V3053

REPORT NUMBER: CAL-99-10

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

GENERAL MOTORS OF CANADA, LTD.
1999 BUICK CENTURY
4-DOOR SEDAN

NHTSA NUMBER: MX0100

CALSPAN TEST NUMBER: 8413-34

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

February 9, 1999

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
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

3053

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Transportation Science Center

Approval Date: February 27, 1999

FINAL REPORT ACCEPTANCE BY OCS:

_____

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

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Date of Report Acceptance

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

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Date of Report Acceptance

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15. *Supplementary Notes*		

16. *Abstract*

A frontal load cell barrier test of a 1999 Buick Century 4-Door Sedan was performed at Calspan Corporation crash test facility in Buffalo, New York, on February 9, 1999.

The impact velocity was 56.2 kph and the temperature at the barrier face was 20°C. The maximum post-test vehicle crush was 587 mm. The test vehicle was equipped with 3-point restraint systems, knee bolsters, and next generation 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 comply with head, chest, and femur requirements. The passenger appeared to comply with chest and femur requirements and exceed FMVSS 208 head requirements.

17. *Key Words* 56 kph Frontal Barrier Impact test New Car Assessment Program (NCAP)	18. *Distribution Statement* Copies of this report are available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, DC 20590		
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Section 1

PURPOSE AND SUMMARY OF TEST MX0100

PURPOSE

This 56.2 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-96-D-02010. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48.3 kph requirements.

The 56.2 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 1999 Buick Century 4-Door Sedan at a velocity of 56.2 kph. The test was performed at the Calspan Corporation on February 9, 1999. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

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

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

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 150) and the right-front passenger (position 2) ATD (Serial No. 245) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 133 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 599.4. The maximum chest deceleration over 3 milliseconds was 43.2 g's and maximum chest deflection was 29.8 mm. Femur loads were 4609.8 Newtons on the left and 2613.1 Newtons on the right.

The right front passenger's HIC was 1062.1. Maximum chest deceleration over 3 milliseconds was 50.3 g's and maximum chest deflection was 23.5 mm. Femur loads were 4938.0 Newtons on the left and 3217.4 Newtons on the right.

The top of the engine block (accelerometer #3) sustained a cut wire during the event. This data is not accurate. The driver right lower tibia Mx and passenger right lower tibia Fz did not record during the event. The passenger right lower tibia Fz plot is not included in this report. The driver left ankle Az data did not record correctly during the event.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : MX0100 Test Mode : 56.3 kph Frontal Barrier

Test Date : February 9, 1999 Time: 13:20 Temperature : 6.1 °C

Vehicle Make/Model/Body Style : 1999 Buick Century 4-Door Sedan

Vehicle Test Weight : 1747.5 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.2 kph

Maximum Static Crush : 587.0 mm

Vehicle Rebound : 318.0 mm

DUMMIES:	DRIVER	PASSENGER
Type :	572E	572E
Restraint System :	Seatbelt, Airbag, Knee Bolster	Seatbelt, Airbag, Knee Bolster

Number of Data Channels : 133

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	3 mm forward
Seat Back Failure :	None	None

VISIBLE DUMMY CONTACT POINTS :	DRIVER	PASSENGER
Head :	Face to the top center of the airbag	Face and top of the head to the center of the airbag.
Abdomen :	None	None
Chest	Airbag	Airbag
Knees	Knee Bolster	Knee Bolster

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1999 Buick Century 4-Door Sedan

NHTSA No. : MX0100 ; VIN: 2G4WS52M3X1449474 ; Color : Tan

Engine Data: 6 cylinders; - CID; 3.1 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 : 01/29/99 ; Odometer Reading 42 km

Selling Dealer : Skill Buick, Inc.

& Address: 363 Delaware Street Tonawanda, NY 14150-3951

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : General Motors of Canada, Ltd.

Date of Manufacture 10/98

GVWR : 2023 kg; GAWR: 1110 kg FRONT; 913 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 300 kpa FRONT

300 kpa REAR

Recommended Tire Size : P205/70R15

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

Size of Tires on Test Vehicle: P205/70R15 ; Manufacturer: General

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) = 488 kg

No. of Occupants x 68 kg = 408 kg

Rated Cargo/Luggage Weight (RCLW) = 80 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	=	486.0 kg	Right Rear	=	283.0 kg
Left Front	=	480.5 kg	Left Rear	=	274.0 kg
TOTAL FRONT	=	966.5 kg	TOTAL REAR	=	557.0 kg

TOTAL DELIVERED WEIGHT = 1523.5 kg

% of Total Front of Vehicle Weight = 63.4 % of Total Rear Weight = 36.6 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	1523.5 kg
Rated Cargo/Luggage Weight (RCLW)	=	80.0 kg
Weight of 2 p.572 Dummies @ 76 each	=	152.0 kg
TARGET TEST WEIGHT	=	1755.5 kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 72.0 KG OF CARGO WEIGHT:

Right Front	=	507.0 kg	Right Rear	=	365.5 kg
Left Front	=	513.0 kg	Left Rear	=	362.0 kg
TOTAL FRONT	=	1020.0 kg	TOTAL REAR	=	727.5 kg

TOTAL TEST WEIGHT = 1747.5 kg

% of Total Front Weight = 58.4 % % of Total Rear Weight = 41.6 %

Weight of Ballast Secured in Vehicle Trunk Area = 0 kg

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	729	LF	730	RR	732	LR 733
FULLY LOADED :	RF	710	LF	715	RR	701	LR 702
AS TESTED :	RF	716	LF	716	RR	707	LR 704

Vehicle's Wheel Base : 2780 mm

Location of Vehicle's C.G. : 1157.3 mm rearward of front wheel center.

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual = 66.2 liters

Usable Capacity Figure Furnished by COTR = 66.2 liters

Test Volume Range (92 to 94% of Usable Capacity) = 60.9 to 62.2 liters

ACTUAL TEST VOLUME= 61.3 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 The fuel tank is centered ahead of the rear axle, the filler neck is located on the left side of the vehicle, ahead of the rear axle, the fuel lines run along the inside of the left frame rail.

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : February 9, 1999 Time: 13:20 Temperature: 6.1 °C

Vehicle NHTSA No. : MX0100

Required Impact Velocity Range : 55.5 to 57.1 kph

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

Trap No. 1 = 56.2 kph; Trap No. 2 = 56.2 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 =	4815	; C/L =	4925	; Left =	4815
Post-Test	Right =	4298	; C/L =	4338	; Left =	4333
Crush	Right =	517	; C/L =	587	; Left =	482
AVERAGE	=	529	mm			

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

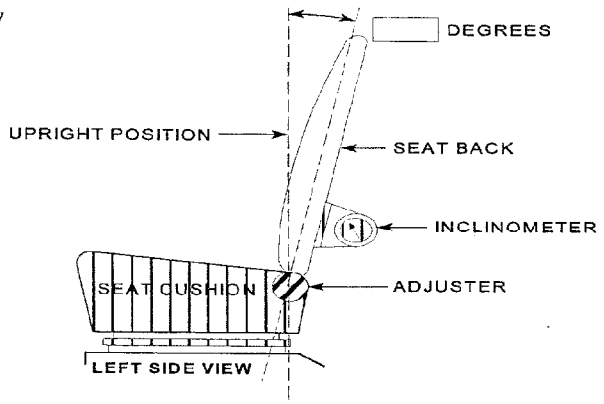
	Right =	321	; C/L =	361	; Left =	272
AVERAGE	=	318.0	mm			

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1999 Vehicle Model: Buick Century 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 : 26.5°

Measurement instructions : Cut seatback material to expose frame rail at a height of 9 to 10 inches above the seatback pivot point. Recline seatback until inclinometer registers 26.5 from level sill.

Seat back angle for passenger's seat : 26.5°

Measurement instructions : Same as the driver's seat.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : There are 25 total seat detents. The forward most detent was labeled 0, the rearward most 24. Test position is detent number 12.

Positioning of the passenger's seat (if applicable) : There are 28 total seat detents. The forward most detent was labeled 0, the rearward most 28. Test position is detent number 14.

3. Fuel Tank Capacity Data

3.1

A. "Usable Capacity" of the standard equipment fuel tank is	66.2	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 =	66.2	liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 61.3 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.

The fuel pump operates for 3 seconds when the vehicle ignition is turned on.

4. STEERING COLUMN ADJUSTMENTS :

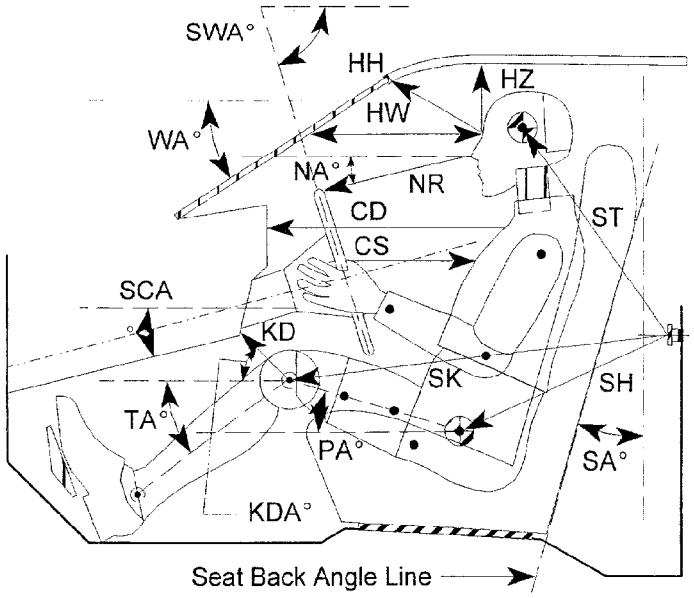
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: The steering wheel angle should be set to 21° from a level sill.

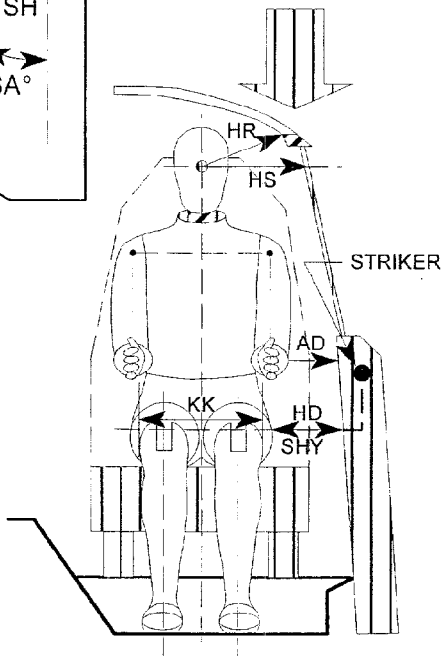
5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: There are 4 positions. Test position is one position down from full up.

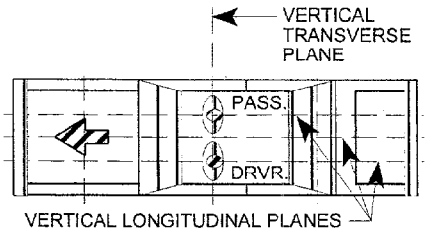
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



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



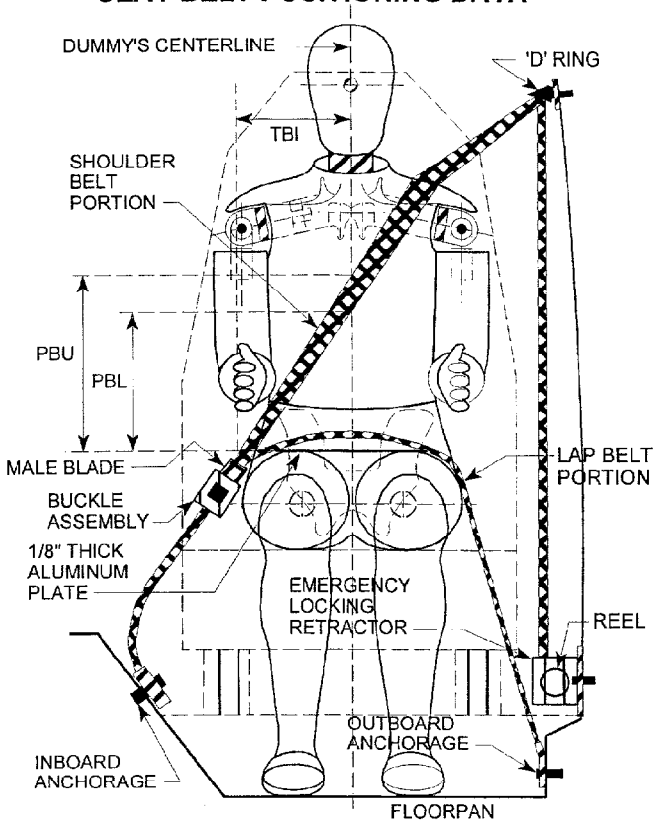
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE

	DRIVER (Serial #150)			PASS. (Serial # 245)		
WA°	27 deg.			N/A		
SWA°	21 deg.			N/A		
SCA°	69 deg.			N/A		
SA°	26.5 deg.			26.5 deg.		
HZ	162			165		
HH	313			318		
HW	613			628		
HR	205			225		
NR	348	Angle	-17 deg.	N/A		
CD	497			480		
CS	265			N/A		
RA	175			N/A		
KDL	153	Angle (KDA)	30 deg.	118		
KDR	148			144	Angle (KDA)	20 deg.
PA°	22.9 deg.			23.7 deg.		
TA°	-45 deg.			-45 deg.		
KK	285			271		
ST	535	Angle	11 deg.	570	Angle	14.6 deg.
SK	572	Angle	90 deg.	590	Angle	89 deg.
SH	230	Angle	128 deg.	240	Angle	125 deg.
SHY	250			250		
HS	328			318		
HD	152			135		
AD	122			131		

Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

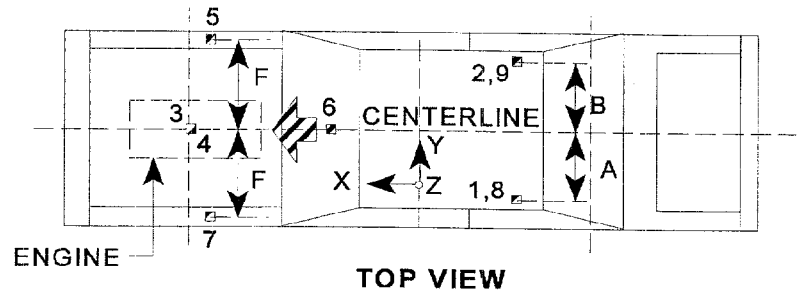
SEAT BELT POSITIONING DATA



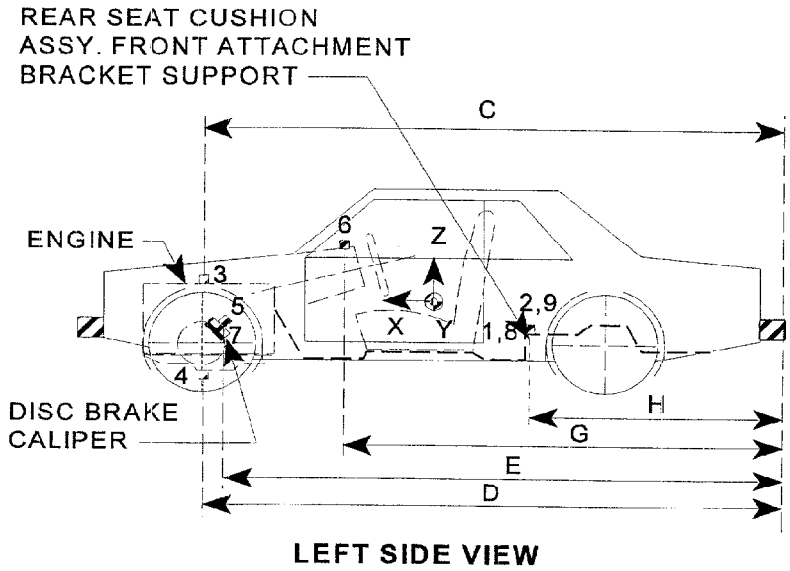
FRONT VIEW OF DUMMY

	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	355	350
PBL-- Top surface of alum. plate to belt lower edge	280	270
LAP BELT TENSION	10 Newtons	10 Newtons
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

DIMENSION	LENGTH (mm)
	PRE-TEST VALUES
A Left Rear Seat Crossmember Y	-622.5
B Right Rear Seat Crossmember Y	630.4
C Top of Engine X	4229.6
D Bottom of Engine X	4104.1
E Disc Brake Calipers X	3818.6
F Disc Brake Calipers Y	402.8
G Instrument Panel X	3111.9
H Rear Seat Crossmembers X	1887.1

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	2.5	154.1	-32.6	45.5
2	Rear Seat X-Member @ Right Side	3.0	154.6	-31.9	46.3
3	Top of Engine Block	*	*	*	*
4	Bottom of Engine	53.6	54.9	-122.4	38.2
5	Disc Brake Caliper @ Right Side	48.4	48.0	-151.4	42.3
6	Instrument Panel	9.7	35.1	-57.1	54.5
7	Disc Brake Caliper @Left Side	36.6	47.2	-130.8	41.9
8	Rear Seat X-Member @ Left-Redundant	2.5	154.1	-32.3	45.6
9	Rear Seat X-Member @ Right-Redundant	2.8	154.7	-32.4	46.2

* Sustained a cut wire during the event. Data is not accurate

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

NHTSA Test No.: MX0100 Vehicle: 1999 Buick Century 4-Door Sedan

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
Pos. 1 Head X	g's	8.3	177.4	-60.7	80.5
Pos. 1 Head Y	g's	3.9	207.2	-5.7	80.8
Pos. 1 Head Z	g's	23.7	77.5	-2.2	111.8
Pos. 1 Head Resultant	g's	64.9	80.4	0.1	-41.4
Pos. 2 Head X	g's	11.7	225.3	-78.5	87.6
Pos. 2 Head Y	g's	4.0	118.8	-27.9	92.3
Pos. 2 Head Z	g's	32.8	76.1	-2.7	117.1
Pos. 2 Head Resultant	g's	84.0	87.6	0.0	-98.3
Pos. 1 Chest X	g's	4.1	204.7	-43.7	73.6
Pos. 1 Chest Y	g's	2.4	66.0	-1.6	38.7
Pos. 1 Chest Z	g's	6.0	62.1	-4.4	110.8
Pos. 1 Chest Resultant	g's	44.0	73.6	0.0	-39.1
Pos. 1 Chest Displacement	mm	0.1	-5.8	-29.8	75.6
Pos. 2 Chest X	g's	4.8	218.1	-49.4	83.4
Pos. 2 Chest Y	g's	5.1	48.8	-7.9	98.3
Pos. 2 Chest Z	g's	17.5	78.3	-5.5	119.5
Pos. 2 Chest Resultant	g's	51.2	83.2	0.0	-99.2
Pos. 2 Chest Displacement	mm	0.0	20.6	-23.5	92.3
Pos. 1 Left Femur	N	311.3	44.9	-4609.8	57.2
Pos. 1 Right Femur	N	174.4	98.5	-2613.1	65.4
Pos. 2 Left Femur	N	405.7	96.1	-4938.0	62.1
Pos. 2 Right Femur	N	189.2	441.5	-3217.4	68.7
Pos. 1 Left Belt Load	N	3896.1	63.3	-6.0	-59.8
Pos. 1 Torso Belt Load	N	5204.7	72.9	-33.6	203.8
Pos. 2 Right Belt Load	N	3579.6	63.9	-7.0	327.8
Pos. 2 Torso Belt Load	N	5080.1	86.0	-38.1	202.1

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

NHTSA Test No.: MX0100 Vehicle: 1999 Buick Century 4-Door Sedan

	HEAD INJURY CRITERIA (HIC)			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	599.4	57.7	93.7	48.8
Position #2 - Passenger	1062.1	71.2	99.8	67.3

** 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	43.2	71.5	74.5	400.6
Position #2 - Passenger	50.3	81.4	84.4	446.4

* 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.)
HYBRID III NECK AND PELVIC DATA SHEET

Vehicle Year/Make/Model/Body Style: 1999 Buick Century 4-Door Sedan

NHTSA Test No.: MX0100 Test Date: February 9, 1999

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Upper Neck Fx	N	663.6	71.8	-162.4	201.9
Pos. 1 Upper Neck Fy	N	224.7	93.3	-72.5	159.3
Pos. 1 Upper Neck Fz	N	1281.5	63.5	-208.7	211.1
Pos. 1 Neck Force Result	N	1314.3	63.8	4.0	-99.0
Pos. 1 Upper Neck Mx	N-m	13.5	111.2	-8.1	164.7
Pos. 1 Upper Neck My	N-m	81.7	69.9	-20.3	128.2
Pos. 1 Upper Neck Mz	N-m	15.6	210.5	-2.9	106.4
Pos. 1 Neck Moment Result	N-m	81.8	69.8	0.1	-98.5
Pos. 2 Upper Neck Fx	N	928.4	82.5	-124.3	274.6
Pos. 2 Upper Neck Fy	N	249.4	86.1	-145.2	168.7
Pos. 2 Upper Neck Fz	N	802.6	73.6	-382.4	85.8
Pos. 2 Neck Force Result	N	986.8	84.1	1.2	-96.8
Pos. 2 Upper Neck Mx	N-m	12.7	91.0	-7.7	78.9
Pos. 2 Upper Neck My	N-m	71.2	82.1	-26.4	132.5
Pos. 2 Upper Neck Mz	N-m	30.3	104.1	-12.0	176.5
Pos. 2 Neck Moment Result	N-m	74.0	82.1	0.0	451.6
Pos. 1 Pelvic (X)	g's	4.0	148.7	-50.3	62.7
Pos. 1 Pelvic (Y)	g's	6.9	99.3	-10.4	71.5
Pos. 1 Pelvic (Z)	g's	2.9	221.5	-15.8	59.9
Pos. 1 Pelvic (R)	g's	52.4	62.7	0.0	-39.7
Pos. 2 Pelvic (X)	g's	4.2	146.1	-56.8	61.4
Pos. 2 Pelvic (Y)	g's	6.5	60.0	-8.3	71.5
Pos. 2 Pelvic (Z)	g's	3.4	239.1	-14.1	70.9
Pos. 2 Pelvic (R)	g's	57.9	61.4	0.0	-47.7

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III LOWER LEG DATA SHEET

Vehicle Year/Make/Model/Body Style: 1999 Buick Century 4-Door Sedan

NHTSA Test No.: MX0100 Test Date: February 9, 1999

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
P1 Lt Upper Tibia Mx	N-m	19.4	68.2	-26.9	94.0
P1 Lt Upper Tibia My	N-m	23.2	107.4	-78.5	75.8
P1 Lt Lower Tibia Fz	N	294.5	55.3	-2614.4	36.0
P1 Lt Lower Tibia Mx	N-m	8.2	109.1	-31.2	78.8
P1 Lt Lower Tibia My	N-m	38.0	71.5	-35.7	34.5
P1 Rt Upper Tibia Mx	N-m	48.2	54.2	-31.2	69.1
P1 Rt Upper Tibia My	N-m	32.9	157.1	-170.6	60.3
P1 Rt Lower Tibia Fz	N	204.7	152.7	-3488.9	57.2
P1 Rt Lower Tibia Mx	N-m	*	*	*	*
P1 Rt Lower Tibia My	N-m	51.8	60.0	-27.8	36.4
Pos. 2 Lt Upper Tibia Mx	N-m	13.1	251.6	-62.7	75.9
Pos. 2 Lt Upper Tibia My	N-m	21.5	162.2	-93.8	49.7
Pos. 2 Lt Lower Tibia Fz	N	94.6	155.1	-4057.2	38.0
Pos. 2 Lt Lower Tibia Mx	N-m	7.1	106.8	-39.5	61.7
Pos. 2 Lt Lower Tibia My	N-m	81.4	60.7	-37.4	38.3
Pos. 2 Rt Upper Tibia Mx	N-m	71.9	86.8	-7.2	253.1
Pos. 2 Rt Upper Tibia My	N-m	19.4	153.6	-79.3	49.5
Pos. 2 Rt Lower Tibia Fz	N	*	*	*	*
Pos. 2 Rt Lower Tibia Mx	N-m	9.1	102.9	-10.4	63.5
Pos. 2 Rt Lower Tibia My	N-m	32.8	60.8	-15.8	35.8

* Channel did not record

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

Vehicle Year/Make/Model/Body Style: 1999 Buick Century 4-Door Sedan

NHTSA Test No.: MX0100 Test Date: February 9, 1999

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Left Ankle X	**g's**	19.7	31.9	-63.7	74.7
Pos. 1 Left Ankle Z	**g's**	*	*	*	*
Pos. 1 Left Toe Z	**g's**	16.3	65.5	-54.3	59.9
Pos. 1 Right Ankle X	**g's**	31.3	37.0	-110.9	57.9
Pos. 1 Right Ankle Z	**g's**	15.6	93.9	-67.5	55.8
Pos. 1 Right Toe Z	**g's**	57.9	53.7	-145.9	50.7
Pos. 2 Left Ankle X	**g's**	19.8	407.0	-112.0	64.5
Pos. 2 Left Ankle Z	**g's**	25.2	78.2	-66.1	38.0
Pos. 2 Left Toe Z	**g's**	28.0	52.9	-71.8	35.5
Pos. 2 Right Ankle X	**g's**	10.6	418.1	-57.9	44.6
Pos. 2 Right Ankle Z	**g's**	15.1	88.3	-40.4	39.1
Pos. 2 Right Toe Z	**g's**	1165.0	116.0	-431.4	53.4

* Data did not record correctly.

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

NHTSA Test No.: MX0100 Vehicle: 1999 Buick Century 4-Door Sedan

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Head X(R)	**g's**	9.2	176.7	-68.7	79.4
Pos. 1 Head Y(R)	**g's**	5.4	210.5	-6.1	83.6
Pos. 1 Head Z(R)	**g's**	27.4	59.1	-4.5	113.5
Pos. 1 Head Resultant(RR)	**g's**	72.8	78.6	0.1	-38.0
Pos. 2 Head X(R)	**g's**	11.5	224.9	-85.2	87.0
Pos. 2 Head Y(R)	**g's**	31.2	90.6	-7.7	118.8
Pos. 2 Head Z(R)	**g's**	30.0	75.9	-6.4	117.7
Pos. 2 Head Resultant(RR)	**g's**	90.0	87.0	0.0	-38.4
Pos. 1 Chest X(R)	**g's**	3.7	205.1	-41.5	71.9
Pos. 1 Chest Y(R)	**g's**	2.9	114.0	-2.0	38.7
Pos. 1 Chest Z(R)	**g's**	6.1	70.4	-5.8	110.2
Pos. 1 Chest Resultant(RR)	**g's**	41.8	71.9	0.1	-75.5
Pos. 2 Chest X(R)	**g's**	5.1	218.0	-51.2	83.2
Pos. 2 Chest Y(R)	**g's**	5.0	48.8	-9.2	96.2
Pos. 2 Chest Z(R)	**g's**	22.5	78.5	-6.9	119.5
Pos. 2 Chest Resultant(RR)	**g's**	54.6	82.8	0.0	-99.3

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

NHTSA Test No.: MX0100 Vehicle: 1999 Buick Century 4-Door Sedan

	HEAD INJURY CRITERIA (HIC) **REDUNDANT**			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	837.4	57.3	99.3	55.8
Position #2 - Passenger	1256.4	70.9	99.6	71.9

** 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	41.0	69.2	73.3	345.1
Position #2 - Passenger	54.2	80.5	83.5	568.2

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

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:	Driver	Passenger
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	2424	2454
Shoulder belt length as measured on Part 572 Dummy.	850	860
Lap belt length as measured on Part 572 Dummy.	770	770
SHOULDER BELT SPOOL-OFF DATA:		
As determined by film analysis.	102	152
As determined mechanically.	107	158
As determined electronically.	141.1	186.5
BELT STRETCH DATA:		
Measured electronically between shoulder belt load cell and the "D" ring.	2.3 mm	0.4 mm
Measured mechanically.	1 mm	0 mm

Dimensions in millimeters

DATA SHEET NO.10 SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

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

Windshield is bonded in place and covered with 16 mm molding.

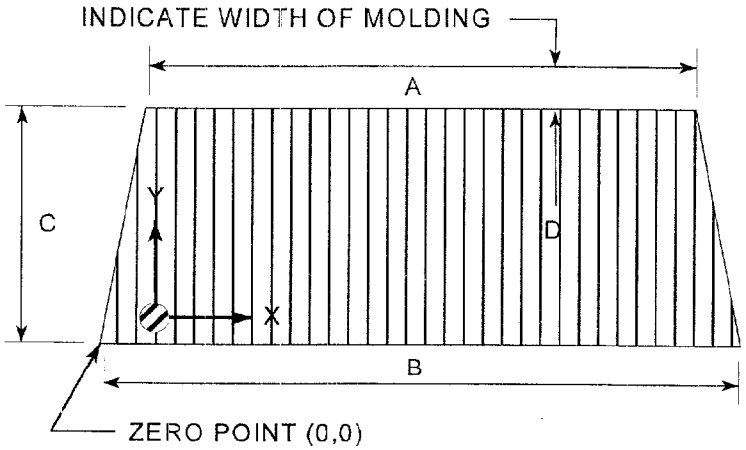
FMVSS 212 REQUIREMENTS:

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	2149	2149	100
LEFT SIDE	2149	2149	100
TOTAL	4298.0	4298.0	100

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

DIMENSIONS (mm)	
A	1208
B	1610
C	740
D	16

FAILURE DETAILS: None

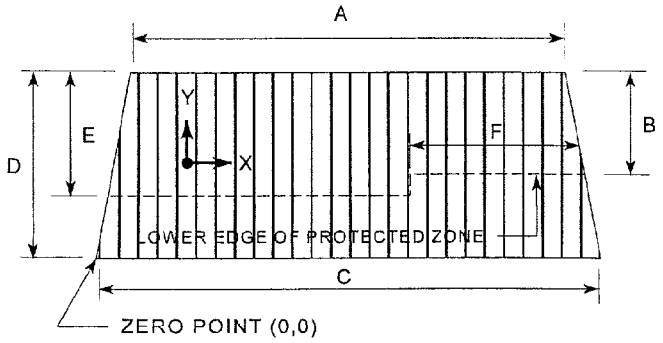
DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

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

FMVSS 219 TEST DATA:

(Dimensions in mm)



FRONT VIEW OF WINDSHIELD

DIMENSIONS	
A	1208
B	454
C	1610
D	740
E	510
F	690

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.: MX0100 TEST DATE: February 9, 1999

VEHICLE MAKE/MODEL: 1999 Buick Century

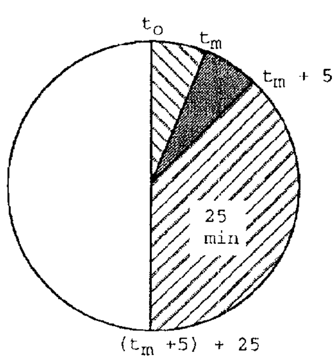
The test vehicle was filled from 92% to 94% of the manufacture's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

= =

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:



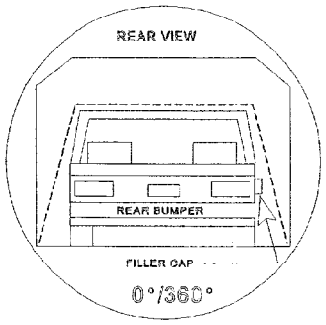
	ACTUAL	MAX ALLOWED
1. From impact until vehicle motion ceases	0	28 g
2. For 5 minute period after vehicle motion ceases	0	141 g
3. For next 25 minutes	0	28 g/min.

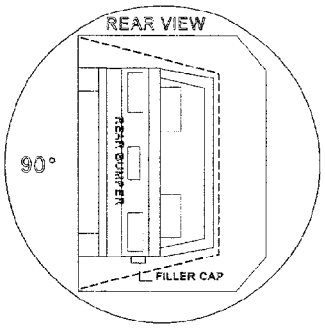
SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:
0-90 deg.

NHTSA Test No.:
MX0100





INDETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	09	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	9	seconds
Next whole minute interval	7	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

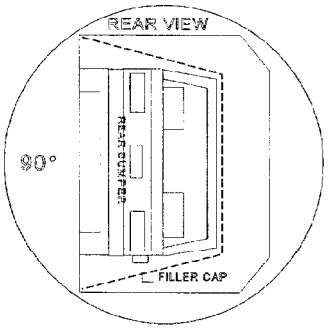
Note: Record spillage for whole minute intervals only as determined above.

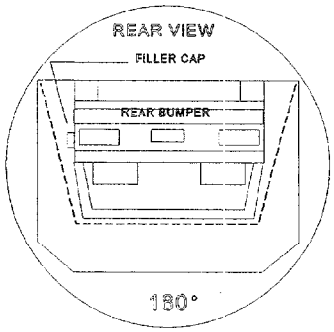
IV. SOLVENT SPILLAGE LOCATION(S): None

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
90-180 deg.

NHTSA Test No.:
MX0100





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	08	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	8	seconds
Next whole minute interval	7	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

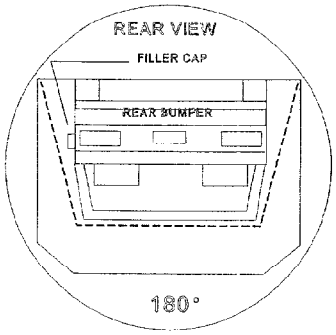
Note: Record spillage for whole minute intervals only as determined above.

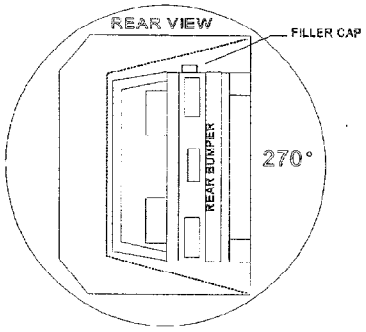
IV. SOLVENT SPILLAGE LOCATION(S): None

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
180-270 deg.

NHTSA Test No.:
MX0100





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	02	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	0	minutes	0	seconds
Next whole minute interval	1	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

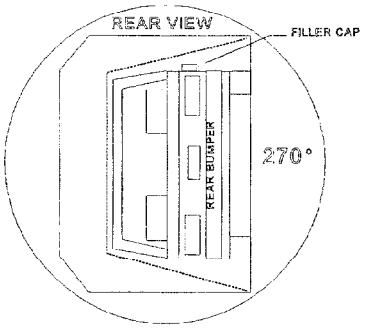
Note: Record spillage for whole minute intervals only as determined above.

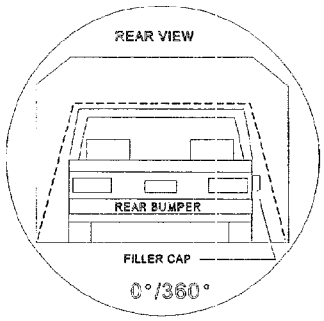
IV. SOLVENT SPILLAGE LOCATION(S): None

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
270-360 deg.

NHTSA Test No.:
MX0100





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	12	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	0	minutes	0	seconds
Next whole minute interval	1	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

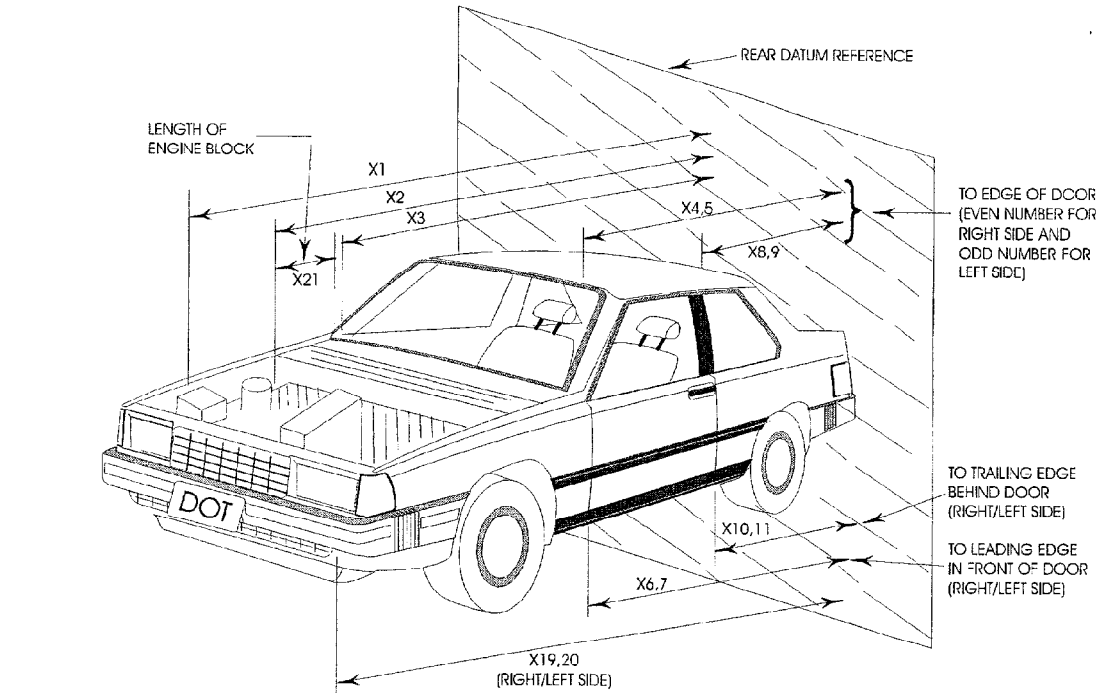
III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

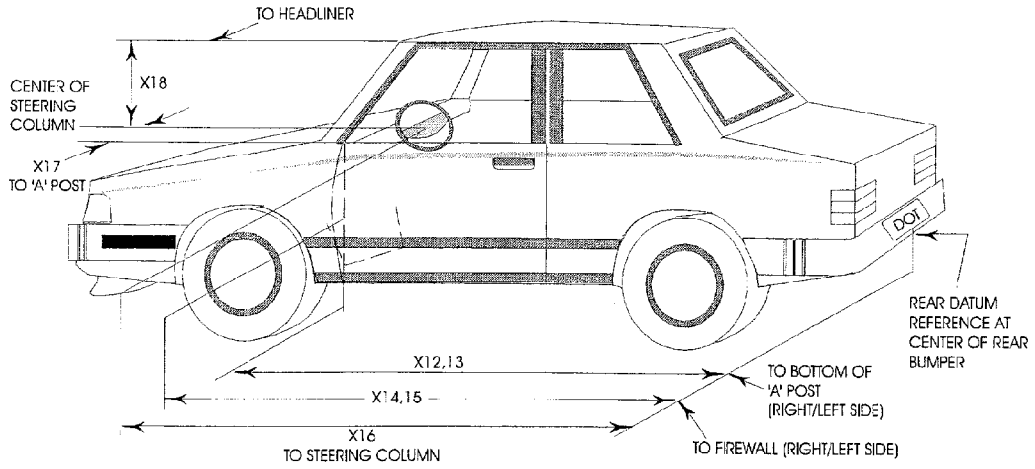
0	0	0	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S): None

TEST VEHICLE MEASUREMENTS





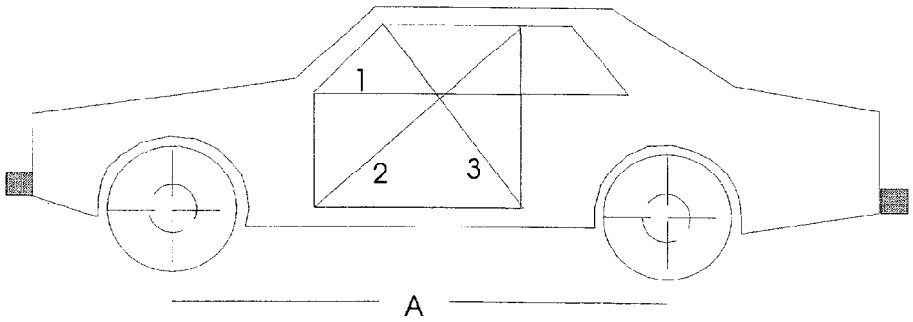
DATA SHEET NO.14 VEHICLE MEASUREMENTS

No.		All Dimensions in mm		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	4965	4378	587
X2	Rear Surface of Vehicle to Front of Engine	4349	4067	282
X3	Rear Surface of Vehicle to Firewall	3807	3822	-15
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3358	3391	-33
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3364	3393	-29
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3383	3414	-31
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3376	3412	-36
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2321	2343	-22
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2317	2347	-30
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2328	2355	-27
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2326	2361	-35
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3434	3466	-32
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3427	3465	-38
X14	Rear Surface of Vehicle to Firewall, Right Side	3764	3724	40
X15	Rear Surface of Vehicle to Firewall, Left Side	3818	3778	40
X16	Rear Surface of Vehicle to Steering Column	2901	2926	-25
X17	Center of Steering Column to "A" Post	364	342	22
X18	Center of Steering Column to Headliner	431	337	94
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4906	4389	517
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4909	4427	482
X21	Length of Engine Block	608	608	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3096	3120	-24
CD	Rear Surface of Vehicle to Center of Dash Panel	3092	3105	-14
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3110	3125	-15

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

DOOR OPENING WIDTH



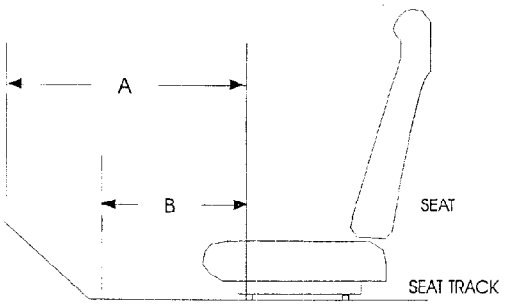
UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	921	1447	1000	927	1437	1004
AFTER TEST	928	1443	1012	926	1445	1009
DIFFERENCE	-7	4	-12	2	-9	-5

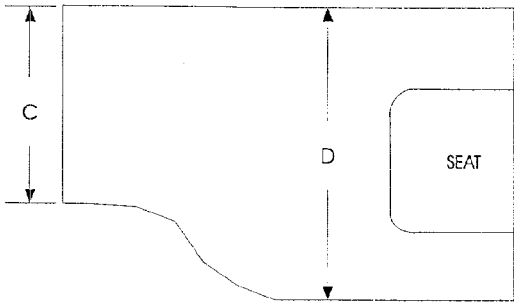
UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2785	2776
AFTER TEST	2691	2673
DIFFERENCE	94	103

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC FOOTWELL DEFORMATION





DRIVER

Measurement	Pre-Test	Post-Test	Difference
A	696.8	631.5	65.3
B	583.8	502.8	81.0
C	480.0	484.6	-4.6
D	440.2	457.5	-17.3

PASSENGER

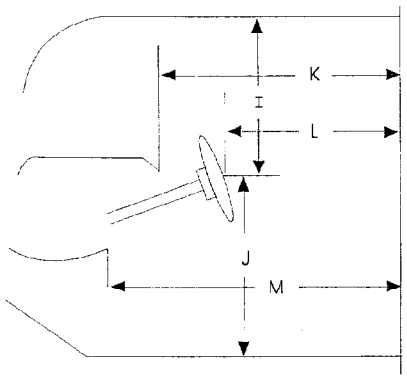
Measurement	Pre-Test	Post-Test	Difference
A	644.3	593.2	51.1
B	562.5	521.0	41.5
C	359.0	333.3	25.7
D	433.1	444.5	-11.4

Units = mm

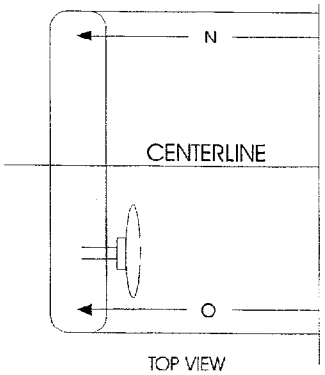
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC PASSENGER COMPARTMENT INTRUSION

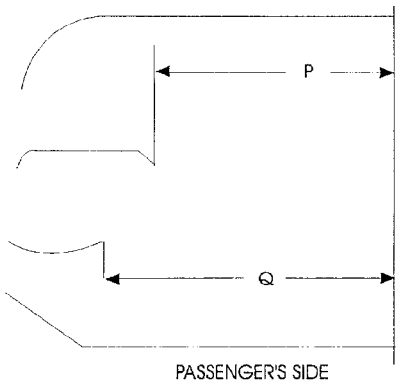


DRIVER'S SIDE



TOP VIEW

MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



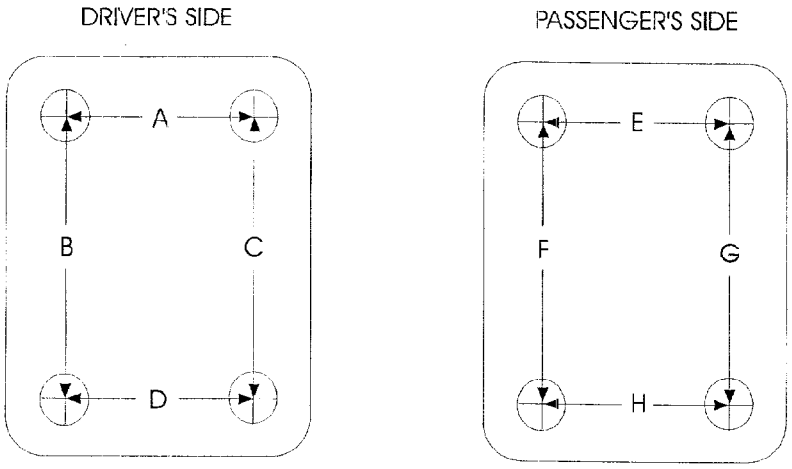
PASSENGER'S SIDE

Measurement	Pre-Test	Post-Test	Difference
I	422.7	336.7	86.0
J	653.9	769.5	-115.6
K	729.9	737.9	-8.0
L	521	520.9	0.1
M	772.7	764.2	8.5
N	707.8	711.3	-3.5
O	718.8	720.6	-1.8
P = K (PASS.)	721.4	715.9	5.5
Q = M (PASS.)	820.5	804.3	16.2

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

FLOORBOARD DEFORMATION



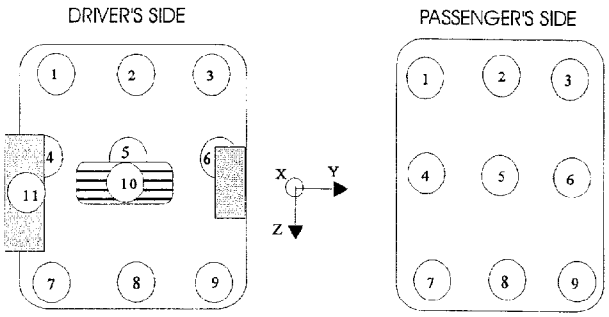
TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	200	195	5
B	400	396	4
C	400	400	0
D	200	200	0
E	215	210	5
F	380	373	7
G	400	400	0
H	200	200	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	3612.7	3591.8	20.9	-435.5	-461.1	25.6
2	3612	3566.1	45.9	-419.8	-439.9	20.1
3	3617.5	3545.5	72.0	-404.6	-464.7	60.1
4	3558	3559.1	-1.1	-356.9	-392.6	35.7
5	3563.5	3533.6	29.9	-329.2	-391.7	62.5
6	3568.5	3525.8	42.7	-323.1	-381.6	58.5
7	3504.2	3511.2	-7.0	-293.4	-348.5	55.1
8	3516.7	3485.1	31.6	-293.9	-354.9	61.0
9	3444.5	3473.6	-29.1	-287	-348.4	61.4
10	3410.2	3326.1	84.1	-453	-518.5	65.5
11	3464.3	3453.9	10.4	-383.8	-419.9	36.1

Passenger Side Floorpan Measurements

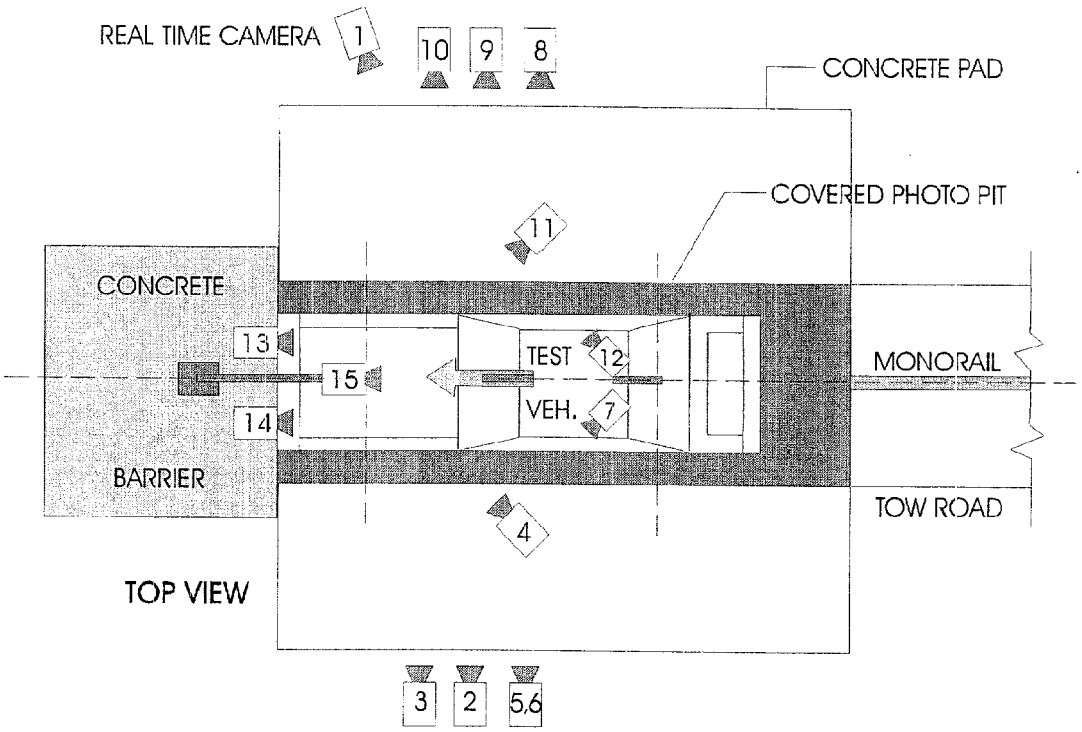
Reference: X = Rear Bumper; Z = Ground

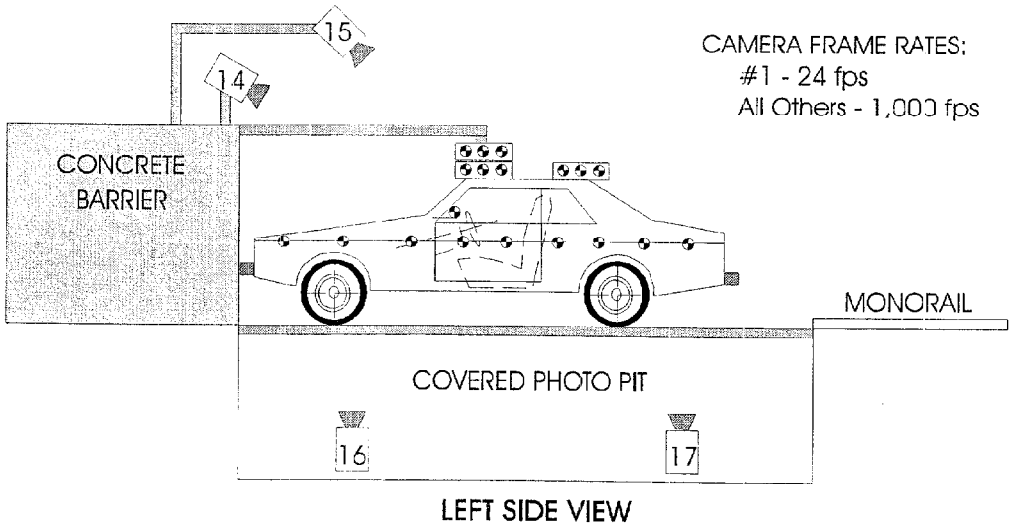
Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3462.4	3503.6	-41.2	-376.1	-444.8	68.7
2	3568.4	3480.9	87.5	-393.1	-453.1	60.0
3	3582.8	3530.3	52.5	-401.5	-455.3	53.8
4	3442.7	3452.2	-9.5	-336	-391.4	55.4
5	3511.6	3456.9	54.7	-351.3	-417.7	66.4
6	3550.9	3497.6	53.3	-368.3	-421.4	53.1
7	3402.5	3407.8	-5.3	-272.6	-334.7	62.1
8	3486	3436.2	49.8	-295.3	-334.8	39.5
9	3491.7	3460.7	31.0	-302.5	-344.7	42.2

Units in mm

CAMERA POSITIONS FOR FRONTAL IMPACTS

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





DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

NHTSA Test No.: MX0100 Vehicle: 1999 Buick Century 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	8325	1700	1038	-2	1475	12.5	1000
3	Left Side View	8201	964	1085	-3	740	25	1000
4	Driver and Interior View	4804	3090	1905	-12	-	25	1000
5	Steering Column (Bottom)	7366	1848	1174	-5	1624	25	1000
6	Steering Column (Top)	7366	1848	1774	-9	1624	25	1000
7	Left Belt	-	-	-	-	-	13	1000
8	Overall Right Side	6990	1922	1081	-4	2275	12.5	1000
9	Right Side View	8457	1235	1051	-2	1570	25	1000
10	Right Passenger View	8147	1867	1412	-4	2202	35	1000
11	Passenger and Interior View	5042	2982	1951	-12	-	25	1000
12	Right Belt	-	-	-	-	-	13	950
13	Passenger Front View	605	-50	1468	-35	-	13	1000
14	Driver Front View	605	-50	1968	-37	-	13	1000
15	Windshield View	0	-530	3374	-49	-	13	1000
16	Pit View of Engine	0	1320	-3048	90	-	13	1000
17	Pit View of Fuel Tank	0	3095	-3048	90	-	13	1030

*X = film plane to monorail centerline

Y = film plane to impact location

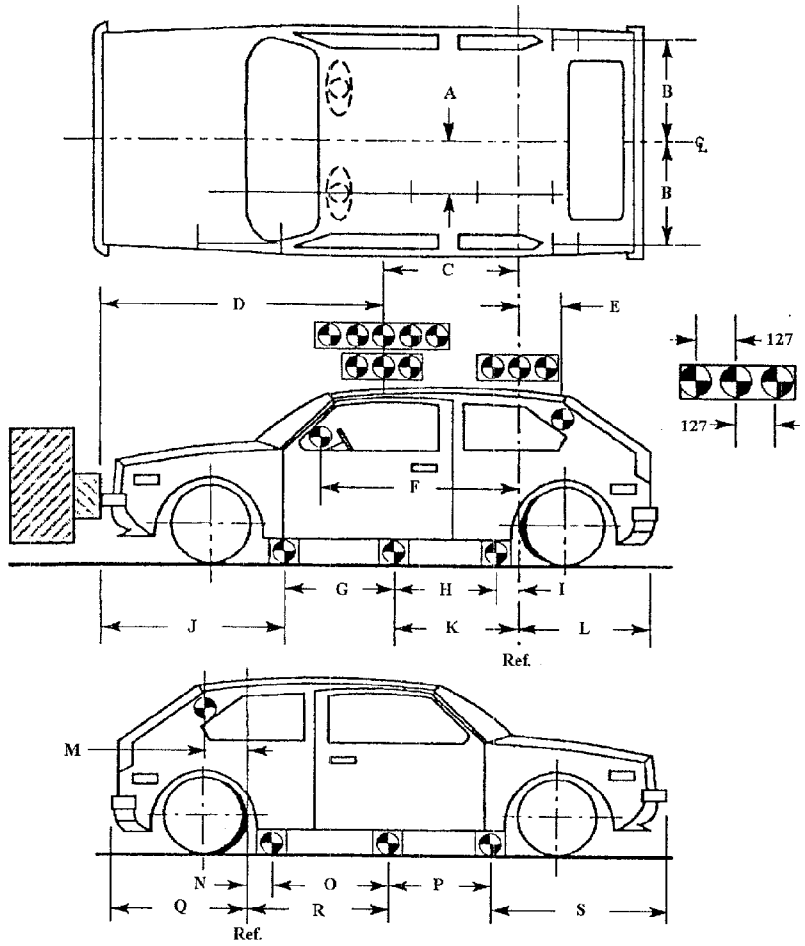
Z = film plane to ground

** = referenced to horizontal plane

N.T. indicates No Timing

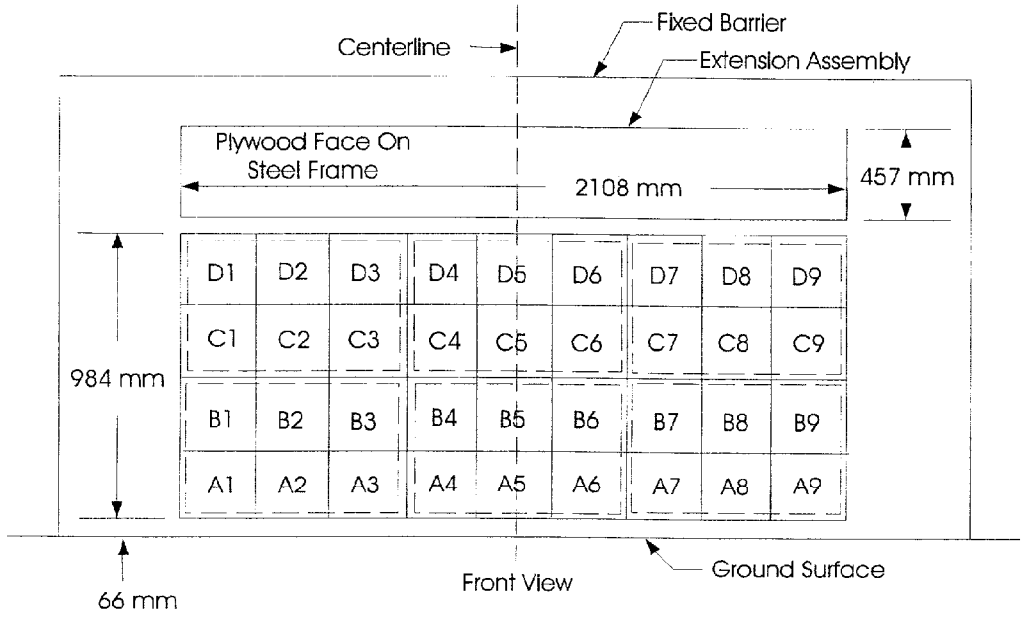
(Dimensions in millimeters)

A	335
B	559
C	1224
D	2237
E	188
F	1602
G	924
H	915
I	127
J	1532
K	1042
L	1465
M	159
N	123
O	915
P	922
Q	1471
R	1038
S	1530



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. : MX0100; Test Date: February 9, 1999; Technician: MacDiarmid

Vehicle Model Year/Make/Model: 1999 Buick Century

A. No. of vent holes: 2 -Driver 0 -Passenger

B. Size of vent holes: (mm^2) 47.12 -Driver 0 -Passenger

C. Total vent area: (mm^2) 94.24 -Driver 0 -Passenger

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

Driver: 520 -Length; 550 -Width; 570 -Diameter

Passenger: 630 -Height; 580 -Width; 630 -Depth

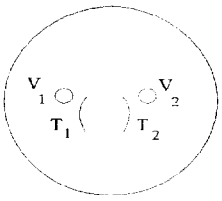
E. Is the air bag tethered?

Driver: X -Yes; - -No; If yes, record length of tether- 140

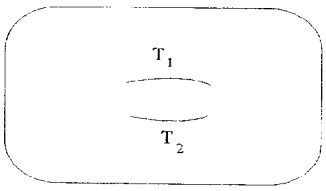
Passenger: X -Yes; - -No; If yes, record length of tether- 250

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: 16821308-14 TR44N199570

Generator: A383 16756957-3

Passenger: Air bag: TX982800973 P129294-02C

Generator: AL7660MWUBDK36 GCM JXK 4N ADC

DATA SHEET NO.19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

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

NHTSA Test No.: MX0100 VIN: 2G4WS52M3X1449474

Model Year: 1999 Build Date: 10/98 Test Date: February 9, 1999

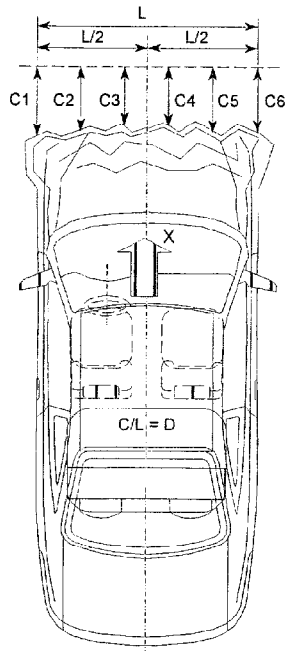
Vehicle Size Category: Mid-Size Test Weight: 1747.5 kg

Vehicle Wheelbase: 2780 mm; Front Overhang: 1532 mm; Overall Width: 1845 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	4833.4	4415.1	-418.3	mm
C2 =	4923.5	4420.9	-502.6	mm
C3 =	4959.3	4349.7	-609.6	mm
C4 =	5003.5	4308.2	-695.3	mm
C5 =	4921.3	4331.6	-589.7	mm
C6 =	4823.7	4340.7	-483.0	mm



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region:

L1= 1400 mm

L2= 700 mm

L3= 466.7 mm

Appendix A

PHOTOGRAPHS

PHOTOGRAPHS

PHOTOGRAPHS (continued)

