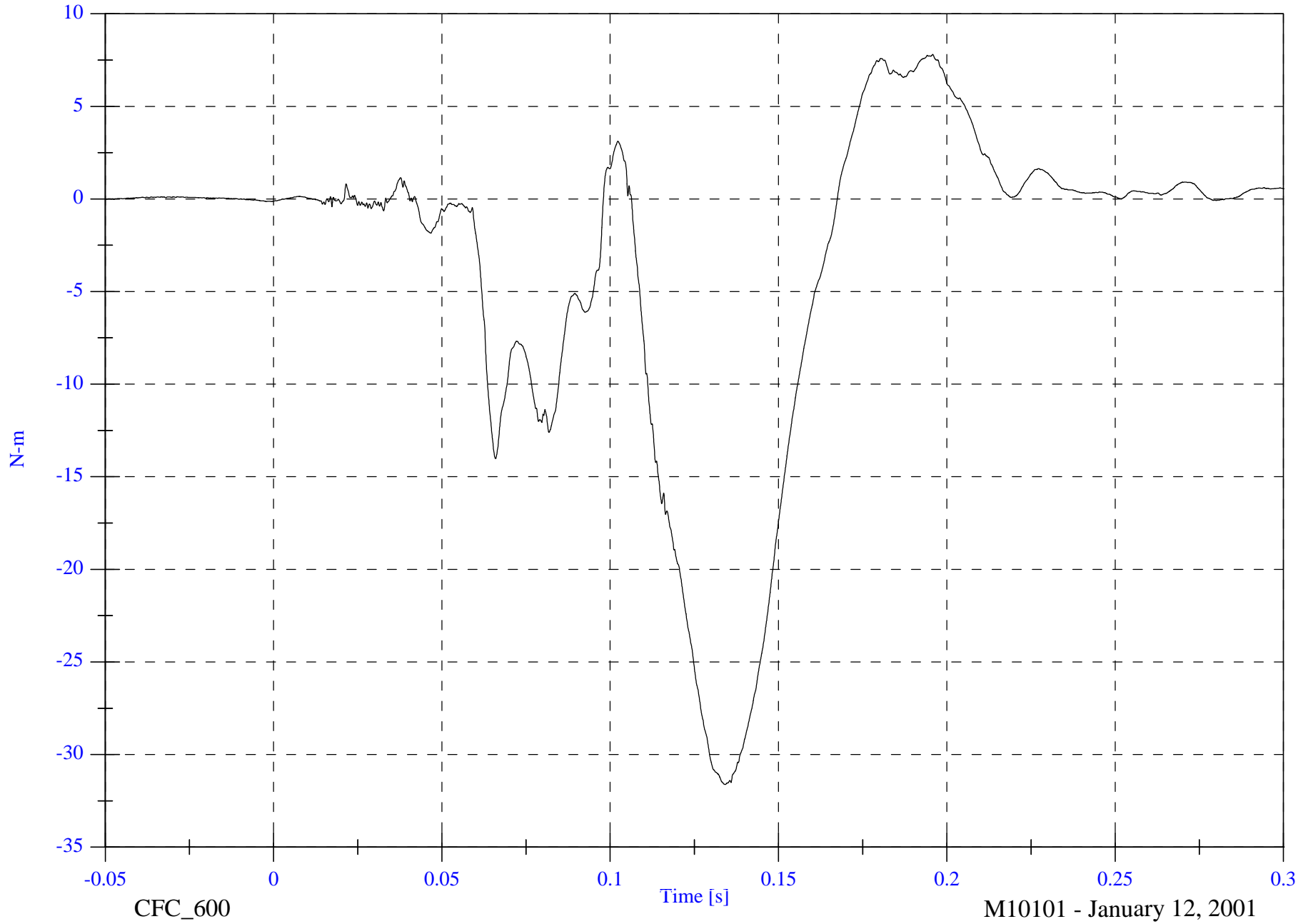
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Upper Neck Mx

Max: 7.8 [N-m] at 0.196 [s]

Min: -31.6 [N-m] at 0.134 [s]



B-66

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

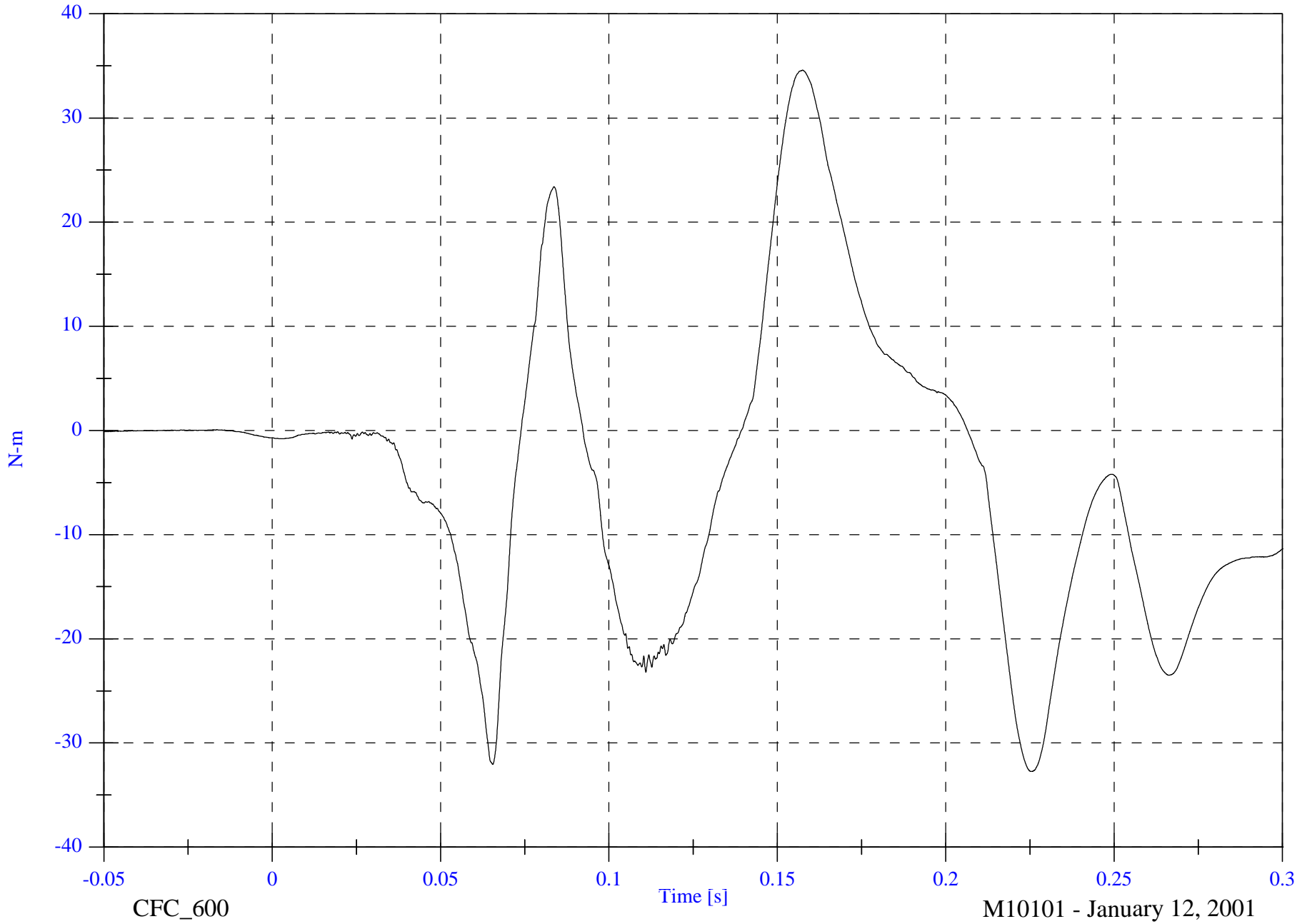
P2 Upper Neck My

Max: 34.6 [N-m] at 0.158 [s]

Min: -32.7 [N-m] at 0.226 [s]

B-67

8602-15



CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

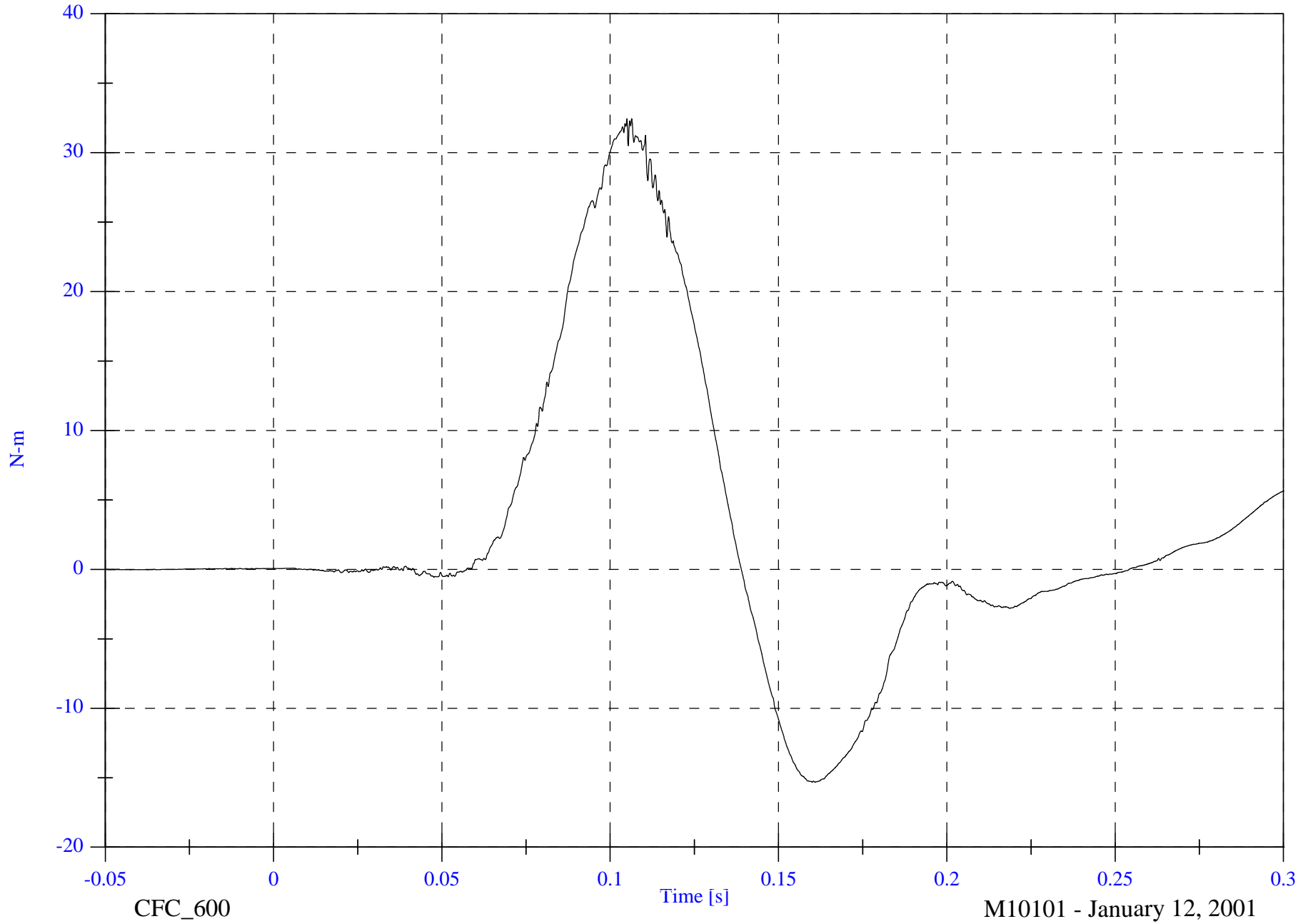
Max: 32.5 [N-m] at 0.106 [s]

P2 Upper Neck Mz

Min: -15.3 [N-m] at 0.161 [s]

B-68

8602-15



CFC_600

Time [s]

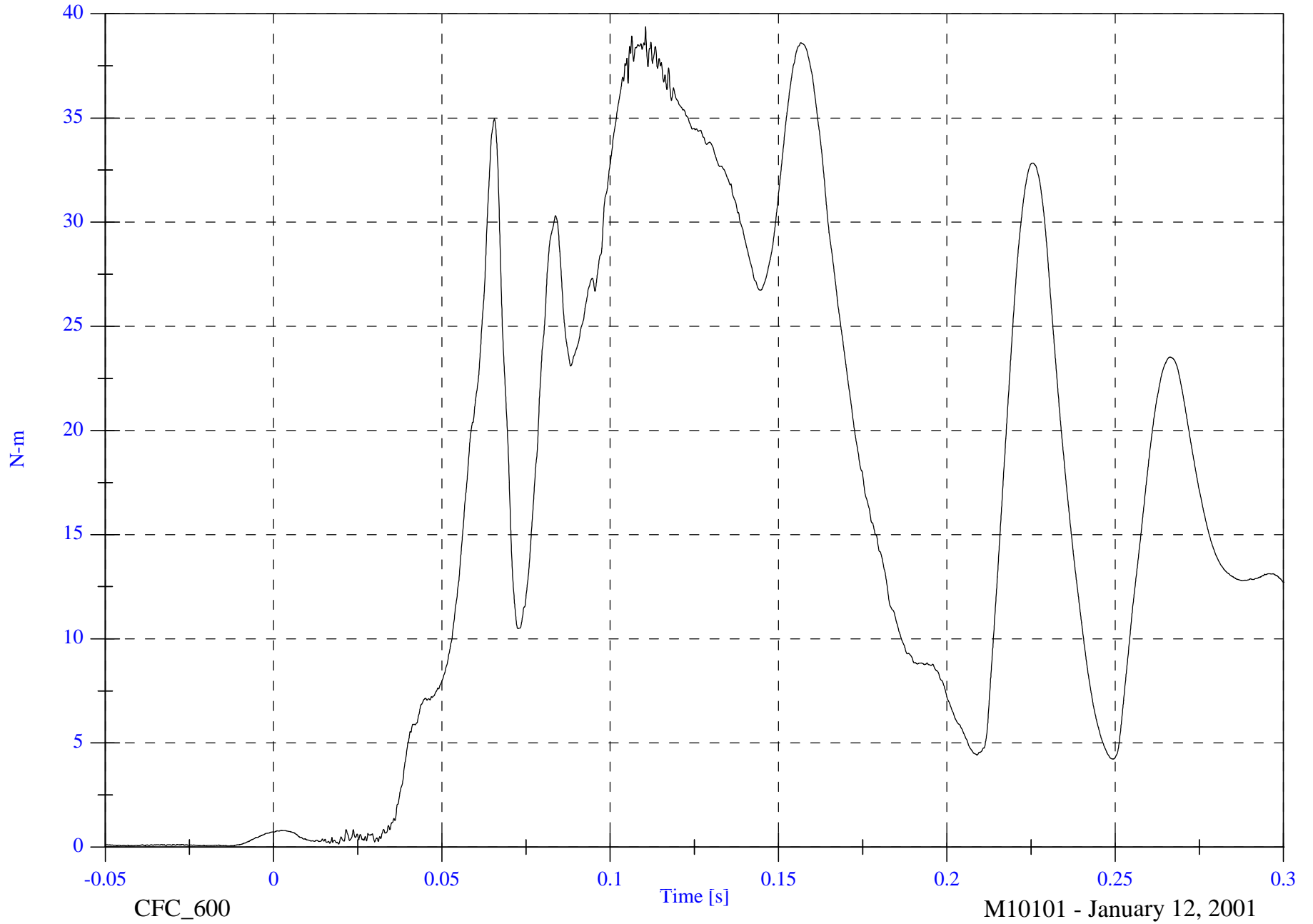
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Upper Neck M Resultant

Max: 39.4 [N-m] at 0.111 [s]

Min: 0.1 [N-m] at -0.014 [s]



B-69

8602-15

CFC_600

Time [s]

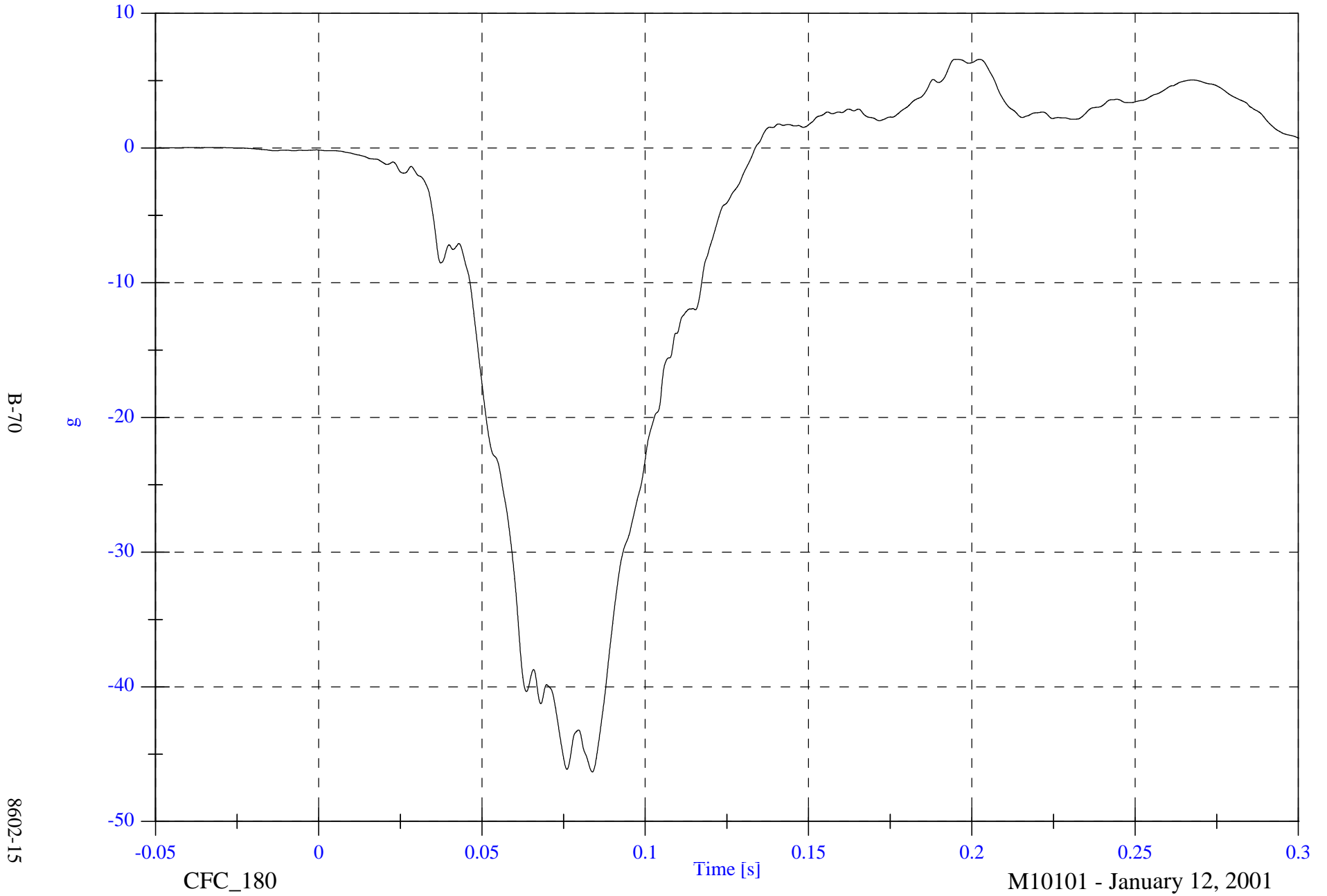
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 6.6 [g] at 0.196 [s]

Min: -46.3 [g] at 0.084 [s]

P2 Chest x



B-70

8602-15

CFC_180

Time [s]

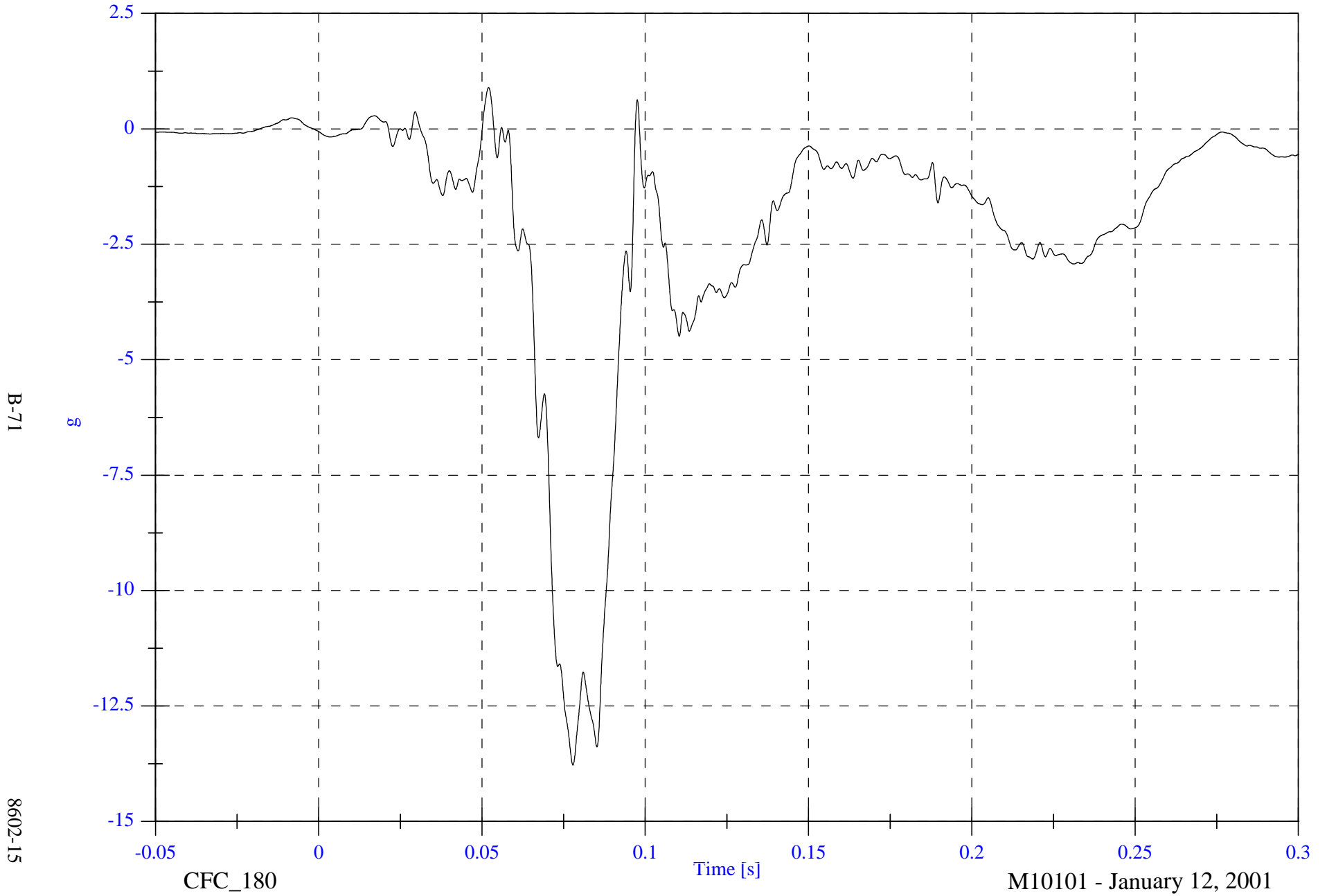
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 0.9 [g] at 0.052 [s]

Min: -13.8 [g] at 0.078 [s]

P2 Chest y

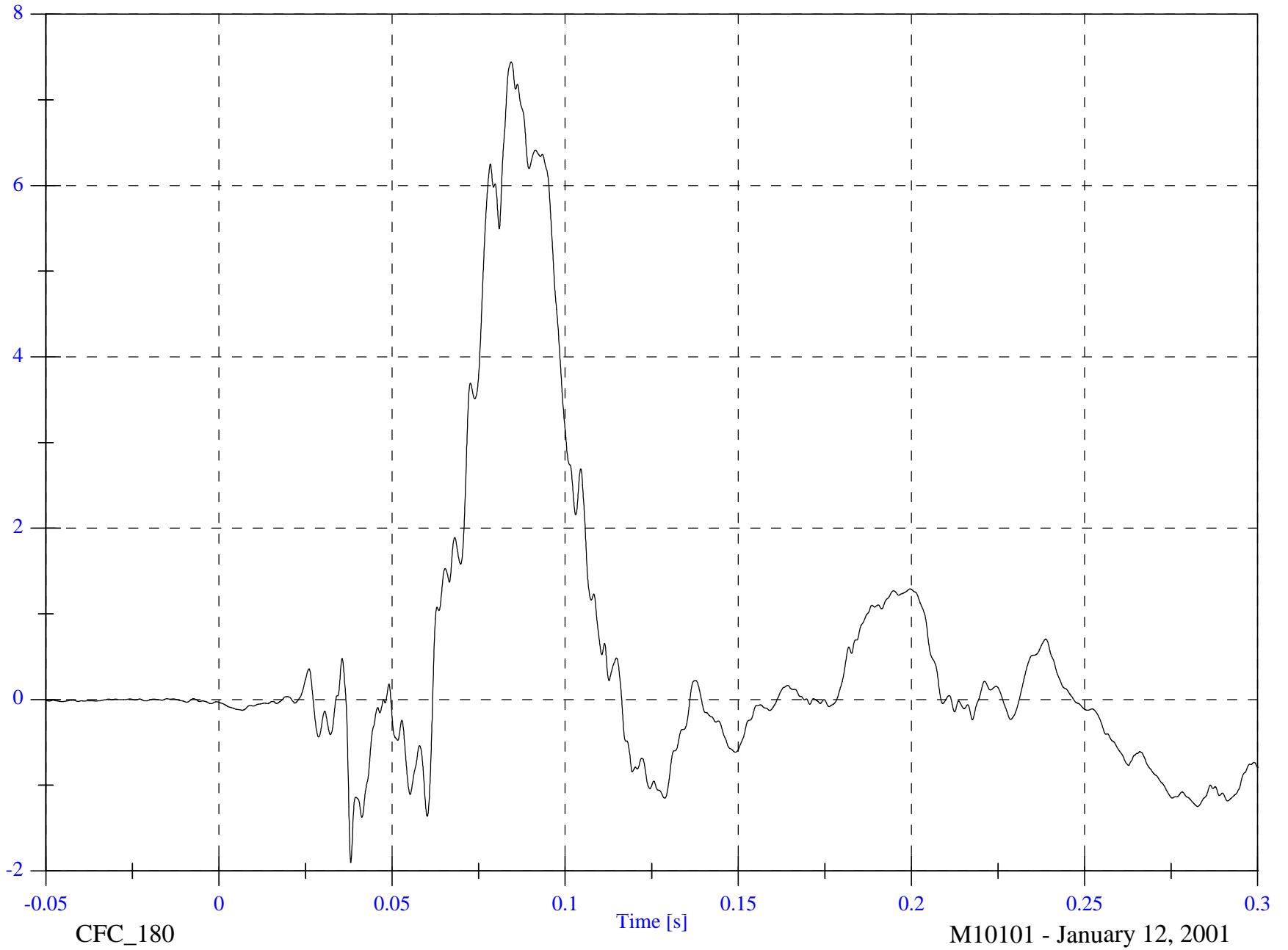


NCAP Test 15 - 2001 Buick Park Avenue

Max: 7.4 [g] at 0.084 [s]

P2 Chest z

Min: -1.9 [g] at 0.038 [s]



B-72

g

8602-15

CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

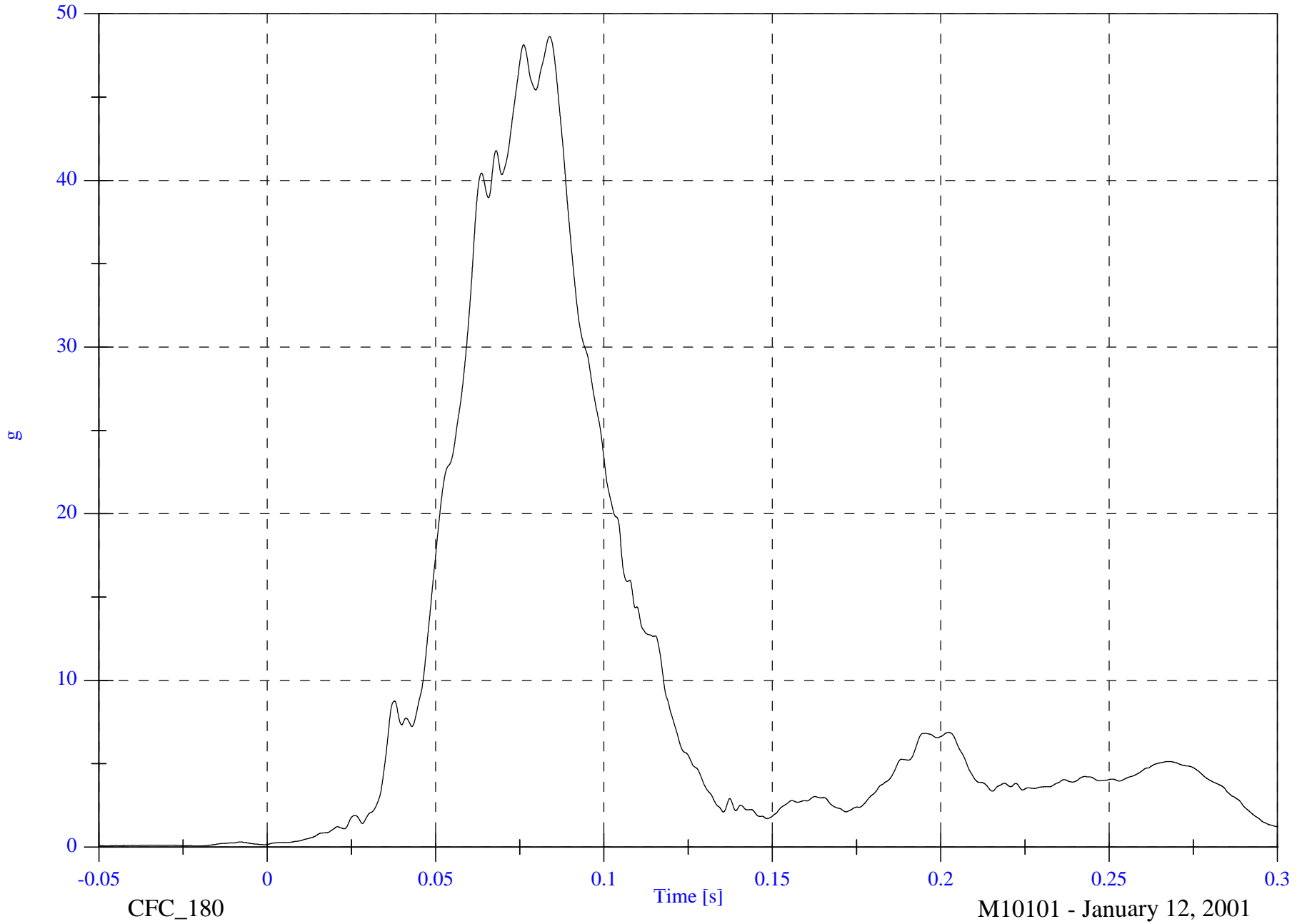
P2 Chest Resultant

Max: 48.6 [g] at 0.084 [s]

Min: 0.1 [g] at -0.021 [s]

B-73

8602-15

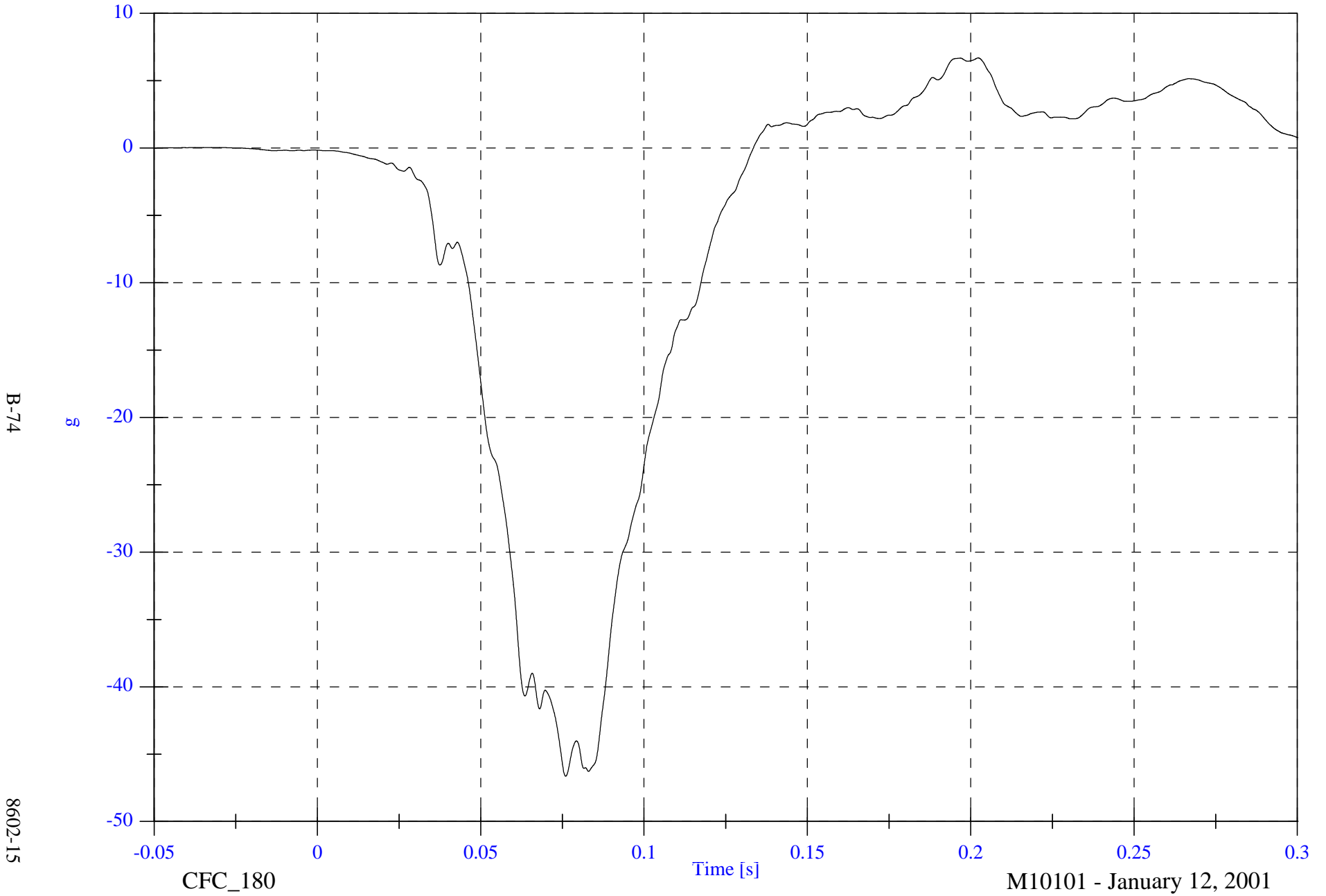


NCAP Test 15 - 2001 Buick Park Avenue

P2 Chest Red x

Max: 6.7 [g] at 0.202 [s]

Min: -46.6 [g] at 0.076 [s]



B-74

8602-15

CFC_180

Time [s]

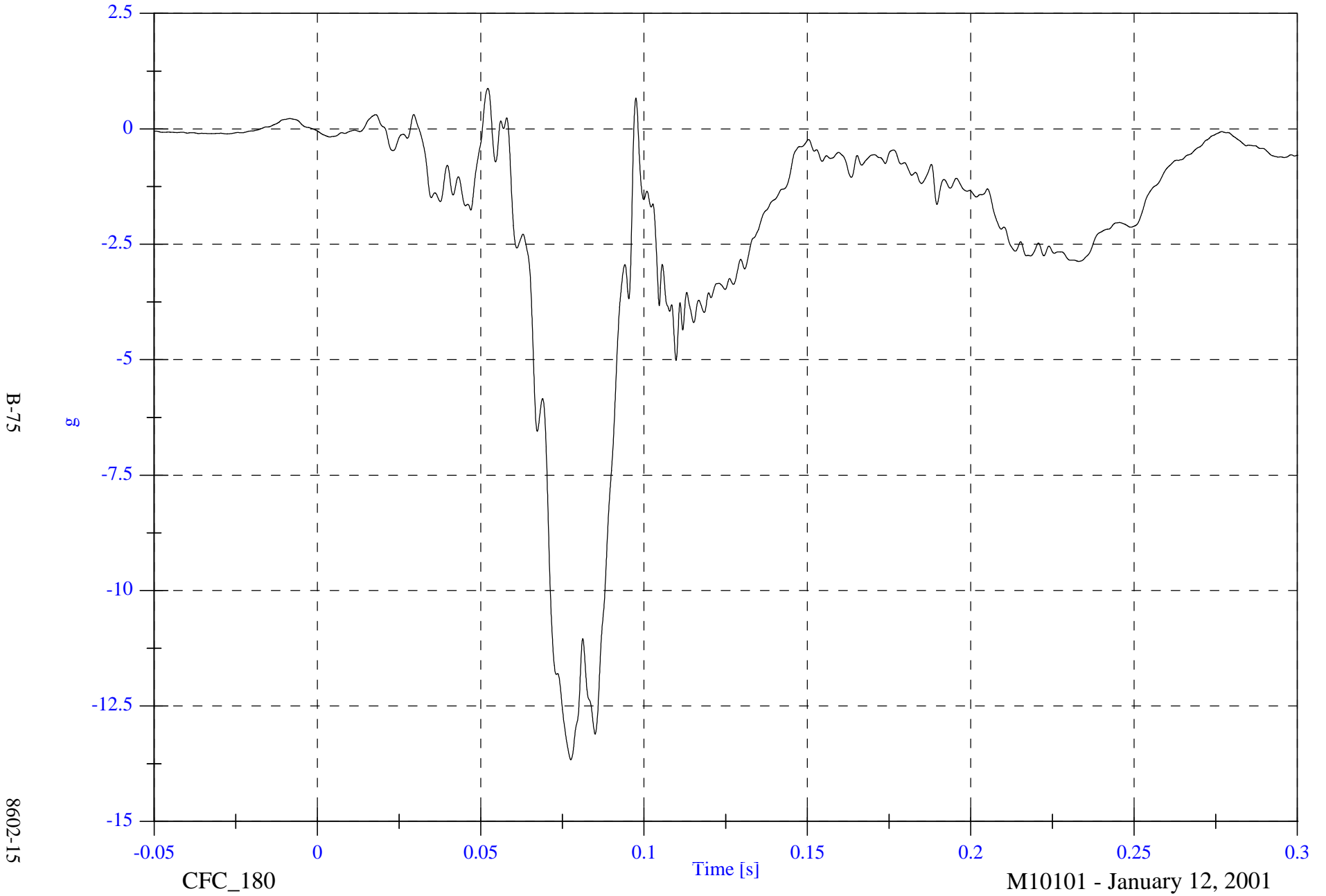
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 0.9 [g] at 0.052 [s]

P2 Chest Red y

Min: -13.7 [g] at 0.078 [s]



NCAP Test 15 - 2001 Buick Park Avenue

Max: 7.6 [g] at 0.086 [s]

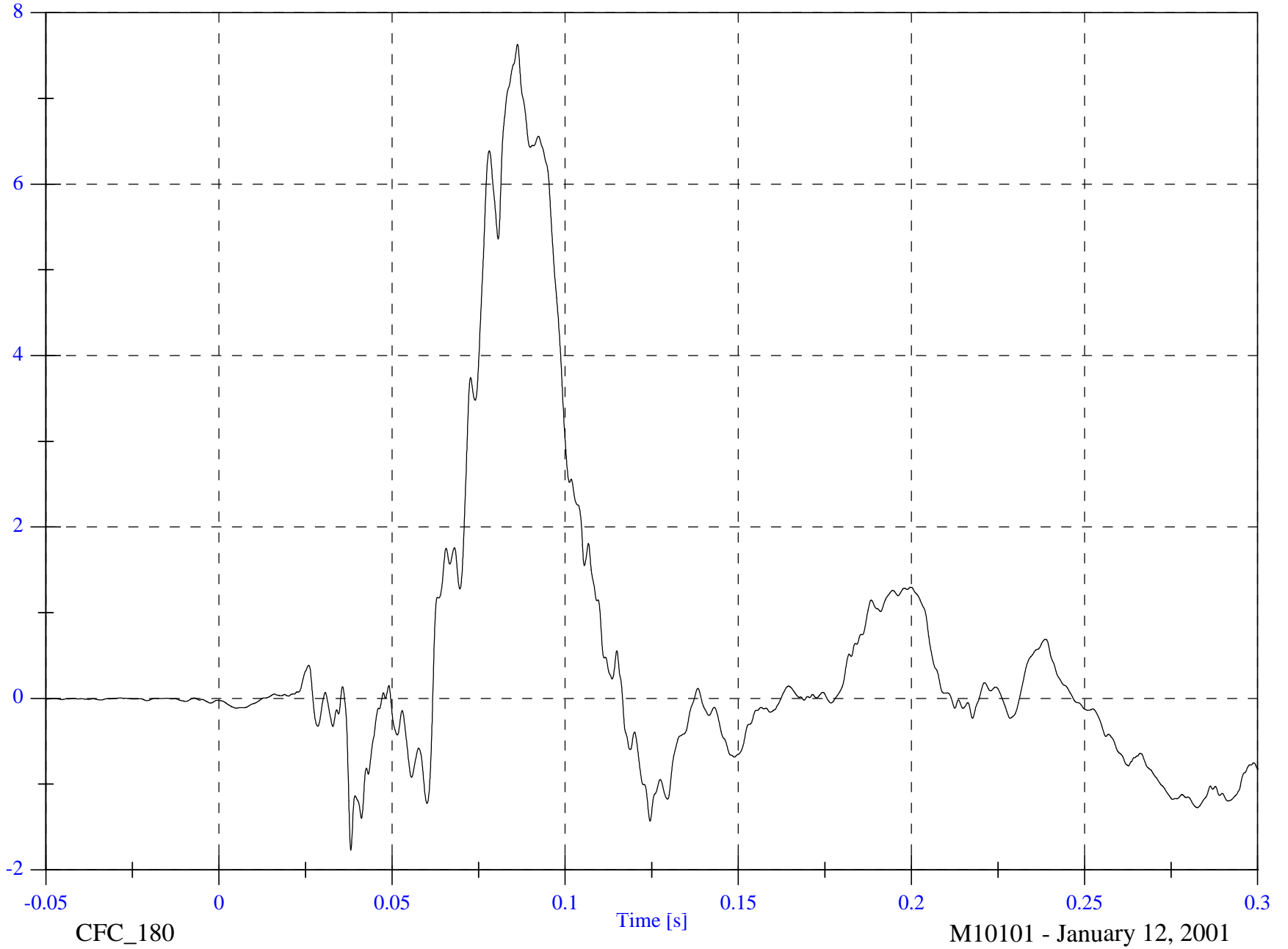
P2 Chest Red z

Min: -1.8 [g] at 0.038 [s]

B-76

g

8602-15



CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

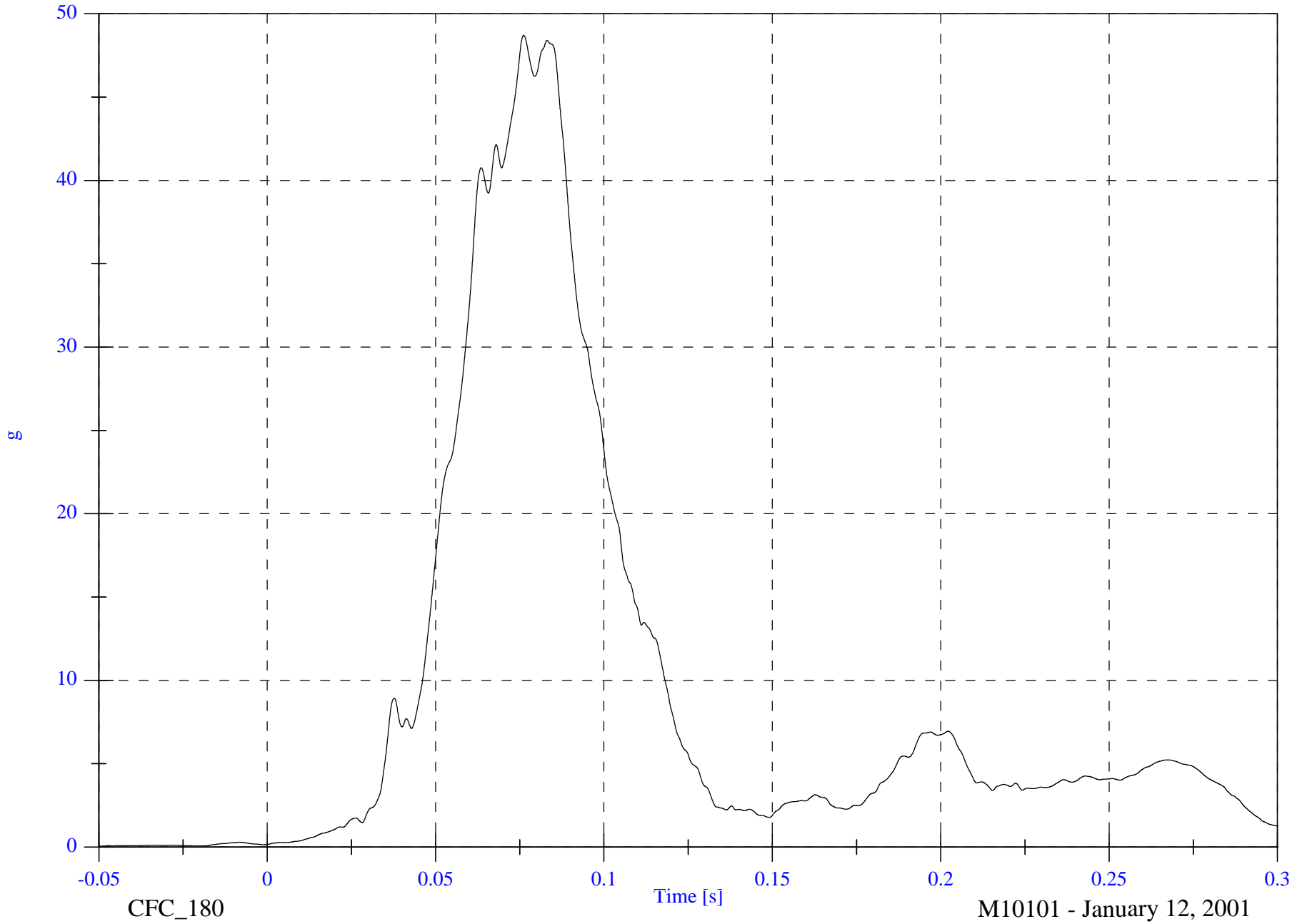
P2 Chest Red Resultant

Max: 48.7 [g] at 0.076 [s]

Min: 0.1 [g] at -0.050 [s]

B-77

8602-15

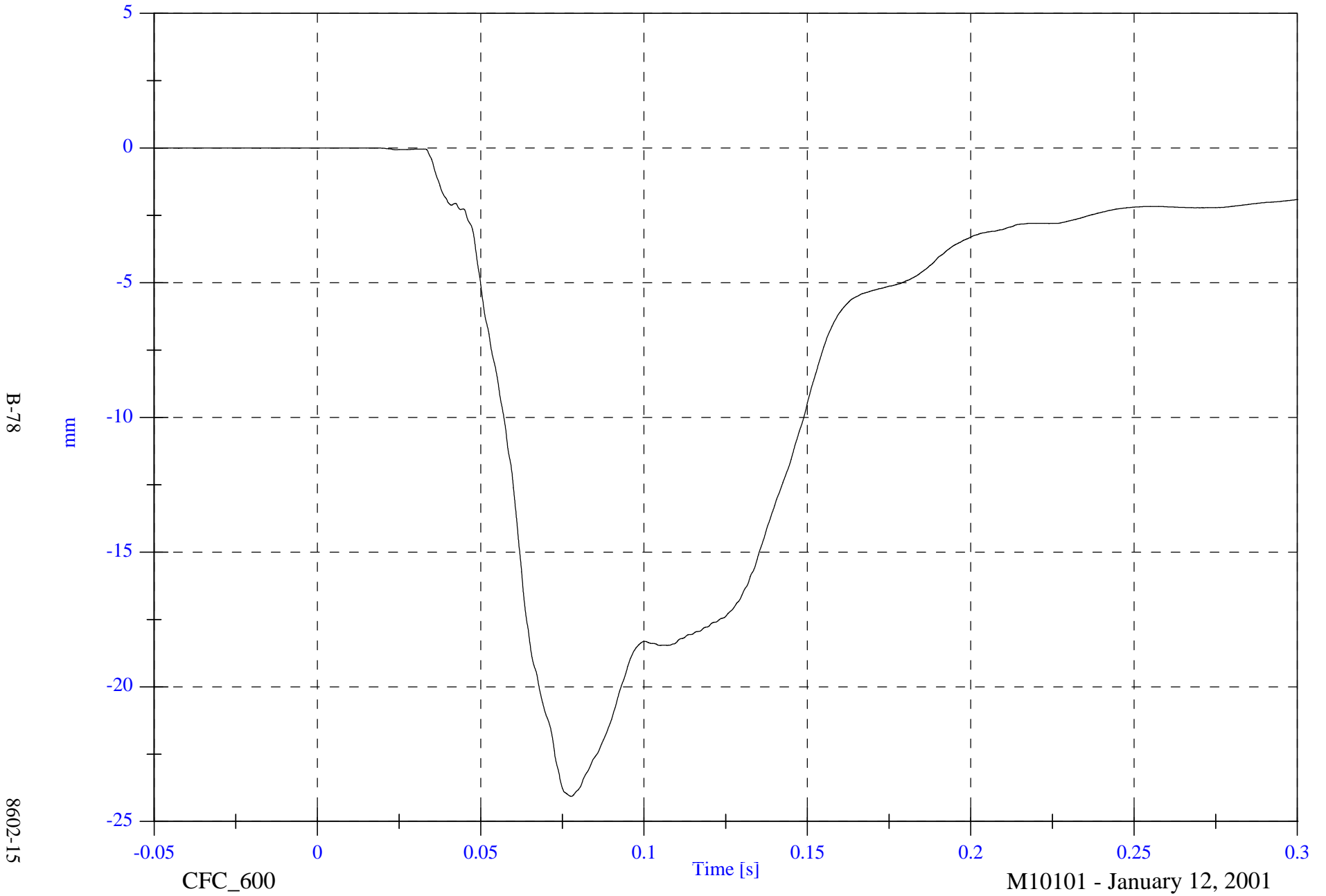


NCAP Test 15 - 2001 Buick Park Avenue

Max: 0.0 [mm] at 0.012 [s]

P2 Chest Compression x

Min: -24.1 [mm] at 0.078 [s]



B-78

mm

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 7.3 [g] at 0.209 [s]

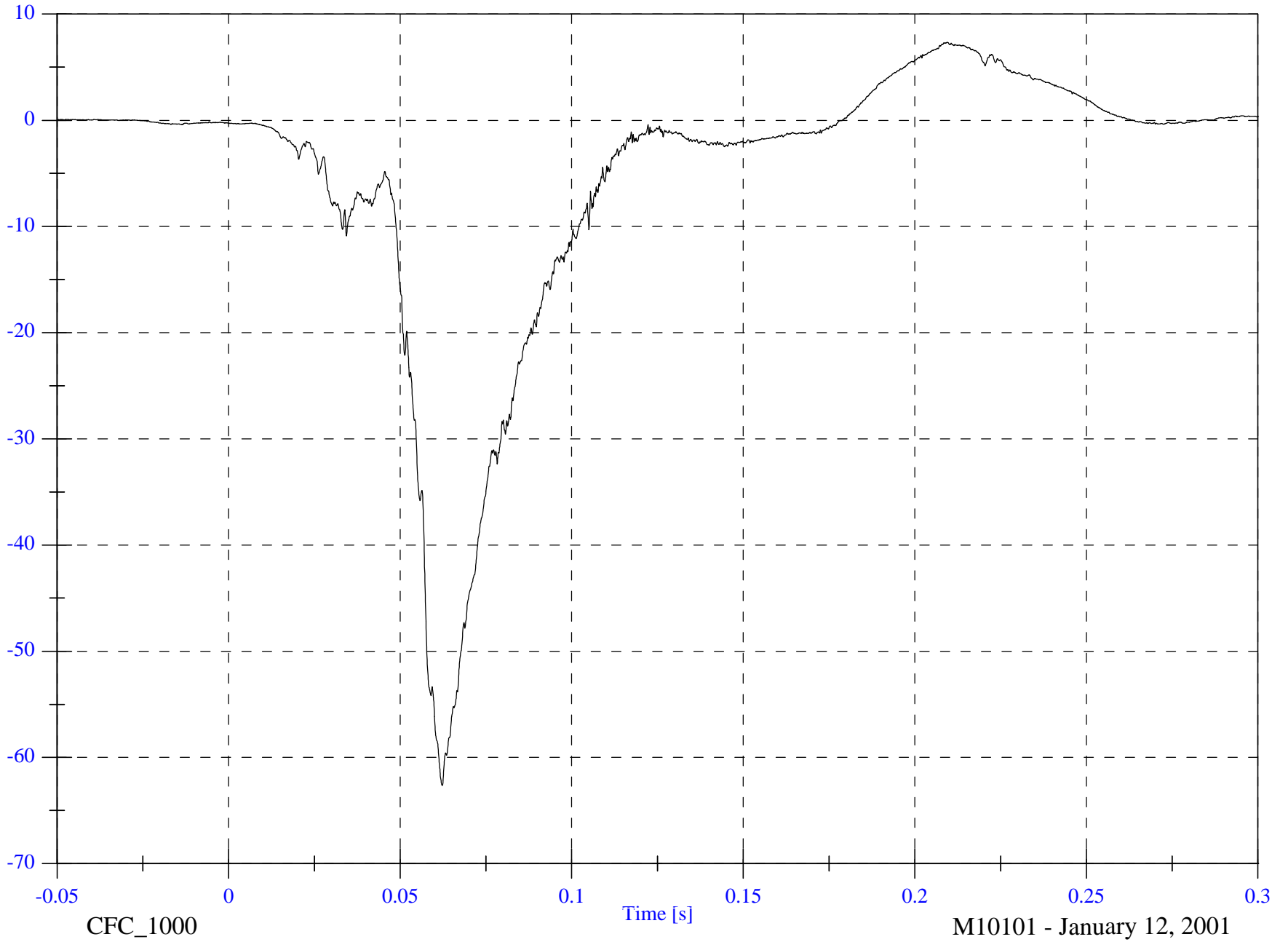
P2 Pelvic x

Min: -62.6 [g] at 0.062 [s]

