



U.S. Department
of Transportation

National Highway
Traffic Safety
Administration

DEPT. OF TRANSPORTATION
ROCKETS

99 MAY 28 AM 10:43

56143

Memorandum

ORIGINAL

Subject: Submission of 1999 FRONTAL NCAP Final Reports

Date: March 11, 1999

From: Anthony T. Whitson
Economist

Reply
to
Attn.
of

To: Docket NHTSA-99-4962
THRU: Richard M. Morgan, Group Leader
New Car Assessment Program

Frank Seales
Chief Counsel

PARALLEL TO TELEOPERATION
99 MAR 17 AM 9:42
DOCKET SECTION

Please place the final reports for the following vehicles in Docket NHTSA-99-4962, "New Car Assessment Program":

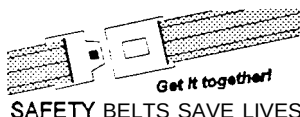
1998 Audi A8 4dr
1999 Ford Taurus 4dr
1999 Ford Windstar
1999 Honda Civic 2dr
1999 Honda Civic 4dr
1999 Mazda Protégé 4dr
1999 Saturn SL 4dr
1999 Mazda 626 4dr
1999 Volkswagen Beetle 2dr
1999 Buick Century 4dr
1999 Dodge Intrepid 4dr
1999 Ford Mustang 2dr
1999 Mitsubishi Galant 4dr
1999 Nissan Alima 4dr

1999 Pontiac Grand Am 4dr
1999 Chevrolet Blazer 4dr
1999 Chevrolet Tahoe 4dr
1999 Ford Expedition 4dr
1999 Jeep Cherokee 4dr
1999 Jeep Wrangler 2dr
1999 Subaru Forester 4dr
1999 Toyota 4Runner 4dr
1999 Chevrolet S10 PU ExCab
1999 Ford EV Ranger PU
1999 Ford F-150 PU
1999 Toyota Tacoma PU ExCab
1999 Ford Econoline
1999 Honda Odyssey

Attachments:

1. 2 Final Reports of each NCAP test.

#



SAFETY BELTS SAVE LIVES

AVAILABILITY OF NON-SCANNABLE ITEMS

NHISA-99-7962
Docket/Docket Number

79-17
Old Docket Number, if any

FRONTAL NEW CAR ASSESSMENT PROGRAM FILMS

Name/Description of Non-scannable Item(s)

MAY BE VIEWED IN SEE ATTACHED SHEET

Agency/Office Name/Room Number/Contact Person (if any)

during the hours of SEE ATTACHED SHEET.

The Films may be viewed in:

NHTSA/FHWA National Crash Analysis Center
George Washington University
Virginia Campus
20101 Academic Way, NCAC Library
Ashburn, VA 22011

Hours of Operation: 9:00AM to 5:30PM Monday thru Friday

Contact Person:

Ms Amy Reagan, GWU Film Technician
Tel: 703-729-8236
Fax: 703-478-8983

REPORT NUMBER: CAL-99-3

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

**FORD MOTOR COMPANY
1999 FORD MUSTANG
2 DOOR COUPE**

NHTSA NUMBER: MX0212

CALSPAN TEST NUMBER: 8413-27

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



December 21, 1998

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

This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared by: Patrick G. MacDiarmid, Jr.
Patrick G. MacDiarmid, Jr., Project Engineer

Approved by: David J. Travale
David J. Travale, Program Manager
Transportation Science Center

Approval Date: January 20, 1999

FINAL REPORT ACCEPTANCE BY OCS:

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

Date of Report Acceptance

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

Date of Report Acceptance

TECHNICAL REPORT STANDARD TITLE PAGE

1. <i>Report No.</i> CAL-99-3	2. <i>Government Accession No.</i>	3. <i>Recipient's Catalog No.</i>	
4. <i>Title and Subtitle</i> Final Report of NEW CAR ASSESSMENT PROGRAM (NCAP) Testing of a 1999 Ford Mustang 2 Door Coupe NHTSA No. MX0212		5. <i>Report Date</i> December 21, 1998	
		6. <i>Performing Organization Code</i> CAL	
7. <i>Author(s)</i> David J. Travale, Program Manager Patrick G. MacDiarmid, Jr., Project Engineer		8. <i>Performing Organization Report No.</i> 8413-27	
9. <i>Performing Organization Name and Address</i> Calspan Corporation 4455 Genesee Street Buffalo, New York 14225		10. <i>Work Unit No.</i>	
		11. <i>Contract or Grant No.</i> DTNH22-96-D-02010	
12. <i>Sponsoring Agency Name and Address</i> U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards Mail Code: NPS-10 400 Seventh , SW, Room 5313 Washington, D.C. 20590		13. <i>Type of Report and Period Covered</i> Final Report December 1998 - January 1999	
		14. <i>Sponsoring Agency Code</i> NPS-10	
15. <i>Supplementary Notes</i>			
16. <i>Abstract</i> A frontal load cell barrier test of a 1999 Ford Mustang 2 Door Coupe was performed at Calspan Corporation crash test facility in Buffalo, New York, on December 21, 1998. The impact velocity was 56.6 kph and the temperature at the barrier face was 20°C. The maximum post-test vehicle crush was 686.0 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" both the driver and passenger appear to comply with head, chest, and femur requirements.			
17. <i>Key Words</i> 56 kph Frontal Barrier Impact test New Car Assessment Program (NCAP)		18. <i>Distribution Statement</i> <u>Copies of this report are available from:</u> NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, DC 20590	
19. <i>Security Classif. (of this report)</i> UNCLASSIFIED	20. <i>Security Classif. (of this page)</i> UNCLASSIFIED	21. <i>No. of Pages</i> 271	22. <i>Price</i>

Form DOT F1700.7 (8-69)

TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
1 PURPOSE AND SUMMARY OF NCAP TEST	I-1
2 OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS	2-1
DATA SHEET NO. DESCRIPTION	
1. CRASH TEST SUMMARY	2-1
2. GENERAL TEST AND VEHICLE PARAMETER DATA	2-2
3. POST IMPACT DATA	2-4
4. TEST VEHICLE INFORMATION	2-5
5. DUMMY POSITIONING IN VEHICLE	2-8
6. SEAT BELT POSITIONING DATA	2-9
7. VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY	2-11
8. DUMMY INJURY CRITERIA VALUES	2-12
9. SEAT BELT PERFORMANCE DATA	2-19
10. SUMMARY OF FMVSS 212 DATA	2-20
11. WINDSHIELD ZONE INTRUSION FMVSS 219 DATA	2-21
12. FMVSS 301 FUEL SYSTEM INTEGRITY DATA	2-22
13. FMVSS 310 ROLLOVER DATA	2-23
14. VEHICLE MEASUREMENTS	2-28
15. CAMERA DATA	2-35
16. REFERENCE PHOTO TARGETS	2-36
17. LOAD CELL LOCATIONS ON FIXED BARRIER 2-37	
18. POST TEST AIR BAG DATA	2-38
19. ACCIDENT INVESTIGATION DIVISION DATA	2-39
APPENDIX A PHOTOGRAPHS	A-1
APPENDIX B VEHICLE, LOAD CELL BARRIER AND DUMMY RESPONSE DATA	B-1
APPENDIX C PART 572 B/E DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION TESTS	C-1
APPENDIX D DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION	D-1

Section 1

PURPOSE AND SUMMARY OF TEST MX0212

PURPOSE

This 56.6 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 56.6 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 Ford Mustang 2 Door Coupe at a velocity of 56.6 kph. The test was performed at the Calspan Corporation on December 21, 1998. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

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

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

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 150) was used in two previous tests (MX5100 and MX0300) where it did not exceed FMVSS 208 injury criteria. The right-front passenger (position 2) ATD (Serial No. 064) was 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 524.8. The maximum chest deceleration over 3 milliseconds was 49.0 g's and maximum chest deflection was 35.4 mm. Femur loads were 3912.2 Newtons on the left and 6155.2 Newtons on the right.

The right front passenger's HIC was 871.2. Maximum chest deceleration over 3 milliseconds was 39.9 g's and maximum chest deflection was 39.0 mm. Femur loads were 5769.0 Newtons on the left and 1814.6 Newtons on the right.

The driver and passenger side seatbelt view cameras were removed in order to make test weight. The vehicle right side rear crossmember (accelerometer #2), the right side caliper (accelerometer #5) accelerometer and redundant right side rear crossmember (accelerometer #9) did not record the event, this data is not available.

The driver's right lower tibia Mx did not record. The driver's left toe AZ clipped during the event. This data is not accurate. The passenger pelvic x accelerometer sustained a cut wire during the event. This data and the passenger pelvic resultant data is not available.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : MX0212 Test Mode : 56 kph Frontal Barrier

Test Date : December 21, 1998 Time: 12: 10 Temperature : 9 °C

Vehicle Make/Model/Body Style : 1999 Ford Mustang 2 Door Coupe

Vehicle Test Weight : 1603.0 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.6 kph

Maximum Static Crush : 686.0 mm

Vehicle Rebound : 1294 mm

<u>DUMMIES :</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Type :	<u>572E</u>	<u>572E</u>
Restraint System :	<u>Seatbelt, Airbag, Knee Bolster</u>	<u>Seatbelt, Airbag, Knee Bolster</u>

Number of Data Channels : 133

Number of Cameras : 1 Real Time
14 High Speed

DOOR OPENING DATA :

	<u>Closed/Operable</u>	- Left Front
	<u>Closed/Operable</u>	- Right Front

Front Seat(s) Data :	<u>DRIVER</u>	<u>PASSENGER</u>
Seat Track Failure :(mm of shift)	<u>20 mm forward</u>	<u>8 mm forward</u>
Seat Back Failure :	<u>None</u>	<u>None</u>

<u>VISIBLE DUMMY CONTACT POINTS :</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Head :	Face to the right side of the center of the airbag. Top of head to the sun visor.	Face to the top right side of the airbag. The back of the head to the left of the center of the headrest.
Abdomen :	<u>None</u>	<u>None</u>
Chest	<u>Airbag</u>	<u>Airbag</u>
Knees	<u>Knee Bolster</u>	<u>Knee Bolster</u>

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1999 Ford Mustang 2 Door Coupe
NHTSA No. : MX0212 ; VIN: 1FAFP404XXF101172 ; Color : Blue
Engine Data: 6 cylinders; CID; 3.8 Liters; cc
Placement : X Longitudinal or In-Line; Transverse or Lateral
Transmission Data : 5 speeds; X Manual; - Automatic; X Overdrive
Final Drive : X Rear Wheel Drive; - Front Wheel Drive; - Four Wheel Drive
Major Options : X A/C; X Pwr.Strg.; X Pwr. Brakes
X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel
Date Received : 12/07/98 ; Odometer Reading 72 km
Selling Dealer : Towne Ford, Incorporated
& Address: 3535 Southwestern Boulevard Orchard Park, NY 14127

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Ford Motor Company
Date of Manufacture 10/98
GVWR : 1979 kg; GAWR: 1050 kg FRONT; 960 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 300 kpa FRONT
300 kpa REAR
Recommended Tire Size : P205/65R15
* Recommended Cold Tire Pressure : 240 kpa FRONT; 240 kpa REAR
Size of Tires on Test Vehicle: P205/65R15 ; Manufacturer: Goodyear
Vehicle Capacity Data :
Type of Front Seats: Bench; X Bucket; - Split Bench
Number of Occupants: 2 Front; 2 Rear; 4 Total
Vehicle Capacity Weight (VCW) = 317 kg
No. of Occupants x 68 kg = 272 kg
Rated Cargo/Luggage Weight (RCLW) = 45 kg

*Tire pressure used for test

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

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

Right Front =	<u>386.5</u>	kg	Right Rear =	<u>309.0</u>	kg
Left Front =	<u>418.5</u>	kg	Left Rear =	<u>299.5</u>	kg
TOTAL FRONT =	<u>805.0</u>	kg	TOTAL REAR =	<u>608.5</u>	kg
TOTAL DELIVERED WEIGHT =	<u>1,413.5</u>	kg			
% of Total Front of Vehicle Weight =	<u>57.0</u>	%	% of Total Rear Weight =	<u>43.0</u>	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	<u>1,413.5</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>45.0</u>	kg
Weight of 2 p.572 Dummies @ 76 each	=	<u>152</u>	kg
TARGET TEST WEIGHT	=	<u>1,610.5</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 38 KG OF CARGO WEIGHT:

Right Front =	<u>413.0</u>	kg	Right Rear =	<u>375.5</u>	kg
Left Front =	<u>445.0</u>	kg	Left Rear =	<u>369.5</u>	kg
TOTAL FRONT =	<u>858.0</u>	kg	TOTAL REAR =	<u>745.0</u>	kg
TOTAL TEST WEIGHT =	<u>1,603.0</u>	kg			
% of Total Front Weight =	<u>53.5</u>	%	% of Total Rear Weight =	<u>46.5</u>	%
Weight of Ballast Secured in Vehicle Trunk Area	=	<u>0</u>	kg		
Vehicle Components Removed for Weight Reduction:			<u>Trunk Lid, On-board Cameras</u>		

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	<u>746</u>	LF	<u>747</u>	RR	<u>750</u>	LR	<u>749</u>
FULLY LOADED :	RF	<u>732</u>	LF	<u>737</u>	RR	<u>711</u>	LR	<u>715</u>
AS TESTED :	RF	<u>738</u>	LF	<u>740</u>	RR	<u>714</u>	LR	<u>716</u>
Vehicle's Wheel Base :		<u>2582</u>	mm					
Location of Vehicle's C.G. :		<u>1,200.0</u>	mm rearward of front wheel center.					

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual =	<u>59.4</u>	liters
Usable Capacity Figure Furnished by COTR =	<u>59.4</u>	liters
Test Volume Range (92 to 94% of Usable Capacity) =	<u>54.7</u>	to <u>55.9</u> liters
ACTUAL TEST VOLUME=	<u>54.9</u>	liters (with entire fuel system filled)
Test Fluid Type: <u>Stoddard Solution</u> ;	Spec. Grav. =	<u>0.764</u>
Kinematic Viscosity =	<u>0.96</u>	centistokes; Color = <u>Orange</u>
Type of Fuel Pump: Electric- <u>X</u> ;	Mechanical- -	
Does Electric Pump operate with ignition switch "ON" & engine "OFF"	Yes- <u>X</u>	No- -
Details of Fuel System <u>The fuel tank was located in the center of the vehicle behind the rear axle. The fuel lines are located along the right frame rail. The filler neck is located on the right side of the vehicle behind the rear axle.</u>		

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0
Test Date : December 21, 1998 Time: 12: 10 Temperature: 9 °C
Vehicle NHTSA No. : MX0212
Required Impact Velocity Range : 55.7 to 57.1 kph

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

Trap No. 1 = 56.6 kph; Trap No. 2 = 56.6 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 = 4701.2 ; C/L = 4764.8 ; Left = 4707.7
Post-Test Right = 4046.6 ; C/L = 4078.8 ; Left = 4087.7
Crush Right = 654.6 ; C/L = 686.0 ; Left = 620.0
AVERAGE = 653.5 mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

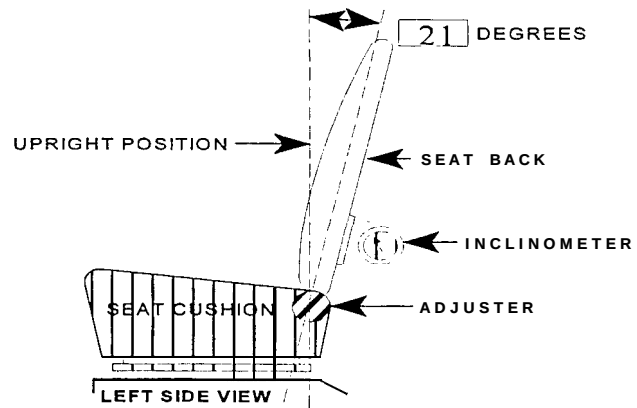
Right = 1287 ; C/L = 1283 ; Left = 1312
AVERAGE = 1,294.0 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1999 Vehicle Model: Ford Mustang Body Style : 2 Door Coupe

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 : 21°

Measurement instructions : Measure seatback angle at 330 mm above the seat back pivot.

Recline seat until the inclinometer measures 21° from vertical.

Seat back angle for passenger's seat : 21°

Measurement instructions : Same as the driver's seat.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Position seat full-forward, mark location. Position the seat full rearward, mark location. Test position was located at mid-point of the seat travel (103 mm of 206 mm).

Positioning of the passenger's seat (if applicable) : The seat tracks were numbered from 0 to 14. The test position was located at detent number 7 (mid-position).

3. Fuel Tank Capacity Data

3.1

- A. "Usable Capacity" of the standard equipment fuel tank is 59.4 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 = 59.4 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 56.4 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 will operate under battery power with the ignition in the run position.

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

4. STEERING COLUMN ADJUSTMENTS :

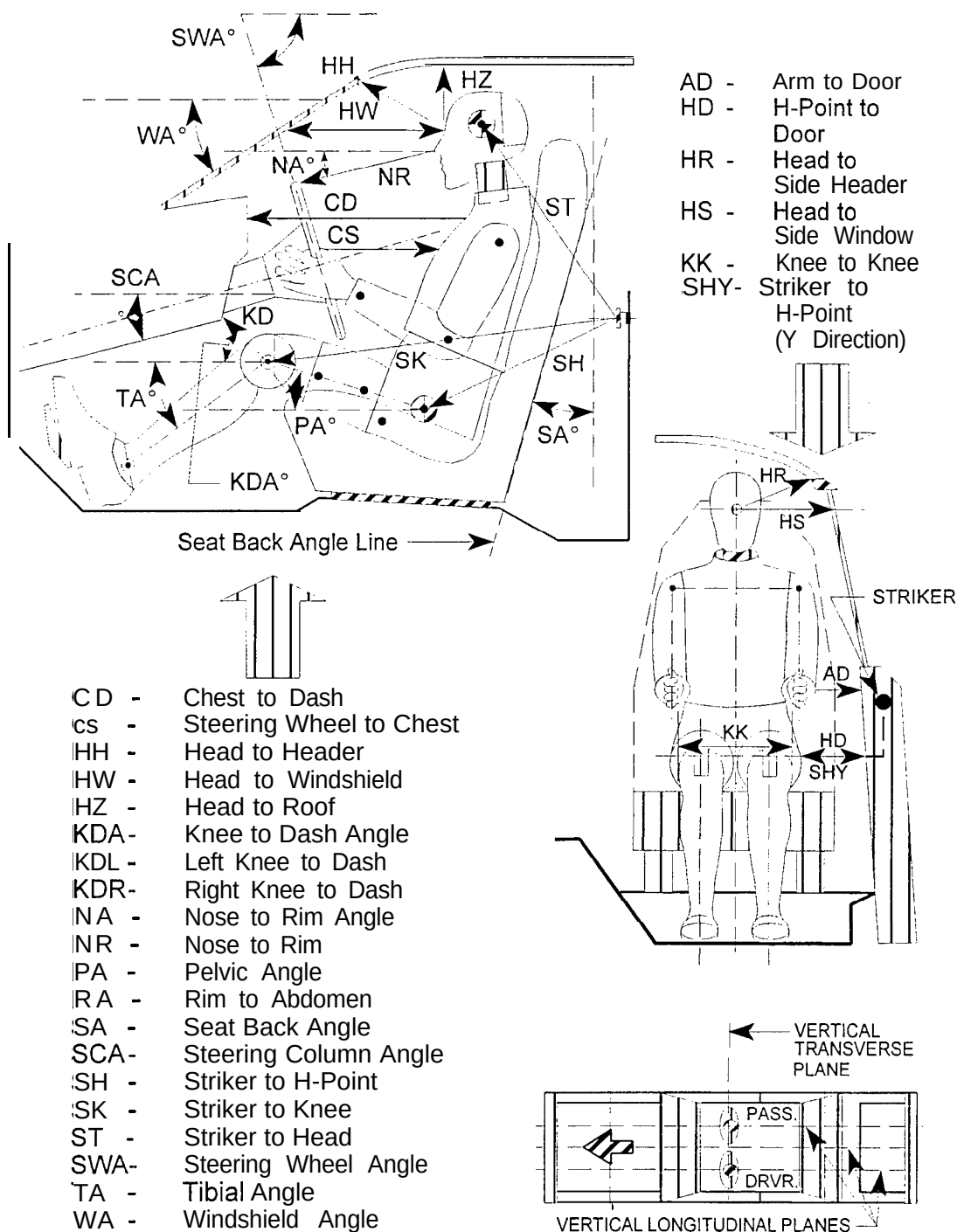
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

<u>Operational Instructions:</u>	<u>The steering wheel has 5 tilt positions. The test position is</u>
<u>located in the mid (3rd) position.</u>	

5. SEAT BELT UPPER ANCHORAGE

<u>Nominal design riding position:</u>	<u>The seatbelt anchorages were not adjustable.</u>
--	---

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



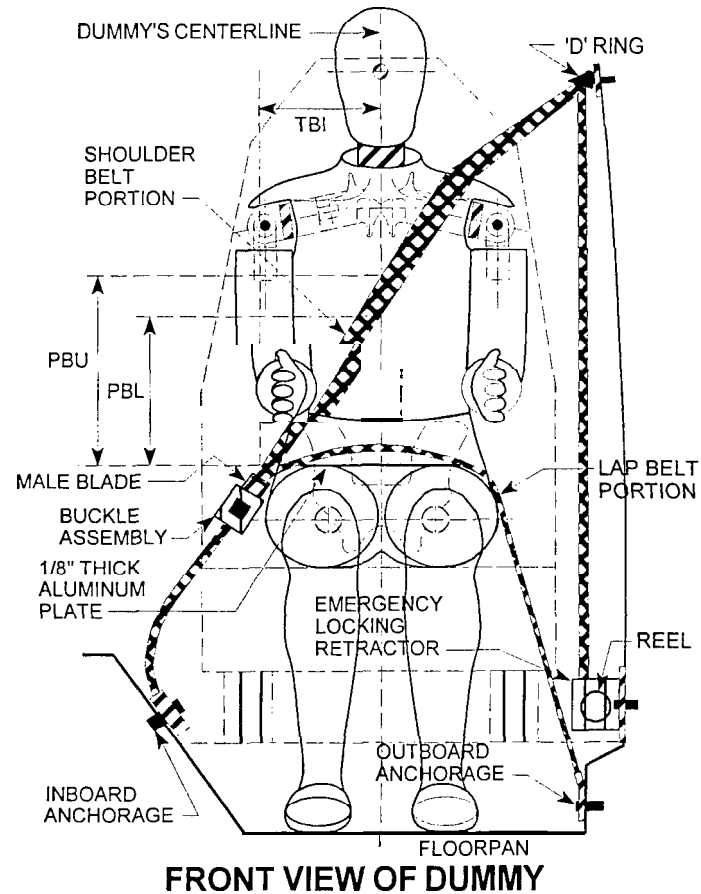
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE

	DRIVER (Serial #150)			PASS. (Serial # 064)		
WA ^o	25.7 deg.			N/A		
SWA ^o	69 deg.			N/A		
SCA ^o	21 deg.			N/A		
SA ^o	21 deg.			21 deg.		
HZ	147			145		
HH	246			253		
HW	481			467		
HR	179			183		
NR	350	Angle	-10 deg.	N/A		
CD	519			481		
CS	266			N/A		
RA	173			N/A		
KDL	150	Angle (KDA)	37 deg.	150		
KDR	166			146	Angle (KDA)	31 deg.
PA ^o	23.8 deg.			24.8 deg.		
TA ^o	-39.9 deg.			-41.1 deg.		
KK	291			249		
ST	655	Angle	47 deg.	650	Angle	50.6 deg.
SK	917	Angle	95 deg.	912	Angle	93.0 deg.
SH	549	Angle	111.6 deg.	559	Angle	108.8 deg.
SHY	248			220		
HS	249			242		
HD	118			103		
AD	85			67		

Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

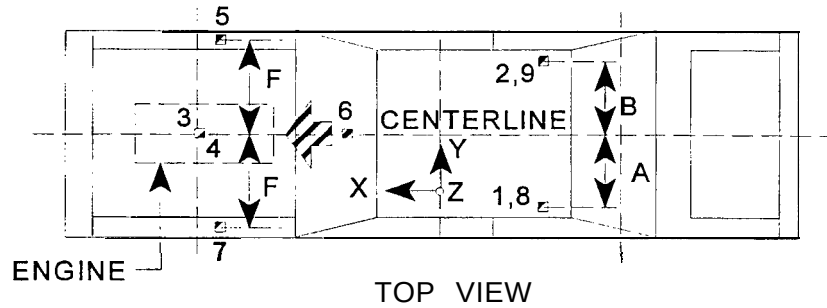
SEAT BELT POSITIONING DATA



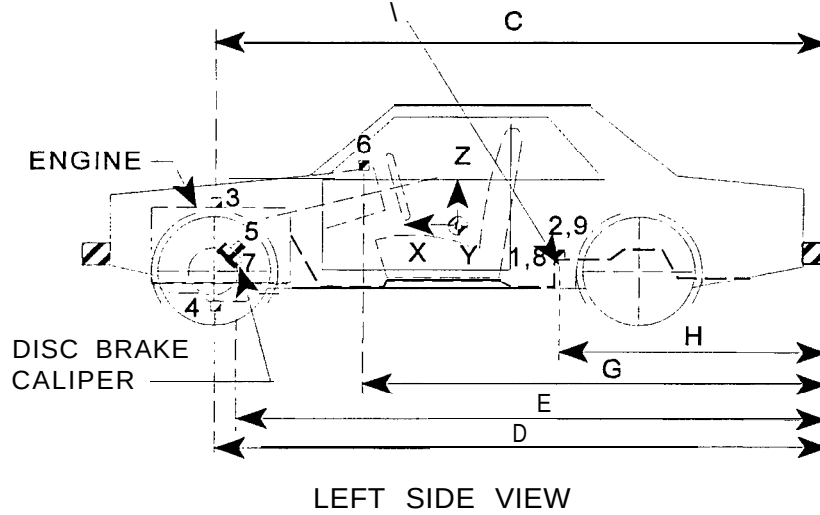
FRONT VIEW OF DUMMY

	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	323	327
PBL-- Top surface of alum. plate to belt lower edge	240	252
<u>LAP BELT TENSION</u>	10 N	10 N
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



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

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

DIMENSION	LENGTH (mm)
	PRE-TEST VALUES
A Left Rear Seat Crossmember Y	-370 Redundant: -409
B Right Rear Seat Crossmember Y	370 Redundant: 409
C Top of Engine X	3736
D Bottom of Engine X	3229
E Disc Brake Calipers X	3529
F Disc Brake Calipers Y	±446
G Instrument Panel X	2725
H Rear Seat Crossmembers X	1739

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	4.7	132.8	-42.4	57.0
2	Rear Seat X-Member @ Right Side	*	*	*	*
3	Top of Engine Block	18.1	72.1	-97.0	43.8
4	Bottom of Engine	6.0	57.8	-57.7	41.3
5	Disc Brake Caliper @ Right Side	*	*	*	*
6	Instrument Panel	35.9	-1.6	-41.5	25.7
7	Disc Brake Caliper @Left Side	13.6	82.3	-82.7	55.0
8	Rear Seat X-Member @ Left-Redundant	5.0	132.8	-42.1	57.0
9	Rear Seat X-Member @ Right-Redundant	*	*	*	*

* Data did not record

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

NHTSA Test No. : MX0212 Vehicle: 1999 Ford Mustang 2 Door Coupe

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
Pos. 1 Head X	g's	24.4	219.4	-55.5	78.1
Pos. 1 Head Y	g's	4.3	147.6	-8.3	219.9
Pos. 1 Head Z	g's	32.0	75.8	-10.5	121.1
Pos. 1 Head Resultant	g's	62.4	76.7	0.0	-34.4
Pos. 2 Head X	g's	12.8	201.4	-69.6	87.2
Pos. 2 Head Y	g's	14.4	100.3	-2.0	59.7
Pos. 2 Head Z	g's	29.0	78.7	-6.6	115.9
Pos. 2 Head Resultant	g's	74.3	87.1	0.0	-77.5
Pos. 1 Chest X	g's	3.2	236.6	-48.2	74.2
Pos. 1 Chest Y	g's	5.4	87.8	-7.6	50.7
Pos. 1 Chest Z	g's	18.3	78.1	-15.4	119.2
Pos. 1 Chest Resultant	g's	50.3	74.1	0.0	-28.9
Pos. 1 Chest Displacement	mm	0.1	-0.3	-35.4	81.7
Pos. 2 Chest X	g's	2.2	205.7	-39.7	77.9
Pos. 2 Chest Y	g's	13.9	83.8	-4.8	90.6
Pos. 2 Chest Z	g's	13.7	90.6	-11.9	115.4
Pos. 2 Chest Resultant	g's	41.1	84.0	0.1	-77.5
Pos. 2 Chest Displacement	mm	0.0	-11.9	-39.0	88.6
Pos. 1 Left Femur	N	475.1	46.8	-3912.1	76.4
Pos. 1 Right Femur	N	194.3	134.7	-6155.2	60.8
Pos. 2 Left Femur	N	186.5	51.0	-5769.0	68.4
Pos. 2 Right Femur	N	125.5	461.0	-1814.6	54.8
Pos. 1 Left Belt Load	N	4002.9	62.2	-5.0	-99.2
Pos. 1 Torso Belt Load	N	6624.1	76.1	-24.0	434.1
Pos. 2 Right Belt Load	N	5762.4	62.2	-16.6	501.7
Pos. 2 Torso Belt Load	N	7315.1	72.5	-52.6	198.4

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.1)

NHTSA Test No.: MX0212 Vehicle: 1999 Ford Mustang 2 Door Coupe

HEAD INJURY CRITERIA (HIC)				
	HIC**	t, (msec)	t, (msec)	Average Acceleration t, to t ₂
Position #1 - Driver	524.8	65.2	101.2	46.3
Position #2 - Passenger	871.2	72.6	108.3	56.9

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

CLIP SUMMARY*				
	CLIP (g's)	t, (msec)	t, (msec)	CSI
Position #1 - Driver	49.0	72.8	75.8	448.4
Position #2 - Passenger	39.9	82.3	85.7	398.7

* 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 Ford Mustang 2 Door Coupe

NHTSA Test No.: MX0212 Test Date: December 21, 1998

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Upper Neck Fx	N	144.9	391.9	-632.0	67.4
Pos. 1 Upper Neck Fy	N	188.3	150.6	-31.7	339.4
Pos. 1 Upper Neck Fz	N	3025.5	75.8	-814.2	221.8
Pos. 1 Neck Force Result	N	3079.8	75.8	1.3	-28.5
Pos. 1 Upper Neck Mx	N-m	14.0	225.3	-9.9	86.7
Pos. 1 Upper Neck My	N-m	36.7	229.1	-44.1	68.2
Pos. 1 Upper Neck Mz	N-m	3.2	178.2	-2.6	85.9
Pos. 1 Neck Moment Result	N-m	44.1	68.2	0.0	-82.9
Pos. 2 Upper Neck Fx	N	105.9	212.0	-1242.6	83.0
Pos. 2 Upper Neck Fy	N	112.9	87.0	-94.9	64.3
Pos. 2 Upper Neck Fz	N	3509.6	84.7	-81.9	130.3
Pos. 2 Neck Force Result	N	3711.5	84.7	1.4	-69.5
Pos. 2 Upper Neck Mx	N-m	17.1	92.3	-7.2	166.0
Pos. 2 Upper Neck My	N-m	9.8	490.0	-63.4	83.0
Pos. 2 Upper Neck Mz	N-m	4.6	62.3	-12.1	97.2
Pos. 2 Neck Moment Result	N-m	64.0	83.0	0.0	-72.6
Pos. 1 Pelvic (X)	g's	1.6	222.2	-49.6	52.5
Pos. 1 Pelvic (Y)	g's	12.4	74.0	-5.4	45.1
Pos. 1 Pelvic (Z)	g's	5.0	221.0	-21.3	113.4
Pos. 1 Pelvic (R)	g's	50.8	52.5	0.0	-32.3
Pos. 2 Pelvic (X)	g's	*	*	*	*
Pos. 2 Pelvic (Y)	g's	12.1	66.3	-7.1	115.2
Pos. 2 Pelvic (Z)	g's	2.6	219.0	-16.3	77.5
Pos. 2 Pelvic (R)	g's	127.3	66.5	0.0	-85.5

* This data is not available

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

Vehicle Year/Make/Model/Body Style: 1999 Ford Mustang 2 Door Coupe

NHTSA Test No.: MX0212 Test Date: December 21, 1998

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
P1 Lt Upper Tibia Mx	N-m	31.2	73.5	-15.0	54.1
P1 Lt Upper Tibia My	N-m	17.7	129.2	-138.8	71.8
P1 Lt Lower Tibia Fz	N	414.3	137.6	-2354.4	76.1
P1 Lt Lower Tibia Mx	N-m	5.1	345.4	-43.2	77.9
P1 Lt Lower Tibia My	N-m	23.1	50.7	-61.1	100.3
P1 Rt Upper Tibia Mx	N-m	43.3	41.3	-16.8	236.7
P1 Rt Upper Tibia My	N-m	24.5	132.3	-139.3	59.1
P1 Rt Lower Tibia Fz	N	65.4	534.0	-5130.6	79.1
P1 Rt Lower Tibia Mx	N-m	*	*	*	*
P1 Rt Lower Tibia My	N-m	13.1	49.0	-86.2	81.5
Pos. 2 Lt Upper Tibia Mx	N-m	63.4	72.4	-41.4	47.9
Pos. 2 Lt Upper Tibia My	N-m	78.7	71.4	-92.9	61.6
Pos. 2 Lt Lower Tibia Fz	N	100.9	229.4	-3311.7	85.6
Pos. 2 Lt Lower Tibia Mx	N-m	103.2	85.3	-15.7	45.9
Pos. 2 Lt Lower Tibia My	N-m	98.4	71.7	-31.6	62.4
Pos. 2 Rt Upper Tibia Mx	N-m	36.3	86.8	-25.6	44.1
Pos. 2 Rt Upper Tibia My	N-m	13.1	210.6	-94.2	61.6
Pos. 2 Rt Lower Tibia Fz	N	78.4	137.8	-3015.7	87.1
Pos. 2 Rt Lower Tibia Mx	N-m	62.9	86.9	-8.1	30.0
Pos. 2 Rt Lower Tibia My	N-m	95.7	86.3	-17.1	460.5

* This data is not available

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.1)
HYBRID III ANKLE DATA SHEET

Vehicle Year/Make/Model/Body Style: 1999 Ford Mustang 2 Door Coupe

NHTSA Test No.: MX02 12 Test Date: December 21, 1998

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Left Ankle X	g's	26.2	100.0	-37.9	70.8
Pos. 1 Left Ankle Z	g's	5.1	50.6	-31.1	40.2
Pos. 1 Left Toe Z	g's	*	*	*	*
Pos. 1 Right Ankle X	g's	25.1	78.6	-45.3	53.5
Pos. 1 Right Ankle Z	g's	11.4	44.7	-37.7	51.5
Pos. 1 Right Toe Z	g's	81.0	51.7	-102.2	44.6
Pos. 2 Left Ankle X	g's	42.9	79.3	-98.7	68.2
Pos. 2 Left Ankle Z	g's	6.4	56.9	-42.0	68.0
Pos. 2 Left Toe Z	g's	31.6	72.7	-88.4	68.2
Pos. 2 Right Ankle X	g's	21.3	439.6	-62.9	62.8
Pos. 2 Right Ankle Z	g's	5.1	70.3	-34.2	44.4
Pos. 2 Right Toe Z	g's	831.4	113.6	-1993.8	74.6

* This data is not accurate.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.1)
REDUNDANT DUMMY DATA

NHTSA Test No.: MX0212 Vehicle: 1999 Ford Mustang 2 Door Coupe

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Head X(R)	g's	28.3	219.0	-66.9	78.1
Pos. 1 Head Y(R)	g's	6.3	70.7	-12.0	90.7
Pos. 1 Head Z(R)	g's	36.7	72.4	-11.6	119.8
Pos. 1 Head Resultant(RR)	g's	73.8	76.7	0.0	-30.7
Pos. 2 Head X(R)	g's	11.0	201.5	-70.5	87.2
Pos. 2 Head Y(R)	g's	12.8	99.3	-3.2	59.7
Pos. 2 Head Z(R)	g's	31.8	68.3	-5.9	115.9
Pos. 2 Head Resultant(RR)	g's	74.6	85.5	0.0	-75.7
Pos. 1 Chest X(R)	g's	2.9	236.6	-44.6	74.1
Pos. 1 Chest Y(R)	g's	5.5	88.1	-8.1	50.7
Pos. 1 Chest Z(R)	g's	20.2	78.1	-17.4	118.4
Pos. 1 Chest Resultant(RR)	g's	47.4	73.9	0.0	-34.1
Pos. 2 Chest X(R)	g's	2.1	205.7	-38.3	60.4
Pos. 2 Chest Y(R)	g's	16.1	83.9	-3.2	107.2
Pos. 2 Chest Z(R)	g's	13.8	90.6	-11.5	115.4
Pos. 2 Chest Resultant(RR)	g's	40.2	84.2	0.1	2.2

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

NHTSA Test No.: MX0212 Vehicle: 1999 Ford Mustang 2 Door Coupe

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	767.5	65.4	99.1	55.3
Position #2 - Passenger	847.6	72.4	108.1	35.7

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

CLIP SUMMARY* REDUNDANT				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	46.2	72.7	75.7	403.5
Position #2 - Passenger	38.5	59.1	62.1	371.3

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

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:

	<u>Driver</u>	<u>Passenger</u>
Belt length from trim pane1 exit to bolt hole anchor point for continuous webbing systems.	<u>2148</u>	<u>2134</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>1130</u>	<u>1121</u>
Lap belt length as measured on Part 572 Dummy.	<u>884</u>	<u>879</u>

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.	<u></u>	<u></u>
As determined mechanically.	<u>73 mm</u>	<u>83 mm</u>
As determined electronically.	<u>130.6 mm</u>	<u>120.8 mm</u>

BELT STRETCH DATA:

Measured electronically between shoulder belt load cell and the "D" ring.	<u>1.3 mm/M</u>	<u>1.6 mm/M</u>
Measured mechanically.	<u>1 mm/M</u>	<u>1 mm/M</u>

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 18 mm molding.

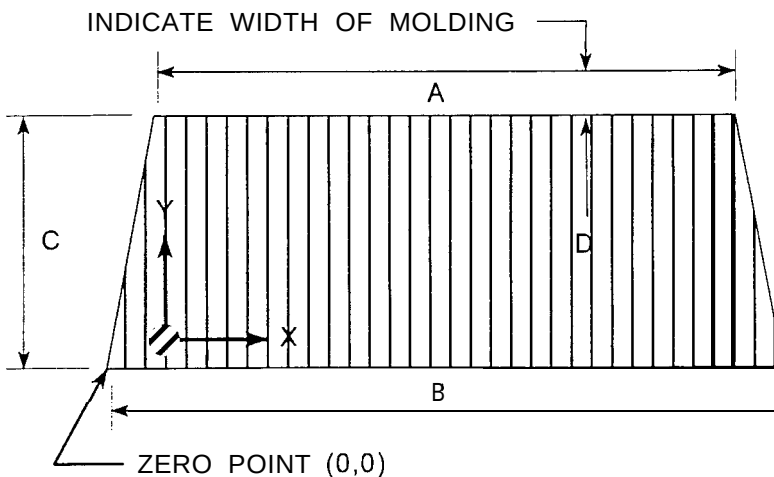
FMVSS 212 REOUIREMENTS:

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

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		% OF RETENTION
	PRE-TEST (mm)	POST-TEST(mm)	
RIGHT SIDE	2038.5	2038.5	100
LEFT SIDE	2038.5	2038.5	100
TOTAL	4,077	4,077	100

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1183
B	1574
C	660
D	18

FRONT VIEW OF WINDSHIELD

FAILURE DETAILS:

None.

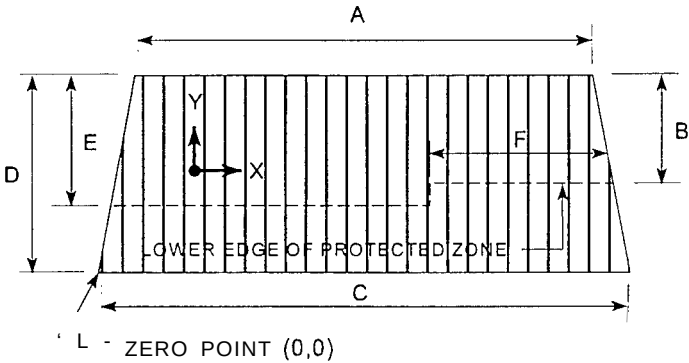
DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REOUIREMENT:

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	1183
B	351
C	1574
D	660
E	377
F	583

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm:

(Show location of penetration on the above sketch)

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

None.

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

NHTSA TEST No.: MX0212 TEST DATE: December 21, 1998

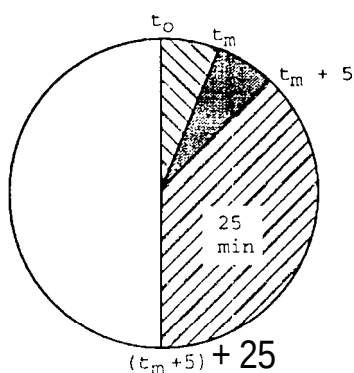
VEHICLE MAKE/MODEL: 1999 Ford Mustang

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

=====

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

FUEL SPILLAGE MEASUREMENT:



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

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

SOLVENT SPILLAGE DETAILS:

None.

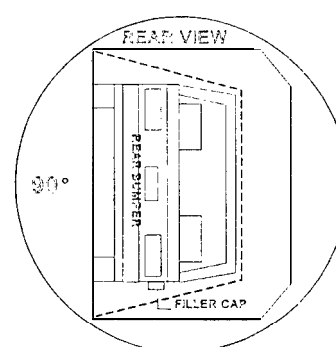
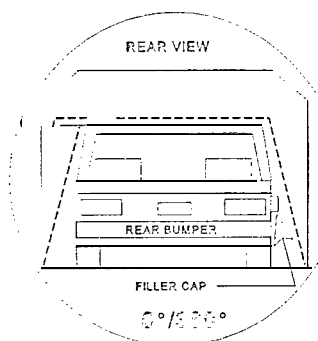
DATA SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:

O-90 deg.

