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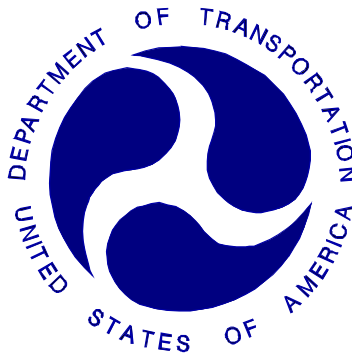
**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
FRONTAL BARRIER 40% OFFSET IMPACT TEST**

GENERAL MOTORS CORPORATION
2003 CADILLAC SEVILLE SLS
4-DOOR SEDAN

NHTSA NUMBER: R30154

VERIDIAN TEST NUMBER: 8710-OFST-02

GENERAL DYNAMICS
TRANSPORTATION SCIENCES CENTER
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October 23, 2003

FINAL REPORT

PREPARED FOR:

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Applied Research
Office of Vehicle Safety Research
Mail Code: NVS-321
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Contracting Officer's Technical Representative (COTR),
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Date of Report Acceptance

Project Engineer
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15. <i>Supplementary Notes</i>					
16. <i>Abstract</i> This test is to evaluate the use of the Thor Advanced Lower Extremity (Thor-Lx) in the frontal 40% offset deformable barrier test. A frontal 40% offset barrier impact test of a 2003 Cadillac Seville SLS 4-Door Sedan was performed at the General Dynamics crash test facility in Buffalo, New York, on October 23, 2003. The impact velocity was 56.49 kph and the temperature at the barrier face was 21.0°C. The maximum post-test vehicle crush was 532 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, neck, chest, and femur requirements.					
ATD Position		HIC (15 ms)	Clip (g's)	Chest Disp (mm)	Left Femur (N)
Driver (090)		46.9	25.1	-23.8	No Data
Passenger (055)		79.1	28.4	-25.0	-464.7
17. <i>Key Words</i> Frontal 40% Offset Barrier Impact test Thor-Lx/HIIIr				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

PURPOSE

This 56.49 kph frontal 40% offset barrier impact test is part of the Test Procedure Development Program sponsored by the National Highway Traffic Safety Administration (NHTSA). The purpose of this test was to evaluate the performance of a Thor-Lx 50th percentile adult male- Hybrid III retrofit (Thor-Lx/HIIIr) version lower legs and obtain vehicle crashworthiness and occupant and restraint system performance data.

The frontal 40% offset barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

SUMMARY

A deformable honeycomb barrier mounted to a load cell barrier consisting of 30 load cells was impacted by a 2003 Cadillac Seville SLS 4-Door Sedan at 40% overlap at a velocity of 56.49 kph. The test was performed at General Dynamics on October 23, 2003. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time camera and 16 high-speed cameras documented the offset frontal barrier impact event. 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 FMVSS 208-12 Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with 9 axis array head, head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, knee sliders and Thor-Lx/HIIIr lower leg instrumentation. The driver (position 1) ATD (Serial No. 090) and the right-front passenger (position 2) ATD (Serial No. 055) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 201 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 occupant injury data is summarized below.

		Driver	Passenger	Limits
HIC15		46.9	79.1	700
HIC36		108.3	163.9	1000
Upper Neck Force (N)	Tension	804.1	1223.3	4170 N
	Compression	-186.8	-46.3	-4000 N
Neck Injury (Nij)	Ntf	0.29	0.17	1.0
	Nte	0.61	0.26	1.0
	Ncf	0.35	0.01	1.0
	Nce	0.01	0.02	1.0
Clip (g) 3 ms		25.1	28.4	60 g
Chest Displacement (mm)		-23.8	-25.0	63 mm
Femur Force (N)	Left	-691.2	-464.7	-9040 N
	Right	-1523.7	-1222.4	-9040 N
RTI Upper	Left	0.33	0.32	0.91
	Right	0.22	0.26	0.91
RTI Lower	Left	0.24	0.26	0.91
	Right	0.24	0.13	0.91
Upper Tibia Force (N)	Left	-1358.7	-1010.9	-5600 N
	Right	-1665.8	-965.8	-5600 N
Lower Tibia Force (N)	Left	-2245.0	-1338.6	-5200 N
	Right	-2596.3	-1223.7	-5200 N
Dorsiflexion (deg)	Left	24.9	-11.5	35 deg
	Right	16.7	-8.5	35 deg
Plantarflexion (deg)	Left	-11.0	-36.9	-
	Right	-15.6	-39.2	-
Inversion (deg)	Left	-21.9	-13.4	-35 deg
	Right	6.2	4.1	35 deg
Eversion (deg)	Left	4.0	23.1	35 deg
	Right	-29.0	-27.5	-35 deg
Internal Rotation (deg)	Left	13.6	66.4†	-
	Right	-5.3	-12.0	-
External Rotation (deg)	Left	-7.4	2.3†	-
	Right	14.4	11.1	-

† Data is questionable

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No.:	R30154	Test Mode:	56 kph Offset Frontal Barrier
Test Date:	October 23, 2003	Time:	13:02
		Temperature:	21.0 °C
Vehicle Make/Model/Body Style:	2003 Cadillac Seville SLS 4-Door Sedan		
Vehicle Test Weight:	2033.5	kg	
Vehicle/Barrier Impact Angle:	0	°	
Impact Velocity:	56.49	kph	
Maximum Static Crush:	532	mm	
Actual Vehicle Offset:	40.7	%	

DUMMIES:

DRIVER

PASSENGER

Type:

572E

572E

Restraint System:

Seatbelts and airbag

Seatbelts and airbag

Lower Leg:

Thor-Lx/HIIIr

Thor-Lx/HIIIr

Number of Data Channels: 201

Number of Cameras: 1 Real Time

16 High Speed

DOOR OPENING DATA:

Closed / Operable - Left Front

Closed / Operable - Right Front

Front Seat(s) Data:

DRIVER

PASSENGER

Seat Track Failure:(mm of shift)

0

0

Seat Back Failure:

None

None

VISIBLE DUMMY CONTACT POINTS:

DRIVER

PASSENGER

Head:

Face to center of airbag; Back
of head to center of head
restraint

Face to center of airbag; Back
of head to outboard half of
head restraint

Abdomen:

None

None

Chest:

Airbag

Airbag

Knees:

Left knee to bolster left of
column; Right knee to bolster
right of column

Left knee to left edge of glove
compartment door; Right knee
to center of glove compartment
door.

Tibias:

None

Knee bolster below glove
compartment door

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA No. : R30154 ; VIN: 1G6KS54Y73U140174 ; Color: White

Engine Data: 8 cylinders; - CID; 4.6 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

Safety Belt Features – Driver X Pretensioner (Buckle stalk); - Load Limiter; X Adj. Anchorage

Safety Belt Features - Passenger X Pretensioner (Buckle stalk); - Load Limiter; X Adj. Anchorage

Major Options: X A/C; X Pwr.Strg.; X Pwr. Brakes

X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel

Date Received: 09/02/2003 ; Odometer Reading 32.1 km

Selling Dealer: Braun Cadillac-Oldsmobile

& Address: Depew NY, 14043

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: General Motors Corporation

Date of Manufacture 09/02

GVWR: 2253 kg; GAWR: 1213 kg FRONT; 1040 kg REAR

DATA FROM TIRE PLACARD:

Recommended Tire Size: P225/60R16

* Recommended Cold Tire Pressure: 210 kpa FRONT; 210 kpa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P225/60R16 97S ; Manufacturer: Michelin Symmetry

Tire Pressure with Maximum Capacity Vehicle Load: Front: 240 kPa; Rear: 240 kPa

Treadwear: 460 ; Traction: A ; Temperature: B

VEHICLE CAPACITY DATA:

Type of Front Seats: - Bench; X Bucket; - Split Bench

Number of Occupants: 2 Front; 3 Rear; 5 Total

Vehicle Capacity Weight (VCW) = 412 kg

No. of Occupants x 68.04 kg = 340.2 kg

Rated Cargo/Luggage Weight (RCLW) = 71.8 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>557.5</u>	kg	Right Rear =	<u>347.0</u>	kg
Left Front =	<u>564.5</u>	kg	Left Rear =	<u>345.0</u>	kg
TOTAL FRONT =	<u>1122.0</u>	kg	TOTAL REAR =	<u>692.0</u>	kg
TOTAL DELIVERED WEIGHT =	<u>1814.0</u>	kg			
% of Total Front of Vehicle Weight =	<u>61.9%</u>		% of Total Rear Weight =	<u>38.1%</u>	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	<u>1814</u>	kg
Rated Cargo/Luggage Weight (RCLW) =	<u>71.8</u>	kg
Weight of 2 p.572 Dummies @ 76 each =	<u>152</u>	kg
TARGET TEST WEIGHT =	<u>2037.8</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 67.5 KG OF CARGO WEIGHT:

Right Front =	<u>591.0</u>	kg	Right Rear =	<u>421.0</u>	kg
Left Front =	<u>594.5</u>	kg	Left Rear =	<u>427.0</u>	kg
TOTAL FRONT =	<u>1185.5</u>	kg	TOTAL REAR =	<u>848</u>	kg
TOTAL TEST WEIGHT =	<u>2033.5</u>	kg			
% of Total Front Weight =	<u>58.3%</u>	%	% of Total Rear Weight =	<u>41.7%</u>	%
Weight of Ballast Secured in Vehicle Trunk Area =	<u>0</u>	kg			
Vehicle Components Removed for Weight Reduction:	<u>Rear Seat</u>				

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	<u>724</u>	LF	<u>721</u>	RR	<u>755</u>	LR	<u>744</u>
FULLY LOADED:	RF	<u>709</u>	LF	<u>705</u>	RR	<u>726</u>	LR	<u>714</u>
AS TESTED:	RF	<u>721</u>	LF	<u>720</u>	RR	<u>746</u>	LR	<u>743</u>
Vehicle's Wheel Base:	<u>2856</u>	mm						
Location of Vehicle's C.G.:	<u>1191</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: Fuel tank is located on the vehicle underbody between the rear wheels; Fuel filler is located on the left rear quarter panel above the rear wheel; Fuel lines are routed along the left side of the vehicle underbody.		

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test: Offset Frontal Barrier Impact Angle: 0°
Test Date: October 23, 2003 Time: 13:02 Temperature: 21.0 °C
Vehicle NHTSA No.: R30154
Required Impact Velocity Range: 54.5 to 57.5 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)

Vehicle Length:

Pre-Test	Left =	<u>5004</u>	; C/L =	<u>5100</u>	; Right =	<u>5006</u>
Post-Test	Left =	<u>4490</u>	; C/L =	<u>4786</u>	; Right =	<u>4996</u>
Crush	Left =	<u>514</u>	; C/L =	<u>314</u>	; Right =	<u>10</u>
AVERAGE	=	<u>279</u>	mm			

VEHICLE OFFSET DATA: (mm)

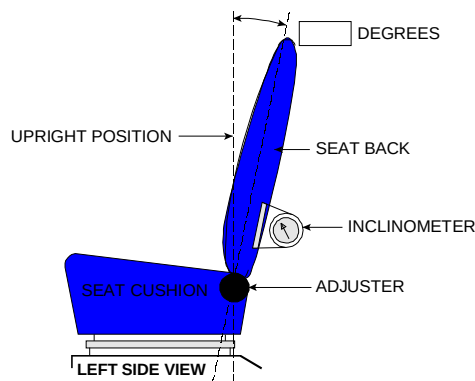
Vehicle Width	=	<u>1908</u>	mm
Desired Vehicle Offset	=	<u>763</u>	mm
Actual Vehicle Offset	=	<u>777</u>	mm (from film analysis)
Offset Difference	=	<u>-14</u>	mm
Actual Percent Offset	=	<u>40.7</u>	%

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year: 2003 Vehicle Model: Cadillac Seville SLS 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: 18.5 deg

Measurement instructions: Seat was positioned 18.5 degrees back from vertical as measure on the seat frame approximately 250 mm above the seat pivot point with the vehicle sills level.

Seat back angle for passenger's seat: 18.5 deg

Measurement instructions: Seat was positioned 18.5 degrees back from vertical as measure on the seat frame approximately 250 mm above the seat pivot point with the vehicle sills level.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Seat was positioned in the middle of its fore-aft travel, full down.

Positioning of the passenger's seat: Seat was positioned in the middle of its fore-aft travel, full down.

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 = 70.0 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.

When ignition is placed on, the vehicle fuel pump operates briefly then shuts off. The fuel pump operates continuously while the engine is running.

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

4. STEERING COLUMN ADJUSTMENTS:

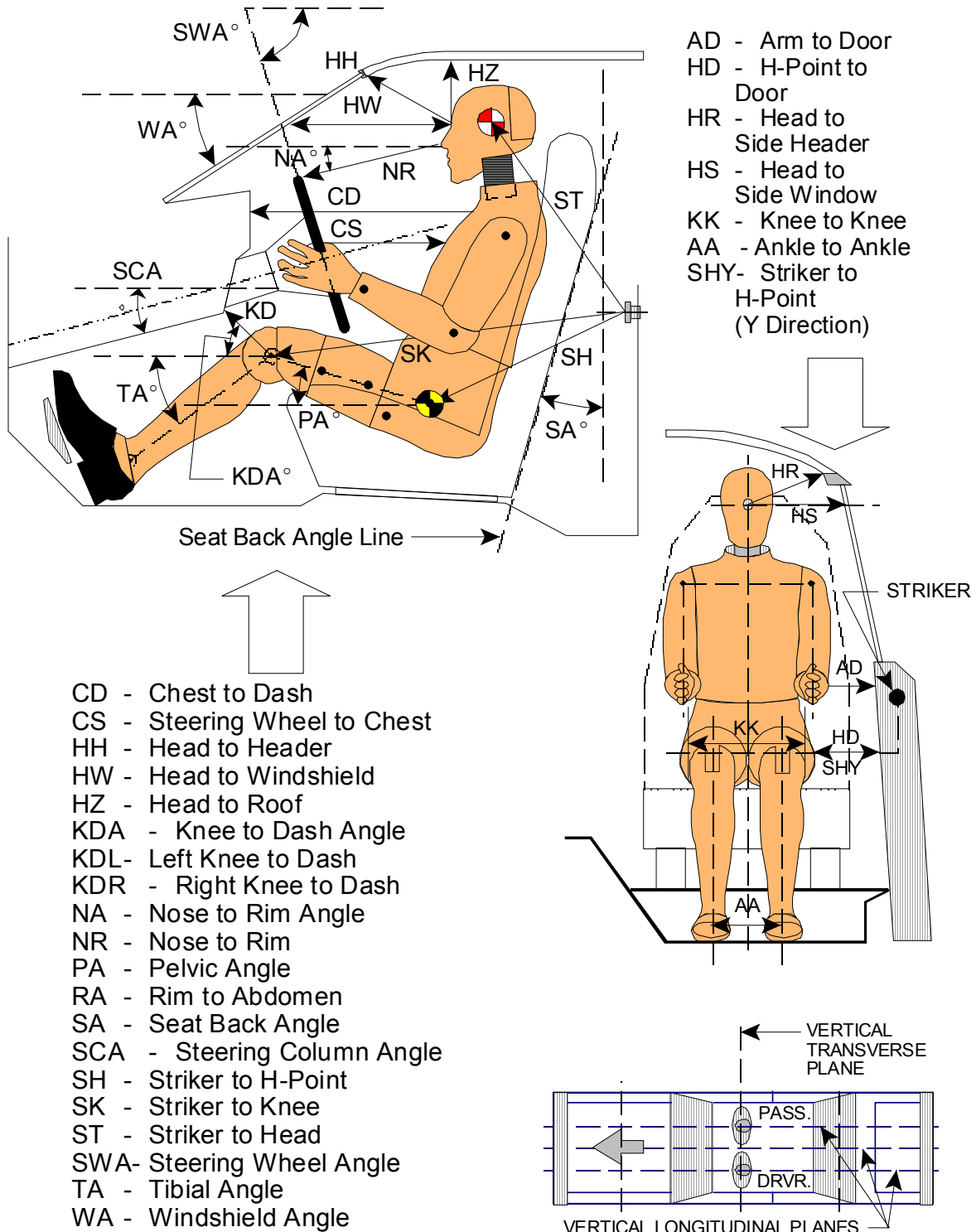
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: The steering column was positioned in its mid-telescoping, mid-tilt
position.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: This vehicle's front seats contained vertically adjustable shoulder belt
anchorage integrated into the seatback. The head restraint for each seat is attached to the shoulder belt anchorage
and moves vertically with it. At the COTR's request, the seat belt anchorage was placed in the mid-height
position which also forces the head restraint into the mid-height position.

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

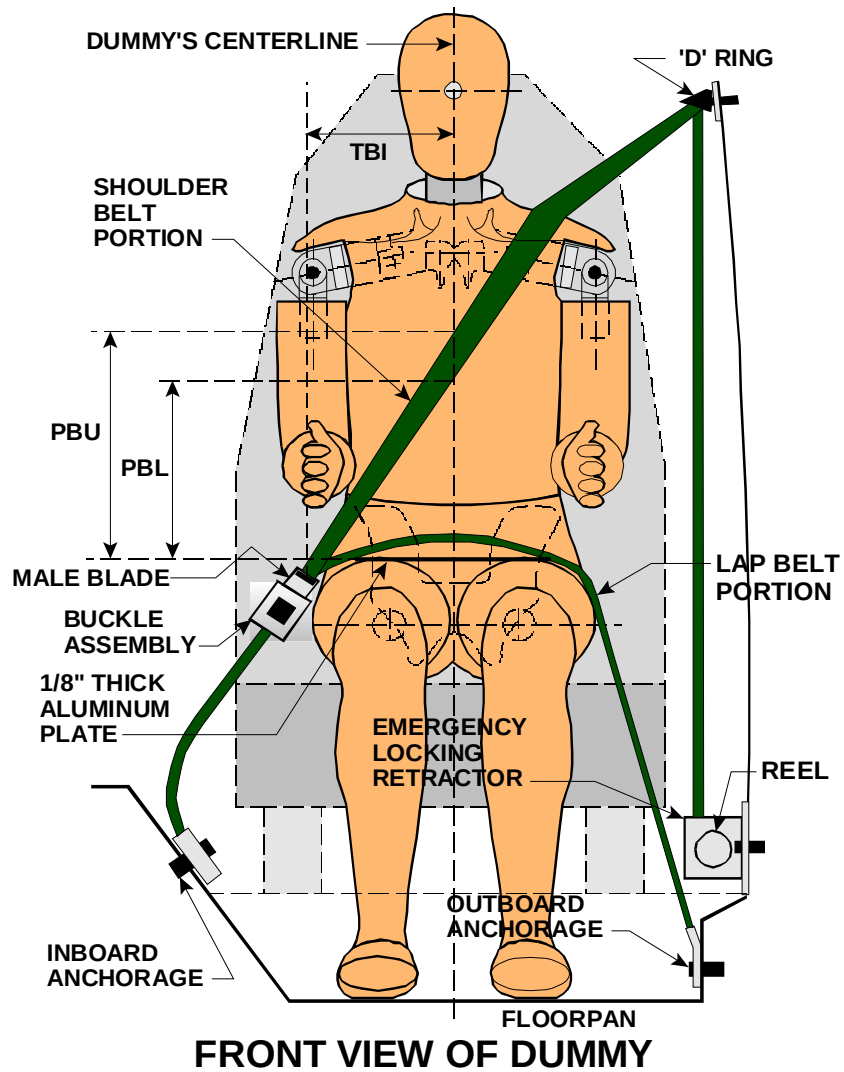


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #090)			PASS. (Serial #055)		
WA ⁰	26.8 deg.			N/A		
SWA ⁰	69.1 deg.			N/A		
SCA ⁰	21.9 deg.			N/A		
SA ⁰	18.5 deg.			18.5 deg.		
HZ	188			189		
HH	320			318		
HW	619			623		
HR	208			212		
NR	375	Angle	6 deg.	N/A		
CD	522			483		
CS	316			N/A		
RA	191			N/A		
KDL	141	Angle (KDA)	45 deg.	165		
KDR	143			153	Angle (KDA)	40 deg.
PA ⁰	21.5 deg.			22.4 deg.		
TA ⁰	35.0 deg.			30.7 deg.		
KK	340			272		
AA	333			206		
ST	513	Angle	9 deg.	515	Angle	8 deg.
SK	592	Angle	95 deg.	590	Angle	97 deg.
SH	249	Angle	125 deg.	245	Angle	128 deg.
SHY	240			245		
HS	327			337		
HD	233			228		
AD	148			135		

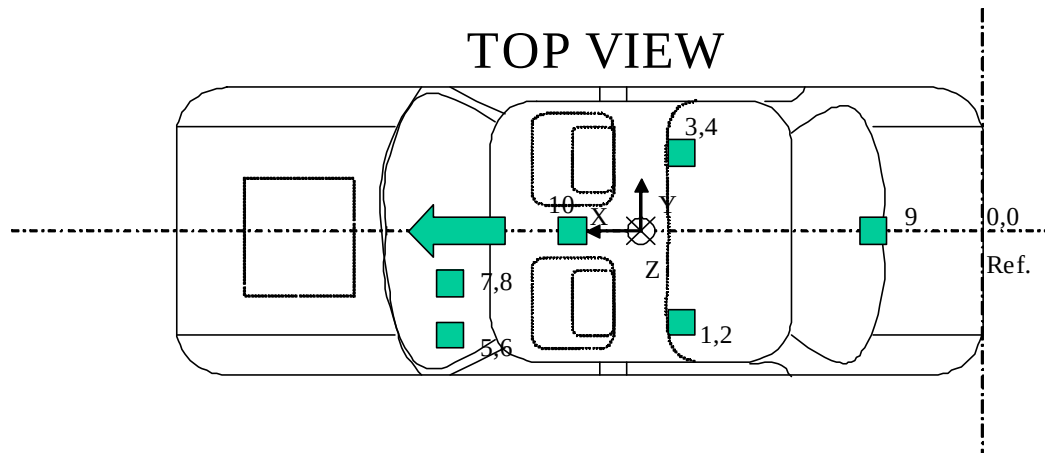
Dimensions in millimeters

SEAT BELT POSITIONING DATA



	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	314	315
PBL-- Top surface of alum. plate to belt lower edge	230	230
<u>LAP BELT TENSION</u>	10 N	10 N
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY



Accelerometer	X-Direction (mm)	Y-Direction (mm)	Z-Direction (mm)
Left Rear Seat Crossmember	1971	-685	-331
Right Rear Seat Crossmember	1952	650	-355
Driver Left Side Toe pan	3604	-539	-367
Driver Right Side Toe pan	3648	-270	-358
Rear Deck	1199	3	-1032
Vehicle CG	2748	-24	-538

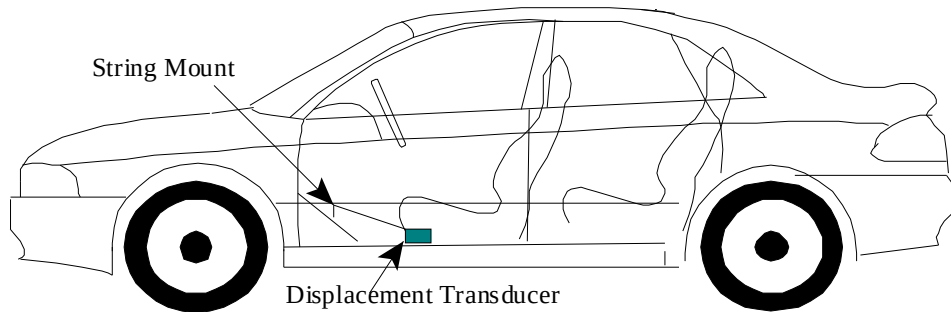
X-Direction is referenced from vehicle rear bumper (positive forward)

Y-Direction is referenced from vehicle centerline (positive to right)

Z-Direction is referenced from ground plane (positive down)

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side X	2.3	192.9	-25.8	118.1
2	Rear Seat X-Member @ Left Side Y	8.7	94.2	-1.4	479.5
3	Rear Seat X-Member @ Right Side X	0.4	-20.0	-28.7	94.2
4	Rear Seat X-Member @ Right Side Y	8.7	94.3	-2.1	499.9
5	Driver Toe Pan @ Left Side X	23.8	107.9	-60.0	101.0
6	Driver Toe Pan @ Left Side Z	34.7	101.1	-36.6	107.3
7	Driver Toe Pan @ Right Side X	2.6	197.0	-64.8	96.3
8	Driver Toe Pan @ Right Side Z	35.0	92.5	-33.8	100.3
9	Rear Deck Z	4.1	174.4	-7.8	85.9
10	Vehicle CG X	2.0	192.4	-33.5	110.1
10	Vehicle CG Y	14.9	110.4	-9.7	124.8
10	Vehicle CG Z	16.5	96.5	-15.9	38.1
10	Vehicle CG Resultant	36.8	110.2	-	-

SIDE VIEW



Driver Toe Pan Displacement

P1 Toe Pan Spoolout**	X-Direction (mm)	Y-Direction (mm)	Z-Direction (mm)	Vertical Angle* (Deg)
Pre-Test	661	0	-80	6.9
Post-Test	622	23	-115	10.5
Difference	39	-23	-35	3.6

** Measurements taken from string pot mounting base.

*Referenced from horizontal (0 degrees)

SENSOR NAME	MAXIMUM VALUE (mm)			
	Pos.	msec.	Neg.	msec.
P1 Toe Pan Movement	†	-	†	-

† Electronic data not available.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 Test Date: October 23, 2003

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head 9 Array X Arm Y	g	15.5	150.9	-6.2	57.1	5.4	267.9	-9.8	50.2
Head 9 Array X Arm Z	g	25.1	253.2	-4.9	185.6	30.5	264.6	-3.2	185.4
Head 9 Array Y Arm X	g	29.8	251.6	-21.1	77.6	24.9	267.8	-20.8	118.6
Head 9 Array Y Arm Z	g	23.9	147.7	-5.2	177.6	28.0	129.4	-4.7	49.3
Head 9 Array Z Arm X	g	38.9	252.3	-24.1	81.4	45.8	264.4	-23.7	114.4
Head 9 Array Z Arm Y	g	22.4	173.2	-2.3	295.6	8.0	158.5	-9.1	272.6
Head X	g	22.1	251.9	-22.7	78.9	21.3	264.2	-20.2	118.5
Head Y	g	18.9	151.0	-2.5	56.9	3.8	151.3	-5.3	50.4
Head Z	g	22.2	147.8	-0.8	499.8	26.2	124.4	-3.1	49.4
Head Resultant	g	29.3	147.8	-	-	32.2	124.4	-	-
Redundant Head X	g	23.4	251.8	-22.6	79.7	22.0	264.1	-19.9	118.7
Redundant Head Y	g	18.1	151.1	-2.6	56.9	3.6	159.9	-5.3	50.4
Redundant Head Z	g	22.6	147.8	-0.8	498.8	26.2	124.8	-3.0	49.4
Redundant Head Resultant	g	29.0	147.8	-	-	32.1	124.1	-	-
Upper Neck Fx	N	300.1	253.8	-324.3	162.5	118.5	280.2	-536.0	175.3
Upper Neck Fy	N	362.3	148.1	-117.1	337.2	194.8	161.4	-89.5	499.4
Upper Neck Fz	N	804.1	124.9	-186.8	177.7	1223.3	264.9	-46.3	37.3
Upper Neck F Resultant	N	830.1	148.0	-	-	1233.3	264.9	-	-
Upper Neck Mx	N-m	62.6	163.7	-13.1	287.1	12.9	162.0	-11.7	272.7
Upper Neck My	N-m	96.4	174.9	-63.8	253.5	34.9	166.7	-14.0	264.3
Upper Neck Mz	N-m	7.5	255.0	-12.1	334.9	8.1	78.0	-6.5	280.1
Upper Neck M Resultant	N-m	112.0	172.5	-	-	37.0	166.5	-	-

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

Vehicle Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 Test Date: October 23, 2003

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Lower Neck Fx	N	327.5	63.5	-440.7	178.8	-	-	-	-
Lower Neck Fy	N	622.6	156.0	-99.1	288.5	-	-	-	-
Lower Neck Fz	N	1400.7	253.2	-53.5	499.0	-	-	-	-
Lower Neck F Resultant	N	1452.0	147.9	-	-	-	-	-	-
Lower Neck Mx	N-m	59.2	174.7	-24.3	117.0	-	-	-	-
Lower Neck My	N-m	43.7	67.8	-27.3	253.0	-	-	-	-
Lower Neck Mz	N-m	5.5	198.9	-14.2	150.6	-	-	-	-
Lower Neck M Resultant	N-m	69.1	176.5	-	-	-	-	-	-
Chest X	g	3.5	304.8	-21.1	137.6	3.3	252.9	-27.0	116.3
Chest Y	g	11.4	127.6	-1.5	54.6	10.0	119.5	-1.5	162.2
Chest Z	g	10.2	118.6	-4.4	147.6	12.0	128.3	-2.4	191.8
Chest Resultant	g	25.3	124.6	-	-	29.1	119.2	-	-
Redundant Chest X	g	3.5	306.1	-21.3	137.5	3.5	253.1	-26.8	116.4
Redundant Chest Y	g	11.5	127.5	-1.5	56.6	10.0	119.5	-1.5	162.1
Redundant Chest Z	g	10.0	118.7	-4.6	147.7	82.6†	179.7	-75.2†	123.7
Redundant Chest Resultant	g	25.3	124.6	-	-	82.6	179.7	-	-
Chest Displacement	mm	0.0	-5.4	-23.8	124.3	0.0	-6.0	-25.0	145.6
Left Femur Fz	N	418.3†	266.8	-691.2†	266.3	531.7	83.8	-464.7	46.6
Right Femur Fz	N	458.3	75.2	-1523.7	111.5	364.5	158.1	-1222.4	103.2

† Data is invalid.

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

Vehicle Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 Test Date: October 23, 2003

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Left Knee Shear Dx	mm	0.2	173.4	-1.0	33.8	1.6	50.5	-0.7	108.1
Right Knee Shear Dx	mm	6.8†	76.6	-0.7†	205.5	0.7	167.6	-0.8	104.3
Left Upper Tibia Fx	N	230.3	103.0	-168.3	113.7	348.3	105.1	-149.3	50.1
Left Upper Tibia Fz	N	54.3	284.3	-1358.7	103.5	101.0	184.5	-1010.9	46.0
Left Upper Tibia Mx	N-m	55.7	127.8	-20.8	259.7	25.9	128.7	-24.3	101.0
Left Upper Tibia My	N-m	15.4	152.2	-71.7	103.7	13.3	435.6	-71.3	105.6
Left Lower Tibia Fx	N	39.1	499.7	-599.1	103.2	53.1	50.2	-435.0	105.3
Left Lower Tibia Fy	N	71.4	259.3	-332.6	127.6	105.8	106.1	-145.9	127.7
Left Lower Tibia Fz	N	122.5	265.5	-2245.0	103.1	107.9	170.1	-1338.6	46.8
Left Lower Tibia FR	N	2325.8	103.1	-	-	1338.7	46.8	0.8	-53.2
Left Lower Tibia Mx	N-m	20.2	129.8	-22.5	115.5	30.2	140.6	-28.0	104.8
Left Lower Tibia My	N-m	10.2	150.5	-55.1	102.9	8.2	50.5	-52.8	105.1
Right Upper Tibia Fx	N	296.2	101.1	-206.6	112.9	67.5	81.8	-159.2	103.8
Right Upper Tibia Fz	N	117.9	28.9	-1665.8	114.4	165.5	164.9	-965.8	129.7
Right Upper Tibia Mx	N-m	8.2	140.0	-45.6	111.8	29.6	132.3	-9.8	84.3
Right Upper Tibia My	N-m	13.4	181.9	-47.4	101.2	53.2	108.2	-27.5	82.4
Right Lower Tibia Fx	N	43.7	231.2	-439.4	100.8	187.5	129.7	-139.0	81.8
Right Lower Tibia Fy	N	186.5	112.6	-75.4	131.5	44.9	79.9	-146.9	131.3
Right Lower Tibia Fz	N	93.2	214.1	-2596.3	118.1	111.7	165.9	-1223.7	48.4
Right Lower Tibia FR	N	2603.1	118.1	-	-	1240.3	129.6	0.3	-14.2
Right Lower Tibia Mx	N-m	3.7	415.9	-49.2	113.5	23.2	132.6	-14.2	95.5
Right Lower Tibia My	N-m	12.7	114.0	-48.6	100.5	22.0	129.0	-18.1	115.8

† Data is questionable.

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

Vehicle Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 Test Date: October 23, 2003

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Left Tibia Ax	g	4.7	35.4	-42.7	103.2	10.2	50.0	-35.8	105.1
Left Tibia Ay	g	10.2	113.0	-13.6	127.6	17.6	106.6	-12.6	126.3
Right Tibia Ax	g	5.9	112.8	-39.0	100.8	13.1	130.1	-33.5	116.3
Right Tibia Ay	g	16.5	112.6	-7.6	138.8	12.1	106.2	-13.8	132.7
Left Ankle Rotation X	Deg	4.0	25.1	-21.9	124.1	23.1	157.2	-13.4	78.6
Left Ankle Rotation Y	Deg	24.9	143.5	-11.0	335.7	-11.5	283.7	-36.9	37.4
Left Ankle Rotation Z	Deg	13.6	254.7	-7.4	78.7	66.4†	157.0	2.3†	-9.1
Right Ankle Rotation X	Deg	6.2	365.7	-29.0	123.4	4.1	224.2	-27.5	97.9
Right Ankle Rotation Y	Deg	16.7	139.5	-15.6	43.9	-8.5	259.8	-39.2	89.0
Right Ankle Rotation Z	Deg	14.4	336.8	-5.3	78.4	11.1	178.1	-12.0	95.3
Left Foot Ax	g	13.5	116.2	-38.9	103.1	10.9	23.4	-47.5	103.0
Left Foot Ay	g	12.4	139.6	-17.9	109.2	30.0	105.8	-15.9	134.0
Left Foot Az	g	12.5	72.9	-46.6	100.8	8.9	23.4	-34.1	104.3
Left Foot A Resultant	g	58.1	100.7	-	-	54.6	103.3	-	-
Right Foot Ax	g	20.8	112.8	-57.1	98.7	7.2	128.9	-37.9	112.6
Right Foot Ay	g	42.7	99.2	-4.9	152.4	18.8	101.4	-11.2	136.2
Right Foot Az	g	18.7	116.4	-56.3	96.2	10.6	112.0	-20.3	40.3
Right Foot A Resultant	g	78.0	98.7	-	-	39.9	112.5	-	-
Lap Belt Load	N	2610.1	121.9	-1.8	-61.8	4343.4	136.1	-8.8	247.3
Shoulder Belt Load	N	3911.0	103.8	-7.1	243.7	5220.2	134.1	-5.8	18.2

† Data is questionable

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

Vehicle Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 Test Date: October 23, 2003

		HEAD INJURY CRITERIA (HIC)							
		HIC15				HIC36			
		HIC	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂	HIC	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver		46.9	139.3	154.3	25.0	108.3	120.6	156.6	24.6
Position #2 - Passenger		79.1	114.5	129.5	30.8	163.9	108.9	144.9	29.1

** HIC is as defined in FMVSS 208.

	CLIP SUMMARY*			
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	25.1	122.9	125.9	180.8
Position #2 - Passenger	28.4	118.0	121.0	171.6

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

Position 1 Neck Injury Summary (HIII 50th Male)

Nij V10	Nij	Time (ms)	Z Force (N)	X Force (N)	Y Moment (N-m)
Ntf	0.29	166.4	1.8	-303.3	89.9
Nte	0.61	253.5	651.8	297.6	-69.0
Ncf	0.35	175.0	-179.6	-213.8	100.2
Nce	0.01	-44.2	-2.0	3.4	-0.7

Peak Tension (CFC1000) 804.1 N

Peak Compression (CFC1000) -186.8 N

Position 2 Neck Injury Summary (HIII 50th Male)

Nij V10	Nij	Time (ms)	Z Force (N)	X Force (N)	Y Moment (N-m)
Ntf	0.17	164.2	263.4	-428.1	40.7
Nte	0.26	264.8	1223.3	-157.4	-11.1
Ncf	0.01	53.3	-44.5	32.6	0.7
Nce	0.02	37.3	-44.3	-8.7	-1.7

Peak Tension (CFC1000) 1223.3 N

Peak Compression (CFC1000) -46.3 N

Critical Values

Nij Intercepts				Peak Limits	
Tension (CVt)	6806 N	Extension (mCVe)	135 N-m	Tension	4170 N
Compression (CVc)	6160 N	Flexion (mCVf)	310 N-m	Compression	4000 N

Condyle Offset 0.01778

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

Vehicle Year/Make/Model/Body Style: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 Test Date: October 23, 2003

HEAD INJURY CRITERIA (HIC) (REDUNDANT)								
HIC15					HIC36			
	HIC	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂	HIC	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	44.9	122.2	137.2	24.6	104.5	119.9	155.9	24.3
Position #2 - Passenger	78.2	114.7	129.7	30.7	162.4	108.6	144.6	29.0

** HIC is as defined in FMVSS 208.

CLIP SUMMARY (REDUNDANT)*				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	25.1	123.0	126.0	184.1
Position #2 - Passenger	28.3	118.0	121.4	171.0

* 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:

Belt length from trim panel exit
to bolt hole anchor point for
continuous webbing systems.

Driver

Passenger

0

0

Shoulder belt length as measured
on Part 572 Dummy.

790

791

Lap belt length as measured
on Part 572 Dummy.

556

548

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.

**

**

As determined mechanically.

32

39

As determined electronically.

**

**

BELT STRETCH DATA:

Measured electronically between shoulder
belt load cell and the "D" ring.

**

**

Measured mechanically.

0 mm/m

0 mm/m

** Sensors and cameras were not used

Dimensions in millimeters

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.:

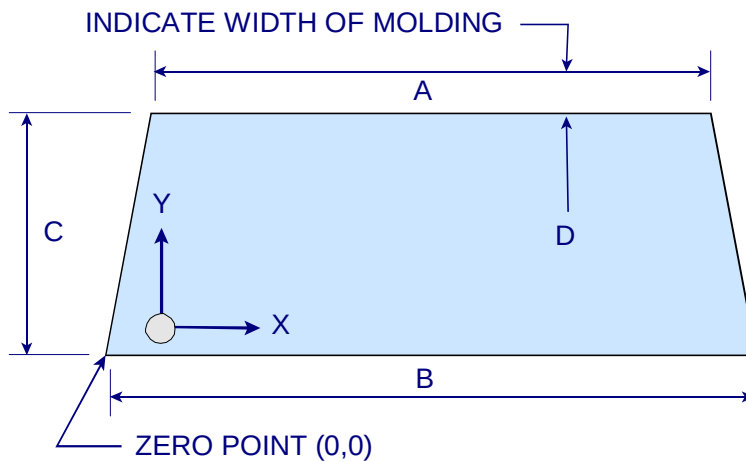
Windshield is bonded in place and covered with a 18 mm molding.

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			
	PRE-TEST (mm)	POST-TEST (mm)	% OF RETENTION
RIGHT SIDE	2265	2265	100.0%
LEFT SIDE	2265	2265	100.0%
TOTAL	4530	4530	100.0%

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1205
B	1745
C	790
D	18

FRONT VIEW OF WINDSHIELD

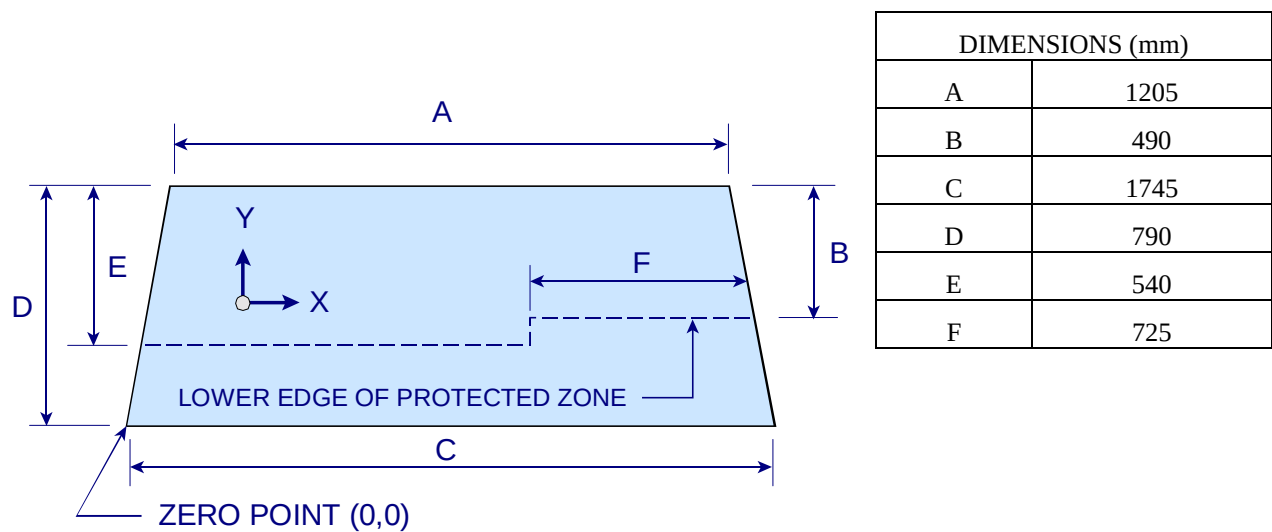
FAILURE DETAILS: None

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:



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

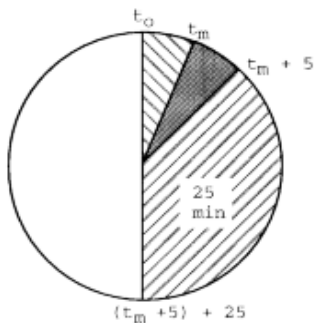
NHTSA TEST No.: R30154 TEST DATE: October 23, 2003
VEHICLE MAKE/MODEL: 2003 Cadillac Seville SLS 4-Door Sedan

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 Offset 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

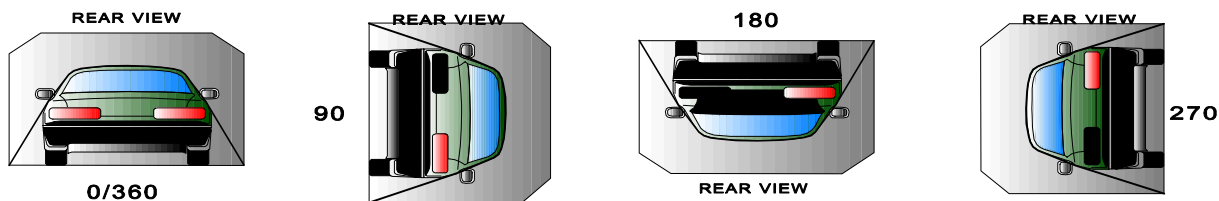
ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 13 - ROLLOVER DATA

Vehicle: 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA No.: R30154



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	15	seconds	5	minutes	6	minutes	15	seconds	7	minutes
90° - 180°	1	minutes	9	seconds	5	minutes	6	minutes	9	seconds	7	minutes
180°-270°	1	minutes	9	seconds	5	minutes	6	minutes	9	seconds	7	minutes
270°-360°	1	minutes	11	seconds	5	minutes	6	minutes	11	seconds	7	minutes

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

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

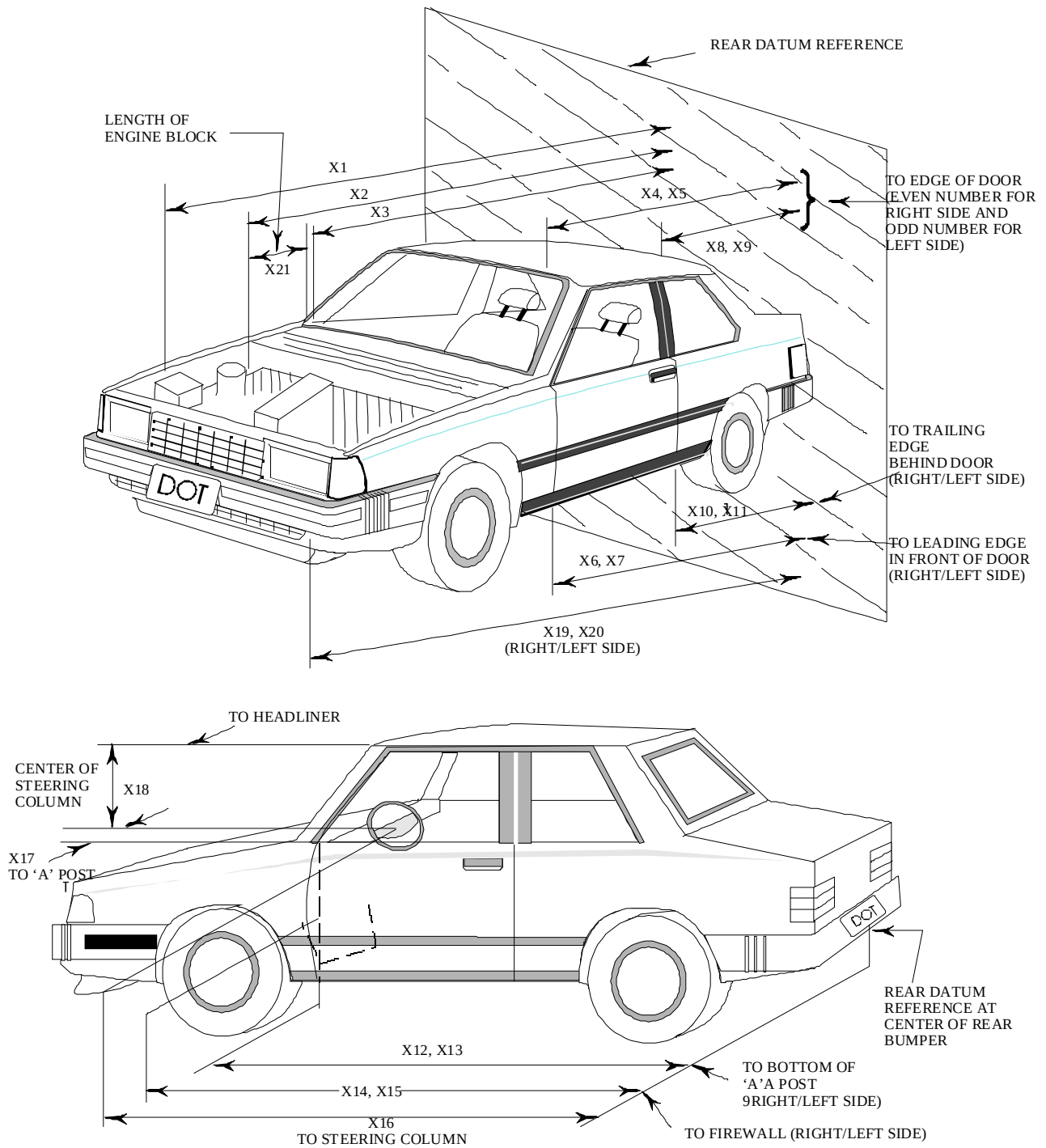
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S):

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

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS



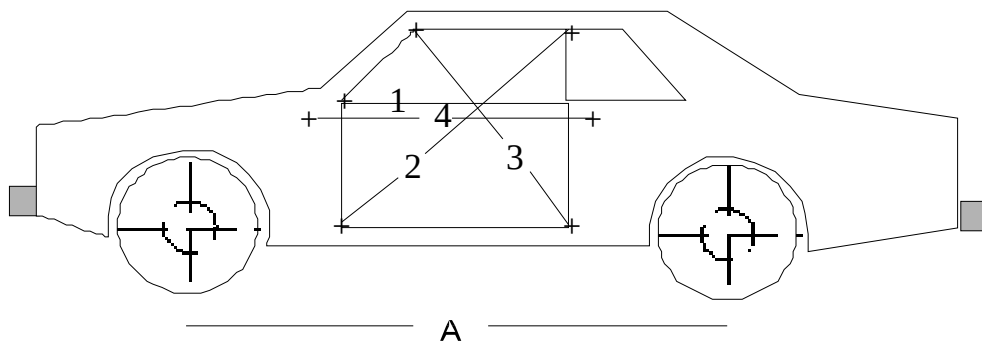
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5100	4786	314
X2	Rear Surface of Vehicle to Front of Engine	4535	4438	97
X3	Rear Surface of Vehicle to Firewall	3828	3869	-41
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3475	3484	-9
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3487	3480	7
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3456	3466	-10
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3467	3467	0
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2354	2359	-5
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2364	2361	3
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2354	2363	-9
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2369	2368	1
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3516	3552	-36
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3538	3532	6
X14	Rear Surface of Vehicle to Firewall, Right Side	3811	3881	-70
X15	Rear Surface of Vehicle to Firewall, Left Side	3809	3874	-65
X16	Rear Surface of Vehicle to Steering Column	2970	2957	13
X17	Center of Steering Column to "A" Post	336	339	-3
X18	Center of Steering Column to Headliner	394	389	5
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5006	4996	10
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5004	4490	514
X21	Length of Engine Block	642	638	4
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3109	3112	-3
CD	Rear Surface of Vehicle to Center of Dash Panel	3251	3243	8
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3115	3103	12

All Dimensions in mm

All measurements taken forward from a lateral plane located at the rearmost point of the vehicle.

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

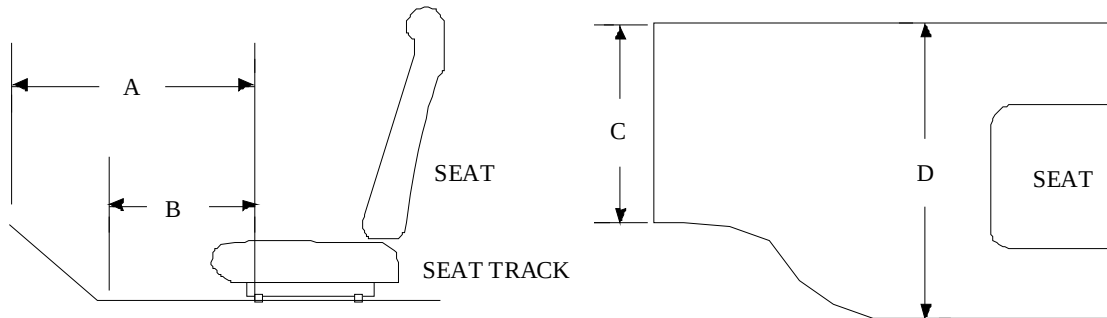


UNITS (mm)	LEFT				RIGHT		
MEASUREMENT	1	2	3	4*	1	2	3
BEFORE TEST	975	1397	986	862	982	1406	980
AFTER TEST	972	1397	992	861	981	1406	982
DIFFERENCE	3	0	-6	1	1	0	-2

* Insurance Institute for Highway Safety (IIHS) measurement for driver's side only

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2856	2856
AFTER TEST	2688	2886
DIFFERENCE	168	-30

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



DRIVER

Measurement	Pre-Test	Post-Test	Difference
A	703	655	48
B	523	512	11
C	443	471	-28
D	460	504	-44

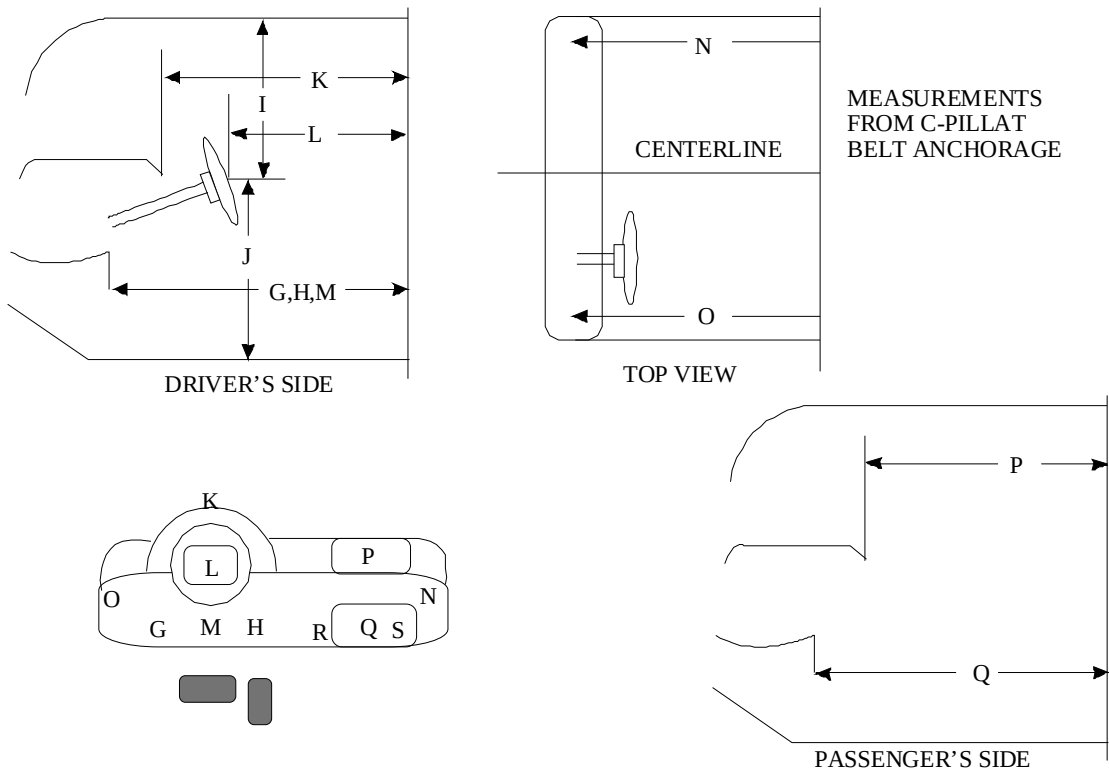
PASSENGER

Measurement	Pre-Test	Post-Test	Difference
A	693	687	6
B	491	446	45
C	493	511	-18
D	505	491	14

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

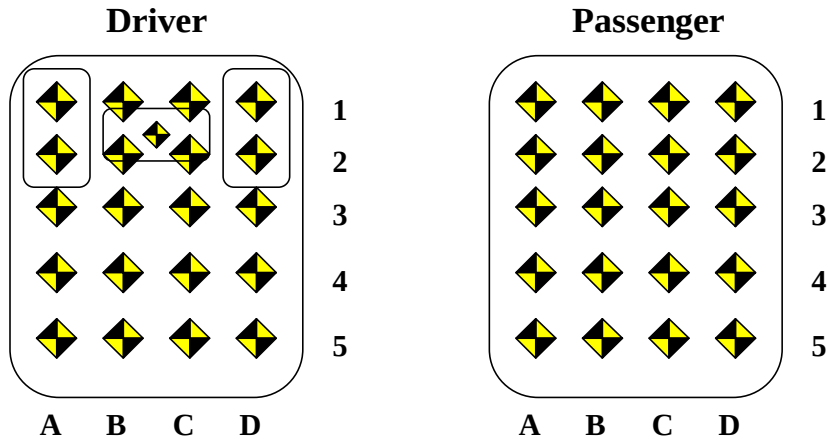
VEHICLE INTRUSION MEASUREMENTS
STATIC PASSENGER COMPARTMENT INTRUSION



Measurement	Pre-Test	Post-Test	Difference
G	1878	1872	6
H	1888	1885	3
I	394	389	5
J	678	698	-20
K	1876	1909	-33
L	1719	1704	15
M	1952	1949	3
N	1865	1870	-5
O	1864	1850	14
P = K (PASS.)	1983	1977	6
Q = M (PASS.)	1912	1929	-17
R	1890	1904	-14
S	1893	1905	-12

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
DRIVER SIDE INTRUSION MEASUREMENTS

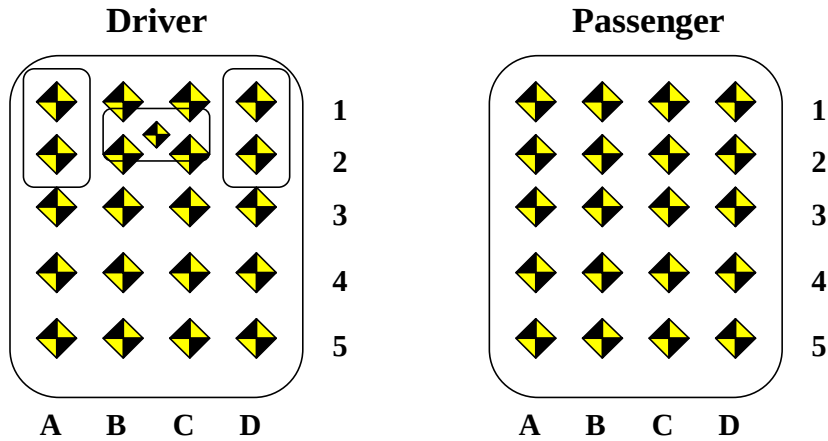


Driver Side Intrusion Measurements

Intrusion Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3493	-504	-430	3507	-607	-421	-14	103	-9
B1	3640	-493	-391	3588	-474	-434	52	-19	43
C1	3667	-342	-398	3621	-339	-428	46	-3	30
D1	3690	-204	-399	3624	-187	-448	66	-17	49
A2	3501	-621	-320	3476	-612	-343	25	-9	23
B2	3546	-490	-307	3512	-482	-326	34	-8	19
C2	3567	-357	-300	3531	-336	-313	36	-21	13
D2	3588	-212	-307	3579	-195	-305	9	-17	-2
A3	3467	-631	-235	3459	-615	-238	8	-16	3
B3	3478	-497	-232	3457	-473	-233	21	-24	1
C3	3469	-358	-234	3466	-337	-223	3	-21	-11
D3	3473	-209	-233	3479	-197	-215	-6	-12	-18
A4	3325	-617	-237	3336	-602	-237	-11	-15	0
B4	3331	-484	-234	3329	-474	-215	2	-10	-19
C4	3334	-350	-239	3325	-326	-205	9	-24	-34
D4	3336	-211	-227	3335	-191	-204	1	-20	-23
A5	3188	-616	-239	3189	-573	-233	-1	-43	-6
B5	3188	-484	-230	3191	-440	-223	-3	-44	-7
C5	3190	-347	-226	3197	-308	-225	-7	-39	-1
D5	3192	-200	-232	3204	-180	-214	-12	-20	-18
BP	3513	-376	-469	3486	-378	-472	27	2	3
G	3129	-531	-730	3125	-518	-733	4	-13	3
H	3139	-225	-729	3137	-214	-721	2	-11	-8
L	2970	-375	-917	2957	-365	-922	13	-10	5
AB	2950	-670	-349	2949	-661	-343	1	-9	-6

BP=Brake Pedal, G=Left side of bolster, H=Right side of bolster, L=Steering wheel center;
AB = Front outboard seat anchor bolt

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



Passenger Side Intrusion Measurements

Intrusion Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3615	176	-380	3625	212	-406	-10	-36	26
B1	3614	303	-388	3641	356	-392	-27	-53	4
C1	3616	450	-394	3632	490	-396	-16	-40	2
D1	3560	598	-390	3577	628	-407	-17	-30	17
A2	3530	186	-306	3539	226	-296	-9	-40	-10
B2	3523	309	-308	3533	357	-303	-10	-48	-5
C2	3518	441	-305	3530	493	-314	-12	-52	9
D2	3499	593	-312	3500	623	-331	-1	-30	19
A3	3415	166	-230	3350	176	-214	65	-10	-16
B3	3401	294	-240	3354	307	-221	47	-13	-19
C3	3425	452	-222	3436	502	-250	-11	-50	28
D3	3438	593	-224	3441	642	-254	-3	-49	30
A4	3170	166	-207	3319	236	-232	-149	-70	25
B4	3251	310	-219	3313	370	-237	-62	-60	18
C4	3262	457	-207	3302	506	-241	-40	-49	34
D4	3296	577	-233	3309	646	-259	-13	-69	26
A5	3143	184	-207	3189	232	-230	-46	-48	23
B5	3125	315	-204	3181	369	-234	-56	-54	30
C5	3137	457	-208	3174	505	-236	-37	-48	28
D5	3160	581	-221	3175	641	-246	-15	-60	25
R	3134	208	-725	3146	232	-737	-12	-24	12
S	3137	509	-722	3147	530	-739	-10	-21	17
AB	2922	669	-333	2949	710	-348	-27	-41	15

R=Left side of bolster, S=Right side of bolster, L=Steering wheel center;
AB = Front outboard seat anchor bolt

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
TEST VEHICLE FRONTAL PROFILE DATA

		PRE-TEST PROFILE					
		Vehicle Left			Vehicle Right		
		Pt 1	Pt 2	Pt 3	Pt 4	Pt5	Pt 6
Bottom of Front Bumper	X	4903.9	5009.7	5057.1	5058.6	5015.7	4911.5
	Y	-704.4	-423.8	-142.5	145.5	429.9	709.0
	Z	-348.4	-345.5	-341.5	-339.4	-349.3	-354.9
Top of Front Bumper	X	4911.5	5023.5	5088.5	5087.0	5026.7	4919.1
	Y	-704.2	-423.3	-141.6	145.0	431.5	712.7
	Z	-464.3	-469.1	-464.4	-470.2	-469.5	-472.6
Center of Grille	X	4829.8	4932.8	4983.8	4984.4	4937.9	4832.6
	Y	-708.5	-428.8	-140.8	149.4	433.1	713.2
	Z	-591.4	-595.2	-594.7	-596.9	-601.3	-604.2
Front of Hood	X	4797.1	4909.8	4963.4	4966.1	4910.5	4800.7
	Y	-712.2	-425.6	-142.3	149.1	433.2	712.5
	Z	-692.8	-689.6	-695.1	-695.7	-696.7	-703.5

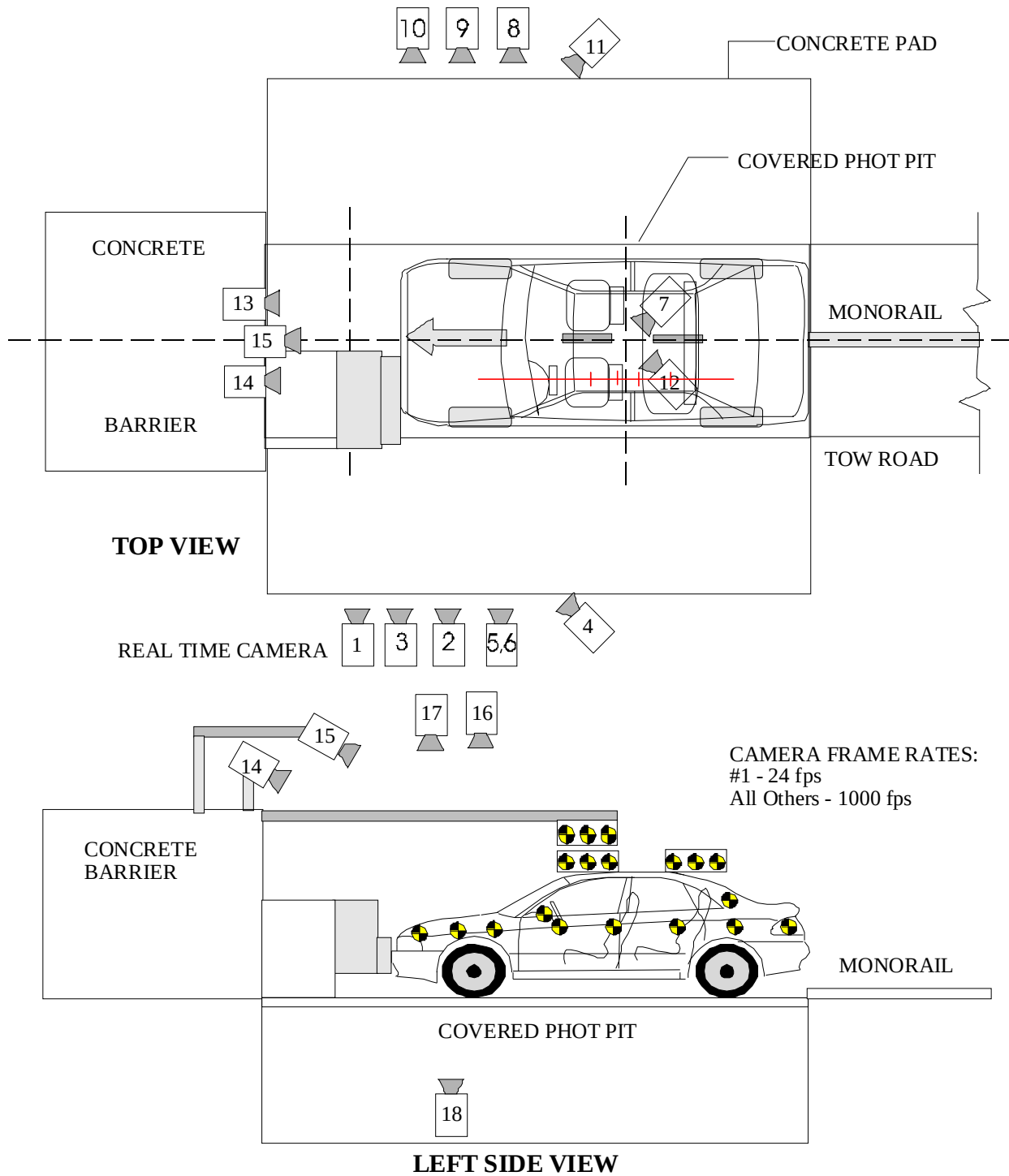
		POST-TEST PROFILE					
		Vehicle Left			Vehicle Right		
		Pt 1	Pt 2	Pt 3	Pt 4	Pt5	Pt 6
Bottom of Front Bumper	X	4380.0	4511.0	4644.9	4846.5	4981.7	5031.8
	Y	-690.1	-416.4	-161.8	72.2	327.6	617.1
	Z	-334.5	-356.1	-368.5	-388.3	-437.1	-483.0
Top of Front Bumper	X	4379.1	4506.9	4636.5	4865.4	4970.2	5025.2
	Y	-695.2	-423.5	-166.2	39.2	305.7	599.9
	Z	-450.1	-477.3	-494.7	-513.0	-560.8	-600.9
Center of Grille	X	4298.4	4442.6	4547.8	4726.2	4873.9	4826.0
	Y	-751.7	-494.5	-170.4	41.6	284.5	580.3
	Z	-484.3	-545.5	-551.5	-663.6	-682.6	-711.8
Front of Hood	X	4329.9	4366.8	4483.7	4676.9	4786.0	4752.4
	Y	-762.2	-482.5	-225.0	-26.5	226.8	519.0
	Z	-684.8	-612.6	-613.3	-677.4	-769.2	-808.0

		CHANGE					
		Vehicle Left			Vehicle Right		
		Pt 1	Pt 2	Pt 3	Pt 4	Pt5	Pt 6
Bottom of Front Bumper	X	524.0	498.7	412.2	212.1	34.0	-120.3
	Y	-14.3	-7.4	19.3	73.3	102.3	91.9
	Z	-13.9	10.6	27.0	49.0	87.9	128.0
Top of Front Bumper	X	532.4	516.6	452.0	221.6	56.5	-106.2
	Y	-9.0	0.2	24.6	105.8	125.8	112.8
	Z	-14.2	8.1	30.2	42.9	91.3	128.3
Center of Grille	X	531.4	490.2	436.0	258.3	64.1	6.6
	Y	43.2	65.7	29.6	107.9	148.6	132.9
	Z	-107.1	-49.7	-43.1	66.7	81.3	107.6
Front of Hood	X	467.3	543.0	479.7	289.2	124.4	48.2
	Y	50.0	56.9	82.7	175.6	206.5	193.5
	Z	-8.1	-77.0	-81.7	-18.3	72.4	104.6

All dimensions are in mm.

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.: R30154 Vehicle: 2003 Cadillac Seville SLS 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	8140	1150	1080	-4	7815	28	1000
3	Left Side View	8650	890	1085	-2	8325	25	1005
4	Driver and Interior View	6096	2850	2000	-11	-	24-70	1000
5	Steering Column (Bottom)	9244	1580	1175	-2	8919	28-70	1005
6	Steering Column (Top)	9244	1580	1770	-7	8919	25	1000
7	Interior Driver View	-	-	-	-	-	-	-
8	Overall Right Side View	7680	1450	1110	-3	8000	12.5	1010
9	Right Side View	9754	700	1050	-3	10074	25	1010
10	Right Passenger View	8910	1280	1320	-3	9230	35	1005
11	Passenger and Interior View	8250	2530	1980	-9	-	50	1000
12	Interior Passenger View	-	-	-	-	-	-	-
13	Passenger Front View	610	-1720	2010	-27	-	13	985
14	Driver Front View	610	-1720	3374	-38	-	25	1010
15	Windshield View	0	-1720	3374	-40	-	13	1055
16	Overhead Overall View	0	0	4880	-90	-	12.5	1010
17	Overhead Close-Up View	0	0	4880	-90	-	25	1030
18	Pit View of Engine	0	610	-3048	90	-	13	1005

*X = film plane to monorail centerline

** = referenced to horizontal plane

Y = film plane to impact location

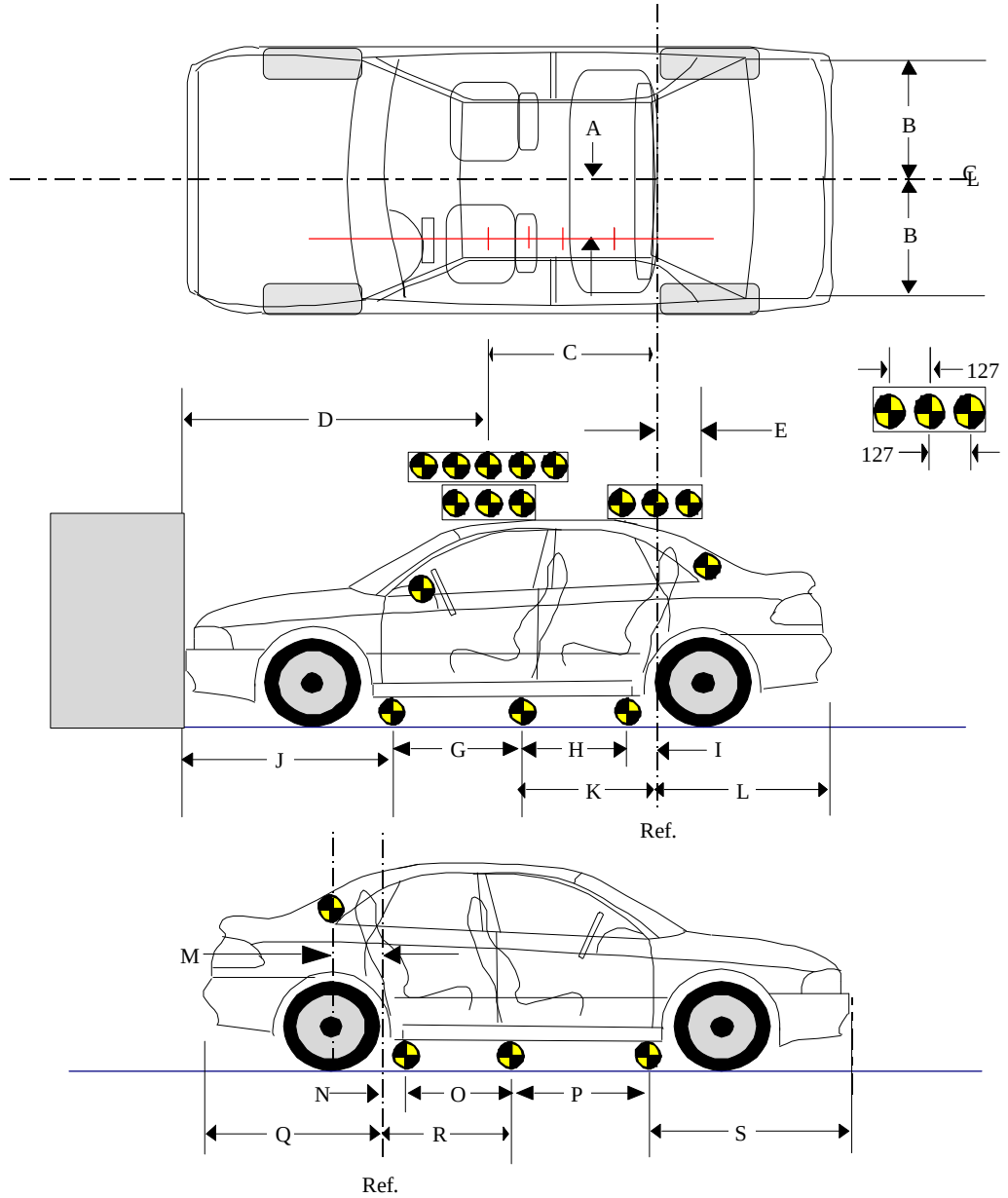
N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

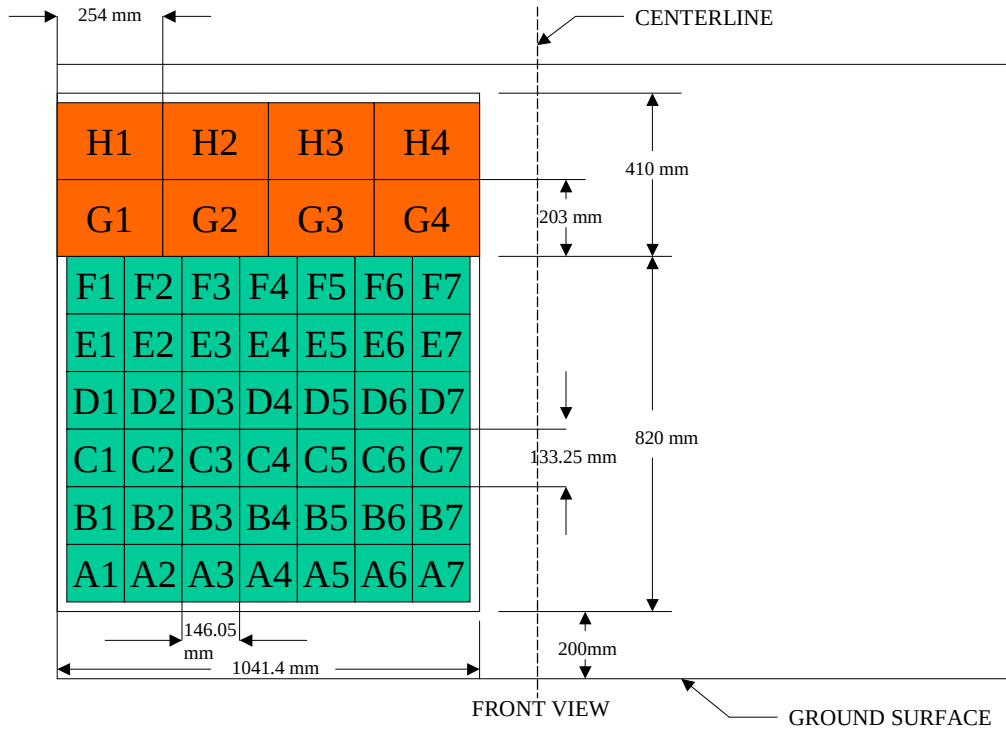
(Dimensions in millimeters)

A	396
B	645
C	1227
D	2401
E	224
F	1670
G	960
H	950
I	129
J	1597
K	1079
L	1465
M	232
N	133
O	961
P	947
Q	1450
R	1094
S	1519



DATA SHEET NO. 17 LOAD CELL LOCATIONS RELATIVE TO FIXED BARRIER AND
DEFORMABLE BARRIER FACE

50 Load Cells



	Bottom Array	Top Array
Load cell width	146 mm	254 mm
Load cell height	133 mm	203 mm
Vertical gap between load cells	6 mm	6 mm
Horizontal gap between load cells	6 mm	6 mm
Vertical filler block width	55 mm	55 mm

The following data is presented in Appendix B:

- (1)X Direction Data from load cells A1 through F7
- (2)X Direction Data from load cells G1 through H4

DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No.: R30154; Test Date: October 23, 2003; Technician: Lawrence Q. Valvo

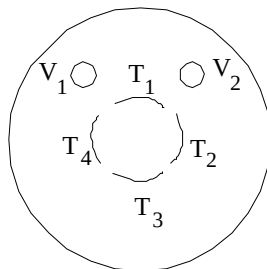
Vehicle Model Year/Make/Model: 2003 Cadillac Seville SLS 4-Door Sedan

- A. No. of vent holes: 2 -Driver 2 -Passenger
- B. Size of vent holes: (mm²) 804 -Driver 491 -Passenger
- C. Total vent area: (mm²) 1608 -Driver 982 -Passenger
- D. Deflated air bag length and width dimensions or, if round, diameter. (mm)
- Driver: 630 -Height; 630 -Width; 250 -Depth
- Passenger: 530 -Height; 430 -Width; 420 -Depth
- E. Is the air bag tethered?
- Driver: X -Yes; - -No; If yes, record length of tether- 300
- Passenger: X -Yes; - -No; If yes, record length of tether- 450

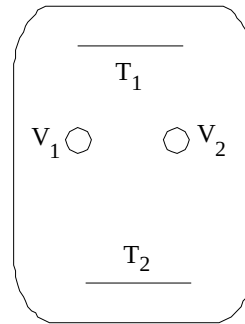
Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.

(Note: Not to scale; V_n = Vent hole_n, T_n = Tether_n).

Driver



Passenger



- F. Record part numbers and manufacturer name of the air bag and gas generator.

Driver: Air bag: 16824055-01, GMX-35, TRCA21784683

Generator: -

Passenger: Air bag: -

Generator: -

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH OFFSET FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Cadillac Seville SLS 4-Door Sedan

NHTSA Test No.: R30154 VIN: 1G6KS54Y73U140174

Model Year: 2003 Build Date: 09/02 Test Date: October 23, 2003

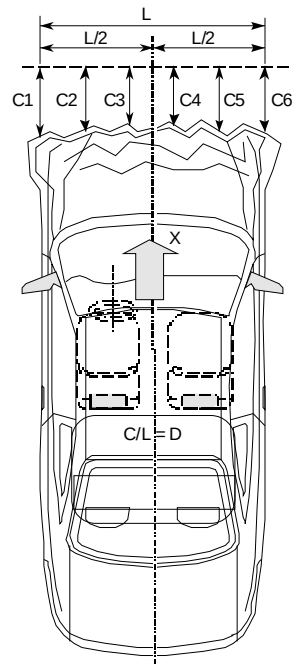
Vehicle Size Category: Passenger car Test Weight: 2033.5 kg

Vehicle Wheelbase: 2856 mm; Front Overhang: 1129 mm; Overall Width: 1908 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions

	PRE	POST	DIFF	
C1 =	4830	4298	532	mm
C2 =	4933	4443	490	mm
C3 =	4984	4548	436	mm
C4 =	4984	4726	258	mm
C5 =	4938	4874	64	mm
C6 =	4833	4826	7	mm



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region:

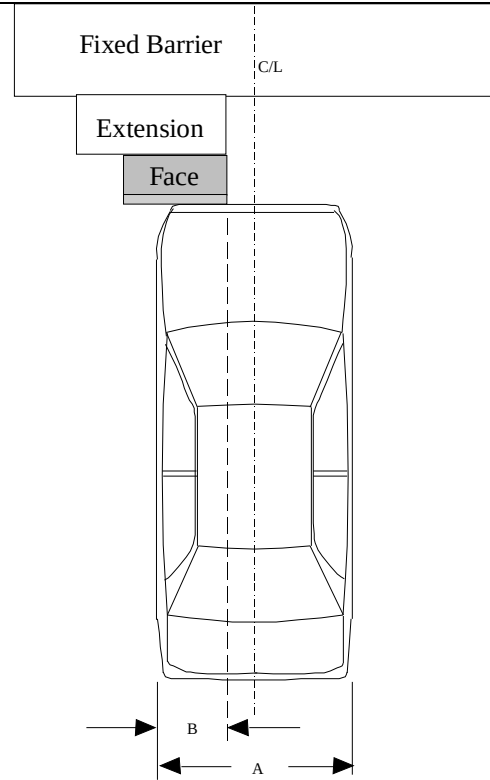
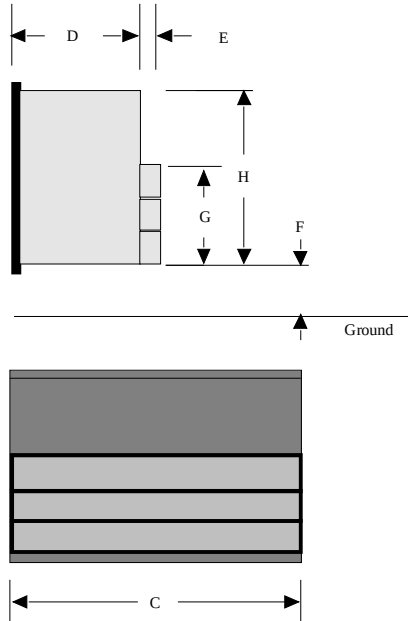
L1=	<u>1421</u>	mm
L2=	<u>710.5</u>	mm
L5=	<u>284.2</u>	mm

DATA SHEET NO. 20 OFFSET BARRIER AND VEHICLE ORIENTATION

NHTSA Test No.: R30154

Vehicle: 2003 Cadillac Seville SLS 4-Door Sedan

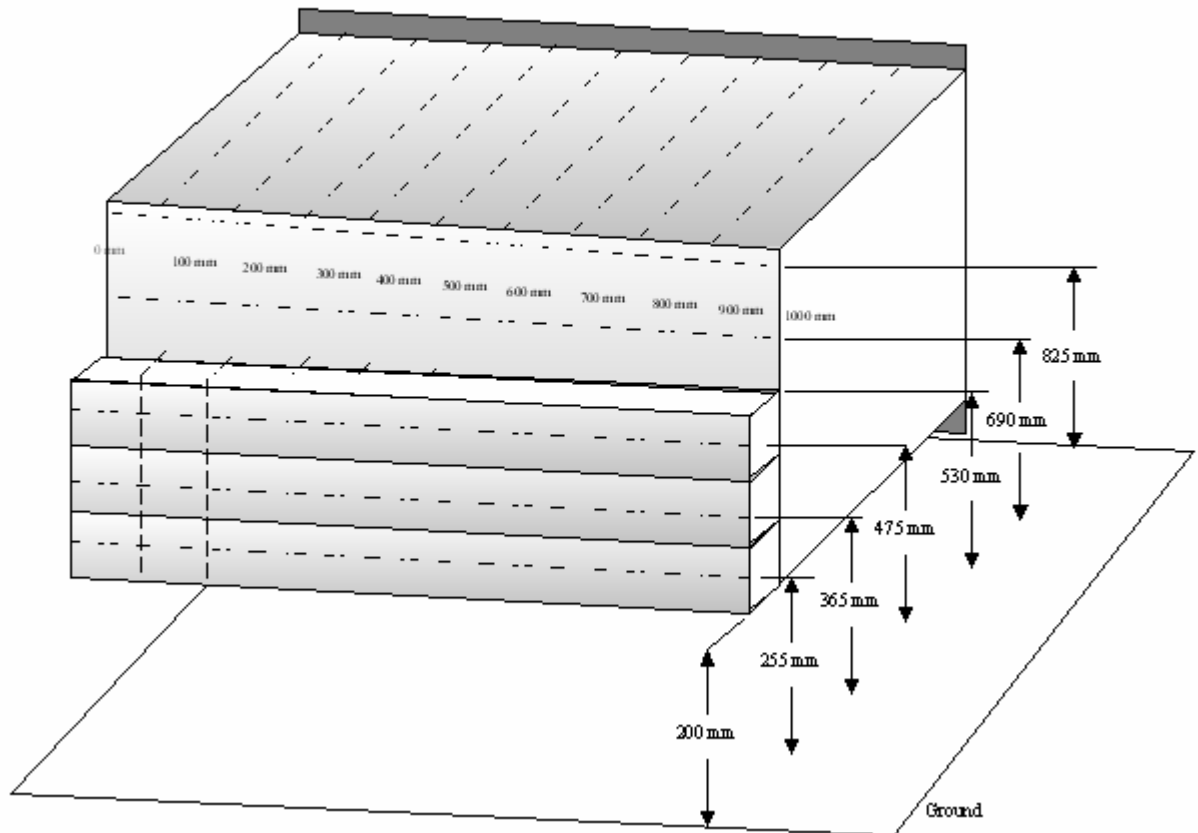
Barrier Manufacturer and Serial Number:



A	Total Vehicle Width	<u>1908</u>	mm
B	40% Overlap Distance	<u>763.2</u>	mm
C	Deformable Face Width	<u>1000</u>	mm
D	Single Stage Honeycomb Depth	<u>450</u>	mm
E	Bumper Element Depth	<u>90</u>	mm
F	Lower Edge Height From Ground	<u>200</u>	mm
G*	Bumper Element Height	<u>330</u>	mm
H	Deformable Barrier Honeycomb Height	<u>650</u>	mm

* The bumper element consists of three 110 mm height blocks of 1.723 MPa honeycomb

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DATA SHEET NO. 21 OFFSET BARRIER DEFORMATION (continued)

**EXTERIOR STATIC CRUSH FOR BARRIER FACE
(Grid as looking at barrier from front)**

Vehicle: _ 2003 Cadillac Seville SLS 4-Door Sedan

NHTSA No. R30154

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

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)					0	DISTANCE LEFT OF CENTER (mm)				
			500	400	300	200	100		100	200	300	400	500
LEVEL 6 TOP STACK	825	PRE	546	546	546	546	546	546	546	546	546	546	546
		POST	509	530	554	611	707	740	745	747	812	866	911
		CRUSH	-37	-16	8	65	161	194	199	201	266	320	365
LEVEL 5 MID STACK	687	PRE	546	546	546	546	546	546	546	546	546	546	546
		POST	517	534	556	619	683	805	765	815	883	924	942
		CRUSH	-29	-12	10	73	137	259	219	269	337	378	396
LEVEL 4 TOP BUMPER	530	PRE	546	546	546	546	546	546	546	546	546	546	546
		POST	534	549	594	658	746	805	858	908	930	943	961
		CRUSH	-12	3	48	112	200	259	312	362	384	397	415
LEVEL 3 BUMPER TOP	475	PRE	456	456	456	456	456	456	456	456	456	456	456
		POST	419	479	541	609	689	779	842	889	923	943	971
		CRUSH	-37	23	85	153	233	323	386	433	467	487	515
LEVEL 2 BUMPER MID	365	PRE	456	456	456	456	456	456	456	456	456	456	456
		POST	422	479	541	609	692	772	834	881	912	932	945
		CRUSH	-34	23	85	153	236	316	378	425	456	476	489
LEVEL 1 BUMPER LOW	255	PRE	456	456	456	456	456	456	456	456	456	456	456
		POST	428	477	530	587	661	738	809	850	858	869	884
		CRUSH	-28	21	74	131	205	282	353	394	402	413	428

*Heights measured above ground level.

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8710-OFST-02

APPENDIX A

PHOTOGRAPHS

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Figure A-1 PRE-TEST FRONT VIEW



Figure A-2 POST-TEST FRONT VIEW



Figure A-3 PRE-TEST LEFT SIDE VIEW



Figure A-4 POST-TEST LEFT SIDE VIEW



Figure A-5 PRE-TEST RIGHT SIDE VIEW



Figure A-6 POST-TEST RIGHT SIDE VIEW



Figure A-7 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-8 POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-9 PRE-TEST LEFT REAR THREE-QUARTER VIEW



Figure A-10 POST-TEST LEFT REAR THREE-QUARTER VIEW



Figure A-11 PRE-TEST WINDSHIELD VIEW



Figure A-12 POST-TEST WINDSHIELD VIEW



Figure A-13 PRE-TEST ENGINE COMPARTMENT VIEW

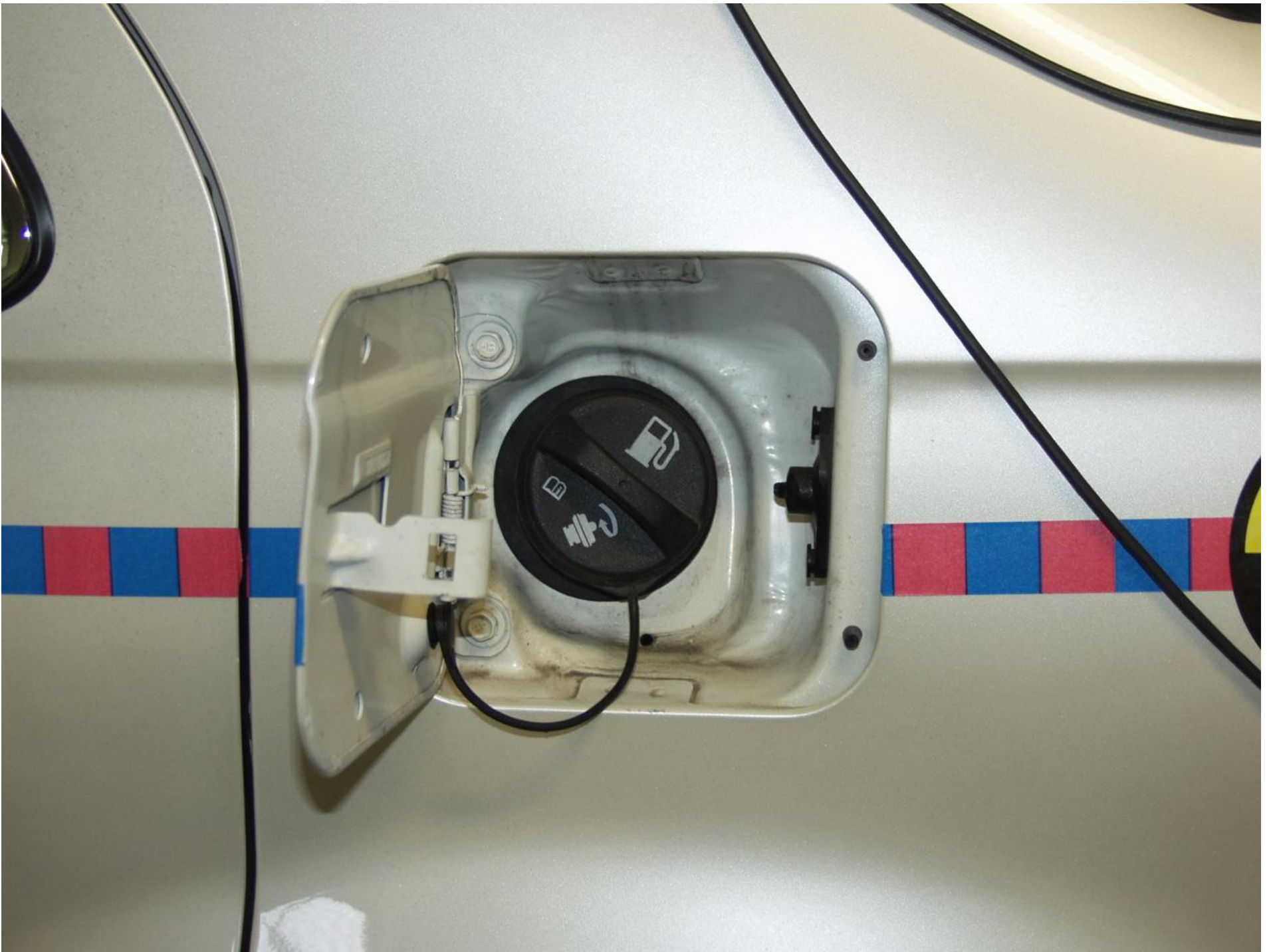


Figure A-14 FUEL CAP VIEW



Figure A-15 PRE-TEST FRONT UNDERBODY VIEW

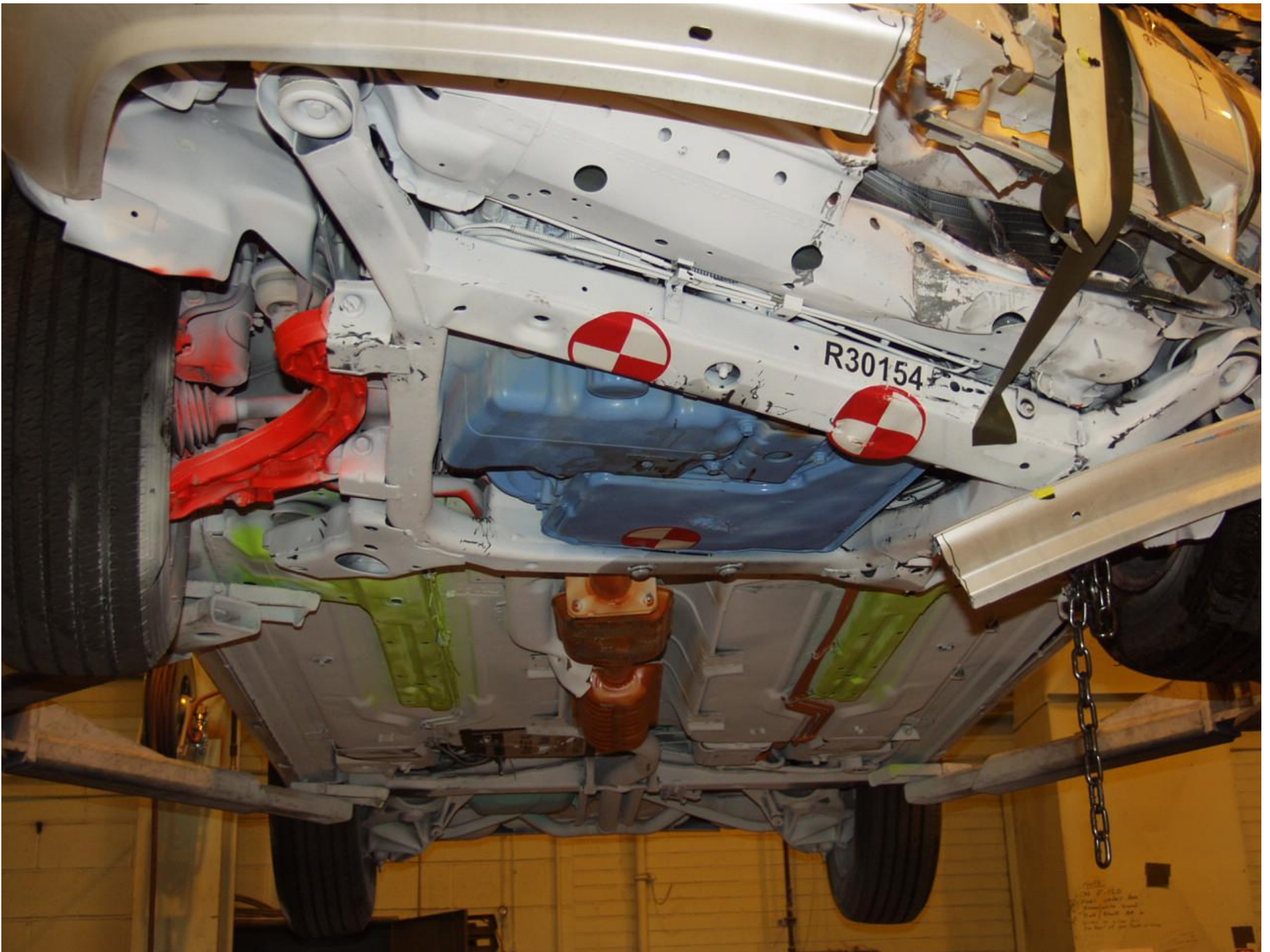


Figure A-16 POST-TEST FRONT UNDERBODY VIEW



Figure A-17 PRE-TEST FRONT SIDE UNDERBODY VIEW



Figure A-18 POST-TEST FRONT SIDE UNDERBODY VIEW

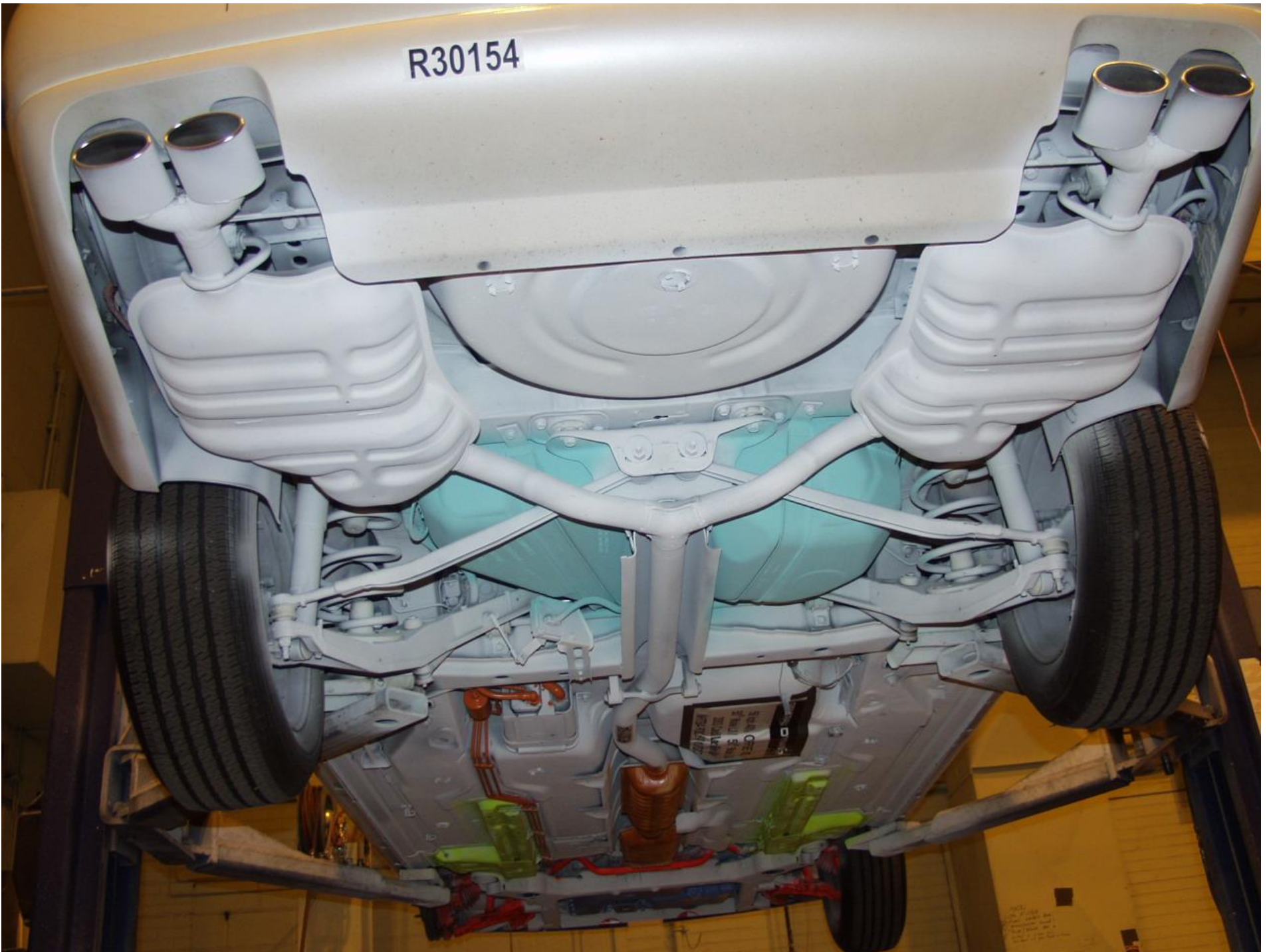


Figure A-19 PRE-TEST REAR UNDERBODY VIEW



Figure A-20 POST-TEST REAR UNDERBODY VIEW



Figure A-21 PRE-TEST DRIVER POSITION VIEW



Figure A-22 POST-TEST DRIVER POSITION VIEW



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Figure A-23 PRE-TEST PASSENGER POSITION VIEW



Figure A-24 POST-TEST PASSENGER POSITION VIEW



Figure A-25 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-26 POST-TEST DRIVER AND INTERIOR VIEW



Figure A-27 PRE-TEST PASSENGER AND INTERIOR VIEW



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Figure A-28 POST-TEST PASSENGER AND INTERIOR VIEW



Figure A-29 PRE-TEST DRIVER HEAD LOCATION



Figure A-30 POST-TEST DRIVER HEAD LOCATION



Figure A-31 PRE-TEST PASSENGER HEAD LOCATION



Figure A-32 POST-TEST PASSENGER HEAD LOCATION



Figure A-33 PRE-TEST DRIVER FLOOR PAN VIEW



Figure A-34 POST-TEST DRIVER FLOOR PAN VIEW



Figure A-35 PRE-TEST PASSENGER FLOOR PAN VIEW



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Figure A-36 POST-TEST PASSENGER FLOOR PAN VIEW



Figure A-37 PRE-TEST BARRIER FRONT VIEW



Figure A-38 POST-TEST BARRIER FRONT VIEW



Figure A-39 PRE-TEST BARRIER LEFT SIDE VIEW



Figure A-40 POST-TESTBARRIER LEFTSIDE VIEW



Figure A-41 PRE-TEST BARRIER RIGHT SIDE VIEW

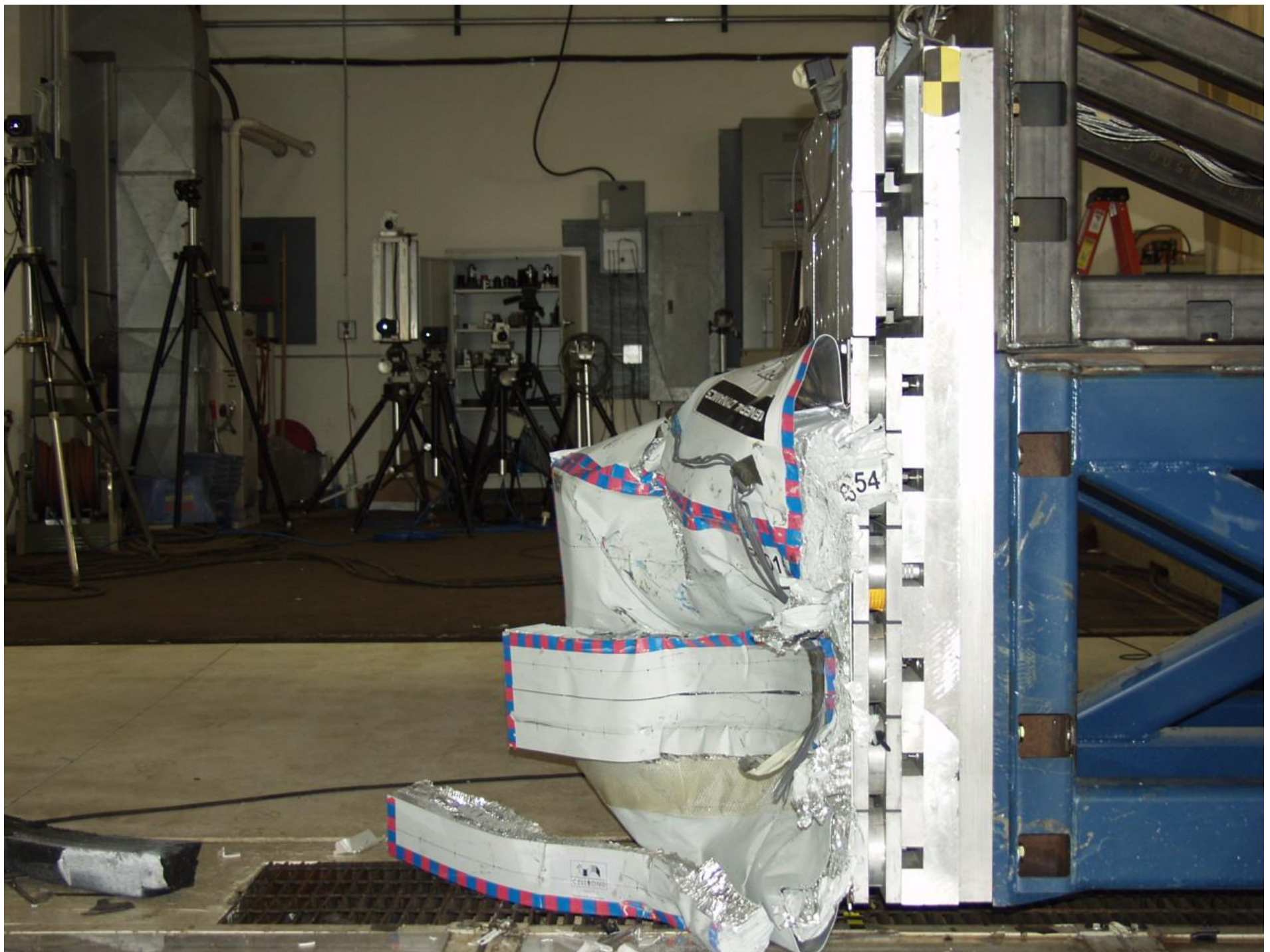


Figure A-42 POST-TEST BARRIER RIGHT SIDE VIEW



Figure A-43 PRE-TEST BARRIER TOP VIEW

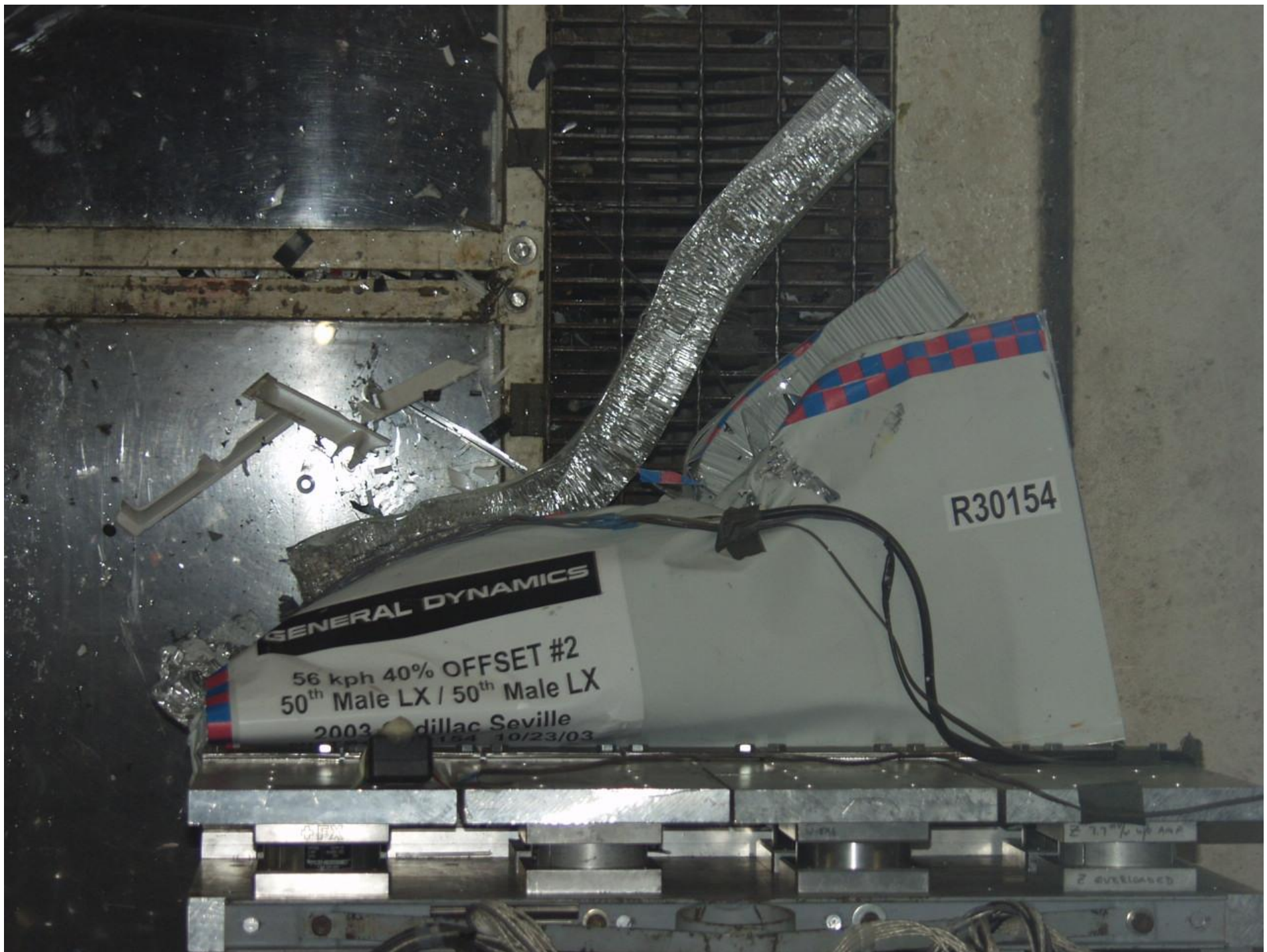


Figure A-44 POST-TEST BARRIER TOP VIEW



Figure A-45 POST-TEST OVERHEADVIEW



Figure A-46 ROLLOVER VIEW



Figure A-47 IMPACT VIEW



Figure A-48 PRE-TEST DRIVER LOWER LEG VIEW



Figure A-49 POST-TEST DRIVER LOWER LEG VIEW

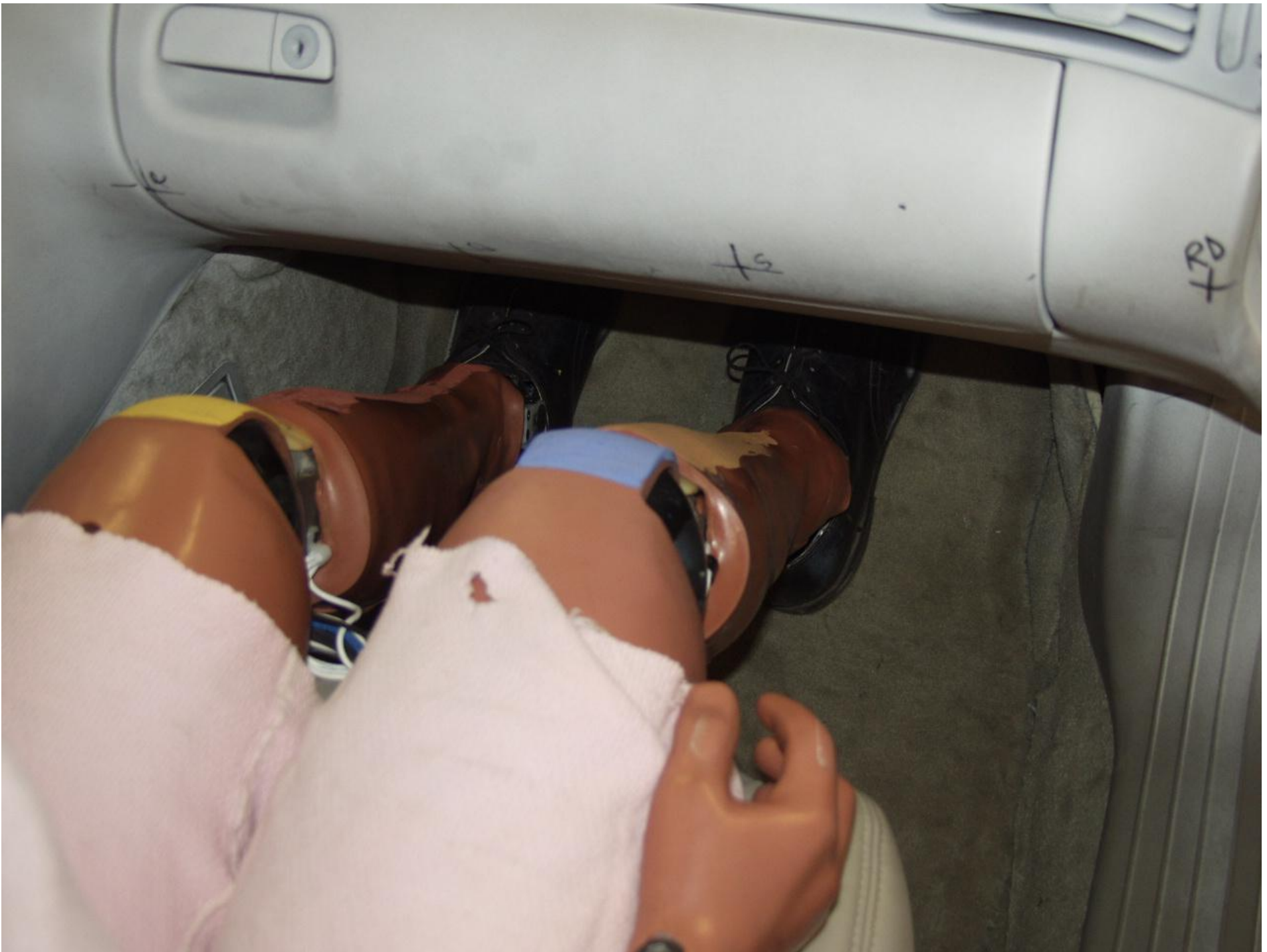


Figure A-50 PRE-TEST PASSENGER LOWER LEG VIEW



Figure A-51 POST-TEST PASSENGER LOWER LEG VIEW



Figure A-52 PRE-TEST DRIVER FEET VIEW



Figure A-53 POST-TEST DRIVER FEET VIEW



Figure A-54 PRE-TEST PASSENGER FEET VIEW



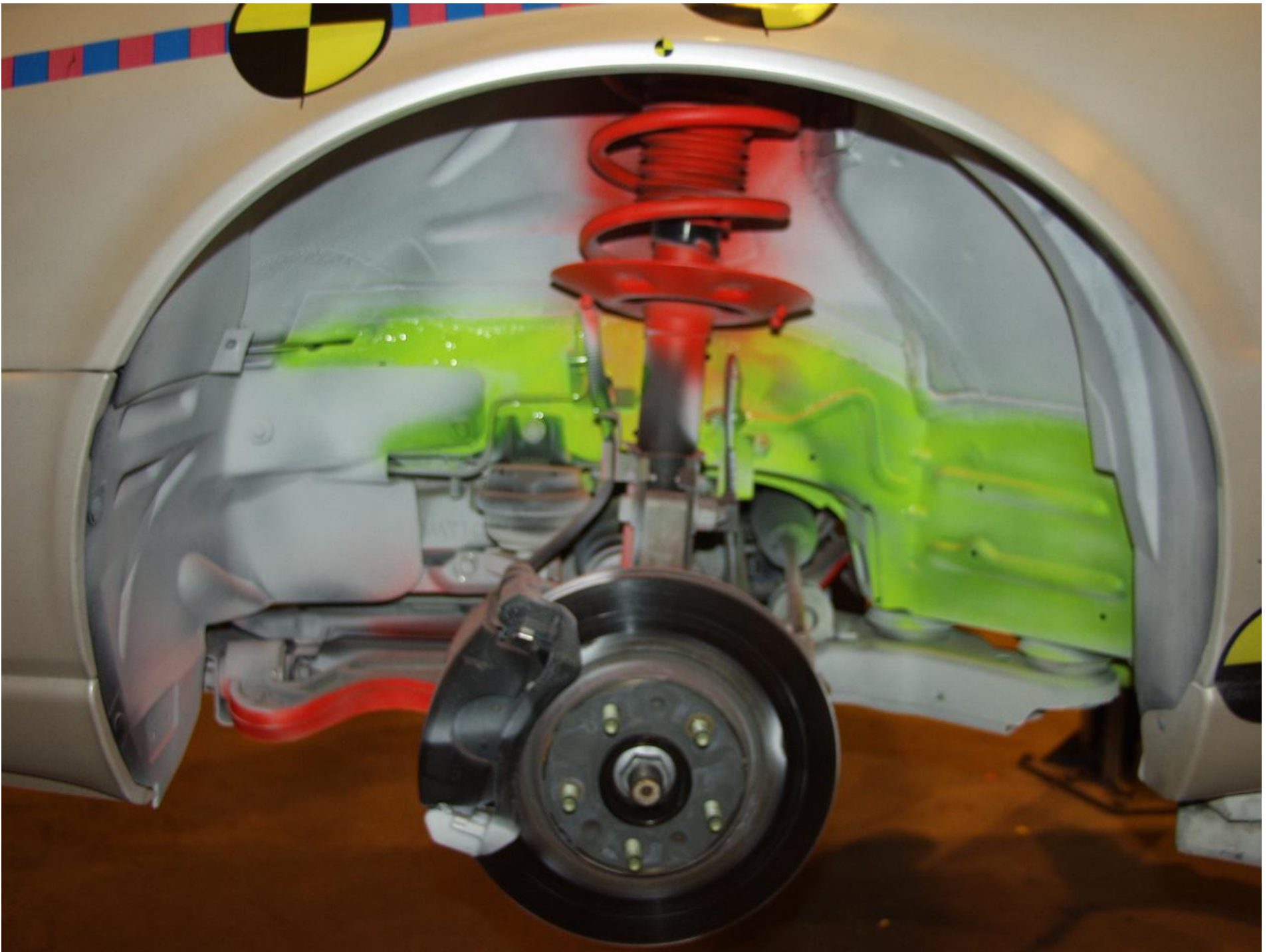
Figure A-55 POST-TEST PASSENGER FEET VIEW



Figure A-56 PRE-TEST DRIVER ABDOMEN VIEW



Figure A-57 POST-TEST DRIVER ABDOMEN VIEW



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Figure A-58 PRE-TEST LEFT FRONT WHEEL WELL VIEW



Figure A-59 POST-TEST LEFT FRONT WHEEL WELL VIEW



Figure A-60 PRE-TEST LEFT FRONT (SHOTGUN) VIEW



Figure A-61 POST-TEST LEFT FRONT (SHOTGUN) VIEW



Figure A-62 PRE-TEST LEFT SIDE A-PILLAR VIEW



Figure A-63 POST-TEST LEFT SIDE A-PILLAR VIEW



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Figure A-64 PRE-TEST LEFT SIDE WHEEL/TIRE/ROCKER



Figure A-65 POST-TEST LEFT SIDE WHEEL/TIRE/ROCKER

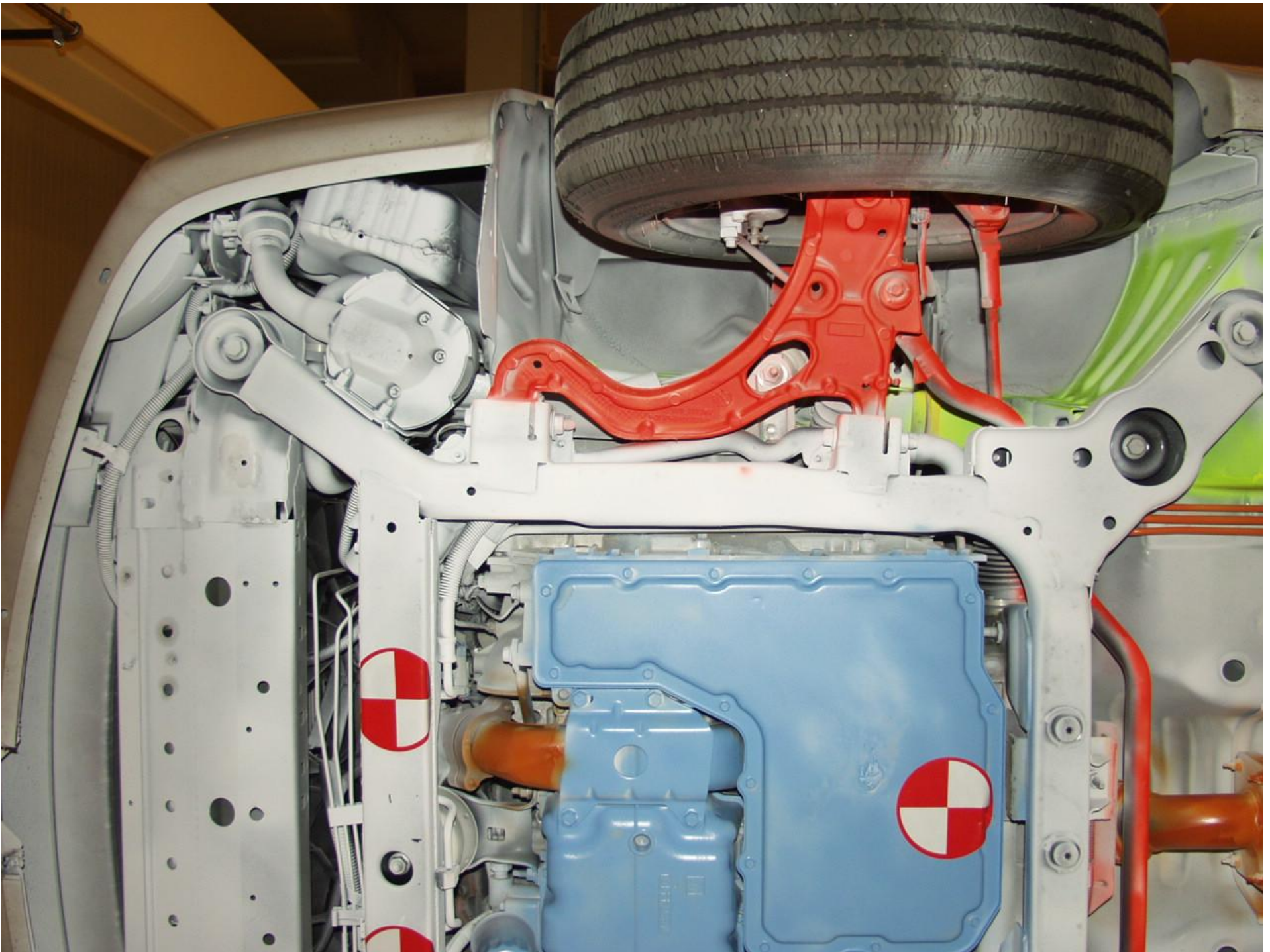


Figure A-66 PRE-TEST FRONT SUBFRAME VIEW



Figure A-67 POST-TEST FRONT SUBFRAME VIEW



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Figure A-68 PRE-TEST STEERING RACK/SWAY BAR VIEW



Figure A-69 POST-TEST STEERING RACK/SWAY BAR VIEW

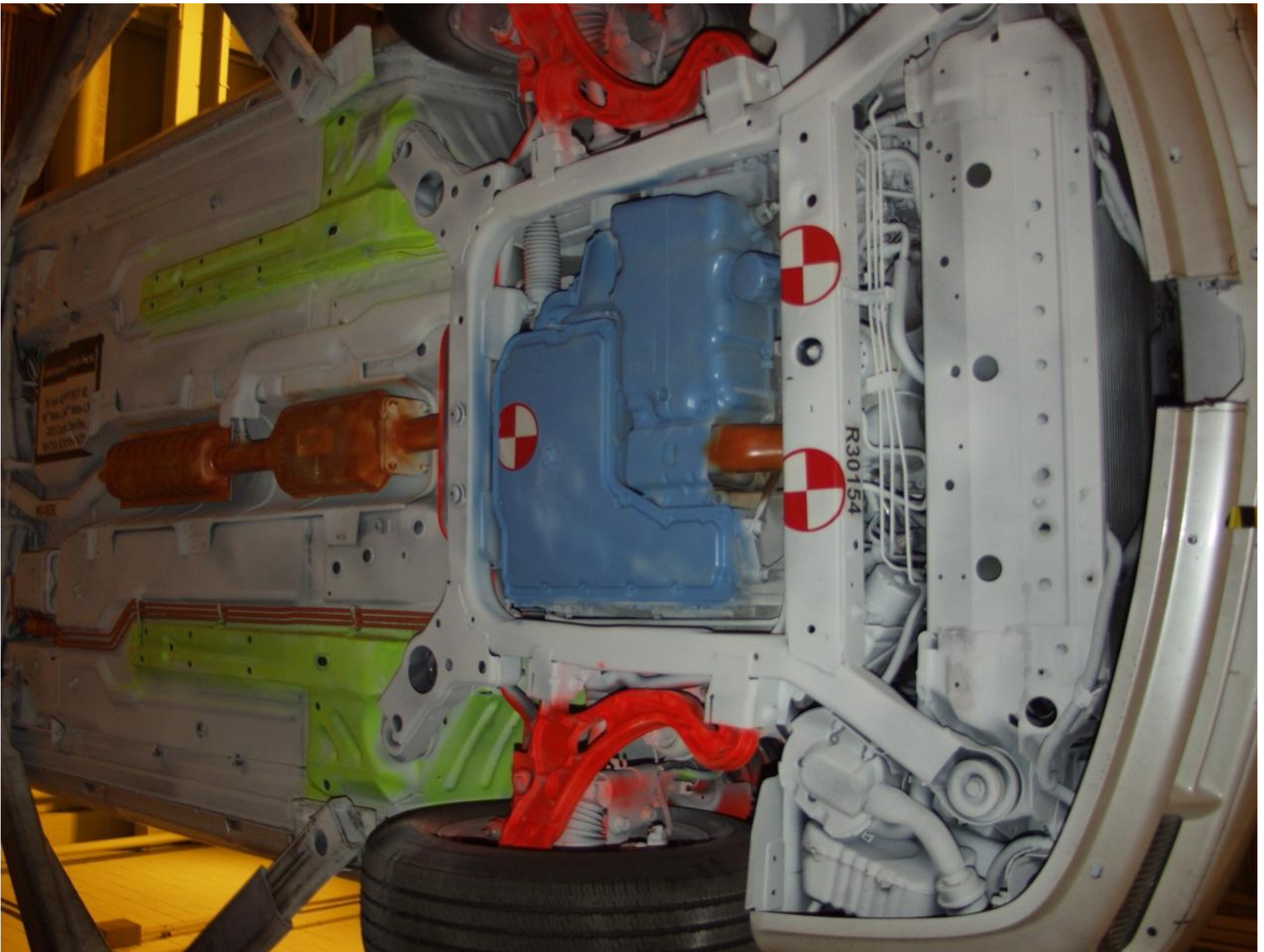


Figure A-70 PRE-TEST UNDERBODY OVERALL VIEW

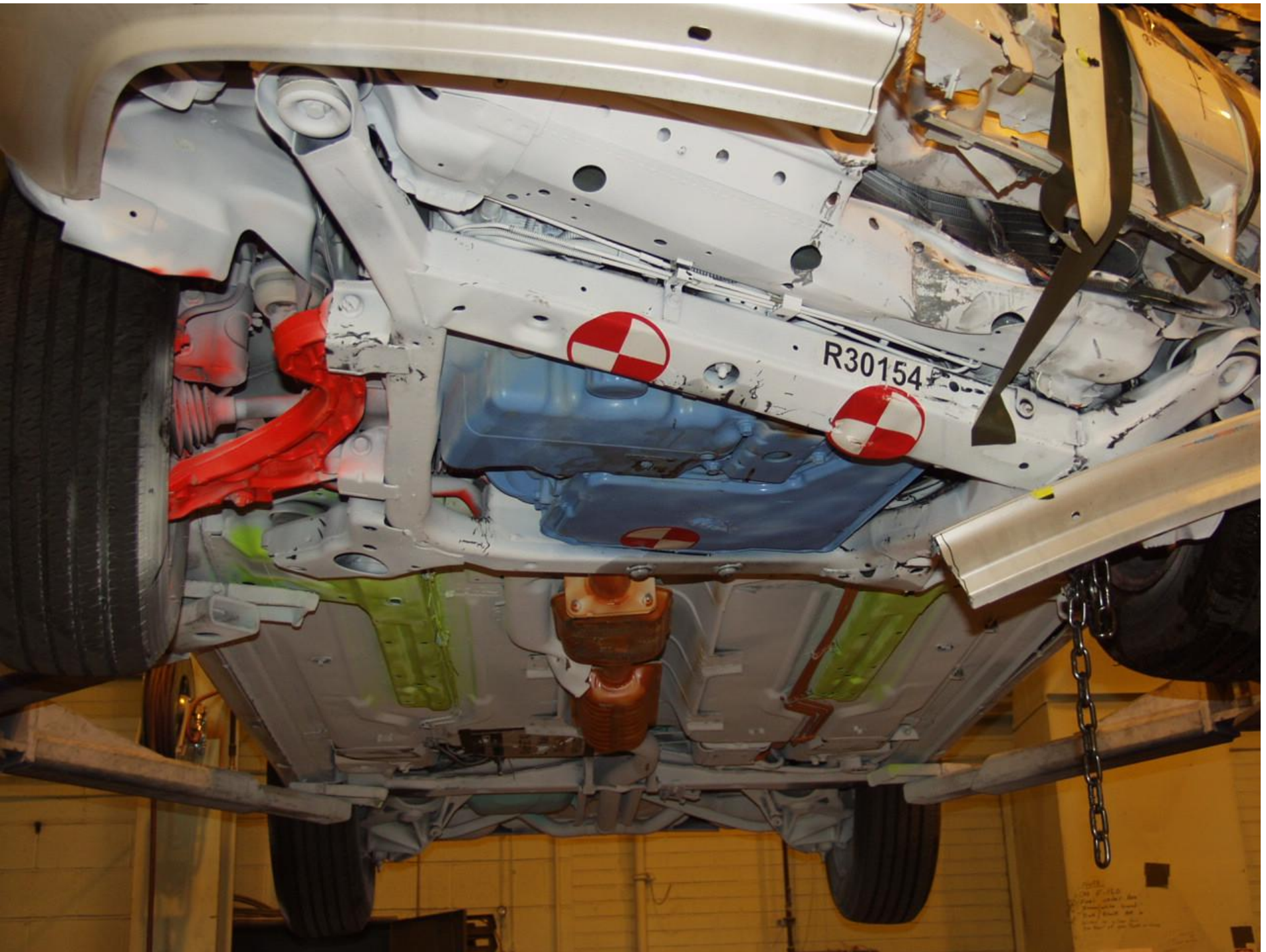


Figure A-71 POST-TEST UNDERBODY OVERALL VIEW

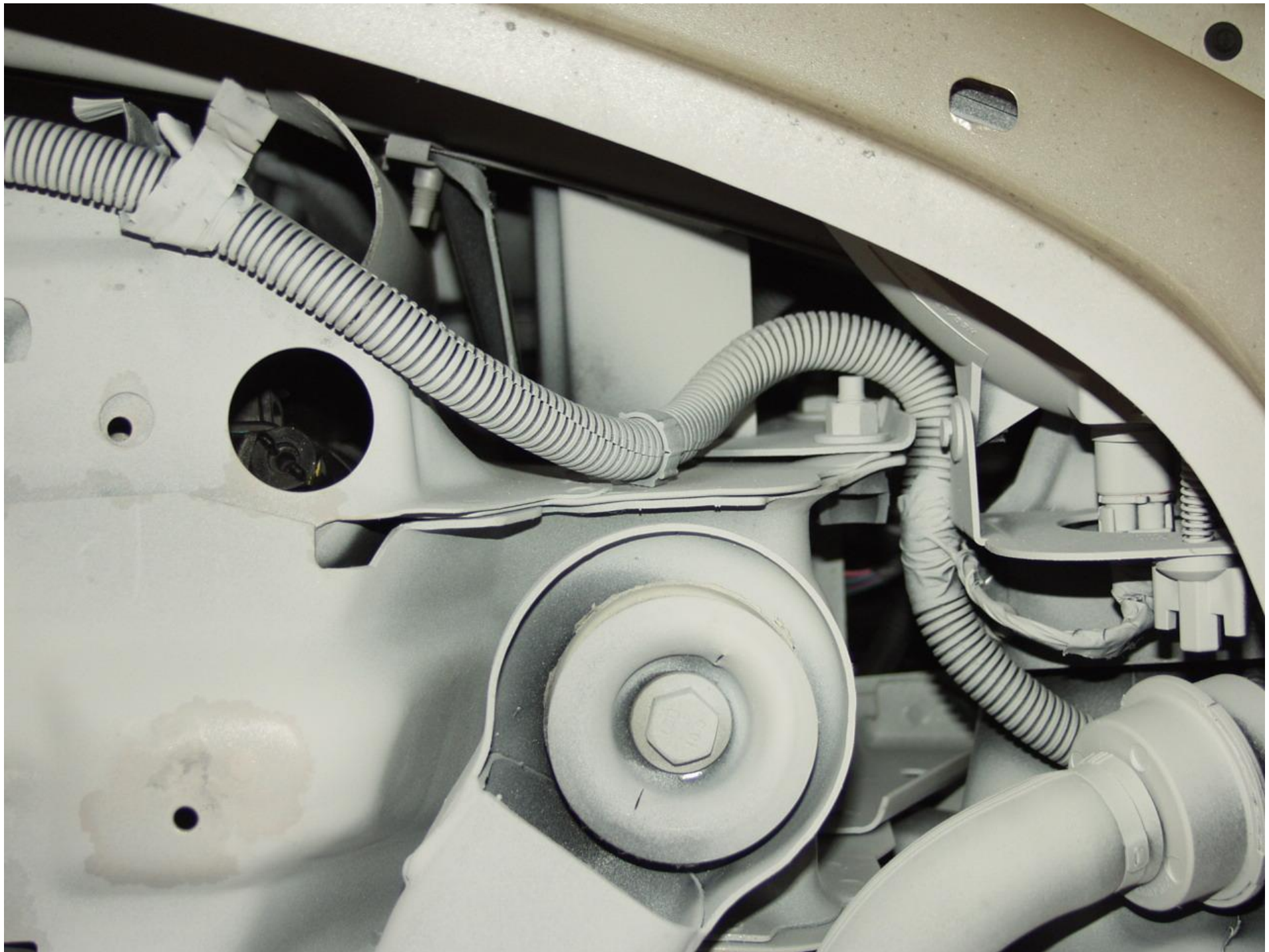


Figure A-72 PRE-TEST BUMPER TO RAIL ATTACHMENT



Figure A-73 POST-TEST BUMPER TO RAIL ATTACHMENT

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, Chest Forward Fy Head leftward, Chest rightward Fz Head Upward, Chest Downward Mx Left ear toward left shoulder My Chin toward sternum (flexion) Mz Chin toward 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 (right and left leg)	Fx Knee Upward, Upper Femur Downward Fy Knee Rightward, Upper Femur Leftward Fz Knee Forward, Pelvis Rearward Mx Knee Leftward, Hold Upper Femur in Place My Knee Upward, Hold Upper Femur in Place Mz Tibia Leftward, Hold Pelvis in Place
Upper Tibia Load Cell (right and left leg)	Fx Ankle Forward, Knee Rearward Fy Ankle Rightward, Knee Leftward Fz Tibia Downward, Femur Upward Mx Ankle Leftward, Hold Knee in Place My Ankle Forward, Bottom of Knee Clevis Rearward
Lower Tibia Load Cell (right and left leg)	Fx Ankle Forward, Knee Rearward Fy Ankle Rightward, Knee Leftward Fz Tibia Downward, Femur Upward Mx Ankle Leftward, Hold Knee in Place My Ankle Forward, Bottom of Knee Clevis Rearward
Knee Shear Displacement	X Hold Femur Move Tibia Forward
Tibia Mid-Shaft Accelerometer	X Forward Y To the Right
Foot Rotations (left foot)	X Eversion Y Dorsi Flexion Z Internal Rotation
Foot Rotations (right foot)	X Inversion Y Dorsi Flexion Z External Rotation
Foot Accelerometer (right and left foot)	X Forward Y To the Right Z Down

DATA CHANNEL FILTER CLASS SUMMARY

NHTSA TEST NO. R30154

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

PLOT	PLOT NAME[UNITS, CHANNEL FILTER CLASS]	PAGE
1	V1P1 Head 9 Array X Arm Ay [g, CFC_1000]	B-10
2	V1P1 Head 9 Array X Arm Az [g, CFC_1000]	B-11
3	V1P1 Head 9 Array Y Arm Ax [g, CFC_1000]	B-12
4	V1P1 Head 9 Array Y Arm Az [g, CFC_1000]	B-13
5	V1P1 Head 9 Array Z Arm Ax [g, CFC_1000]	B-14
6	V1P1 Head 9 Array Z Arm Ay [g, CFC_1000]	B-15
7	V1P1 Head x [g, CFC_1000]	B-16
8	V1P1 Head y [g, CFC_1000]	B-17
9	V1P1 Head z [g, CFC_1000]	B-18
10	V1P1 Head Resultant [g, CFC_1000]	B-19
11	V1P1 Head Red x [g, CFC_1000]	B-20
12	V1P1 Head Red y [g, CFC_1000]	B-21
13	V1P1 Head Red z [g, CFC_1000]	B-22
14	V1P1 Head Red Resultant [g, CFC_1000]	B-23
15	V1P1 Upper Neck Fx [N, CFC_1000]	B-24
16	V1P1 Upper Neck Fy [N, CFC_1000]	B-25
17	V1P1 Upper Neck Fz [N, CFC_1000]	B-26
18	V1P1 Upper Neck F Resultant [N, CFC_1000]	B-27
19	V1P1 Upper Neck Mx [N-m, CFC_600]	B-28
20	V1P1 Upper Neck My [N-m, CFC_600]	B-29
21	V1P1 Upper Neck Mz [N-m, CFC_600]	B-30
22	V1P1 Upper Neck M Resultant [N-m, CFC_600]	B-31
23	V1P1 Lower Neck Fx [N, CFC_1000]	B-32
24	V1P1 Lower Neck Fy [N, CFC_1000]	B-33
25	V1P1 Lower Neck Fz [N, CFC_1000]	B-34
26	V1P1 Lower Neck F Resultant [N, CFC_1000]	B-35
27	V1P1 Lower Neck Mx [N-m, CFC_600]	B-36
28	V1P1 Lower Neck My [N-m, CFC_600]	B-37
29	V1P1 Lower Neck Mz [N-m, CFC_600]	B-38
30	V1P1 Lower Neck M Resultant [N-m, CFC_600]	B-39
31	V1P1 Chest x [g, CFC_180]	B-40
32	V1P1 Chest y [g, CFC_180]	B-41
33	V1P1 Chest z [g, CFC_180]	B-42
34	V1P1 Chest Resultant [g, CFC_180]	B-43
35	V1P1 Chest Red x [g, CFC_180]	B-44
36	V1P1 Chest Red y [g, CFC_180]	B-45
37	V1P1 Chest Red z [g, CFC_180]	B-46
38	V1P1 Chest Red Resultant [g, CFC_180]	B-47
39	V1P1 Chest Displacement [mm, CFC_600]	B-48
40	V1P1 Left Femur [N, CFC_600]	B-49
41	V1P1 Right Femur [N, CFC_600]	B-50
42	V1P1 Left Knee Shear [mm, CFC_180]	B-51
43	V1P1 Right Knee Shear [mm, CFC_180]	B-52
44	V1P1 Left Upper Tibia Fx [N, CFC_600]	B-53
45	V1P1 Left Upper Tibia Fz [N, CFC_600]	B-54
46	V1P1 Left Upper Tibia Mx [N-m, CFC_600]	B-55

47	V1P1 Left Upper Tibia My [N-m, CFC_600]	B-56
48	V1P1 Left Lower Tibia Fx [N, CFC_600]	B-57
49	V1P1 Left Lower Tibia Fy [N, CFC_600]	B-58
50	V1P1 Left Lower Tibia Fz [N, CFC_600]	B-59
51	V1P1 Left Lower Tibia F Resultant [N, CFC_600]	B-60
52	V1P1 Left Lower Tibia Mx [N-m, CFC_600]	B-61
53	V1P1 Left Lower Tibia My [N-m, CFC_600]	B-62
54	V1P1 Right Upper Tibia Fx [N, CFC_600]	B-63
55	V1P1 Right Upper Tibia Fz [N, CFC_600]	B-64
56	V1P1 Right Upper Tibia Mx [N-m, CFC_600]	B-65
57	V1P1 Right Upper Tibia My [N-m, CFC_600]	B-66
58	V1P1 Right Lower Tibia Fx [N, CFC_600]	B-67
59	V1P1 Right Lower Tibia Fy [N, CFC_600]	B-68
60	V1P1 Right Lower Tibia Fz [N, CFC_600]	B-69
61	V1P1 Right Lower Tibia F Resultant [N, CFC_600]	B-70
62	V1P1 Right Lower Tibia Mx [N-m, CFC_600]	B-71
63	V1P1 Right Lower Tibia My [N-m, CFC_600]	B-72
64	V1P1 Left Tibia x [g, CFC_600]	B-73
65	V1P1 Left Tibia y [g, CFC_600]	B-74
66	V1P1 Right Tibia x [g, CFC_600]	B-75
67	V1P1 Right Tibia y [g, CFC_600]	B-76
68	V1P1 Left Ankle Rotation x [deg, CFC_180]	B-77
69	V1P1 Left Ankle Rotation y [deg, CFC_180]	B-78
70	V1P1 Left Ankle Rotation z [deg, CFC_180]	B-79
71	V1P1 Right Ankle Rotation x [deg, CFC_180]	B-80
72	V1P1 Right Ankle Rotation y [deg, CFC_180]	B-81
73	V1P1 Right Ankle Rotation z [deg, CFC_180]	B-82
74	V1P1 Left Foot Ax [g, CFC_600]	B-83
75	V1P1 Left Foot Ay [g, CFC_600]	B-84
76	V1P1 Left Foot Az [g, CFC_600]	B-85
77	V1P1 Left Foot A Resultant [g, CFC_600]	B-86
78	V1P1 Right Foot x [g, CFC_600]	B-87
79	V1P1 Right Foot y [g, CFC_600]	B-88
80	V1P1 Right Foot z [g, CFC_600]	B-89
81	V1P1 Right Foot Resultant [g, CFC_600]	B-90
82	V1P1 Lap Belt Load [N, CFC_60]	B-91
83	V1P1 Shoulder Belt Load [N, CFC_60]	B-92
84	V1P1 Toe Pan Deflection [mm, CFC_1000]	B-93
85	V1P1 Air Bag T/E	B-94
86	V1P2 Head 9 Array X Arm Ay [g, CFC_1000]	B-95
87	V1P2 Head 9 Array X Arm Az [g, CFC_1000]	B-96
88	V1P2 Head 9 Array Y Arm Ax [g, CFC_1000]	B-97
89	V1P2 Head 9 Array Y Arm Az [g, CFC_1000]	B-98
90	V1P2 Head 9 Array Z Arm Ax [g, CFC_1000]	B-99
91	V1P2 Head 9 Array Z Arm Ay [g, CFC_1000]	B-100
92	V1P2 Head x [g, CFC_1000]	B-101
93	V1P2 Head y [g, CFC_1000]	B-102