B-79

g

8602-15



CFC_1000

Time [s]

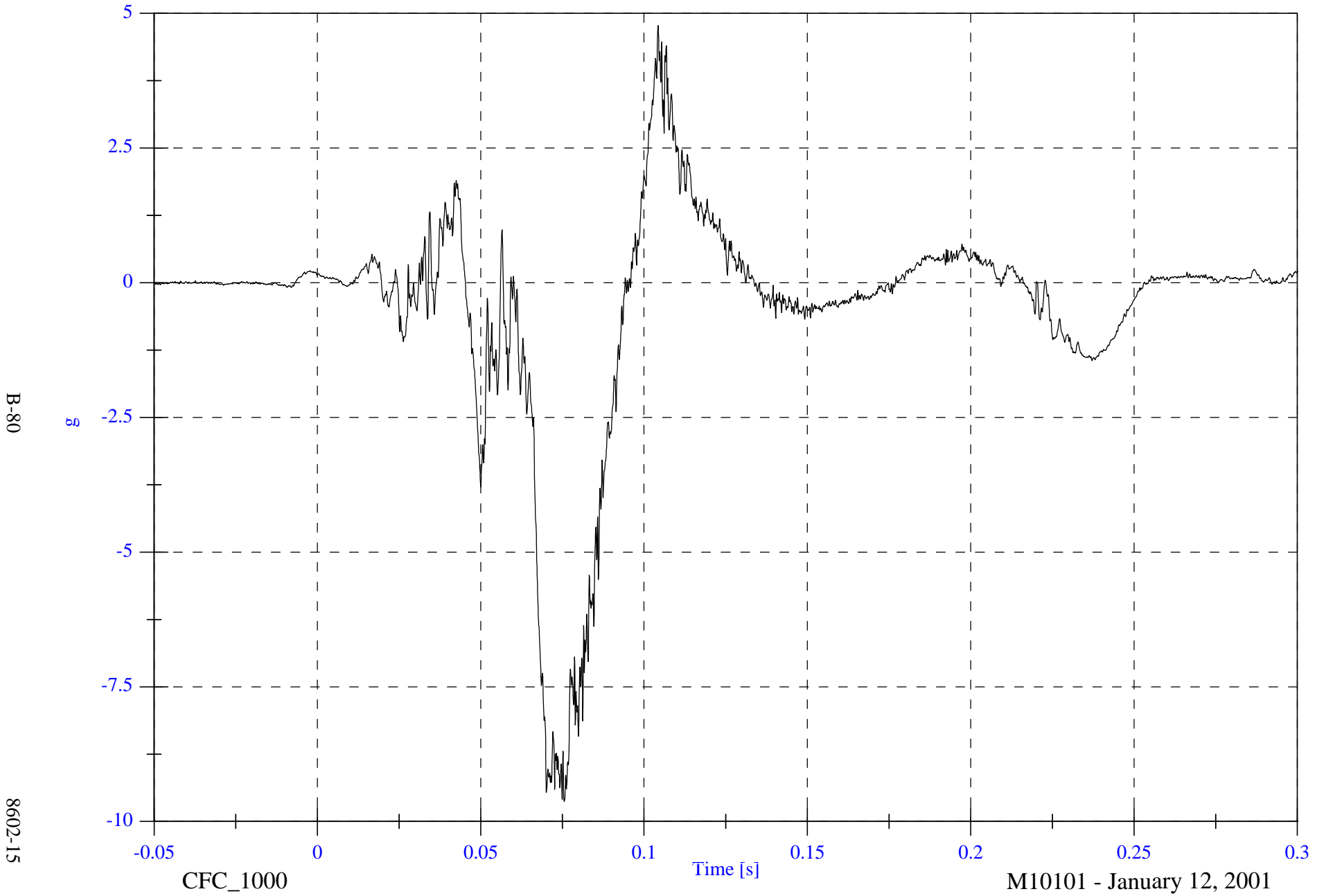
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 4.8 [g] at 0.104 [s]

Min: -9.6 [g] at 0.076 [s]

P2 Pelvic y



NCAP Test 15 - 2001 Buick Park Avenue

Max: 3.3 [g] at 0.233 [s]

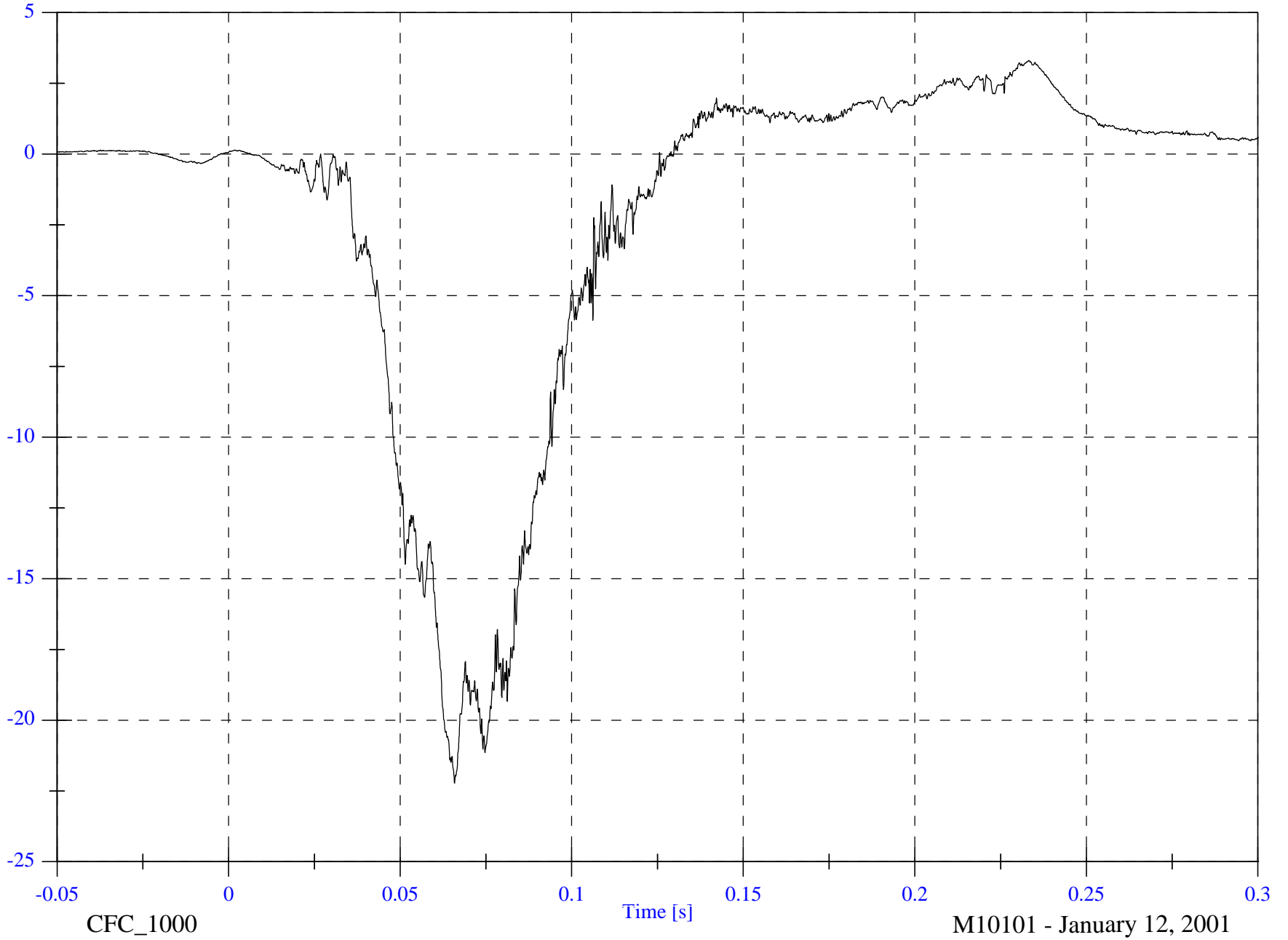
P2 Pelvic z

Min: -22.2 [g] at 0.066 [s]

B-81

g

8602-15



CFC_1000

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

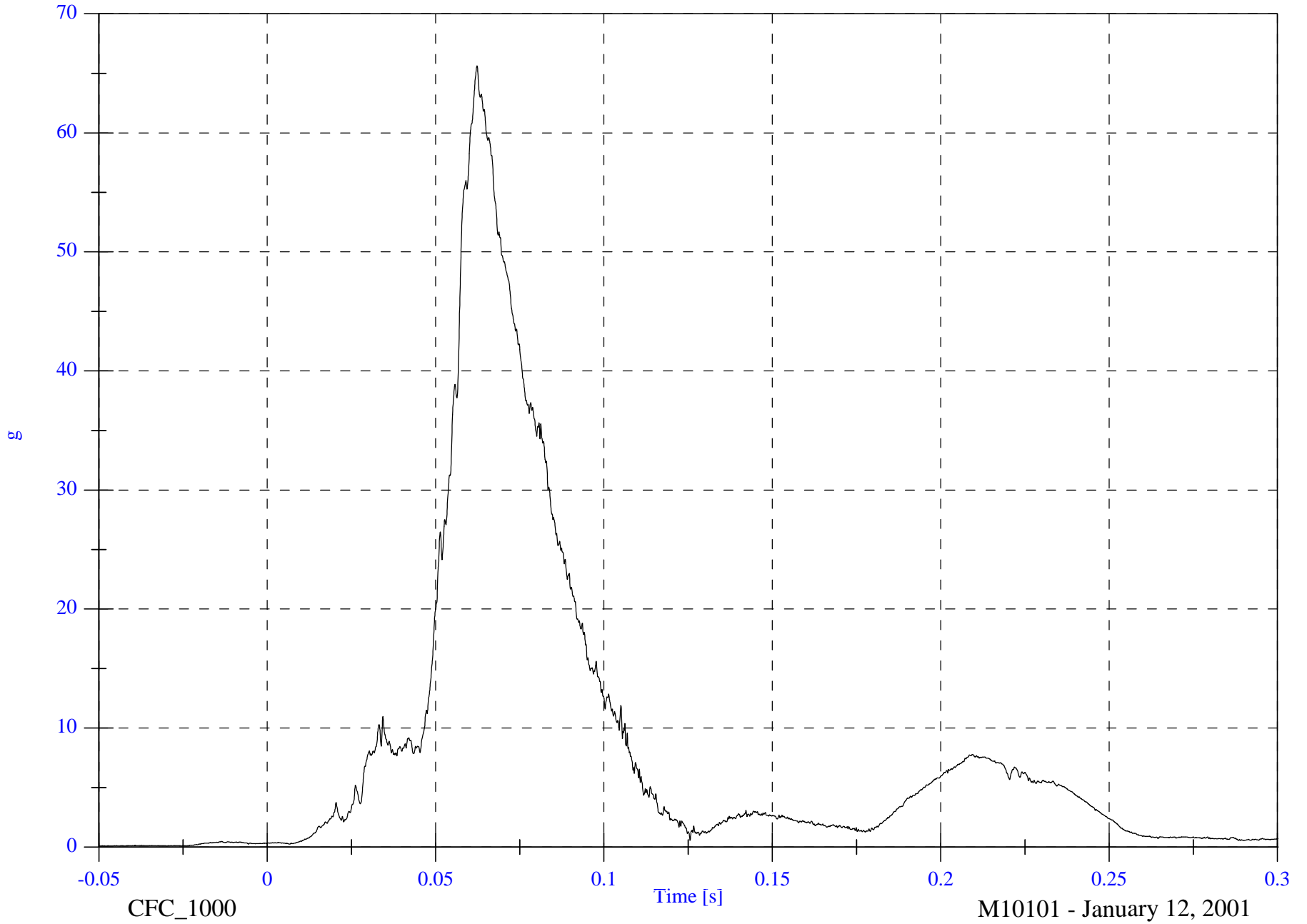
P2 Pelvic Resultant

Max: 65.6 [g] at 0.062 [s]

Min: 0.1 [g] at -0.048 [s]

B-82

8602-15

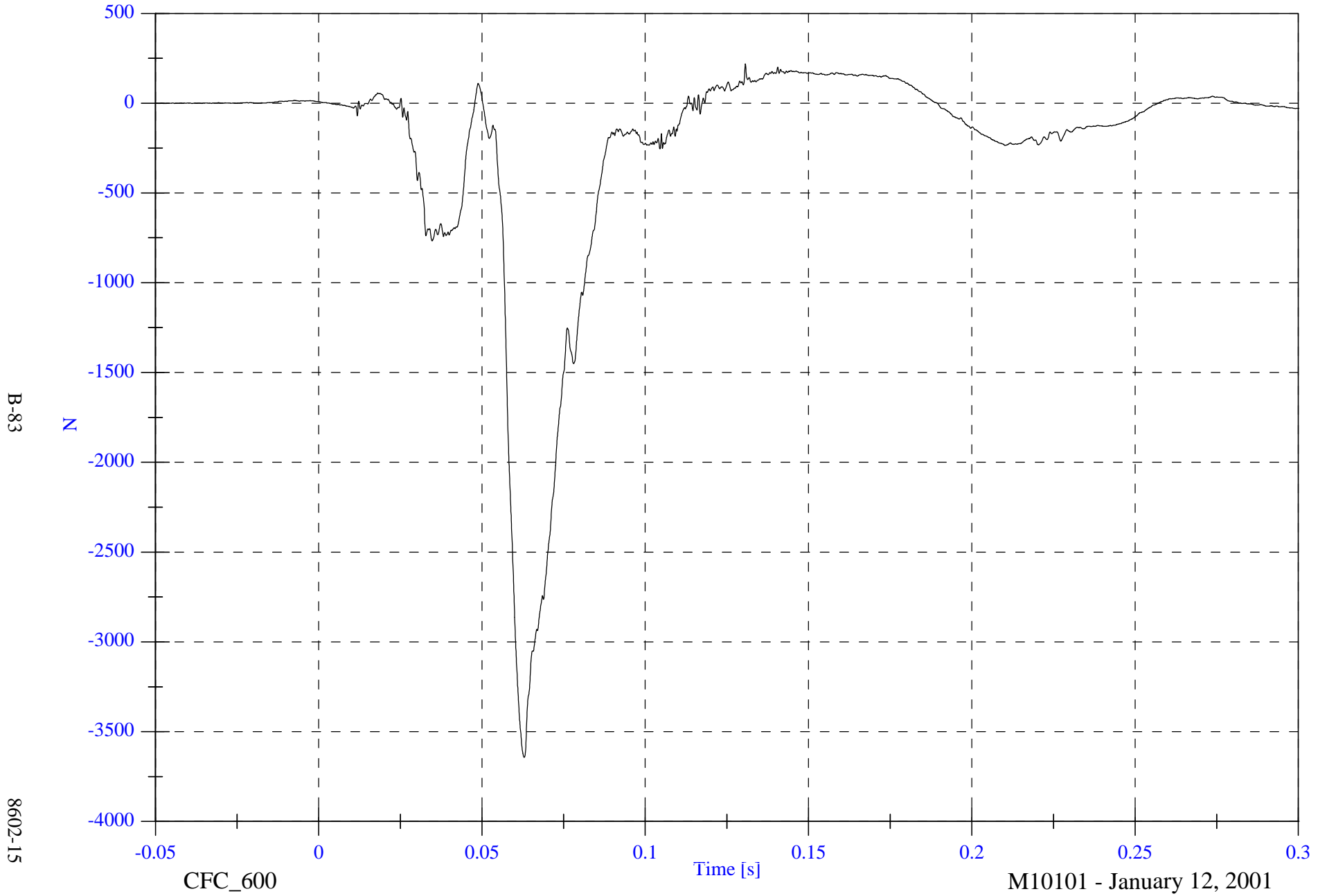


NCAP Test 15 - 2001 Buick Park Avenue

P2 Left Femur z

Max: 218.7 [N] at 0.131 [s]

Min: -3643.5 [N] at 0.063 [s]



B-83

8602-15

CFC_600

Time [s]

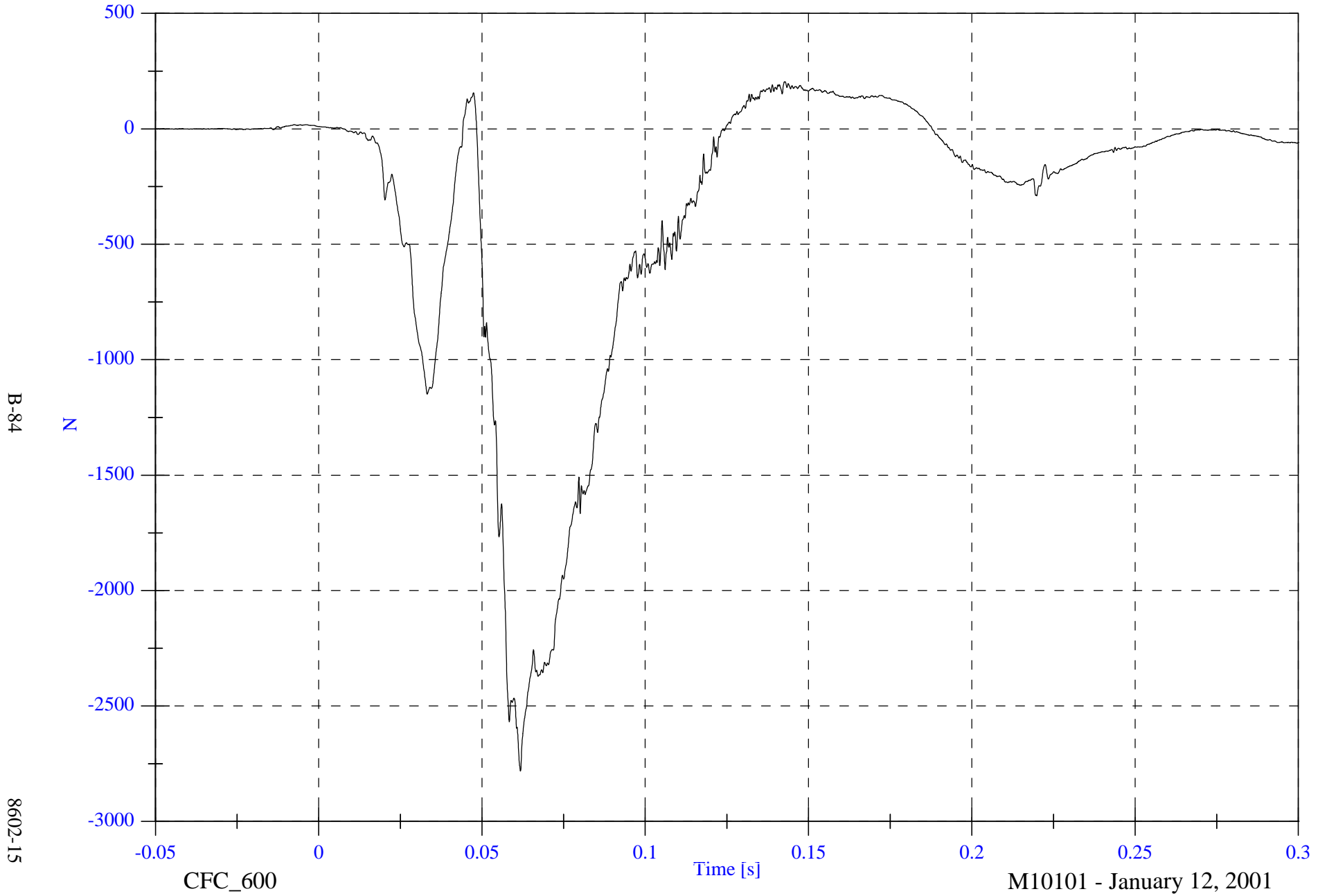
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Right Femur z

Max: 203.9 [N] at 0.143 [s]

Min: -2782.0 [N] at 0.062 [s]



B-84

8602-15

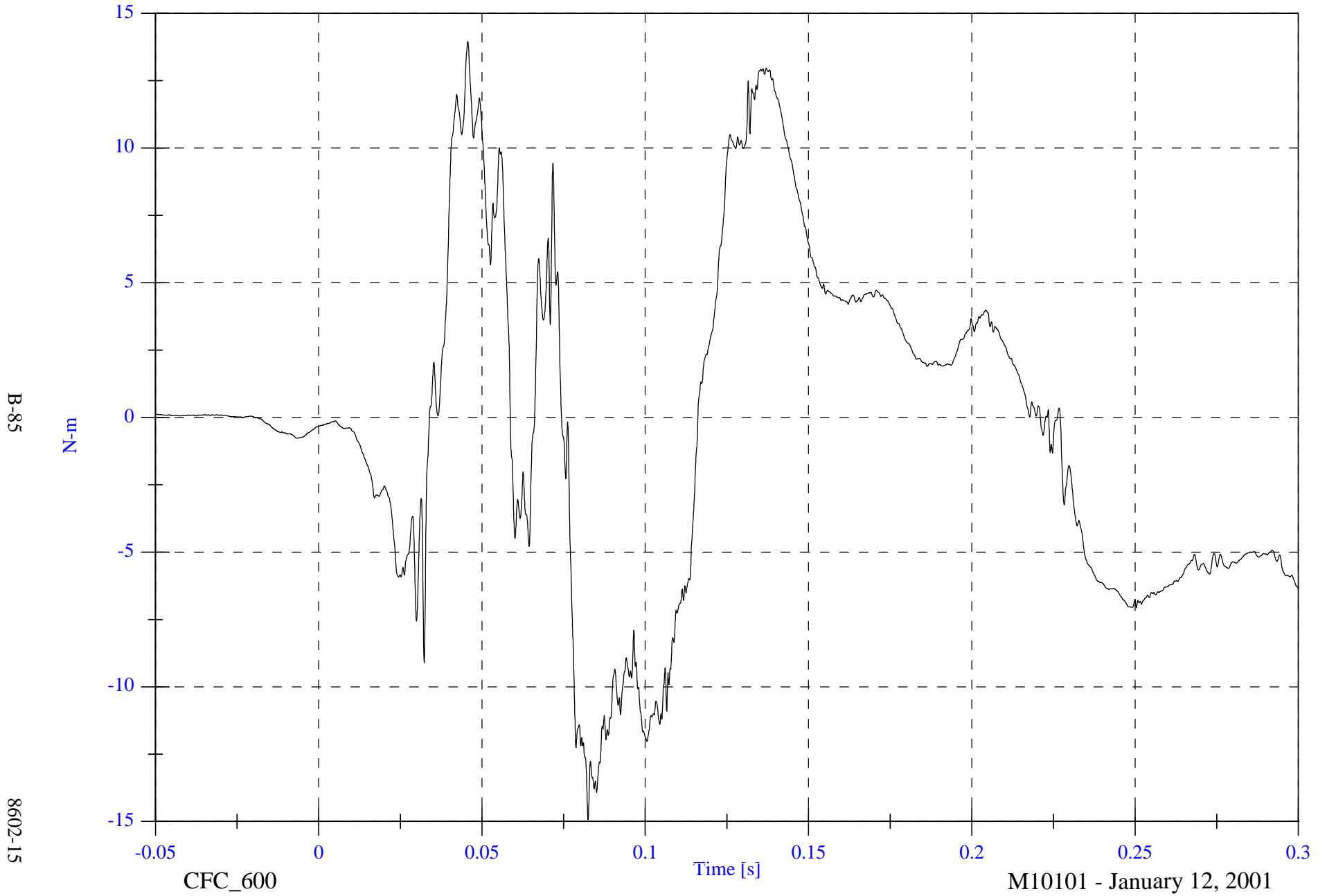
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 14.0 [N-m] at 0.046 [s]

P2 Left Upper Tibia Mx

Min: -14.9 [N-m] at 0.082 [s]



B-85

8602-15

CFC_600

Time [s]

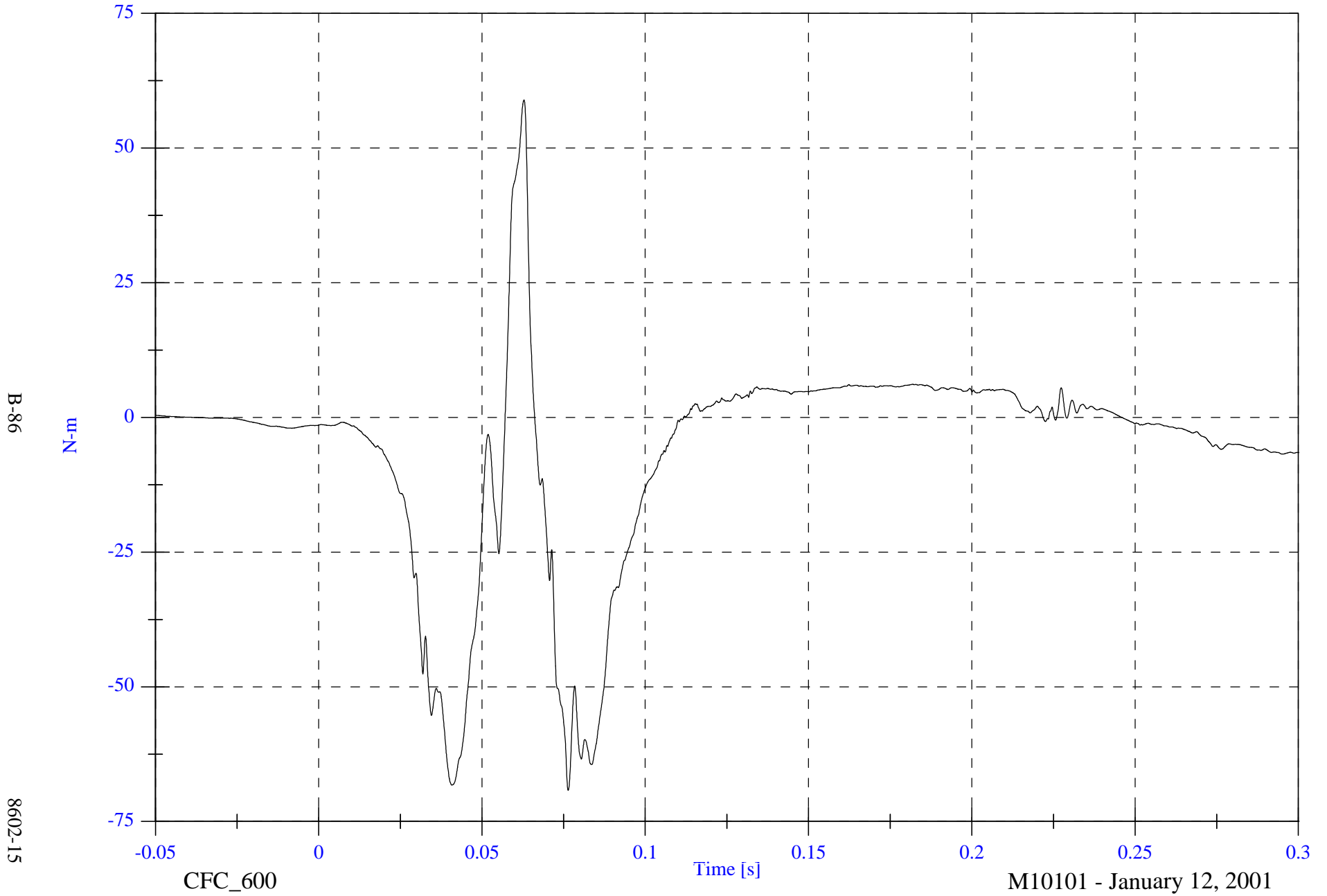
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 58.9 [N-m] at 0.063 [s]

P2 Left Upper Tibia My

Min: -69.2 [N-m] at 0.076 [s]



B-86

8602-15

CFC_600

Time [s]

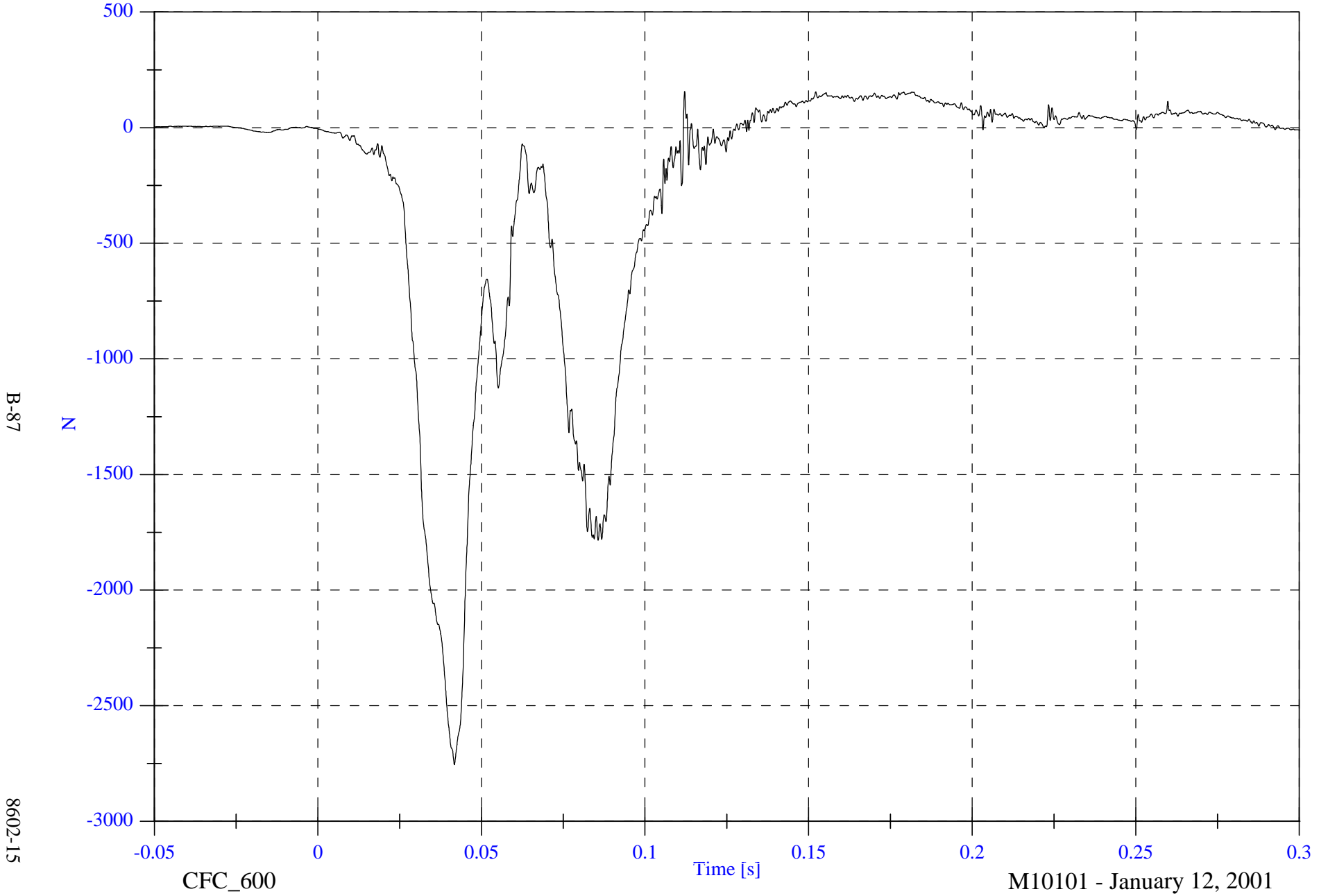
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Left Lower Tibia Fz

Max: 156.8 [N] at 0.112 [s]

Min: -2754.5 [N] at 0.042 [s]



B-87

8602-15

CFC_600

Time [s]

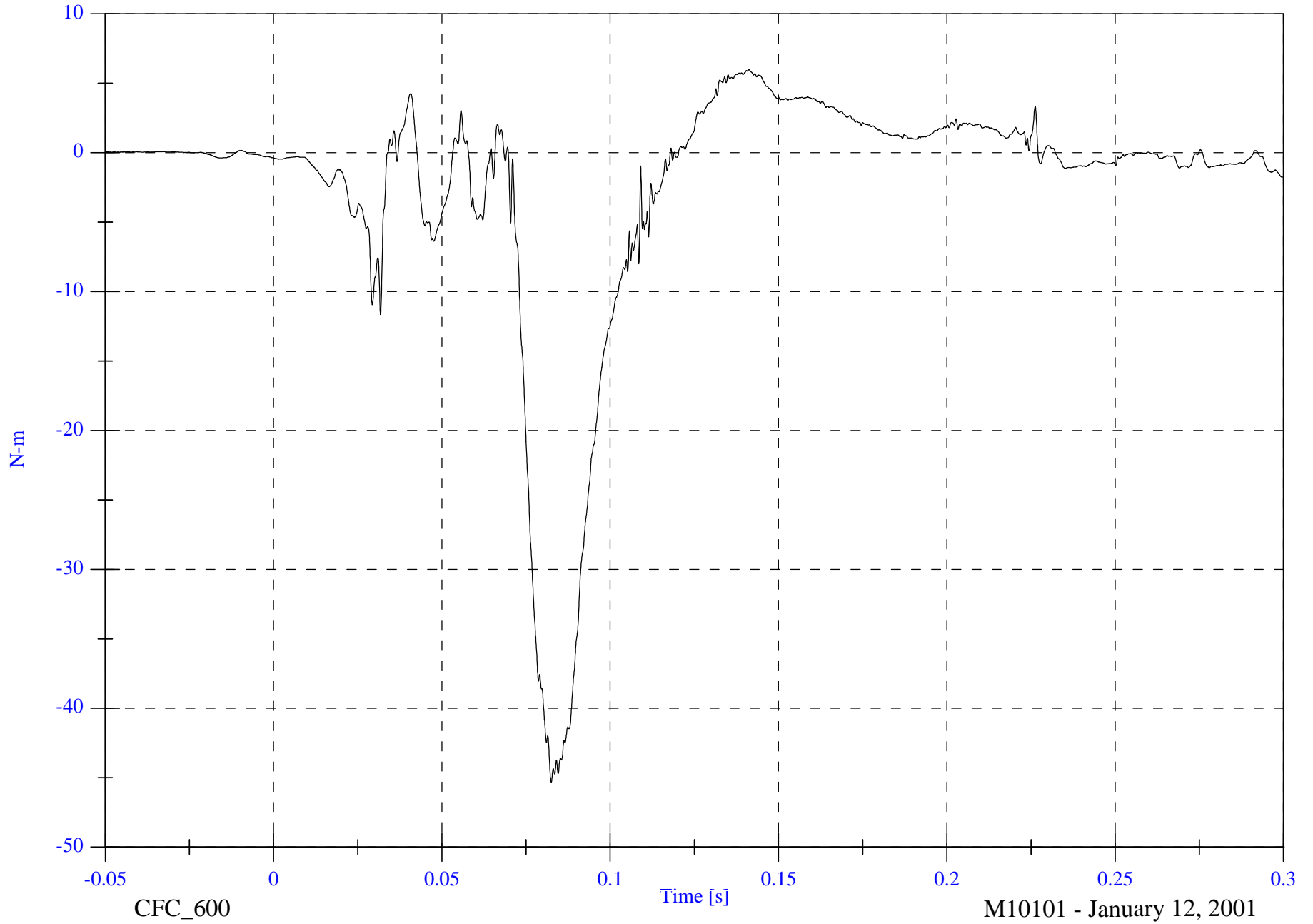
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Left Lower Tibia Mx

Max: 6.0 [N-m] at 0.141 [s]

Min: -45.3 [N-m] at 0.082 [s]



B-88

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

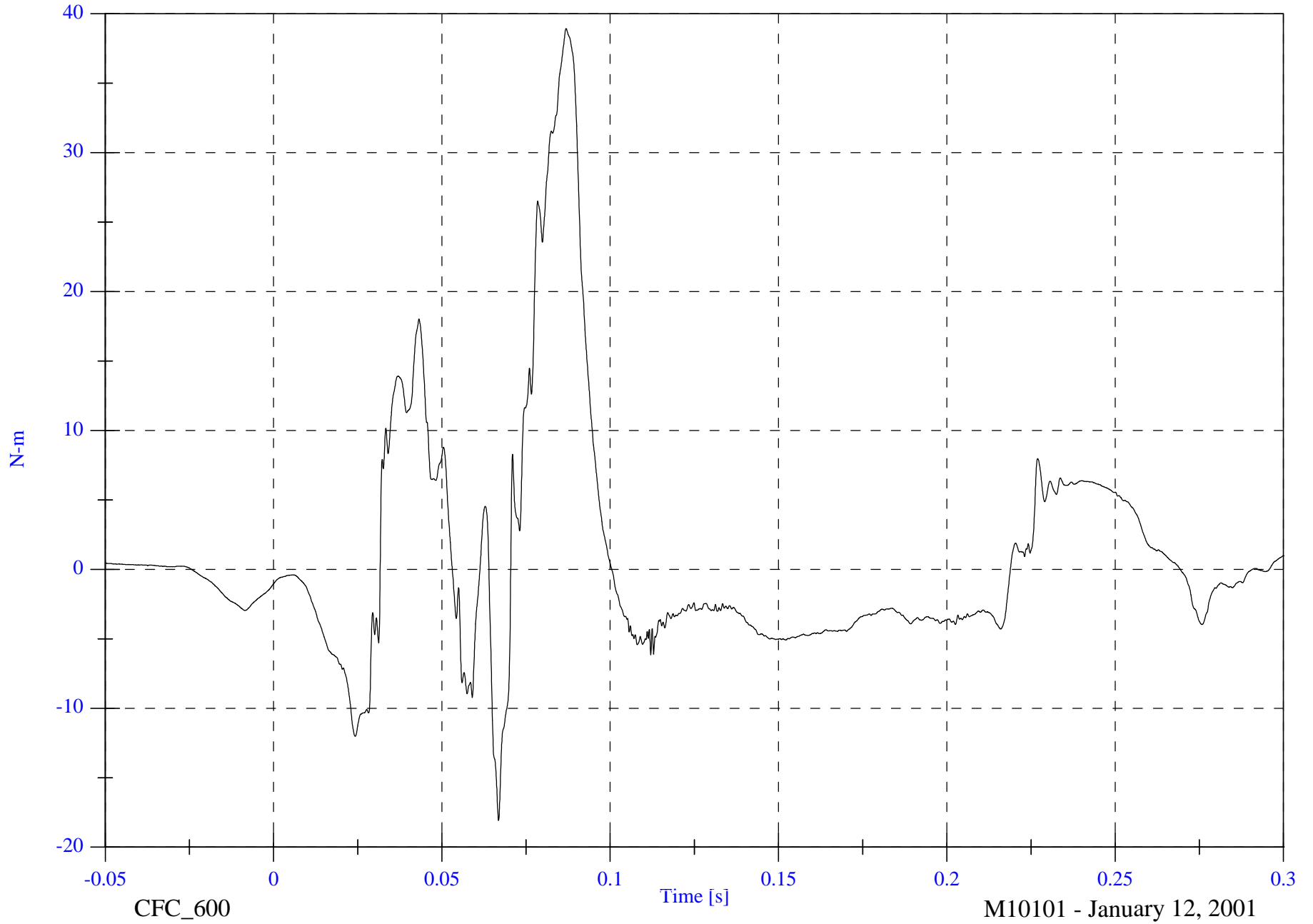
Max: 38.9 [N-m] at 0.087 [s]

Min: -18.1 [N-m] at 0.067 [s]

P2 Left Lower Tibia My

B-89

8602-15



CFC_600

Time [s]

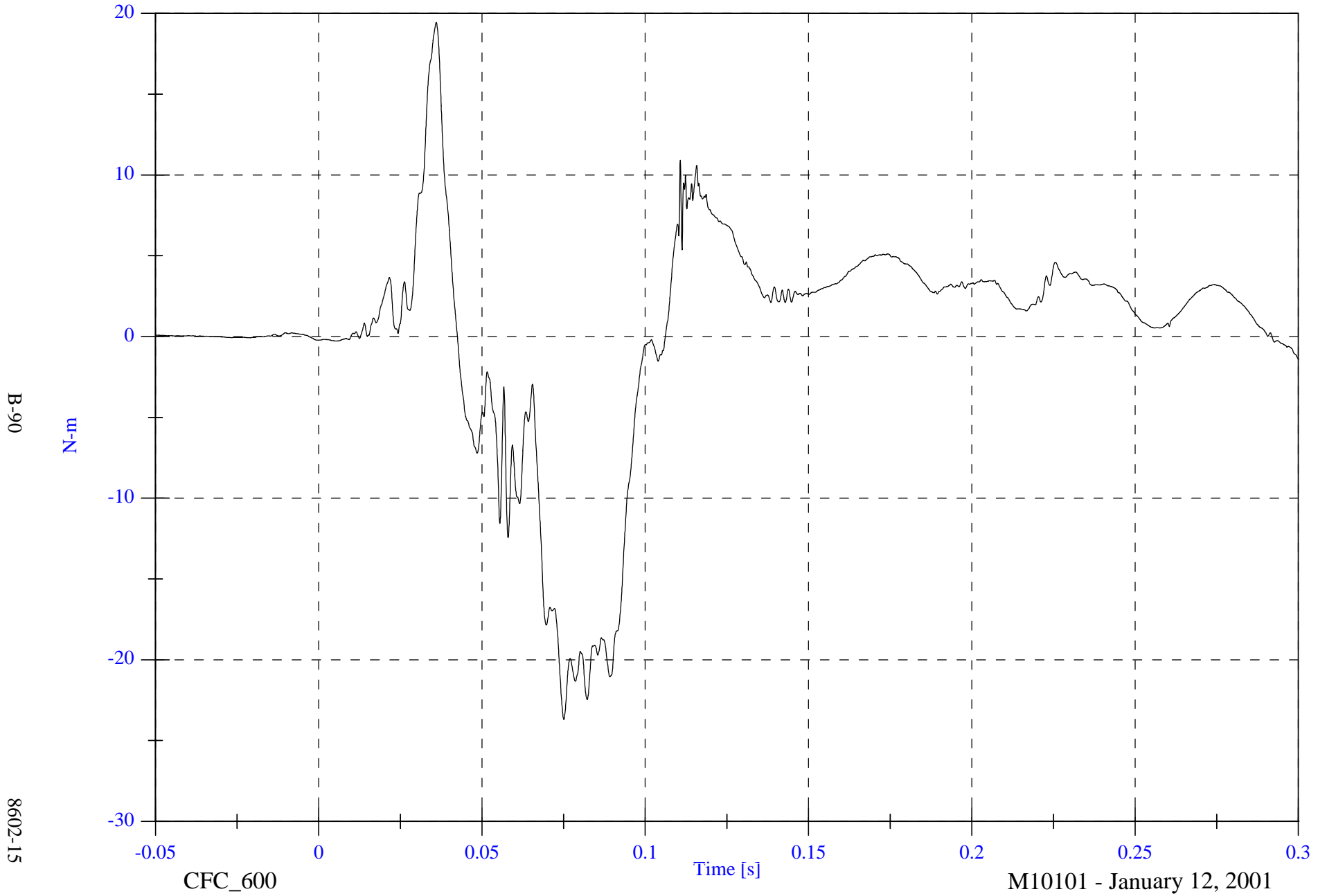
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 19.4 [N-m] at 0.036 [s]

P2 Right Upper Tibia Mx

Min: -23.7 [N-m] at 0.075 [s]



B-90

8602-15

CFC_600

Time [s]

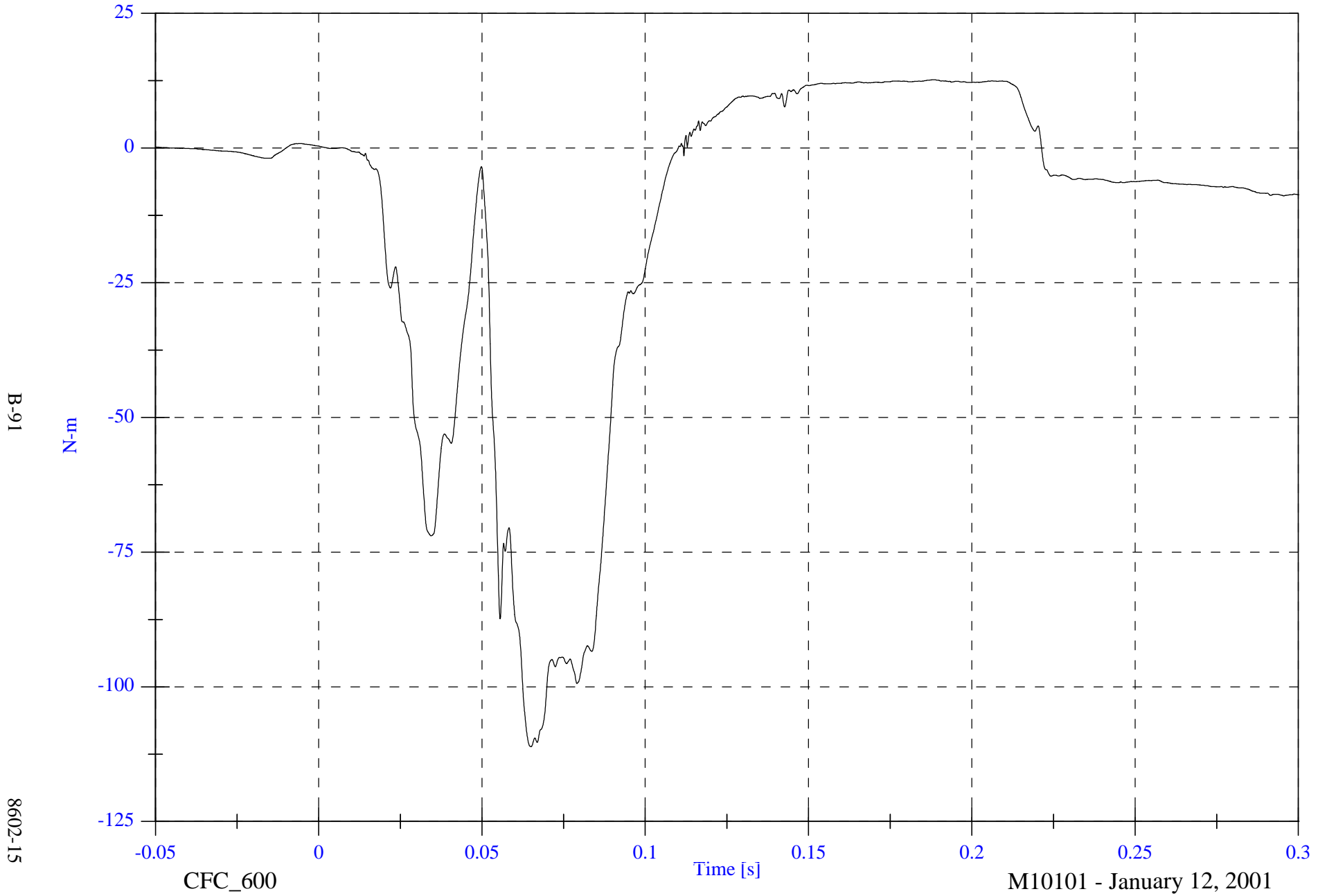
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Right Upper Tibia My

Max: 12.7 [N-m] at 0.188 [s]

Min: -111.1 [N-m] at 0.065 [s]



B-91

8602-15

CFC_600

Time [s]

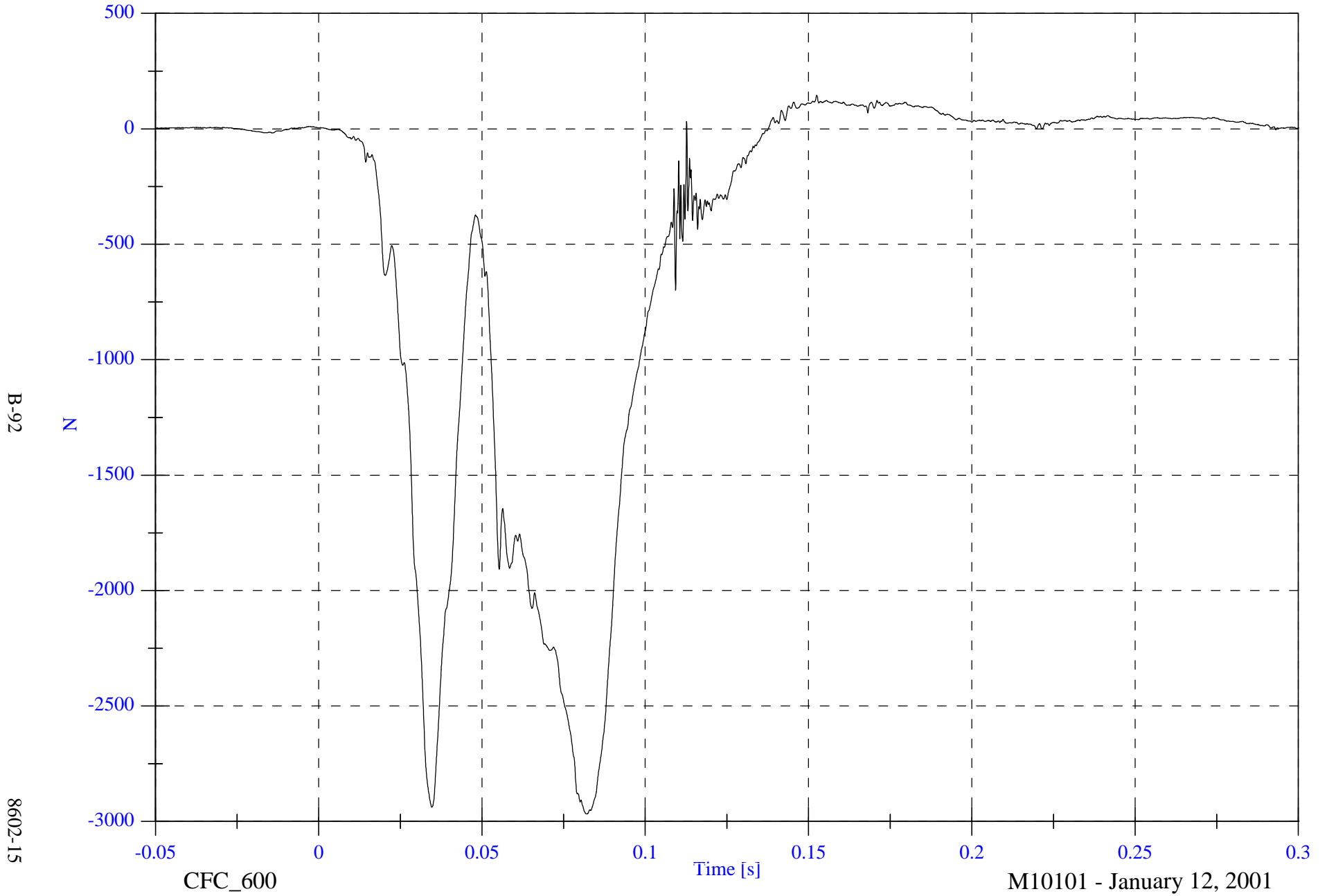
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 145.2 [N] at 0.152 [s]

P2 Right Lower Tibia Fz

Min: -2967.2 [N] at 0.082 [s]



B-92

8602-15

CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

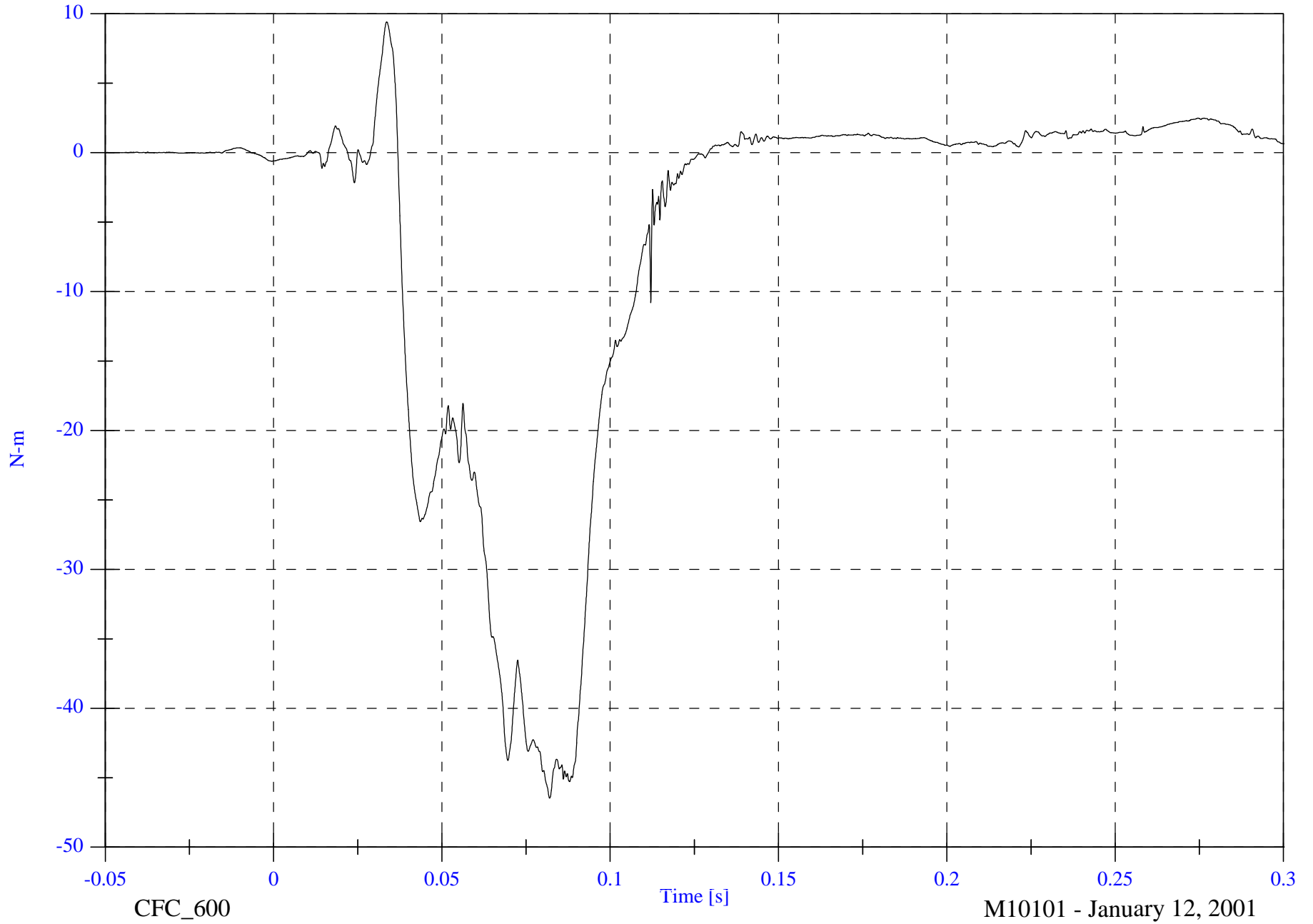
Max: 9.4 [N-m] at 0.034 [s]