NHTSA Test No. :

MX0212



INDETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes

15 seconds

FMVSS 301 Position Hold Time +

5 minutes

00 seconds

TOTAL

6 minutes

15 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.

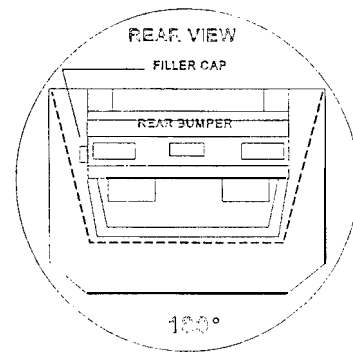
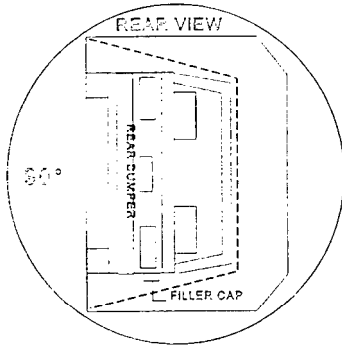
IV. SOLVENT SPILLAGE LOCATION(S):

None.

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.1)

TEST PHASE:
90-180 deg.

NHTSA Test No. :
MX0212



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 04 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 4 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.

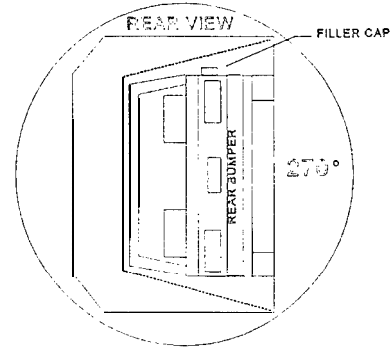
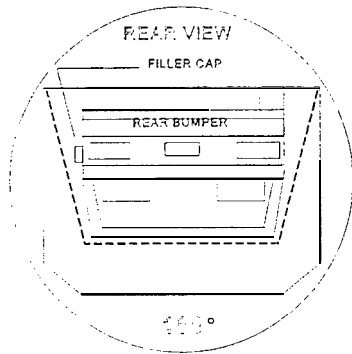
IV. SOLVENT SPILLAGE LOCATION(S):

None.

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

TEST PHASE:
180-270 deg.

NHTSA Test No.:
MX0212



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 01 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 1 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.

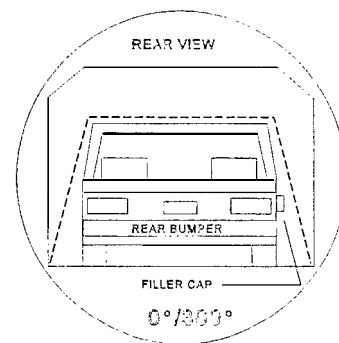
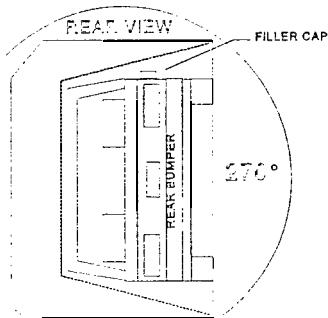
IV. SOLVENT SPILLAGE LOCATION(S):

None.

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.1)

TEST PHASE:
270-360 deg.

NHTSA Test No.:
MX0212



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 13 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 13 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:

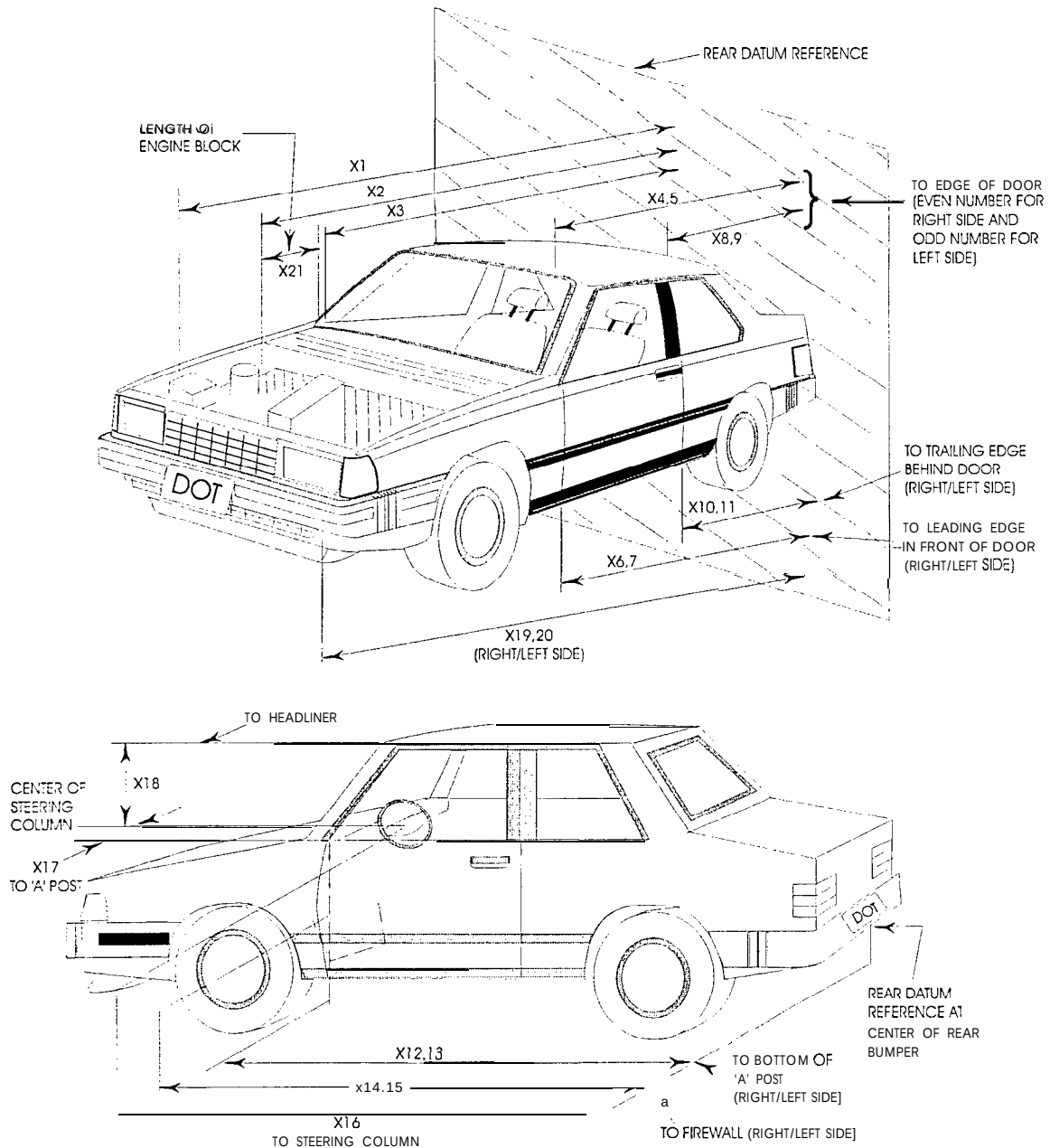
0	0	0	N/A
---	---	---	-----

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

IV. SOLVENT SPILLAGE LOCATION(S):

None.

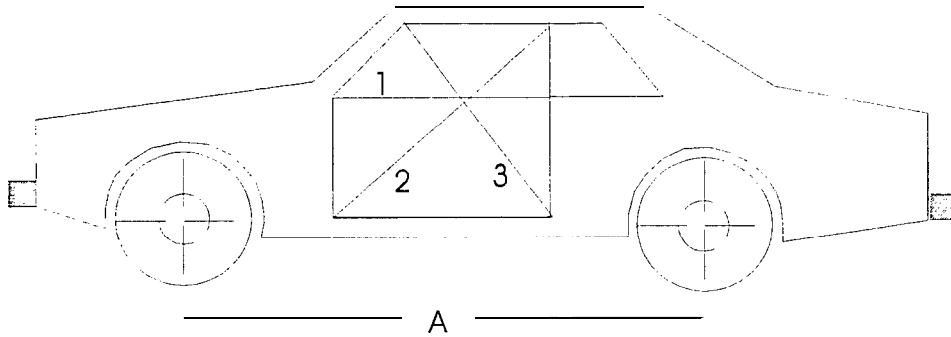
TEST VEHICLE MEASUREMENTS



DATA SHEET NO. 14 VEHICLE MEASUREMENTS

NO.		All Dimensions in mm		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	4764.8	4078.8	686.0
X2	Rear Surface of Vehicle to Front of Engine	3787.2	3500.4	286.8
X3	Rear Surface of Vehicle to Firewall	3354.9	3230.4	124.5
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3045.5	2988.2	57.3
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3061.0	2990.7	70.3
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3078.3	3029.8	48.5
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3095.9	2999.3	96.6
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	1740.3	1684.0	56.3
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	1748.2	1694.1	54.1
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	1770.5	1723.4	47.1
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	1791.8	1703.2	88.6
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3111.9	3081.9	30.0
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3155.9	3070.0	85.9
X14	Rear Surface of Vehicle to Firewall, Right Side	3344.6	3222.3	122.3
X15	Rear Surface of Vehicle to Firewall, Left Side	3425.3	3302.4	122.9
X16	Rear Surface of Vehicle to Steering Column	2612.3	2586.0	26.3
X17	Center of Steering Column to "A" Post	340.7	330.9	9.8
X18	Center of Steering Column to Headliner	381.5	393.3	-11.8
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4701.2	4046.6	654.6
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4707.7	4087.7	620.0
X21	Length of Engine Block	427.0	427.0	0.0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2764.5	2702.6	61.9
CD	Rear Surface of Vehicle to Center of Dash Panel	2892.3	2802.2	90.1
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2781.2	2693.0	88.2

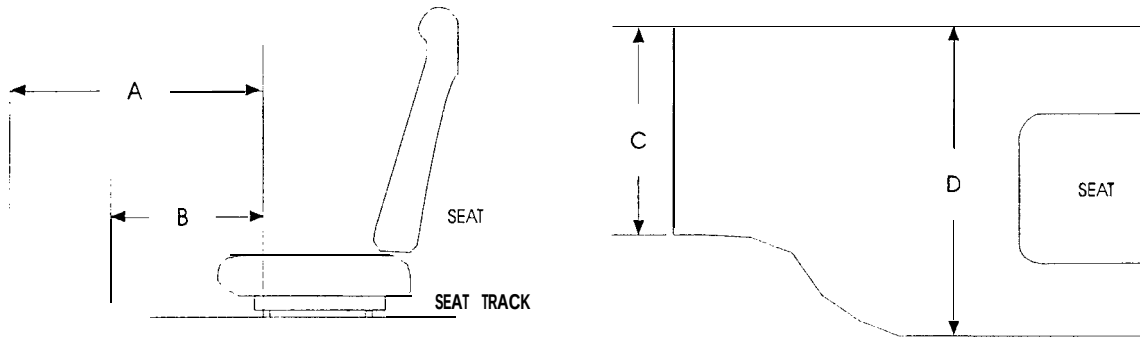
DATA SHEET NO. 14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	1230.8	1516.7	1058.5	1227.9	1509.9	1074.5
AFTER TEST	1222.6	1508.4	1060.2	1236.9	1511.1	1070.0
DIFFERENCE	8.2	8.4	-1.6	-9.0	-1.2	4.5

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2582.2	2581.2
AFTER TEST	2547.1	2470.0
DIFFERENCE	35.1	111.2

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



DRIVER

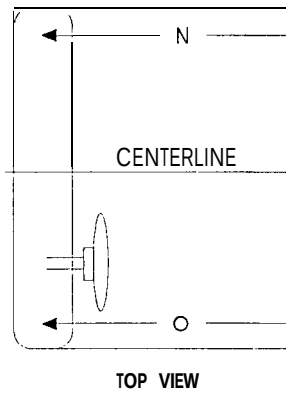
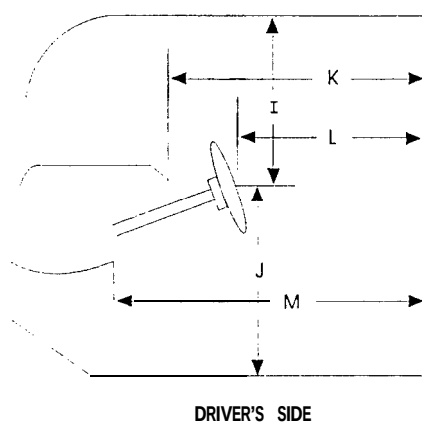
Measurement	Pre-Test	Post-Test	Difference
A	672.4	541.4	131.0
B	528.2	398.2	130.0
C	414.7	394.3	20.4
D	443.4	455.1	-11.7

PASSENGER

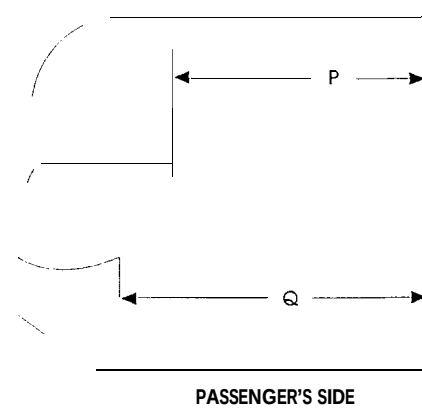
Measurement	Pre-Test	Post-Test	Difference
A	669.8	563.2	106.6
B	540.6	466.7	73.9
C	327.3	316.0	11.3
D	408.3	417.2	-8.9

units = mm

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



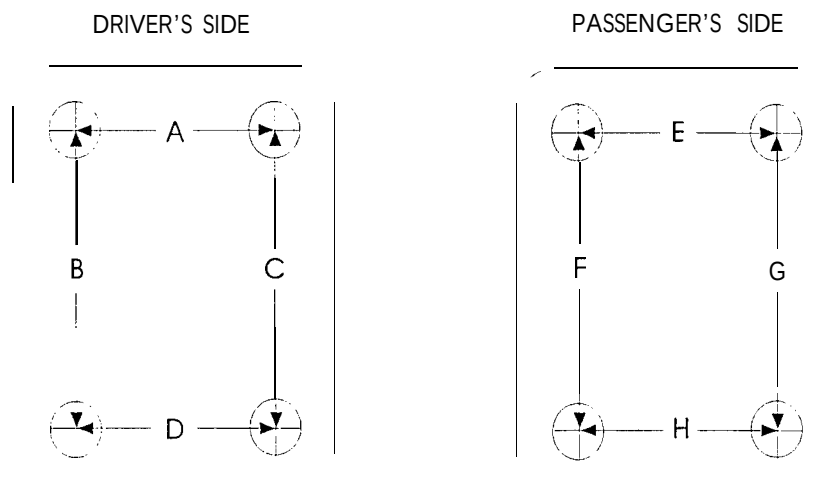
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	343.4	343.4	0.0
J	618.0	646.8	-28.8
K	1062.6	1036.4	26.2
L	821.5	860.4	-38.9
M	1105.6	1092.9	12.7
N	978.3	978.9	-0.6
O	989.9	970.1	19.8
P = K (PASS.)	1120.2	1032.8	87.4
Q = M (PASS.)	1085.5	1081.3	4.2

Units = mm

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



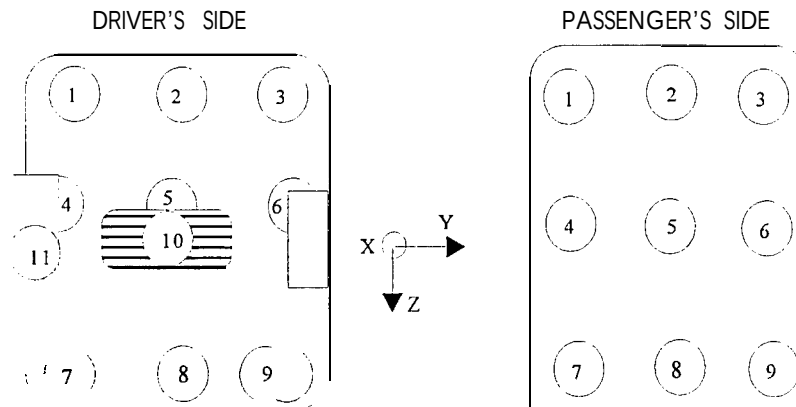
TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	142	142	0
B	450	450	0
C	450	453	-3
D	130	130	0
E	105	105	0
F	403	403	0
G	400	400	0
H	106	106	0

Units = mm

DATA SHEET NO. 14 VEHICLE MEASUREMENTS (cont.)

TOE-PAN INTRUSION



Driver Side Floorpan Measurements

Reference: Rear Bumper and Ground

Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3227.3	3139.9	87.4	-428.3	-382.2	-46.1
2	3264.8	3182.6	82.2	-415.5	-348.9	-66.6
3	3265.4	3207.3	58.1	-395.1	-325.3	-69.8
4	3214.6	3122.3	92.3	-379	-295.2	-83.8
5	3218	3164.2	53.8	-321.2	-281.8	-39.4
6	3225.1	3143.5	81.6	-350.4	-242.8	-107.6
7	3176.6	3142.4	34.2	-311	-246.9	-64.1
8	3168.3	3119.5	48.8	-311.3	-199.9	-111.4
9	3128.3	3089.6	38.7	-311.9	-177.5	-134.4
10	3144.9	3118.0	26.9	-434.6	-345.6	-89.0
11	3096.6	2956.1	140.5	-438	-338.8	-99.2

Passenger Side Floorpan Measurements

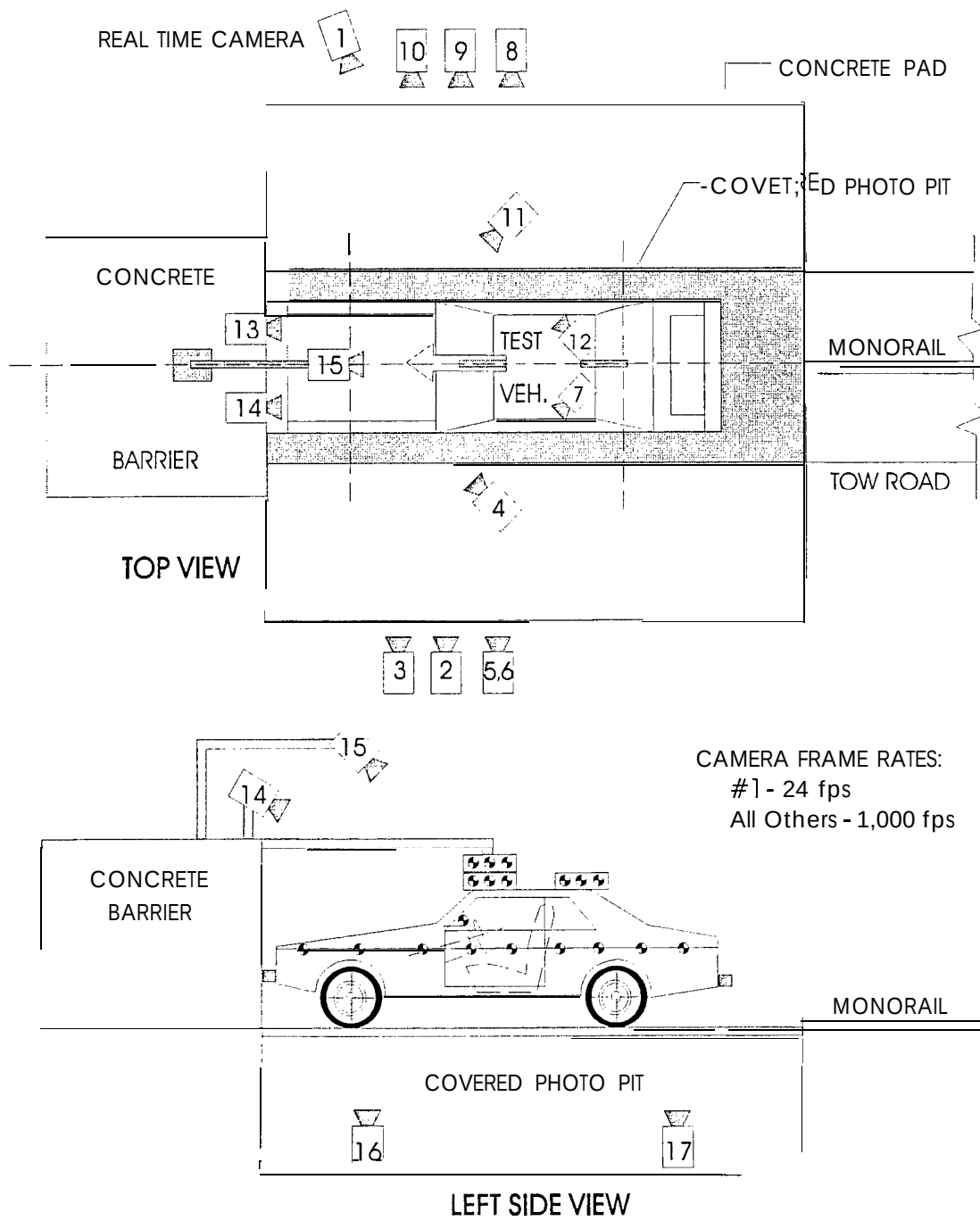
Reference: Rear Bumper and Ground

Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3230	3174.4	55.6	-353.1	-336.3	-16.8
2	3235.5	3189.6	45.9	-361	-345.5	-15.5
3	3194.1	3153.8	40.3	-371.4	-387.9	16.5
4	3177	3141.1	35.9	-322.9	-275.7	-47.2
5	3198.6	3143.6	55.0	-310.5	-289.1	-21.4
6	3203.8	3157.6	46.2	-330.8	-321.3	-9.5
7	3143.9	3110.4	33.5	-271.6	-232.0	-39.6
8	3164.5	3125.8	38.7	-257	-242.3	-14.7
9	3171.7	3127.2	44.5	-288.8	-264.1	-24.7

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

NIHTSA Test No.:

MX0212

Vehicle:

1999 Ford Mustang 2 Door Coupe

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	6366	1998	1038	-3	5841	12.5	1000
3	Left Side View	8249	974	1072	-3	7724	25	1000
4	Driver and Interior View	4592	2990	2014	-15		25	1000
5	Steering Column (Bottom)	7430	1492	1174	-4	6905	25	1000
6	Steering Column (Top)	7430	1492	1774	-8	6905	25	1000
7	Left Belt							
8	Overall Right Side	7167	1996	1084	-5	7692	13	1000
9	Right Side View	8609	1448	1105	-2	9134	25	1000
10	Right Passenger View	8194	1926	1349	-3	8719	35	1000
11	Passenger and Interior View	5398	3026	2122	-14		25	1000
12	Right Belt							
13	Passenger Front View	606	-136	1989	-39		13	1000
14	Driver Front View	606	-136	1989	-36		13	1000
15	Windshield View	0	-528	3374	-51		13	1000
16	Pit View of Engine	0	635	-3048	90		13	1000
17	Pit View of Fuel Tank	0	2913	-3048	90		13	1070

*X = film plane to monorail centerline

** = referenced to horizontal plane

Y = film plane to impact location

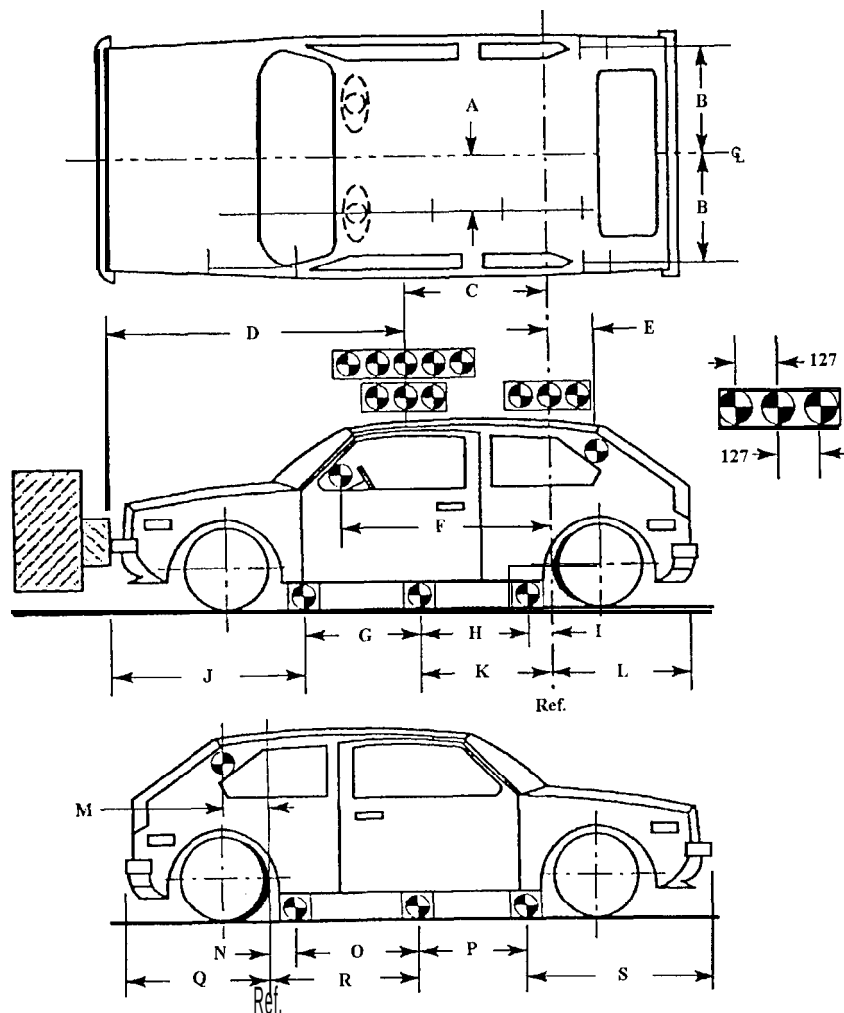
N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

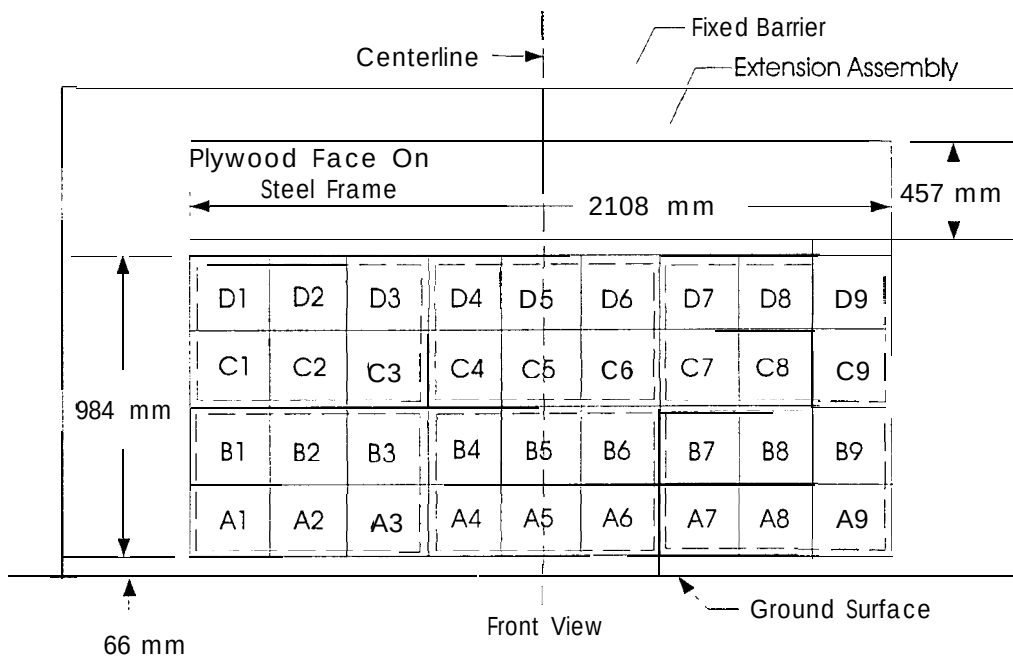
(Dimensions in millimeters)

A	391.6
B	655.4
C	916.7
D	2382.8
E	323.3
F	1364.7
G	790.7
H	792.7
I	218.4
J	1509.2
K	1583.1
L	1362.3
M	359.2
N	163.3
O	791.4
P	795.4
Q	1409.7
R	954.7
S	1513.5



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. : MX0212; Test Date: December 21,1998; Technician: P. MacDiarmid

Vehicle Model Year/Make/Model: 1999 Ford Mustang

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

B. Size of vent holes: (mm') 314 -Driver 0 -Passenger

C. Total vent area: (mm*) 628 -Driver 0 -Passenger

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

Driver: 486 -Height; 570 -Width; 300 -Depth

Passenger: 650 -Height; 650 -Width; 250 -Depth

E. Is the air bag tethered?

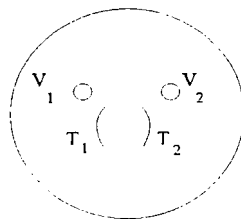
Driver: X -Yes; - -No; If yes, record length of tether- 250

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

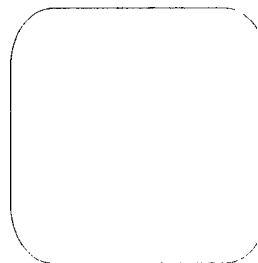
Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.

(Note: Not to scale; V_n = Vent hole, T_n = Tether,).

Driver



Passenger



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

Driver: Air bag: P121724-01B TMJ2698G0323 23/S

Generator: FAS J8R 3L ECN XR3A-63043B13-BAW

Passenger: Air bag:

Generator: XR3A 63044A74 AAZUEN DP 882872019 2002560A 2000588F

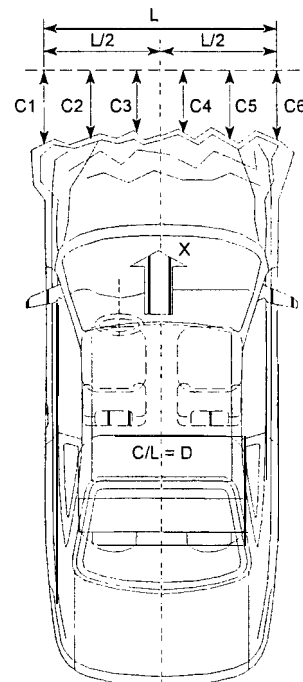
DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style:	Ford Mustang 2 Door Coupe			
NHTSA Test No. :	MX0212	VIN:	1FAFP404XXF101172	
Model Year:	1999	Build Date:	10/98	Test Date: December 21, 1998
Vehicle Size Category:	Subcompact	Test Weight:	1603.0	kg
Vehicle Wheelbase:	2582	mm; Front Overhang:	1509	mm; Overall Width: 1832 mm
Collision Deformation Classification (CDC) Code:	12FDEW3			

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	4635.2	4093.2	-542.0	mm
C2 =	4657.9	4086.3	-571.6	mm
C3 =	4693.5	4115.4	-578.1	mm
C4 =	4688.7	4078.8	-609.9	mm
C5 =	4654.0	4048.0	-606.0	mm
C6 =	4617.6	4017.1	-600.5	mm



Midpoint of Damage: $D = \frac{\text{Vehicle Centerline}}{(\text{Longitudinal})}$

Length of Damaged Region:

L1 = $\frac{1200}{}$ mm

L2 = $\frac{600}{}$ mm

L3 = 240 mm

Appendix A
PHOTOGRAPHS

PHOTOGRAPHS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
A-1	LOAD CELL LOCATIONS.	A-4
A-2	PRE-TEST FRONT VIEW	A-5
A-3	POST-TEST FRONT VIEW.	A-6
A-4	PRE-TEST LEFT SIDE VIEW	A-1
A-5	POST-TEST LEFT SIDE VIEW	A-8
A-6	PRE-TEST RIGHT SIDE VIEW	A-9
A-7	POST-TEST RIGHT SIDE VIEW	A-10
A-8	PRE-TEST RIGHT FRONT THREE-QUARTER VIEW	A-11
A-9	POST-TEST RIGHT FRONT THREE-QUARTER VIEW	A-12
A-10	PRE-TEST LEFT REAR THREE-QUARTER VIEW ..	A-13
A-11	POST-TEST LEFT REAR THREE-QUARTER VIEW .	A-14
A-12	PRE-TEST WINDSHIELD VIEW	A-15
A-13	POST-TEST WINDSHIELD VIEW	A-16
A-14	PRE-TEST ENGINE COMPARTMENT VIEW	A-17
A-15	FUEL CAP VIEW	A-18
A-16	PRE-TEST FRONT UNDERBODY VIEW	A-19
A-17	POST-TEST FRONT UNDERBODY VIEW	A-20
A-18	PRE-TEST FRONT SIDE UNDERBODY VIEW	A-21
A-19	POST-TEST FRONT SIDE UNDERBODY VIEW	A-22
A-20	PRE-TEST REAR UNDERBODY VIEW	A-23
A-21	POST-TEST REAR UNDERBODY VIEW	A-24
A-22	PRE-TEST DRIVER POSITION VIEW	A-25
A-23	POST-TEST DRIVER POSITION VIEW	A-26
A-24	PRE-TEST PASSENGER POSITION VIEW	A-27
A-25	POST-TEST PASSENGER POSITION VIEW.	A-28

PHOTOGRAPHS (continued)

<u>Figure</u>	<u>Title</u>	<u>Page</u>
A-26	PRE-TEST DRIVER AND INTERIOR VIEW , ...	A-29
A-27	POST-TEST DRIVER AND INTERIOR VIEW	A-30
A-28	PRE-TEST PASSENGER AND INTERIOR VIEW	A-31
A-29	POST-TEST PASSENGER AND INTERIOR VIEW	A-32
A-30	PRE-TEST DRIVER HEAD LOCATION . . . , . . . , ...	A-33
A-31	POST-TEST DRIVER HEAD LOCATION . . . , . . . , ...	A-34
A-32	PRE-TEST PASSENGER HEAD LOCATION	A-35
A-33	POST-TEST PASSENGER HEAD LOCATION	A-36
A-34	PRE-TEST DRIVER FLOOR PAN VIEW	A-37
A-35	POST-TEST DRIVER FLOOR PAN VIEW . . . , ...	A-38
A-36	PRE-TEST PASSENGER FLOOR PAN VIEW	A-39
A-37	POST-TEST PASSENGER FLOOR PAN VIEW	A-40
A-38	ROLLOVER VIEW	A-41
A-39	IMPACT VIEW	A-42