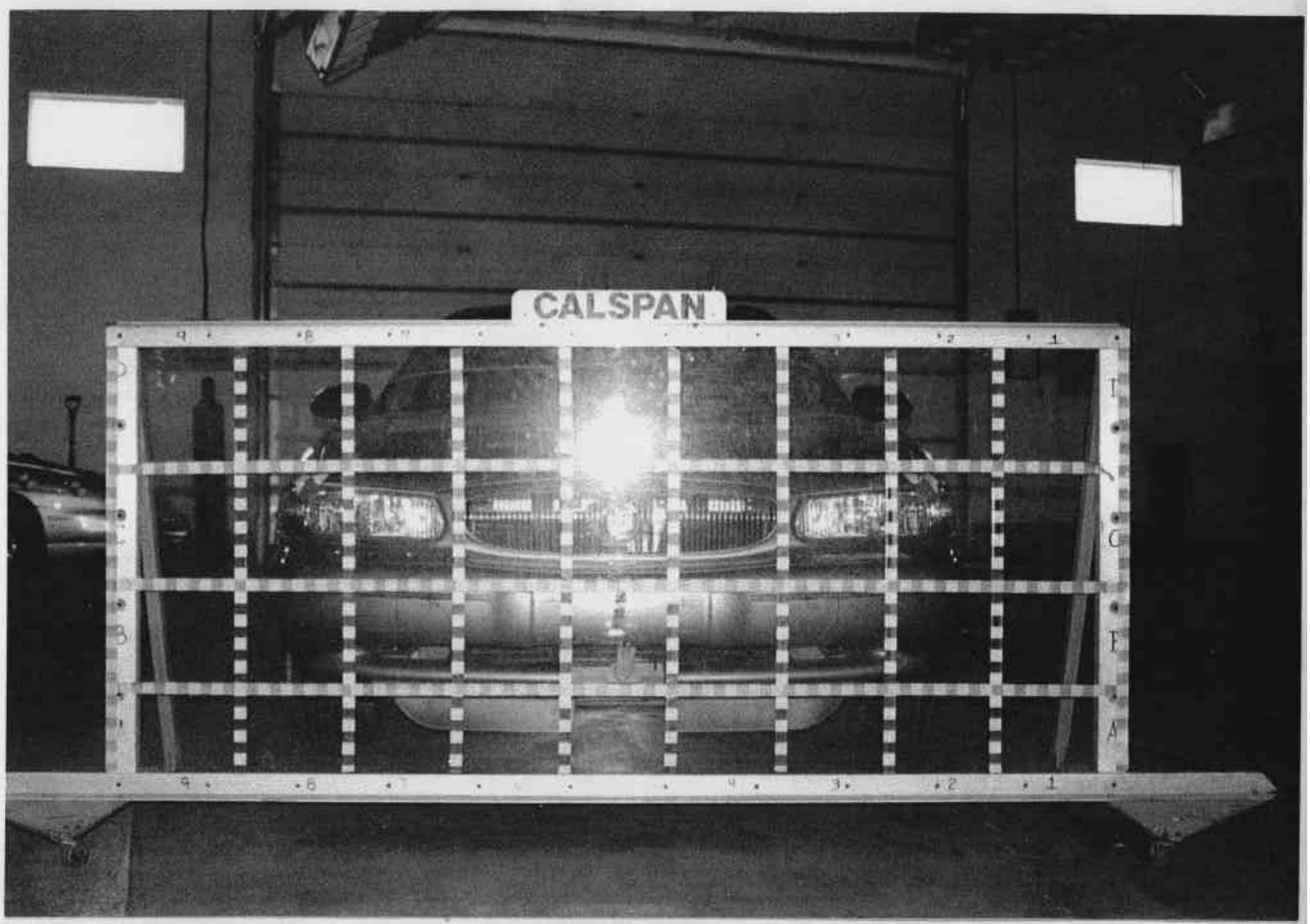


Figure A-1 LOAD CELL LOCATIONS

Figure A-2 PRE-TEST FRONT VIEW

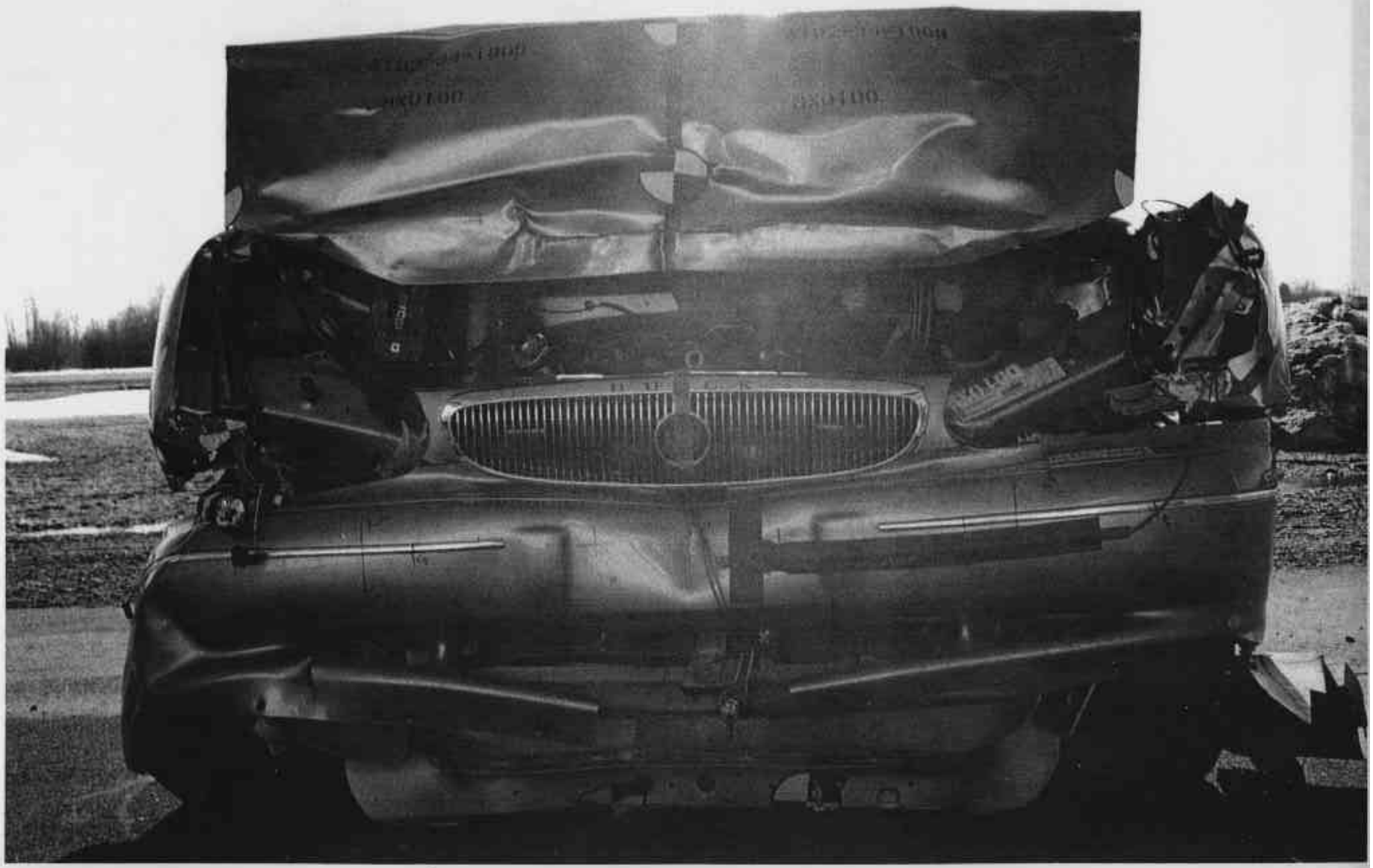


Figure A-3 POST-TEST FRONT VIEW

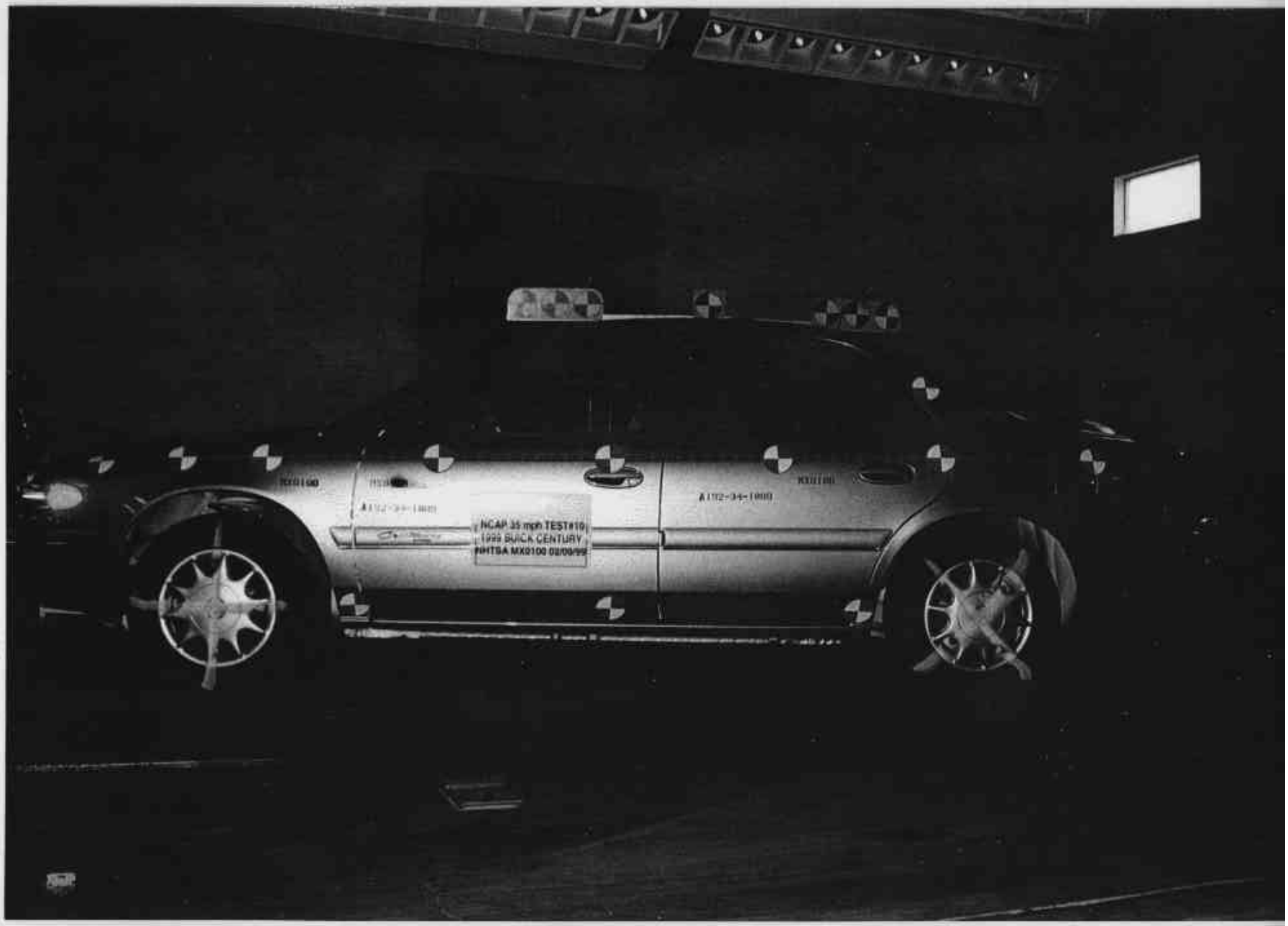


Figure A-4 PRE-TEST LEFT SIDE VIEW

Figure A-5 POST-TEST LEFT SIDE VIEW

Figure A-6 PRE-TEST RIGHT SIDE VIEW

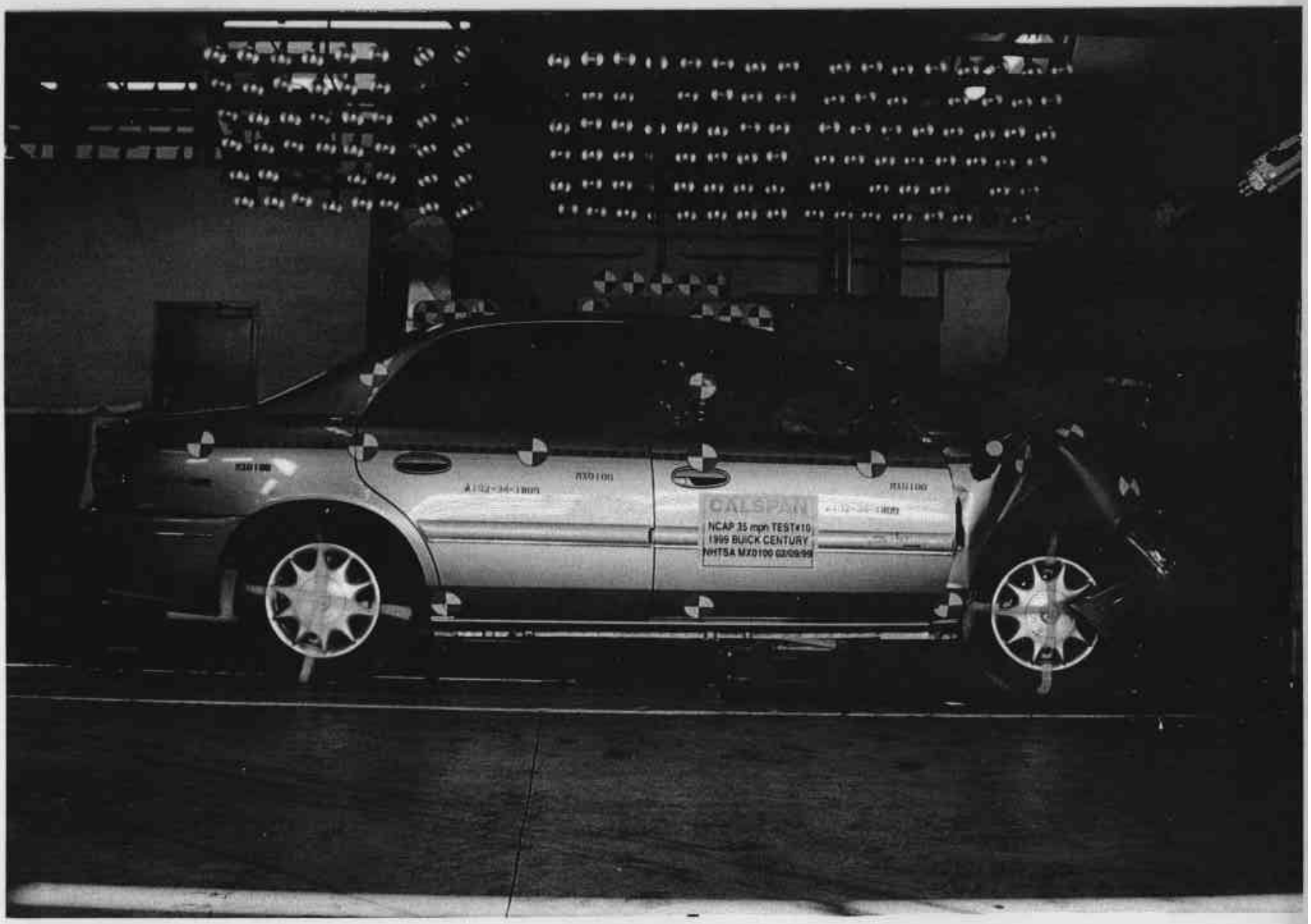


Figure A-7 POST-TEST RIGHT SIDE VIEW

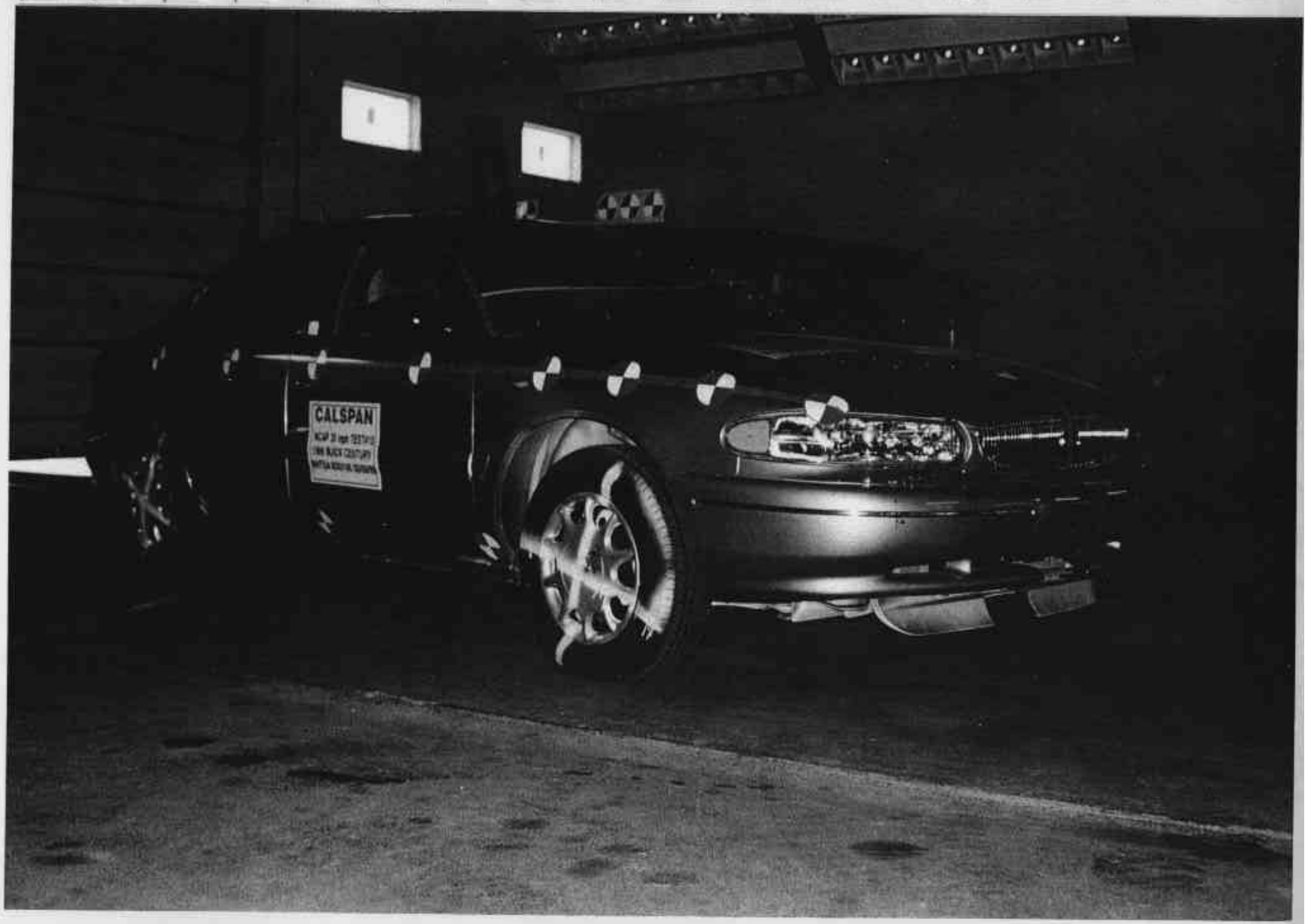


Figure A-8 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW

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

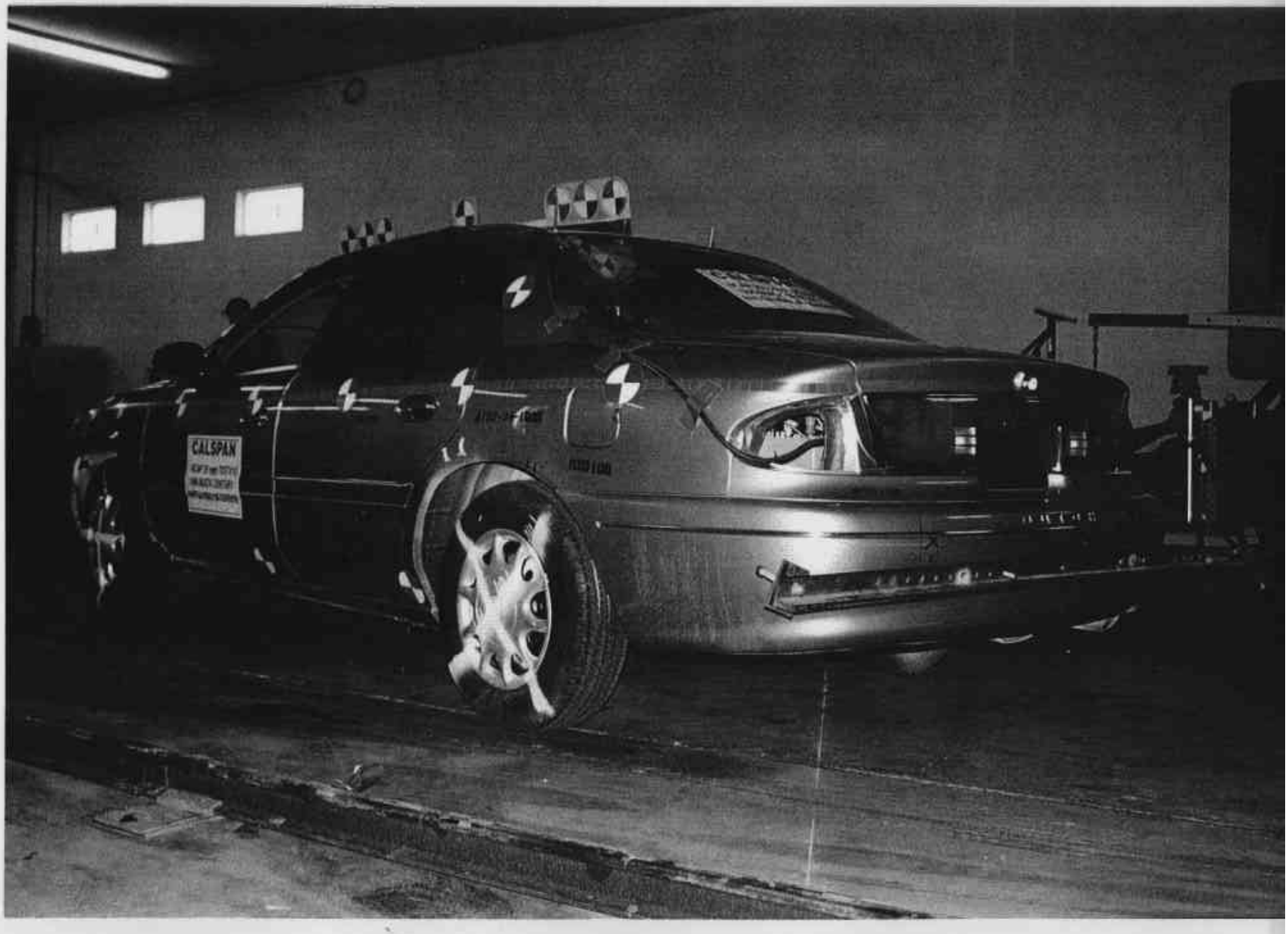


Figure A-10 PRE-TEST LEFT REAR THREE-QUARTER VIEW

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

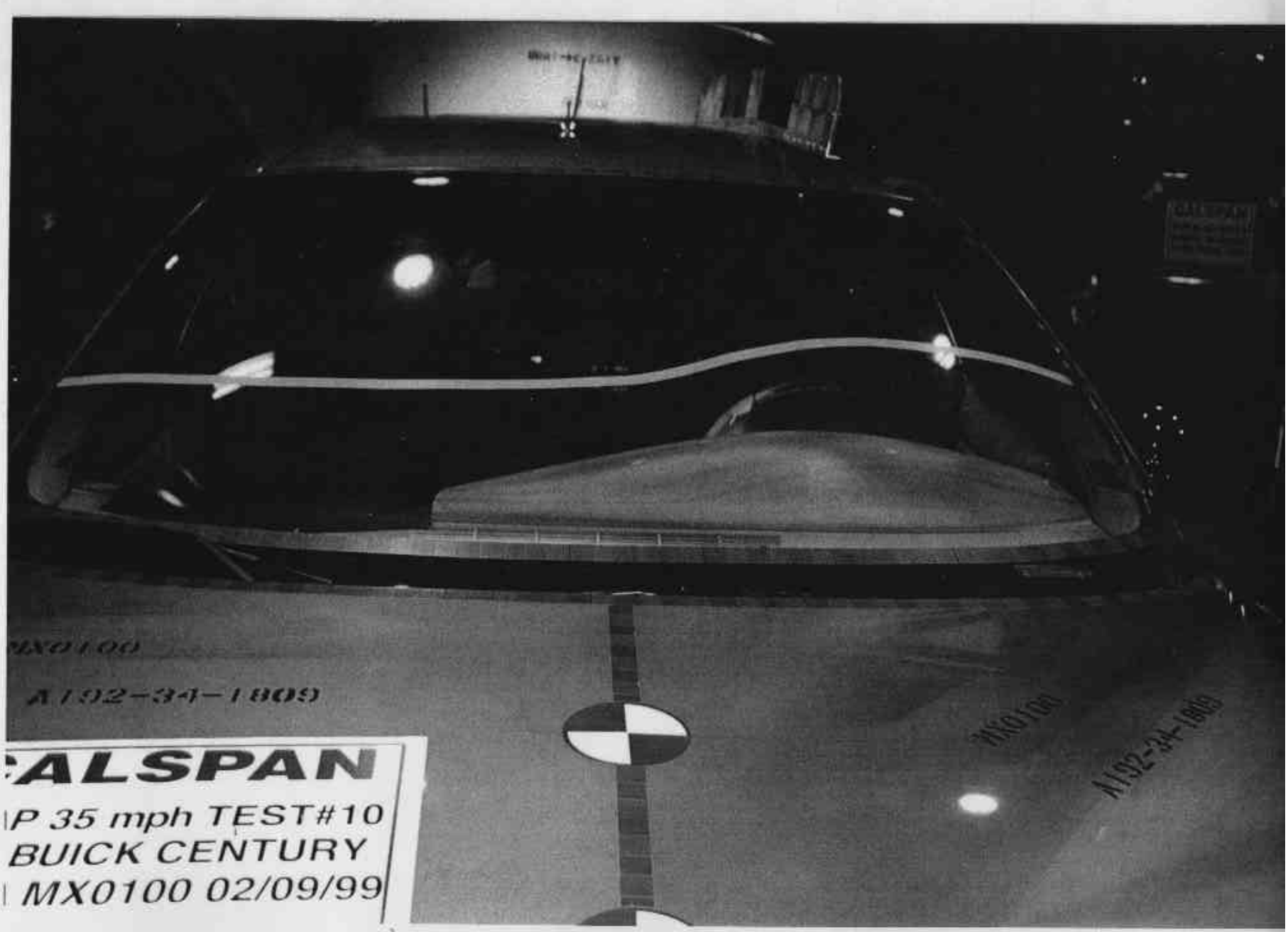


Figure A-12 PRE-TEST WINDSHIELD VIEW

Figure A-13 POST-TEST WINDSHIELD VIEW

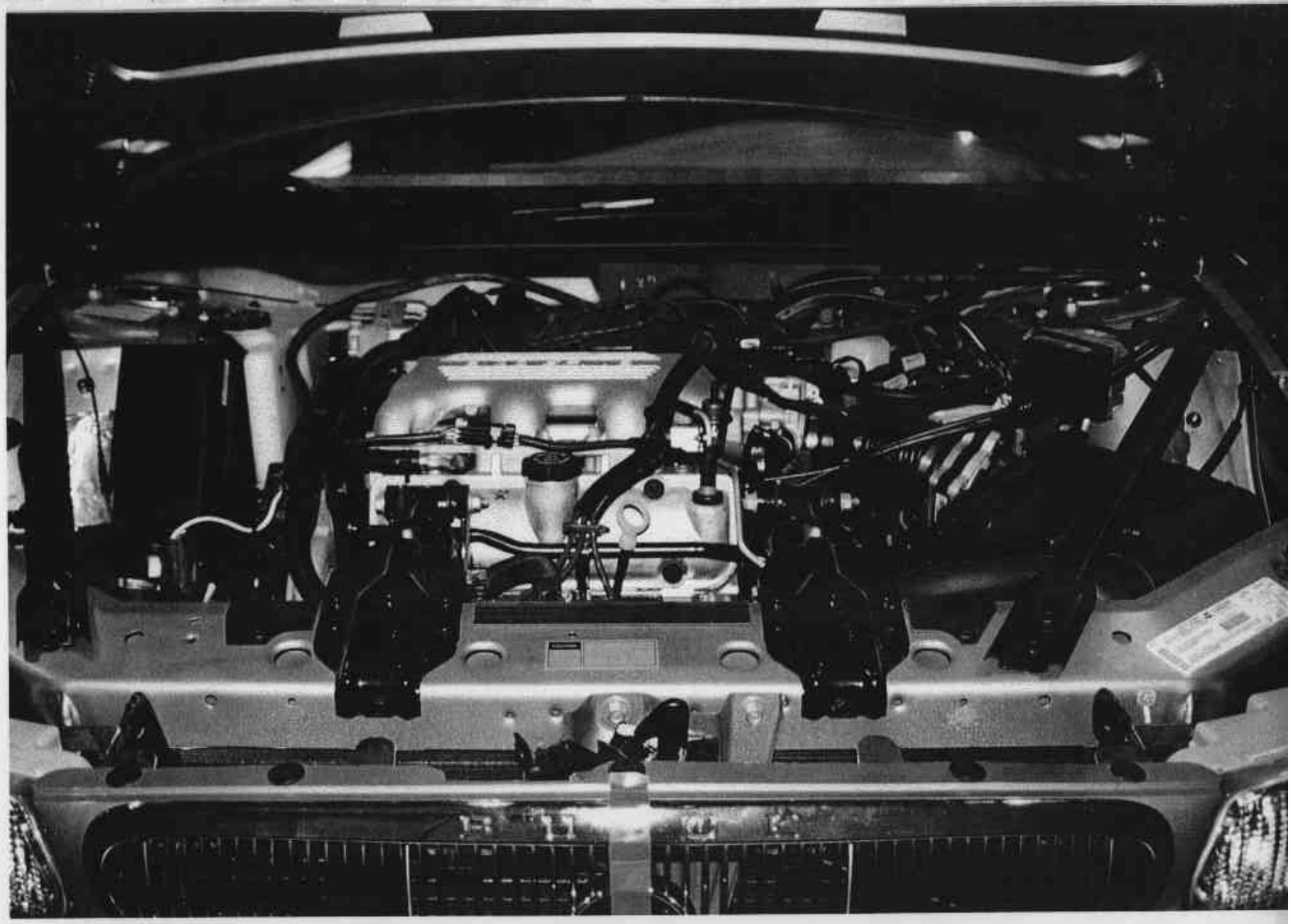


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

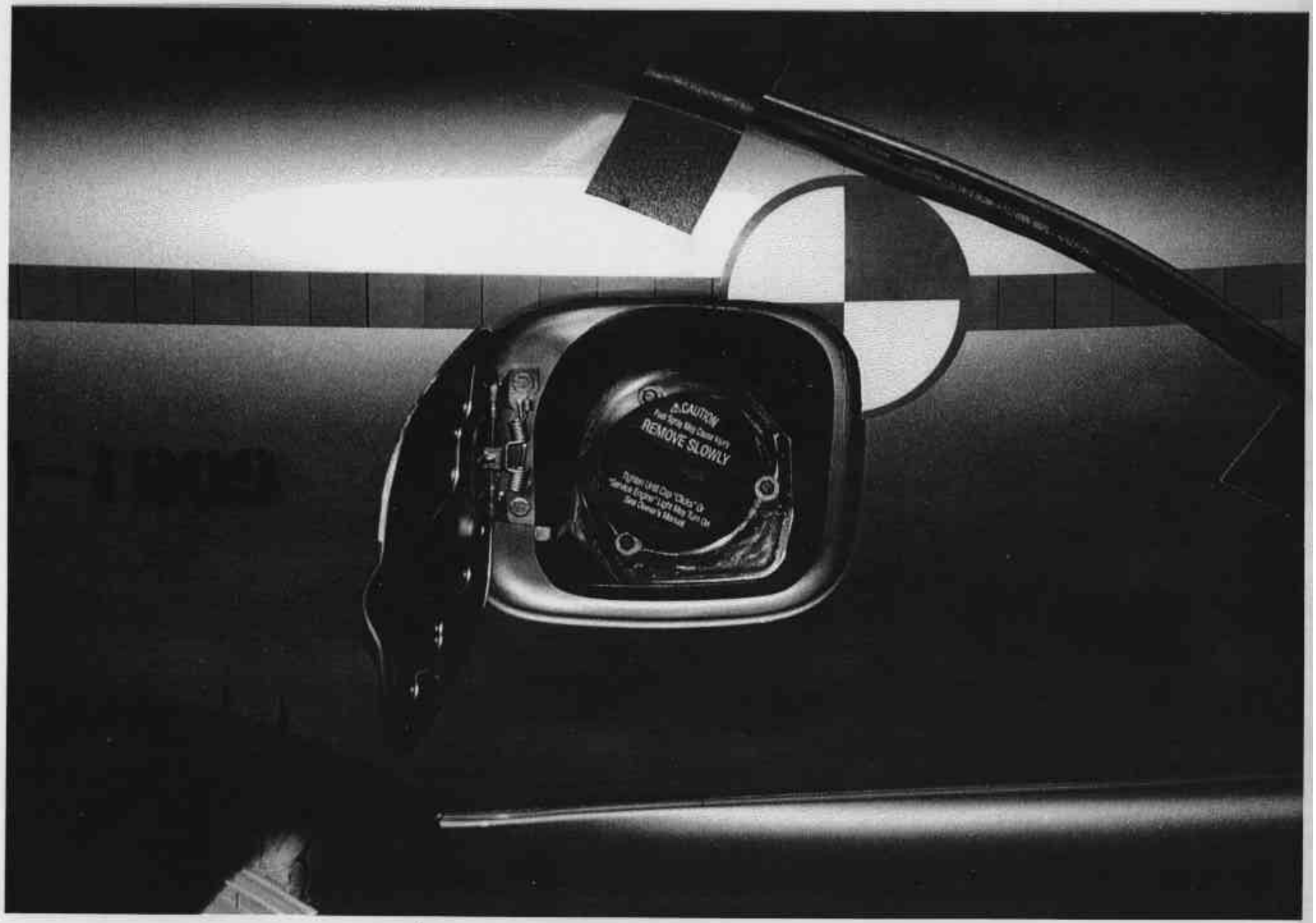


Figure A-15 FUEL CAP VIEW

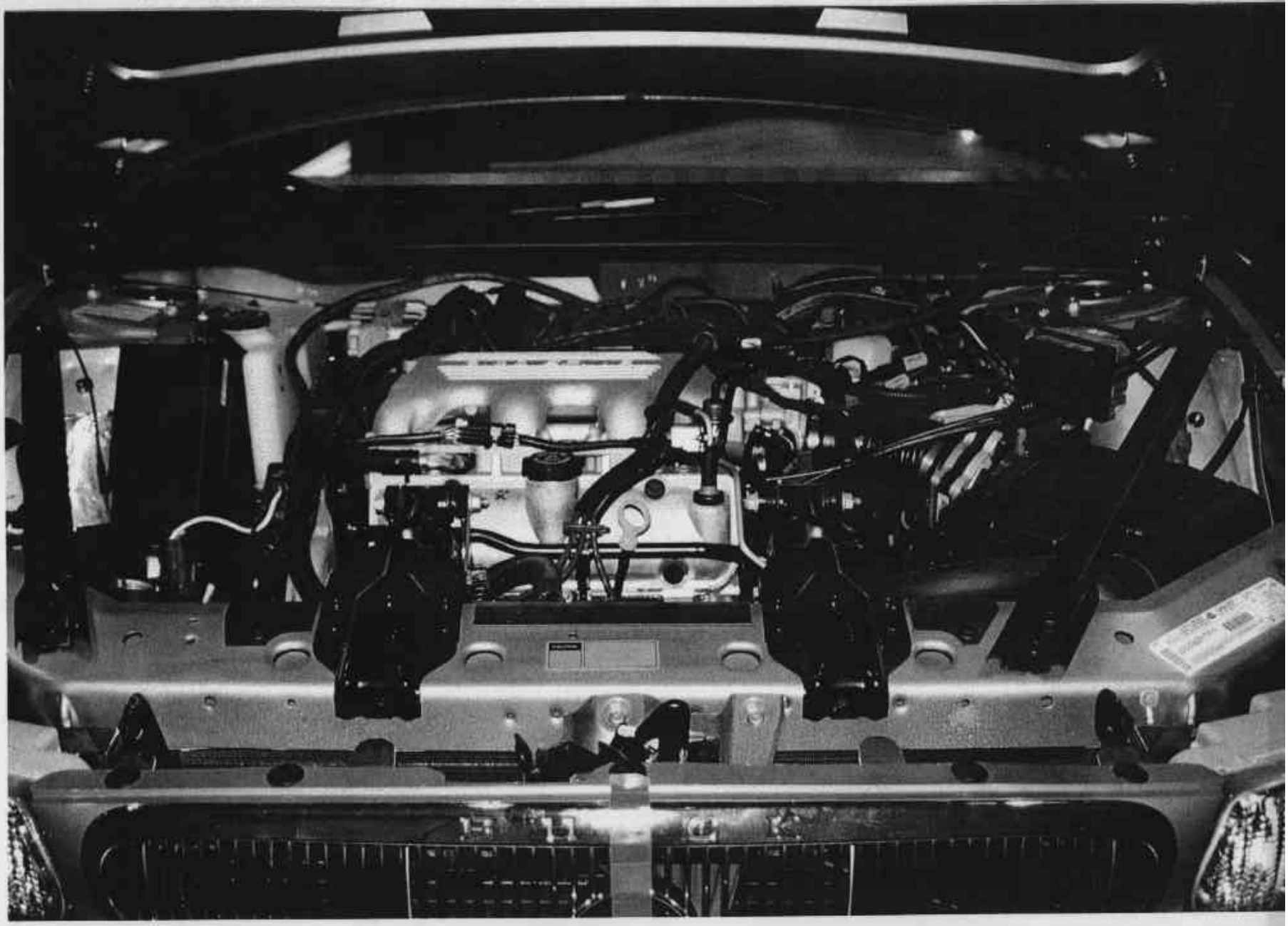


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

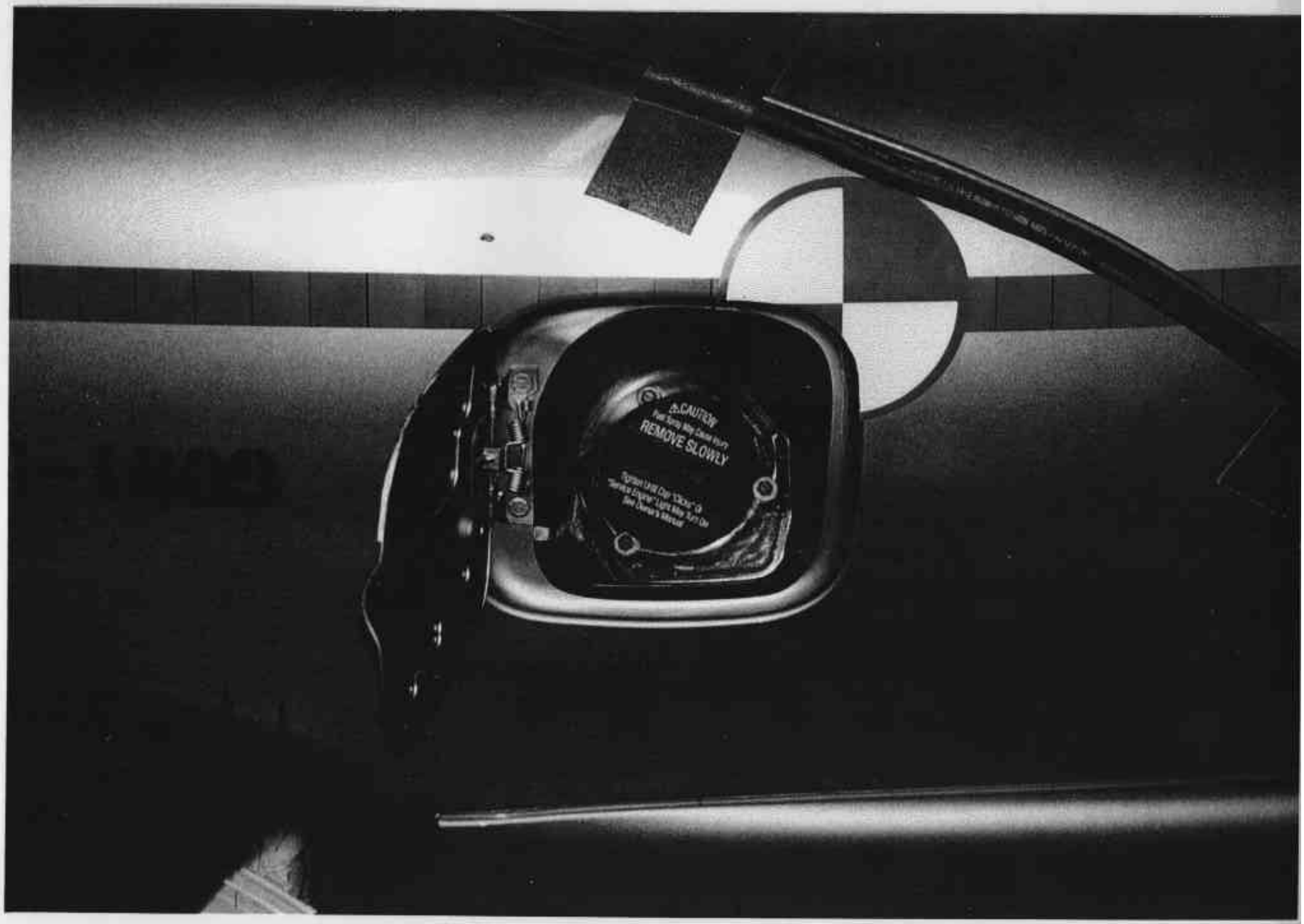


Figure A-15 FUEL CAP VIEW

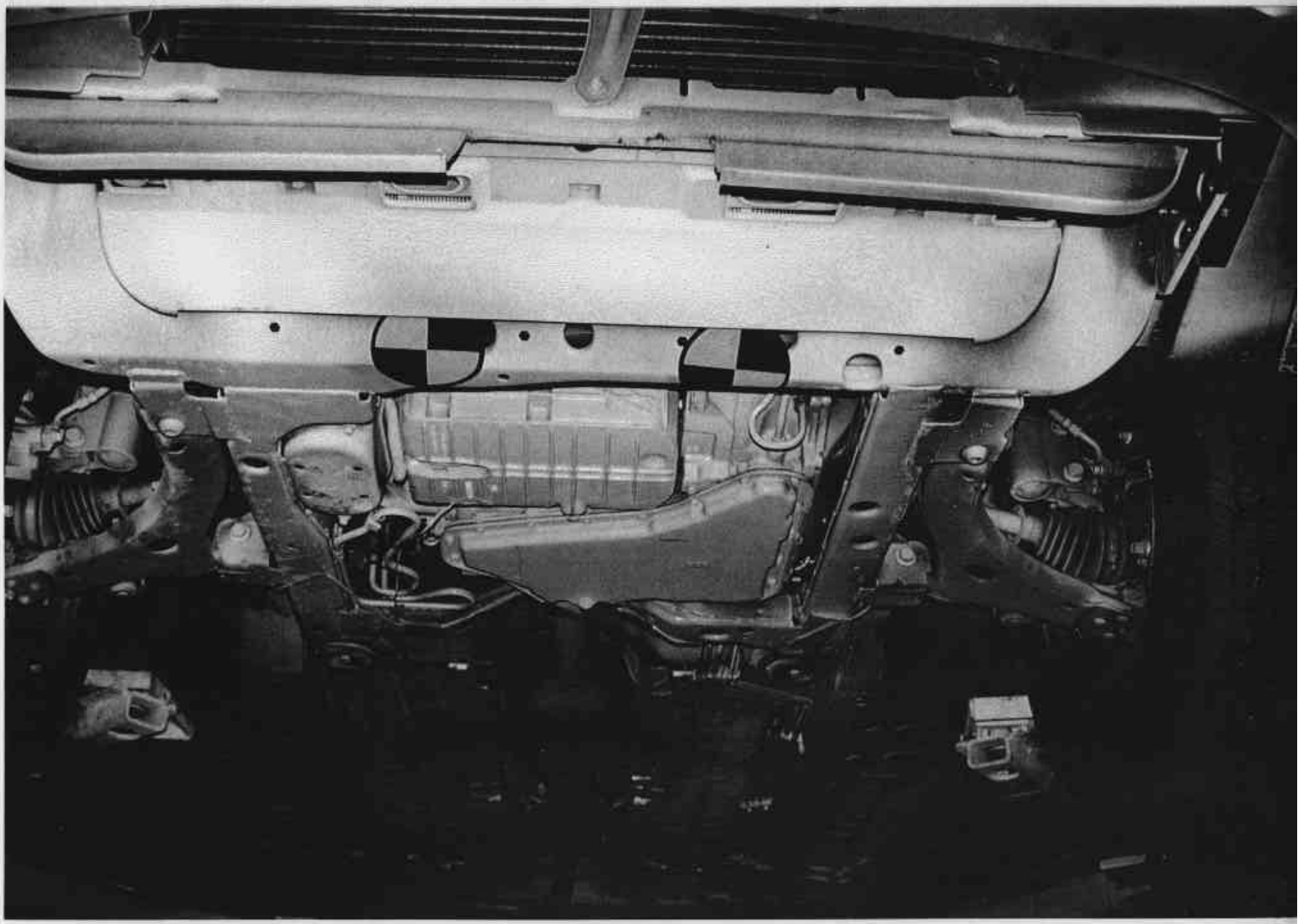


Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

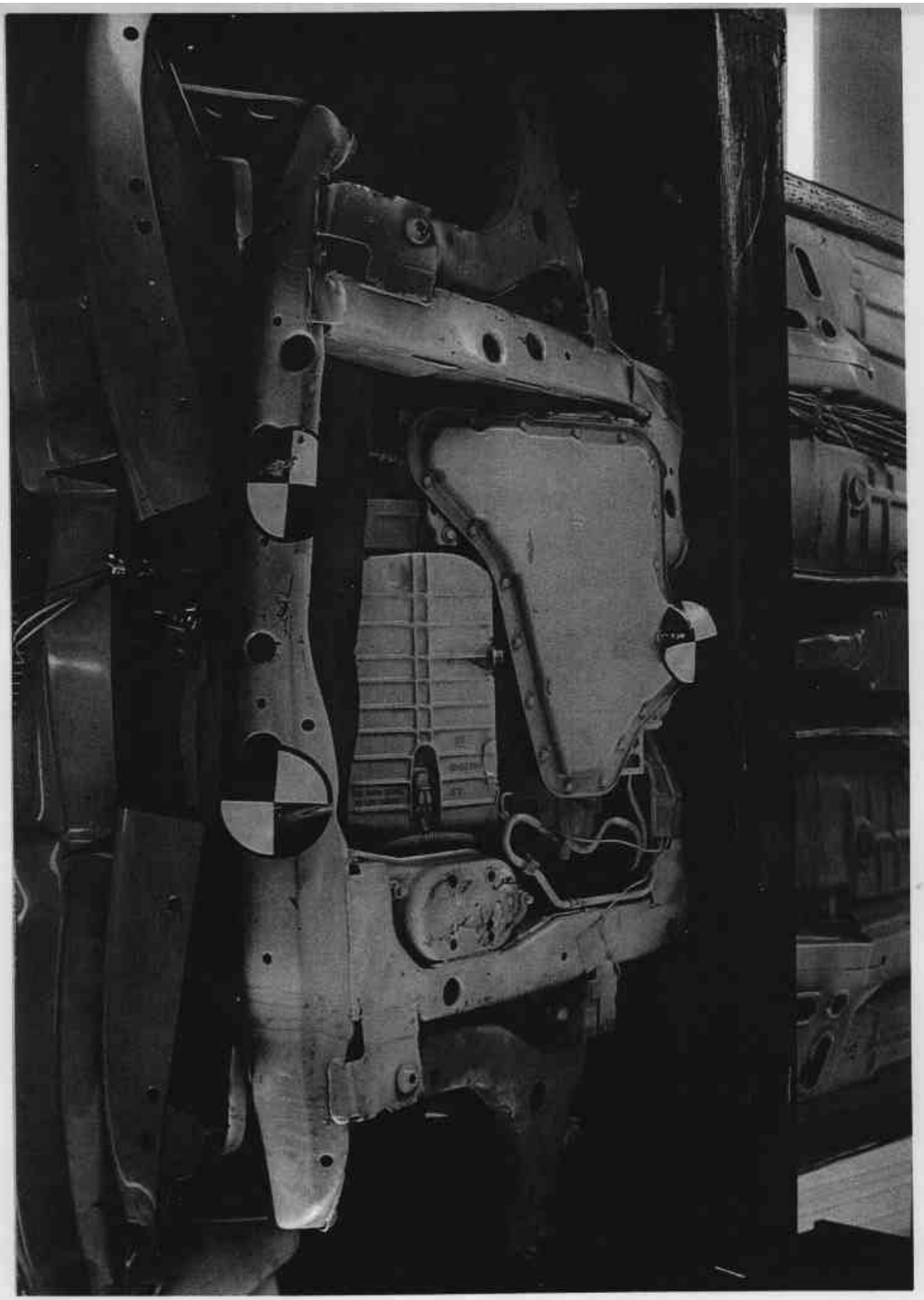


Figure A-17 POST-TEST FRONT UNDERBODY VIEW

Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW

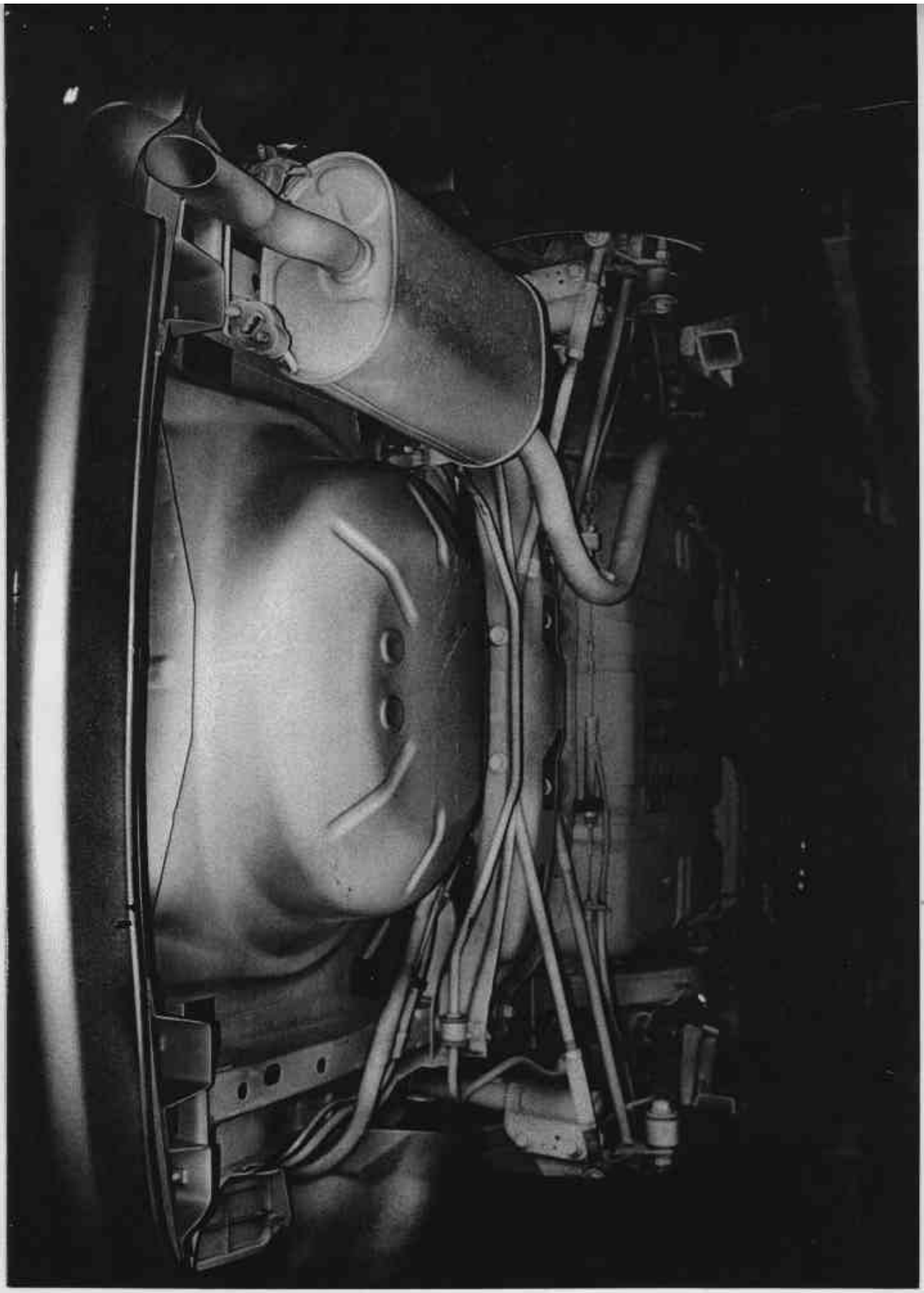


Figure A-20 PRE-TEST REAR UNDERBODY VIEW

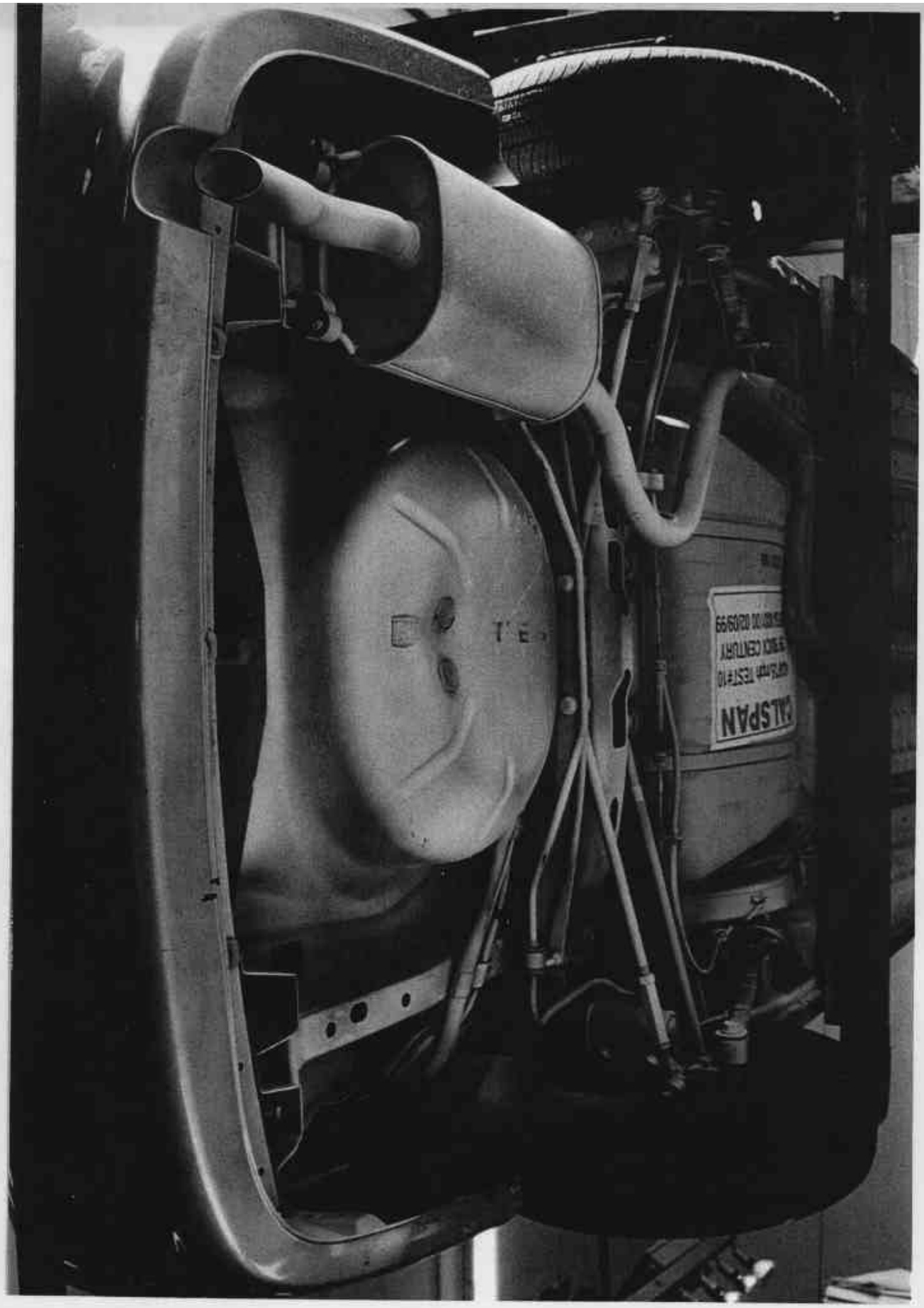


Figure A-21 POST-TEST REAR UNDERBODY VIEW

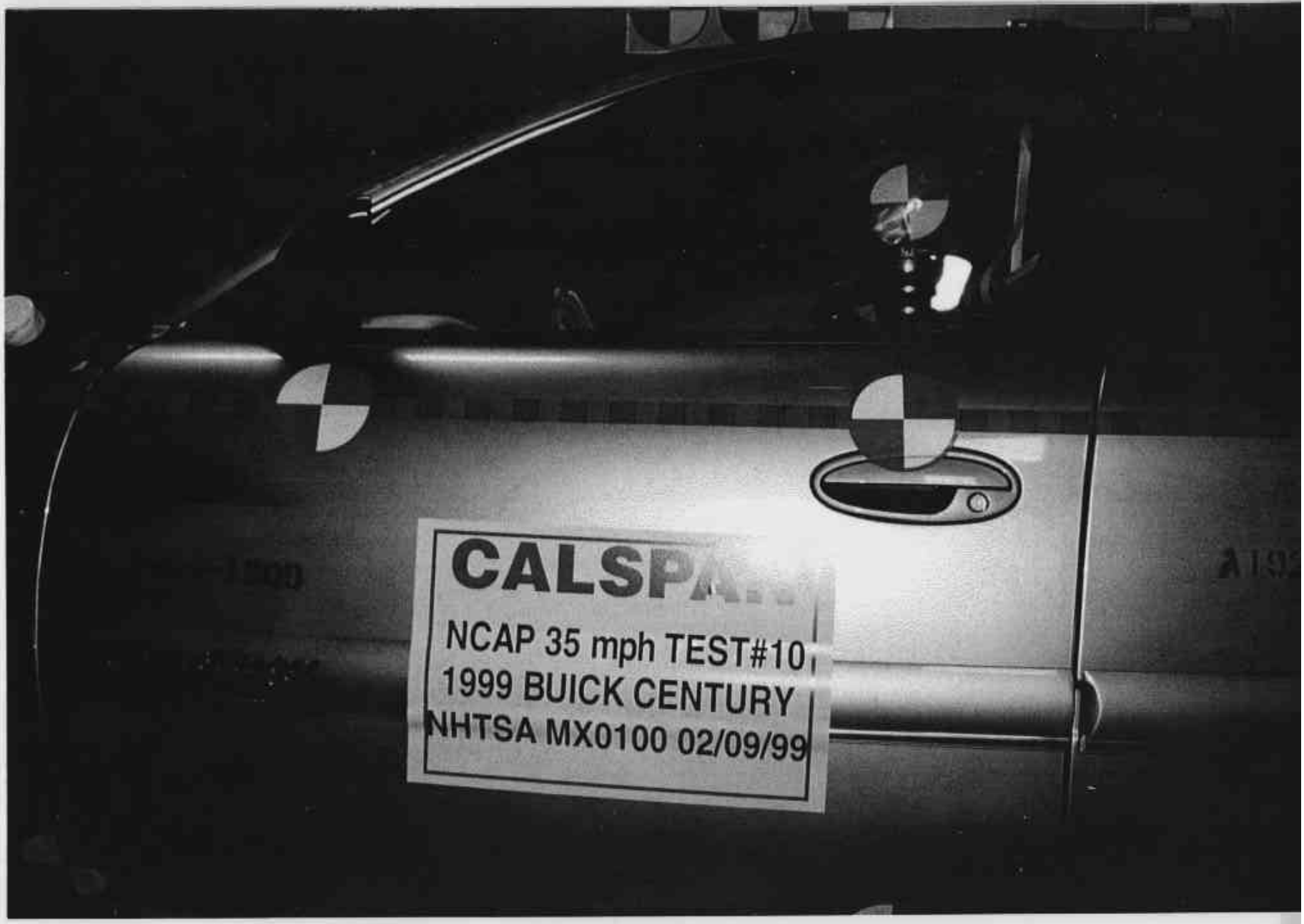


Figure A-22 PRE-TEST DRIVER POSITION VIEW

Figure A-23 POST-TEST DRIVER POSITION VIEW

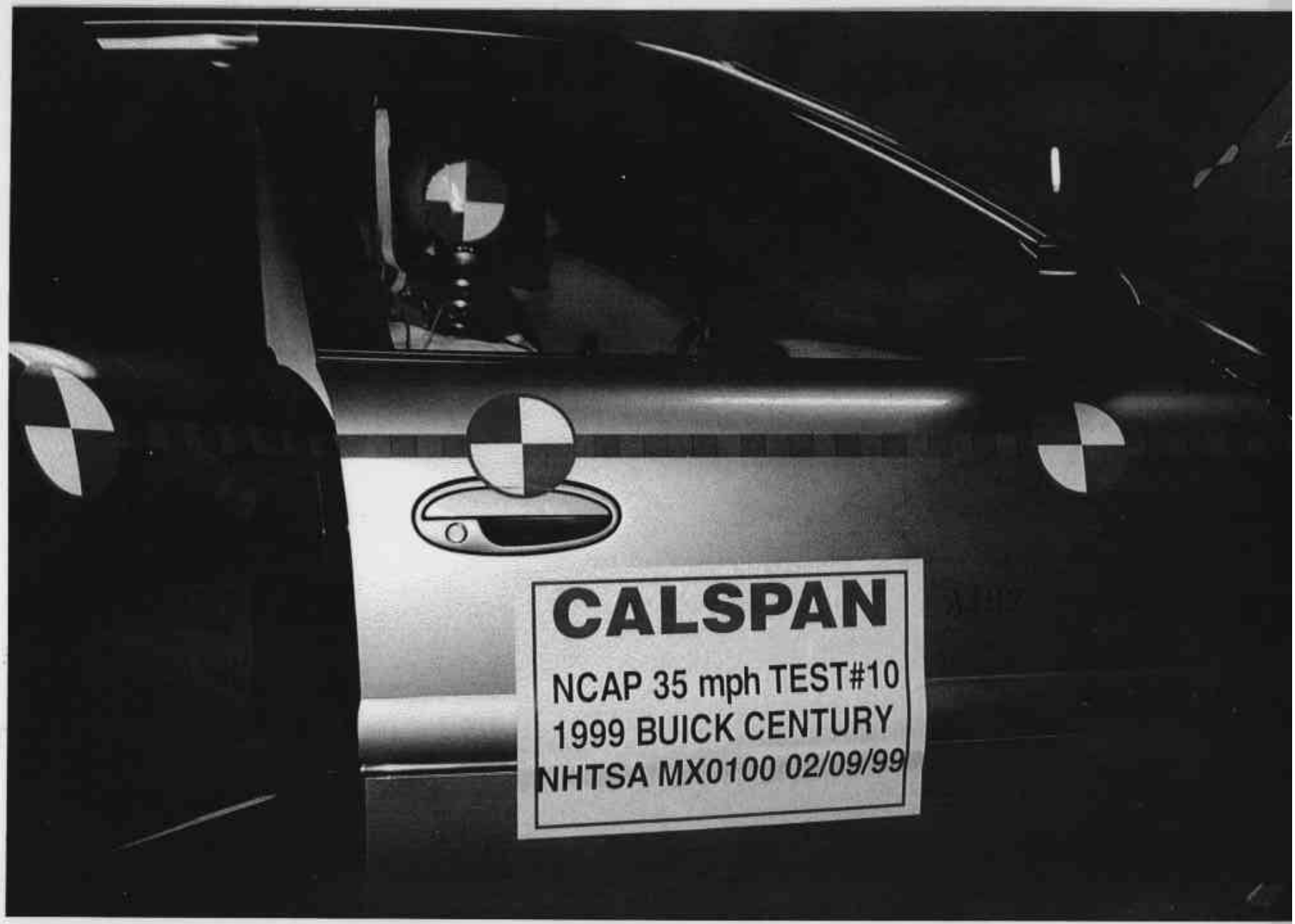


Figure A-24 PRE-TEST PASSENGER POSITION VIEW

8413-34

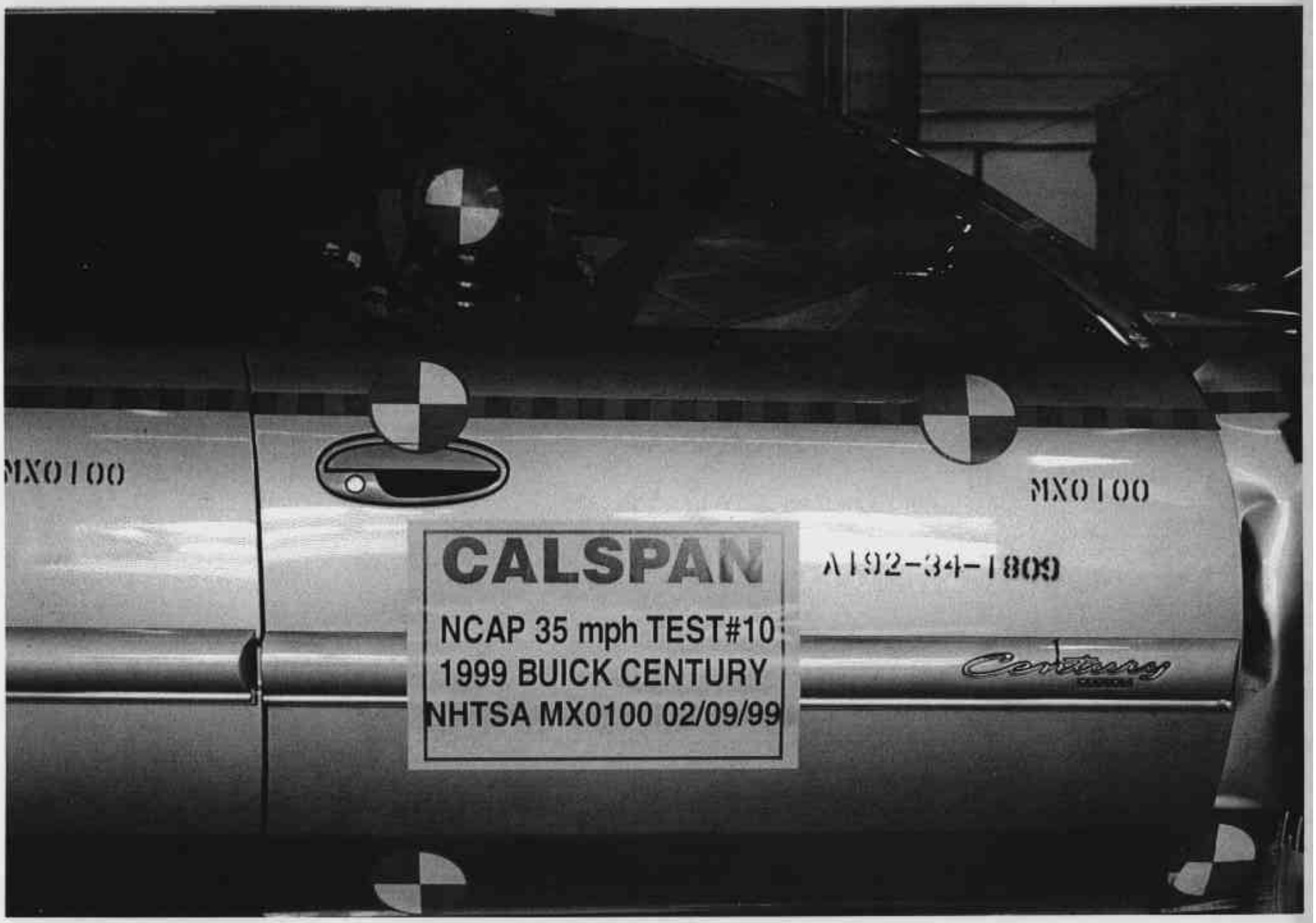


Figure A-25 POST-TEST PASSENGER POSITION VIEW

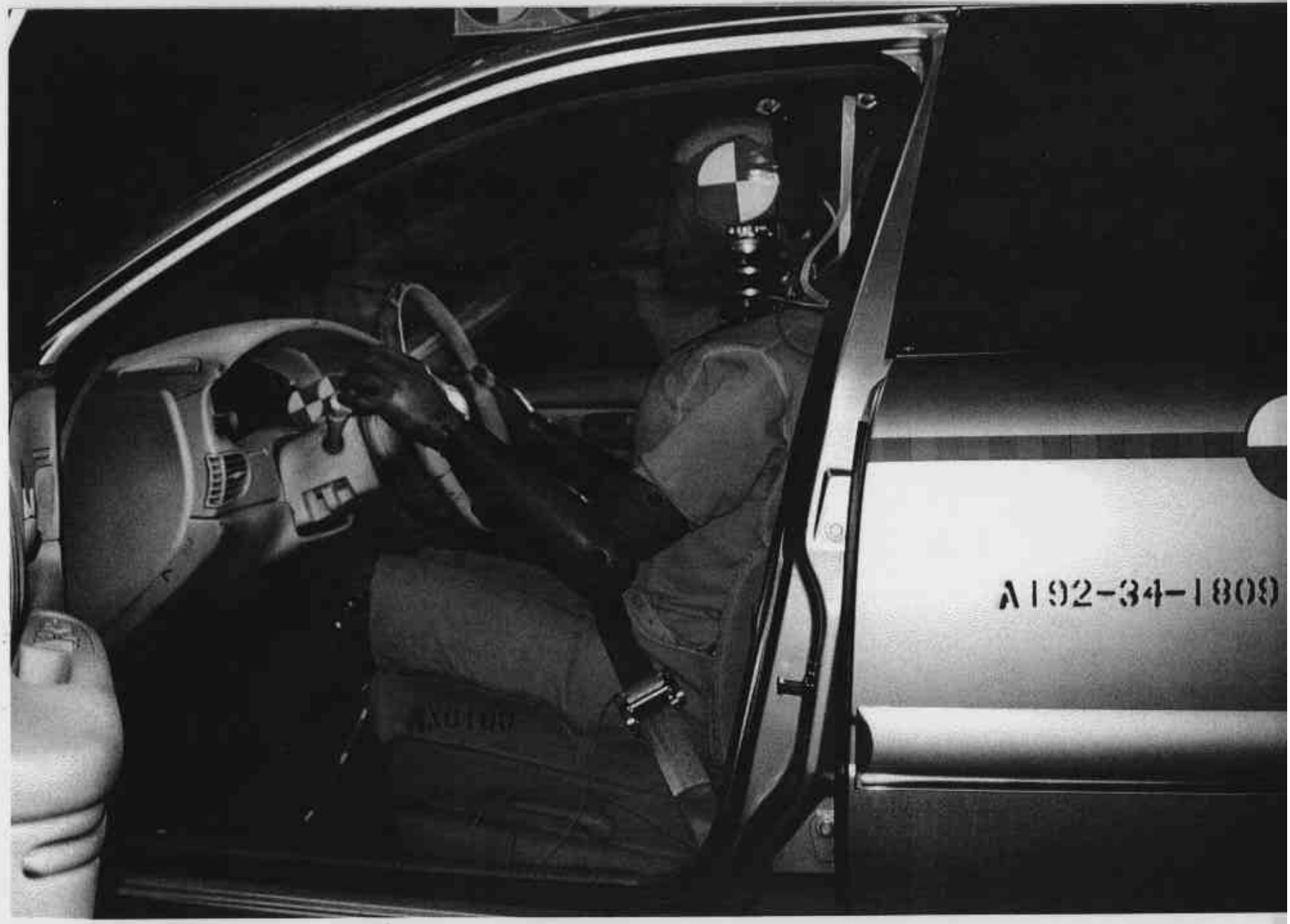


Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW

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

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

8413-34

Figure A-39 IMPACT VIEW

Appendix B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

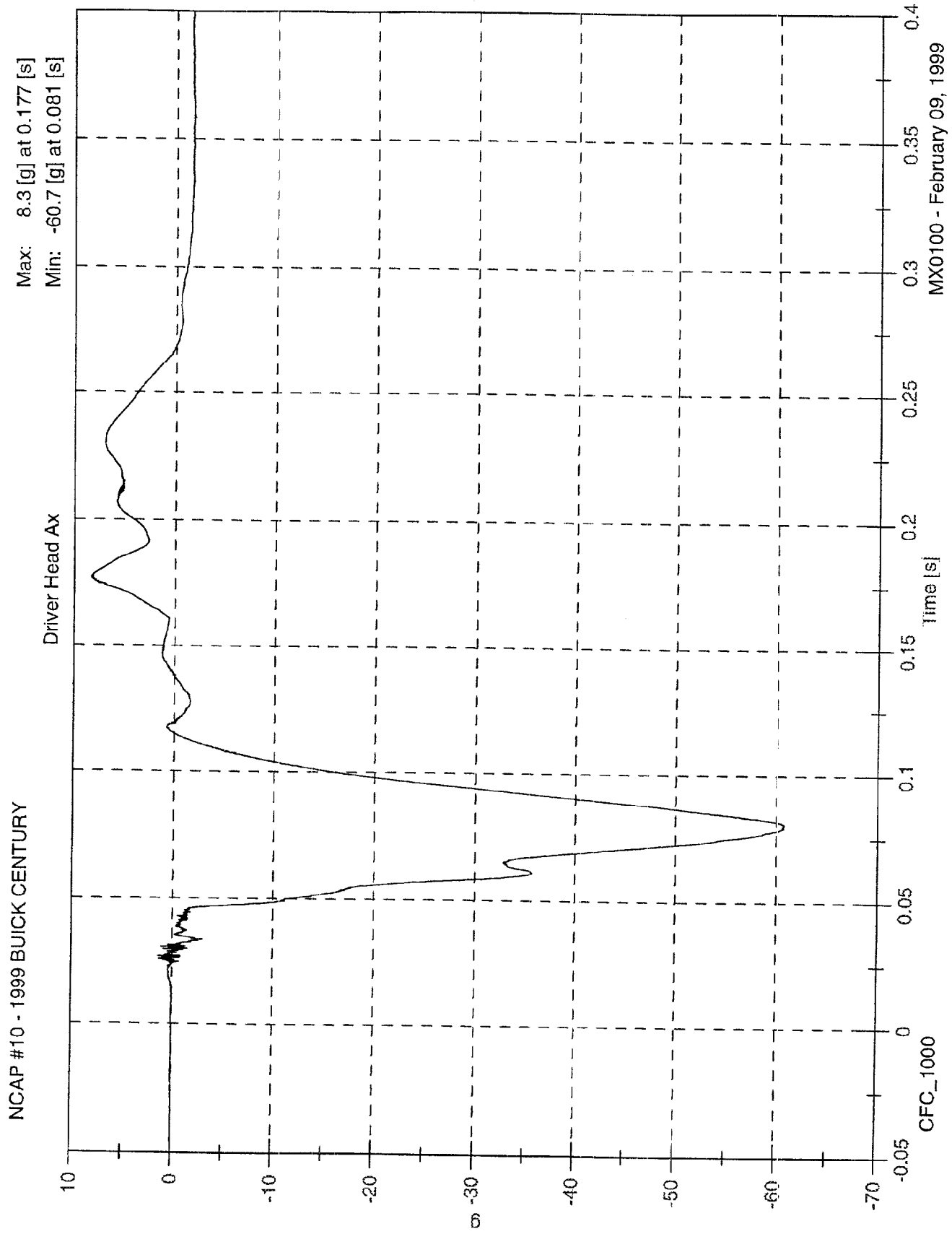
Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers

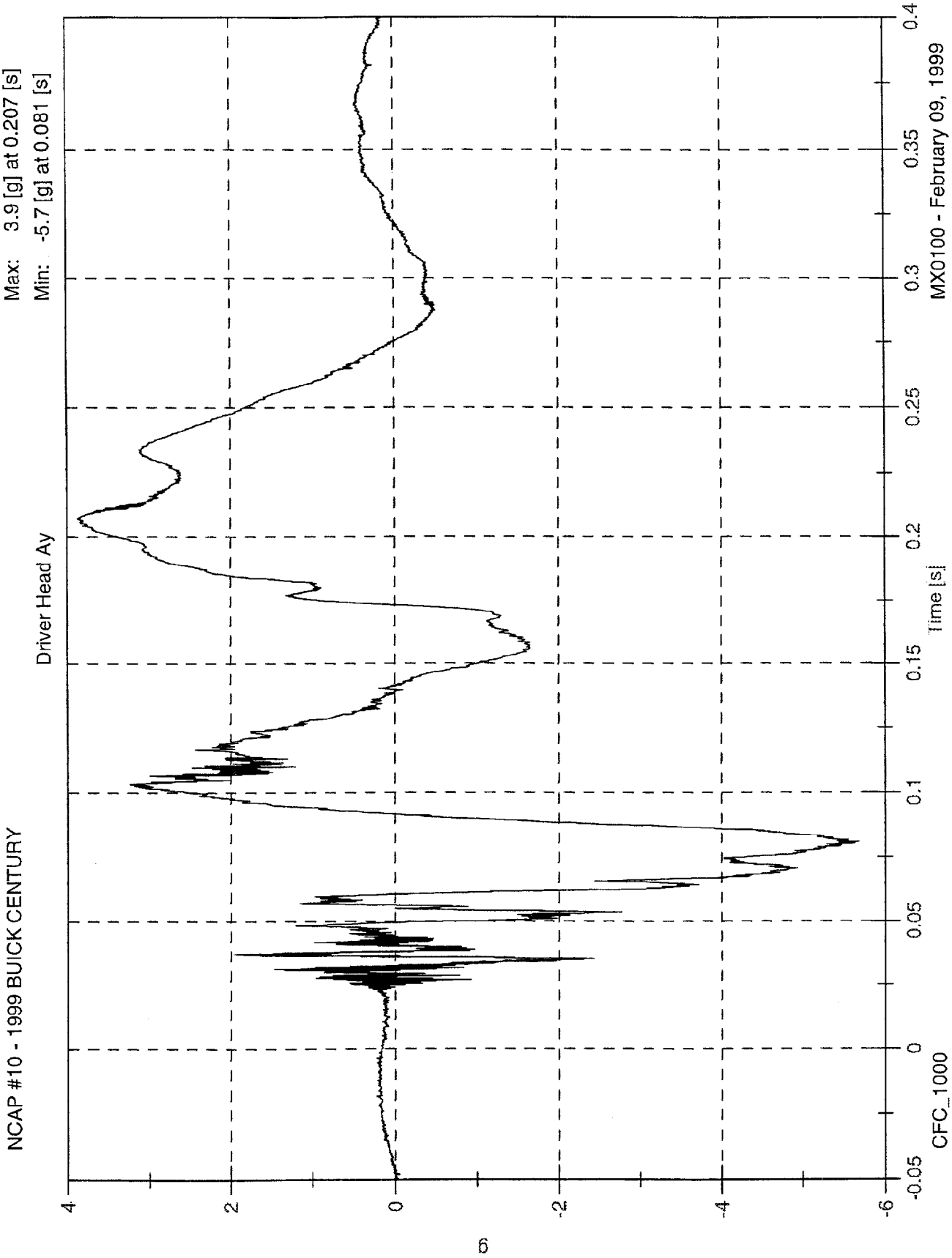
Transducer	SAE Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head rearward Fy Head left Fz Neck in tension Mx Left ear to left shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	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

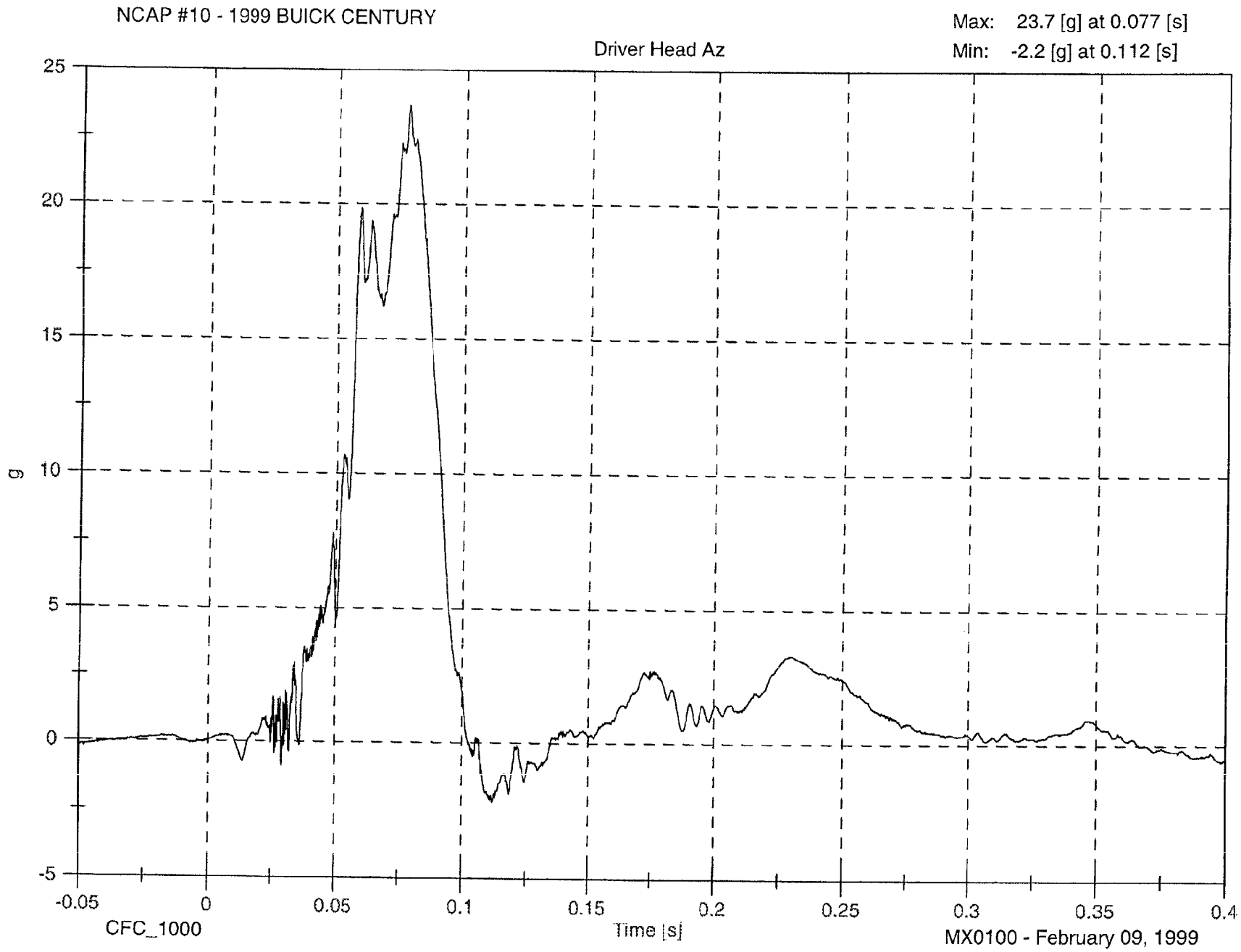
NHTSA TEST NO. MX0100

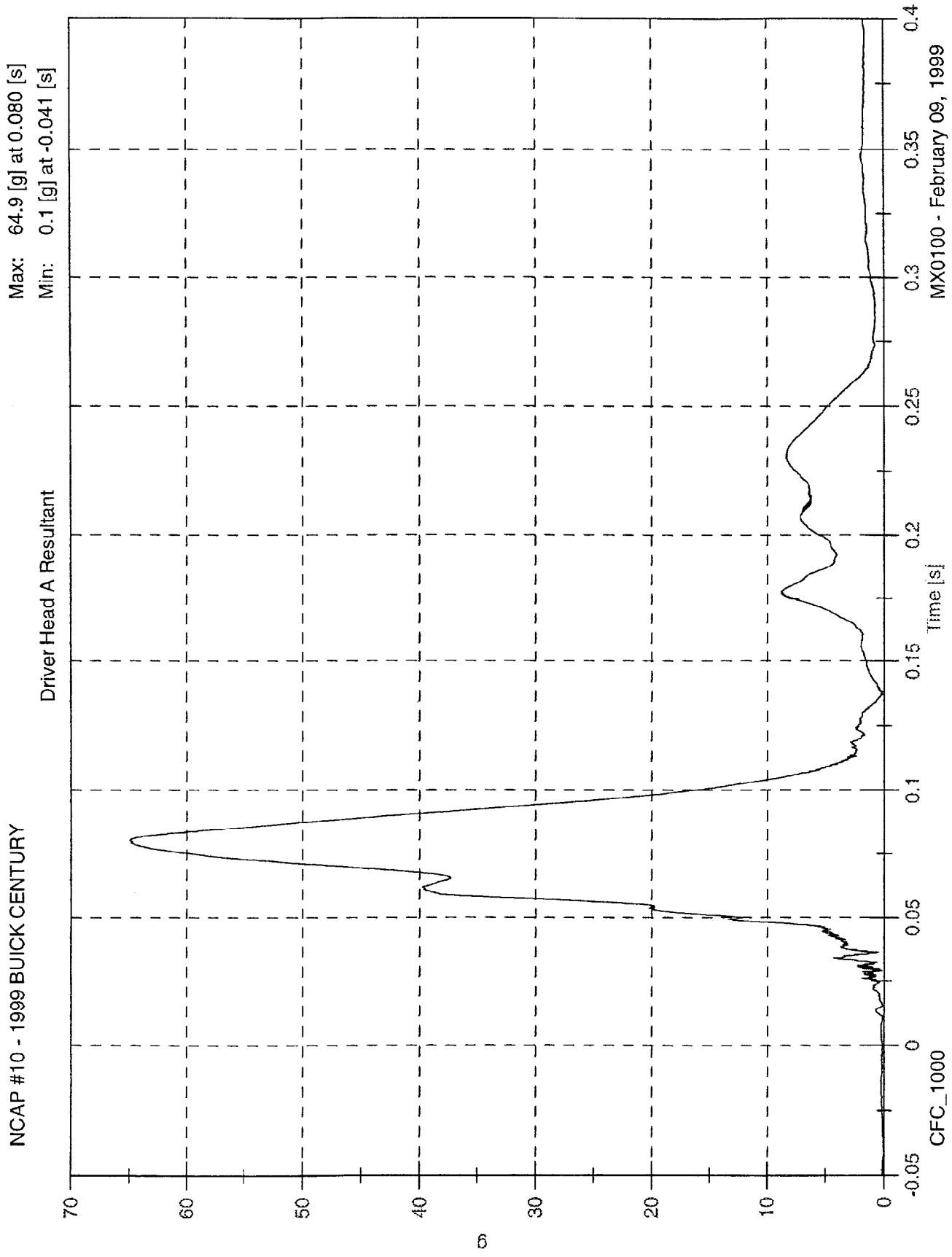
DUMMY DATA

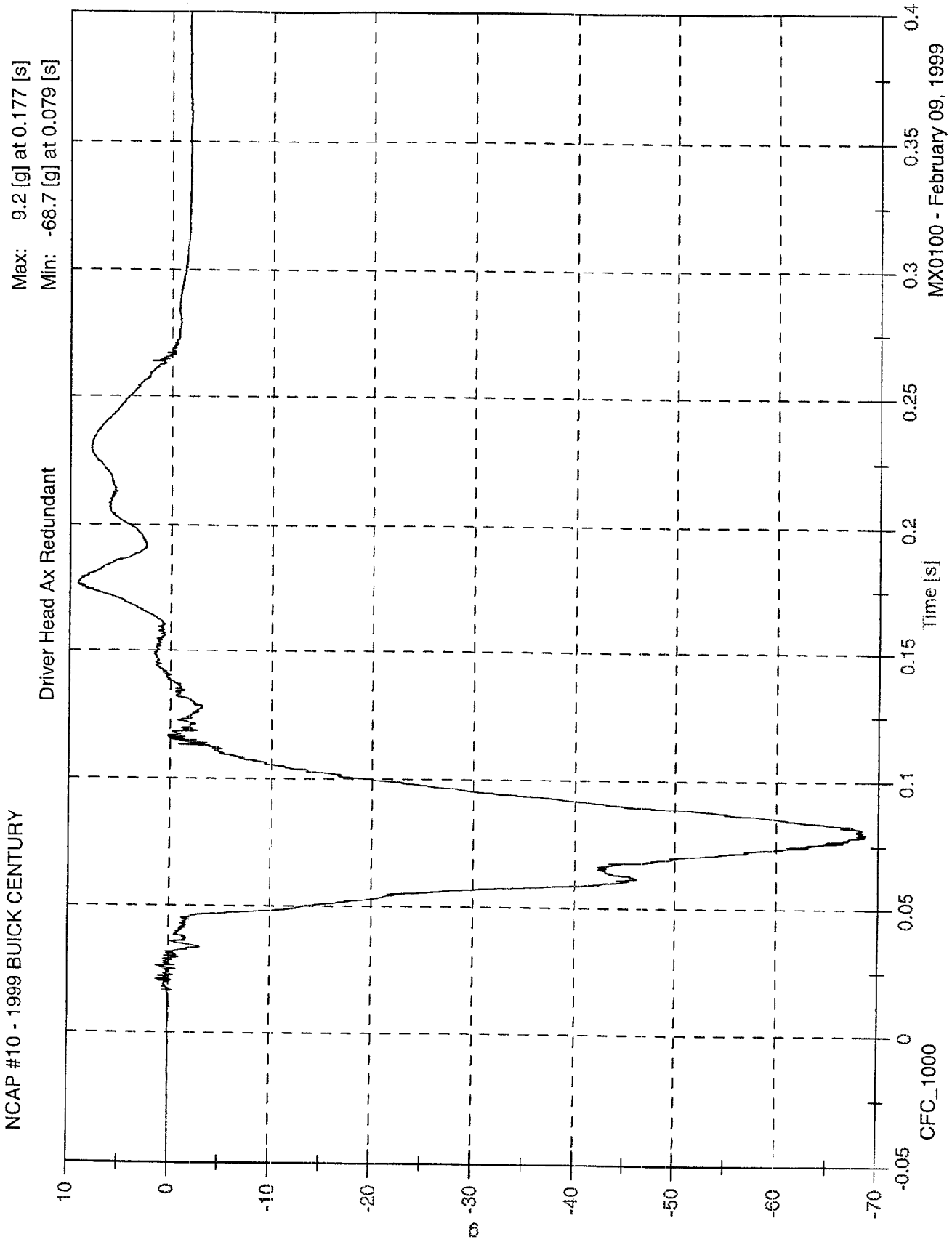
CLASS	FILTER CHANNEL
Head Accelerations	1000
Chest Accelerations	180
Chest Displacements	60
Femur Forces	600
Belt Loads	60
Belt Displacements	180
Neck Forces	1000
Neck Moments	600

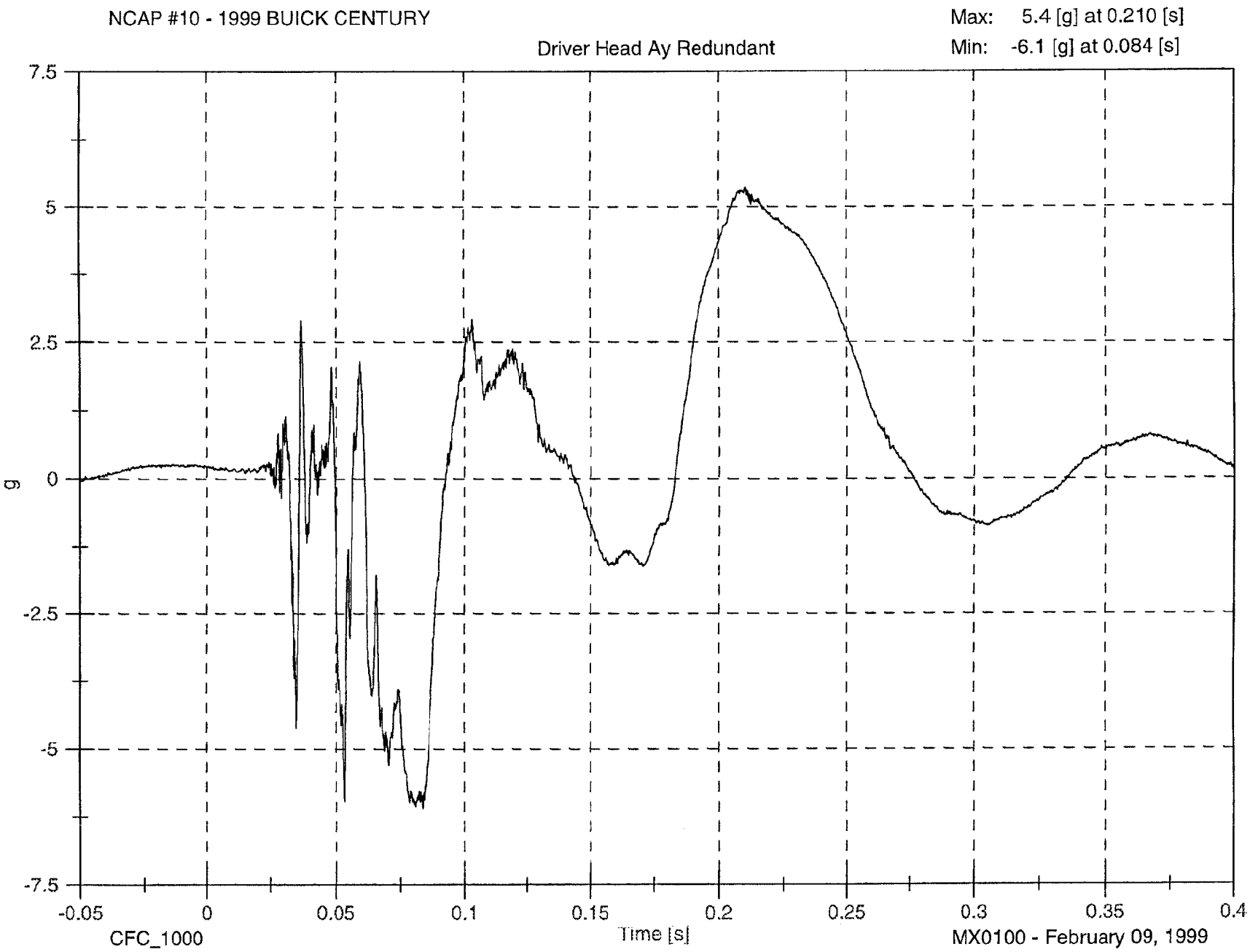

NCAP #10 - 1999 BUICK CENTURY
Max: 8.3 [g] at 0.177 [s]
Min: -60.7 [g] at 0.081 [s]
Driver Head Ax
MX0100 - February 09, 1999
CFC_1000
Time [s]
G
10
0
-10
-20
-30
-40
-50
-60
-70
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

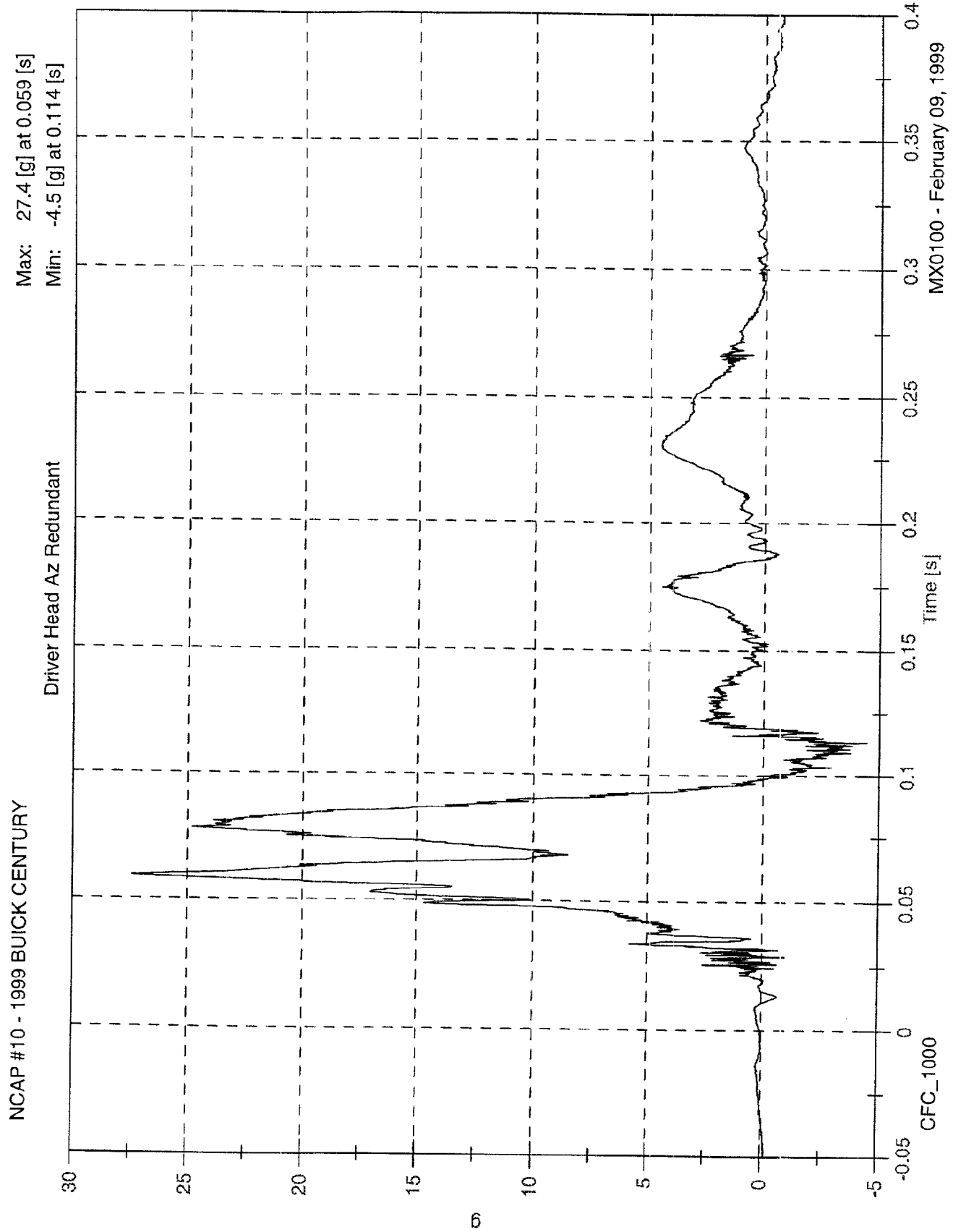

NCAP #10 - 1999 BUICK CENTURY
Max: 3.9 [g] at 0.207 [s]
Min: -5.7 [g] at 0.081 [s]
Driver Head Ay
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
4
2
0
-2
-4
-6
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

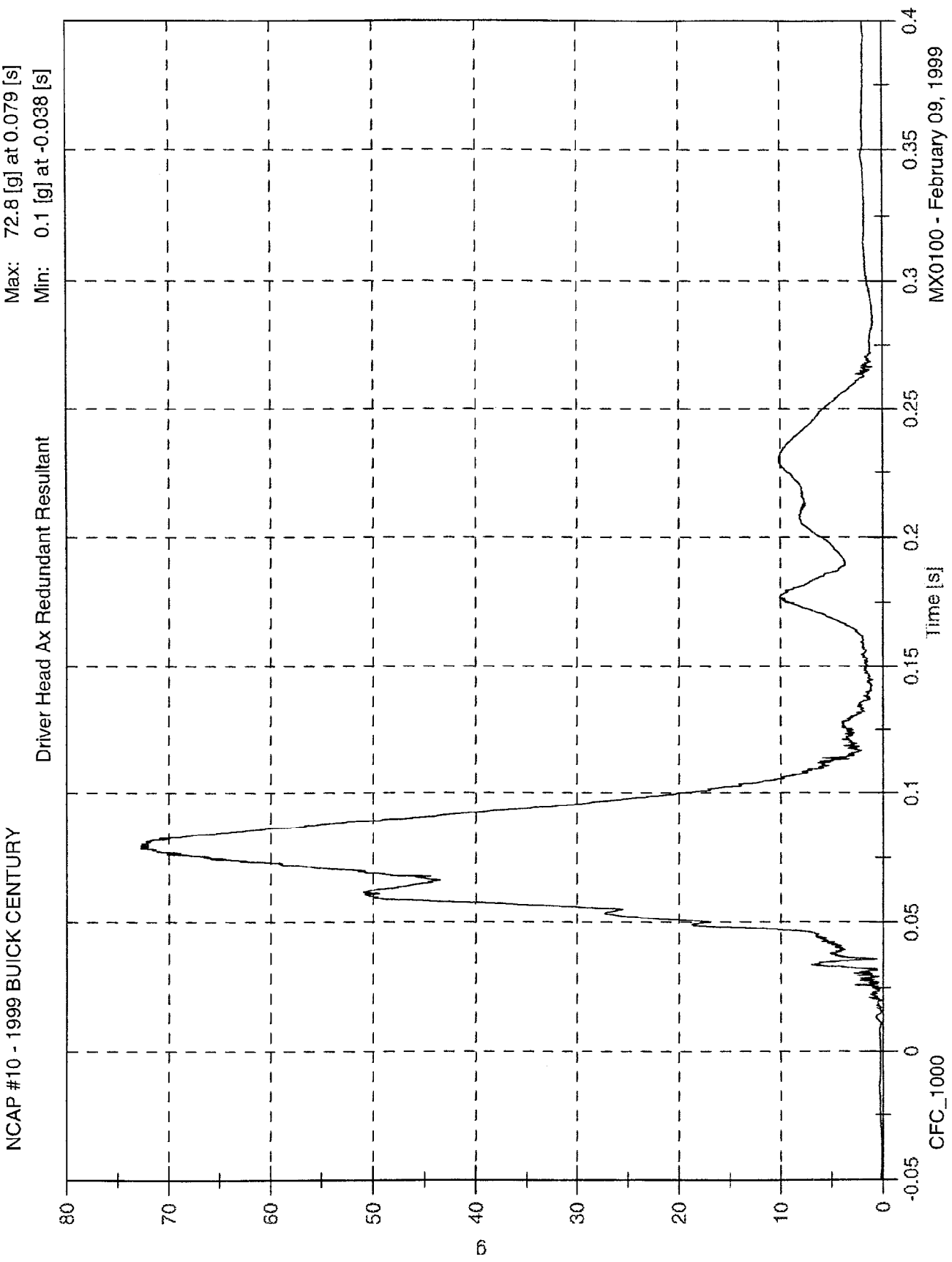

NCAP #10 - 1999 BUICK CENTURY
Driver Head Az
Max: 23.7 [g] at 0.077 [s]
Min: -2.2 [g] at 0.112 [s]
g
25
20
15
10
5
0
-5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

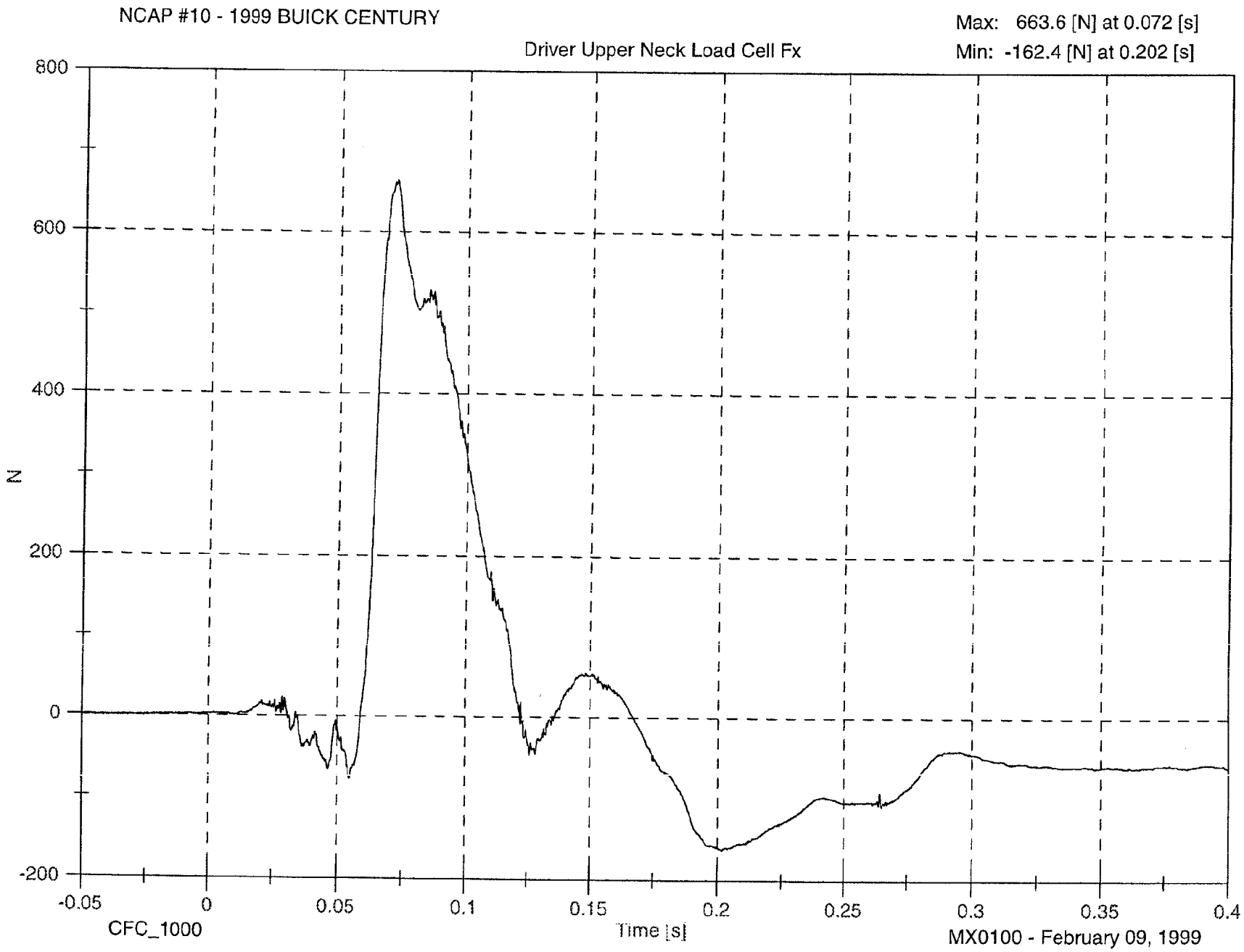

NCAP #10 - 1999 BUICK CENTURY
Max: 64.9 [g] at 0.080 [s]
Min: 0.1 [g] at -0.041 [s]
Driver Head A Resultant
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
70
60
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

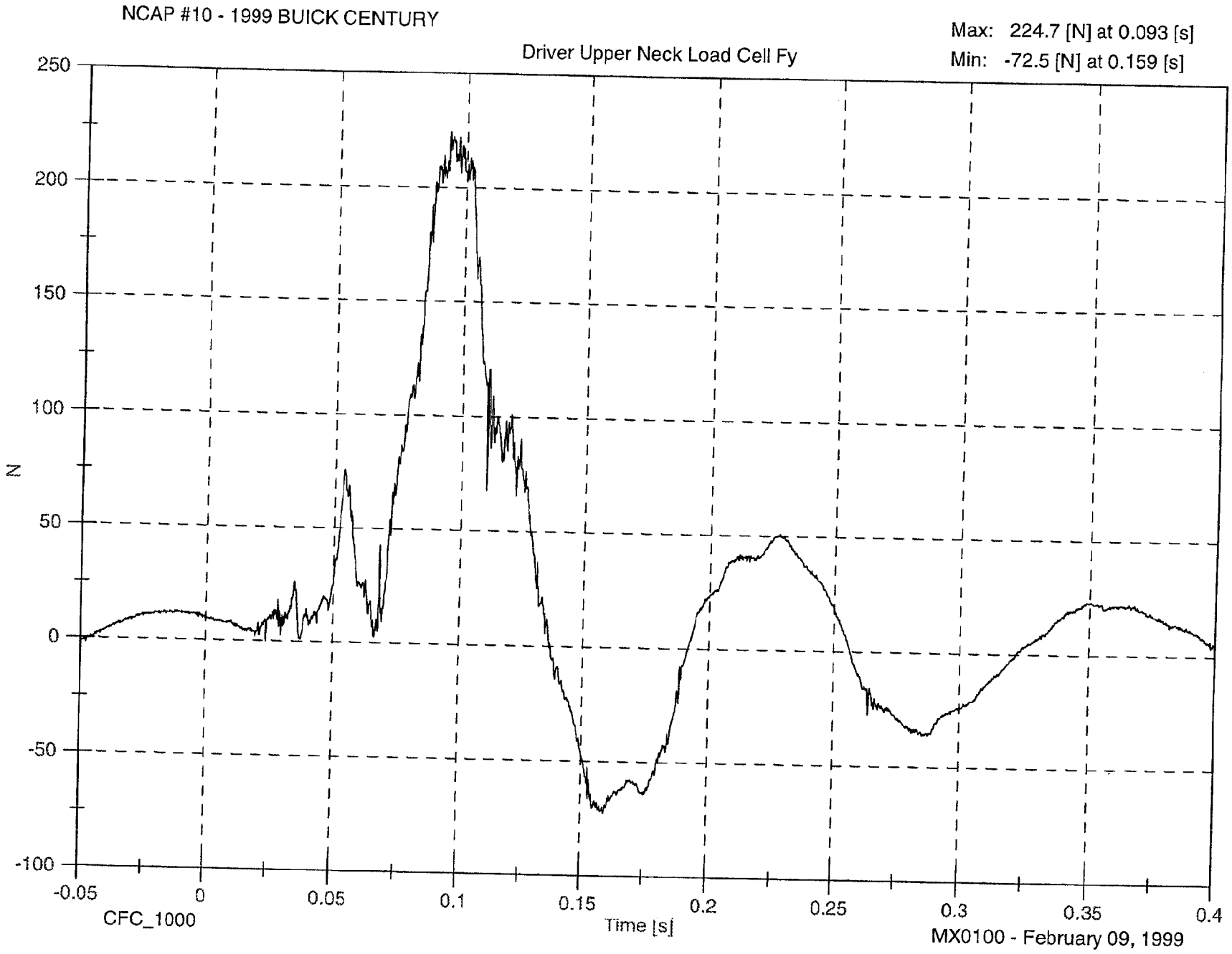

NCAP #10 - 1999 BUICK CENTURY
Max: 9.2 [g] at 0.177 [s]
Min: -68.7 [g] at 0.079 [s]
Driver Head Ax Redundant
MX0100 - February 09, 1999
CFC_1000
Time [s]
G
10
0
-10
-20
-30
-40
-50
-60
-70
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

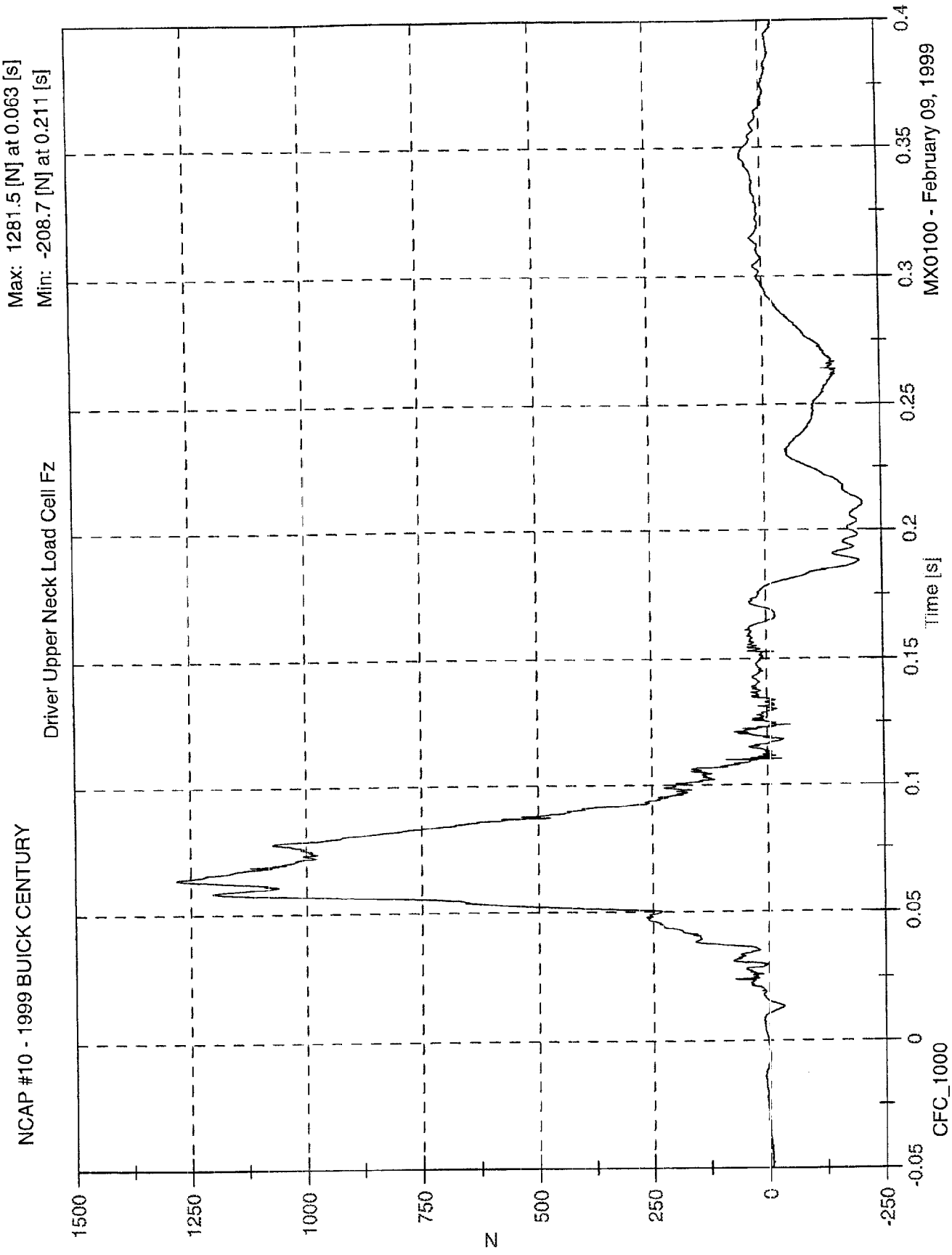

NCAP #10 - 1999 BUICK CENTURY
Driver Head Ay Redundant
Max: 5.4 [g] at 0.210 [s]
Min: -6.1 [g] at 0.084 [s]
7.5
5
2.5
0
-2.5
-5
-7.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

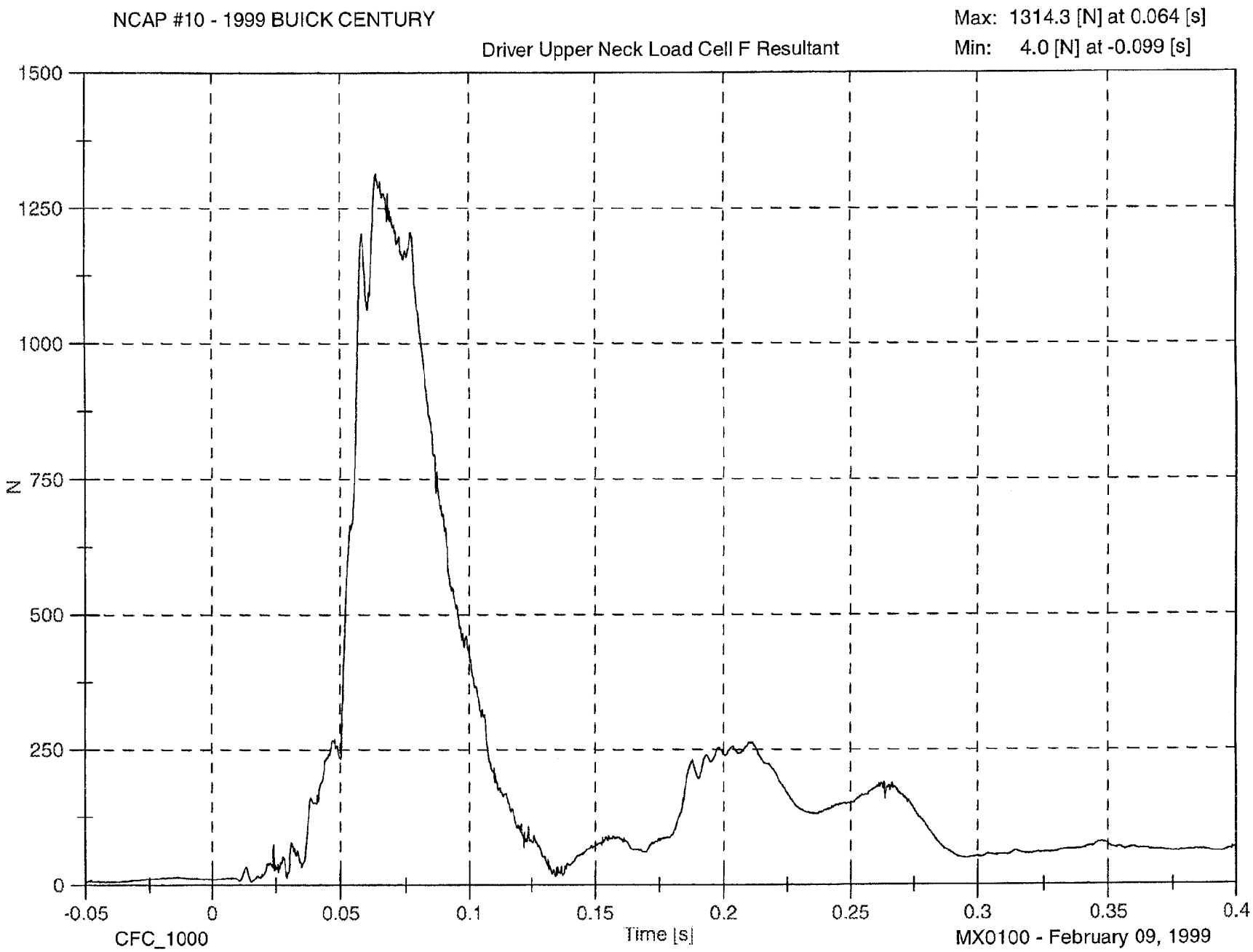

NCAP #10 - 1999 BUICK CENTURY
Driver Head Az Redundant
Max: 27.4 [g] at 0.059 [s]
Min: -4.5 [g] at 0.114 [s]
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
30
25
20
15
10
5
0
-5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

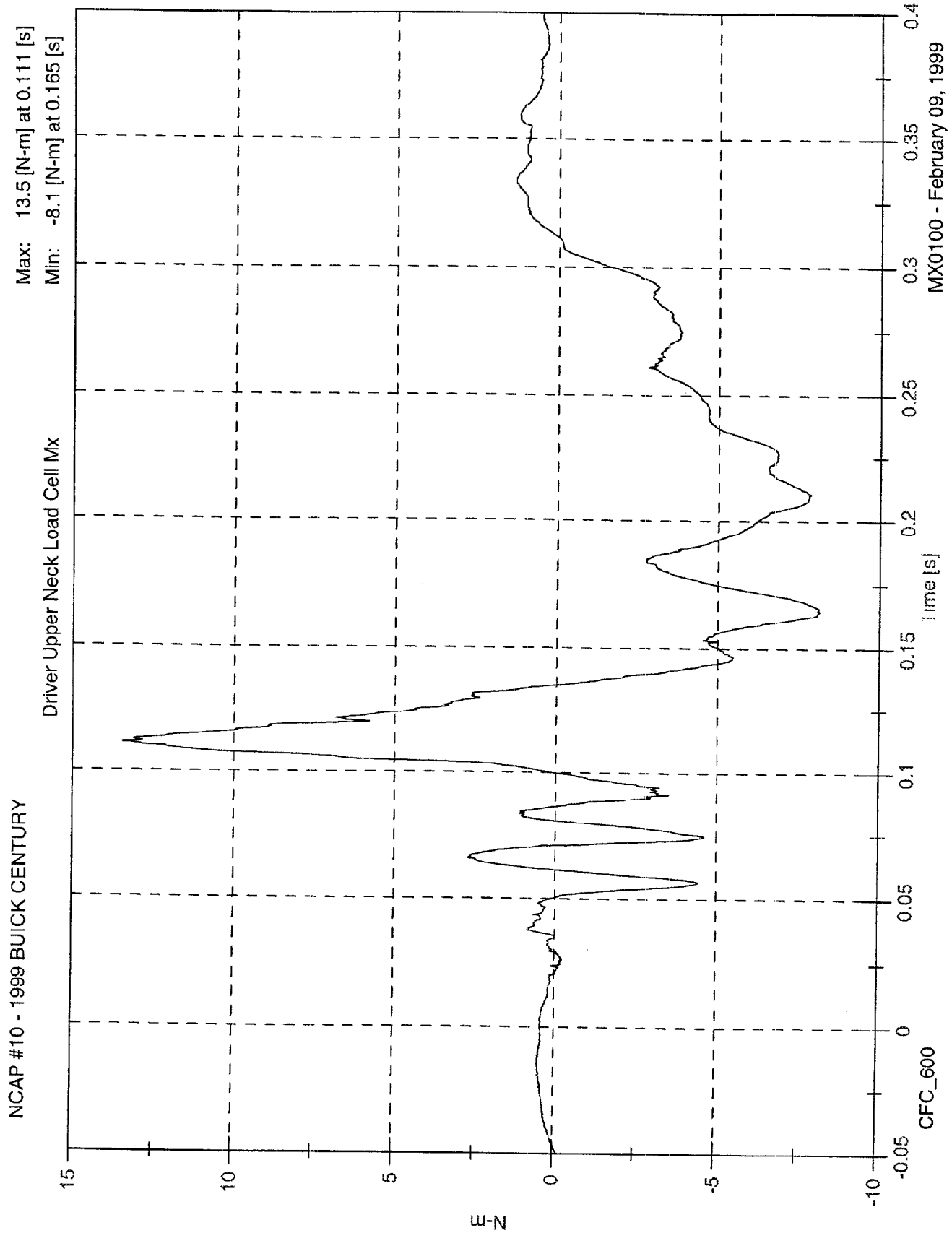

NCAP #10 - 1999 BUICK CENTURY
Max: 72.8 [g] at 0.079 [s]
Min: 0.1 [g] at -0.038 [s]
Driver Head Ax Redundant Resultant
g
Time [s]
CFC_1000
MX0100 - February 09, 1999
80
70
60
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

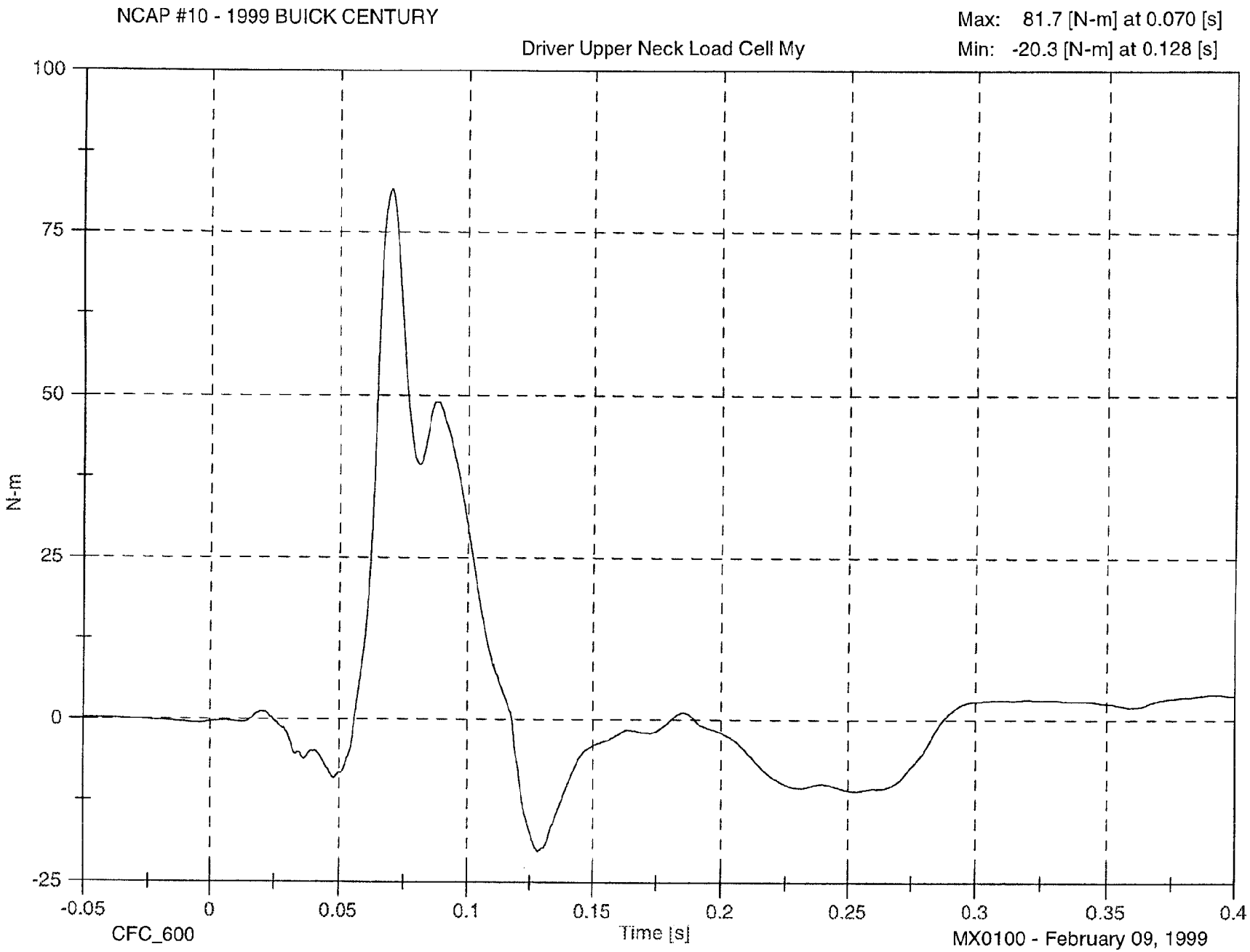

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell Fx
Max: 663.6 [N] at 0.072 [s]
Min: -162.4 [N] at 0.202 [s]
800
600
400
200
0
-200
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

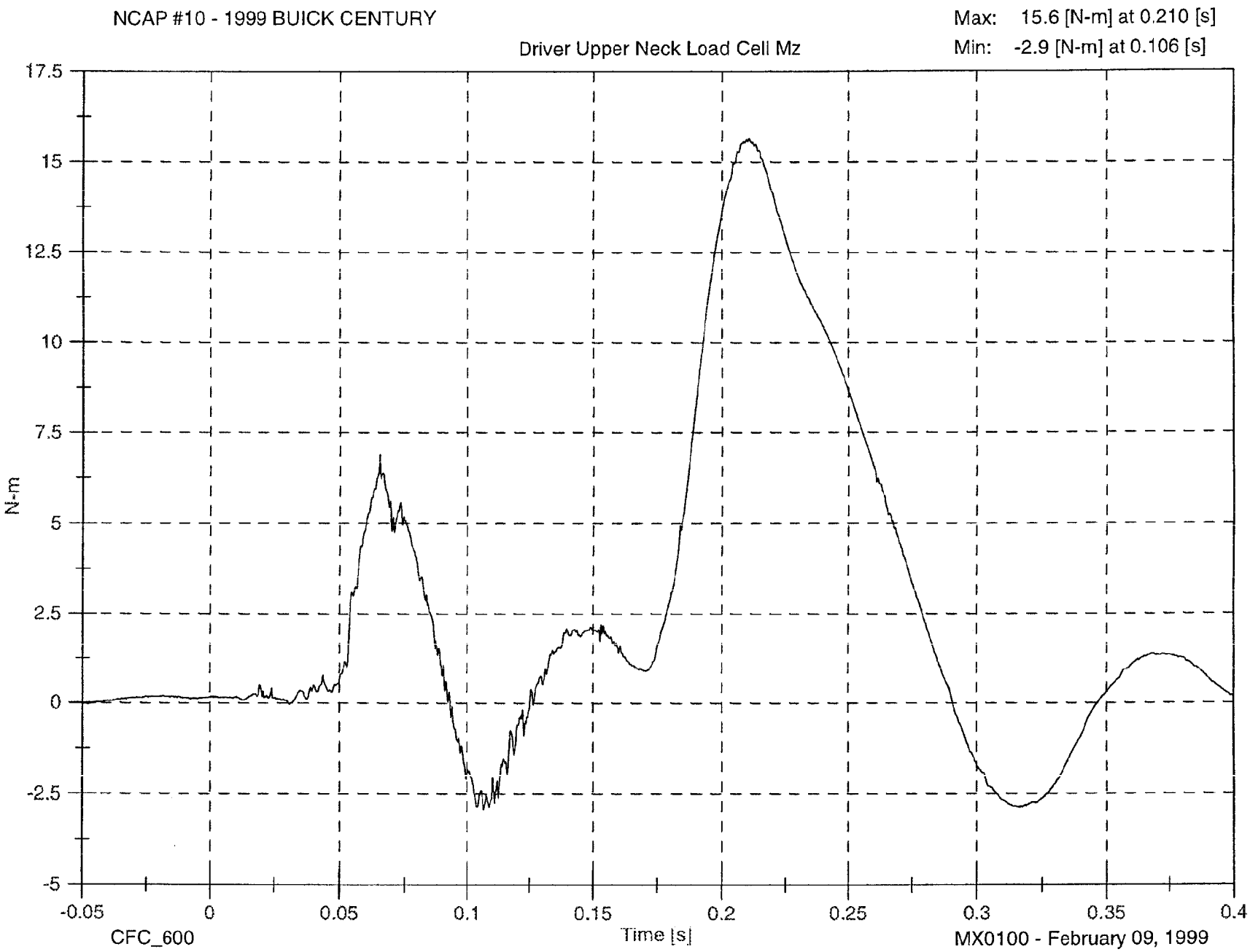

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell Fy
Max: 224.7 [N] at 0.093 [s]
Min: -72.5 [N] at 0.159 [s]
250
200
150
100
50
0
-50
-100
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

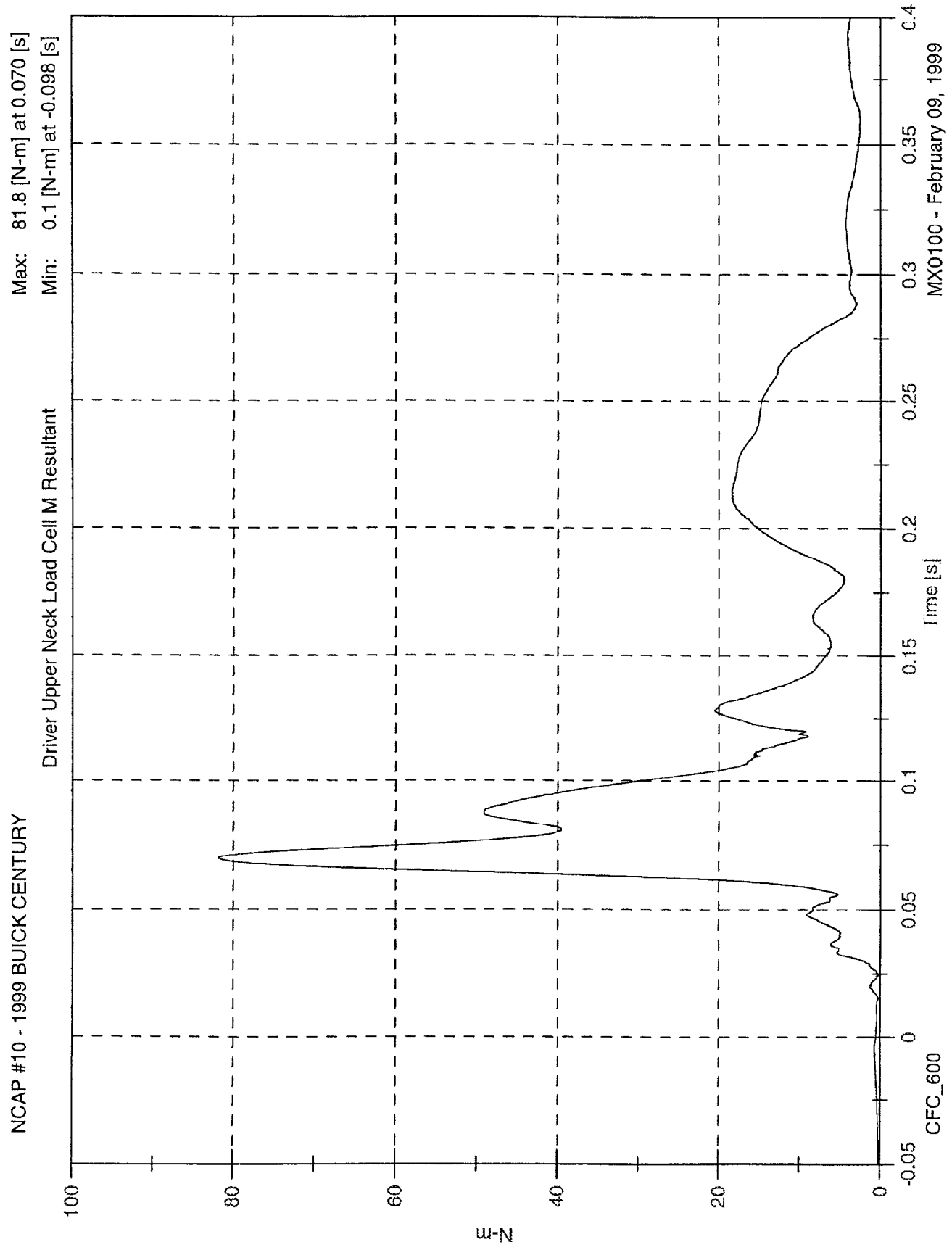

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell Fz
Max: 1281.5 [N] at 0.063 [s]
Min: -208.7 [N] at 0.211 [s]
MX0100 - February 09, 1999
CFC_1000
N
Time [s]
1500
1250
1000
750
500
250
0
-250
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

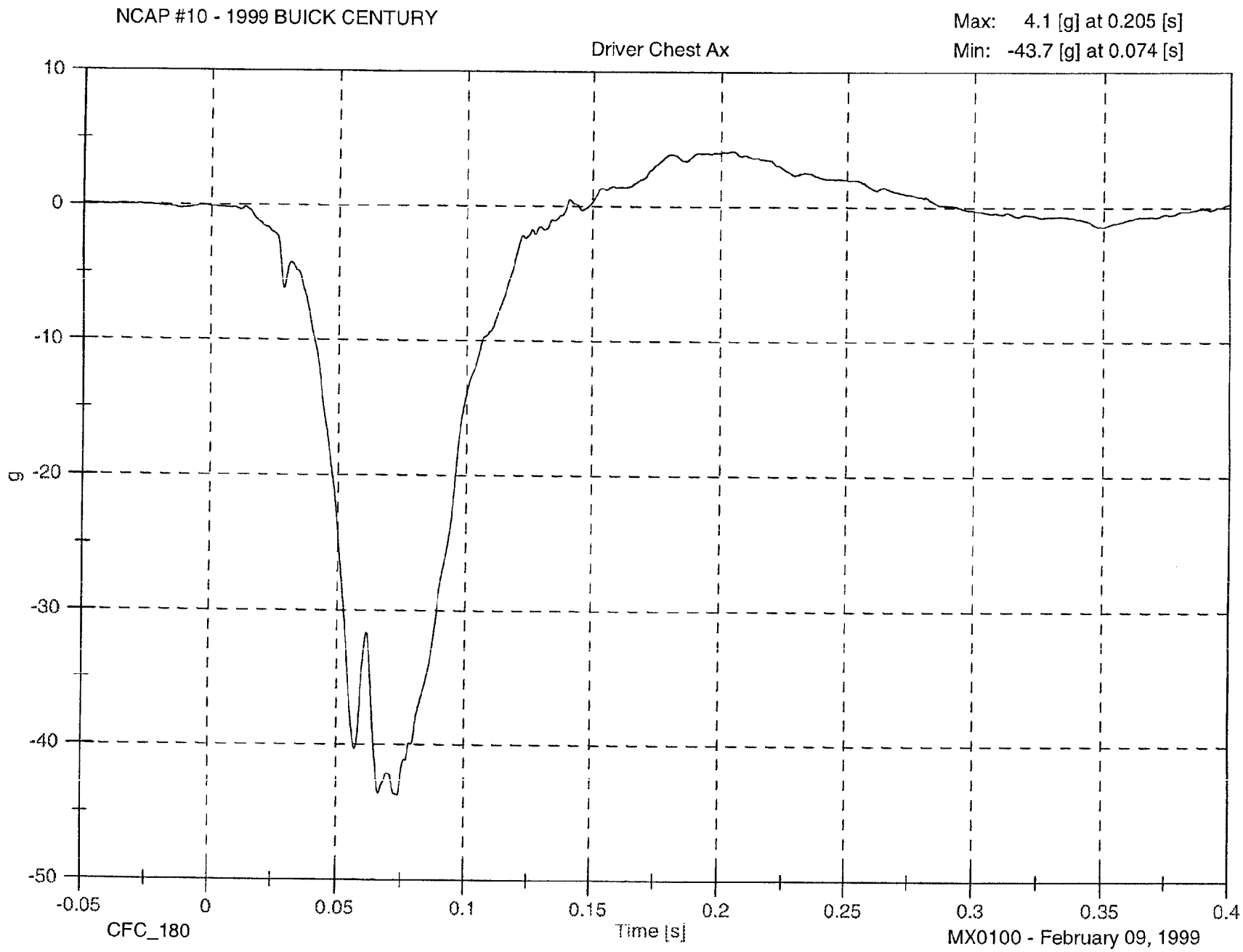

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell F Resultant
Max: 1314.3 [N] at 0.064 [s]
Min: 4.0 [N] at -0.099 [s]
1500
1250
1000
750
500
250
0
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

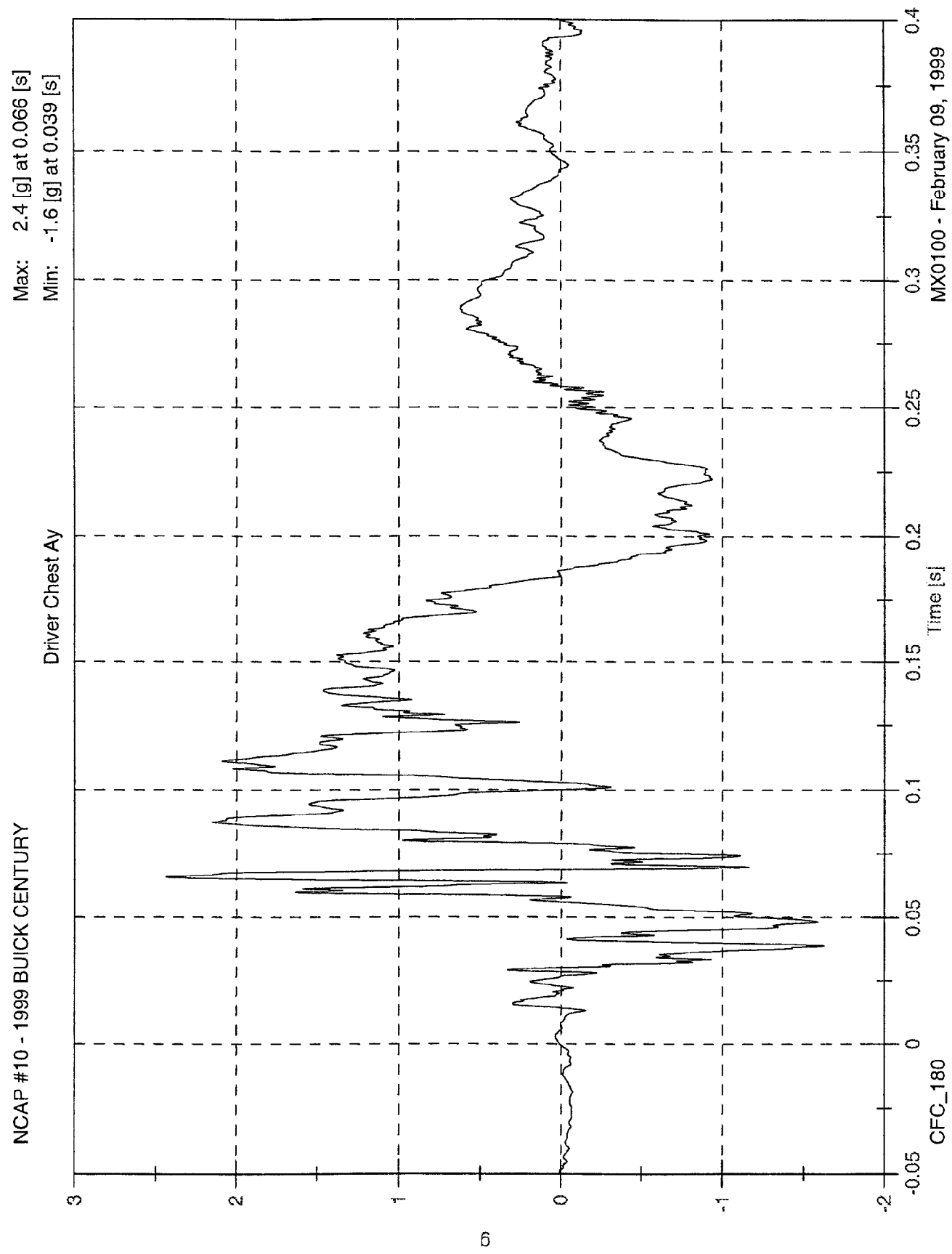

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell Mx
Max: 13.5 [N-m] at 0.111 [s]
Min: -8.1 [N-m] at 0.165 [s]
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
15
10
5
0
-5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

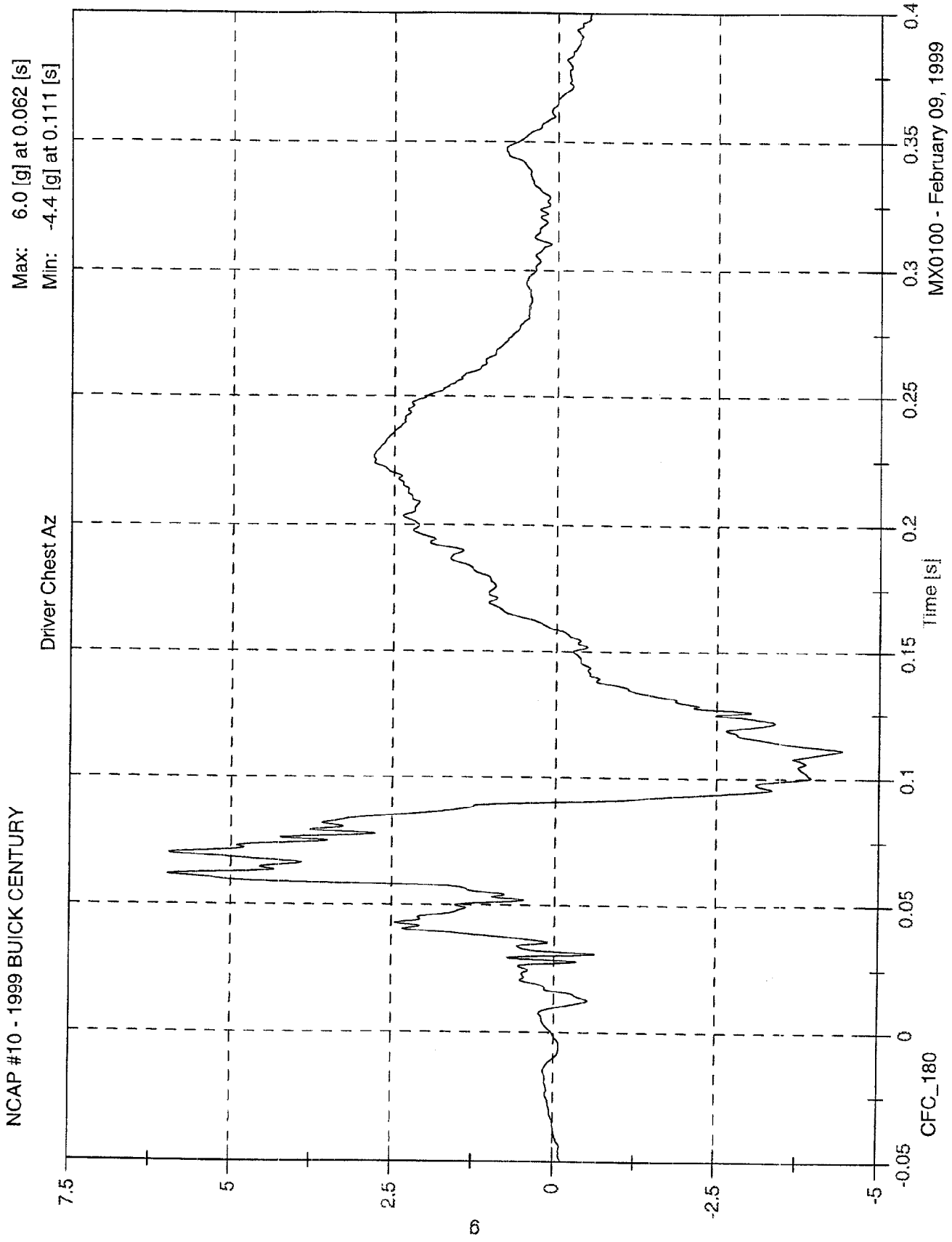

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell My
Max: 81.7 [N-m] at 0.070 [s]
Min: -20.3 [N-m] at 0.128 [s]
100
75
50
25
0
-25
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