P2 Right Lower Tibia Mx

Min: -46.5 [N-m] at 0.082 [s]

B-93

8602-15



CFC_600

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

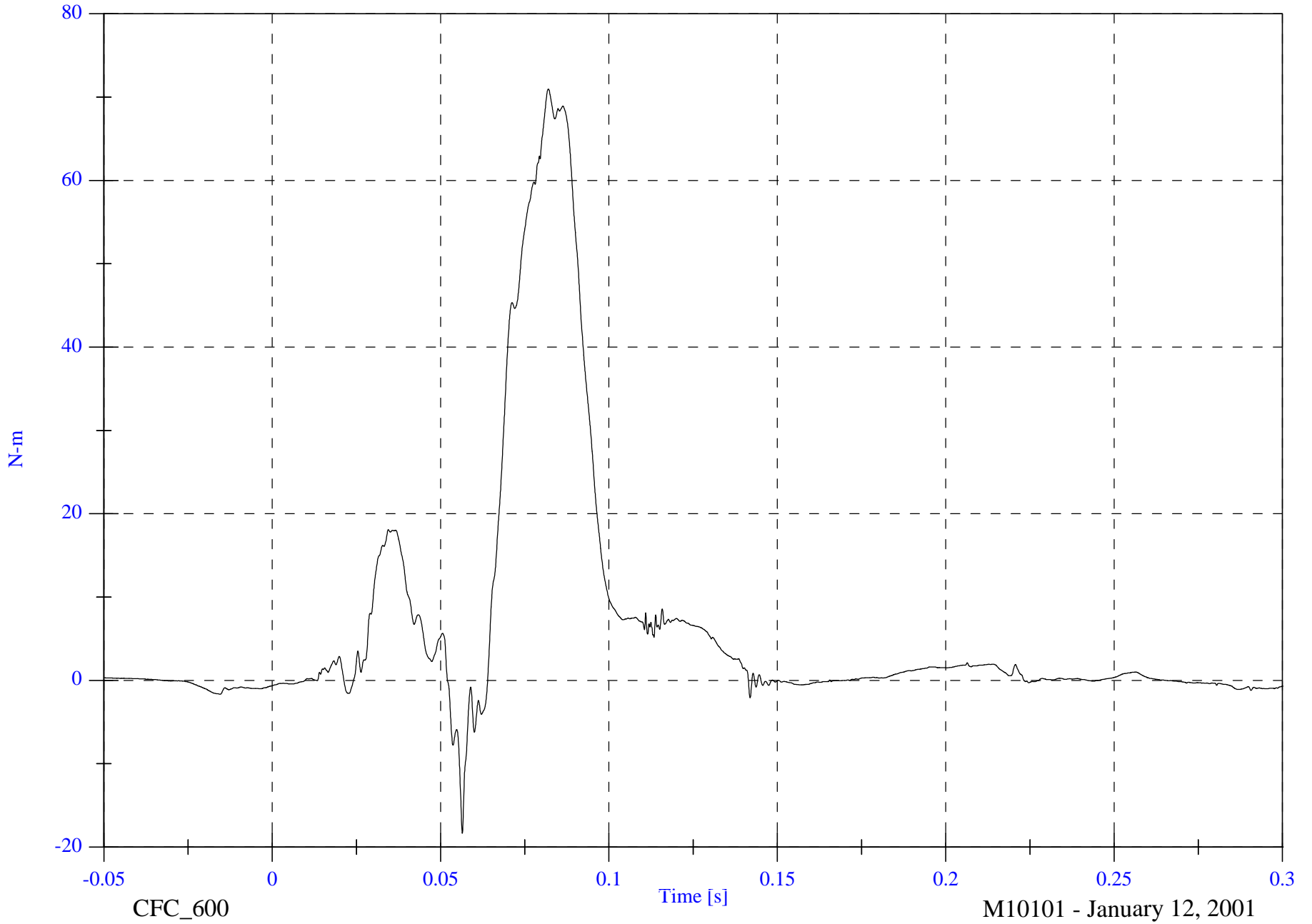
Max: 71.0 [N-m] at 0.082 [s]

P2 Right Lower Tibia My

Min: -18.4 [N-m] at 0.056 [s]

B-94

8602-15

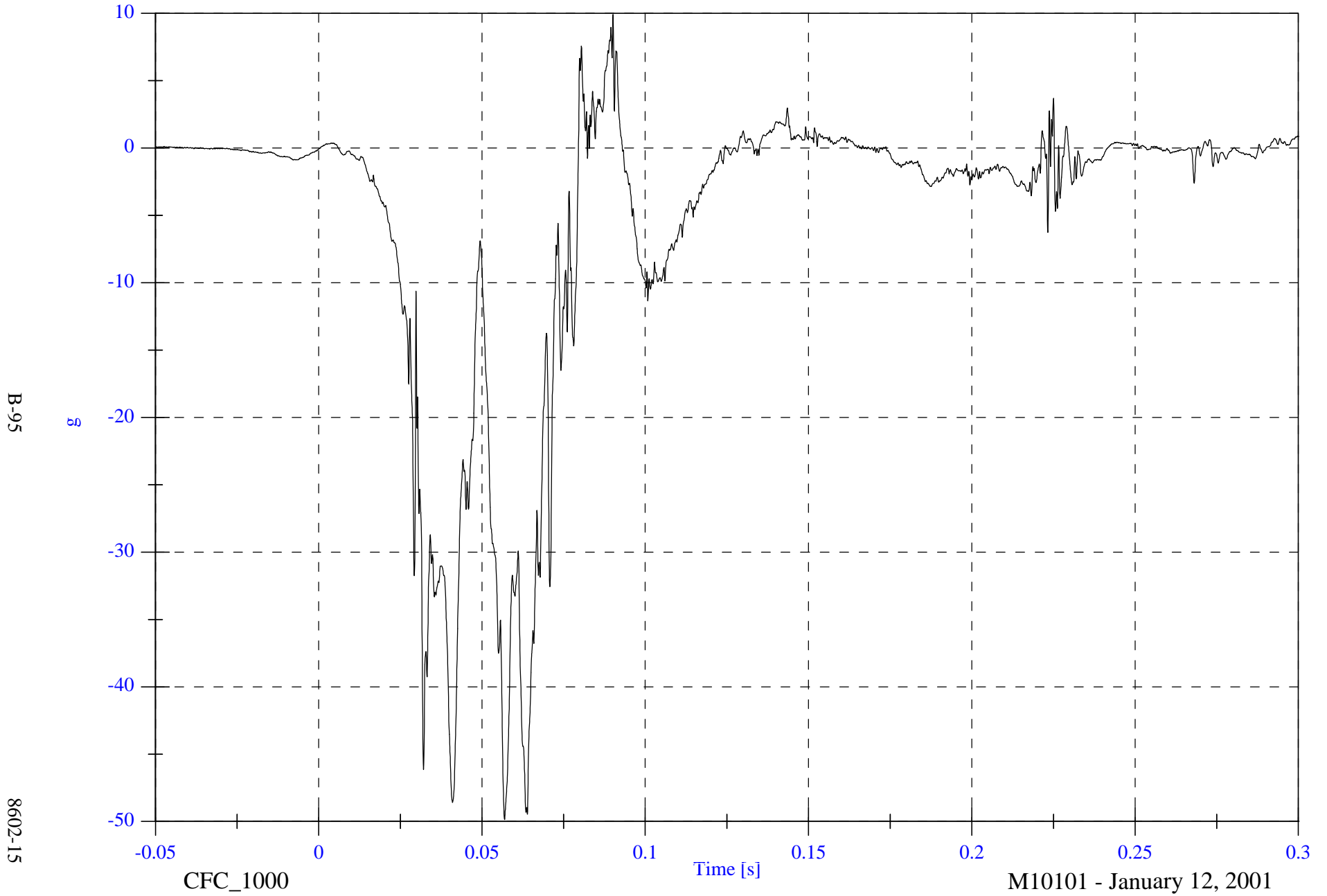


NCAP Test 15 - 2001 Buick Park Avenue

Max: 9.9 [g] at 0.090 [s]

Min: -49.9 [g] at 0.057 [s]

P2 Left Foot Aft x



B-95

8602-15

CFC_1000

Time [s]

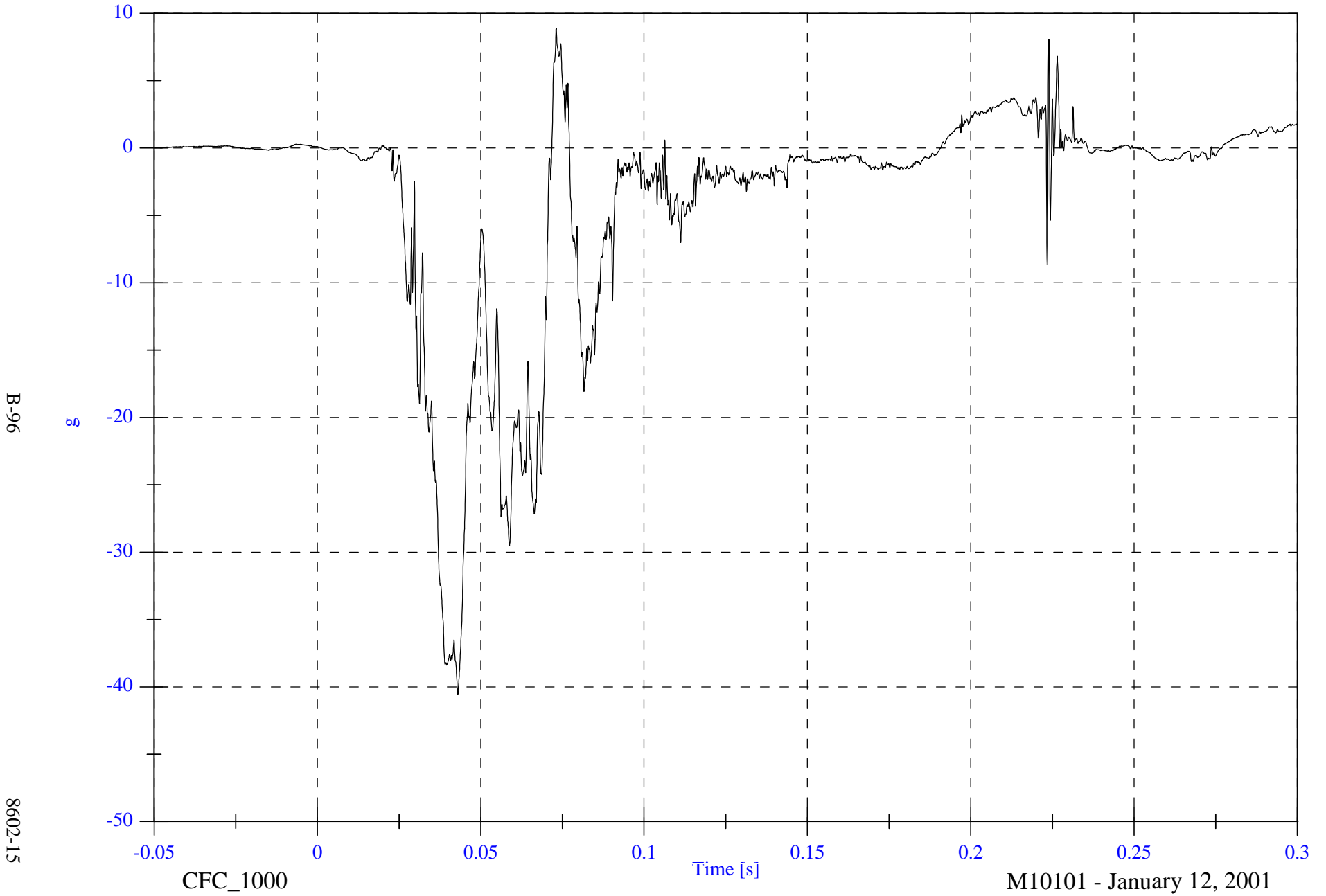
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 8.9 [g] at 0.073 [s]

P2 Left Foot Aft z

Min: -40.6 [g] at 0.043 [s]



B-96

8602-15

CFC_1000

Time [s]

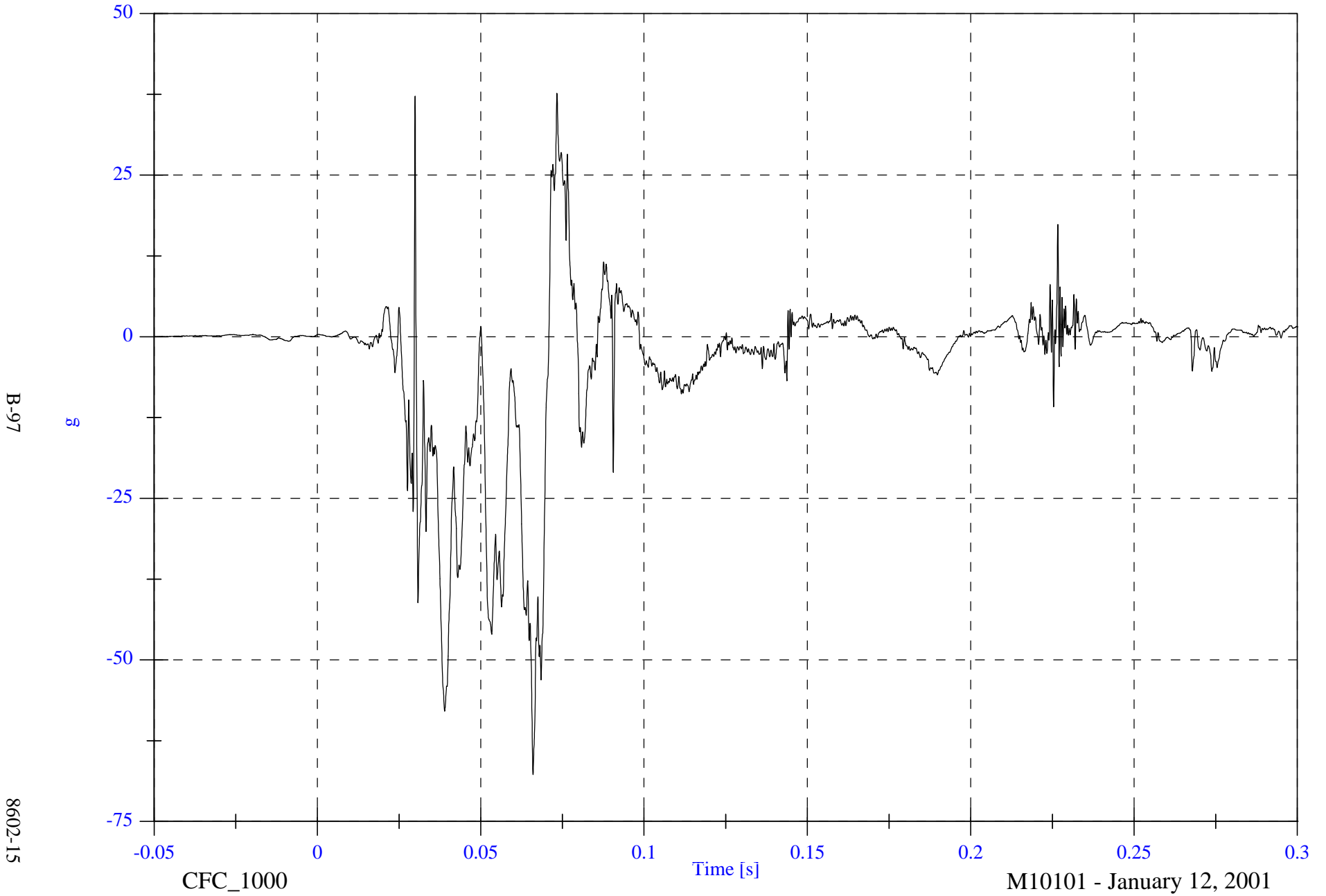
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 37.6 [g] at 0.073 [s]

Min: -67.8 [g] at 0.066 [s]

P2 Left Foot Fore z

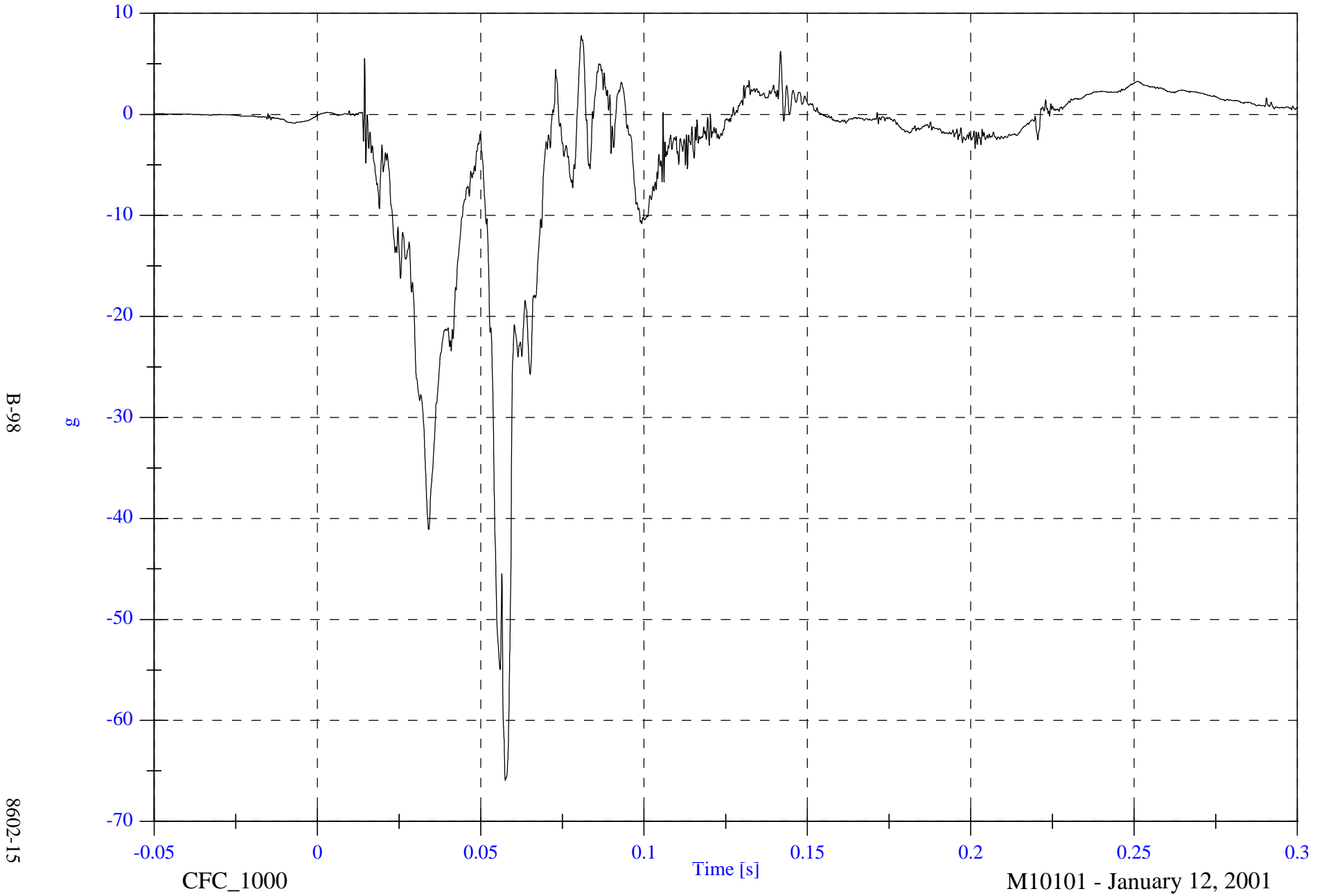


NCAP Test 15 - 2001 Buick Park Avenue

Max: 7.8 [g] at 0.081 [s]

Min: -65.9 [g] at 0.058 [s]

P2 Right Foot Aft x

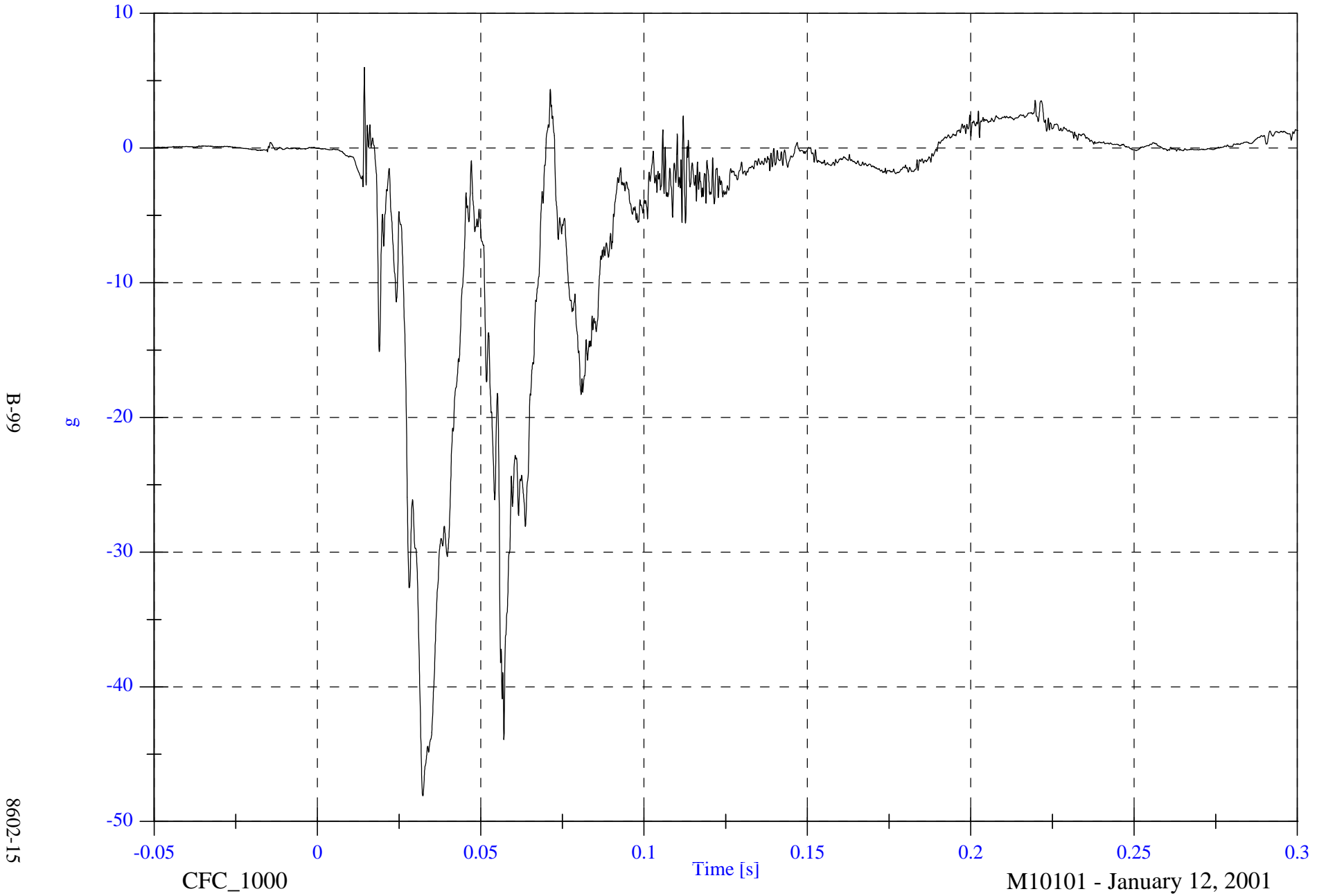


NCAP Test 15 - 2001 Buick Park Avenue

Max: 6.0 [g] at 0.014 [s]

Min: -48.1 [g] at 0.032 [s]

P2 Right Foot Aft z

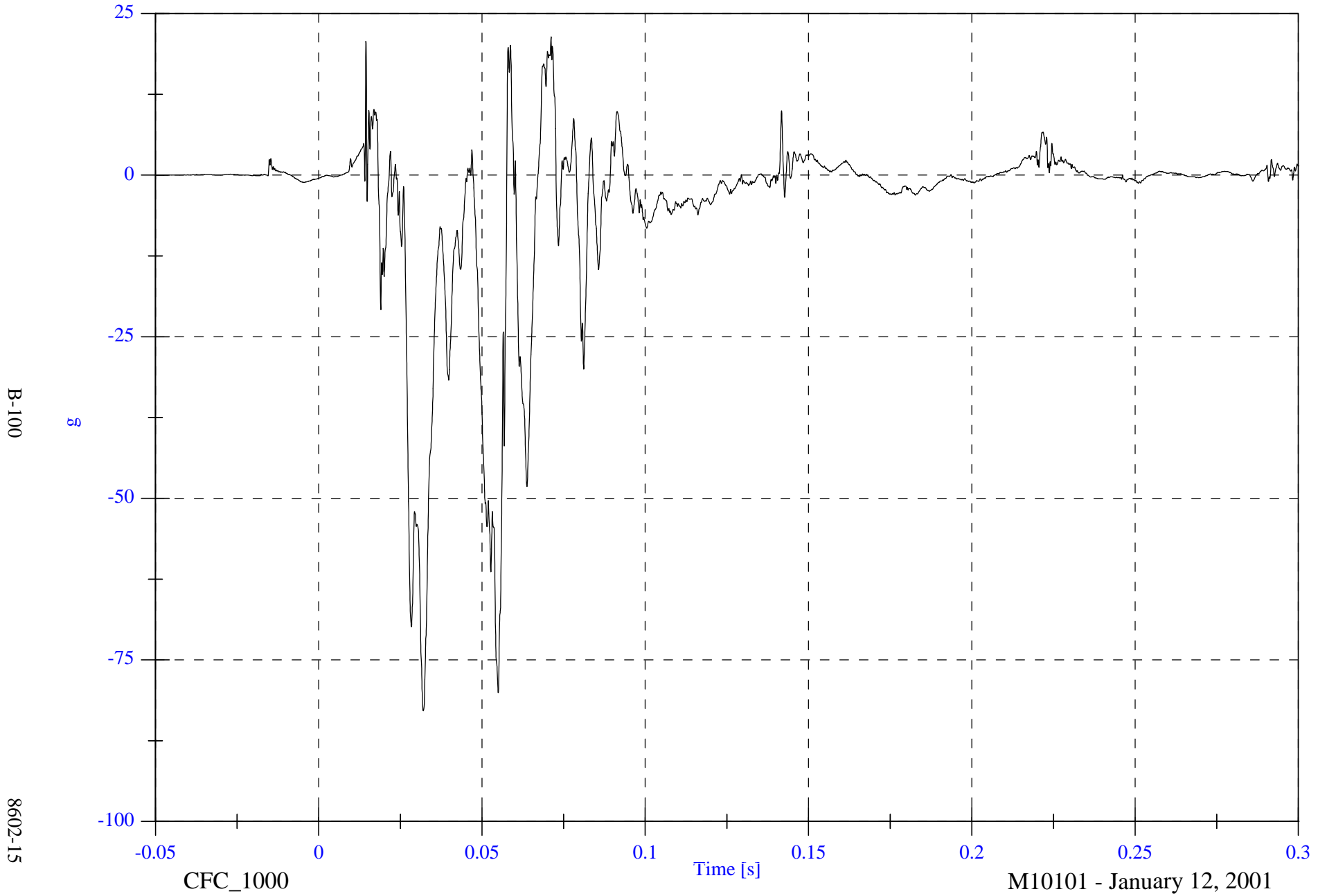


NCAP Test 15 - 2001 Buick Park Avenue

P2 Right Foot Fore z

Max: 21.4 [g] at 0.071 [s]

Min: -82.9 [g] at 0.032 [s]



B-100

8602-15

CFC_1000

Time [s]

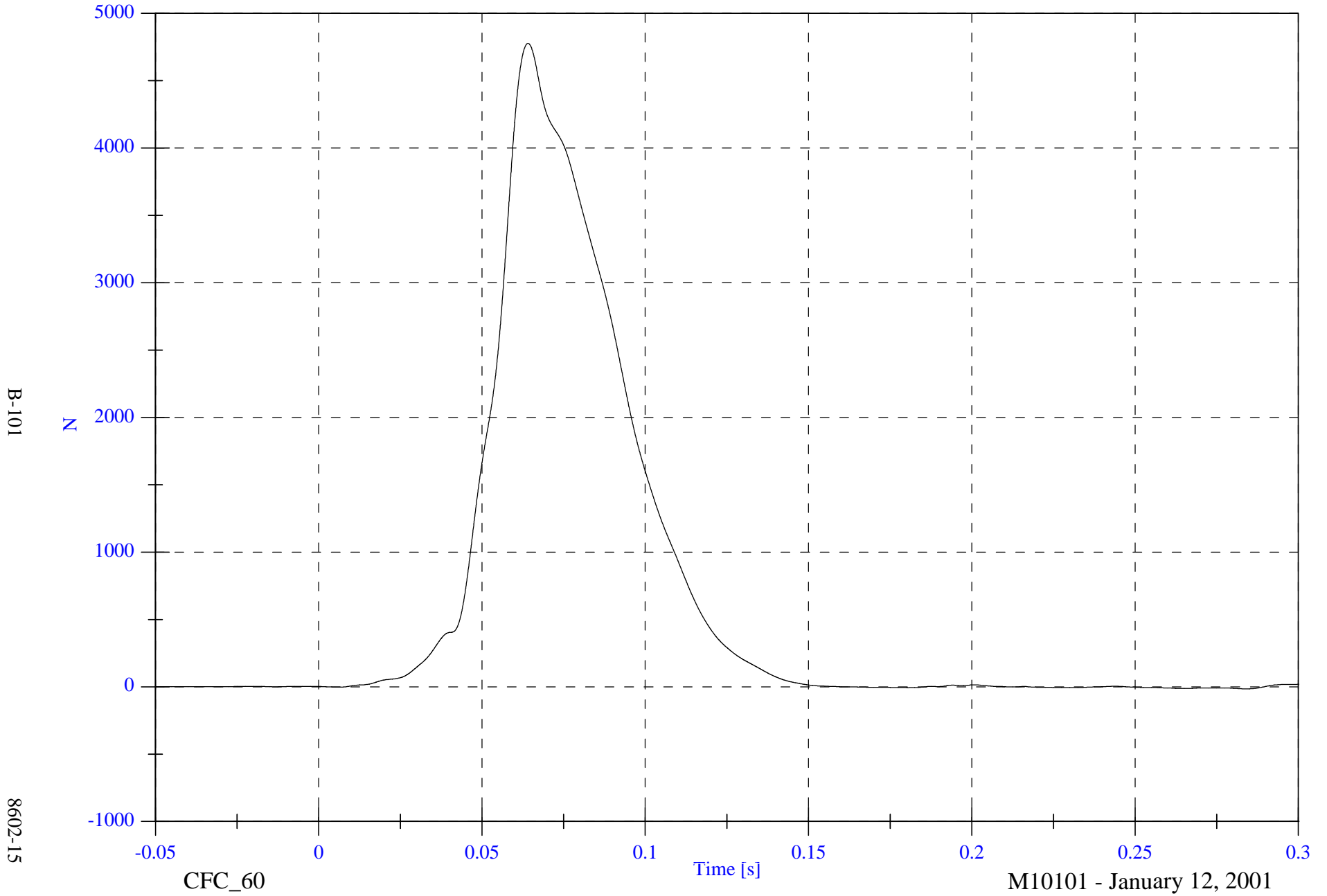
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

P2 Lap Belt Force

Max: 4777.7 [N] at 0.064 [s]

Min: -16.1 [N] at 0.284 [s]



B-101

8602-15

CFC_60

Time [s]

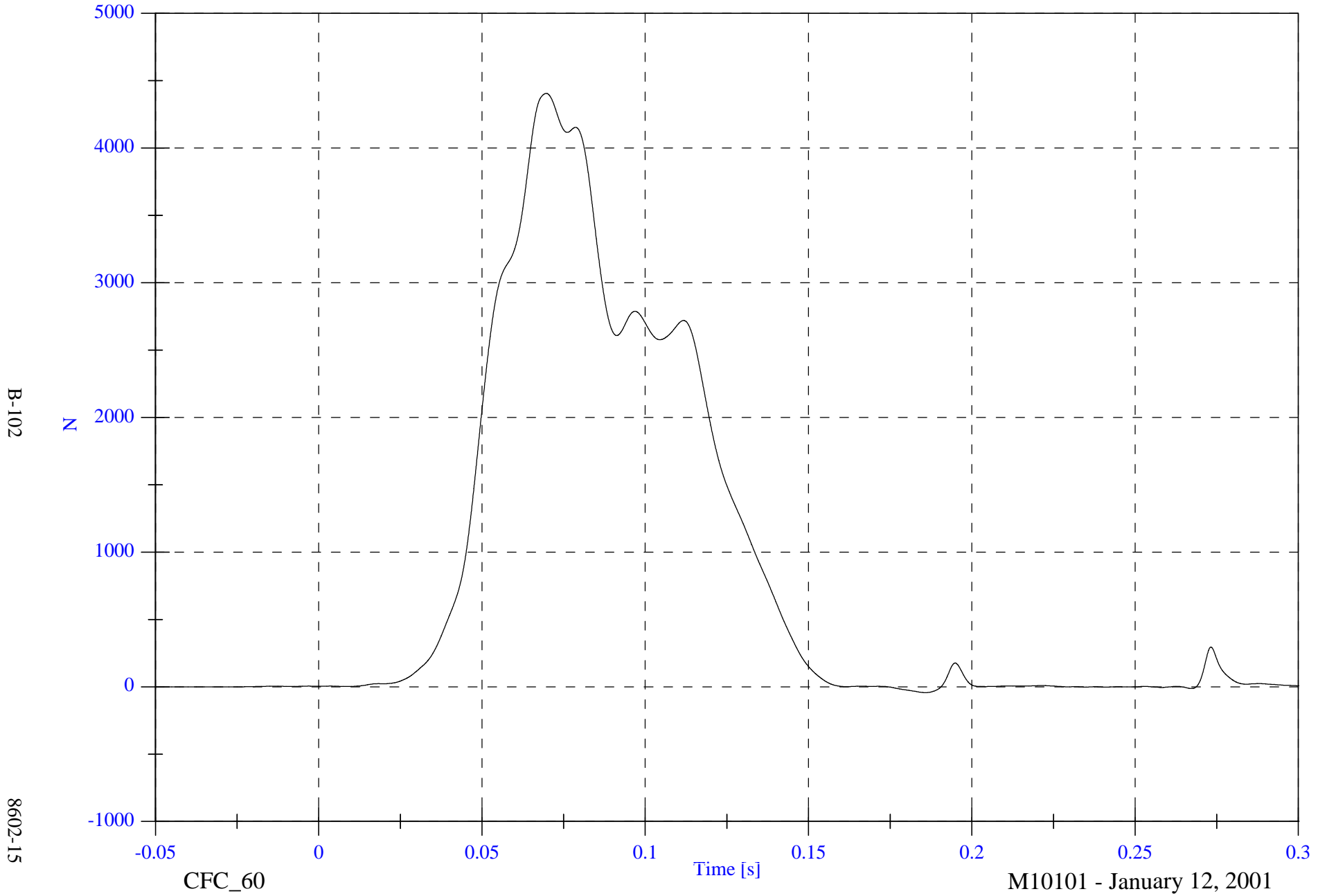
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 4406.3 [N] at 0.070 [s]

P2 Shoulder Belt Force

Min: -44.1 [N] at 0.186 [s]



B-102

8602-15

CFC_60

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

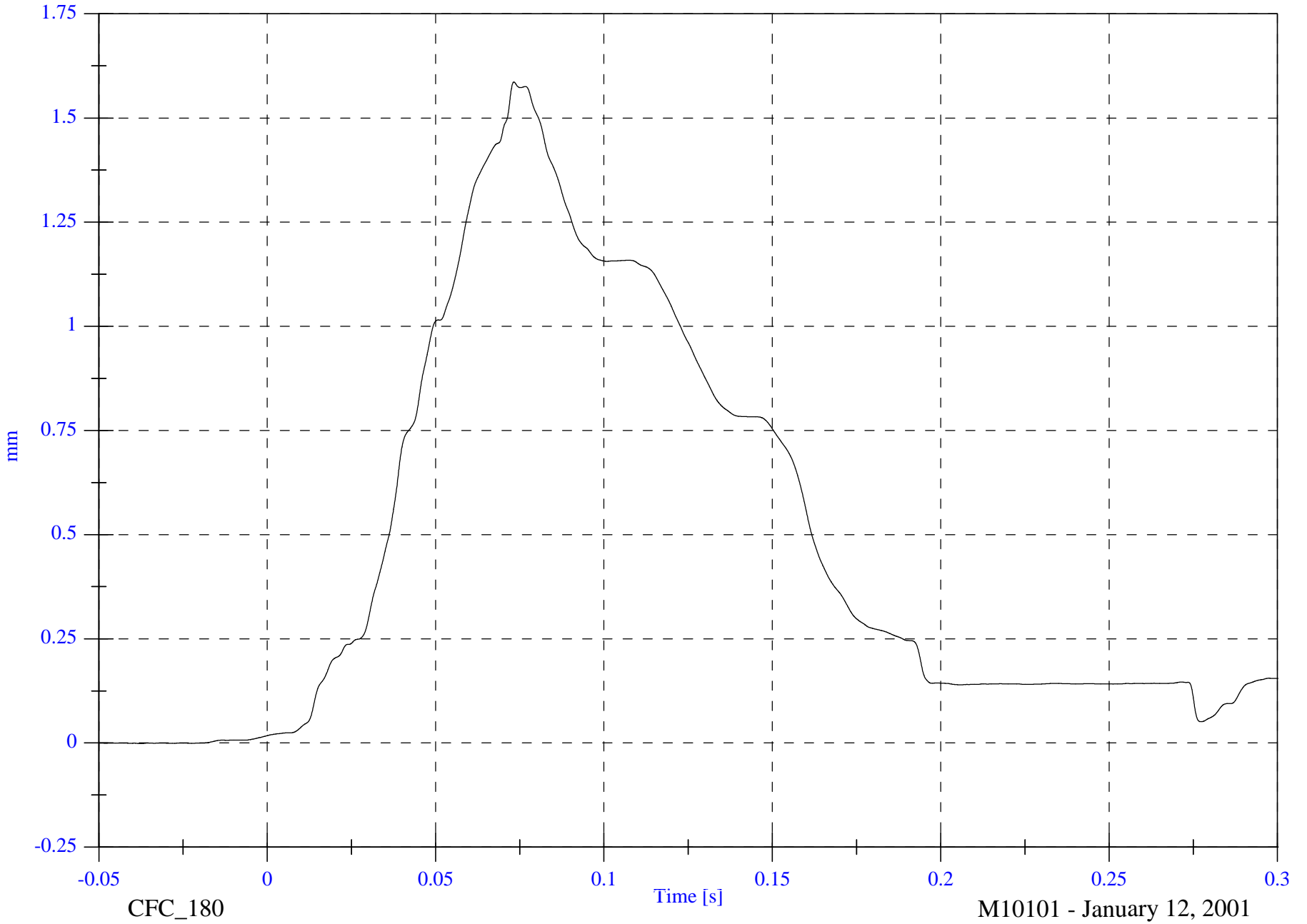
P2 Shoulder Belt Elongation

Max: 1.6 [mm] at 0.073 [s]

Min: -0.0 [mm] at -0.038 [s]

B-103

8602-15



CFC_180

Time [s]

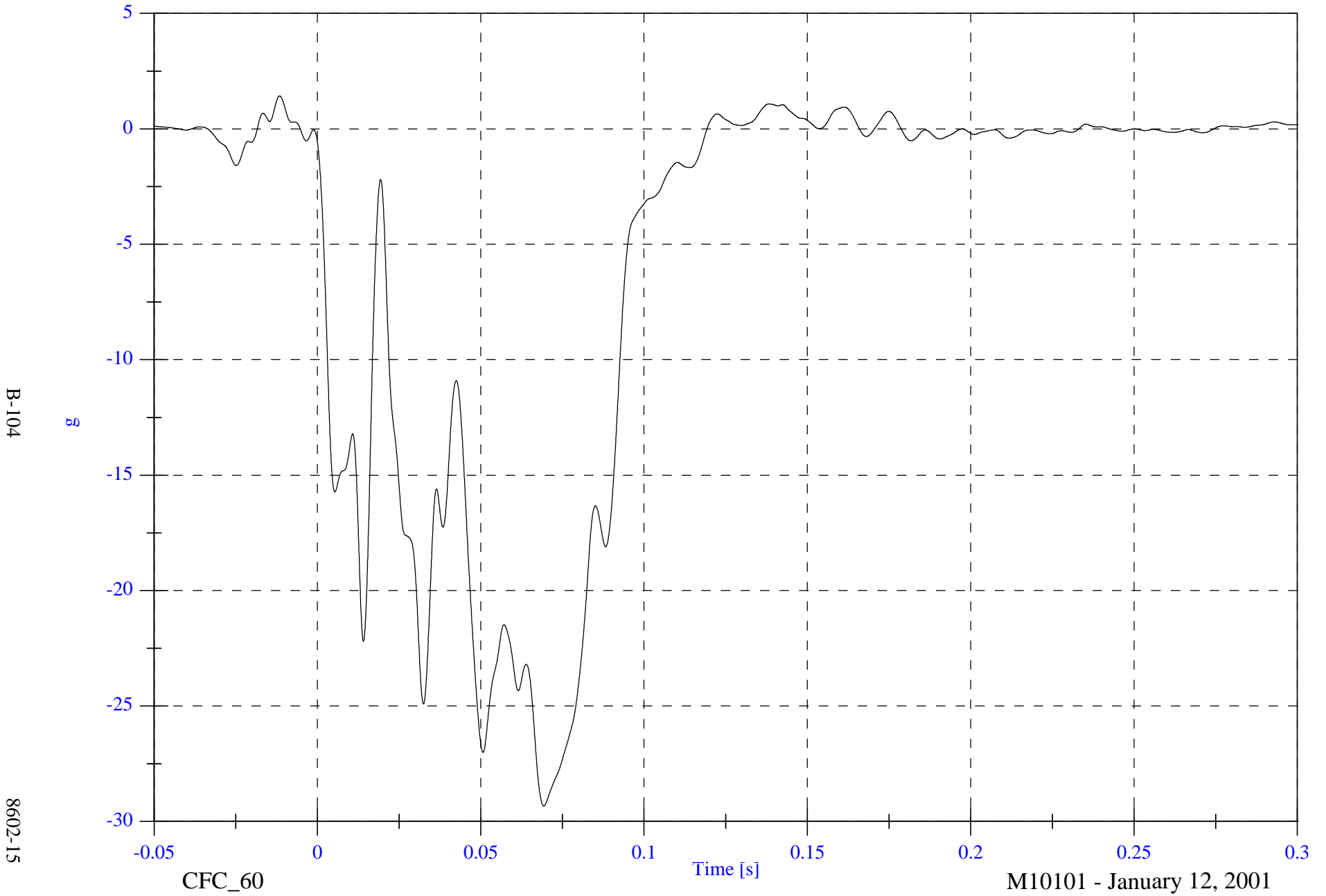
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Left Rear #1x

Max: 1.4 [g] at -0.012 [s]

Min: -29.3 [g] at 0.069 [s]



B-104

8602-15

CFC_60

Time [s]

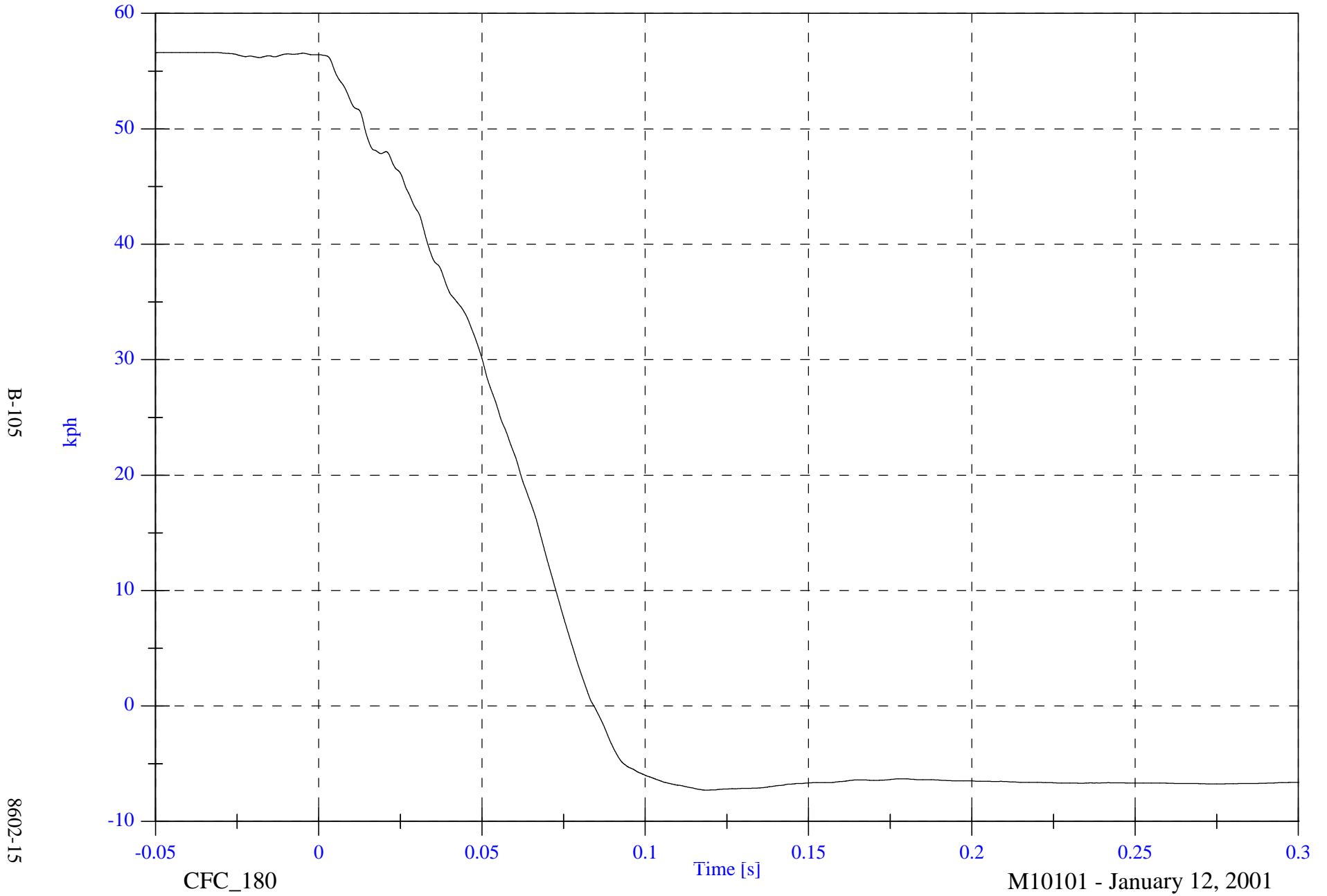
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 56.6 [kph] at -0.033 [s]

Left Rear #1x Velocity

Min: -7.3 [kph] at 0.119 [s]



B-105

8602-15

CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

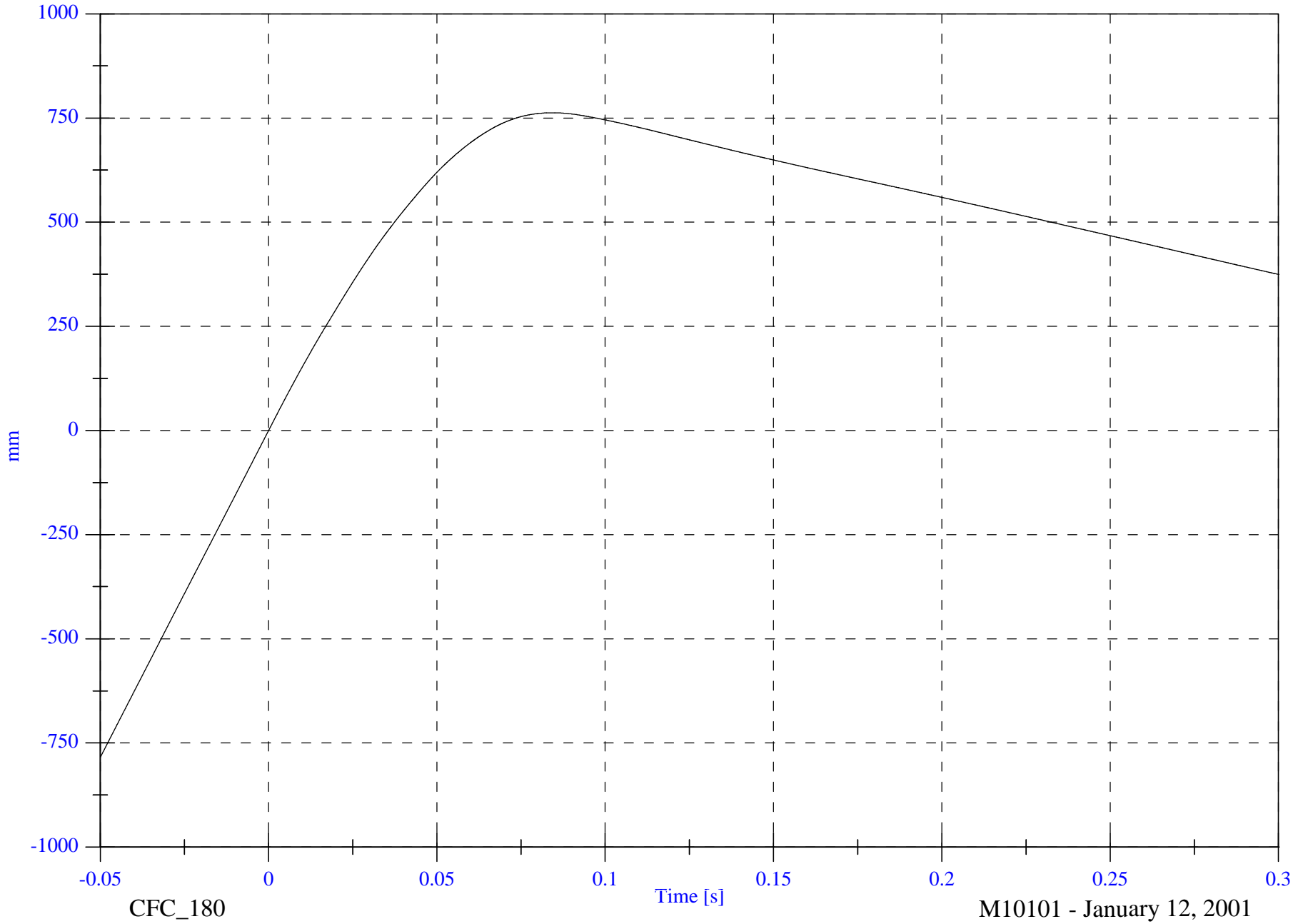
Left Rear #1x Displacement

Max: 762.4 [mm] at 0.084 [s]

Min: -784.5 [mm] at -0.050 [s]

B-106

8602-15



CFC_180

Time [s]

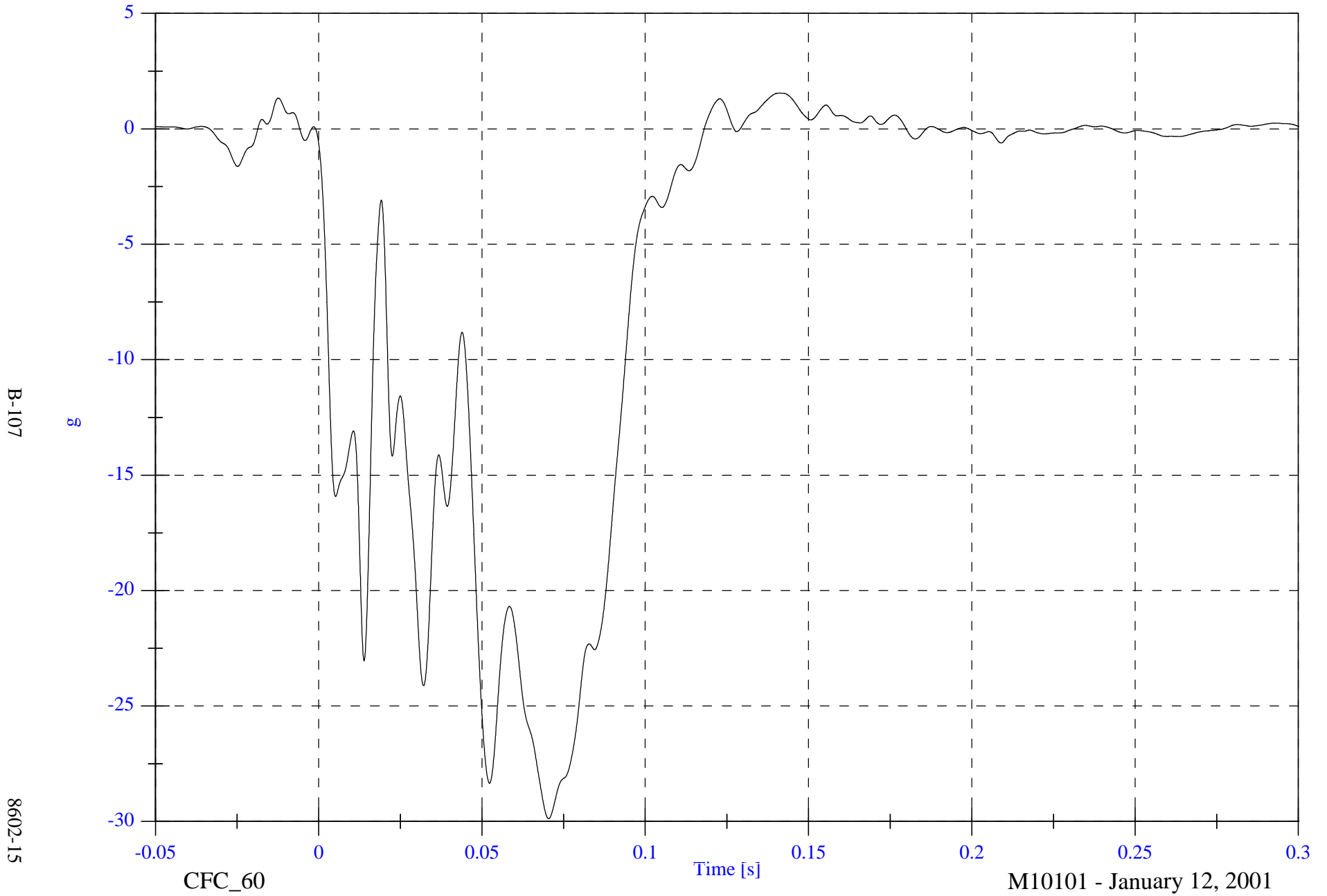
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Right Rear #2x