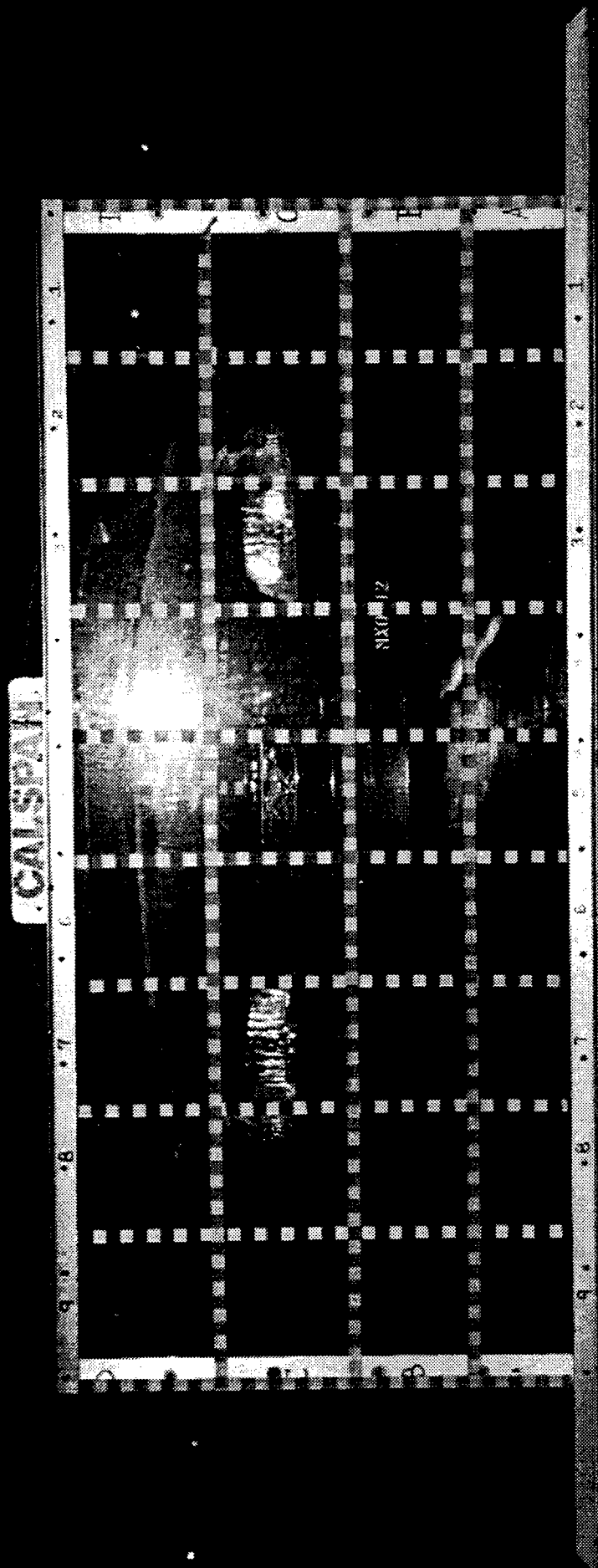


Figure A-1 LOAD CELL LOCATIONS

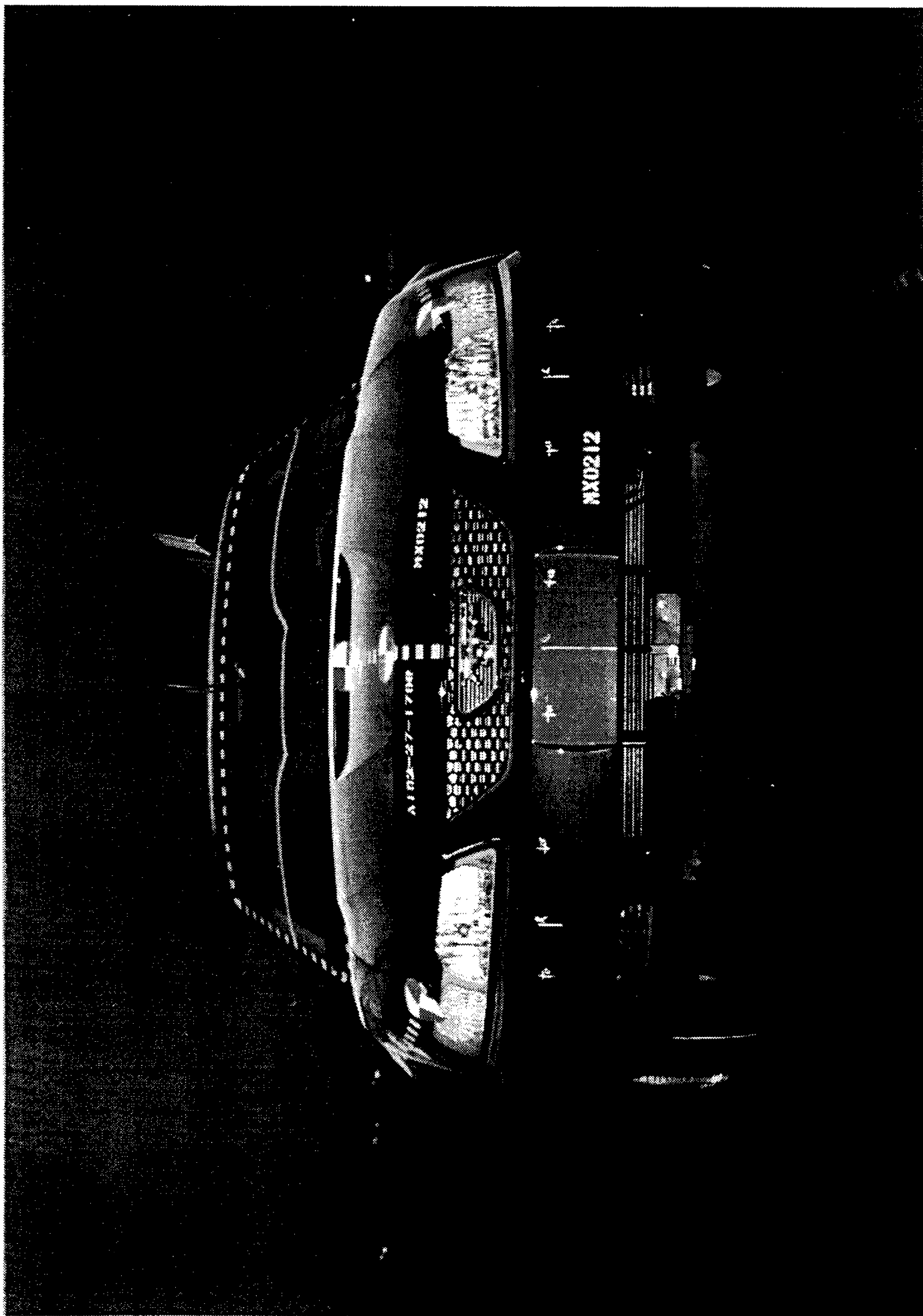


Figure A-2 PRE-TEST FRONT VIEW

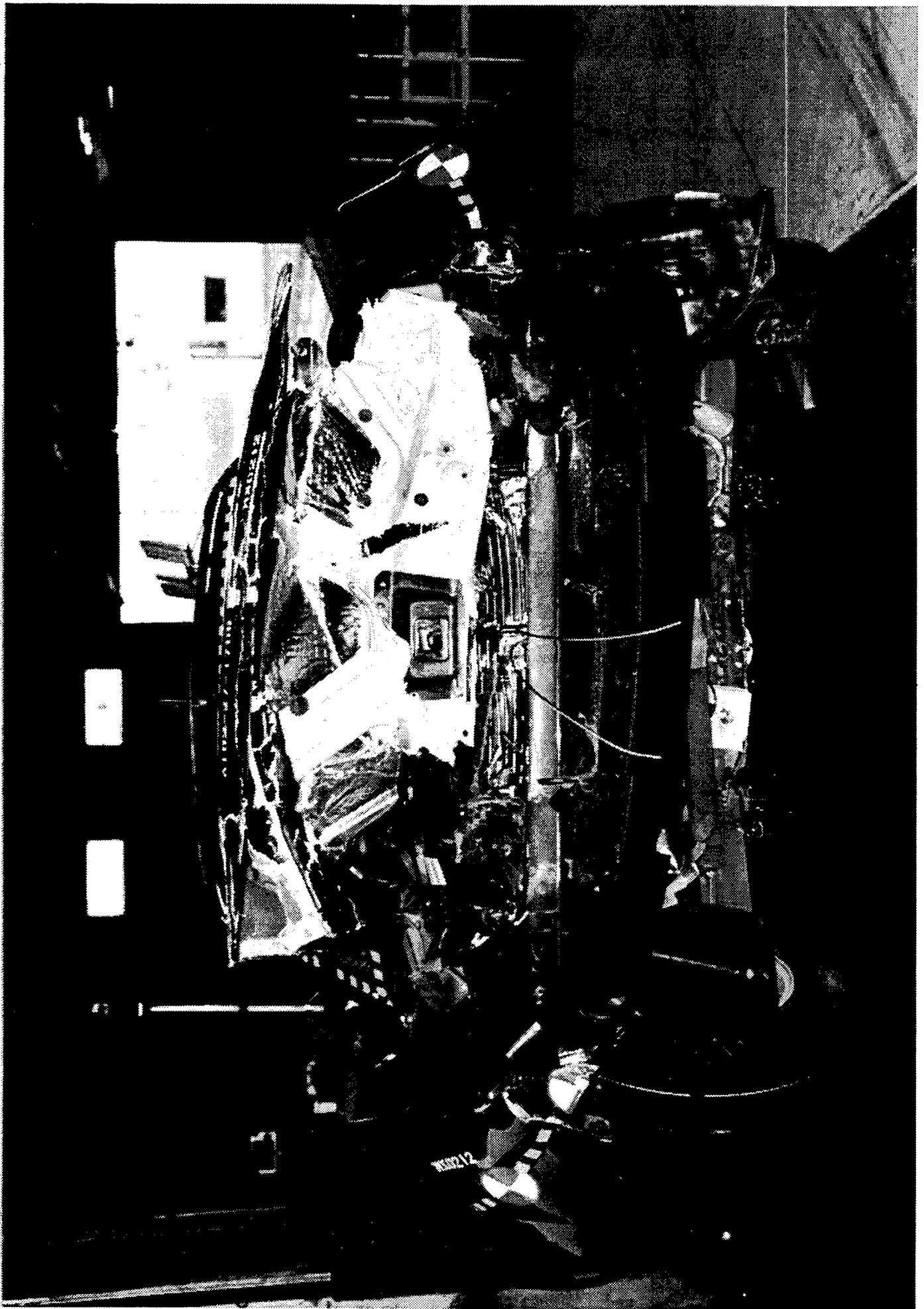


Figure A-3 POST-TEST FRONT VIEW

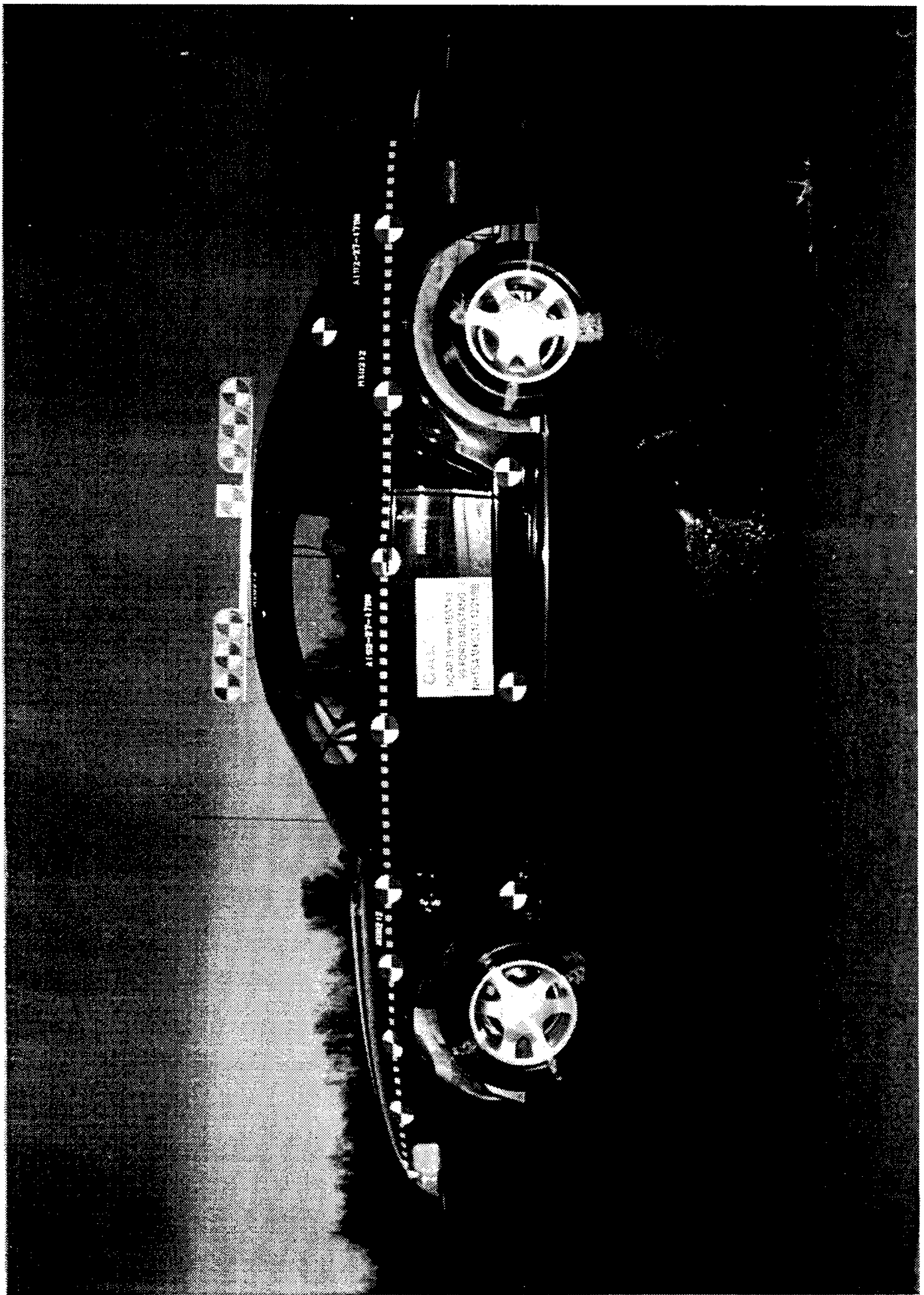


Figure A-4 PRE-TEST LEFT SIDE VIEW

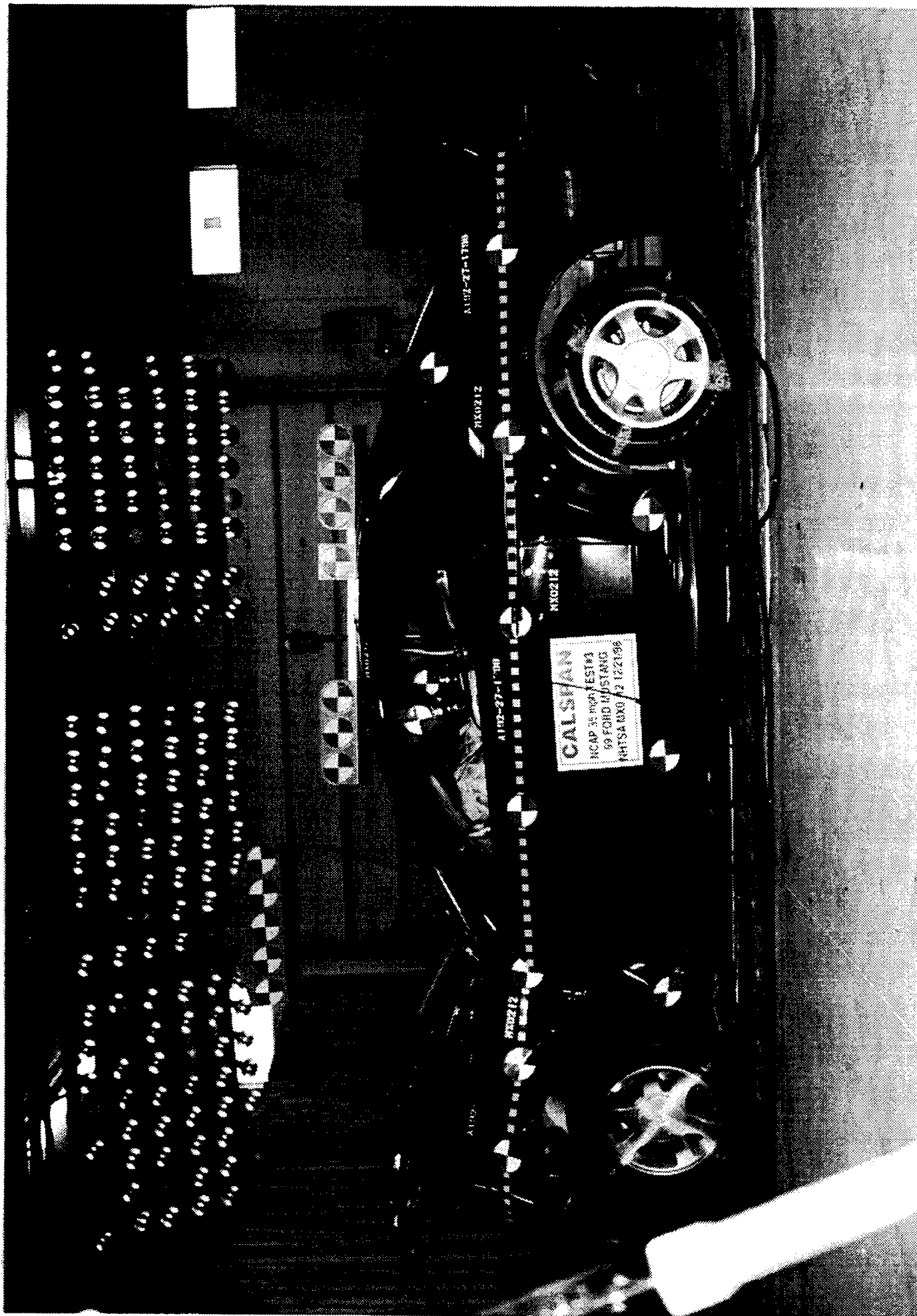


Figure A-5 POST-TEST LEFT SIDE VIEW

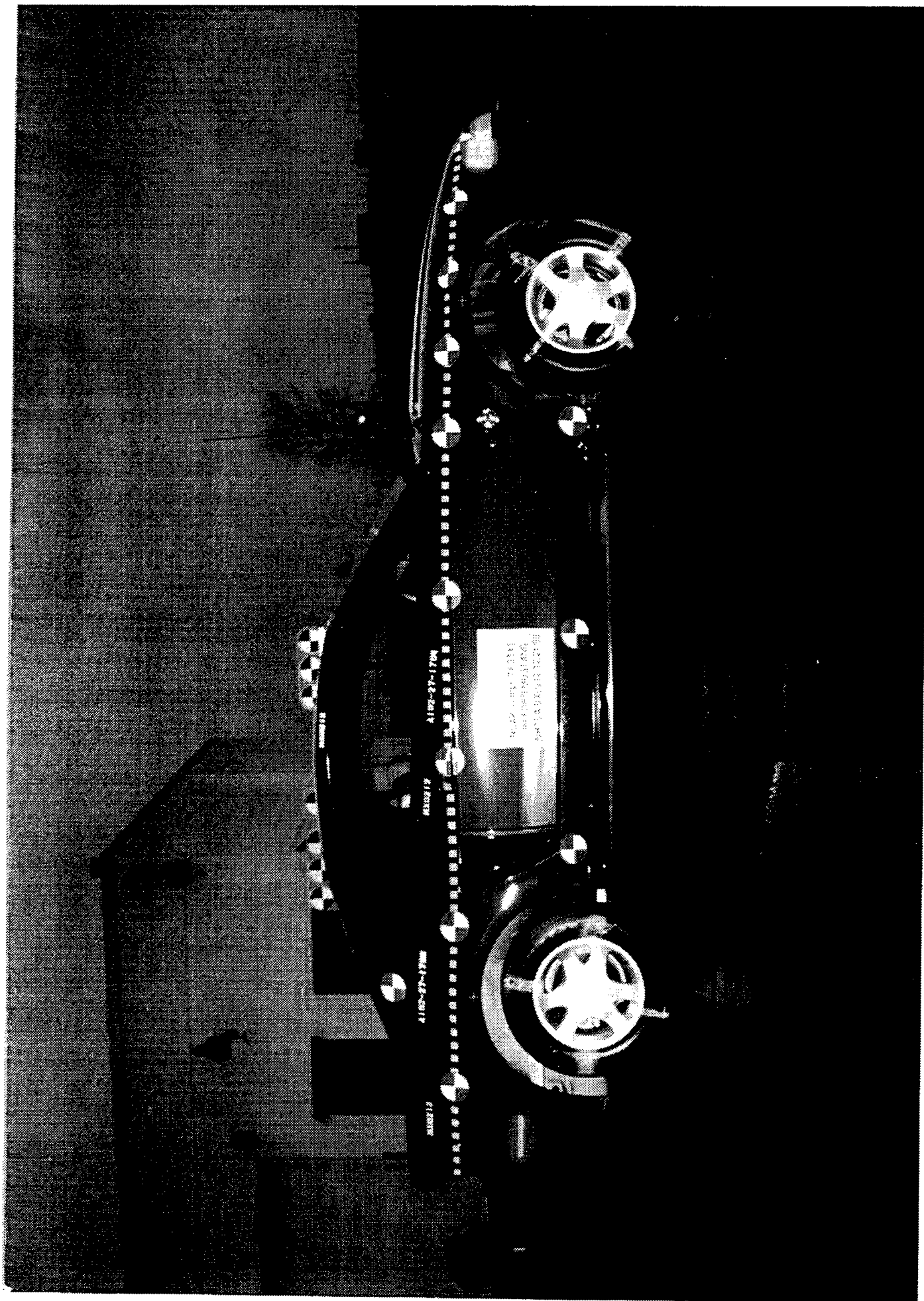


Figure A-6 PRE-TEST RIGHT SIDE VIEW

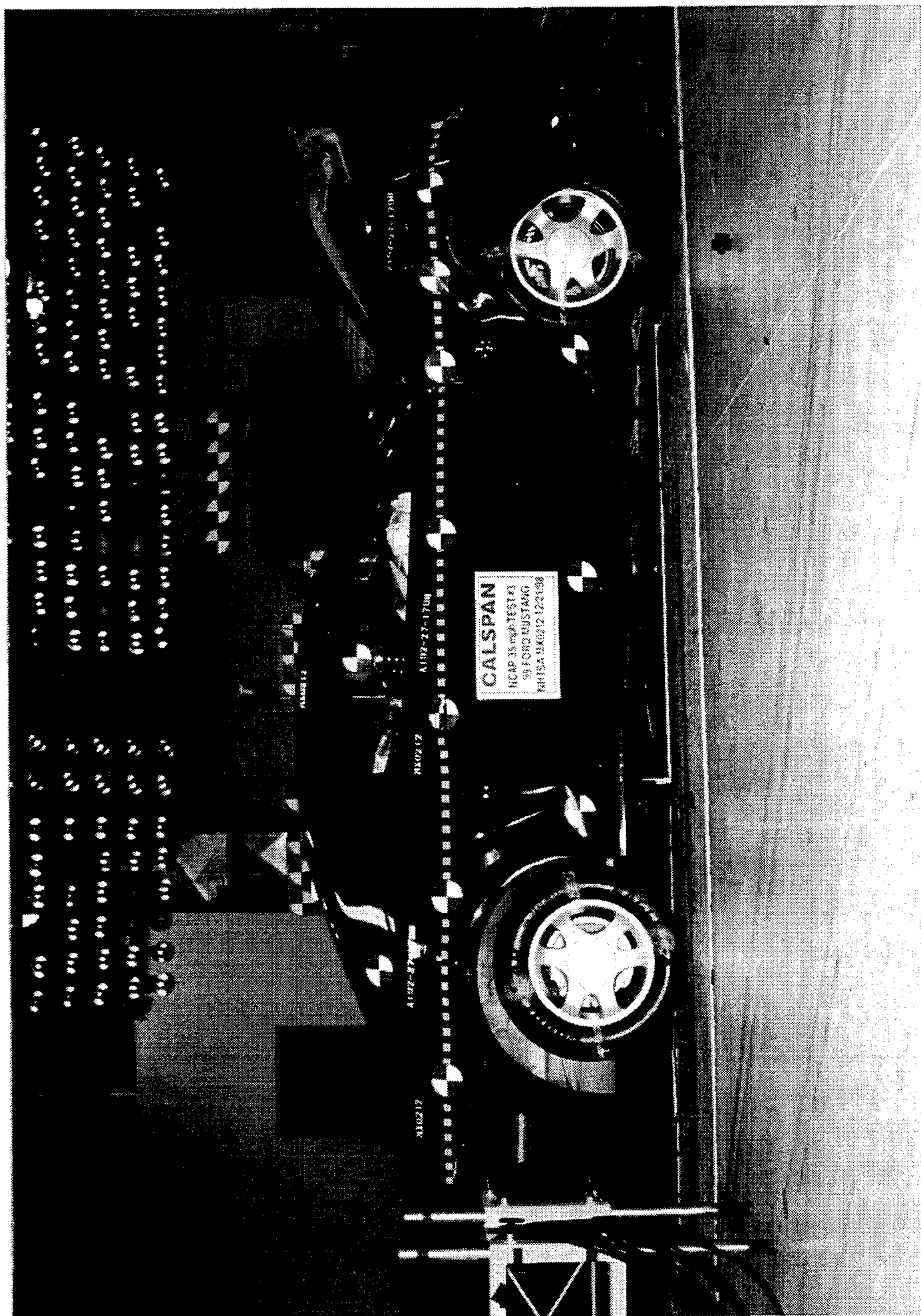


Figure A-7 POST-TEST RIGHT SIDE VIEW

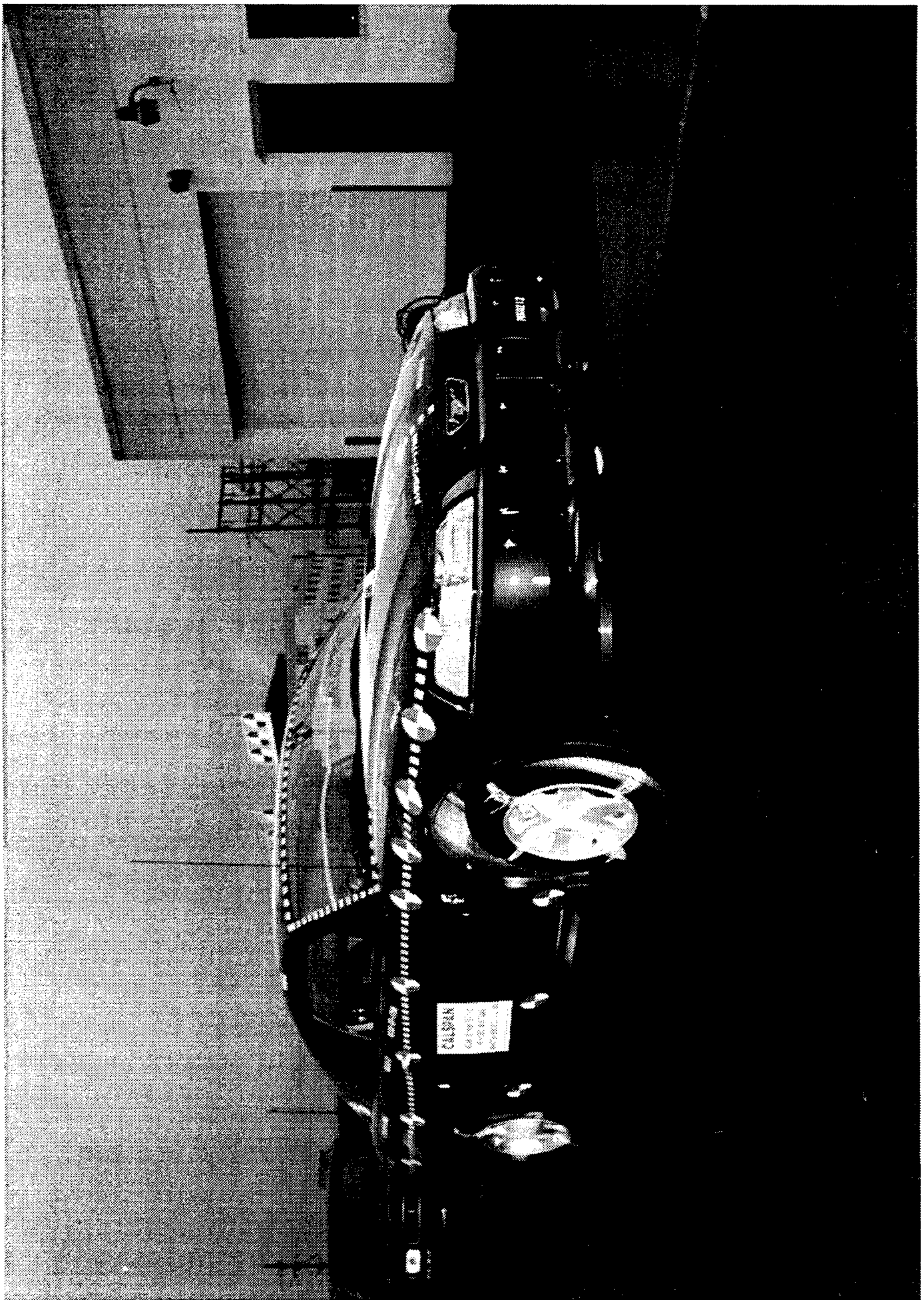


Figure A-8 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW

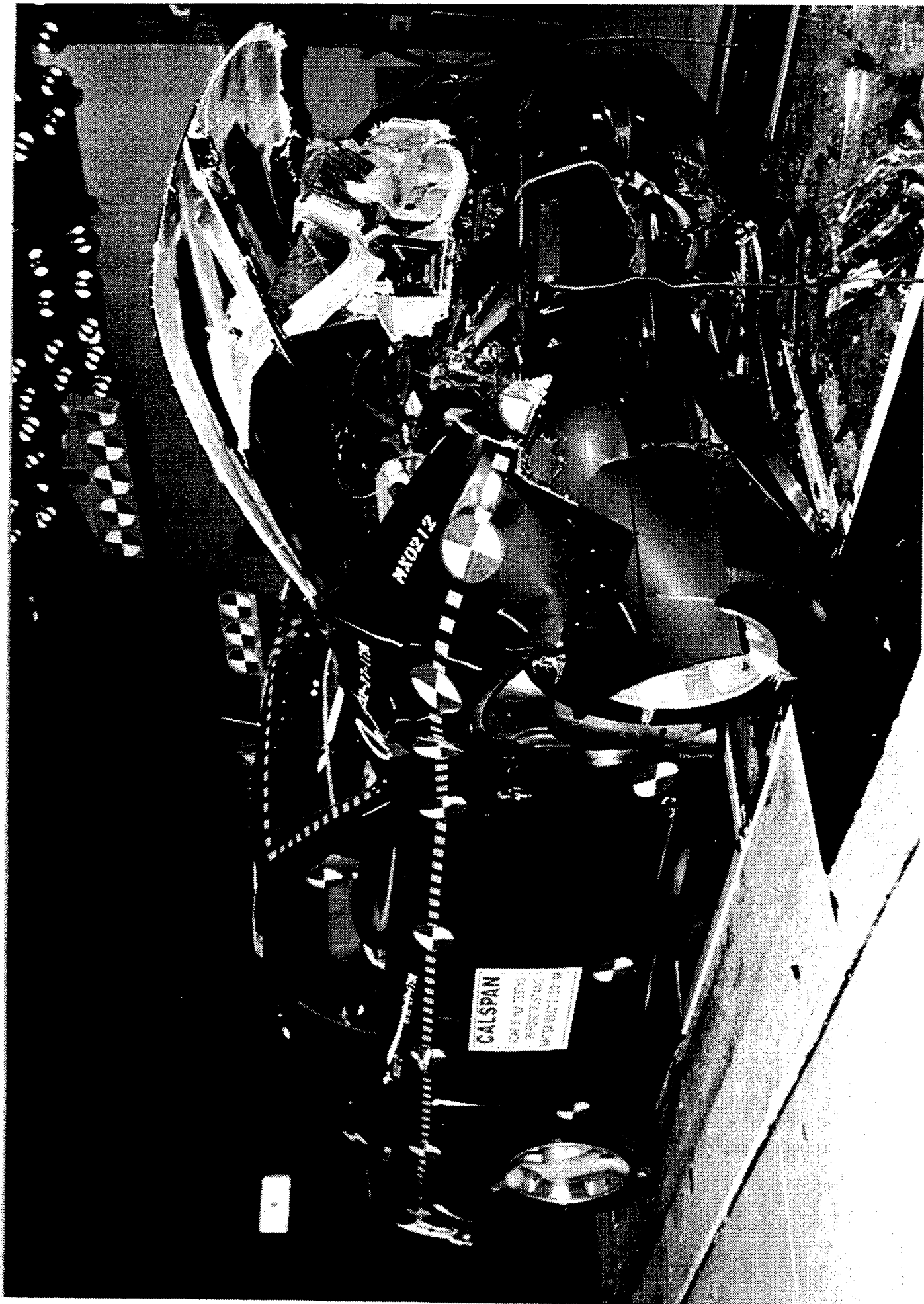


Figure A-9 POST-TEST RIGHT FRONT THREE-QUARTER VIEW

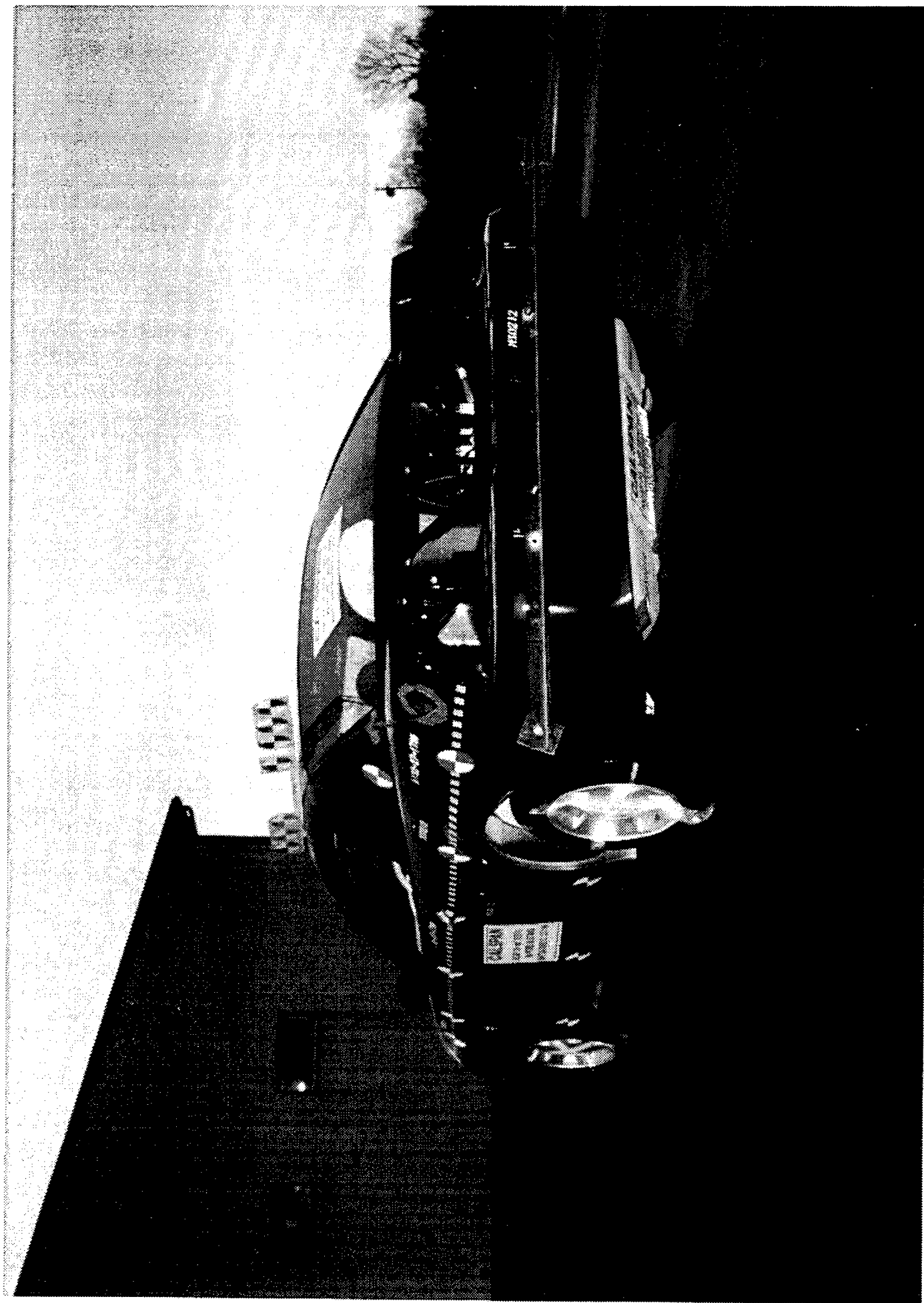


Figure A-10 PRE-TEST LEFT REAR THREE-QUARTER VIEW

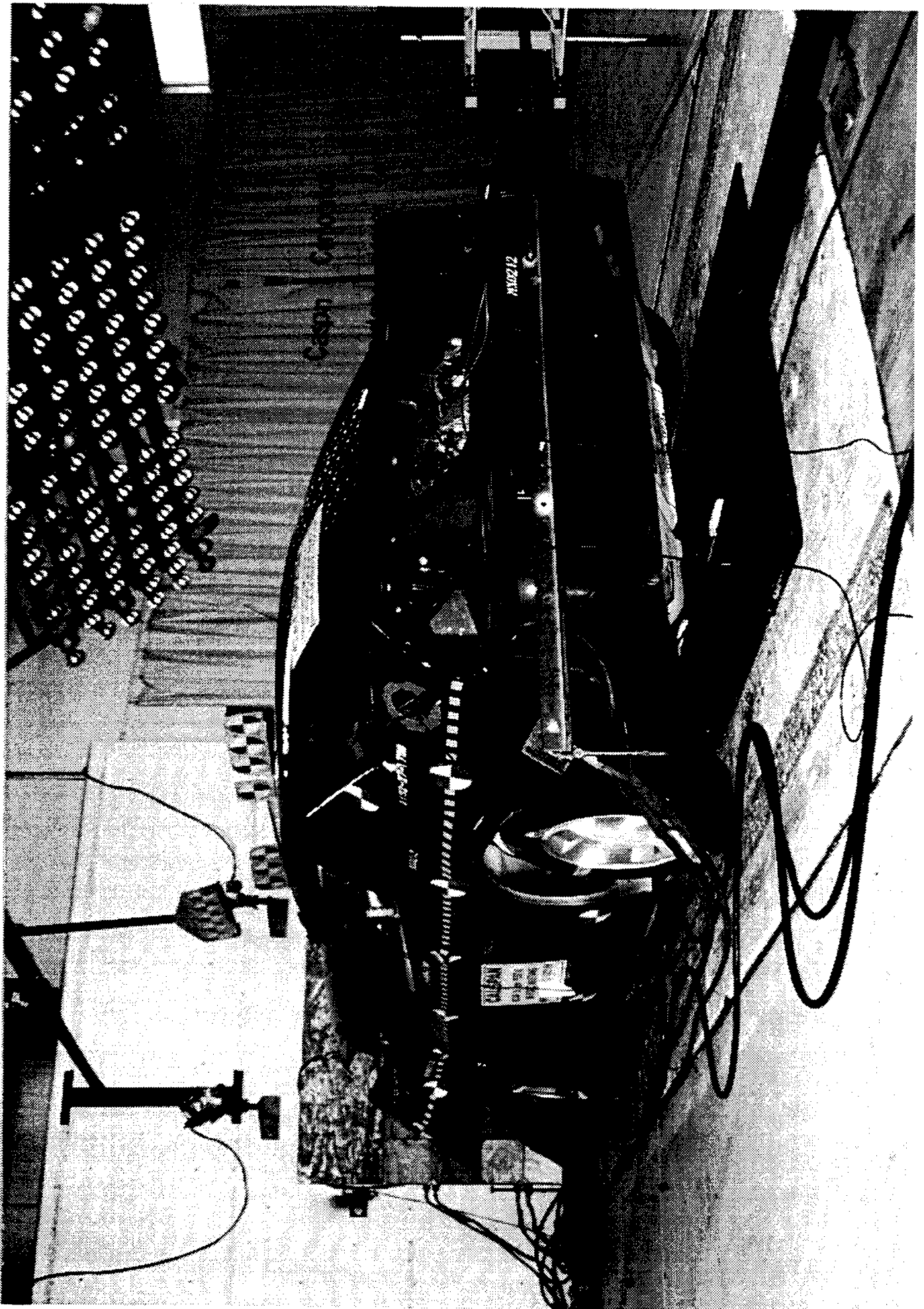


Figure A-11 POST-TEST LEFT REAR THREE-QUARTER VIEW

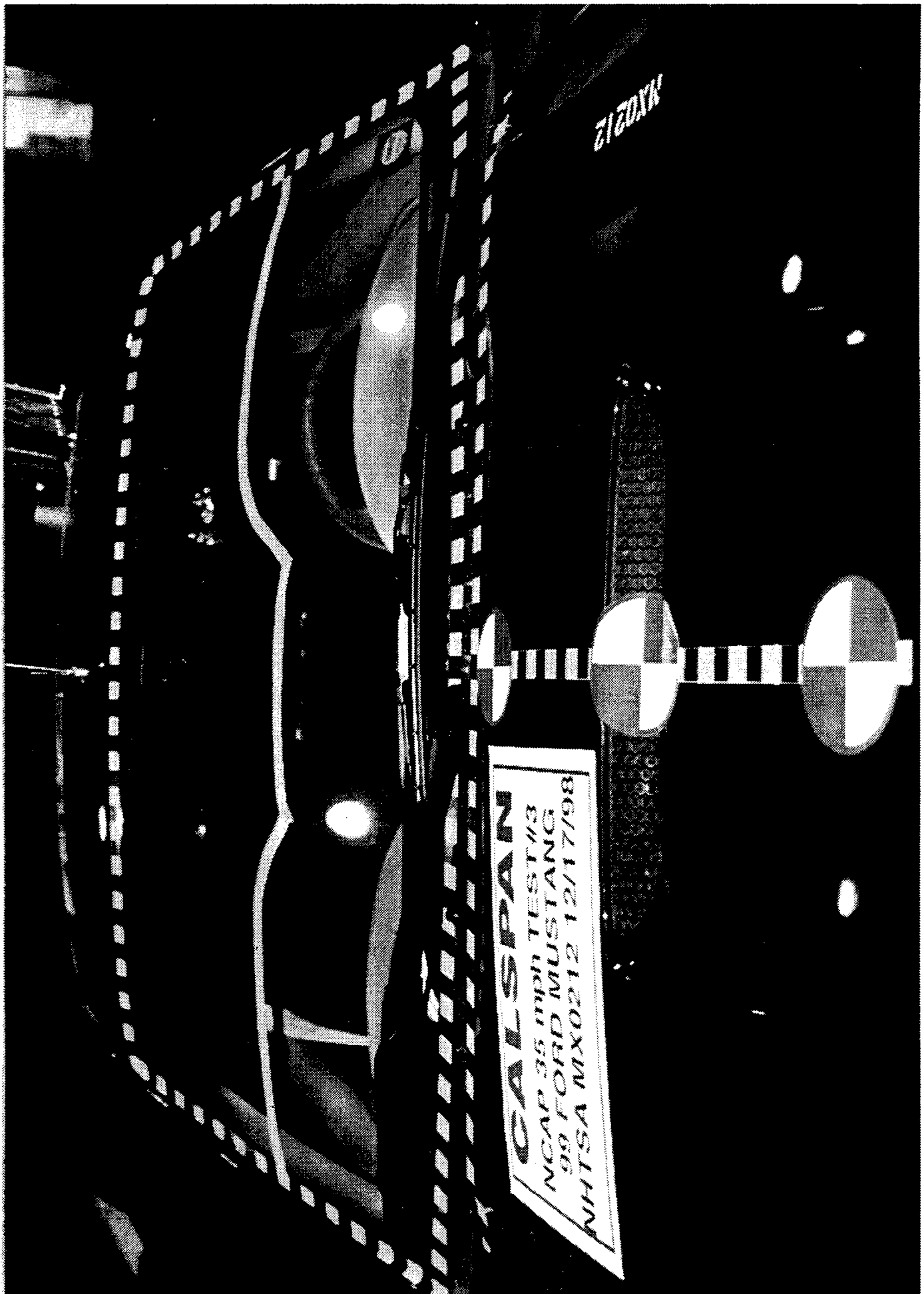


Figure A-12 PRE-TEST WINDSHIELD VIEW

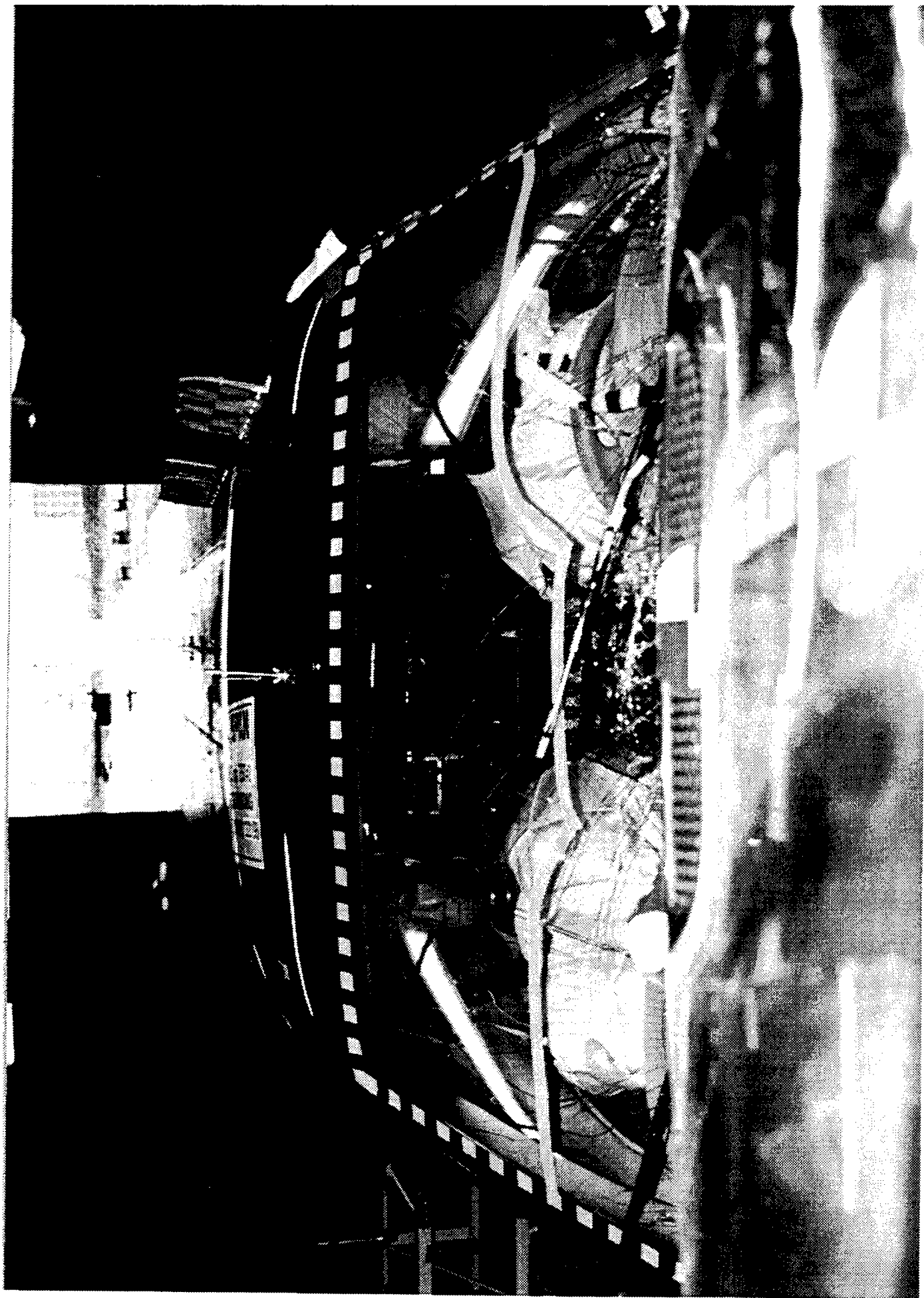


Figure A-13 POST-TEST WINDSHIELD VIEW

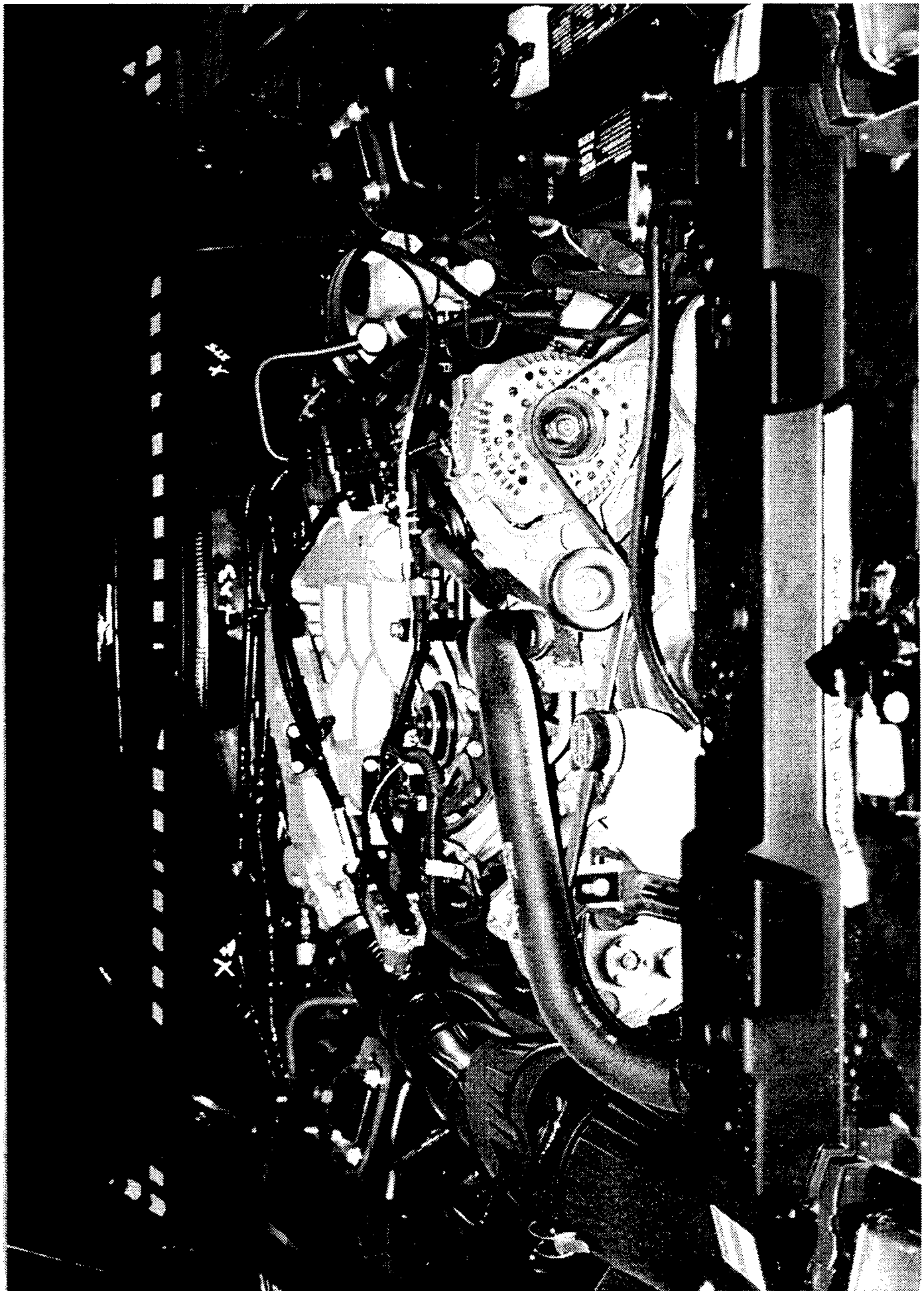


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW



Figure A-15 FUEL CAP VIEW