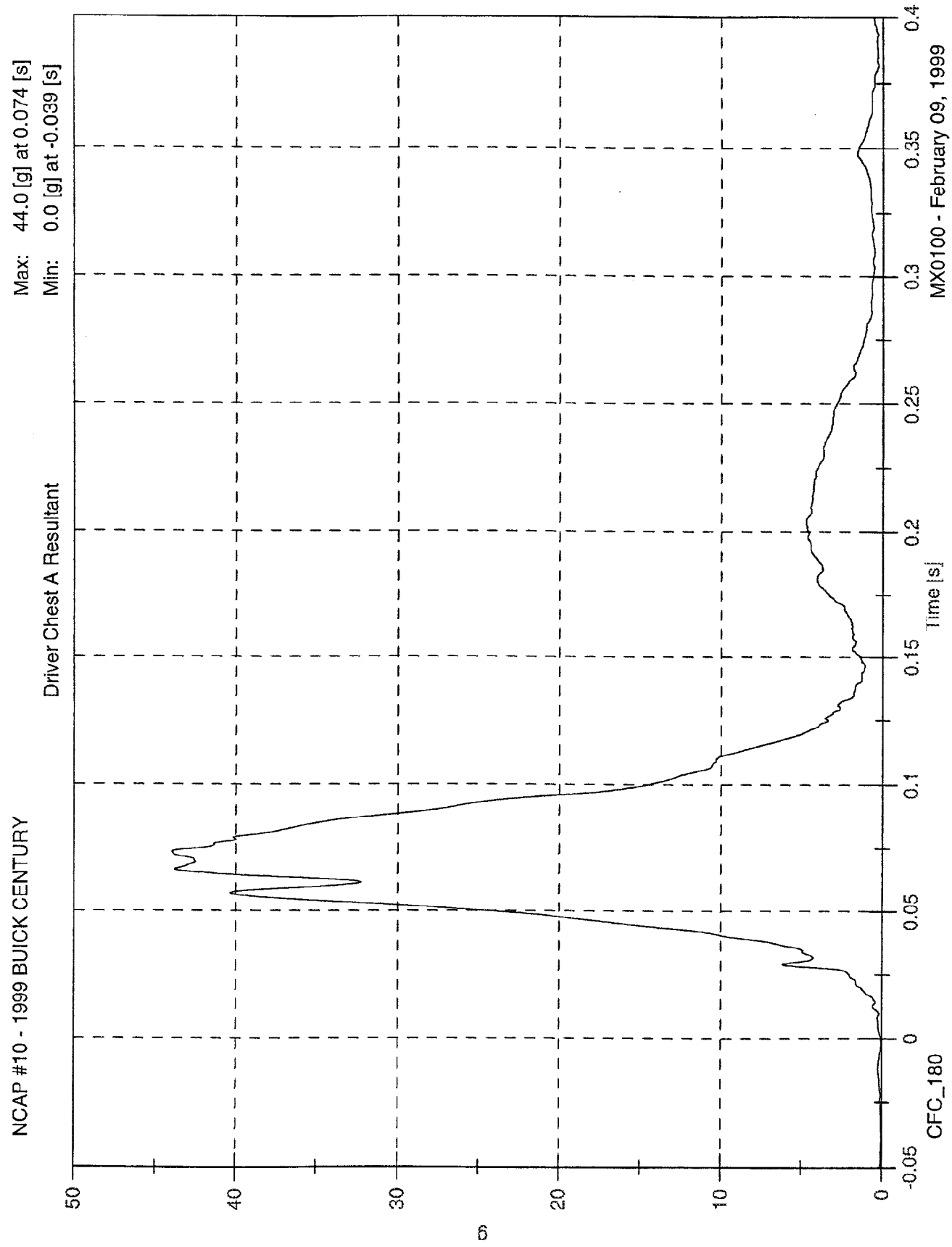

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell Mz
Max: 15.6 [N-m] at 0.210 [s]
Min: -2.9 [N-m] at 0.106 [s]
17.5
15
12.5
10
7.5
5
2.5
0
-2.5
-5
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

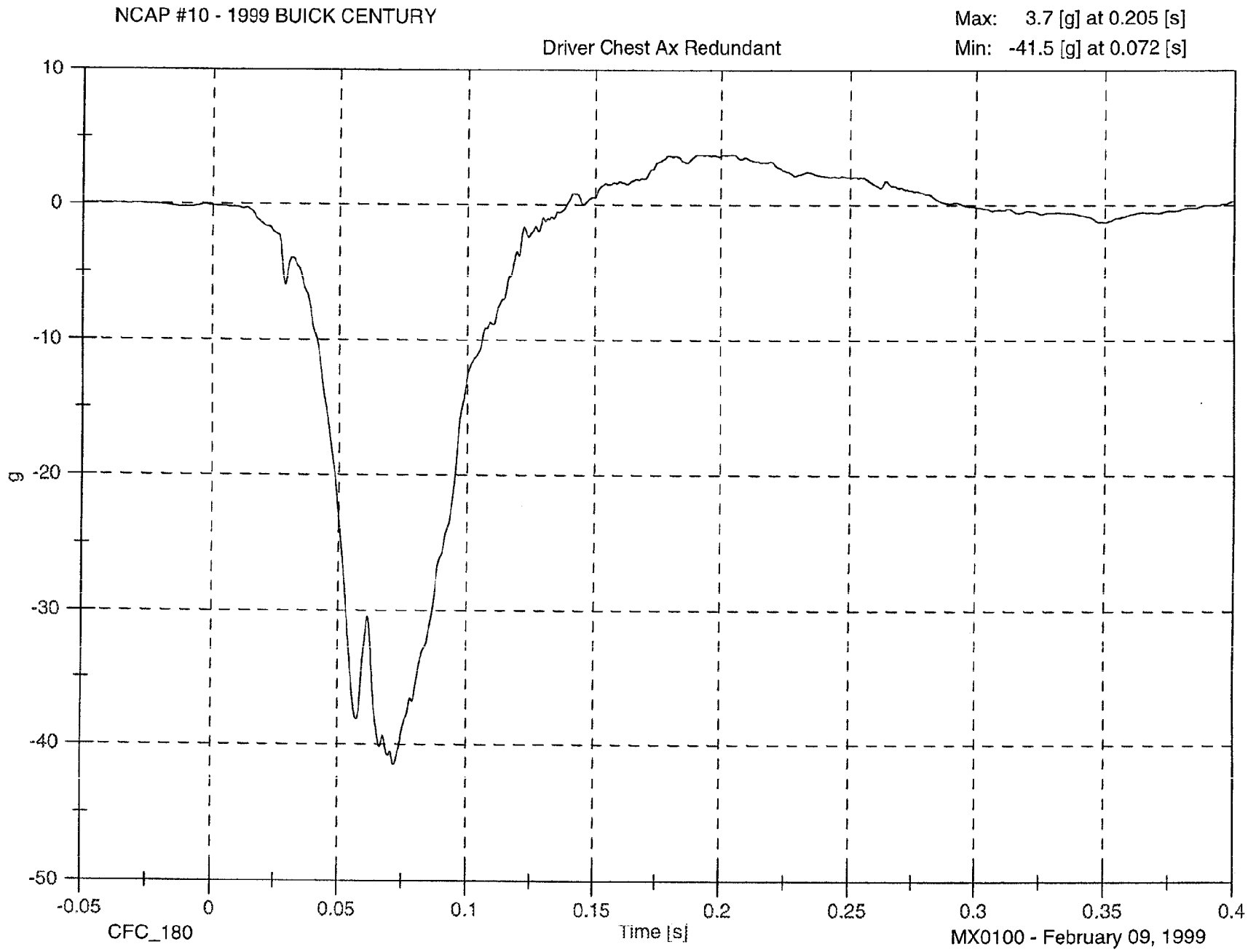

NCAP #10 - 1999 BUICK CENTURY
Driver Upper Neck Load Cell M Resultant
Max: 81.8 [N-m] at 0.070 [s]
Min: 0.1 [N-m] at -0.098 [s]
N-m
100
80
60
40
20
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

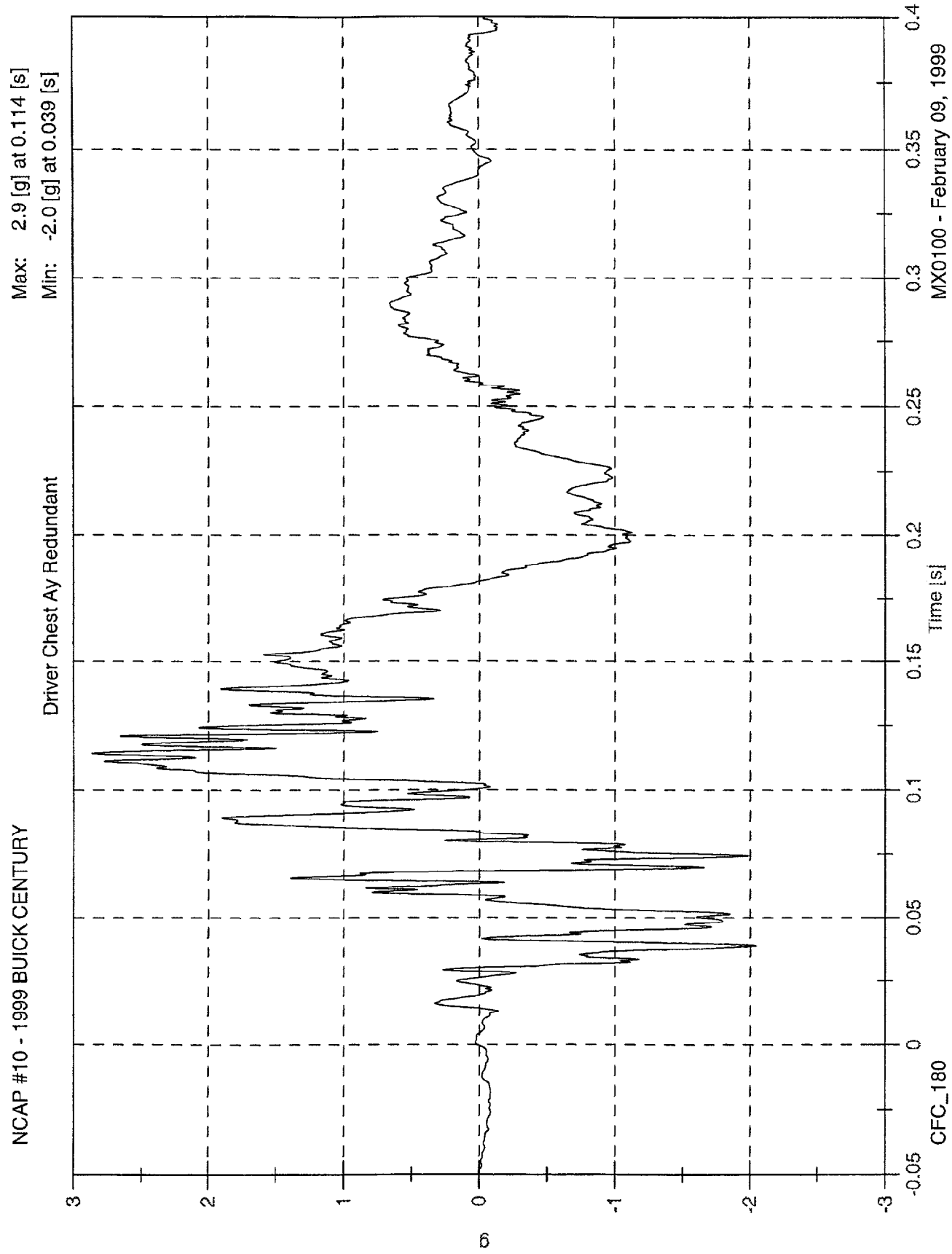

NCAP #10 - 1999 BUICK CENTURY
Driver Chest Ax
Max: 4.1 [g] at 0.205 [s]
Min: -43.7 [g] at 0.074 [s]
10
0
-10
-20
-30
-40
-50
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

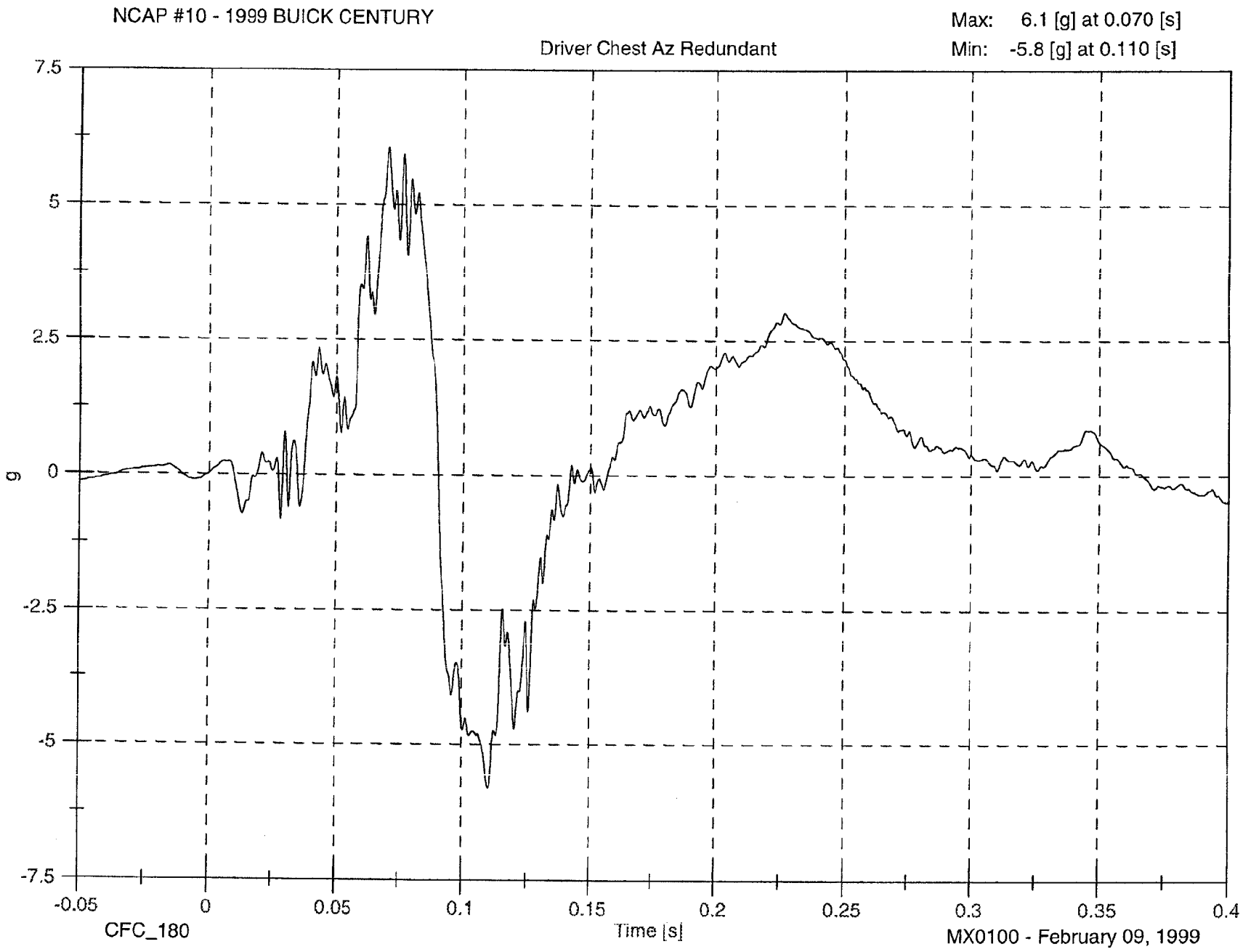

NCAP #10 - 1999 BUICK CENTURY
Max: 2.4 [g] at 0.066 [s]
Min: -1.6 [g] at 0.039 [s]
Driver Chest Ay
MX0100 - February 09, 1999
CFC_180
Time [s]
g
3
2
1
0
-1
-2
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

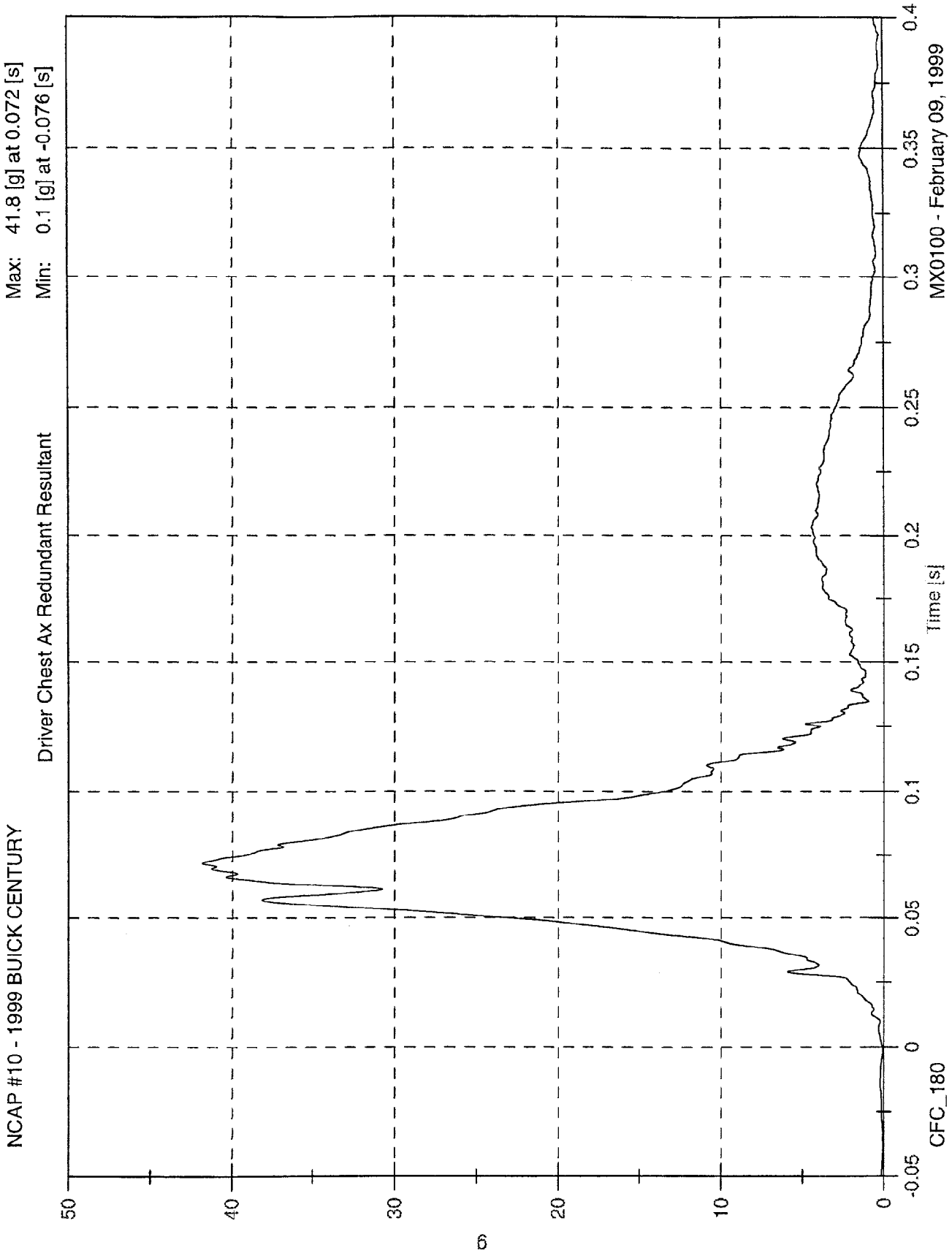

NCAP #10 - 1999 BUICK CENTURY
Max: 6.0 [g] at 0.062 [s]
Min: -4.4 [g] at 0.111 [s]
Driver Chest Az
MX0100 - February 09, 1999
CFC_180
Time [s]
g
7.5
5
2.5
0
-2.5
-5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

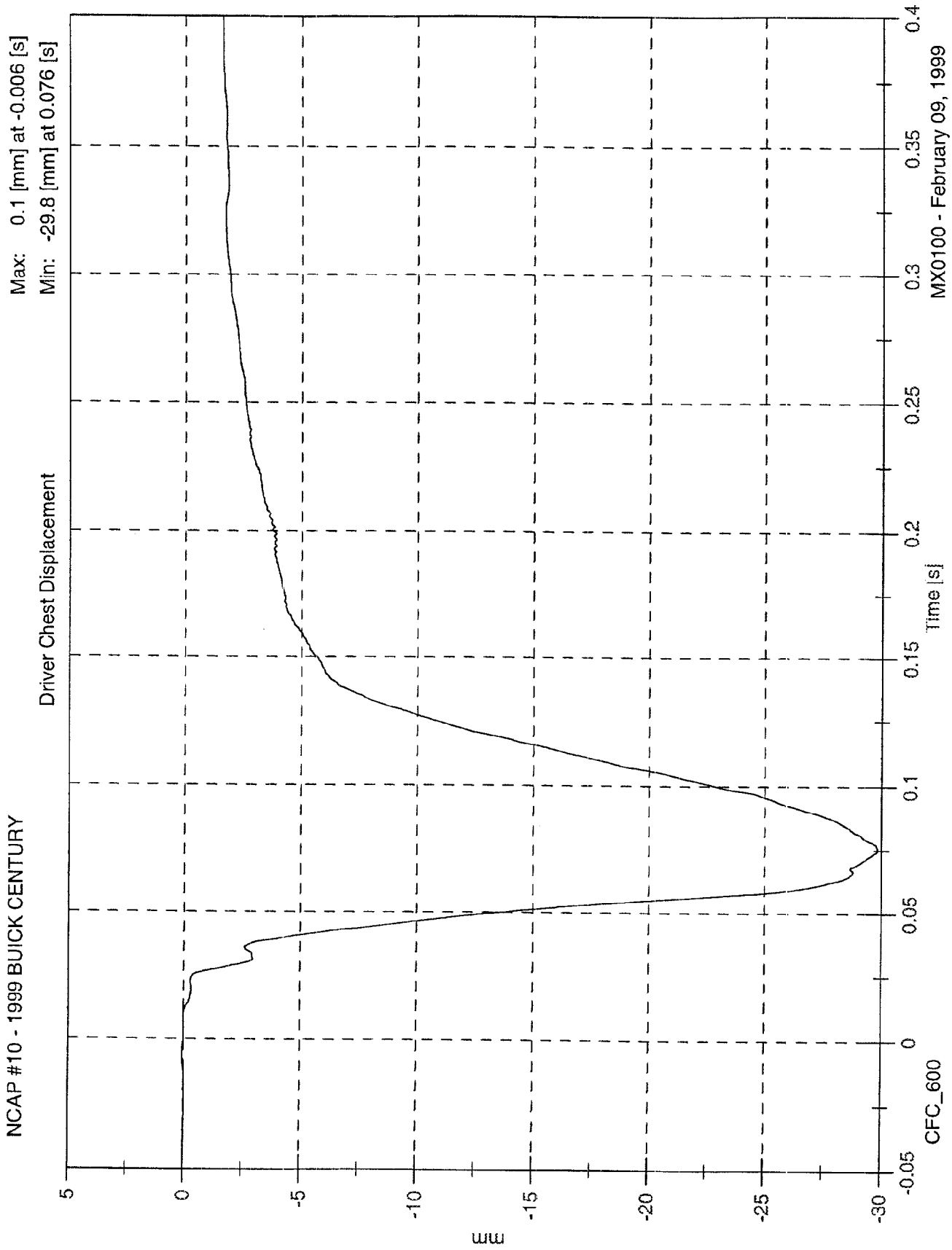

NCAP #10 - 1999 BUICK CENTURY
Max: 44.0 [g] at 0.074 [s]
Min: 0.0 [g] at -0.039 [s]
Driver Chest A Resultant
MX0100 - February 09, 1999
CFC_180
Time [s]
g
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

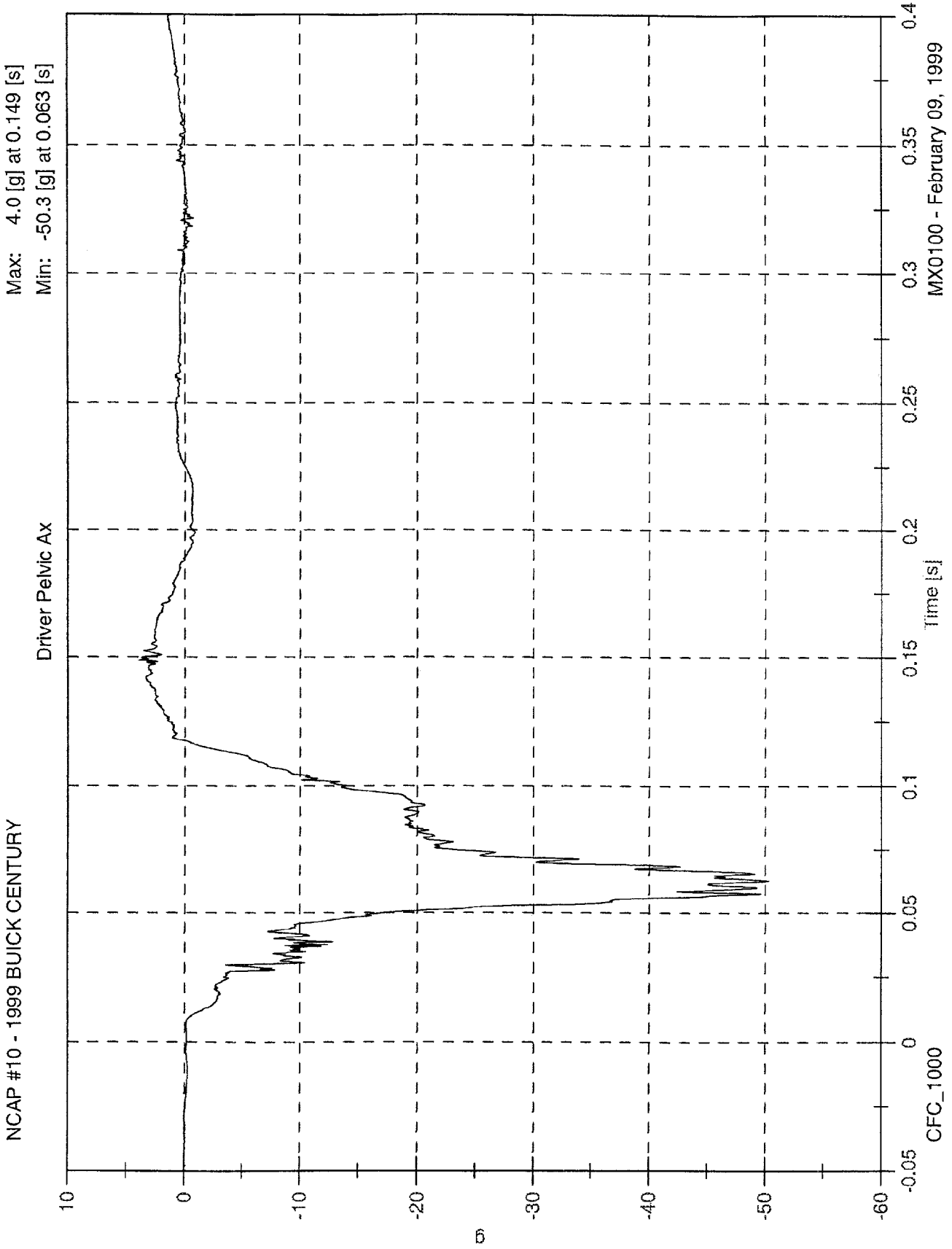

NCAP #10 - 1999 BUICK CENTURY
Driver Chest Ax Redundant
Max: 3.7 [g] at 0.205 [s]
Min: -41.5 [g] at 0.072 [s]
10
0
-10
-20
-30
-40
-50
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

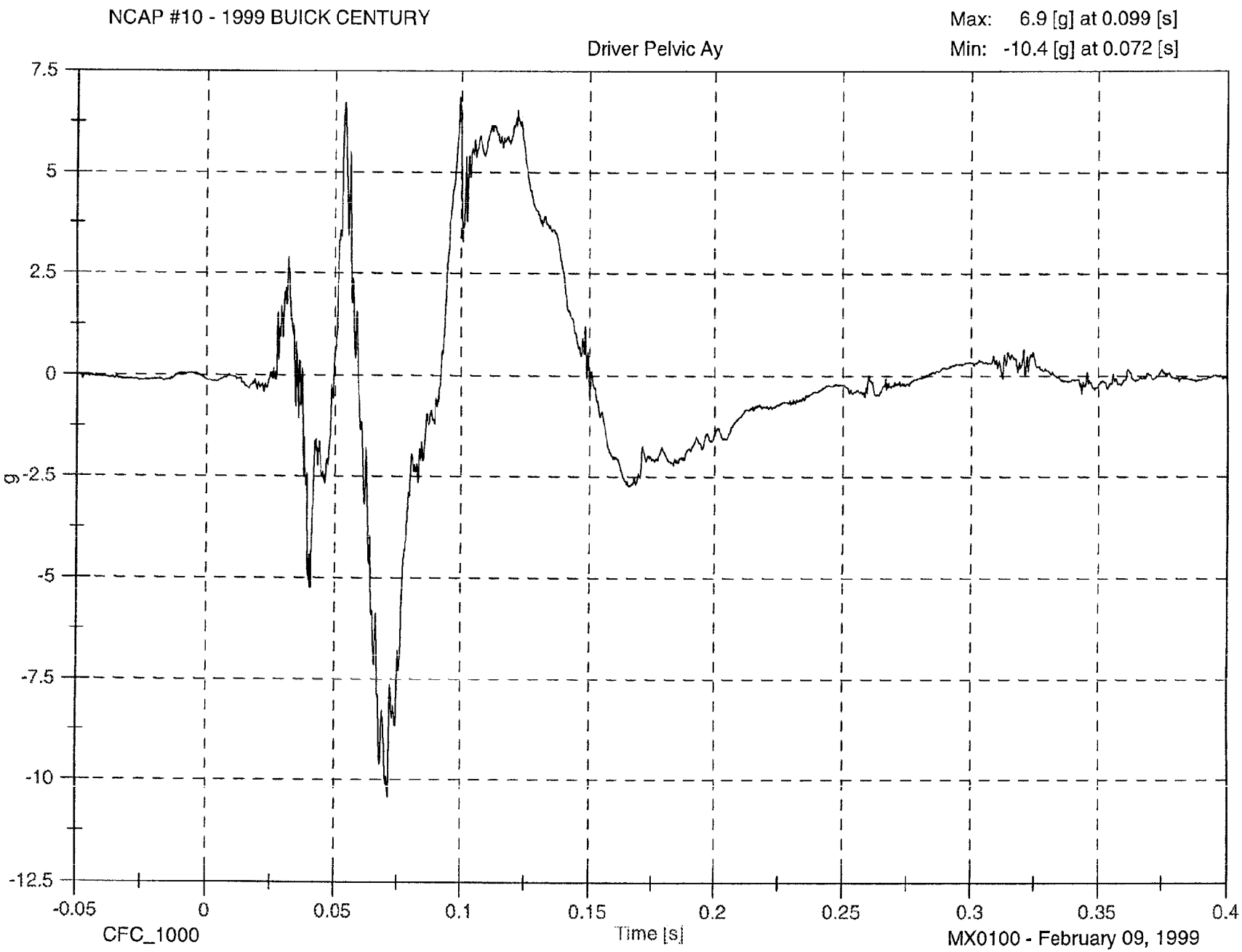

NCAP #10 - 1999 BUICK CENTURY
Max: 2.9 [g] at 0.114 [s]
Min: -2.0 [g] at 0.039 [s]
Driver Chest Ay Redundant
MX0100 - February 09, 1999
CFC_180
Time [s]
g
3
2
1
0
-1
-2
-3
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

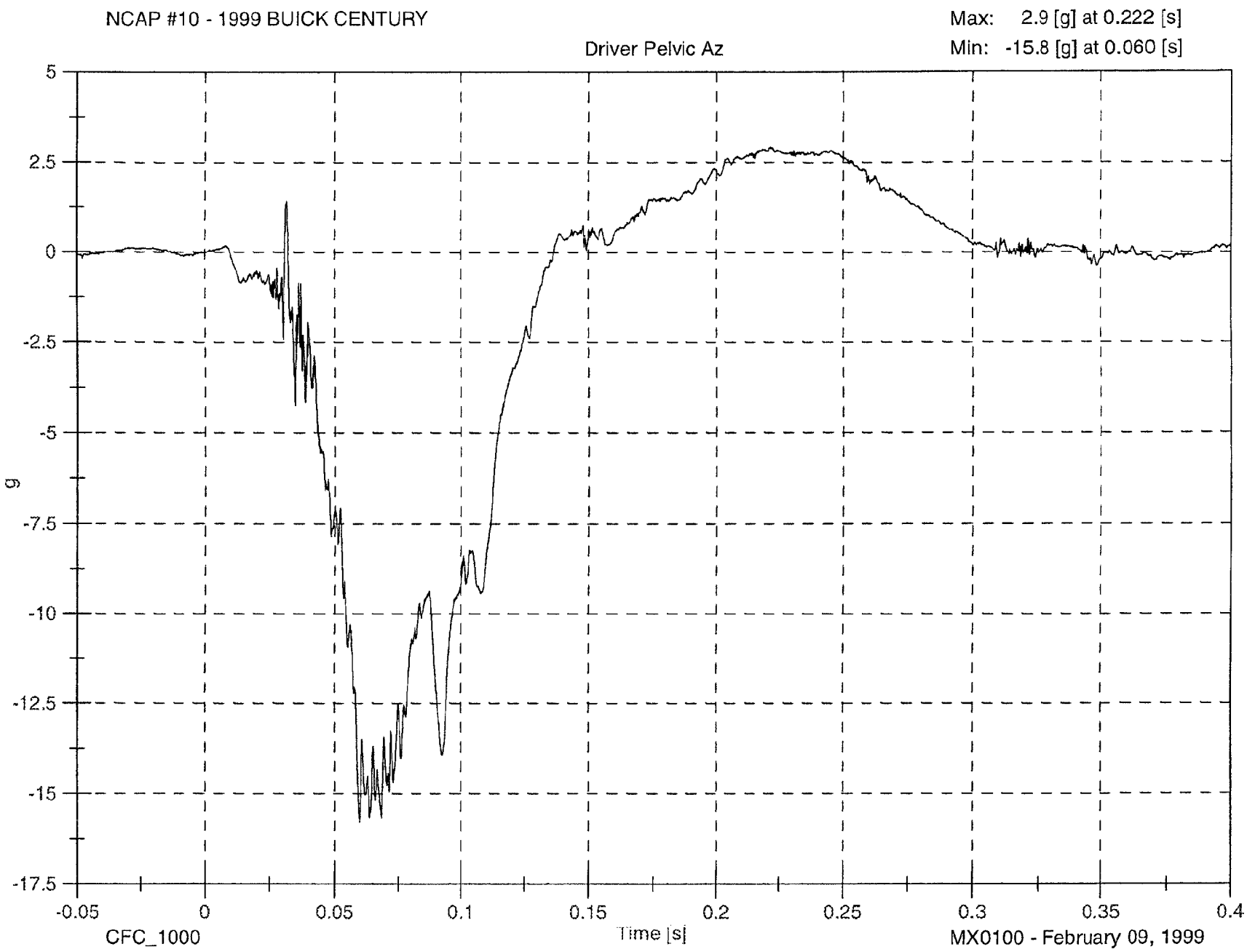

NCAP #10 - 1999 BUICK CENTURY
Driver Chest Az Redundant
Max: 6.1 [g] at 0.070 [s]
Min: -5.8 [g] at 0.110 [s]
7.5
5
2.5
0
-2.5
-5
-7.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

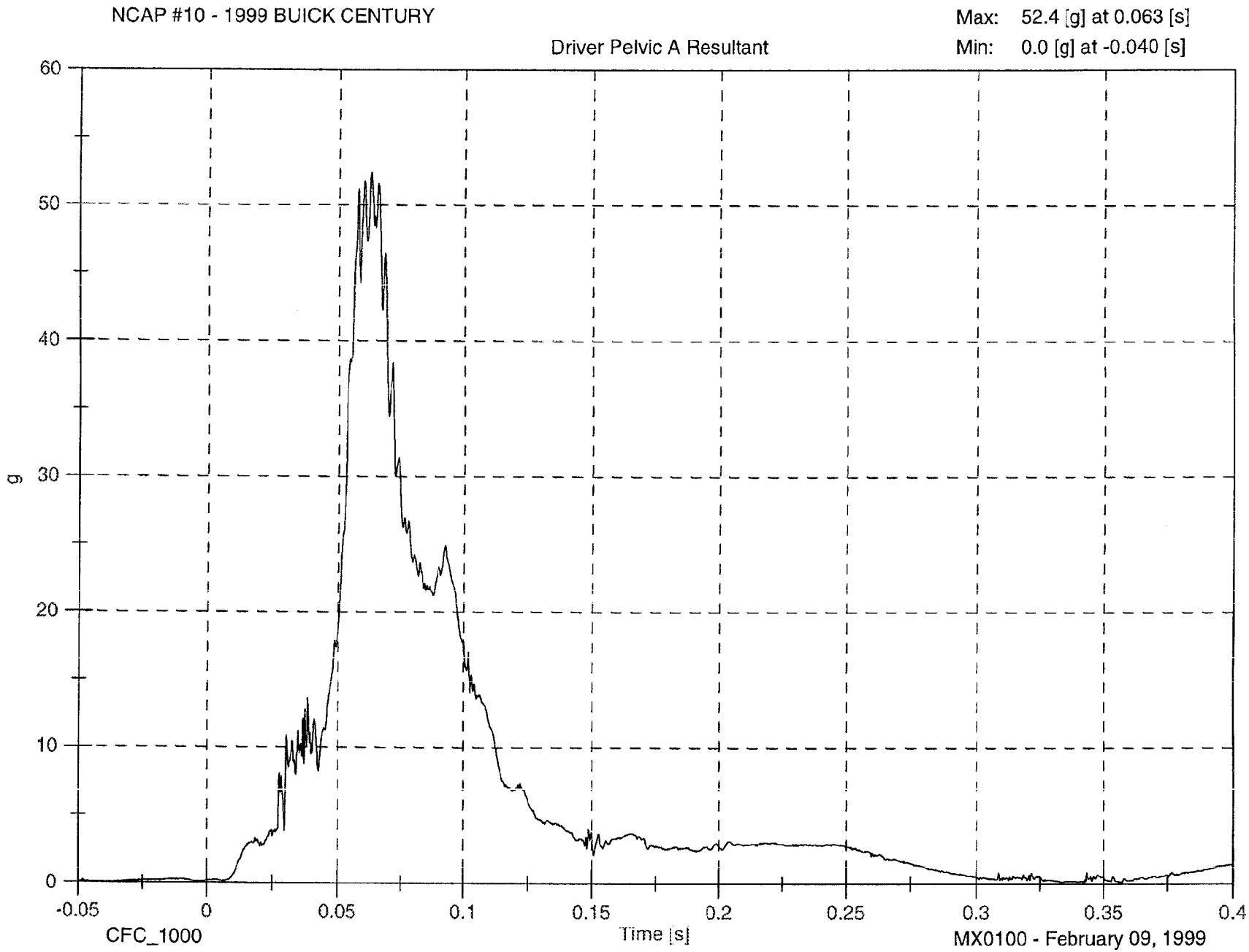

NCAP #10 - 1999 BUICK CENTURY
Max: 41.8 [g] at 0.072 [s]
Min: 0.1 [g] at -0.076 [s]
Driver Chest Ax Redundant Resultant
MX0100 - February 09, 1999
CFC_180
g
Time [s]
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

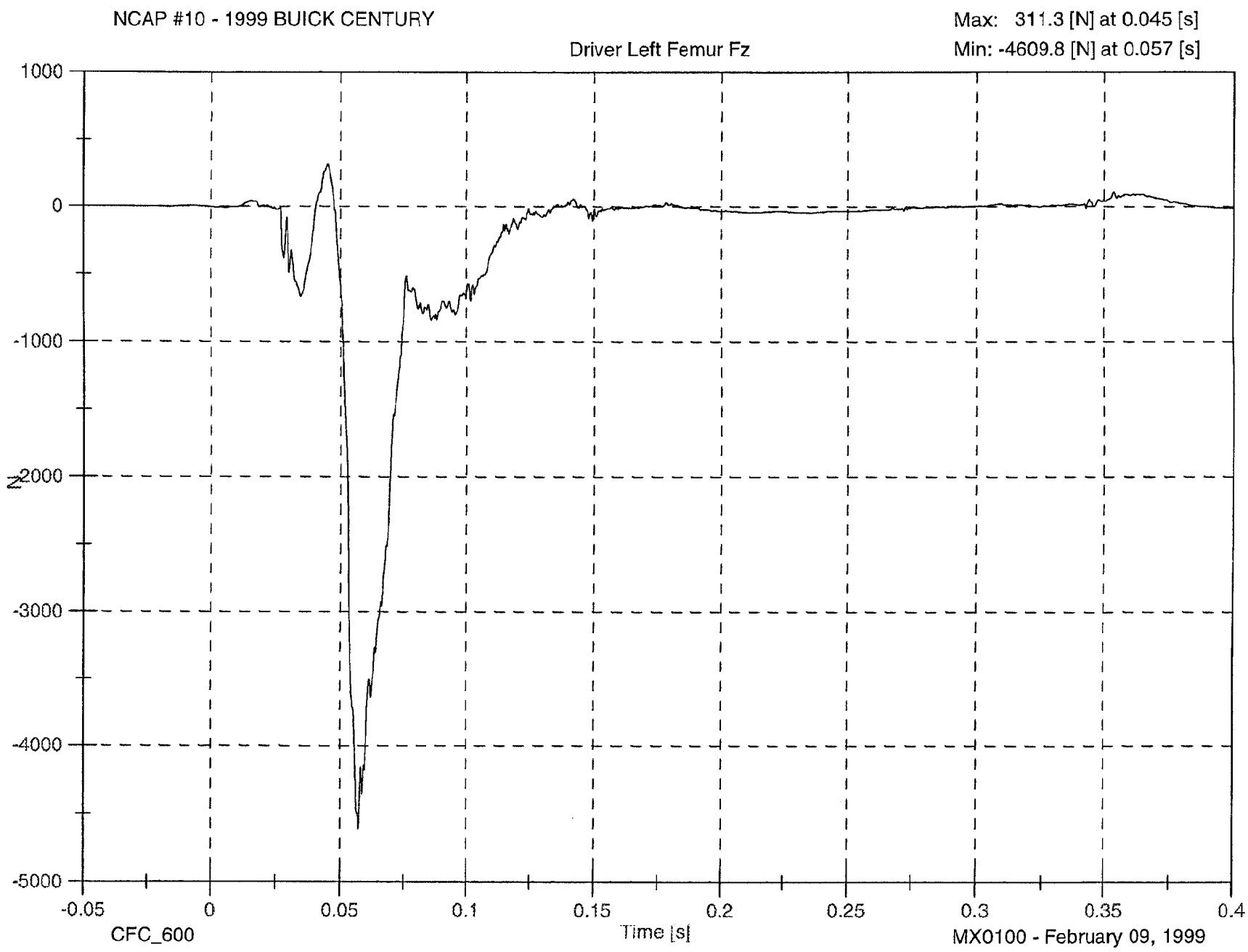

NCAP #10 - 1999 BUICK CENTURY
Max: 0.1 [mm] at -0.006 [s]
Min: -29.8 [mm] at 0.076 [s]
Driver Chest Displacement
MX0100 - February 09, 1999
CFC_600
mm
Time [s]
5
0
-5
-10
-15
-20
-25
-30
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

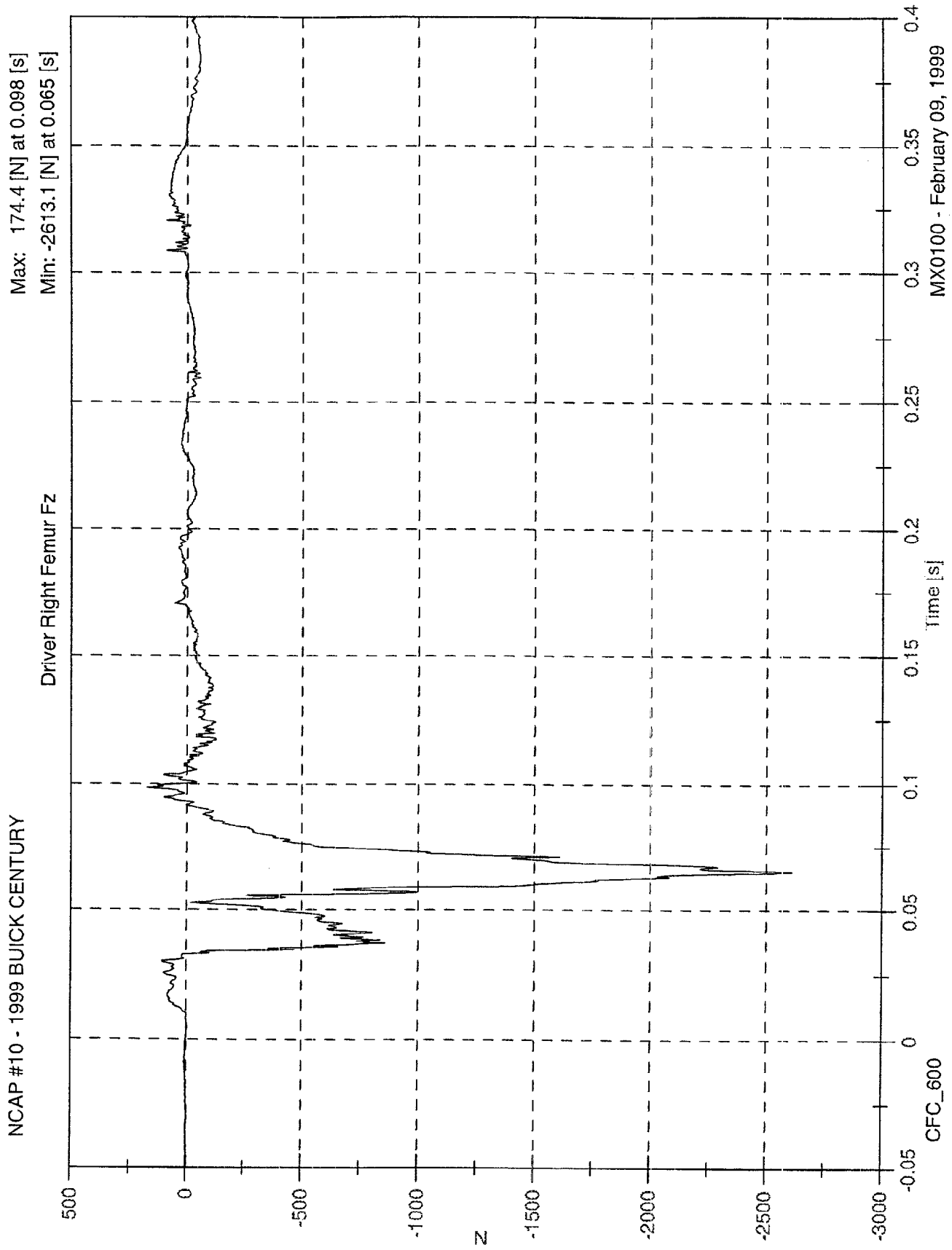

NCAP #10 - 1999 BUICK CENTURY
Max: 4.0 [g] at 0.149 [s]
Min: -50.3 [g] at 0.063 [s]
Driver Pelvic Ax
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
10
0
-10
-20
-30
-40
-50
-60
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

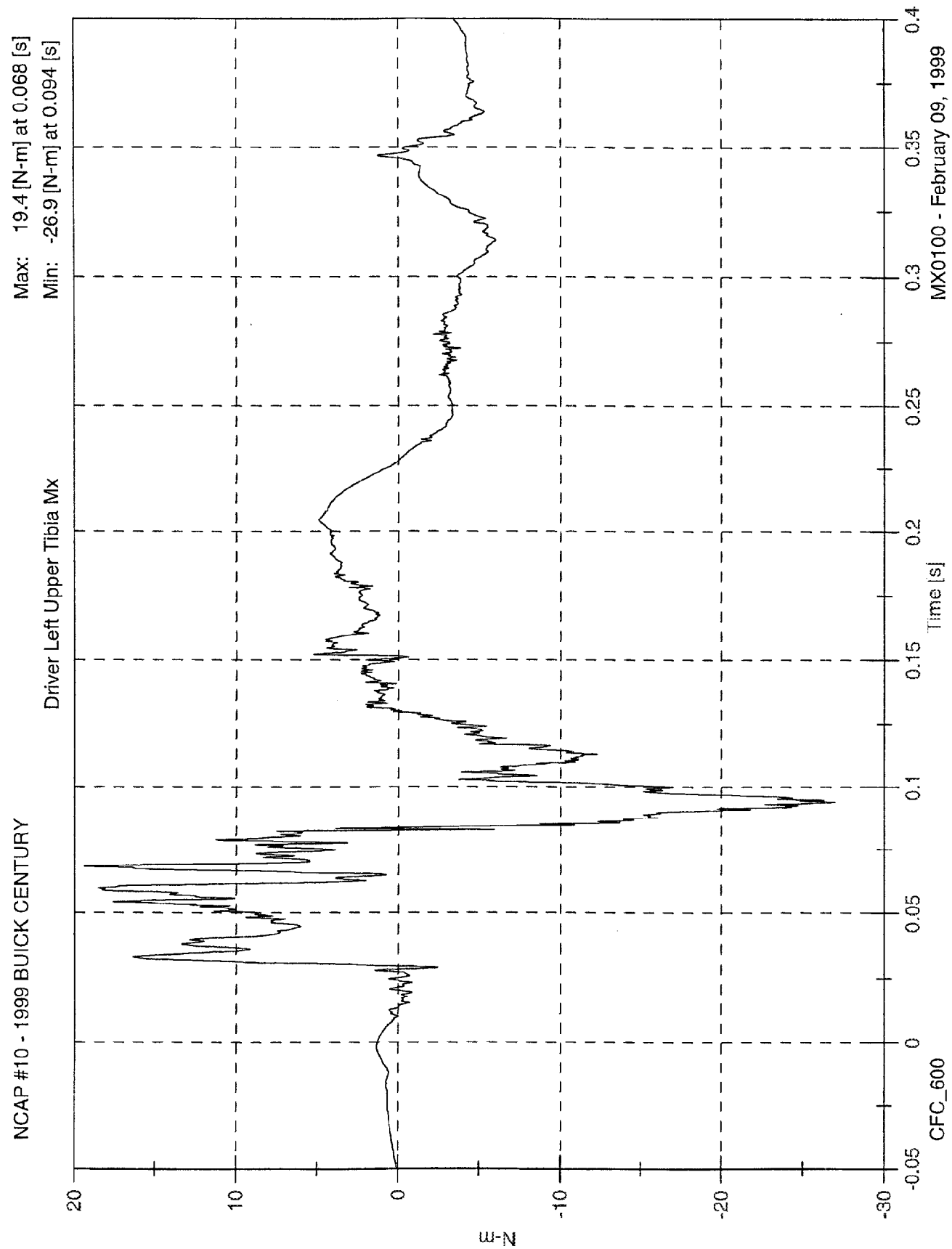

NCAP #10 - 1999 BUICK CENTURY
Driver Pelvic Ay
Max: 6.9 [g] at 0.099 [s]
Min: -10.4 [g] at 0.072 [s]
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

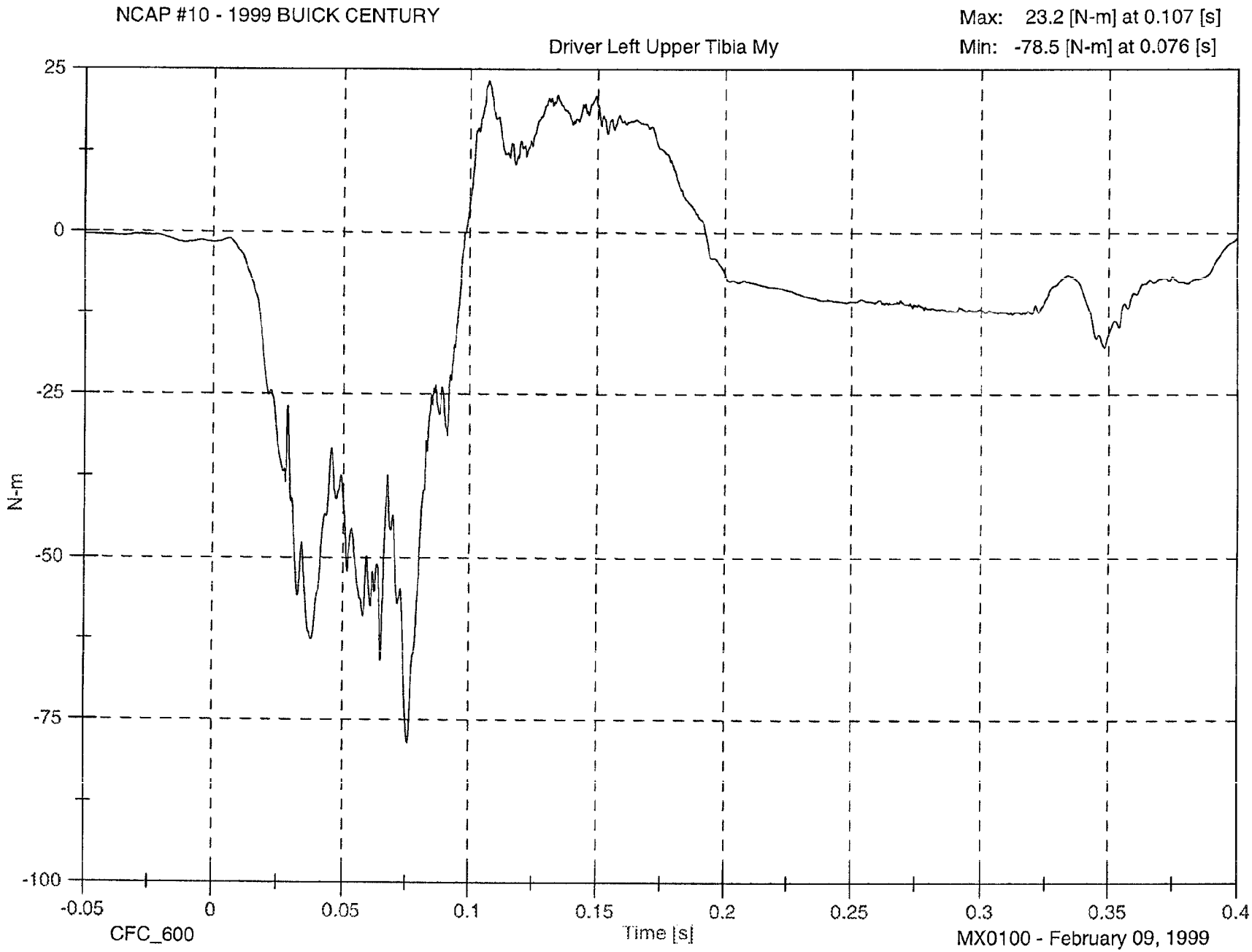

NCAP #10 - 1999 BUICK CENTURY
Driver Pelvic Az
Max: 2.9 [g] at 0.222 [s]
Min: -15.8 [g] at 0.060 [s]
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
-15
-17.5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

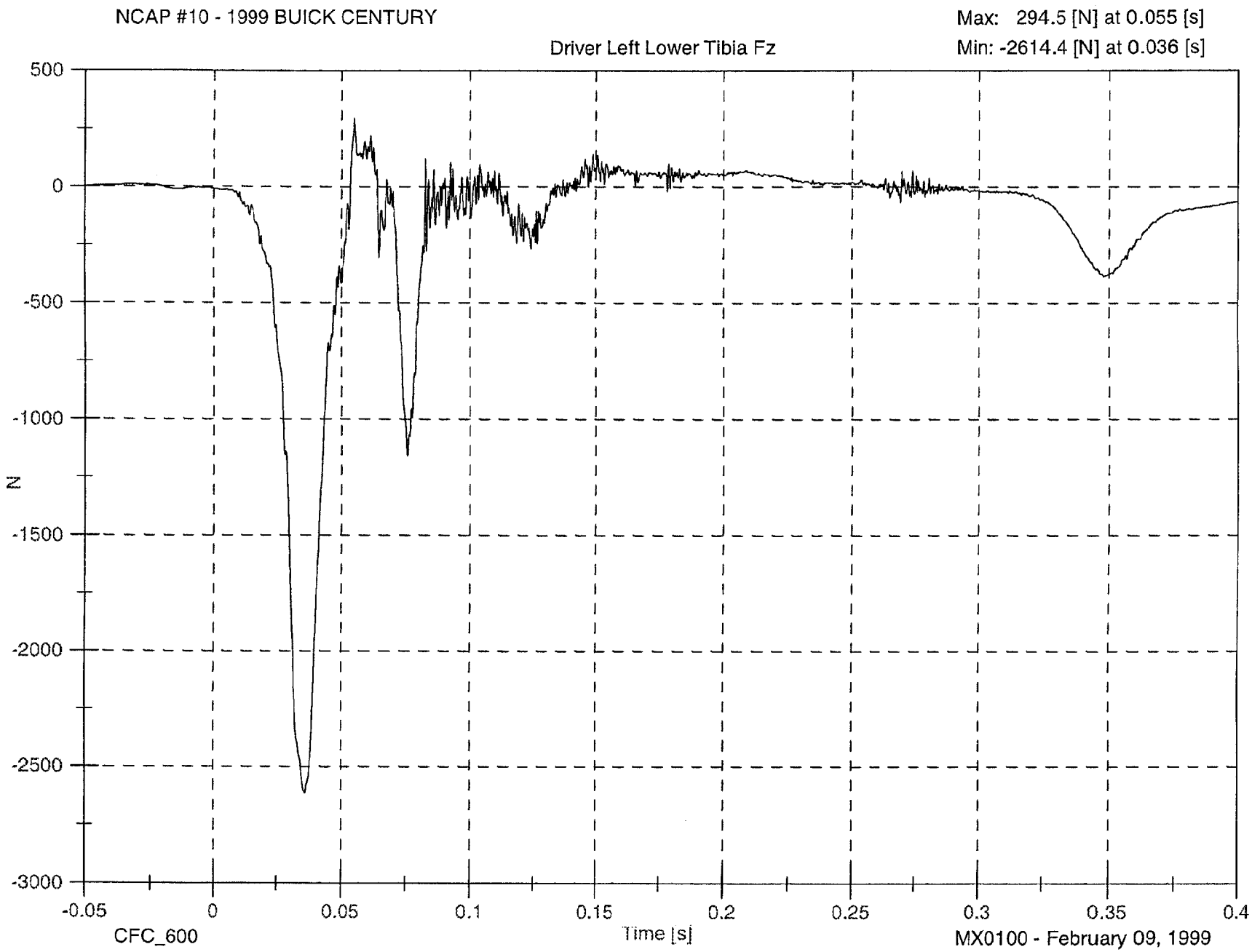

NCAP #10 - 1999 BUICK CENTURY
Driver Pelvic A Resultant
Max: 52.4 [g] at 0.063 [s]
Min: 0.0 [g] at -0.040 [s]
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

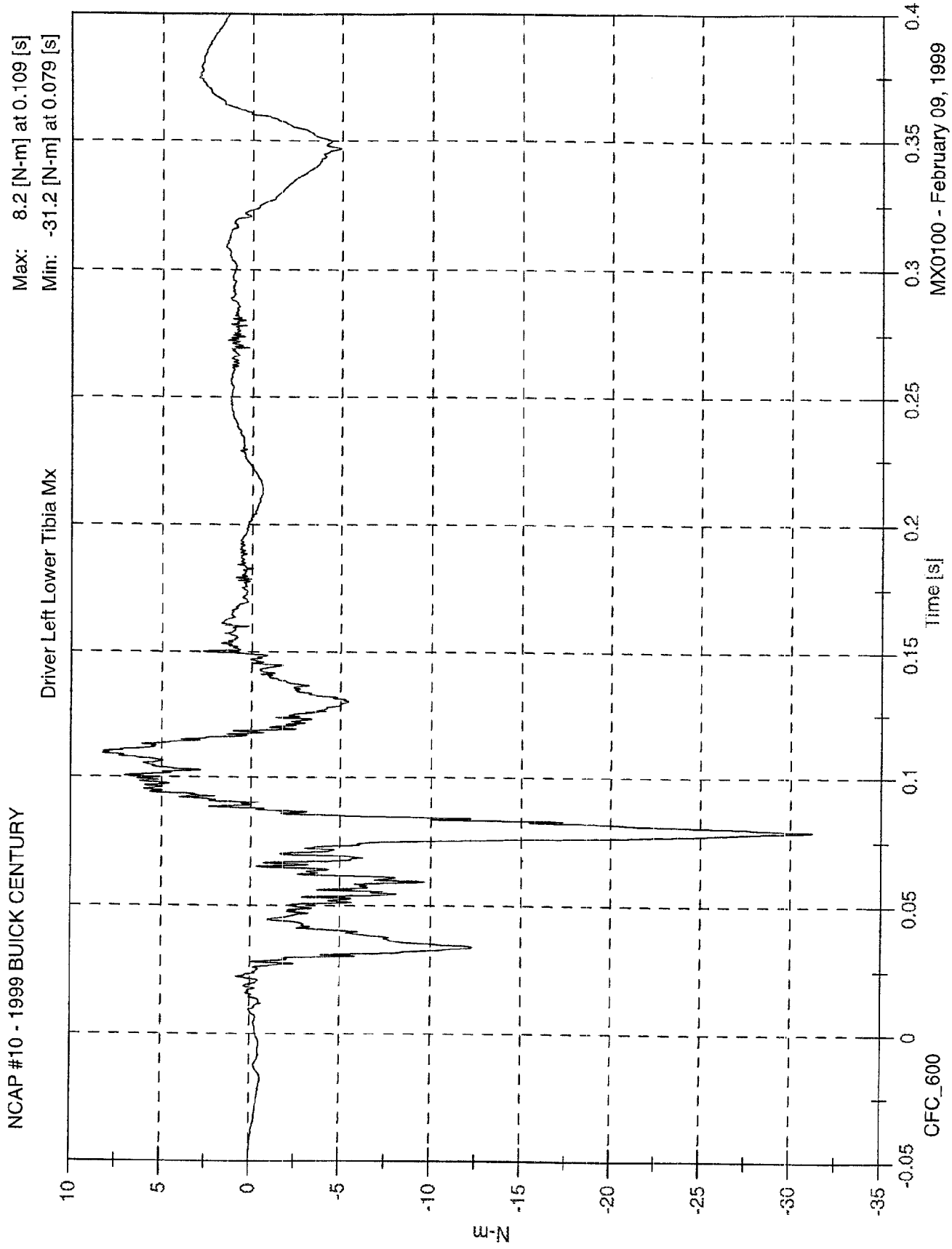

NCAP #10 - 1999 BUICK CENTURY
Driver Left Femur Fz
Max: 311.3 [N] at 0.045 [s]
Min: -4609.8 [N] at 0.057 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

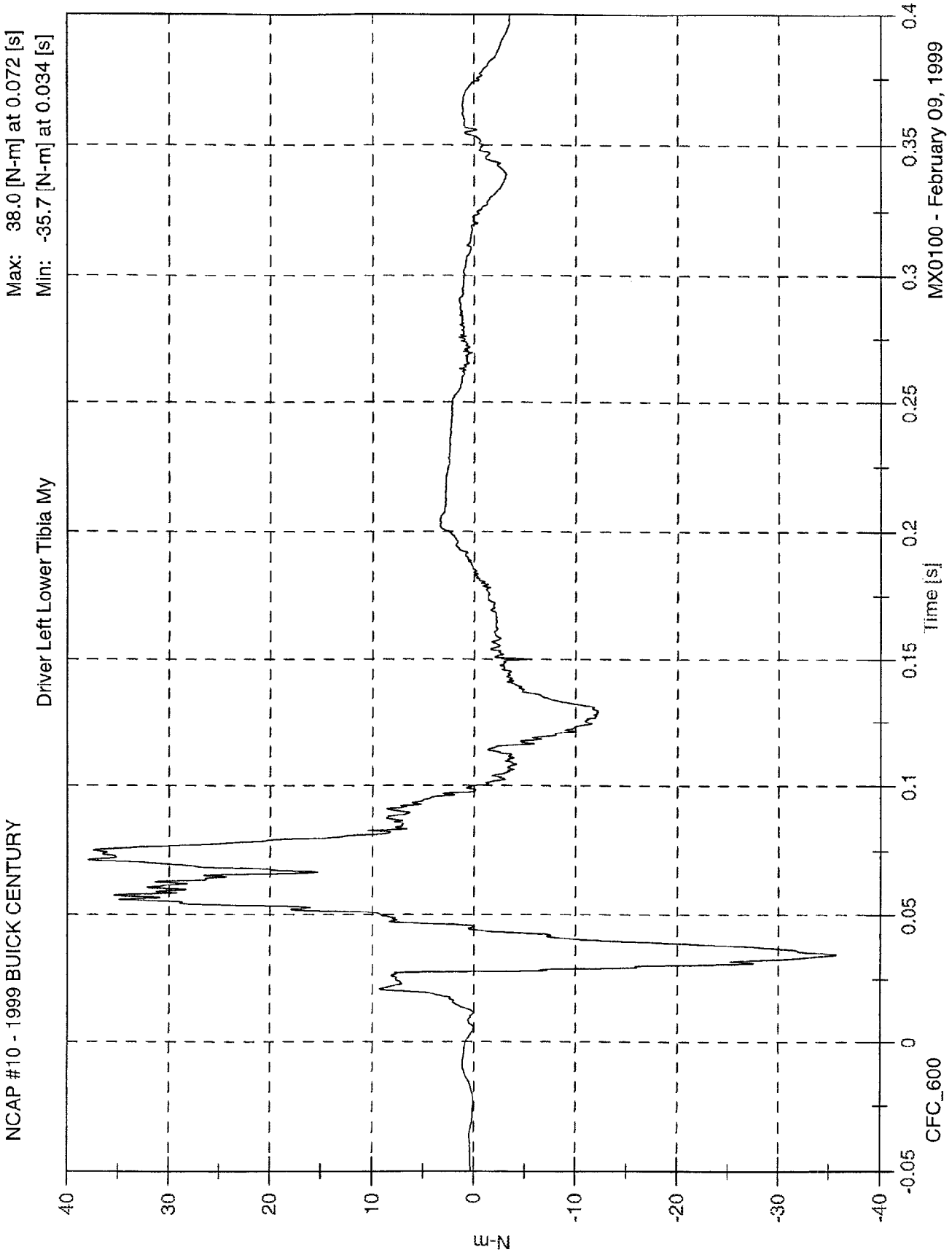

NCAP #10 - 1999 BUICK CENTURY
Max: 174.4 [N] at 0.098 [s]
Min: -2613.1 [N] at 0.065 [s]
Driver Right Femur Fz
MX0100 - February 09, 1999
CFC_600
N
Time [s]
500
0
-500
-1000
-1500
-2000
-2500
-3000
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

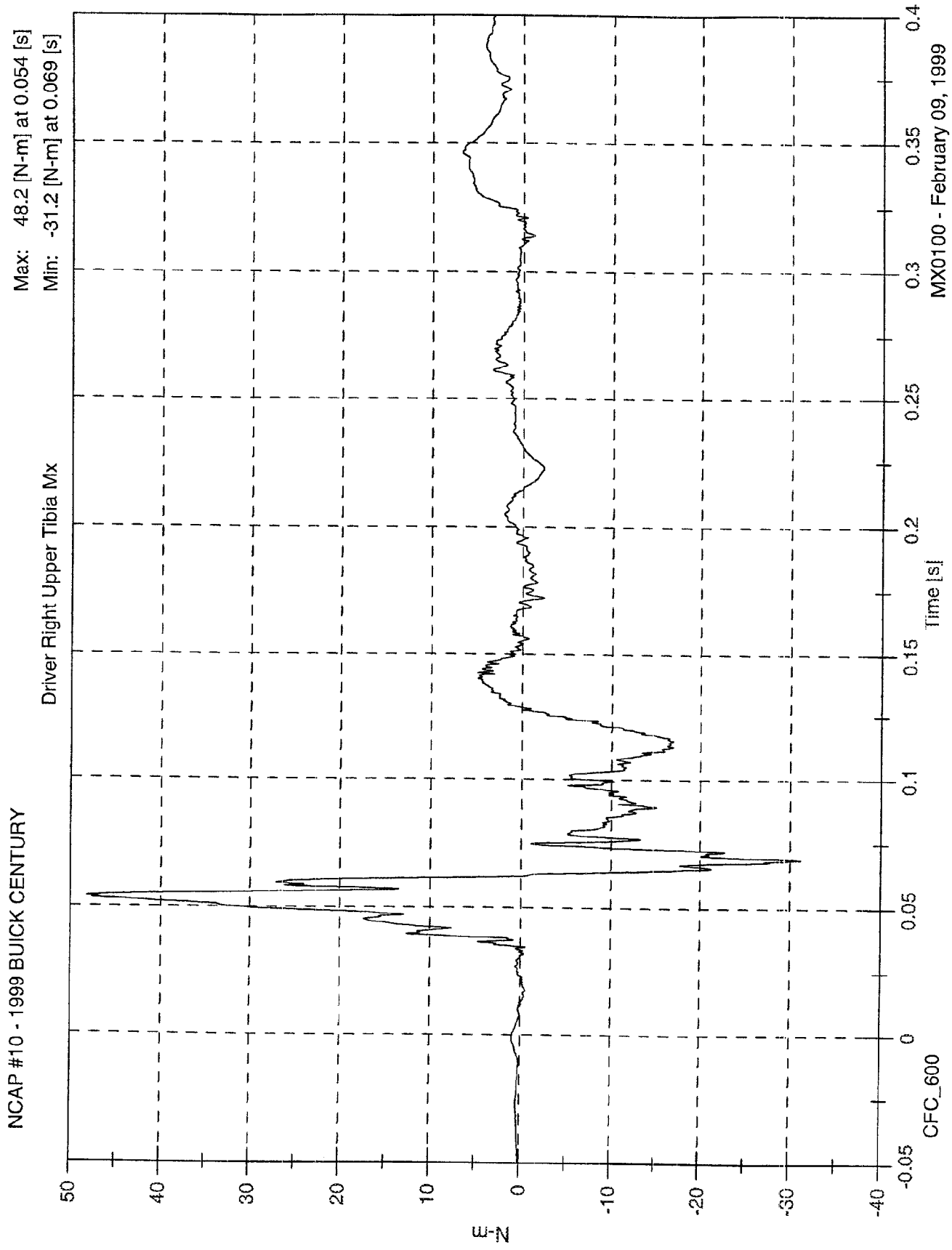

NCAP #10 - 1999 BUICK CENTURY
Max: 19.4 [N-m] at 0.068 [s]
Min: -26.9 [N-m] at 0.094 [s]
Driver Left Upper Tibia Mx
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
20
10
0
-10
-20
-30
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

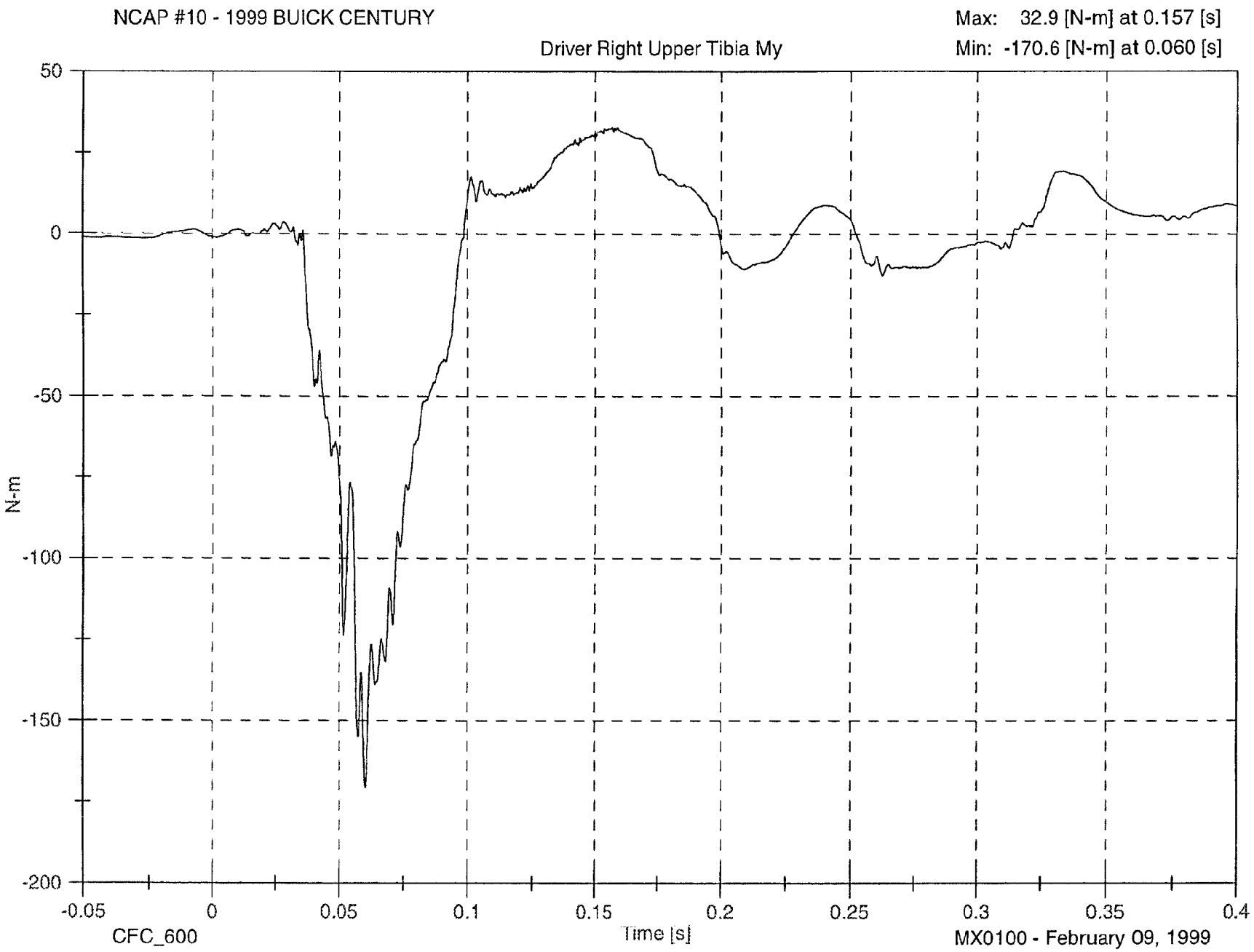

NCAP #10 - 1999 BUICK CENTURY
Driver Left Upper Tibia My
Max: 23.2 [N-m] at 0.107 [s]
Min: -78.5 [N-m] at 0.076 [s]
25
0
-25
-50
-75
-100
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

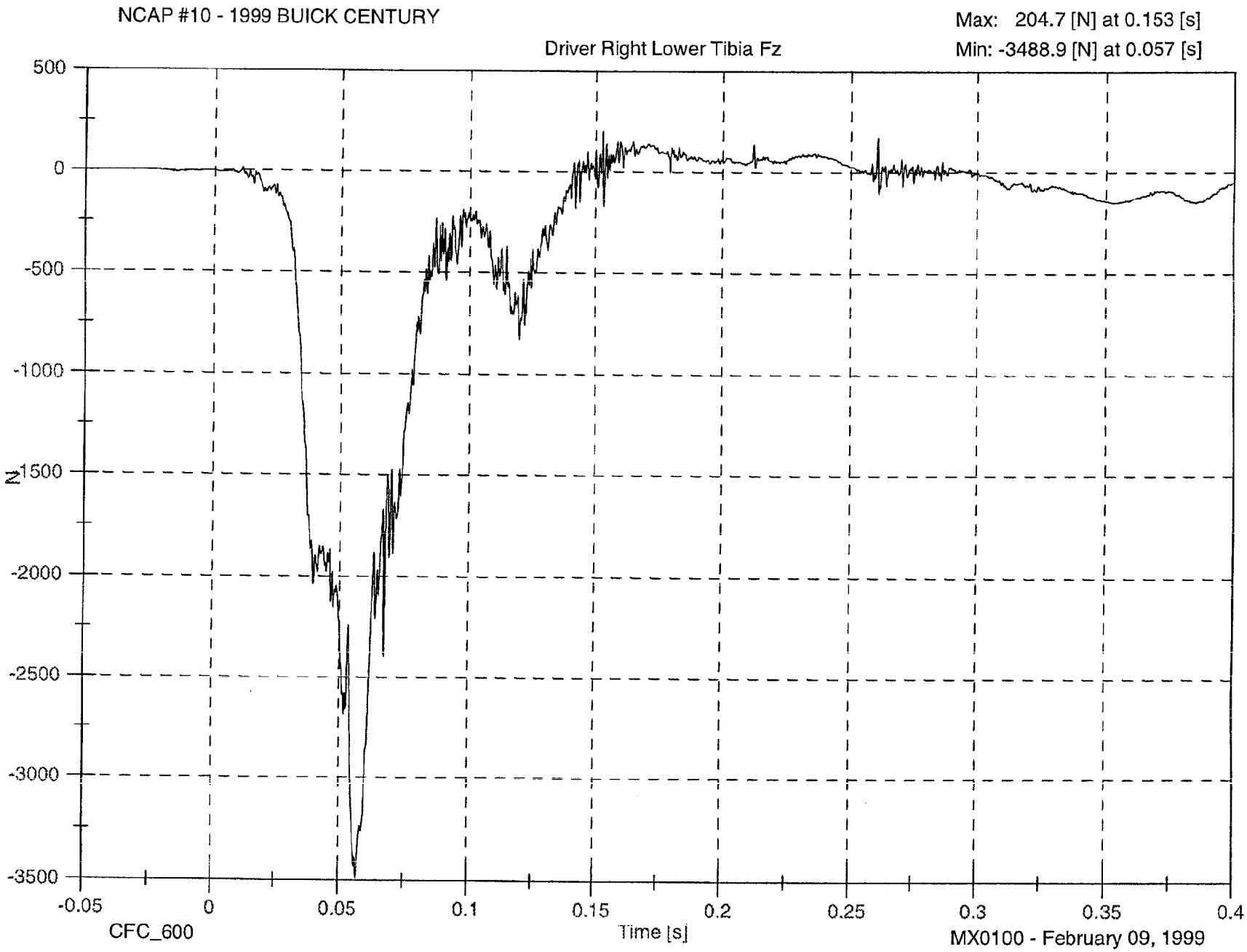

NCAP #10 - 1999 BUICK CENTURY
Driver Left Lower Tibia Fz
Max: 294.5 [N] at 0.055 [s]
Min: -2614.4 [N] at 0.036 [s]
500
0
-500
-1000
-1500
-2000
-2500
-3000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

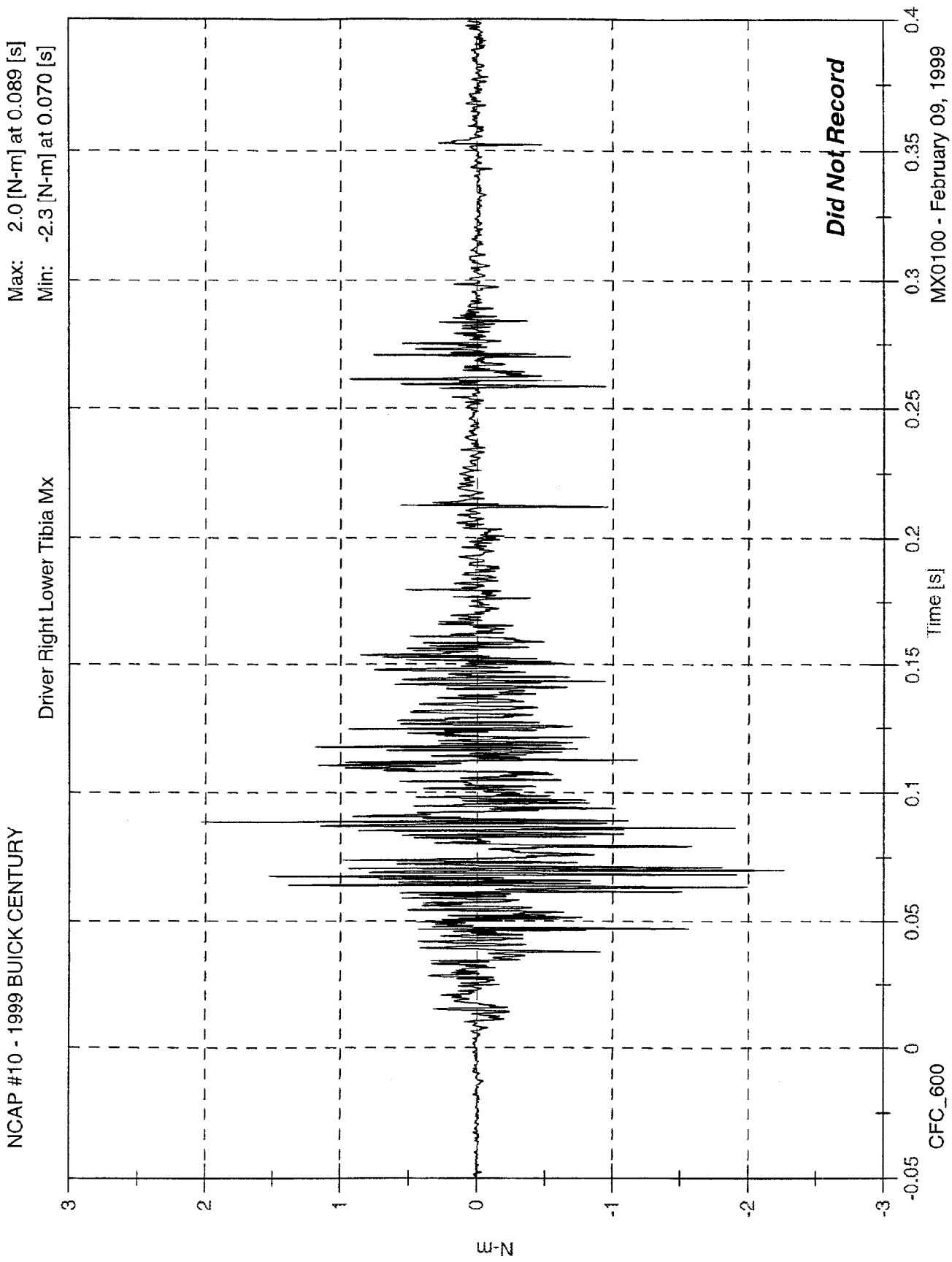

NCAP #10 - 1999 BUICK CENTURY
Max: 8.2 [N-m] at 0.109 [s]
Min: -31.2 [N-m] at 0.079 [s]
Driver Left Lower Tibia Mx
N-m
Time [s]
MX0100 - February 09, 1999
CFC_600
10
5
0
-5
-10
-15
-20
-25
-30
-35
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

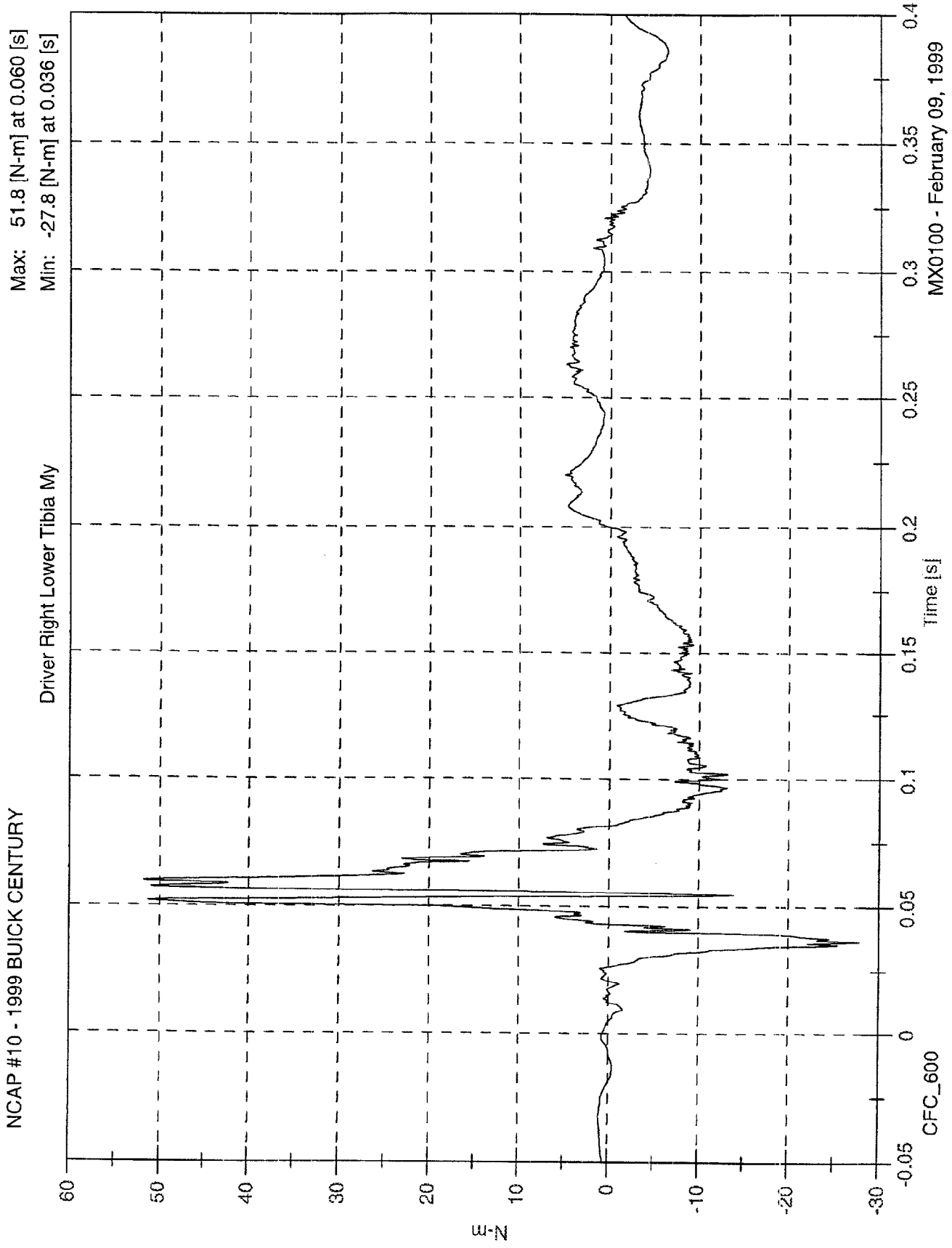

NCAP #10 - 1999 BUICK CENTURY
Max: 38.0 [N-m] at 0.072 [s]
Min: -35.7 [N-m] at 0.034 [s]
Driver Left Lower Tibia My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
40
30
20
10
0
-10
-20
-30
-40
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

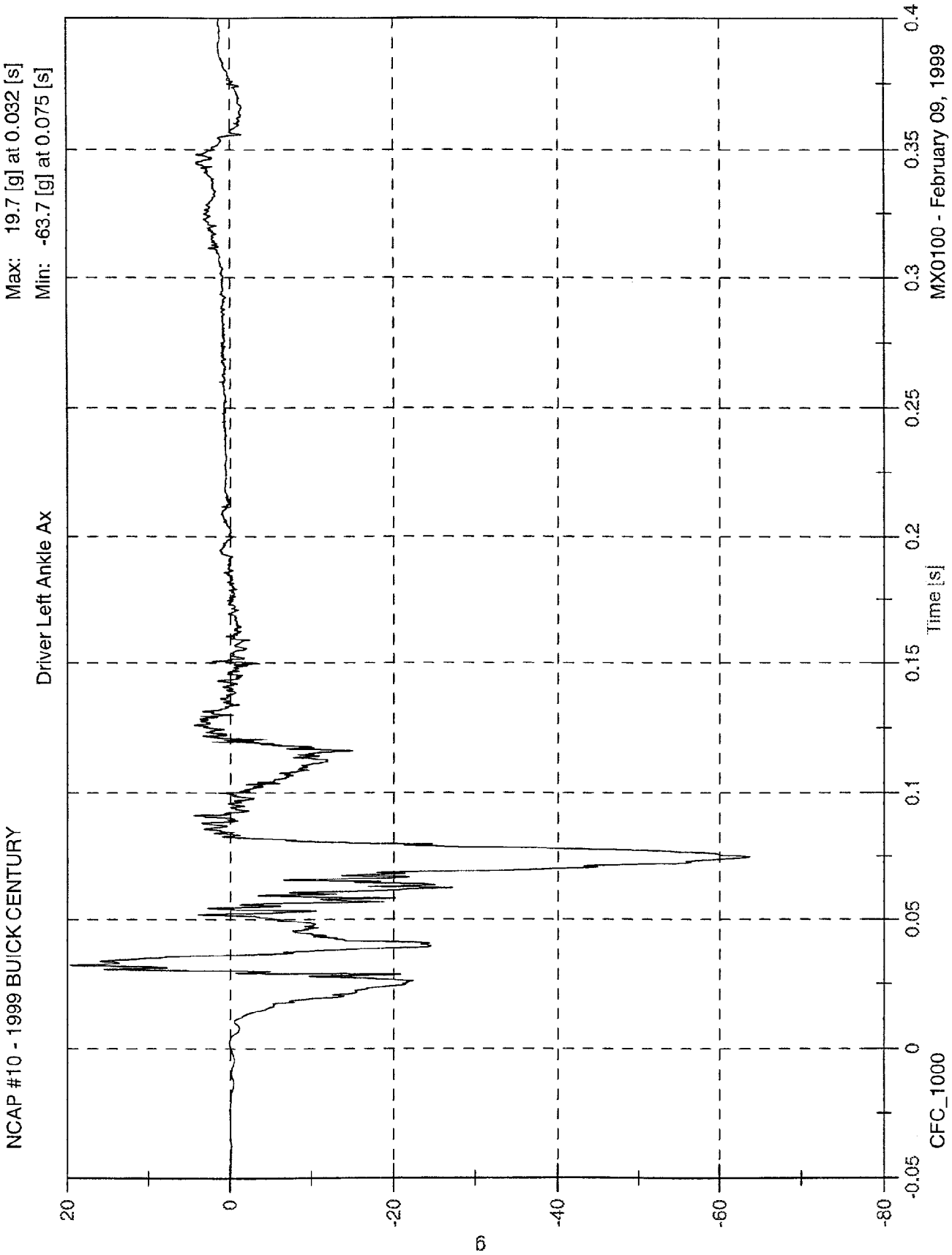

NCAP #10 - 1999 BUICK CENTURY
Max: 48.2 [N-m] at 0.054 [s]
Min: -31.2 [N-m] at 0.069 [s]
Driver Right Upper Tibia Mx
N-m
Time [s]
MX0100 - February 09, 1999
CFC_600
50
40
30
20
10
0
-10
-20
-30
-40
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

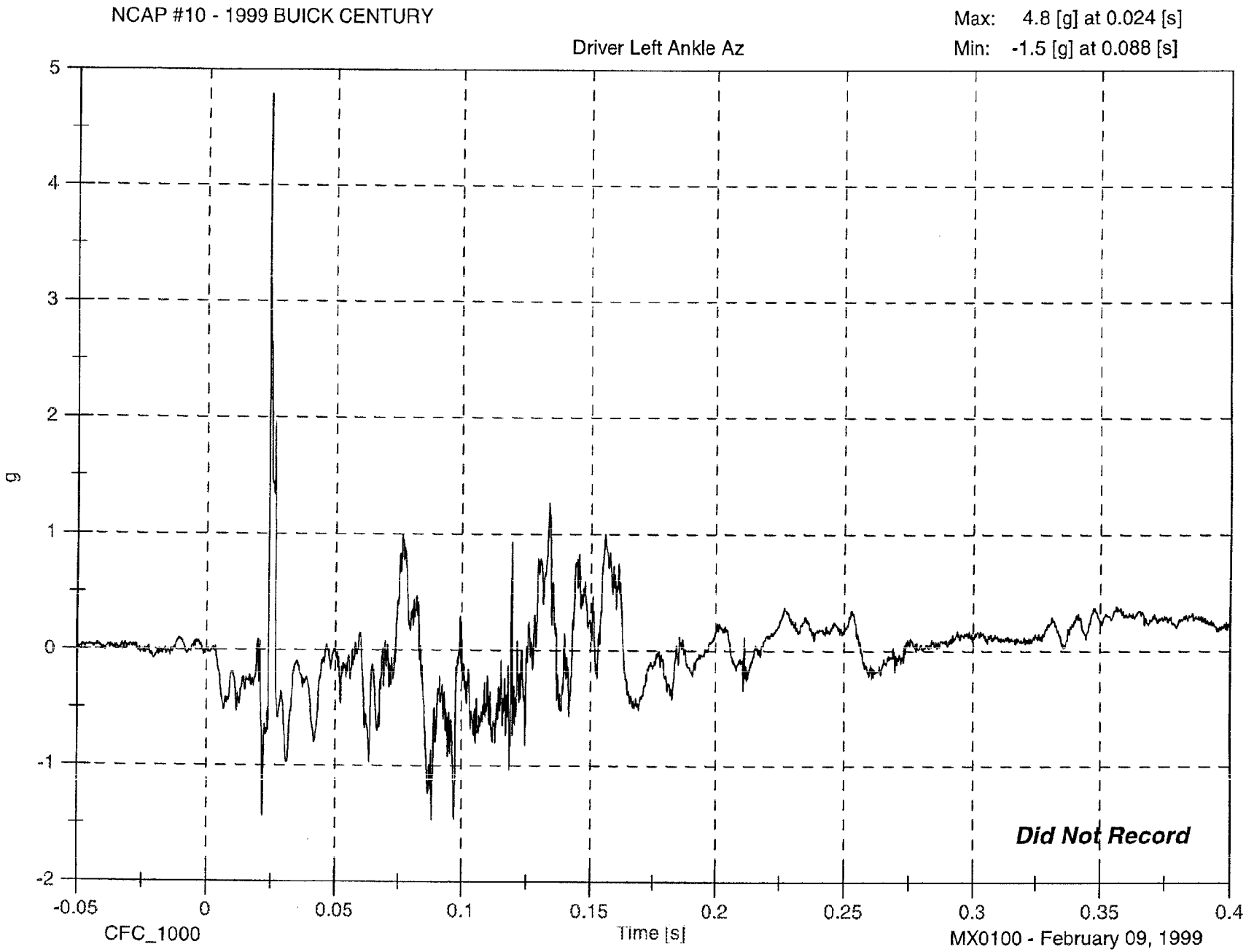

NCAP #10 - 1999 BUICK CENTURY
Max: 32.9 [N-m] at 0.157 [s]
Driver Right Upper Tibia My
Min: -170.6 [N-m] at 0.060 [s]
50
0
-50
-100
-150
-200
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

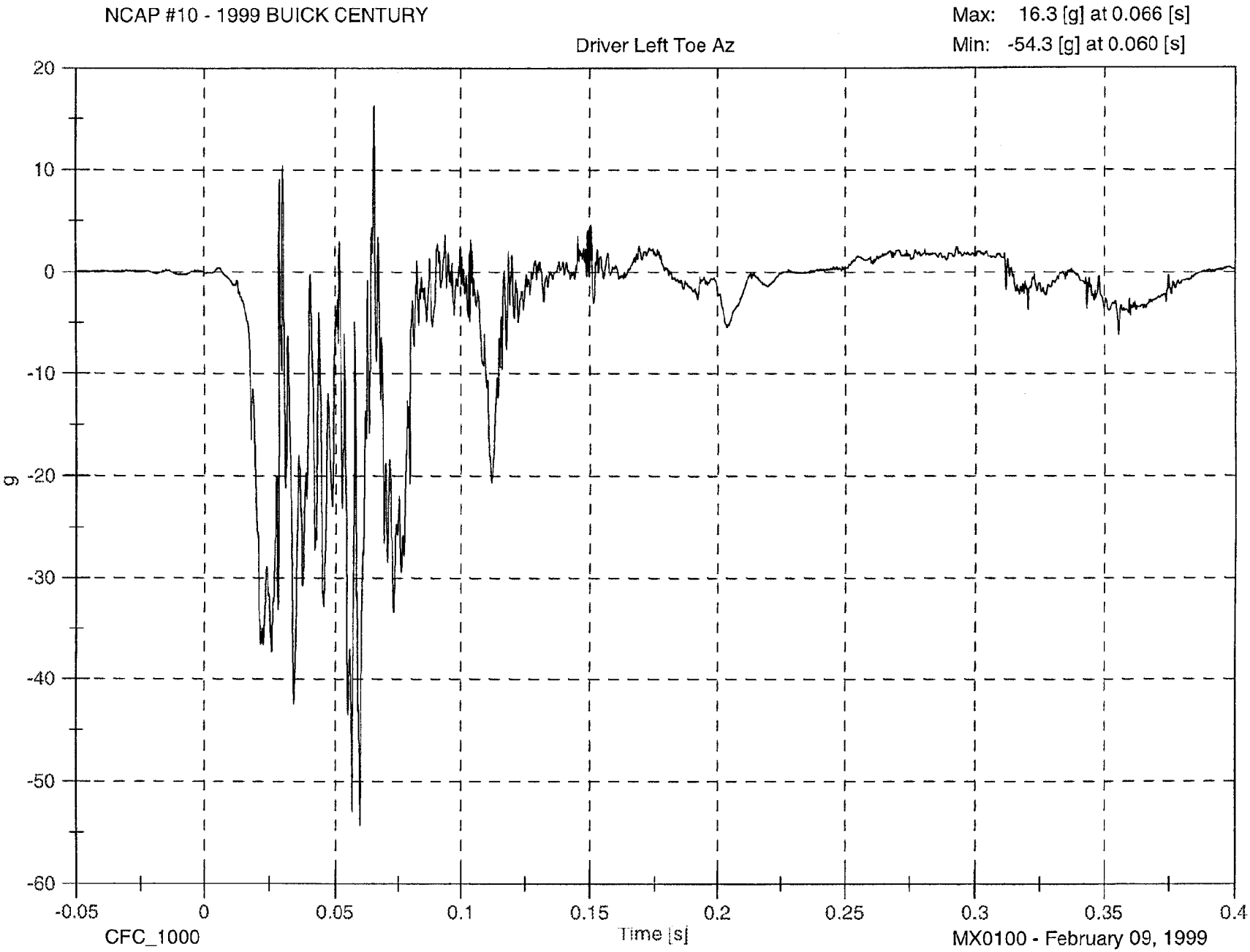

NCAP #10 - 1999 BUICK CENTURY
Driver Right Lower Tibia Fz
Max: 204.7 [N] at 0.153 [s]
Min: -3488.9 [N] at 0.057 [s]
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

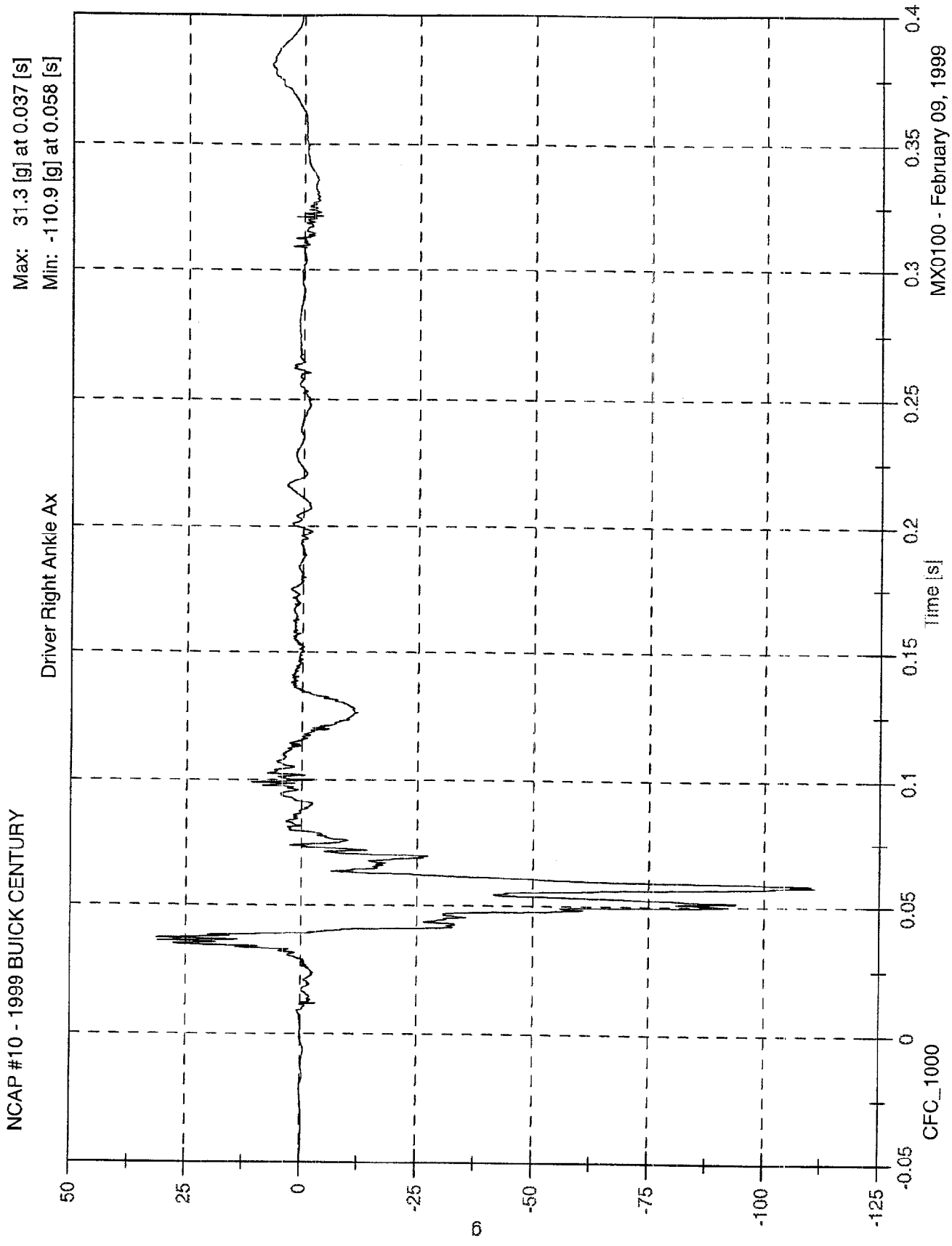

NCAP #10 - 1999 BUICK CENTURY
Max: 2.0 [N-m] at 0.089 [s]
Min: -2.3 [N-m] at 0.070 [s]
Driver Right Lower Tibia Mx
Did Not Record
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
3
2
1
0
-1
-2
-3
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

