3282

REPORT NUMBER: CAL-00-14

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

GENERAL MOTORS CORP.
2000 CADILLAC DEVILLE
4-DOOR SEDAN

NHTSA NUMBER: MY0102

VERIDIAN TEST NUMBER: 8413-52

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

February 22, 2000

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
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Approval Date: April 6, 2000

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_____

Manager, New Car Assessment Program (NCAP)
NHTSA, Office of Crashworthiness Standards

_____

Date of Report Acceptance

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COTR, New Car Assessment Program (NCAP)
NHTSA, Office of Crashworthiness Standards

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15. *Supplementary Notes*

16. *Abstract*

A frontal load cell barrier test of a 2000 Cadillac DeVille 4-Door Sedan was performed at Veridian Engineering crash test facility in Buffalo, New York, on February 22, 2000.

The impact velocity was 57.0 kph and the temperature at the barrier face was 21.4 °C. The maximum post-test vehicle crush was 632 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" the driver appeared to exceed the chest requirements and comply with the head and femur requirements. The passenger appeared to comply with the head, chest, and femur requirements.

ATD Position	HIC	Clip (g's)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)
Driver (150)	682.5	66.5	38.0	3843.5	6683.8
Passenger (061)	501.9	55.3	26.7	4006.1	4815.2

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SECTION 1

PURPOSE AND SUMMARY OF TEST MY0102

PURPOSE

This 57.0 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-96-D-02010. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48.3 kph requirements.

The 57.0 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2000 Cadillac DeVille 4-Door Sedan at a velocity of 57.0 kph. The test was performed at Veridian Engineering on February 22, 2000. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by 1 real-time camera and 14 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

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

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 150) and the right-front passenger (position 2) ATD (Serial No. 061) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

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

The driver's HIC was 682.5. The maximum chest deceleration over 3 milliseconds was 66.5 g's and maximum chest deflection was 38.0 mm. Compressive femur loads were 3843.5 Newtons on the left and 6683.8 Newtons on the right.

The right front passenger's HIC was 501.9. Maximum chest deceleration over 3 milliseconds was 55.3 g's and maximum chest deflection was 26.7 mm. Compressive femur loads were 4006.1 Newtons on the left and 4815.2 Newtons on the right.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : MY0102 Test Mode : 56.3 kph Frontal Barrier

Test Date : February 22, 2000 Time: 13:40 Temperature : 12.2 °C

Vehicle Make/Model/Body Style : 2000 Cadillac DeVille 4-Door Sedan

Vehicle Test Weight : 2049.5 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 57.0 kph

Maximum Static Crush : 632 mm

Vehicle Rebound : 580 mm

DUMMIES:	DRIVER	PASSENGER
Type :	572E	572E
Restraint System :	Frontal Airbag / 3-Point Safety Belt System	Frontal Airbag / 3-Point Safety Belt System

Number of Data Channels : 131

Number of Cameras : 1 Real Time

16 High Speed

DOOR OPENING DATA : Closed / Operable - Left Front

Closed / Operable - Right Front

Front Seat(s) Data :	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 left half of head restraint	Face to right half of airbag; Back of head to left half of head restraint
Abdomen :	None	None
Chest	Airbag	Airbag
Knees	Left knee to bolster left of steering column; Right knee to bolster right of steering column	Left knee to left edge of glove comp. door; Right knee to center of glove comp. door.

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 2000 Cadillac DeVille 4-Door Sedan

NHTSA No. : MY0102 ; VIN: 1G6KD54Y7YU202349 ; Color : Gold

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

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

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

Date Received : 2/15/00 ; Odometer Reading 18 km

Selling Dealer : Vallee-Bowe Olds-Cadillac

& Address: Woodbury, NJ 08096-3234

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : General Motors Corp.

Date of Manufacture 11/99

GVWR : 2324 kg; GAWR: 1246 kg FRONT; 1078 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 210 kpa FRONT

210 kpa REAR

Recommended Tire Size : P225/60 R16

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

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

Vehicle Capacity Data :

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

Number of Occupants: 3 Front; 3 Rear; 6 Total

Vehicle Capacity Weight (VCW) = 492.0 kg

No. of Occupants x 68 kg = 408.2 kg

Rated Cargo/Luggage Weight (RCLW) = 83.8 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 =	556.0 kg	Right Rear =	352.5 kg
Left Front =	557.0 kg	Left Rear =	354.0 kg
TOTAL FRONT =	1113.0 kg	TOTAL REAR =	706.5 kg

TOTAL DELIVERED WEIGHT = 1819.5 kg

% of Total Front of Vehicle Weight = 61.2 % of Total Rear Weight = 38.8 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW)	=	1819.5 kg
Rated Cargo/Luggage Weight (RCLW)	=	83.8 kg
Weight of 2 p.572 Dummies @ 76 each	=	152.0 kg
TARGET TEST WEIGHT	=	2055.3 kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 78 KG OF CARGO WEIGHT:

Right Front =	582.0 kg	Right Rear =	441.0 kg
Left Front =	585.0 kg	Left Rear =	441.5 kg
TOTAL FRONT =	1167.0 kg	TOTAL REAR =	882.5 kg

TOTAL TEST WEIGHT = 2049.5 kg

% of Total Front Weight = 56.9 % % of Total Rear Weight = 43.1 %

Weight of Ballast Secured in Vehicle Trunk Area = 56.7 kg

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimension in millimeters) †:

AS DELIVERED :	RF	726	LF	724	RR	733	LR	727
FULLY LOADED :	RF	715	LF	711	RR	699	LR	692
AS TESTED :	RF	717	LF	715	RR	696	LR	695

Vehicle's Wheel Base : 2930 mm

Location of Vehicle's C.G. : 1262 mm rearward of front wheel center.

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual = 70.1 liters

Usable Capacity Figure Furnished by COTR = 68.5 liters

Test Volume Range (92 to 94% of Usable Capacity) = 63.0 to 64.4 liters

ACTUAL TEST VOLUME= 63 liters (with entire fuel system filled)

Test Fluid Type: Stoddard Solution ; Spec. Grav. = 0.764

Kinematic Viscosity = 0.96 centistokes; Color = Orange

Type of Fuel Pump: Electric- X ; Mechanical- -

Does Electric Pump operate with ignition switch "ON" & engine "OFF" Yes- X No- -

Details of Fuel System Fuel Tank - Located between the rear wheels; Fuel Lines - Routed along the inboard edge of the left frame rail; Fuel Filler - Located on the left rear quarter panel above the left rear wheel.

† Vehicle was equipped with an electronic load leveling system

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : February 22, 2000 Time: 13:40 Temperature: 12.2 °C

Vehicle NHTSA No. : MY0102

Required Impact Velocity Range : 55.5 to 57.1 kph

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

Trap No. 1 = 57.0 kph; Trap No. 2 = 57.0 kph

Distance from vehicle to barrier : (1) entering trap = 813 mm

(2) exiting trap = 305 mm

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

Vehicle Length:

Pre-Test	Right =	5117	; C/L =	5257	; Left =	5118
Post-Test	Right =	4635	; C/L =	4625	; Left =	4652
Crush	Right =	482	; C/L =	632	; Left =	466
AVERAGE	=	527	mm			

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

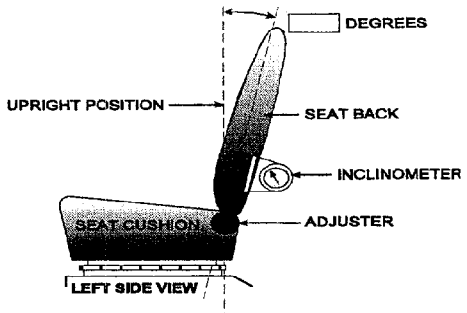
	Right =	560	; C/L =	582	; Left =	599
AVERAGE	=	580	mm			

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2000 Vehicle Model: Cadillac DeVille 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.



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat: 18.5

Measurement instructions: Cut seat back at side airbag module lower edge along rear facing outboard surface of seat back. Place inclinometer on seat back frame.

Seat back angle for passenger's seat: 18.5

Measurement instructions: Cut seat back at side airbag module lower edge along rear facing outboard surface of seat back. Place inclinometer on seat back frame.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Place seat in mid-travel position.

Positioning of the passenger's seat: Place seat in mid-travel position.

3. Fuel Tank Capacity Data

3.1 A. "Usable Capacity" of the standard equipment fuel tank is 68.5 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 = 68.5 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 63 liters

3.3 Is vehicle equipped with electric fuel pump? Yes- X ; No- -

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

Fuel pump operates briefly when ignition is turned to "run" position and engine is not started. Fuel pump runs continuously while engine is operating.

4. STEERING COLUMN ADJUSTMENTS :

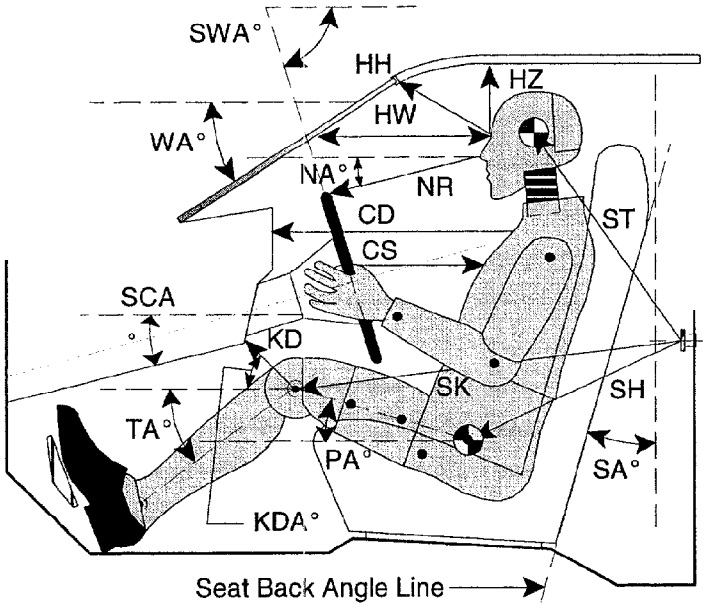
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: Place in 3rd notch down from the top notch. Steering wheel will measure 19 degrees from vertical when in position.

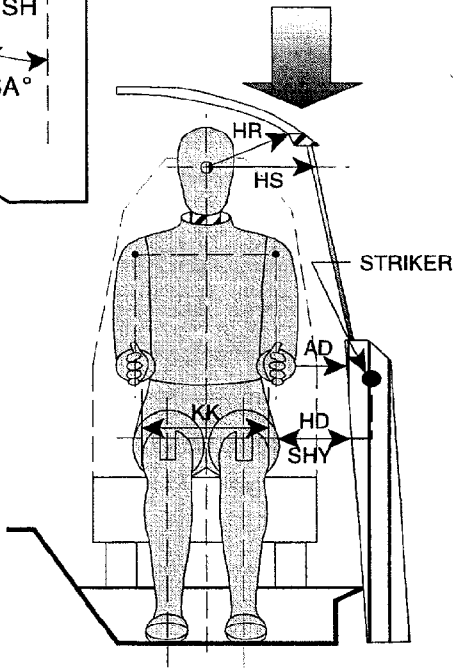
5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: Mid-height position.

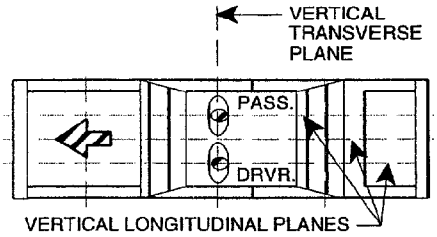
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



AD - Arm to Door
HD - H-Point to Door
HR - Head to Side Header
HS - Head to Side Window
KK - Knee to Knee
SHY- Striker to H-Point (Y Direction)



CD - Chest to Dash
CS - Steering Wheel to Chest
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
KDA - Knee to Dash Angle
KDL- Left Knee to Dash
KDR - Right Knee to Dash
NA - Nose to Rim Angle
NR - Nose to Rim
PA - Pelvic Angle
RA - Rim to Abdomen
SA - Seat Back Angle
SCA - Steering Column Angle
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
SWA- Steering Wheel Angle
TA - Tibial Angle
WA - Windshield Angle



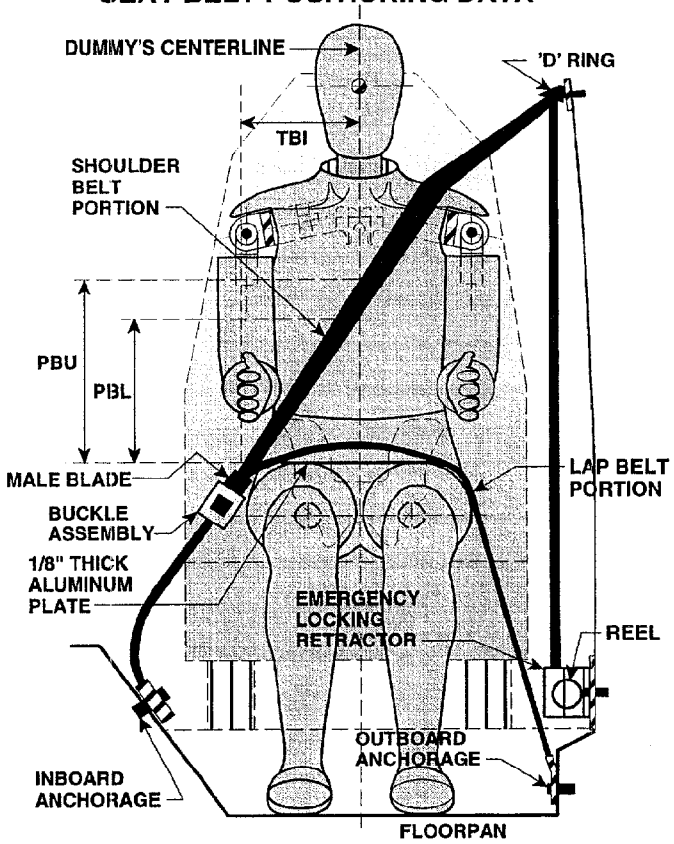
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #150)			PASS. (Serial # 061)		
WA°	29 deg.			N/A		
SWA°	19 deg.			N/A		
SCA°	71 deg.			N/A		
SA°	18.5 deg.			18.5 deg.		
HZ	192			195		
HH	316			316		
HW	614			616		
HR	255			265		
NR	332	Angle	8 deg.	N/A		
CD	508			486		
CS	284			N/A		
RA	197			N/A		
KDL	163	Angle (KDA)	38 deg.	156		
KDR	142			165	Angle (KDA)	46 deg.
PA°	23.5 deg.			23.5 deg.		
TA°	33 deg.			32 deg.		
KK	280			195		
ST	530	Angle	9 deg.	534	Angle	9 deg.
SK	585	Angle	93 deg.	590	Angle	96 deg.
SH	244	Angle	125 deg.	248	Angle	122 deg.
SHY	273			264		
HS	365			375		
HD	174			167		
AD	140			142		

Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

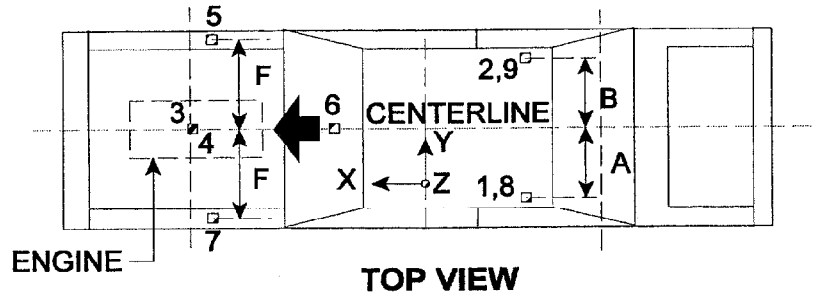
SEAT BELT POSITIONING DATA



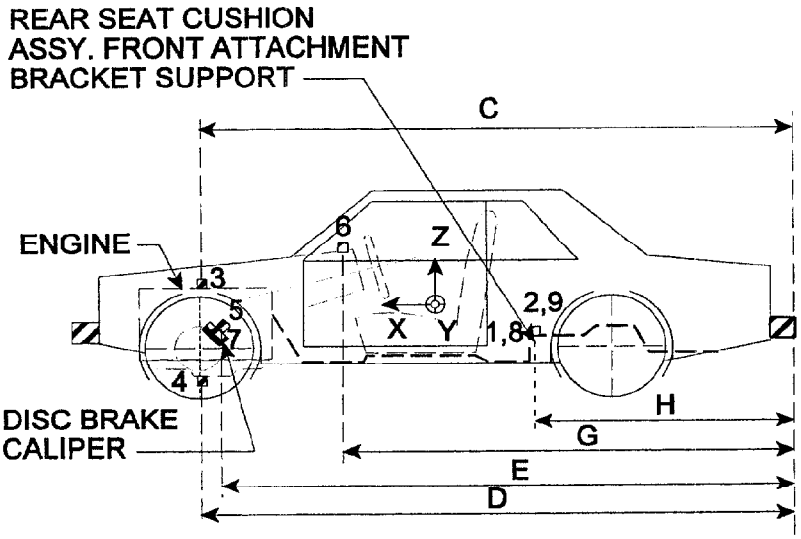
FRONT VIEW OF DUMMY

	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	340	338
PBL-- Top surface of alum. plate to belt lower edge	263	261
LAP BELT TENSION	Retractor	Retractor
SHOULDER BELT TENSION	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



TOP VIEW



LEFT SIDE VIEW

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

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

DIMENSION	LENGTH (mm)
	PRE-TEST VALUES
A Left Rear Seat Crossmember Y	-683
B Right Rear Seat Crossmember Y	683
C Top of Engine X	4405
D Bottom of Engine X	4302
E Disc Brake Calipers X	5147
F Disc Brake Calipers Y	±660
G Instrument Panel X	3395
H Rear Seat Crossmembers X	2090

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	3.7	139.1	-28.6	31.6
2	Rear Seat X-Member @ Right Side	2.4	138.5	-30.7	57.7
3	Top of Engine Block	26.8	52.8	-144.9	32.7
4	Bottom of Engine	31.7	43.3	-117.4	30.8
5	Disc Brake Caliper @ Right Side	21.4	66.6	-121.9	46.0
6	Instrument Panel	122.0	56.2	-153.5	45.7
7	Disc Brake Caliper @Left Side	†	†	†	†
8	Rear Seat X-Member @ Left-Redundant	4.2	21.7	-26.5	31.5
9	Rear Seat X-Member @ Right-Redundant	2.4	138.8	-30.4	57.7

† Accelerometer wire was cut at 39 ms.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2000 Cadillac DeVille 4-Door Sedan

NHTSA Test No.: MY0102 Test Date: February 22, 2000

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head X	g	11.1	243.4	-71.3	75.7	12.9	241.5	-53.3	83.0
Head Y	g	4.7	50.1	-12.5	80.9	3.3	65.6	-10.1	102.7
Head Z	g	17.9	64.6	-11.3	78.3	38.4	72.2	-0.8	137.1
Head Resultant	g	72.1	76.7	-	-	55.8	74.7	-	-
Redundant Head X	g	10.7	246.7	-73.0	75.1	13.0	241.8	-52.7	83.9
Redundant Head Y	g	8.6	50.4	-15.2	79.3	†	†	†	†
Redundant Head Z	g	16.1	50.3	-7.5	93.3	42.7	71.3	-6.3	136.7
Redundant Head Resultant	g	73.7	75.1	-	-	†	†	-	-
Upper Neck Fx	N	654.4	66.1	-254.3	146.2	451.6	70.8	-937.6	134.4
Upper Neck Fy	N	87.2	140.1	-80.6	83.6	97.4	243.7	-353.6	102.7
Upper Neck Fz	N	2270.9	65.4	-267.1	102.4	1331.2	71.0	-68.4	136.5
Upper Neck F Resultant	N	2360.5	65.4	-	-	1405.1	71.0	-	-
Upper Neck Mx	N-m	11.1	147.3	-12.4	95.8	26.2	96.1	-20.6	133.1
Upper Neck My	N-m	32.9	61.1	-32.4	77.5	67.0	137.0	-32.9	90.3
Upper Neck Mz	N-m	16.4	92.7	-8.1	146.4	11.4	96.1	-10.6	144.1
Upper Neck M Resultant	N-m	33.2	77.6	-	-	69.6	135.6	-	-
Chest X	g	3.7	176.8	-67.3	70.7	6.0	261.8	-56.8	78.3
Chest Y	g	9.0	96.9	-7.7	70.3	5.0	83.9	-10.5	79.0
Chest Z	g	13.8	69.2	-8.4	103.5	23.2	71.9	-8.0	100.0
Chest Resultant	g	68.9	70.6	-	-	58.2	78.3	-	-
Redundant Chest X	g	3.5	176.8	-65.3	70.6	6.0	262.0	-54.4	78.3
Redundant Chest Y	g	9.1	96.5	-4.4	77.5	3.5	84.9	-10.5	79.5
Redundant Chest Z	g	16.1	69.5	-8.9	103.8	25.2	71.9	-8.2	100.0
Redundant Chest Resultant	g	67.1	70.5	-	-	58.1	74.5	-	-
Chest Displacement	mm	0.0	4.9	-38.0	80.1	0.0	4.5	-26.7	105.9

† P2 Head Redundant Y accelerometer failed during the event, data is invalid.

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

Vehicle Year/Make/Model/Body Style: 2000 Cadillac DeVille 4-Door Sedan

NHTSA Test No.: MY0102 Test Date: February 22, 2000

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Pelvic X	g	3.9	182.3	-63.6	52.8	5.0	204.2	-59.9	59.6
Pelvic Y	g	11.9	84.9	-13.2	52.7	8.9	101.8	-8.0	63.0
Pelvic Z	g	3.9	182.5	-15.7	95.9	3.4	221.8	-17.9	96.1
Pelvic Resultant	g	65.6	52.8	-	-	60.3	59.6	-	-
Left Femur	N	182.6	150.0	-3843.5	51.9	220.6	139.6	-4006.1	60.3
Right Femur	N	133.2	39.5	-6683.8	53.1	570.7	46.5	-4815.2	59.8
Left Upper Tibia Mx	N-m	42.3	65.6	-12.4	40.9	21.6	66.5	-19.1	121.6
Left Upper Tibia My	N-m	12.2	170.5	-98.9	47.2	21.8	128.5	-137.9	46.2
Left Lower Tibia Fz	N	223.5	121.8	-1952.9	40.5	673.1	65.5	-2289.9	44.6
Left Lower Tibia Mx	N-m	69.0	46.4	-5.4	39.6	10.5	55.0	-8.0	72.6
Left Lower Tibia My	N-m	16.8	82.0	-20.4	46.8	26.9	93.4	-93.6	46.7
Right Upper Tibia Mx	N-m	19.0	46.1	-13.5	97.7	25.6	50.6	-20.2	61.4
Right Upper Tibia My	N-m	12.4	200.1	-157.7	48.6	29.3	50.3	-89.4	45.2
Right Lower Tibia Fz	N	233.9	147.4	-6051.3	48.6	81.8	150.6	-3545.7	39.2
Right Lower Tibia Mx	N-m	24.6	65.1	-13.3	51.1	12.5	39.4	-16.5	55.8
Right Lower Tibia My	N-m	89.2	71.2	-38.2	42.7	66.6	86.3	-60.1	46.3
Left Foot Aft Ax	g	13.3	223.3	-42.8	45.8	37.0	56.3	-163.3	45.9
Left Foot Aft Az	g	14.1	45.6	-50.2	39.2	12.6	72.6	-67.1	47.2
Left Foot Fore Az	g	41.5	223.4	-60.9	39.2	54.5	52.9	-161.6	46.1
Right Foot Aft Ax	g	44.2	62.8	-110.1	47.9	17.4	57.6	-104.7	45.6
Right Foot Aft Az	g	18.9	73.0	-103.0	45.2	54.3	54.9	-95.5	45.4
Right Foot Fore Az	g	103.7	62.9	-293.8	42.4	†	†	†	†
Lap Belt Load	N	4183.0	58.2	-7.9	6.6	4967.4	61.6	-11.9	6.8
Torso Belt ††	N	-	-	-	-	-	-	-	-

† Accelerometer wire was cut at 46 ms.

†† At the manufacturer's request, the Torso Belt load cell was not installed to prevent interference with the safety belt system.

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

Vehicle Year/Make/Model/Body Style: 2000 Cadillac DeVille 4-Door Sedan

NHTSA Test No.: MY0102 Test Date: February 22, 2000

	HEAD INJURY CRITERIA (HIC)			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	682.5	58.3	85.3	57.8
Position #2 - Passenger	501.9	63.0	99.1	45.5

** HIC is as defined in FMVSS 208. The maximum time interval from t_1 to t_2 is 36 milliseconds.

	CLIP SUMMARY*			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	66.5	69.2	72.2	641.8
Position #2 - Passenger	55.3	75.9	78.9	553.1

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

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

Vehicle Year/Make/Model/Body Style: 2000 Cadillac DeVille 4-Door Sedan

NHTSA Test No.: MY0102 Test Date: February 22, 2000

	HEAD INJURY CRITERIA (HIC) **REDUNDANT**			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	701.1	58.8	85.5	58.6
Position #2 - Passenger	†	-	-	-

** HIC is as defined in FMVSS 208. The maximum time interval from t_1 to t_2 is 36 milliseconds.

	CLIP SUMMARY* **REDUNDANT**			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	64.4	69.1	72.1	592.1
Position #2 - Passenger	56.4	72.1	75.8	562.8

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

† P2 Head Redundant Ay accelerometer failed during the event.

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:	Driver	Passenger
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	0	0
Shoulder belt length as measured on Part 572 Dummy.	794	795
Lap belt length as measured on Part 572 Dummy.	529	535
SHOULDER BELT SPOOL-OFF DATA:		
As determined by film analysis.	†	†
As determined mechanically.	62	84
As determined electronically.	†	†
BELT STRETCH DATA:		
Measured electronically between shoulder belt load cell and the "D" ring.	26 mm/M	26 mm/M
Measured mechanically.	4 mm/M	2 mm/M

Dimensions in millimeters

† Transducers and cameras could not be installed on vehicle. The driver and front passenger seats were equipped with integrated seat belt retractors that exited at the top outboard corner of the seat back.

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.

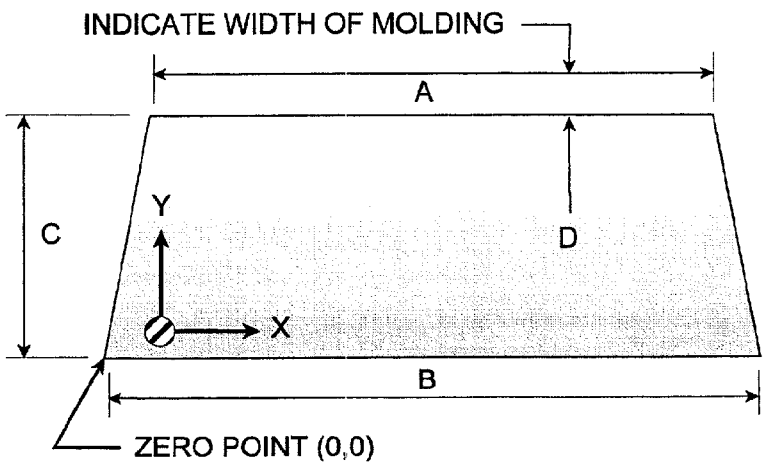
FMVSS 212 REQUIREMENTS:

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	2311	2311	100
LEFT SIDE	2311	2311	100
TOTAL	4,622	4,622	100

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

DIMENSIONS (mm)	
A	1282
B	1610
C	865
D	18

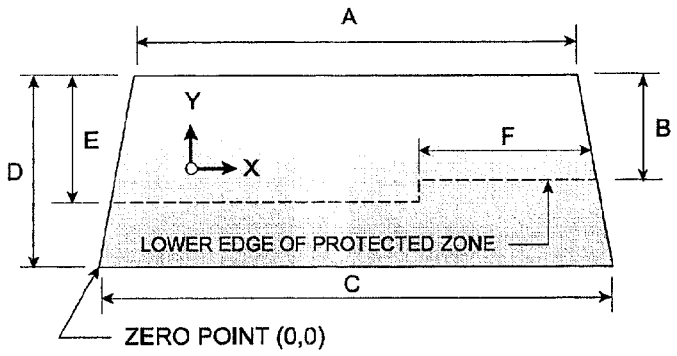
FAILURE DETAILS: None

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

DIMENSIONS (mm)	
A	1282
B	488
C	1610
D	865
E	502
F	745

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.: MY0102 TEST DATE: February 22, 2000

VEHICLE MAKE/MODEL: 2000 Cadillac DeVille

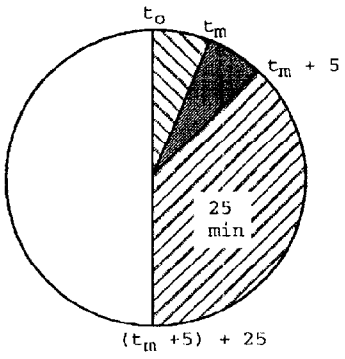
The test vehicle was filled from 92% to 94% of the manufacture's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

==========

TEST VEHICLE IMPACT TYPE:

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

FUEL SPILLAGE MEASUREMENT:



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

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

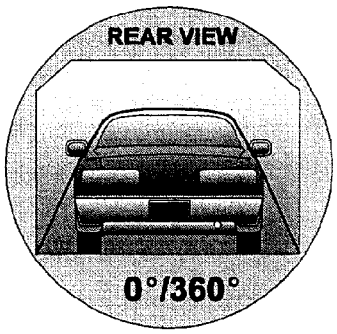
SOLVENT SPILLAGE DETAILS:

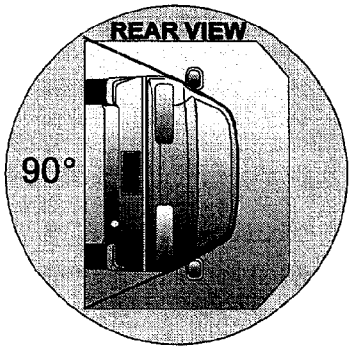
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

Vehicle: 2000 Cadillac DeVille NHTSA No. MY0102

0 - 90 Degrees





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S) :

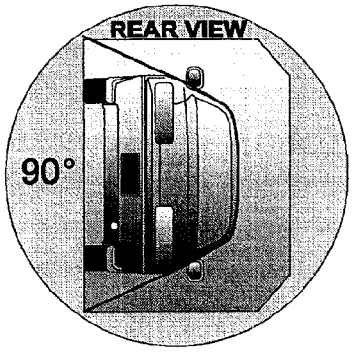
None

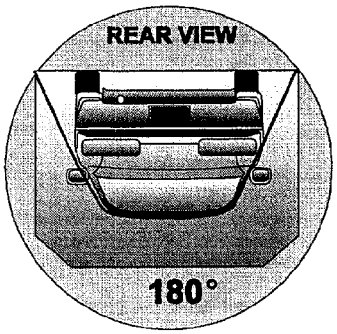
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2000 Cadillac DeVille NHTSA No. MY0102

90 - 180 Degrees





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S) :

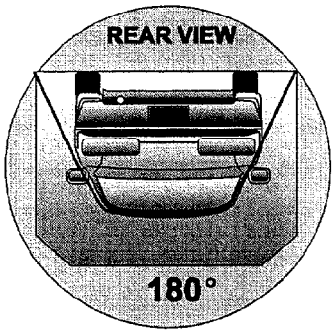
None

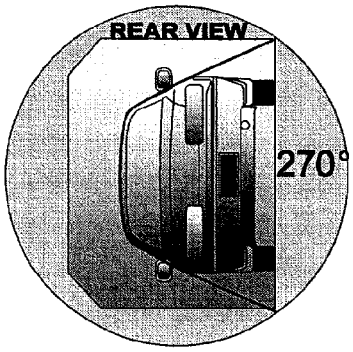
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2000 Cadillac DeVille NHTSA No. MY0102

180 - 270 Degrees





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	1	minutes	10	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	5	minutes	0	seconds
TOTAL	6	minutes	10	seconds
Next whole minute interval	7	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S) :

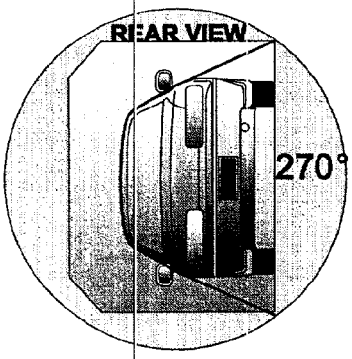
None

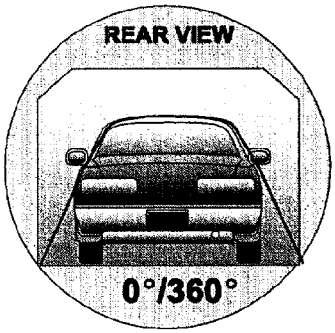
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2000 Cadillac DeVille NHTSA No. MY0102

270 - 360 Degrees





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	1	minutes	8	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	5	minutes	0	seconds
TOTAL	6	minutes	8	seconds
Next whole minute interval	7	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

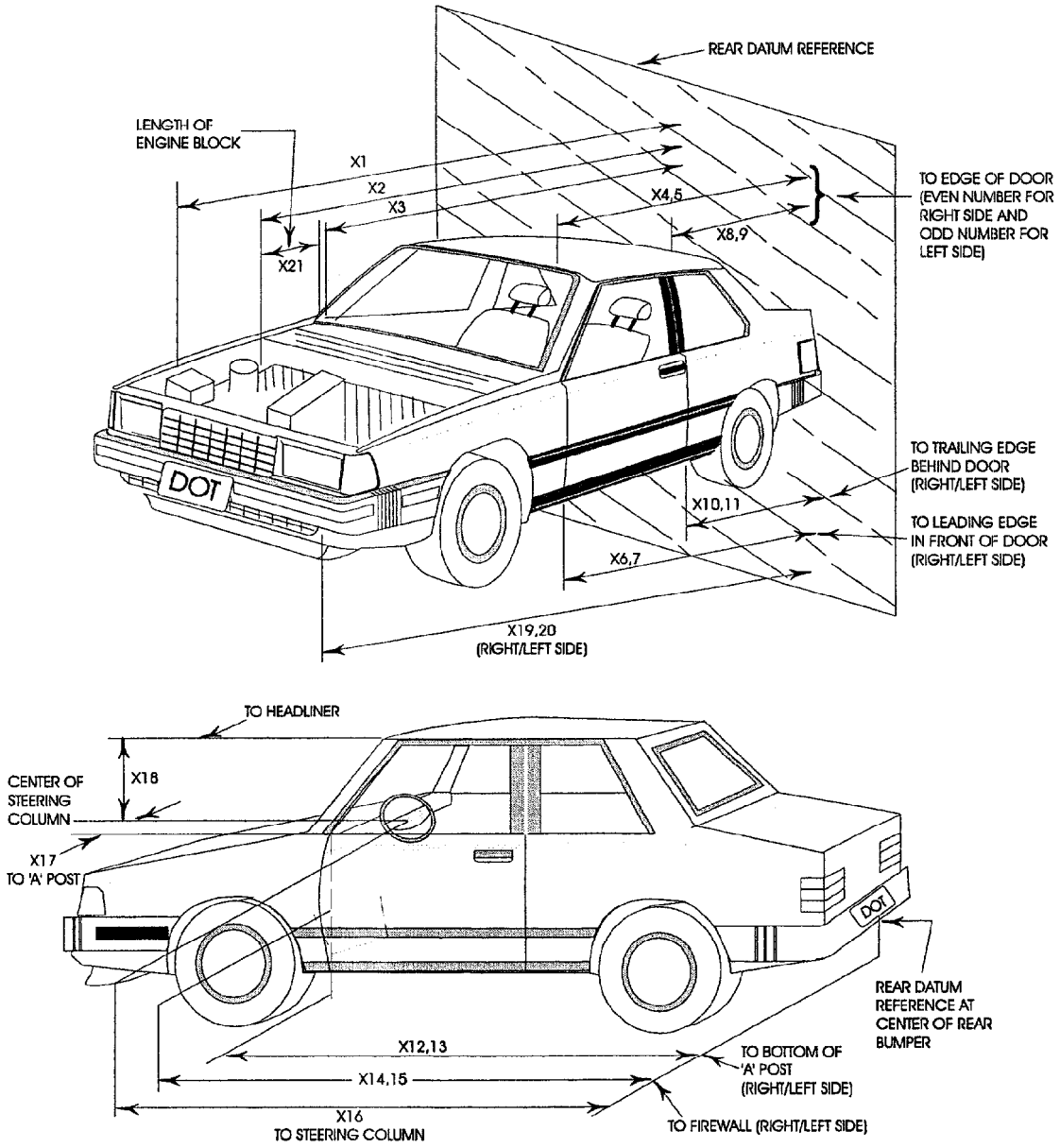
0 g	0 g	0 g	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS



DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

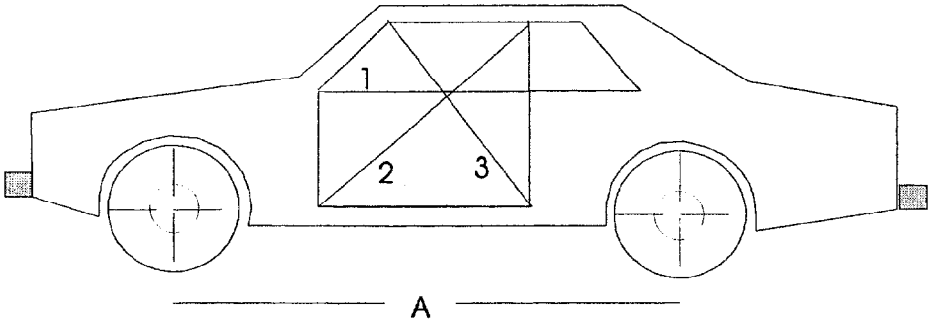
No.		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	5257	4625	632
X2	Rear Surface of Vehicle to Front of Engine	4727	4445	282
X3	Rear Surface of Vehicle to Firewall	4105	3780	325
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3645	3644	1
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3648	3651	-3
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3645	3633	12
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3647	3640	7
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2515	2518	-3
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2519	2519	0
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2529	2510	19
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2528	2509	19
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3745	3733	12
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3749	3742	7
X14	Rear Surface of Vehicle to Firewall, Right Side	4100	3826	274
X15	Rear Surface of Vehicle to Firewall, Left Side	4108	3930	178
X16	Rear Surface of Vehicle to Steering Column	3139	3112	27
X17	Center of Steering Column to "A" Post	311	306	5
X18	Center of Steering Column to Headliner	428	382	46
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5117	4635	482
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5118	4652	466
X21	Length of Engine Block	644	644	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3304	3294	10
CD	Rear Surface of Vehicle to Center of Dash Panel	3412	3371	41
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3314	3292	22

All Dimensions in mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

DOOR OPENING WIDTH



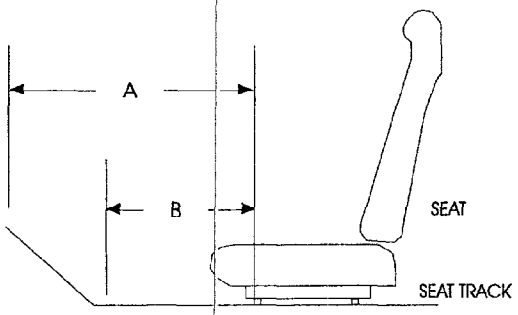
UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	974	1450	1010	971	1453	1011
AFTER TEST	969	1454	1006	970	1461	1006
DIFFERENCE	5	-4	4	1	-8	5

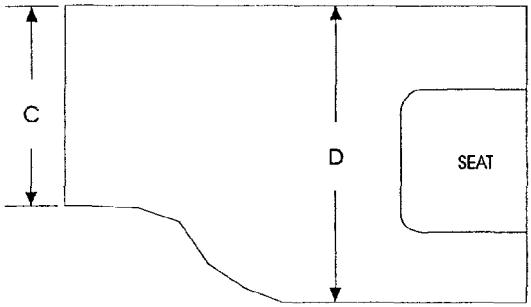
UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2930	2930
AFTER TEST	2824	2811
DIFFERENCE	106	119

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC FOOTWELL DEFORMATION





DRIVER

Measurement	Pre-Test	Post-Test	Difference
A	1235	1124	111
B	1037	995	42
C	507	523	-16
D	550	537	13

PASSENGER

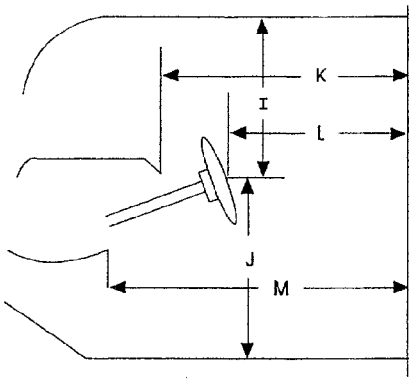
Measurement	Pre-Test	Post-Test	Difference
A	1255	1057	198
B	1038	1025	13
C	476	463	13
D	544	519	25

Units = mm

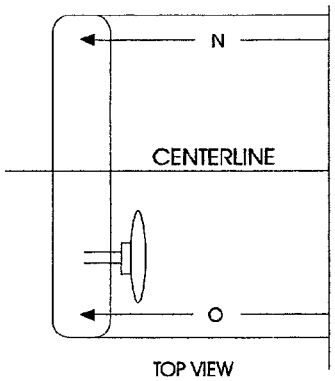
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC PASSENGER COMPARTMENT INTRUSION

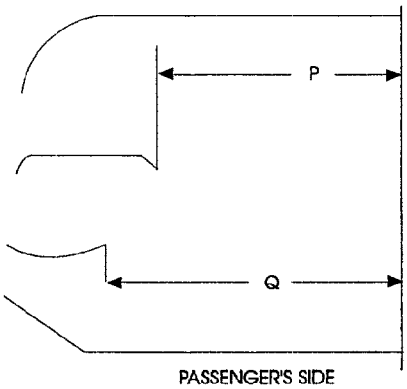


DRIVER'S SIDE



TOP VIEW

MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



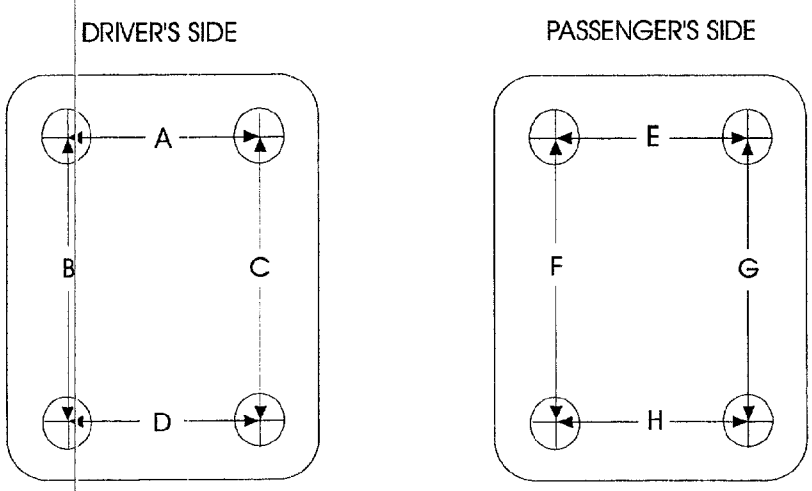
PASSENGER'S SIDE

Measurement	Pre-Test	Post-Test	Difference
I	428	382	46
J	607	695	-88
K	2115	2086	29
L	1907	1876	31
M	2053	1989	64
N	2079	2065	14
O	2083	2056	27
P = K (PASS.)	2182	2136	46
Q = M (PASS.)	2175	2133	42

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

FLOORBOARD DEFORMATION



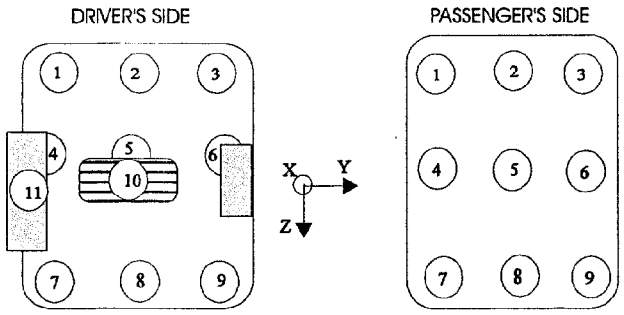
TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	300	281	19
B	450	448	2
C	450	422	28
D	300	300	0
E	300	303	-3
F	450	444	6
G	450	446	4
H	300	300	0

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

TOE-PAN INTRUSION



Driver Side Floorpan Measurements

Reference: X = Rear Bumper; Z = Ground

Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3819	3728	91	-531	-556	25
2	3837	3730	107	-508	-513	5
3	3840	3716	124	-488	-509	21
4	3748	3669	79	-399	-404	5
5	3741	3663	78	-391	-377	-14
6	3761	3668	93	-377	-356	-21
7	3641	3613	28	-303	-268	-35
8	3639	3600	39	-305	-258	-47
9	3652	3625	27	-295	-251	-44
10	3673	3554	119	-469	-493	24
11	3655	3617	38	-365	-346	-19

Passenger Side Floorpan Measurements

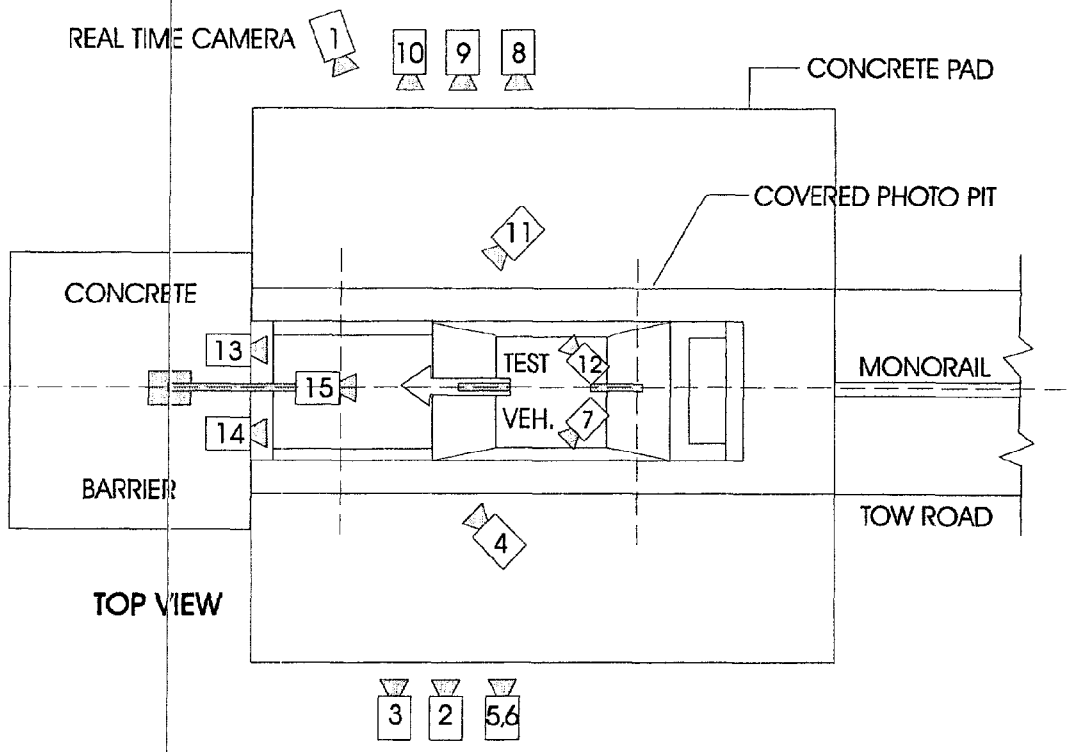
Reference: X = Rear Bumper; Z = Ground

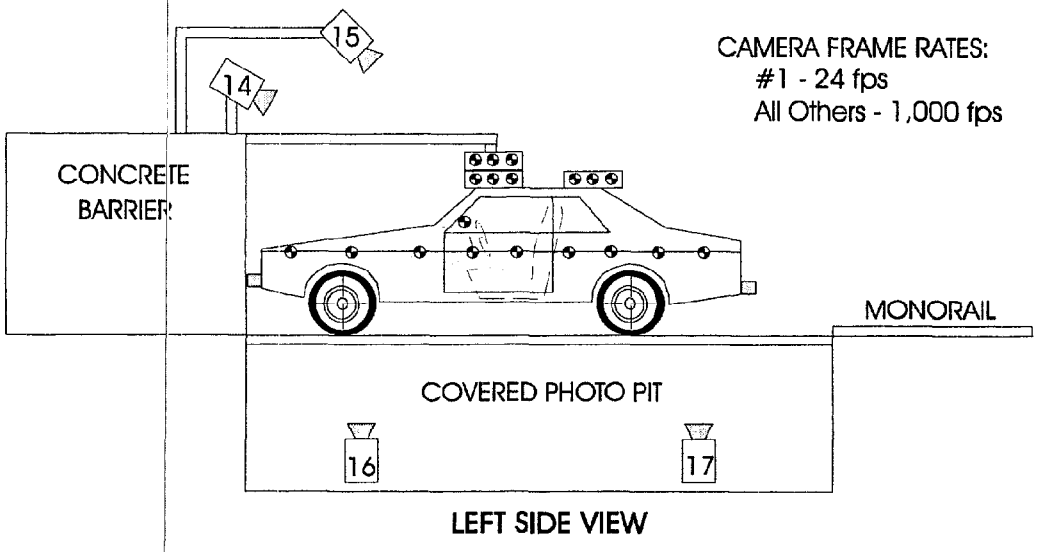
Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3823	3672	151	-472	-471	-1
2	3855	3665	190	-500	-508	8
3	3752	3680	72	-513	-515	2
4	3755	3654	101	-402	-382	-20
5	3762	3648	114	-411	-421	10
6	3718	3669	49	-445	-440	-5
7	3649	3631	18	-308	-247	-61
8	3638	3633	5	-308	-277	-31
9	3622	3619	3	-311	-298	-13

Units 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.: MY0102 Vehicle: 2000 Cadillac DeVille 4-Door Sedan

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)* X	Y	Z	ANGLE (deg)**	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	7405	1918	1030	-3	6971	12.5	1020
3	Left Side View	8388	1203	1040	-2	7954	25	1020
4	Driver and Interior View	7312	2755	1975	-10	-	35	1060
5	Steering Column (Bottom)	8125	2057	1175	-3	7691	25	1020
6	Steering Column (Top)	8125	2057	1790	-8	7691	25	1020
7†	Left Belt	-	-	-	-	-	-	-
8	Overall Right Side	7435	2193	1058	-2	7001	12.5	1015
9	Right Side View	8502	1110	1092	-1	8068	25	1000
10	Right Passenger View	8130	1913	1282	-2	7696	35	1015
11	Passenger and Interior View	7245	2941	1875	-8	-	35	1015
12†	Right Belt	-	-	-	-	-	-	-
13	Passenger Front View	605	-55	1985	-35	-	13	1020
14	Driver Front View	605	-55	1985	-34	-	13	1015
15	Windshield View	0	-673	3560	-50	-	13	1005
16	Pit View of Engine	0	1080	-3048	90	-	13	1040
17	Pit View of Fuel Tank	0	3500	-3048	90	-	13	1005

*X = film plane to monorail centerline ** = referenced to horizontal plane

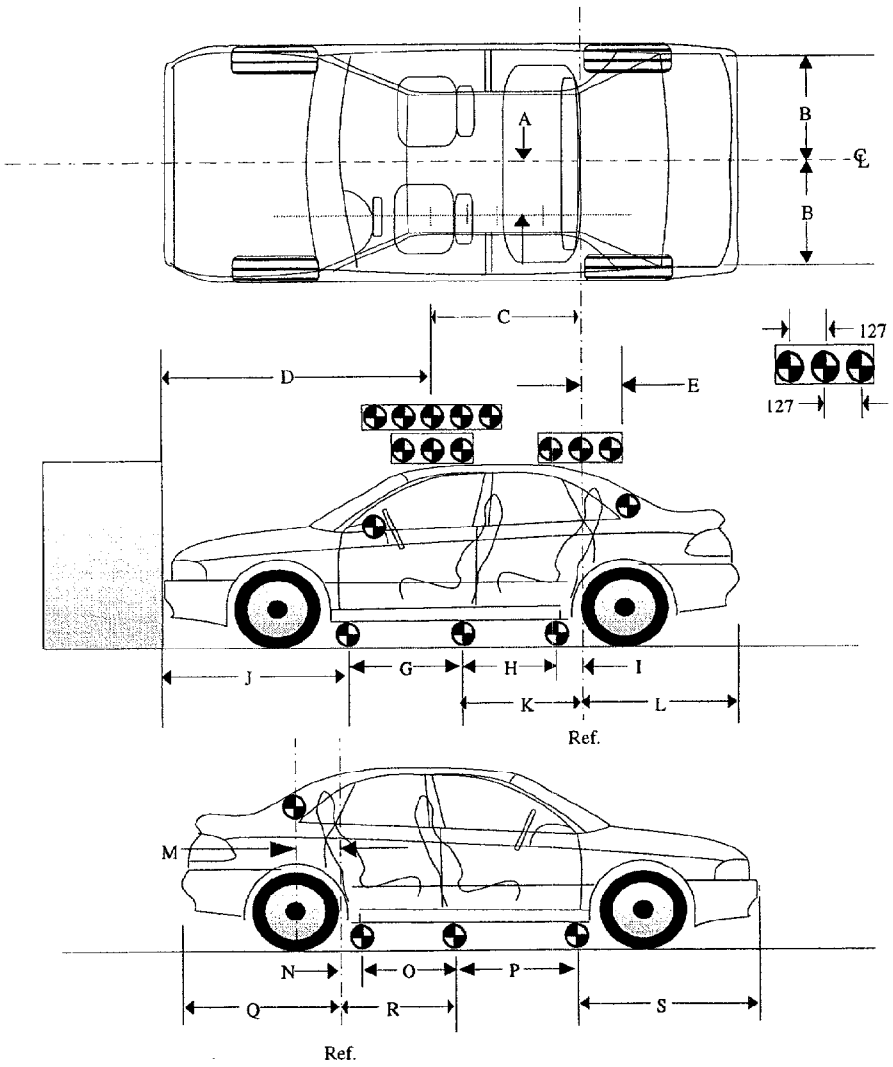
Y = film plane to impact location N.T. indicates No Timing

Z = film plane to ground

† Camera was not installed for this test. The test vehicle was equipped seat back integrated shoulder belts that were not visible from the rear occupant compartment.

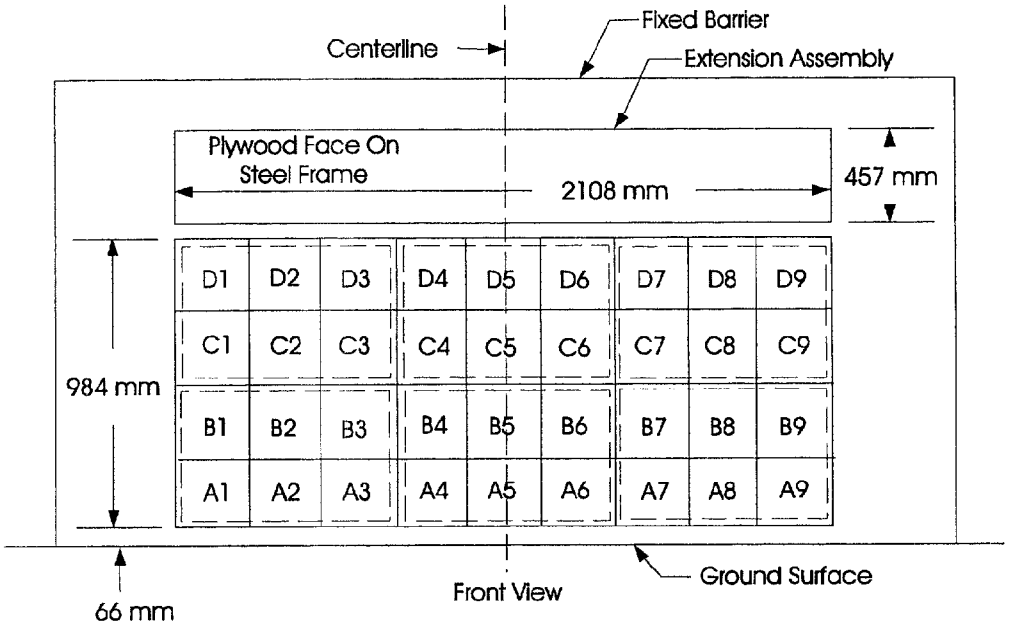
(Dimensions in millimeters)

A	358
B	712
C	1219
D	2469
E	341
F	1747
G	986
H	1013
I	128
J	1561
K	1141
L	1570
M	348
N	124
O	1014
P	988
Q	1558
R	1138
S	1572



DATA SHEET NO. 17 LOAD CELL LOCATIONS ON FIXED BARRIER

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



6 GROUPS OF 6 LOAD CELLS EACH

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

The following data is presented in Appendix B:

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

DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No. : MY0102; Test Date: February 22, 2000; Technician: Lawrence Q. Valvo

Vehicle Model Year/Make/Model: 2000 Cadillac DeVille

A. No. of vent holes: 2 -Driver 2 -Passenger

B. Size of vent holes: (mm^2) 962 -Driver 2376 -Passenger

C. Total vent area (mm^2) 1924 -Driver 4752 -Passenger

D. Deflated air bag length and width dimensions or, if round, diameter. (mm)

Driver: - -Length; - -Width; 640 -Diameter

Passenger: 350 -Height; 515 -Width; 380 -Depth

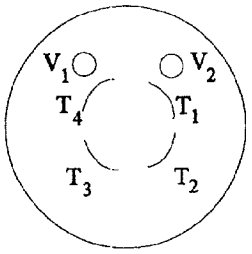
E. Is the air bag tethered?

Driver: X -Yes; - -No; If yes, record length of tether- 250

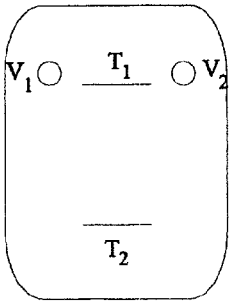
Passenger: X -Yes; - -No; If yes, record length of tether- 450

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: *16824055-00*; *GMX-35*; *TRCA90886900*

Generator: *AB3305QWTJPMYF*

Passenger: Air bag: *P121504-06F*; *TS73306M0590*

Generator: *AL458015308V1364*; 25654580; *GFG KY4 4Y BUW*

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

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

NHTSA Test No.: MY0102 VIN: 1G6KD54Y7YU202349

Model Year: 2000 Build Date: 11/99 Test Date: February 22, 2000

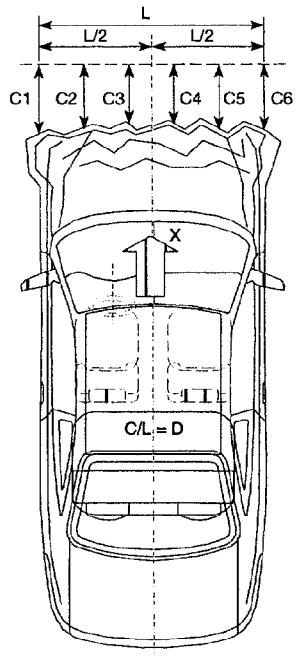
Vehicle Size Category: Large Test Weight: 2049.5 kg

Vehicle Wheelbase: 2930 mm; Front Overhang: 1152 mm; Overall Width: 1943 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions;

	PRE	POST	DIFF	
C1 =	5041	4629	-412.0	mm
C2 =	5171	4670	-501.0	mm
C3 =	5235	4654	-581.0	mm
C4 =	5235	4654	-581.0	mm
C5 =	5171	4650	-521.0	mm
C6 =	5041	4598	-443.0	mm



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region:

L1= 1943 mm

L2= 971.5 mm

L3= 647.7 mm

APPENDIX A

PHOTOGRAPHS

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A-5	POST-TEST LEFT SIDE VIEW	A-7
A-6	PRE-TEST RIGHT SIDE VIEW	A-8
A-7	POST-TEST RIGHT SIDE VIEW	A-9
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A-32	PRE-TEST PASSENGER HEAD LOCATION	A-34
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A-38	ROLLOVER VIEW	A-40
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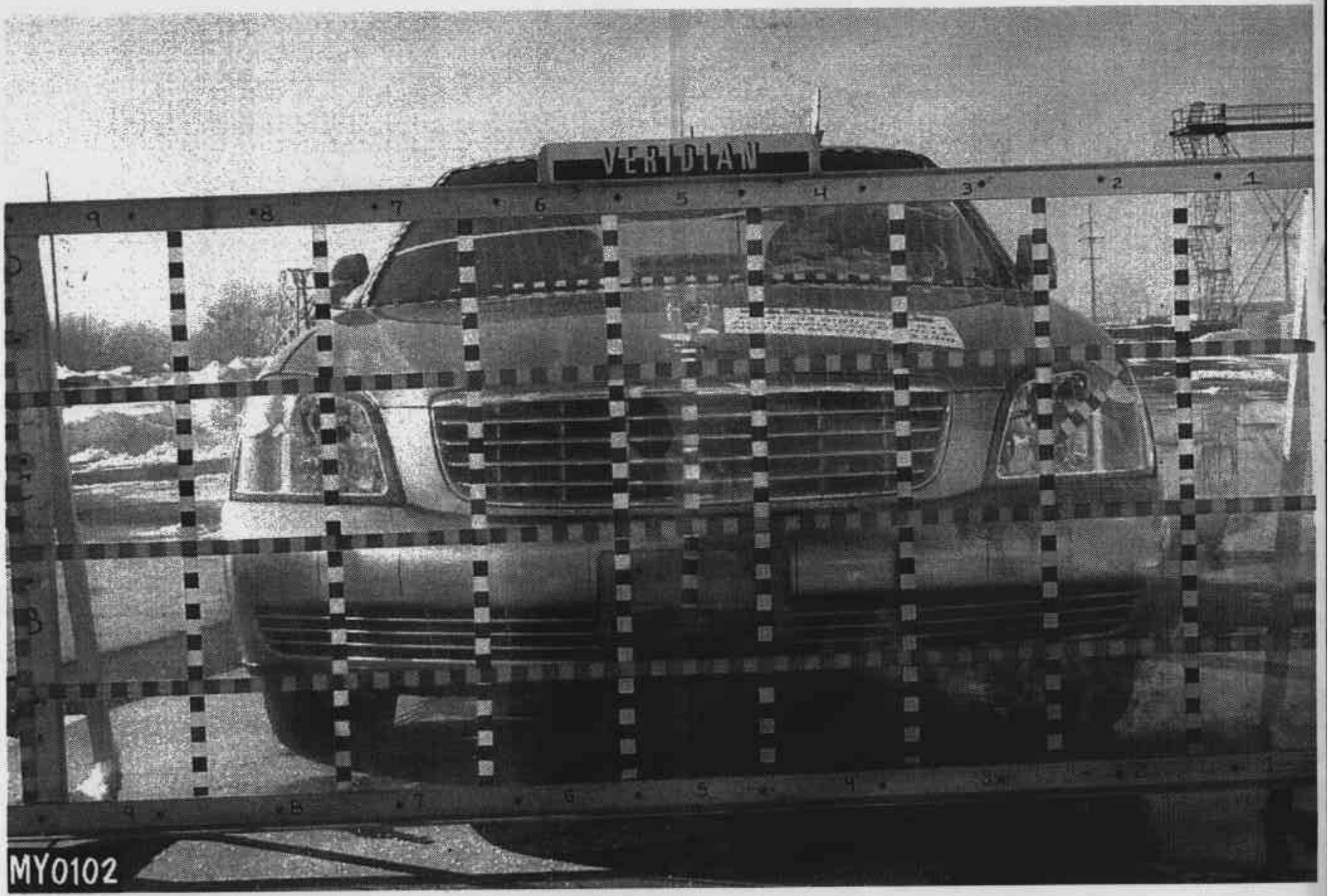


Figure A-1: LOAD CELL LOCATIONS.

8413-52

Figure A-2: PRE-TEST FRONT VIEW

Figure A-3: POST-TEST FRONT VIEW.