94	V1P2 Head z [g, CFC_1000]	B-103
95	V1P2 Head Resultant [g, CFC_1000]	B-104
96	V1P2 Head Red x [g, CFC_1000]	B-105
97	V1P2 Head Red y [g, CFC_1000]	B-106
98	V1P2 Head Red z [g, CFC_1000]	B-107
99	V1P2 Head Red Resultant [g, CFC_1000]	B-108
100	V1P2 Upper Neck Fx [N, CFC_1000]	B-109
101	V1P2 Upper Neck Fy [N, CFC_1000]	B-110
102	V1P2 Upper Neck Fz [N, CFC_1000]	B-111
103	V1P2 Upper Neck F Resultant [N, CFC_1000]	B-112
104	V1P2 Upper Neck Mx [N-m, CFC_600]	B-113
105	V1P2 Upper Neck My [N-m, CFC_600]	B-114
106	V1P2 Upper Neck Mz [N-m, CFC_600]	B-115
107	V1P2 Upper Neck M Resultant [N-m, CFC_600]	B-116
108	V1P2 Chest x [g, CFC_180]	B-117
109	V1P2 Chest y [g, CFC_180]	B-118
110	V1P2 Chest z [g, CFC_180]	B-119
111	V1P2 Chest Resultant [g, CFC_180]	B-120
112	V1P2 Chest Red x [g, CFC_180]	B-121
113	V1P2 Chest Red y [g, CFC_180]	B-122
114	V1P2 Chest Red z [g, CFC_180]	B-123
115	V1P2 Chest Red Resultant [g, CFC_180]	B-124
116	V1P2 Chest Displacement [mm, CFC_600]	B-125
117	V1P2 Left Femur [N, CFC_600]	B-126
118	V1P2 Right Femur [N, CFC_600]	B-127
119	V1P2 Left Knee Deflection [mm, CFC_180]	B-128
120	V1P2 Right Knee Deflection [mm, CFC_180]	B-129
121	V1P2 Left Upper Tibia Fx [N, CFC_600]	B-130
122	V1P2 Left Upper Tibia Fz [N, CFC_600]	B-131
123	V1P2 Left Upper Tibia Mx [N-m, CFC_600]	B-132
124	V1P2 Left Upper Tibia My [N-m, CFC_600]	B-133
125	V1P2 Left Lower Tibia Fx [N, CFC_600]	B-134
126	V1P2 Left Lower Tibia Fy [N, CFC_600]	B-135
127	V1P2 Left Lower Tibia Fz [N, CFC_600]	B-136
128	V1P2 Left Lower Tibia F Resultant [N, CFC_600]	B-137
129	V1P2 Left Lower Tibia Mx [N-m, CFC_600]	B-138
130	V1P2 Left Lower Tibia My [N-m, CFC_600]	B-139
131	V1P2 Right Upper Tibia Fx [N, CFC_600]	B-140
132	V1P2 Right Upper Tibia Fz [N, CFC_600]	B-141
133	V1P2 Right Upper Tibia Mx [N-m, CFC_600]	B-142
134	V1P2 Right Upper Tibia My [N-m, CFC_600]	B-143
135	V1P2 Right Lower Tibia Fx [N, CFC_600]	B-144
136	V1P2 Right Lower Tibia Fy [N, CFC_600]	B-145
137	V1P2 Right Lower Tibia Fz [N, CFC_600]	B-146
138	V1P2 Right Lower Tibia F Resultant [N, CFC_600]	B-147
139	V1P2 Right Lower Tibia Mx [N-m, CFC_600]	B-148
140	V1P2 Right Lower Tibia My [N-m, CFC_600]	B-149

141	V1P2 Left Tibia x [g, CFC_600]	B-150
142	V1P2 Left Tibia y [g, CFC_600]	B-151
143	V1P2 Right Tibia x [g, CFC_600]	B-152
144	V1P2 Right Tibia y [g, CFC_600]	B-153
145	V1P2 Left Ankle Rotation x [deg, CFC_180]	B-154
146	V1P2 Left Ankle Rotation y [deg, CFC_180]	B-155
147	V1P2 Left Ankle Rotation z [deg, CFC_180]	B-156
148	V1P2 Right Ankle Rotation x [deg, CFC_180]	B-157
149	V1P2 Right Ankle Rotation y [deg, CFC_180]	B-158
150	V1P2 Right Ankle Rotation z [deg, CFC_180]	B-159
151	V1P2 Left Foot x [g, CFC_600]	B-160
152	V1P2 Left Foot y [g, CFC_600]	B-161
153	V1P2 Left Foot z [g, CFC_600]	B-162
154	V1P2 Left Foot Resultant [g, CFC_600]	B-163
155	V1P2 Right Foot x [g, CFC_600]	B-164
156	V1P2 Right Foot y [g, CFC_600]	B-165
157	V1P2 Right Foot z [g, CFC_600]	B-166
158	V1P2 Right Foot Resultant [g, CFC_600]	B-167
159	V1P2 Lap Belt Load [N, CFC_60]	B-168
160	V1P2 Shoulder Belt Load [N, CFC_60]	B-169
161	V1P2 Air Bag T/E	B-170
162	V1 LR Seat Xmember x [g, CFC_60]	B-171
163	V1 LR Seat Xmember x Velocity [kph, CFC_180]	B-172
164	V1 LR Seat Xmember x Displacement [mm, CFC_180]	B-173
165	V1 LR Seat Xmember y [g, CFC_60]	B-174
166	V1 LR Seat Xmember y Velocity [kph, CFC_180]	B-175
167	V1 LR Seat Xmember y Displacement [mm, CFC_180]	B-176
168	V1 RR Seat Xmember x [g, CFC_60]	B-177
169	V1 RR Seat Xmember x Velocity [kph, CFC_180]	B-178
170	V1 RR Seat Xmember x Displacement [mm, CFC_180]	B-179
171	V1 RR Seat Xmember y [g, CFC_60]	B-180
172	V1 RR Seat Xmember y Velocity [kph, CFC_180]	B-181
173	V1 RR Seat Xmember y Displacement [mm, CFC_180]	B-182
174	V1P1 Toe Pan Left x [g, CFC_60]	B-183
175	V1P1 Toe Pan Left x Velocity [kph, CFC_180]	B-184
176	V1P1 Toe Pan Left x Displacement [mm, CFC_180]	B-185
177	V1P1 Toe Pan Left z [g, CFC_60]	B-186
178	V1P1 Toe Pan Left z Velocity [kph, CFC_180]	B-187
179	V1P1 Toe Pan Left z Displacement [mm, CFC_180]	B-188
180	V1P1 Toe Pan Right x [g, CFC_60]	B-189
181	V1P1 Toe Pan Right x Velocity [kph, CFC_180]	B-190
182	V1P1 Toe Pan Right x Displacement [mm, CFC_180]	B-191
183	V1P1 Toe Pan Right z [g, CFC_60]	B-192
184	V1P1 Toe Pan Right z Velocity [kph, CFC_180]	B-193
185	V1P1 Toe Pan Right z Displacement [mm, CFC_180]	B-194
186	V1 Rear Deck z [g, CFC_60]	B-195
187	V1 Rear Deck z Velocity [kph, CFC_180]	B-196

188	V1 Rear Deck z Displacement [mm, CFC_180]	B-197
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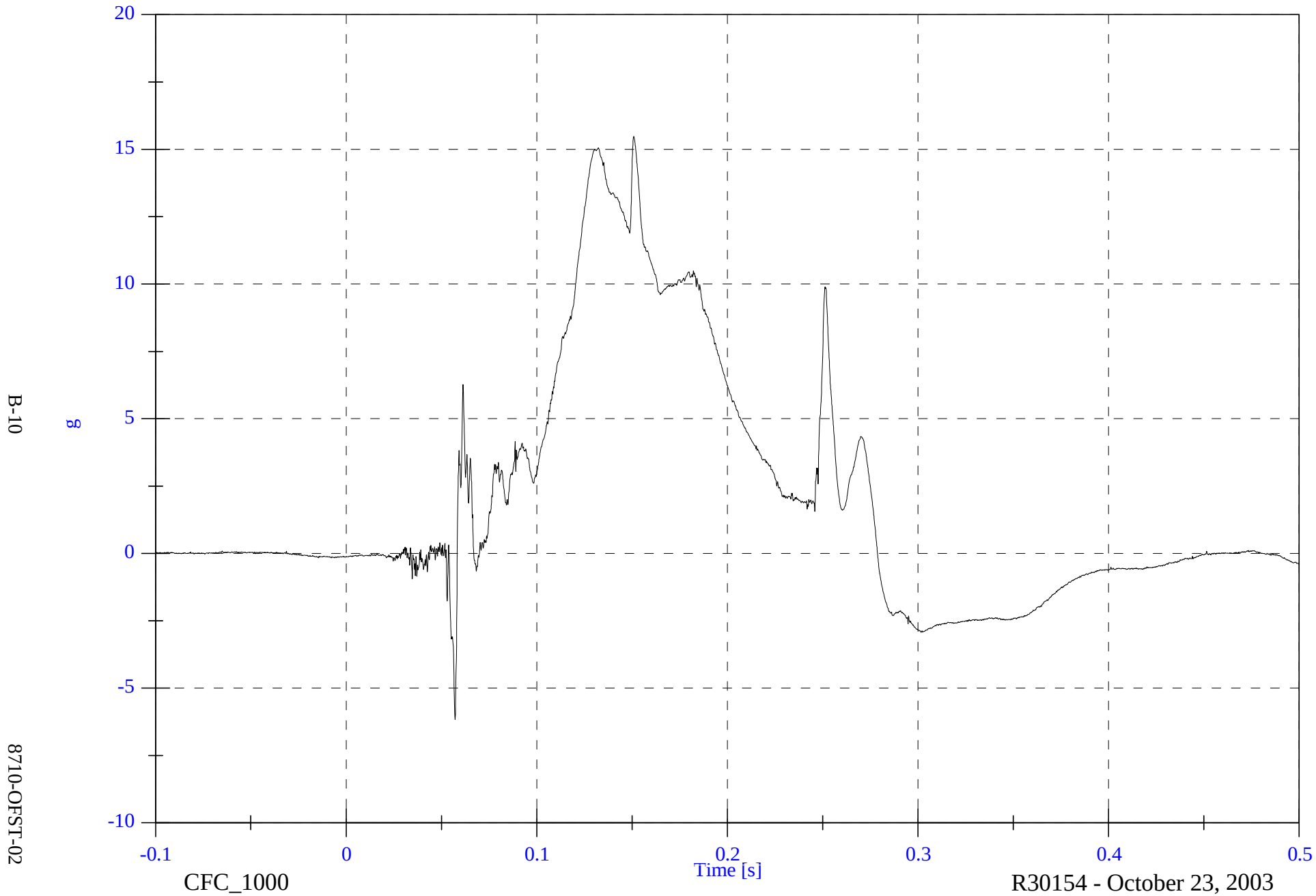
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40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head 9 Array X Arm Ay

Max: 15.5 [g] at 0.151 [s]

Min: -6.2 [g] at 0.057 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

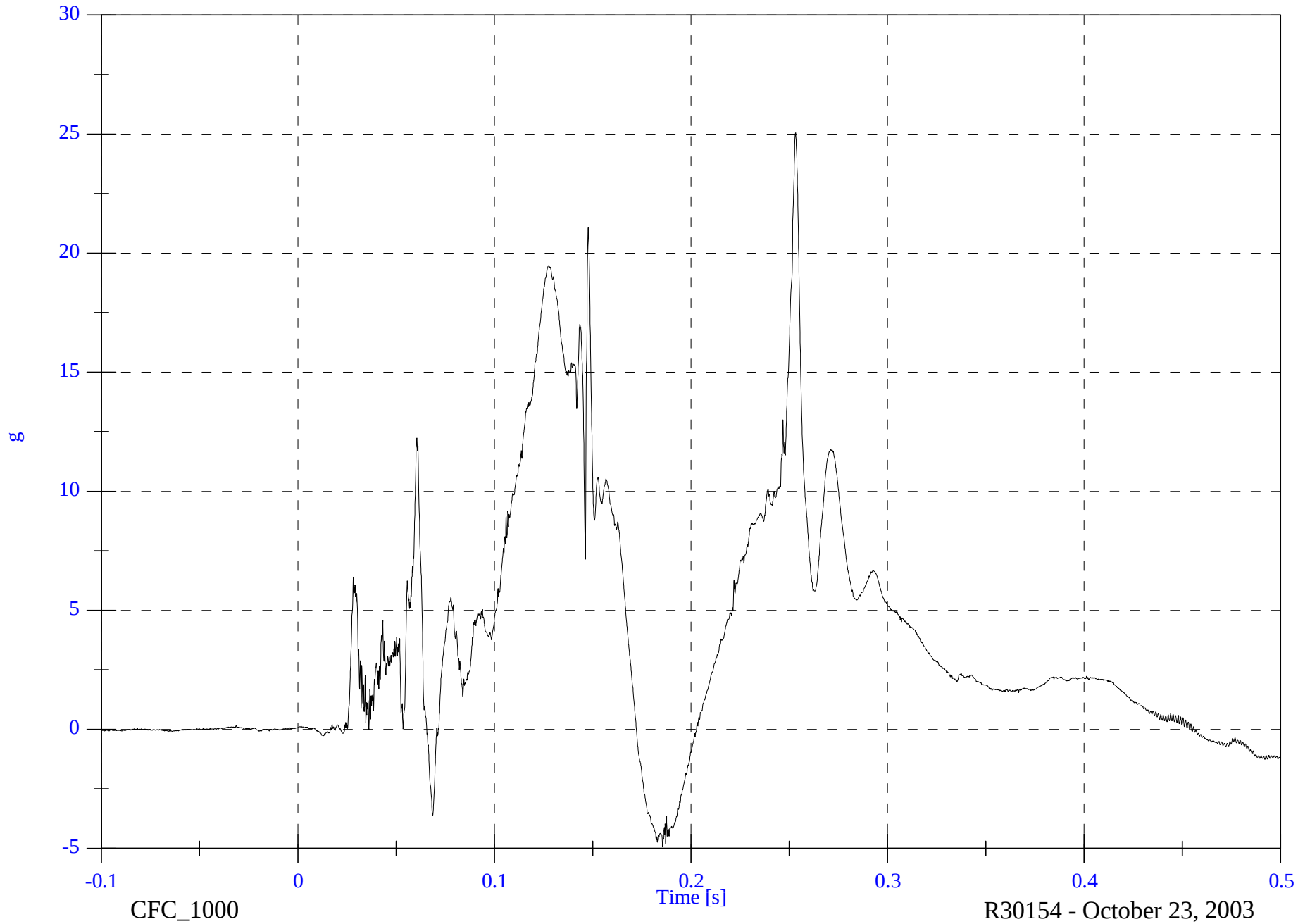
V1P1 Head 9 Array X Arm Az

Max: 25.1 [g] at 0.253 [s]

Min: -4.9 [g] at 0.186 [s]

B-11

8710-OFST-02

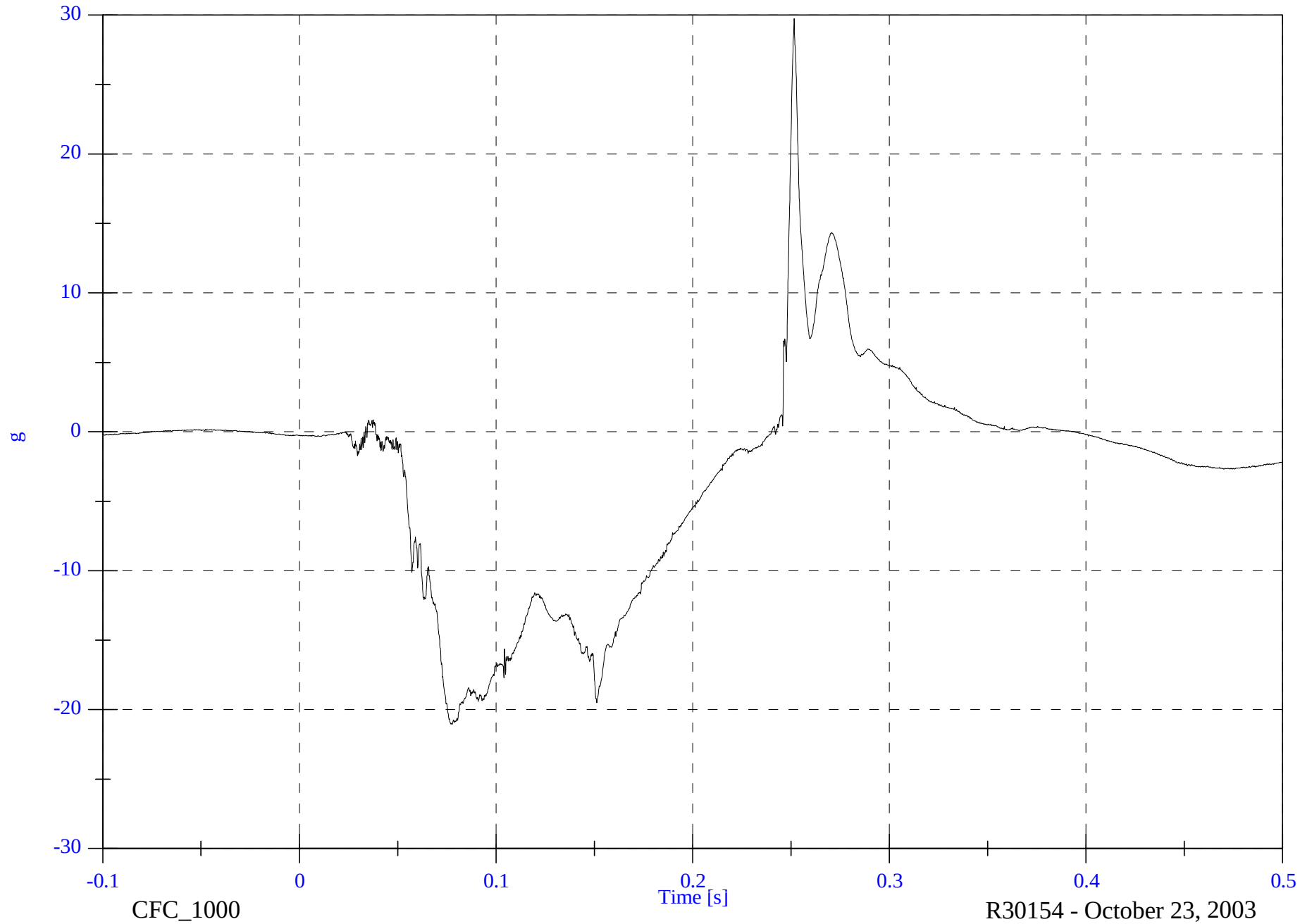


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head 9 Array Y Arm Ax

Max: 29.8 [g] at 0.252 [s]

Min: -21.1 [g] at 0.078 [s]

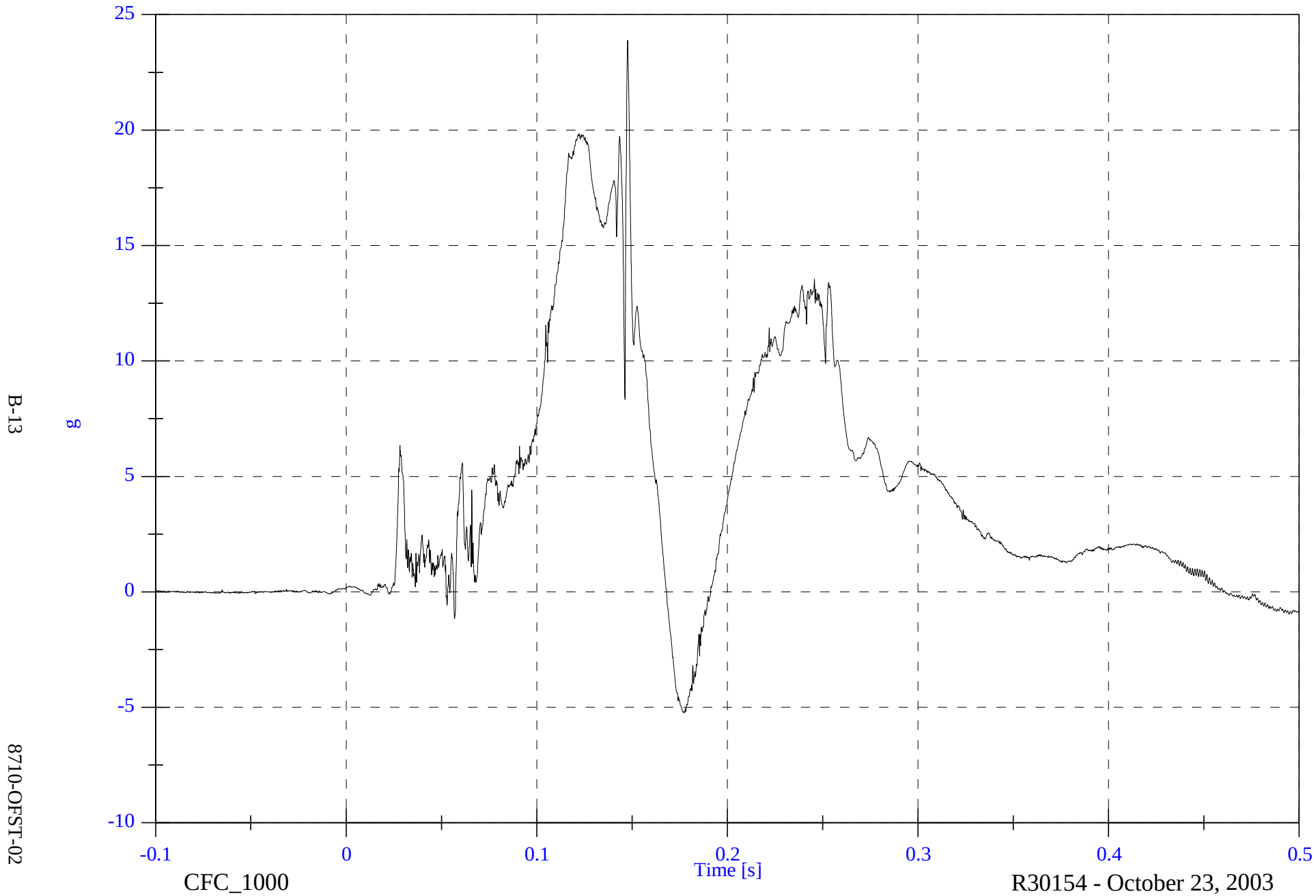


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head 9 Array Y Arm Az

Max: 23.9 [g] at 0.148 [s]

Min: -5.2 [g] at 0.178 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

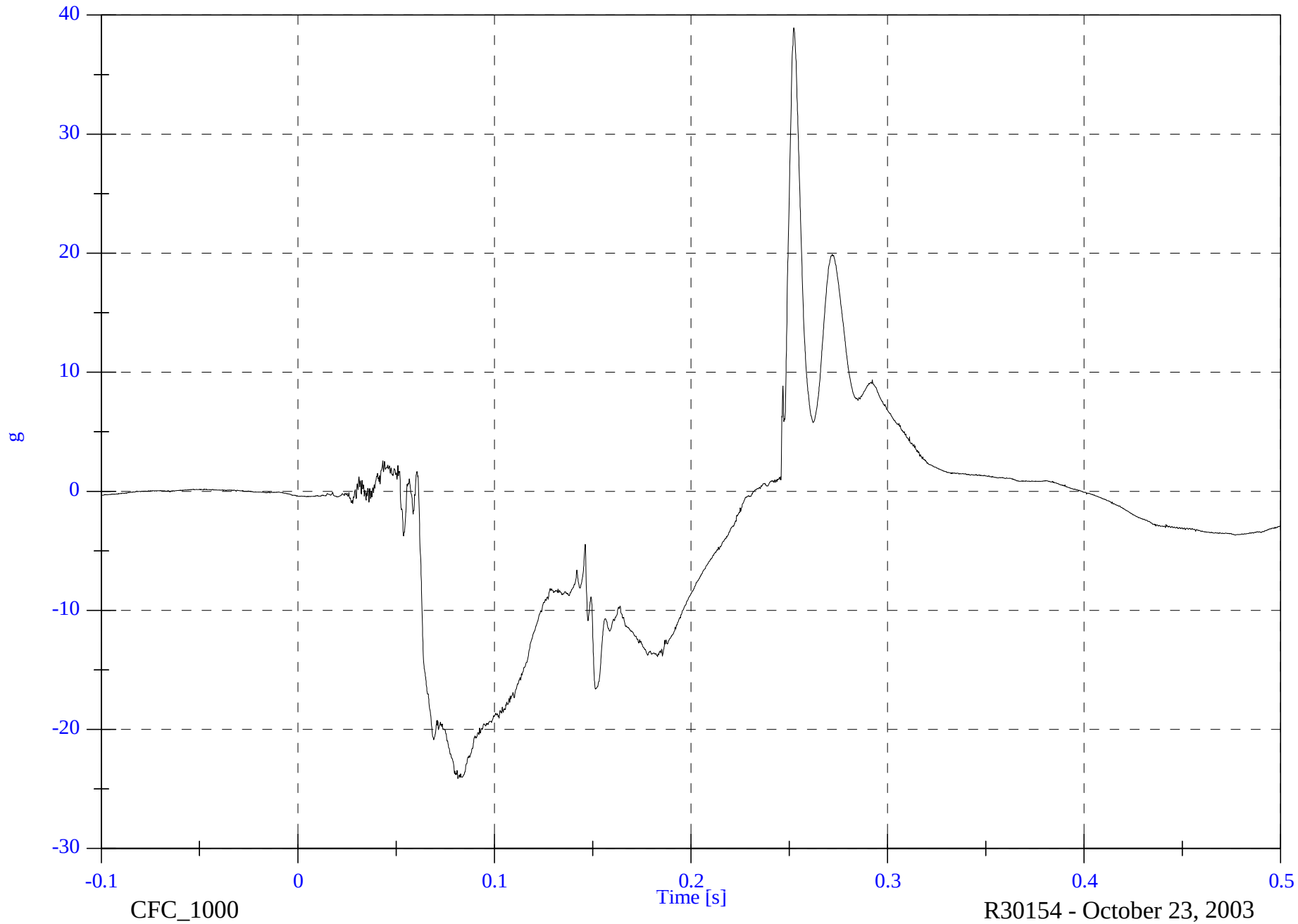
V1P1 Head 9 Array Z Arm Ax

Max: 38.9 [g] at 0.252 [s]

Min: -24.1 [g] at 0.081 [s]

B-14

8710-OFST-02

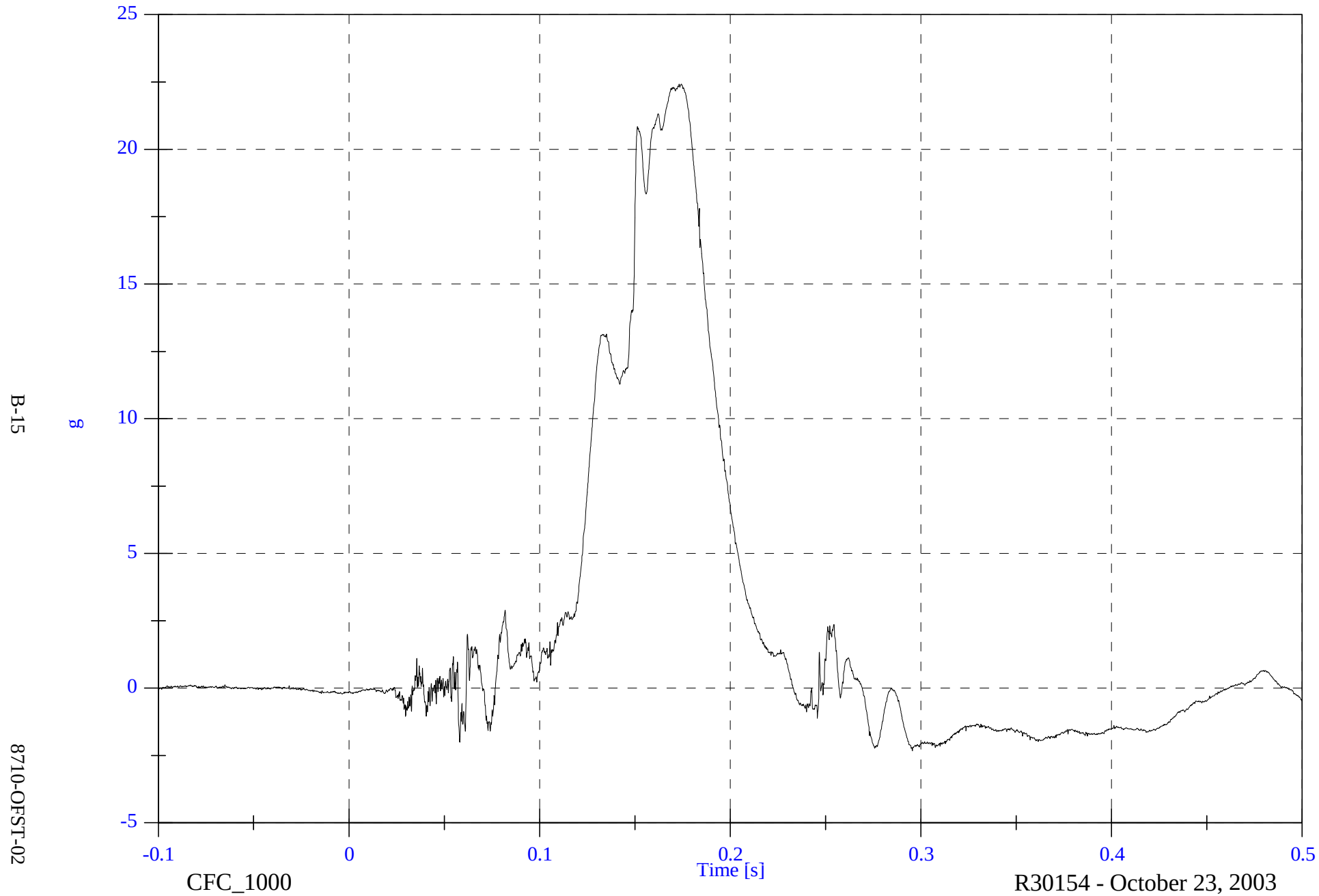


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head 9 Array Z Arm Ay

Max: 22.4 [g] at 0.173 [s]

Min: -2.3 [g] at 0.296 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

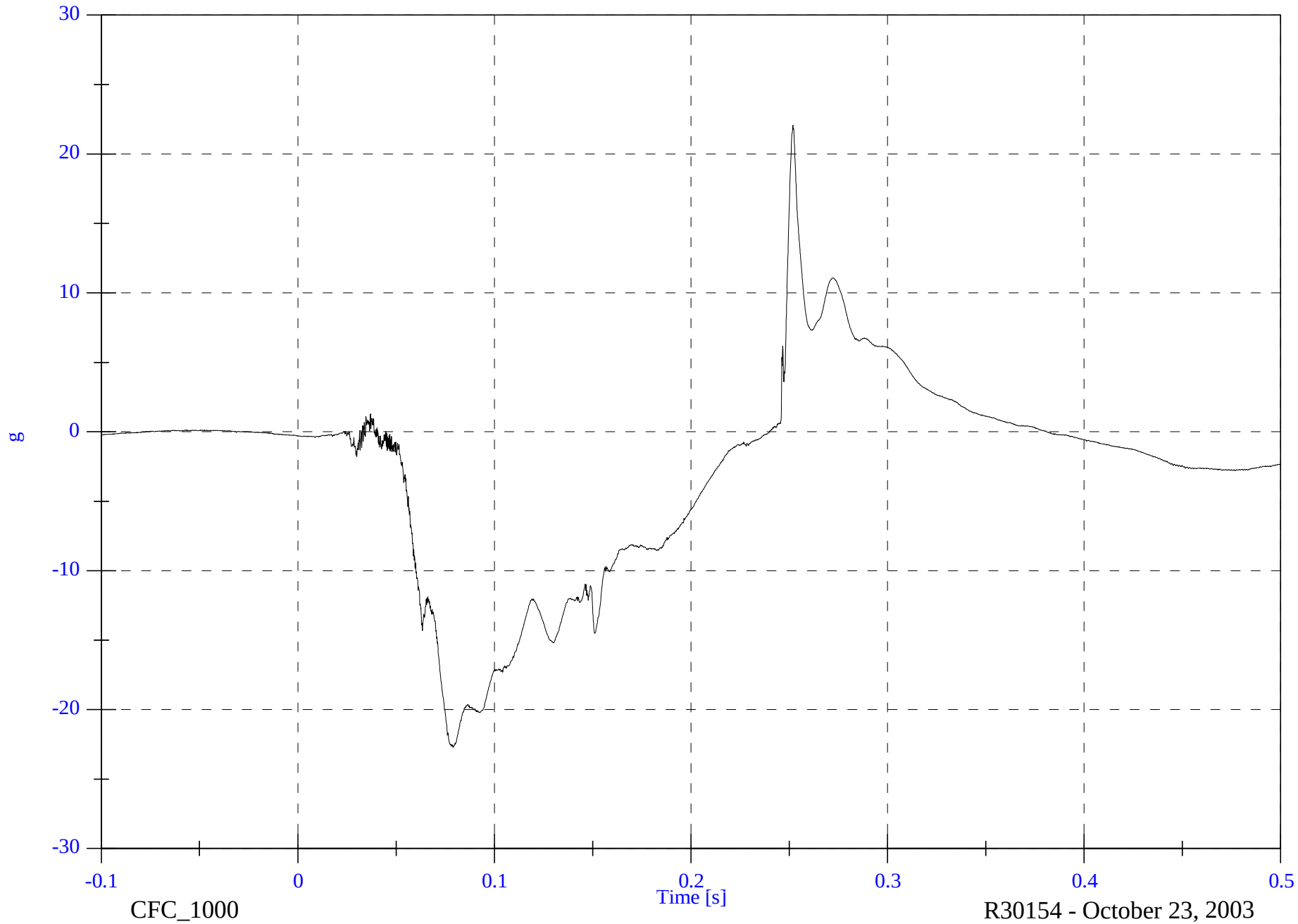
V1P1 Head x

Max: 22.1 [g] at 0.252 [s]

Min: -22.7 [g] at 0.079 [s]

B-16

8710-OFST-02

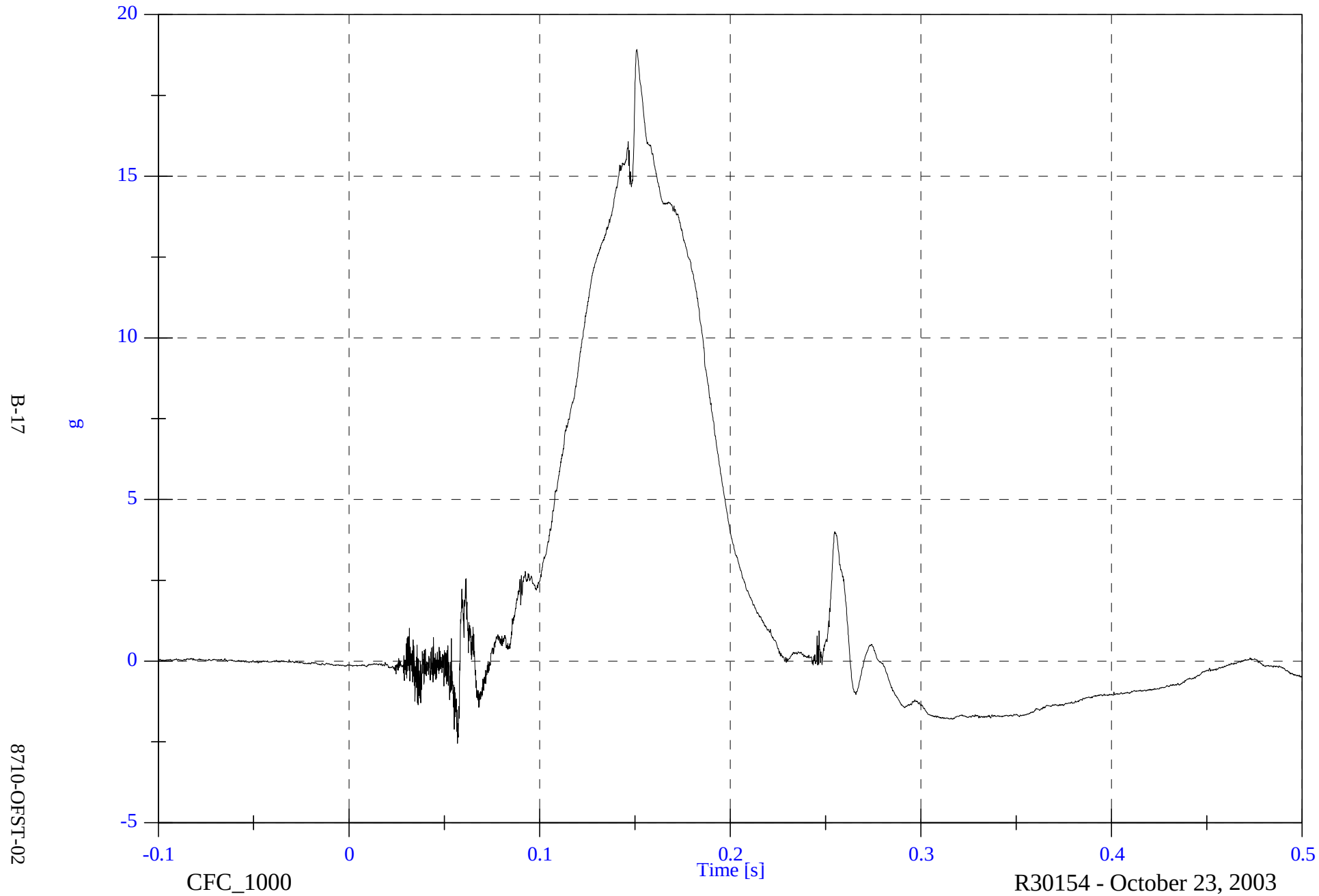


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Max: 18.9 [g] at 0.151 [s]

Min: -2.5 [g] at 0.057 [s]

V1P1 Head y

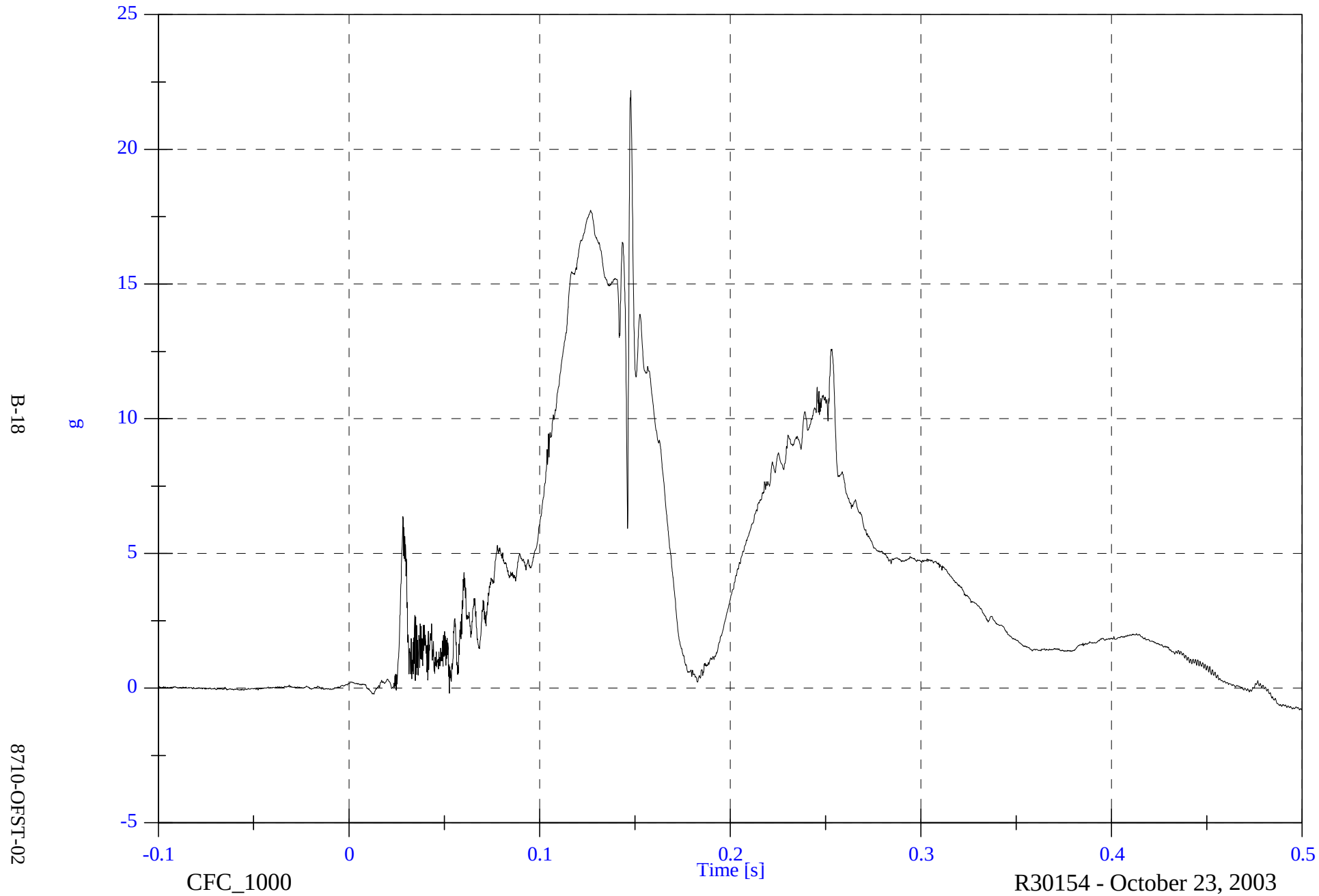


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head z

Max: 22.2 [g] at 0.148 [s]

Min: -0.8 [g] at 0.500 [s]

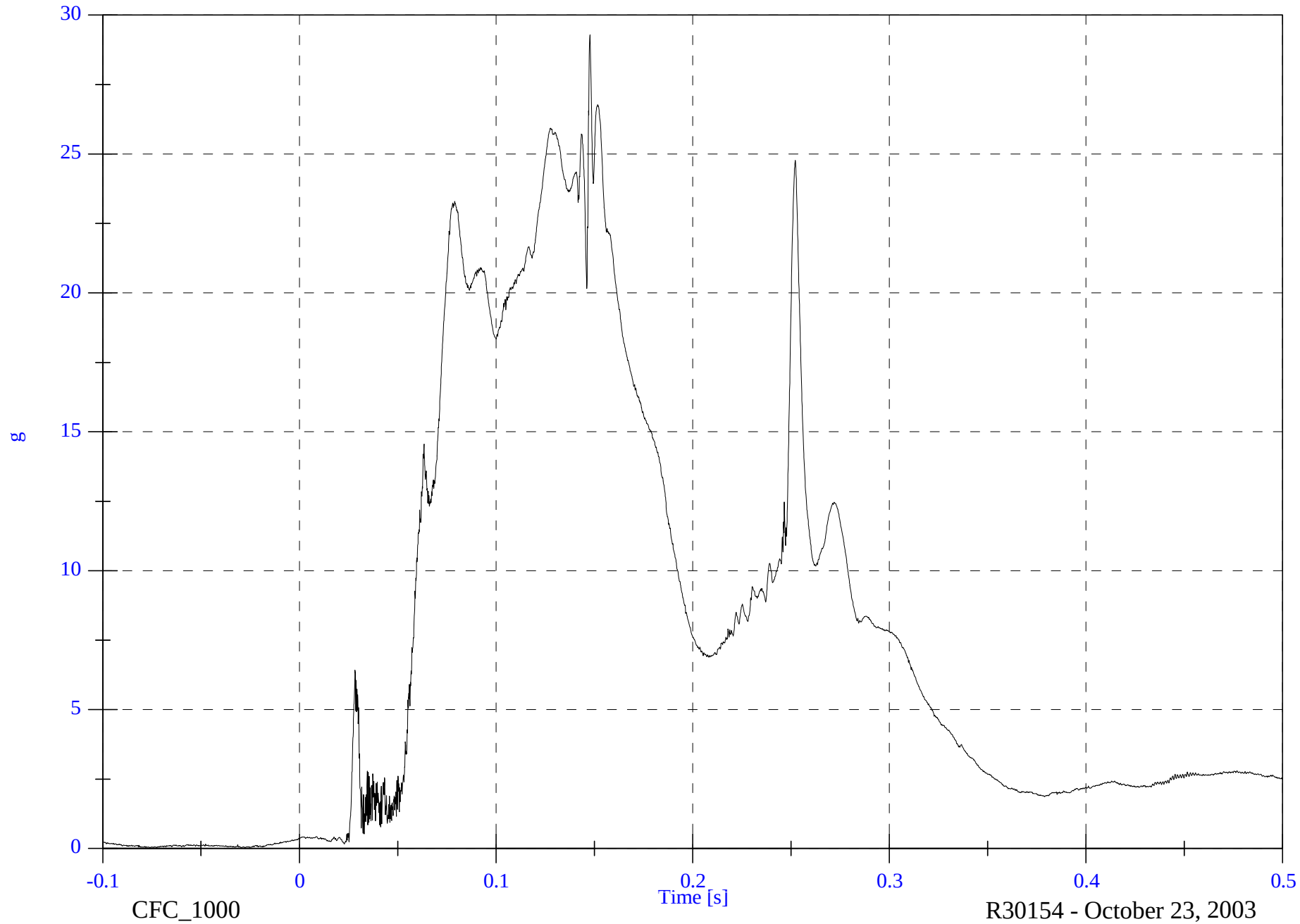


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head Resultant

Max: 29.3 [g] at 0.148 [s]

Min: 0.0 [g] at -0.076 [s]



B-19

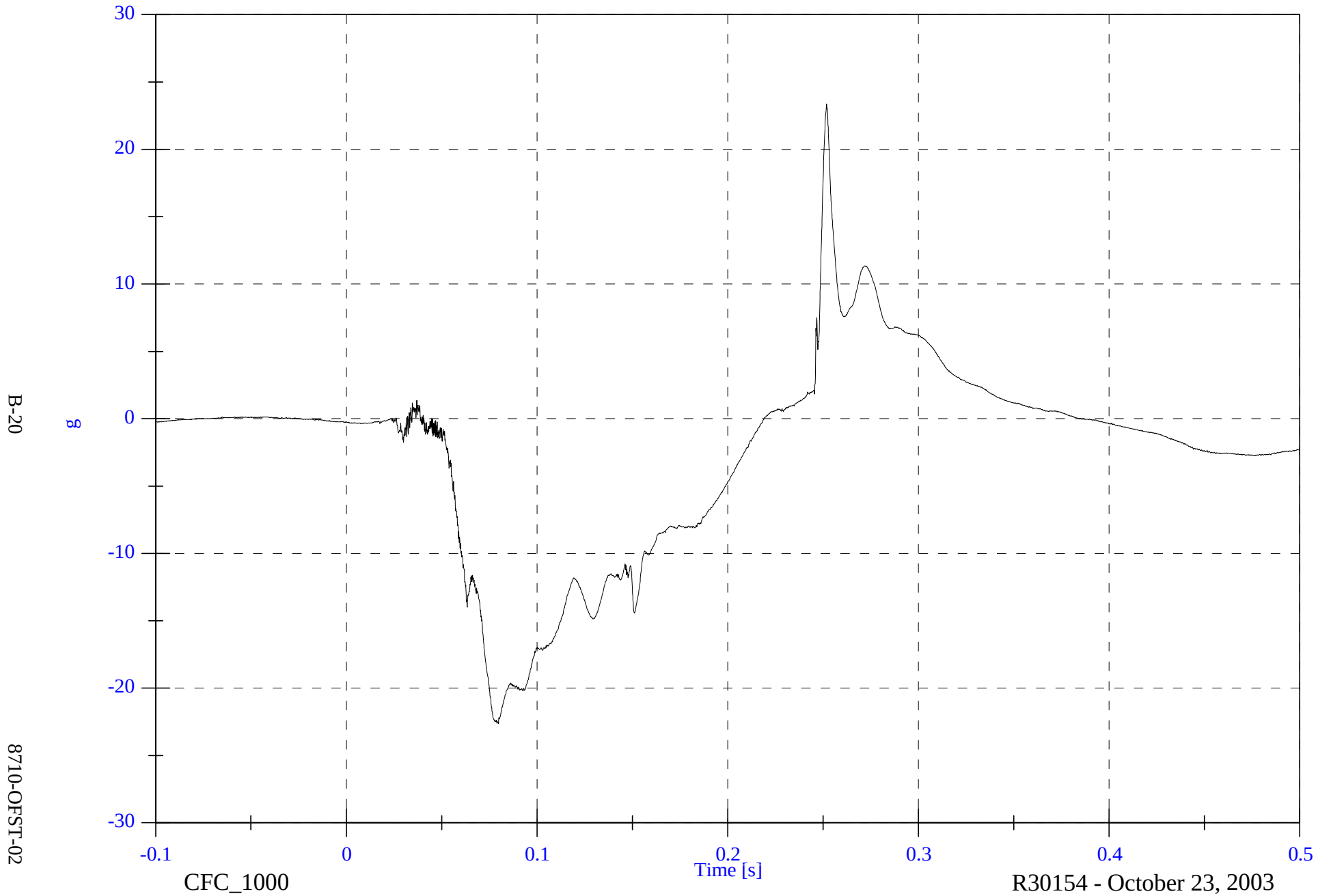
8710-OFST-02

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head Red x

Max: 23.4 [g] at 0.252 [s]

Min: -22.6 [g] at 0.080 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head Red y

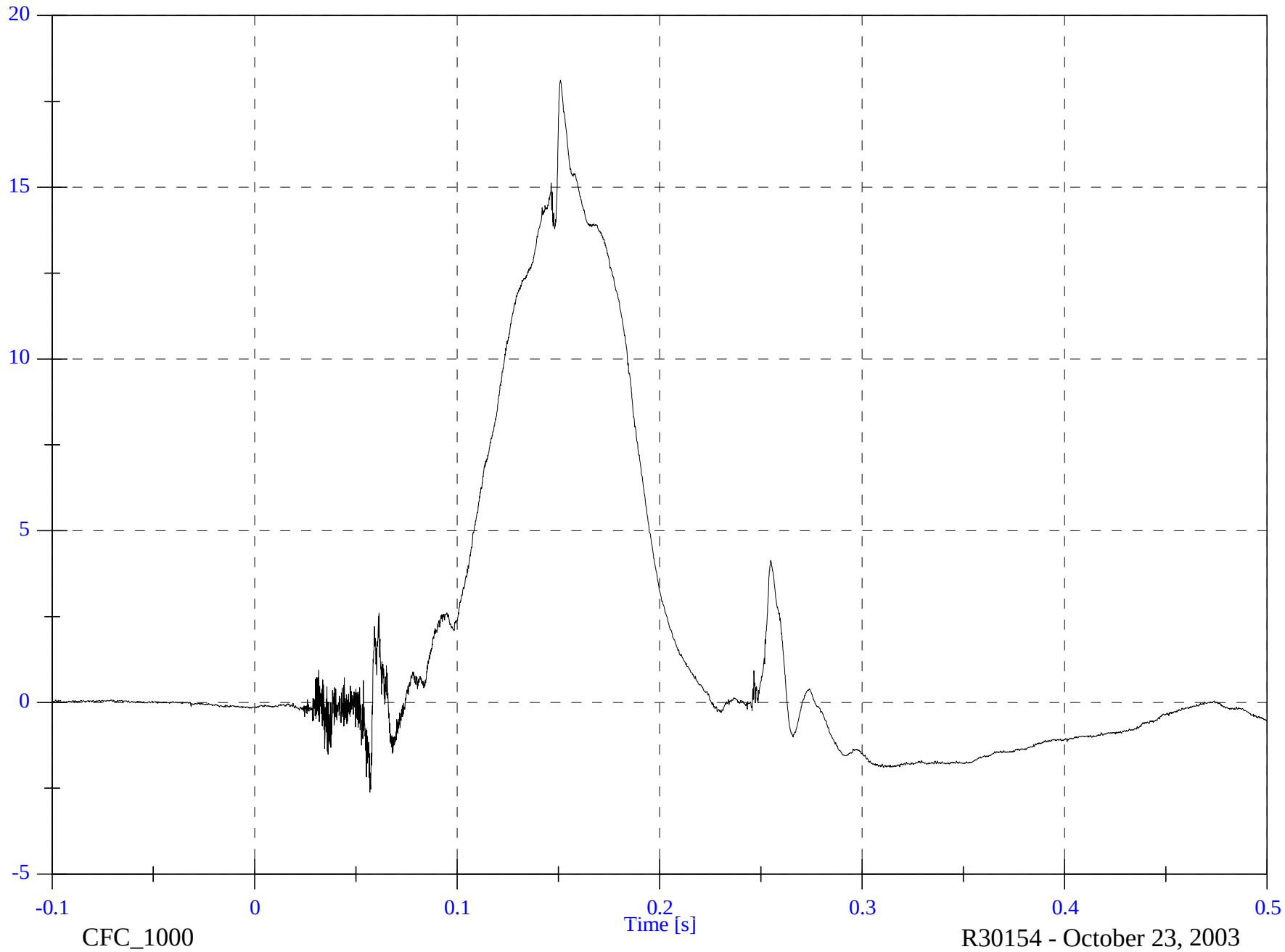
Max: 18.1 [g] at 0.151 [s]

Min: -2.6 [g] at 0.057 [s]

B-21

g

8710-OFST-02

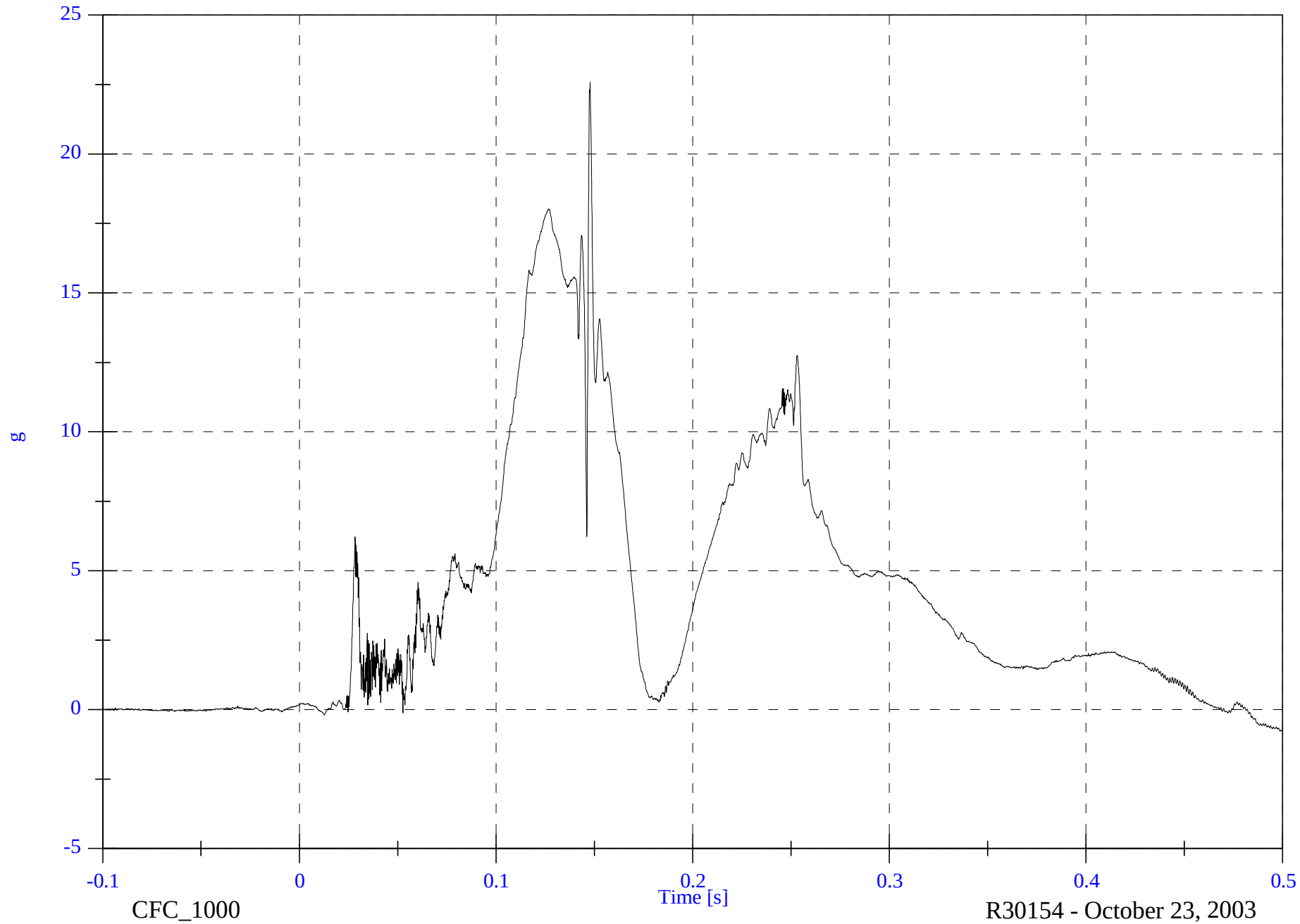


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head Red z

Max: 22.6 [g] at 0.148 [s]

Min: -0.8 [g] at 0.499 [s]

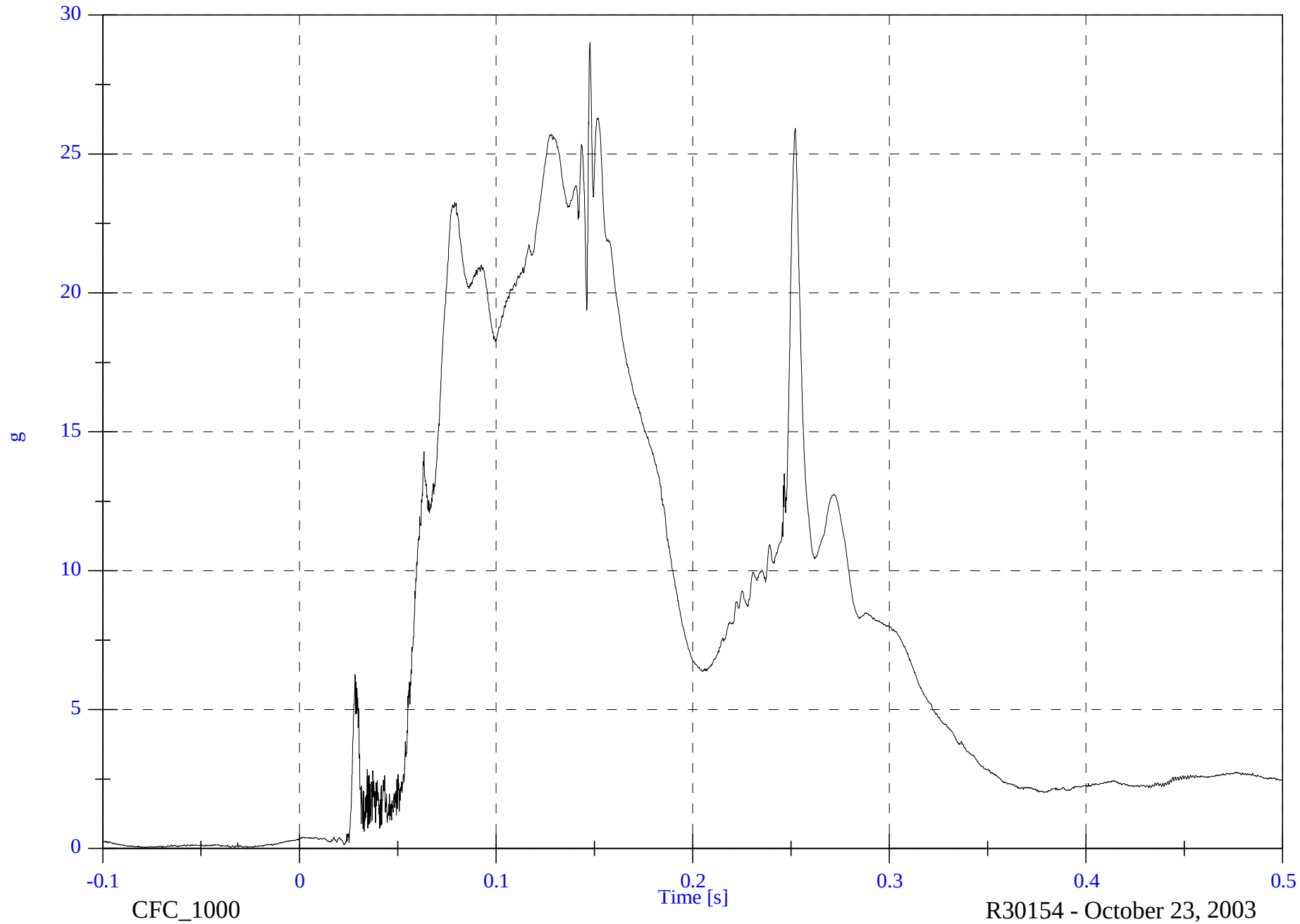


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Head Red Resultant

Max: 29.0 [g] at 0.148 [s]

Min: 0.0 [g] at -0.076 [s]

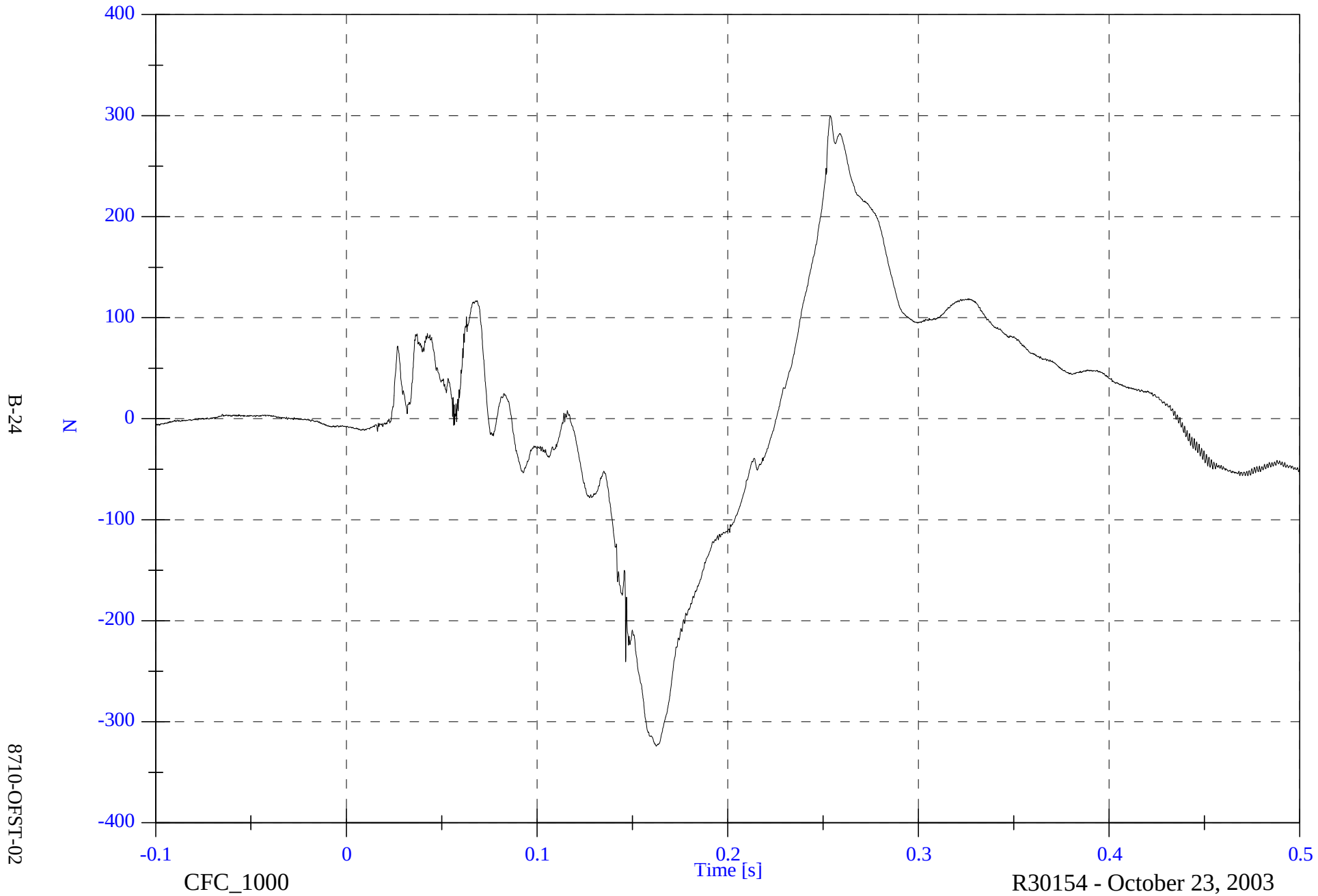


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck Fx

Max: 300.1 [N] at 0.254 [s]

Min: -324.3 [N] at 0.162 [s]

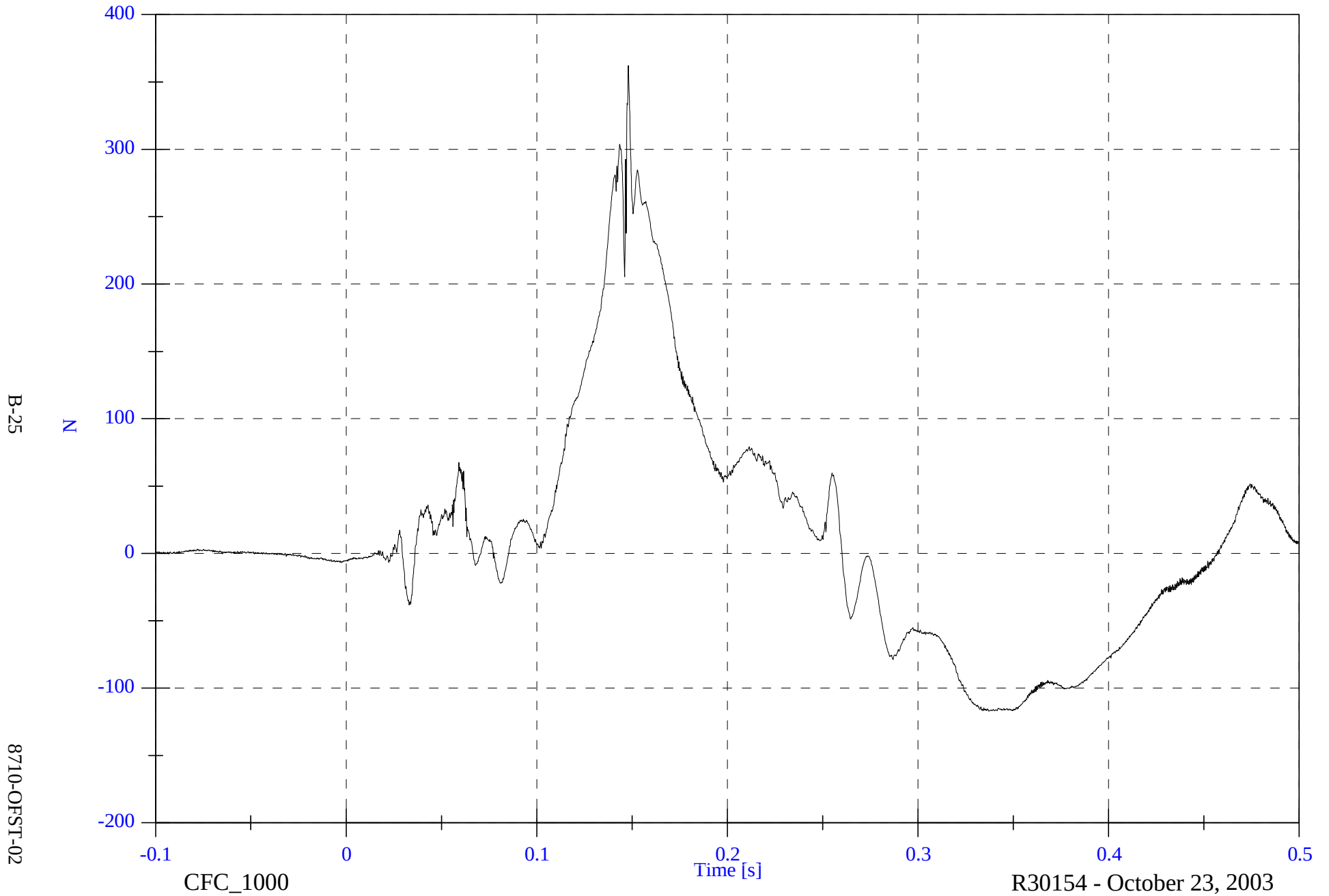


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck Fy

Max: 362.3 [N] at 0.148 [s]

Min: -117.1 [N] at 0.337 [s]

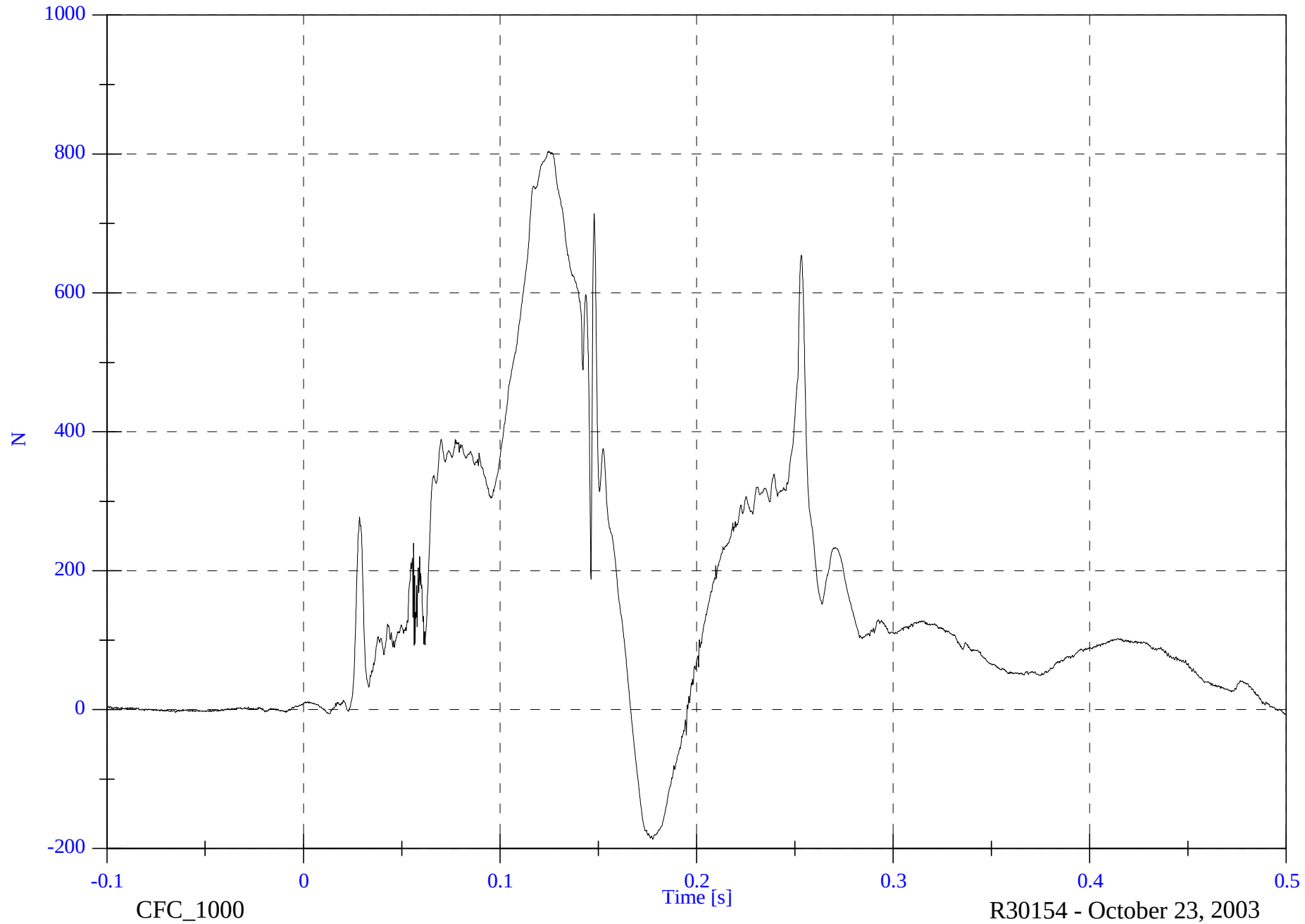


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck Fz

Max: 804.1 [N] at 0.125 [s]

Min: -186.8 [N] at 0.178 [s]



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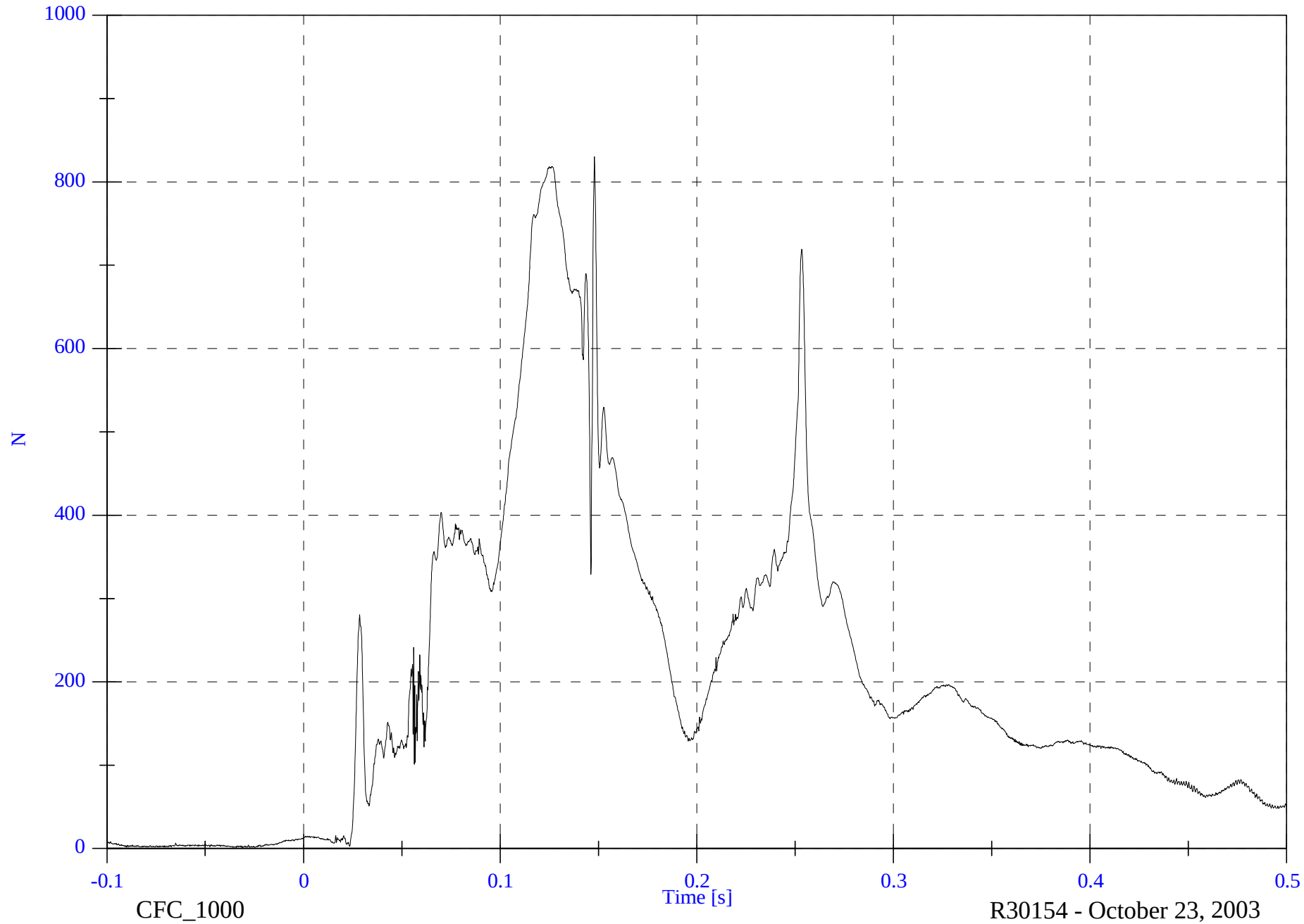
8710-OFST-02

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck F Resultant

Max: 830.1 [N] at 0.148 [s]

Min: 0.7 [N] at -0.031 [s]

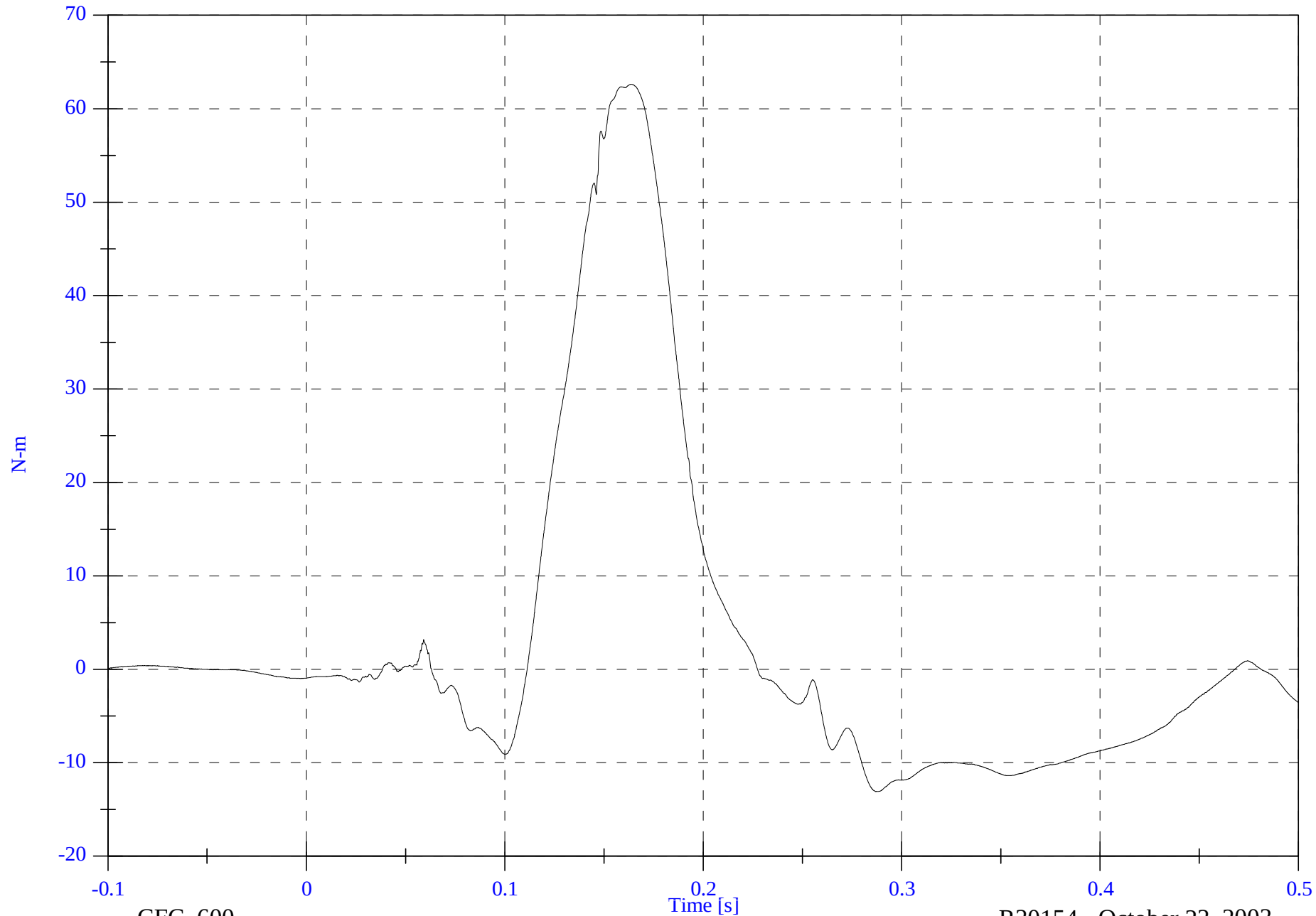


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck Mx

Max: 62.6 [N-m] at 0.164 [s]

Min: -13.1 [N-m] at 0.287 [s]



B-28

8710-OFST-02

CFC_600

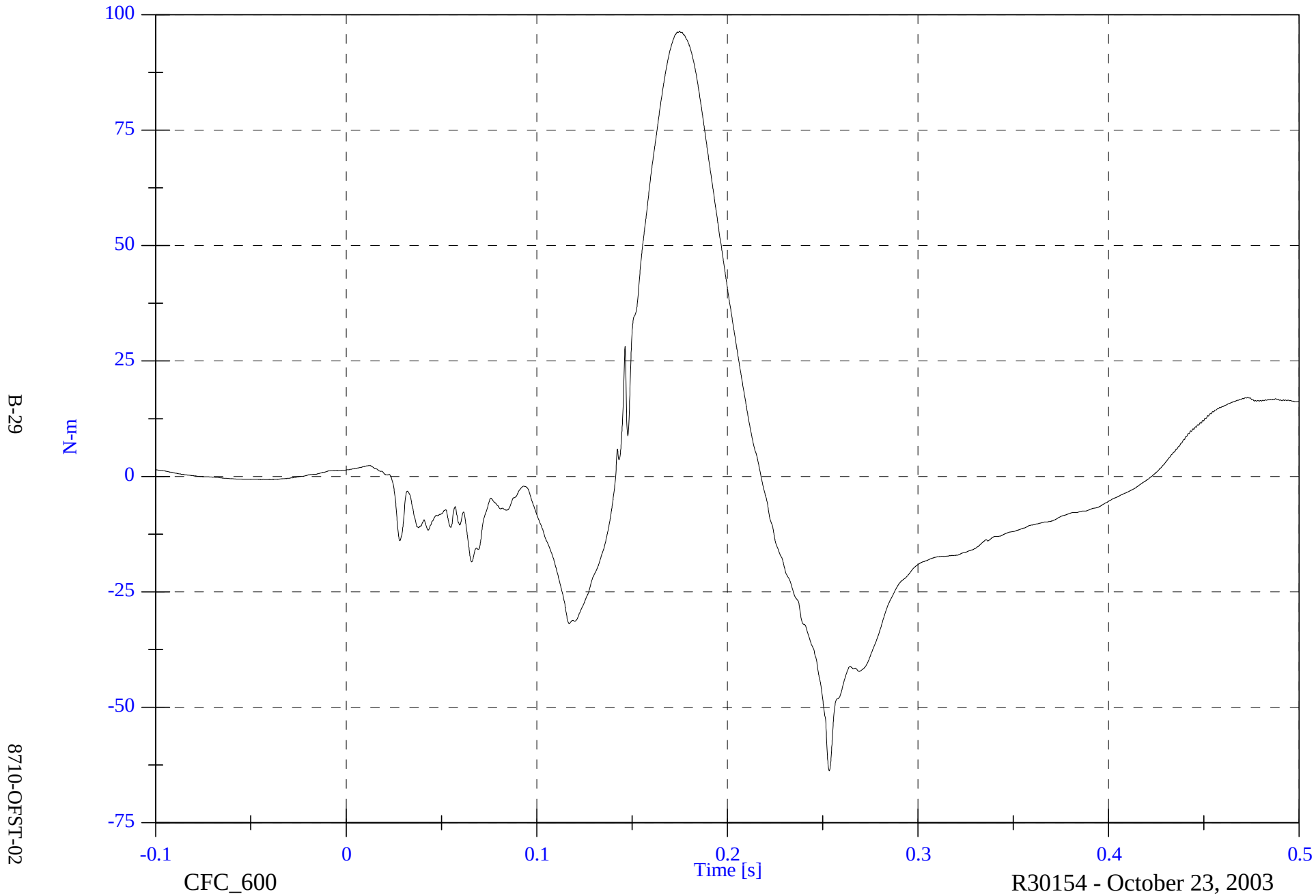
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck My

Max: 96.4 [N-m] at 0.175 [s]

Min: -63.8 [N-m] at 0.253 [s]

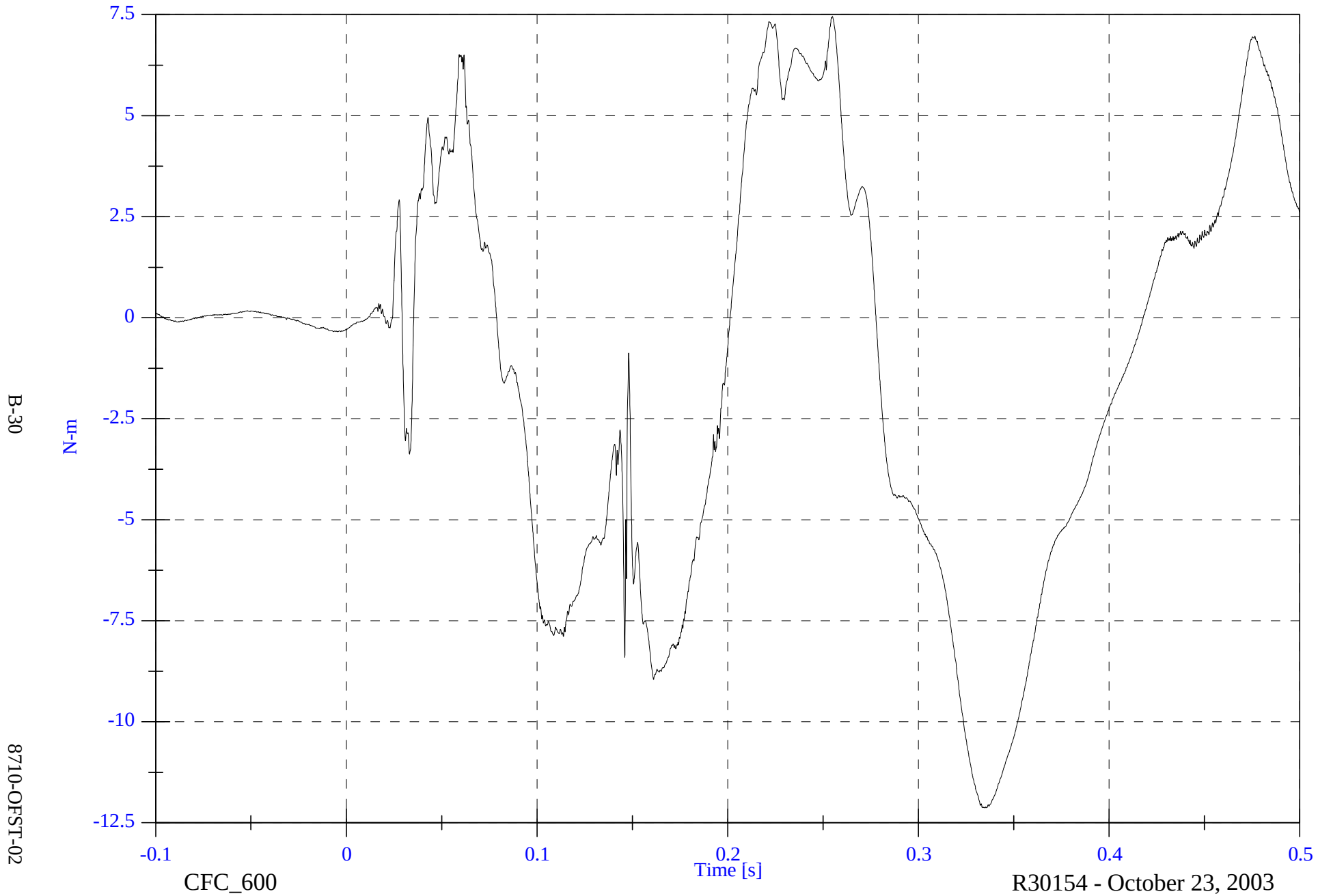


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Upper Neck Mz

Max: 7.5 [N-m] at 0.255 [s]

Min: -12.1 [N-m] at 0.335 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

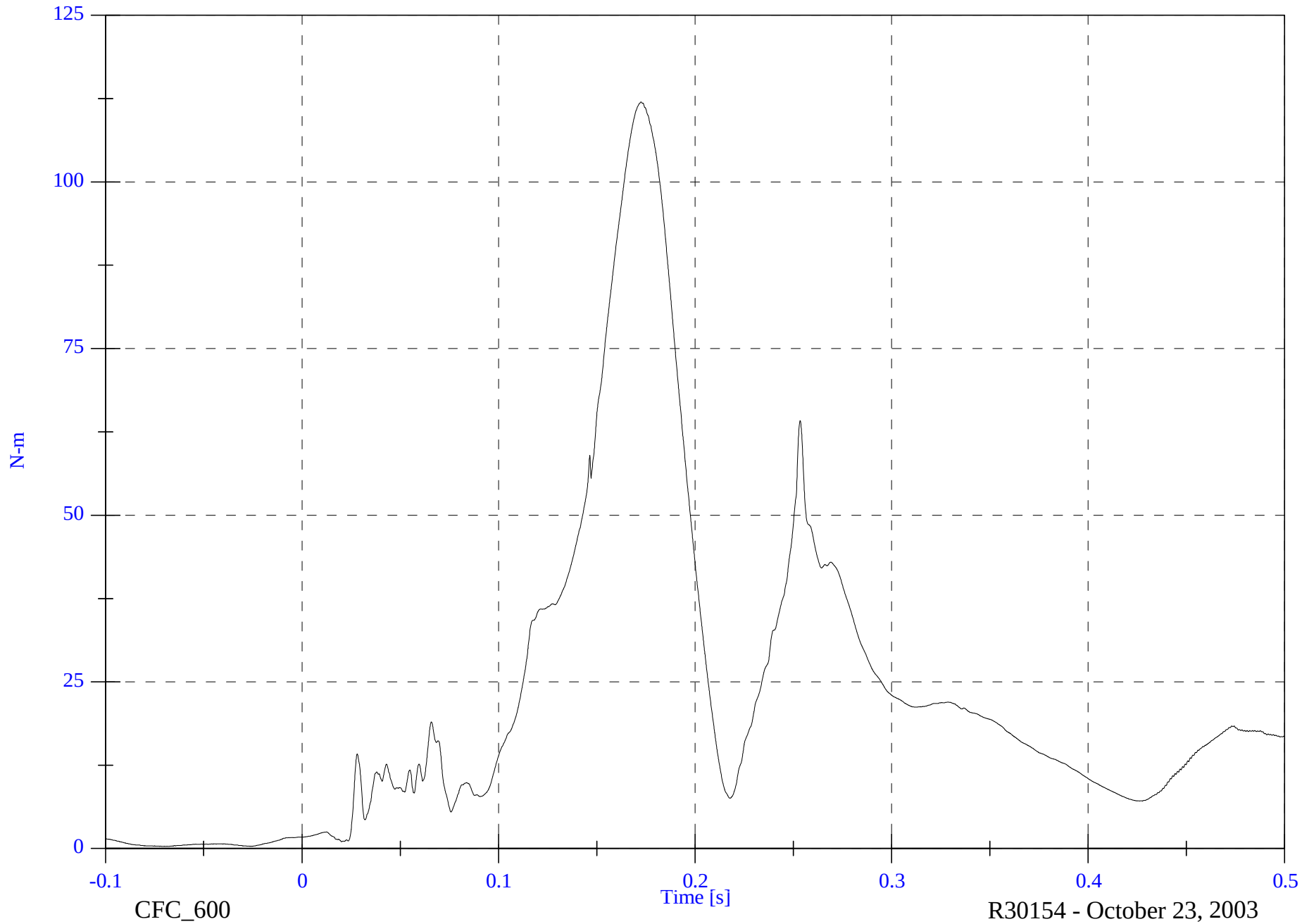
V1P1 Upper Neck M Resultant

Max: 112.0 [N-m] at 0.172 [s]

Min: 0.3 [N-m] at -0.071 [s]

B-31

8710-OFST-02

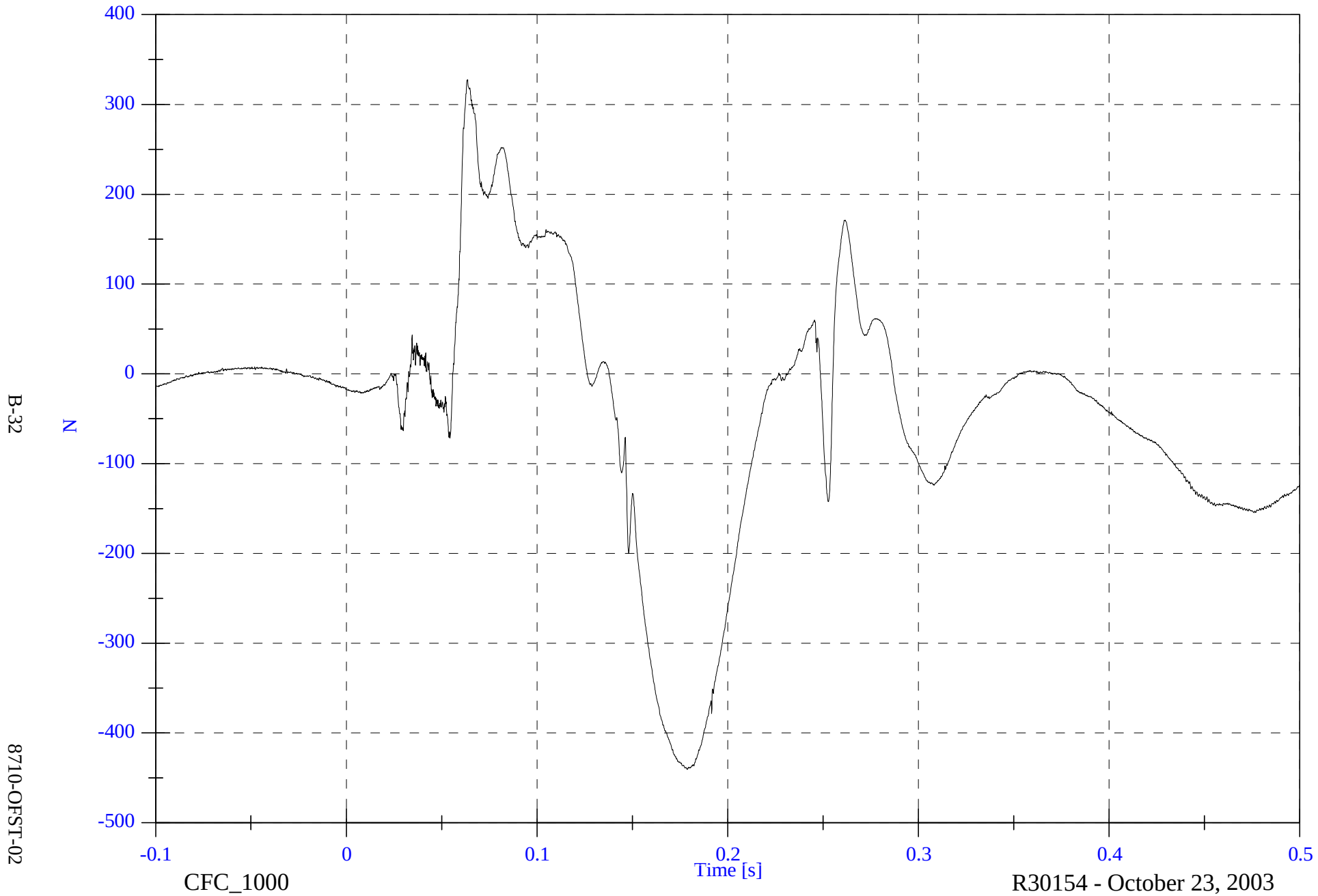


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck Fx

Max: 327.5 [N] at 0.063 [s]

Min: -440.7 [N] at 0.179 [s]

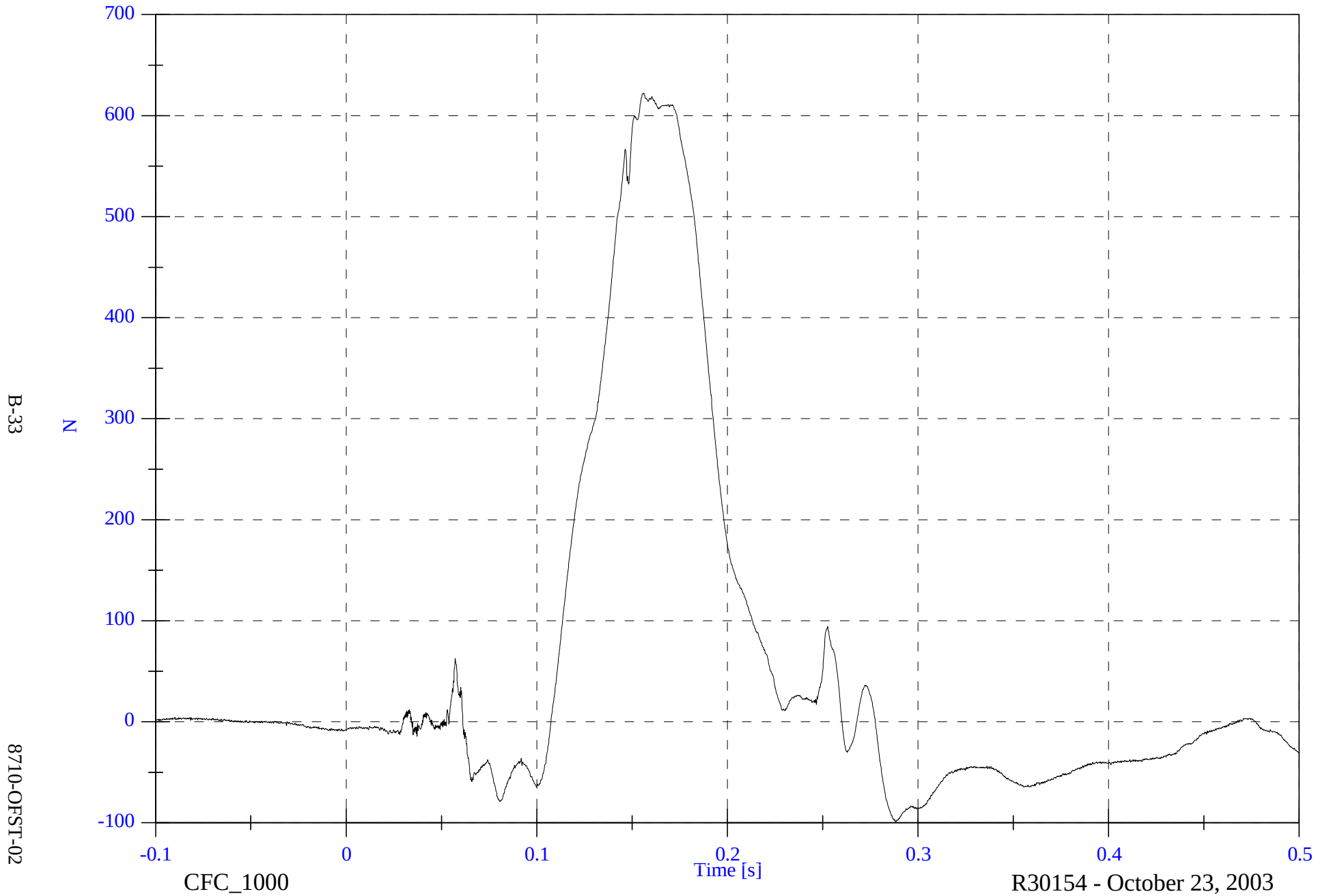


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck Fy

Max: 622.6 [N] at 0.156 [s]

Min: -99.1 [N] at 0.288 [s]

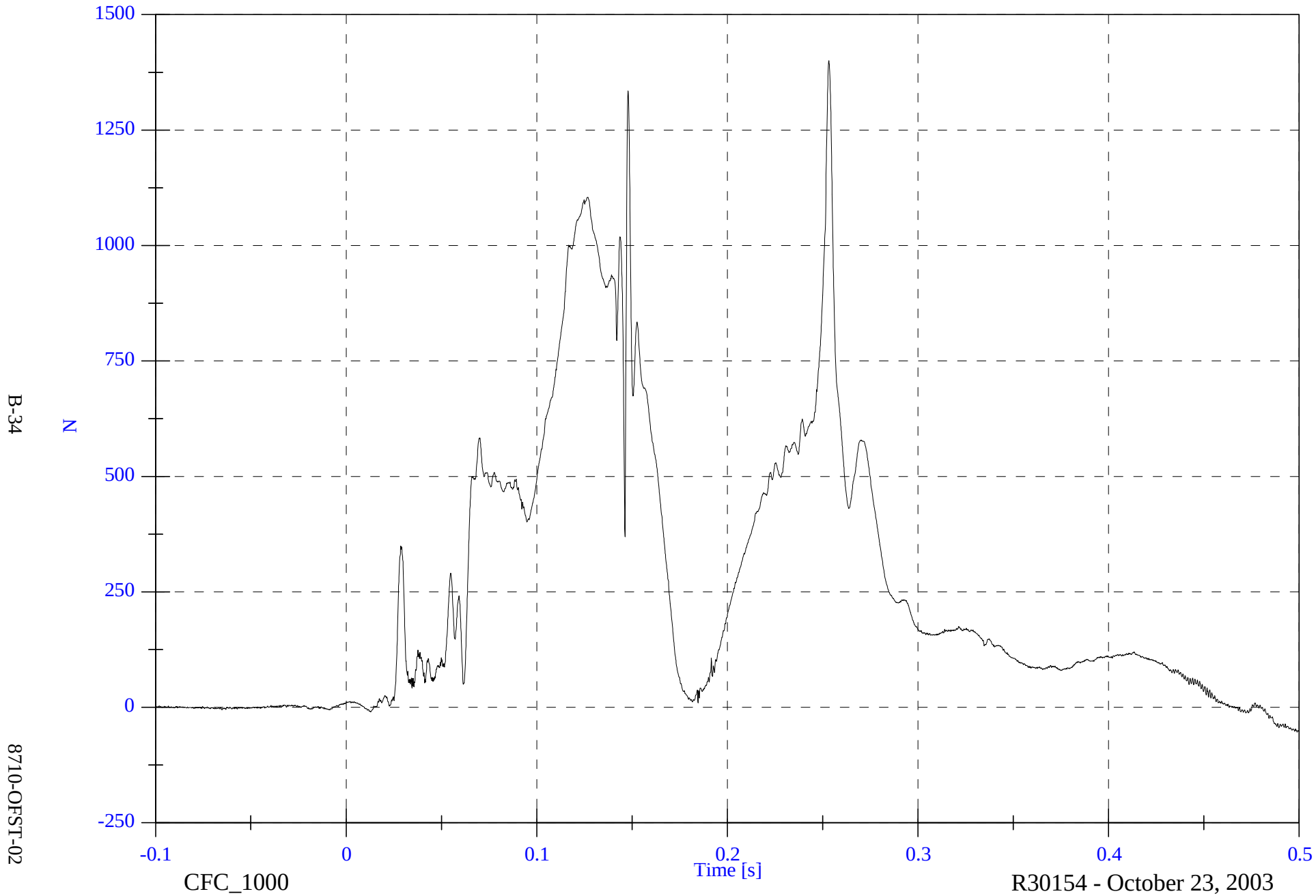


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck Fz

Max: 1400.7 [N] at 0.253 [s]

Min: -53.5 [N] at 0.499 [s]

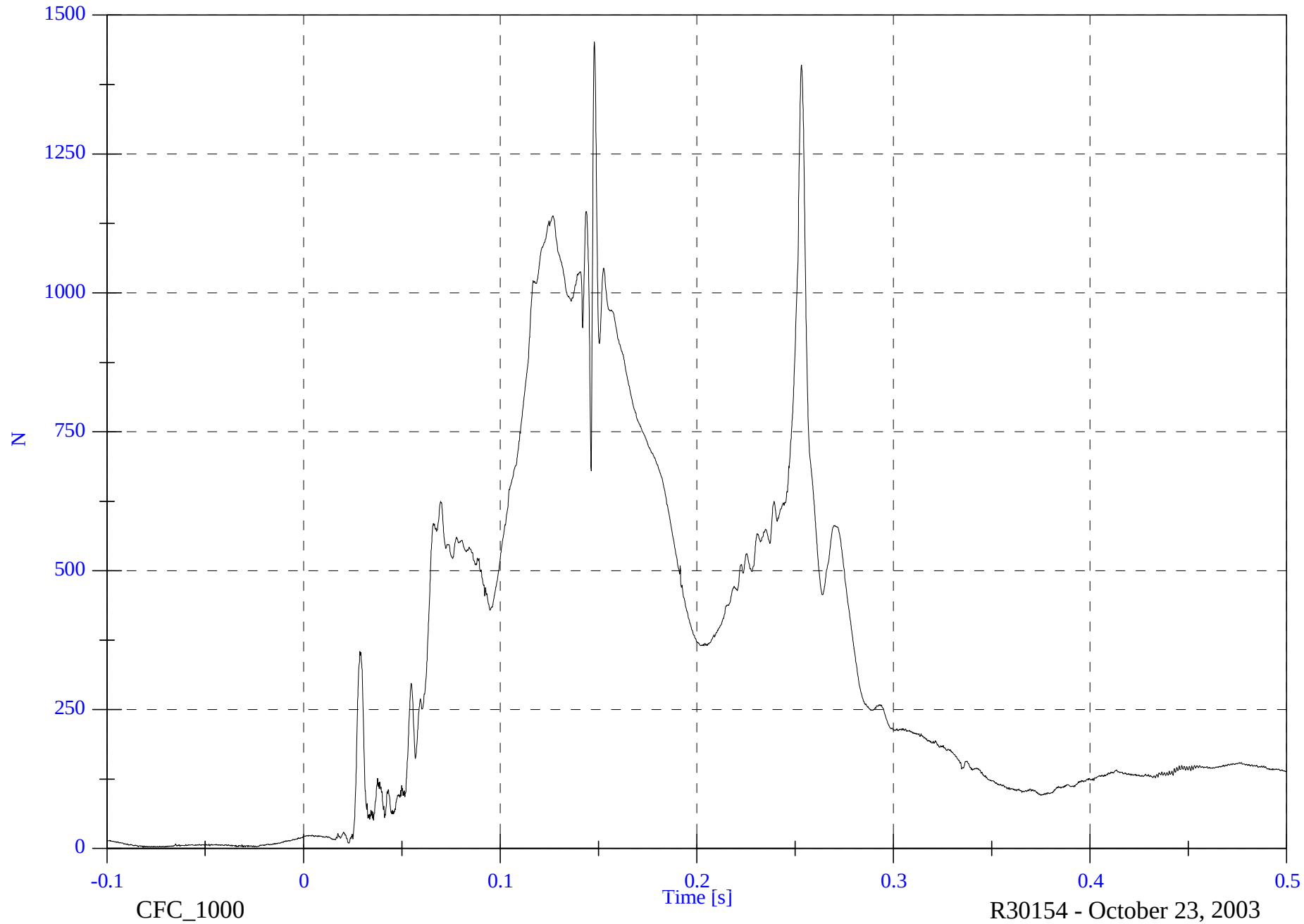


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck F Resultant

Max: 1452.0 [N] at 0.148 [s]

Min: 1.7 [N] at -0.082 [s]



B-35

8710-OFST-02

CFC_1000

Time [s]

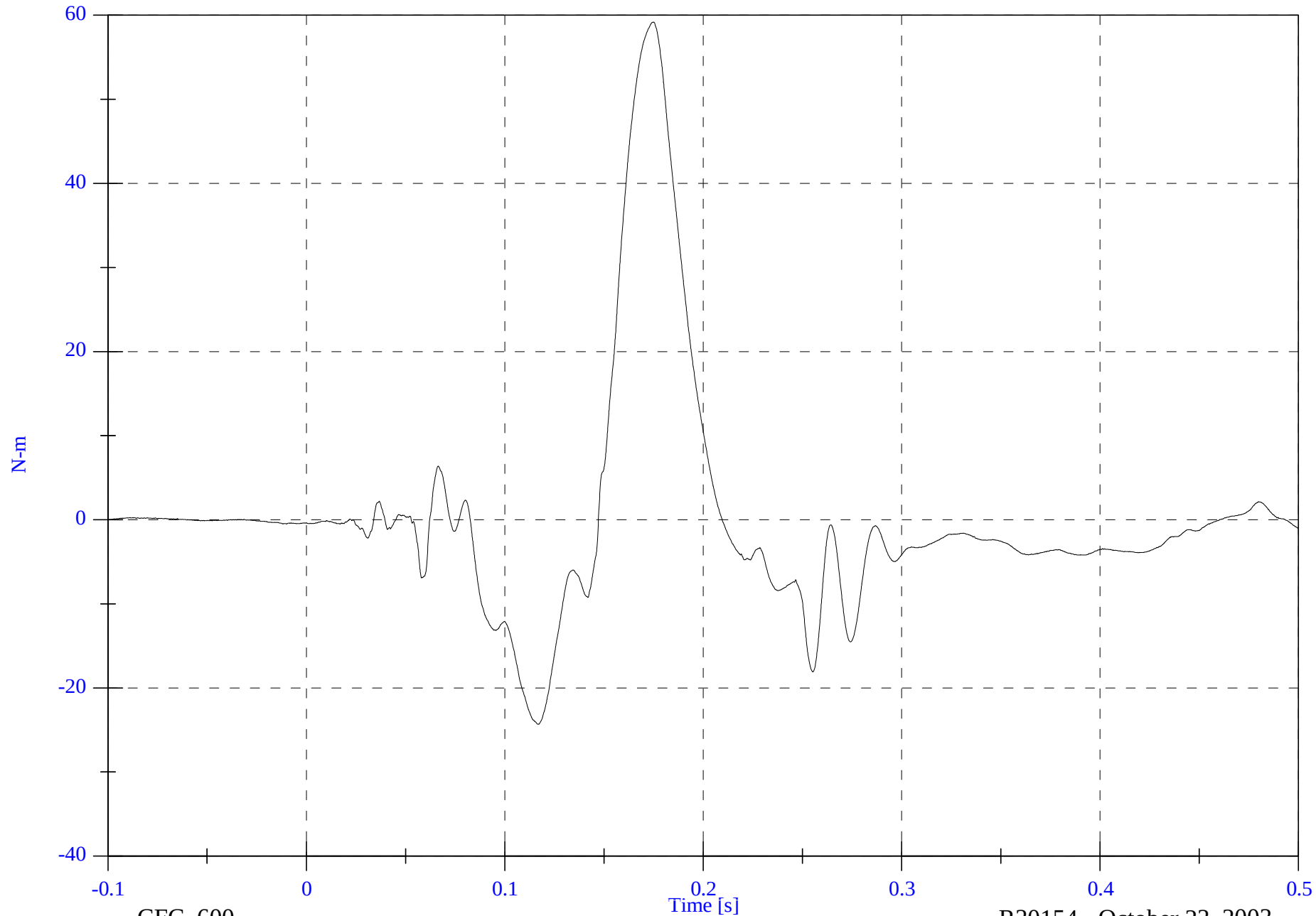
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck Mx

Max: 59.2 [N-m] at 0.175 [s]

Min: -24.3 [N-m] at 0.117 [s]



B-36

8710-OFST-02

CFC_600

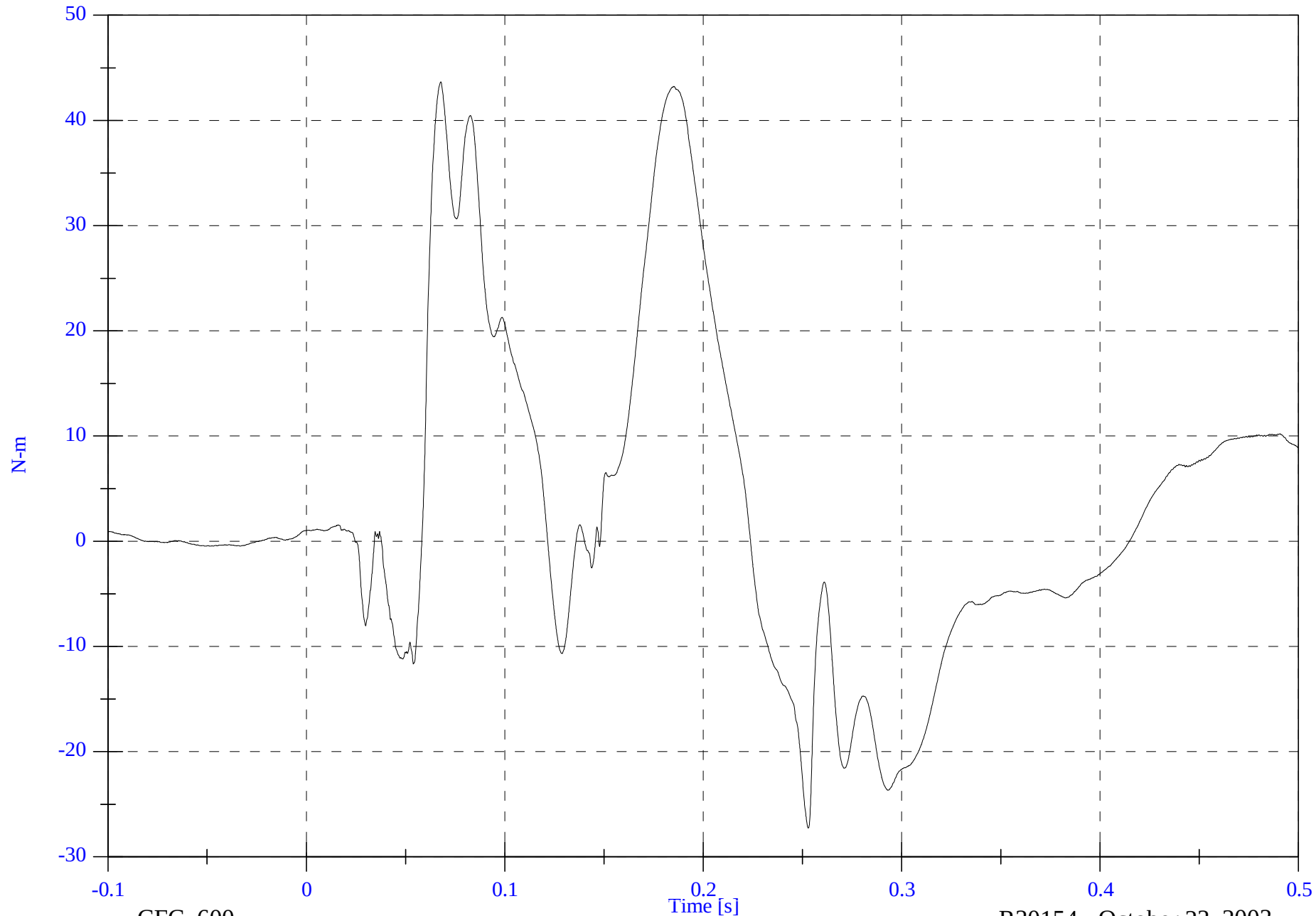
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck My

Max: 43.7 [N-m] at 0.068 [s]

Min: -27.3 [N-m] at 0.253 [s]



B-37

8710-OFST-02

CFC_600

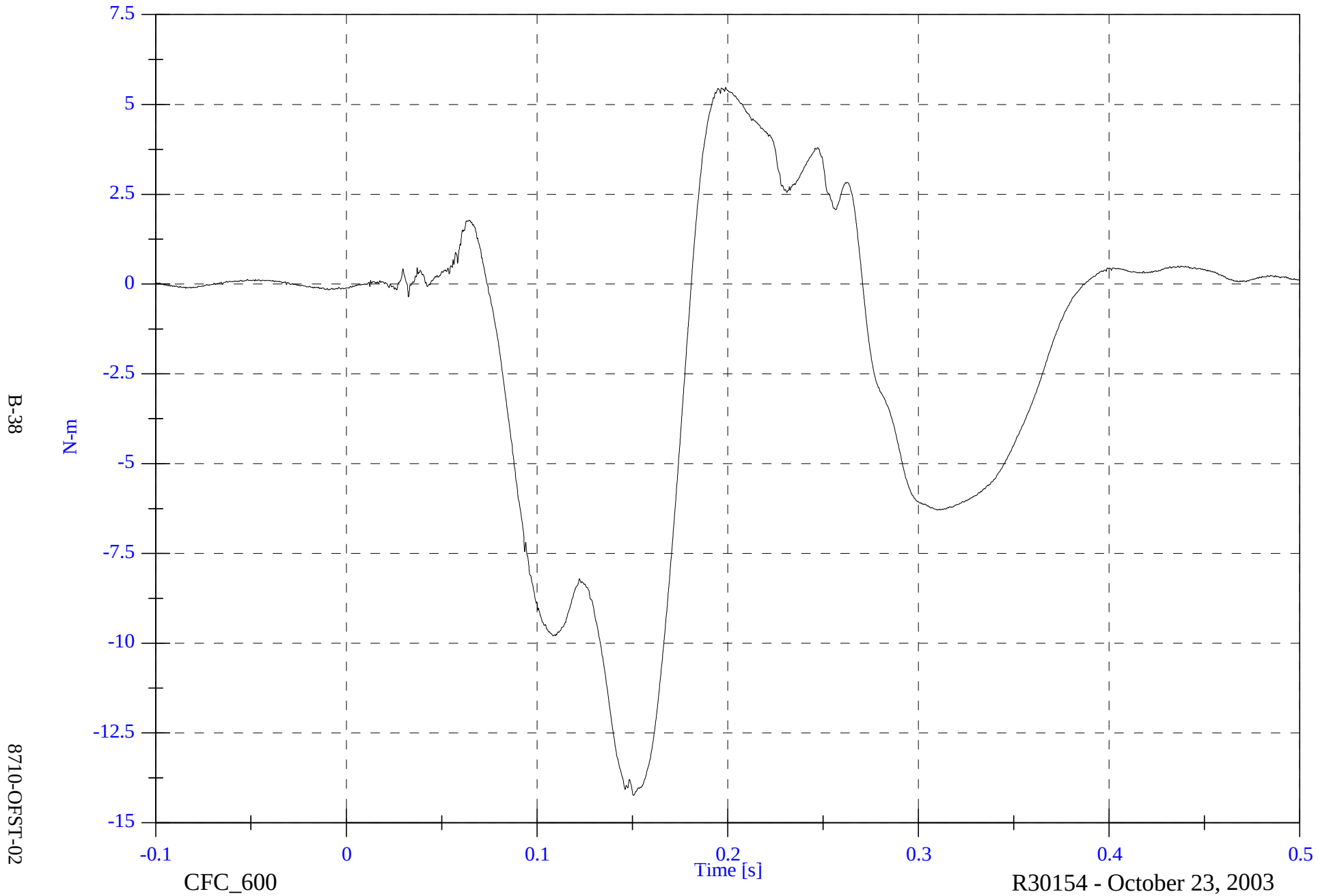
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck Mz

Max: 5.5 [N-m] at 0.199 [s]

Min: -14.2 [N-m] at 0.151 [s]

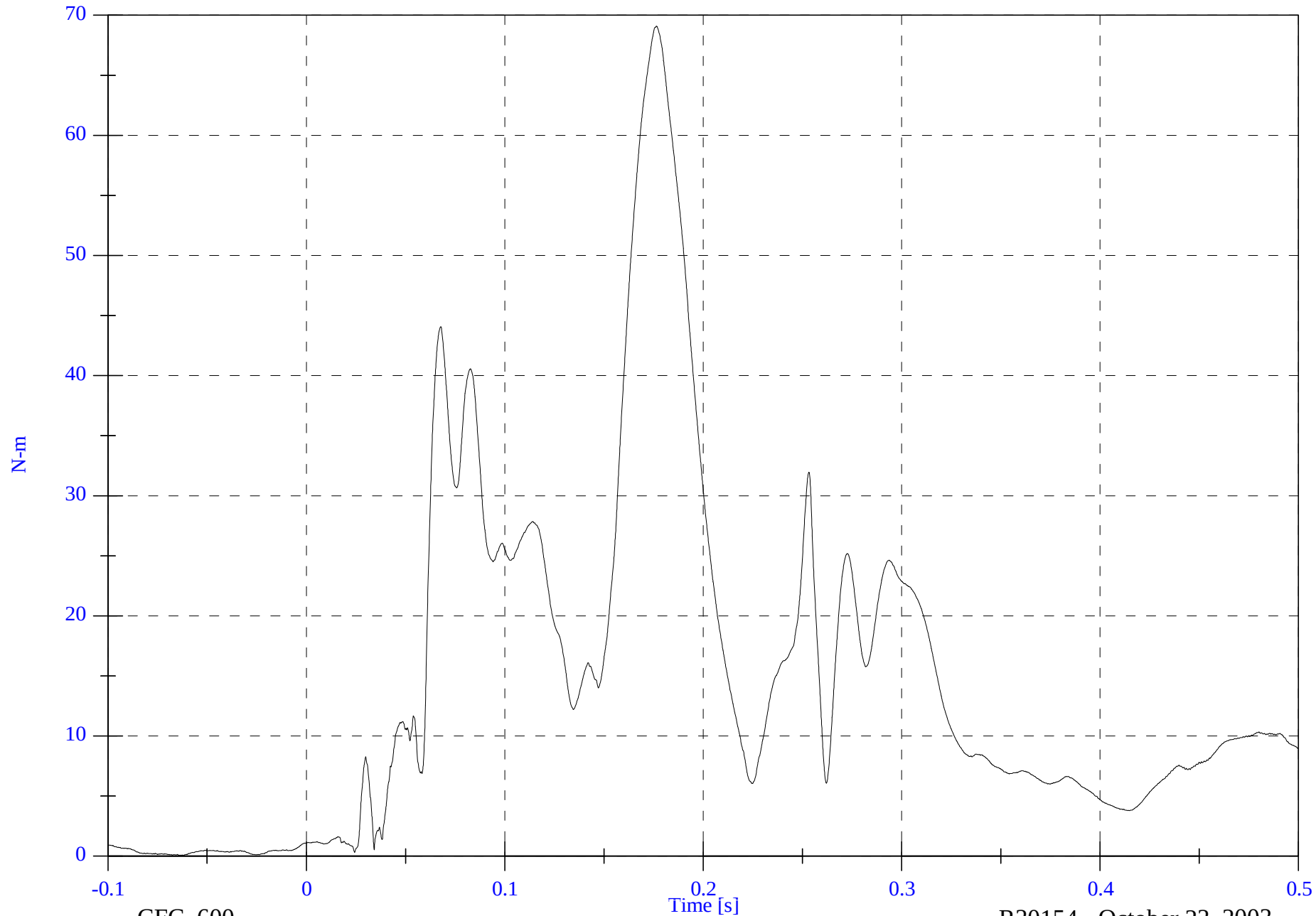


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lower Neck M Resultant

Max: 69.1 [N-m] at 0.176 [s]

Min: 0.1 [N-m] at -0.063 [s]



B-39

8710-OFST-02

CFC_600

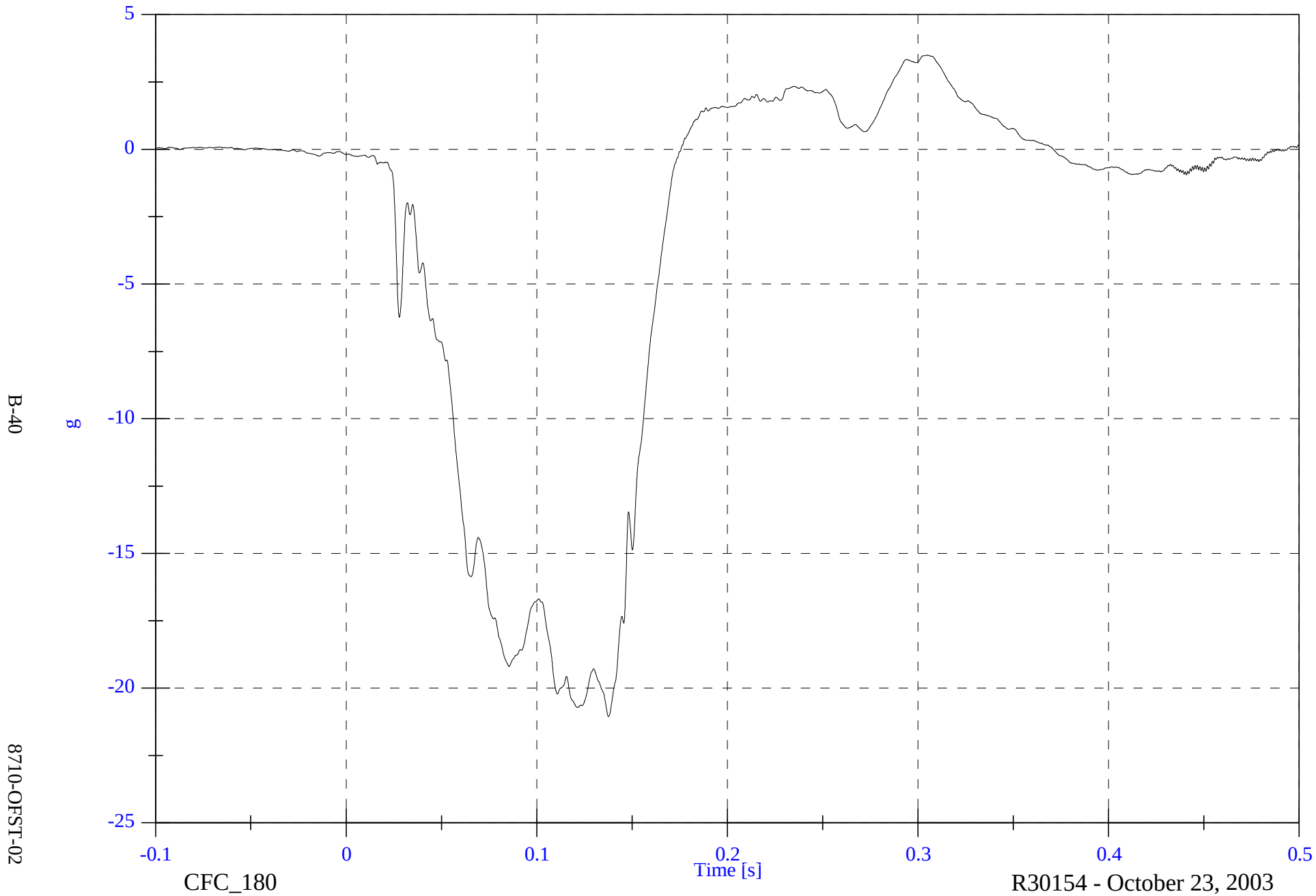
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest x

Max: 3.5 [g] at 0.305 [s]

Min: -21.1 [g] at 0.138 [s]

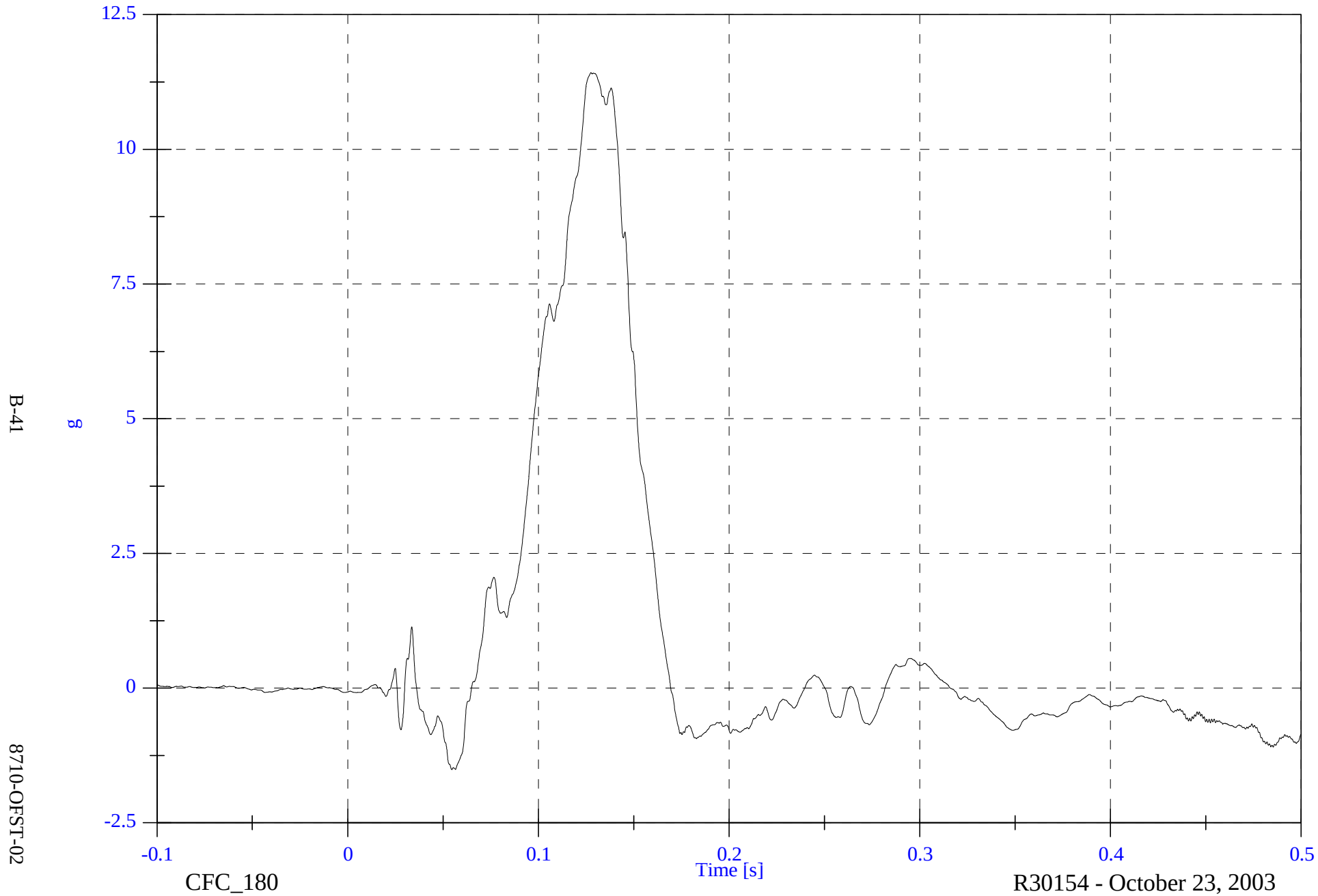


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest y

Max: 11.4 [g] at 0.128 [s]

Min: -1.5 [g] at 0.055 [s]

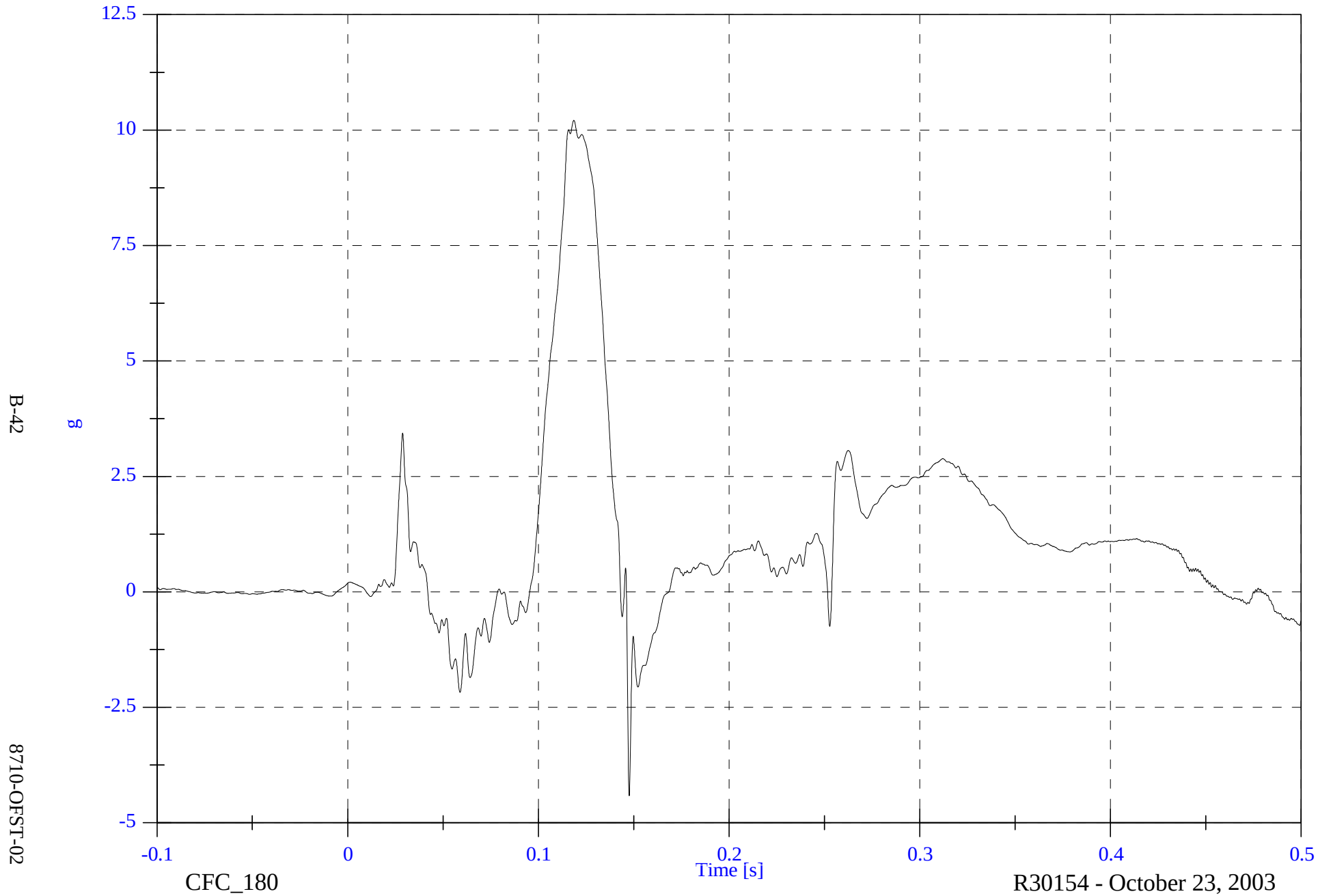


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest z

Max: 10.2 [g] at 0.119 [s]

Min: -4.4 [g] at 0.148 [s]

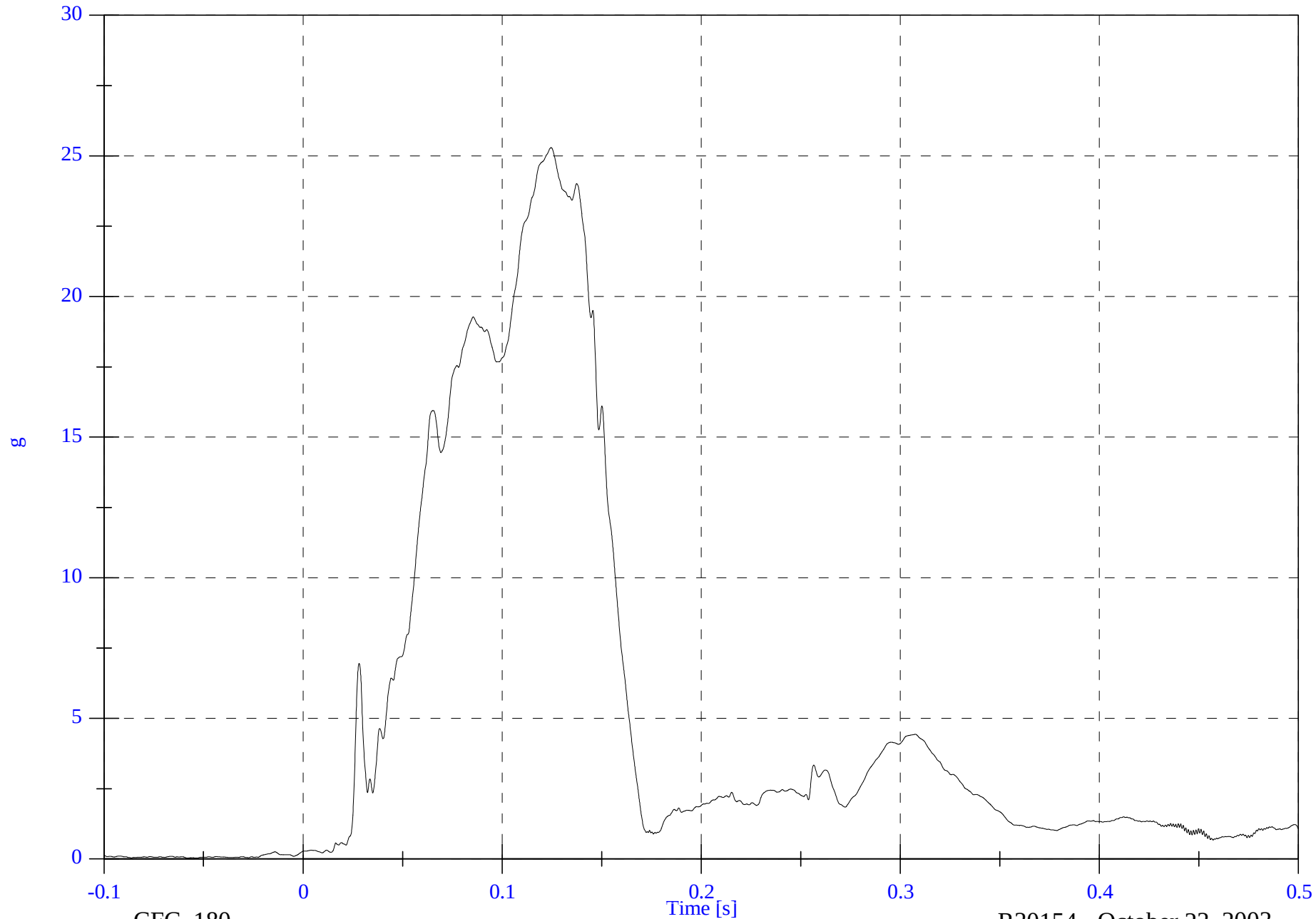


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest Resultant

Max: 25.3 [g] at 0.125 [s]

Min: 0.0 [g] at -0.058 [s]