Max: 1.5 [g] at 0.141 [s]

Min: -29.9 [g] at 0.070 [s]



B-107

8602-15

CFC_60

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

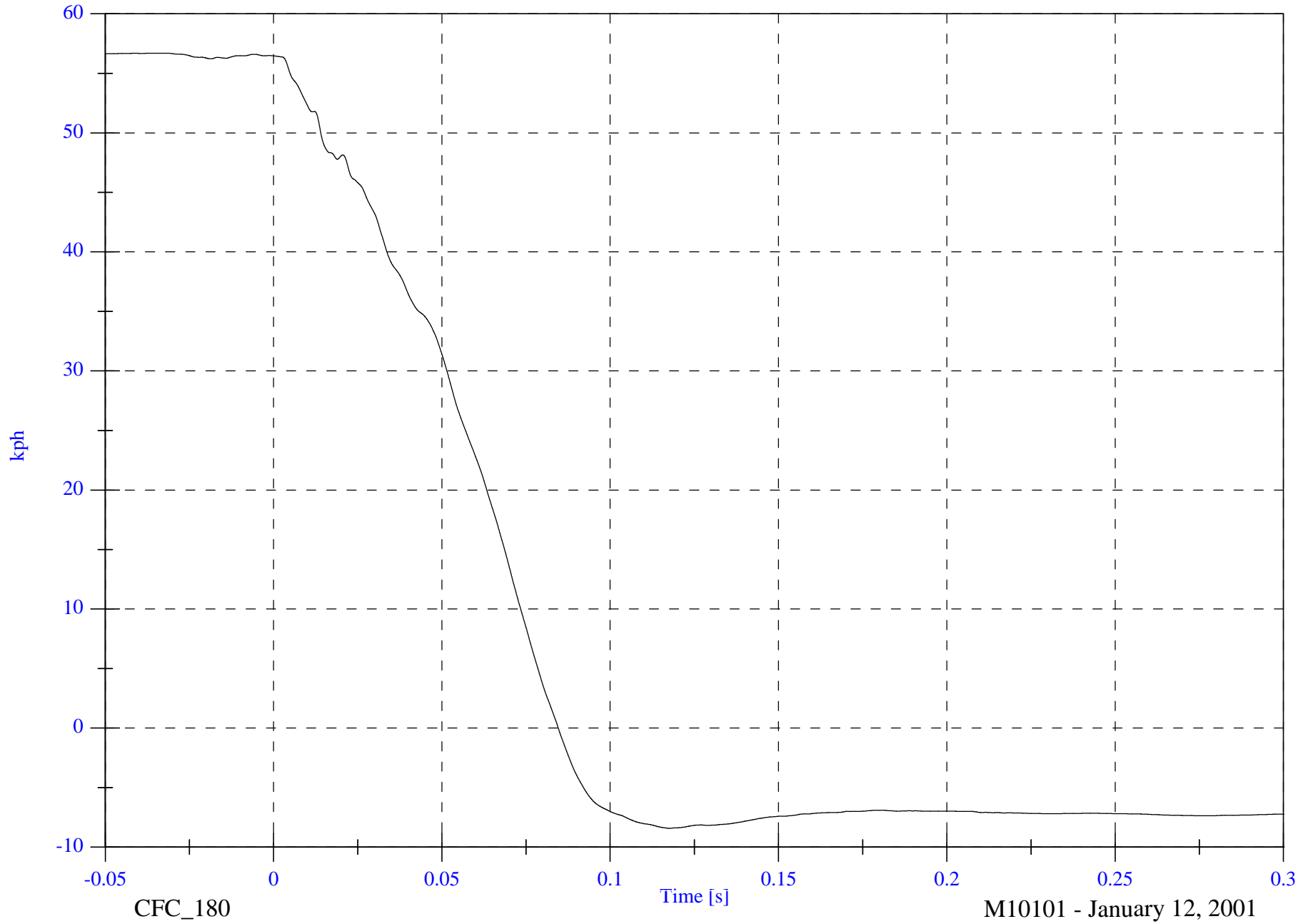
Max: 56.7 [kph] at -0.032 [s]

Right Rear #2x Velocity

Min: -8.4 [kph] at 0.118 [s]

B-108

8602-15



CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

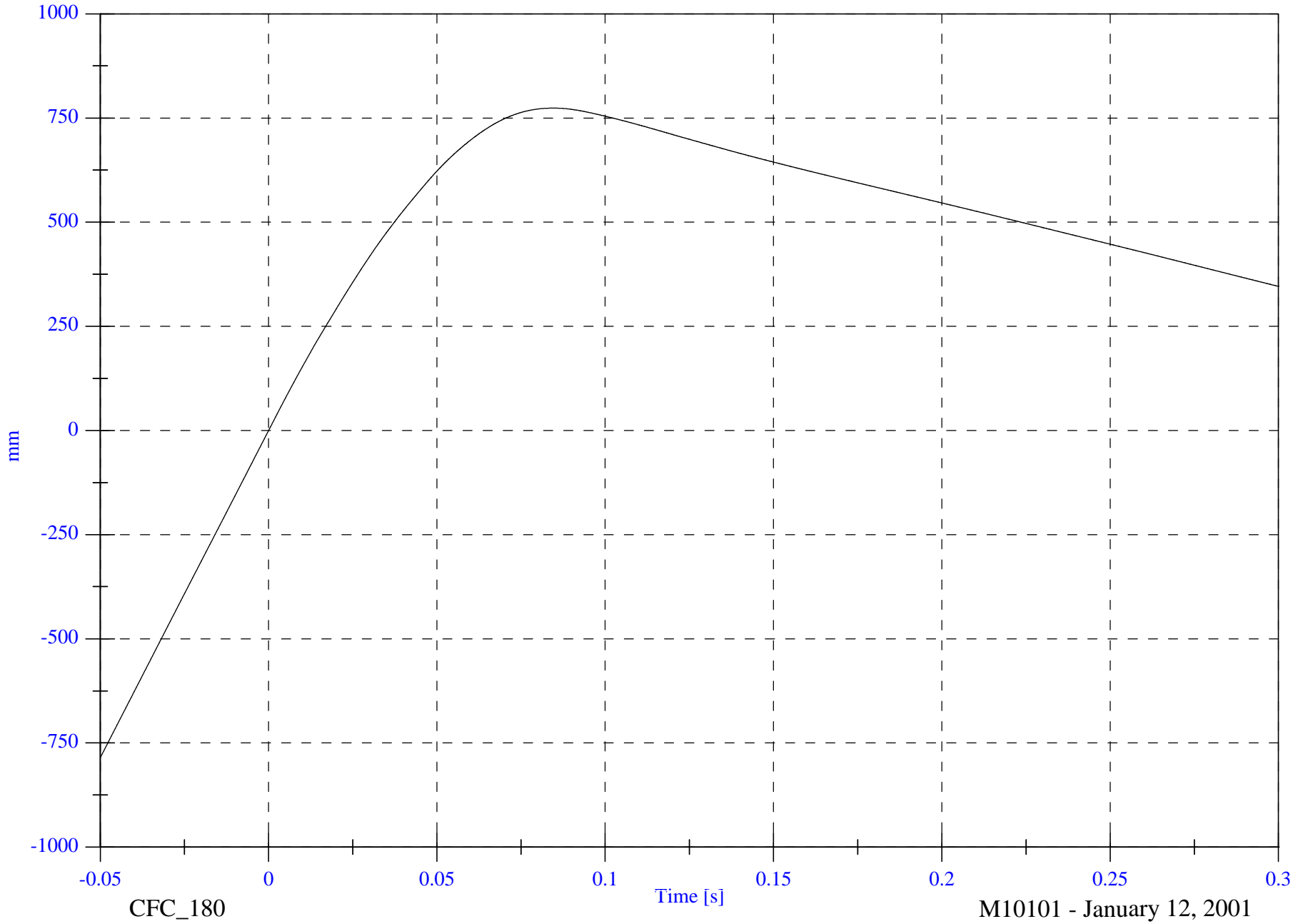
Right Rear #2x Displacement

Max: 773.9 [mm] at 0.085 [s]

Min: -785.2 [mm] at -0.050 [s]

B-109

8602-15



CFC_180

Time [s]

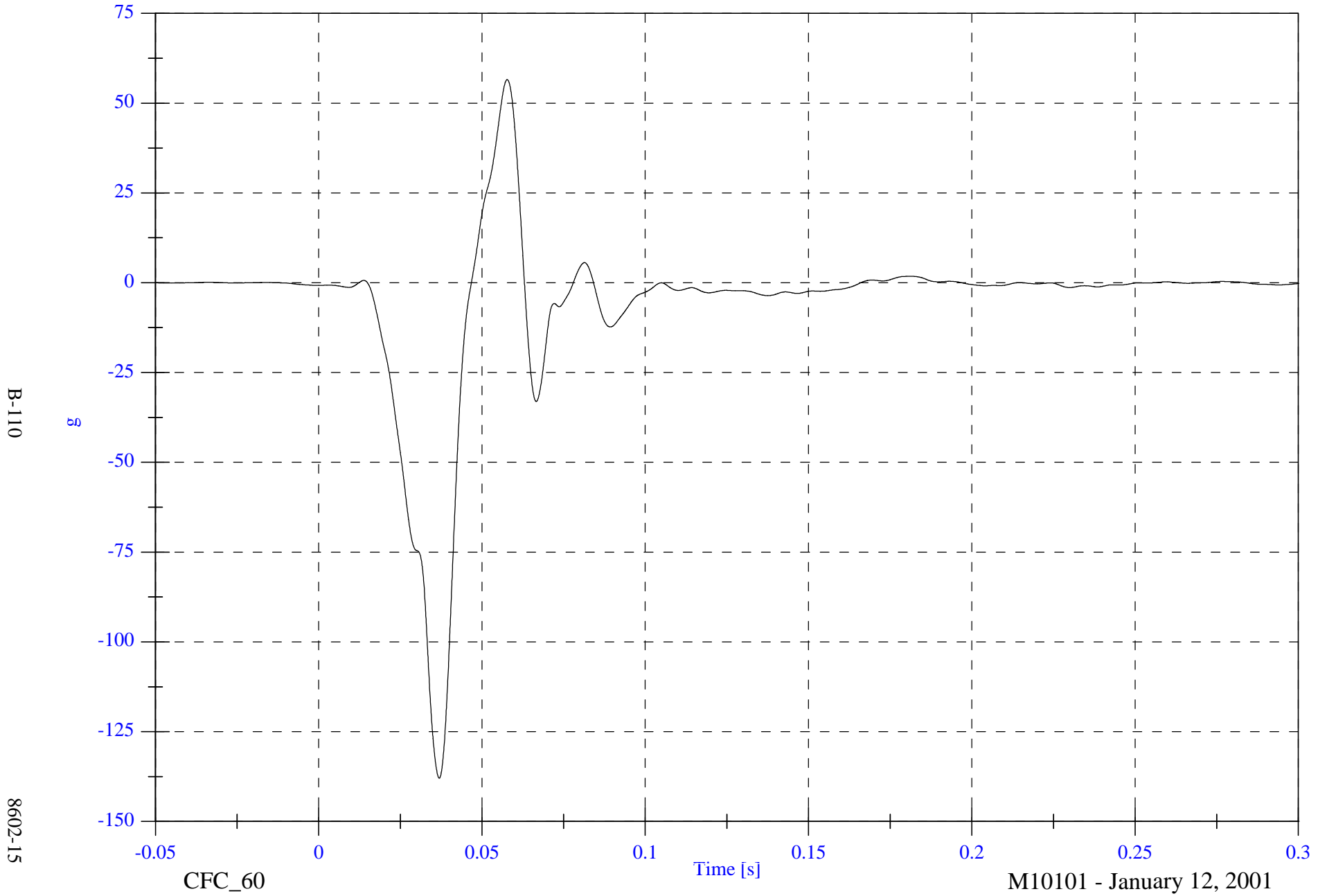
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Engine Top #3x

Max: 56.6 [g] at 0.058 [s]

Min: -138.0 [g] at 0.037 [s]



NCAP Test 15 - 2001 Buick Park Avenue

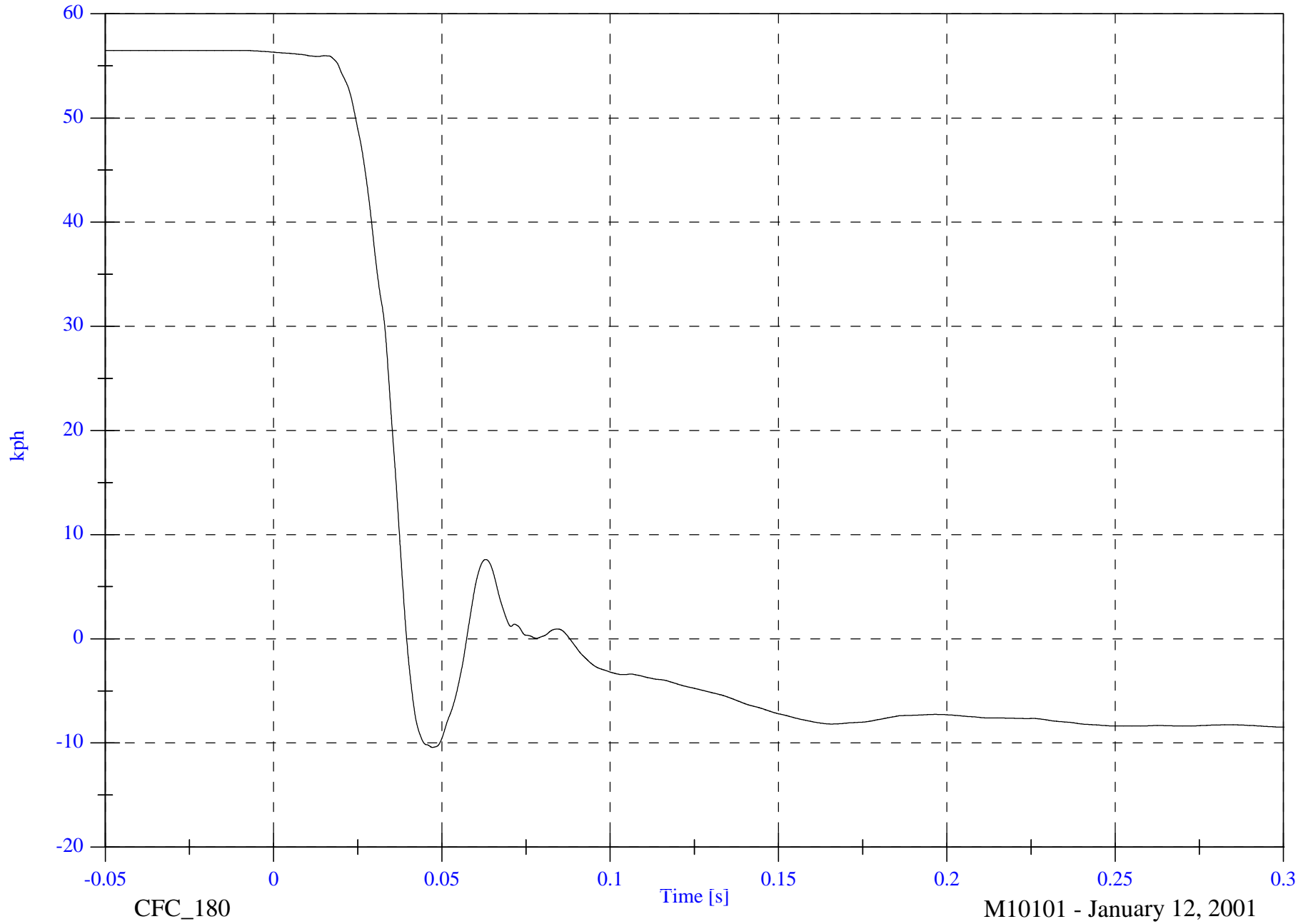
Max: 56.5 [kph] at -0.013 [s]

Engine Top #3x Velocity

Min: -10.4 [kph] at 0.047 [s]

B-111

8602-15



CFC_180

Time [s]

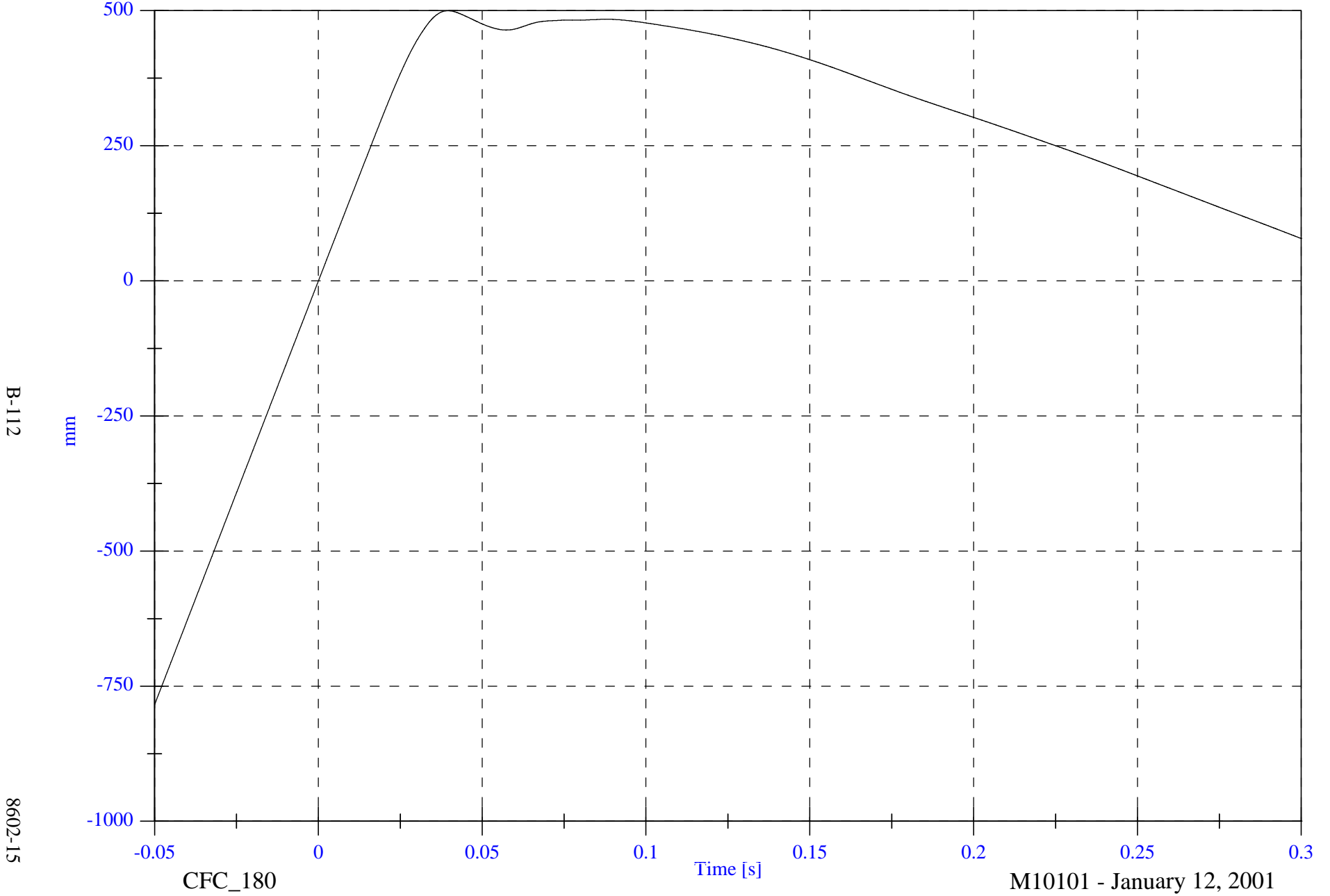
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Engine Top #3x Displacement

Max: 499.9 [mm] at 0.040 [s]

Min: -784.3 [mm] at -0.050 [s]



B-112

8602-15

CFC_180

Time [s]

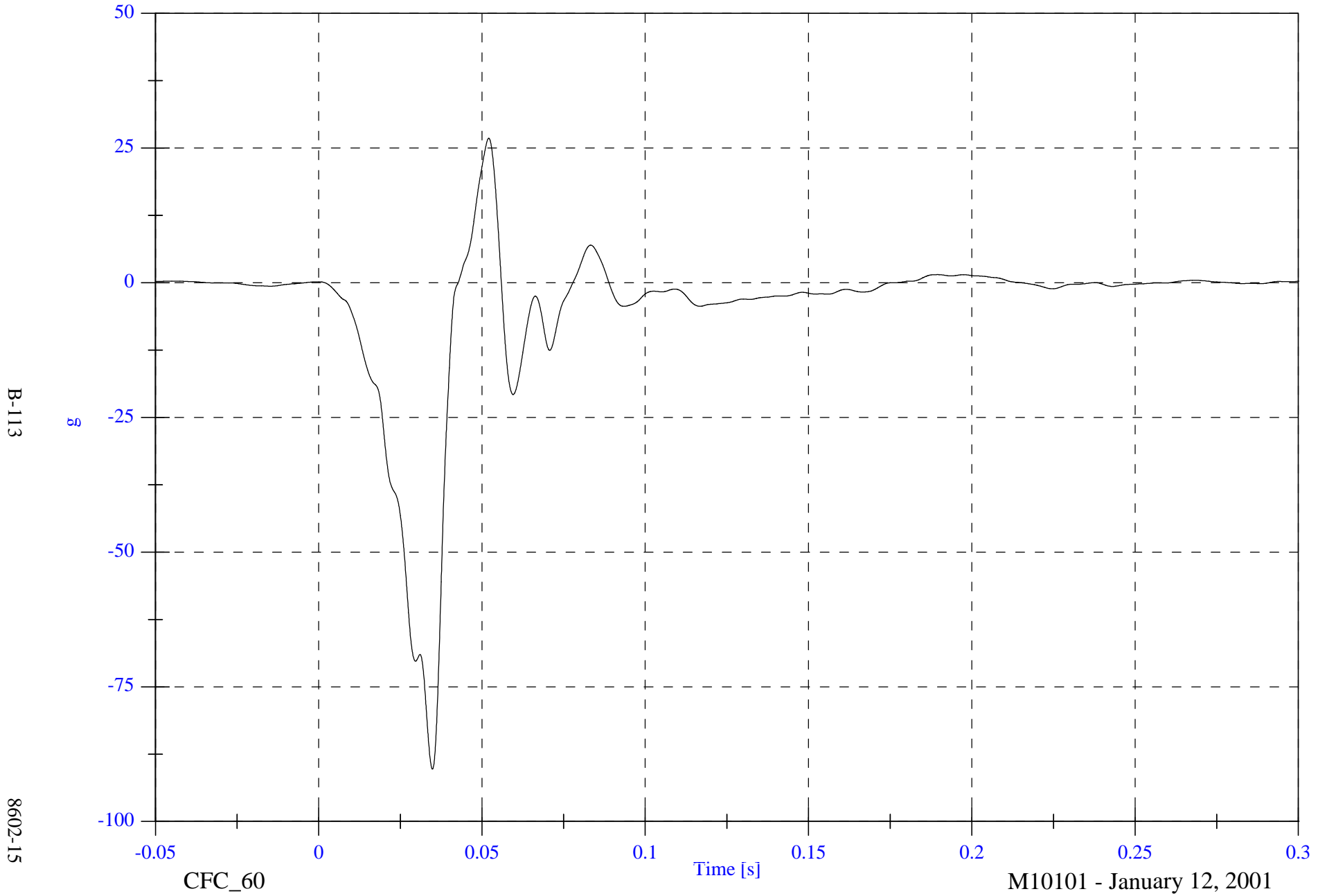
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Engine Bottom #4x

Max: 26.8 [g] at 0.052 [s]

Min: -90.3 [g] at 0.035 [s]



NCAP Test 15 - 2001 Buick Park Avenue

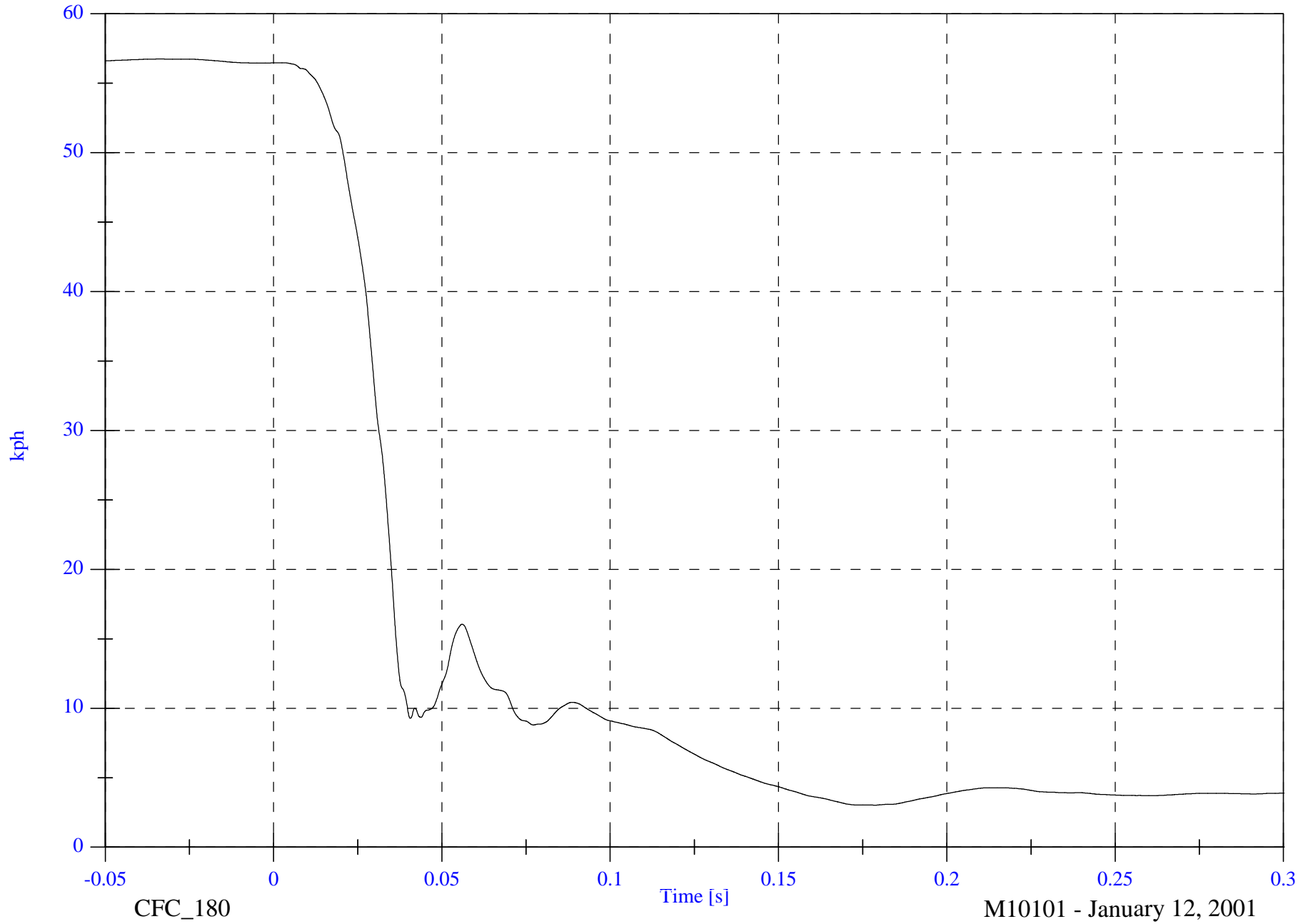
Max: 56.7 [kph] at -0.033 [s]

Engine Bottom #4x Velocity

Min: 3.0 [kph] at 0.179 [s]

B-114

8602-15



CFC_180

Time [s]

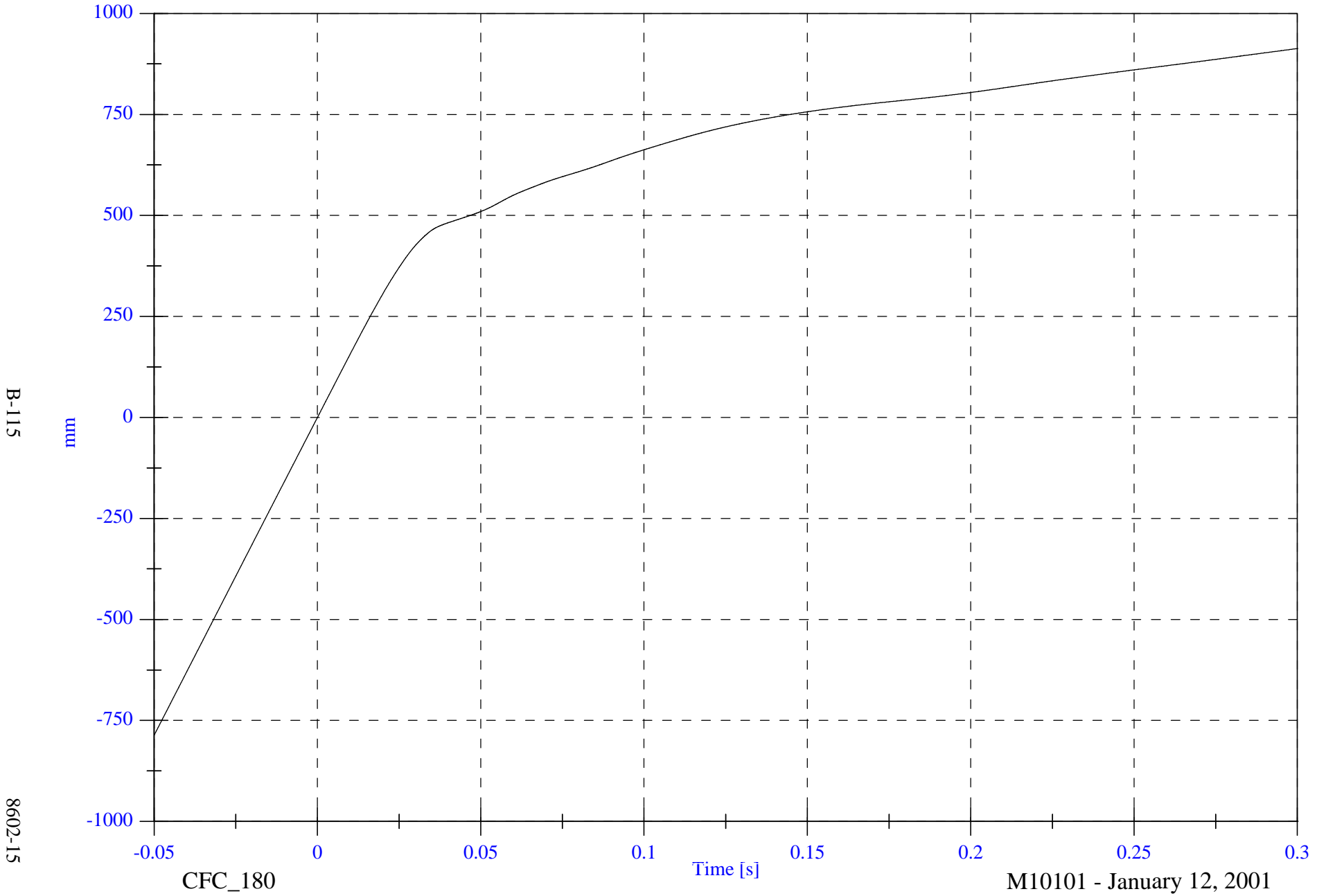
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Engine Bottom #4x Displacement

Max: 913.1 [mm] at 0.300 [s]

Min: -786.6 [mm] at -0.050 [s]



B-115

8602-15

CFC_180

Time [s]

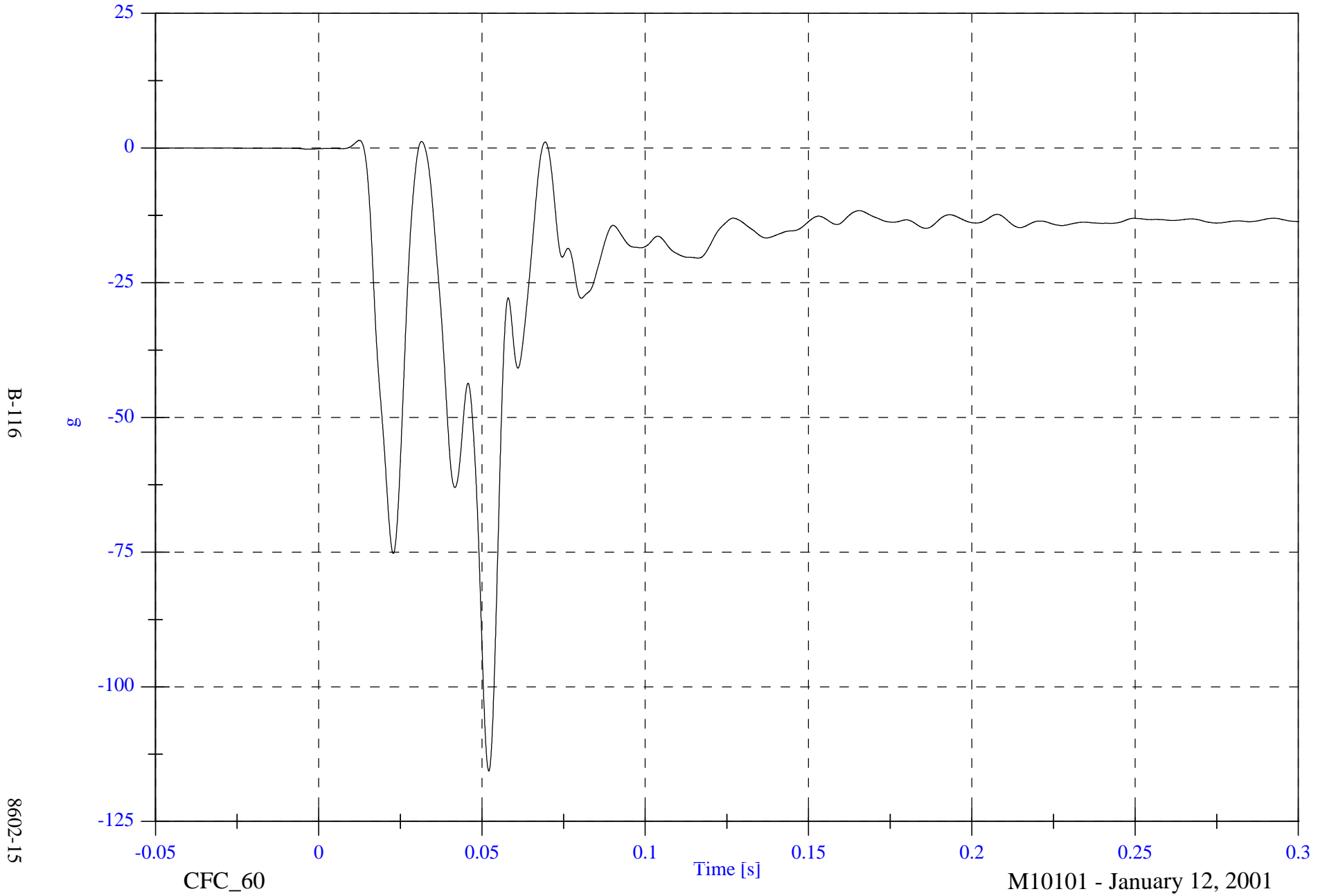
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Right Caliper #5x

Max: 1.4 [g] at 0.012 [s]

Min: -115.7 [g] at 0.052 [s]



B-116

8602-15

CFC_60

Time [s]

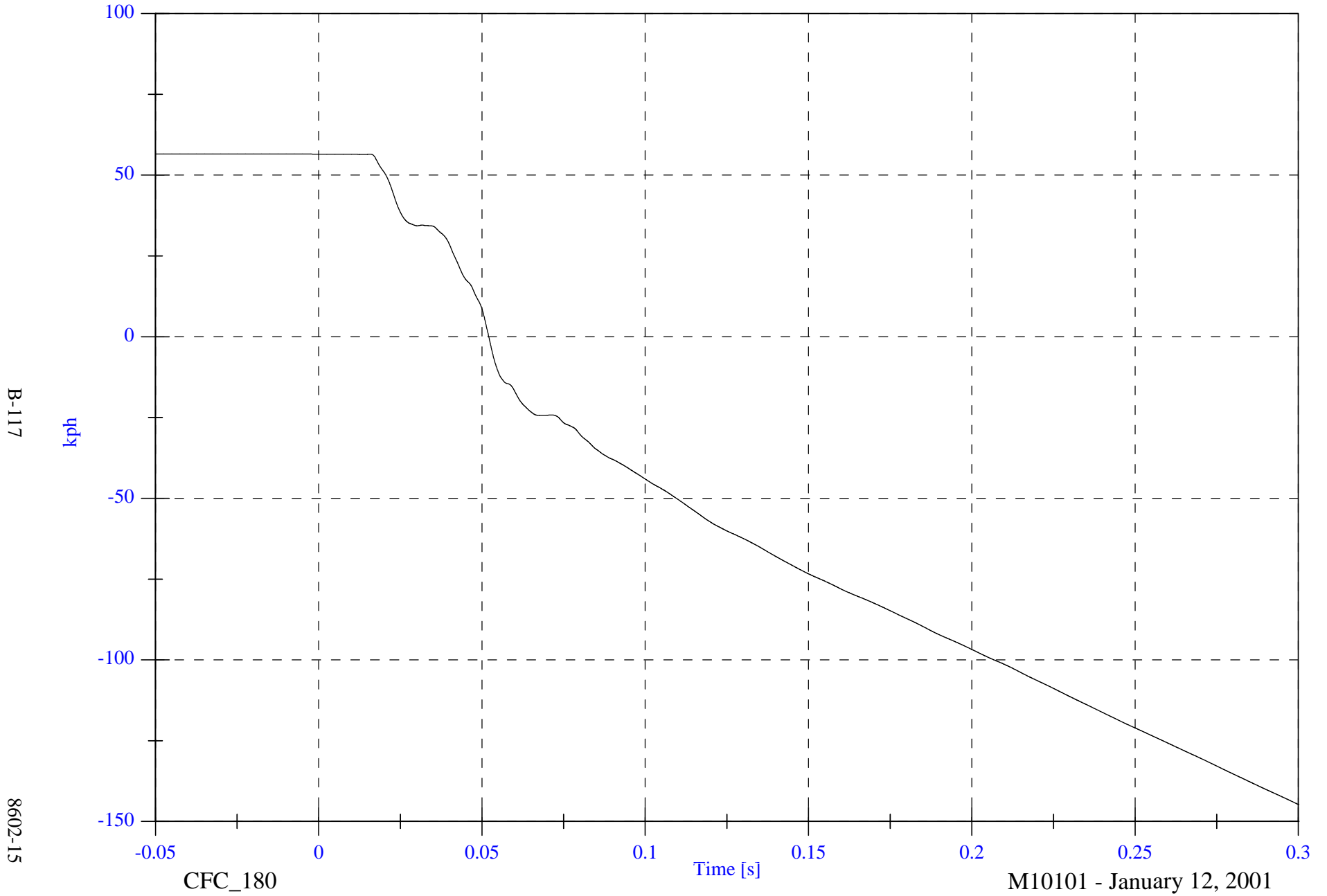
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Right Caliper #5x Velocity

Max: 56.5 [kph] at -0.045 [s]

Min: -144.7 [kph] at 0.300 [s]



B-117

8602-15

CFC_180

Time [s]

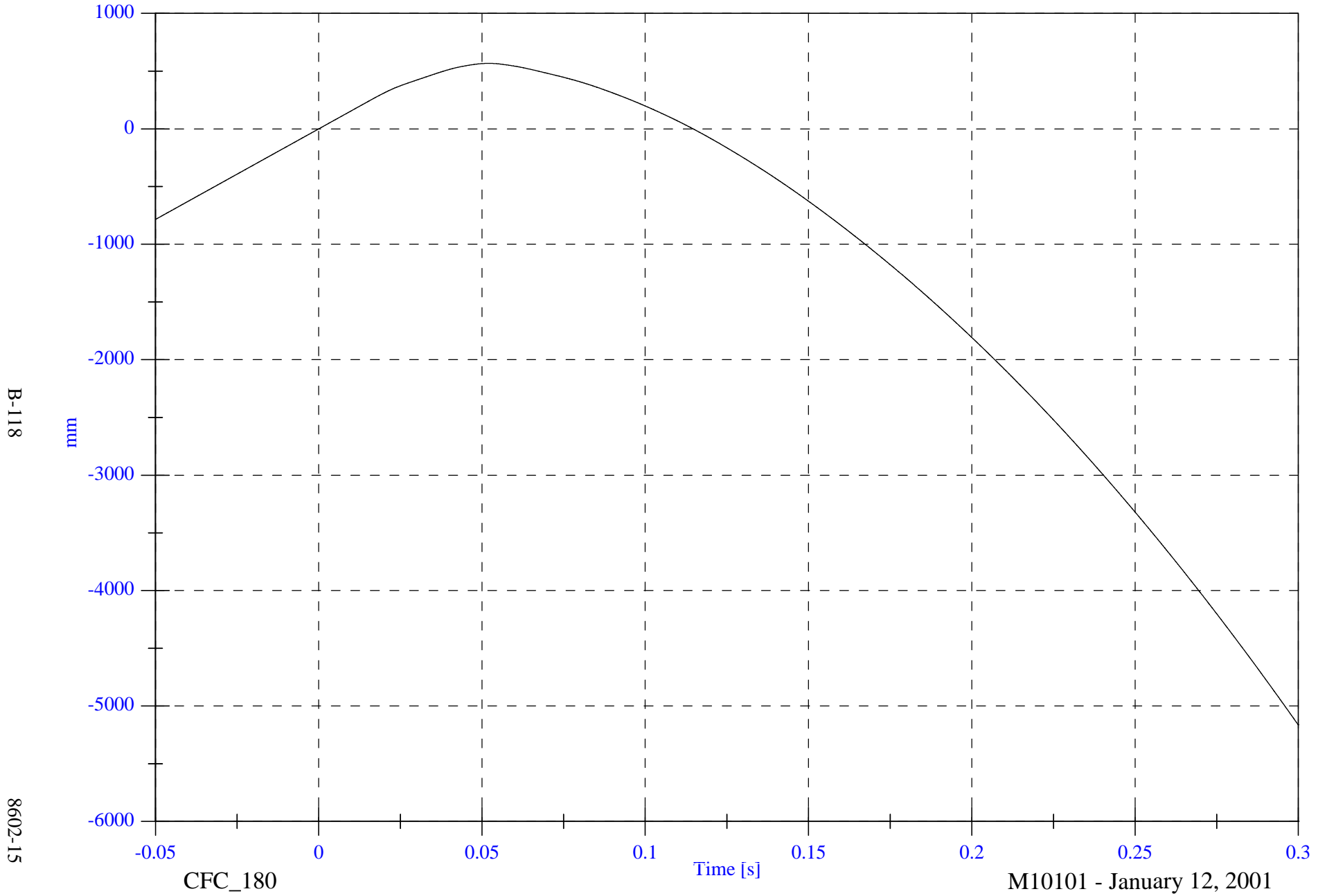
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Right Caliper #5x Displacement

Max: 568.1 [mm] at 0.052 [s]

Min: -5164.0 [mm] at 0.300 [s]



B-118

8602-15

CFC_180

Time [s]

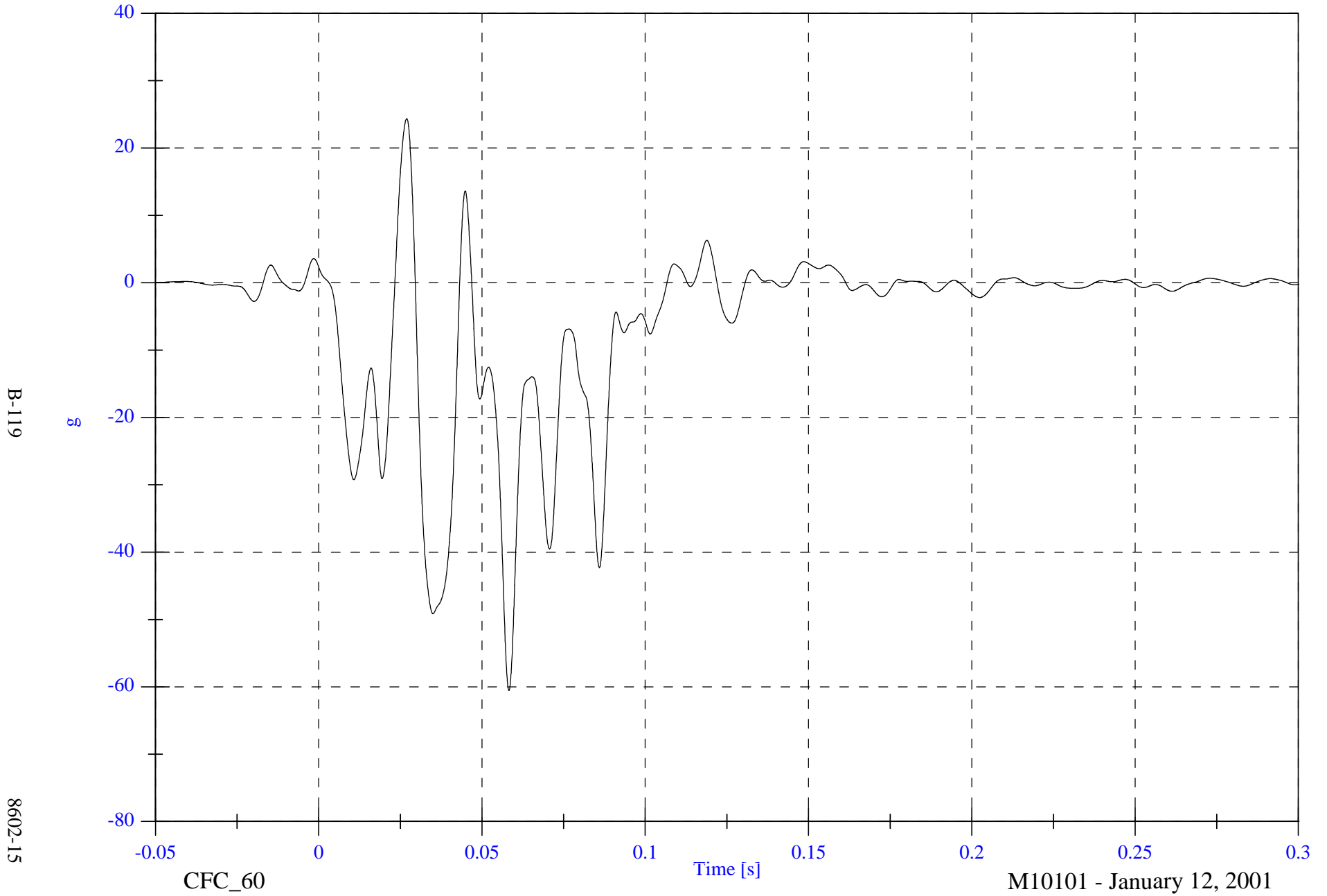
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Instrument Panel #6x

Max: 24.4 [g] at 0.027 [s]

Min: -60.6 [g] at 0.058 [s]



B-119

8602-15

CFC_60

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Instrument Panel #6x Velocity

Max: 56.8 [kph] at 0.000 [s]

Min: -7.5 [kph] at 0.107 [s]



B-120

8602-15

CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

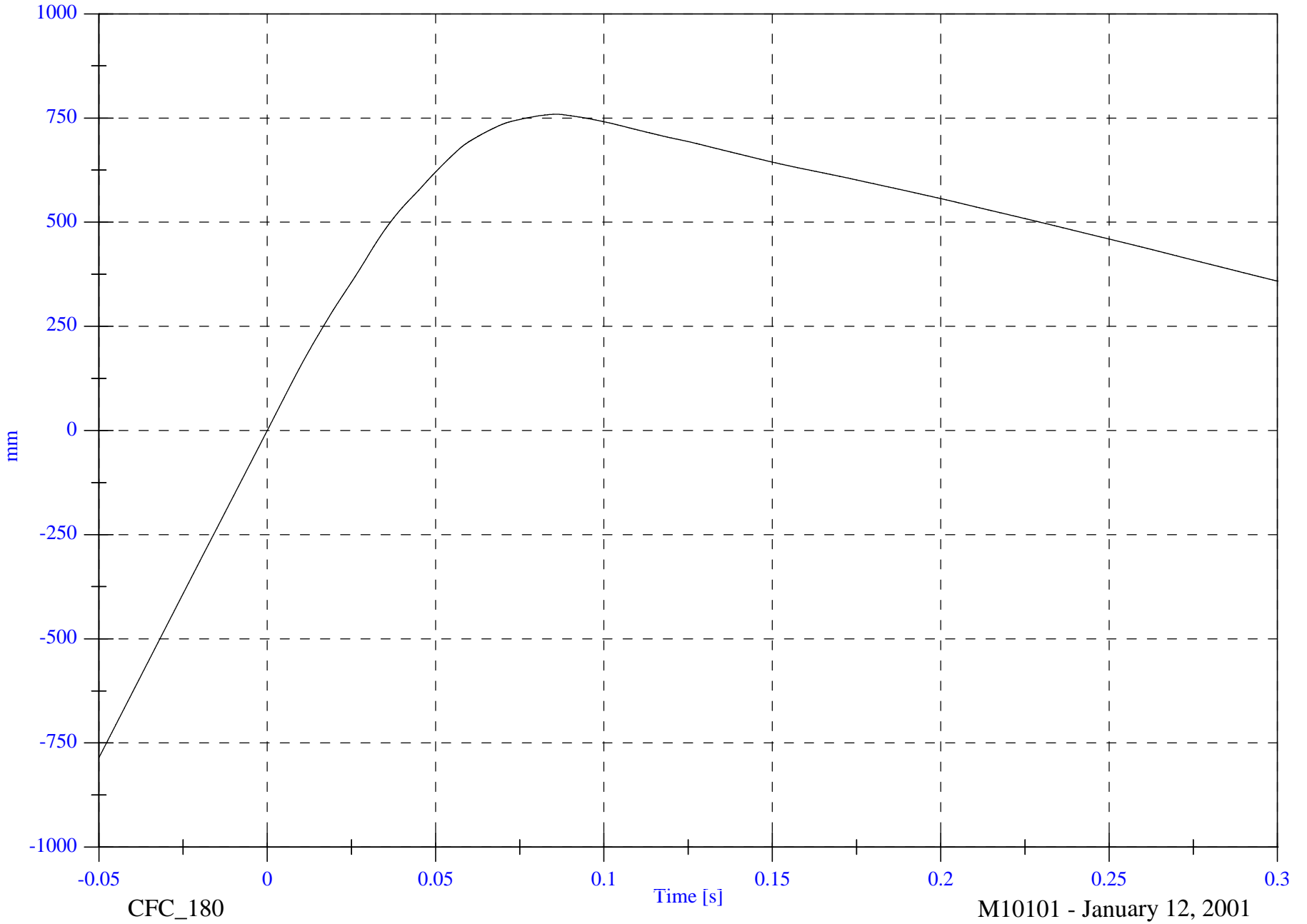
Instrument Panel #6x Displacement

Max: 759.1 [mm] at 0.086 [s]

Min: -785.4 [mm] at -0.050 [s]

B-121

8602-15



CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

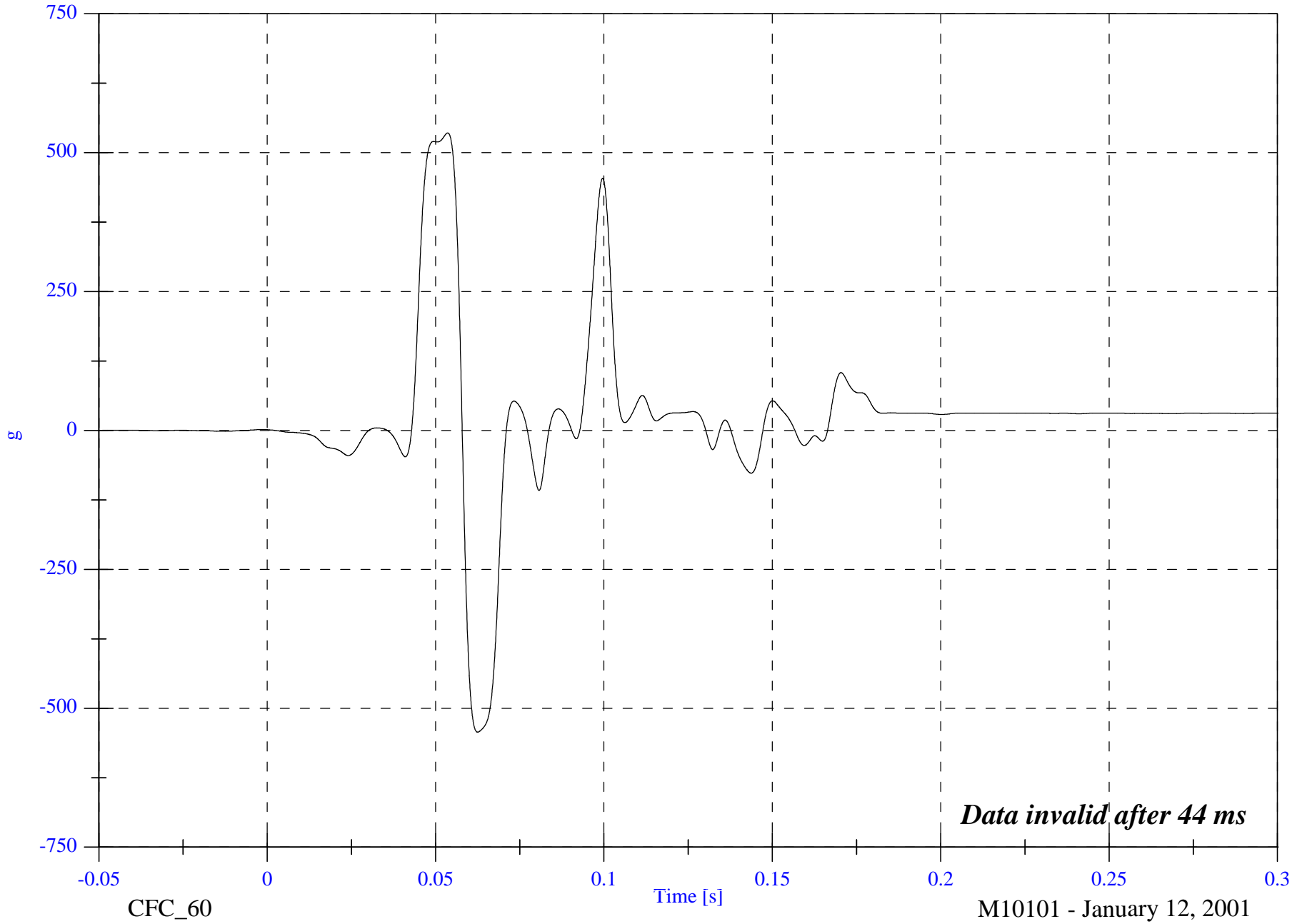
Left Caliper #7x

Max: 535.7 [g] at 0.054 [s]