Figure A-4: PRE-TEST LEFT SIDE VIEW

8413-52

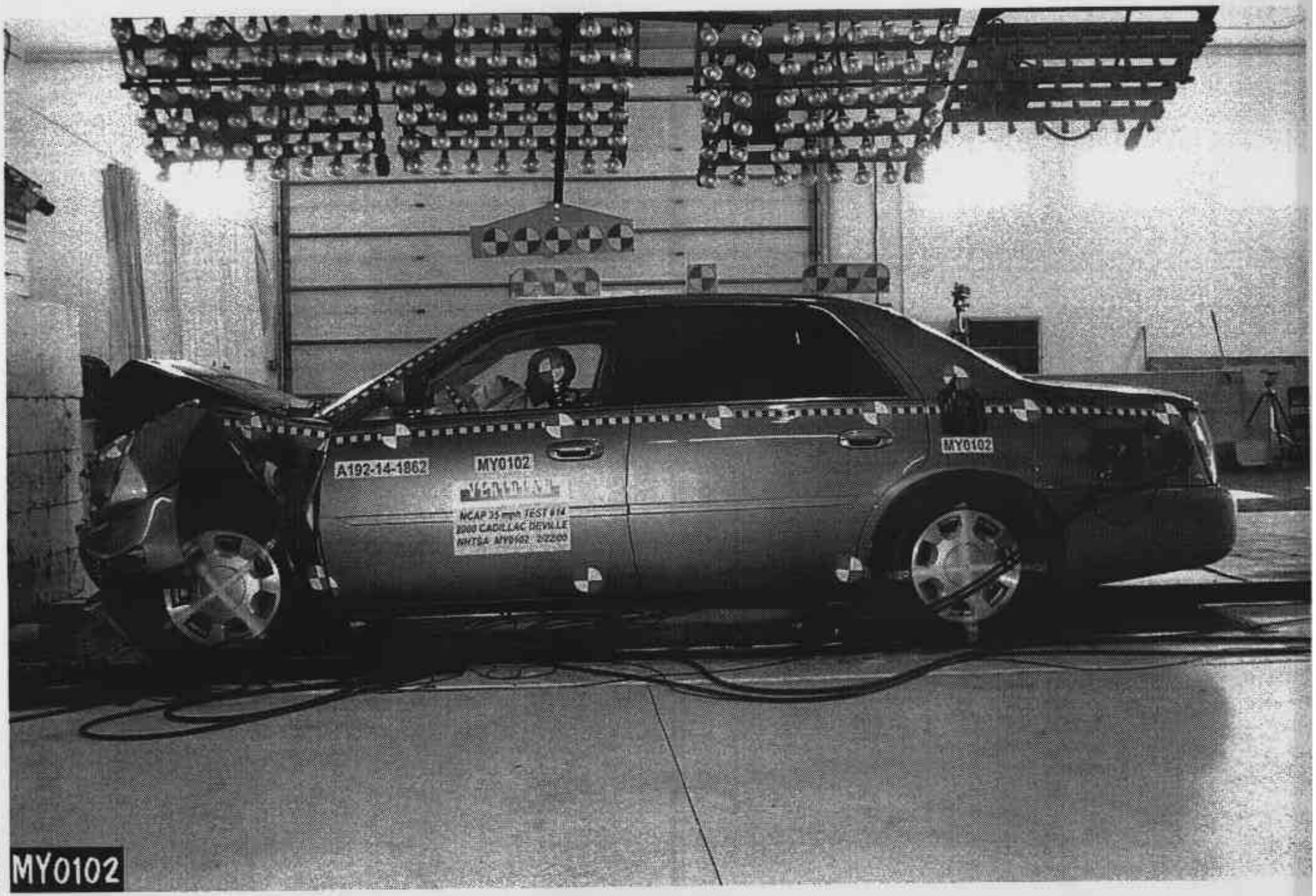


Figure A-5: POST-TEST LEFT SIDE VIEW

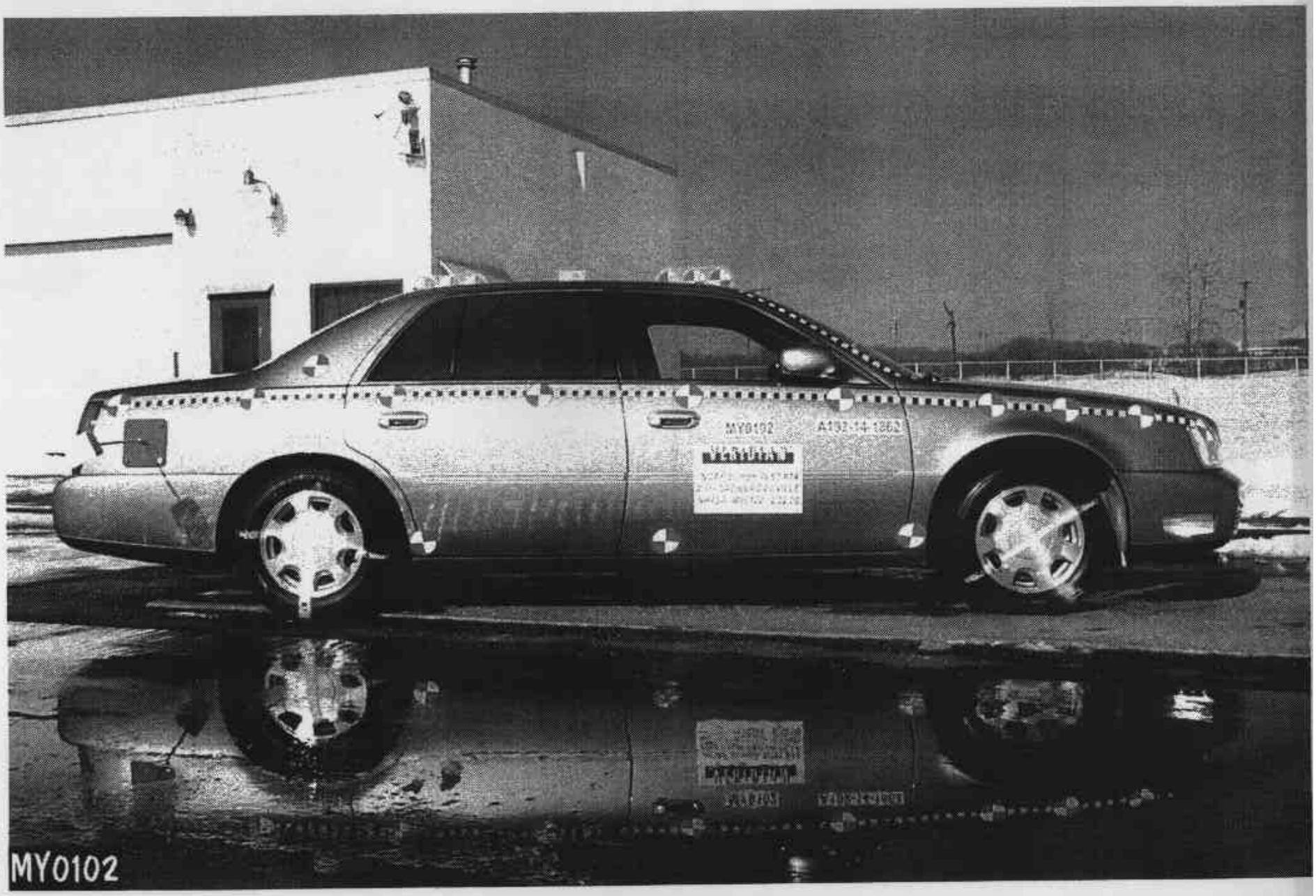


Figure A-6: PRE-TEST RIGHT SIDE VIEW

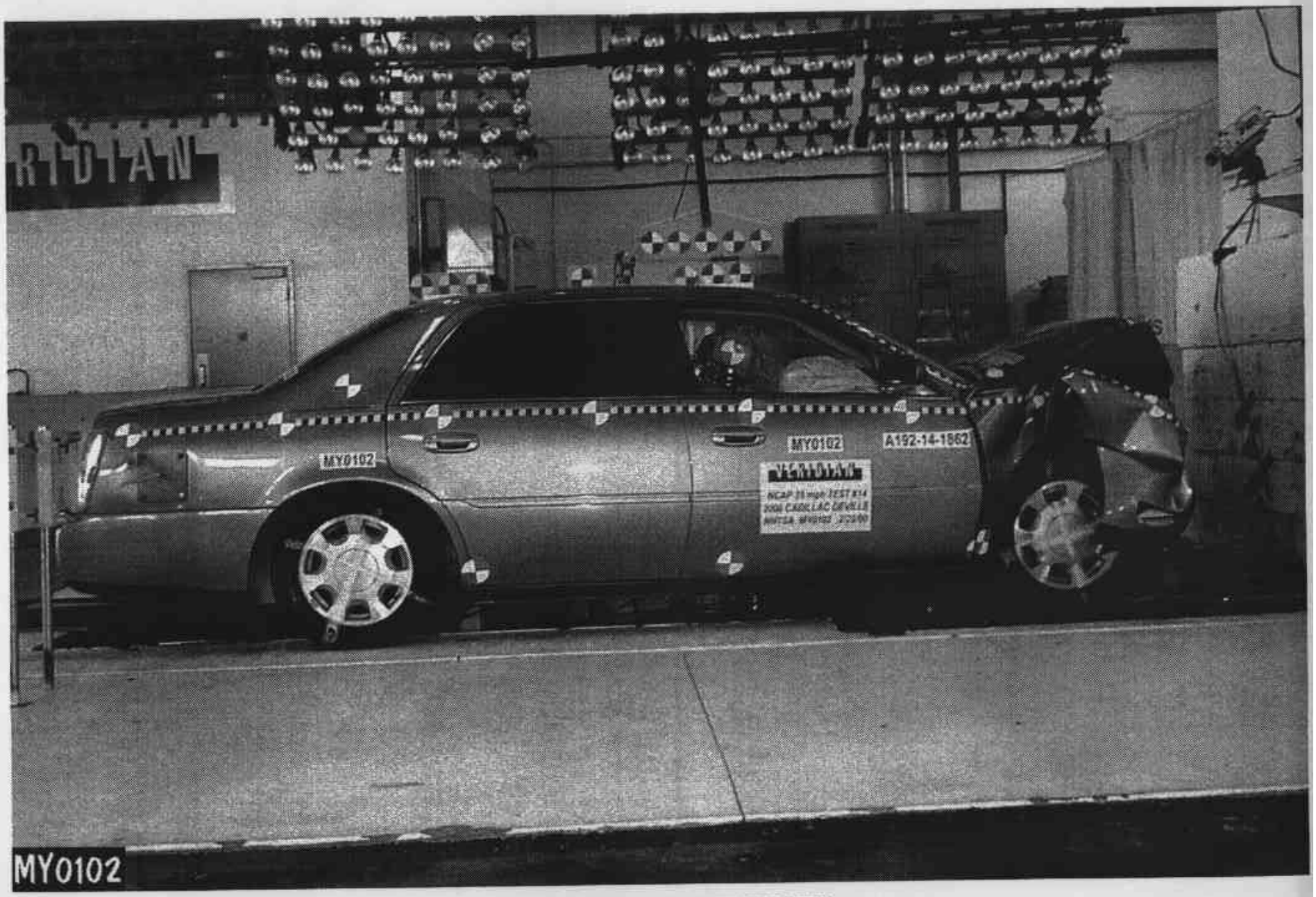


Figure A-7: POST-TEST RIGHT SIDE VIEW

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

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

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

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

Figure A-12: PRE-TEST WINDSHIELD VIEW

8413-52

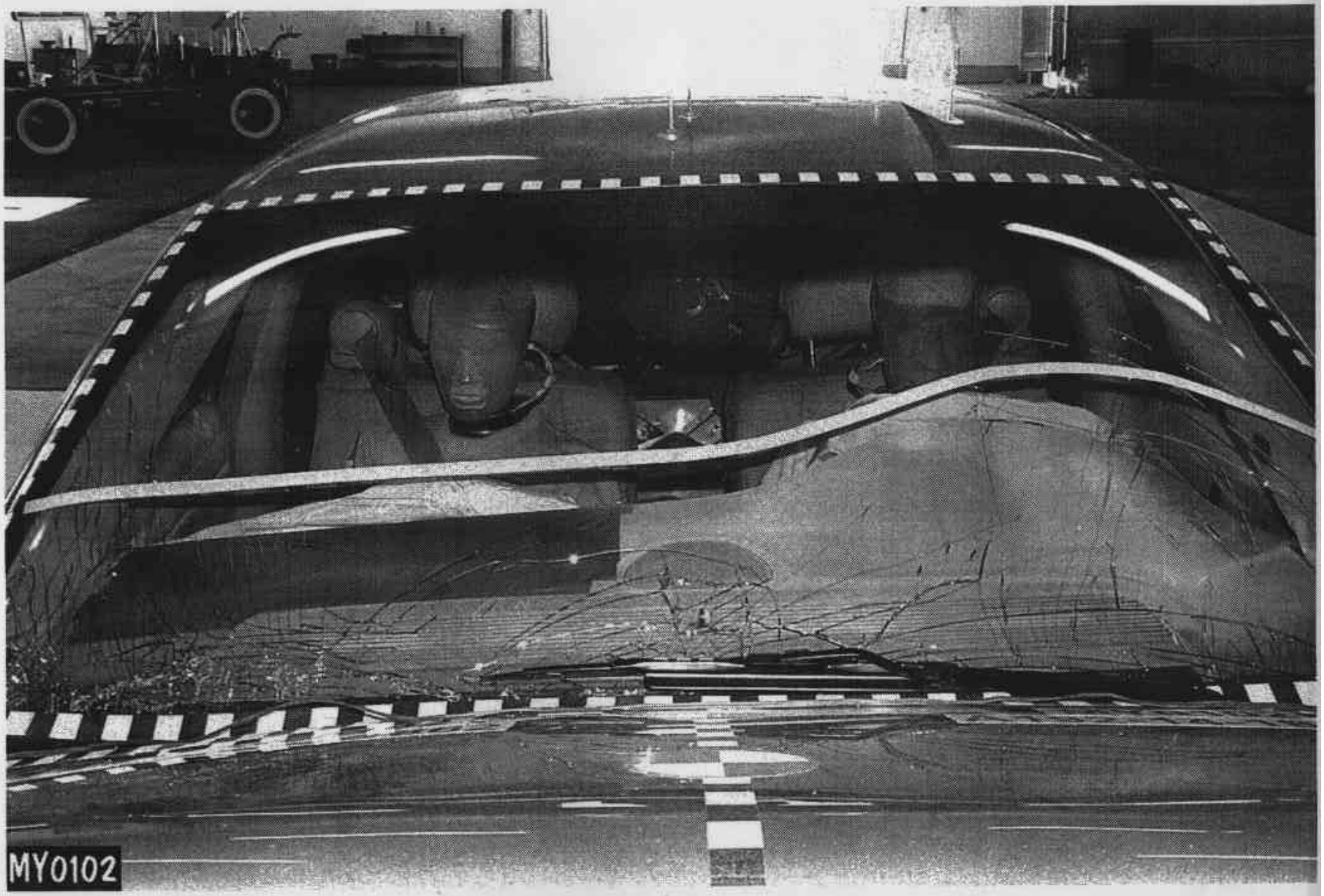


Figure A-13: POST-TEST WINDSHIELD VIEW

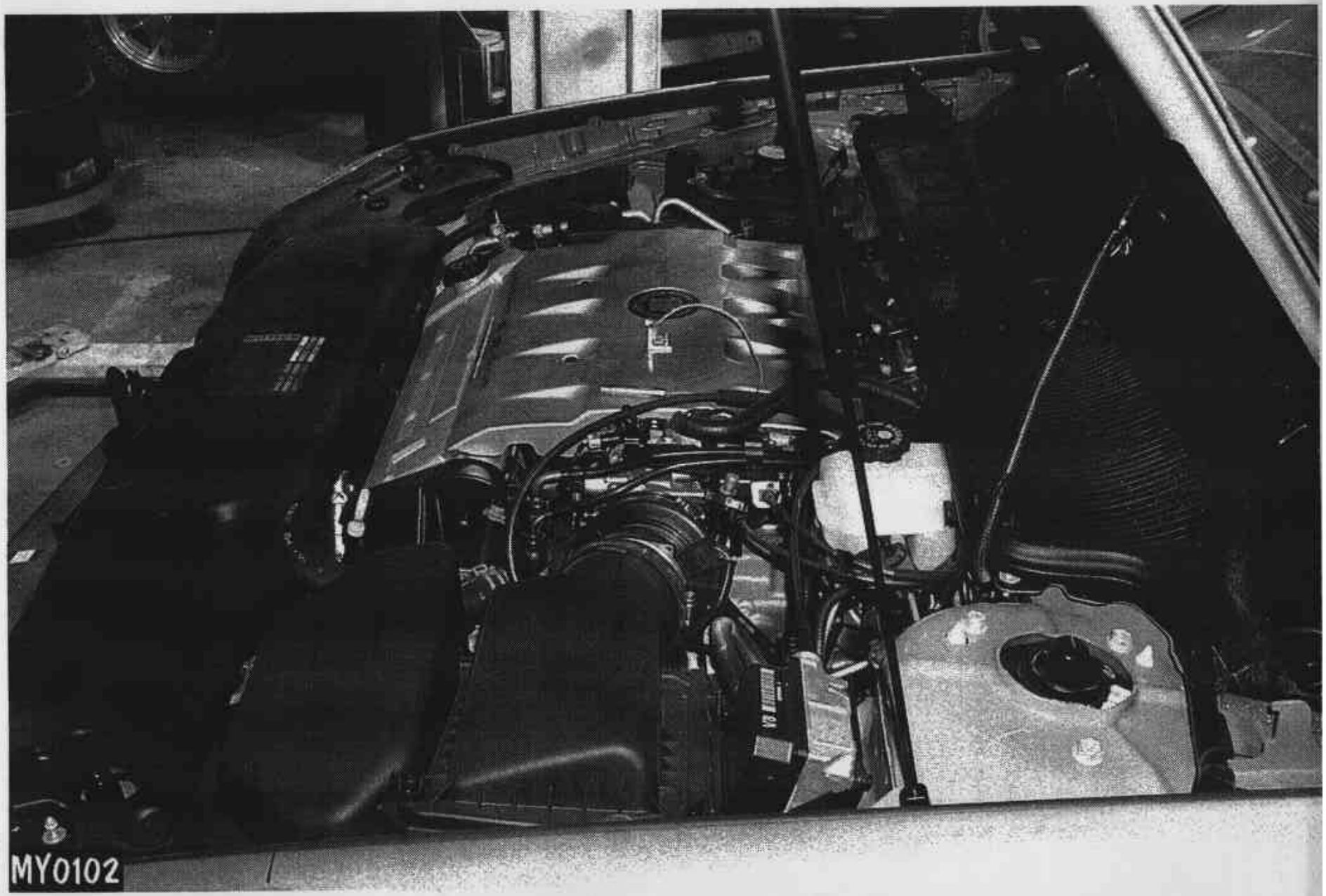


Figure A-14: PRE-TEST ENGINE COMPARTMENT VIEW

Figure A-15: FUEL CAP VIEW

8413-52

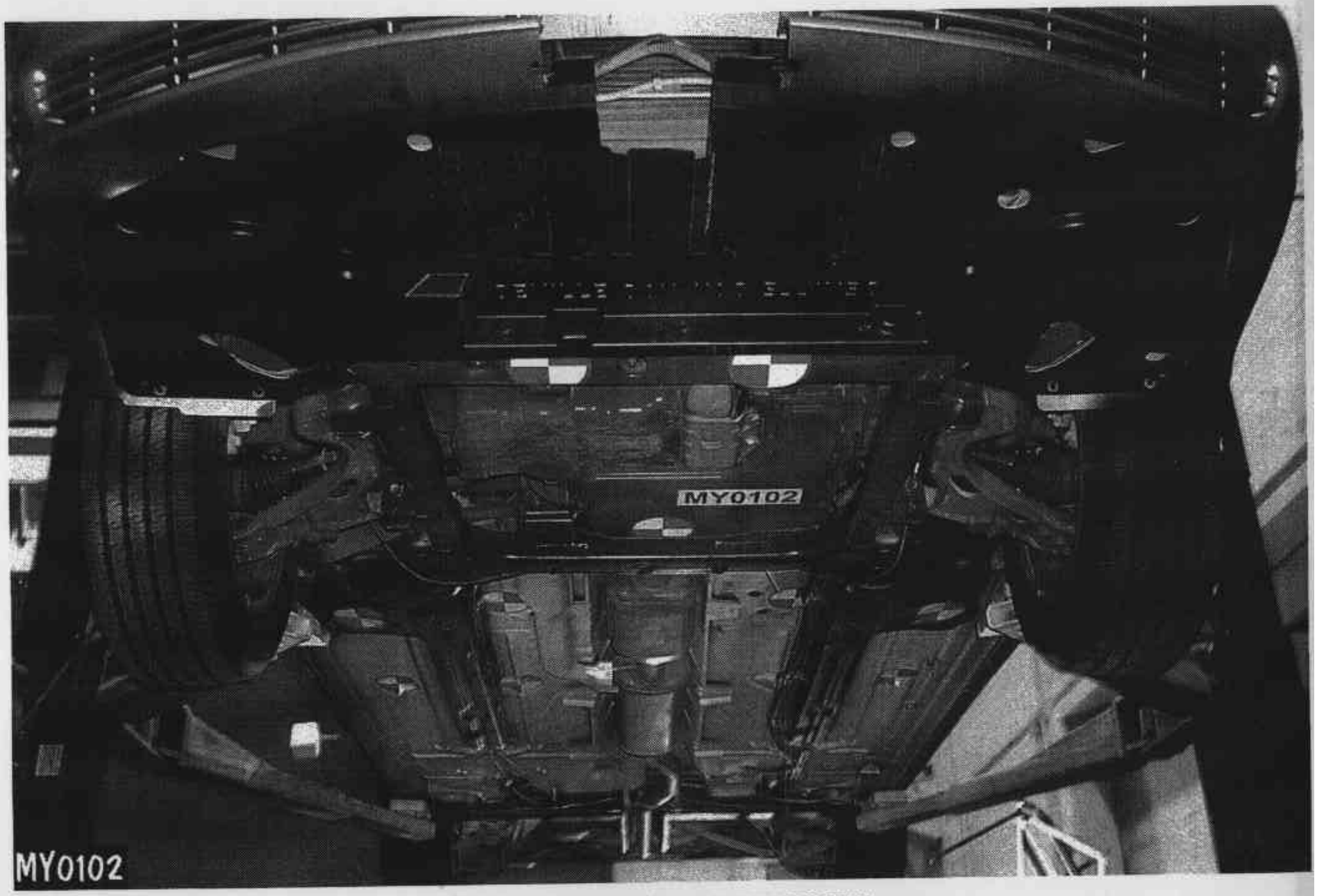


Figure A-16: PRE-TEST FRONT UNDERBODY VIEW

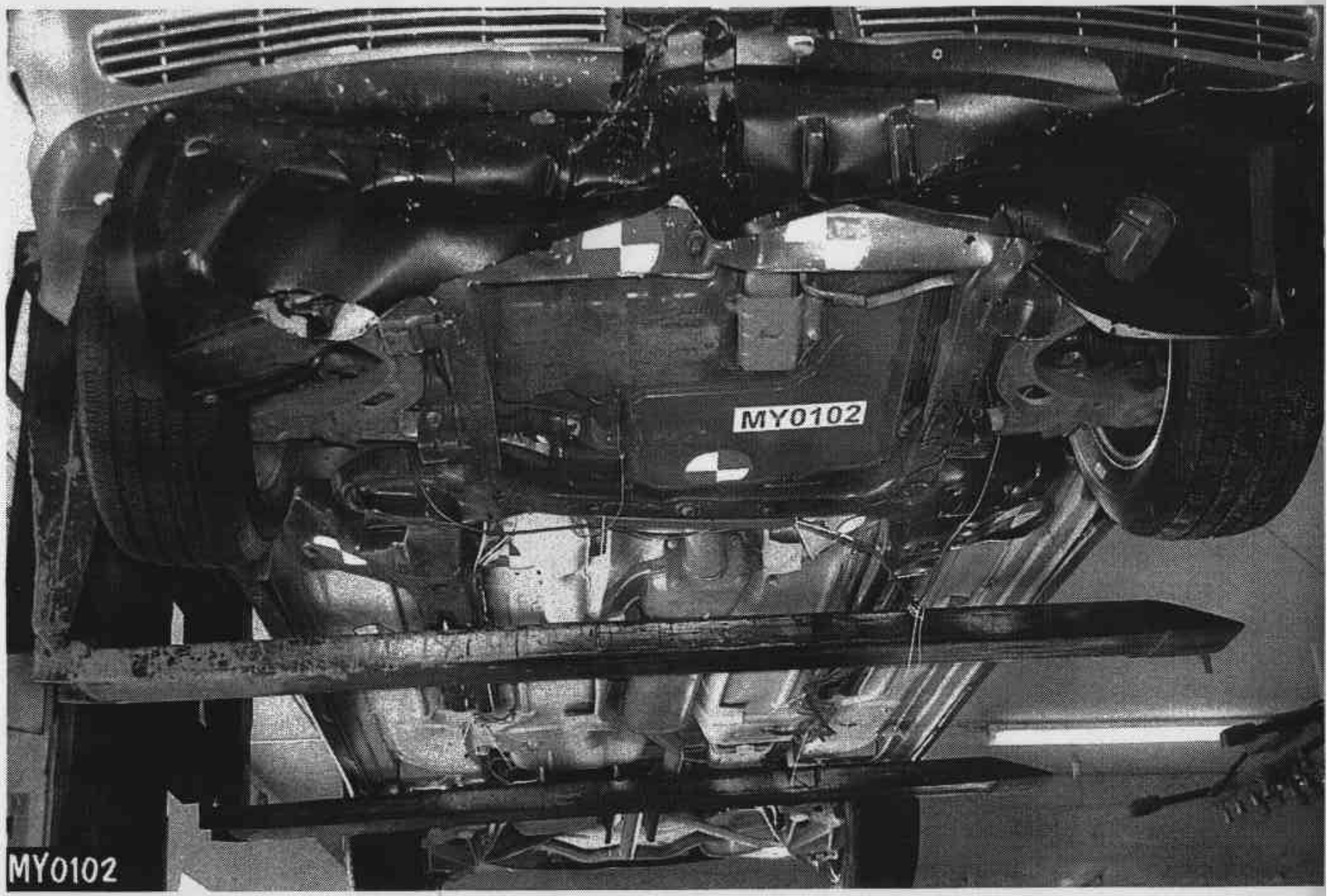


Figure A-17: POST-TEST FRONT UNDERBODY VIEW

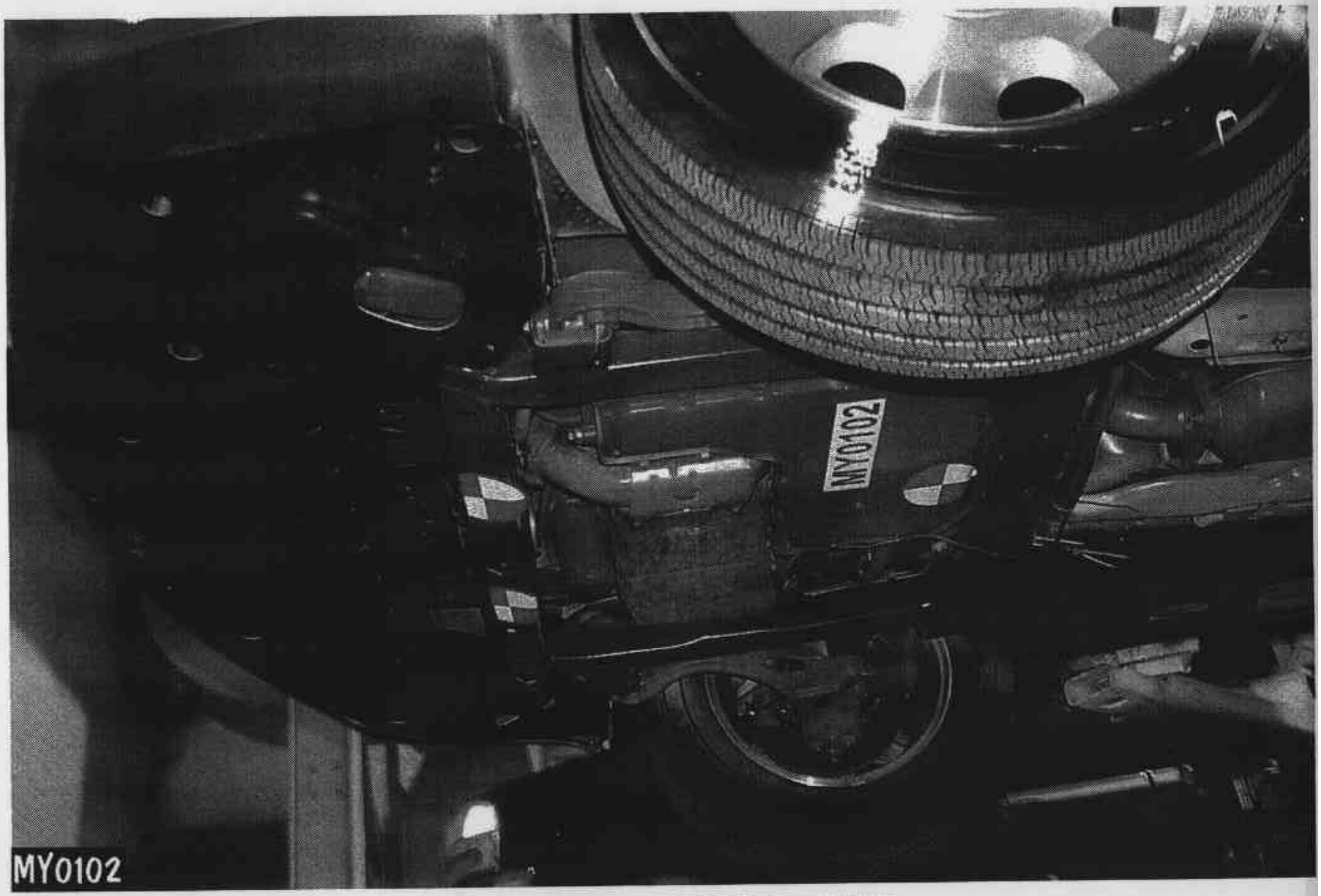


Figure A-18: PRE-TEST FRONT SIDE UNDERBODY VIEW

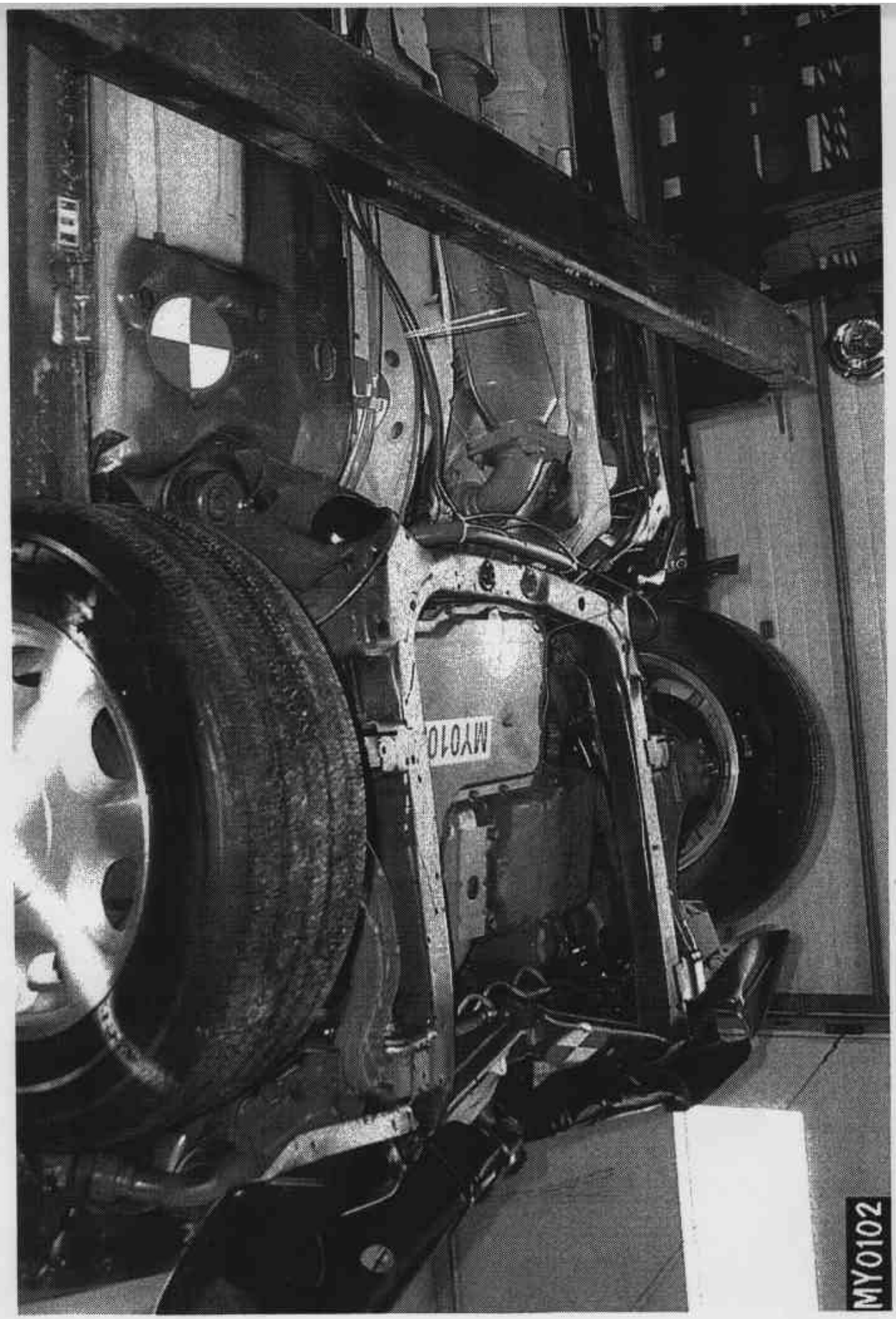


Figure A-19: POST-TEST FRONT SIDE UNDERBODY VIEW

Figure A-20: PRE-TEST REAR UNDERBODY VIEW

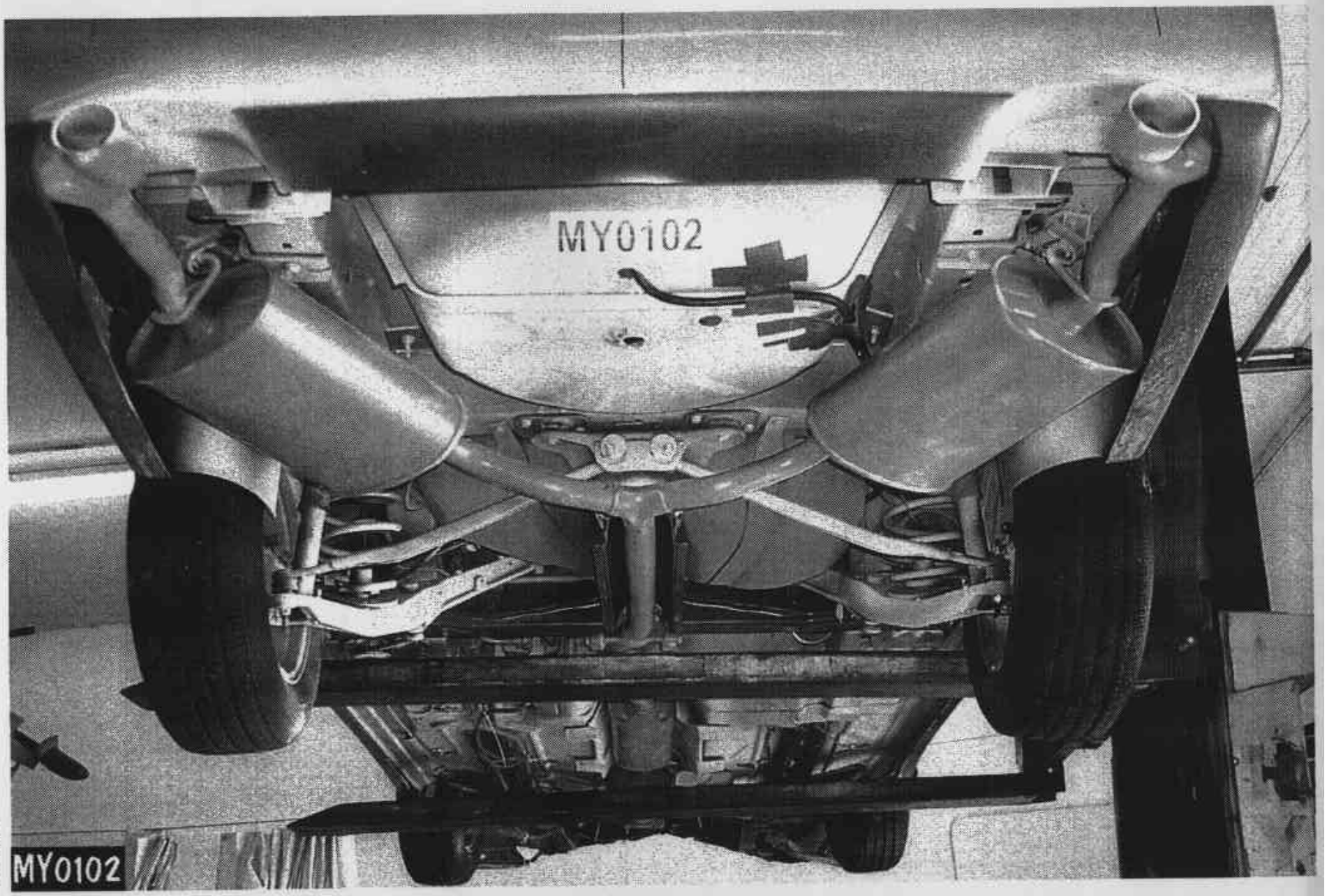


Figure A-21: POST-TEST REAR UNDERBODY VIEW

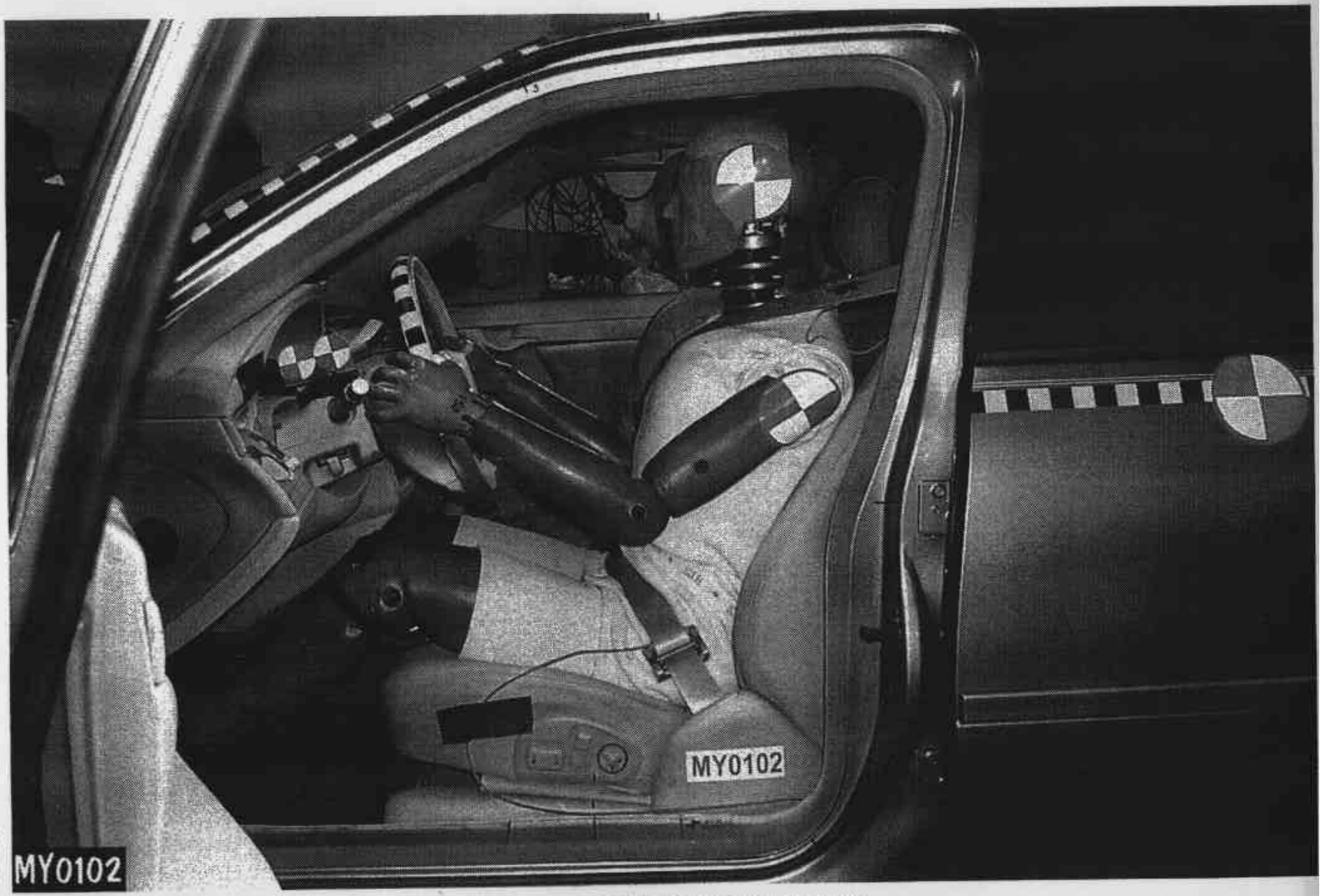


Figure A-22: PRE-TEST DRIVER POSITION VIEW

8413-52

Figure A-23: POST-TEST DRIVER POSITION VIEW

Figure A-24: PRE-TEST PASSENGER POSITION VIEW

Figure A-25: POST-TEST PASSENGER POSITION VIEW

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

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

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

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

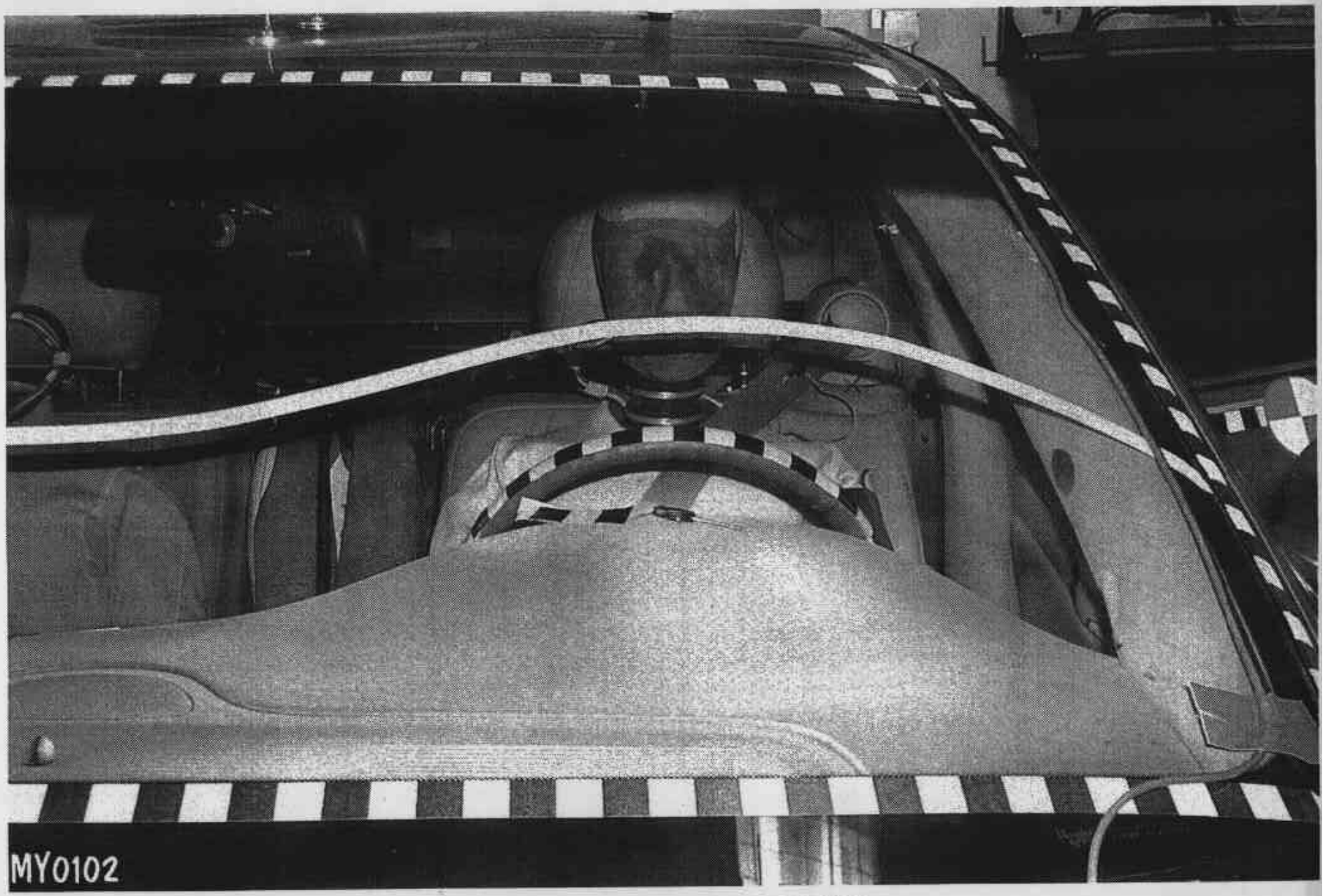


Figure A-30: PRE-TEST DRIVER HEAD LOCATION

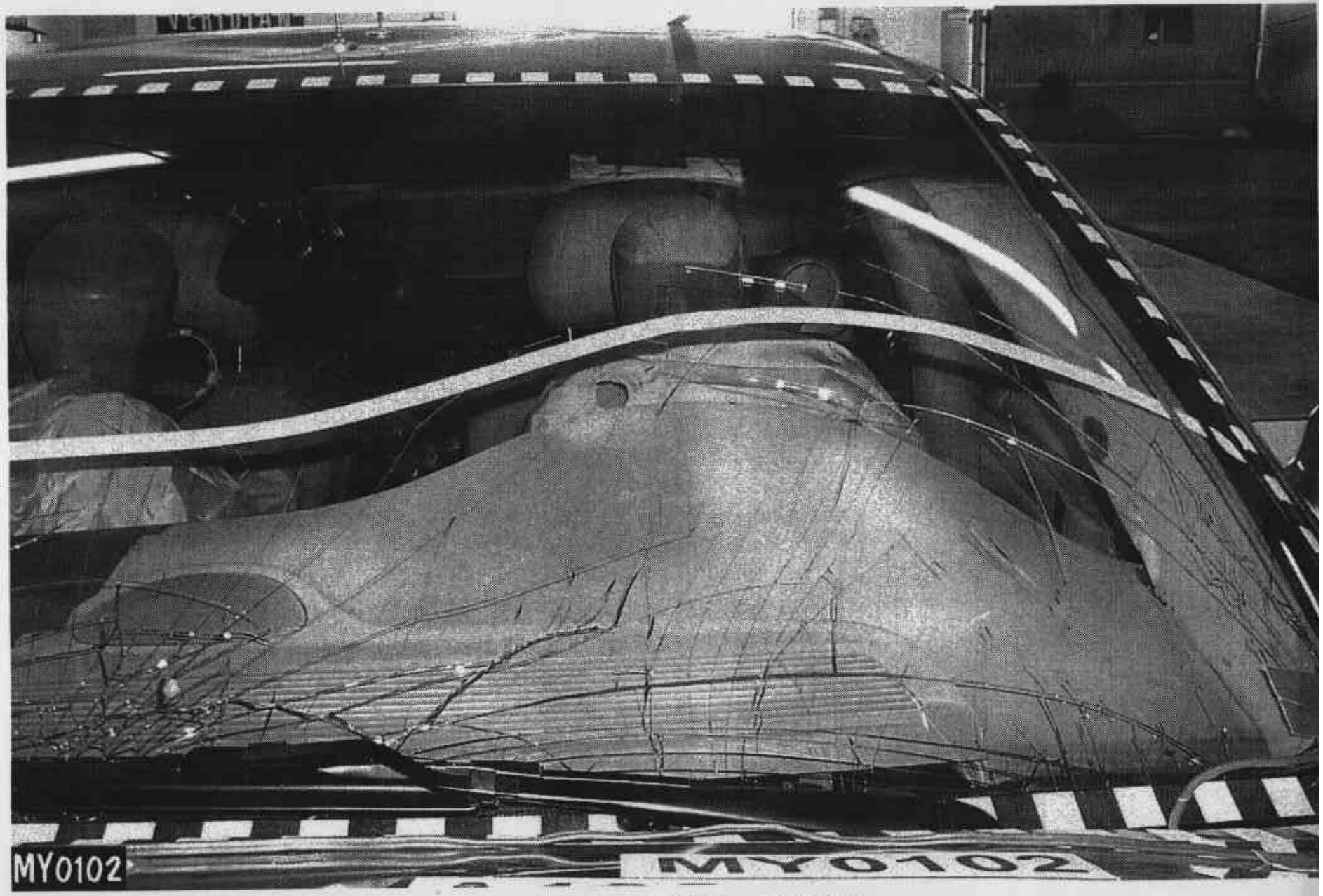


Figure A-31: POST-TEST DRIVER HEAD LOCATION

8413-52

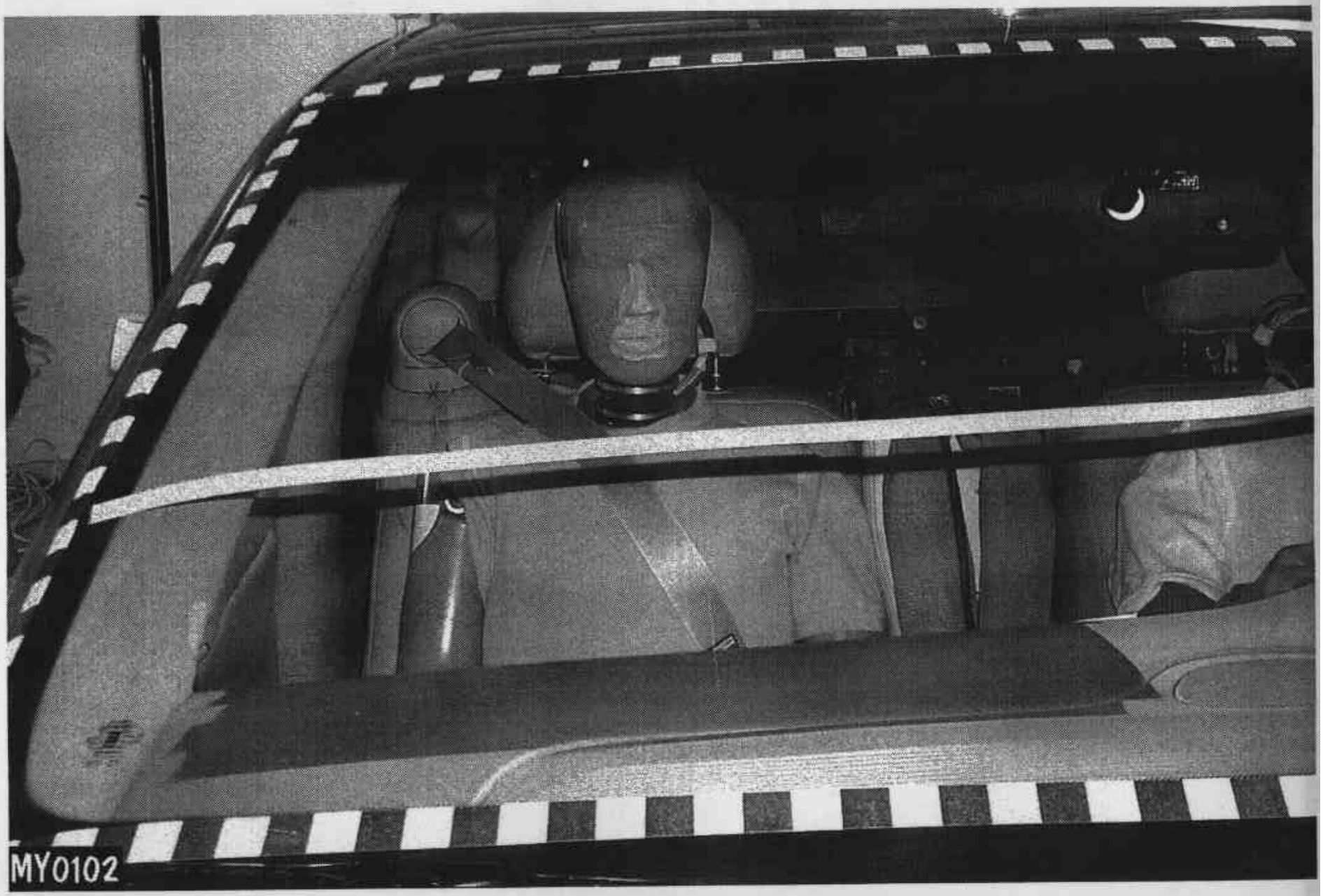


Figure A-32: PRE-TEST PASSENGER HEAD LOCATION

Figure A-33: POST-TEST PASSENGER HEAD LOCATION

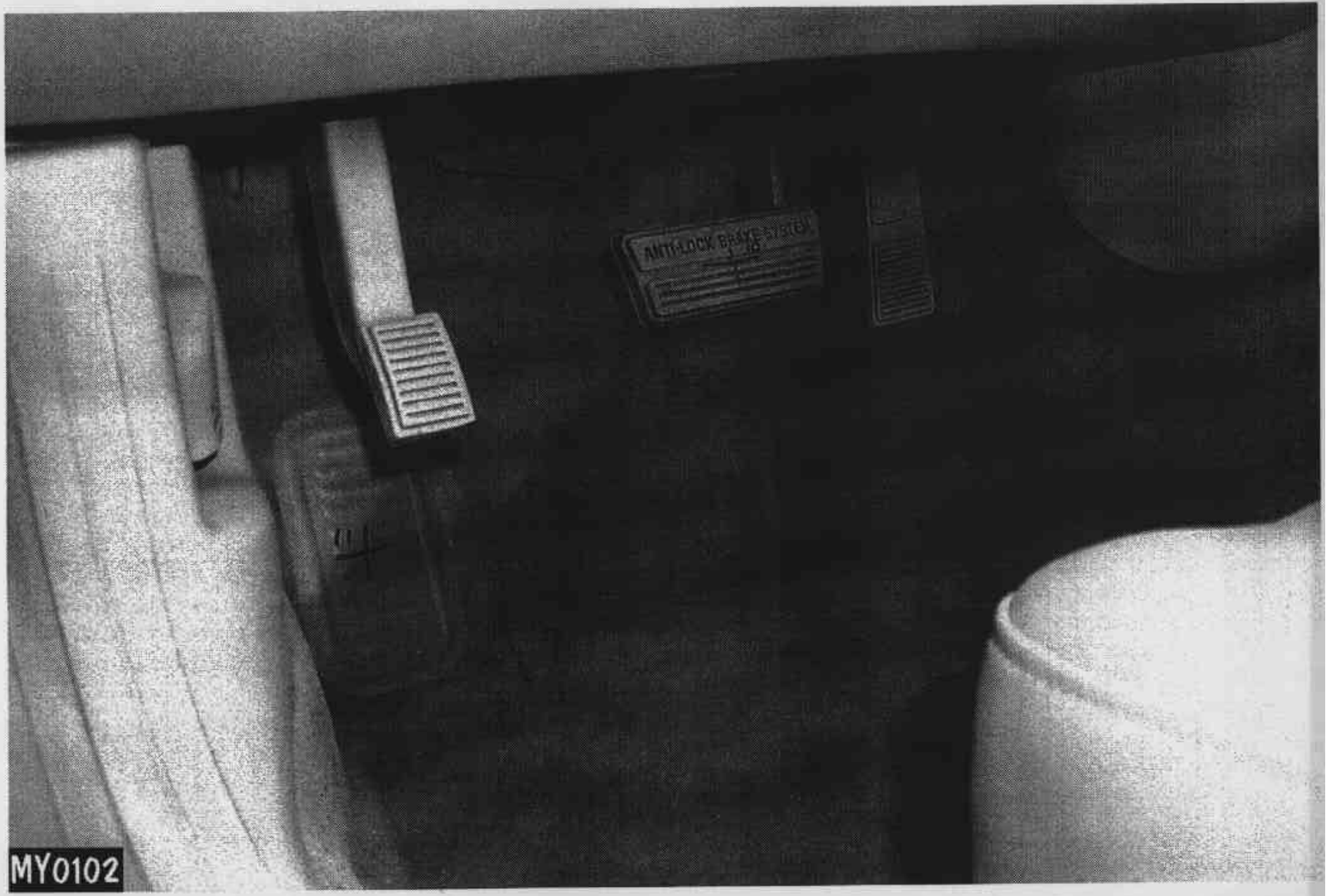


Figure A-34: PRE-TEST DRIVER FLOOR PAN VIEW

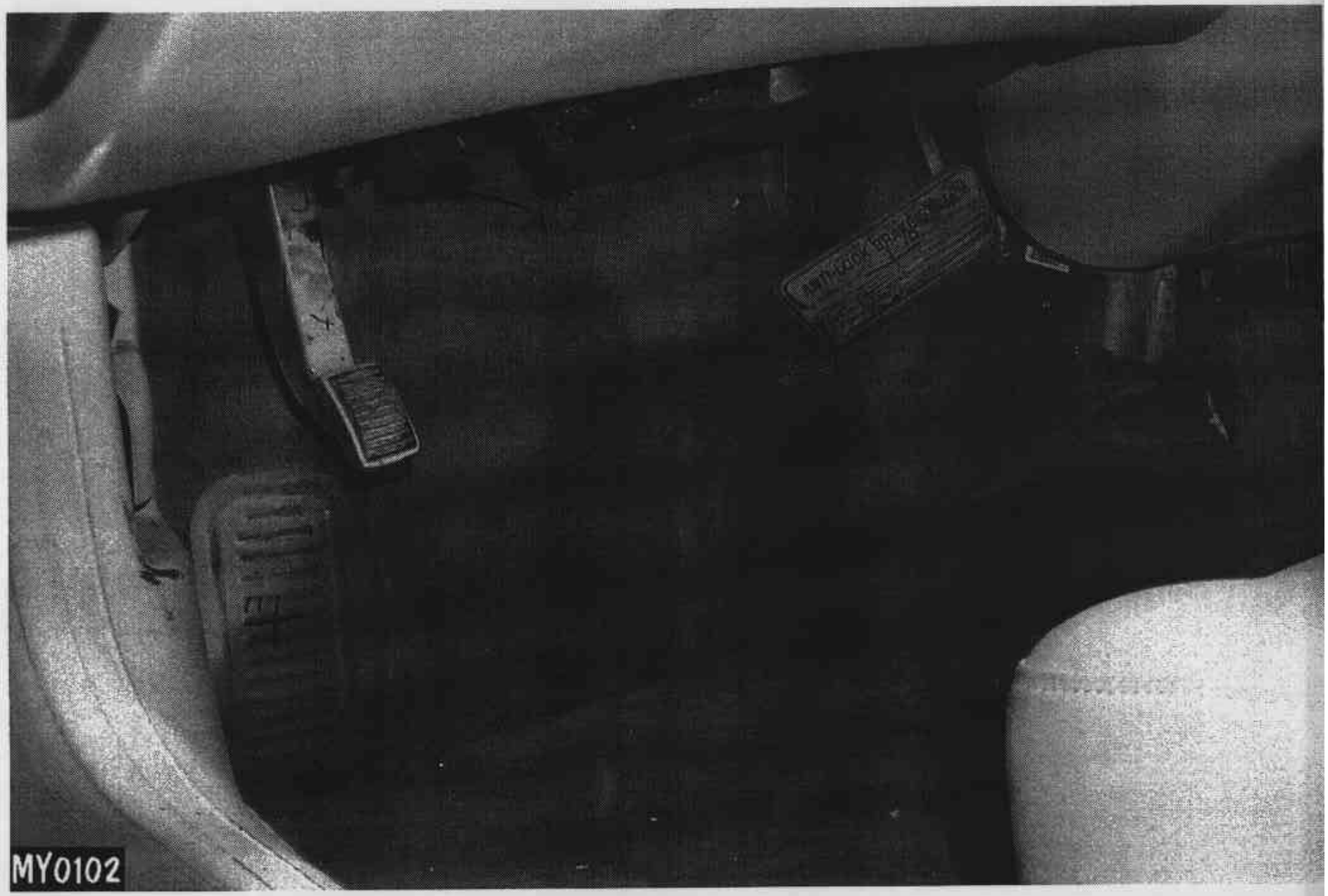


Figure A-35: POST-TEST DRIVER FLOOR PAN VIEW

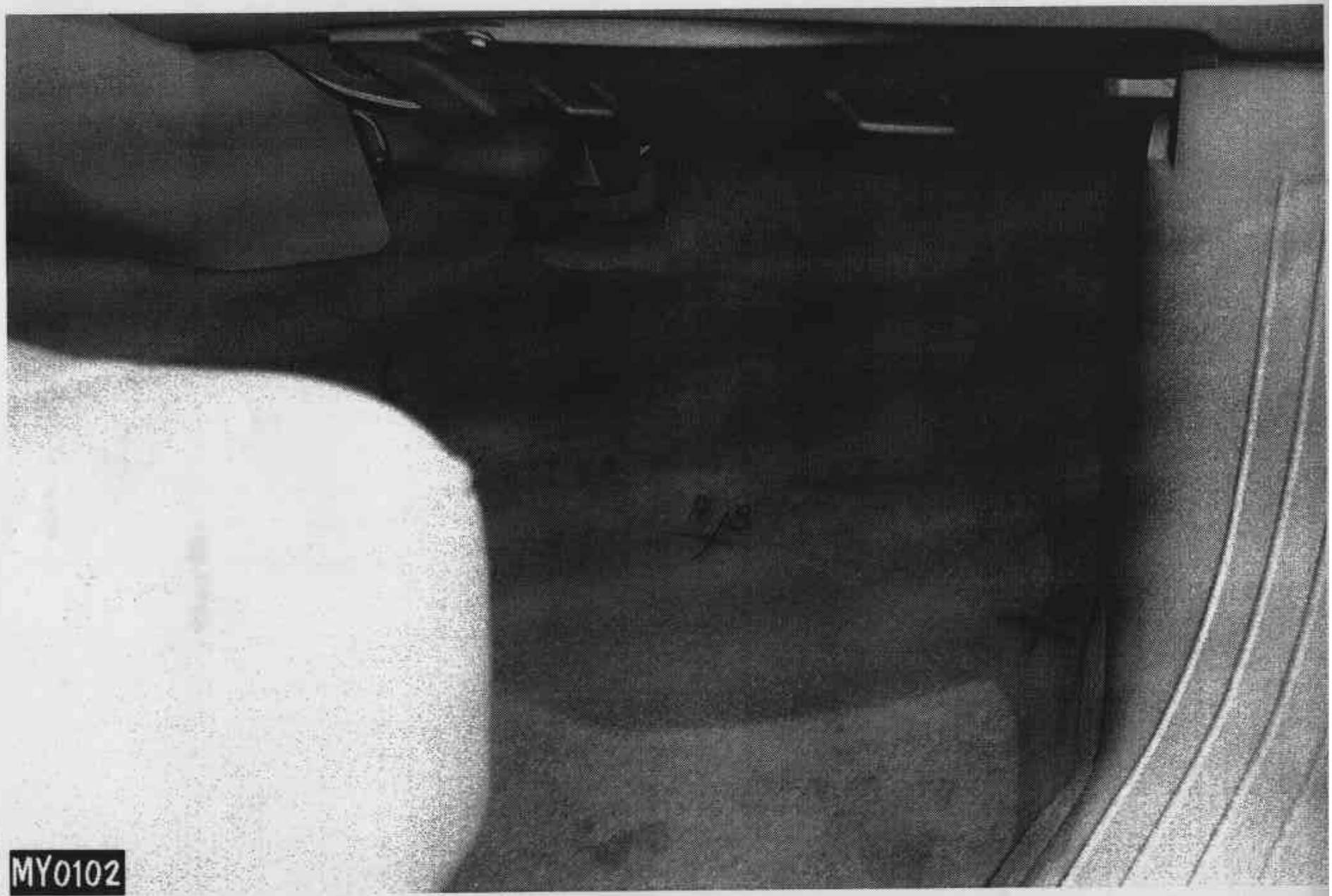


Figure A-36: PRE-TEST PASSENGER FLOOR PAN VIEW

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

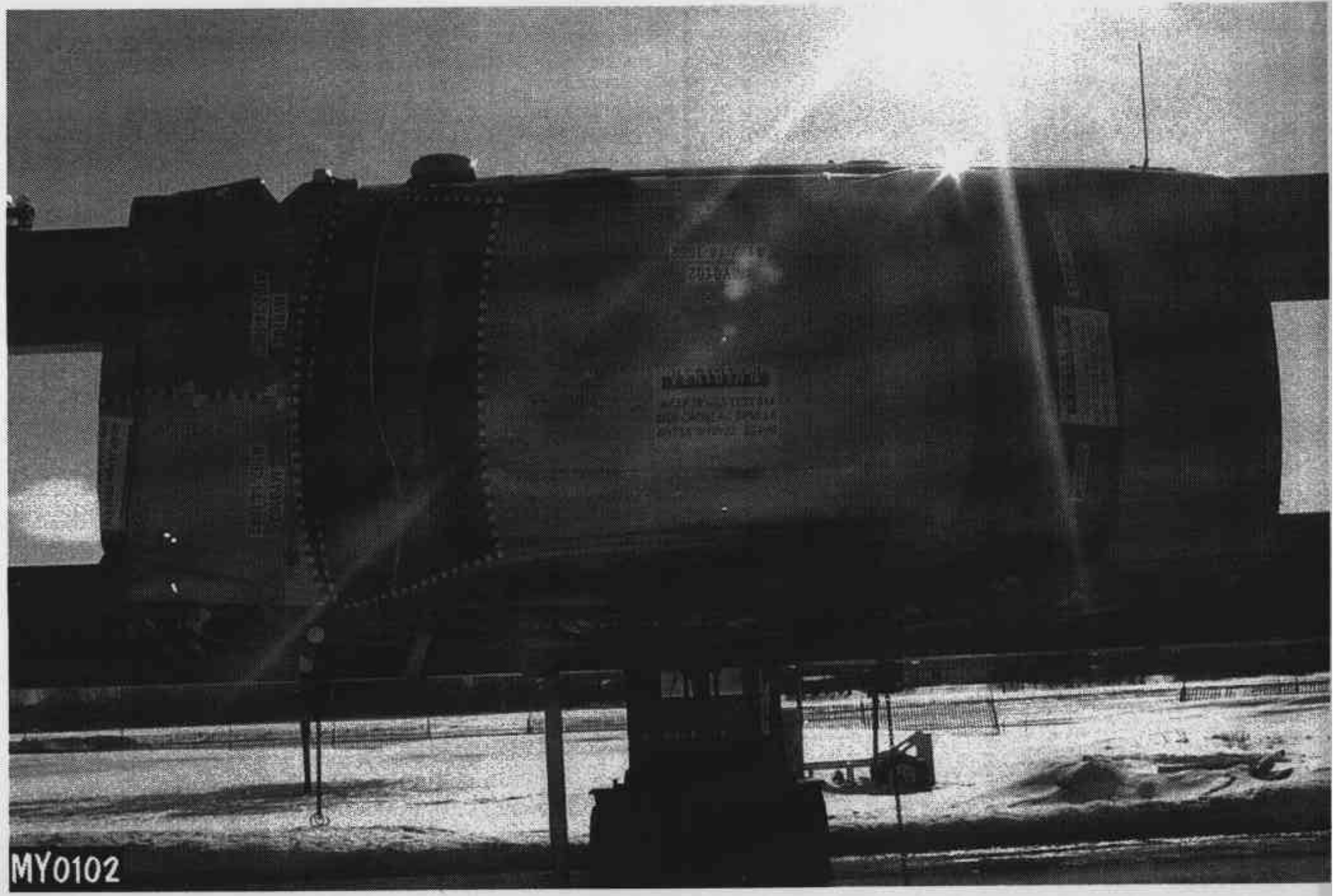


Figure A-38: ROLLOVER VIEW

Figure A-39: IMPACT VIEW

APPENDIX B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

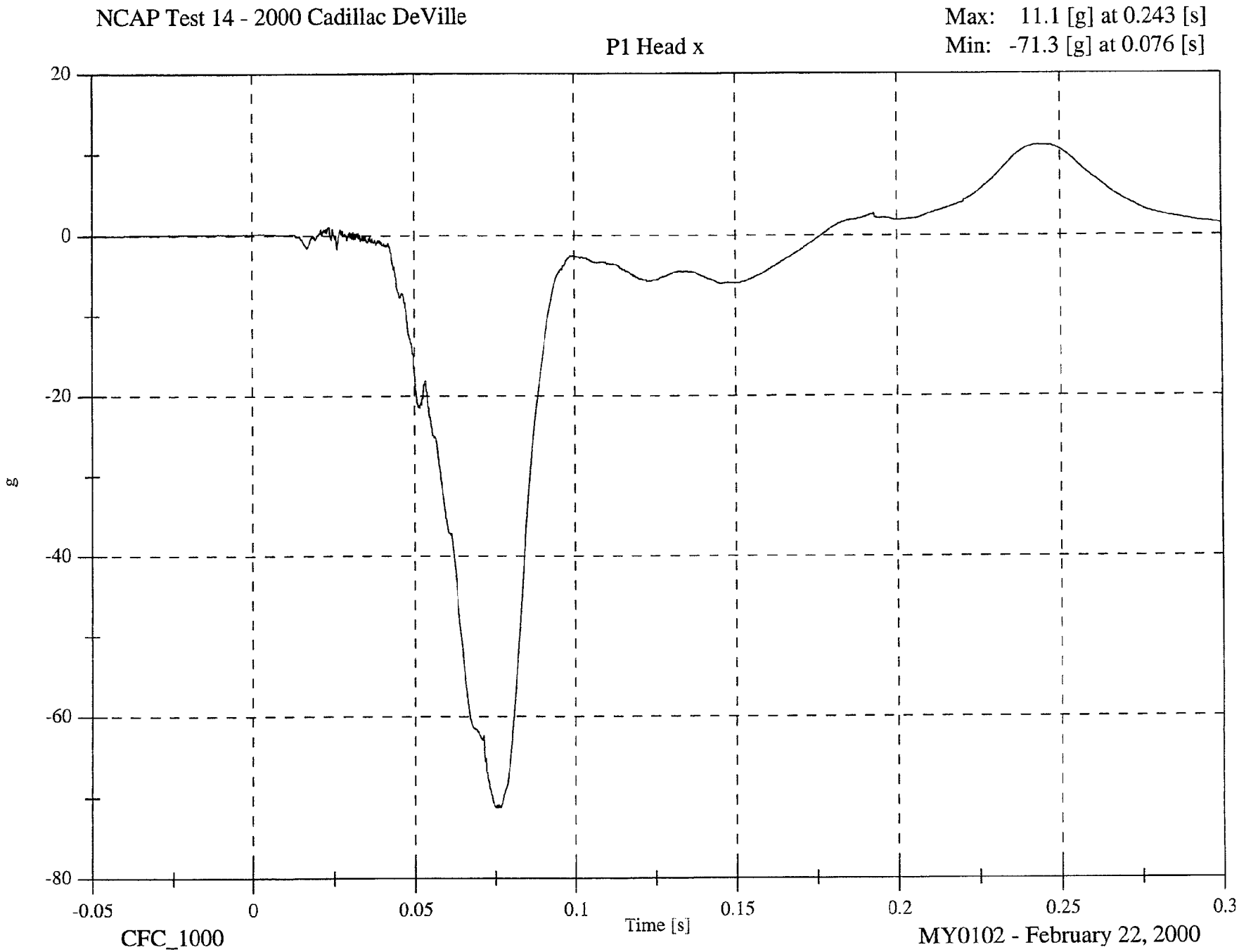
Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers

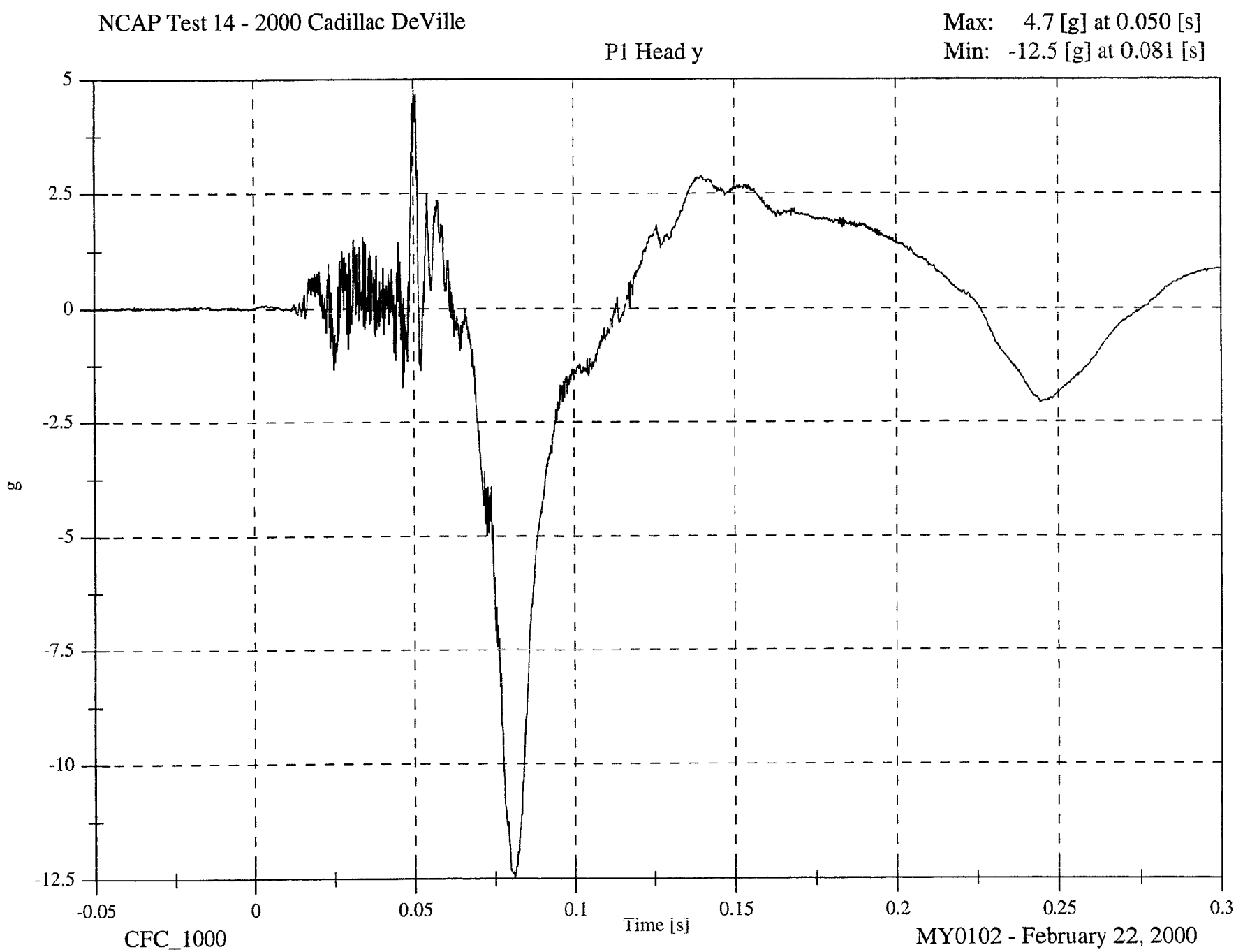
Transducer	SAE Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head rearward Fy Head left Fz Neck in tension Mx Left ear to left shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)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

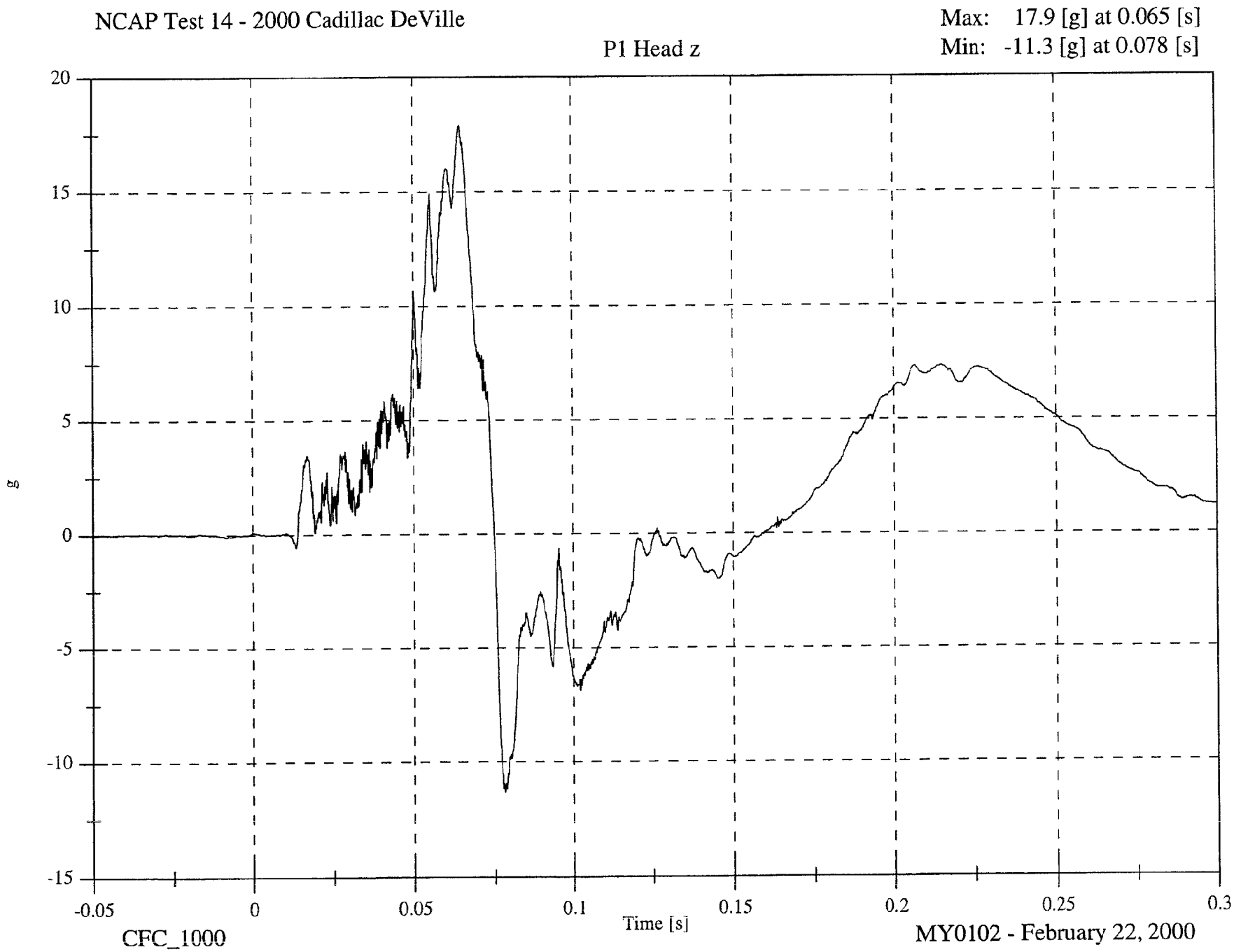
DATA CHANNEL FILTER CLASS SUMMARY

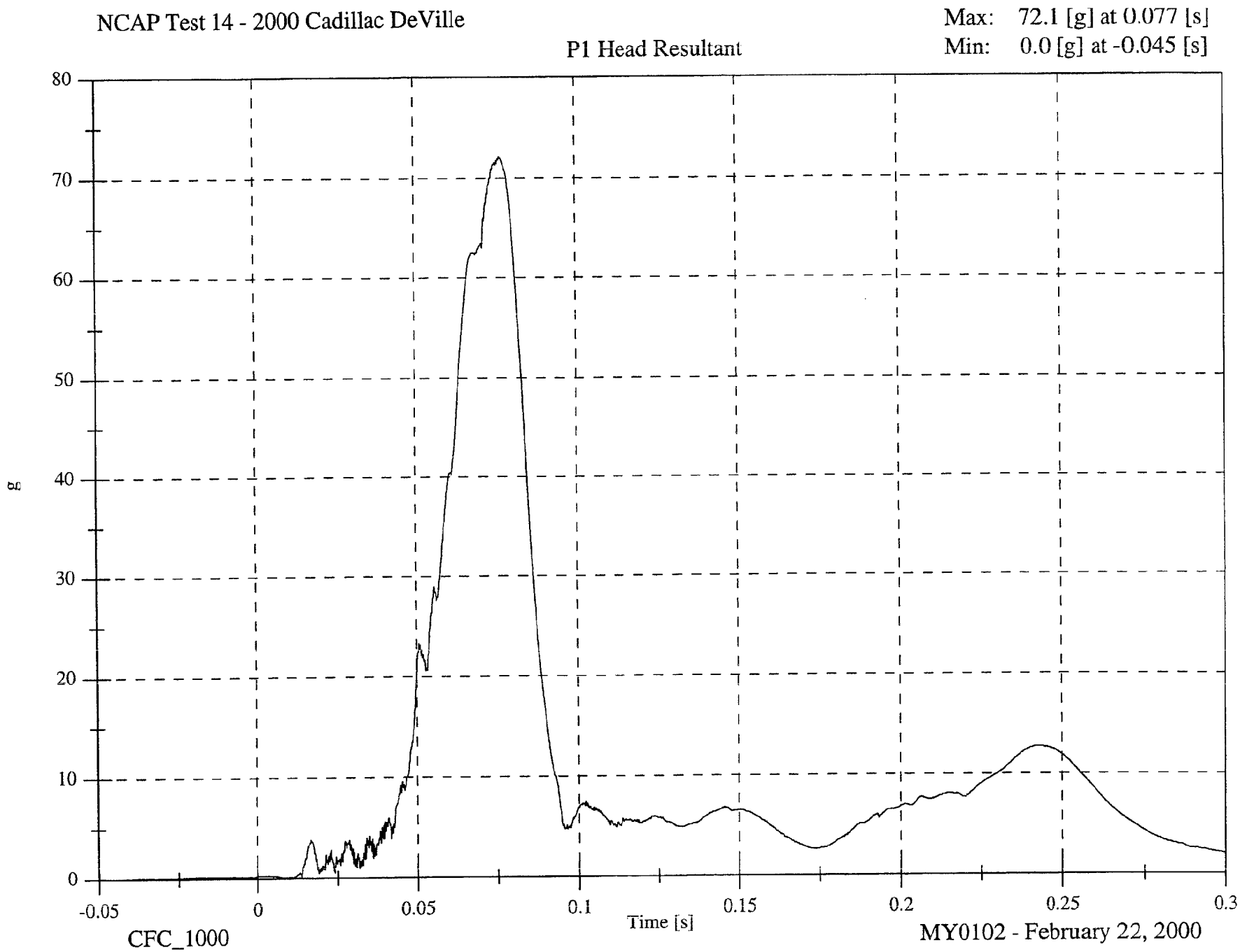
NHTSA TEST NO. MY0102

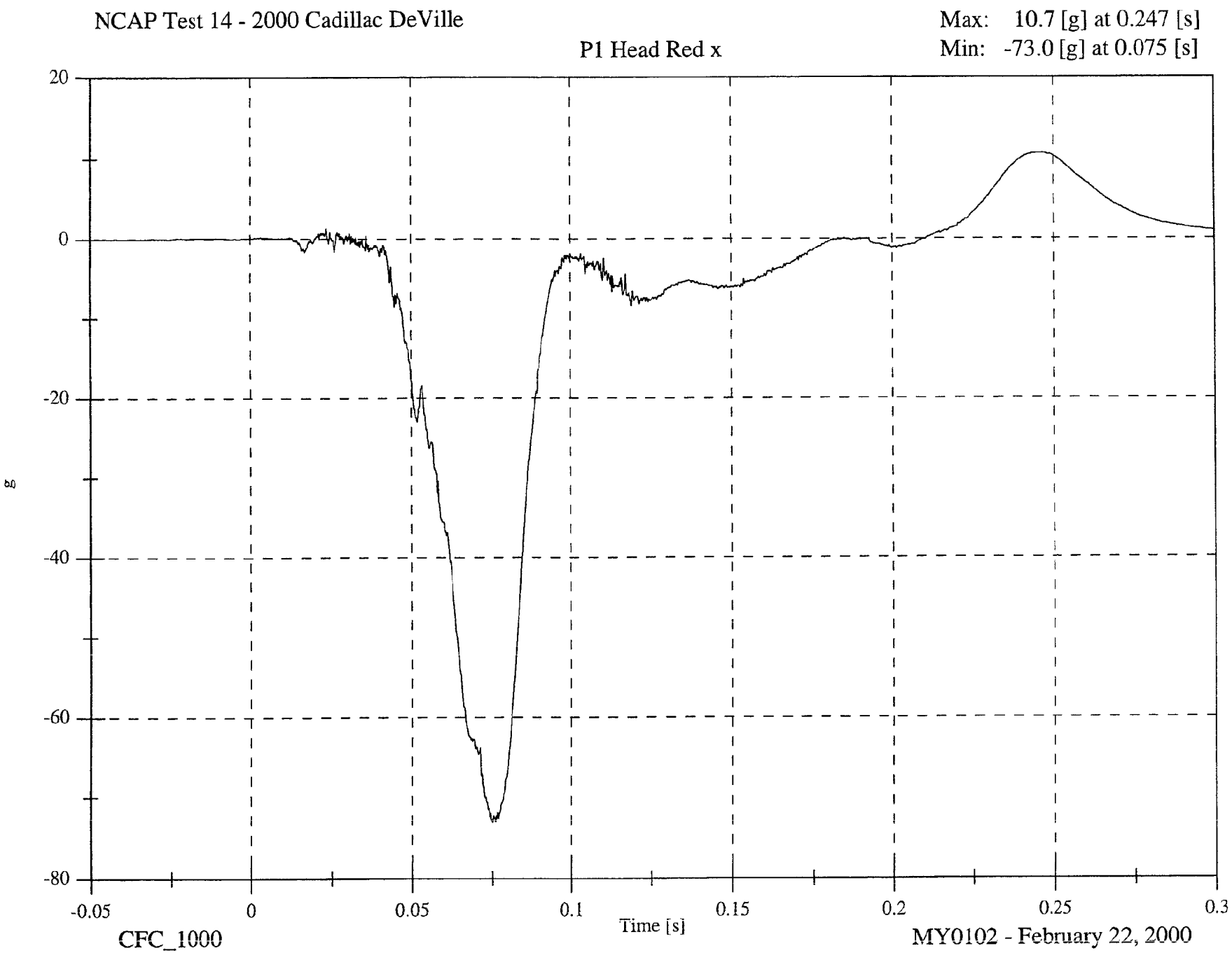
DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	60
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle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

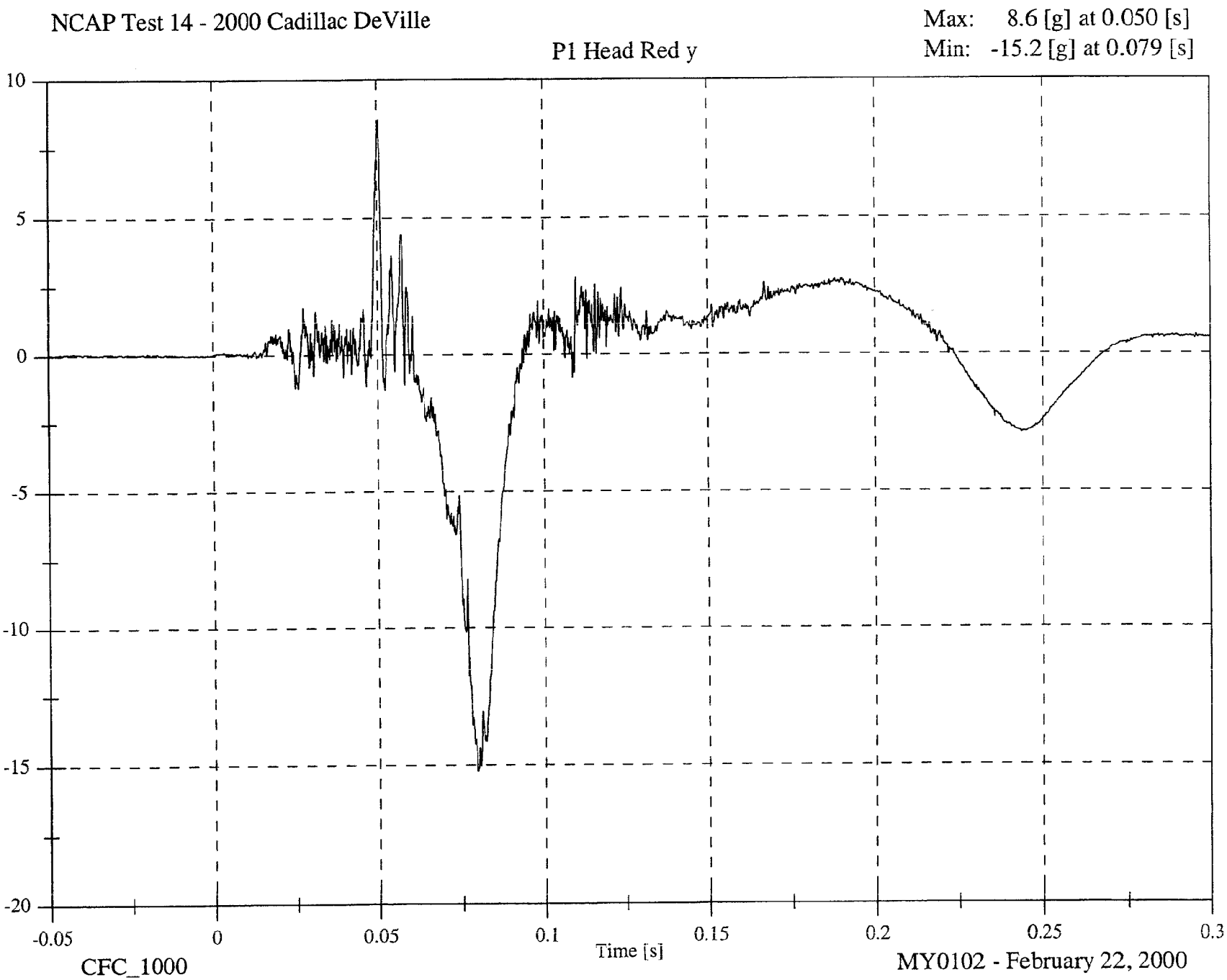

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head x
Max: 11.1 [g] at 0.243 [s]
Min: -71.3 [g] at 0.076 [s]
20
0
-20
-40
-60
-80
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

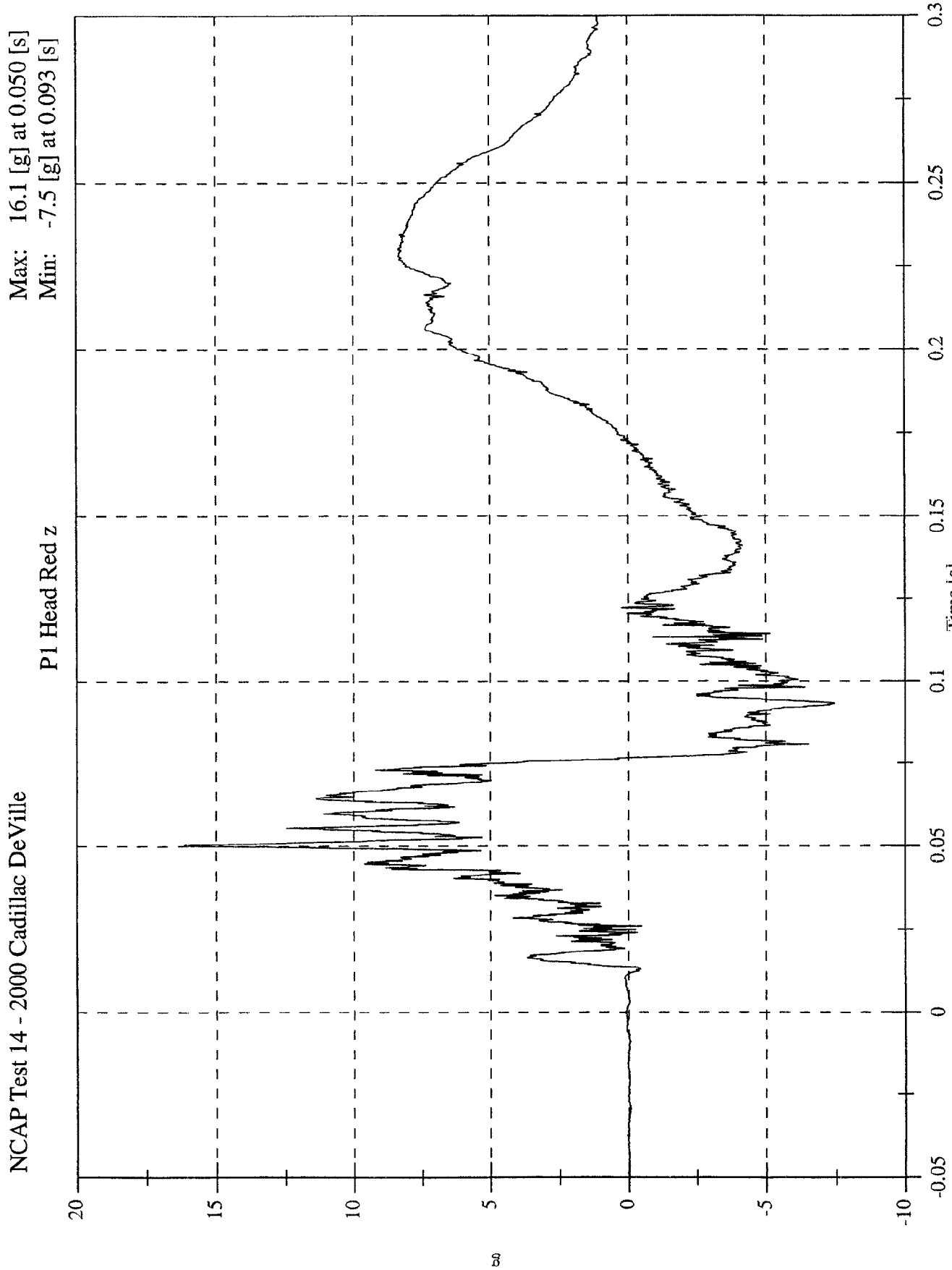

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head y
Max: 4.7 [g] at 0.050 [s]
Min: -12.5 [g] at 0.081 [s]
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

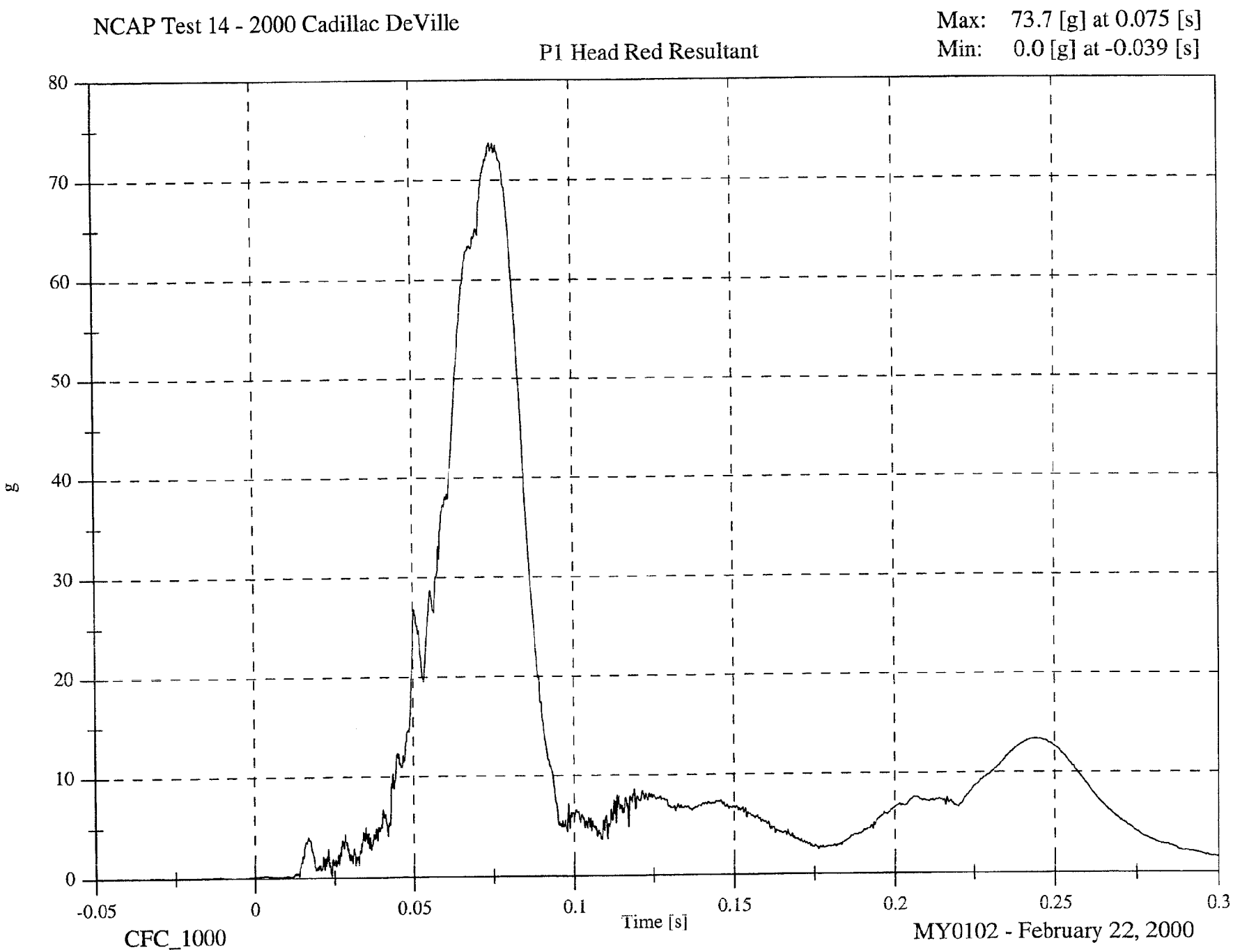

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head z
Max: 17.9 [g] at 0.065 [s]
Min: -11.3 [g] at 0.078 [s]
20
15
10
5
0
-5
-10
-15
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

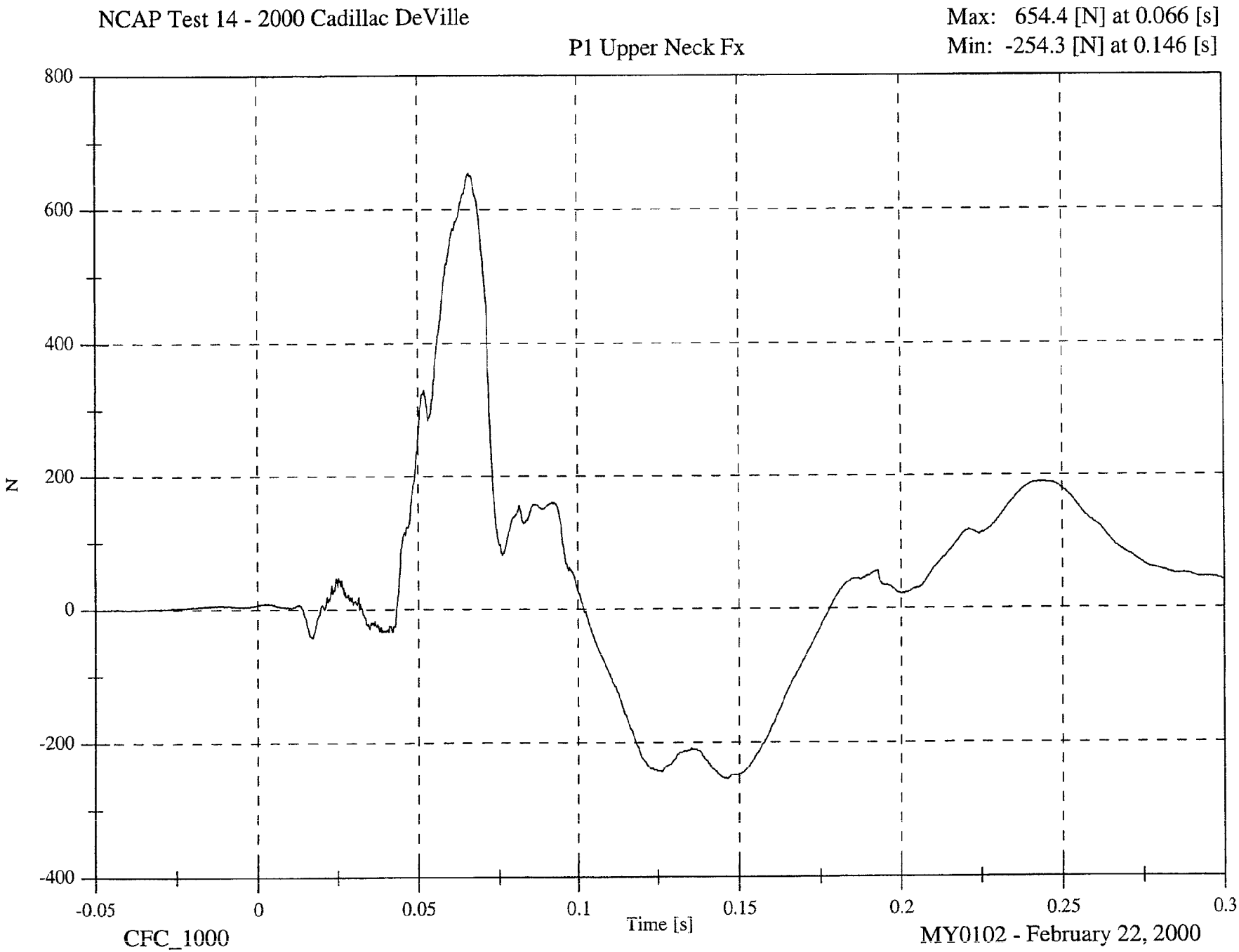

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head Resultant
Max: 72.1 [g] at 0.077 [s]
Min: 0.0 [g] at -0.045 [s]
80
70
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

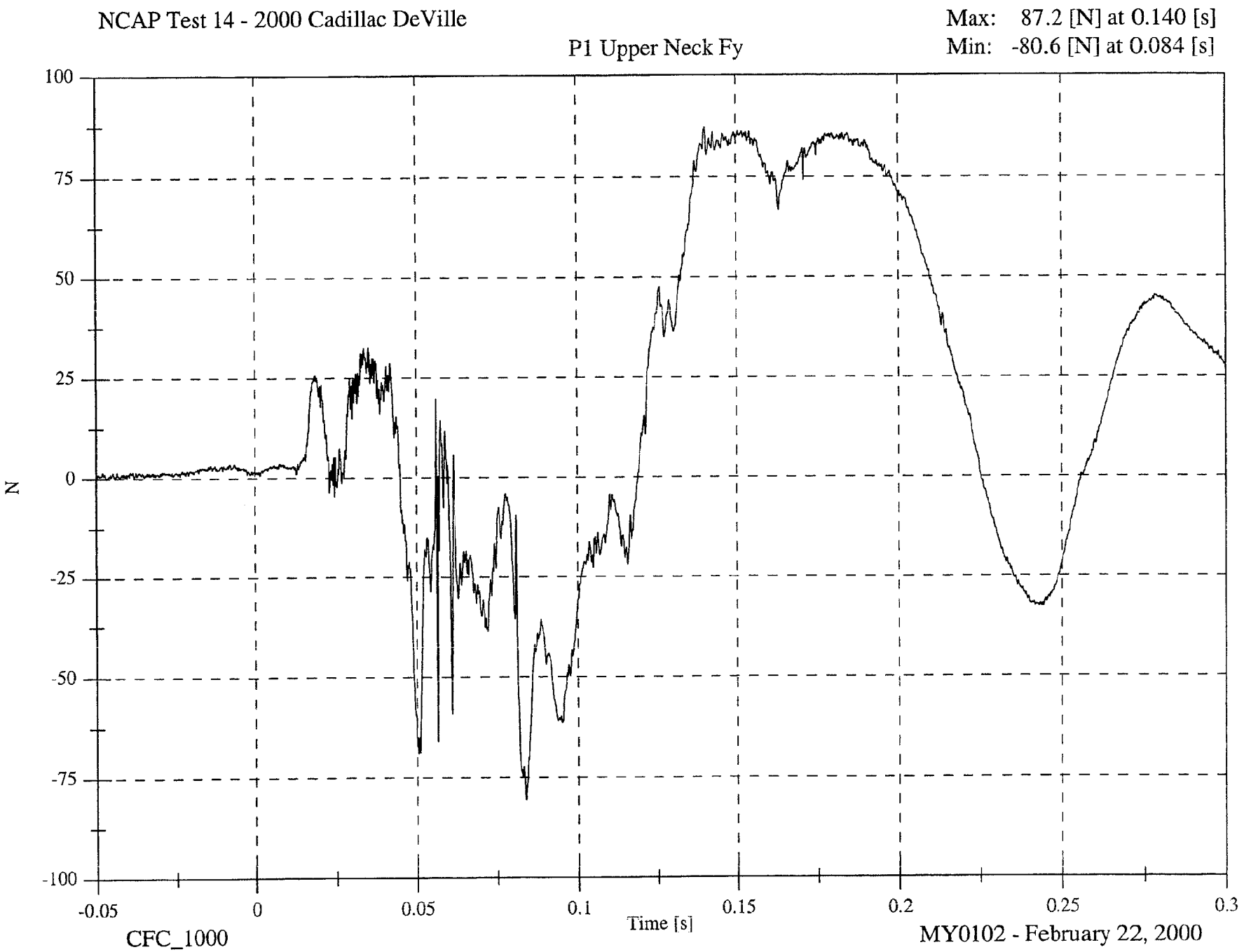

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head Red x
Max: 10.7 [g] at 0.247 [s]
Min: -73.0 [g] at 0.075 [s]
20
0
-20
-40
-60
-80
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

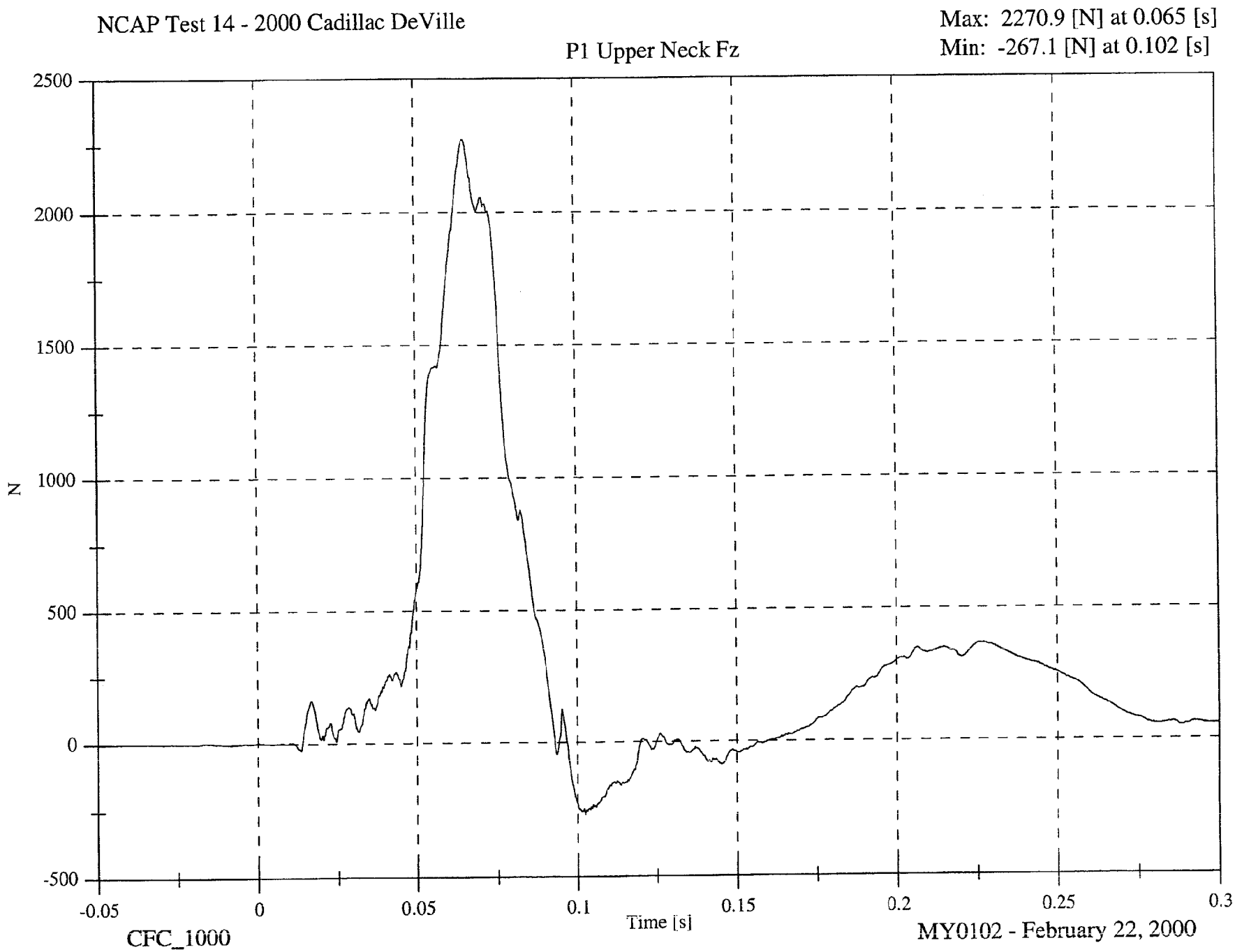

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head Red y
Max: 8.6 [g] at 0.050 [s]
Min: -15.2 [g] at 0.079 [s]
10
5
0
-5
-10
-15
-20
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

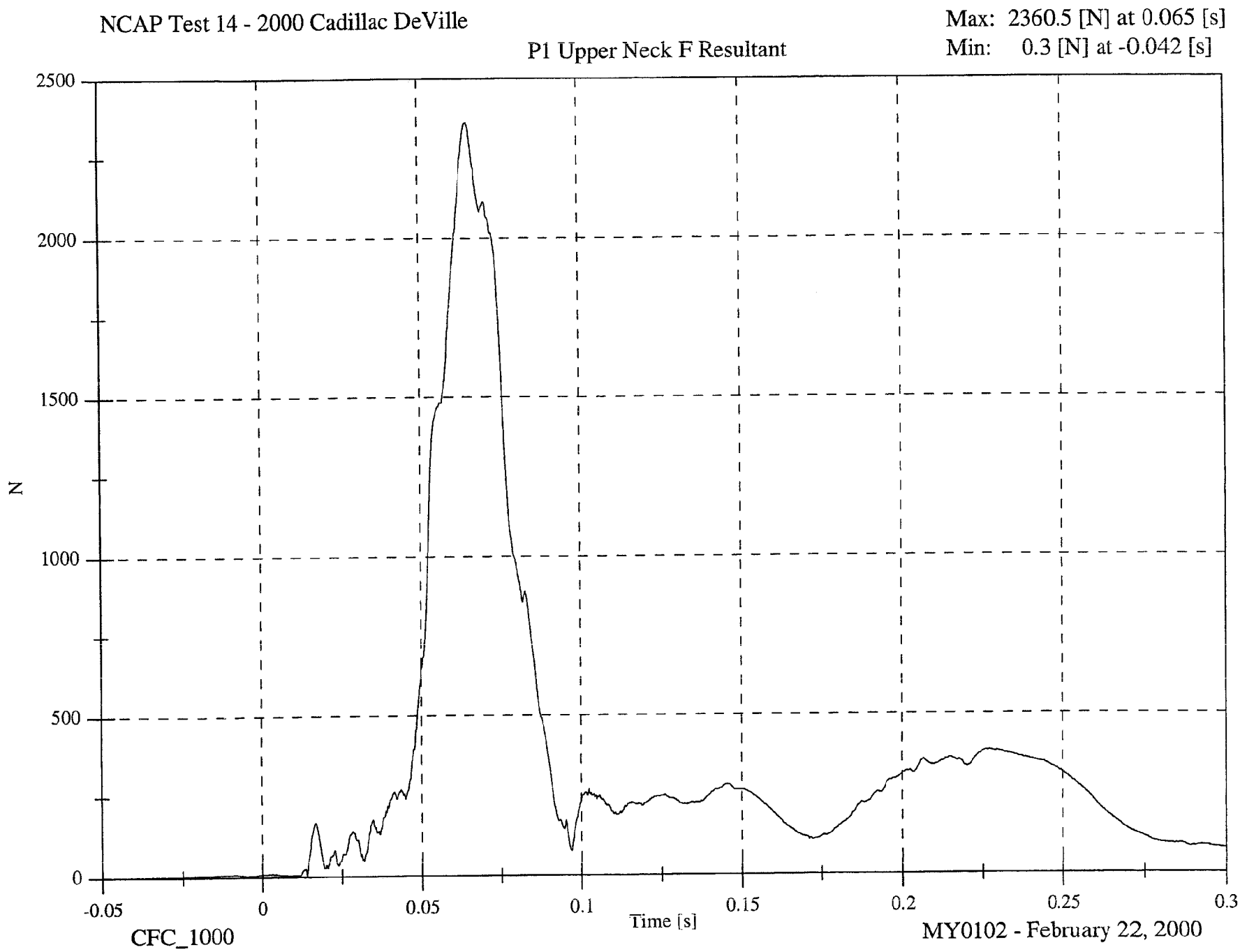

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head Red z
Max: 16.1 [g] at 0.050 [s]
Min: -7.5 [g] at 0.093 [s]
g
Time [s]
CFC_1000
MY0102 - February 22, 2000
20
15
10
5
0
-5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3

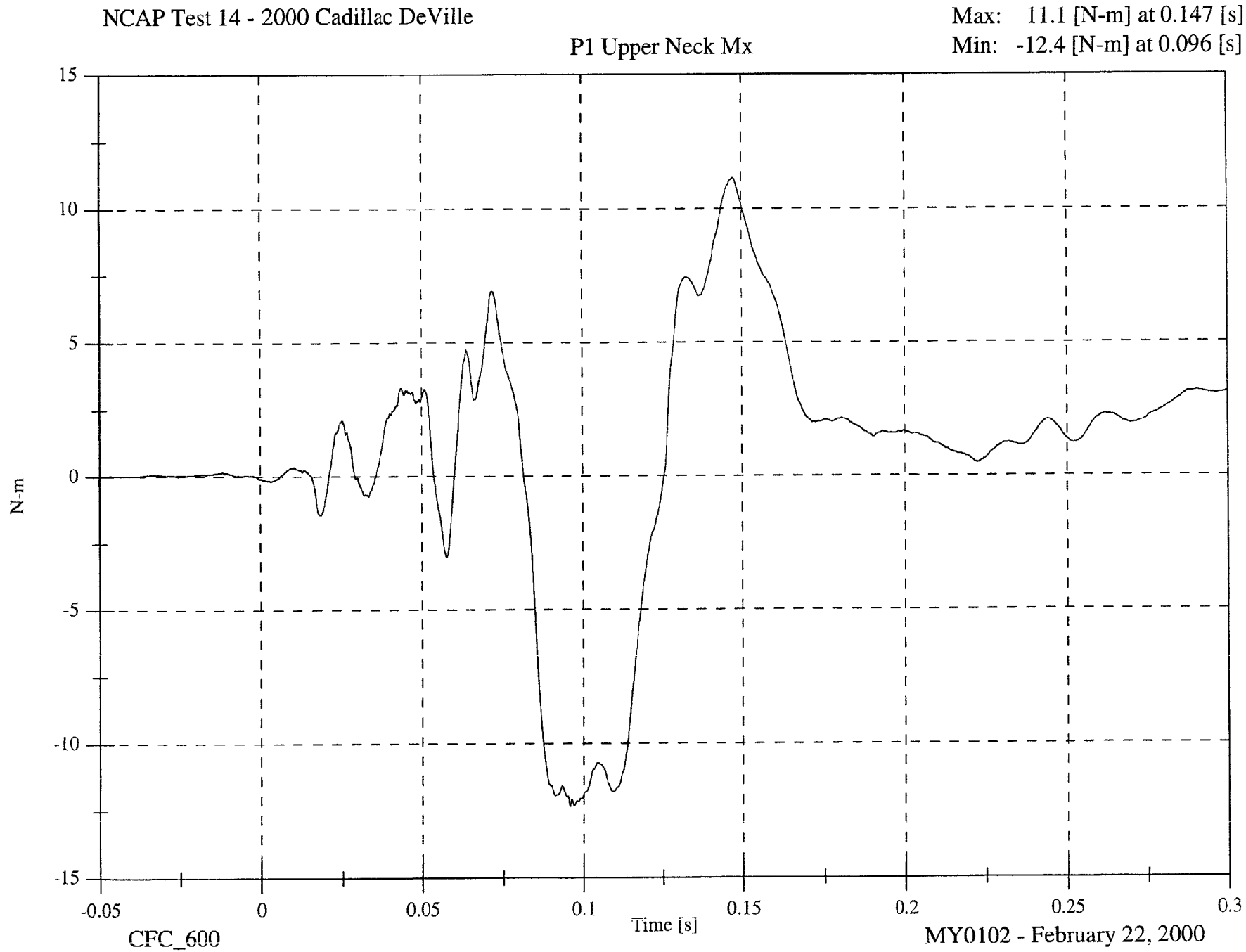

NCAP Test 14 - 2000 Cadillac DeVille
P1 Head Red Resultant
Max: 73.7 [g] at 0.075 [s]
Min: 0.0 [g] at -0.039 [s]
g
80
70
60
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

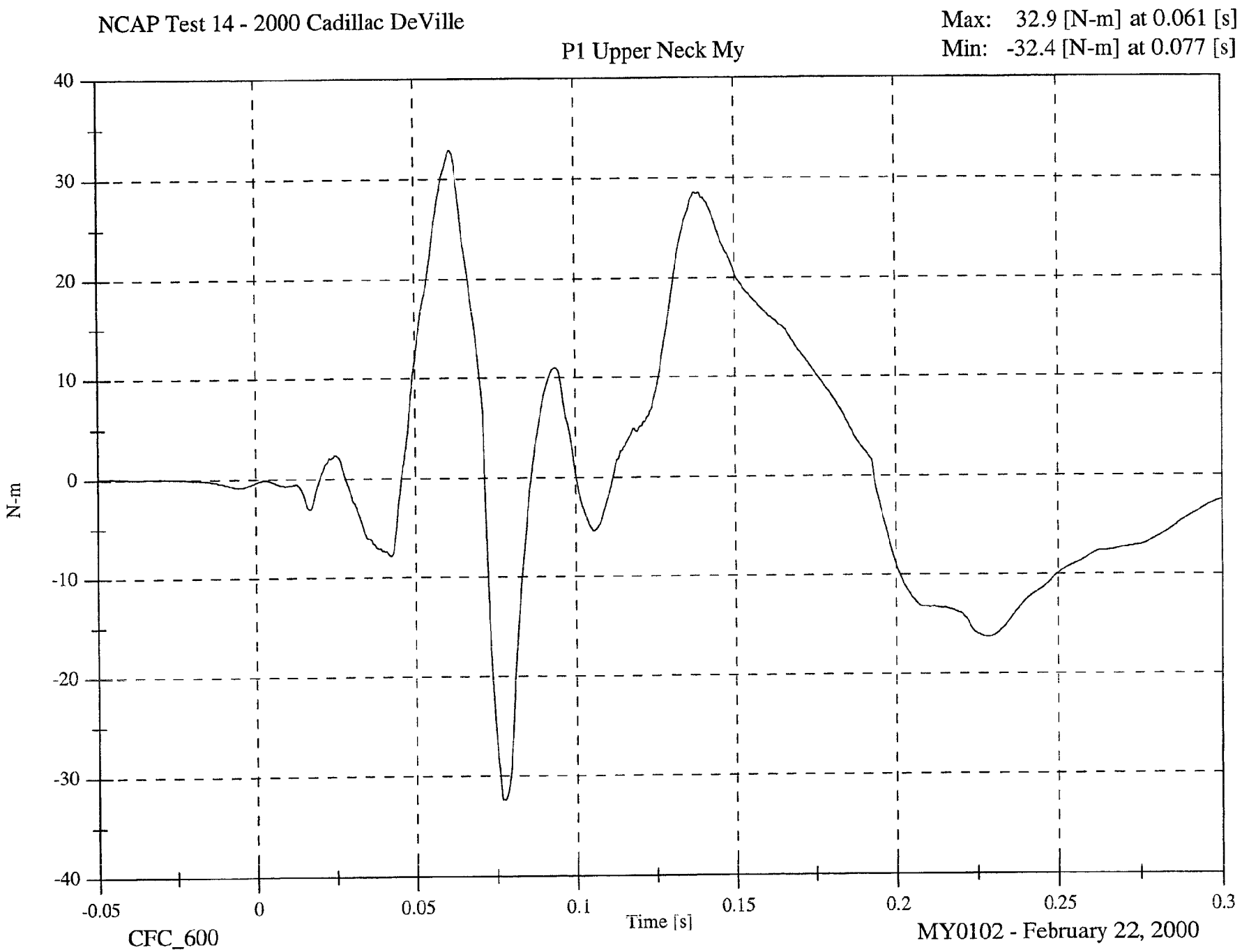

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck Fx
Max: 654.4 [N] at 0.066 [s]
Min: -254.3 [N] at 0.146 [s]
800
600
400
200
0
-200
-400
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

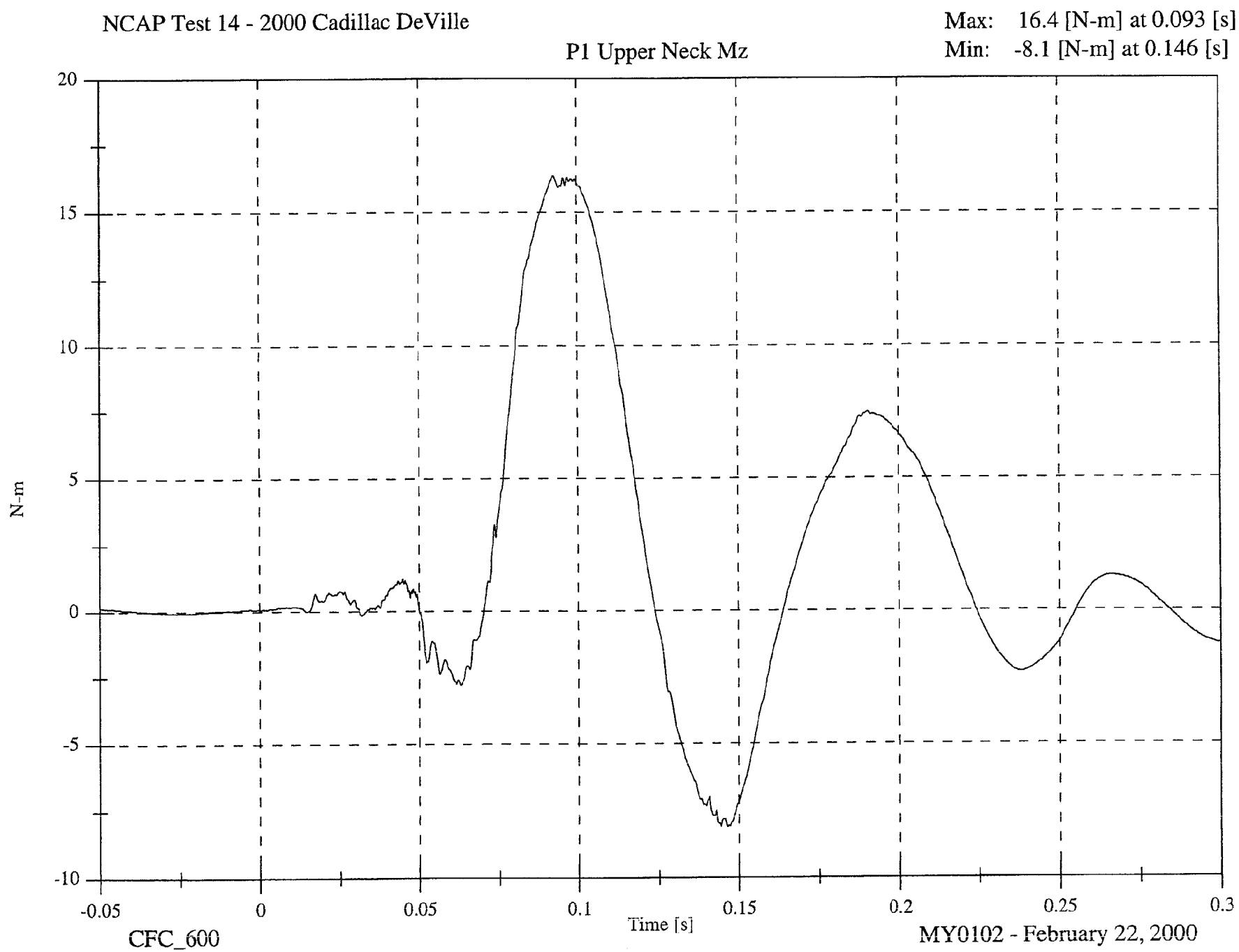

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck Fy
Max: 87.2 [N] at 0.140 [s]
Min: -80.6 [N] at 0.084 [s]
100
75
50
25
0
-25
-50
-75
-100
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

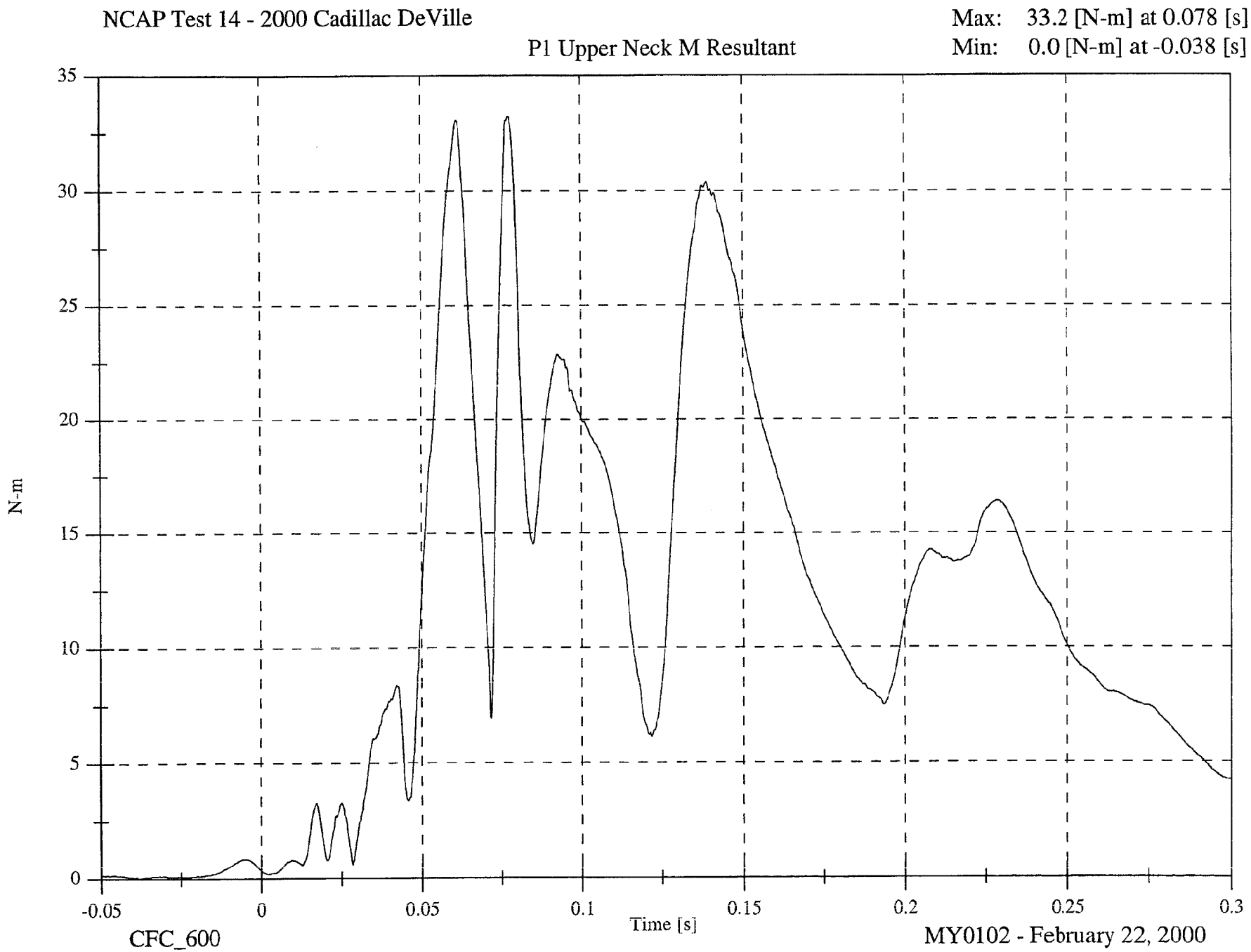

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck Fz
Max: 2270.9 [N] at 0.065 [s]
Min: -267.1 [N] at 0.102 [s]
2500
2000
1500
1000
500
0
-500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

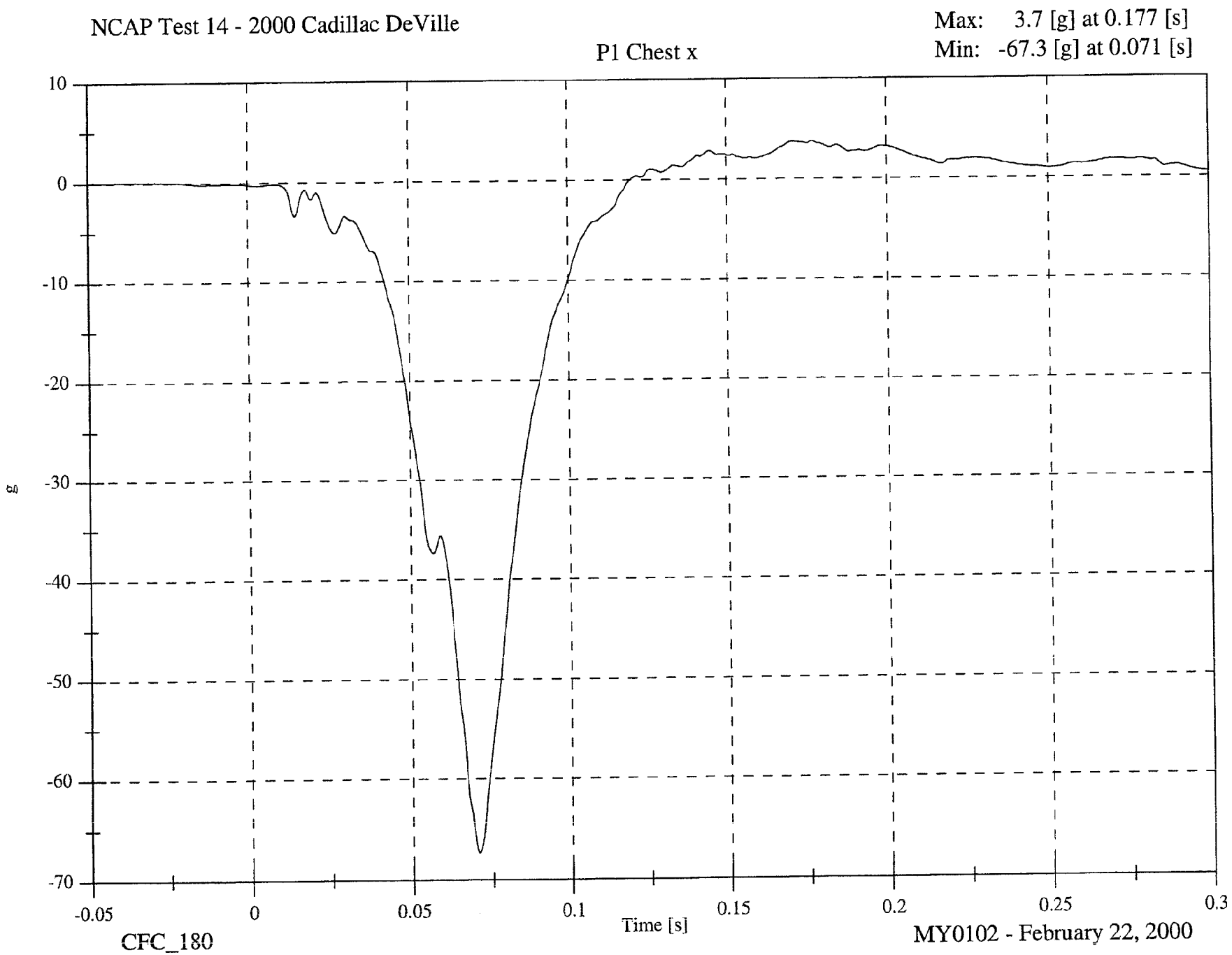

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck F Resultant
Max: 2360.5 [N] at 0.065 [s]
Min: 0.3 [N] at -0.042 [s]
2500
2000
1500
1000
500
0
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

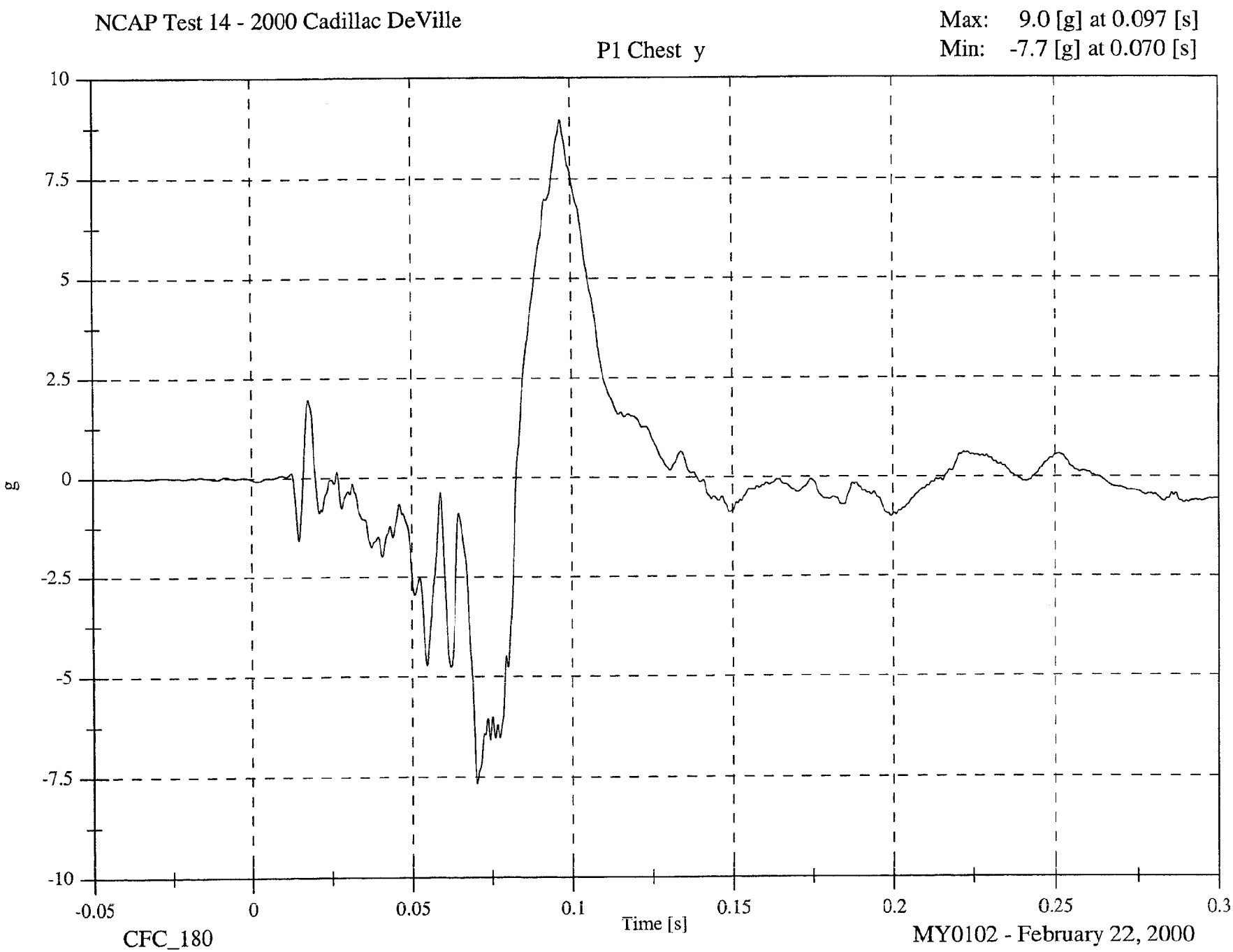

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck Mx
Max: 11.1 [N-m] at 0.147 [s]
Min: -12.4 [N-m] at 0.096 [s]
15
10
5
0
-5
-10
-15
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