B-43

8710-OFST-02

CFC_180

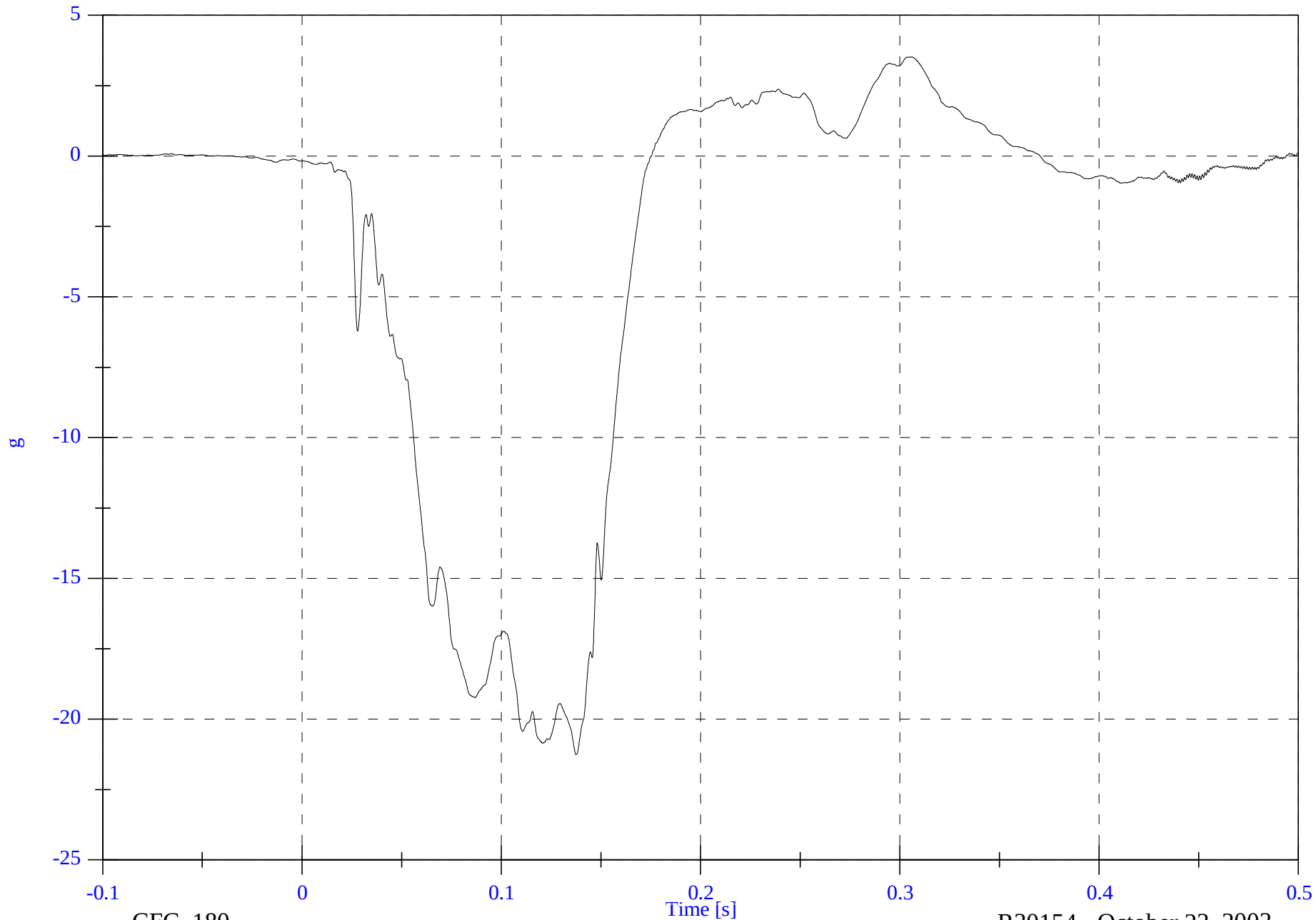
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest Red x

Max: 3.5 [g] at 0.306 [s]

Min: -21.3 [g] at 0.137 [s]



B-44

8710-OFST-02

CFC_180

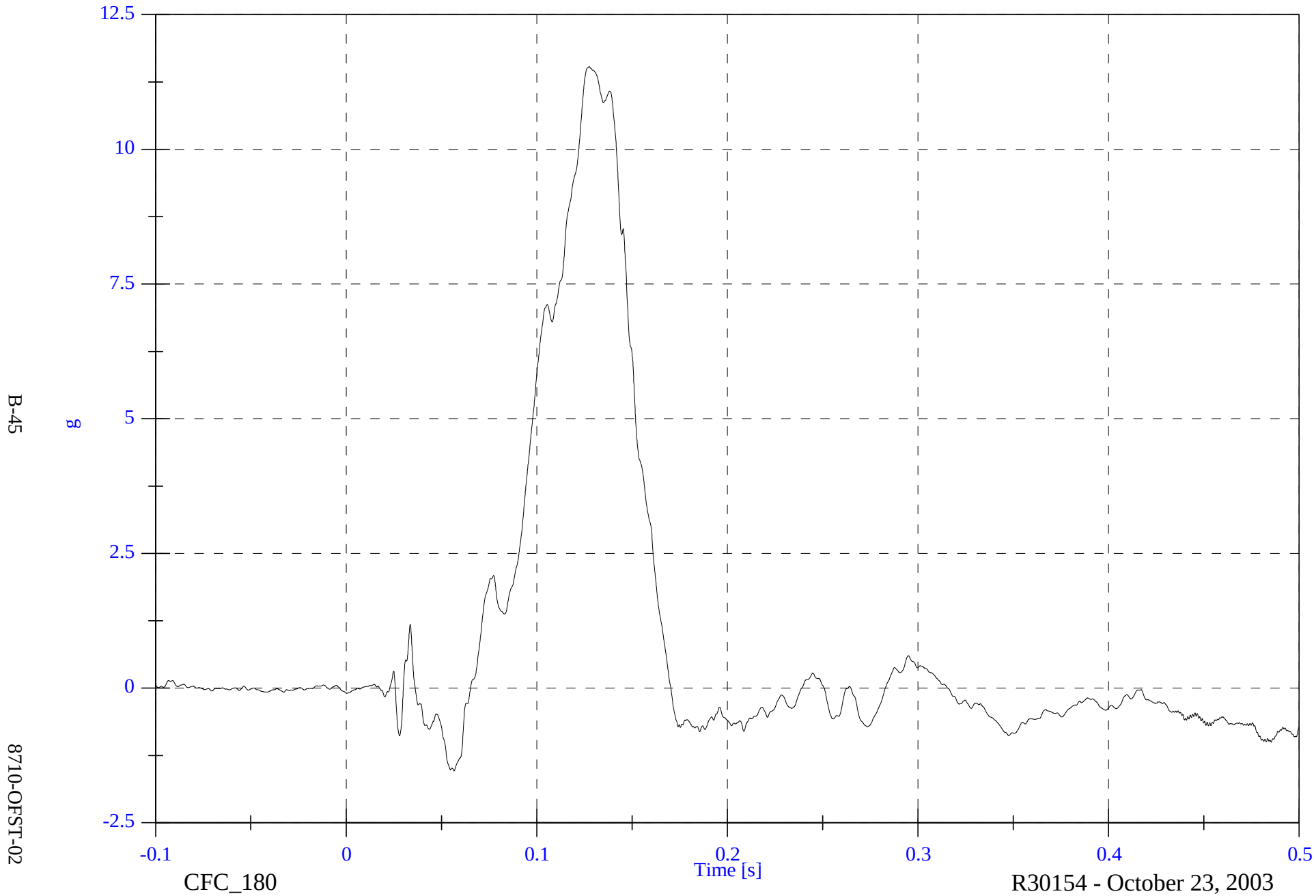
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest Red y

Max: 11.5 [g] at 0.128 [s]

Min: -1.5 [g] at 0.057 [s]

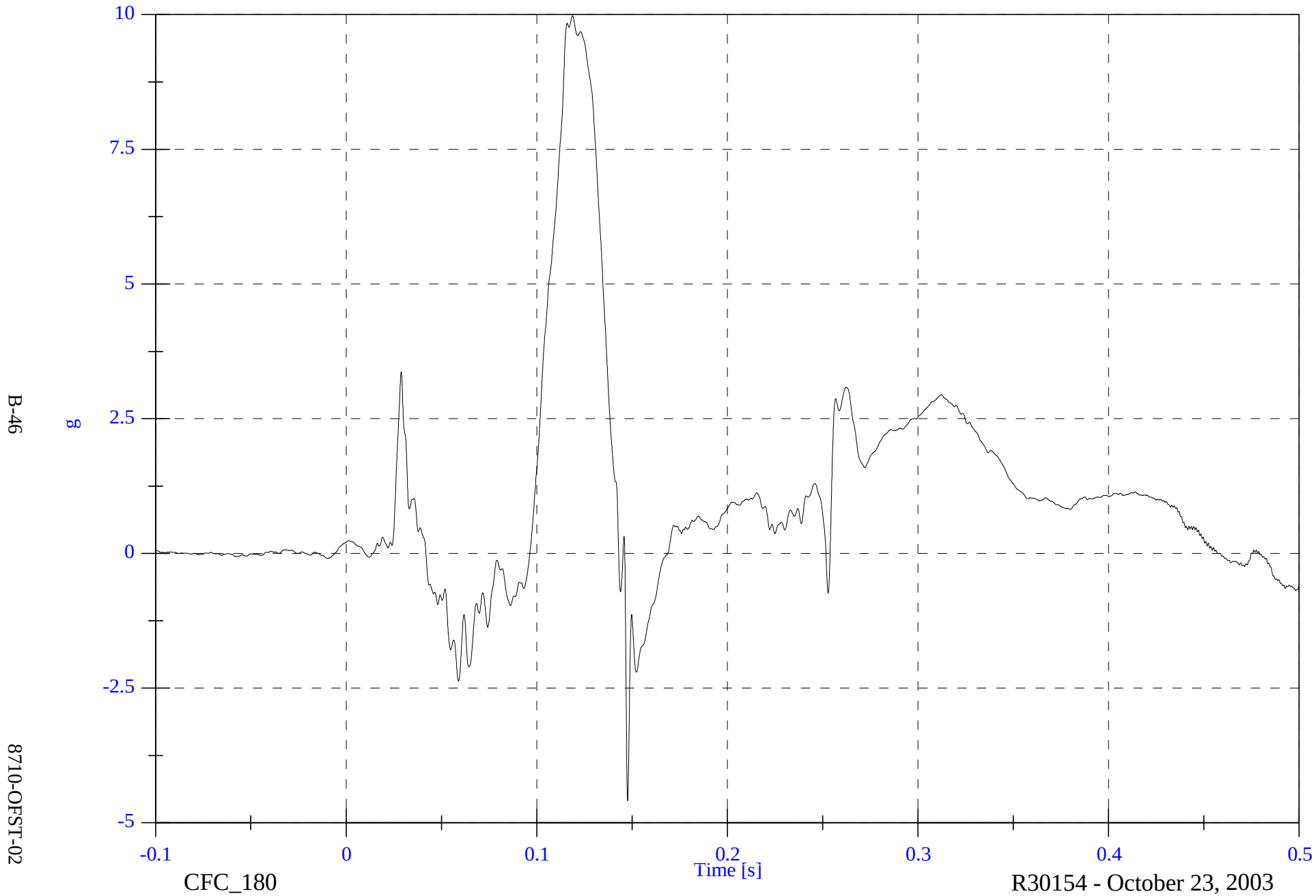


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest Red z

Max: 10.0 [g] at 0.119 [s]

Min: -4.6 [g] at 0.148 [s]

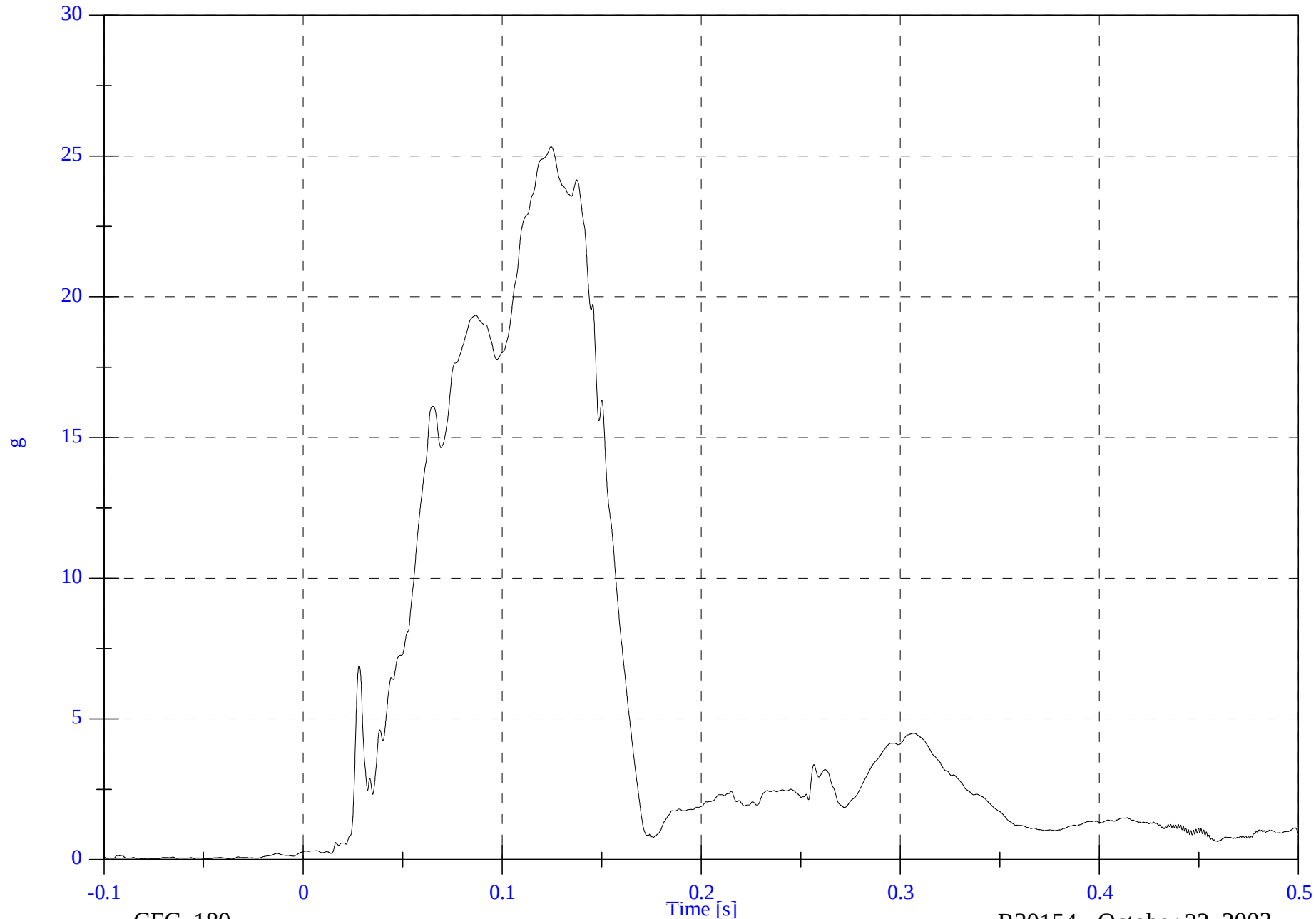


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest Red Resultant

Max: 25.3 [g] at 0.125 [s]

Min: 0.0 [g] at -0.083 [s]



B-47

8710-OFST-02

CFC_180

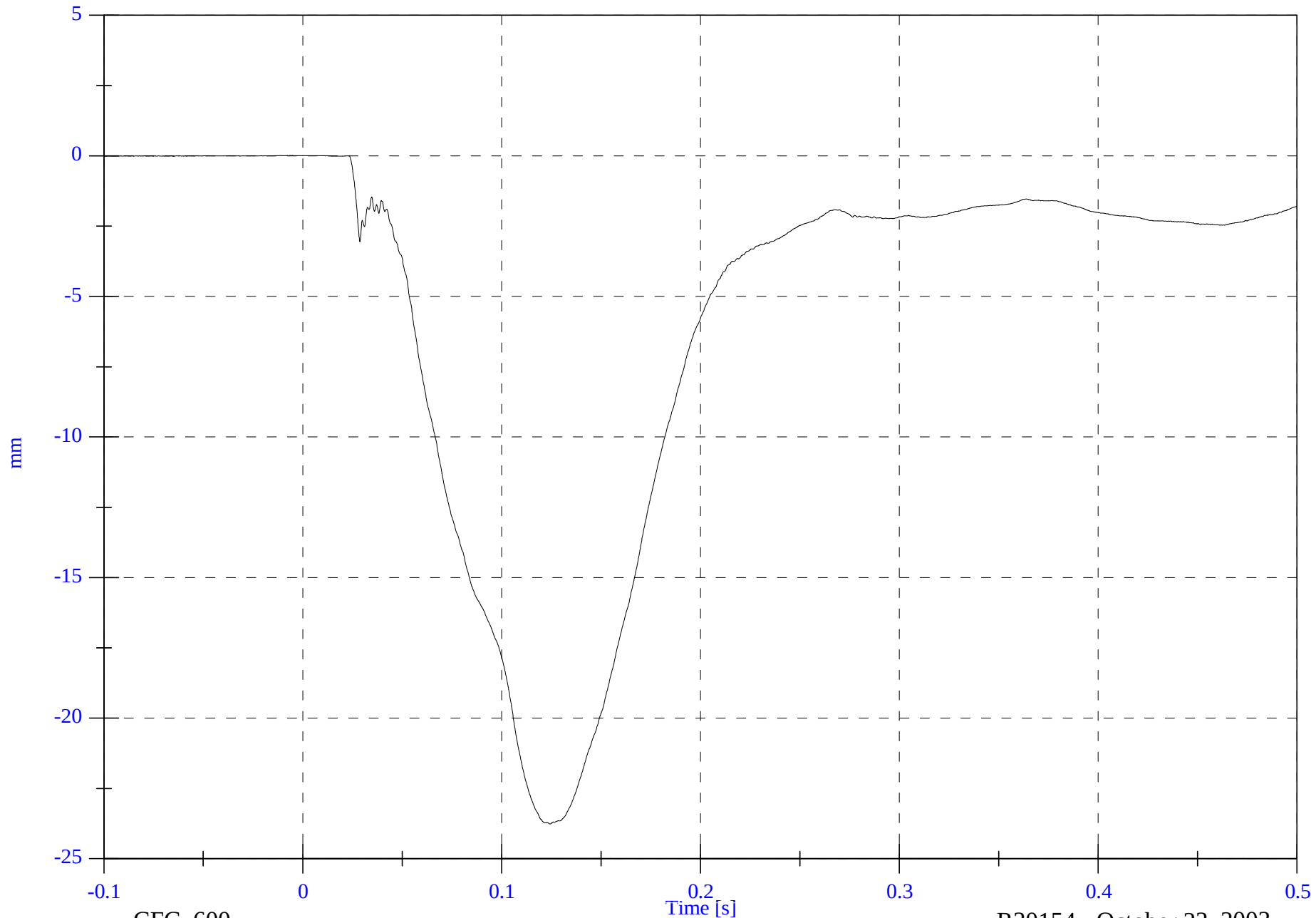
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Chest Displacement

Max: 0.0 [mm] at -0.005 [s]

Min: -23.8 [mm] at 0.124 [s]



B-48

8710-OFST-02

CFC_600

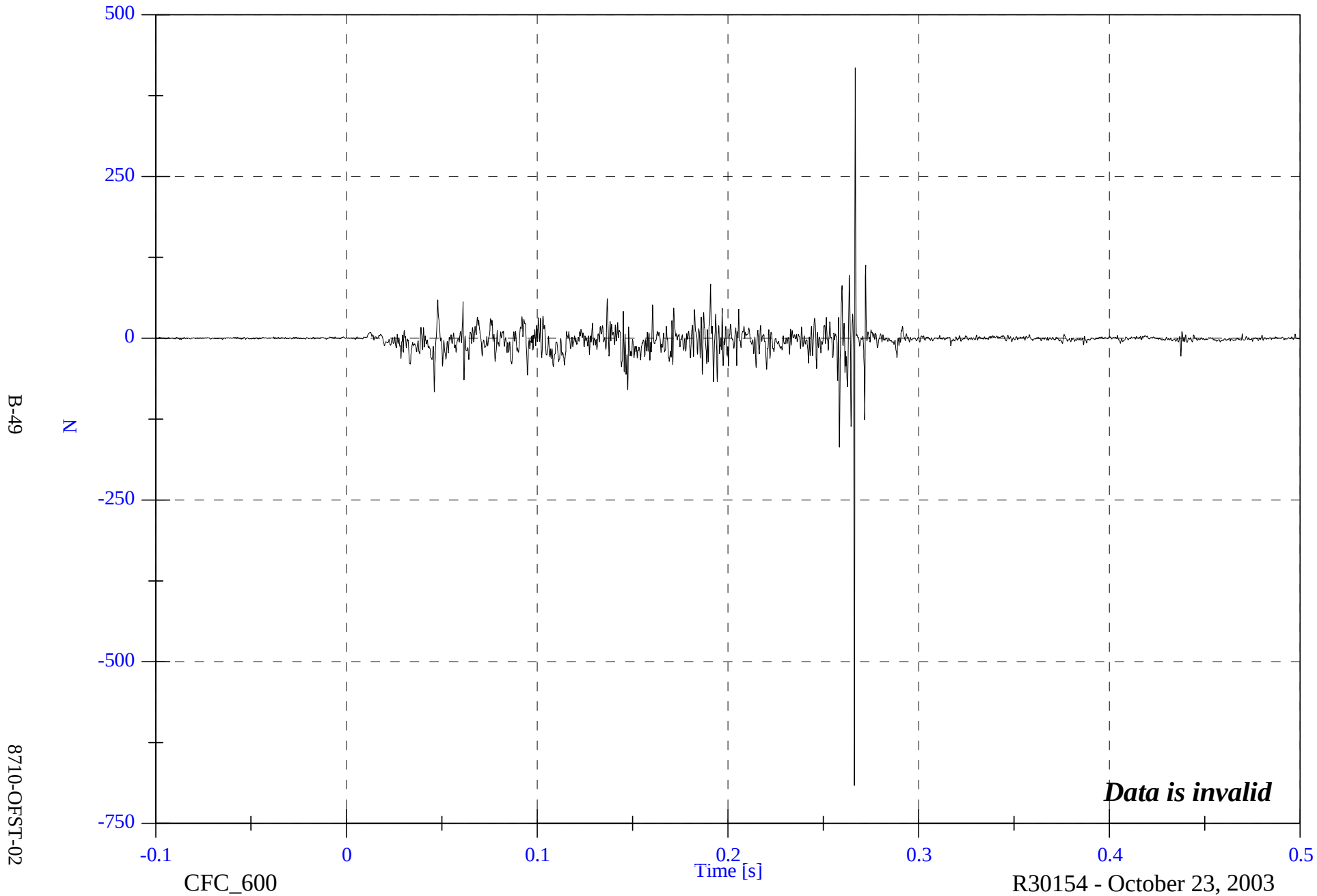
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Femur

Max: 418.3 [N] at 0.267 [s]

Min: -691.2 [N] at 0.266 [s]

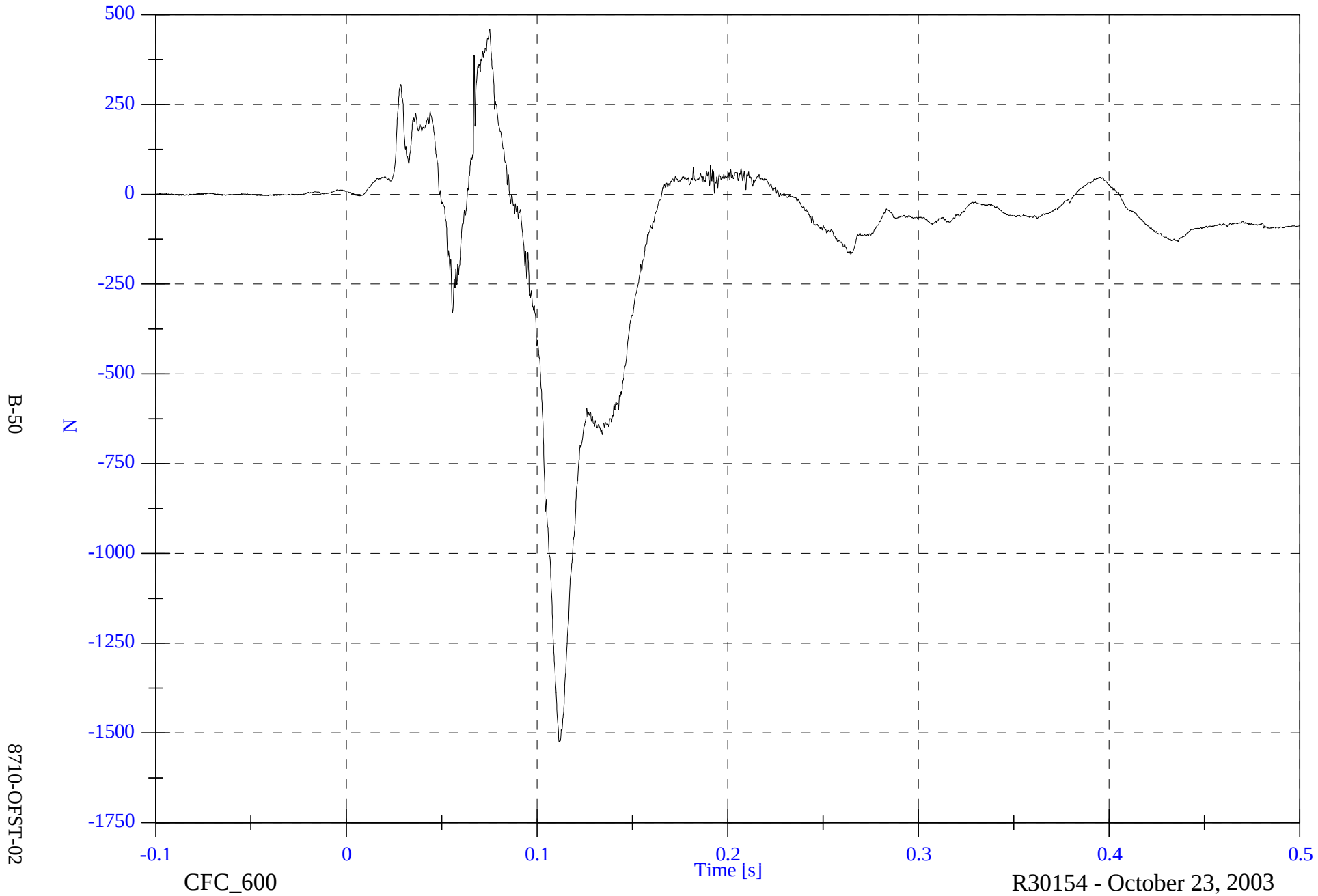


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Femur

Max: 458.3 [N] at 0.075 [s]

Min: -1523.7 [N] at 0.111 [s]

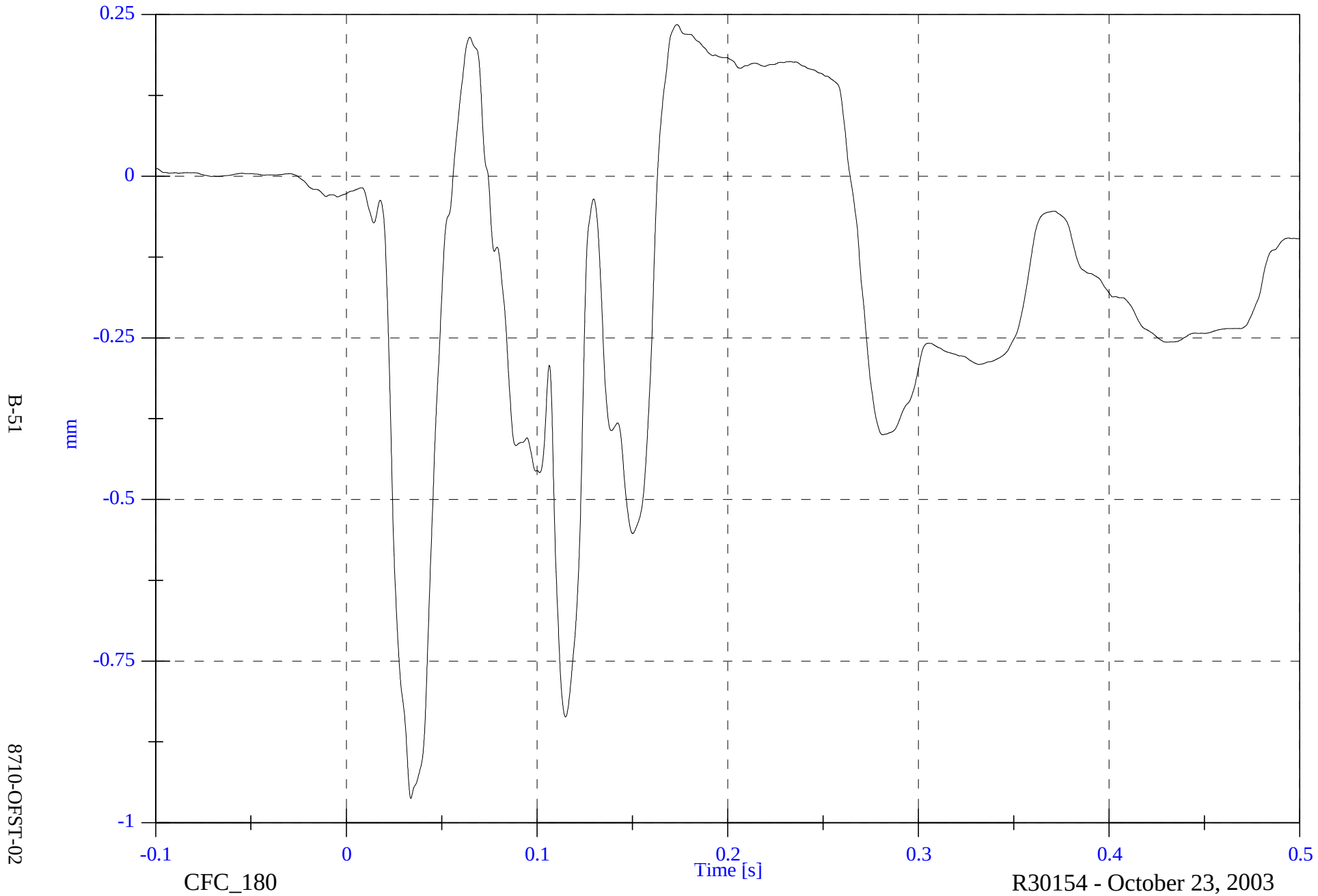


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Knee Shear

Max: 0.2 [mm] at 0.173 [s]

Min: -1.0 [mm] at 0.034 [s]

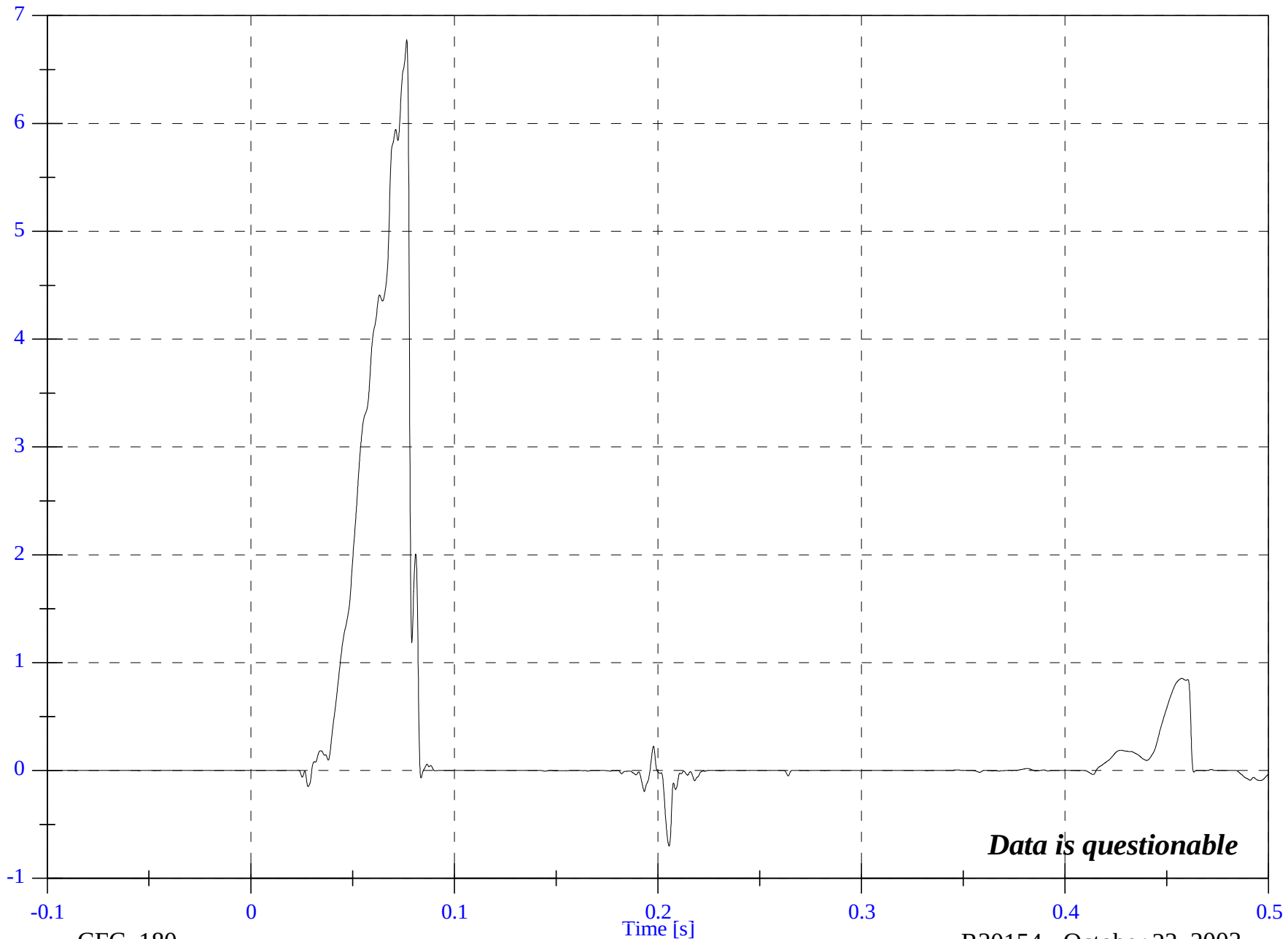


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Knee Shear

Max: 6.8 [mm] at 0.077 [s]

Min: -0.7 [mm] at 0.205 [s]



Data is questionable

B-52

8710-OFST-02

CFC_180

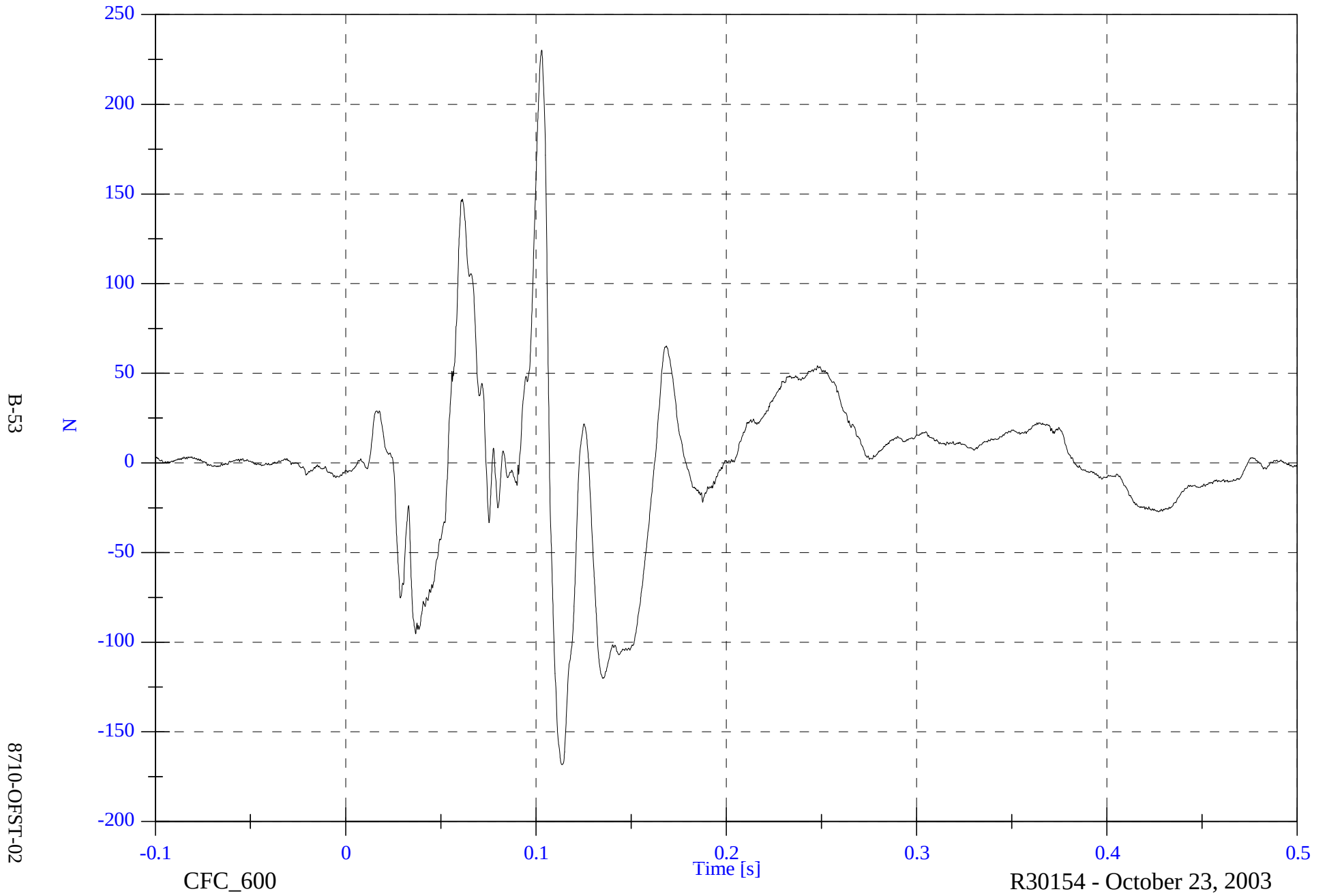
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Upper Tibia Fx

Max: 230.3 [N] at 0.103 [s]

Min: -168.3 [N] at 0.114 [s]

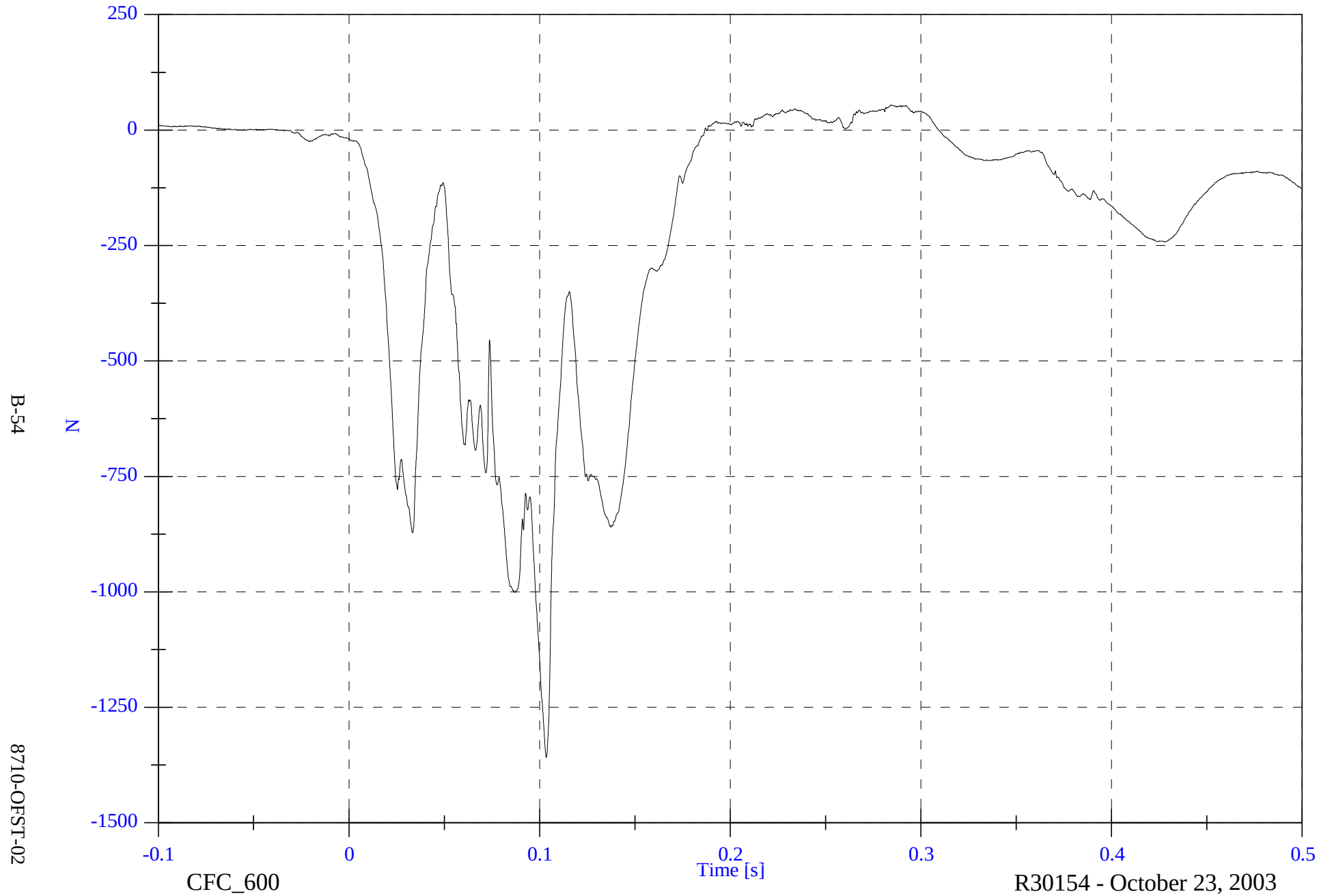


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Upper Tibia Fz

Max: 54.3 [N] at 0.284 [s]

Min: -1358.7 [N] at 0.103 [s]

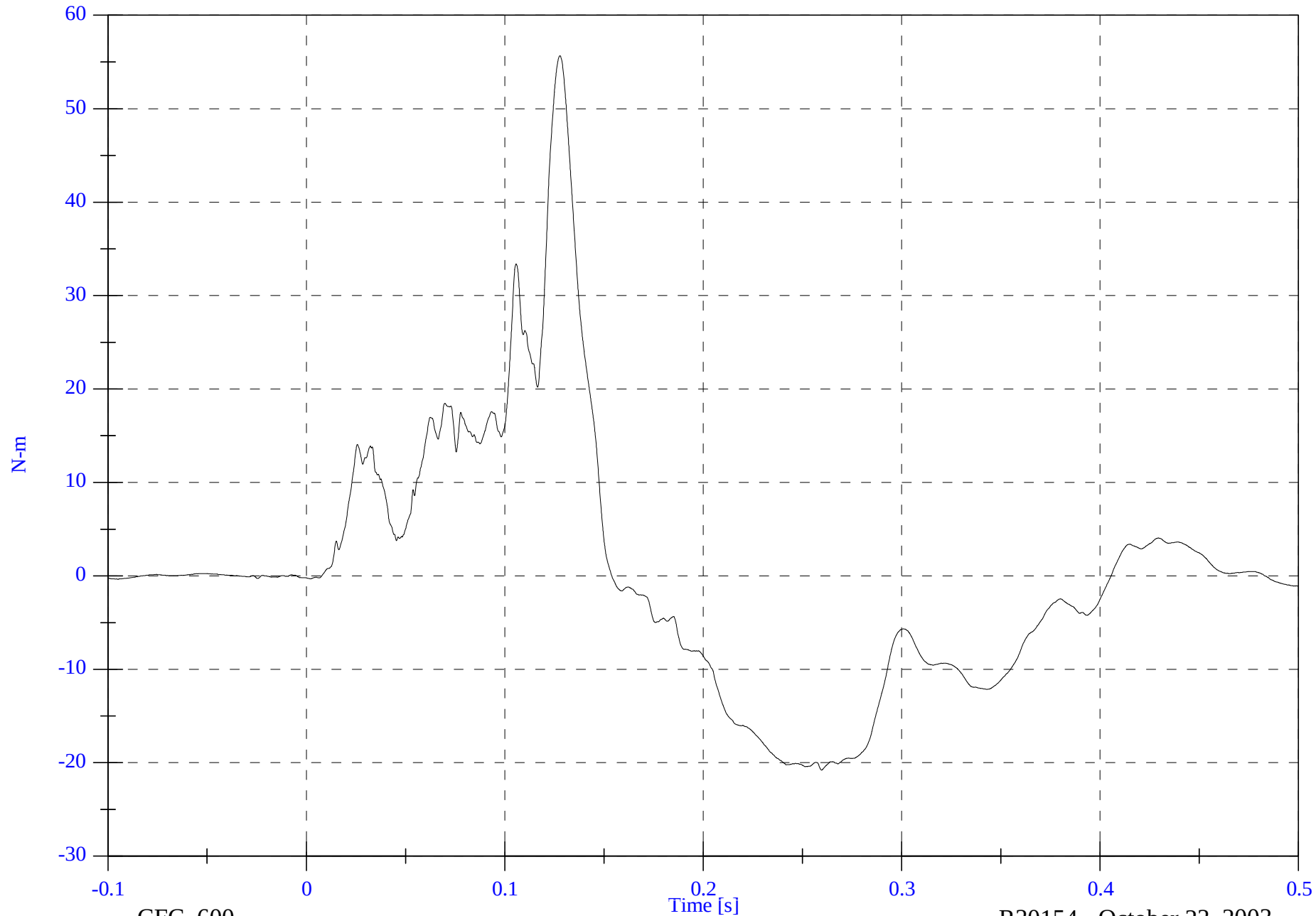


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Upper Tibia Mx

Max: 55.7 [N-m] at 0.128 [s]

Min: -20.8 [N-m] at 0.260 [s]



B-55

8710-OFST-02

CFC_600

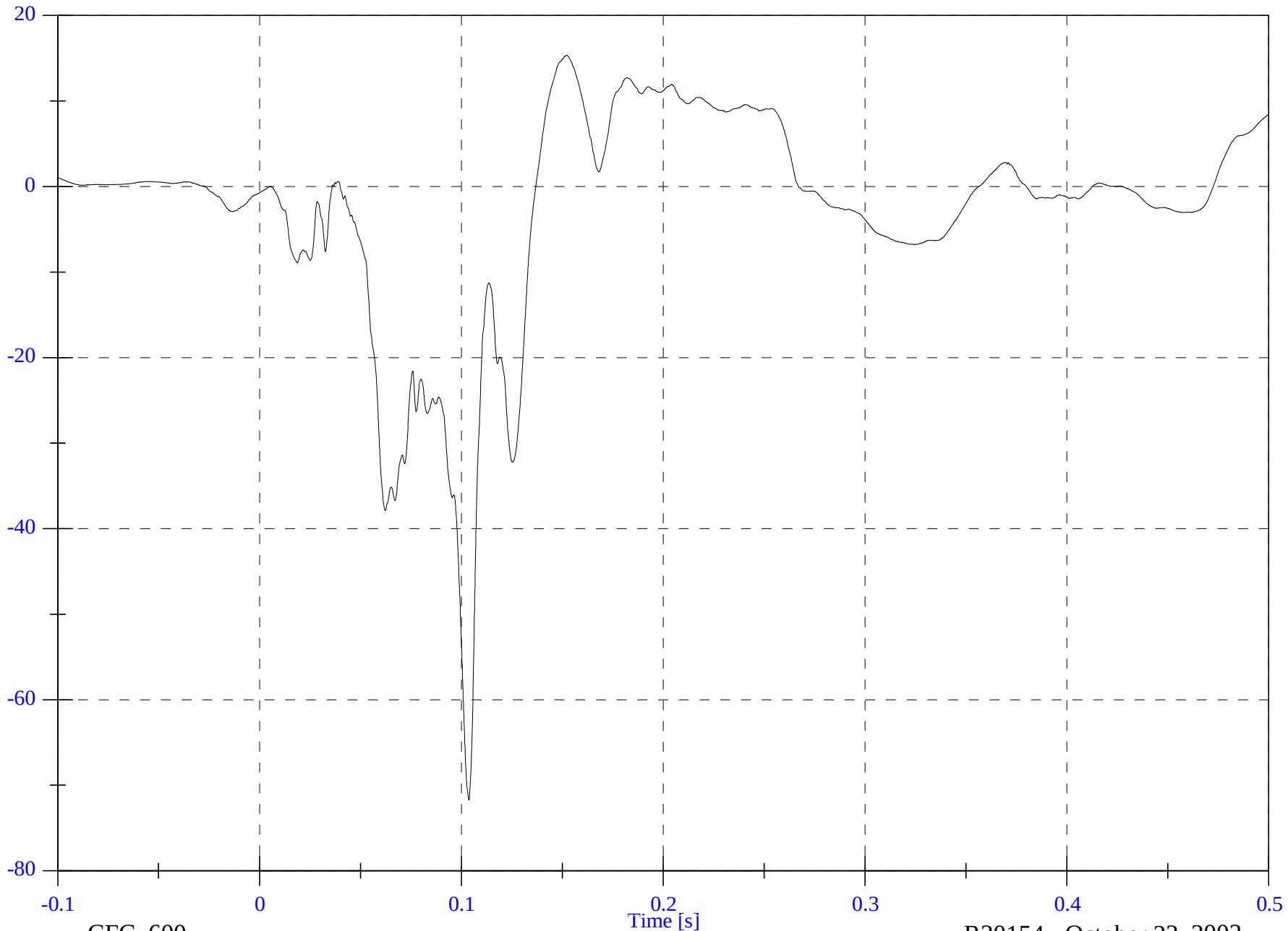
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Upper Tibia My

Max: 15.4 [N-m] at 0.152 [s]

Min: -71.7 [N-m] at 0.104 [s]



B-56

8710-OFST-02

CFC_600

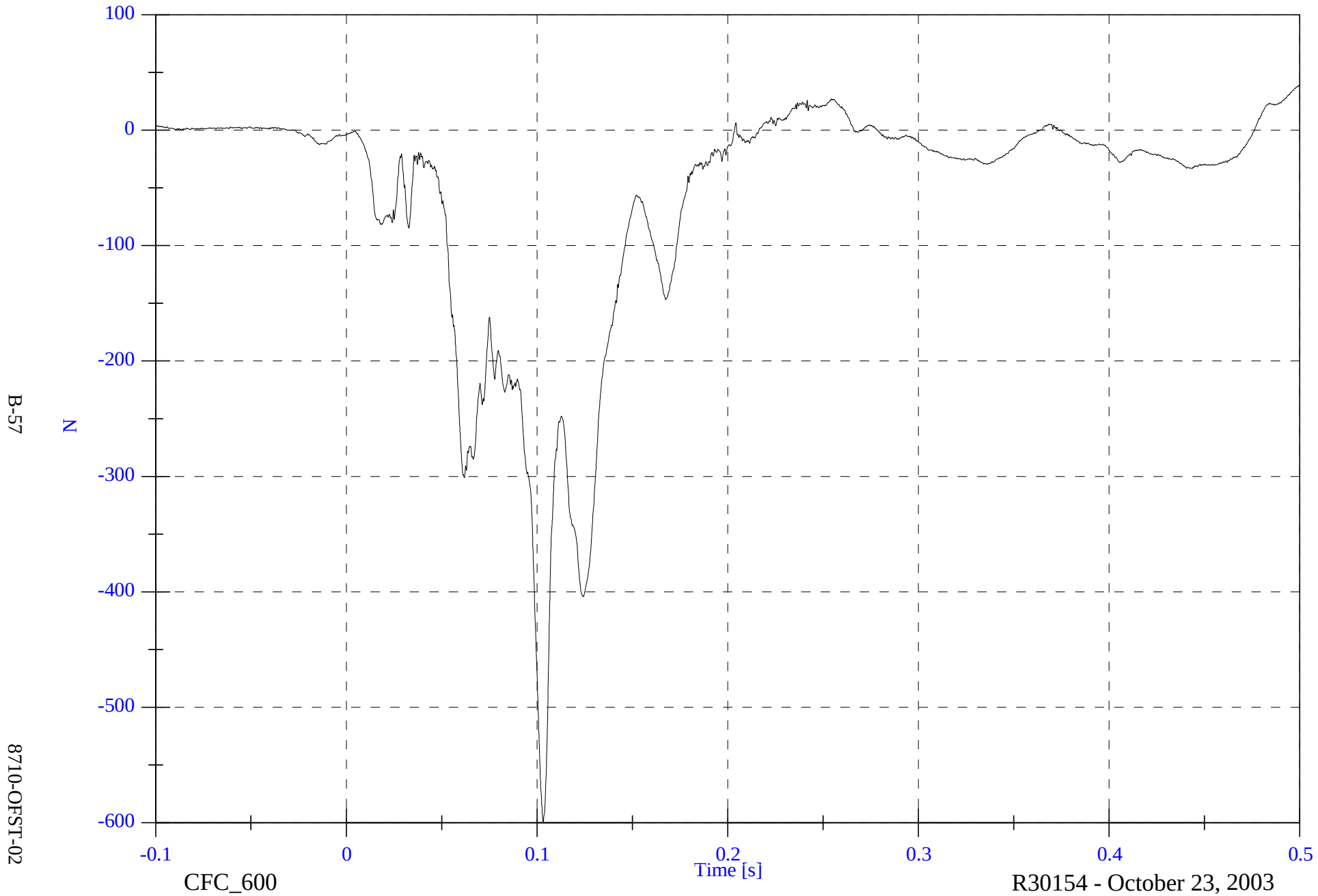
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Lower Tibia Fx

Max: 39.1 [N] at 0.500 [s]

Min: -599.1 [N] at 0.103 [s]

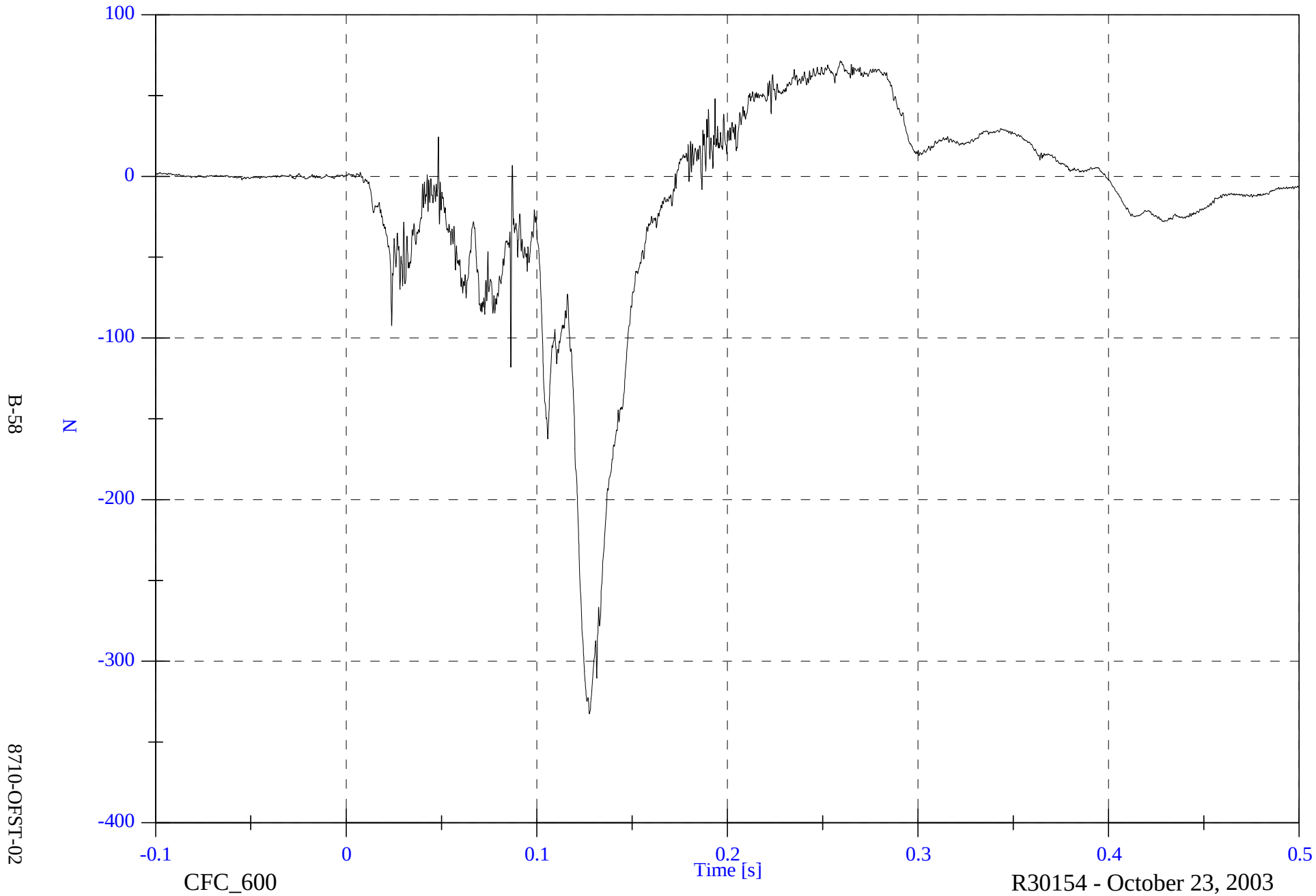


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Lower Tibia Fy

Max: 71.4 [N] at 0.259 [s]

Min: -332.6 [N] at 0.128 [s]

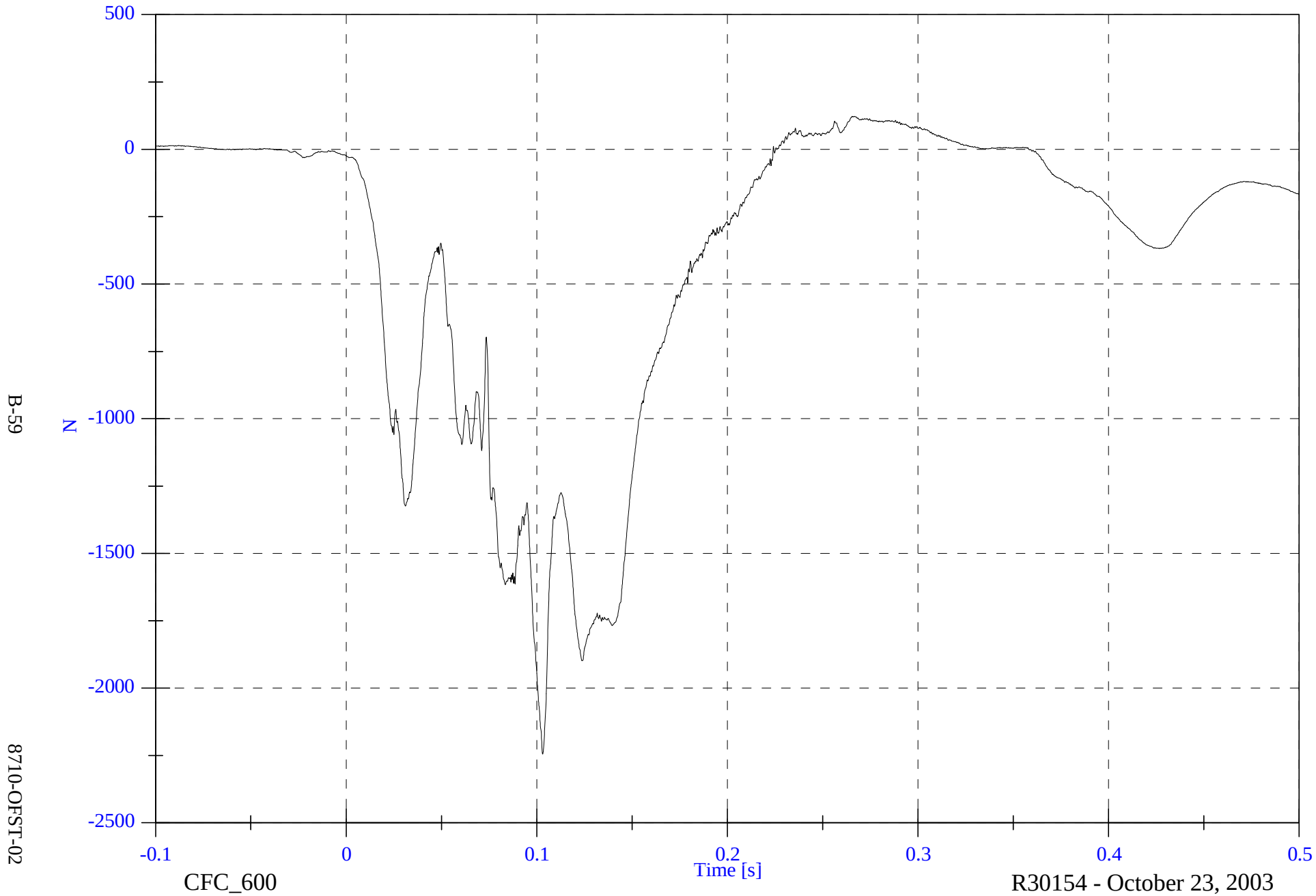


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Lower Tibia Fz

Max: 122.5 [N] at 0.265 [s]

Min: -2245.0 [N] at 0.103 [s]

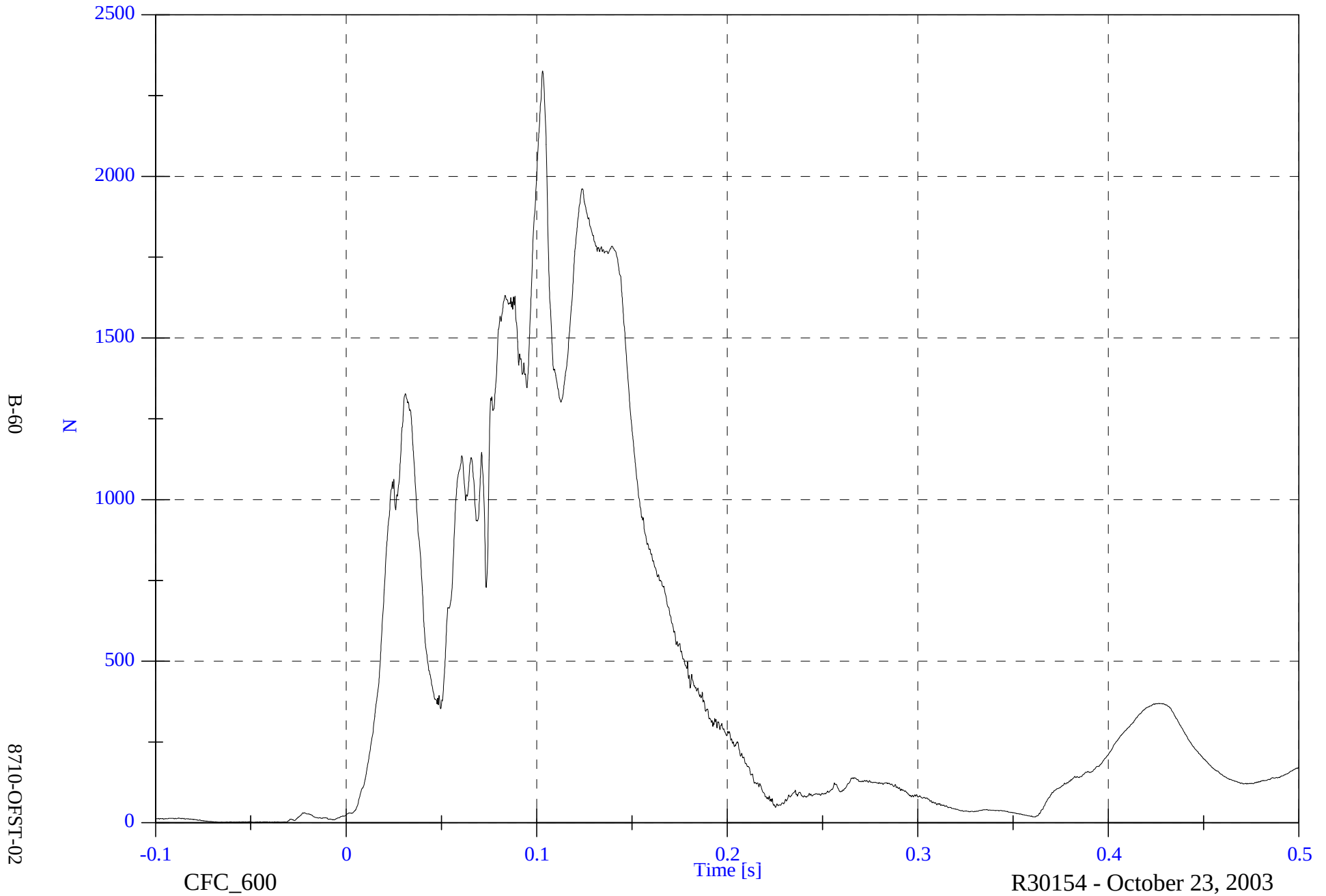


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Lower Tibia F Resultant

Max: 2325.8 [N] at 0.103 [s]

Min: 1.3 [N] at -0.034 [s]

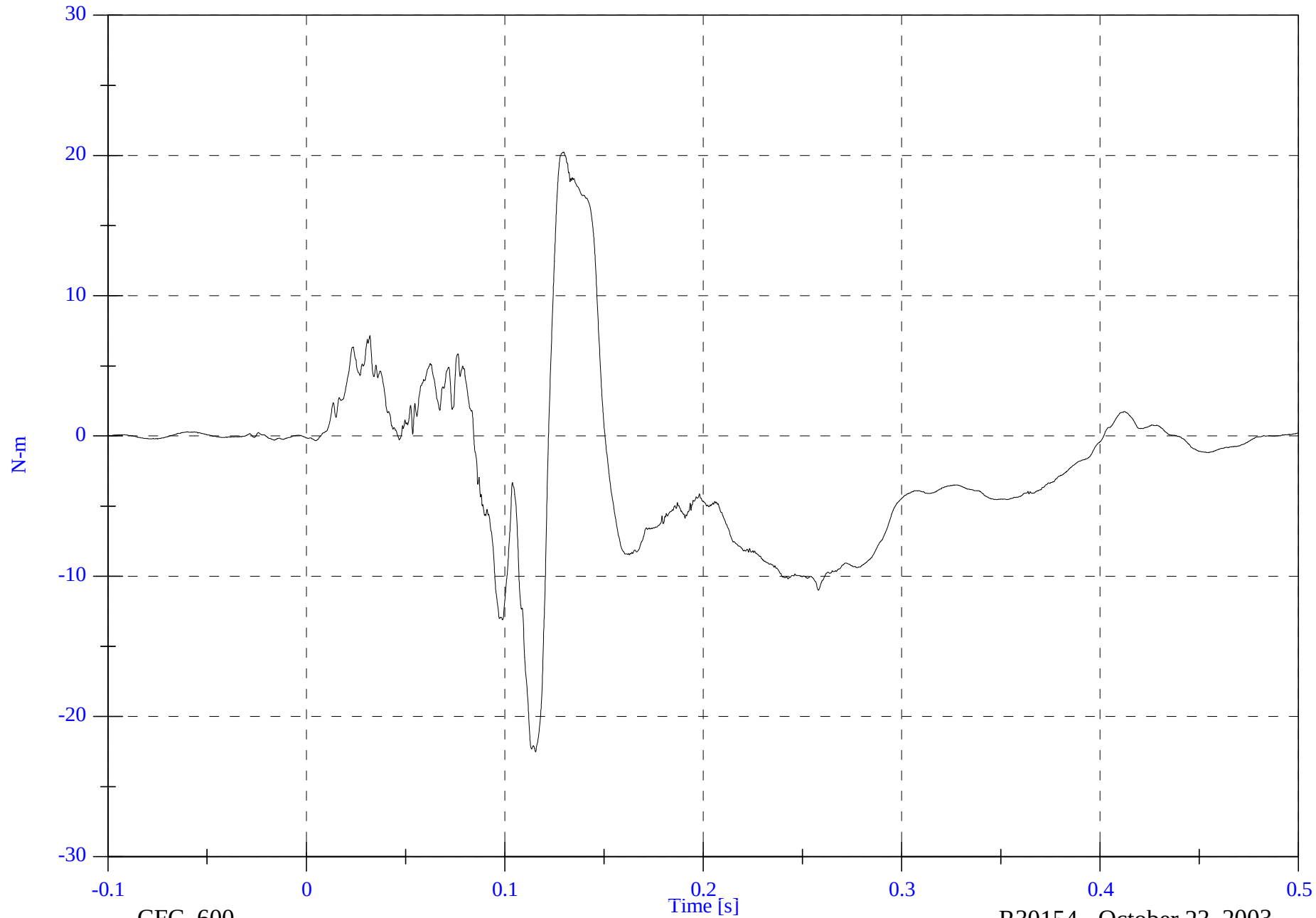


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Lower Tibia Mx

Max: 20.2 [N-m] at 0.130 [s]

Min: -22.5 [N-m] at 0.115 [s]



B-61

8710-OFST-02

CFC_600

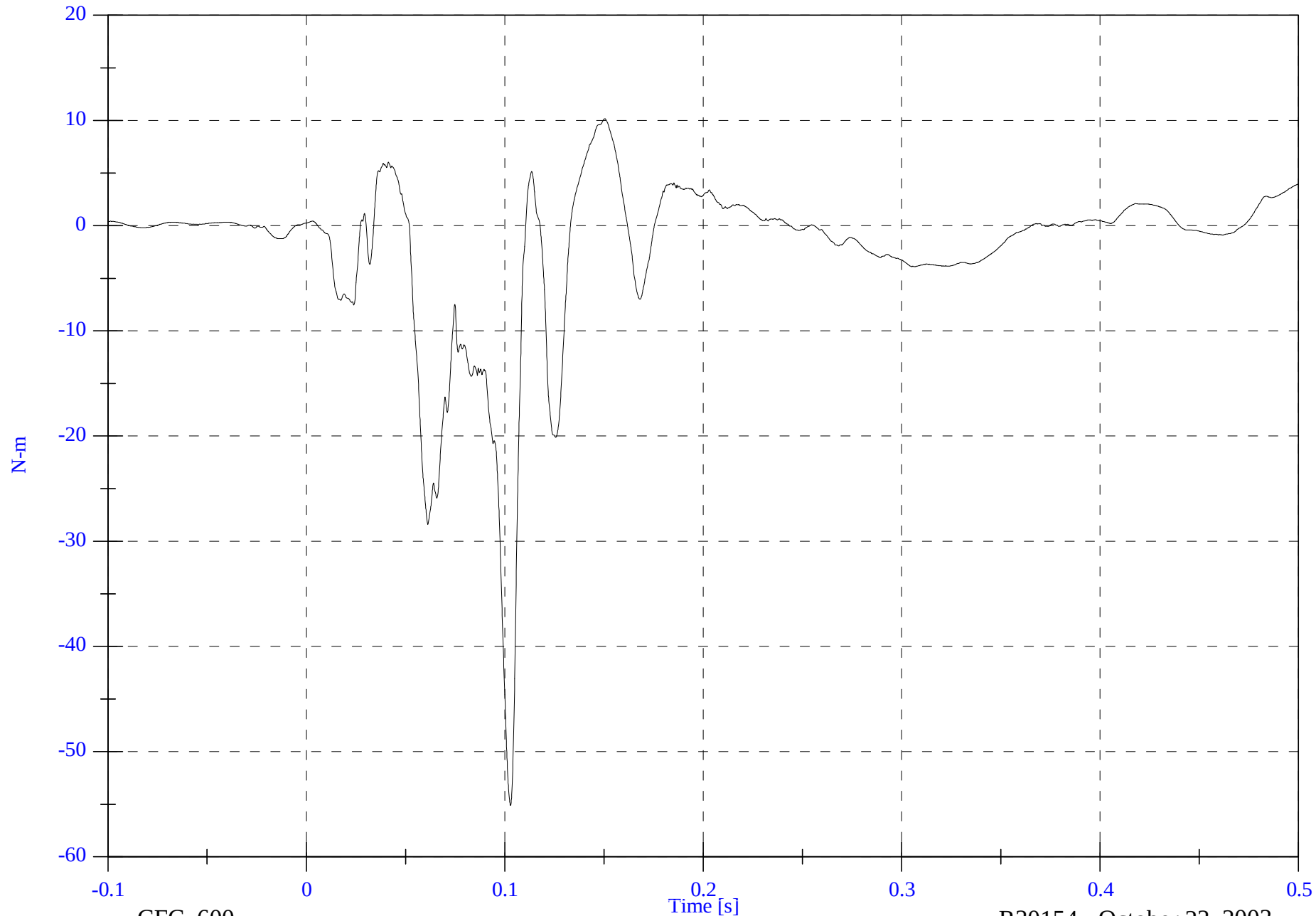
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Lower Tibia My

Max: 10.2 [N-m] at 0.150 [s]

Min: -55.1 [N-m] at 0.103 [s]



B-62

8710-OFST-02

CFC_600

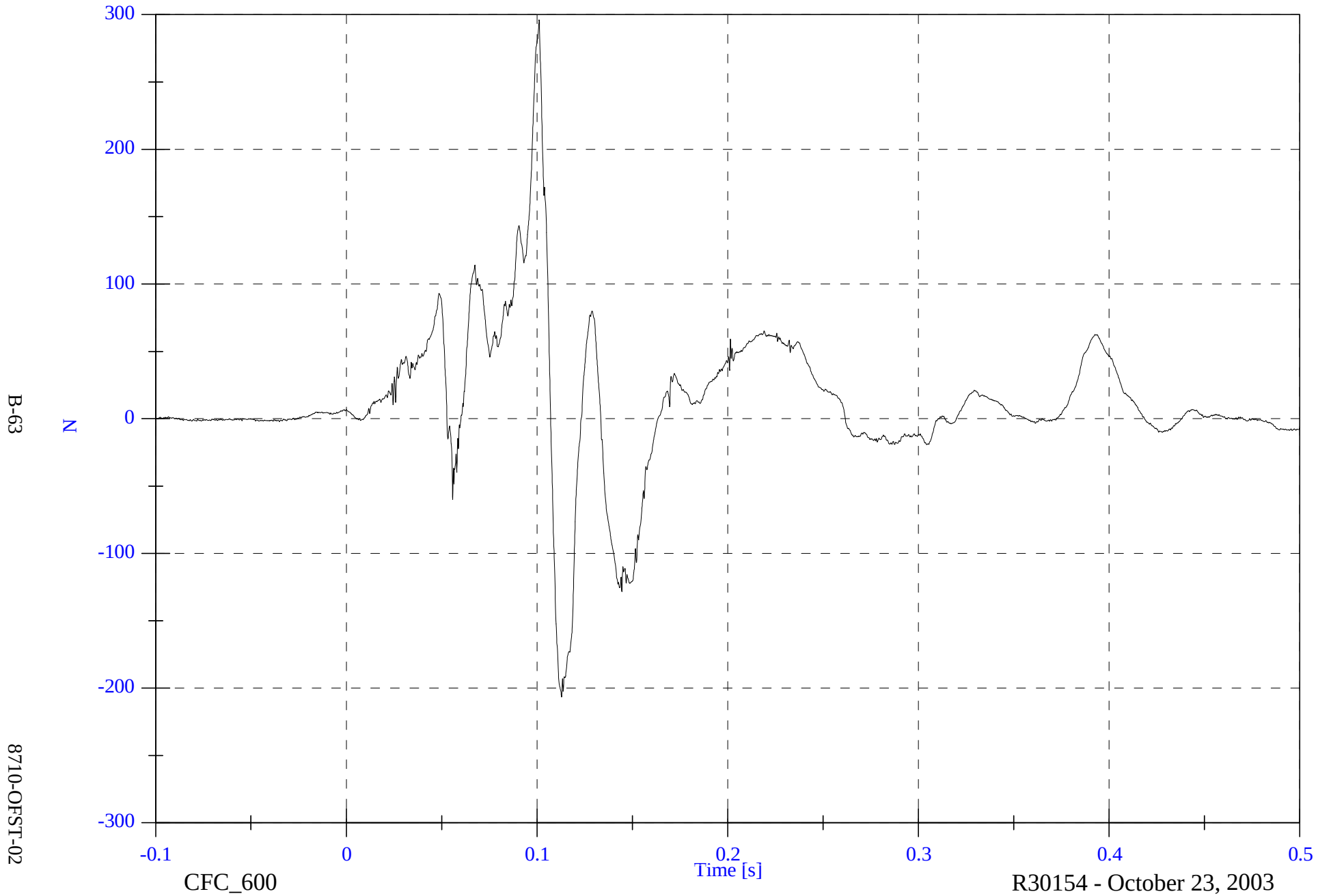
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Upper Tibia Fx

Max: 296.2 [N] at 0.101 [s]

Min: -206.6 [N] at 0.113 [s]

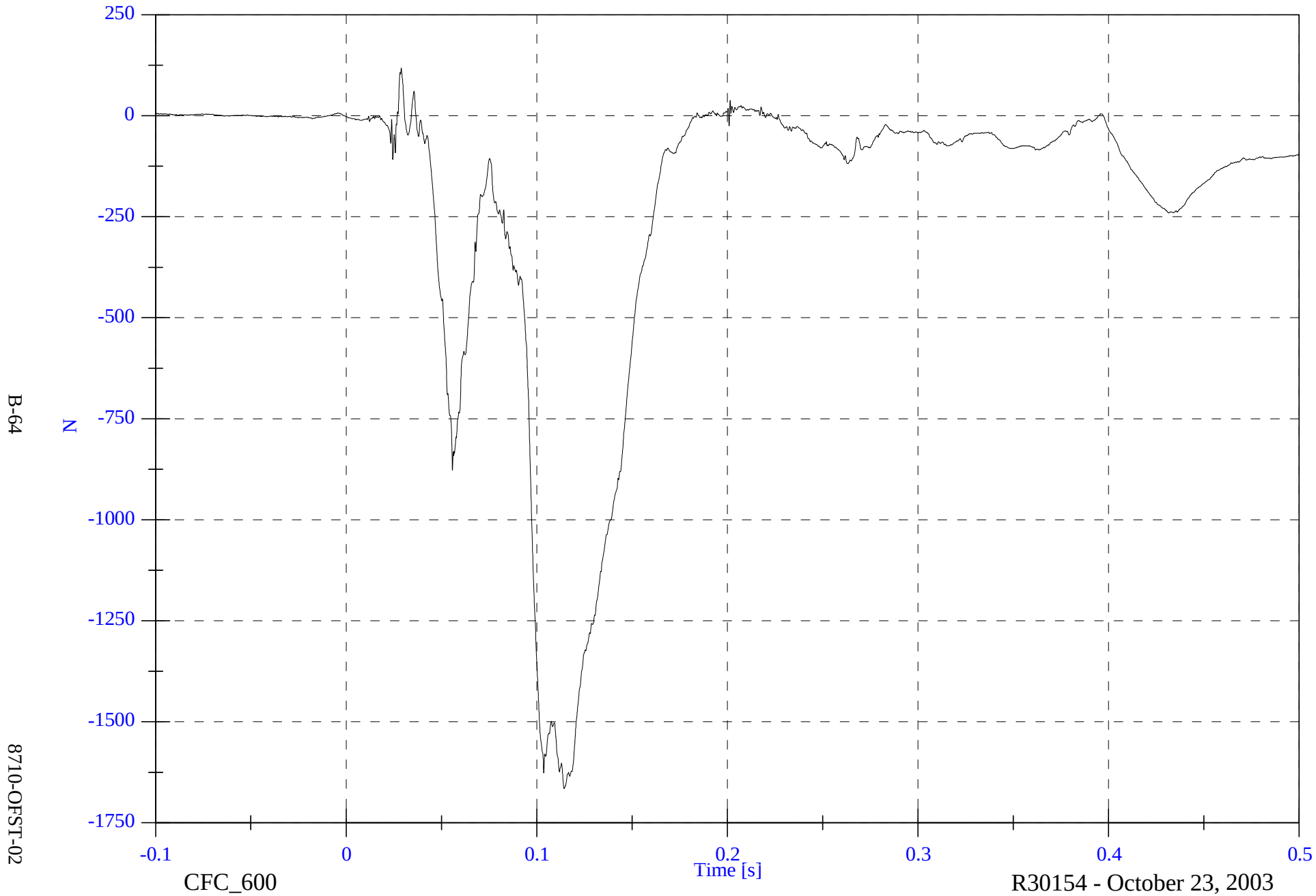


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Upper Tibia Fz

Max: 117.9 [N] at 0.029 [s]

Min: -1665.8 [N] at 0.114 [s]

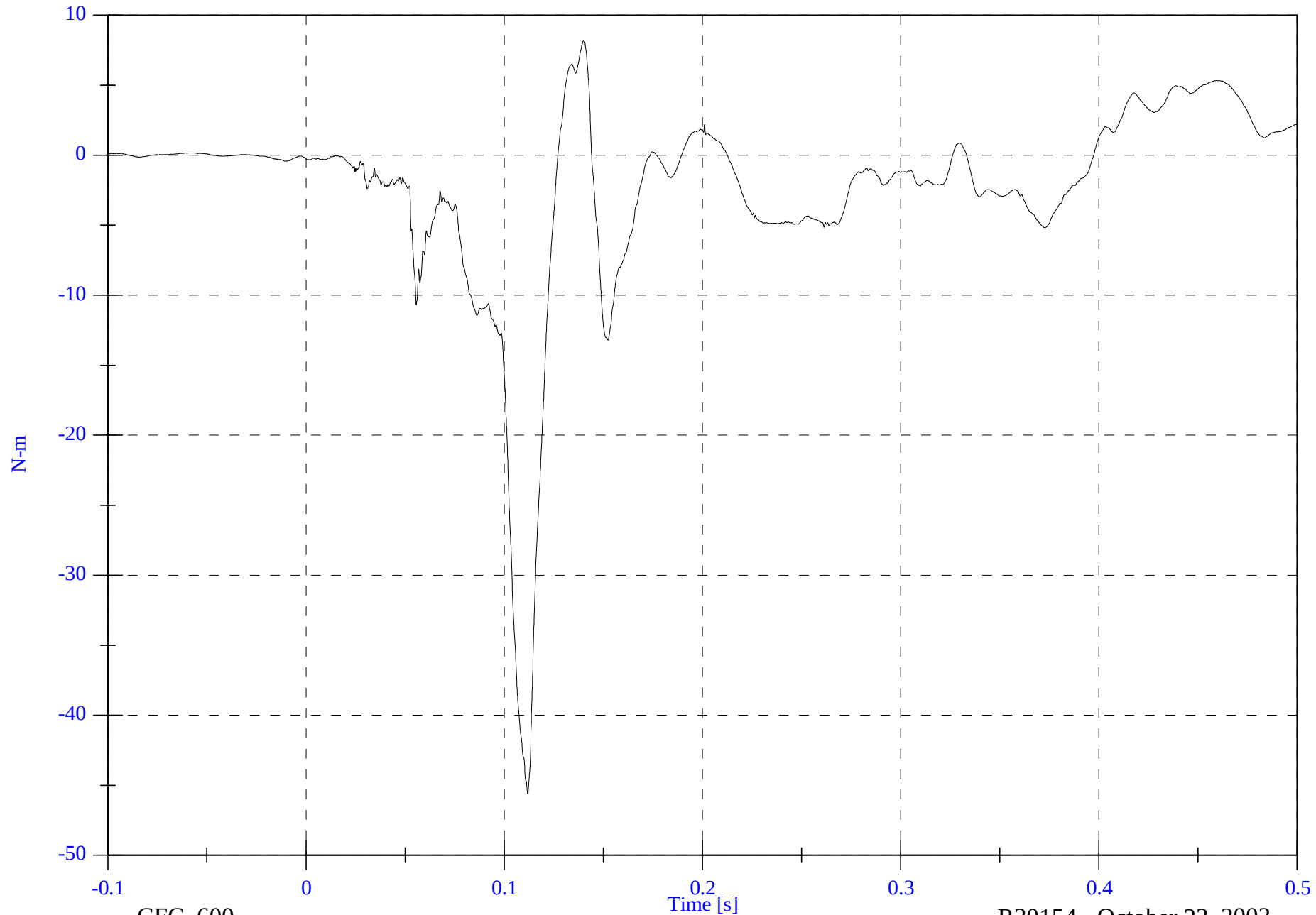


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Upper Tibia Mx

Max: 8.2 [N-m] at 0.140 [s]

Min: -45.6 [N-m] at 0.112 [s]



B-65

8710-OFST-02

CFC_600

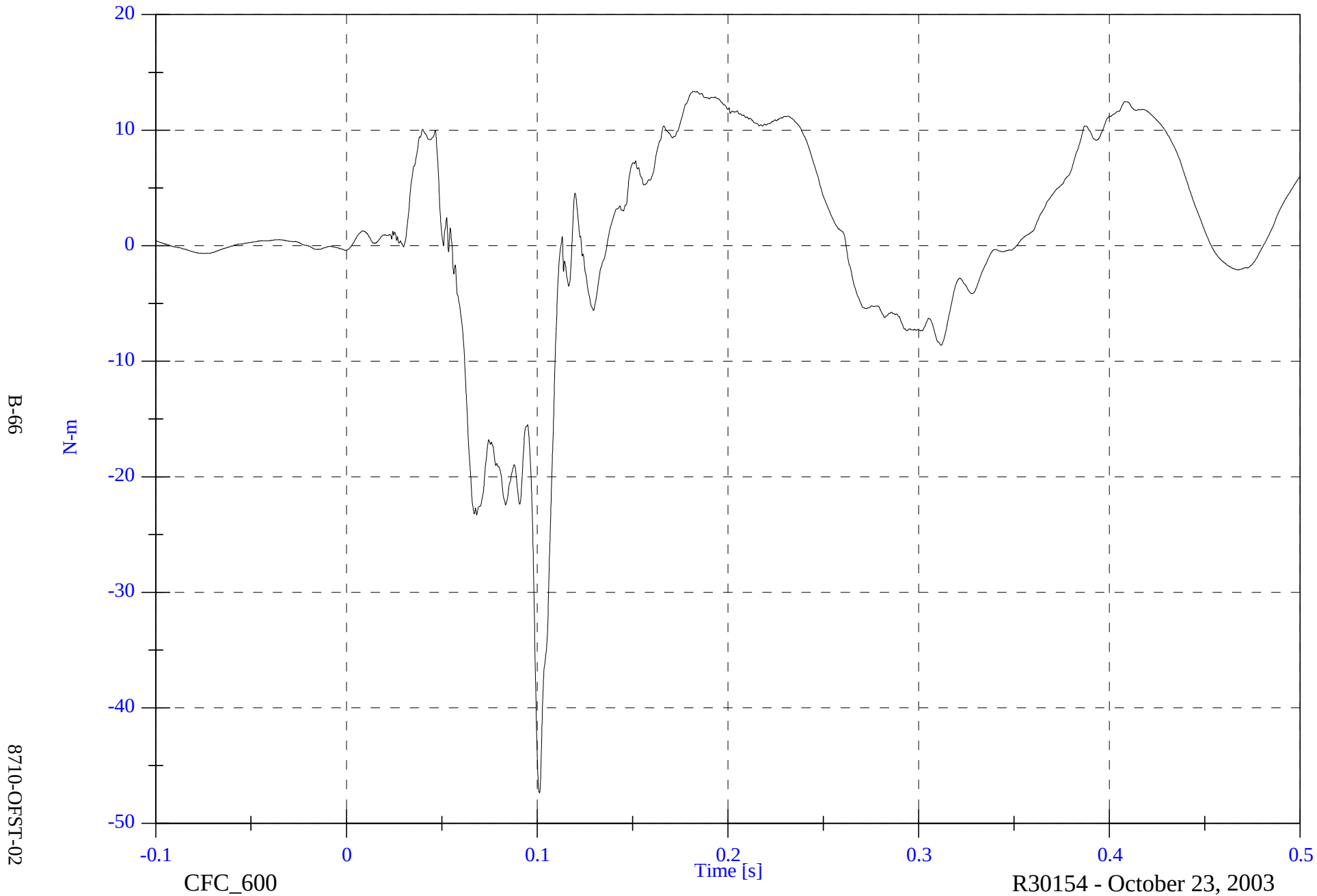
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Upper Tibia My

Max: 13.4 [N-m] at 0.182 [s]

Min: -47.4 [N-m] at 0.101 [s]

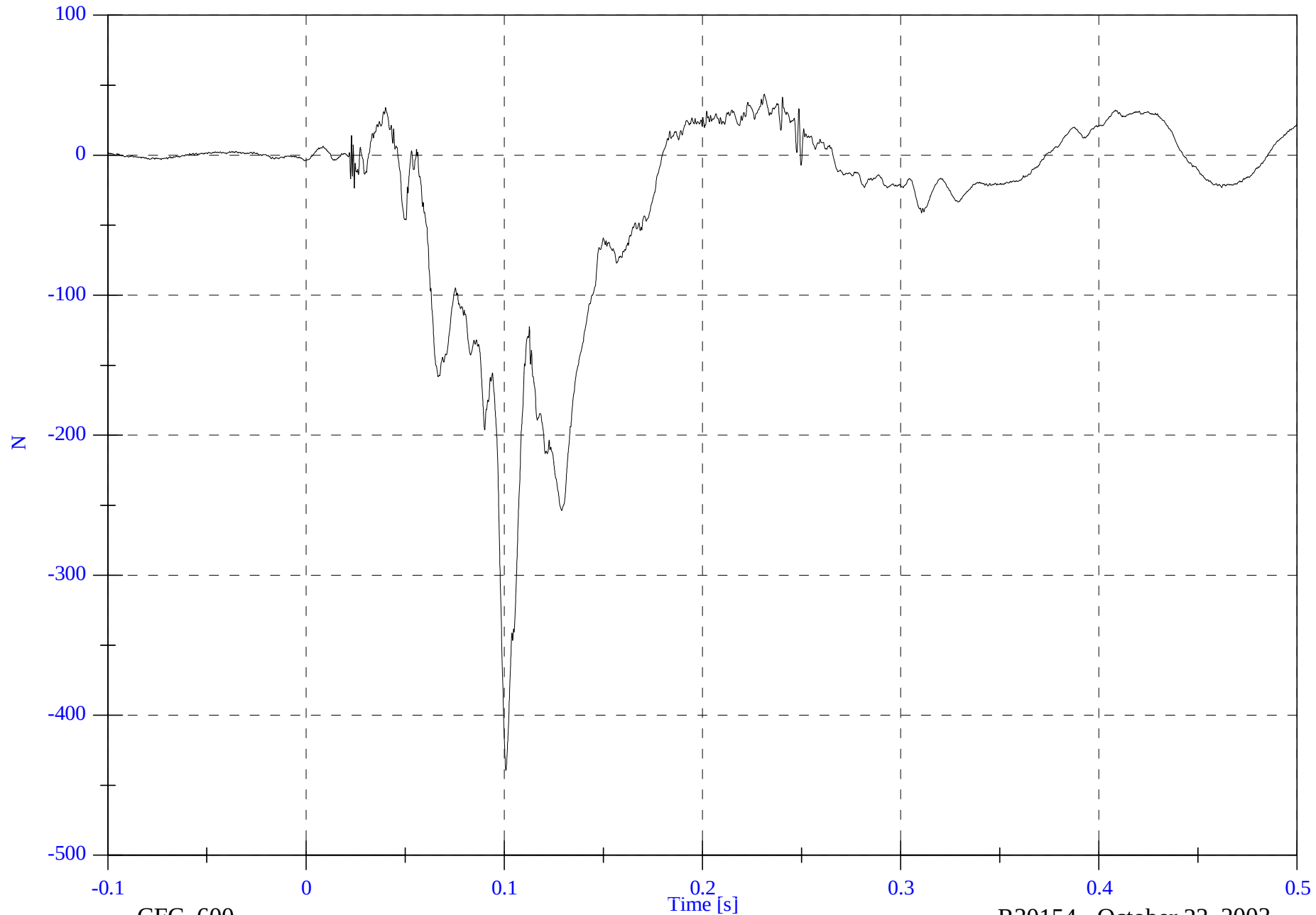


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Lower Tibia Fx

Max: 43.7 [N] at 0.231 [s]

Min: -439.4 [N] at 0.101 [s]



B-67

8710-OFST-02

CFC_600

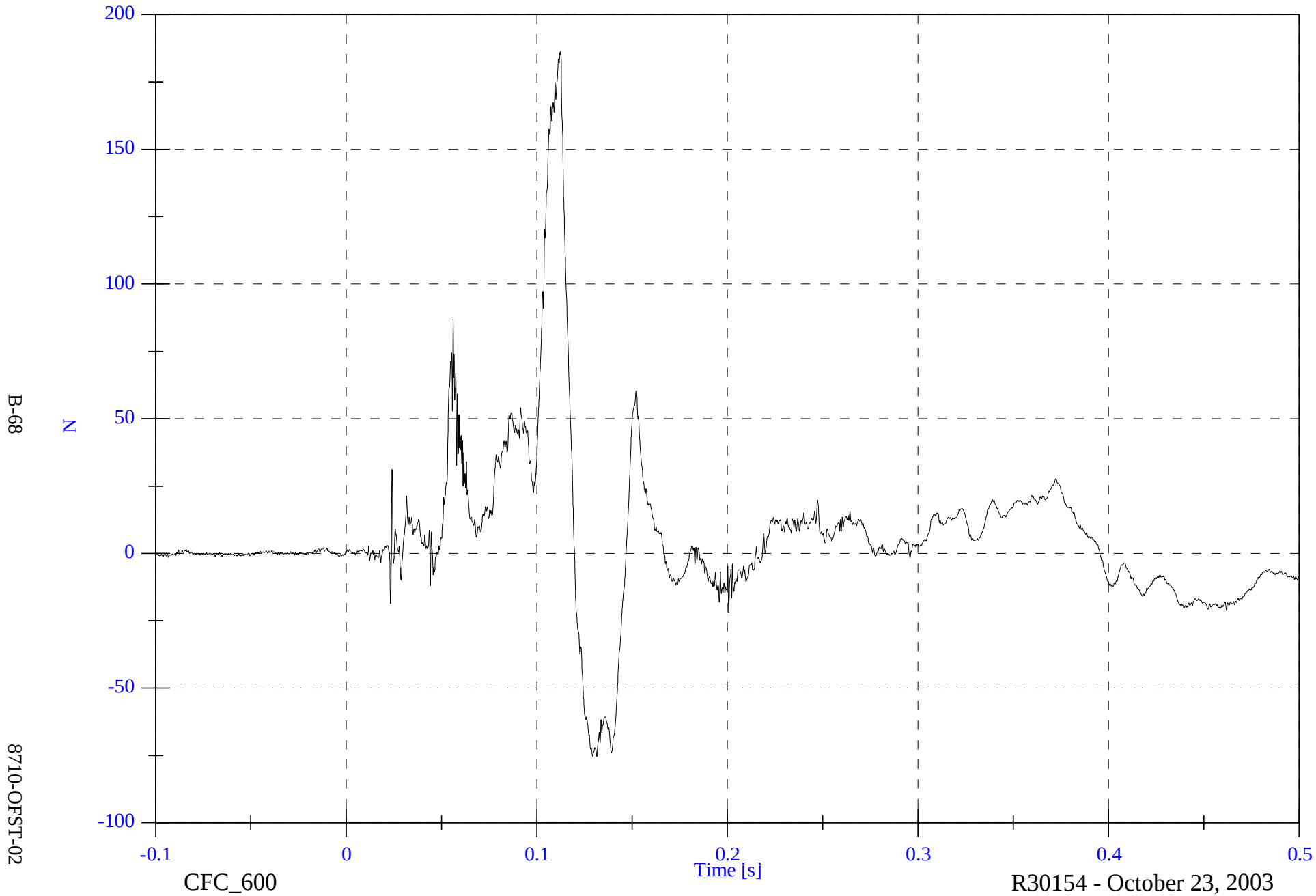
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Lower Tibia Fy

Max: 186.5 [N] at 0.113 [s]

Min: -75.4 [N] at 0.131 [s]

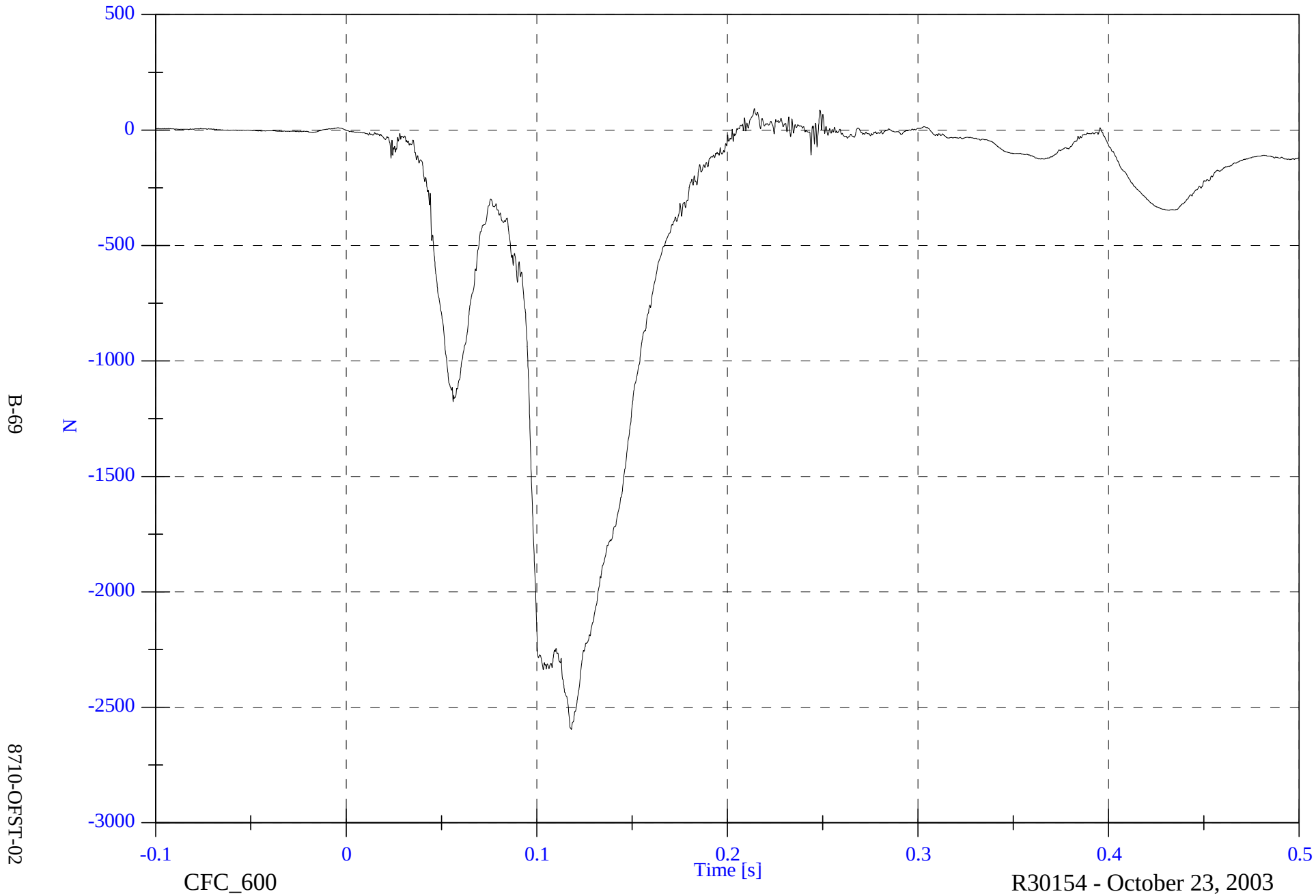


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Lower Tibia Fz

Max: 93.2 [N] at 0.214 [s]

Min: -2596.3 [N] at 0.118 [s]

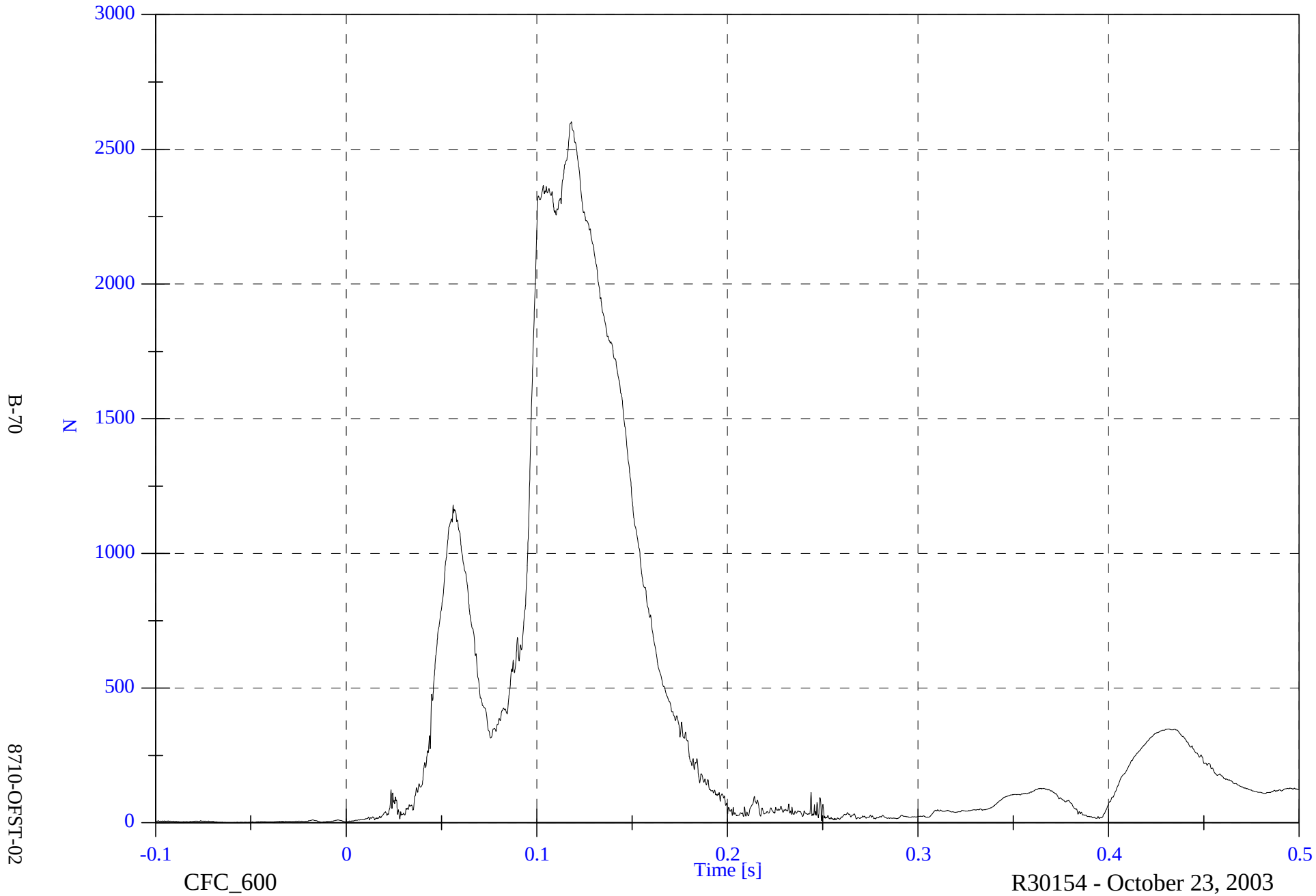


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Lower Tibia F Resultant

Max: 2603.1 [N] at 0.118 [s]

Min: 0.1 [N] at -0.056 [s]

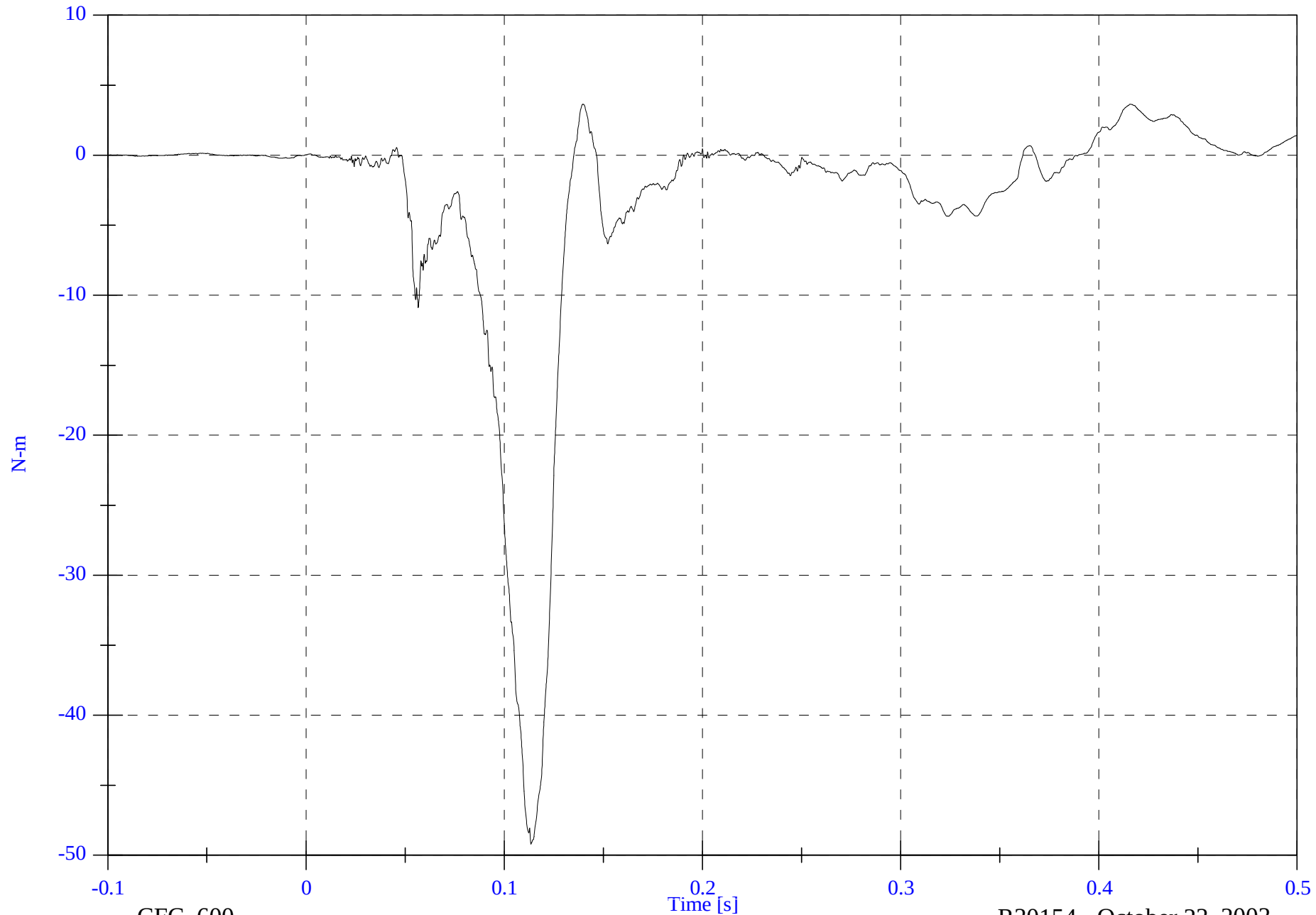


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Lower Tibia Mx

Max: 3.7 [N-m] at 0.416 [s]

Min: -49.2 [N-m] at 0.114 [s]



B-71

8710-OFST-02

CFC_600

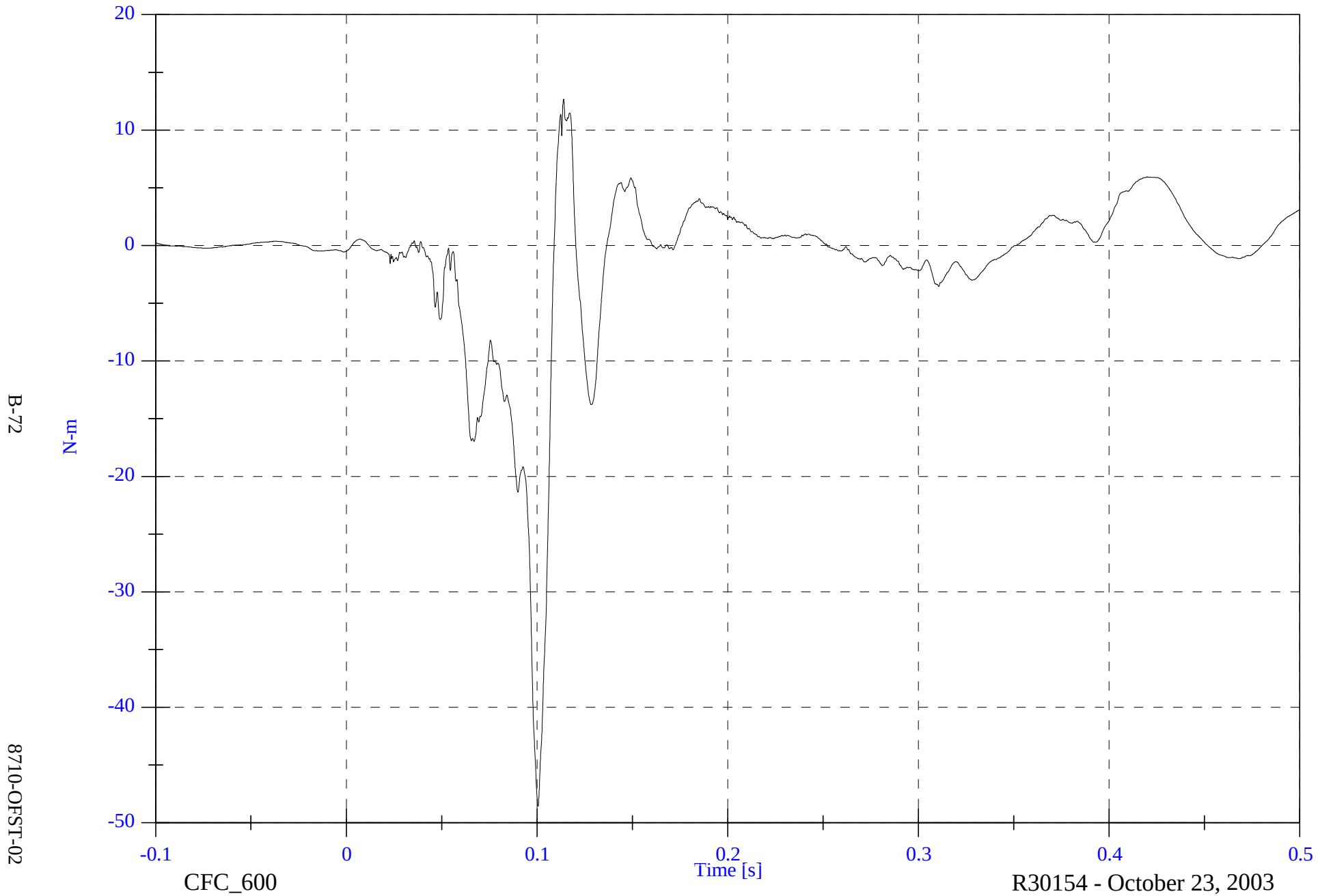
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Lower Tibia My

Max: 12.7 [N-m] at 0.114 [s]

Min: -48.6 [N-m] at 0.100 [s]

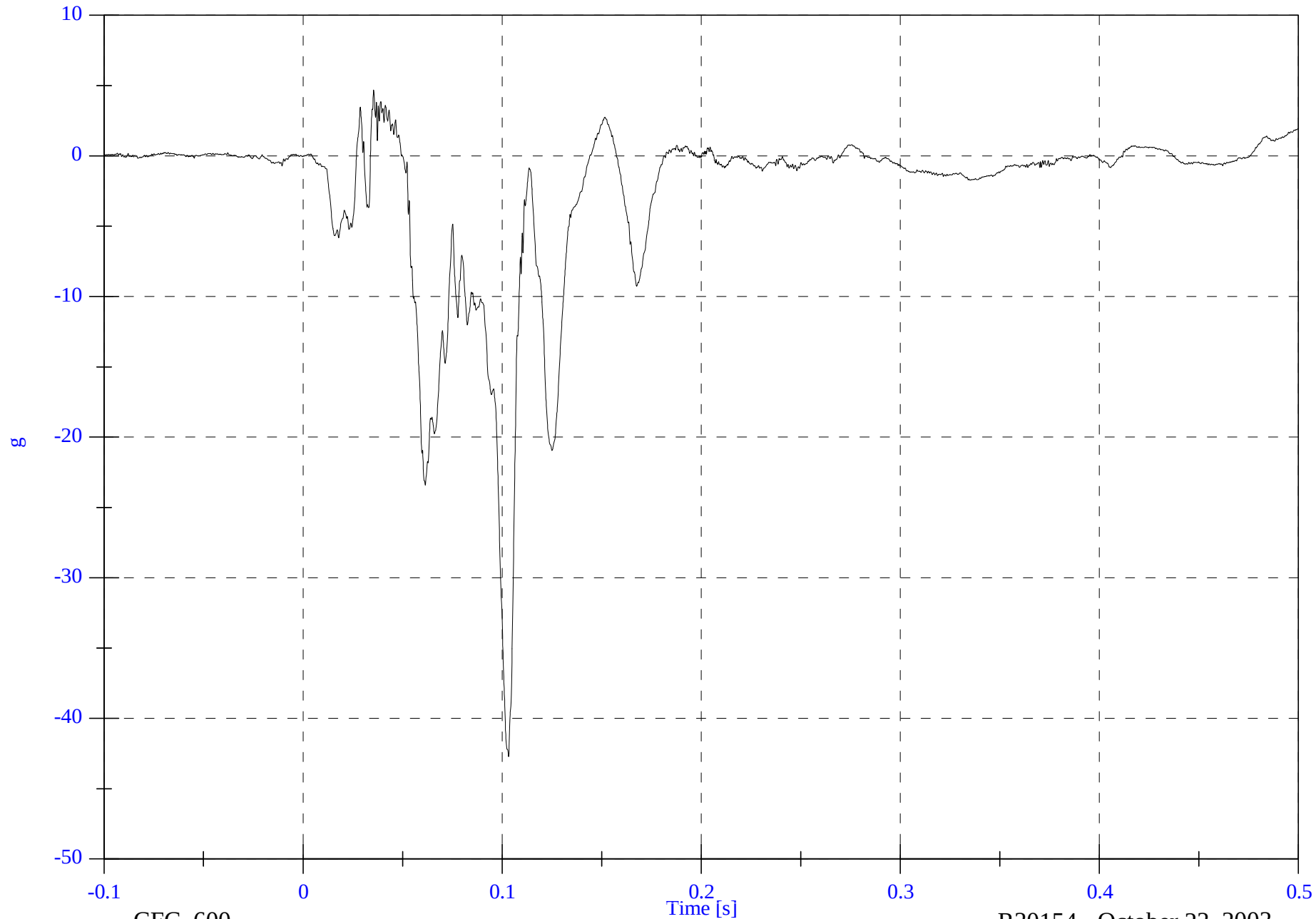


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Tibia x

Max: 4.7 [g] at 0.035 [s]

Min: -42.7 [g] at 0.103 [s]



B-73

8710-OFST-02

CFC_600

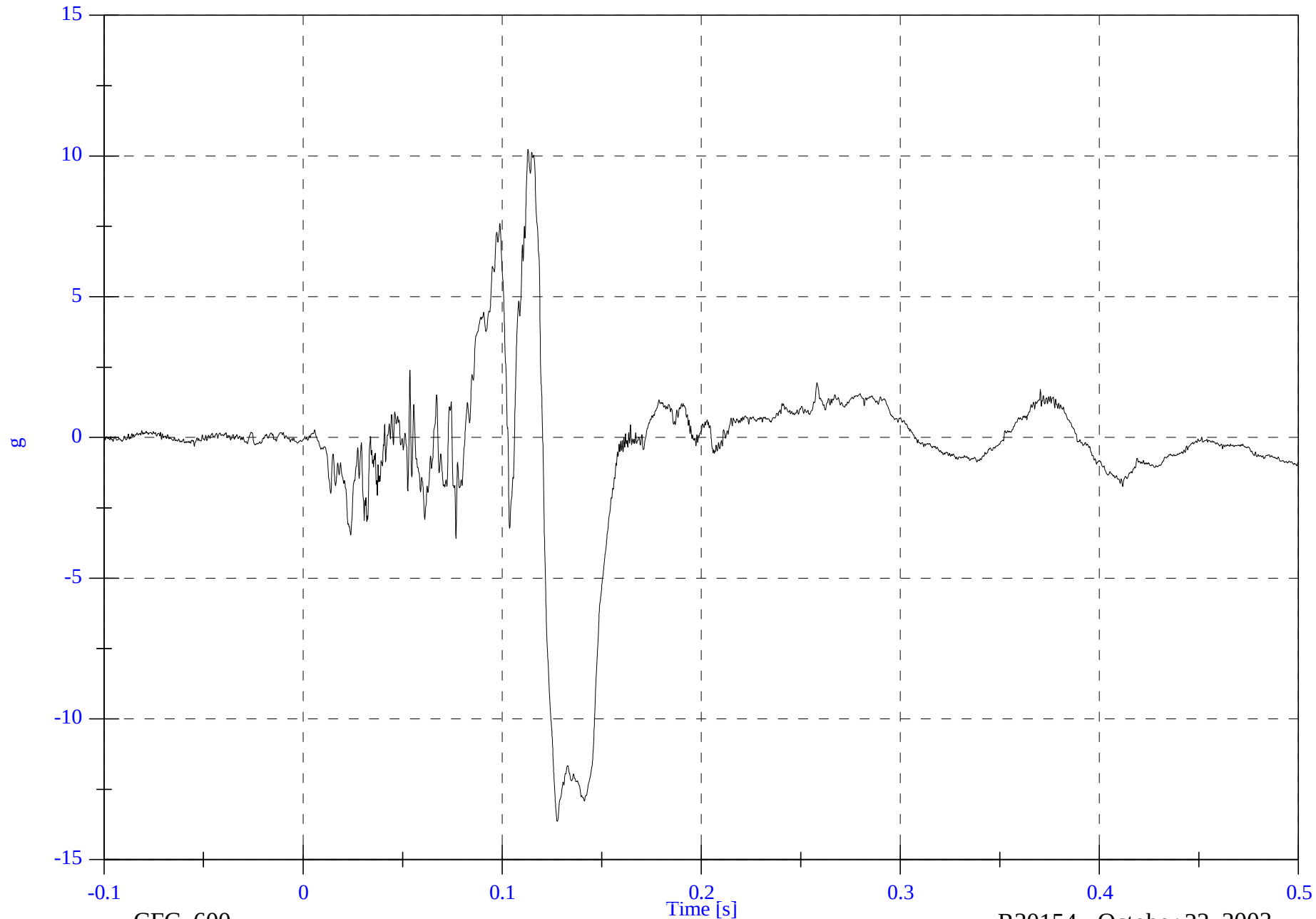
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Tibia y

Max: 10.2 [g] at 0.113 [s]

Min: -13.6 [g] at 0.128 [s]



B-74

8710-OFST-02

CFC_600

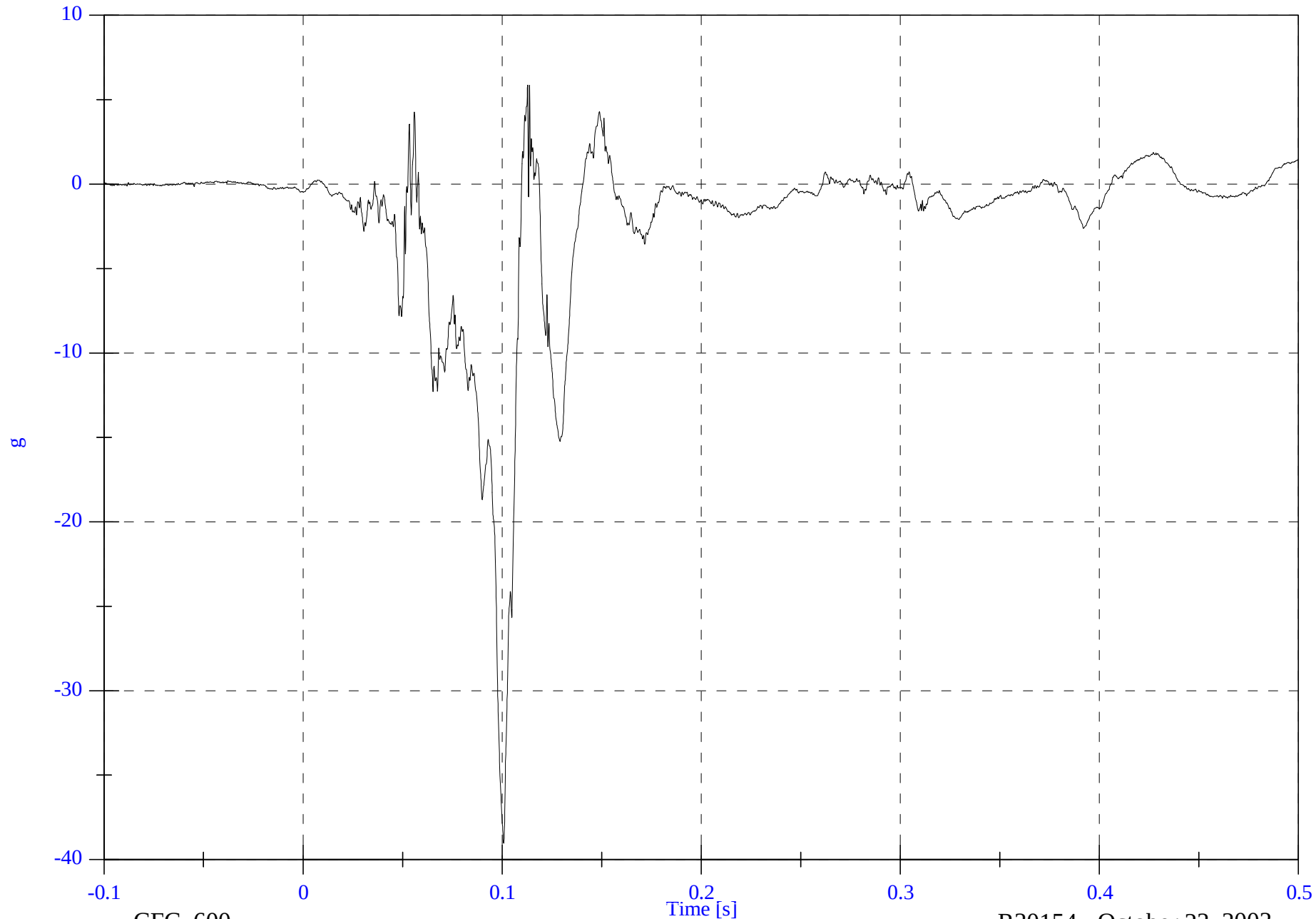
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Tibia x

Max: 5.9 [g] at 0.113 [s]

Min: -39.0 [g] at 0.101 [s]



B-75

8710-OFST-02

CFC_600

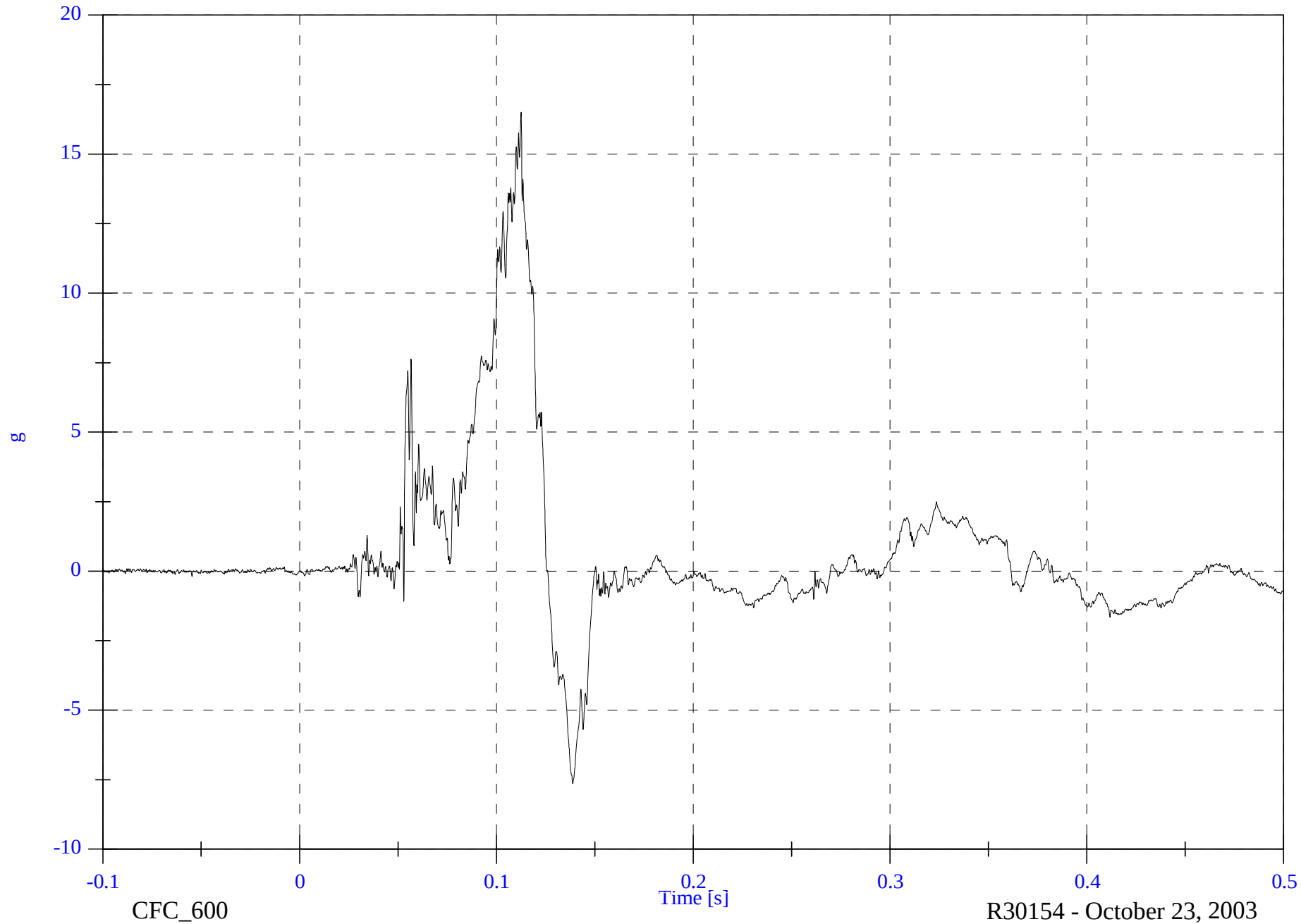
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Max: 16.5 [g] at 0.113 [s]

V1P1 Right Tibia y

Min: -7.6 [g] at 0.139 [s]



B-76

8710-OFST-02

CFC_600

Time [s]

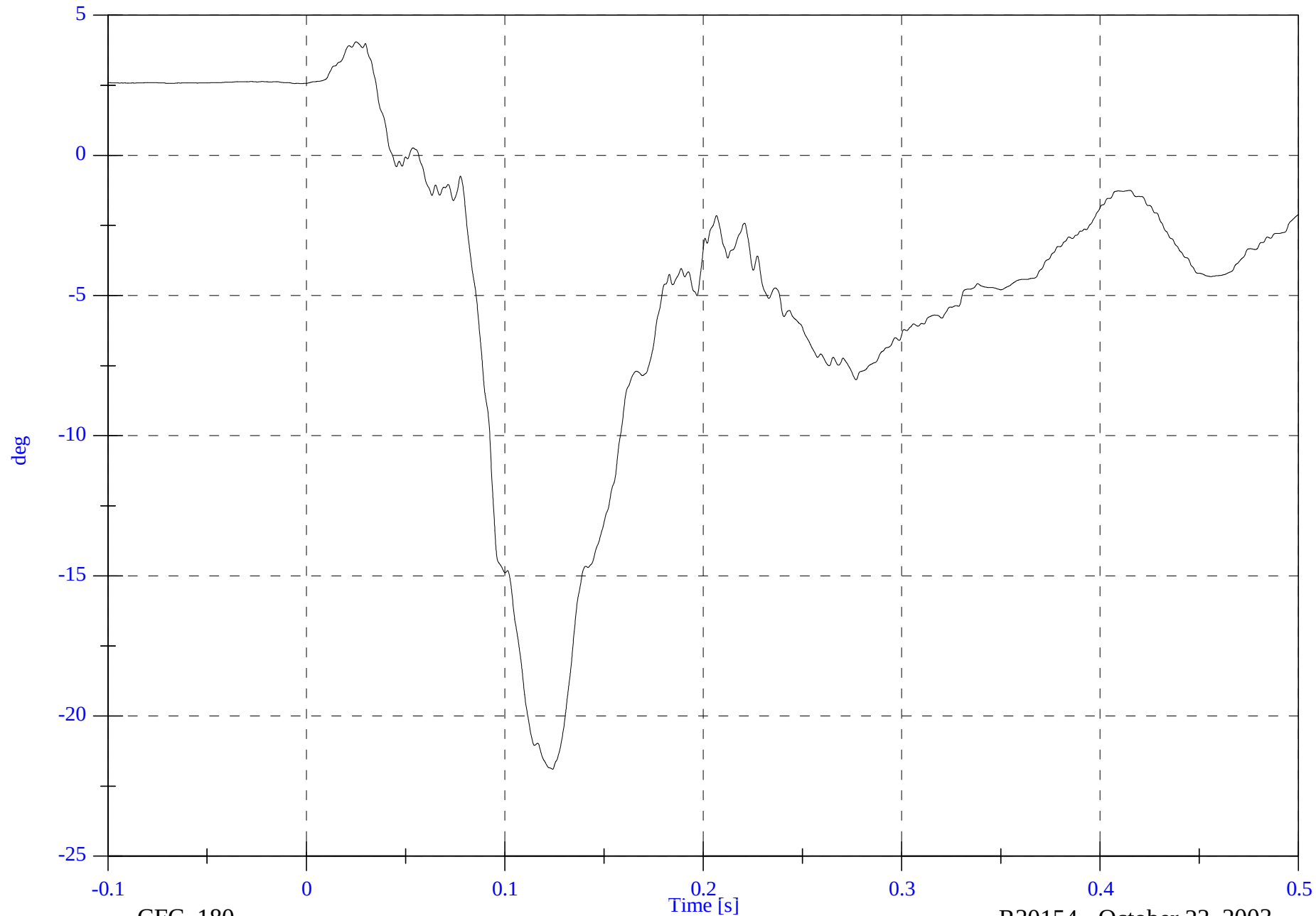
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Ankle Rotation x

Max: 4.0 [deg] at 0.025 [s]

Min: -21.9 [deg] at 0.124 [s]



B-77

8710-OFST-02

CFC_180

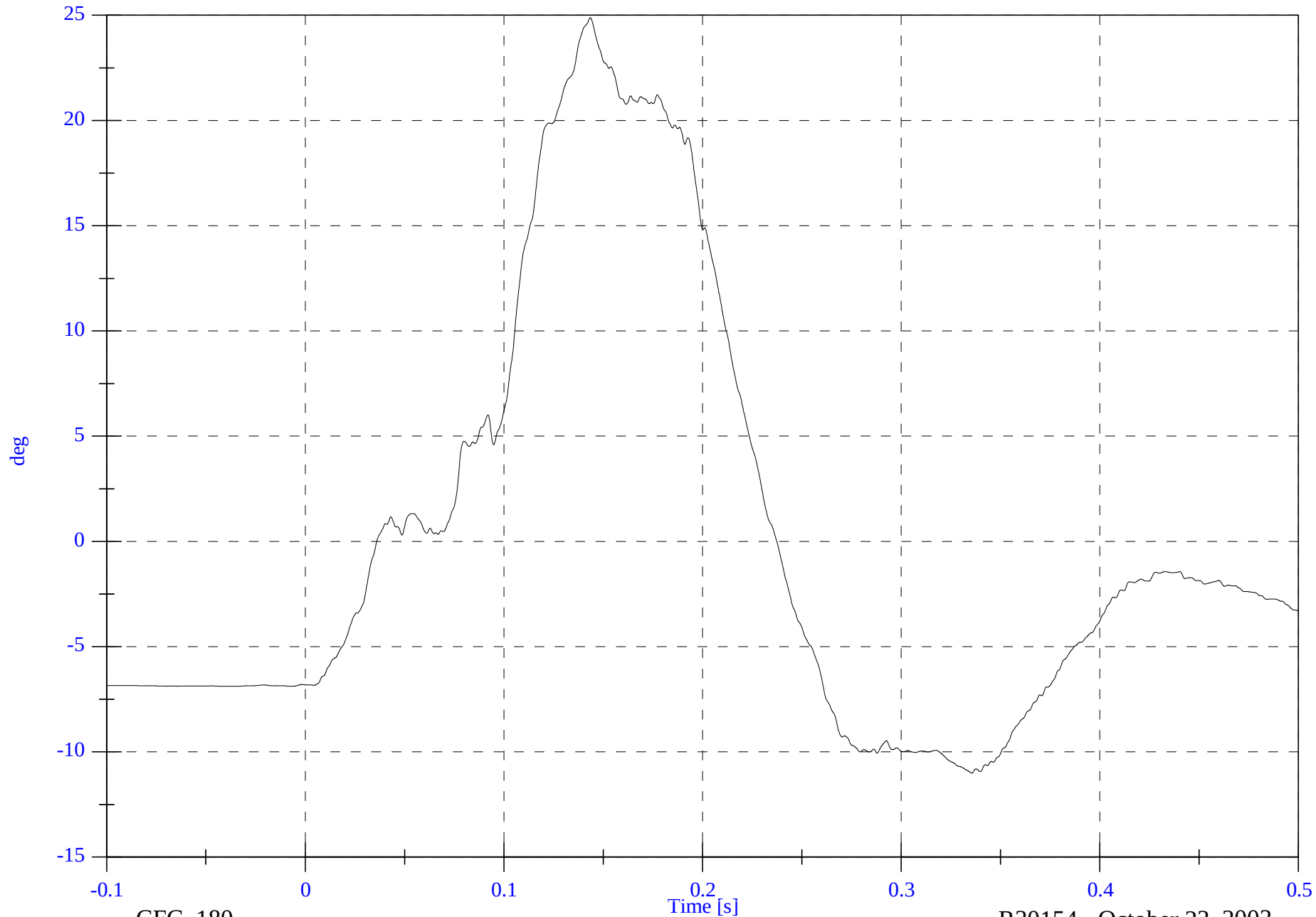
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Ankle Rotation y

Max: 24.9 [deg] at 0.143 [s]

Min: -11.0 [deg] at 0.336 [s]



B-78

8710-OFST-02

CFC_180

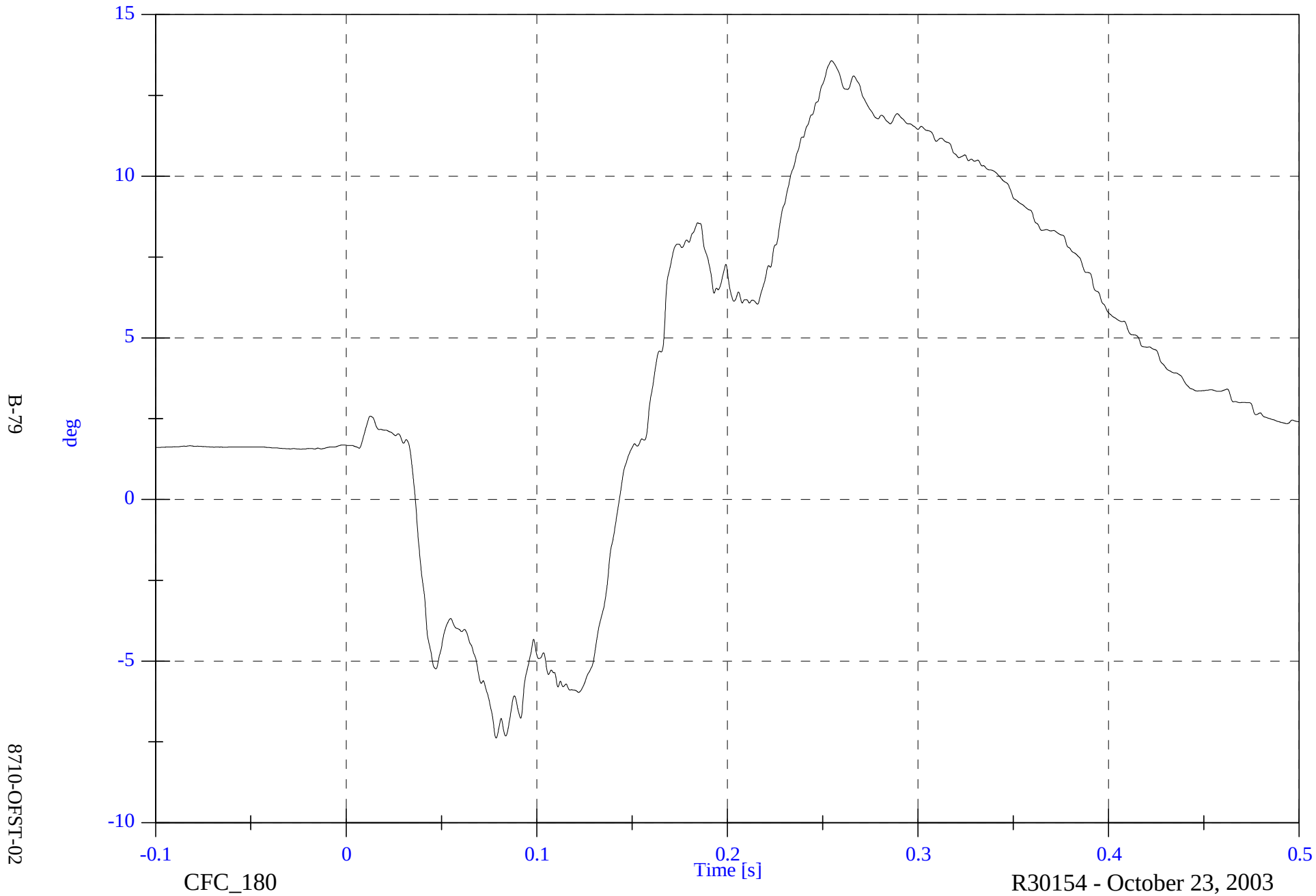
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Ankle Rotation z

Max: 13.6 [deg] at 0.255 [s]

Min: -7.4 [deg] at 0.079 [s]

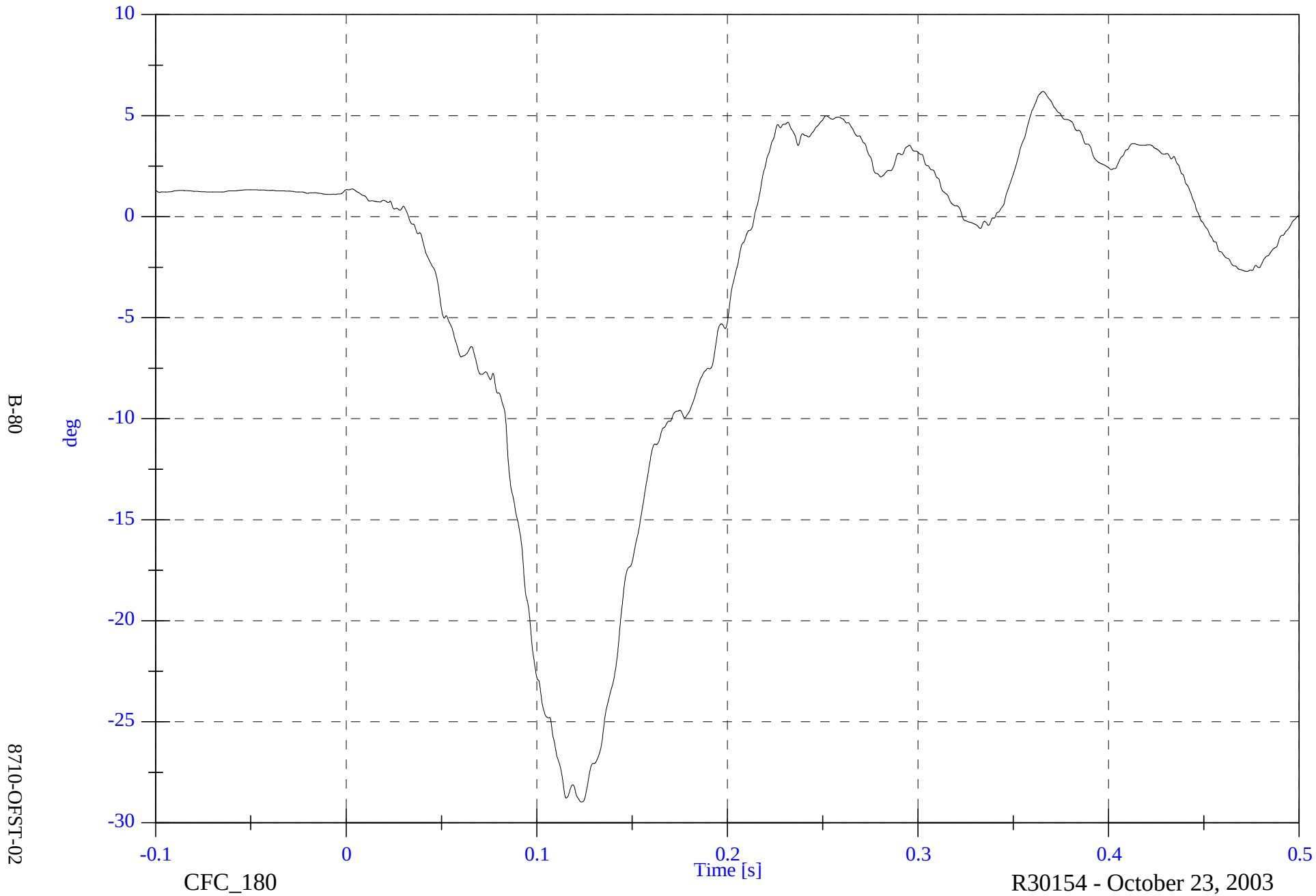


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Ankle Rotation x

Max: 6.2 [deg] at 0.366 [s]