Min: -543.1 [g] at 0.062 [s]

B-122

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

Max: 348.4 [kph] at 0.300 [s]

Left Caliper #7x Velocity

Min: 32.1 [kph] at 0.044 [s]

B-123

8602-15



Data invalid after 44 ms

CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

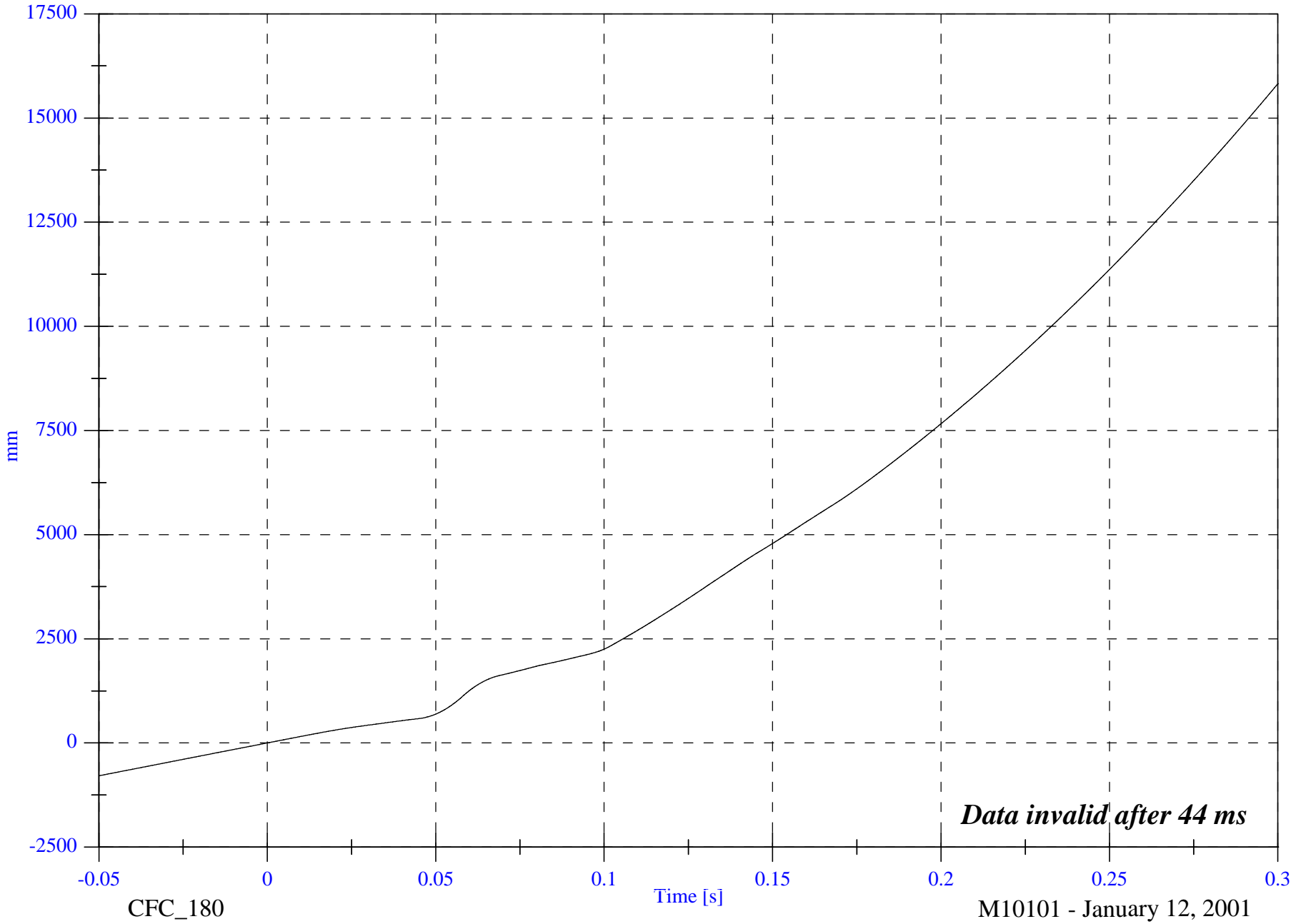
Left Caliper #7x Displacement

Max: 15819.2 [mm] at 0.300 [s]

Min: -788.1 [mm] at -0.050 [s]

B-124

8602-15



Data invalid after 44 ms

CFC_180

Time [s]

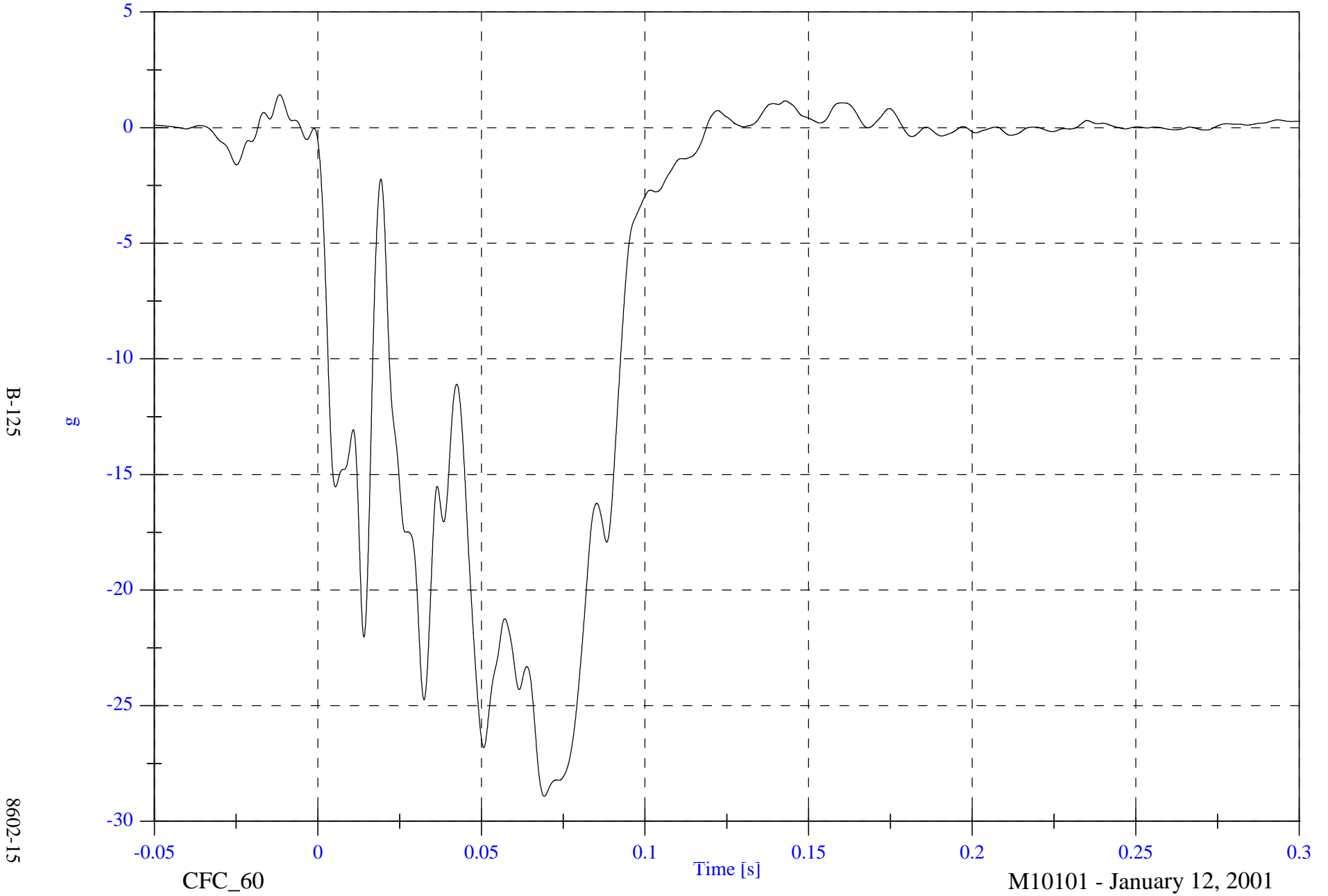
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Left Rear Red #8x

Max: 1.4 [g] at -0.012 [s]

Min: -28.9 [g] at 0.069 [s]



B-125

8602-15

CFC_60

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

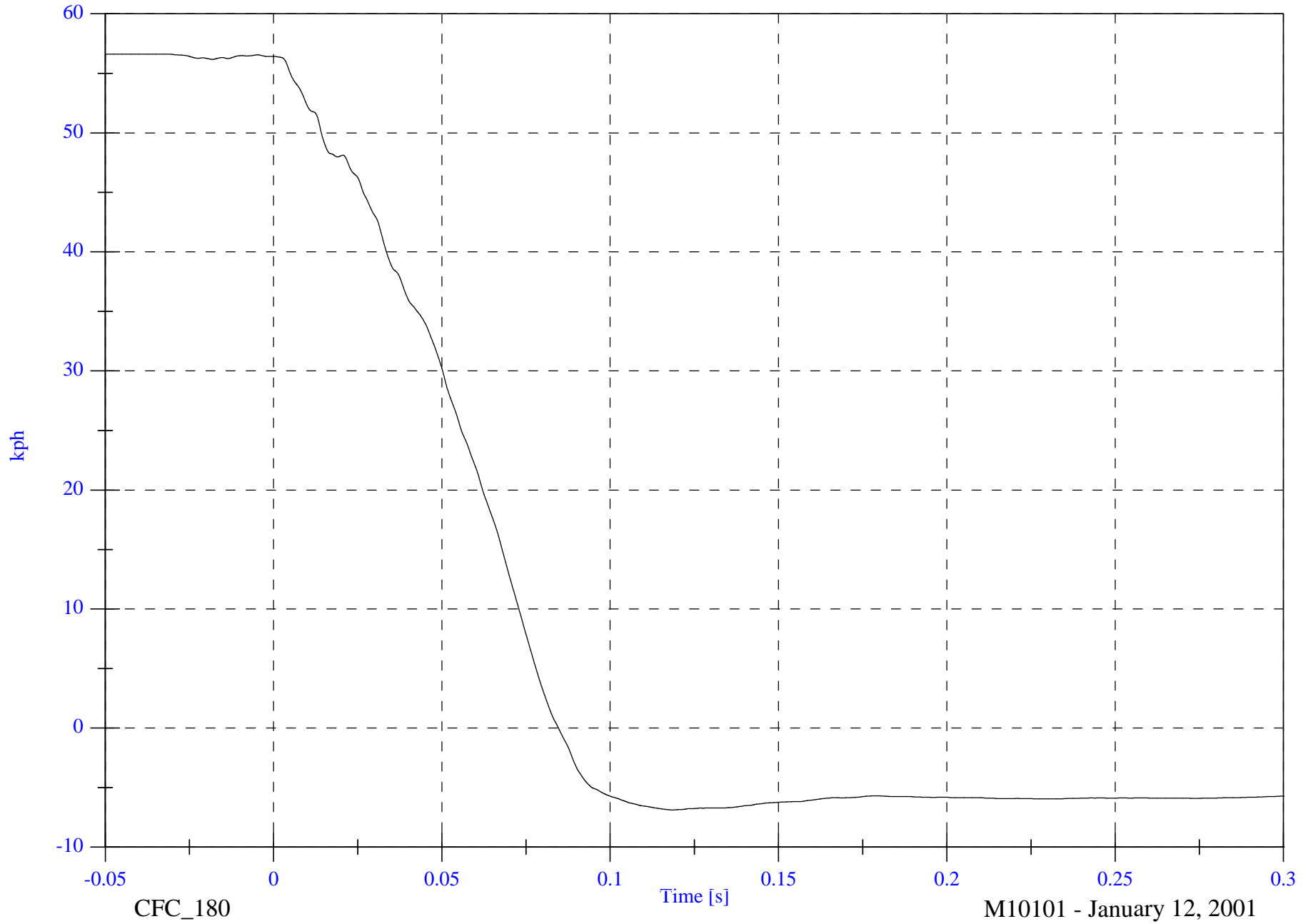
Max: 56.6 [kph] at -0.033 [s]

Left Rear Red #8x Velocity

Min: -6.9 [kph] at 0.118 [s]

B-126

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

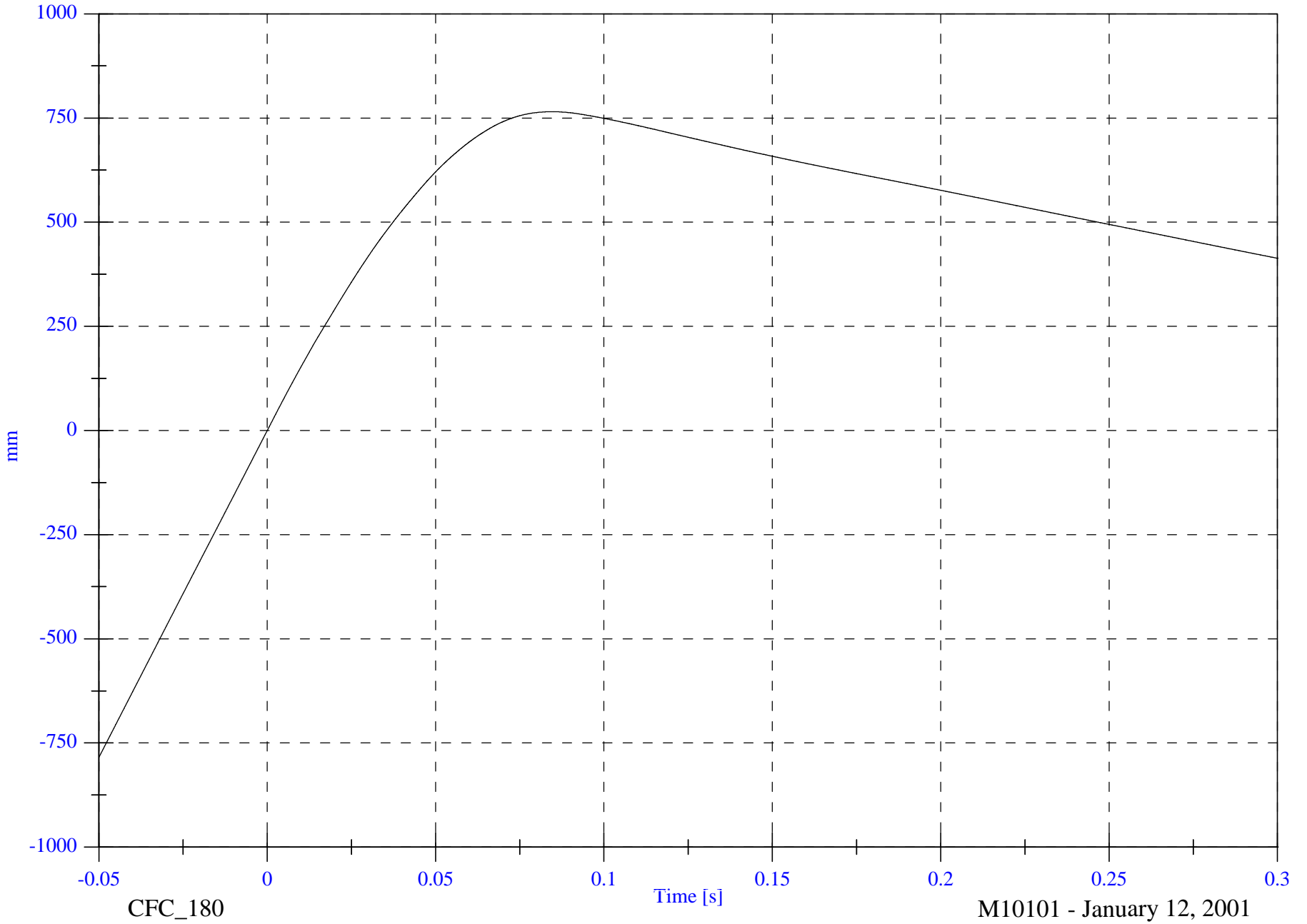
Left Rear Red #8x Displacement

Max: 765.0 [mm] at 0.085 [s]

Min: -784.5 [mm] at -0.050 [s]

B-127

8602-15



CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

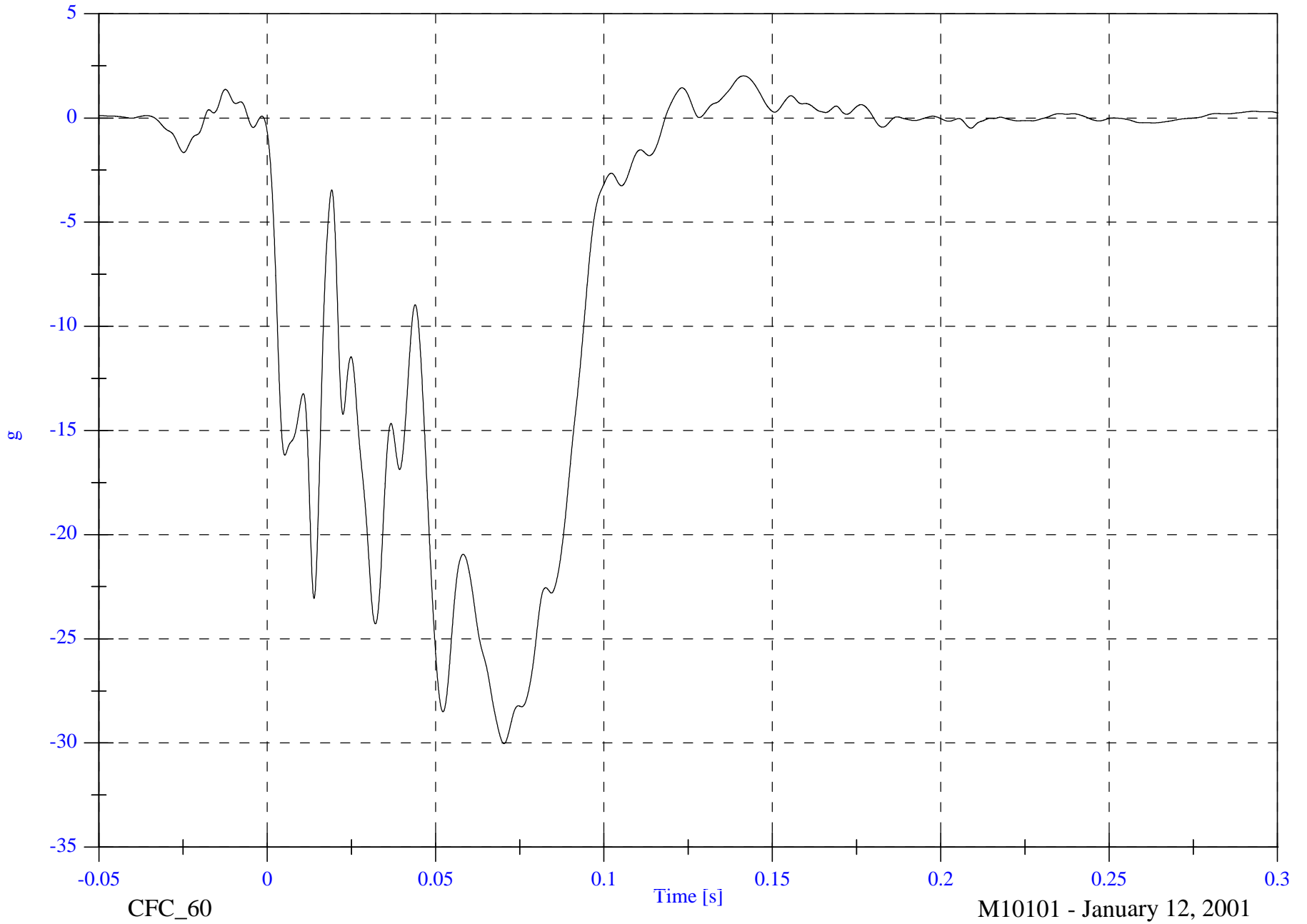
Right Rear Red #9x

Max: 2.0 [g] at 0.141 [s]

Min: -30.0 [g] at 0.070 [s]

B-128

8602-15



NCAP Test 15 - 2001 Buick Park Avenue

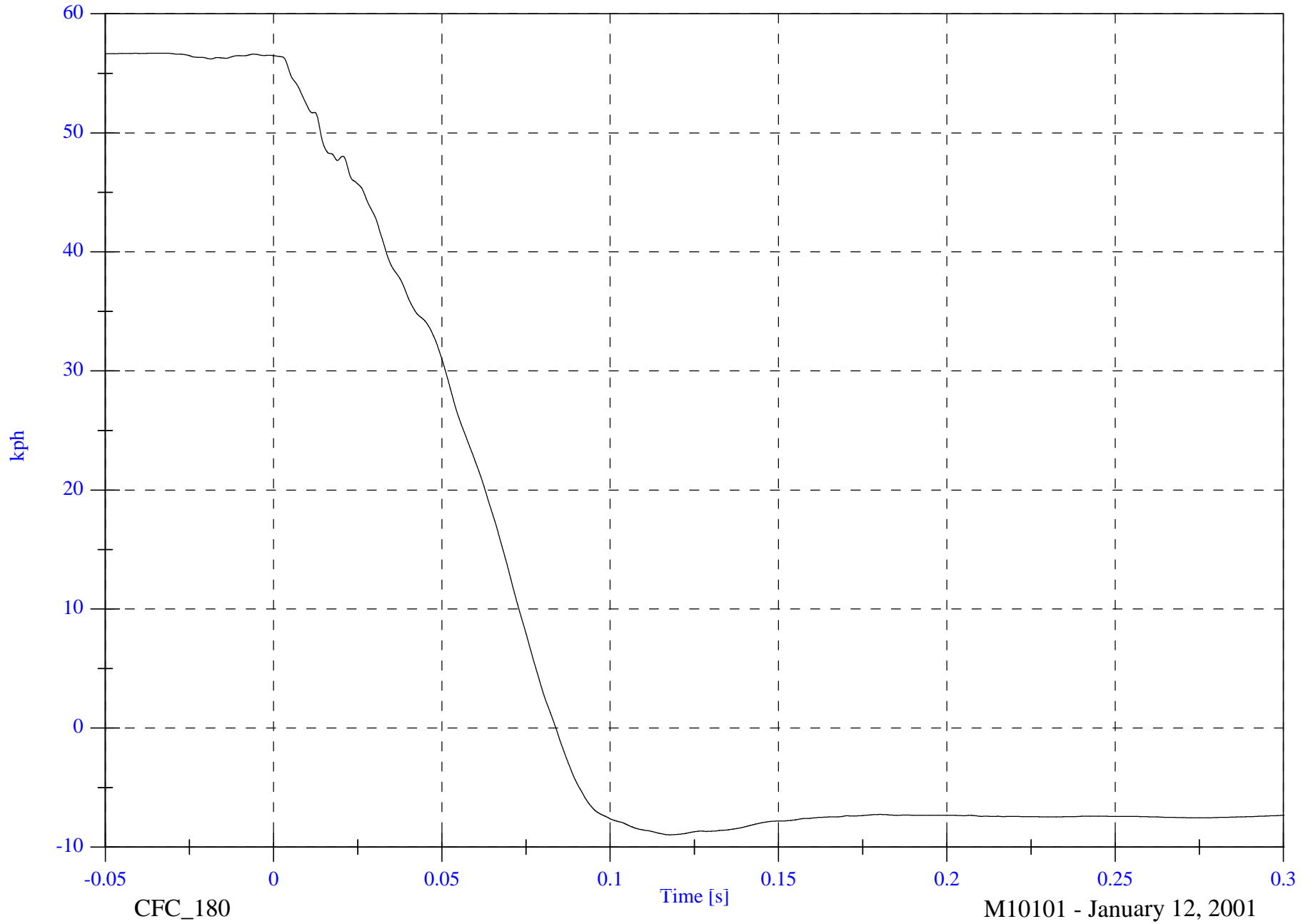
Max: 56.7 [kph] at -0.032 [s]

Right Rear Red #9x Velocity

Min: -9.0 [kph] at 0.118 [s]

B-129

8602-15



CFC_180

Time [s]

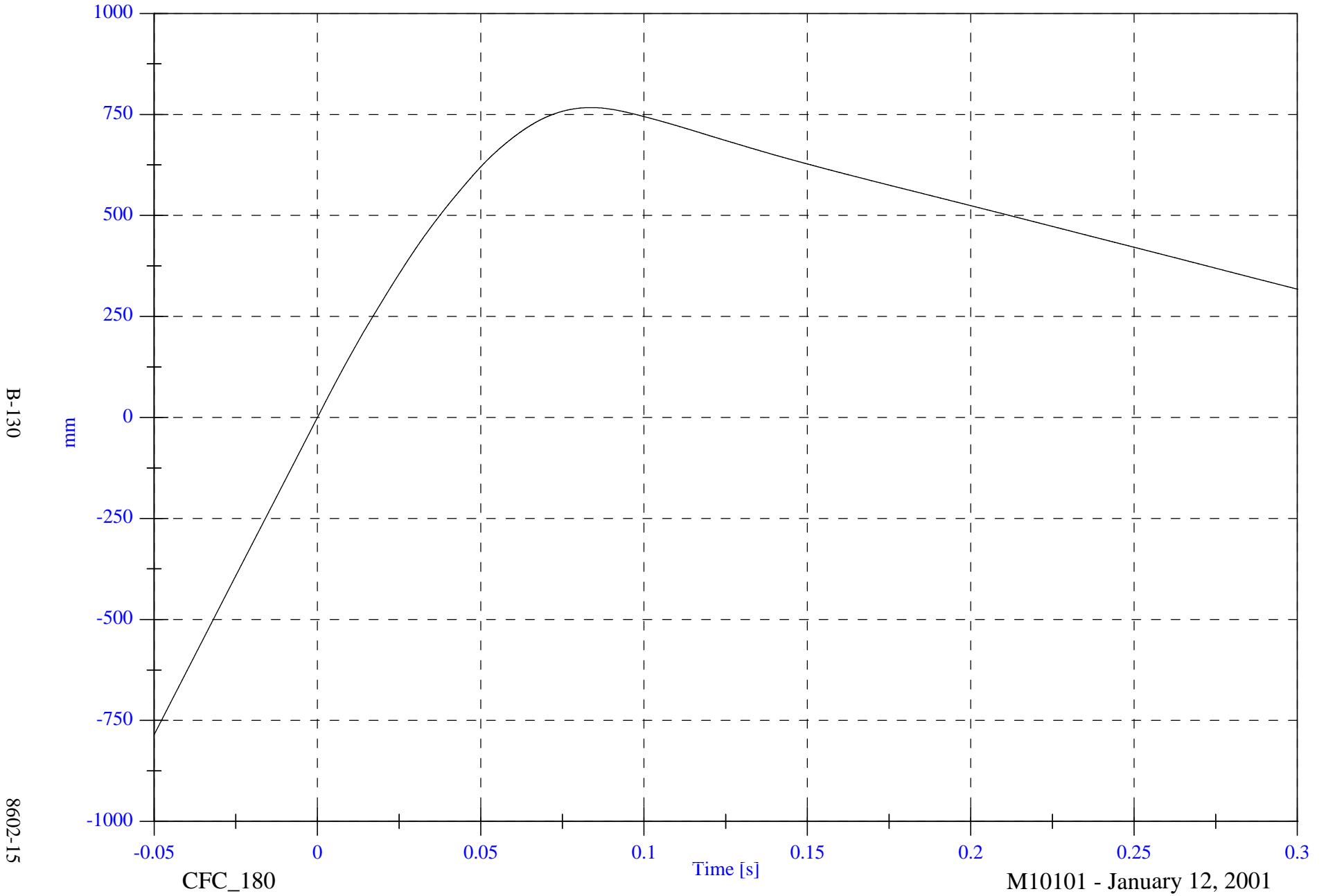
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 766.9 [mm] at 0.084 [s]

Right Rear Red #9x Displacement

Min: -785.2 [mm] at -0.050 [s]



B-130

8602-15

CFC_180

Time [s]

M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

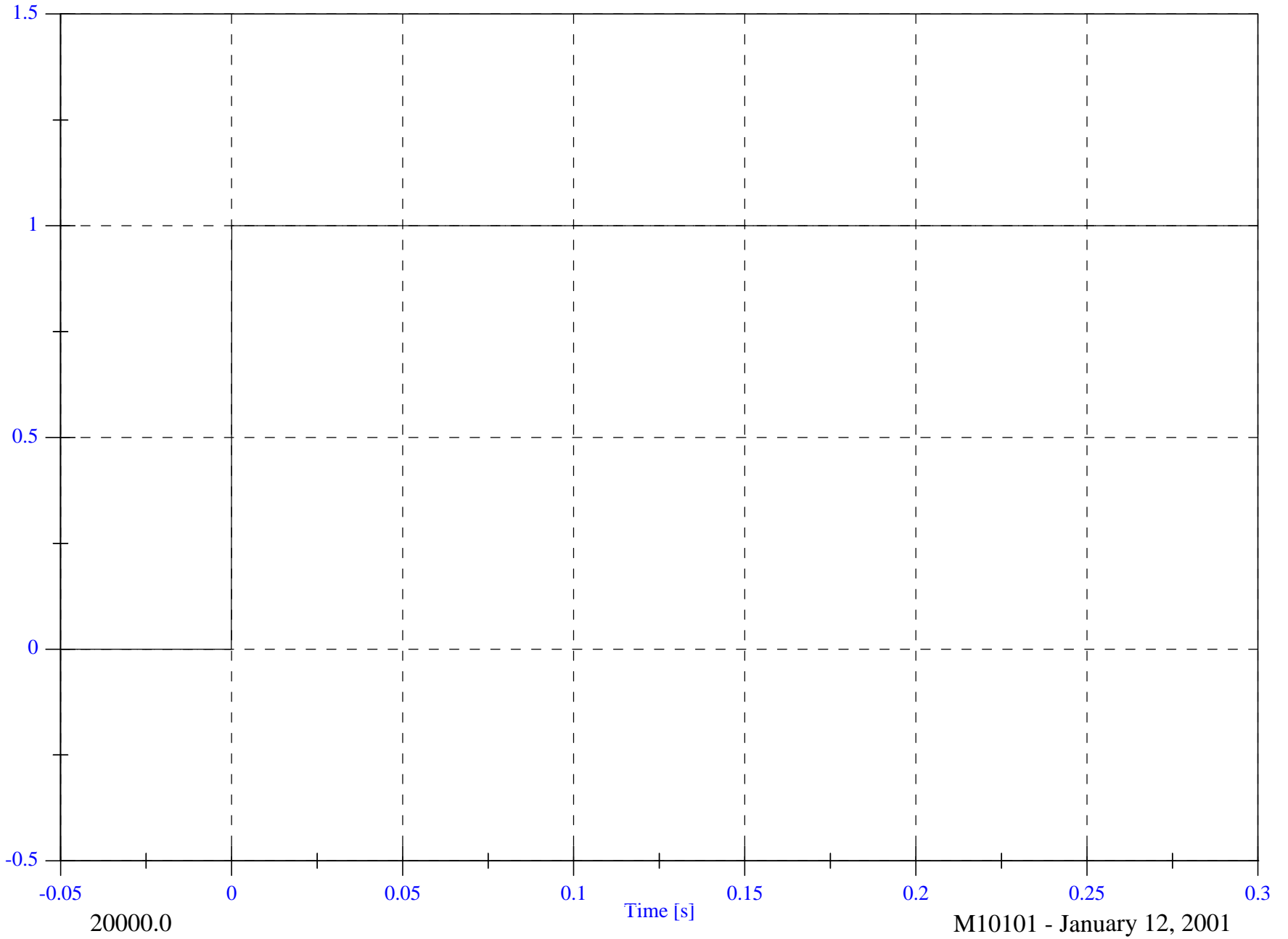
Contact Time

Max: 1.0 [] at 0.000 [s]

Min: 0.0 [] at -0.050 [s]

B-131

8602-15

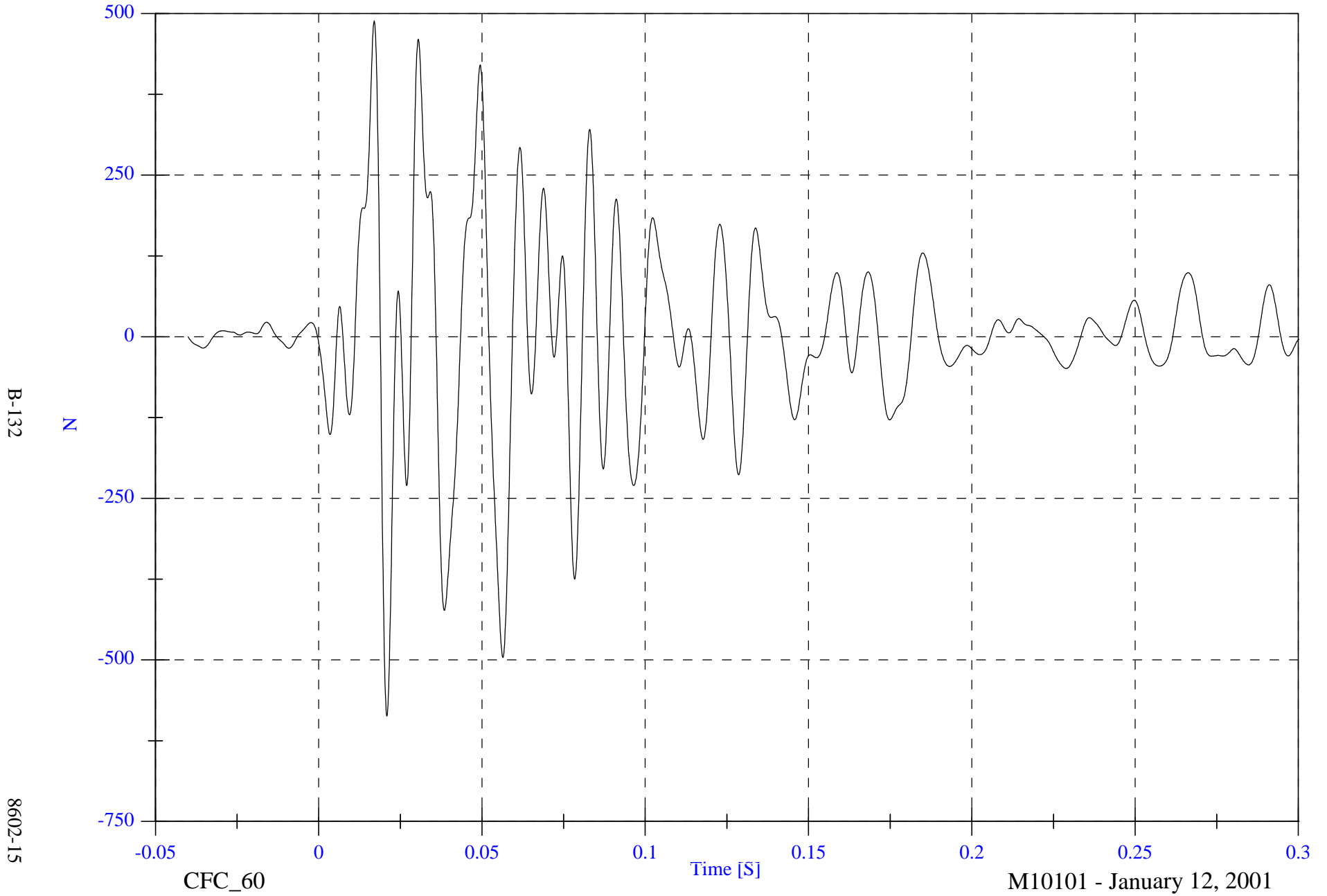


NCAP Test 15 - 2001 Buick Park Avenue

Max: 488.5 [N] at 0.017 [S]

Barrier Load Cell A1 Fx

Min: -587.2 [N] at 0.021 [S]

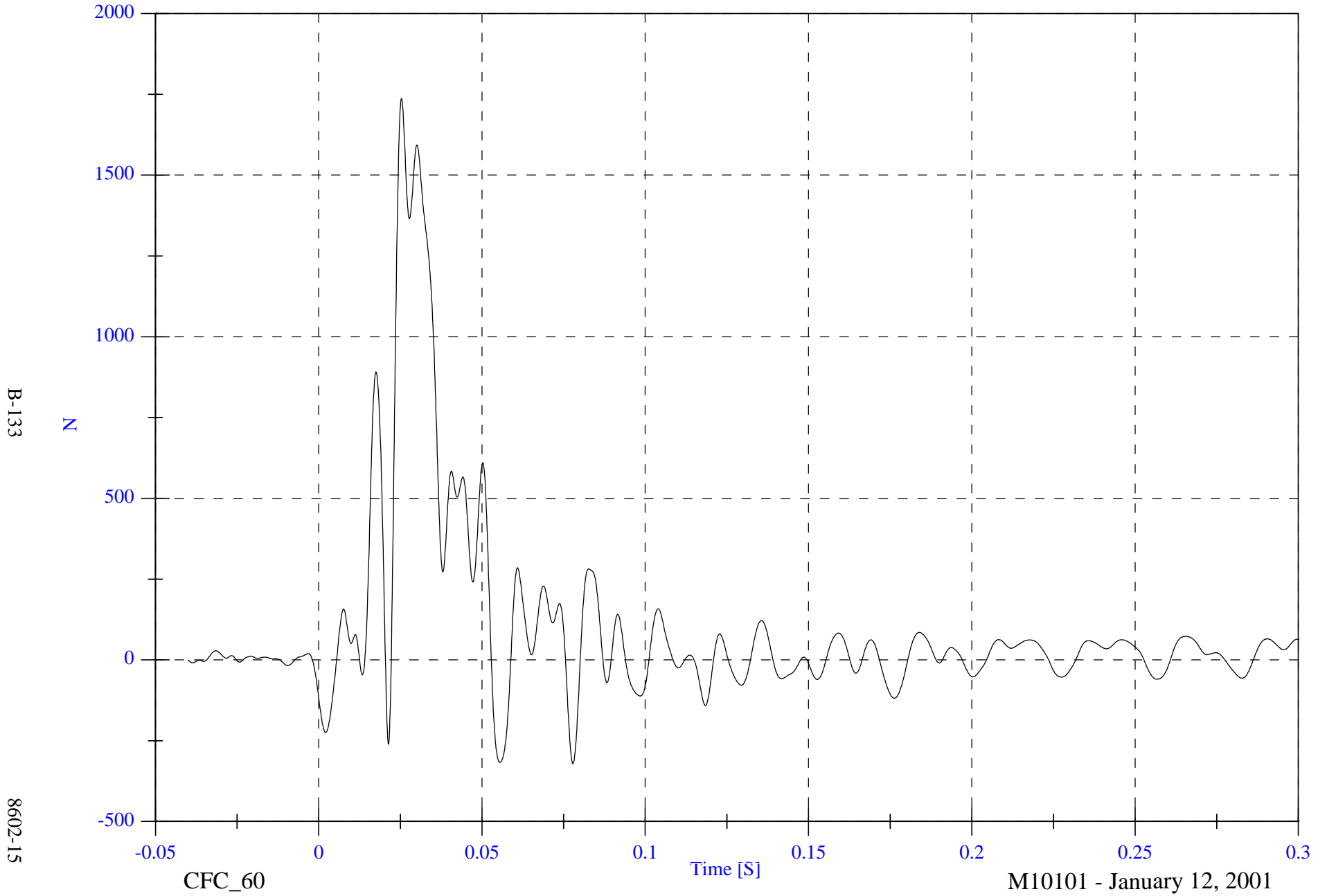


NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A2 Fx

Max: 1737.1 [N] at 0.025 [S]

Min: -321.0 [N] at 0.078 [S]

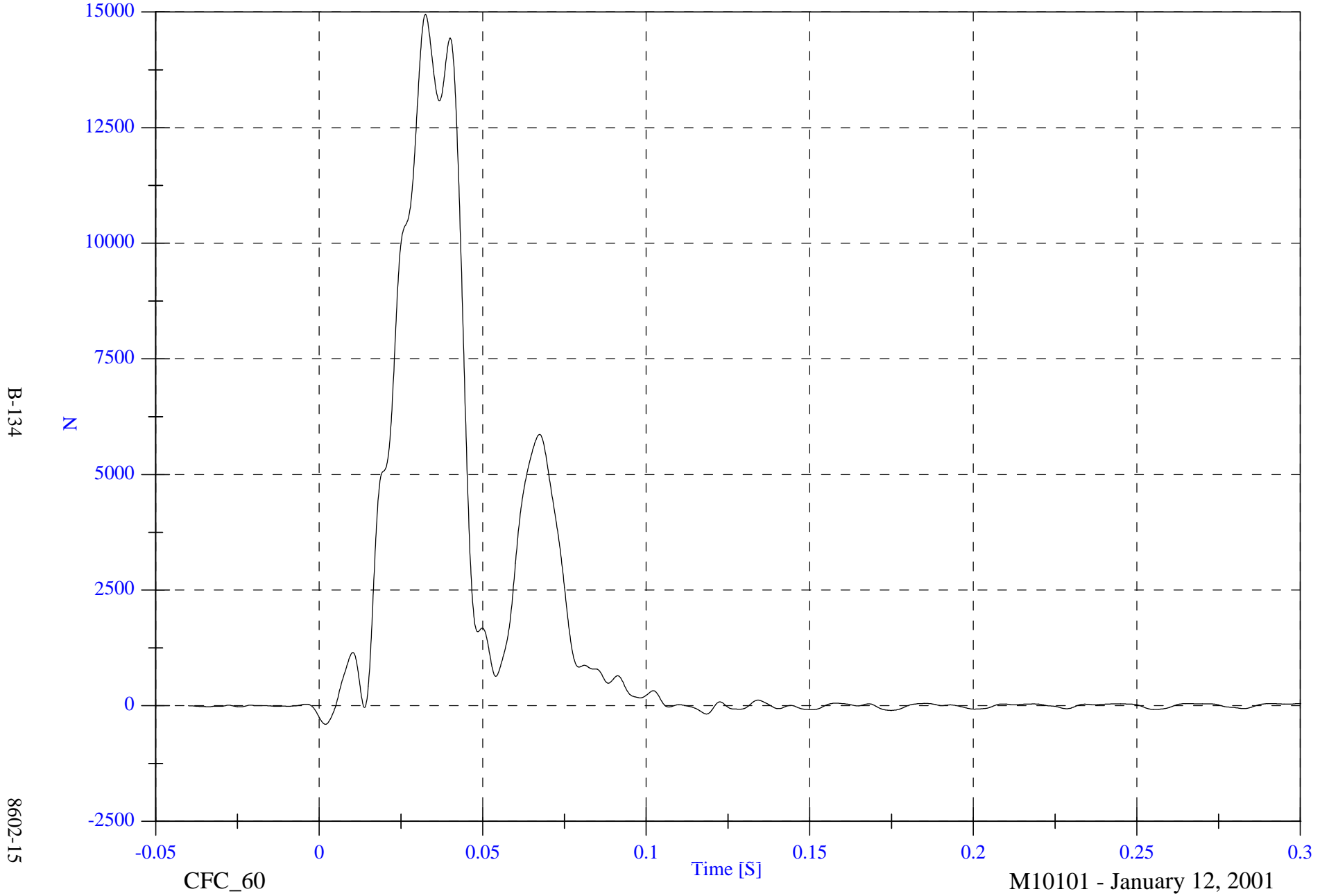


NCAP Test 15 - 2001 Buick Park Avenue

Max: 14952.4 [N] at 0.032 [S]

Barrier Load Cell A3 Fx

Min: -401.7 [N] at 0.002 [S]



B-134

8602-15

CFC_60

Time [S]

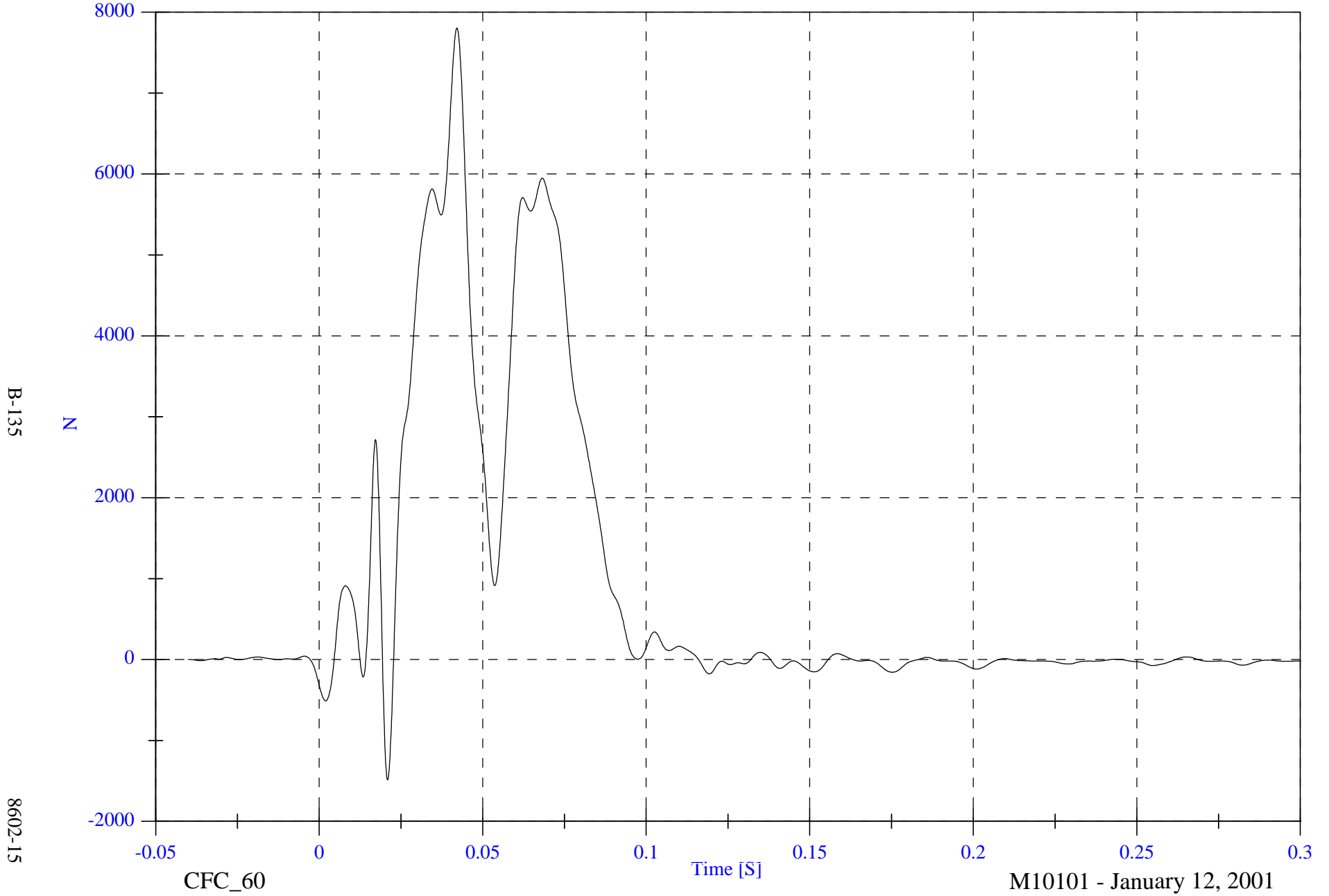
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A4 Fx

Max: 7803.6 [N] at 0.042 [S]

Min: -1489.0 [N] at 0.021 [S]

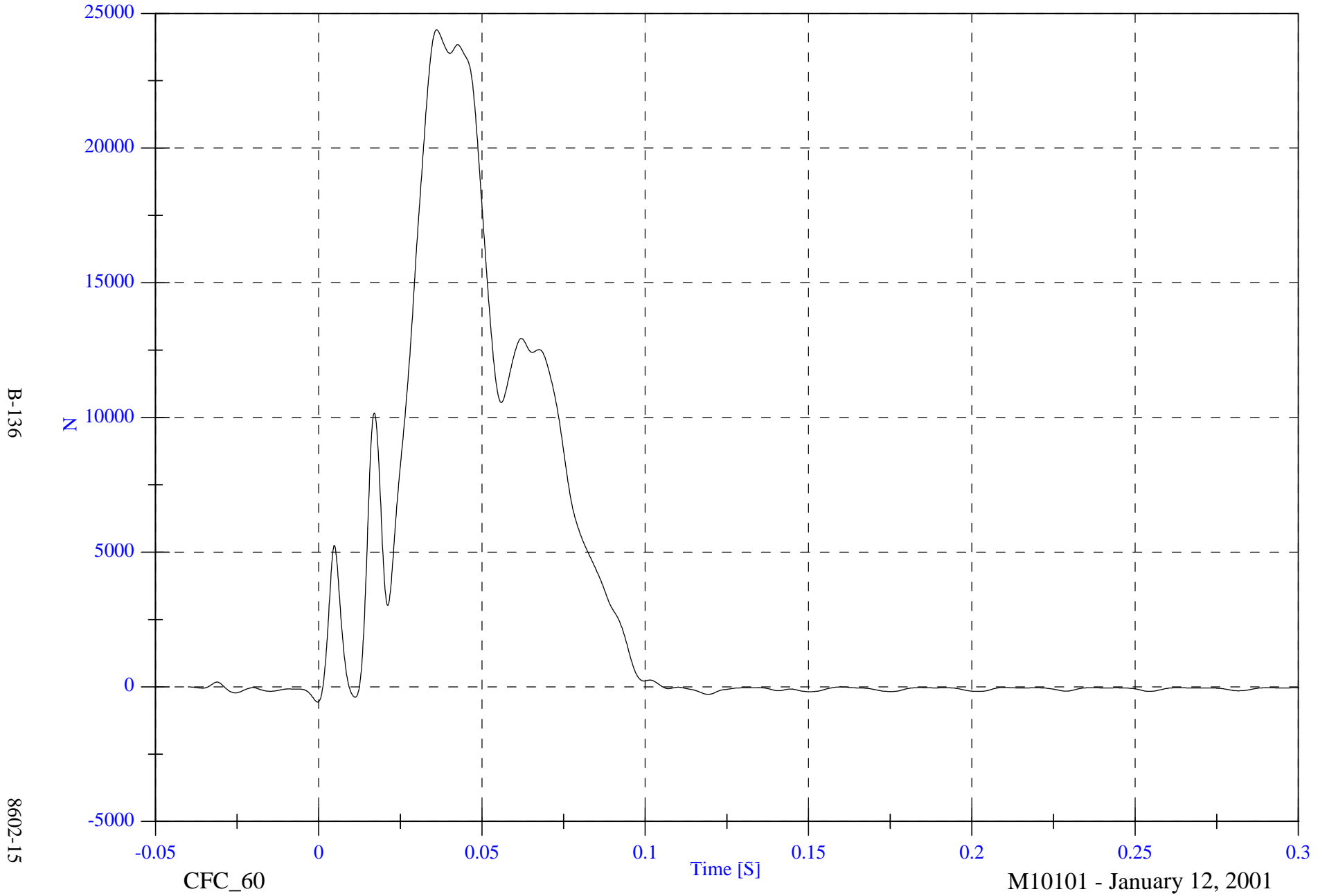


NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A5 Fx

Max: 24393.5 [N] at 0.036 [S]

Min: -570.7 [N] at -0.000 [S]



B-136

8602-15

CFC_60

Time [S]