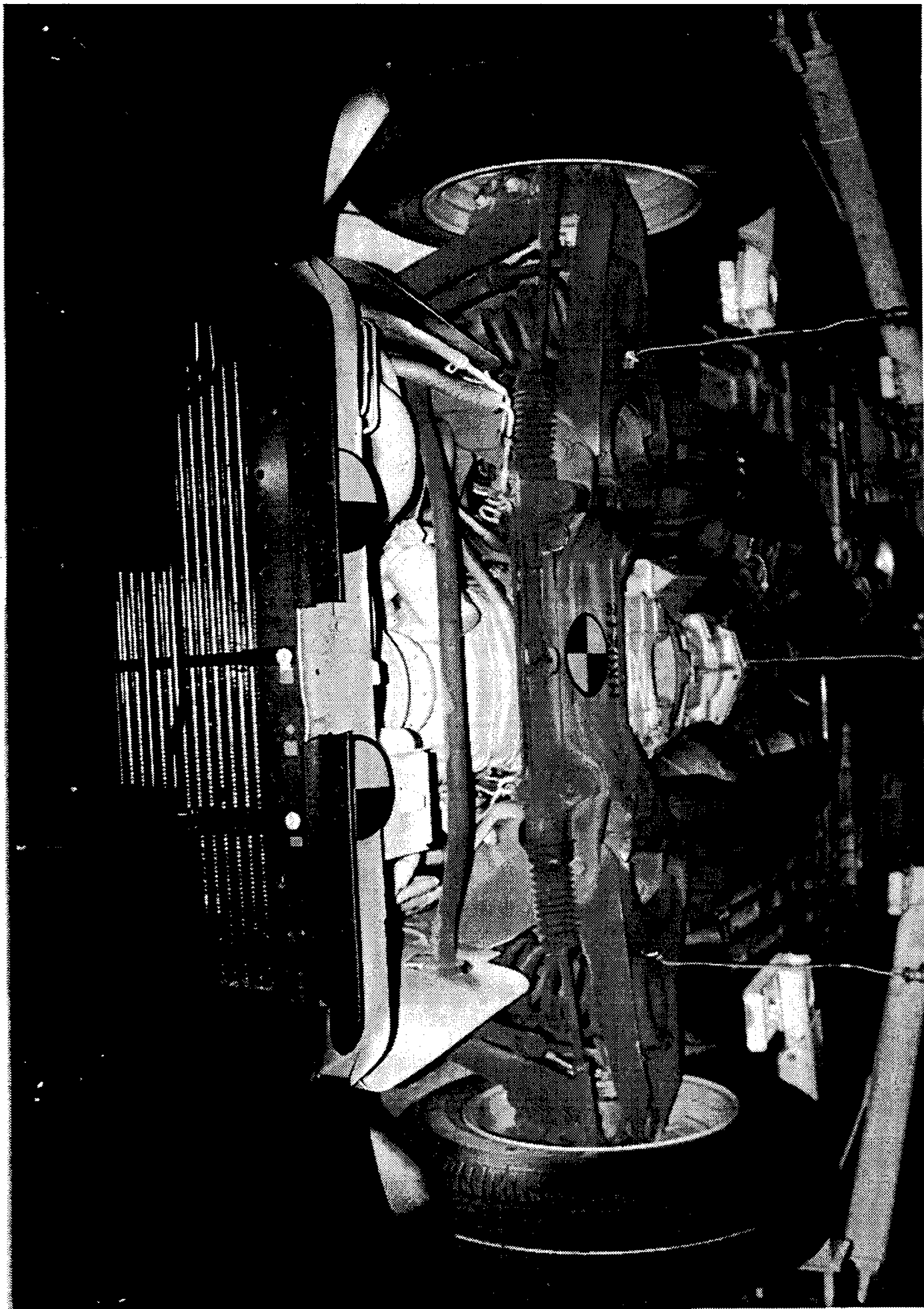


Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

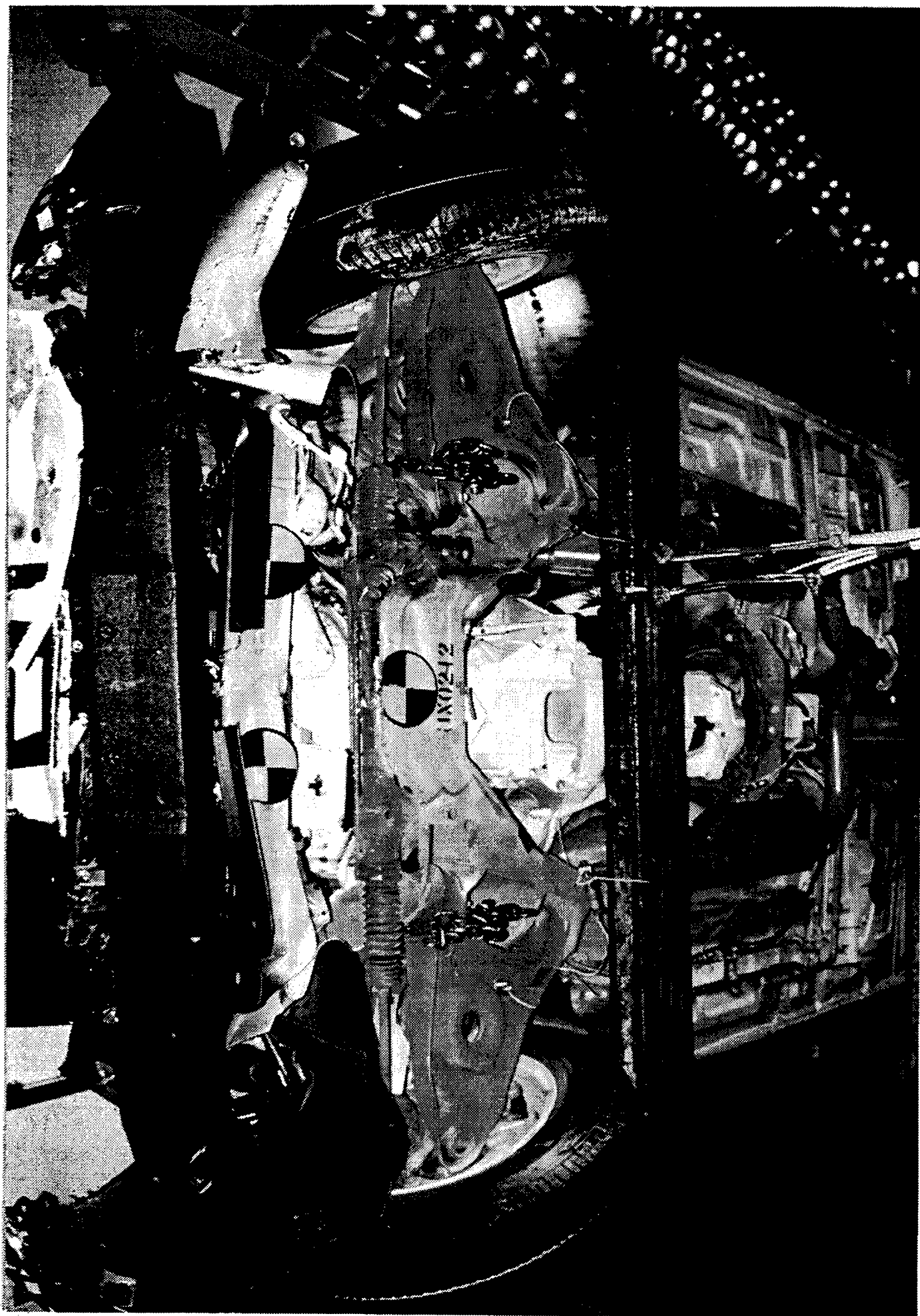


Figure A-17 POST-TEST FRONT UNDERBODY VIEW

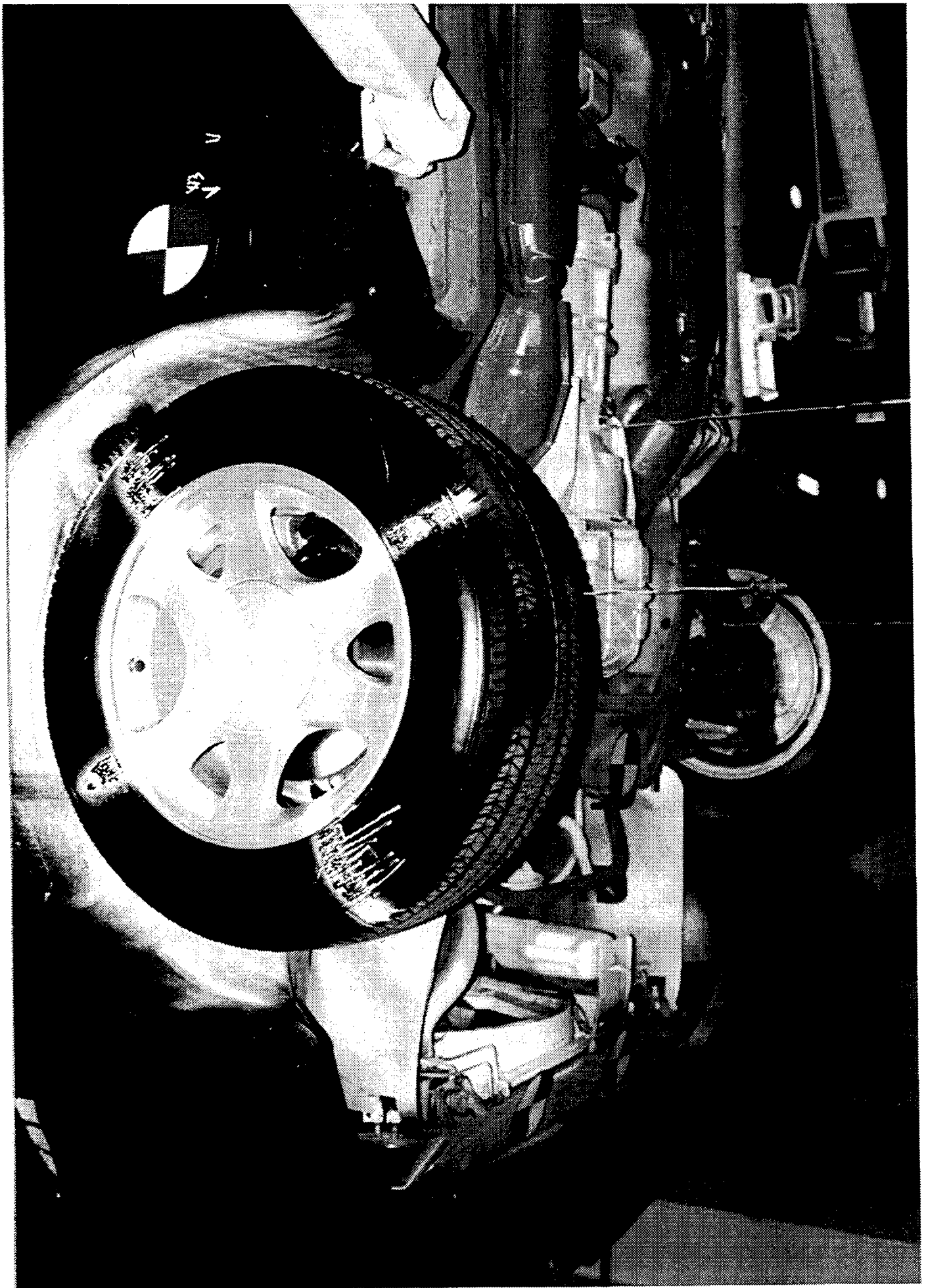


Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

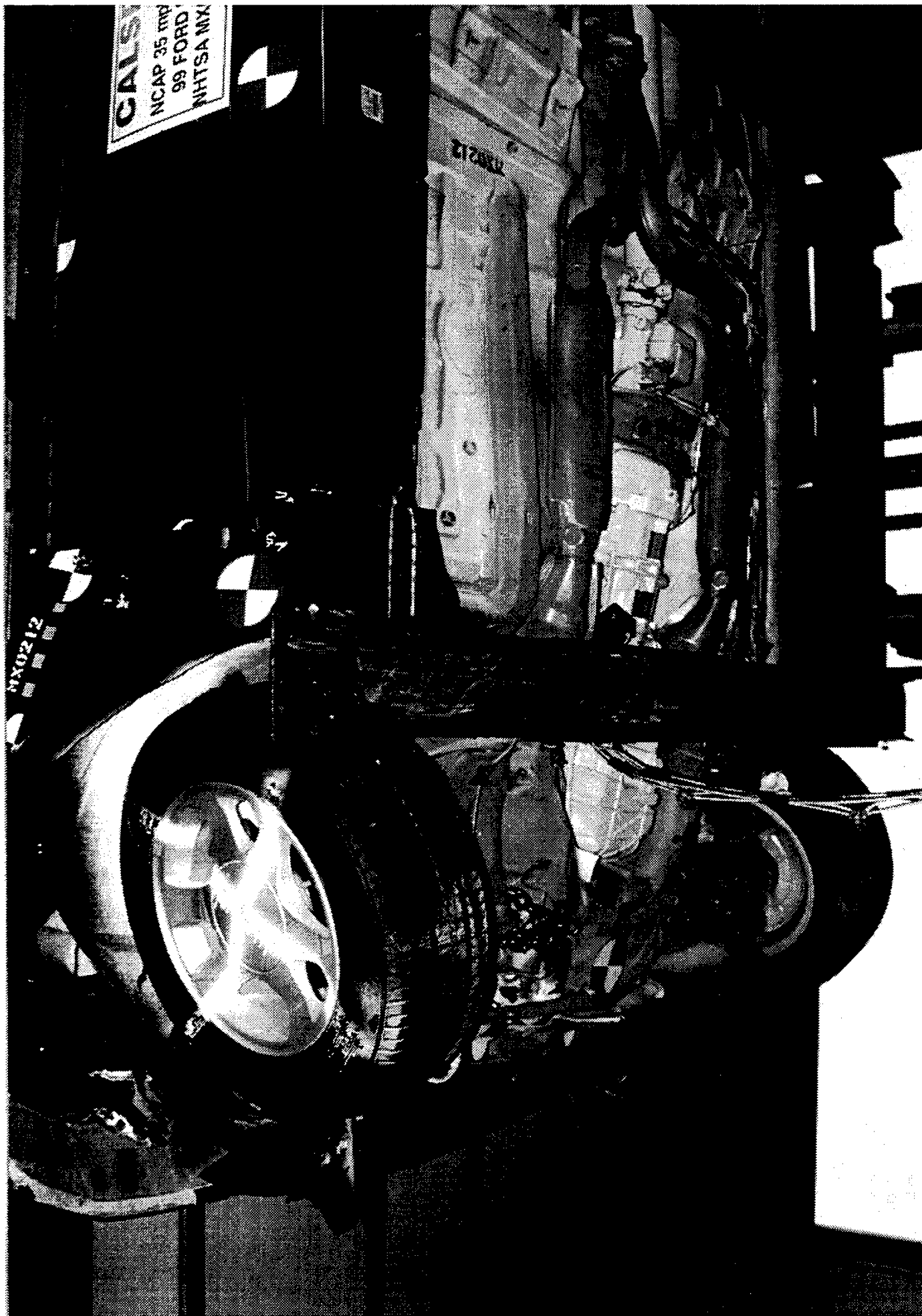


Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW



Figure A-20 PRE-TEST REAR UNDERBODY VIEW

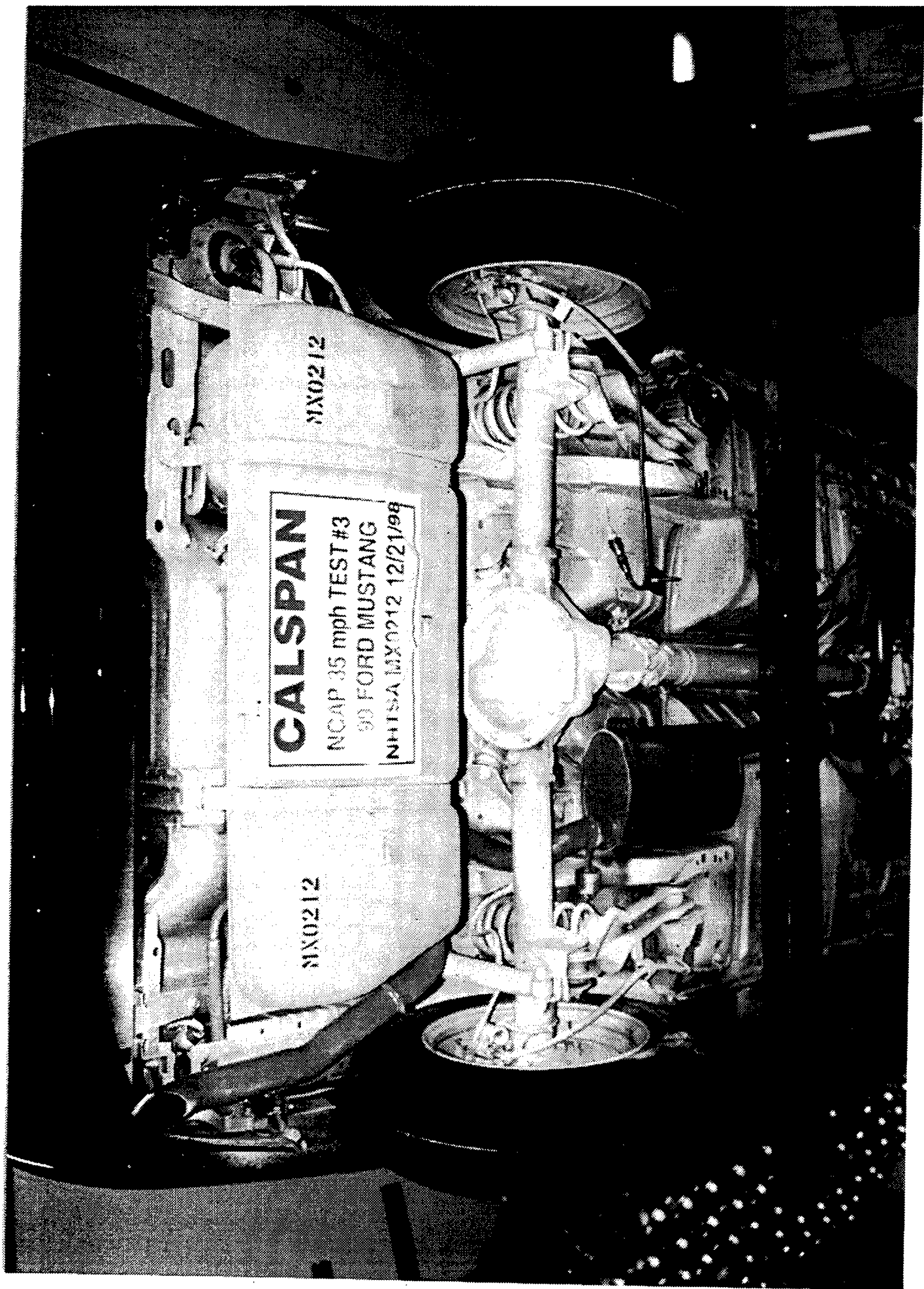


Figure A-21 POST-TEST REAR UNDERBODY VIEW

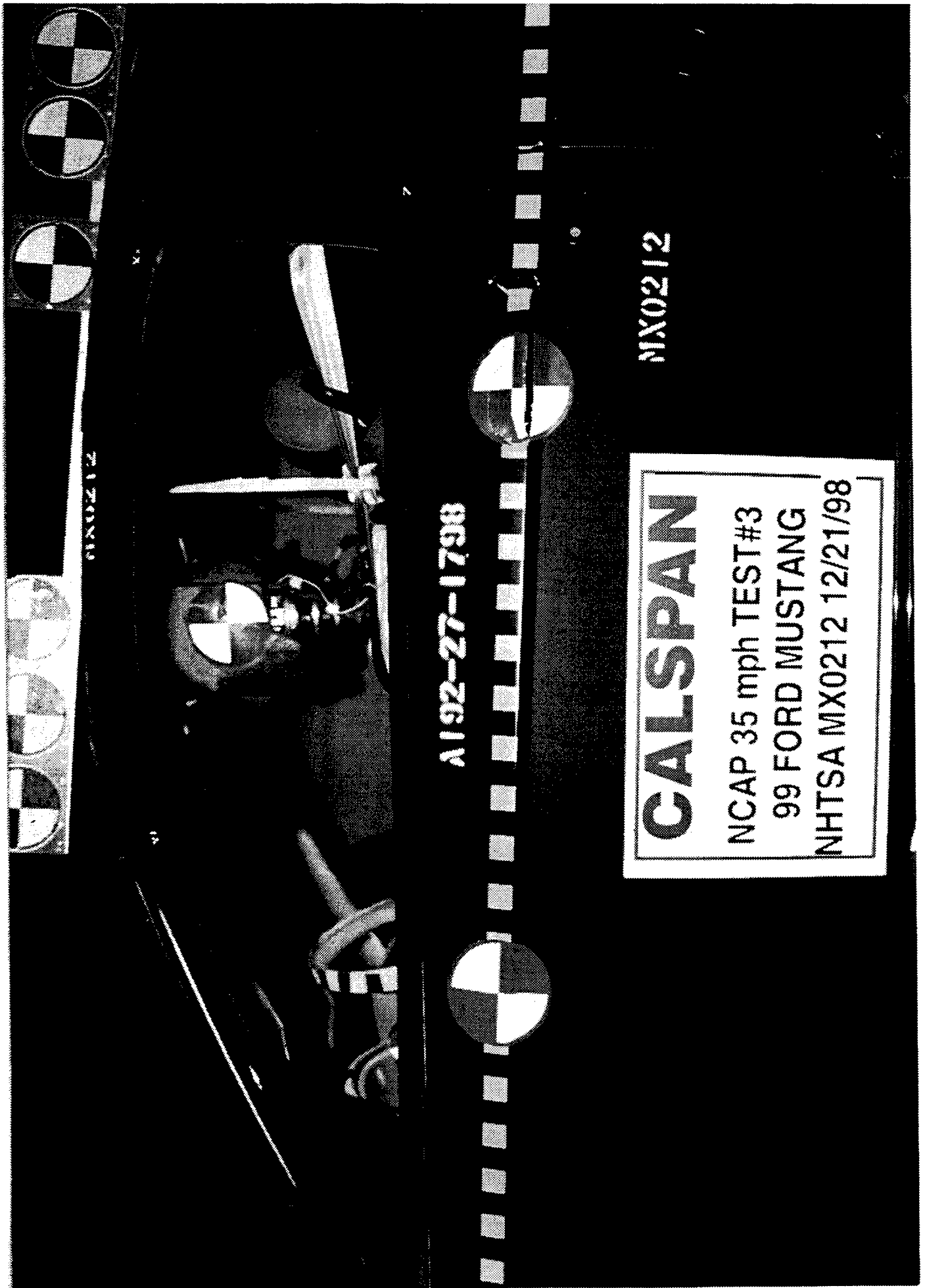


Figure A-22 PRE-TEST DRIVER POSITION VIEW

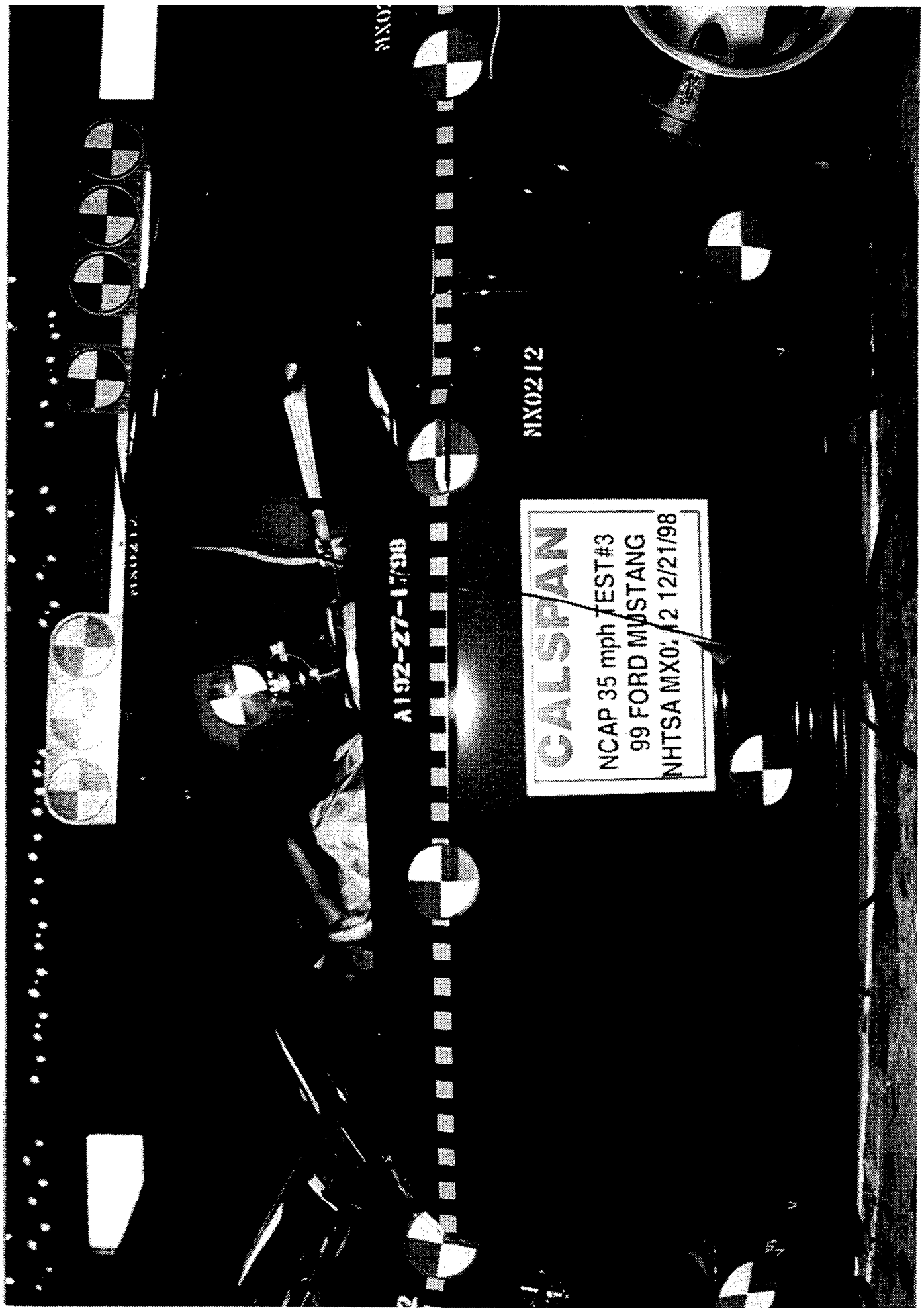


Figure A-23 POST-TEST DRIVER POSITION VIEW

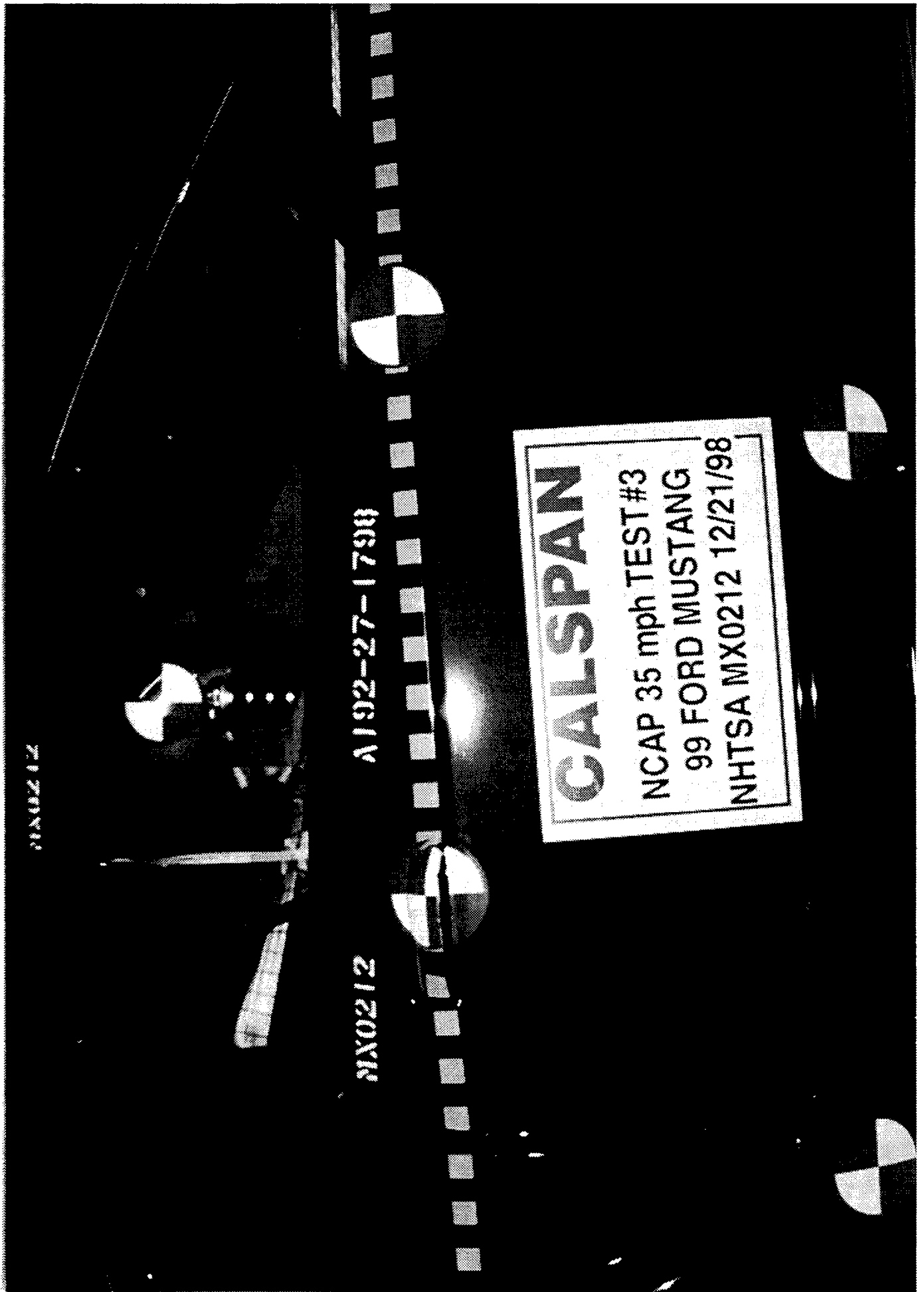


Figure A-24' PRE-TEST PASSENGER POSITION VIEW

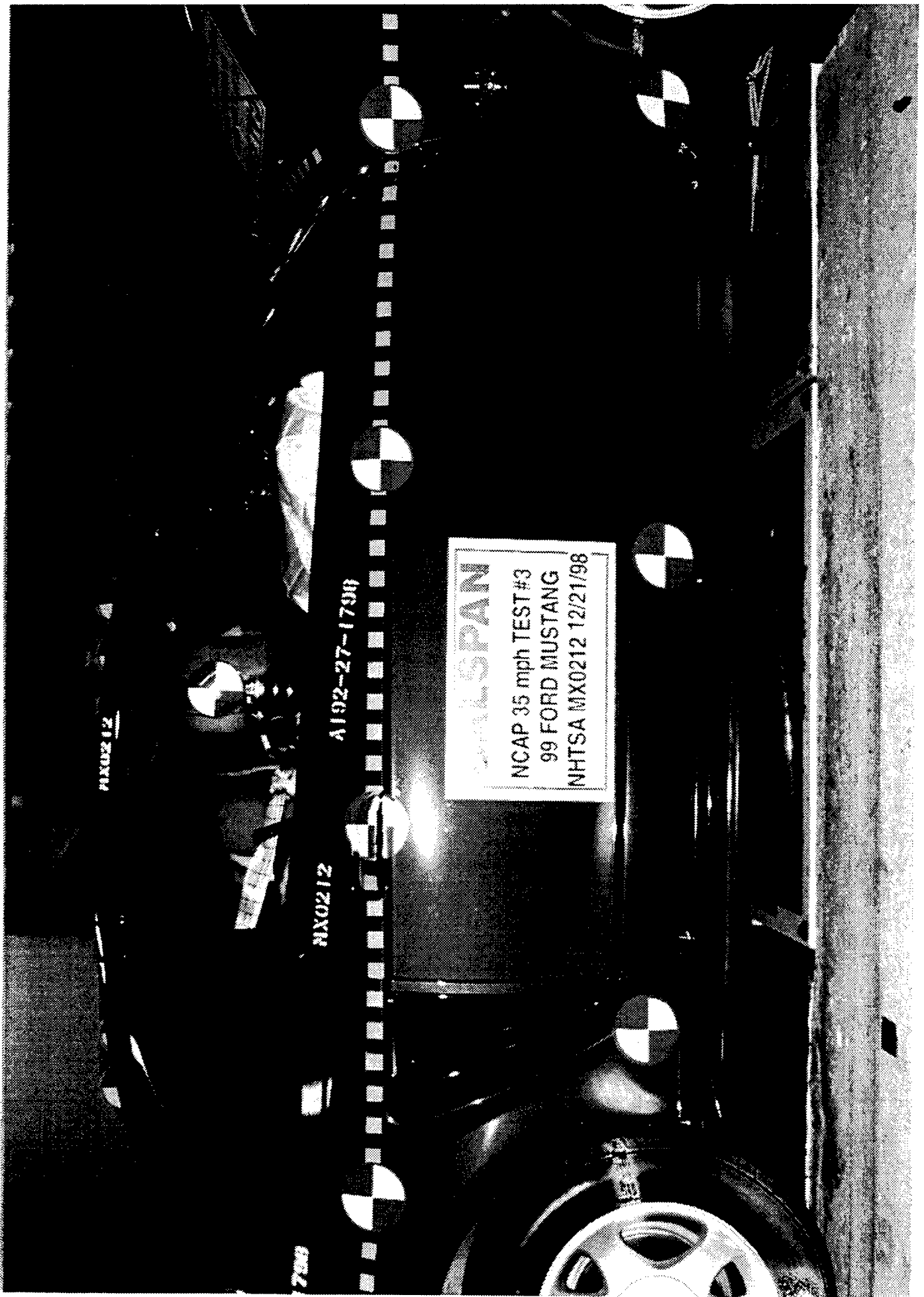


Figure A-25 POST-TEST PASSENGER POSITION VIEW

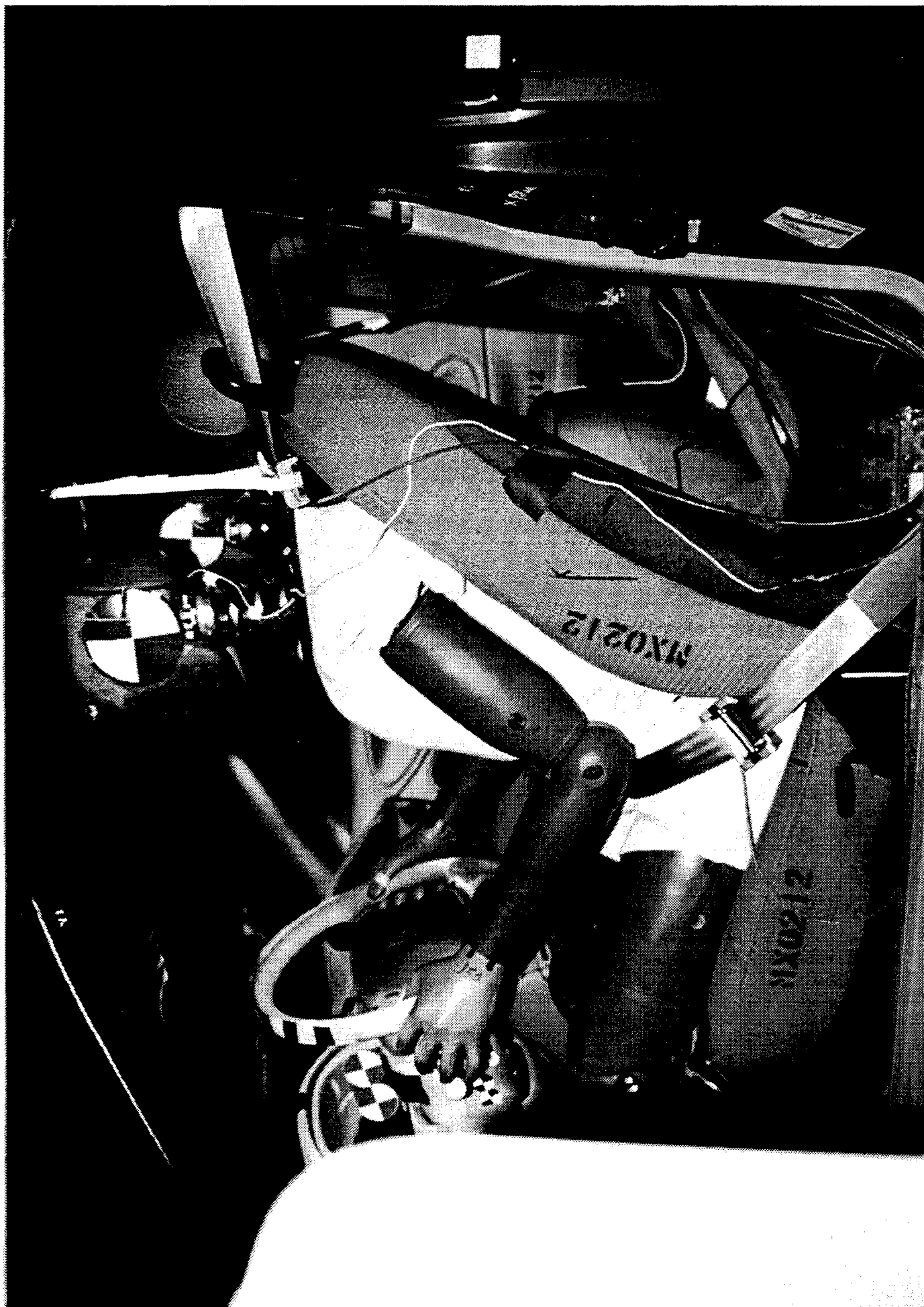


Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW

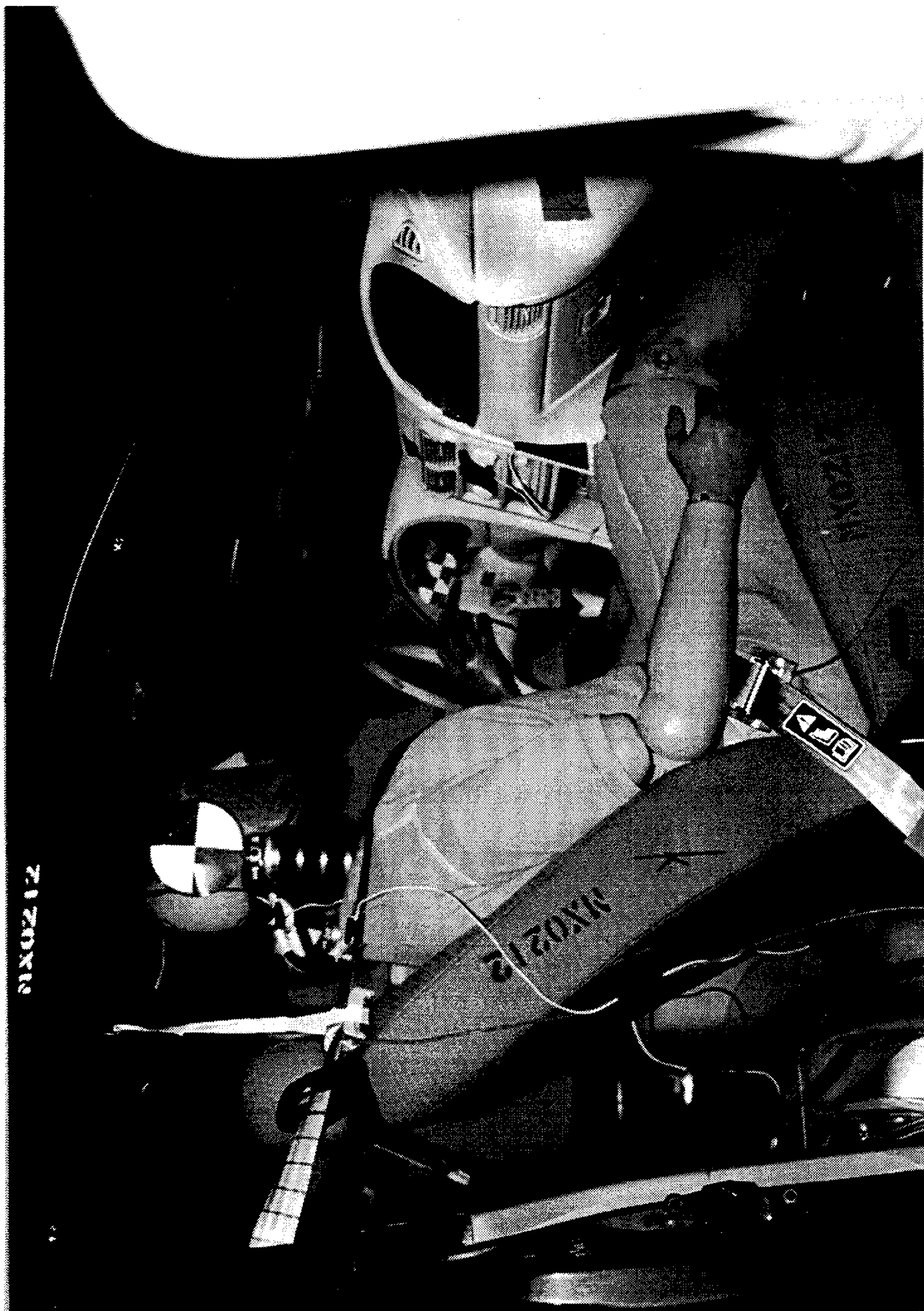


Figure A-28 PRE-TEST PASSENGER AND INTERIOR VIEW

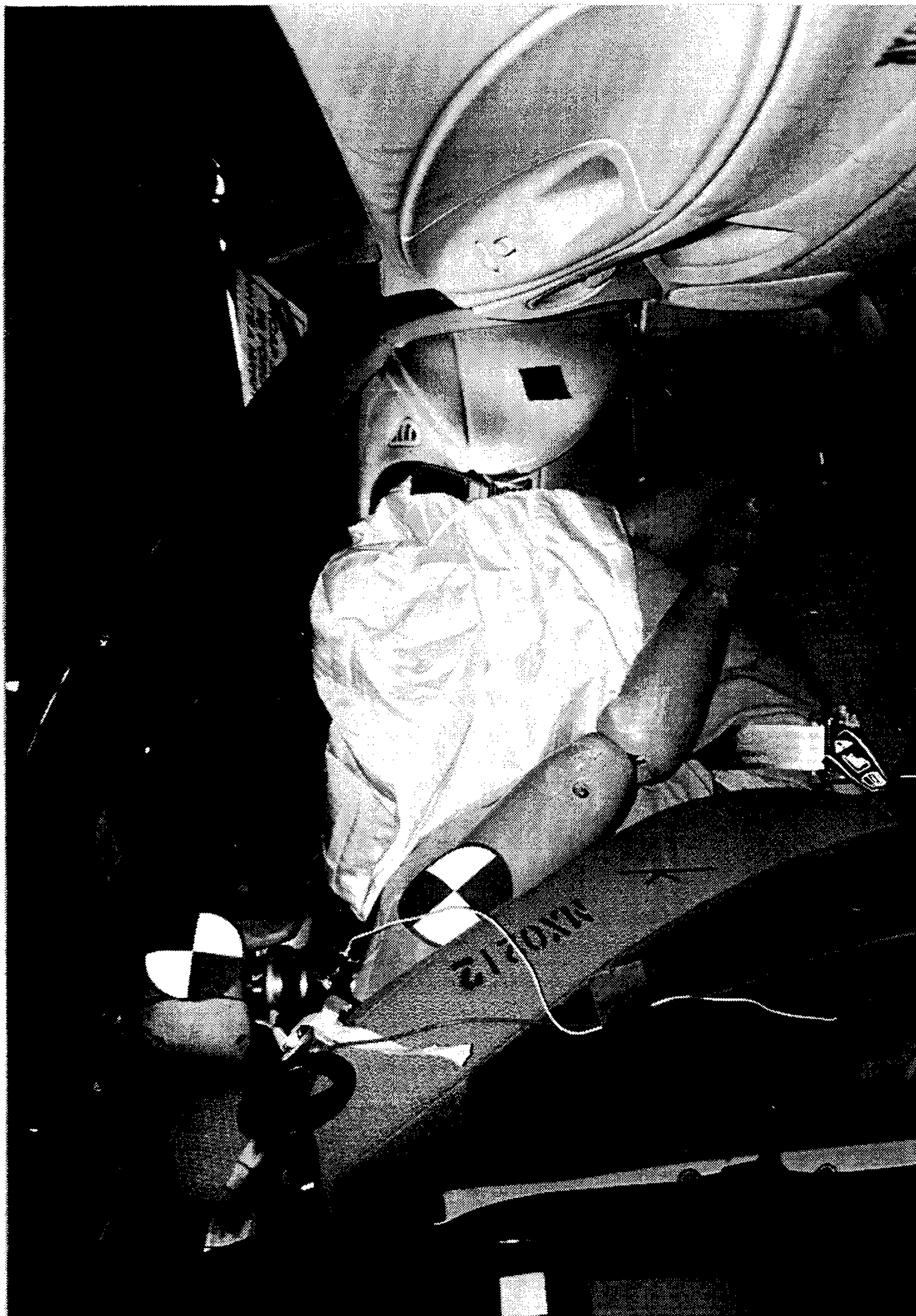


Figure A-29 POST-TEST PASSENGER AND INTERIOR VIEW

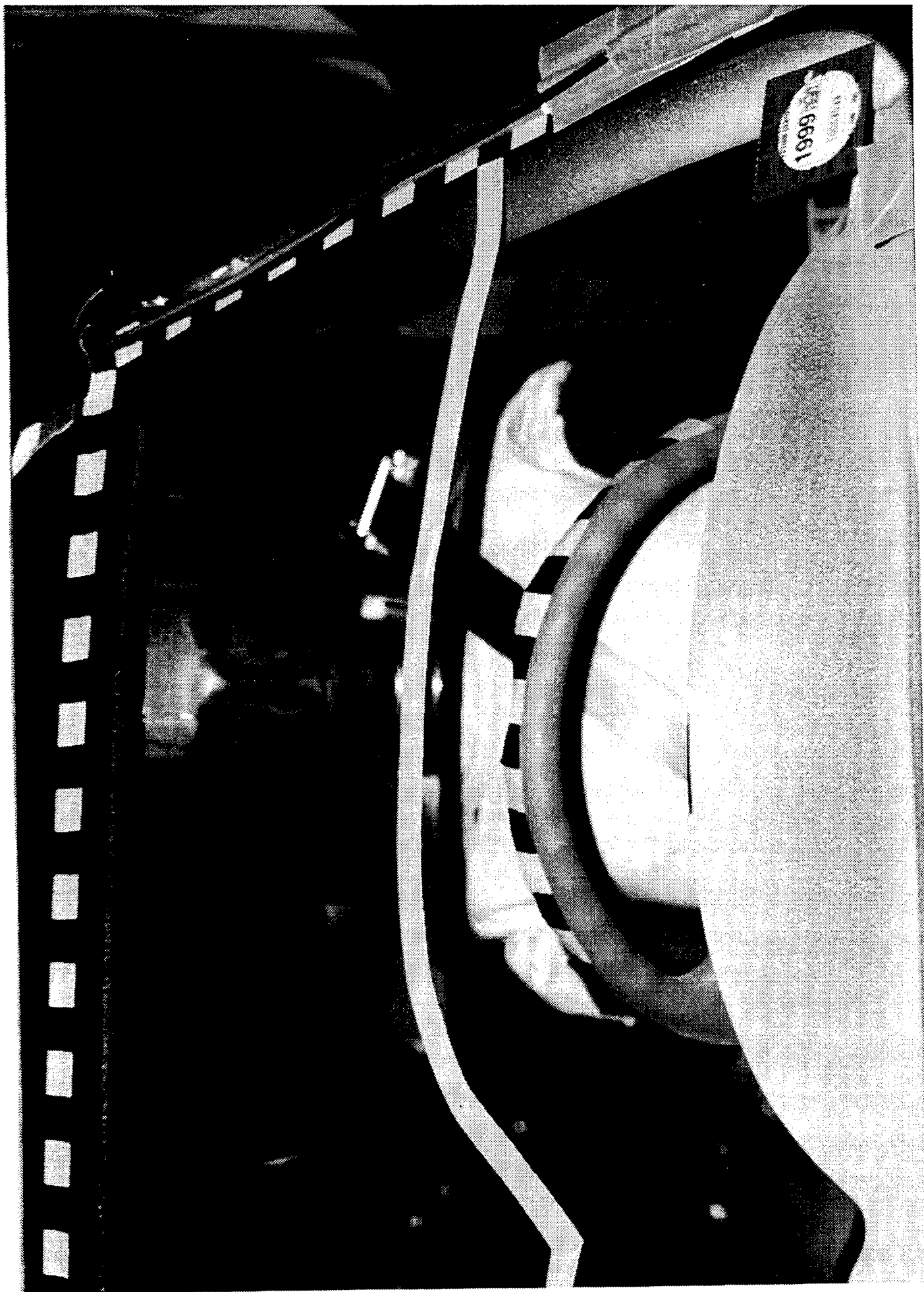


Figure A-30 PRE-TEST DRIVER HEAD LOCATION

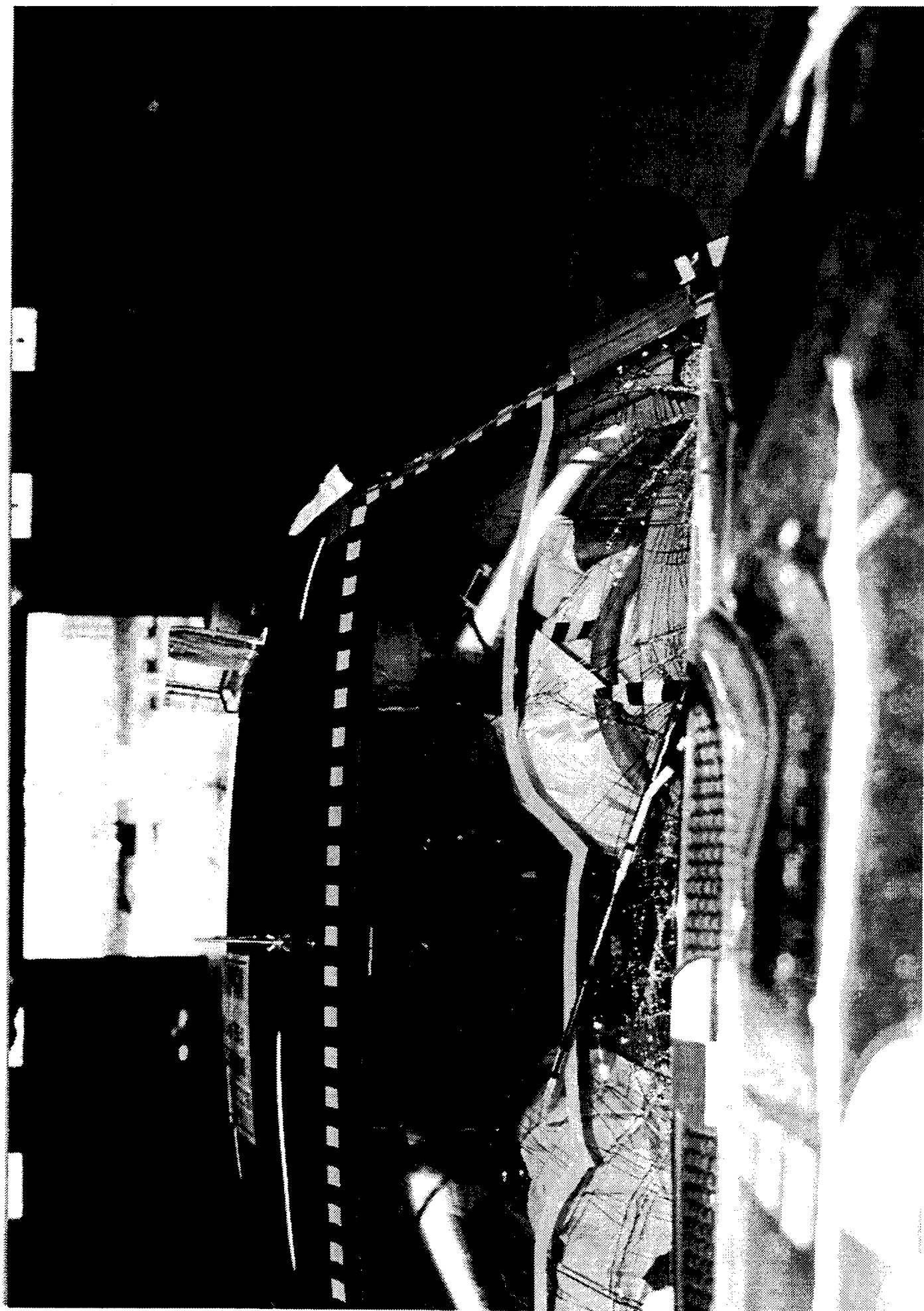