Min: -29.0 [deg] at 0.123 [s]

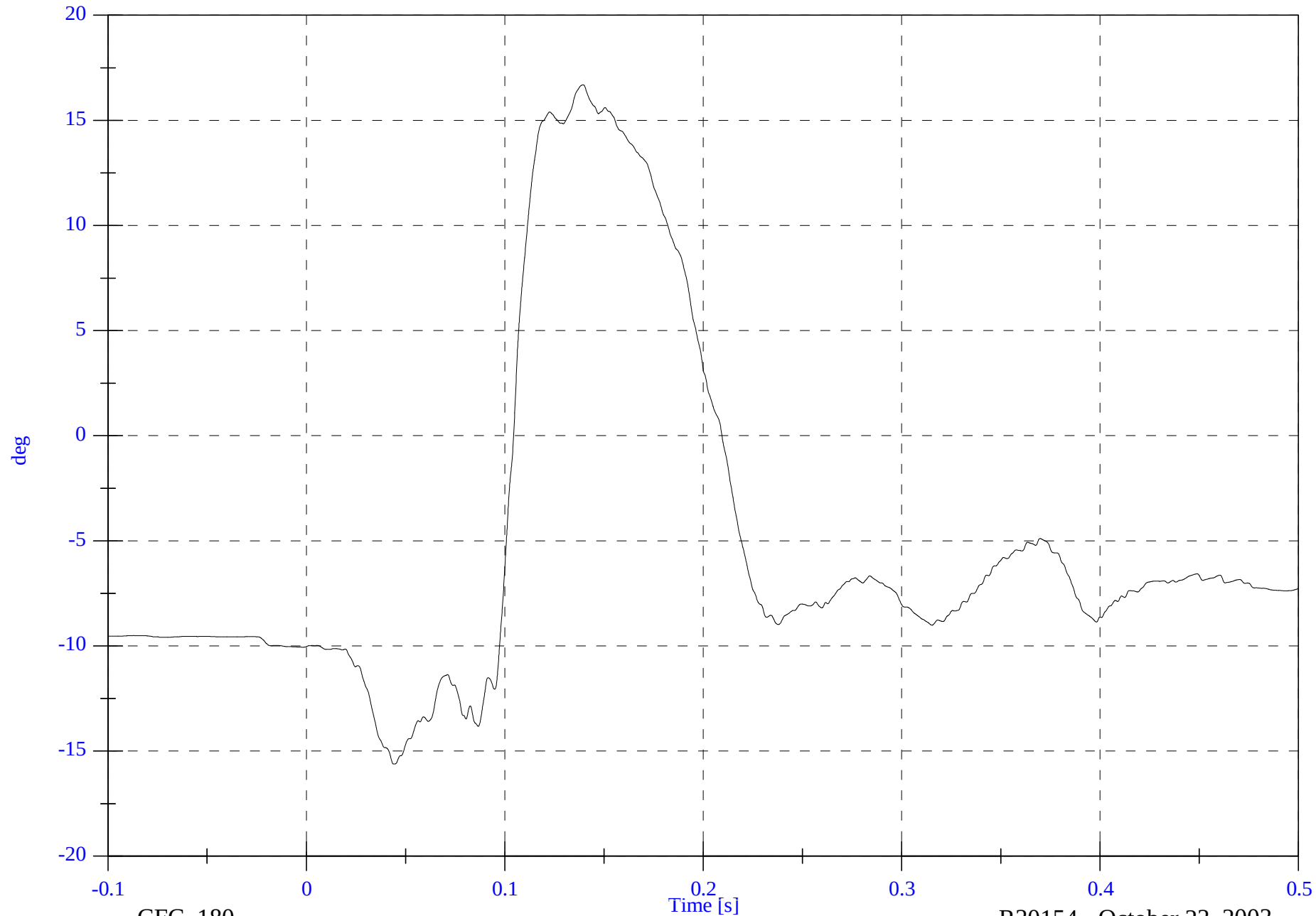


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Ankle Rotation y

Max: 16.7 [deg] at 0.139 [s]

Min: -15.6 [deg] at 0.044 [s]



B-81

8710-OFST-02

CFC_180

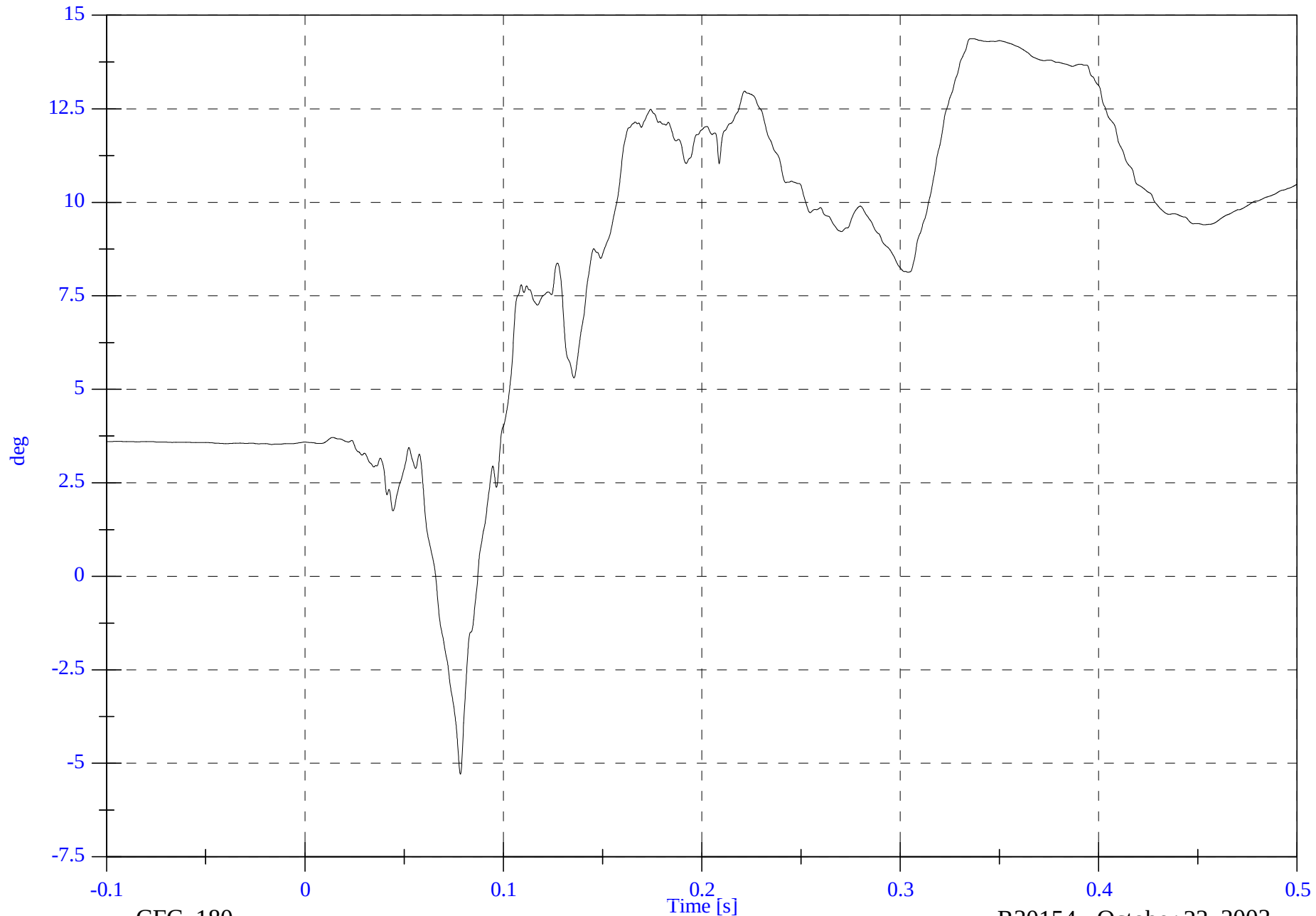
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Ankle Rotation z

Max: 14.4 [deg] at 0.337 [s]

Min: -5.3 [deg] at 0.078 [s]



B-82

8710-OFST-02

CFC_180

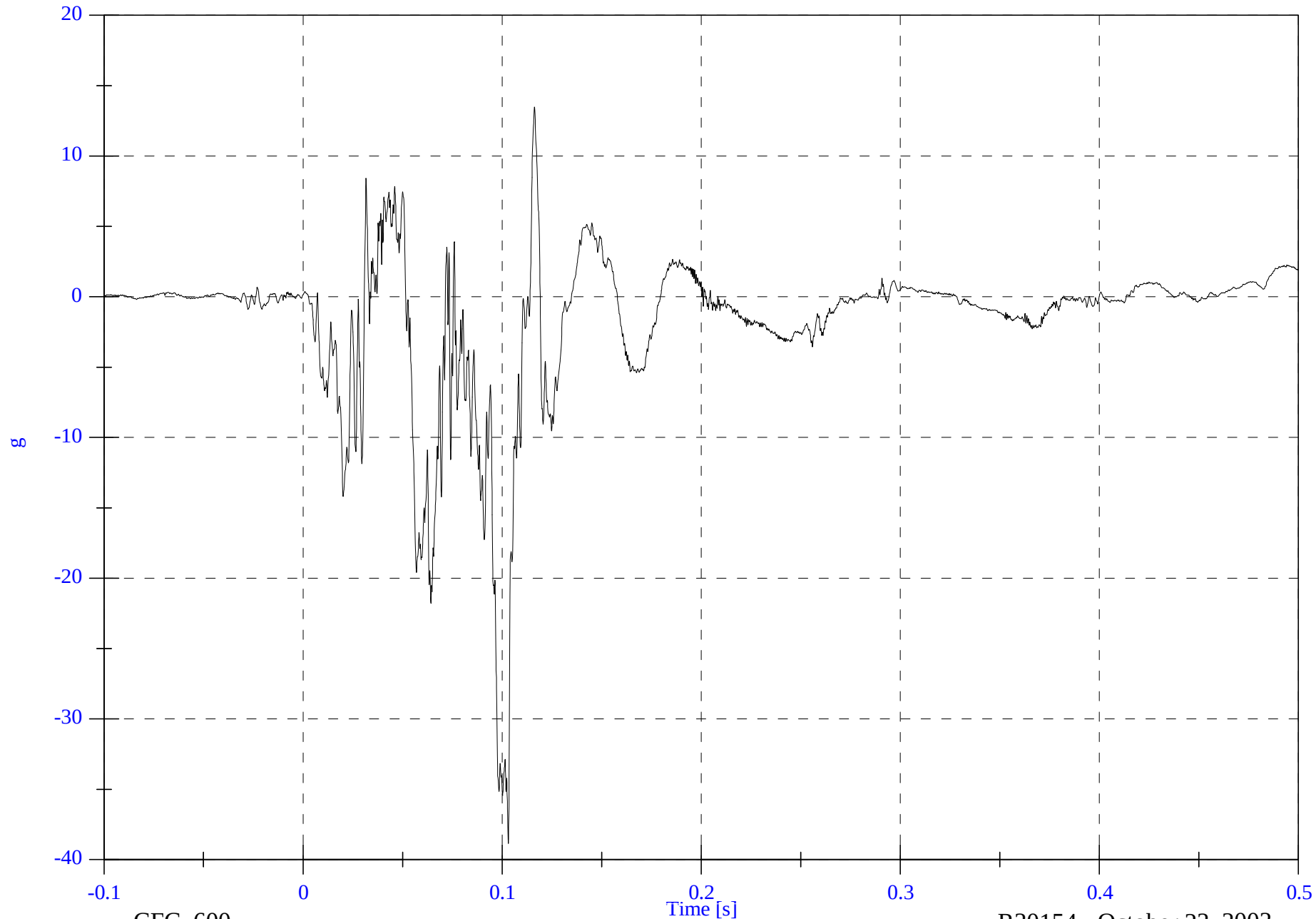
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Foot Ax

Max: 13.5 [g] at 0.116 [s]

Min: -38.9 [g] at 0.103 [s]



B-83

8710-OFST-02

CFC_600

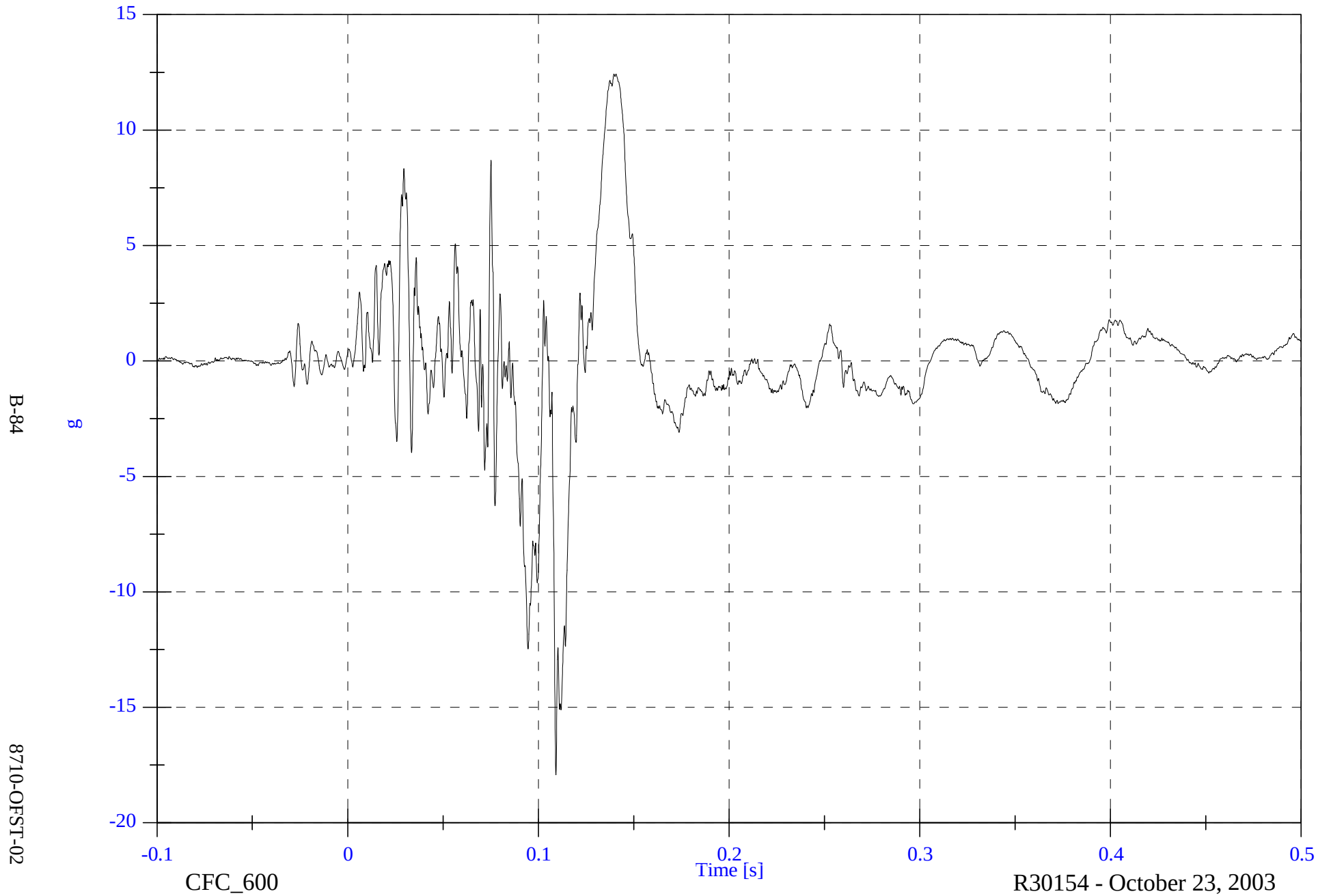
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Foot Ay

Max: 12.4 [g] at 0.140 [s]

Min: -17.9 [g] at 0.109 [s]

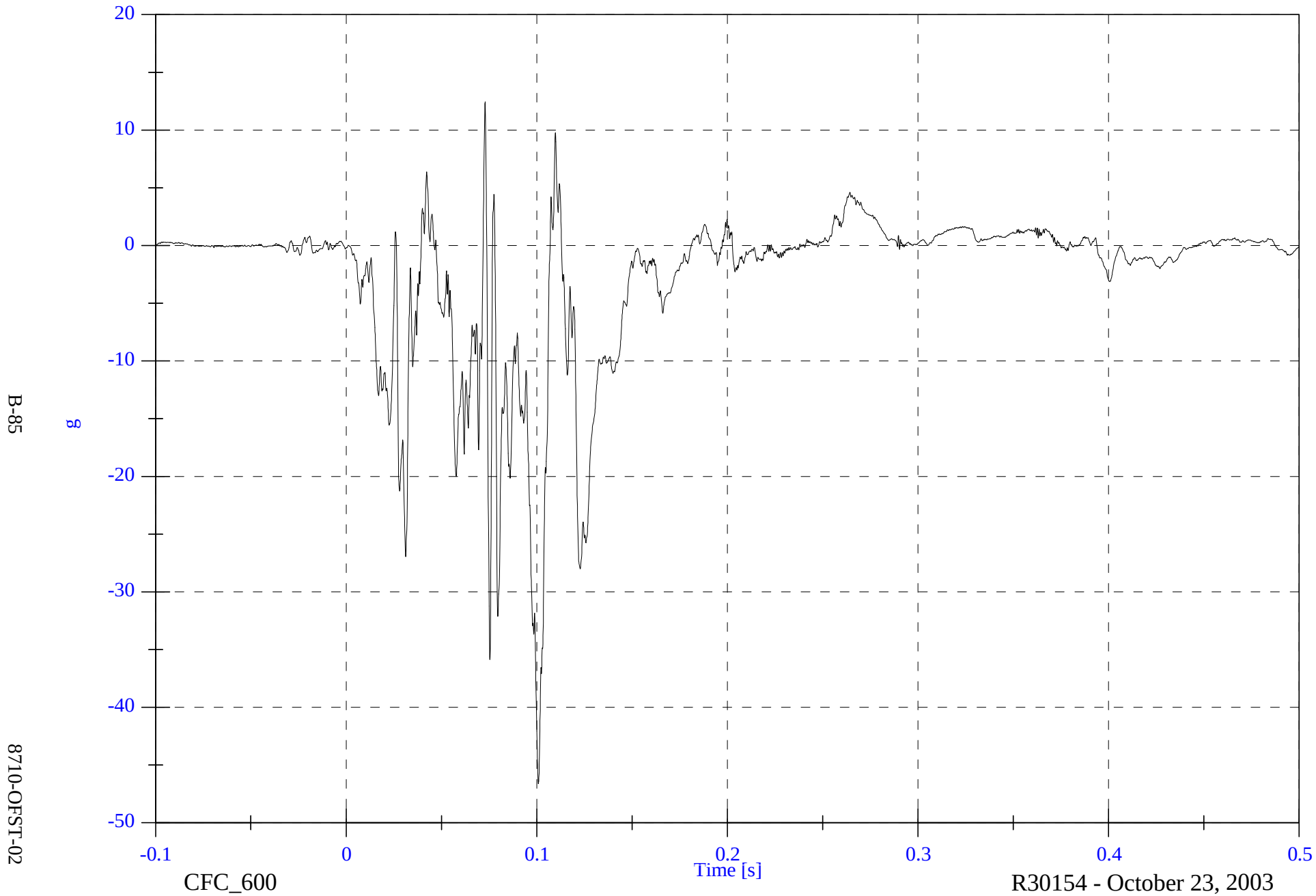


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Foot Az

Max: 12.5 [g] at 0.073 [s]

Min: -46.6 [g] at 0.101 [s]

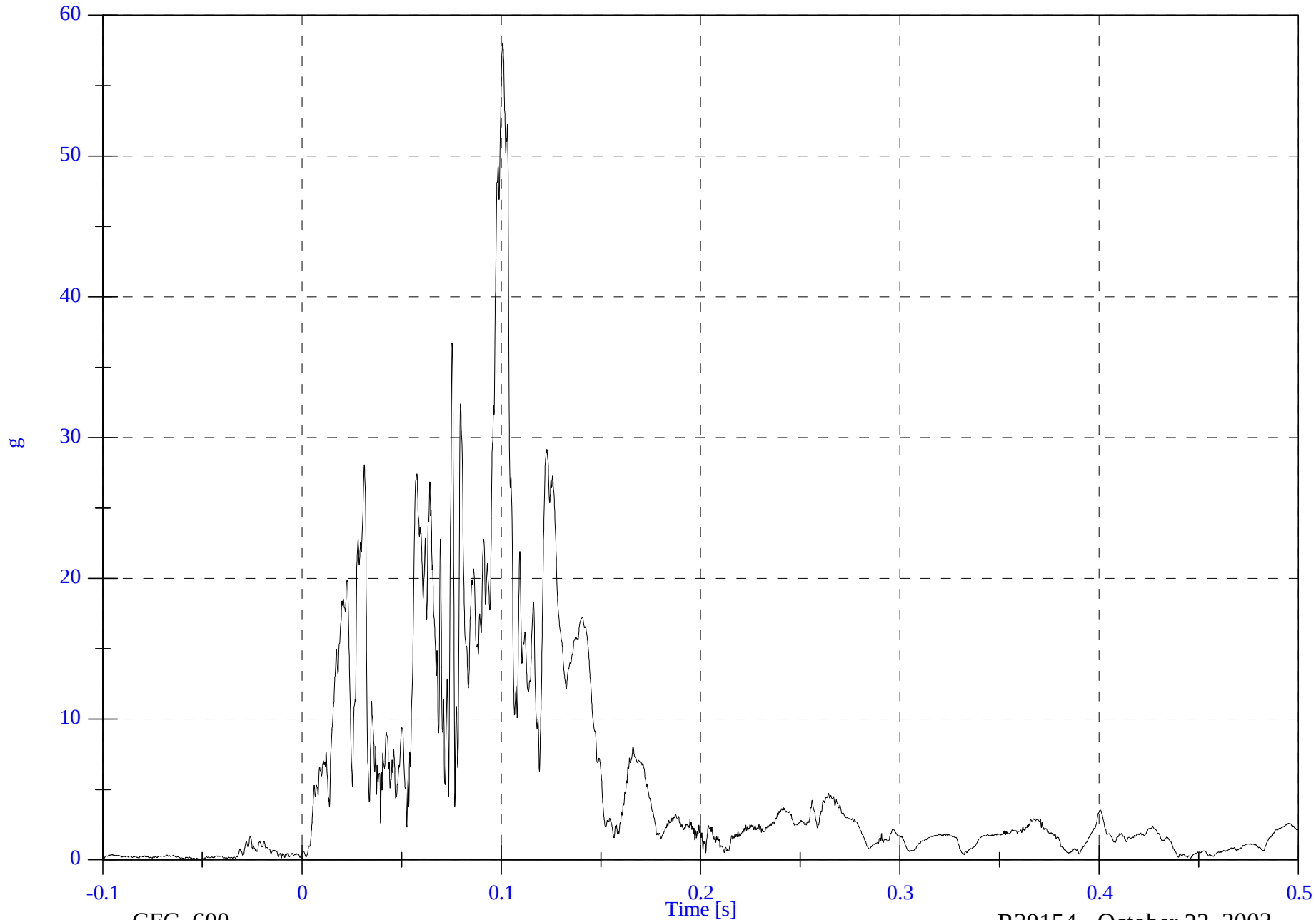


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Left Foot A Resultant

Max: 58.1 [g] at 0.101 [s]

Min: 0.0 [g] at -0.051 [s]



B-86

8710-OFST-02

CFC_600

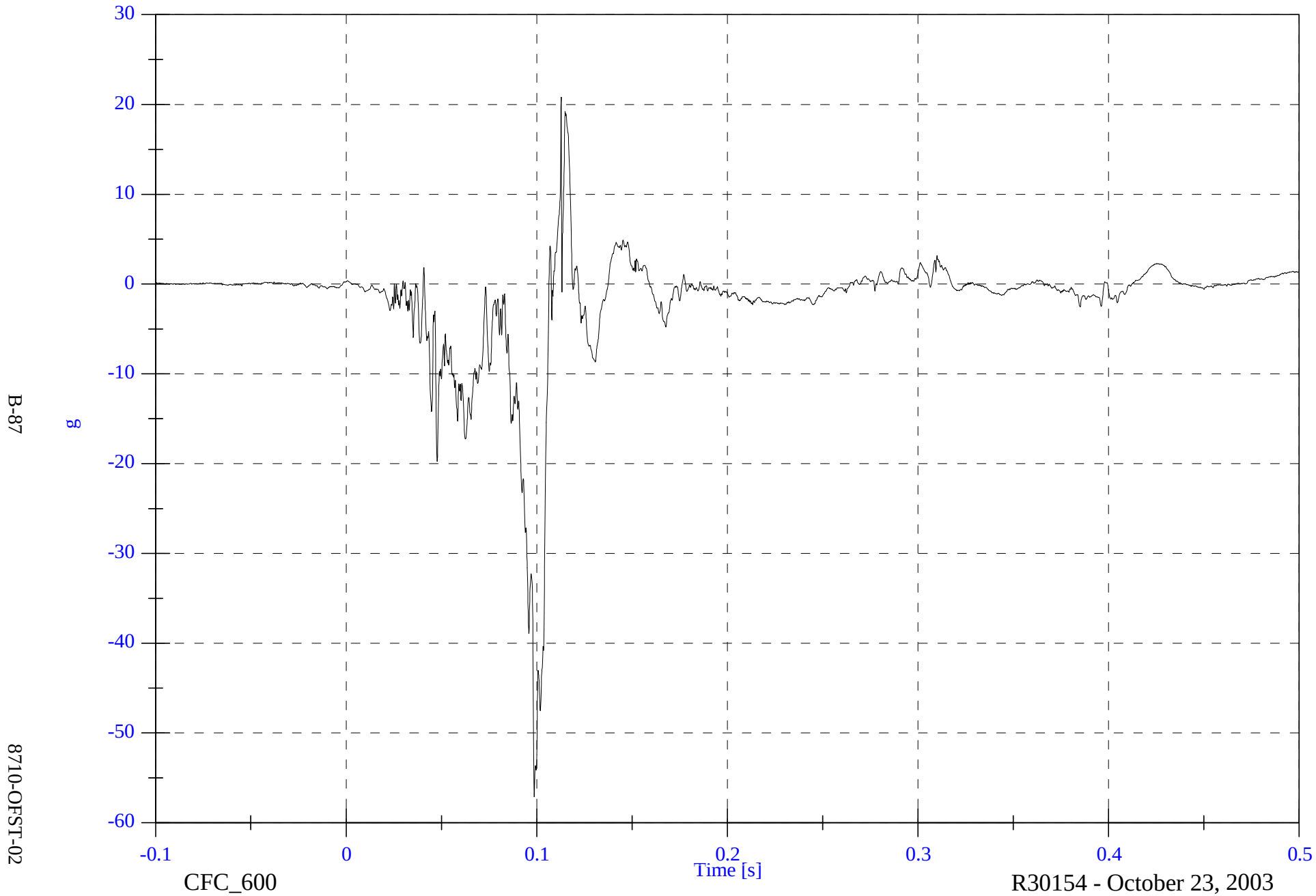
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Foot x

Max: 20.8 [g] at 0.113 [s]

Min: -57.1 [g] at 0.099 [s]

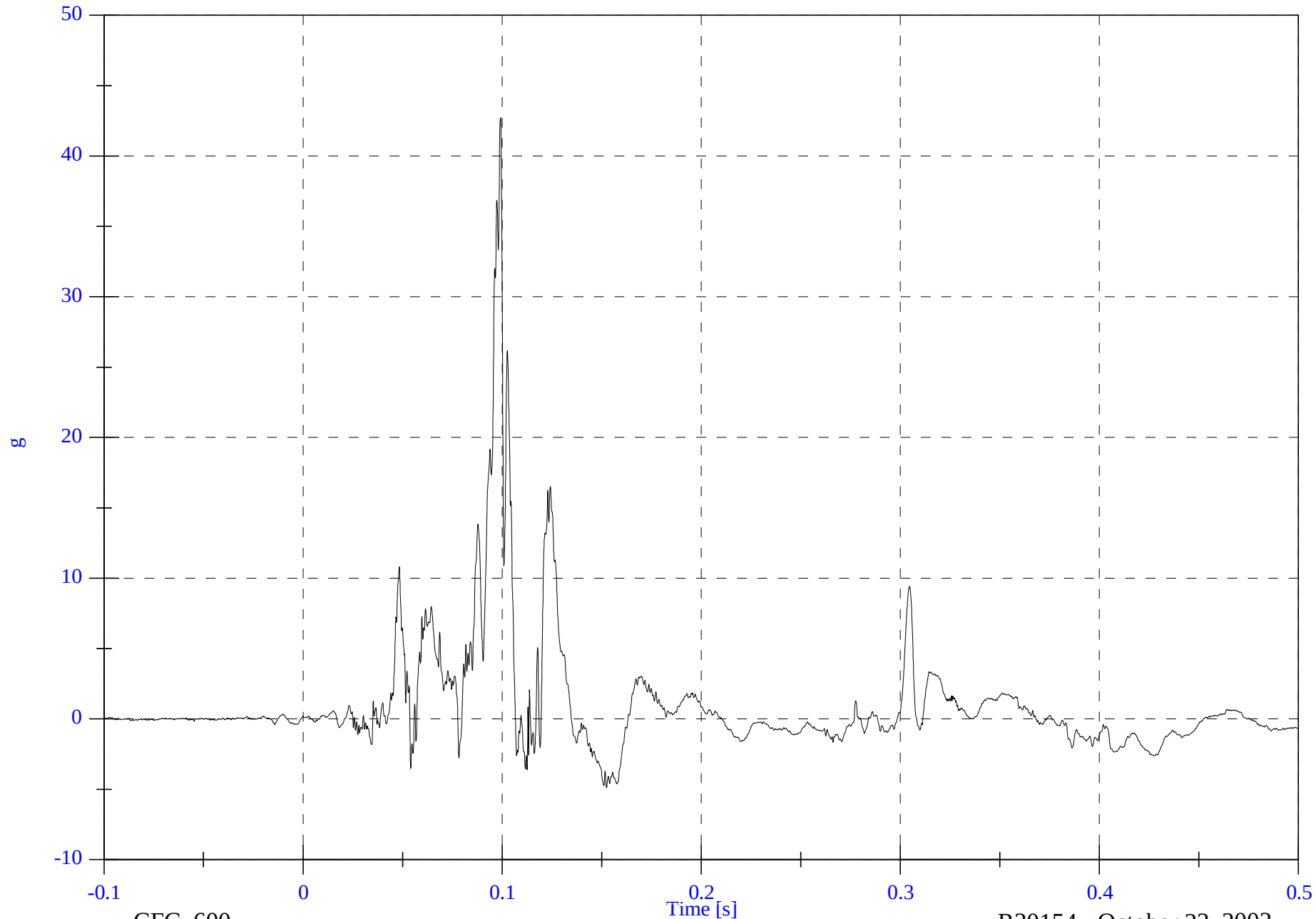


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Foot y

Max: 42.7 [g] at 0.099 [s]

Min: -4.9 [g] at 0.152 [s]



B-88

8710-OFST-02

CFC_600

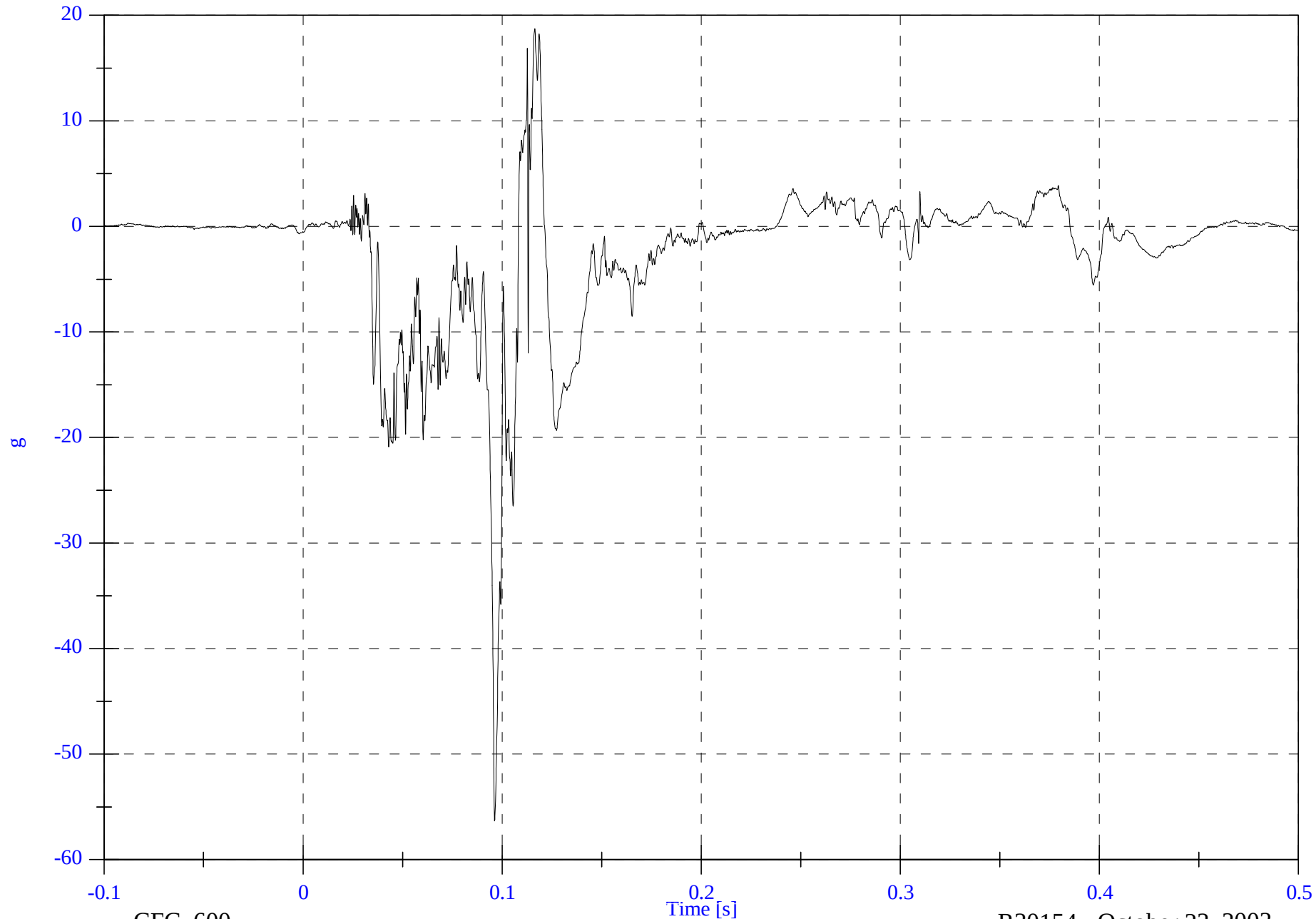
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Foot z

Max: 18.7 [g] at 0.116 [s]

Min: -56.3 [g] at 0.096 [s]



B-89

8710-OFST-02

CFC_600

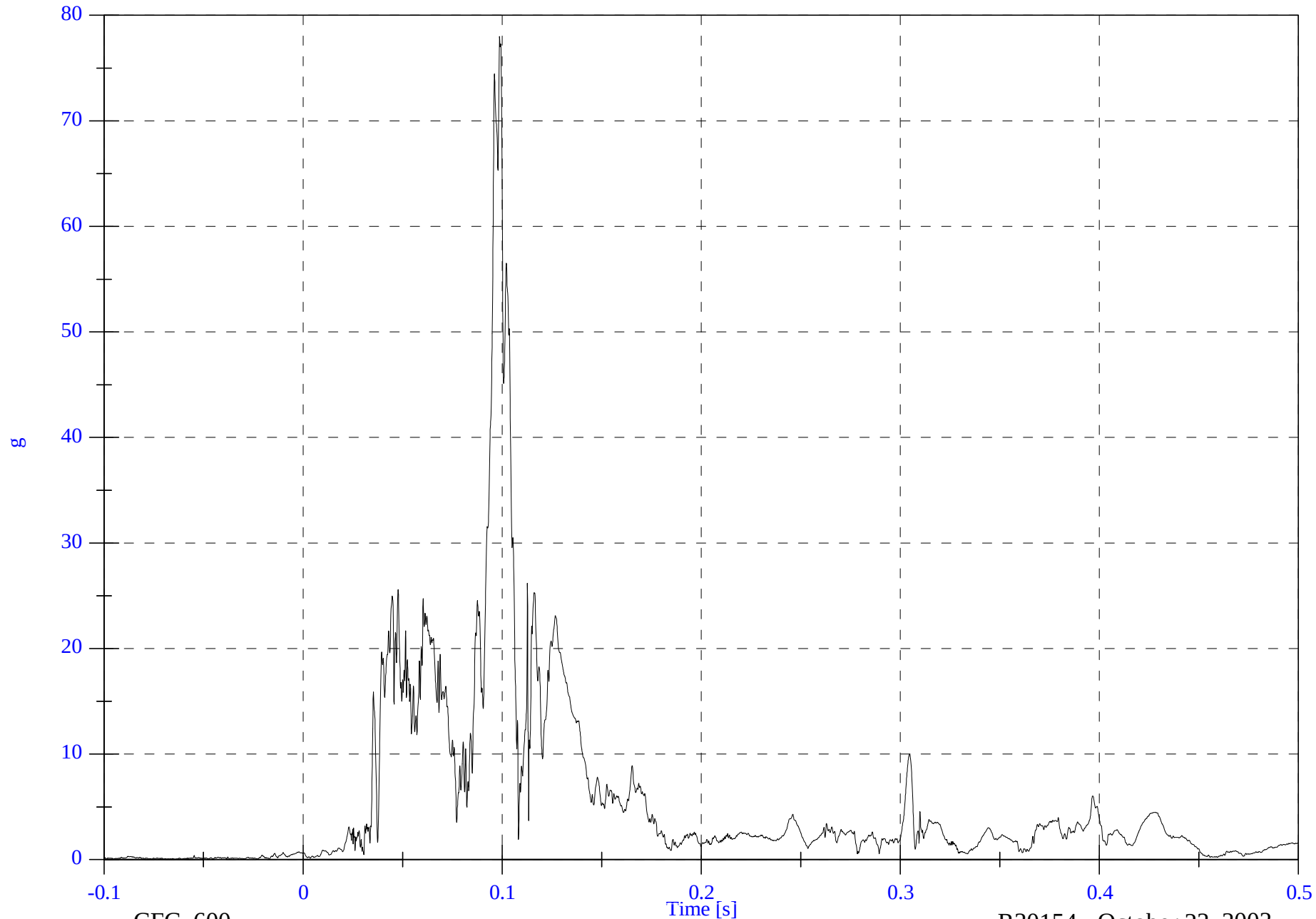
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Right Foot Resultant

Max: 78.0 [g] at 0.099 [s]

Min: 0.0 [g] at -0.065 [s]



B-90

8710-OFST-02

CFC_600

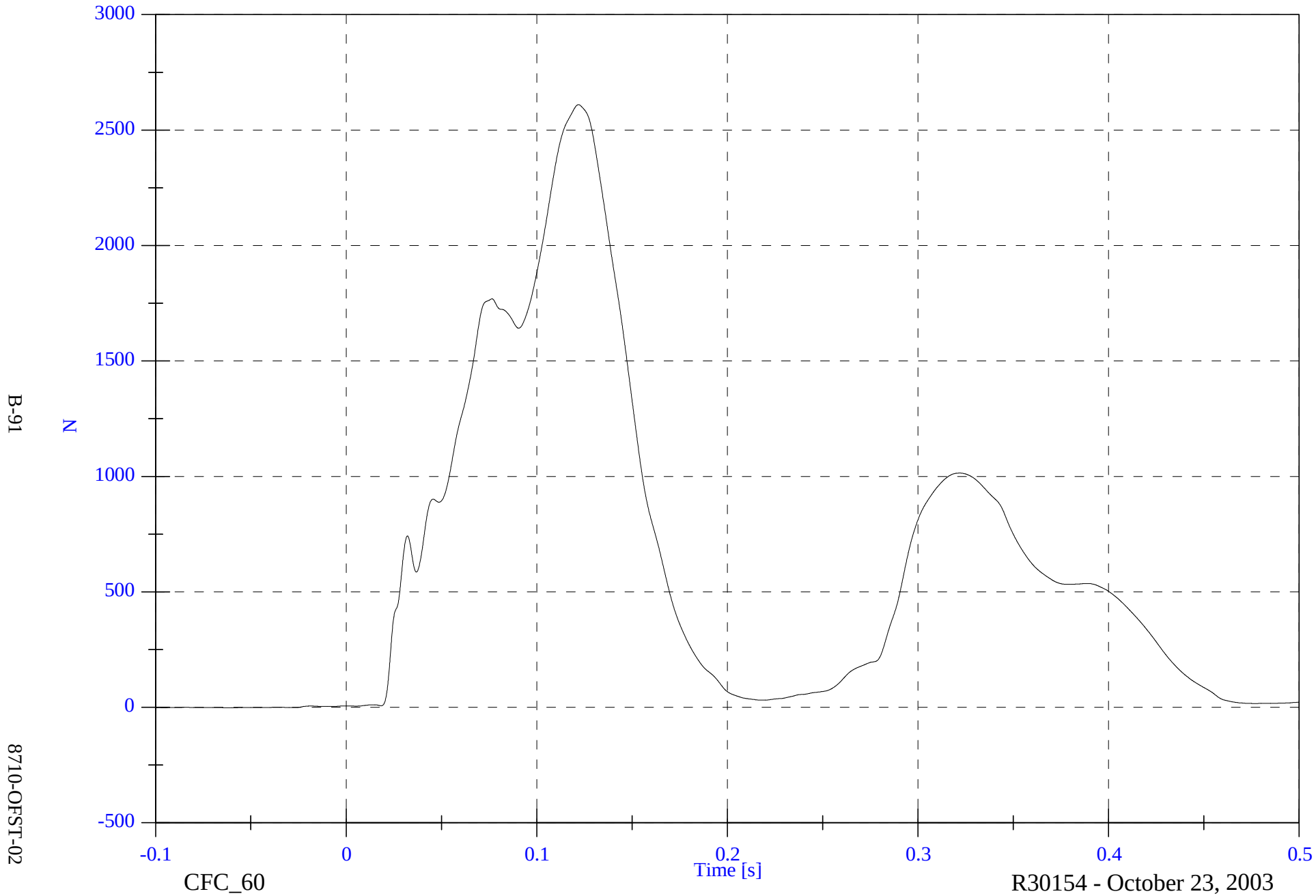
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Lap Belt Load

Max: 2610.1 [N] at 0.122 [s]

Min: -1.8 [N] at -0.062 [s]

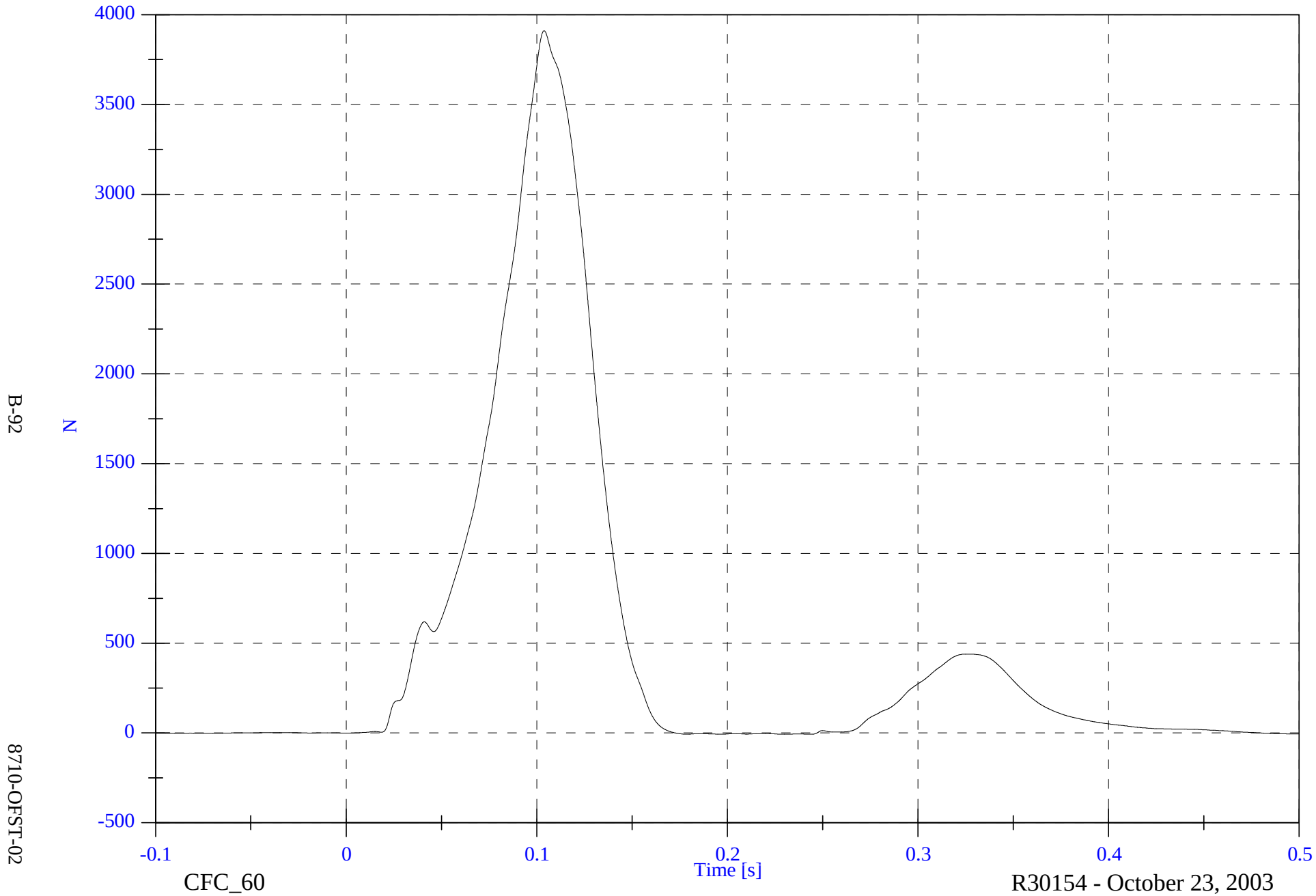


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Shoulder Belt Load

Max: 3911.0 [N] at 0.104 [s]

Min: -7.1 [N] at 0.244 [s]

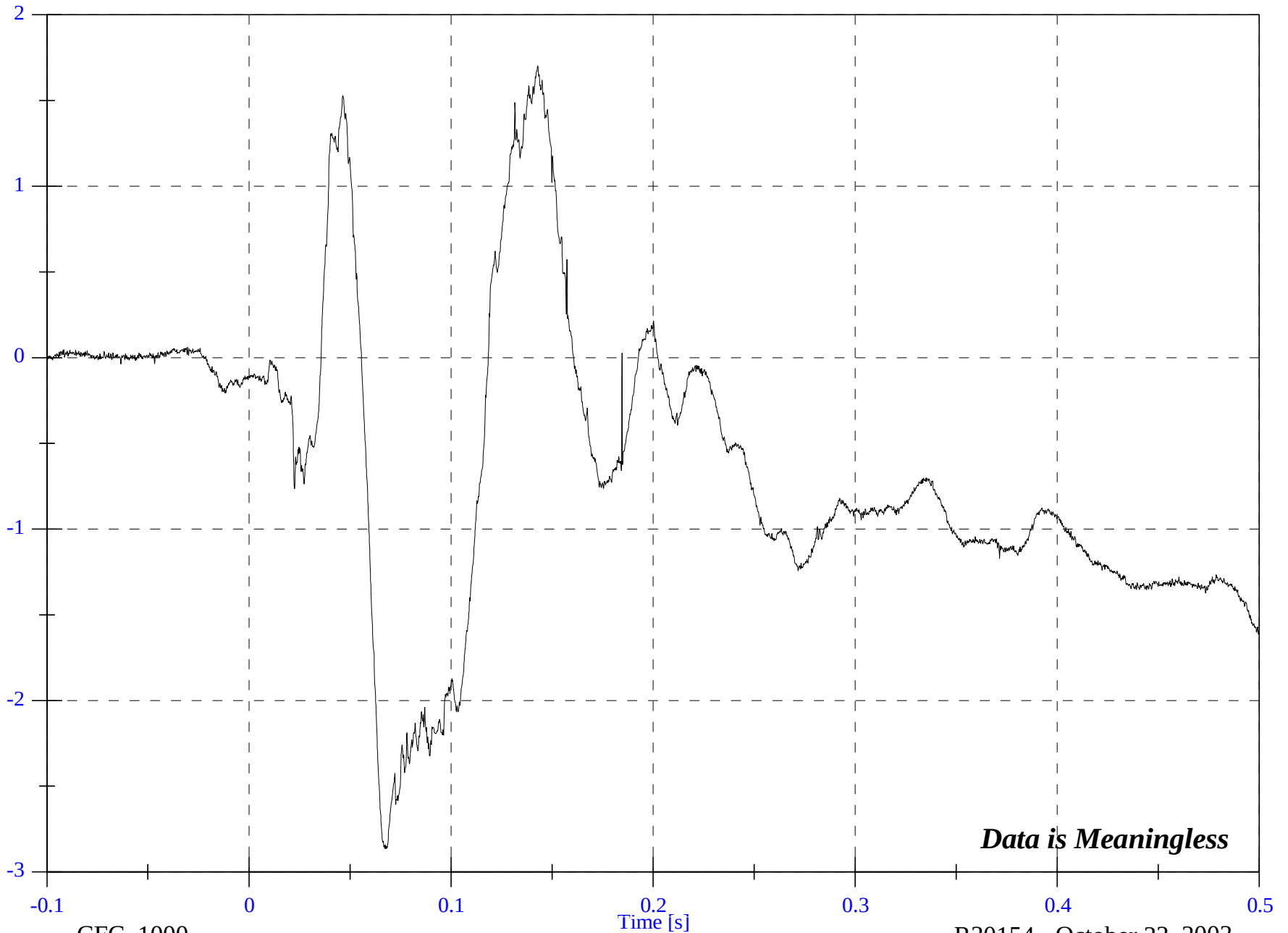


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toe Pan Deflection

Max: 1.7 [mm] at 0.143 [s]

Min: -2.9 [mm] at 0.068 [s]



Data is Meaningless

B-93

8710-OFST-02

CFC_1000

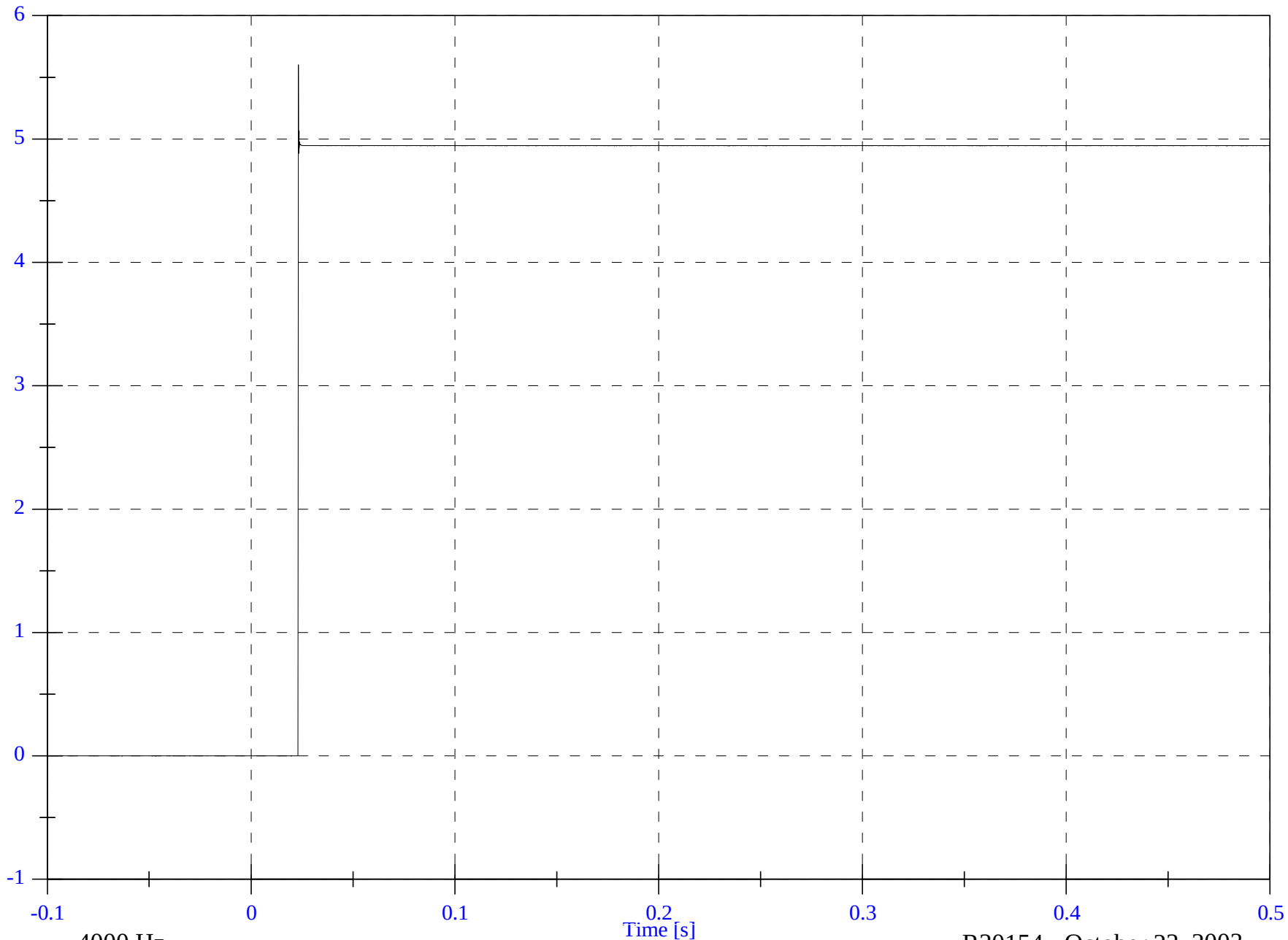
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Air Bag T/E

Max: 5.6 [V] at 0.023 [s]

Min: -0.0 [V] at -0.047 [s]



B-94

8710-OFST-02

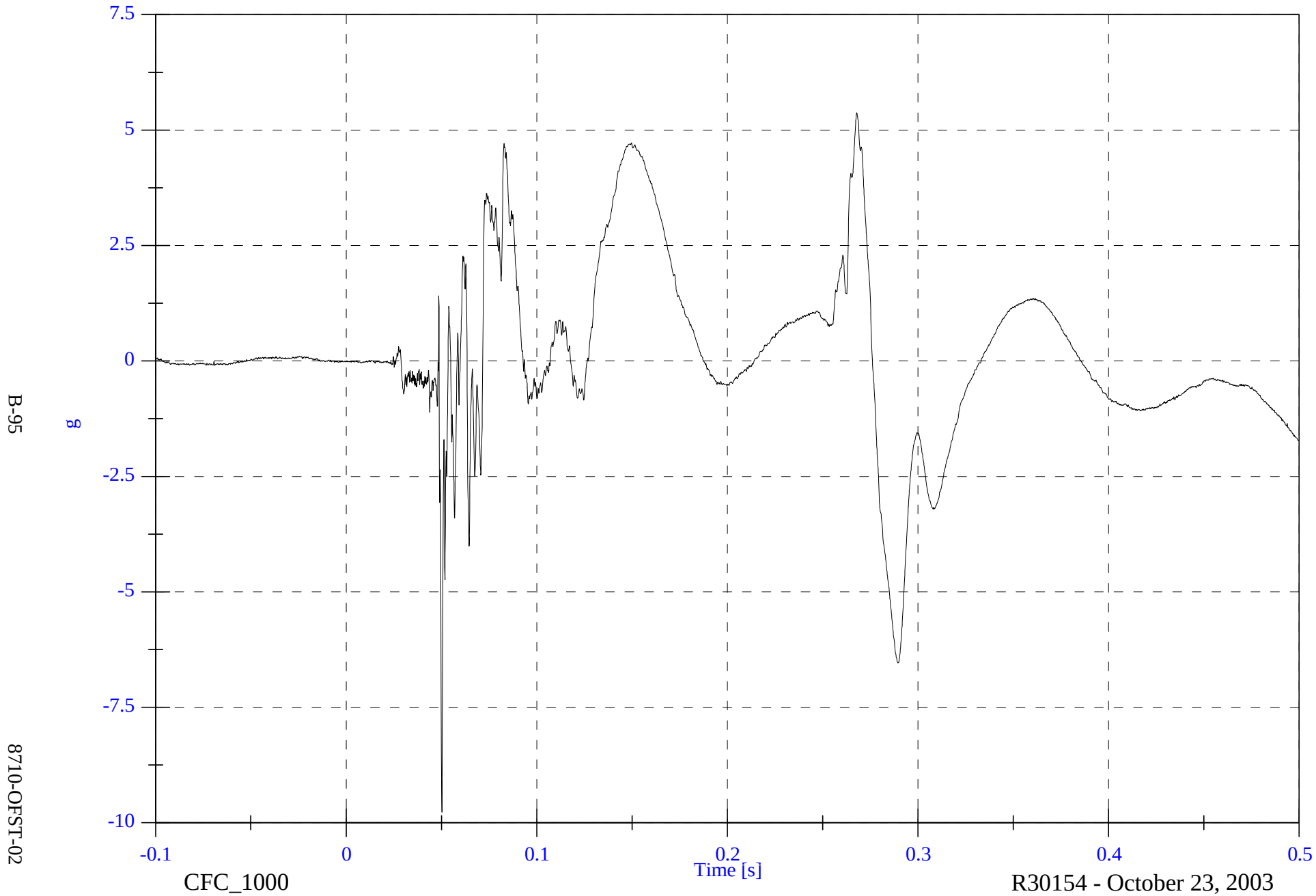
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head 9 Array X Arm Ay

Max: 5.4 [g] at 0.268 [s]

Min: -9.8 [g] at 0.050 [s]

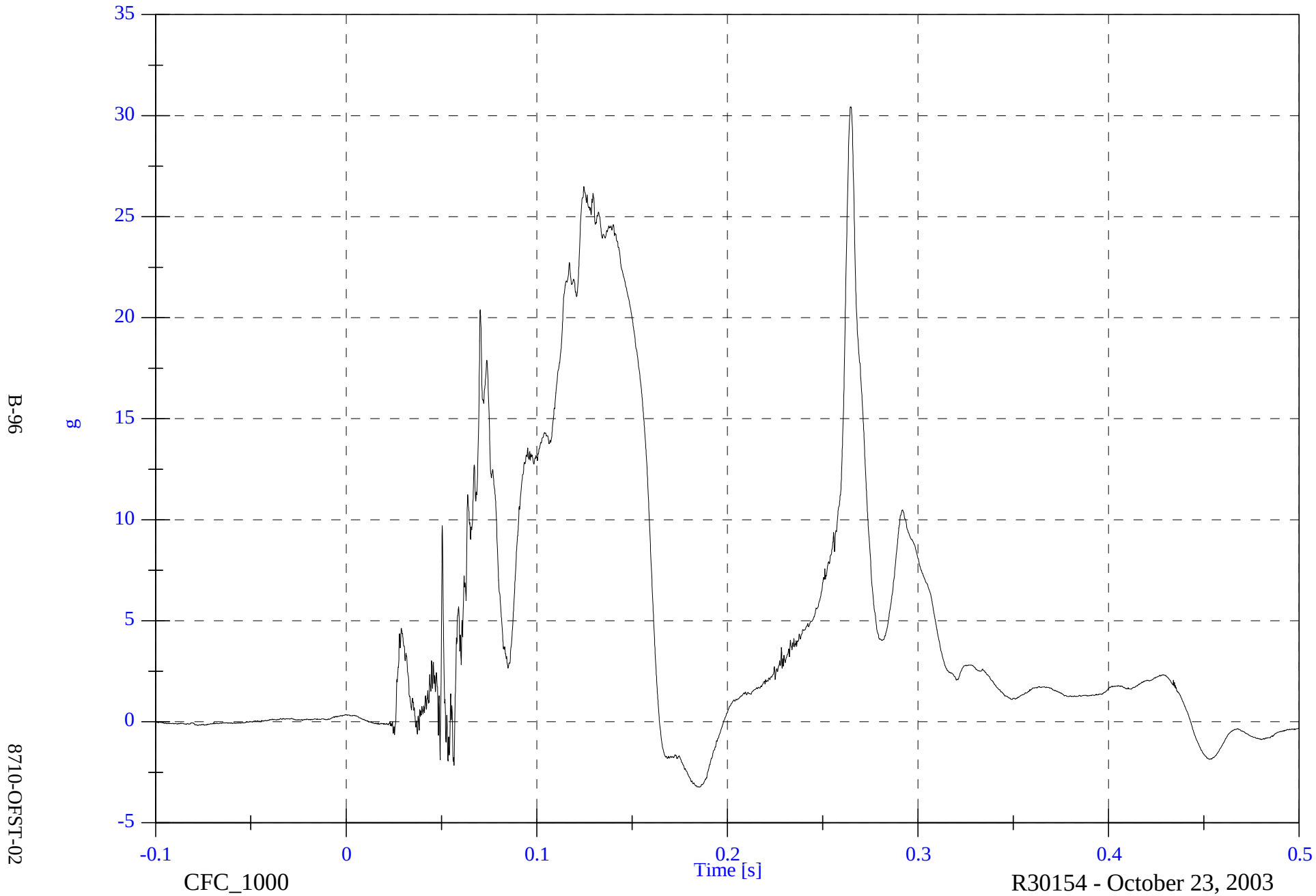


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head 9 Array X Arm Az

Max: 30.5 [g] at 0.265 [s]

Min: -3.2 [g] at 0.185 [s]

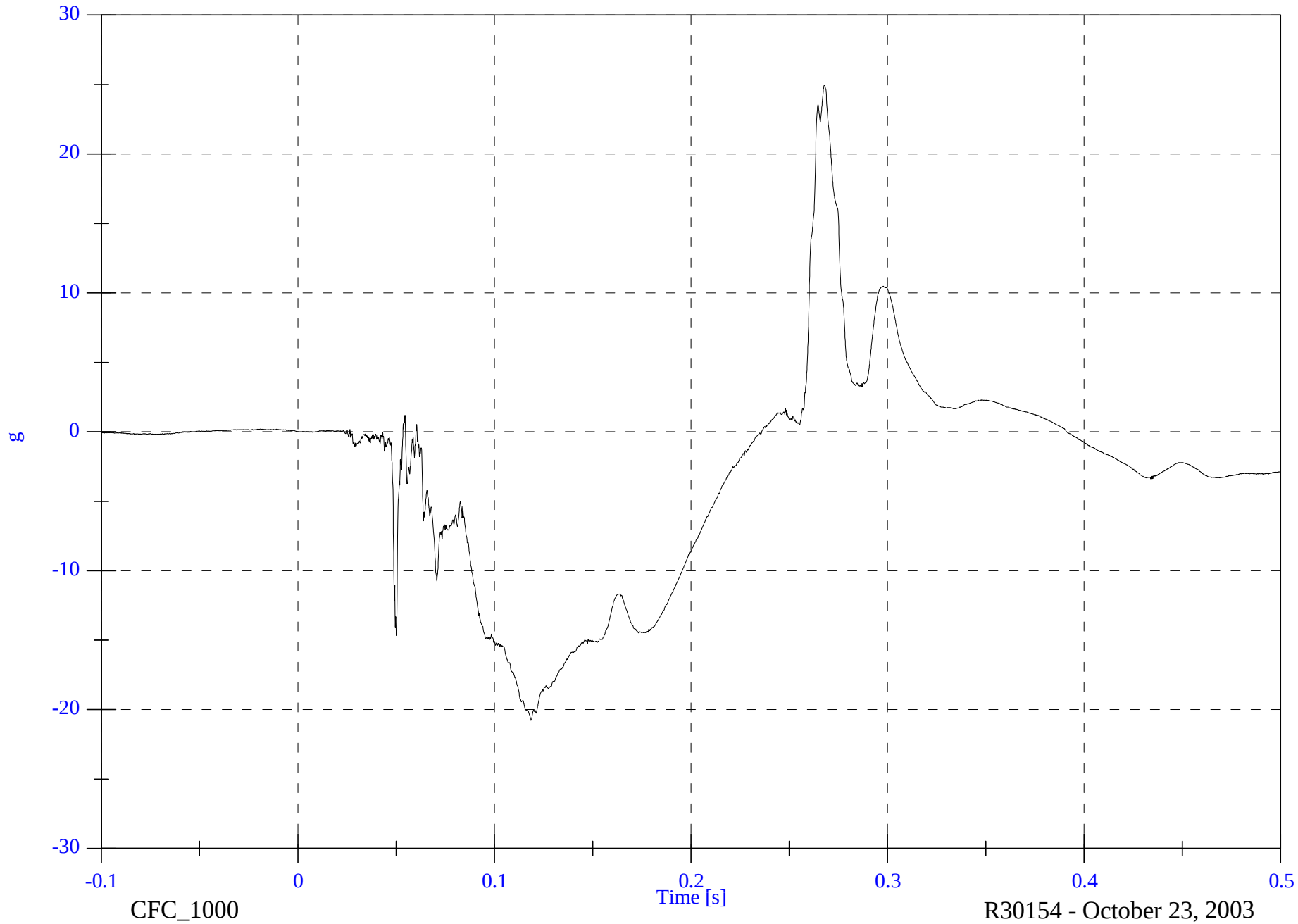


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head 9 Array Y Arm Ax

Max: 24.9 [g] at 0.268 [s]

Min: -20.8 [g] at 0.119 [s]

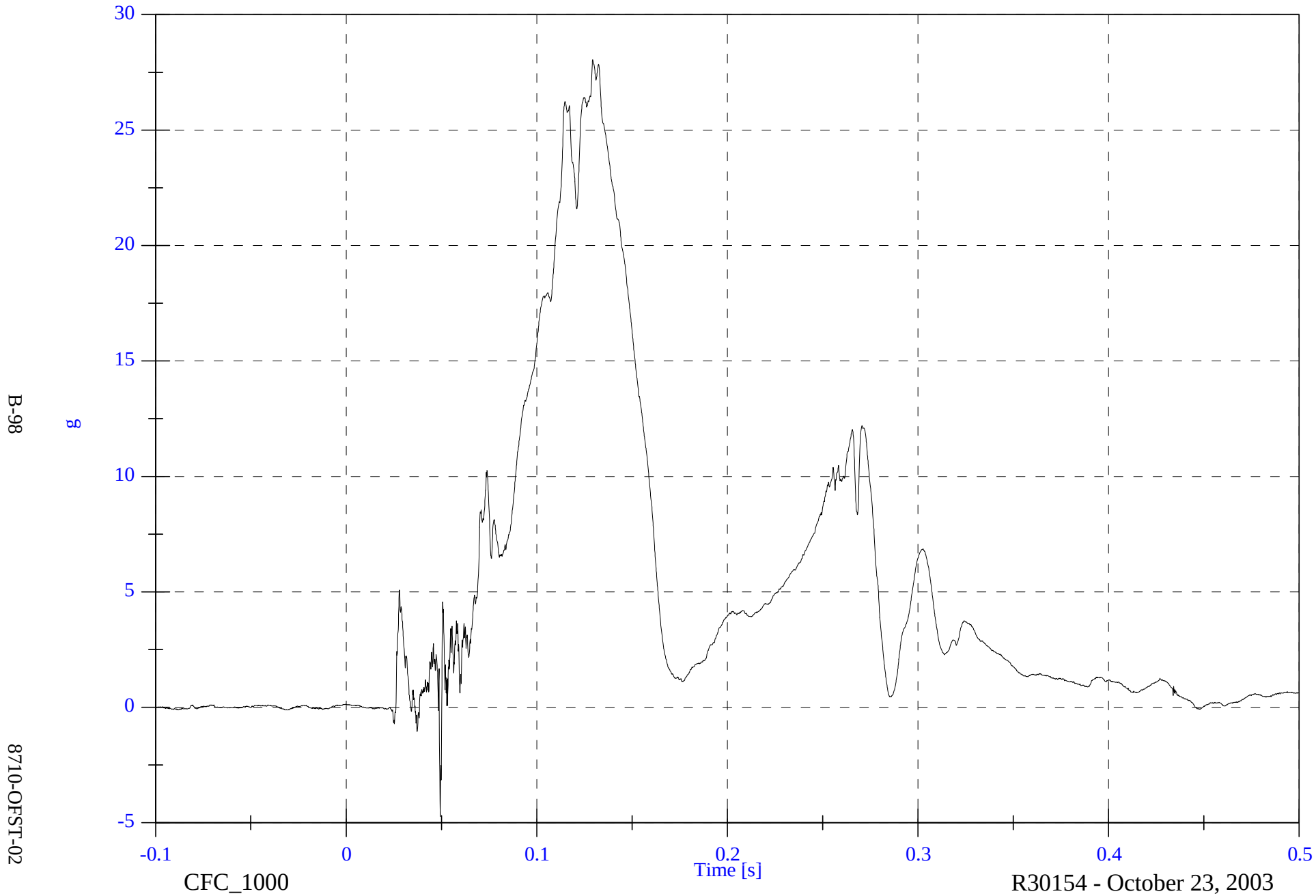


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head 9 Array Y Arm Az

Max: 28.0 [g] at 0.129 [s]

Min: -4.7 [g] at 0.049 [s]

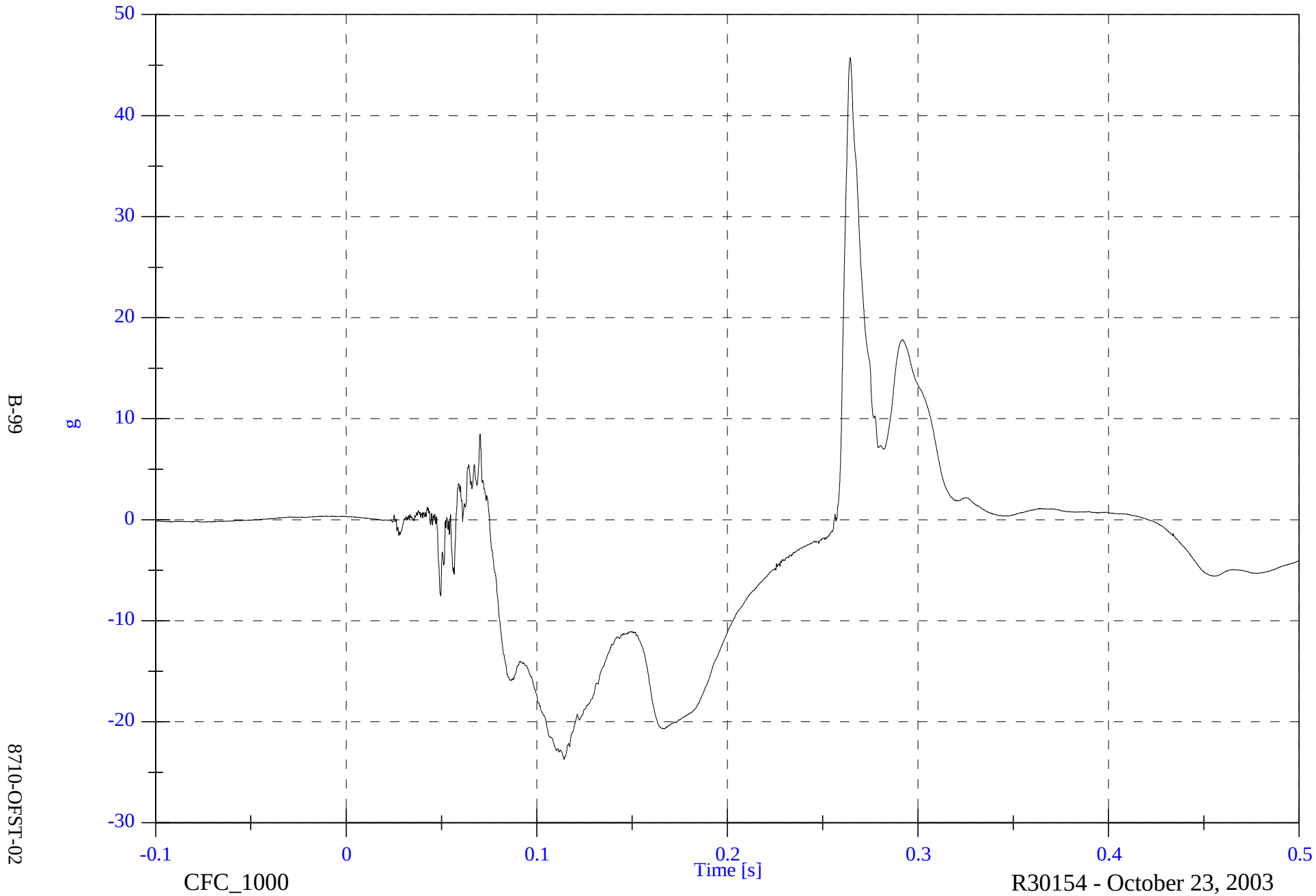


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head 9 Array Z Arm Ax

Max: 45.8 [g] at 0.264 [s]

Min: -23.7 [g] at 0.114 [s]

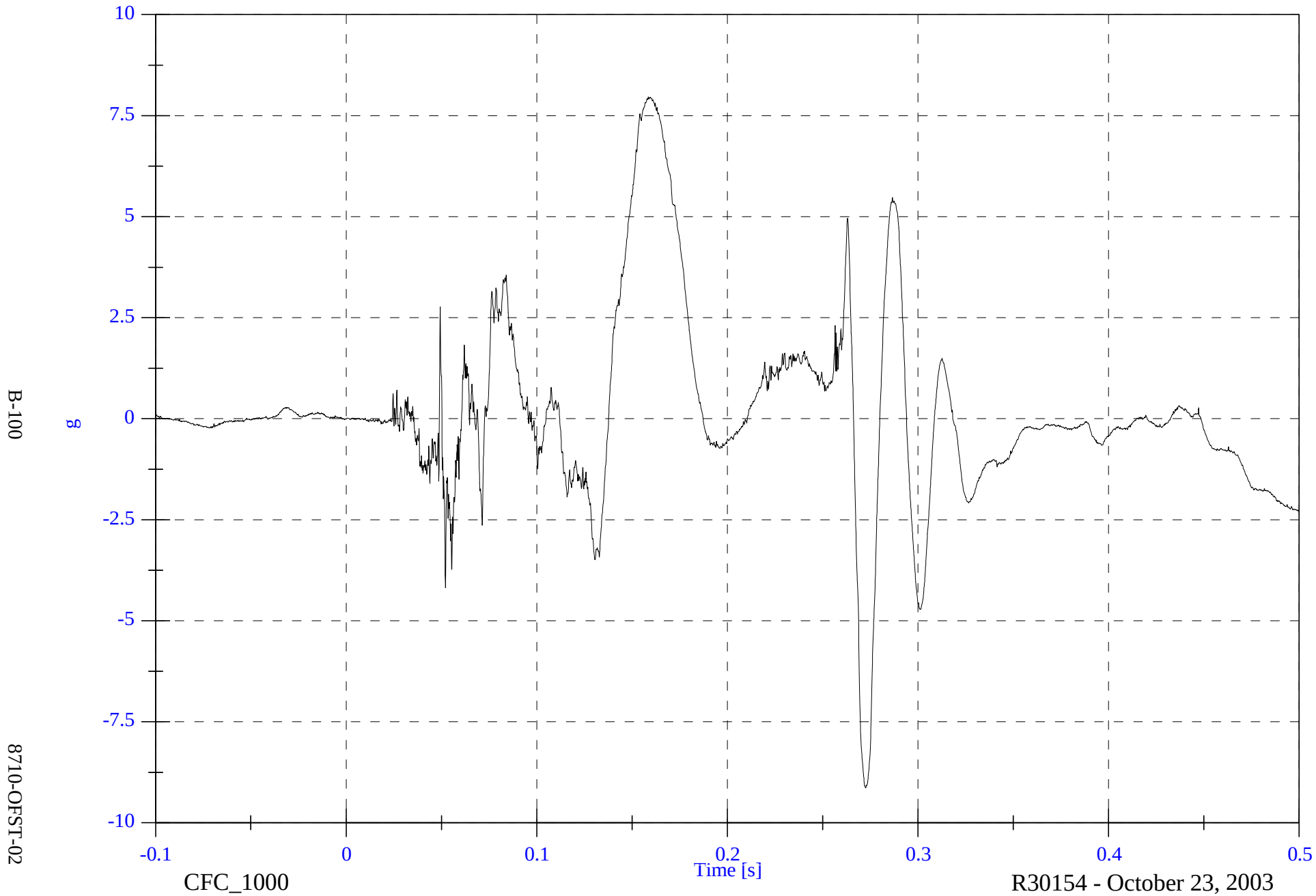


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head 9 Array Z Arm Ay

Max: 8.0 [g] at 0.158 [s]

Min: -9.1 [g] at 0.273 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

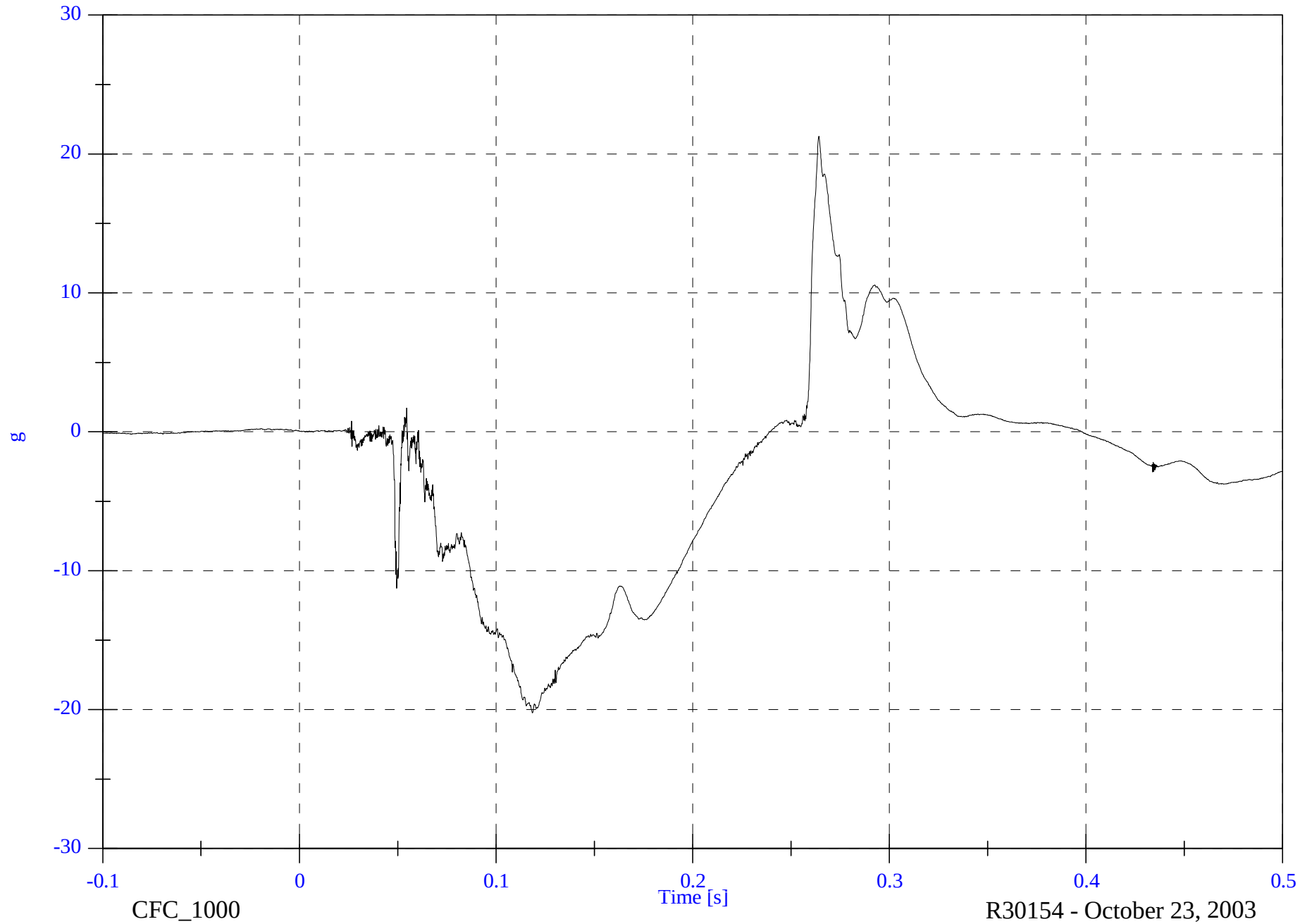
V1P2 Head x

Max: 21.3 [g] at 0.264 [s]

Min: -20.2 [g] at 0.118 [s]

B-101

8710-OFST-02

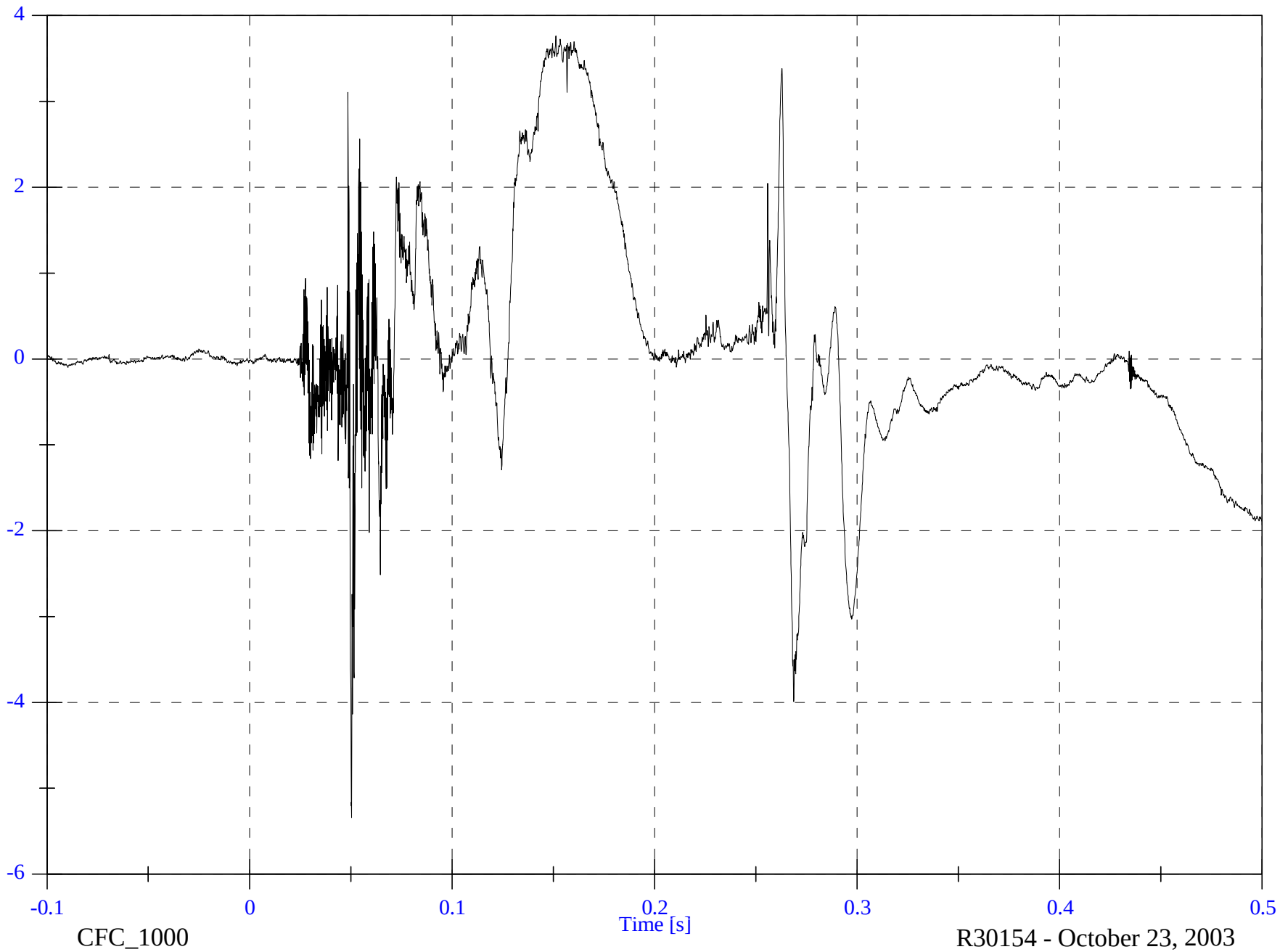


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head y

Max: 3.8 [g] at 0.151 [s]

Min: -5.3 [g] at 0.050 [s]

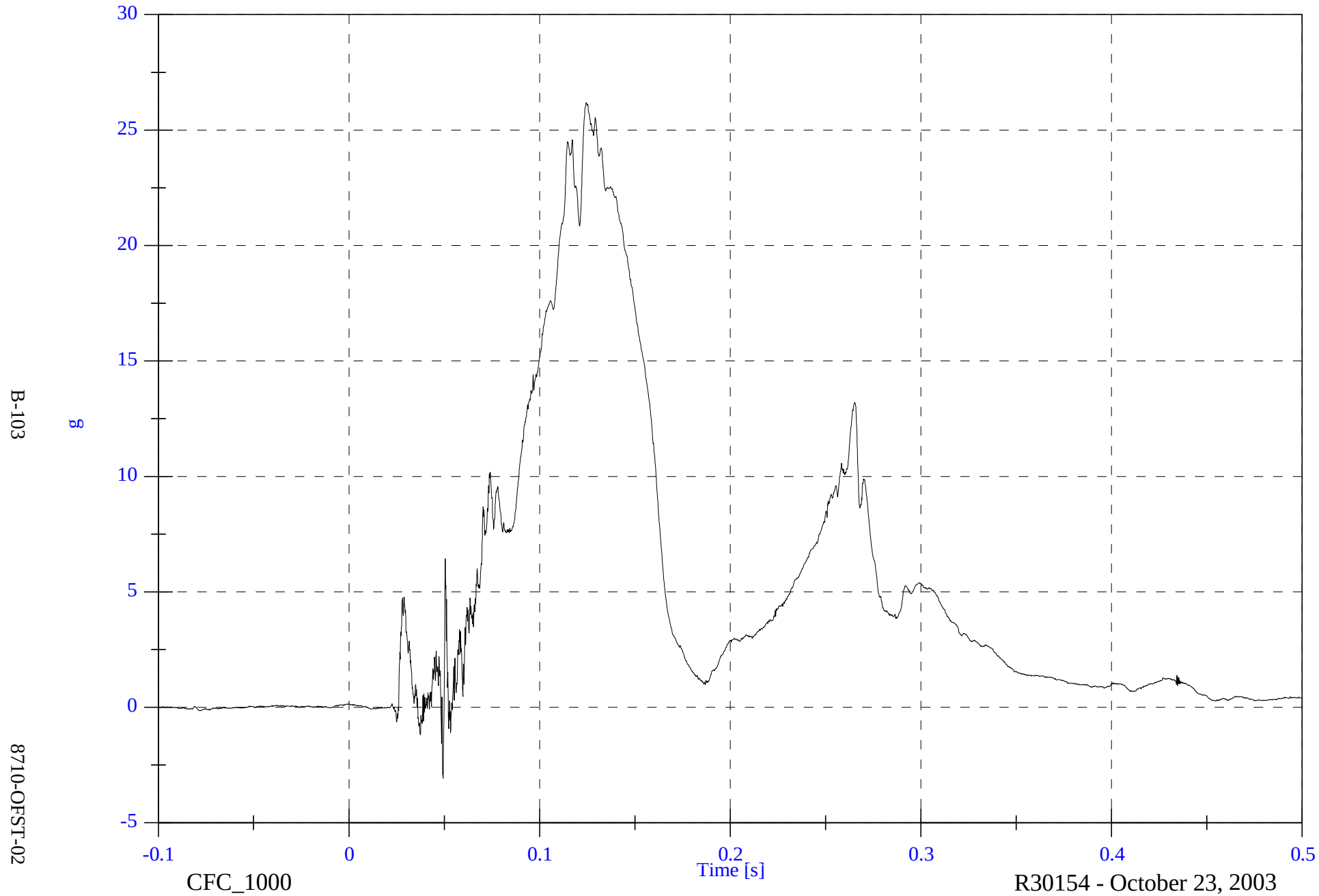


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head z

Max: 26.2 [g] at 0.124 [s]

Min: -3.1 [g] at 0.049 [s]

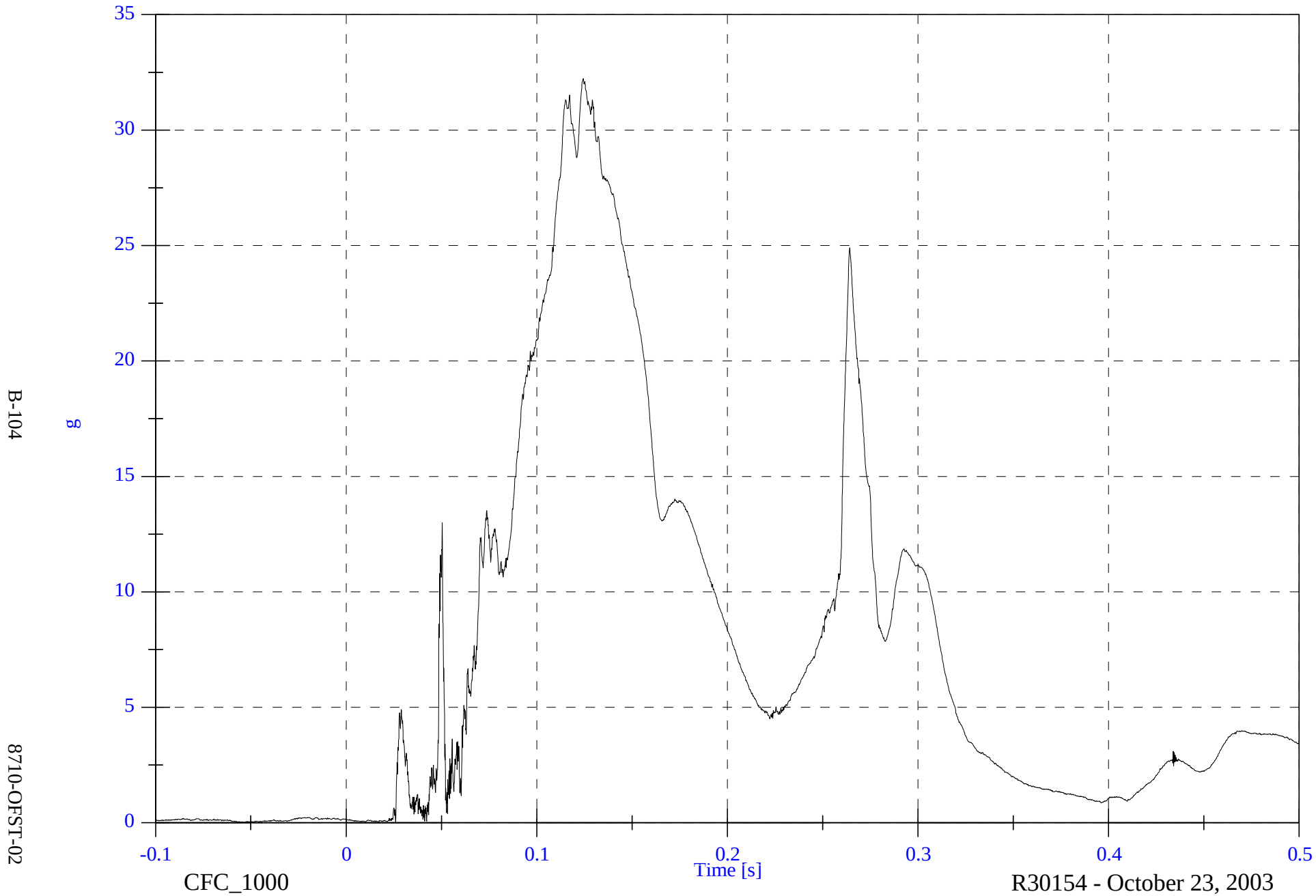


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head Resultant

Max: 32.2 [g] at 0.124 [s]

Min: 0.0 [g] at 0.017 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

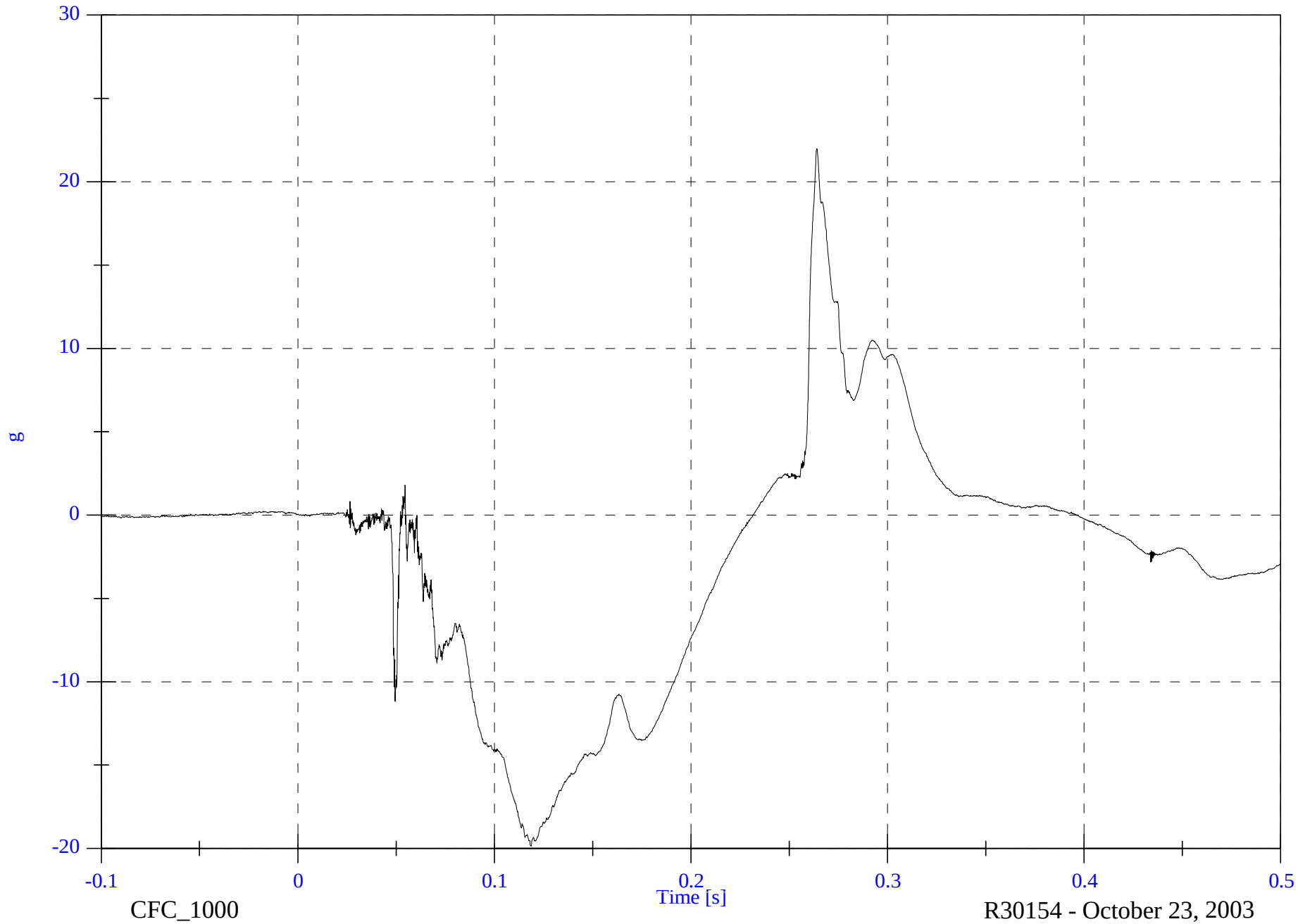
V1P2 Head Red x

Max: 22.0 [g] at 0.264 [s]

Min: -19.9 [g] at 0.119 [s]

B-105

8710-OFST-02

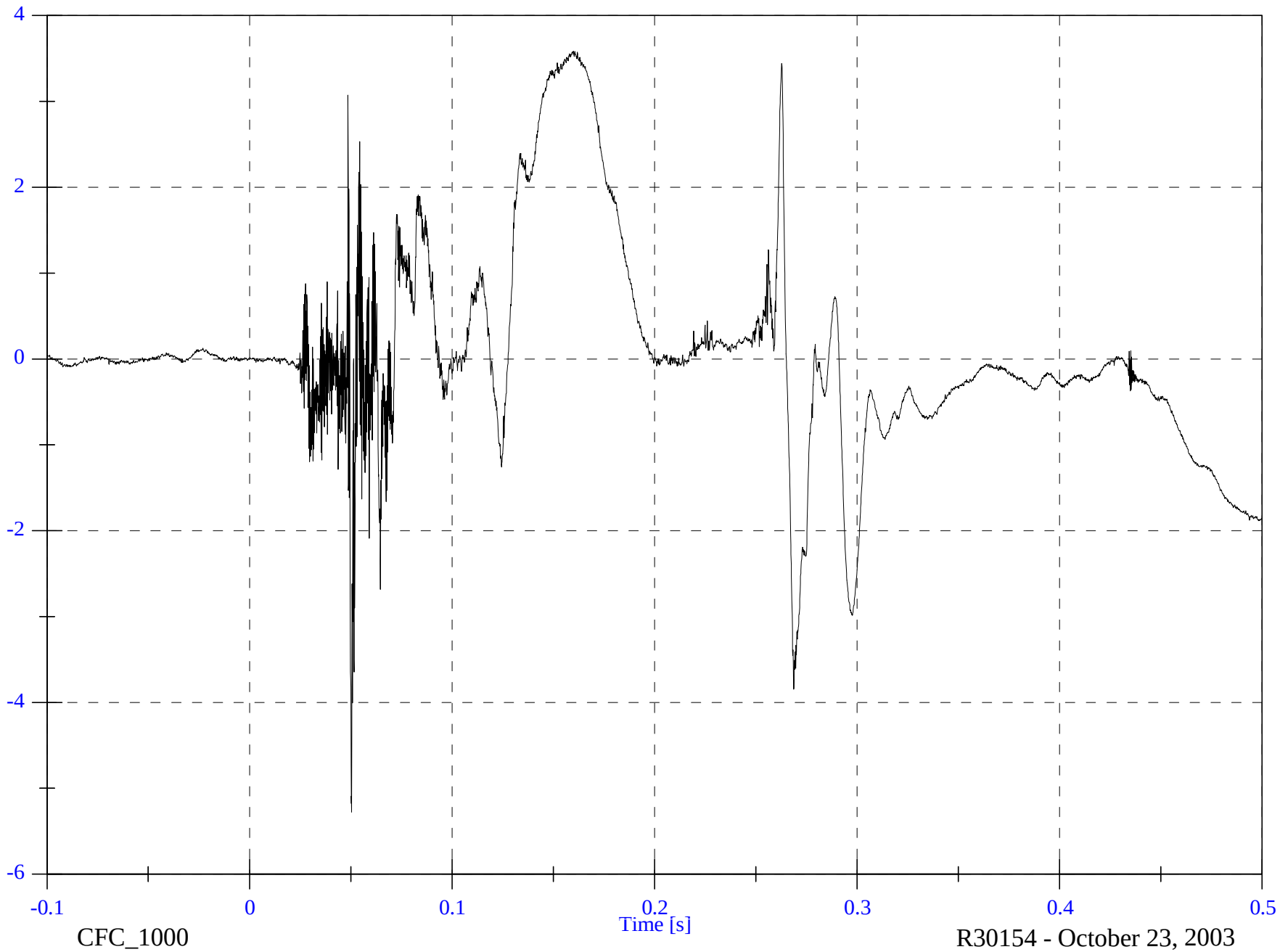


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head Red y

Max: 3.6 [g] at 0.160 [s]

Min: -5.3 [g] at 0.050 [s]



B-106

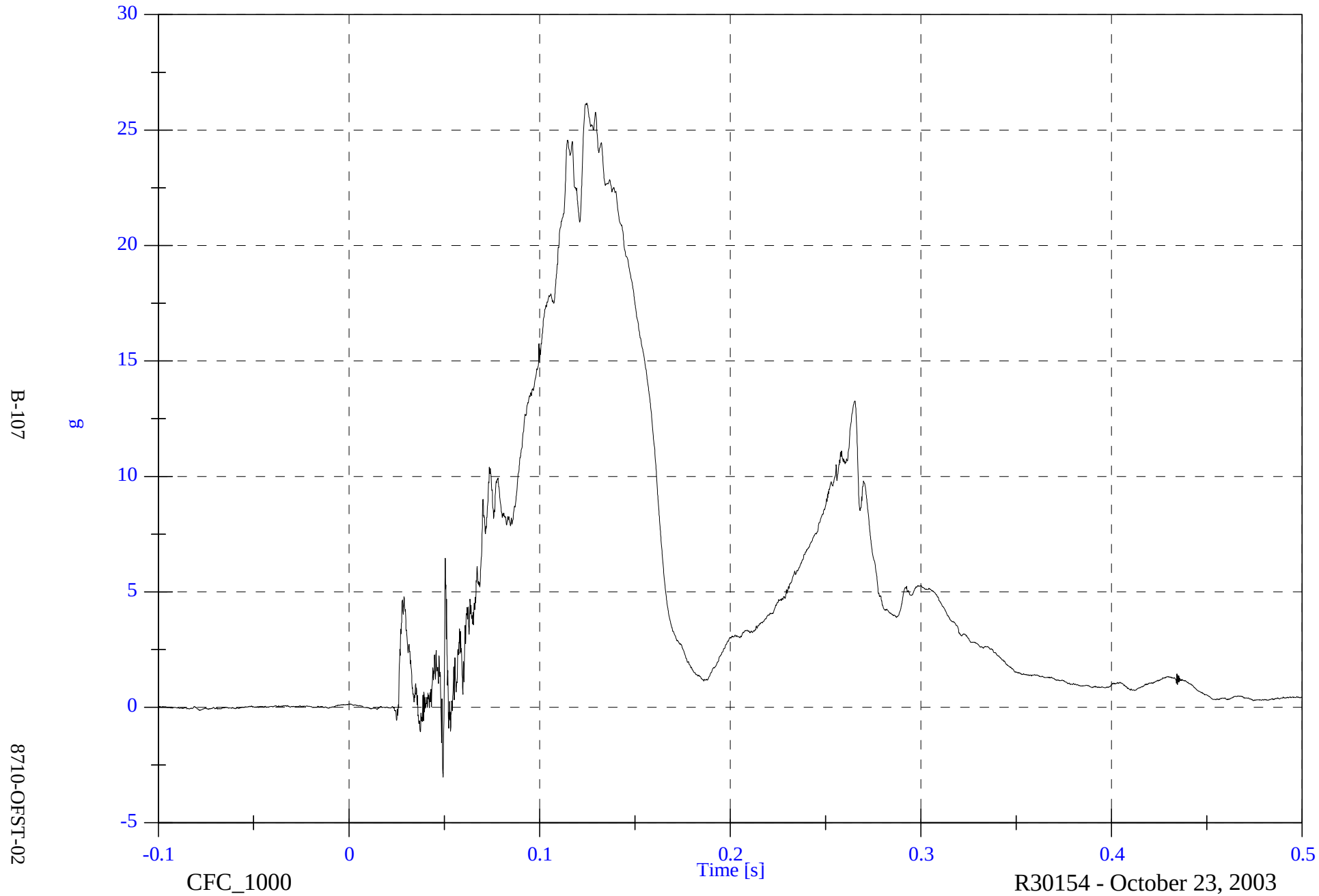
8710-OFST-02

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head Red z

Max: 26.2 [g] at 0.125 [s]

Min: -3.0 [g] at 0.049 [s]

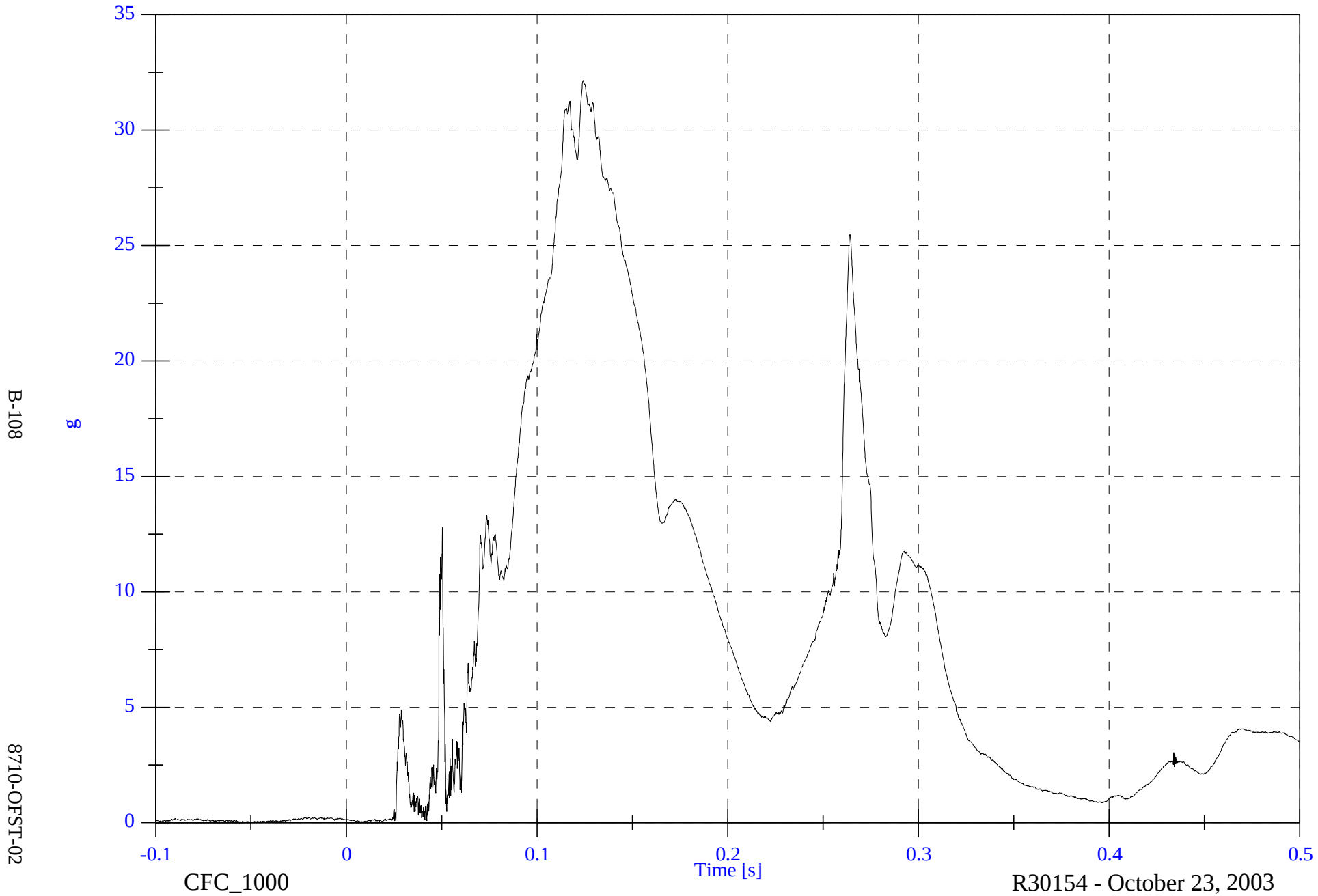


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Head Red Resultant

Max: 32.1 [g] at 0.124 [s]

Min: 0.0 [g] at -0.050 [s]

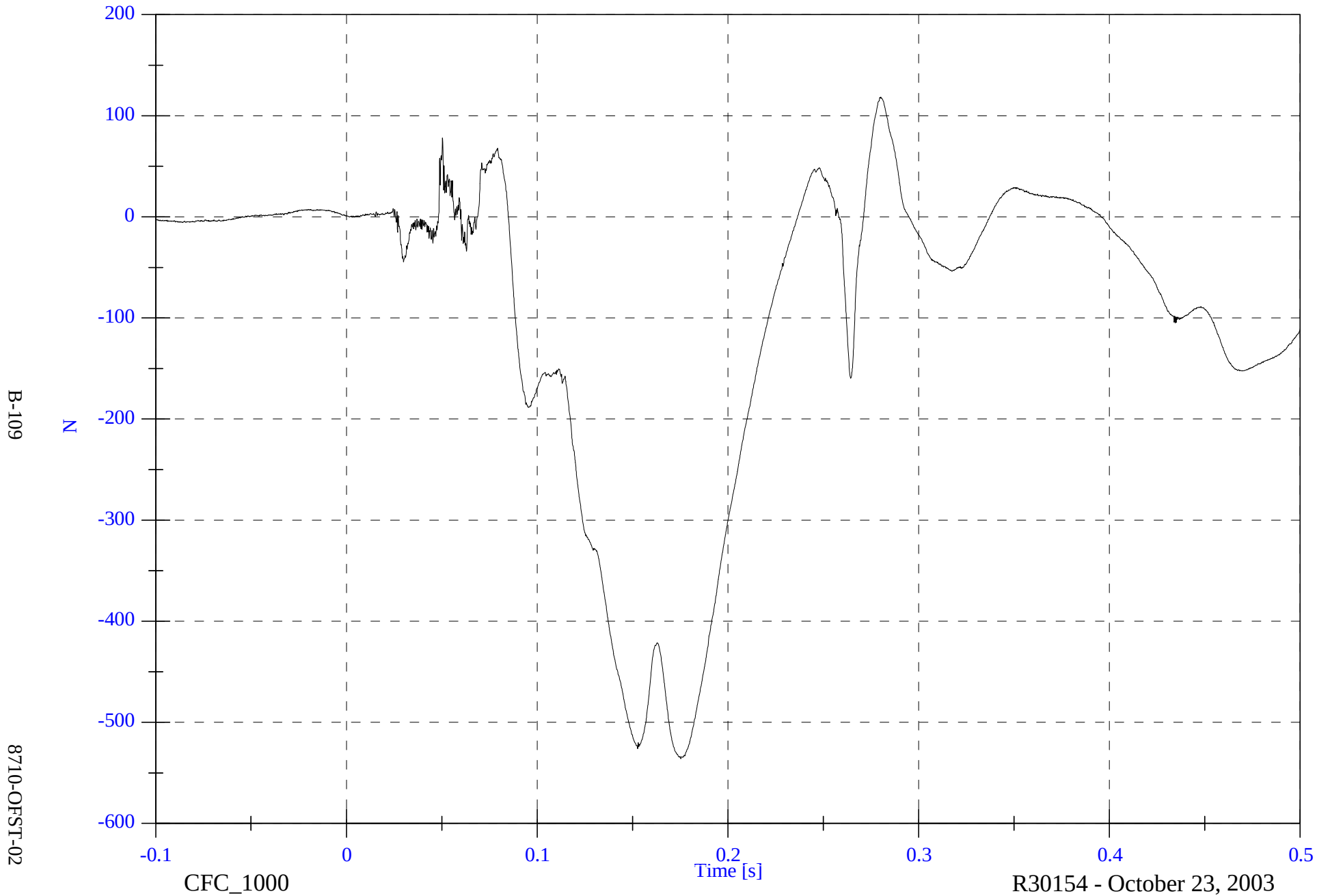


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck Fx

Max: 118.5 [N] at 0.280 [s]

Min: -536.0 [N] at 0.175 [s]

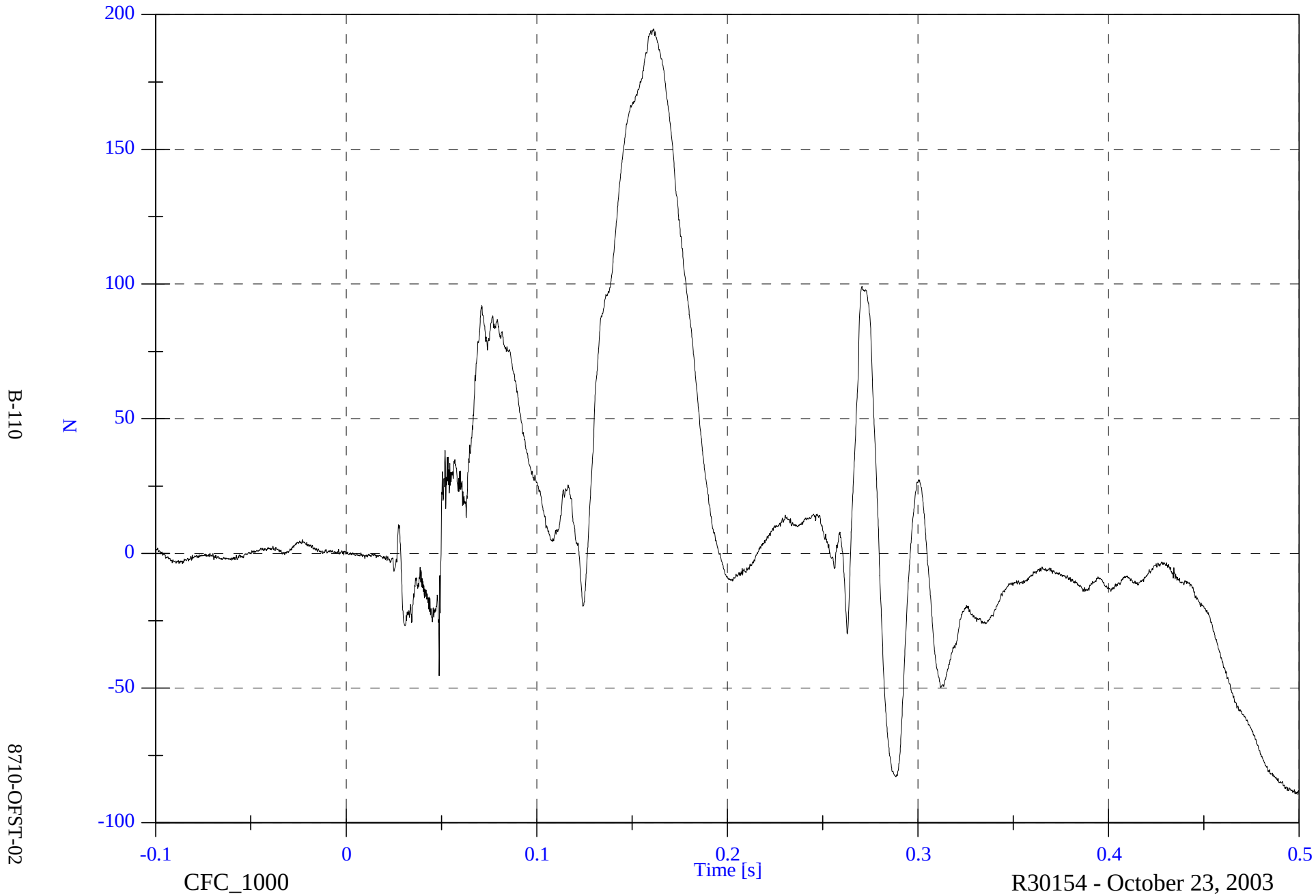


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Max: 194.8 [N] at 0.161 [s]

V1P2 Upper Neck Fy

Min: -89.5 [N] at 0.499 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck Fz

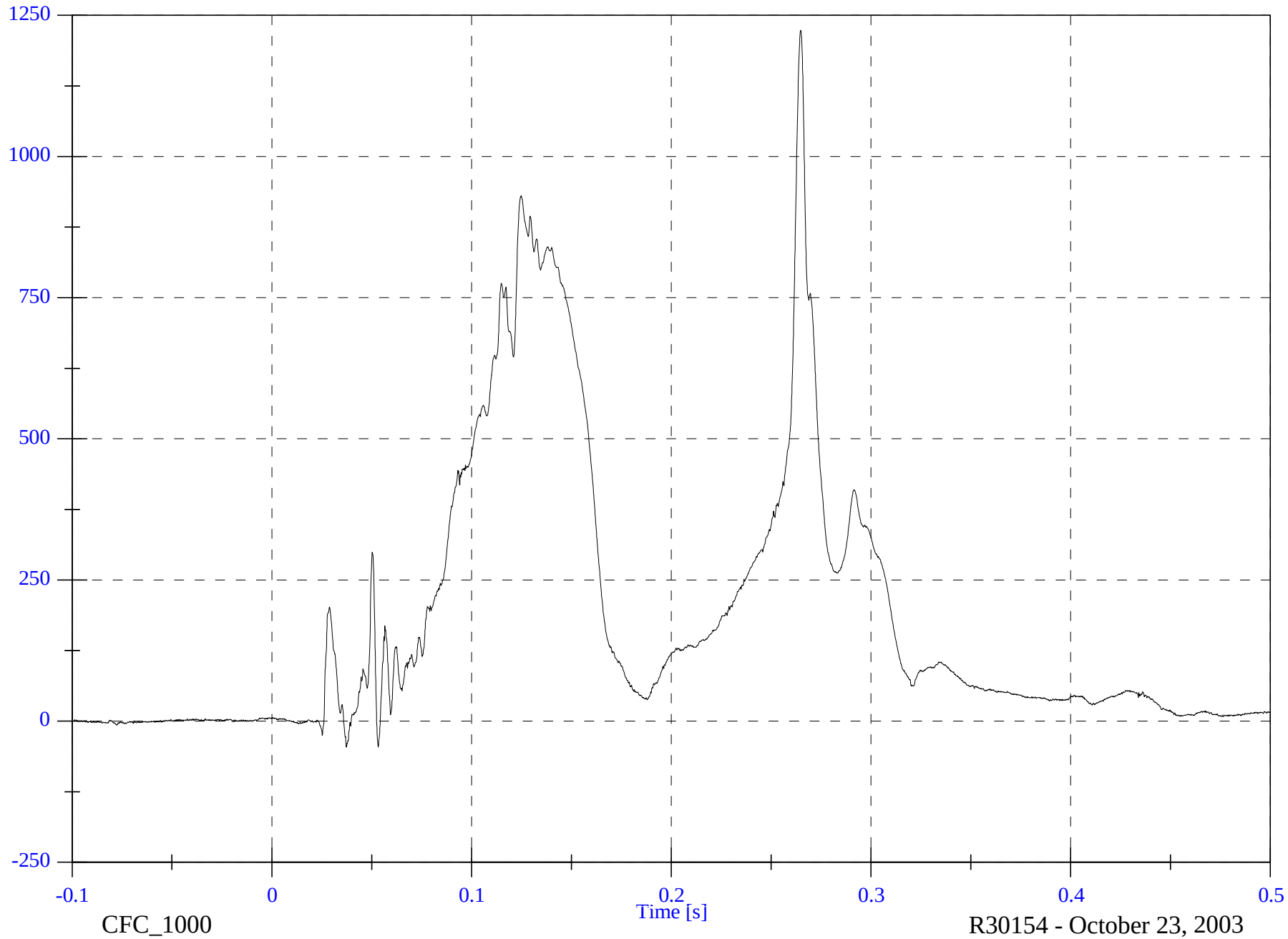
Max: 1223.3 [N] at 0.265 [s]

Min: -46.3 [N] at 0.037 [s]

B-111

N

8710-OFST-02

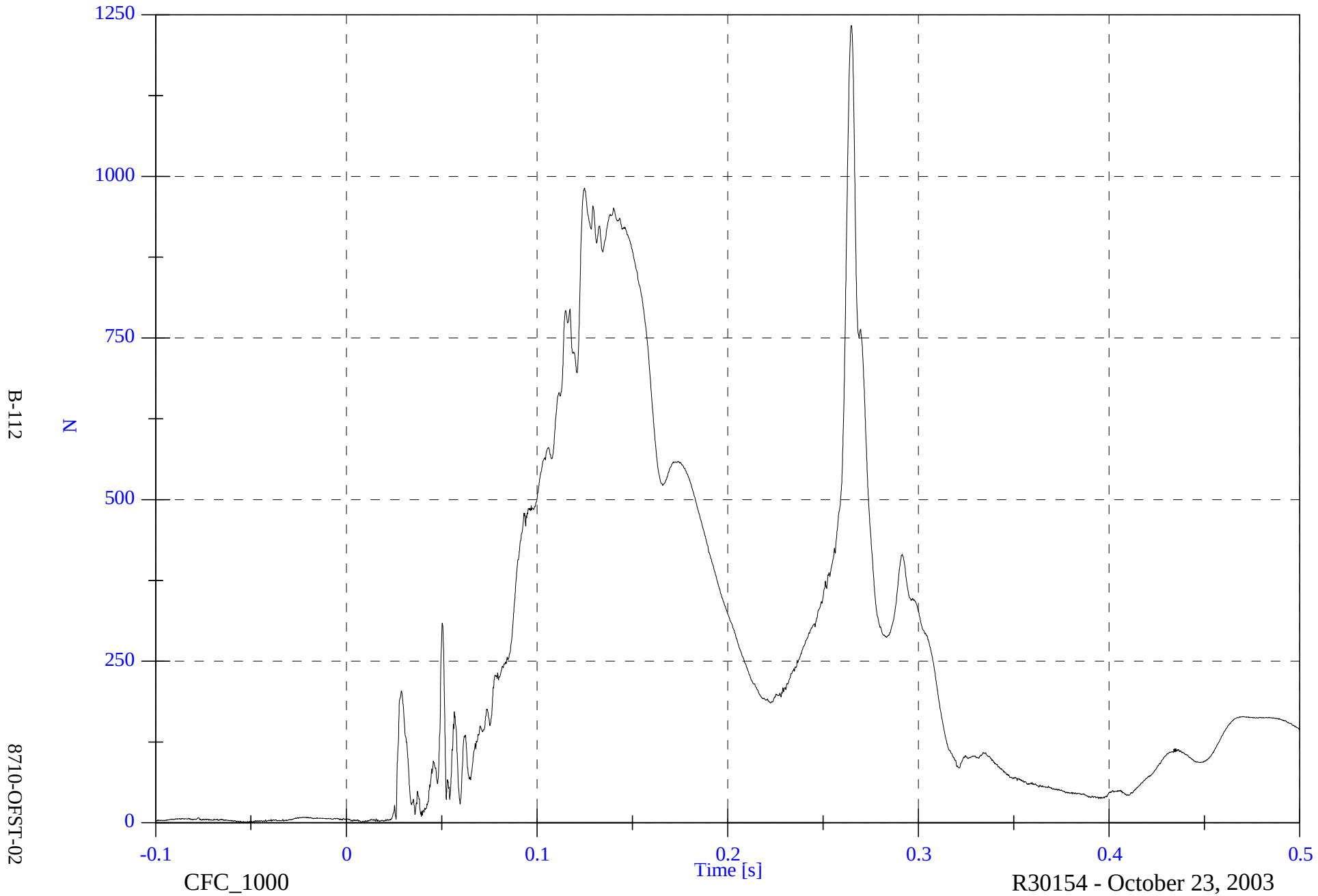


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck F Resultant

Max: 1233.3 [N] at 0.265 [s]

Min: 0.5 [N] at -0.052 [s]

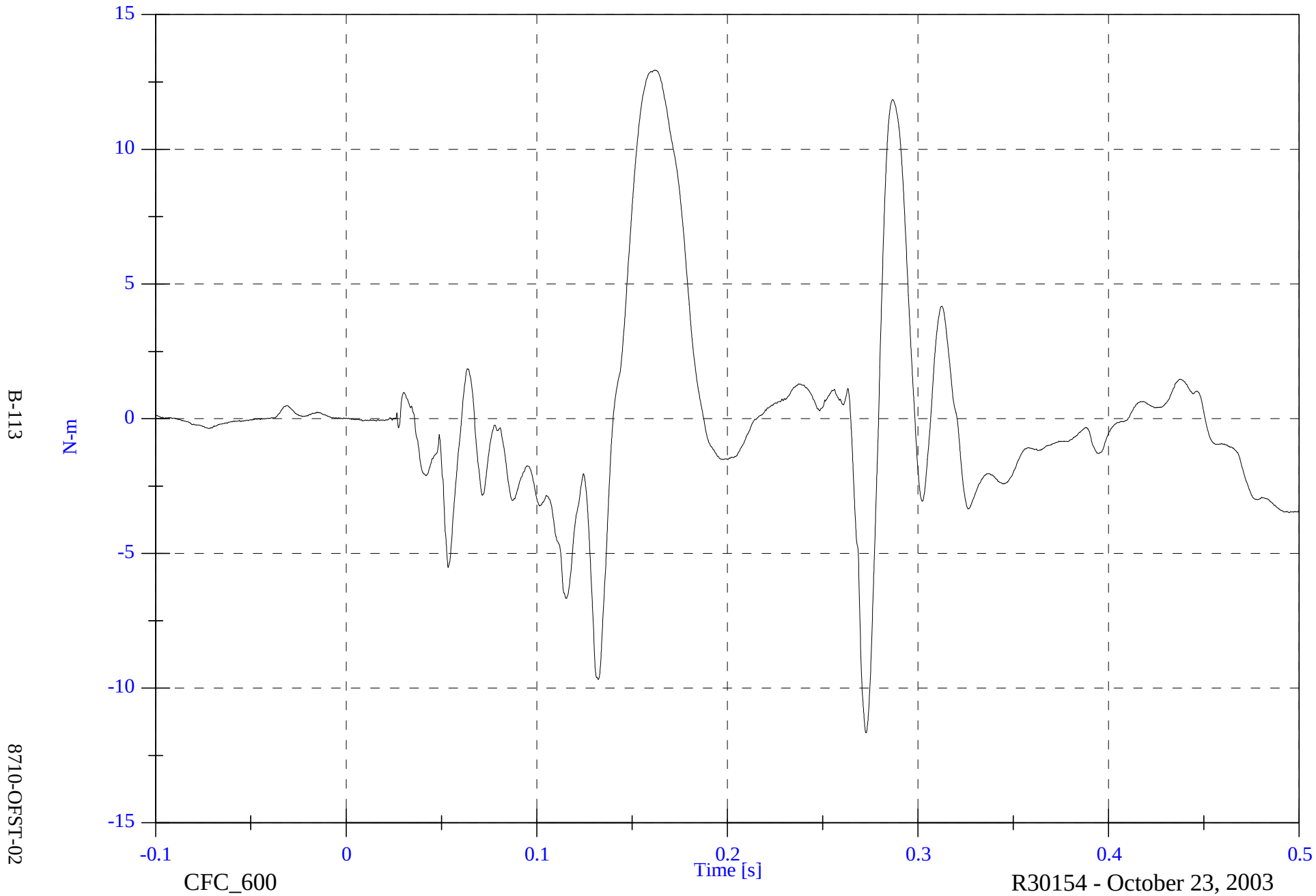


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck Mx

Max: 12.9 [N-m] at 0.162 [s]

Min: -11.7 [N-m] at 0.273 [s]

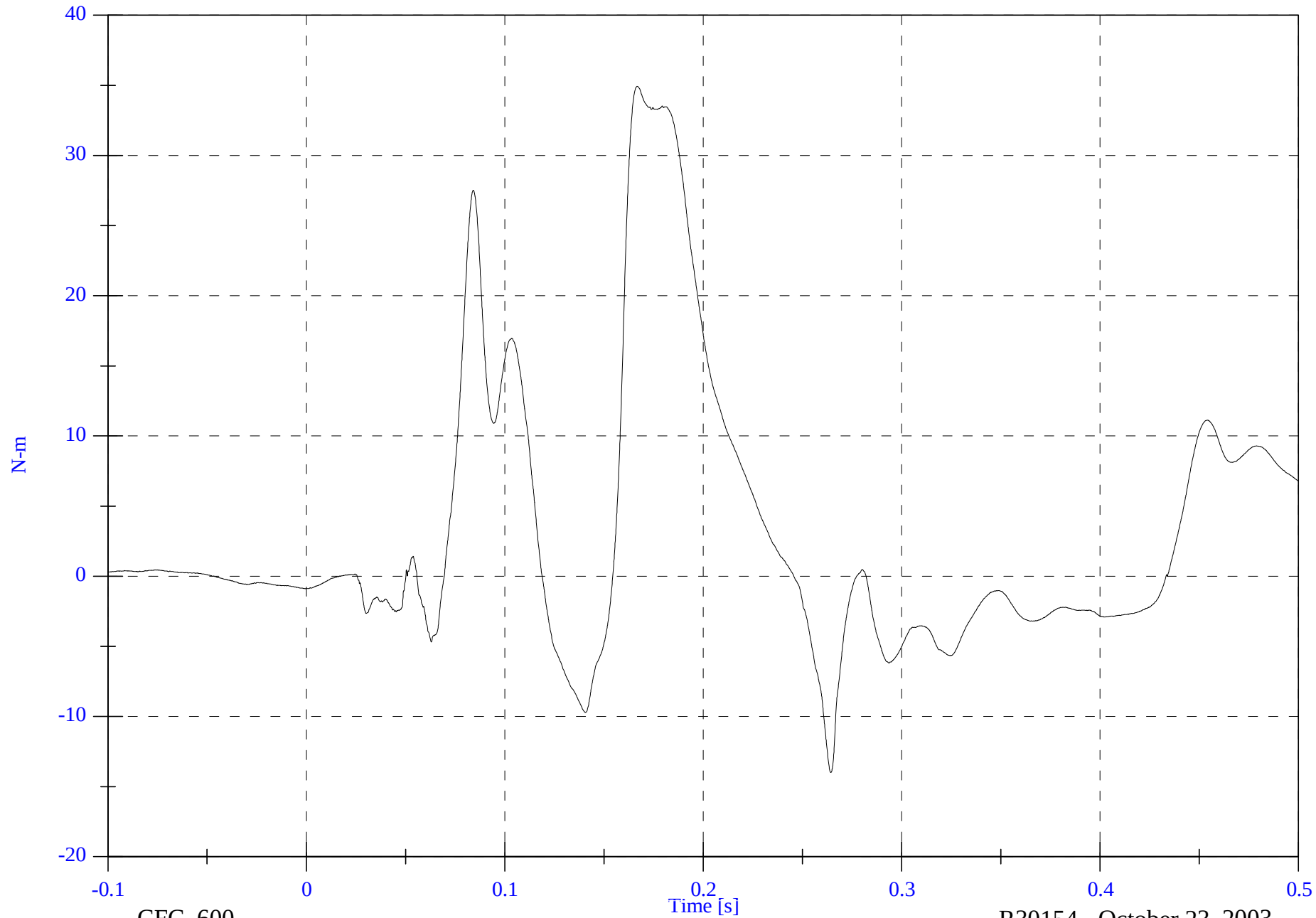


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck My

Max: 34.9 [N-m] at 0.167 [s]

Min: -14.0 [N-m] at 0.264 [s]



B-114

8710-OFST-02

CFC_600

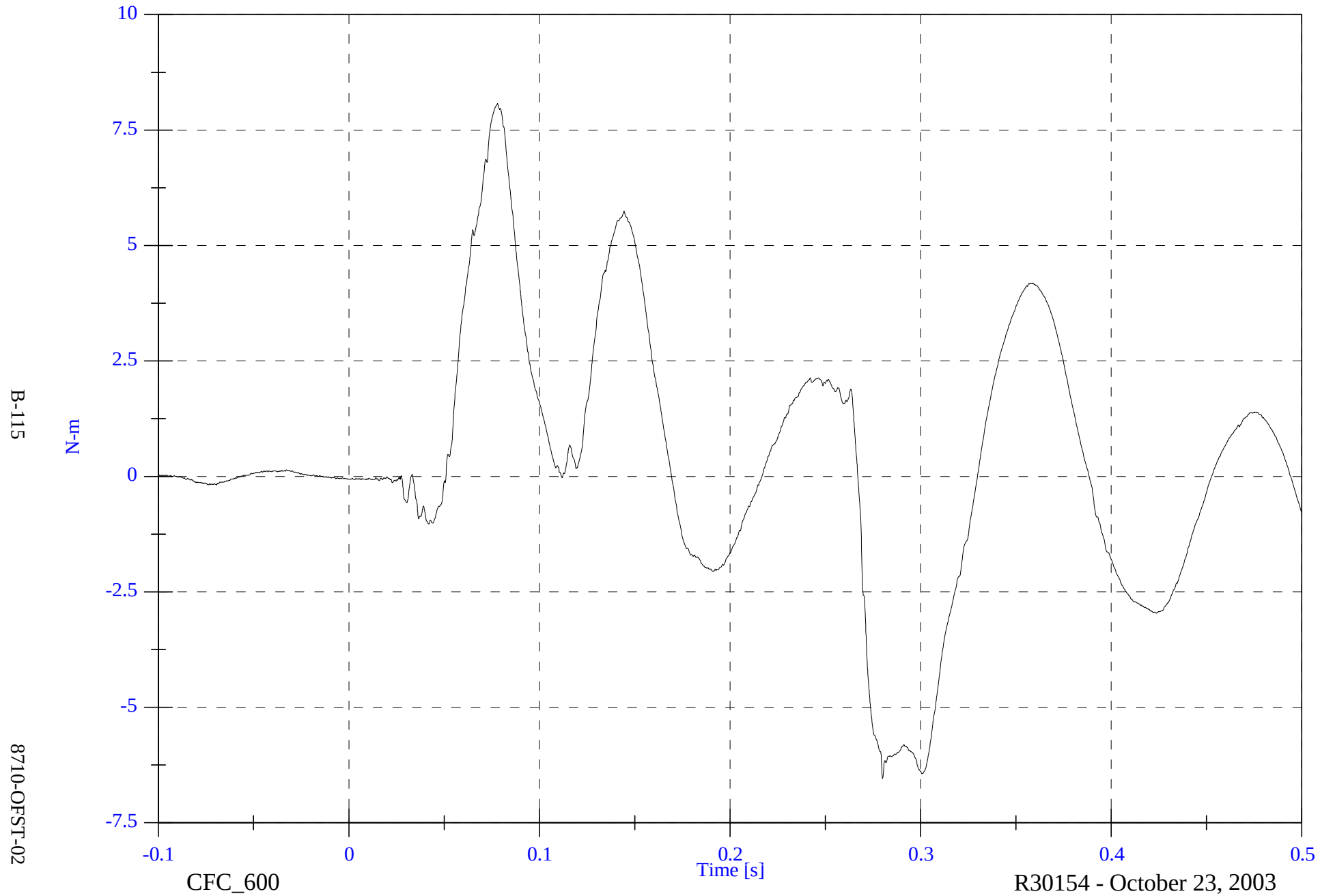
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck Mz

Max: 8.1 [N-m] at 0.078 [s]

Min: -6.5 [N-m] at 0.280 [s]

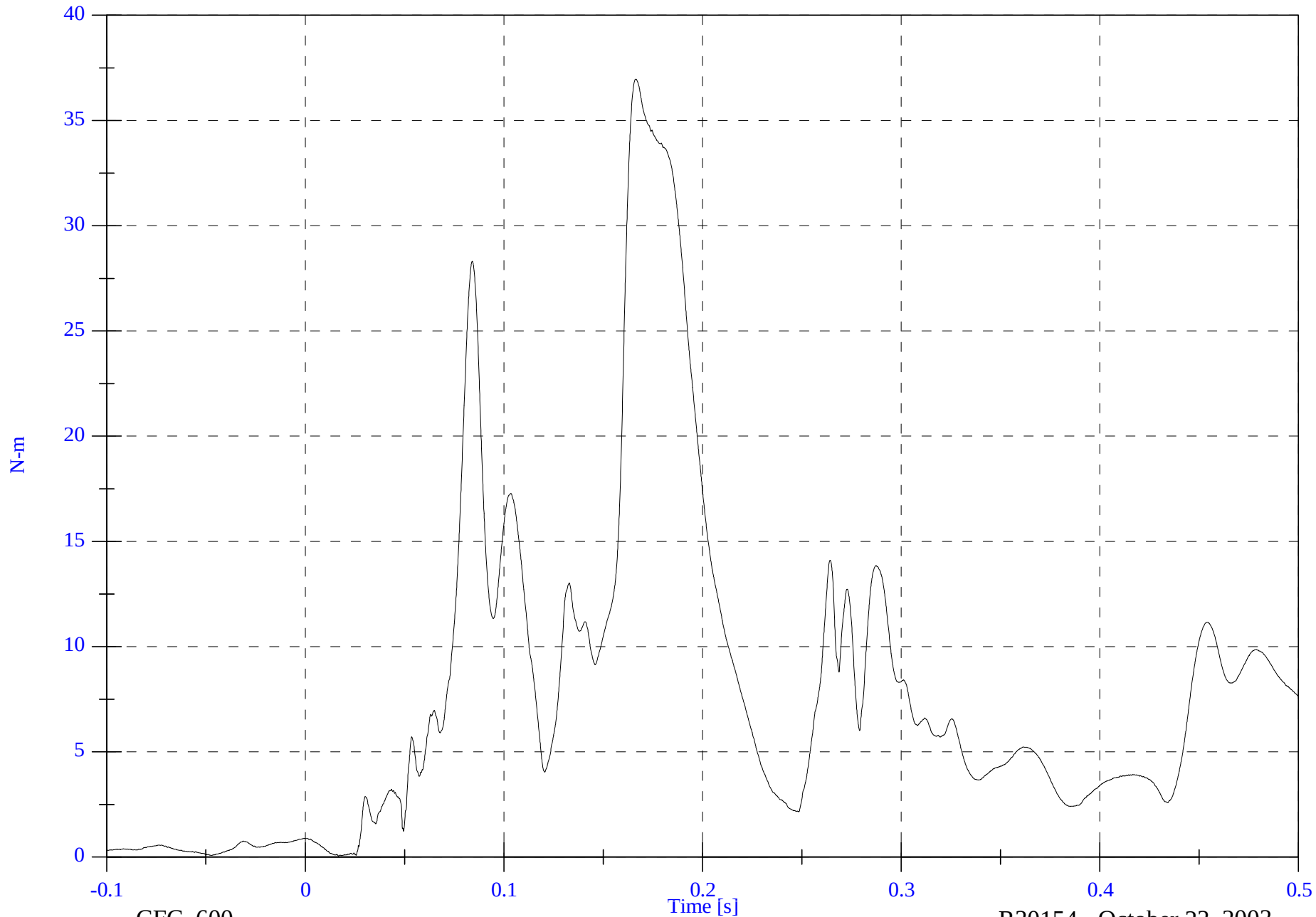


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Upper Neck M Resultant

Max: 37.0 [N-m] at 0.166 [s]

Min: 0.1 [N-m] at 0.017 [s]