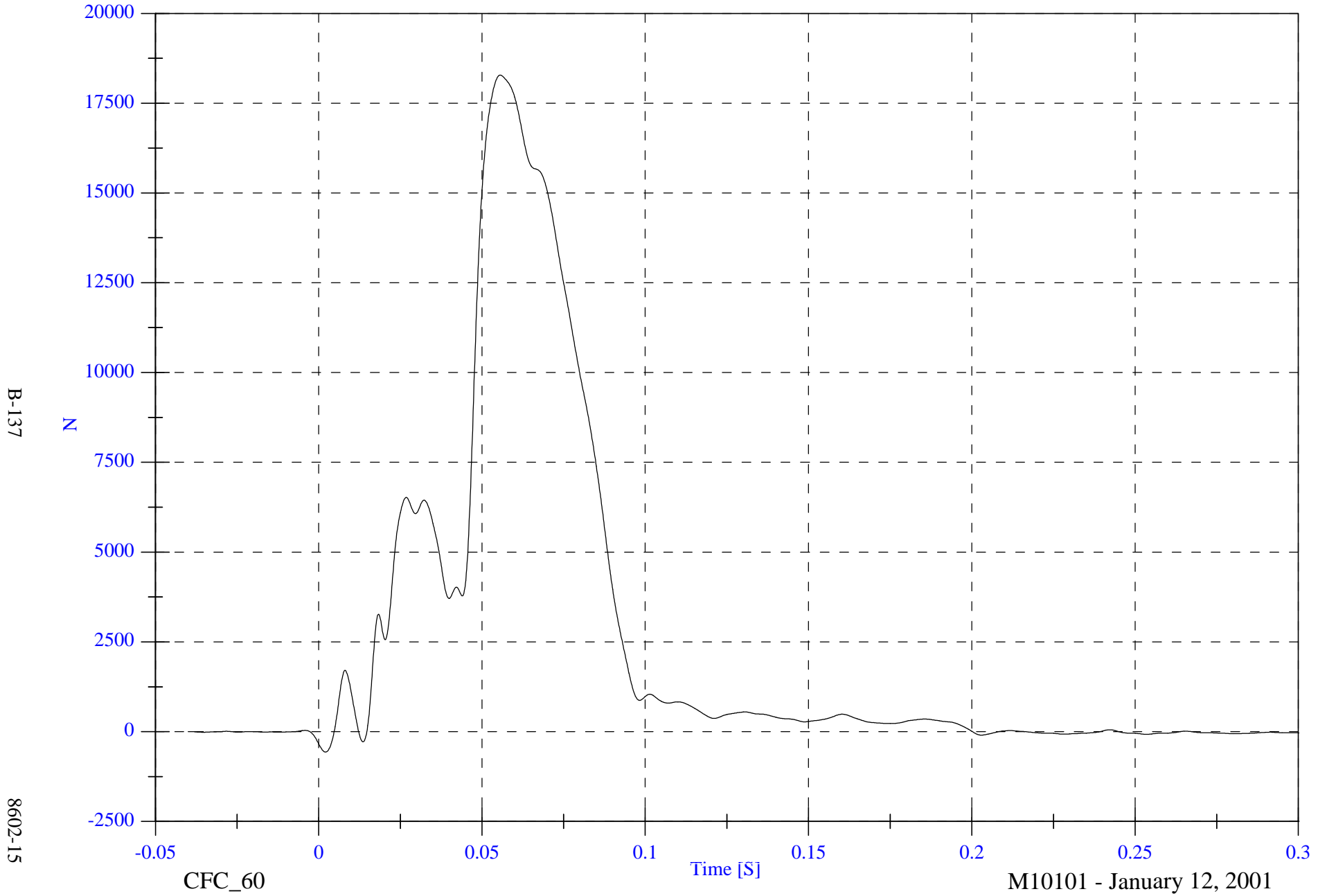
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A6 Fx

Max: 18283.7 [N] at 0.056 [S]

Min: -568.5 [N] at 0.002 [S]



B-137

8602-15

CFC_60

Time [S]

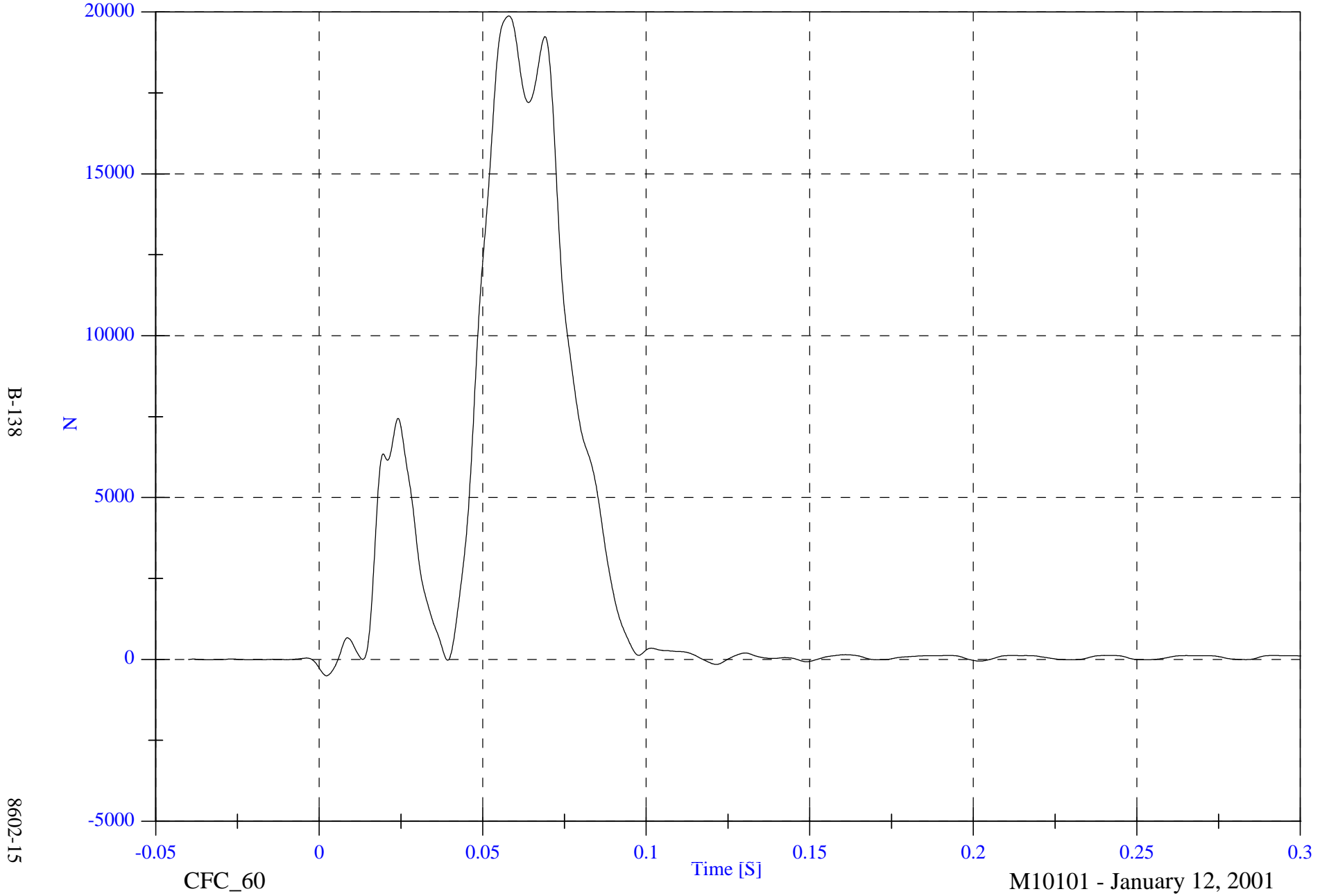
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A7 Fx

Max: 19879.1 [N] at 0.058 [S]

Min: -503.9 [N] at 0.002 [S]



B-138

8602-15

CFC_60

Time [S]

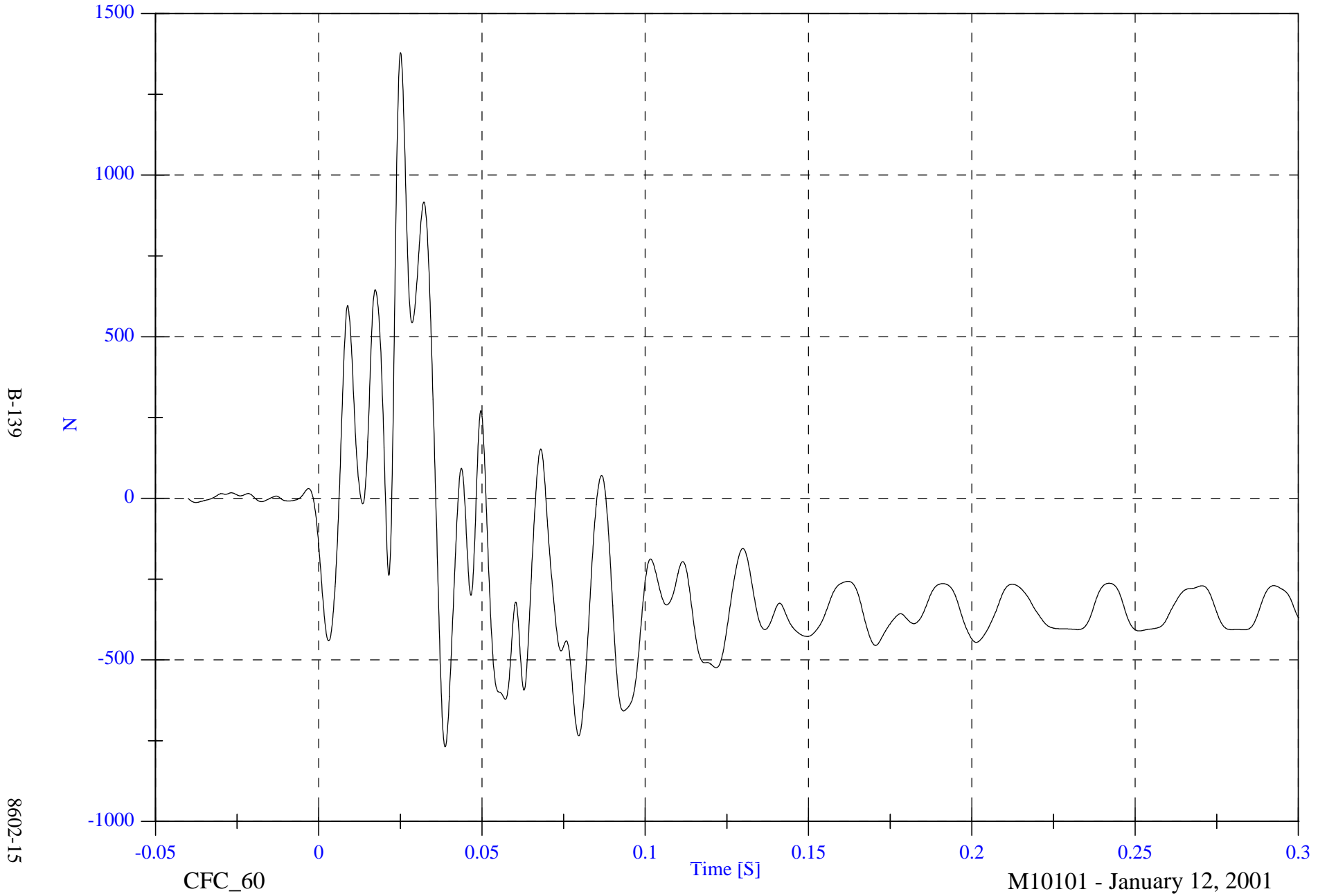
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A8 Fx

Max: 1378.5 [N] at 0.025 [S]

Min: -769.8 [N] at 0.039 [S]



B-139

8602-15

CFC_60

Time [S]

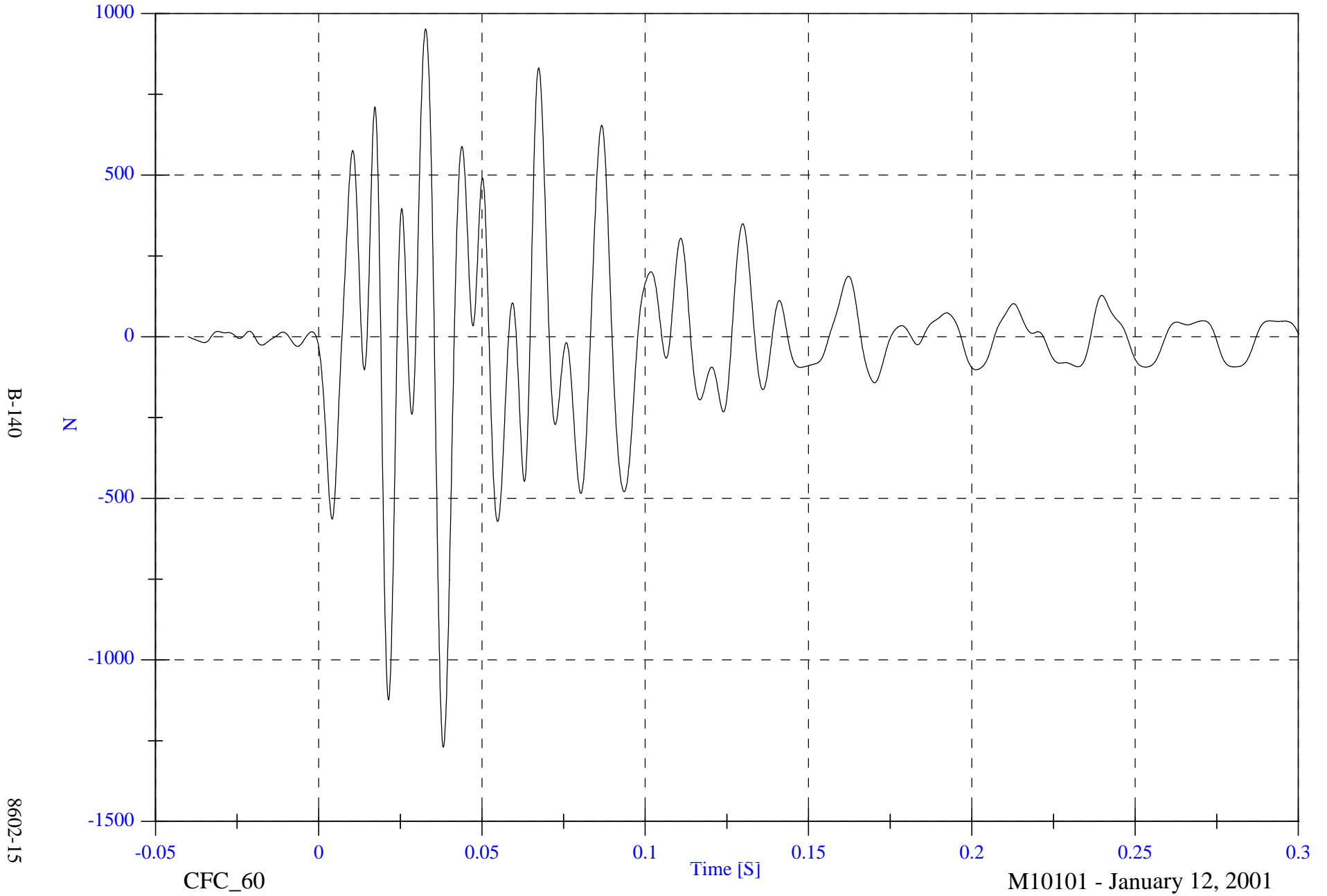
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell A9 Fx

Max: 952.0 [N] at 0.033 [S]

Min: -1270.2 [N] at 0.038 [S]

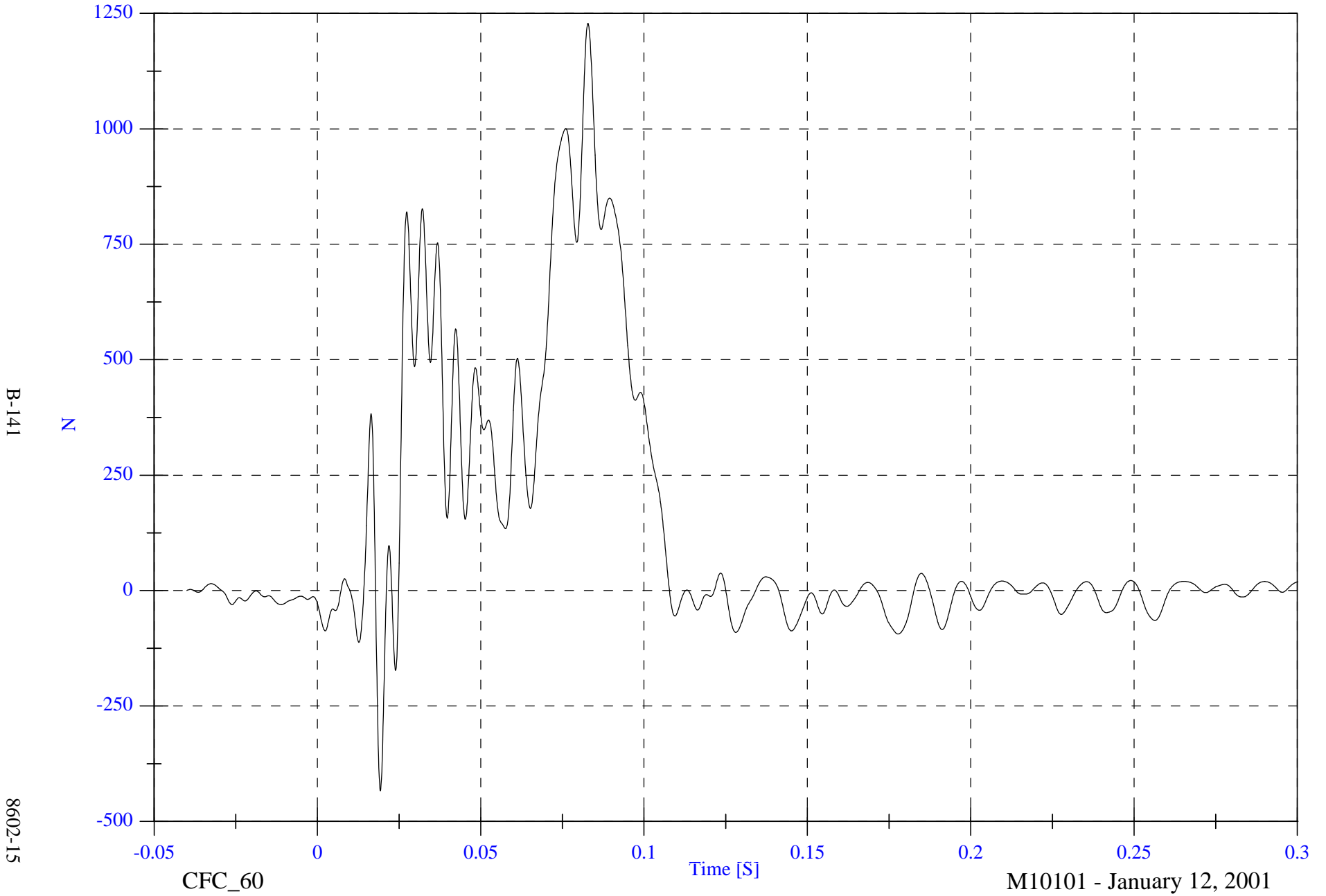


NCAP Test 15 - 2001 Buick Park Avenue

Max: 1228.7 [N] at 0.083 [S]

Barrier Load Cell B1 Fx

Min: -433.6 [N] at 0.019 [S]



B-141

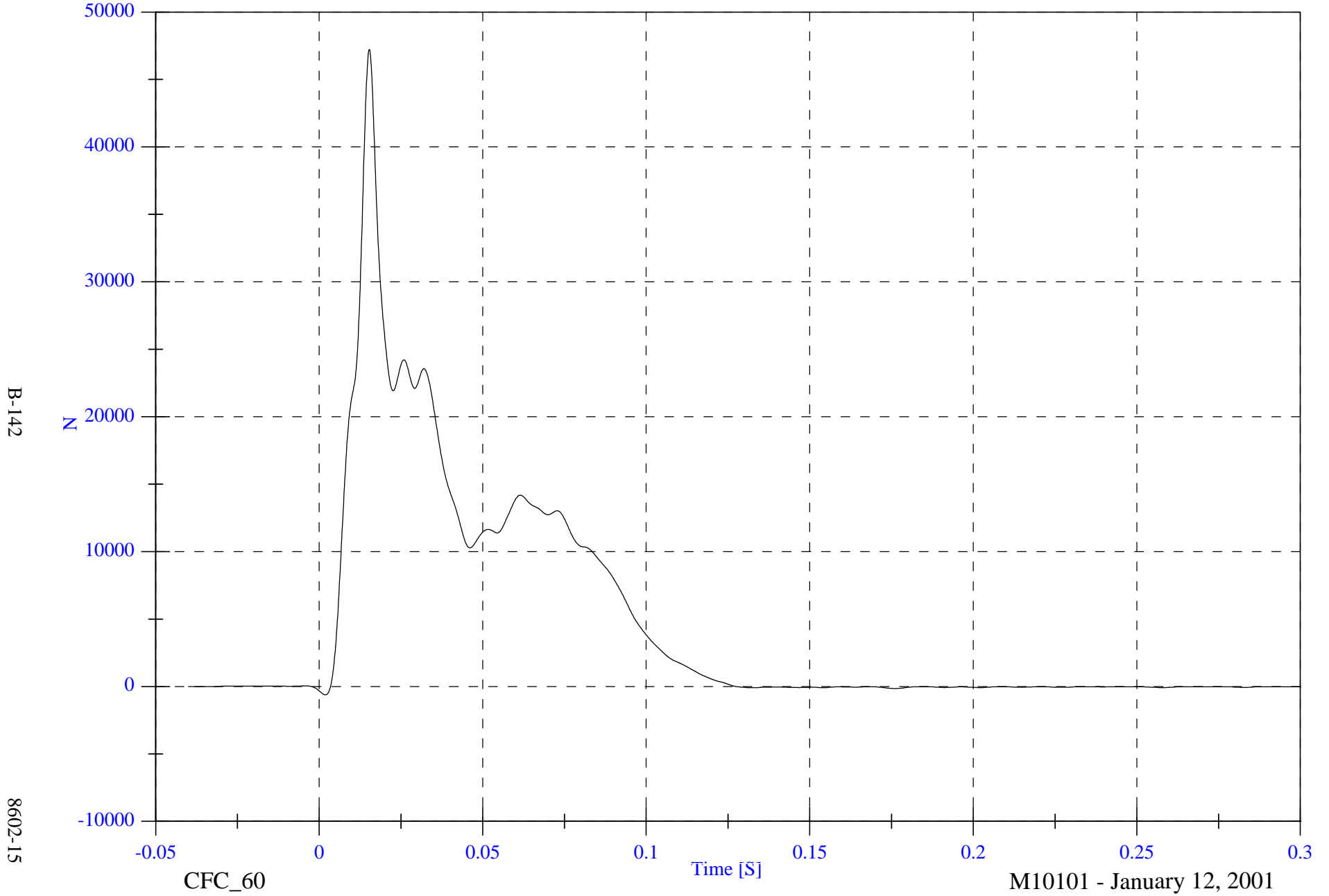
8602-15

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B2 Fx

Max: 47228.1 [N] at 0.015 [S]

Min: -626.4 [N] at 0.002 [S]



B-142

8602-15

CFC_60

Time [S]

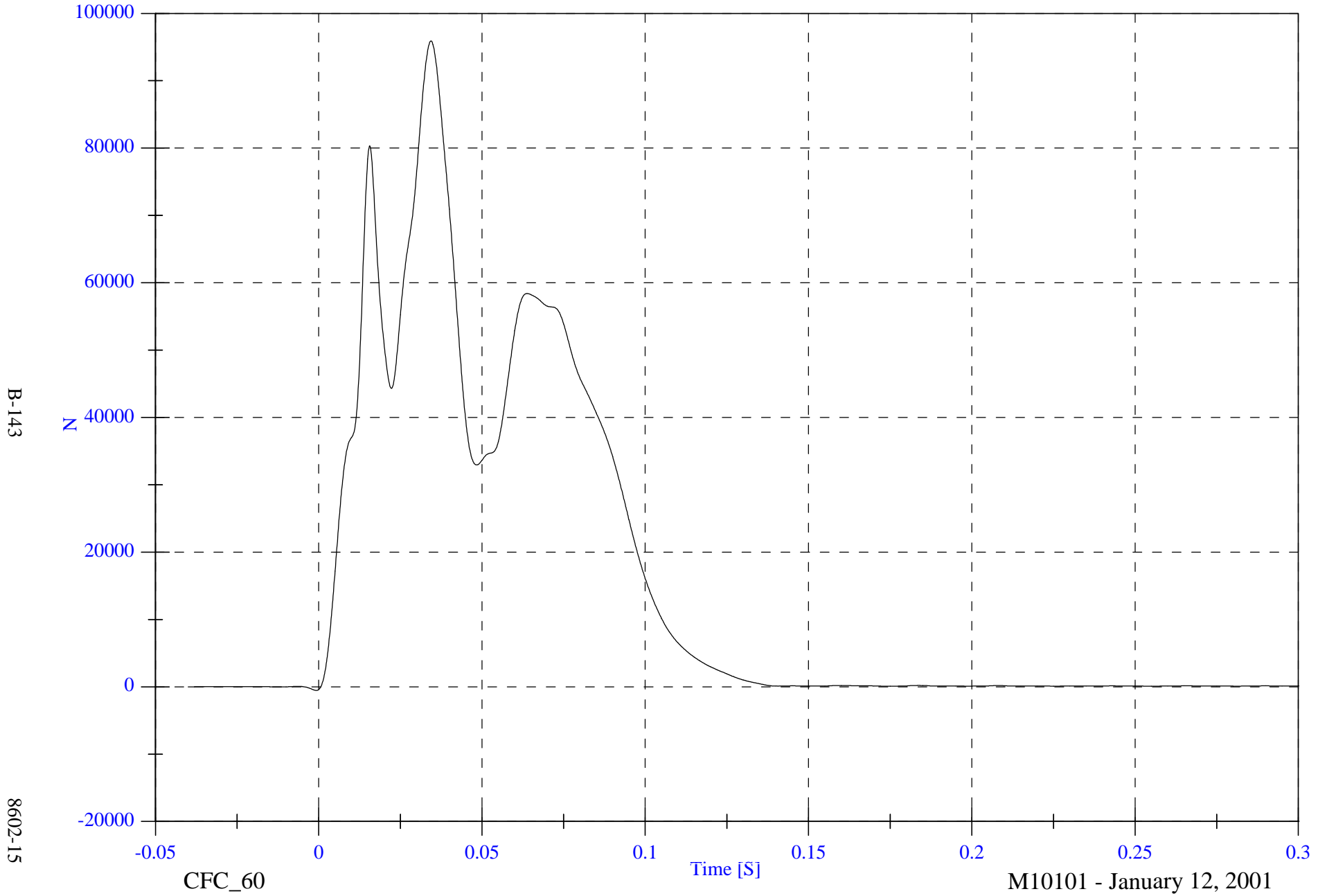
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B3 Fx

Max: 95921.6 [N] at 0.034 [S]

Min: -547.7 [N] at -0.001 [S]



B-143

8602-15

CFC_60

Time [S]

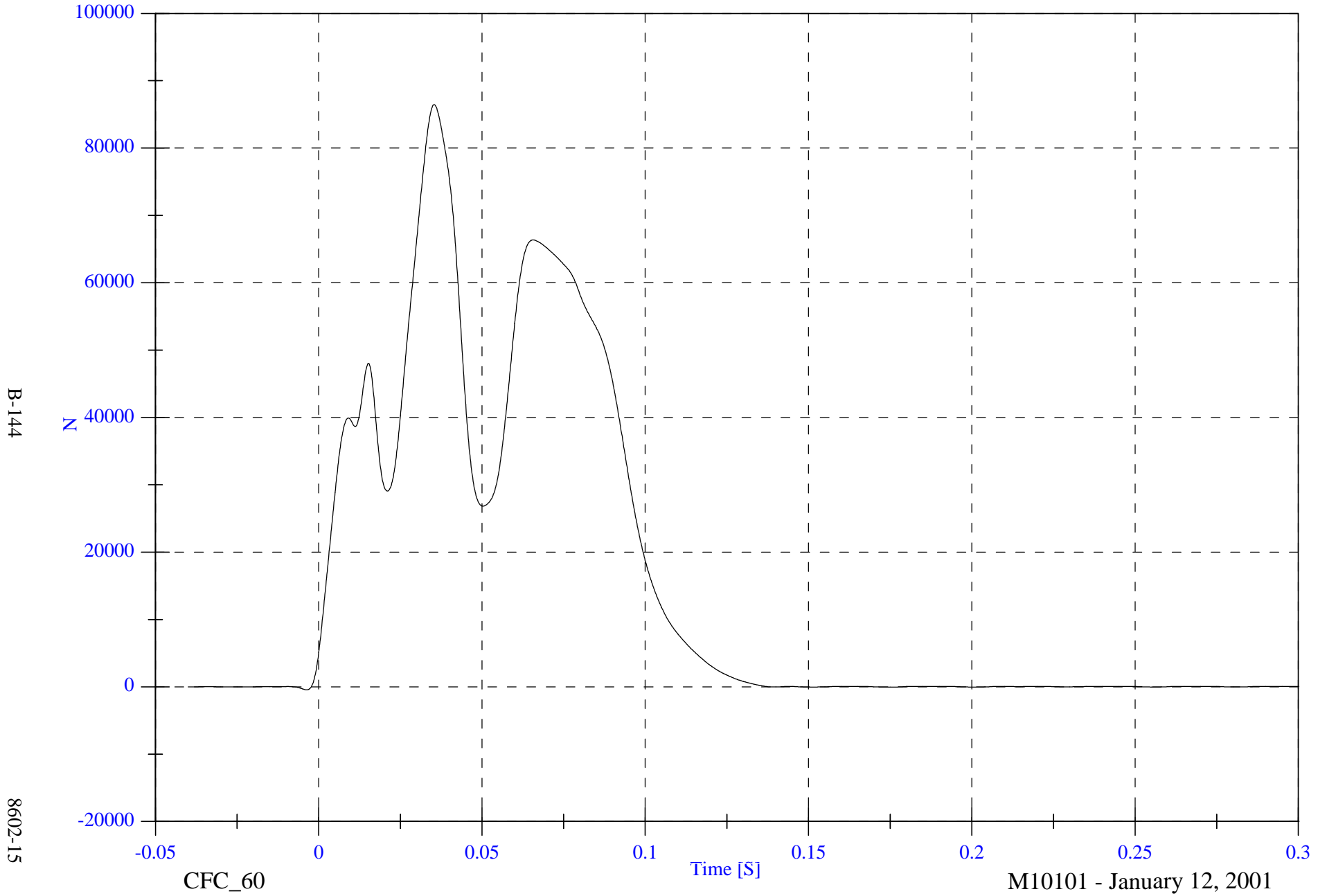
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B4 Fx

Max: 86451.8 [N] at 0.035 [S]

Min: -452.1 [N] at -0.004 [S]



B-144

8602-15

CFC_60

Time [S]

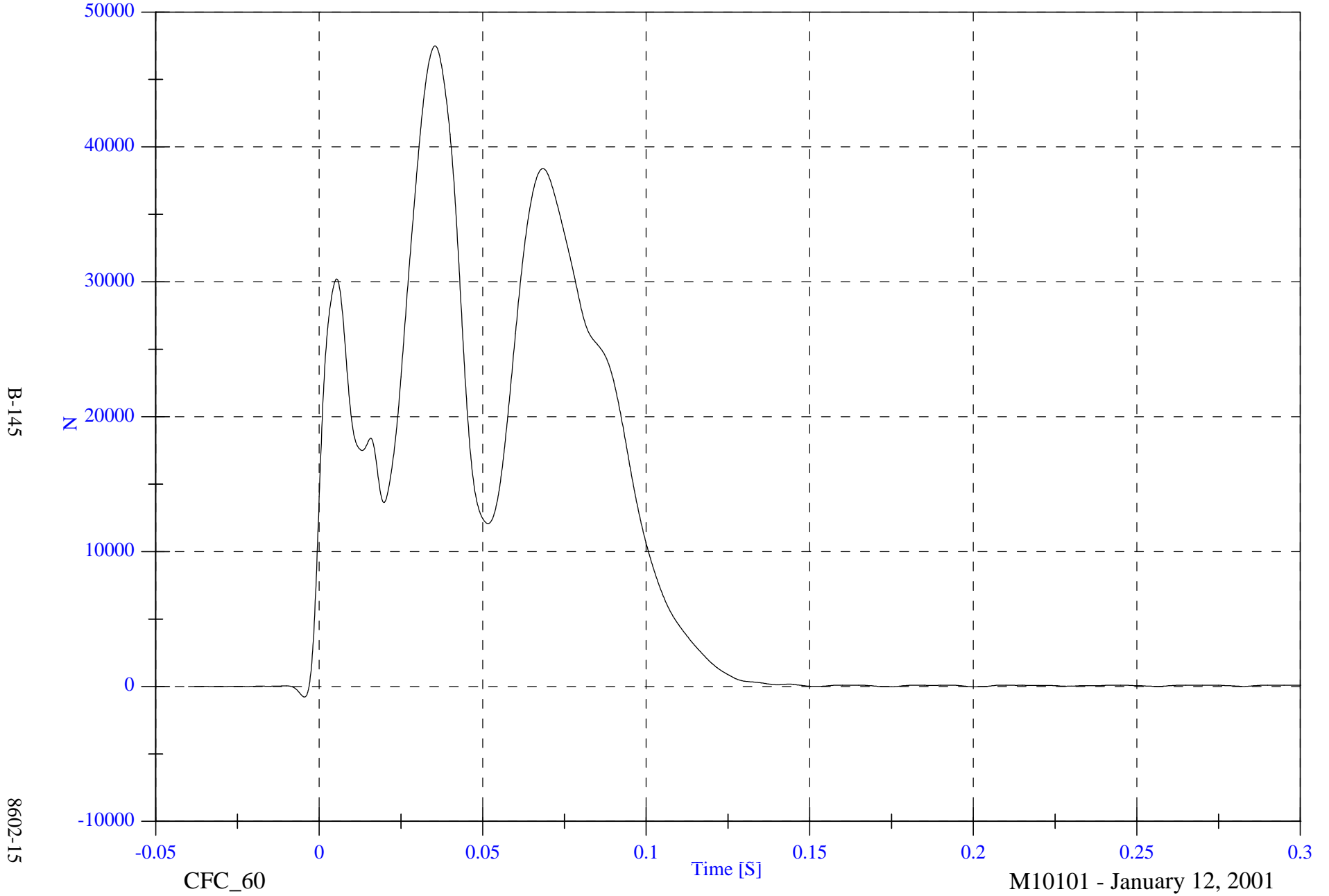
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B5 Fx

Max: 47490.3 [N] at 0.035 [S]

Min: -786.8 [N] at -0.005 [S]



B-145

8602-15

CFC_60

Time [S]

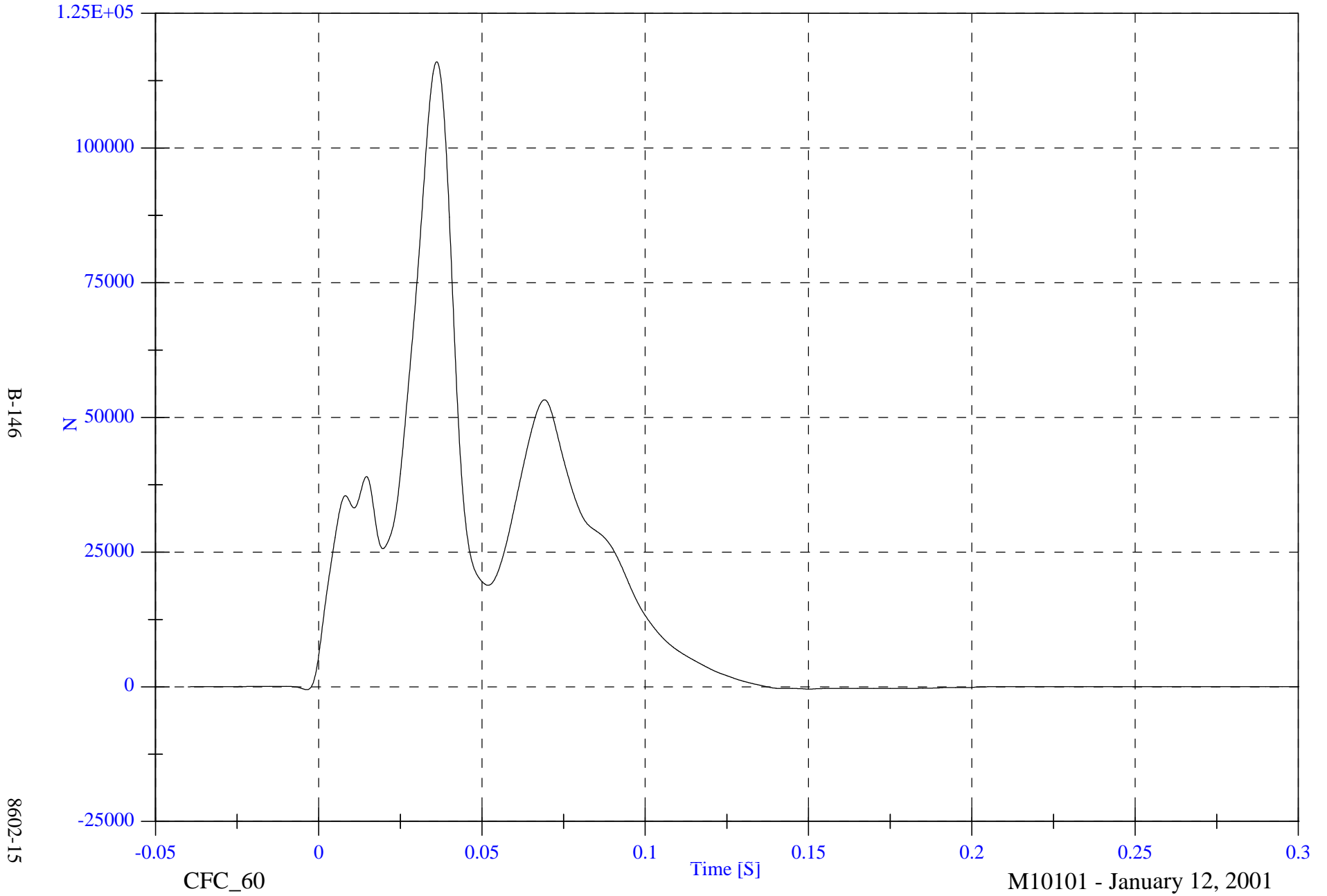
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B6 Fx

Max: 116021.9 [N] at 0.036 [S]

Min: -536.1 [N] at -0.004 [S]



B-146

8602-15

CFC_60

Time [S]

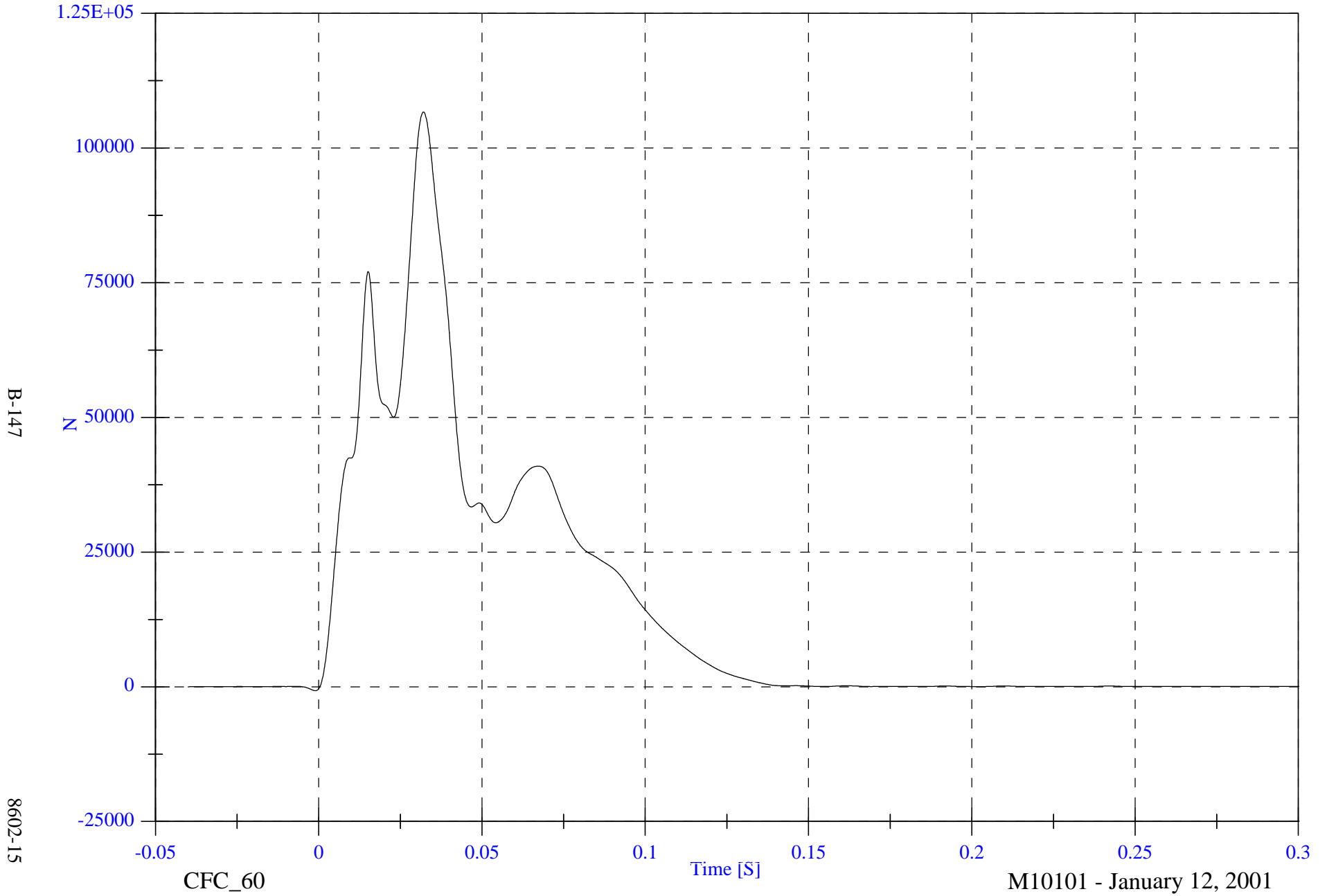
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B7 Fx

Max: 106688.7 [N] at 0.032 [S]

Min: -729.1 [N] at -0.001 [S]



B-147

8602-15

CFC_60

Time [S]

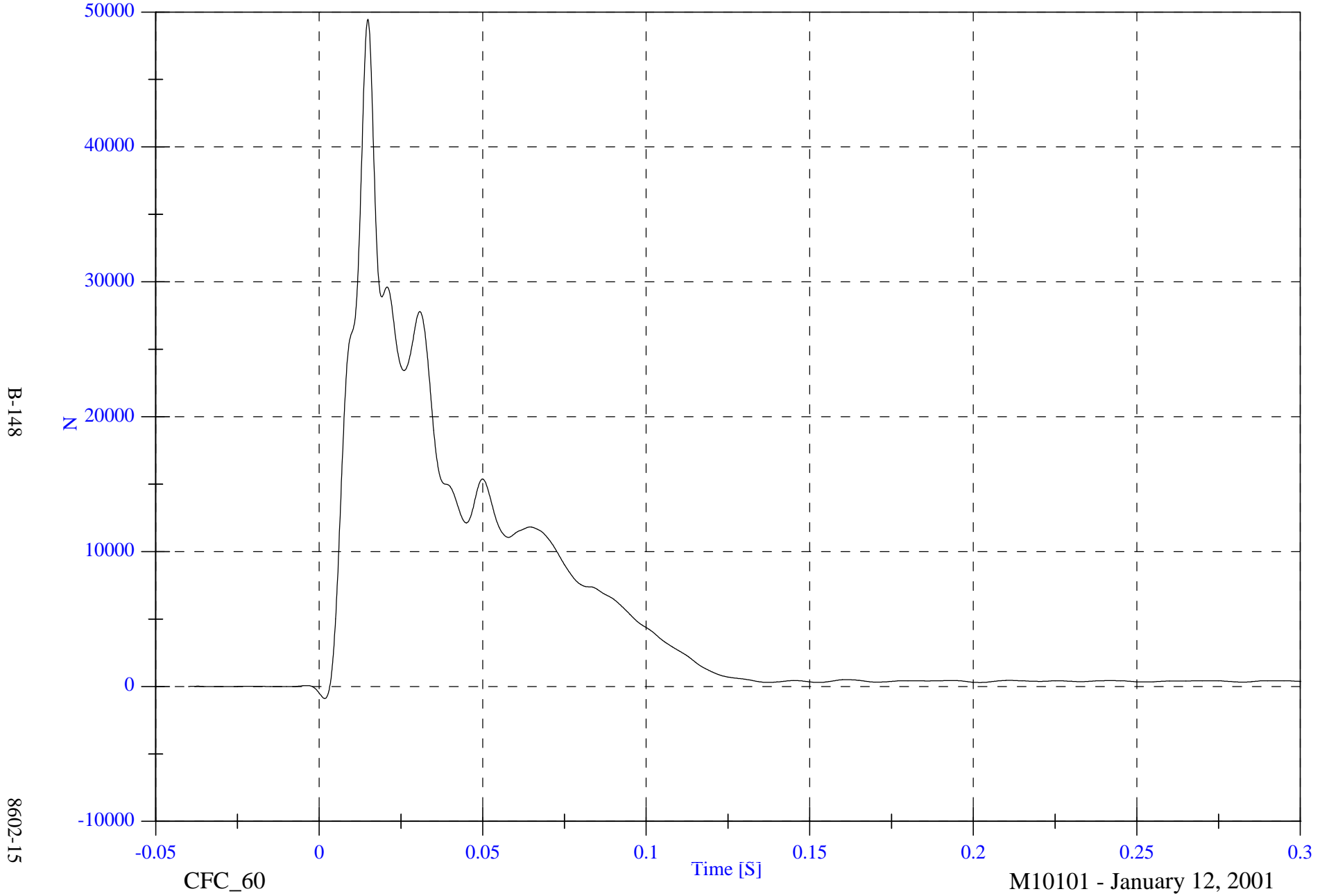
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B8 Fx

Max: 49465.6 [N] at 0.015 [S]

Min: -894.8 [N] at 0.002 [S]



B-148

8602-15

CFC_60

Time [S]

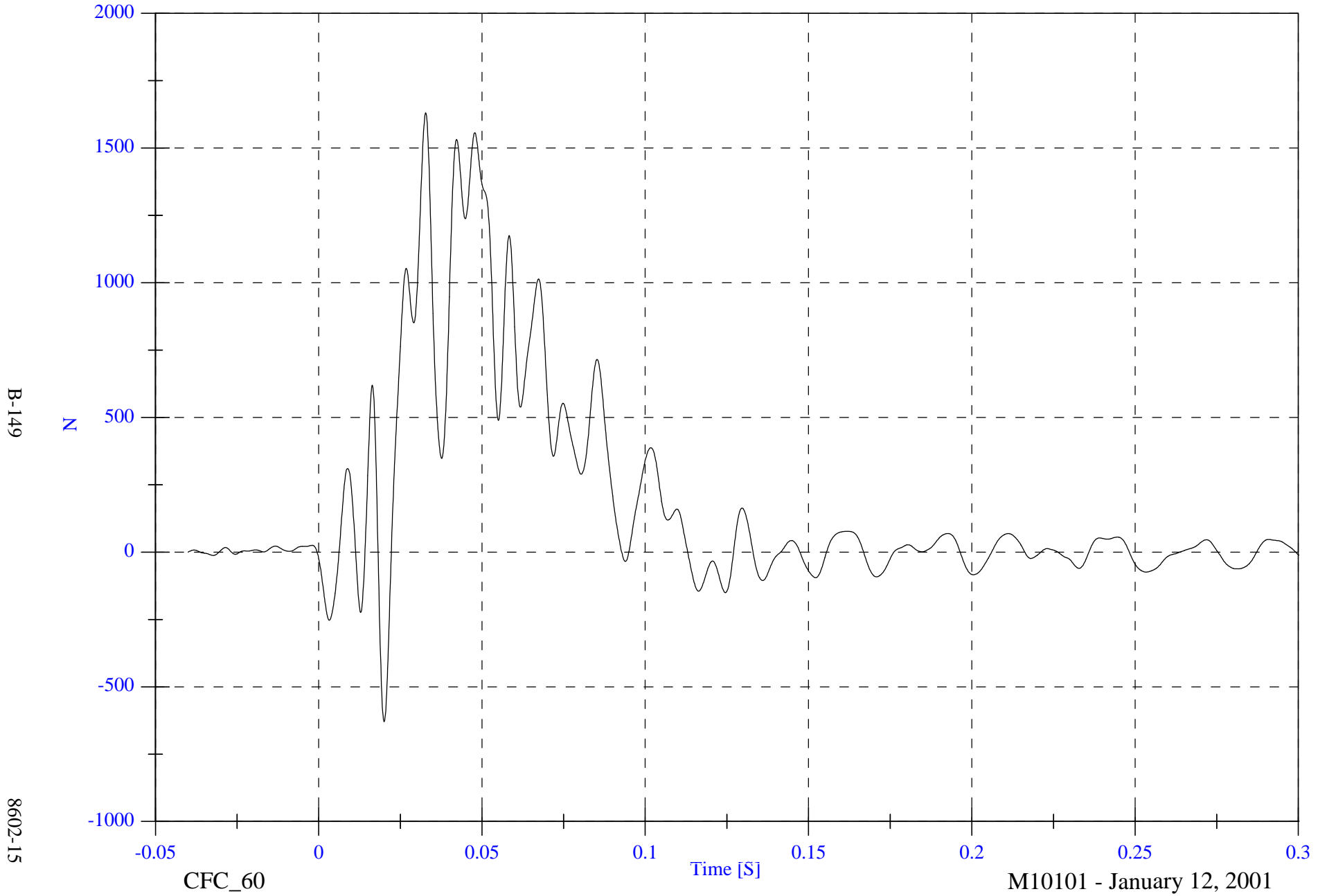
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell B9 Fx

Max: 1631.0 [N] at 0.033 [S]

Min: -629.7 [N] at 0.020 [S]



B-149

8602-15

CFC_60

Time [S]

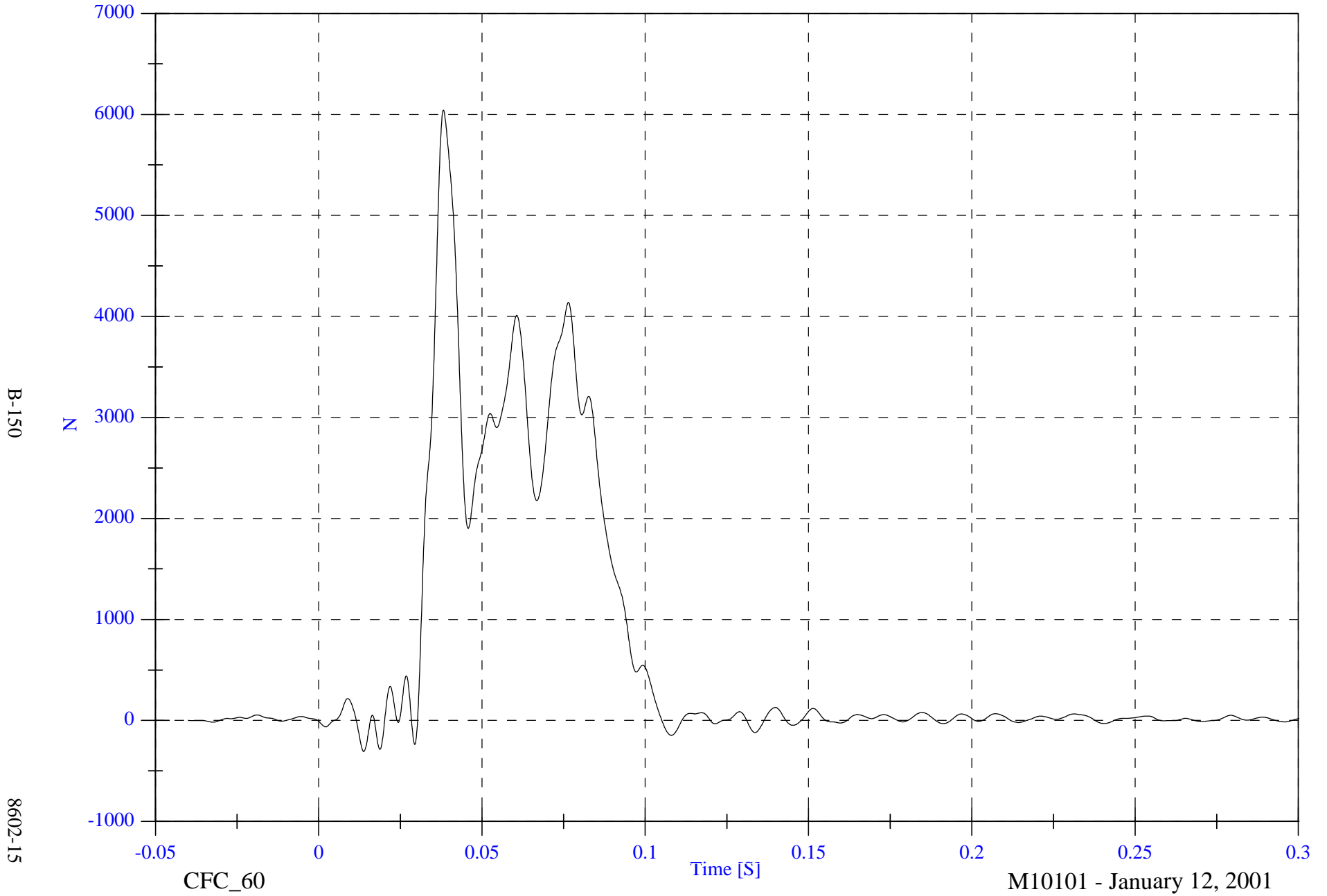
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C1 Fx

Max: 6043.0 [N] at 0.038 [S]

Min: -306.8 [N] at 0.014 [S]



B-150

8602-15

CFC_60

Time [S]