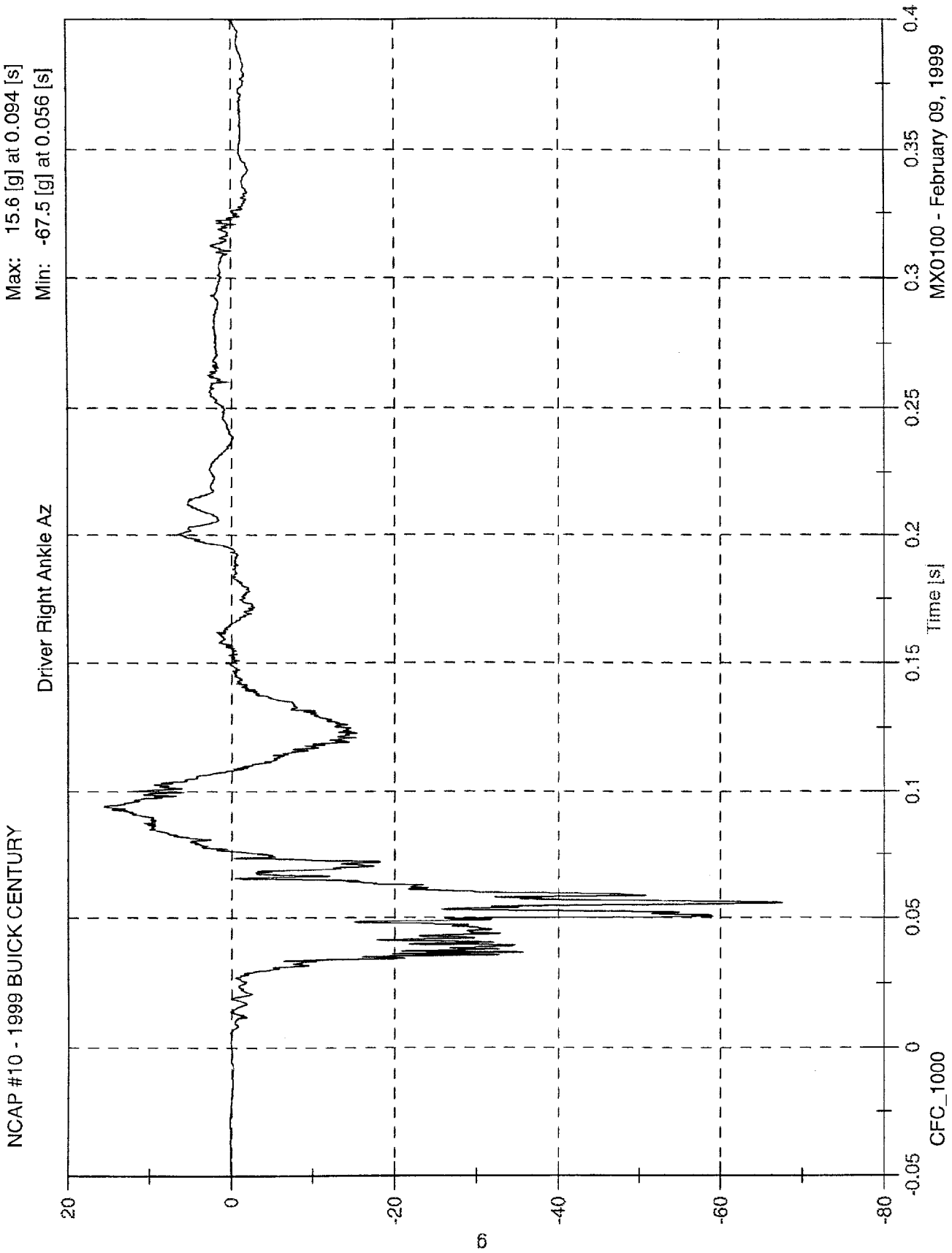

NCAP #10 - 1999 BUICK CENTURY
Max: 51.8 [N-m] at 0.060 [s]
Min: -27.8 [N-m] at 0.036 [s]
Driver Right Lower Tibia My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
60
50
40
30
20
10
0
-10
-20
-30
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

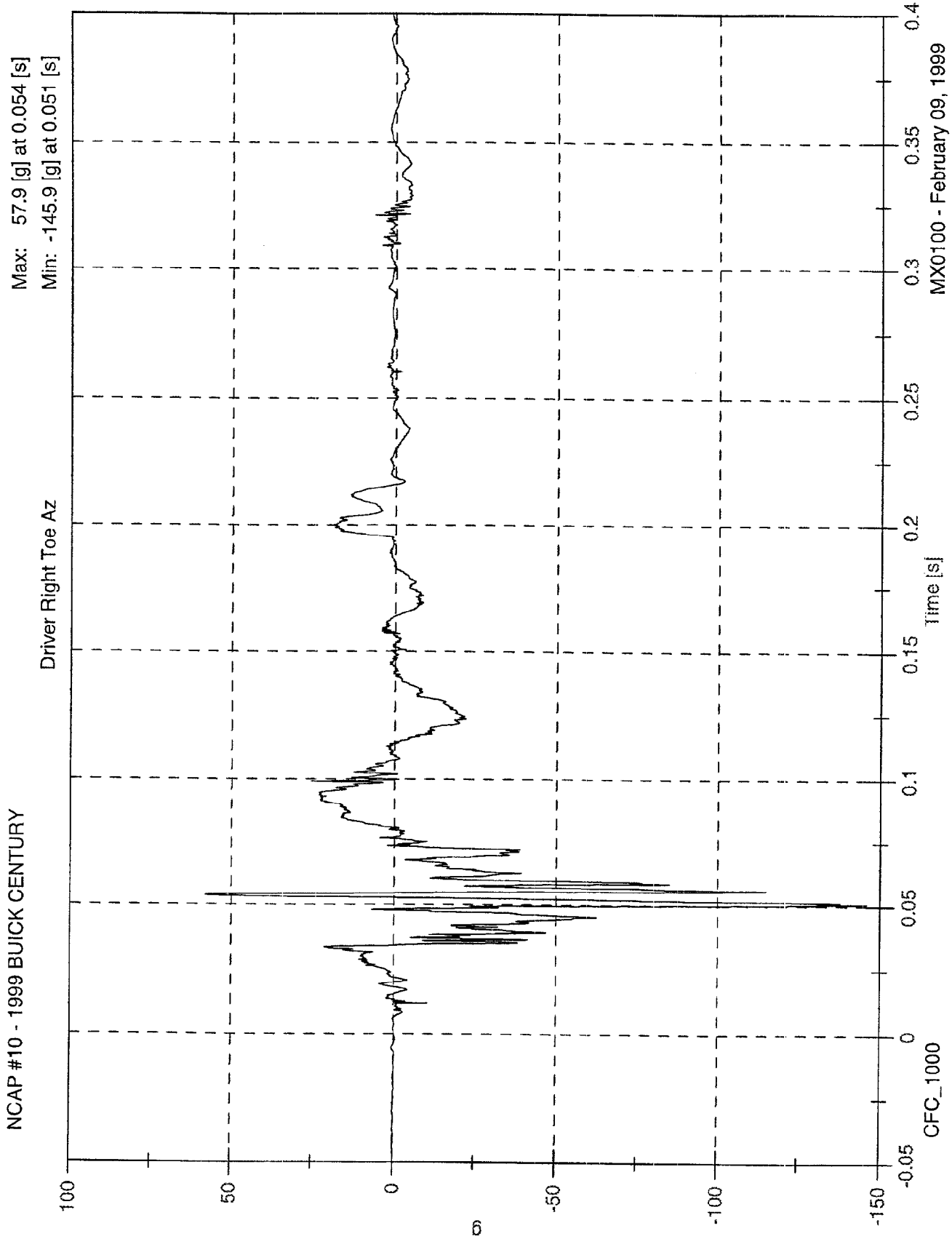

NCAP #10 - 1999 BUICK CENTURY
Max: 19.7 [g] at 0.032 [s]
Min: -63.7 [g] at 0.075 [s]
Driver Left Ankle Ax
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
20
0
-20
-40
-60
-80
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

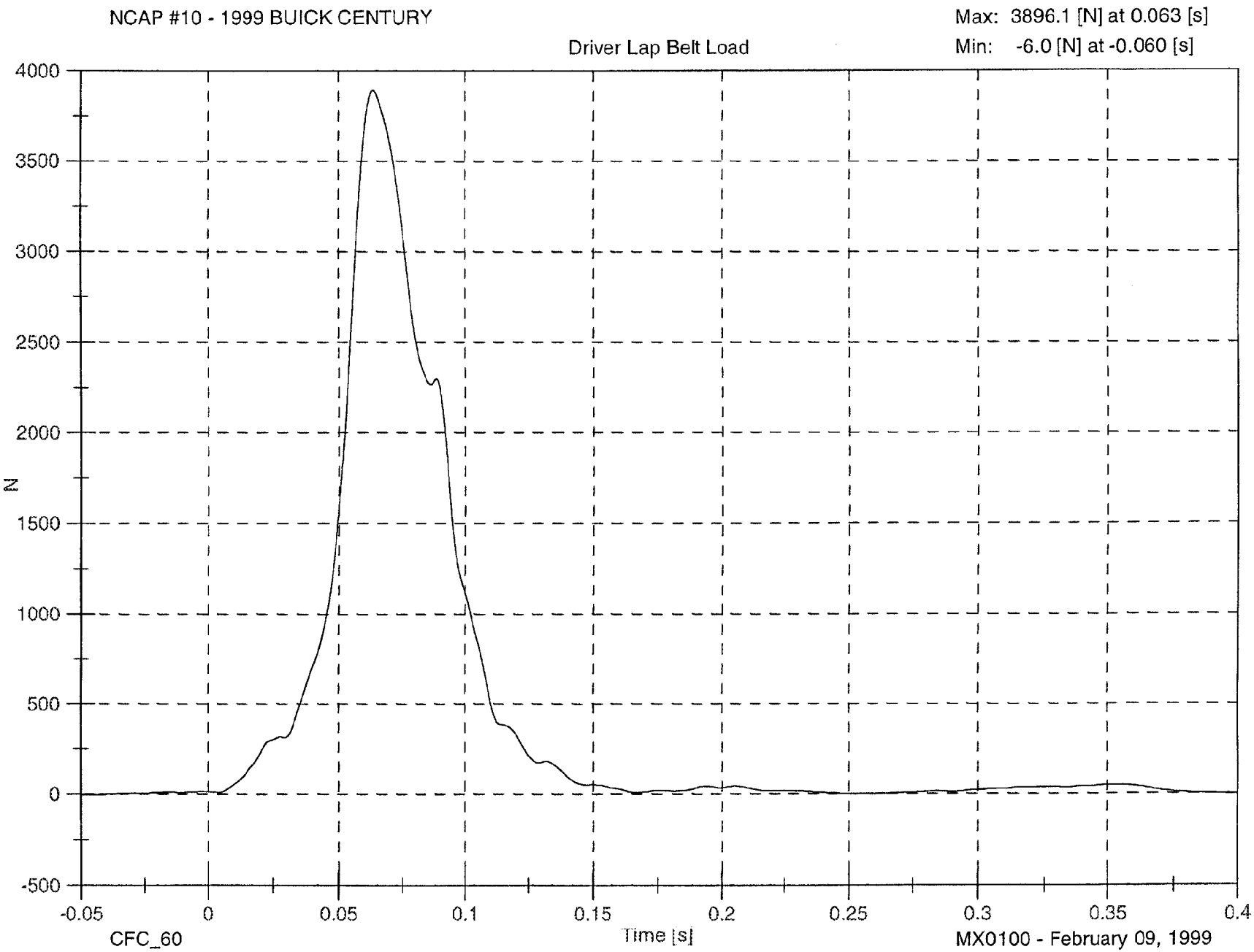

NCAP #10 - 1999 BUICK CENTURY
Driver Left Ankle Az
Max: 4.8 [g] at 0.024 [s]
Min: -1.5 [g] at 0.088 [s]
g
5
4
3
2
1
0
-1
-2
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999
Did Not Record

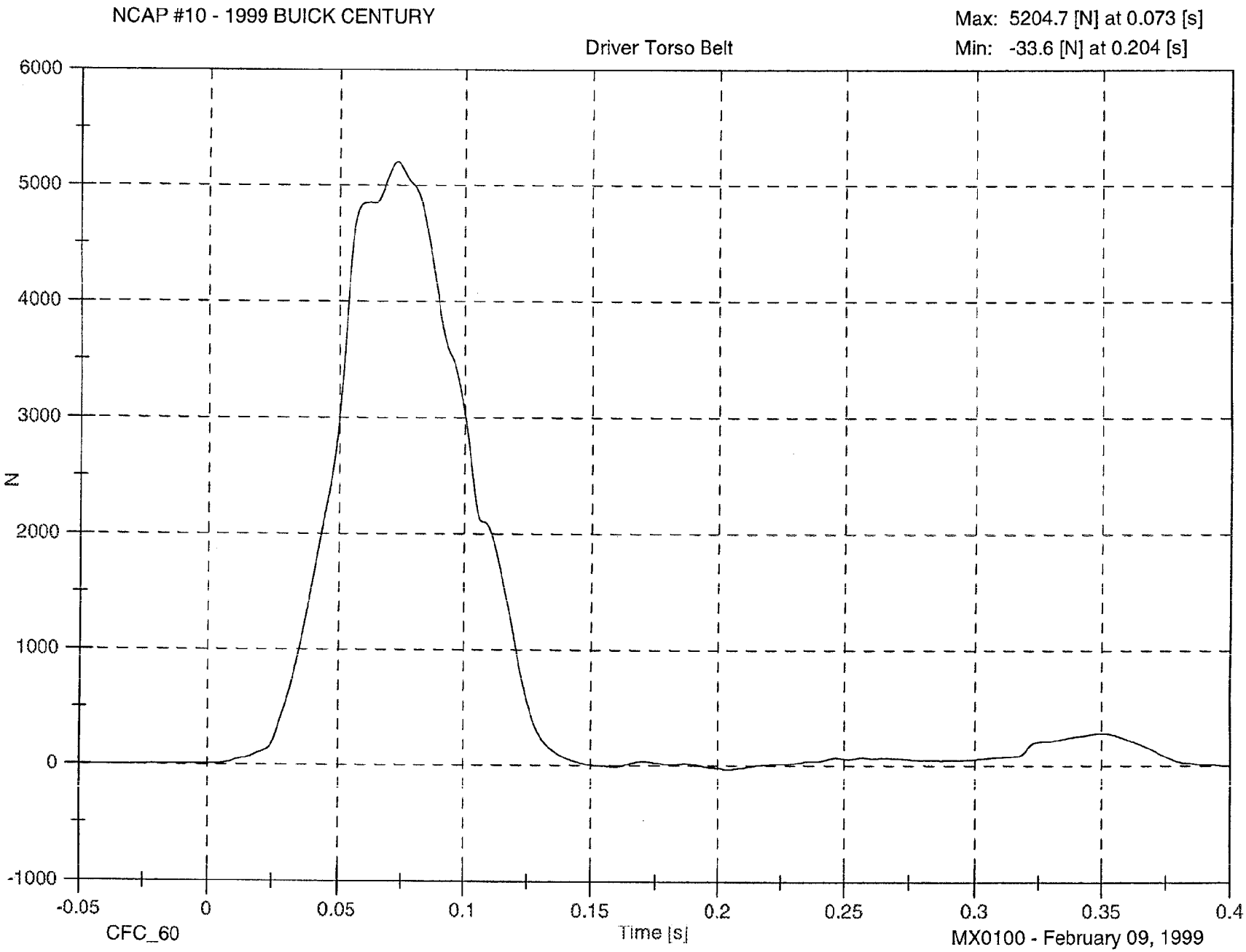

NCAP #10 - 1999 BUICK CENTURY
Driver Left Toe Az
Max: 16.3 [g] at 0.066 [s]
Min: -54.3 [g] at 0.060 [s]
20
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

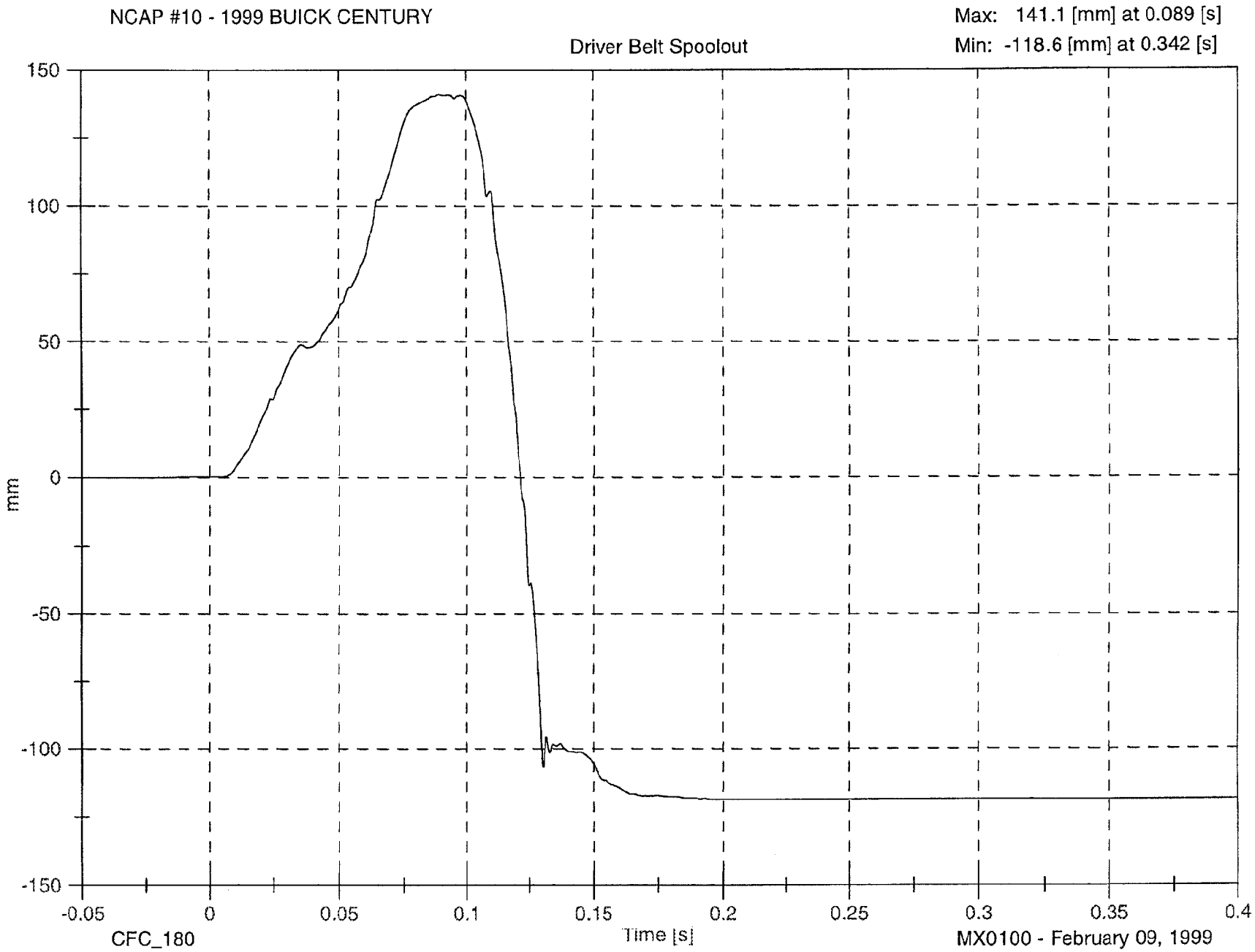

NCAP #10 - 1999 BUICK CENTURY
Max: 31.3 [g] at 0.037 [s]
Min: -110.9 [g] at 0.058 [s]
Driver Right Ankle Ax
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
50
25
0
-25
-50
-75
-100
-125
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

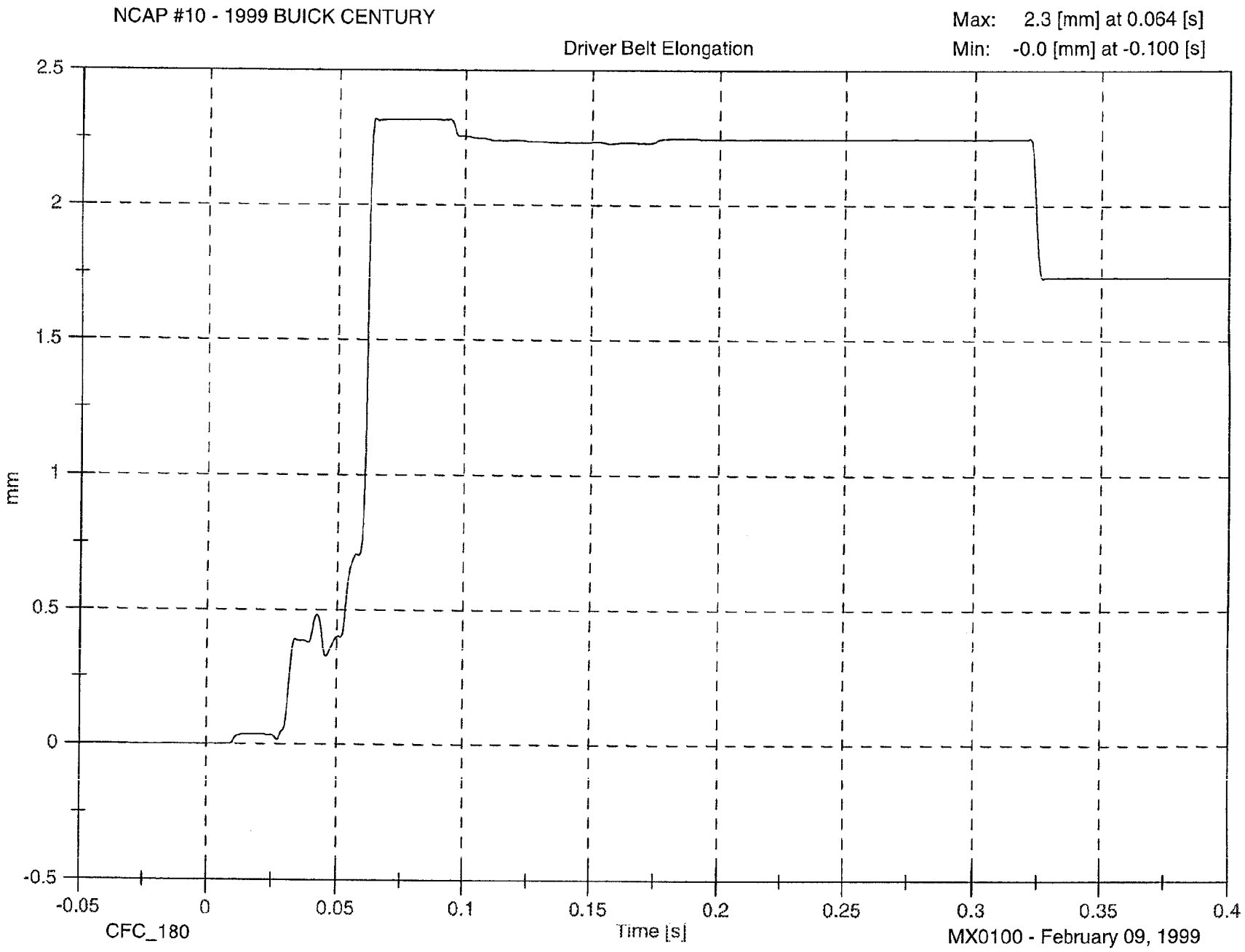

NCAP #10 - 1999 BUICK CENTURY
Max: 15.6 [g] at 0.094 [s]
Min: -67.5 [g] at 0.056 [s]
Driver Right Ankle Az
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
20
0
-20
-40
-60
-80
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

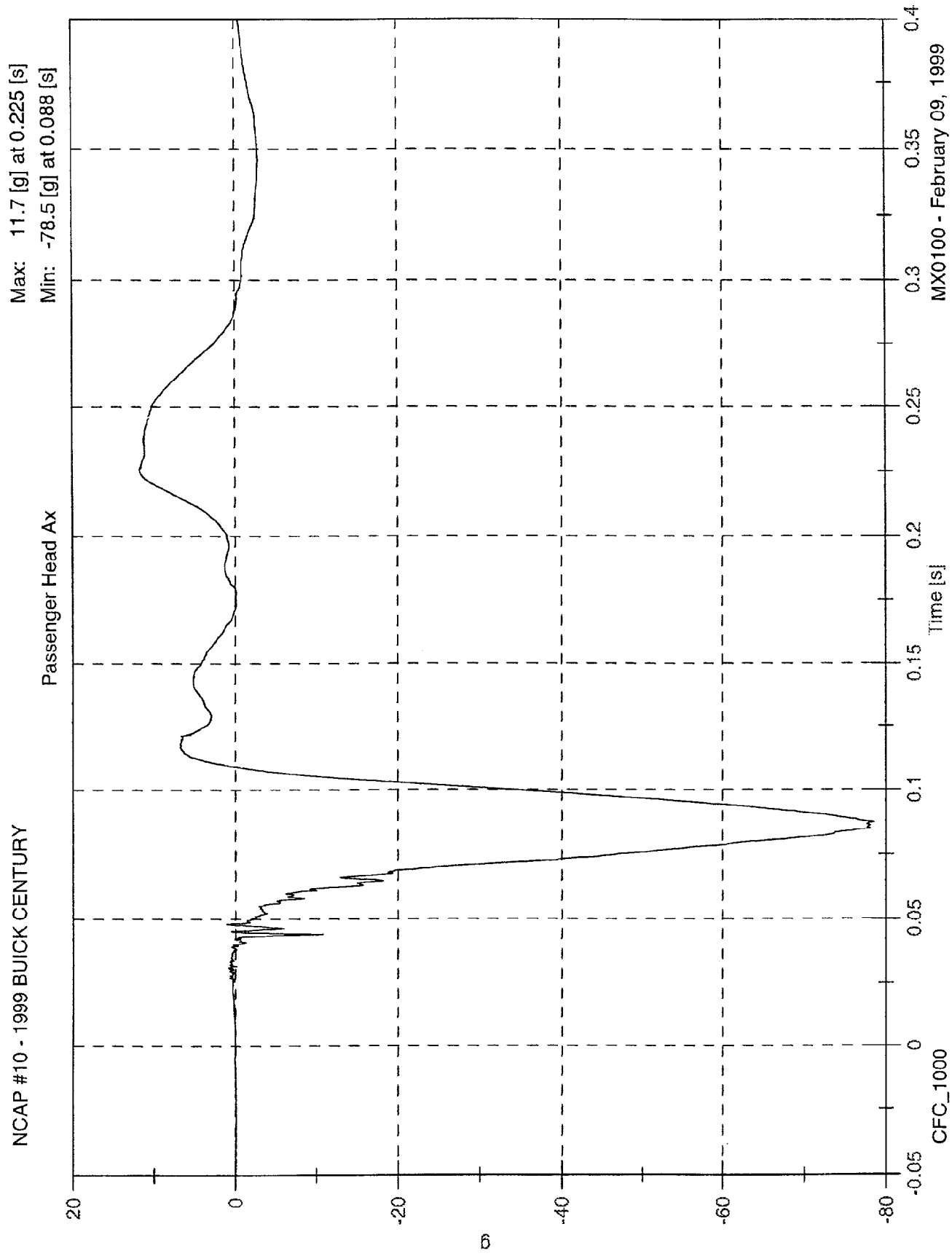

NCAP #10 - 1999 BUICK CENTURY
Max: 57.9 [g] at 0.054 [s]
Min: -145.9 [g] at 0.051 [s]
Driver Right Toe Az
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
100
50
0
-50
-100
-150
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

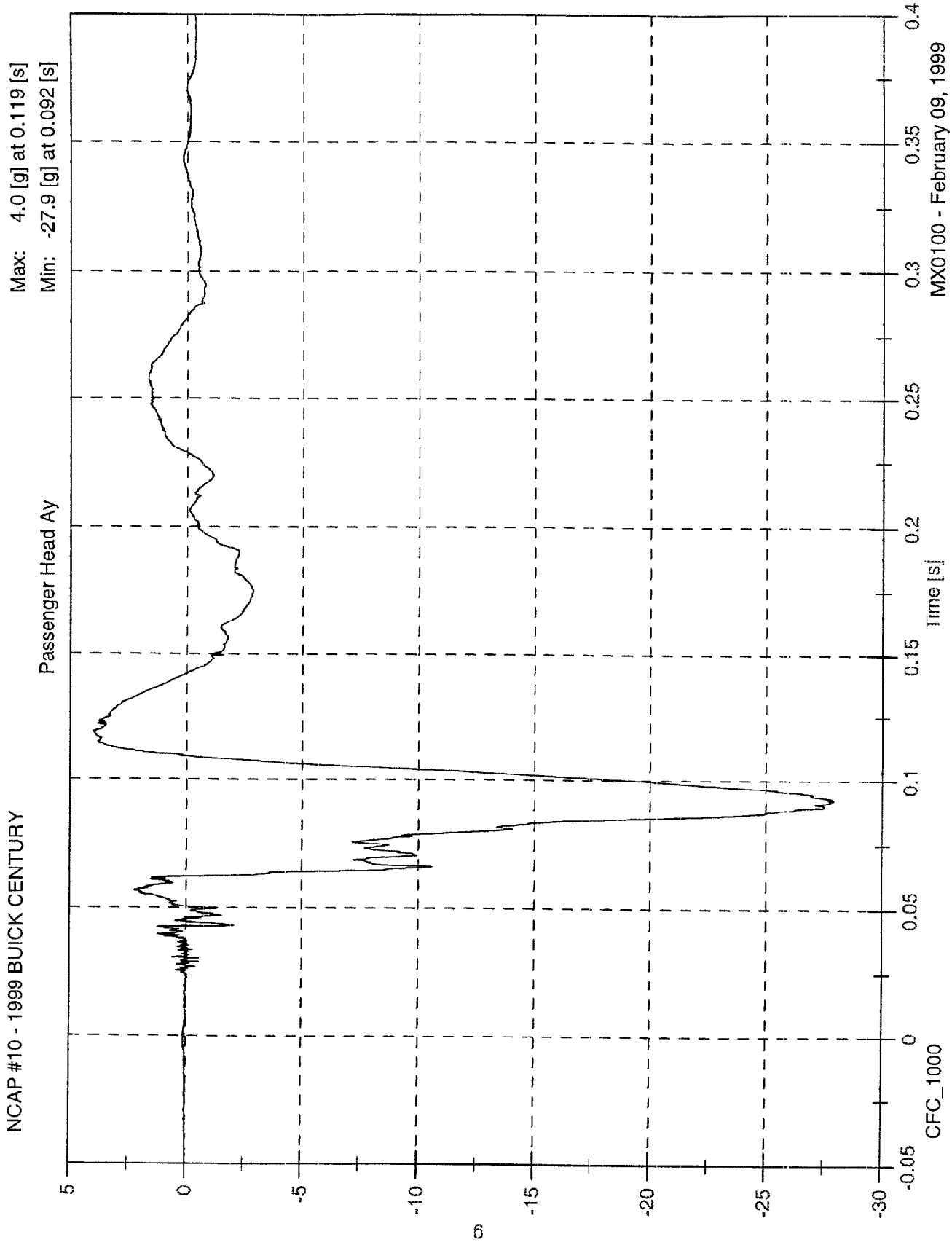

NCAP #10 - 1999 BUICK CENTURY
Driver Lap Belt Load
Max: 3896.1 [N] at 0.063 [s]
Min: -6.0 [N] at -0.060 [s]
4000
3500
3000
2500
2000
1500
1000
500
0
-500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999

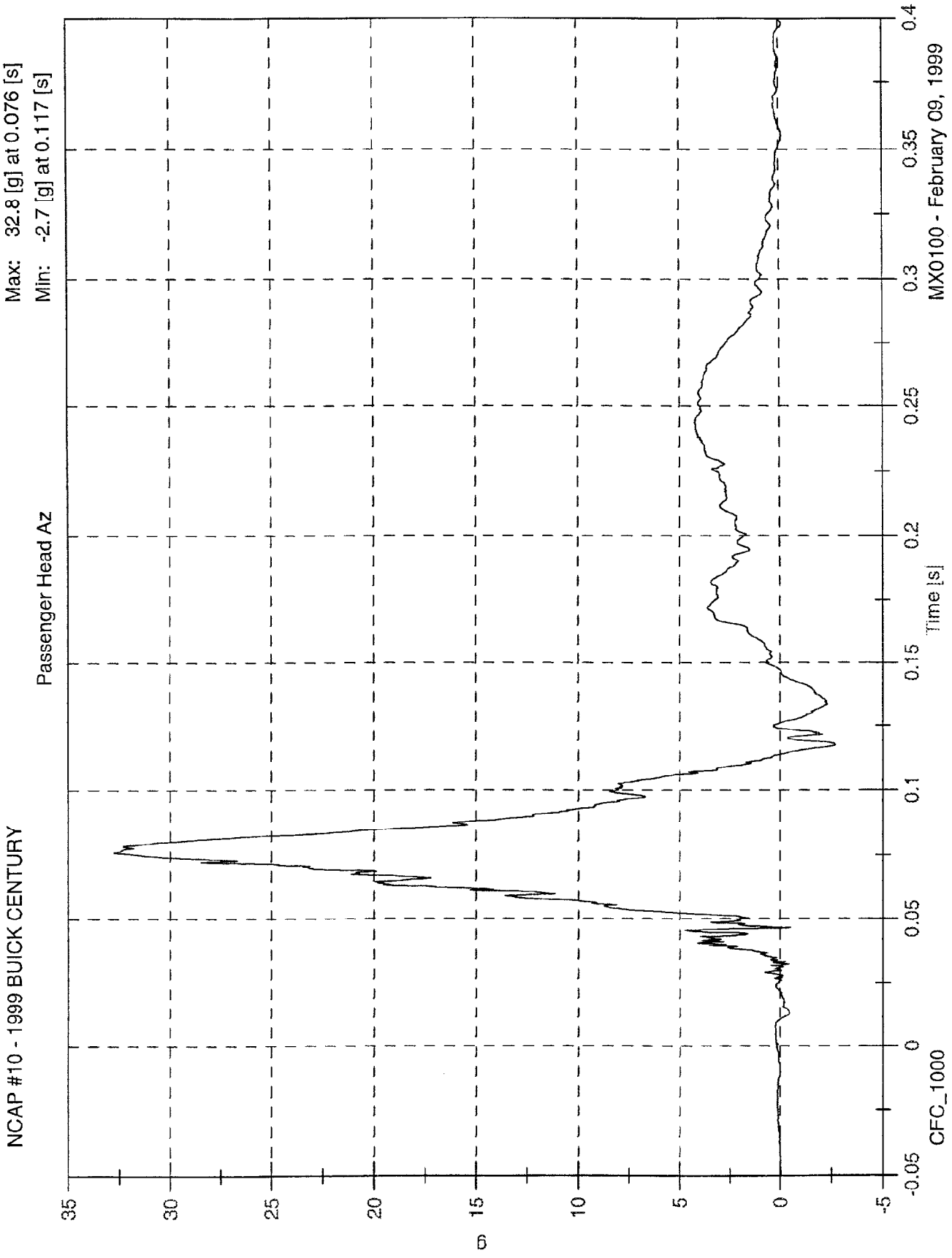

NCAP #10 - 1999 BUICK CENTURY
Driver Torso Belt
Max: 5204.7 [N] at 0.073 [s]
Min: -33.6 [N] at 0.204 [s]
6000
5000
4000
3000
2000
1000
0
-1000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999

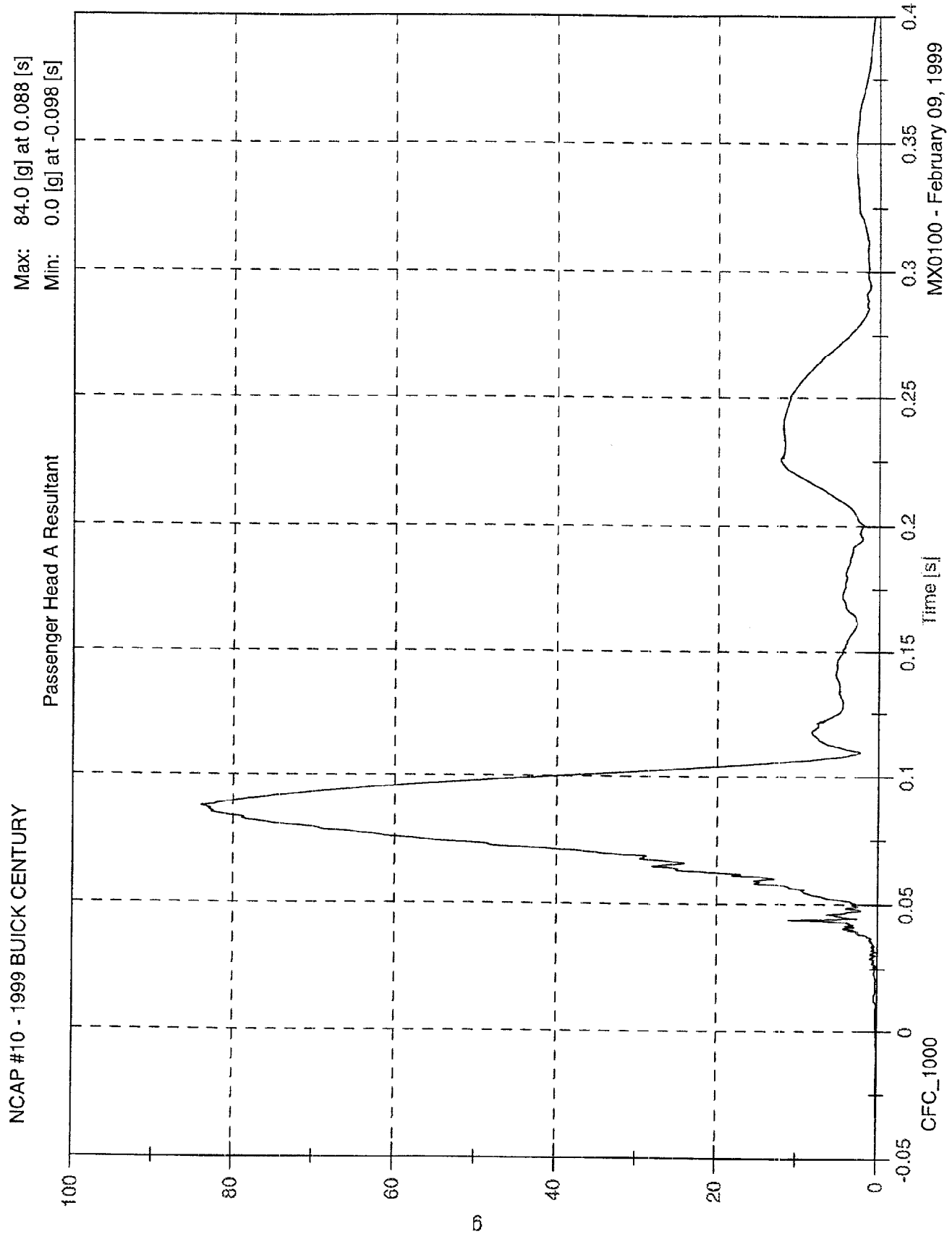

NCAP #10 - 1999 BUICK CENTURY
Driver Belt Spoolout
Max: 141.1 [mm] at 0.089 [s]
Min: -118.6 [mm] at 0.342 [s]
150
100
50
0
-50
-100
-150
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

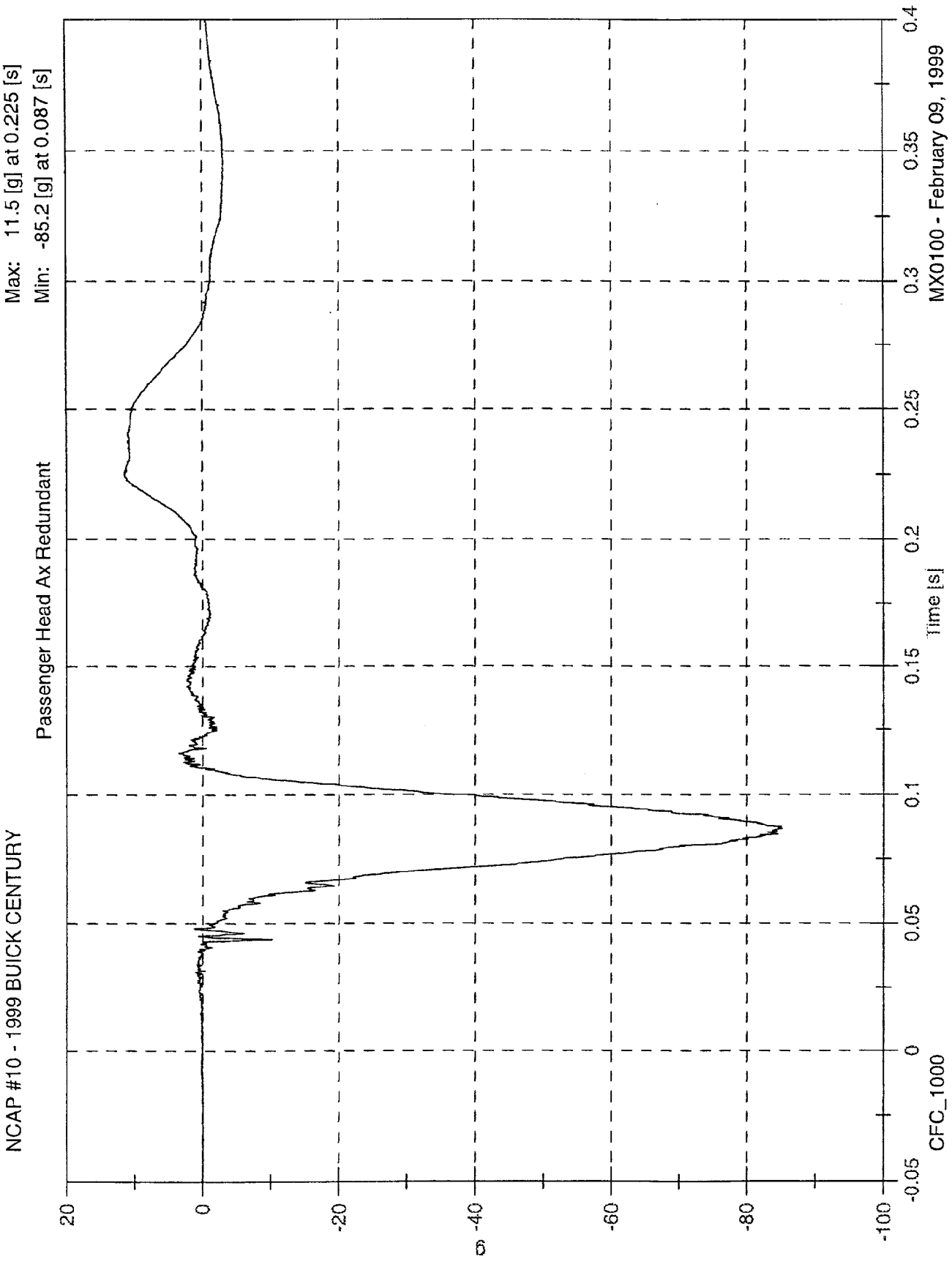

NCAP #10 - 1999 BUICK CENTURY
Driver Belt Elongation
Max: 2.3 [mm] at 0.064 [s]
Min: -0.0 [mm] at -0.100 [s]
mm
2.5
2
1.5
1
0.5
0
-0.5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

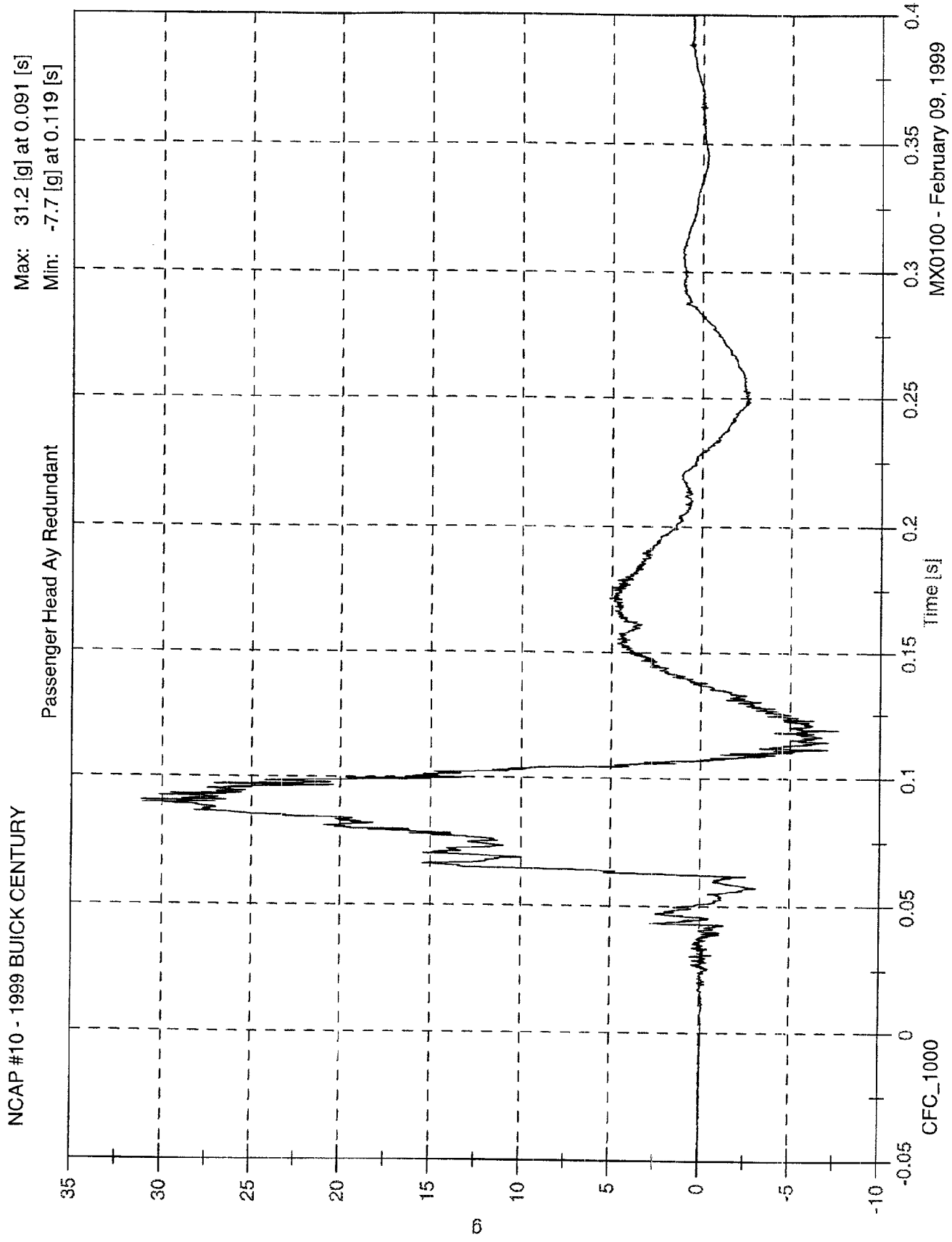

NCAP #10 - 1999 BUICK CENTURY
Max: 11.7 [g] at 0.225 [s]
Min: -78.5 [g] at 0.088 [s]
Passenger Head Ax
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
20
0
-20
-40
-60
-80
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

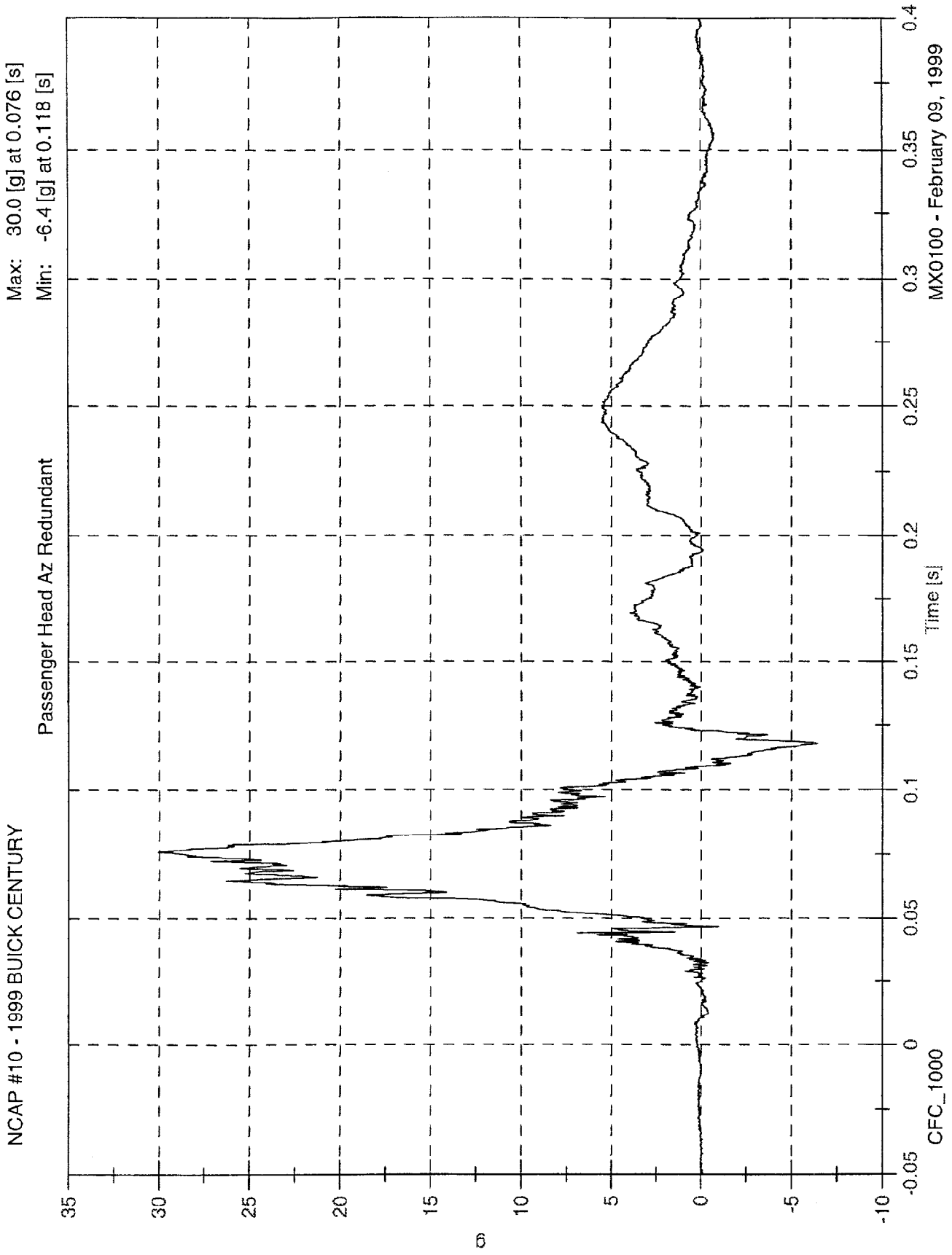

NCAP #10 - 1999 BUICK CENTURY
Max: 4.0 [g] at 0.119 [s]
Min: -27.9 [g] at 0.092 [s]
Passenger Head Ay
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
5
0
-5
-10
-15
-20
-25
-30
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

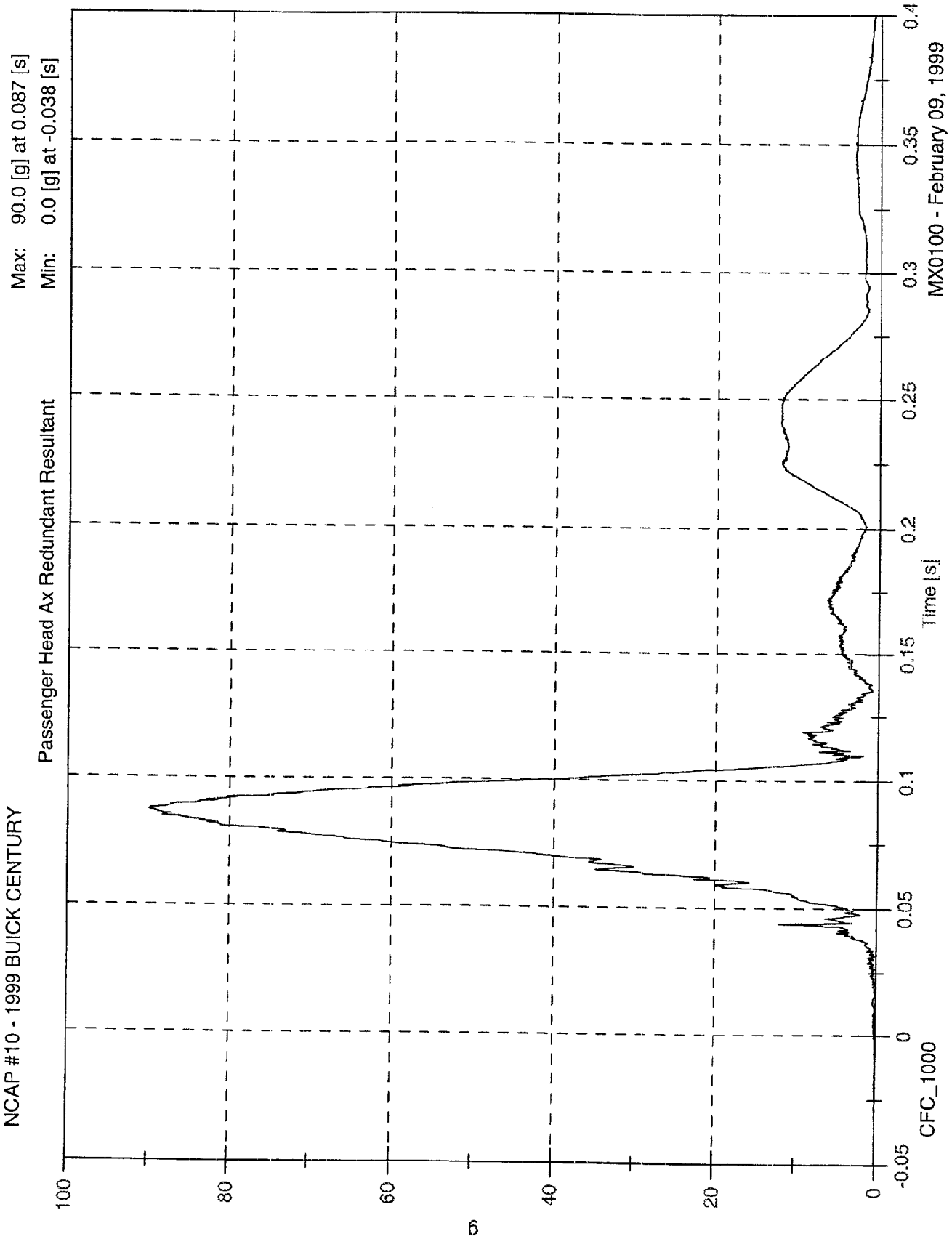

NCAP #10 - 1999 BUICK CENTURY
Max: 32.8 [g] at 0.076 [s]
Min: -2.7 [g] at 0.117 [s]
Passenger Head Az
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
35
30
25
20
15
10
5
0
-5
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

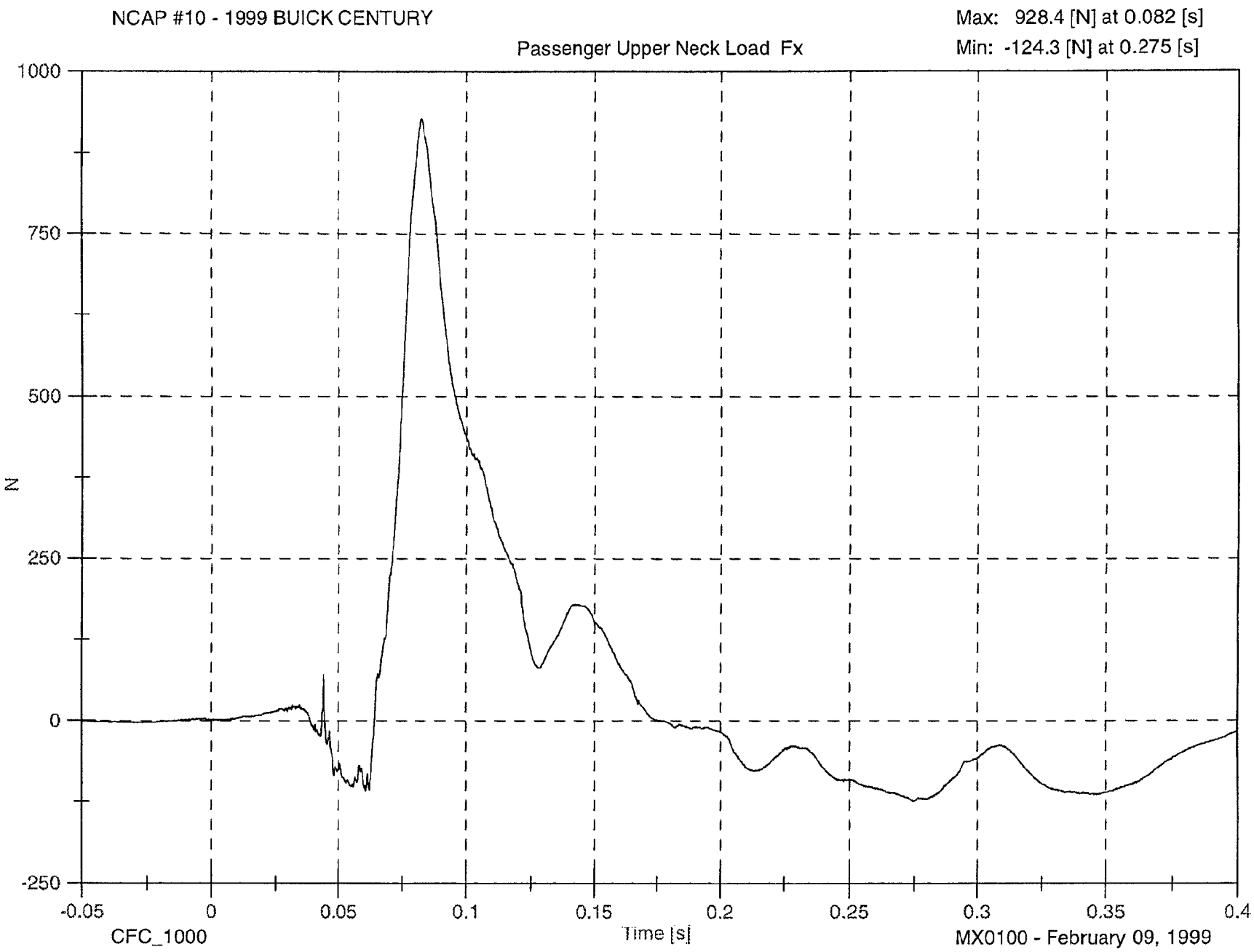

NCAP #10 - 1999 BUICK CENTURY
Max: 84.0 [g] at 0.088 [s]
Min: 0.0 [g] at -0.098 [s]
Passenger Head A Resultant
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
100
80
60
40
20
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

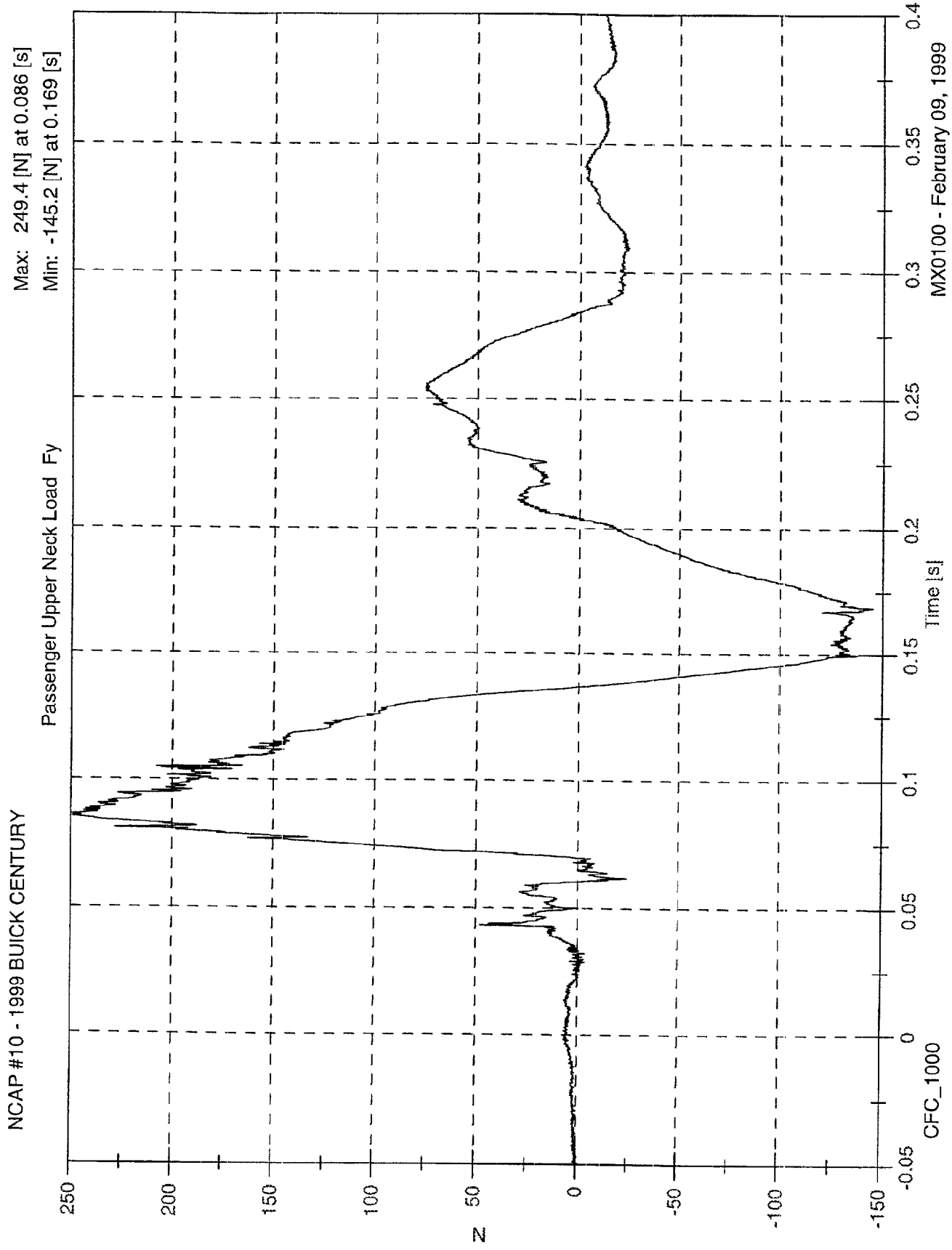

NCAP #10 - 1999 BUICK CENTURY
Max: 11.5 [g] at 0.225 [s]
Min: -85.2 [g] at 0.087 [s]
Passenger Head Ax Redundant
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
20
0
-20
-40
-60
-80
-100
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

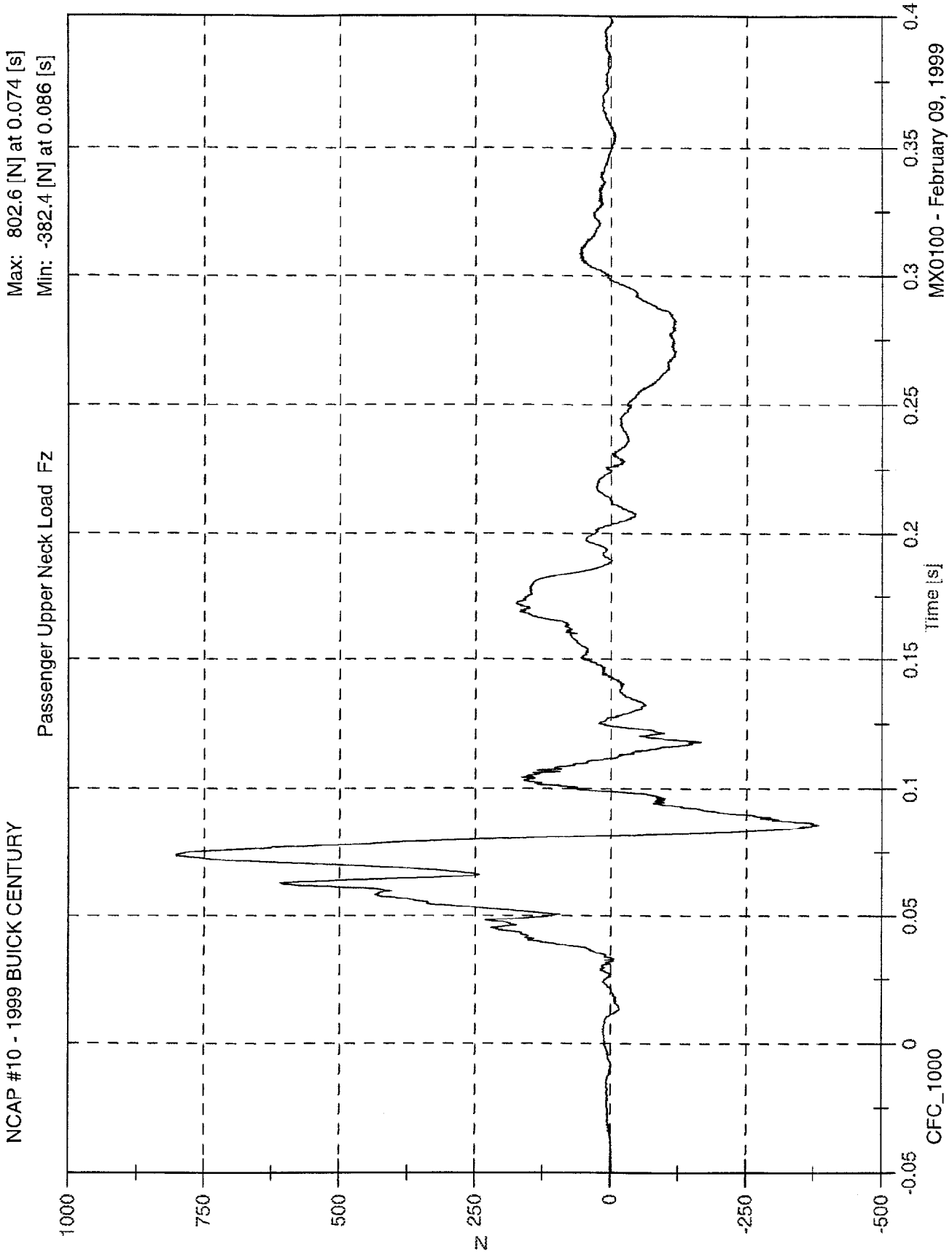

NCAP #10 - 1999 BUICK CENTURY
Max: 31.2 [g] at 0.091 [s]
Min: -7.7 [g] at 0.119 [s]
Passenger Head Ay Redundant
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
35
30
25
20
15
10
5
0
-5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

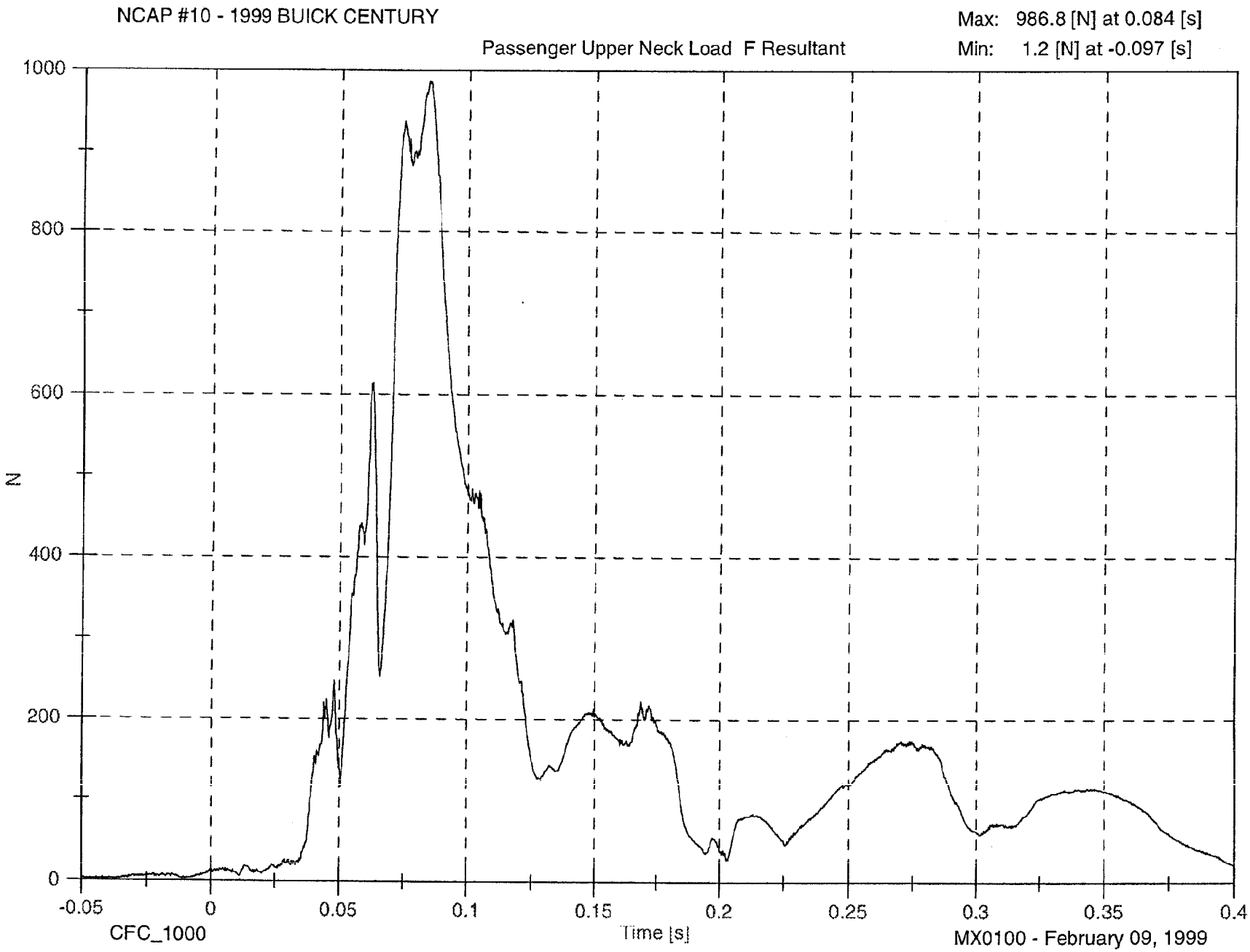

NCAP #10 - 1999 BUICK CENTURY
Max: 30.0 [g] at 0.076 [s]
Min: -6.4 [g] at 0.118 [s]
Passenger Head Az Redundant
MX0100 - February 09, 1999
CFC_1000
Time [s]
G
35
30
25
20
15
10
5
0
-5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

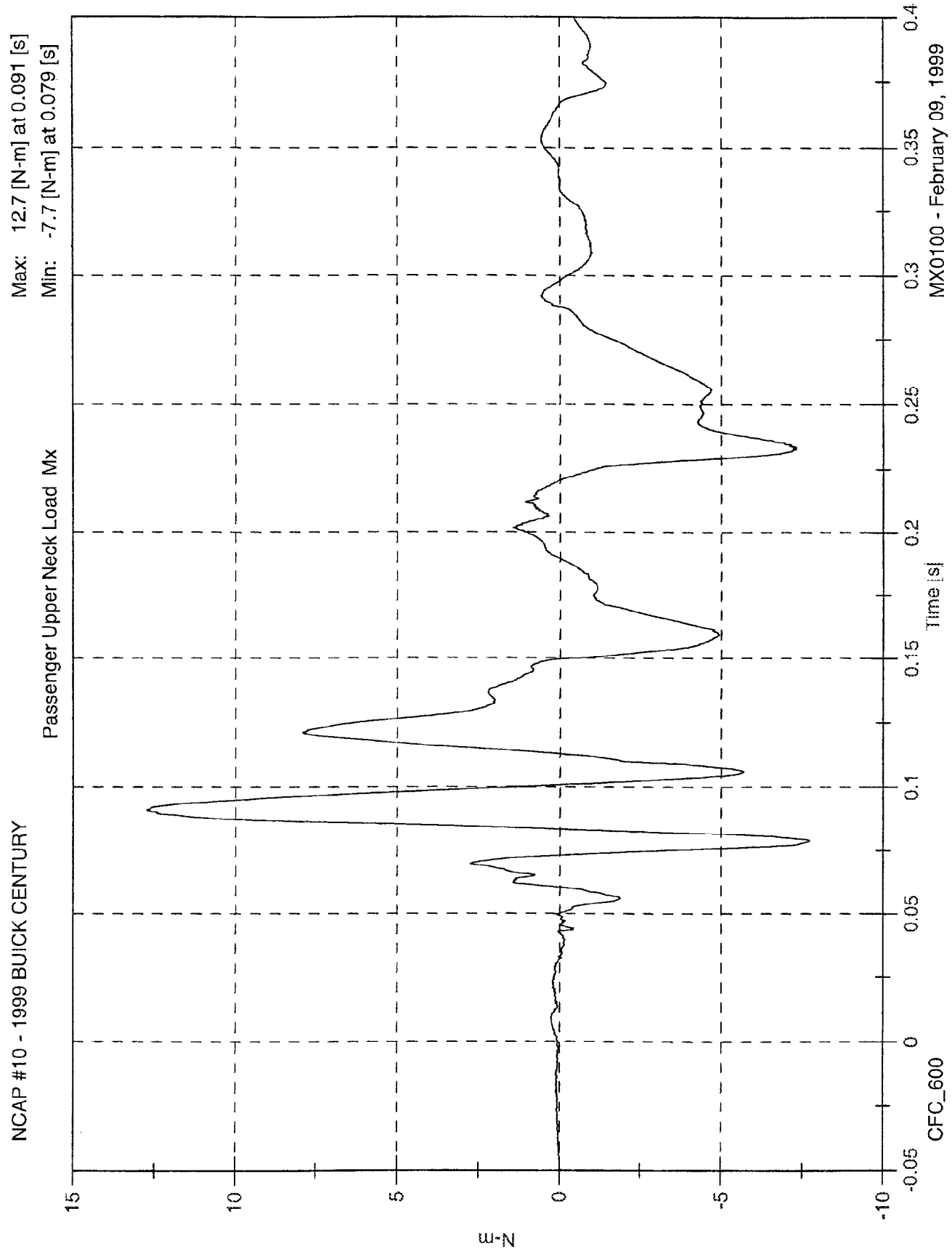

NCAP #10 - 1999 BUICK CENTURY
Passenger Head Ax Redundant Resultant
Max: 90.0 [g] at 0.087 [s]
Min: 0.0 [g] at -0.038 [s]
MX0100 - February 09, 1999
CFC_1000
g
Time [s]
100
80
60
40
20
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

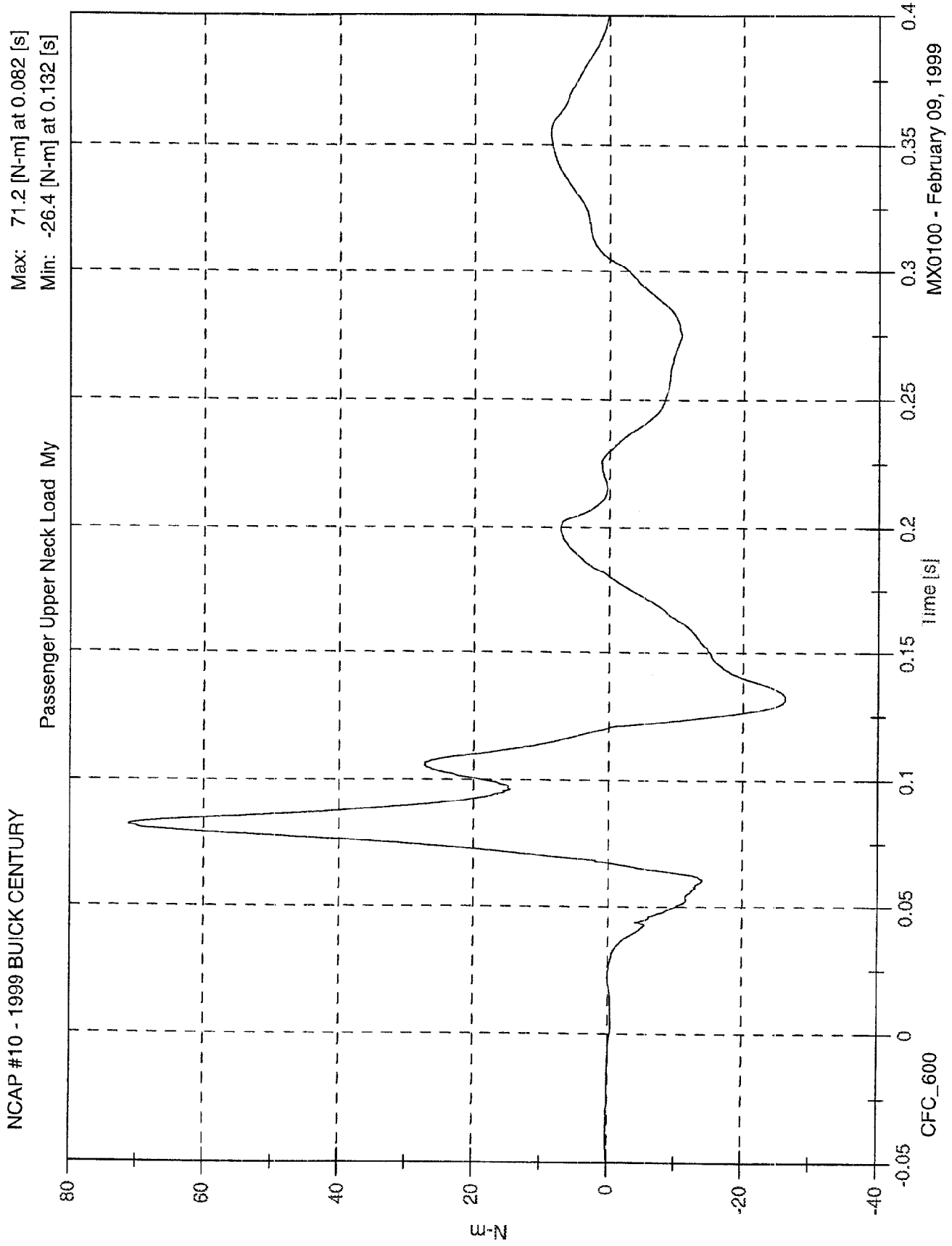

NCAP #10 - 1999 BUICK CENTURY
Passenger Upper Neck Load Fx
Max: 928.4 [N] at 0.082 [s]
Min: -124.3 [N] at 0.275 [s]
1000
750
500
250
0
-250
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

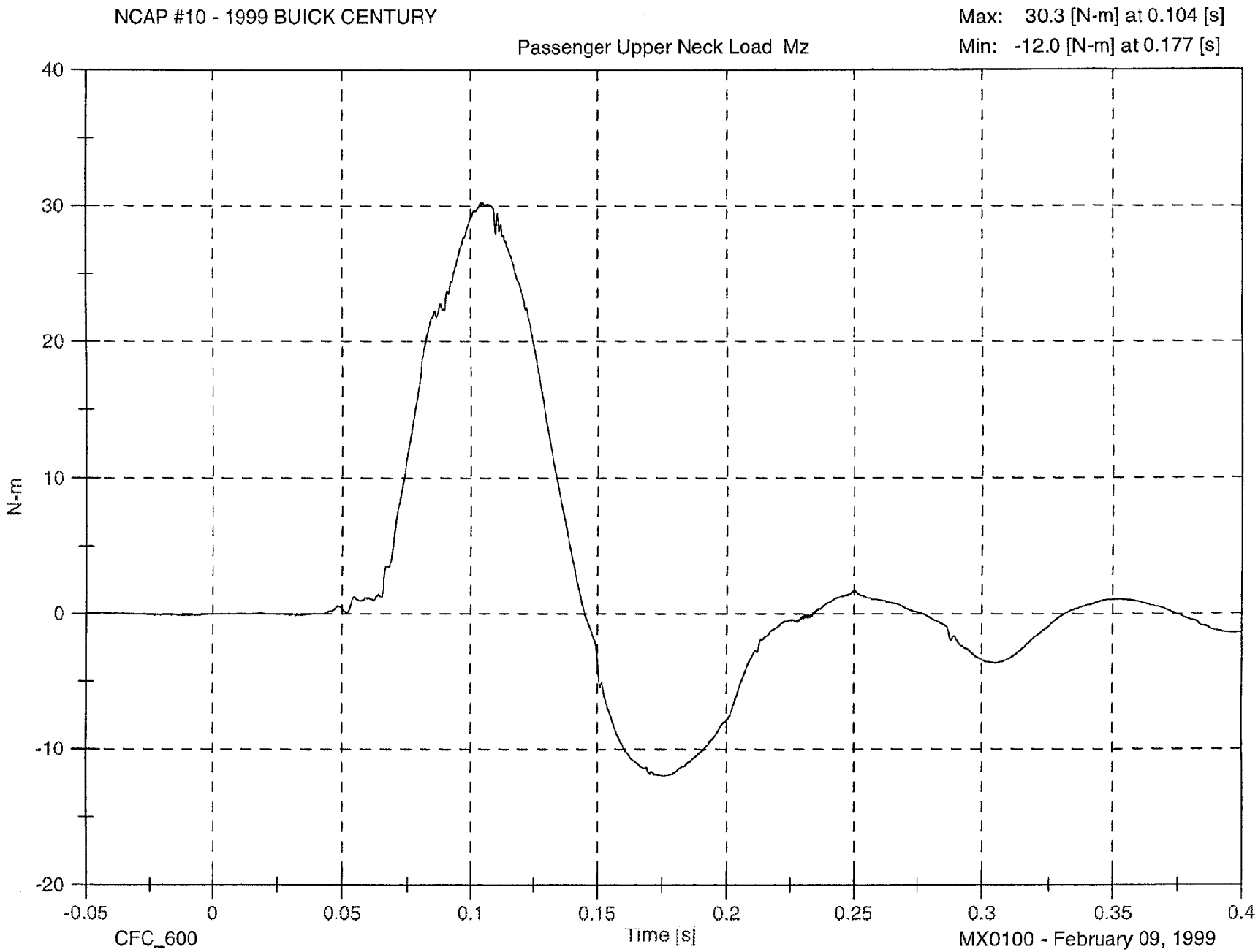

NCAP #10 - 1999 BUICK CENTURY
Max: 249.4 [N] at 0.086 [s]
Min: -145.2 [N] at 0.169 [s]
Passenger Upper Neck Load Fy
MX0100 - February 09, 1999
CFC_1000
N
Time [s]
250
200
150
100
50
0
-50
-100
-150
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

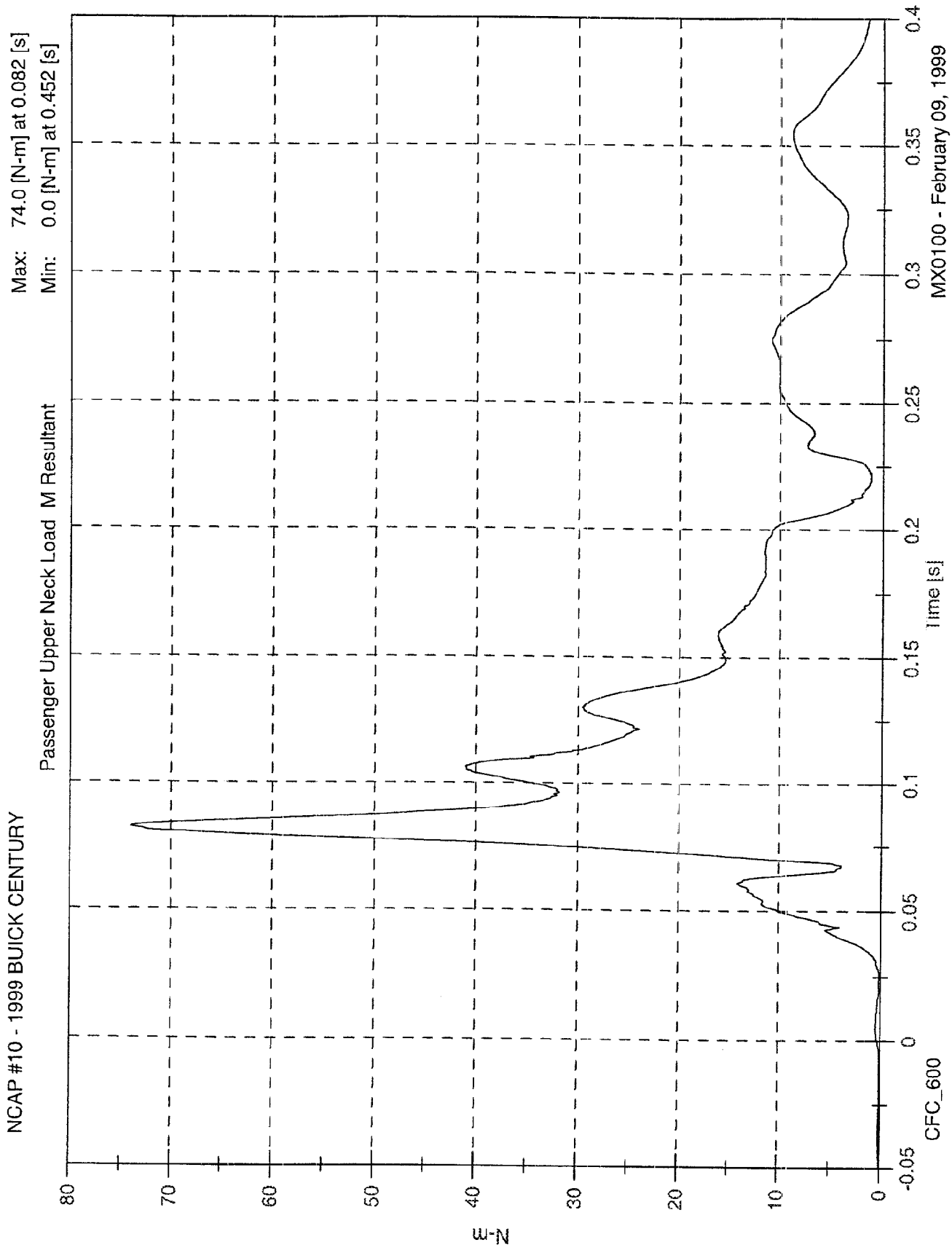

NCAP #10 - 1999 BUICK CENTURY
Max: 802.6 [N] at 0.074 [s]
Min: -382.4 [N] at 0.086 [s]
Passenger Upper Neck Load Fz
MX0100 - February 09, 1999
CFC_1000
Time [s]
Z
1000
750
500
250
0
-250
-500
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

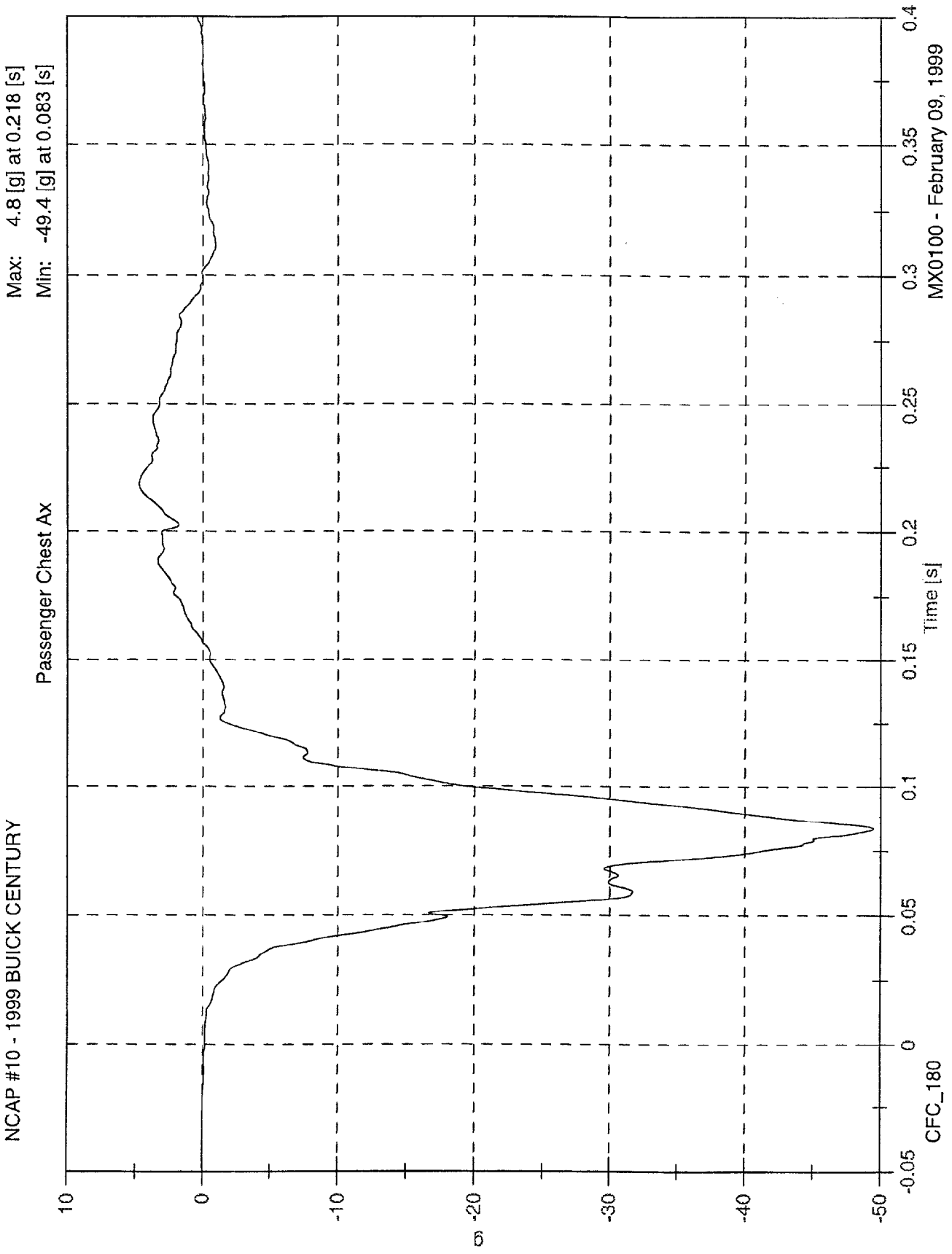

NCAP #10 - 1999 BUICK CENTURY
Passenger Upper Neck Load F Resultant
Max: 986.8 [N] at 0.084 [s]
Min: 1.2 [N] at -0.097 [s]
1000
800
600
400
200
0
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

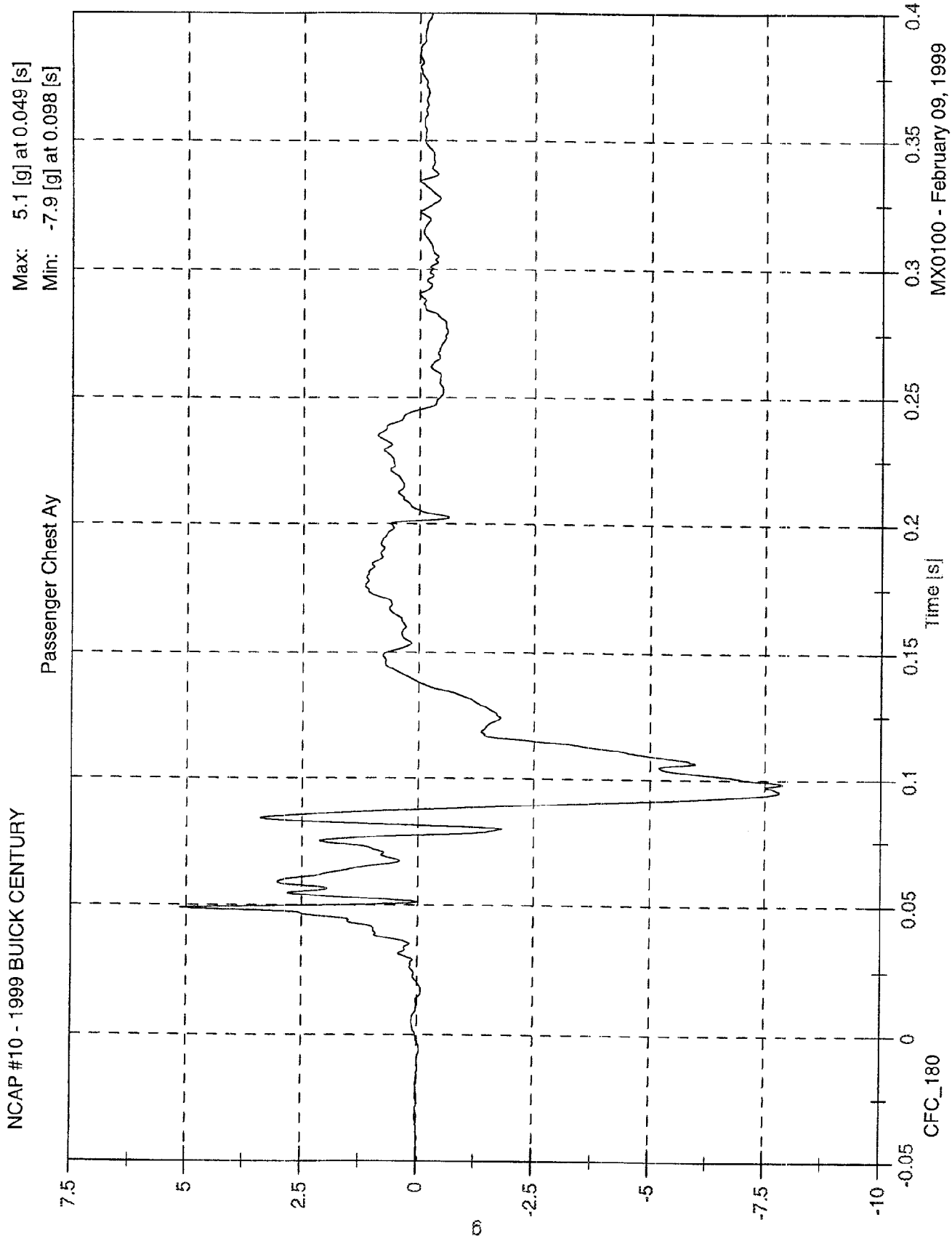

NCAP #10 - 1999 BUICK CENTURY
Max: 12.7 [N-m] at 0.091 [s]
Min: -7.7 [N-m] at 0.079 [s]
Passenger Upper Neck Load Mx
N-m
Time [s]
CFC_600
MX0100 - February 09, 1999
15
10
5
0
-5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

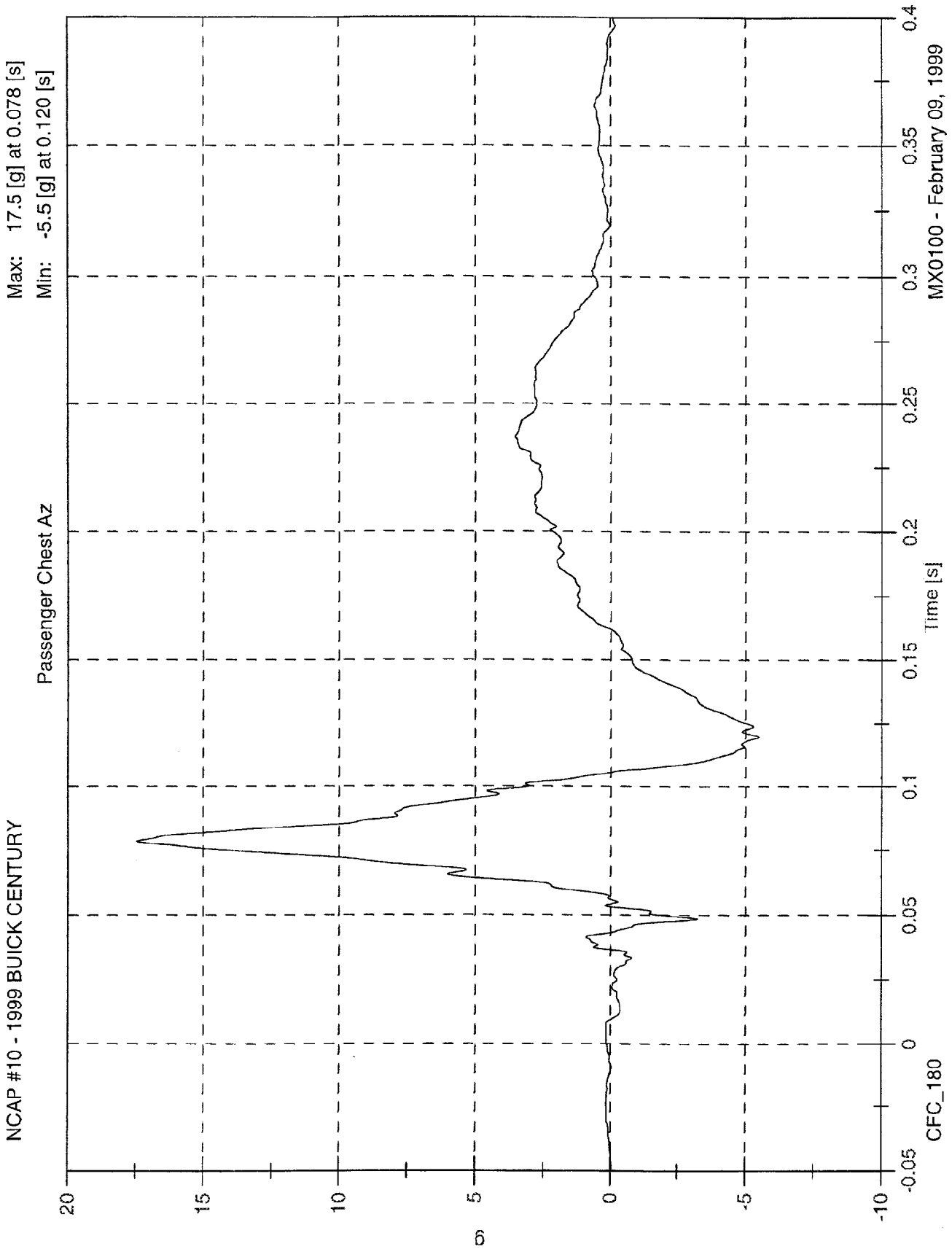

NCAP #10 - 1999 BUICK CENTURY
Max: 71.2 [N-m] at 0.082 [s]
Min: -26.4 [N-m] at 0.132 [s]
Passenger Upper Neck Load My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
80
60
40
20
0
-20
-40
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

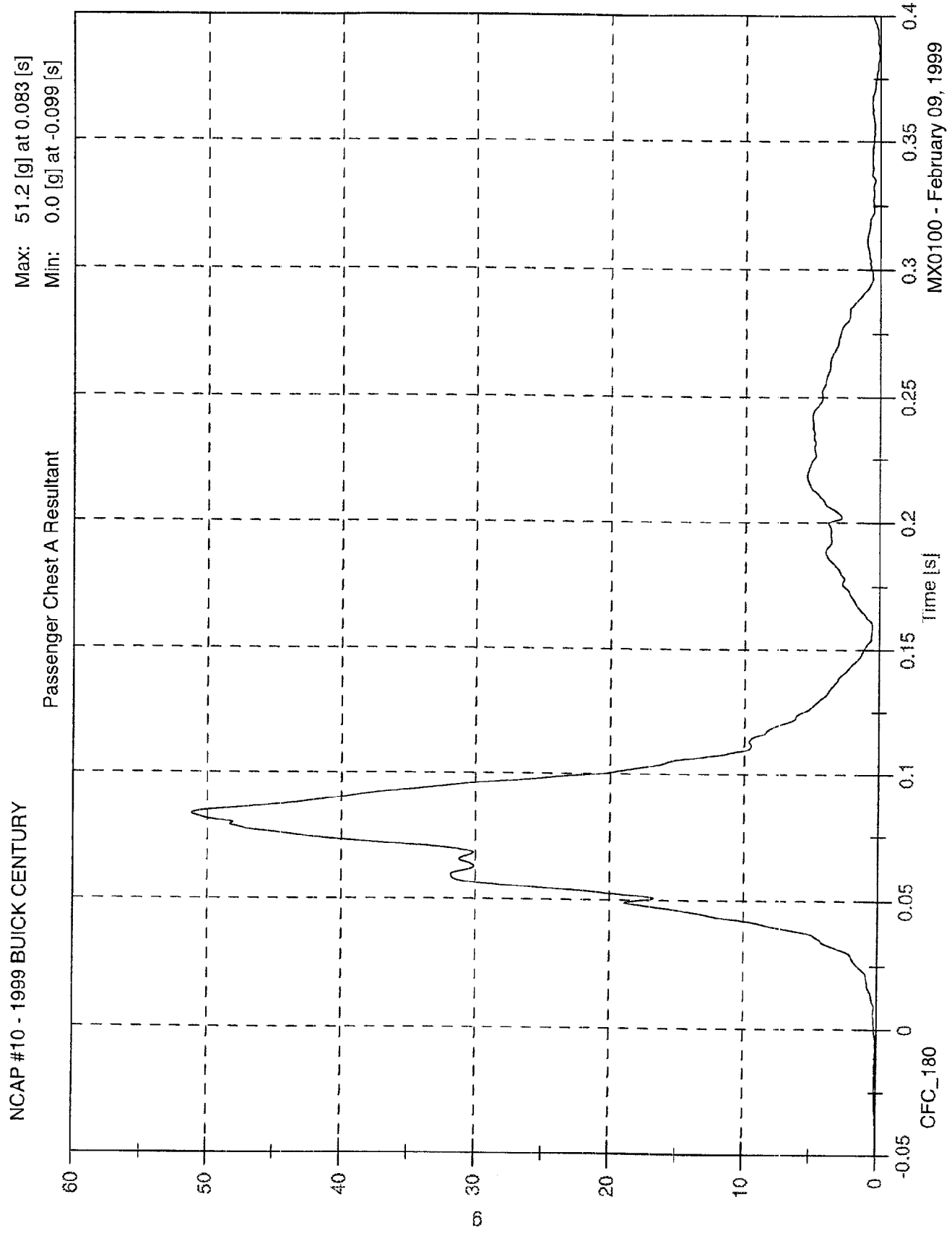

NCAP #10 - 1999 BUICK CENTURY
Passenger Upper Neck Load Mz
Max: 30.3 [N-m] at 0.104 [s]
Min: -12.0 [N-m] at 0.177 [s]
N-m
40
30
20
10
0
-10
-20
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