B-116

8710-OFST-02

CFC_600

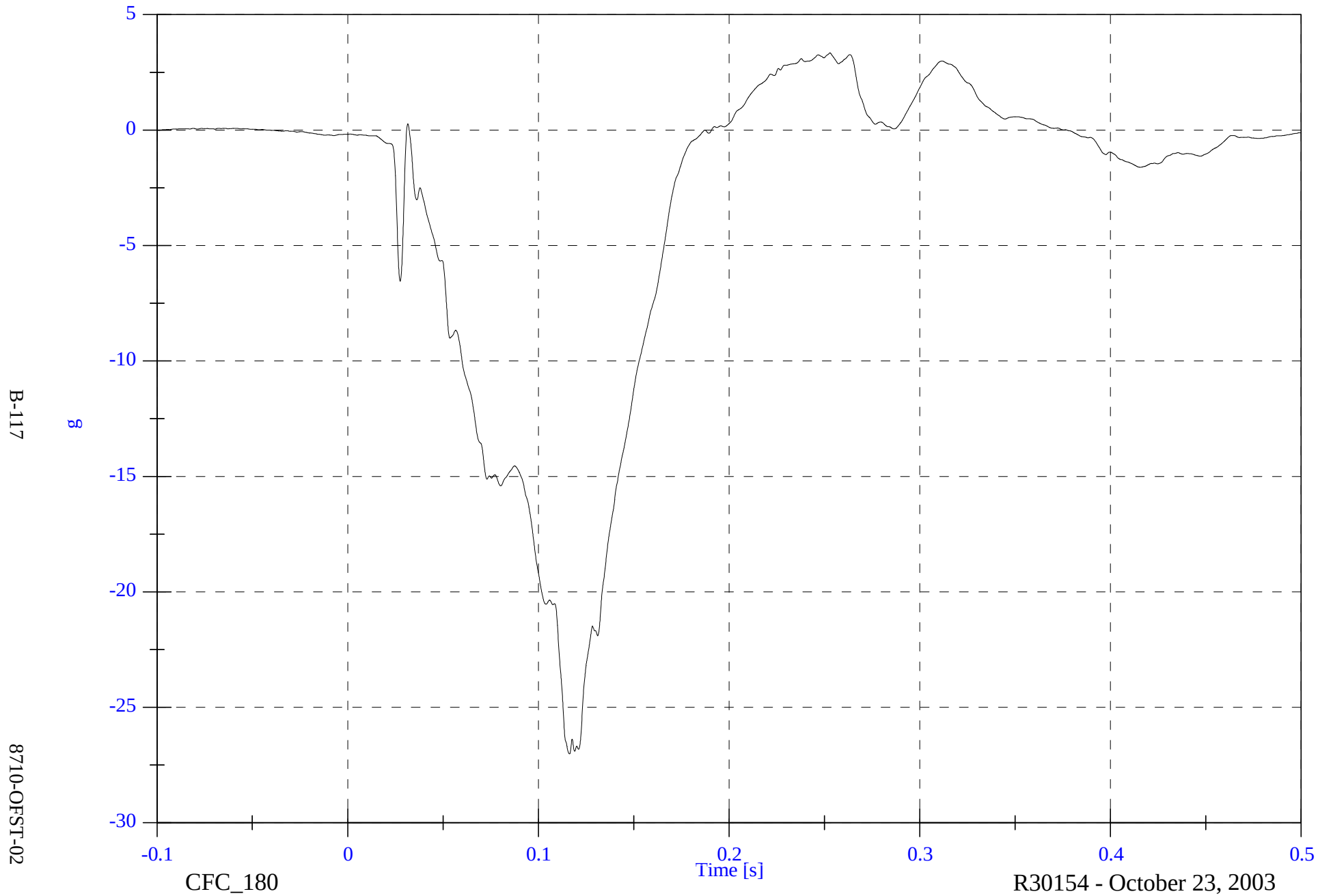
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest x

Max: 3.3 [g] at 0.253 [s]

Min: -27.0 [g] at 0.116 [s]

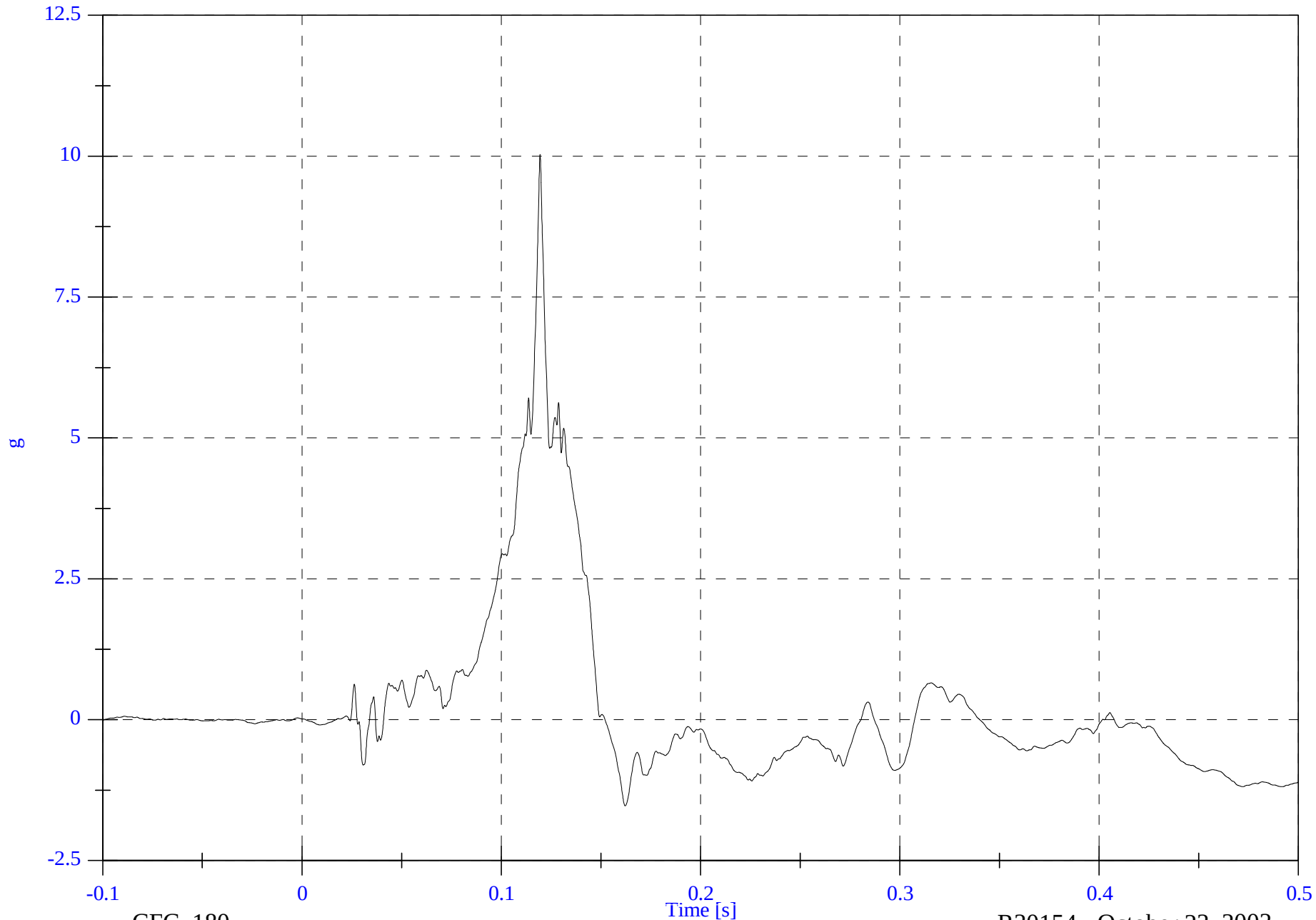


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest y

Max: 10.0 [g] at 0.119 [s]

Min: -1.5 [g] at 0.162 [s]



B-118

8710-OFST-02

CFC_180

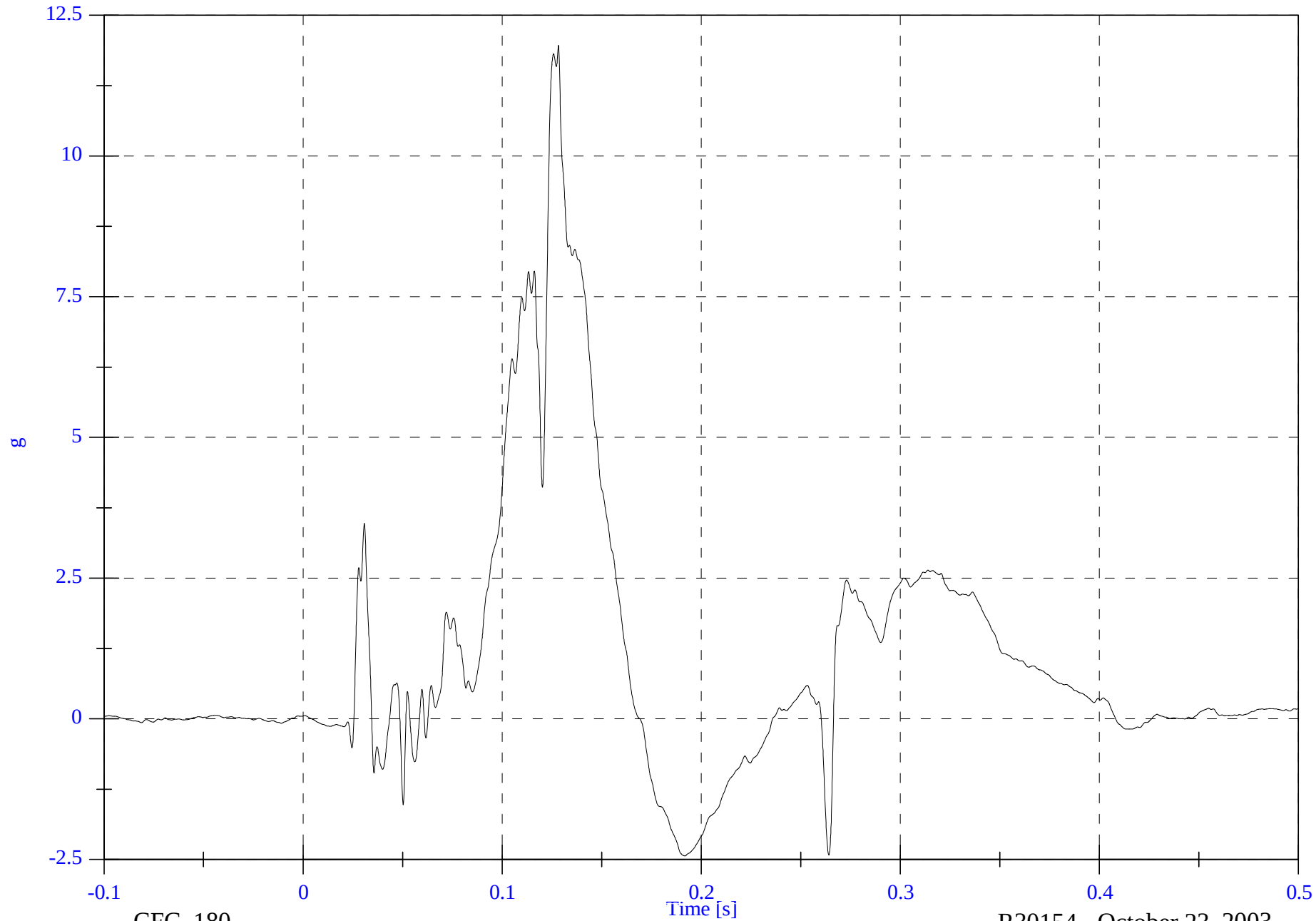
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest z

Max: 12.0 [g] at 0.128 [s]

Min: -2.4 [g] at 0.192 [s]



B-119

8710-OFST-02

CFC_180

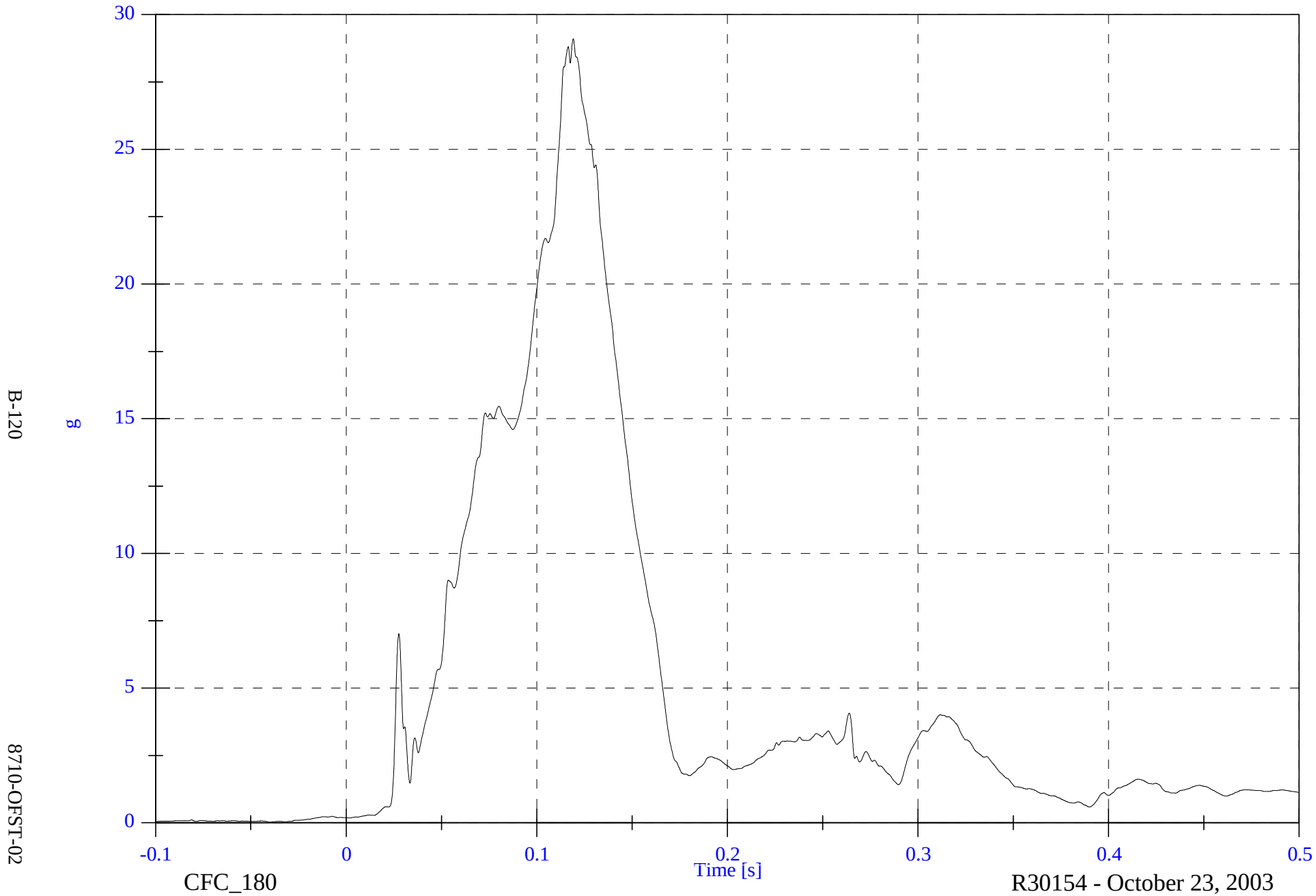
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest Resultant

Max: 29.1 [g] at 0.119 [s]

Min: 0.0 [g] at -0.040 [s]

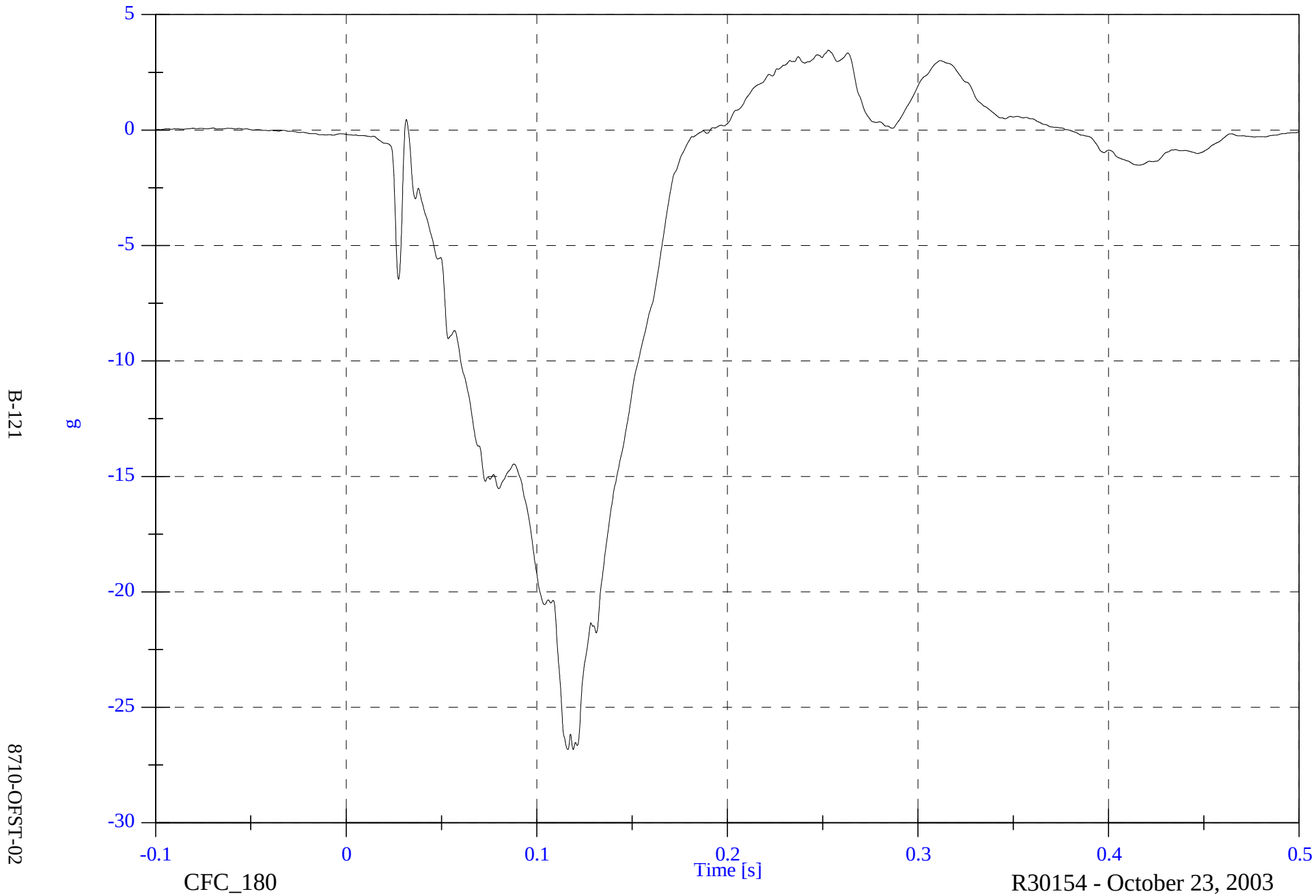


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest Red x

Max: 3.5 [g] at 0.253 [s]

Min: -26.8 [g] at 0.116 [s]

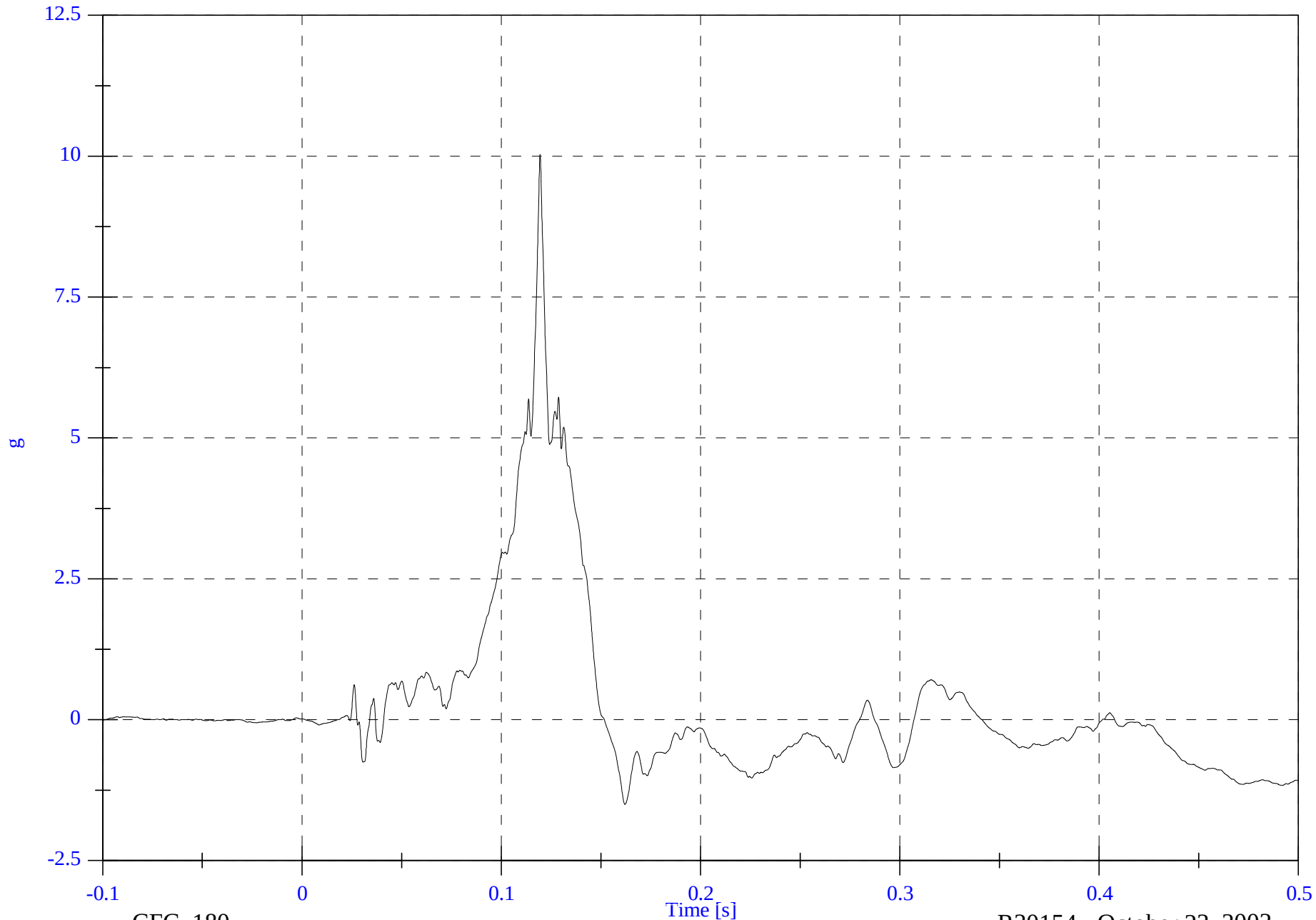


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest Red y

Max: 10.0 [g] at 0.119 [s]

Min: -1.5 [g] at 0.162 [s]



B-122

8710-OFST-02

CFC_180

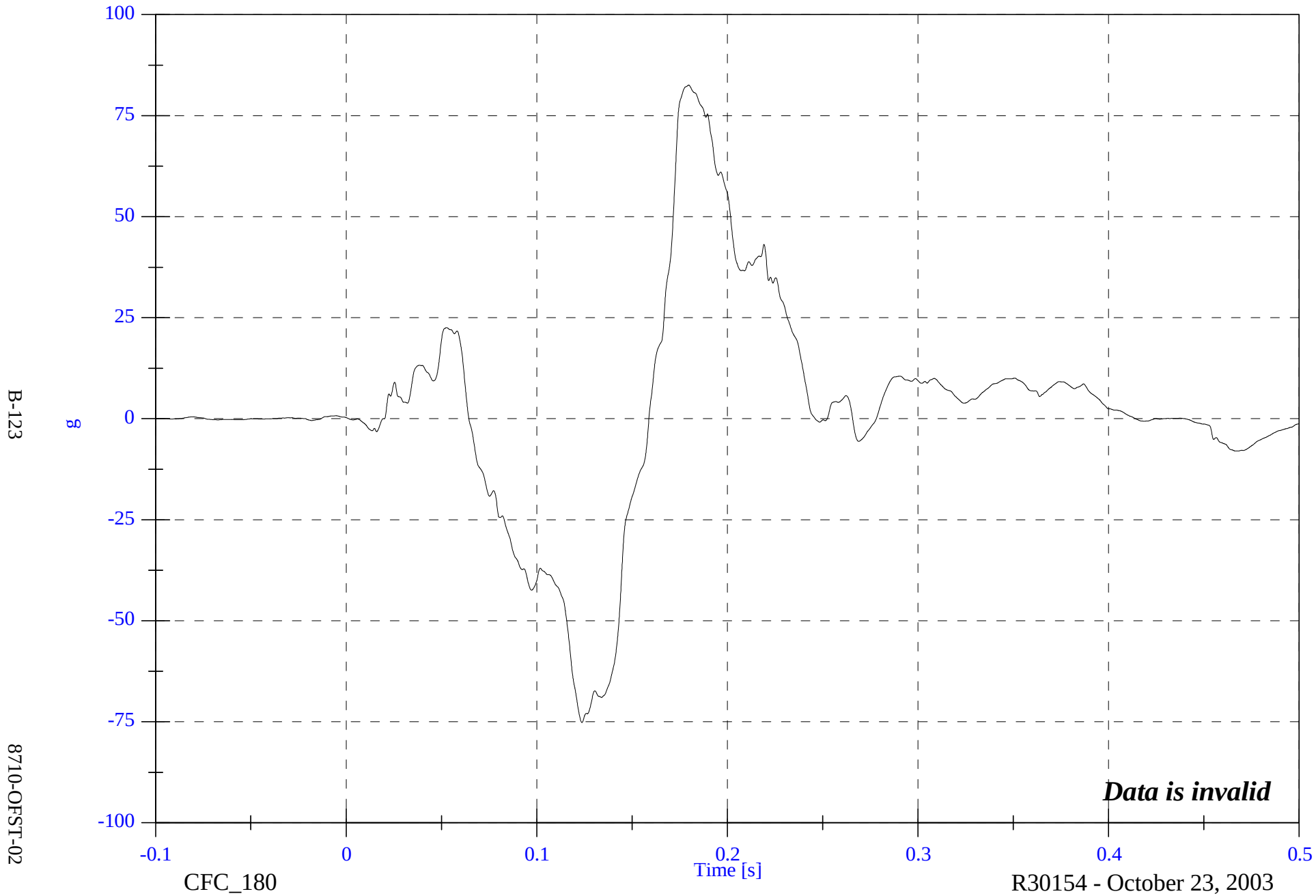
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest Red z

Max: 82.6 [g] at 0.180 [s]

Min: -75.2 [g] at 0.124 [s]

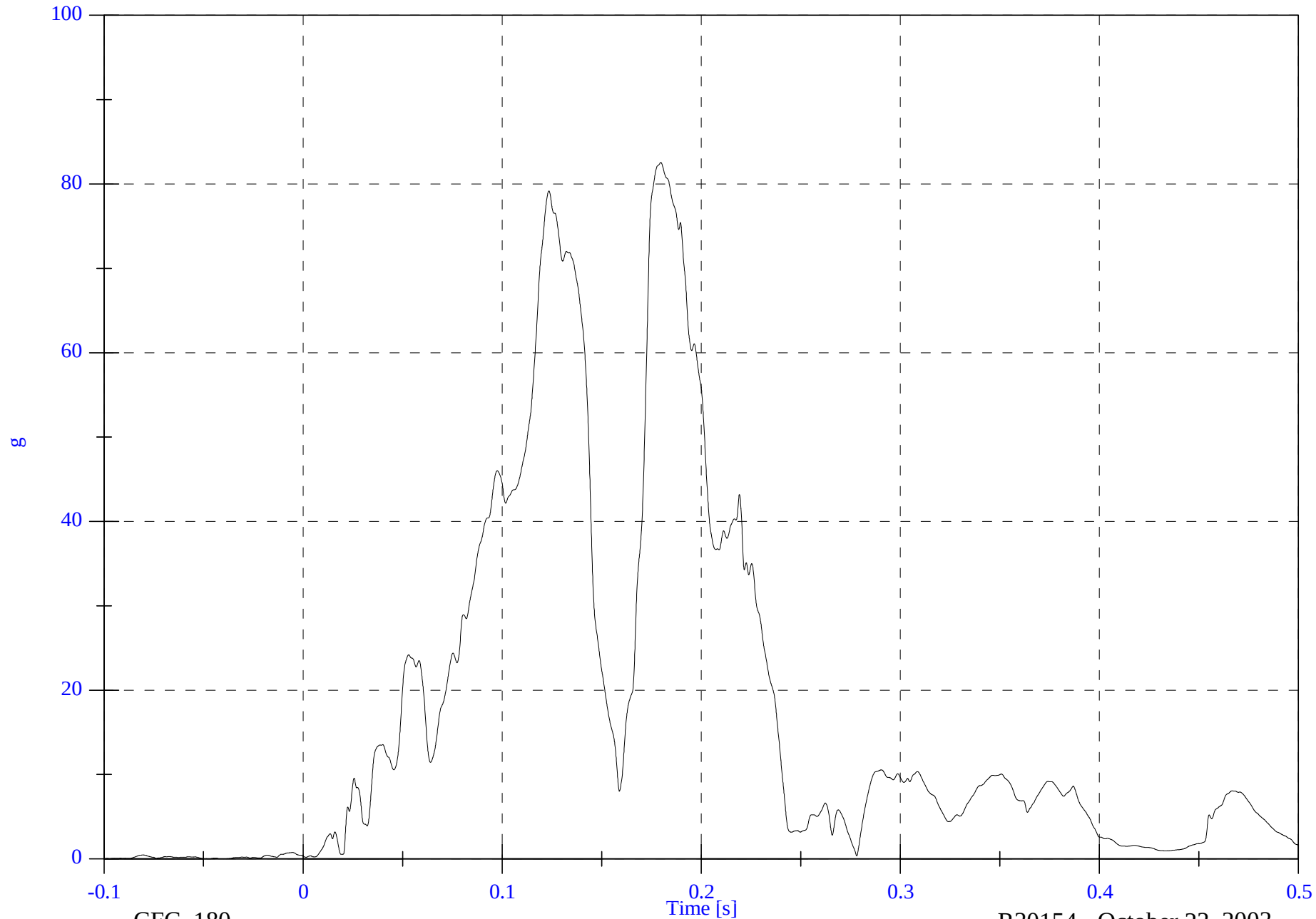


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest Red Resultant

Max: 82.6 [g] at 0.180 [s]

Min: 0.0 [g] at -0.039 [s]



B-124

8710-OFST-02

CFC_180

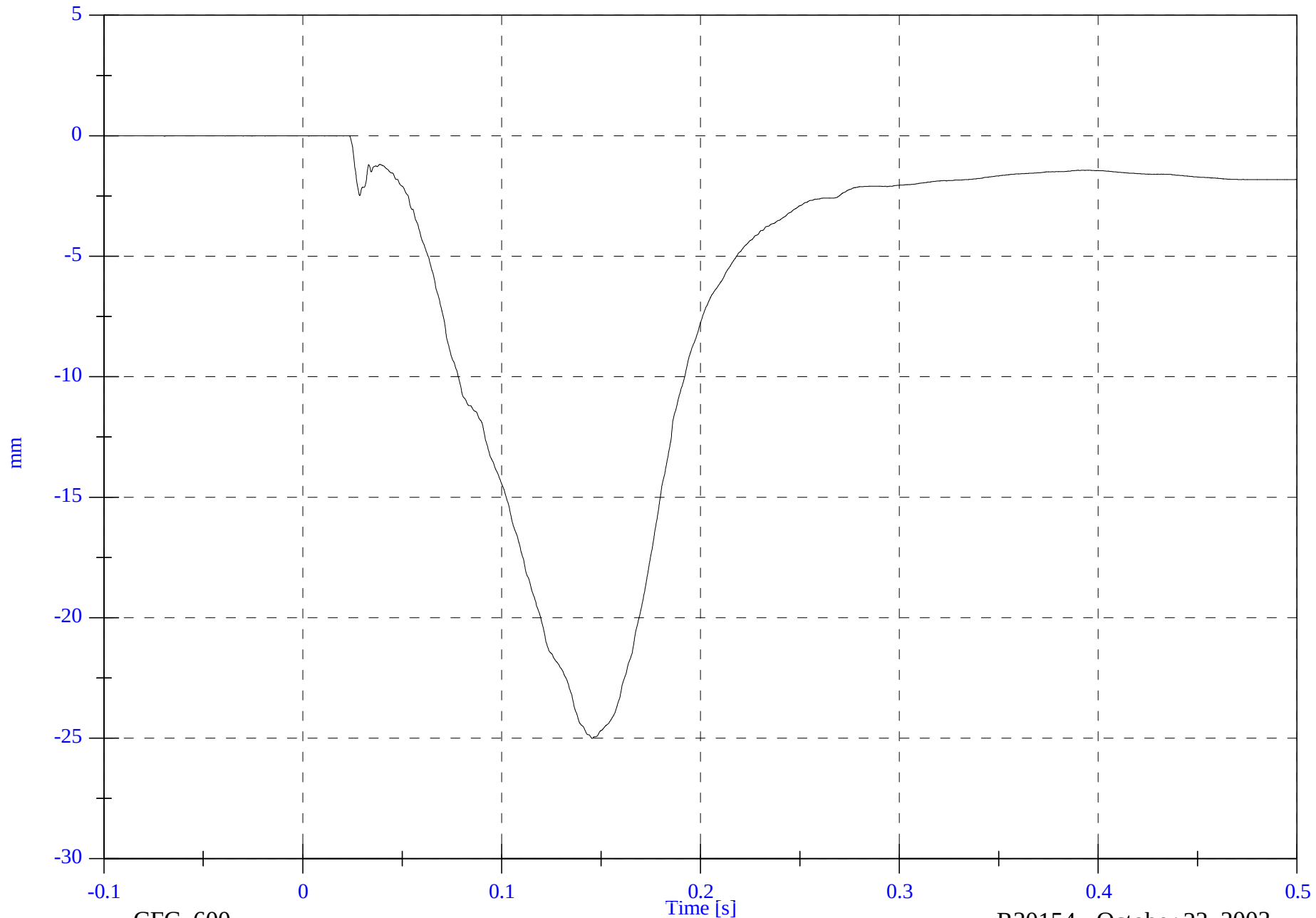
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Chest Displacement

Max: 0.0 [mm] at -0.006 [s]

Min: -25.0 [mm] at 0.146 [s]



B-125

8710-OFST-02

CFC_600

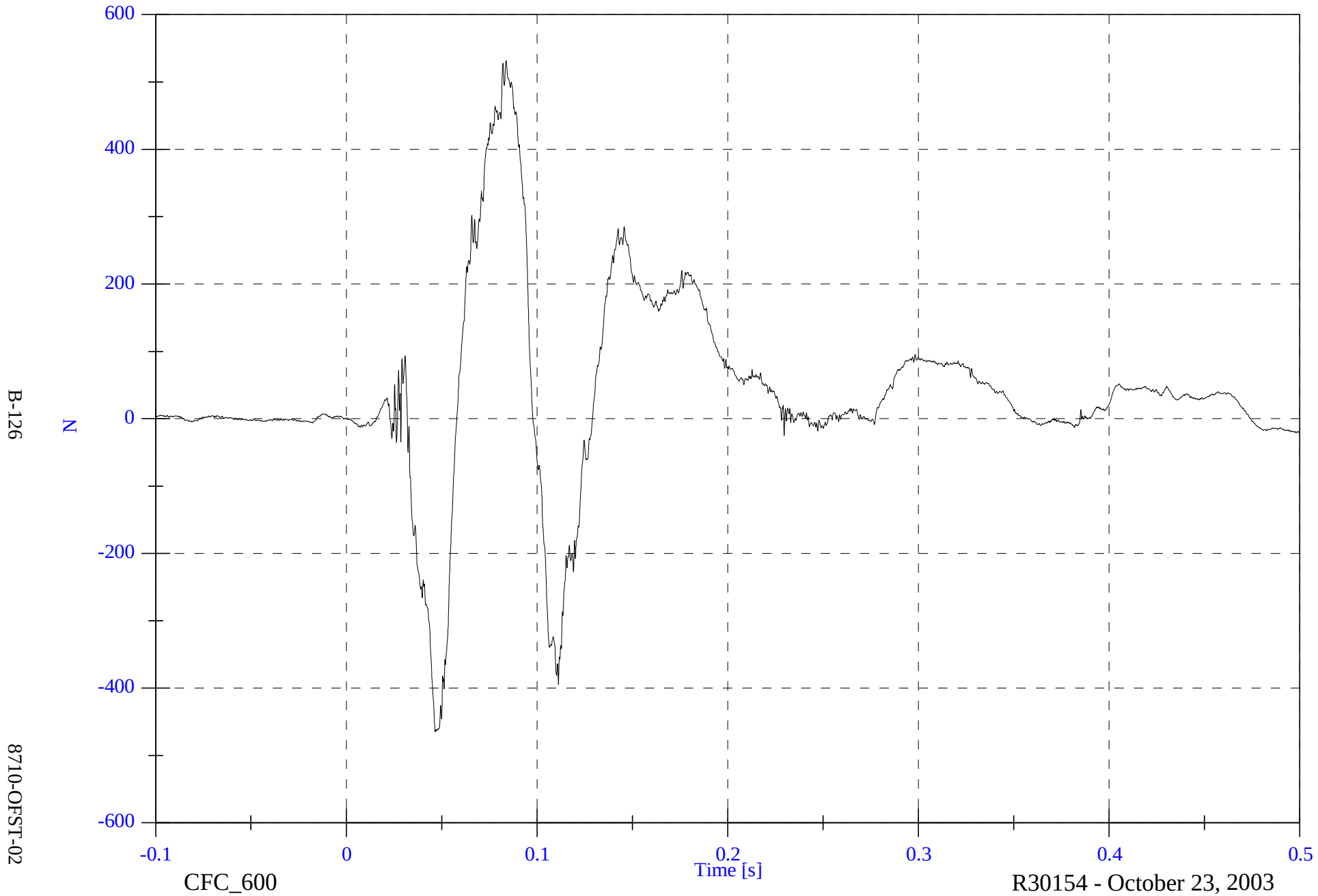
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Femur

Max: 531.7 [N] at 0.084 [s]

Min: -464.7 [N] at 0.047 [s]

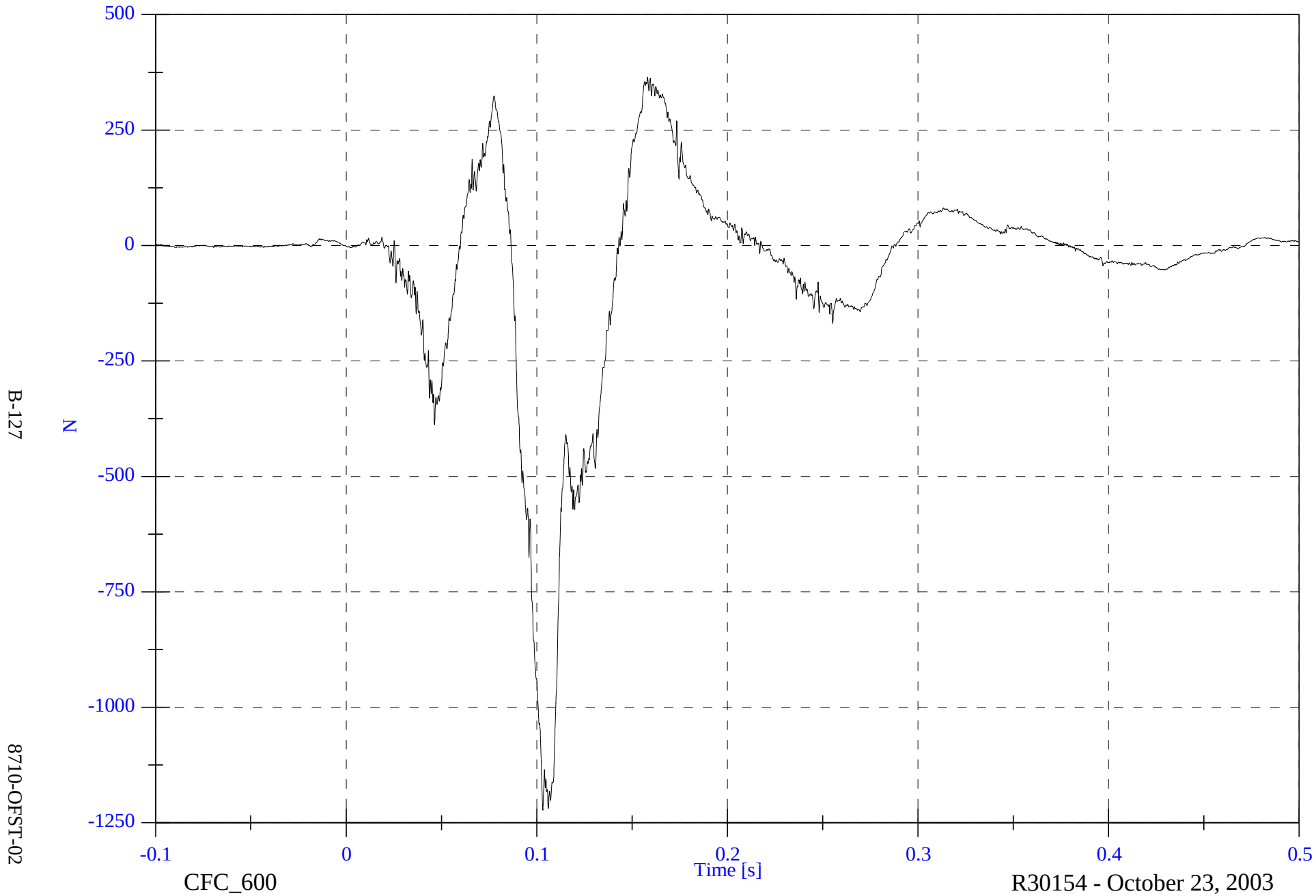


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Femur

Max: 364.5 [N] at 0.158 [s]

Min: -1222.4 [N] at 0.103 [s]

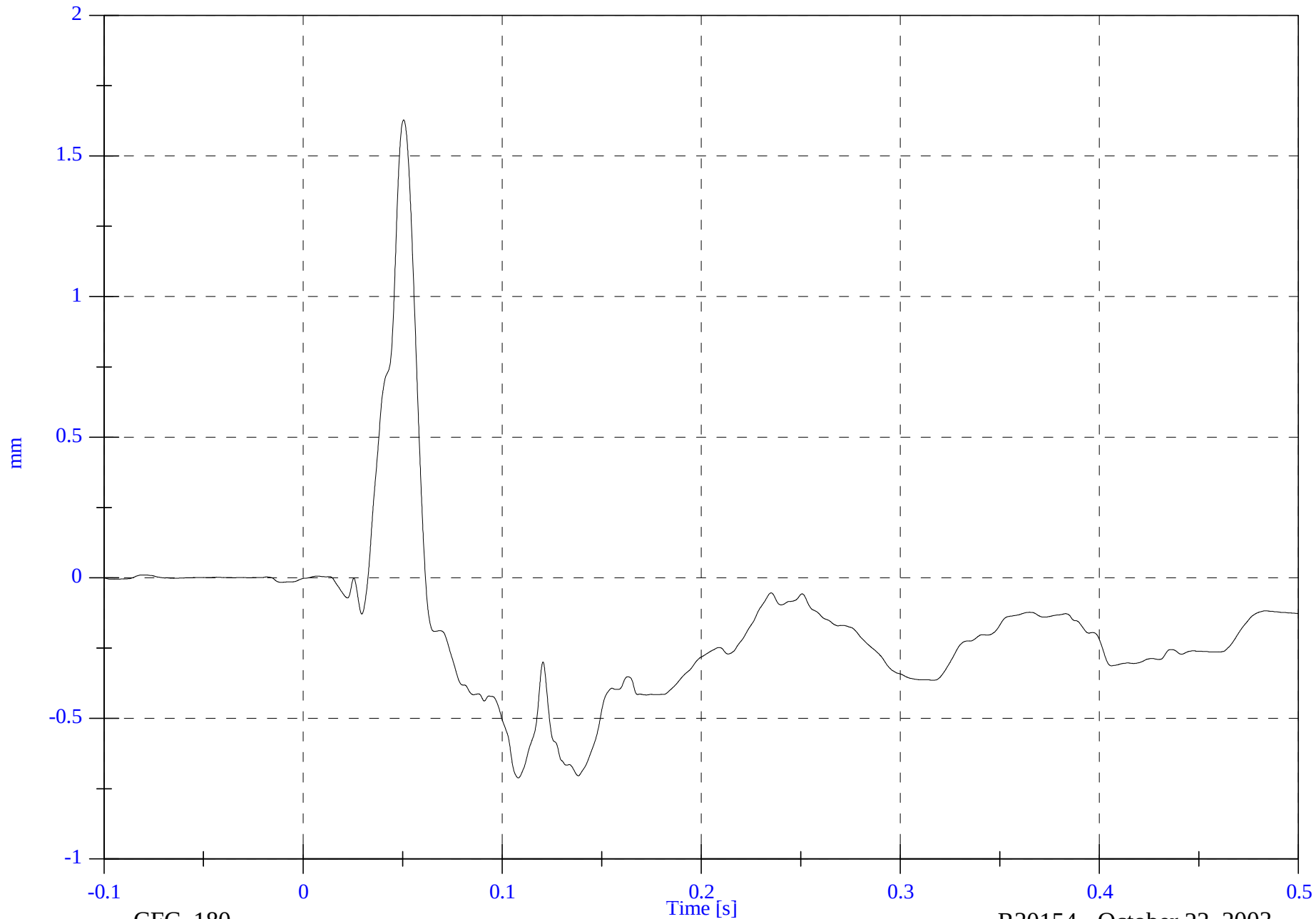


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Knee Deflection

Max: 1.6 [mm] at 0.050 [s]

Min: -0.7 [mm] at 0.108 [s]



B-128

8710-OFST-02

CFC_180

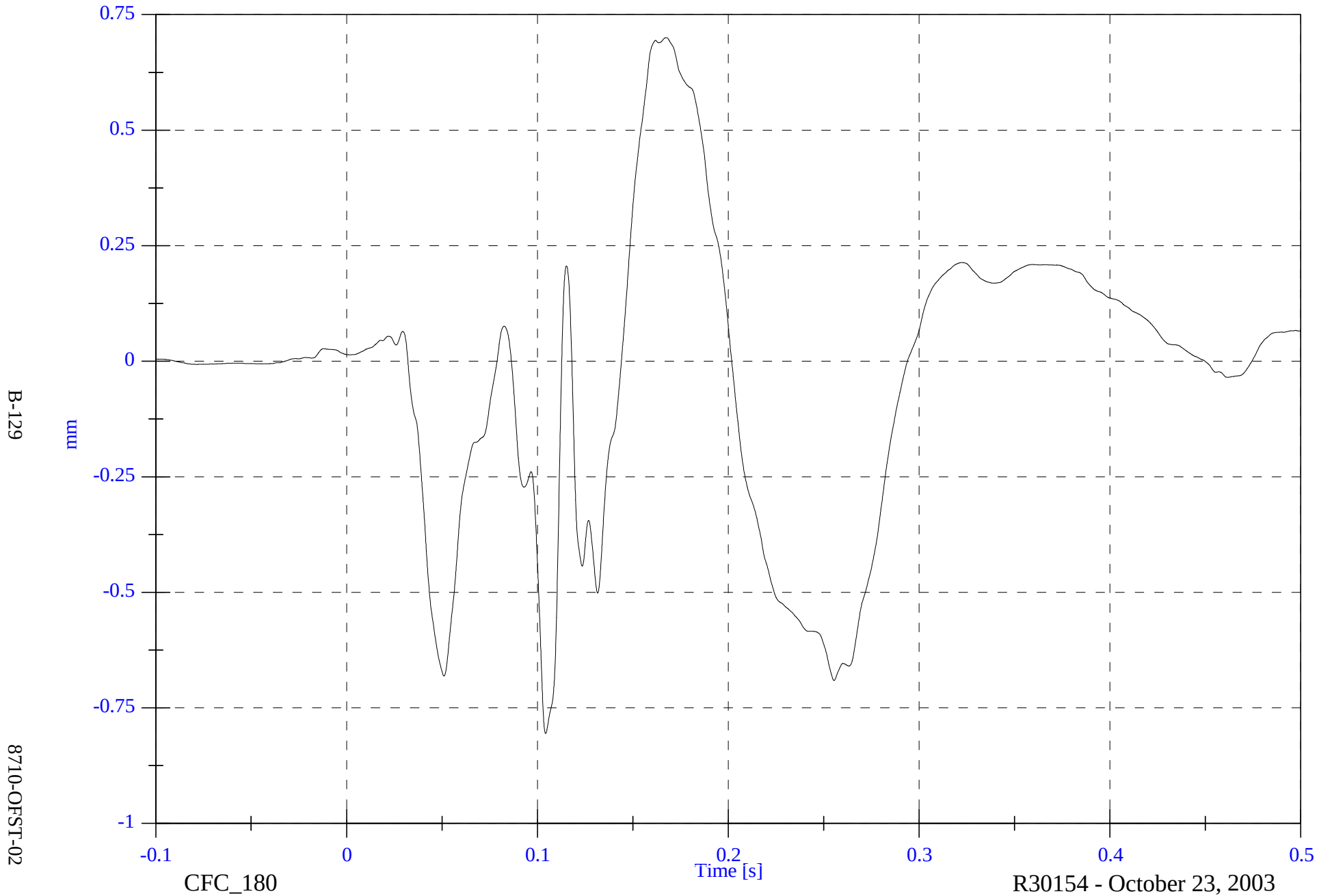
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Knee Deflection

Max: 0.7 [mm] at 0.168 [s]

Min: -0.8 [mm] at 0.104 [s]

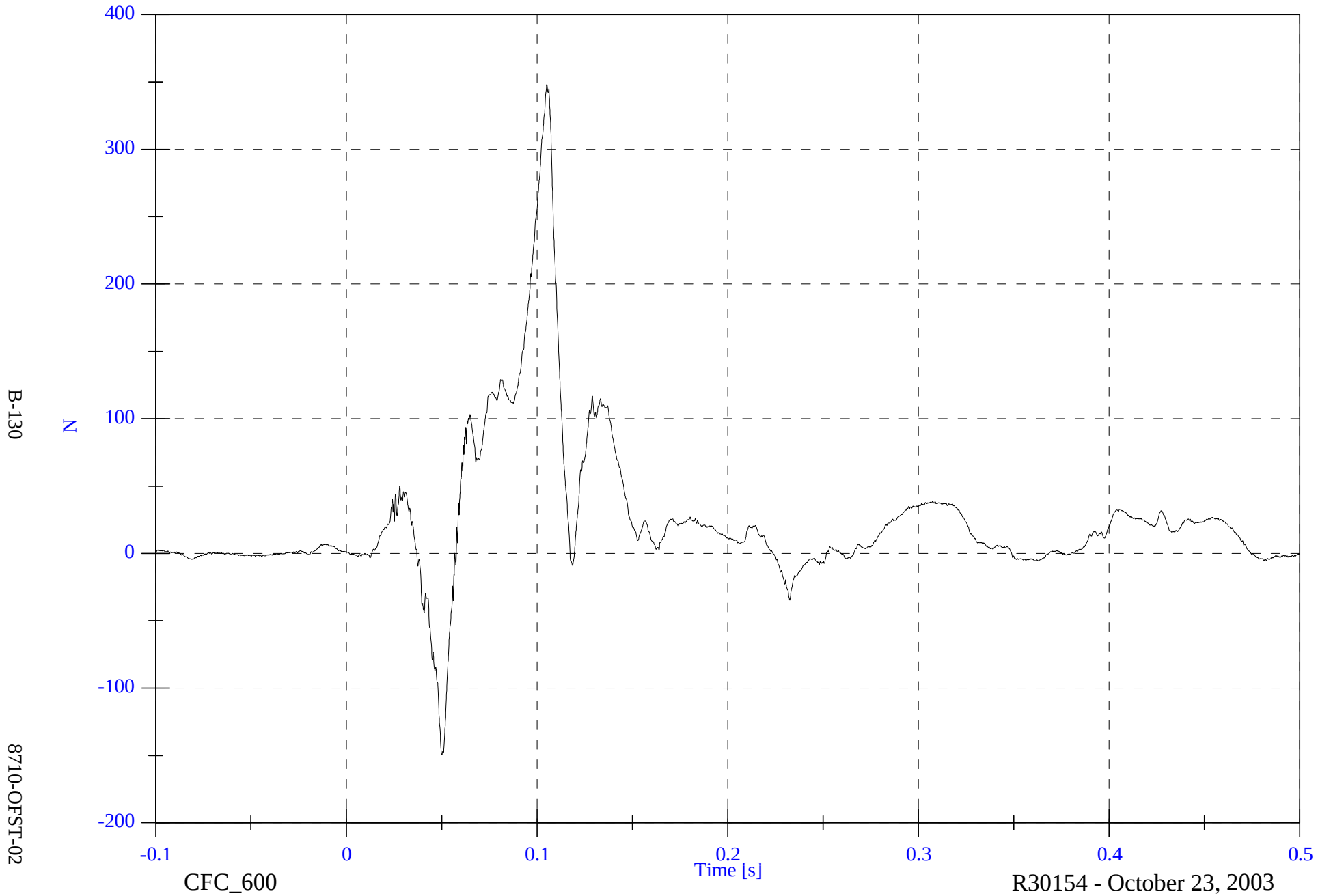


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Upper Tibia Fx

Max: 348.3 [N] at 0.105 [s]

Min: -149.3 [N] at 0.050 [s]

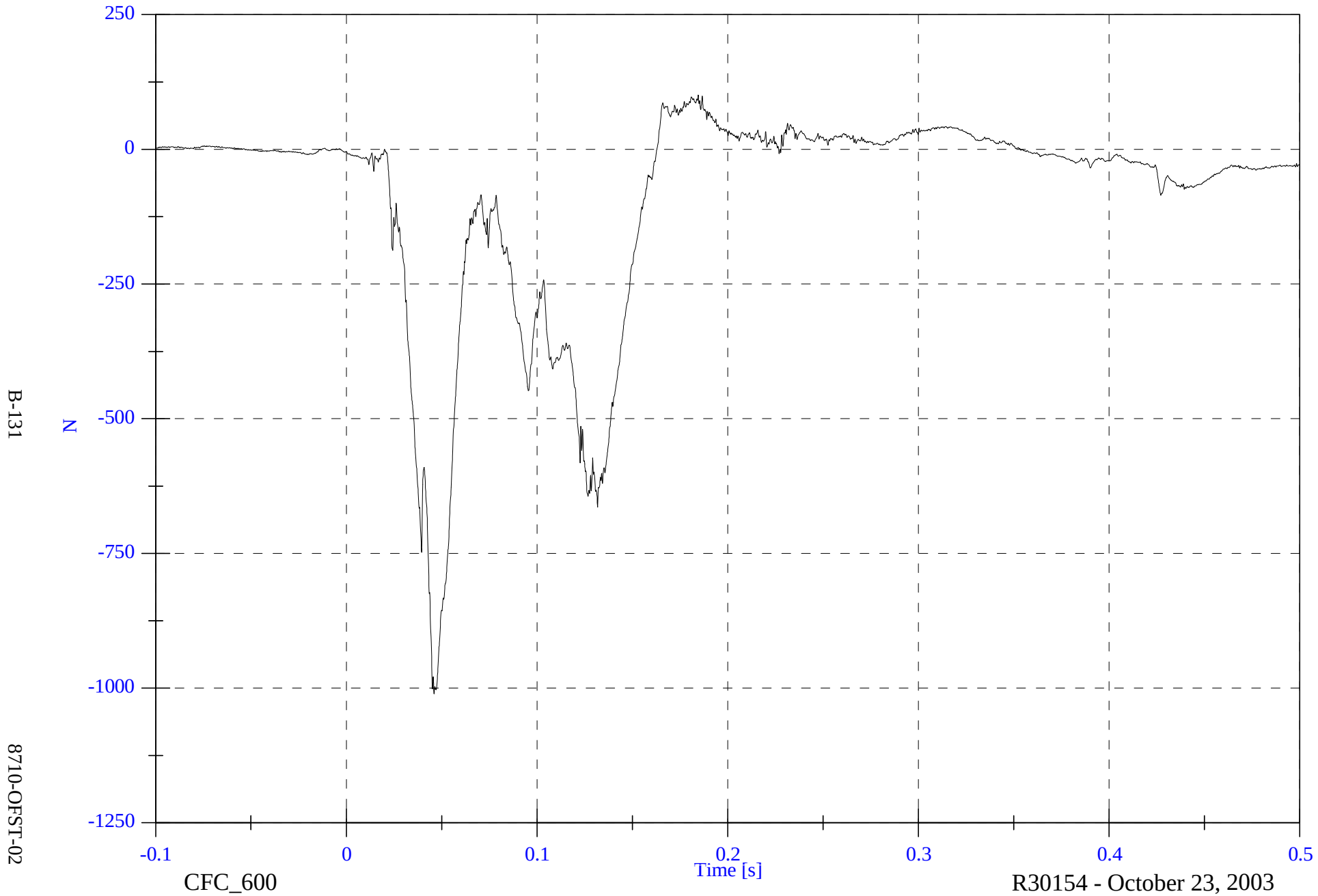


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Upper Tibia Fz

Max: 101.0 [N] at 0.184 [s]

Min: -1010.9 [N] at 0.046 [s]

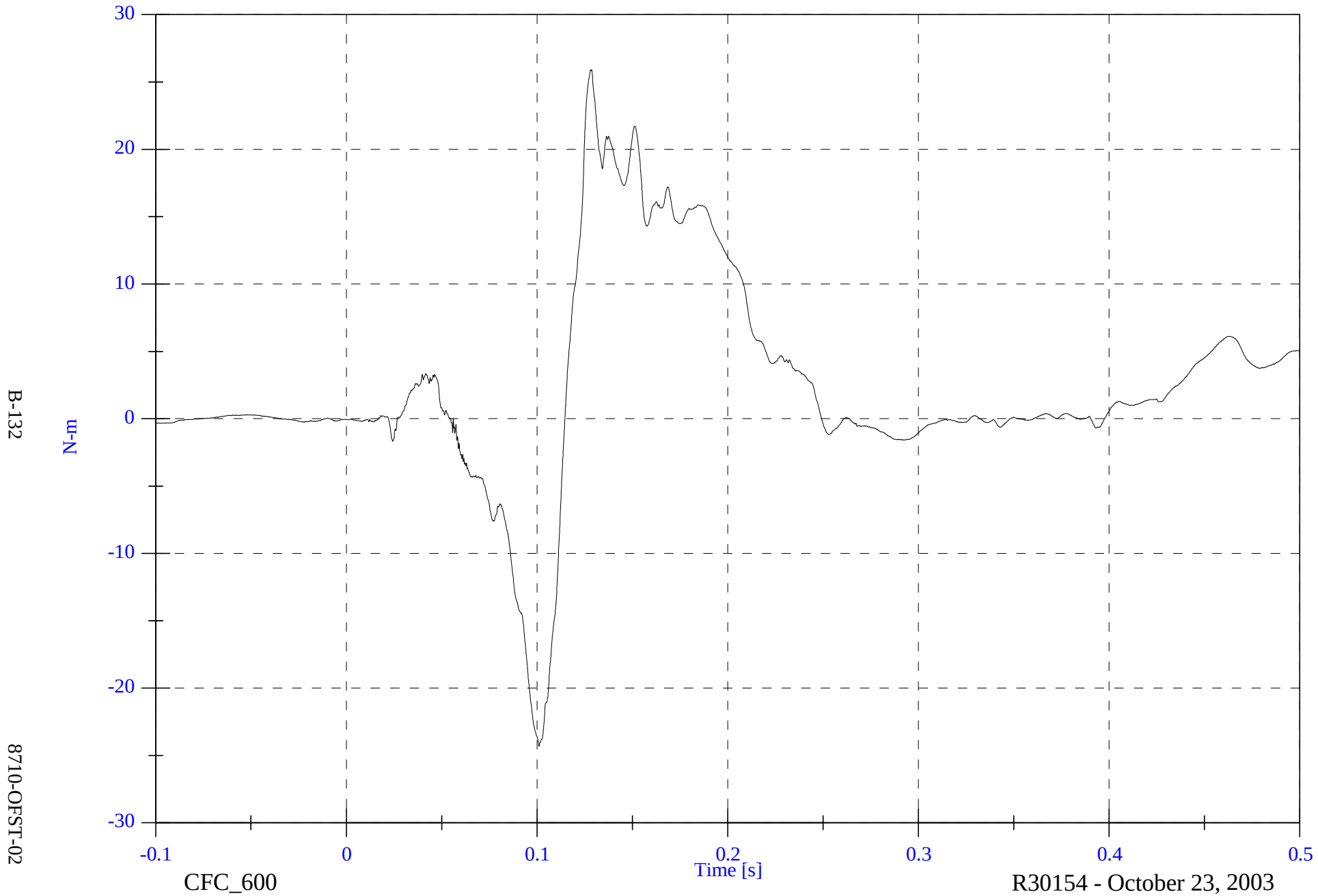


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Upper Tibia Mx

Max: 25.9 [N-m] at 0.129 [s]

Min: -24.3 [N-m] at 0.101 [s]

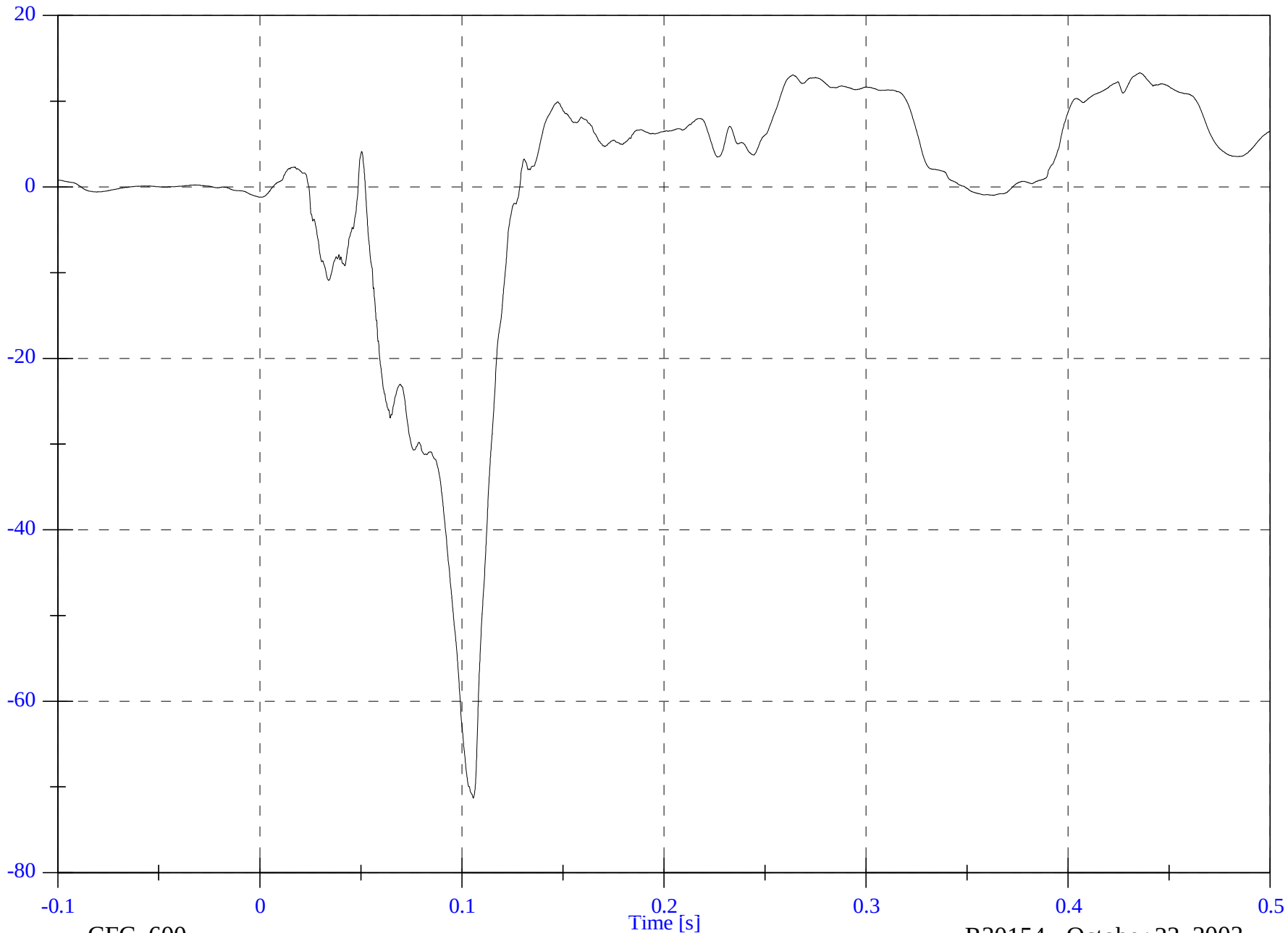


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Upper Tibia My

Max: 13.3 [N-m] at 0.436 [s]

Min: -71.3 [N-m] at 0.106 [s]



B-133

8710-OFST-02

CFC_600

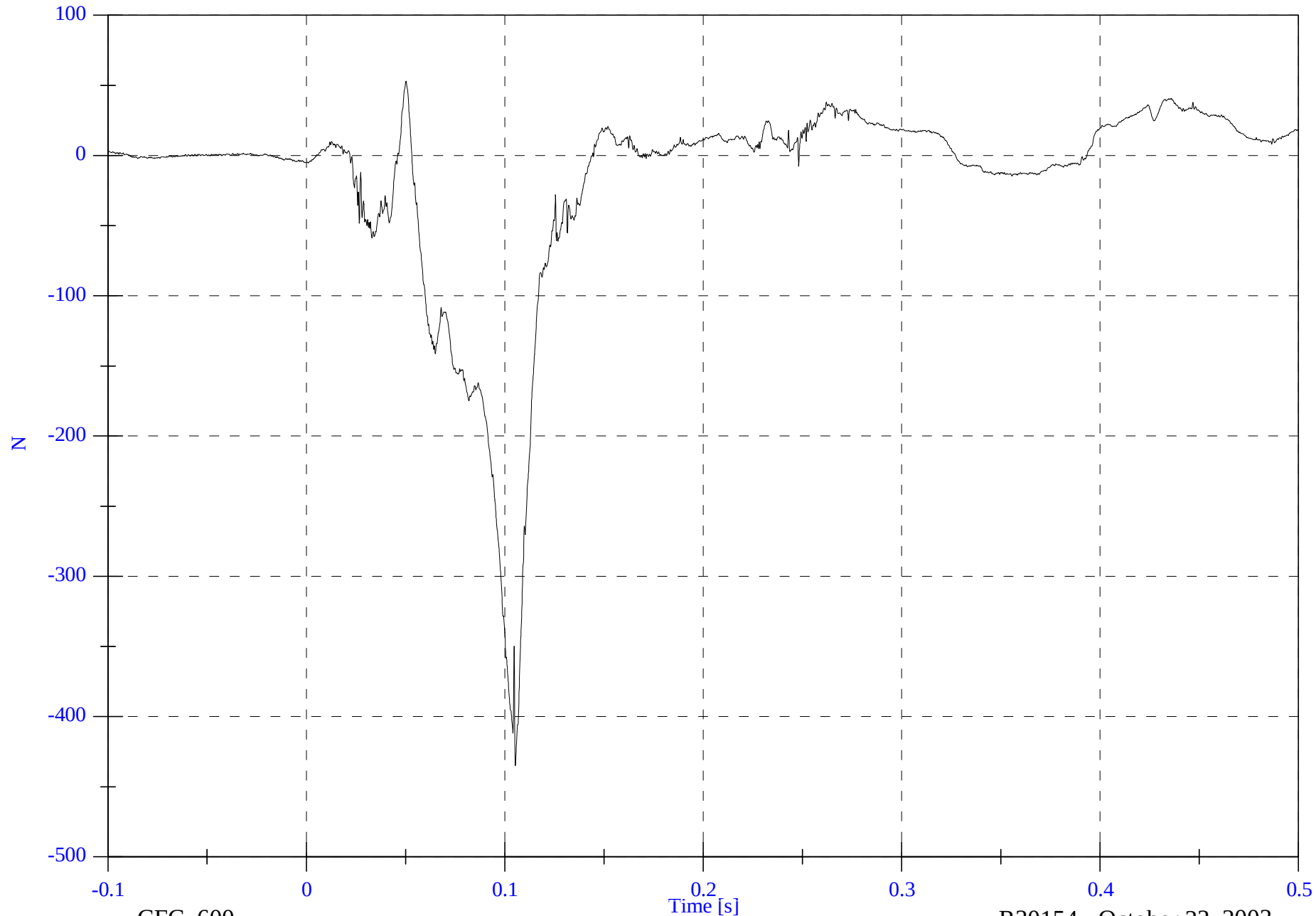
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Lower Tibia Fx

Max: 53.1 [N] at 0.050 [s]

Min: -435.0 [N] at 0.105 [s]



B-134

8710-OFST-02

CFC_600

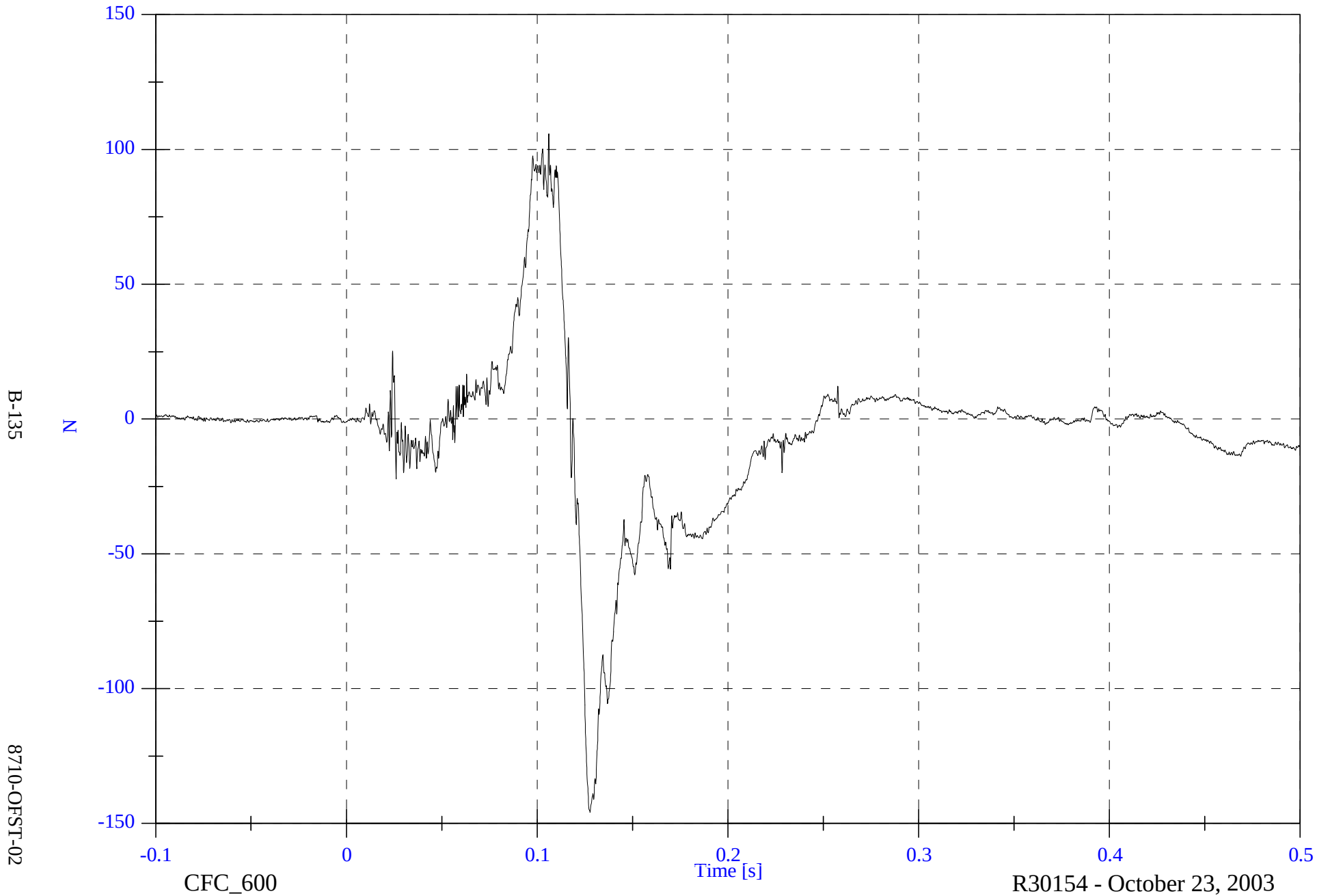
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Lower Tibia Fy

Max: 105.8 [N] at 0.106 [s]

Min: -145.9 [N] at 0.128 [s]

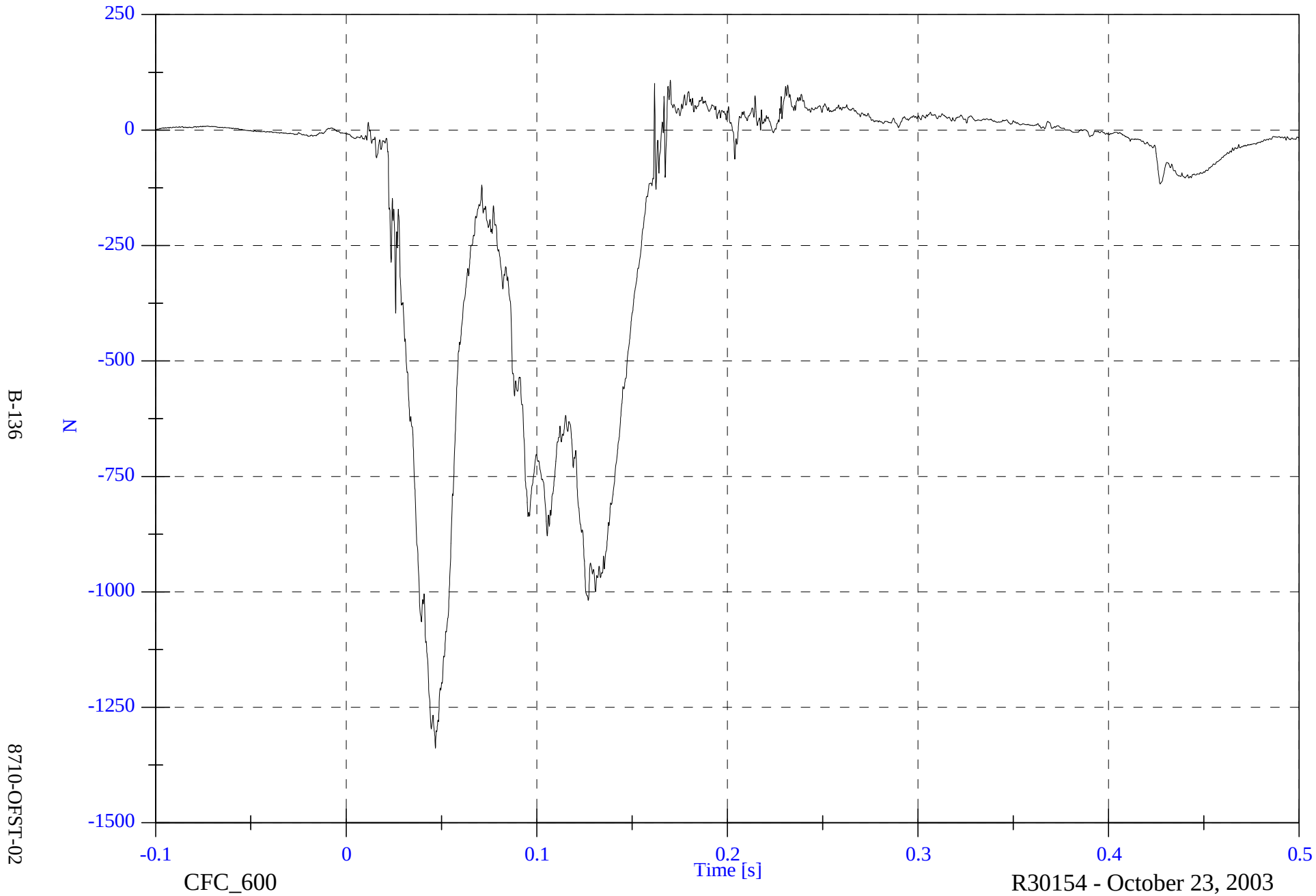


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Lower Tibia Fz

Max: 107.9 [N] at 0.170 [s]

Min: -1338.6 [N] at 0.047 [s]

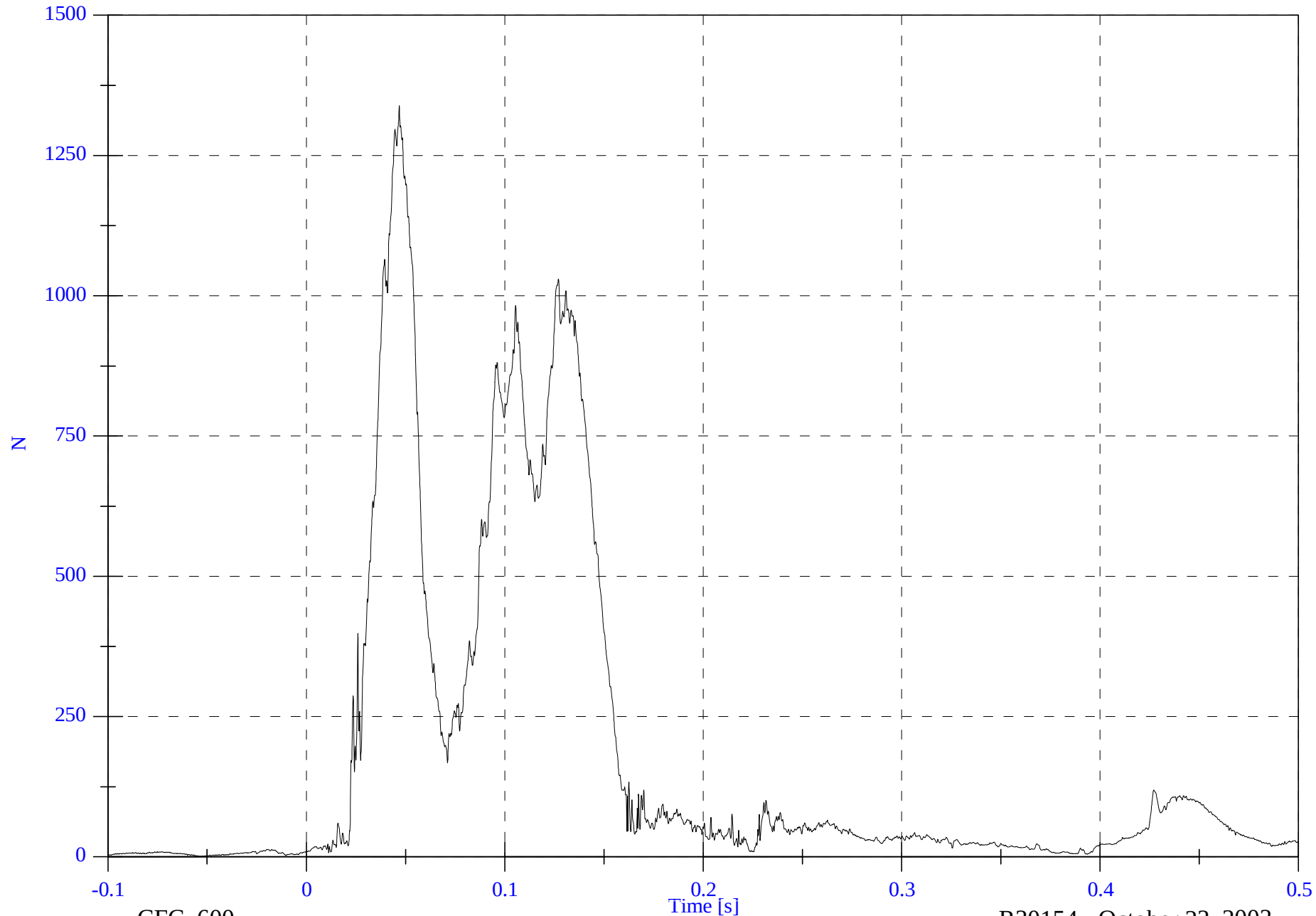


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Lower Tibia F Resultant

Max: 1338.7 [N] at 0.047 [s]

Min: 0.8 [N] at -0.053 [s]



B-137

8710-OFST-02

CFC_600

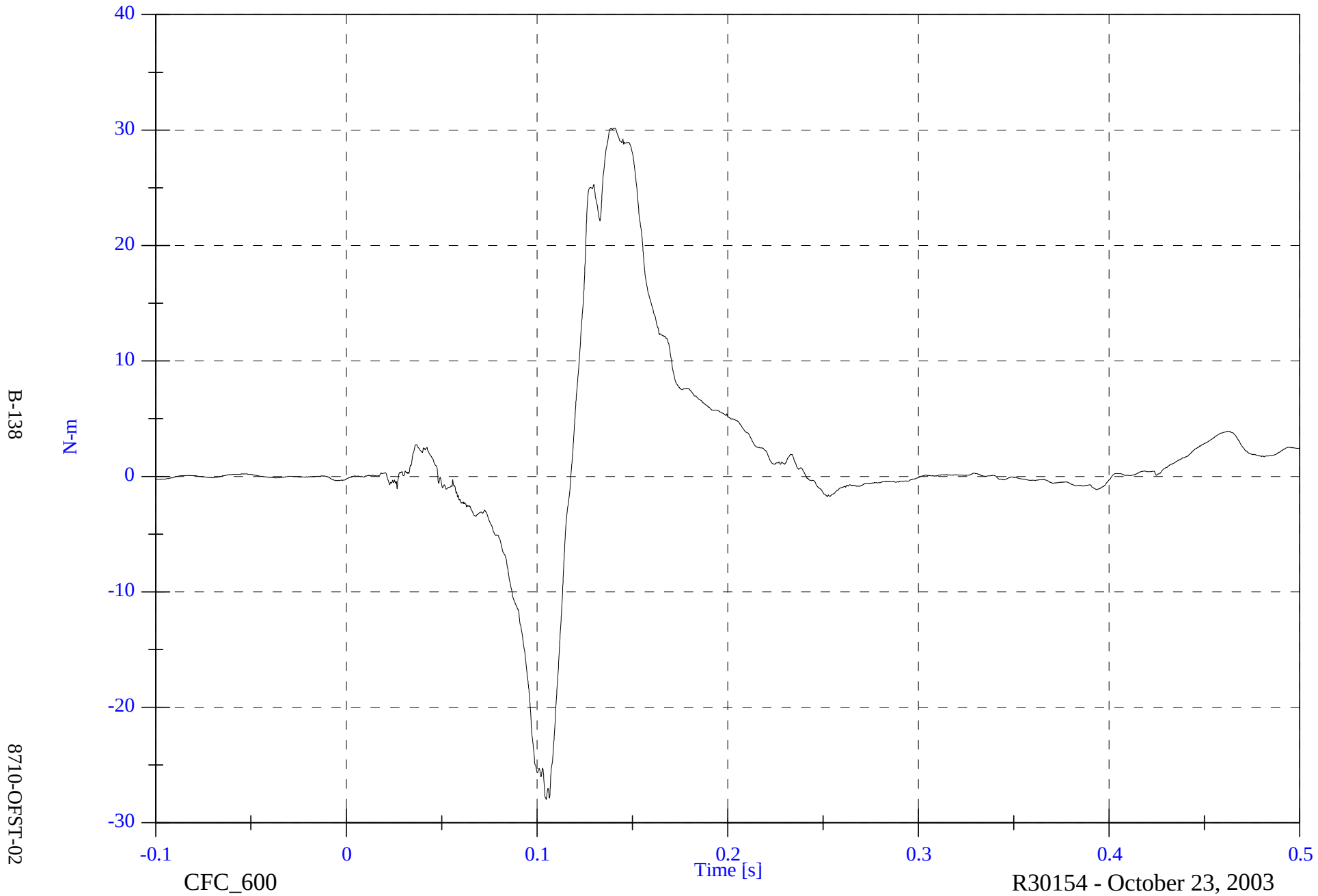
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Lower Tibia Mx

Max: 30.2 [N-m] at 0.141 [s]

Min: -28.0 [N-m] at 0.105 [s]

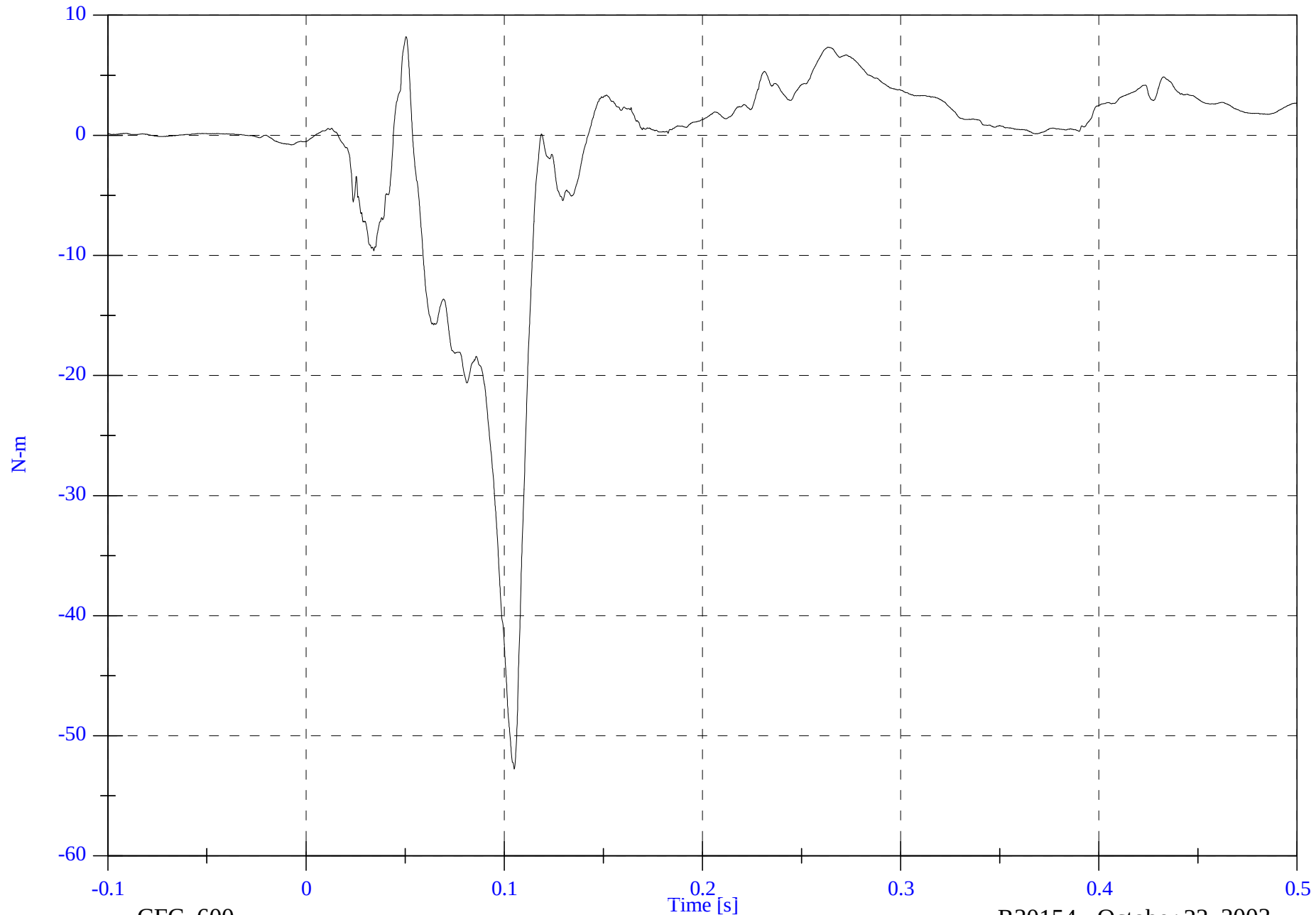


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Lower Tibia My

Max: 8.2 [N-m] at 0.050 [s]

Min: -52.8 [N-m] at 0.105 [s]



B-139

8710-OFST-02

CFC_600

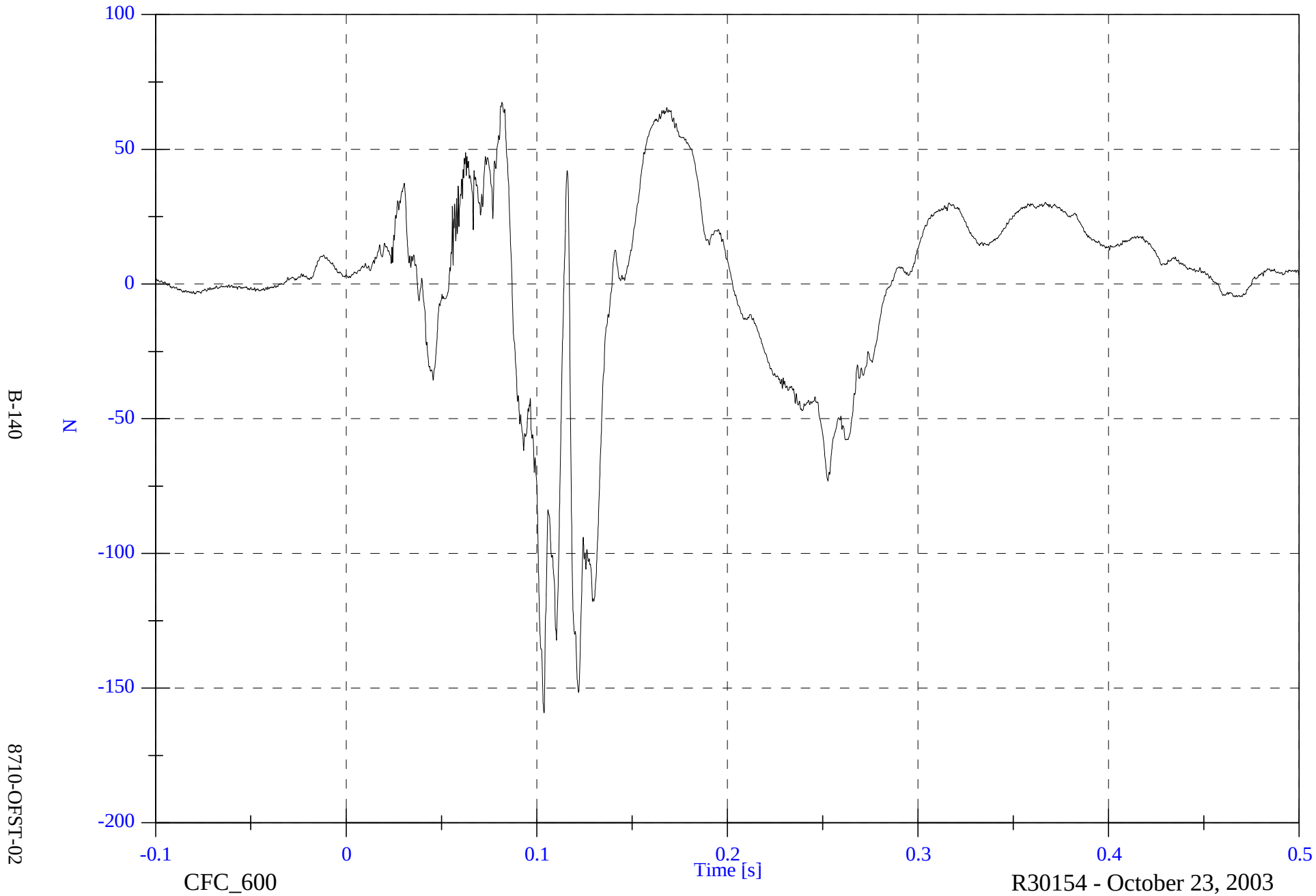
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Upper Tibia Fx

Max: 67.5 [N] at 0.082 [s]

Min: -159.2 [N] at 0.104 [s]

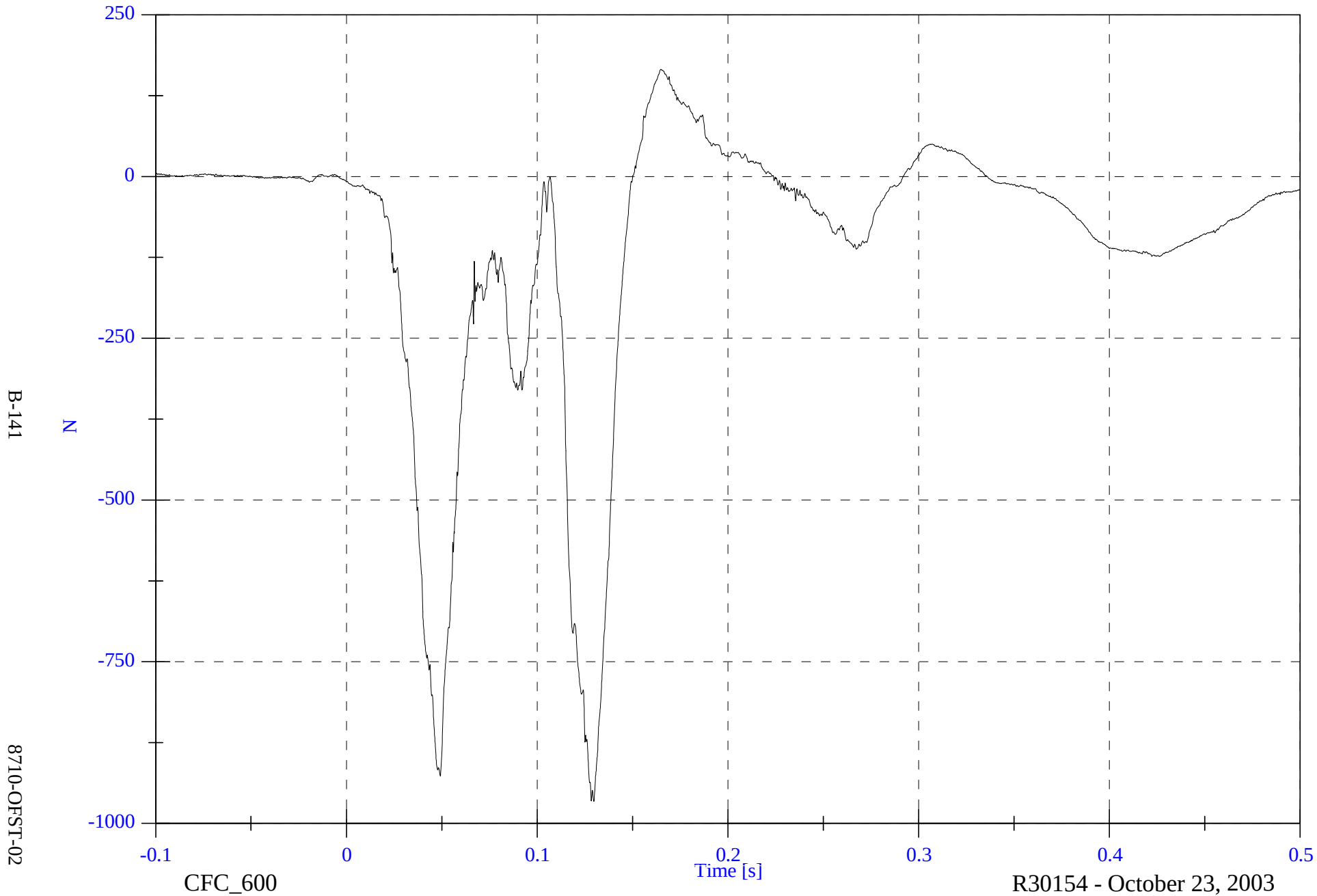


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Upper Tibia Fz

Max: 165.5 [N] at 0.165 [s]

Min: -965.8 [N] at 0.130 [s]

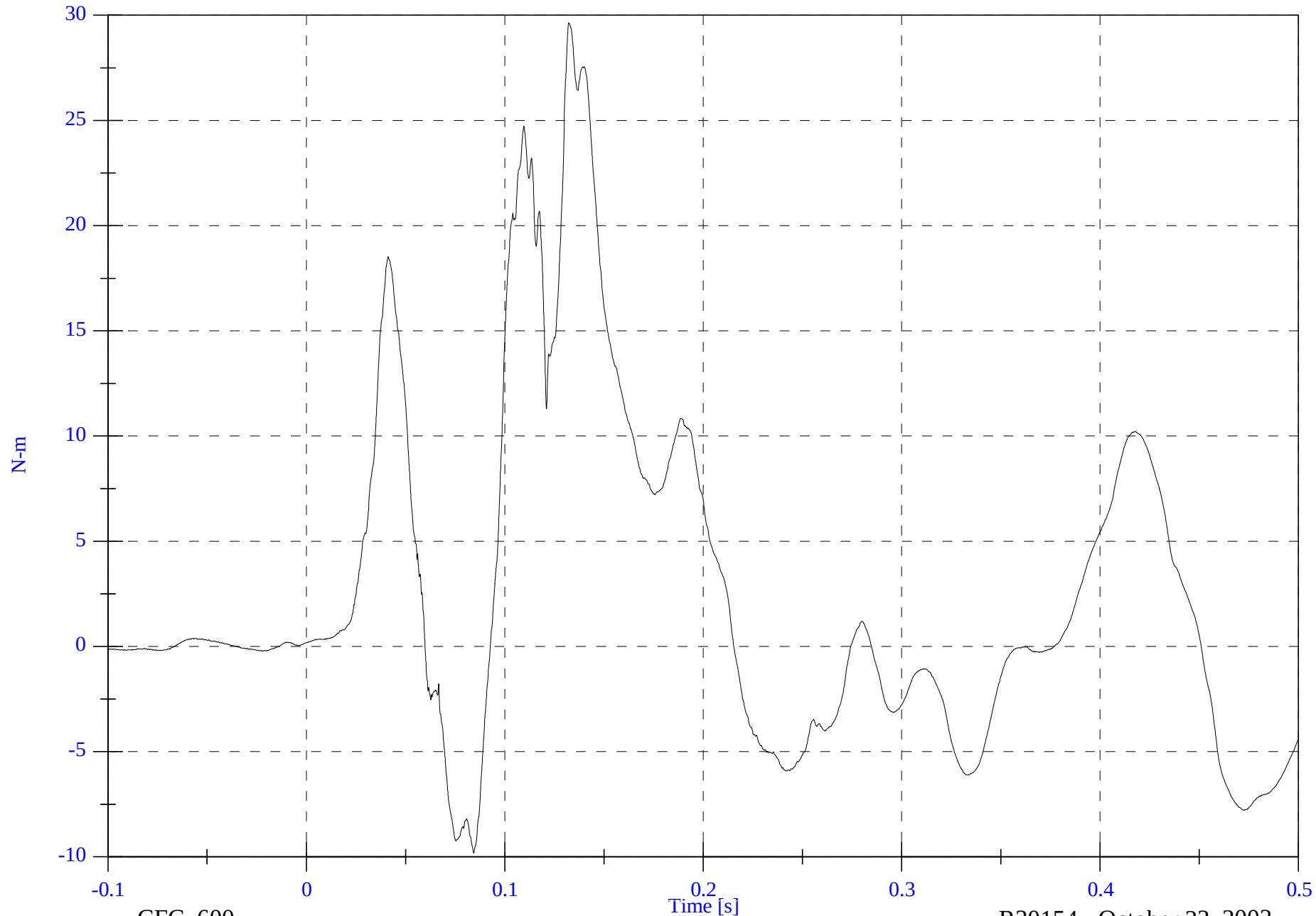


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Upper Tibia Mx

Max: 29.6 [N-m] at 0.132 [s]

Min: -9.8 [N-m] at 0.084 [s]



B-142

8710-OFST-02

CFC_600

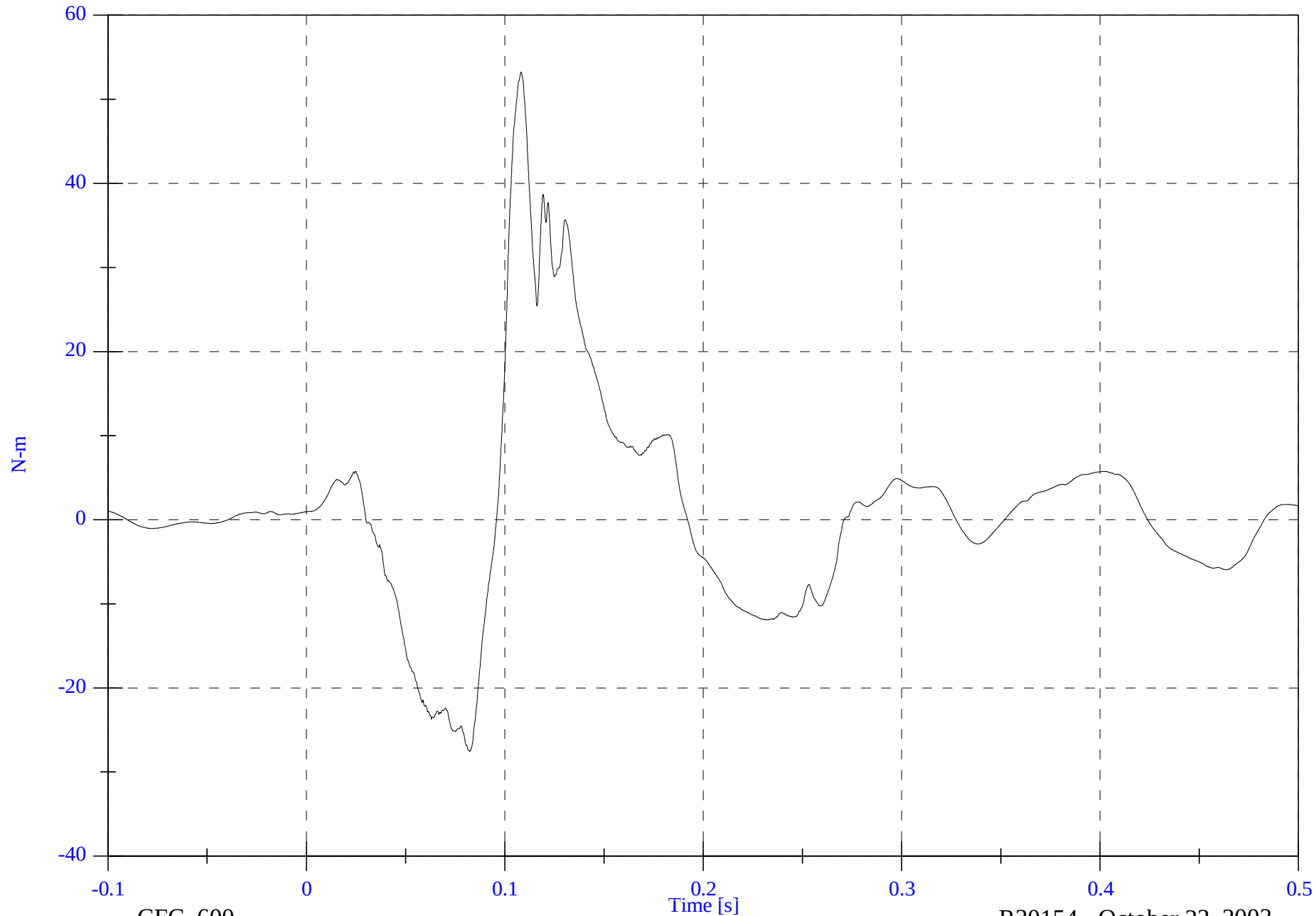
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Upper Tibia My

Max: 53.2 [N-m] at 0.108 [s]

Min: -27.5 [N-m] at 0.082 [s]



B-143

8710-OFST-02

CFC_600

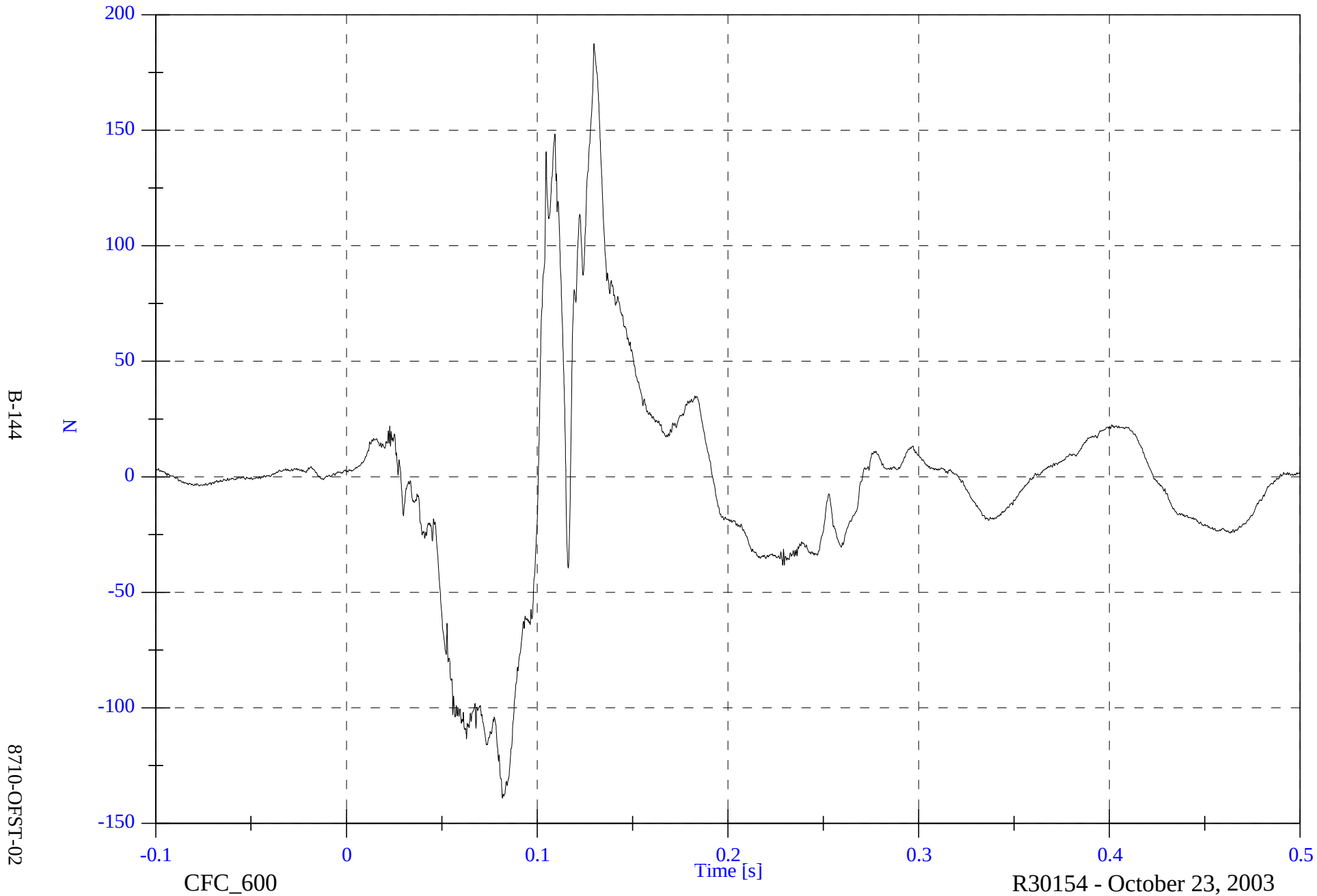
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Lower Tibia Fx

Max: 187.5 [N] at 0.130 [s]

Min: -139.0 [N] at 0.082 [s]

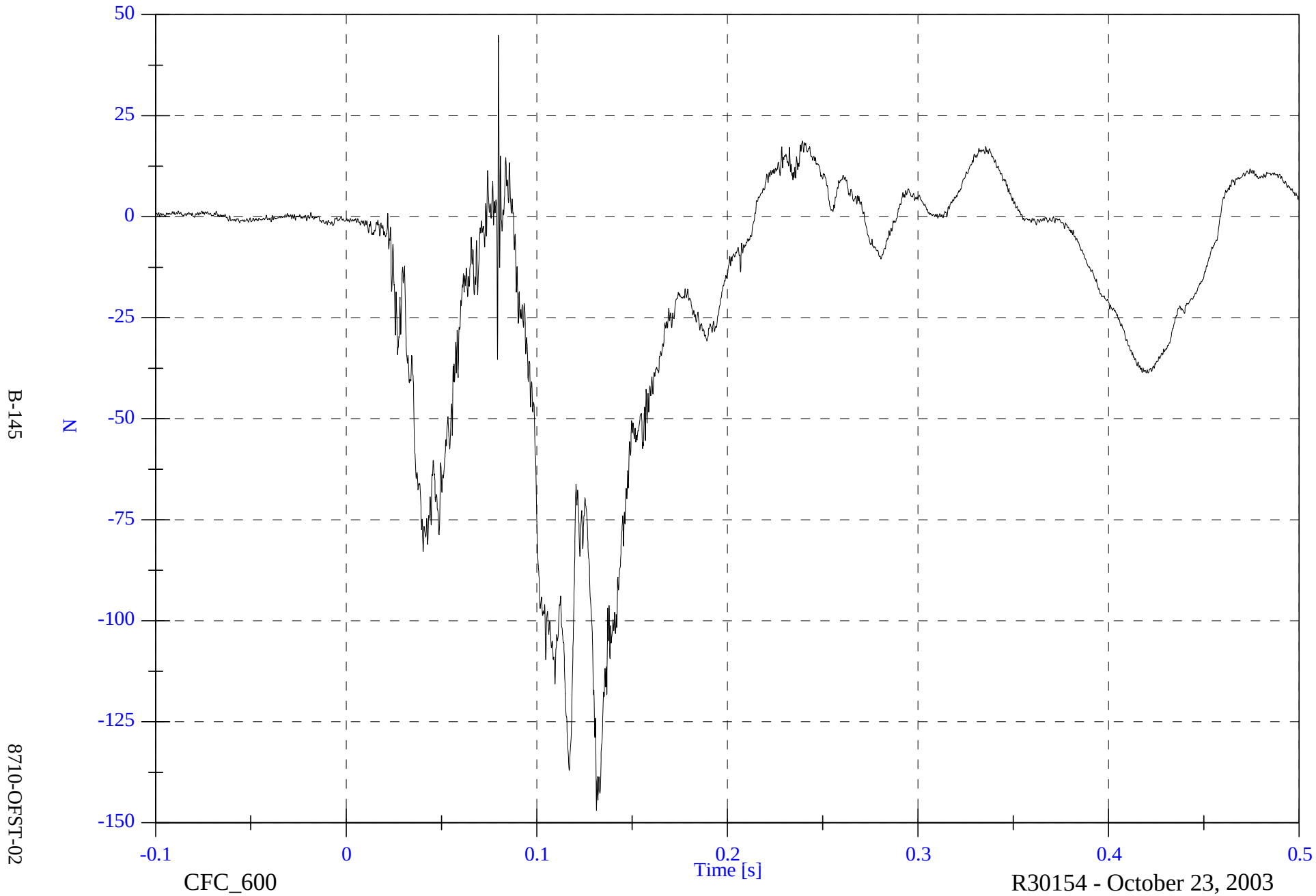


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Lower Tibia Fy

Max: 44.9 [N] at 0.080 [s]

Min: -146.9 [N] at 0.131 [s]

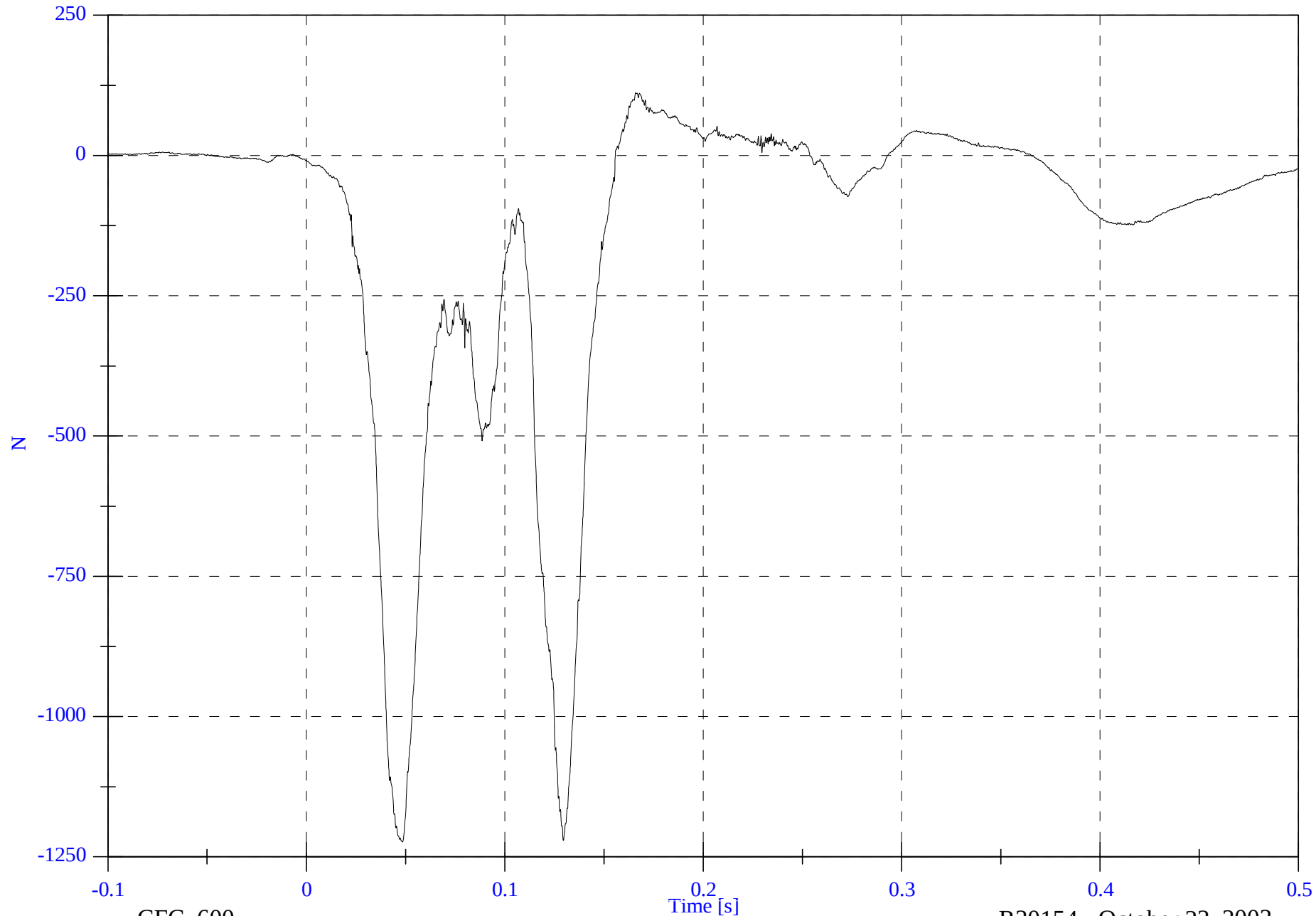


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Lower Tibia Fz

Max: 111.7 [N] at 0.166 [s]

Min: -1223.7 [N] at 0.048 [s]



B-146

8710-OFST-02

CFC_600

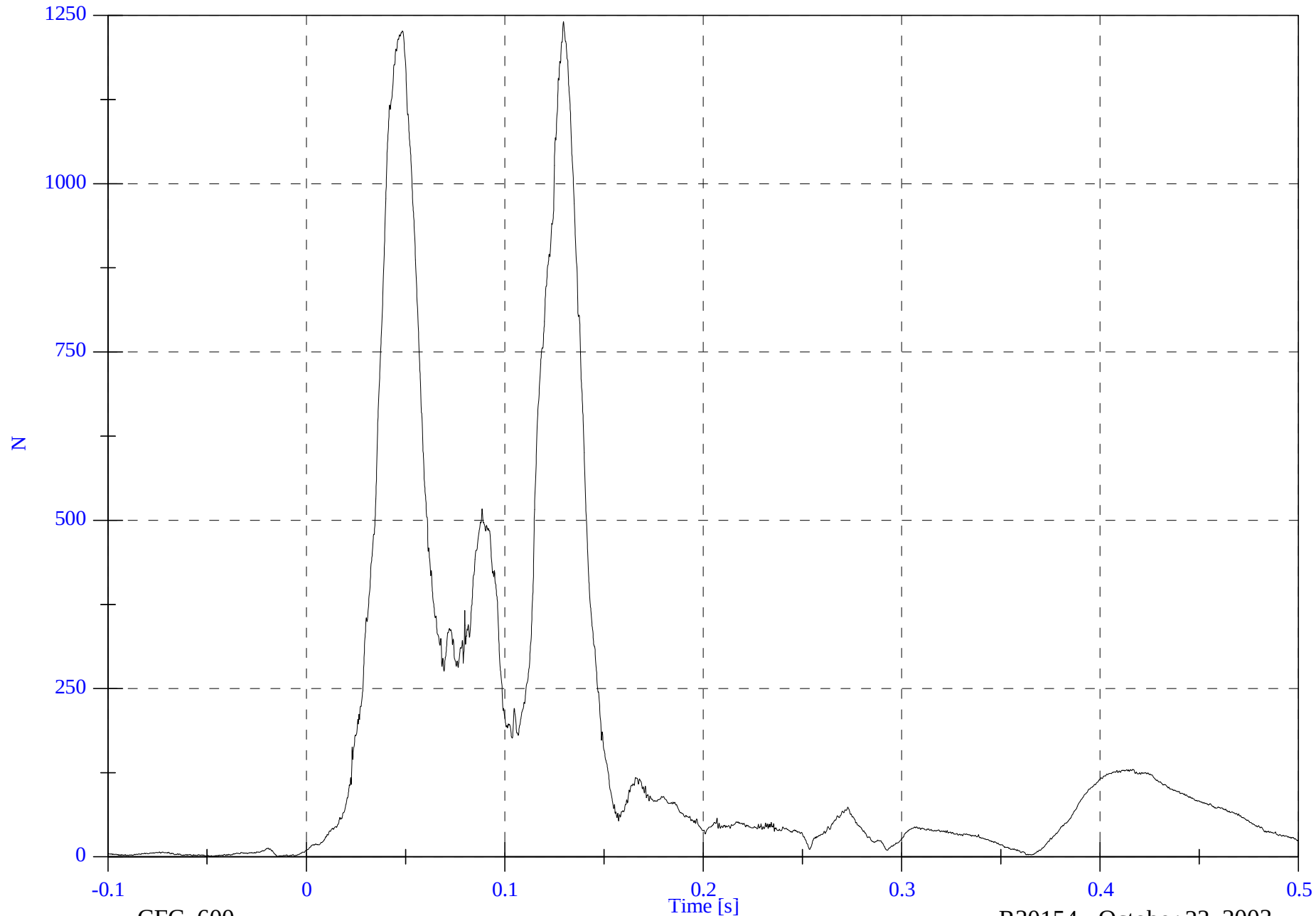
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Lower Tibia F Resultant

Max: 1240.3 [N] at 0.130 [s]

Min: 0.3 [N] at -0.014 [s]



B-147

8710-OFST-02

CFC_600

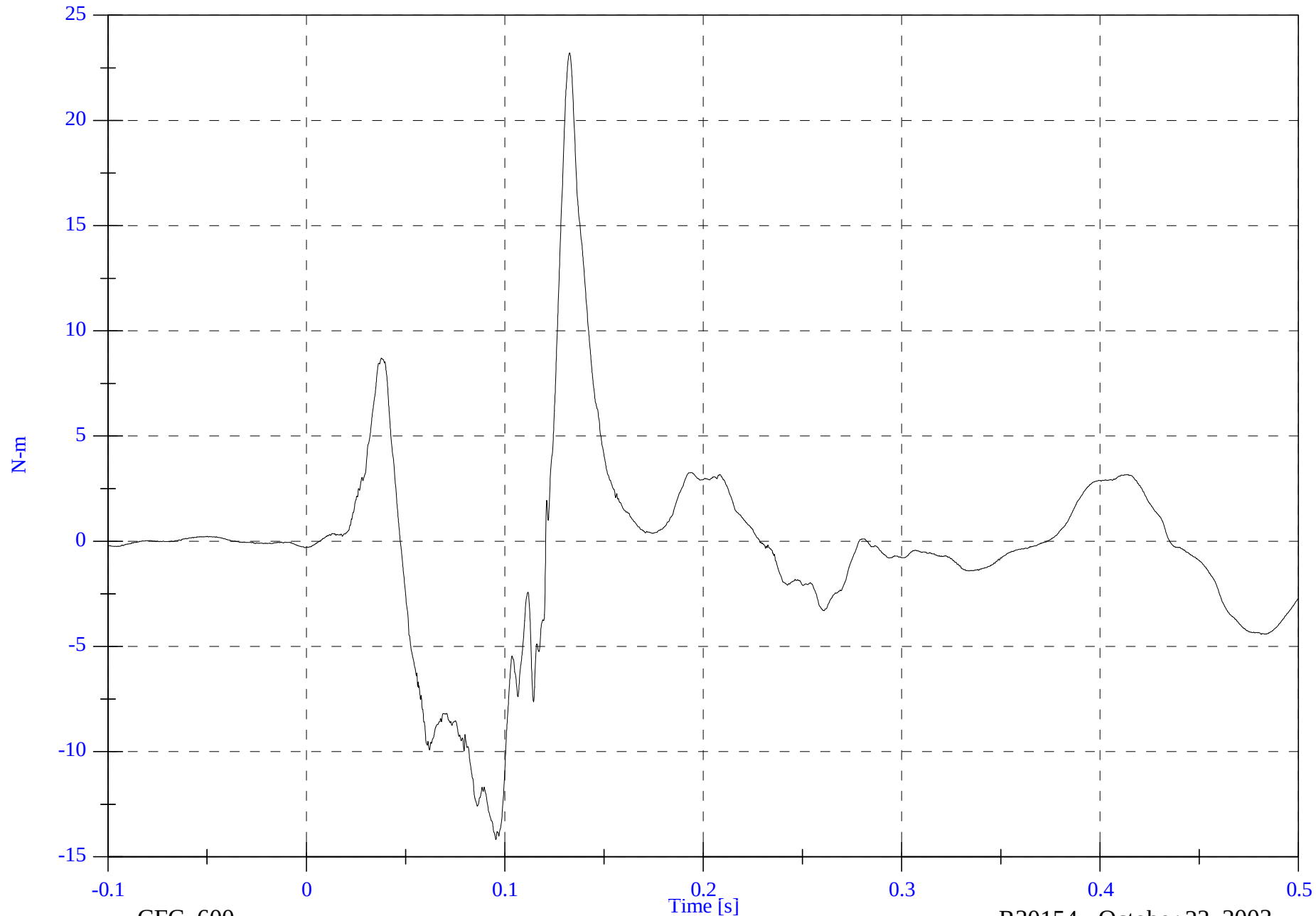
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Lower Tibia Mx

Max: 23.2 [N-m] at 0.133 [s]

Min: -14.2 [N-m] at 0.095 [s]



B-148

8710-OFST-02

CFC_600

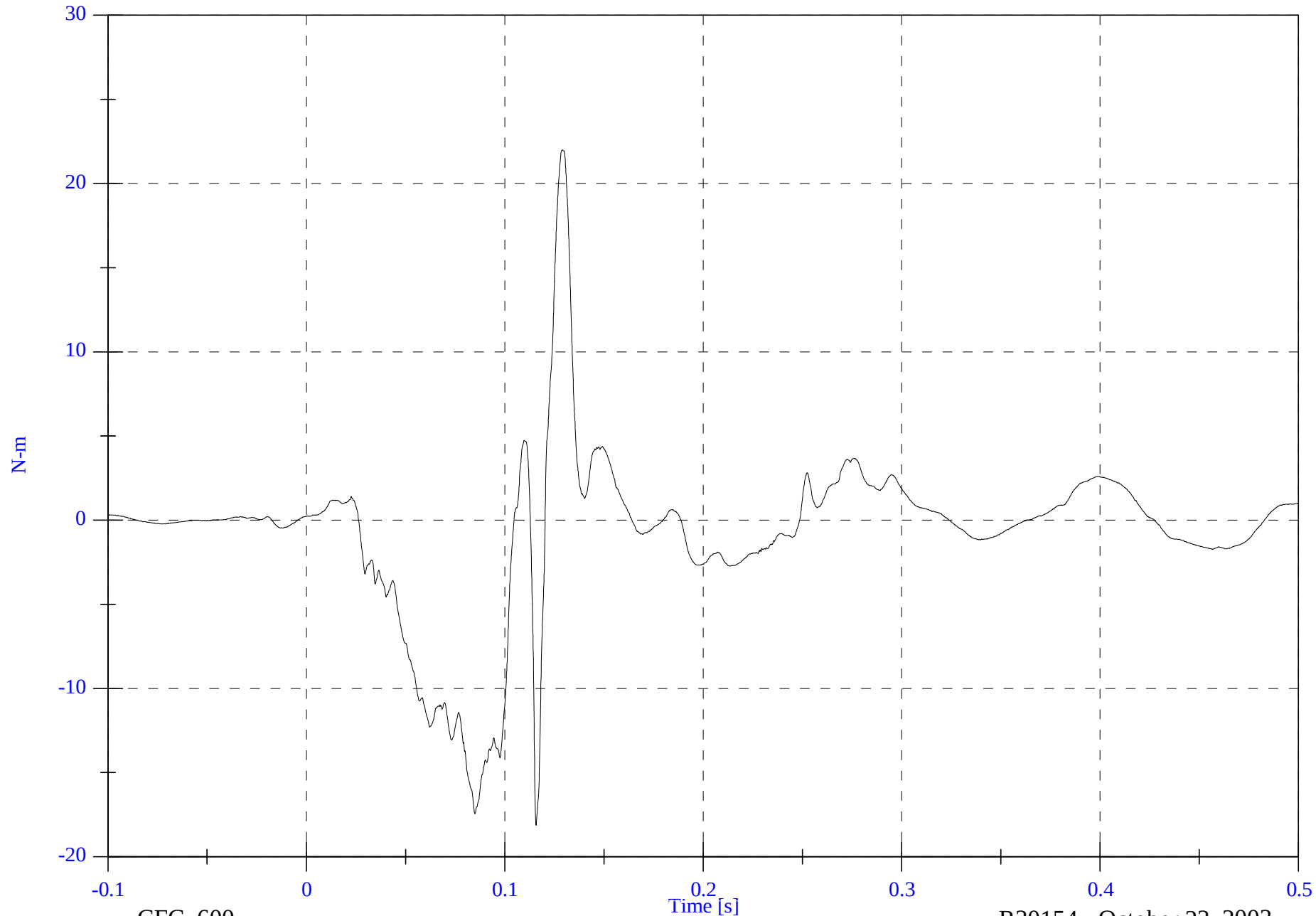
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Lower Tibia My

Max: 22.0 [N-m] at 0.129 [s]

Min: -18.1 [N-m] at 0.116 [s]



B-149

8710-OFST-02

CFC_600

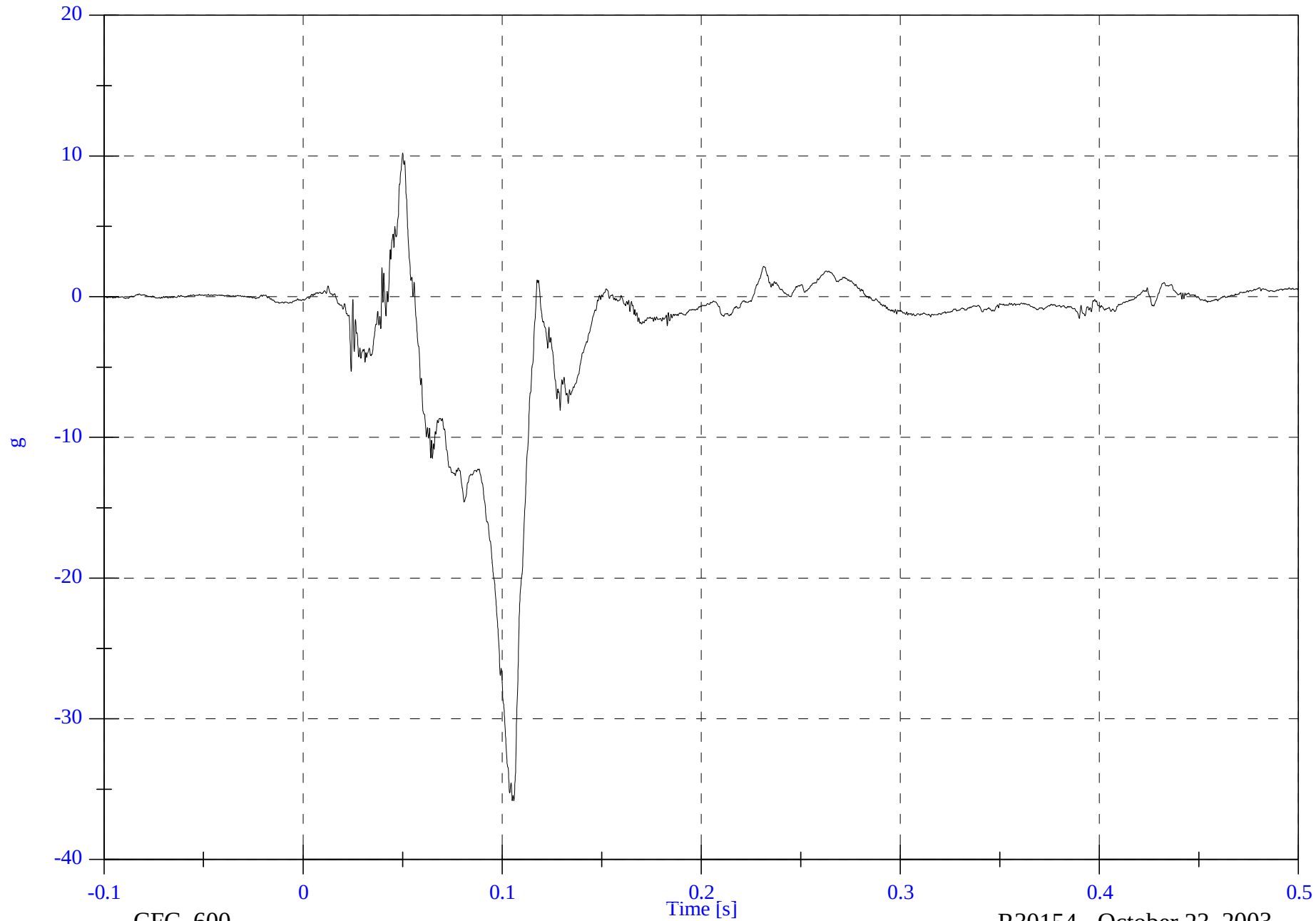
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Tibia x

Max: 10.2 [g] at 0.050 [s]

Min: -35.8 [g] at 0.105 [s]



B-150

8710-OFST-02

CFC_600

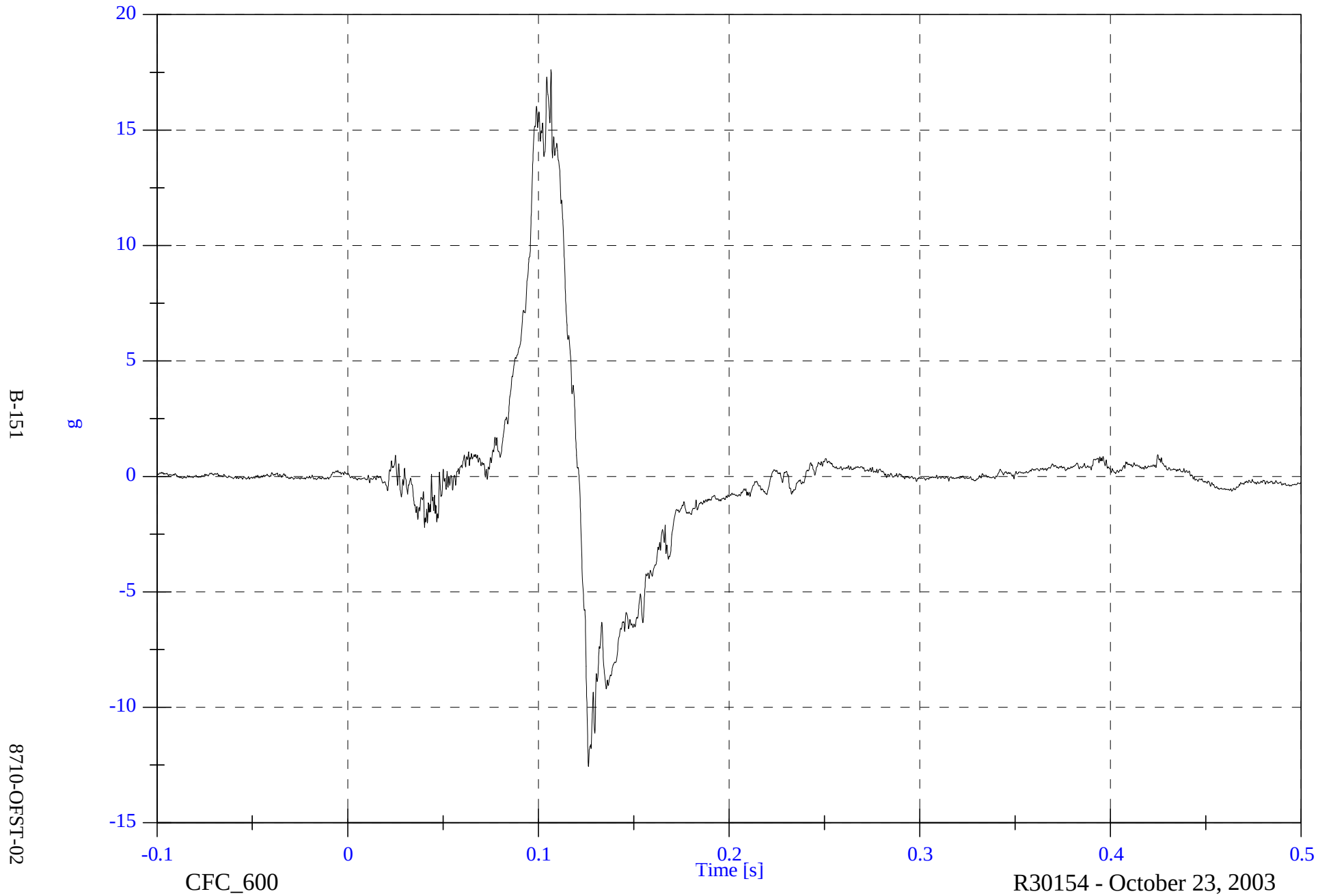
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Tibia y

Max: 17.6 [g] at 0.107 [s]

Min: -12.6 [g] at 0.126 [s]

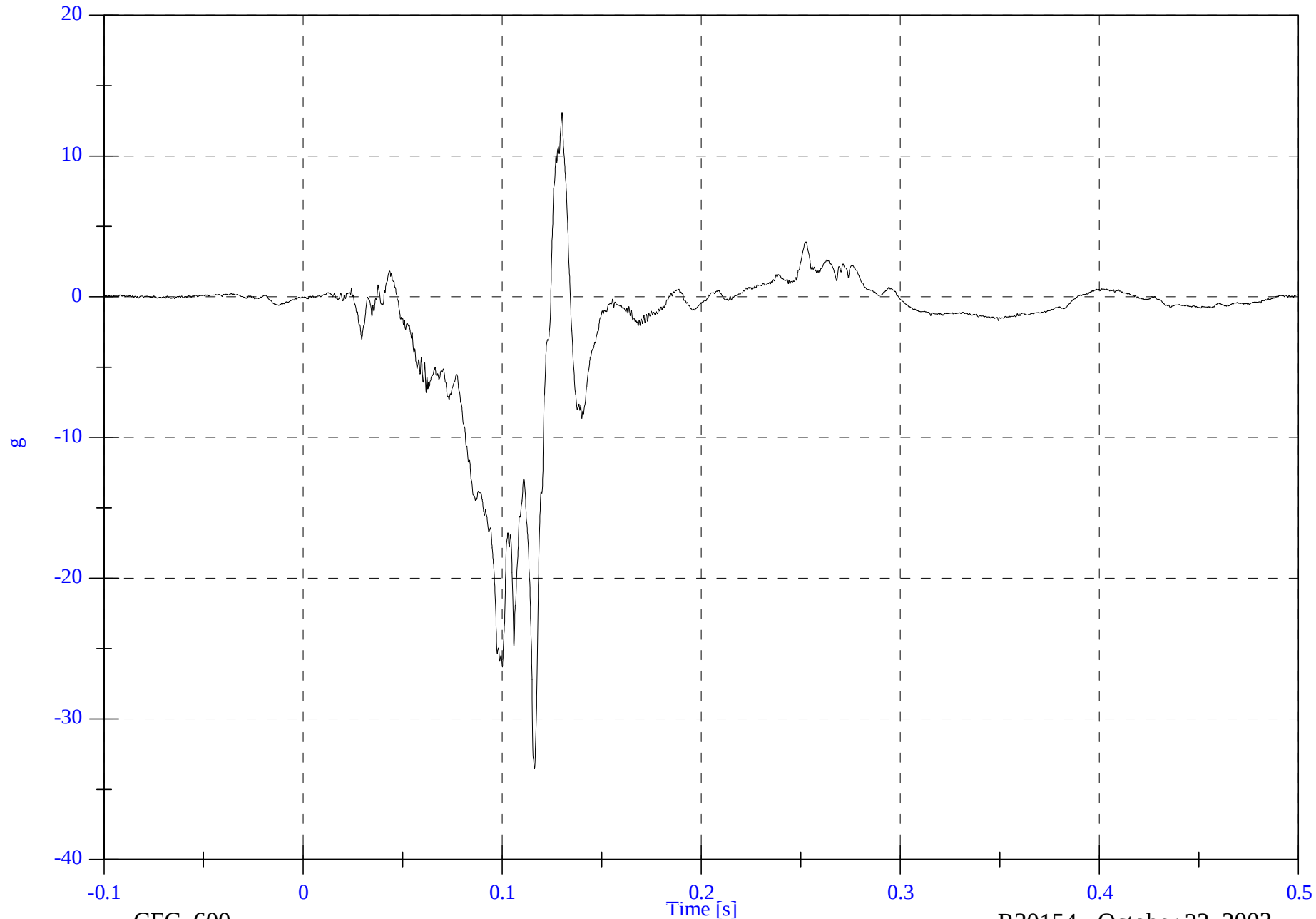


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Tibia x

Max: 13.1 [g] at 0.130 [s]

Min: -33.5 [g] at 0.116 [s]



B-152

8710-OFST-02

CFC_600

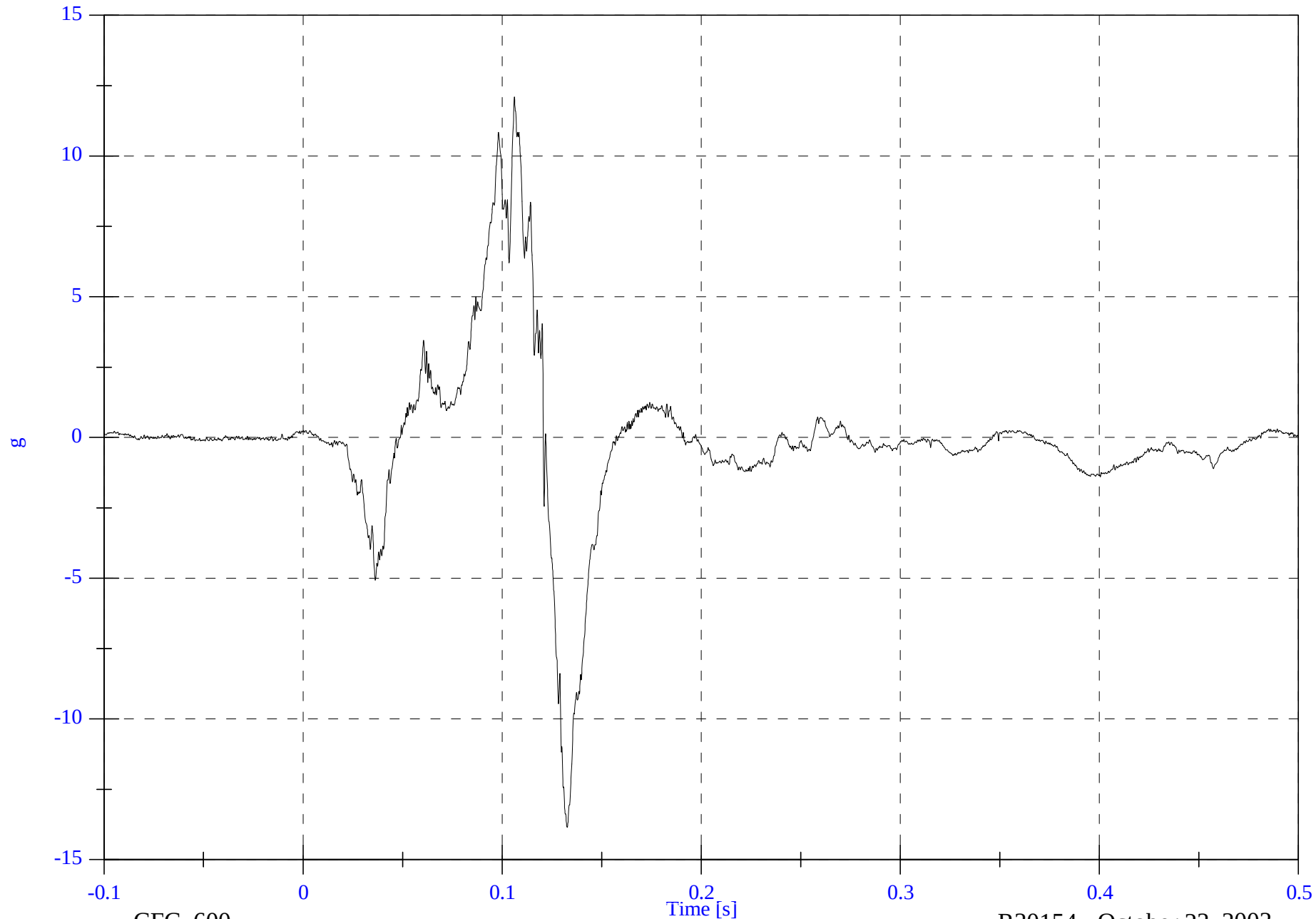
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Tibia y