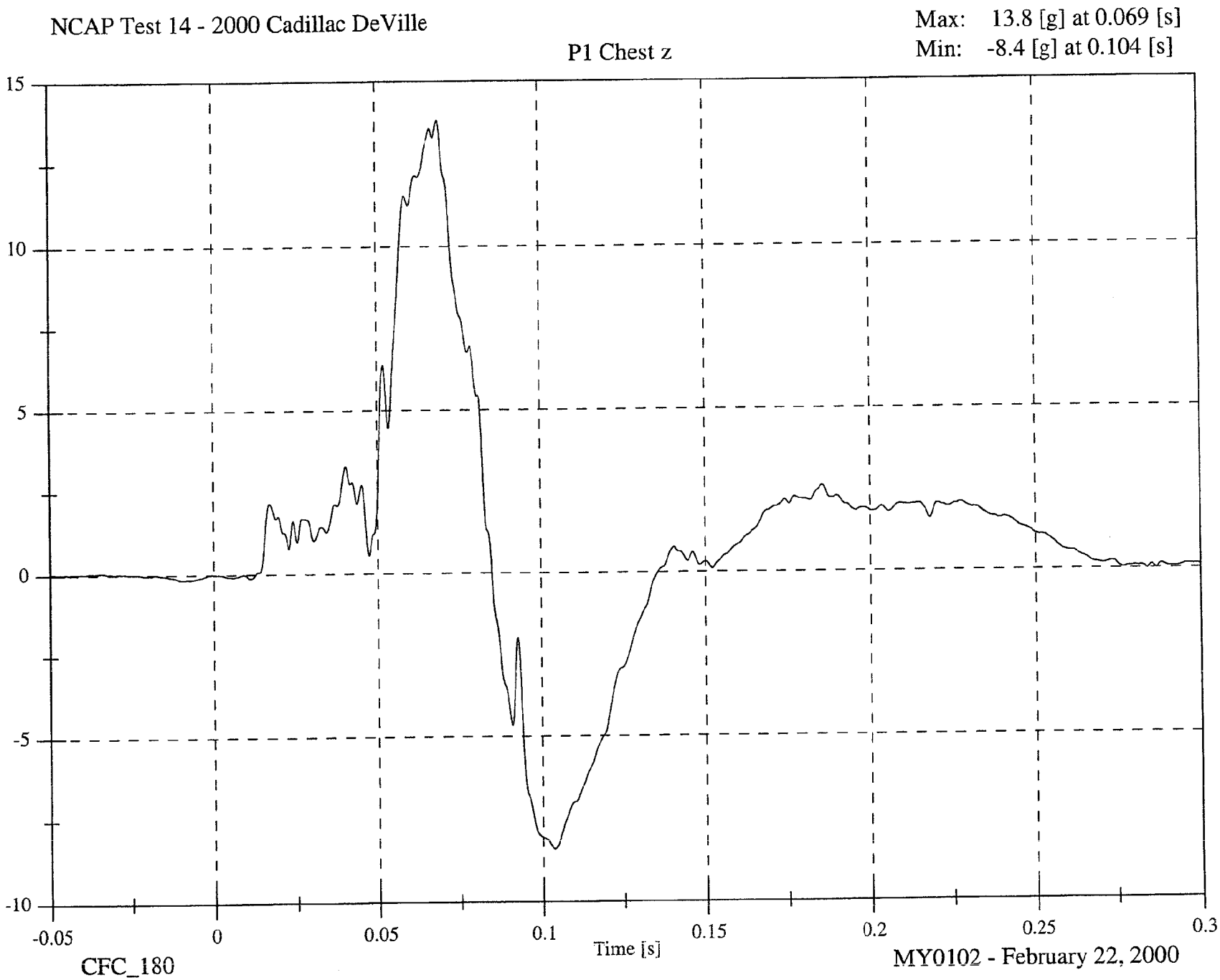

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck My
Max: 32.9 [N-m] at 0.061 [s]
Min: -32.4 [N-m] at 0.077 [s]
40
30
20
10
0
-10
-20
-30
-40
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

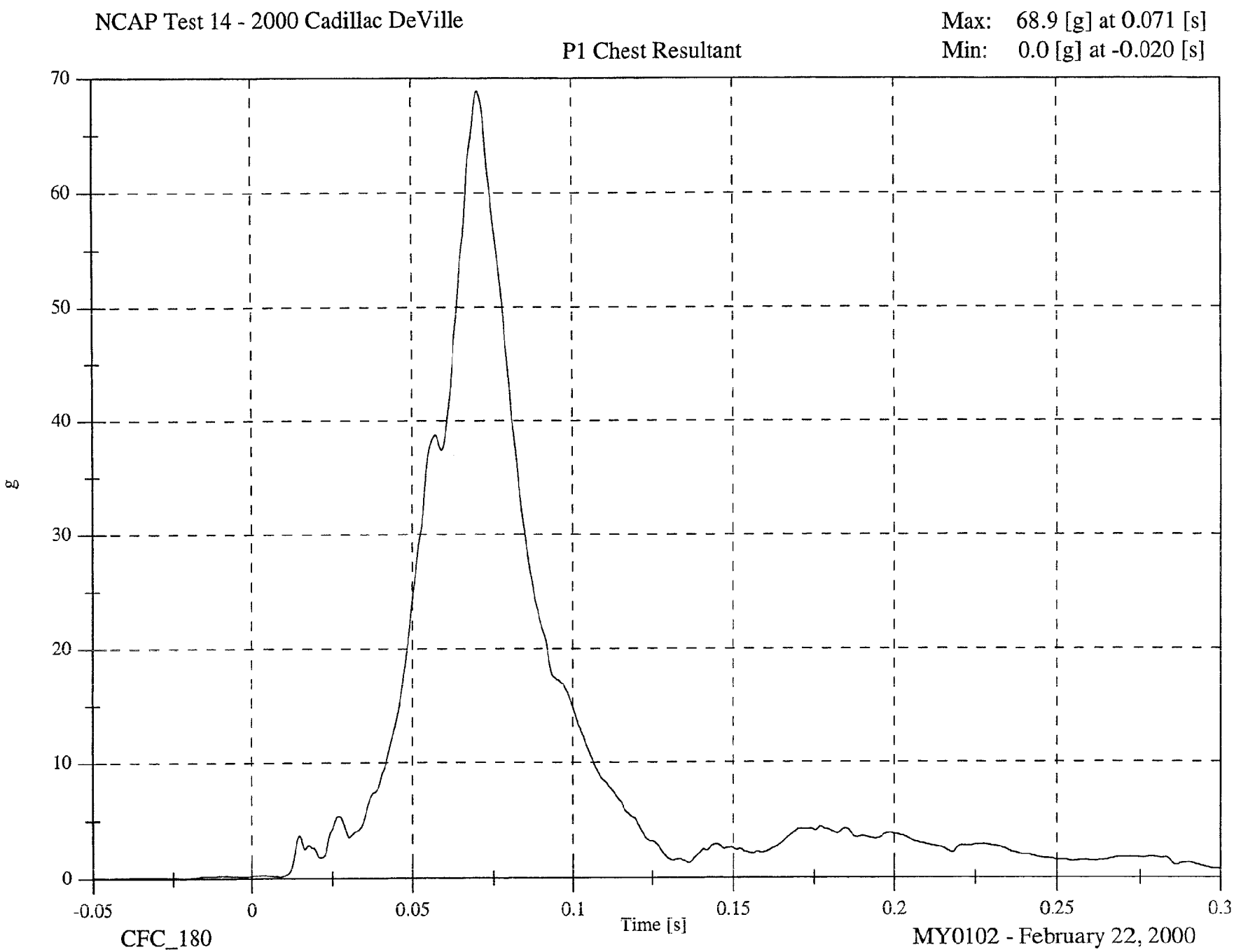

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck Mz
Max: 16.4 [N-m] at 0.093 [s]
Min: -8.1 [N-m] at 0.146 [s]
20
15
10
5
0
-5
-10
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

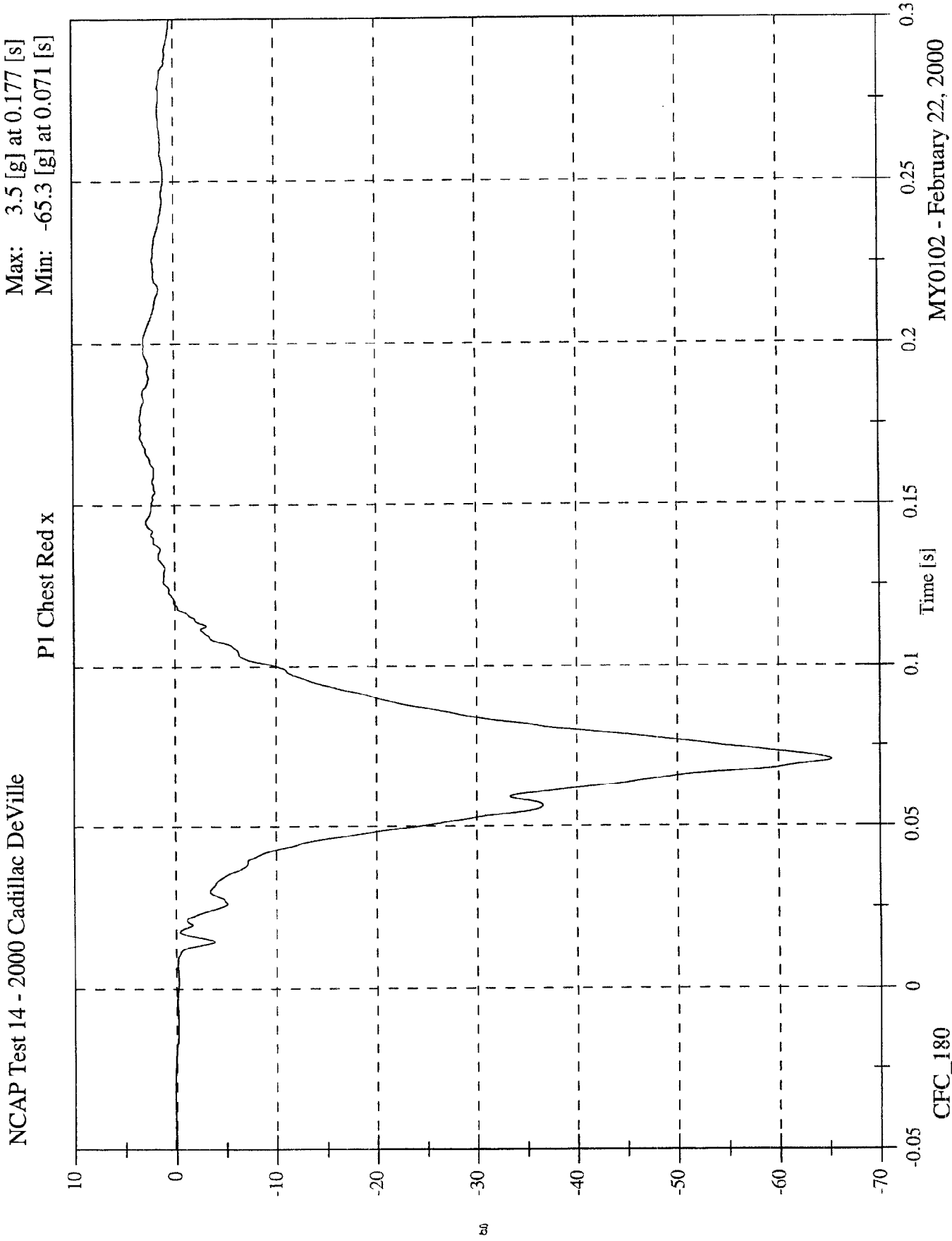

NCAP Test 14 - 2000 Cadillac DeVille
P1 Upper Neck M Resultant
Max: 33.2 [N-m] at 0.078 [s]
Min: 0.0 [N-m] at -0.038 [s]
N-m
35
30
25
20
15
10
5
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

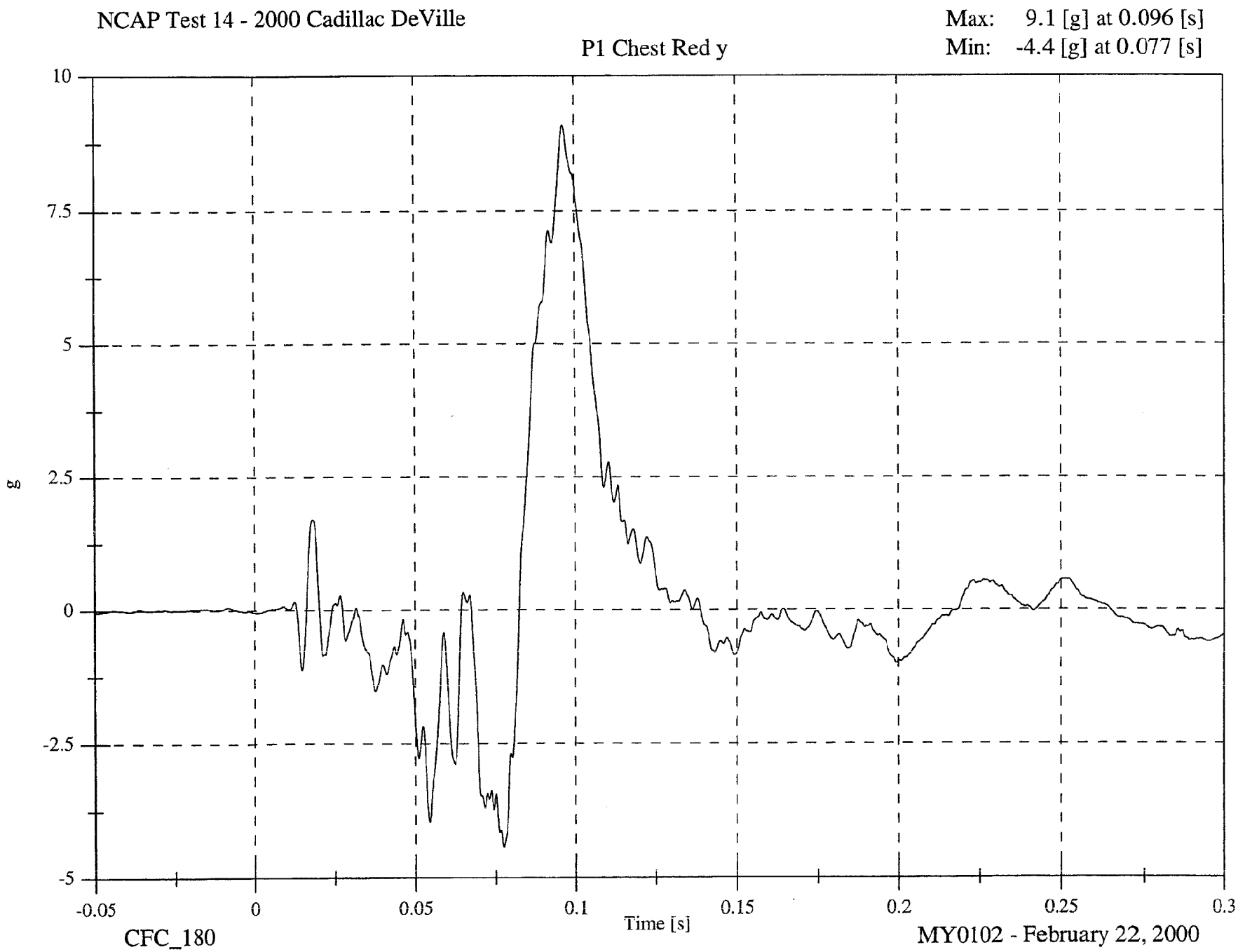

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest x
Max: 3.7 [g] at 0.177 [s]
Min: -67.3 [g] at 0.071 [s]
10
0
-10
-20
-30
-40
-50
-60
-70
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

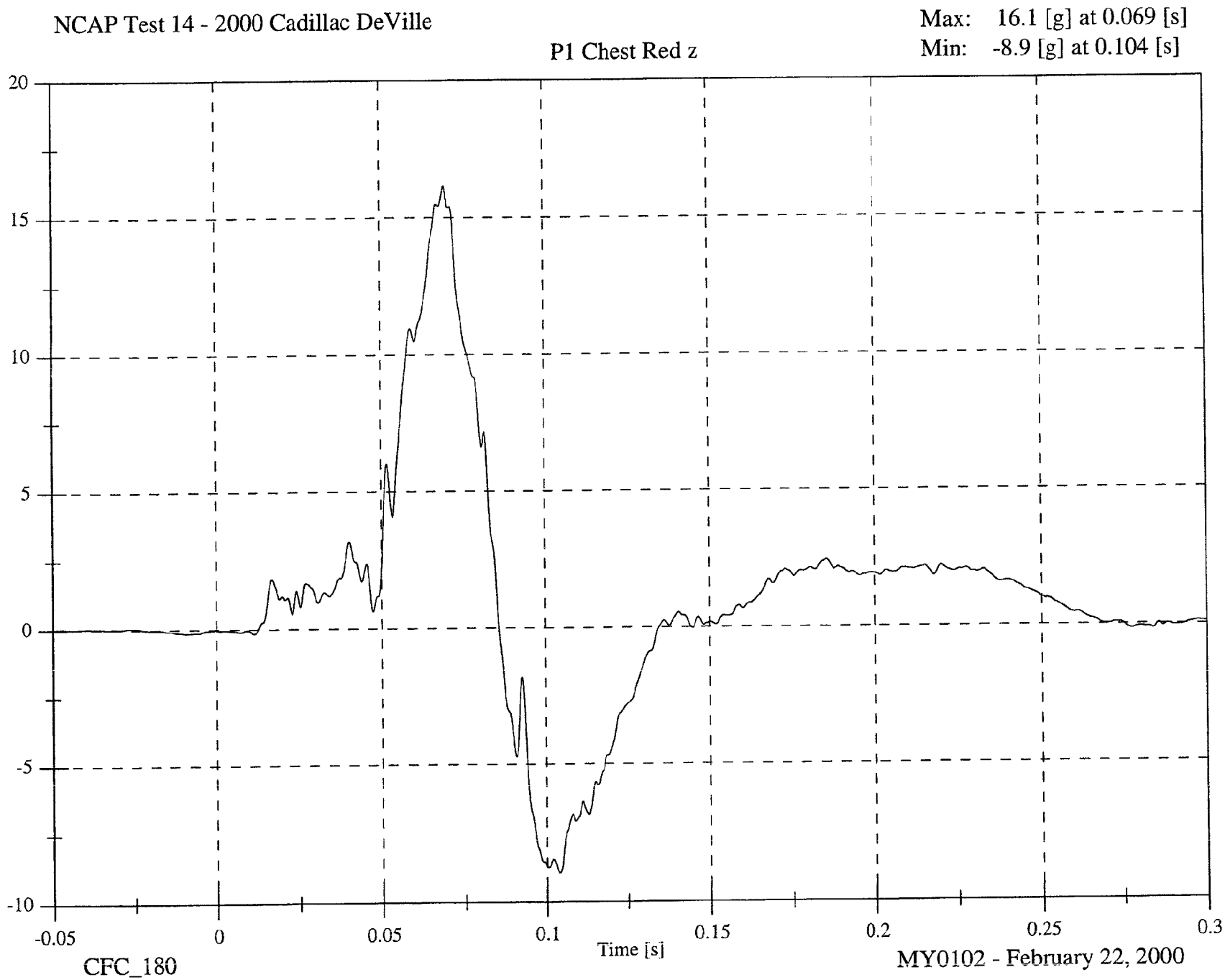

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest y
Max: 9.0 [g] at 0.097 [s]
Min: -7.7 [g] at 0.070 [s]
10
7.5
5
2.5
0
-2.5
-5
-7.5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

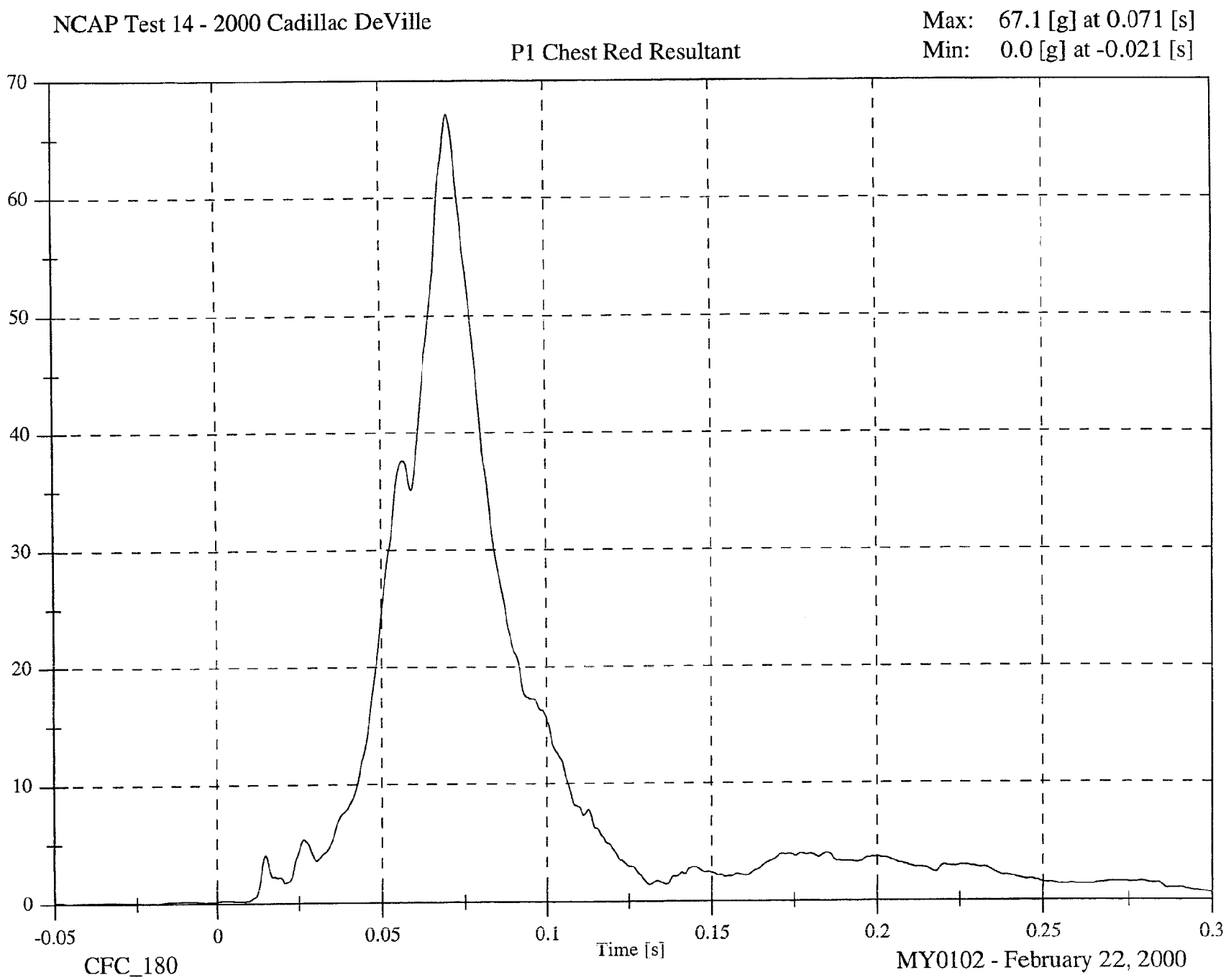

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest z
Max: 13.8 [g] at 0.069 [s]
Min: -8.4 [g] at 0.104 [s]
15
10
5
0
-5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

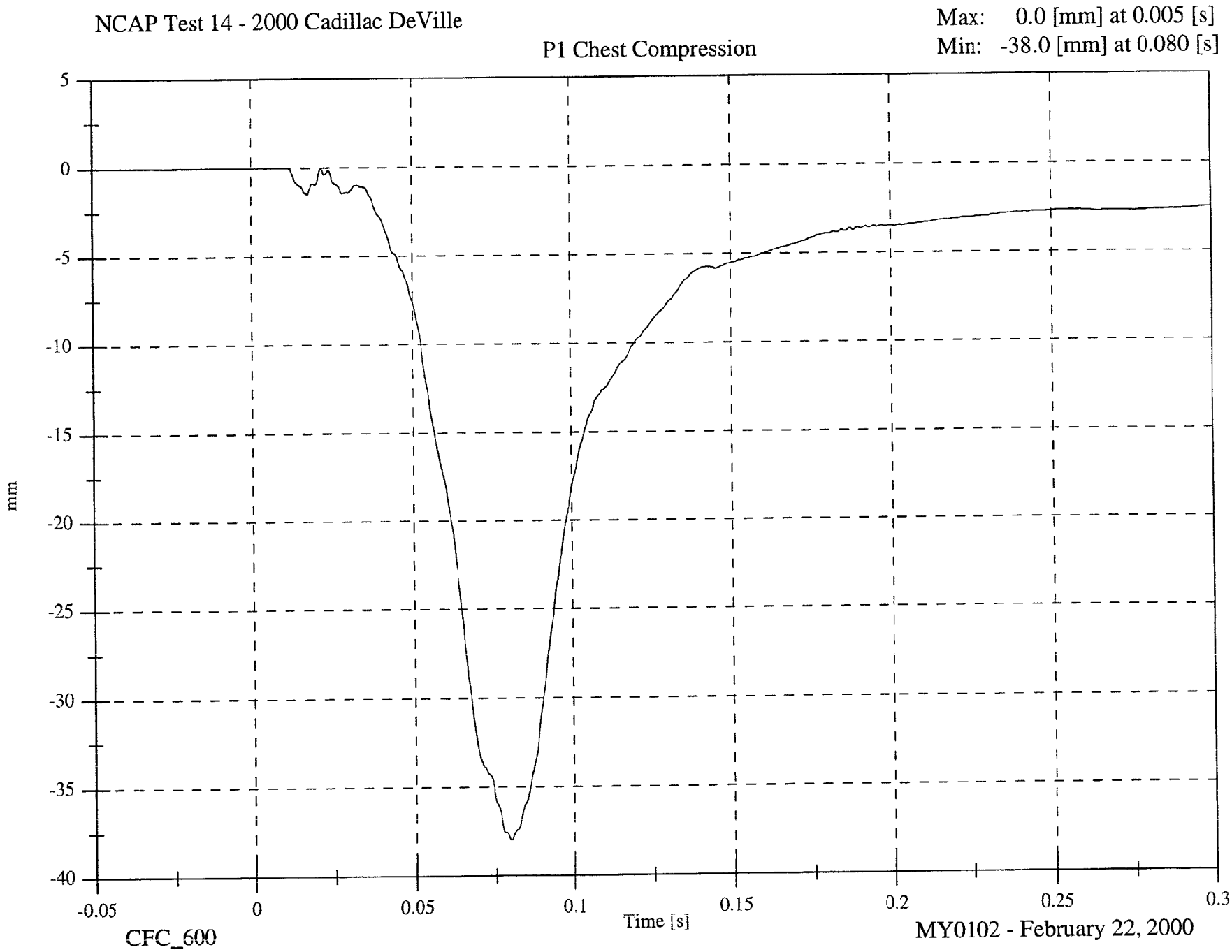

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest Resultant
Max: 68.9 [g] at 0.071 [s]
Min: 0.0 [g] at -0.020 [s]
70
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

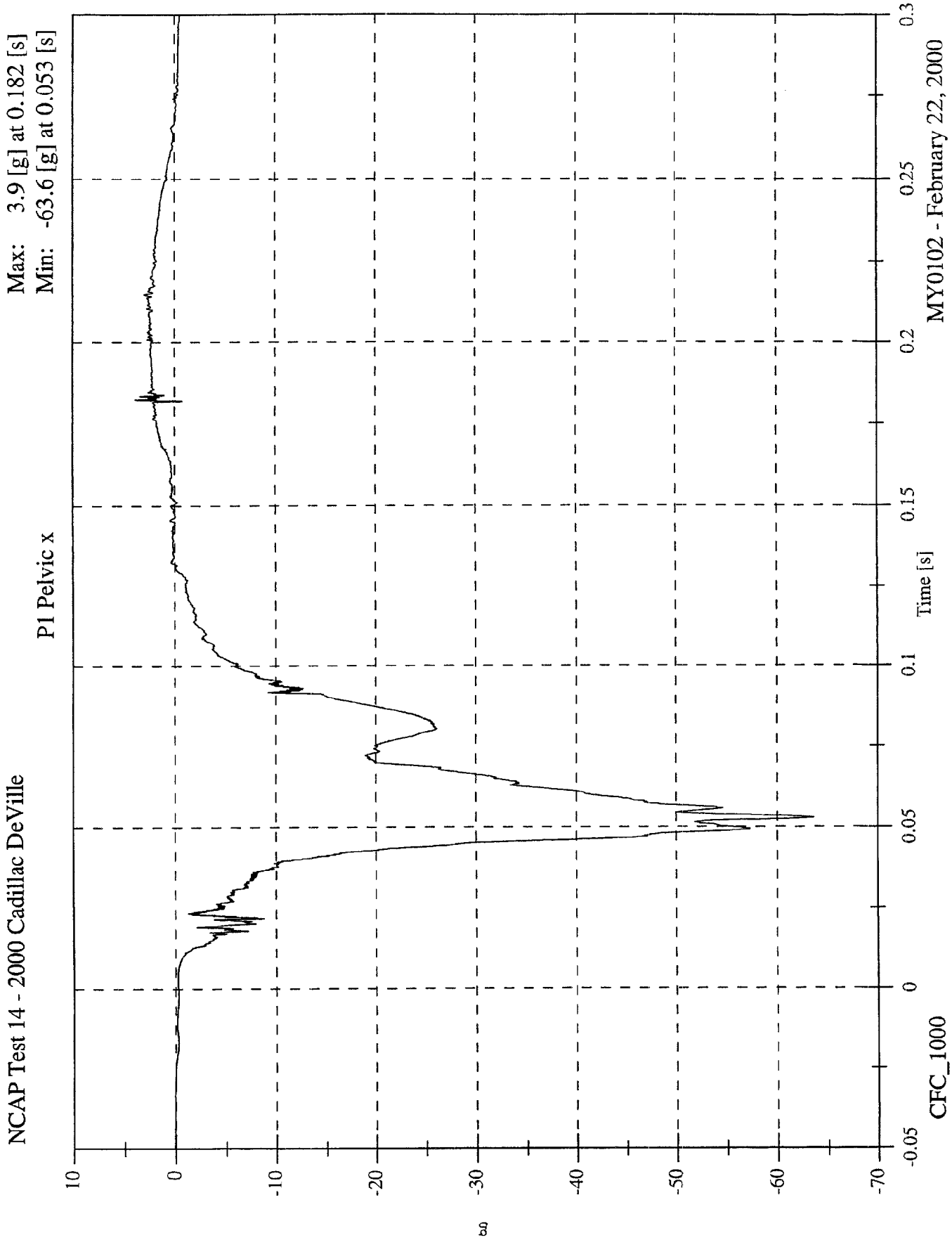

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest Red x
Max: 3.5 [g] at 0.177 [s]
Min: -65.3 [g] at 0.071 [s]
MY0102 - February 22, 2000
CFC_180
Time [s]
g
10
0
-10
-20
-30
-40
-50
-60
-70
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3

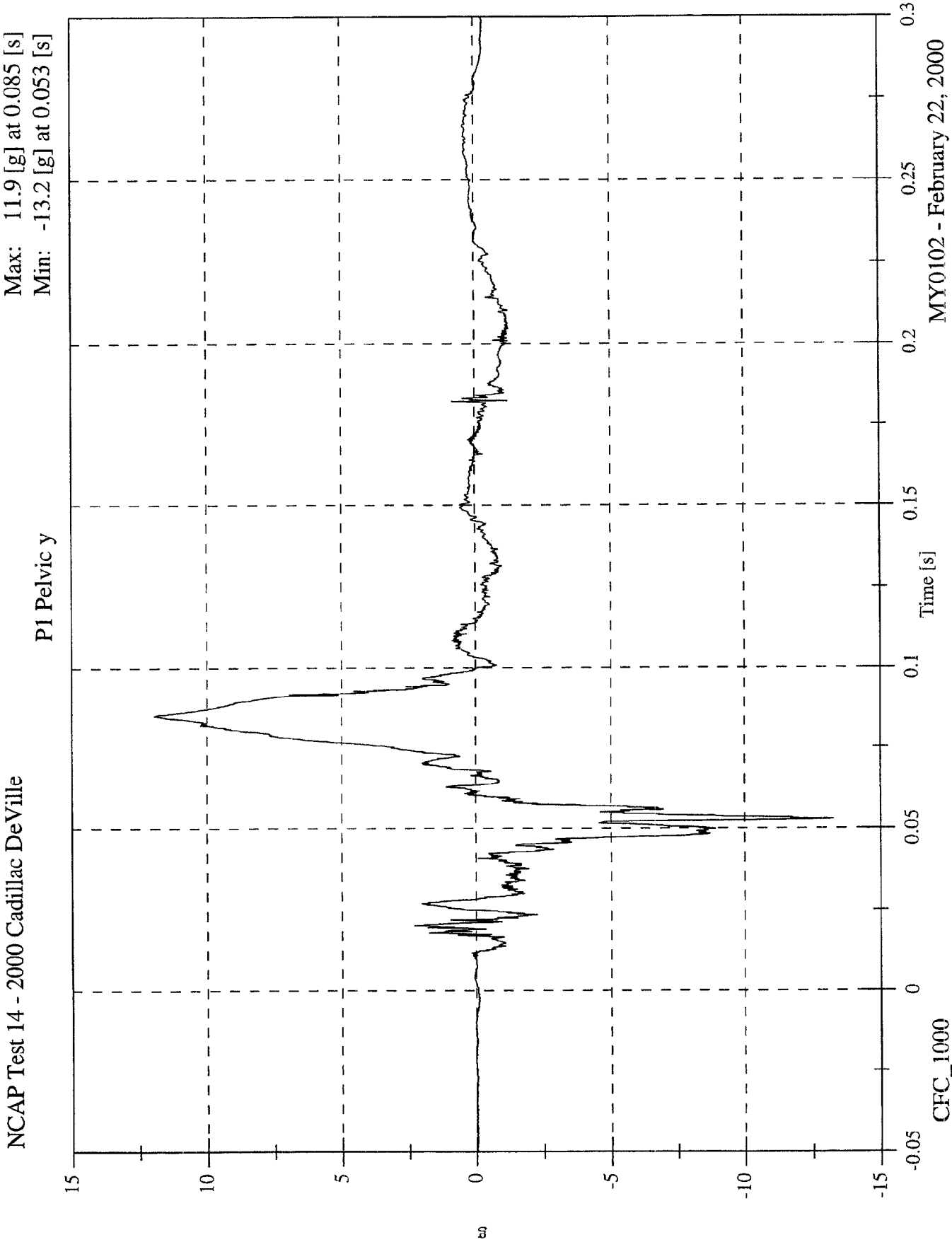

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest Red y
Max: 9.1 [g] at 0.096 [s]
Min: -4.4 [g] at 0.077 [s]
10
7.5
5
2.5
0
-2.5
-5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

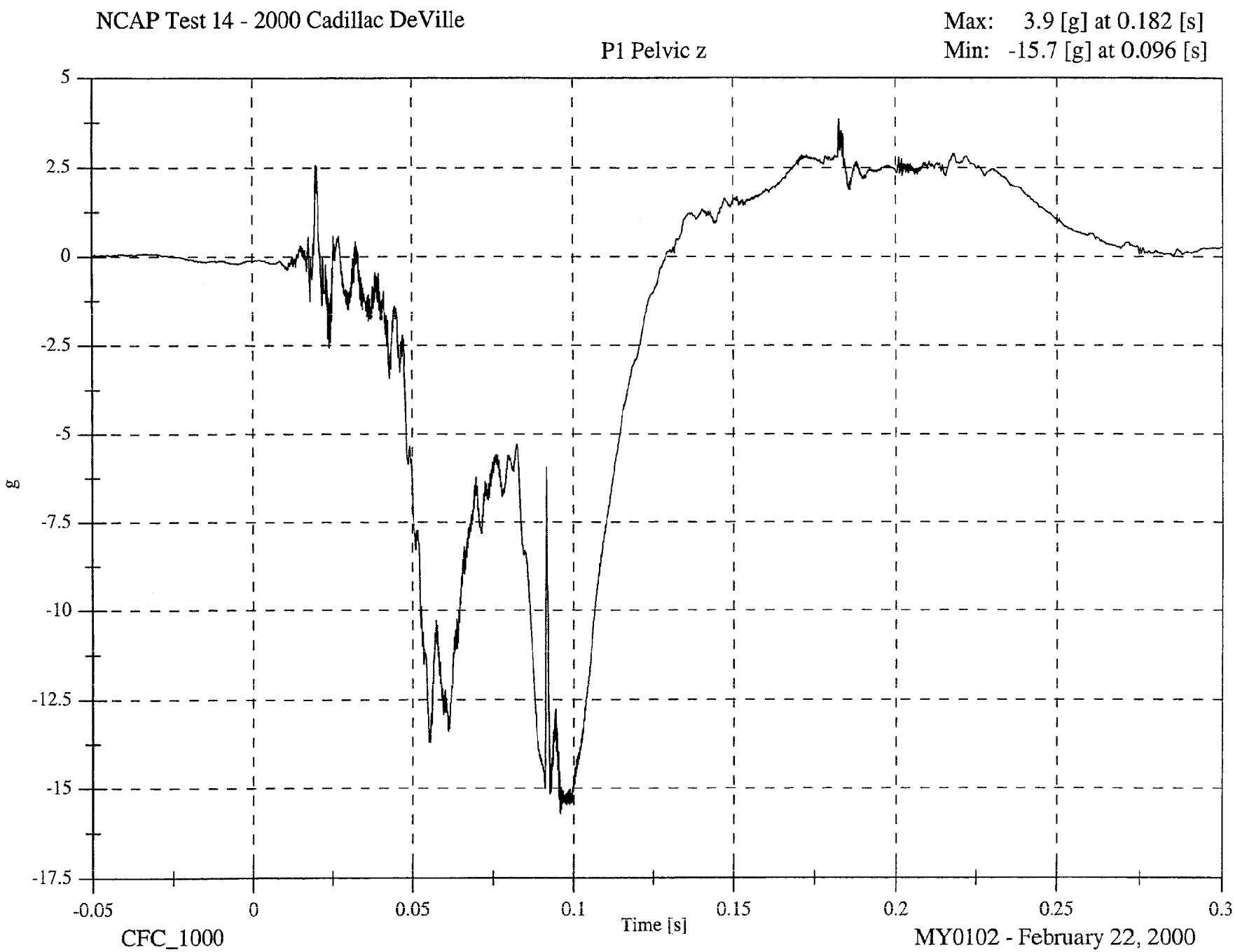

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest Red z
Max: 16.1 [g] at 0.069 [s]
Min: -8.9 [g] at 0.104 [s]
20
15
10
5
0
-5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

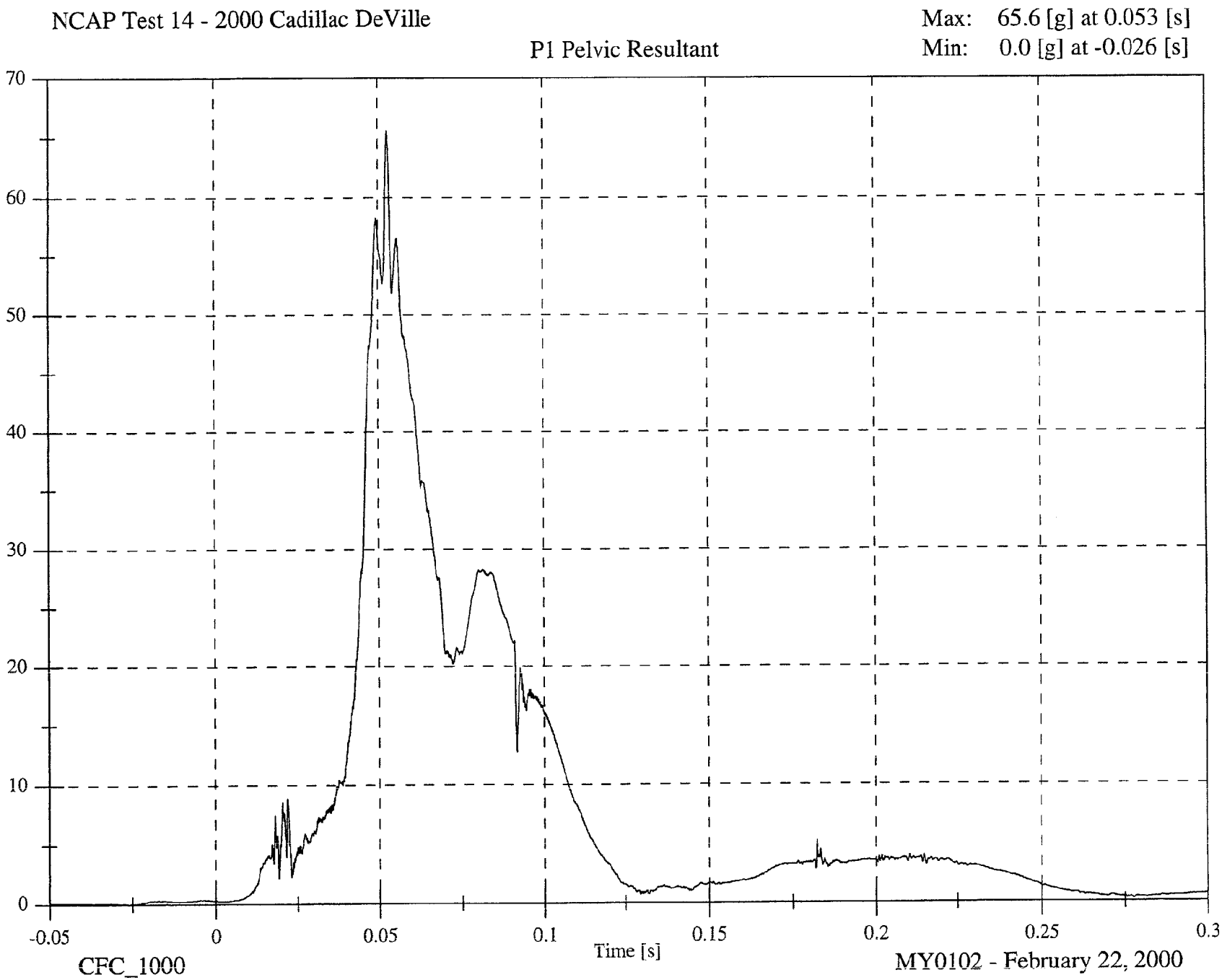

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest Red Resultant
Max: 67.1 [g] at 0.071 [s]
Min: 0.0 [g] at -0.021 [s]
70
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

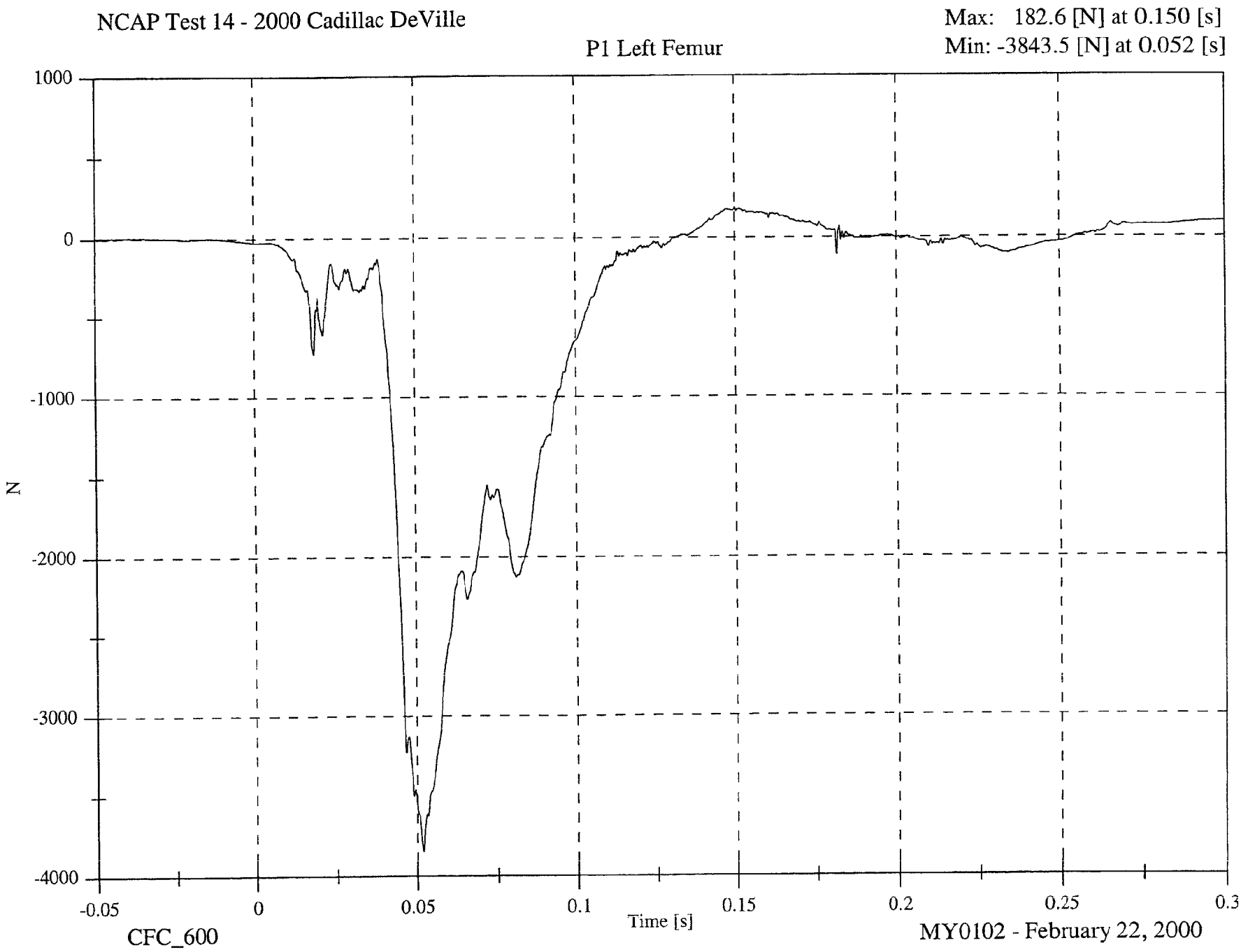

NCAP Test 14 - 2000 Cadillac DeVille
P1 Chest Compression
Max: 0.0 [mm] at 0.005 [s]
Min: -38.0 [mm] at 0.080 [s]
5
0
-5
-10
-15
-20
-25
-30
-35
-40
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

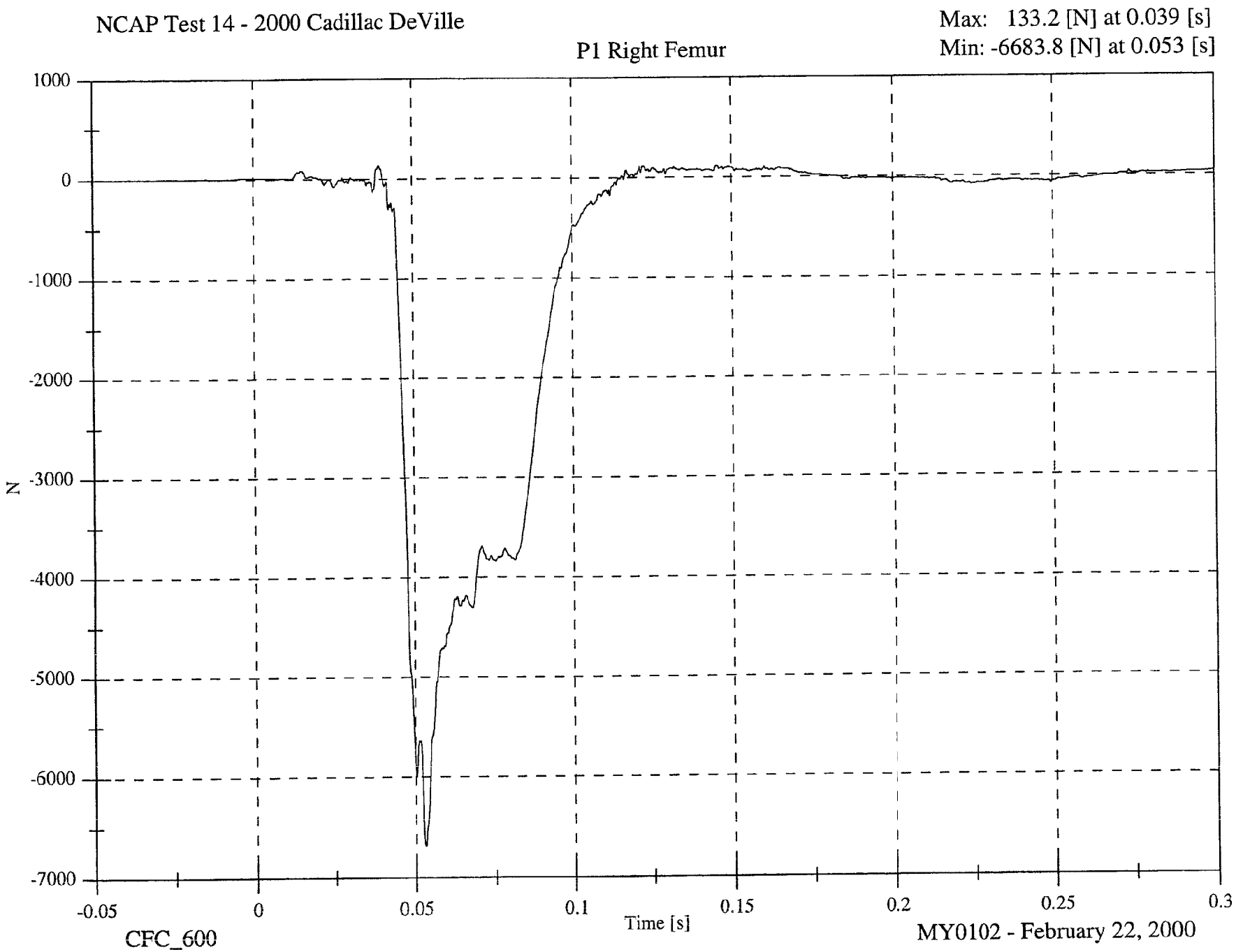

NCAP Test 14 - 2000 Cadillac DeVille
P1 Pelvic x
Max: 3.9 [g] at 0.182 [s]
Min: -63.6 [g] at 0.053 [s]
10
0
-10
-20
-30
-40
-50
-60
-70
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

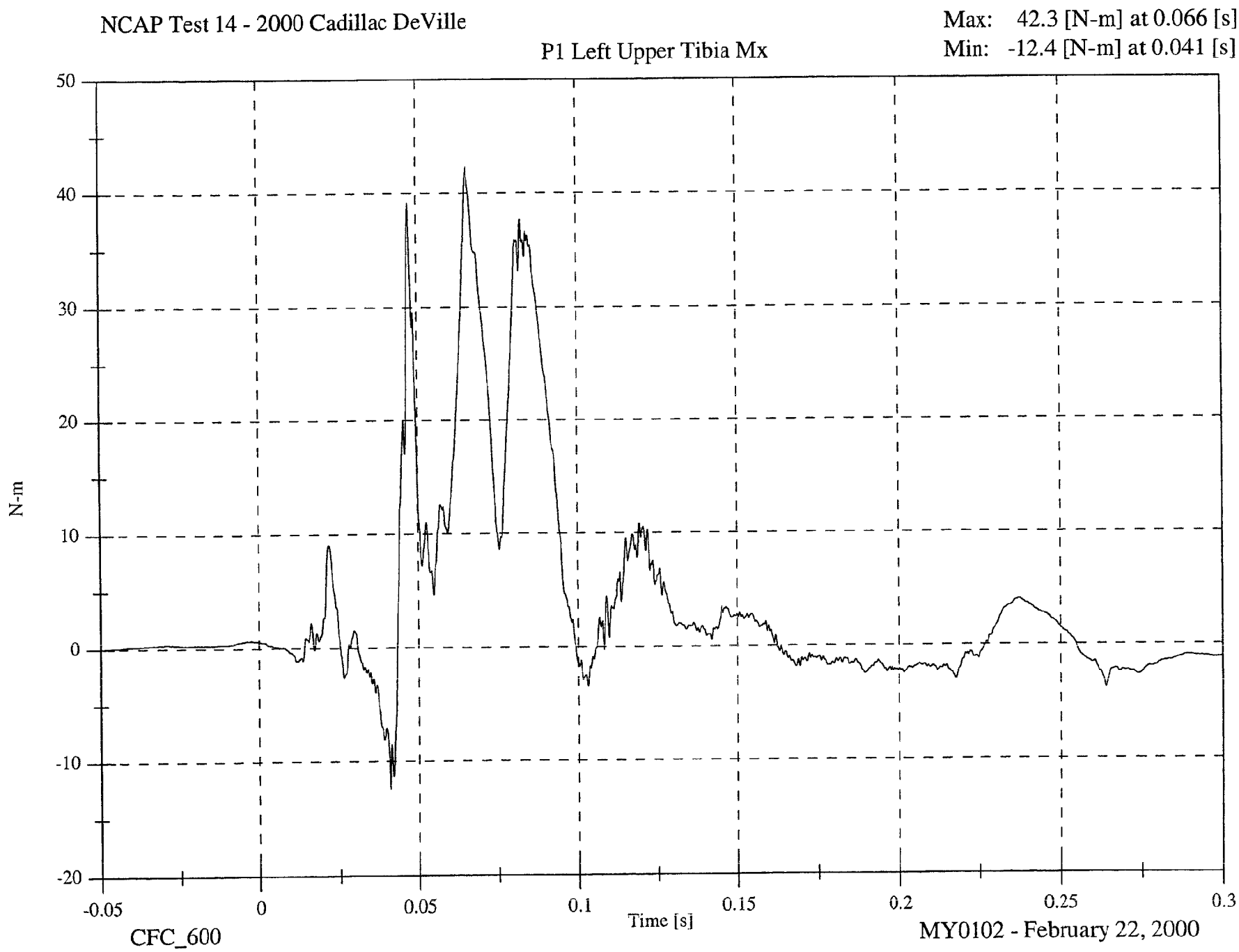

NCAP Test 14 - 2000 Cadillac DeVille
P1 Pelvic y
Max: 11.9 [g] at 0.085 [s]
Min: -13.2 [g] at 0.053 [s]
g
15
10
5
0
-5
-10
-15
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

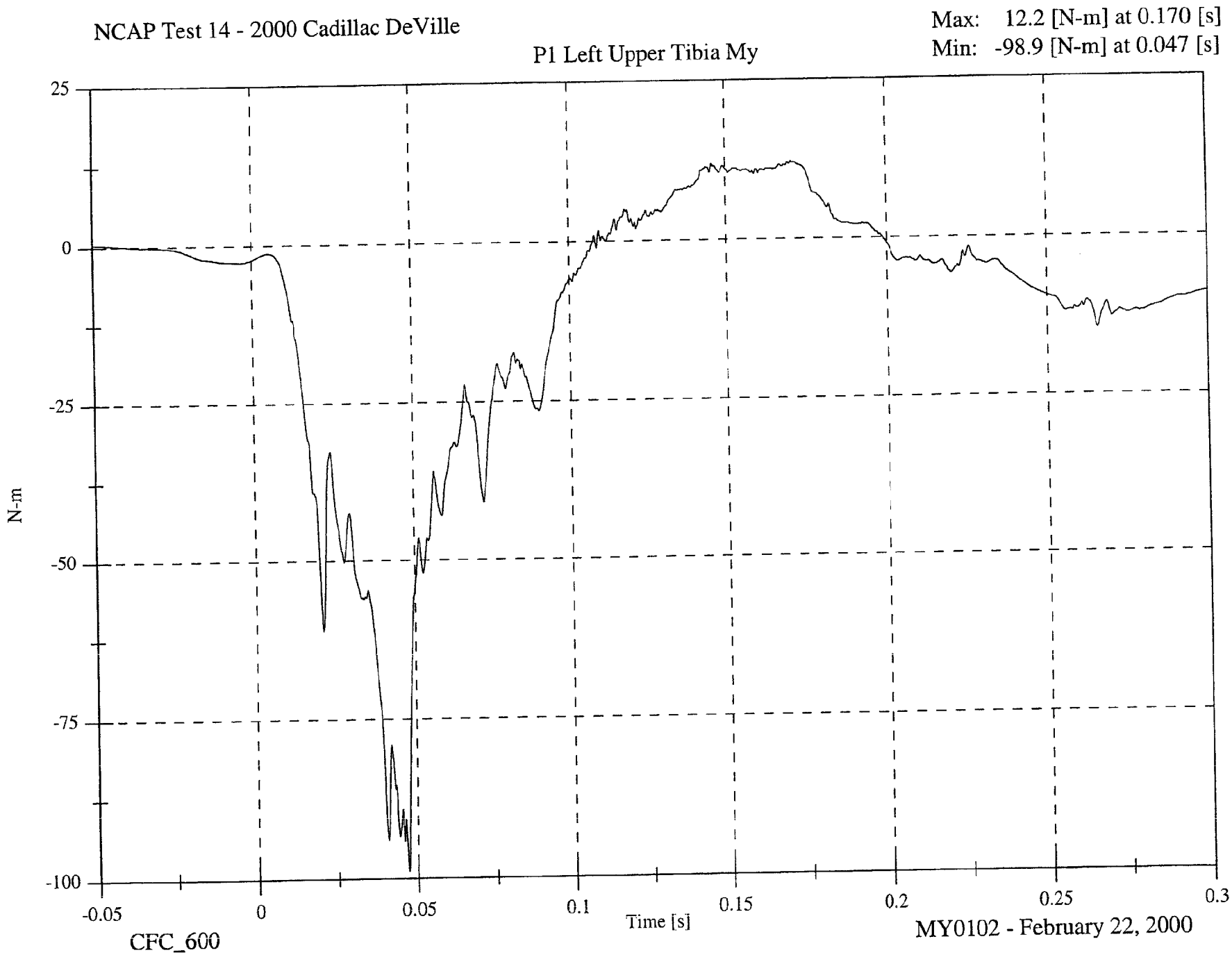

NCAP Test 14 - 2000 Cadillac DeVille
P1 Pelvic z
Max: 3.9 [g] at 0.182 [s]
Min: -15.7 [g] at 0.096 [s]
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
-15
-17.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

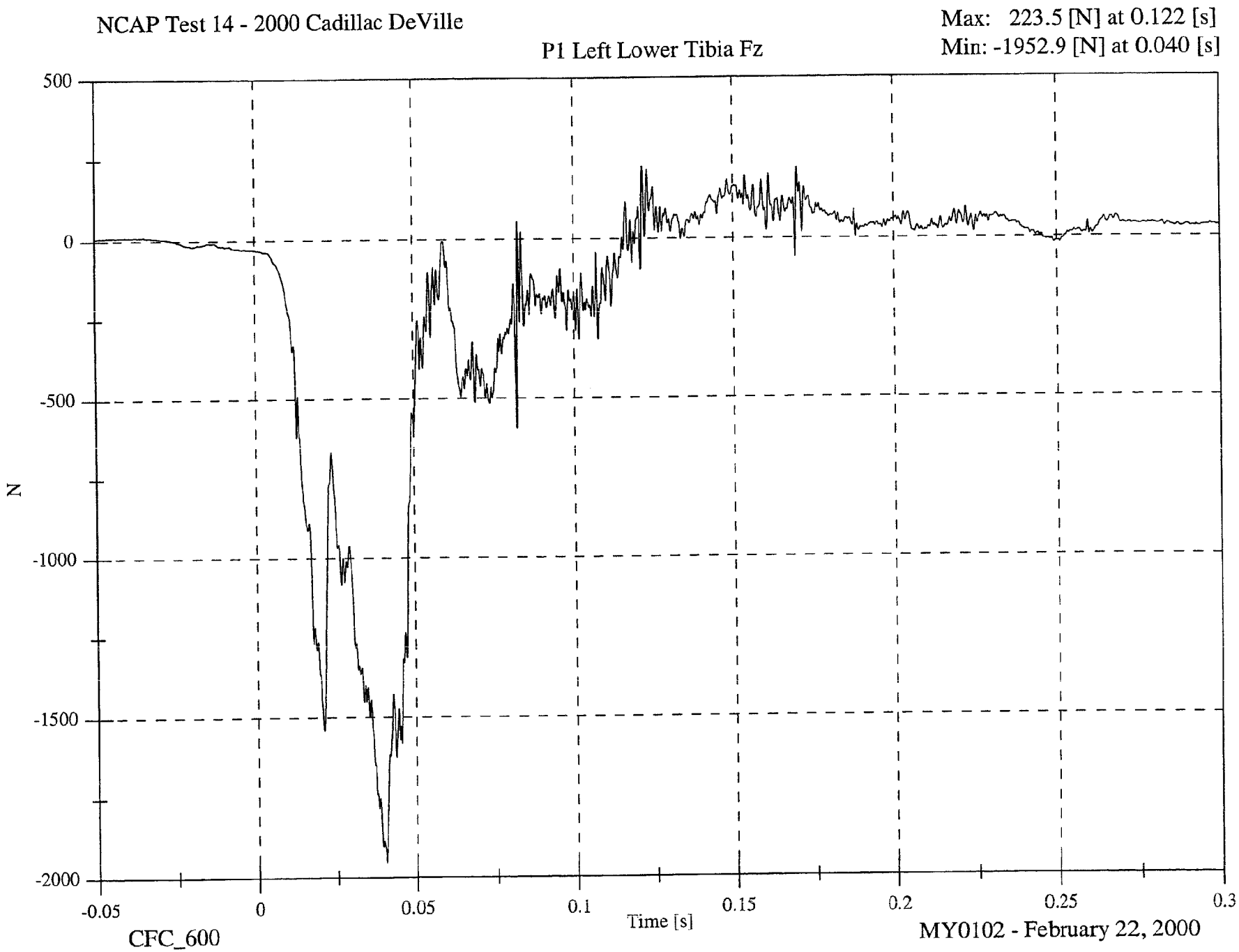

NCAP Test 14 - 2000 Cadillac DeVille
P1 Pelvic Resultant
Max: 65.6 [g] at 0.053 [s]
Min: 0.0 [g] at -0.026 [s]
70
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Femur
Max: 182.6 [N] at 0.150 [s]
Min: -3843.5 [N] at 0.052 [s]
1000
0
-1000
-2000
-3000
-4000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

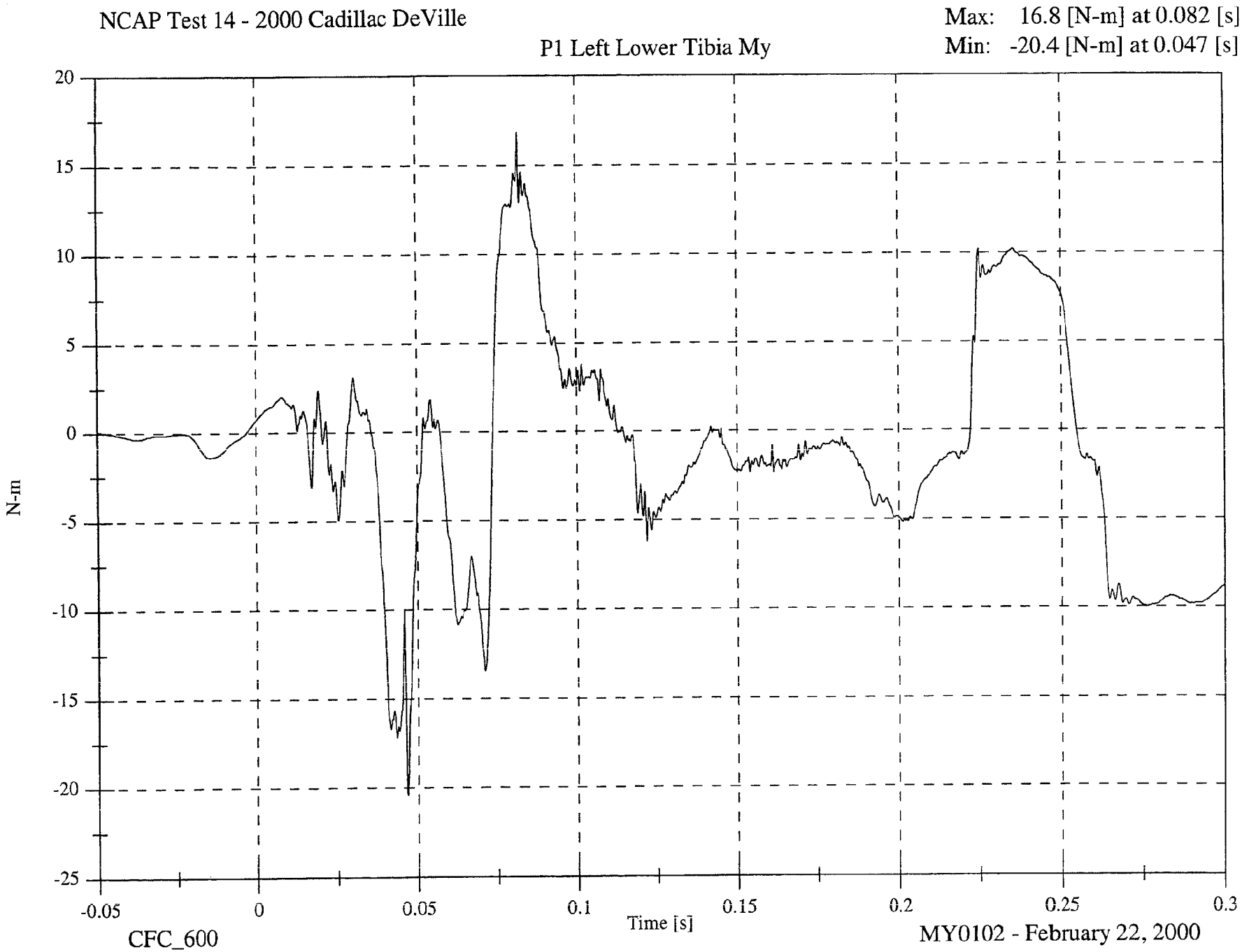

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Femur
Max: 133.2 [N] at 0.039 [s]
Min: -6683.8 [N] at 0.053 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

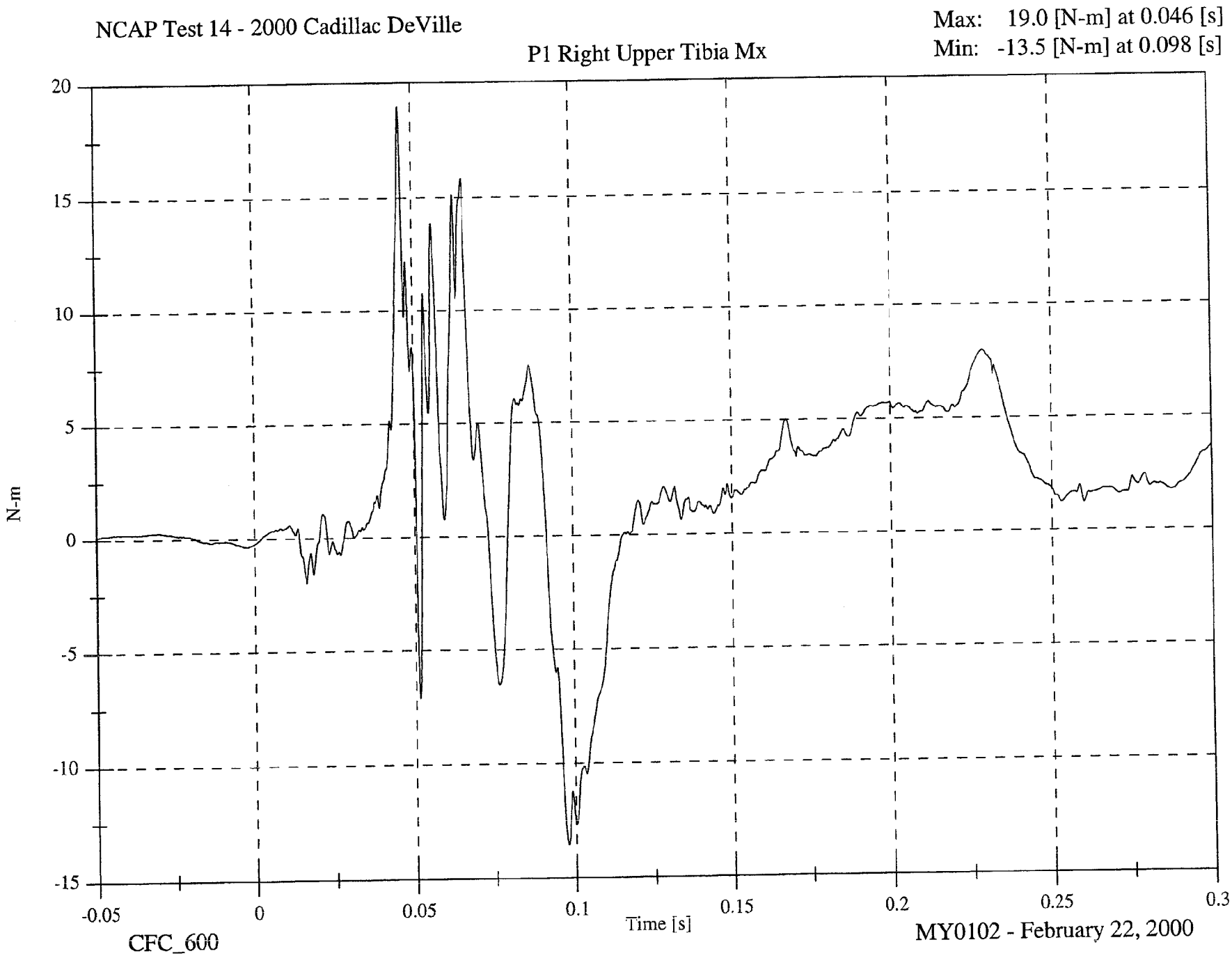

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Upper Tibia Mx
Max: 42.3 [N-m] at 0.066 [s]
Min: -12.4 [N-m] at 0.041 [s]
N-m
50
40
30
20
10
0
-10
-20
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

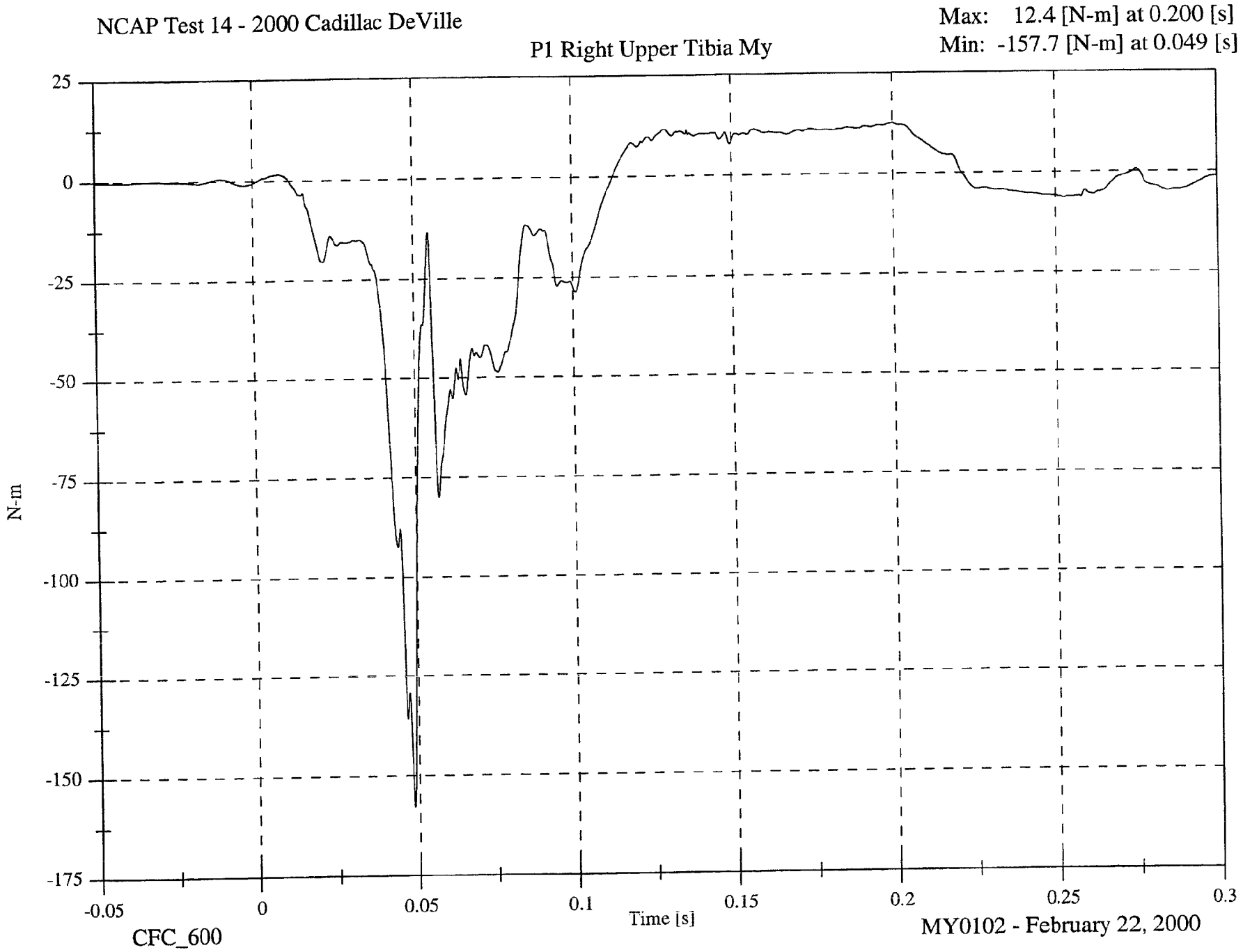

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Upper Tibia My
Max: 12.2 [N-m] at 0.170 [s]
Min: -98.9 [N-m] at 0.047 [s]
25
0
-25
-50
-75
-100
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

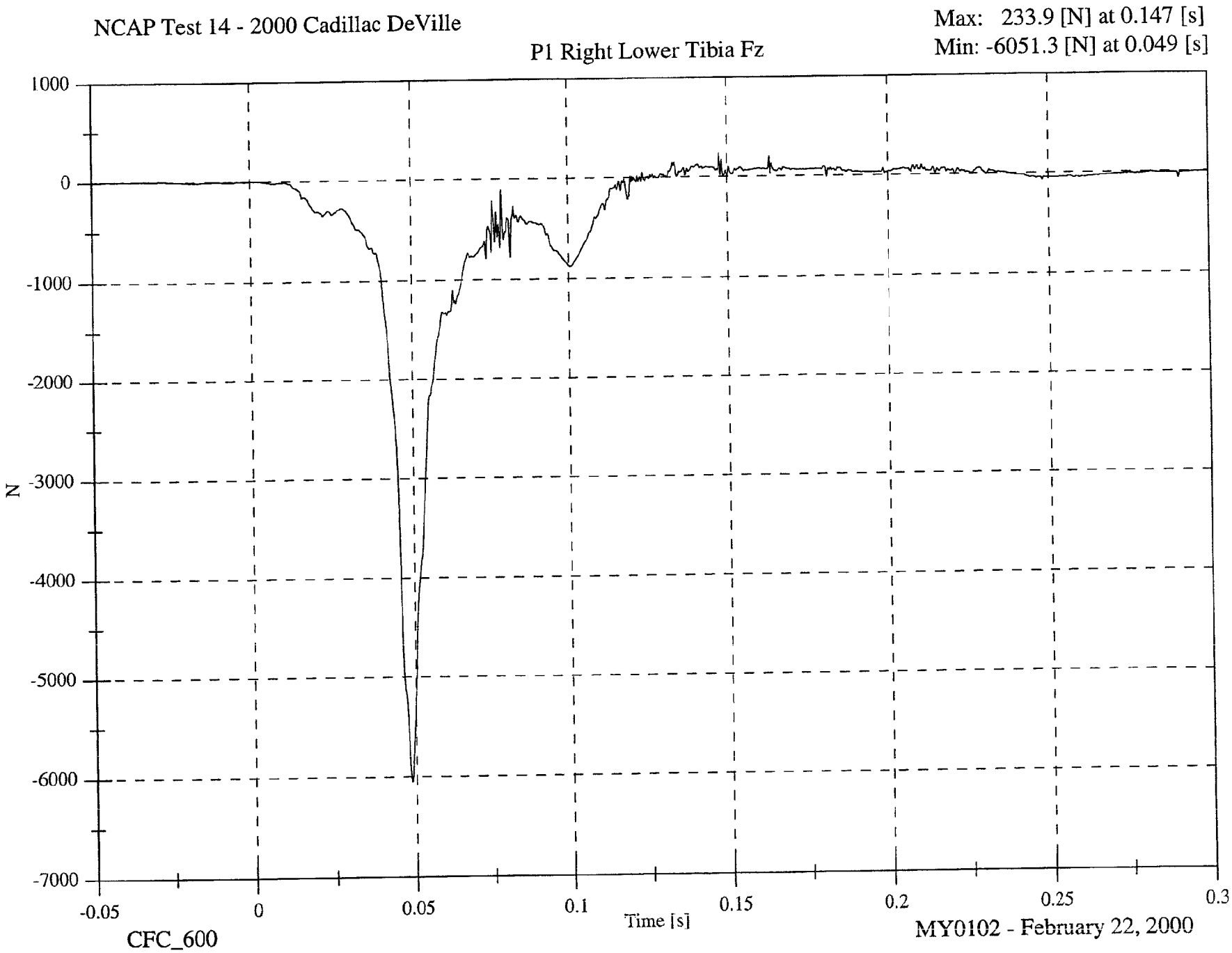

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Lower Tibia Fz
Max: 223.5 [N] at 0.122 [s]
Min: -1952.9 [N] at 0.040 [s]
500
0
-500
-1000
-1500
-2000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

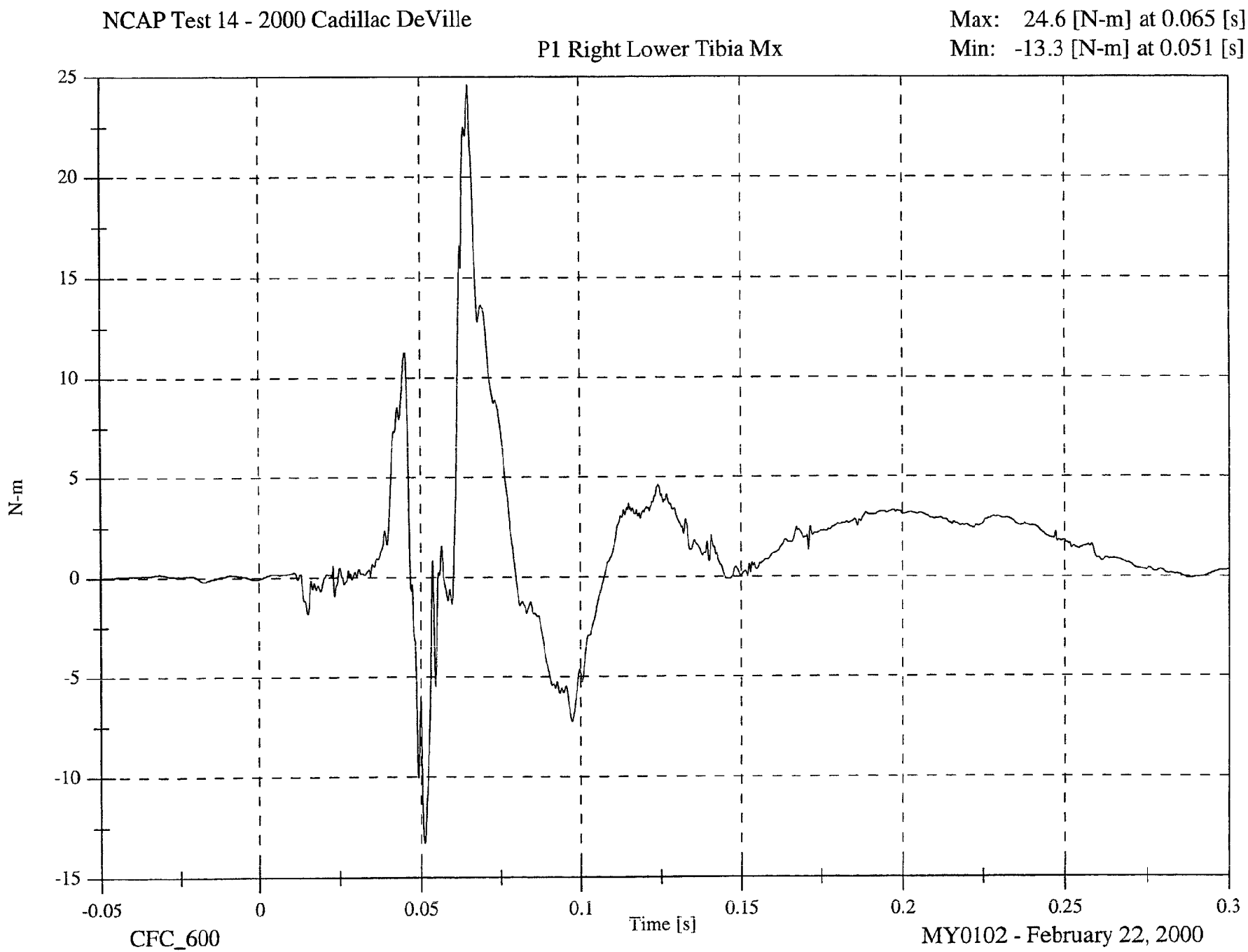
NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Lower Tibia Mx
Max: 69.0 [N-m] at 0.046 [s]
Min: -5.4 [N-m] at 0.040 [s]
70
60
50
40
30
20
10
0
-10
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

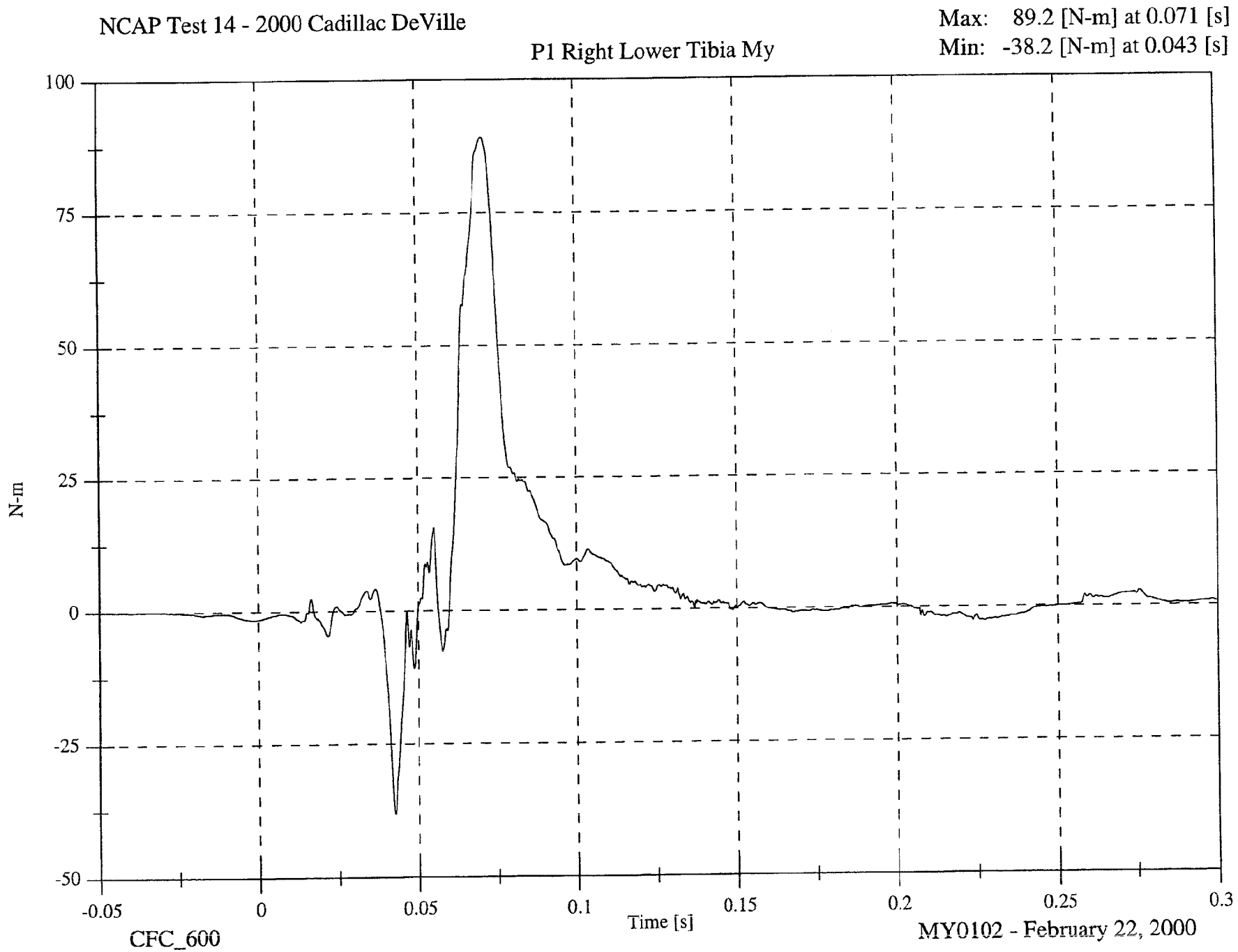

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Lower Tibia My
Max: 16.8 [N-m] at 0.082 [s]
Min: -20.4 [N-m] at 0.047 [s]
N-m
Time [s]
CFC_600
MY0102 - February 22, 2000

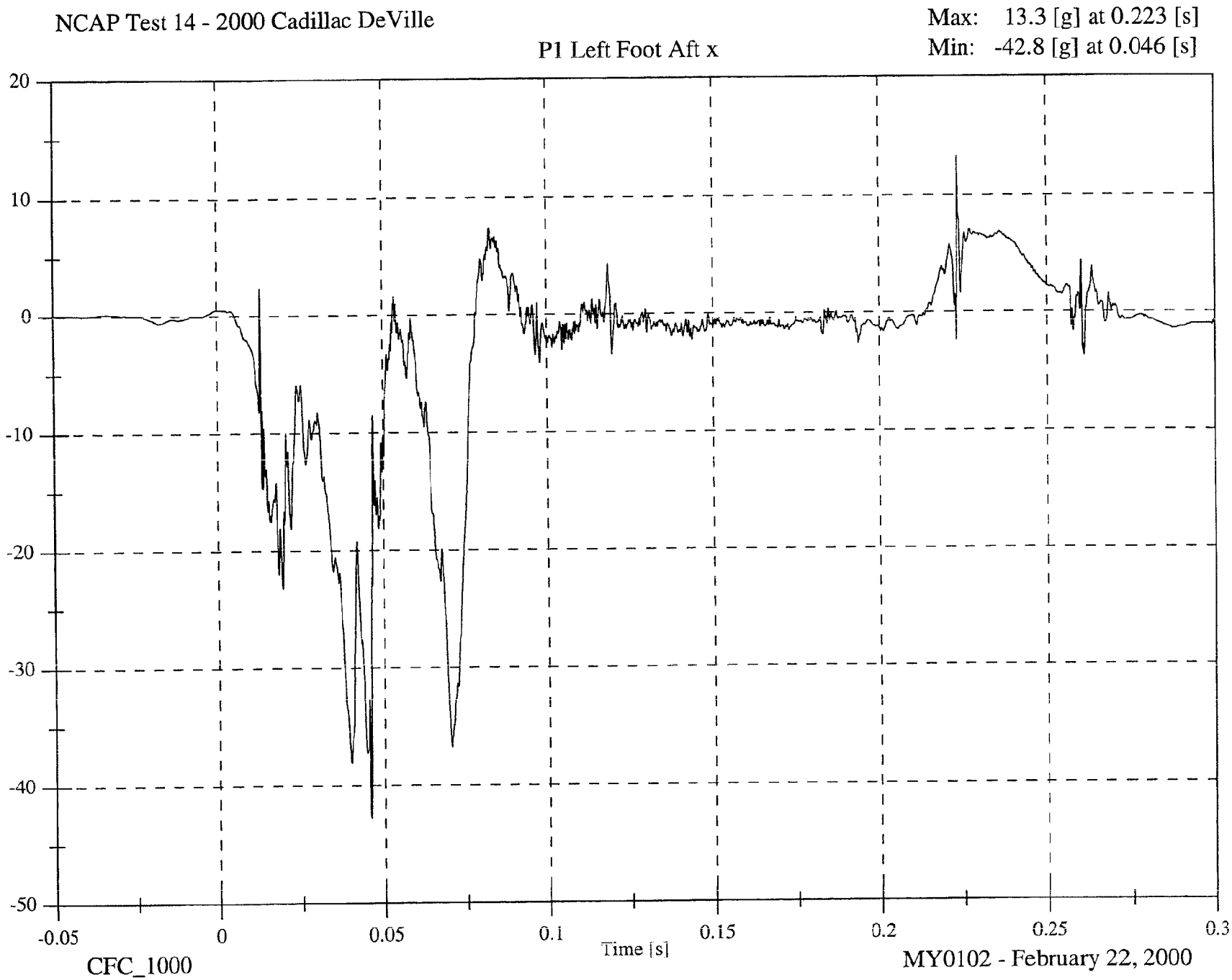

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Upper Tibia Mx
Max: 19.0 [N-m] at 0.046 [s]
Min: -13.5 [N-m] at 0.098 [s]
N-m
20
15
10
5
0
-5
-10
-15
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

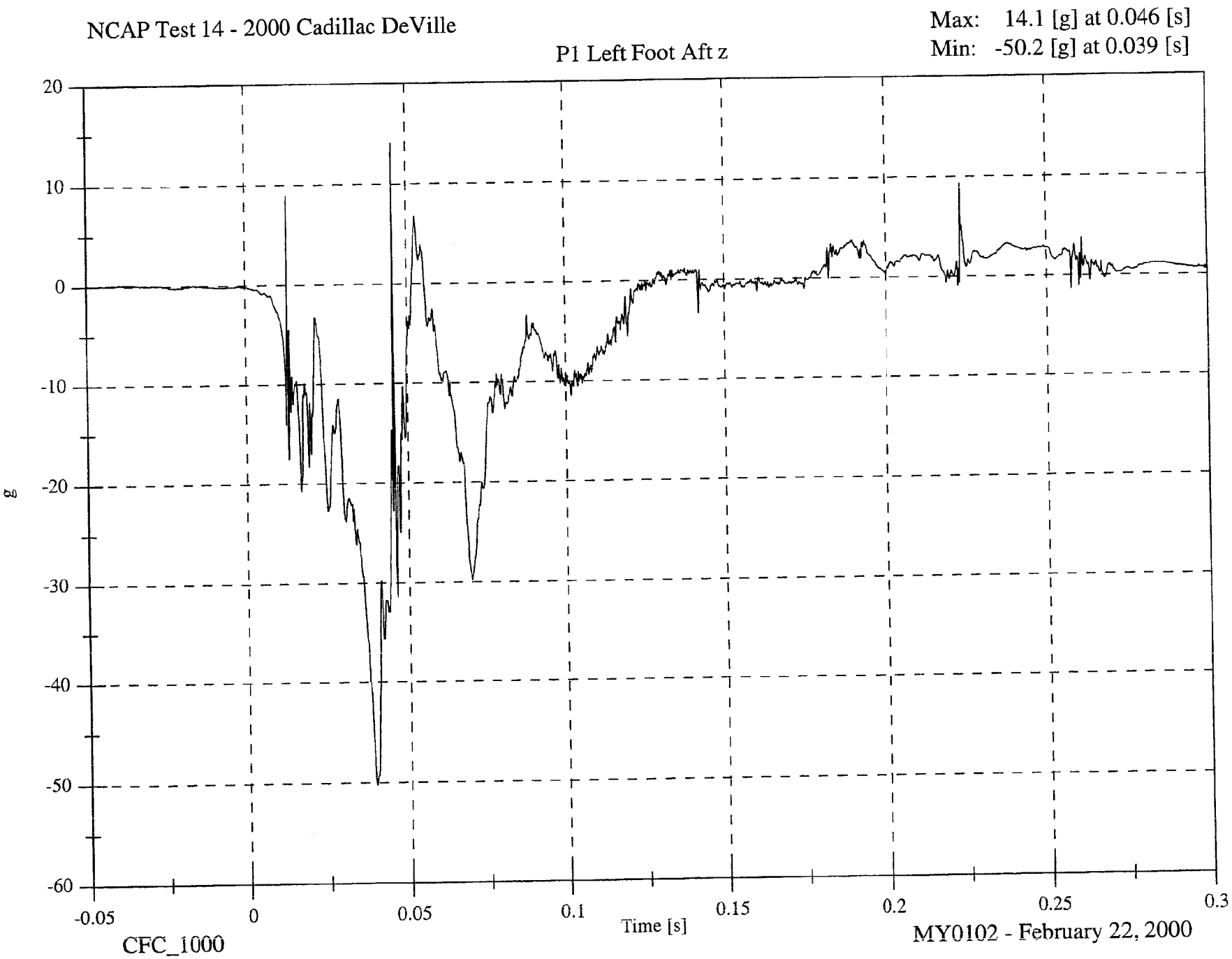

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Upper Tibia My
Max: 12.4 [N-m] at 0.200 [s]
Min: -157.7 [N-m] at 0.049 [s]
25
0
-25
-50
-75
-100
-125
-150
-175
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

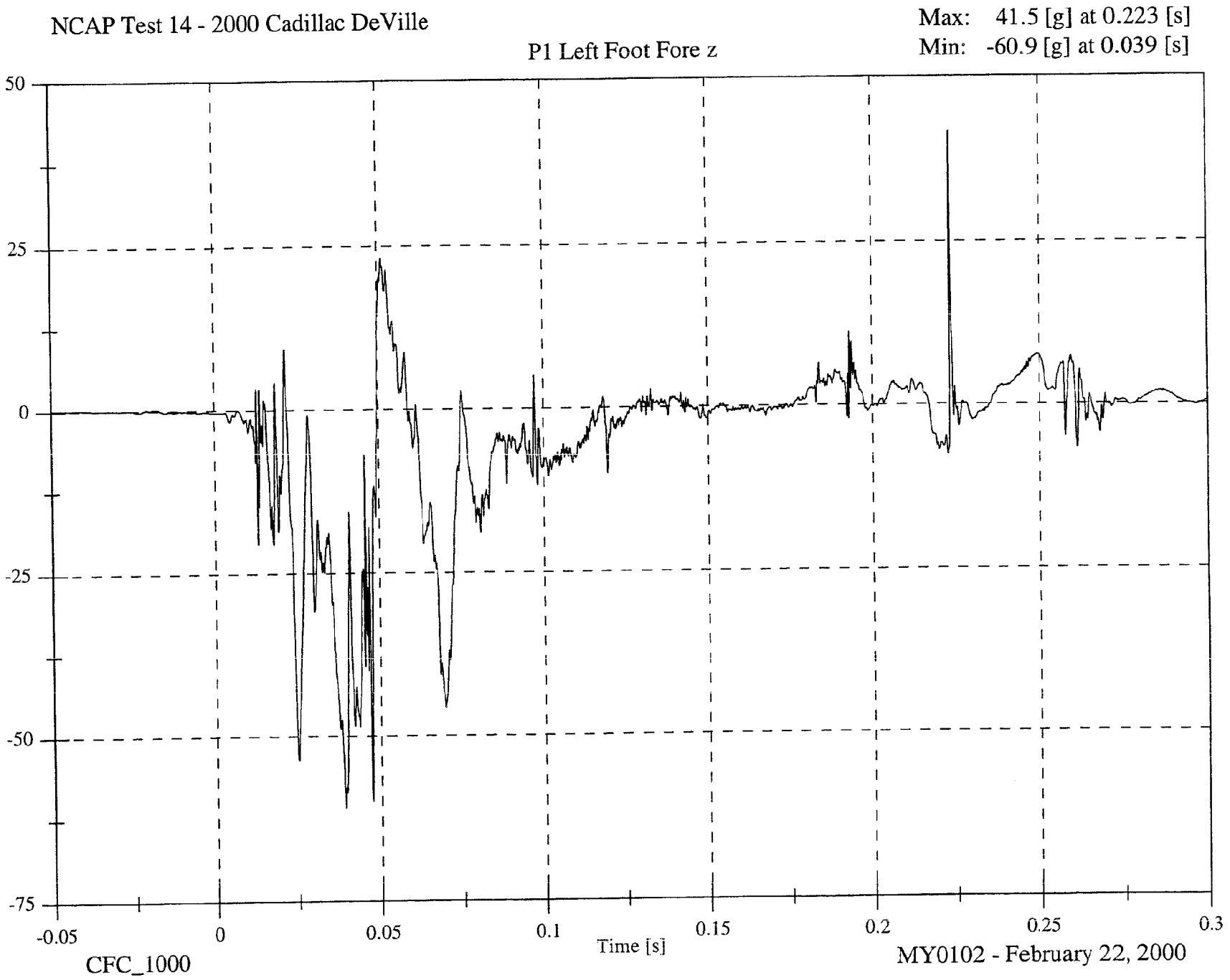

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Lower Tibia Fz
Max: 233.9 [N] at 0.147 [s]
Min: -6051.3 [N] at 0.049 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

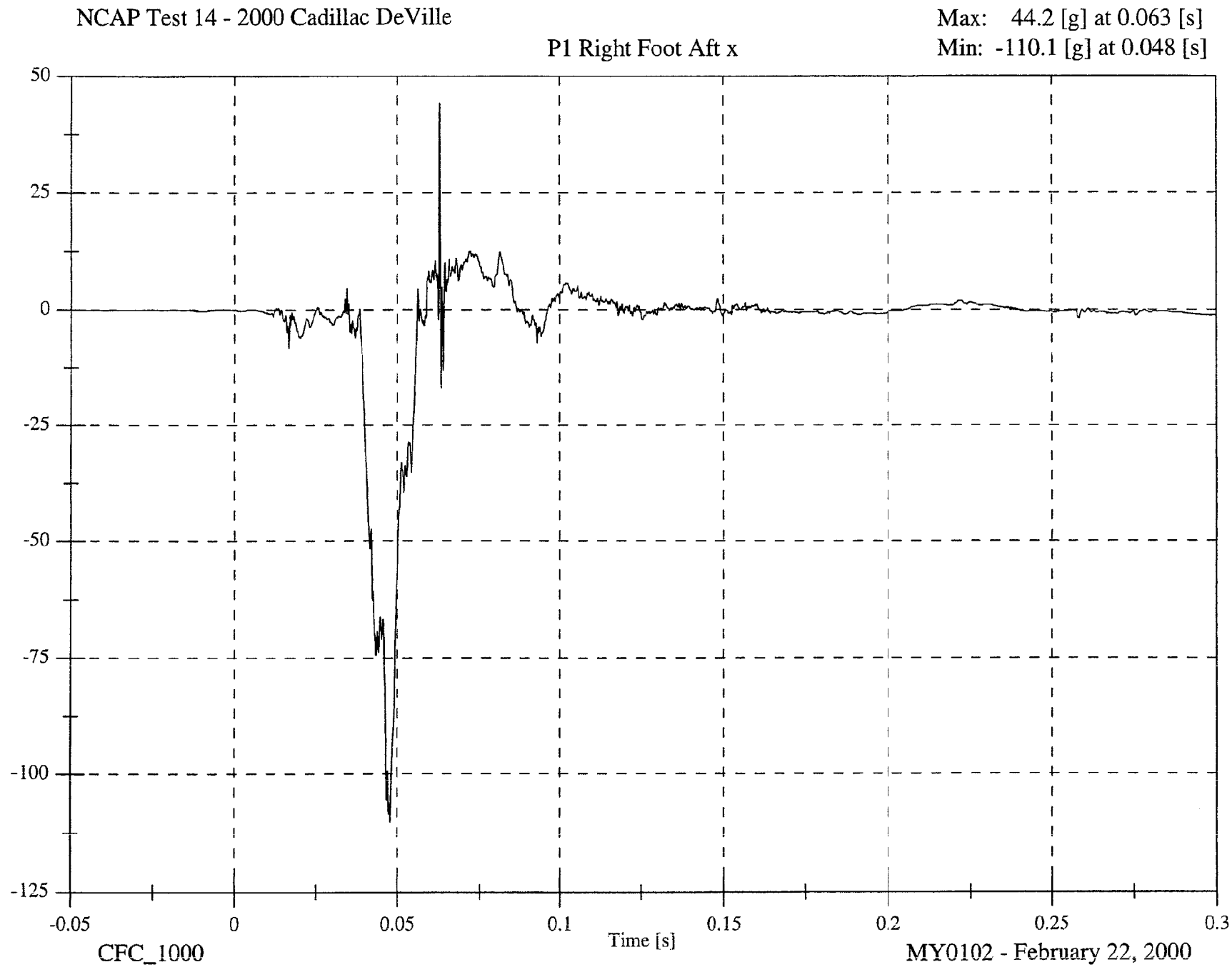

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Lower Tibia Mx
Max: 24.6 [N-m] at 0.065 [s]
Min: -13.3 [N-m] at 0.051 [s]
N-m
25
20
15
10
5
0
-5
-10
-15
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