Figure A-31 POST-TEST DRIVER HEAD LOCATION

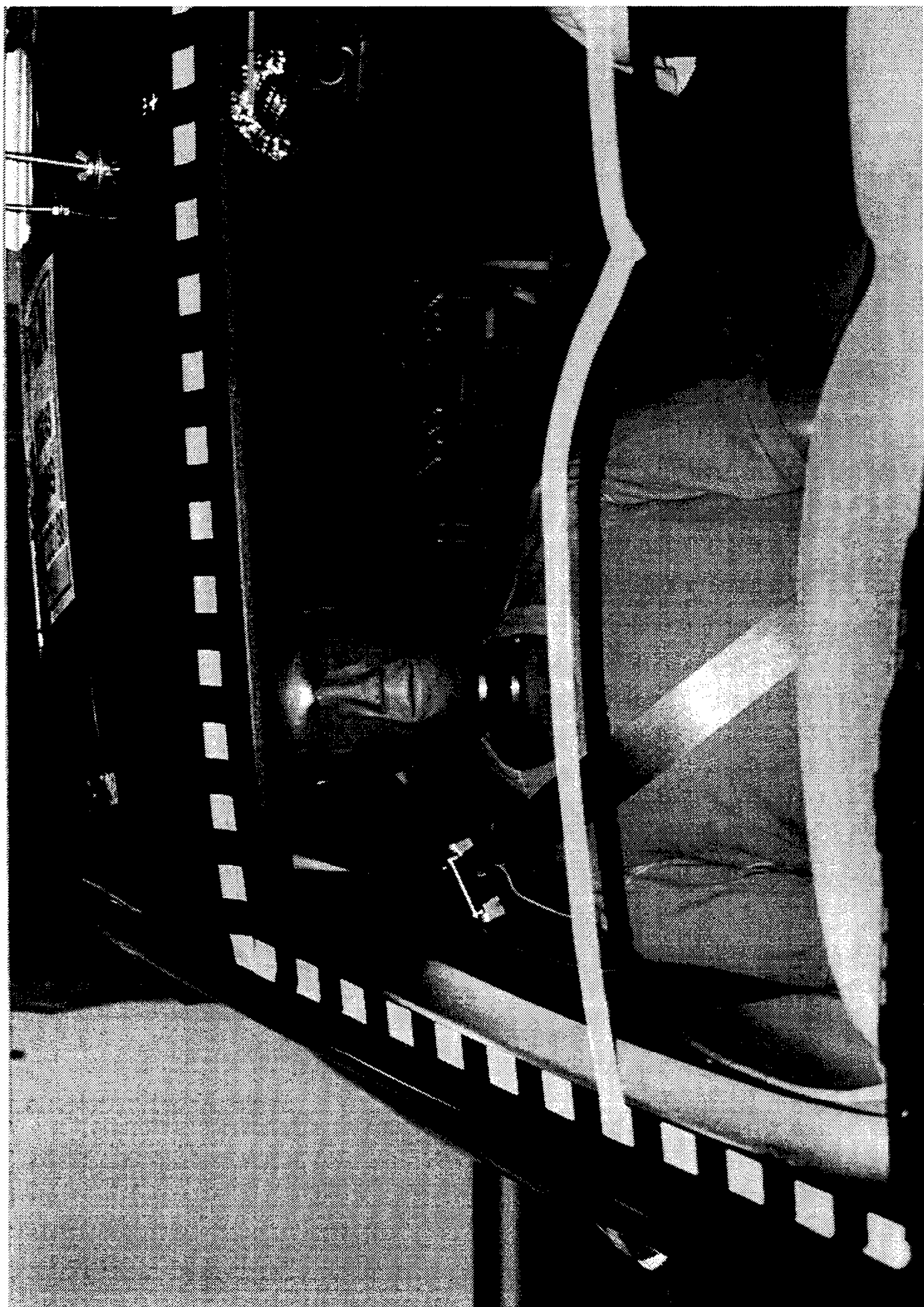


Figure A-32 PRE-TEST PASSENGER HEAD LOCATION

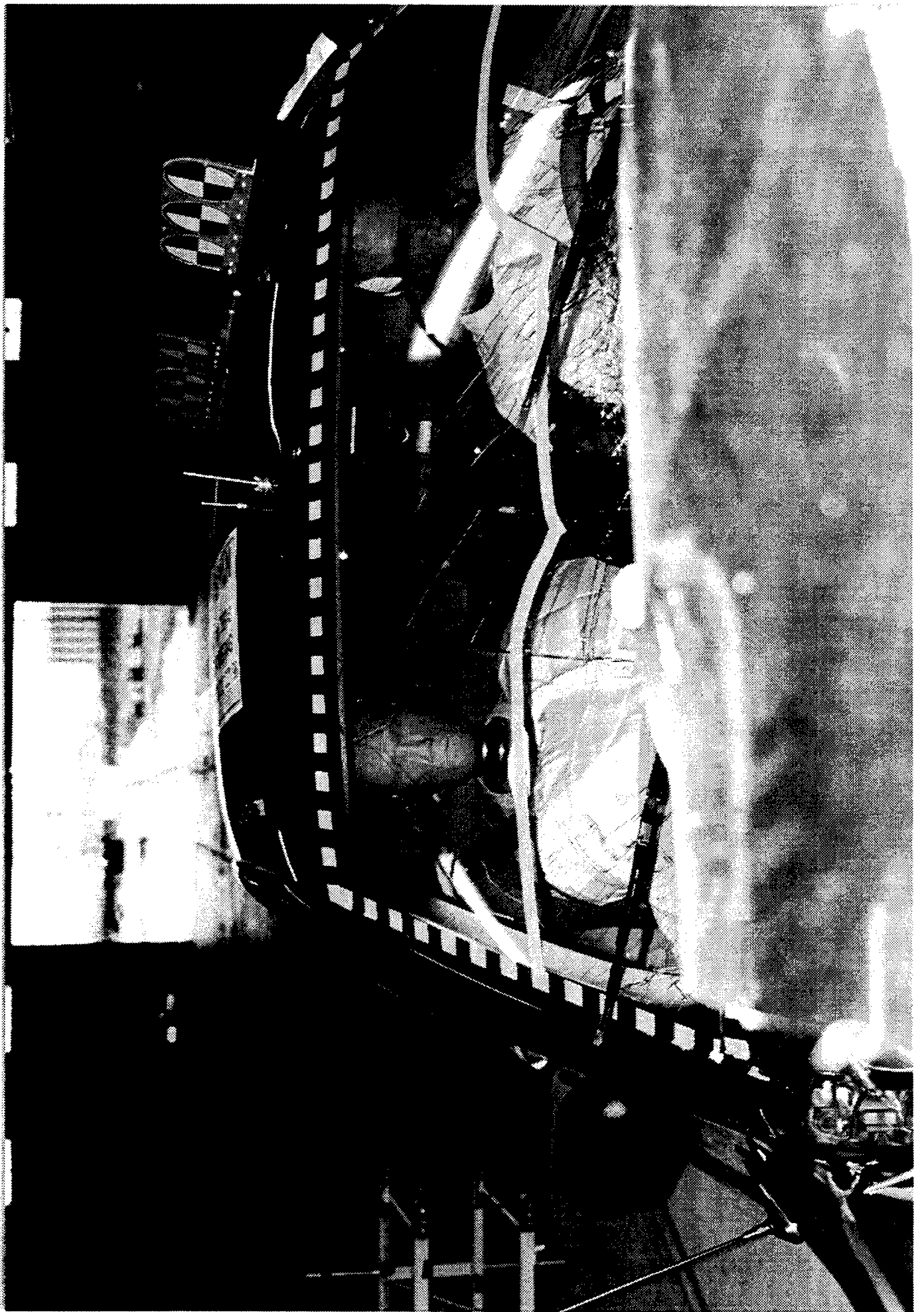


Figure A-33 POST-TEST PASSENGER HEAD LOCATION

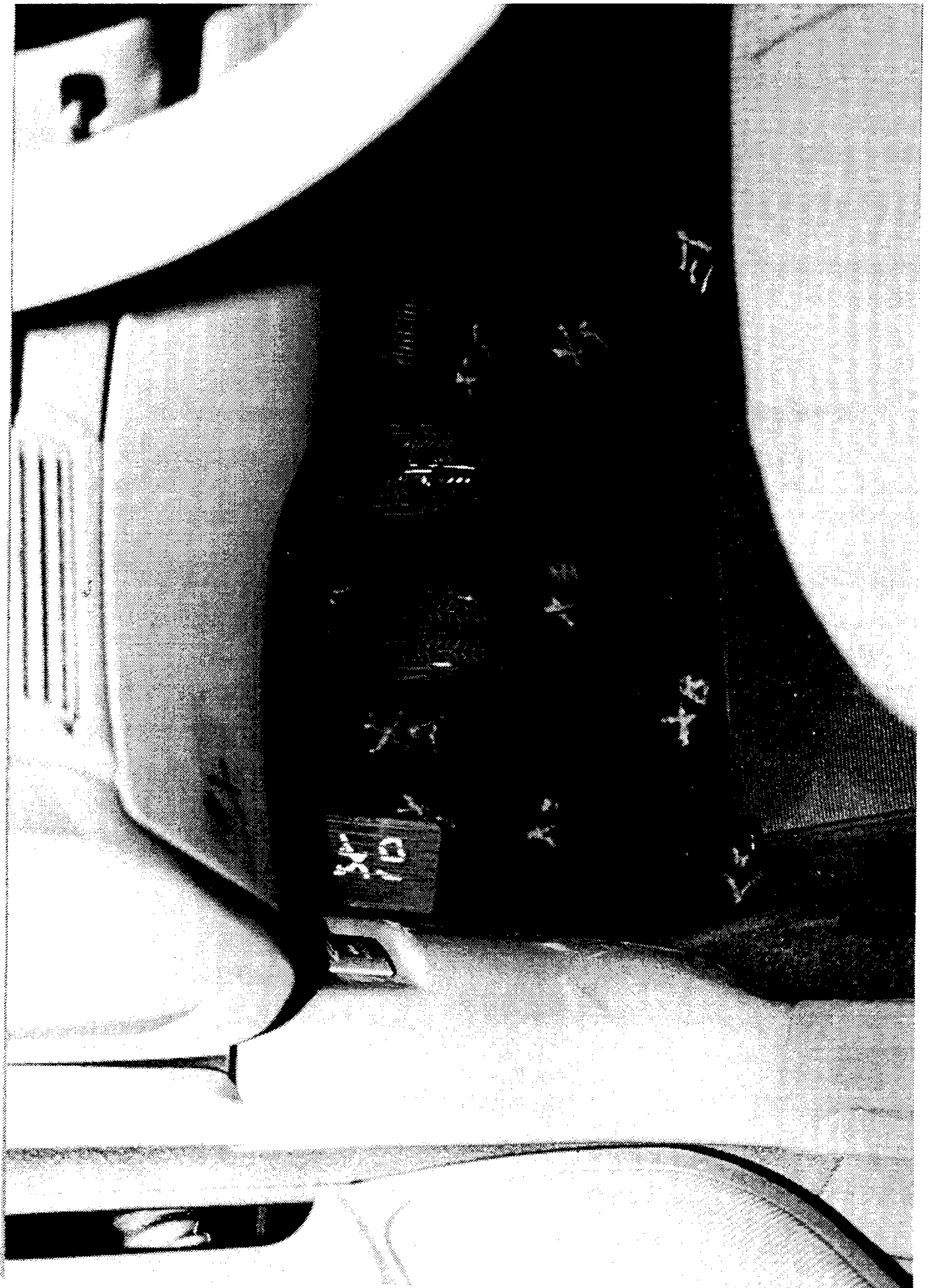


Figure A-34 PRE-TEST DRIVER FLOOR PAN VIEW

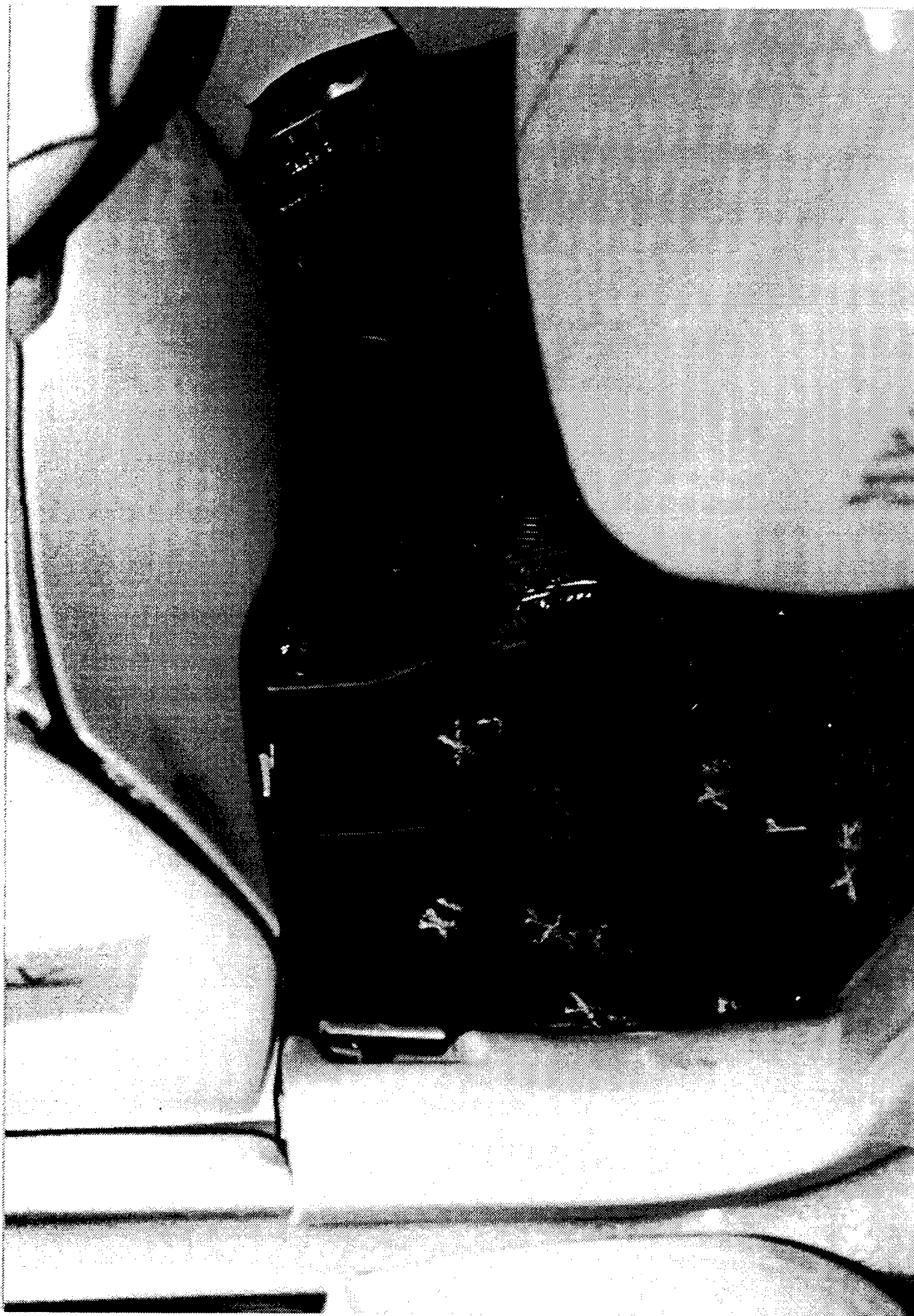


Figure A-35 POST-TEST DRIVER FLOOR PAN VIEW

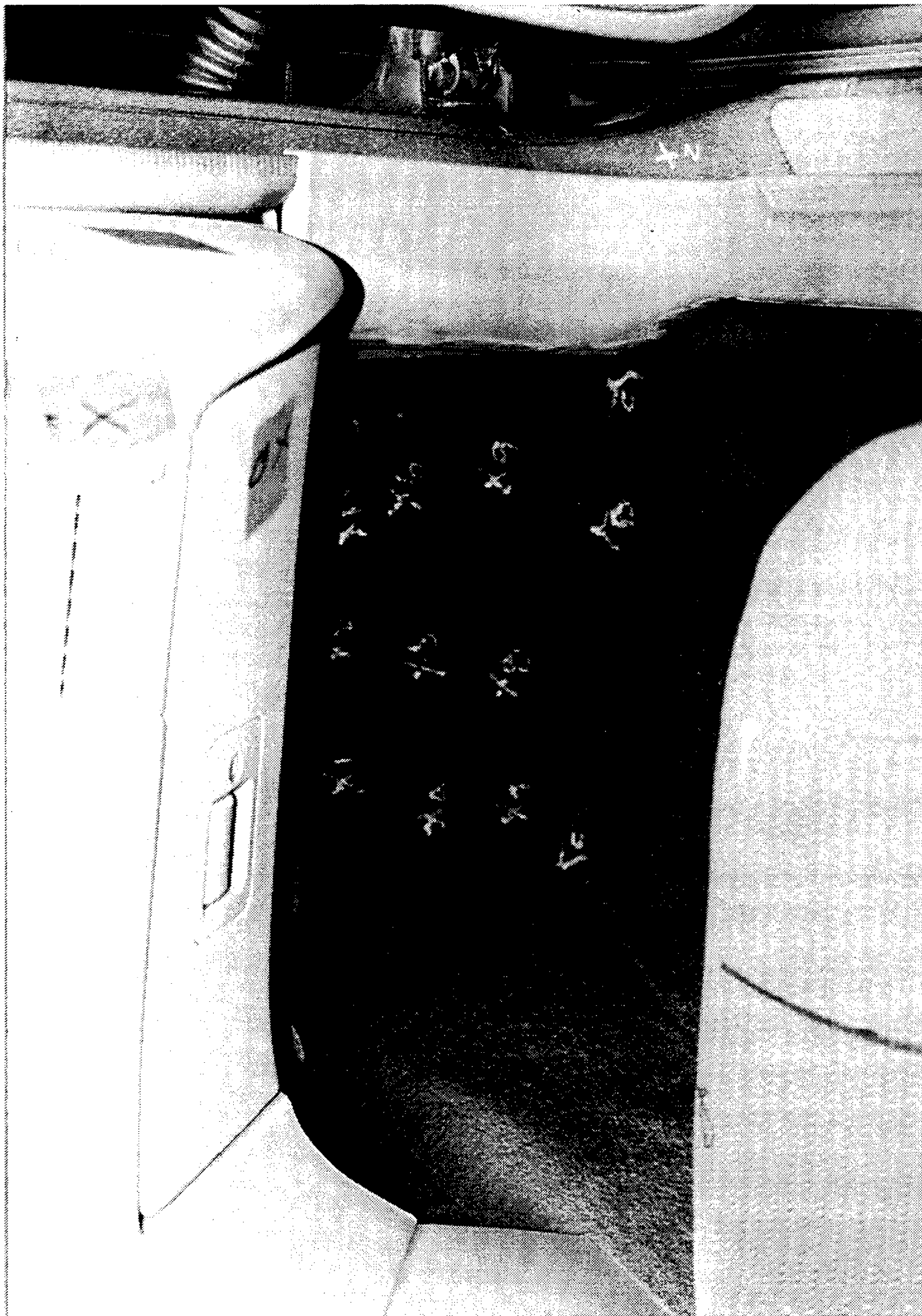


Figure A-36 PRE-TEST PASSENGER FLOOR PAN VIEW

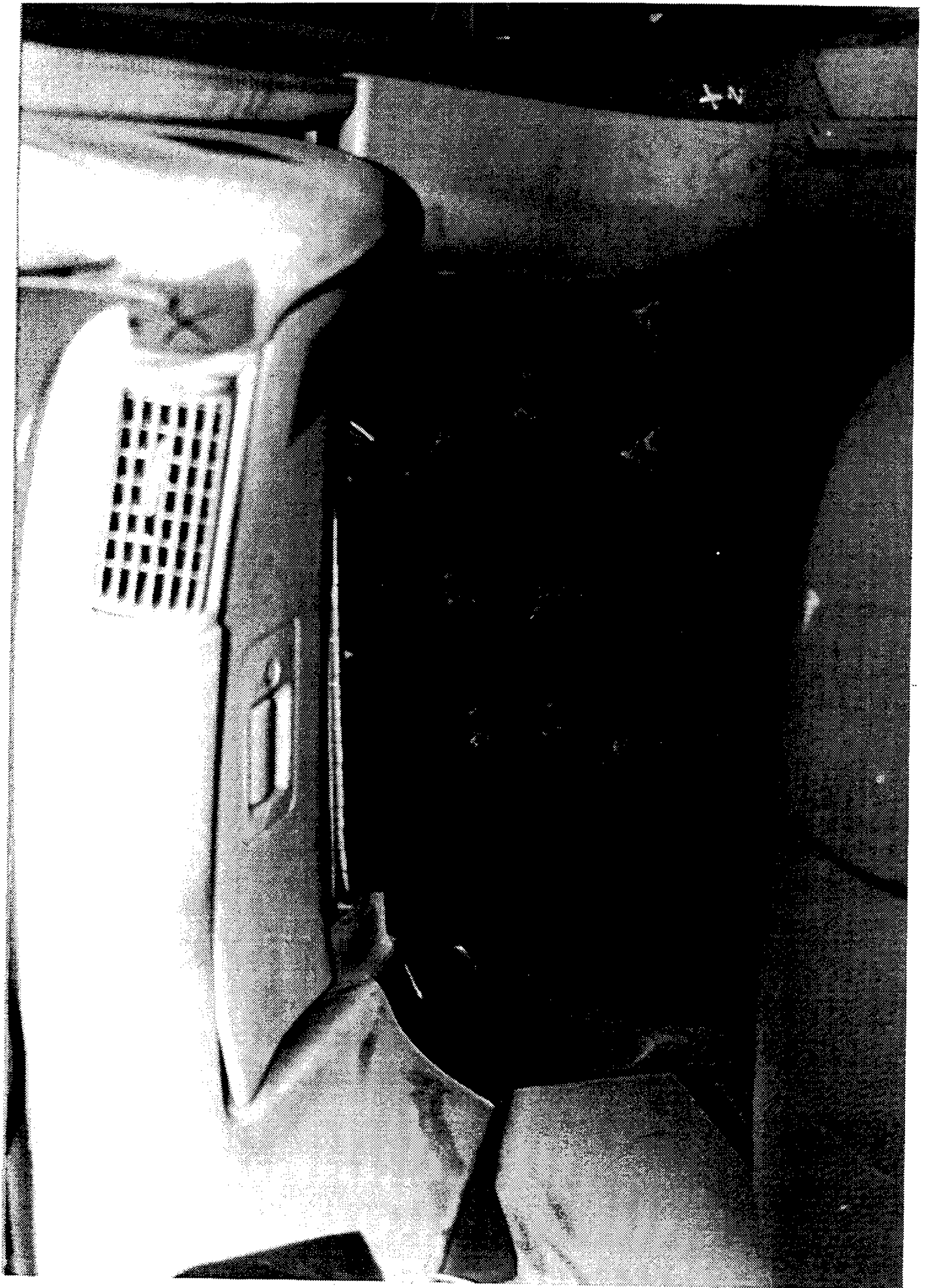


Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW

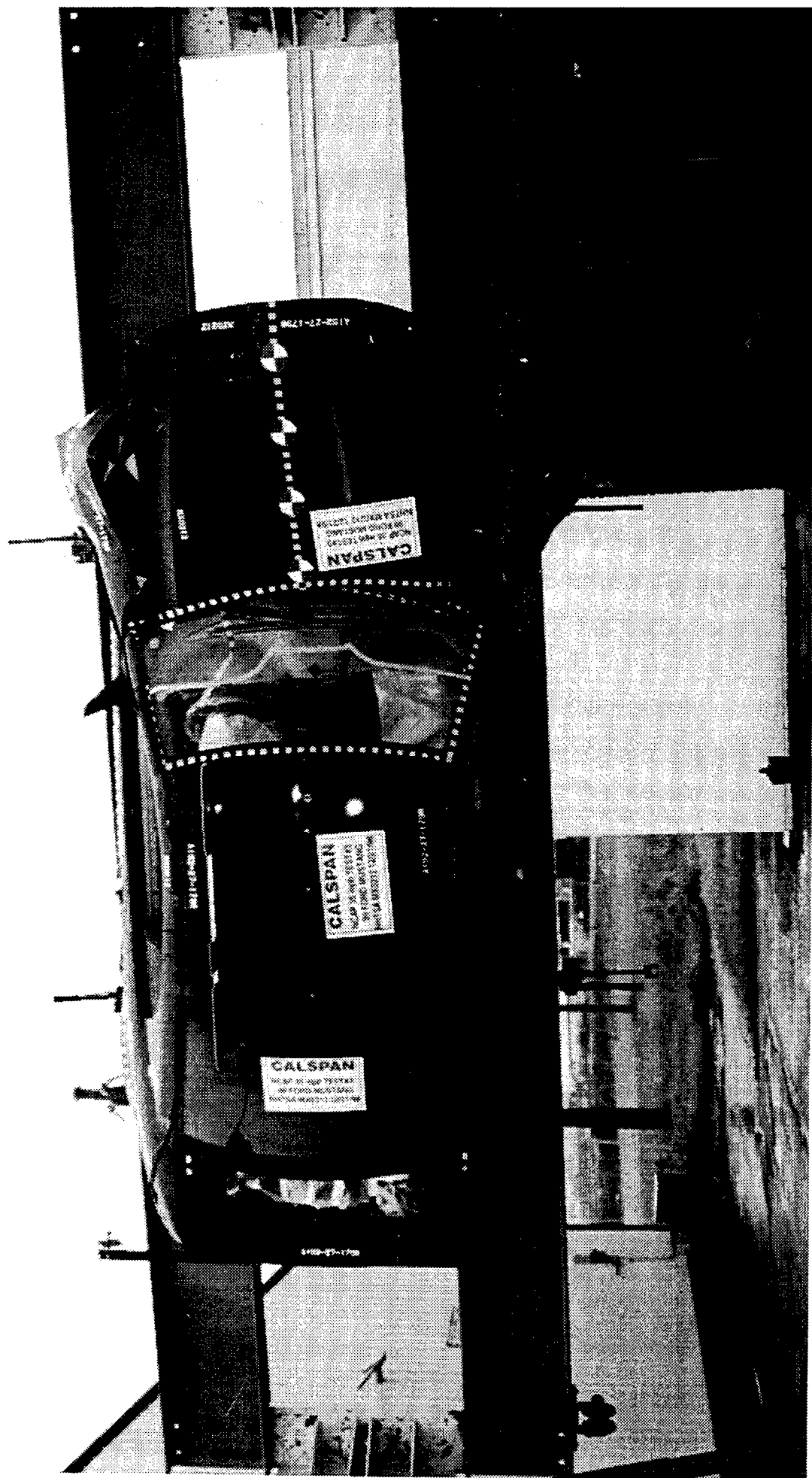


Figure A-38 ROLLOVER VIEW

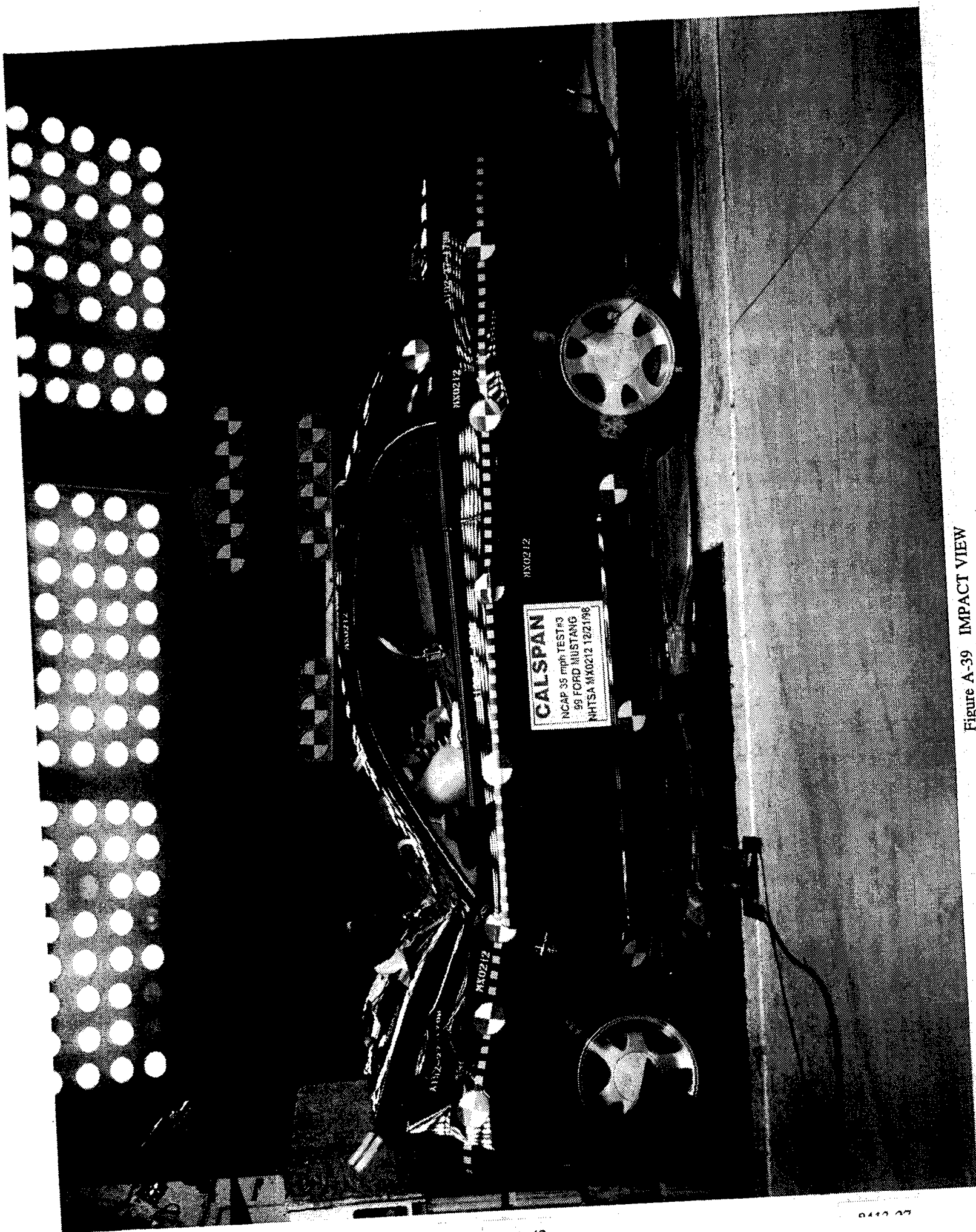


Figure A-39 IMPACT VIEW

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

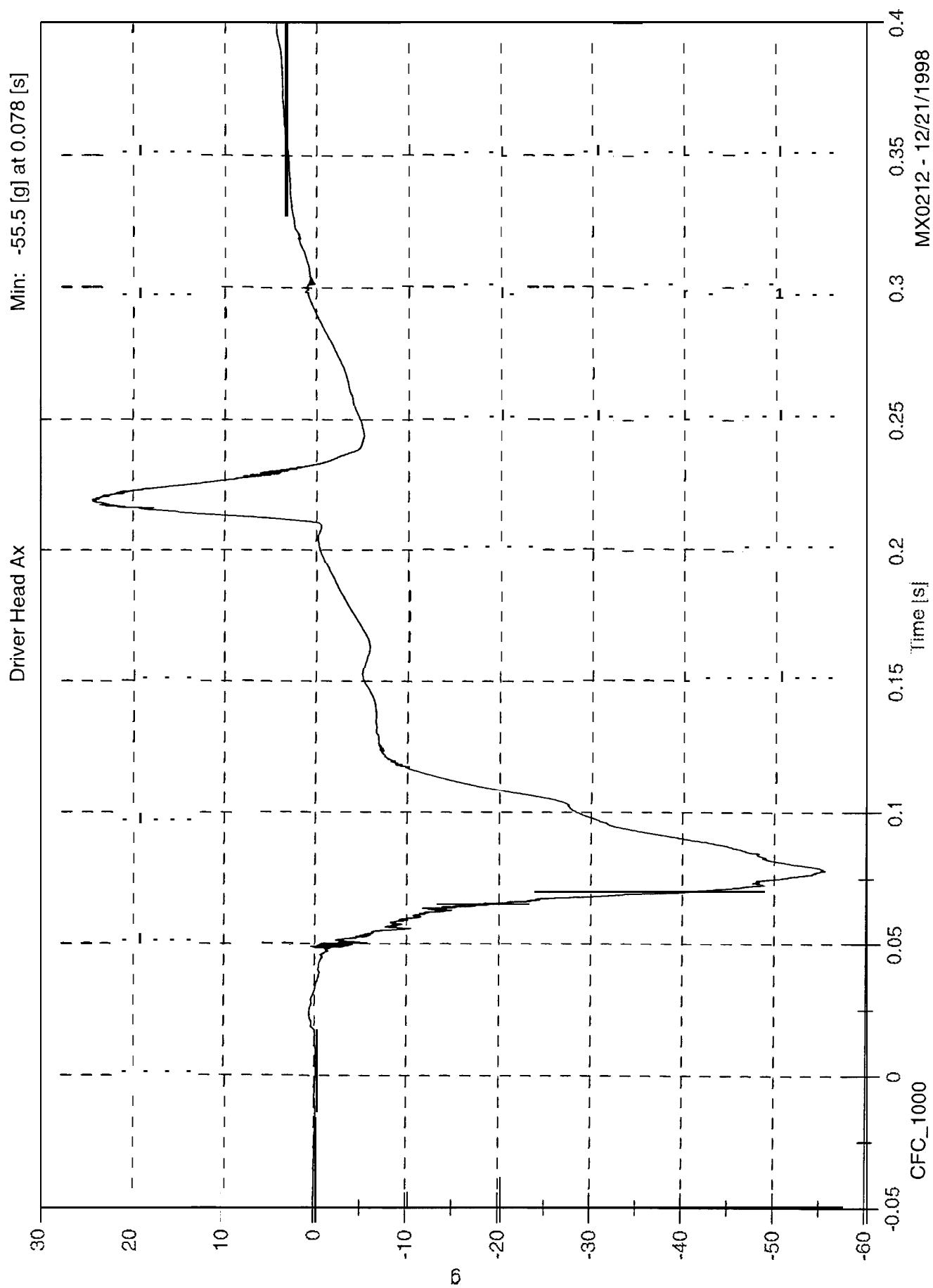
NHTSA TEST NO. MX0212

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 Test - 1999 Ford Mustang

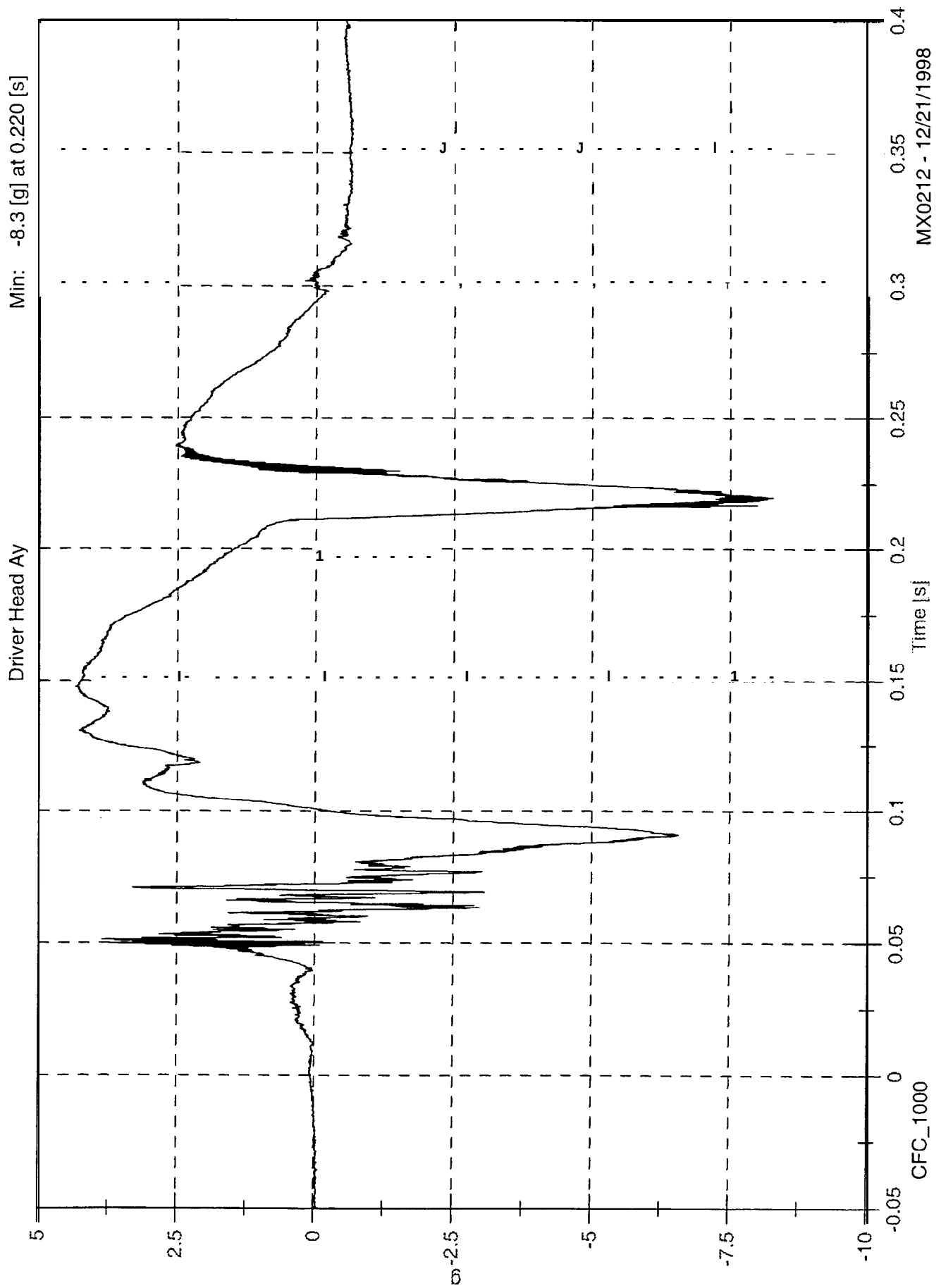
Max: 24.4 [g] at 0.219 [s]
Min: -55.5 [g] at 0.078 [s]



MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 4.3 [g] at 0.148 [s]
Min: -8.3 [g] at 0.220 [s]

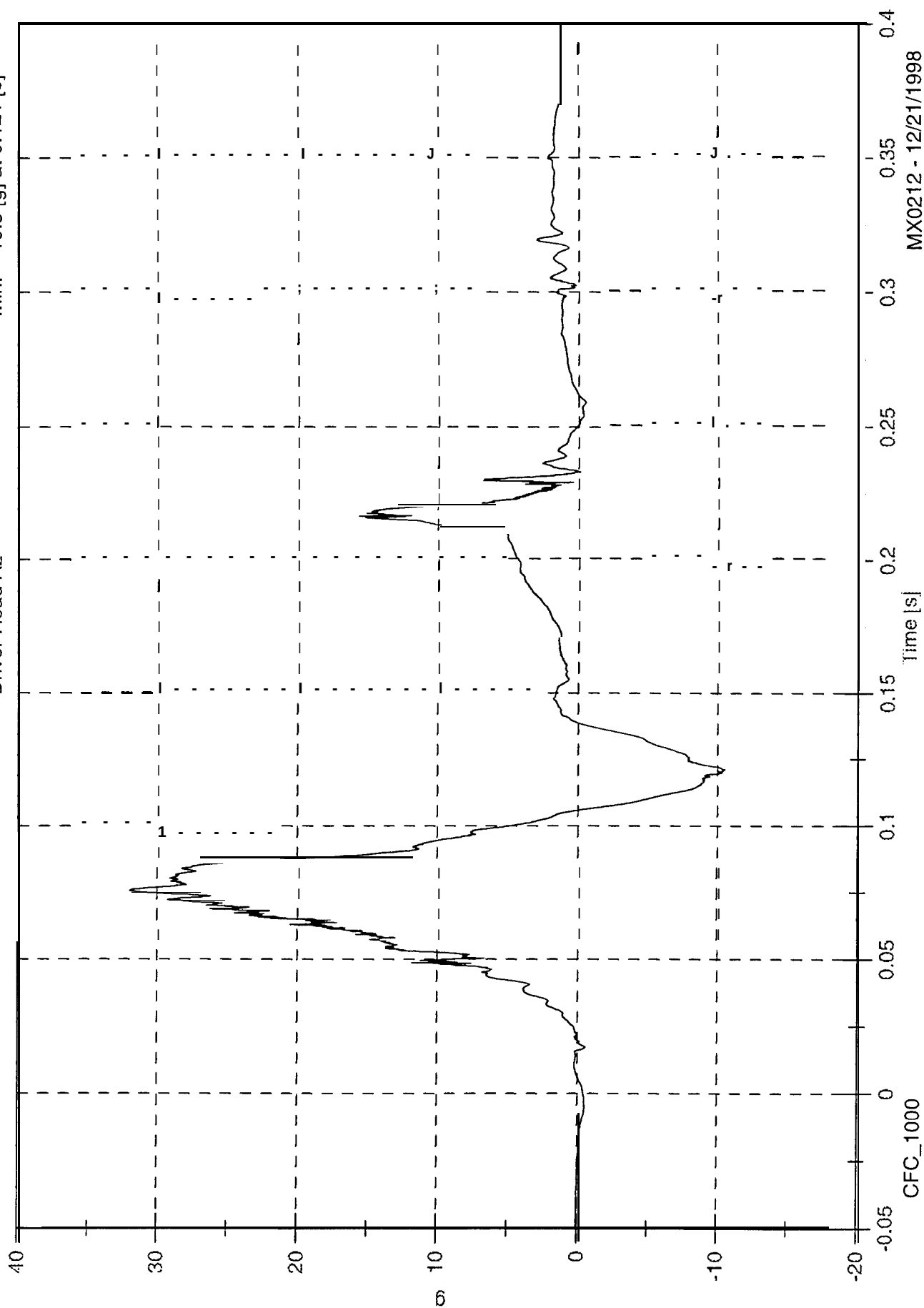


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 32.0 [g] at 0.076 [s]