Max: 12.1 [g] at 0.106 [s]

Min: -13.8 [g] at 0.133 [s]



B-153

8710-OFST-02

CFC_600

R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Ankle Rotation x

Max: 23.1 [deg] at 0.157 [s]

Min: -13.4 [deg] at 0.079 [s]



B-154

8710-OFST-02

CFC_180

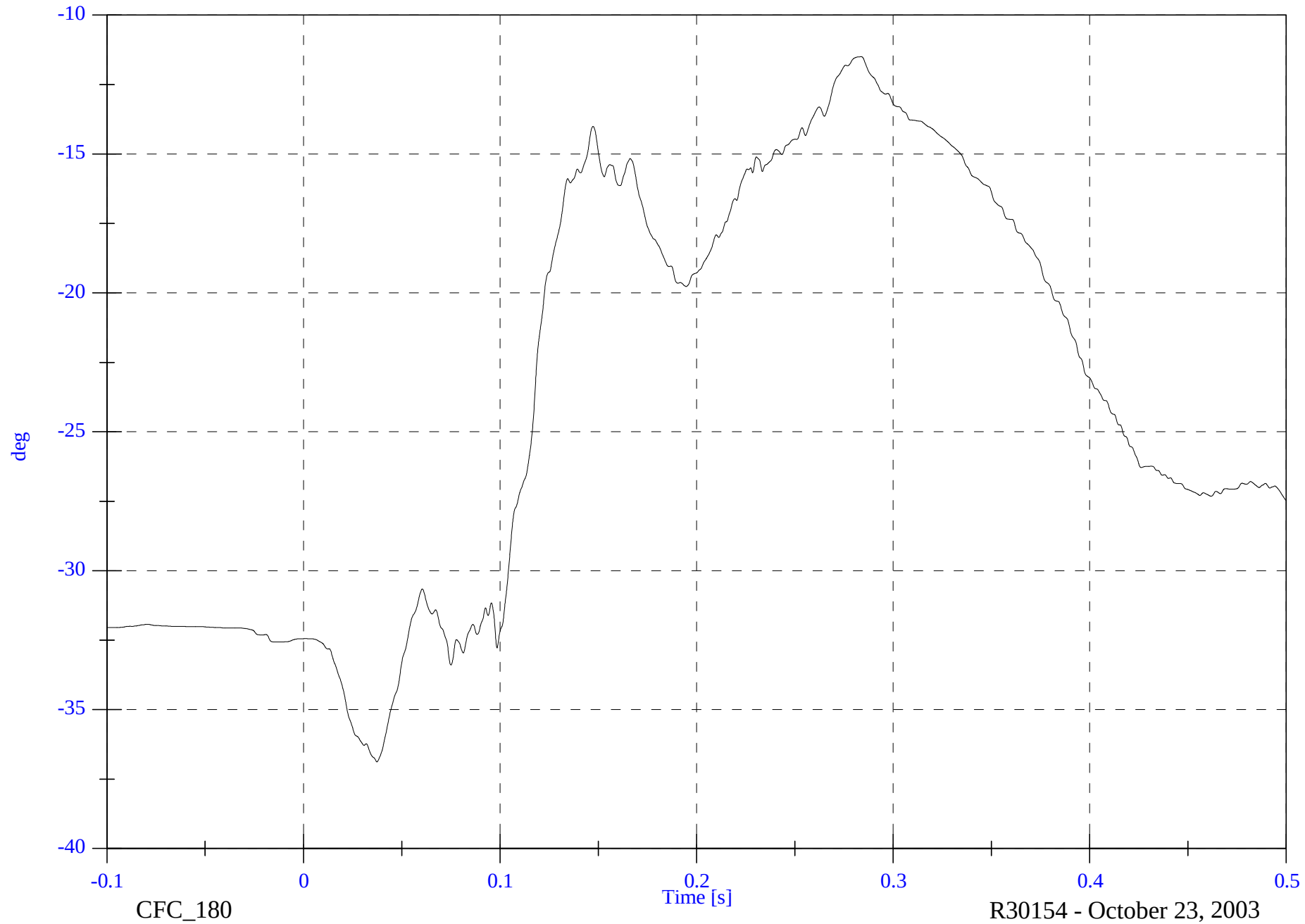
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Ankle Rotation y

Max: -11.5 [deg] at 0.284 [s]

Min: -36.9 [deg] at 0.037 [s]



B-155

8710-OFST-02

CFC_180

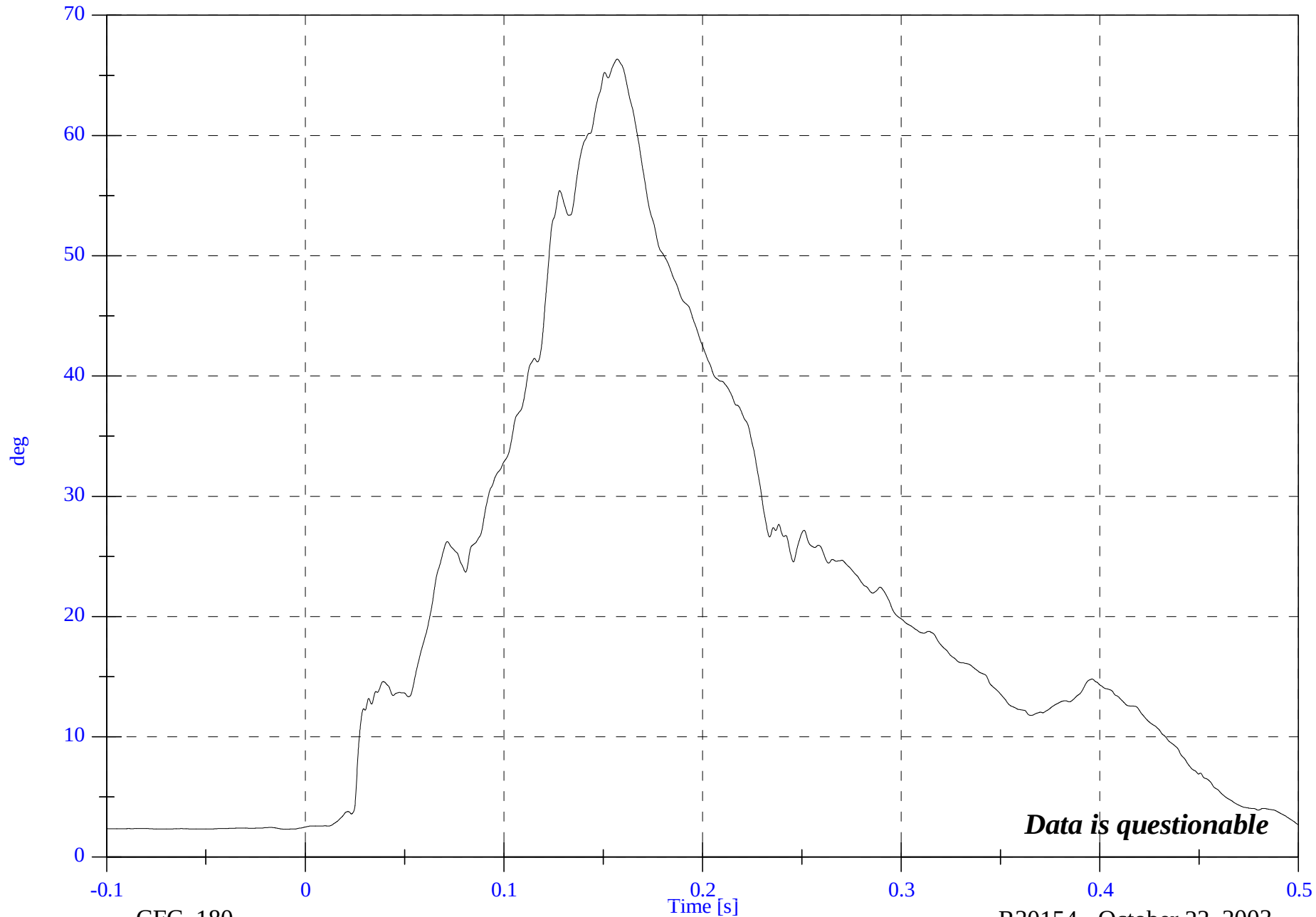
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Ankle Rotation z

Max: 66.4 [deg] at 0.157 [s]

Min: 2.3 [deg] at -0.009 [s]



B-156

8710-OFST-02

CFC_180

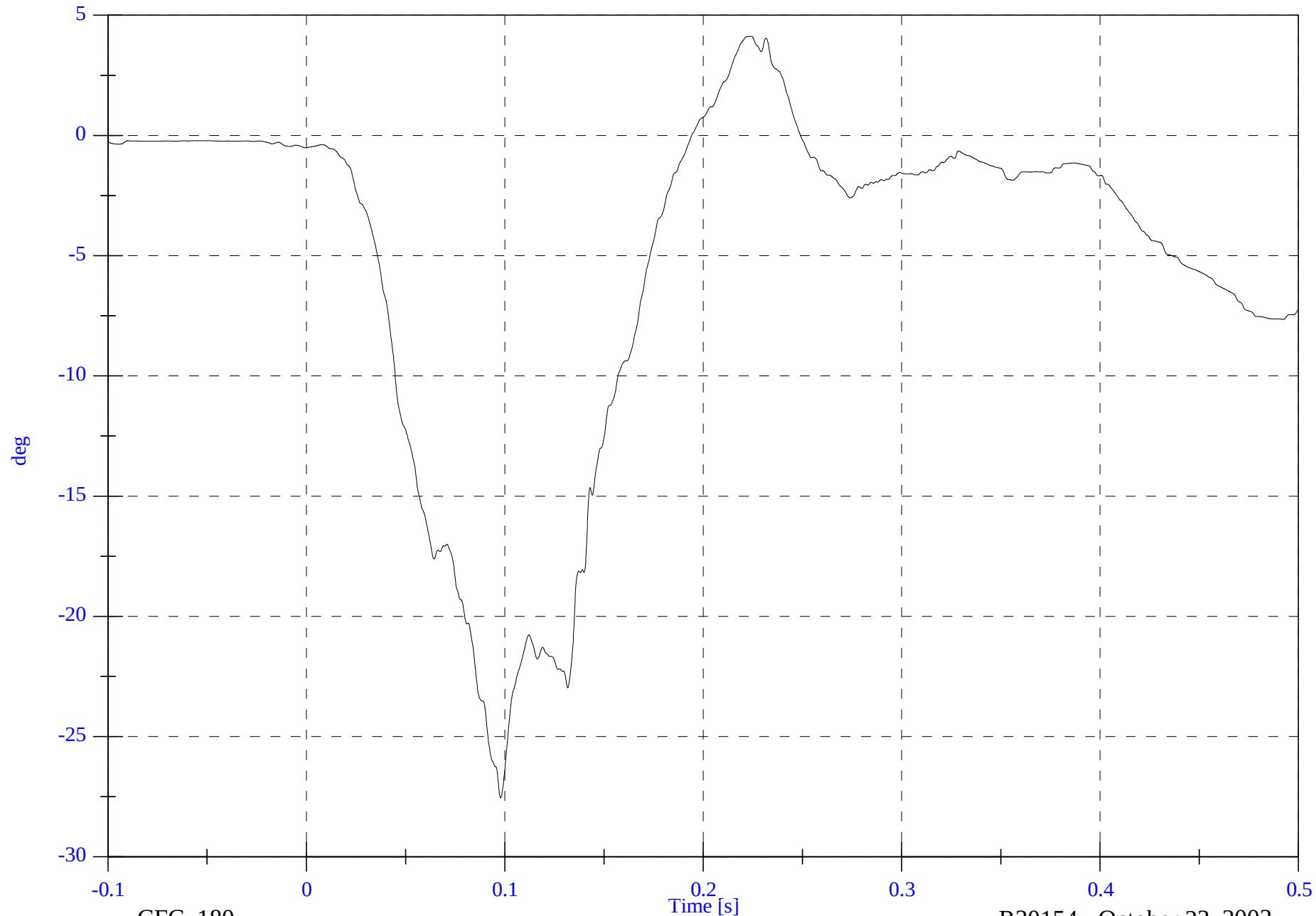
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Ankle Rotation x

Max: 4.1 [deg] at 0.224 [s]

Min: -27.5 [deg] at 0.098 [s]



B-157

8710-OFST-02

CFC_180

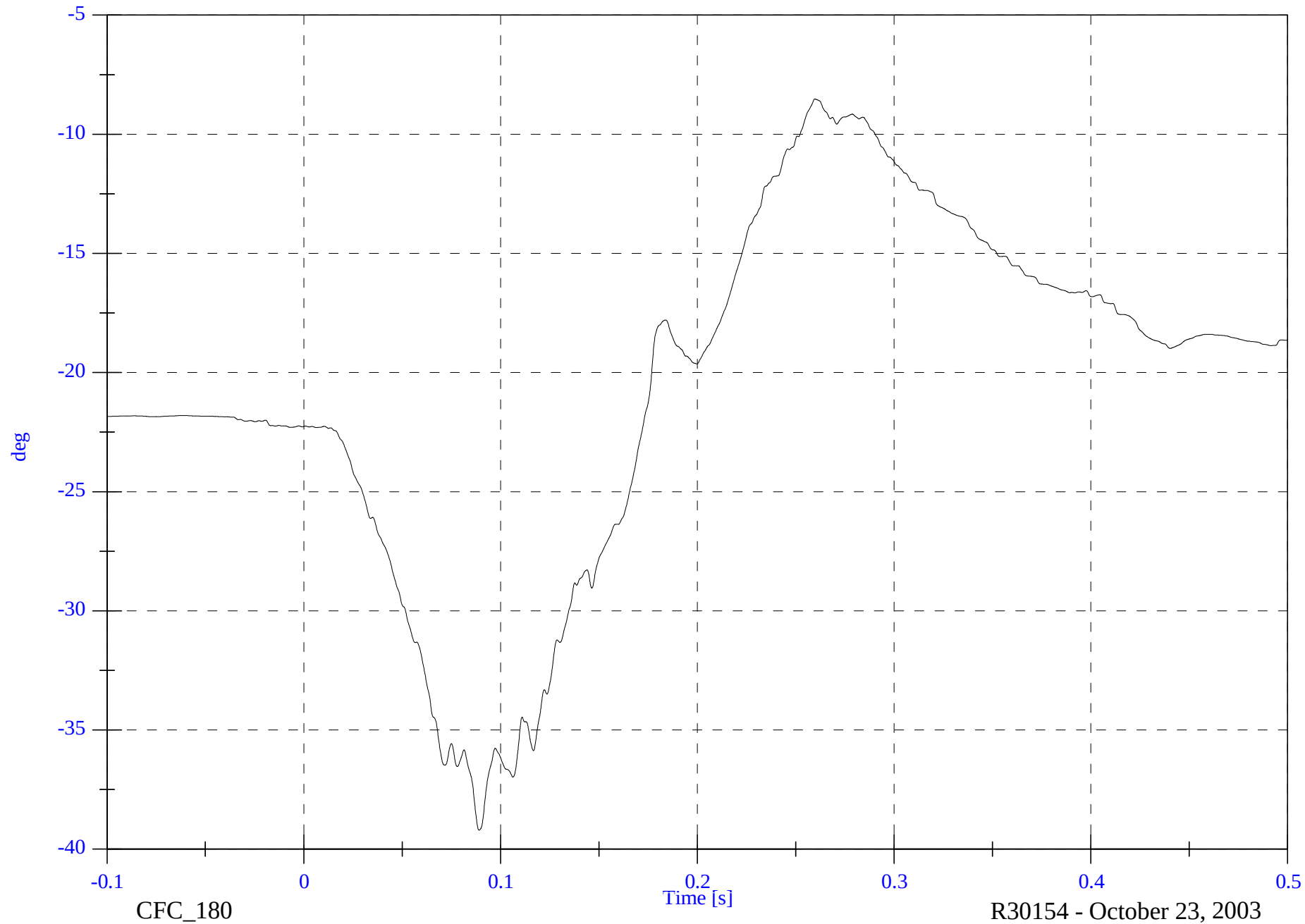
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Ankle Rotation y

Max: -8.5 [deg] at 0.260 [s]

Min: -39.2 [deg] at 0.089 [s]



B-158

8710-OFST-02

CFC_180

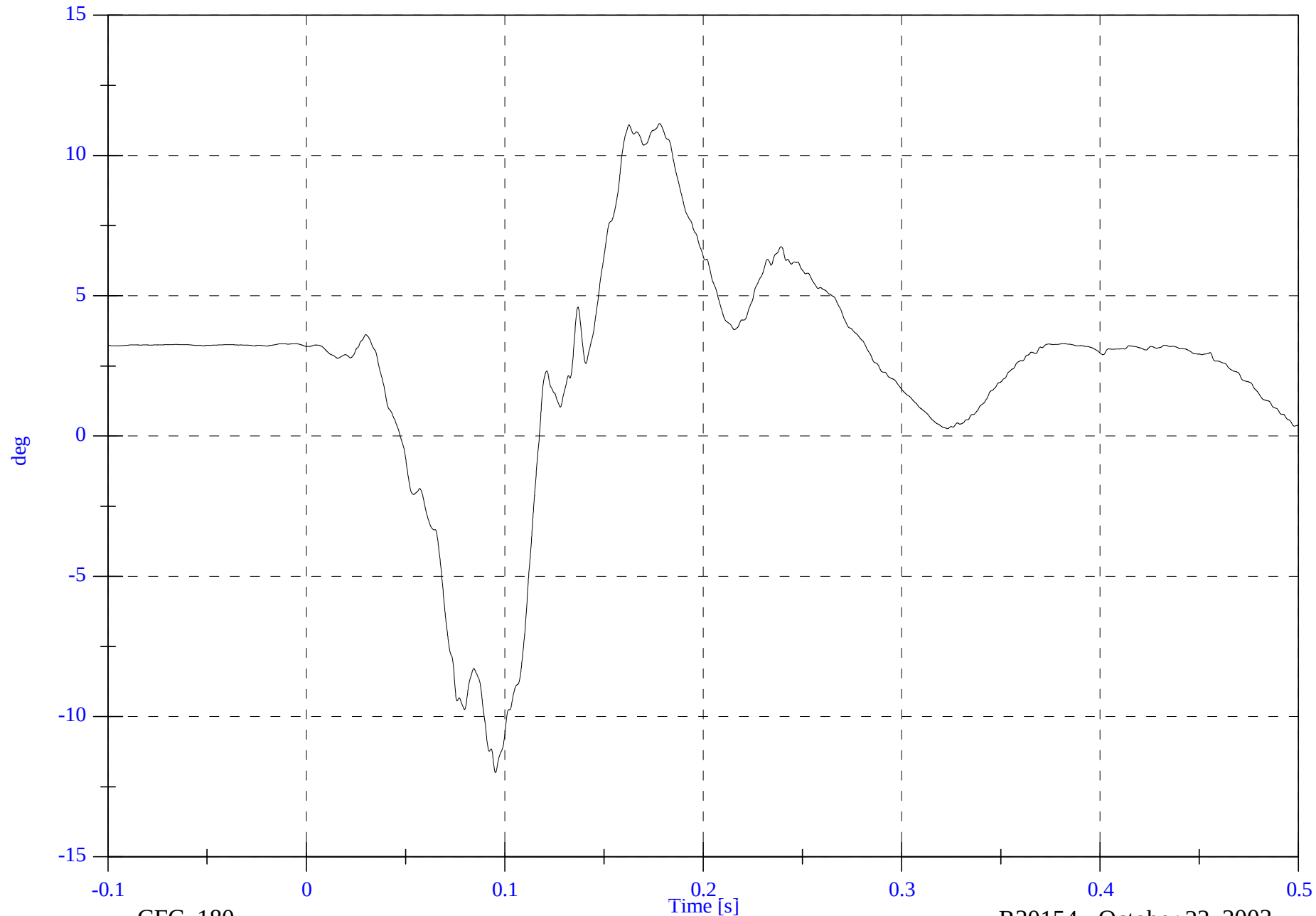
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Ankle Rotation z

Max: 11.1 [deg] at 0.178 [s]

Min: -12.0 [deg] at 0.095 [s]



B-159

8710-OFST-02

CFC_180

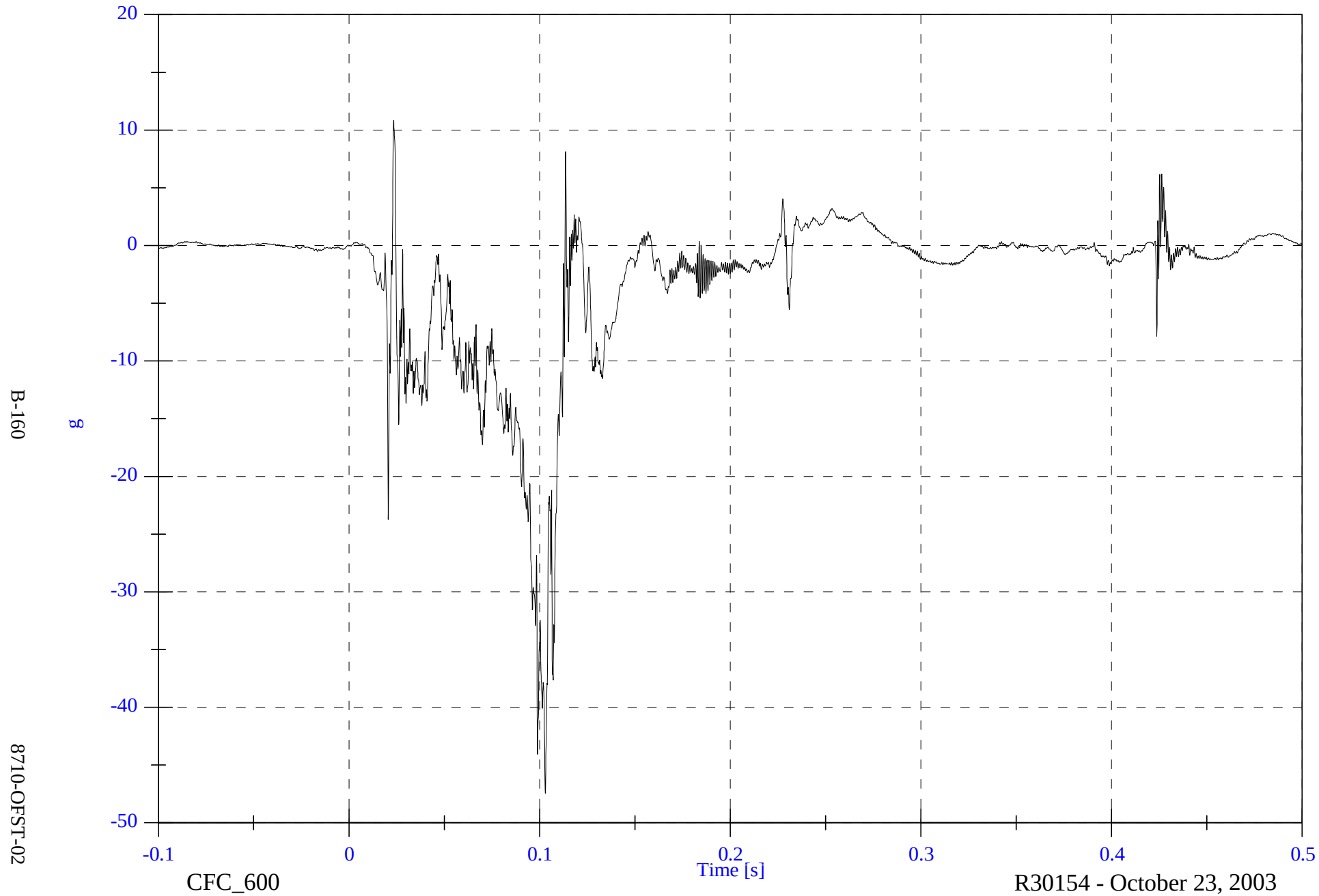
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Max: 10.9 [g] at 0.023 [s]

V1P2 Left Foot x

Min: -47.5 [g] at 0.103 [s]

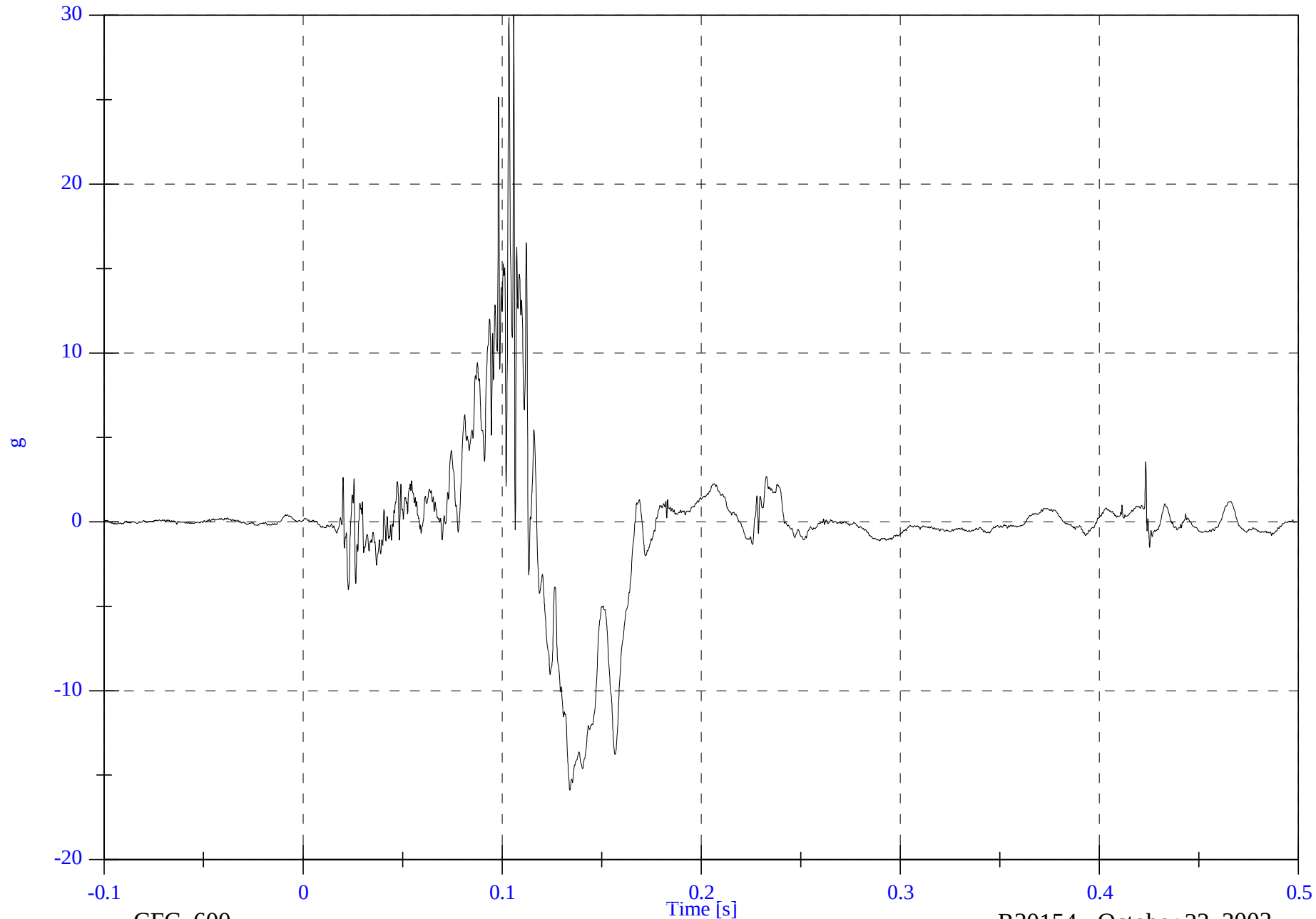


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Foot y

Max: 30.0 [g] at 0.106 [s]

Min: -15.9 [g] at 0.134 [s]

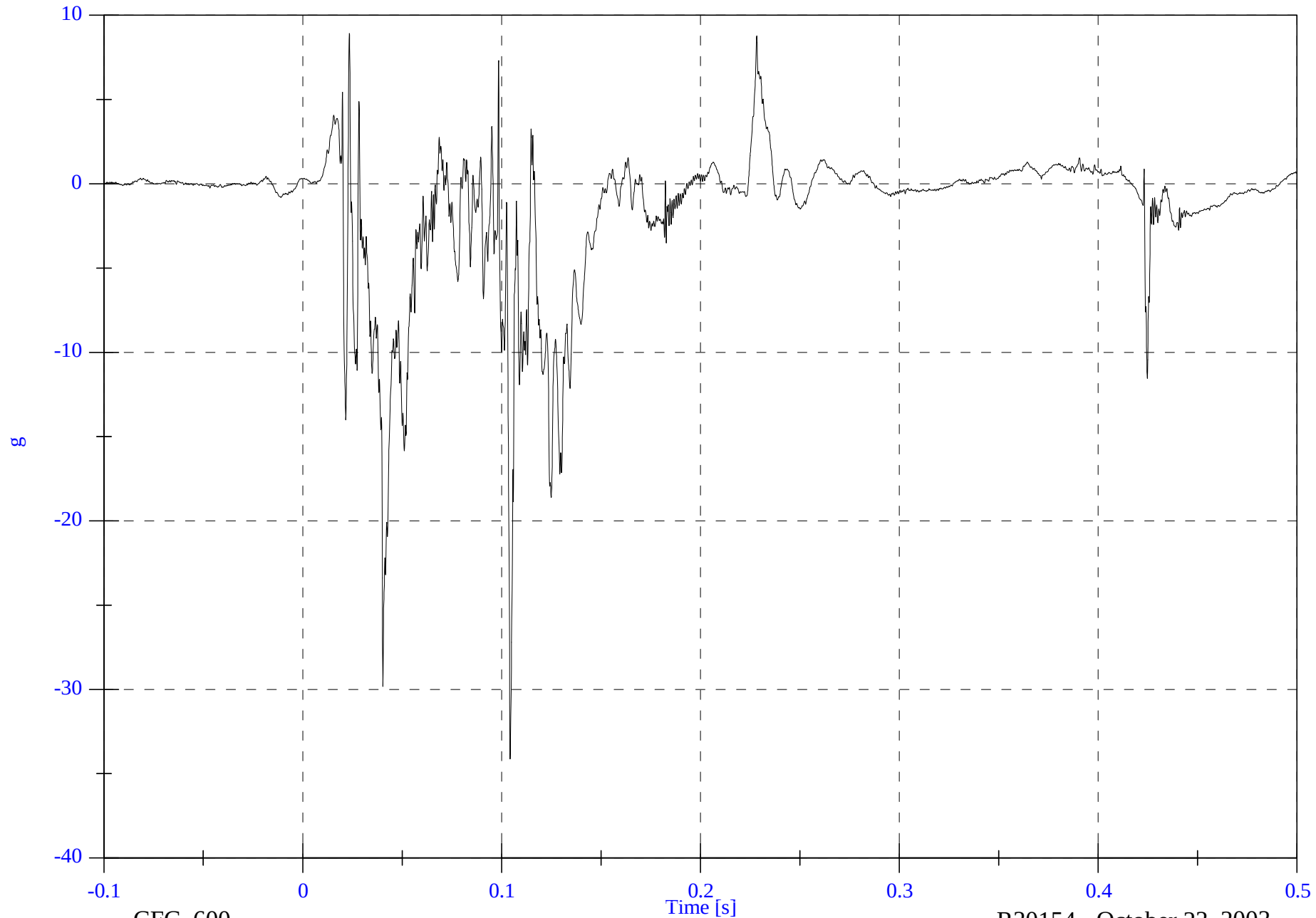


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Foot z

Max: 8.9 [g] at 0.023 [s]

Min: -34.1 [g] at 0.104 [s]



B-162

8710-OFST-02

CFC_600

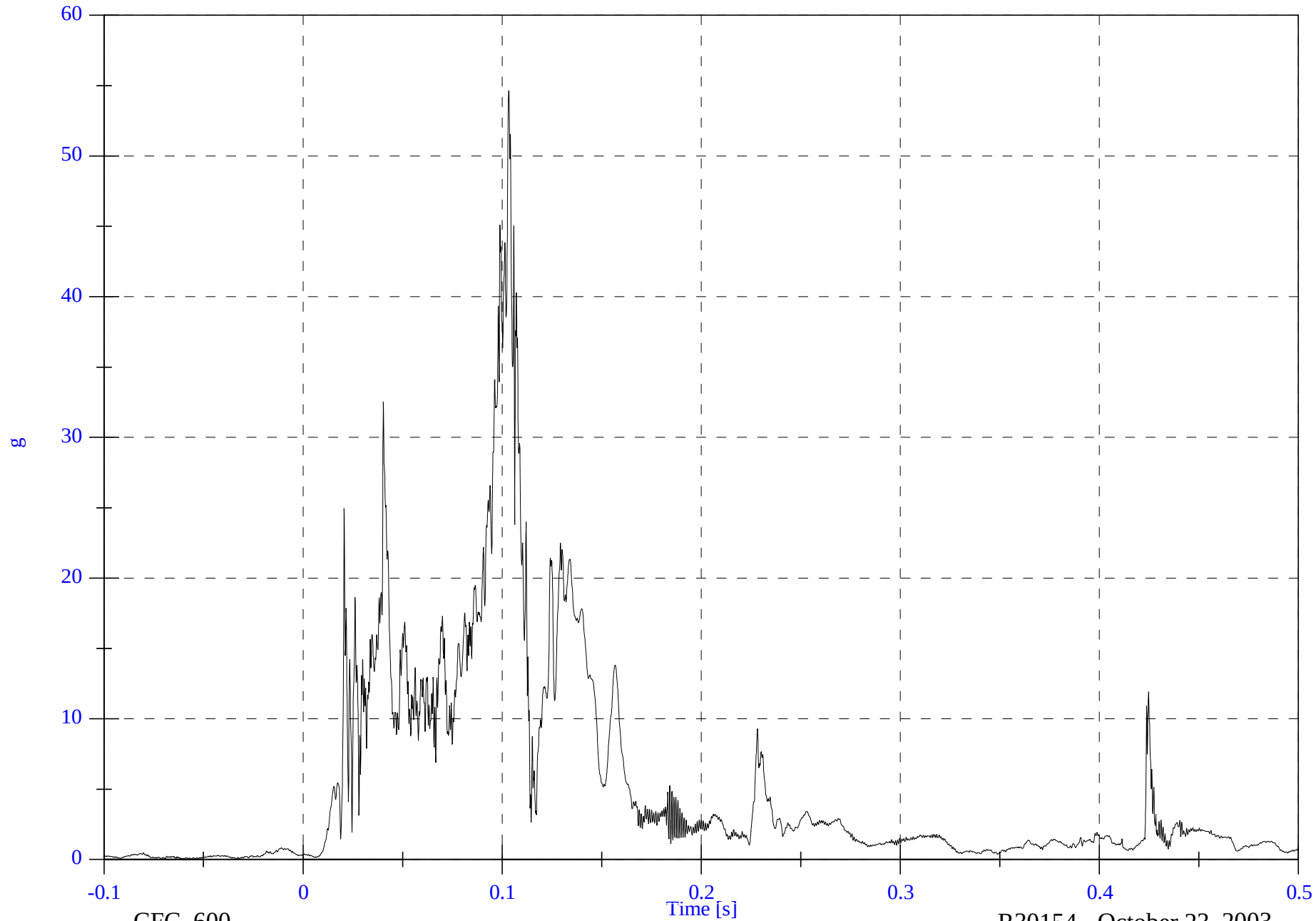
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Left Foot Resultant

Max: 54.6 [g] at 0.103 [s]

Min: 0.0 [g] at -0.060 [s]



B-163

8710-OFST-02

CFC_600

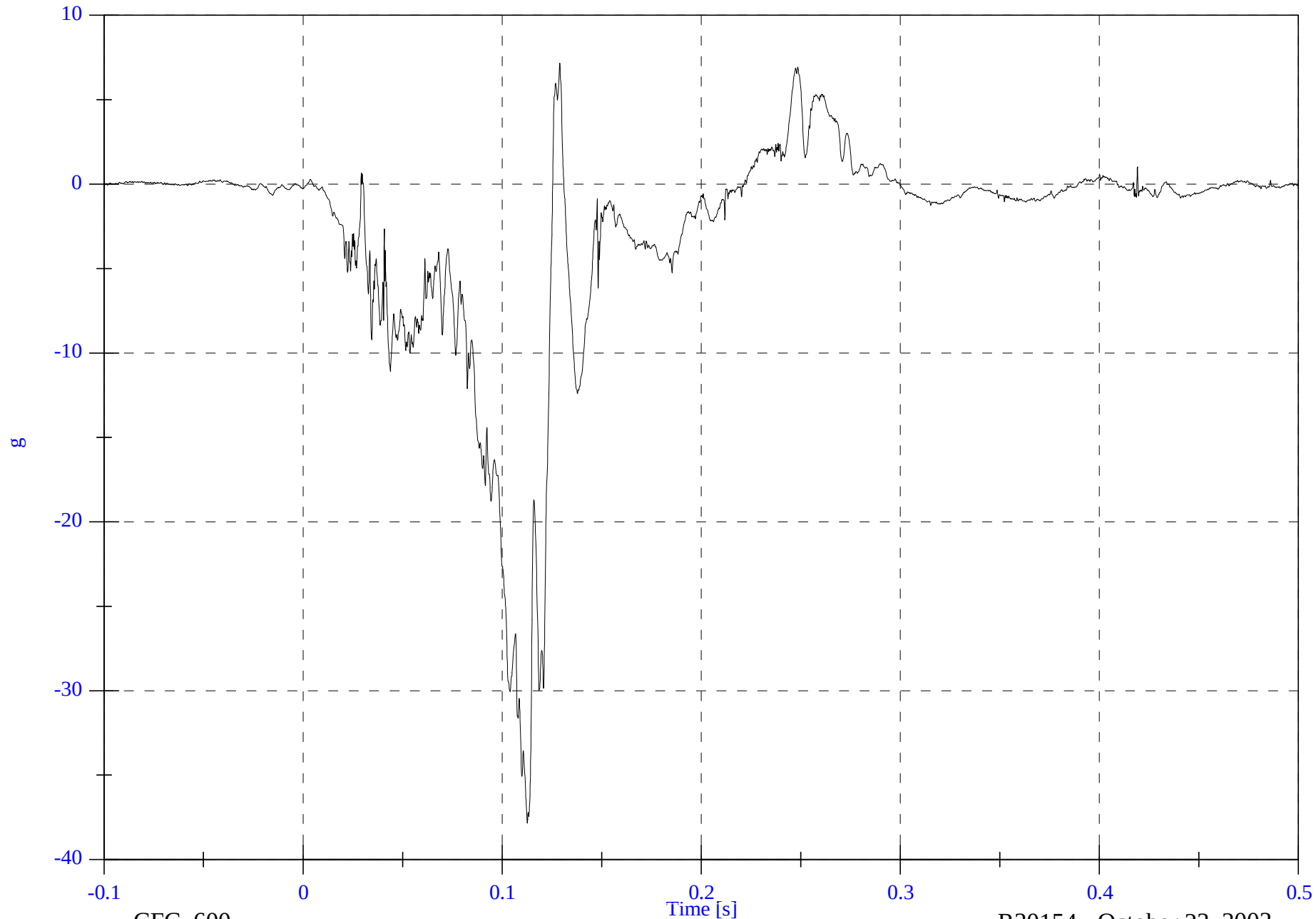
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Foot x

Max: 7.2 [g] at 0.129 [s]

Min: -37.9 [g] at 0.113 [s]



B-164

8710-OFST-02

CFC_600

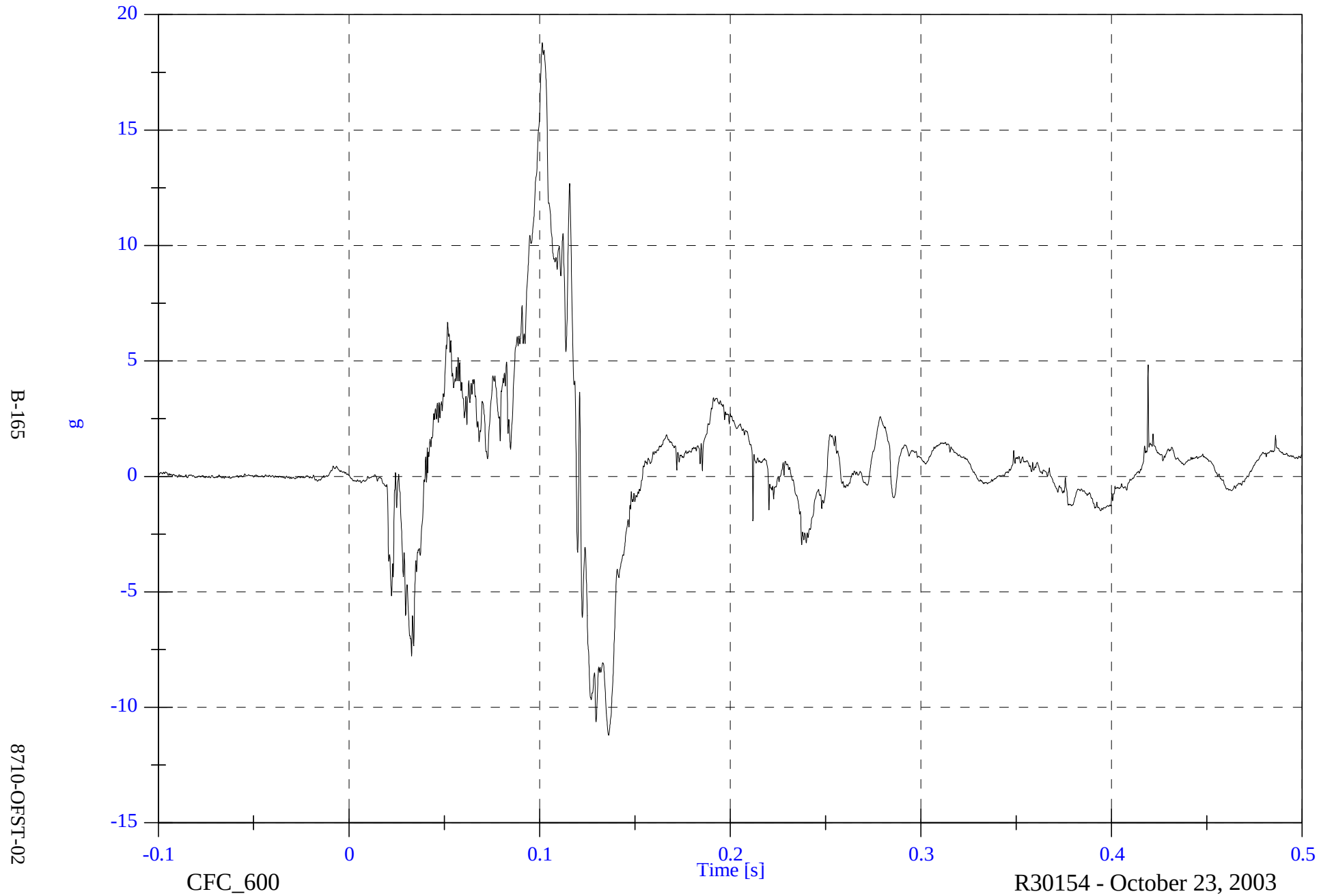
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Foot y

Max: 18.8 [g] at 0.101 [s]

Min: -11.2 [g] at 0.136 [s]

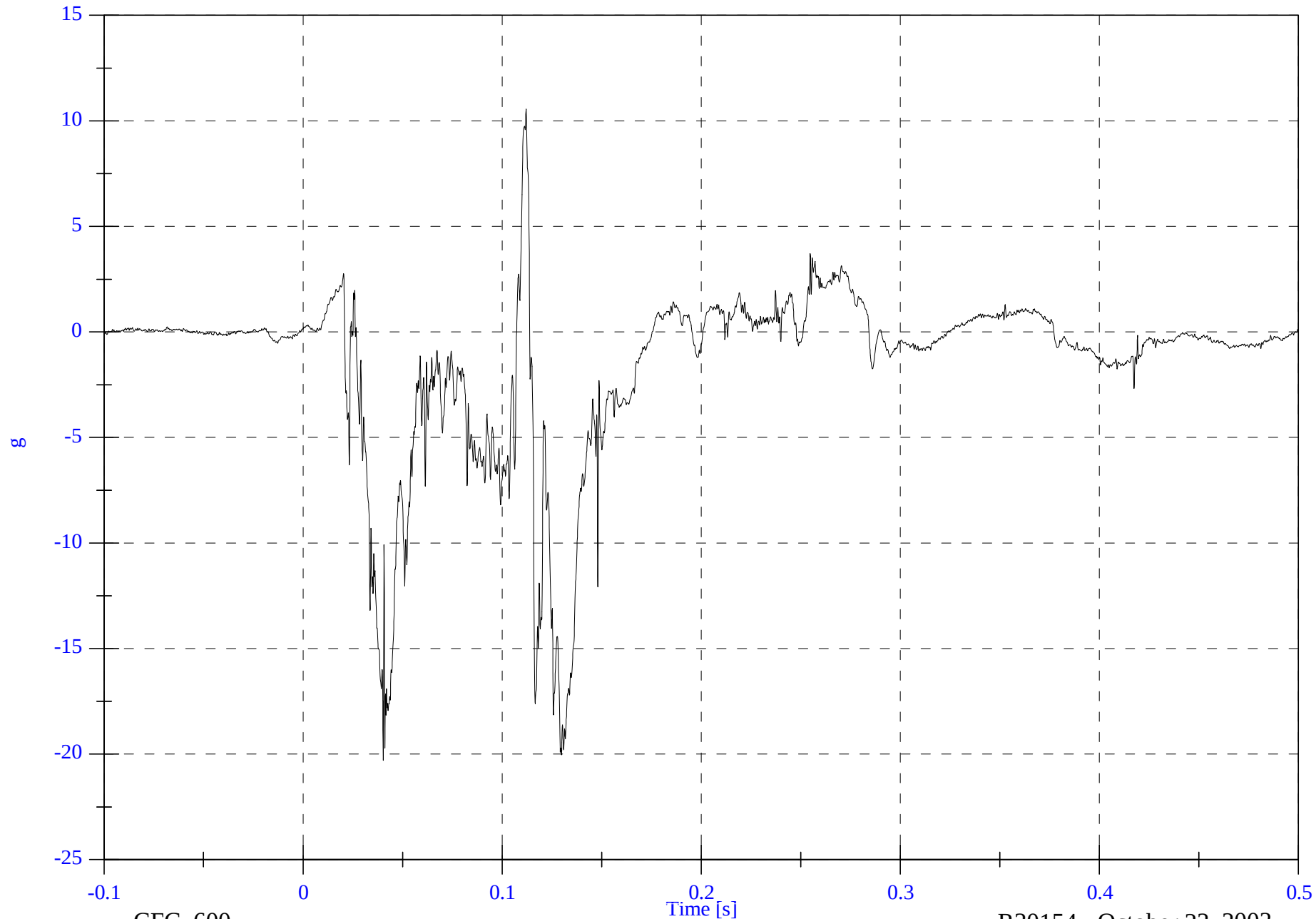


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Foot z

Max: 10.6 [g] at 0.112 [s]

Min: -20.3 [g] at 0.040 [s]



B-166

8710-OFST-02

CFC_600

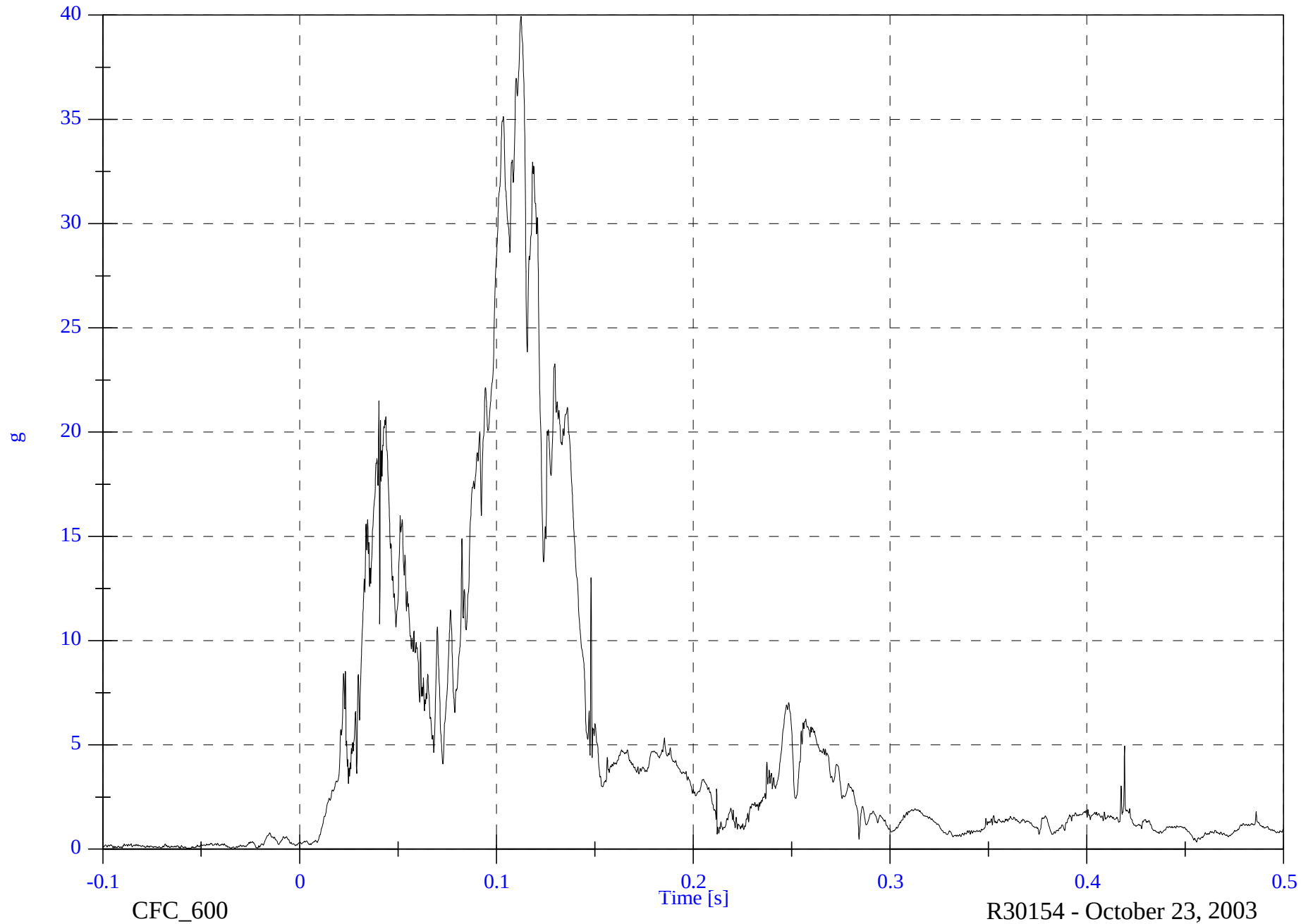
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Right Foot Resultant

Max: 39.9 [g] at 0.112 [s]

Min: 0.0 [g] at -0.055 [s]



B-167

8710-OFST-02

CFC_600

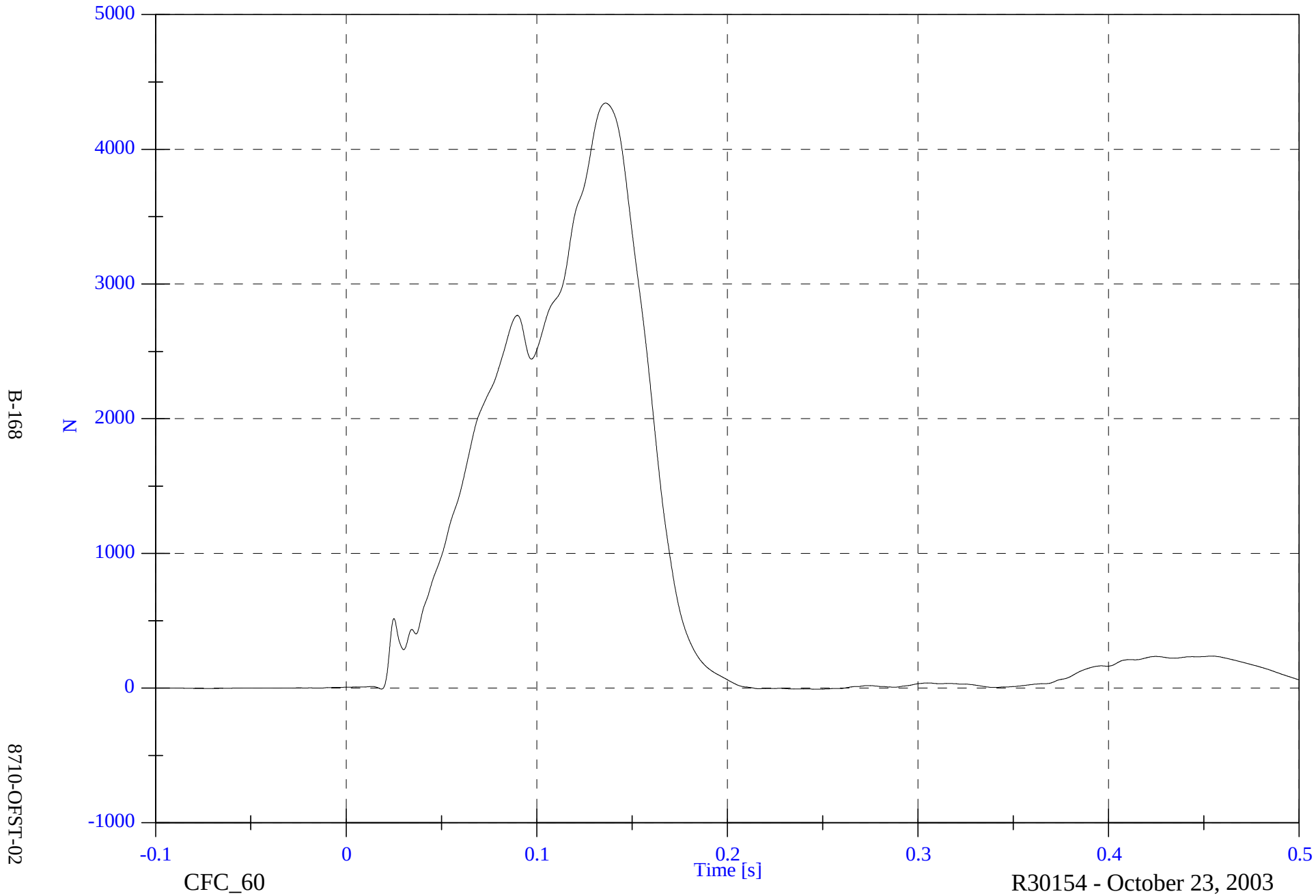
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Lap Belt Load

Max: 4343.4 [N] at 0.136 [s]

Min: -8.8 [N] at 0.247 [s]

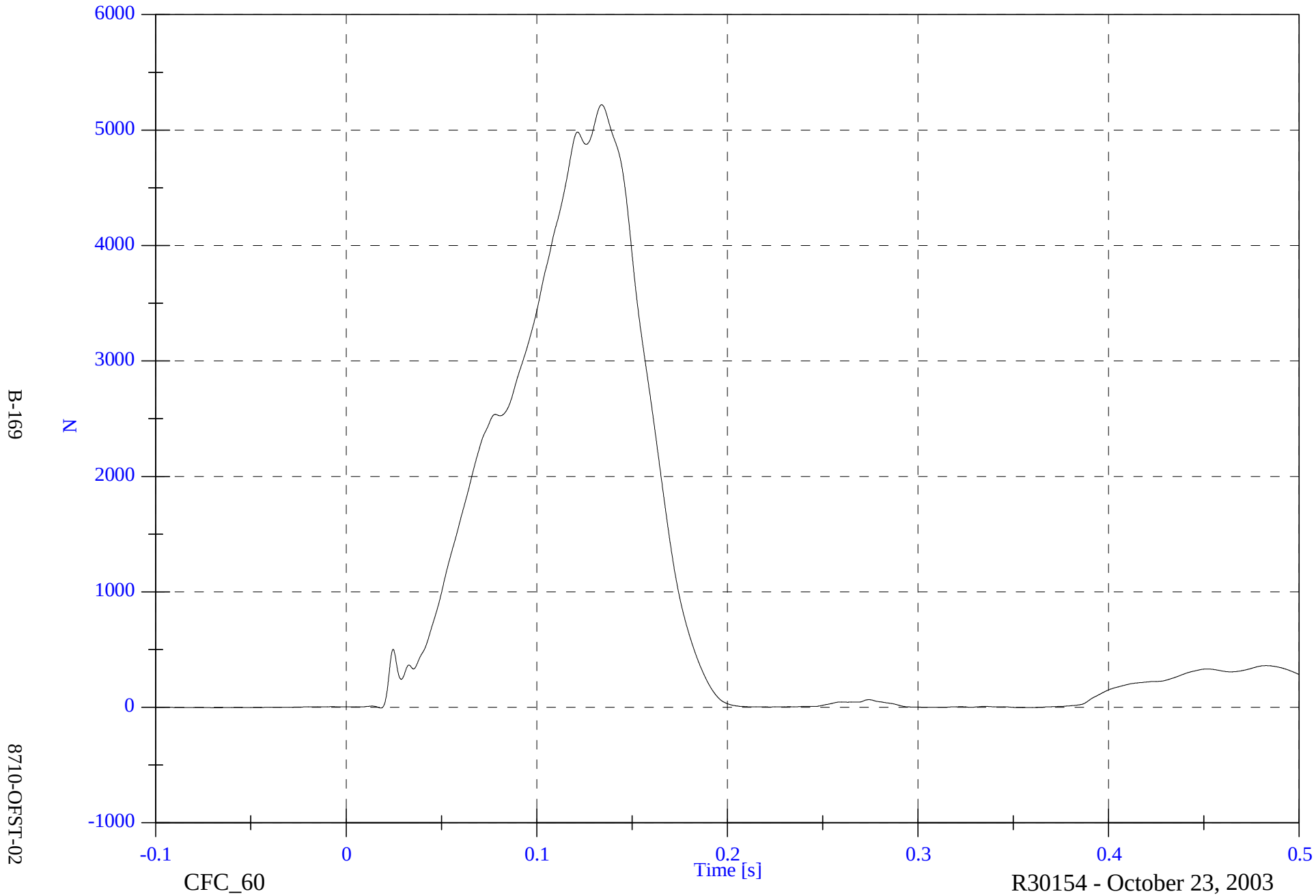


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Shoulder Belt Load

Max: 5220.2 [N] at 0.134 [s]

Min: -5.8 [N] at 0.018 [s]

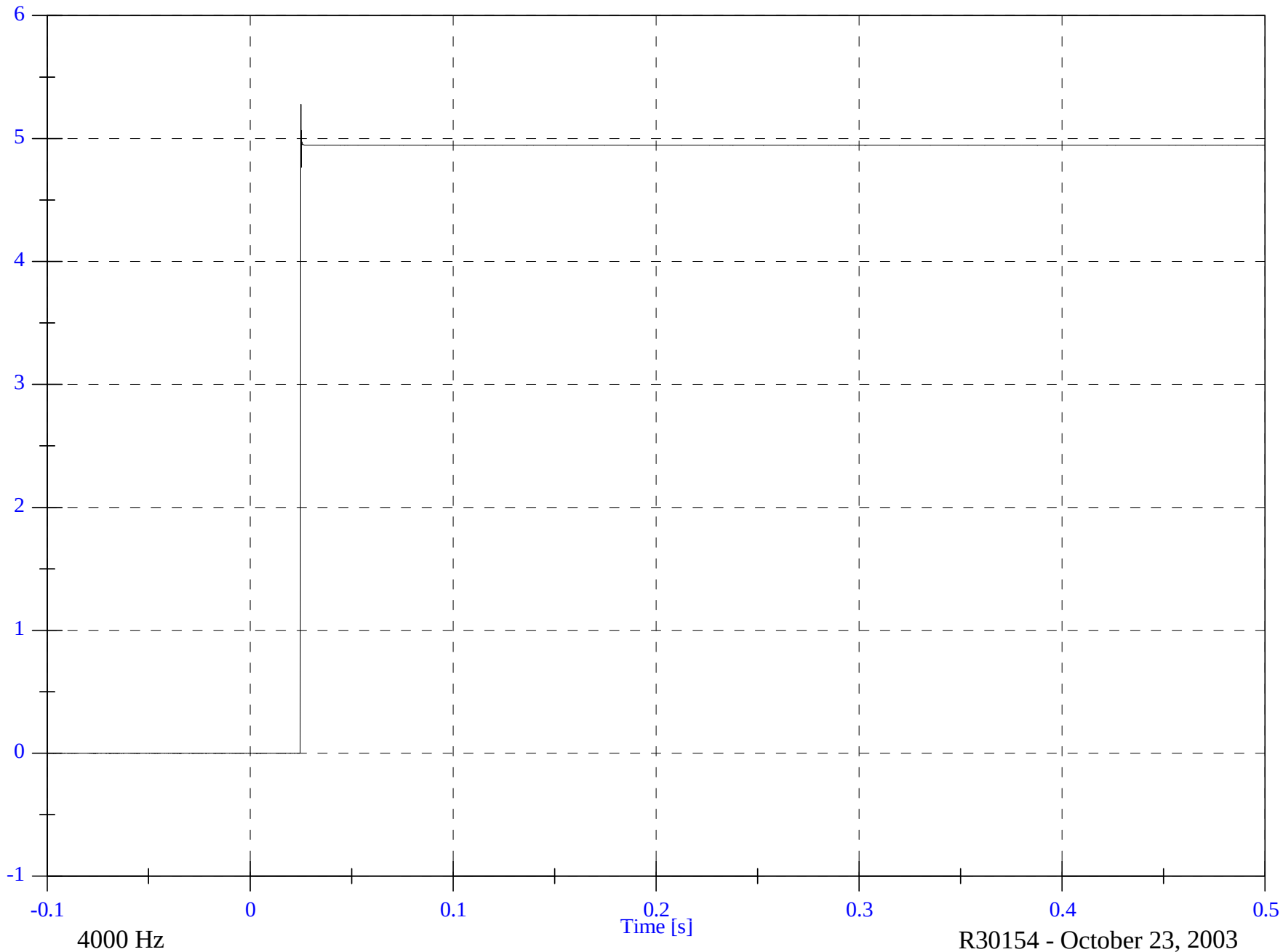


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P2 Air Bag T/E

Max: 5.3 [V] at 0.025 [s]

Min: -0.0 [V] at -0.047 [s]



B-170

8710-OFST-02

4000 Hz

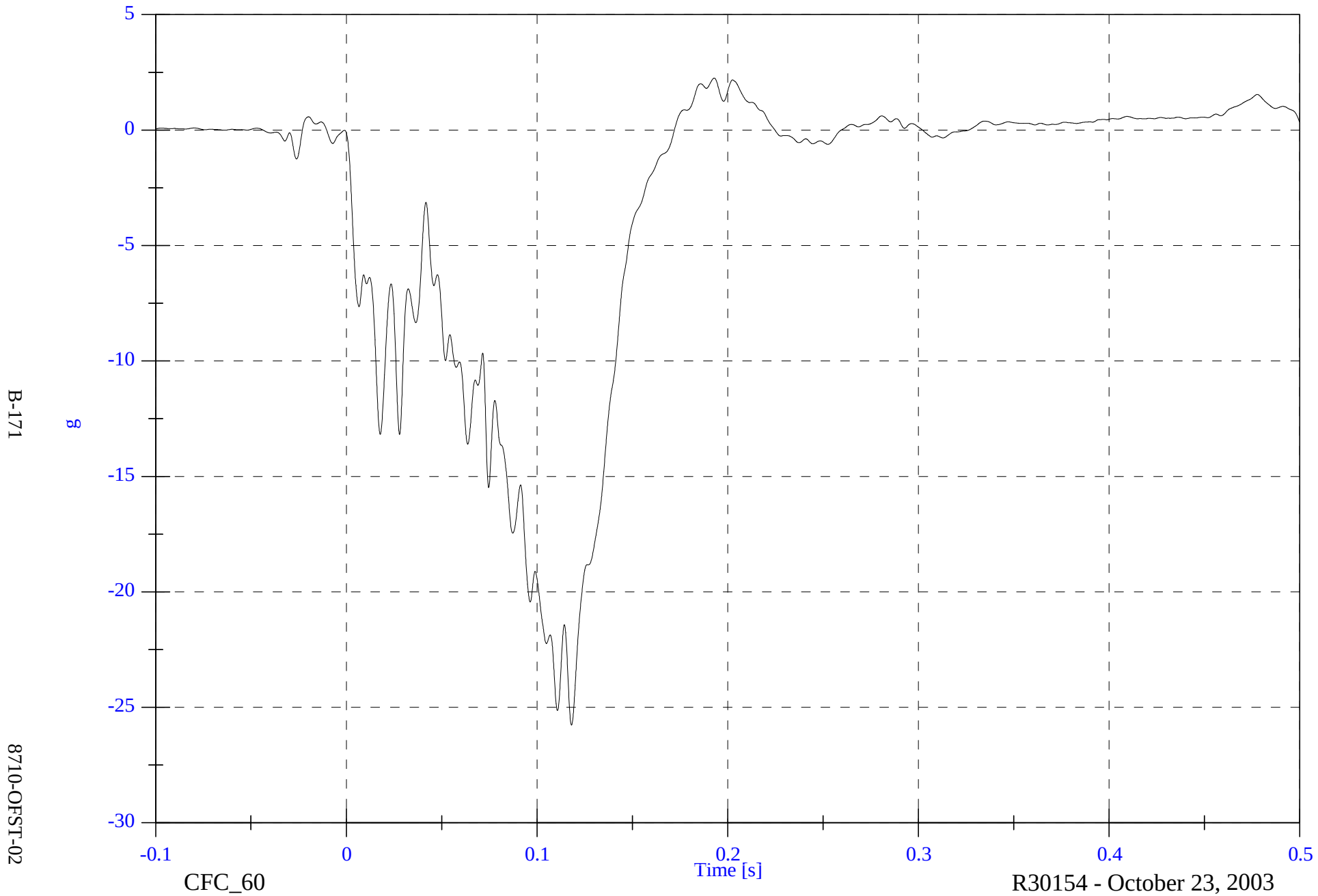
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 LR Seat Xmember x

Max: 2.3 [g] at 0.193 [s]

Min: -25.8 [g] at 0.118 [s]

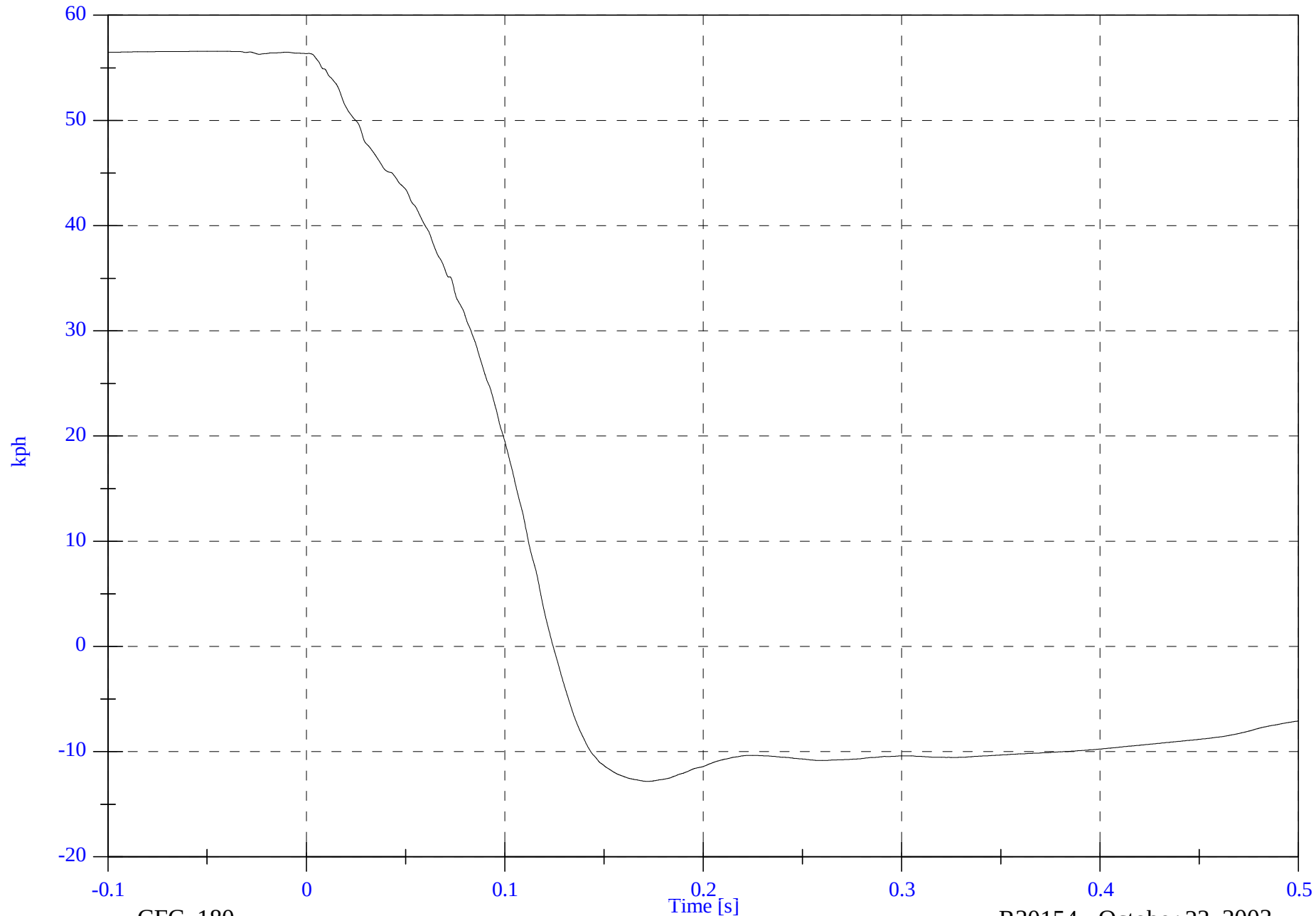


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 LR Seat Xmember x Velocity

Max: 56.6 [kph] at -0.044 [s]

Min: -12.8 [kph] at 0.172 [s]



B-172

8710-OFST-02

CFC_180

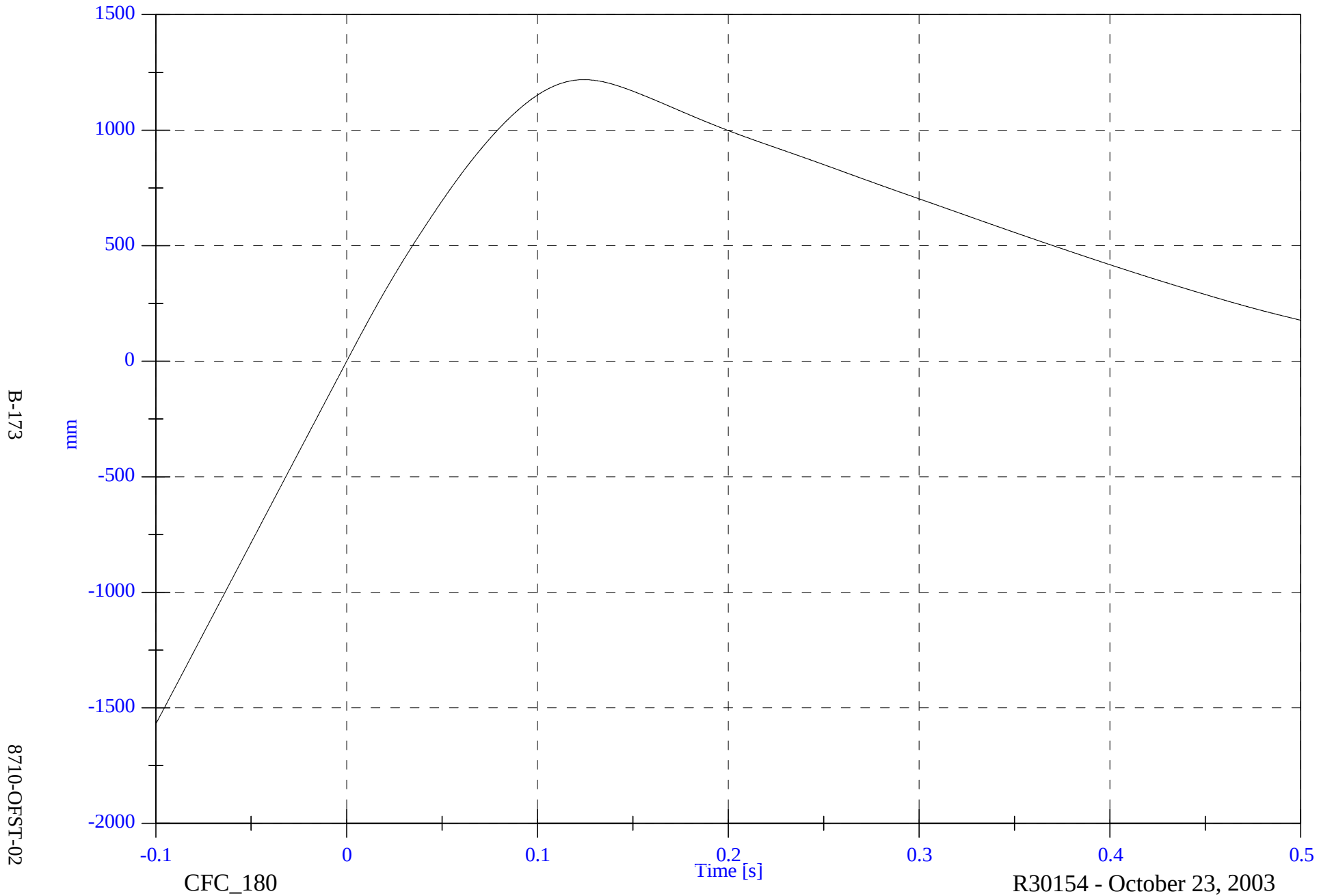
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 LR Seat Xmember x Displacement

Max: 1218.7 [mm] at 0.124 [s]

Min: -1569.6 [mm] at -0.100 [s]

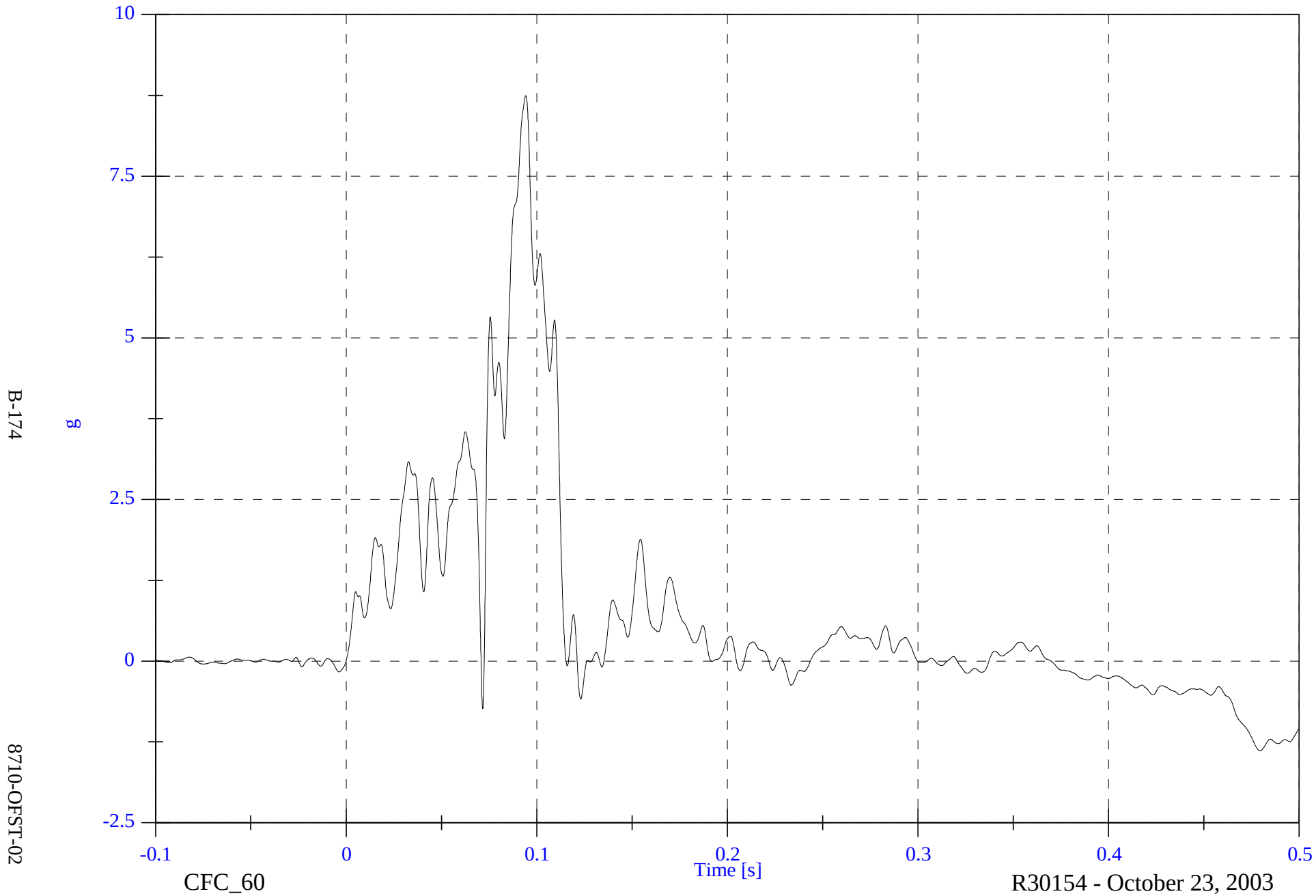


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 LR Seat Xmember y

Max: 8.7 [g] at 0.094 [s]

Min: -1.4 [g] at 0.479 [s]

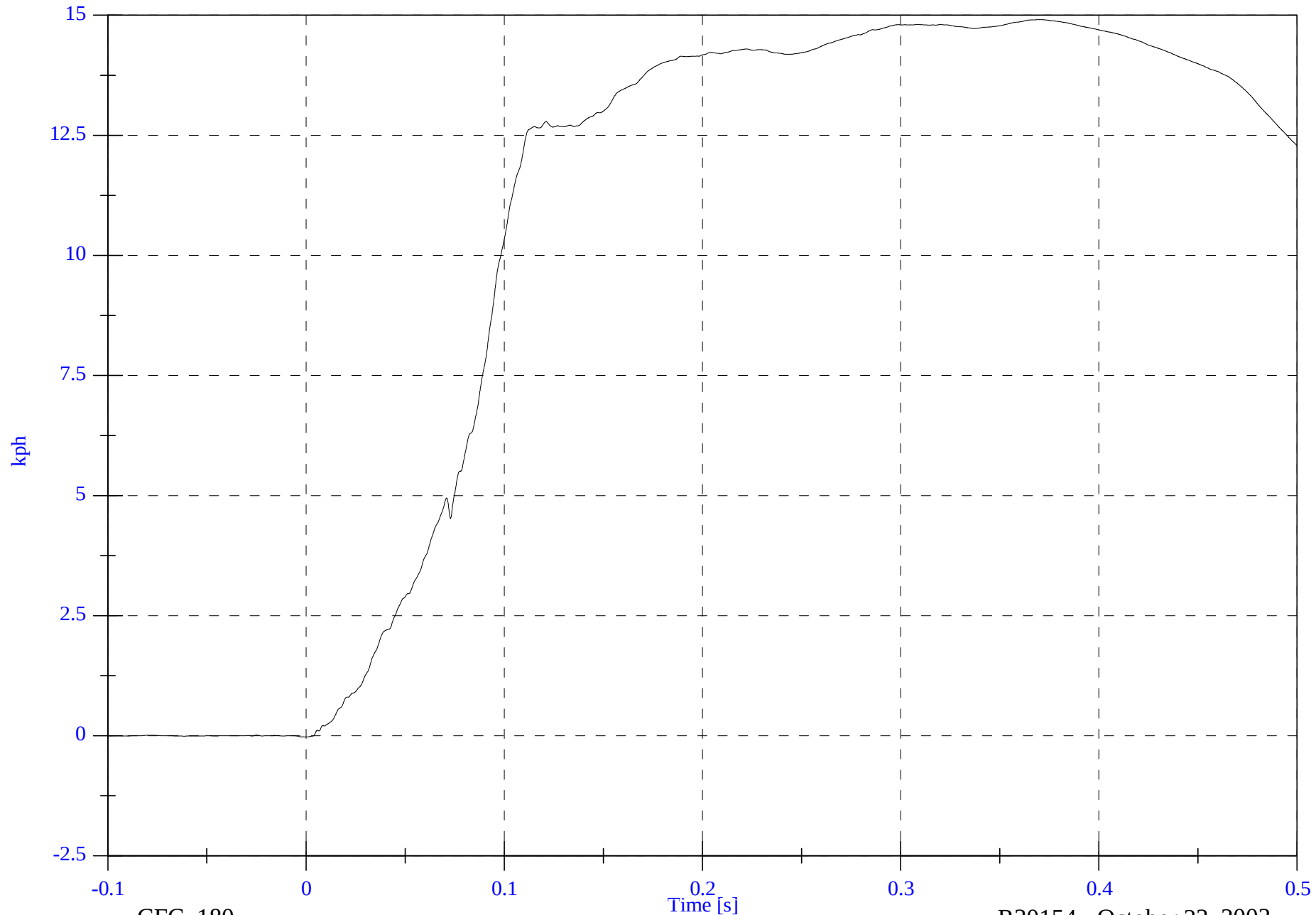


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 LR Seat Xmember y Velocity

Max: 14.9 [kph] at 0.370 [s]

Min: -0.0 [kph] at -0.000 [s]



B-175

8710-OFST-02

CFC_180

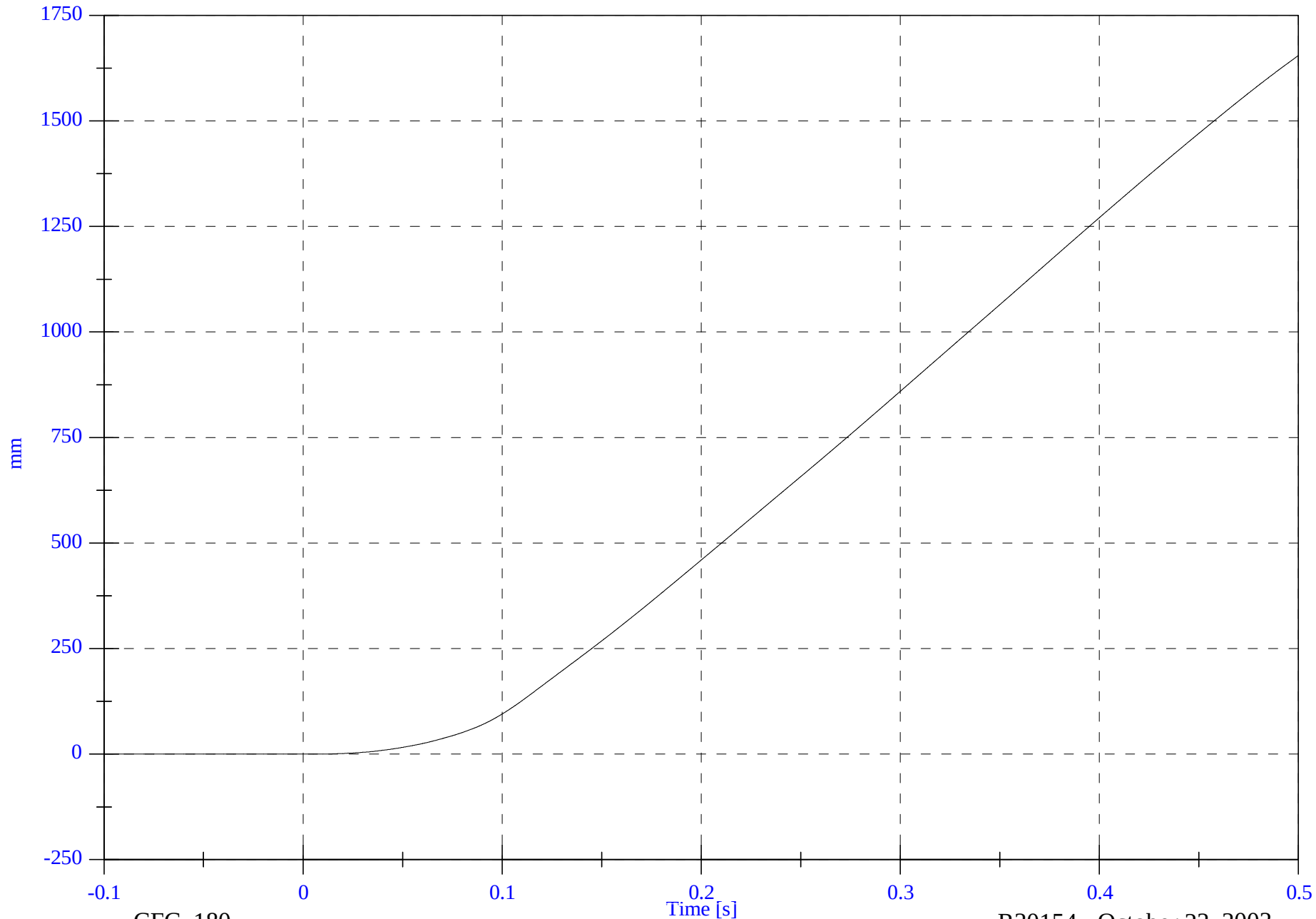
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 LR Seat Xmember y Displacement

Max: 1654.5 [mm] at 0.500 [s]

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



B-176

8710-OFST-02

CFC_180

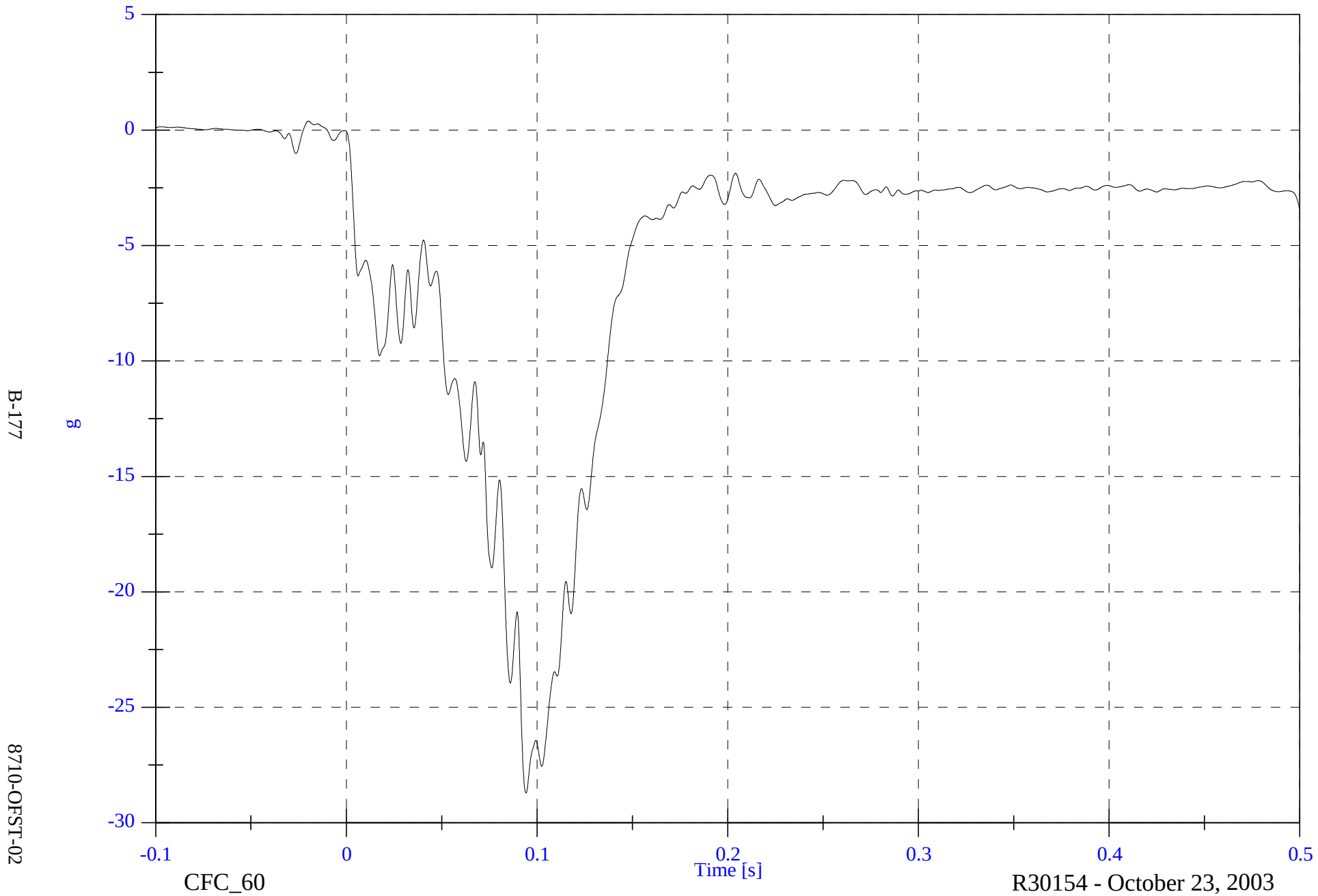
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 RR Seat Xmember x

Max: 0.4 [g] at -0.020 [s]

Min: -28.7 [g] at 0.094 [s]

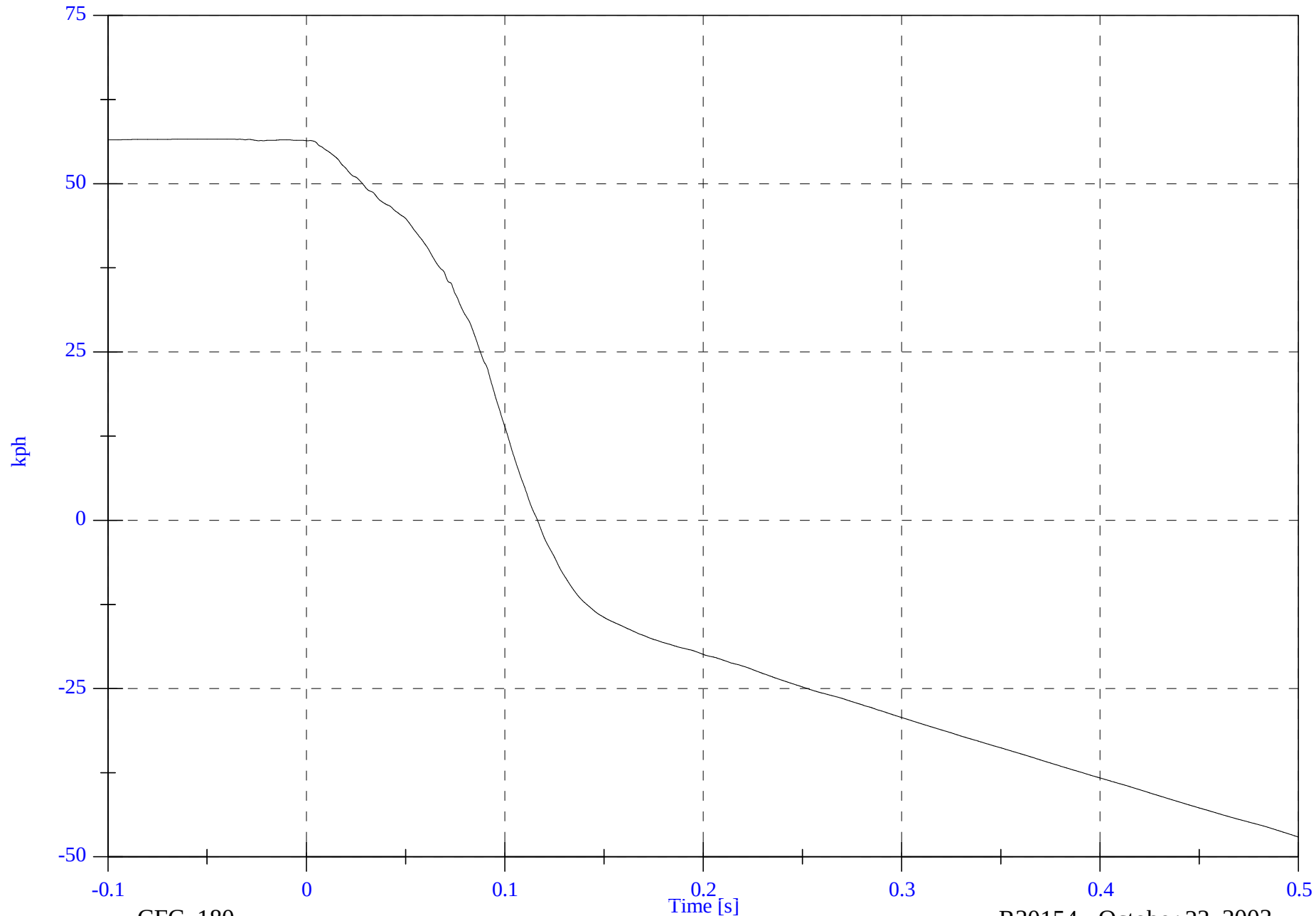


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 RR Seat Xmember x Velocity

Max: 56.6 [kph] at -0.044 [s]

Min: -47.1 [kph] at 0.500 [s]



B-178

8710-OFST-02

CFC_180

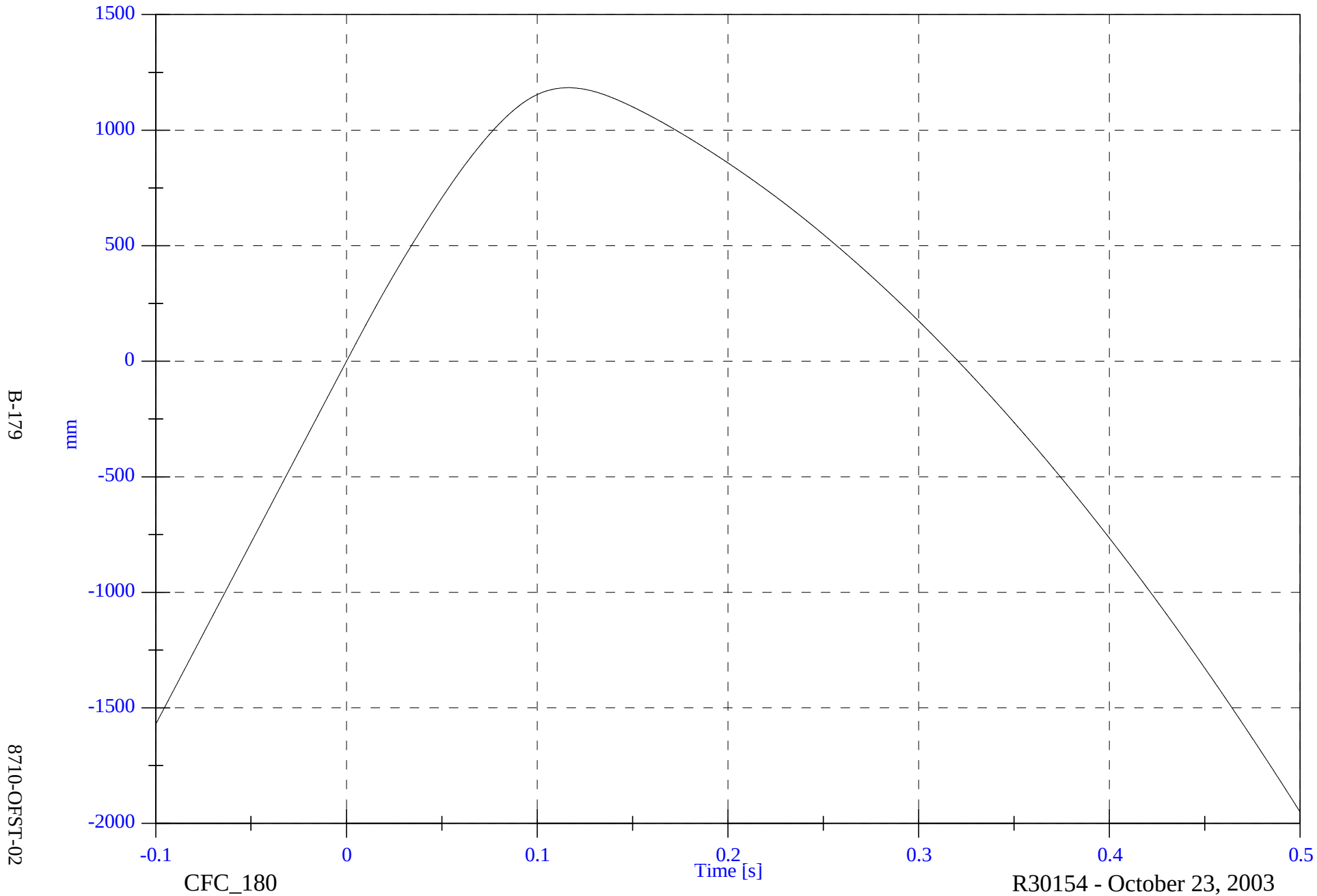
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 RR Seat Xmember x Displacement

Max: 1184.0 [mm] at 0.116 [s]

Min: -1948.9 [mm] at 0.500 [s]

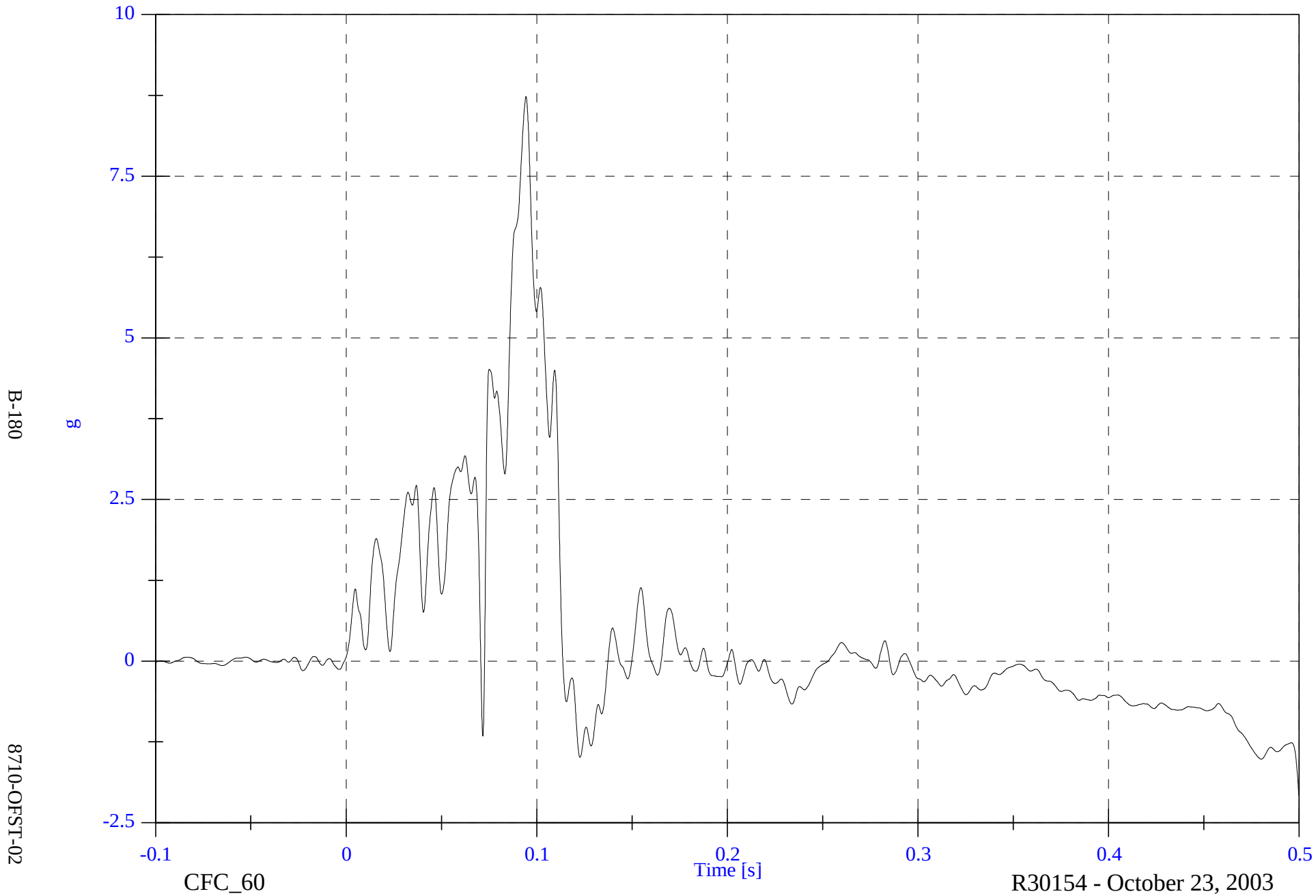


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 RR Seat Xmember y

Max: 8.7 [g] at 0.094 [s]

Min: -2.1 [g] at 0.500 [s]

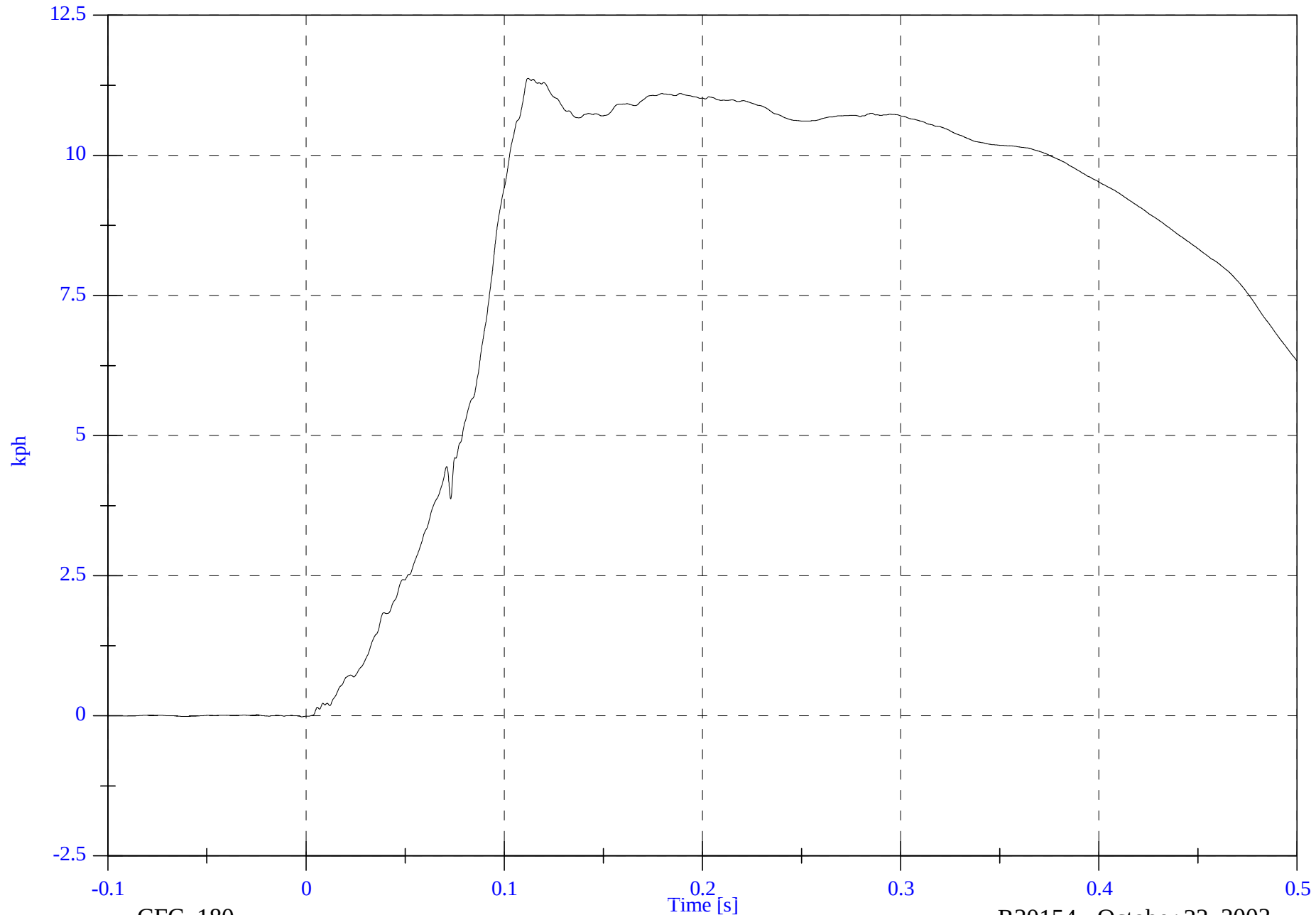


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 RR Seat Xmember y Velocity

Max: 11.4 [kph] at 0.112 [s]

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



B-181

8710-OFST-02

CFC_180

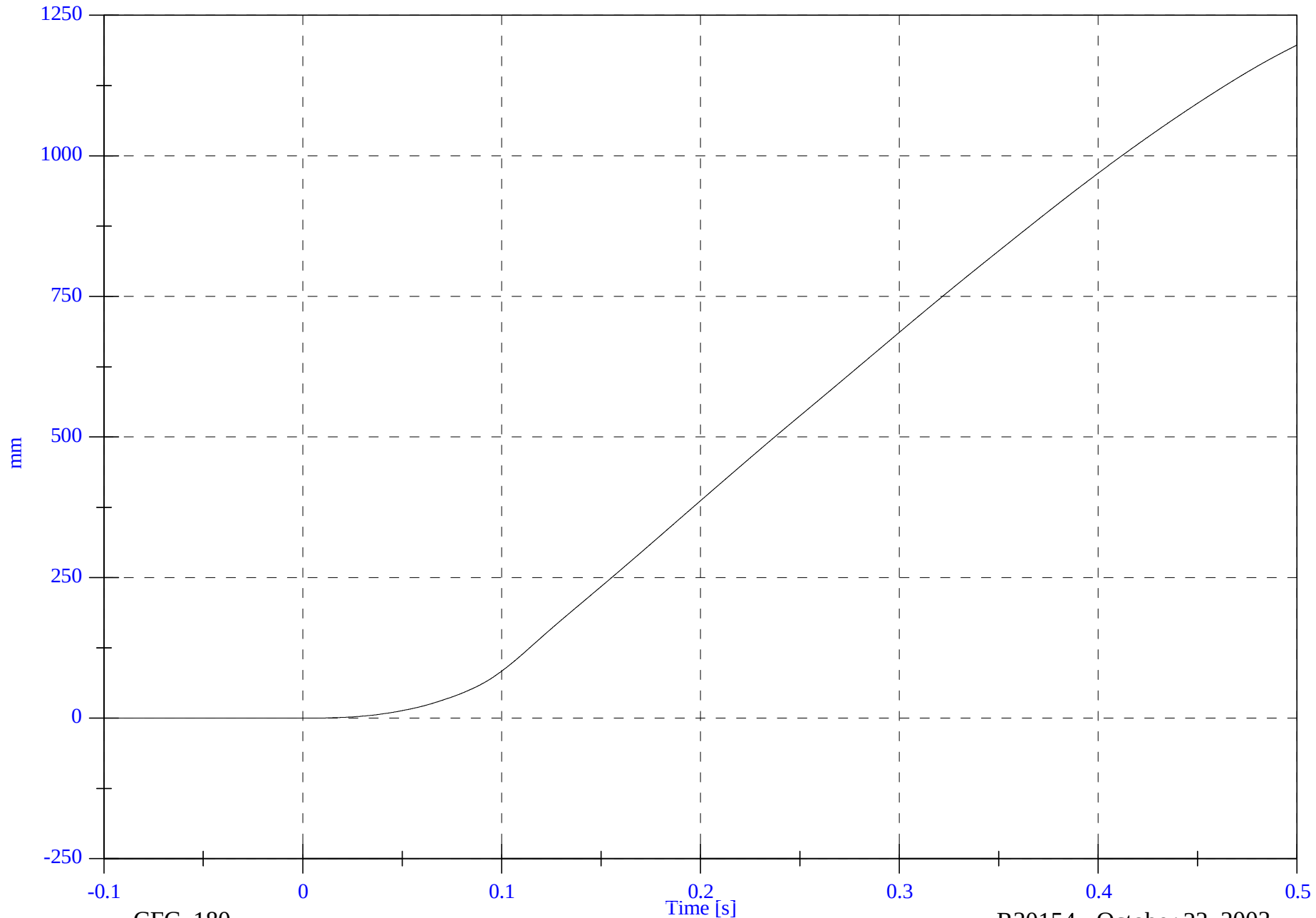
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 RR Seat Xmember y Displacement

Max: 1196.9 [mm] at 0.500 [s]

Min: -0.1 [mm] at -0.085 [s]



B-182

8710-OFST-02

CFC_180

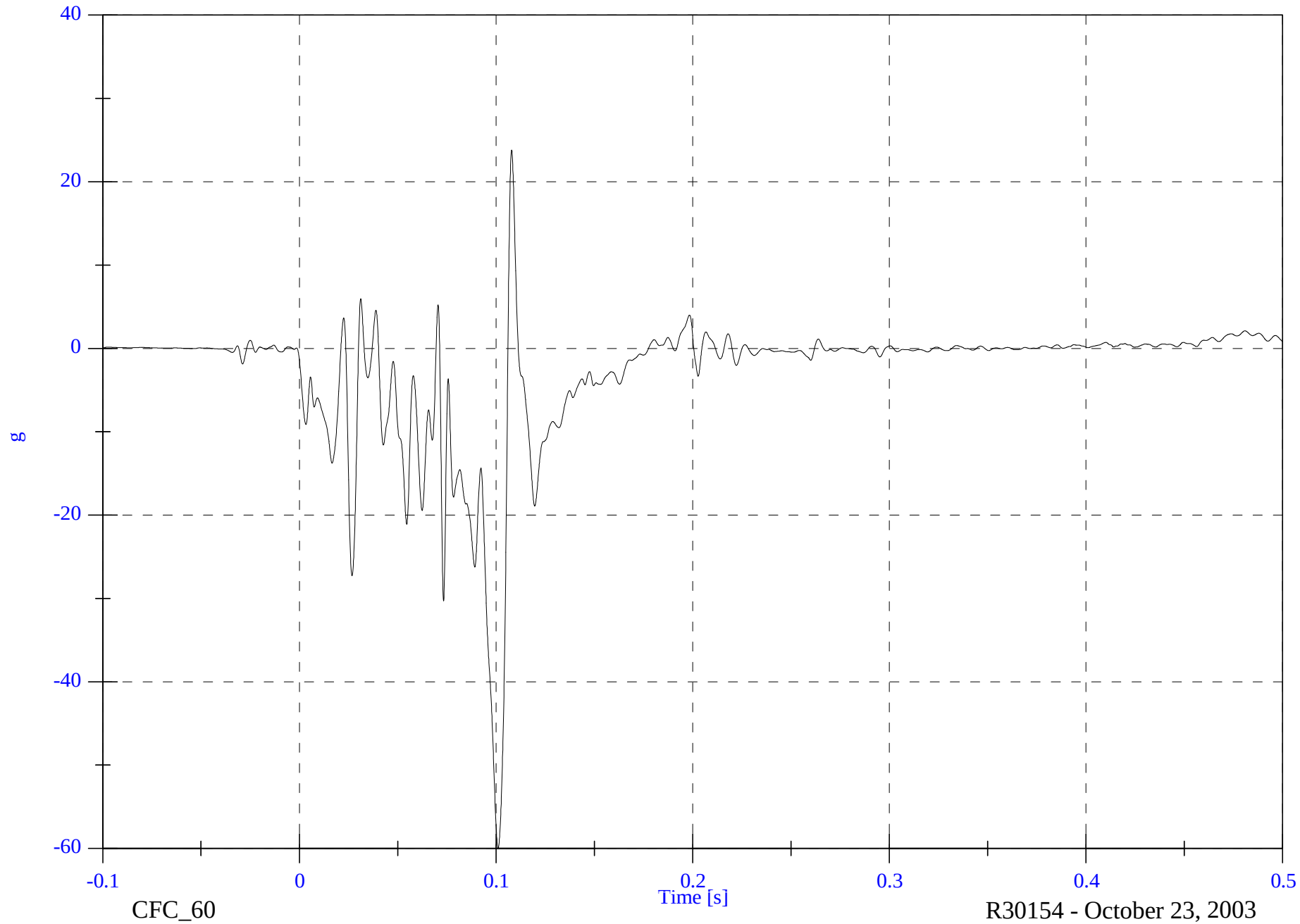
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Left x

Max: 23.8 [g] at 0.108 [s]

Min: -60.0 [g] at 0.101 [s]



B-183

8710-OFST-02

CFC_60

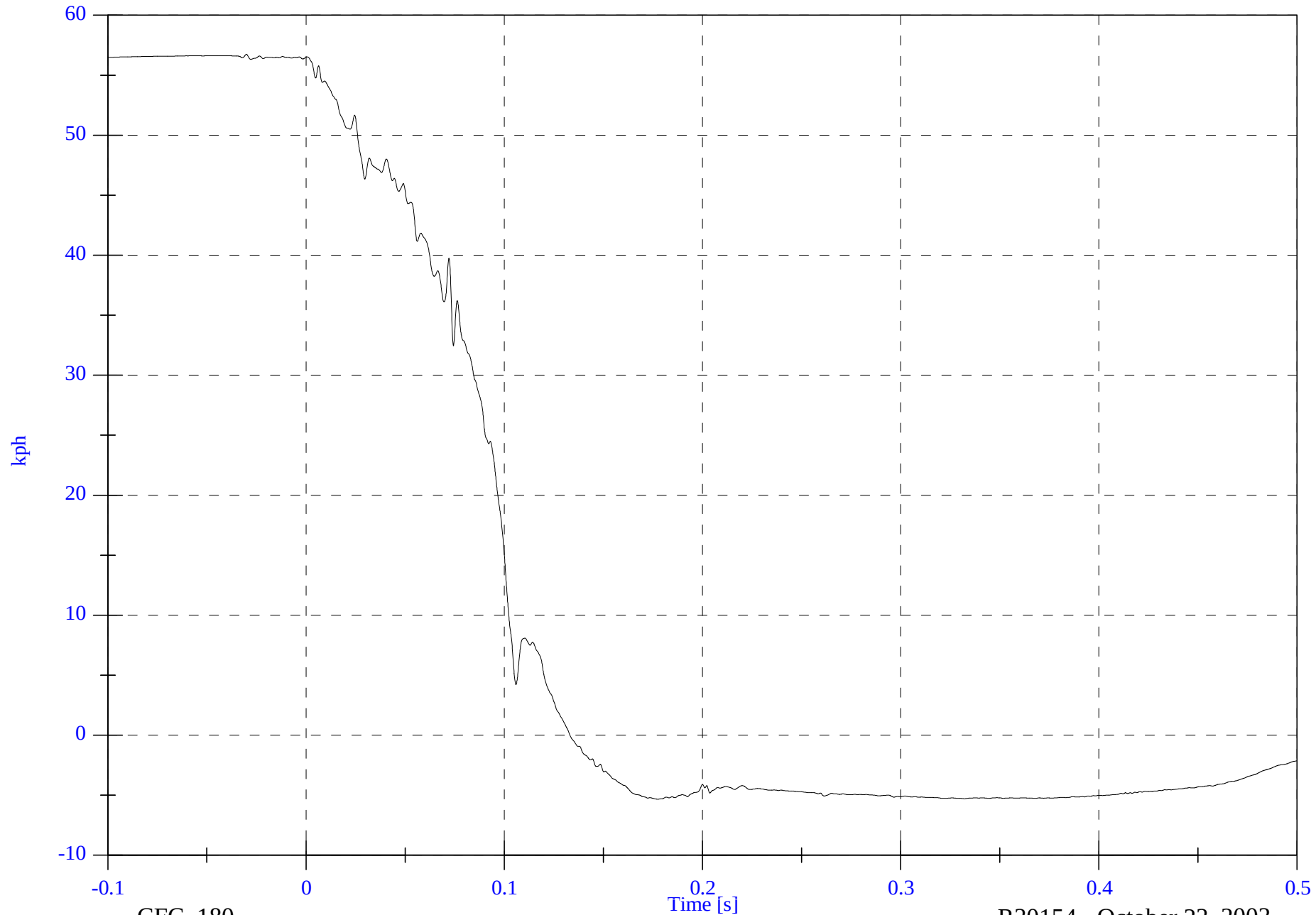
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Left x Velocity

Max: 56.7 [kph] at -0.030 [s]

Min: -5.3 [kph] at 0.178 [s]



B-184

8710-OFST-02

CFC_180

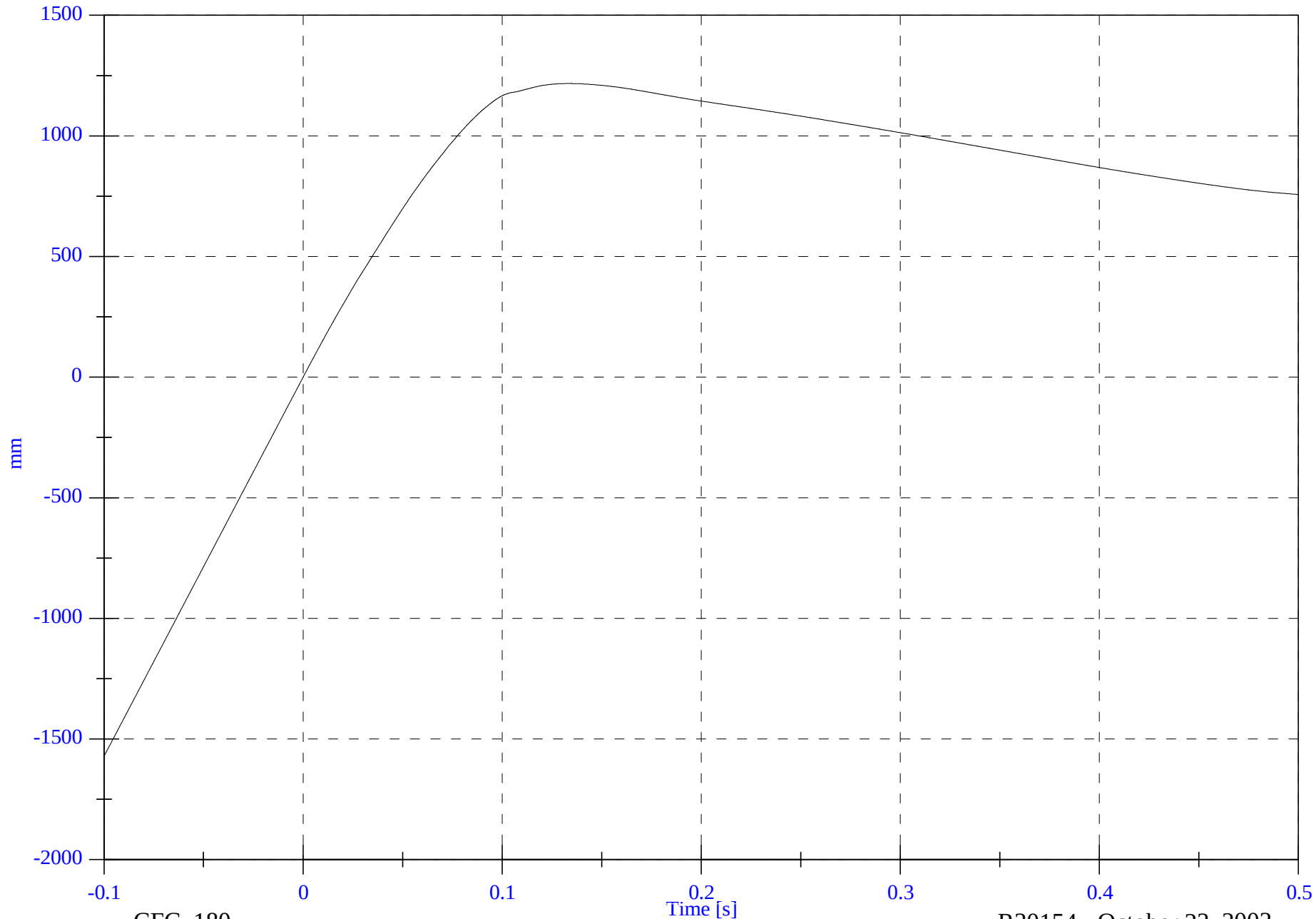
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Left x Displacement

Max: 1217.5 [mm] at 0.133 [s]

Min: -1570.9 [mm] at -0.100 [s]



B-185

8710-OFST-02

CFC_180

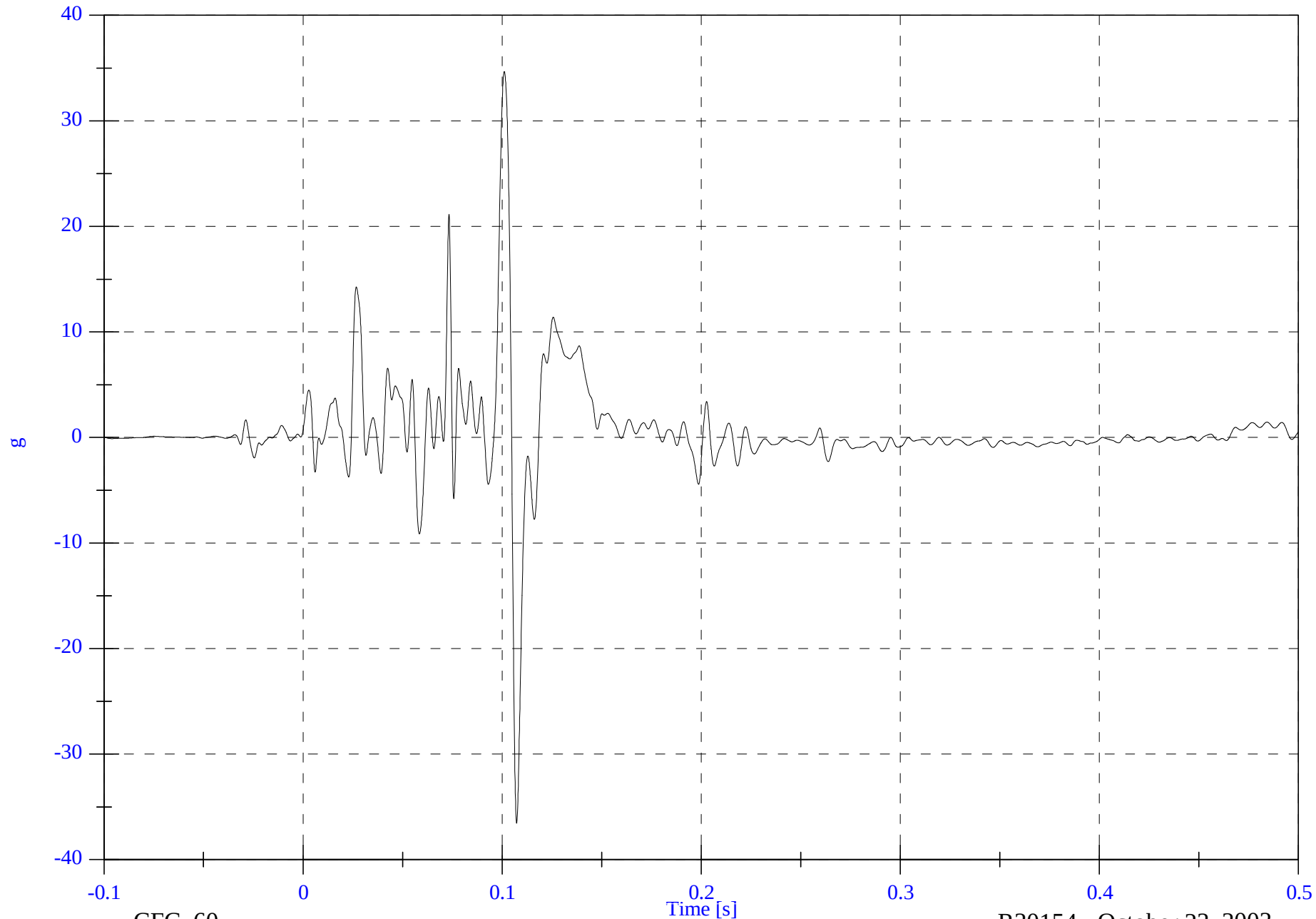
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Left z

Max: 34.7 [g] at 0.101 [s]

Min: -36.6 [g] at 0.107 [s]



B-186

8710-OFST-02

CFC_60

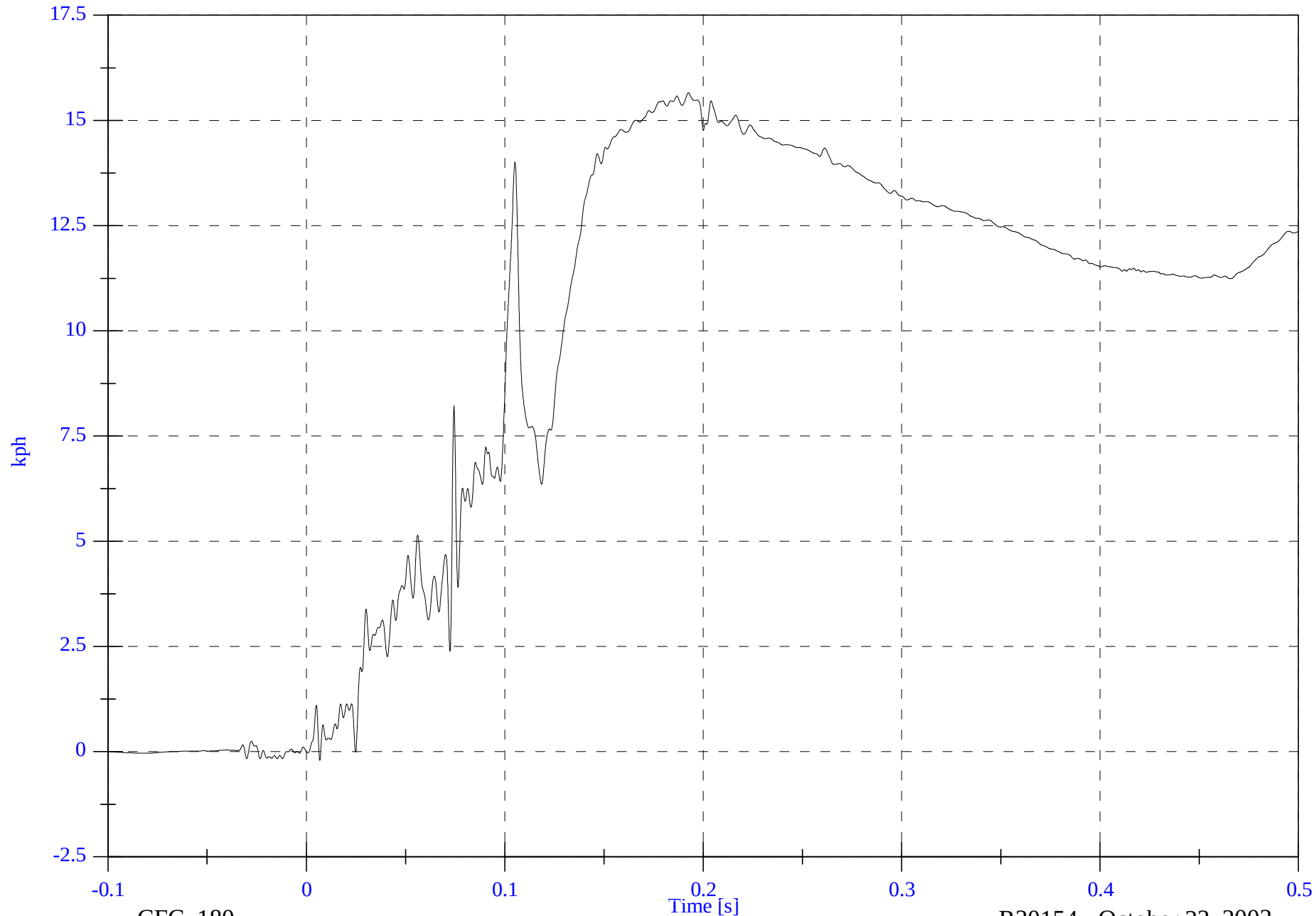
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Left z Velocity

Max: 15.7 [kph] at 0.193 [s]

Min: -0.2 [kph] at 0.007 [s]



B-187

8710-OFST-02

CFC_180

R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

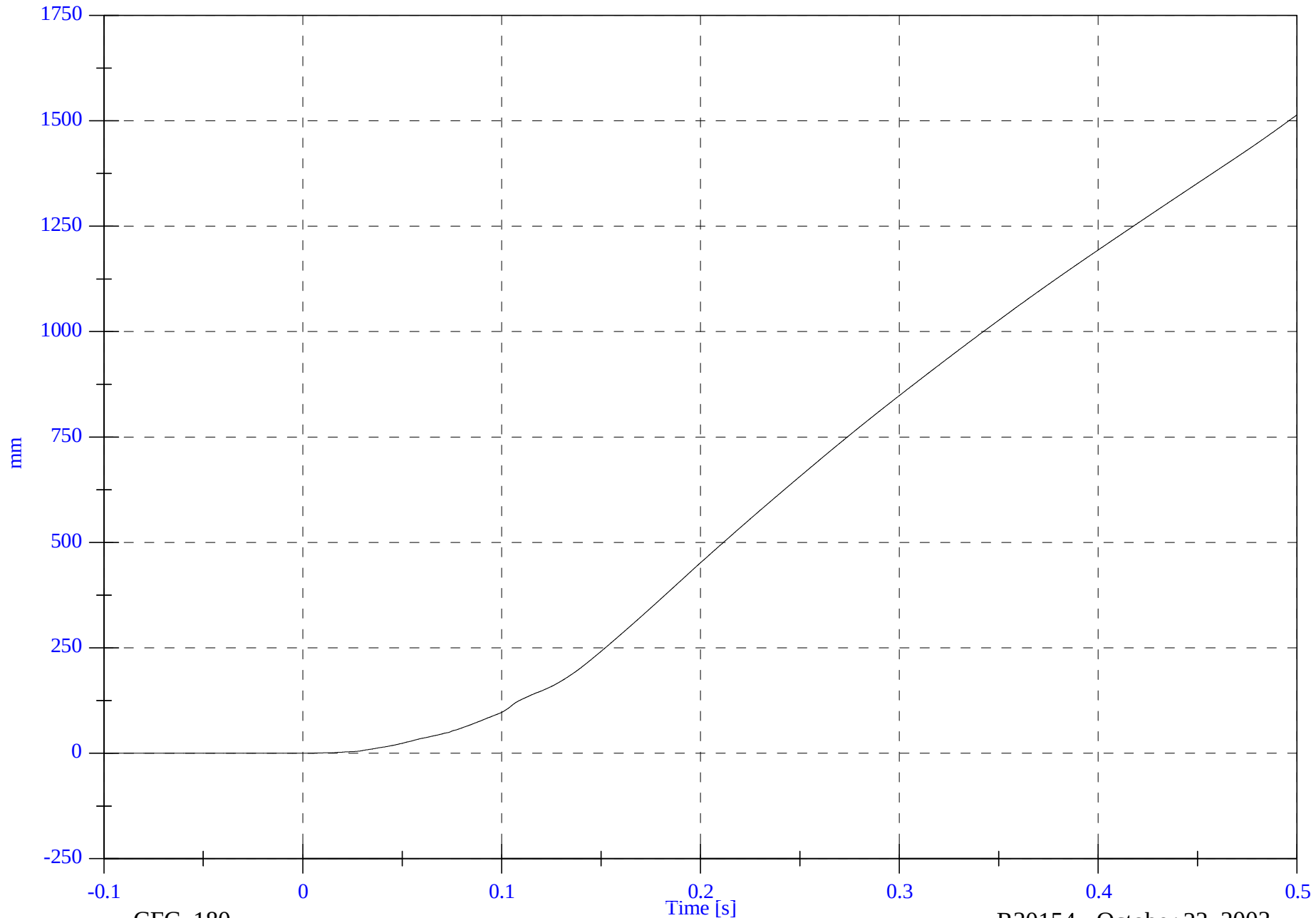
V1P1 Toepan Left z Displacement

Max: 1513.6 [mm] at 0.500 [s]

Min: -0.1 [mm] at -0.009 [s]

B-188

8710-OFST-02



CFC_180

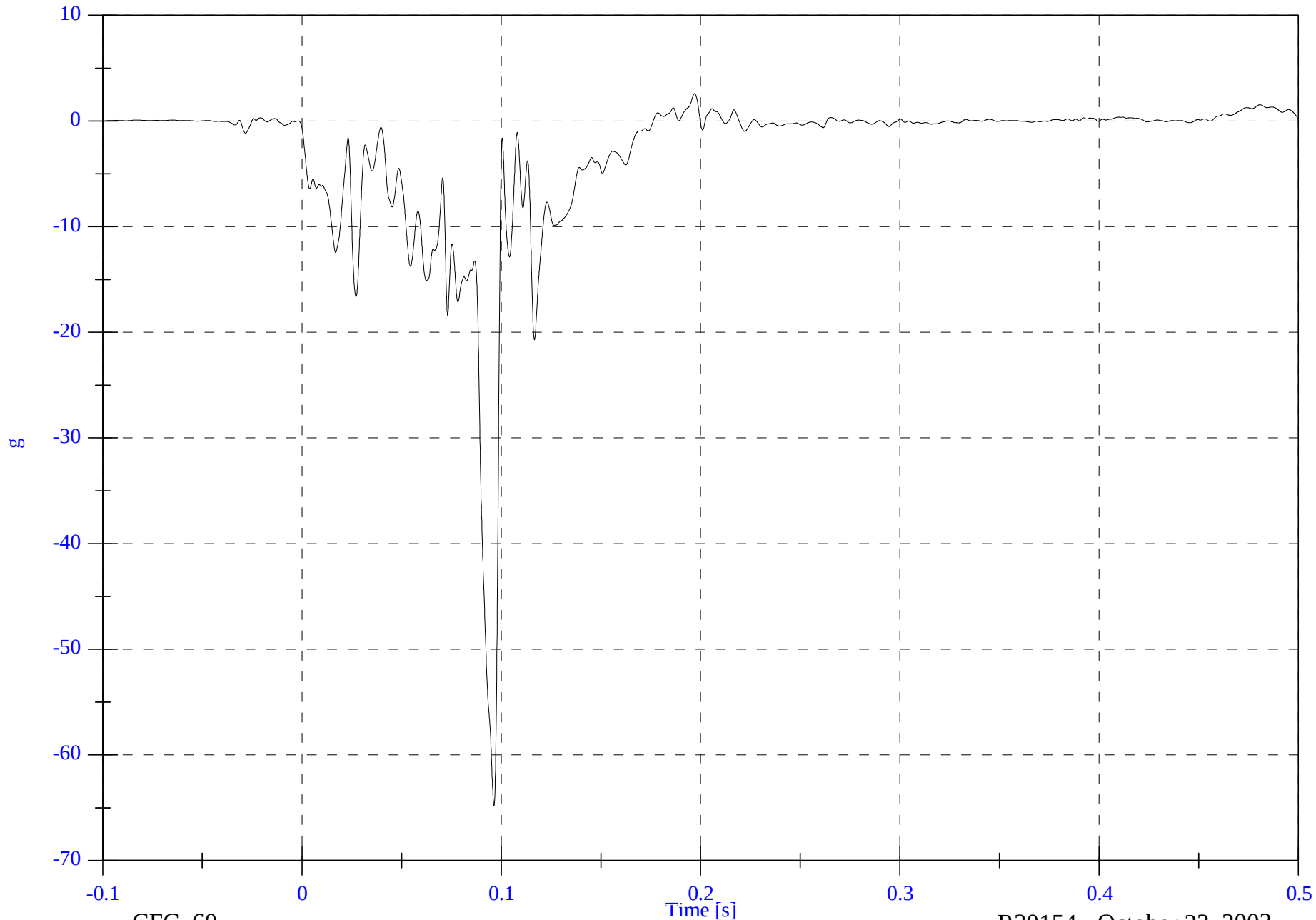
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Right x

Max: 2.6 [g] at 0.197 [s]

Min: -64.8 [g] at 0.096 [s]



B-189

8710-OFST-02

CFC_60

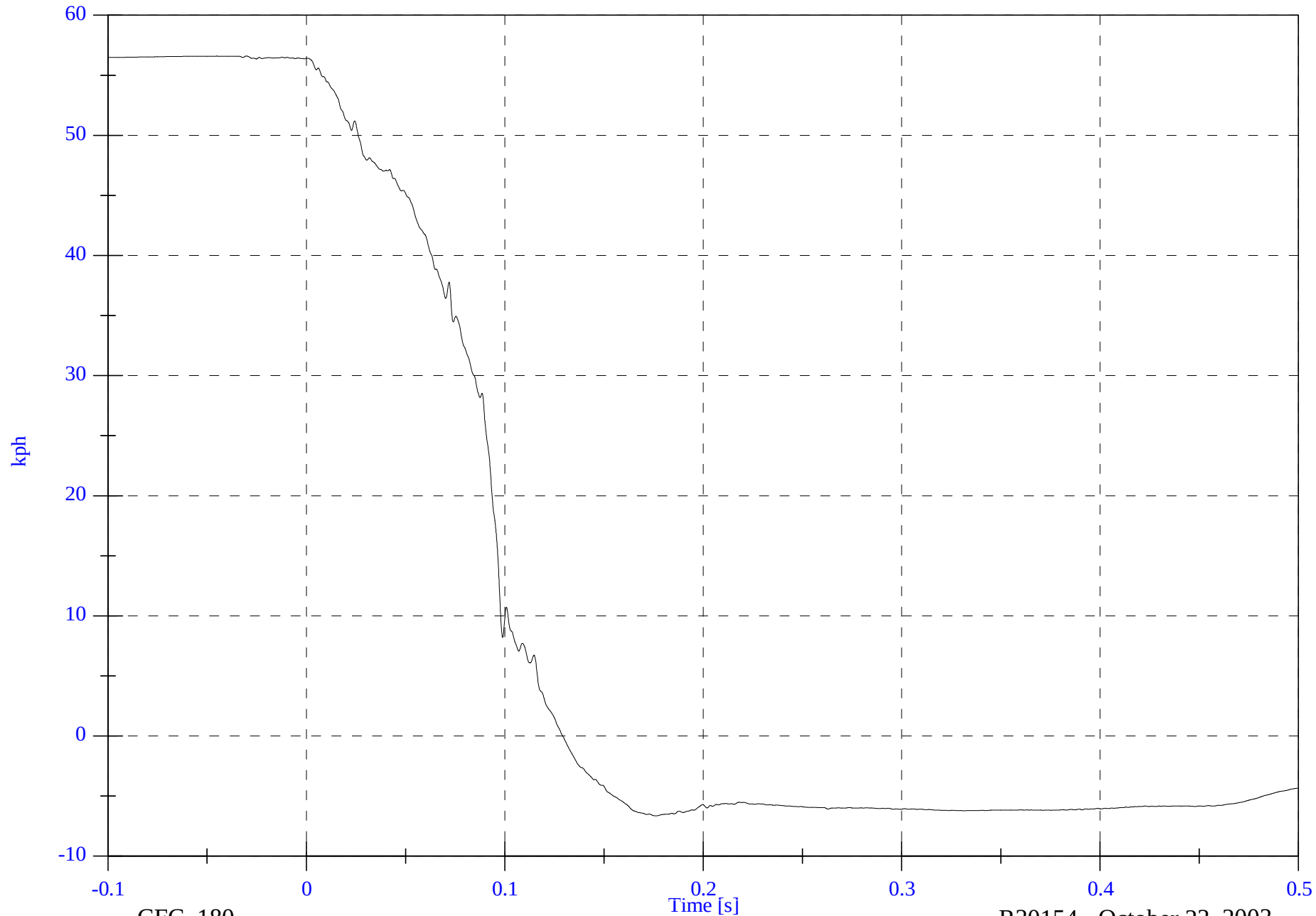
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Right x Velocity