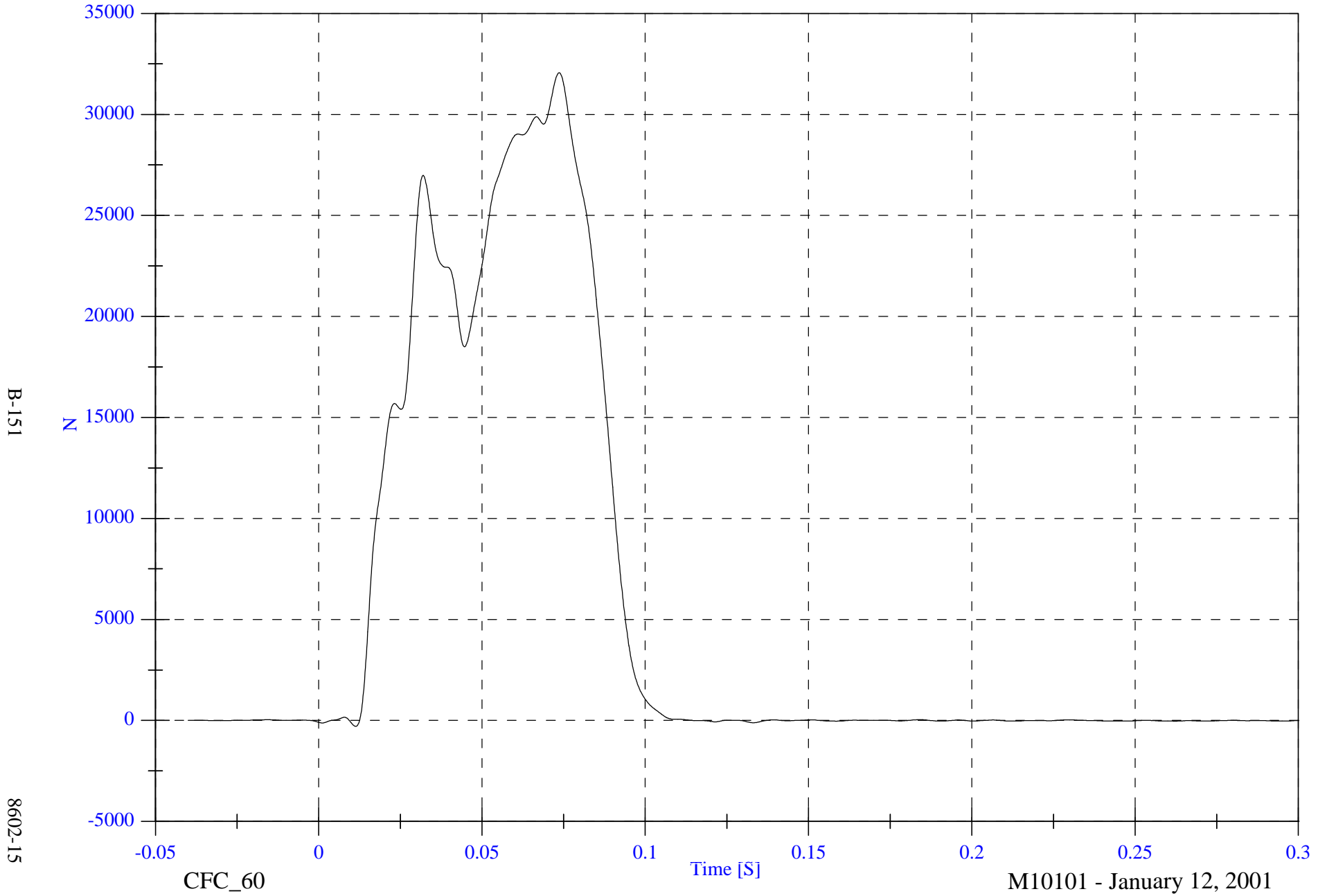
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C2 Fx

Max: 32061.2 [N] at 0.074 [S]

Min: -293.8 [N] at 0.011 [S]



B-151

8602-15

CFC_60

Time [S]

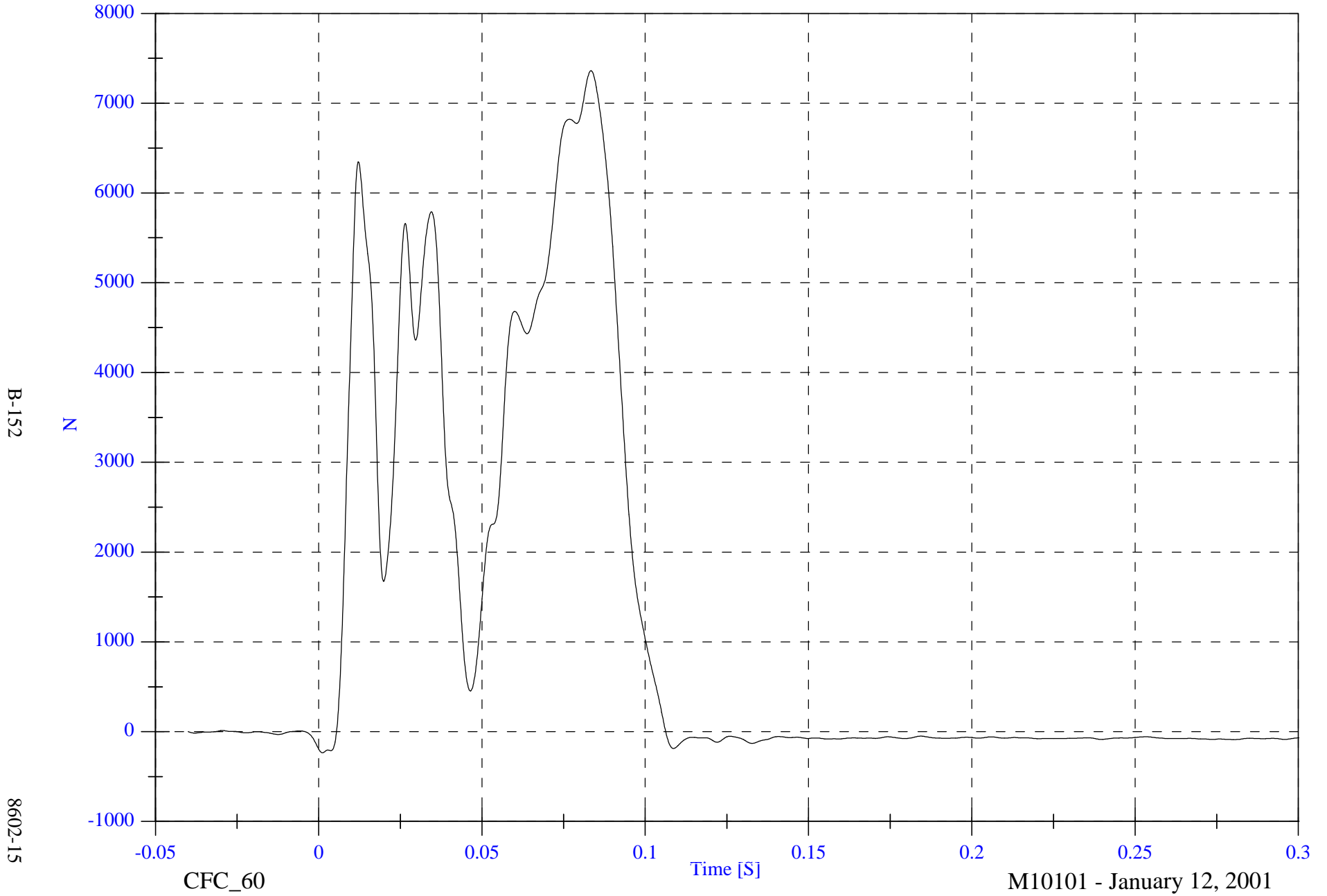
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C3 Fx

Max: 7362.0 [N] at 0.083 [S]

Min: -234.5 [N] at 0.001 [S]



B-152

8602-15

CFC_60

Time [S]

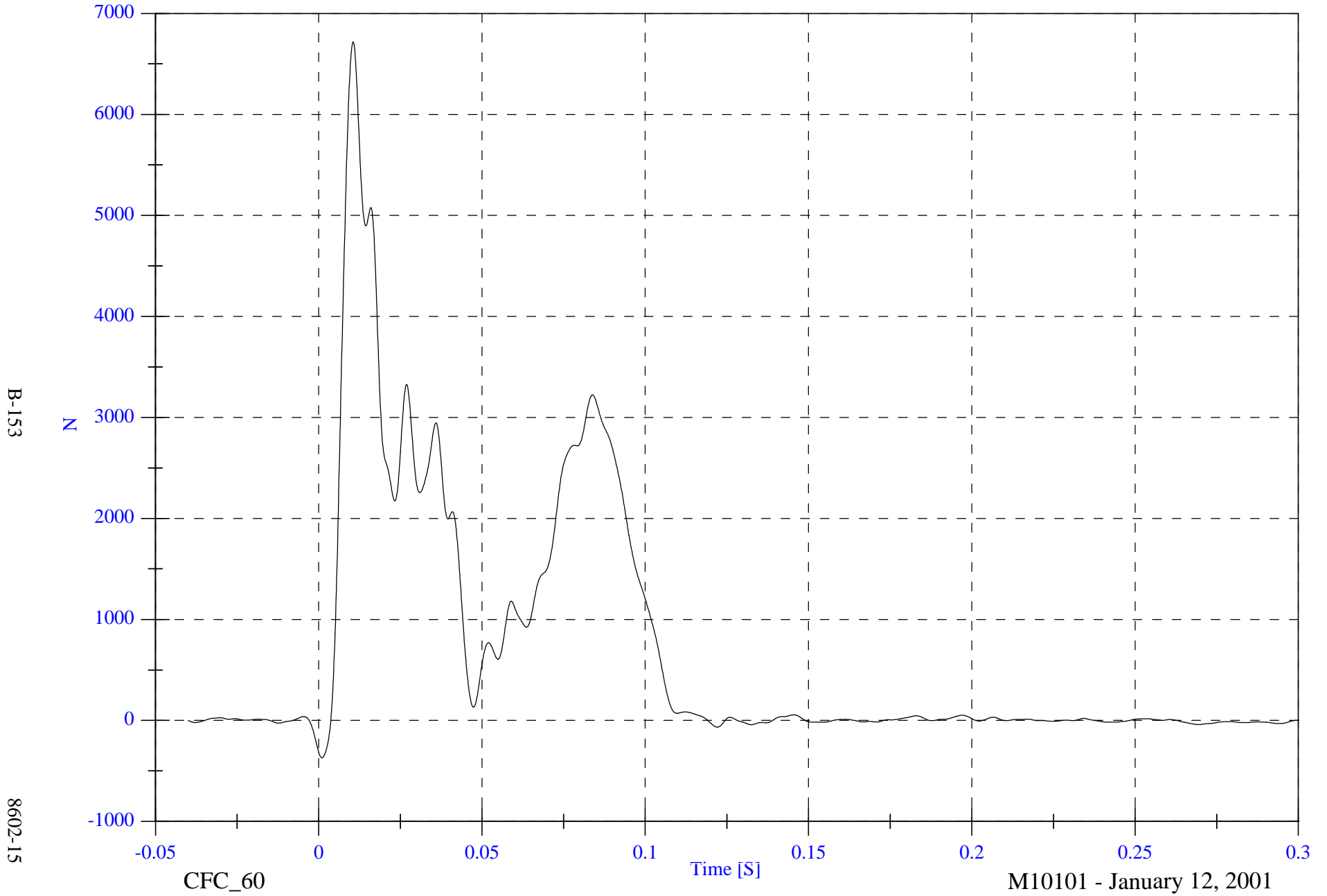
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C4 Fx

Max: 6718.7 [N] at 0.010 [S]

Min: -371.1 [N] at 0.001 [S]



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8602-15

CFC_60

Time [S]

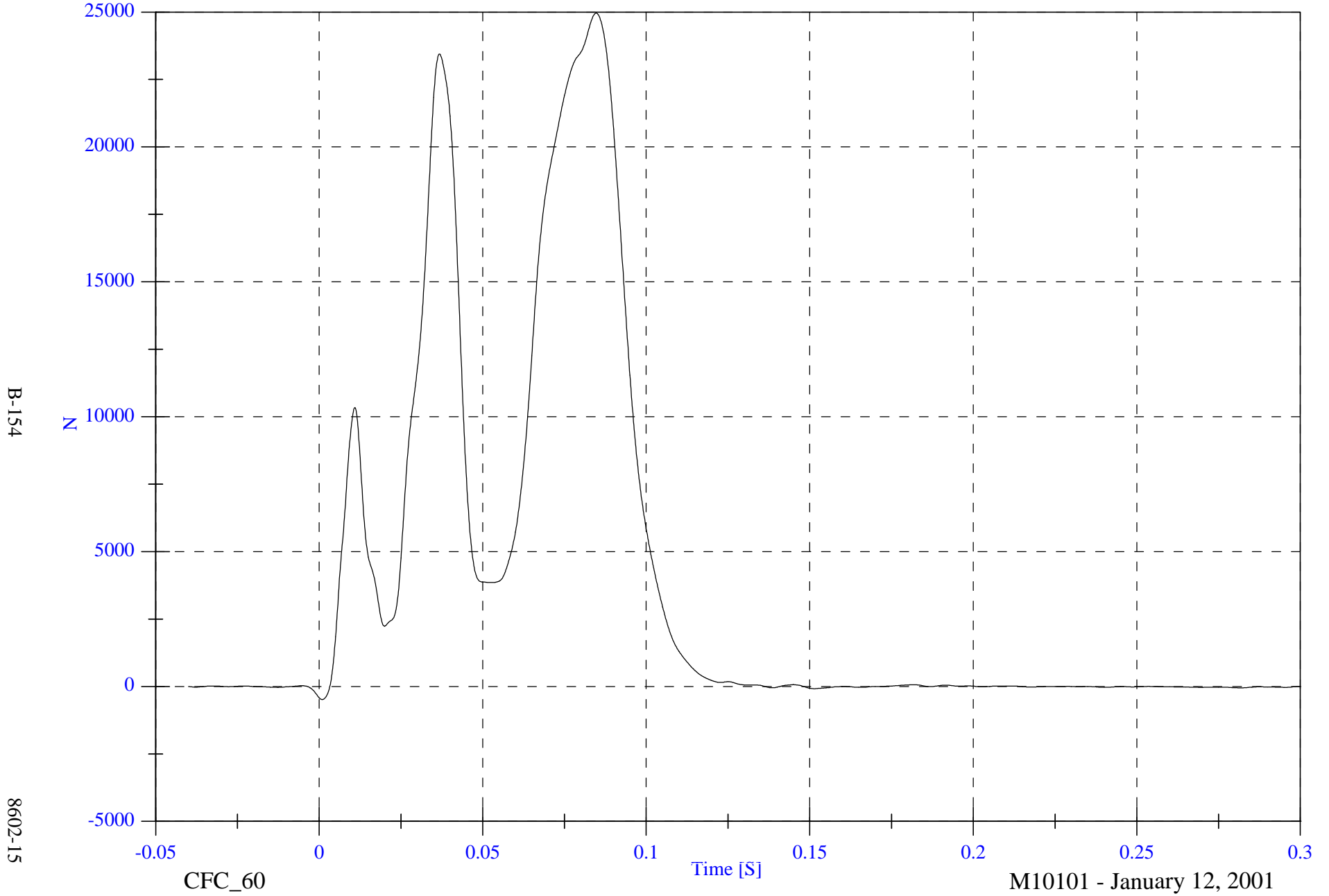
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C5 Fx

Max: 24960.0 [N] at 0.085 [S]

Min: -487.3 [N] at 0.001 [S]



B-154

8602-15

CFC_60

Time [S]

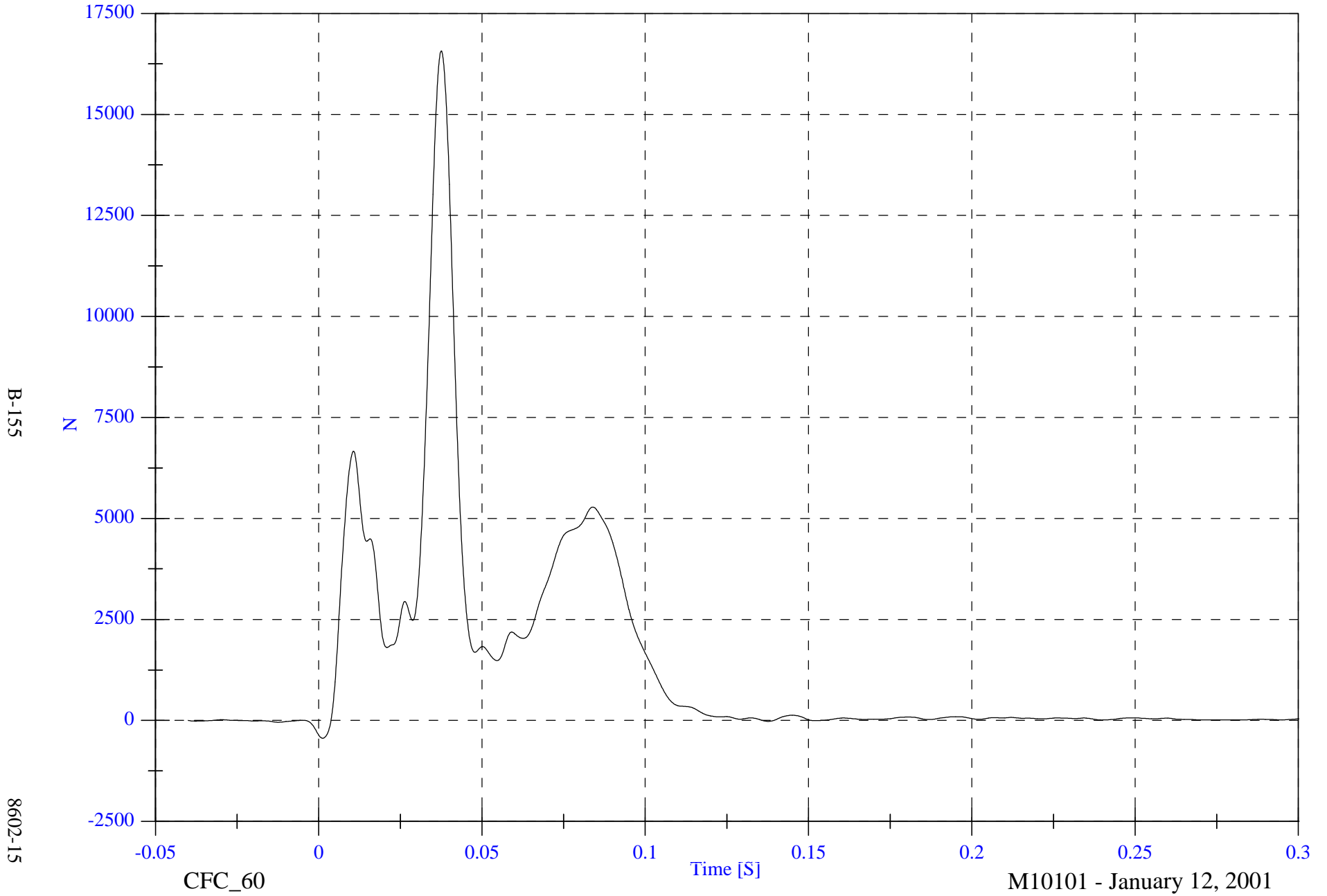
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C6 Fx

Max: 16572.1 [N] at 0.037 [S]

Min: -443.0 [N] at 0.001 [S]



B-155

8602-15

CFC_60

Time [S]

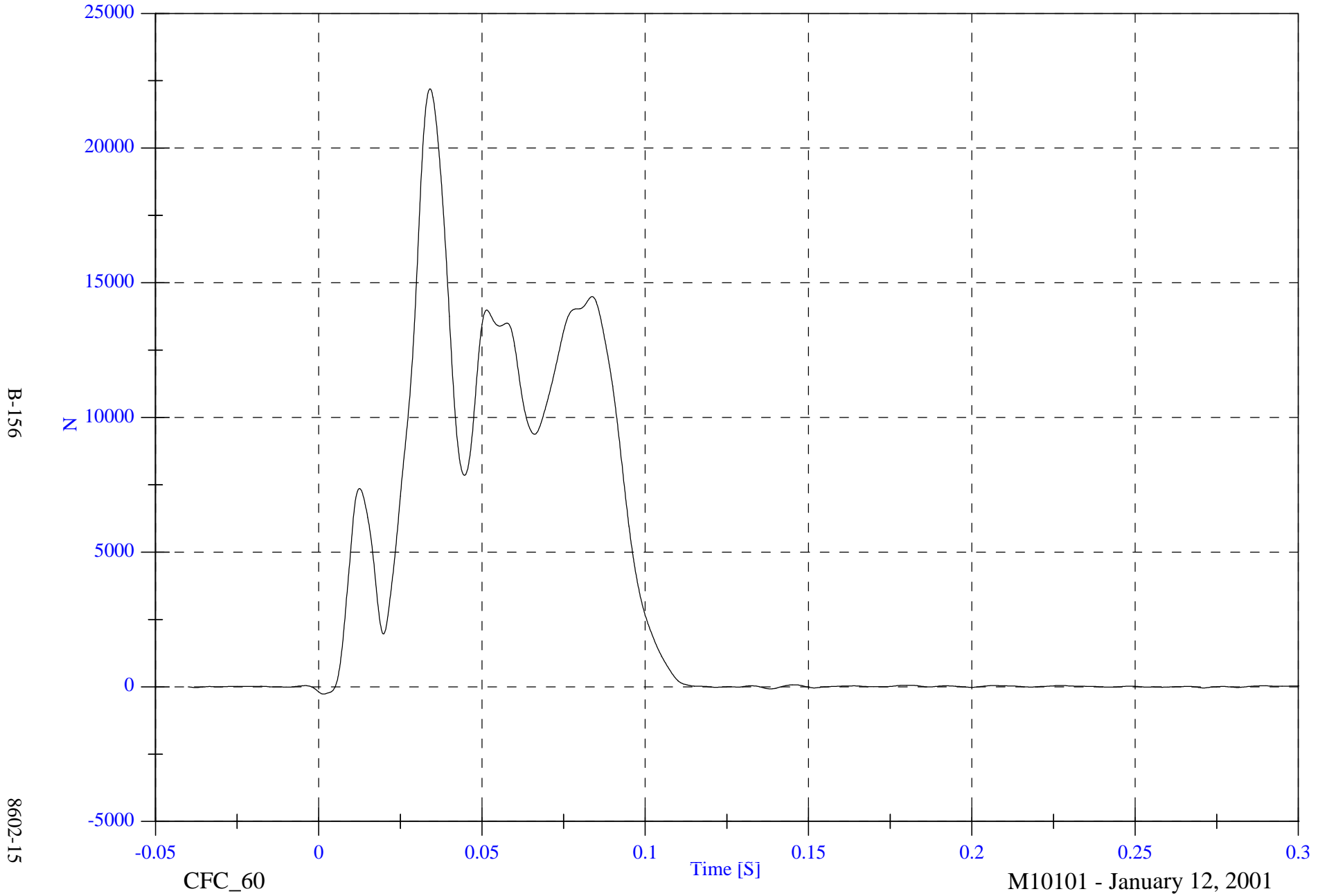
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C7 Fx

Max: 22201.5 [N] at 0.034 [S]

Min: -271.0 [N] at 0.001 [S]



B-156

8602-15

CFC_60

Time [S]

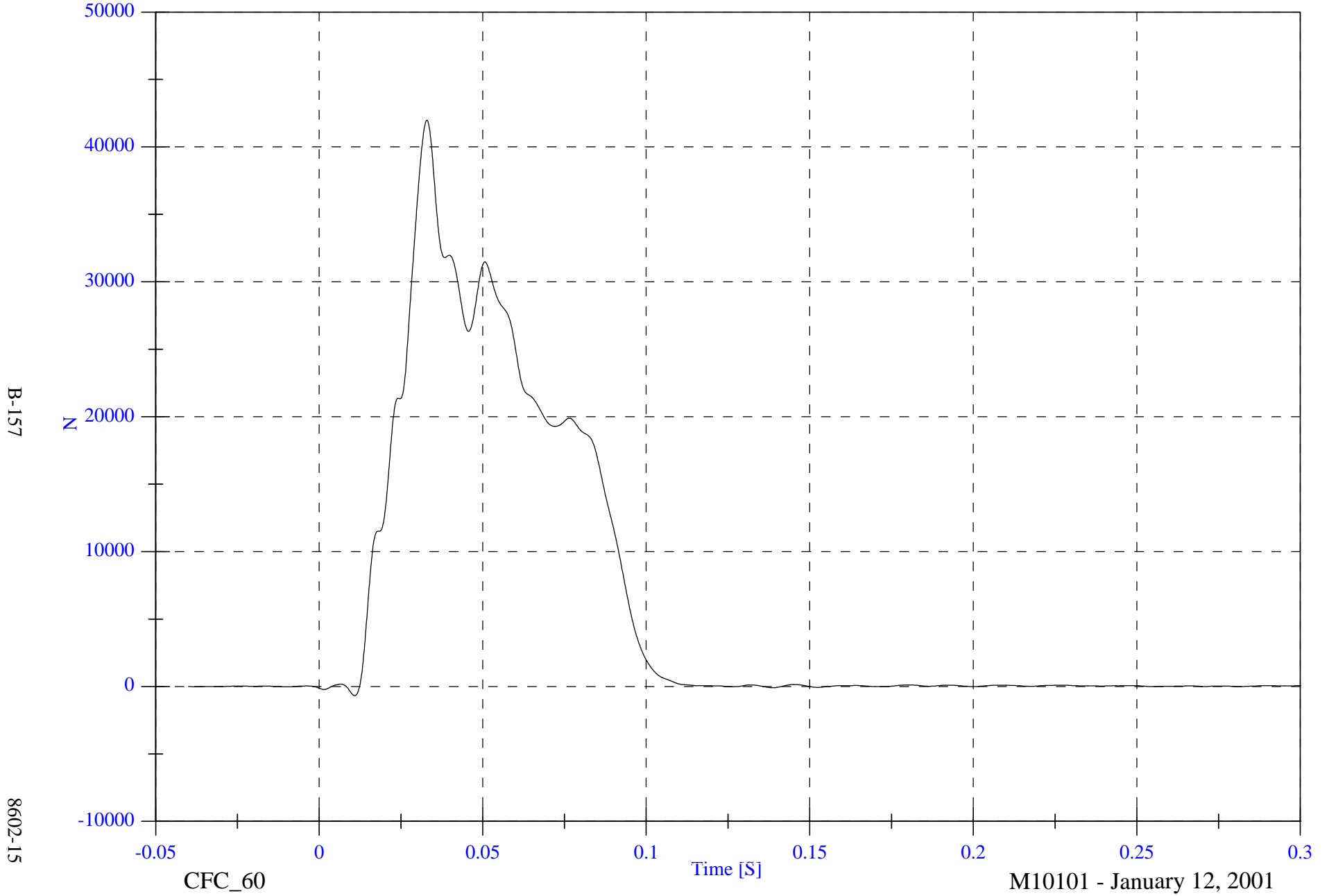
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C8 Fx

Max: 41981.8 [N] at 0.033 [S]

Min: -684.4 [N] at 0.011 [S]



B-157

8602-15

CFC_60

Time [S]

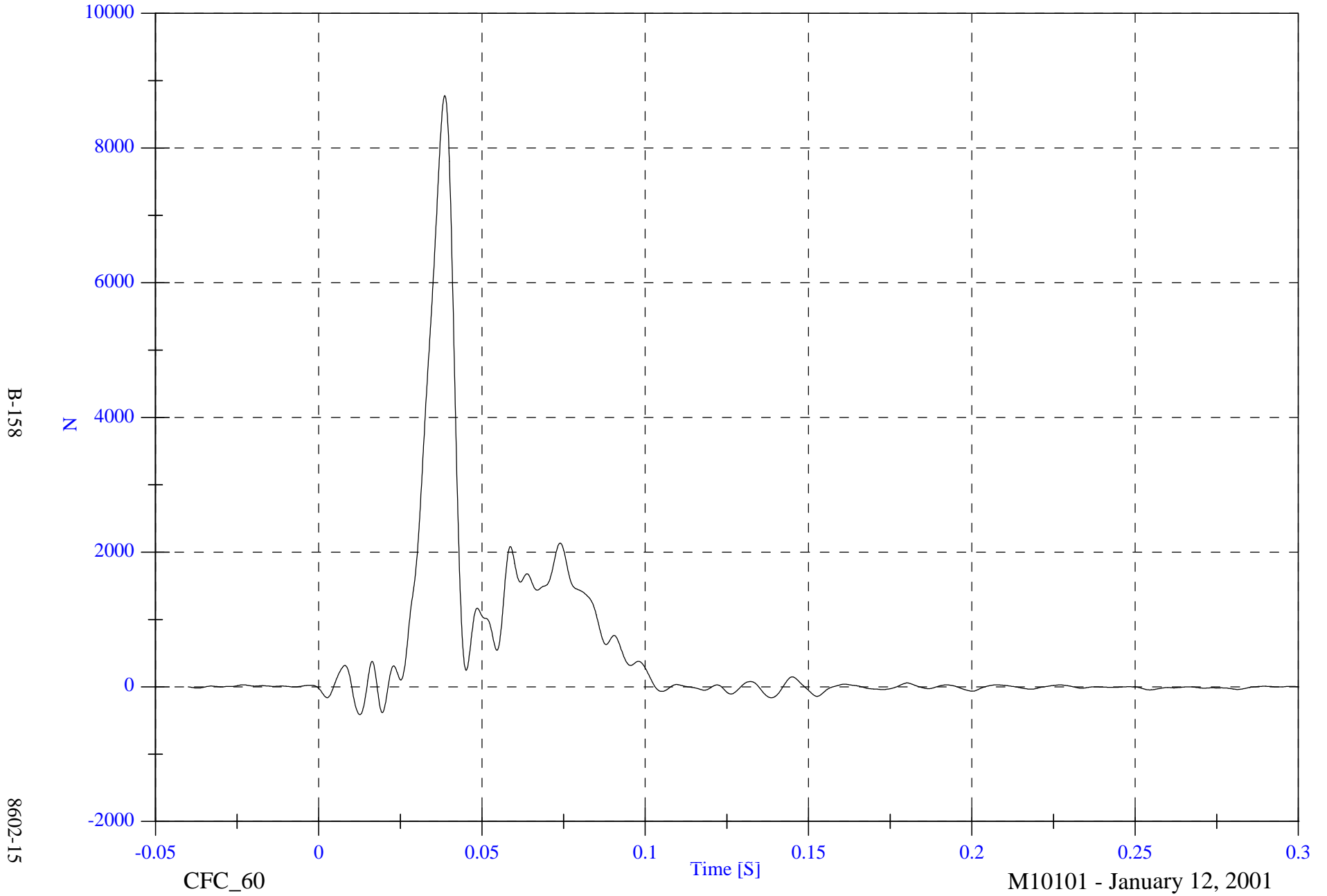
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell C9 Fx

Max: 8780.1 [N] at 0.039 [S]

Min: -414.0 [N] at 0.013 [S]

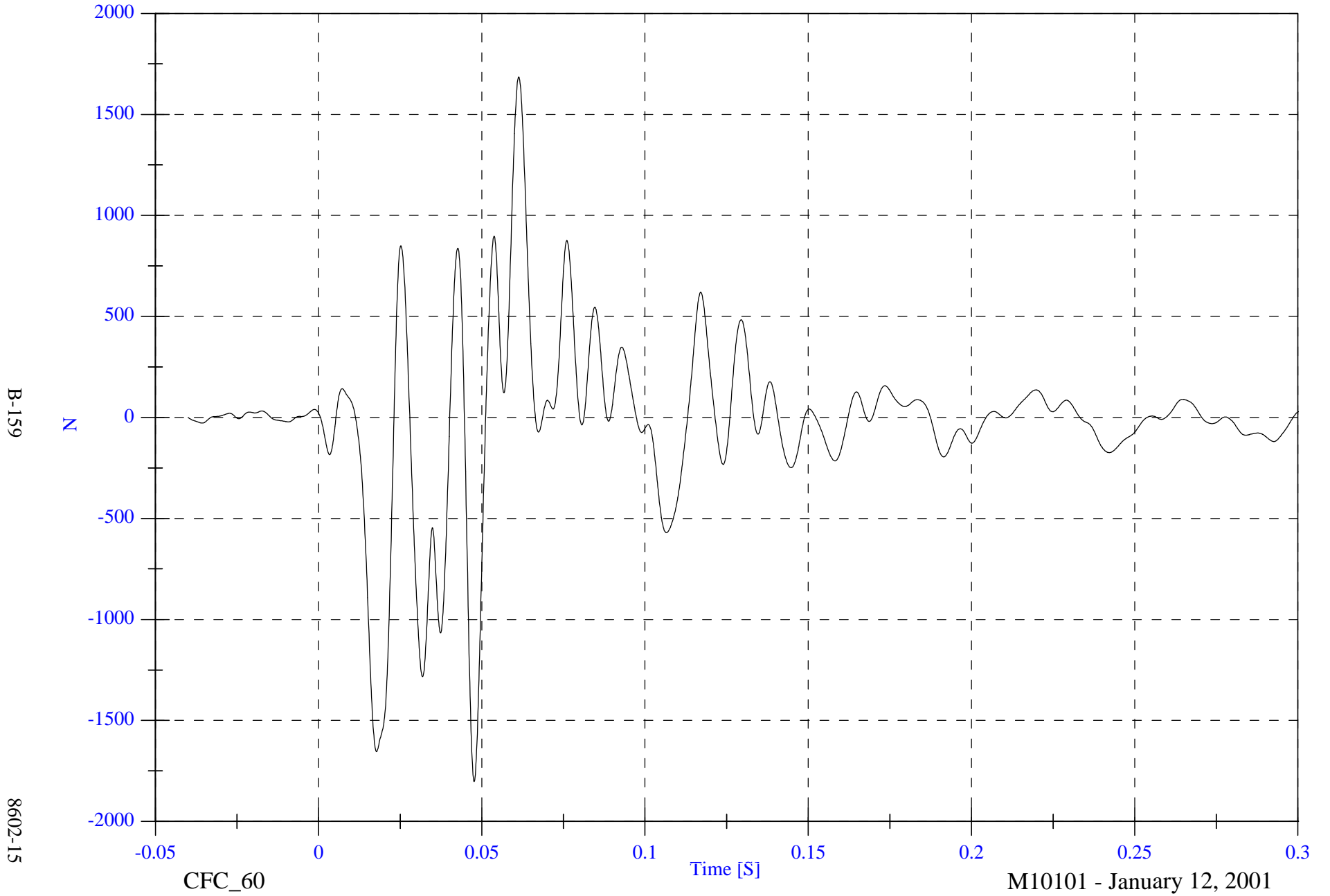


NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D1 Fx

Max: 1686.5 [N] at 0.061 [S]

Min: -1802.6 [N] at 0.048 [S]



B-159

8602-15

CFC_60

Time [S]

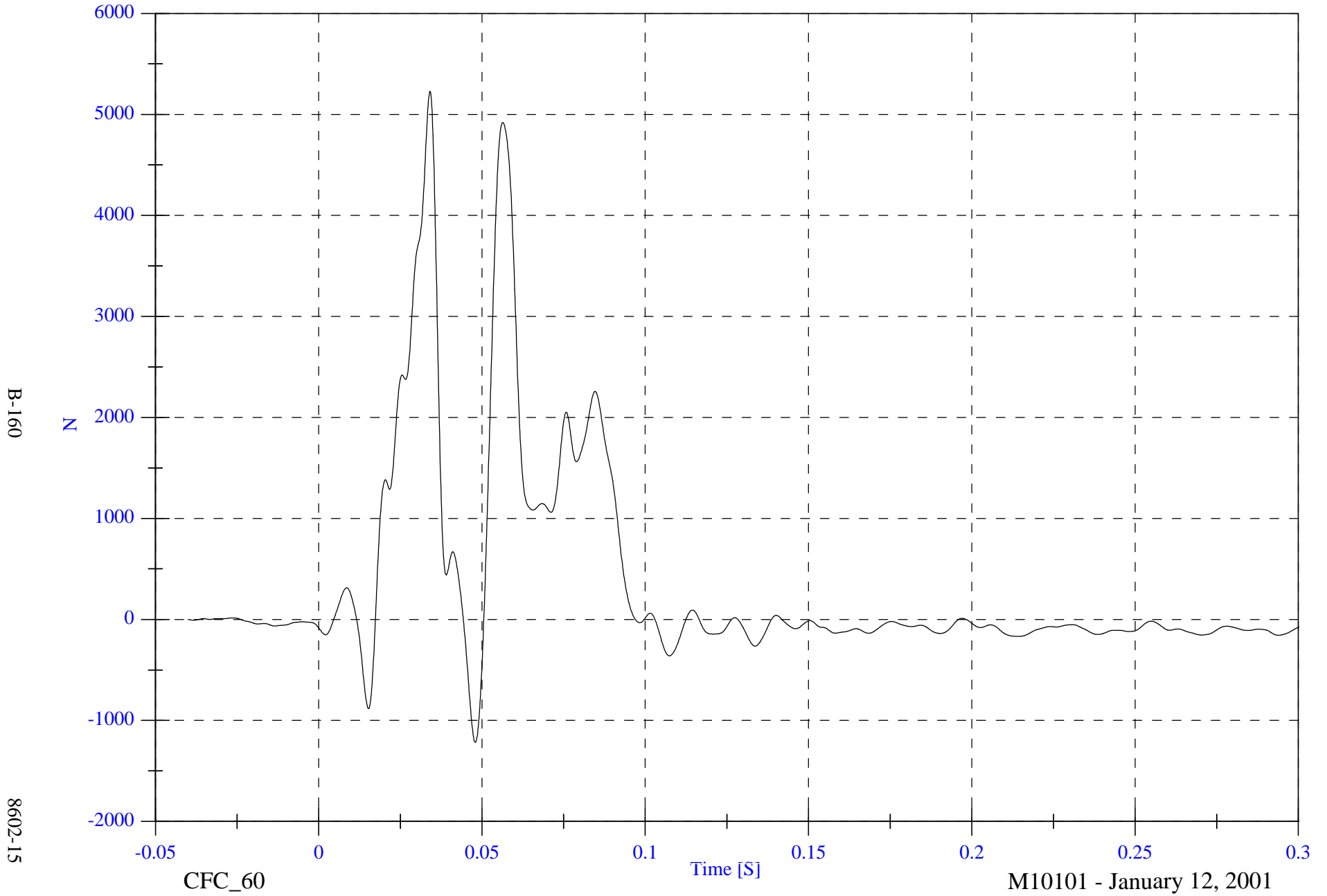
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 5230.2 [N] at 0.034 [S]

Barrier Load Cell D2 Fx

Min: -1217.7 [N] at 0.048 [S]

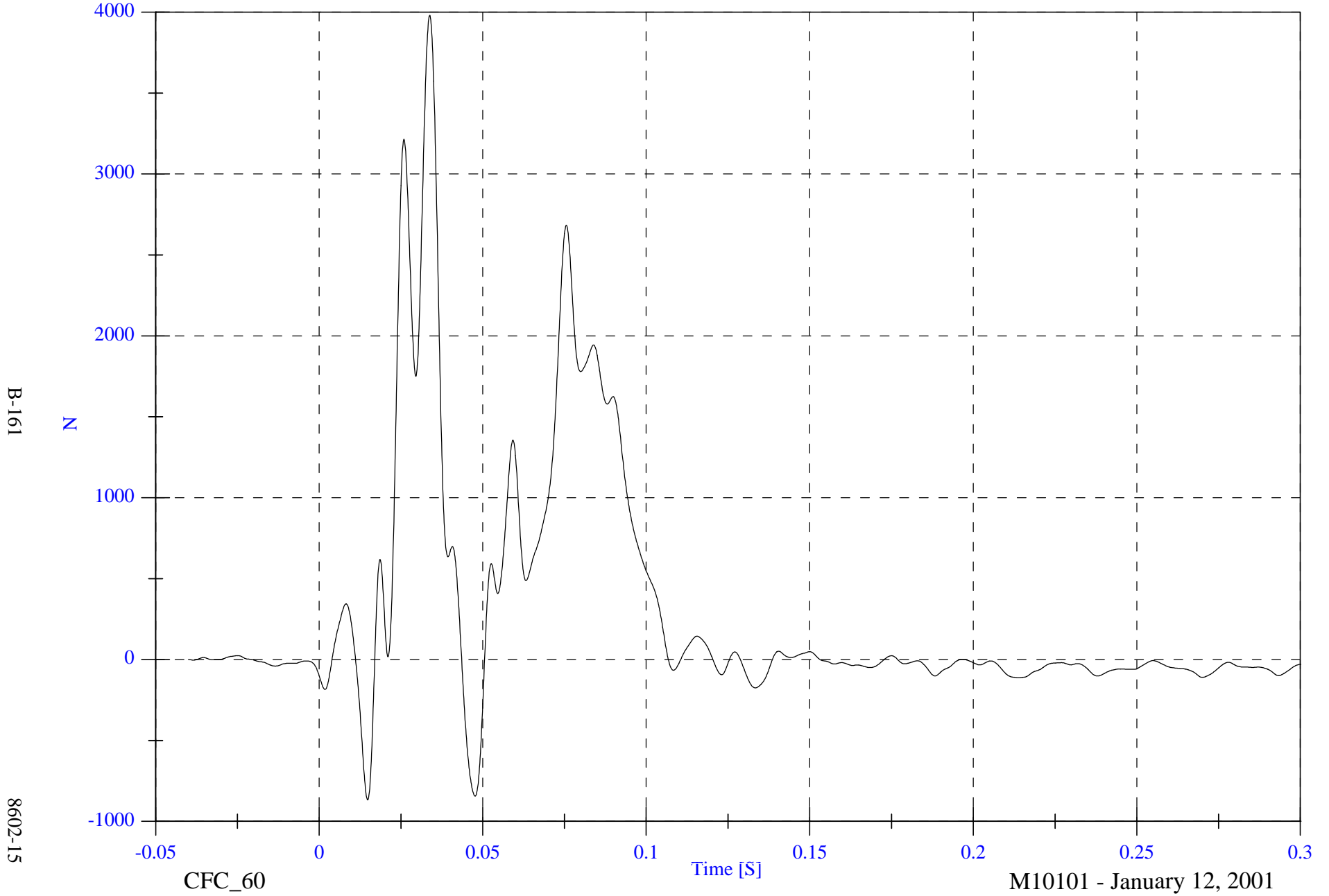


NCAP Test 15 - 2001 Buick Park Avenue

Max: 3979.7 [N] at 0.034 [S]

Barrier Load Cell D3 Fx

Min: -869.0 [N] at 0.015 [S]



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8602-15

CFC_60

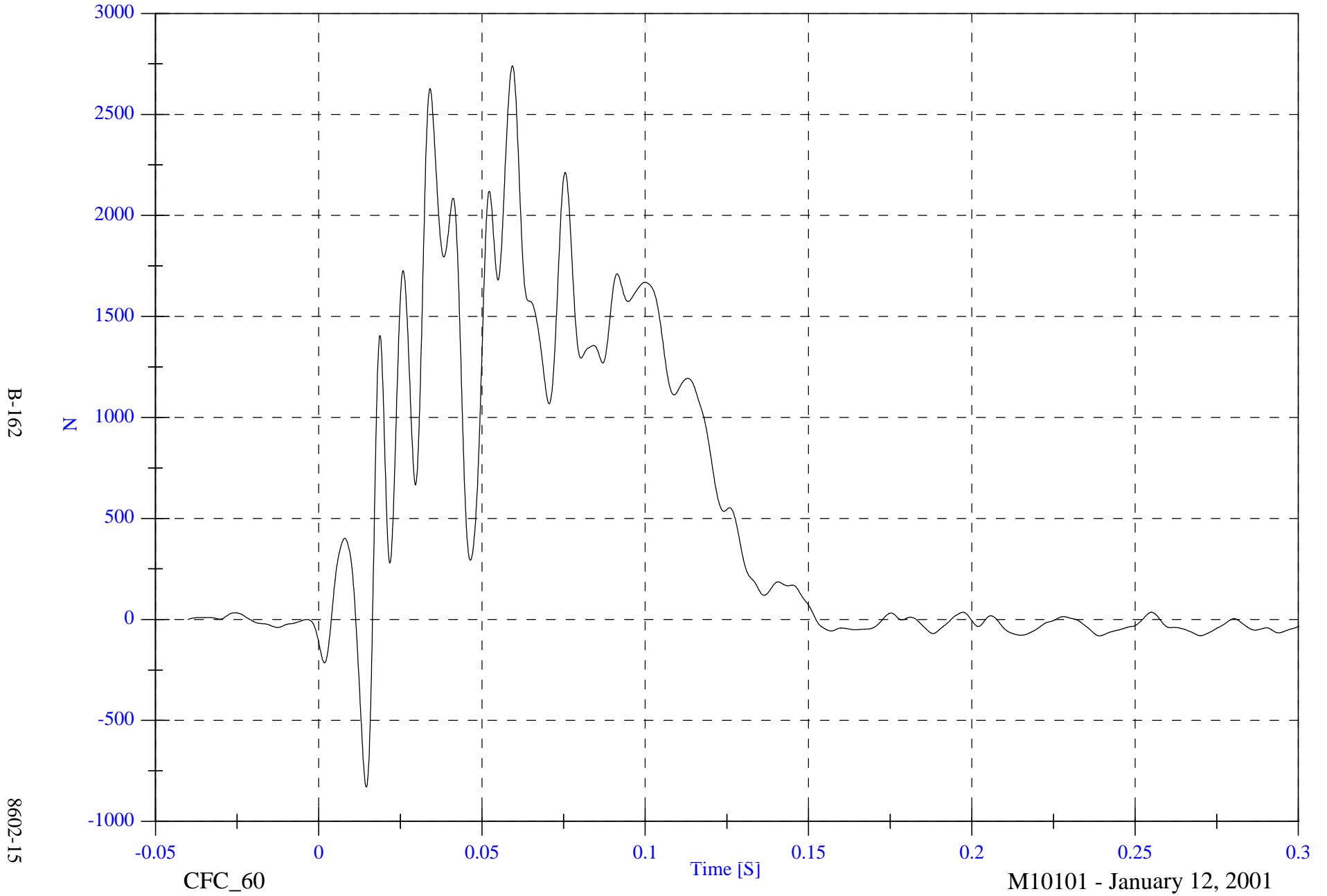
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D4 Fx

Max: 2741.0 [N] at 0.059 [S]

Min: -829.7 [N] at 0.015 [S]



B-162

8602-15

CFC_60

Time [S]

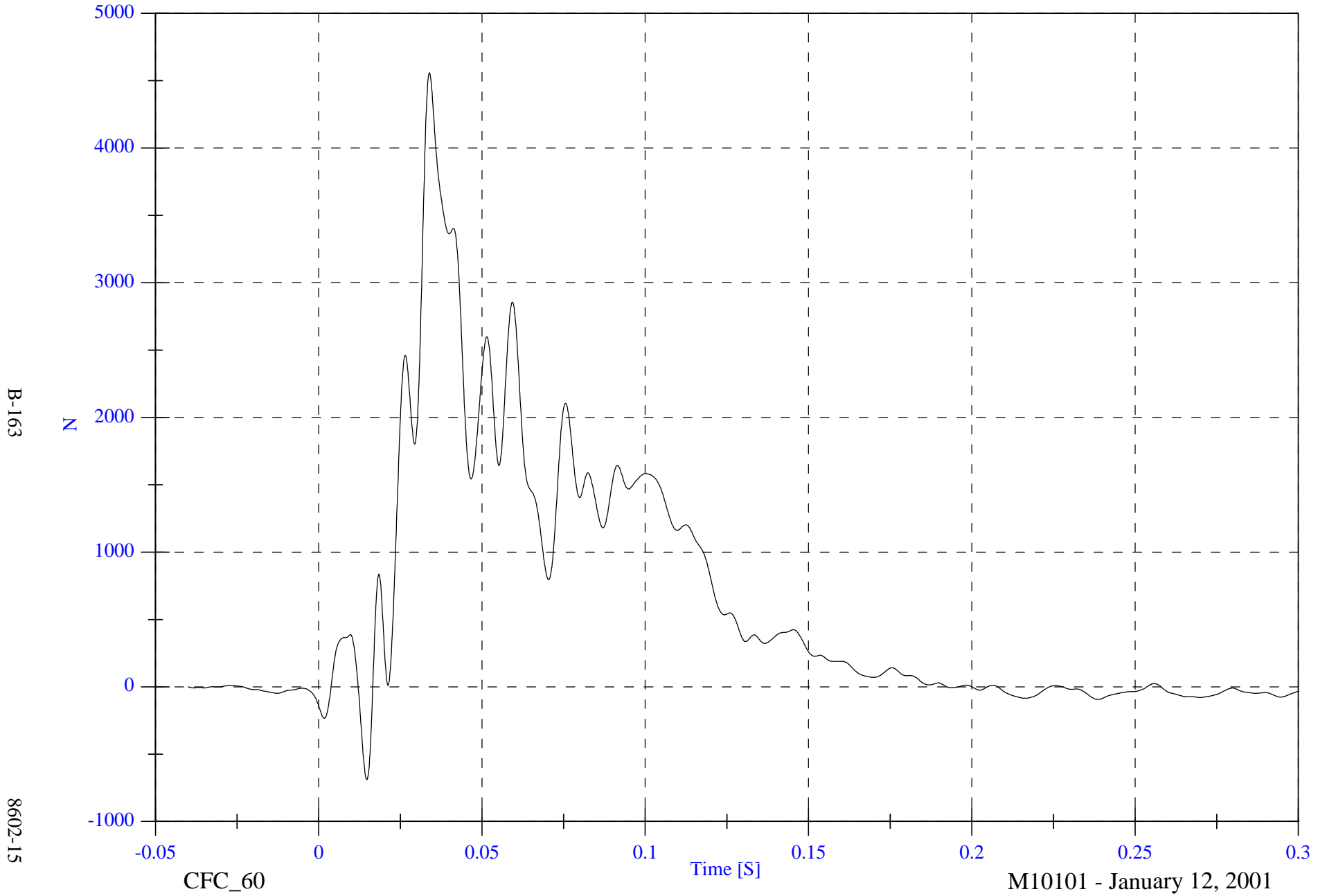
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D5 Fx

Max: 4559.9 [N] at 0.034 [S]

Min: -689.7 [N] at 0.015 [S]



B-163

8602-15

CFC_60

Time [S]

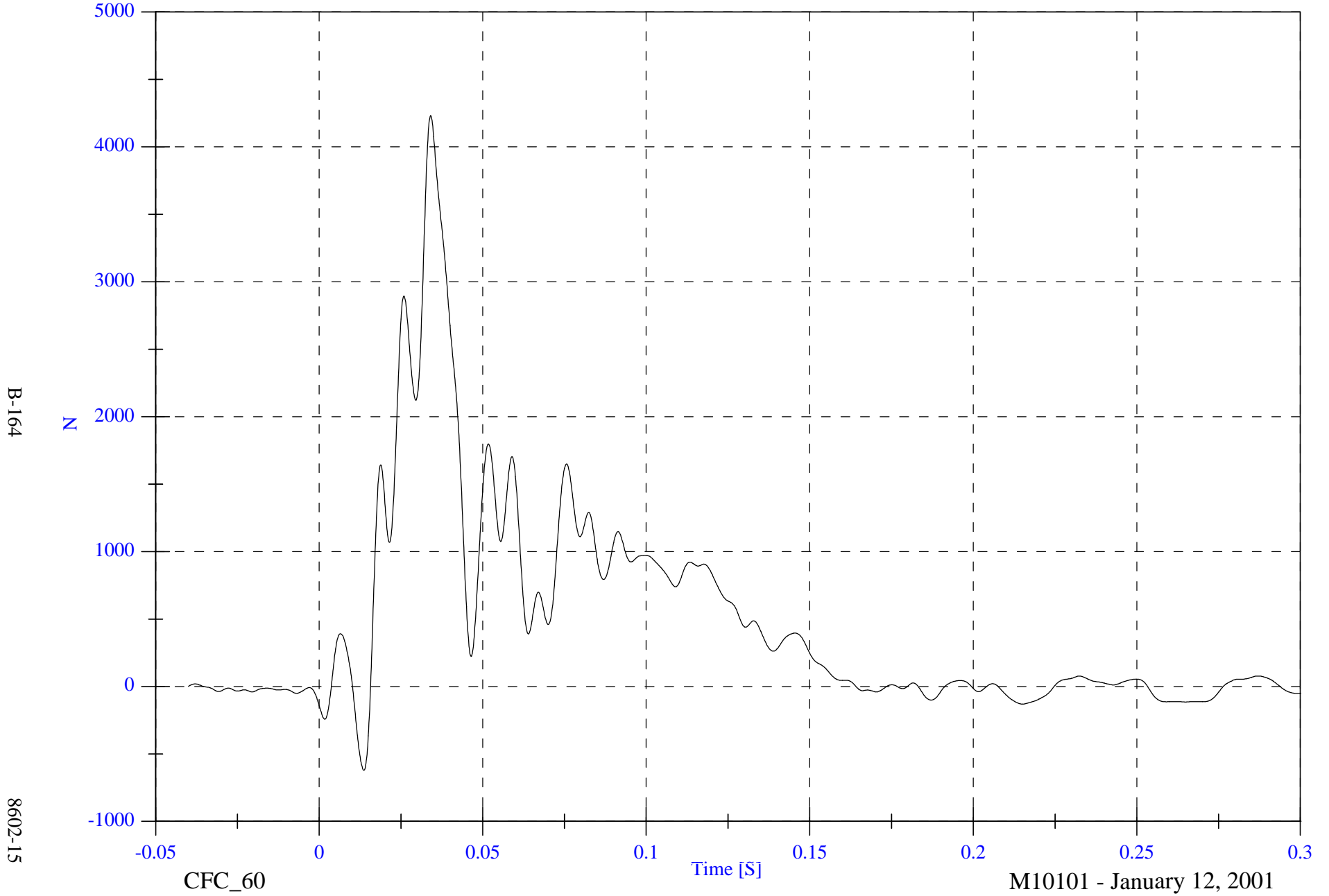
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D6 Fx

Max: 4231.7 [N] at 0.034 [S]

Min: -622.2 [N] at 0.014 [S]



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8602-15

CFC_60

Time [S]