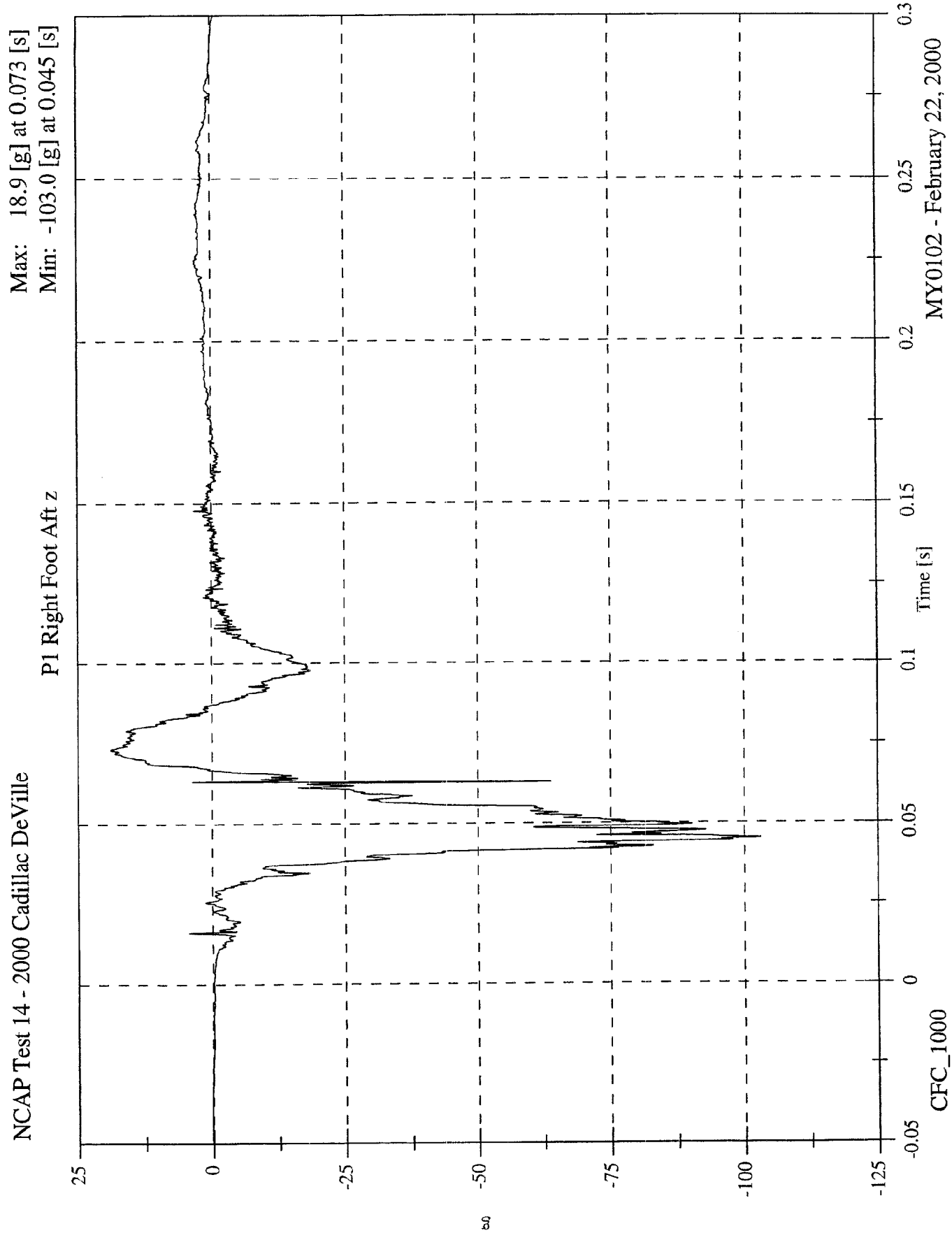

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Lower Tibia My
Max: 89.2 [N-m] at 0.071 [s]
Min: -38.2 [N-m] at 0.043 [s]
100
75
50
25
0
-25
-50
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

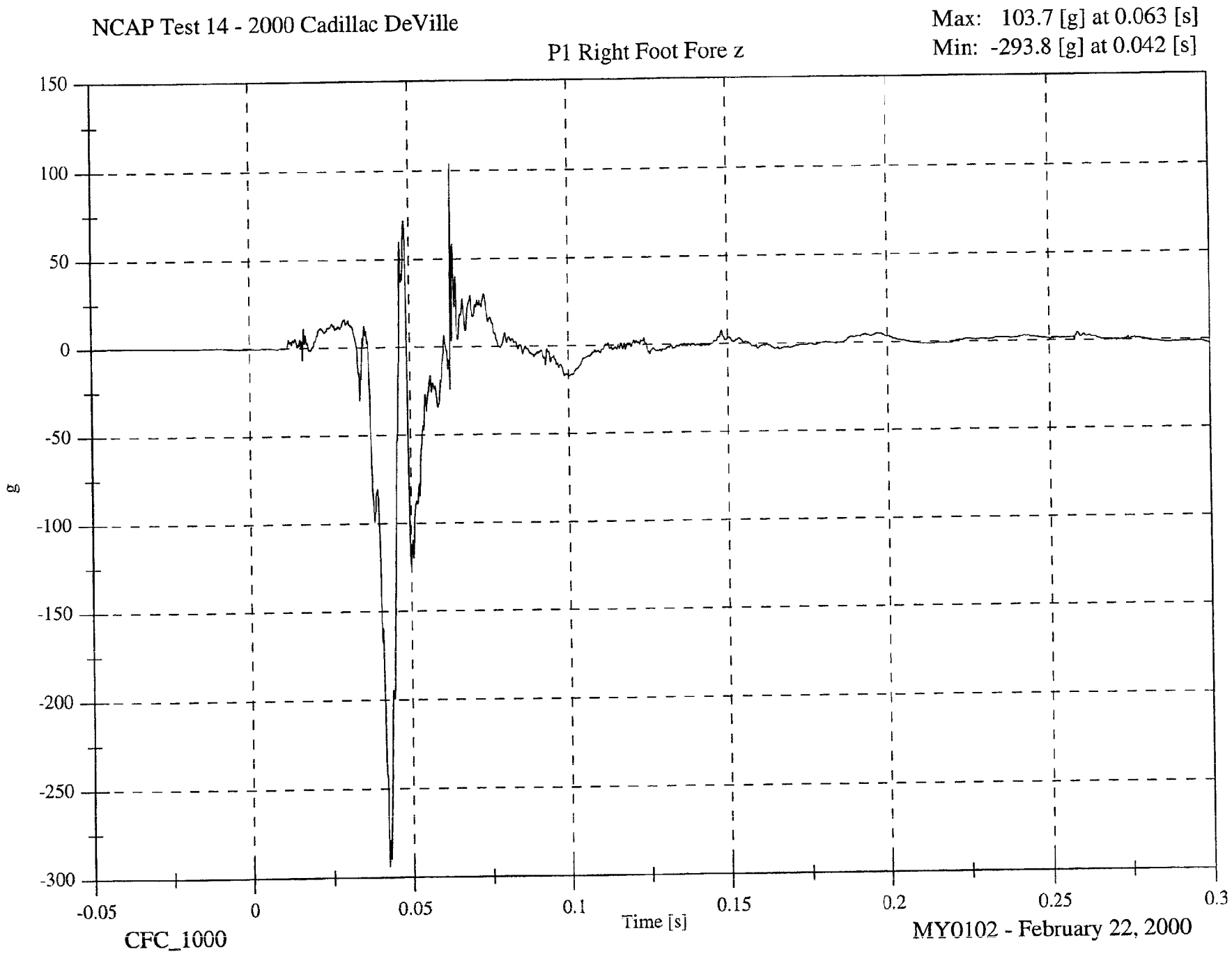

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Foot Aft x
Max: 13.3 [g] at 0.223 [s]
Min: -42.8 [g] at 0.046 [s]
20
10
0
-10
-20
-30
-40
-50
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

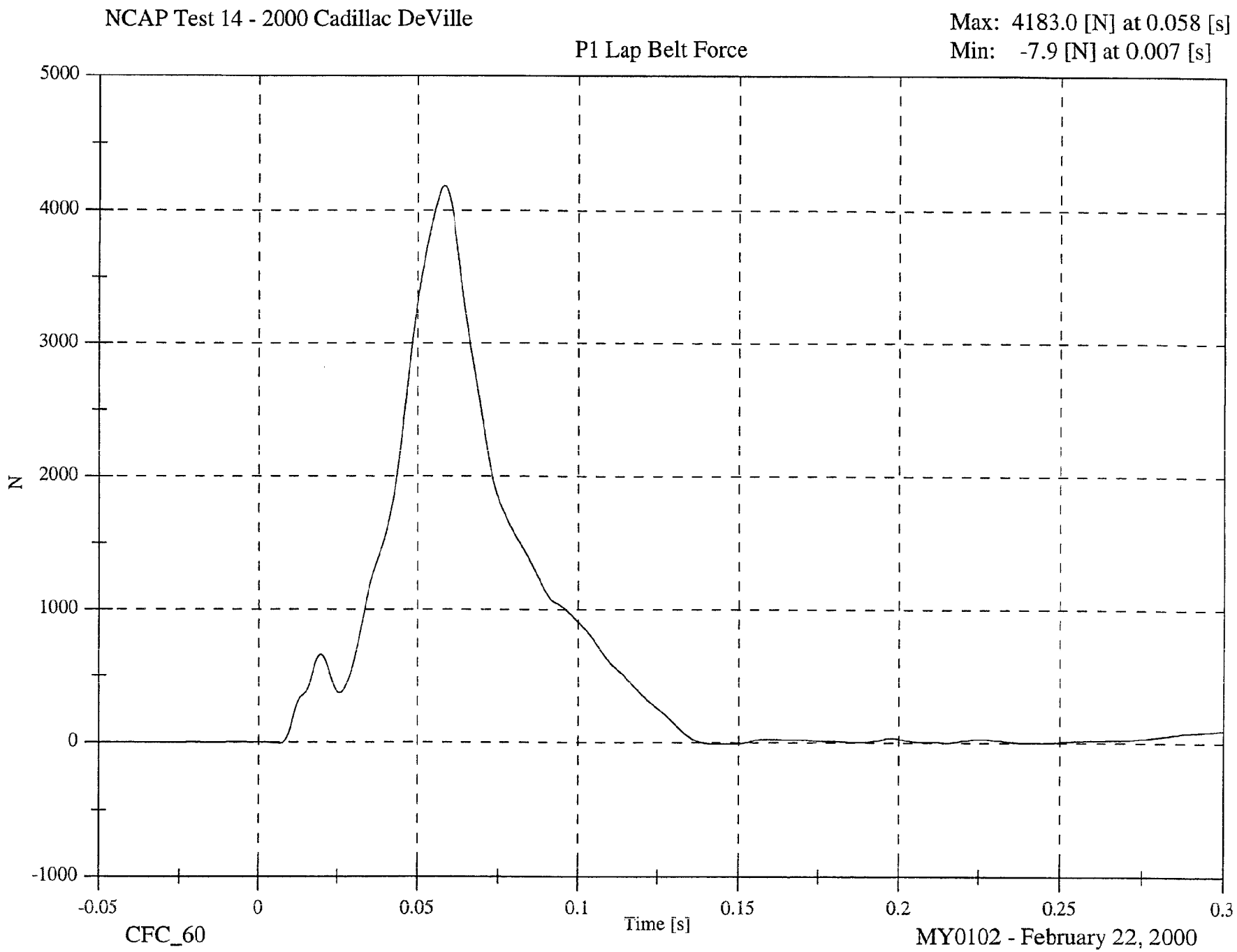

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Foot Aft z
Max: 14.1 [g] at 0.046 [s]
Min: -50.2 [g] at 0.039 [s]
20
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

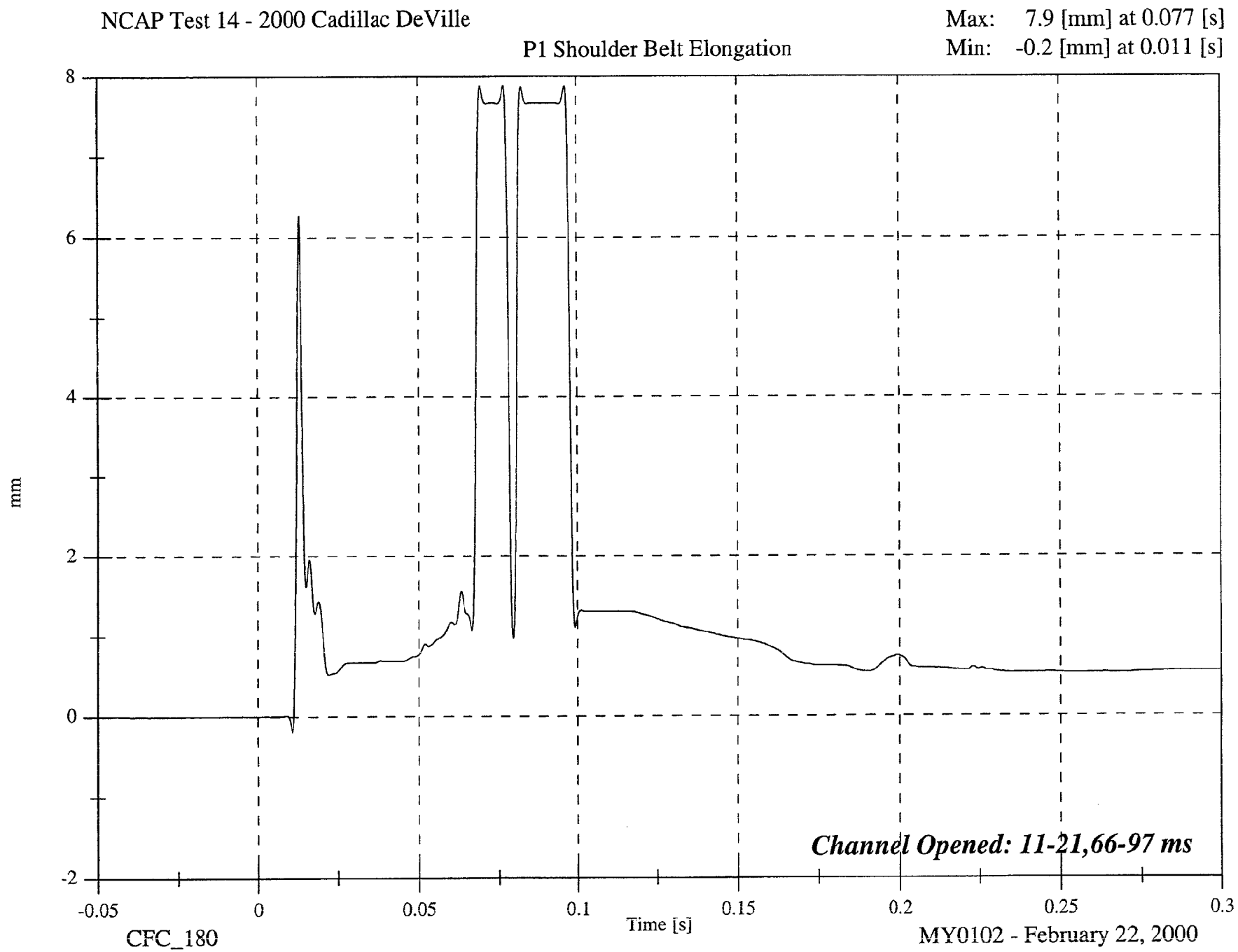

NCAP Test 14 - 2000 Cadillac DeVille
P1 Left Foot Fore z
Max: 41.5 [g] at 0.223 [s]
Min: -60.9 [g] at 0.039 [s]
50
25
0
-25
-50
-75
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

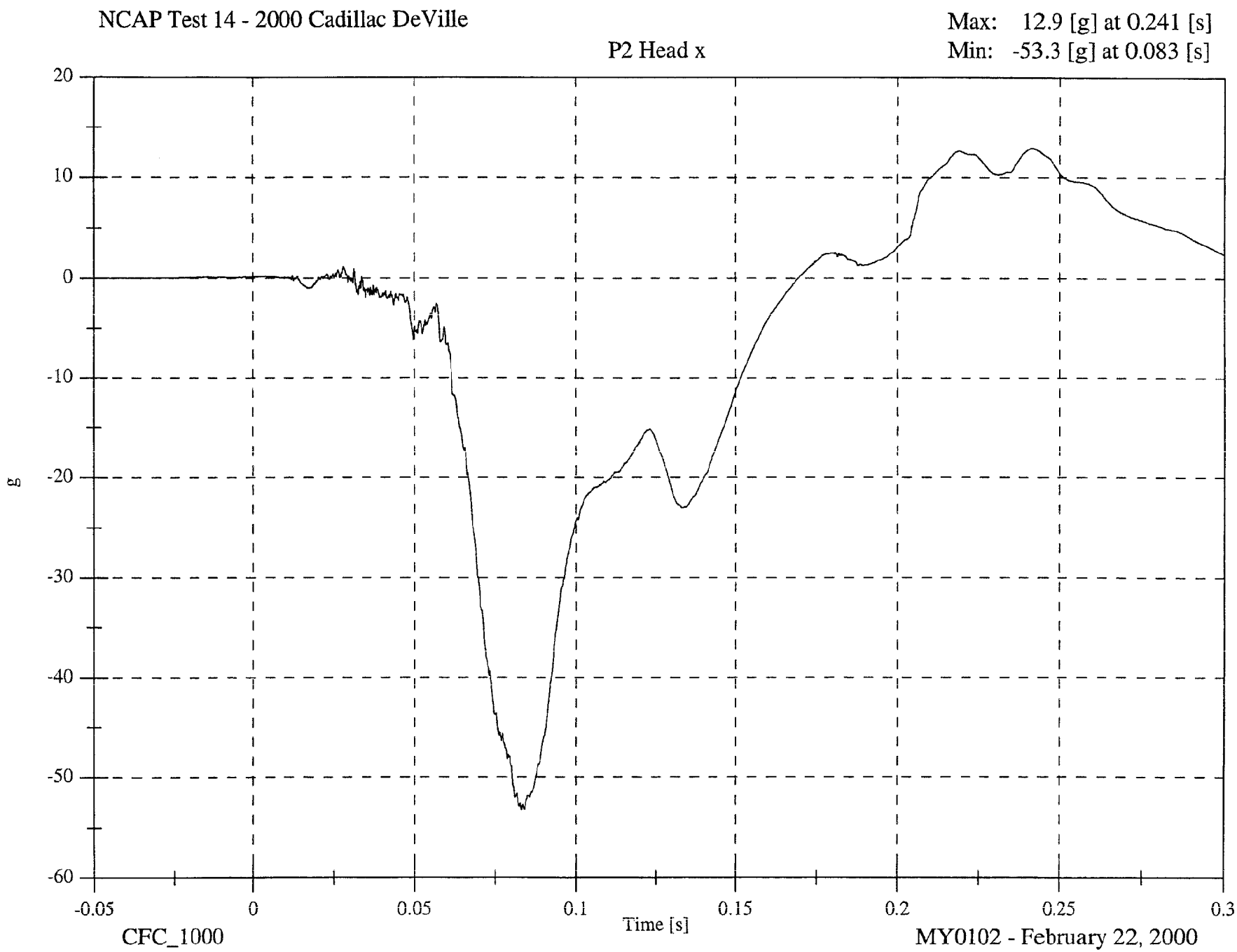

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Foot Aft x
Max: 44.2 [g] at 0.063 [s]
Min: -110.1 [g] at 0.048 [s]
50
25
0
-25
-50
-75
-100
-125
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

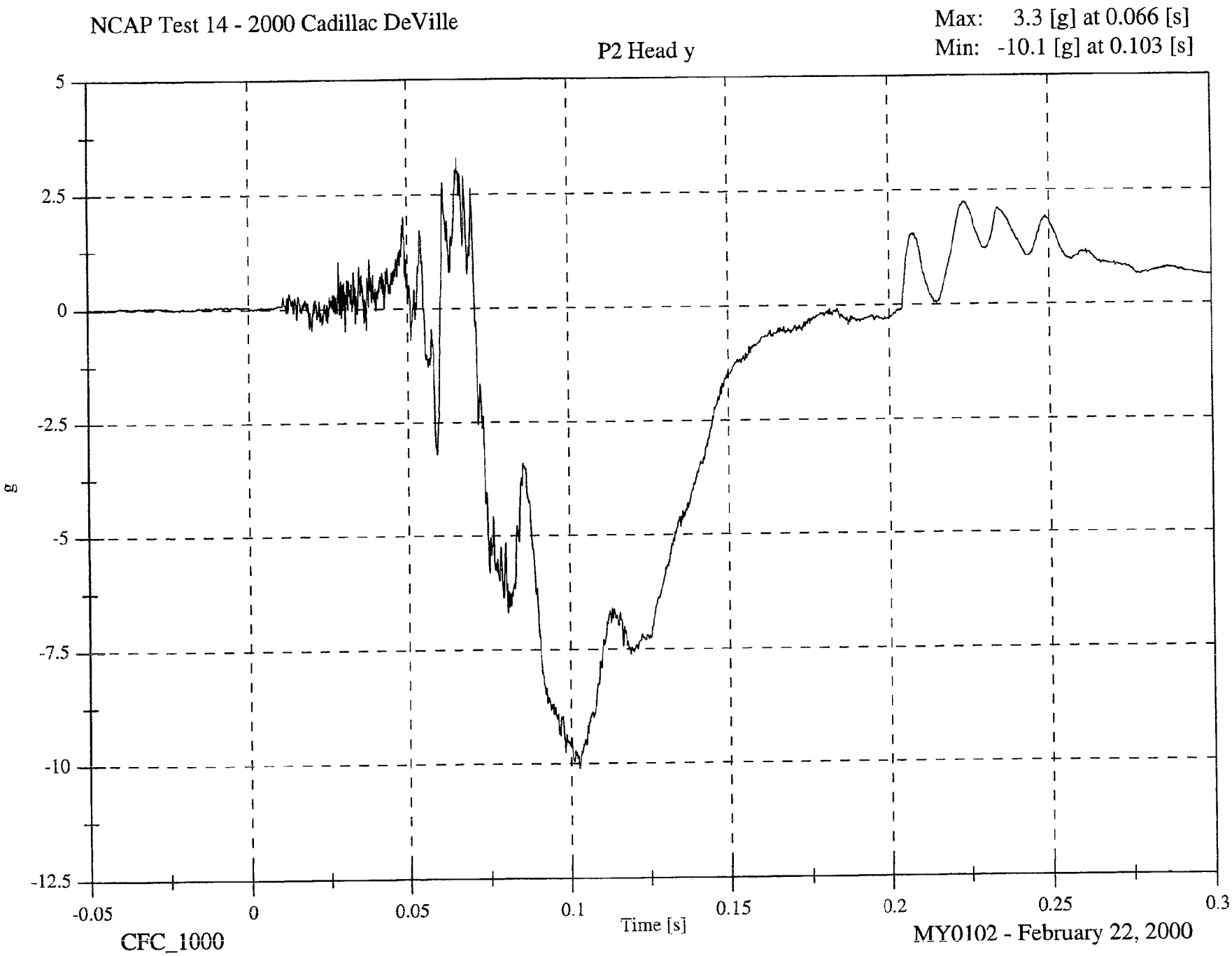

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Foot Aft z
Max: 18.9 [g] at 0.073 [s]
Min: -103.0 [g] at 0.045 [s]
25
0
-25
-50
-75
-100
-125
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

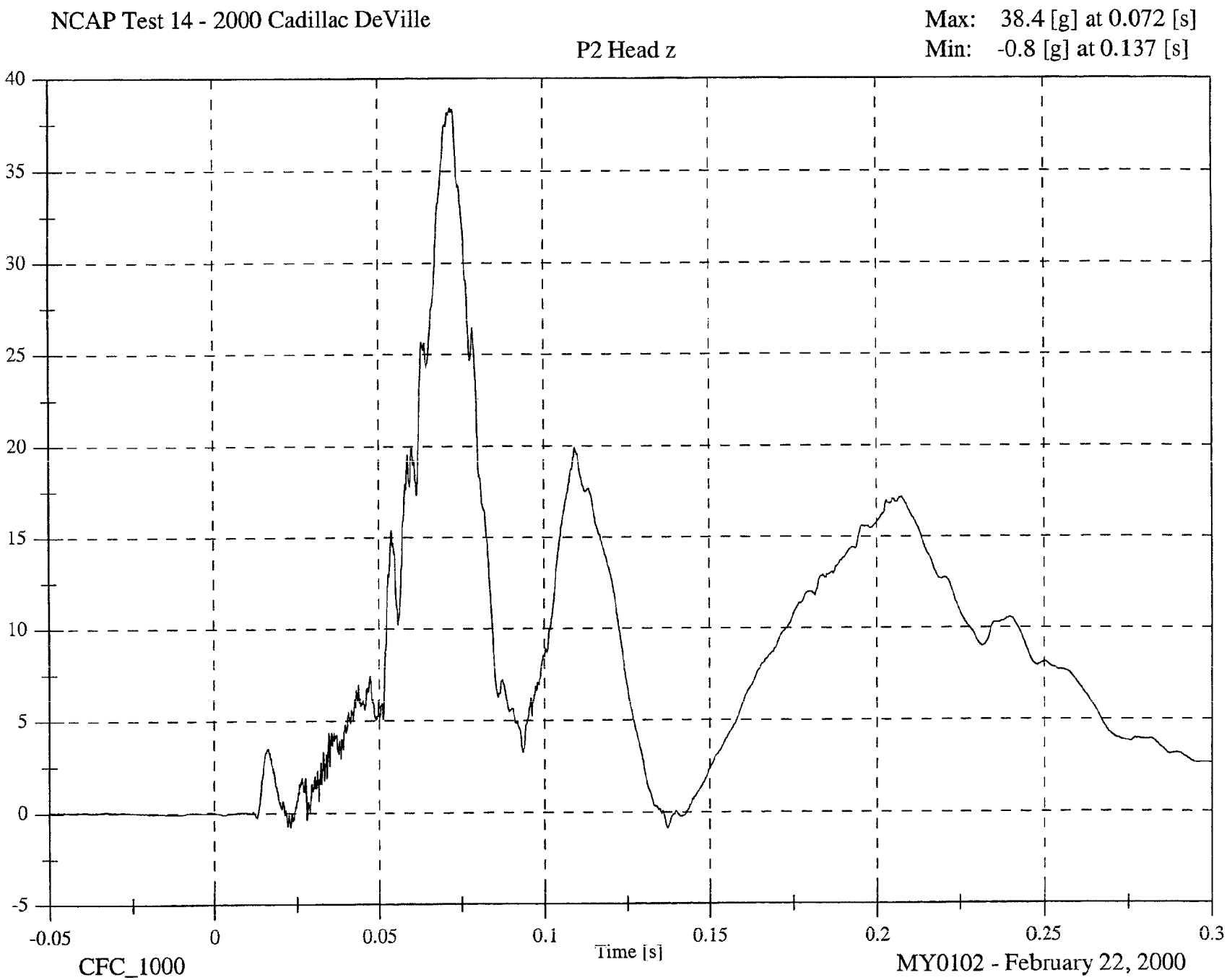

NCAP Test 14 - 2000 Cadillac DeVille
P1 Right Foot Fore z
Max: 103.7 [g] at 0.063 [s]
Min: -293.8 [g] at 0.042 [s]
150
100
50
0
-50
-100
-150
-200
-250
-300
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

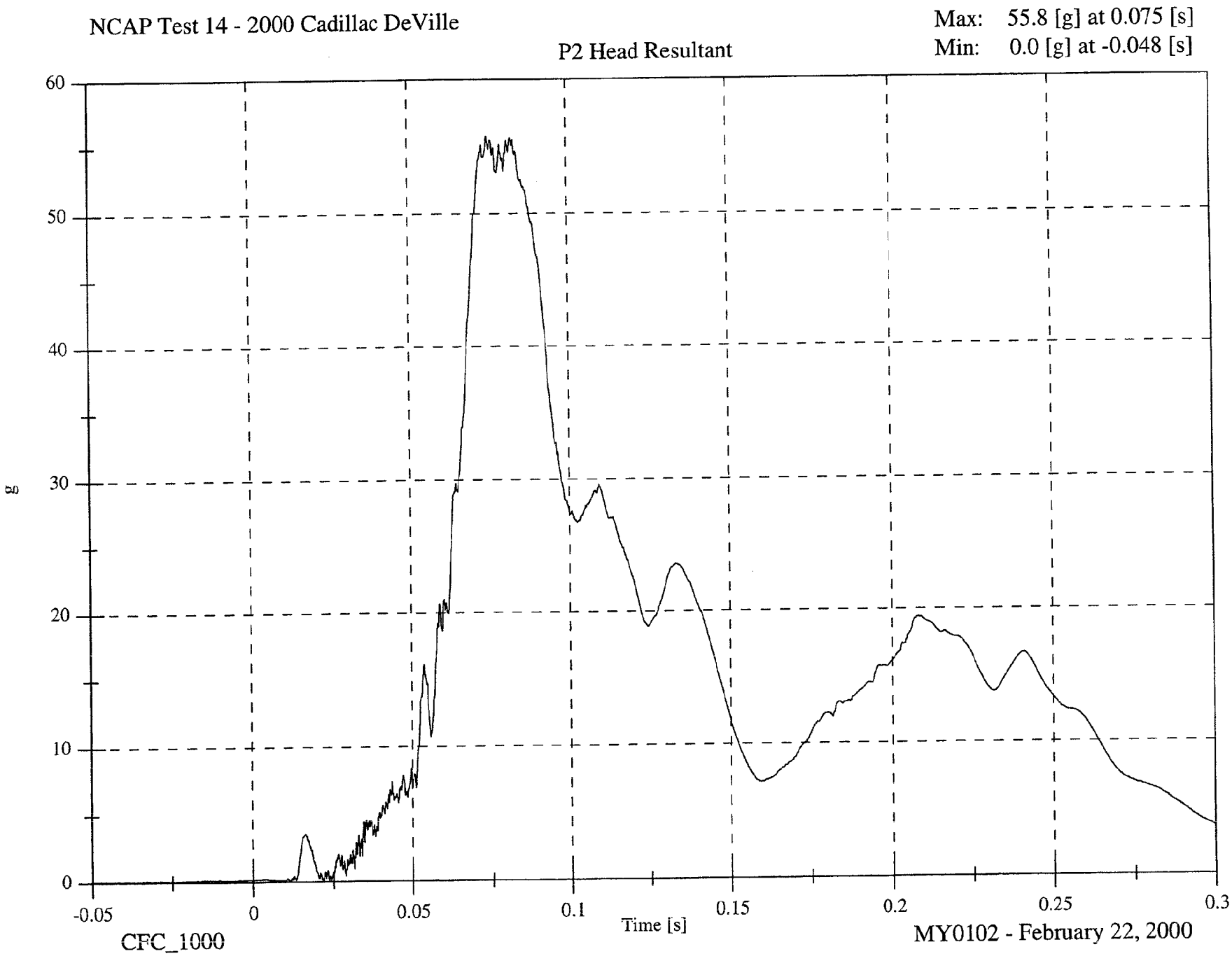

NCAP Test 14 - 2000 Cadillac DeVille
P1 Lap Belt Force
Max: 4183.0 [N] at 0.058 [s]
Min: -7.9 [N] at 0.007 [s]
5000
4000
3000
2000
1000
0
-1000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000

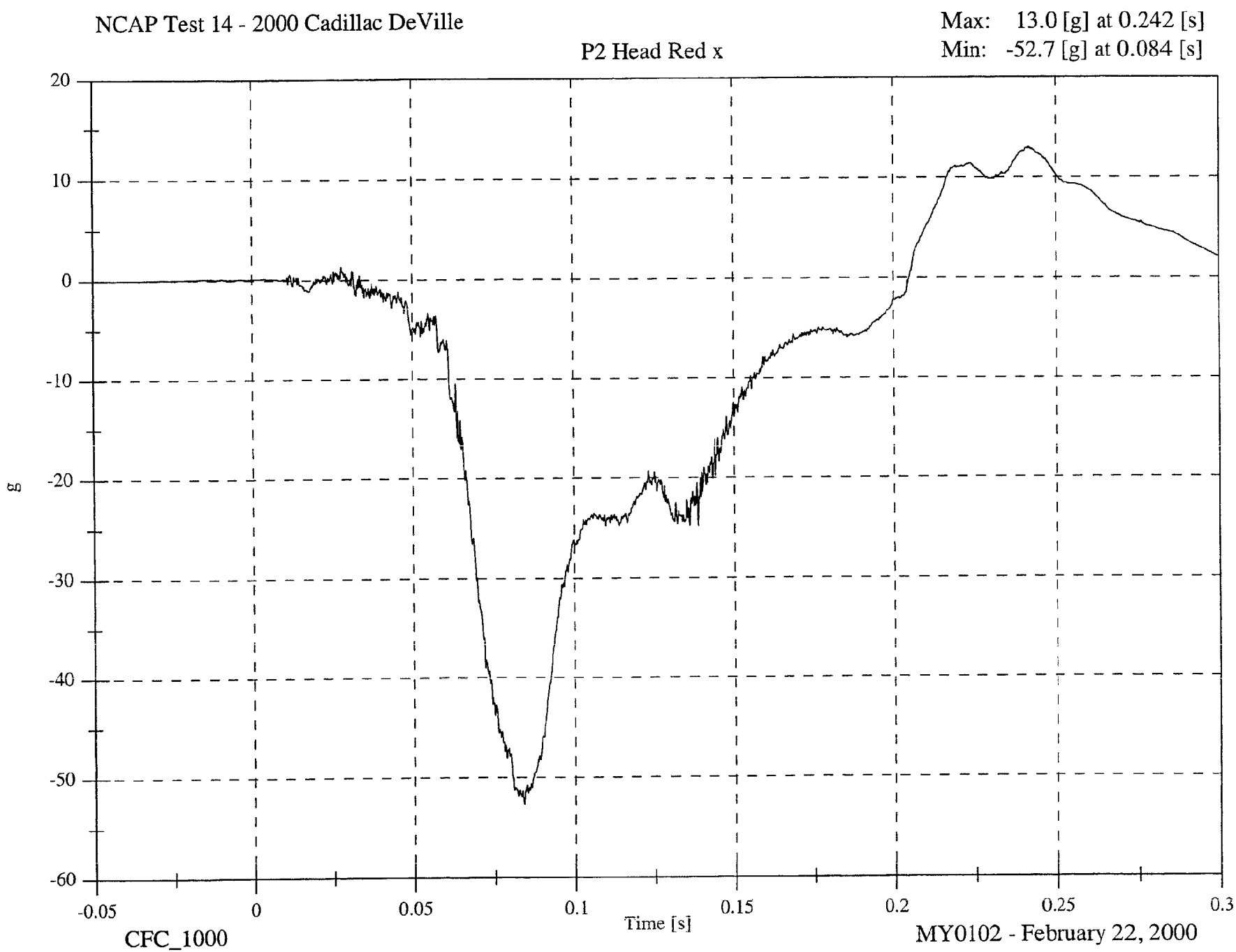

NCAP Test 14 - 2000 Cadillac DeVille
P1 Shoulder Belt Elongation
Max: 7.9 [mm] at 0.077 [s]
Min: -0.2 [mm] at 0.011 [s]
8
6
4
2
0
-2
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Channel Opened: 11-21,66-97 ms
CFC_180
MY0102 - February 22, 2000

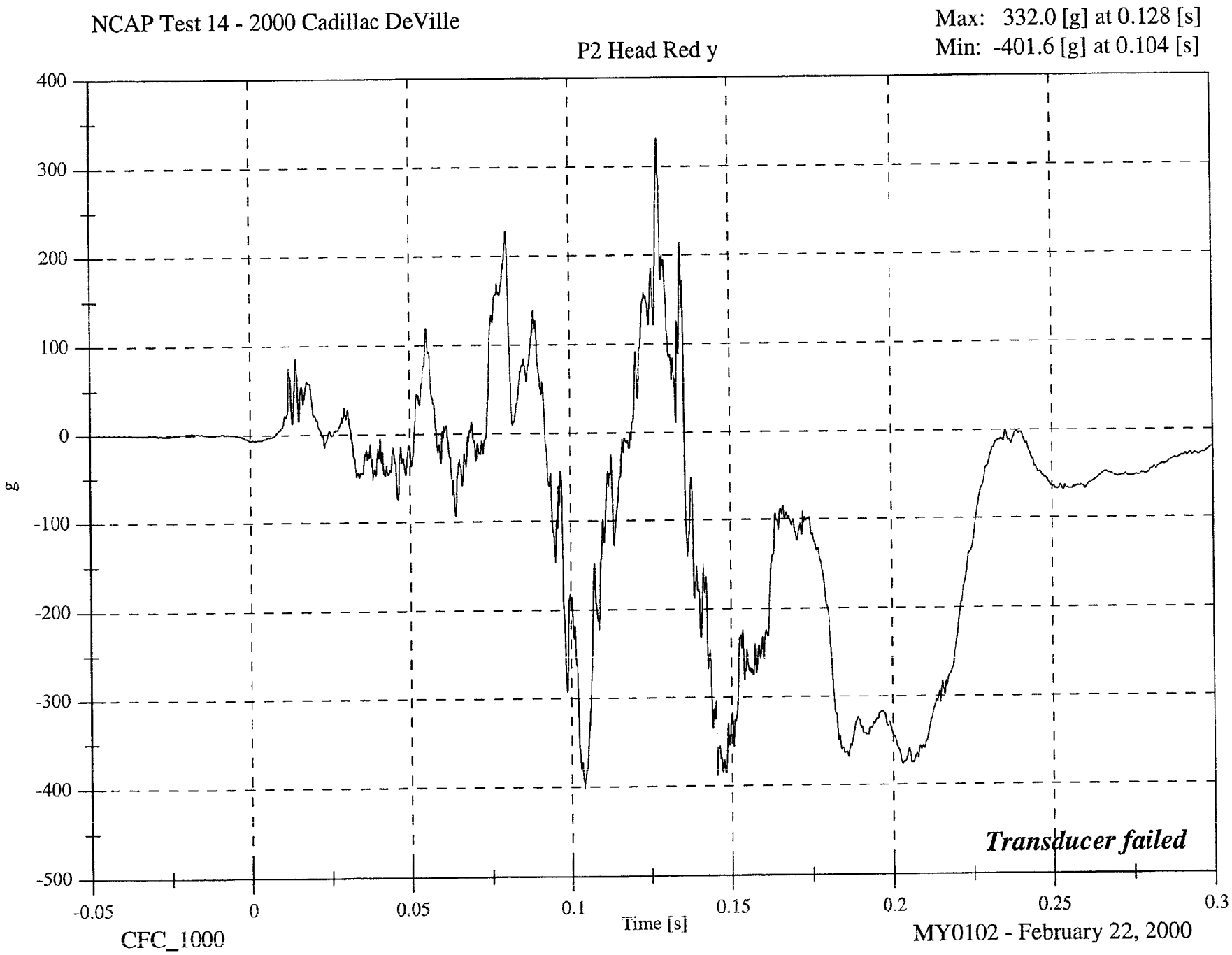

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head x
Max: 12.9 [g] at 0.241 [s]
Min: -53.3 [g] at 0.083 [s]
20
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

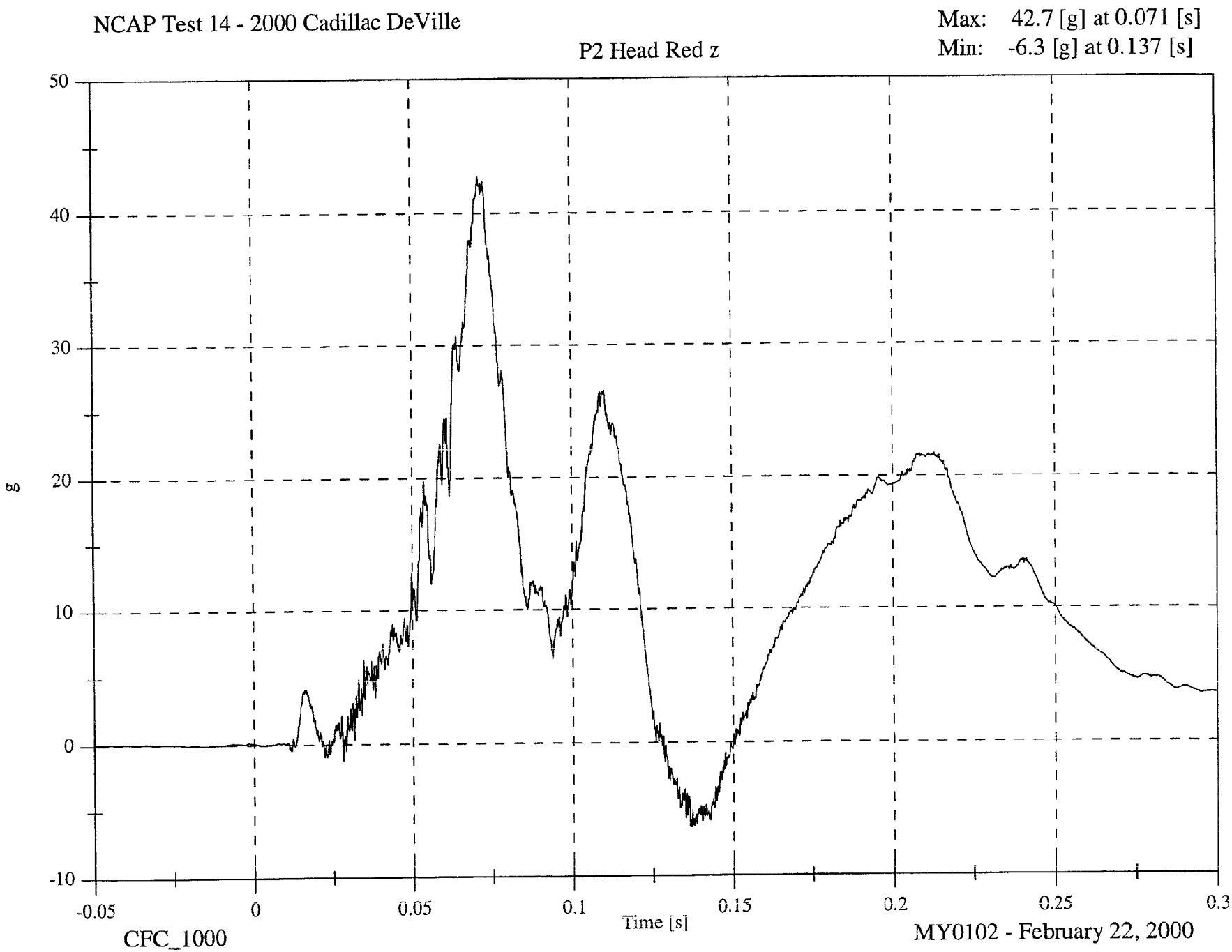

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head y
Max: 3.3 [g] at 0.066 [s]
Min: -10.1 [g] at 0.103 [s]
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

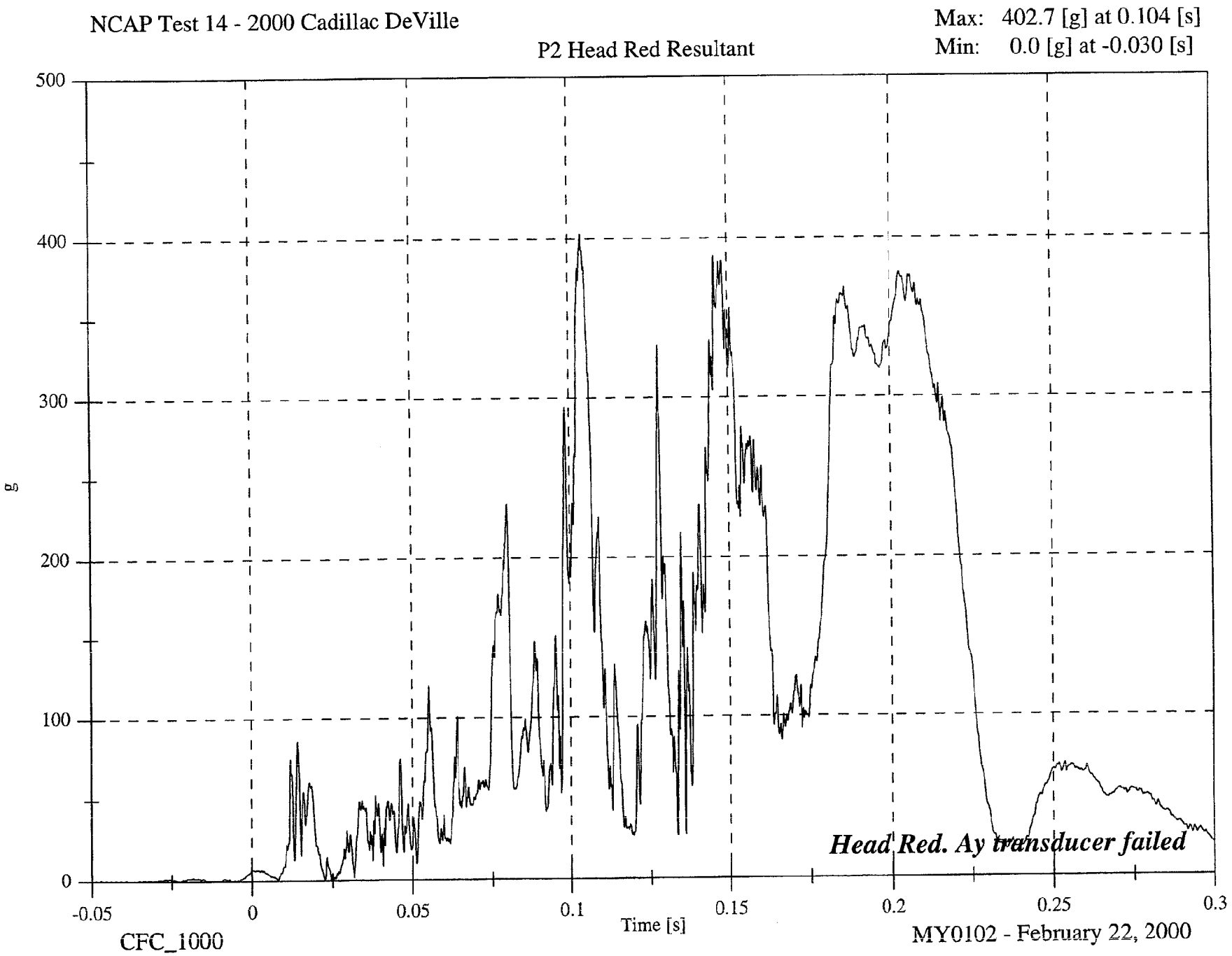

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head z
Max: 38.4 [g] at 0.072 [s]
Min: -0.8 [g] at 0.137 [s]
40
35
30
25
20
15
10
5
0
-5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

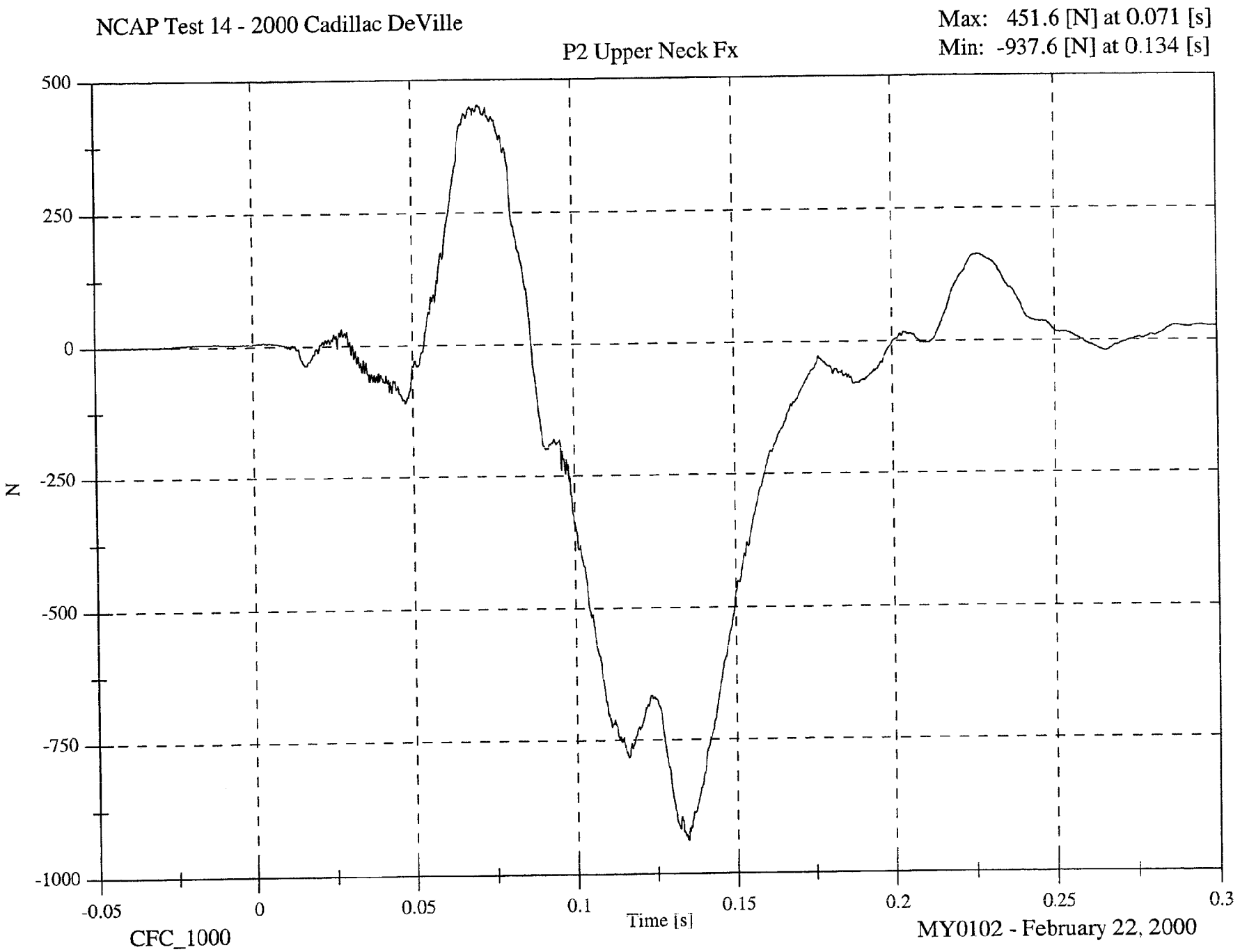

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head Resultant
Max: 55.8 [g] at 0.075 [s]
Min: 0.0 [g] at -0.048 [s]
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

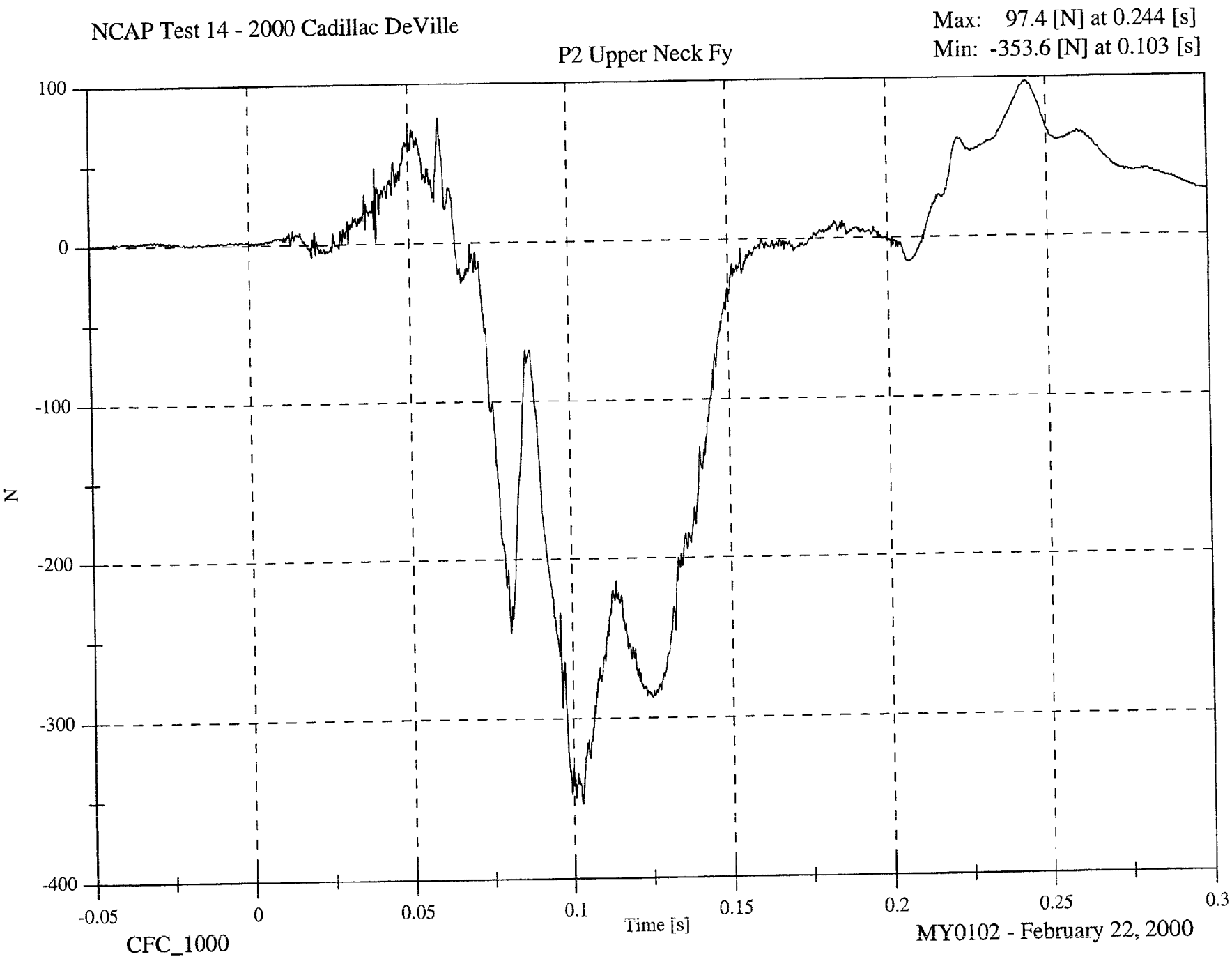

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head Red x
Max: 13.0 [g] at 0.242 [s]
Min: -52.7 [g] at 0.084 [s]
20
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

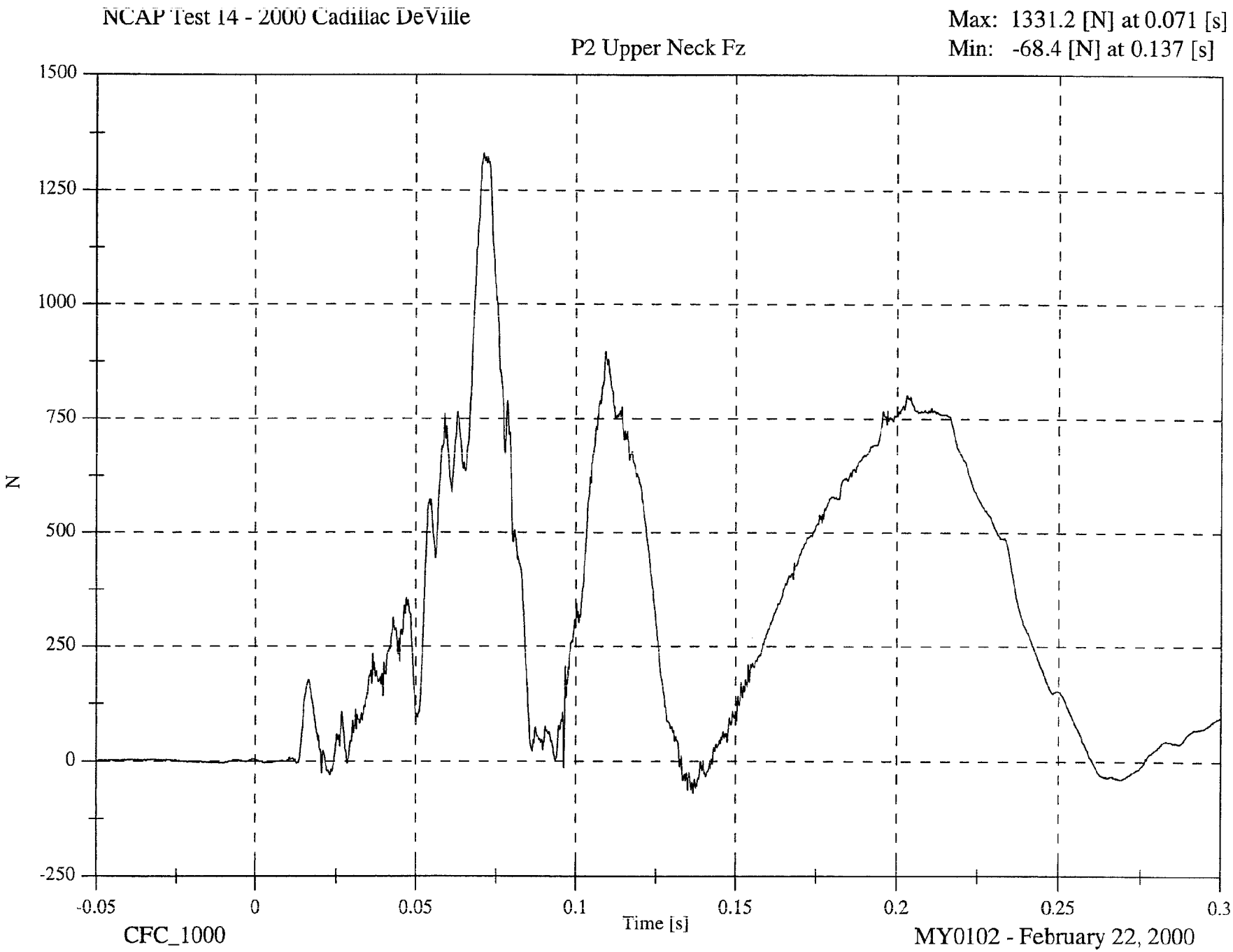

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head Red y
Max: 332.0 [g] at 0.128 [s]
Min: -401.6 [g] at 0.104 [s]
400
300
200
100
0
-100
-200
-300
-400
-500
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Transducer failed
CFC_1000
MY0102 - February 22, 2000

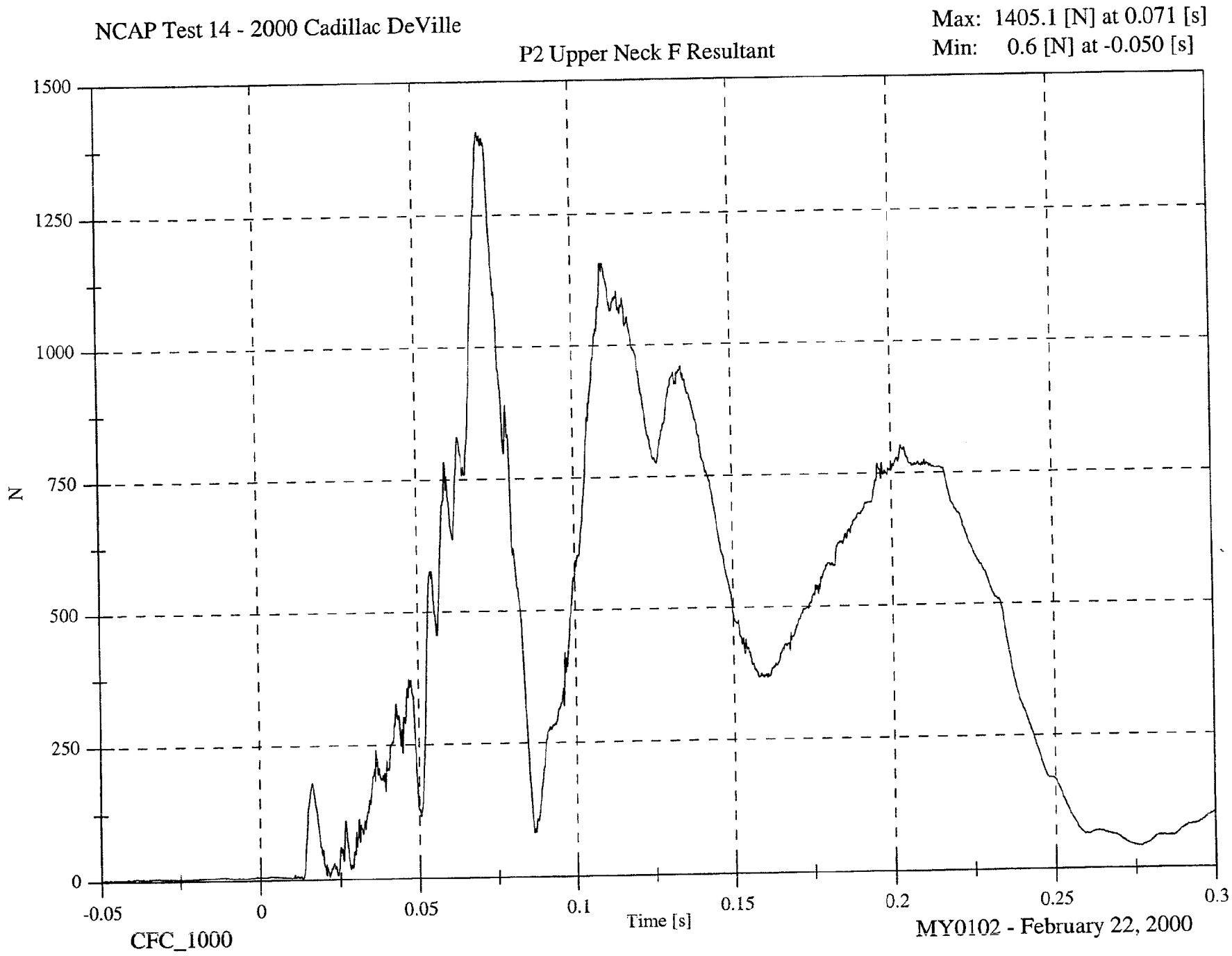

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head Red z
Max: 42.7 [g] at 0.071 [s]
Min: -6.3 [g] at 0.137 [s]
50
40
30
20
10
0
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

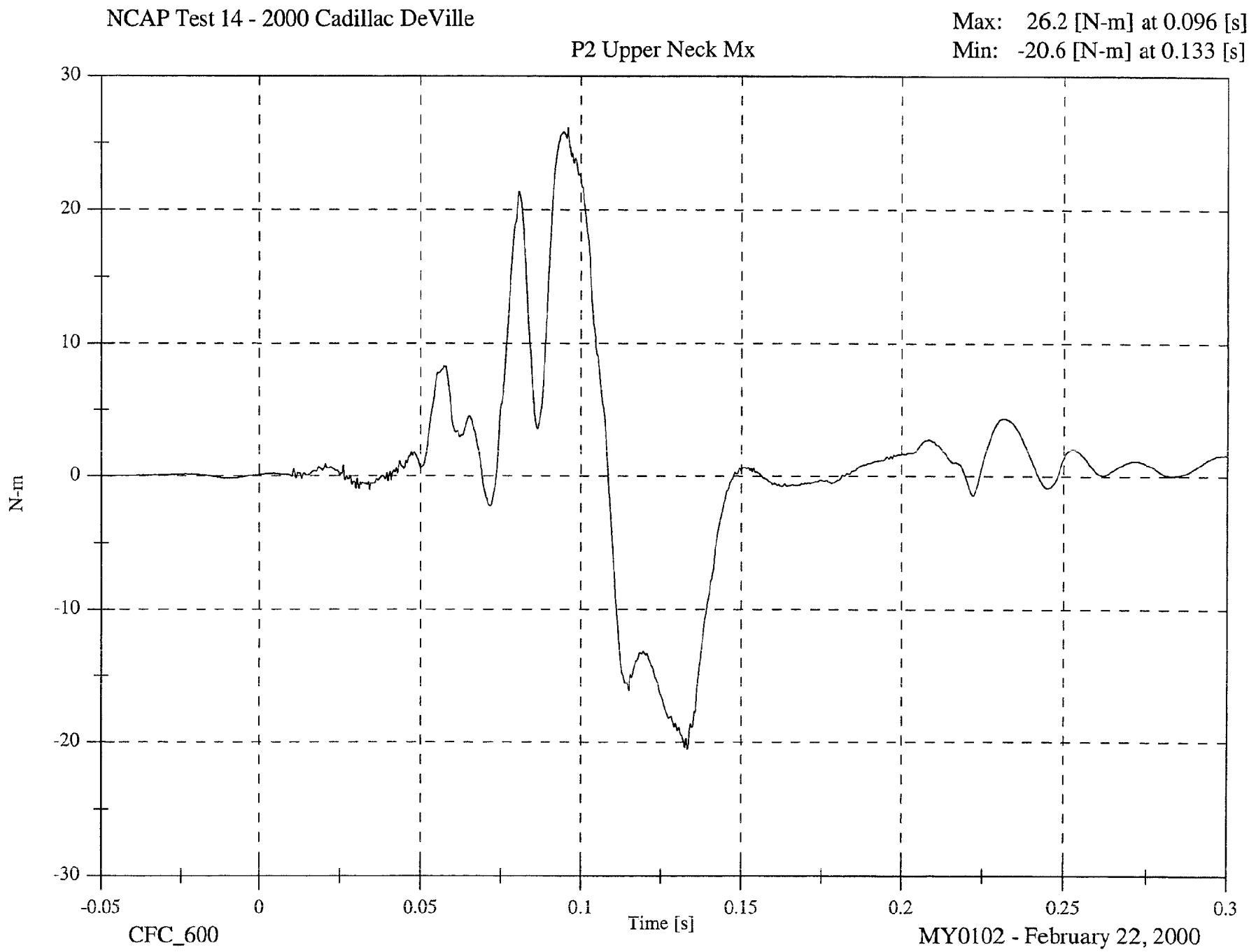

NCAP Test 14 - 2000 Cadillac DeVille
P2 Head Red Resultant
Max: 402.7 [g] at 0.104 [s]
Min: 0.0 [g] at -0.030 [s]
500
400
300
200
100
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Head Red. Ay transducer failed
CFC_1000
MY0102 - February 22, 2000

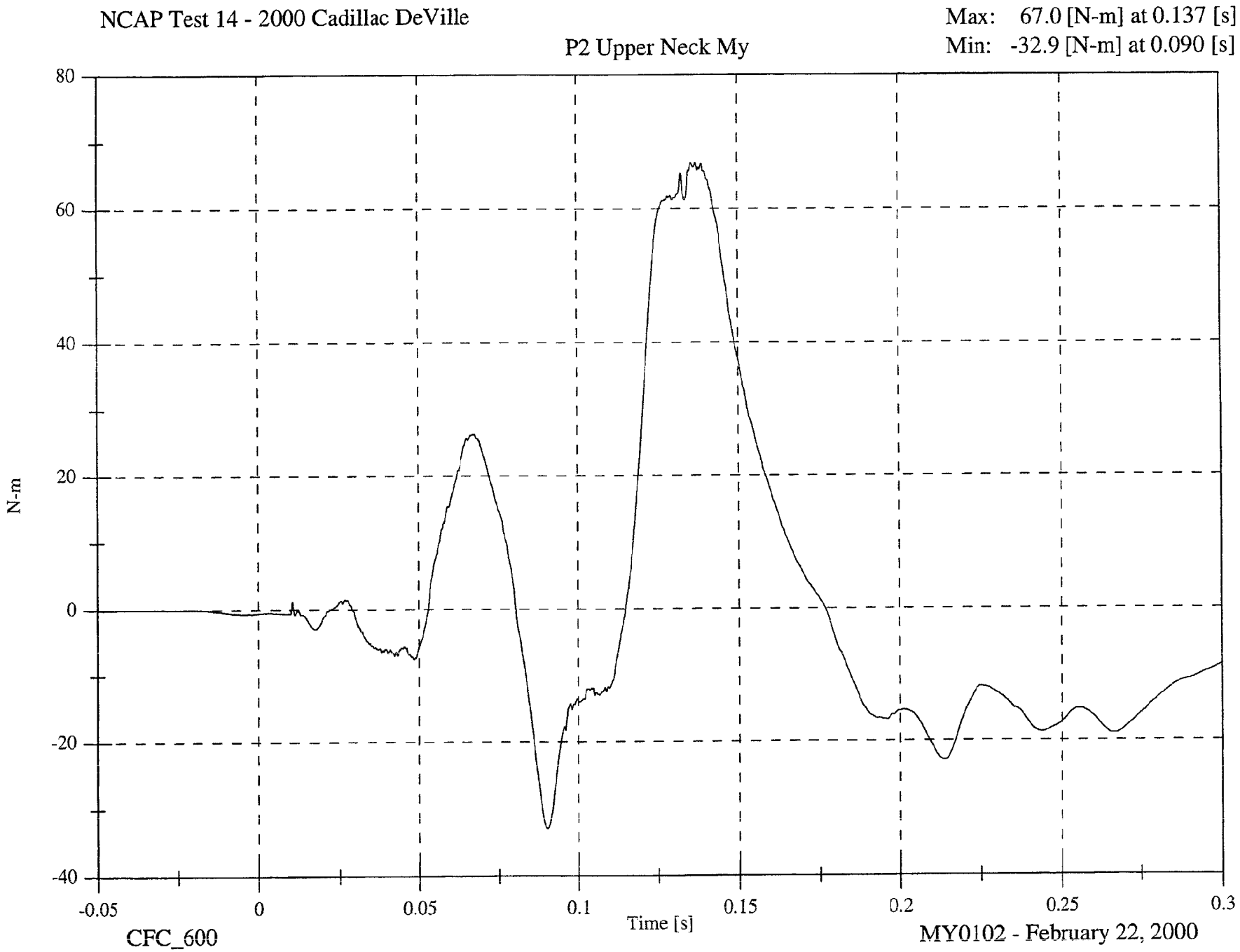

NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck Fx
Max: 451.6 [N] at 0.071 [s]
Min: -937.6 [N] at 0.134 [s]
500
250
0
-250
-500
-750
-1000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

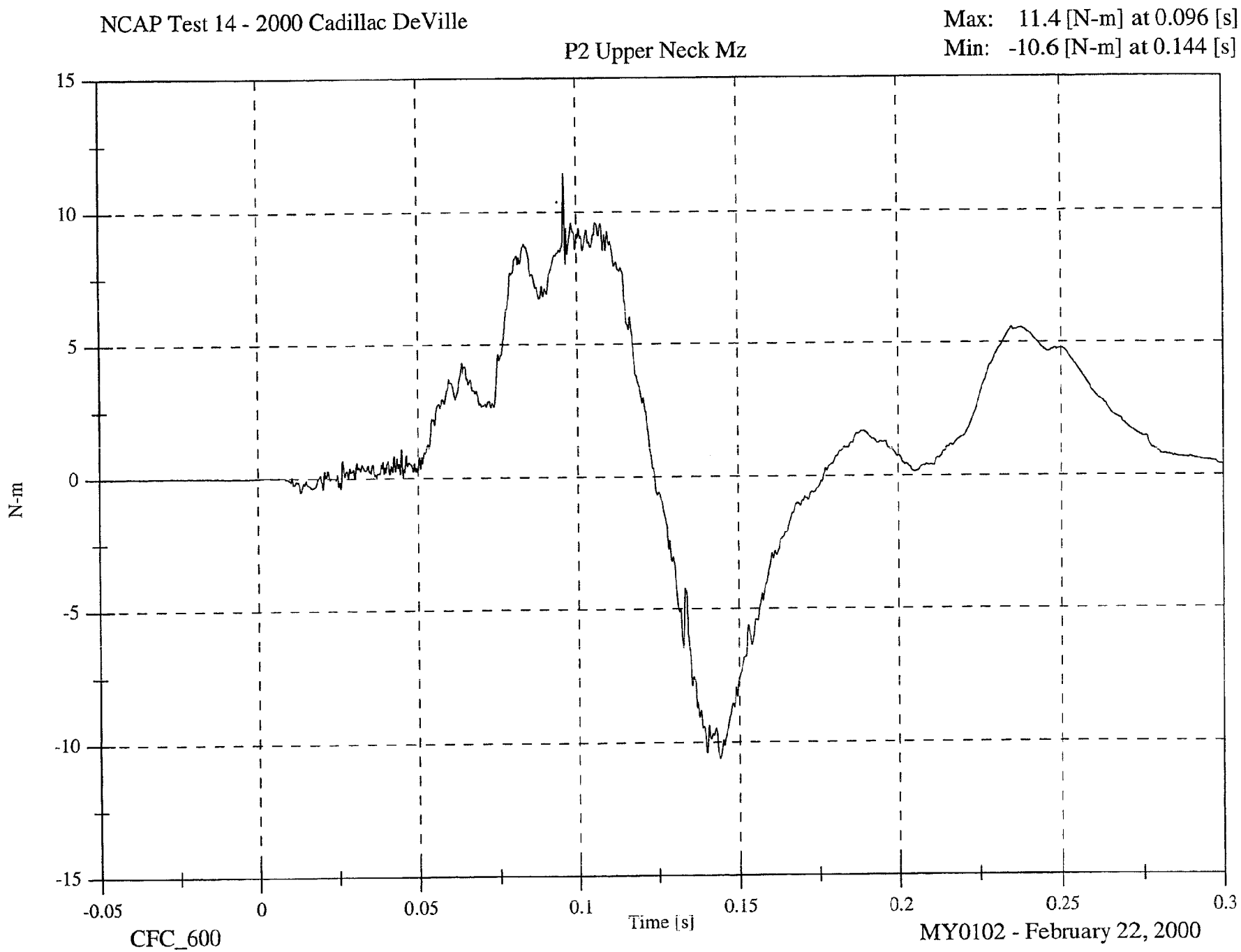

NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck Fy
Max: 97.4 [N] at 0.244 [s]
Min: -353.6 [N] at 0.103 [s]
100
0
-100
-200
-300
-400
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck Fz
Max: 1331.2 [N] at 0.071 [s]
Min: -68.4 [N] at 0.137 [s]
1500
1250
1000
750
500
250
0
-250
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck F Resultant
Max: 1405.1 [N] at 0.071 [s]
Min: 0.6 [N] at -0.050 [s]
1500
1250
1000
750
500
250
0
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck Mx
Max: 26.2 [N-m] at 0.096 [s]
Min: -20.6 [N-m] at 0.133 [s]
30
20
10
0
-10
-20
-30
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

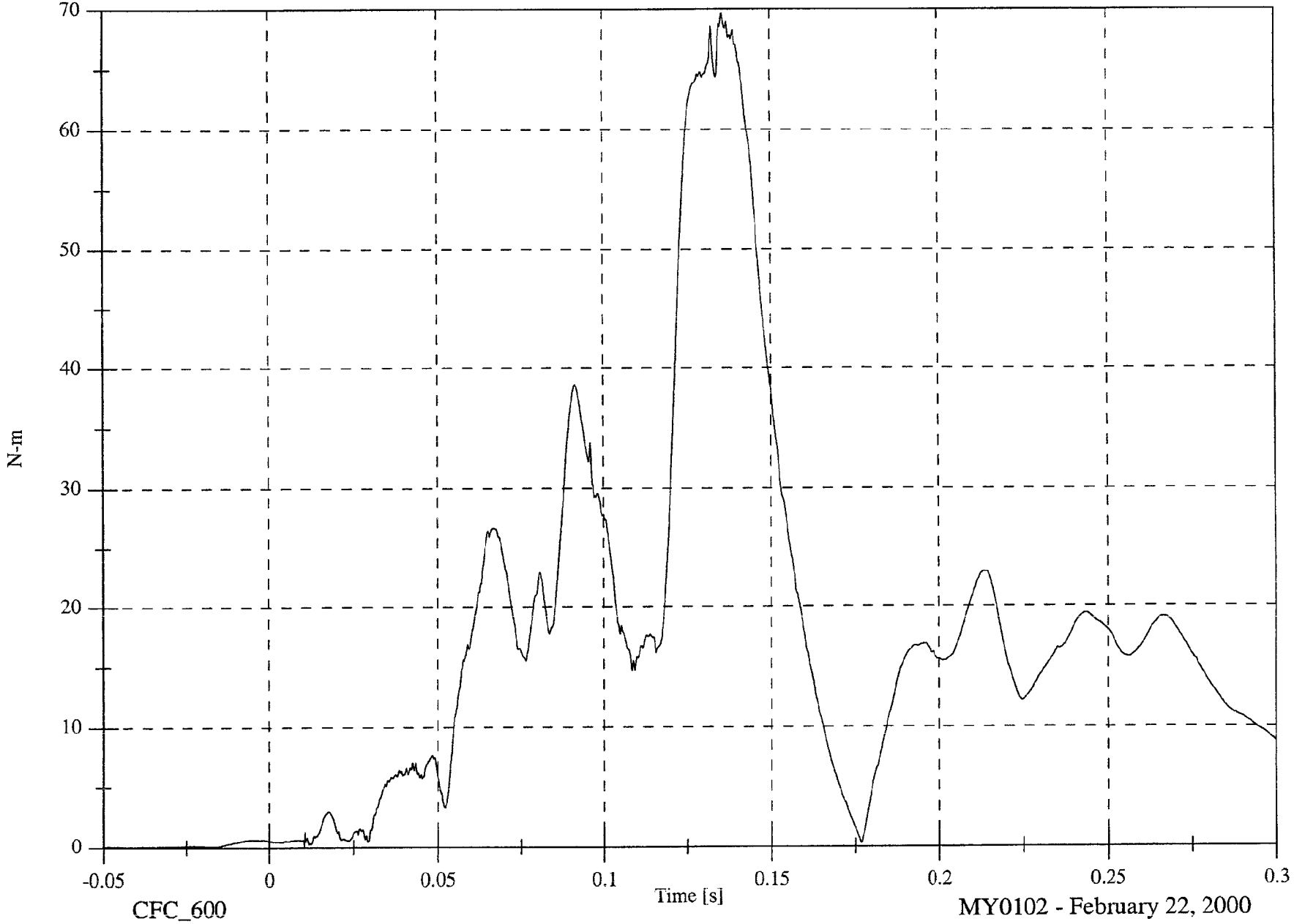

NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck My
Max: 67.0 [N-m] at 0.137 [s]
Min: -32.9 [N-m] at 0.090 [s]
80
60
40
20
0
-20
-40
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Upper Neck Mz
Max: 11.4 [N-m] at 0.096 [s]
Min: -10.6 [N-m] at 0.144 [s]
15
10
5
0
-5
-10
-15
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac DeVille

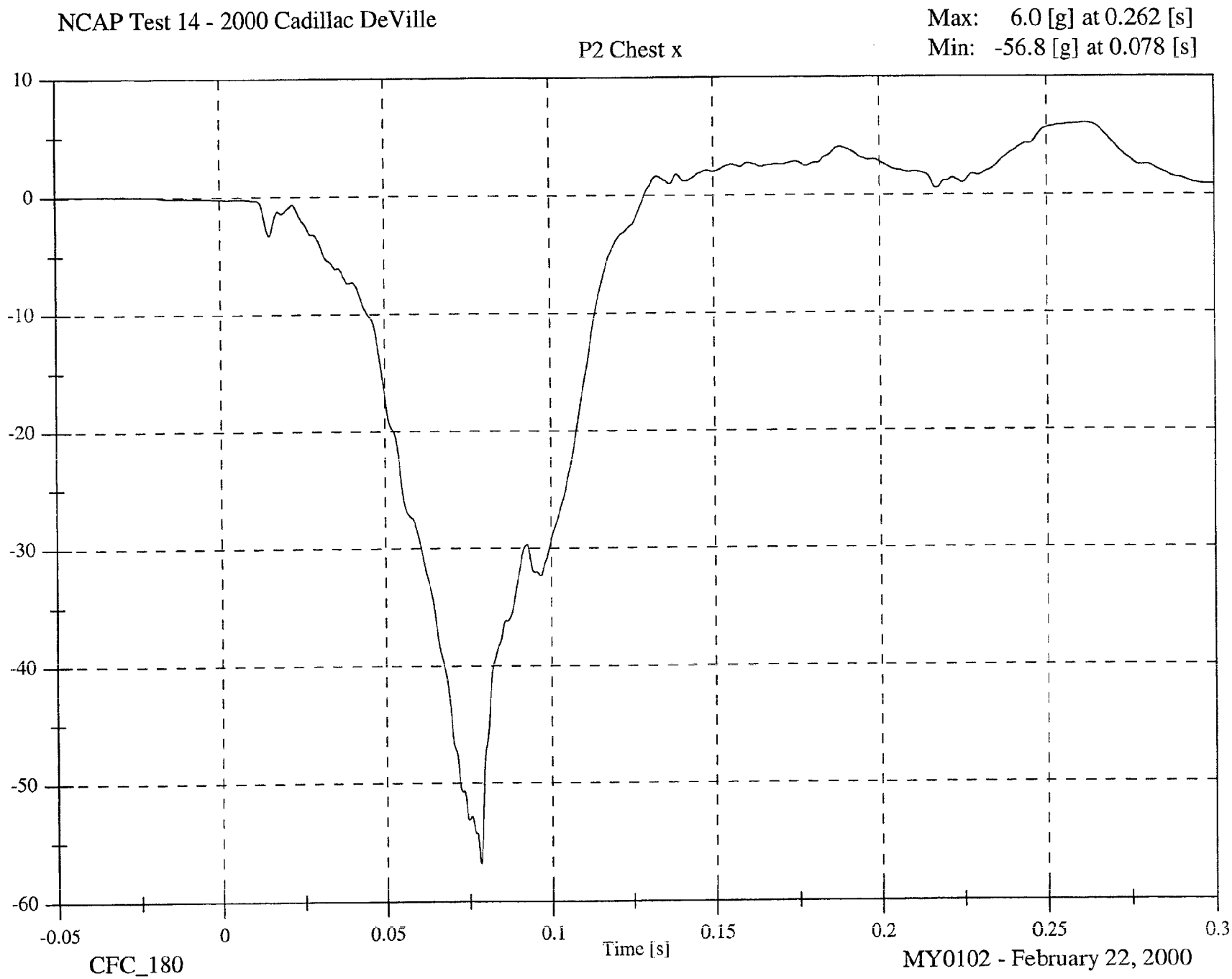
P2 Upper Neck M Resultant

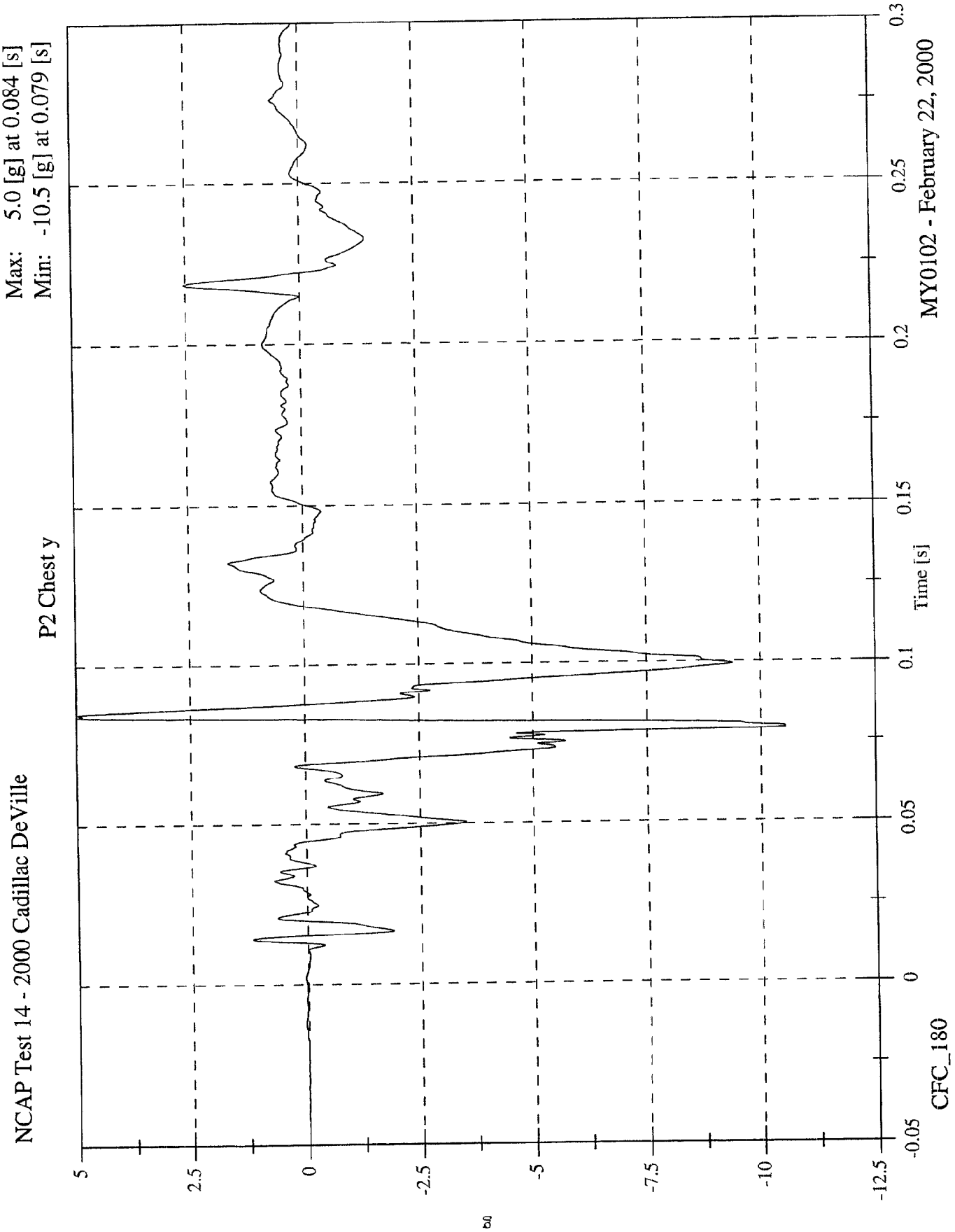
Max: 69.6 [N-m] at 0.136 [s]
Min: 0.0 [N-m] at -0.043 [s]

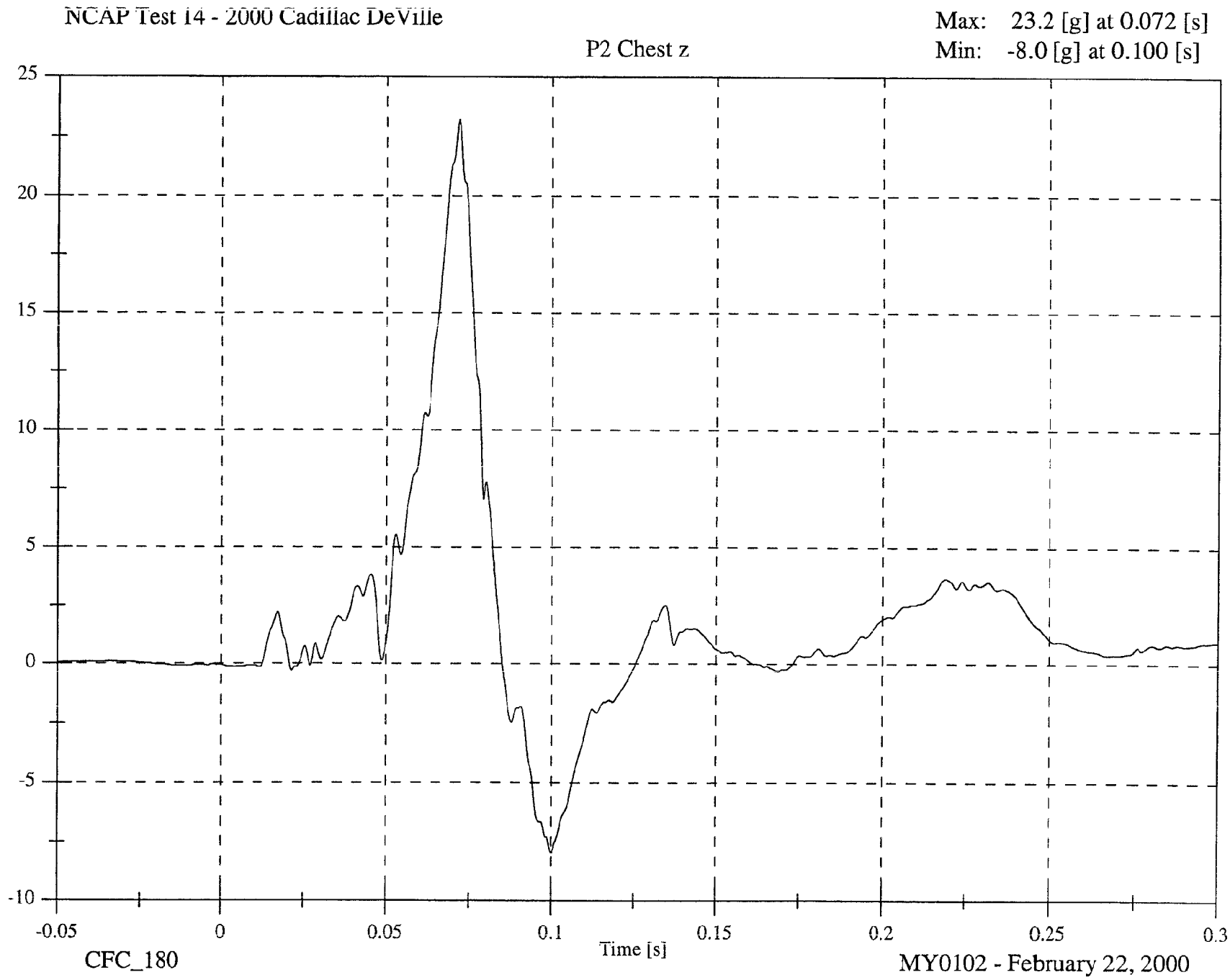


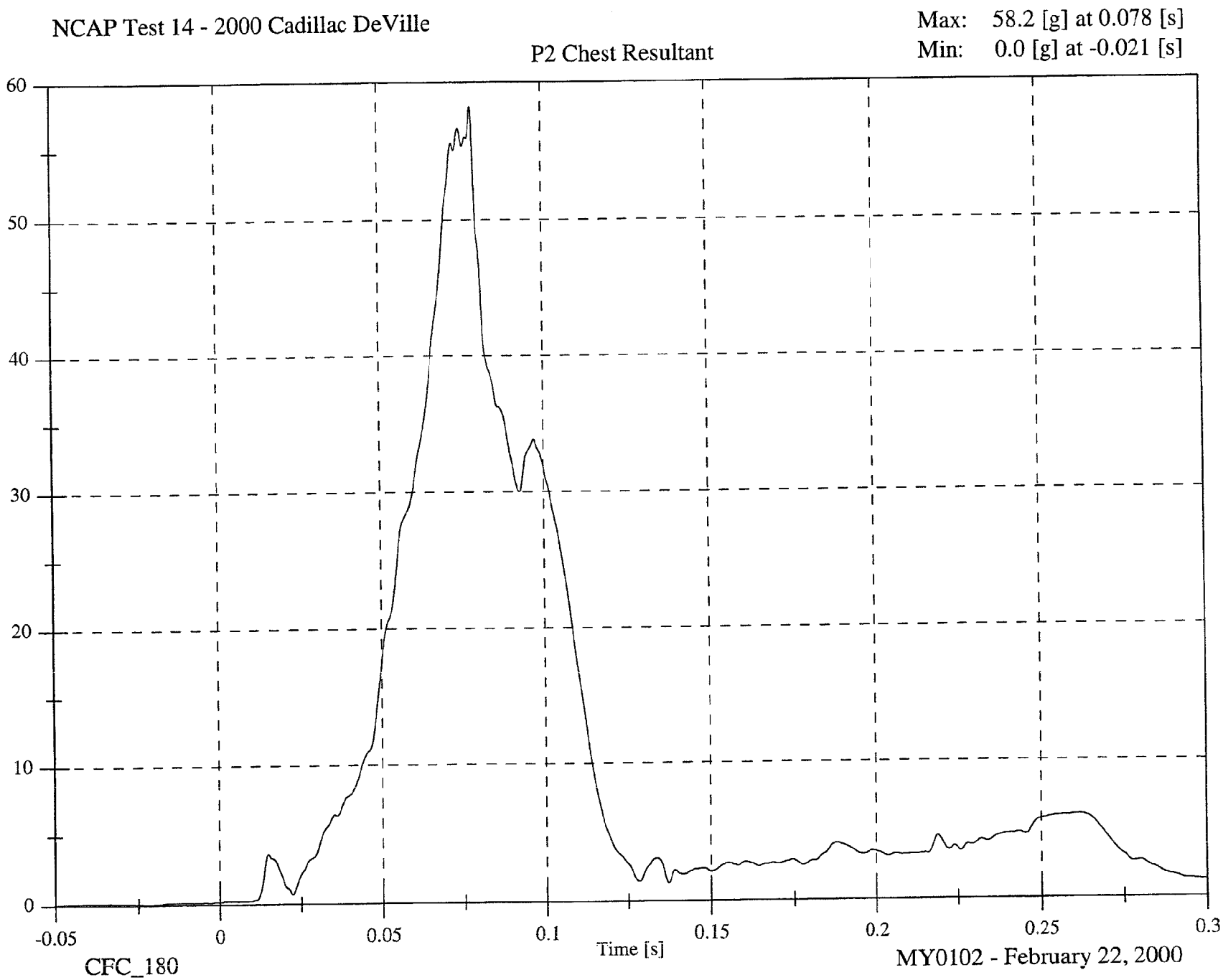
CFC_600

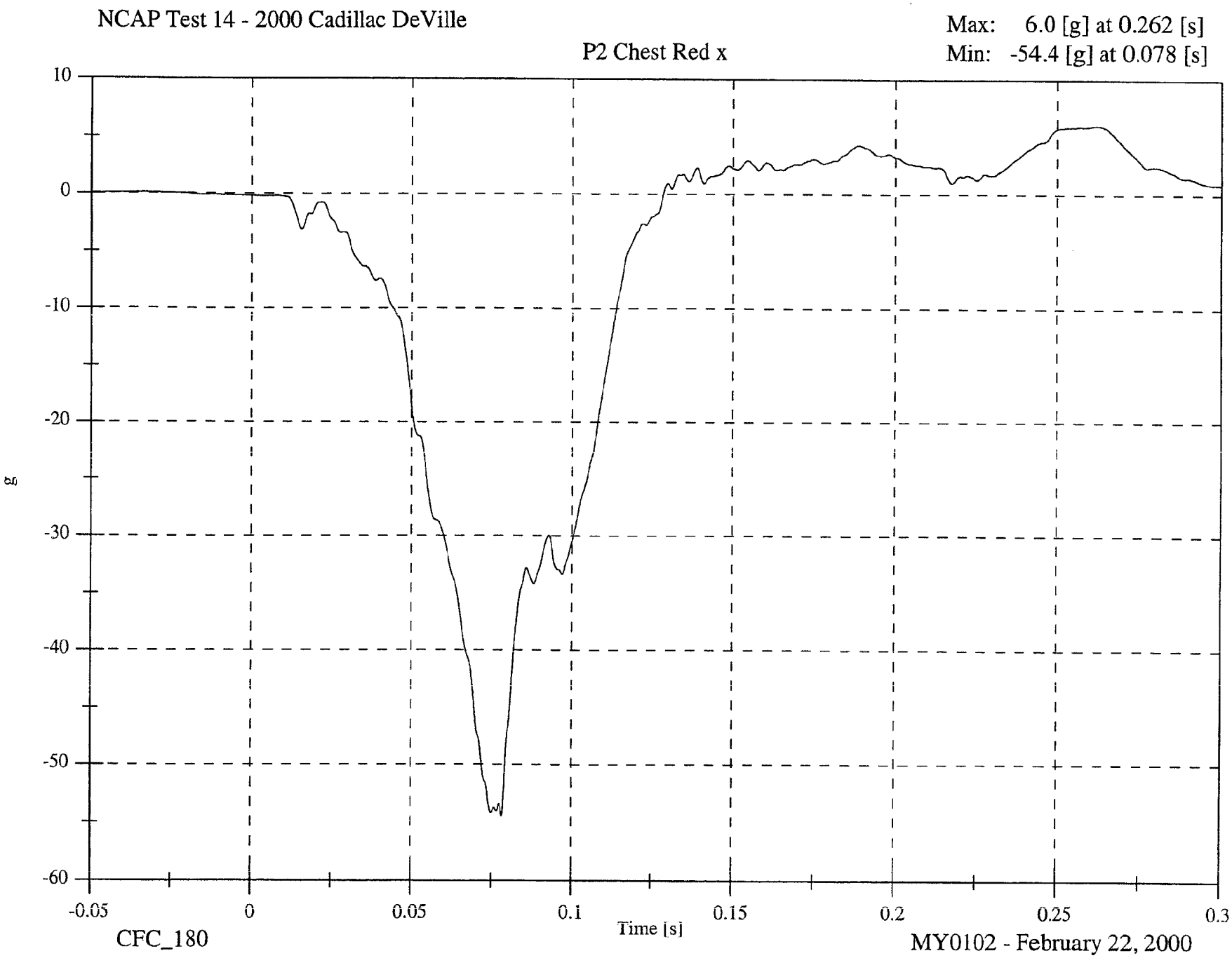
MY0102 - February 22, 2000

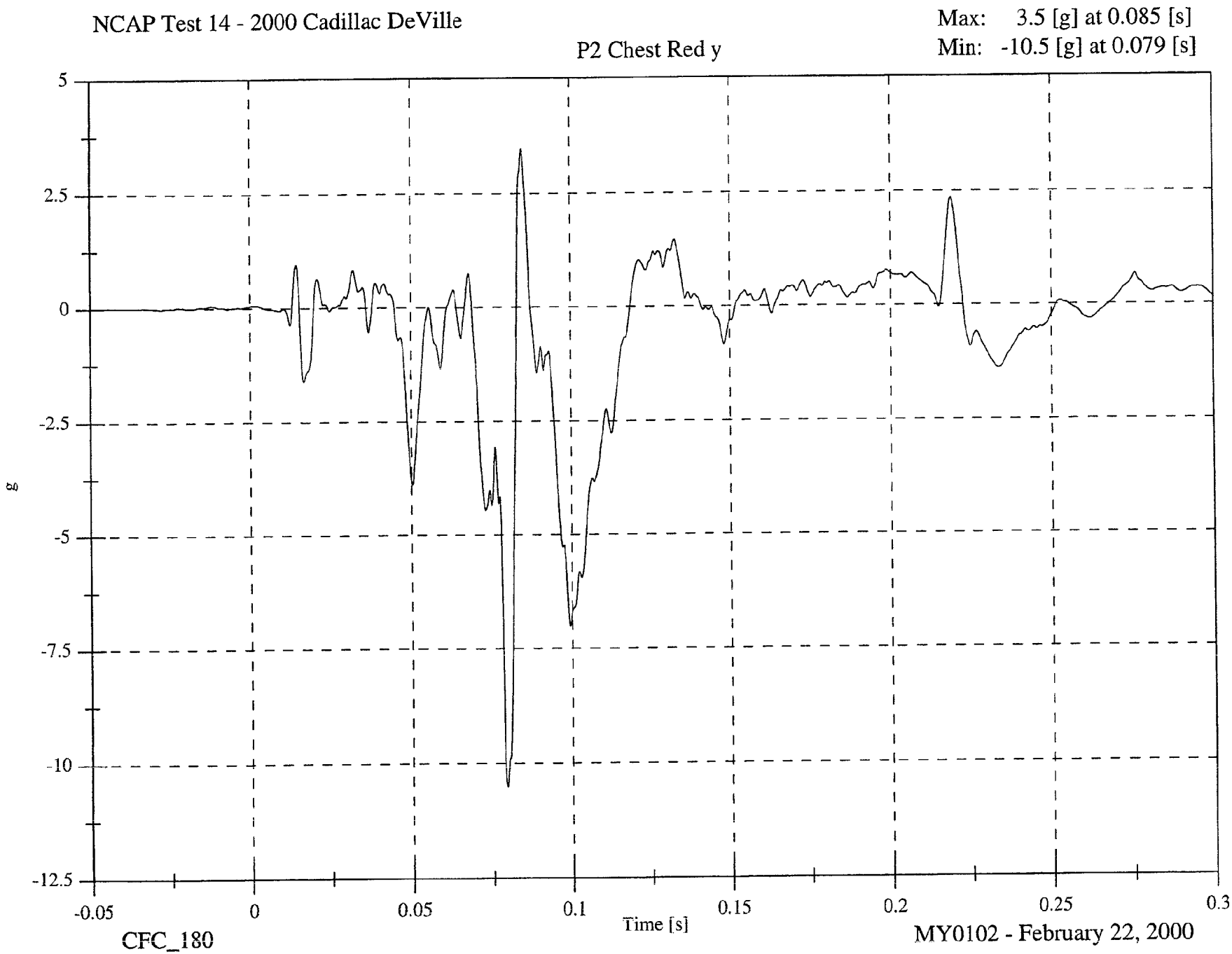

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest x
Max: 6.0 [g] at 0.262 [s]
Min: -56.8 [g] at 0.078 [s]
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