Min: -10.5 [g] at 0.121 [s]

Driver Head Az



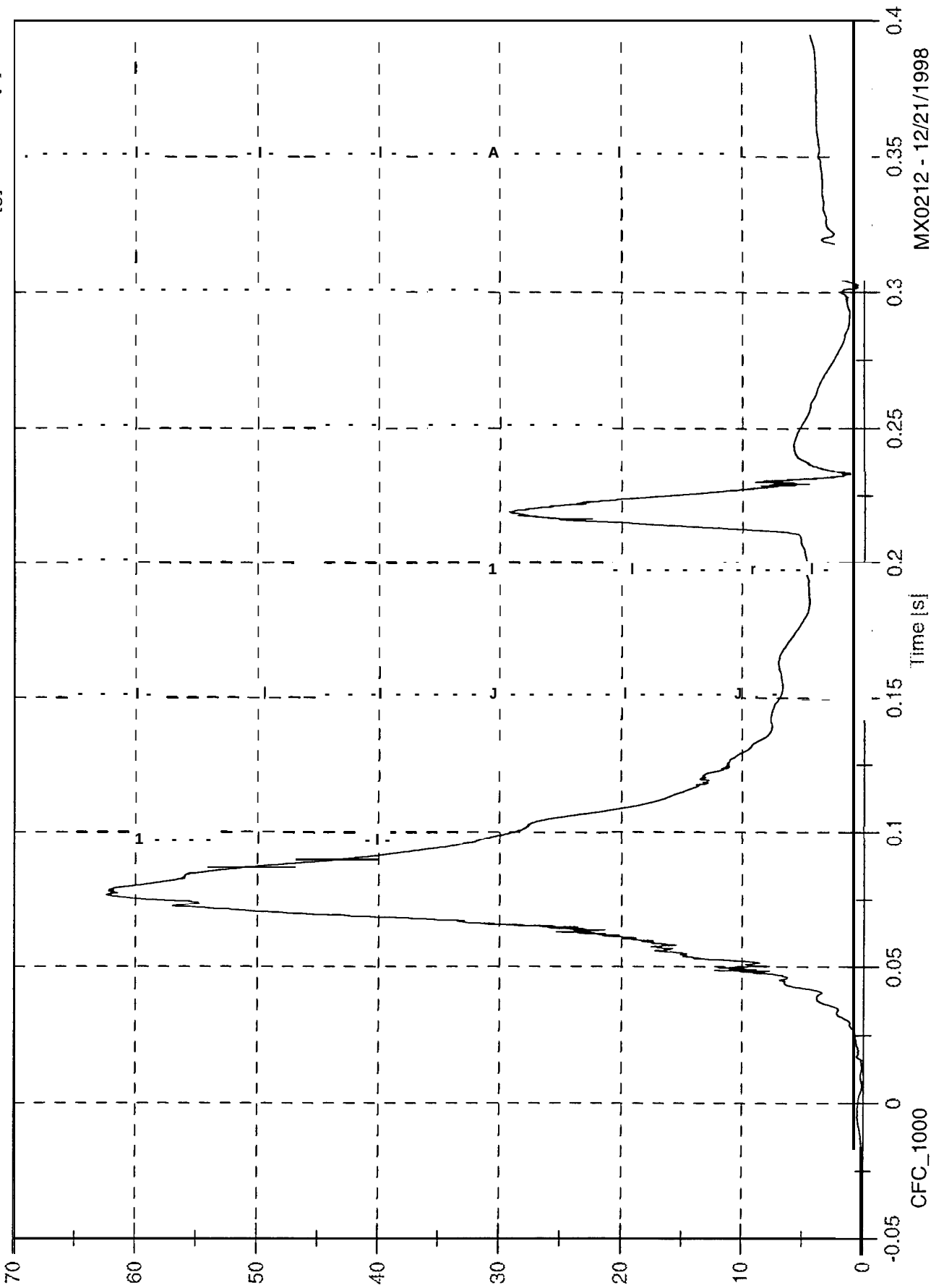
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 62.4 [g] at 0.077 [s]

Min: 0.0 [g] at -0.034 [s]

Driver Head A Resultant

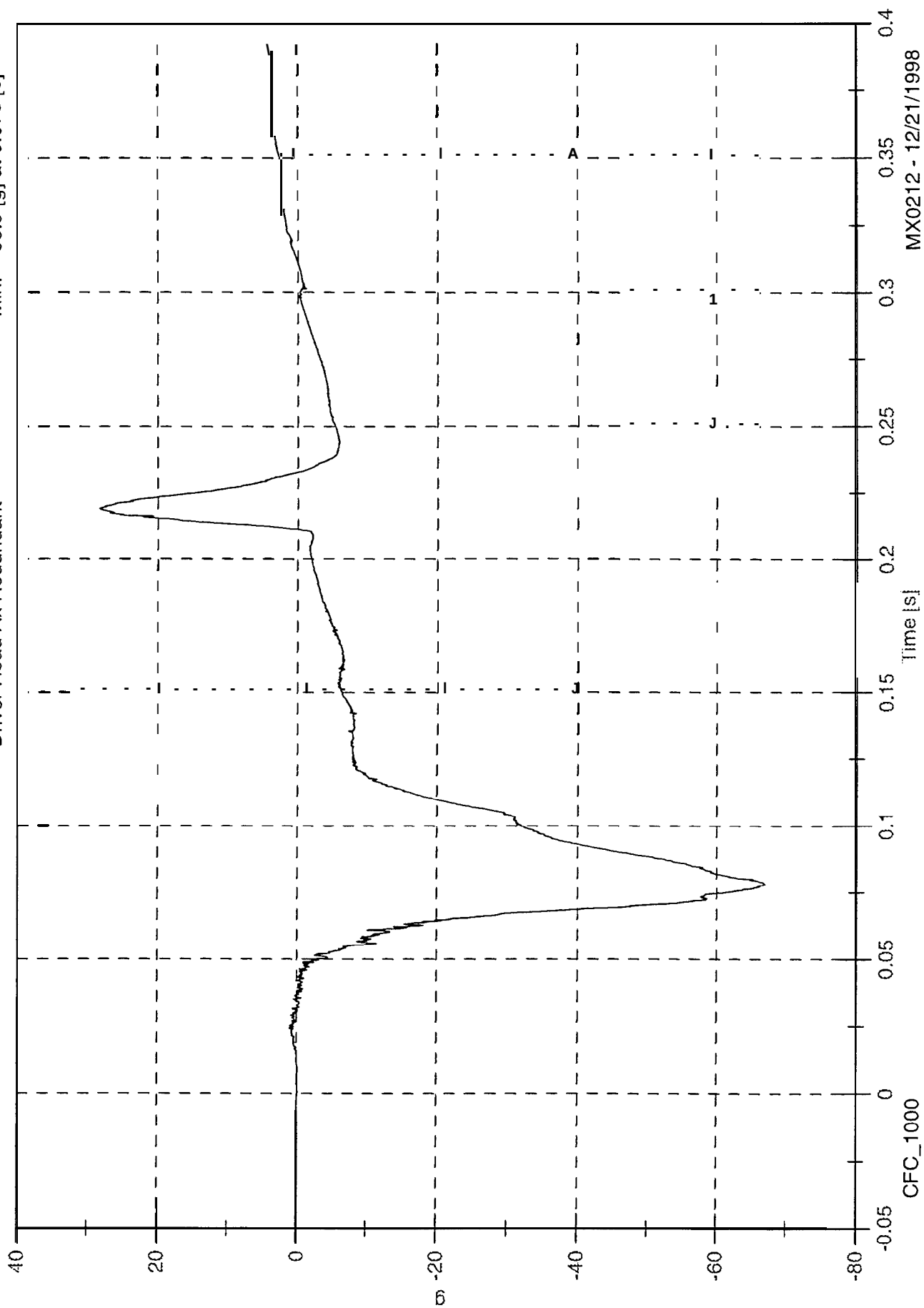


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 28.3 [g] at 0.219 [s]
Min: -66.9 [g] at 0.078 [s]

Driver Head Ax Redundant

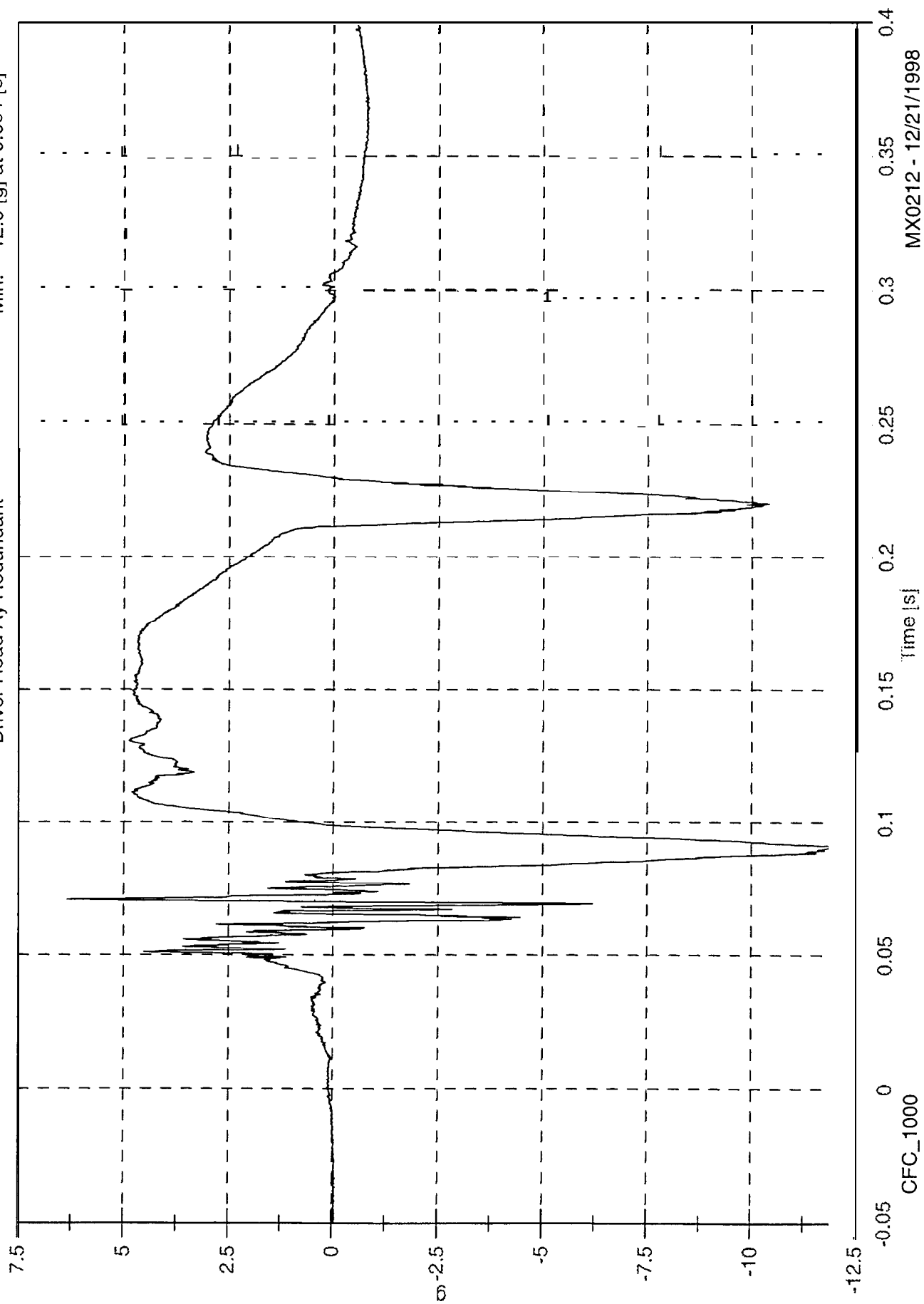


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 6.3 [g] at 0.071 [s]
Min: -12.0 [g] at 0.091 [s]

Driver Head Ay Redundant

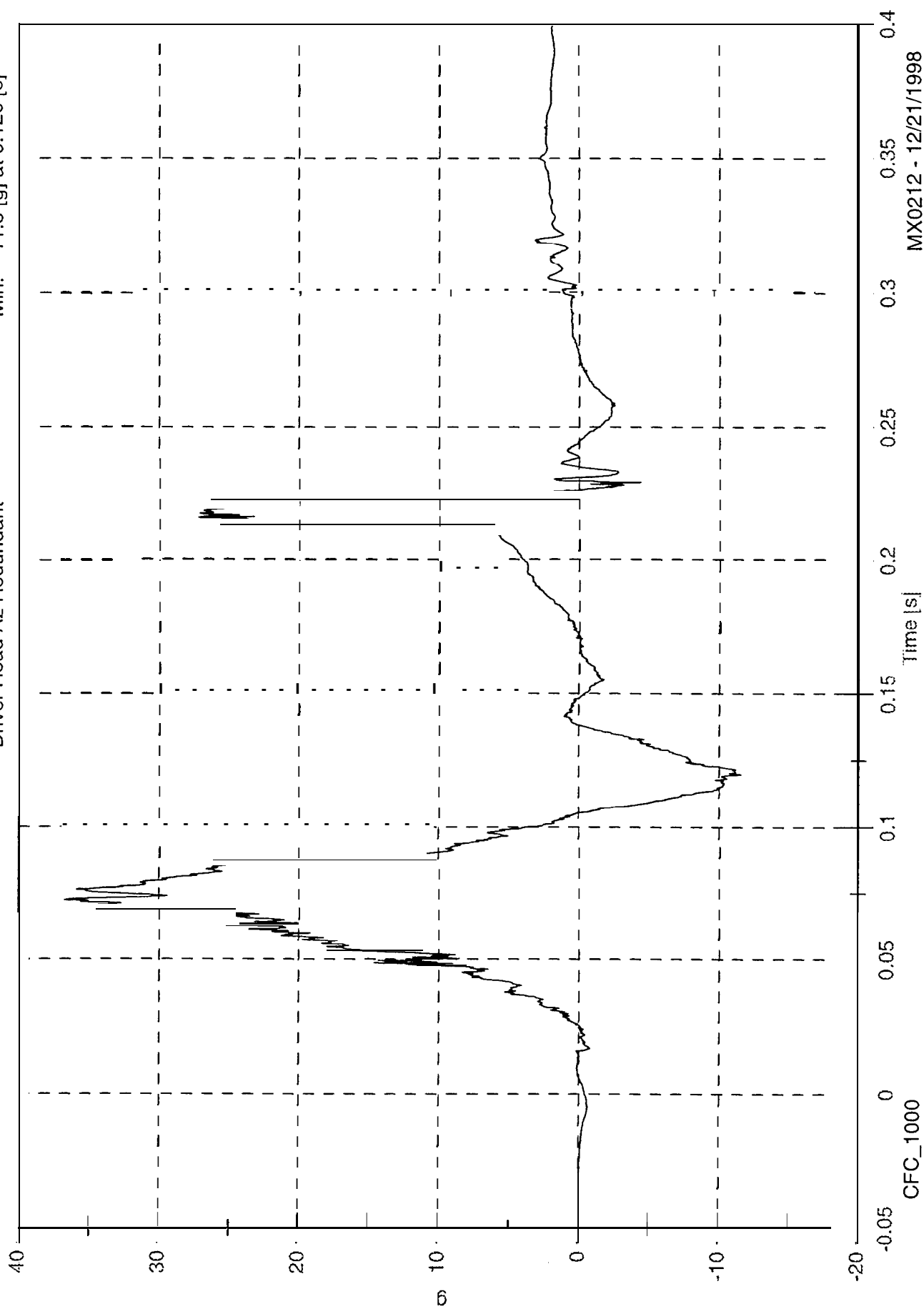


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 36.7 [g] at 0.072 [s]
Min: -11.6 [g] at 0.120 [s]

Driver Head Az Redundant

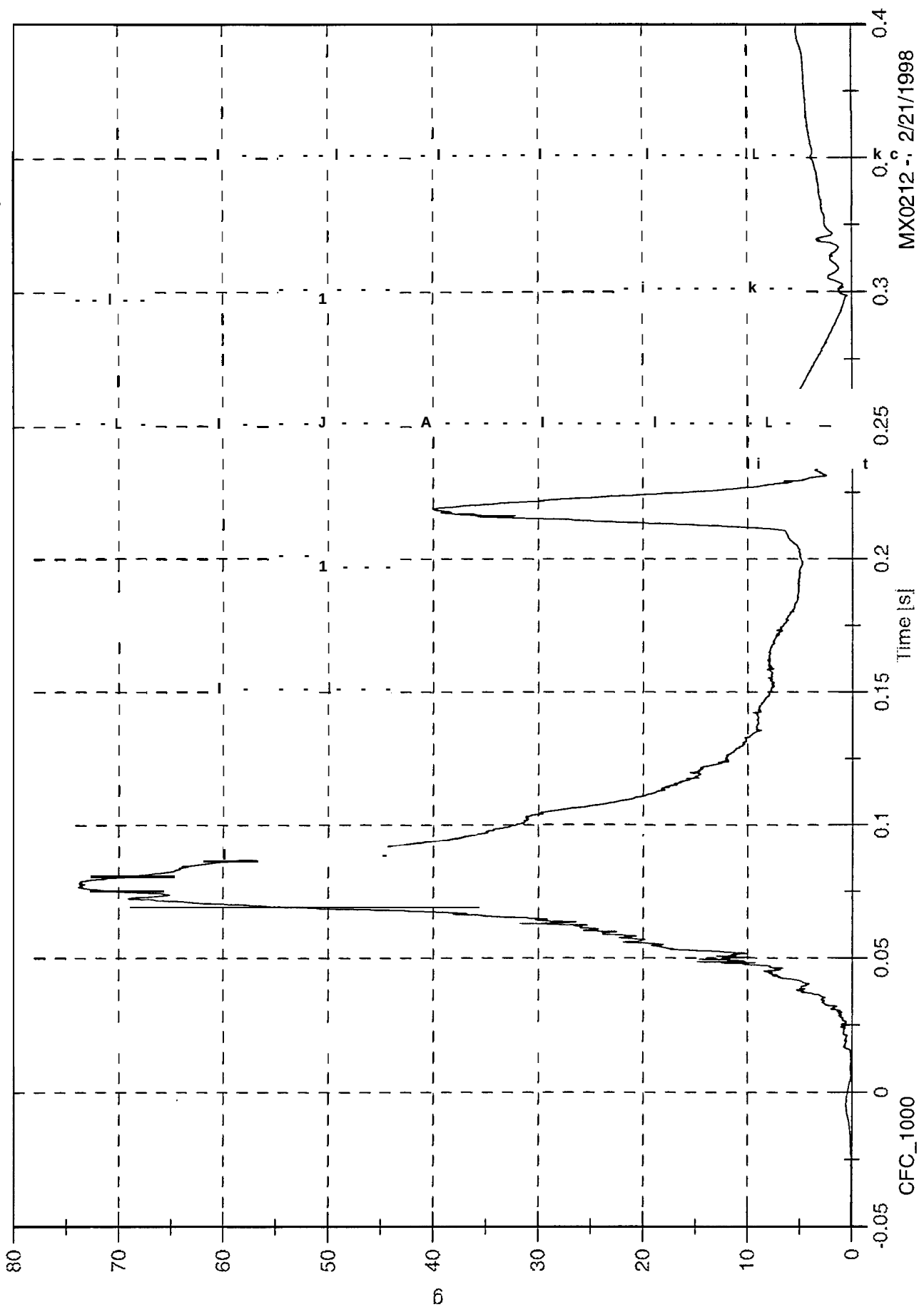


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 73.8 [g] at 0.077 [s]
 Min: 0.0 [g] at -0.031 [s]

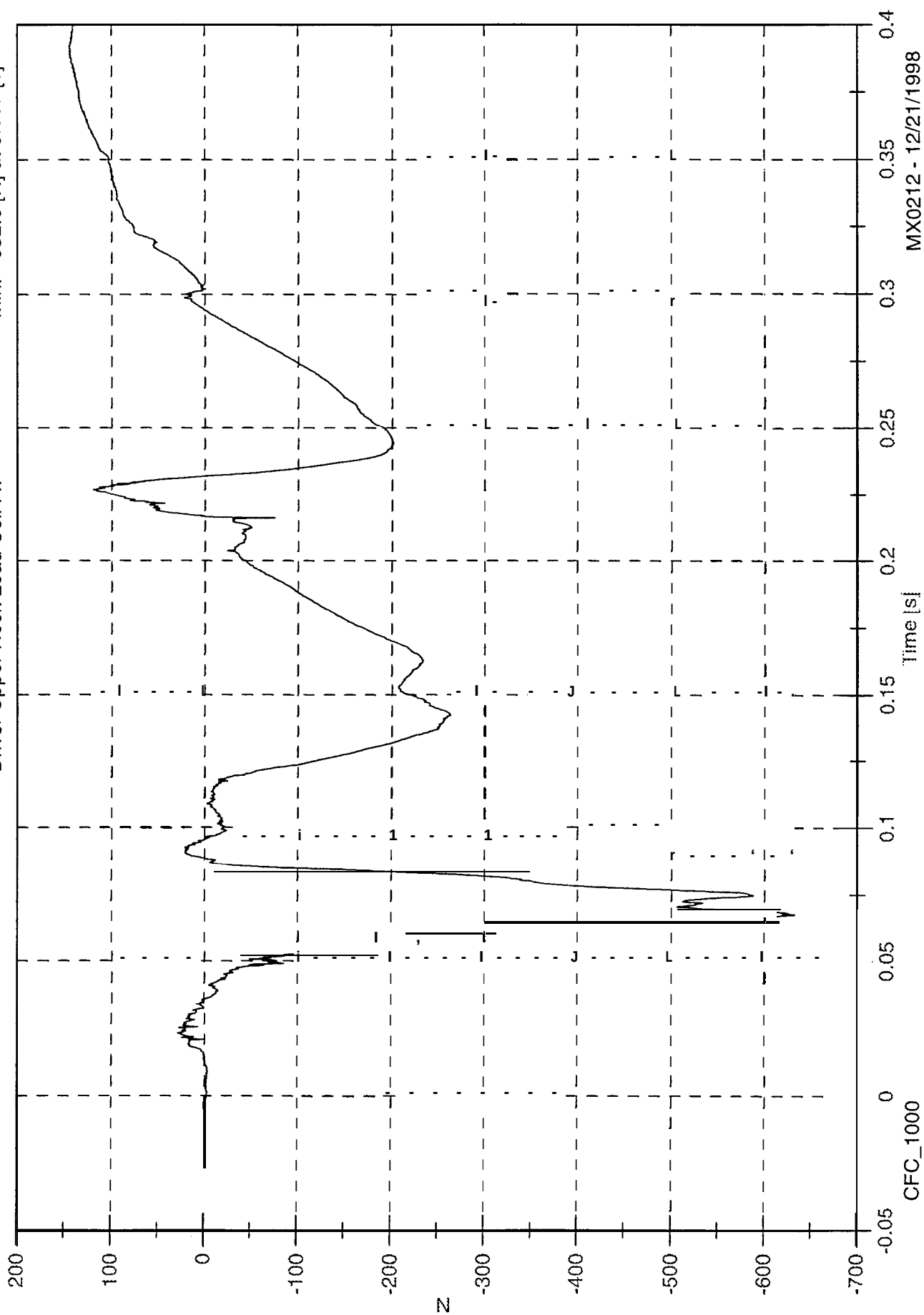
Driver Head Ax Redundan Resultant



NCAP Test - 1999 Ford Mustang

Max: 144.9 [N] at 0.392 [s]
Min: -632.0 [N] at 0.067 [s]

Driver Upper Neck Load Cell Fx

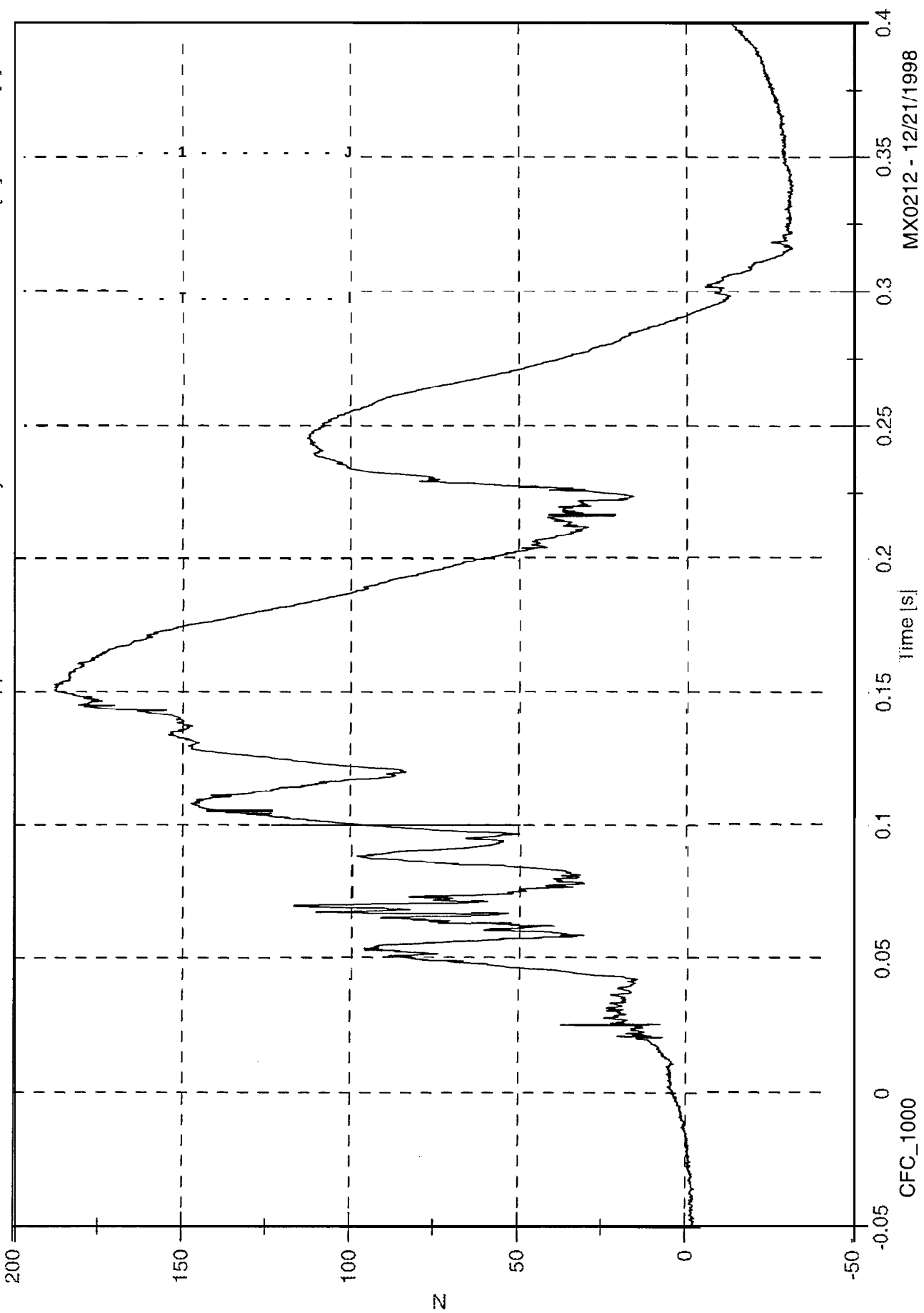


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 188.3 [N] at 0.151 [s]
Min: -31.7 [N] at 0.339 [s]