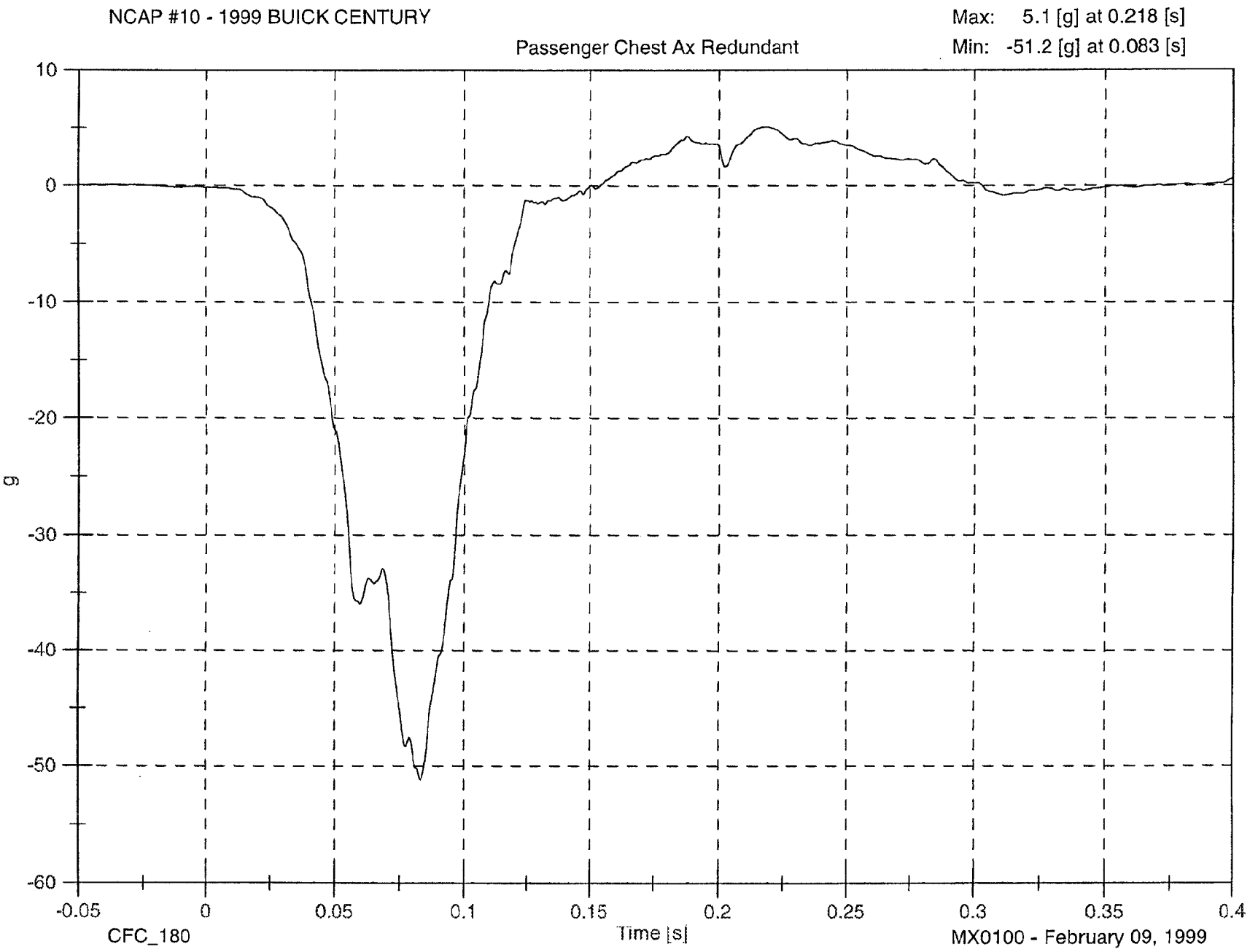

NCAP #10 - 1999 BUICK CENTURY
Max: 74.0 [N-m] at 0.082 [s]
Min: 0.0 [N-m] at 0.452 [s]
Passenger Upper Neck Load M Resultant
N-m
80
70
60
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

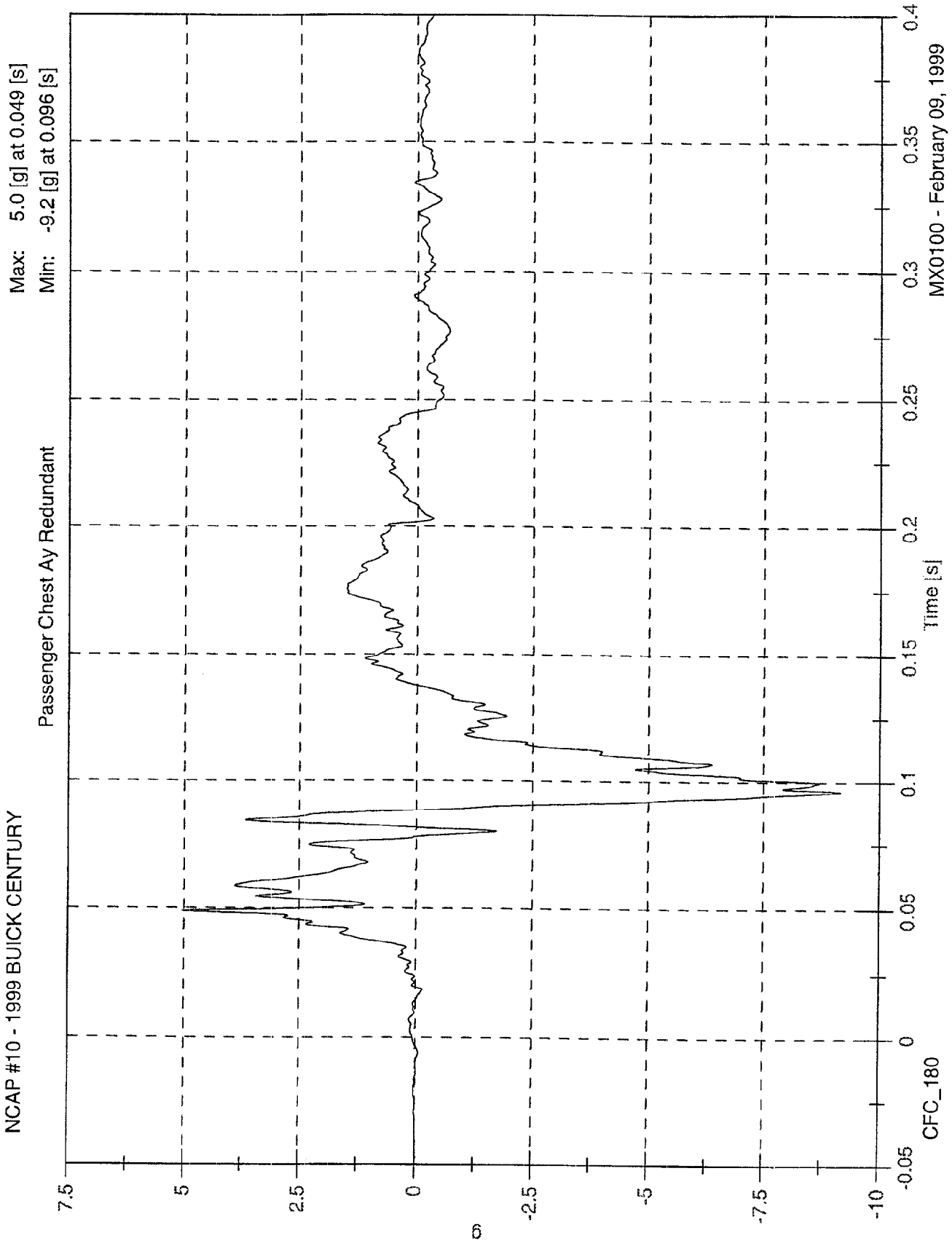

NCAP #10 - 1999 BUICK CENTURY
Max: 4.8 [g] at 0.218 [s]
Min: -49.4 [g] at 0.083 [s]
Passenger Chest Ax
MX0100 - February 09, 1999
CFC_180
Time [s]
g
10
0
-10
-20
-30
-40
-50
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

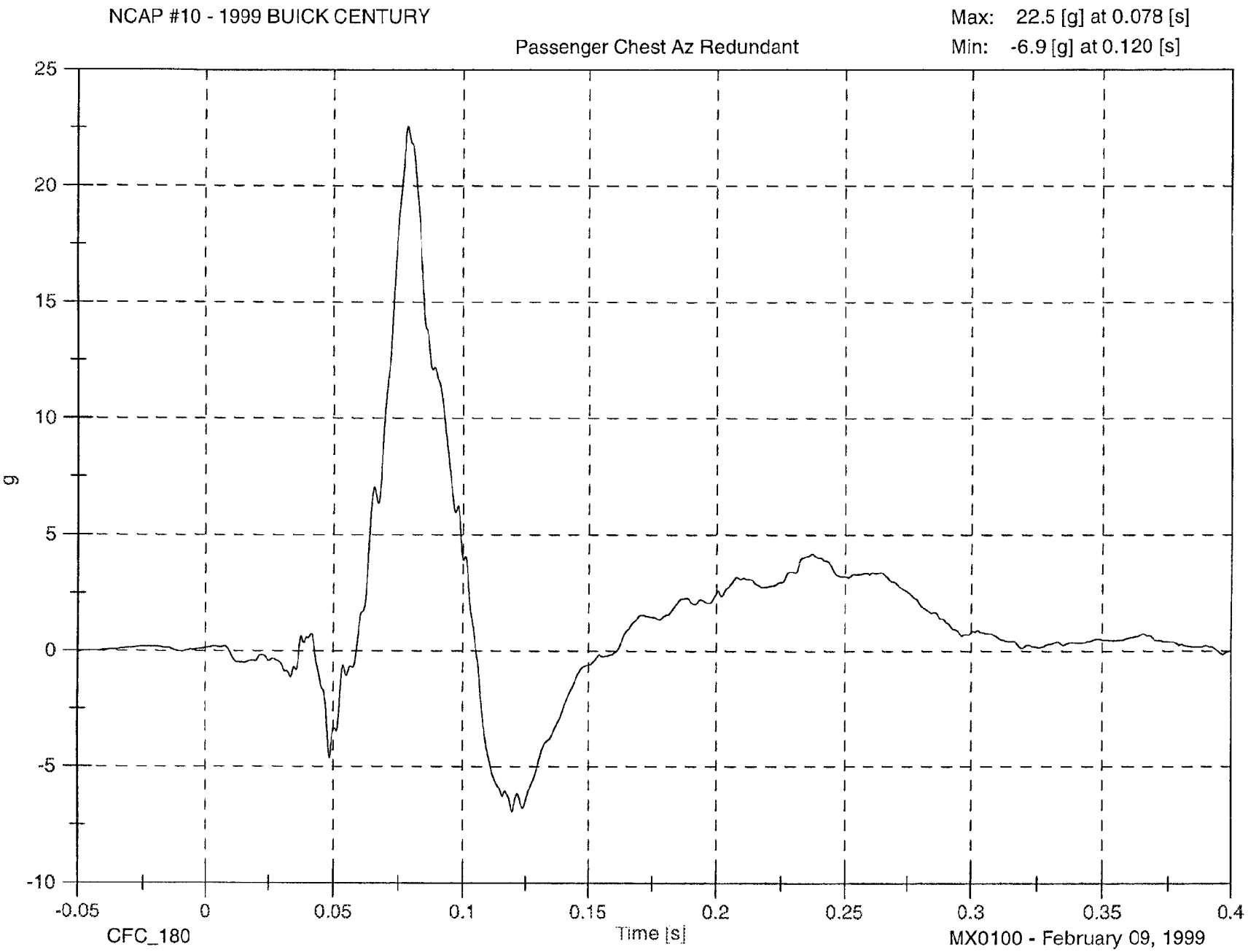

NCAP #10 - 1999 BUICK CENTURY
Max: 5.1 [g] at 0.049 [s]
Min: -7.9 [g] at 0.098 [s]
Passenger Chest Ay
MX0100 - February 09, 1999
CFC_180
Time [s]
G
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

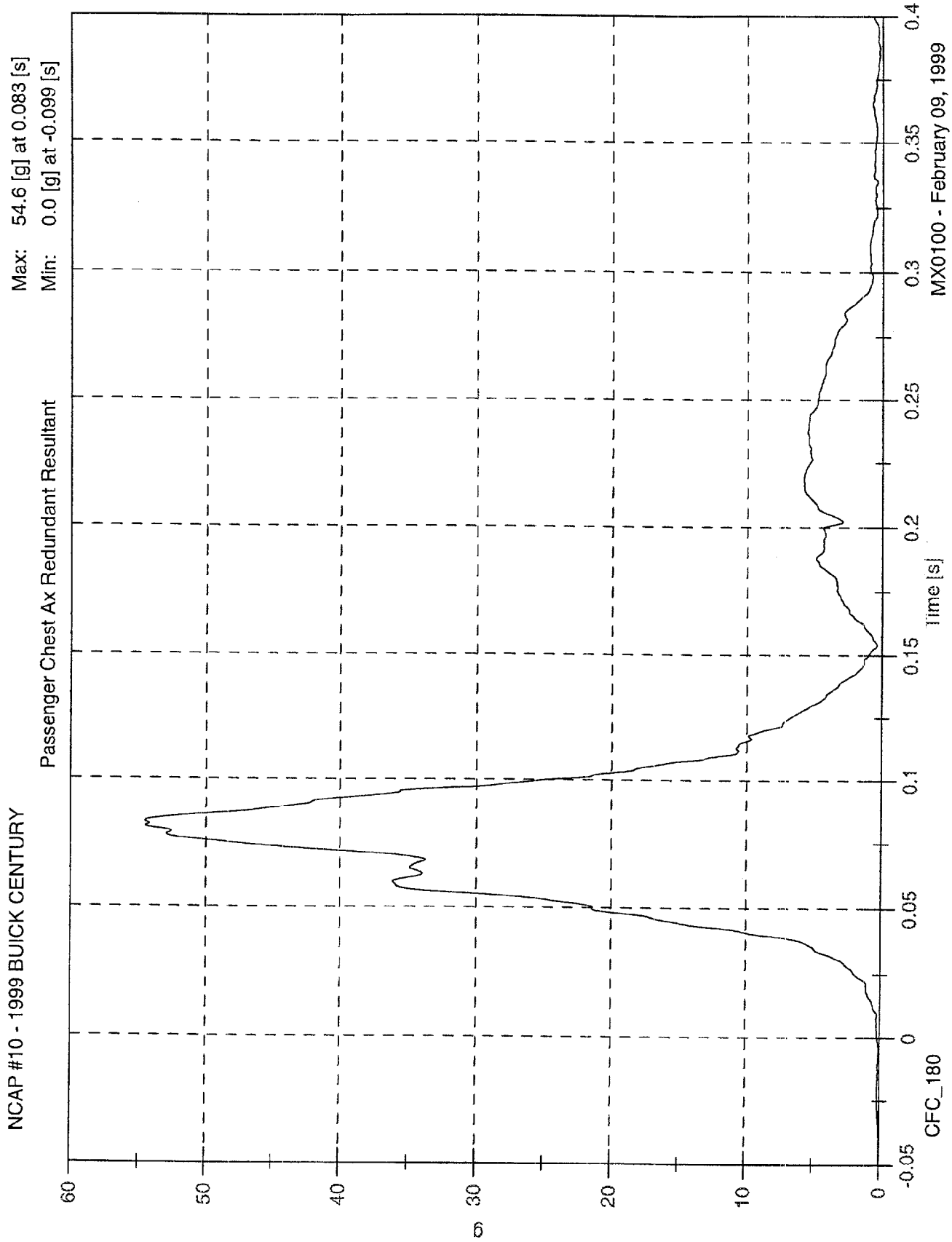

NCAP #10 - 1999 BUICK CENTURY
Max: 17.5 [g] at 0.078 [s]
Min: -5.5 [g] at 0.120 [s]
Passenger Chest Az
MX0100 - February 09, 1999
CFC_180
Time [s]
g
20
15
10
5
0
-5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

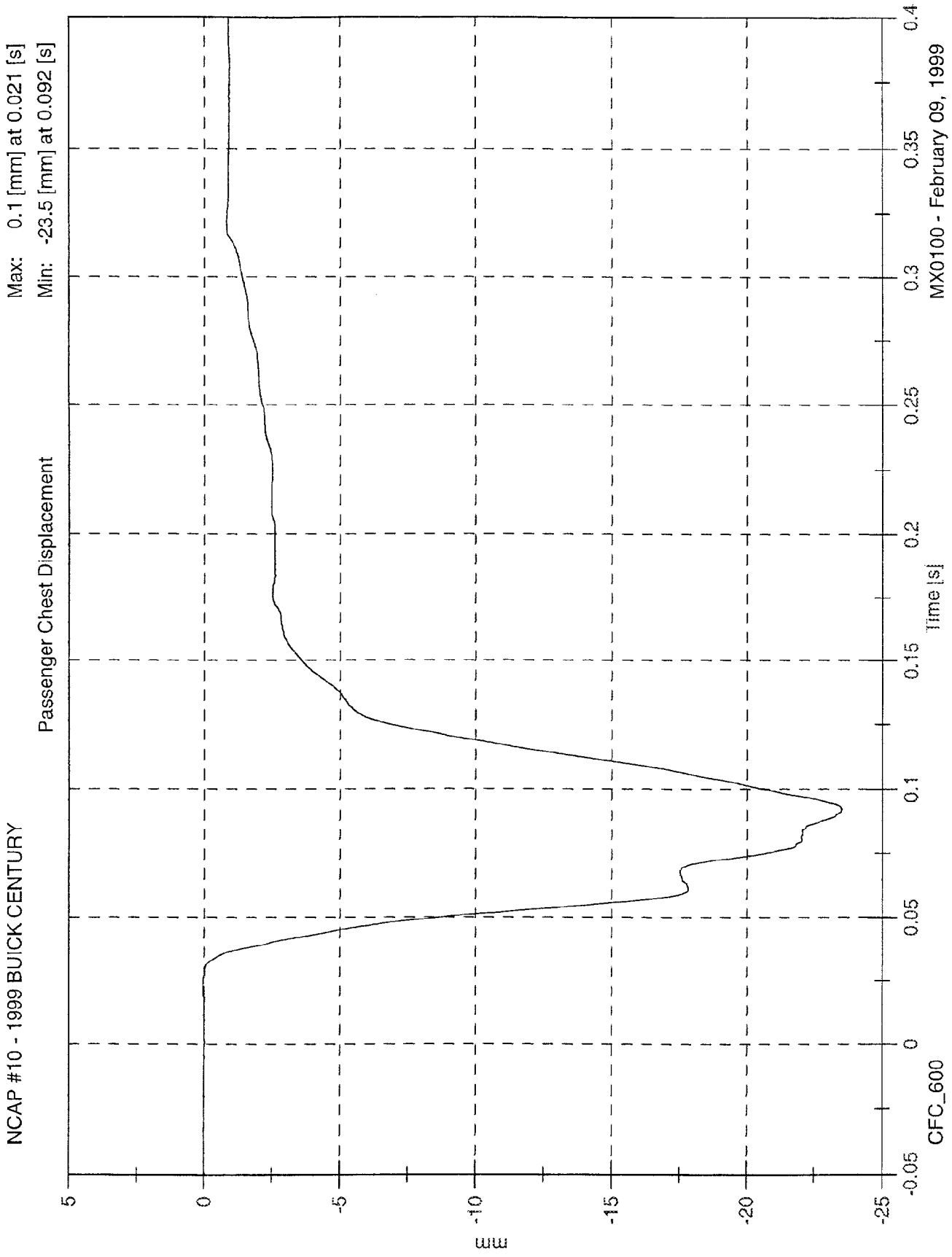

NCAP #10 - 1999 BUICK CENTURY
Passenger Chest A Resultant
Max: 51.2 [g] at 0.083 [s]
Min: 0.0 [g] at -0.099 [s]
MX0100 - February 09, 1999
CFC_180
Time [s]
G
60
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

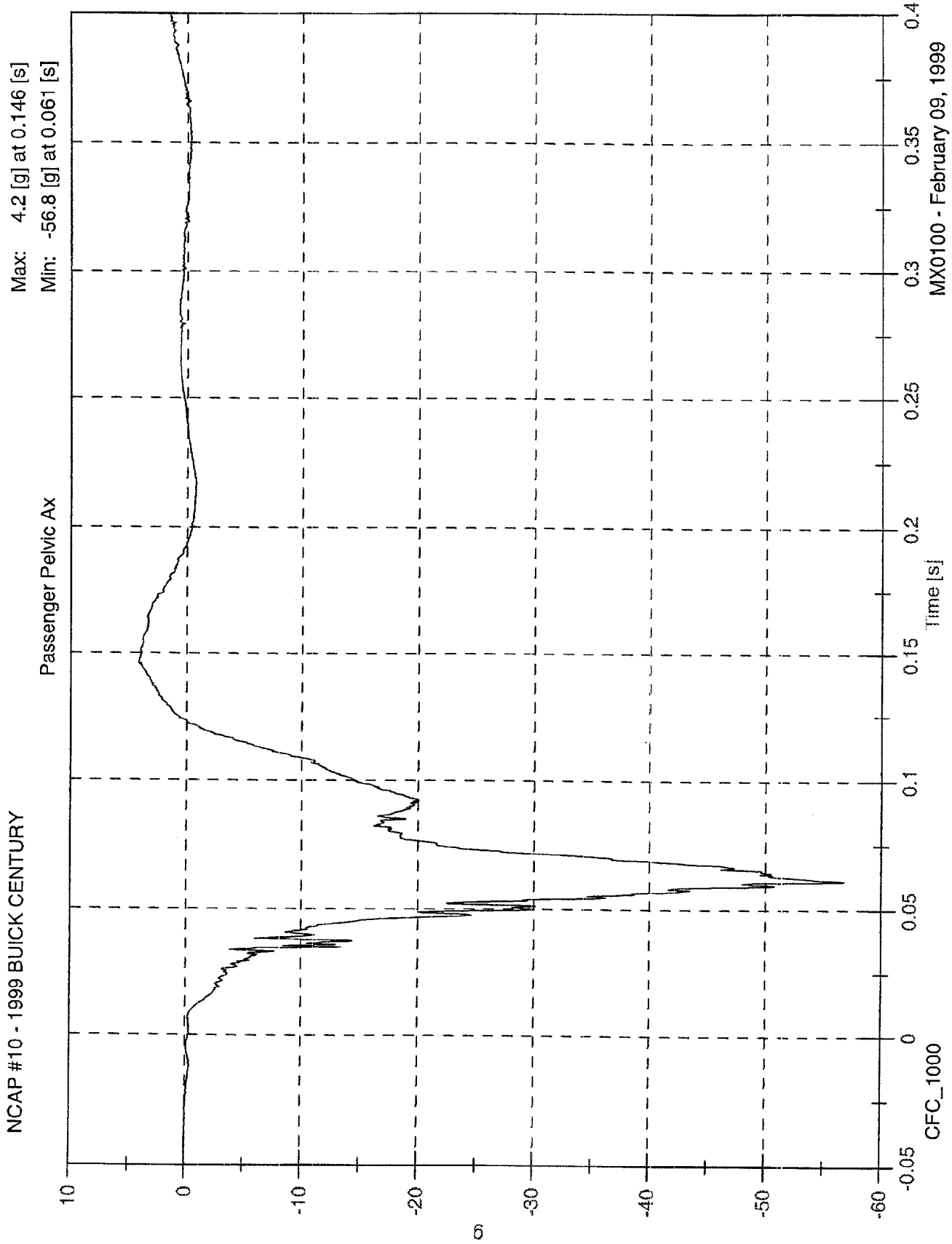

NCAP #10 - 1999 BUICK CENTURY
Passenger Chest Ax Redundant
Max: 5.1 [g] at 0.218 [s]
Min: -51.2 [g] at 0.083 [s]
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

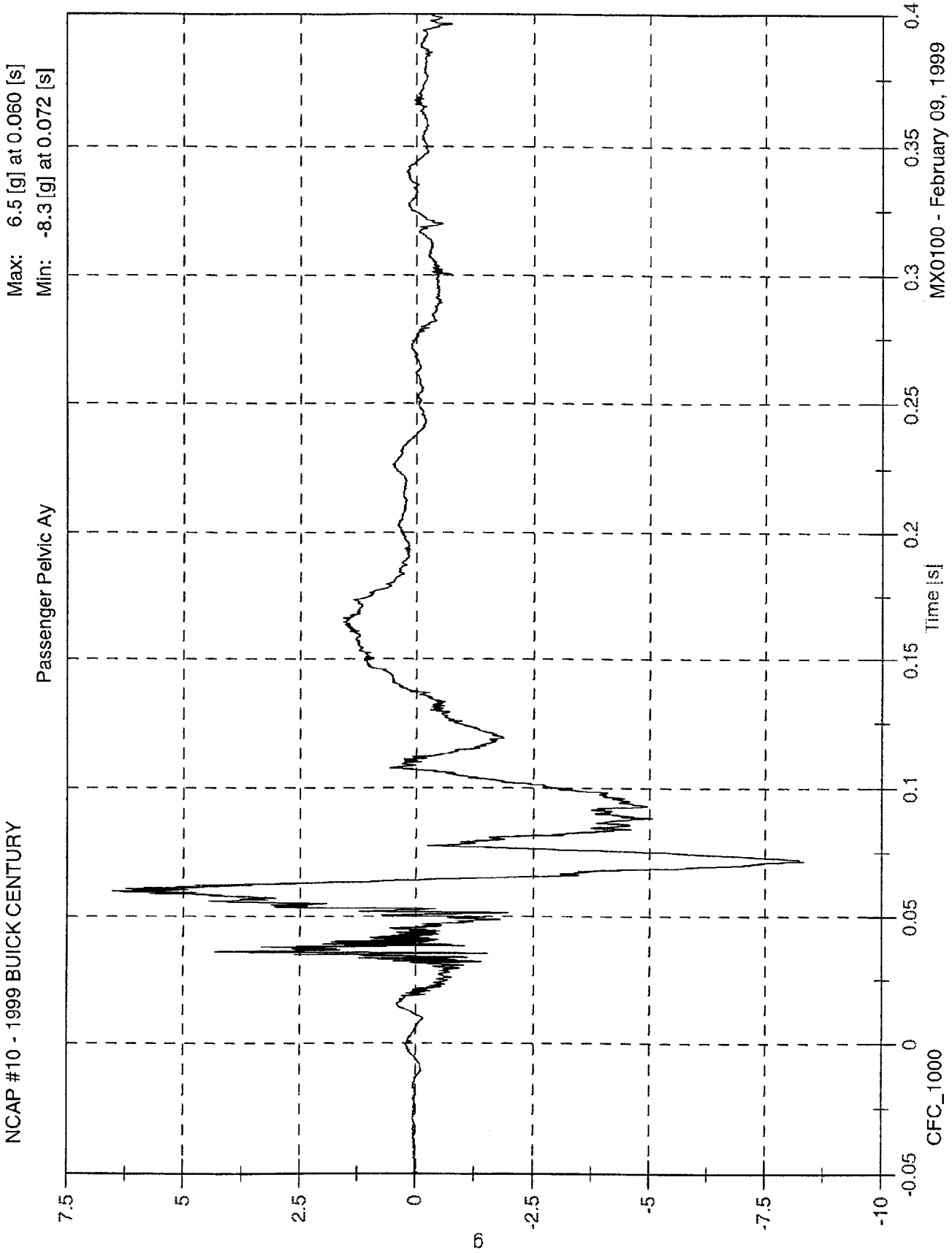

NCAP #10 - 1999 BUICK CENTURY
Passenger Chest Ay Redundant
Max: 5.0 [g] at 0.049 [s]
Min: -9.2 [g] at 0.096 [s]
MX0100 - February 09, 1999
CFC_180
Time [s]
g
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

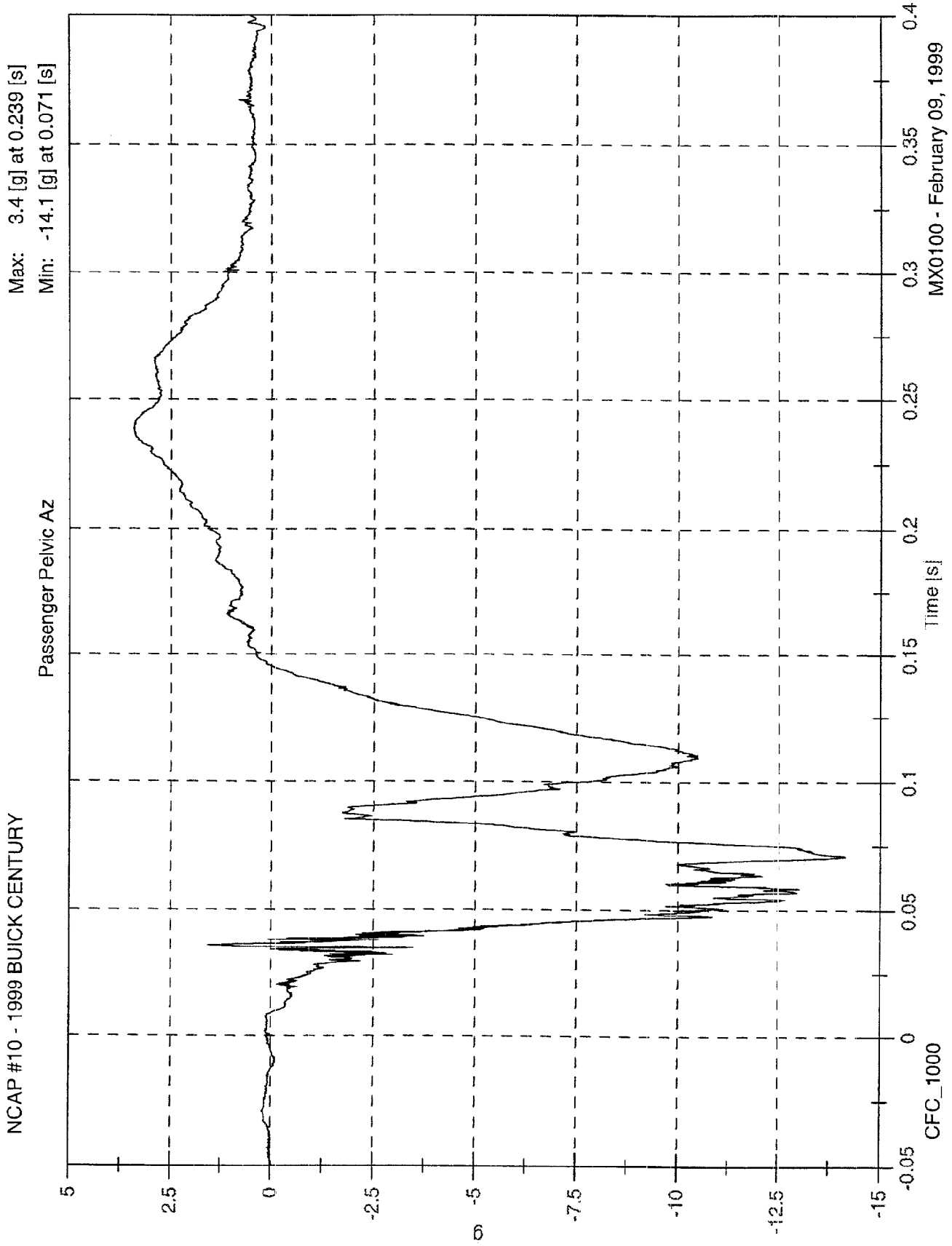

NCAP #10 - 1999 BUICK CENTURY
Passenger Chest Az Redundant
Max: 22.5 [g] at 0.078 [s]
Min: -6.9 [g] at 0.120 [s]
25
20
15
10
5
0
-5
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

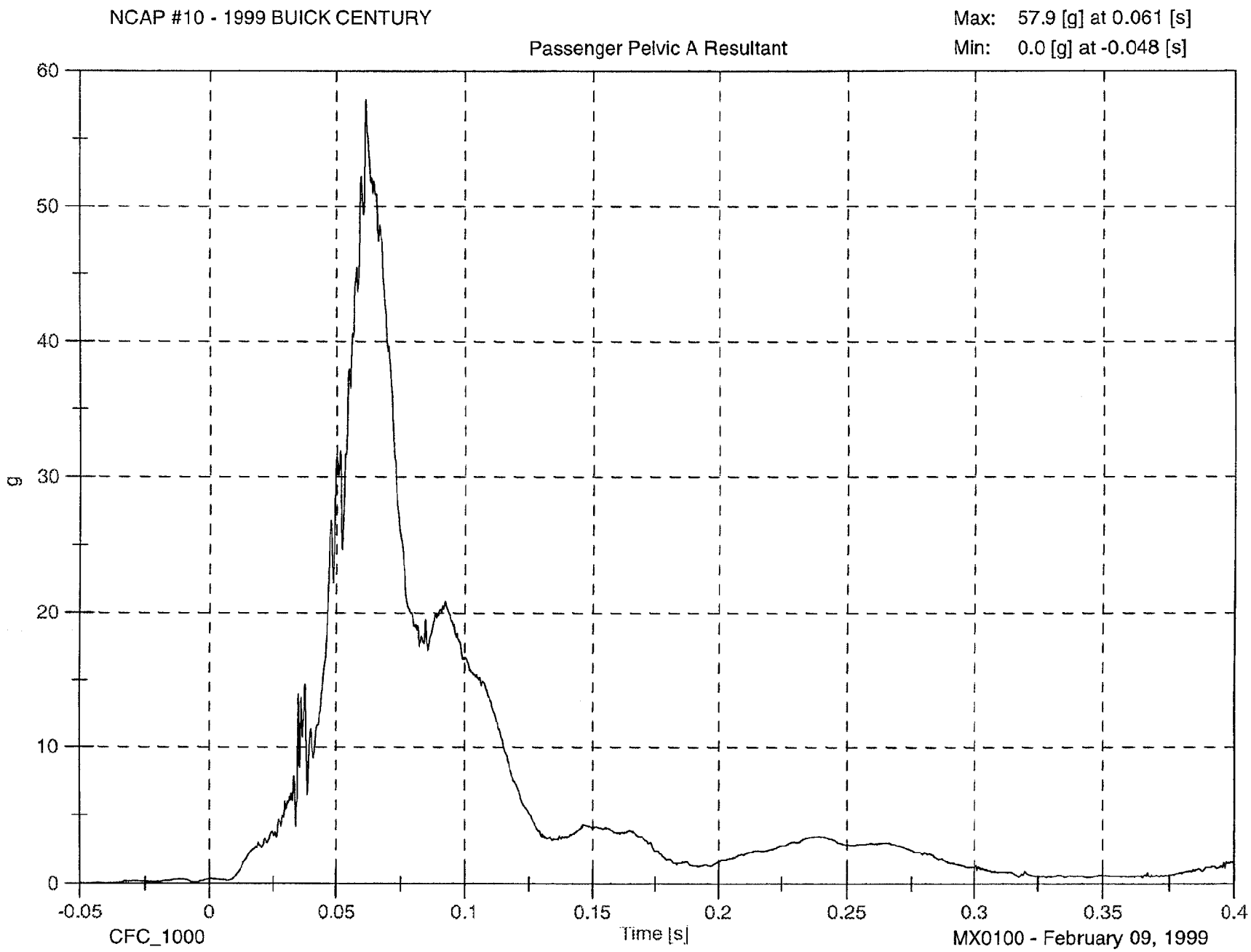

NCAP #10 - 1999 BUICK CENTURY
Passenger Chest Ax Redundant Resultant
Max: 54.6 [g] at 0.083 [s]
Min: 0.0 [g] at -0.099 [s]
MX0100 - February 09, 1999
CFC_180
g
Time [s]
60
50
40
30
20
10
0
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

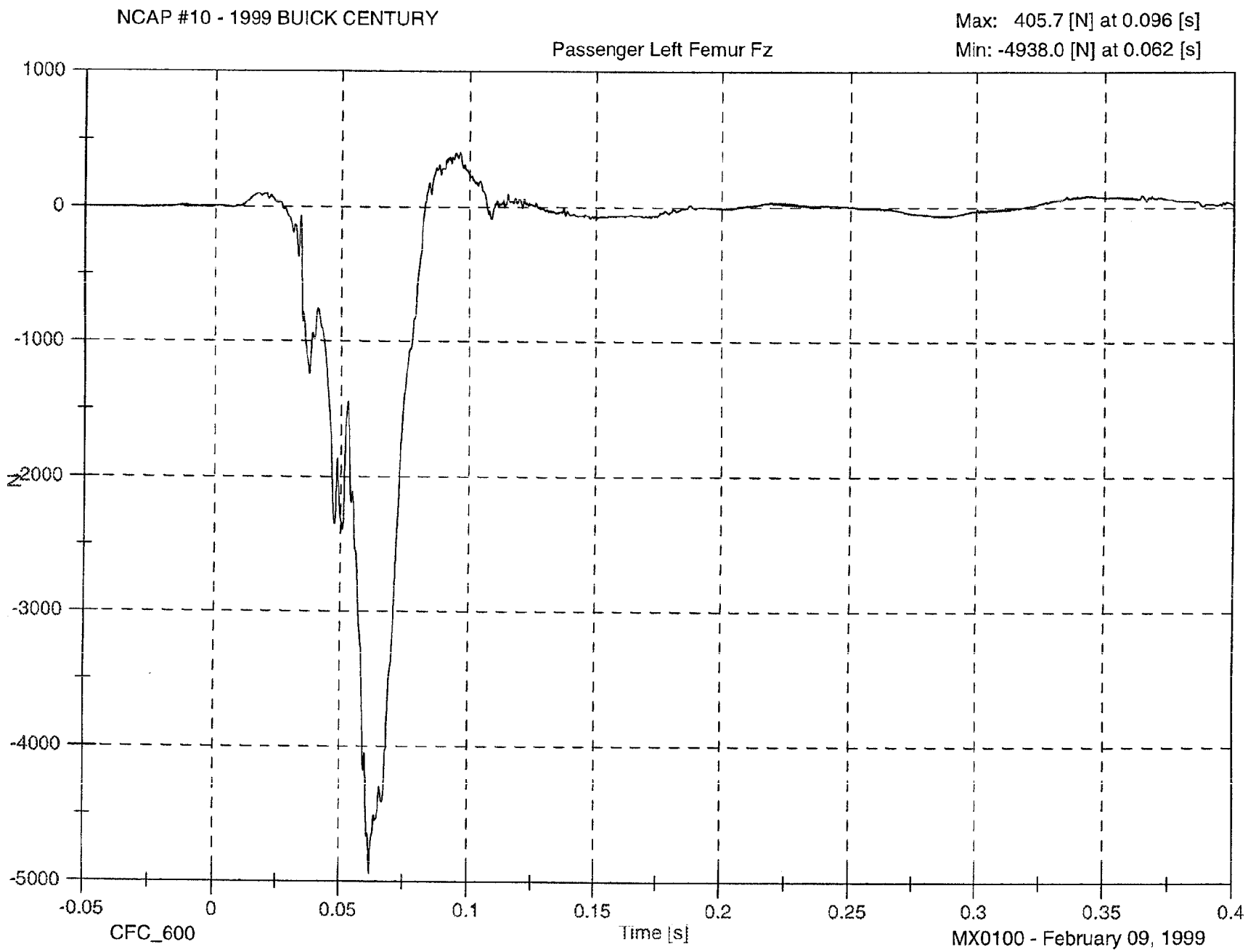

NCAP #10 - 1999 BUICK CENTURY
Max: 0.1 [mm] at 0.021 [s]
Min: -23.5 [mm] at 0.092 [s]
Passenger Chest Displacement
mm
5
0
-5
-10
-15
-20
-25
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

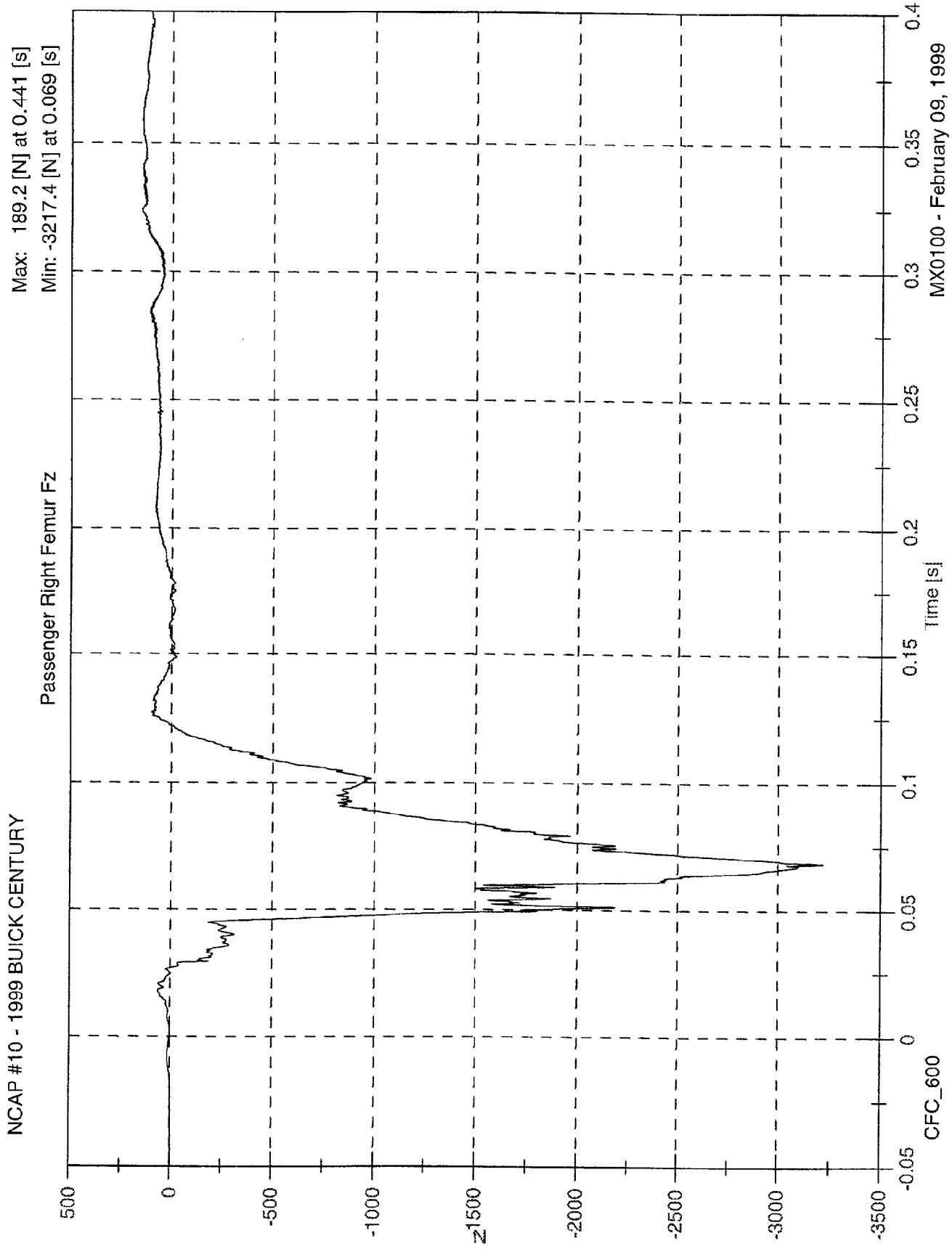

NCAP #10 - 1999 BUICK CENTURY
Max: 4.2 [g] at 0.146 [s]
Min: -56.8 [g] at 0.061 [s]
Passenger Pelvic Ax
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
10
0
-10
-20
-30
-40
-50
-60
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

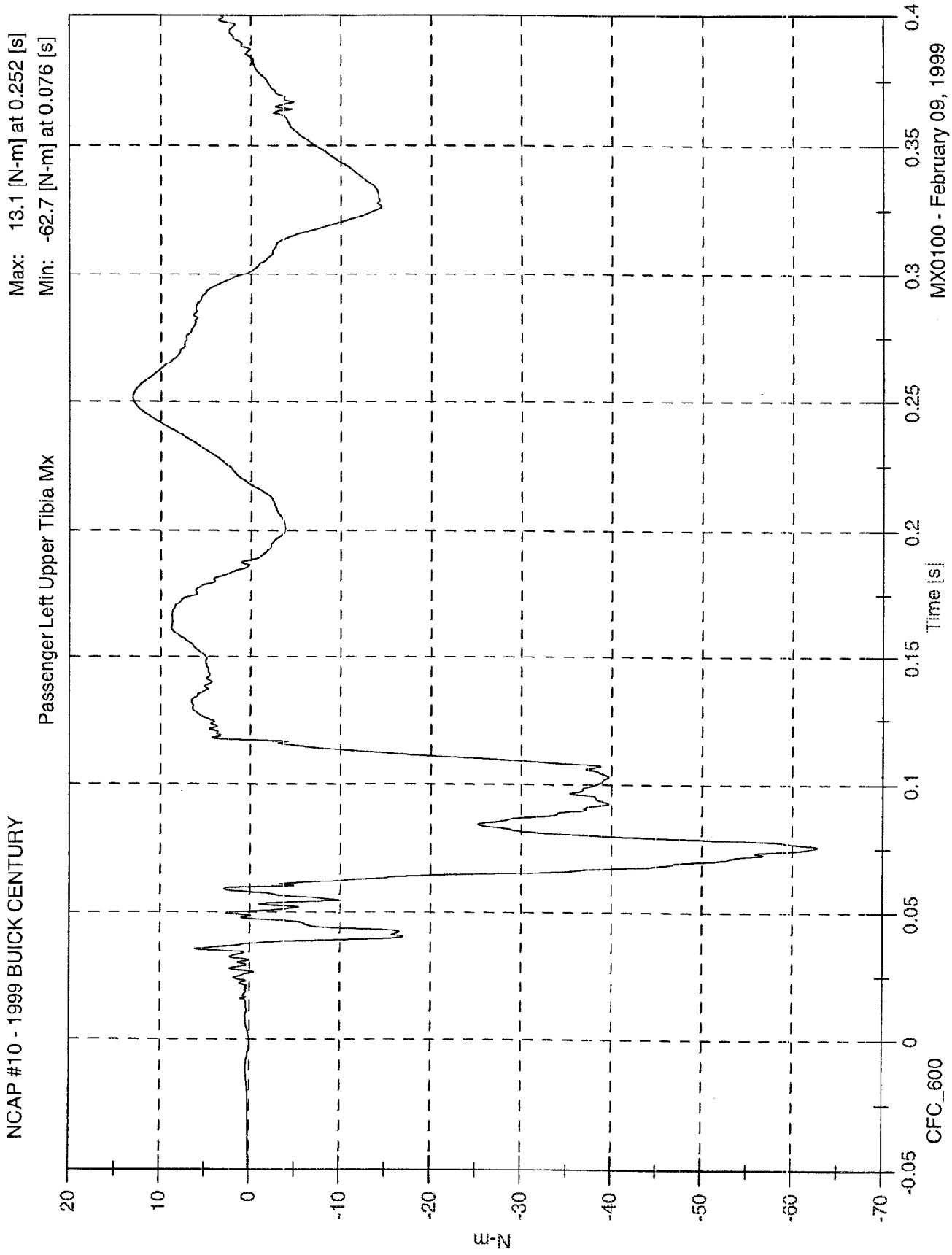

NCAP #10 - 1999 BUICK CENTURY
Max: 6.5 [g] at 0.060 [s]
Min: -8.3 [g] at 0.072 [s]
Passenger Pelvic Ay
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

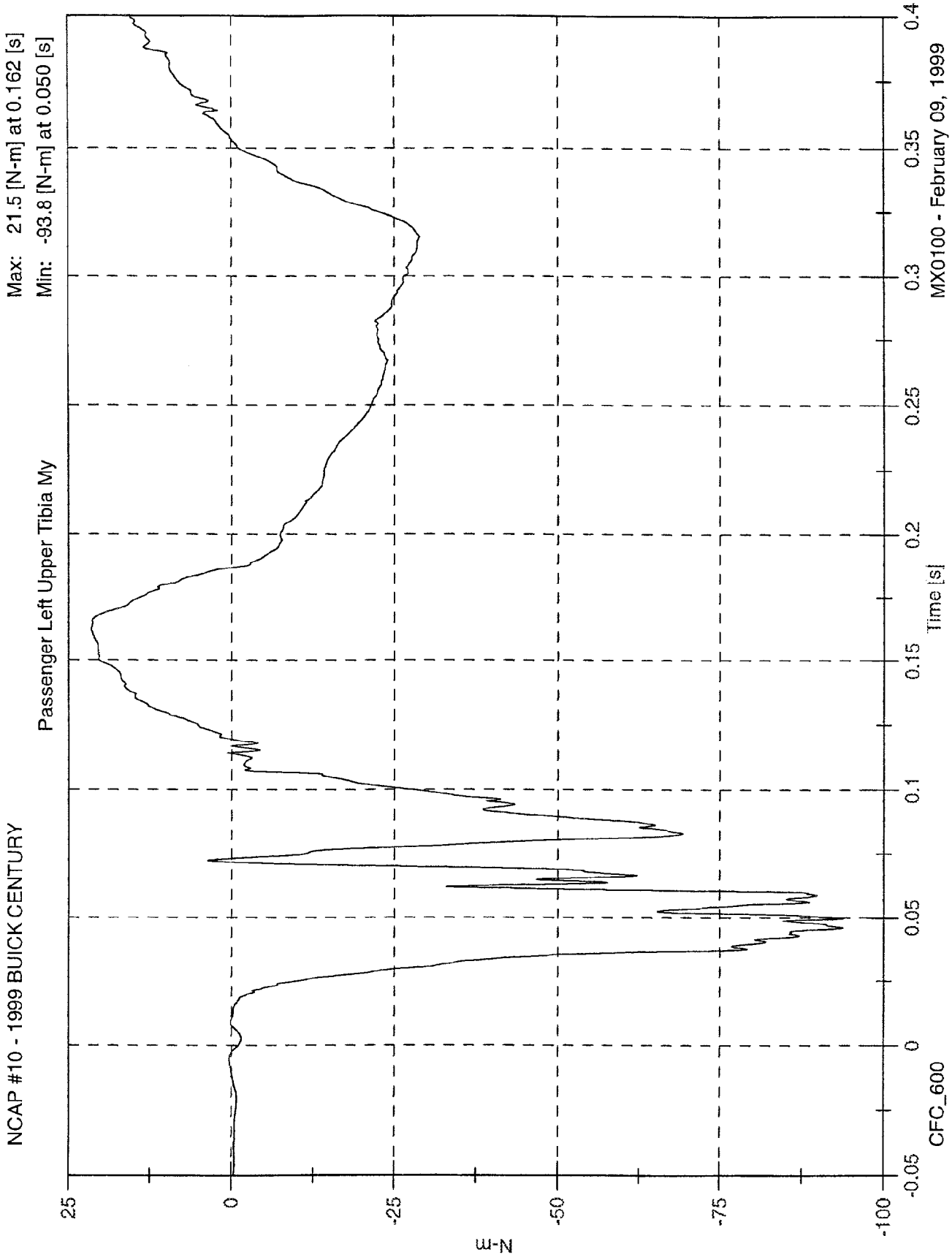

NCAP #10 - 1999 BUICK CENTURY
Max: 3.4 [g] at 0.239 [s]
Min: -14.1 [g] at 0.071 [s]
Passenger Pelvic Az
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
-15
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

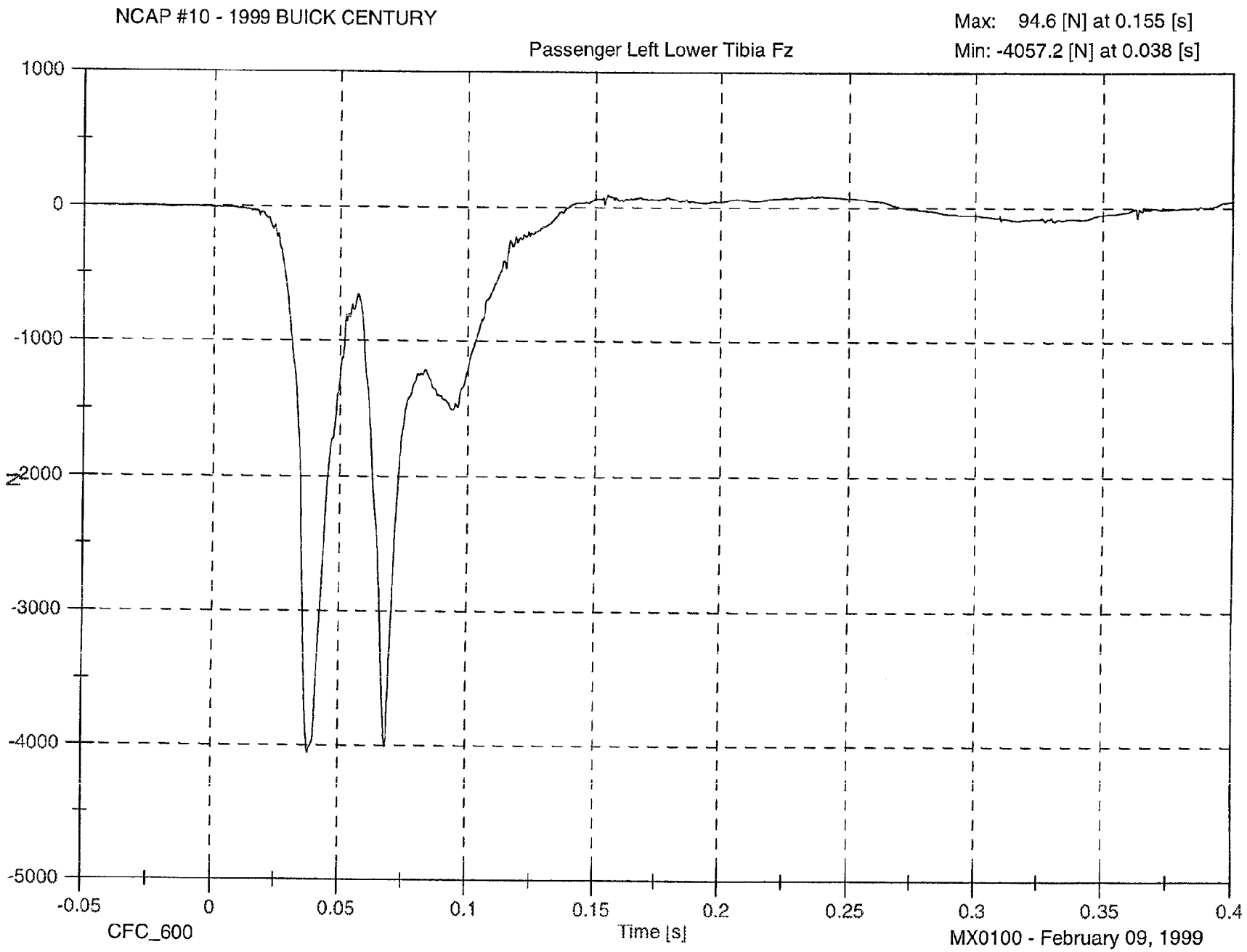

NCAP #10 - 1999 BUICK CENTURY
Passenger Pelvic A Resultant
Max: 57.9 [g] at 0.061 [s]
Min: 0.0 [g] at -0.048 [s]
60
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

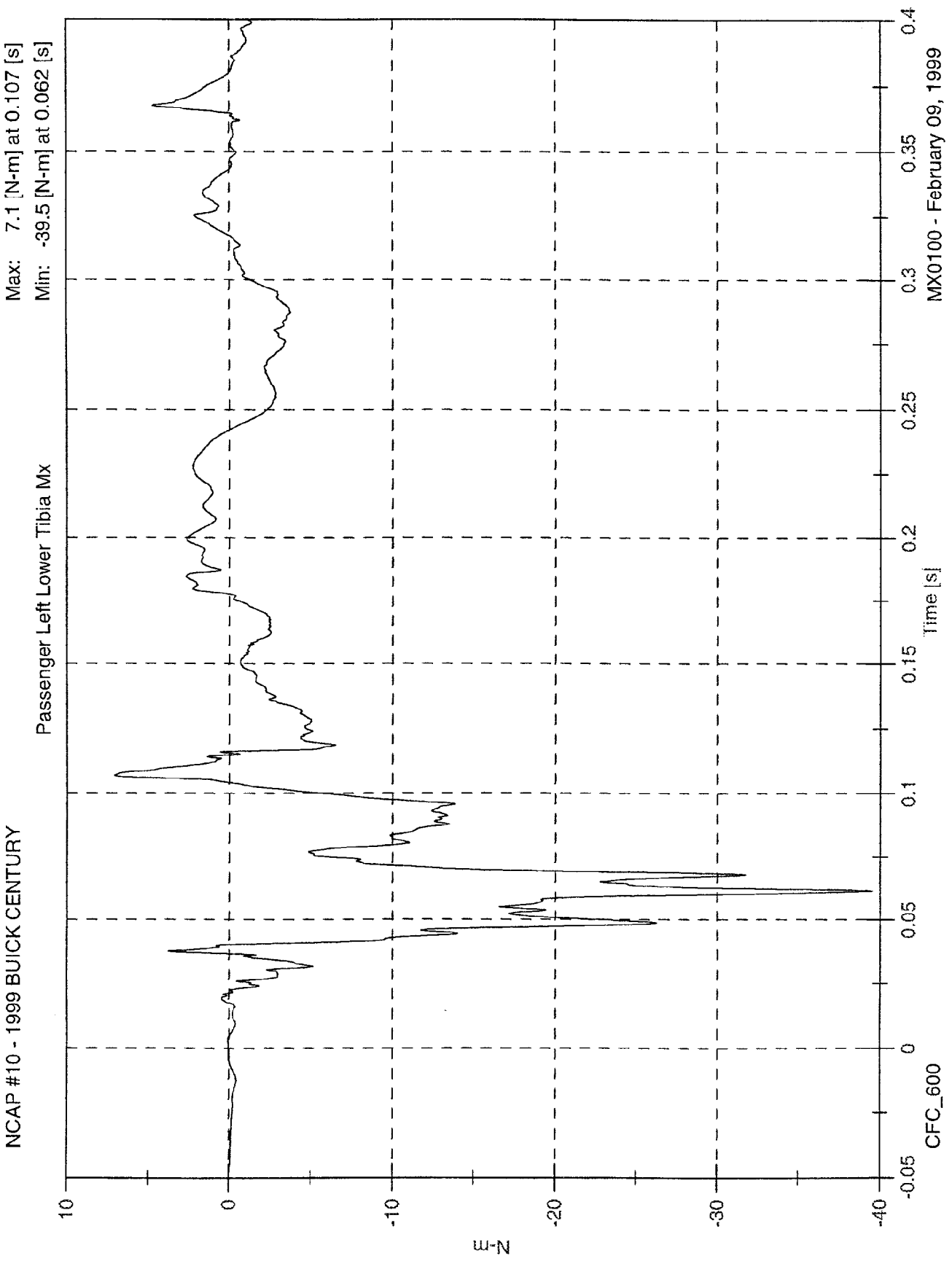

NCAP #10 - 1999 BUICK CENTURY
Passenger Left Femur Fz
Max: 405.7 [N] at 0.096 [s]
Min: -4938.0 [N] at 0.062 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

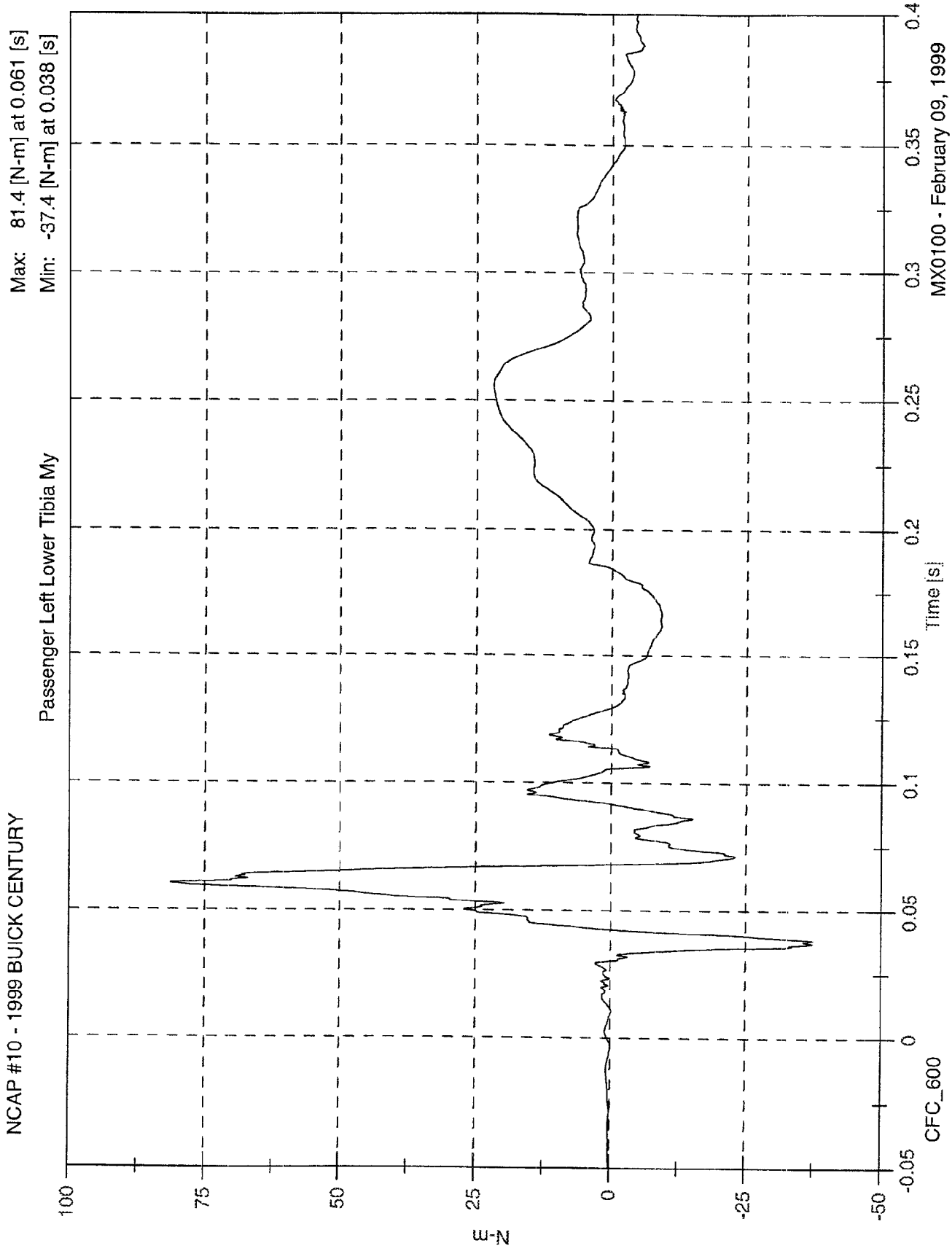

NCAP #10 - 1999 BUICK CENTURY
Max: 189.2 [N] at 0.441 [s]
Min: -3217.4 [N] at 0.069 [s]
Passenger Right Femur Fz
MX0100 - February 09, 1999
CFC_600
Time [s]
Fz [N]
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

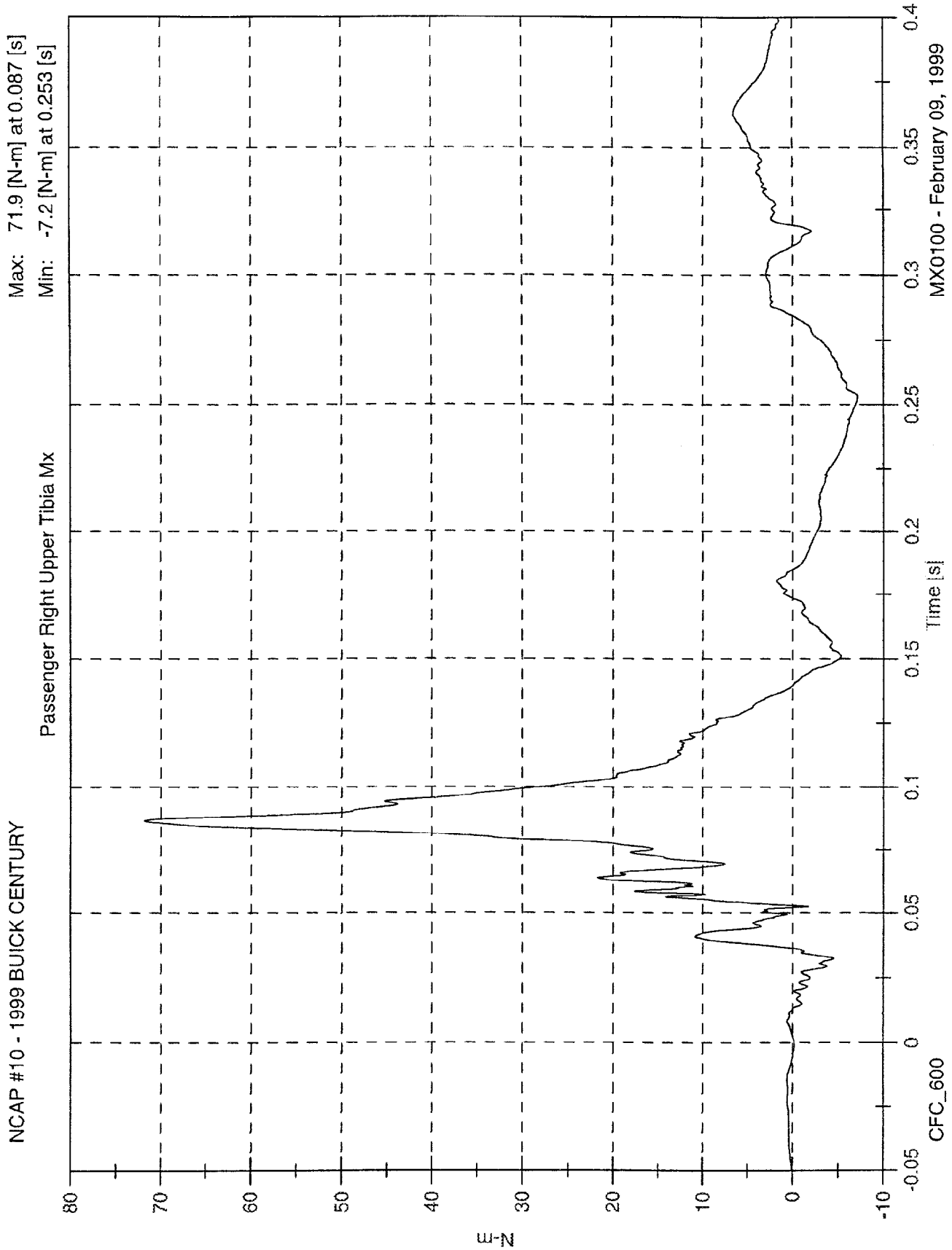

NCAP #10 - 1999 BUICK CENTURY
Max: 13.1 [N-m] at 0.252 [s]
Min: -62.7 [N-m] at 0.076 [s]
Passenger Left Upper Tibia Mx
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
20
10
0
-10
-20
-30
-40
-50
-60
-70
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

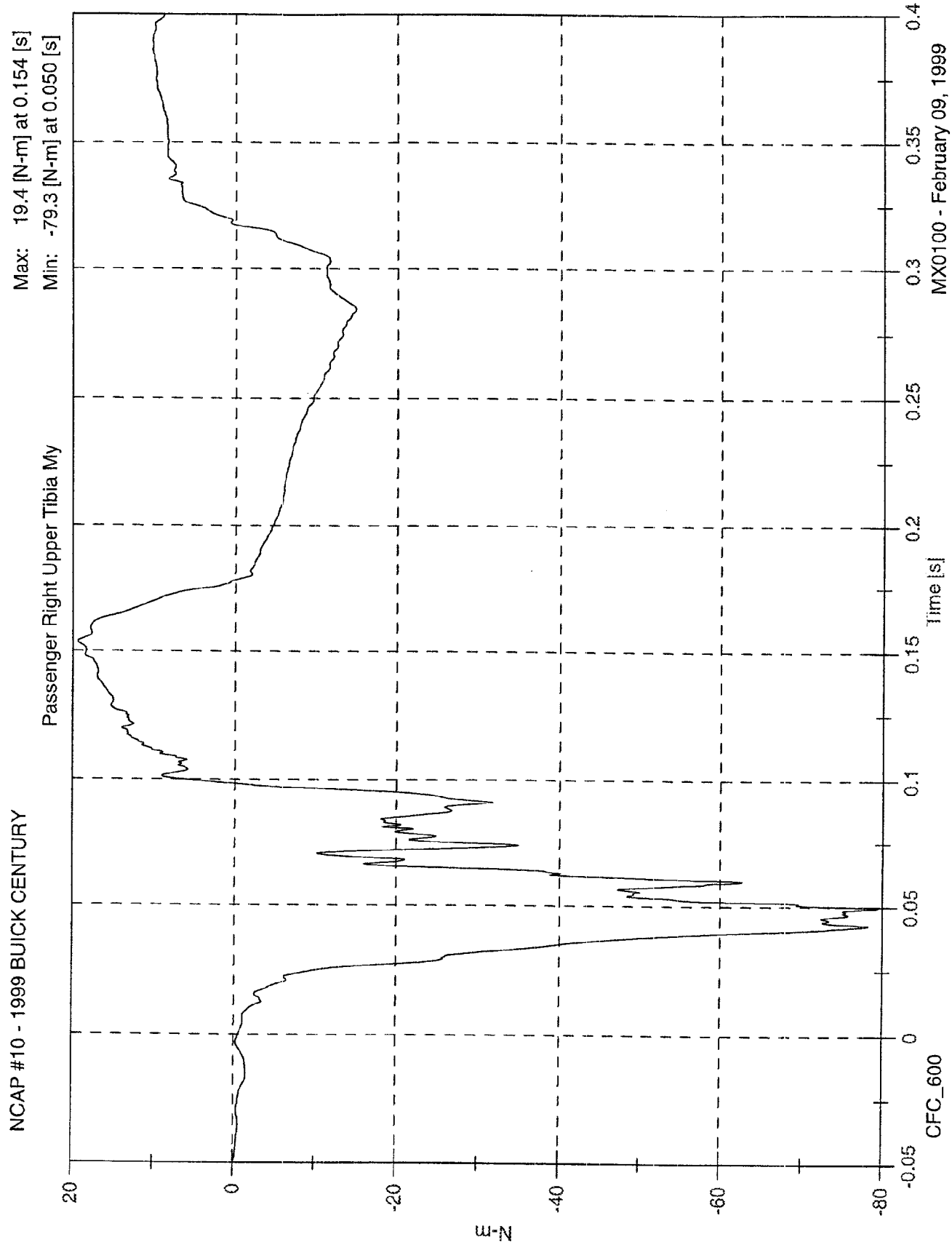

NCAP #10 - 1999 BUICK CENTURY
Max: 21.5 [N-m] at 0.162 [s]
Min: -93.8 [N-m] at 0.050 [s]
Passenger Left Upper Tibia My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
25
0
-25
-50
-75
-100
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4


NCAP #10 - 1999 BUICK CENTURY
Passenger Left Lower Tibia Fz
Max: 94.6 [N] at 0.155 [s]
Min: -4057.2 [N] at 0.038 [s]
1000
0
-1000
-2000
-3000
-4000
-5000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999


NCAP #10 - 1999 BUICK CENTURY
Max: 7.1 [N-m] at 0.107 [s]
Min: -39.5 [N-m] at 0.062 [s]
Passenger Left Lower Tibia Mx
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
10
0
-10
-20
-30
-40
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

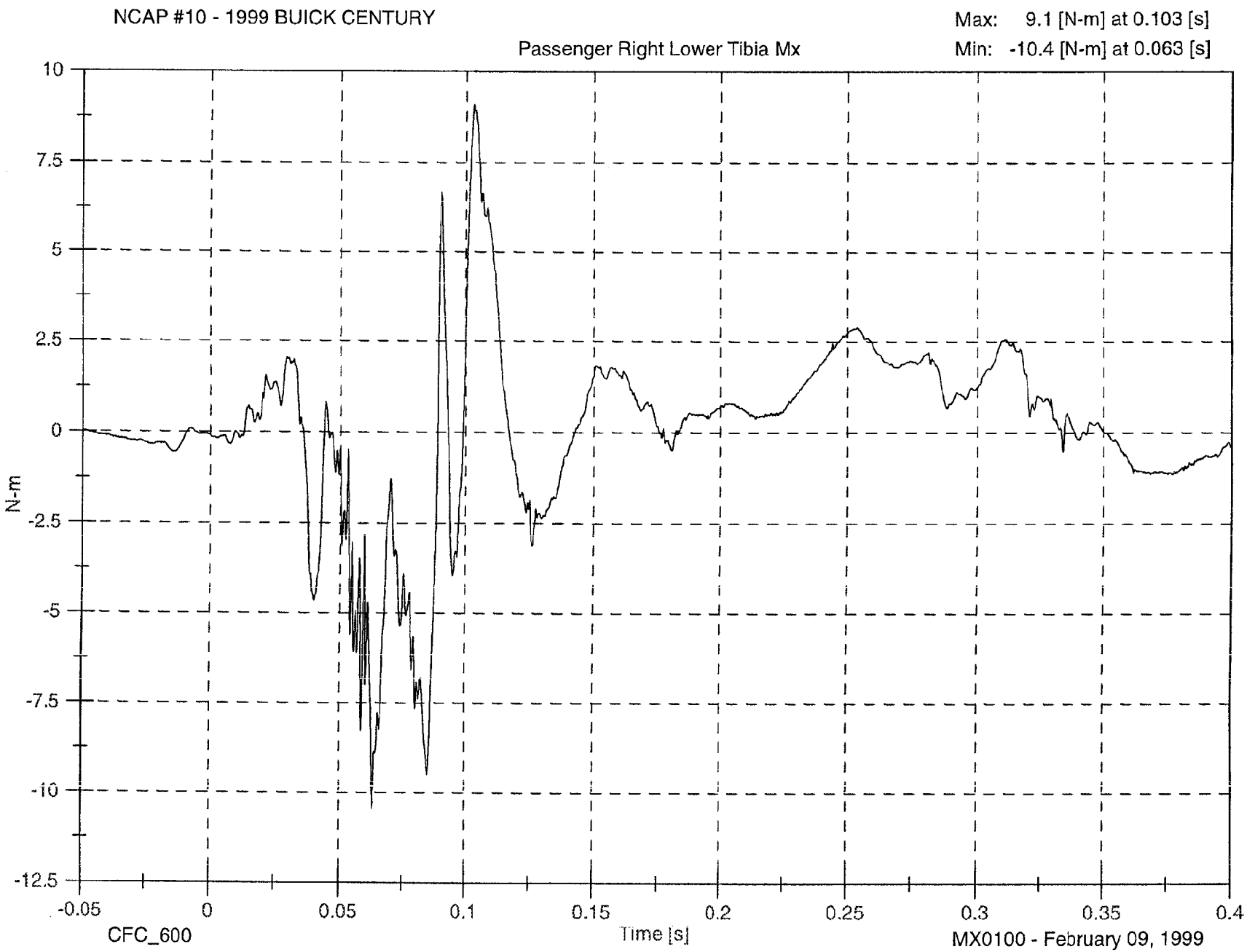

NCAP #10 - 1999 BUICK CENTURY
Max: 81.4 [N-m] at 0.061 [s]
Min: -37.4 [N-m] at 0.038 [s]
Passenger Left Lower Tibia My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
100
75
50
25
0
-25
-50
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

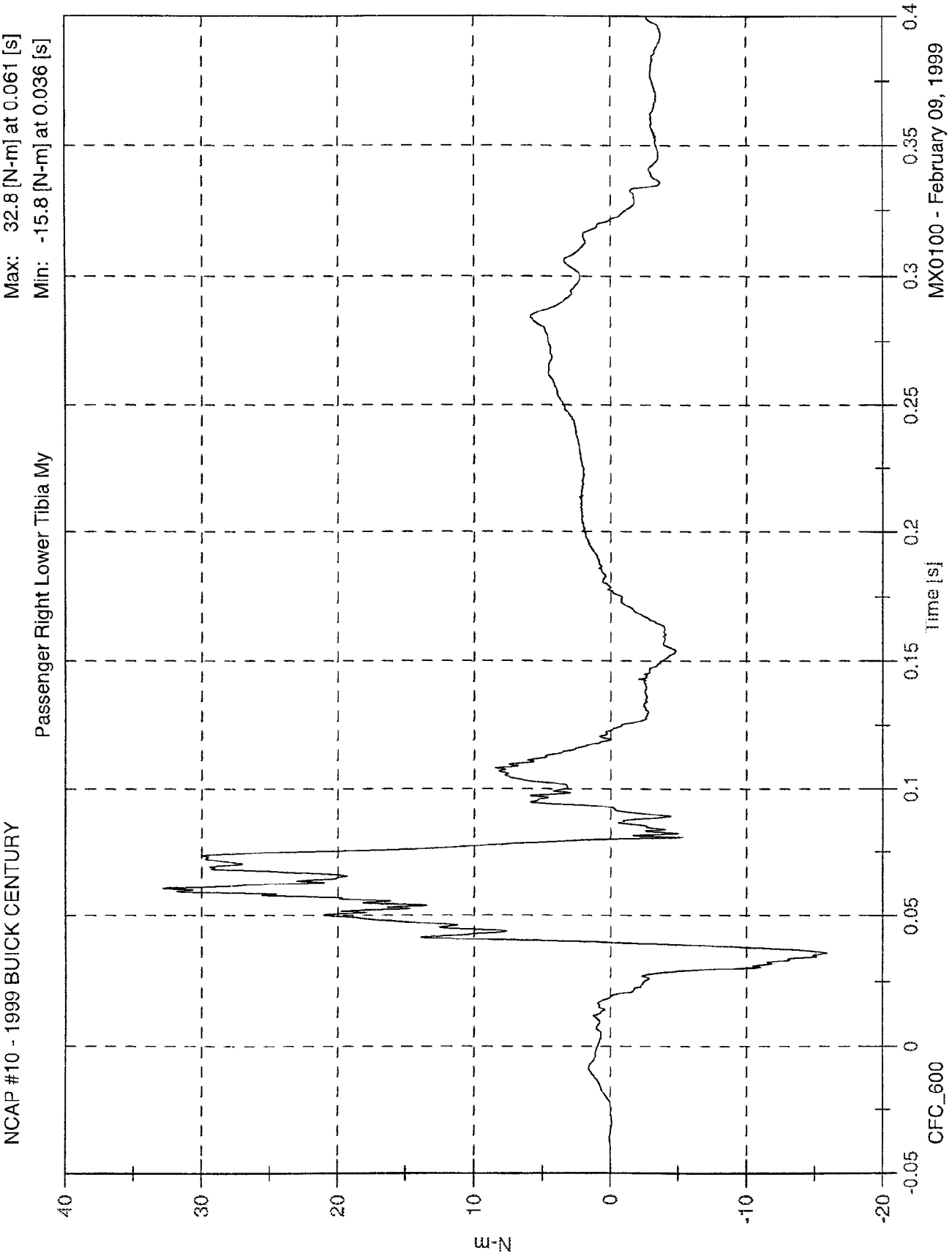

NCAP #10 - 1999 BUICK CENTURY
Max: 71.9 [N-m] at 0.087 [s]
Min: -7.2 [N-m] at 0.253 [s]
Passenger Right Upper Tibia Mx
N-m
Time [s]
MX0100 - February 09, 1999
CFC_600
80
70
60
50
40
30
20
10
0
-10
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

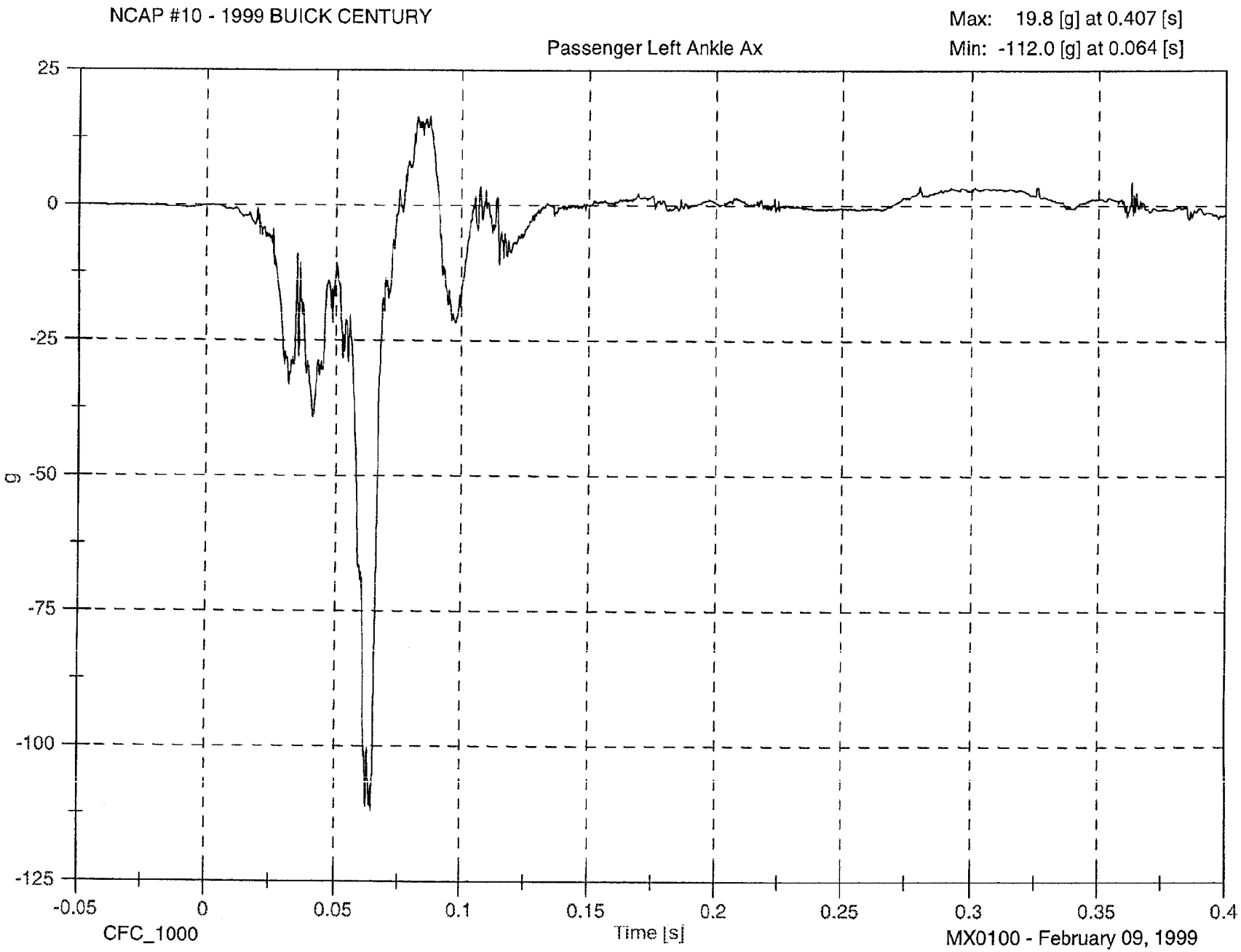

NCAP #10 - 1999 BUICK CENTURY
Max: 19.4 [N-m] at 0.154 [s]
Min: -79.3 [N-m] at 0.050 [s]
Passenger Right Upper Tibia My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
20
0
-20
-40
-60
-80
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

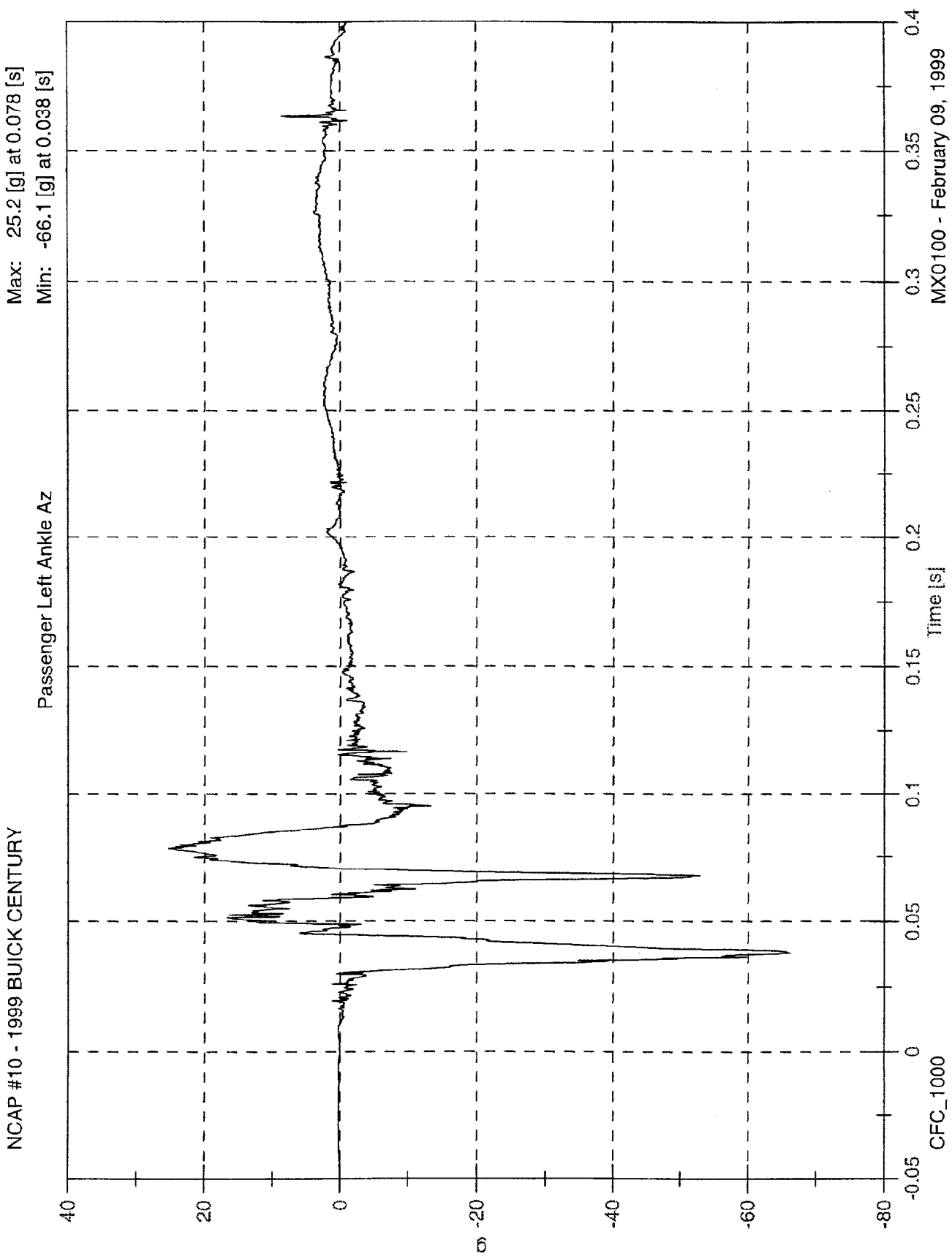
Passenger Right Lower Tibia Fz

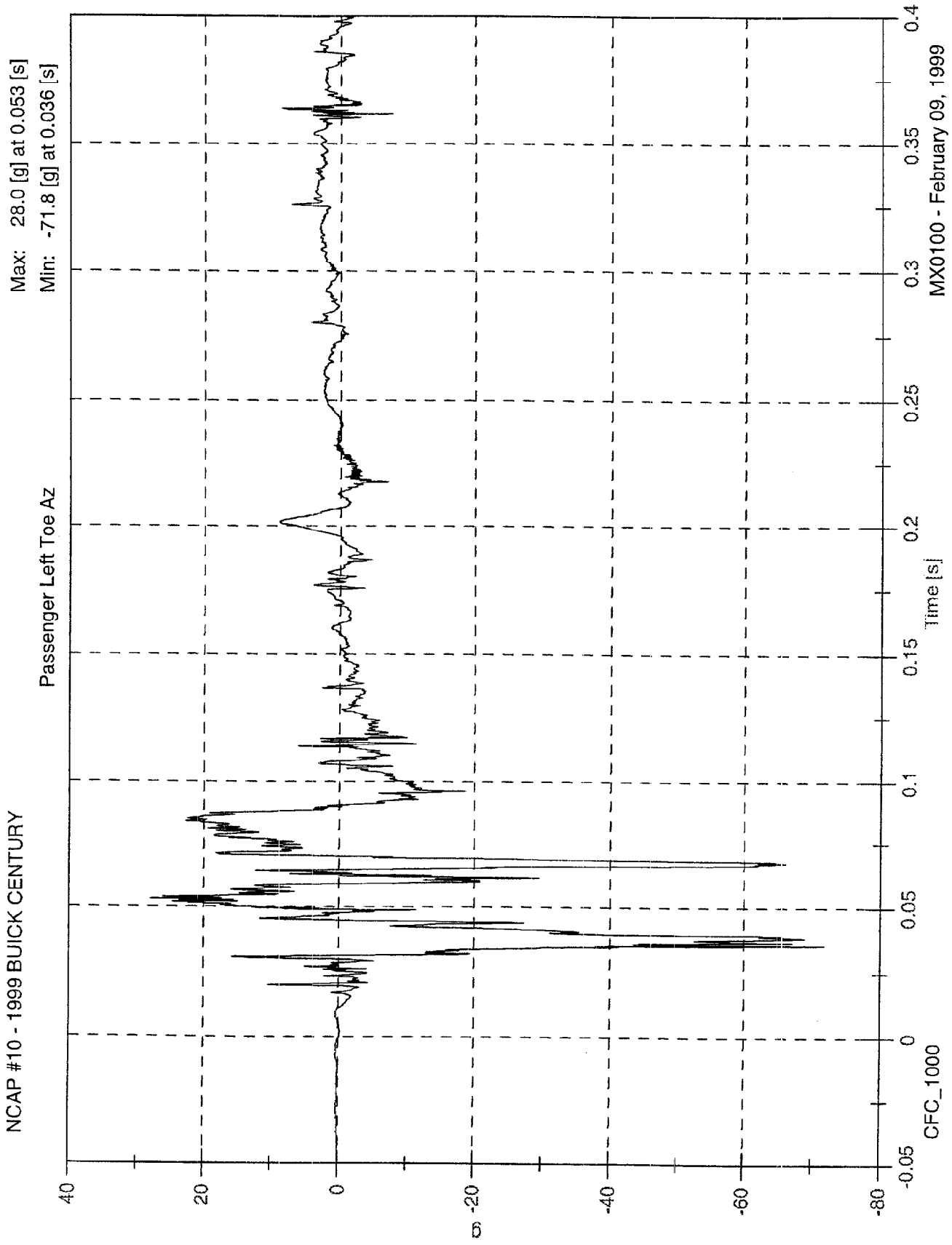
This data plot is not available

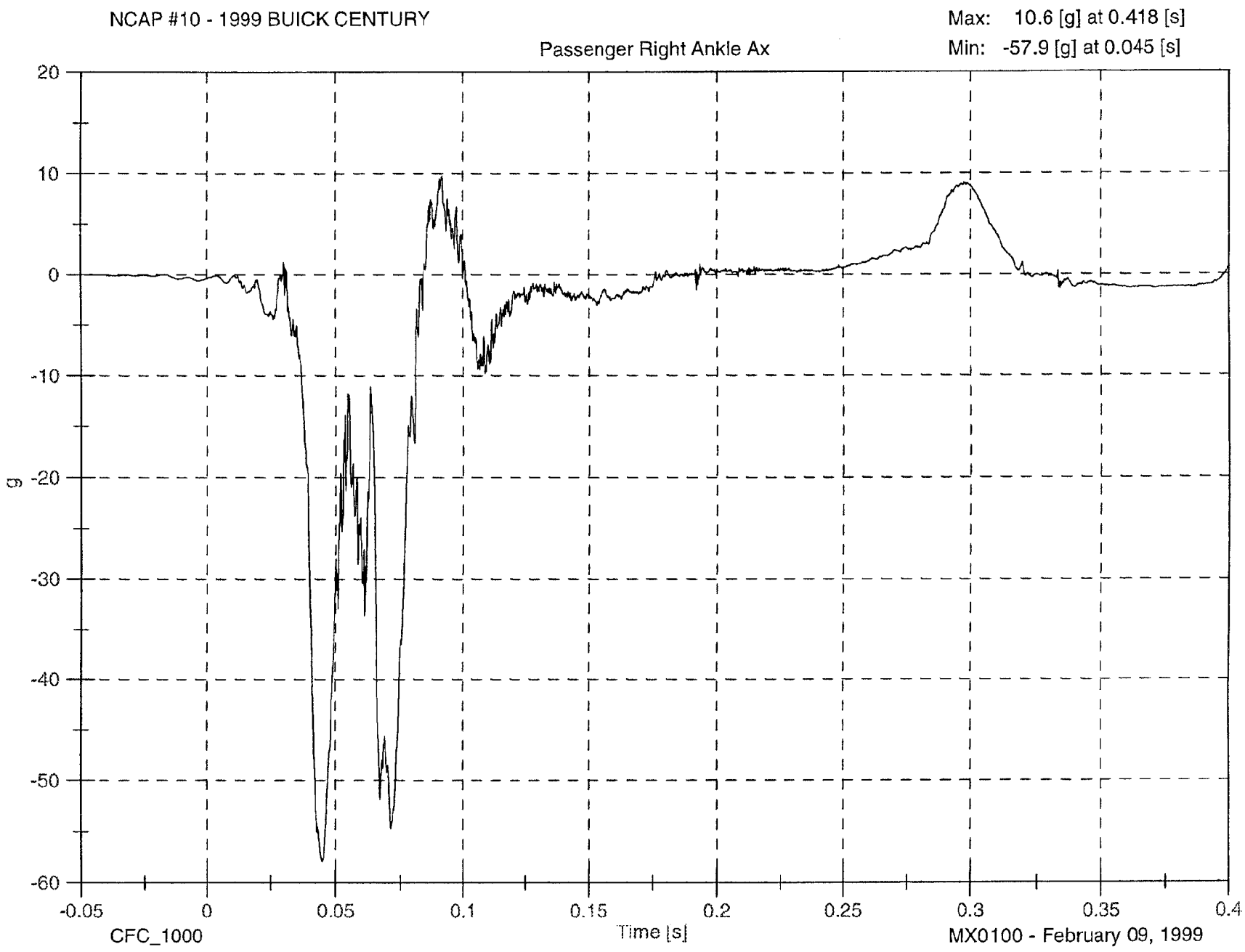

NCAP #10 - 1999 BUICK CENTURY
Passenger Right Lower Tibia Mx
Max: 9.1 [N-m] at 0.103 [s]
Min: -10.4 [N-m] at 0.063 [s]
10
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
N-m
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_600
MX0100 - February 09, 1999

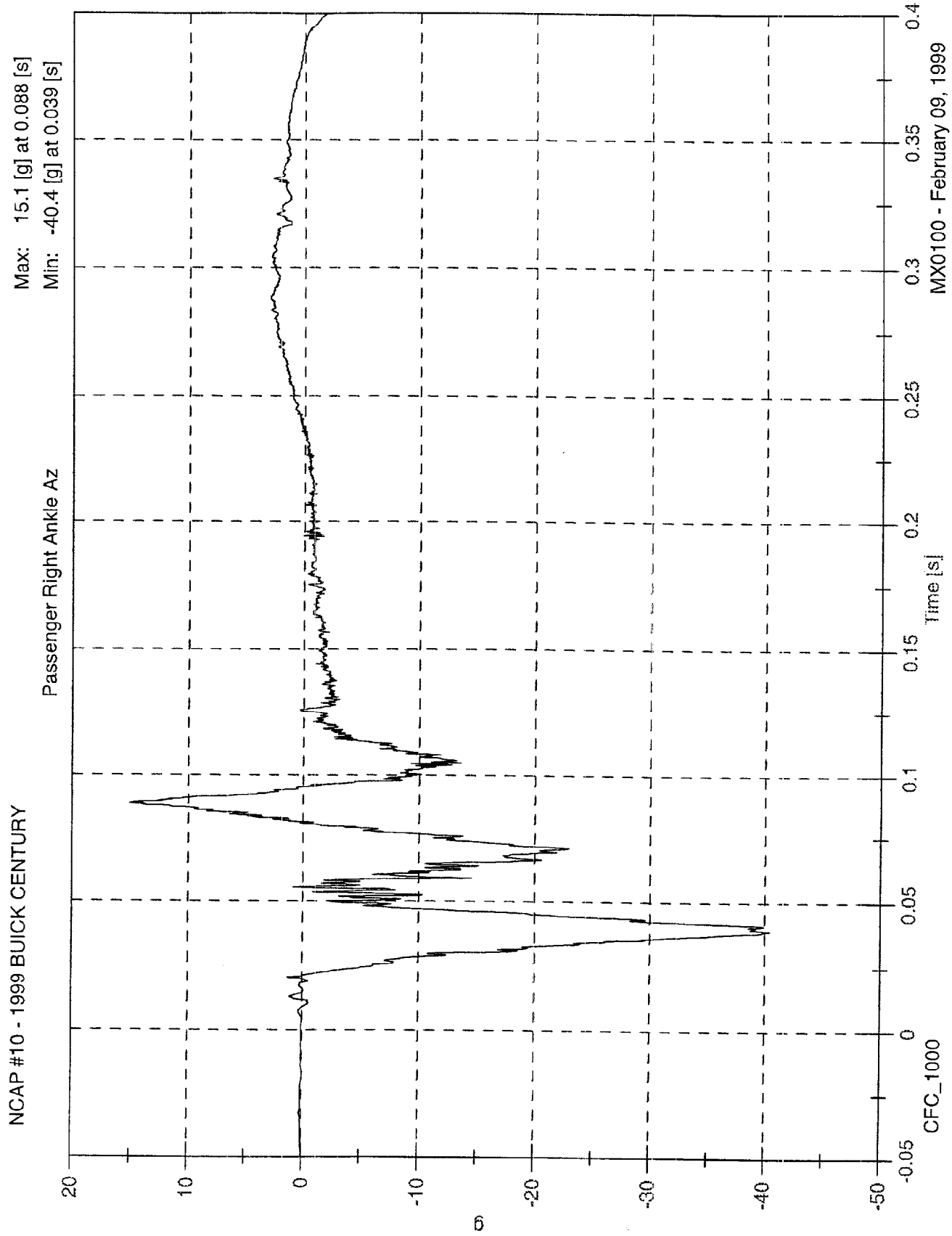

NCAP #10 - 1999 BUICK CENTURY
Max: 32.8 [N-m] at 0.061 [s]
Min: -15.8 [N-m] at 0.036 [s]
Passenger Right Lower Tibia My
MX0100 - February 09, 1999
CFC_600
N-m
Time [s]
40
30
20
10
0
-10
-20
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

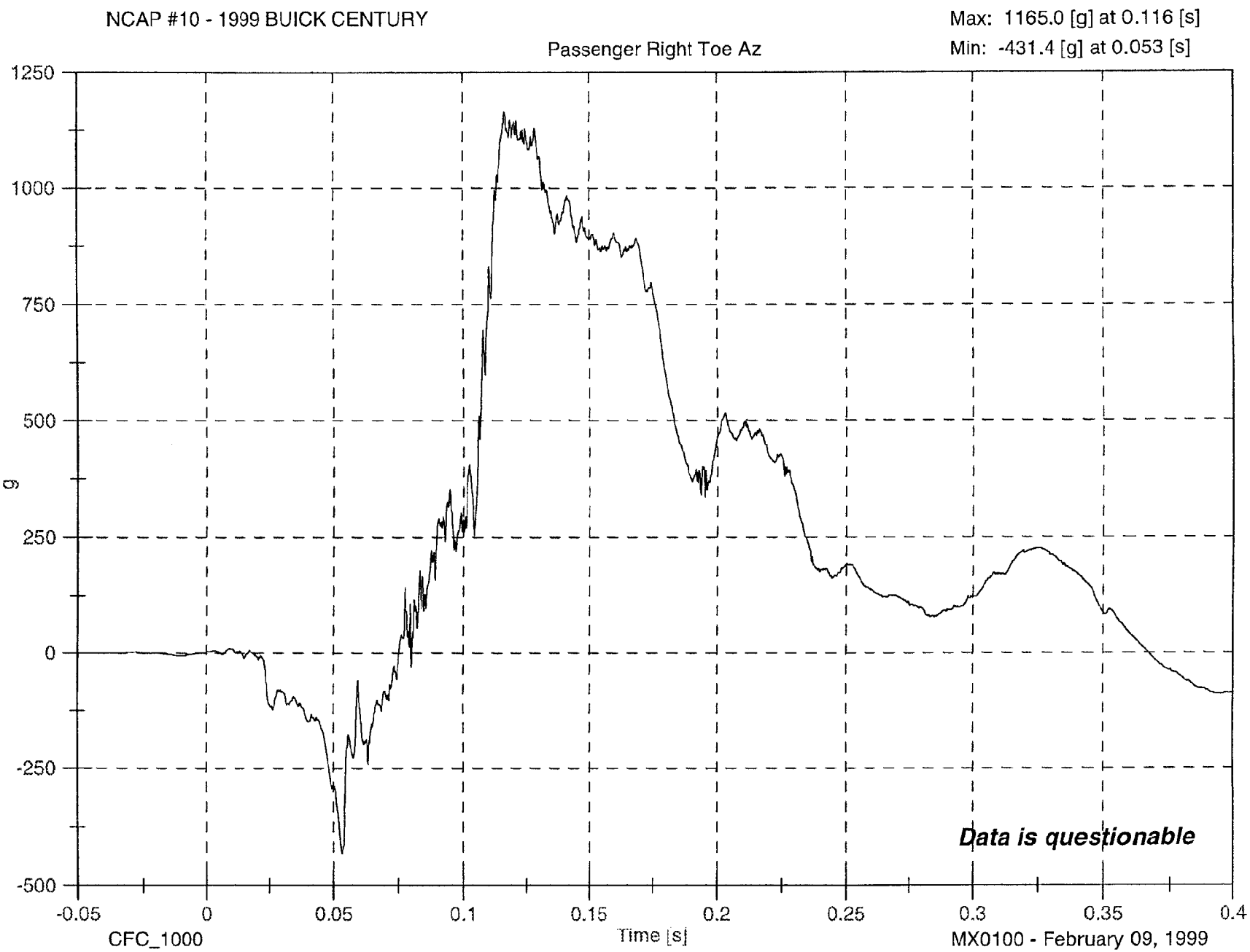

NCAP #10 - 1999 BUICK CENTURY
Passenger Left Ankle Ax
Max: 19.8 [g] at 0.407 [s]
Min: -112.0 [g] at 0.064 [s]
25
0
-25
-50
-75
-100
-125
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