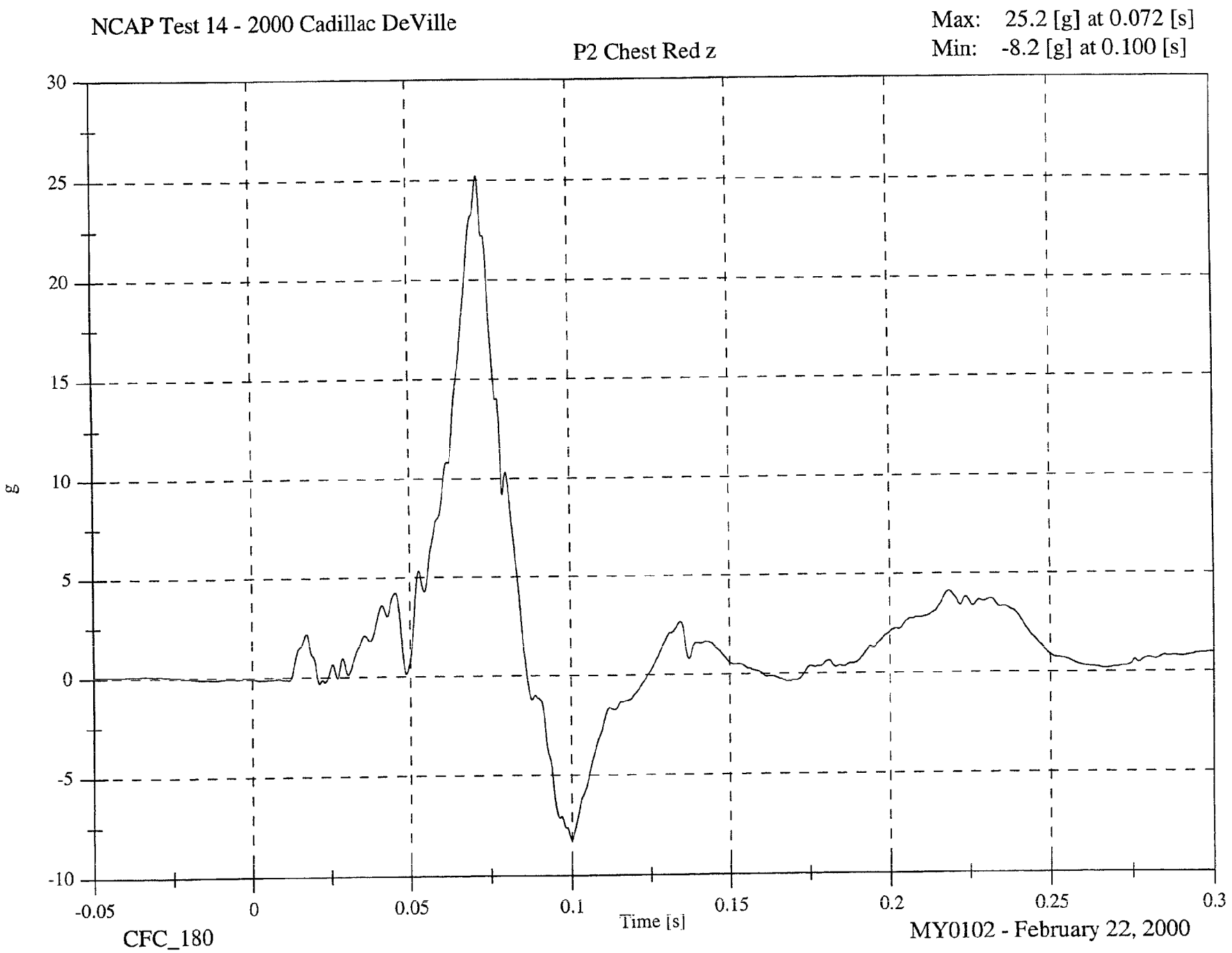

NCAP Test 14 - 2000 Cadillac DeVille
Max: 5.0 [g] at 0.084 [s]
Min: -10.5 [g] at 0.079 [s]
P2 Chest y
MY0102 - February 22, 2000
CFC_180
Time [s]
g
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3

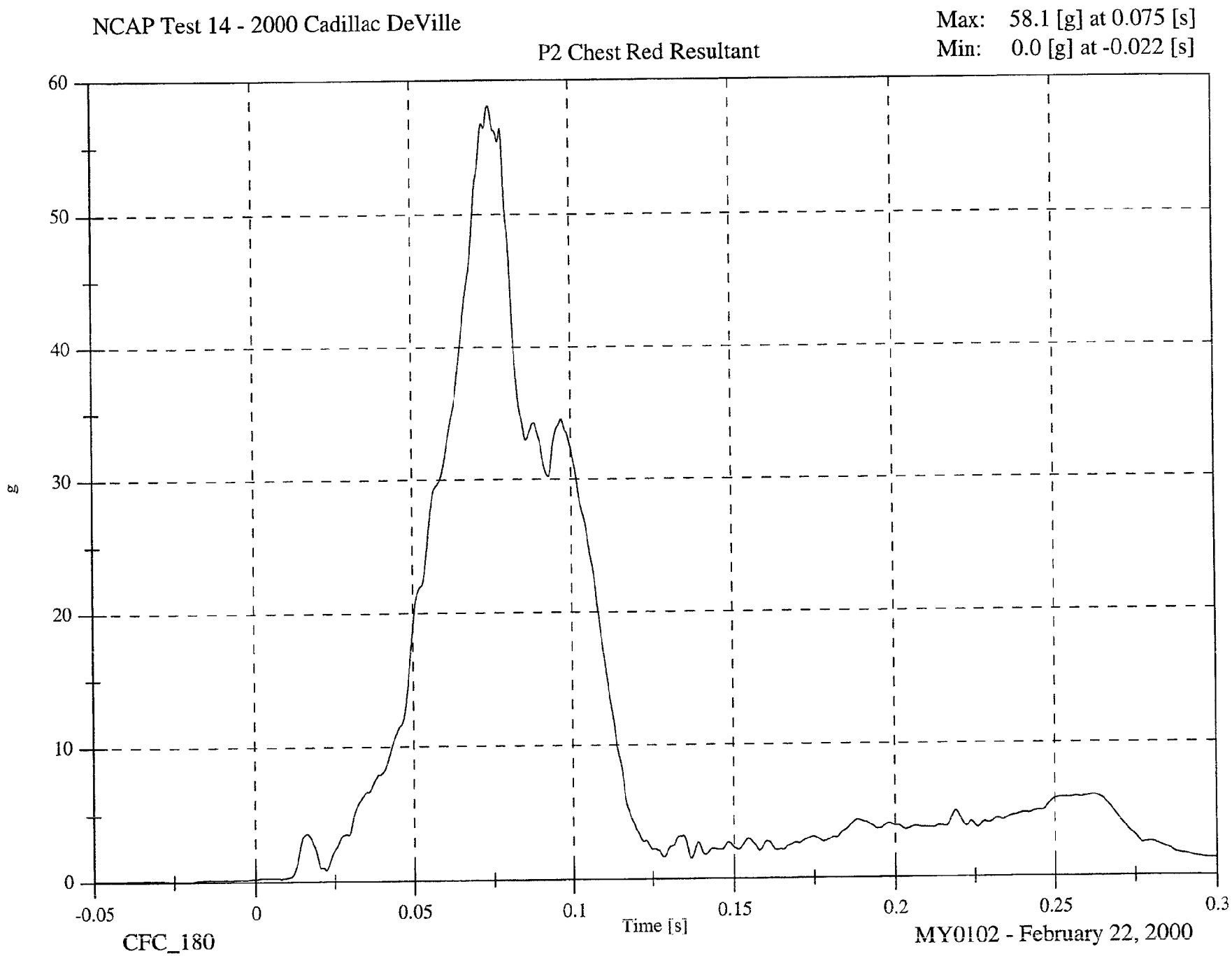

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest z
Max: 23.2 [g] at 0.072 [s]
Min: -8.0 [g] at 0.100 [s]
25
20
15
10
5
0
-5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

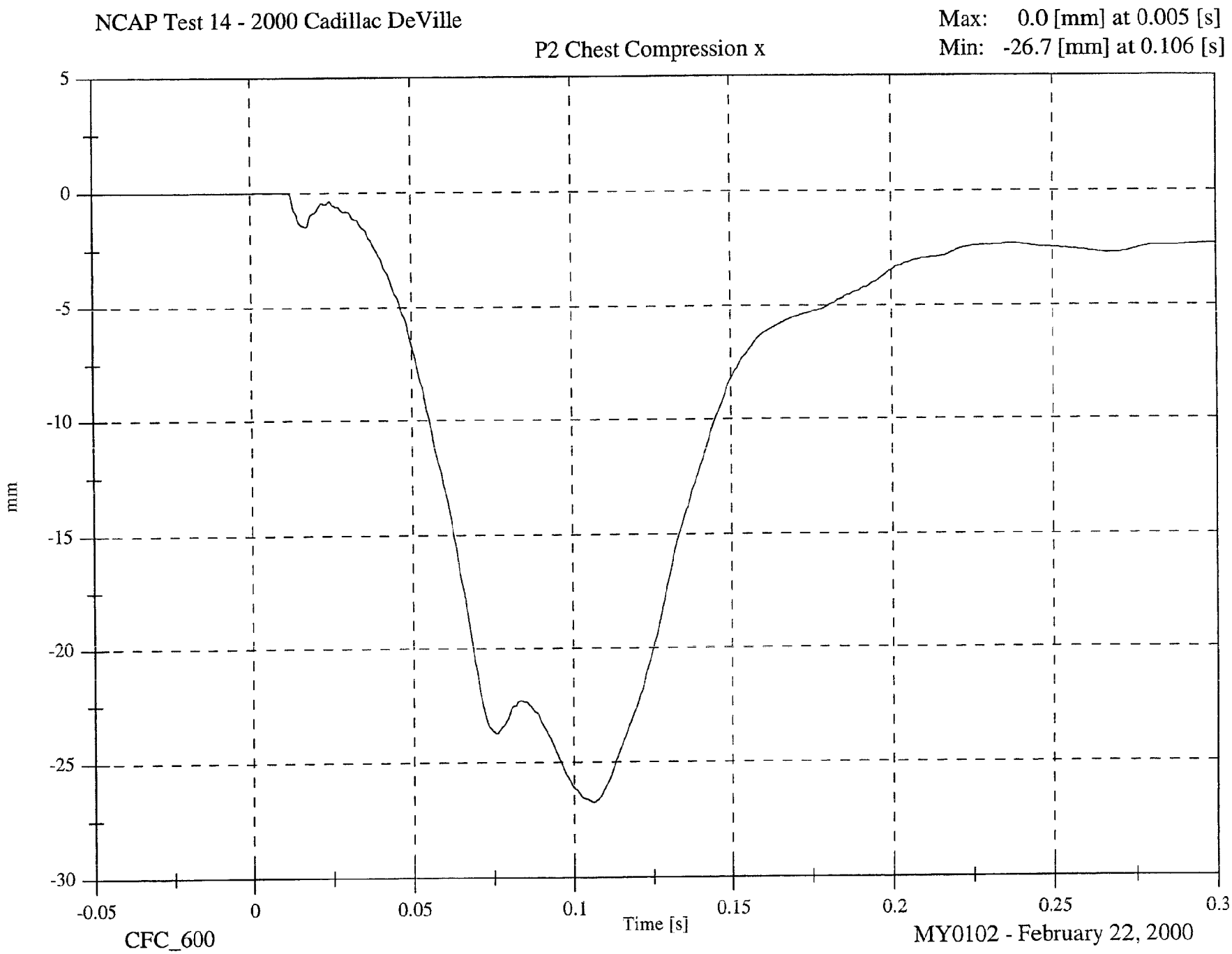

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest Resultant
Max: 58.2 [g] at 0.078 [s]
Min: 0.0 [g] at -0.021 [s]
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

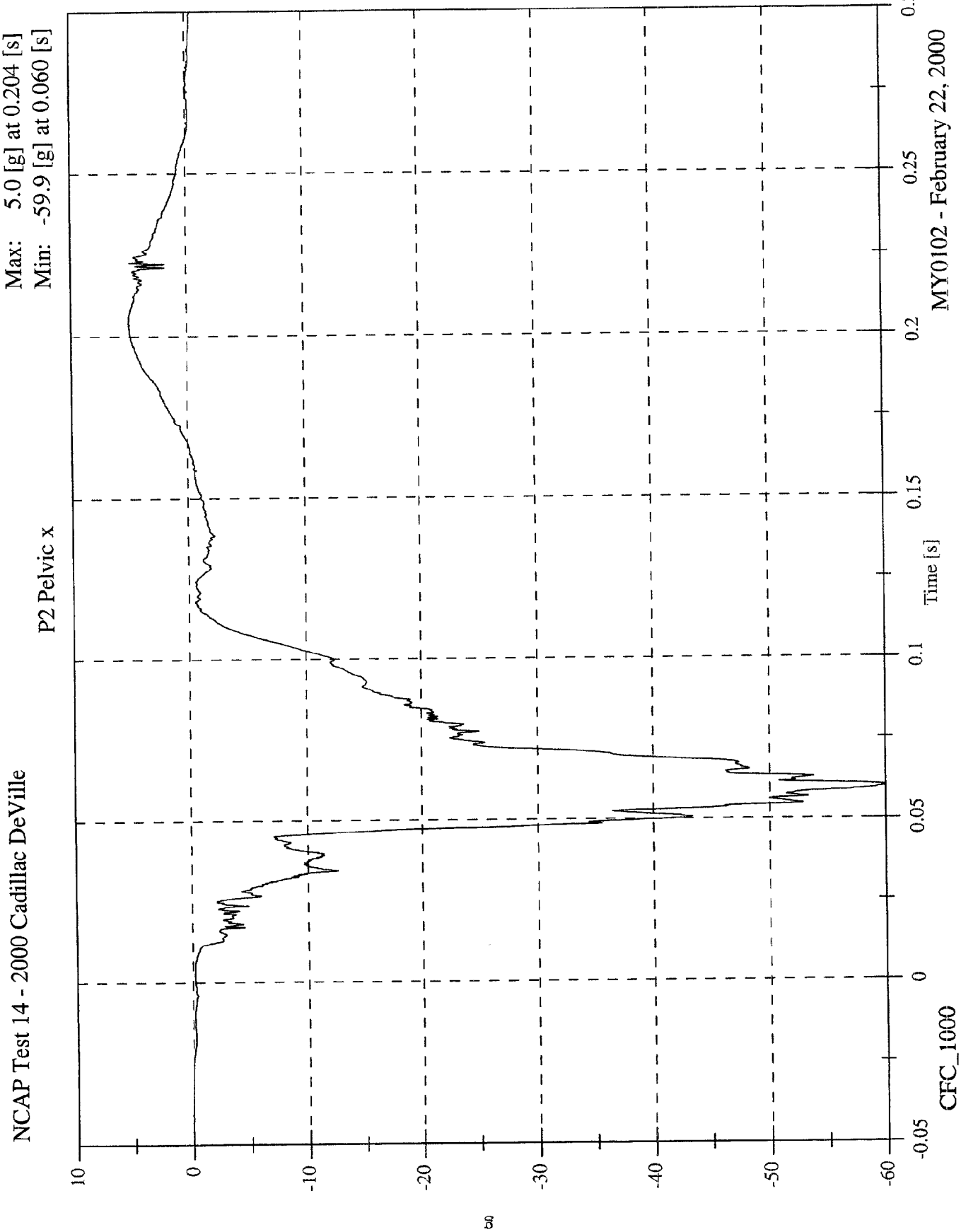

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest Red x
Max: 6.0 [g] at 0.262 [s]
Min: -54.4 [g] at 0.078 [s]
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

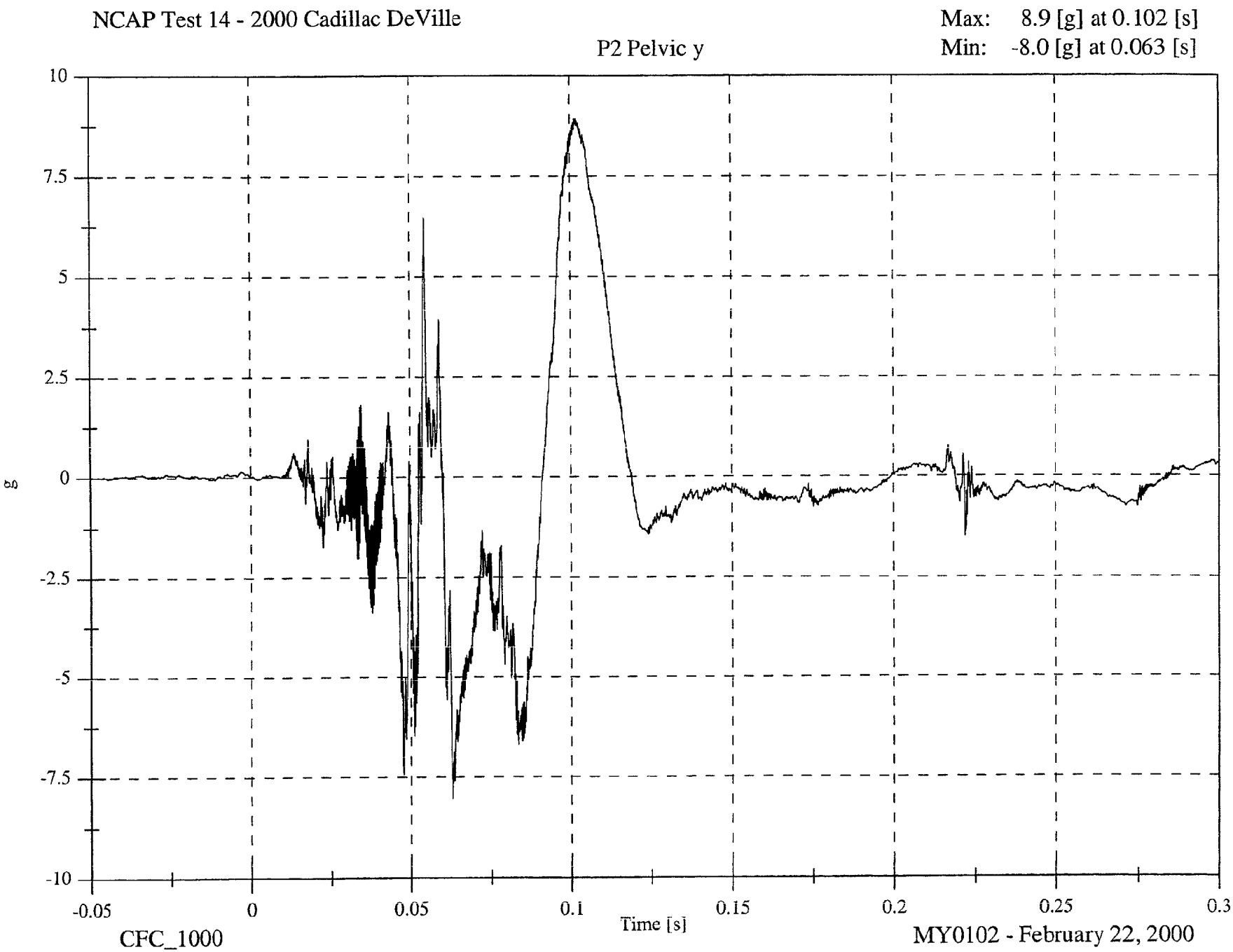

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest Red y
Max: 3.5 [g] at 0.085 [s]
Min: -10.5 [g] at 0.079 [s]
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

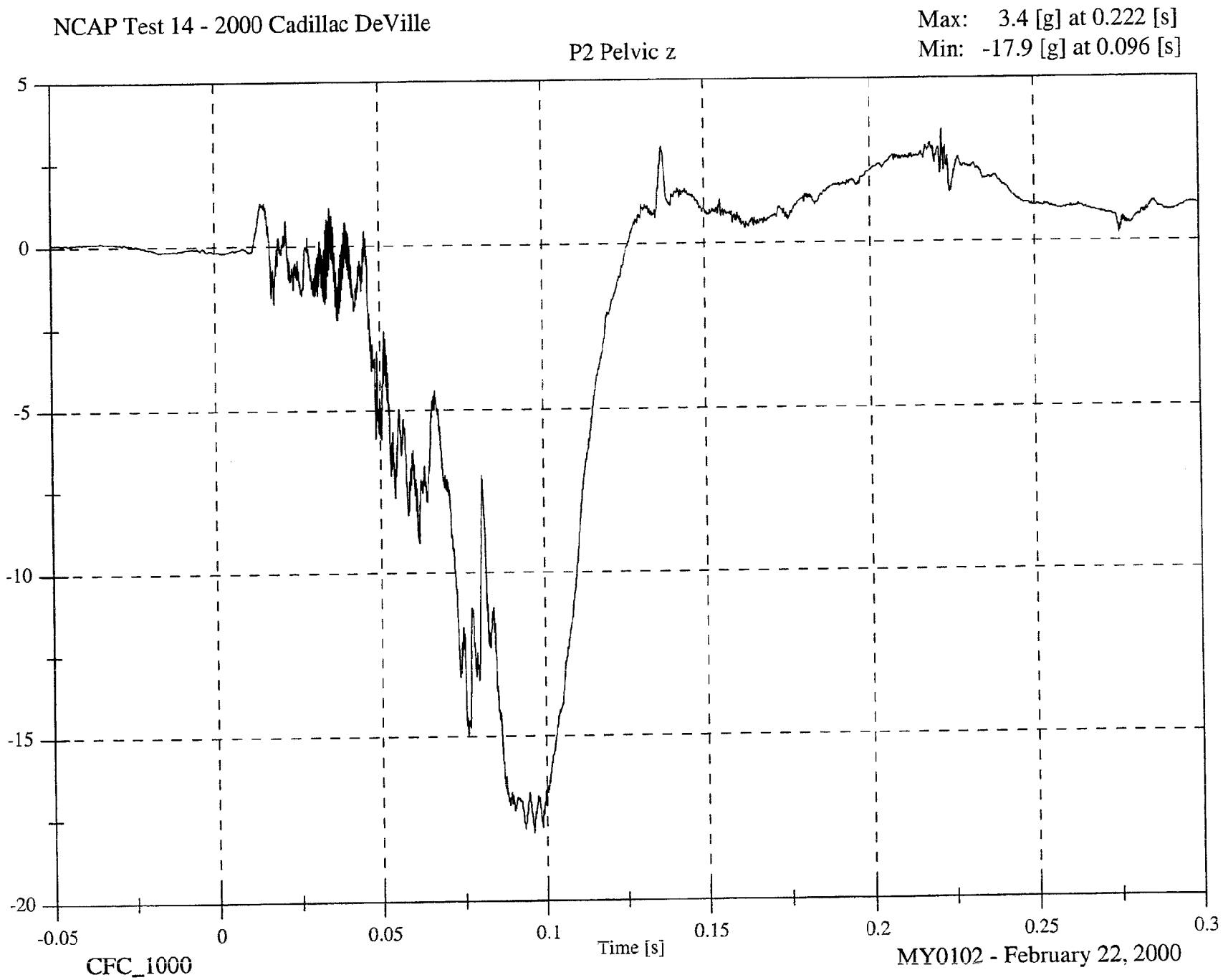

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest Red z
Max: 25.2 [g] at 0.072 [s]
Min: -8.2 [g] at 0.100 [s]
30
25
20
15
10
5
0
-5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

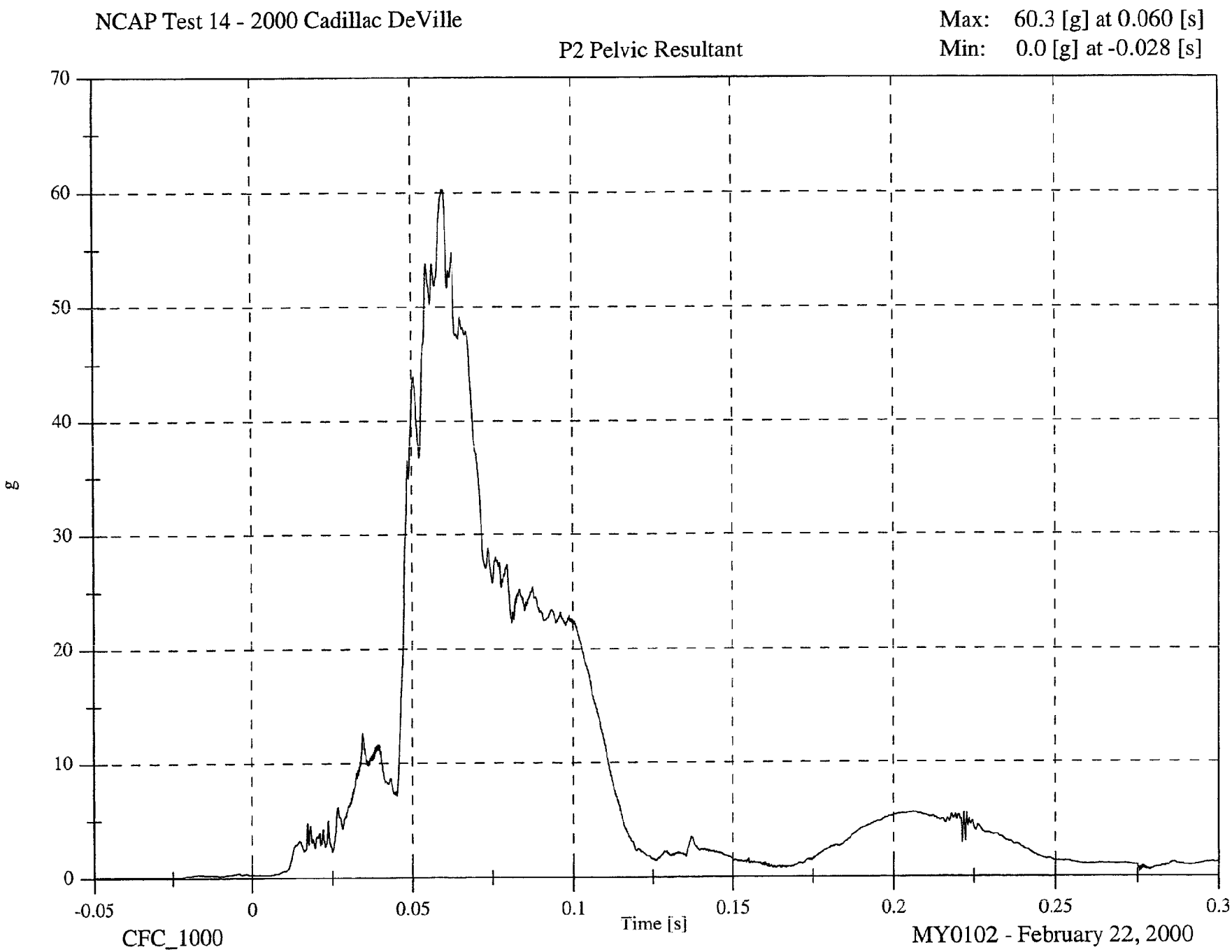

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest Red Resultant
Max: 58.1 [g] at 0.075 [s]
Min: 0.0 [g] at -0.022 [s]
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

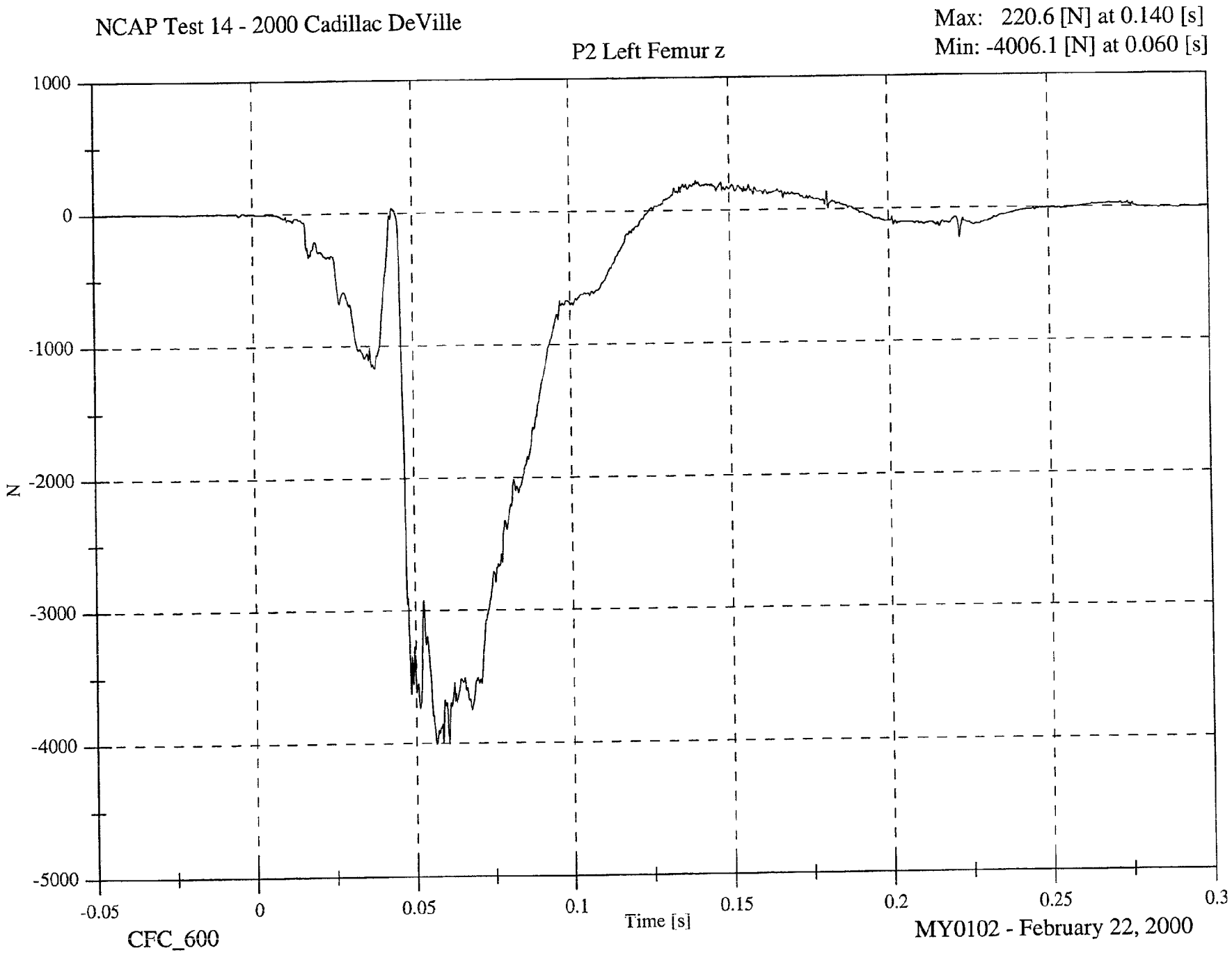

NCAP Test 14 - 2000 Cadillac DeVille
P2 Chest Compression x
Max: 0.0 [mm] at 0.005 [s]
Min: -26.7 [mm] at 0.106 [s]
5
0
-5
-10
-15
-20
-25
-30
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

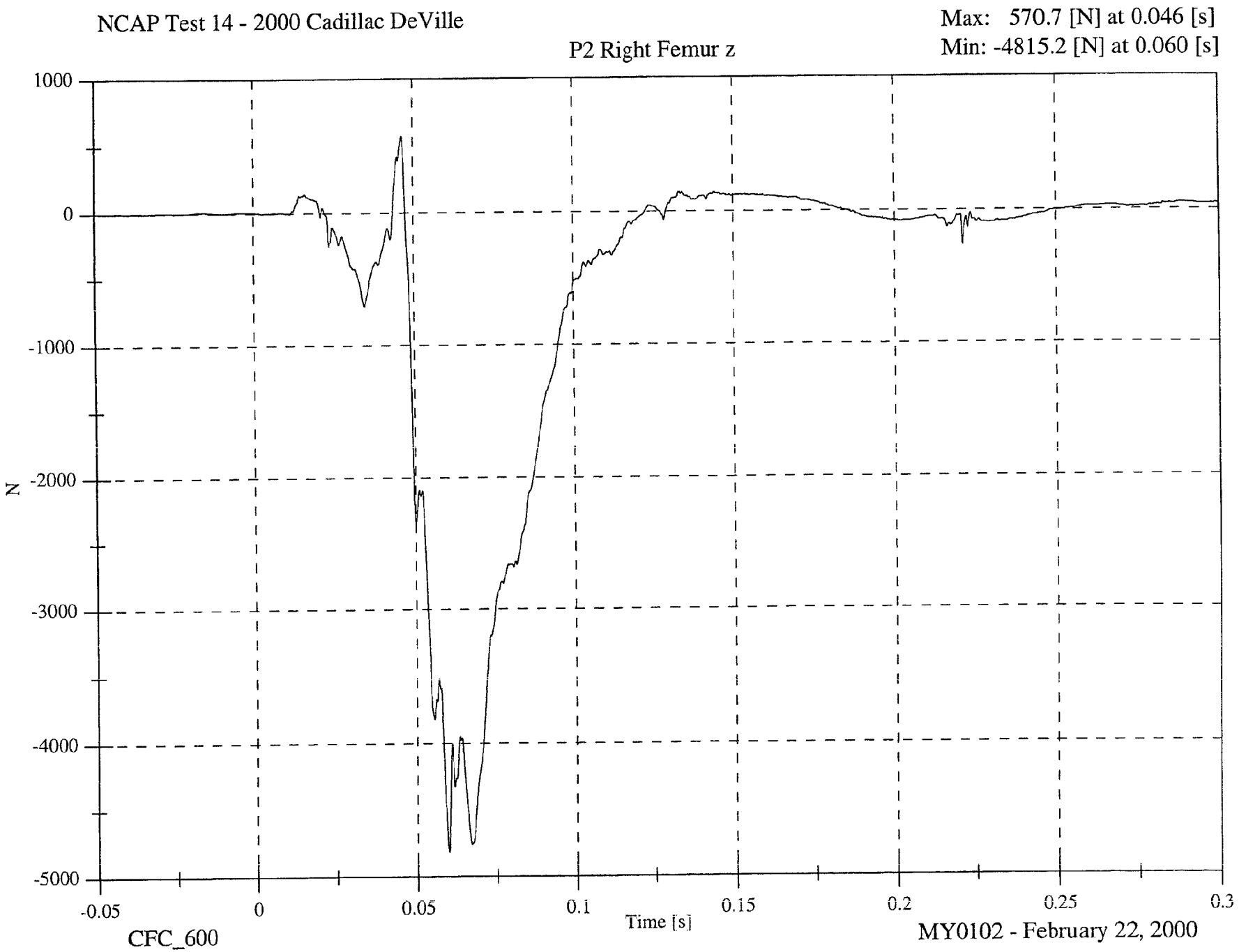

NCAP Test 14 - 2000 Cadillac DeVille
P2 Pelvic x
Max: 5.0 [g] at 0.204 [s]
Min: -59.9 [g] at 0.060 [s]
g
10
0
-10
-20
-30
-40
-50
-60
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

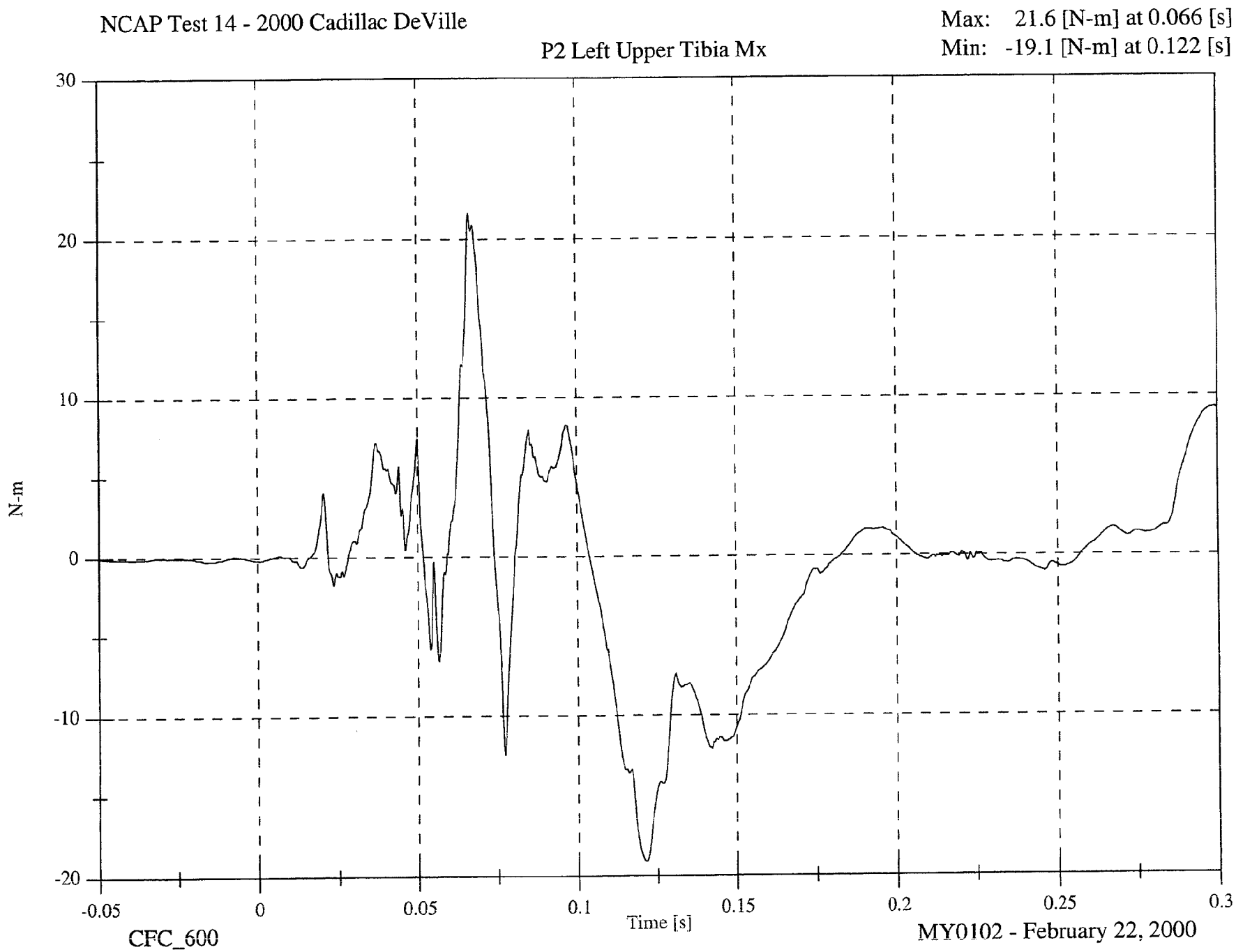

NCAP Test 14 - 2000 Cadillac DeVille
P2 Pelvic y
Max: 8.9 [g] at 0.102 [s]
Min: -8.0 [g] at 0.063 [s]
10
7.5
5
2.5
0
-2.5
-5
-7.5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

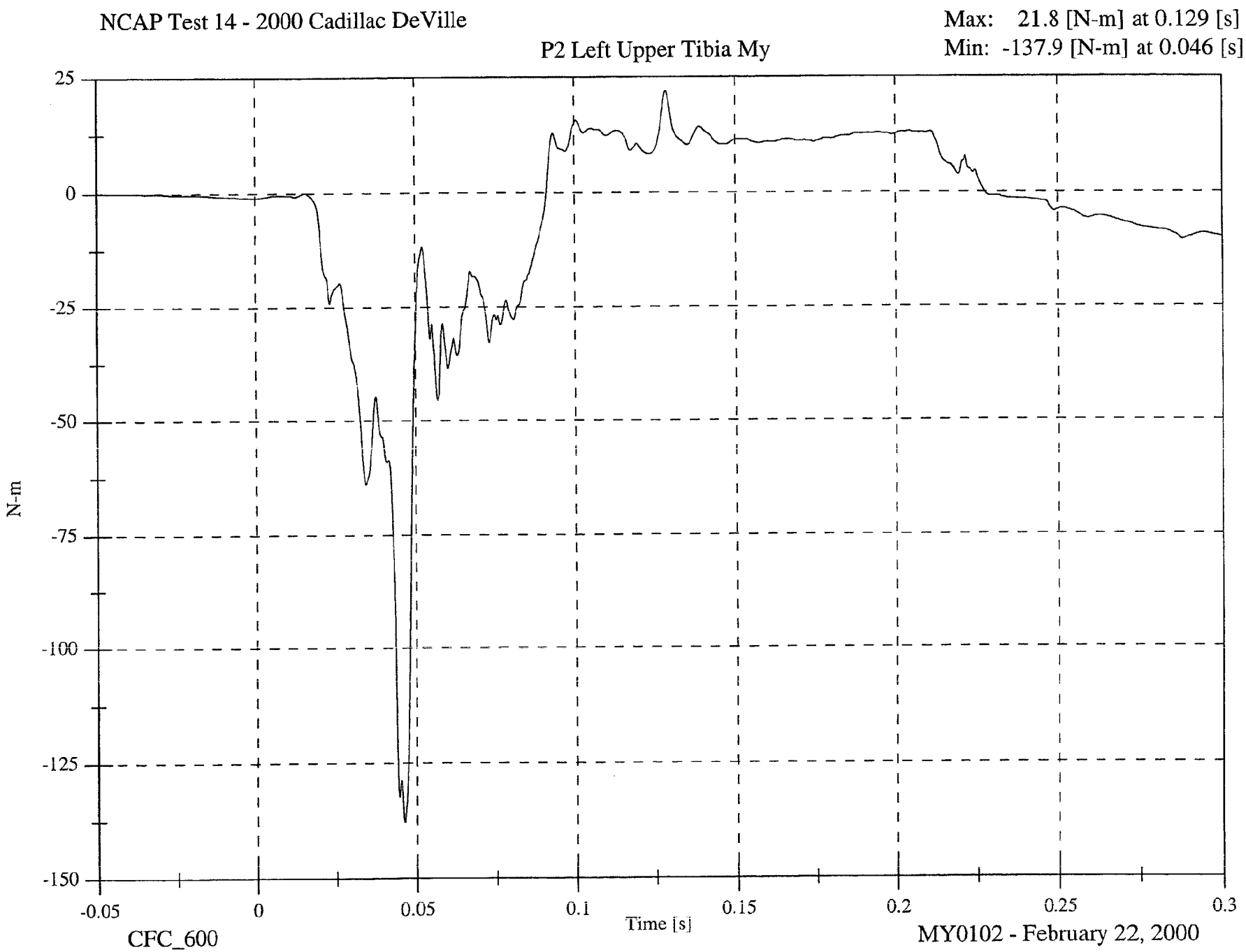

NCAP Test 14 - 2000 Cadillac DeVille
P2 Pelvic z
Max: 3.4 [g] at 0.222 [s]
Min: -17.9 [g] at 0.096 [s]
5
0
-5
-10
-15
-20
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

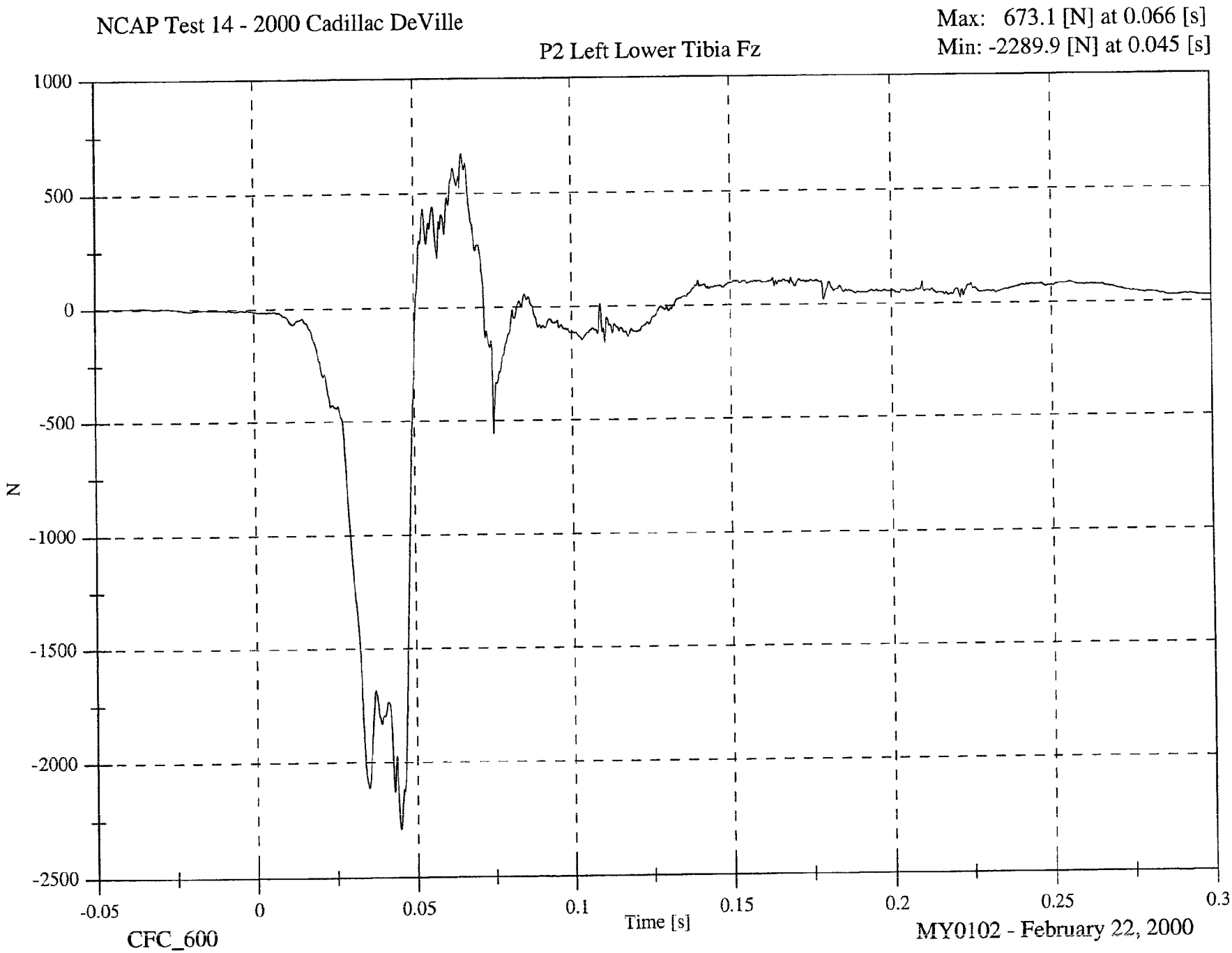

NCAP Test 14 - 2000 Cadillac DeVille
P2 Pelvic Resultant
Max: 60.3 [g] at 0.060 [s]
Min: 0.0 [g] at -0.028 [s]
70
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

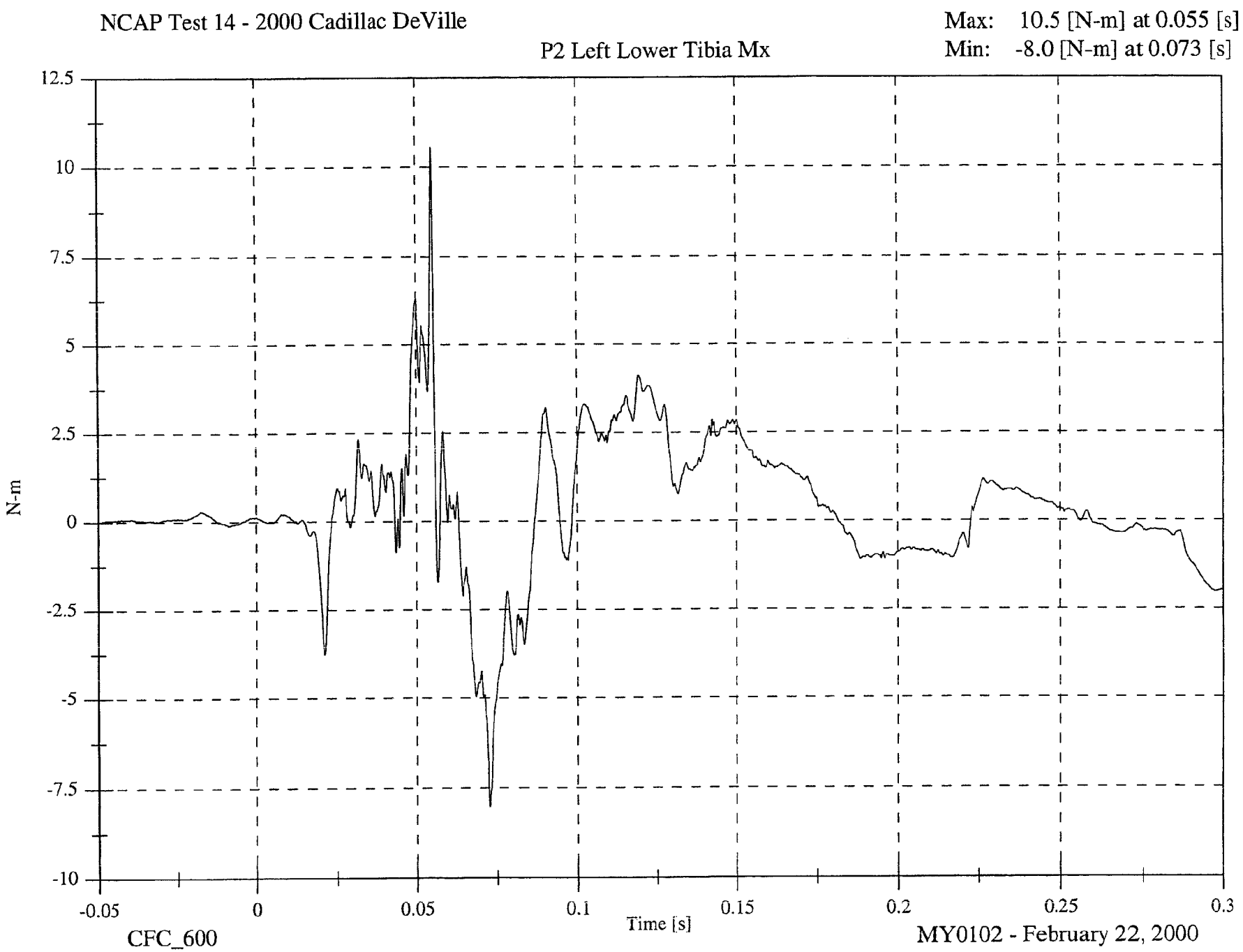

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Femur z
Max: 220.6 [N] at 0.140 [s]
Min: -4006.1 [N] at 0.060 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

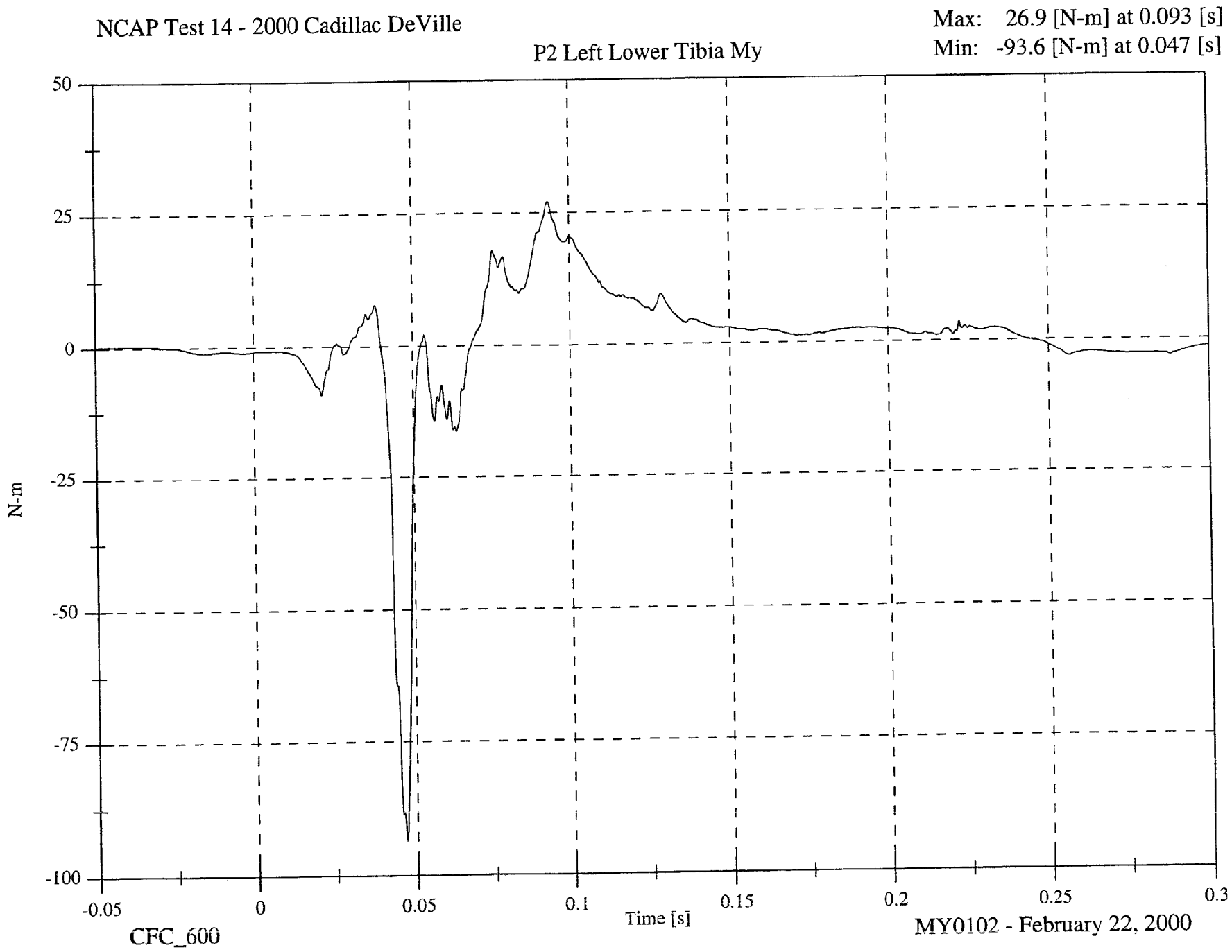

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Femur z
Max: 570.7 [N] at 0.046 [s]
Min: -4815.2 [N] at 0.060 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

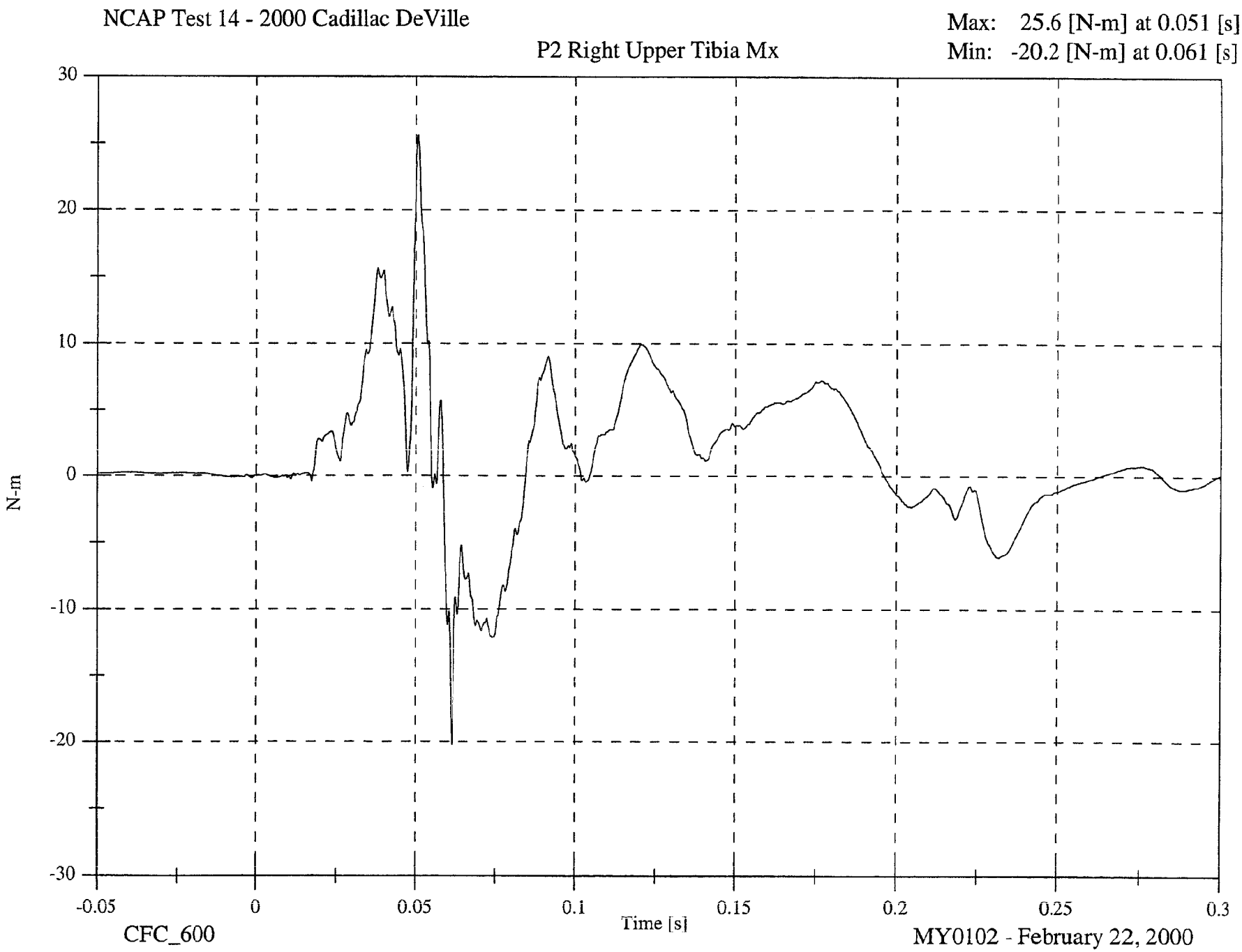

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Upper Tibia Mx
Max: 21.6 [N-m] at 0.066 [s]
Min: -19.1 [N-m] at 0.122 [s]
30
20
10
0
-10
-20
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

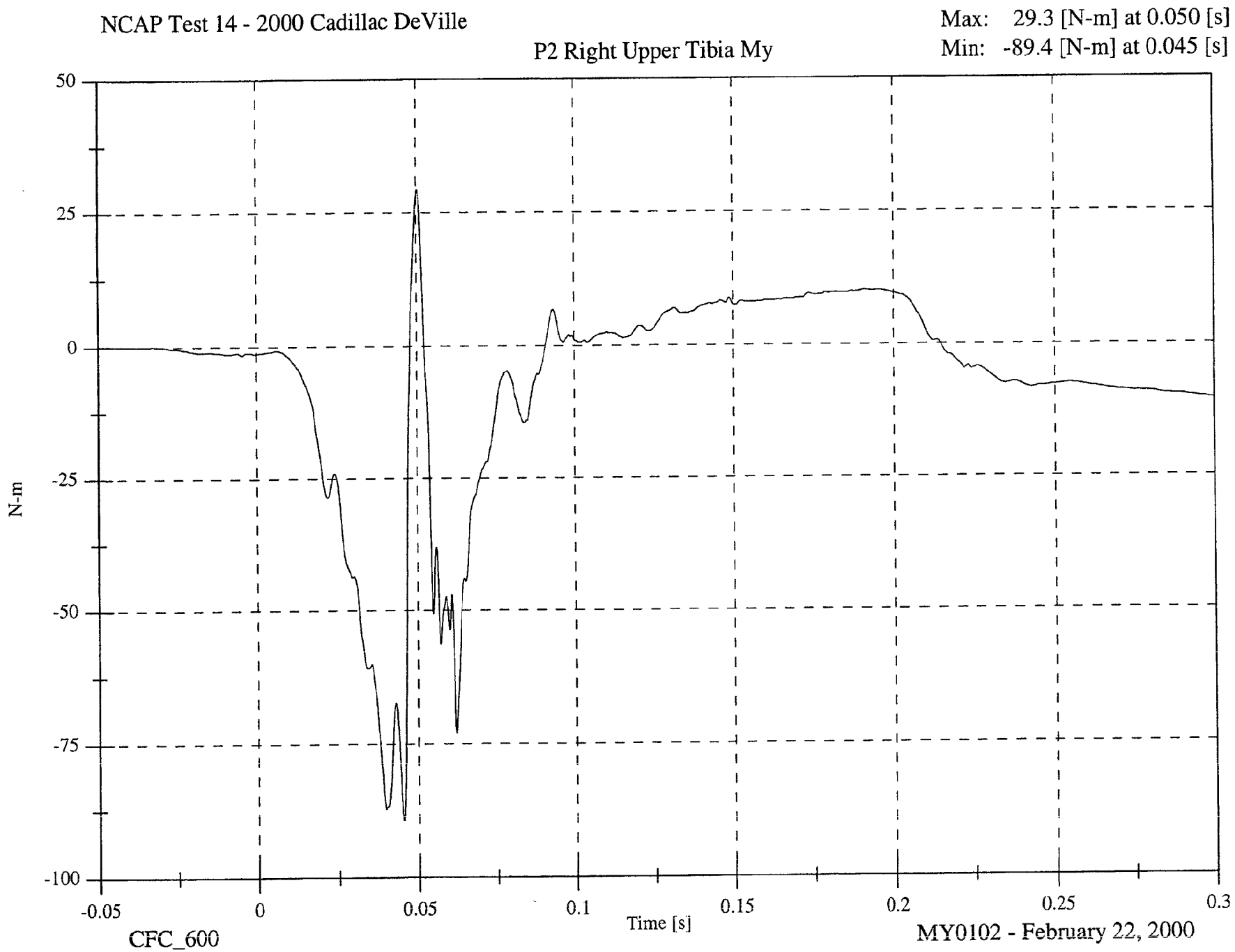

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Upper Tibia My
Max: 21.8 [N-m] at 0.129 [s]
Min: -137.9 [N-m] at 0.046 [s]
25
0
-25
-50
-75
-100
-125
-150
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

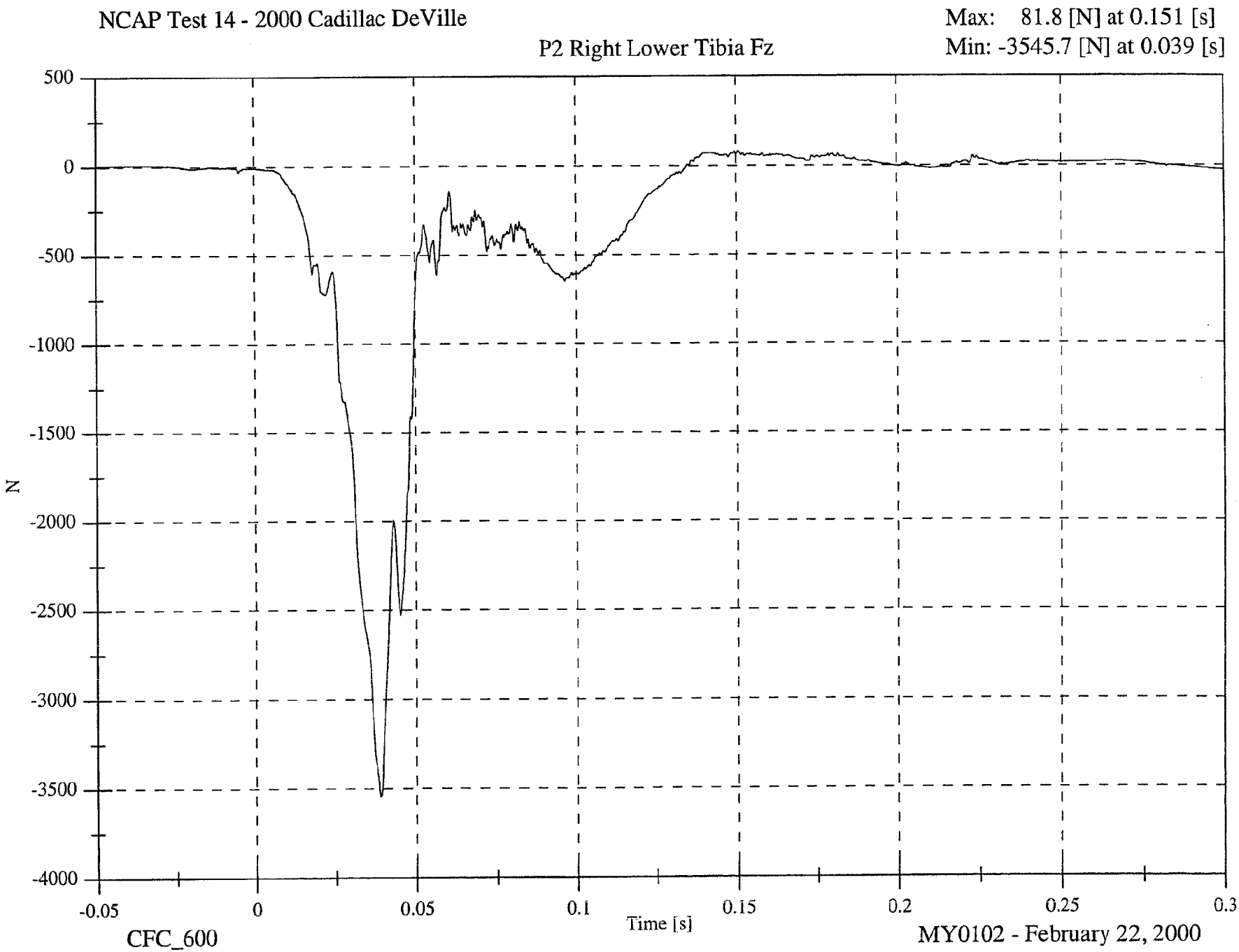

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Lower Tibia Fz
Max: 673.1 [N] at 0.066 [s]
Min: -2289.9 [N] at 0.045 [s]
1000
500
0
-500
-1000
-1500
-2000
-2500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

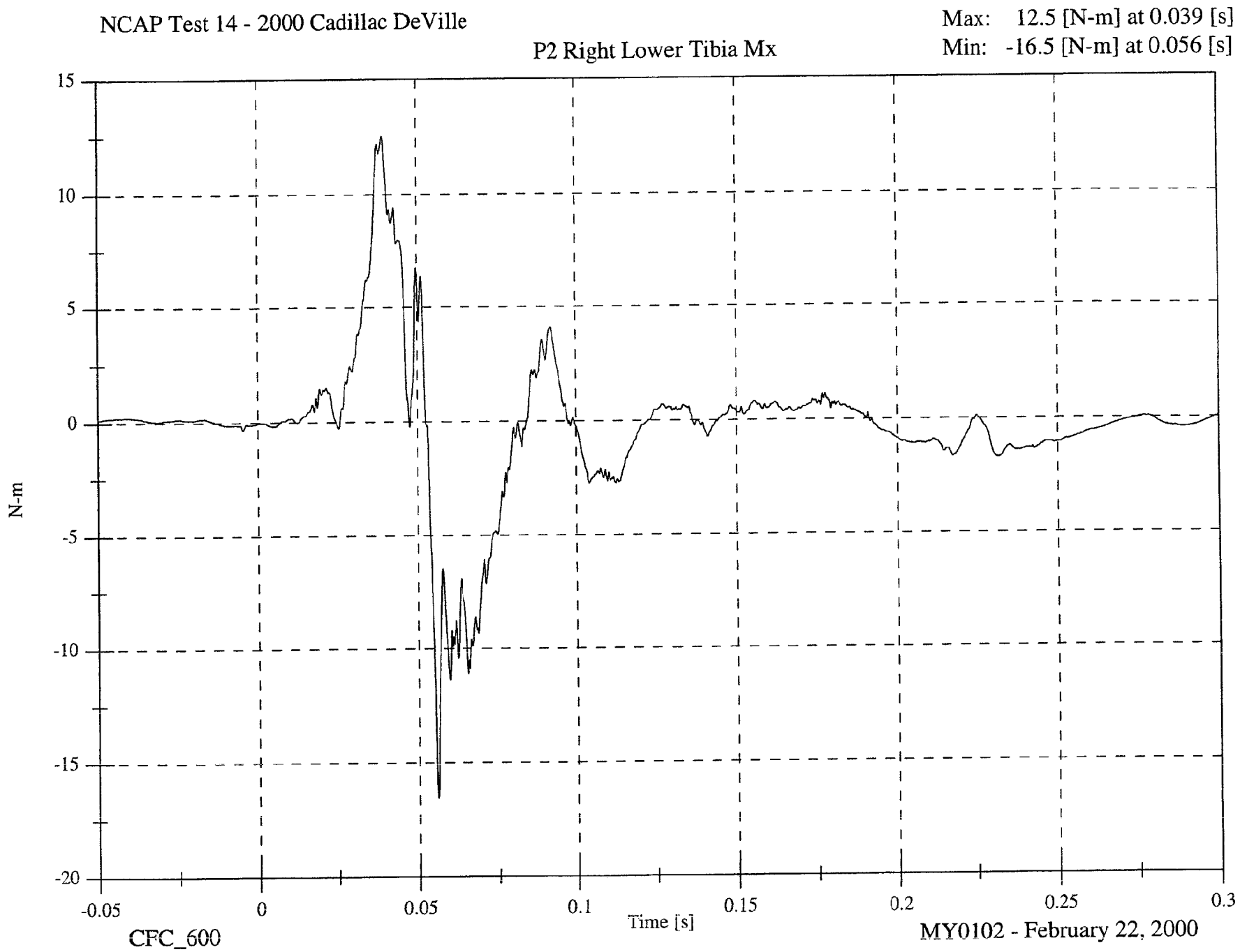

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Lower Tibia Mx
Max: 10.5 [N-m] at 0.055 [s]
Min: -8.0 [N-m] at 0.073 [s]
12.5
10
7.5
5
2.5
0
-2.5
-5
-7.5
-10
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

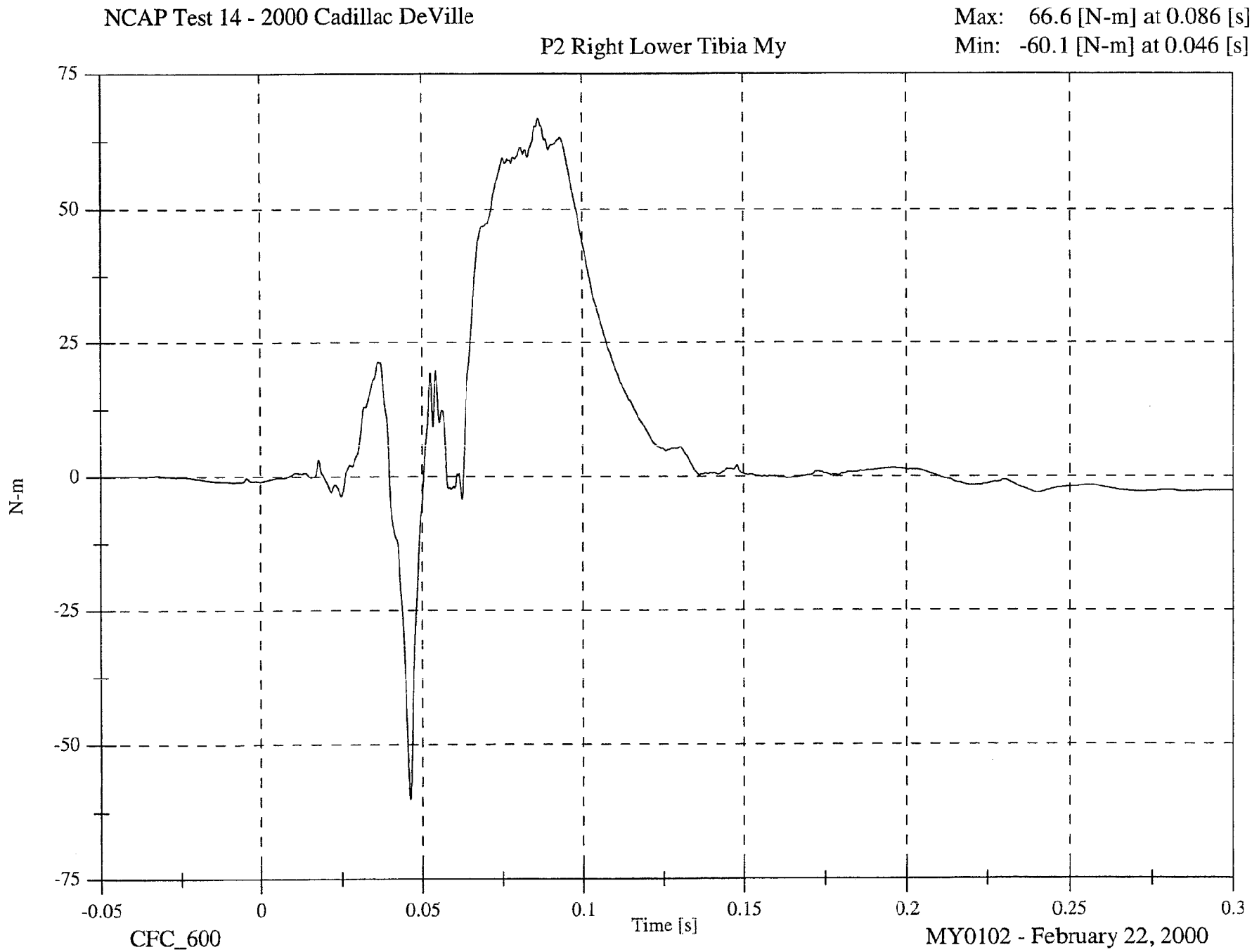

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Lower Tibia My
Max: 26.9 [N-m] at 0.093 [s]
Min: -93.6 [N-m] at 0.047 [s]
50
25
0
-25
-50
-75
-100
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

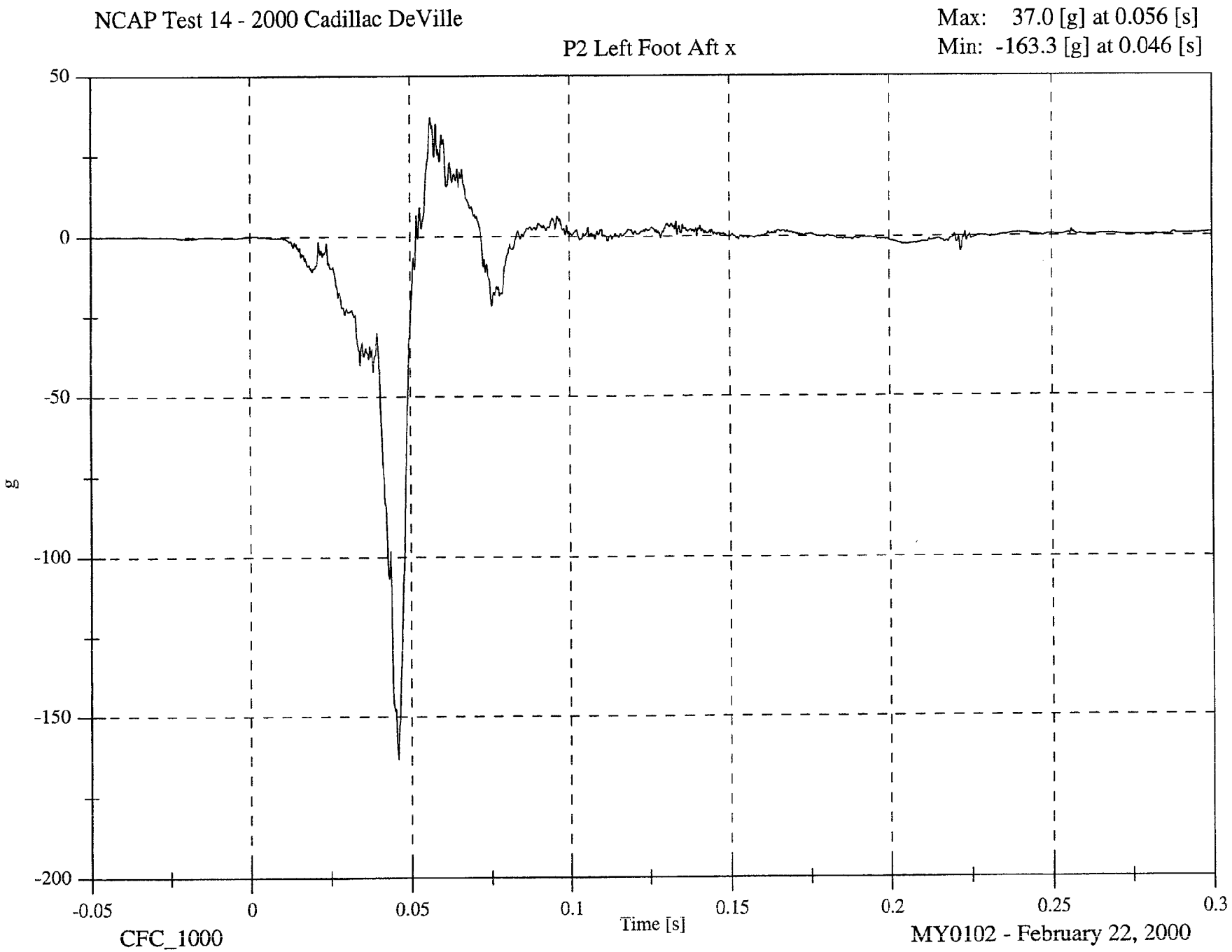

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Upper Tibia Mx
Max: 25.6 [N-m] at 0.051 [s]
Min: -20.2 [N-m] at 0.061 [s]
30
20
10
0
-10
-20
-30
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

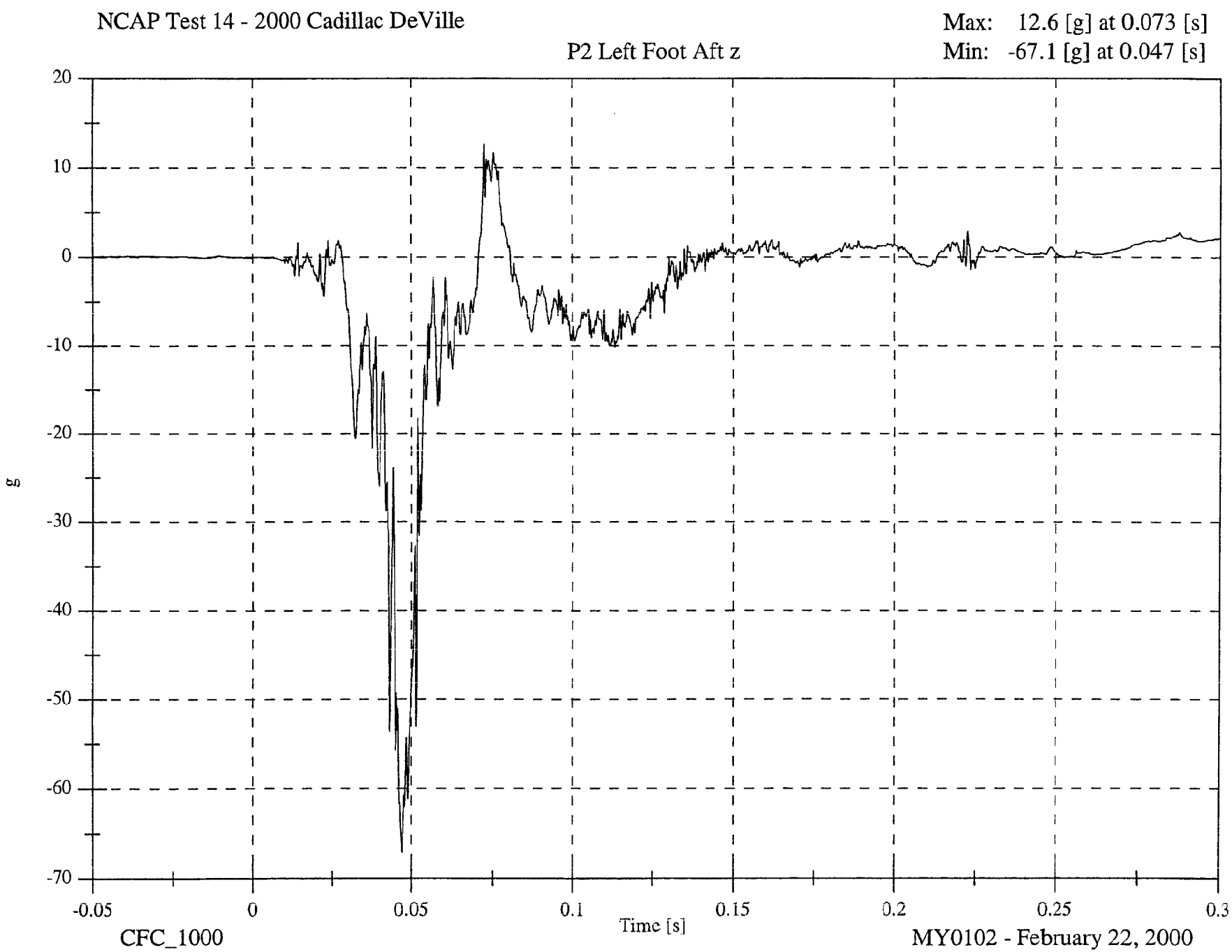

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Upper Tibia My
Max: 29.3 [N-m] at 0.050 [s]
Min: -89.4 [N-m] at 0.045 [s]
50
25
0
-25
-50
-75
-100
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

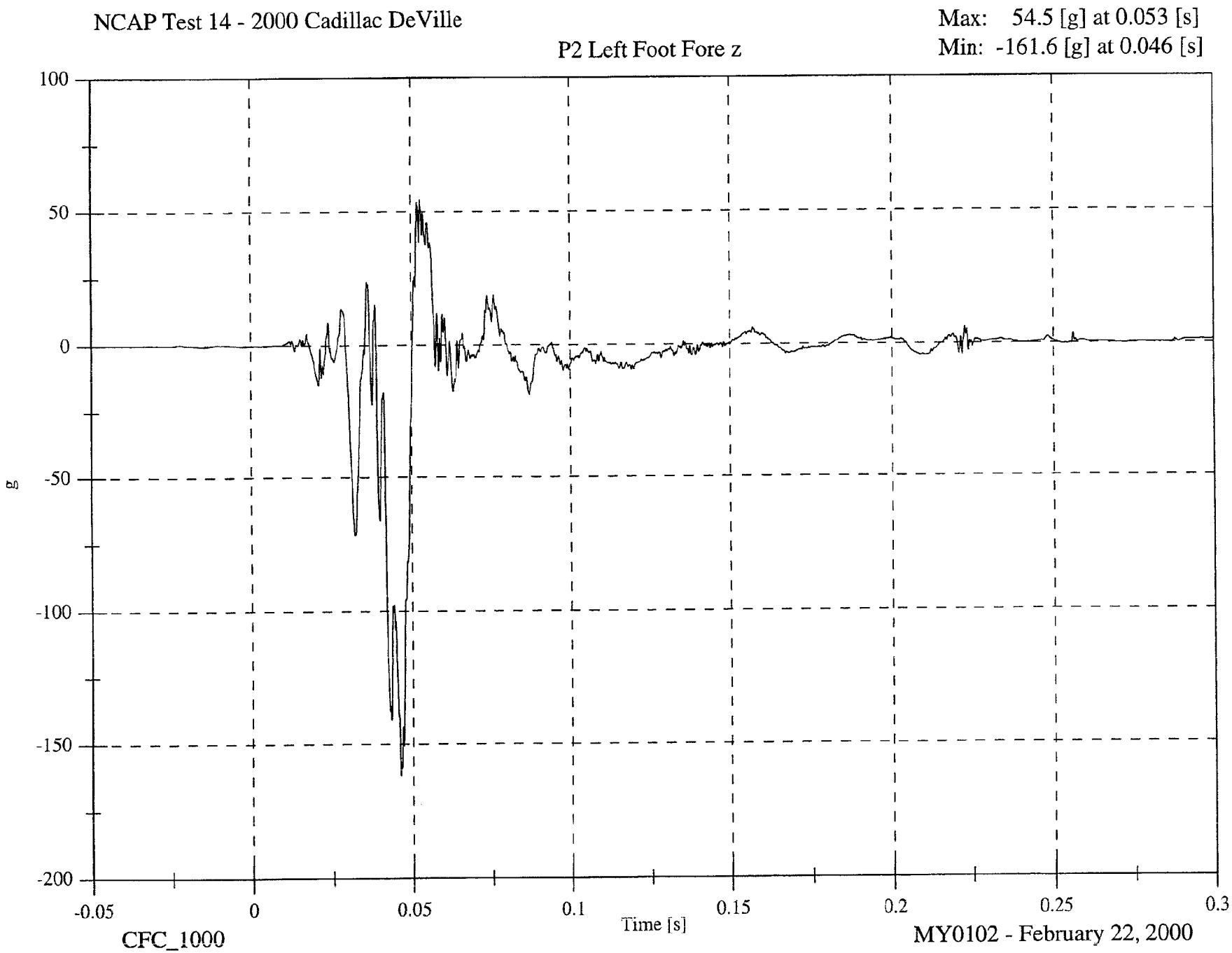

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Lower Tibia Fz
Max: 81.8 [N] at 0.151 [s]
Min: -3545.7 [N] at 0.039 [s]
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

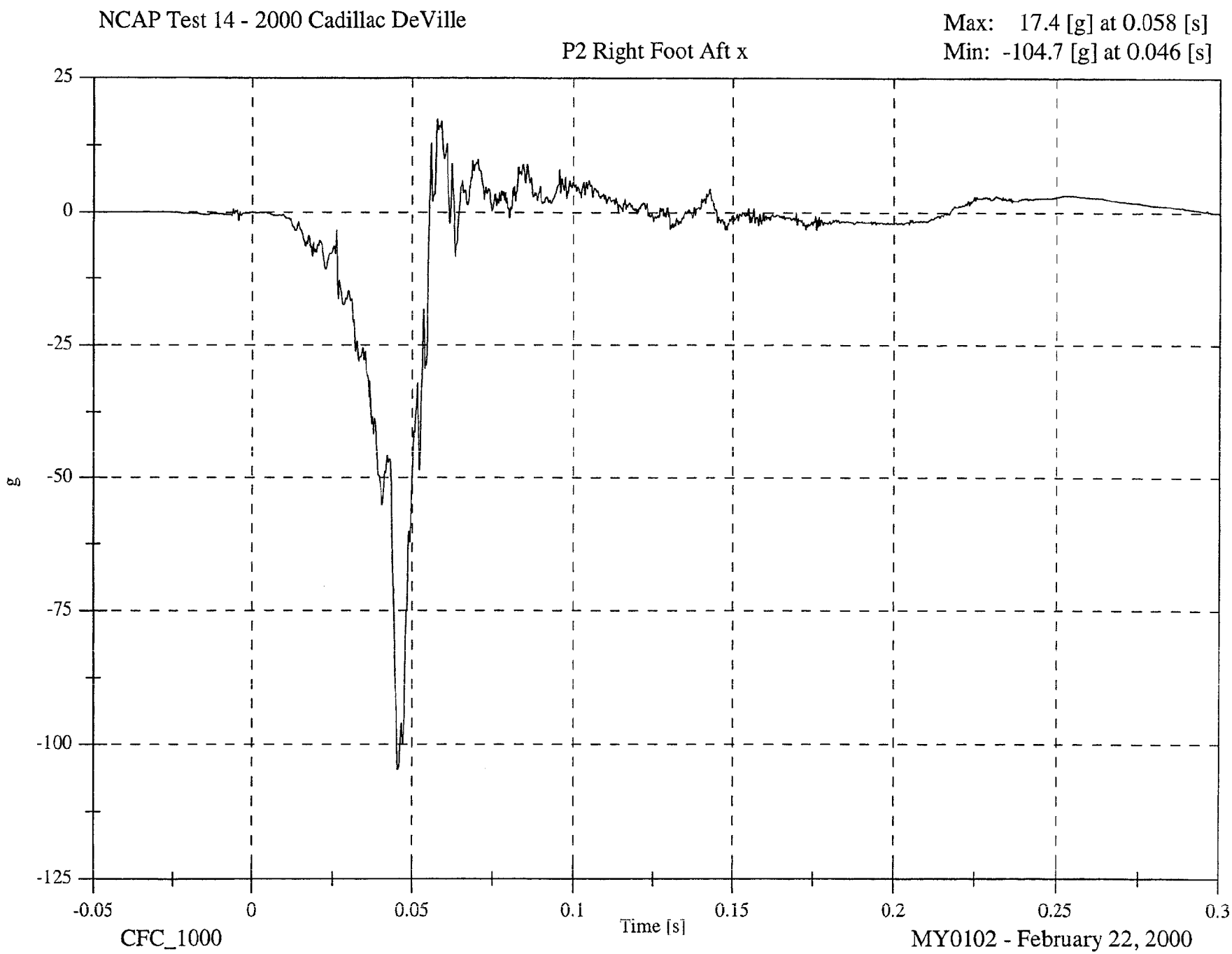

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Lower Tibia Mx
Max: 12.5 [N-m] at 0.039 [s]
Min: -16.5 [N-m] at 0.056 [s]
15
10
5
0
-5
-10
-15
-20
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

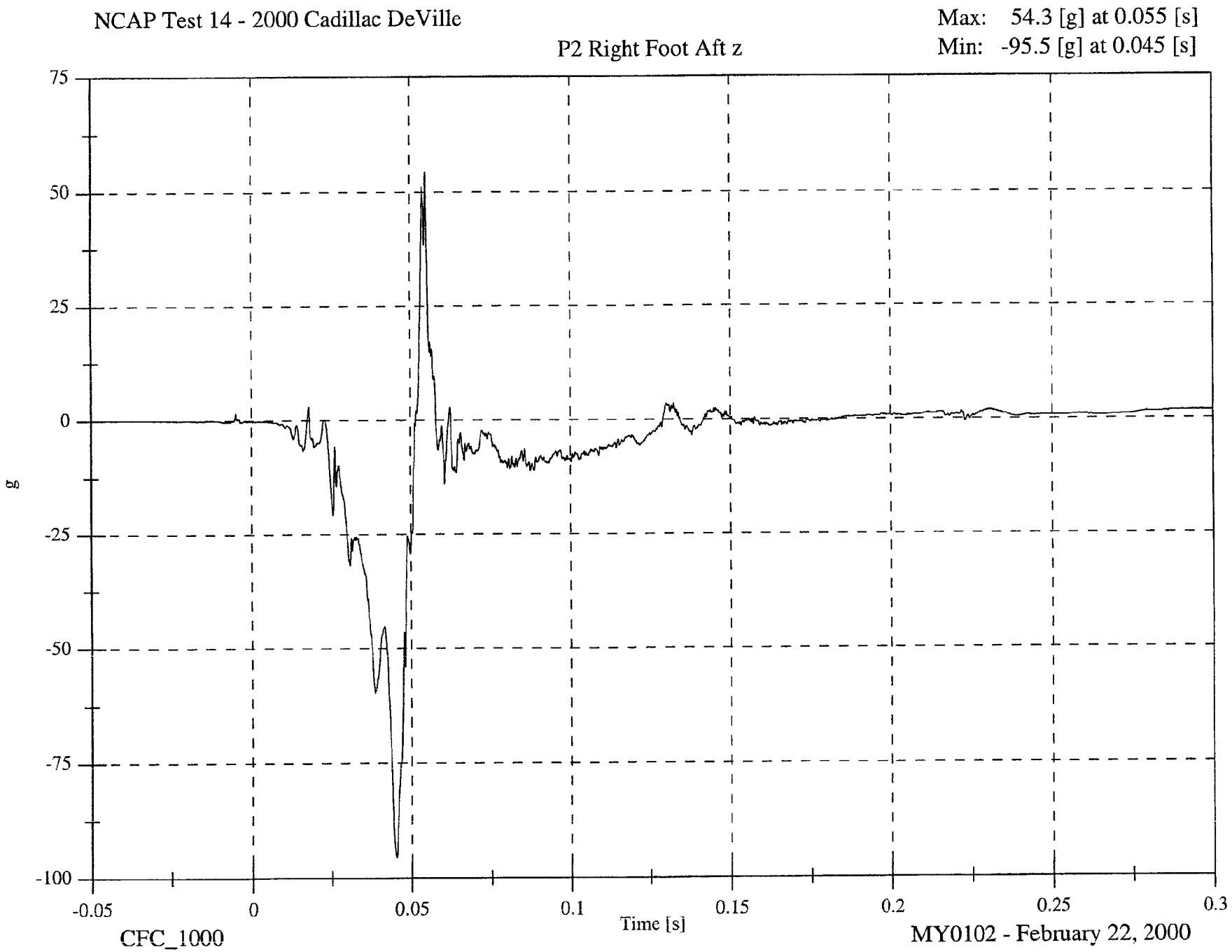

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Lower Tibia My
Max: 66.6 [N-m] at 0.086 [s]
Min: -60.1 [N-m] at 0.046 [s]
75
50
25
0
-25
-50
-75
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_600
MY0102 - February 22, 2000

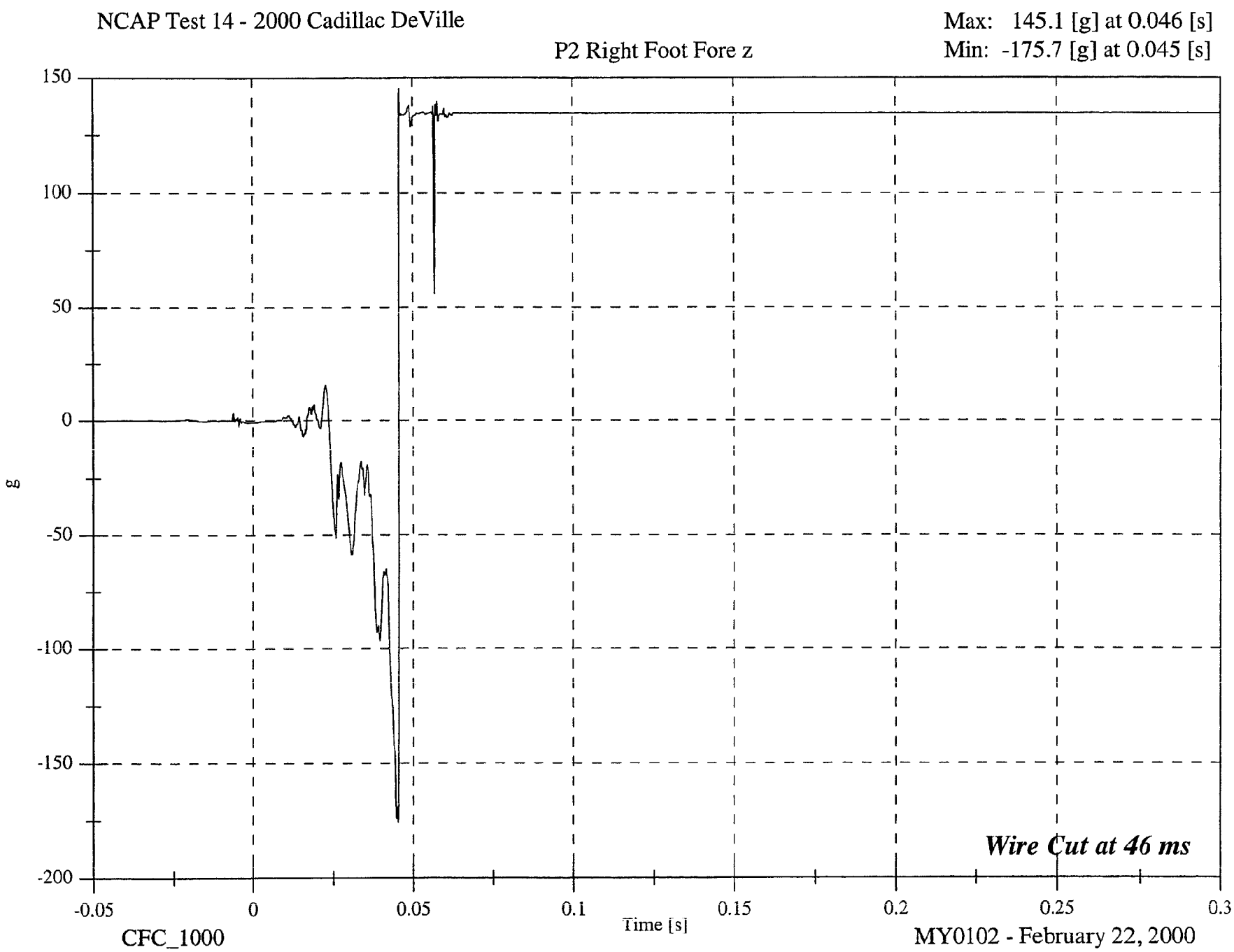

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Foot Aft x
Max: 37.0 [g] at 0.056 [s]
Min: -163.3 [g] at 0.046 [s]
50
0
-50
-100
-150
-200
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