Max: 56.6 [kph] at -0.030 [s]

Min: -6.6 [kph] at 0.176 [s]



B-190

8710-OFST-02

CFC_180

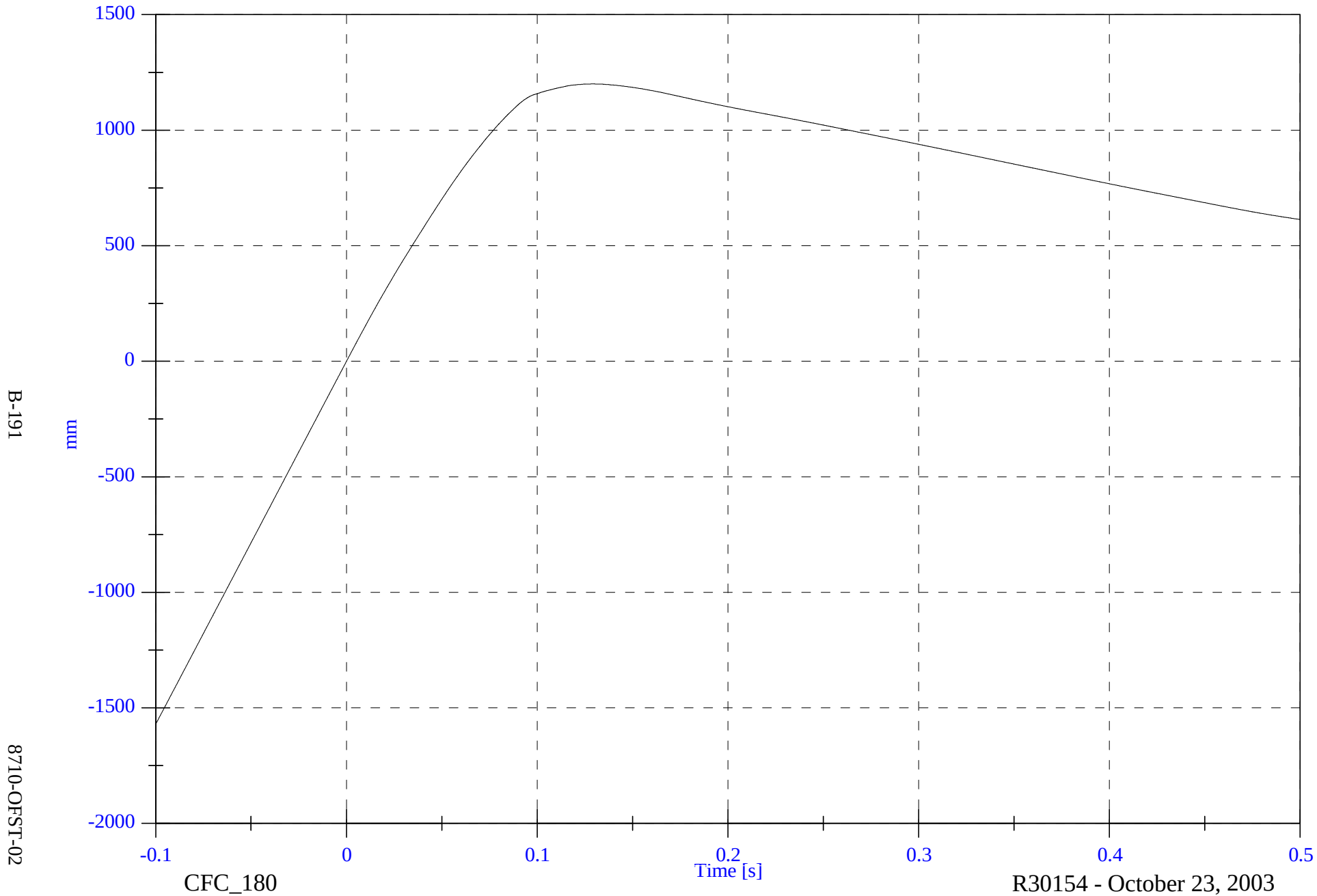
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Right x Displacement

Max: 1200.4 [mm] at 0.129 [s]

Min: -1570.1 [mm] at -0.100 [s]

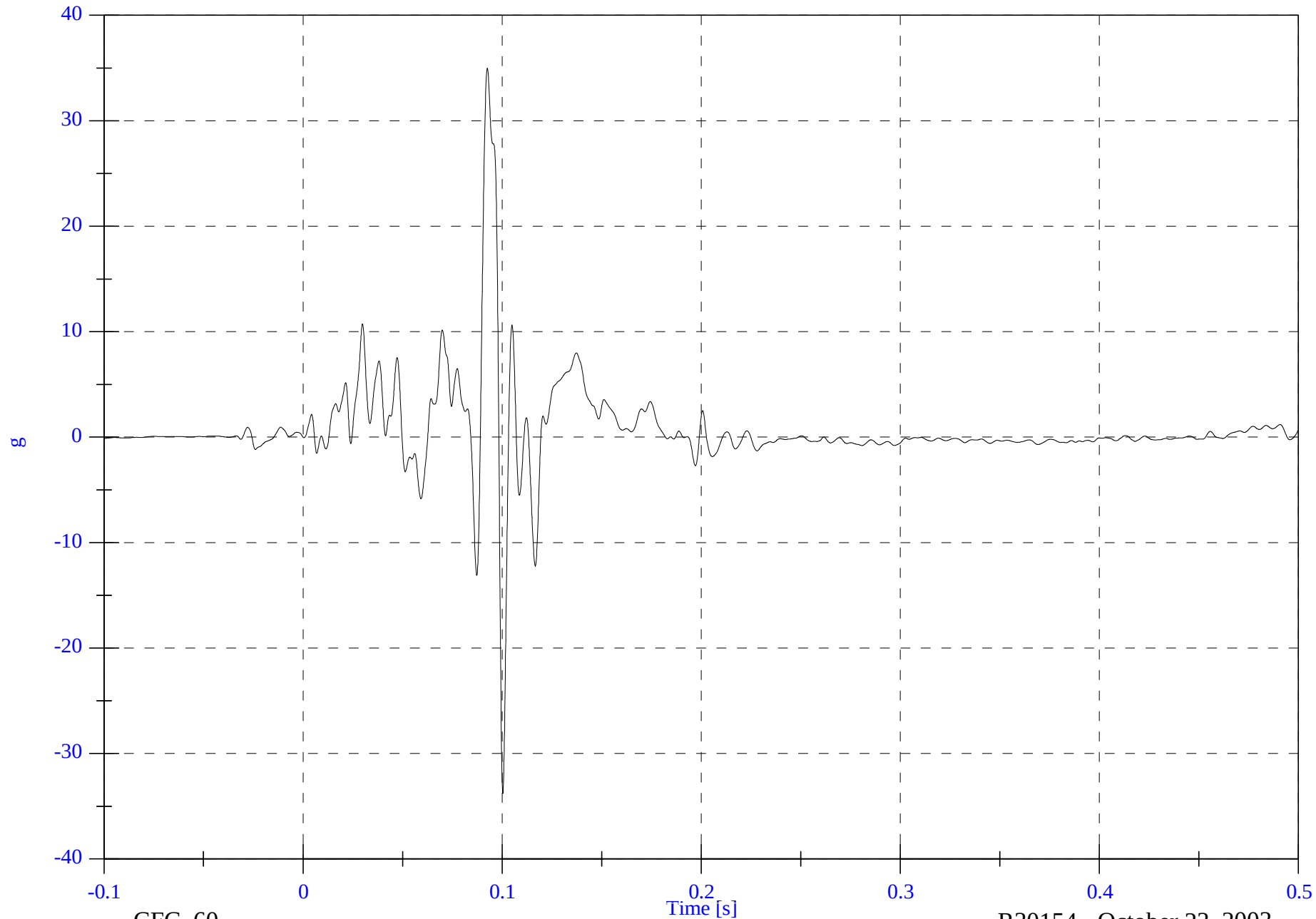


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Right z

Max: 35.0 [g] at 0.092 [s]

Min: -33.8 [g] at 0.100 [s]



CFC_60

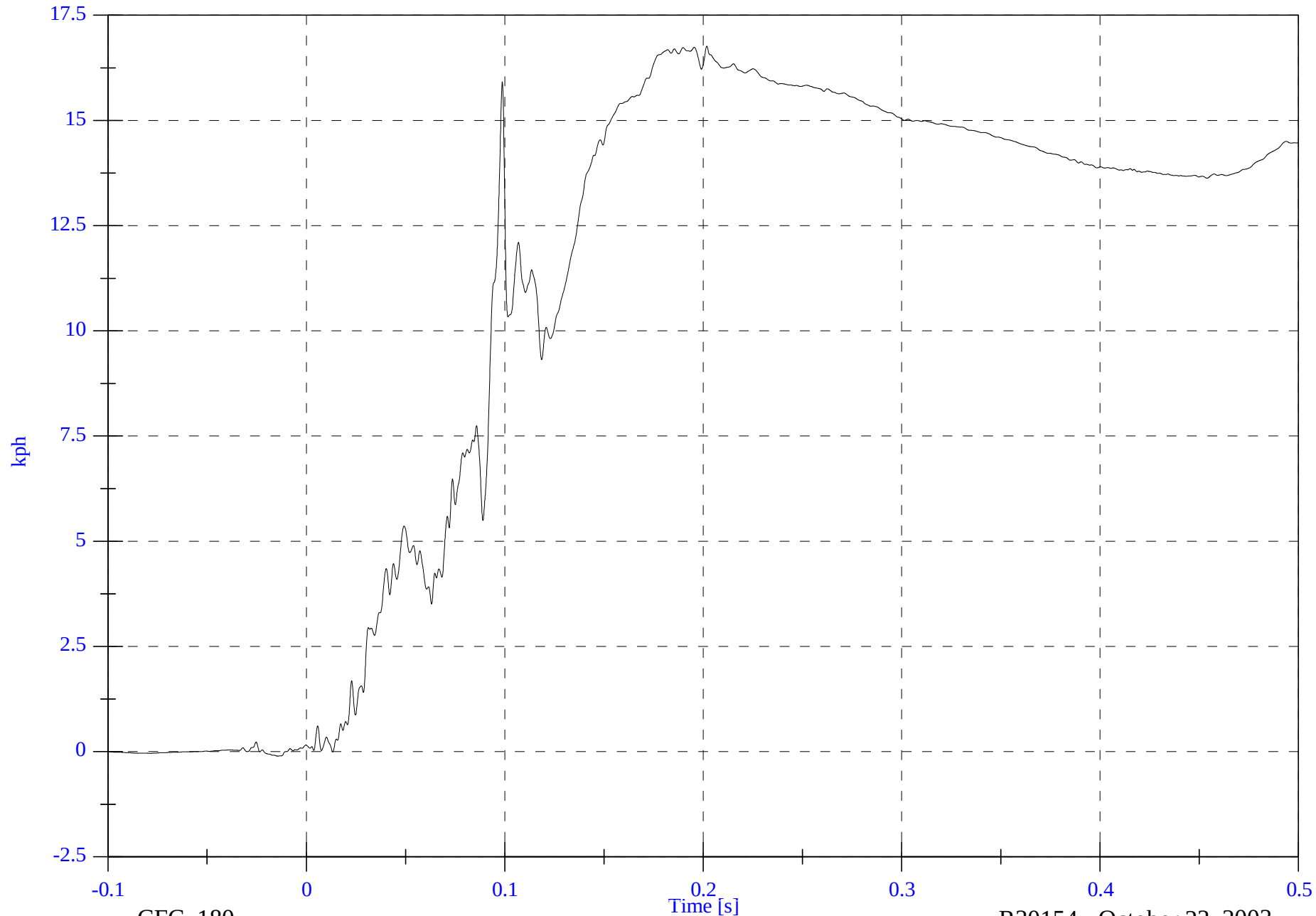
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Right z Velocity

Max: 16.8 [kph] at 0.202 [s]

Min: -0.1 [kph] at -0.015 [s]



B-193

8710-OFST-02

CFC_180

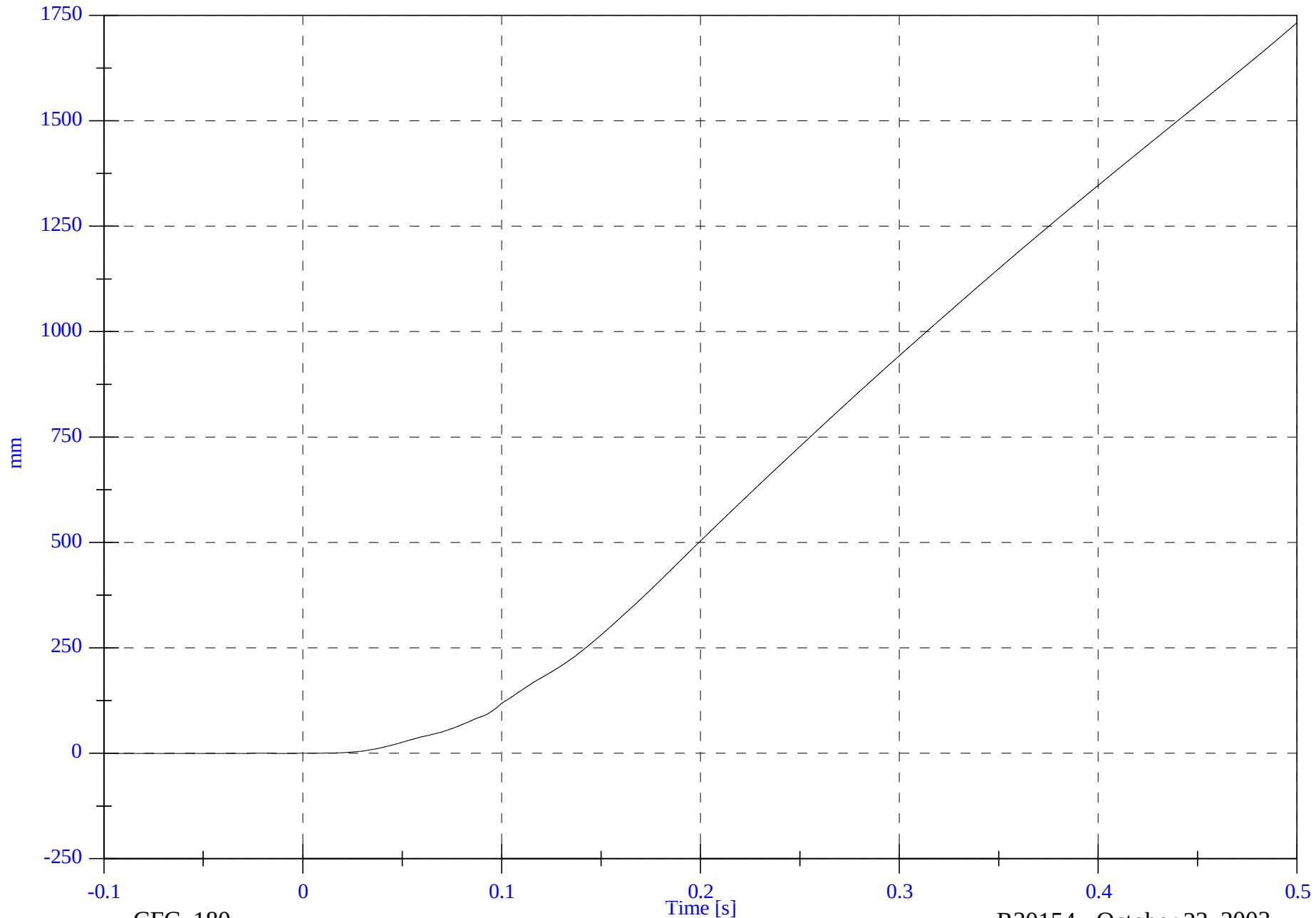
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1P1 Toepan Right z Displacement

Max: 1731.8 [mm] at 0.500 [s]

Min: -0.3 [mm] at -0.055 [s]



B-194

8710-OFST-02

CFC_180

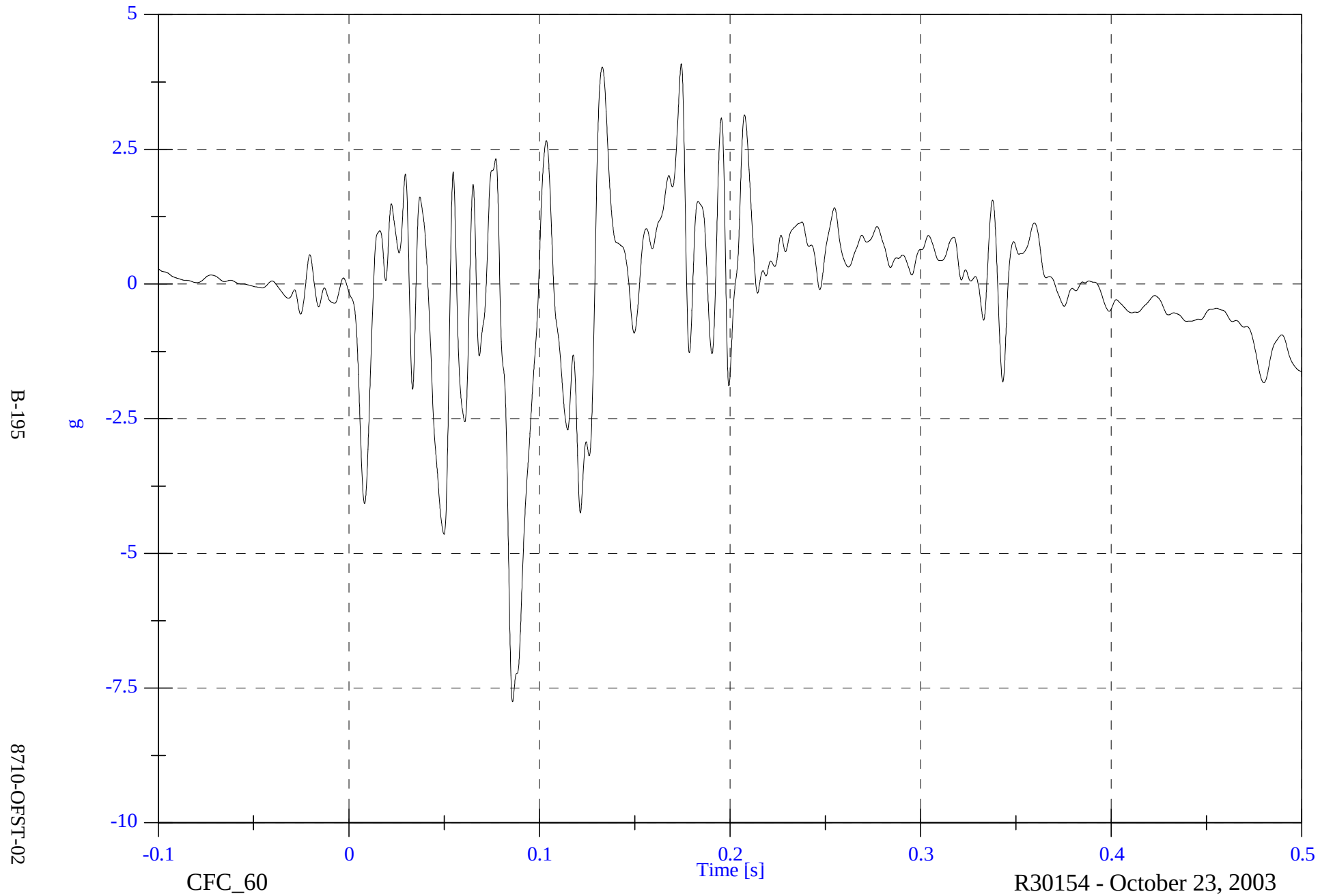
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Rear Deck z

Max: 4.1 [g] at 0.174 [s]

Min: -7.8 [g] at 0.086 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Rear Deck z Velocity

Max: 0.7 [kph] at 0.371 [s]

Min: -5.5 [kph] at 0.129 [s]



B-196

8710-OFST-02

CFC_180

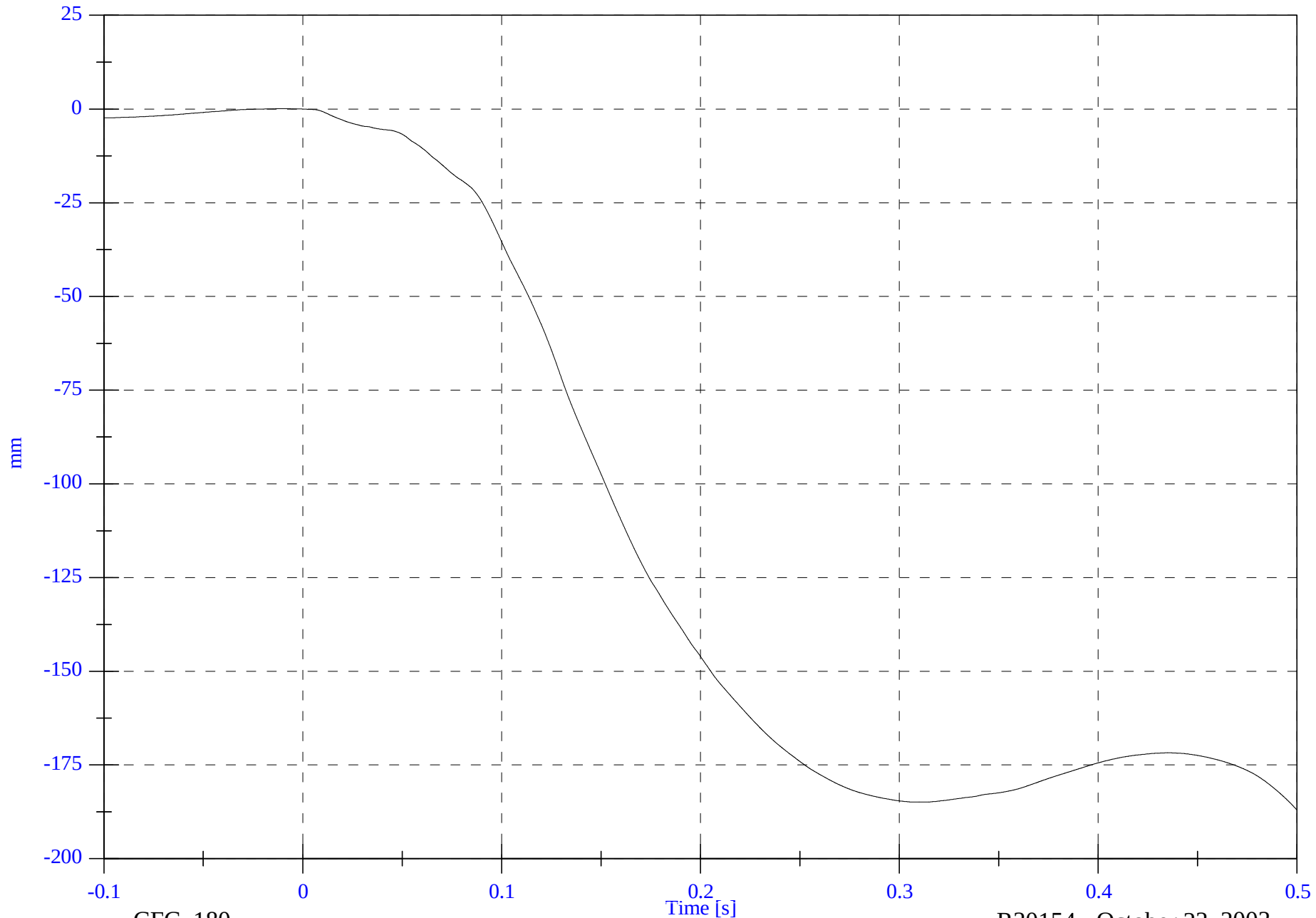
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Rear Deck z Displacement

Max: 0.1 [mm] at -0.010 [s]

Min: -186.9 [mm] at 0.500 [s]



B-197

8710-OFST-02

CFC_180

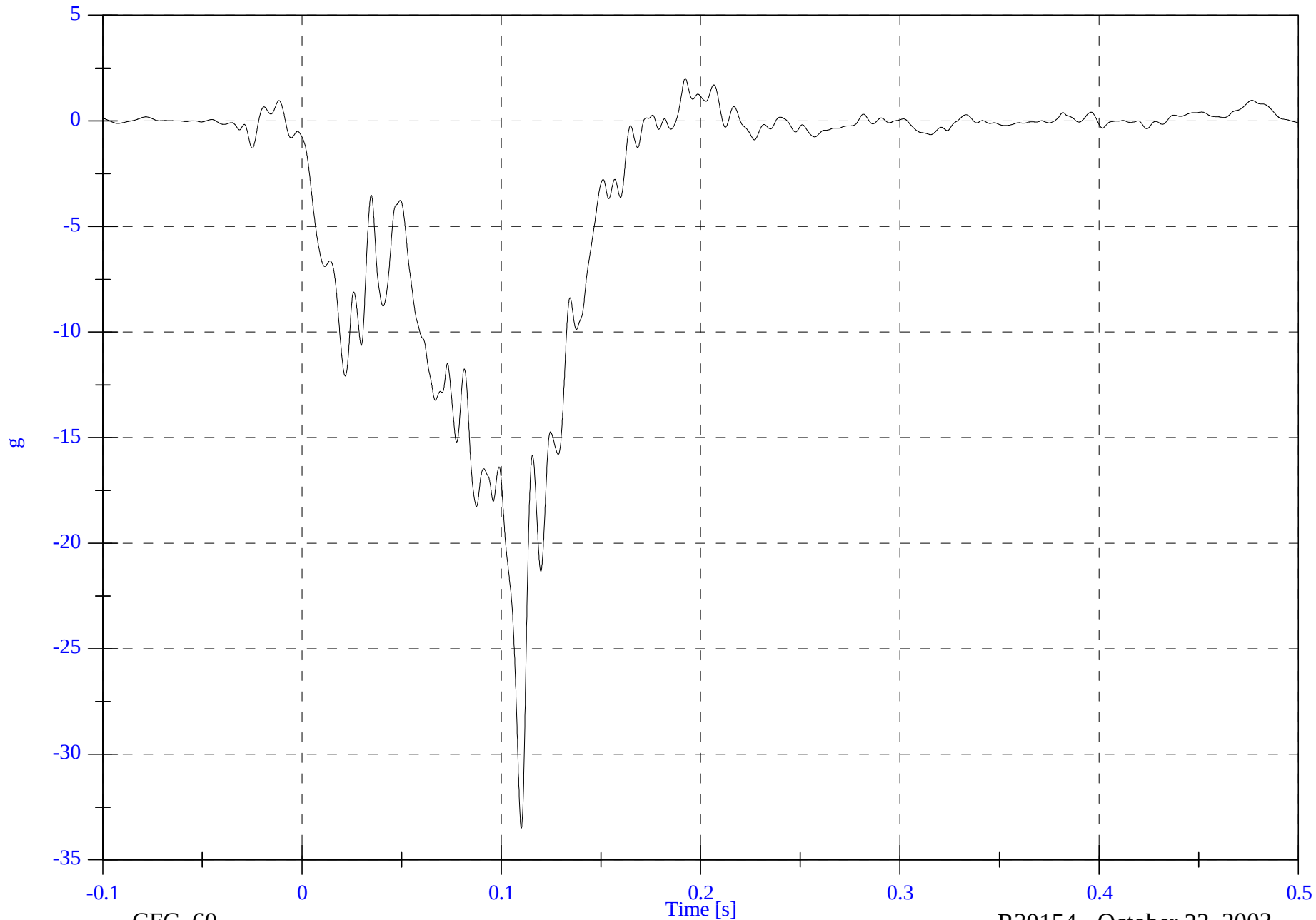
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG x

Max: 2.0 [g] at 0.192 [s]

Min: -33.5 [g] at 0.110 [s]



B-198

8710-OFST-02

CFC_60

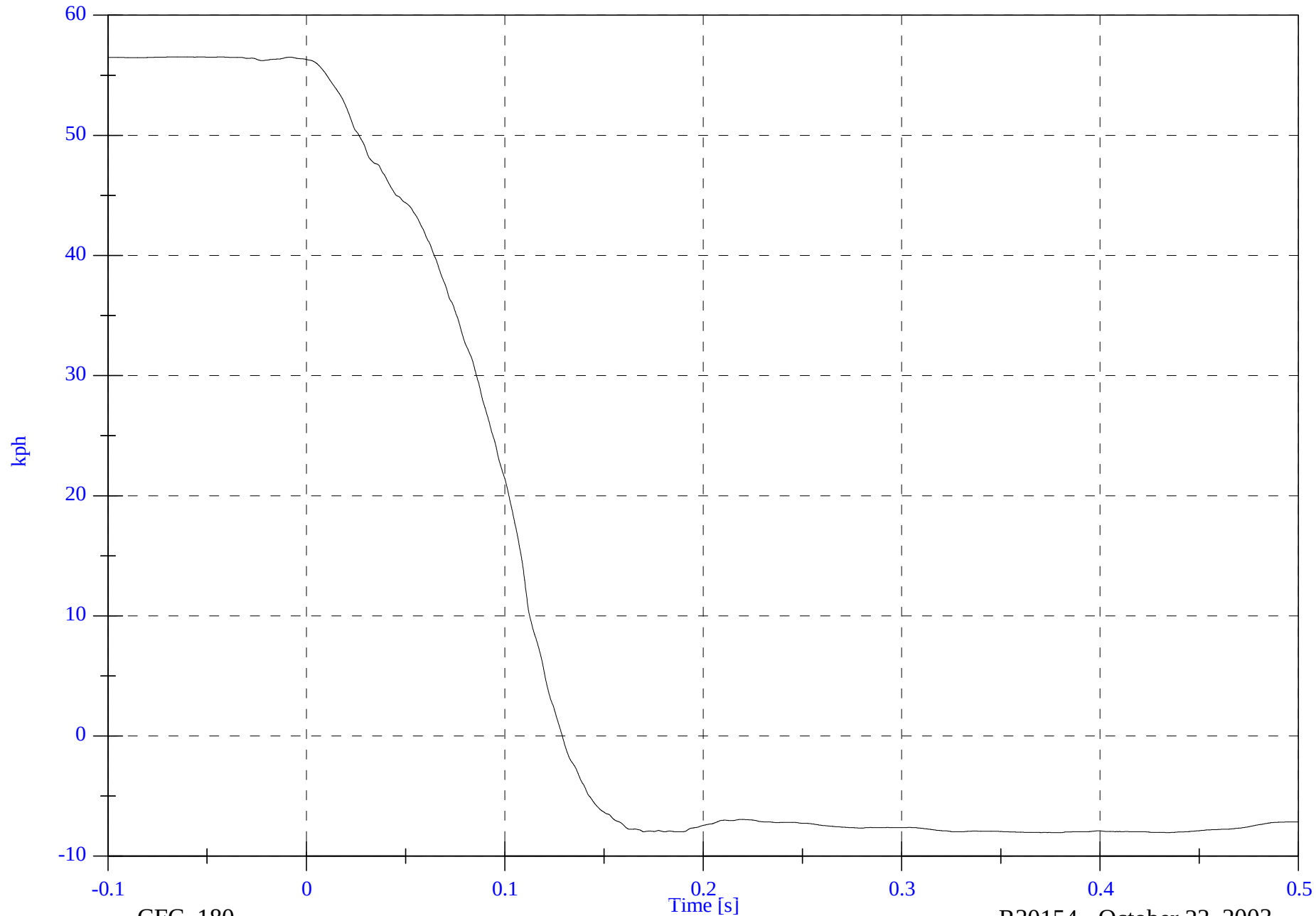
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG x Velocity

Max: 56.5 [kph] at -0.043 [s]

Min: -8.0 [kph] at 0.376 [s]



B-199

8710-OFST-02

CFC_180

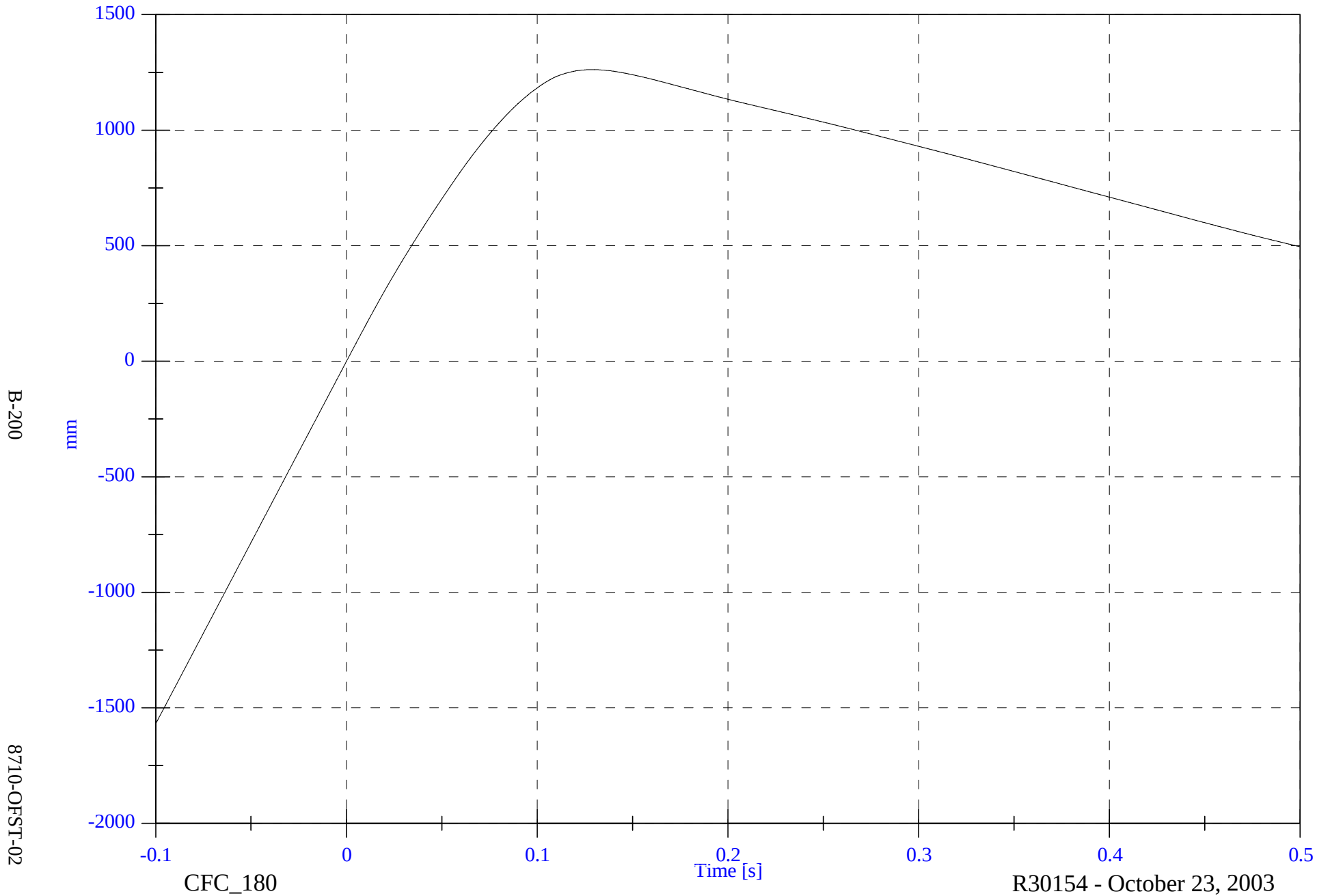
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG x Displacement

Max: 1262.4 [mm] at 0.129 [s]

Min: -1568.4 [mm] at -0.100 [s]



40% Offset Barrier Test #2 - 2003 Cadillac Seville

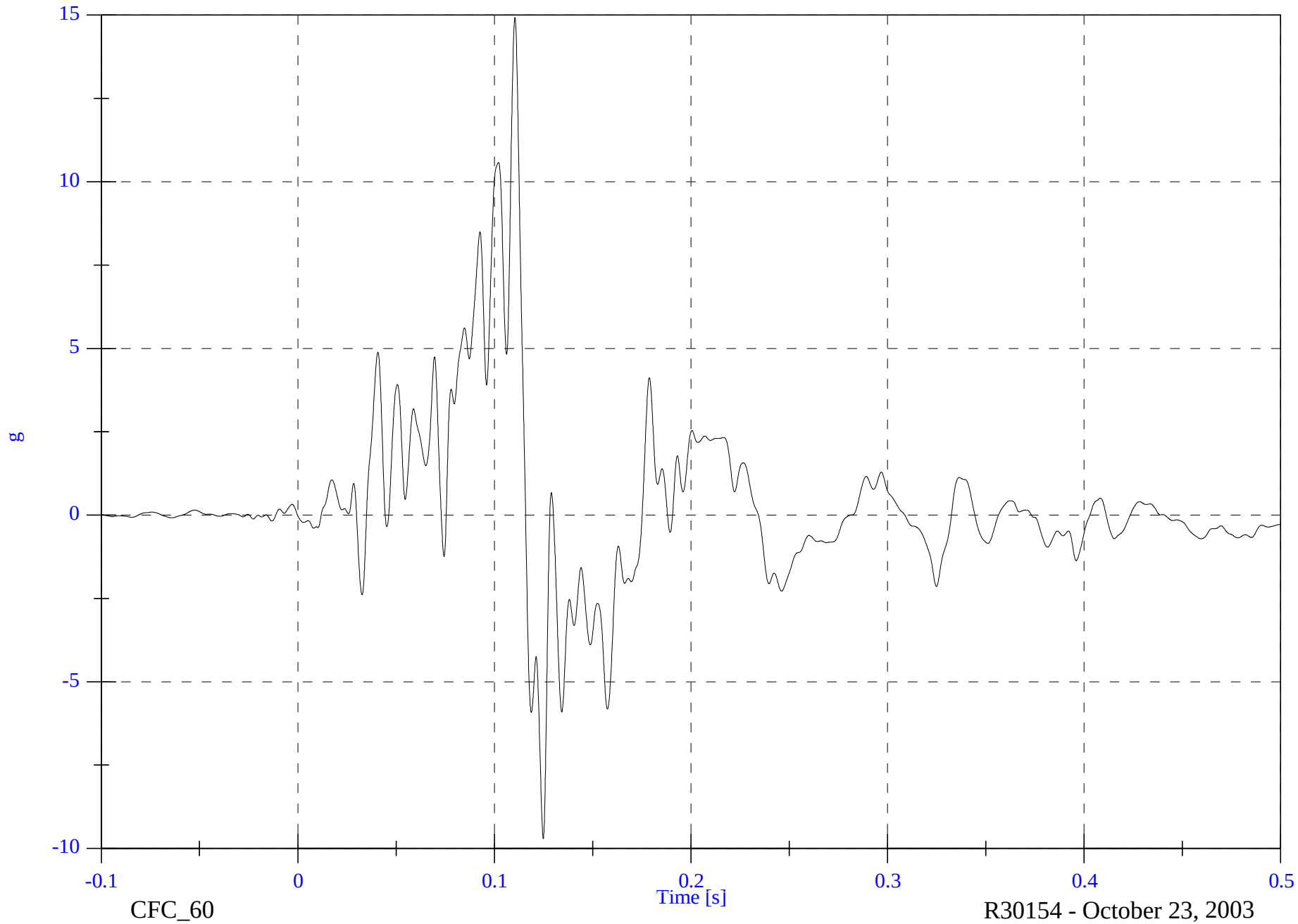
V1 Vehicle CG y

Max: 14.9 [g] at 0.110 [s]

Min: -9.7 [g] at 0.125 [s]

B-201

8710-OFST-02

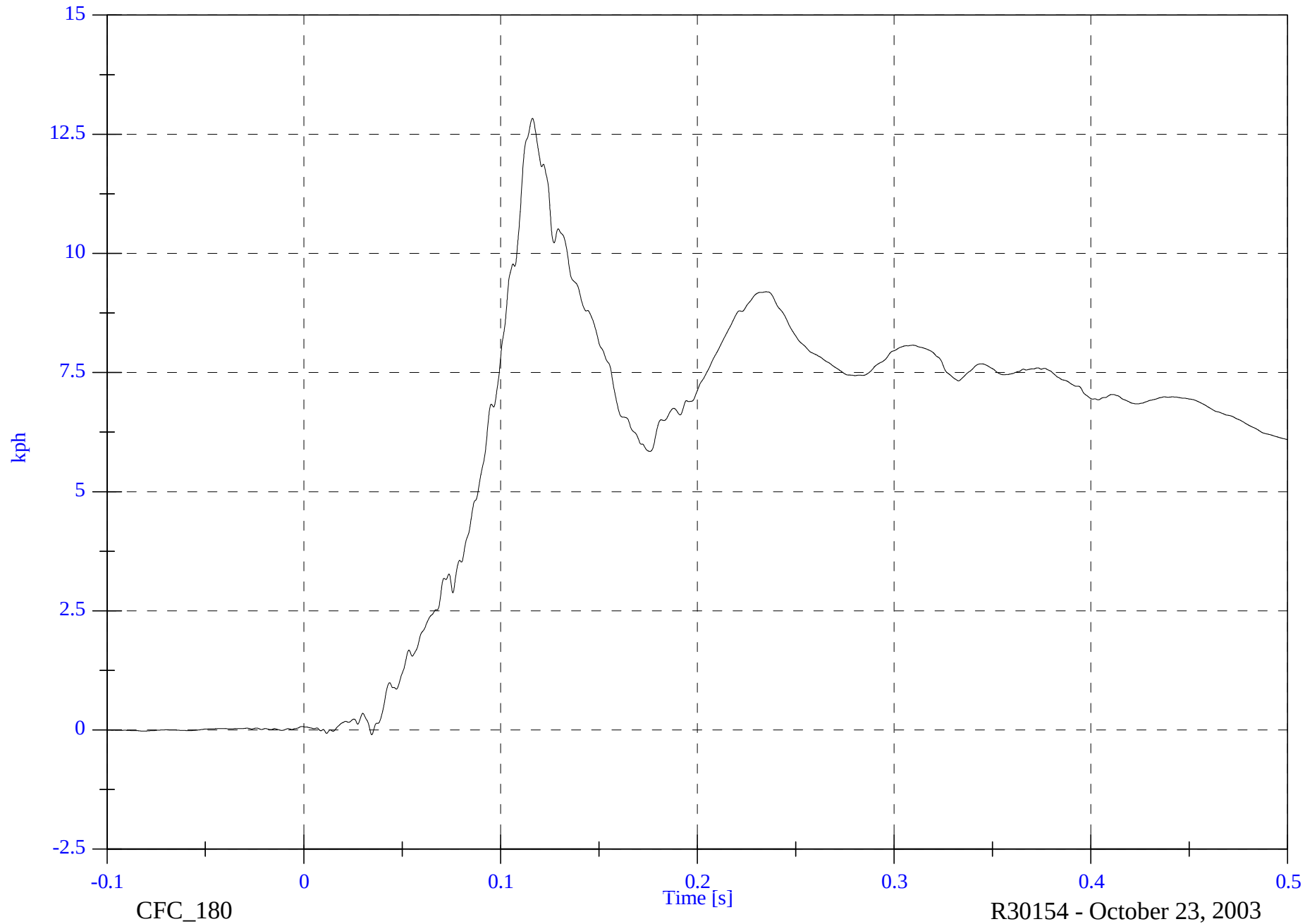


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG y Velocity

Max: 12.8 [kph] at 0.116 [s]

Min: -0.1 [kph] at 0.034 [s]



B-202

8710-OFST-02

CFC_180

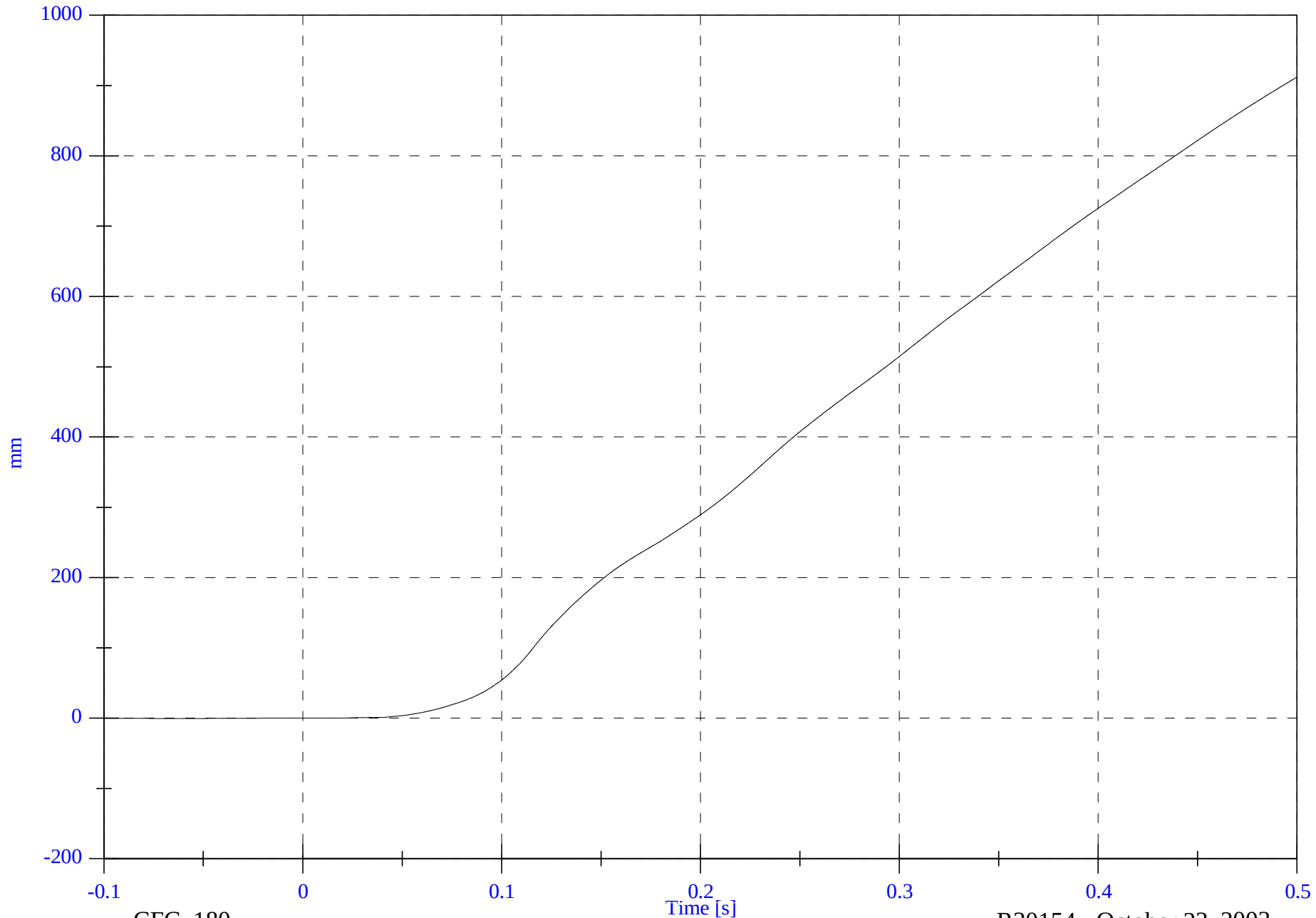
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG y Displacement

Max: 912.0 [mm] at 0.500 [s]

Min: -0.4 [mm] at -0.054 [s]



B-203

8710-OFST-02

CFC_180

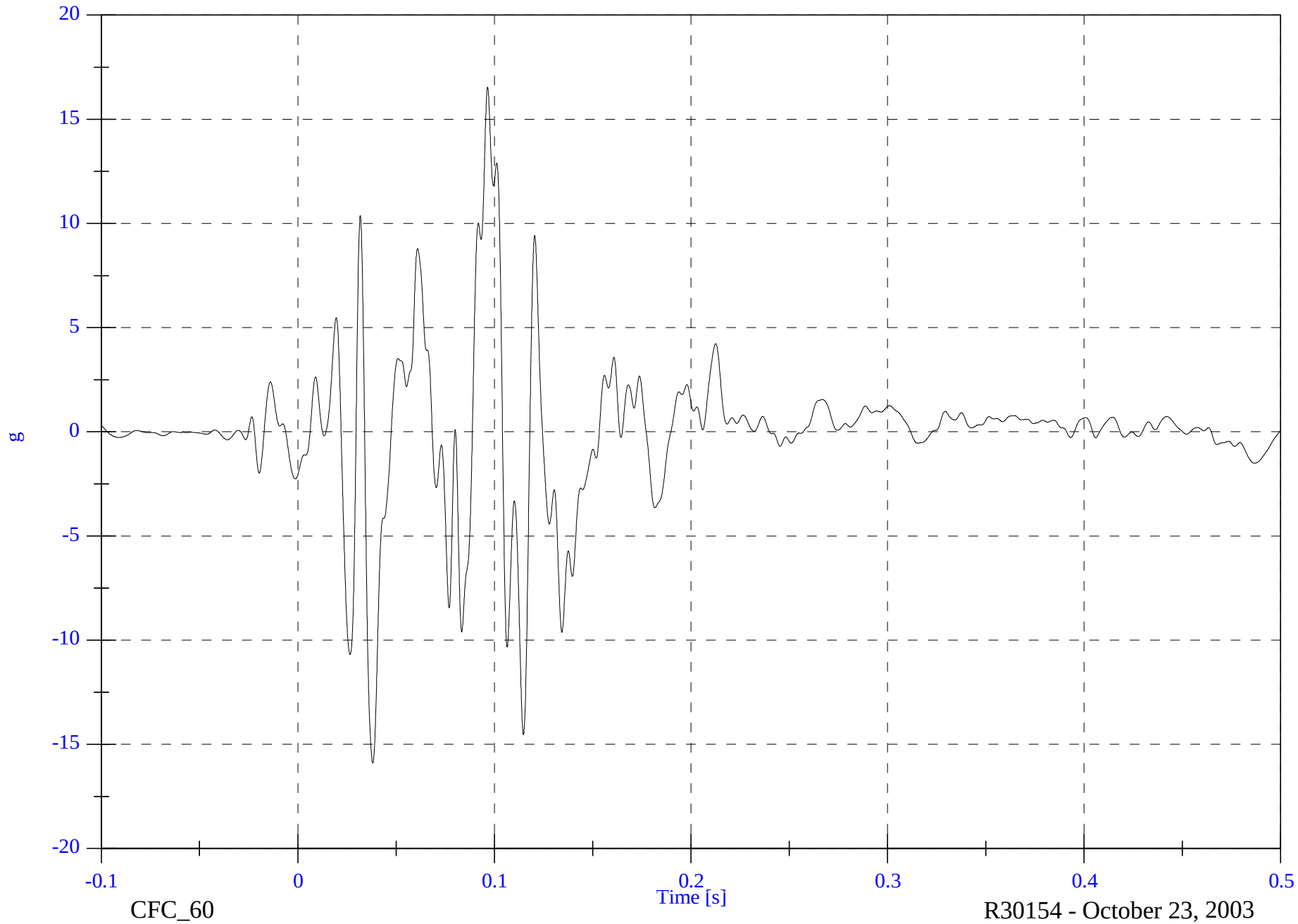
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG z

Max: 16.5 [g] at 0.096 [s]

Min: -15.9 [g] at 0.038 [s]



B-204

8710-OFST-02

CFC_60

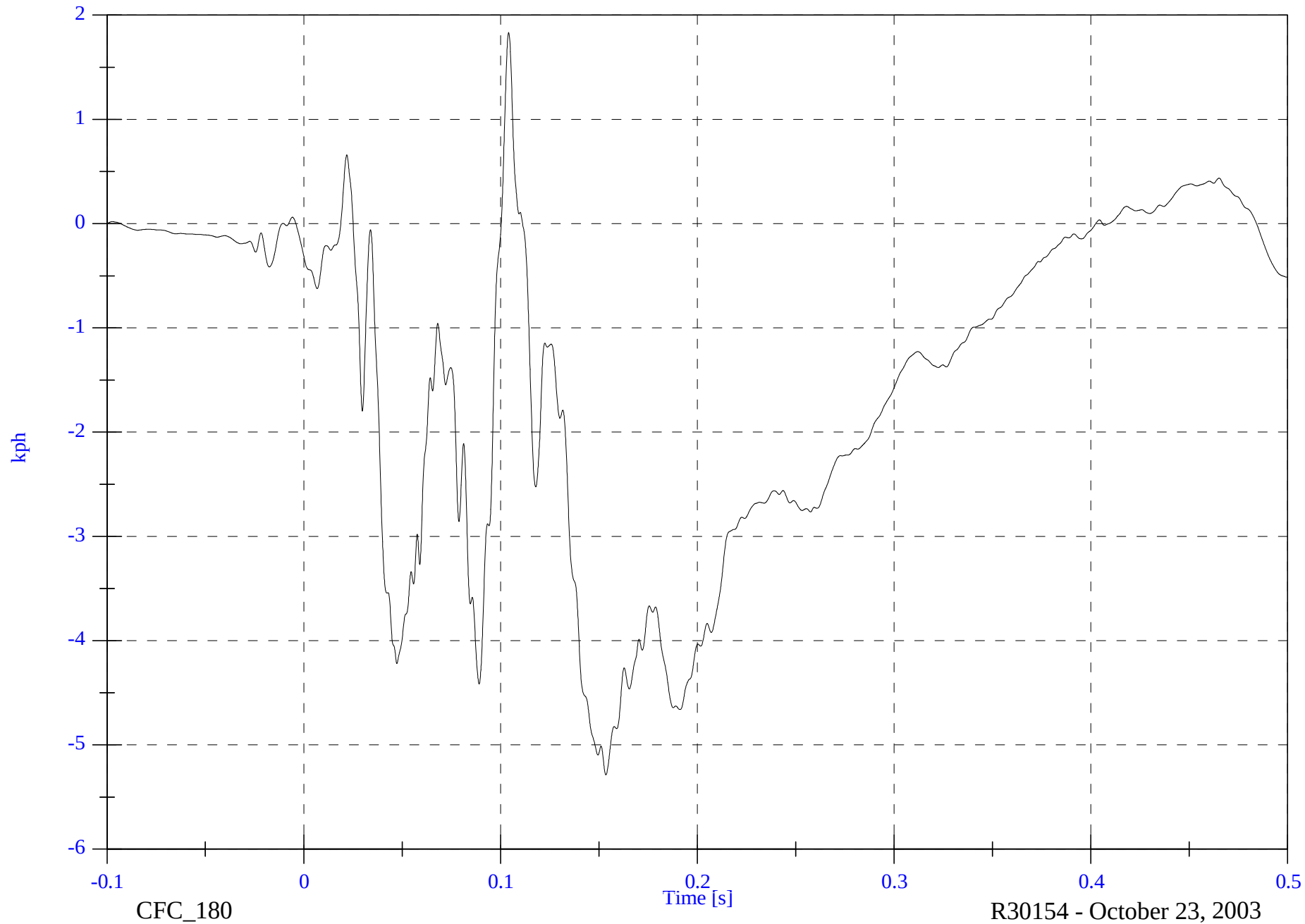
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG z Velocity

Max: 1.8 [kph] at 0.104 [s]

Min: -5.3 [kph] at 0.153 [s]

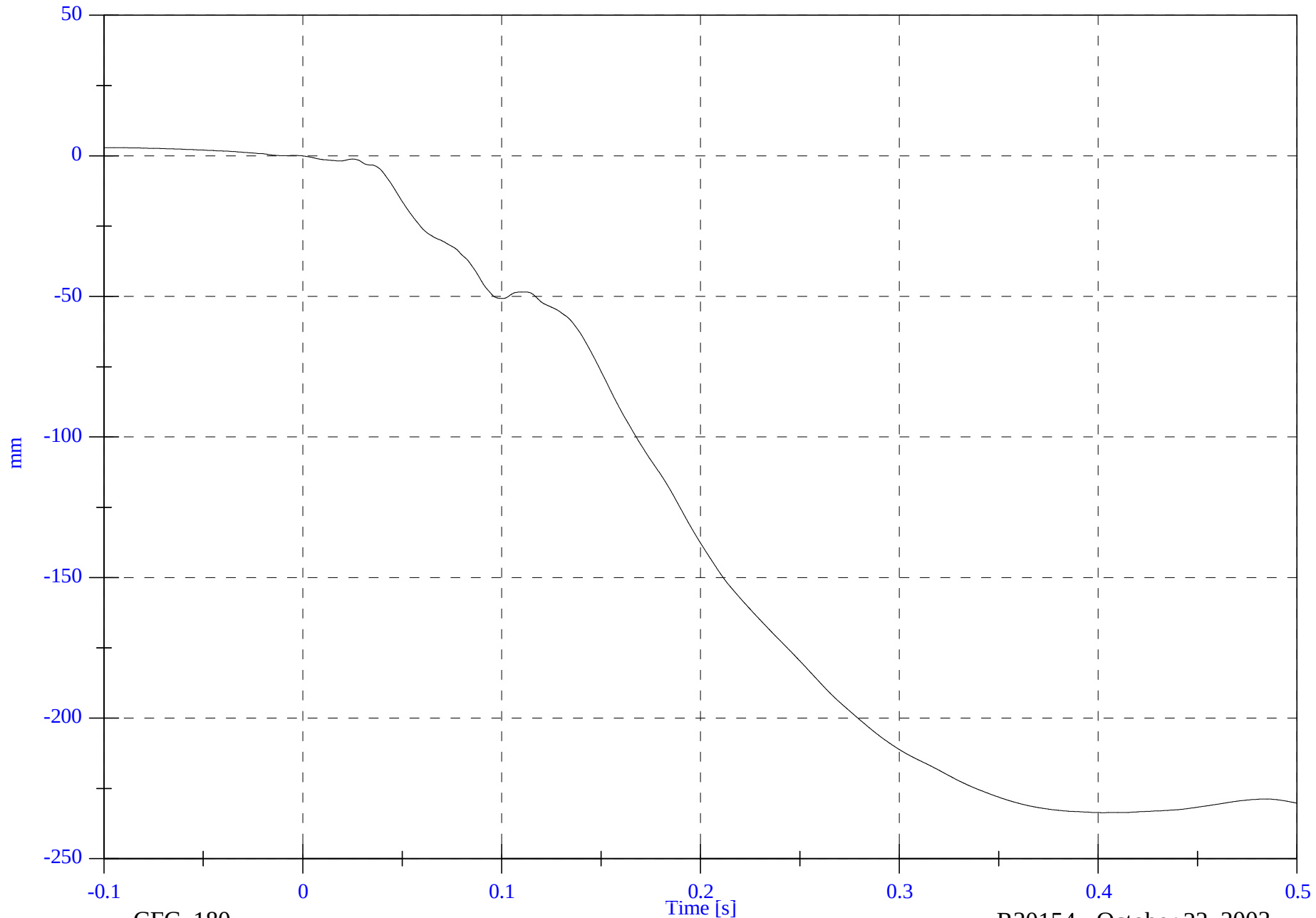


40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG z Displacement

Max: 2.9 [mm] at -0.093 [s]

Min: -233.6 [mm] at 0.402 [s]



B-206

8710-OFST-02

CFC_180

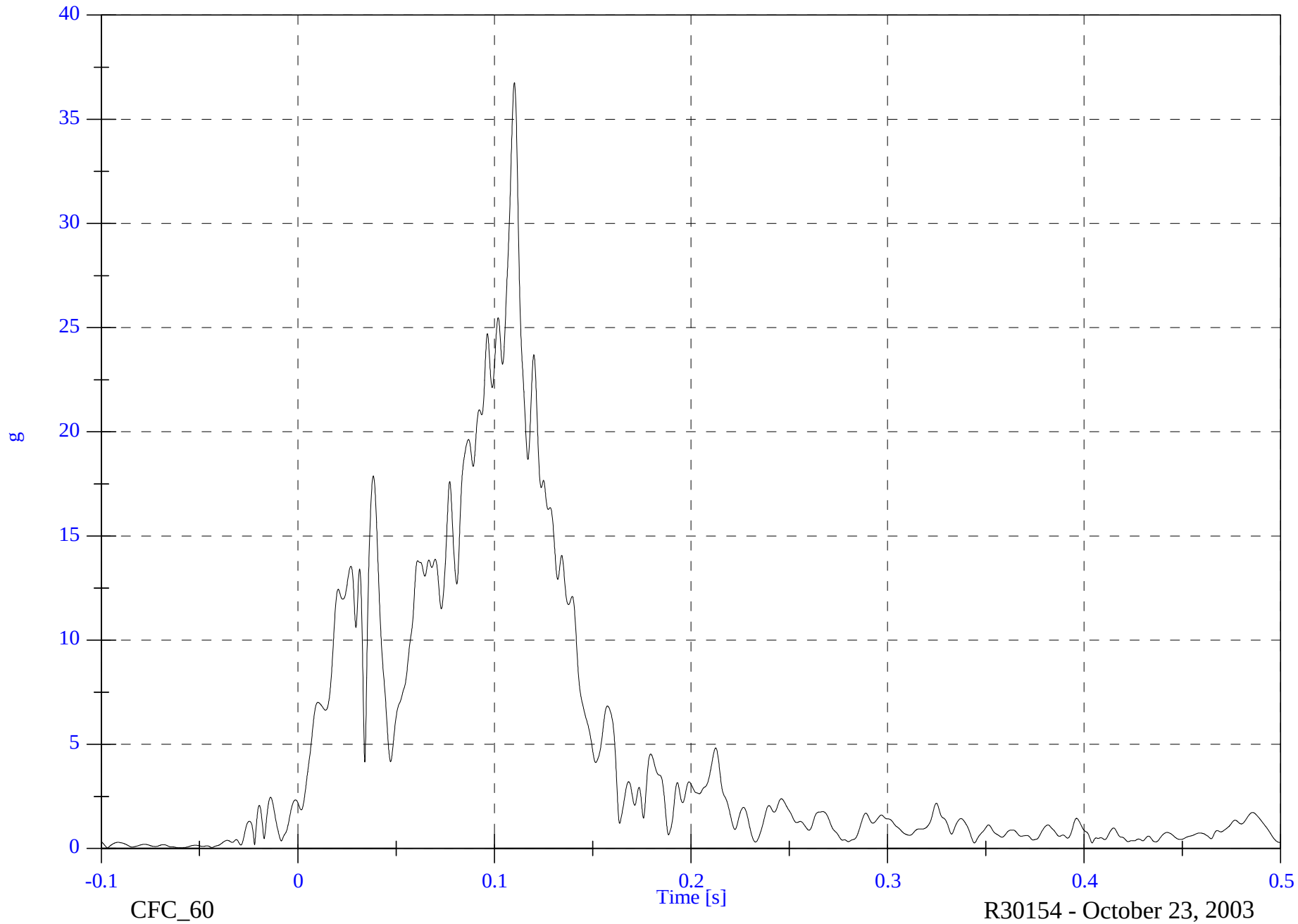
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

V1 Vehicle CG Resultant

Max: 36.8 [g] at 0.110 [s]

Min: 0.0 [g] at -0.097 [s]



B-207

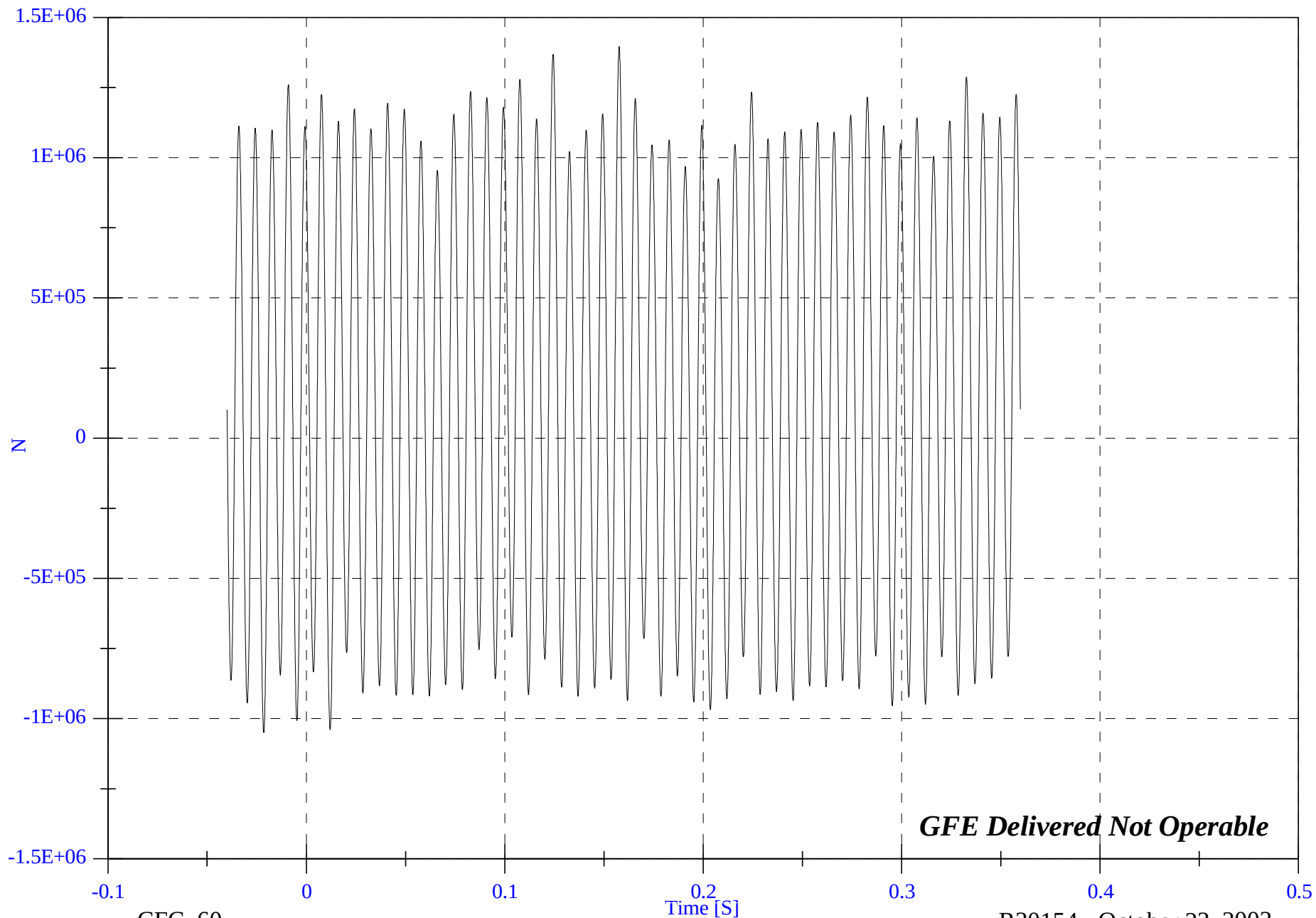
8710-OFST-02

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell H1 FX

Max: 1396981.9 [N] at 0.158 [S]

Min: -1050124.2 [N] at -0.022 [S]



B-208

8710-OFST-02

CFC_60

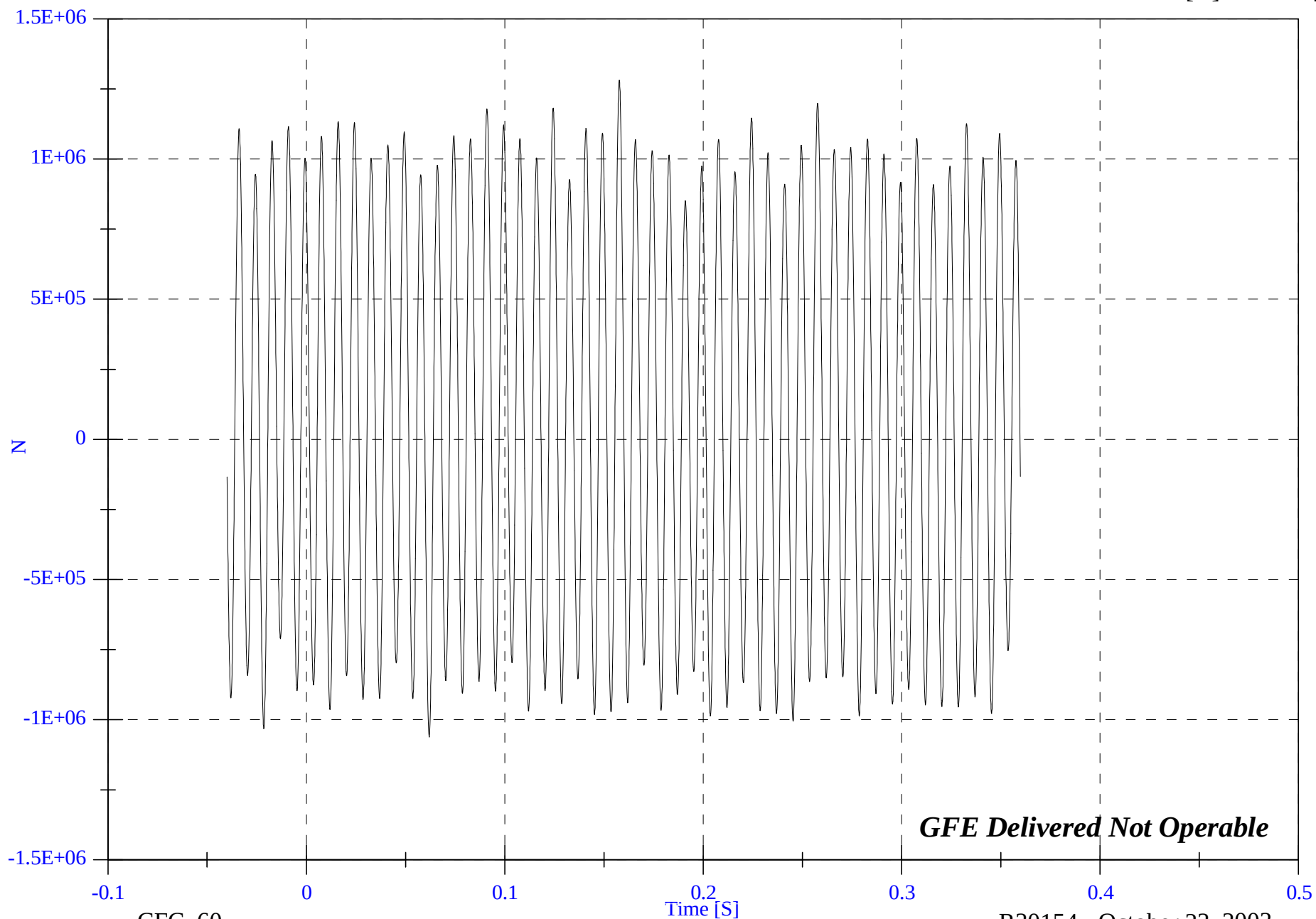
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell H2 FX

Max: 1281544.3 [N] at 0.158 [S]

Min: -1061974.8 [N] at 0.062 [S]



CFC_60

R30154 - October 23, 2003

B-209

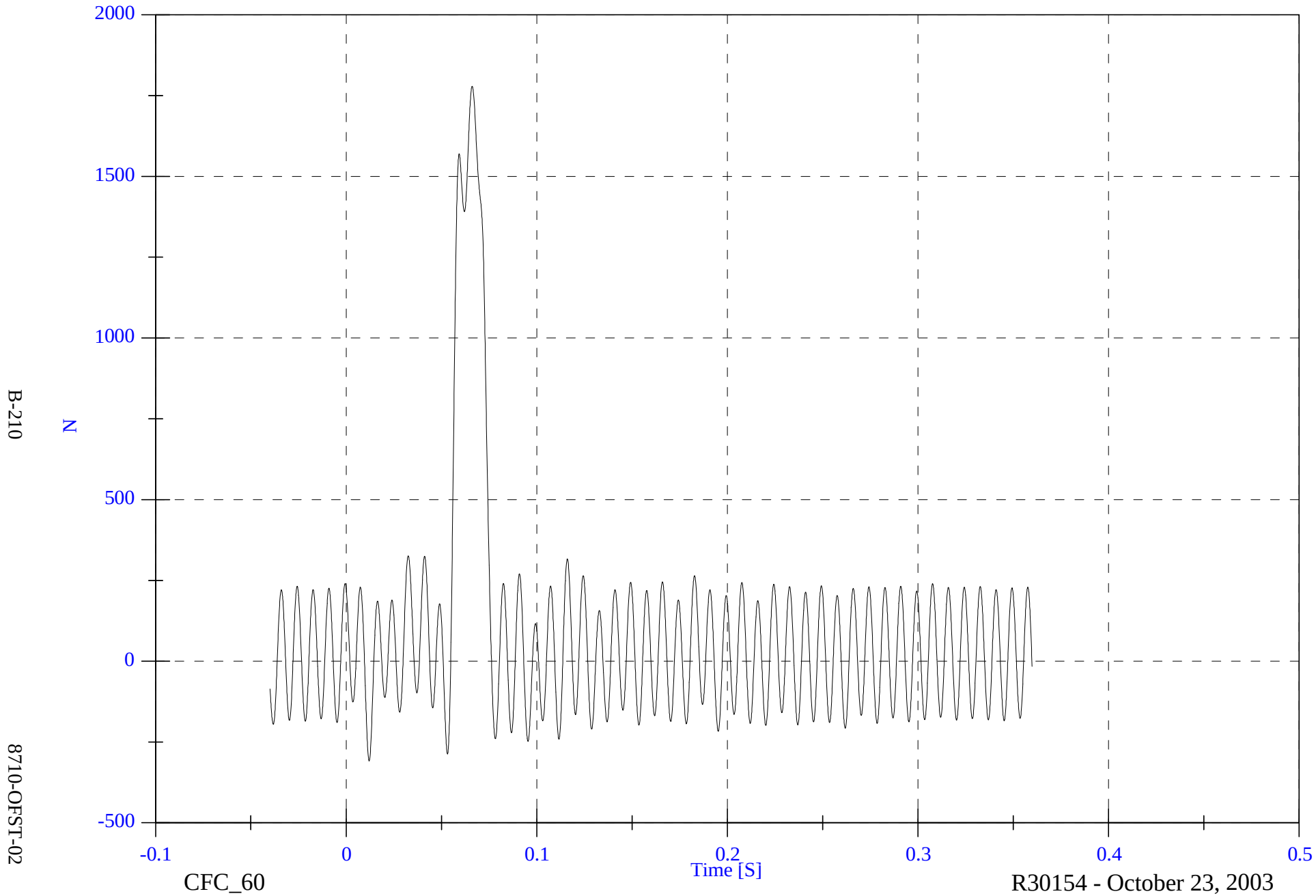
8710-OFST-02

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell H3 FX

Max: 1778.8 [N] at 0.066 [S]

Min: -308.5 [N] at 0.012 [S]

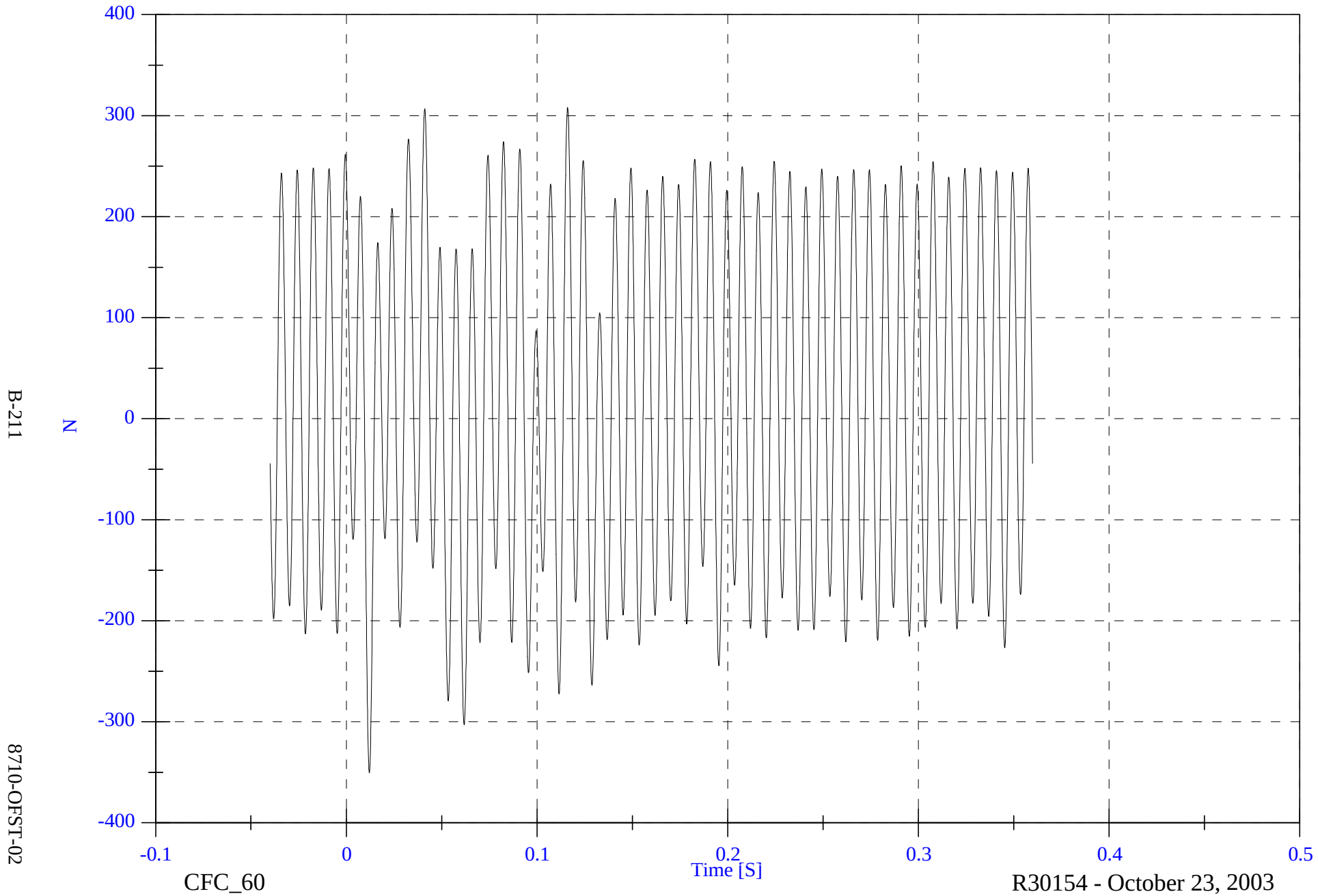


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell H4 FX

Max: 308.1 [N] at 0.116 [S]

Min: -350.6 [N] at 0.012 [S]

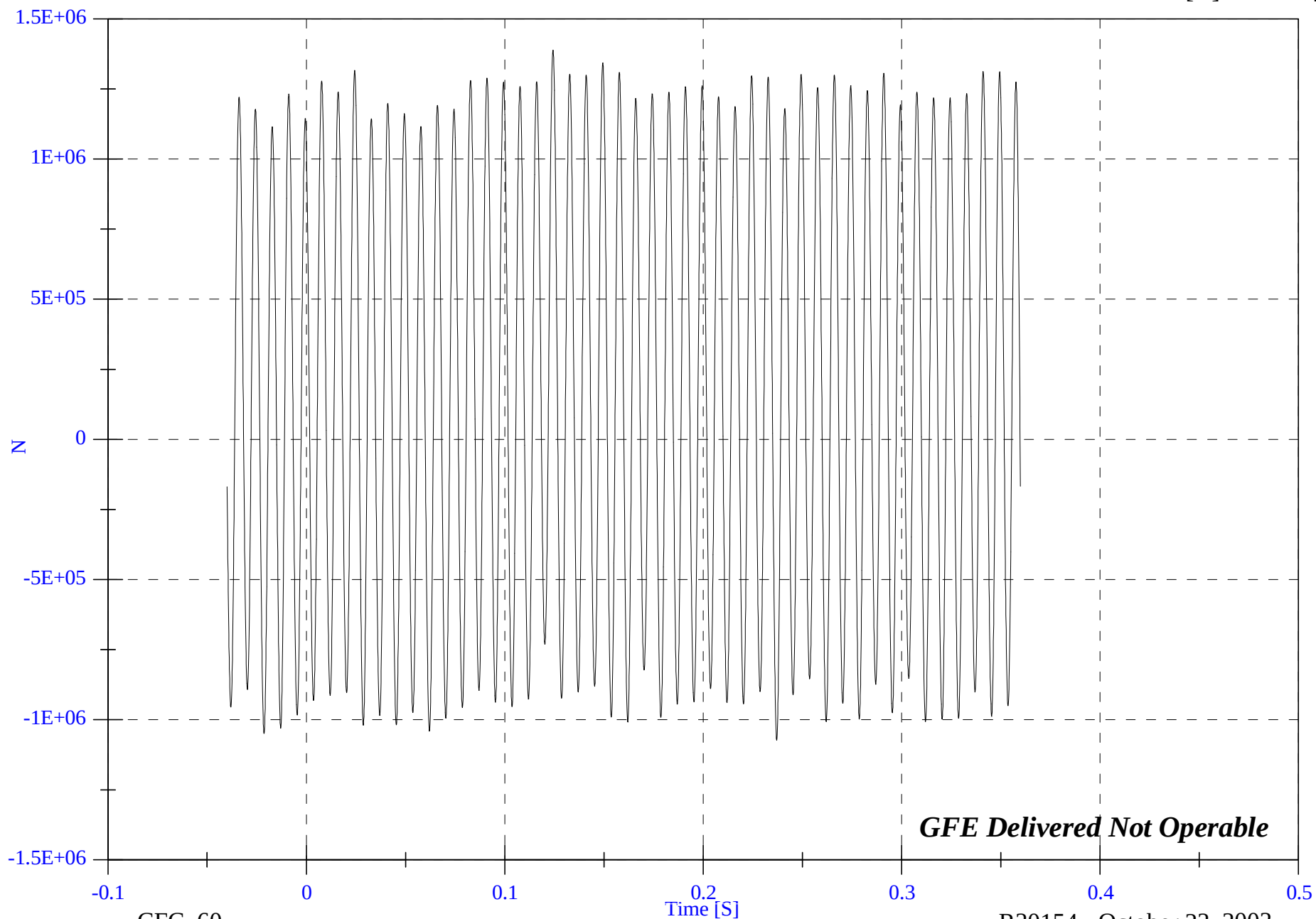


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell G1 FX

Max: 1388908.3 [N] at 0.124 [S]

Min: -1073724.7 [N] at 0.237 [S]



B-212

8710-OFST-02

CFC_60

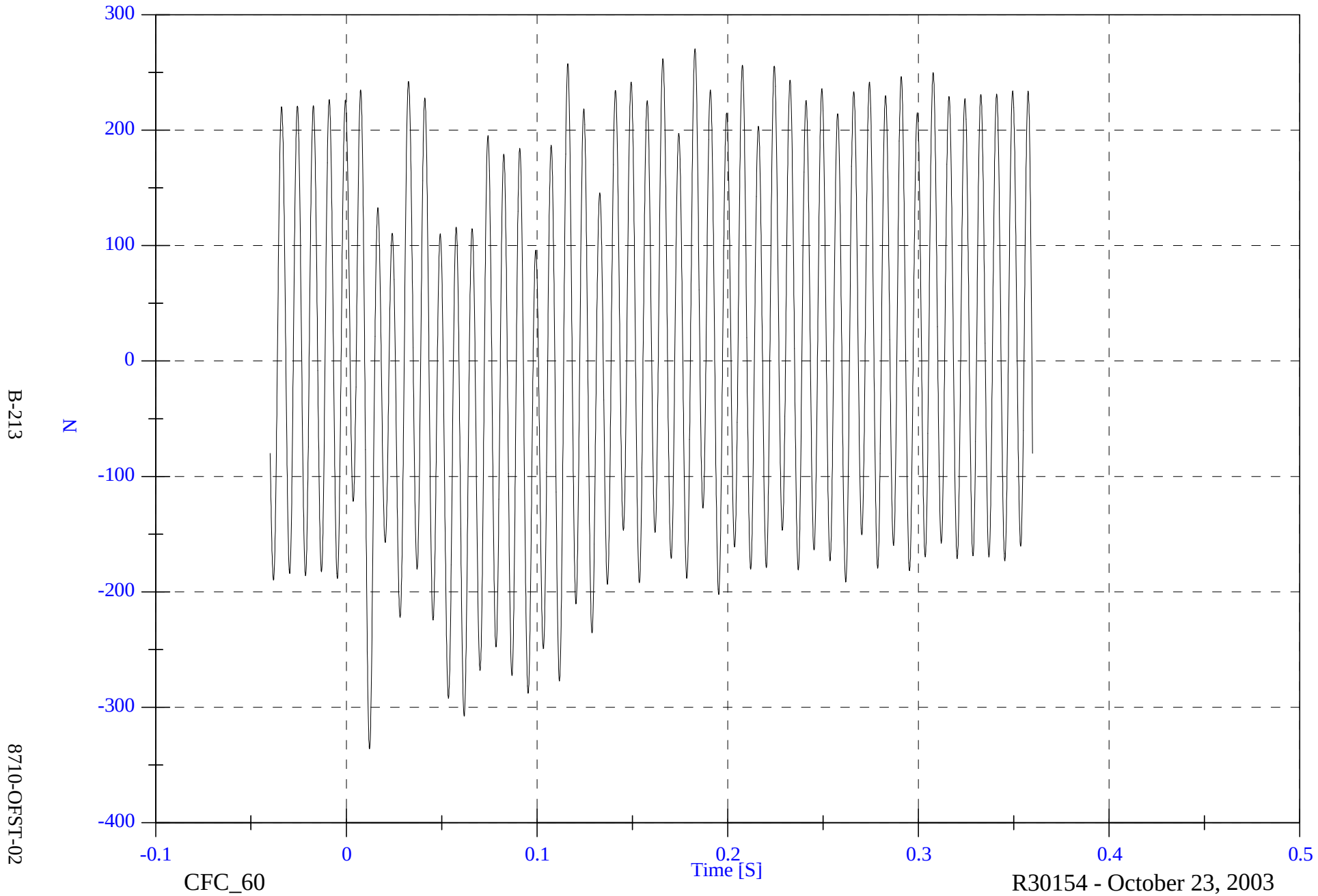
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell G2 FX

Max: 270.3 [N] at 0.183 [S]

Min: -336.0 [N] at 0.012 [S]

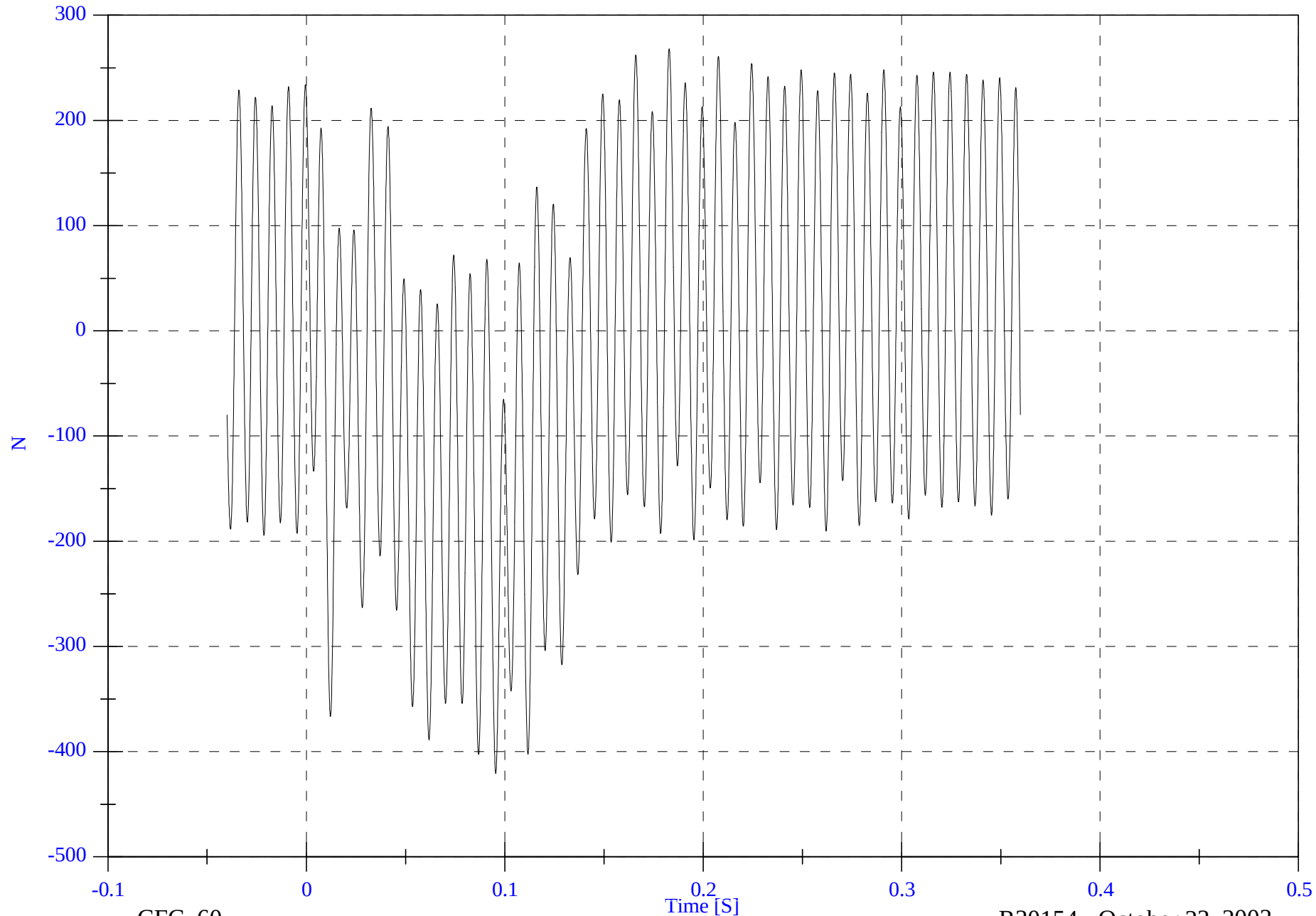


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell G3 FX

Max: 268.1 [N] at 0.183 [S]

Min: -420.8 [N] at 0.095 [S]



B-214

8710-OFST-02

CFC_60

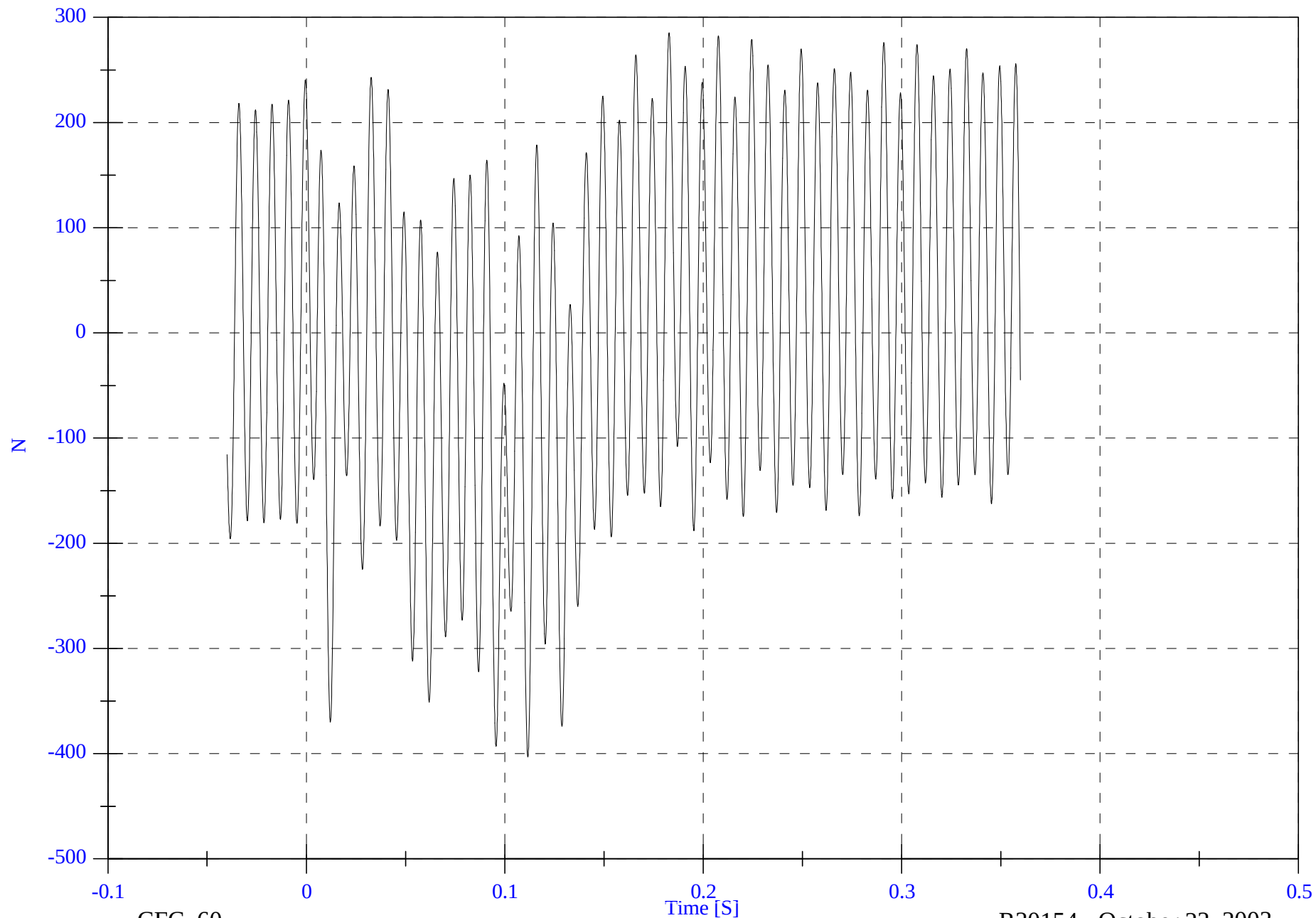
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell G4 FX

Max: 285.6 [N] at 0.183 [S]

Min: -403.1 [N] at 0.112 [S]



B-215

8710-OFST-02

CFC_60

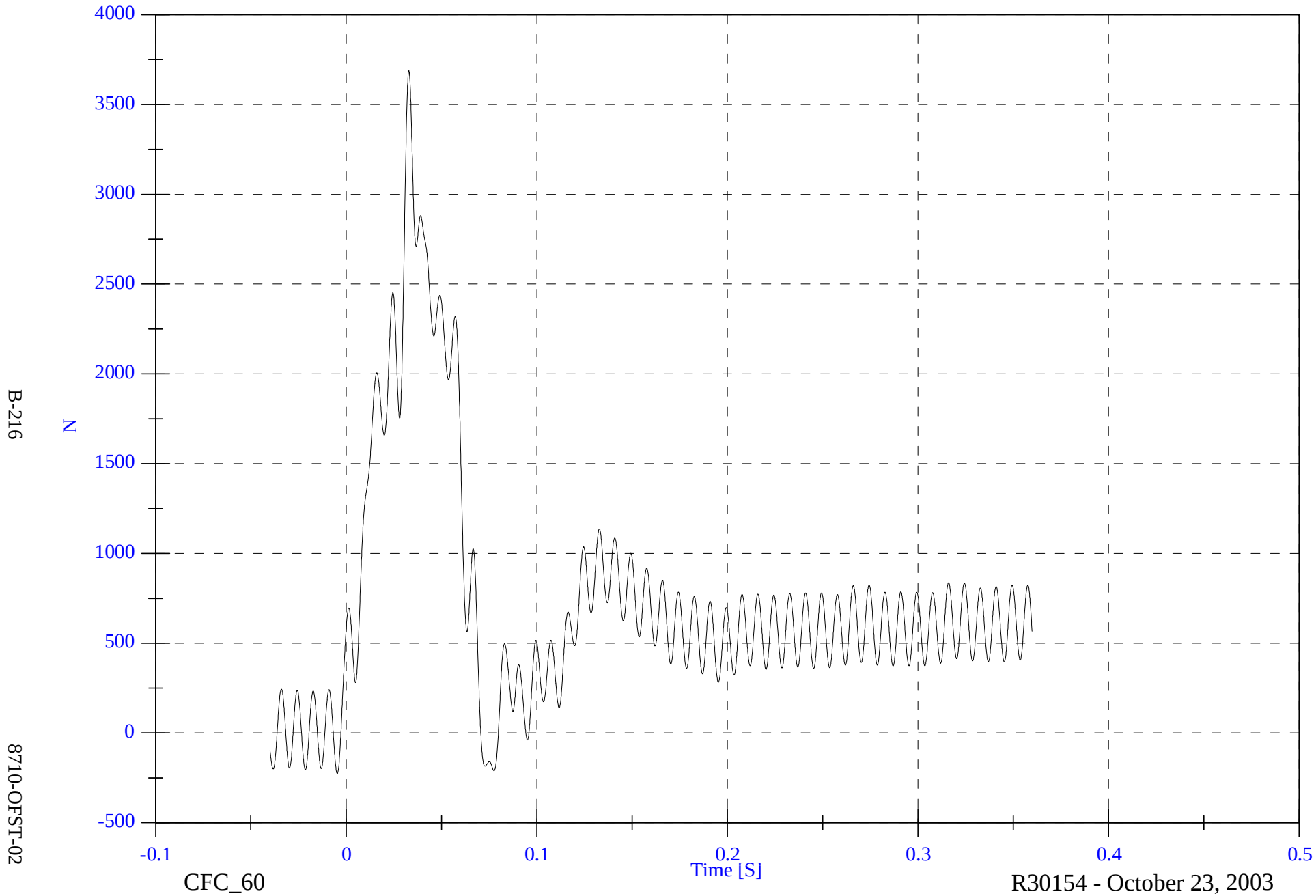
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F1 FX

Max: 3687.6 [N] at 0.033 [S]

Min: -225.7 [N] at -0.005 [S]

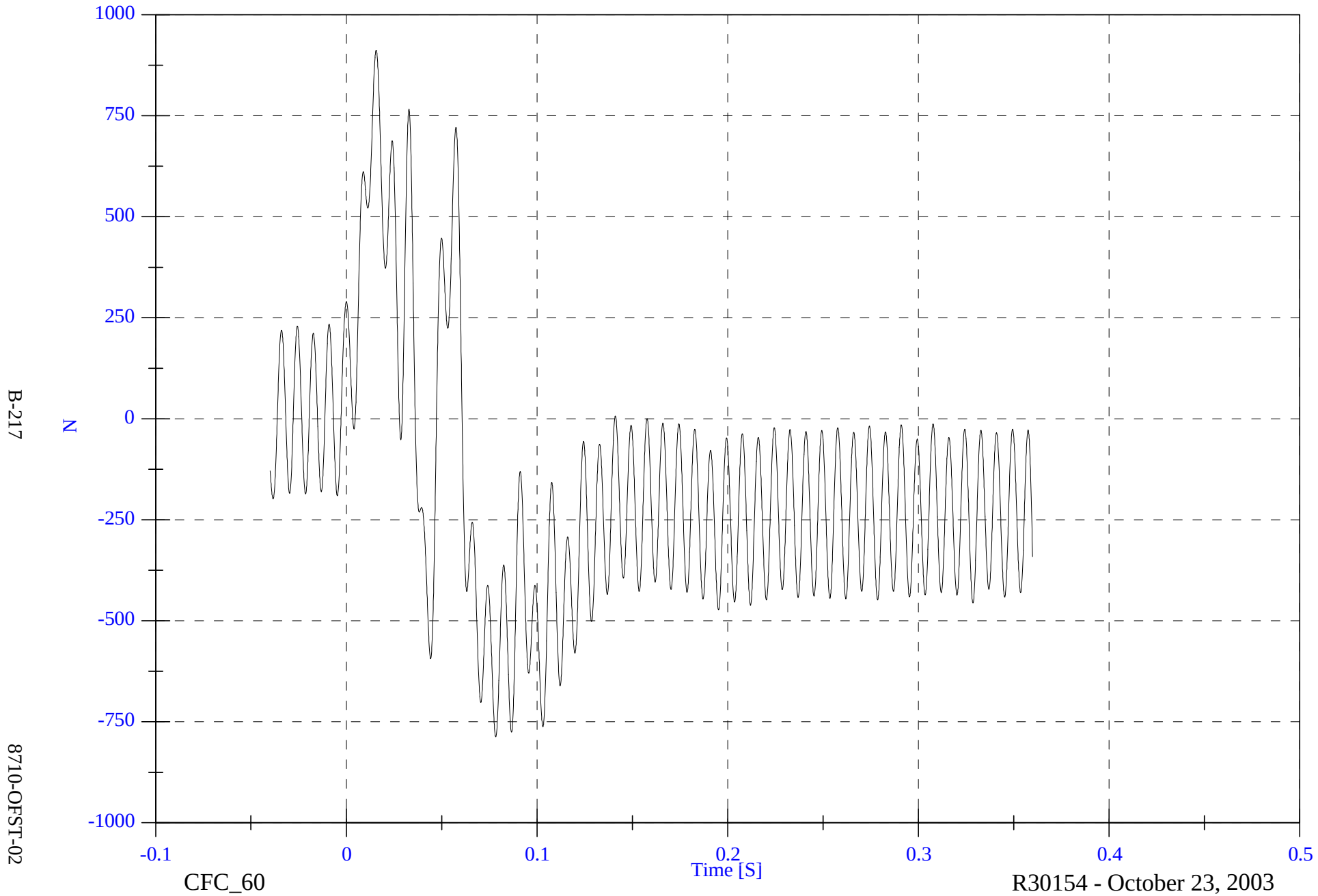


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F2 FX

Max: 912.3 [N] at 0.016 [S]

Min: -787.2 [N] at 0.078 [S]

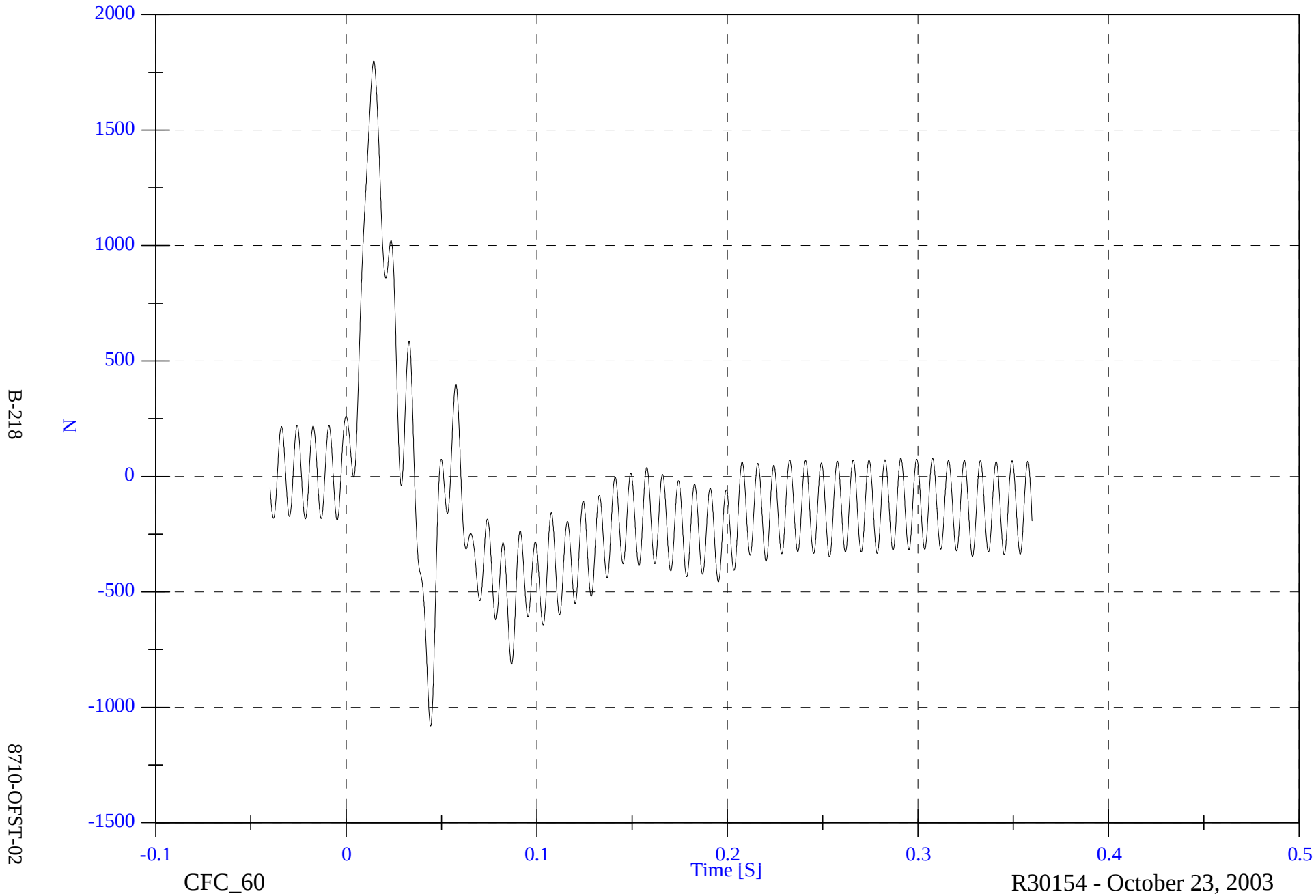


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F3 FX

Max: 1799.9 [N] at 0.014 [S]

Min: -1081.0 [N] at 0.044 [S]

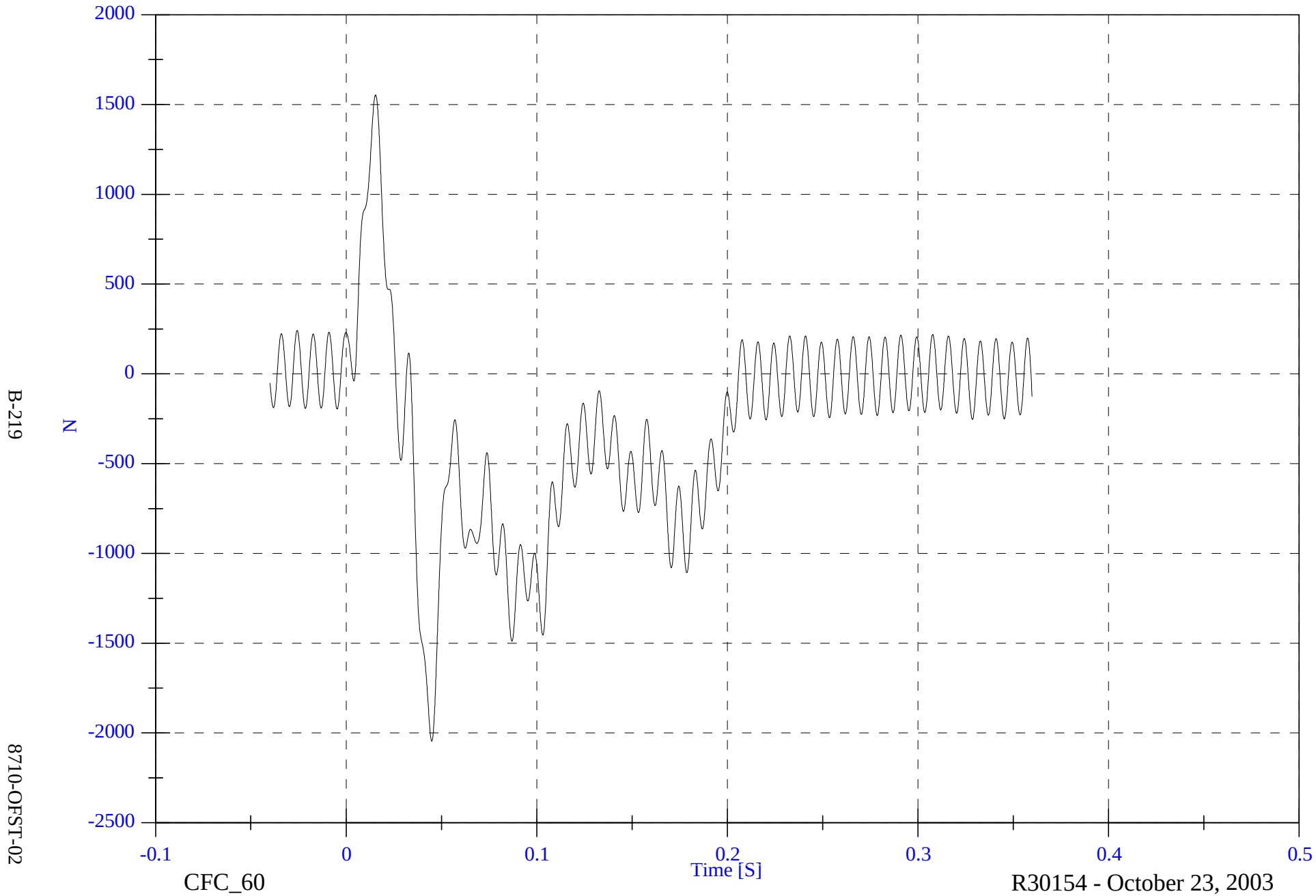


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F4 FX

Max: 1553.8 [N] at 0.015 [S]

Min: -2045.5 [N] at 0.045 [S]

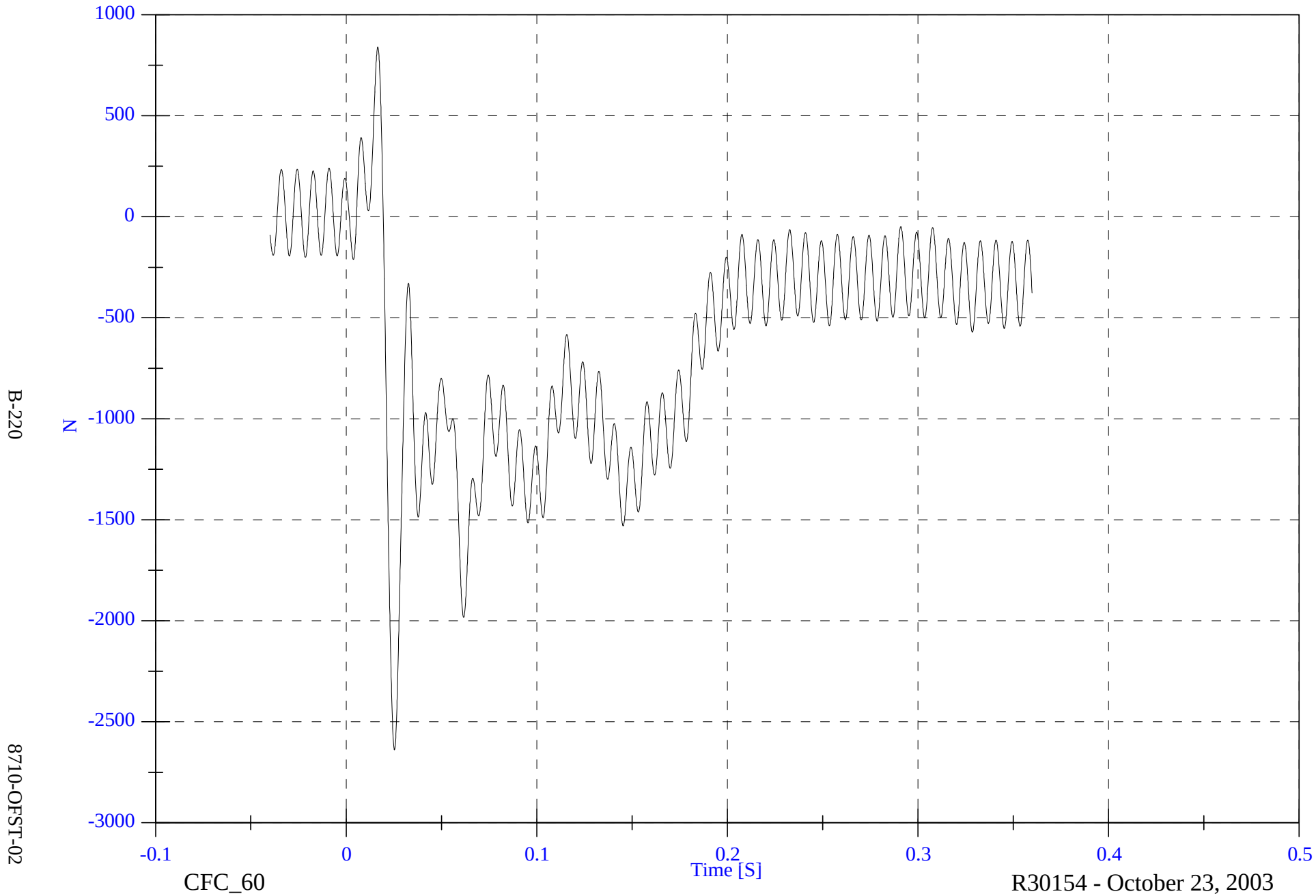


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F5 FX

Max: 840.3 [N] at 0.017 [S]

Min: -2639.0 [N] at 0.025 [S]

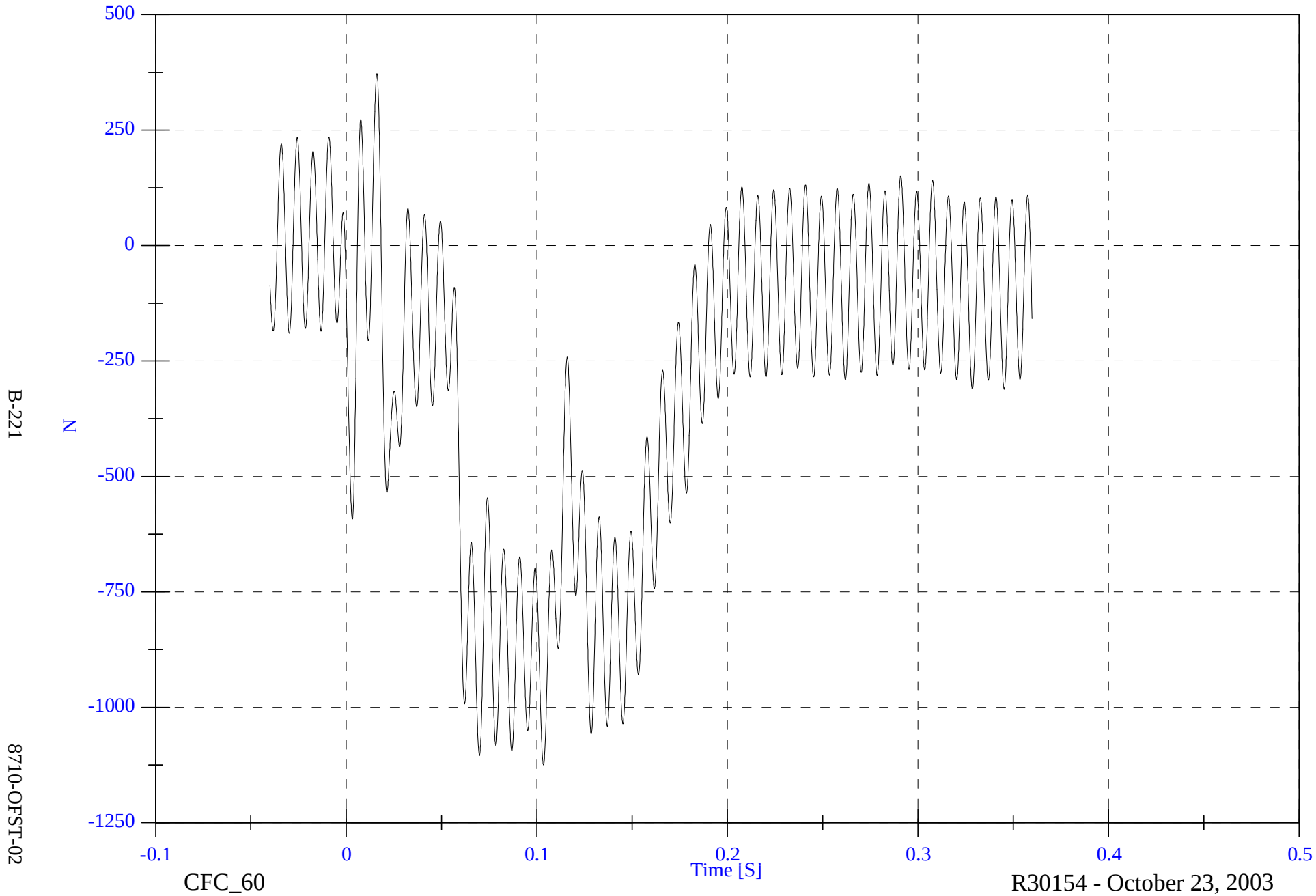


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F6 FX

Max: 372.8 [N] at 0.016 [S]

Min: -1124.8 [N] at 0.103 [S]

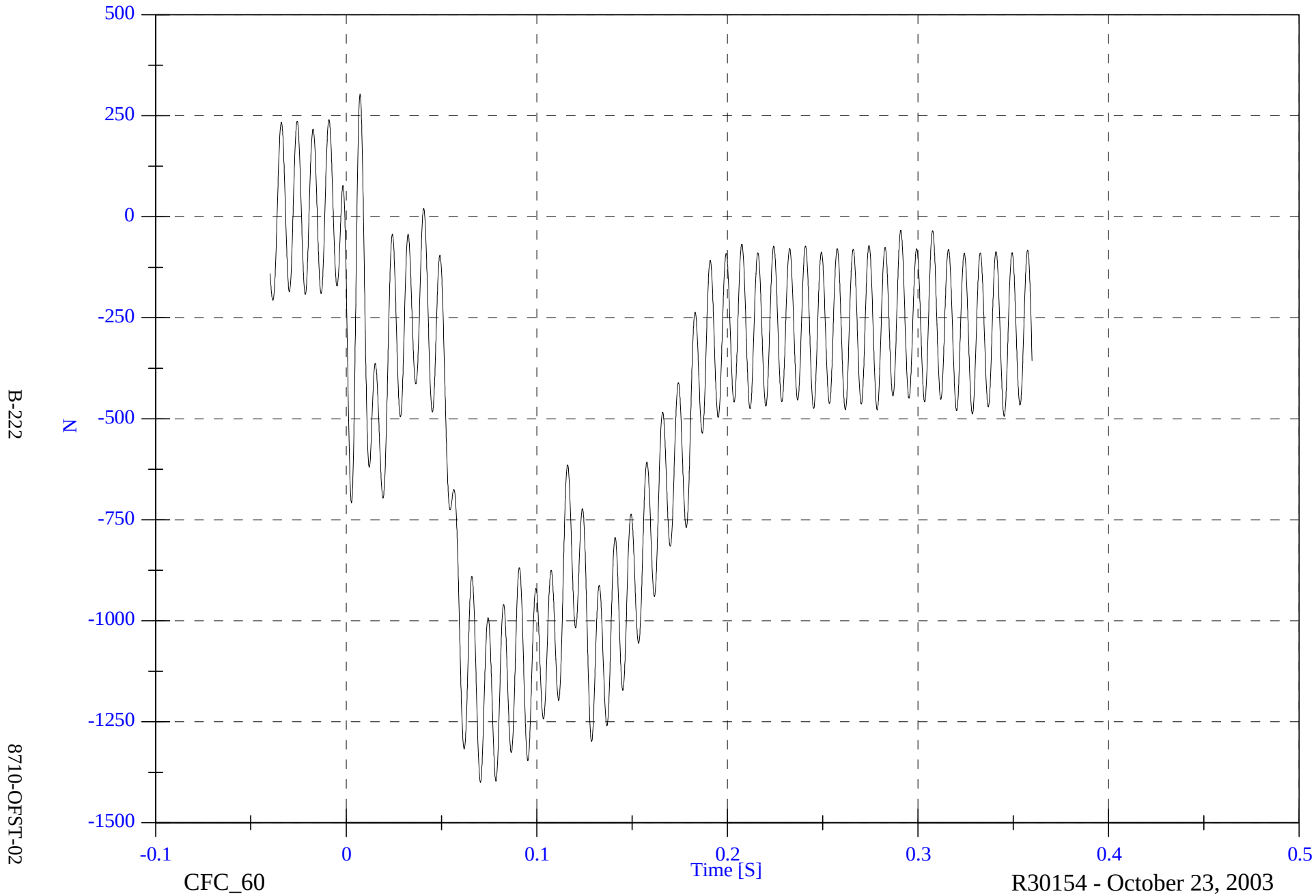


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell F7 FX

Max: 303.4 [N] at 0.007 [S]

Min: -1399.7 [N] at 0.070 [S]

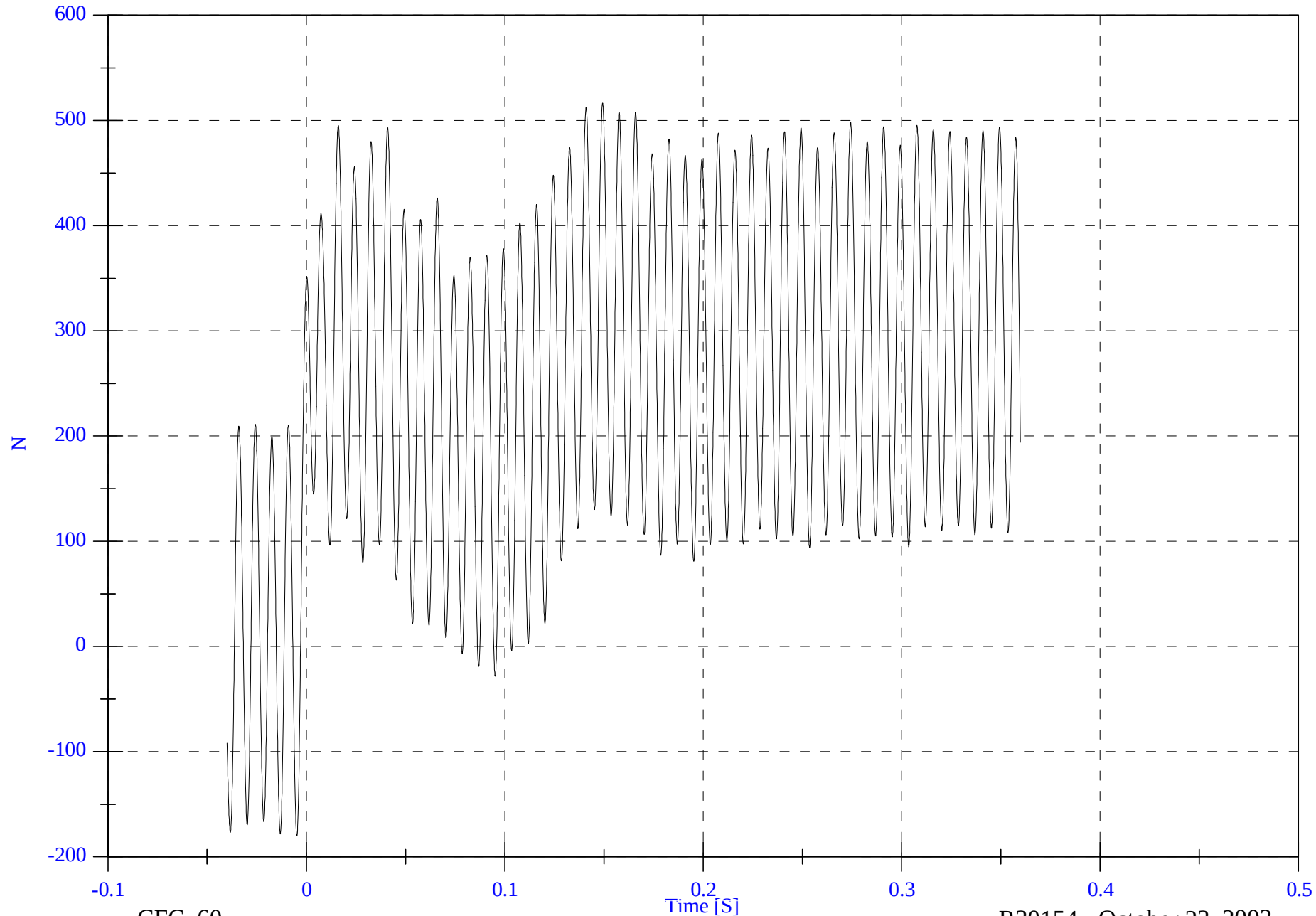


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E1 FX

Max: 516.8 [N] at 0.149 [S]

Min: -180.3 [N] at -0.005 [S]

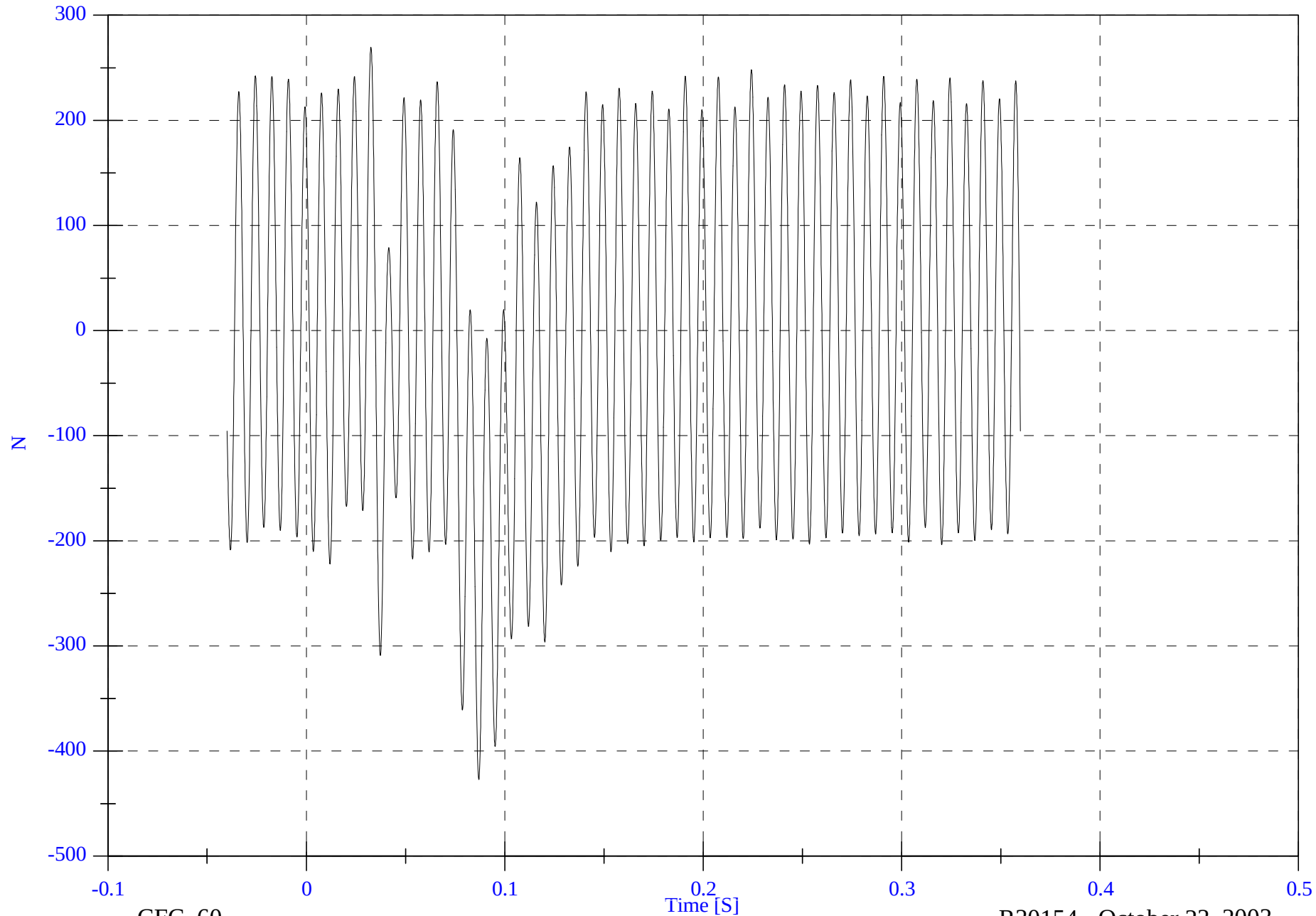


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E2 FX

Max: 269.6 [N] at 0.032 [S]

Min: -427.1 [N] at 0.087 [S]



B-224

8710-OFST-02

CFC_60

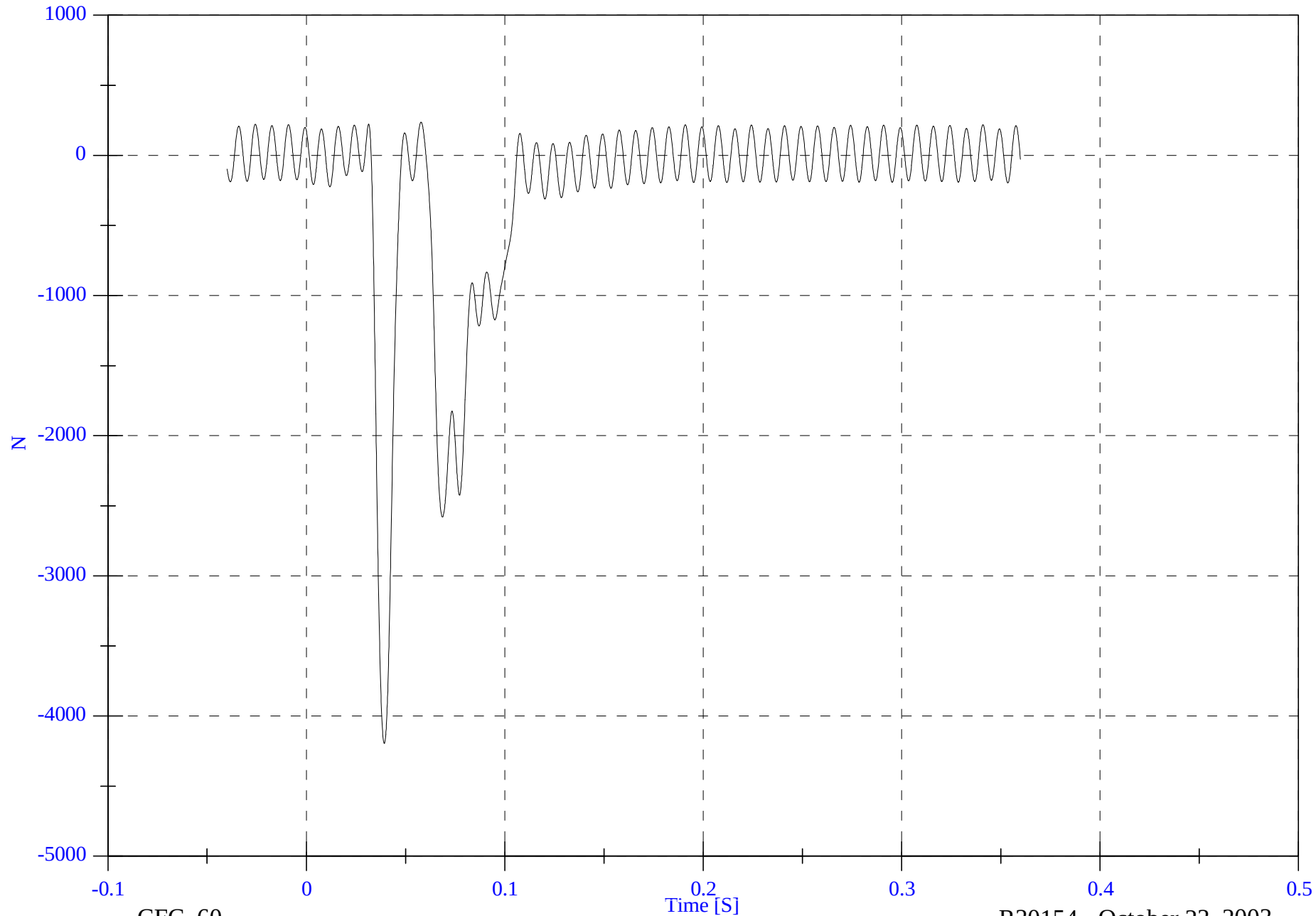
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E3 FX

Max: 237.4 [N] at 0.058 [S]

Min: -4195.6 [N] at 0.039 [S]



B-225

8710-OFST-02

CFC_60

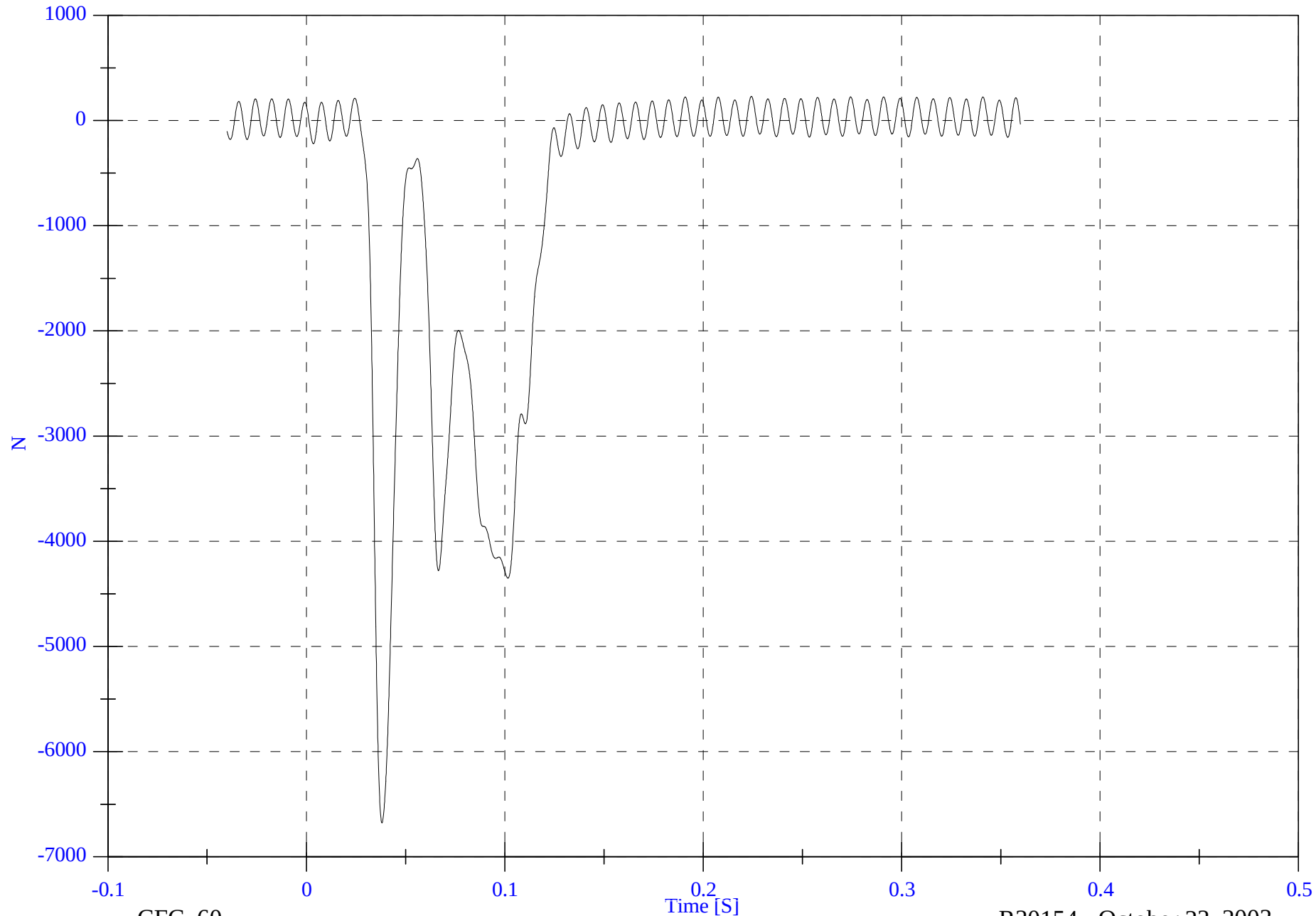
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E4 FX

Max: 229.7 [N] at 0.224 [S]

Min: -6677.1 [N] at 0.038 [S]



B-226

8710-OFST-02

CFC_60

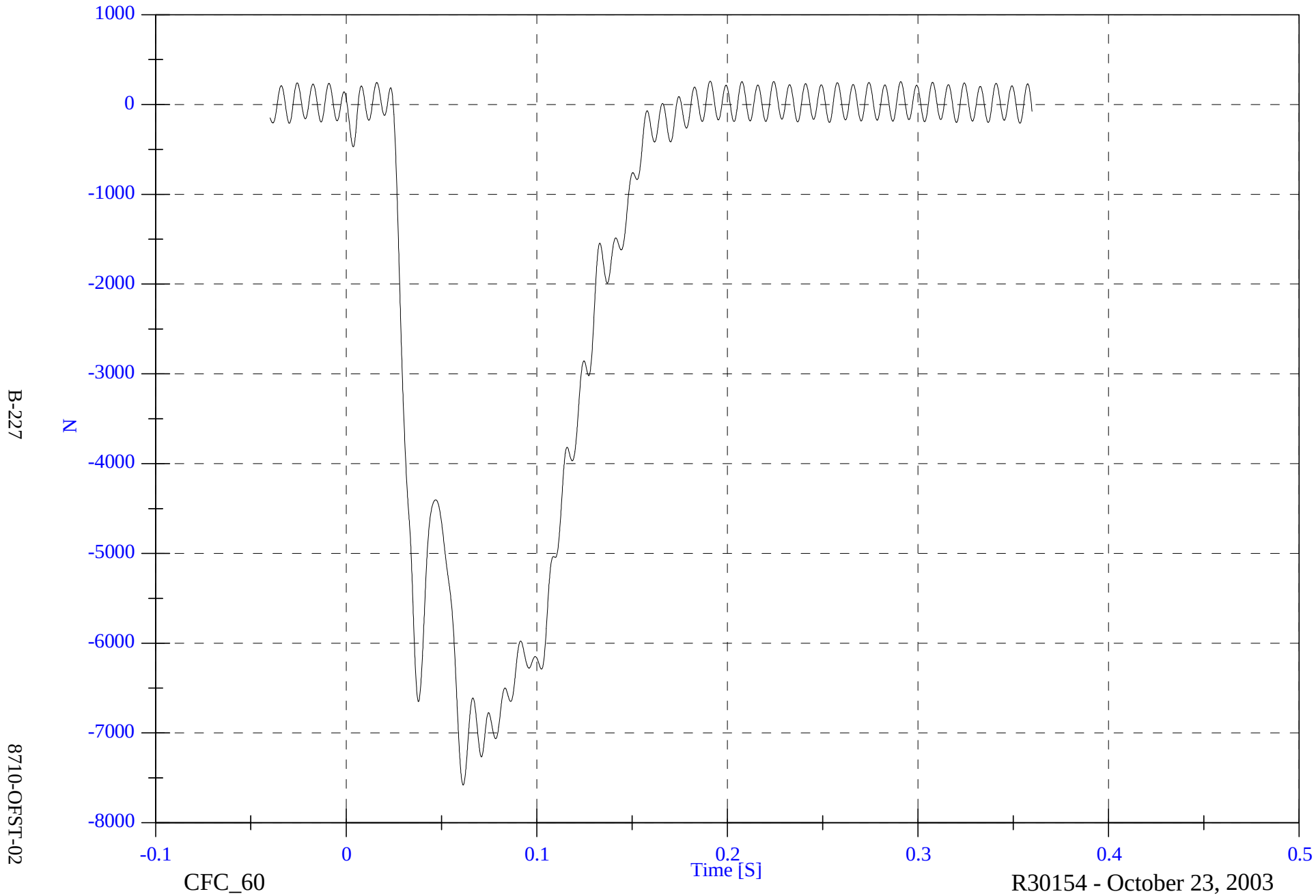
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E5 FX