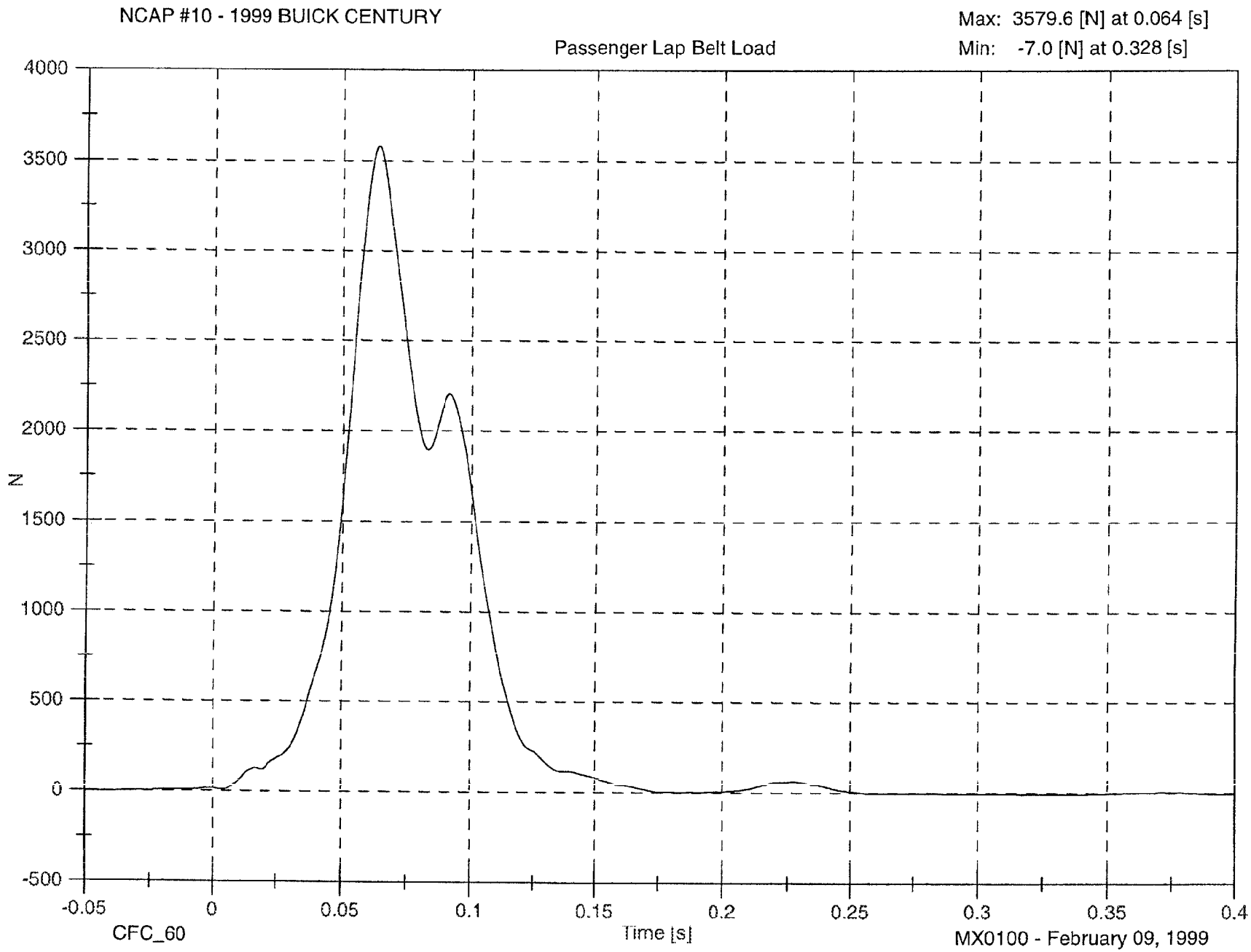

NCAP #10 - 1999 BUICK CENTURY
Max: 25.2 [g] at 0.078 [s]
Min: -66.1 [g] at 0.038 [s]
Passenger Left Ankle Az
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
40
20
0
-20
-40
-60
-80
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

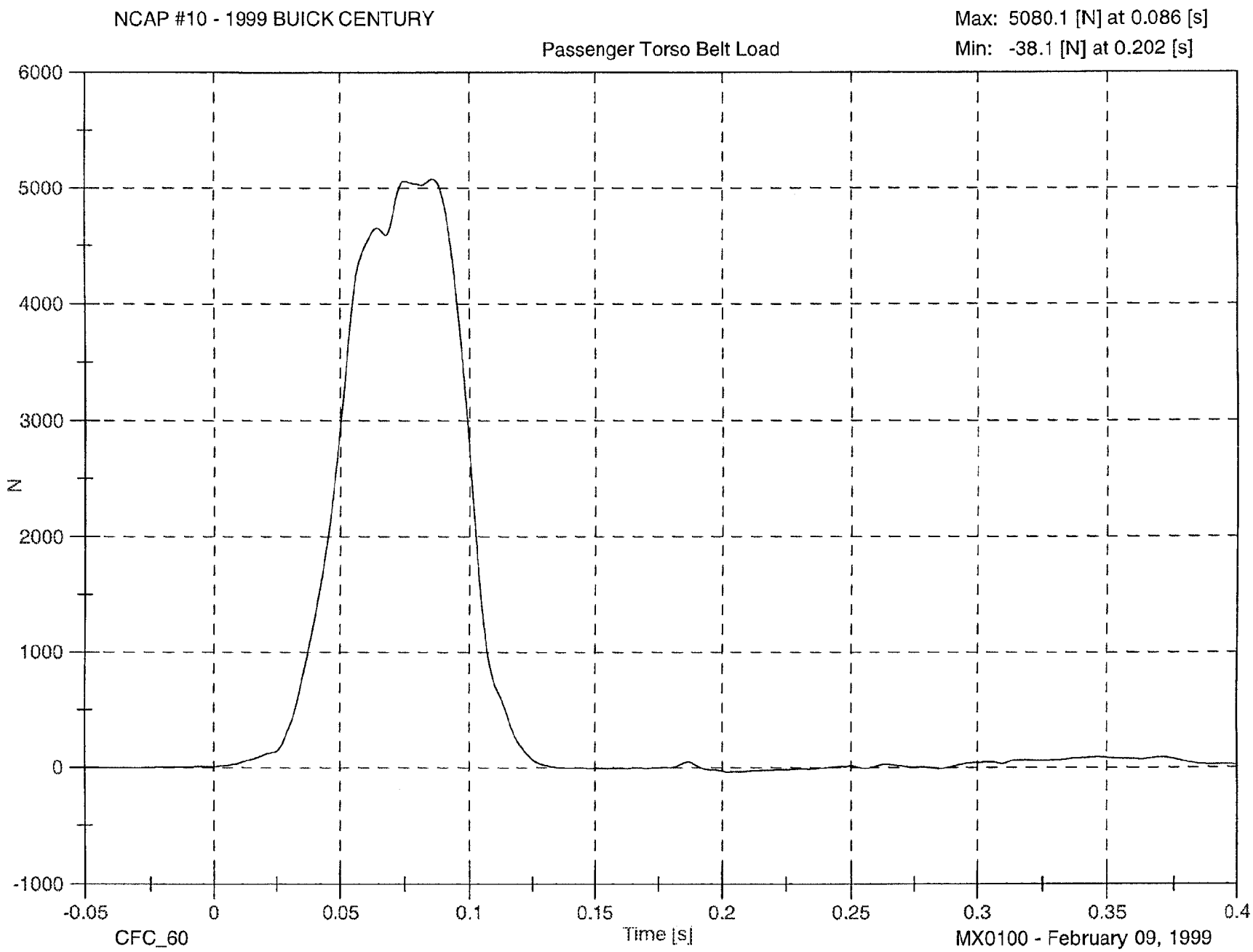

NCAP #10 - 1999 BUICK CENTURY
Max: 28.0 [g] at 0.053 [s]
Min: -71.8 [g] at 0.036 [s]
Passenger Left Toe Az
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
40
20
0
-20
-40
-60
-80
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

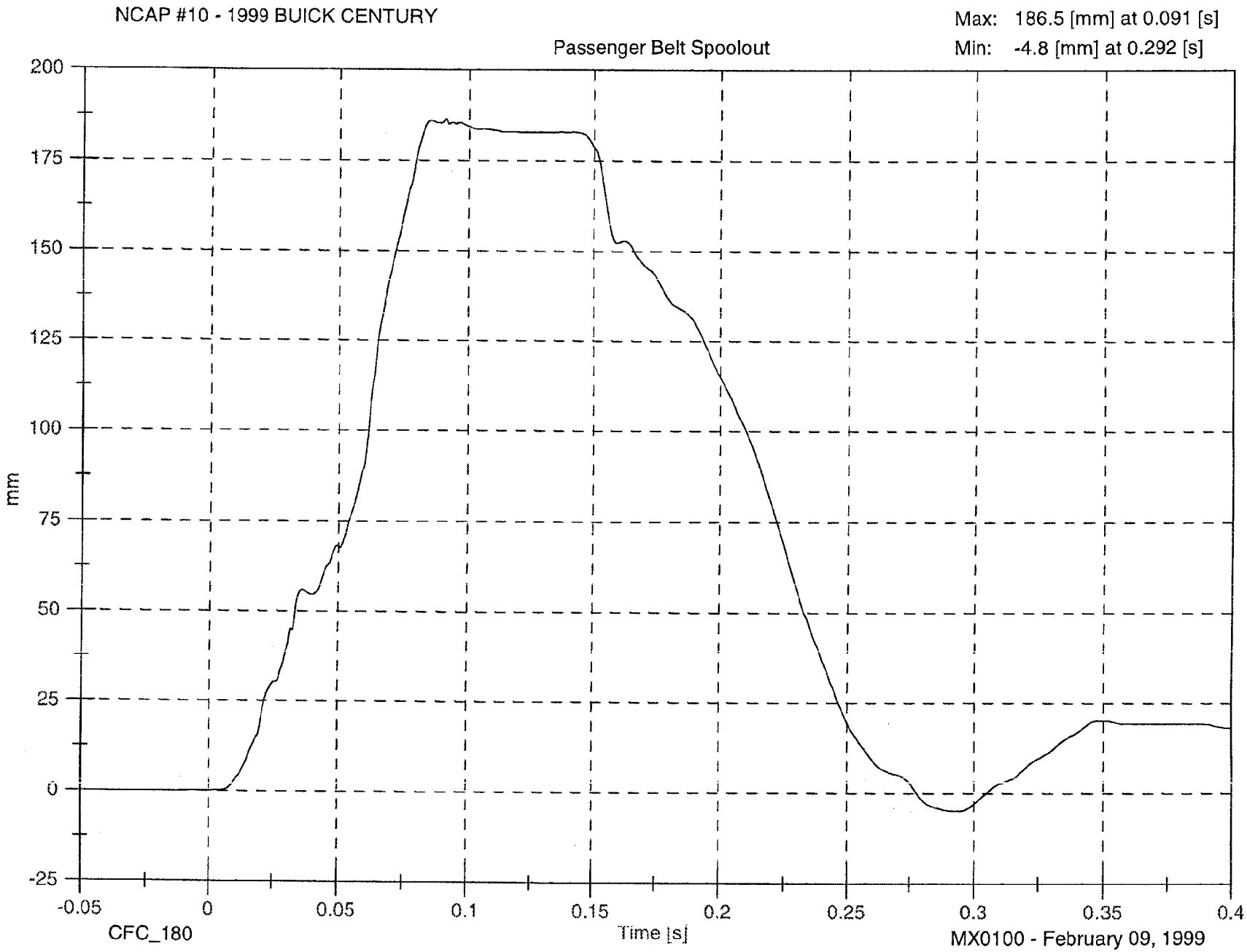

NCAP #10 - 1999 BUICK CENTURY
Passenger Right Ankle Ax
Max: 10.6 [g] at 0.418 [s]
Min: -57.9 [g] at 0.045 [s]
20
10
0
-10
-20
-30
-40
-50
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999

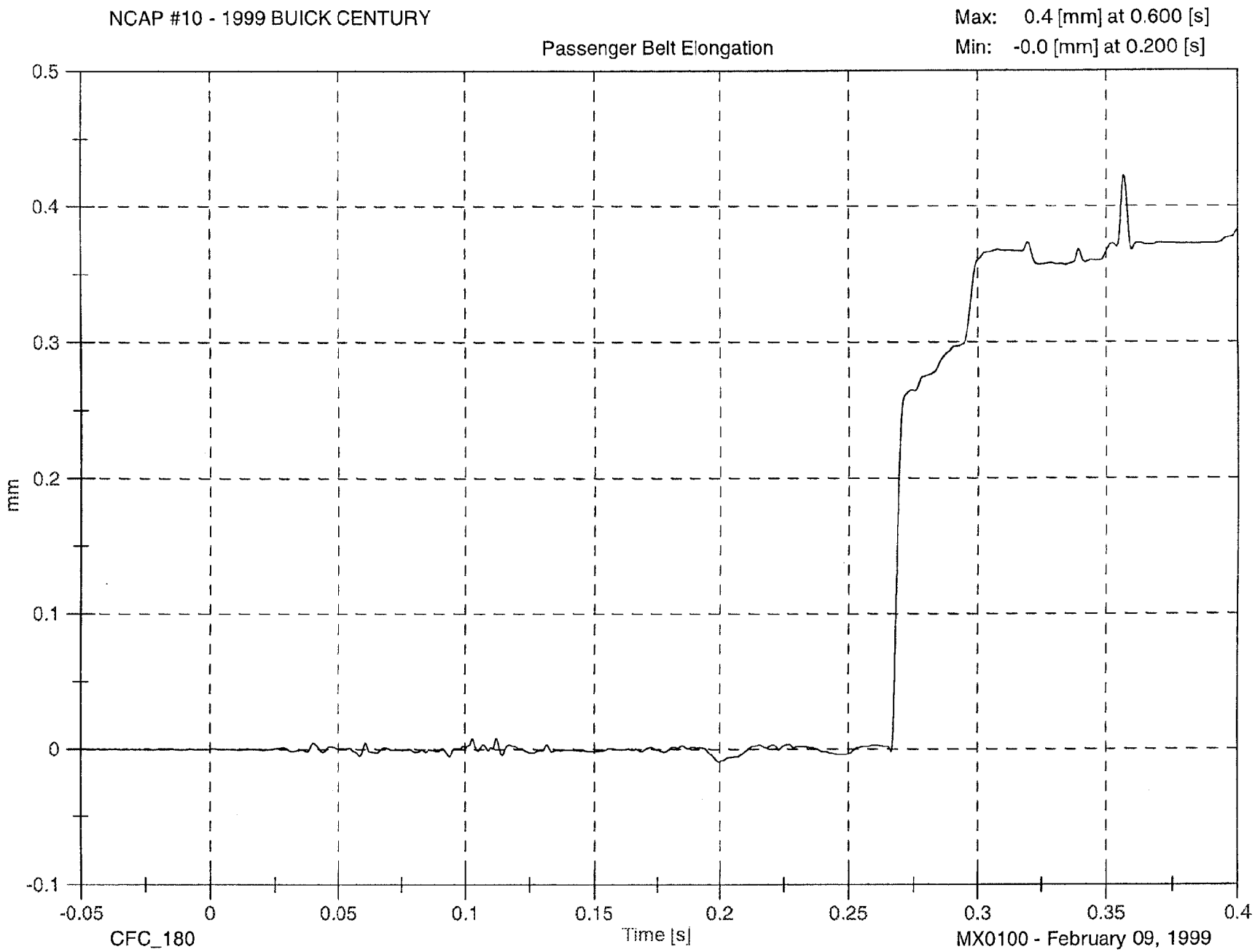

NCAP #10 - 1999 BUICK CENTURY
Passenger Right Ankle Az
Max: 15.1 [g] at 0.088 [s]
Min: -40.4 [g] at 0.039 [s]
MX0100 - February 09, 1999
CFC_1000
Time [s]
g
20
10
0
-10
-20
-30
-40
-50
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4


NCAP #10 - 1999 BUICK CENTURY
Passenger Right Toe Az
Max: 1165.0 [g] at 0.116 [s]
Min: -431.4 [g] at 0.053 [s]
1250
1000
750
500
250
0
-250
-500
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_1000
MX0100 - February 09, 1999
Data is questionable


NCAP #10 - 1999 BUICK CENTURY
Passenger Lap Belt Load
Max: 3579.6 [N] at 0.064 [s]
Min: -7.0 [N] at 0.328 [s]
4000
3500
3000
2500
2000
1500
1000
500
0
-500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999

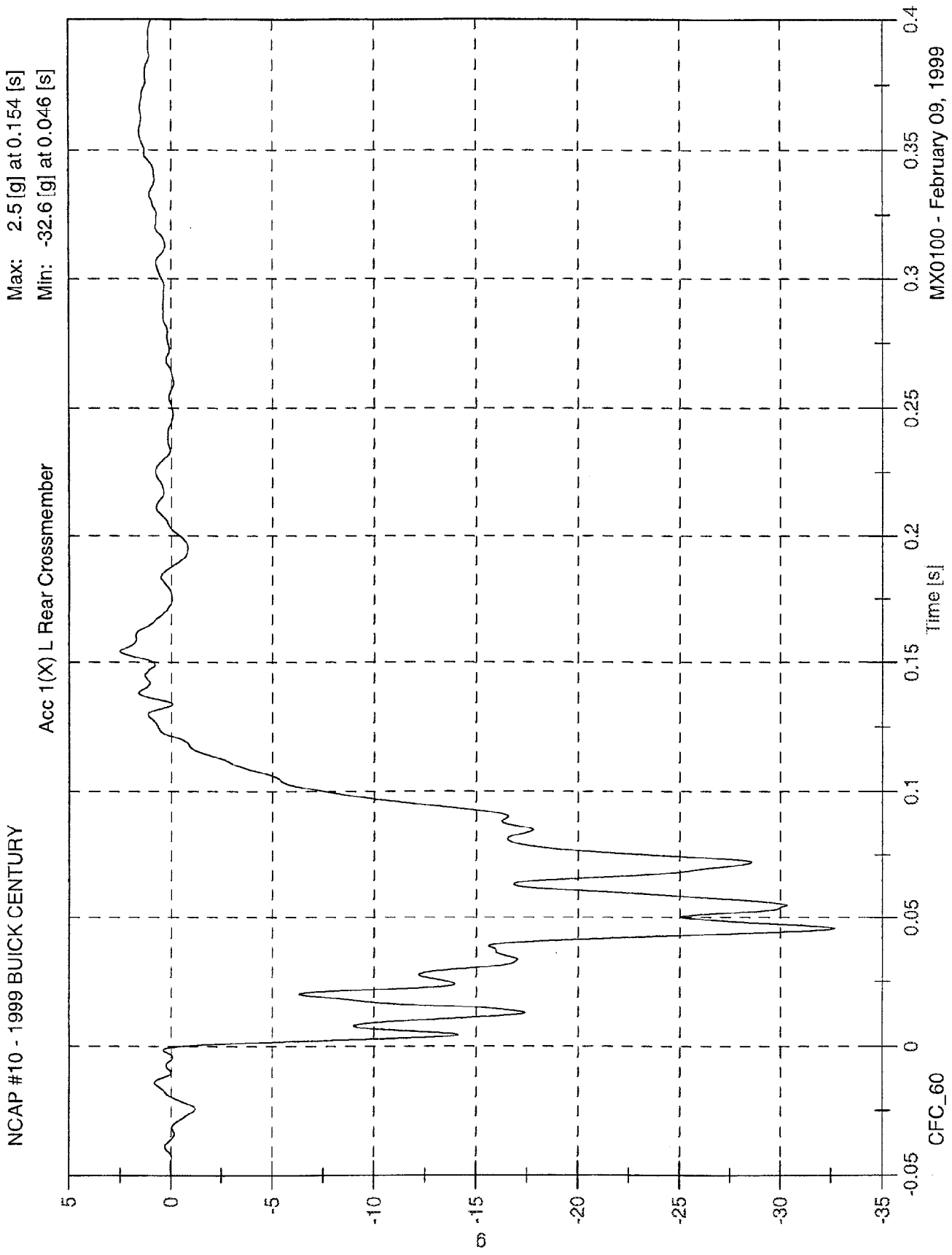

NCAP #10 - 1999 BUICK CENTURY
Passenger Torso Belt Load
Max: 5080.1 [N] at 0.086 [s]
Min: -38.1 [N] at 0.202 [s]
6000
5000
4000
3000
2000
1000
0
-1000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999

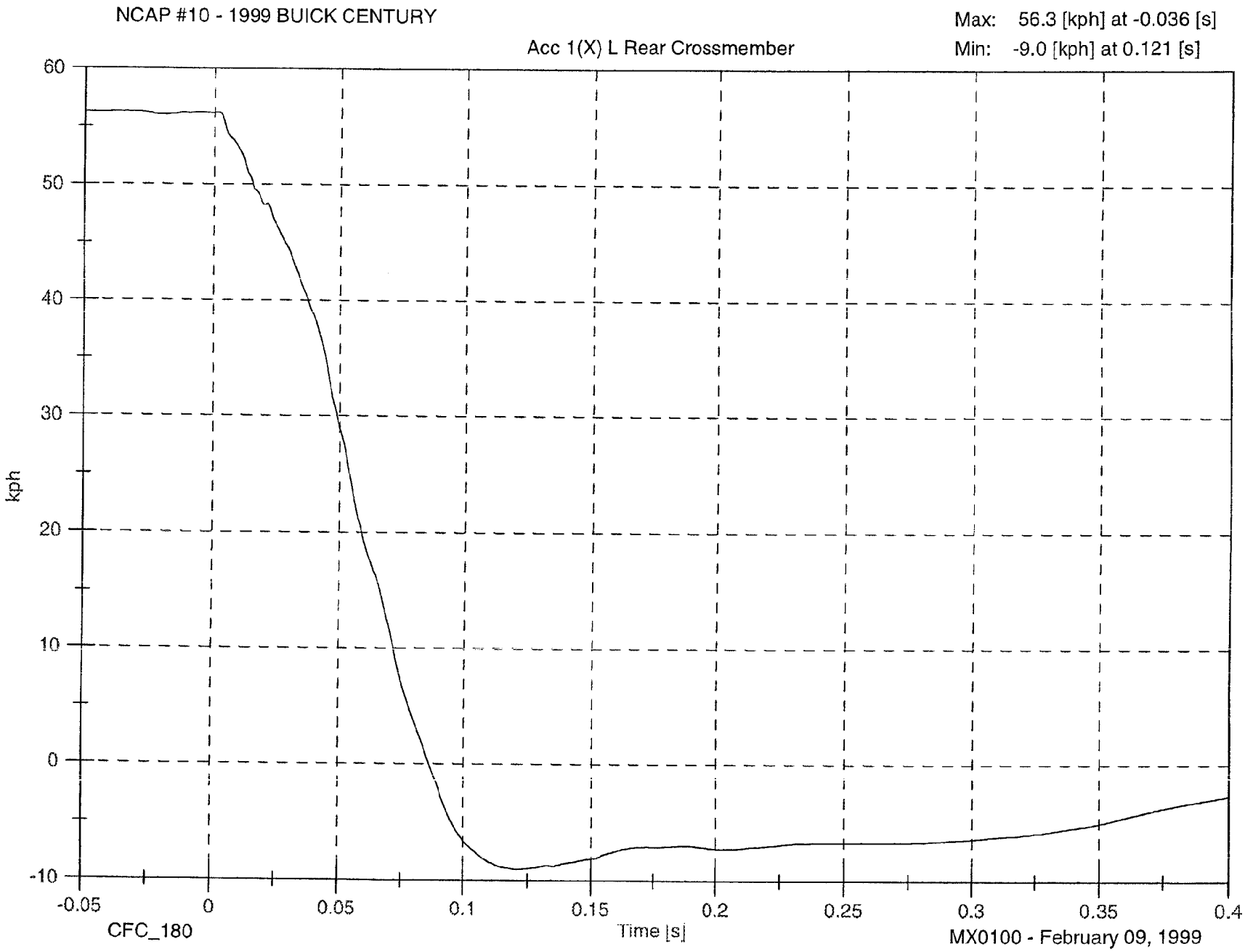

NCAP #10 - 1999 BUICK CENTURY
Passenger Belt Spoolout
Max: 186.5 [mm] at 0.091 [s]
Min: -4.8 [mm] at 0.292 [s]
200
175
150
125
100
75
50
25
0
-25
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

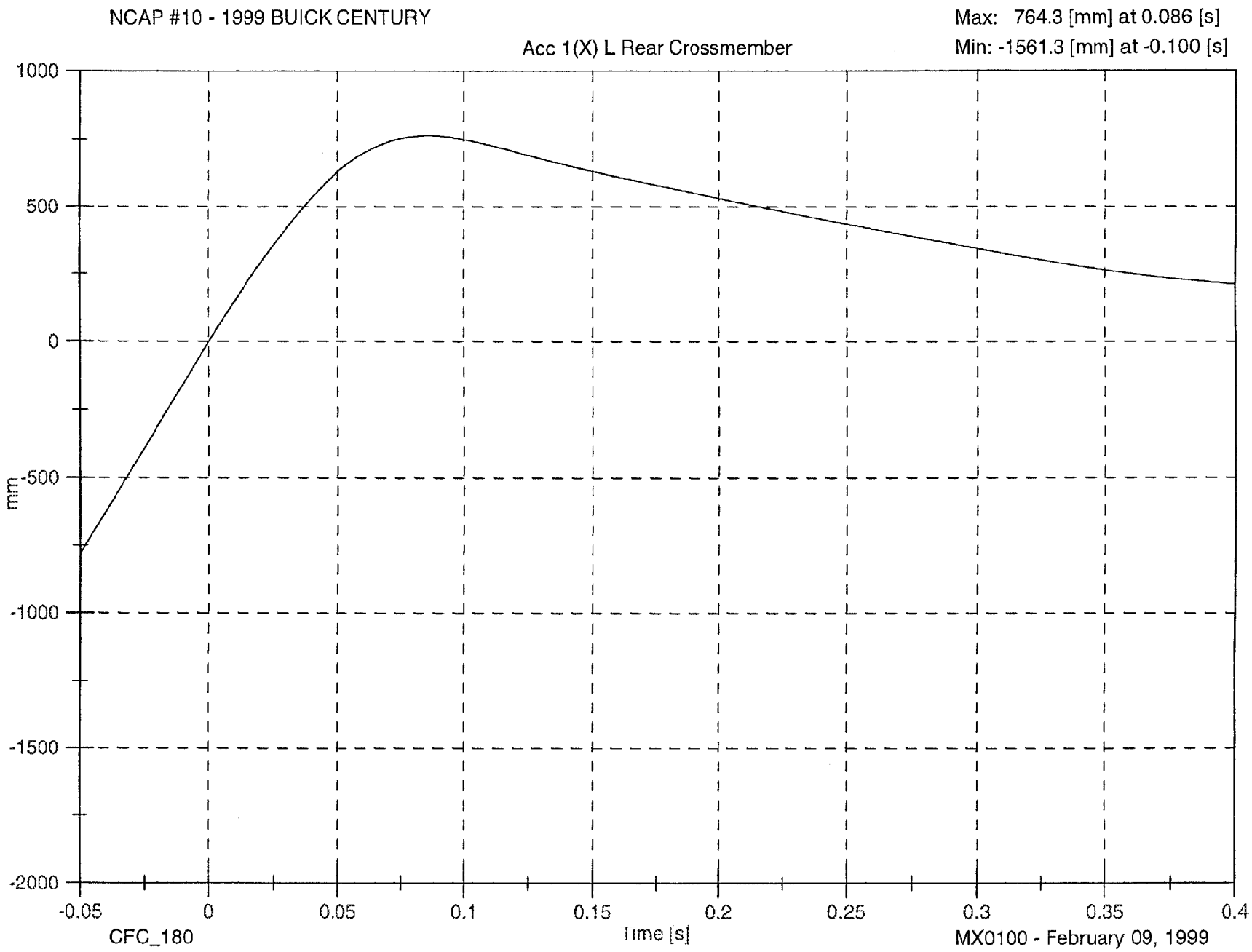

NCAP #10 - 1999 BUICK CENTURY
Passenger Belt Elongation
Max: 0.4 [mm] at 0.600 [s]
Min: -0.0 [mm] at 0.200 [s]
mm
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

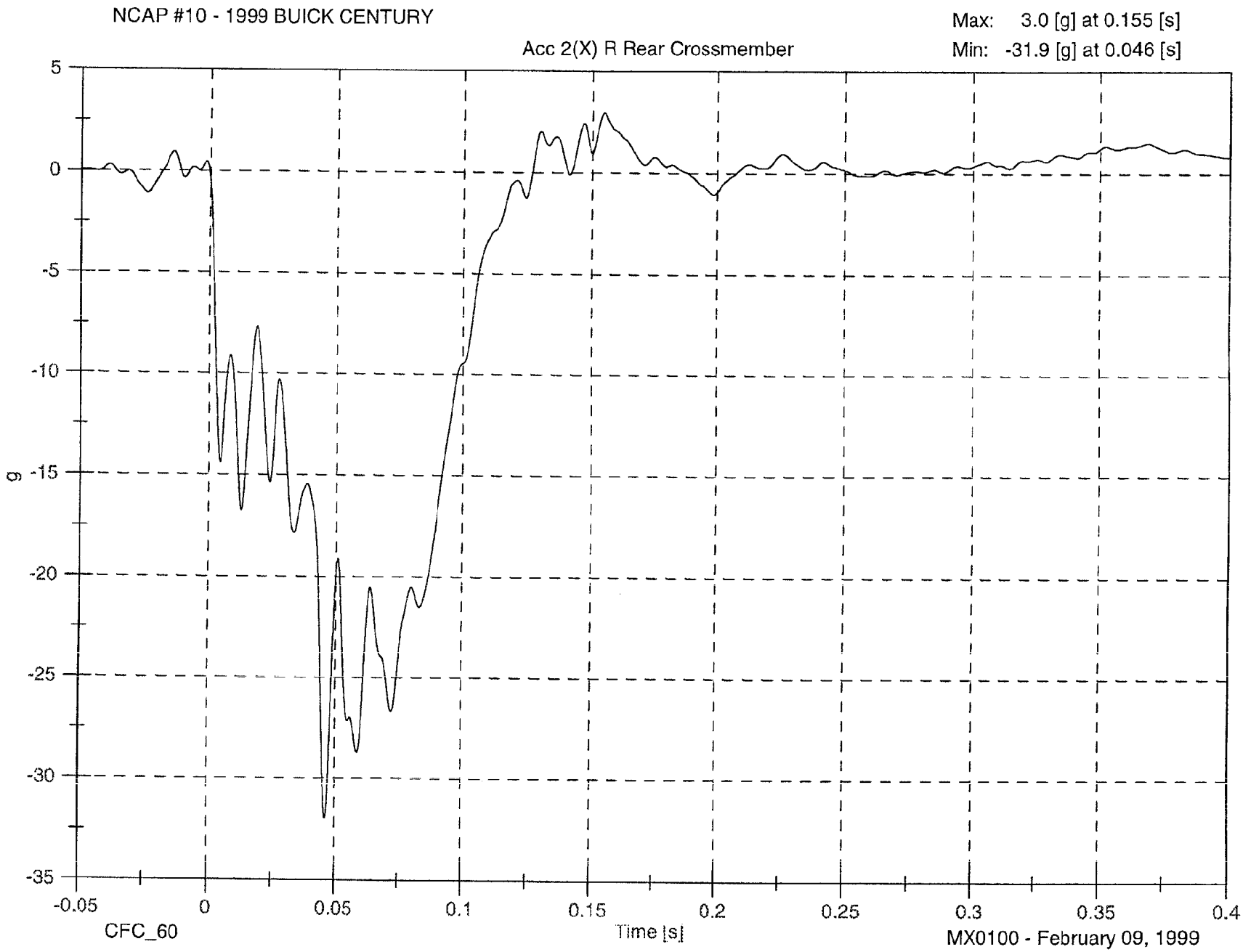
NHTSA TEST NO. MX0100

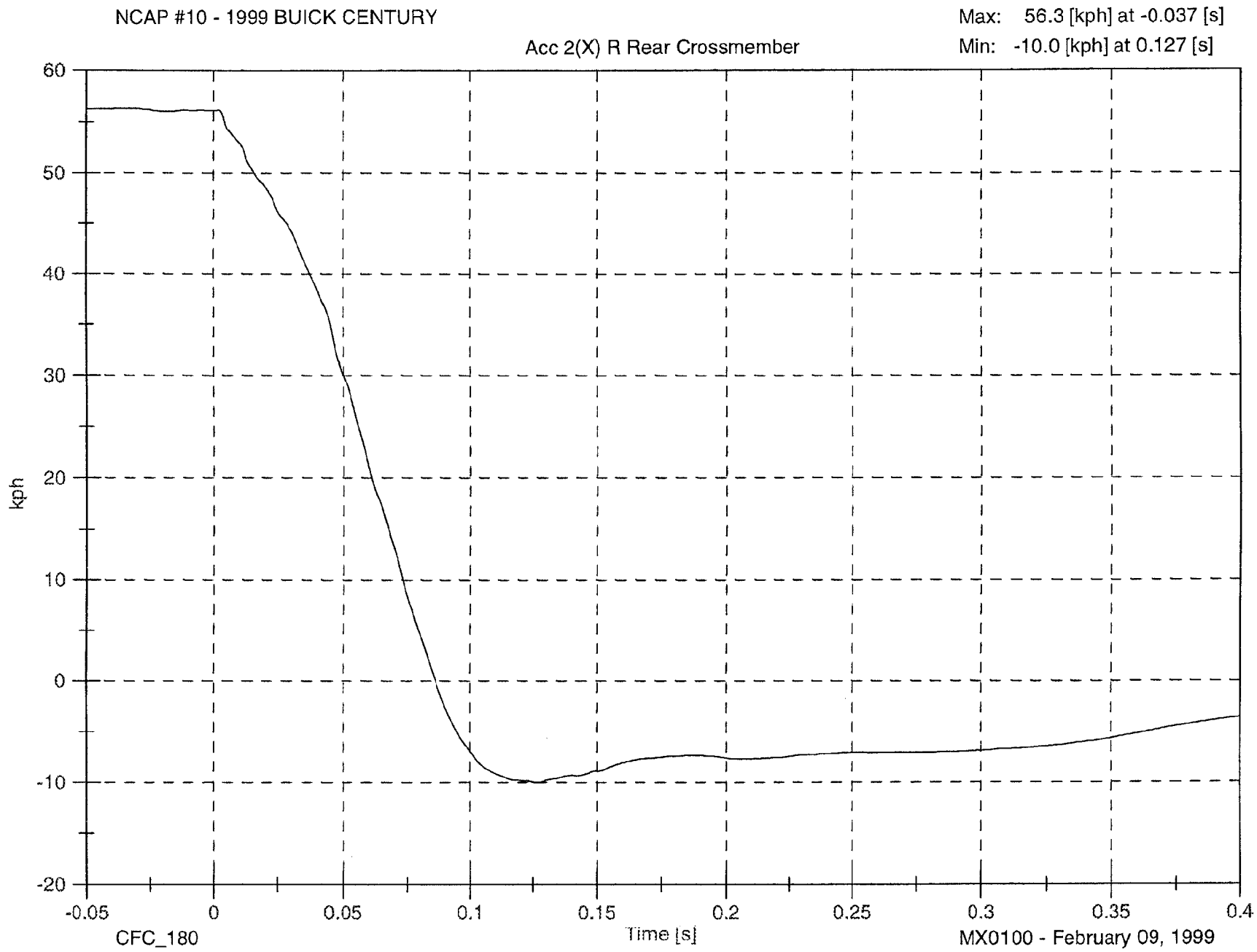
VEHICLE DATA	FILTER CHANNEL CLASS
Acceleration	60
Velocity	180
Displacement	180

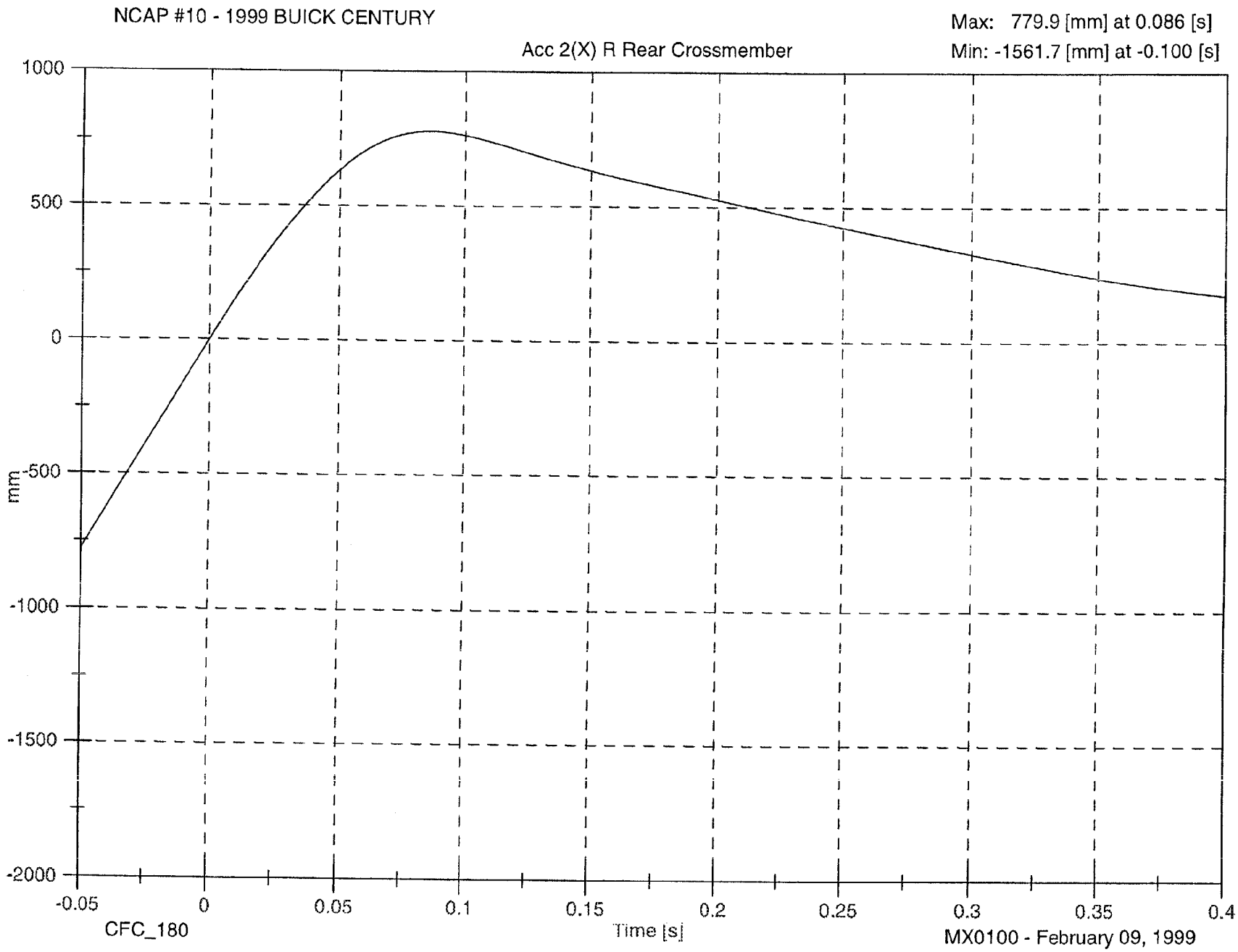

NCAP #10 - 1999 BUICK CENTURY
Max: 2.5 [g] at 0.154 [s]
Min: -32.6 [g] at 0.046 [s]
Acc 1(X) L Rear Crossmember
MX0100 - February 09, 1999
CFC_60
Time [s]
g
5
0
-5
-10
-15
-20
-25
-30
-35
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

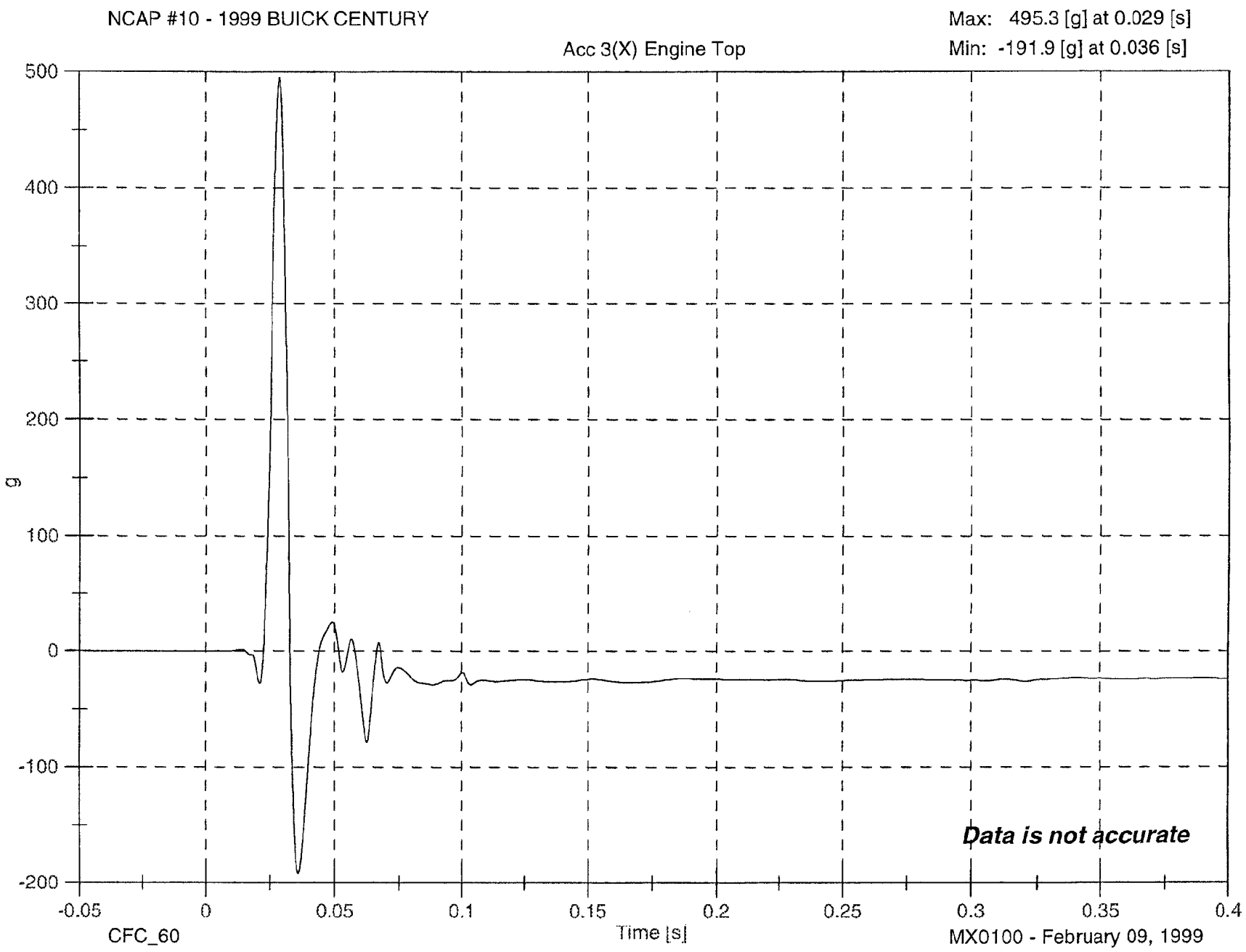

NCAP #10 - 1999 BUICK CENTURY
Acc 1(X) L Rear Crossmember
Max: 56.3 [kph] at -0.036 [s]
Min: -9.0 [kph] at 0.121 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

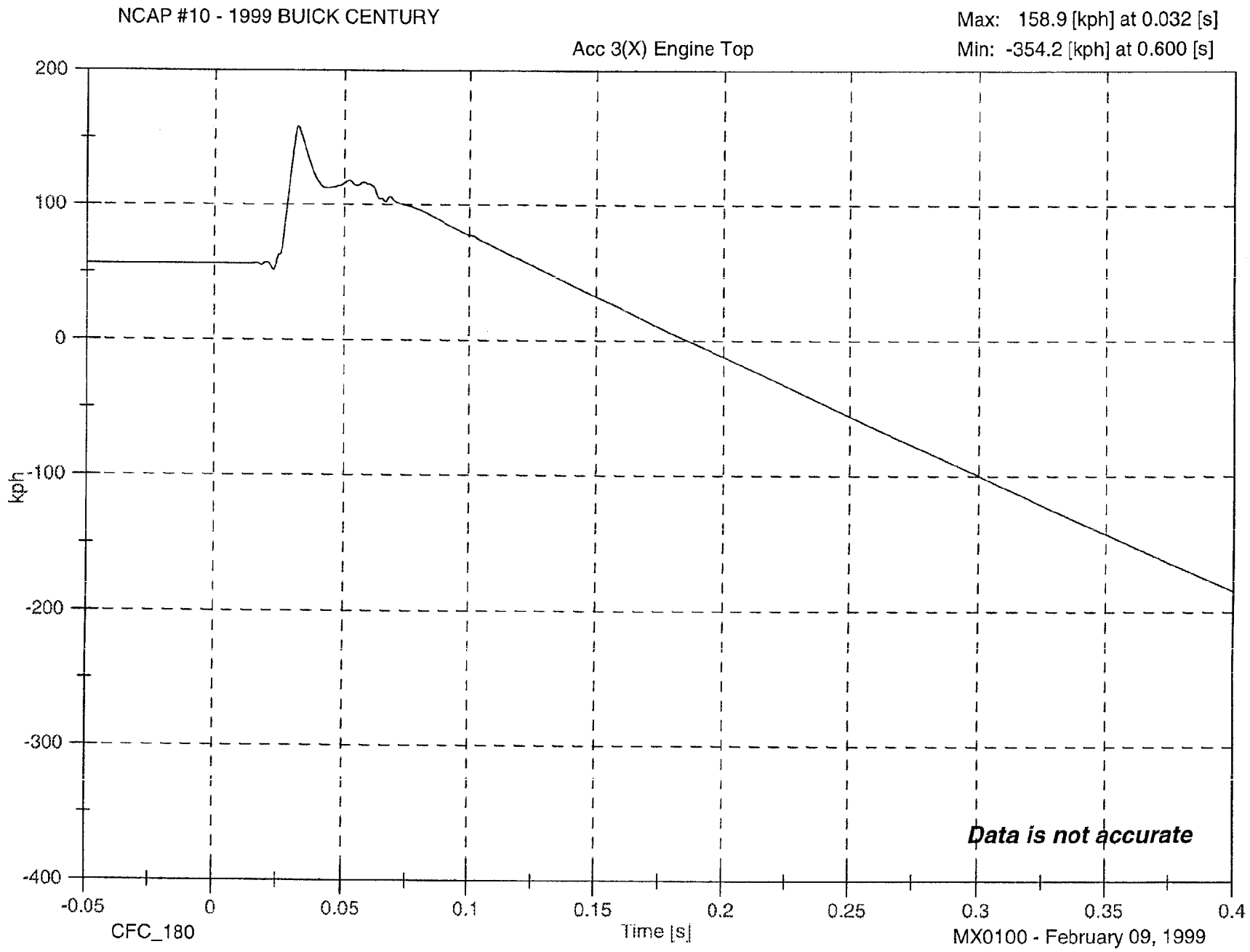

NCAP #10 - 1999 BUICK CENTURY
Max: 764.3 [mm] at 0.086 [s]
Acc 1(X) L Rear Crossmember
Min: -1561.3 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

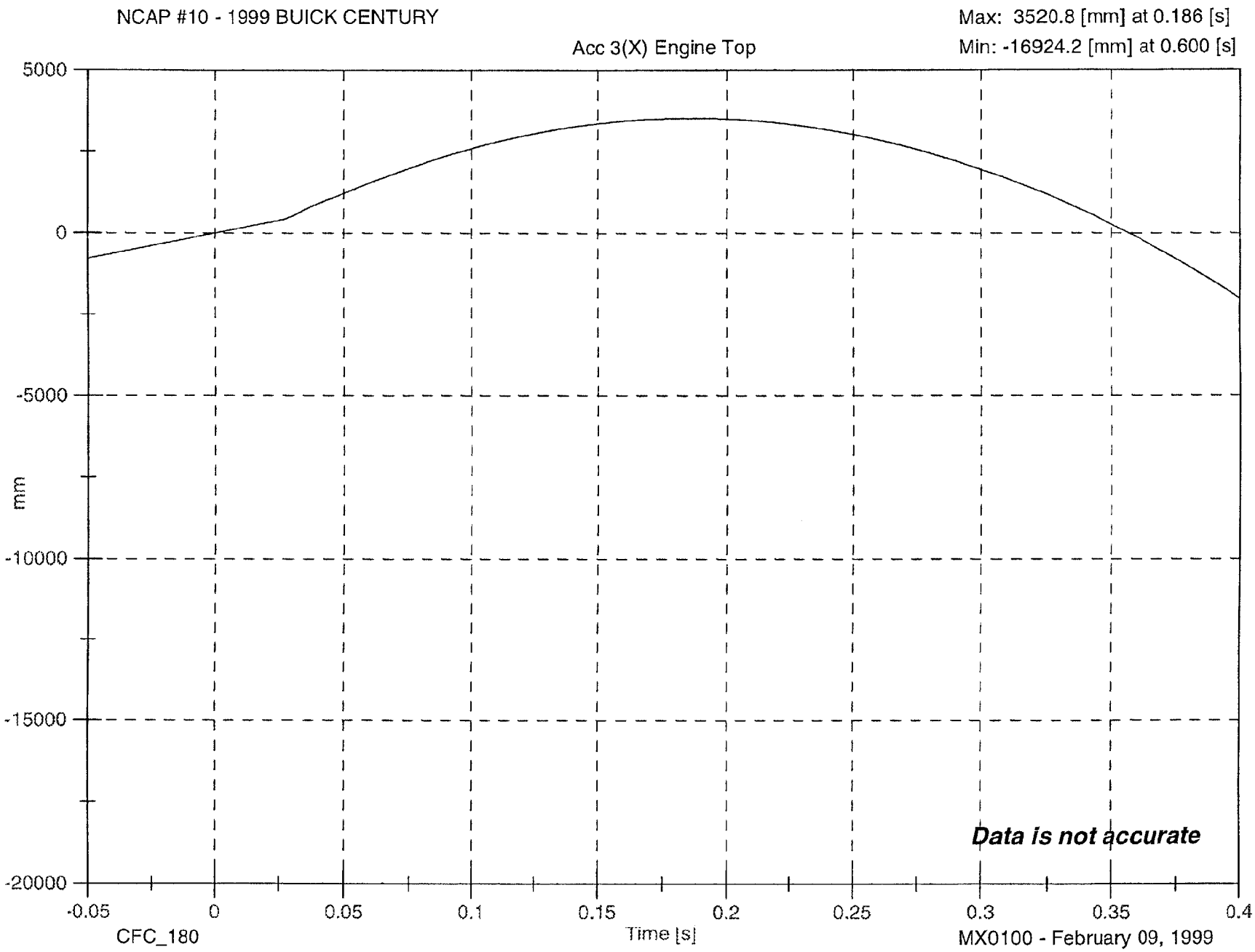

NCAP #10 - 1999 BUICK CENTURY
Acc 2(X) R Rear Crossmember
Max: 3.0 [g] at 0.155 [s]
Min: -31.9 [g] at 0.046 [s]
5
0
-5
-10
-15
-20
-25
-30
-35
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999

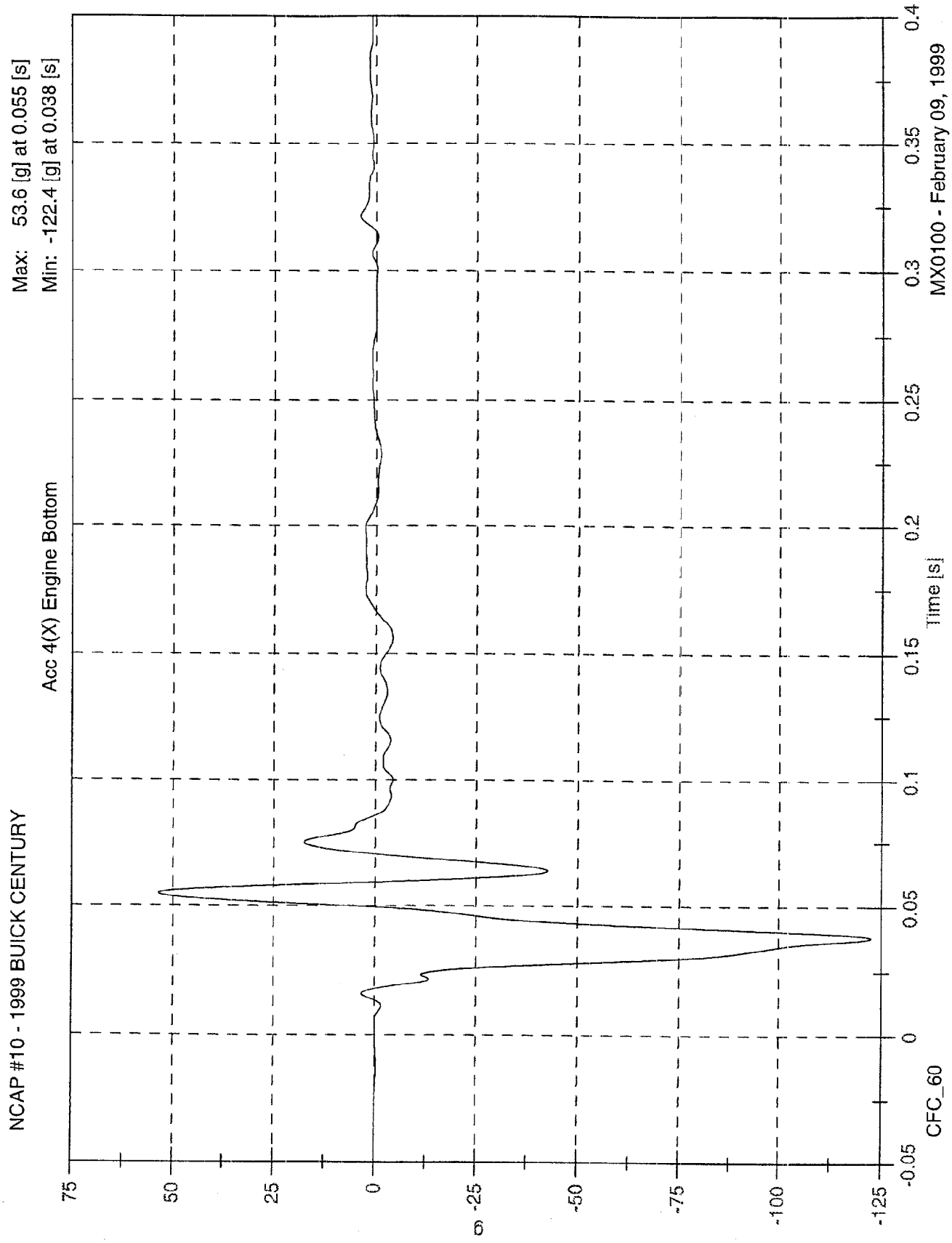

NCAP #10 - 1999 BUICK CENTURY
Acc 2(X) R Rear Crossmember
Max: 56.3 [kph] at -0.037 [s]
Min: -10.0 [kph] at 0.127 [s]
60
50
40
30
20
10
0
-10
-20
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

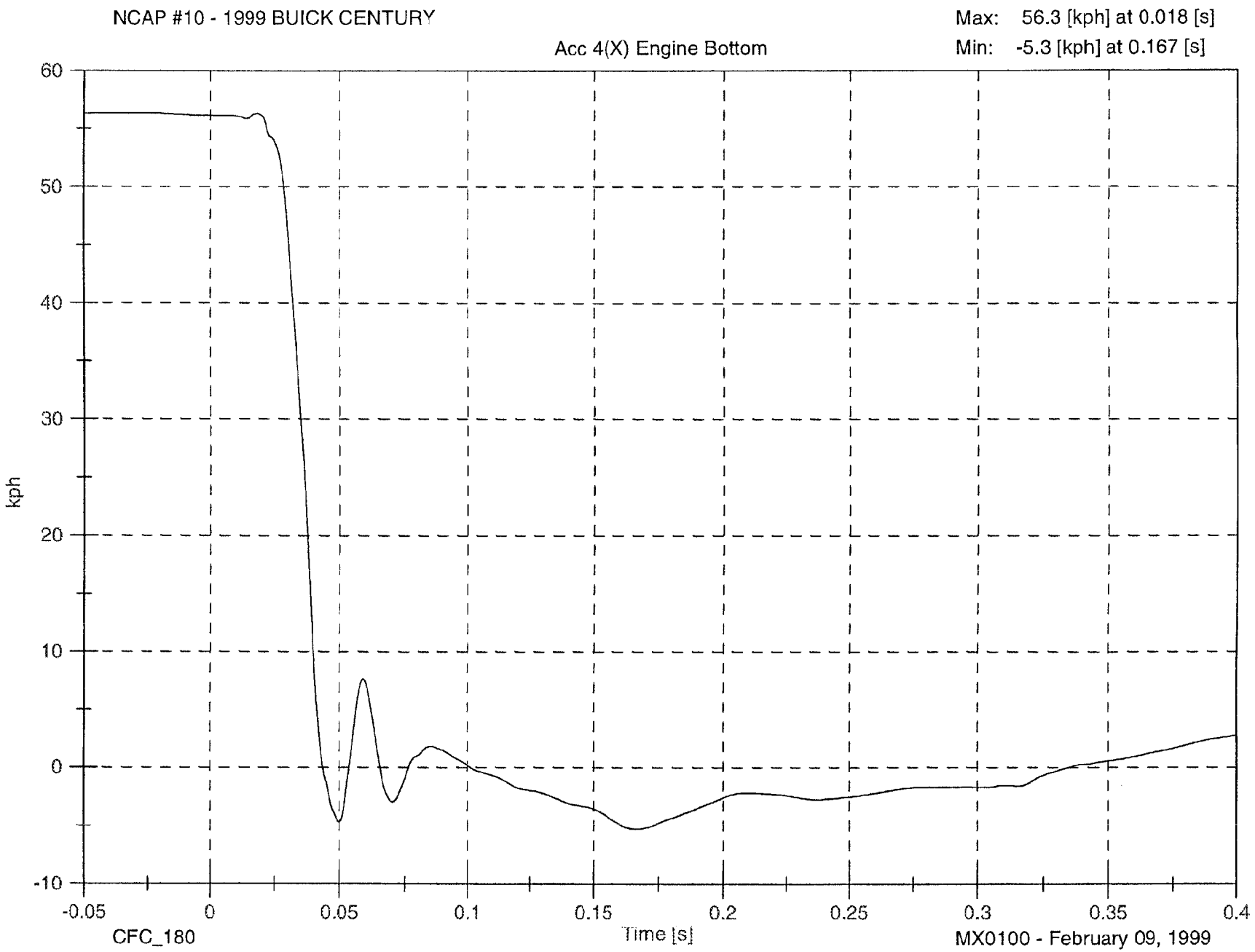

NCAP #10 - 1999 BUICK CENTURY
Acc 2(X) R Rear Crossmember
Max: 779.9 [mm] at 0.086 [s]
Min: -1561.7 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

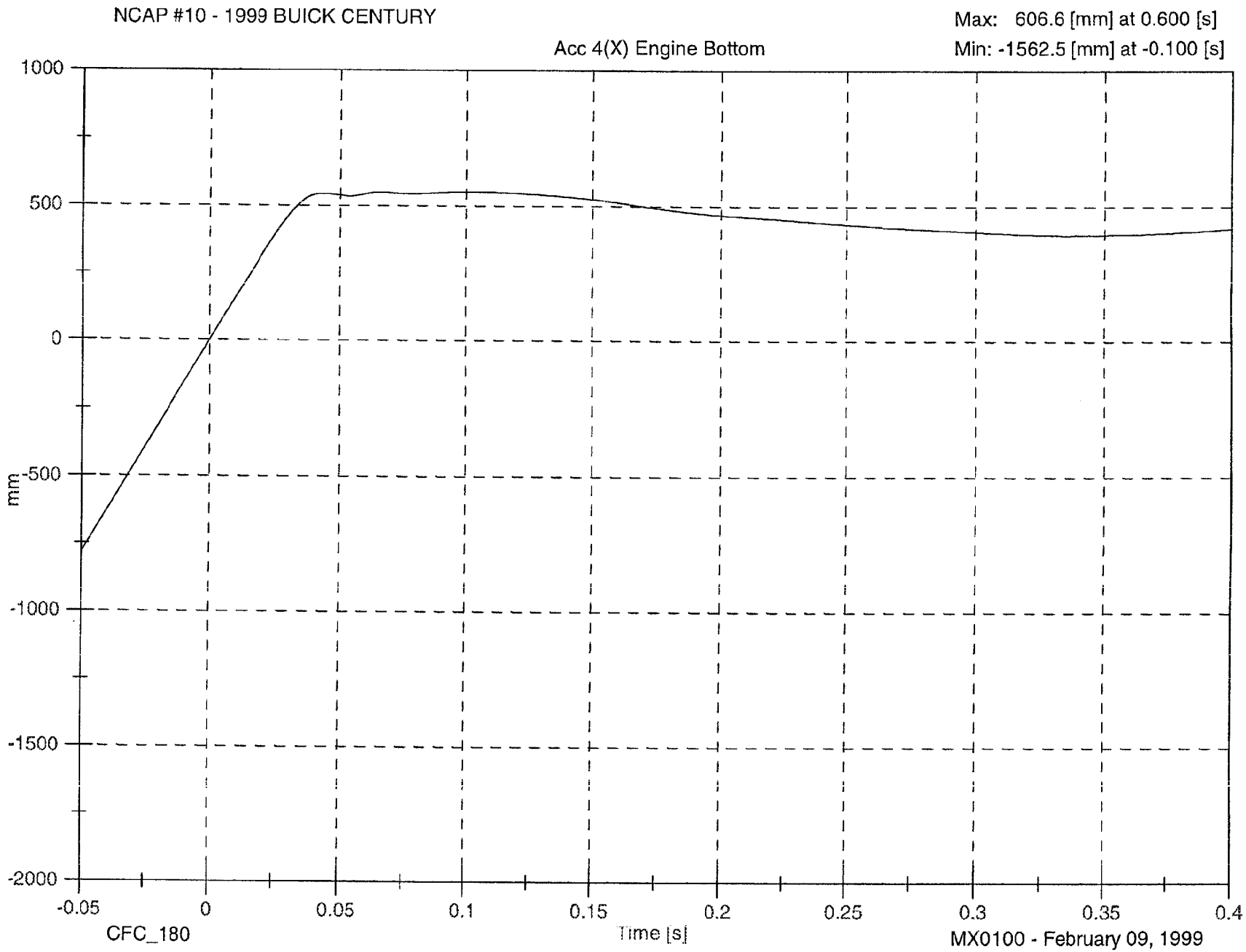

NCAP #10 - 1999 BUICK CENTURY
Acc 3(X) Engine Top
Max: 495.3 [g] at 0.029 [s]
Min: -191.9 [g] at 0.036 [s]
500
400
300
200
100
0
-100
-200
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999
Data is not accurate

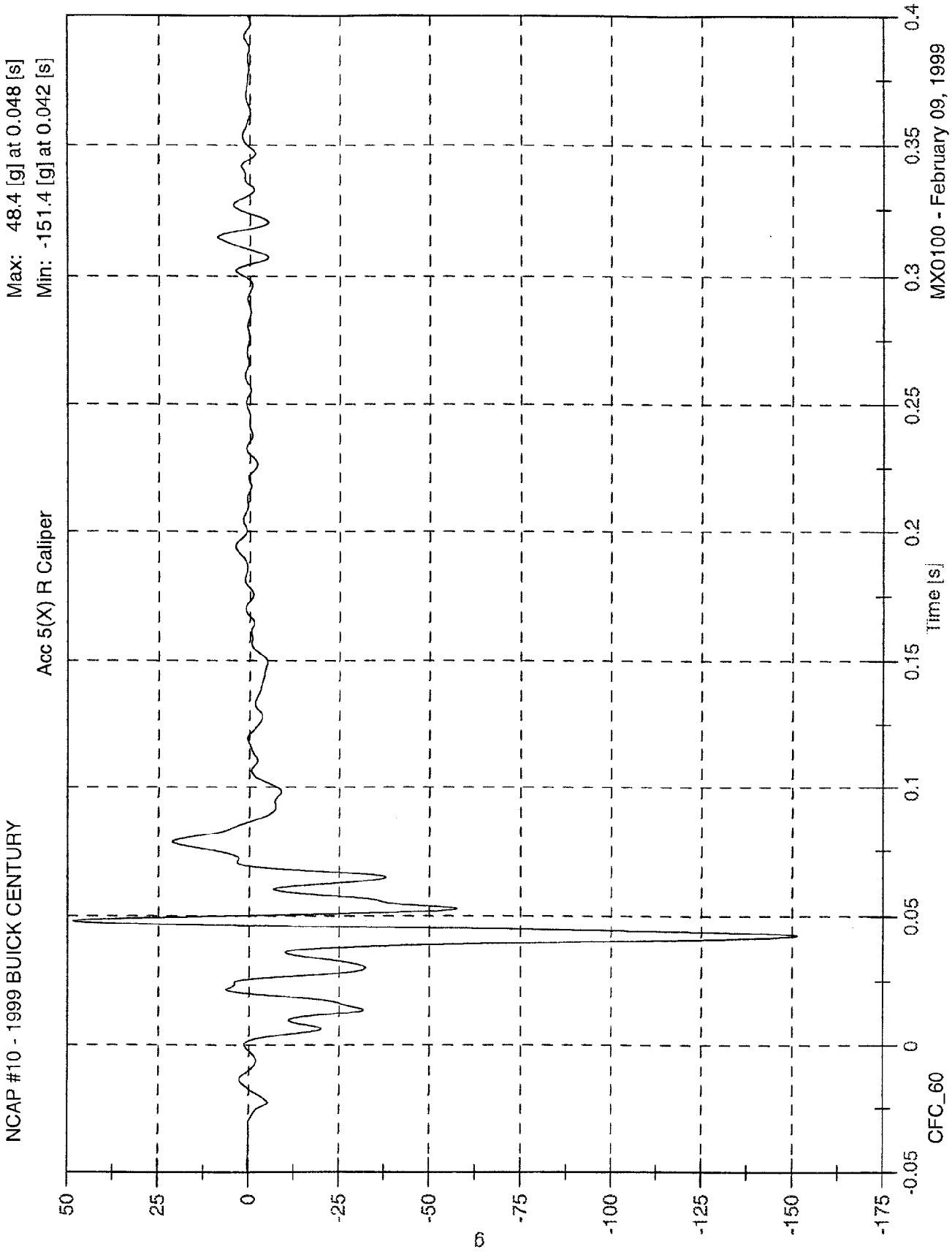

NCAP #10 - 1999 BUICK CENTURY
Acc 3(X) Engine Top
Max: 158.9 [kph] at 0.032 [s]
Min: -354.2 [kph] at 0.600 [s]
200
100
0
-100
-200
-300
-400
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999
Data is not accurate

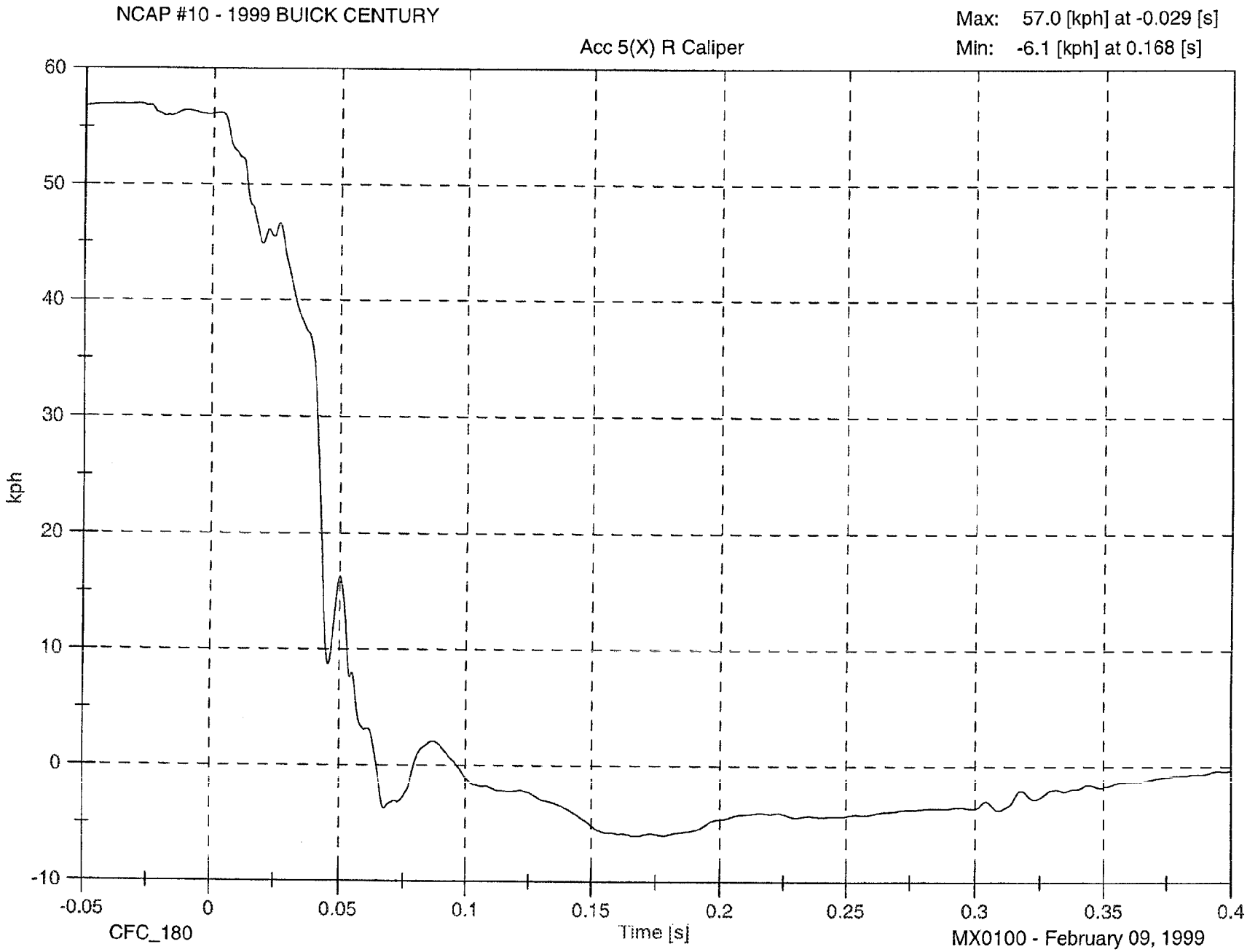

NCAP #10 - 1999 BUICK CENTURY
Acc 3(X) Engine Top
Max: 3520.8 [mm] at 0.186 [s]
Min: -16924.2 [mm] at 0.600 [s]
5000
0
-5000
-10000
-15000
-20000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999
Data is not accurate

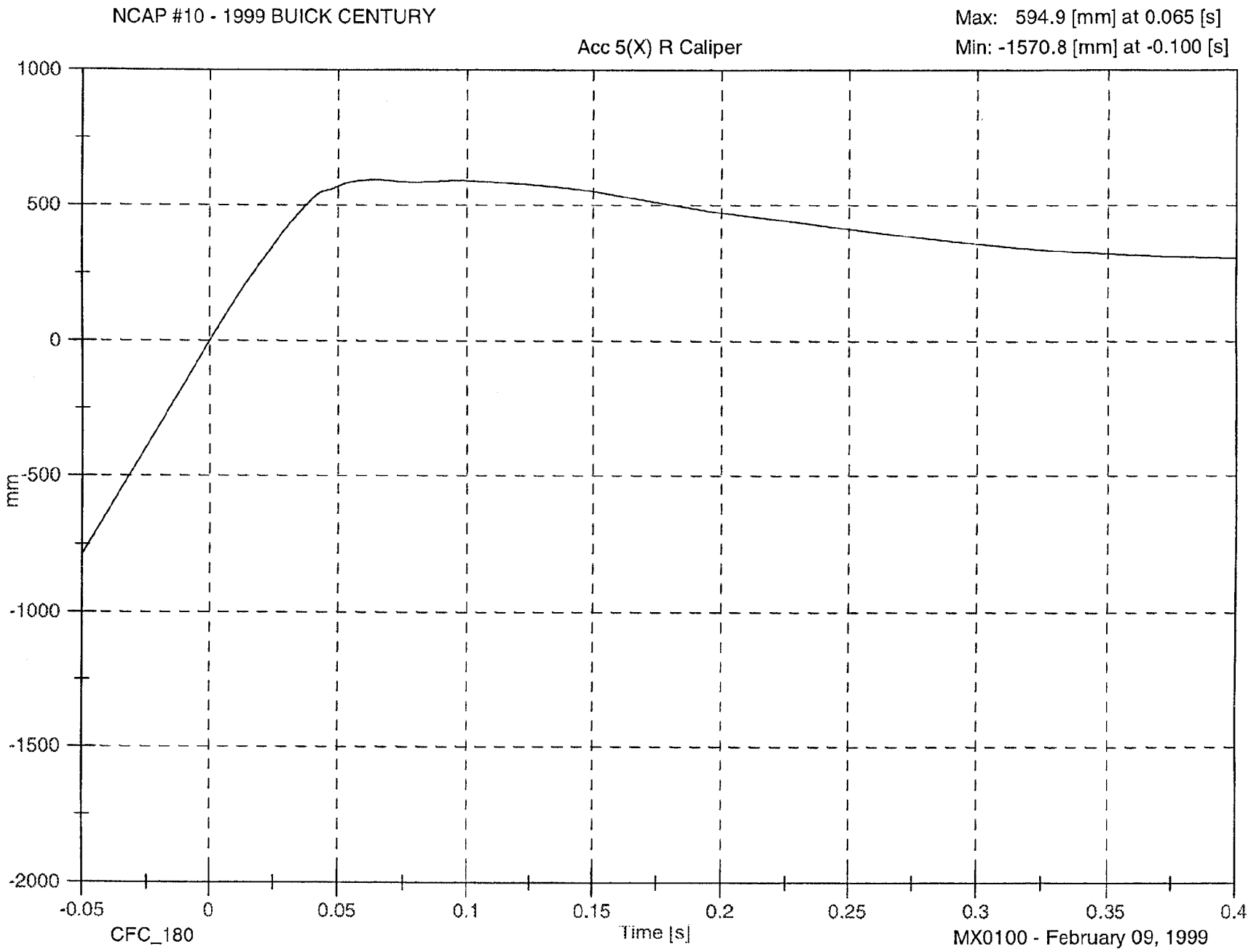

NCAP #10 - 1999 BUICK CENTURY
Max: 53.6 [g] at 0.055 [s]
Min: -122.4 [g] at 0.038 [s]
Acc 4(X) Engine Bottom
MX0100 - February 09, 1999
CFC_60
Time [s]
G
75
50
25
0
-25
-50
-75
-100
-125
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

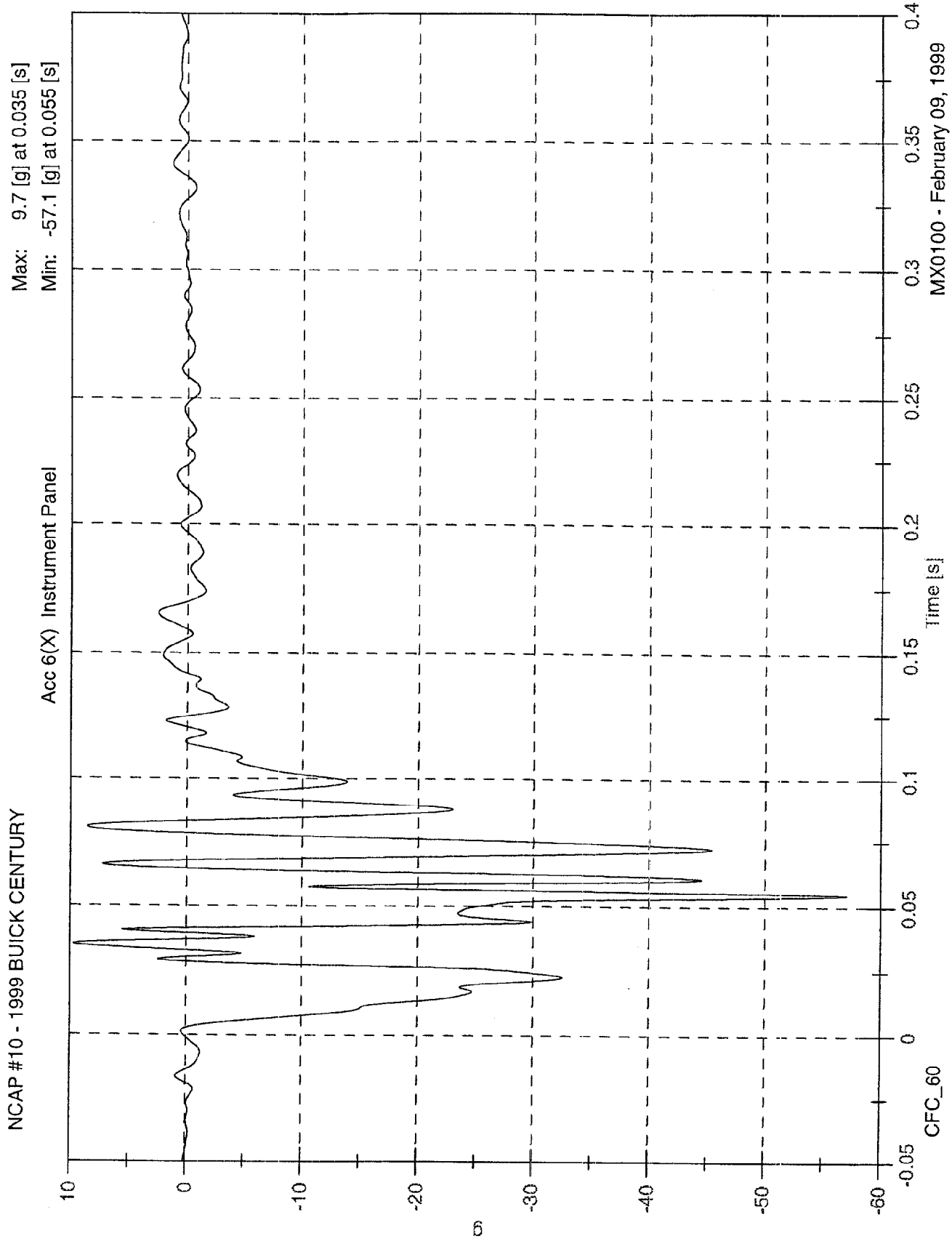

NCAP #10 - 1999 BUICK CENTURY
Acc 4(X) Engine Bottom
Max: 56.3 [kph] at 0.018 [s]
Min: -5.3 [kph] at 0.167 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

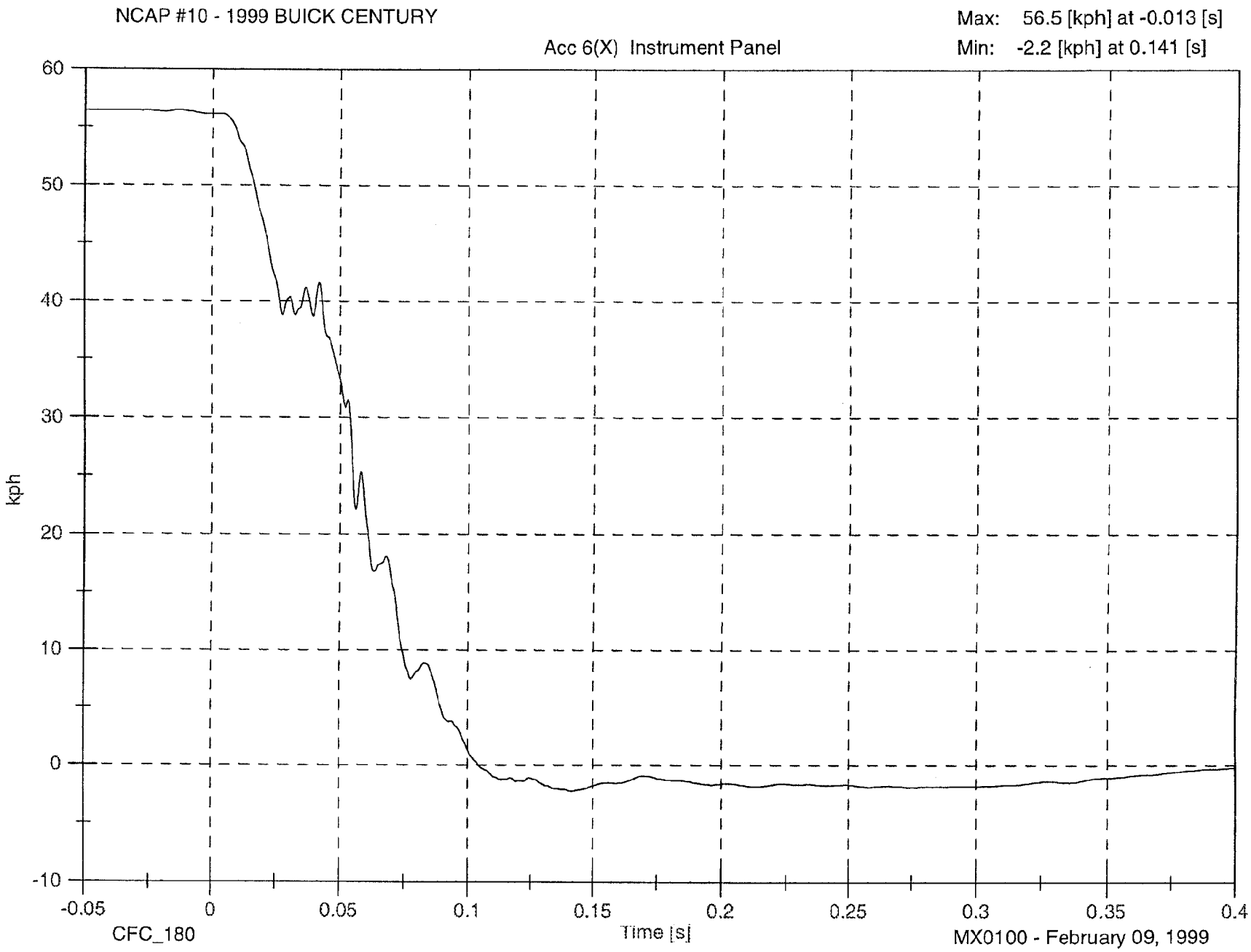

NCAP #10 - 1999 BUICK CENTURY
Acc 4(X) Engine Bottom
Max: 606.6 [mm] at 0.600 [s]
Min: -1562.5 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

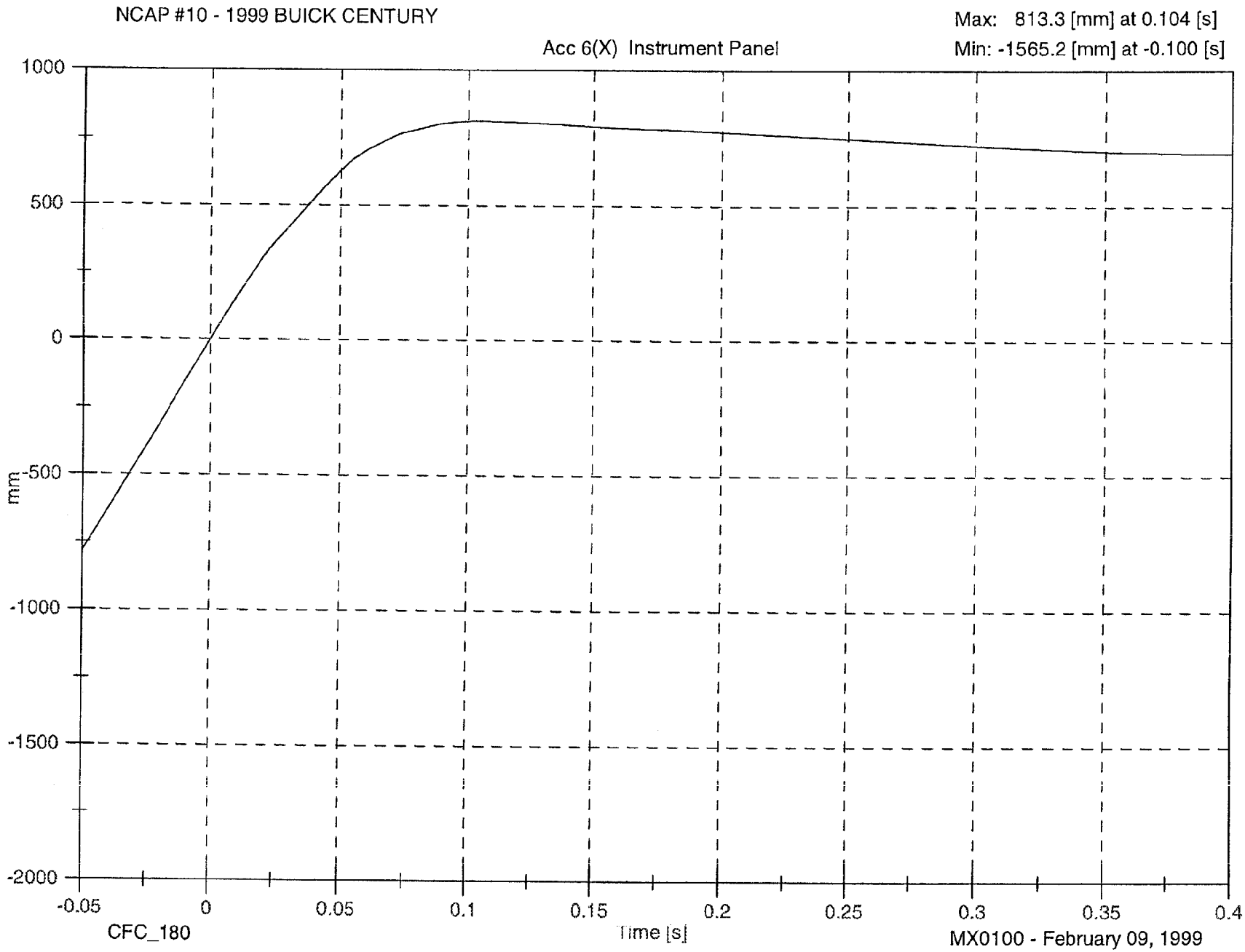

NCAP #10 - 1999 BUICK CENTURY
Max: 48.4 [g] at 0.048 [s]
Min: -151.4 [g] at 0.042 [s]
Acc 5(X) R Caliper
MX0100 - February 09, 1999
CFC_60
Time [s]
g
50
25
0
-25
-50
-75
-100
-125
-150
-175
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

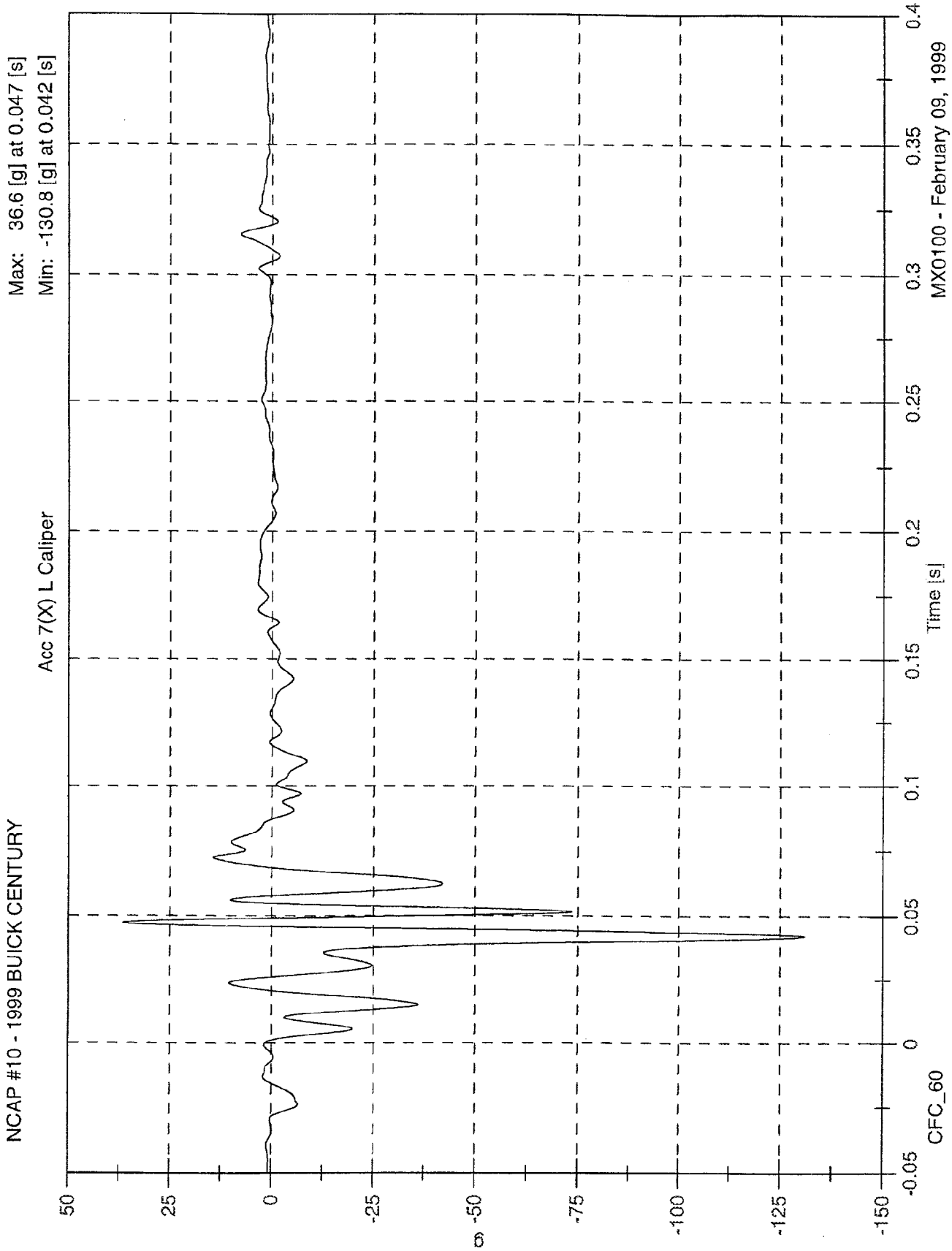

NCAP #10 - 1999 BUICK CENTURY
Acc 5(X) R Caliper
Max: 57.0 [kph] at -0.029 [s]
Min: -6.1 [kph] at 0.168 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

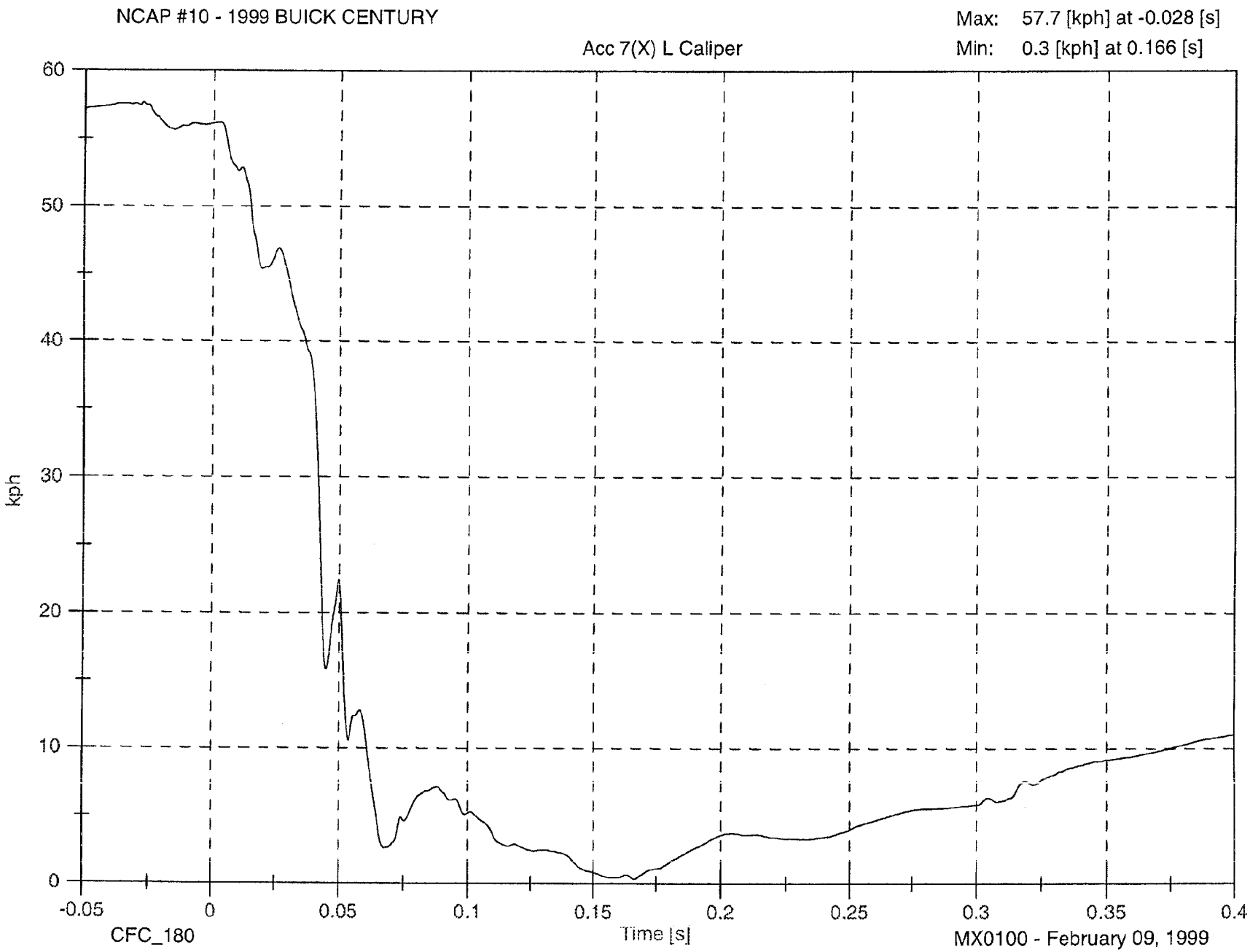

NCAP #10 - 1999 BUICK CENTURY
Acc 5(X) R Caliper
Max: 594.9 [mm] at 0.065 [s]
Min: -1570.8 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

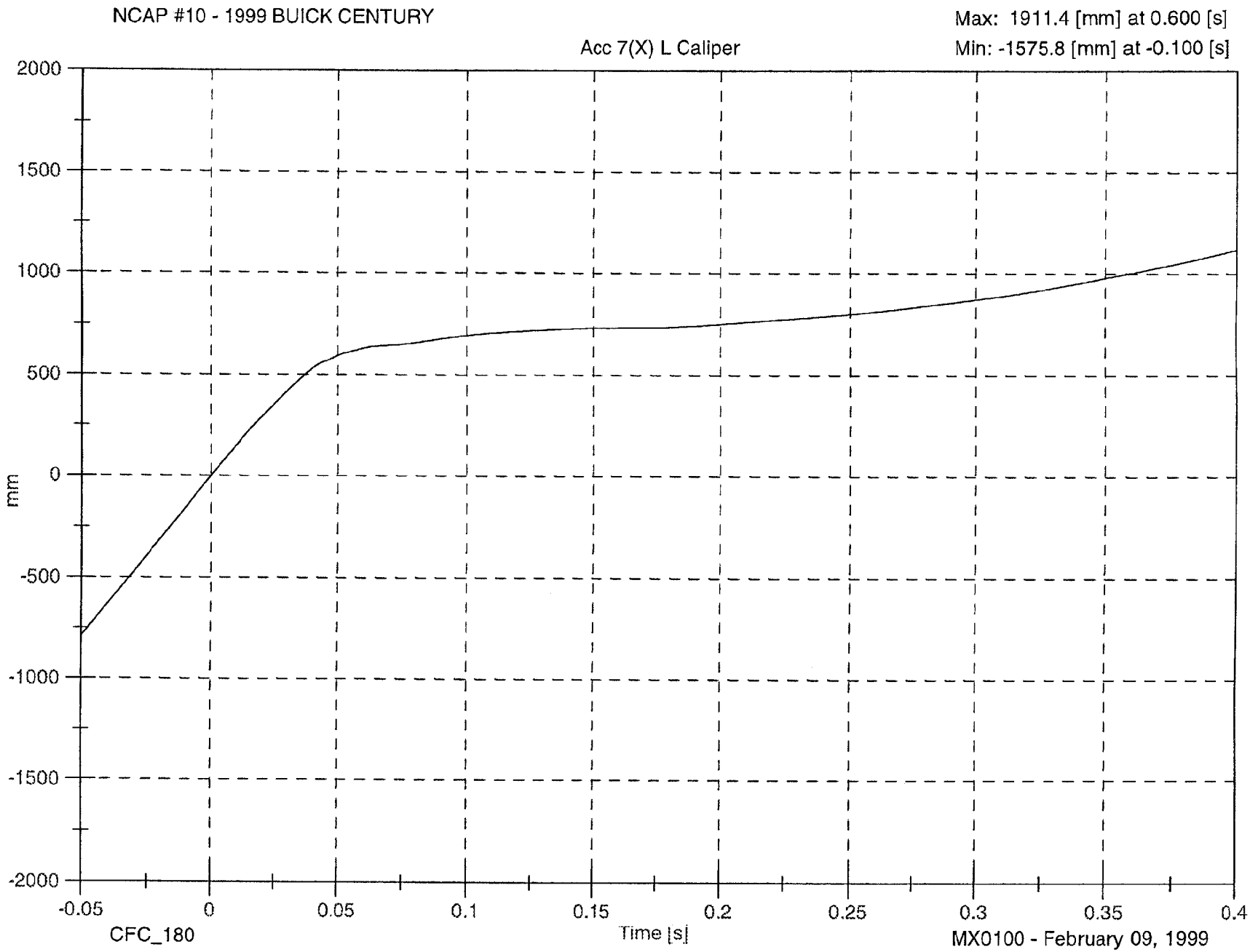

NCAP #10 - 1999 BUICK CENTURY
Max: 9.7 [g] at 0.035 [s]
Min: -57.1 [g] at 0.055 [s]
Acc 6(X) Instrument Panel
MX0100 - February 09, 1999
CFC_60
Time [s]
g
10
0
-10
-20
-30
-40
-50
-60
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

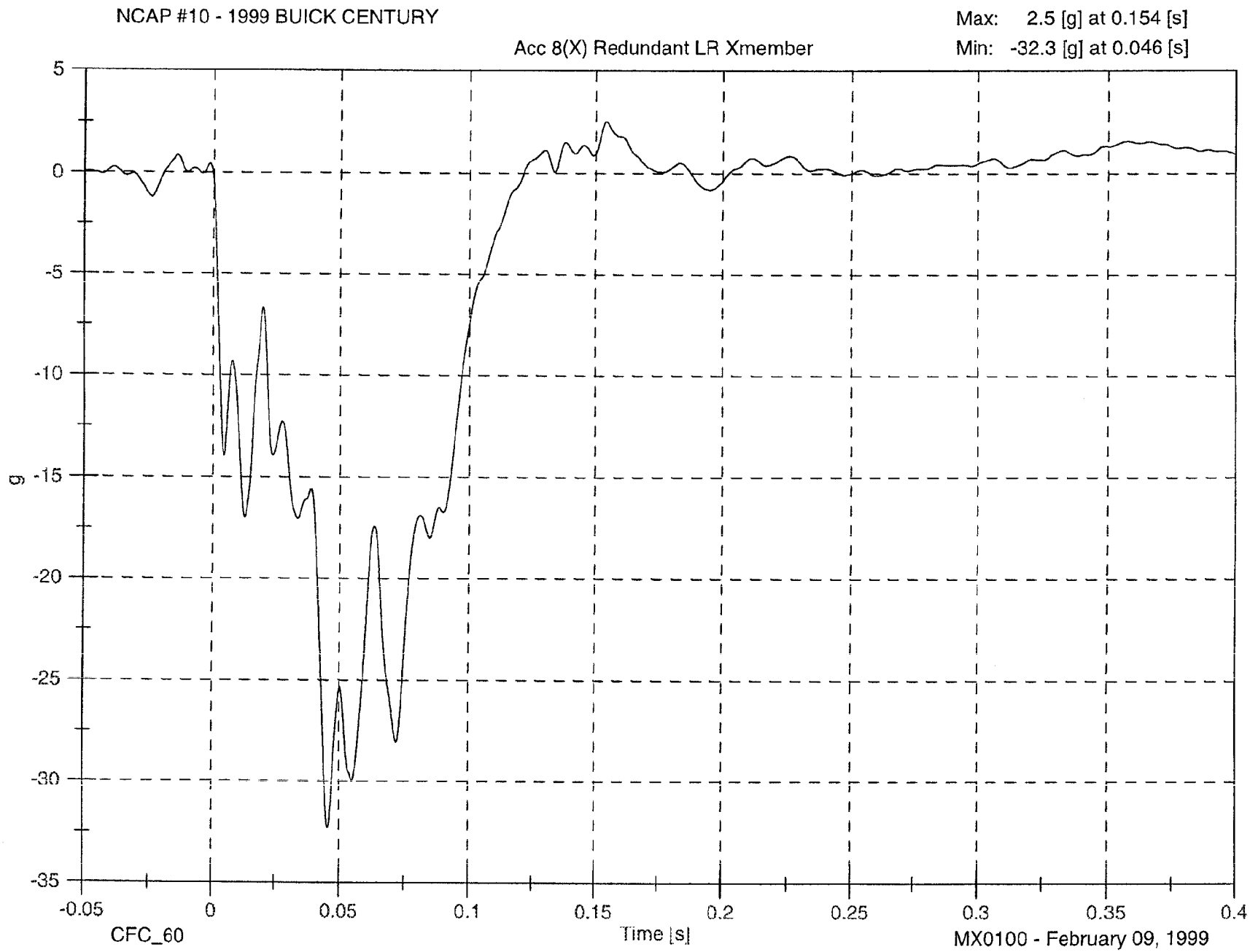

NCAP #10 - 1999 BUICK CENTURY
Acc 6(X) Instrument Panel
Max: 56.5 [kph] at -0.013 [s]
Min: -2.2 [kph] at 0.141 [s]
60
50
40
30
20
10
0
-10
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