Driver Upper Neck Load Cell Fy

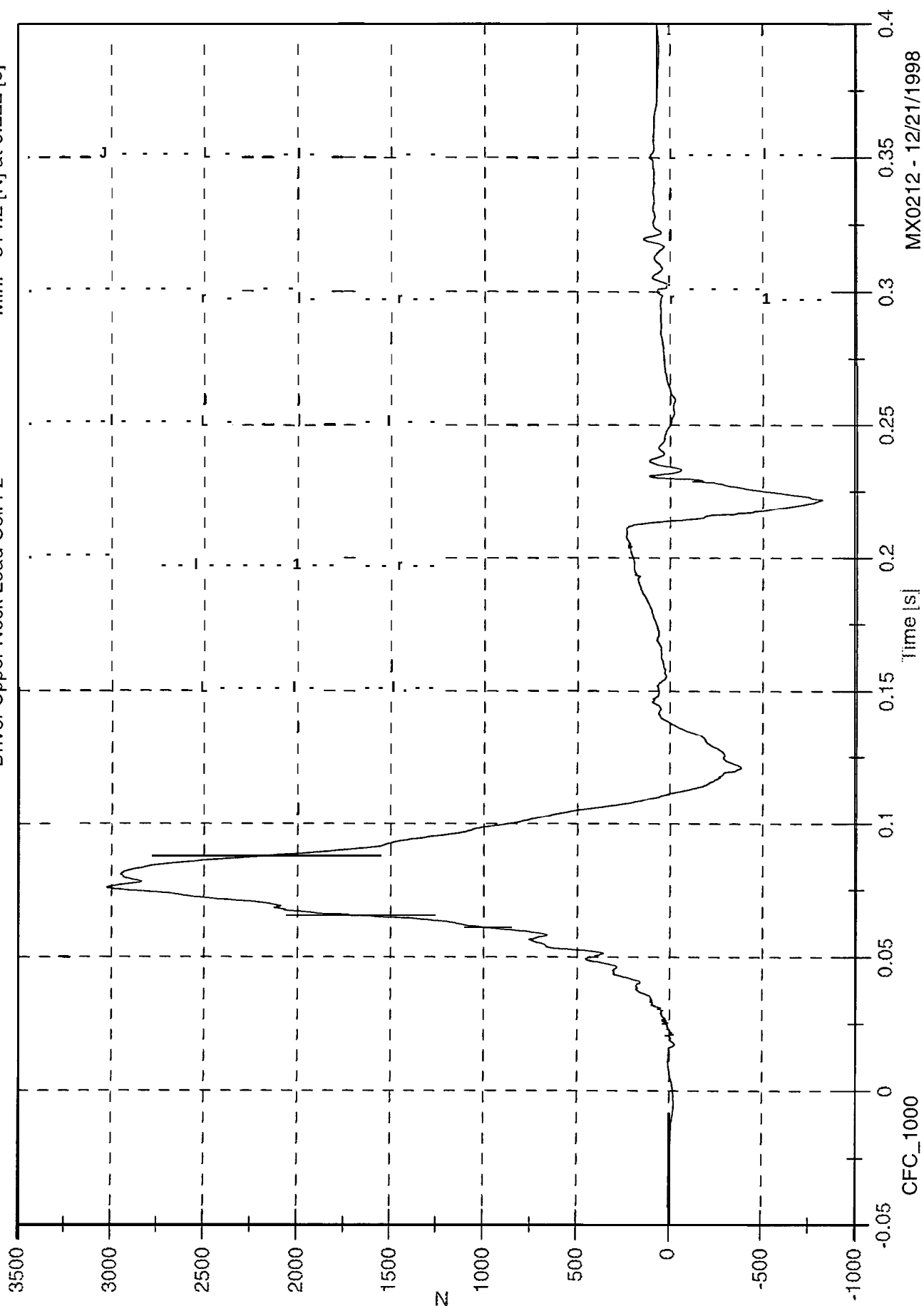


NCAP Test - 1999 Ford Mustang

Max: 3025.5 [N] at 0.076 [s]

Min: -814.2 [N] at 0.222 [s]

Driver Upper Neck Load Cell Fz



CFC_1000

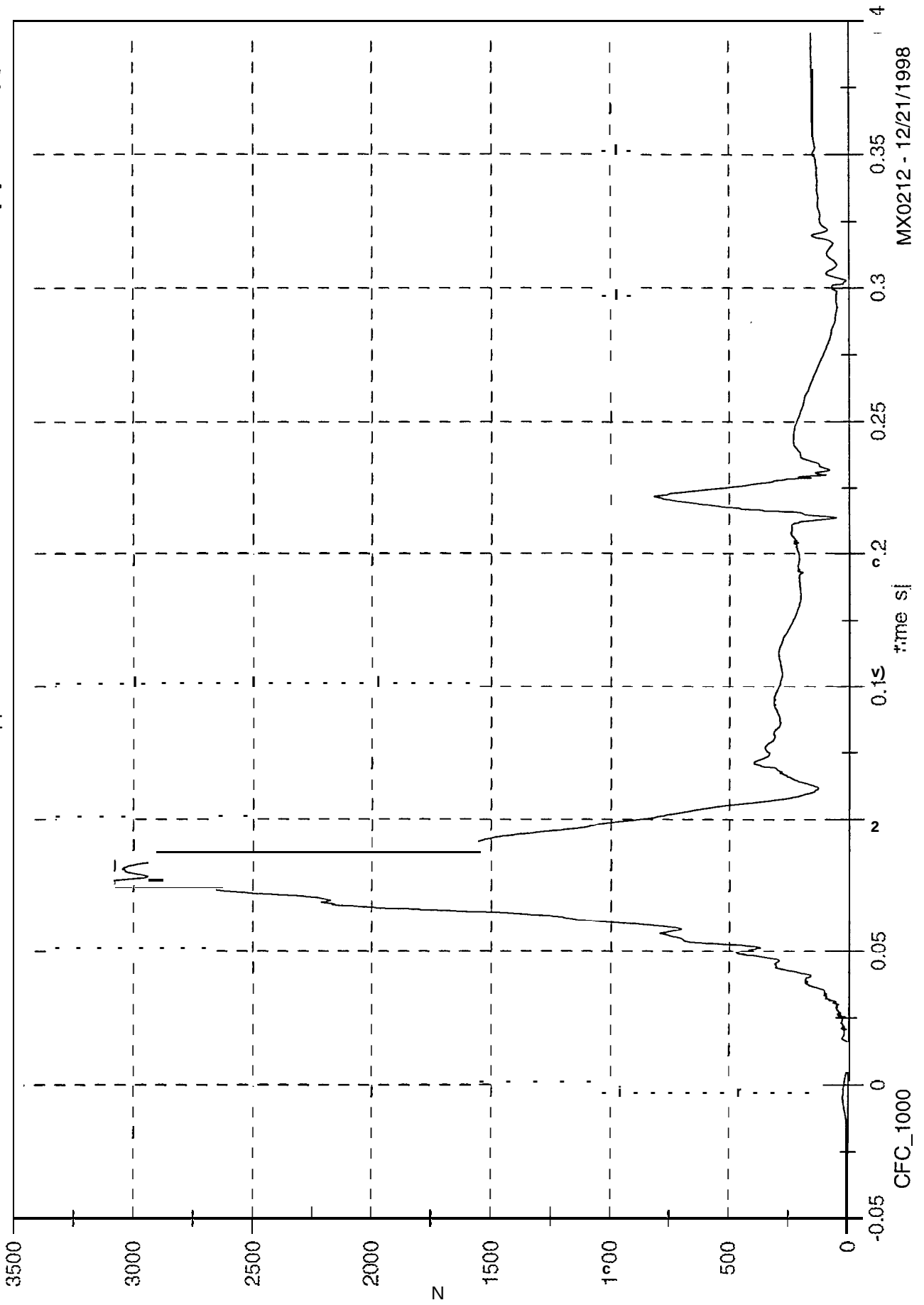
Time [s]

MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

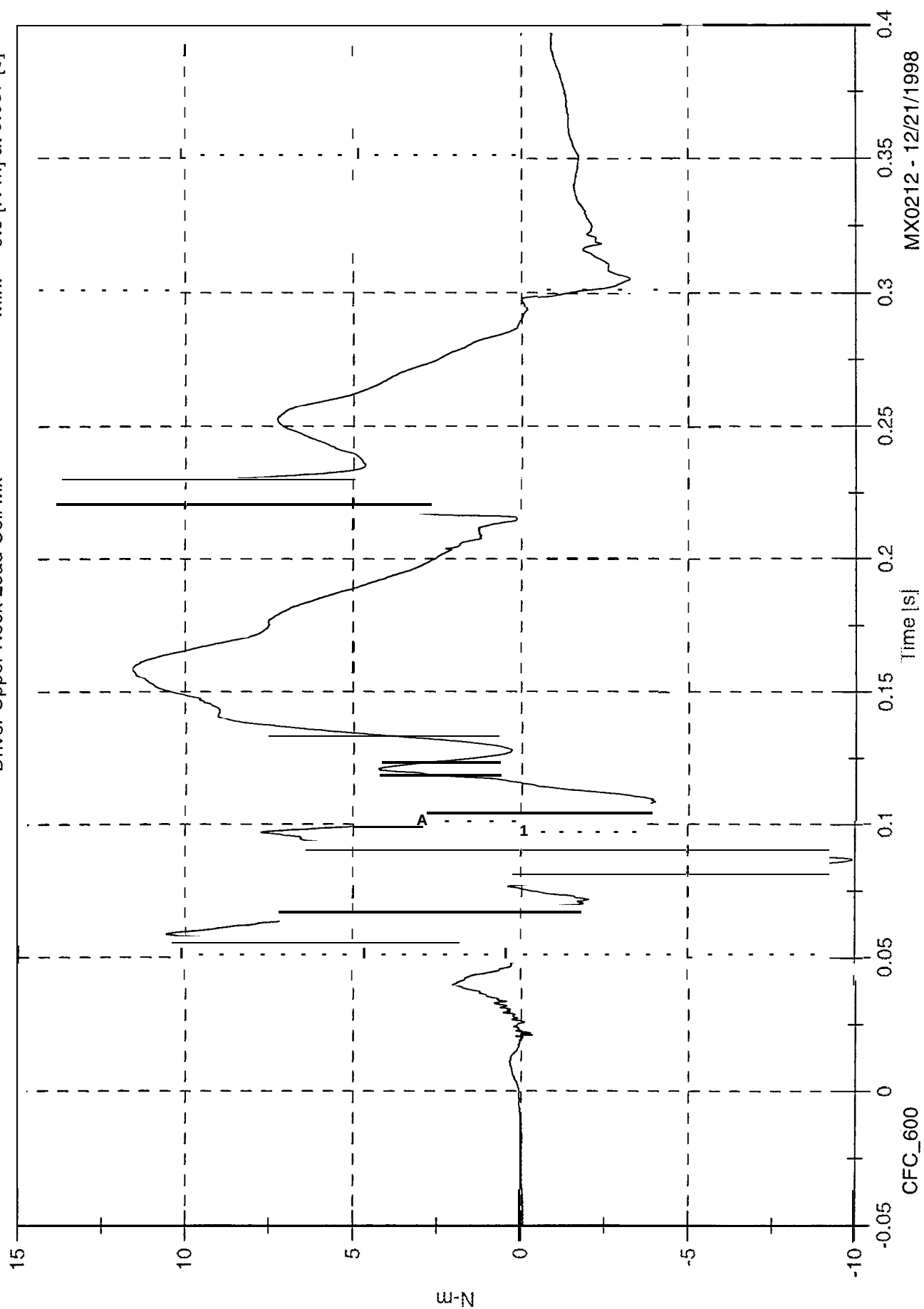
Driver Upper Neck Load Cell F Resultant

Max: 3079.8 [N] at 0.076 [s]
Min: 1.3 [N] at -0.028 [s]



MX0212 - 12/21/1998

Driver Upper Neck Load Cell Mx

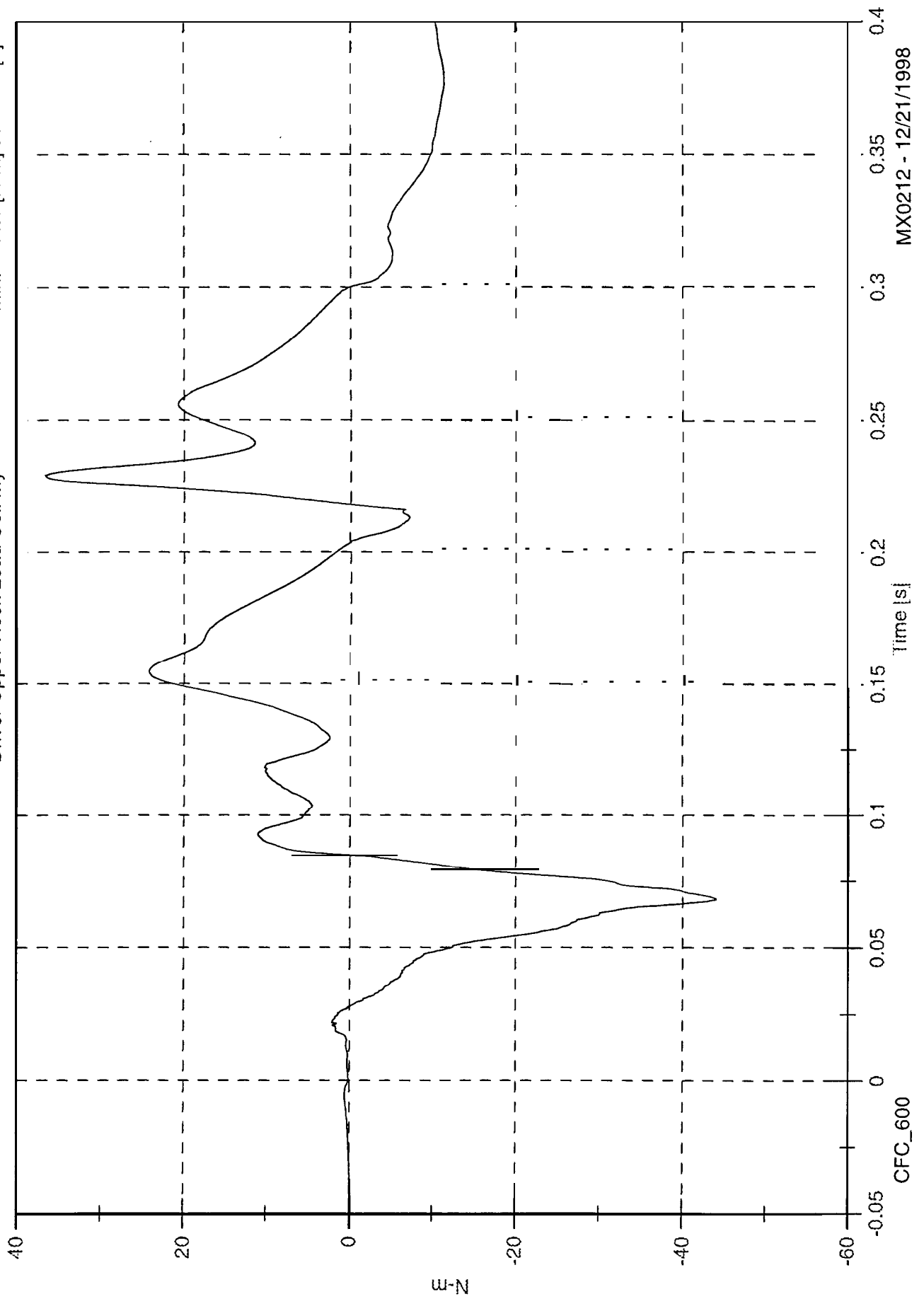


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 36.7 [N-m] at 0.229 [s]
Min: -44.1 [N-m] at 0.068 [s]

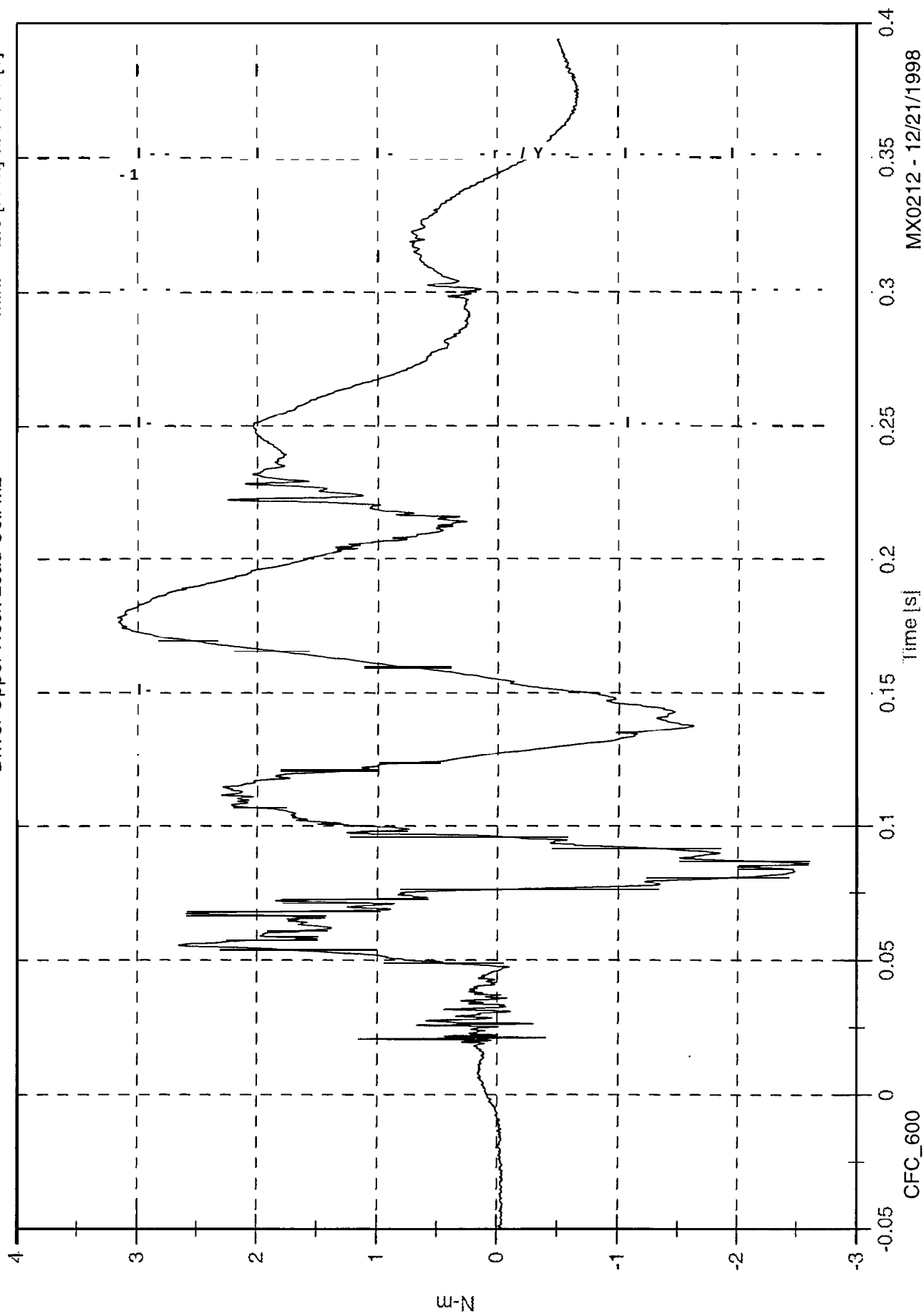
Driver Upper Neck Load Cell My



MX0212 - 12/21/1998

Max: 3.2 [N-m] at 0.178 [s]
Min: -2.6 [N-m] at 0.086 [s]

Driver Upper Neck Load Cell Mz

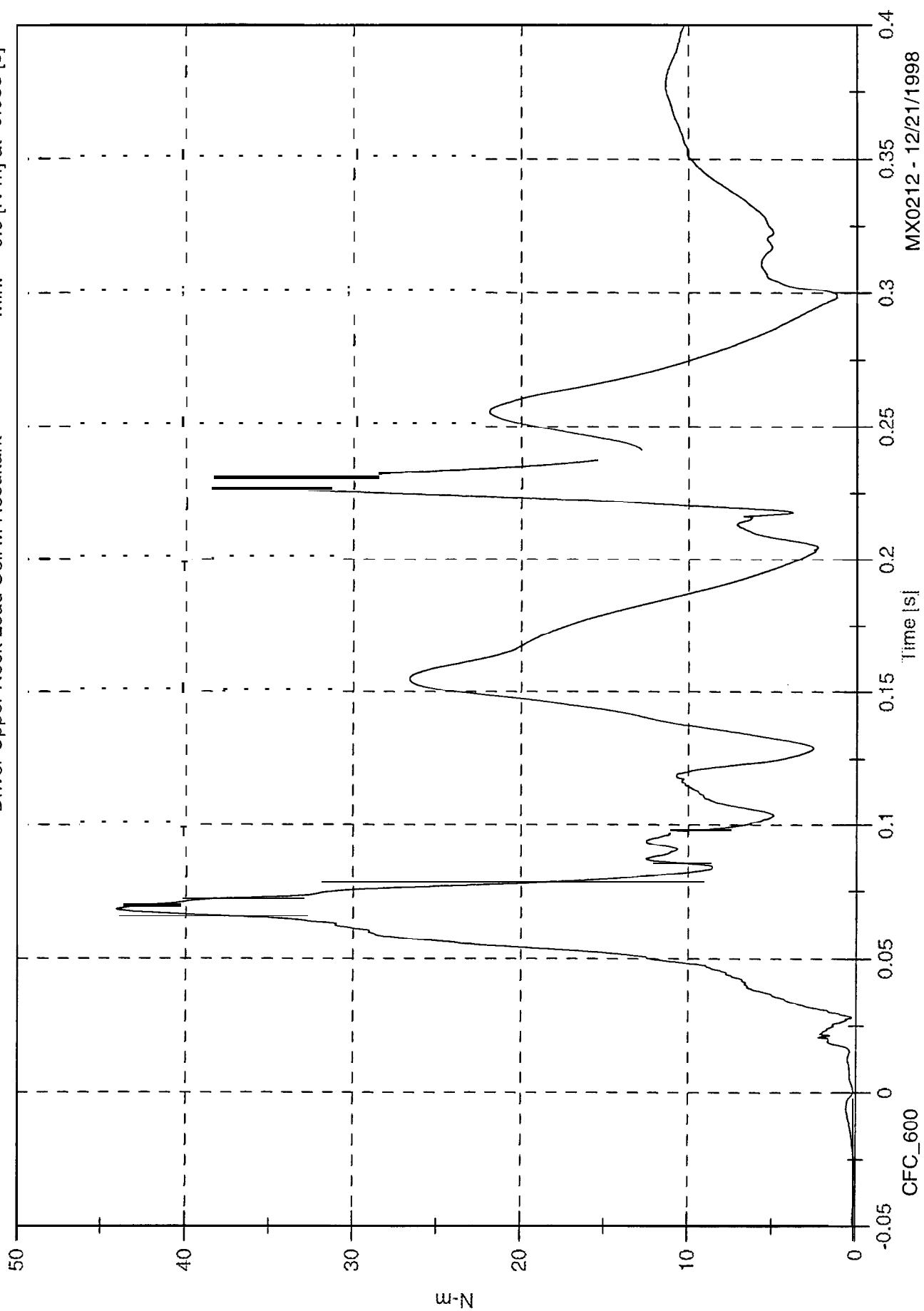


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 44.1 [N-m] at 0.068 [s]
 Min: 0.0 [N-m] at -0.083 [s]

Driver Upper Neck Load Cell M Resultant

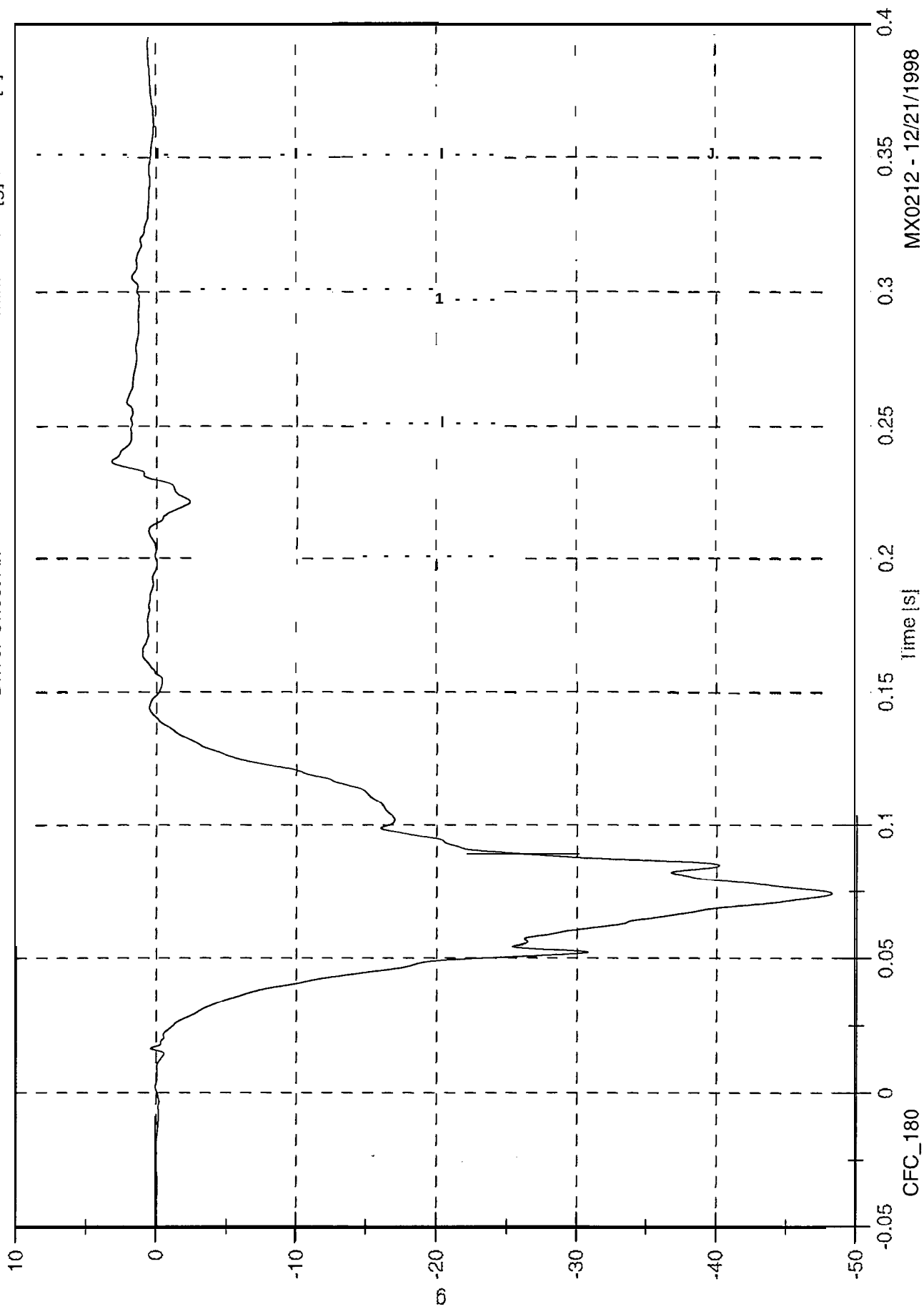


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 3.2 [g] at 0.237 [s]
Min: -48.2 [g] at 0.074 [s]

Driver Chest Ax

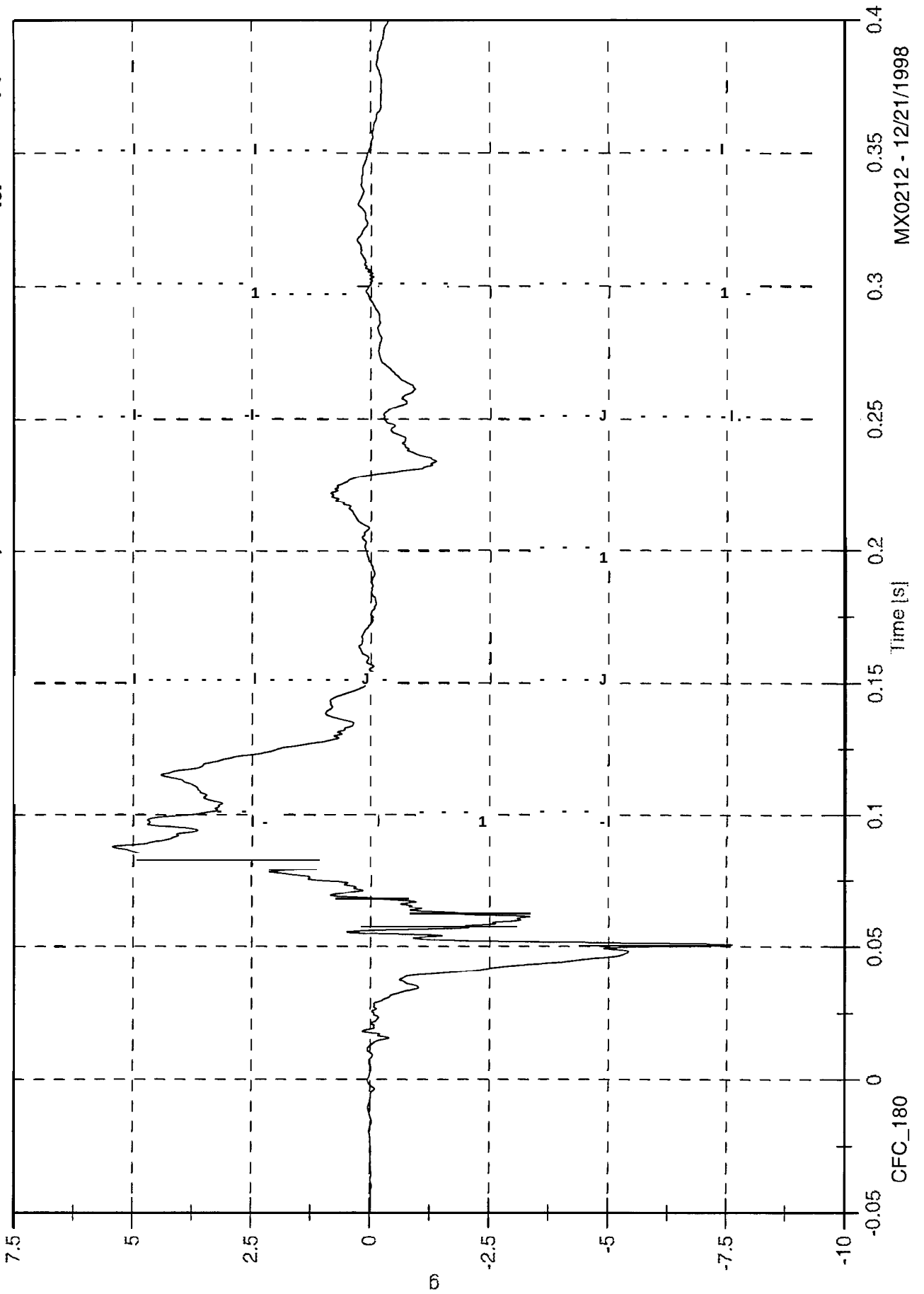


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.4 [g] at 0.088 [s]
Min: -7.6 [g] at 0.051 [s]

Driver Chest Ay

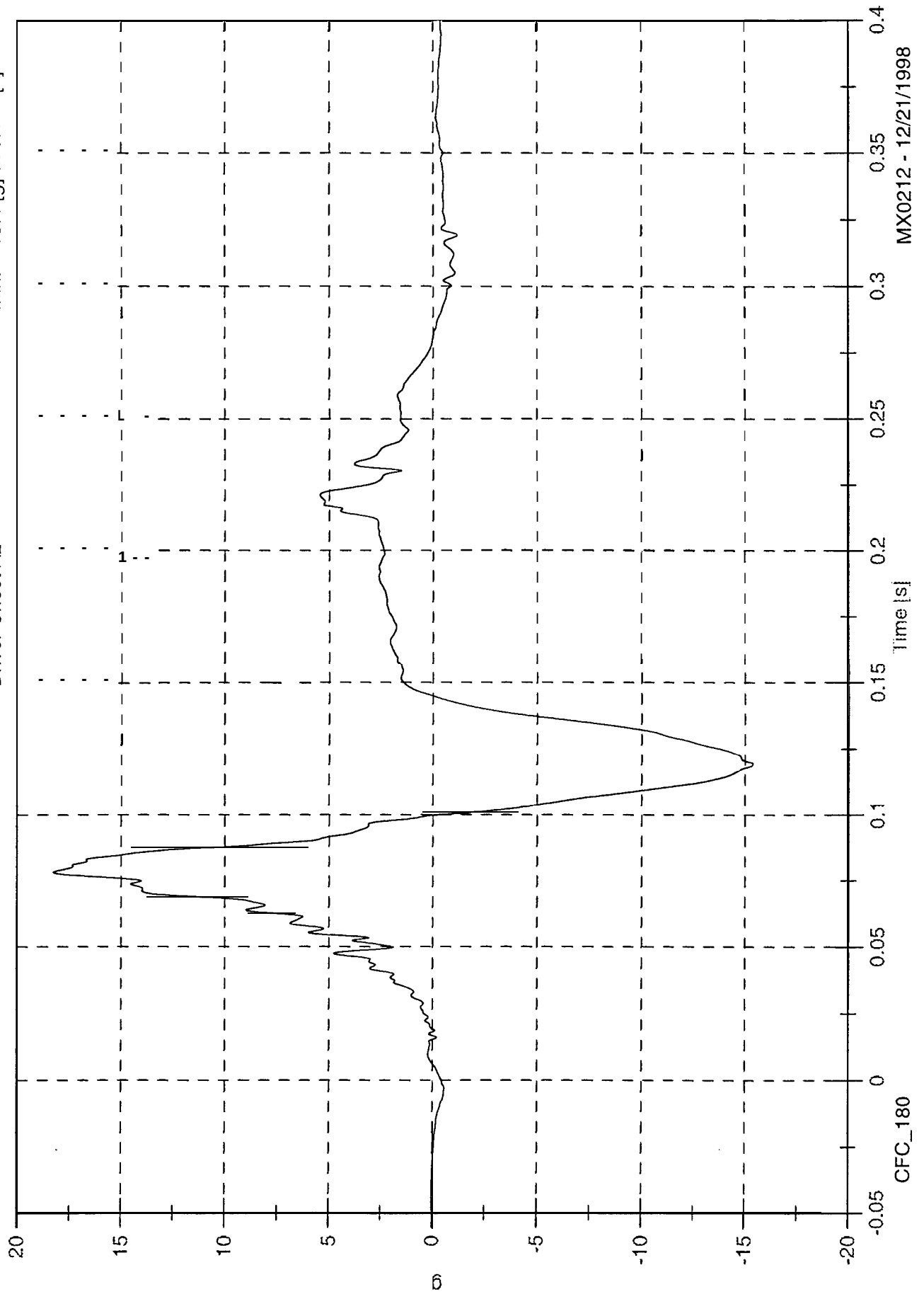


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 18.3 [g] at 0.078 [s]
Min: -15.4 [g] at 0.119 [s]

Driver Chest Az

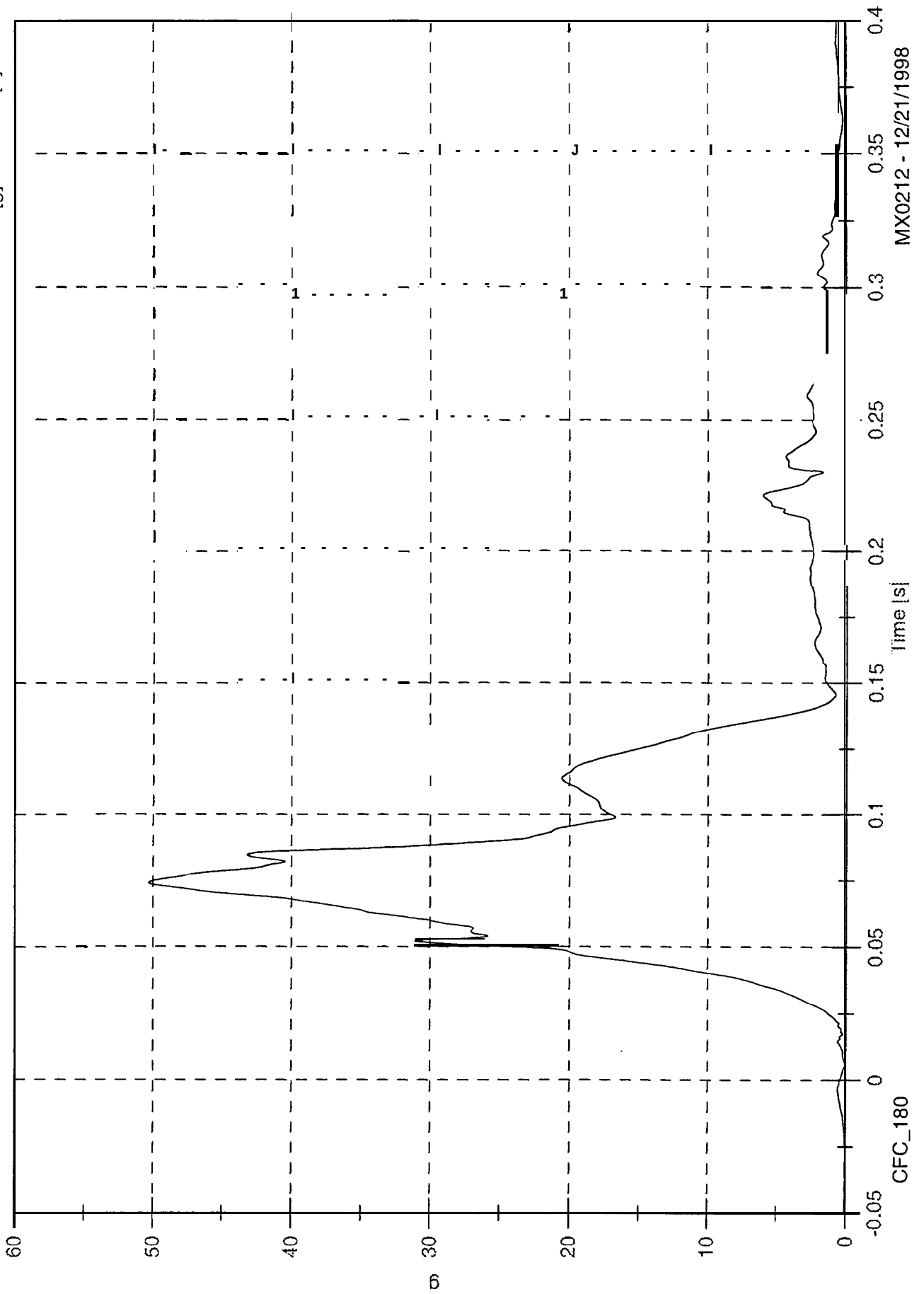


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 50.3 [g] at 0.074 [s]
Min: 0.0 [g] at -0.029 [s]

Driver Chest A Resultant

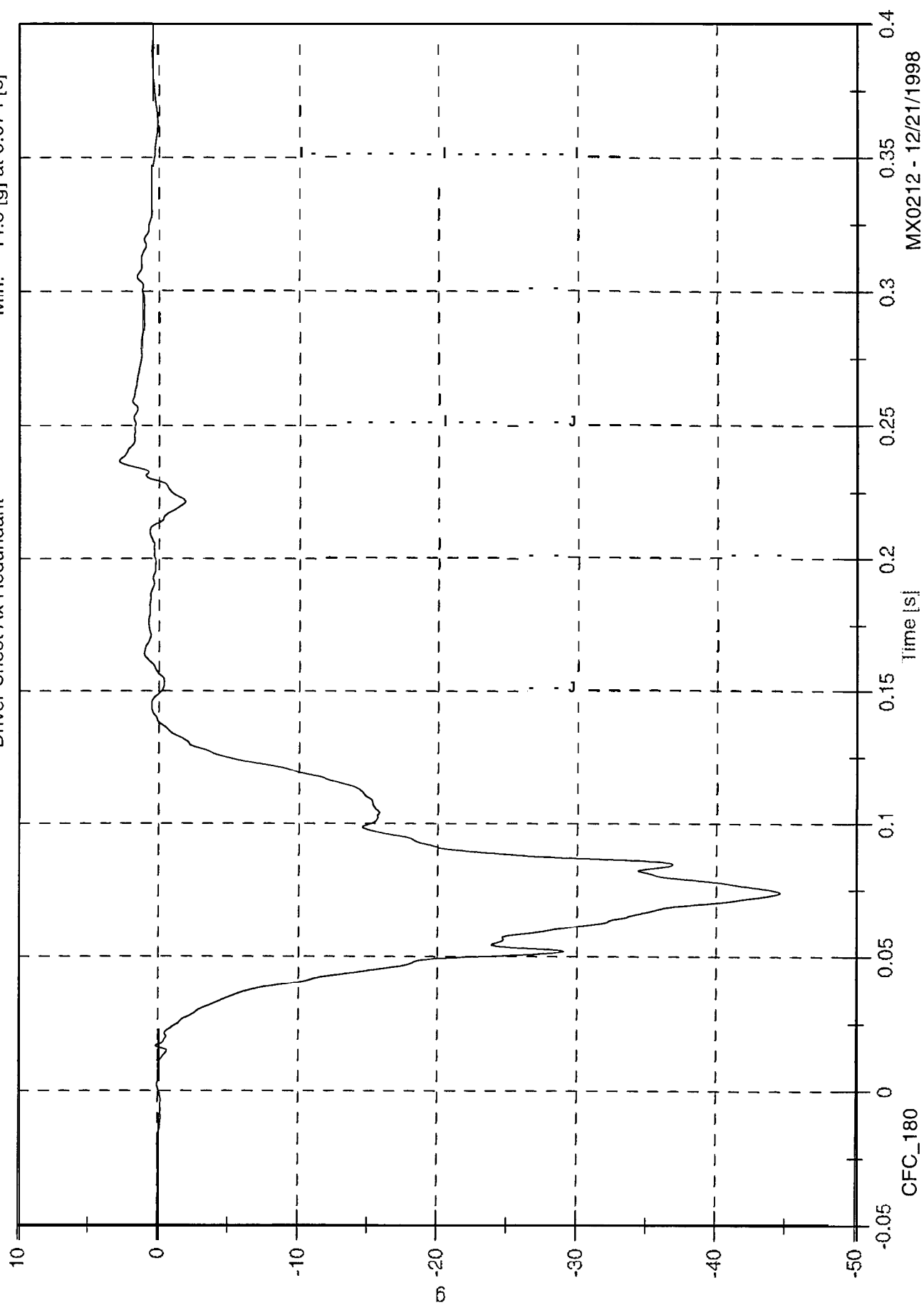


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 2.9 [g] at 0.237 [s]
Min: -44.6 [g] at 0.074 [s]