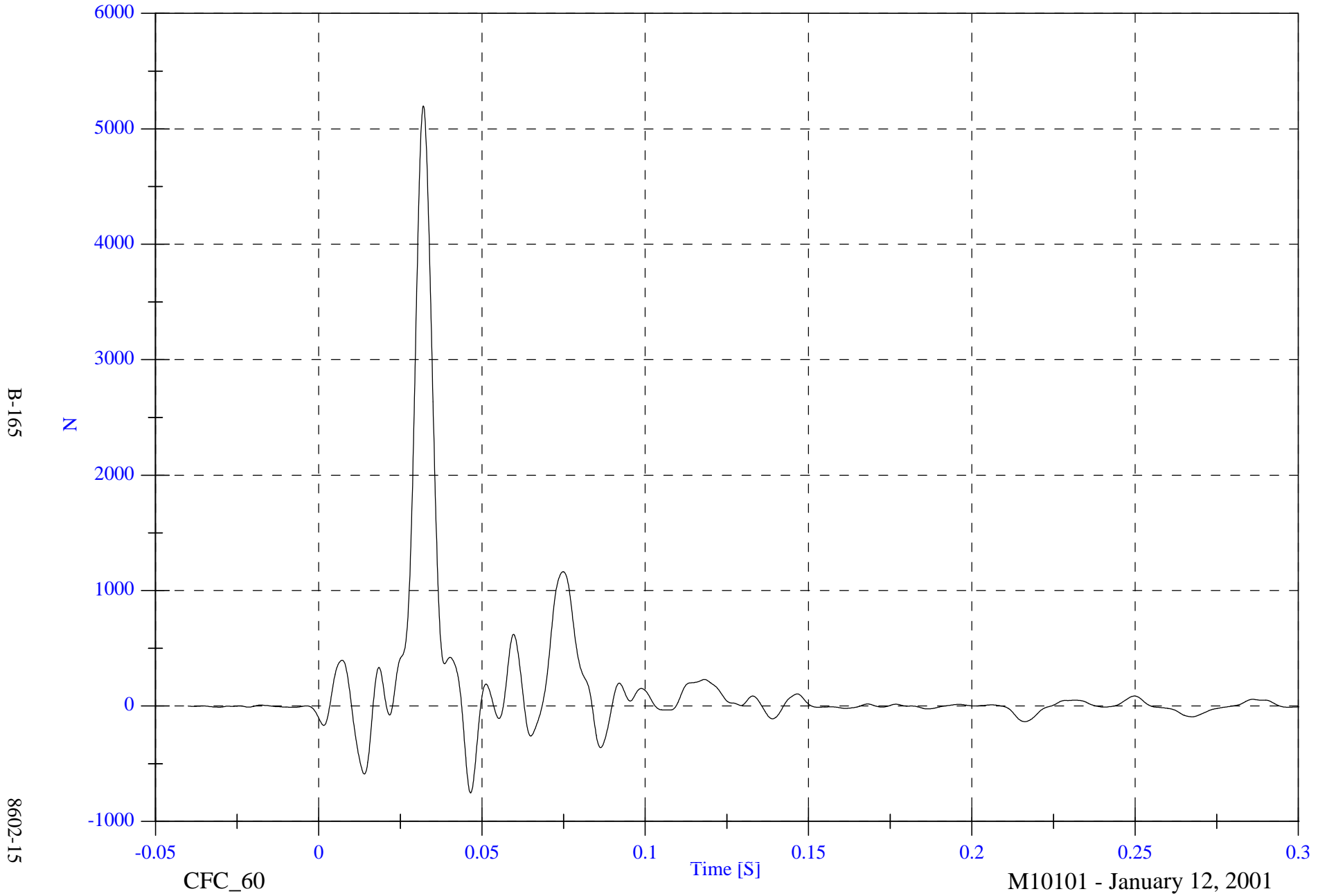
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D7 Fx

Max: 5198.7 [N] at 0.032 [S]

Min: -752.9 [N] at 0.046 [S]



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8602-15

CFC_60

Time [S]

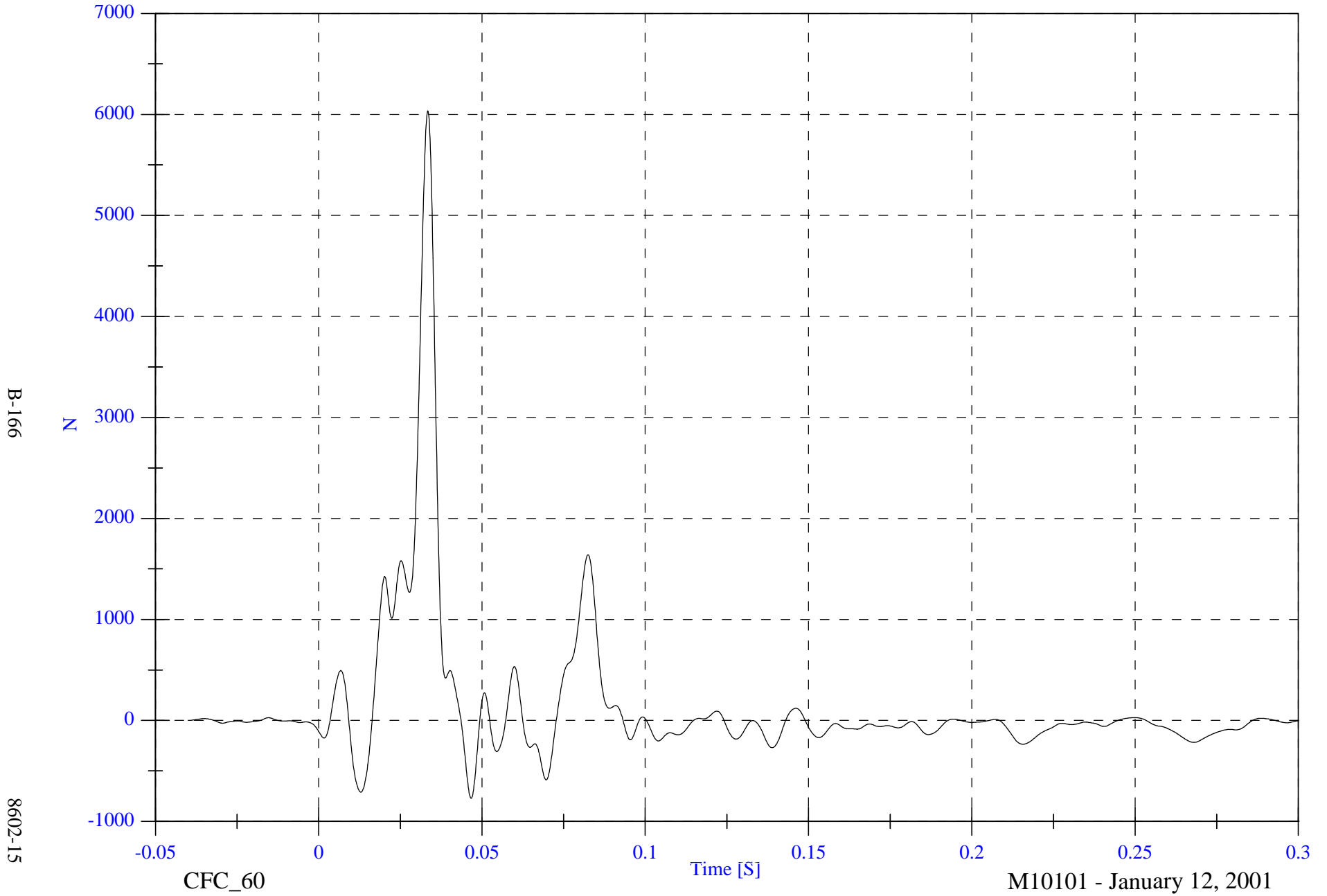
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D8 Fx

Max: 6037.2 [N] at 0.033 [S]

Min: -771.7 [N] at 0.047 [S]



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8602-15

CFC_60

Time [S]

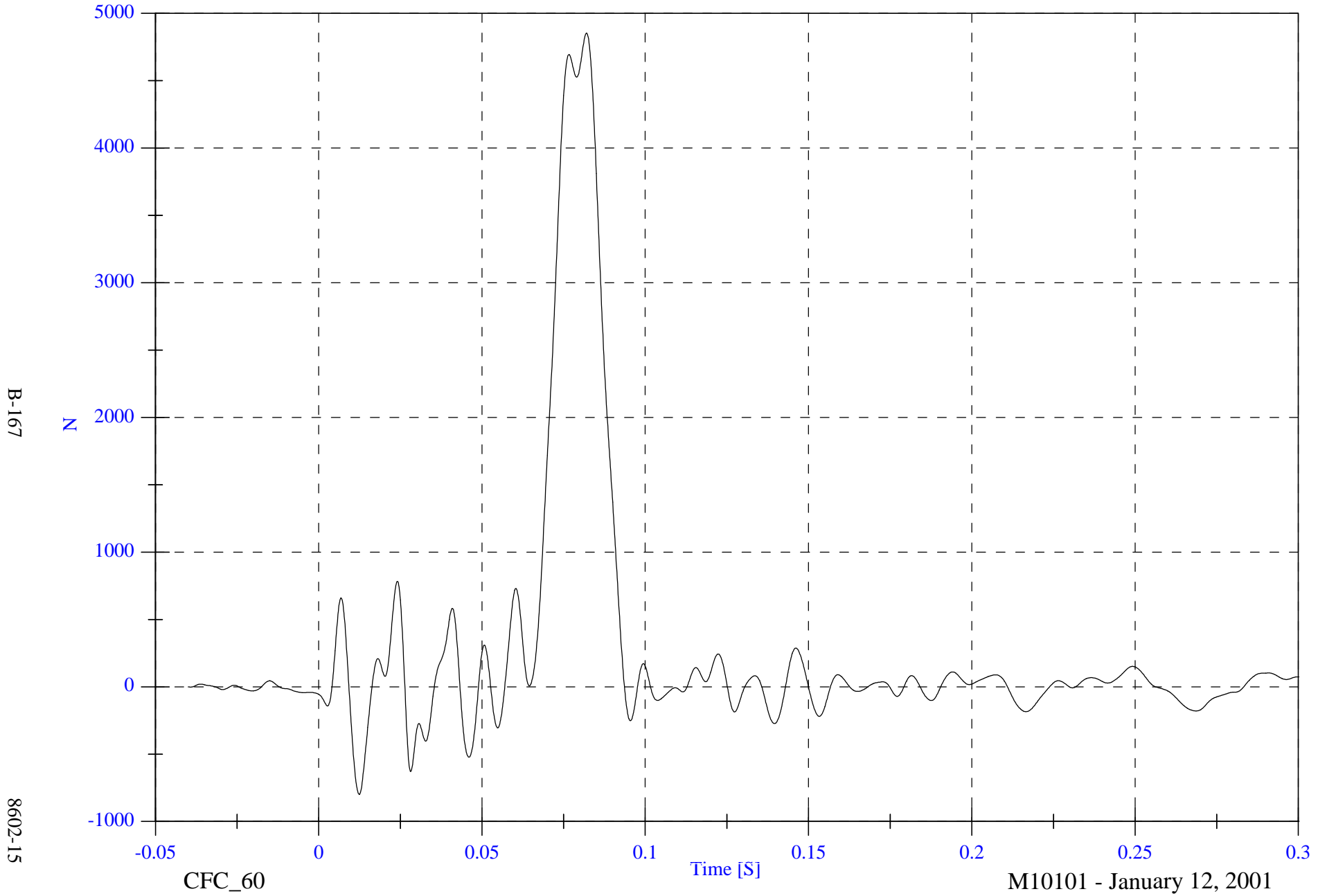
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Barrier Load Cell D9 Fx

Max: 4854.1 [N] at 0.082 [S]

Min: -799.3 [N] at 0.012 [S]



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8602-15

CFC_60

Time [S]

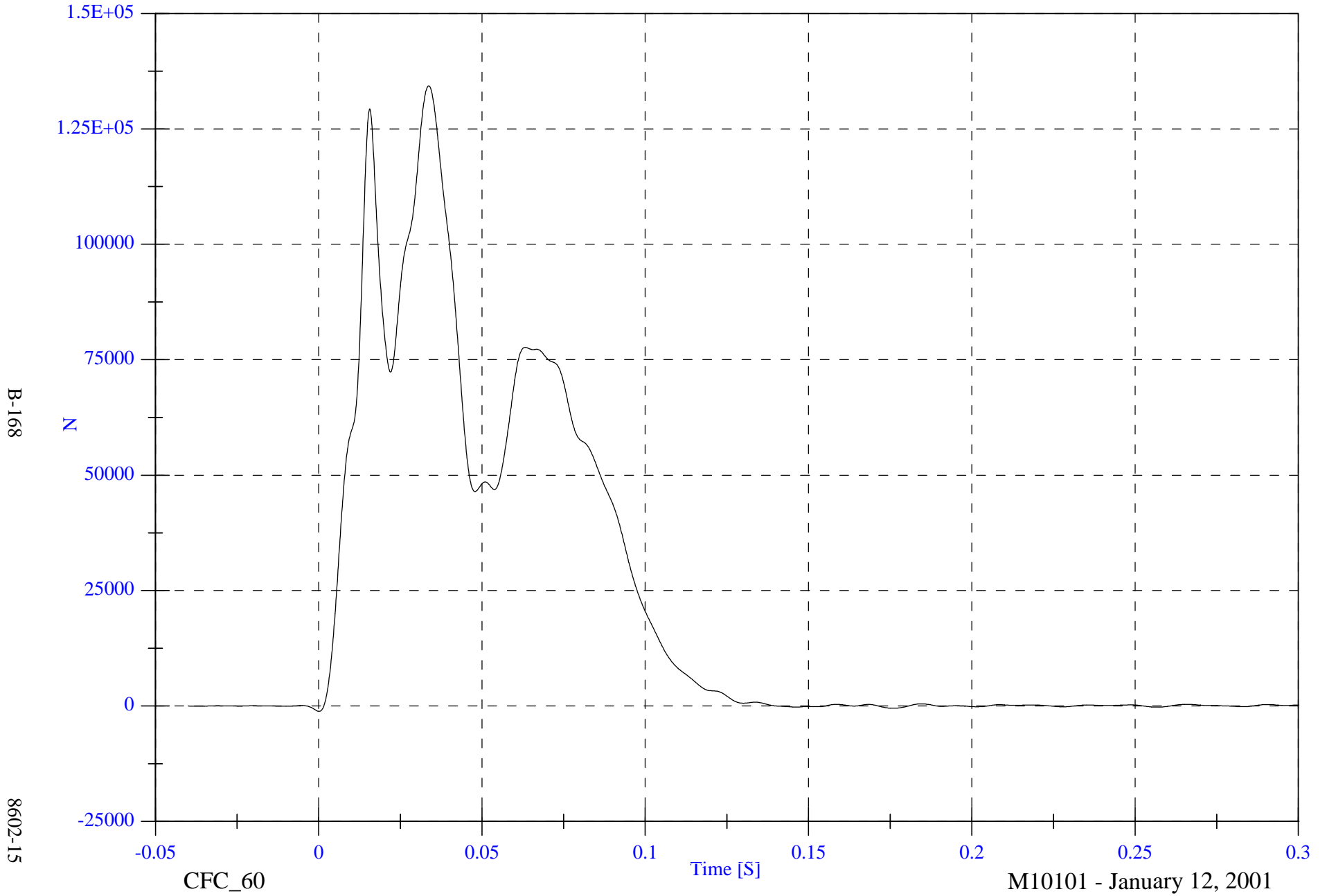
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Group 1 Load Cell Sum (A1,A2,A3,B1,B2,B3)

Max: 134318.5 [N] at 0.034 [S]

Min: -1160.2 [N] at 0.000 [S]



B-168

8602-15

CFC_60

Time [S]

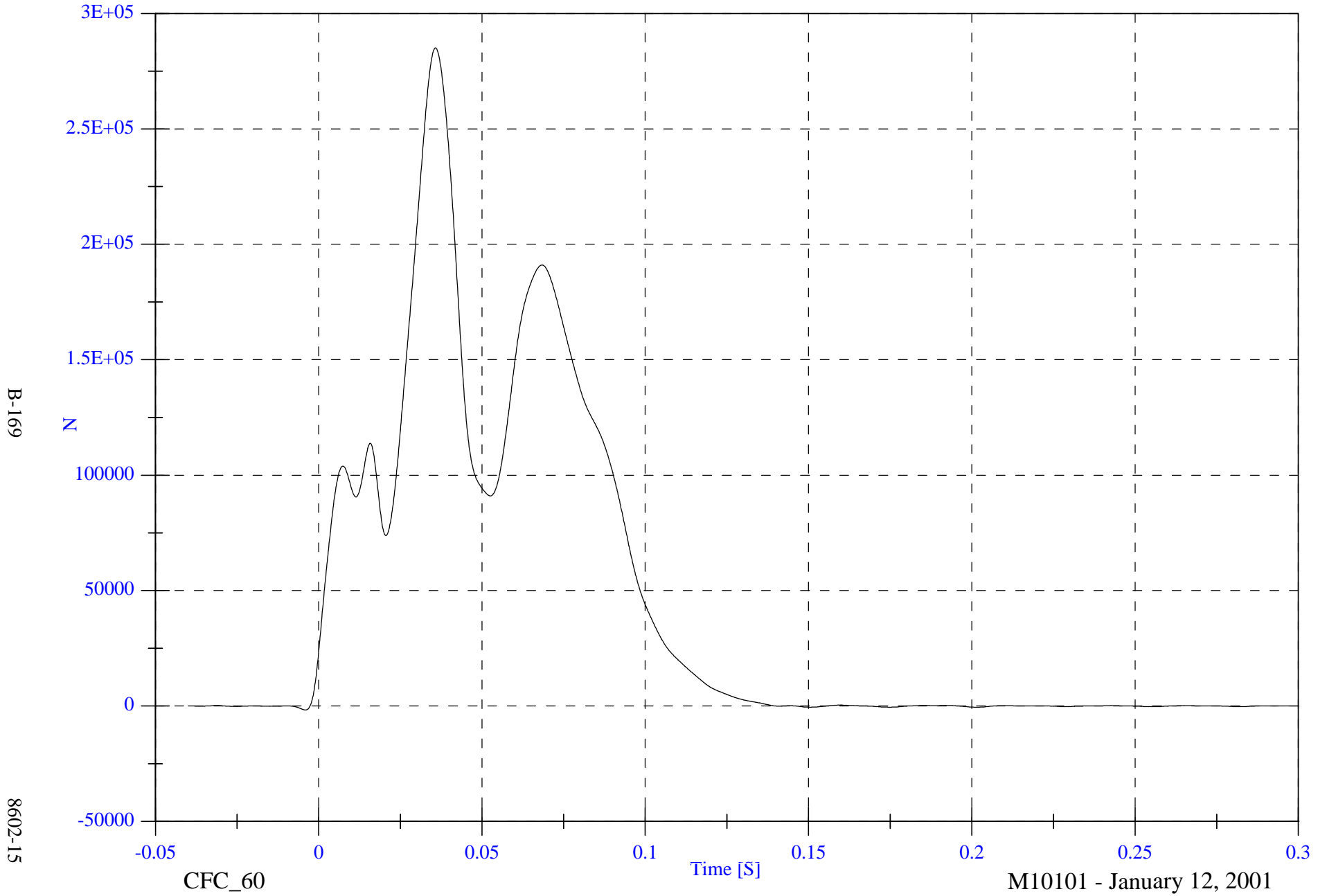
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Max: 285043.0 [N] at 0.036 [S]

Group 2 Load Cell Sum (A4,A5,A6,B4,B5,B6)

Min: -1730.3 [N] at -0.004 [S]



B-169

8602-15

CFC_60

Time [S]

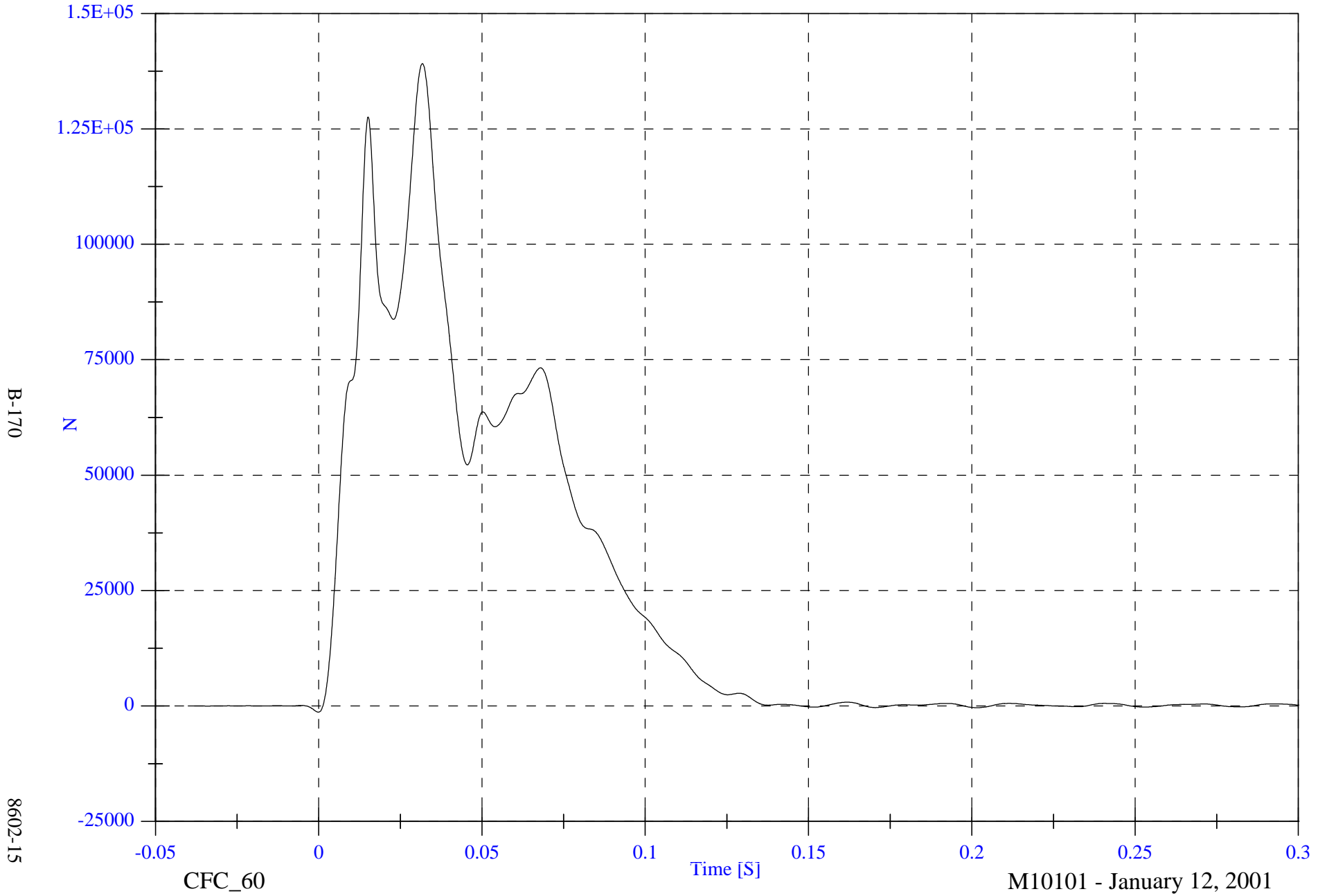
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)

Max: 139122.6 [N] at 0.032 [S]

Min: -1331.3 [N] at -0.000 [S]



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8602-15

CFC_60

Time [S]

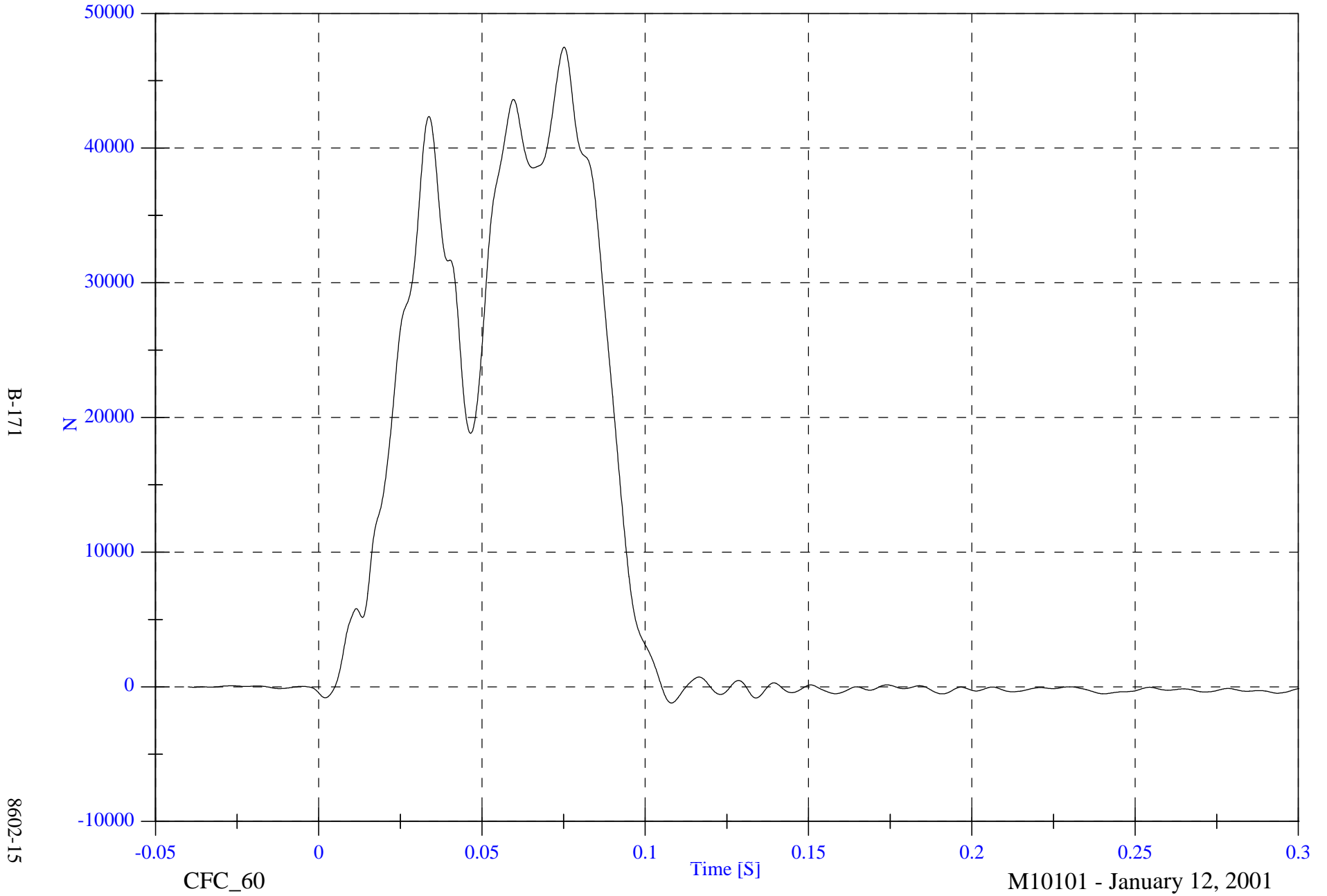
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Group 4 Load Cell Sum (C1,C2,C3,D1,D2,D3)

Max: 47489.4 [N] at 0.075 [S]

Min: -1204.4 [N] at 0.108 [S]



B-171

8602-15

CFC_60

Time [S]

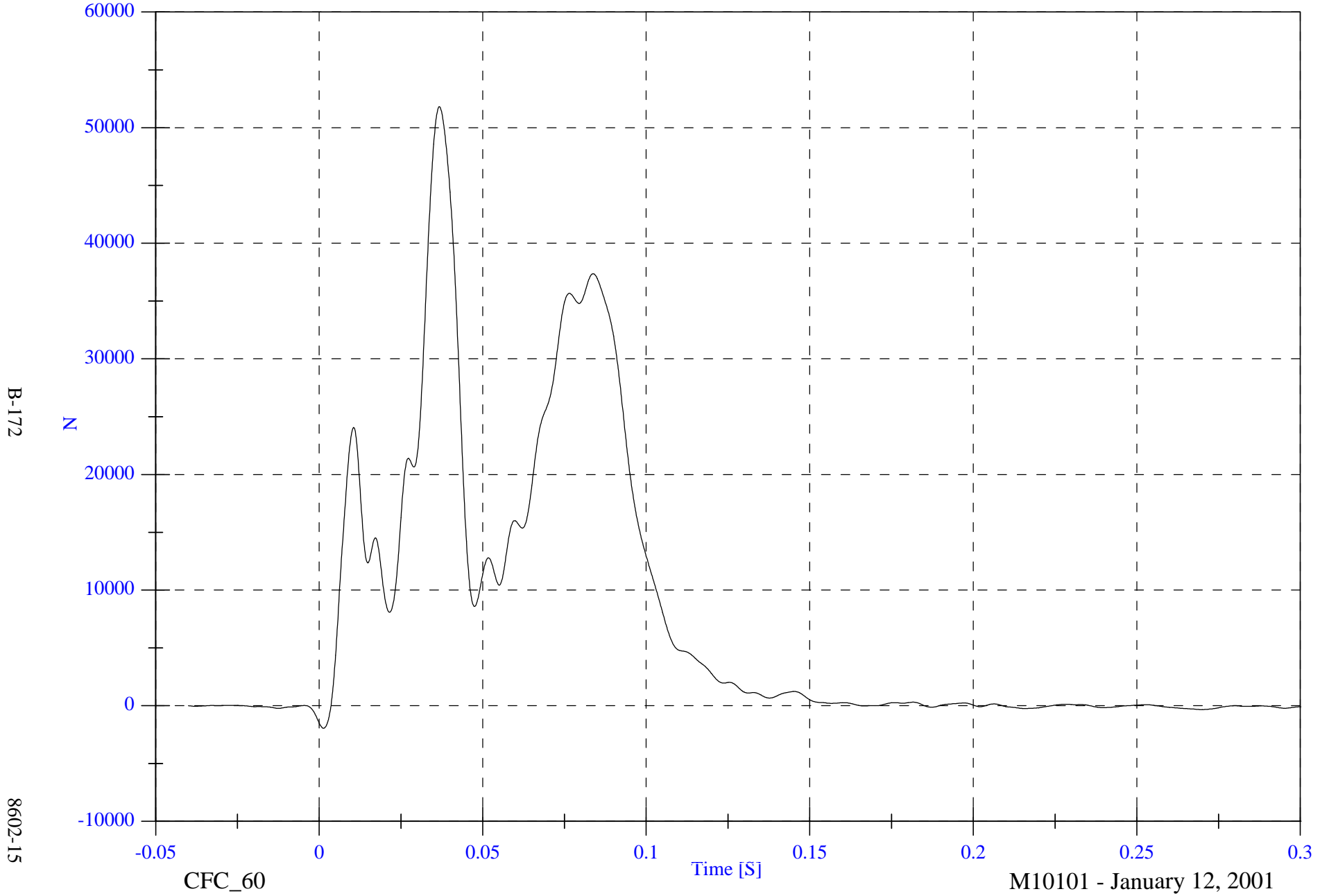
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Group 5 Load Cell Sum (C4,C5,C6,D4,D5,D6)

Max: 51815.8 [N] at 0.037 [S]

Min: -1949.9 [N] at 0.001 [S]



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8602-15

CFC_60

Time [S]

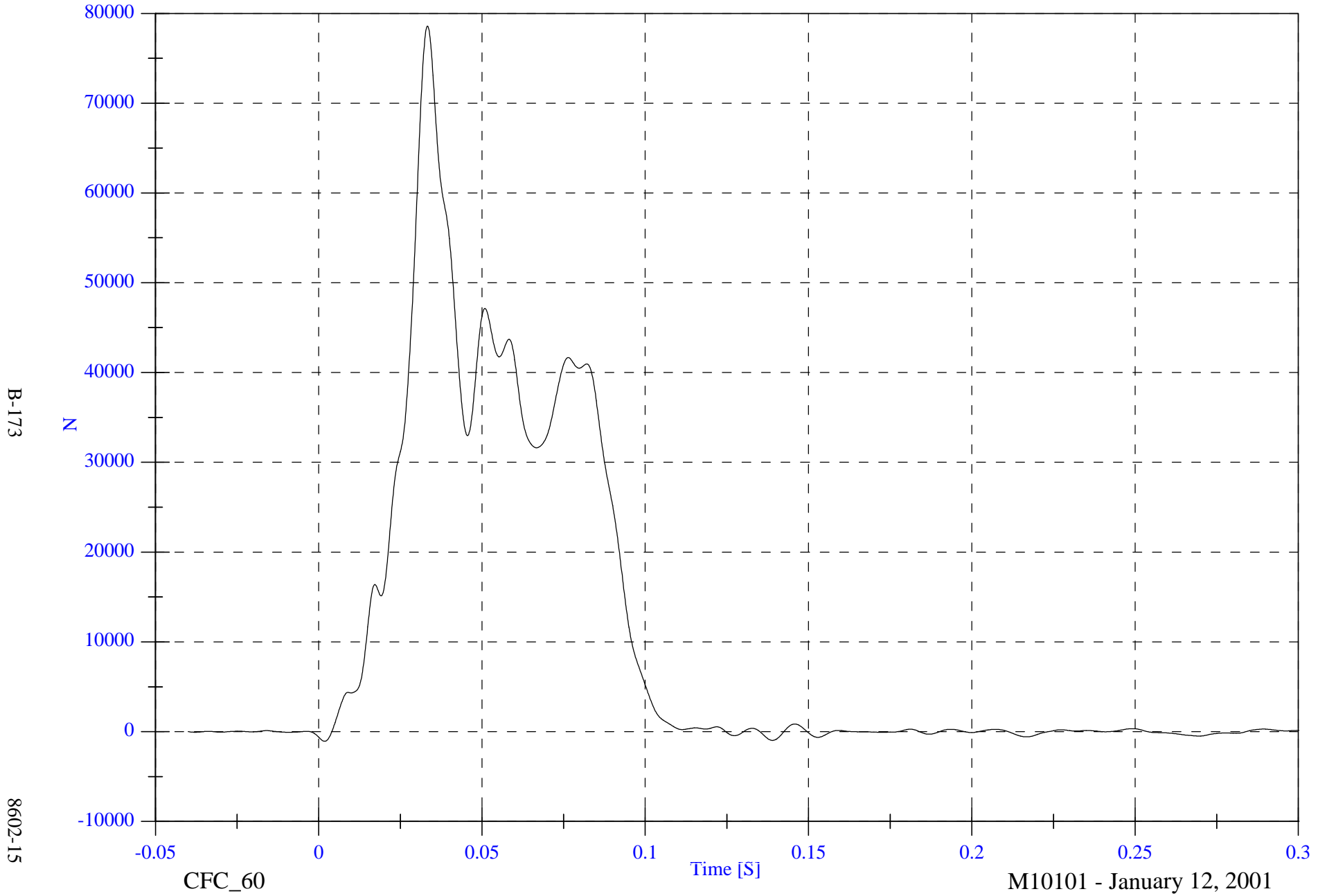
M10101 - January 12, 2001

NCAP Test 15 - 2001 Buick Park Avenue

Group 6 Load Cell Sum (C7,C8,C9,D7,D8,D9)

Max: 78596.1 [N] at 0.033 [S]

Min: -1076.7 [N] at 0.002 [S]

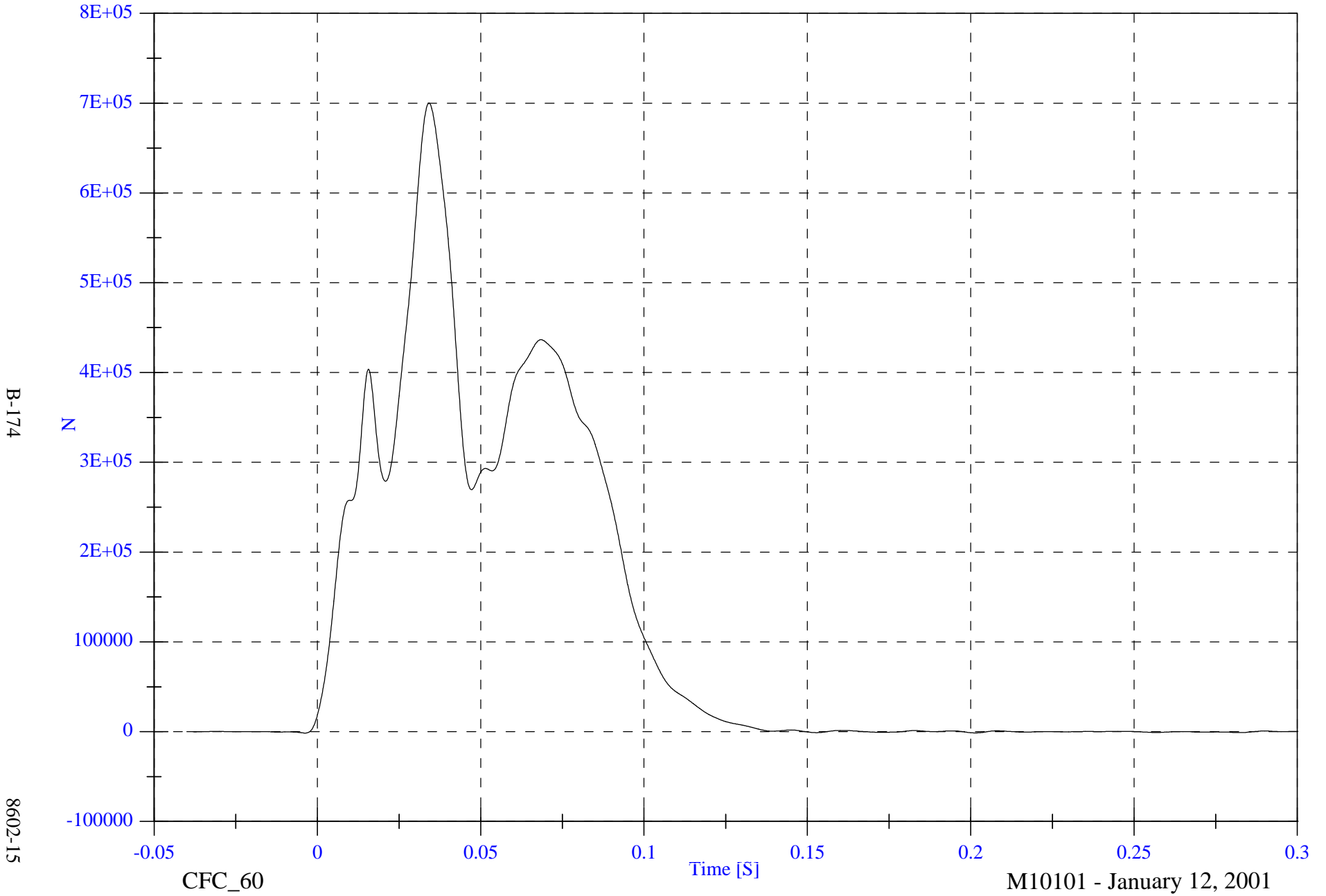


NCAP Test 15 - 2001 Buick Park Avenue

Max: 700114.7 [N] at 0.034 [S]

Total Load Cell Sum (All 6 Groups)

Min: -1601.7 [N] at -0.004 [S]



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8602-15

CFC_60

Time [S]

M10101 - January 12, 2001

APPENDIX C

**PART 572B/E DUMMY CONFIGURATION
AND PERFORMANCE VERIFICATION DATA SHEETS**

Appendix C contains the results from certification tests performed on the 50th percentile male anthropomorphic test devices utilized for this crash test. The results indicate that the dummies meet all of the performance requirements of the six standard tests as specified in 49 CFR Part 572, Federal Register, Volume 42, No. 25, dated February 7, 1977.

The tests were conducted at the Dummy Certification Test Facility of Veridian Engineering. A summary of the test results, and Part 572 specifications are included in this Appendix.

Dummy serial numbers and certification dates are:

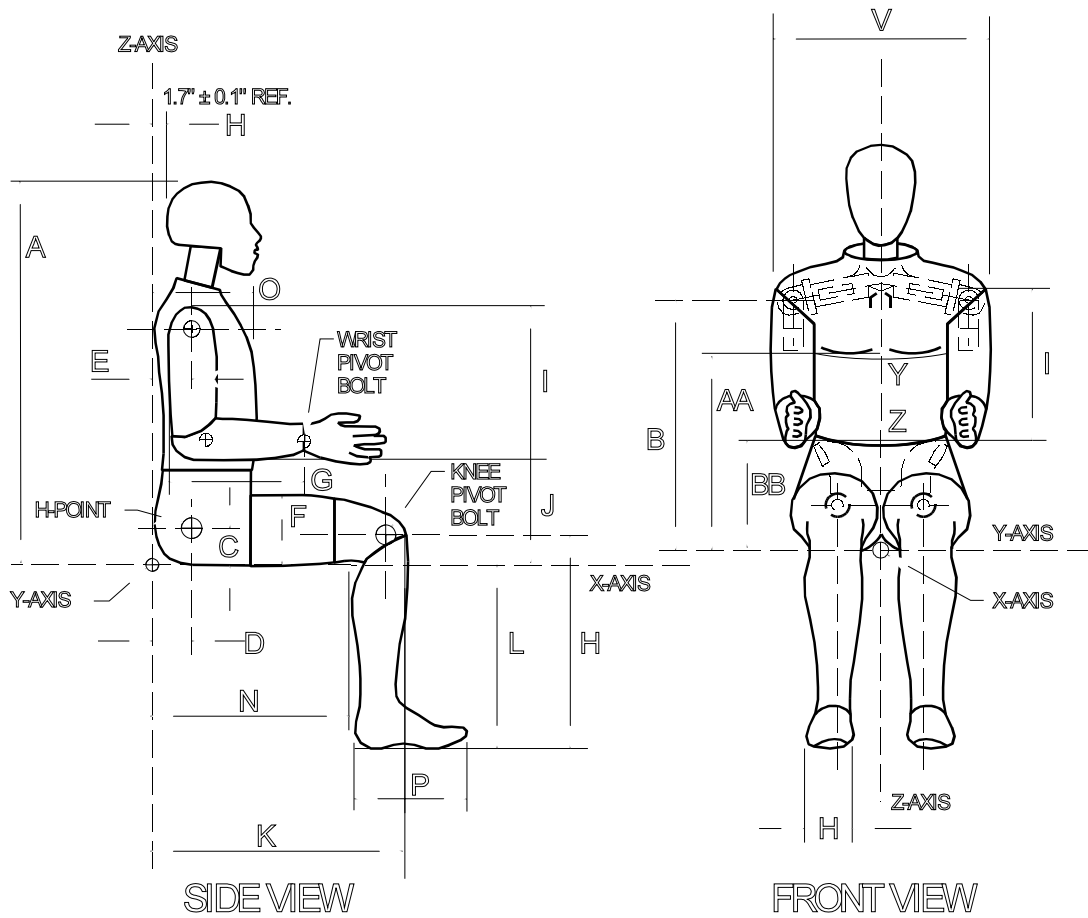
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	061	12/21/00
#2/Right Front Passenger	064	12/21/00

Electronic Test Equipment

The complement of signal conditioning, recording and display equipment, in conjunction with dummy certification testing, can be found in New Car Assessment and Standards Indicant Testing Final Report No. 6525-V-1.

DUMMY CONFIGURATION DIMENSIONS

EXTERNAL DIMENSIONS
SPECIFICATIONS



NOTE: Figure is referenced to the erect seated position. The curved lumbar does not allow the Hybrid III to be positioned in a perfect erect attitude. (REF: S572.31(A)(6))

PART 572E
HEAD DROP TEST

Dummy Serial Number 061
Sequential Test Number 4.3
Date 12/17/2000
Workfile 061400.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	71.0
Relative Humidity	10% - 70%	31.0
Peak Resultant Acceleration	225-275 G's	248.58
Peak Lateral Acceleration	15 G's Max	8.77
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	061	
Sequential Test Number	4.3	
Date	12/16/2000	6 Axis Neck Transducer
Workfile	061400.nfl	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.0
Relative Humidity		10% - 70%	32.0
Impact Velocity		22.60 - 23.40 Ft/s	22.82
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.66
	20 ms	17.60 - 22.60 G's	19.32
	30 ms	12.50 - 18.50 G's	13.80
Max Pendulum G's Above 30 ms		29 G's Max	13.80
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.38
D Plane Rotation	Max	64 - 78 Deg	70.33
	Time	57 - 64 ms	63.00
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	72.88
	Time	47 - 58 ms	52.12
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	121.00
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	98.62

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	061	
Sequential Test Number	4.3	
Date	12/16/2000	6 Axis Neck Transducer
Workfile	061400.nex	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.0
Relative Humidity		10% - 70%	32.0
Impact Velocity		19.50 - 20.30 Ft/s	19.59
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.75
	20 ms	14.00 - 19.00 G's	16.22
	30 ms	11.00 - 16.00 G's	12.93
Max Pendulum G's Above 30 ms		22 G's Max	12.93
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	45.75
D Plane Rotation	Max	81 - 106 Deg	94.83
	Time	72 - 82 ms	75.88
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-46.08
	Time	65 - 79 ms	66.12
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	151.88
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	140.25

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 061
Sequential Test Number 4.3
Date 12/18/2000
Workfile 061400.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	32.0
Pendulum Velocity	21.6 - 22.4 Ft/s	22.0
Maximum Deflection	2.50 - 2.86 in	2.74
Maximum Resistive Force	1160 - 1325 Lbs	1200.05
Internal Hysteresis	69 - 85 %	77.03

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 061
 Sequential Test Number 4.3
 Date 12/18/2000
 Workfile 061400.lf / 061400.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	29.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1163.03
RIGHT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	29.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1156.62

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 061
Sequential Test Number 4.3
Date 12/21/2000

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			31
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.6
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.7
Thigh Clearance	F	5.5 - 6.1 in	6.1
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.7
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.5
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	7.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 064
Sequential Test Number 5.3
Date 12/17/2000
Workfile 064500.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	71.0
Relative Humidity	10% - 70%	31.0
Peak Resultant Acceleration	225-275 G's	260.81
Peak Lateral Acceleration	15 G's Max	11.73
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	064	
Sequential Test Number	5.3	
Date	12/16/2000	6 Axis Neck Transducer
Workfile	064500.nfl	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.0
Relative Humidity		10% - 70%	31.0
Impact Velocity		22.60 - 23.40 Ft/s	22.89
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.52
	20 ms	17.60 - 22.60 G's	18.19
	30 ms	12.50 - 18.50 G's	14.03
Max Pendulum G's Above 30 ms		29 G's Max	15.93
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.88
D Plane Rotation	Max	64 - 78 Deg	71.92
	Time	57 - 64 ms	57.12
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	70.76
	Time	47 - 58 ms	53.62
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	120.50
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	102.25

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 064
 Sequential Test Number 5.3
 Date 12/16/2000 6 Axis Neck Transducer
 Workfile 064500.nex

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.0
Relative Humidity		10% - 70%	31.0
Impact Velocity		19.50 - 20.30 Ft/s	19.54
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.19
	20 ms	14.00 - 19.00 G's	16.20
	30 ms	11.00 - 16.00 G's	12.77
Max Pendulum G's Above 30 ms		22 G's Max	12.77
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	42.25
D Plane Rotation	Max	81 - 106 Deg	98.52
	Time	72 - 82 ms	73.38
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-56.96
	Time	65 - 79 ms	66.50
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	147.25
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	136.12

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 064
Sequential Test Number 5.3
Date 12/18/2000
Workfile 064500.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	32.0
Pendulum Velocity	21.6 - 22.4 Ft/s	21.6
Maximum Deflection	2.50 - 2.86 in	2.57
Maximum Resistive Force	1160 - 1325 Lbs	1184.83
Internal Hysteresis	69 - 85 %	76.79

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 064
 Sequential Test Number 5.3
 Date 12/18/2000
 Workfile 064500.lf / 064500.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	29.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	110.75
RIGHT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	29.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1186.09

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 064
Sequential Test Number 5.3
Date 12/21/2000

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	38.8
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.6
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.3
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.4
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.3
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

APPENDIX D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 061)	Manufacturer	Serial #	Calibration		
			Last	Next	
Head	X	ENDEVCO	AC-J33019	11/30/00	5/31/01
	Y	ENDEVCO	AC-J33127	11/30/00	5/31/01
	Z	ENDEVCO	AC-J32782	11/30/00	5/31/01
Head	X (R)	ENDEVCO	AC-J31060	11/30/00	5/31/01
	Y (R)	ENDEVCO	AC-J31050	11/30/00	5/31/01
	Z (R)	ENDEVCO	AC-P16593	9/13/00	3/14/01
Neck Load Cell	X	DENTON	LC-205FX	8/28/00	2/26/01
	Y	DENTON	LC-205FY	8/28/00	2/26/01
	Z	DENTON	LC-205FZ	8/28/00	2/26/01
Neck Moment	X	DENTON	LC-205MX	8/28/00	2/26/01
	Y	DENTON	LC-205MY	8/28/00	2/26/01
	Z	DENTON	LC-205MZ	8/28/00	2/26/01
Chest	X	ENDEVCO	AC-J33351	11/30/00	5/31/01
	Y	ENDEVCO	AC-J32787	11/30/00	5/31/01
	Z	ENDEVCO	AC-J32838	11/30/00	5/31/01
Chest	X (R)	ENDEVCO	AC-J32791	11/30/00	5/31/01
	Y (R)	ENDEVCO	AC-J33156	11/30/00	5/31/01
	Z (R)	ENDEVCO	AC-J33020	11/30/00	5/31/01
Chest Deflection Gauge	SERVO	DS-061	11/10/00	5/11/01	
Pelvic	X	ENDEVCO	AC-J32383	8/4/00	2/2/01
	Y	ENDEVCO	AC-J32186	8/4/00	2/2/01
	Z	ENDEVCO	AC-J32098	8/4/00	2/2/01

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 061)	Manufacturer	Serial #	Calibration		
			Last	Next	
Left Femur Load Cell	GSE	LC-419	12/1/00	6/1/01	
Right Femur Load Cell	GSE	LC-723	12/1/00	6/1/01	
Left Upper Tibia	Mx	DENTON	LC-045MX	11/4/00	5/5/01
	My	DENTON	LC-045MY	11/4/00	5/5/01
Left Lower Tibia	Fz	DENTON	LC-125FZ	11/4/00	5/5/01
	Mx	DENTON	LC-125MX	11/4/00	5/5/01
	My	DENTON	LC-125MY	11/4/00	5/5/01
Right Upper Tibia	Mx	DENTON	LC-038MX	11/9/00	5/10/01
	My	DENTON	LC-038MY	11/9/00	5/10/01
Right Lower Tibia	Fz	DENTON	LC-124FZ	11/9/00	5/10/01
	Mx	DENTON	LC-124MX	11/9/00	5/10/01
	My	DENTON	LC-124MY	11/9/00	5/10/01
Left Foot Rear	X	ENDEVCO	AC-P16951	10/2/00	4/2/01
	Z	ENDEVCO	AC-P17152	10/2/00	4/2/01
Left Foot Front	Z	ENDEVCO	AC-P16975	10/2/00	4/2/01
Right Foot Rear	X	ENDEVCO	AC-J31042	11/7/00	5/8/01
	Z	ENDEVCO	AC-J32176	11/7/00	5/8/01
Right Foot Front	Z	ENDEVCO	AC-J31009	11/8/00	5/9/01
Lap Belt Load Cells	LEBOW	LC-707	12/1/00	6/1/01	
Shoulder Belt Load Cells	LEBOW	LC-712	12/1/00	6/1/01	
Spool-Out Potentiometer	-	-	-	-	
Belt Stretch Transducer	CAL	DS-E3	8/7/00	2/5/01	

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 064)	Manufacturer	Serial #	Calibration		
			Last	Next	
Head	X	ENDEVCO	AC-P12587	9/15/00	3/16/01
	Y	ENDEVCO	AC-P16625	11/21/00	5/22/01
	Z	ENDEVCO	AC-P16662	9/13/00	3/14/01
Head	X (R)	ENDEVCO	AC-P14388	9/15/00	3/16/01
	Y (R)	ENDEVCO	AC-P16597	11/21/00	5/22/01
	Z (R)	ENDEVCO	AC-P17236	9/13/00	3/14/01
Neck Load Cell	X	DENTON	LC-440FX	11/16/00	5/17/01
	Y	DENTON	LC-440FY	11/15/00	5/16/01
	Z	DENTON	LC-440FZ	11/16/00	5/17/01
Neck Moment	X	DENTON	LC-440MX	11/16/00	5/17/01
	Y	DENTON	LC-440MY	11/16/00	5/17/01
	Z	DENTON	LC-440MZ	11/16/00	5/17/01
Chest	X	ENDEVCO	AC-P16583	9/6/00	3/7/01
	Y	ENDEVCO	AC-P16585	9/6/00	3/7/01
	Z	ENDEVCO	AC-P16576	9/6/00	3/7/01
Chest	X (R)	ENDEVCO	AC-P15526	9/6/00	3/7/01
	Y (R)	ENDEVCO	AC-P16587	9/6/00	3/7/01
	Z (R)	ENDEVCO	AC-P15534	9/6/00	3/7/01
Chest Deflection Gauge	SERVO	DS-064	12/7/00	6/7/01	
Pelvic	X	ENDEVCO	AC-P13323	11/20/00	5/21/01
	Y	ENDEVCO	AC-P13331	11/20/00	5/21/01
	Z	ENDEVCO	AC-P13356	11/20/00	5/21/01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 064)	Manufacturer	Serial #	Calibration		
			Last	Next	
Left Femur Load Cell	GSE	LC-954	12/1/00	6/1/01	
Right Femur Load Cell	GSE	LC-955	12/1/00	6/1/01	
Left Upper Tibia	Mx	DENTON	LC-016MX	11/9/00	5/10/01
	My	DENTON	LC-016MY	11/9/00	5/10/01
Left Lower Tibia	Fz	DENTON	LC-123FZ	11/9/00	5/10/01
	Mx	DENTON	LC-123MX	11/9/00	5/10/01
	My	DENTON	LC-123MY	11/9/00	5/10/01
Right Upper Tibia	Mx	DENTON	LC-023MX	11/9/00	5/10/01
	My	DENTON	LC-023MY	11/9/00	5/10/01
Right Lower Tibia	Fz	DENTON	LC-111FZ	11/9/00	5/10/01
	Mx	DENTON	LC-111MX	11/9/00	5/10/01
	My	DENTON	LC-111MY	11/9/00	5/10/01
Left Foot Rear	X	ENDEVCO	AC-APA30	7/16/00	1/14/01
	Z	ENDEVCO	AC-J31026	9/21/00	3/22/01
Left Foot Front	Z	ENDEVCO	AC-J32831	7/16/00	1/14/01
Right Foot Rear	X	ENDEVCO	AC-J32832	7/14/00	1/12/01
	Z	ENDEVCO	AC-J33376	7/16/00	1/14/01
Right Foot Front	Z	ENDEVCO	AC-J18400	9/28/00	3/29/01
Lap Belt Load Cells	LEBOW	LC-764	12/1/00	6/1/01	
Shoulder Belt Load Cells	LEBOW	LC-775	12/1/00	6/1/01	
Spool-Out Potentiometer	-	-	-	-	
Belt Stretch Transducer	CAL	DS-E6	8/8/00	2/6/01	

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember	ICS	AC-Y17	8/25/00	2/23/01
Right Rear Seat Crossmember	ICS	AC-D82	8/17/00	2/15/01
Top of Engine	ENDEVCO	AC-P16964	9/13/00	3/14/01
Bottom of Engine	ENDEVCO	AC-AP1A2	12/10/00	6/10/01
Right Disc Brake Caliper	ENDEVCO	AC-A14126	11/27/00	5/28/01
Instrument Panel	ENDEVCO	AC-A14124	8/7/00	2/5/01
Left Disc Brake Caliper	ENDEVCO	AC-A13883	11/27/00	5/28/01
Left Seat Rear Crossmember (R)	ICS	AC-X86	8/14/00	2/12/01
Right Seat Rear Crossmember (R)	ICS	AC-H20	8/11/00	2/9/01