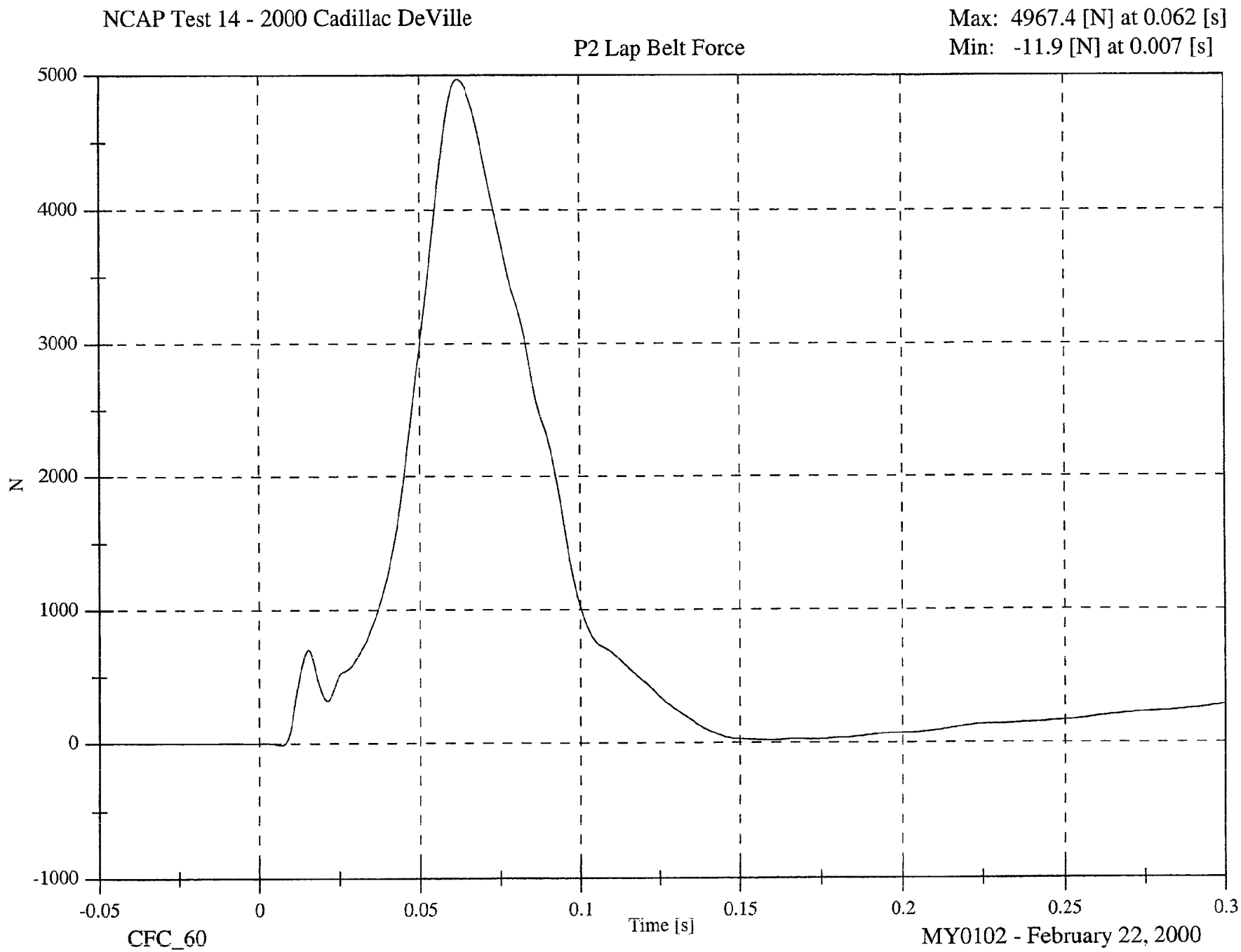

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Foot Aft z
Max: 12.6 [g] at 0.073 [s]
Min: -67.1 [g] at 0.047 [s]
20
10
0
-10
-20
-30
-40
-50
-60
-70
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

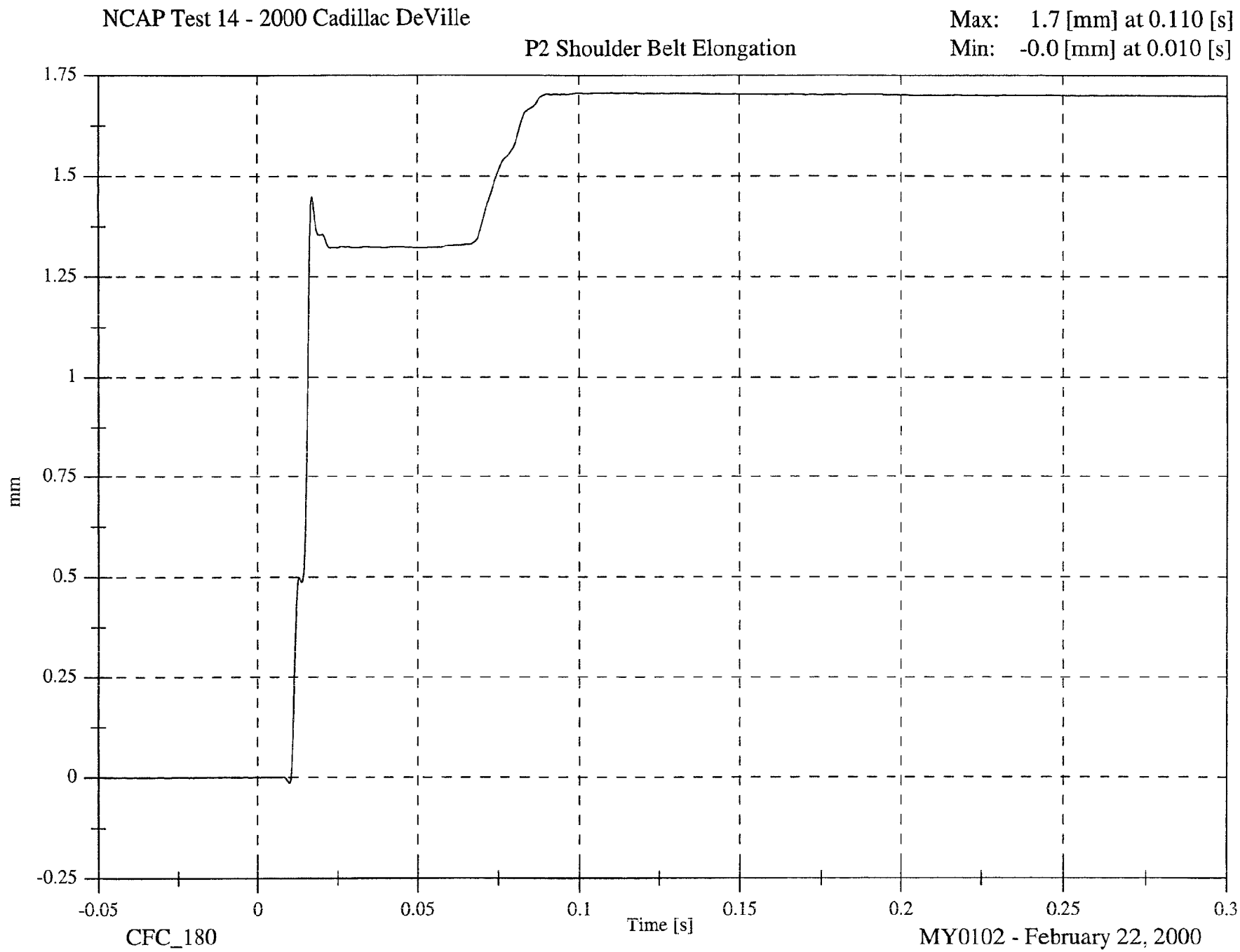

NCAP Test 14 - 2000 Cadillac DeVille
P2 Left Foot Fore z
Max: 54.5 [g] at 0.053 [s]
Min: -161.6 [g] at 0.046 [s]
100
50
0
-50
-100
-150
-200
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

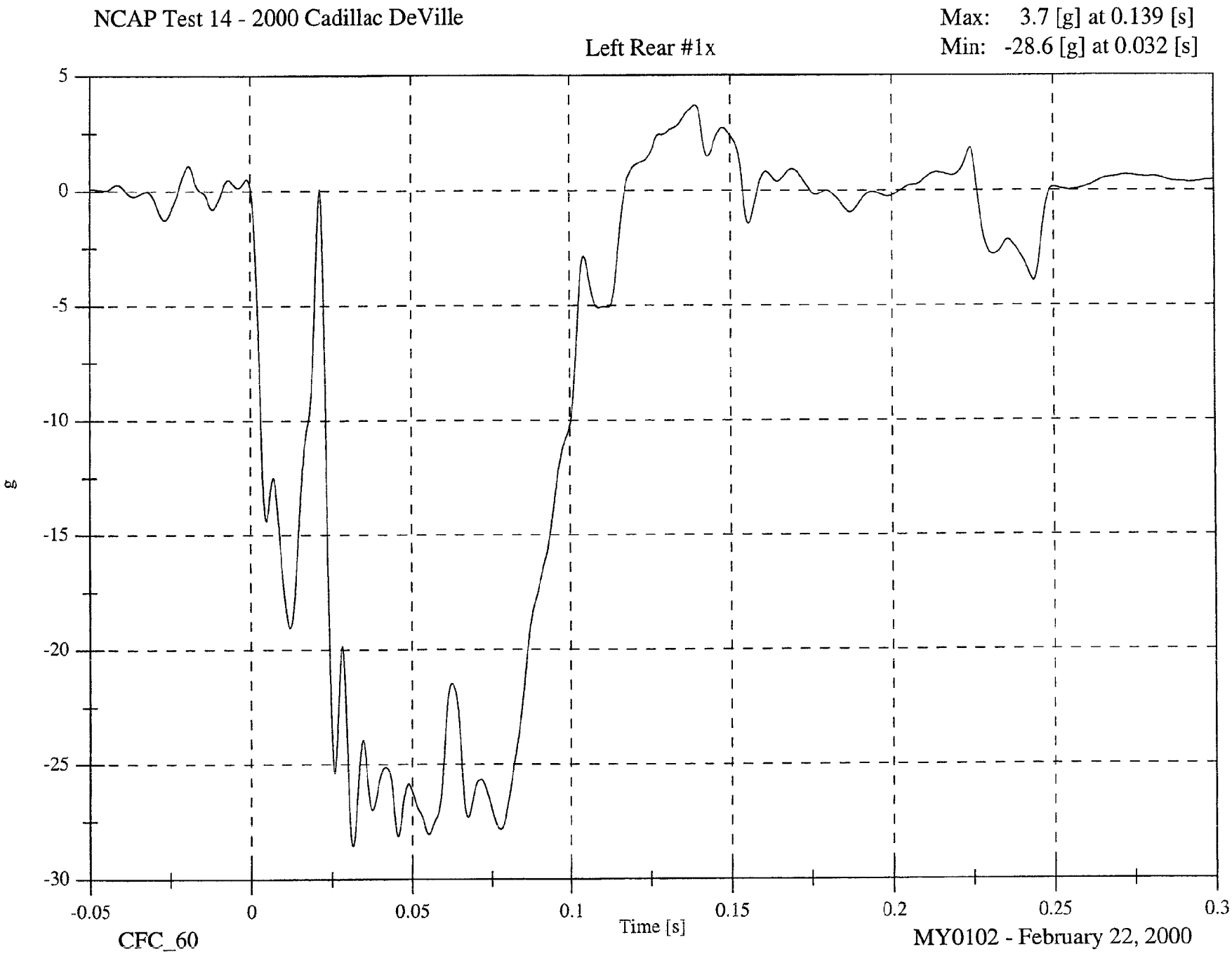

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Foot Aft x
Max: 17.4 [g] at 0.058 [s]
Min: -104.7 [g] at 0.046 [s]
25
0
-25
-50
-75
-100
-125
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000

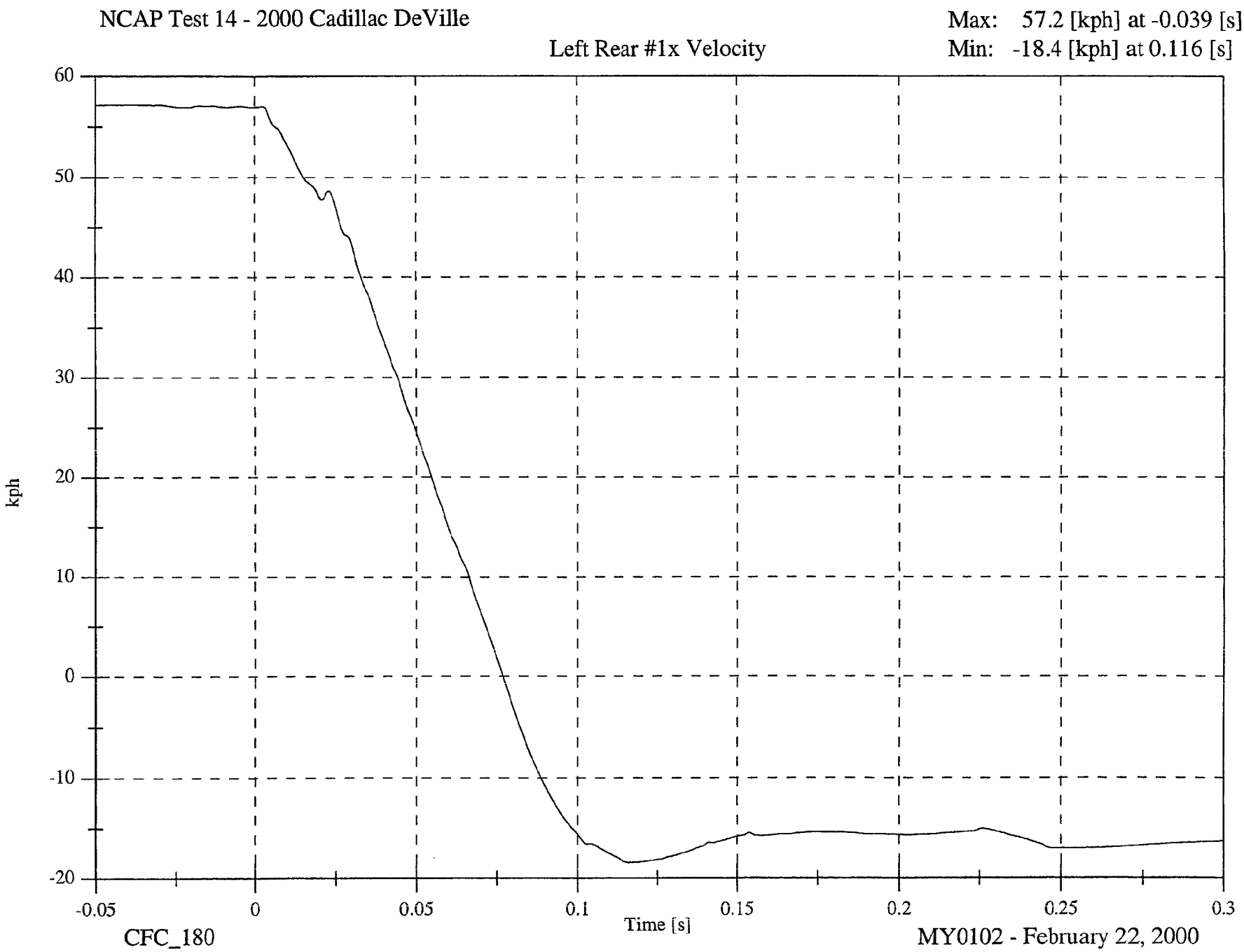

NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Foot Aft z
Max: 54.3 [g] at 0.055 [s]
Min: -95.5 [g] at 0.045 [s]
75
50
25
0
-25
-50
-75
-100
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Right Foot Fore z
Max: 145.1 [g] at 0.046 [s]
Min: -175.7 [g] at 0.045 [s]
150
100
50
0
-50
-100
-150
-200
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Wire Cut at 46 ms
CFC_1000
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Lap Belt Force
Max: 4967.4 [N] at 0.062 [s]
Min: -11.9 [N] at 0.007 [s]
5000
4000
3000
2000
1000
0
-1000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
P2 Shoulder Belt Elongation
Max: 1.7 [mm] at 0.110 [s]
Min: -0.0 [mm] at 0.010 [s]
1.75
1.5
1.25
1
0.75
0.5
0.25
0
-0.25
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

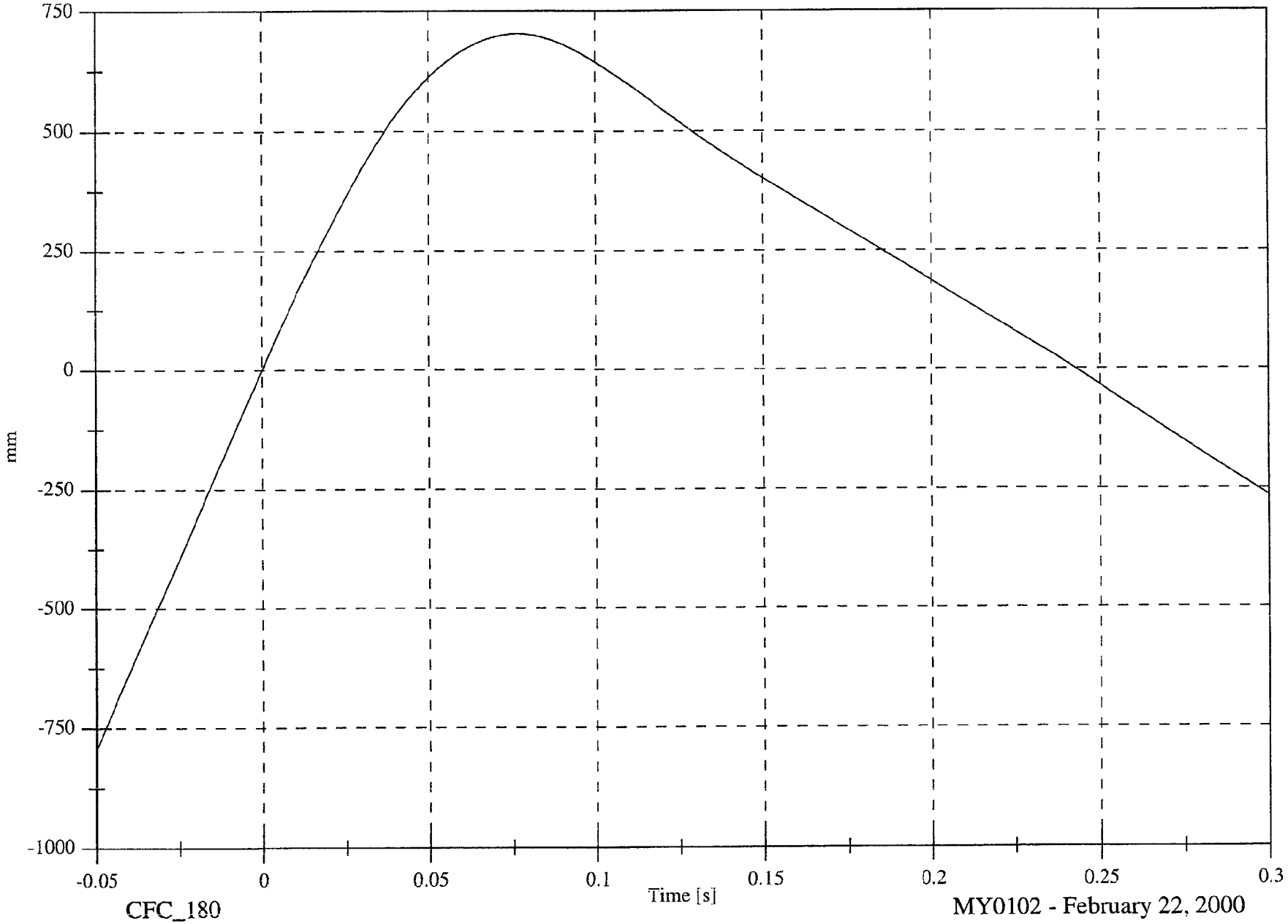

NCAP Test 14 - 2000 Cadillac DeVille
Left Rear #1x
Max: 3.7 [g] at 0.139 [s]
Min: -28.6 [g] at 0.032 [s]
5
0
-5
-10
-15
-20
-25
-30
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Left Rear #1x Velocity
Max: 57.2 [kph] at -0.039 [s]
Min: -18.4 [kph] at 0.116 [s]
60
50
40
30
20
10
0
-10
-20
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac DeVille

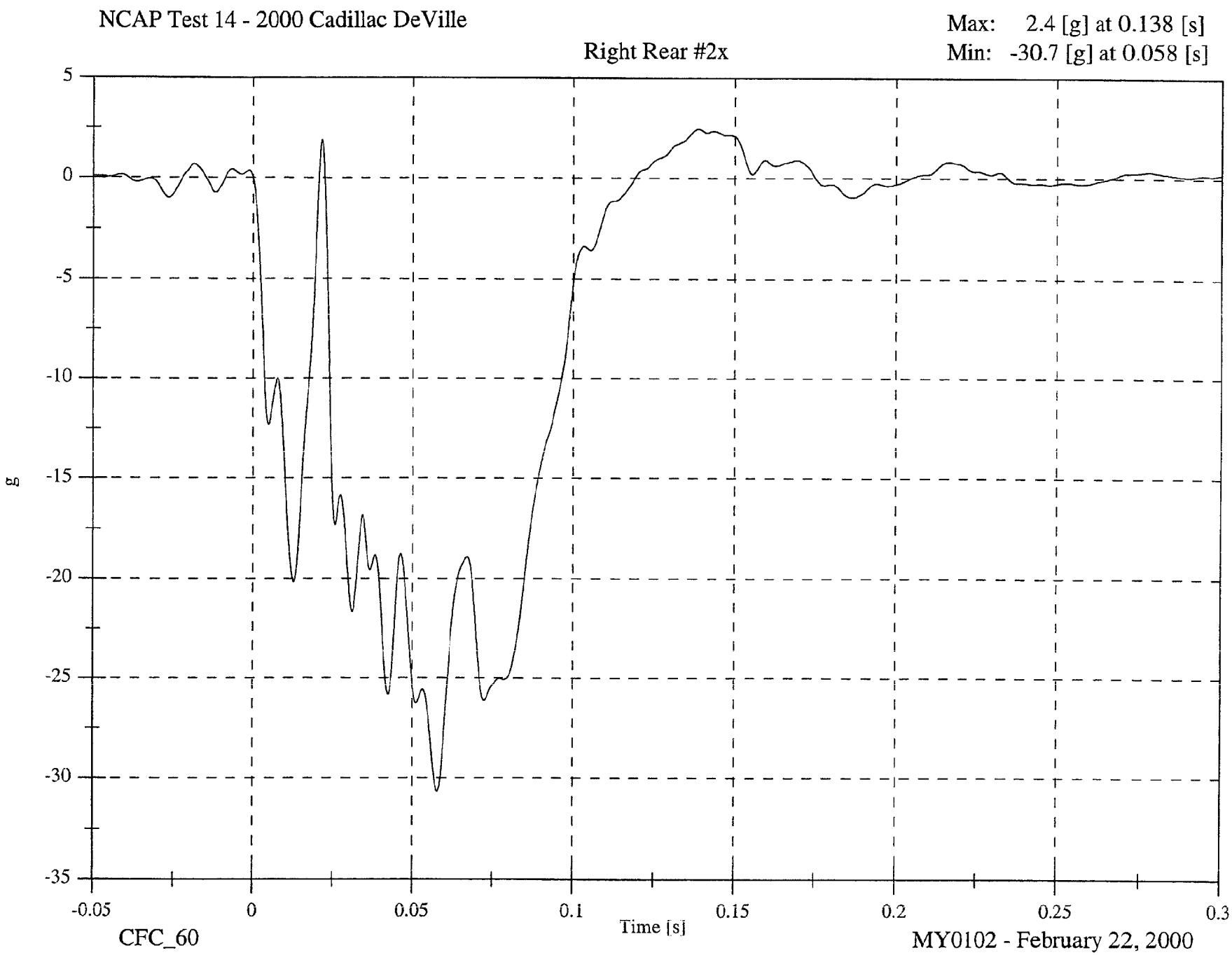
Left Rear #1x Displacement

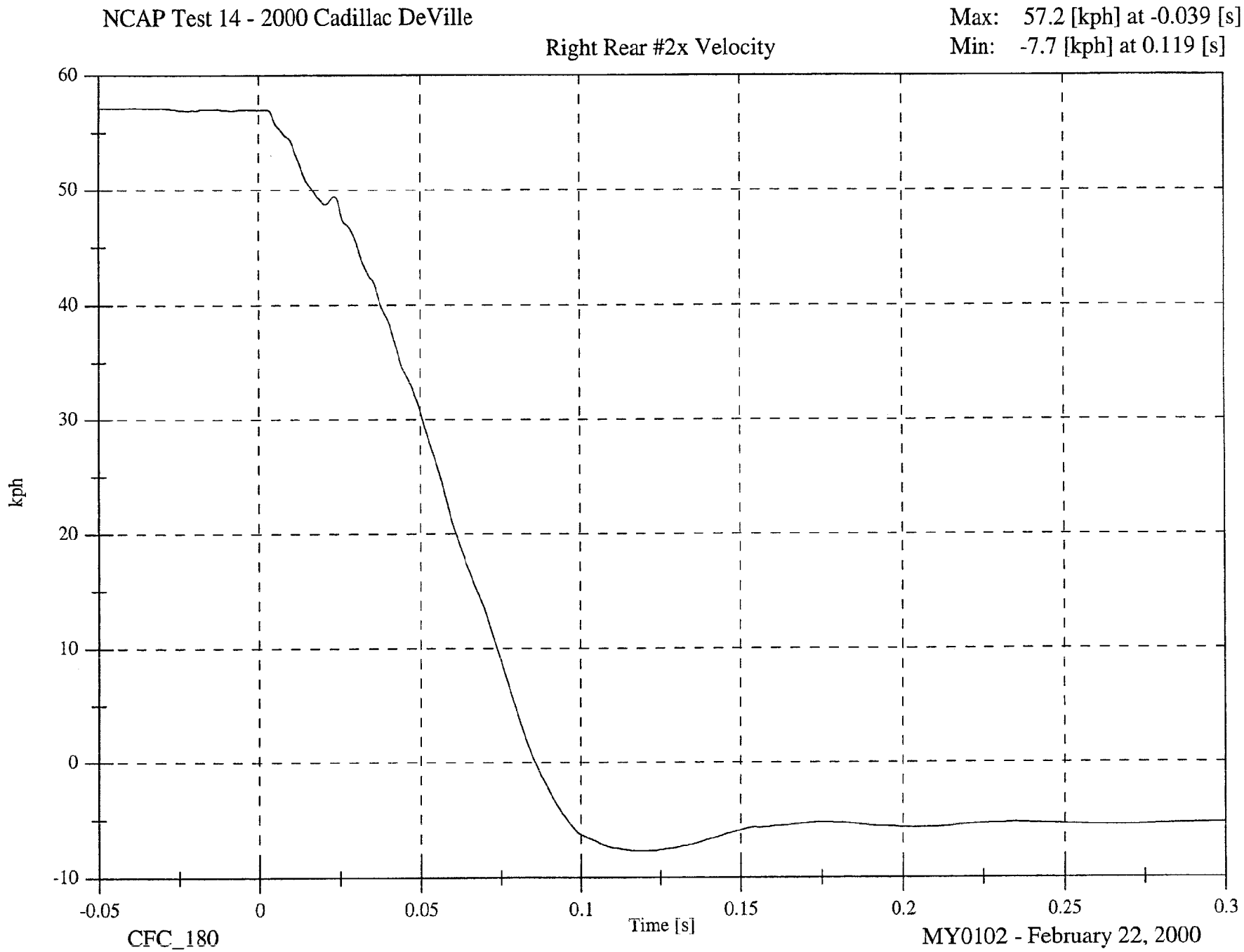
Max: 701.6 [mm] at 0.077 [s]
Min: -792.6 [mm] at -0.050 [s]



CFC_180

MY0102 - February 22, 2000

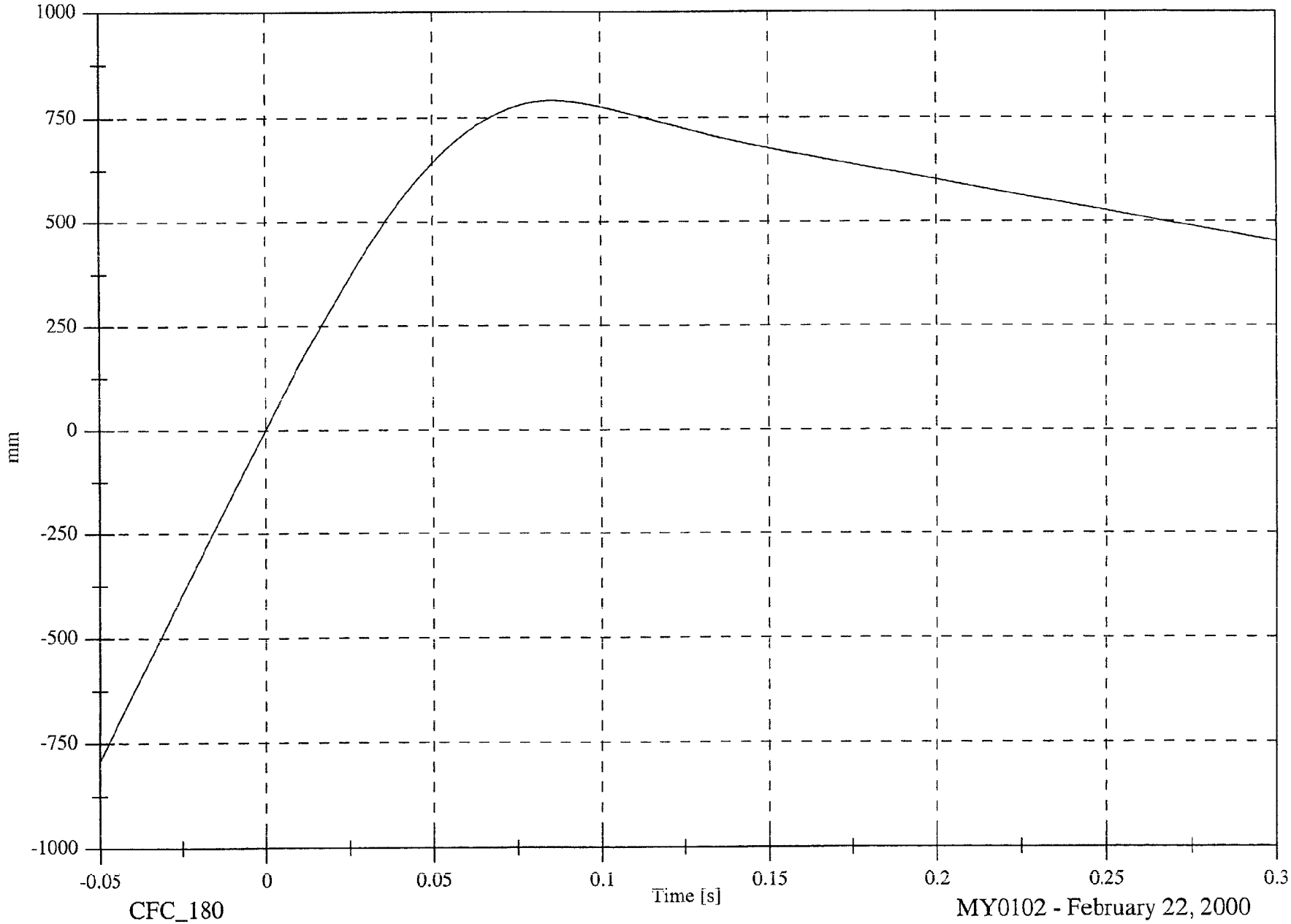

NCAP Test 14 - 2000 Cadillac DeVille
Right Rear #2x
Max: 2.4 [g] at 0.138 [s]
Min: -30.7 [g] at 0.058 [s]
5
0
-5
-10
-15
-20
-25
-30
-35
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Right Rear #2x Velocity
Max: 57.2 [kph] at -0.039 [s]
Min: -7.7 [kph] at 0.119 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac DeVille

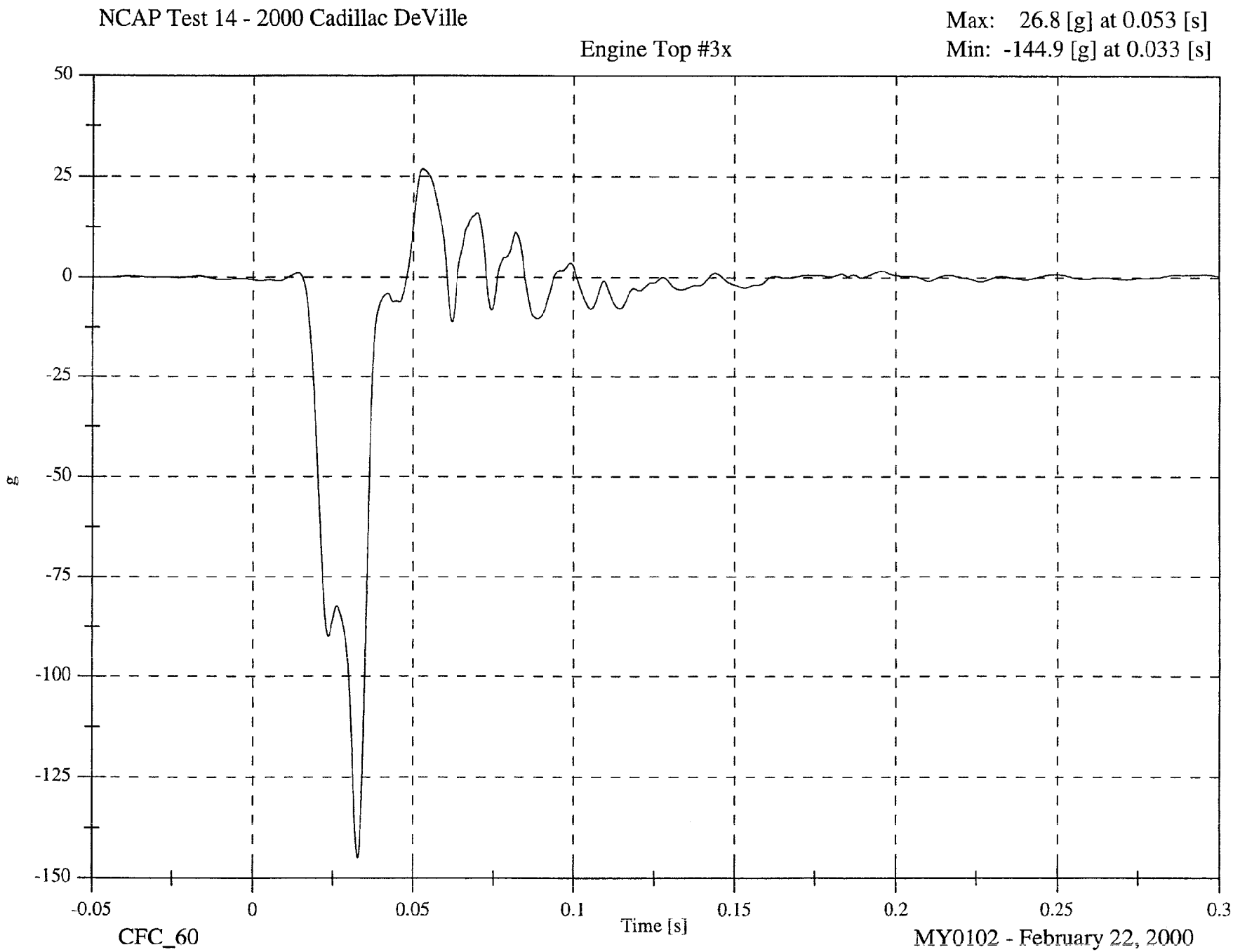
Right Rear #2x Displacement

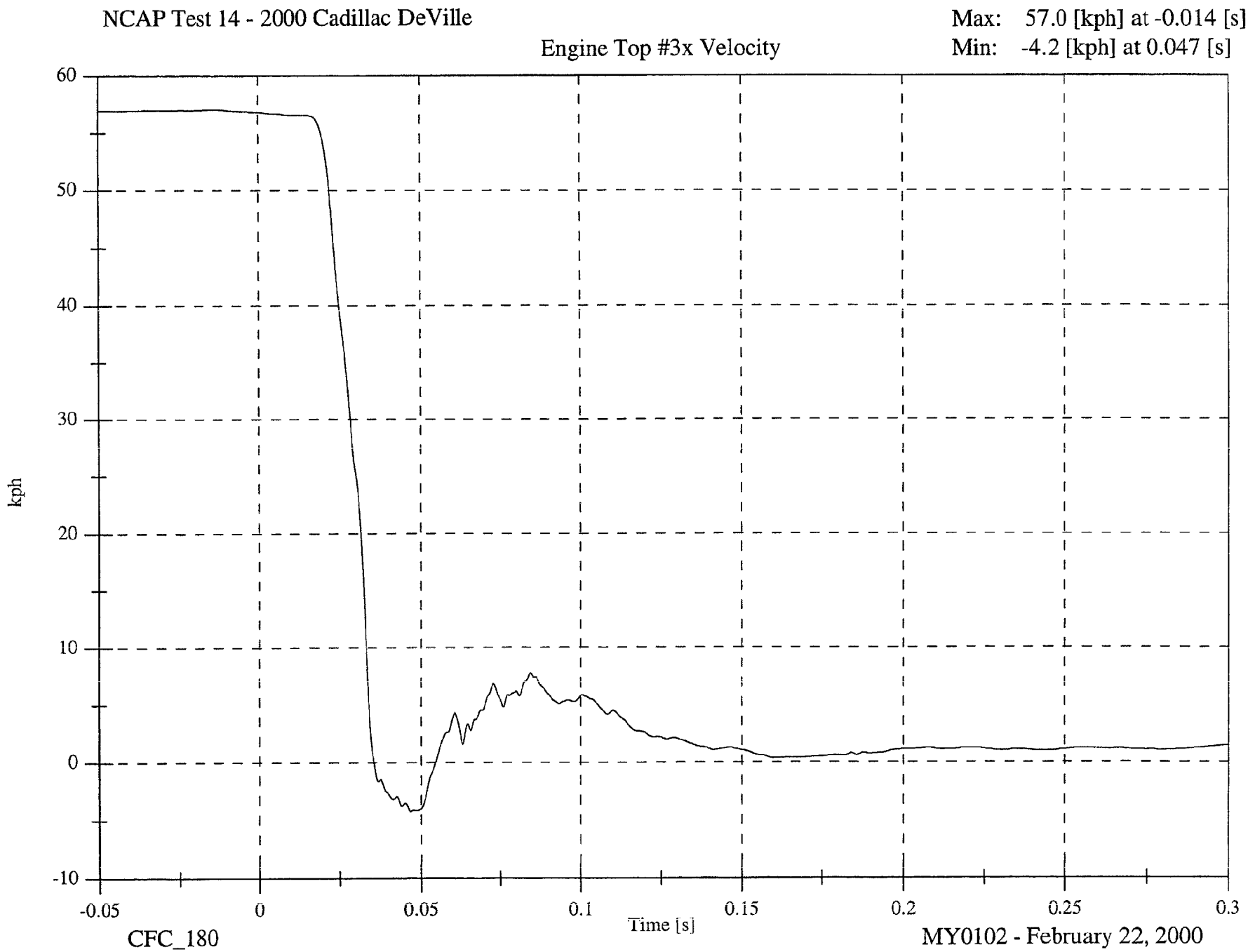
Max: 789.7 [mm] at 0.086 [s]
Min: -792.5 [mm] at -0.050 [s]



CFC_180

MY0102 - February 22, 2000

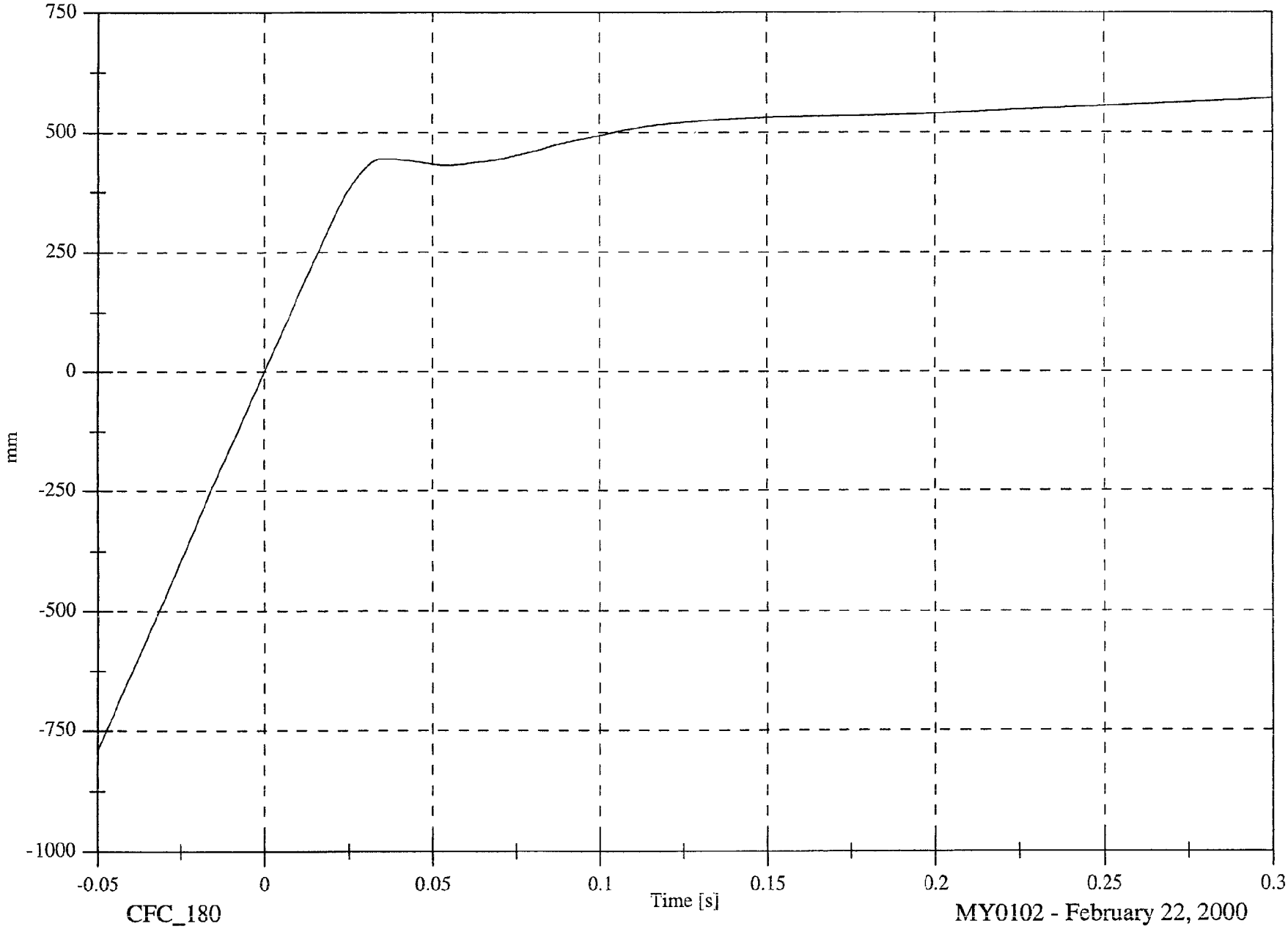

NCAP Test 14 - 2000 Cadillac DeVille
Engine Top #3x
Max: 26.8 [g] at 0.053 [s]
Min: -144.9 [g] at 0.033 [s]
50
25
0
-25
-50
-75
-100
-125
-150
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Engine Top #3x Velocity
Max: 57.0 [kph] at -0.014 [s]
Min: -4.2 [kph] at 0.047 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac DeVille

Engine Top #3x Displacement

Max: 570.7 [mm] at 0.300 [s]
Min: -790.9 [mm] at -0.050 [s]

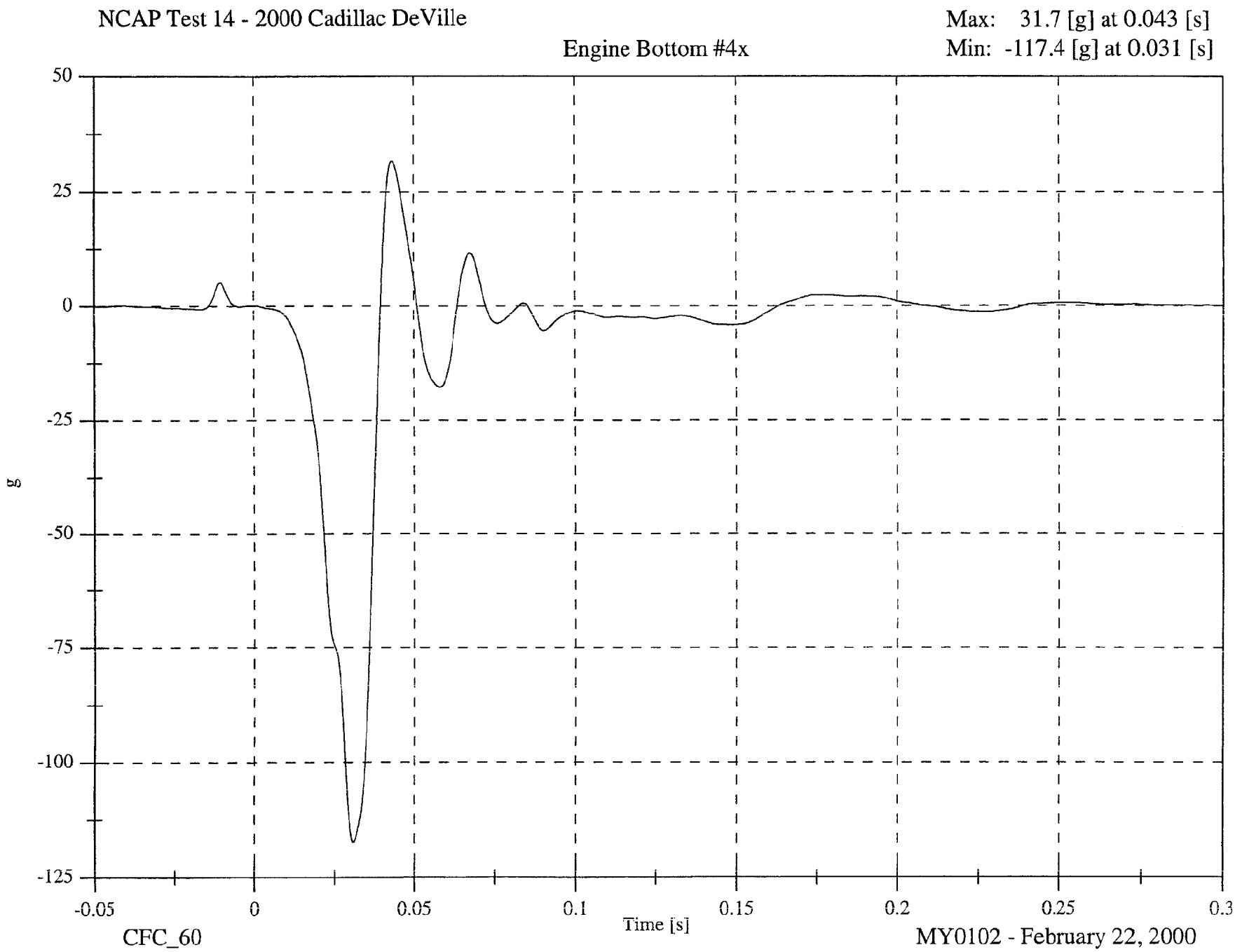


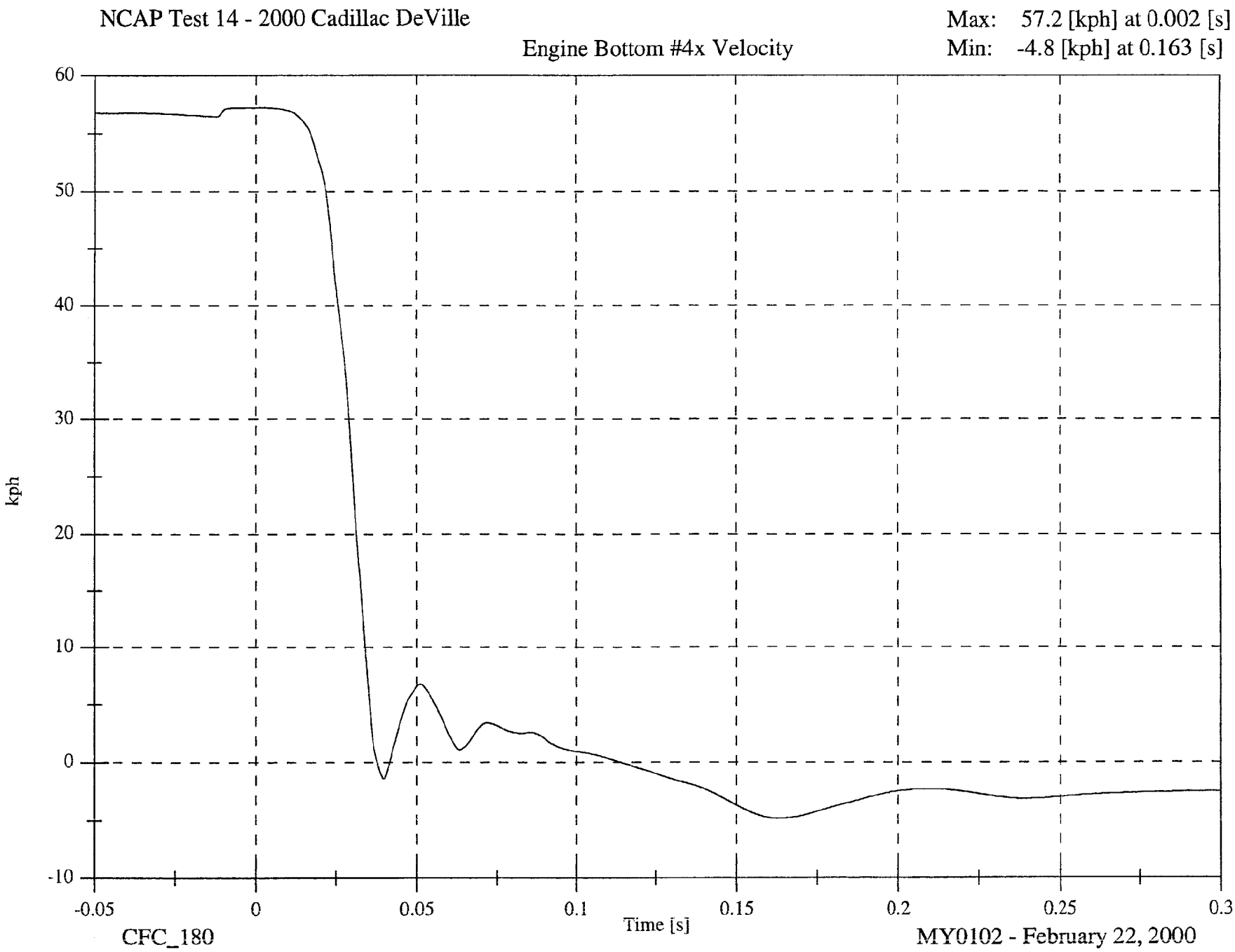
CFC_180

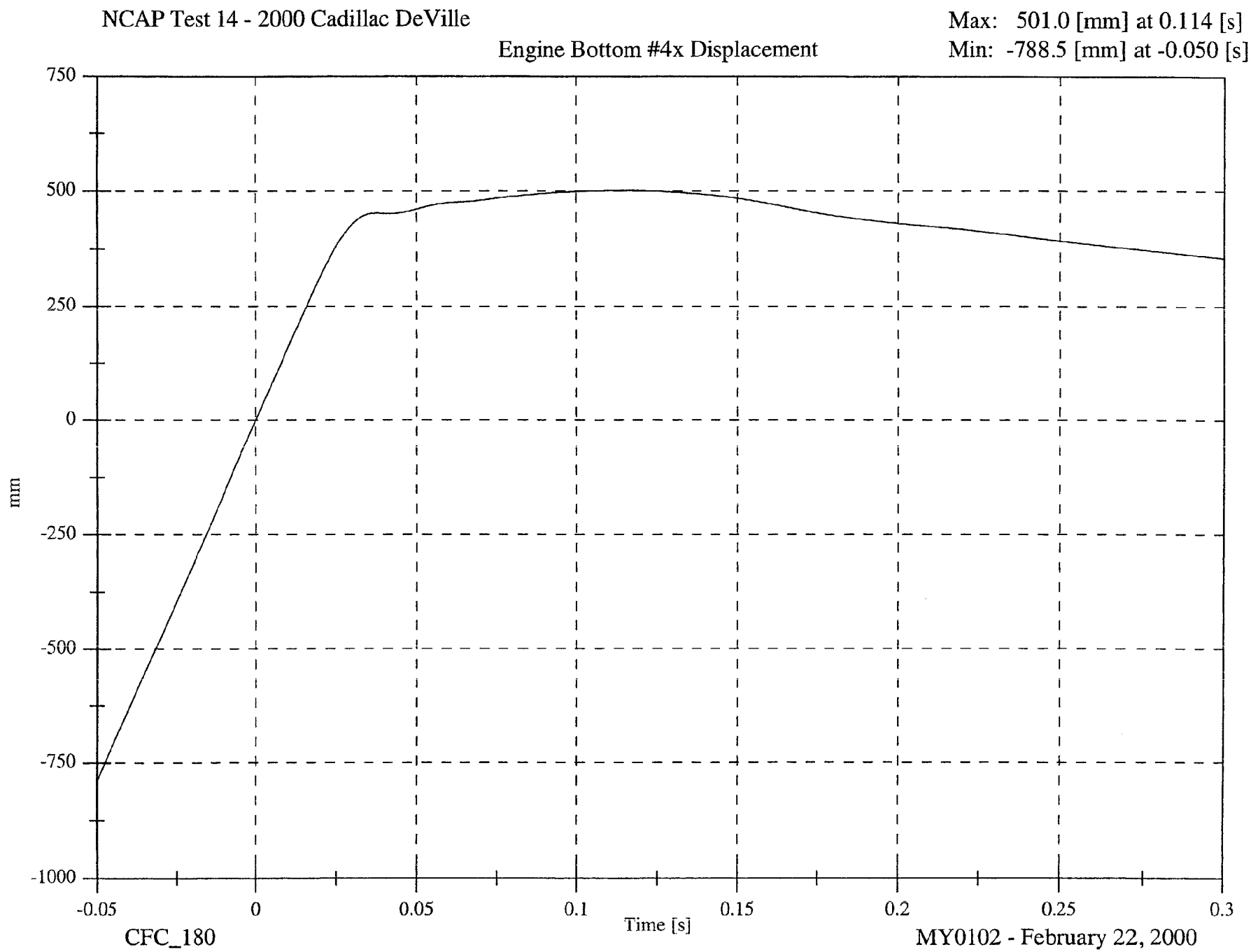
MY0102 - February 22, 2000

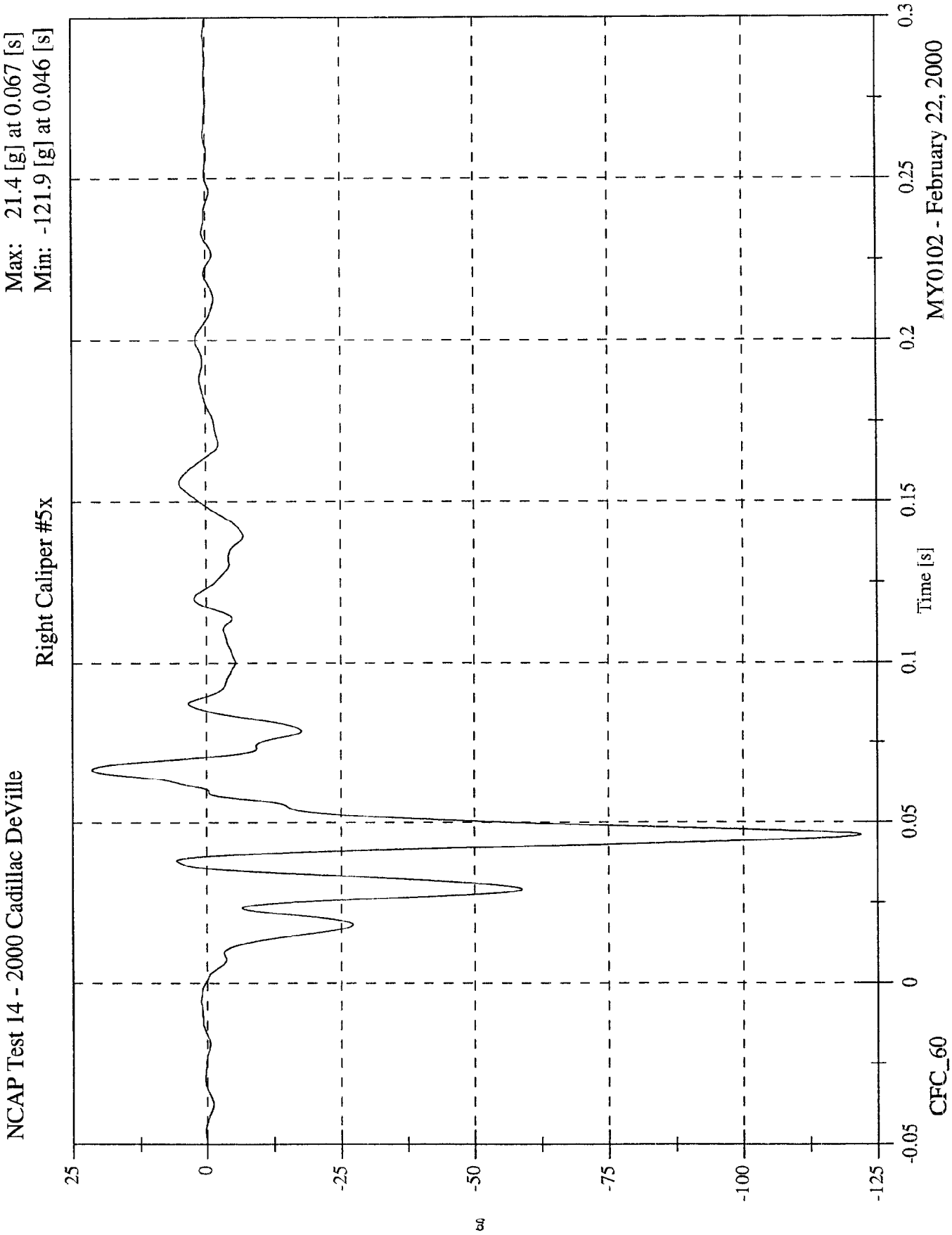
B-110

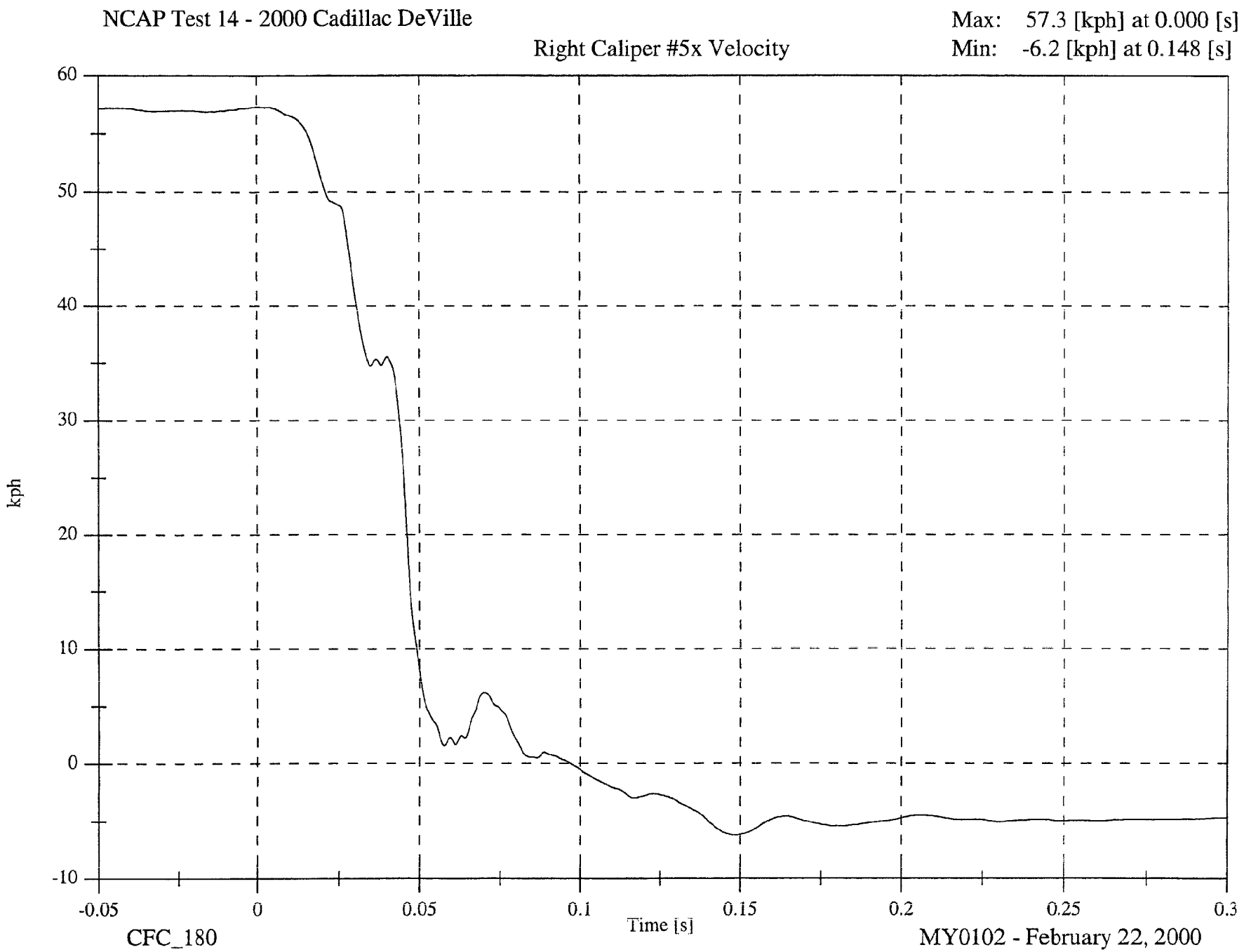
8413-52

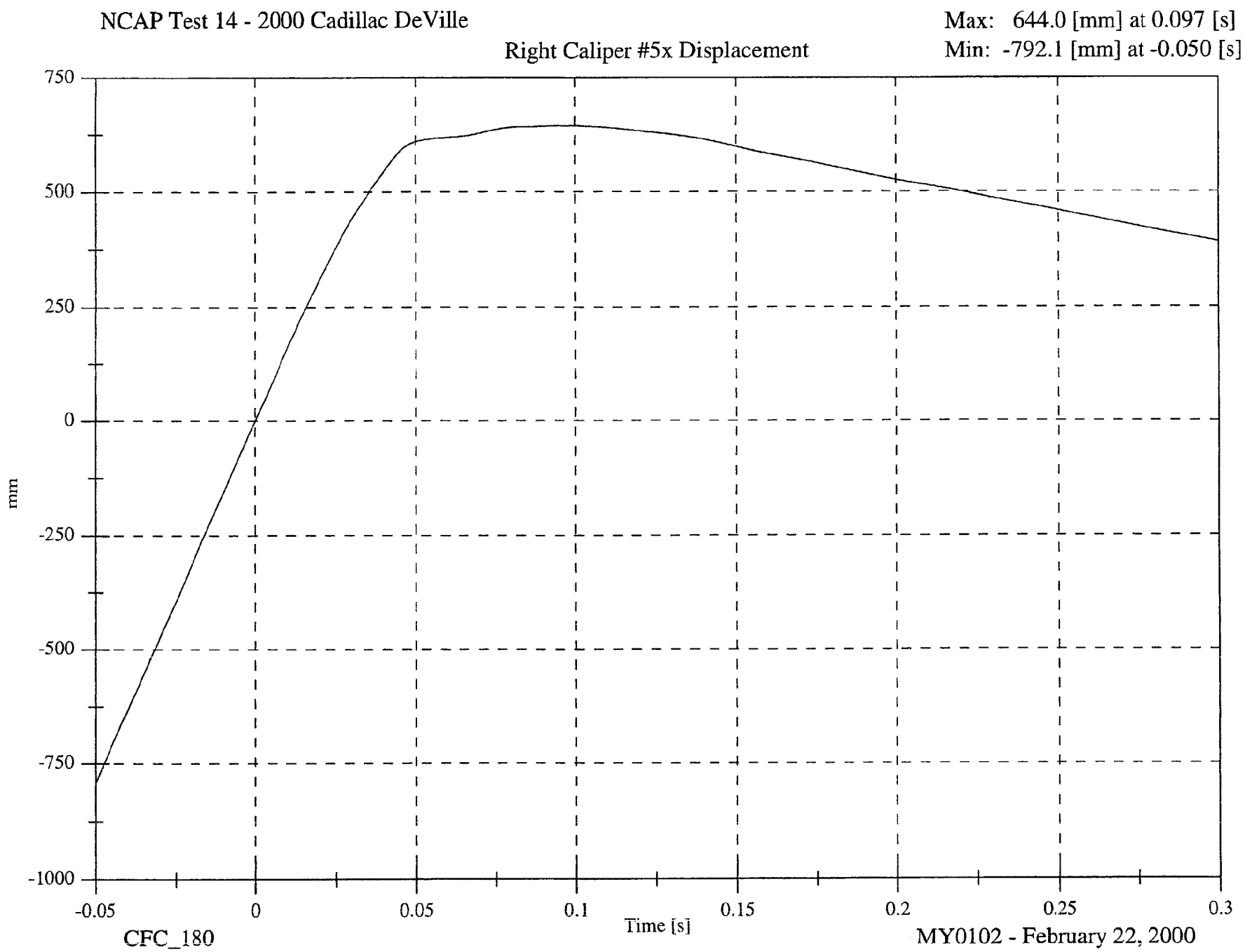

NCAP Test 14 - 2000 Cadillac DeVille
Engine Bottom #4x
Max: 31.7 [g] at 0.043 [s]
Min: -117.4 [g] at 0.031 [s]
50
25
0
-25
-50
-75
-100
-125
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000

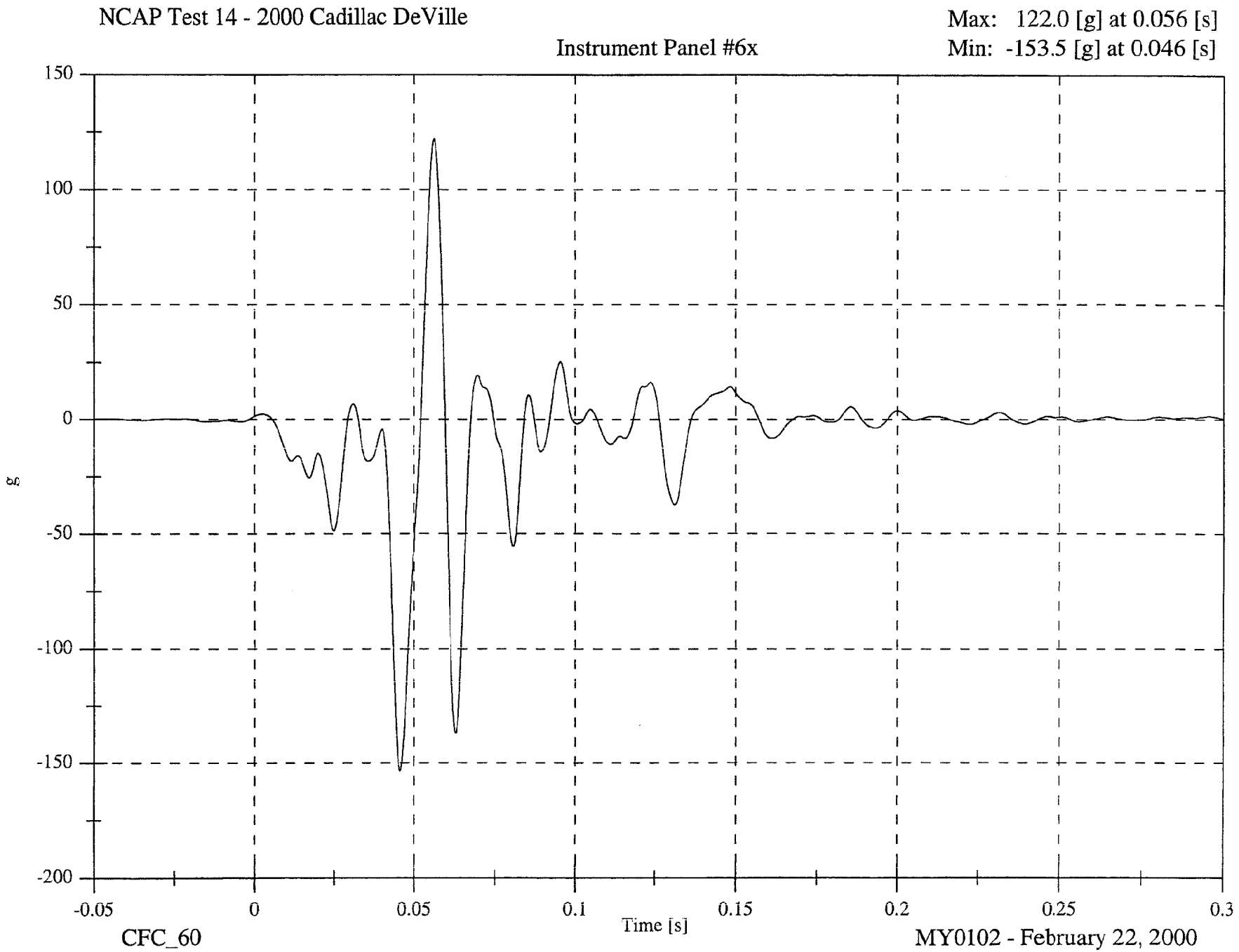

NCAP Test 14 - 2000 Cadillac DeVille
Engine Bottom #4x Velocity
Max: 57.2 [kph] at 0.002 [s]
Min: -4.8 [kph] at 0.163 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

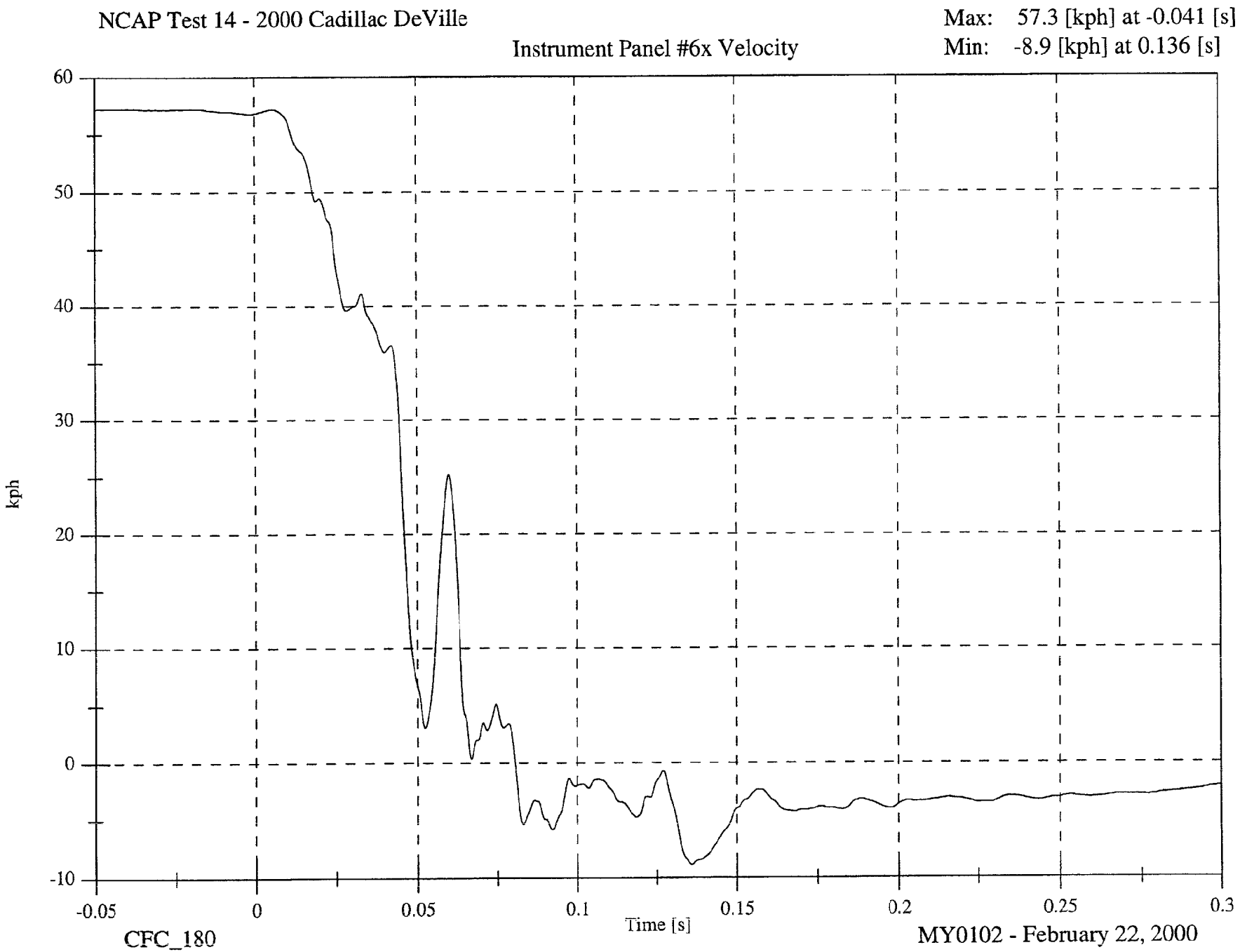

NCAP Test 14 - 2000 Cadillac DeVille
Engine Bottom #4x Displacement
Max: 501.0 [mm] at 0.114 [s]
Min: -788.5 [mm] at -0.050 [s]
750
500
250
0
-250
-500
-750
-1000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

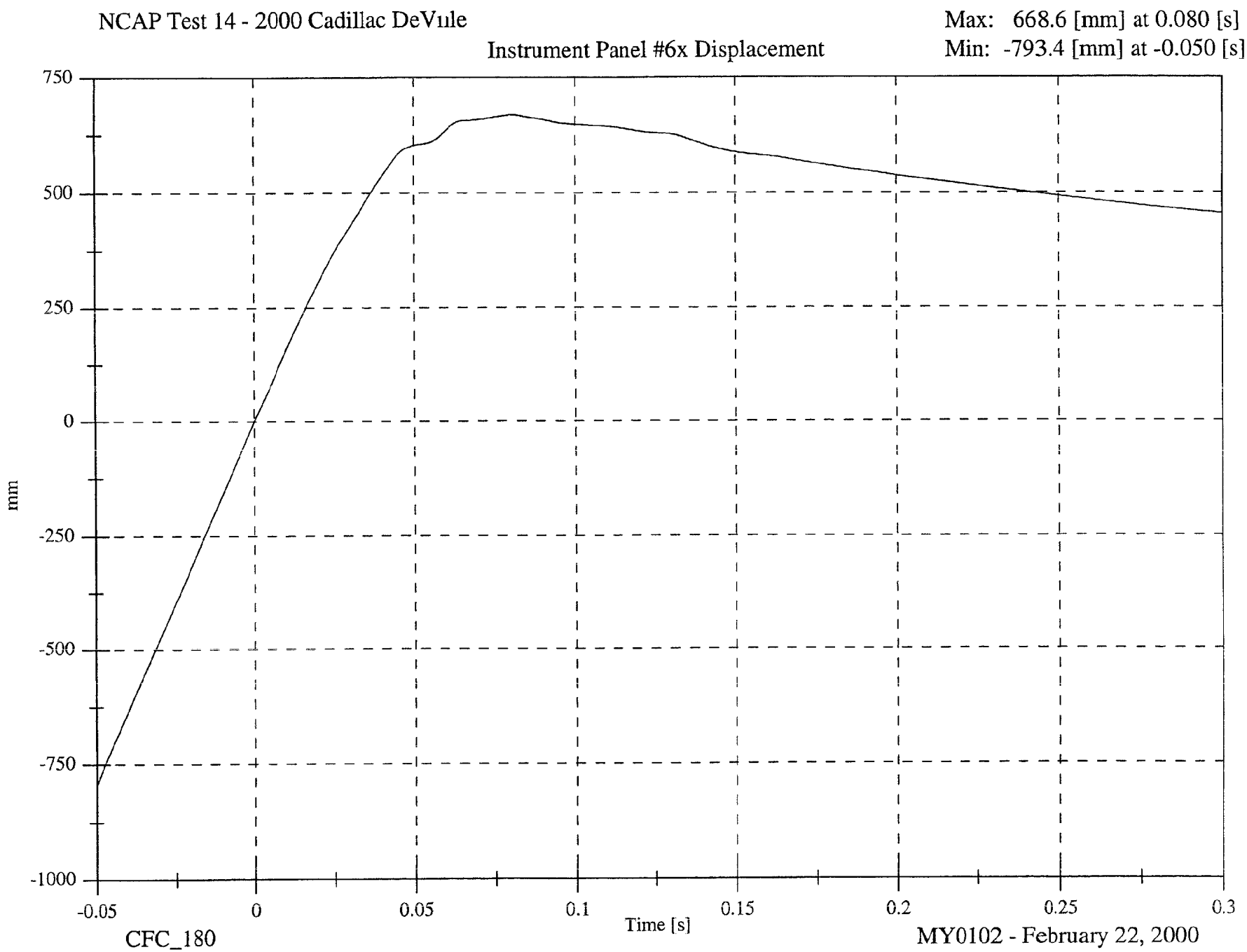

NCAP Test 14 - 2000 Cadillac DeVille
Max: 21.4 [g] at 0.067 [s]
Min: -121.9 [g] at 0.046 [s]
Right Caliper #5x
MY0102 - February 22, 2000
CFC_60
Time [s]
g
25
0
-25
-50
-75
-100
-125
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3

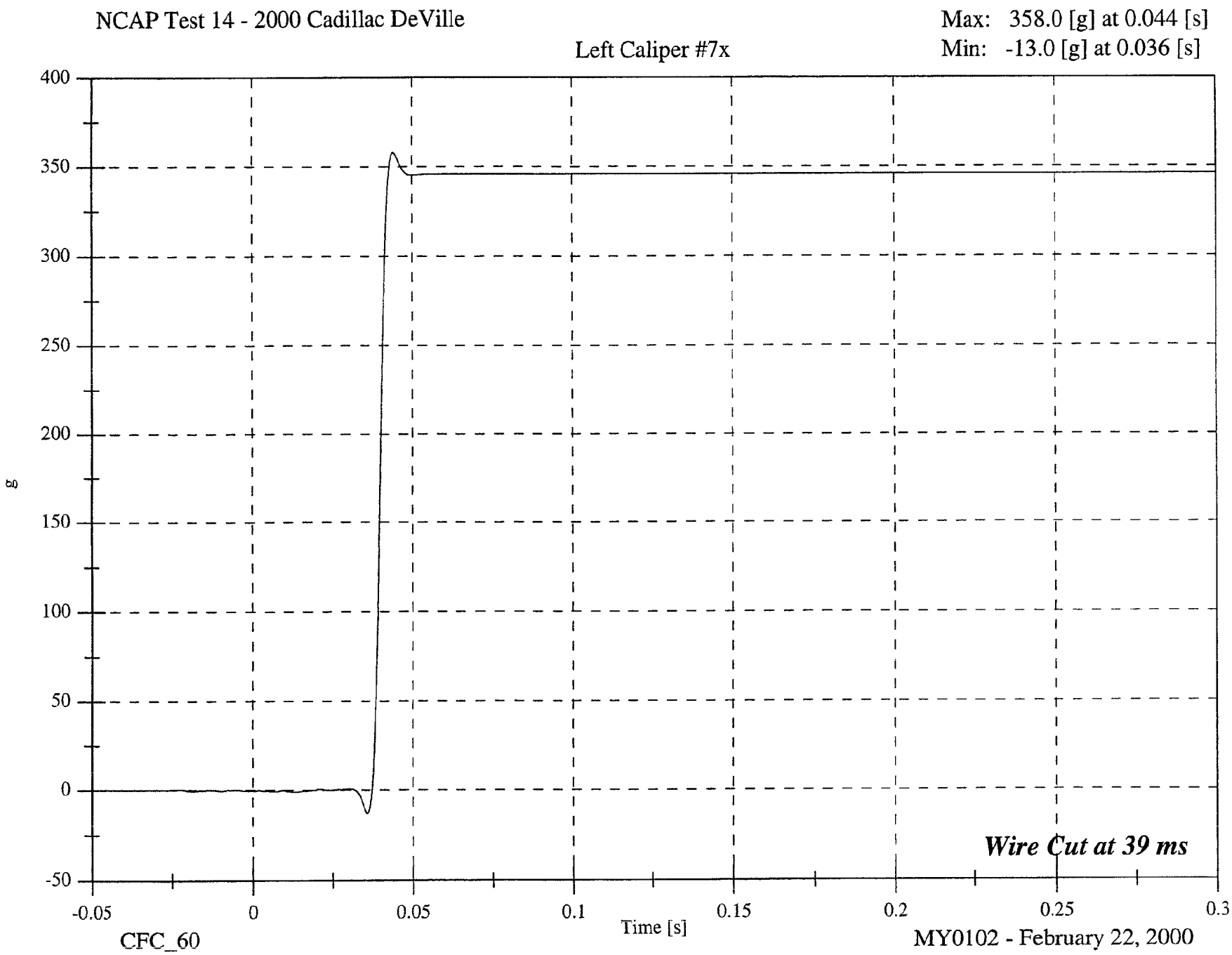

NCAP Test 14 - 2000 Cadillac DeVille
Right Caliper #5x Velocity
Max: 57.3 [kph] at 0.000 [s]
Min: -6.2 [kph] at 0.148 [s]
kph
60
50
40
30
20
10
0
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

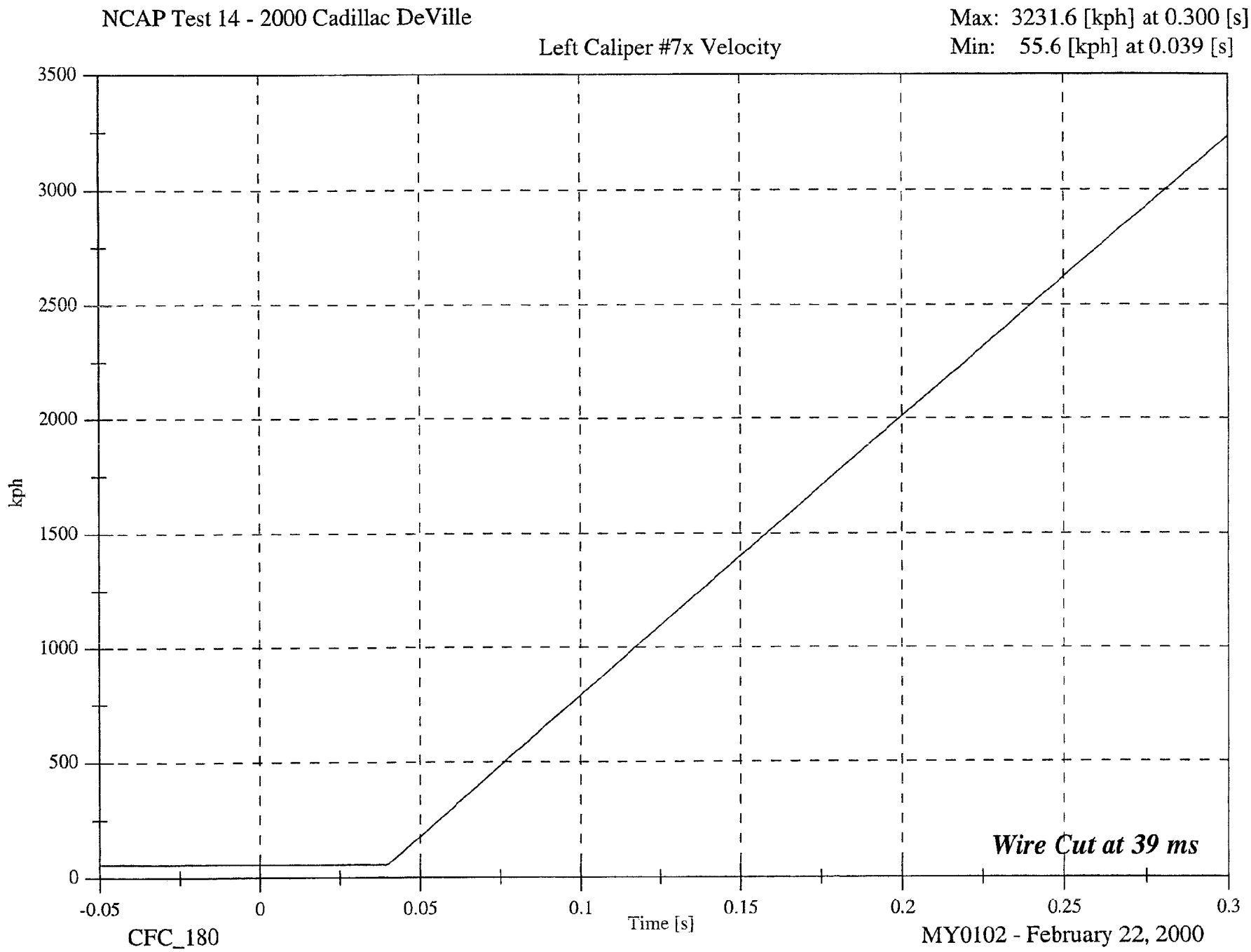

NCAP Test 14 - 2000 Cadillac DeVille
Right Caliper #5x Displacement
Max: 644.0 [mm] at 0.097 [s]
Min: -792.1 [mm] at -0.050 [s]
750
500
250
0
-250
-500
-750
-1000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

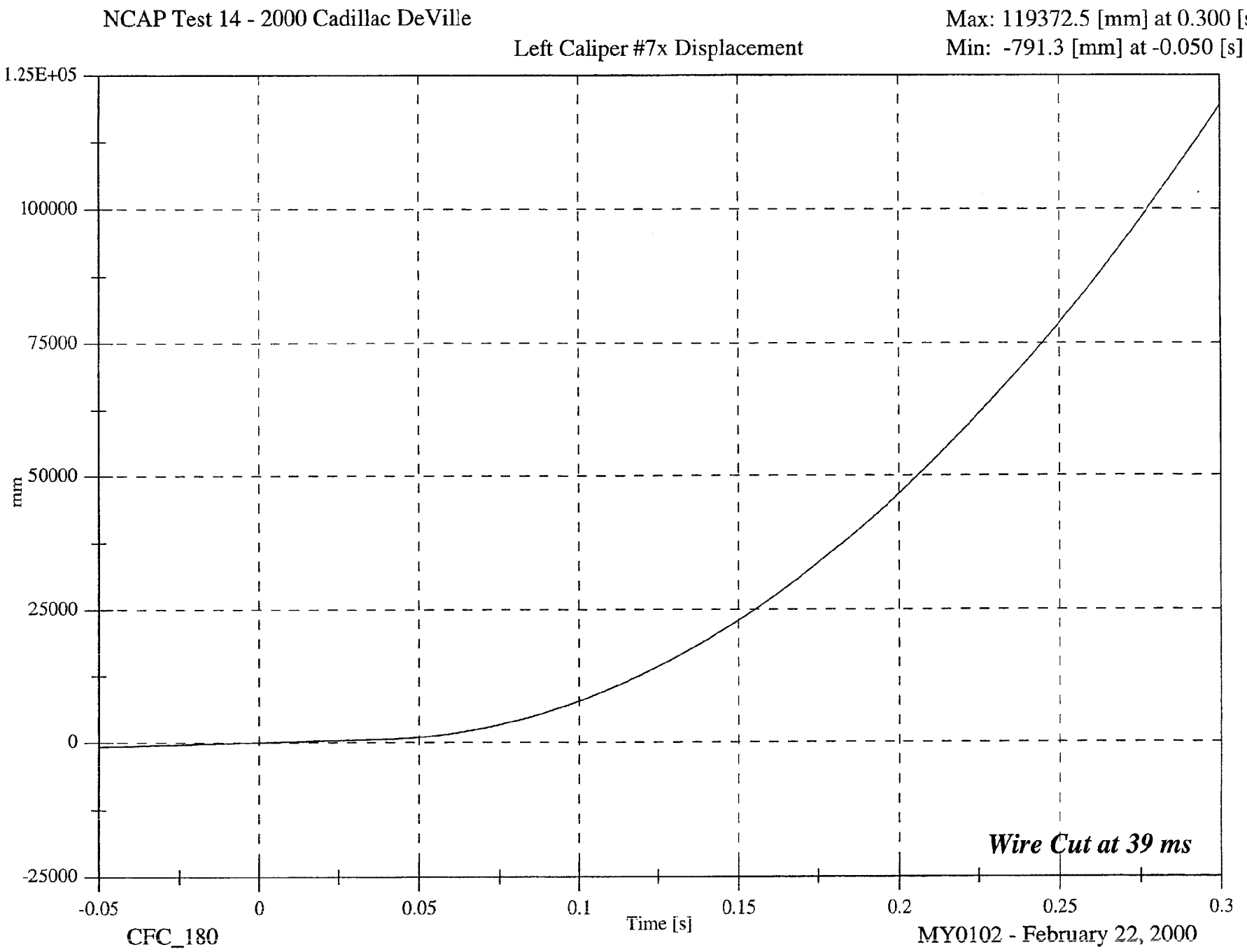

NCAP Test 14 - 2000 Cadillac DeVille
Instrument Panel #6x
Max: 122.0 [g] at 0.056 [s]
Min: -153.5 [g] at 0.046 [s]
150
100
50
0
-50
-100
-150
-200
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000

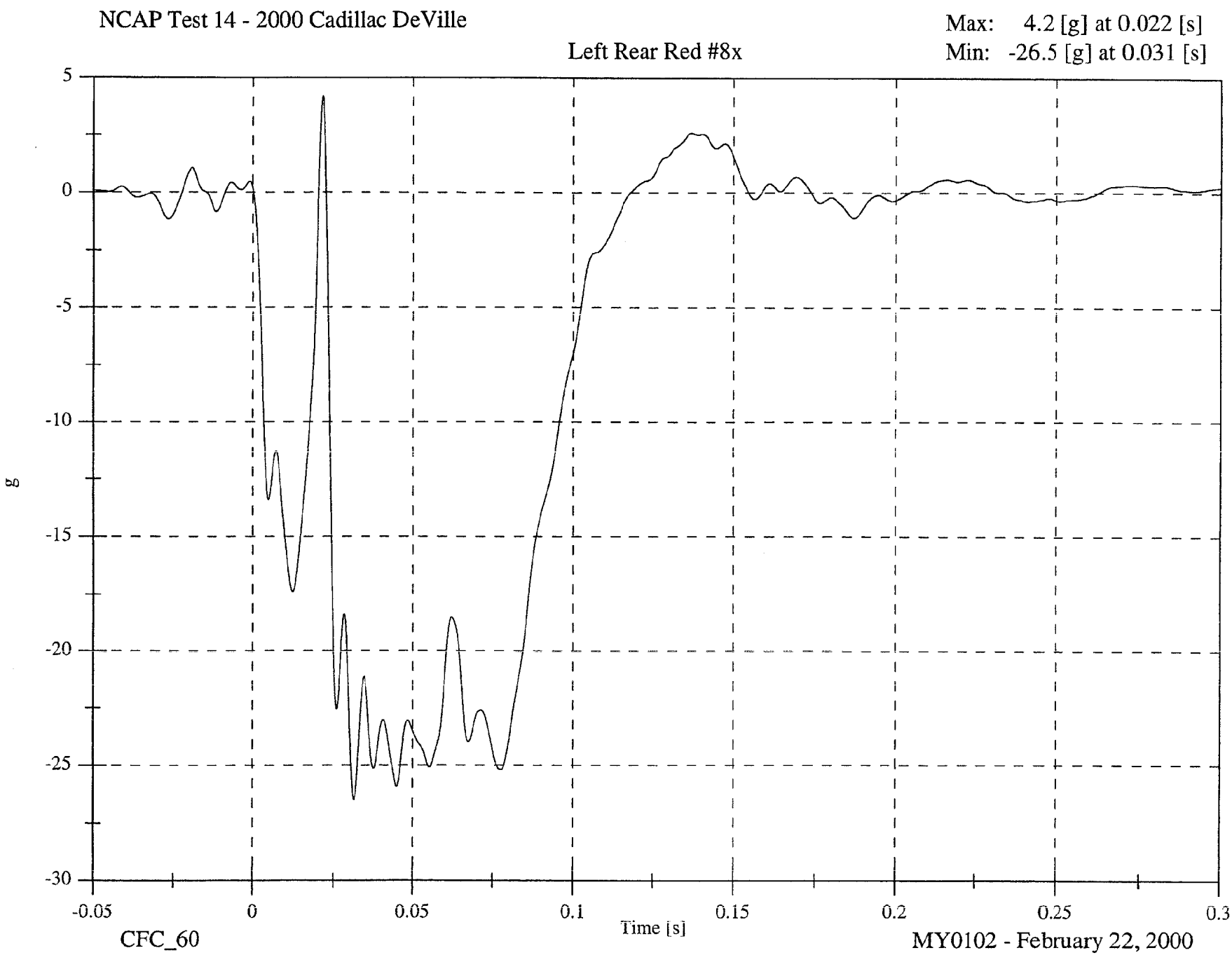

NCAP Test 14 - 2000 Cadillac DeVille
Instrument Panel #6x Velocity
Max: 57.3 [kph] at -0.041 [s]
Min: -8.9 [kph] at 0.136 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

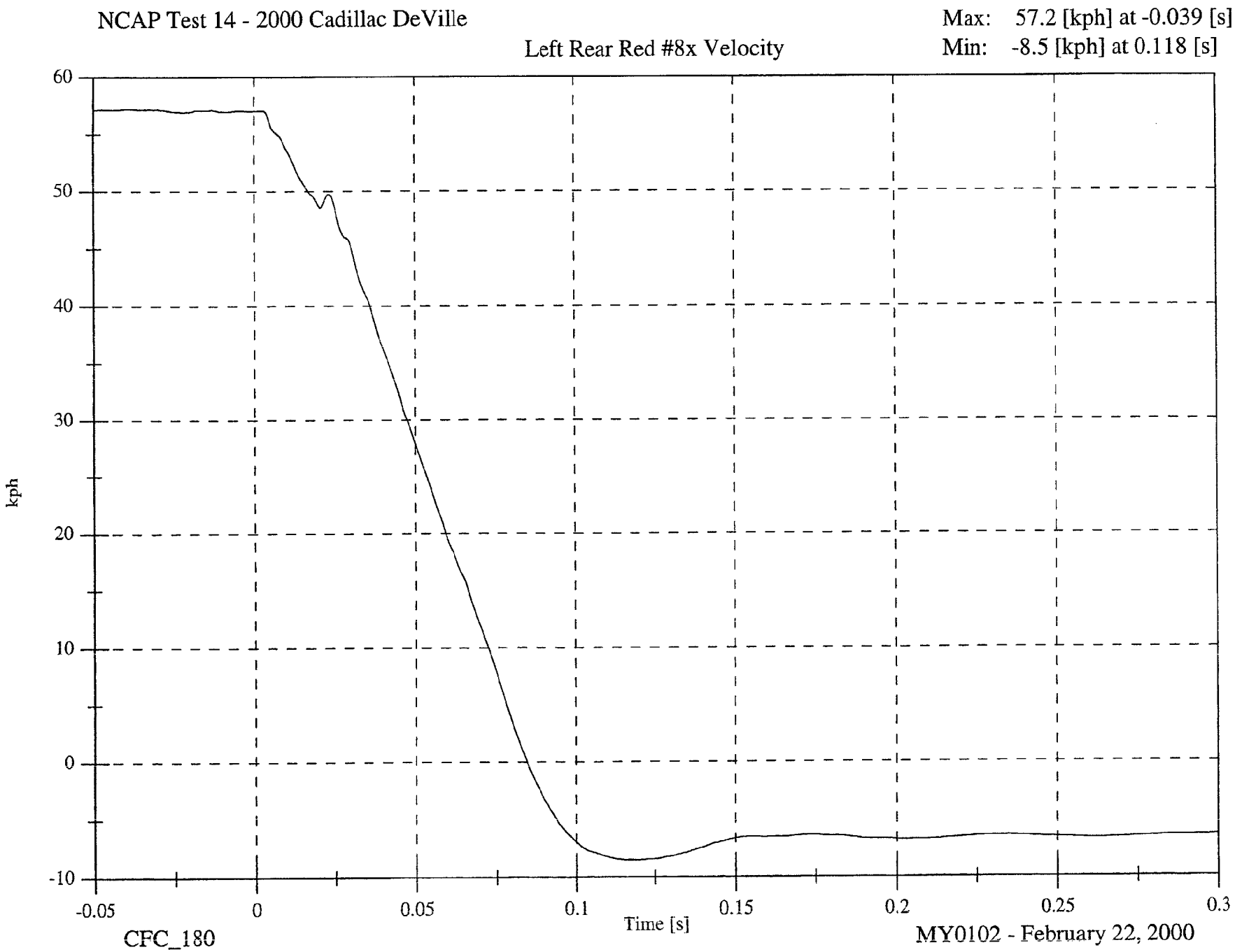

NCAP Test 14 - 2000 Cadillac DeVille
Instrument Panel #6x Displacement
Max: 668.6 [mm] at 0.080 [s]
Min: -793.4 [mm] at -0.050 [s]
750
500
250
0
-250
-500
-750
-1000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

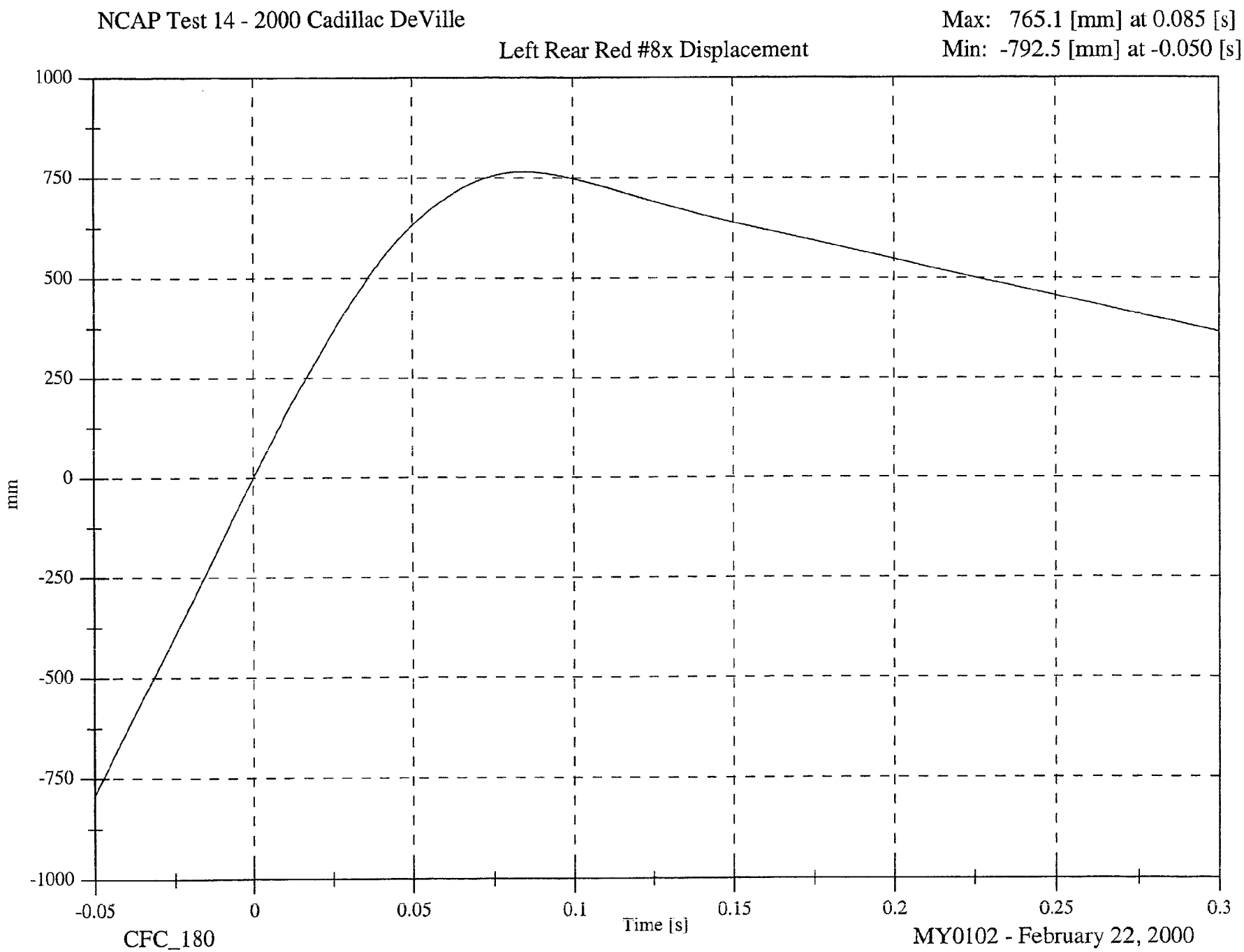

NCAP Test 14 - 2000 Cadillac DeVille
Left Caliper #7x
Max: 358.0 [g] at 0.044 [s]
Min: -13.0 [g] at 0.036 [s]
400
350
300
250
200
150
100
50
0
-50
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Wire Cut at 39 ms
CFC_60
MY0102 - February 22, 2000