Max: 260.2 [N] at 0.191 [S]

Min: -7579.1 [N] at 0.061 [S]

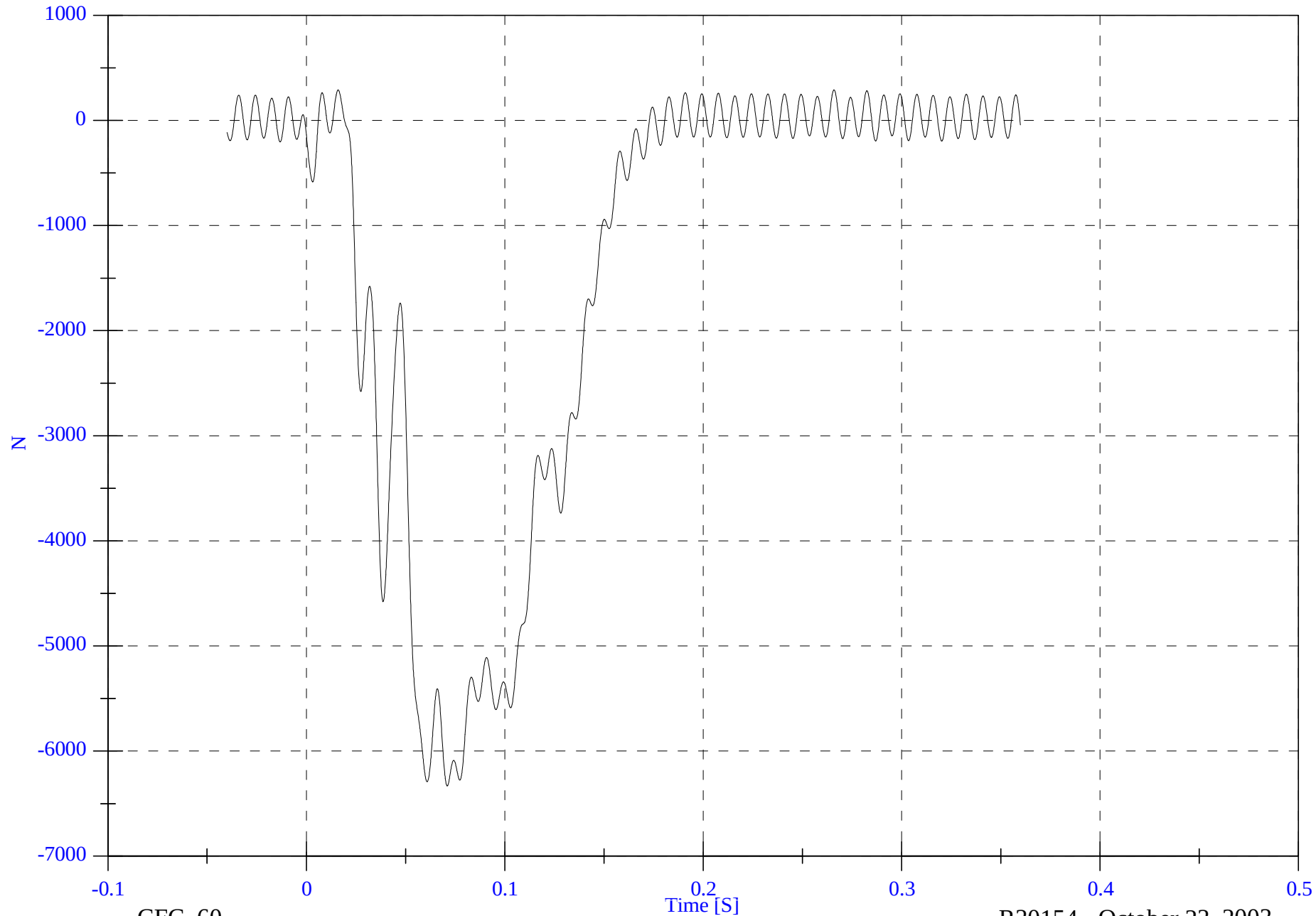


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E6 FX

Max: 290.9 [N] at 0.266 [S]

Min: -6332.9 [N] at 0.071 [S]



B-228

8710-OFST-02

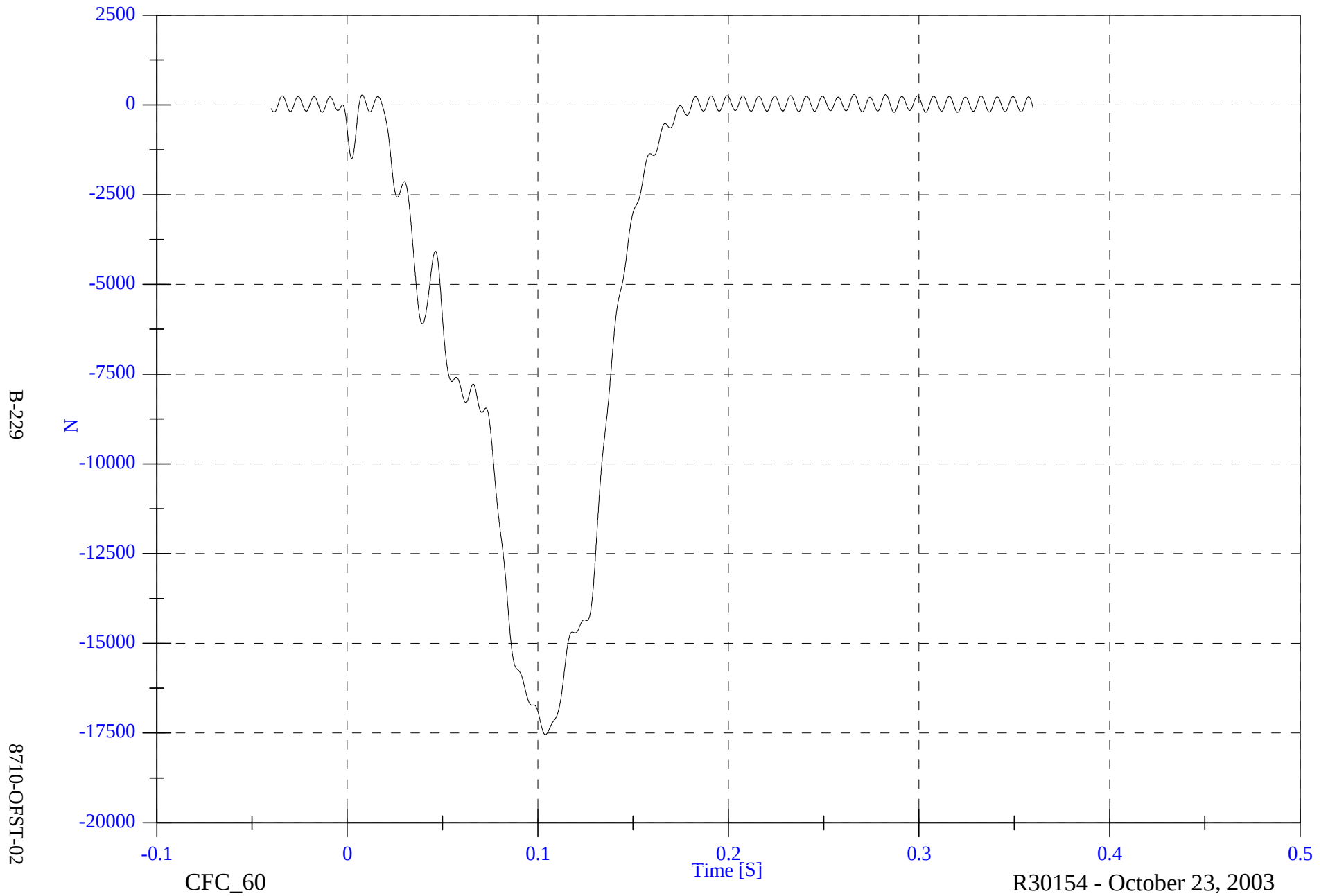
CFC_60

R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell E7 FX

Max: 290.7 [N] at 0.266 [S]
Min: -17541.2 [N] at 0.104 [S]

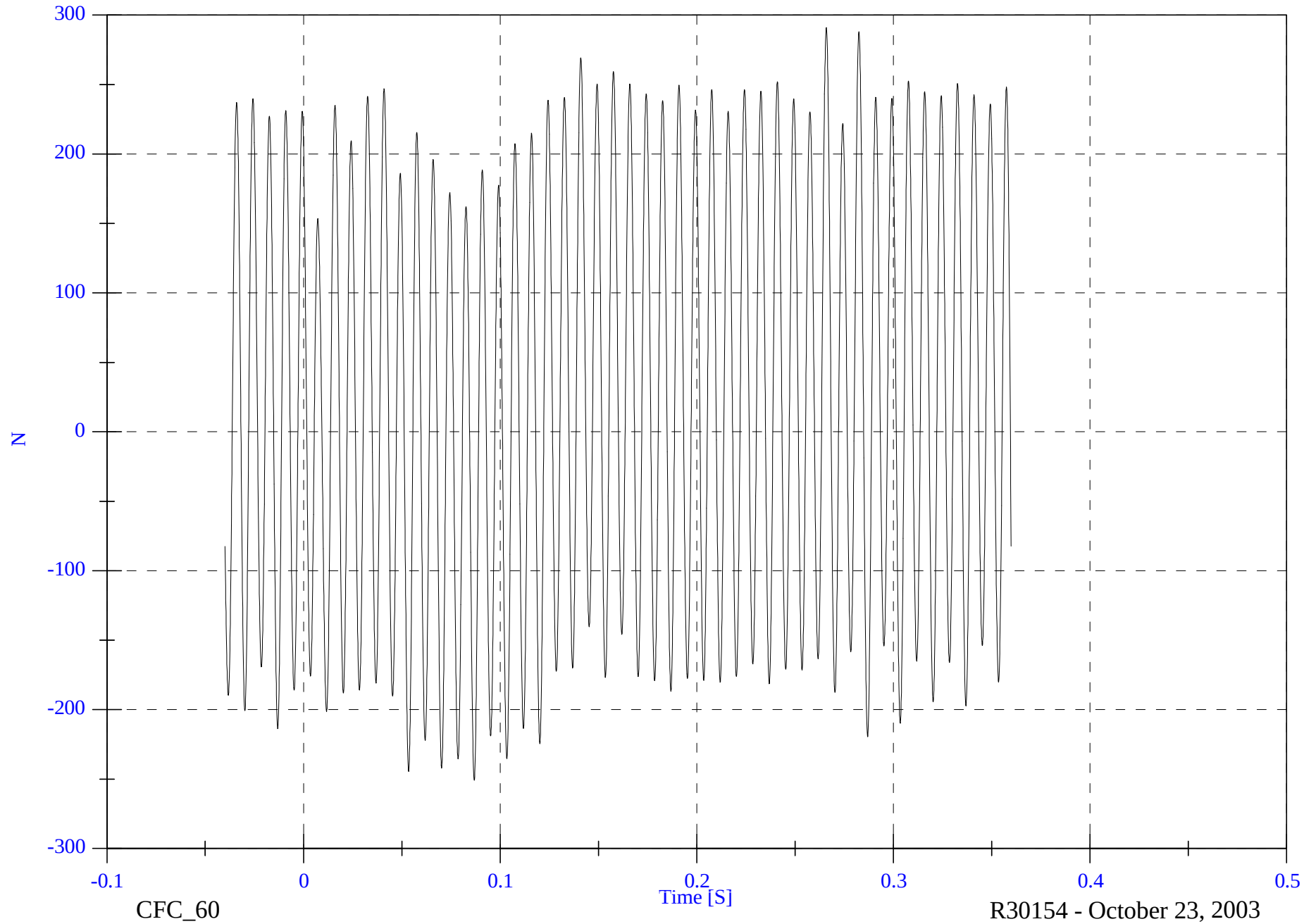


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D1 FX

Max: 291.1 [N] at 0.266 [S]

Min: -251.0 [N] at 0.087 [S]



B-230

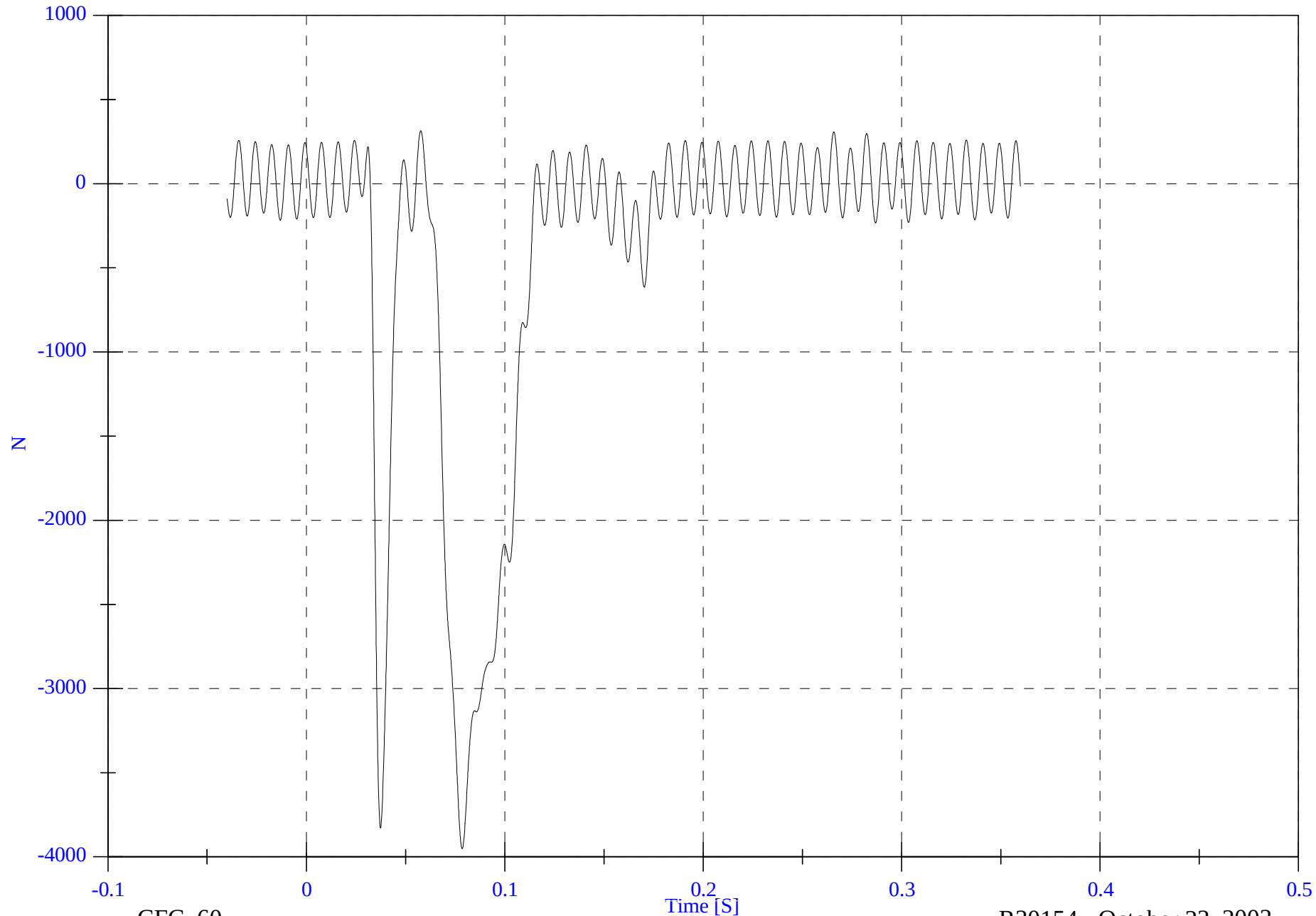
8710-OFST-02

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D2 FX

Max: 314.0 [N] at 0.058 [S]

Min: -3951.6 [N] at 0.078 [S]



B-231

8710-OFST-02

CFC_60

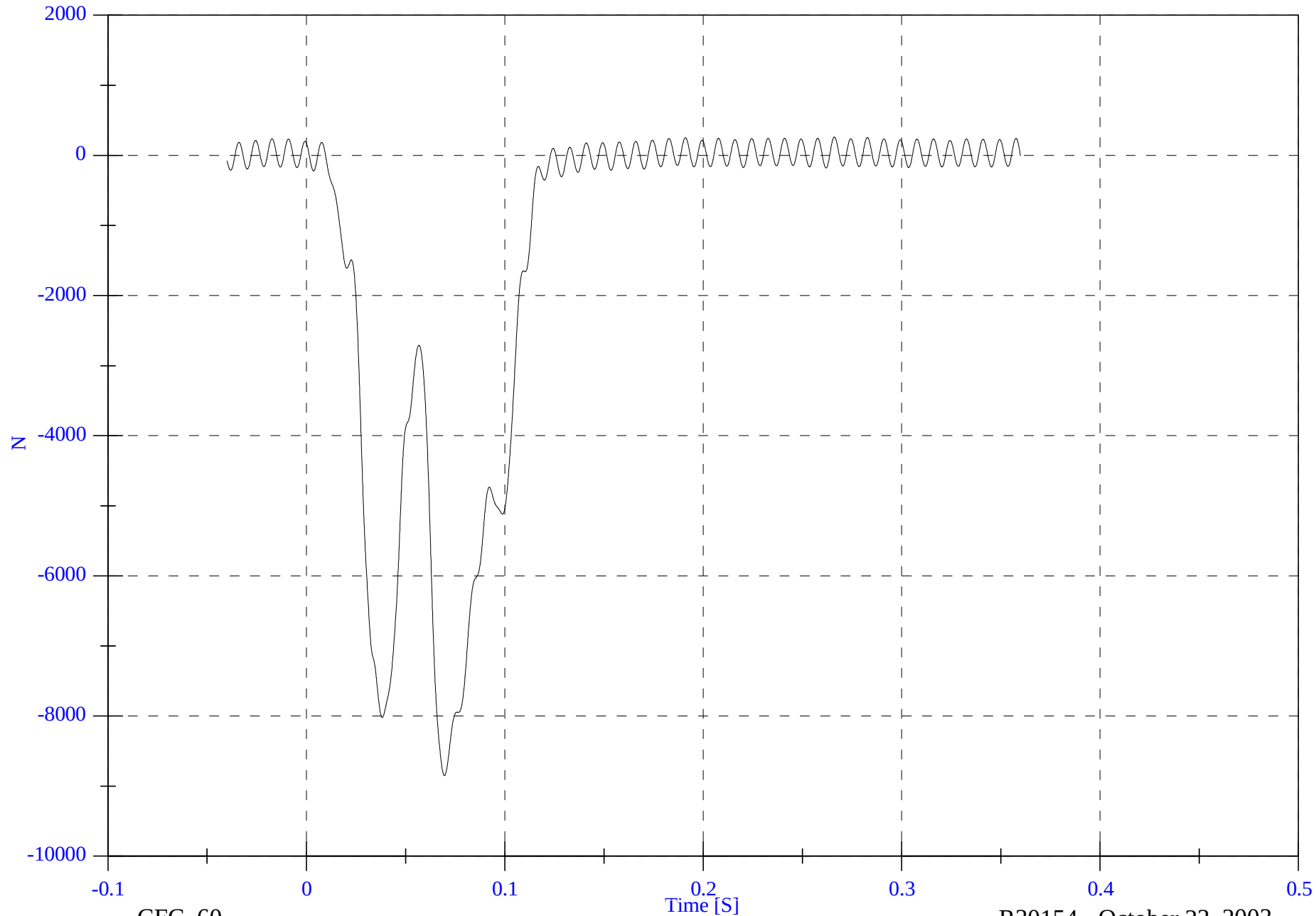
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D3 FX

Max: 262.5 [N] at 0.266 [S]

Min: -8850.2 [N] at 0.070 [S]



B-232

8710-OFST-02

CFC_60

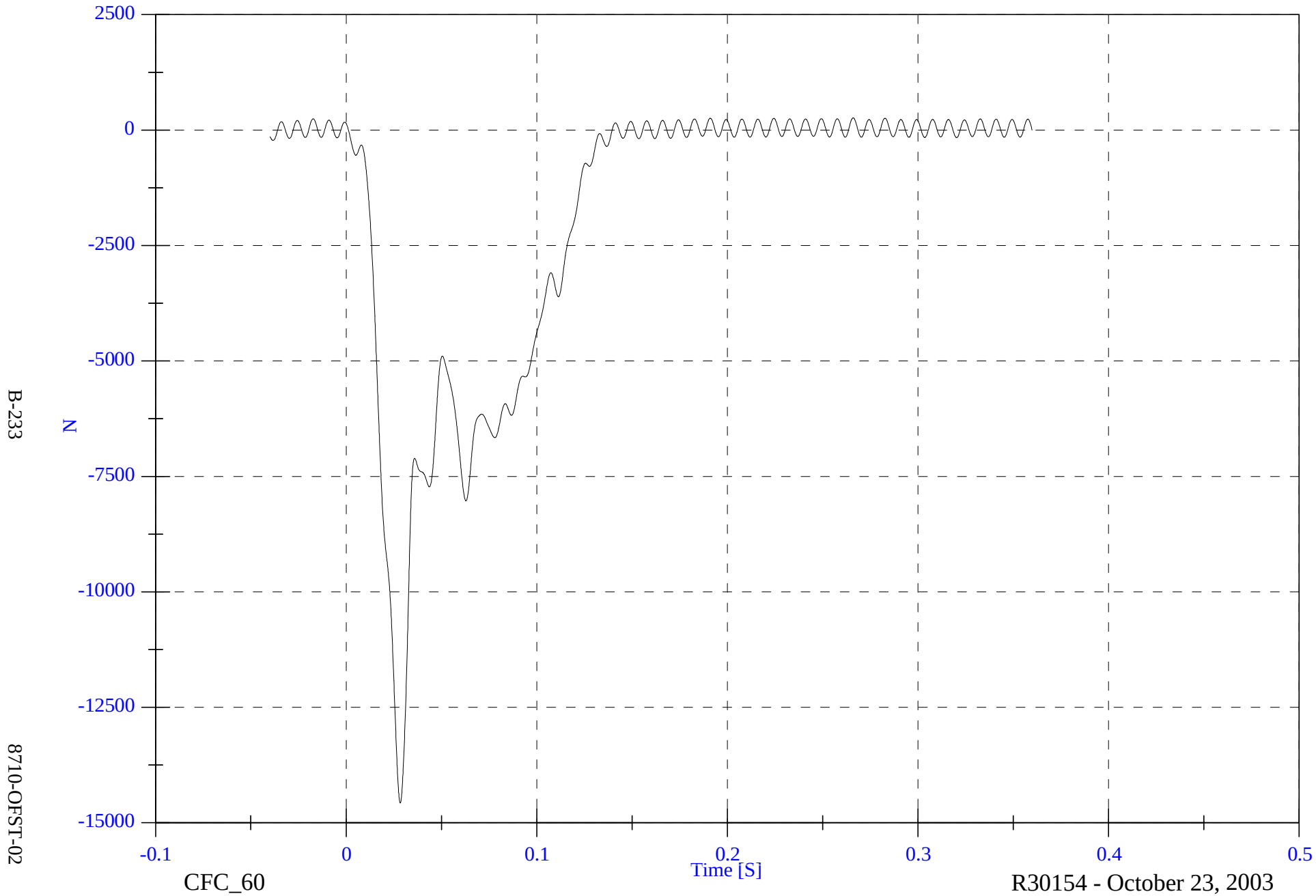
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D4 FX

Max: 266.2 [N] at 0.266 [S]

Min: -14575.3 [N] at 0.028 [S]

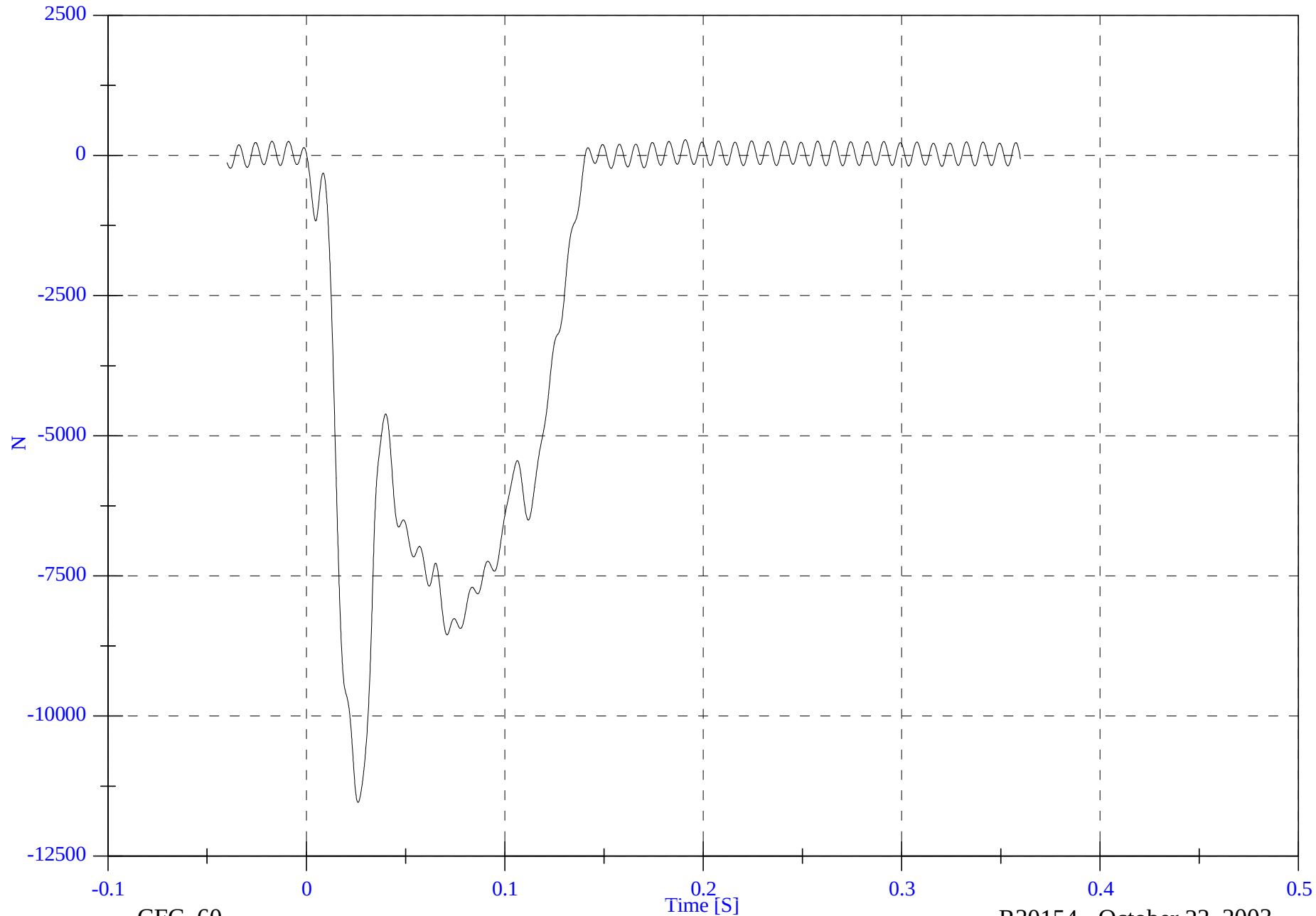


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D5 FX

Max: 280.2 [N] at 0.191 [S]

Min: -11542.0 [N] at 0.026 [S]



B-234

8710-OFST-02

CFC_60

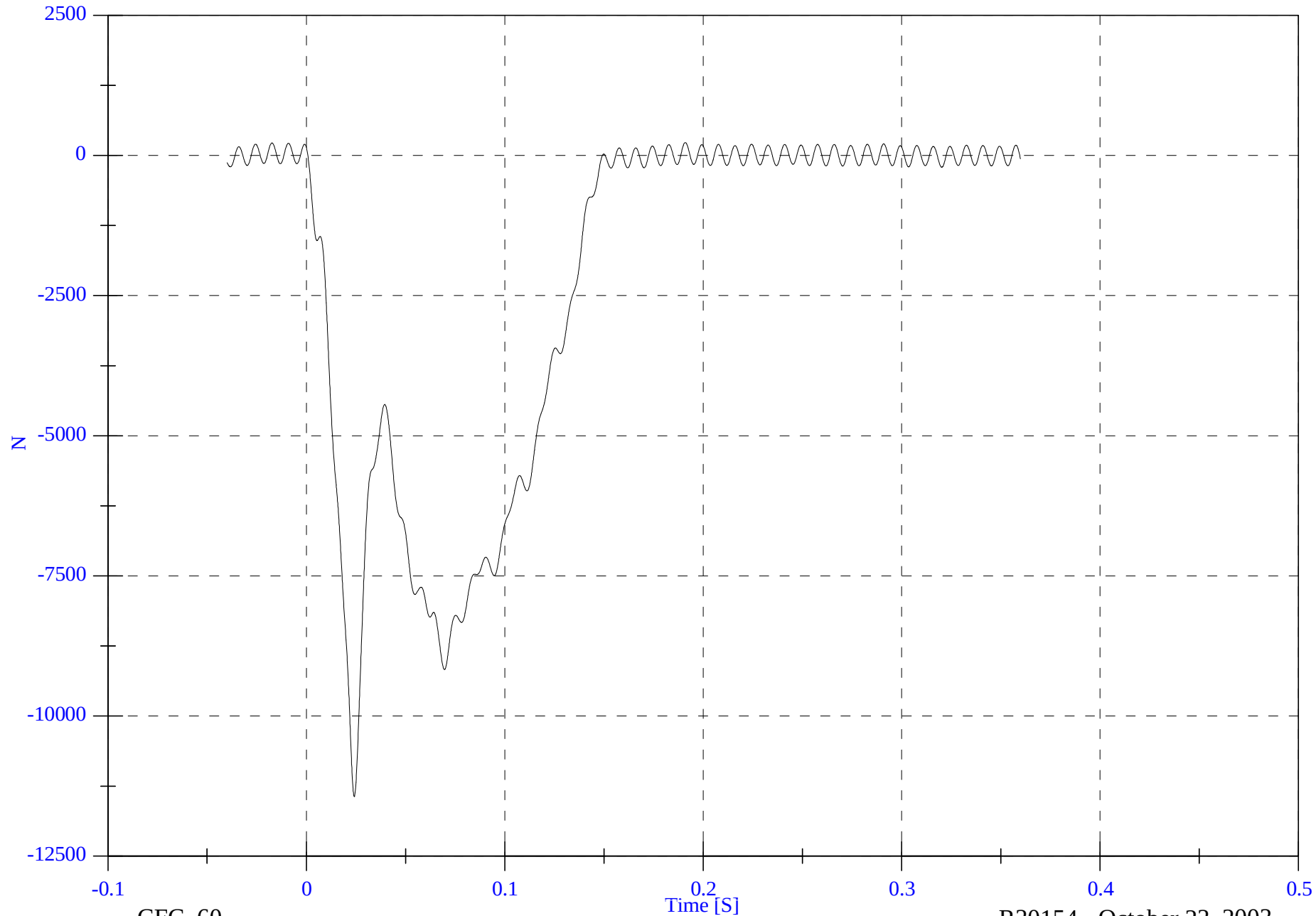
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D6 FX

Max: 230.0 [N] at 0.191 [S]

Min: -11438.8 [N] at 0.024 [S]



B-235

8710-OFST-02

CFC_60

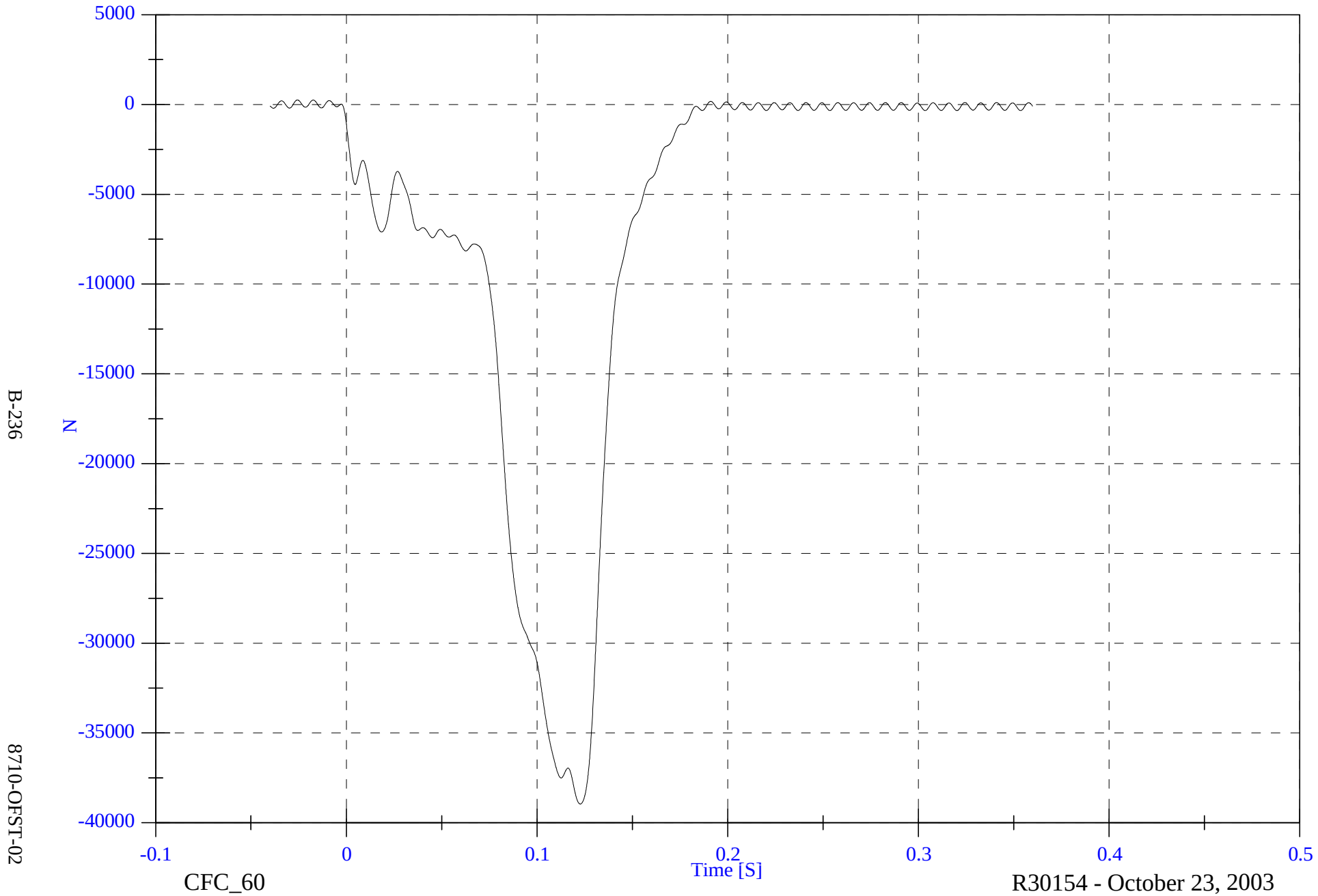
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell D7 FX

Max: 252.3 [N] at -0.026 [S]

Min: -38955.5 [N] at 0.123 [S]

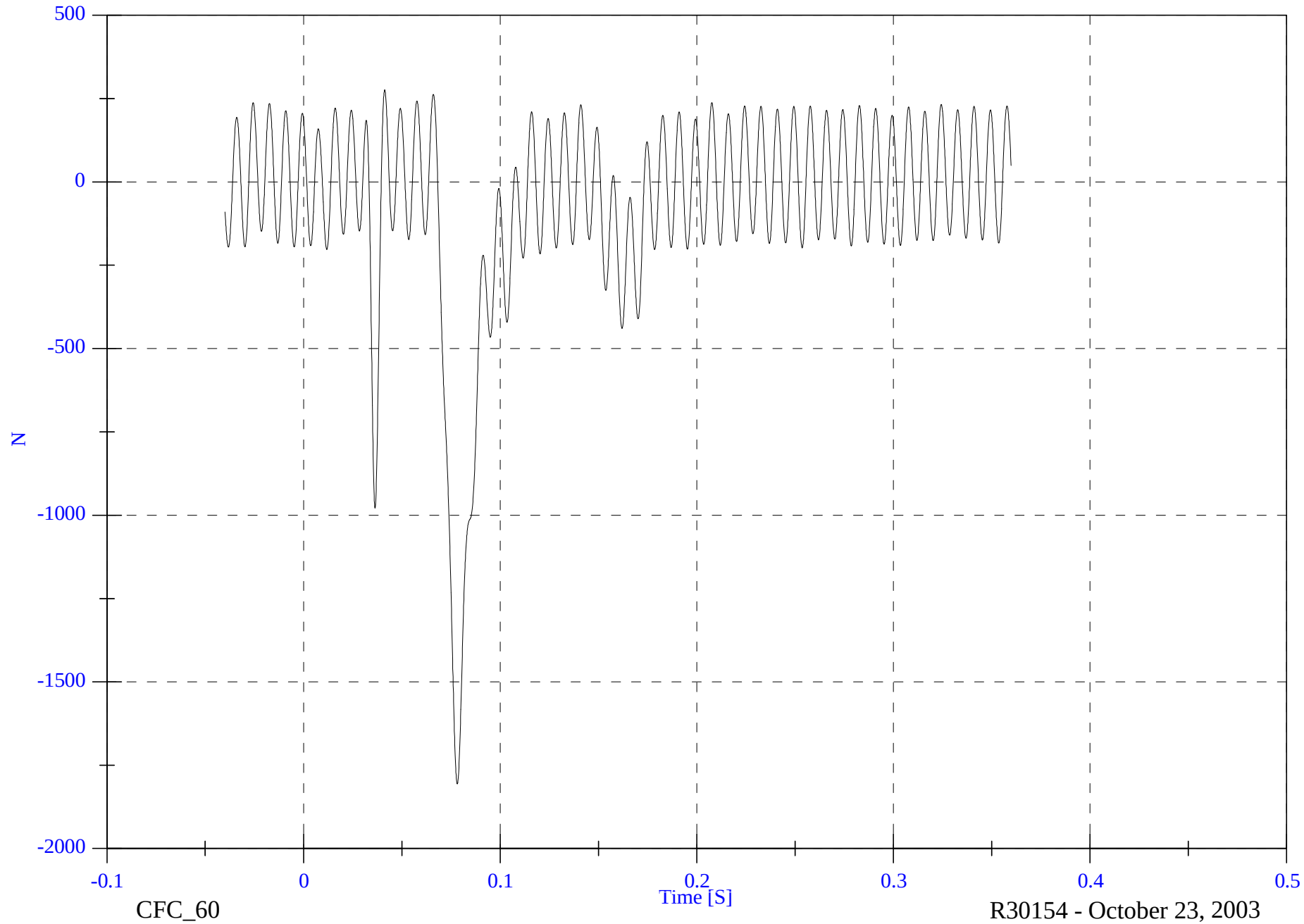


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C1 FX

Max: 276.3 [N] at 0.041 [S]

Min: -1806.3 [N] at 0.078 [S]



B-237

8710-OFST-02

CFC_60

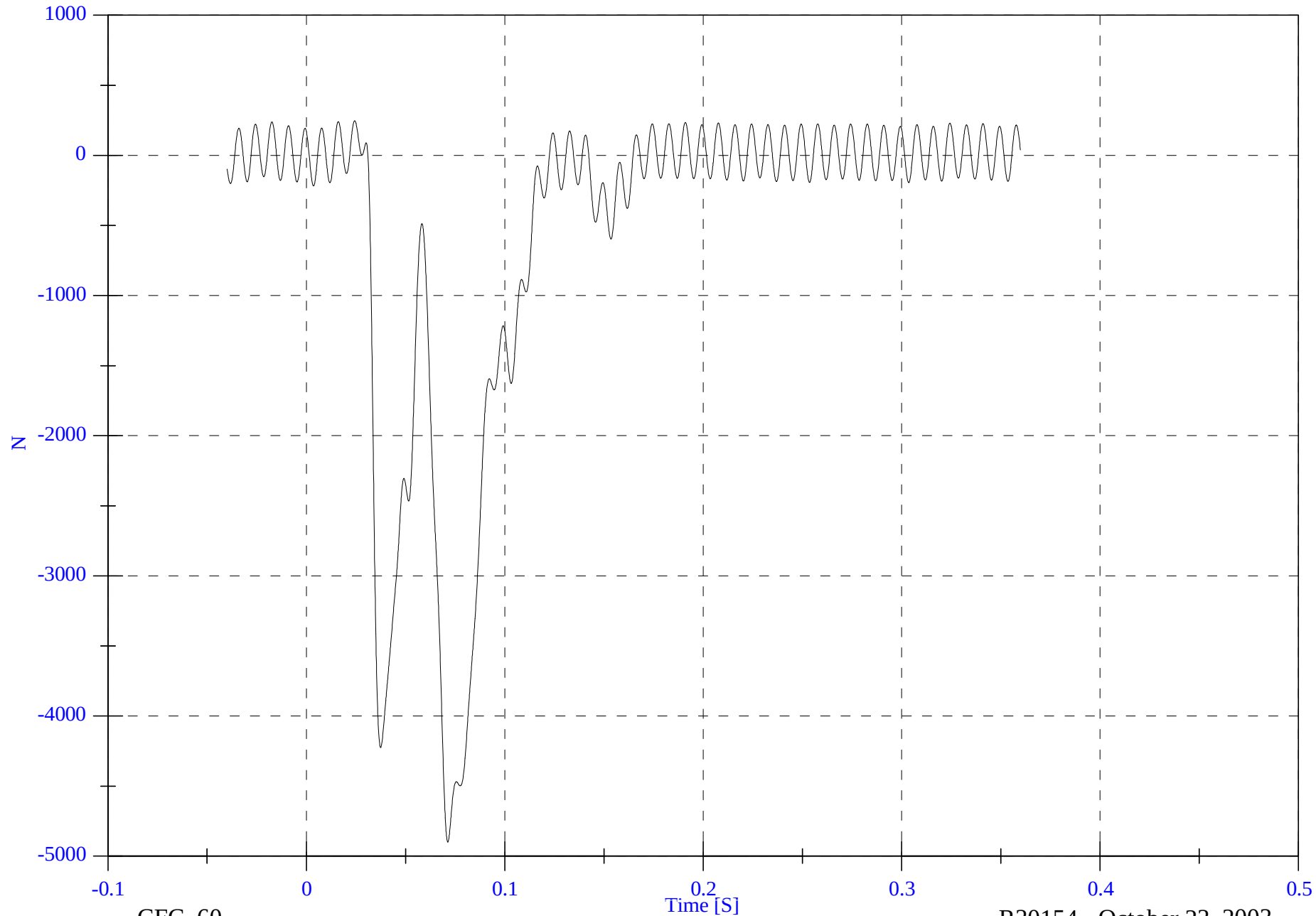
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C2 FX

Max: 247.5 [N] at 0.024 [S]

Min: -4900.3 [N] at 0.071 [S]



B-238

8710-OFST-02

CFC_60

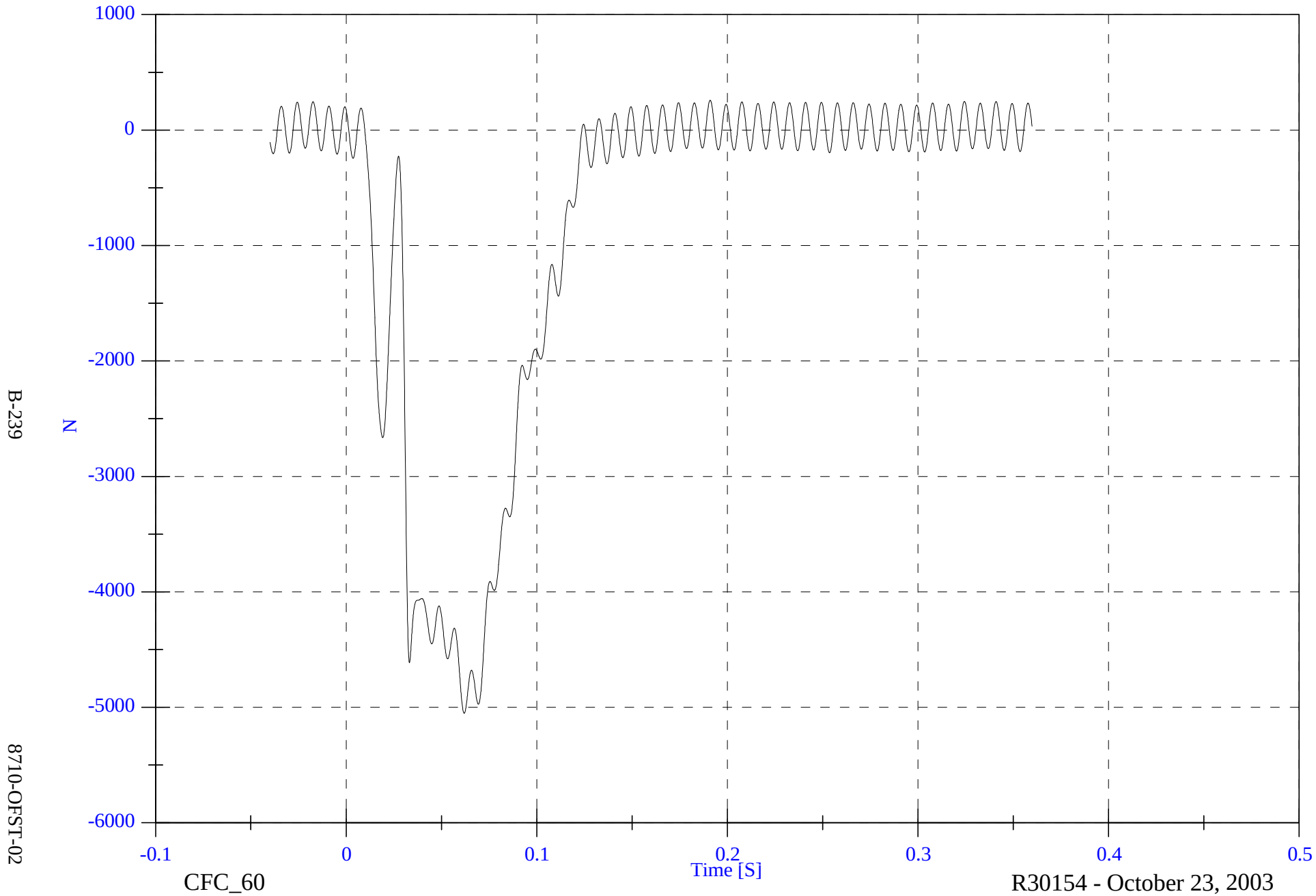
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C3 FX

Max: 258.8 [N] at 0.191 [S]

Min: -5051.5 [N] at 0.062 [S]

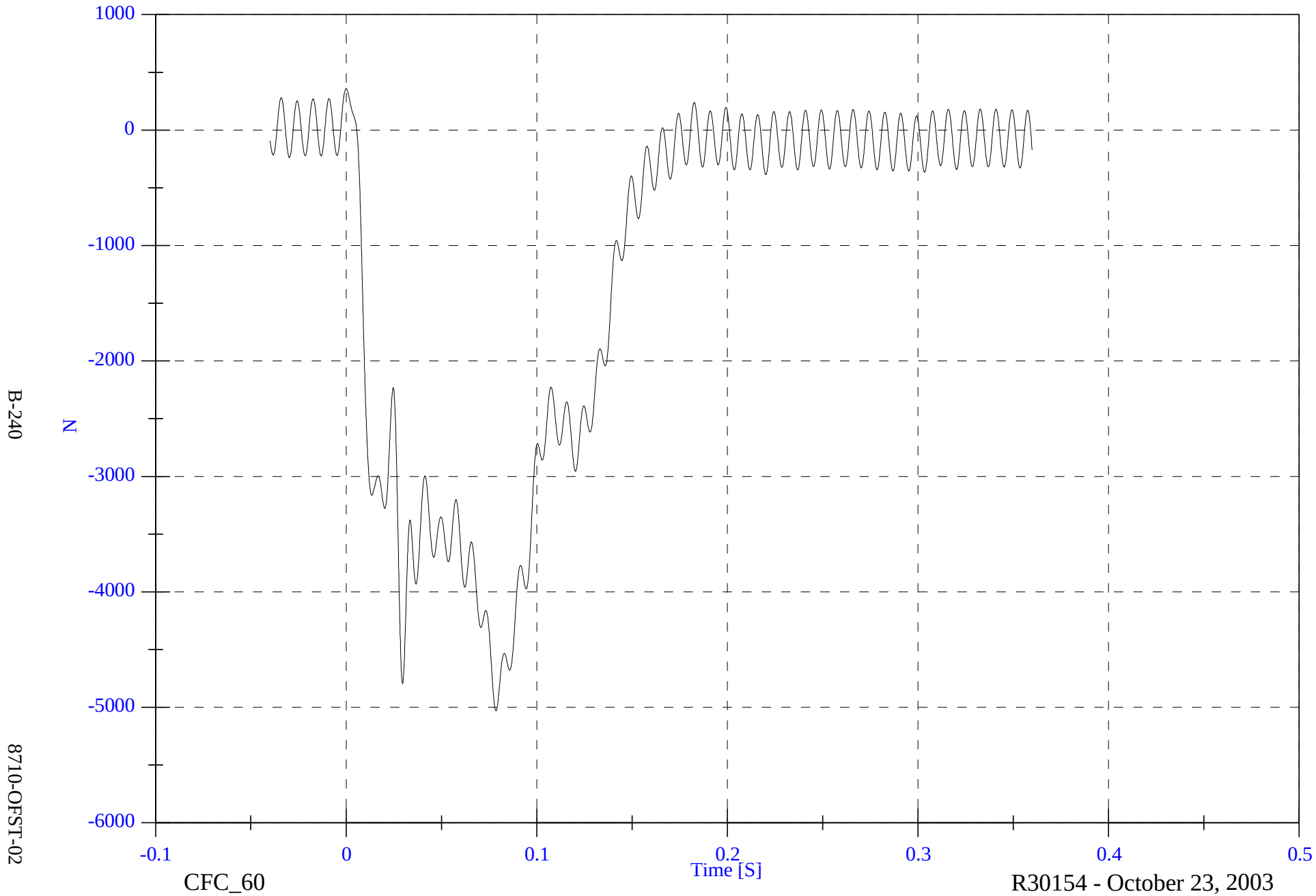


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C4 FX

Max: 359.6 [N] at -0.000 [S]

Min: -5029.8 [N] at 0.079 [S]

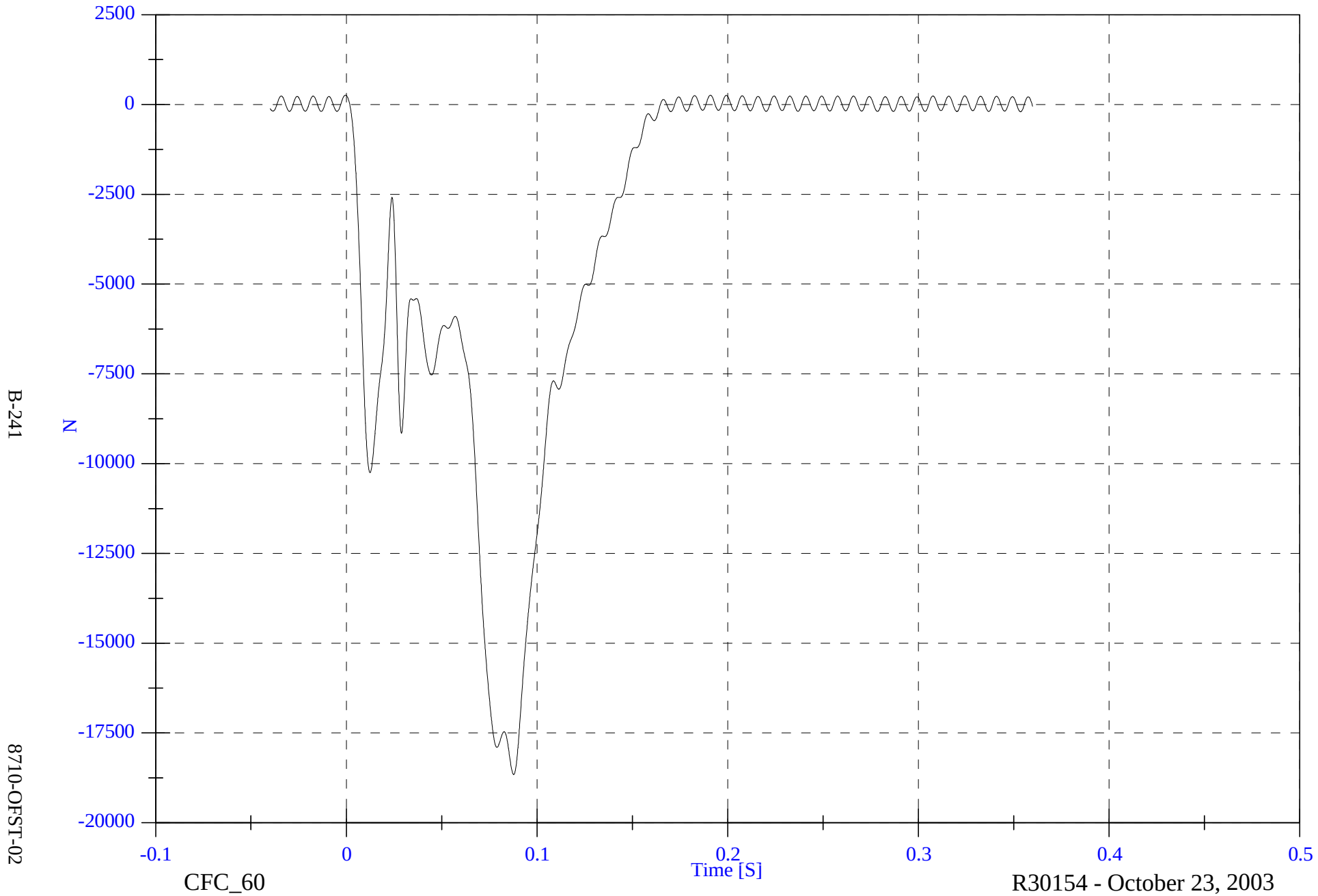


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C5 FX

Max: 261.5 [N] at -0.001 [S]

Min: -18656.9 [N] at 0.088 [S]

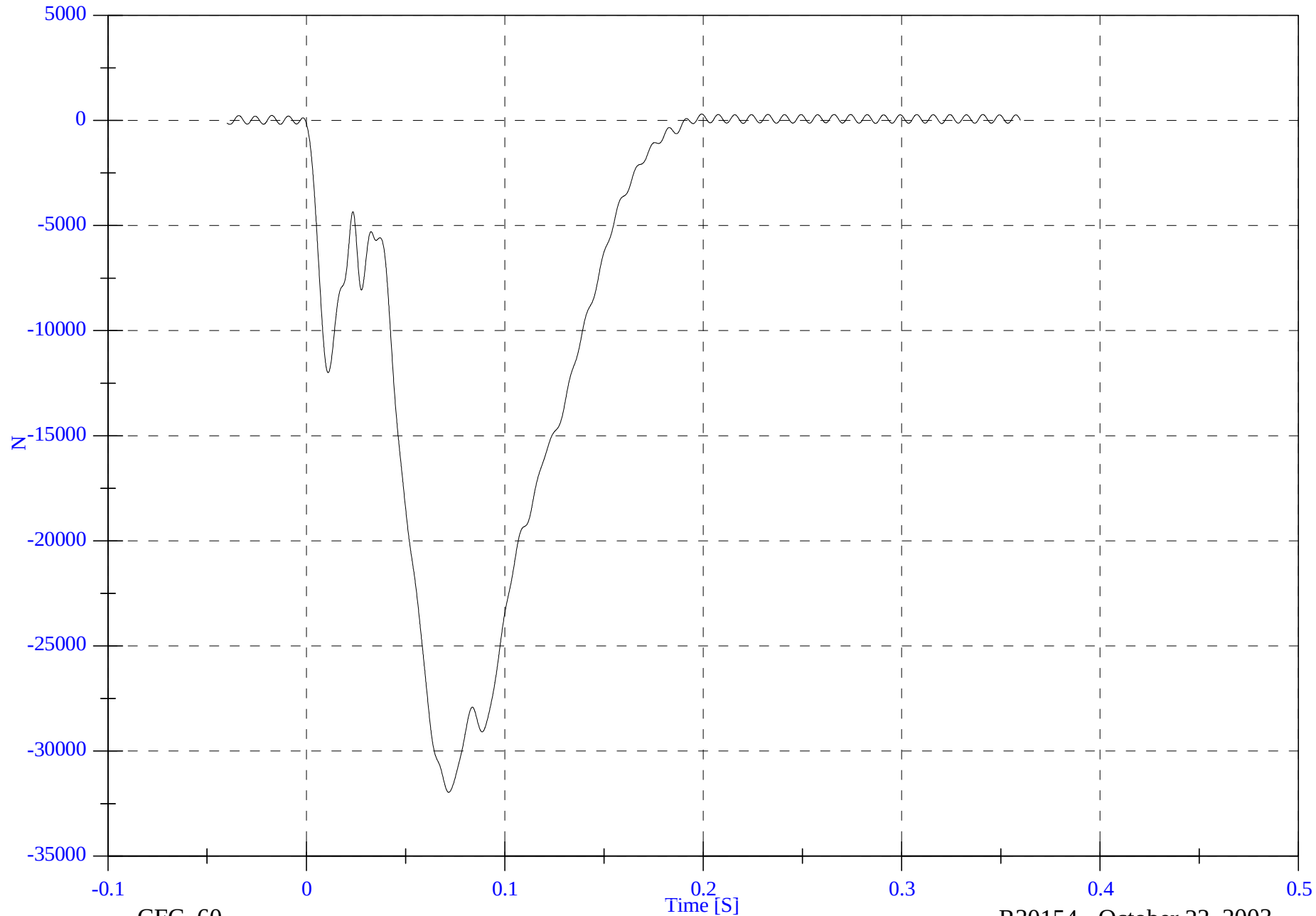


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C6 FX

Max: 305.7 [N] at 0.199 [S]

Min: -31962.1 [N] at 0.072 [S]



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8710-OFST-02

CFC_60

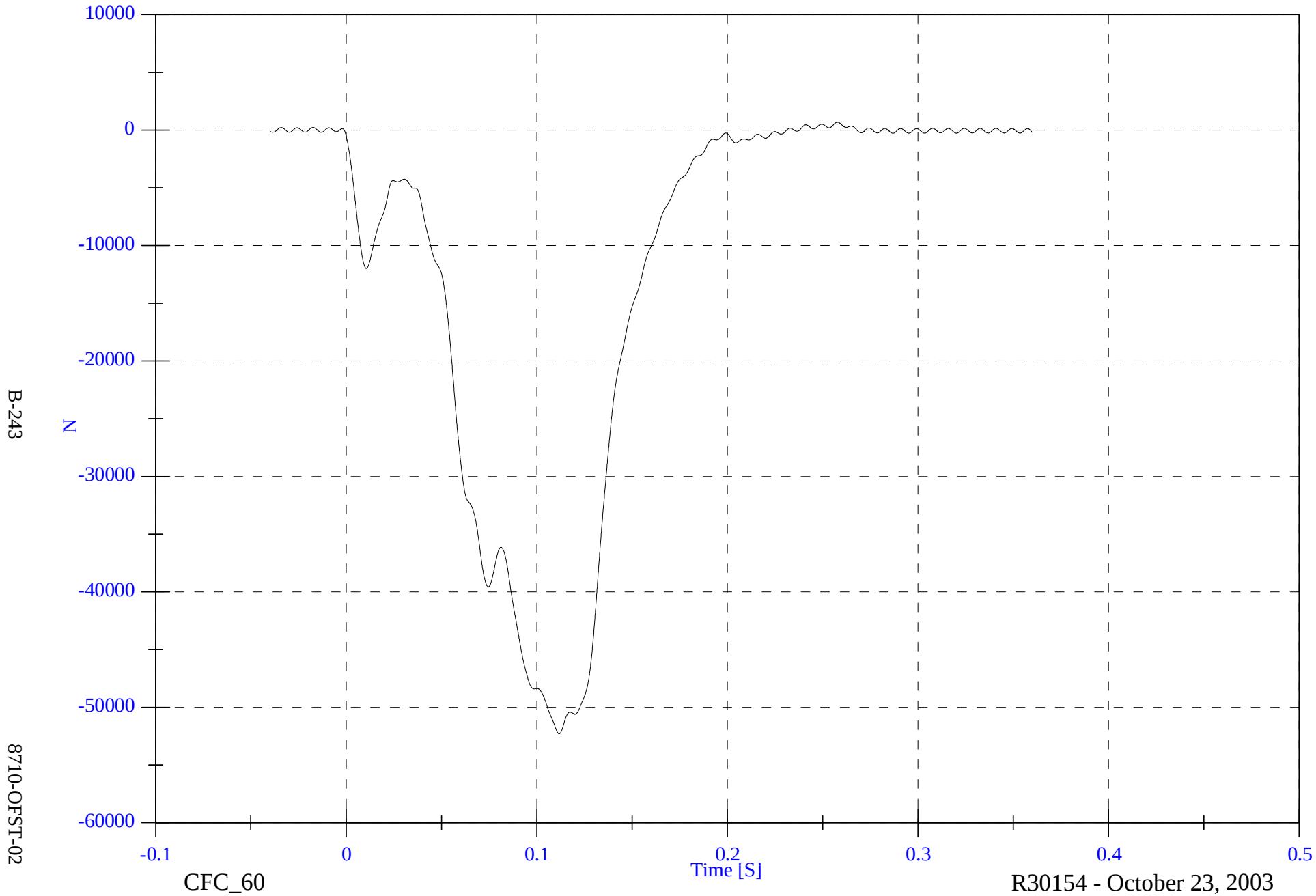
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell C7 FX

Max: 694.2 [N] at 0.258 [S]

Min: -52292.2 [N] at 0.112 [S]

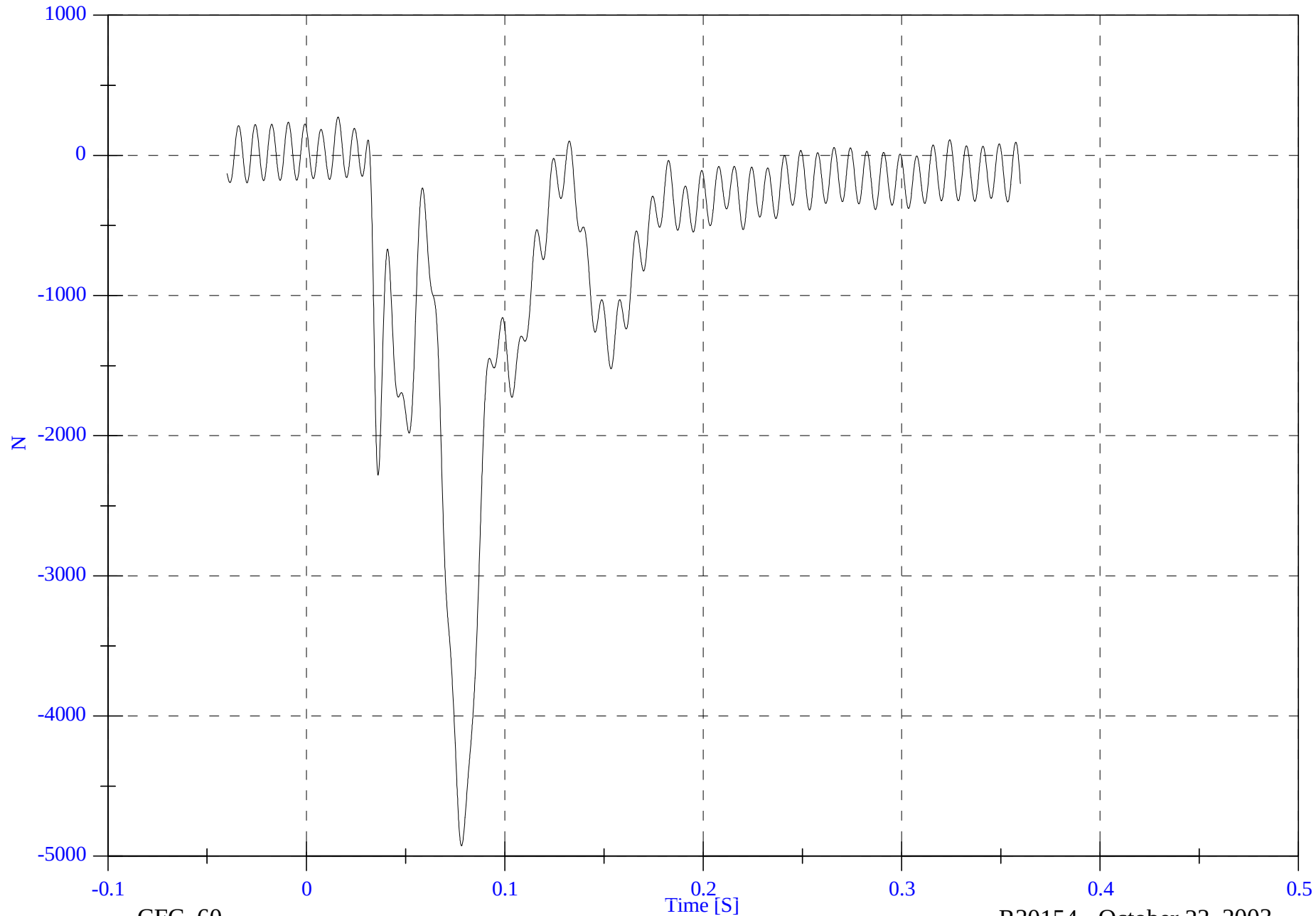


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B1 FX

Max: 273.3 [N] at 0.016 [S]

Min: -4925.6 [N] at 0.078 [S]



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8710-OFST-02

CFC_60

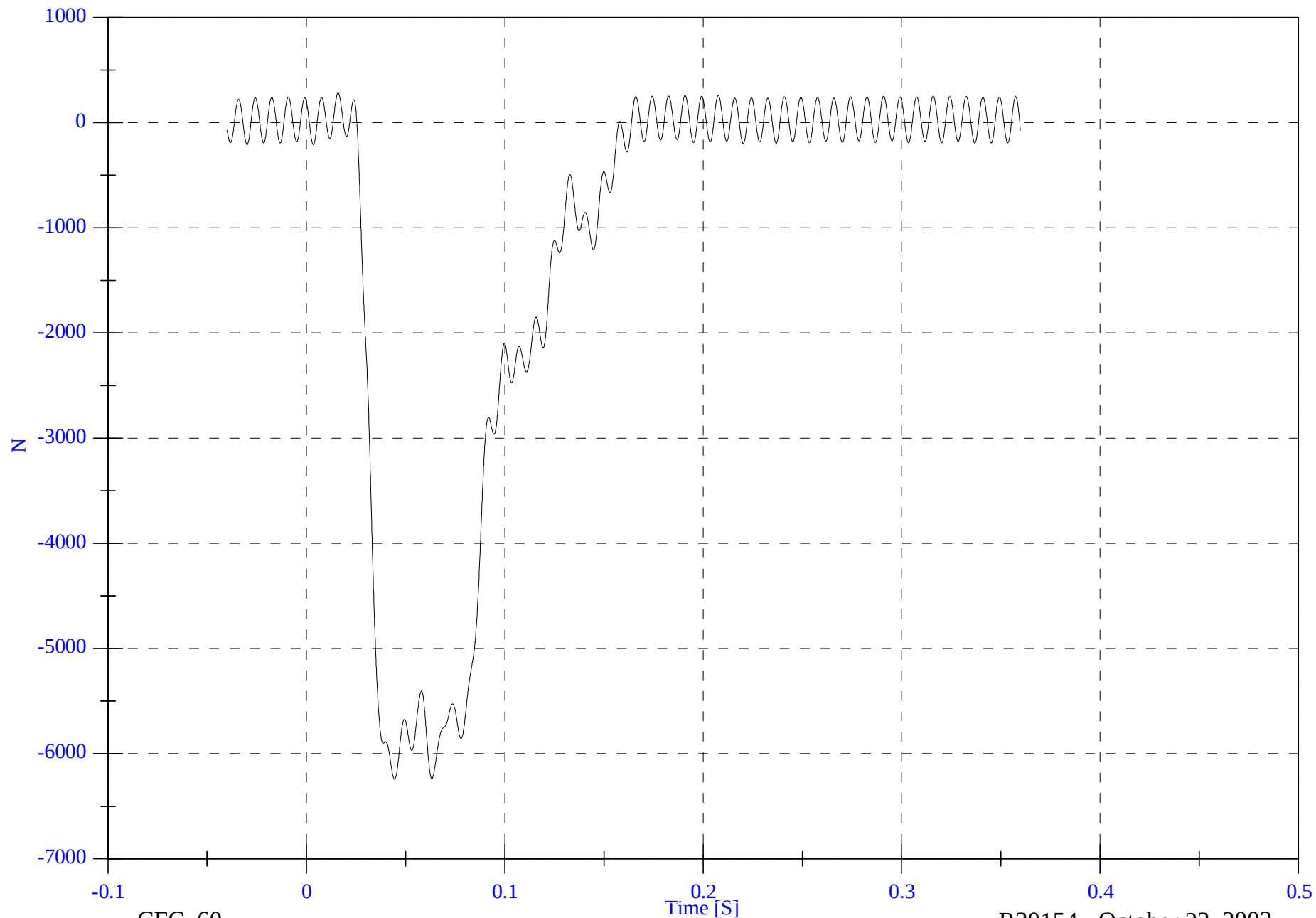
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B2 FX

Max: 282.5 [N] at 0.016 [S]

Min: -6244.8 [N] at 0.044 [S]



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8710-OFST-02

CFC_60

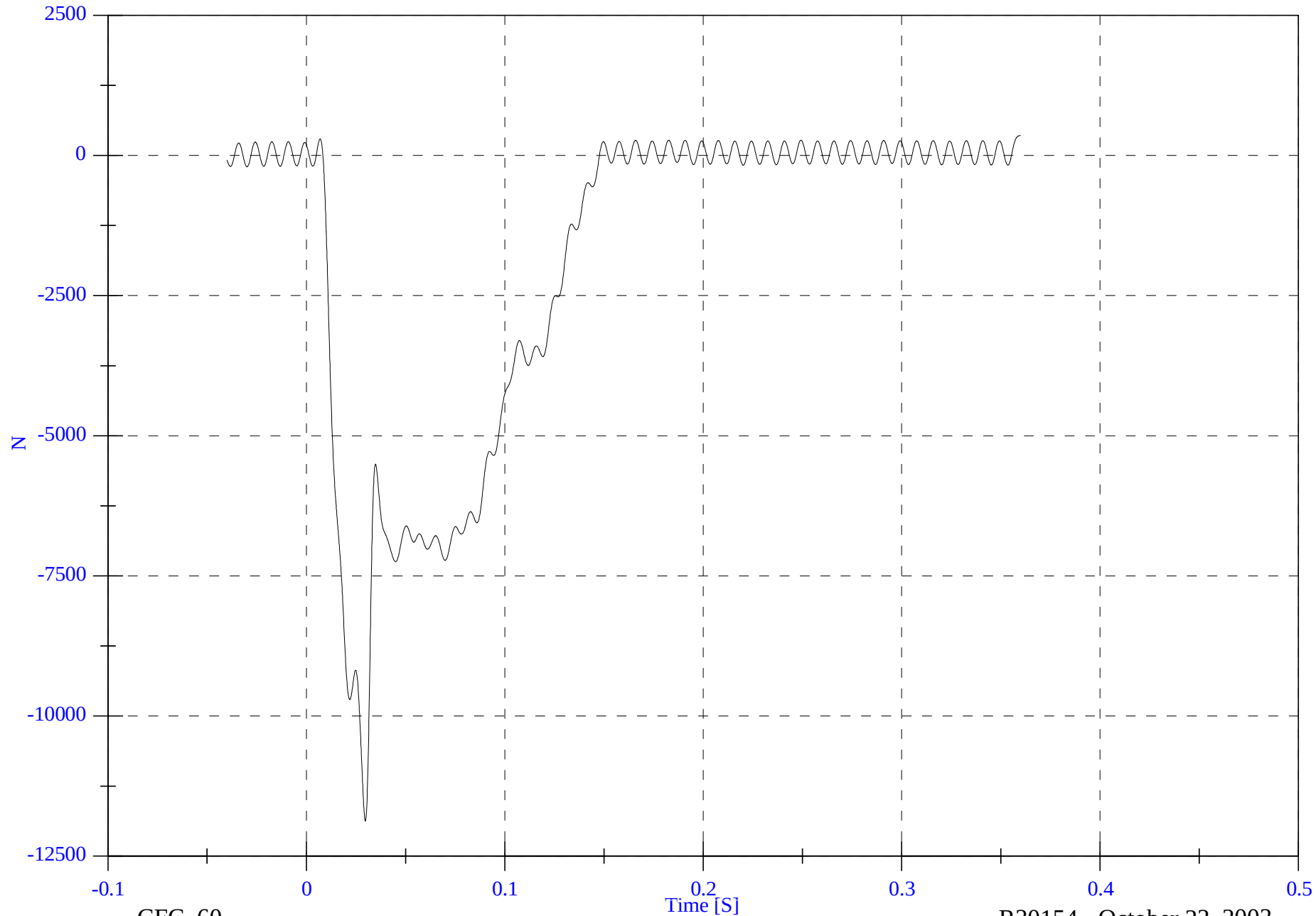
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B3 FX

Max: 359.1 [N] at 0.360 [S]

Min: -11873.1 [N] at 0.030 [S]



B-246

8710-OFST-02

CFC_60

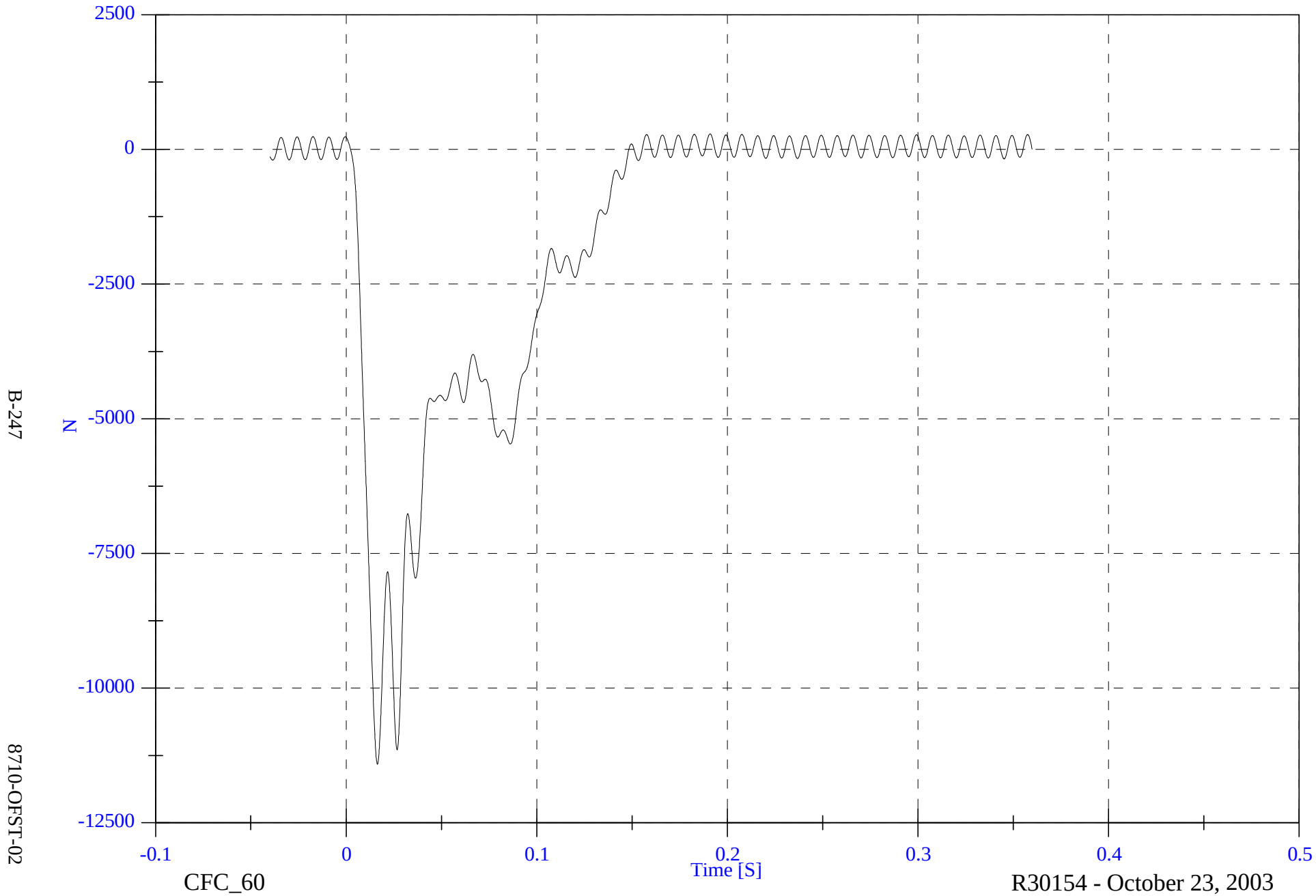
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B4 FX

Max: 287.4 [N] at 0.191 [S]

Min: -11414.0 [N] at 0.016 [S]

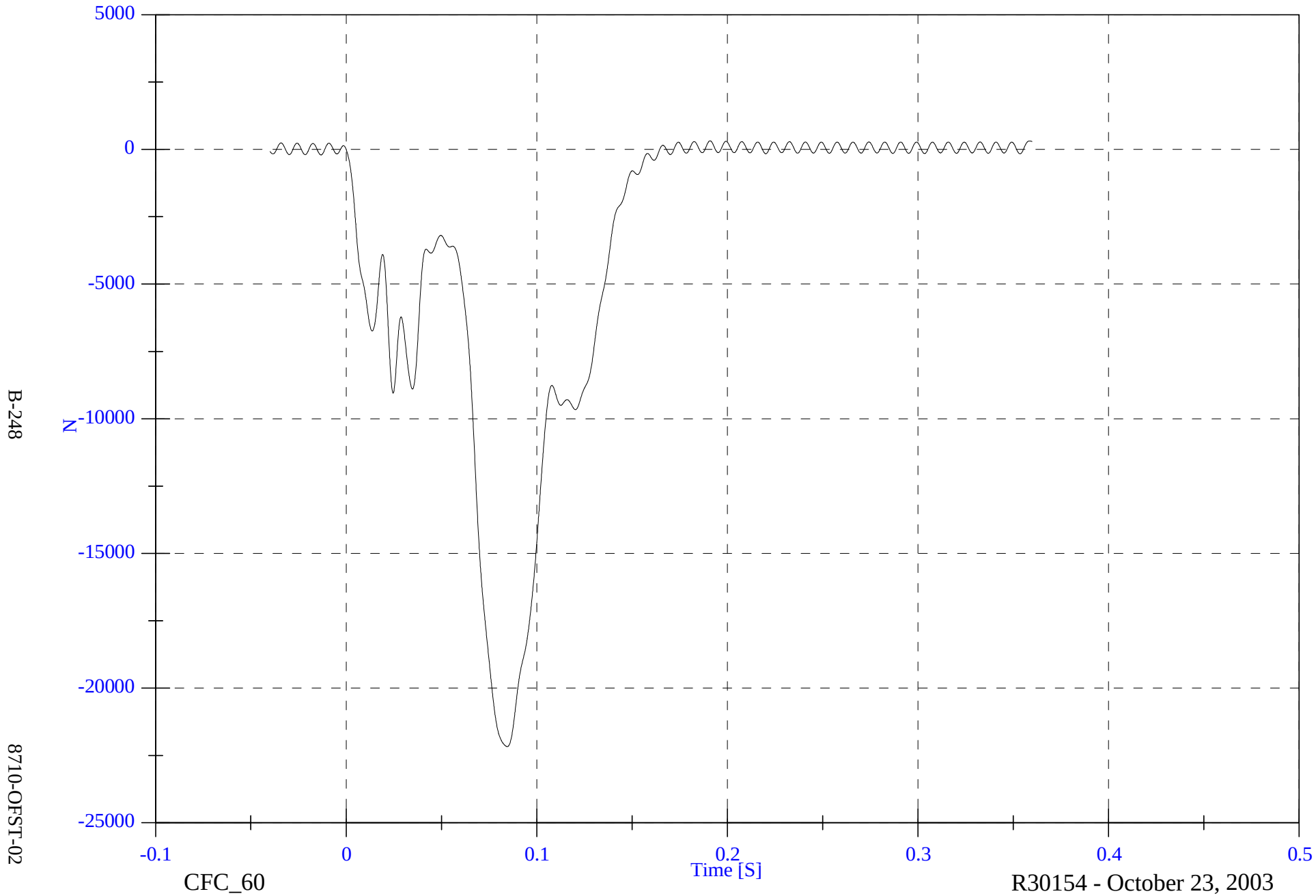


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B5 FX

Max: 318.3 [N] at 0.191 [S]

Min: -22172.5 [N] at 0.084 [S]

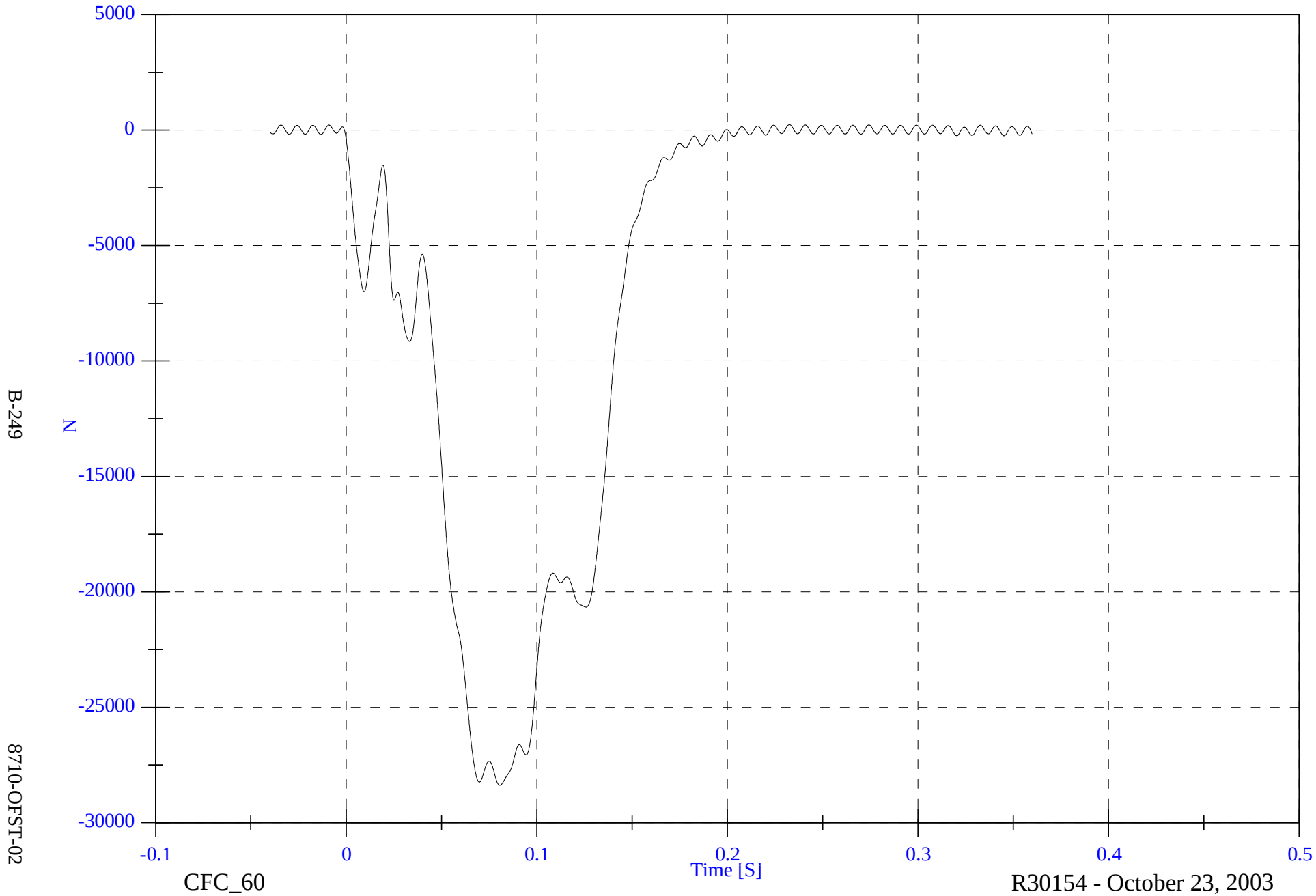


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B6 FX

Max: 241.4 [N] at 0.233 [S]

Min: -28379.3 [N] at 0.081 [S]

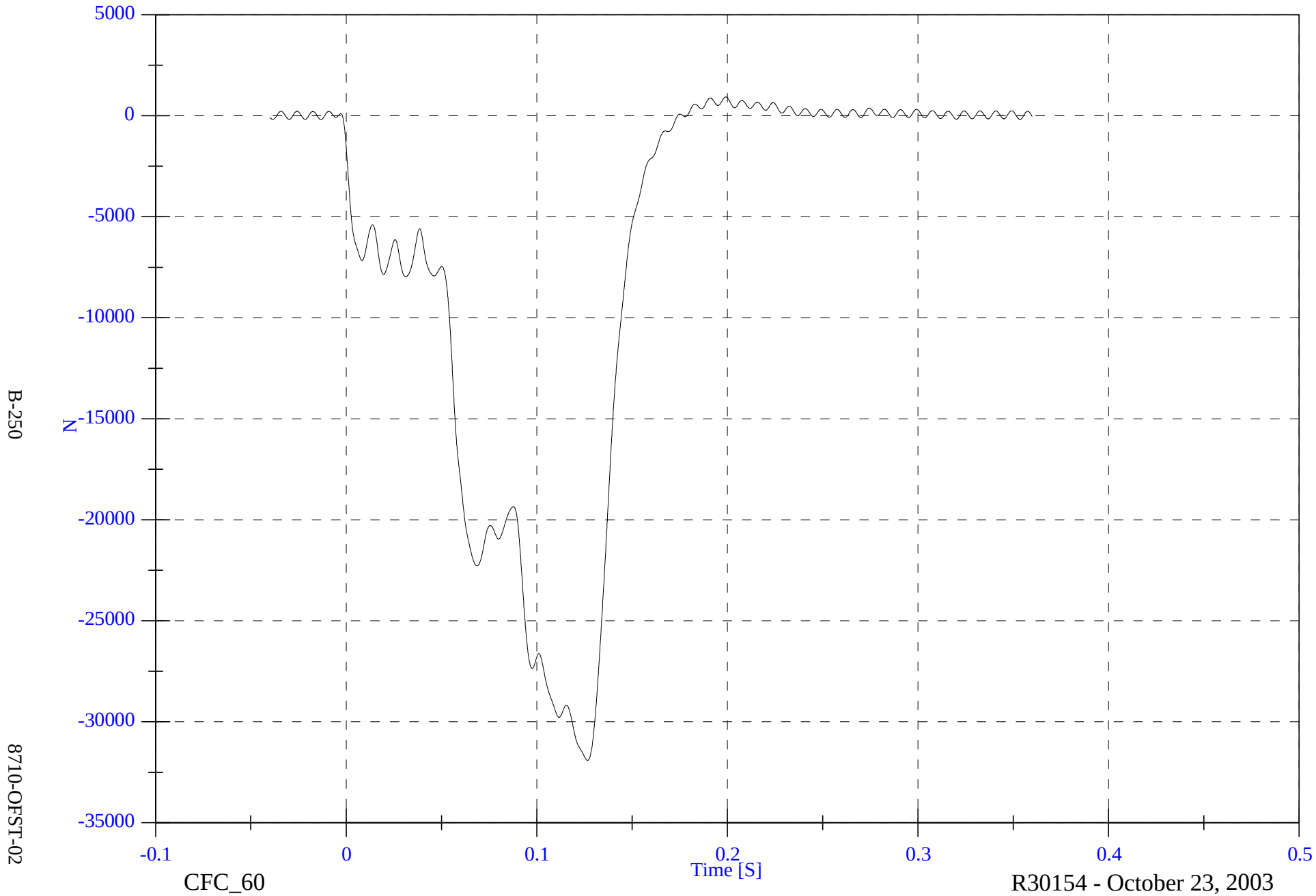


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell B7 FX

Max: 929.3 [N] at 0.199 [S]

Min: -31911.9 [N] at 0.127 [S]

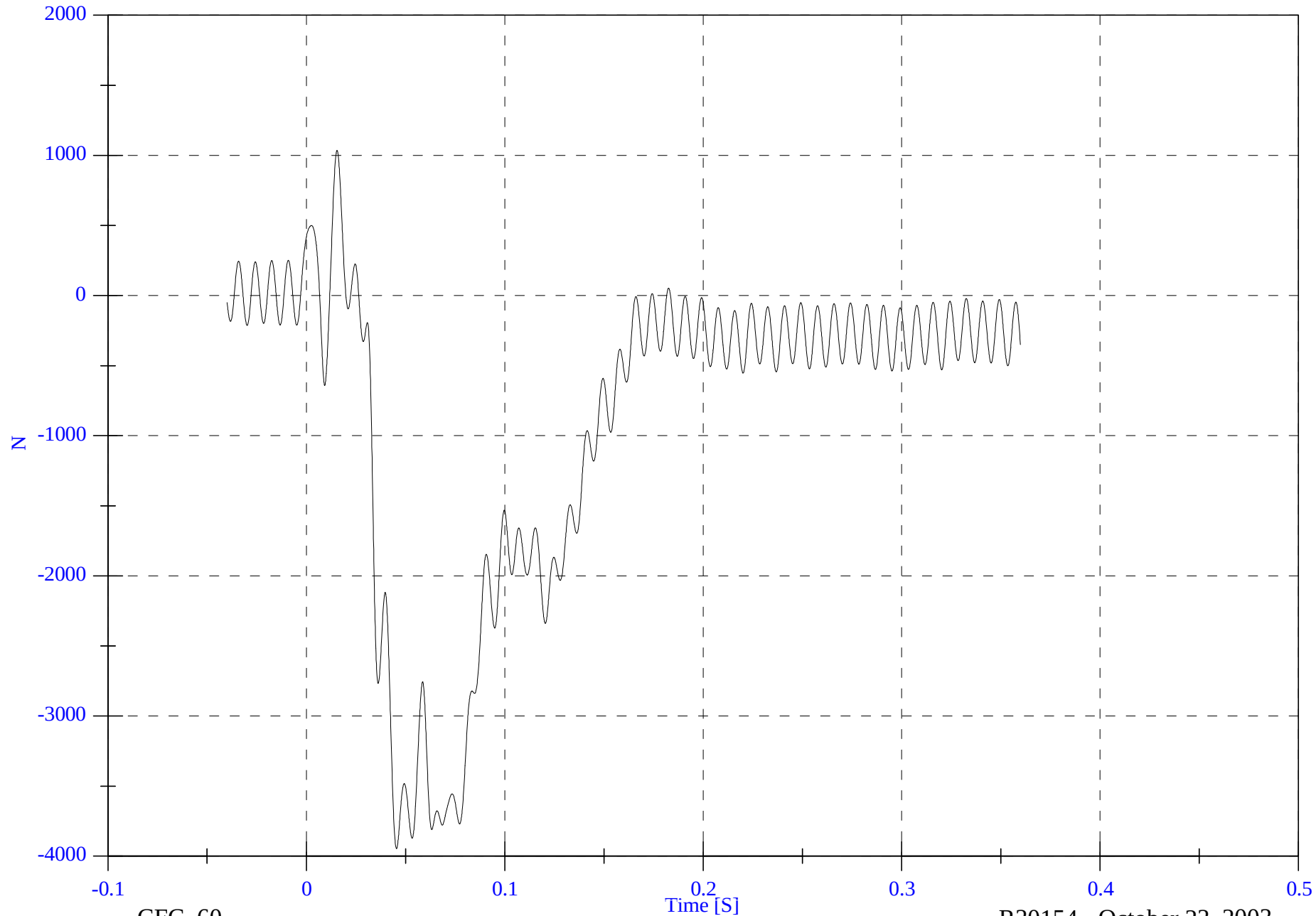


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A1 FX

Max: 1037.1 [N] at 0.015 [S]

Min: -3946.1 [N] at 0.045 [S]



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8710-OFST-02

CFC_60

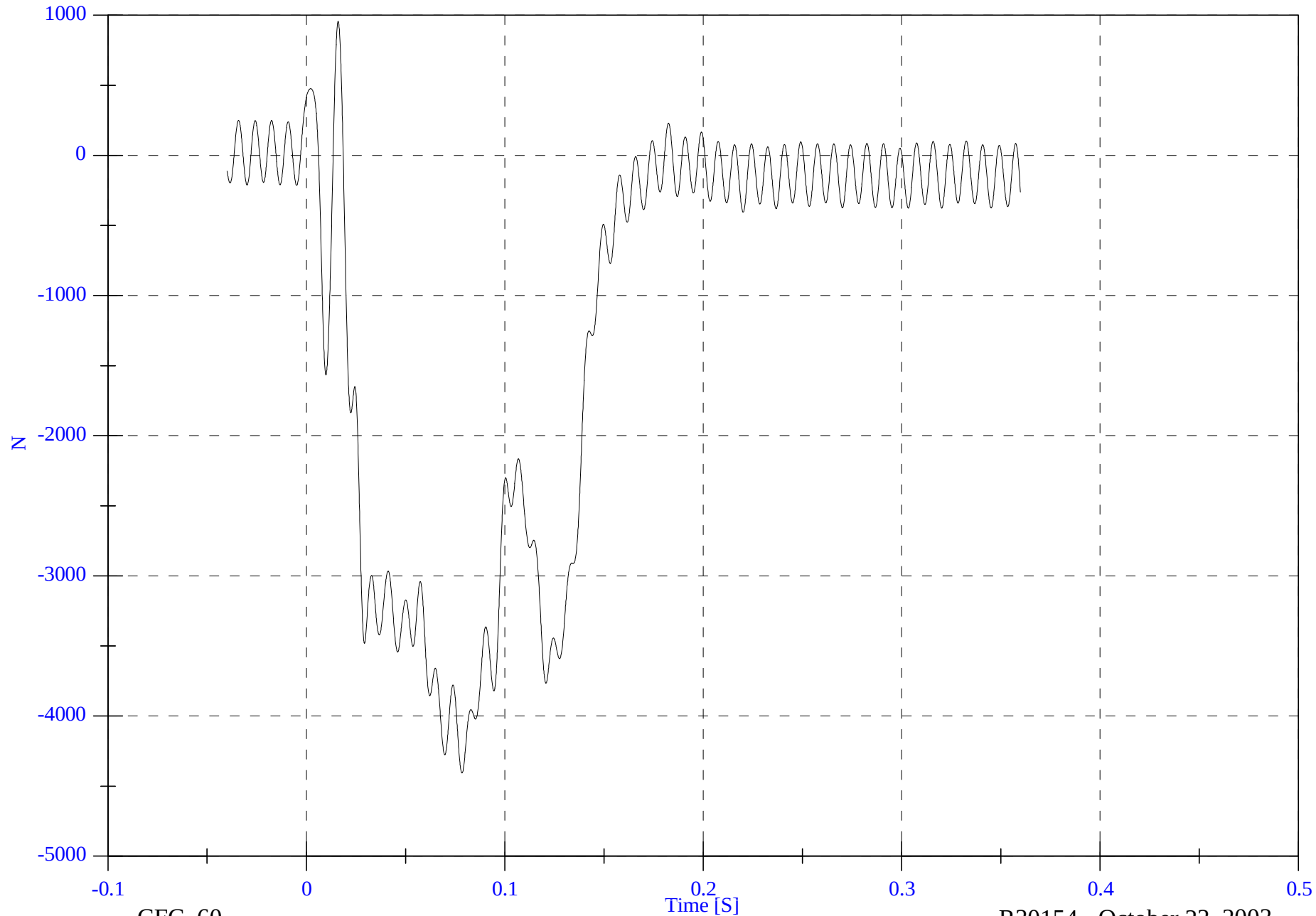
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A2 FX

Max: 957.1 [N] at 0.016 [S]

Min: -4406.5 [N] at 0.078 [S]



B-252

8710-OFST-02

CFC_60

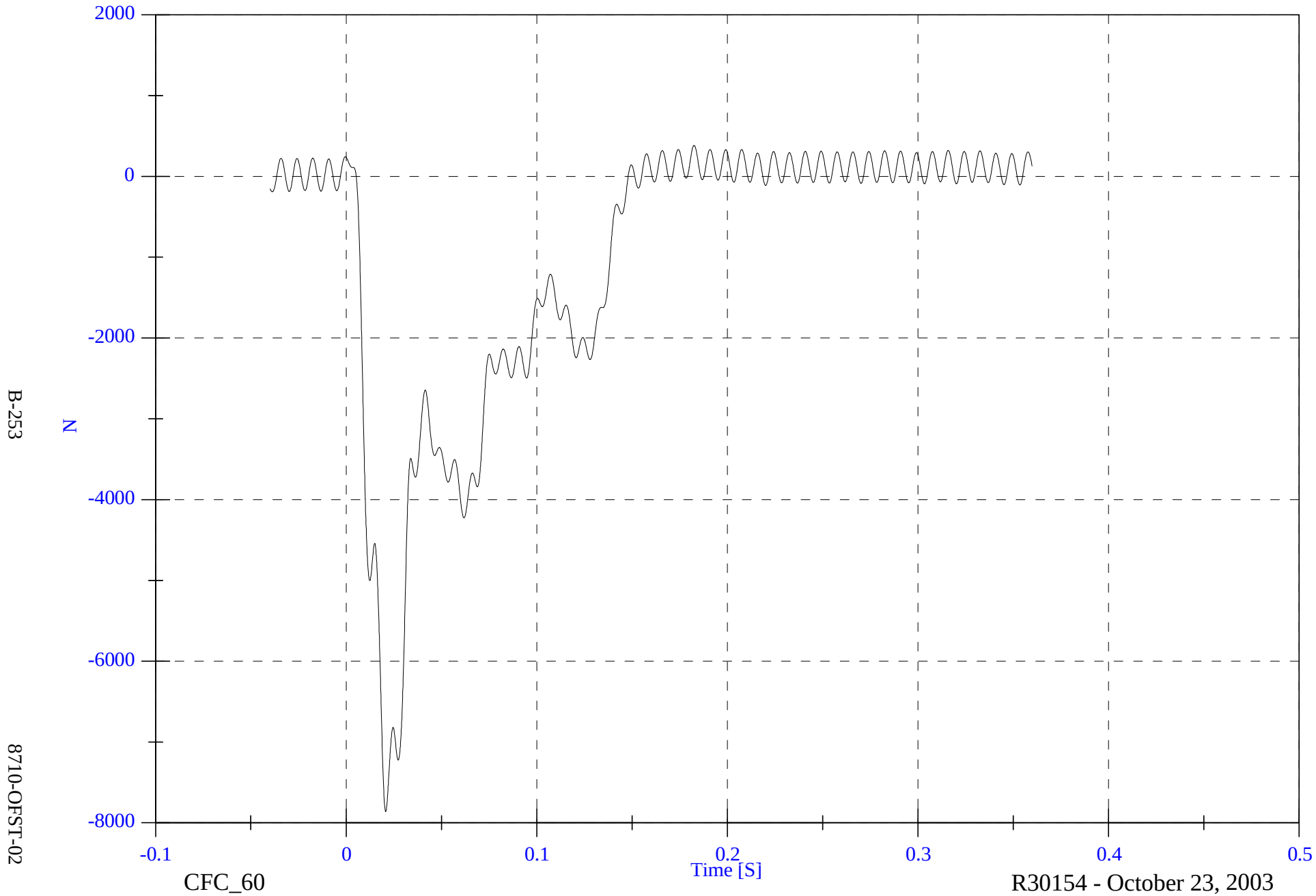
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A3 FX

Max: 382.5 [N] at 0.182 [S]

Min: -7862.6 [N] at 0.021 [S]

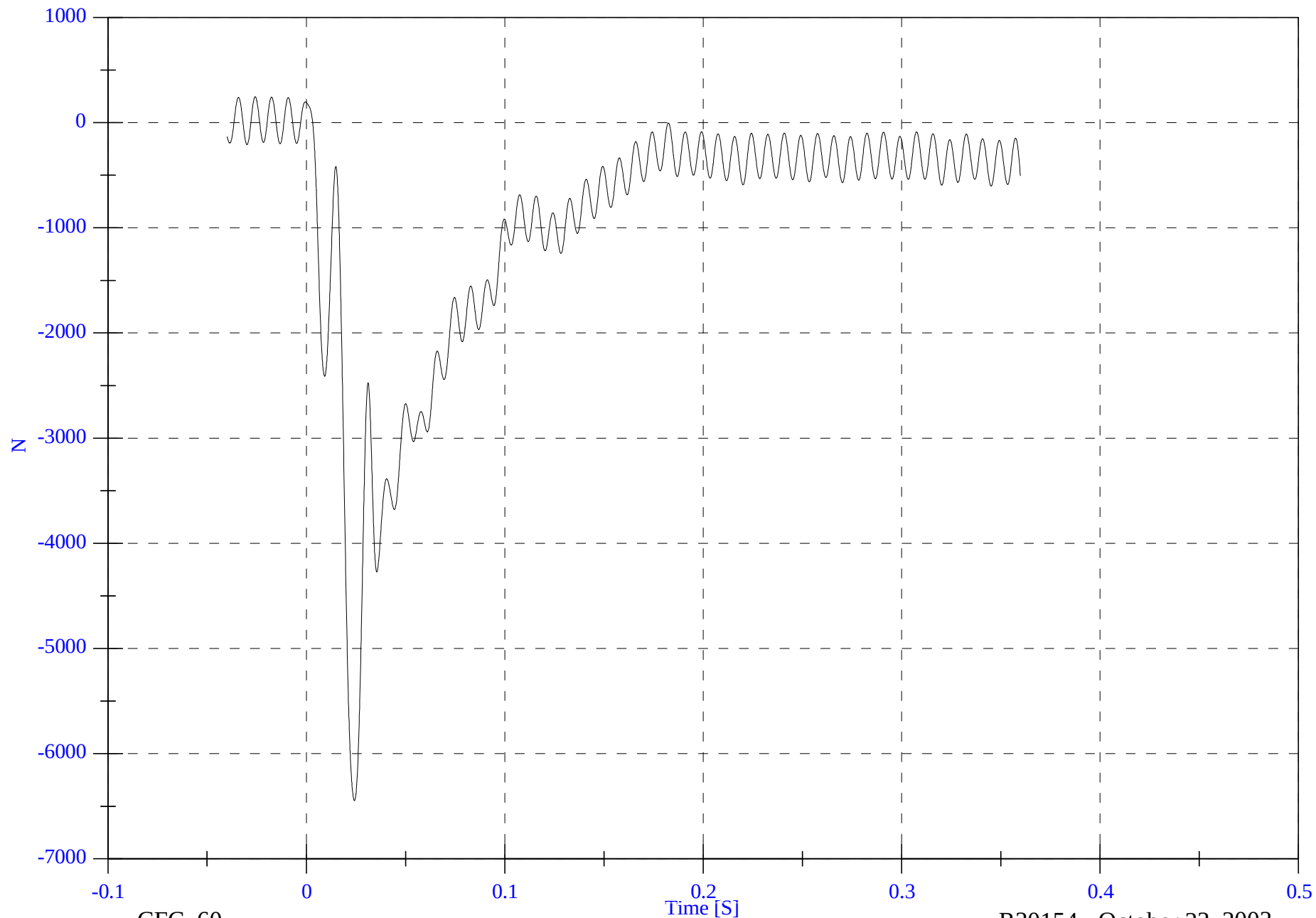


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A4 FX

Max: 245.8 [N] at -0.026 [S]

Min: -6447.2 [N] at 0.024 [S]



B-254

8710-OFST-02

CFC_60

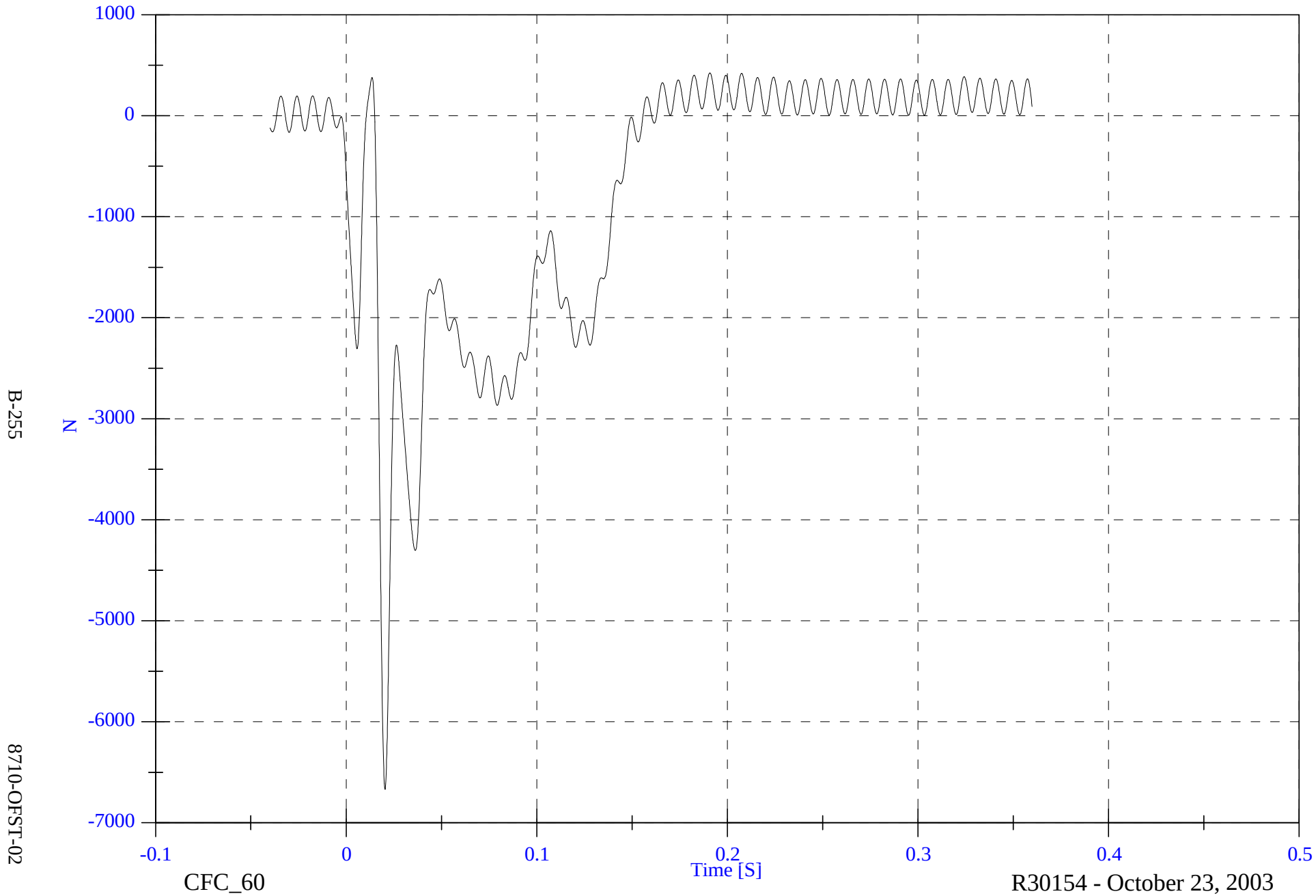
R30154 - October 23, 2003

40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A5 FX

Max: 423.6 [N] at 0.191 [S]

Min: -6670.3 [N] at 0.020 [S]

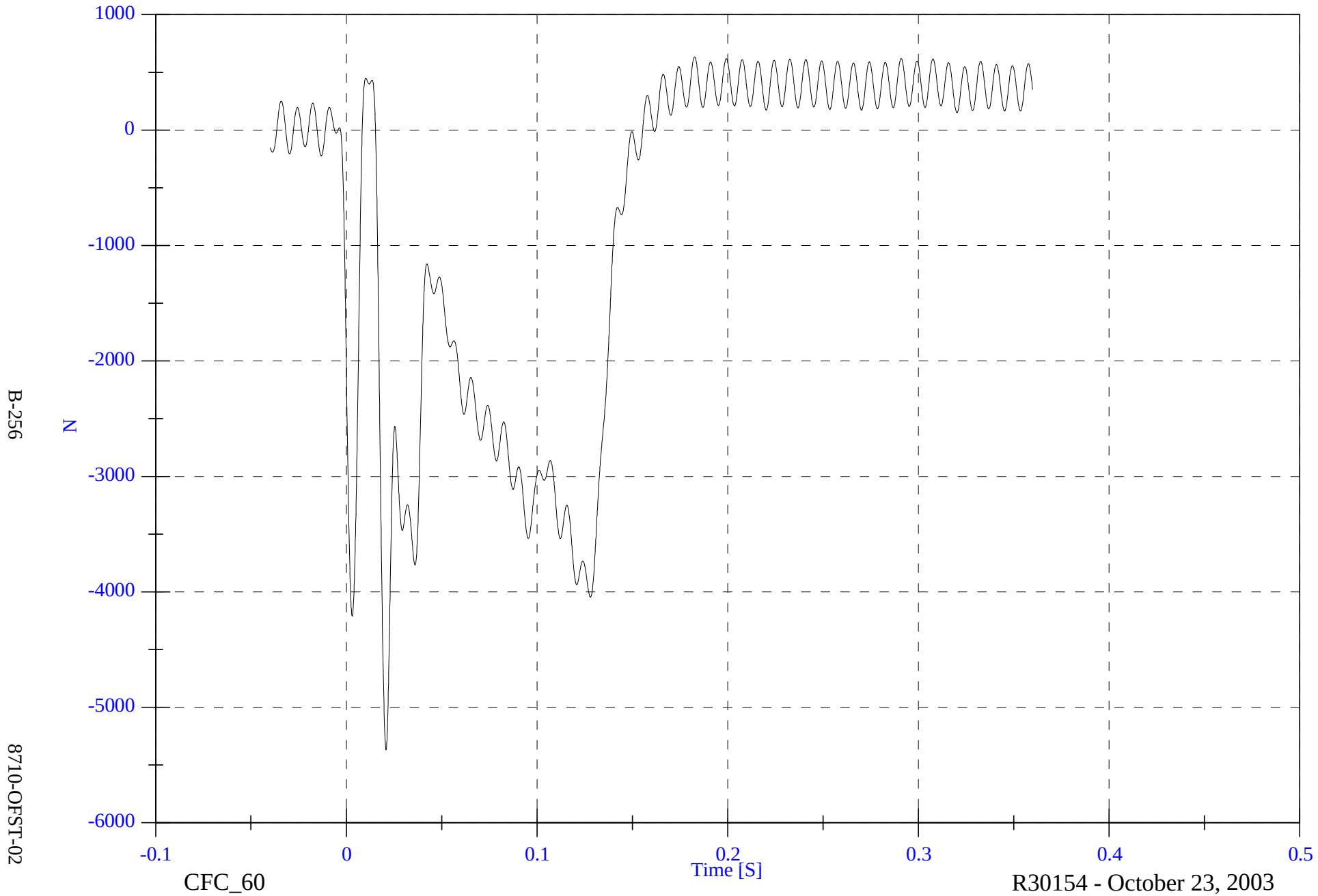


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A6 FX

Max: 634.3 [N] at 0.183 [S]

Min: -5368.8 [N] at 0.021 [S]

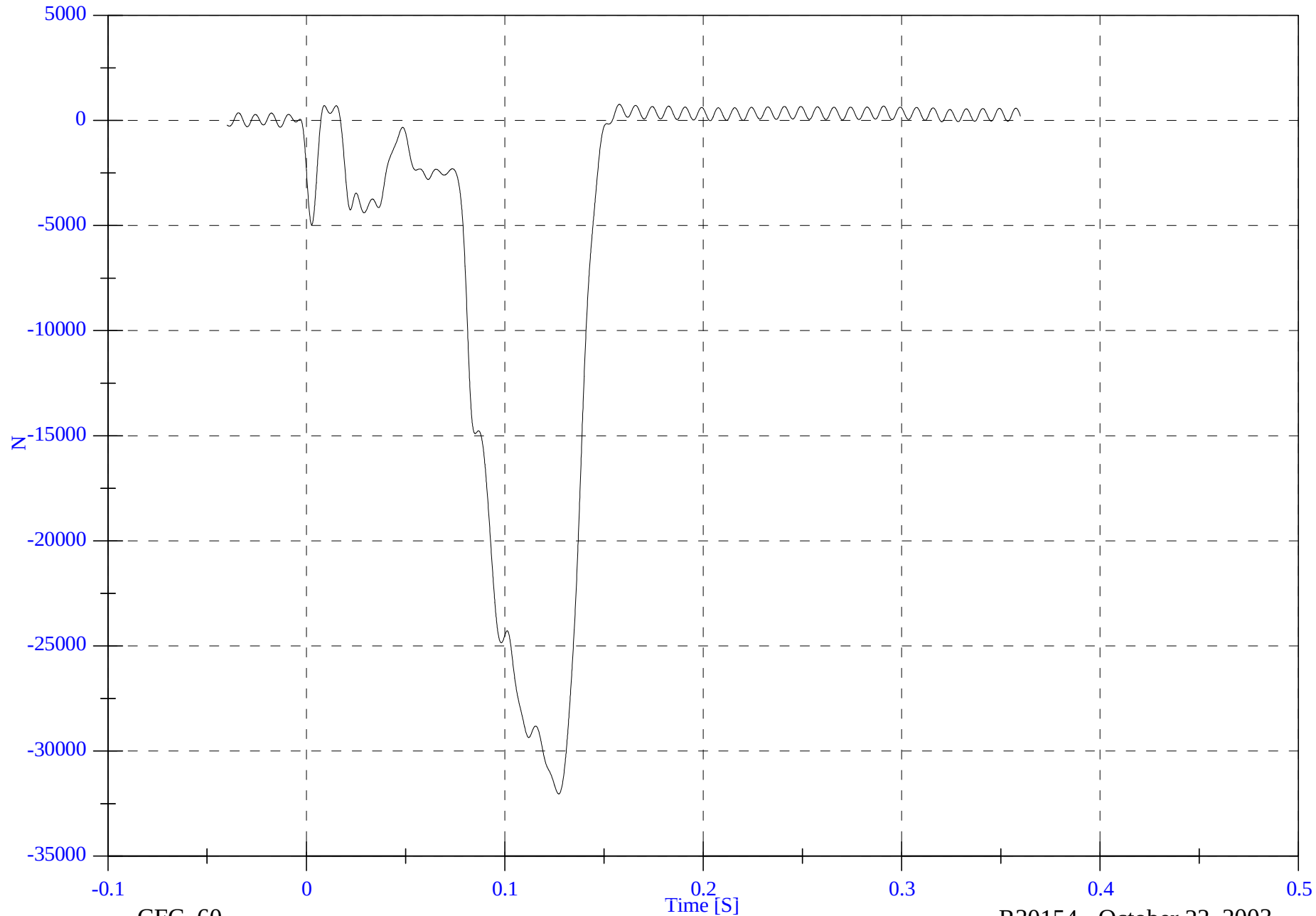


40% Offset Barrier Test #2 - 2003 Cadillac Seville

Barrier Load Cell A7 FX

Max: 766.3 [N] at 0.158 [S]

Min: -32038.1 [N] at 0.127 [S]



CFC_60

R30154 - October 23, 2003

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:

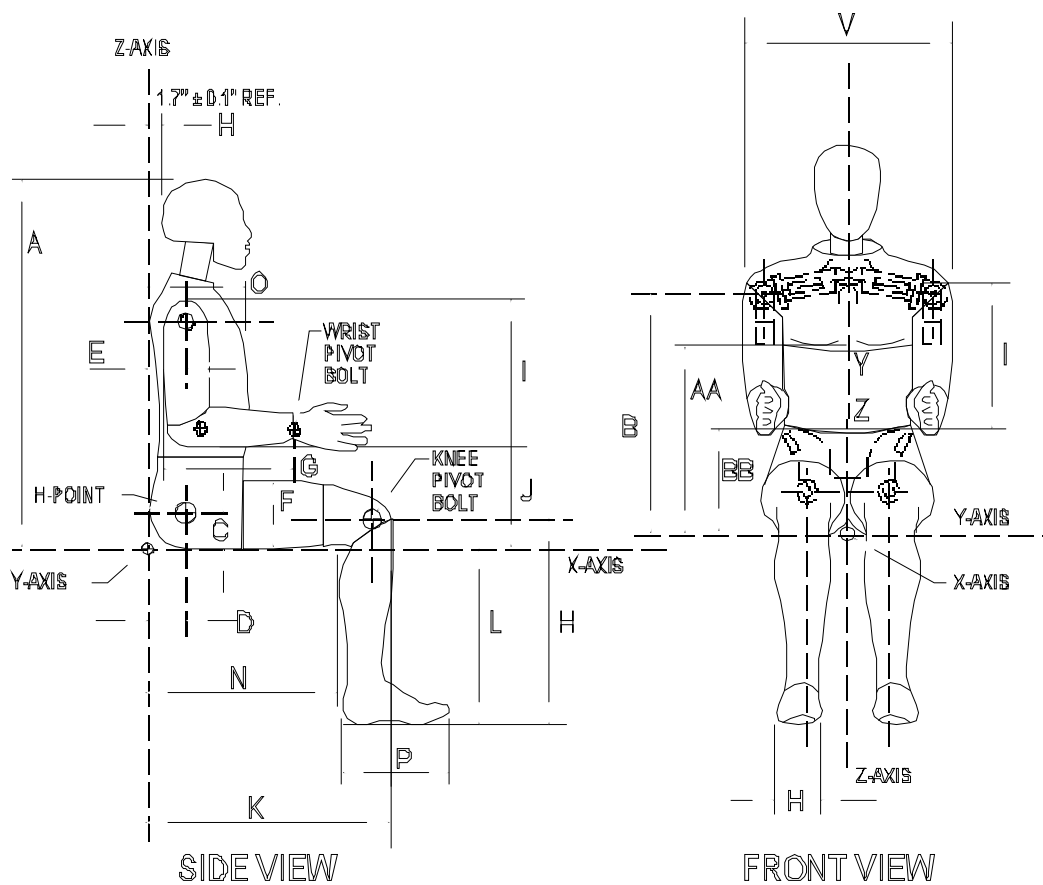
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u> <u>Pre-Test</u>	<u>Completion Date</u> <u>Post-Test</u>
#1/Driver	090	10/21/03	10/29/03
#2/Right Front Passenger	055	10/21/03	10/29/03

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 Inducant 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))

PRE-TEST CERTIFICATIONS

PART 572E
HEAD DROP TEST

Dummy Serial Number 090
Sequential Test Number 090-02
Date 10/20/03
Workfile 090H 10-20-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	31
Peak Resultant Acceleration	225-275 G's	236.42
Peak Lateral Acceleration	15 G's Max	3.68
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	090	
Sequential Test Number	090-02	
Date	10/20/03	6 Axis Neck Transducer
Workfile	090NF 10-20-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	35
Impact Velocity		22.60 - 23.40 Ft/s	22.65
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.40
	20 ms	17.60 - 22.60 G's	20.16
	30 ms	12.50 - 18.50 G's	13.96
Max Pendulum G's Above 30 ms		29 G's Max	13.96
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.00
D Plane Rotation	Max	64 - 78 Deg	72.92
	Time	57 - 64 ms	60.70
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	72.82
	Time	47 - 58 ms	58.00
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	123.30
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	100.60

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	090	
Sequential Test Number	090-02	
Date	10/20/03	6 Axis Neck Transducer
Workfile	090NE 10-20-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.00
Relative Humidity		10% - 70%	35.00
Impact Velocity		19.50 - 20.30 Ft/s	19.62
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.31
	20 ms	14.00 - 19.00 G's	15.83
	30 ms	11.00 - 16.00 G's	11.95
Max Pendulum G's Above 30 ms		22 G's Max	11.95
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	44.40
D Plane Rotation	Max	81 - 106 Deg	92.34
	Time	72 - 82 ms	78.90
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-51.43
	Time	65 - 79 ms	74.60
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	161.80
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	142.40

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 090
Sequential Test Number 090-02
Date 10/20/03
Workfile 090T 10-20-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	35.0
Pendulum Velocity	21.6 - 22.4 Ft/s	22.28
Maximum Deflection	2.50 - 2.86 in	2.70
Maximum Resistive Force	1160 - 1325 Lbs	1236.68
Internal Hysteresis	69 - 85 %	70.86

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 090
Sequential Test Number 090-02
Date 10/21/03
Workfile 090TK 10-21-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	28.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1118.79
RIGHT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	28
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1172.84

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 090
Sequential Test Number 090-02
Date 10/21/03

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			28
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	38.9
Waist Circumference	Z	32.9 - 34.1 in	33.6
Chest Depth	O	8.4 - 9.0 in	8.7
H-Point Height	C	3.3 - 3.5 in	3.5
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	34.9
Thigh Clearance	F	5.5 - 6.1 in	5.8
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.2
Foot Breadth	W	3.6 - 4.2 in	3.9
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Shoulder Pivot Height	B	19.9 - 20.5 in	20.3
Elbow Rest Height	J	7.5 - 8.3 in	7.9
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.8

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 055
Sequential Test Number 055-02
Date 10/17/03
Workfile 055H 10-17-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	38
Peak Resultant Acceleration	225-275 G's	252.83
Peak Lateral Acceleration	15 G's Max	5.61
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	055	
Sequential Test Number	055-02	
Date	10/17/03	6 Axis Neck Transducer
Workfile	055NF 10-17-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	35
Impact Velocity		22.60 - 23.40 Ft/s	22.74
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	22.75
	20 ms	17.60 - 22.60 G's	21.24
	30 ms	12.50 - 18.50 G's	14.53
Max Pendulum G's Above 30 ms		29 G's Max	14.53
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	36.80
D Plane Rotation	Max	64 - 78 Deg	77.97
	Time	57 - 64 ms	59.90
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	68.32
	Time	47 - 58 ms	47.70
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	120.80
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	106.70

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	055	
Sequential Test Number	055-02	
Date	10/17/03	6 Axis Neck Transducer
Workfile	055NE 10-17-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	35
Impact Velocity		19.50 - 20.30 Ft/s	19.55
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.30
	20 ms	14.00 - 19.00 G's	15.90
	30 ms	11.00 - 16.00 G's	12.83
Max Pendulum G's Above 30 ms		22 G's Max	12.83
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	44.30
D Plane Rotation	Max	81 - 106 Deg	101.64
	Time	72 - 82 ms	79.50
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-58.71
	Time	65 - 79 ms	76.50
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	164.80
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	144.70

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 055
Sequential Test Number 055-02
Date 10/20/03
Workfile 055T 10-20-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	35
Pendulum Velocity	21.6 - 22.4 Ft/s	22.25
Maximum Deflection	2.50 - 2.86 in	2.55
Maximum Resistive Force	1160 - 1325 Lbs	1230.31
Internal Hysteresis	69 - 85 %	75.80

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 055
Sequential Test Number 055-02
Date 10/21/03
Workfile 055TK 10-21-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	28
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1193.39
RIGHT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	28
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1110.98

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 055
Sequential Test Number 055-02
Date 10/21/03

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			28
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	38.9
Waist Circumference	Z	32.9 - 34.1 in	33.8
Chest Depth	O	8.4 - 9.0 in	8.9
H-Point Height	C	3.3 - 3.5 in	3.5
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	34.9
Thigh Clearance	F	5.5 - 6.1 in	5.9
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.7
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.3
Foot Breadth	W	3.6 - 4.2 in	3.9
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
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	7.9
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.5
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.9

Remarks:

Laboratory Technician:

B. Swiecicki

POST-TEST CERTIFICATIONS

PART 572E
HEAD DROP TEST

Dummy Serial Number 090
Sequential Test Number 090-03
Date 10-27-03
Workfile 090H1 10-27-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70.0
Relative Humidity	10% - 70%	47.0
Peak Resultant Acceleration	225-275 G's	273.53
Peak Lateral Acceleration	15 G's Max	8.55
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	090	
Sequential Test Number	090-03	
Date	10-28-03	6 Axis Neck Transducer
Workfile	090NF 10-28-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	34.0
Impact Velocity		22.60 - 23.40 Ft/s	22.70
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	22.73
	20 ms	17.60 - 22.60 G's	21.54
	30 ms	12.50 - 18.50 G's	14.71
Max Pendulum G's Above 30 ms		29 G's Max	14.71
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.10
D Plane Rotation	Max	64 - 78 Deg	71.35
	Time	57 - 64 ms	59.70
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	79.34
	Time	47 - 58 ms	52.60
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	118.30
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	99.10

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	090	
Sequential Test Number	090-03	
Date	10-28-03	6 Axis Neck Transducer
Workfile	090NE 10-28-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	37.0
Impact Velocity		19.50 - 20.30 Ft/s	19.62
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.26
	20 ms	14.00 - 19.00 G's	16.07
	30 ms	11.00 - 16.00 G's	12.57
Max Pendulum G's Above 30 ms		22 G's Max	12.57
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	44.60
D Plane Rotation	Max	81 - 106 Deg	98.74
	Time	72 - 82 ms	81.30
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-68.19
	Time	65 - 79 ms	75.60
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	165.20
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	140.30

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 090
Sequential Test Number 090-03
Date 10-29-03
Workfile 090T 10-29-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	41.0
Pendulum Velocity	21.6 - 22.4 Ft/s	22.10
Maximum Deflection	2.50 - 2.86 in	2.52
Maximum Resistive Force	1160 - 1325 Lbs	1282.26
Internal Hysteresis	69 - 85 %	72.74

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 090
Sequential Test Number 090-03
Date 10-29-03
Workfile 055LF 10-29-03; 055RF 10-29-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	41.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1169.97
RIGHT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	41.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1206.54

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 090
Sequential Test Number 090-03
Date 10-29-03

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			41
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	38.9
Waist Circumference	Z	32.9 - 34.1 in	33.6
Chest Depth	O	8.4 - 9.0 in	8.7
H-Point Height	C	3.3 - 3.5 in	3.5
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	34.9
Thigh Clearance	F	5.5 - 6.1 in	5.8
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.2
Foot Breadth	W	3.6 - 4.2 in	3.9
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Shoulder Pivot Height	B	19.9 - 20.5 in	20.3
Elbow Rest Height	J	7.5 - 8.3 in	7.9
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.8

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 055
Sequential Test Number 055-03
Date 10-27-03
Workfile 055H1 10-27-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70.0
Relative Humidity	10% - 70%	47.0
Peak Resultant Acceleration	225-275 G's	256.65
Peak Lateral Acceleration	15 G's Max	1.34
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	055	
Sequential Test Number	055-03	
Date	10-28-03	6 Axis Neck Transducer
Workfile	055NF5 10-28-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	34.0
Impact Velocity		22.60 - 23.40 Ft/s	22.74
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.88
	20 ms	17.60 - 22.60 G's	21.72
	30 ms	12.50 - 18.50 G's	14.82
Max Pendulum G's Above 30 ms		29 G's Max	14.82
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.50
D Plane Rotation	Max	64 - 78 Deg	72.38
	Time	57 - 64 ms	61.50
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	79.52
	Time	47 - 58 ms	52.40
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	126.50
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.20

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	055	
Sequential Test Number	055-03	
Date	10-27-03	6 Axis Neck Transducer
Workfile	055NE 10-27-03	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	47.0
Impact Velocity		19.50 - 20.30 Ft/s	19.69
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.94
	20 ms	14.00 - 19.00 G's	14.32
	30 ms	11.00 - 16.00 G's	12.69
Max Pendulum G's Above 30 ms		22 G's Max	13.01
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	42.90
D Plane Rotation	Max	81 - 106 Deg	100.87
	Time	72 - 82 ms	81.10
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-71.40
	Time	65 - 79 ms	75.00
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	166.70
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	146.60

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 055
Sequential Test Number 055-03
Date 10-29-03
Workfile 055T 10-29-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	41.0
Pendulum Velocity	21.6 - 22.4 Ft/s	22.16
Maximum Deflection	2.50 - 2.86 in	2.55
Maximum Resistive Force	1160 - 1325 Lbs	1244.05
Internal Hysteresis	69 - 85 %	77.63

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 055
Sequential Test Number 055-03
Date 10-29-03
Workfile 055LF 10-29-03; 055RF 10-29-03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	41.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1217.70
RIGHT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	41.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1195.76

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 055
Sequential Test Number 055-03
Date 10-29-03

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			41
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	38.9
Waist Circumference	Z	32.9 - 34.1 in	33.8
Chest Depth	O	8.4 - 9.0 in	8.9
H-Point Height	C	3.3 - 3.5 in	3.5
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	34.9
Thigh Clearance	F	5.5 - 6.1 in	5.9
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.7
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.3
Foot Breadth	W	3.6 - 4.2 in	3.9
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
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	7.9
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.5
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.9

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 090)		Manufacturer	Serial #	Calibration
Head X Arm	Y	ENDEVCO	AC-ACCP9	11-Sep-03
	Z	ENDEVCO	AC-J29006	11-Sep-03
Head Y Arm	X	ENDEVCO	AC-J27523	11-Sep-03
	Z	ENDEVCO	AC-J27457	11-Sep-03
Head Z Arm	X	ENDEVCO	AC-J27466	11-Sep-03
	Y	ENDEVCO	AC-J27470	11-Sep-03
Head CG	X	ENDEVCO	AC-J14660	11-Sep-03
	Y	ENDEVCO	AC-J19873	11-Sep-03
	Z	ENDEVCO	AC-J36744	11-Sep-03
Head CG	X (R)	ENTRAN	AC-03E03D30-N01	19-Sep-03
	Y (R)	ENTRAN	AC-03F03E29-N04	19-Sep-03
	Z (R)	ENTRAN	AC-03F03E30-M02	19-Sep-03
Upper Neck Load Cell	X	DENTON	LC-810Fx	9-Sep-03
	Y	DENTON	LC-810Fy	9-Sep-03
	Z	DENTON	LC-810Fz	9-Sep-03
Upper Neck Moment	X	DENTON	LC-810Mx	9-Sep-03
	Y	DENTON	LC-810My	9-Sep-03
	Z	DENTON	LC-810Mz	9-Sep-03
Lower Neck Load Cell	X	DENTON	LC-215-Fx	9-Sep-03
	Y	DENTON	LC-215-Fy	9-Sep-03
	Z	DENTON	LC-215-Fz	9-Sep-03
Lower Neck Moment	X	DENTON	LC-215-Mx	9-Sep-03
	Y	DENTON	LC-215-My	9-Sep-03
	Z	DENTON	LC-215-Mz	9-Sep-03

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 090)		Manufacturer	Serial #	Calibration
Chest	X	ENDEVCO	AC-AAKE2	11-Sep-03
	Y	ENDEVCO	AC-AAJY4	11-Sep-03
	Z	ENDEVCO	AC-AF973	11-Sep-03
Chest	X (R)	ENDEVCO	AC-J14666	11-Sep-03
	Y (R)	ENDEVCO	AC-AAKA2	11-Sep-03
	Z (R)	ENDEVCO	AC-AF9Y5	11-Sep-03
Chest Deflection Gauge	Dx	SERVO	DS-090	17-Sep-03
Left Femur Load	Z	DENTON	LC-729	8-Sep-03
Right Femur Load	Z	DENTON	LC-726	8-Sep-03
Left Knee Shear Dx		DENTON	DS-13739	12-Oct-03
Right Knee Shear Dx		DENTON	DS-13723	12-Oct-03
Left Upper Tibia	Fx	DENTON	LC-076FX[4353]	21-Aug-03
	Fz	DENTON	LC-076FZ[4353]	21-Aug-03
	Mx	DENTON	LC-076MX[4353]	21-Aug-03
	My	DENTON	LC-076MY[4353]	21-Aug-03
Left Lower Tibia	Fx	DENTON	LC-077Fx	21-Aug-03
	Fy	DENTON	LC-077Fy	21-Aug-03
	Fz	DENTON	LC-077Fz	21-Aug-03
	Mx	DENTON	LC-077Mx	21-Aug-03
	My	DENTON	LC-077My	21-Aug-03
Right Upper Tibia	Fx	DENTON	LC-075FX[4353]	20-Aug-03
	Fz	DENTON	LC-075FZ[4353]	20-Aug-03
	Mx	DENTON	LC-075MX[4353]	20-Aug-03
	My	DENTON	LC-075MY[4353]	20-Aug-03

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 090)		Manufacturer	Serial #	Calibration
Right Lower Tibia	Fx	DENTON	LC-076FX[4929]	21-Aug-03
	Fy	DENTON	LC-076FY[4929]	21-Aug-03
	Fz	DENTON	LC-076FZ[4929]	21-Aug-03
	Mx	DENTON	LC-076MX[4929]	21-Aug-03
	My	DENTON	LC-076MY[4929]	21-Aug-03
Left Tibia	X	DENTON	AC-03F03F09-N15	21-Jul-03
	Y	DENTON	AC-03F03F09-N11	21-Jul-03
Right Tibia	X	ENTRAN	AC-03F03E29-N08	21-Jul-03
	Y	ENTRAN	AC-03E03E21-M12	21-Jul-03
Left Ankle	Rx	CONTELEC	LX-104X	9-Sep-03
	Ry	CONTELEC	LX-104Y	9-Sep-03
	Rz	CONTELEC	LX-104Z	9-Sep-03
Right Ankle	Rx	CONTELEC	LX-103X	9-Sep-03
	Ry	CONTELEC	LX-103Y	9-Sep-03
	Rz	CONTELEC	LX-103Z	9-Sep-03
Left Foot	Ax	ENTRAN	AC-03F03F09-N21	21-Jul-03
	Ay	ENTRAN	AC-03F03F09-N08	21-Jul-03
	Az	ENTRAN	AC-03F03F09-N19	21-Jul-03
Right Foot	Ax	ENTRAN	AC-03E03E18-F14	21-Jul-03
	Ay	ENTRAN	AC-03E03E21-M05	21-Jul-03
	Az	ENTRAN	AC-03E03E21-M10	21-Jul-03
Lap Belt Load		LEBOW	LC-706	8-Oct-03
Shoulder Belt Load		LEBOW	LC-707	8-Oct-03
Toepan Spoolout	Dx	PATRIOT	DS-M11	2-Sep-03

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 055)		Manufacturer	Serial #	Calibration
Head X Arm	Y	ENDEVCO	AC-AJ4N7	10-Sep-03
	Z	ENDEVCO	AC-J20004	10-Sep-03
Head Y Arm	X	ENDEVCO	AC-AALD5	10-Sep-03
	Z	ENDEVCO	AC-J20209	10-Sep-03
Head Z Arm	X	ENDEVCO	AC-J36611	10-Sep-03
	Y	ENDEVCO	AC-J17705	10-Sep-03
Head CG	X	ENDEVCO	AC-AAKB1	10-Sep-03
	Y	ENDEVCO	AC-J27467	10-Sep-03
	Z	ENDEVCO	AC-J19865	10-Sep-03
Head CG	X (R)	ENDEVCO	AC-AAMP6	10-Sep-03
	Y (R)	ENDEVCO	AC-ACC59	10-Sep-03
	Z (R)	ENDEVCO	AC-J35987	10-Sep-03
Neck Load Cell	X	DENTON	LC-499Fx	9-Sep-03
	Y	DENTON	LC-499Fy	9-Sep-03
	Z	DENTON	LC-499Fz	9-Sep-03
Neck Moment	X	DENTON	LC-499Mx	9-Sep-03
	Y	DENTON	LC-499My	9-Sep-03
	Z	DENTON	LC-499Mz	9-Sep-03
Chest	X	ENDEVCO	AC-FJ66J	10-Sep-03
	Y	ENDEVCO	AC-AL40	10-Sep-03
	Z	ENDEVCO	AC-BG37J	23-Sep-03
Chest	X (R)	ENDEVCO	AC-BE68J	10-Sep-03
	Y (R)	ENDEVCO	AC-DC73J	23-Sep-03
	Z (R)	ENTRAN	AC-99H30-Z10	23-Sep-03
Chest Deflection Gauge	Dx	SERVO	DS-055	25-Sep-03

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 055)		Manufacturer	Serial #	Calibration
Left Femur Load	Z	DENTON	LC-741	8-Sep-03
Right Femur Load	Z	DENTON	LC-631	8-Sep-03
Left Knee Shear Dx		SpaceAge Control	DS-14696	12-Oct-03
Right Knee Shear Dx		DENTON	DS-14672	12-Oct-03
Left Upper Tibia	Fx	DENTON	LC-097Fx	21-Aug-03
	Fz	DENTON	LC-097Fz	21-Aug-03
	Mx	DENTON	LC-097Mx	21-Aug-03
	My	DENTON	LC-097My	21-Aug-03
Left Lower Tibia	Fx	DENTON	LC-080Fx	22-Aug-03
	Fy	DENTON	LC-080Fy	22-Aug-03
	Fz	DENTON	LC-080Fz	22-Aug-03
	Mx	DENTON	LC-080Mx	22-Aug-03
	My	DENTON	LC-080My	22-Aug-03
Right Upper Tibia	Fx	DENTON	LC-079FX[4353]	21-Aug-03
	Fz	DENTON	LC-079FZ[4353]	21-Aug-03
	Mx	DENTON	LC-079MX[4353]	21-Aug-03
	My	DENTON	LC-079MY[4353]	21-Aug-03

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 055)		Manufacturer	Serial #	Calibration
Right Lower Tibia	Fx	DENTON	LC-079FX[4929]	22-Aug-03
	Fy	DENTON	LC-079FY[4929]	22-Aug-03
	Fz	DENTON	LC-079FZ[4929]	22-Aug-03
	Mx	DENTON	LC-079MX[4929]	22-Aug-03
	My	DENTON	LC-079MY[4929]	22-Aug-03
Left Tibia	X	ENTRAN	AC-03E03E21-M13	21-Jul-03
	Y	ENTRAN	AC-03F03E29-N11	21-Jul-03
Right Tibia	X	ENTRAN	AC-03F03F09-N09	22-Jul-03
	Y	ENTRAN	AC-03F03F09-N14	21-Jul-03
Left Ankle	Rx	CONTELEC	LX-117X[060]	9-Sep-03
	Ry	CONTELEC	LX-117Y[061]	9-Sep-03
	Rz	CONTELEC	LX-117Z[062]	9-Sep-03
Right Ankle	Rx	CONTELEC	LX-116X[338]	9-Sep-03
	Ry	CONTELEC	LX-116Y[058]	9-Sep-03
	Rz	CONTELEC	LX-116Z[059]	9-Sep-03
Left Foot	Ax	ENTRAN	AC-03E03E18-F06	21-Jul-03
	Ay	ENTRAN	AC-03F03F09-N12	21-Jul-03
	Az	ENTRAN	AC-03E03E21-M01	21-Jul-03
Right Foot	Ax	ENTRAN	AC-03E03E18-F10	22-Jul-03
	Ay	ENTRAN	AC-03F03E29-N13	21-Jul-03
	Az	ENTRAN	AC-03E03E18-F21	21-Jul-03
Lap Belt Load		LEBOW	LC-711	8-Oct-03
Shoulder Belt Load		LEBOW	LC-712	8-Oct-03

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Manufacturer	Serial #	Calibration
Left Seat Rear Crossmember X	ENDEVCO	AC-P15747	24-Sep-03
Left Seat Rear Crossmember Y	ENDEVCO	AC-P16585	24-Sep-03
Right Seat Rear Crossmember X	ENDEVCO	AC-P18578	10-Sep-03
Right Rear Seat Crossmember Y	ENDEVCO	AC-P19227	10-Sep-03
Driver Left Side Toepan X	ENDEVCO	AC-BB14	25-Jun-03
Driver Left Side Toepan Z	ENDEVCO	AC-J33843	25-Jun-03
Driver Right Side Toepan X	ENDEVCO	AC-J33071	24-Sep-03
Driver Right Side Toepan Z	ENDEVCO	AC-J32787	24-Sep-03
Vehicle CG X	ENDEVCO	AC-P21392	10-Sep-03
Vehicle CG Y	ENDEVCO	AC-P19253	10-Sep-03
Vehicle CG Z	ENDEVCO	AC-P23138	10-Sep-03
Rear Deck Z	ICS	AC-8084-020	23-May-03