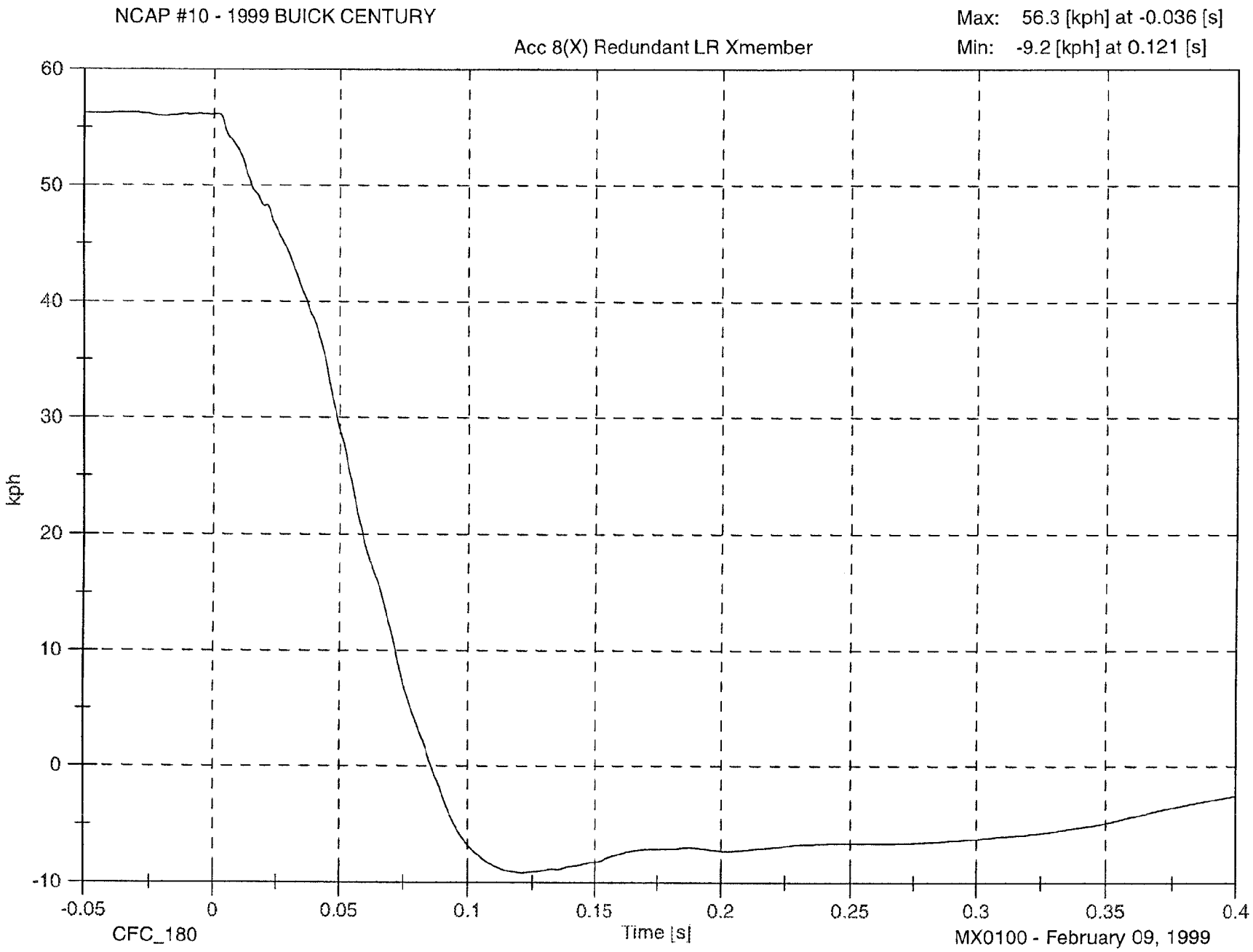

NCAP #10 - 1999 BUICK CENTURY
Acc 6(X) Instrument Panel
Max: 813.3 [mm] at 0.104 [s]
Min: -1565.2 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

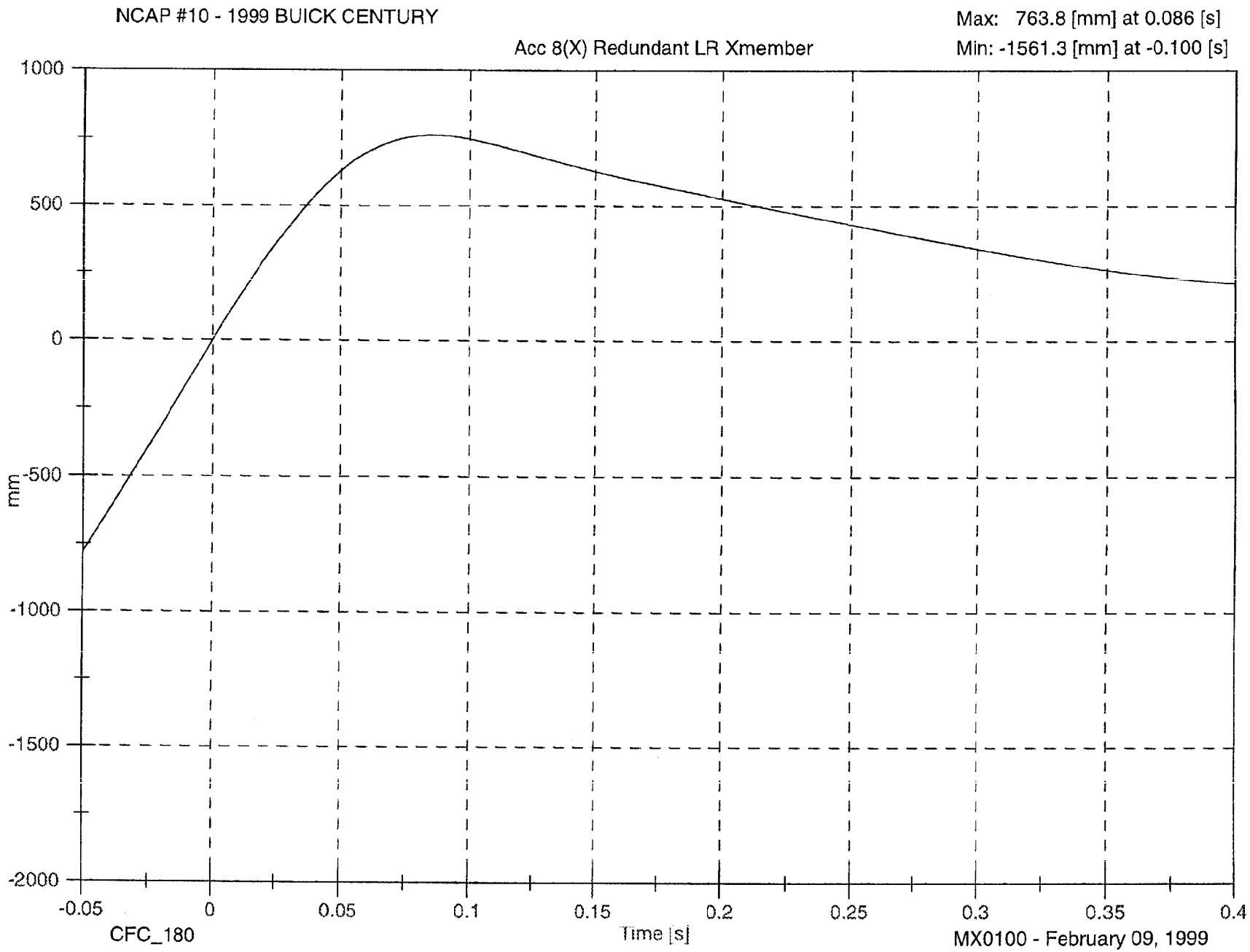

NCAP #10 - 1999 BUICK CENTURY
Max: 36.6 [g] at 0.047 [s]
Min: -130.8 [g] at 0.042 [s]
Acc 7(X) L Caliper
MX0100 - February 09, 1999
CFC_60
Time [s]
G
50
25
0
-25
-50
-75
-100
-125
-150
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

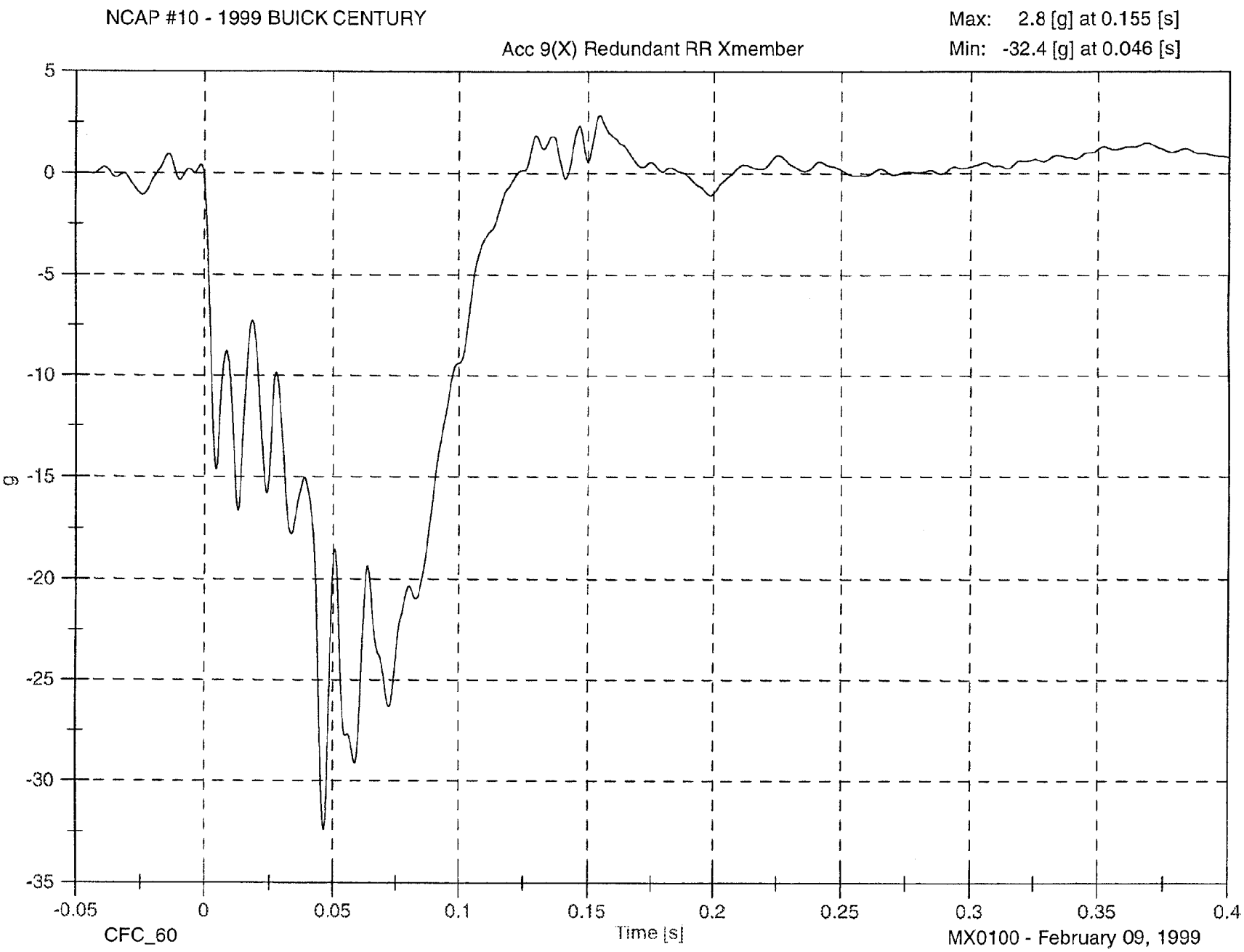

NCAP #10 - 1999 BUICK CENTURY
Acc 7(X) L Caliper
Max: 57.7 [kph] at -0.028 [s]
Min: 0.3 [kph] at 0.166 [s]
60
50
40
30
20
10
0
kph
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

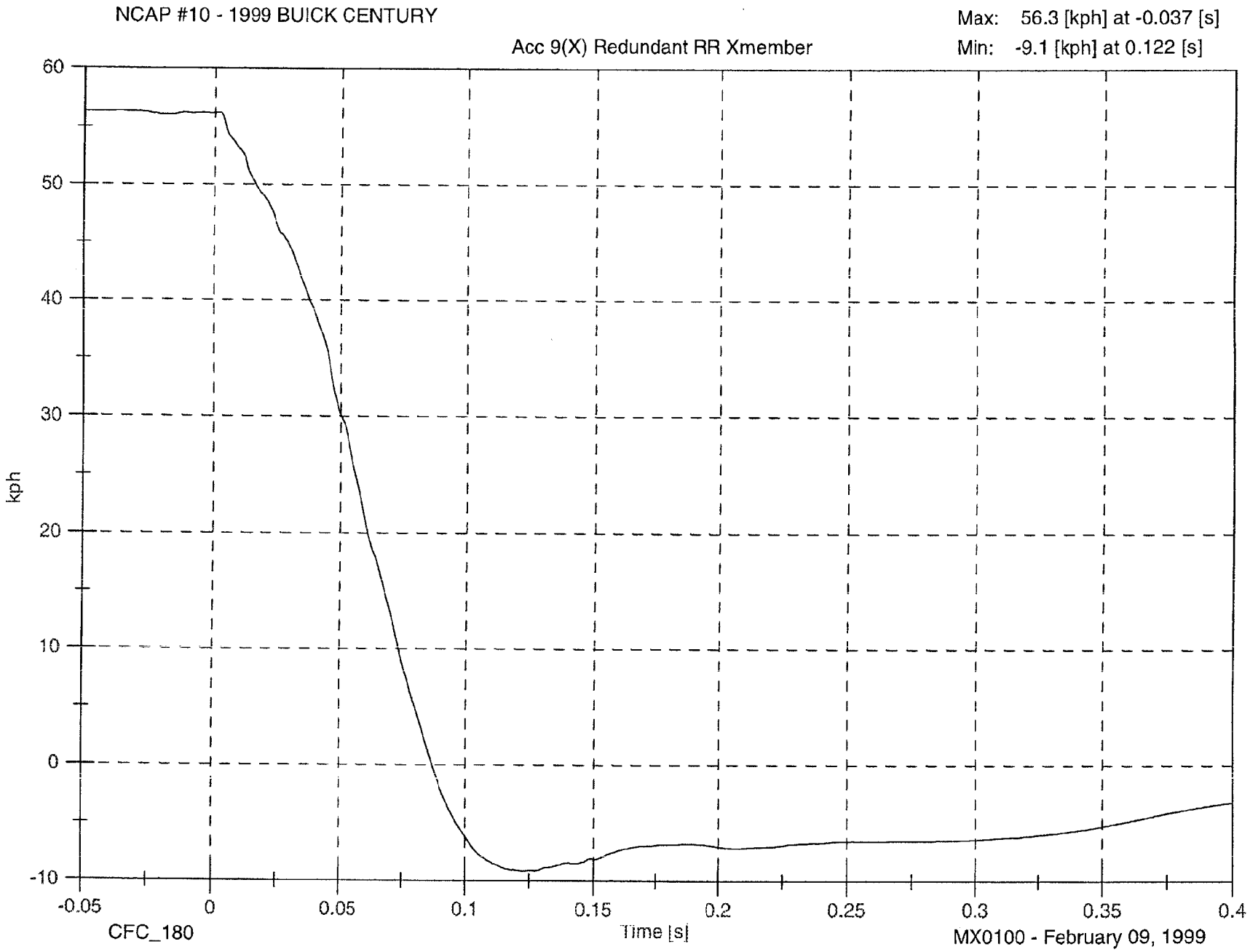

NCAP #10 - 1999 BUICK CENTURY
Acc 7(X) L Caliper
Max: 1911.4 [mm] at 0.600 [s]
Min: -1575.8 [mm] at -0.100 [s]
2000
1500
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

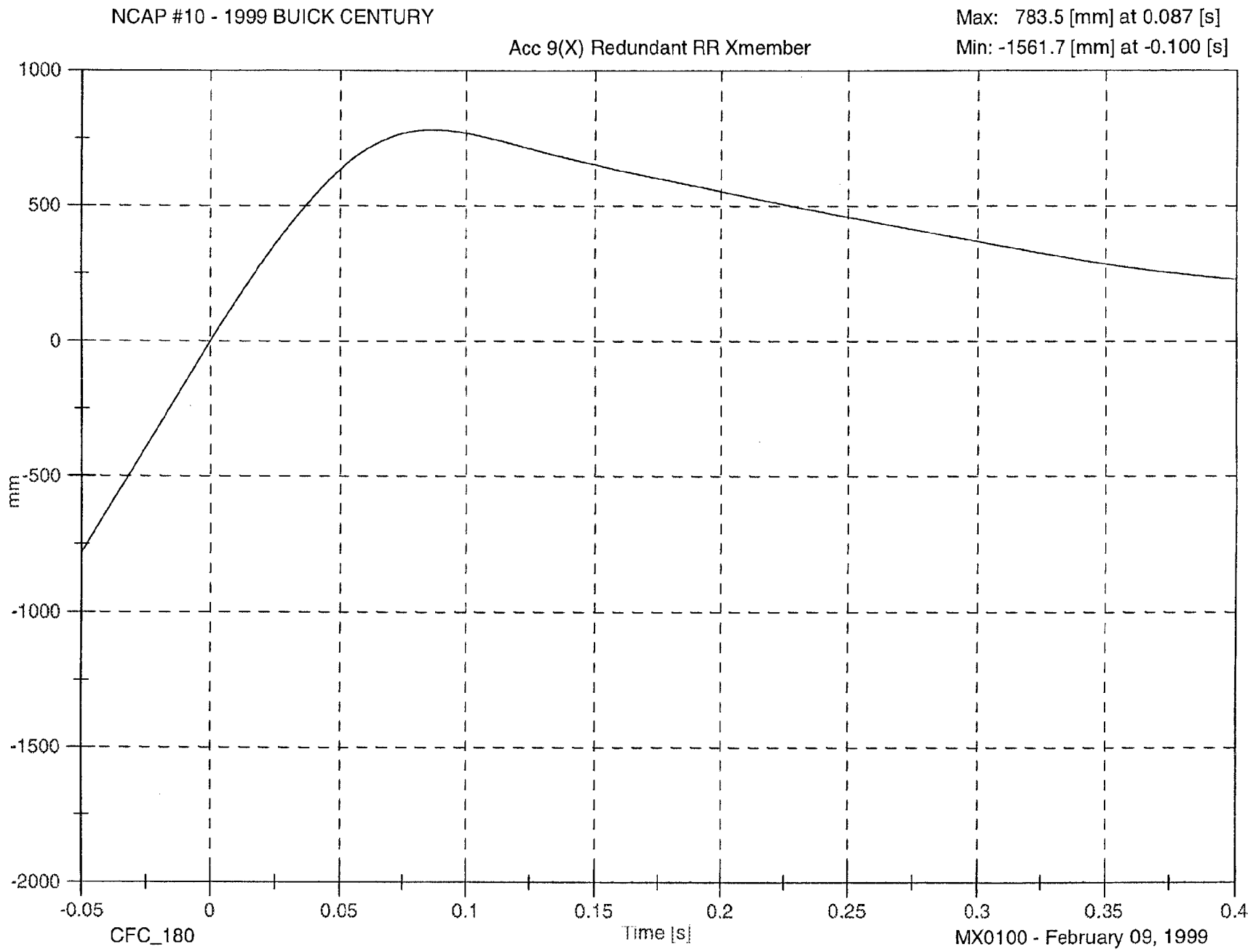

NCAP #10 - 1999 BUICK CENTURY
Acc 8(X) Redundant LR Xmember
Max: 2.5 [g] at 0.154 [s]
Min: -32.3 [g] at 0.046 [s]
5
0
-5
-10
-15
-20
-25
-30
-35
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999


NCAP #10 - 1999 BUICK CENTURY
Acc 8(X) Redundant LR Xmember
Max: 56.3 [kph] at -0.036 [s]
Min: -9.2 [kph] at 0.121 [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
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999


NCAP #10 - 1999 BUICK CENTURY
Acc 8(X) Redundant LR Xmember
Max: 763.8 [mm] at 0.086 [s]
Min: -1561.3 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999


NCAP #10 - 1999 BUICK CENTURY
Acc 9(X) Redundant RR Xmember
Max: 2.8 [g] at 0.155 [s]
Min: -32.4 [g] at 0.046 [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
0.35
0.4
Time [s]
CFC_60
MX0100 - February 09, 1999


NCAP #10 - 1999 BUICK CENTURY
Acc 9(X) Redundant RR Xmember
Max: 56.3 [kph] at -0.037 [s]
Min: -9.1 [kph] at 0.122 [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
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

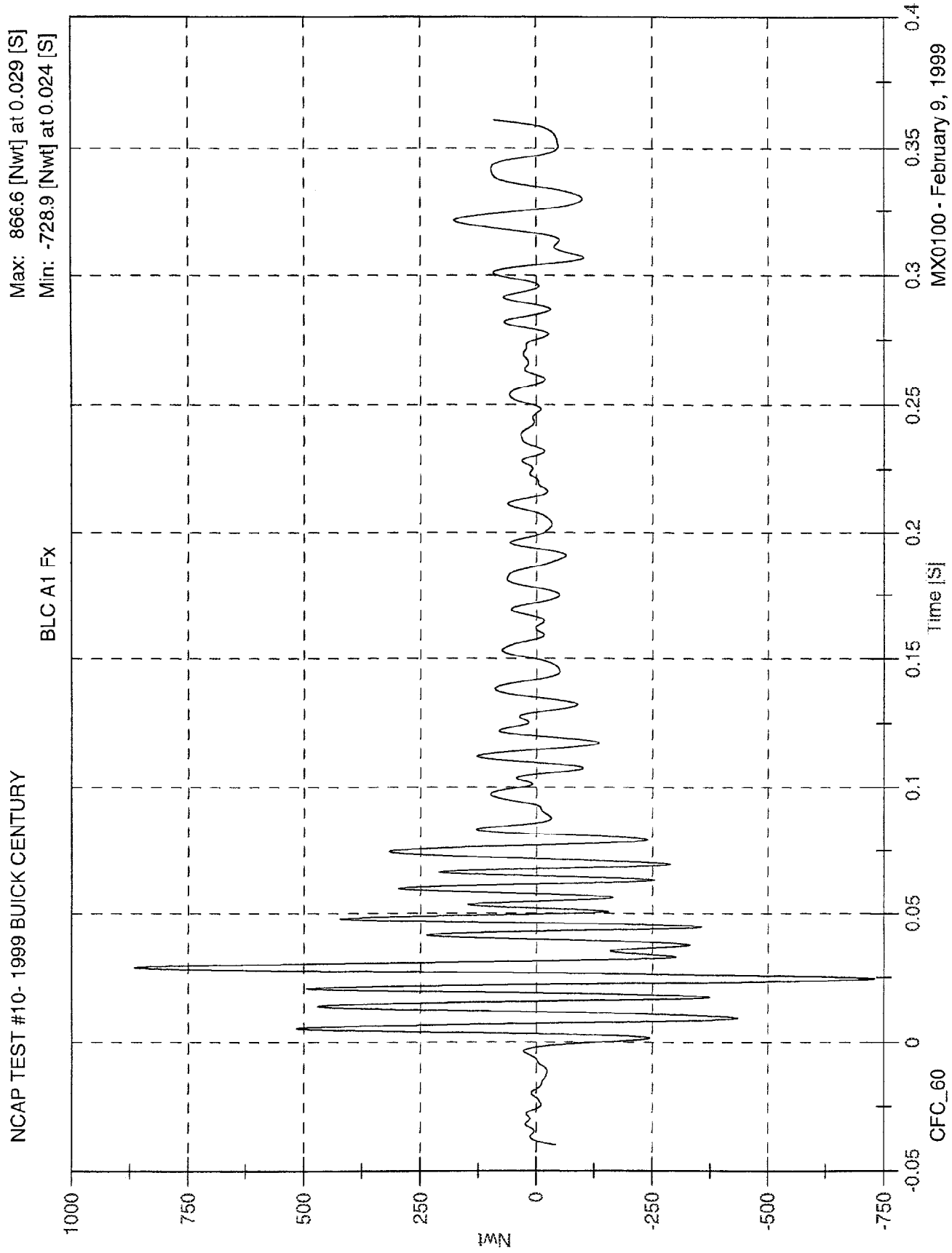

NCAP #10 - 1999 BUICK CENTURY
Acc 9(X) Redundant RR Xmember
Max: 783.5 [mm] at 0.087 [s]
Min: -1561.7 [mm] at -0.100 [s]
1000
500
0
-500
-1000
-1500
-2000
mm
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [s]
CFC_180
MX0100 - February 09, 1999

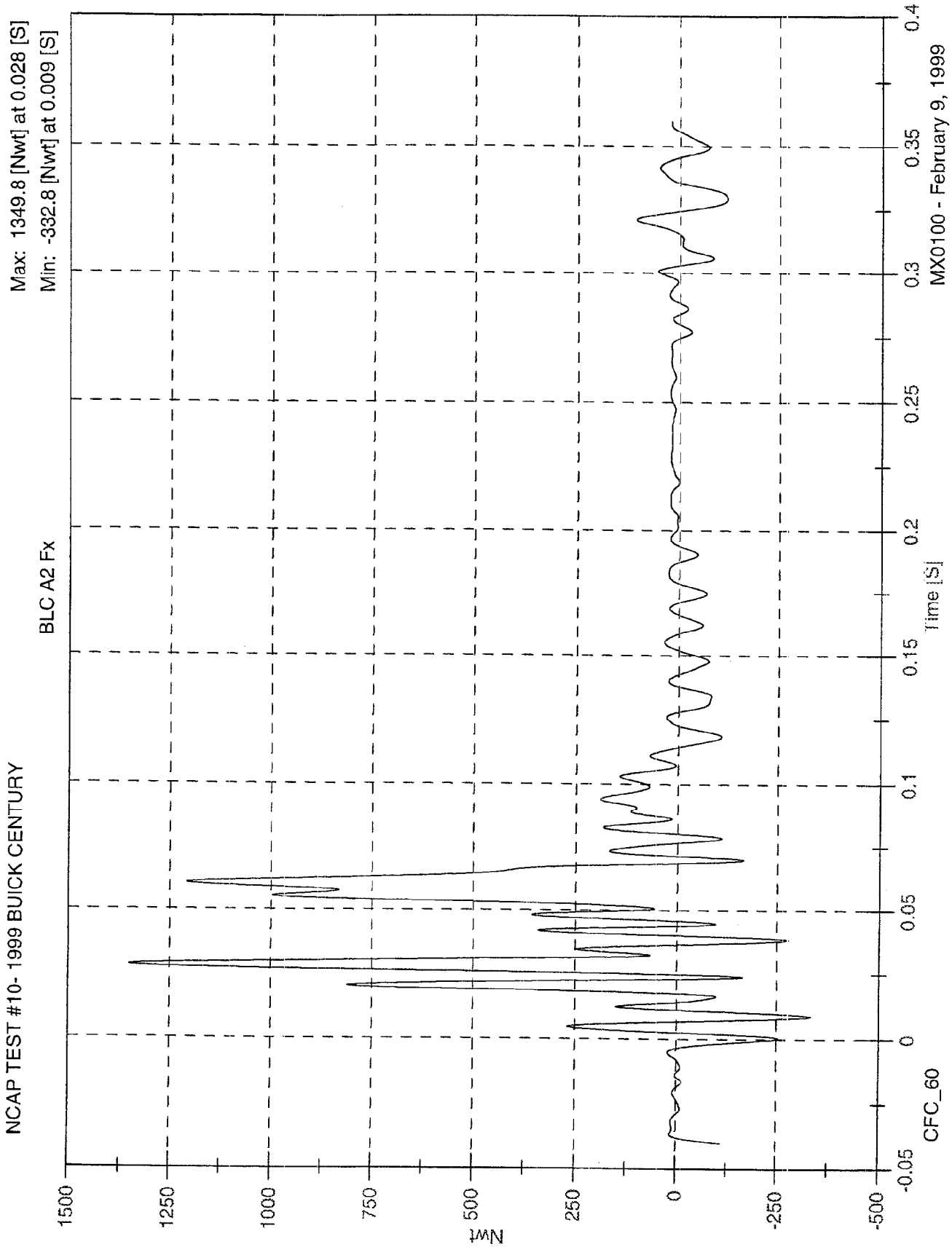
NHTSA TEST NO. MX0100

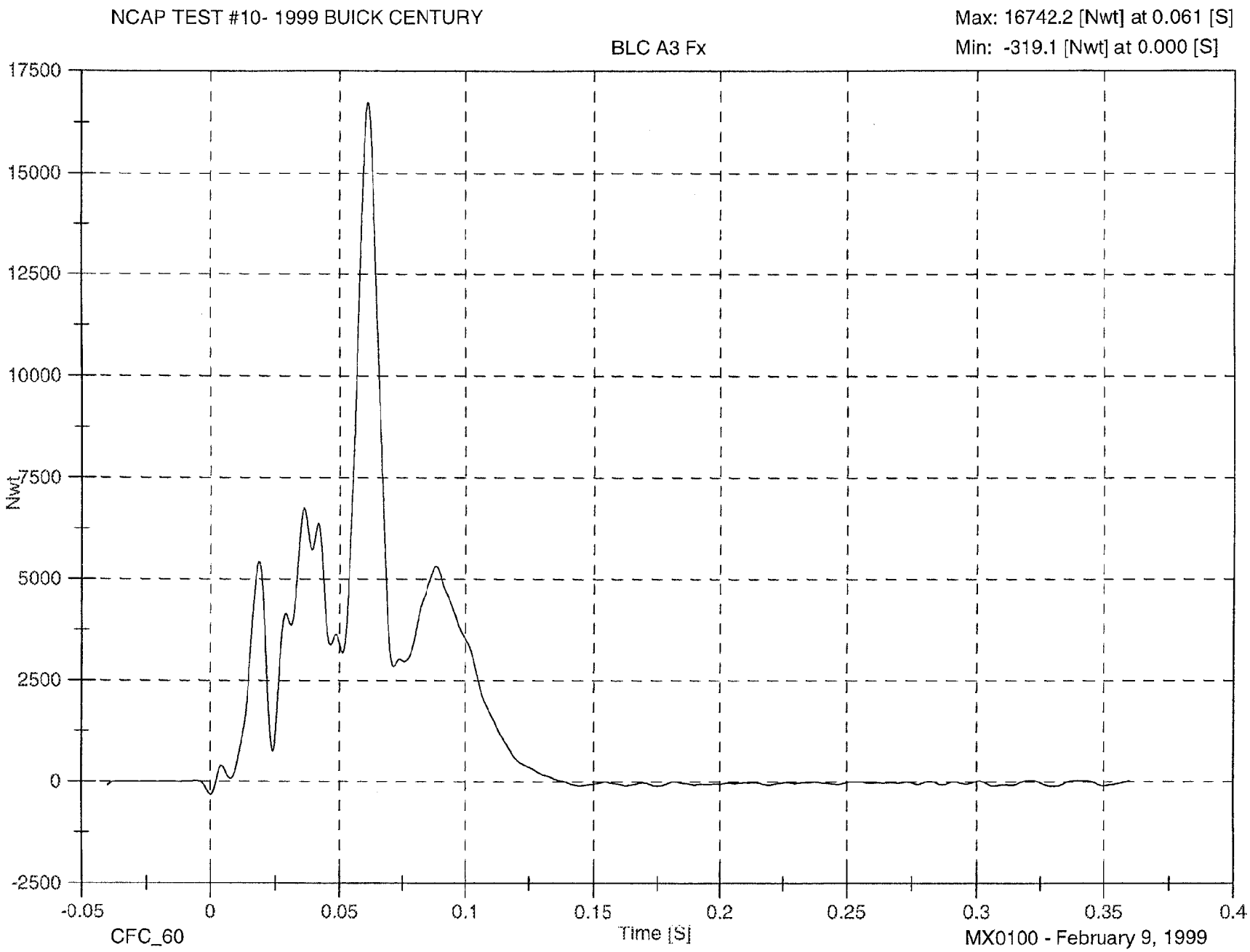
LOAD CELL BARRIER DATA

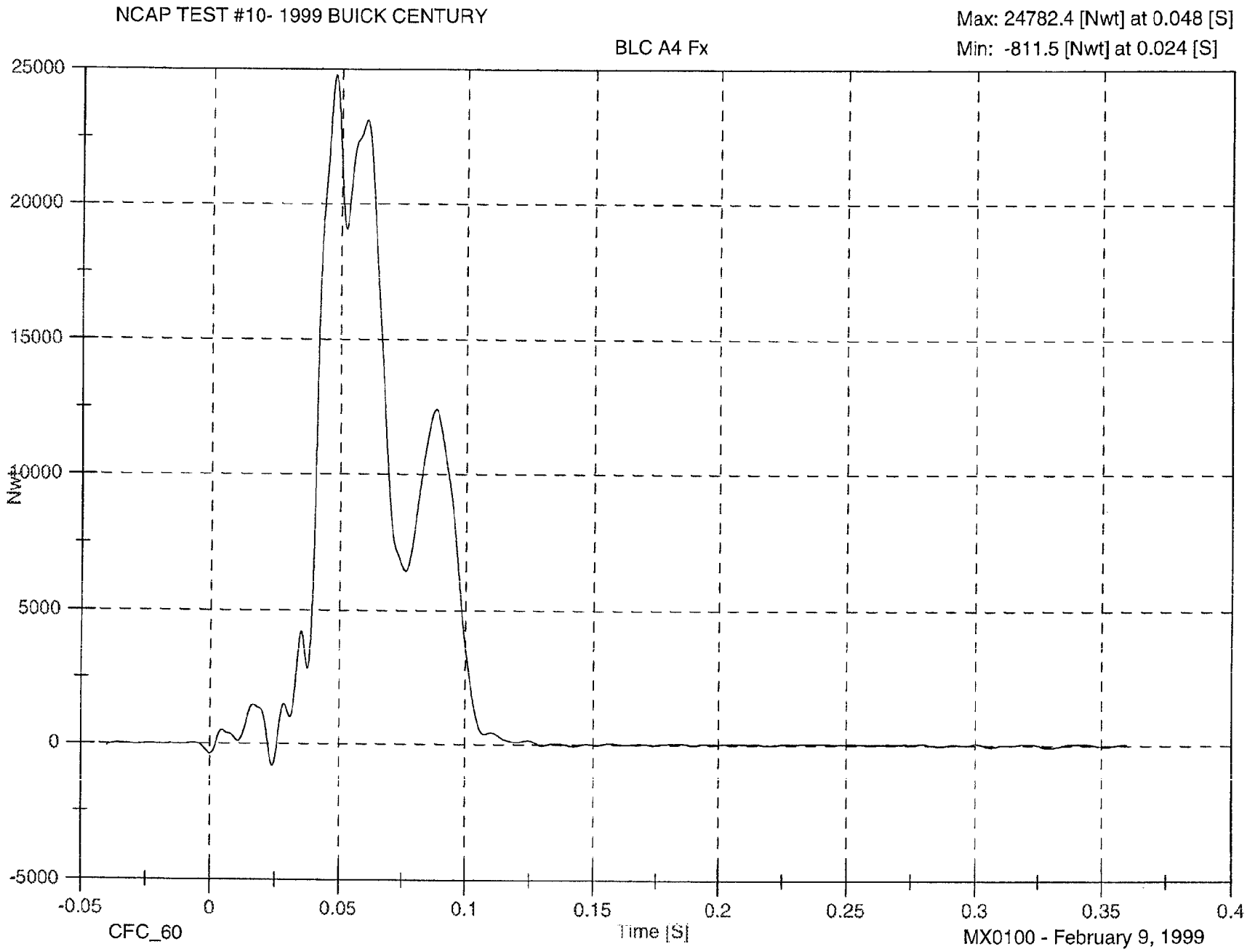
FILTER CHANNEL CLASS

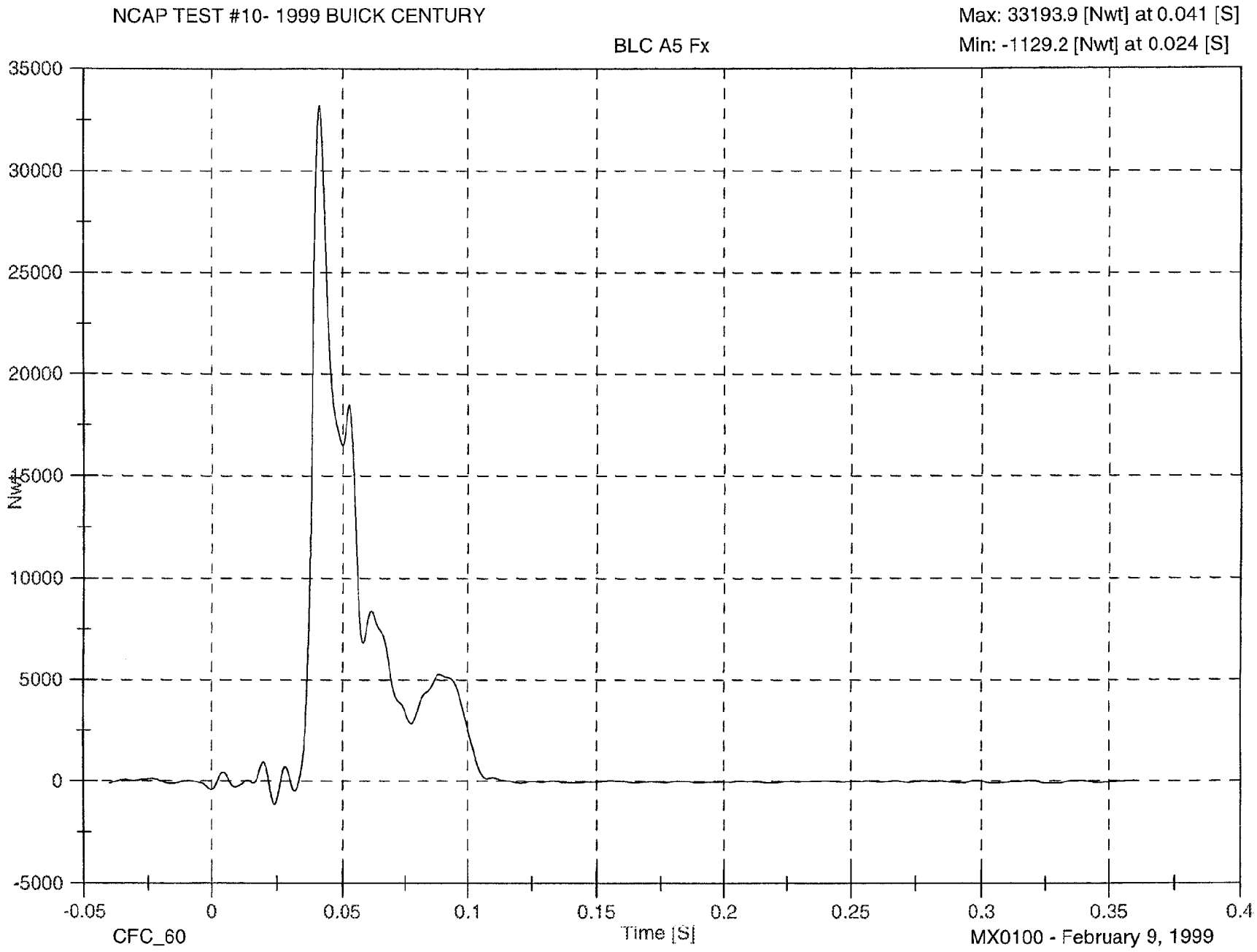
60

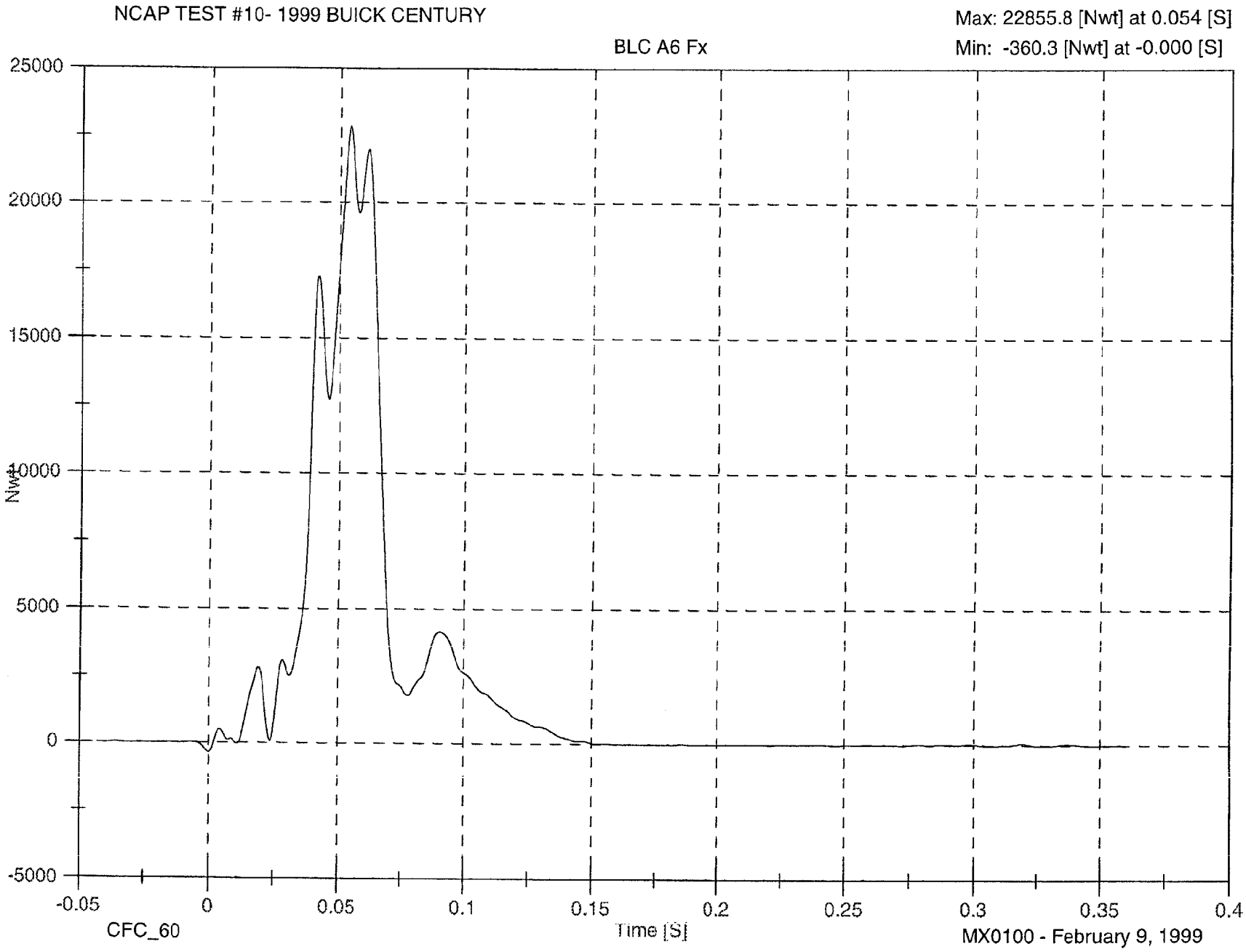

NCAP TEST #10- 1999 BUICK CENTURY
BLC A1 Fx
Max: 866.6 [Nwt] at 0.029 [S]
Min: -728.9 [Nwt] at 0.024 [S]
MX0100 - February 9, 1999
CFC_60
Time [S]
Nwt
1000
750
500
250
0
-250
-500
-750
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

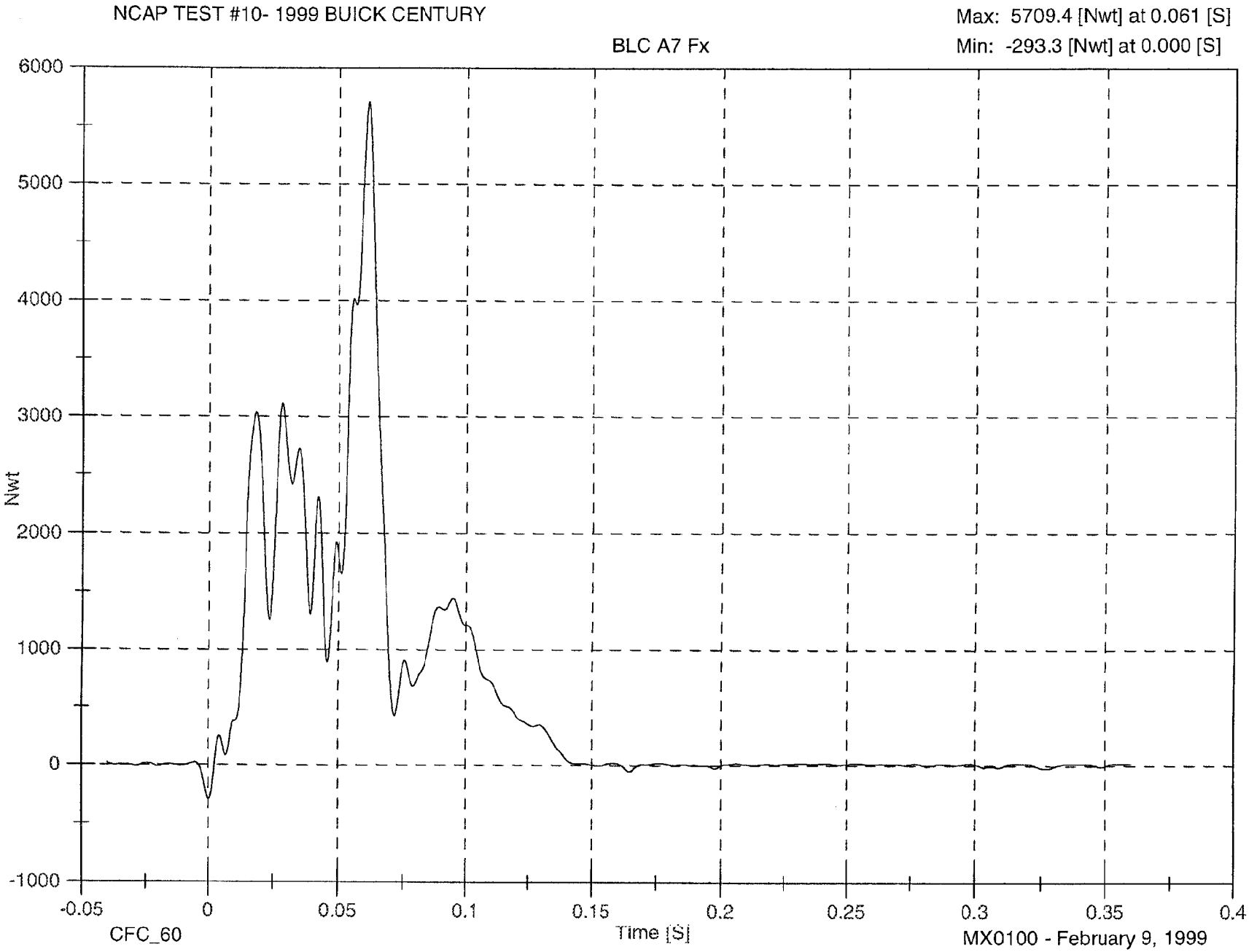

NCAP TEST #10- 1999 BUICK CENTURY
Max: 1349.8 [Nwt] at 0.028 [S]
Min: -332.8 [Nwt] at 0.009 [S]
BLC A2 Fx
MX0100 - February 9, 1999
CFC_60
Nwt
Time [S]
1500
1250
1000
750
500
250
0
-250
-500
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

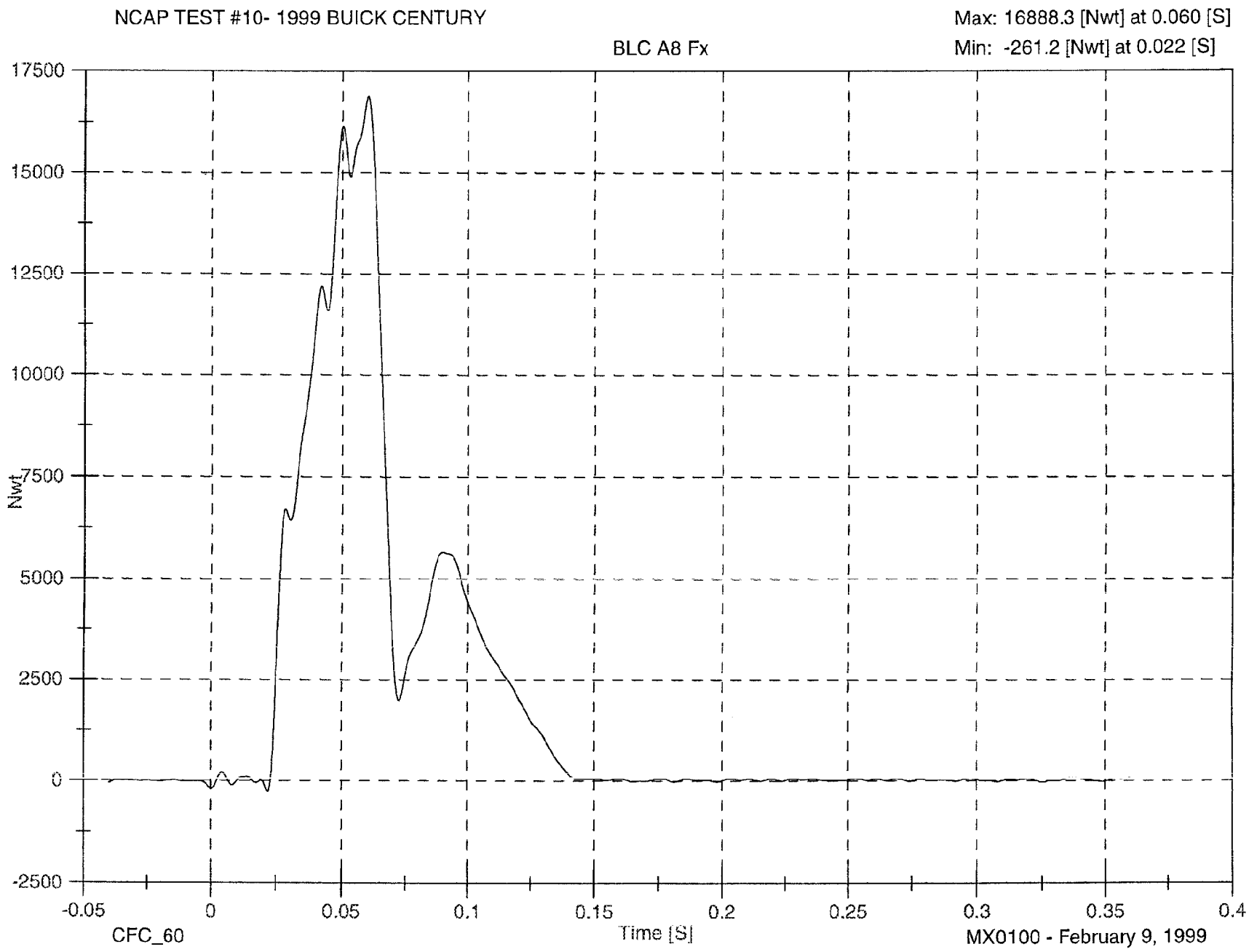

NCAP TEST #10- 1999 BUICK CENTURY
BLC A3 Fx
Max: 16742.2 [Nwt] at 0.061 [S]
Min: -319.1 [Nwt] at 0.000 [S]
17500
15000
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

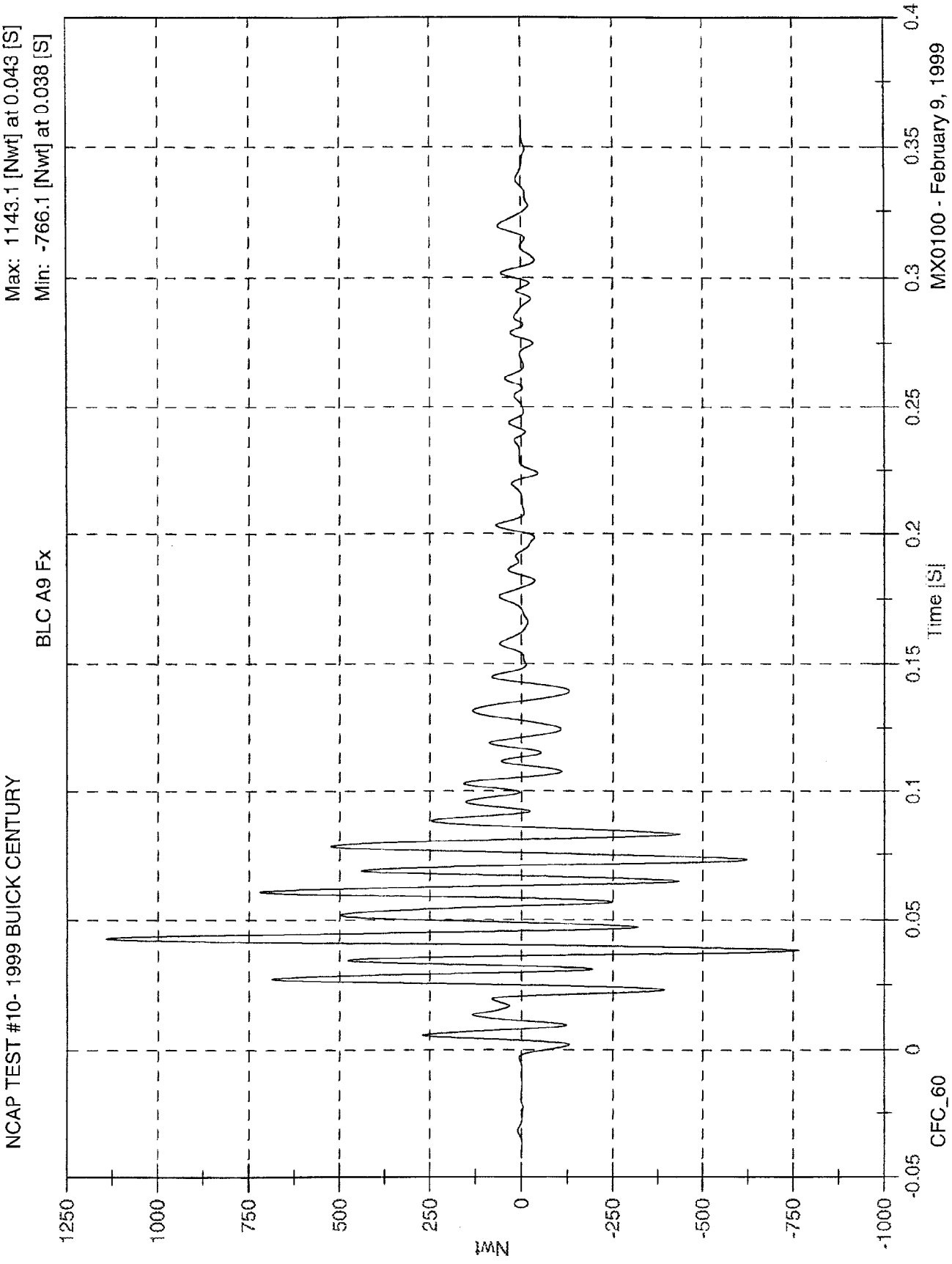

NCAP TEST #10- 1999 BUICK CENTURY
BLC A4 Fx
Max: 24782.4 [Nwt] at 0.048 [S]
Min: -811.5 [Nwt] at 0.024 [S]
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

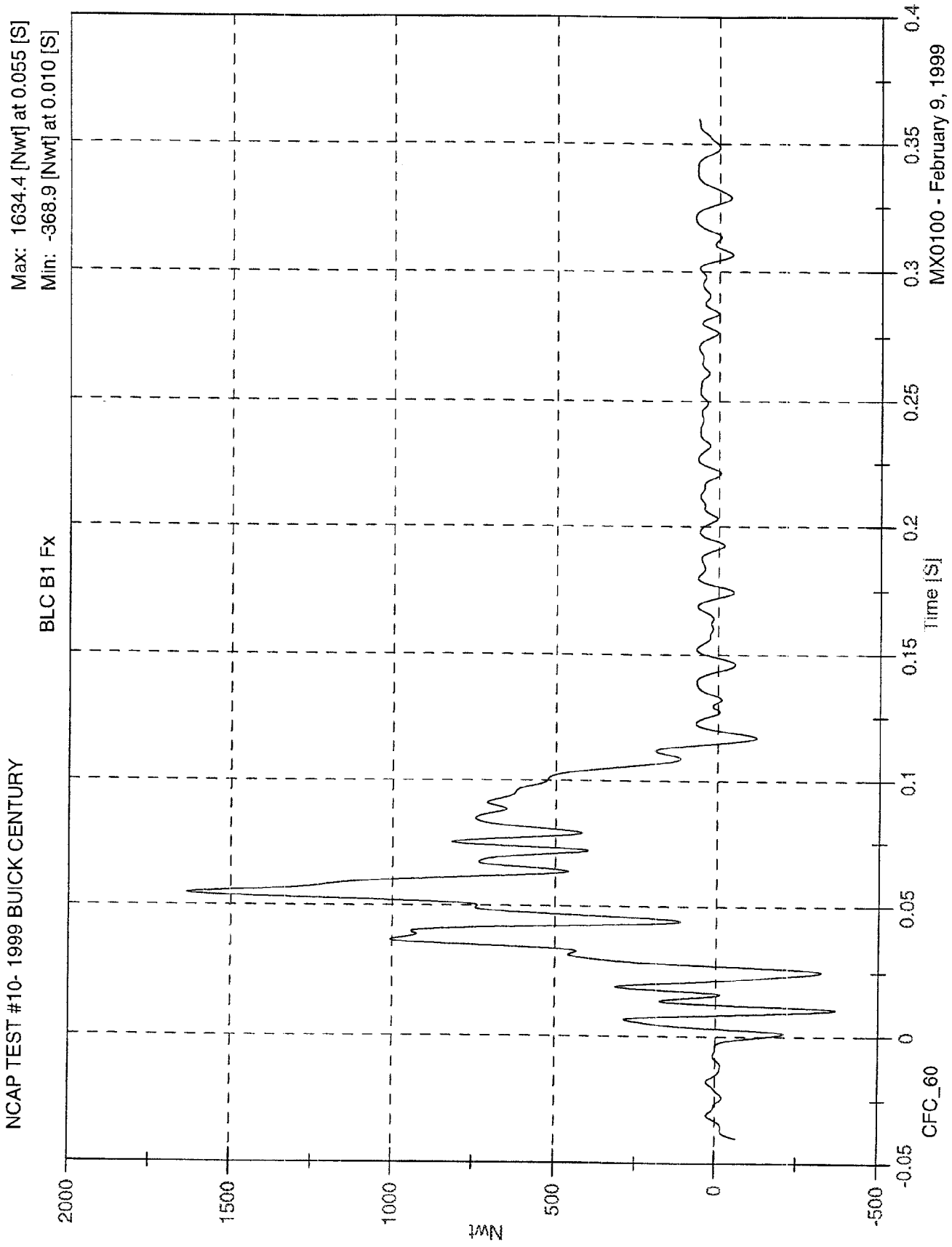

NCAP TEST #10- 1999 BUICK CENTURY
BLC A5 Fx
Max: 33193.9 [Nwt] at 0.041 [S]
Min: -1129.2 [Nwt] at 0.024 [S]
35000
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

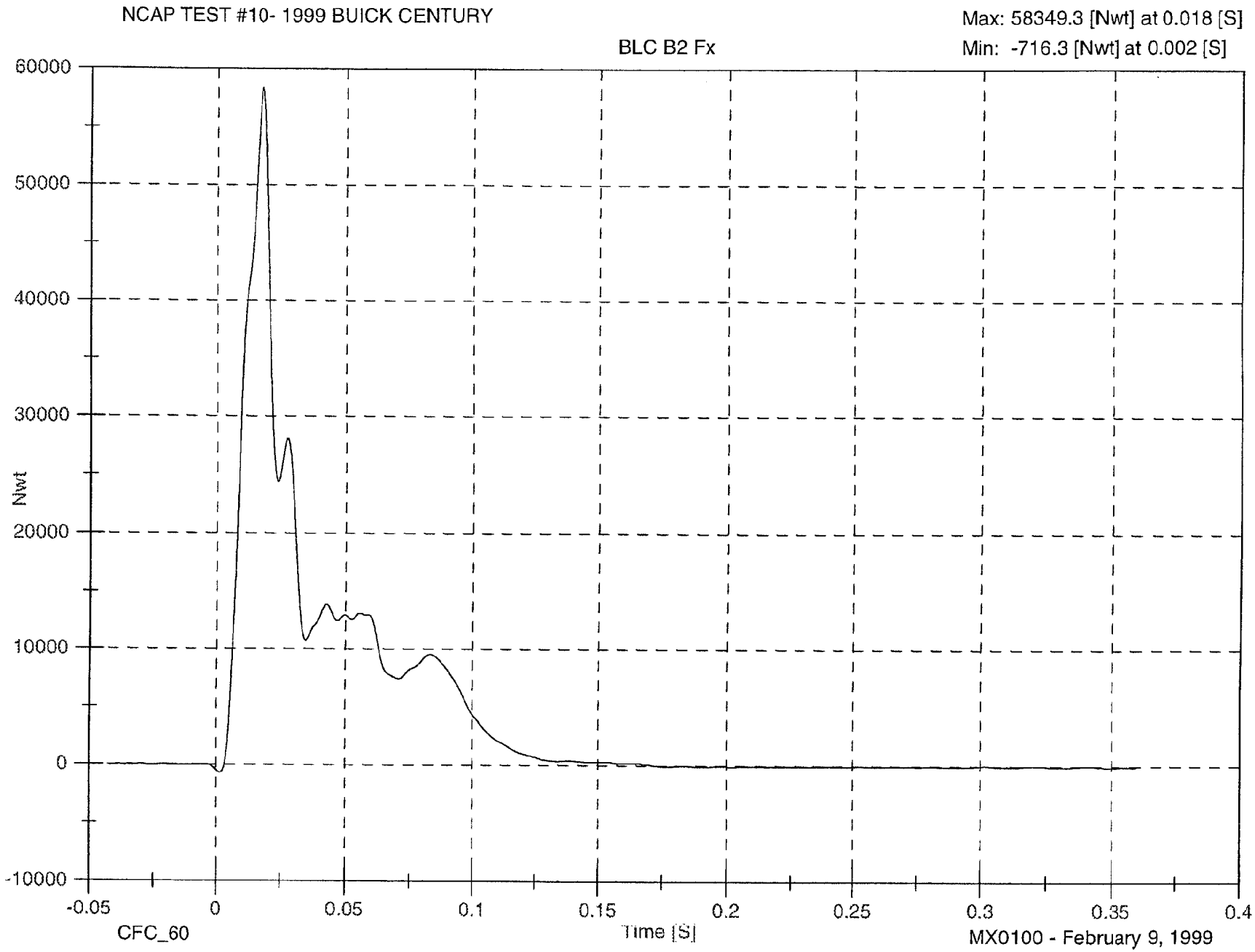

NCAP TEST #10- 1999 BUICK CENTURY
BLC A6 Fx
Max: 22855.8 [Nwt] at 0.054 [S]
Min: -360.3 [Nwt] at -0.000 [S]
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

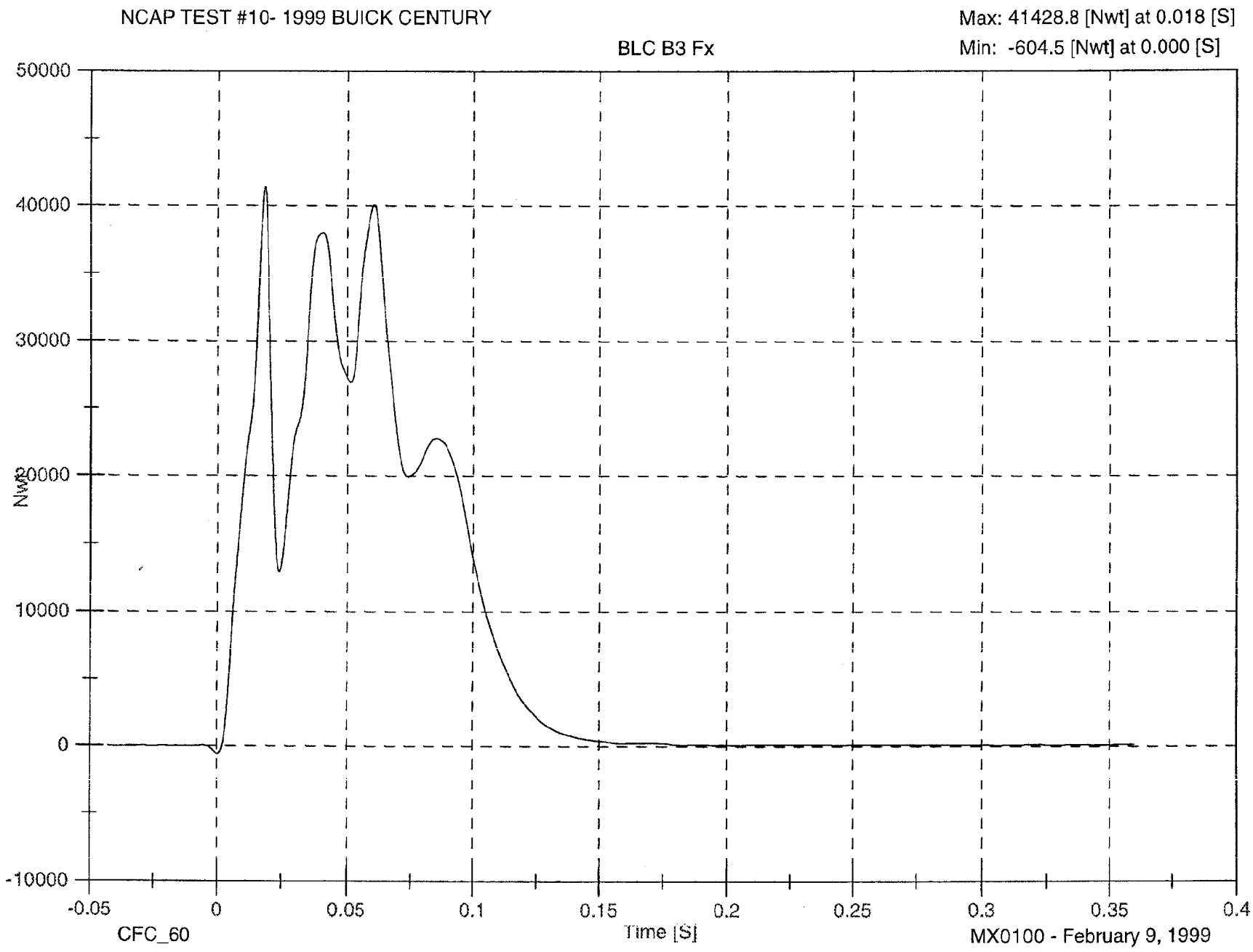

NCAP TEST #10- 1999 BUICK CENTURY
BLC A7 Fx
Max: 5709.4 [Nwt] at 0.061 [S]
Min: -293.3 [Nwt] at 0.000 [S]
6000
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

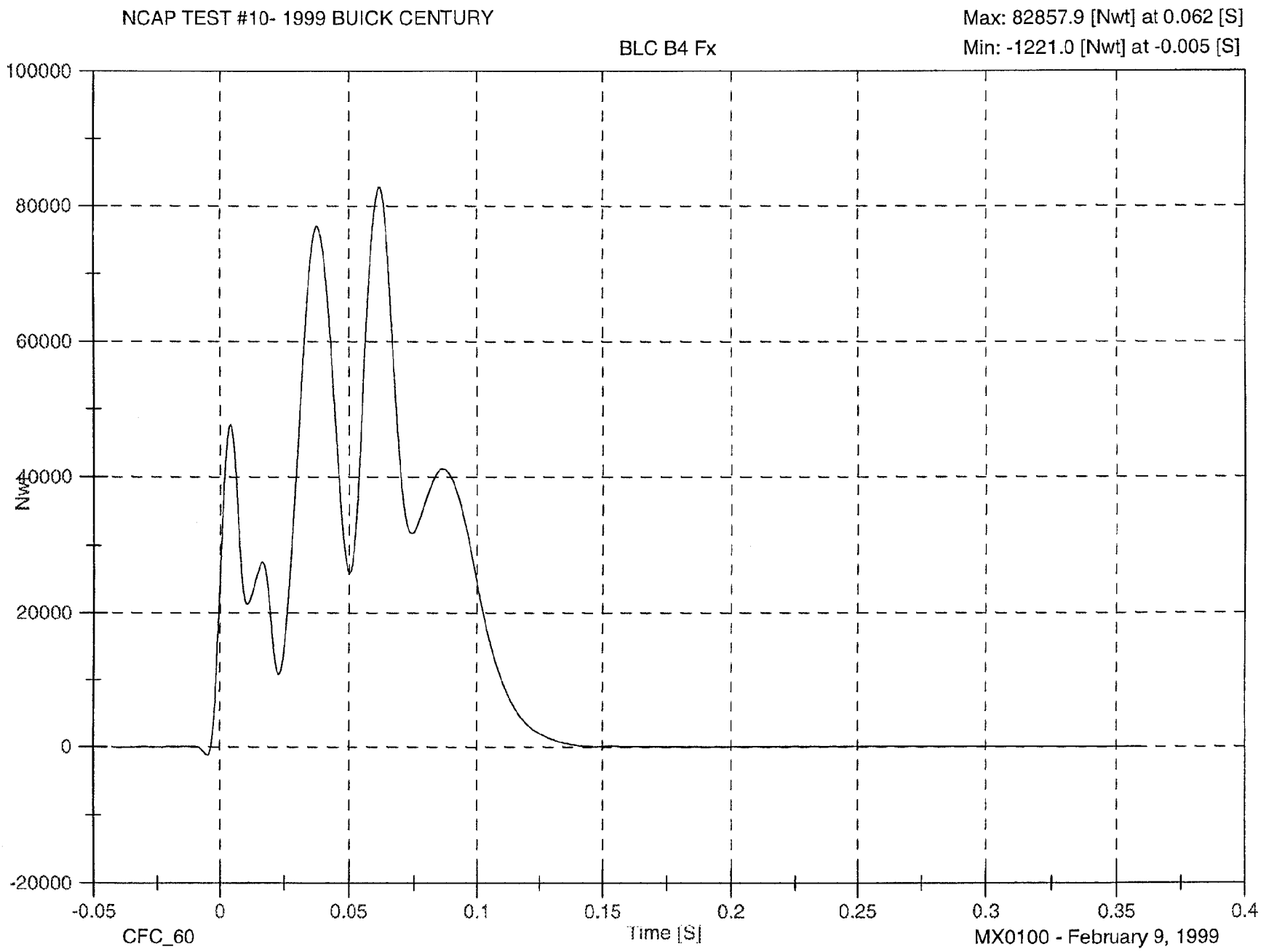

NCAP TEST #10- 1999 BUICK CENTURY
BLC A8 Fx
Max: 16888.3 [Nwt] at 0.060 [S]
Min: -261.2 [Nwt] at 0.022 [S]
17500
15000
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

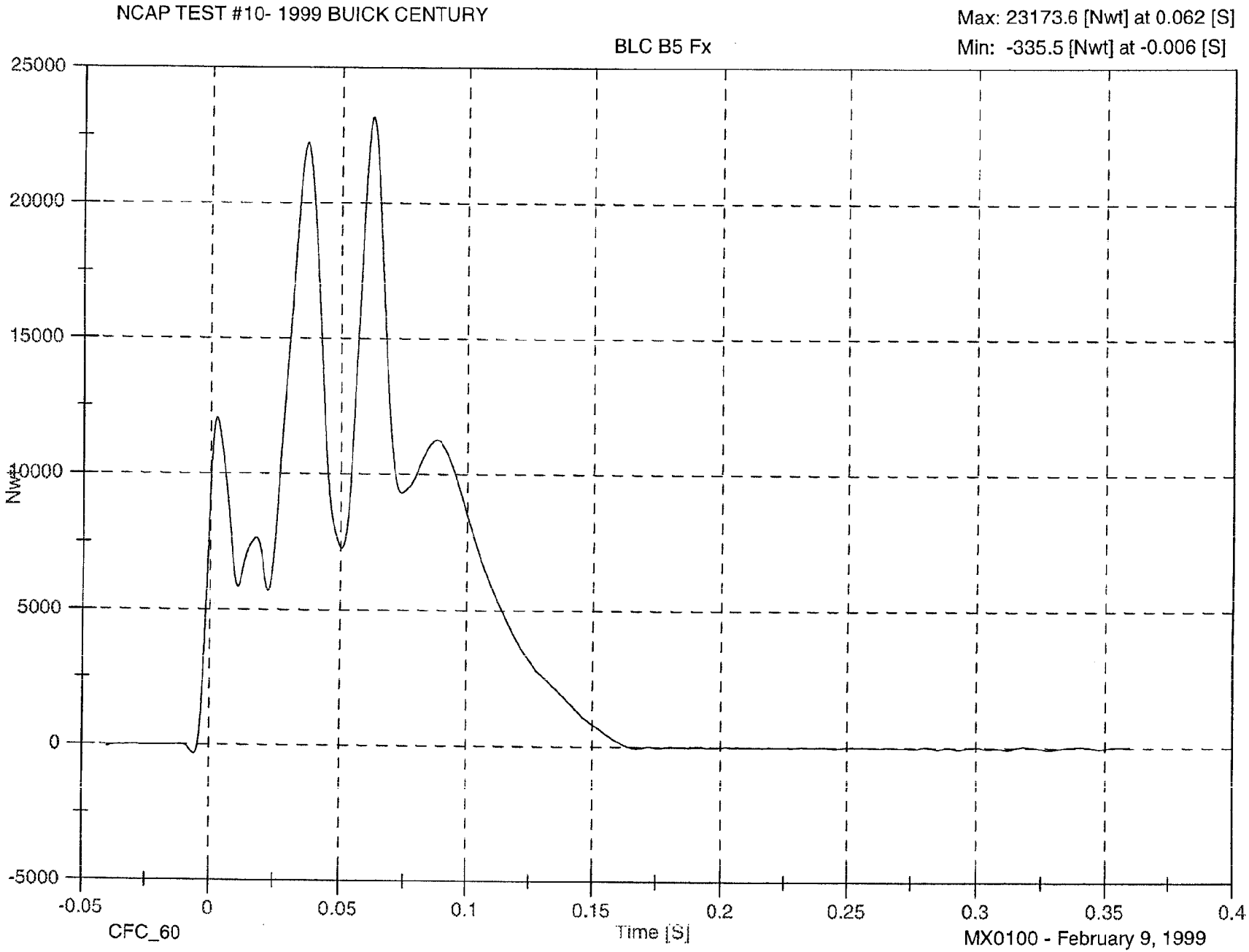

NCAP TEST #10- 1999 BUICK CENTURY
Max: 1143.1 [Nwt] at 0.043 [S]
Min: -766.1 [Nwt] at 0.038 [S]
BLC A9 Fx
MX0100 - February 9, 1999
CFC_60
Time [S]
Nwt
1250
1000
750
500
250
0
-250
-500
-750
-1000
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

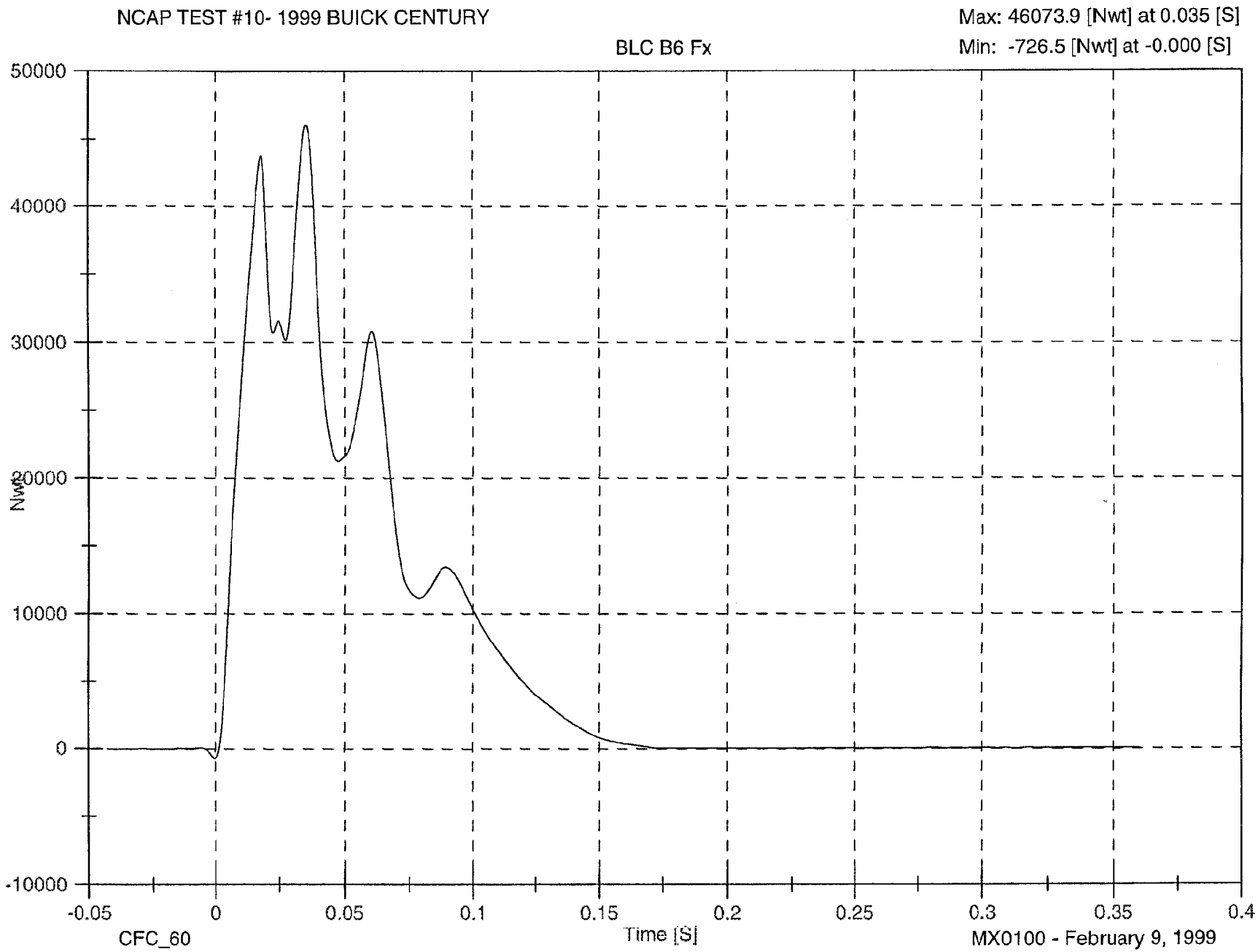

NCAP TEST #10- 1999 BUICK CENTURY
Max: 1634.4 [Nwt] at 0.055 [S]
Min: -368.9 [Nwt] at 0.010 [S]
BLC B1 Fx
Nwt
2000
1500
1000
500
0
-500
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

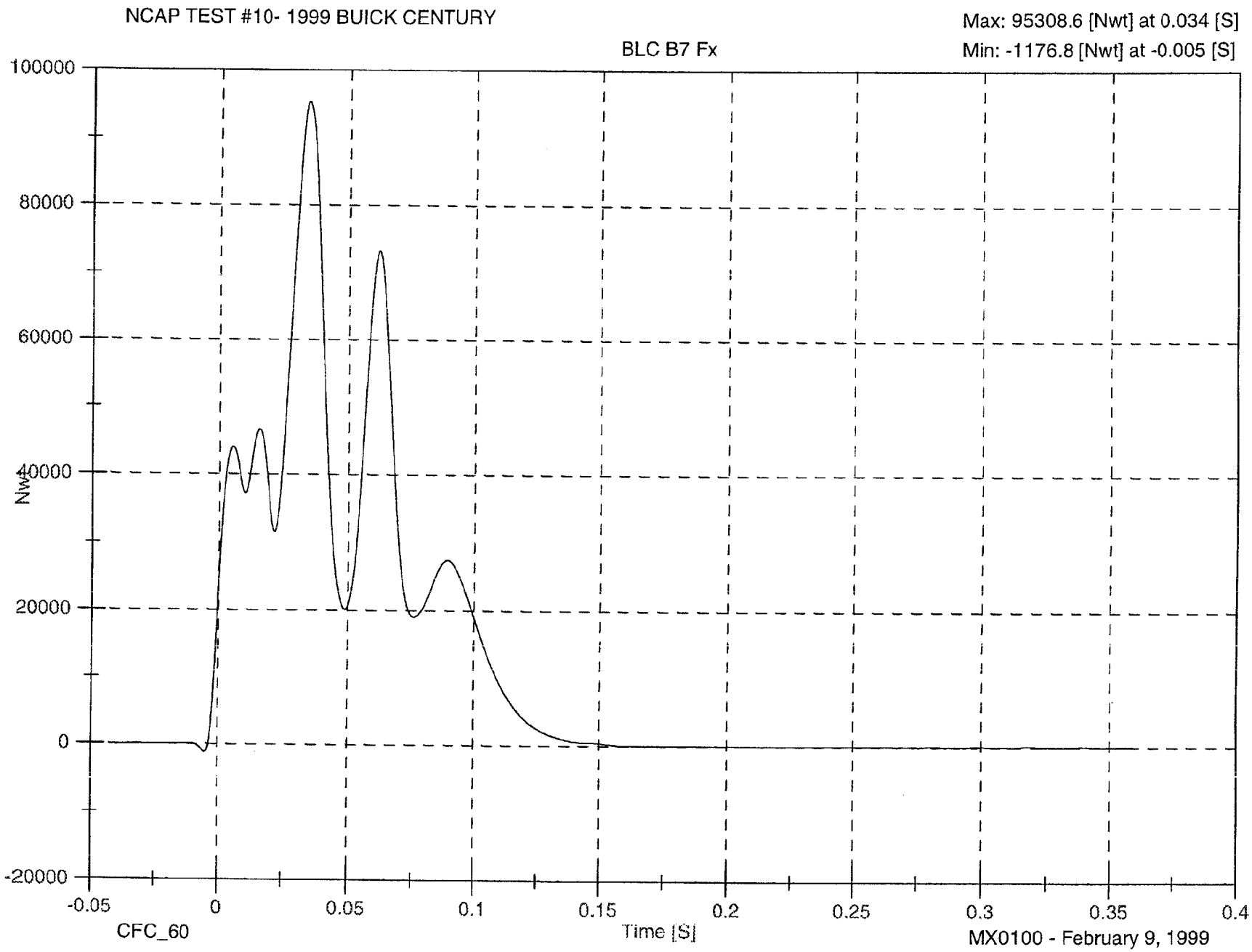

NCAP TEST #10- 1999 BUICK CENTURY
BLC B2 Fx
Max: 58349.3 [Nwt] at 0.018 [S]
Min: -716.3 [Nwt] at 0.002 [S]
60000
50000
40000
30000
20000
10000
0
-10000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

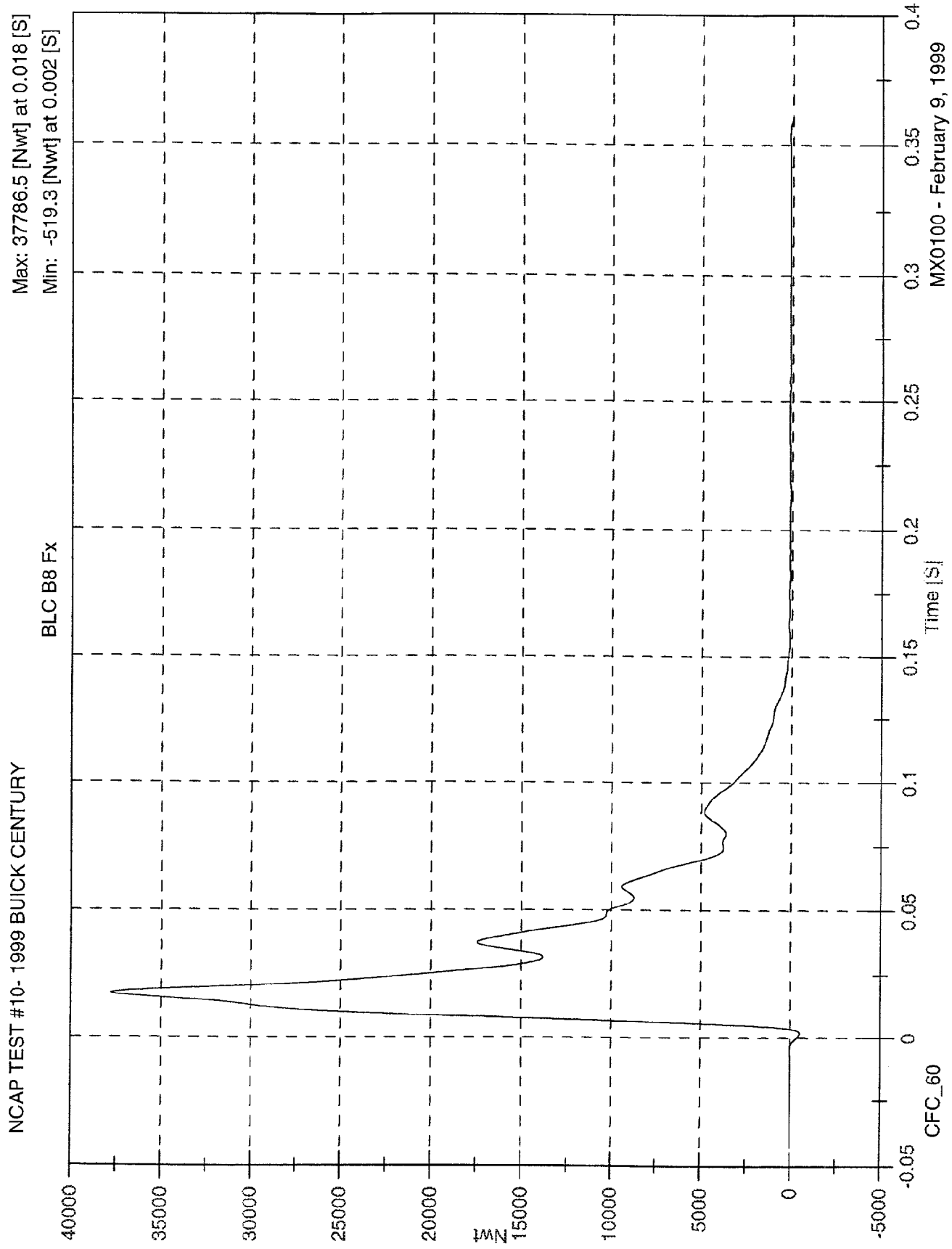

NCAP TEST #10- 1999 BUICK CENTURY
BLC B3 Fx
Max: 41428.8 [Nwt] at 0.018 [S]
Min: -604.5 [Nwt] at 0.000 [S]
50000
40000
30000
20000
10000
0
-10000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

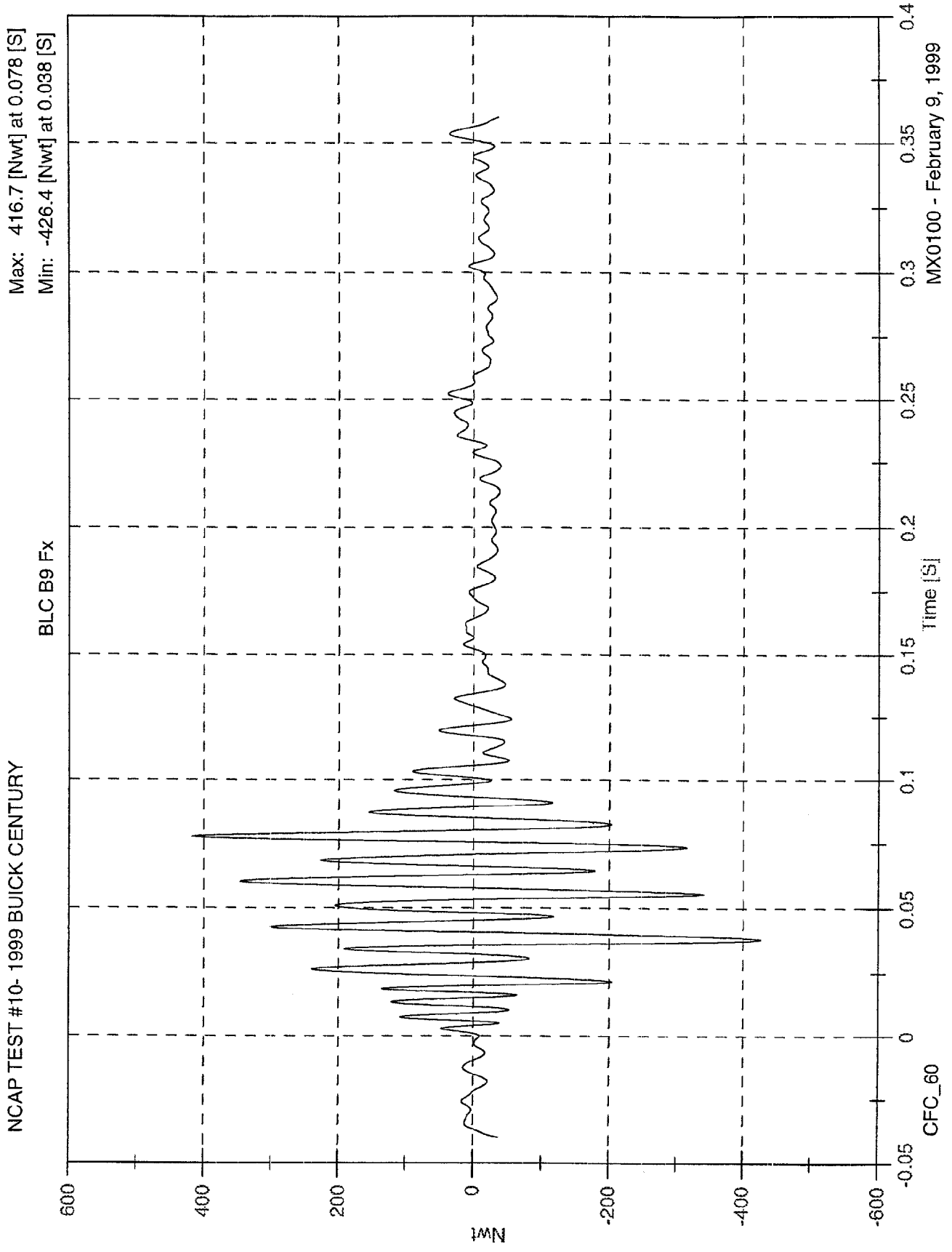

NCAP TEST #10- 1999 BUICK CENTURY
BLC B4 Fx
Max: 82857.9 [Nwt] at 0.062 [S]
Min: -1221.0 [Nwt] at -0.005 [S]
100000
80000
60000
40000
20000
0
-20000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

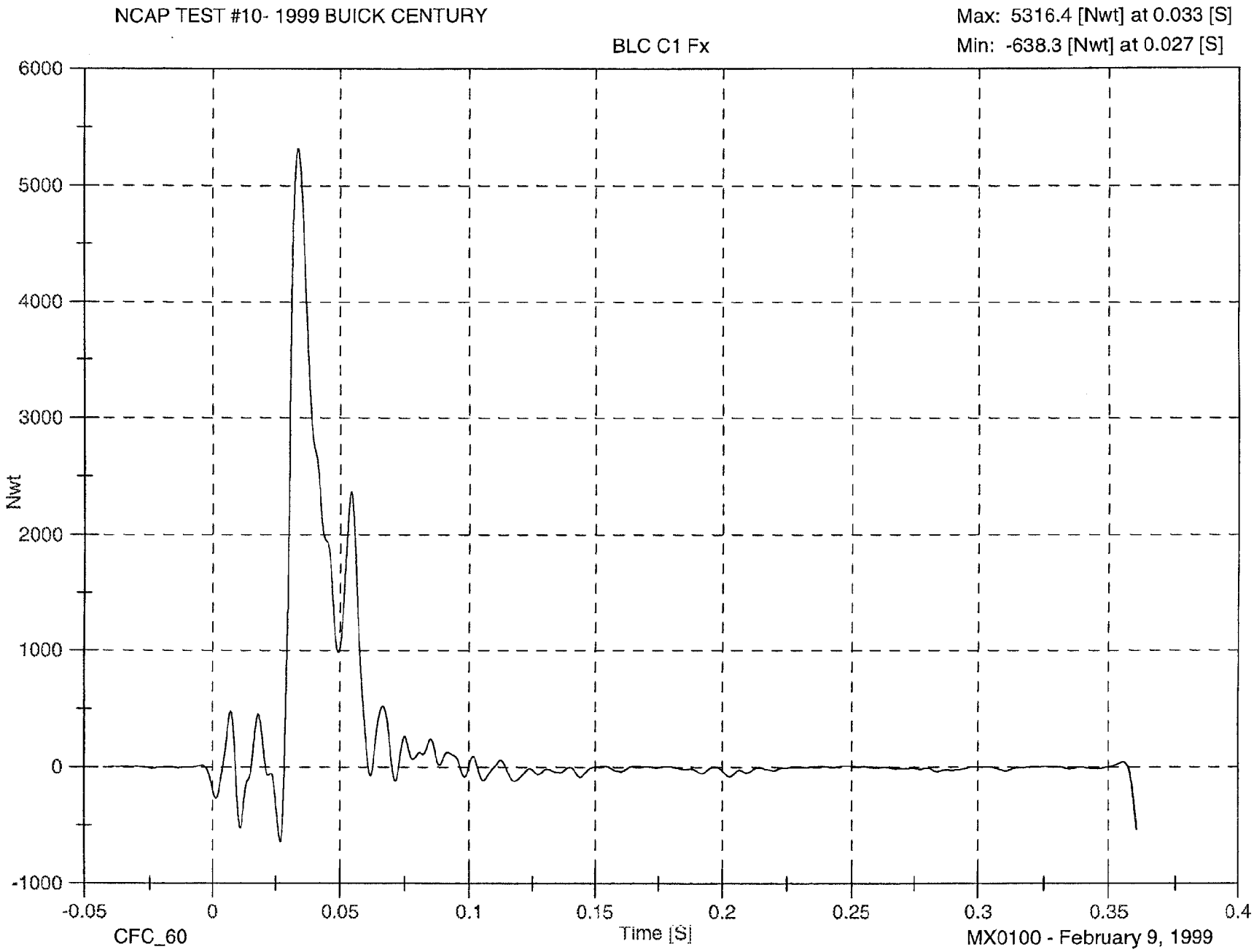

NCAP TEST #10- 1999 BUICK CENTURY
BLC B5 Fx
Max: 23173.6 [Nwt] at 0.062 [S]
Min: -335.5 [Nwt] at -0.006 [S]
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

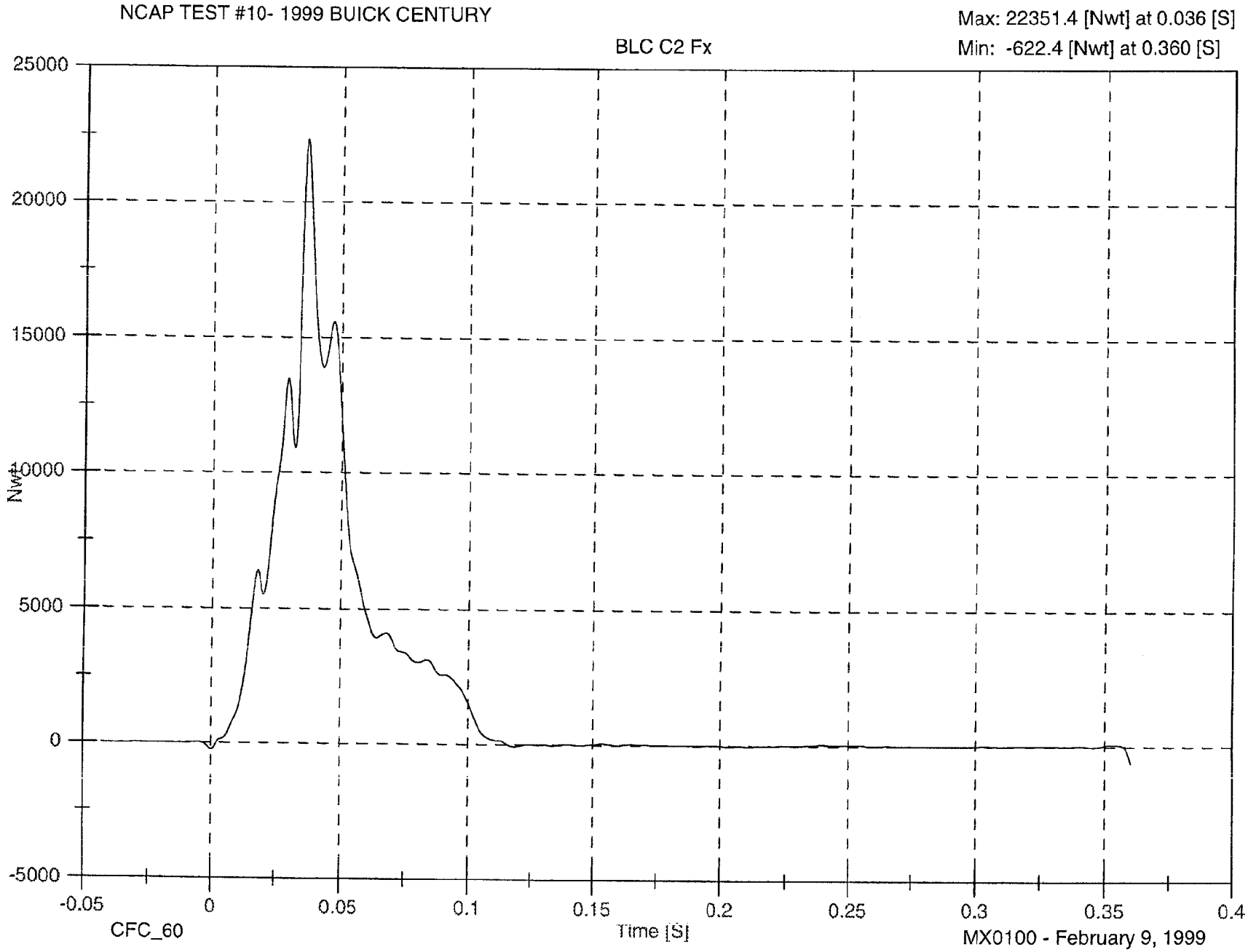

NCAP TEST #10- 1999 BUICK CENTURY
BLC B6 Fx
Max: 46073.9 [Nwt] at 0.035 [S]
Min: -726.5 [Nwt] at -0.000 [S]
50000
40000
30000
20000
10000
0
-10000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

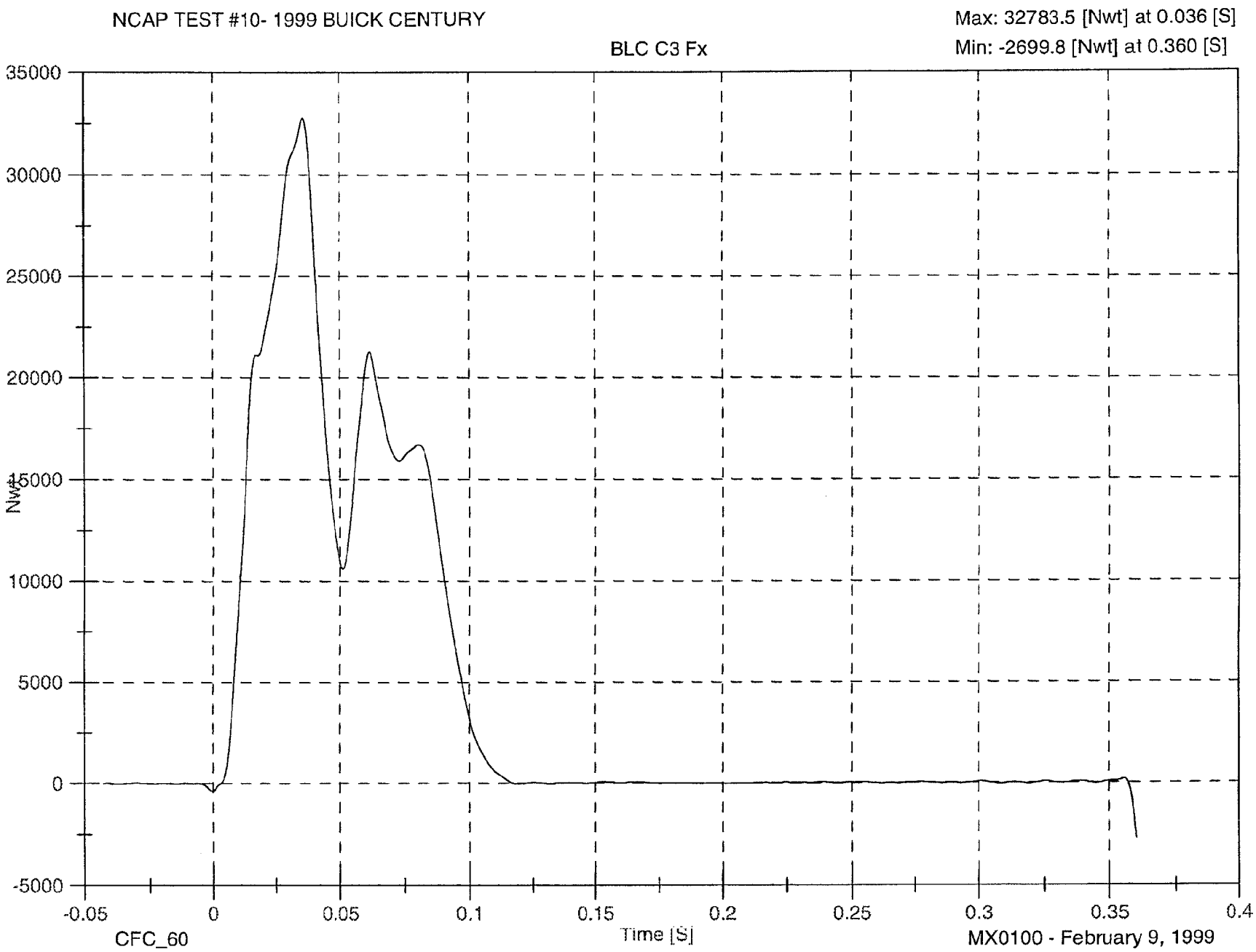

NCAP TEST #10- 1999 BUICK CENTURY
BLC B7 Fx
Max: 95308.6 [Nwt] at 0.034 [S]
Min: -1176.8 [Nwt] at -0.005 [S]
100000
80000
60000
40000
20000
0
-20000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
CFC_60
Time [S]
MX0100 - February 9, 1999