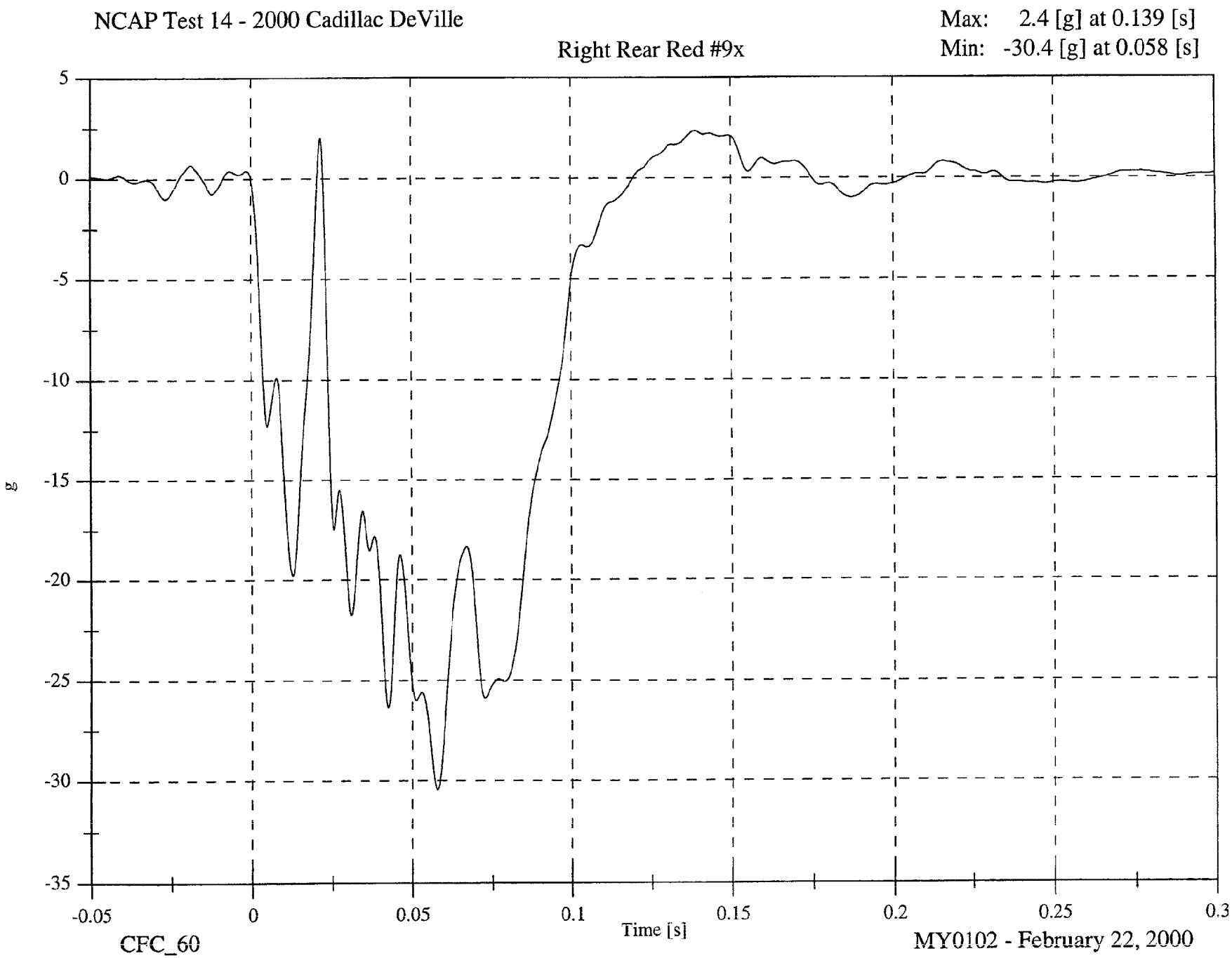

NCAP Test 14 - 2000 Cadillac DeVille
Left Caliper #7x Velocity
Max: 3231.6 [kph] at 0.300 [s]
Min: 55.6 [kph] at 0.039 [s]
3500
3000
2500
2000
1500
1000
500
0
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Wire Cut at 39 ms
CFC_180
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Left Caliper #7x Displacement
Max: 119372.5 [mm] at 0.300 [s]
Min: -791.3 [mm] at -0.050 [s]
1.25E+05
100000
75000
50000
25000
0
-25000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Wire Cut at 39 ms
CFC_180
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Left Rear Red #8x
Max: 4.2 [g] at 0.022 [s]
Min: -26.5 [g] at 0.031 [s]
5
0
-5
-10
-15
-20
-25
-30
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Left Rear Red #8x Velocity
Max: 57.2 [kph] at -0.039 [s]
Min: -8.5 [kph] at 0.118 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000

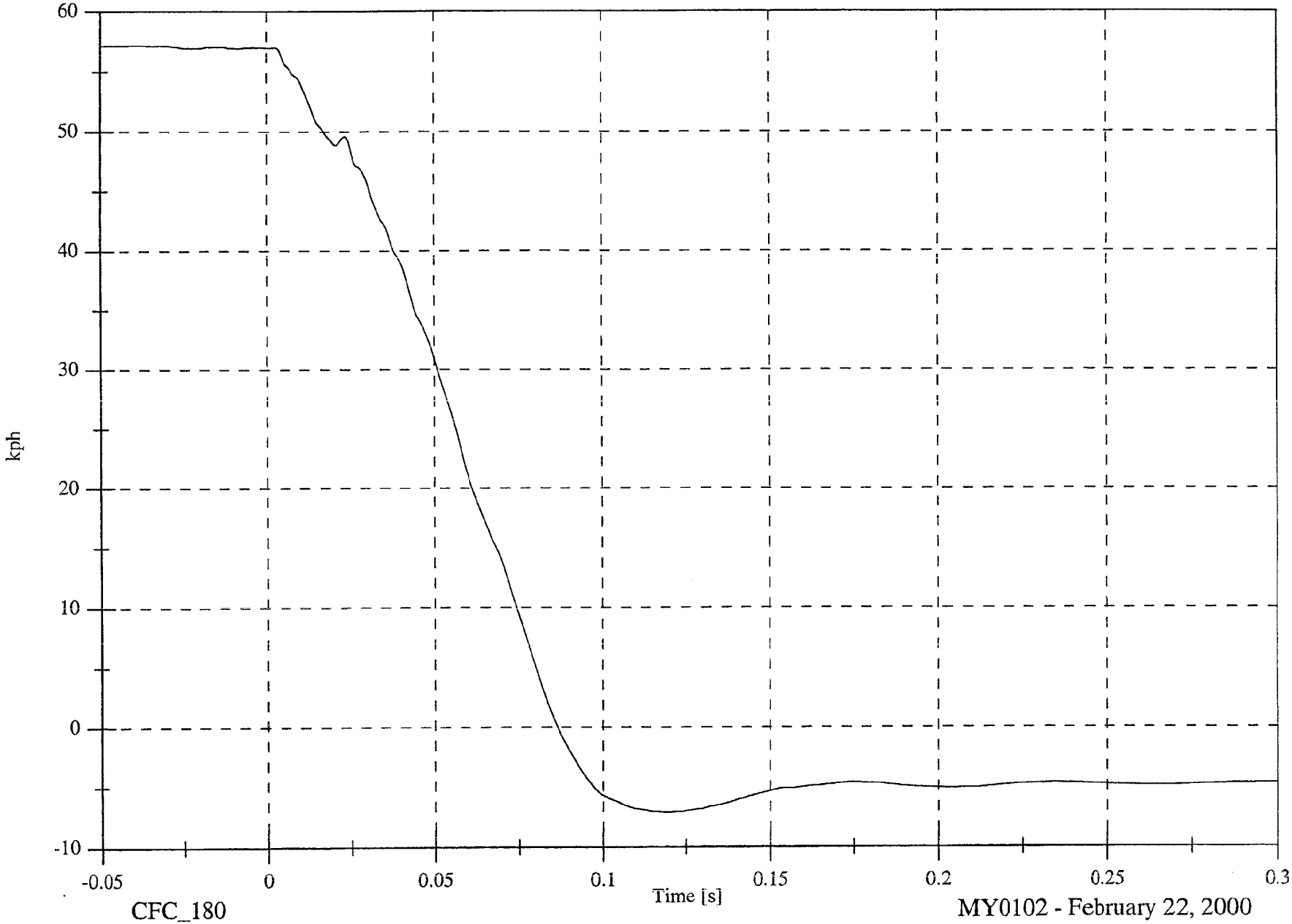

NCAP Test 14 - 2000 Cadillac DeVille
Left Rear Red #8x Displacement
Max: 765.1 [mm] at 0.085 [s]
Min: -792.5 [mm] at -0.050 [s]
1000
750
500
250
0
-250
-500
-750
-1000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac DeVille
Right Rear Red #9x
Max: 2.4 [g] at 0.139 [s]
Min: -30.4 [g] at 0.058 [s]
5
0
-5
-10
-15
-20
-25
-30
-35
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac DeVille

Right Rear Red #9x Velocity

Max: 57.2 [kph] at -0.039 [s]
Min: -7.1 [kph] at 0.119 [s]



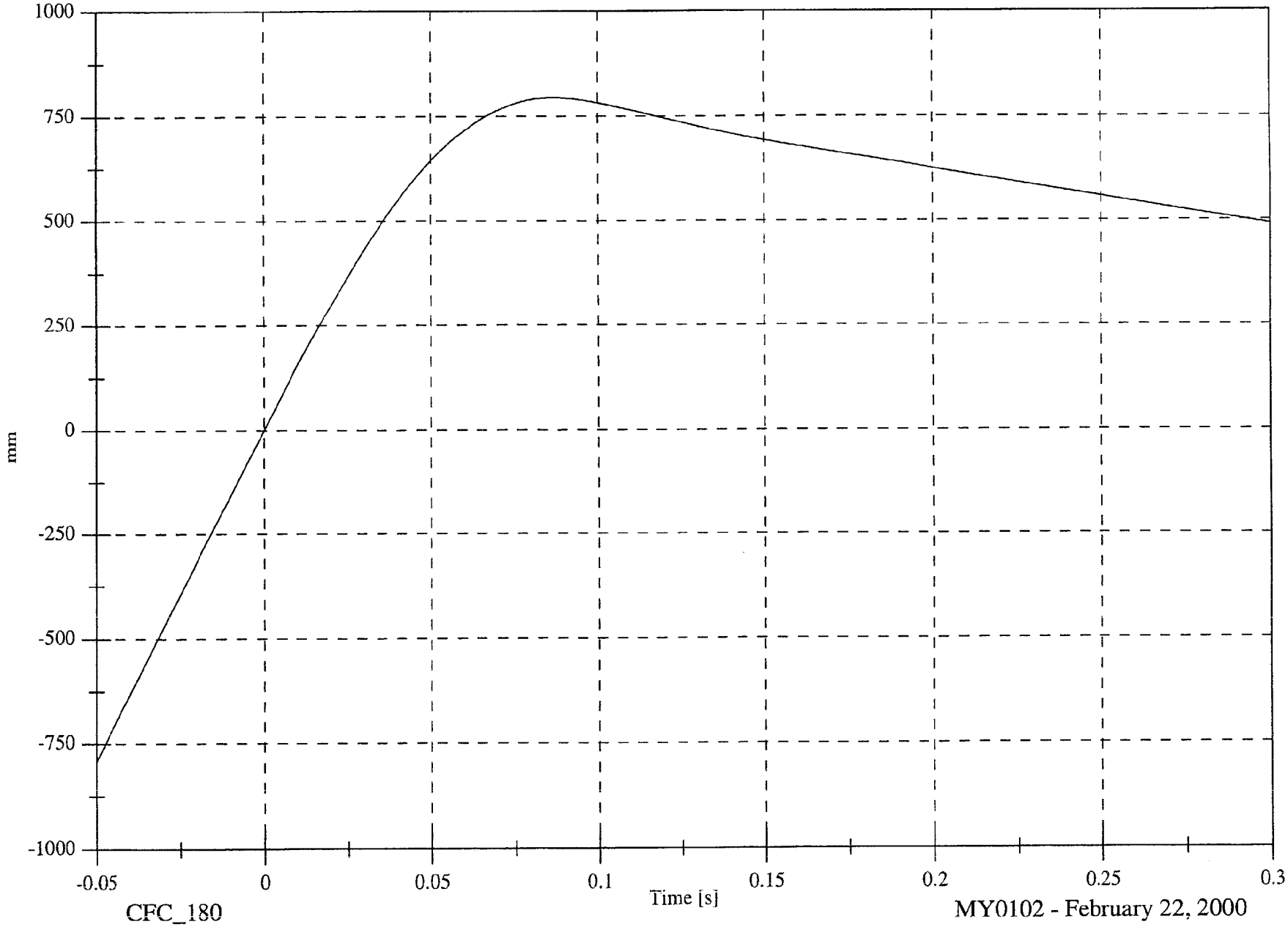
CFC_180

MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac DeVille

Right Rear Red #9x Displacement

Max: 794.7 [mm] at 0.086 [s]
Min: -792.5 [mm] at -0.050 [s]



CFC_180

MY0102 - February 22, 2000

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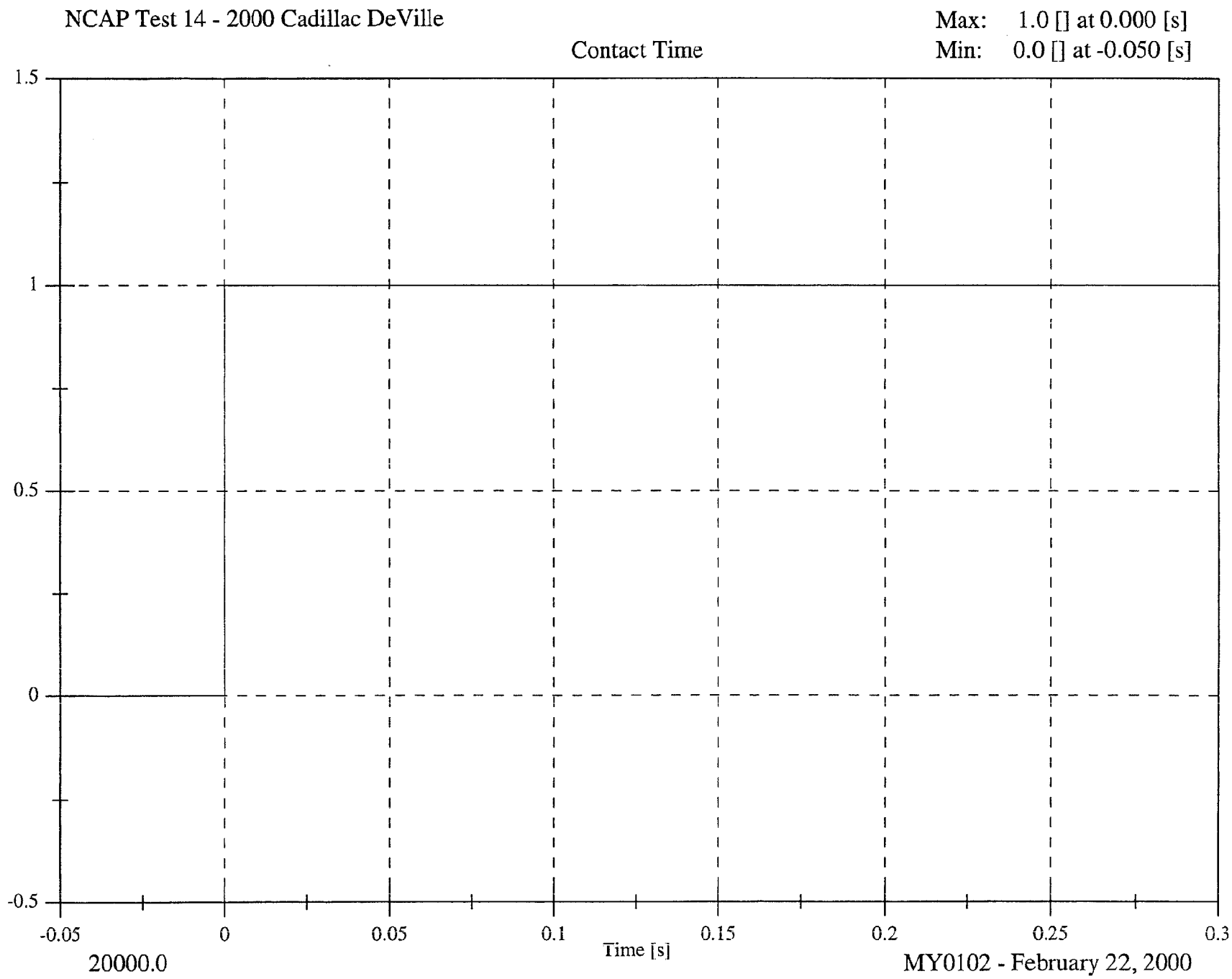
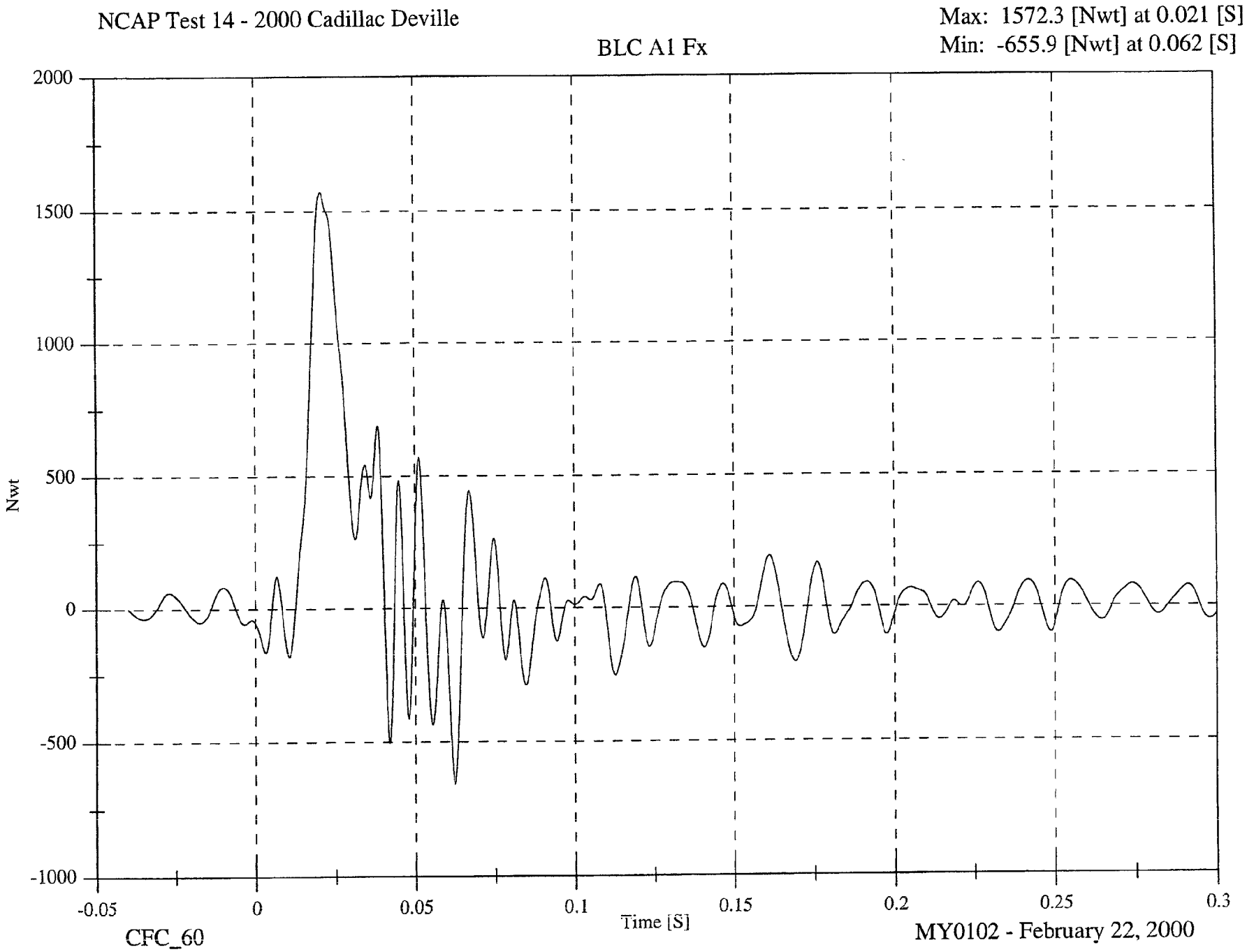
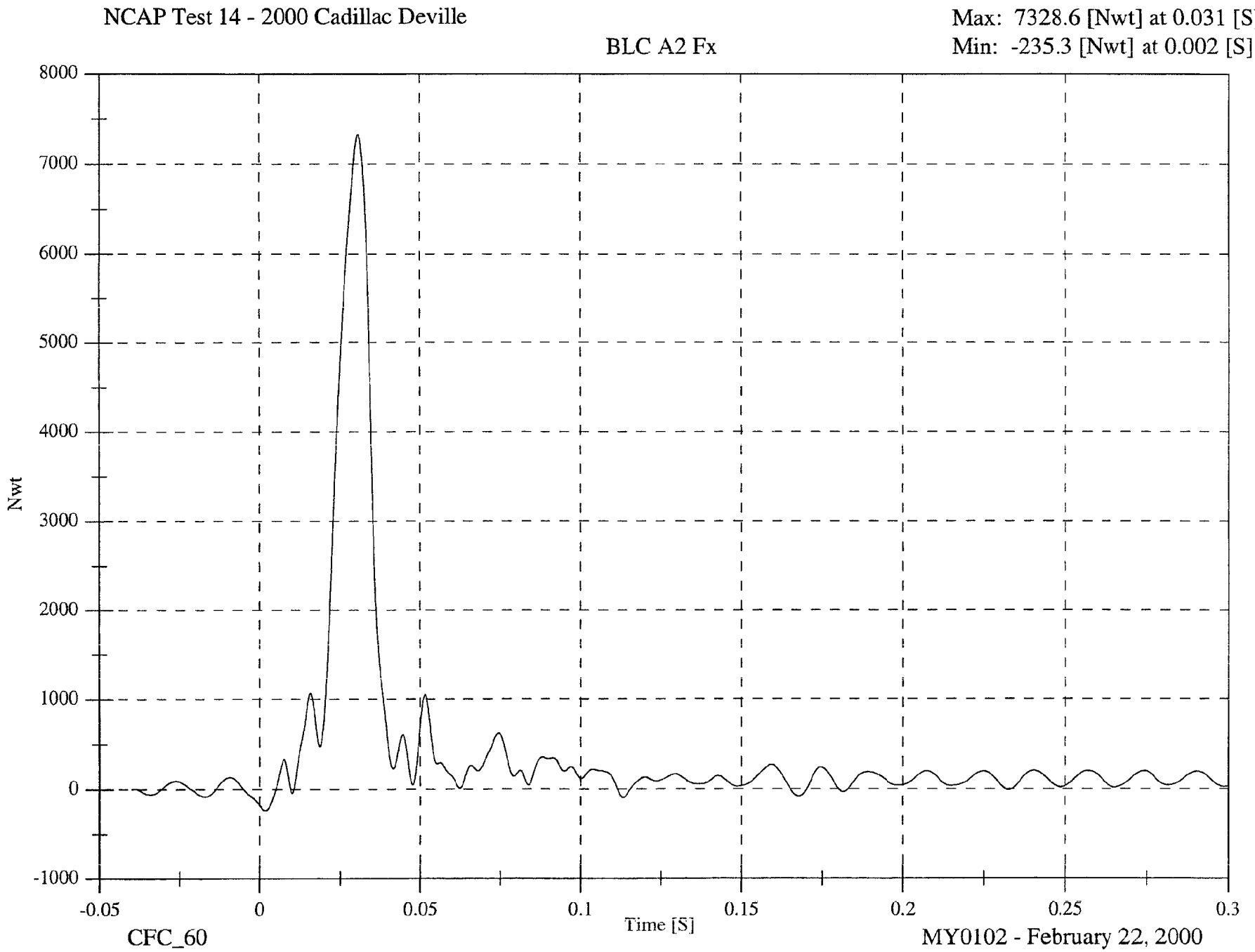
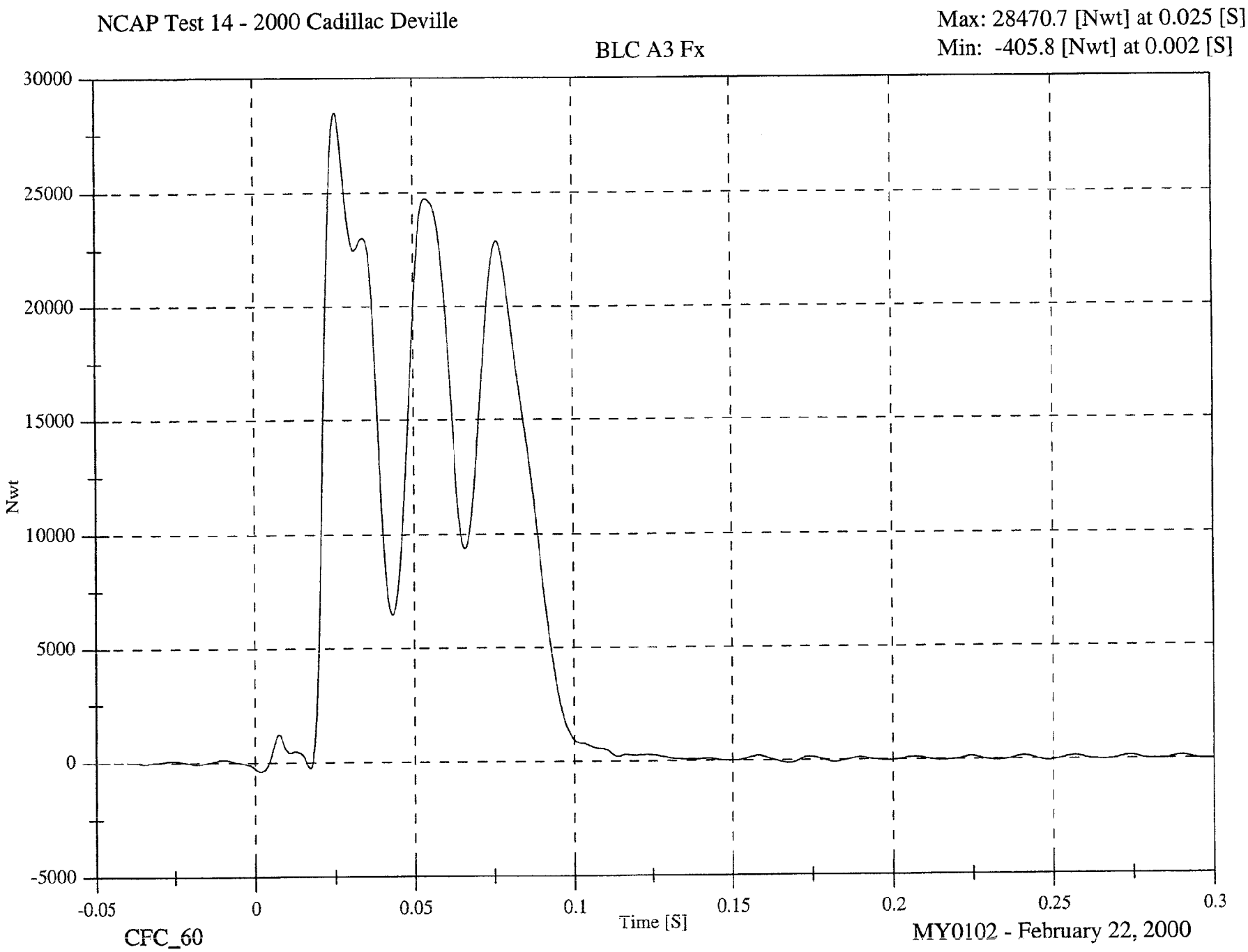
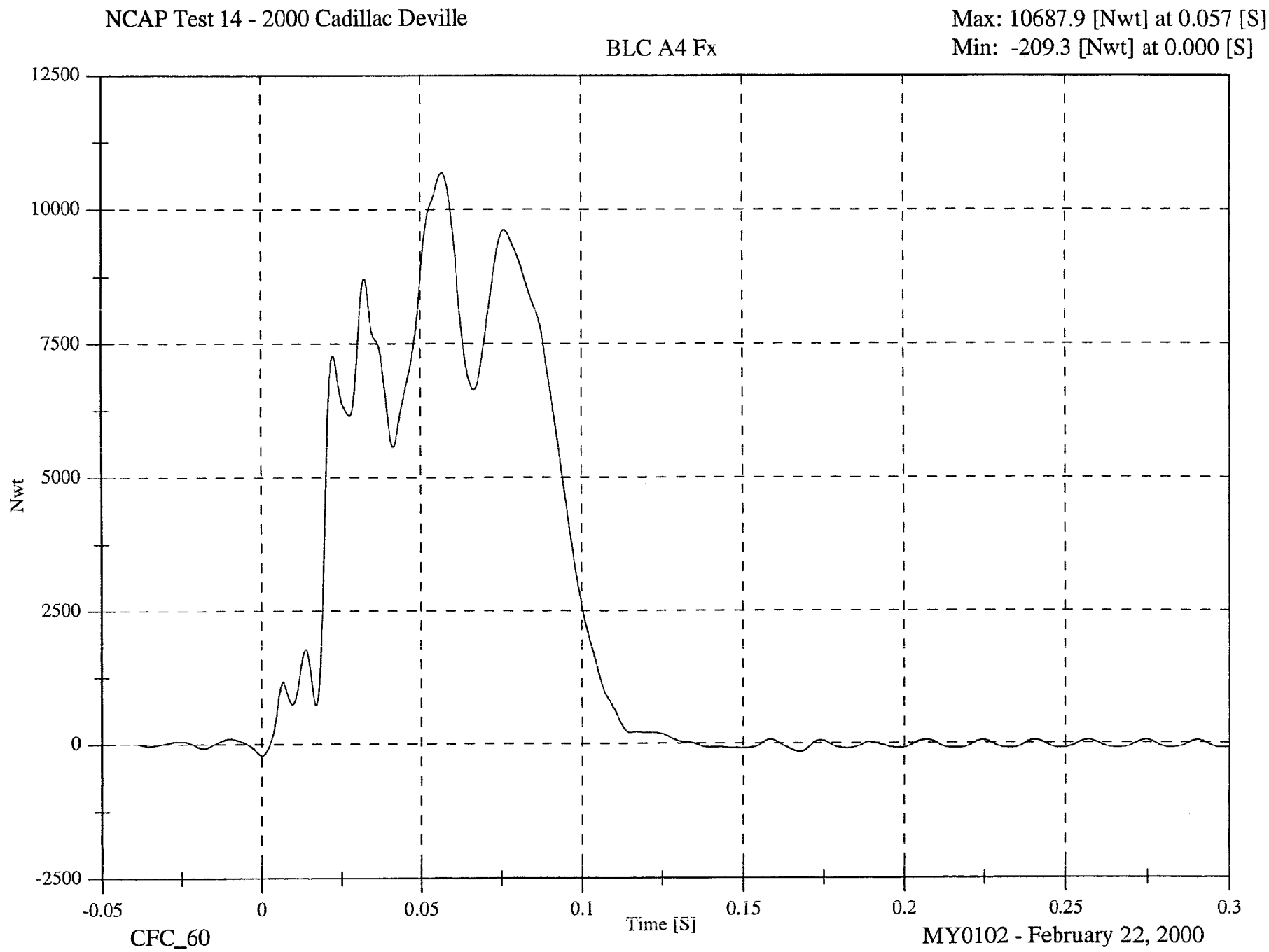
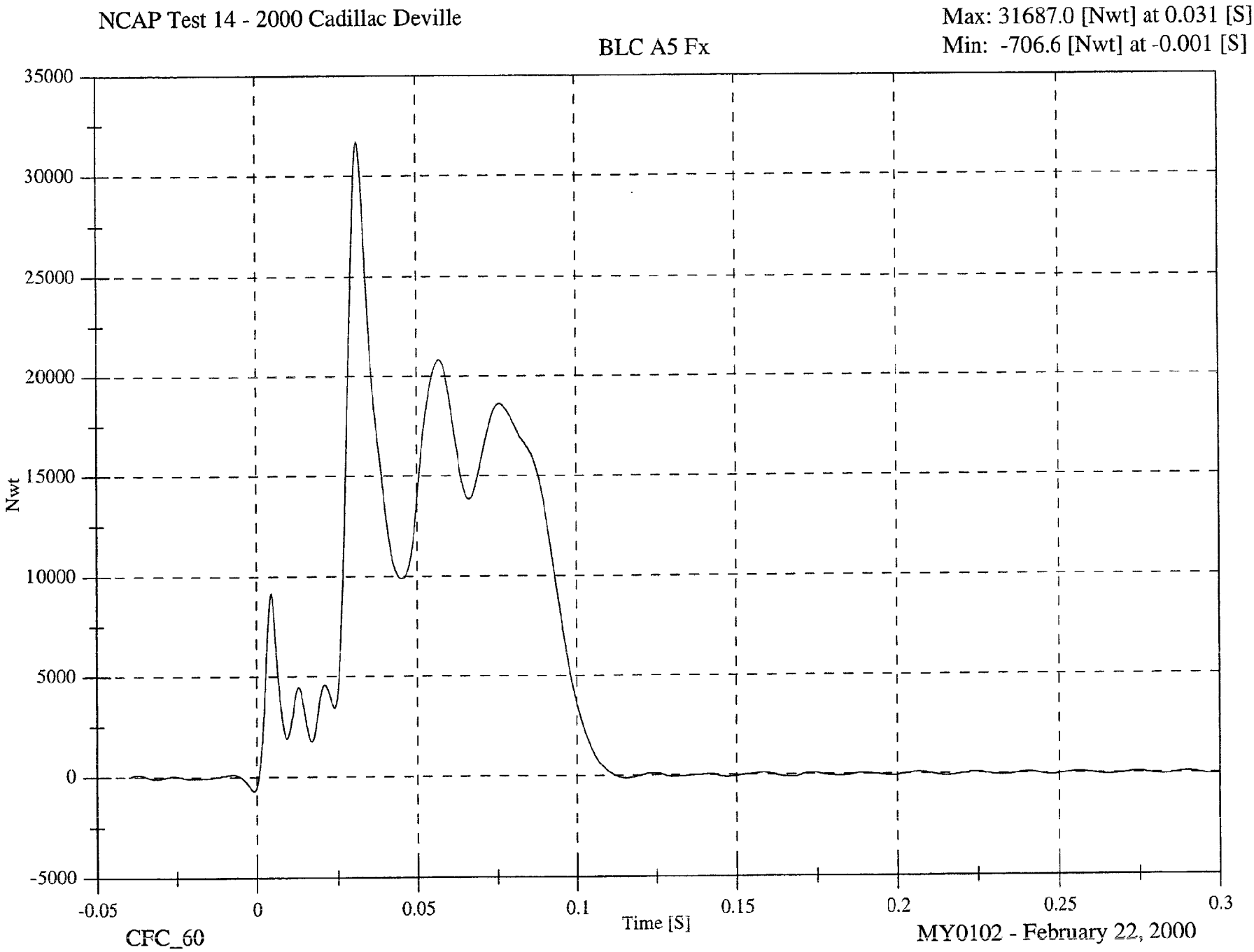

NCAP Test 14 - 2000 Cadillac DeVille
Contact Time
Max: 1.0 [] at 0.000 [s]
Min: 0.0 [] at -0.050 [s]
1.5
1
0.5
0
-0.5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
20000.0
MY0102 - February 22, 2000

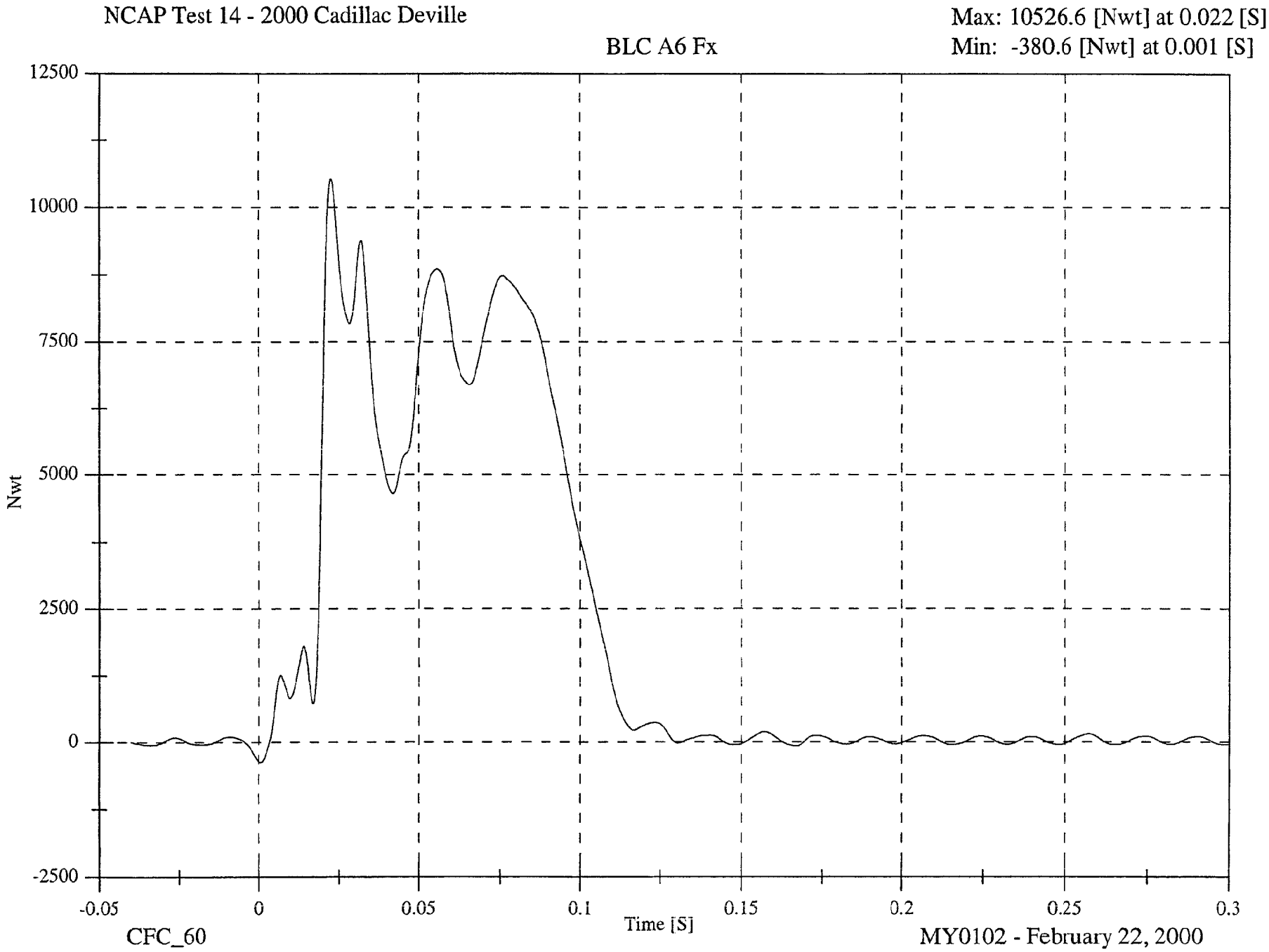

NCAP Test 14 - 2000 Cadillac Deville
BLC A1 Fx
Max: 1572.3 [Nwt] at 0.021 [S]
Min: -655.9 [Nwt] at 0.062 [S]
2000
1500
1000
500
0
-500
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

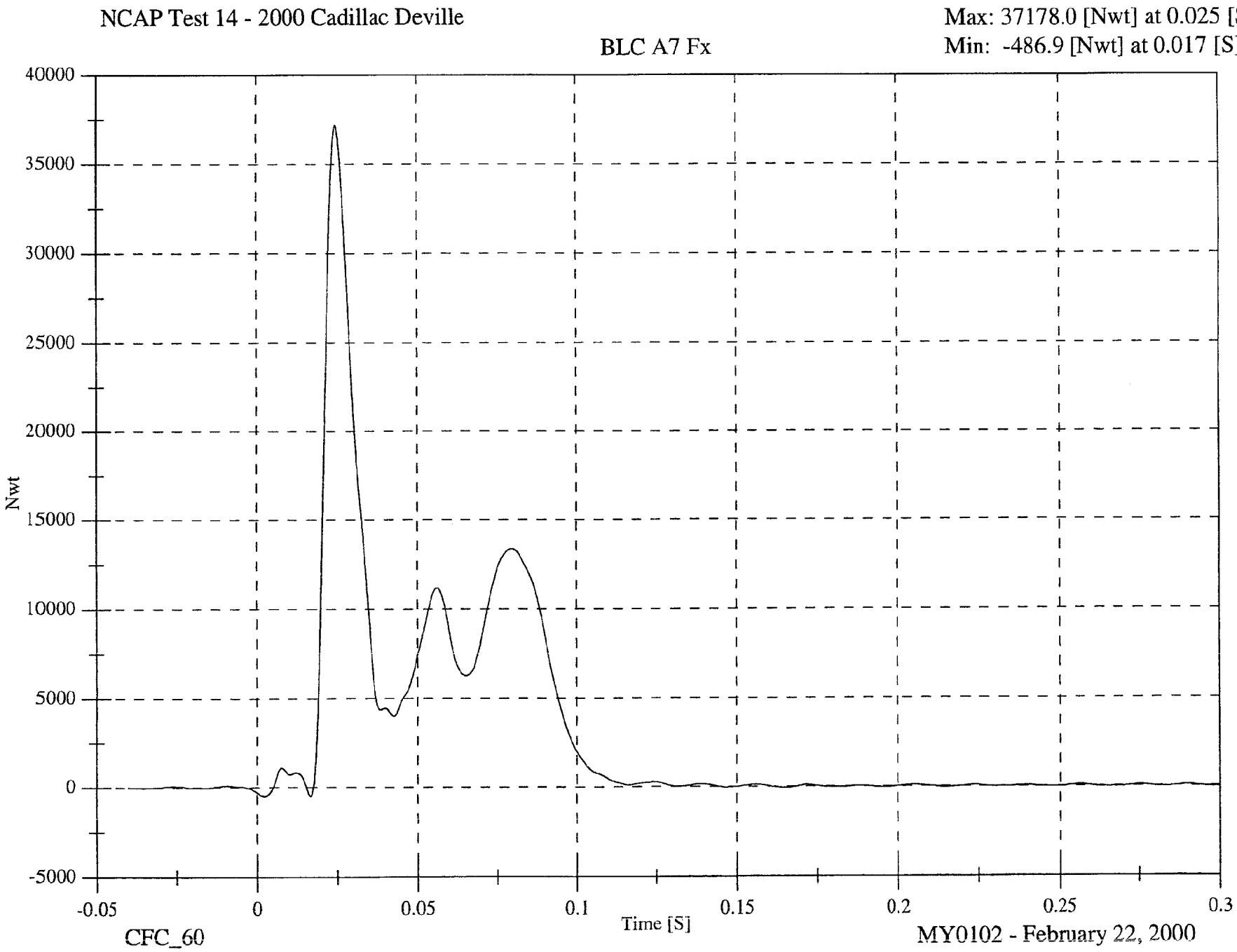

NCAP Test 14 - 2000 Cadillac Deville
BLC A2 Fx
Max: 7328.6 [Nwt] at 0.031 [S]
Min: -235.3 [Nwt] at 0.002 [S]
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

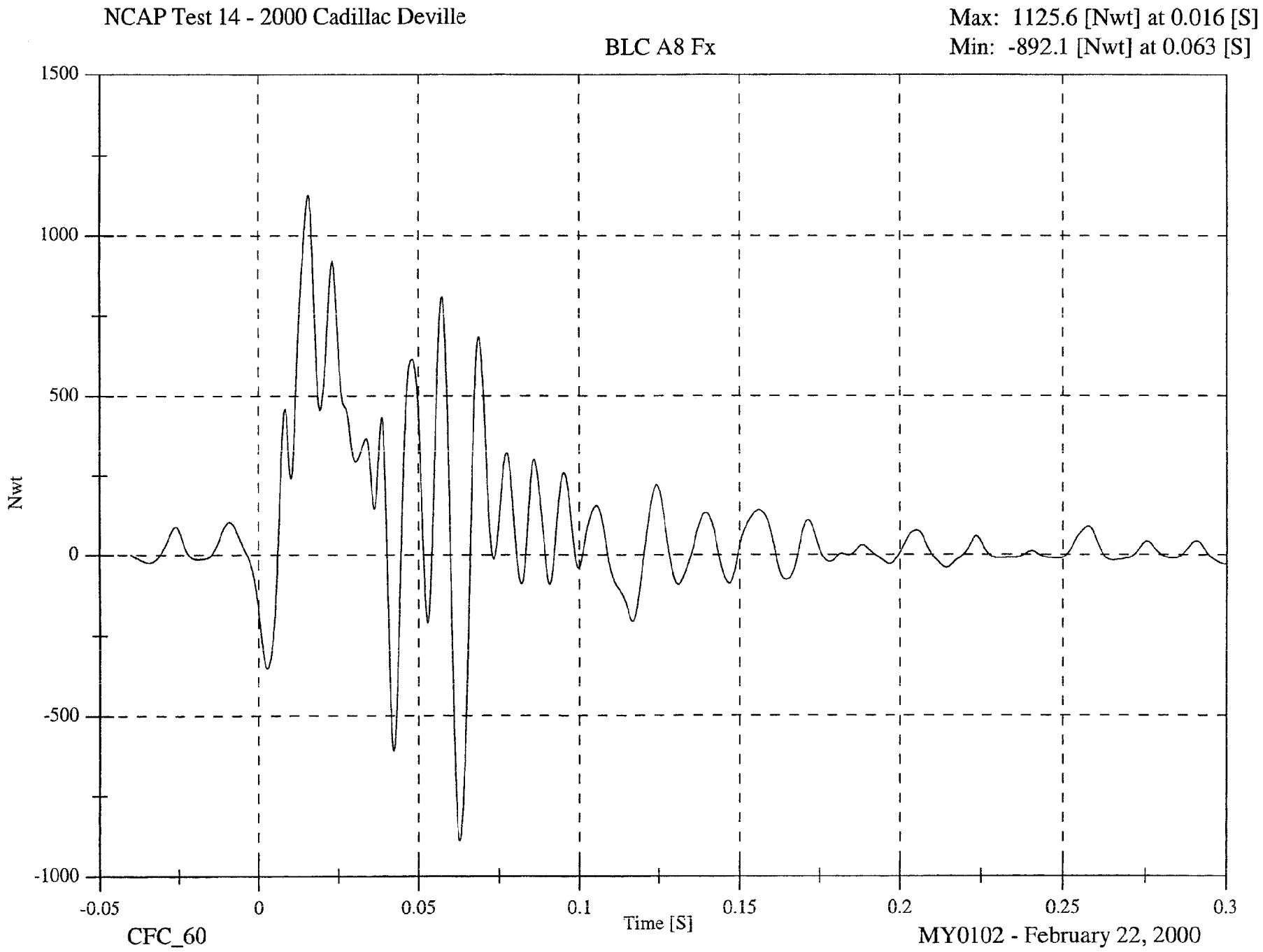

NCAP Test 14 - 2000 Cadillac Deville
BLC A3 Fx
Max: 28470.7 [Nwt] at 0.025 [S]
Min: -405.8 [Nwt] at 0.002 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

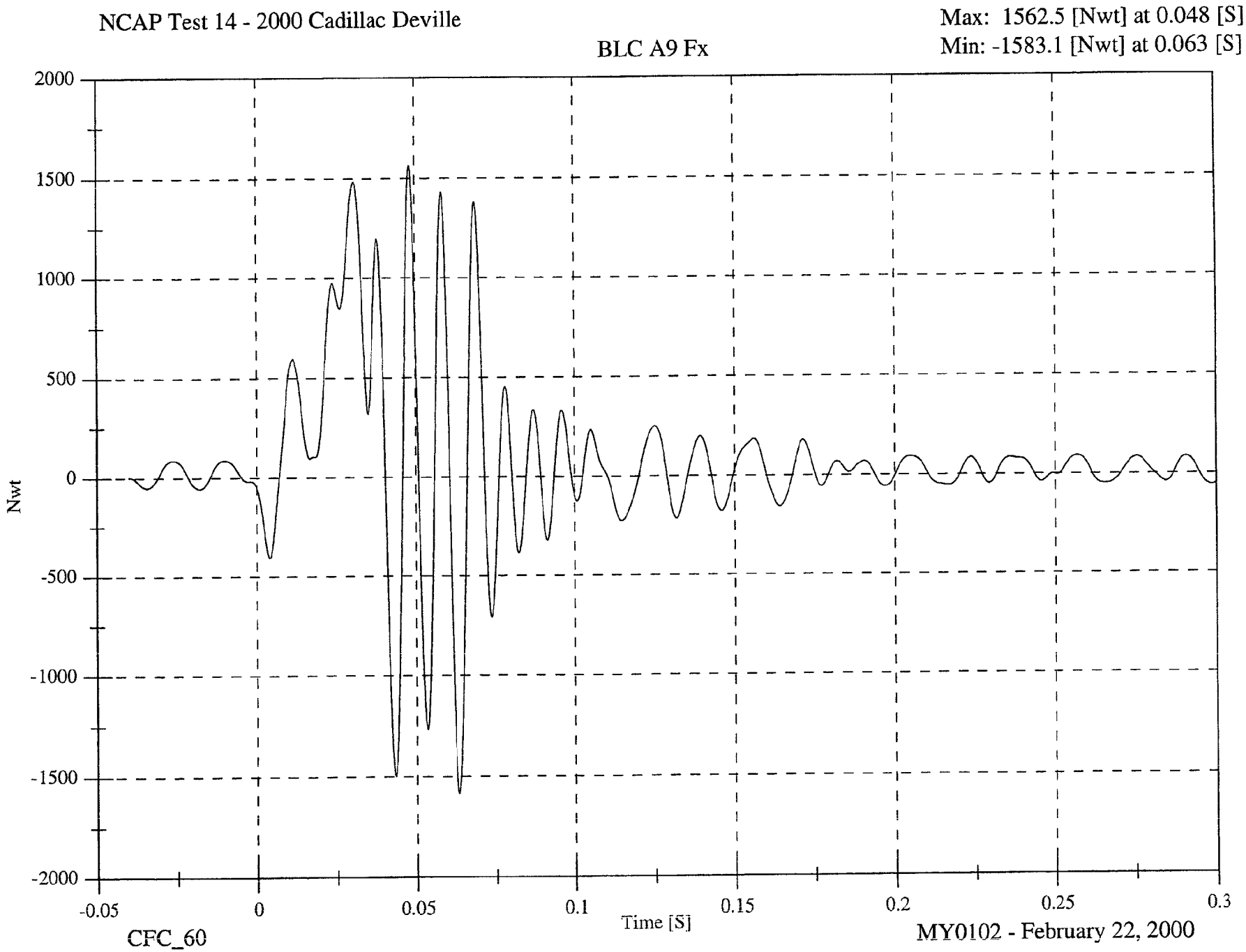

NCAP Test 14 - 2000 Cadillac Deville
BLC A4 Fx
Max: 10687.9 [Nwt] at 0.057 [S]
Min: -209.3 [Nwt] at 0.000 [S]
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

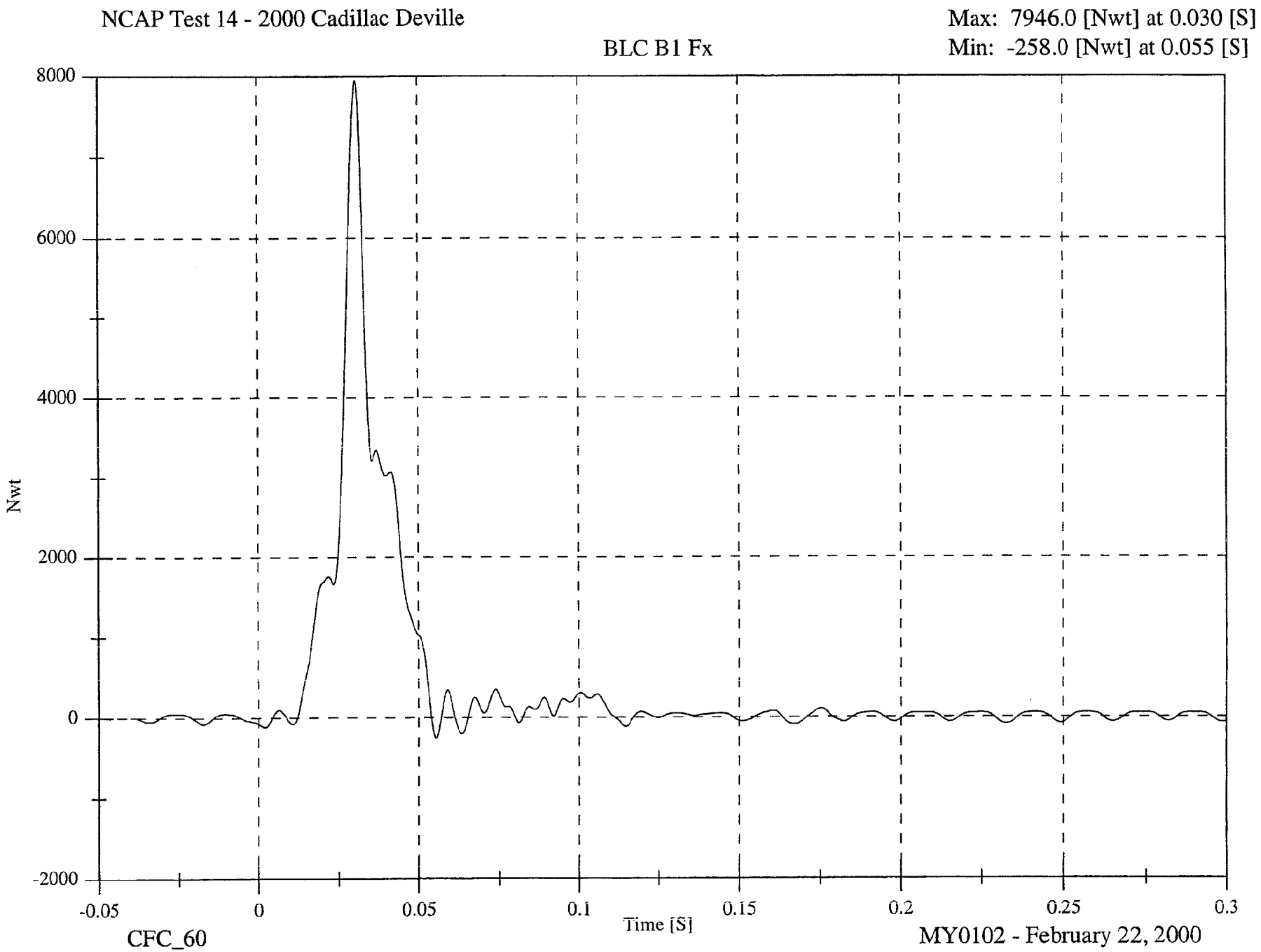

NCAP Test 14 - 2000 Cadillac Deville
BLC A5 Fx
Max: 31687.0 [Nwt] at 0.031 [S]
Min: -706.6 [Nwt] at -0.001 [S]
35000
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

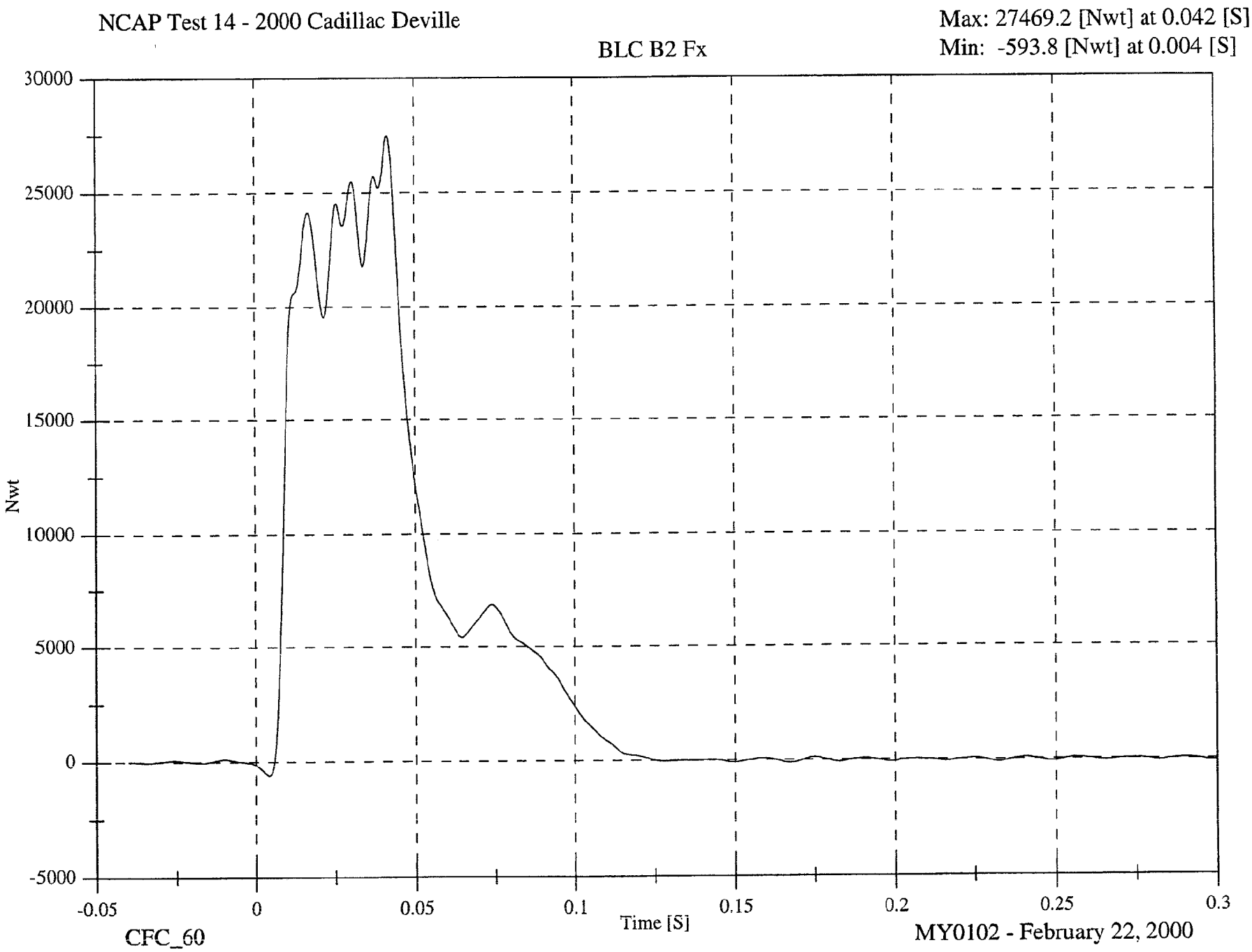

NCAP Test 14 - 2000 Cadillac Deville
BLC A6 Fx
Max: 10526.6 [Nwt] at 0.022 [S]
Min: -380.6 [Nwt] at 0.001 [S]
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

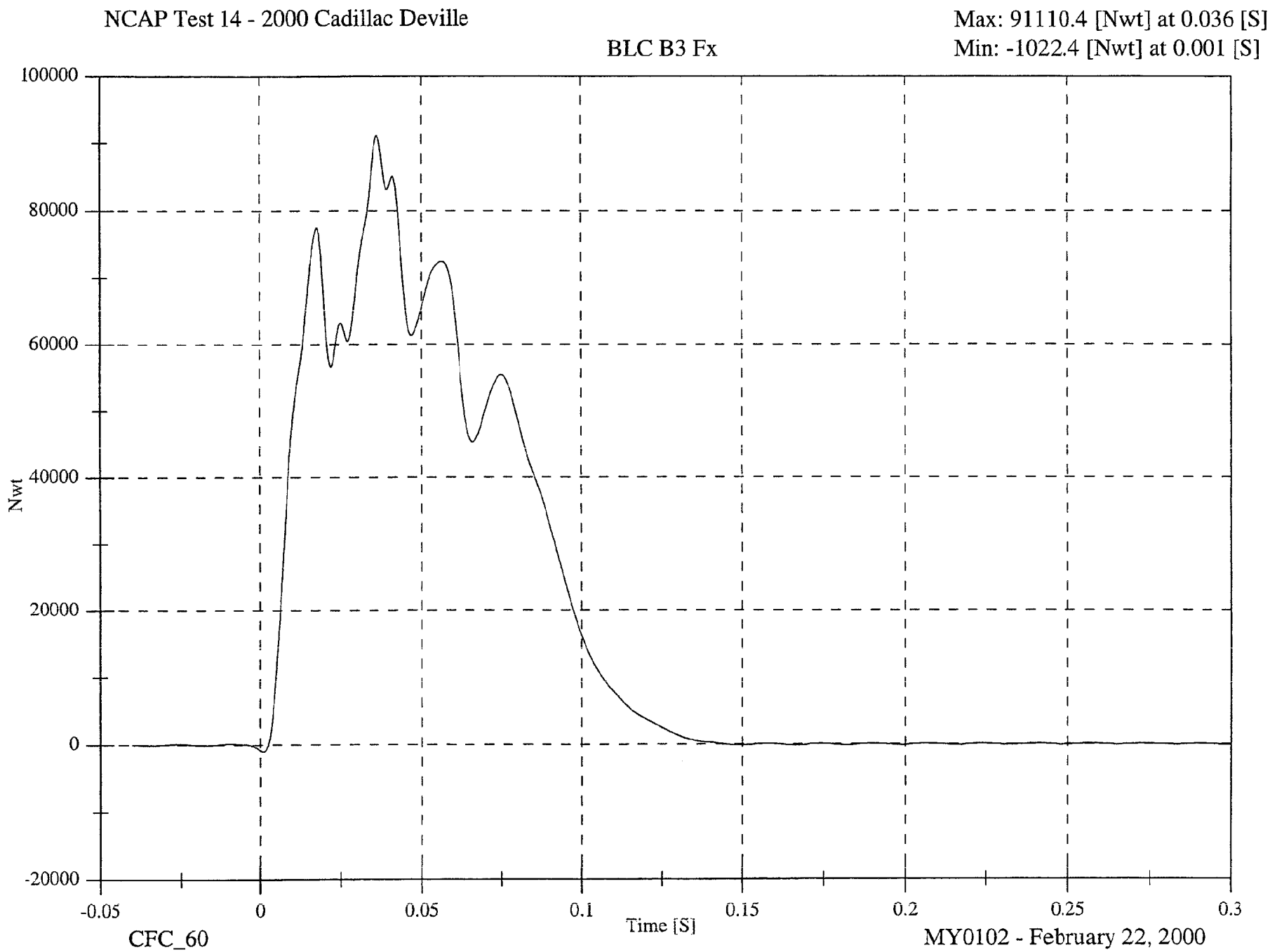

NCAP Test 14 - 2000 Cadillac Deville
BLC A7 Fx
Max: 37178.0 [Nwt] at 0.025 [S]
Min: -486.9 [Nwt] at 0.017 [S]
40000
35000
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC A8 Fx
Max: 1125.6 [Nwt] at 0.016 [S]
Min: -892.1 [Nwt] at 0.063 [S]
1500
1000
500
0
-500
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC A9 Fx
Max: 1562.5 [Nwt] at 0.048 [S]
Min: -1583.1 [Nwt] at 0.063 [S]
2000
1500
1000
500
0
-500
-1000
-1500
-2000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC B1 Fx
Max: 7946.0 [Nwt] at 0.030 [S]
Min: -258.0 [Nwt] at 0.055 [S]
8000
6000
4000
2000
0
-2000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

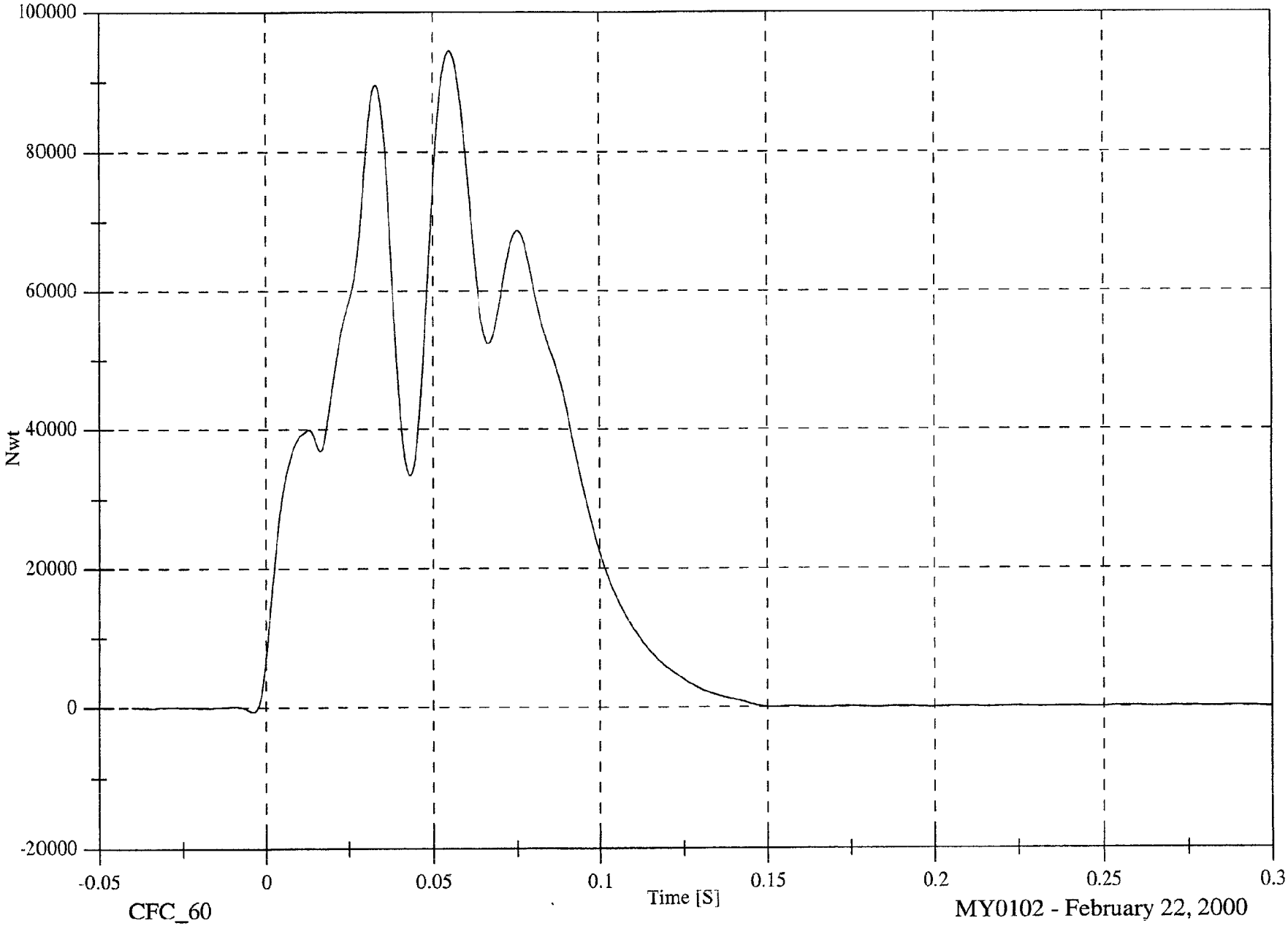

NCAP Test 14 - 2000 Cadillac Deville
BLC B2 Fx
Max: 27469.2 [Nwt] at 0.042 [S]
Min: -593.8 [Nwt] at 0.004 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC B3 Fx
Max: 91110.4 [Nwt] at 0.036 [S]
Min: -1022.4 [Nwt] at 0.001 [S]
100000
80000
60000
40000
20000
0
-20000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

BLC B4 Fx

Max: 94417.9 [Nwt] at 0.055 [S]
Min: -595.3 [Nwt] at -0.004 [S]



CFC_60

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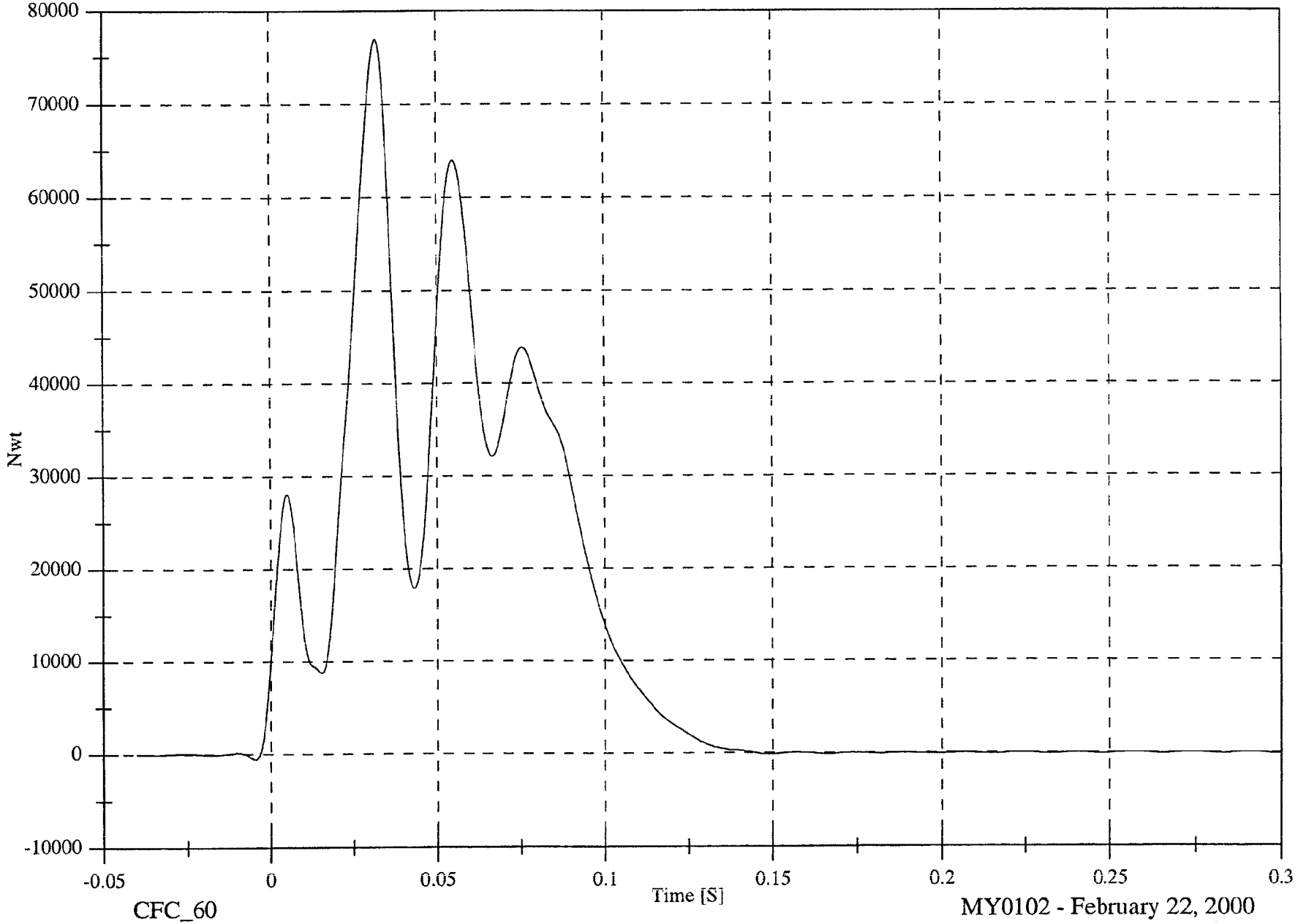
NCAP Test 14 - 2000 Cadillac Deville

BLC B5 Fx

Max: 76895.2 [Nwt] at 0.032 [S]
Min: -545.3 [Nwt] at -0.005 [S]



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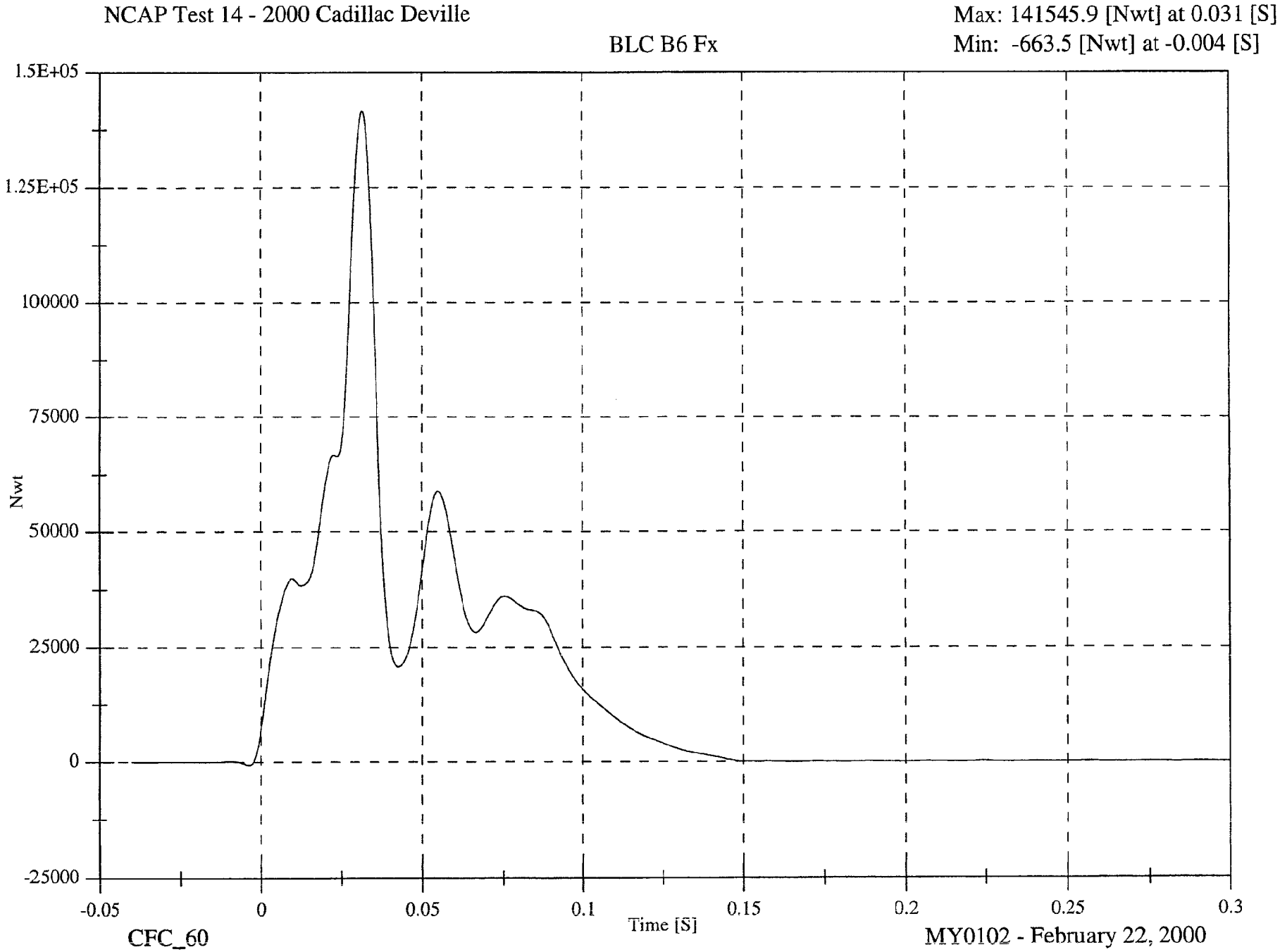
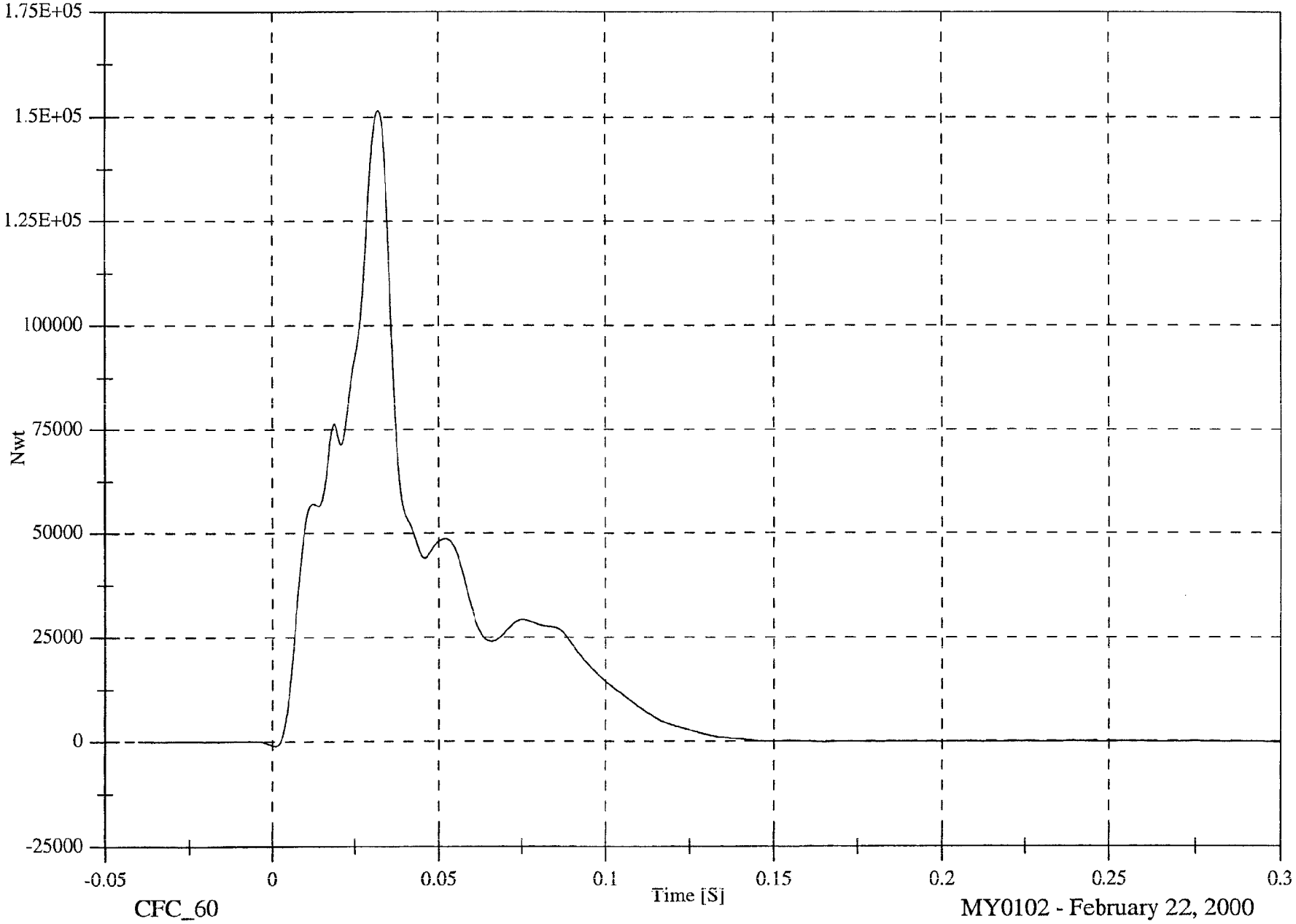

NCAP Test 14 - 2000 Cadillac Deville
BLC B6 Fx
Max: 141545.9 [Nwt] at 0.031 [S]
Min: -663.5 [Nwt] at -0.004 [S]
1.5E+05
1.25E+05
100000
75000
50000
25000
0
-25000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

BLC B7 Fx

Max: 151487.6 [Nwt] at 0.032 [S]
Min: -1104.2 [Nwt] at 0.001 [S]



CFC_60

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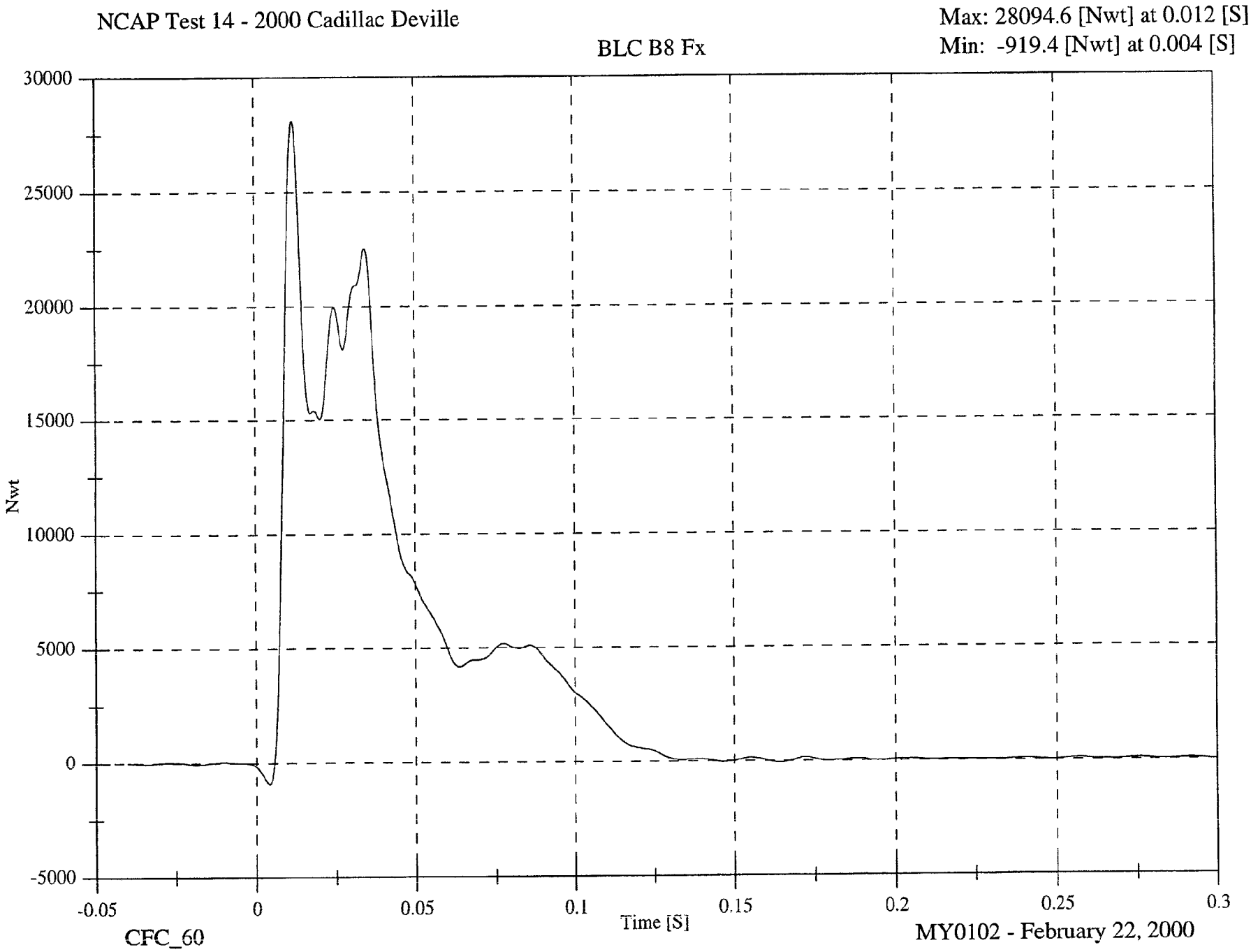
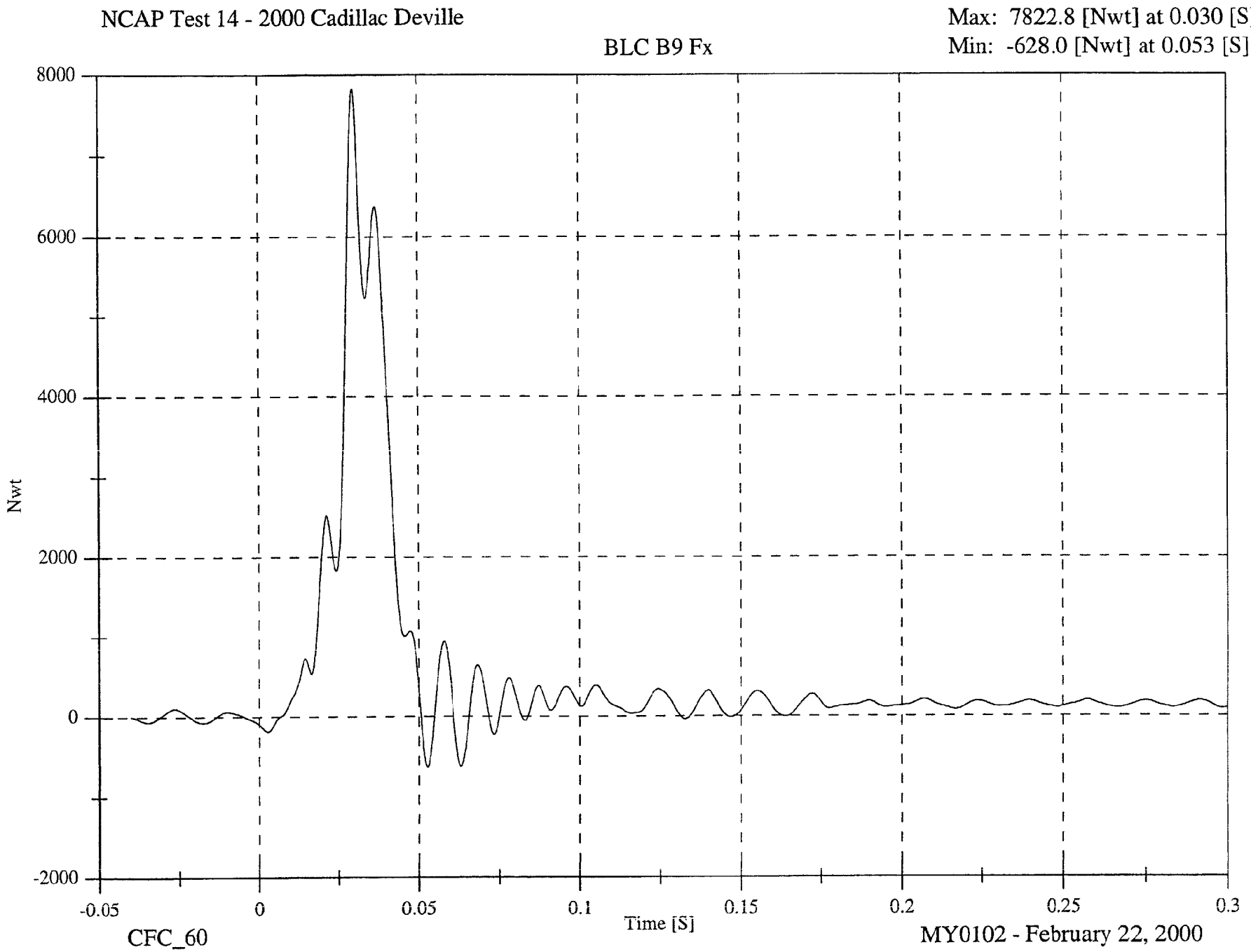
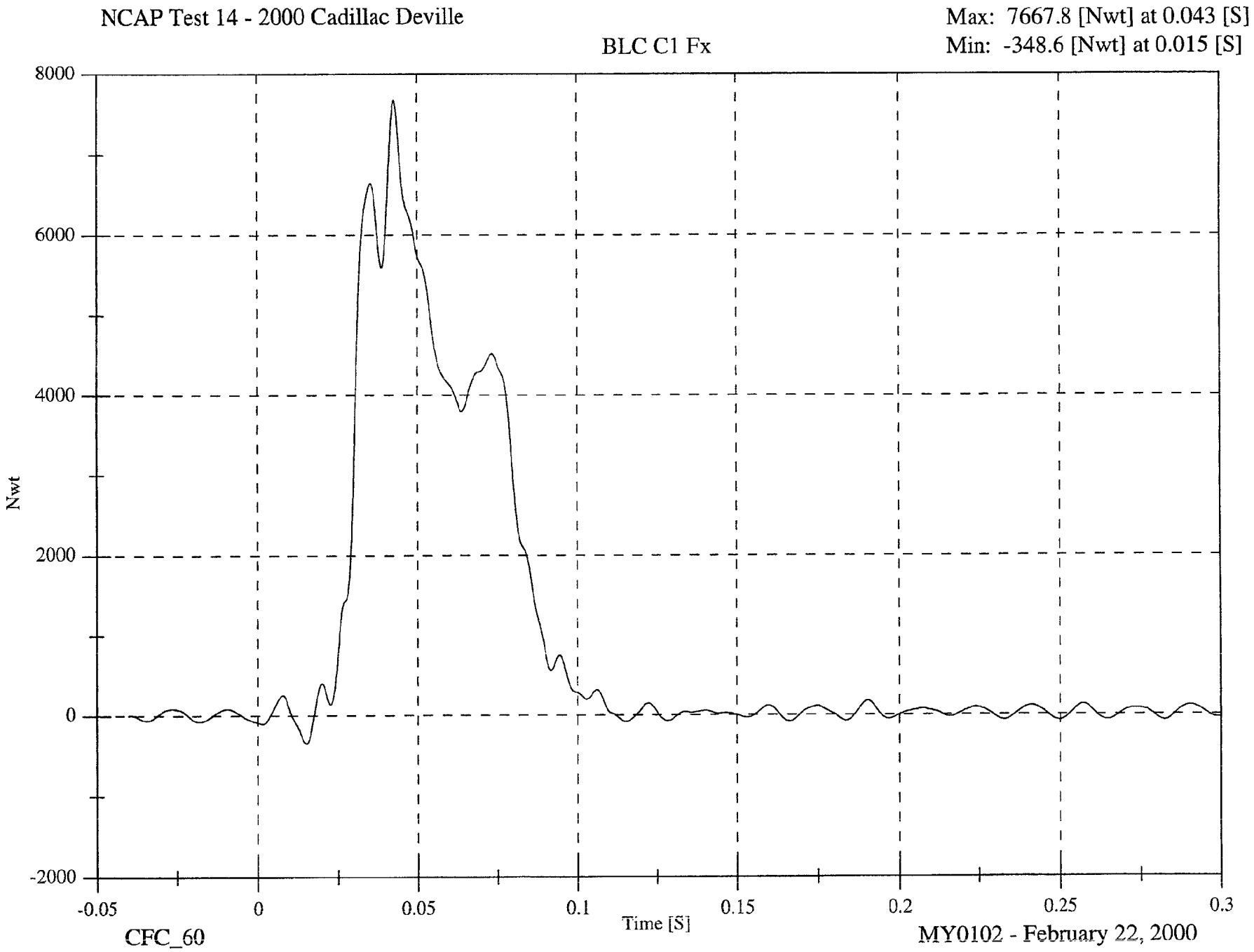
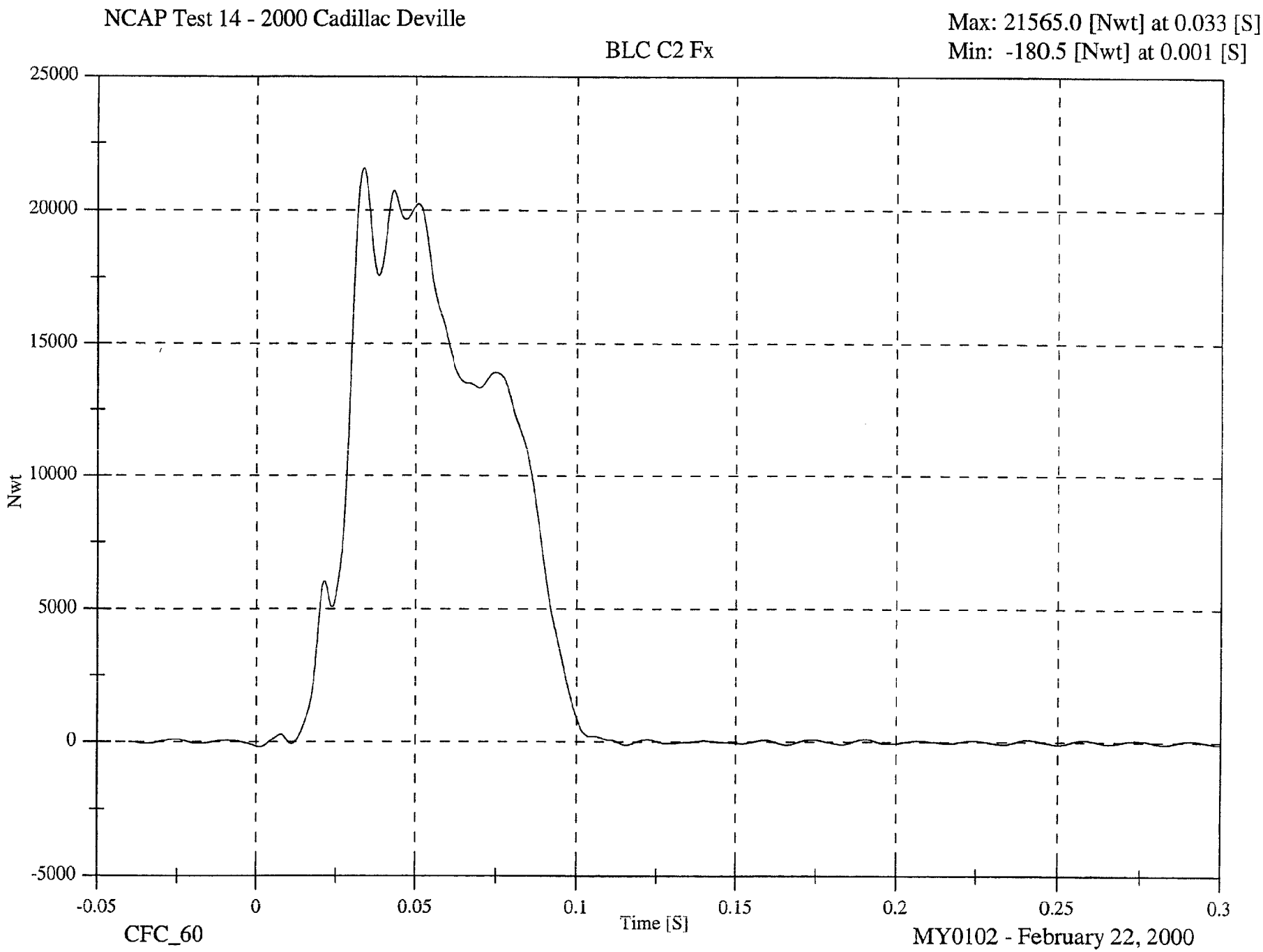
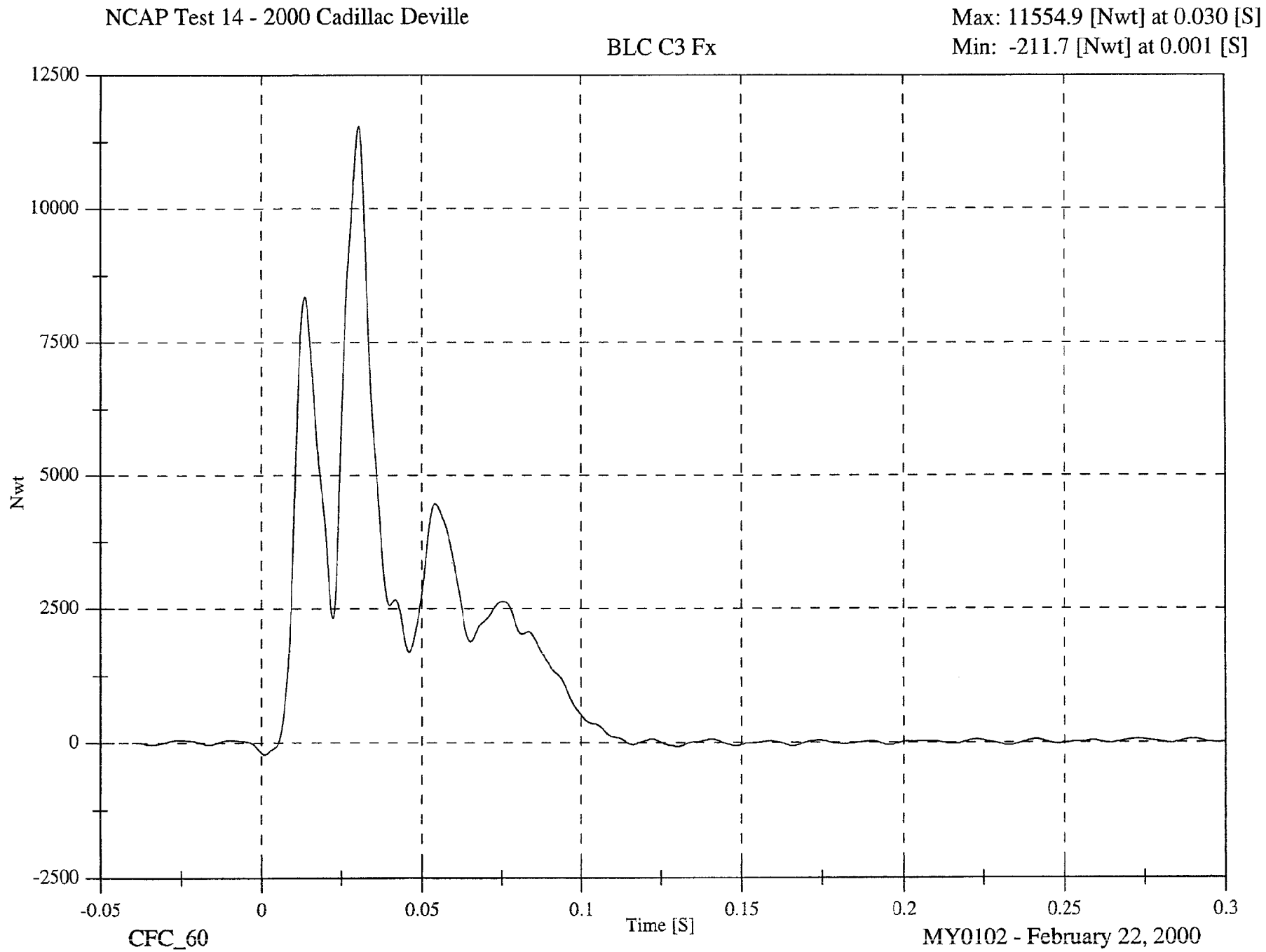

NCAP Test 14 - 2000 Cadillac Deville
BLC B8 Fx
Max: 28094.6 [Nwt] at 0.012 [S]
Min: -919.4 [Nwt] at 0.004 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC B9 Fx
Max: 7822.8 [Nwt] at 0.030 [S]
Min: -628.0 [Nwt] at 0.053 [S]
8000
6000
4000
2000
0
-2000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC C1 Fx
Max: 7667.8 [Nwt] at 0.043 [S]
Min: -348.6 [Nwt] at 0.015 [S]
8000
6000
4000
2000
0
-2000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC C2 Fx
Max: 21565.0 [Nwt] at 0.033 [S]
Min: -180.5 [Nwt] at 0.001 [S]
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC C3 Fx
Max: 11554.9 [Nwt] at 0.030 [S]
Min: -211.7 [Nwt] at 0.001 [S]
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

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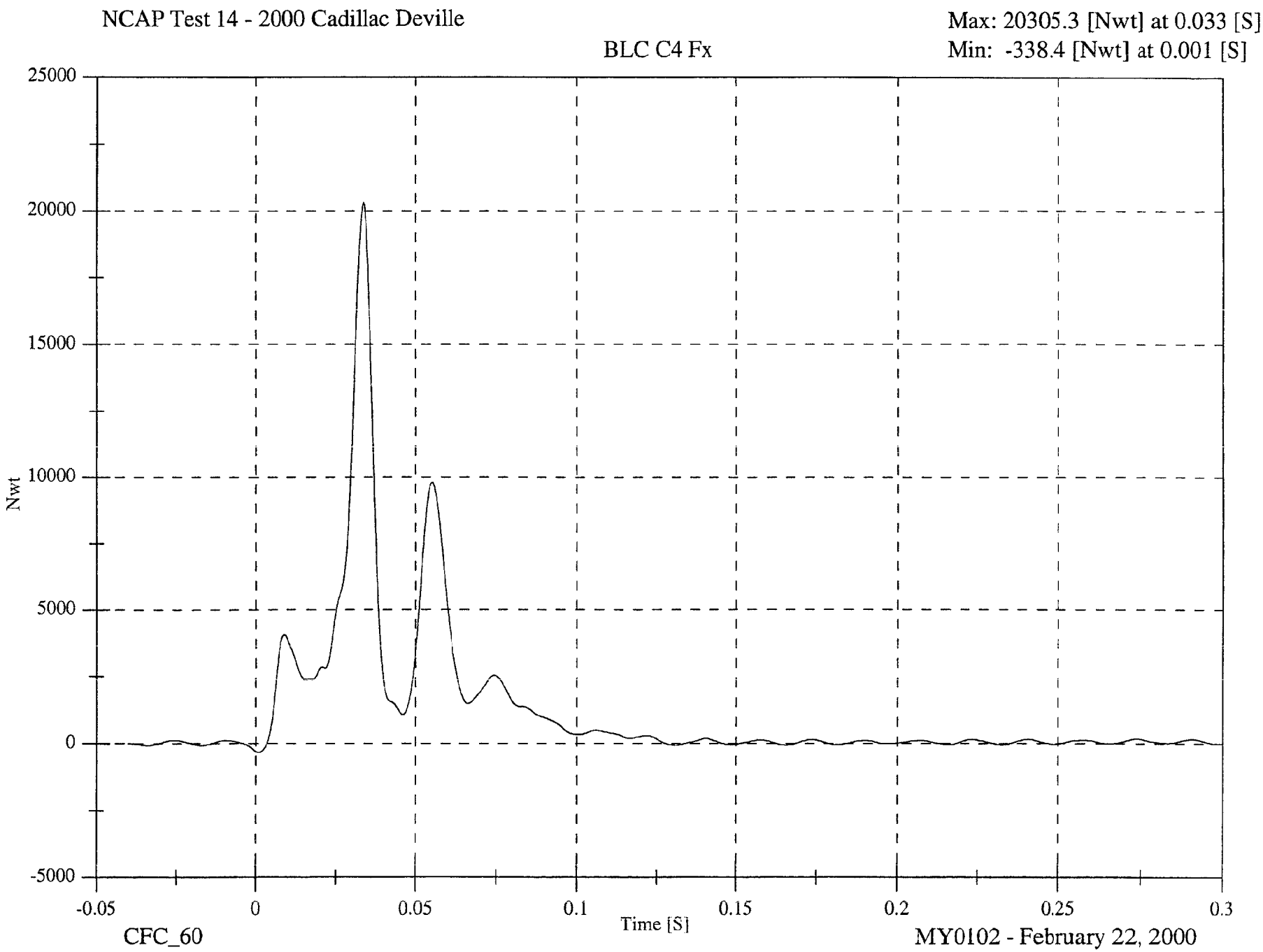
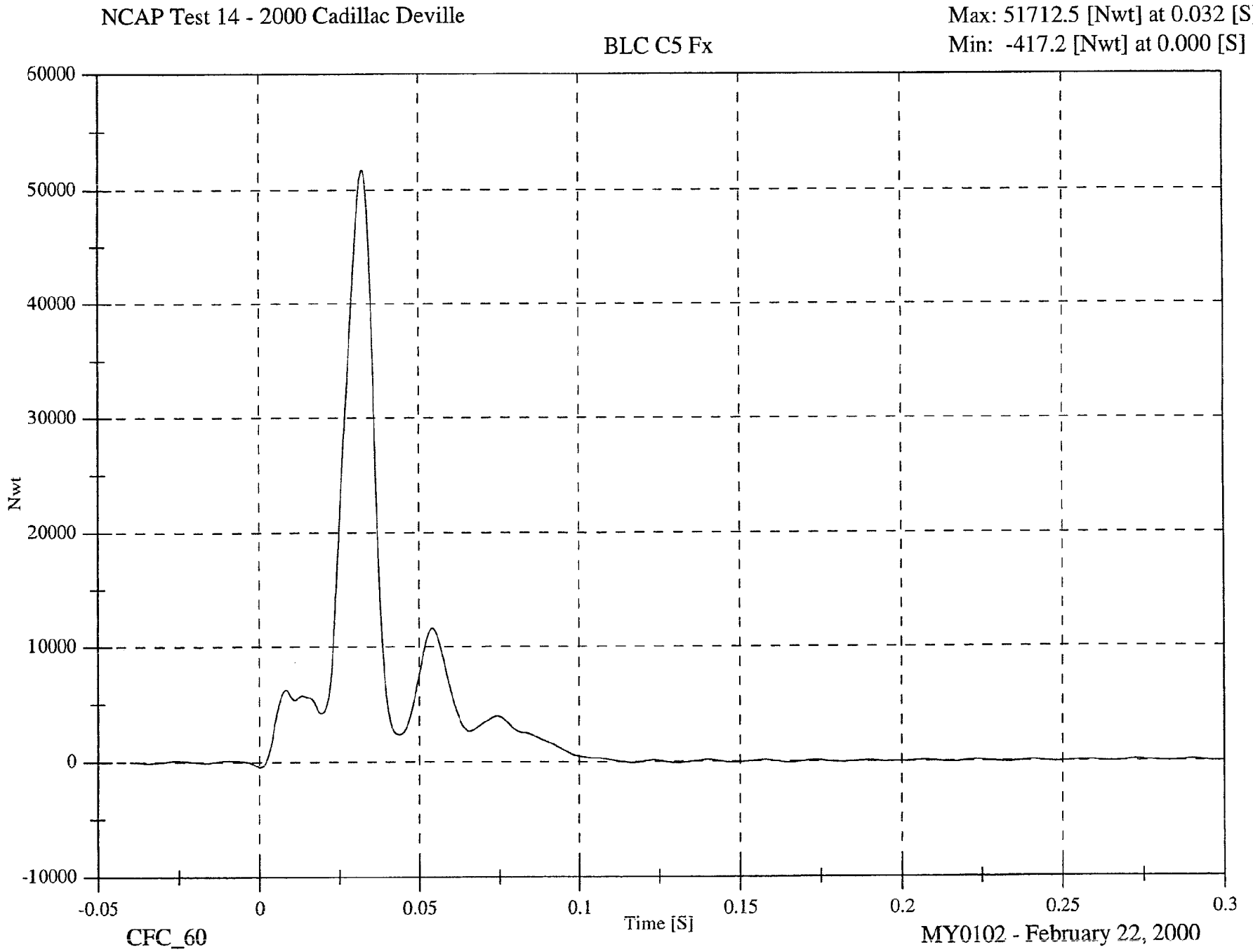
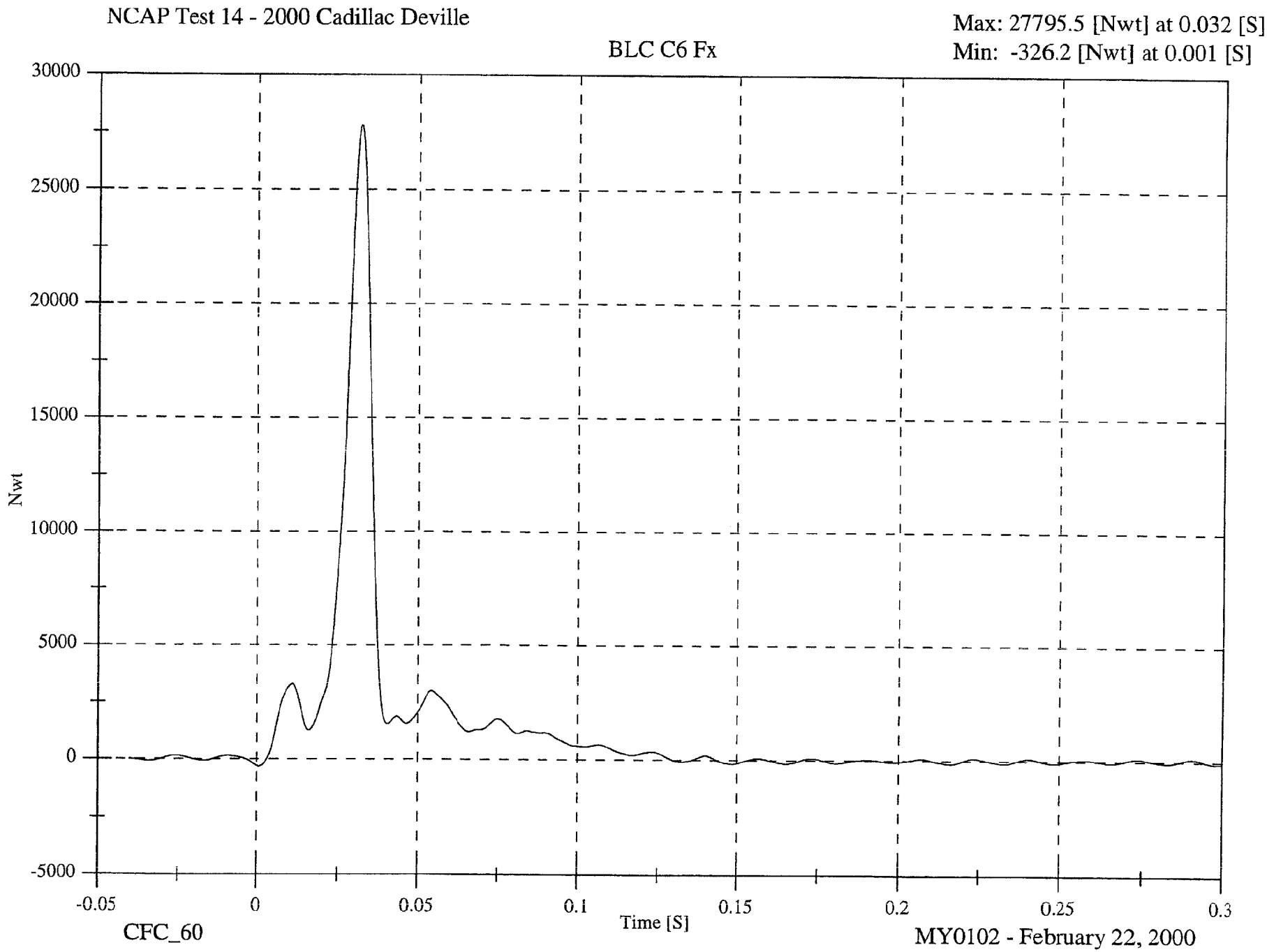

NCAP Test 14 - 2000 Cadillac Deville
BLC C4 Fx
Max: 20305.3 [Nwt] at 0.033 [S]
Min: -338.4 [Nwt] at 0.001 [S]
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

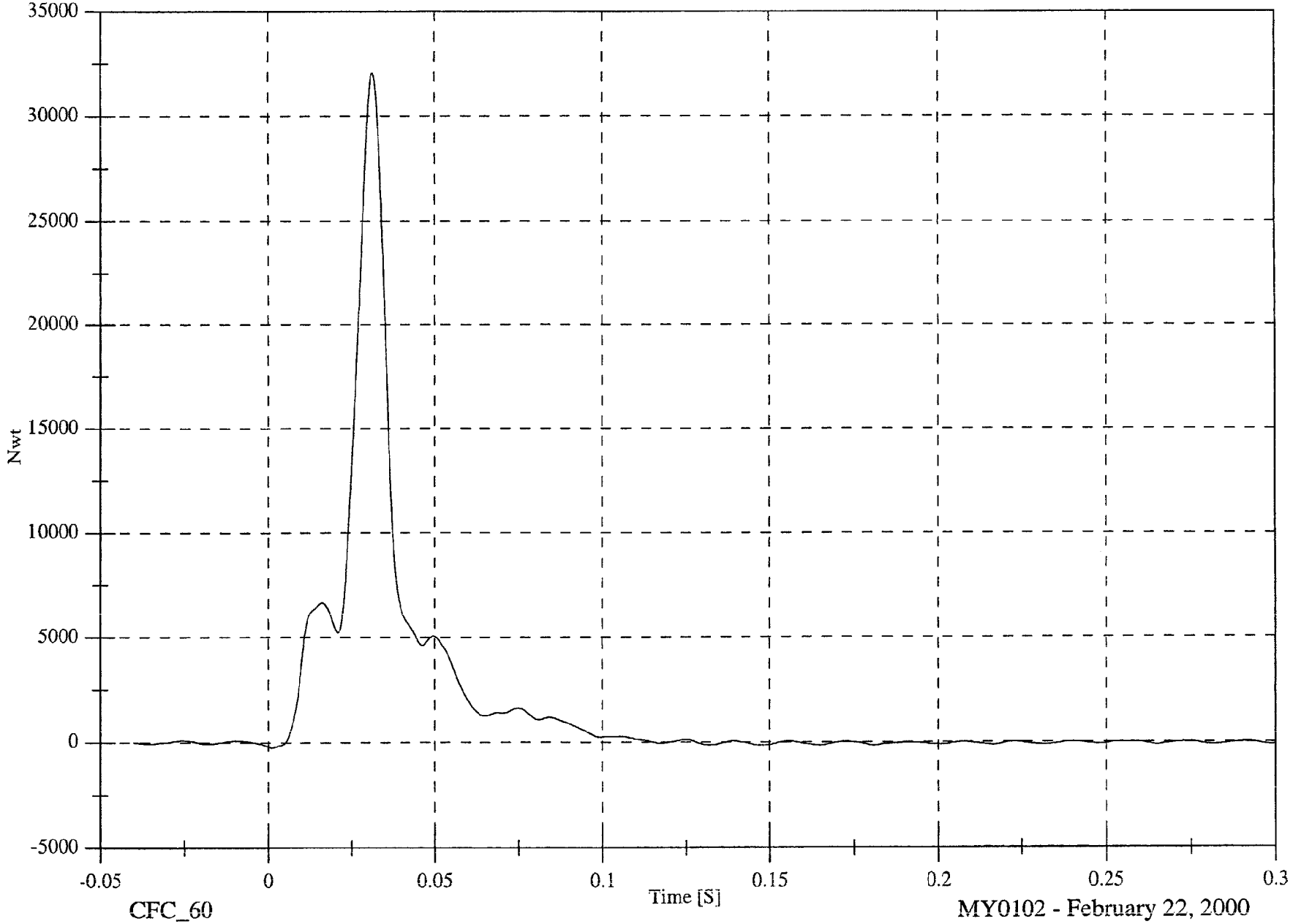

NCAP Test 14 - 2000 Cadillac Deville
BLC C5 Fx
Max: 51712.5 [Nwt] at 0.032 [S]
Min: -417.2 [Nwt] at 0.000 [S]
60000
50000
40000
30000
20000
10000
0
-10000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC C6 Fx
Max: 27795.5 [Nwt] at 0.032 [S]
Min: -326.2 [Nwt] at 0.001 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

BLC C7 Fx

Max: 32050.9 [Nwt] at 0.031 [S]
Min: -240.9 [Nwt] at 0.001 [S]



CFC_60

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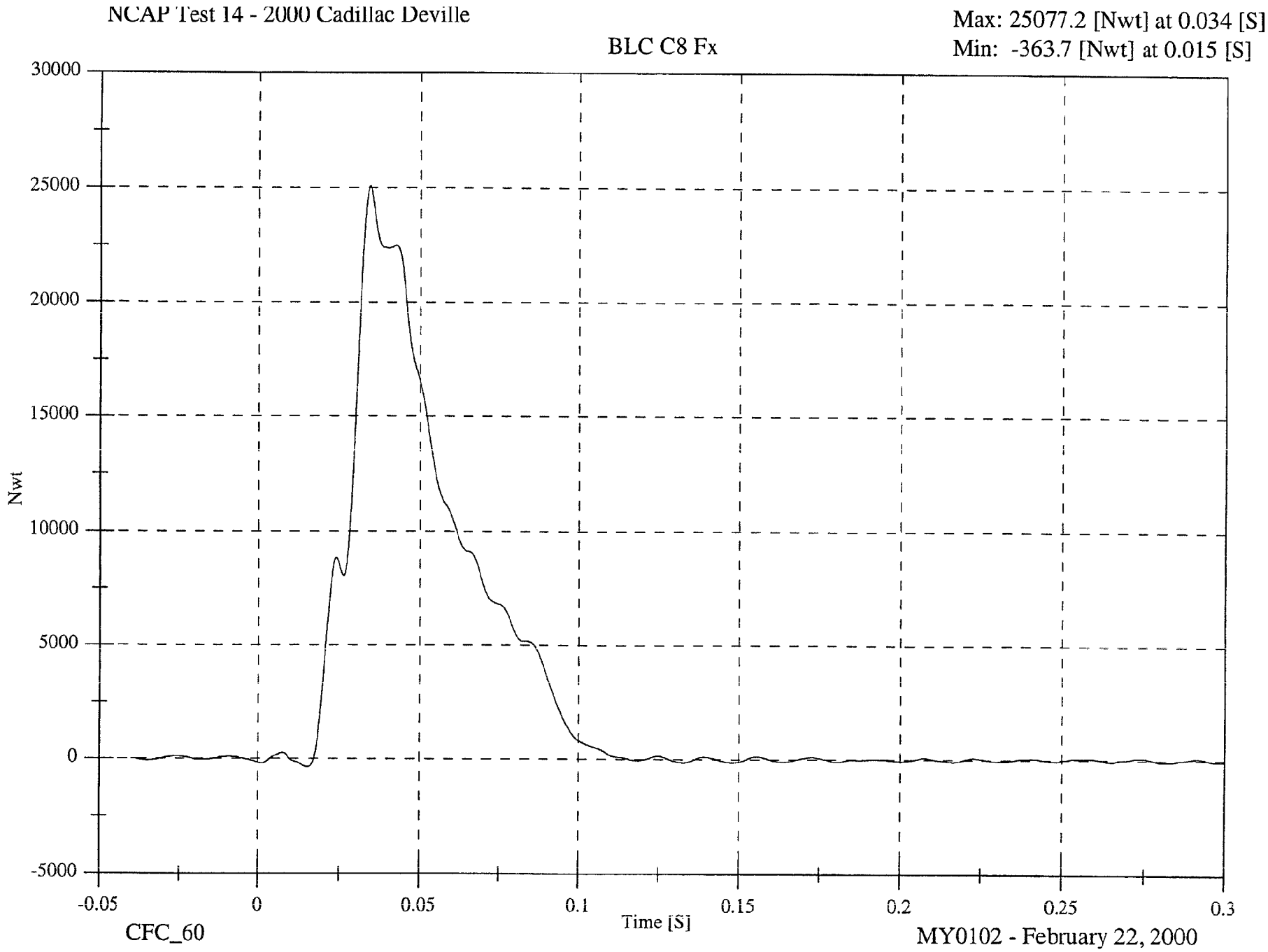
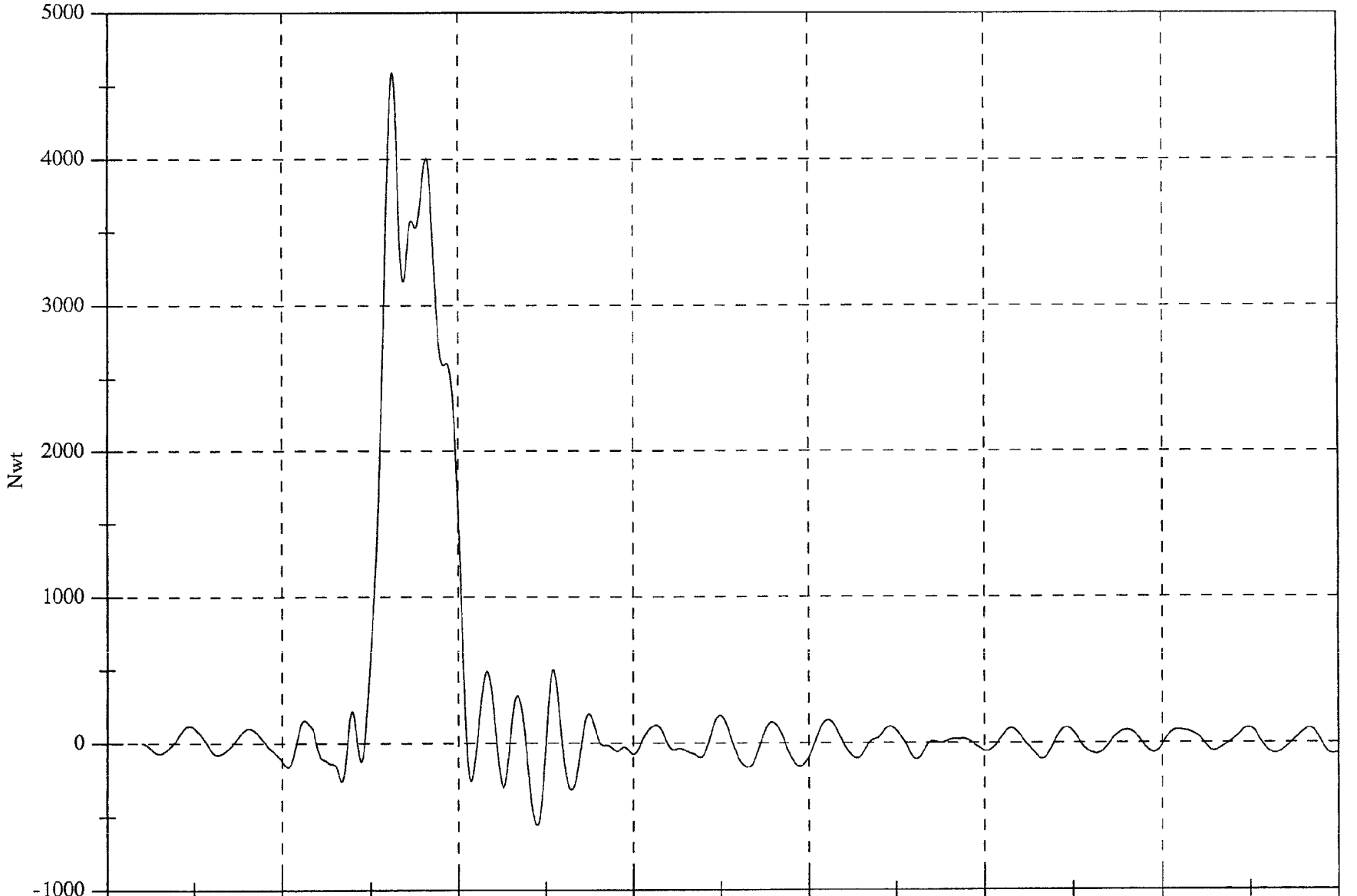

NCAP Test 14 - 2000 Cadillac Deville
BLC C8 Fx
Max: 25077.2 [Nwt] at 0.034 [S]
Min: -363.7 [Nwt] at 0.015 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

BLC C9 Fx

Max: 4591.6 [Nwt] at 0.031 [S]
Min: -558.4 [Nwt] at 0.072 [S]



CFC_60

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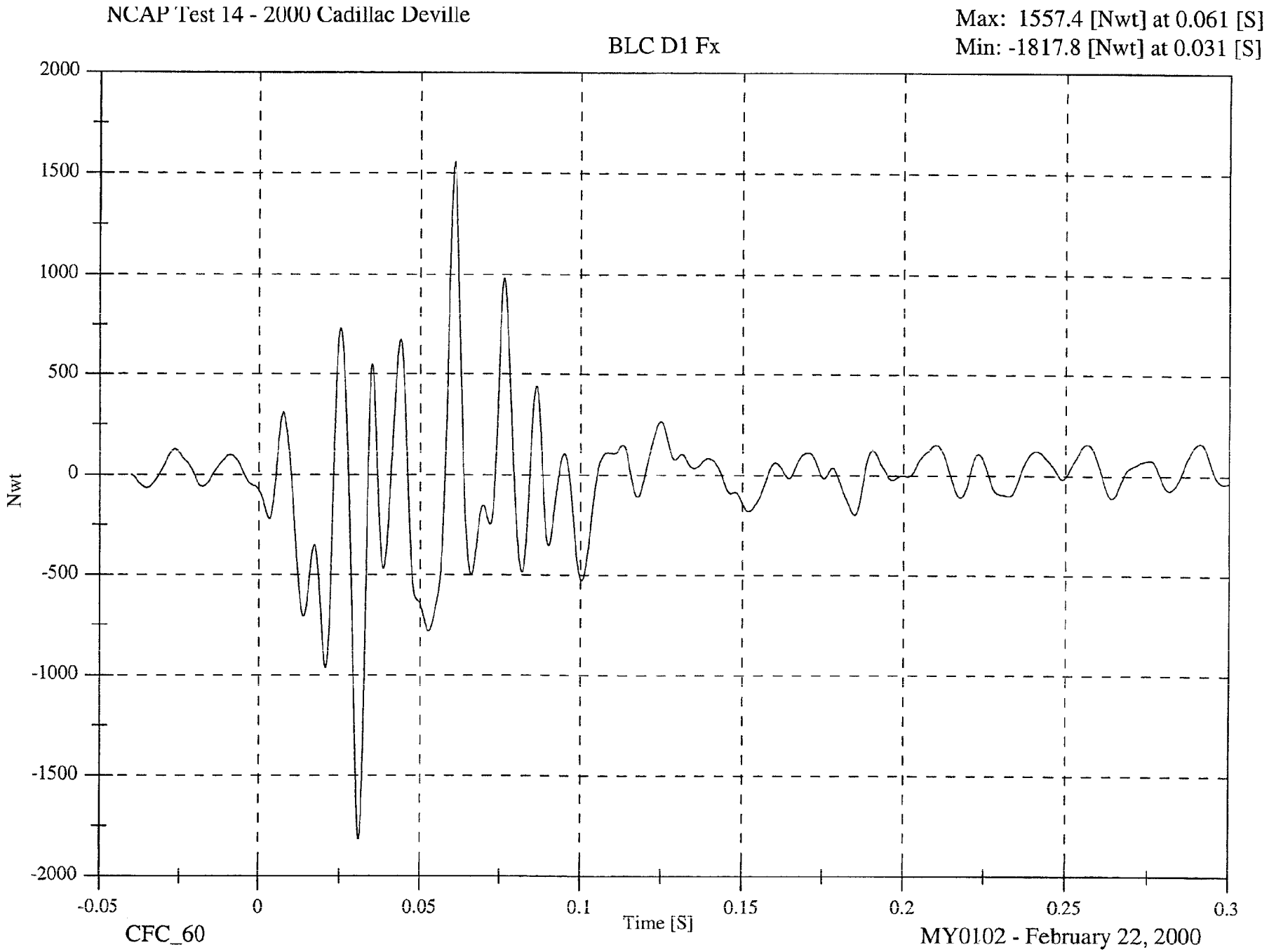
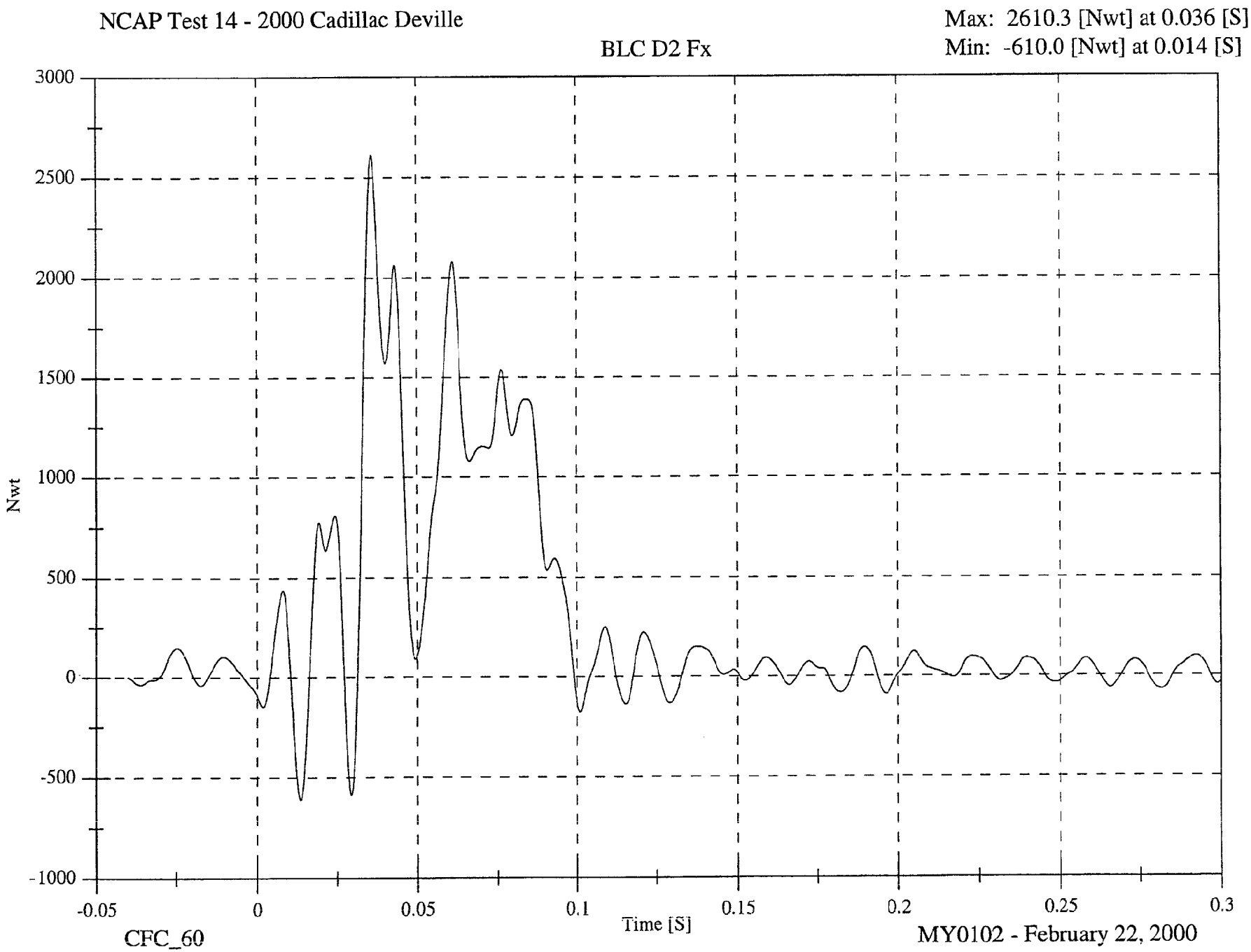
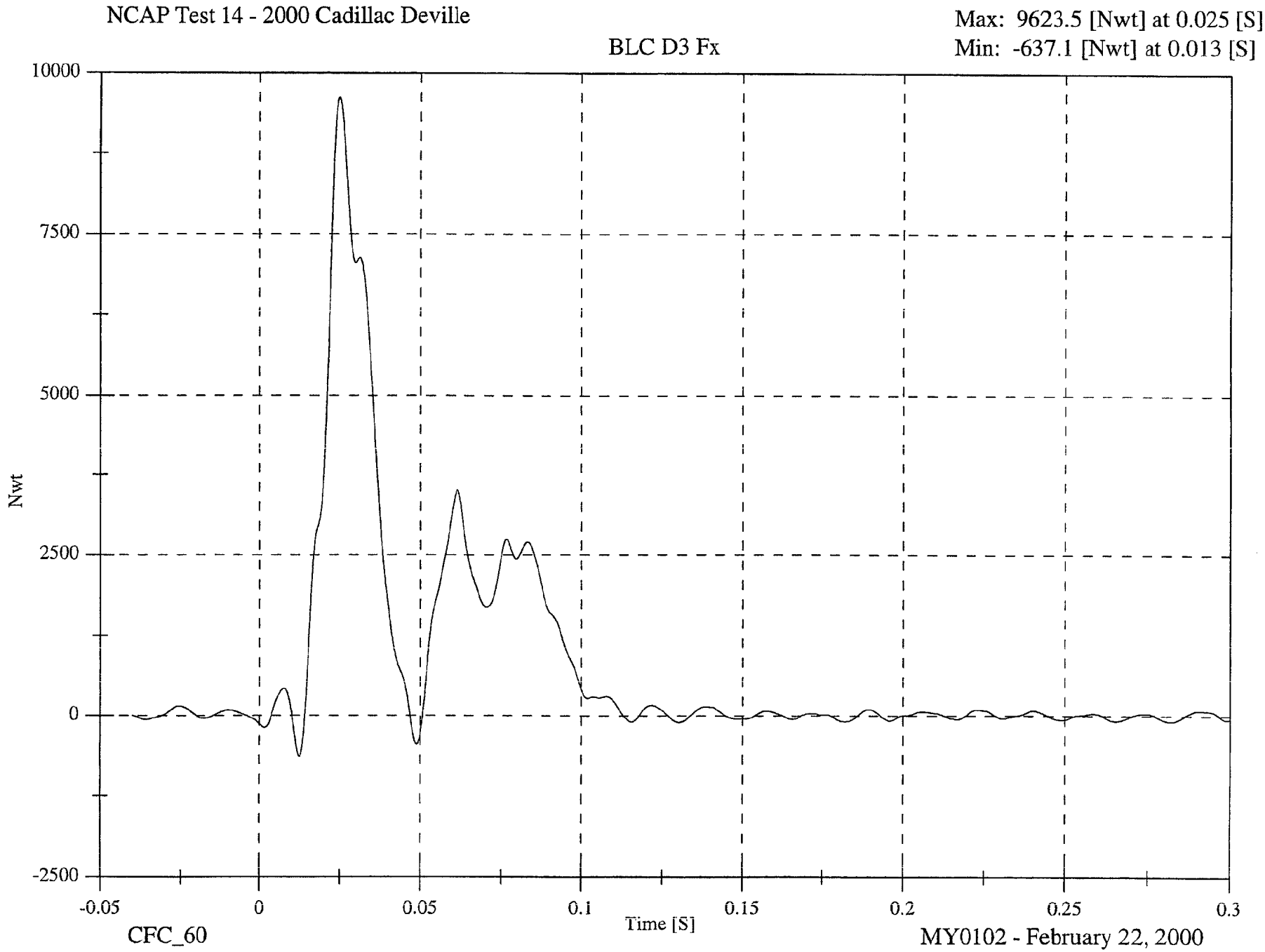

NCAP Test 14 - 2000 Cadillac Deville
BLC D1 Fx
Max: 1557.4 [Nwt] at 0.061 [S]
Min: -1817.8 [Nwt] at 0.031 [S]
2000
1500
1000
500
0
-500
-1000
-1500
-2000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

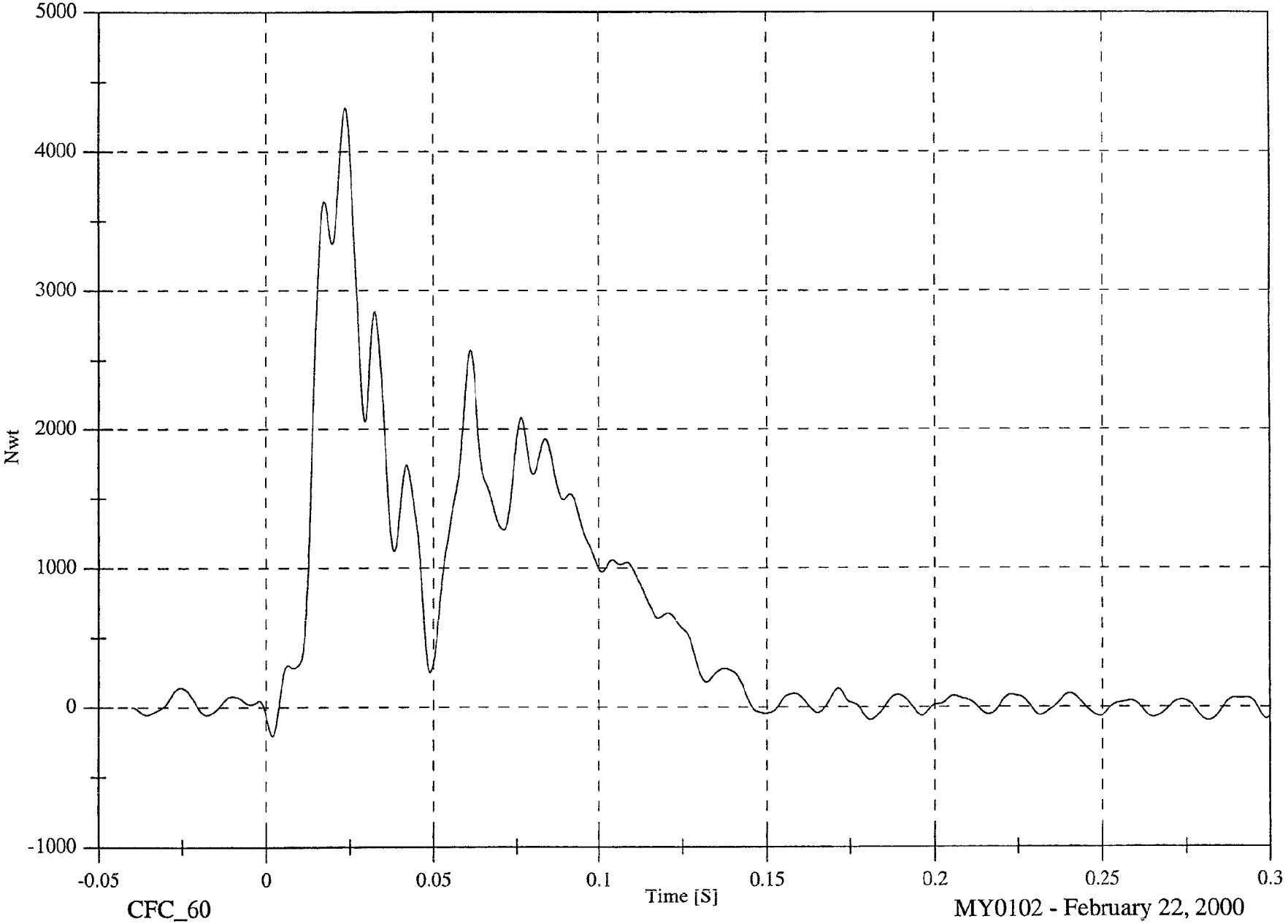

NCAP Test 14 - 2000 Cadillac Deville
BLC D2 Fx
Max: 2610.3 [Nwt] at 0.036 [S]
Min: -610.0 [Nwt] at 0.014 [S]
3000
2500
2000
1500
1000
500
0
-500
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC D3 Fx
Max: 9623.5 [Nwt] at 0.025 [S]
Min: -637.1 [Nwt] at 0.013 [S]
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

BLC D4 Fx

Max: 4311.7 [Nwt] at 0.024 [S]
Min: -206.1 [Nwt] at 0.002 [S]



CFC_60

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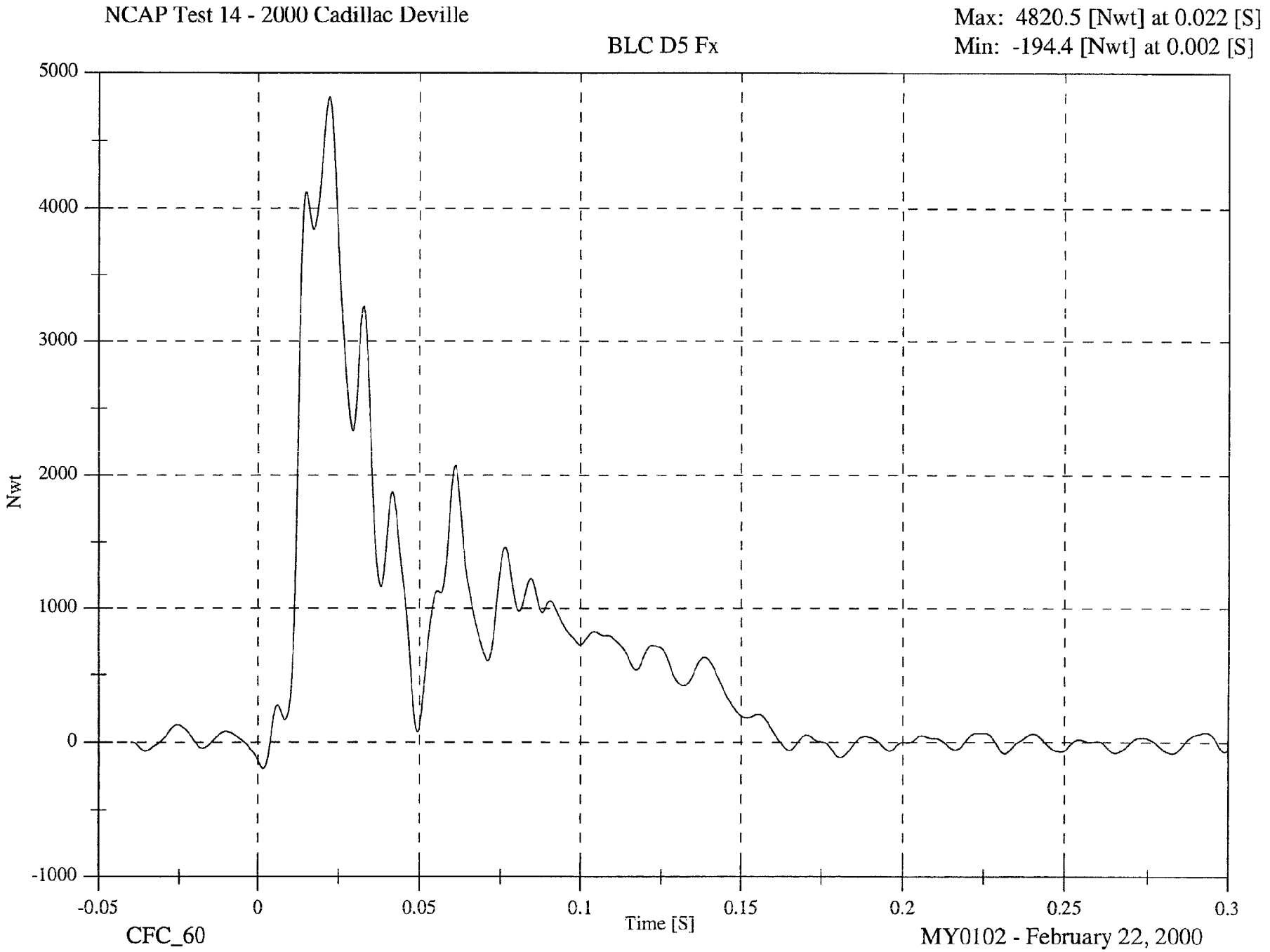
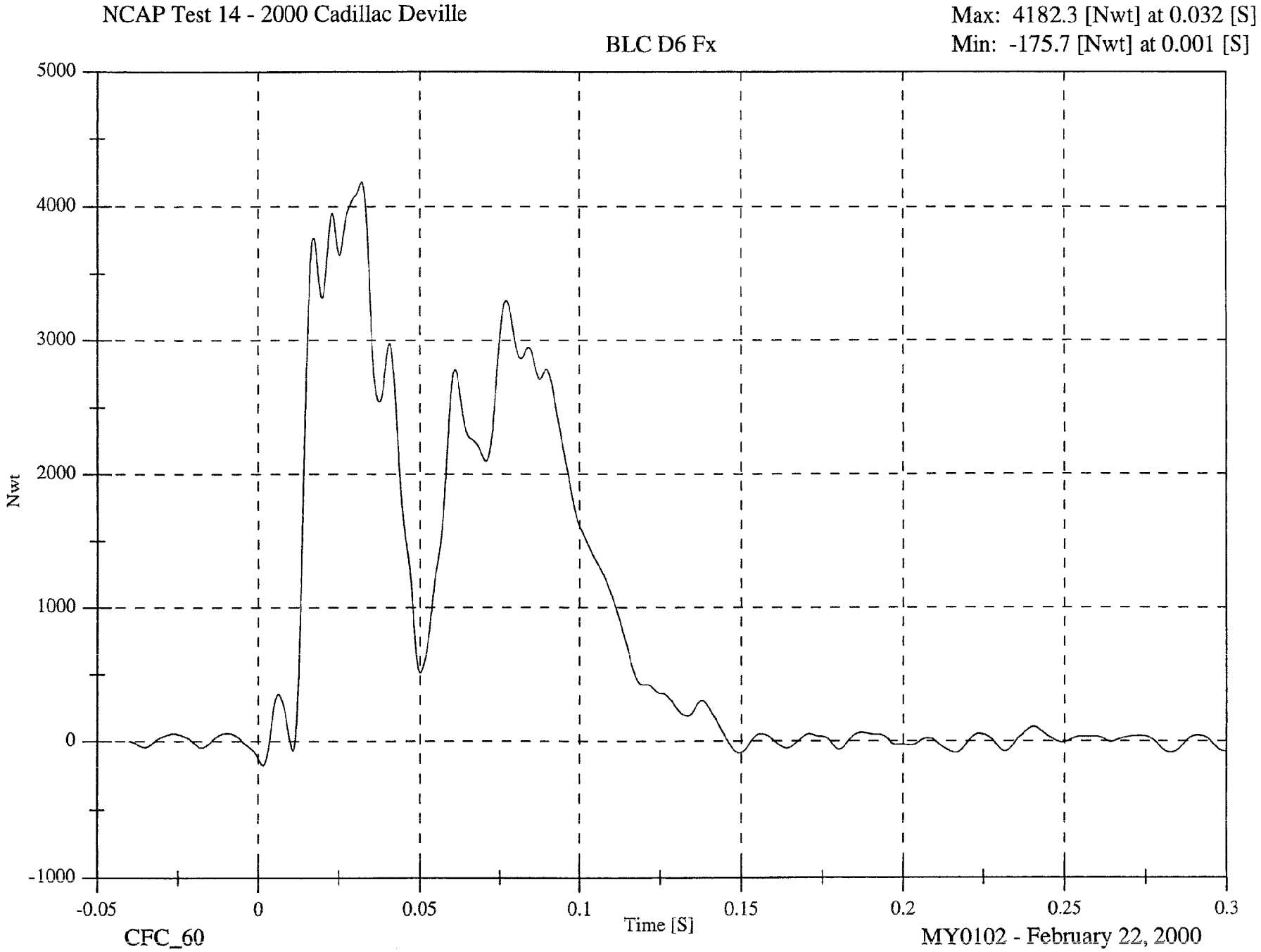
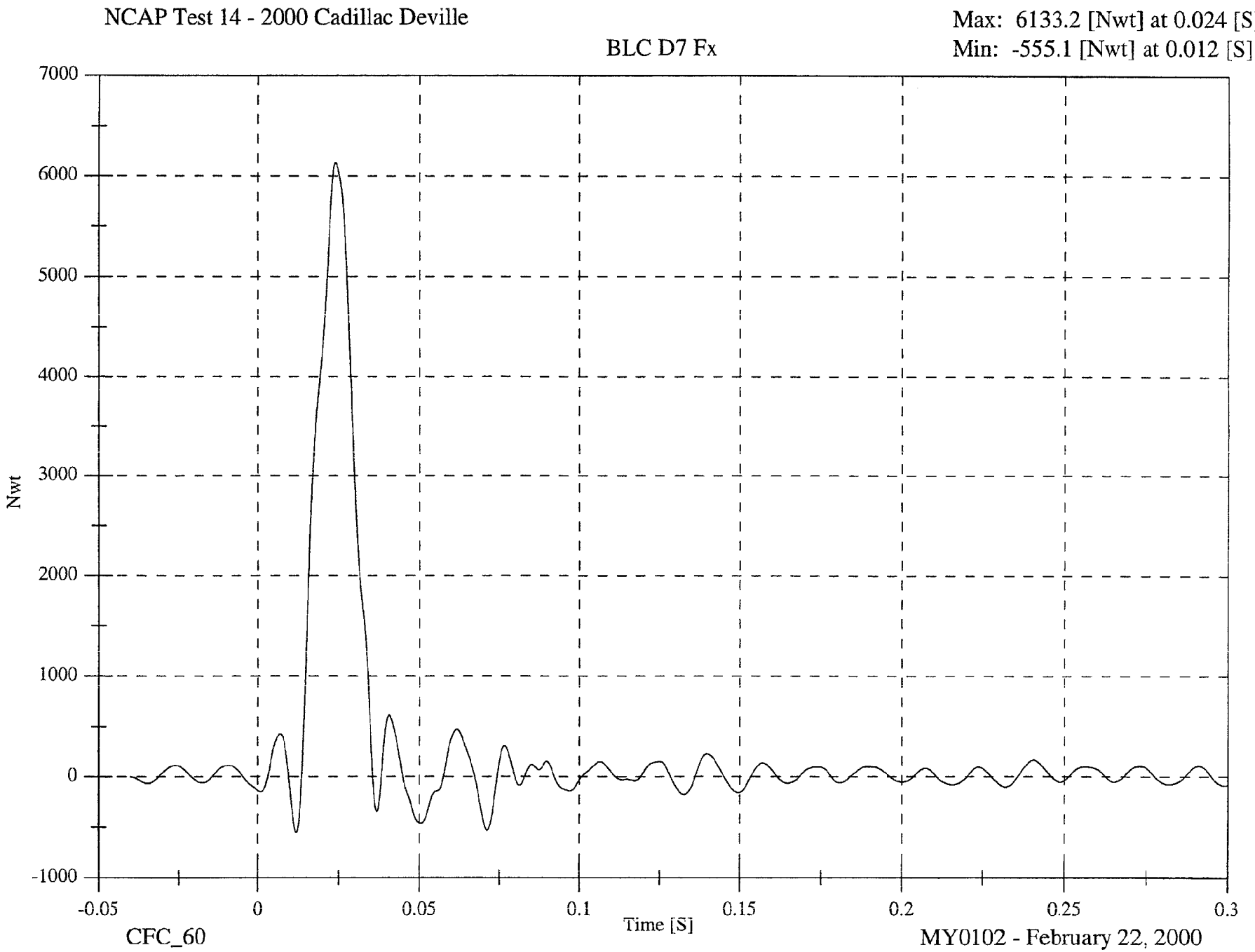
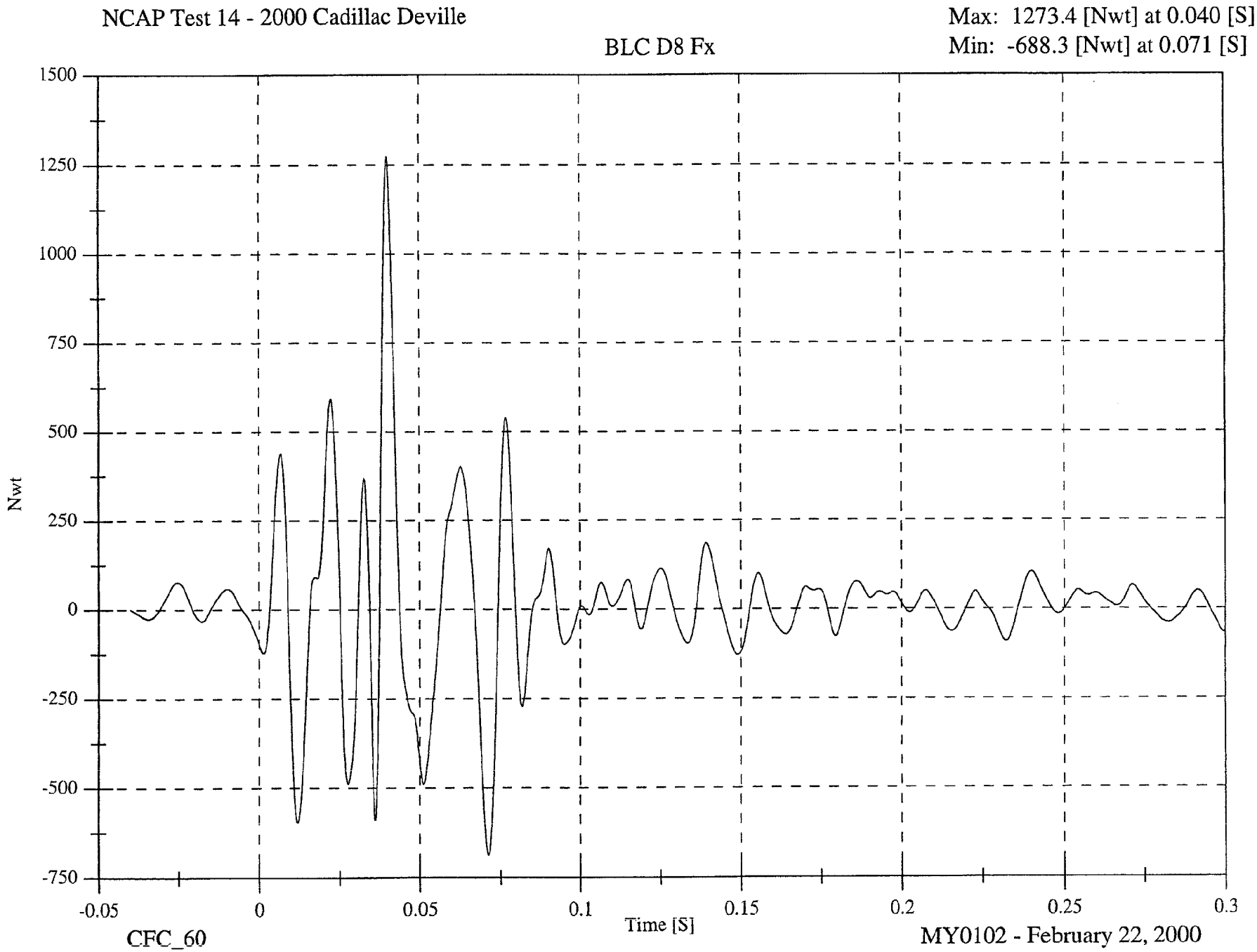
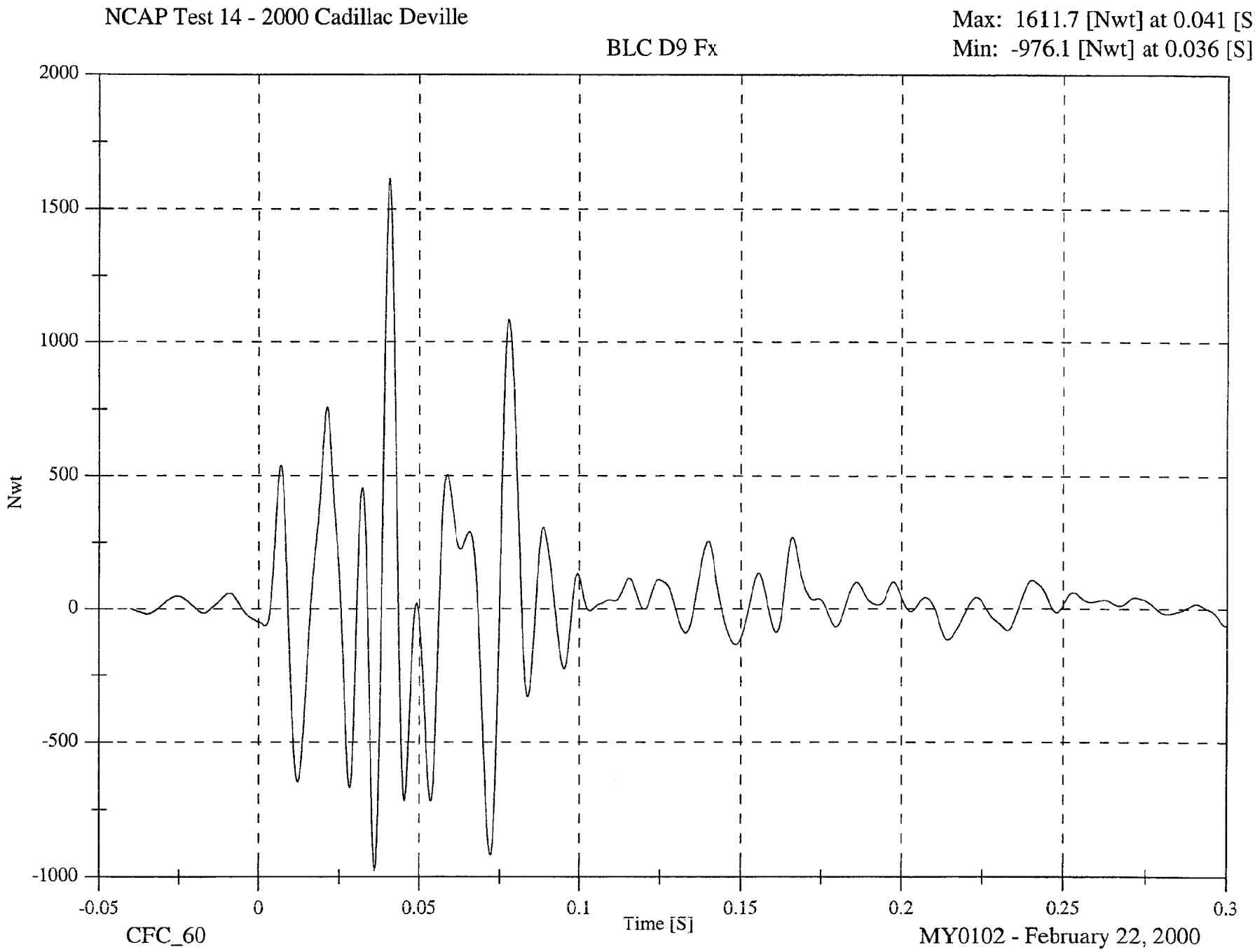

NCAP Test 14 - 2000 Cadillac Deville
BLC D5 Fx
Max: 4820.5 [Nwt] at 0.022 [S]
Min: -194.4 [Nwt] at 0.002 [S]
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC D6 Fx
Max: 4182.3 [Nwt] at 0.032 [S]
Min: -175.7 [Nwt] at 0.001 [S]
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC D7 Fx
Max: 6133.2 [Nwt] at 0.024 [S]
Min: -555.1 [Nwt] at 0.012 [S]
7000
6000
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
BLC D8 Fx
Max: 1273.4 [Nwt] at 0.040 [S]
Min: -688.3 [Nwt] at 0.071 [S]
1500
1250
1000
750
500
250
0
-250
-500
-750
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

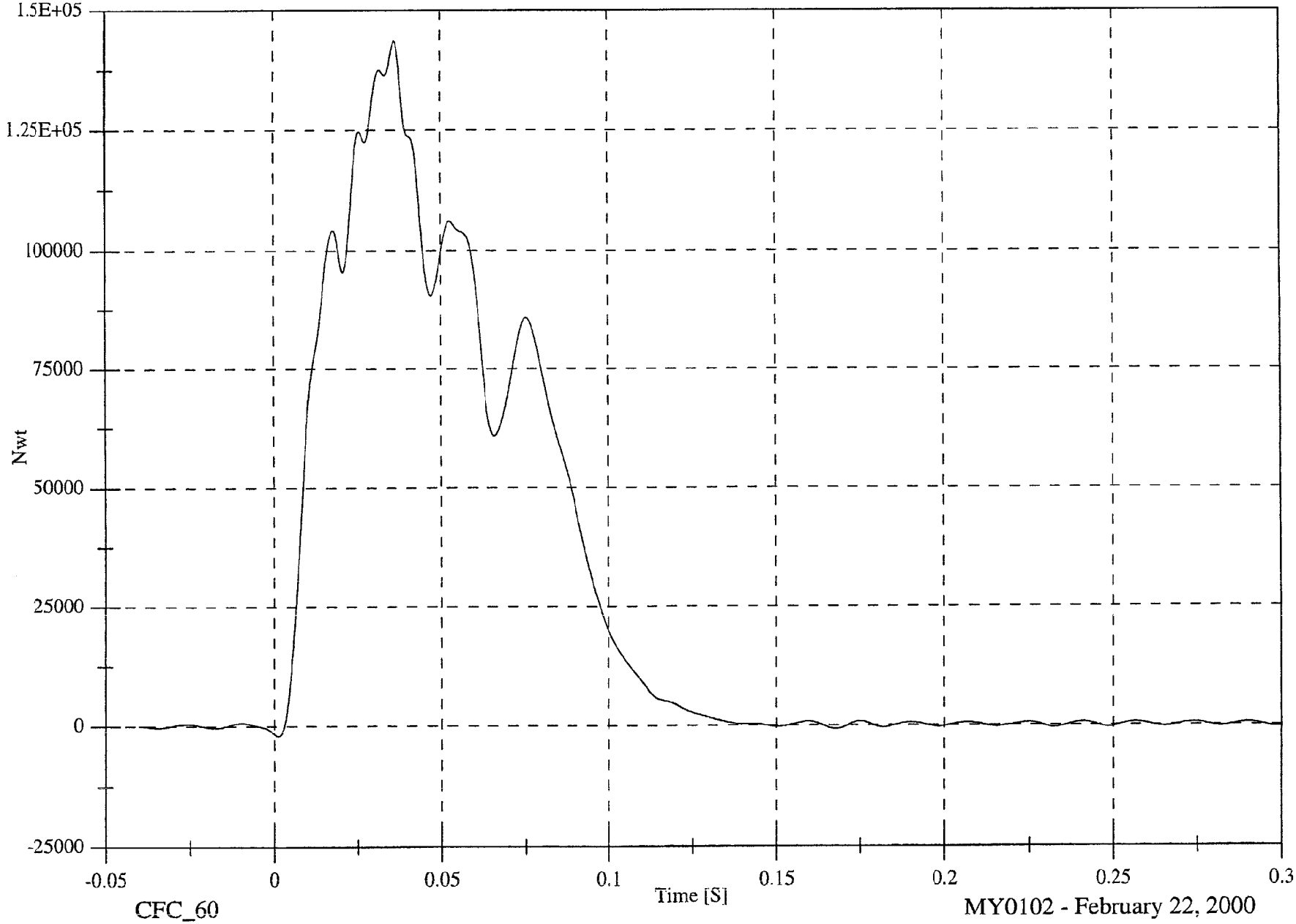

NCAP Test 14 - 2000 Cadillac Deville
BLC D9 Fx
Max: 1611.7 [Nwt] at 0.041 [S]
Min: -976.1 [Nwt] at 0.036 [S]
2000
1500
1000
500
0
-500
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

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

Max: 143580.9 [Nwt] at 0.036 [S]

Min: -2060.5 [Nwt] at 0.001 [S]



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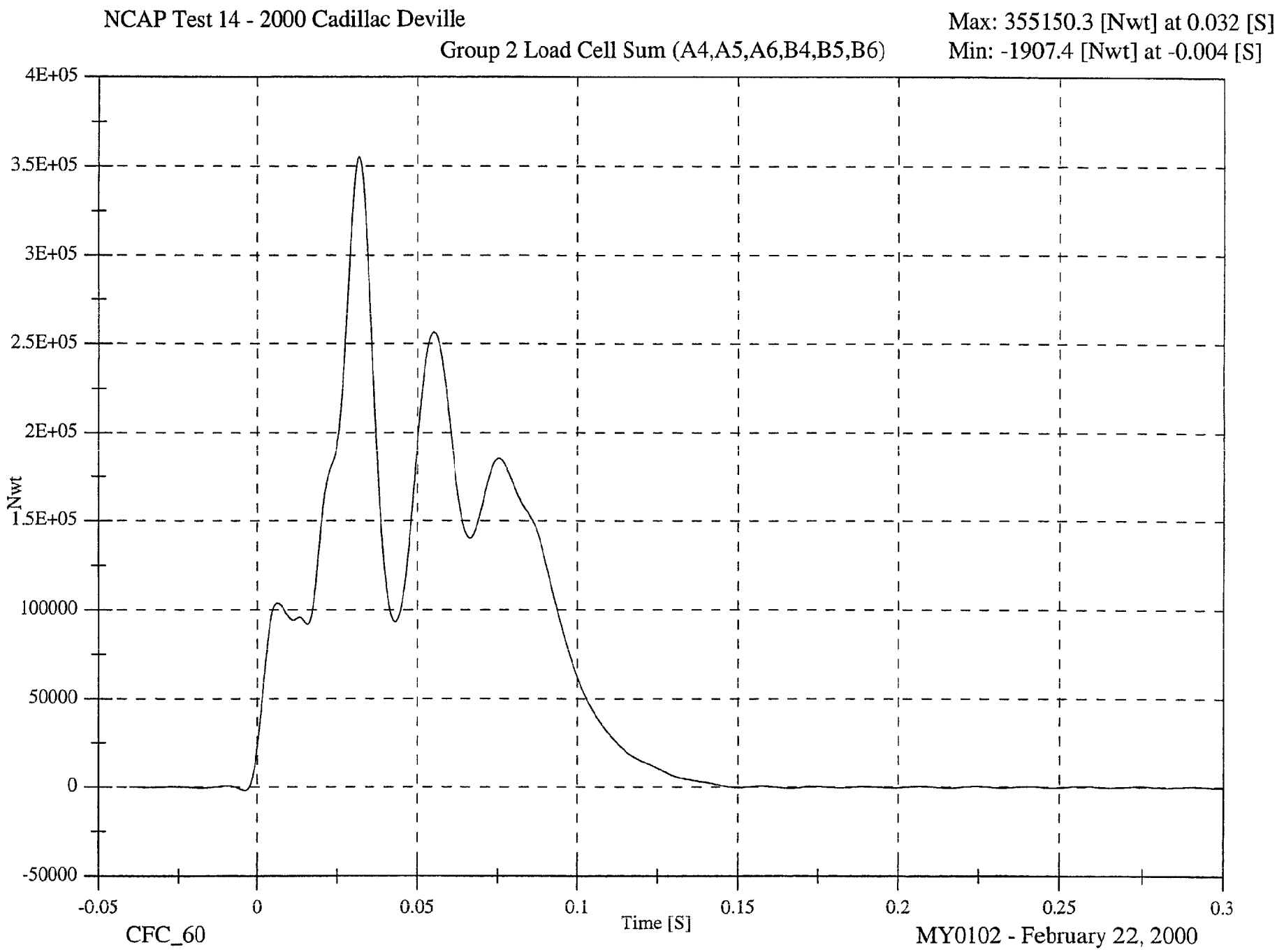
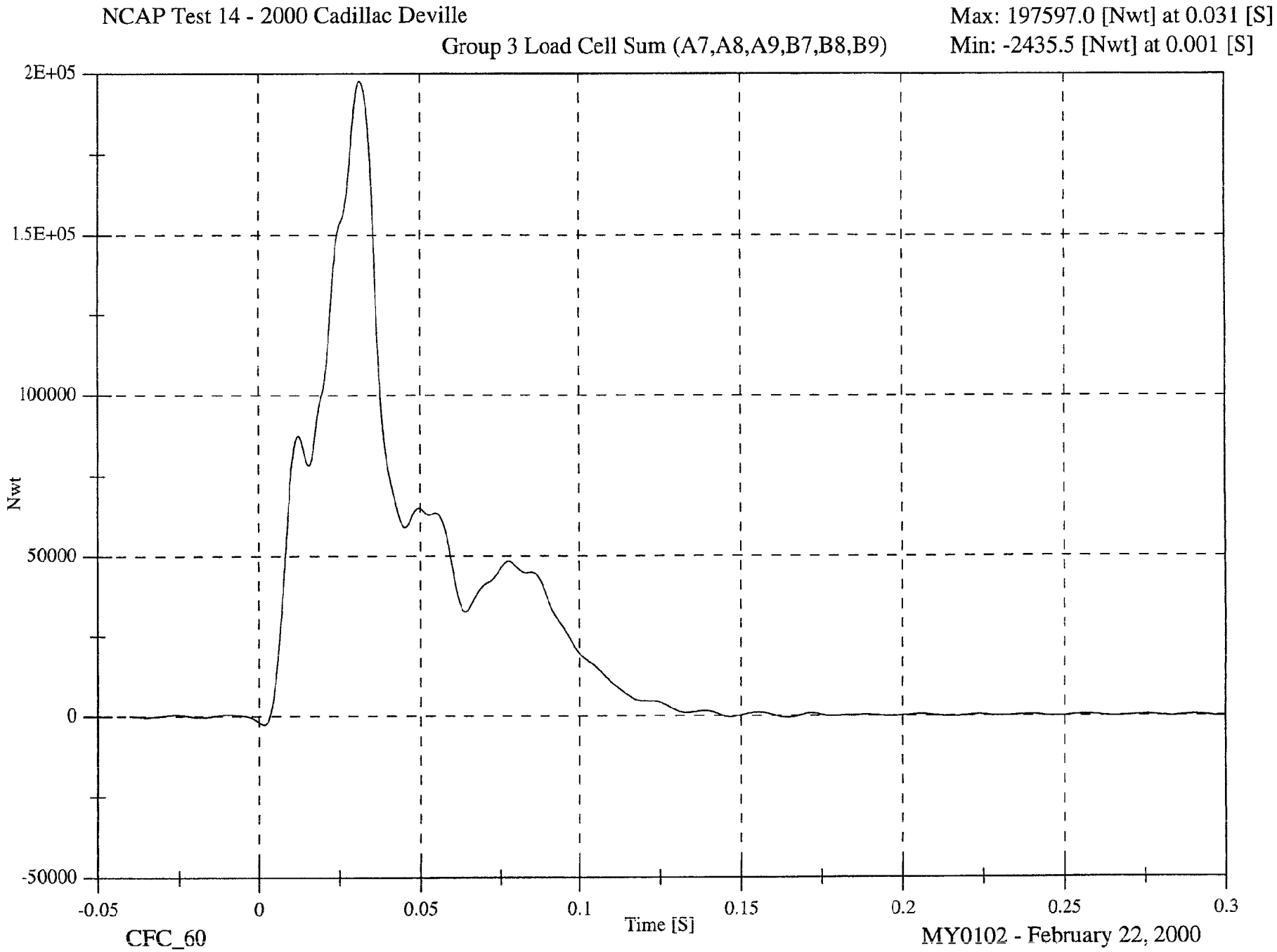
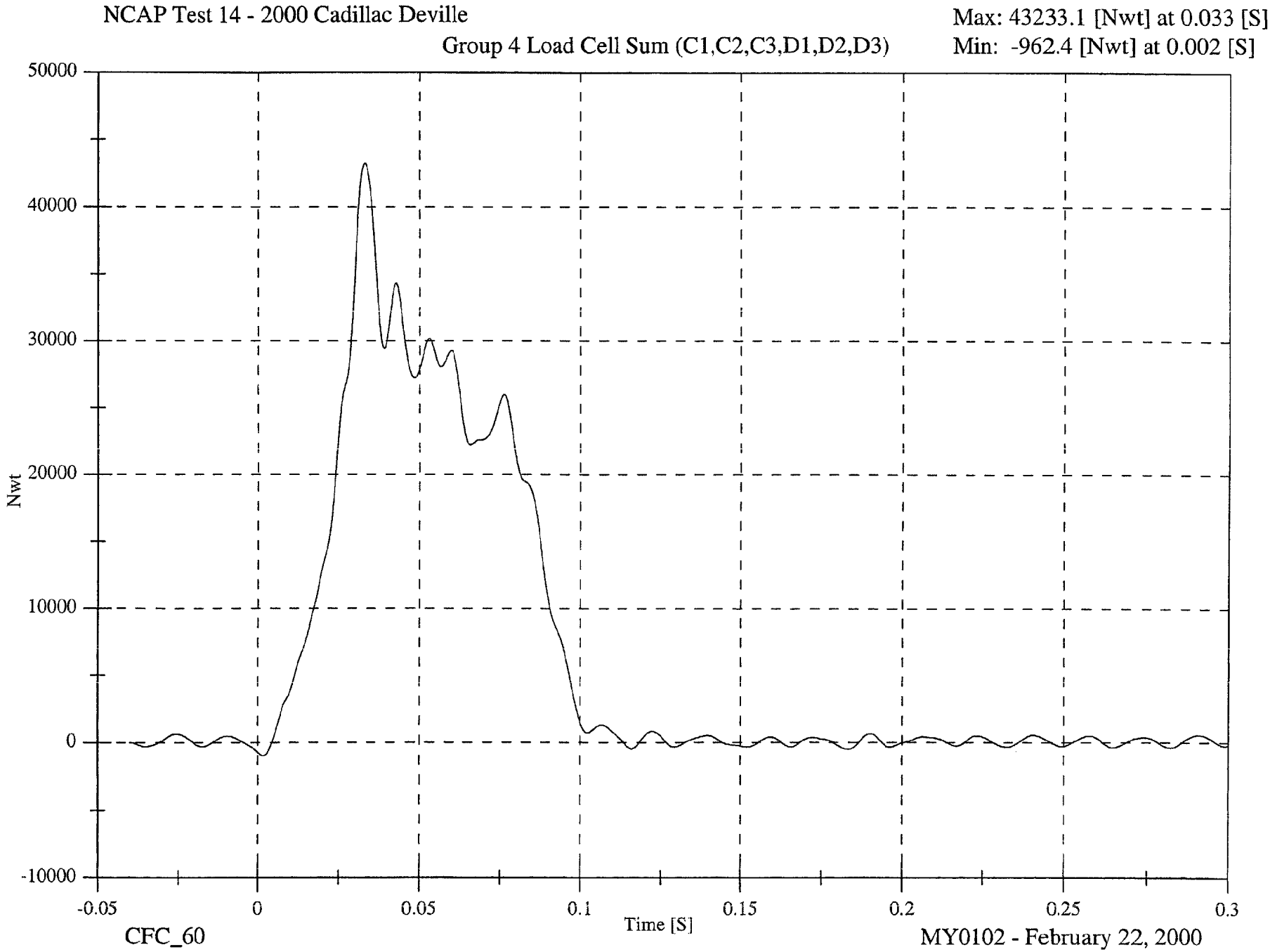

NCAP Test 14 - 2000 Cadillac Deville
Group 2 Load Cell Sum (A4,A5,A6,B4,B5,B6)
Max: 355150.3 [Nwt] at 0.032 [S]
Min: -1907.4 [Nwt] at -0.004 [S]
4E+05
3.5E+05
3E+05
2.5E+05
2E+05
1.5E+05
100000
50000
0
-50000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000


NCAP Test 14 - 2000 Cadillac Deville
Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)
Max: 197597.0 [Nwt] at 0.031 [S]
Min: -2435.5 [Nwt] at 0.001 [S]
2E+05
1.5E+05
100000
50000
0
-50000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

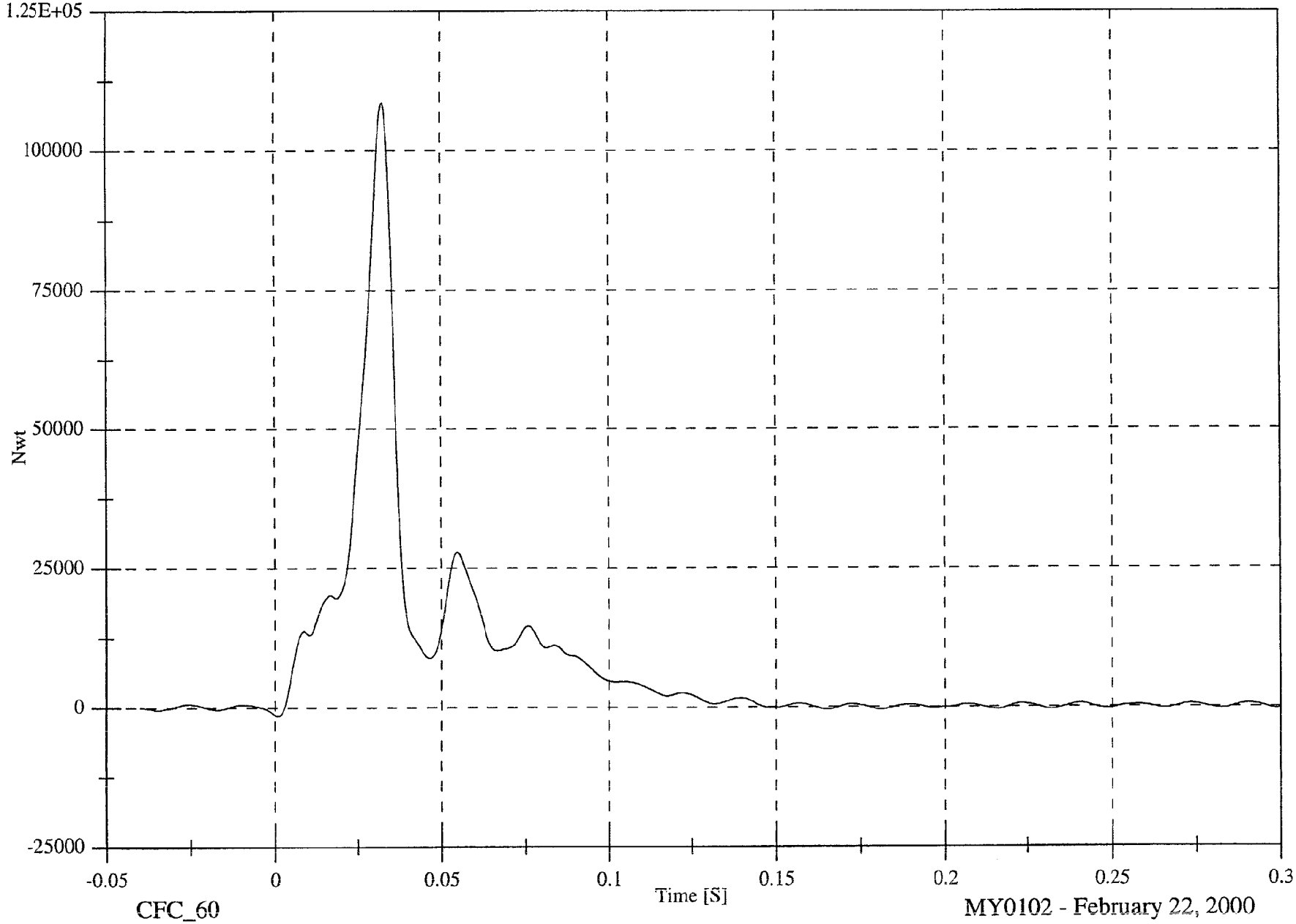

NCAP Test 14 - 2000 Cadillac Deville
Group 4 Load Cell Sum (C1,C2,C3,D1,D2,D3)
Max: 43233.1 [Nwt] at 0.033 [S]
Min: -962.4 [Nwt] at 0.002 [S]
50000
40000
30000
20000
10000
0
-10000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

NCAP Test 14 - 2000 Cadillac Deville

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

Max: 108553.0 [Nwt] at 0.032 [S]

Min: -1536.2 [Nwt] at 0.001 [S]



CFC_60

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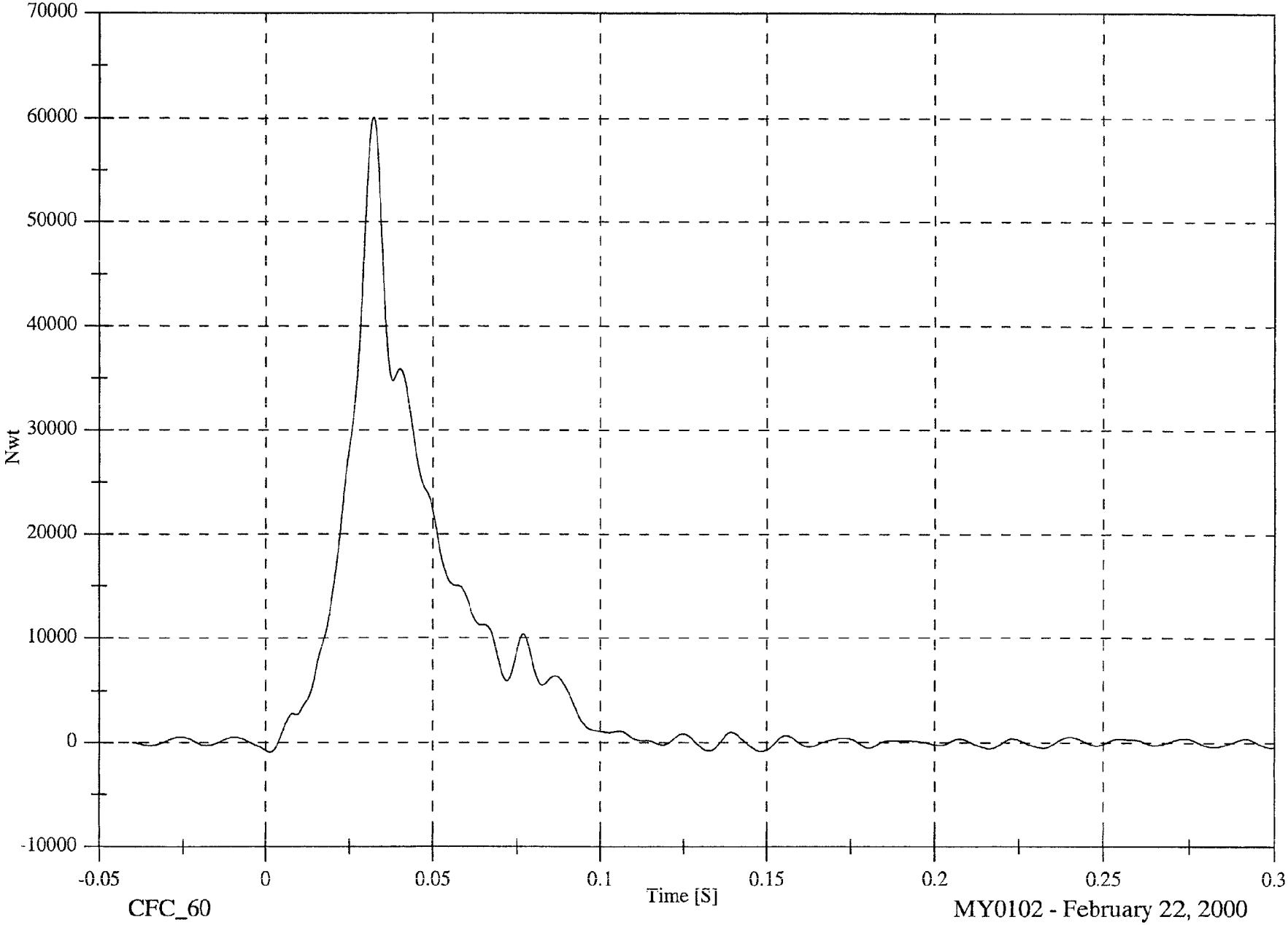
NCAP Test 14 - 2000 Cadillac Deville

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

Max: 60096.8 [Nwt] at 0.032 [S]

Min: -933.1 [Nwt] at 0.001 [S]



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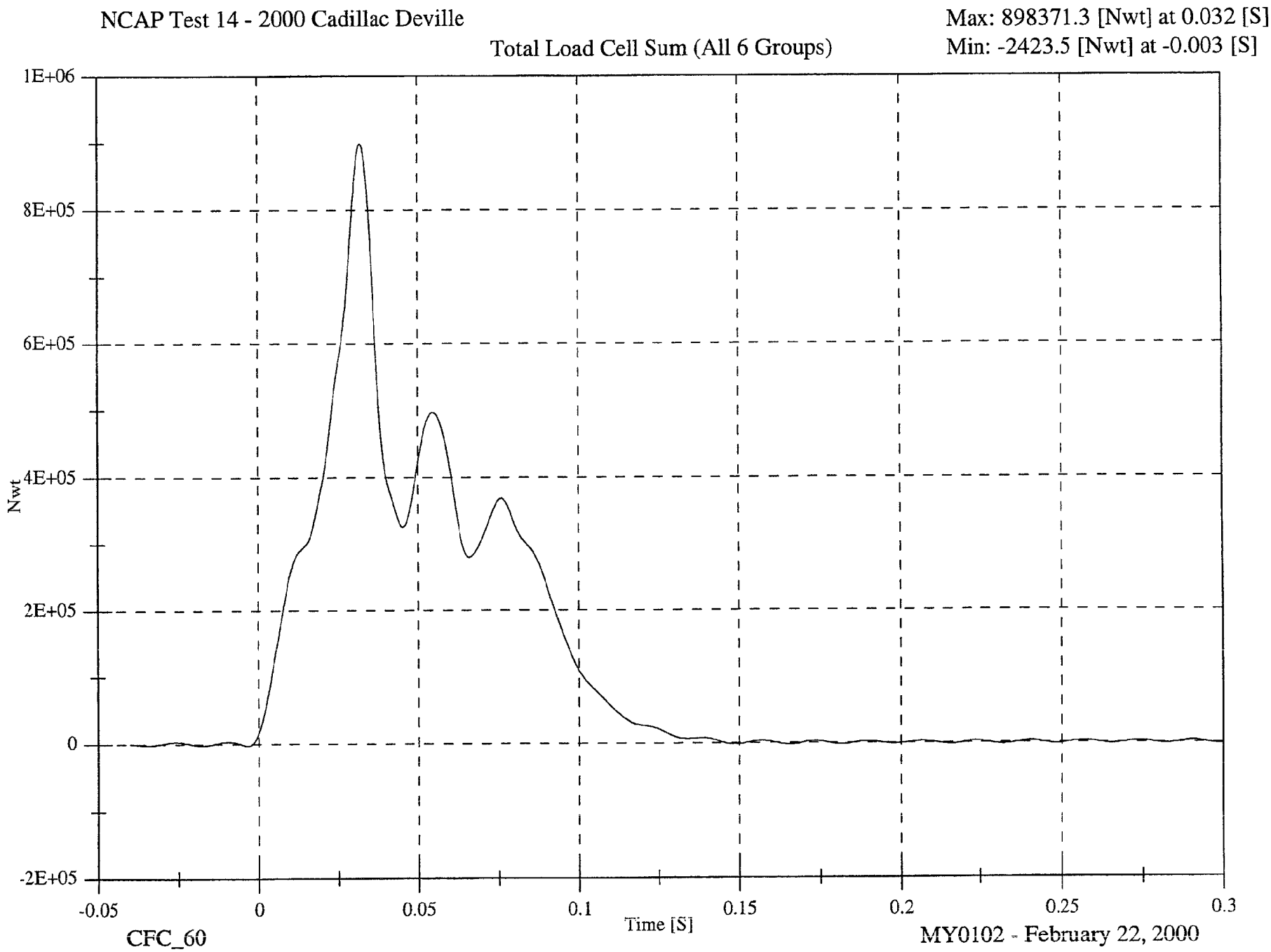

NCAP Test 14 - 2000 Cadillac Deville
Total Load Cell Sum (All 6 Groups)
Max: 898371.3 [Nwt] at 0.032 [S]
Min: -2423.5 [Nwt] at -0.003 [S]
1E+06
8E+05
6E+05
4E+05
2E+05
0
-2E+05
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
MY0102 - February 22, 2000

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.

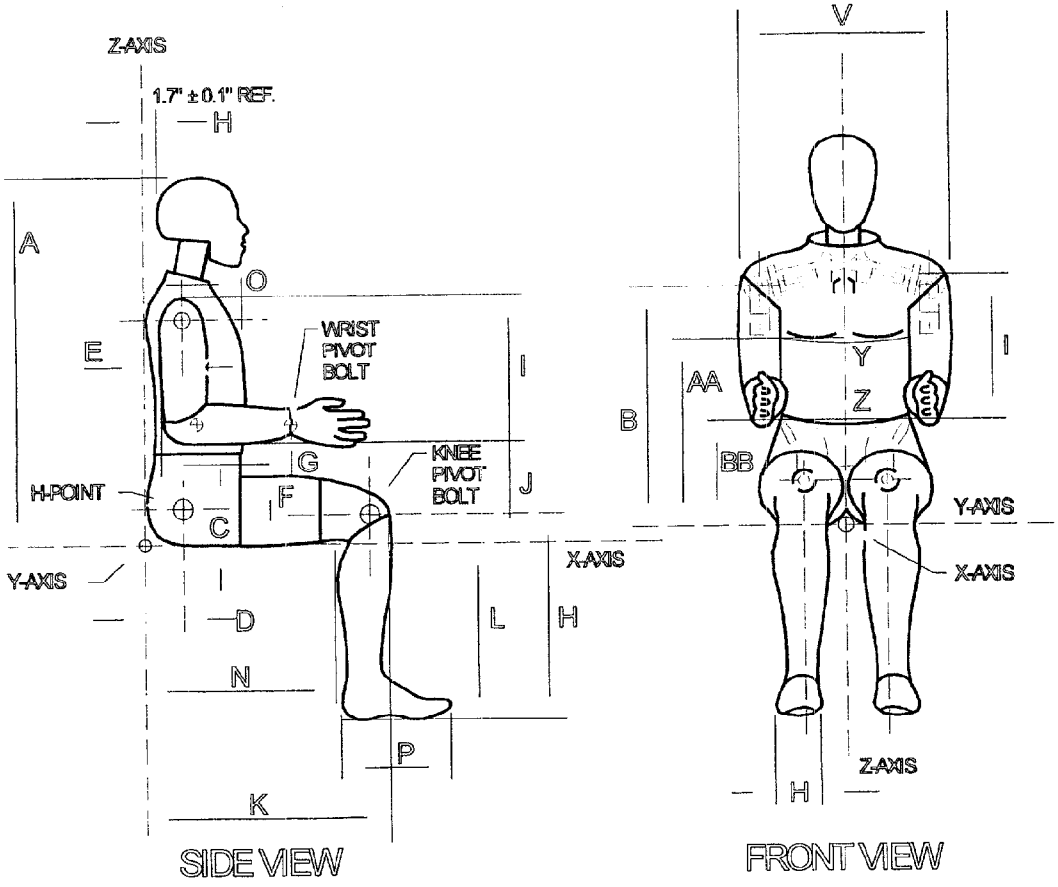
Dummy serial numbers and certification dates are:

Position No./Location	Serial No.	Completion Date
#1/Driver	150	2/8/00
#2/Right Front Passenger	061	2/7/00

Electronic Test Equipment

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

EXTERNAL DIMENSIONS SPECIFICATIONS



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

PART 572E
HEAD DROP TEST

Dummy Serial Number	150
Sequential Test Number	3
Date	2/4/00
Workfile	150200.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	31
Peak Resultant Acceleration	225-275 G's	243.6
Peak Lateral Acceleration	15 G's Max	6.3
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	150
Sequential Test Number	3
Date	2/7/00
Workfile	150200.nfx

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	32
Impact Velocity		22.60 - 23.40 Ft/s	22.70
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.47
	20 ms	17.60 - 22.60 G's	19.83
	30 ms	12.50 - 18.50 G's	15.63
Max Pendulum G's Above 30 ms		29 G's Max	15.63
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.88
D Plane Rotation	Max	64 - 78 Deg	77.34
	Time	57 - 64 ms	58.75
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	71.90
	Time	47 - 58 ms	54.13
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	123.00
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	103.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150
Sequential Test Number	3
Date	2/7/00
Workfile	150200.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	32
Impact Velocity		19.50 - 20.30 Ft/s	19.70
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	20.24
	20 ms	14.00 - 19.00 G's	17.38
	30 ms	11.00 - 16.00 G's	14.14
Max Pendulum G's Above 30 ms		22 G's Max	14.14
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	40.25
D Plane Rotation	Max	81 - 106 Deg	102.21
	Time	72 - 82 ms	73.13
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-52.67
	Time	65 - 79 ms	69.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	152.38
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	139.25

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	150
Sequential Test Number	3
Date	2/8/00
Workfile	150200.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	32
Pendulum Velocity	21.6 - 22.4 Ft/s	21.92
Maximum Deflection	2.50 - 2.86 in	2.59
Maximum Resistive Force	1160 - 1325 Lbs	1311.77
Internal Hysteresis	69 - 85 %	72.8

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	150
Sequential Test Number	3
Date	2/8/00
Workfile	150200

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1182
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1146

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Sequential Test Number 3
Date 2/7/00

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	34.0
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	5.7
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.5
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	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
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	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.1
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number	061
Sequential Test Number	1
Date	2/3/00
Workfile	061100.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	31
Peak Resultant Acceleration	225-275 G's	255.5
Peak Lateral Acceleration	15 G's Max	13.2
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	061
Sequential Test Number	1
Date	2/7/00
Workfile	061100.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	31
Impact Velocity		22.60 - 23.40 Ft/s	22.70
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.42
	20 ms	17.60 - 22.60 G's	19.92
	30 ms	12.50 - 18.50 G's	14.26
Max Pendulum G's Above 30 ms		29 G's Max	14.26
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	41.13
D Plane Rotation	Max	64 - 78 Deg	76.64
	Time	57 - 64 ms	60.88
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	70.74
	Time	47 - 58 ms	55.50
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	123.38
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	104.88

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	061
Sequential Test Number	1
Date	2/4/00
Workfile	061100.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	31
Impact Velocity		19.50 - 20.30 Ft/s	19.91
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.61
	20 ms	14.00 - 19.00 G's	17.75
	30 ms	11.00 - 16.00 G's	14.71
Max Pendulum G's Above 30 ms		22 G's Max	14.71
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	40.38
D Plane Rotation	Max	81 - 106 Deg	97.67
	Time	72 - 82 ms	73.13
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-58.42
	Time	65 - 79 ms	68.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	150.00
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	132.75

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	061
Sequential Test Number	1
Date	2/8/00
Workfile	061100.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	31
Pendulum Velocity	21.6 - 22.4 Ft/s	21.71
Maximum Deflection	2.50 - 2.86 in	2.54
Maximum Resistive Force	1160 - 1325 Lbs	1285.72
Internal Hysteresis	69 - 85 %	74.45

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	061
Sequential Test Number	1
Date	2/8/00
Workfile	061100.lf/061100.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1209.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	12.05

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 061
Sequential Test Number 1
Date 2/7/00

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			7
Relative Humidity			31
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.4
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.5
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	6.1
Buttock Knee Length	K	22.8 - 23.8 in	23.3
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.7
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.5
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.1
Elbow Rest Height	J	7.5 - 8.3 in	7.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

APPENDIX D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-AF5P8	11/8/99	5/8/00
	Y	ENDEVCO	AC-C14948	11/8/99	5/8/00
	Z	ENDEVCO	AC-AH5F3	11/8/99	5/8/00
Head	X (R)	ENDEVCO	AC-J31021	10/11/99	4/10/00
	Y (R)	ENDEVCO	AC-J31066	10/7/99	4/6/00
	Z (R)	ENDEVCO	AC-J31022	10/11/99	4/10/00
Neck Load Cell	X	DENTON	LC-269Fx	11/11/99	5/11/00
	Y	DENTON	LC-269Fy	11/11/99	5/11/00
	Z	DENTON	LC-269Fz	11/11/99	5/11/00
Neck Moment	X	DENTON	LC-269Mx	11/11/99	5/11/00
	Y	DENTON	LC-269My	11/11/99	5/11/00
	Z	DENTON	LC-269Mz	11/11/99	5/11/00
Chest	X	ENDEVCO	AC-ADL50	11/8/99	5/8/00
	Y	ENDEVCO	AC-AC2P5	11/8/99	5/8/00
	Z	ENDEVCO	AC-AL6C8	11/8/99	5/8/00
Chest	X (R)	ENDEVCO	AC-J32098	10/7/99	4/6/00
	Y (R)	ENDEVCO	AC-J32383	10/7/99	4/6/00
	Z (R)	ENDEVCO	AC-J32186	10/7/99	4/6/00
Chest Deflection Gauge		SERVO	DS-150	11/23/99	5/23/00
Hybrid III Use Only					
Pelvic	X	ENDEVCO	AC-C15018	11/8/99	5/8/00
	Y	ENDEVCO	AC-C14883	11/8/99	5/8/00
	Z	ENDEVCO	AC-C14972	11/8/99	5/8/00

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell		GSE	LC-951	10/20/99	4/19/00
Right Femur Load Cell		GSE	LC-551	10/20/99	4/19/00
Left Upper Tibia	Mx	DENTON	LC-016Mx	9/16/99	3/16/00
	My	DENTON	LC-016My	9/16/99	3/16/00
Left Lower Tibia	Fz	DENTON	LC-123Fz	9/16/99	3/16/00
	Mx	DENTON	LC-123Mx	9/16/99	3/16/00
	My	DENTON	LC-123My	9/16/99	3/16/00
Right Upper Tibia	Mx	DENTON	LC-023Mx	10/12/99	4/11/00
	My	DENTON	LC-023My	10/12/99	4/11/00
Right Lower Tibia	Fz	DENTON	LC-111Fz	10/12/99	4/11/00
	Mx	DENTON	LC-111Mx	10/12/99	4/11/00
	My	DENTON	LC-111My	10/12/99	4/11/00
Left Foot Rear	X	ENDEVCO	AC-J32184	10/11/99	4/10/00
	Z	ENDEVCO	AC-J31011	10/11/99	4/10/00
Left Foot Front	Z	ENDEVCO	AC-J32185	10/11/99	4/10/00
Right Foot Rear	X	ENDEVCO	AC-J31101	10/11/99	4/10/00
	Z	ENDEVCO	AC-J31020	10/11/99	4/10/00
Right Foot Front	Z	ENDEVCO	AC-J31059	10/11/99	4/10/00
Lap Belt Load Cells		LEBOW	LC-706	10/19/99	4/18/00
Shoulder Belt Load Cells		-	-	-	-
Spool-Out Potentiometer		CAL	DS-E3	9/24/99	3/24/00
Belt Stretch Transducer		-	-	-	-

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 061)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-AL553	11/8/99	5/8/00
	Y	ENDEVCO	AC-A83G	11/8/99	5/8/00
	Z	ENDEVCO	AC-C14901	11/8/99	5/8/00
Head	X (R)	ENDEVCO	AC-A13939	11/8/99	5/8/00
	Y (R)	ENDEVCO	AC-A14181	11/8/99	5/8/00
	Z (R)	ENDEVCO	AC-A14124	11/8/99	5/8/00
Neck Load Cell	X	DENTON	LC-205Fx	2/14/00	8/14/00
	Y	DENTON	LC-205Fy	2/14/00	8/14/00
	Z	DENTON	LC-205Fz	2/14/00	8/14/00
Neck Moment	X	DENTON	LC-205Mx	2/14/00	8/14/00
	Y	DENTON	LC-205My	2/14/00	8/14/00
	Z	DENTON	LC-205Mz	2/14/00	8/14/00
Chest	X	ENDEVCO	AC-FP90	11/8/99	5/8/00
	Y	ENDEVCO	AC-A26A	11/8/99	5/8/00
	Z	ENDEVCO	AC-AL6H7	11/8/99	5/8/00
Chest	X (R)	ENDEVCO	AC-B11407	11/8/99	5/8/00
	Y (R)	ENDEVCO	AC-B11408	11/8/99	5/8/00
	Z (R)	ENDEVCO	AC-B10827	11/8/99	5/8/00
Chest Deflection Gauge		SERVO	DS-061	2/11/00	8/11/00
Hybrid III Use Only					
Pelvic	X	ENDEVCO	AC-ADMB8	11/8/99	5/8/00
	Y	ENDEVCO	AC-ADL44	11/8/99	5/8/00
	Z	ENDEVCO	AC-ACT12	11/8/99	5/8/00

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 061)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell		GSE	LC-418	10/20/99	4/19/00
Right Femur Load Cell		GSE	LC-420	10/19/99	4/18/00
Left Upper Tibia	Mx	DENTON	LC-045Mx	9/16/99	3/16/00
	My	DENTON	LC-045My	9/16/99	3/16/00
Left Lower Tibia	Fz	DENTON	LC-125Fz	9/16/99	3/16/00
	Mx	DENTON	LC-125Mx	9/16/99	3/16/00
	My	DENTON	LC-125My	9/16/99	3/16/00
Right Upper Tibia	Mx	DENTON	LC-038Mx	9/16/99	3/16/00
	My	DENTON	LC-038My	9/16/99	3/16/00
Right Lower Tibia	Fz	DENTON	LC-124Fz	9/16/99	3/16/00
	Mx	DENTON	LC-124Mx	9/16/99	3/16/00
	My	DENTON	LC-124My	9/16/99	3/16/00
Left Foot Rear	X	ENDEVCO	AC-J32176	10/11/99	4/10/00
	Z	ENDEVCO	AC-J31042	10/11/99	4/10/00
Left Foot Front	Z	ENDEVCO	AC-J31009	10/11/99	4/10/00
Right Foot Rear	X	ENDEVCO	AC-J31050	10/11/99	4/10/00
	Z	ENDEVCO	AC-J31060	10/11/99	4/10/00
Right Foot Front	Z	ENDEVCO	AC-J32143	10/11/99	4/10/00
Lap Belt Load Cells		LEBOW	LC-711	10/19/99	4/18/00
Shoulder Belt Load Cells		-	-	-	-
Spool-Out Potentiometer		CAL	DS-E5	9/24/99	3/24/00
Belt Stretch Transducer		-	-	-	-

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember	ICS	AC-Y17	2/8/00	8/8/00
Right Rear Seat Crossmember	ICS	AC-Y11	2/8/00	8/8/00
Top of Engine	ICS	AC-X93	12/7/99	6/6/00
Bottom of Engine	ICS	AC-Y171	11/23/99	5/23/00
Right Disc Brake Caliper	ICS	AC-D55	11/23/99	5/23/00
Instrument Panel	ENTRAN	AC-D03	9/3/99	3/3/00
Left Disc Brake Caliper	ICS	AC-D75	9/14/99	3/14/00
Left Seat Rear Crossmember (R)	ICS	AC-D31	9/14/99	3/14/00
Right Seat Rear Crossmember (R)	ICS	AC-D74	2/9/00	8/9/00