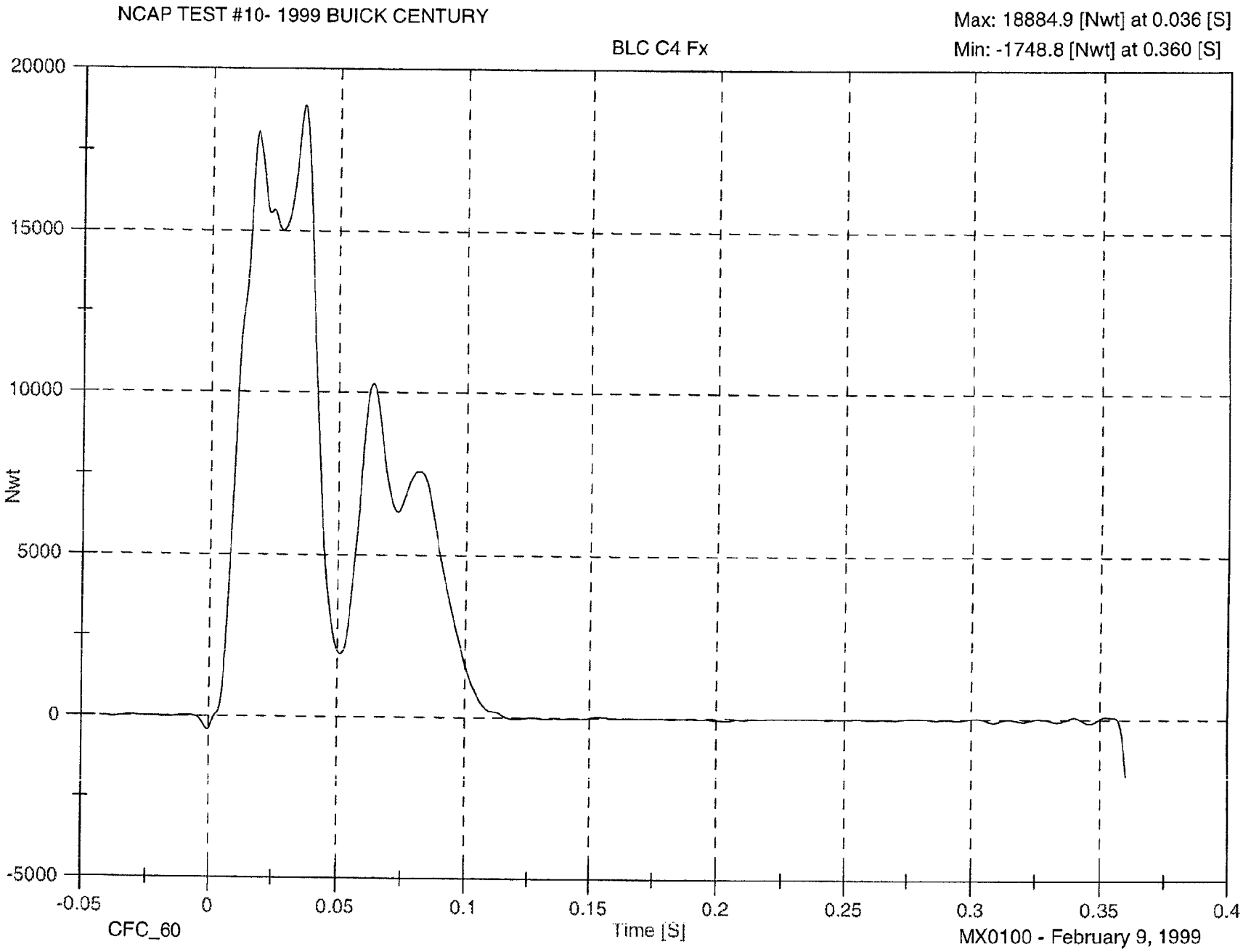

NCAP TEST #10- 1999 BUICK CENTURY
Max: 37786.5 [Nwt] at 0.018 [S]
Min: -519.3 [Nwt] at 0.002 [S]
BLC B8 Fx
MX0100 - February 9, 1999
CFC_60
Nwt
Time [S]
40000
35000
30000
25000
20000
15000
10000
5000
0
-5000
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

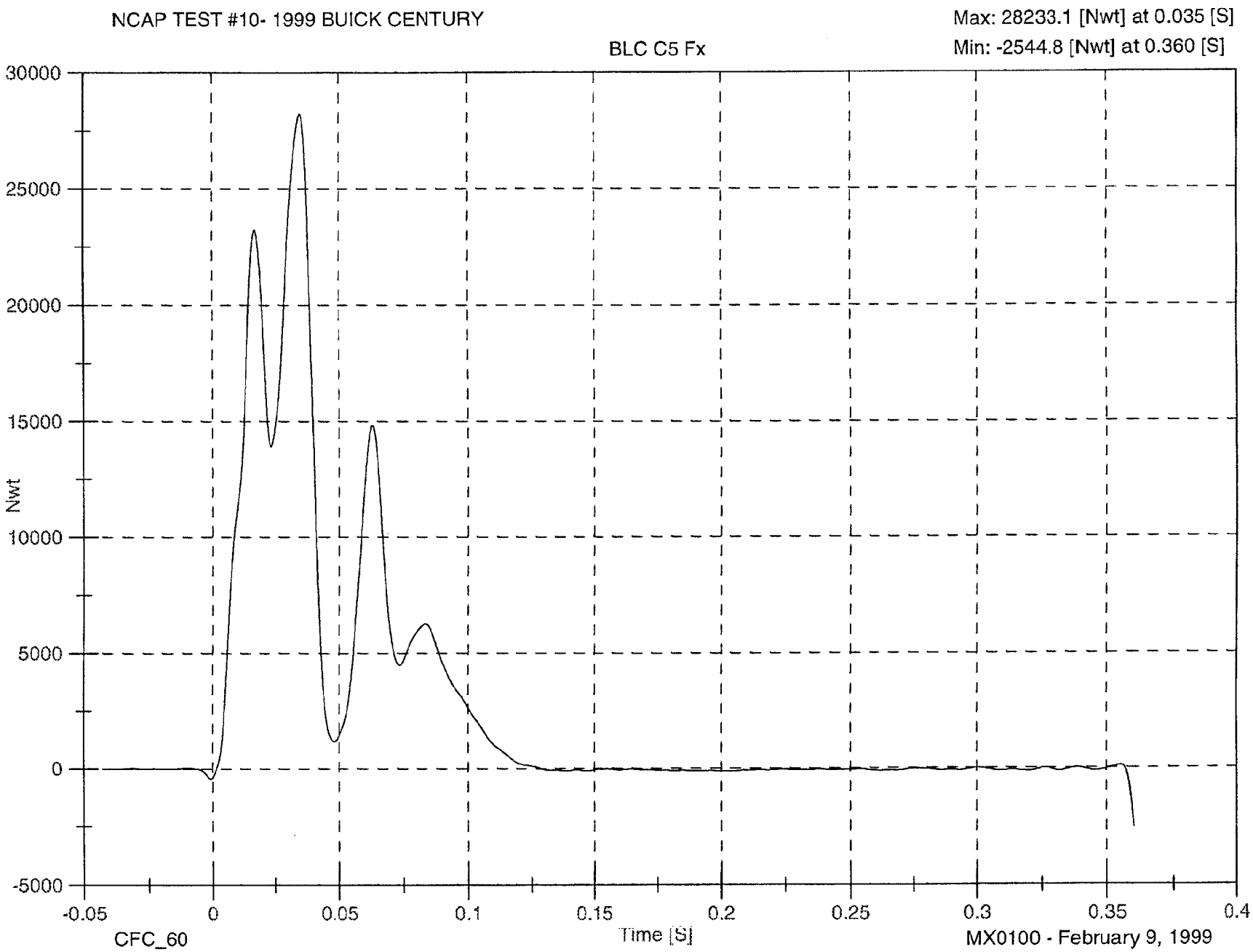

NCAP TEST #10- 1999 BUICK CENTURY
Max: 416.7 [Nwt] at 0.078 [S]
Min: -426.4 [Nwt] at 0.038 [S]
BLC B9 Fx
MX0100 - February 9, 1999
CFC_60
Nwt
Time [S]
600
400
200
0
-200
-400
-600
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

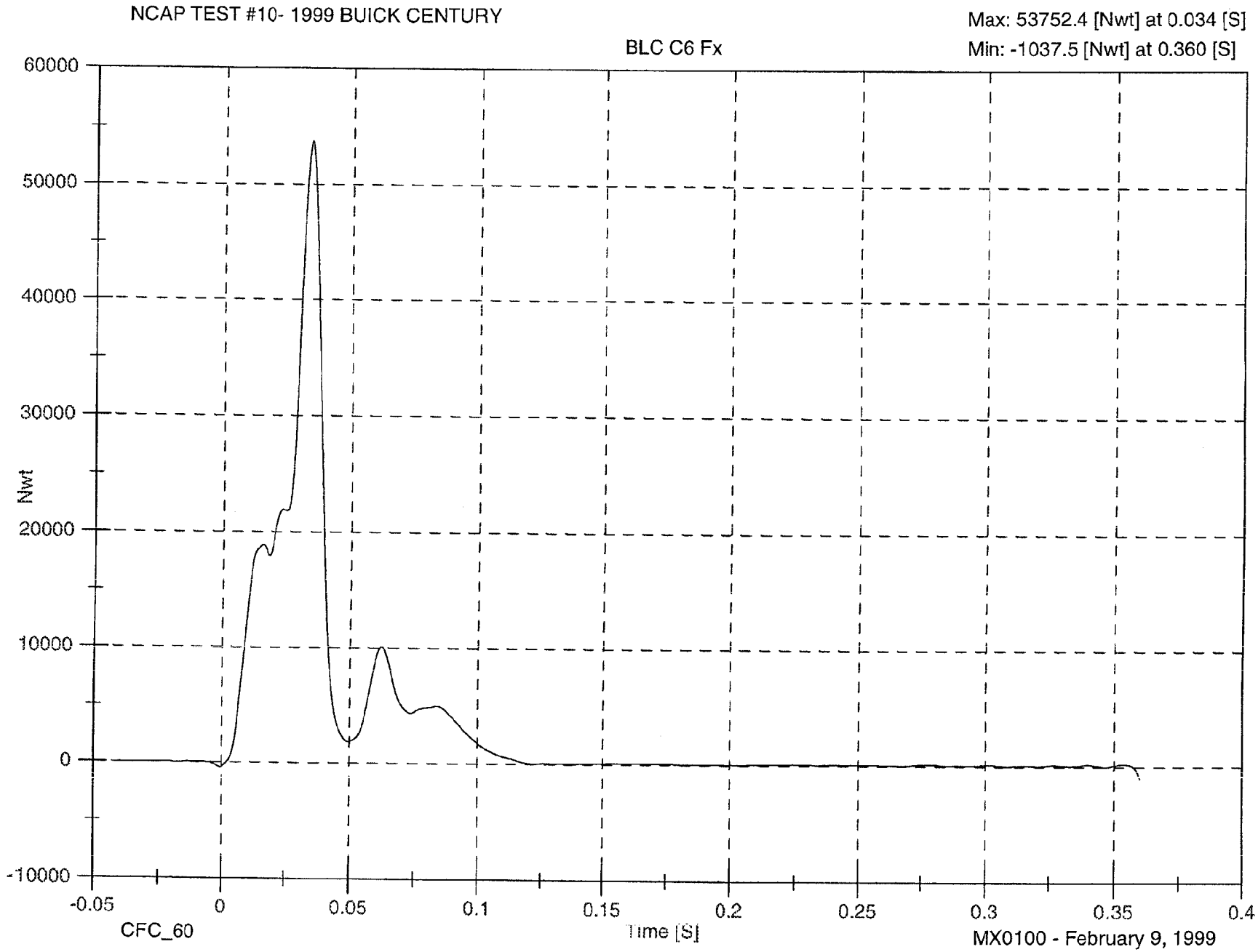

NCAP TEST #10- 1999 BUICK CENTURY
BLC C1 Fx
Max: 5316.4 [Nwt] at 0.033 [S]
Min: -638.3 [Nwt] at 0.027 [S]
6000
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

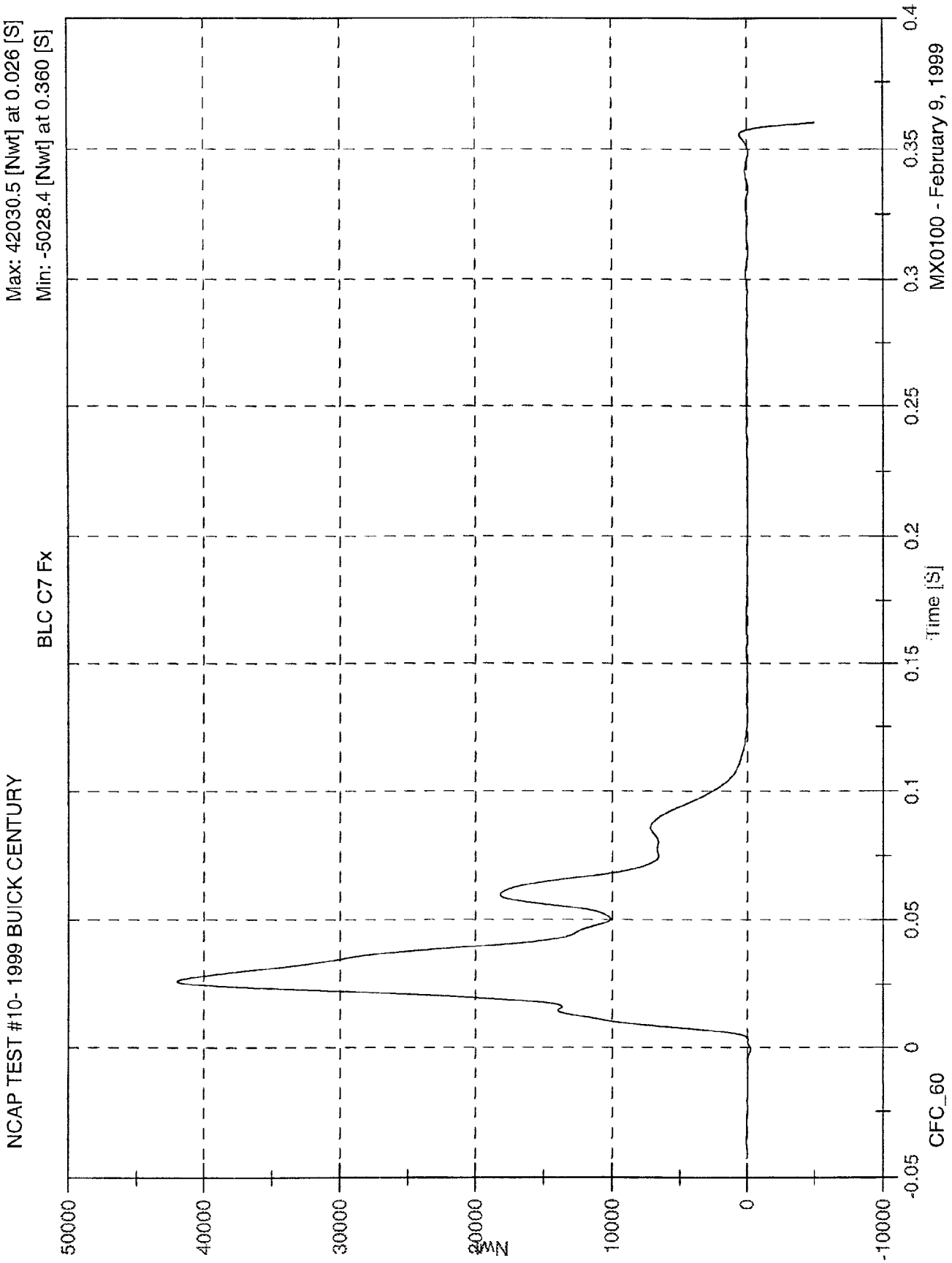

NCAP TEST #10- 1999 BUICK CENTURY
BLC C2 Fx
Max: 22351.4 [Nwt] at 0.036 [S]
Min: -622.4 [Nwt] at 0.360 [S]
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

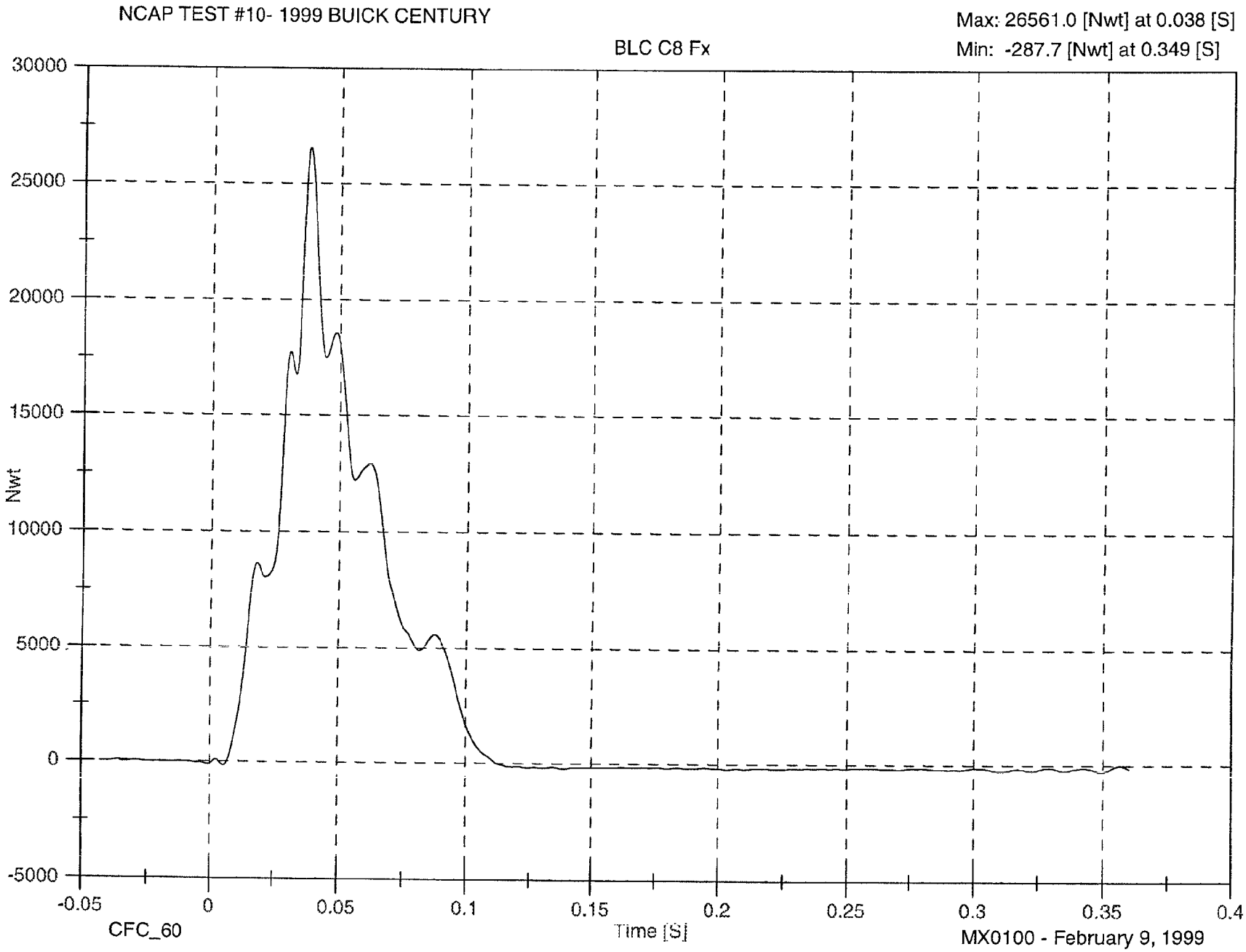

NCAP TEST #10- 1999 BUICK CENTURY
BLC C3 Fx
Max: 32783.5 [Nwt] at 0.036 [S]
Min: -2699.8 [Nwt] at 0.360 [S]
35000
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

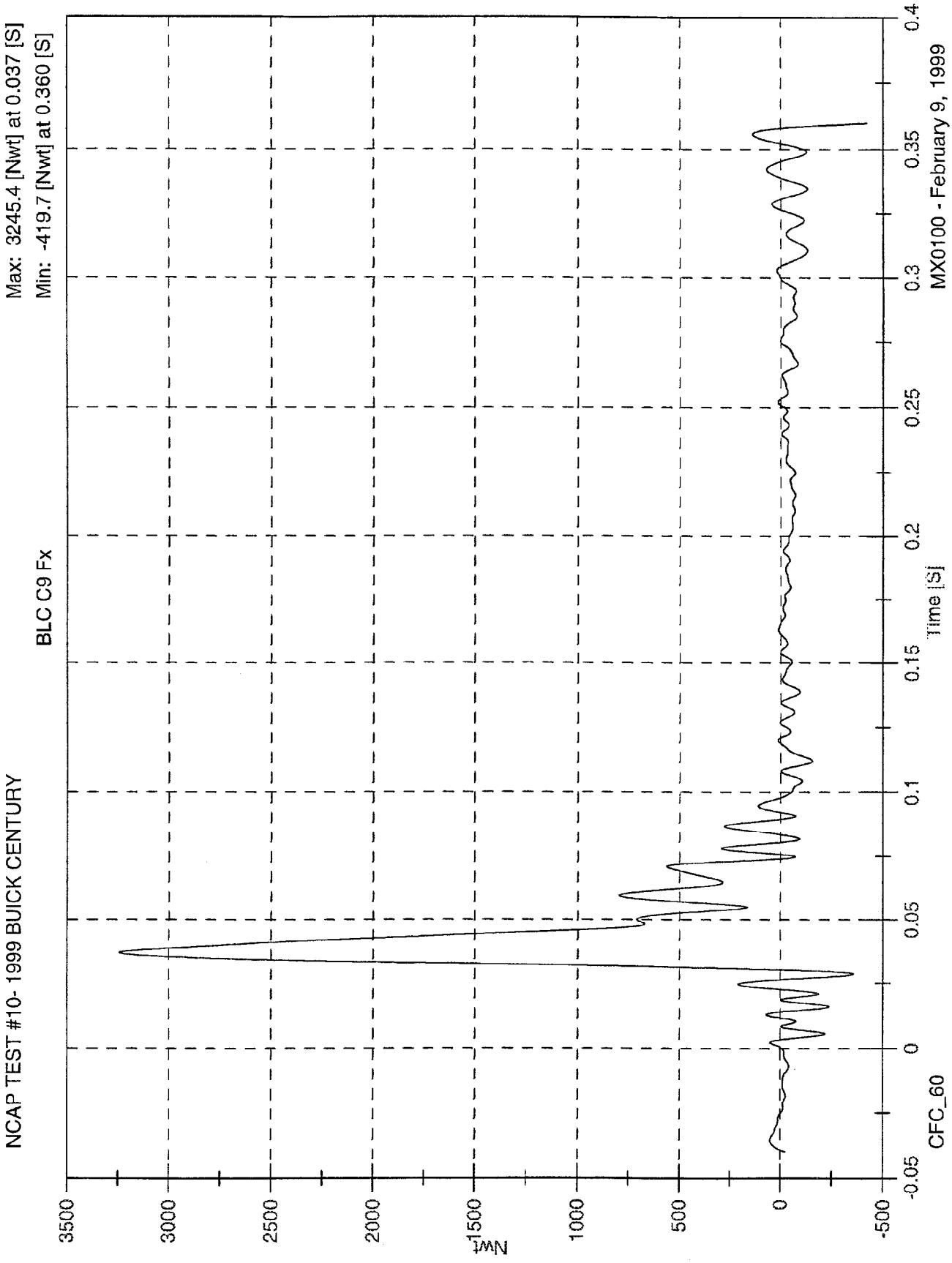

NCAP TEST #10- 1999 BUICK CENTURY
BLC C4 Fx
Max: 18884.9 [Nwt] at 0.036 [S]
Min: -1748.8 [Nwt] at 0.360 [S]
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

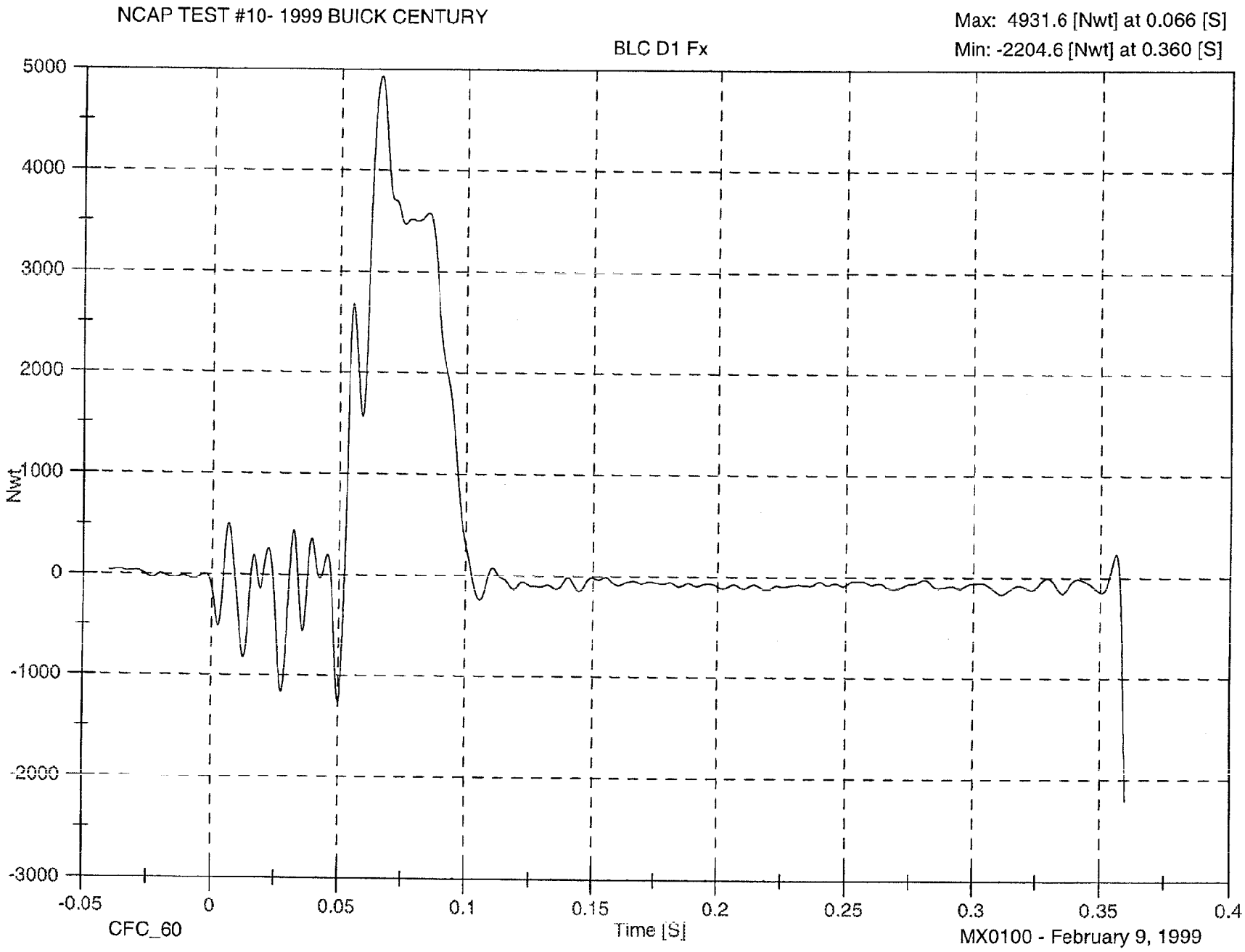

NCAP TEST #10- 1999 BUICK CENTURY
BLC C5 Fx
Max: 28233.1 [Nwt] at 0.035 [S]
Min: -2544.8 [Nwt] at 0.360 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

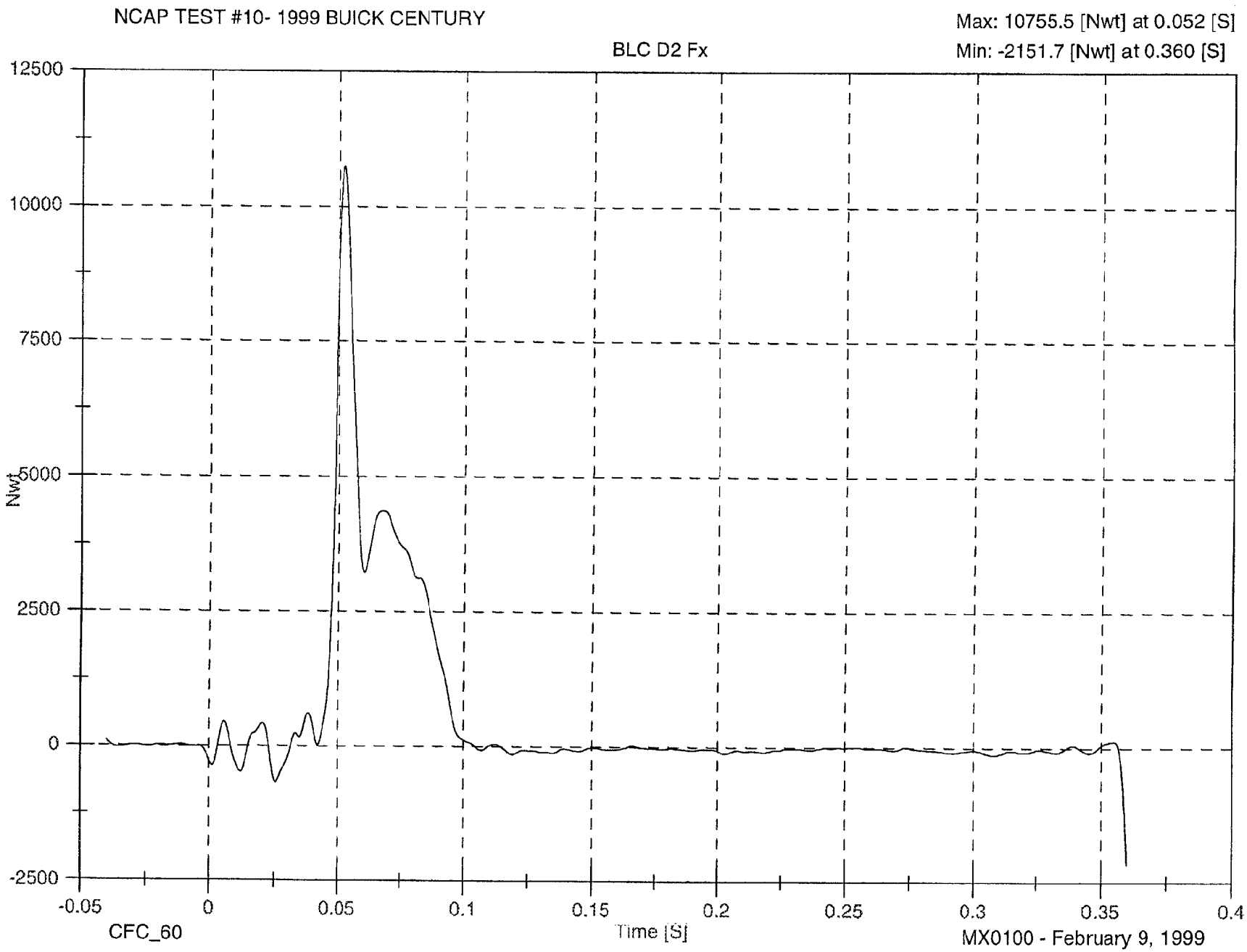

NCAP TEST #10- 1999 BUICK CENTURY
BLC C6 Fx
Max: 53752.4 [Nwt] at 0.034 [S]
Min: -1037.5 [Nwt] at 0.360 [S]
60000
50000
40000
30000
20000
10000
0
-10000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

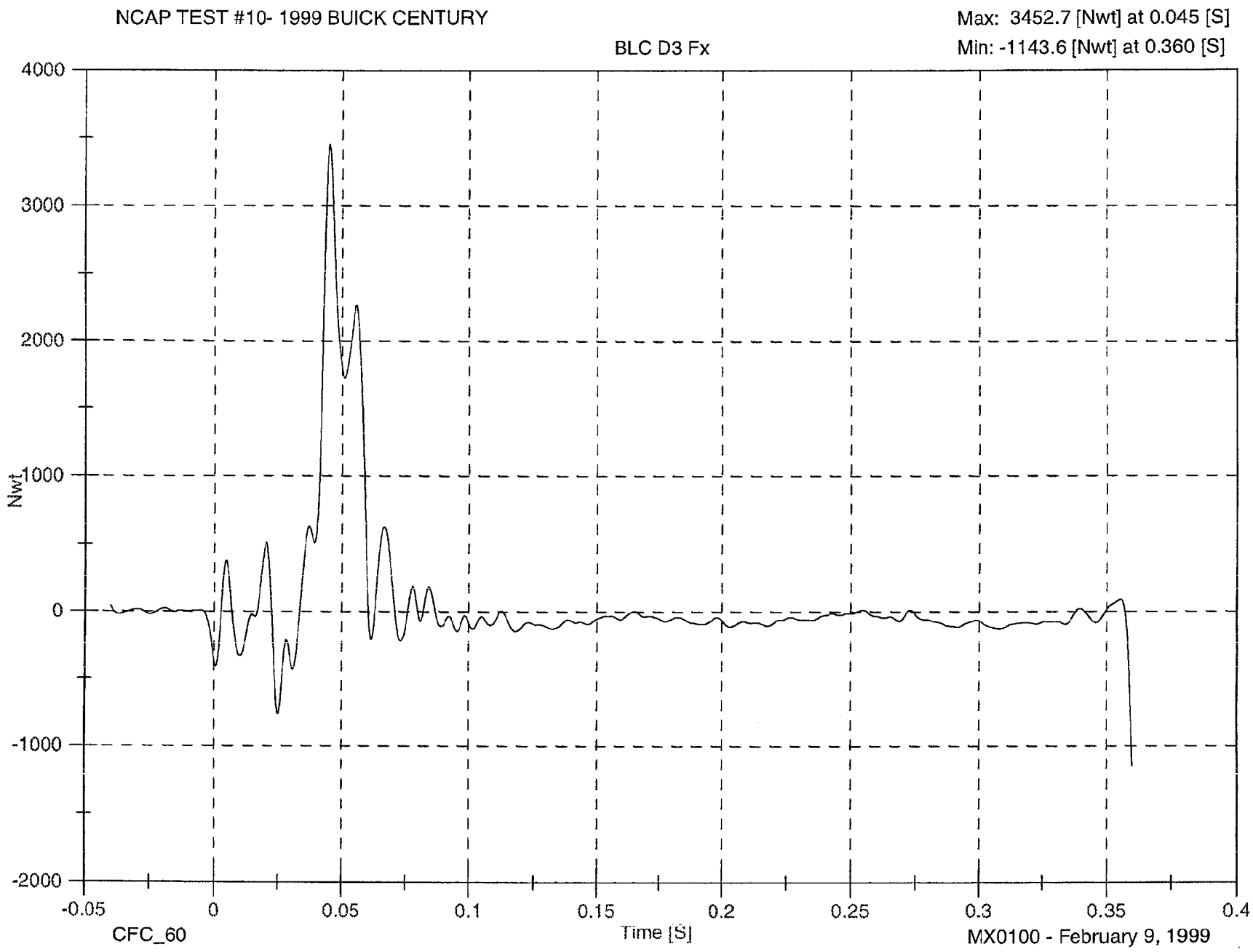

NCAP TEST #10- 1999 BUICK CENTURY
BLC C7 Fx
Max: 42030.5 [Nwt] at 0.026 [S]
Min: -5028.4 [Nwt] at 0.360 [S]
MX0100 - February 9, 1999
CFC_60
Time [S]
Nwt
50000
40000
30000
20000
10000
0
-10000
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

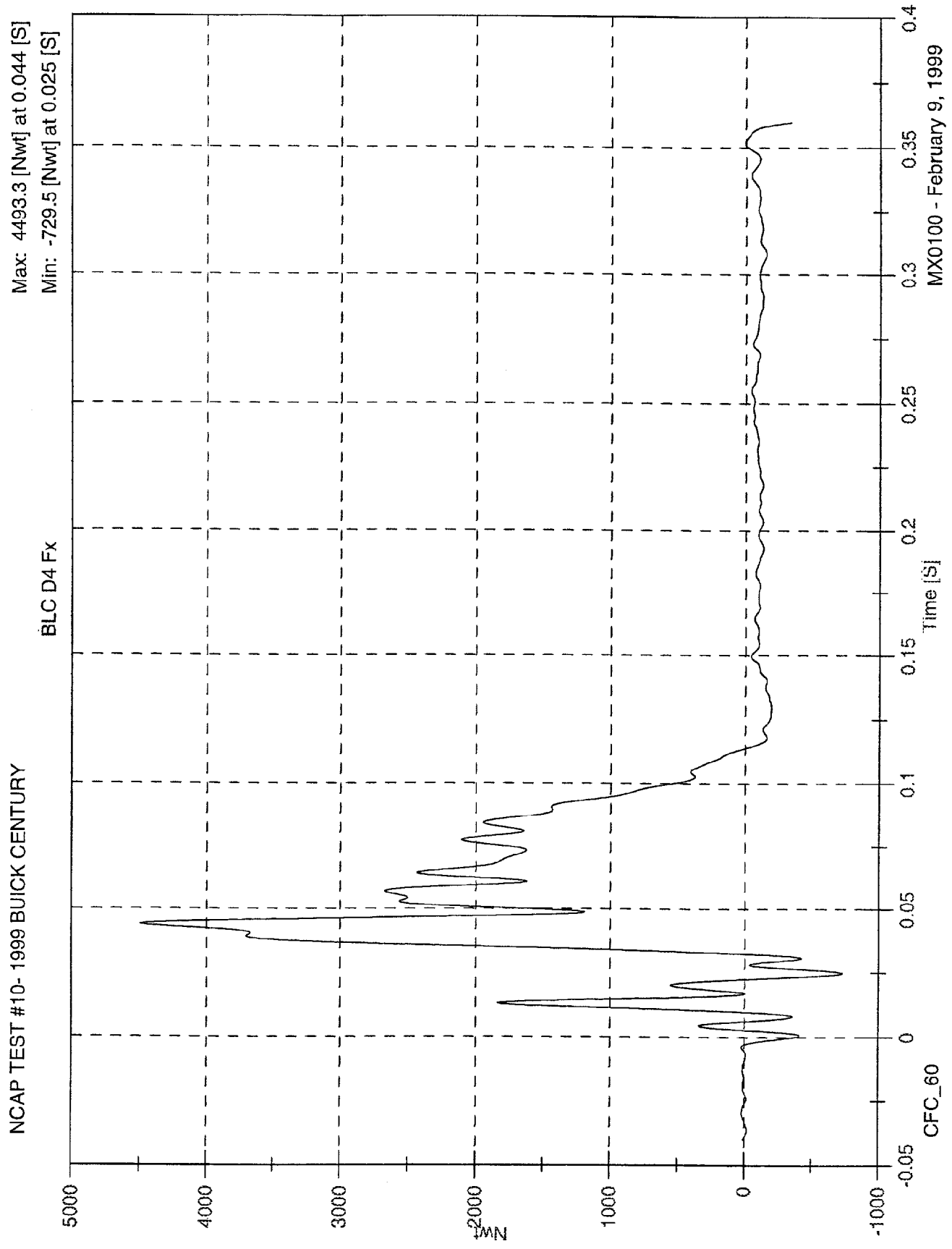

NCAP TEST #10- 1999 BUICK CENTURY
BLC C8 Fx
Max: 26561.0 [Nwt] at 0.038 [S]
Min: -287.7 [Nwt] at 0.349 [S]
30000
25000
20000
15000
10000
5000
0
-5000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

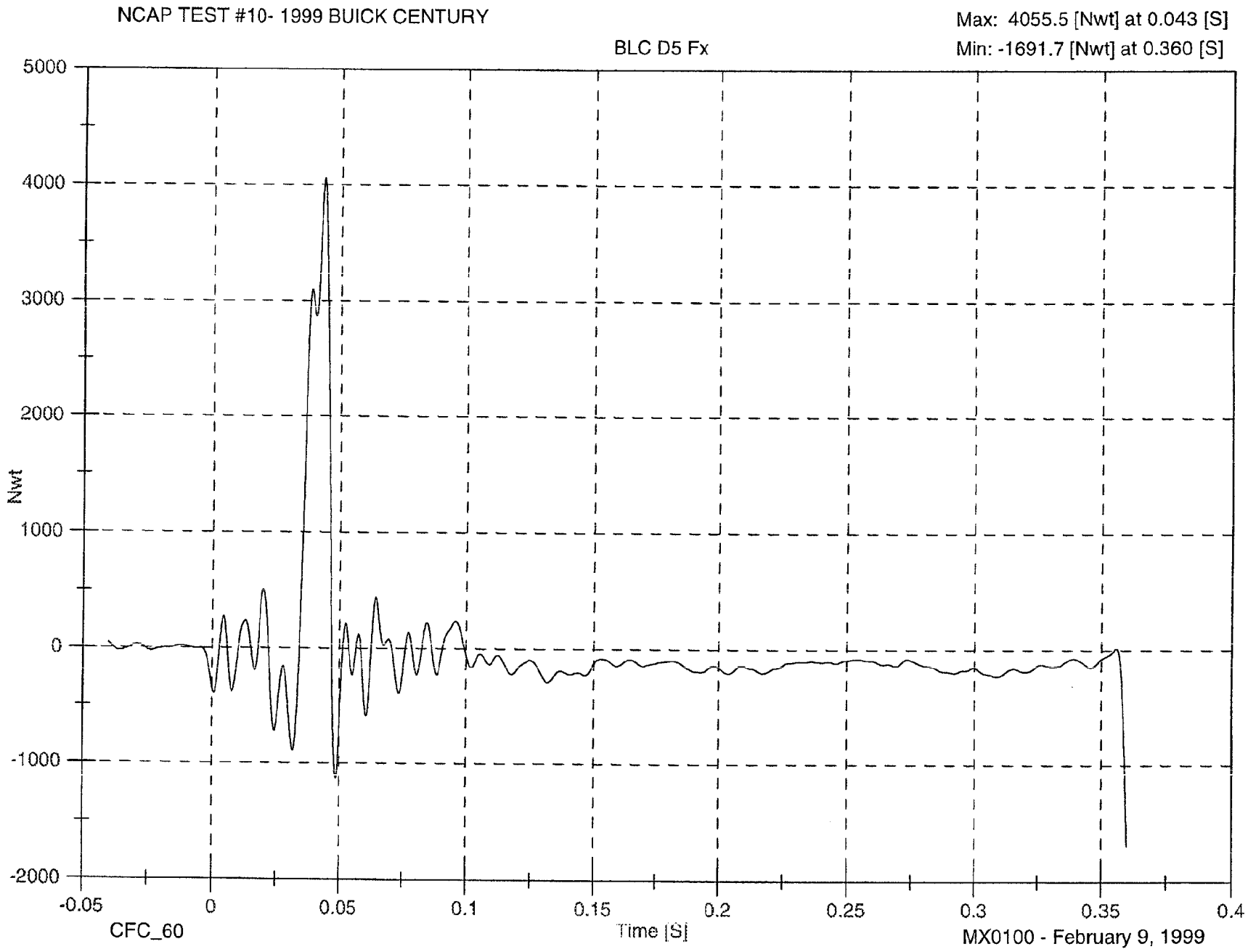

NCAP TEST #10- 1999 BUICK CENTURY
Max: 3245.4 [Nwt] at 0.037 [S]
Min: -419.7 [Nwt] at 0.360 [S]
BLC C9 Fx
MX0100 - February 9, 1999
CFC_60
Nwt
Time [S]
3500
3000
2500
2000
1500
1000
500
0
-500
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

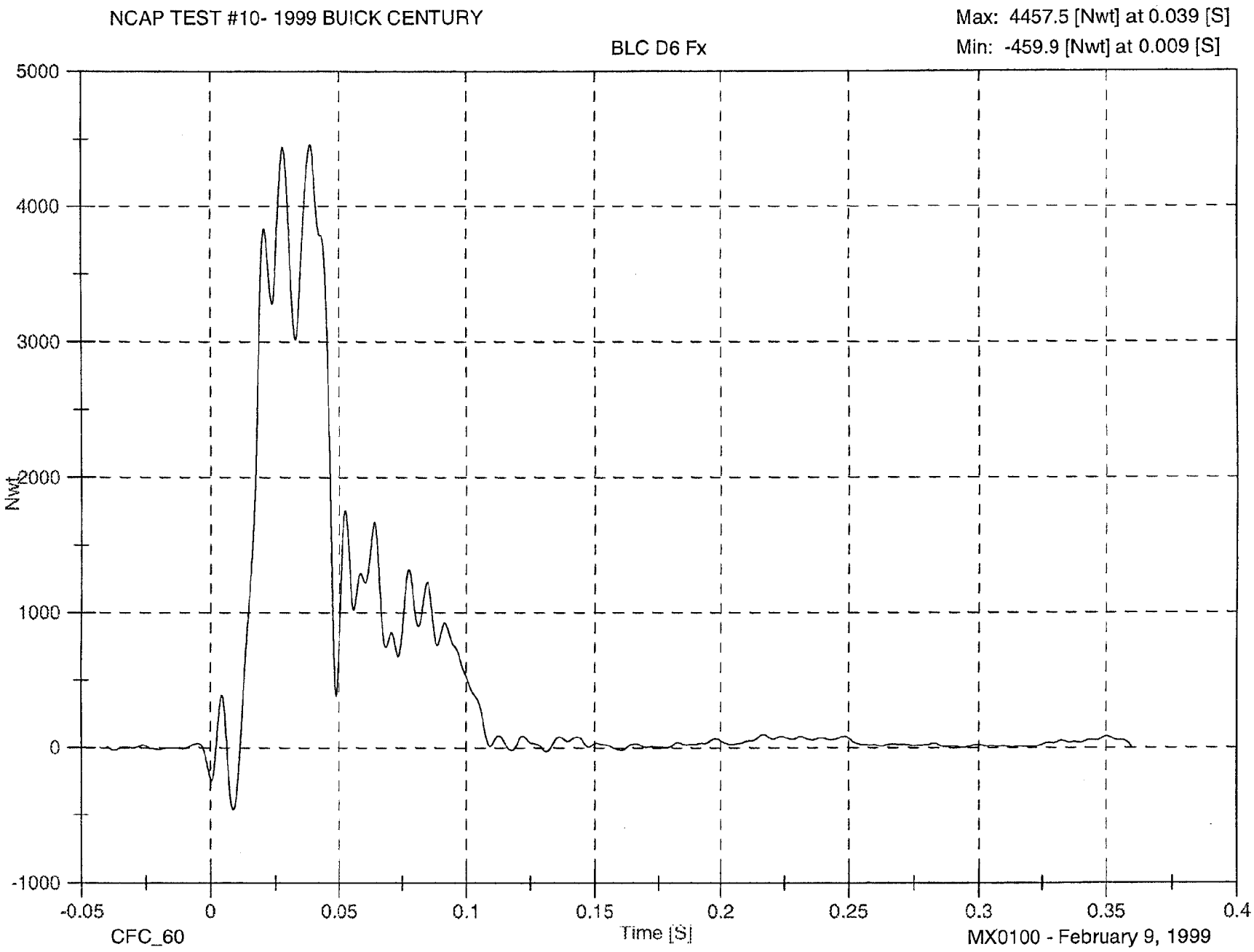

NCAP TEST #10- 1999 BUICK CENTURY
BLC D1 Fx
Max: 4931.6 [Nwt] at 0.066 [S]
Min: -2204.6 [Nwt] at 0.360 [S]
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

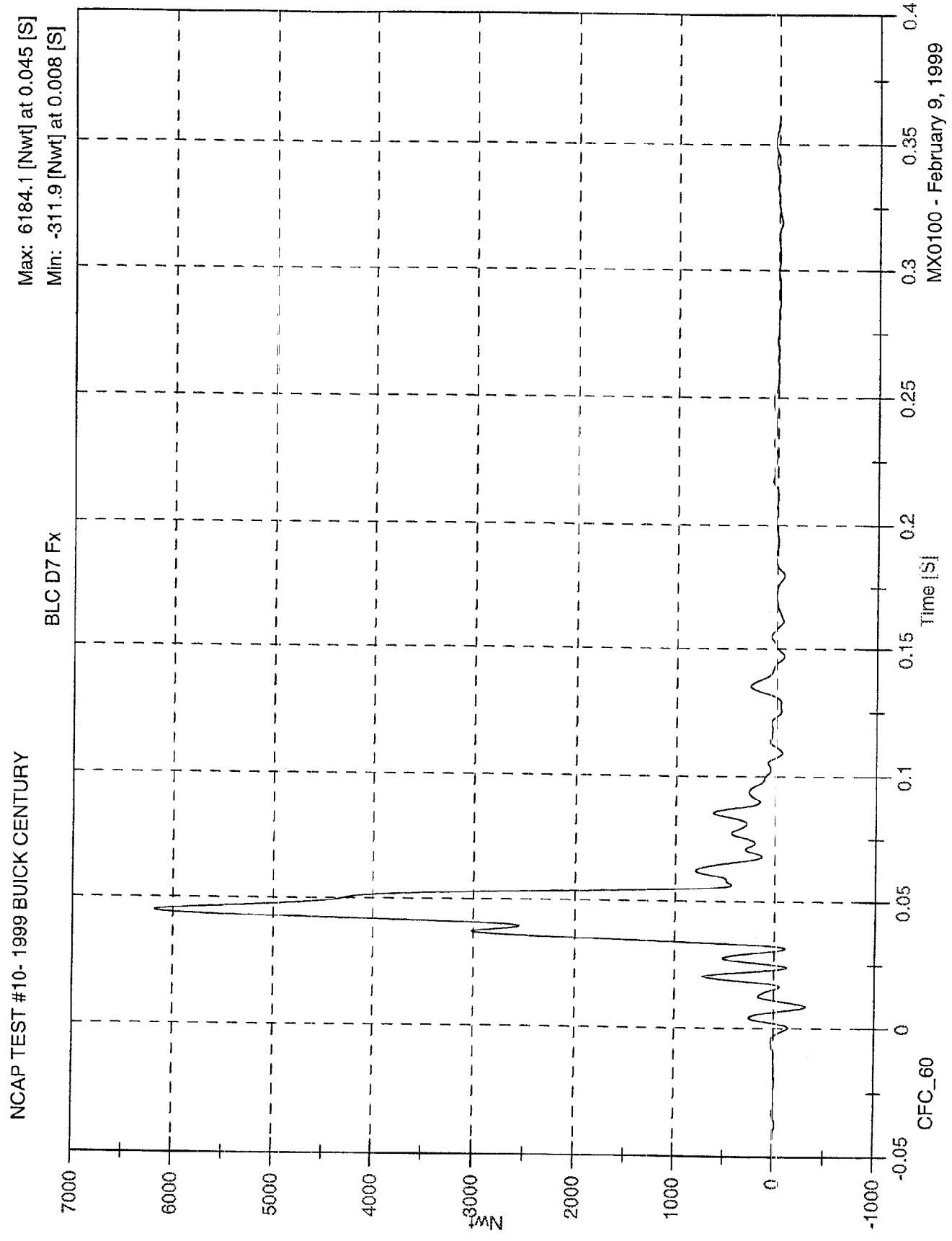

NCAP TEST #10- 1999 BUICK CENTURY
BLC D2 Fx
Max: 10755.5 [Nwt] at 0.052 [S]
Min: -2151.7 [Nwt] at 0.360 [S]
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

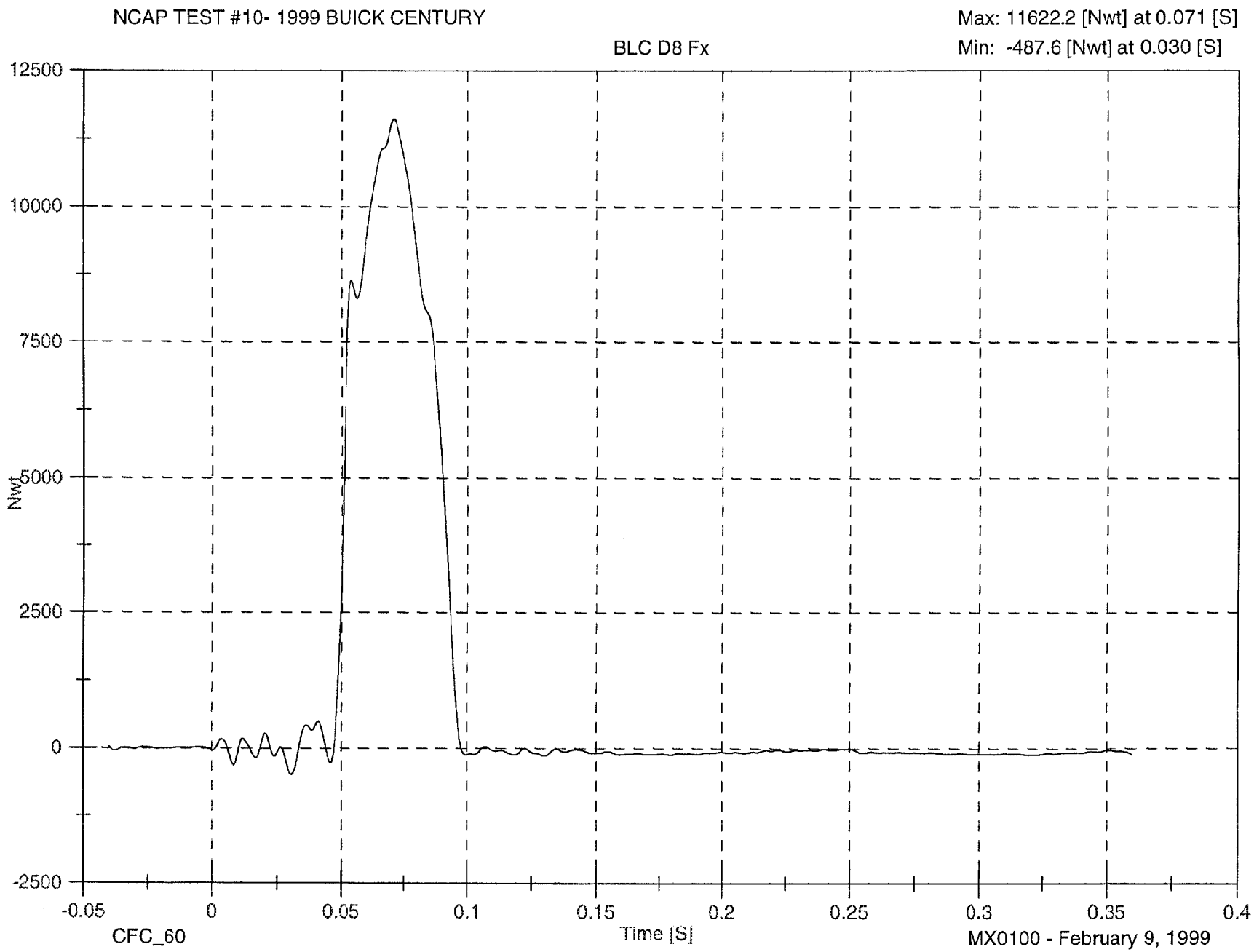

NCAP TEST #10- 1999 BUICK CENTURY
BLC D3 Fx
Max: 3452.7 [Nwt] at 0.045 [S]
Min: -1143.6 [Nwt] at 0.360 [S]
4000
3000
2000
1000
0
-1000
-2000
FWN
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

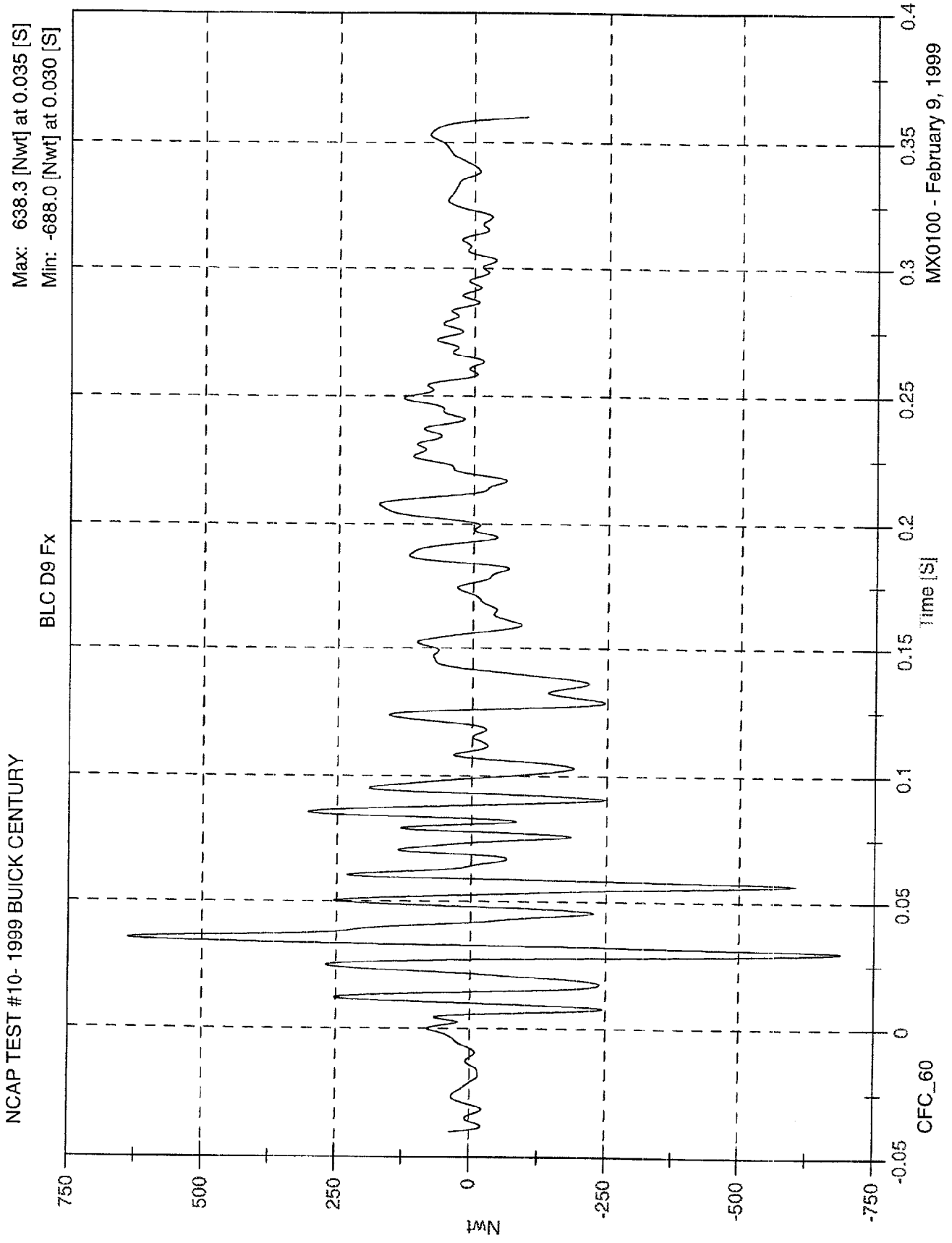

NCAP TEST #10- 1999 BUICK CENTURY
BLC D4 Fx
Max: 4493.3 [Nwt] at 0.044 [S]
Min: -729.5 [Nwt] at 0.025 [S]
MX0100 - February 9, 1999
CFC_60
Time [S]
Nwt
5000
4000
3000
2000
1000
0
-1000
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

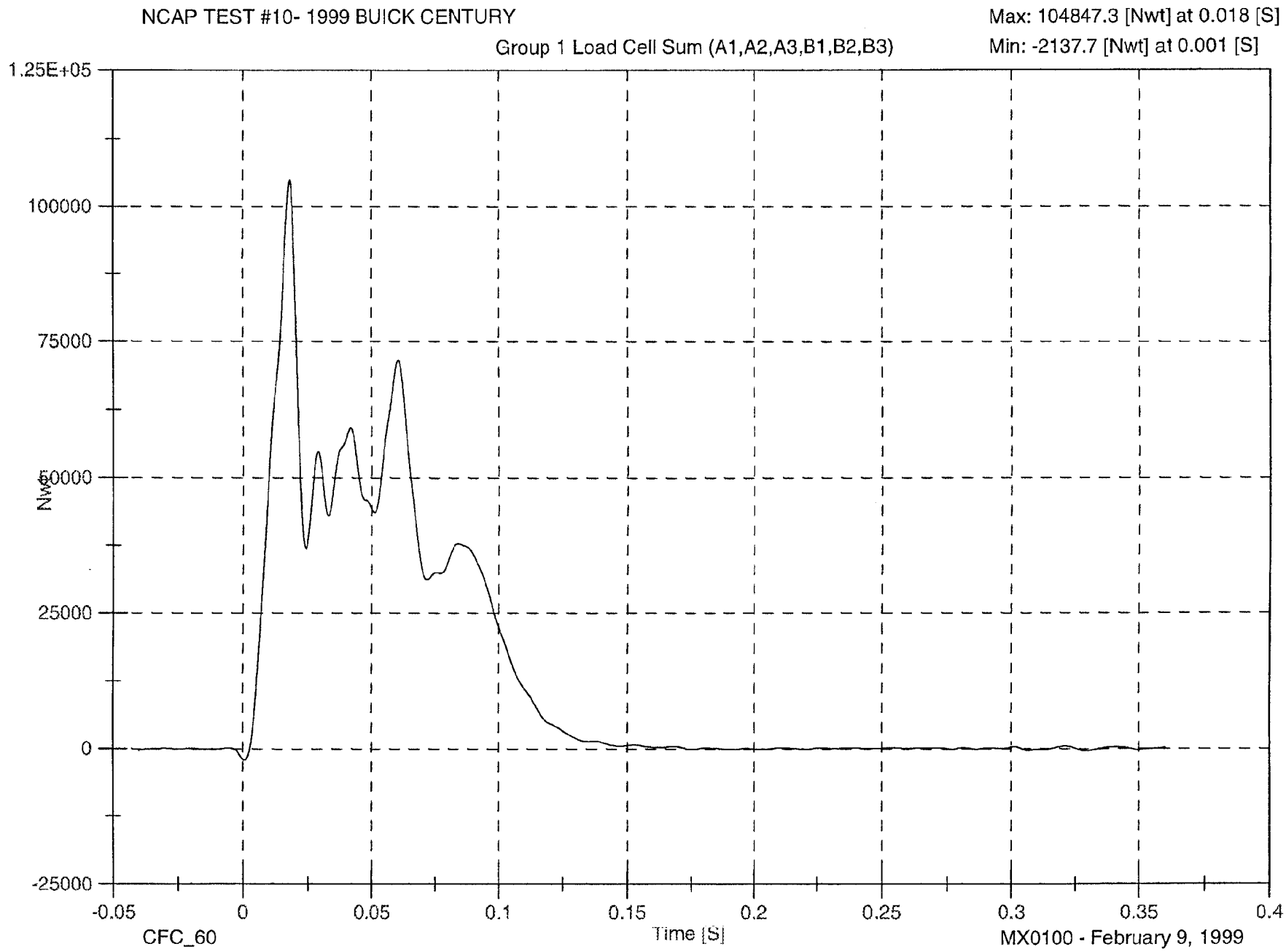

NCAP TEST #10- 1999 BUICK CENTURY
BLC D5 Fx
Max: 4055.5 [Nwt] at 0.043 [S]
Min: -1691.7 [Nwt] at 0.360 [S]
5000
4000
3000
2000
1000
0
-1000
-2000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

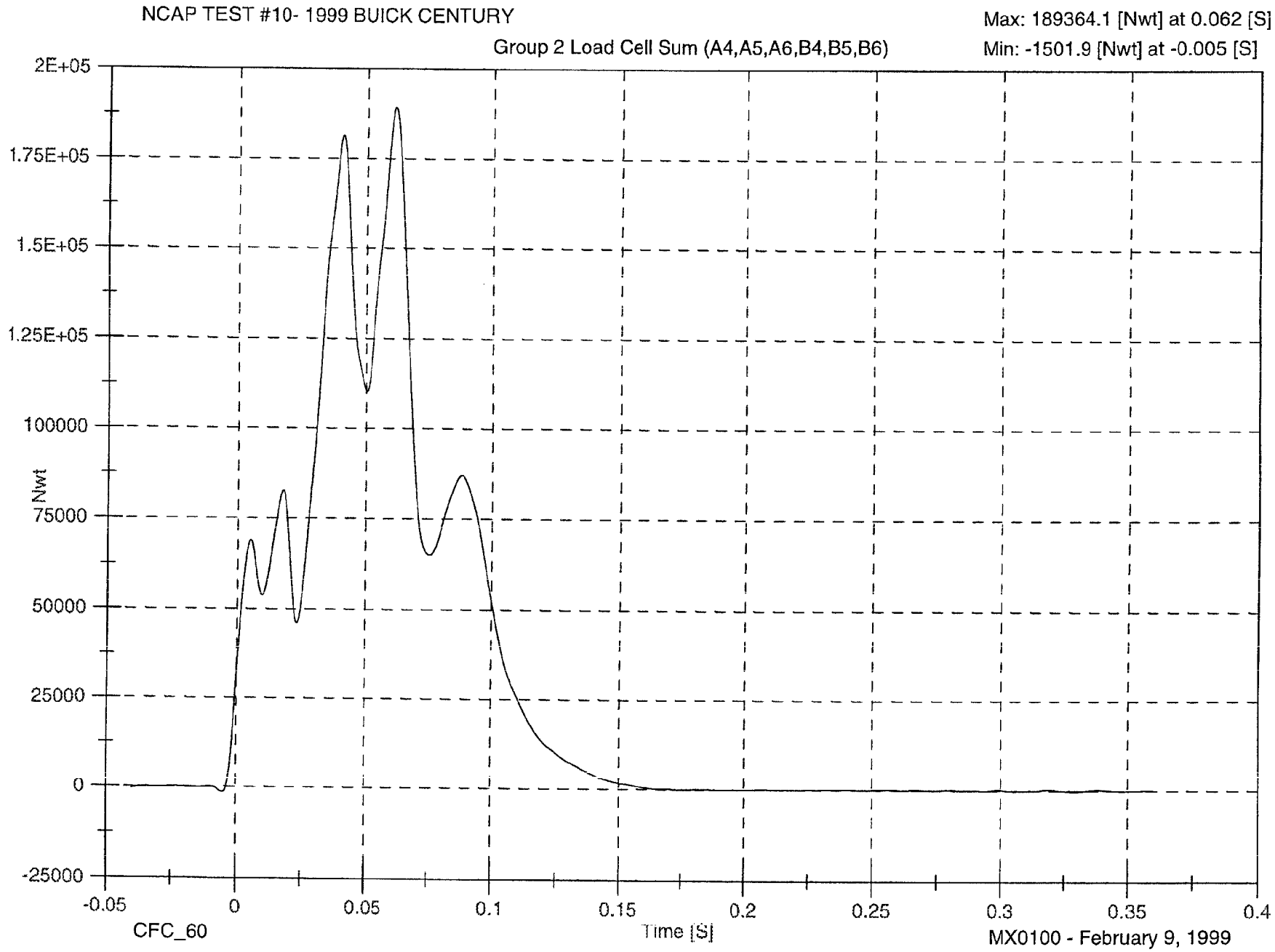

NCAP TEST #10- 1999 BUICK CENTURY
BLC D6 Fx
Max: 4457.5 [Nwt] at 0.039 [S]
Min: -459.9 [Nwt] at 0.009 [S]
5000
4000
3000
2000
1000
0
-1000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

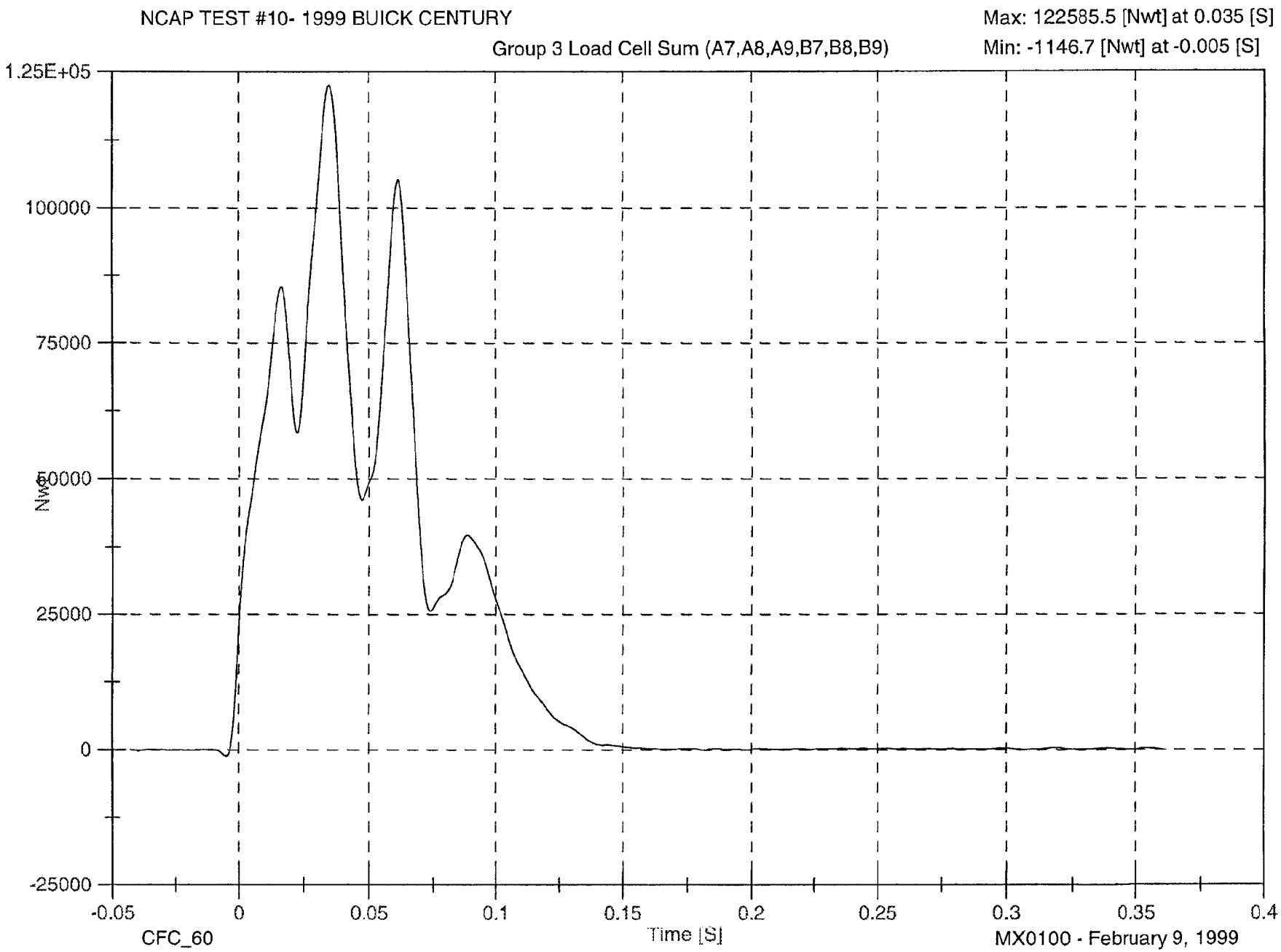

NCAP TEST #10- 1999 BUICK CENTURY
Max: 6184.1 [Nwt] at 0.045 [S]
Min: -311.9 [Nwt] at 0.008 [S]
BLC D7 Fx
MX0100 - February 9, 1999
CFC_60
Time [S]
Nwt
7000
6000
5000
4000
3000
2000
1000
0
-1000
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

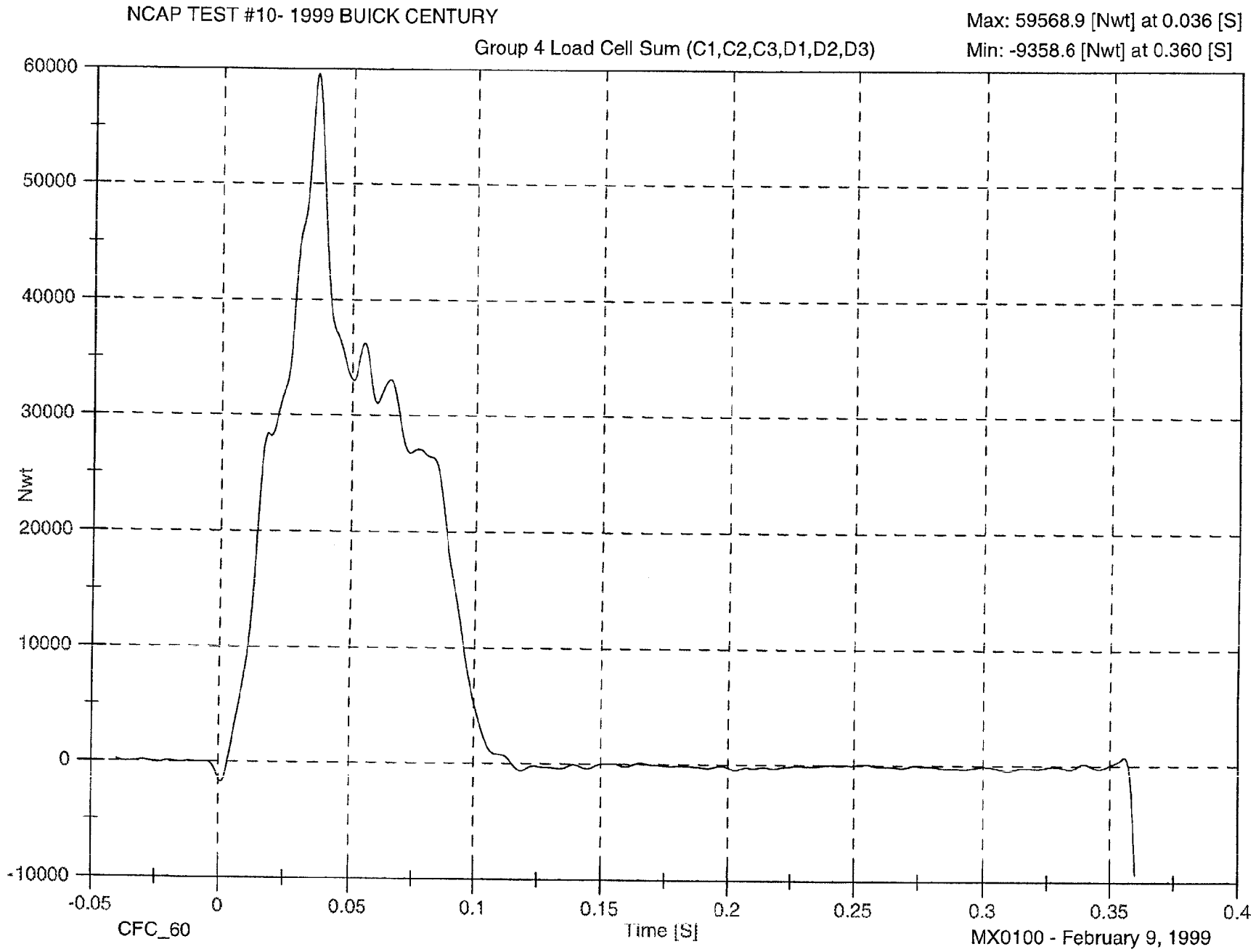

NCAP TEST #10- 1999 BUICK CENTURY
BLC D8 Fx
Max: 11622.2 [Nwt] at 0.071 [S]
Min: -487.6 [Nwt] at 0.030 [S]
12500
10000
7500
5000
2500
0
-2500
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

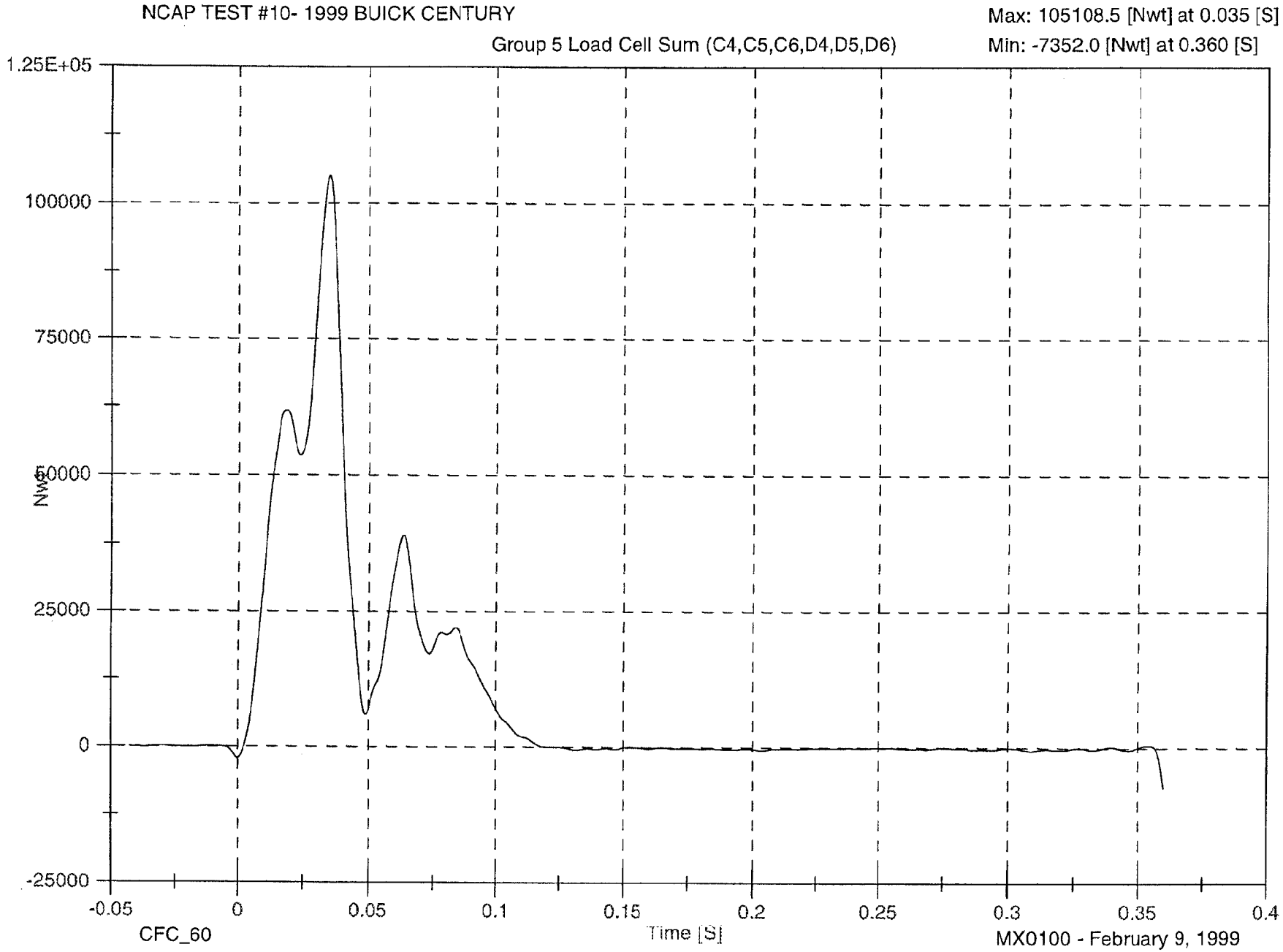

NCAP TEST #10- 1999 BUICK CENTURY
Max: 638.3 [Nwt] at 0.035 [S]
Min: -688.0 [Nwt] at 0.030 [S]
BLC D9 Fx
MX0100 - February 9, 1999
CFC_60
Nwt
Time [S]
750
500
250
0
-250
-500
-750
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4

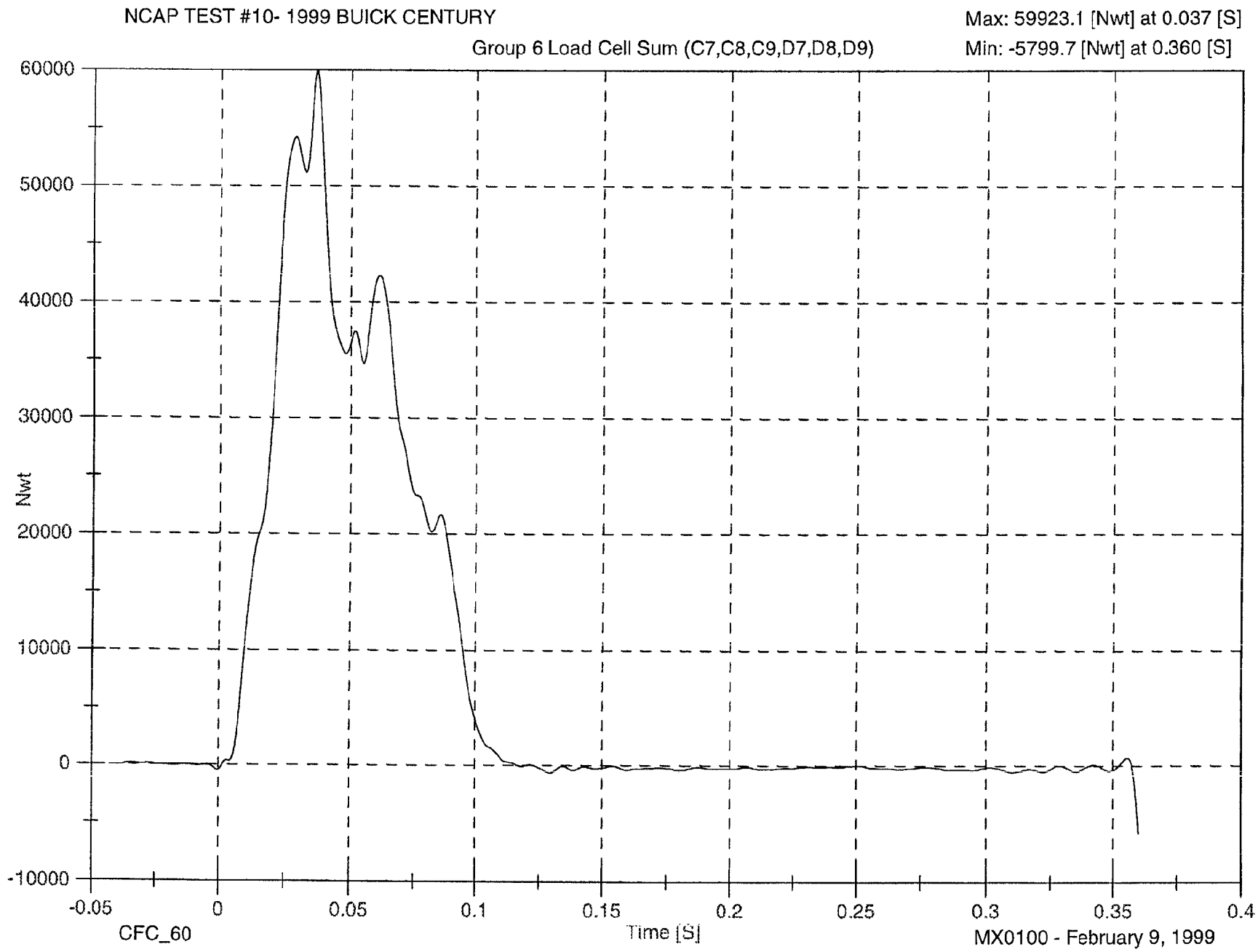

NCAP TEST #10- 1999 BUICK CENTURY
Group 1 Load Cell Sum (A1,A2,A3,B1,B2,B3)
Max: 104847.3 [Nwt] at 0.018 [S]
Min: -2137.7 [Nwt] at 0.001 [S]
1.25E+05
100000
75000
50000
25000
0
-25000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

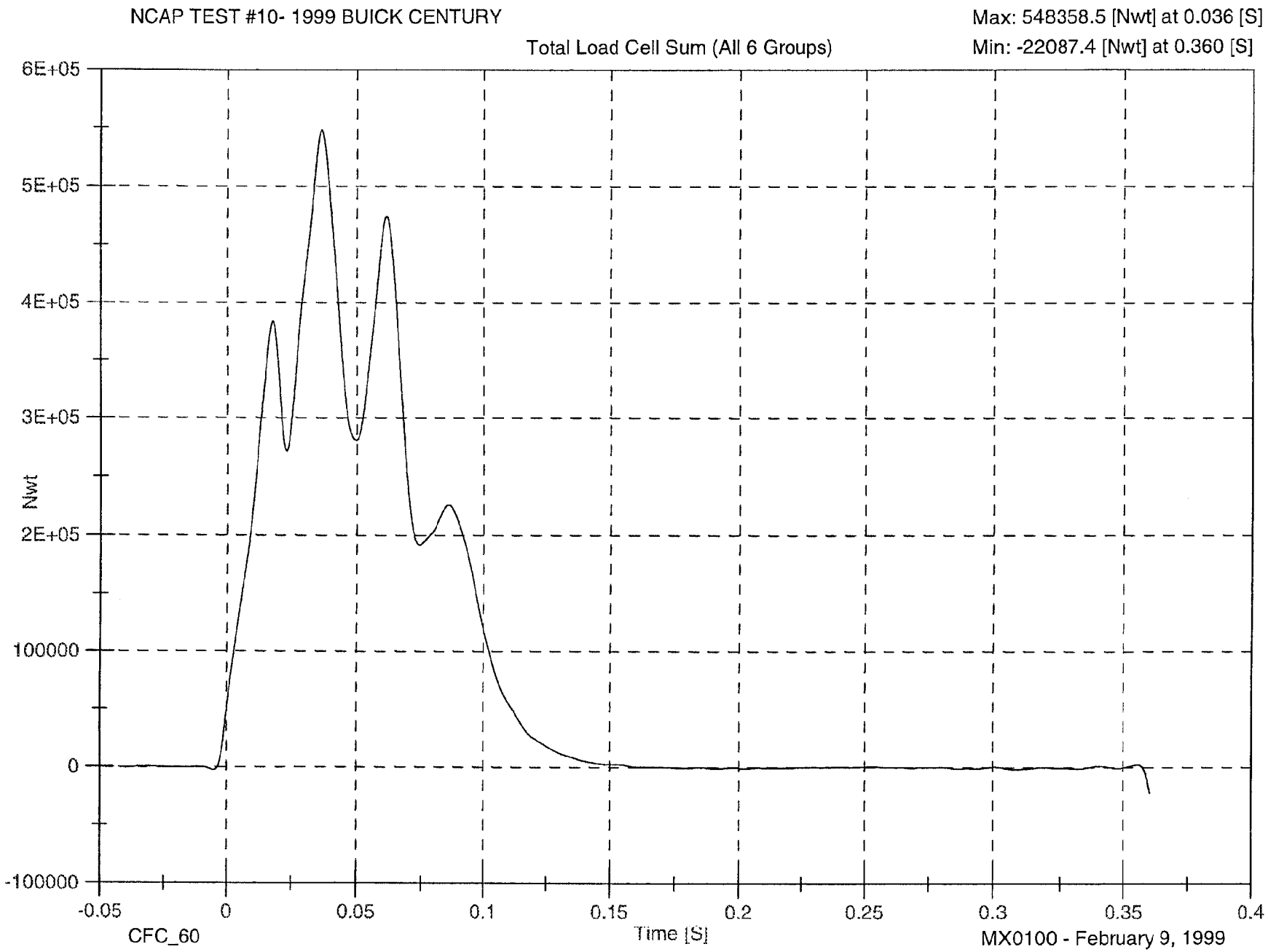

NCAP TEST #10- 1999 BUICK CENTURY
Group 2 Load Cell Sum (A4,A5,A6,B4,B5,B6)
Max: 189364.1 [Nwt] at 0.062 [S]
Min: -1501.9 [Nwt] at -0.005 [S]
2E+05
1.75E+05
1.5E+05
1.25E+05
100000
75000
50000
25000
0
-25000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999


NCAP TEST #10- 1999 BUICK CENTURY
Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)
Max: 122585.5 [Nwt] at 0.035 [S]
Min: -1146.7 [Nwt] at -0.005 [S]
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
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999


NCAP TEST #10- 1999 BUICK CENTURY
Group 4 Load Cell Sum (C1,C2,C3,D1,D2,D3)
Max: 59568.9 [Nwt] at 0.036 [S]
Min: -9358.6 [Nwt] at 0.360 [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
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999


NCAP TEST #10- 1999 BUICK CENTURY
Group 5 Load Cell Sum (C4,C5,C6,D4,D5,D6)
Max: 105108.5 [Nwt] at 0.035 [S]
Min: -7352.0 [Nwt] at 0.360 [S]
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
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999


NCAP TEST #10- 1999 BUICK CENTURY
Group 6 Load Cell Sum (C7,C8,C9,D7,D8,D9)
Max: 59923.1 [Nwt] at 0.037 [S]
Min: -5799.7 [Nwt] at 0.360 [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
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999


NCAP TEST #10- 1999 BUICK CENTURY
Total Load Cell Sum (All 6 Groups)
Max: 548358.5 [Nwt] at 0.036 [S]
Min: -22087.4 [Nwt] at 0.360 [S]
6E+05
5E+05
4E+05
3E+05
2E+05
100000
0
-100000
Nwt
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
Time [S]
CFC_60
MX0100 - February 9, 1999

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 Calspan Corporation. A summary of the test results, and Part 572 specifications are included in this Appendix.

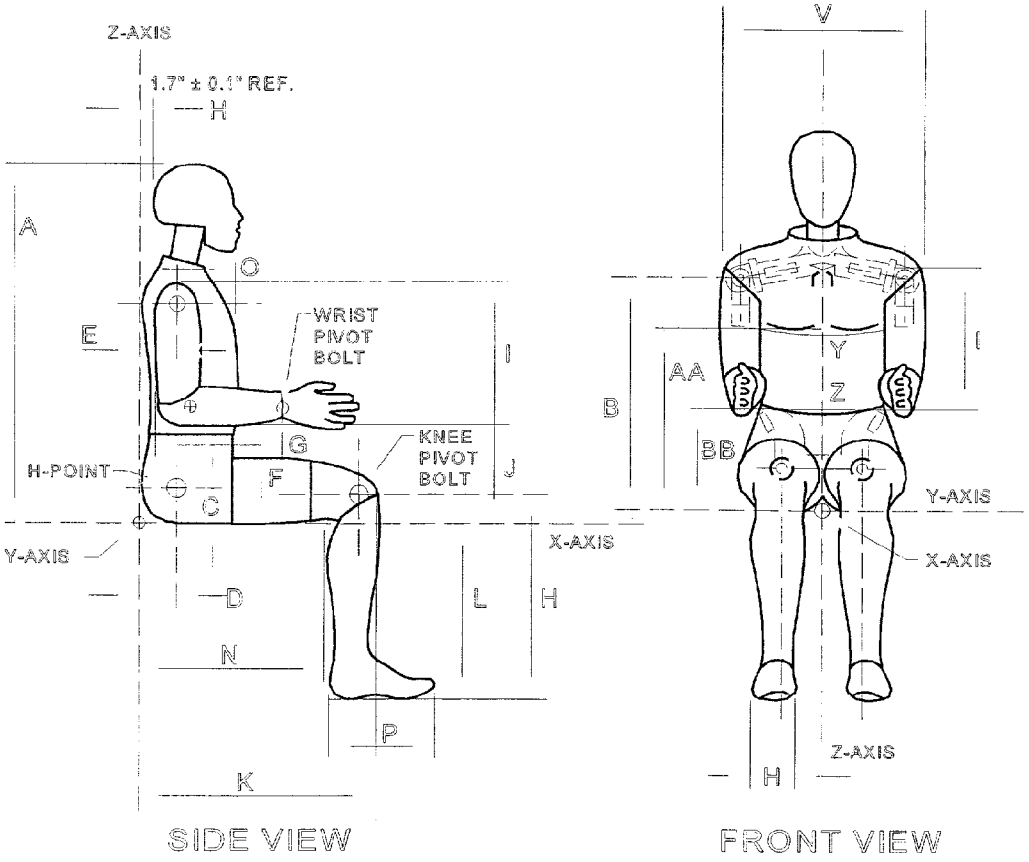
Dummy serial numbers and certification dates are:

Position No./Location	Serial No.	Completion Date
#1/Driver	150	02/03/99
#2/Right Front Passenger	245	02/03/99

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: §572.31(A)(6))

PART 572E
HEAD DROP TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	02-03-99
Workfile	150199.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	72
Relative Humidity	10% - 70%	25
Peak Resultant Acceleration	225-275 G's	249.7
Peak Lateral Acceleration	15 G's Max	4.6
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	02-01-99
Workfile	150199.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	30
Impact Velocity		22.60 - 23.40 Ft/s	22.94
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.95
	20 ms	17.60 - 22.60 G's	20.57
	30 ms	12.50 - 18.50 G's	14.64
Max Pendulum G's Above 30 ms		29 G's Max	14.64
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	40.00
D Plane Rotation	Max	64 - 78 Deg	70.48
	Time	57 - 64 ms	71.45
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	63.25
	Time	47 - 58 ms	53.88
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	118.38
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	102.75

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	02-03-99
Workfile	150199.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	25
Impact Velocity		19.50 - 20.30 Ft/s	19.95
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.55
	20 ms	14.00 - 19.00 G's	16.53
	30 ms	11.00 - 16.00 G's	14.08
Max Pendulum G's Above 30 ms		22 G's Max	14.08
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	42.00
D Plane Rotation	Max	81 - 106 Deg	95.07
	Time	72 - 82 ms	73.50
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-50.64
	Time	65 - 79 ms	71.13
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	148.13
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	135.25

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	02-03-99
Workfile	150199.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	25
Pendulum Velocity	21.6 - 22.4 Ft/s	21.65
Maximum Deflection	2.50 - 2.86 in	2.70
Maximum Resistive Force	1160 - 1325 Lbs	1168.35
Internal Hysteresis	69 - 85 %	75.4

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	02-01-99
Workfile	15099

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	72
Relative Humidity	10% - 70%	25
Probe Velocity	6.8 - 7.0 Ft/s	6.90
Peak Knee Impact Force	1060 - 1300 Lbs	1215.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	72
Relative Humidity	10% - 70%	25
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1207.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Calspan Sequential Test Number 1
Date 02-03-99

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			25
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	11.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number	245
Calspan Sequential Test Number	1
Date	02-01-99
Workfile	245199.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	72
Relative Humidity	10% - 70%	25
Peak Resultant Acceleration	225-275 G's	262.4
Peak Lateral Acceleration	15 G's Max	7.3
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	245
Calspan Sequential Test Number	1
Date	02-03-99
Workfile	245199.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	25
Impact Velocity		22.60 - 23.40 Ft/s	22.90
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.40
	20 ms	17.60 - 22.60 G's	20.10
	30 ms	12.50 - 18.50 G's	15.66
Max Pendulum G's Above 30 ms		29 G's Max	15.66
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	40.13
D Plane Rotation	Max	64 - 78 Deg	73.81
	Time	57 - 64 ms	58.38
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	69.77
	Time	47 - 58 ms	54.63
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	120.25
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	104.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	245
Calspan Sequential Test Number	1
Date	02-03-99
Workfile	245199.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	25
Impact Velocity		19.50 - 20.30 Ft/s	19.95
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.64
	20 ms	14.00 - 19.00 G's	16.50
	30 ms	11.00 - 16.00 G's	13.65
Max Pendulum G's Above 30 ms		22 G's Max	13.65
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	44.00
D Plane Rotation	Max	81 - 106 Deg	97.61
	Time	72 - 82 ms	73.88
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-54.98
	Time	65 - 79 ms	70.63
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	147.88
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	135.75

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	245
Calspan Sequential Test Number	1
Date	02-03-99
Workfile	245199.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	25
Pendulum Velocity	21.6 - 22.4 Ft/s	21.60
Maximum Deflection	2.50 - 2.86 in	2.68
Maximum Resistive Force	1160 - 1325 Lbs	1171.41
Internal Hysteresis	69 - 85 %	76.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	245
Calspan Sequential Test Number	1
Date	02-01-99
Workfile	245199

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	25
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1243.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	25
Probe Velocity	6.8 - 7.0 Ft/s	6.90
Peak Knee Impact Force	1060 - 1300 Lbs	1267.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 245
Calspan Sequential Test Number 1
Date 02-03-99

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			25
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	39.0
Waist Circumference	Z	32.9 - 34.1 in	33.7
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	34.9
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.5
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.5
Knee Pivot Height	M	19.1 - 19.7 in	19.2
Foot Length	P	9.9 - 10.5 in	10.2
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
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)		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	AF5P8	ENDEVCO	10/98	4/99
	Y	C14948	ENDEVCO	10/98	4/99
	Z	AH5F3	ENDEVCO	12/98	6/99
Chest	X	ADL50	ENDEVCO	12/98	6/99
	Y	AC2P5	ENDEVCO	12/98	6/99
	Z	AL6C8	ENDEVCO	12/98	6/99
Right Femur Load Cell		F551	GSE	9/98	3/99
Left Femur Load Cell		F548	GSE	9/98	3/99
Neck Load Cell	X	076	DENTON	8/98	2/99
	Y	076	DENTON	8/98	2/99
	Z	076	DENTON	8/98	2/99
Neck Moment	X	076	DENTON	8/98	2/99
	Y	076	DENTON	8/98	2/99
	Z	076	DENTON	8/98	2/99
Chest Deflection Gauge		CP150	HUMANOID	9/98	3/99
Hybrid III Use Only					
Lap Belt Load Cells		706	LEBOW	9/98	3/99
Shoulder Belt Load Cells		707	LEBOW	9/98	3/99
Spool-Out Potentiometer		M6	MAGNETEK	10/98	4/99
Belt Stretch Transducer		E5	CALSPAN	10/98	4/99

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	A14150	ENDEVCO	10/98	4/99
	Y (R)	B10954	ENDEVCO	10/98	4/99
	Z (R)	A14126	ENDEVCO	10/98	4/99
Chest	X (R)	A13939	ENDEVCO	10/98	4/99
	Y (R)	A14181	ENDEVCO	10/98	4/99
	Z (R)	A14124	ENDEVCO	10/98	4/99
Pelvic	X	C15018	ENDEVCO	9/98	3/99
	Y	C14883	ENDEVCO	9/98	3/99
	Z	C14972	ENDEVCO	9/98	3/99
Left Upper Tibia	Mx	016	DENTON	9/98	3/99
Left Upper Tibia	My	016	DENTON	9/98	3/99
Left Lower Tibia	Fz	123	DENTON	8/98	2/99
Left Lower Tibia	Mx	123	DENTON	8/98	2/99
Left Lower Tibia	My	123	DENTON	8/98	2/99
Right Upper Tibia	Mx	015	DENTON	9/98	3/99
Right Upper Tibia	My	015	DENTON	9/98	3/99
Right Lower Tibia	Fz	122	DENTON	8/98	2/99
Right Lower Tibia	Mx	122	DENTON	8/98	2/99
Right Lower Tibia	My	122	DENTON	8/98	2/99

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY		Serial #	Manufacture	Calibration	
				Last	Next
Left Foot Front	Z	A14307	ENDEVCO	12/98	6/99
Left Foot Rear	X	A14510	ENDEVCO	12/98	6/99
Left Foot Rear	Z	A14383	ENDEVCO	12/98	6/99
Right Foot Front	Z	A14485	ENDEVCO	12/98	6/99
Right Foot Rear	X	A14321	ENDEVCO	12/98	6/99
Right Foot Rear	Z	A14381	ENDEVCO	12/98	6/99

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)	Serial #	Manufacturer	Calibration	
			Last	Next
Head X	C15021	ENDEVCO	9/98	3/99
Y	AL511	ENDEVCO	10/98	4/99
Z	AH5N0	ENDEVCO	10/98	4/99
Chest X	AE8K1	ENDEVCO	10/98	4/99
Y	AH5M8	ENDEVCO	11/98	5/99
Z	AF5C4	ENDEVCO	10/98	4/99
Right Femur Load Cell	F420	GSE	9/98	3/99
Left Femur Load Cell	F723	GSE	9/98	3/99
Neck Load Cell X	269	DENTON	10/98	4/99
Y	269	DENTON	10/98	4/99
Z	269	DENTON	10/98	4/99
Neck Moment X	269	DENTON	10/98	4/99
Y	269	DENTON	10/98	4/99
Z	269	DENTON	10/98	4/99
Chest Deflection Gauge	245	HUMANOID	10/98	4/99
Hybrid III Use Only				
Lap Belt Load Cells	711	LEBOW	9/98	3/99
Shoulder Belt Load Cells	712	LEBOW	9/98	3/99
Spool-Out Potentiometer	M10	MAGNETEK	10/98	4/99
Belt Stretch Transducer	E6	CALSPAN	10/98	4/99

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	A14367	ENDEVCO	11/98	5/99
	Y (R)	A13929	ENDEVCO	12/98	6/99
	Z (R)	A14570	ENDEVCO	11/98	5/99
Chest	X (R)	A13506	ENDEVCO	10/98	4/99
	Y (R)	A14058	ENDEVCO	10/98	4/99
	Z (R)	B10481	ENDEVCO	10/98	4/99
Pelvic	X	AF5B3	ENDEVCO	9/98	3/99
	Y	AF5F7	ENDEVCO	9/98	3/99
	Z	AC2R5	ENDEVCO	9/98	3/99
Left Upper Tibia	Mx	045	DENTON	9/98	3/99
Left Upper Tibia	My	045	DENTON	9/98	3/99
Left Lower Tibia	Fz	0125	DENTON	8/98	2/99
Left Lower Tibia	Mx	0125	DENTON	8/98	2/99
Left Lower Tibia	My	0125	DENTON	8/98	2/99
Right Upper Tibia	Mx	038	DENTON	9/98	3/99
Right Upper Tibia	My	038	DENTON	9/98	3/99
Right Lower Tibia	Fz	0124	DENTON	9/98	3/99
Right Lower Tibia	Mx	0124	DENTON	8/98	2/99
Right Lower Tibia	My	0124	DENTON	8/98	2/99

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacture	Calibration	
				Last	Next
Left Foot Front	Z	A14239	ENDEVCO	12/98	6/99
Left Foot Rear	X	A14488	ENDEVCO	12/98	6/99
Left Foot Rear	Z	A14306	ENDEVCO	12/98	6/99
Right Foot Front	Z	A14484	ENDEVCO	12/98	6/99
Right Foot Rear	X	A14481	ENDEVCO	12/98	6/99
Right Foot Rear	Z	A14433	ENDEVCO	12/98	6/99

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Serial #	Manufacturer	Calibration	
			Last	Next
Left Seat Rear Crossmember	D79	ICS	12/98	6/99
Right Rear Seat Crossmember	D69	ICS	2/99	8/99
Top of Engine	D61	ICS	8/98	2/99
Bottom of Engine	J18439	ICS	9/98	3/99
Left Disc Brake Caliper	J18555	CEC	10/98	4/99
Right Disc Brake Caliper	AP064	CEC	8/98	2/99
Instrument Panel	D53	CEC	10/98	4/99
Left Seat Rear Crossmember (R)	D72	ICS	1/99	7/99
Right Seat Rear Crossmember (R)	D85	ICS	12/98	6/99