Driver Chest Ax Redundant



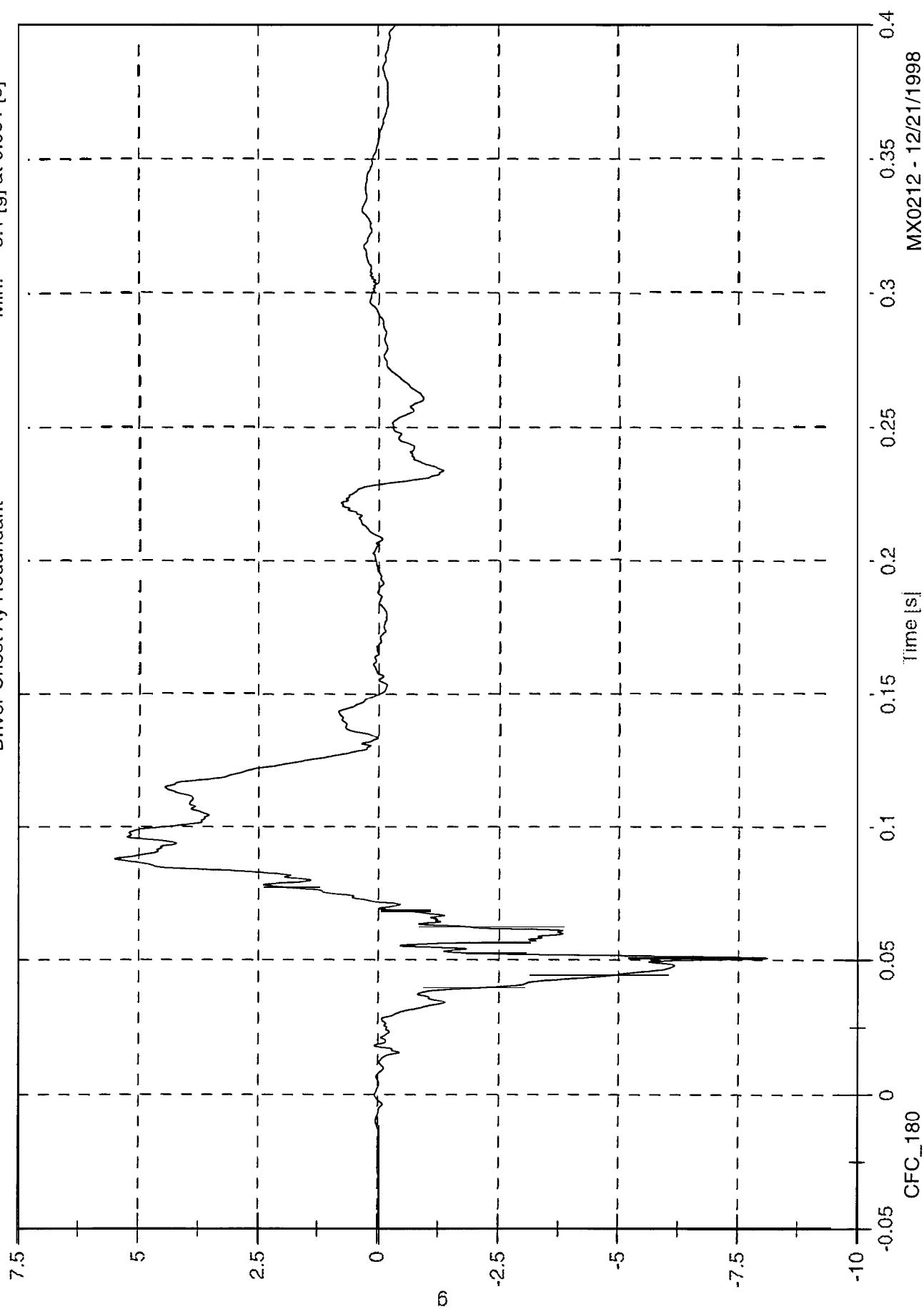
CFC_180

MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.5 [g] at 0.088 [s]
Min: -8.1 [g] at 0.051 [s]

Driver Chest Ay Redundant

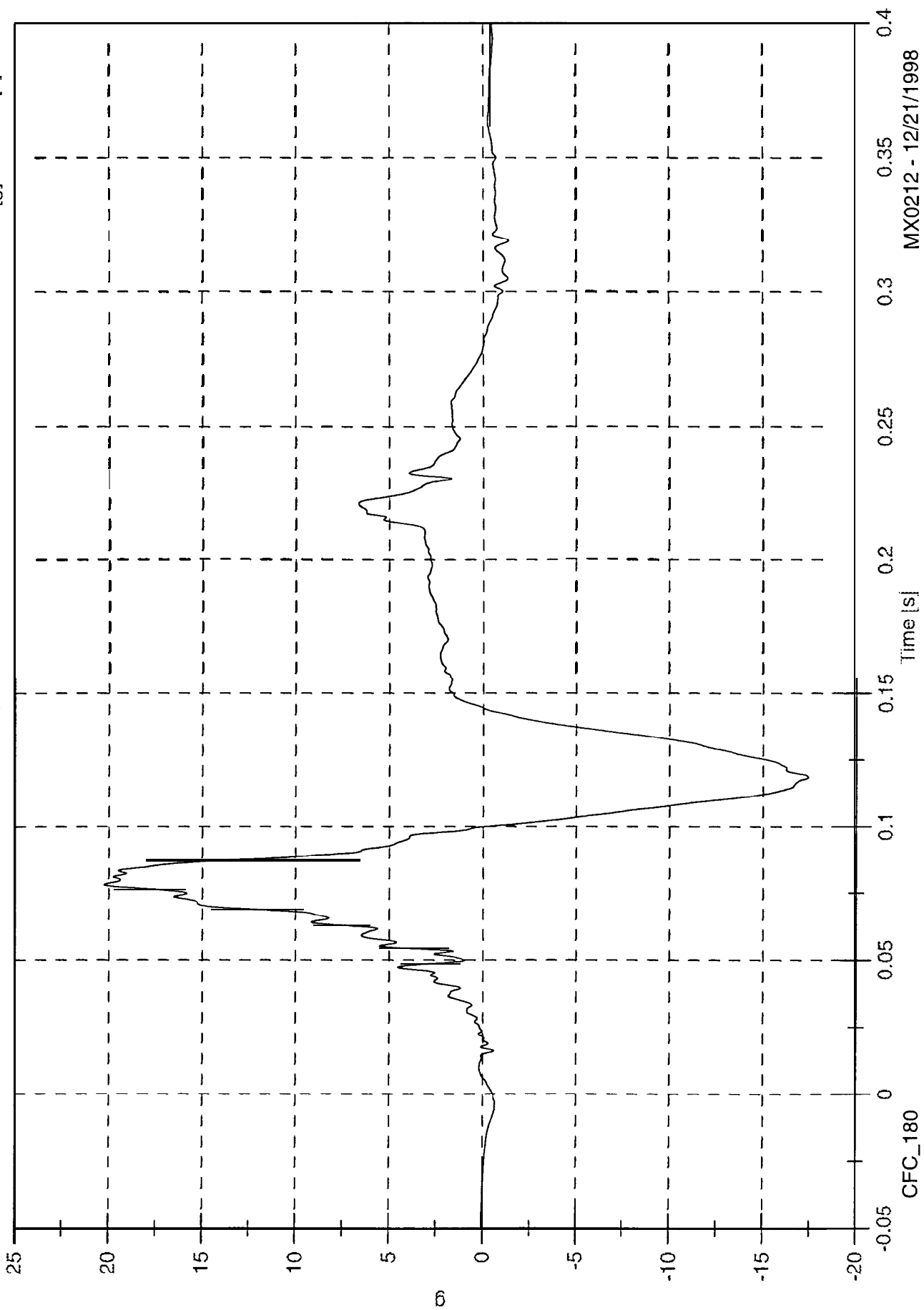


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 20.2 [g] at 0.078 [s]
Min: -17.4 [g] at 0.118 [s]

Driver Chest Az Redundant



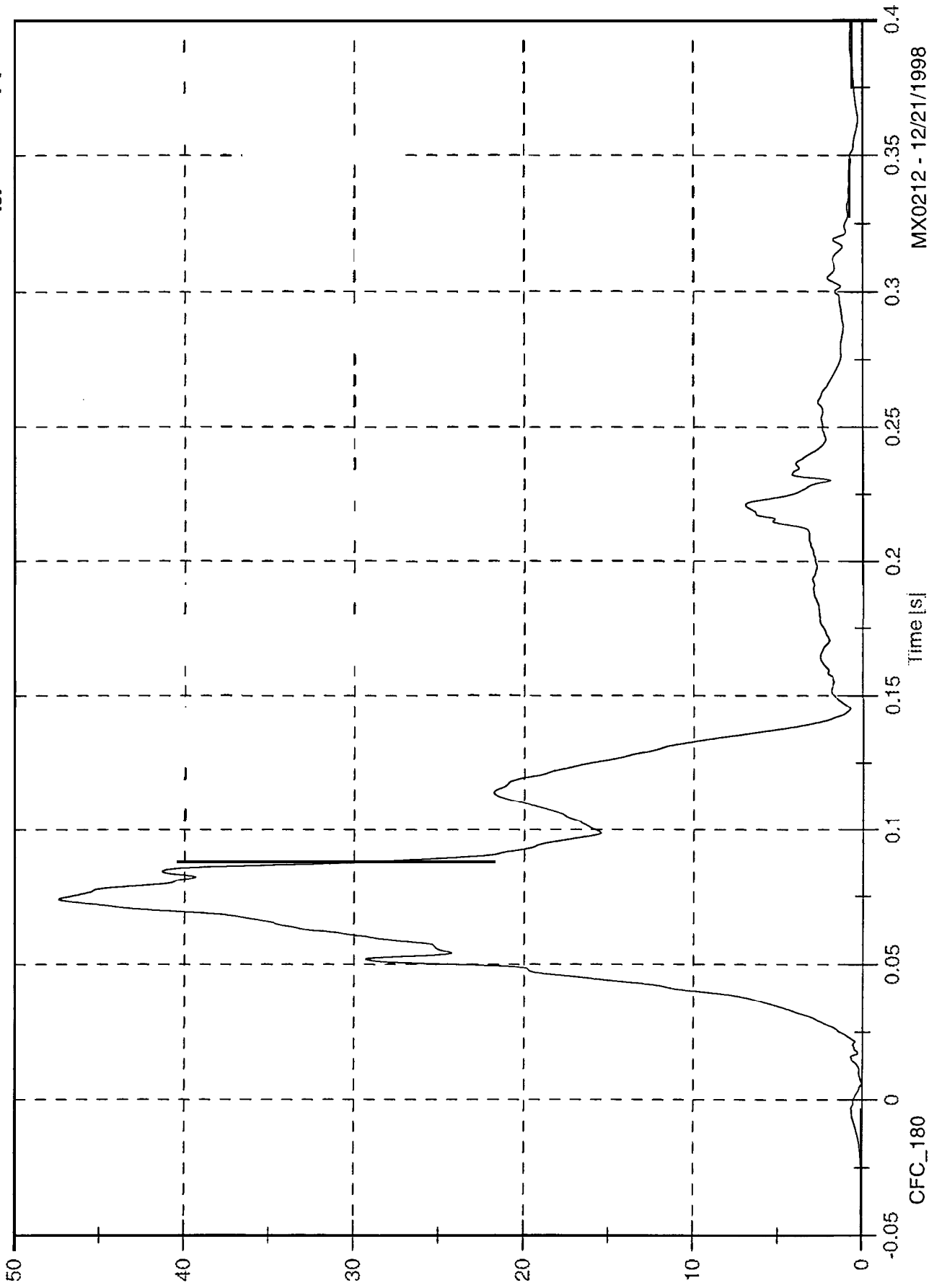
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 47.4 [g] at 0.074 [s]

Min: 0.0 [g] at -0.034 [s]

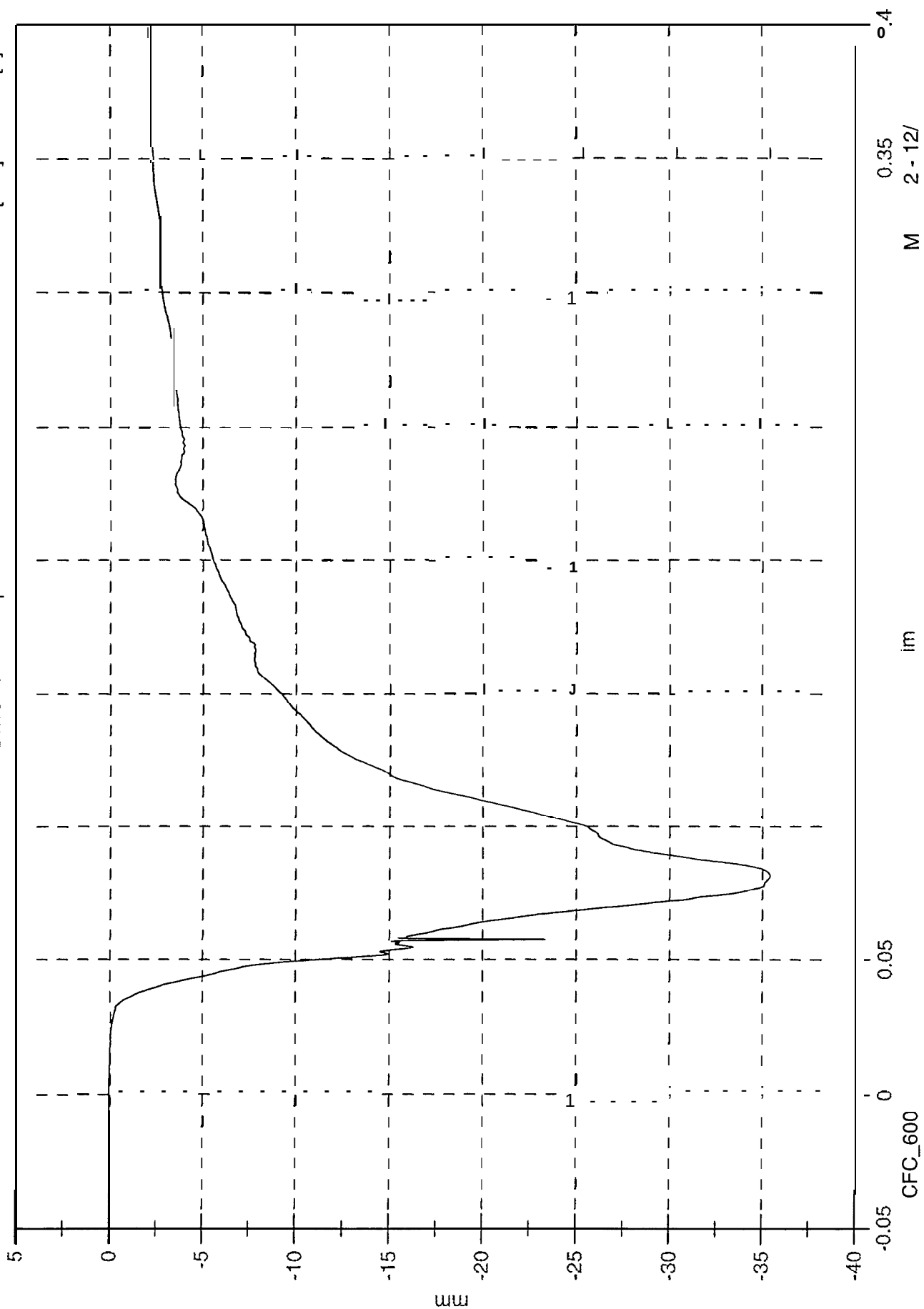
Driver Chest Ax Redundan Resultant



NCAP Test - 1999 Ford Mustang

Max: 0.1 [mm] at -0.000 [s]
Min: -35.4 [mm] at 0.082 [s]

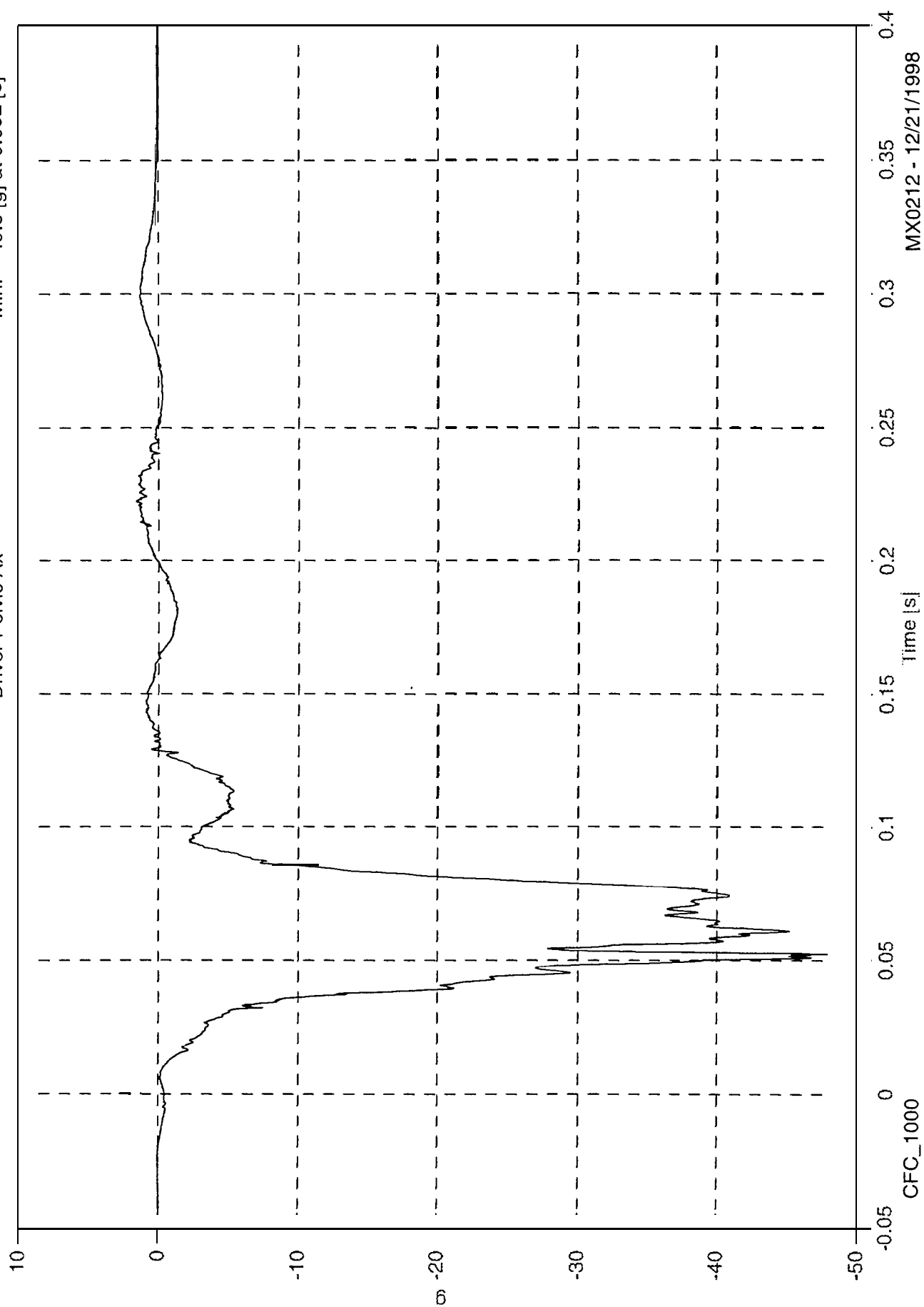
Driver Chest Displacement



NCAP Test - 1999 Ford Mustang

Max: 1.6 [g] at 0.222 [s]
Min: -49.6 [g] at 0.052 [s]

Driver Pelvic Ax

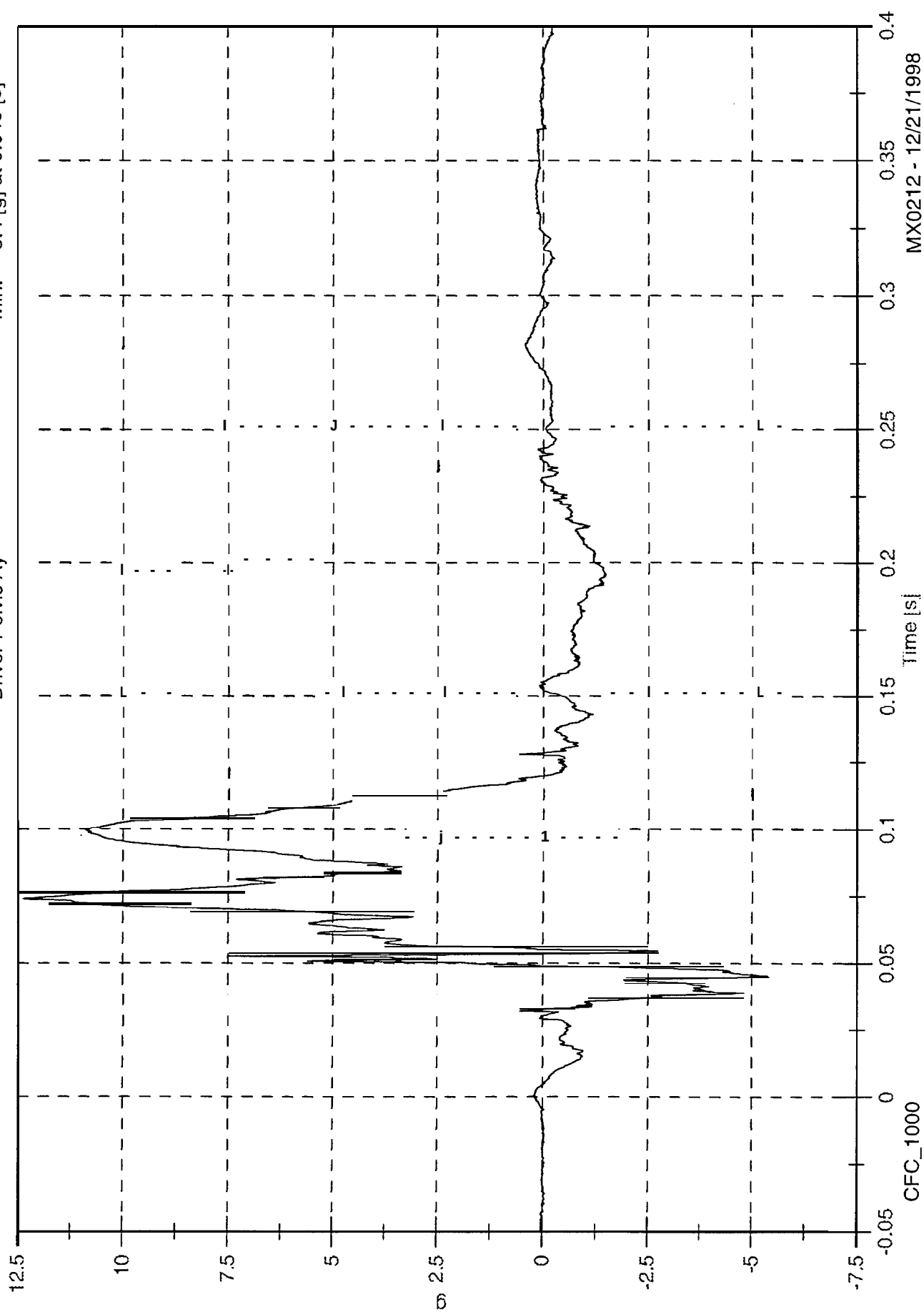


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 12.4 [g] at 0.074 [s]
Min: -5.4 [g] at 0.045 [s]

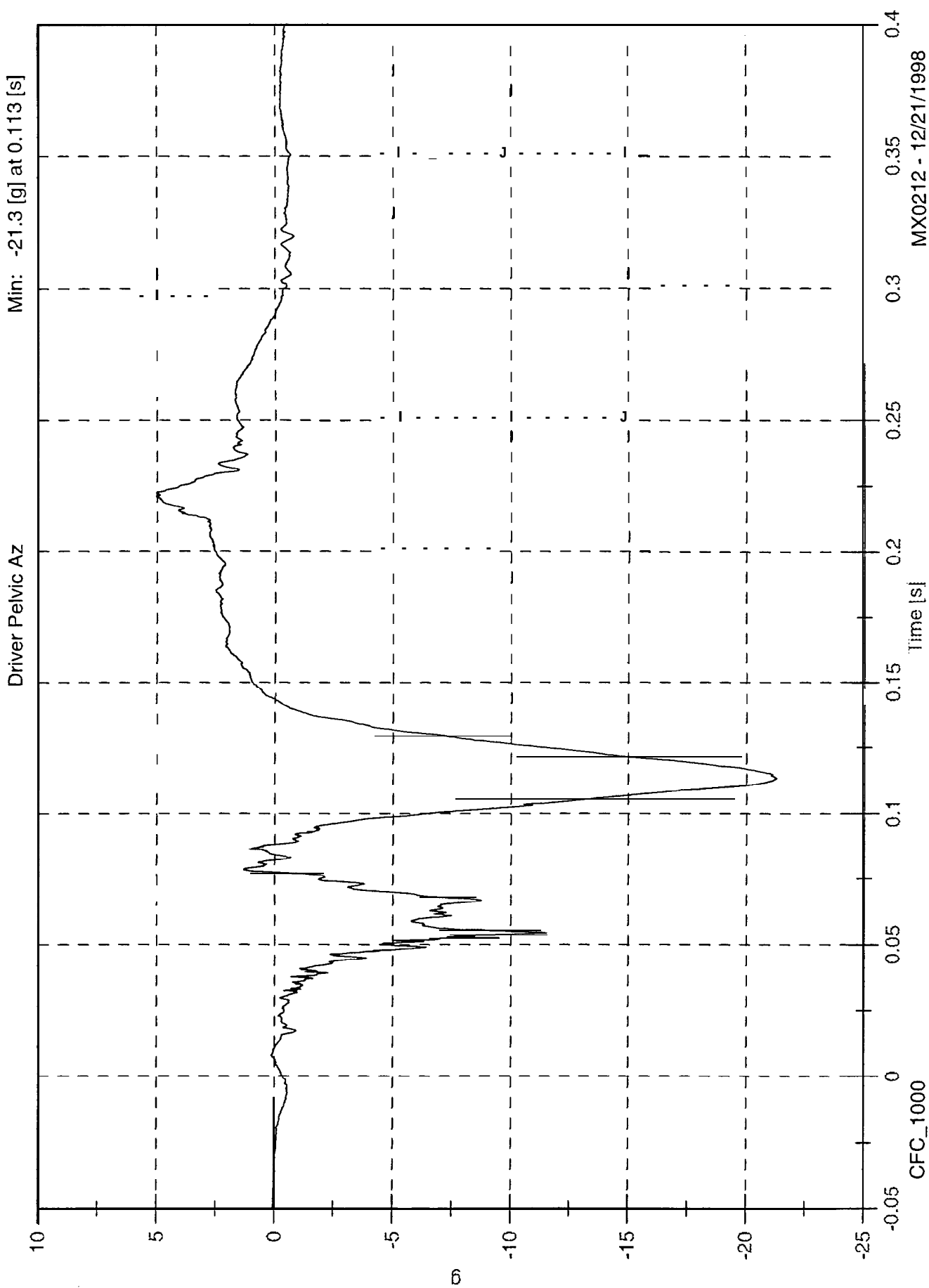
Driver Pelvic Ay



MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.0 [g] at 0.221 [s]
Min: -21.3 [g] at 0.113 [s]

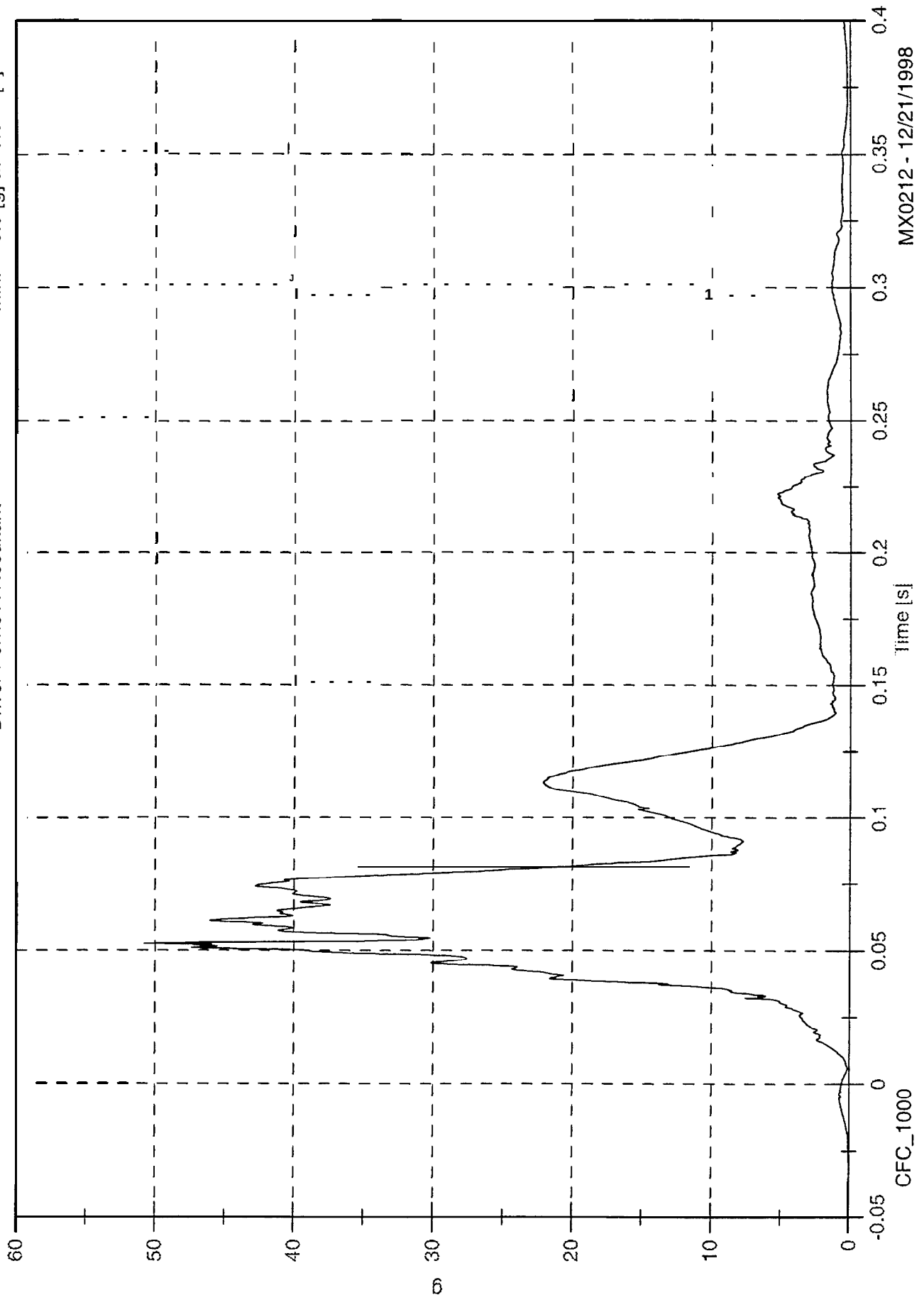


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 50.8 [g] at 0.052 [s]
Min: 0.0 [g] at -0.032 [s]

Driver Pelvic A Resultant

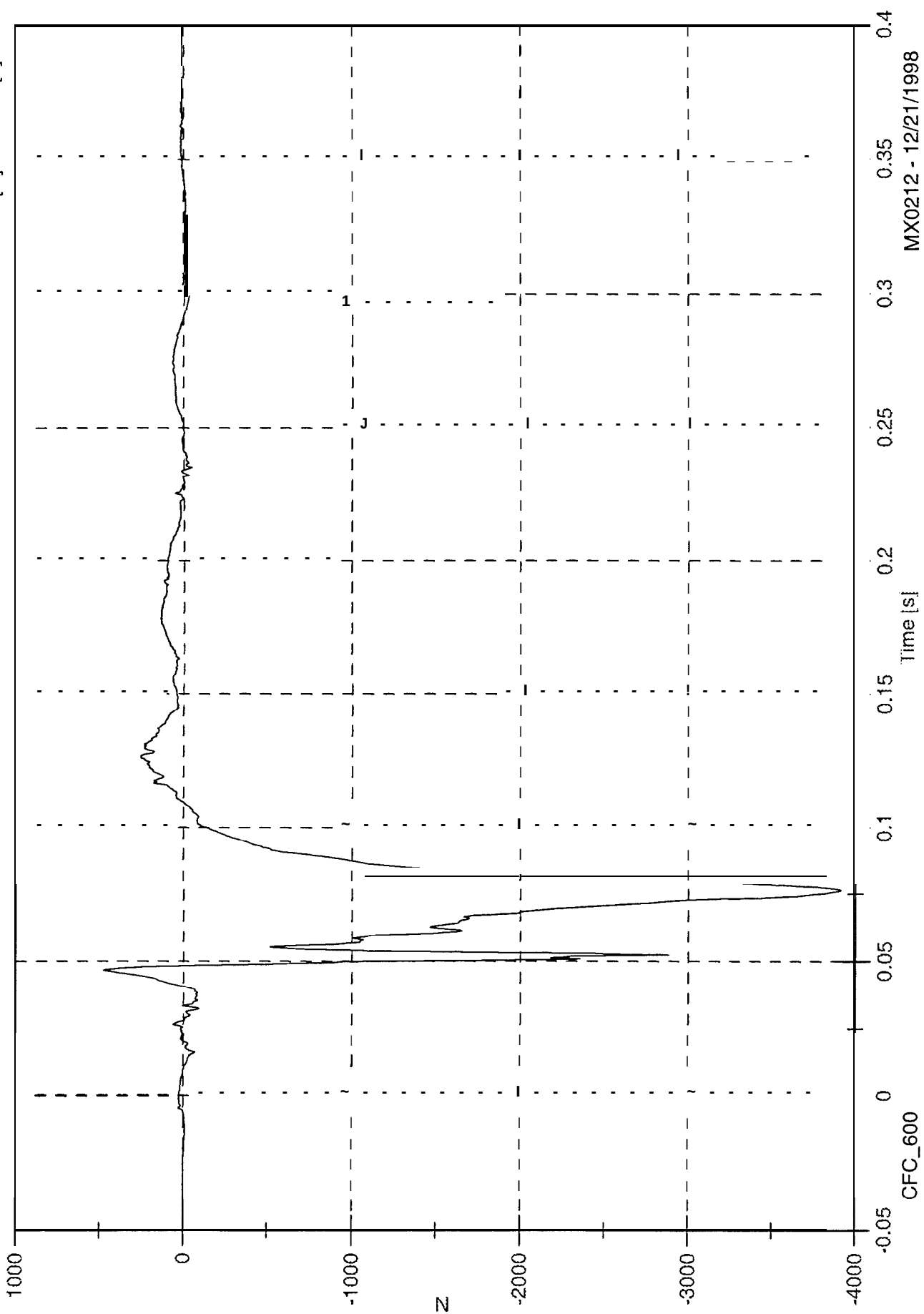


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 475.1 [N] at 0.047 [s]
Min: -3912.1 [N] at 0.076 [s]

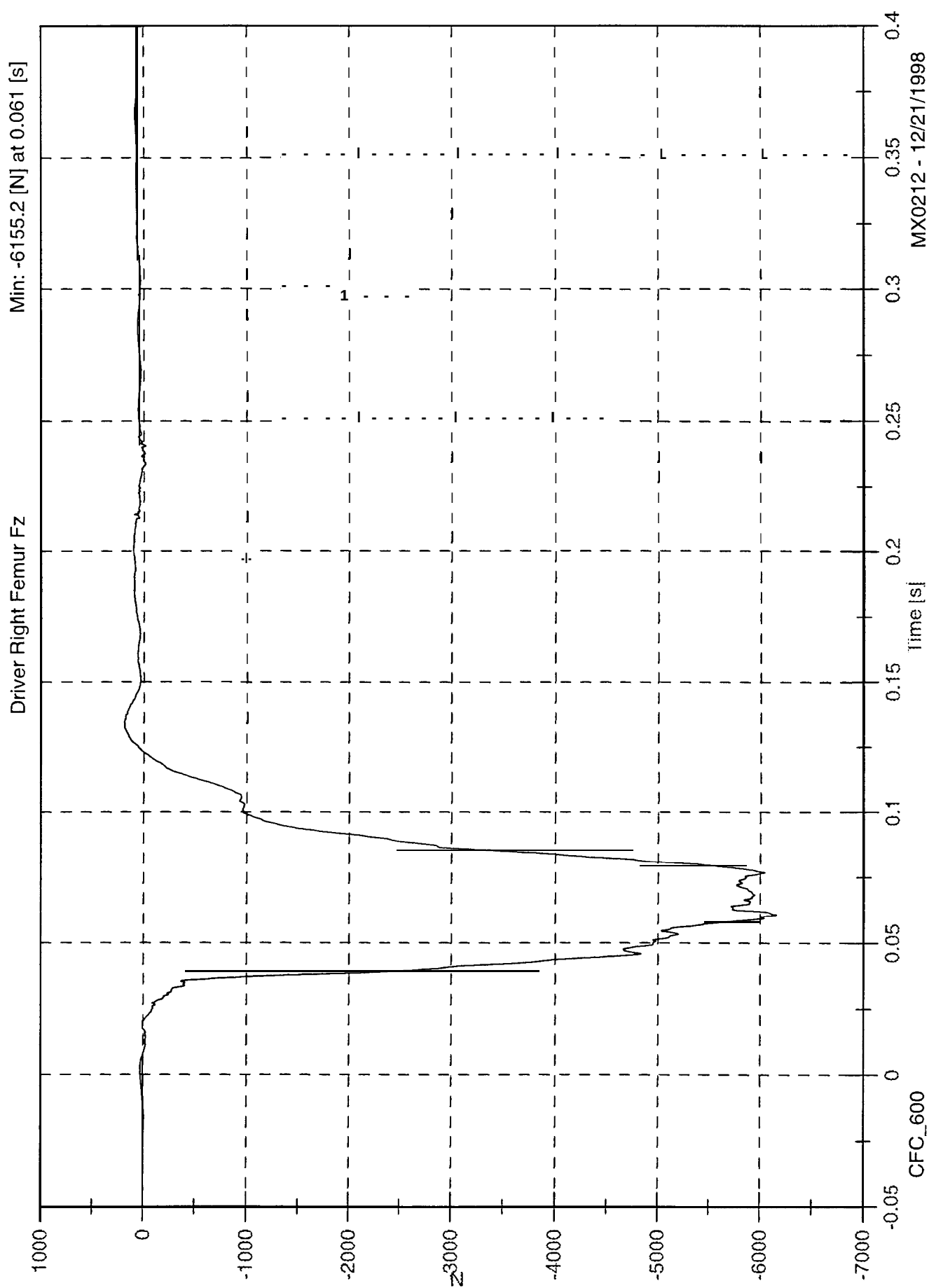
Driver Left Femur Fz



MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

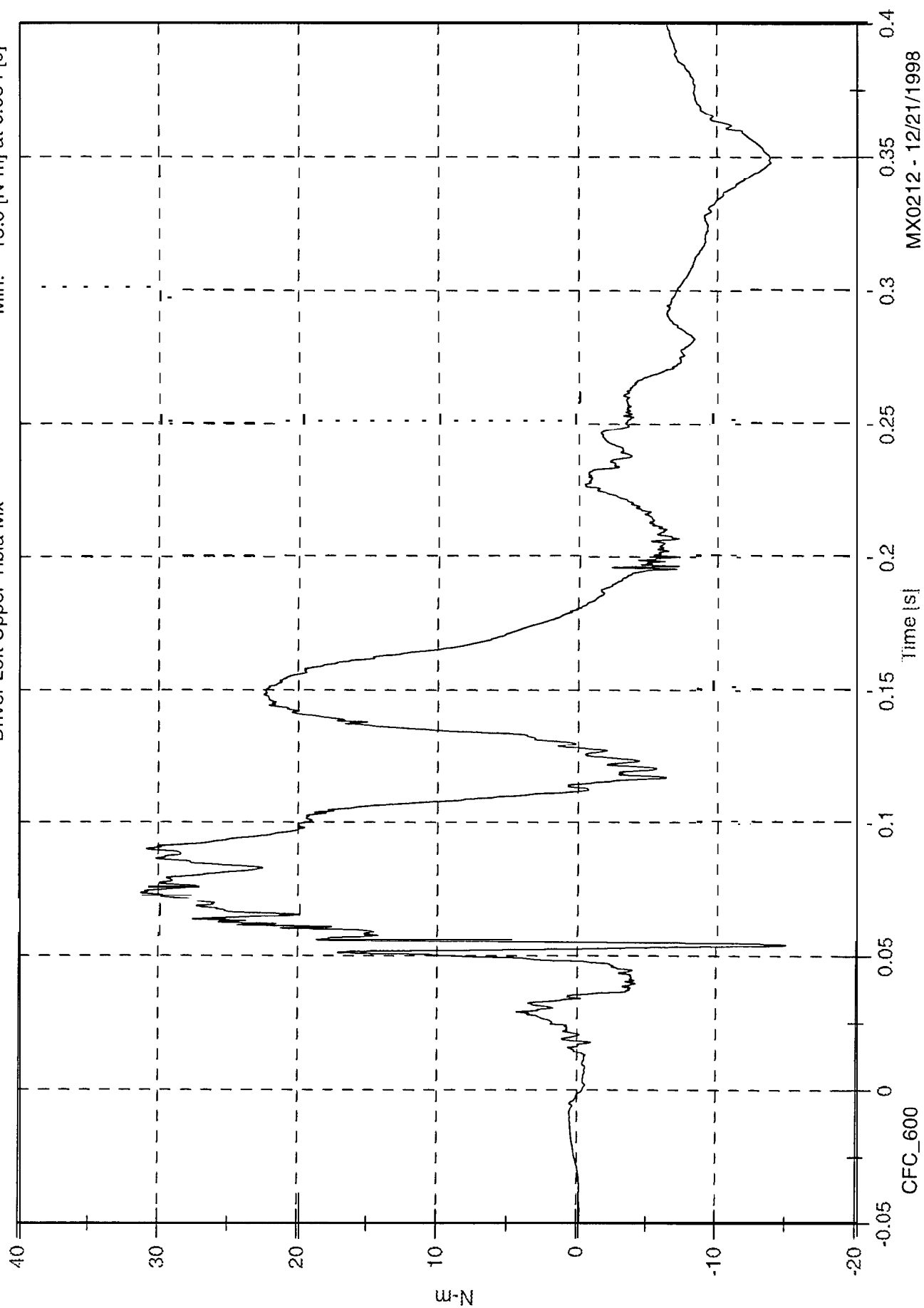
Max: 194.3 [N] at 0.135 [s]
Min: -6155.2 [N] at 0.061 [s]



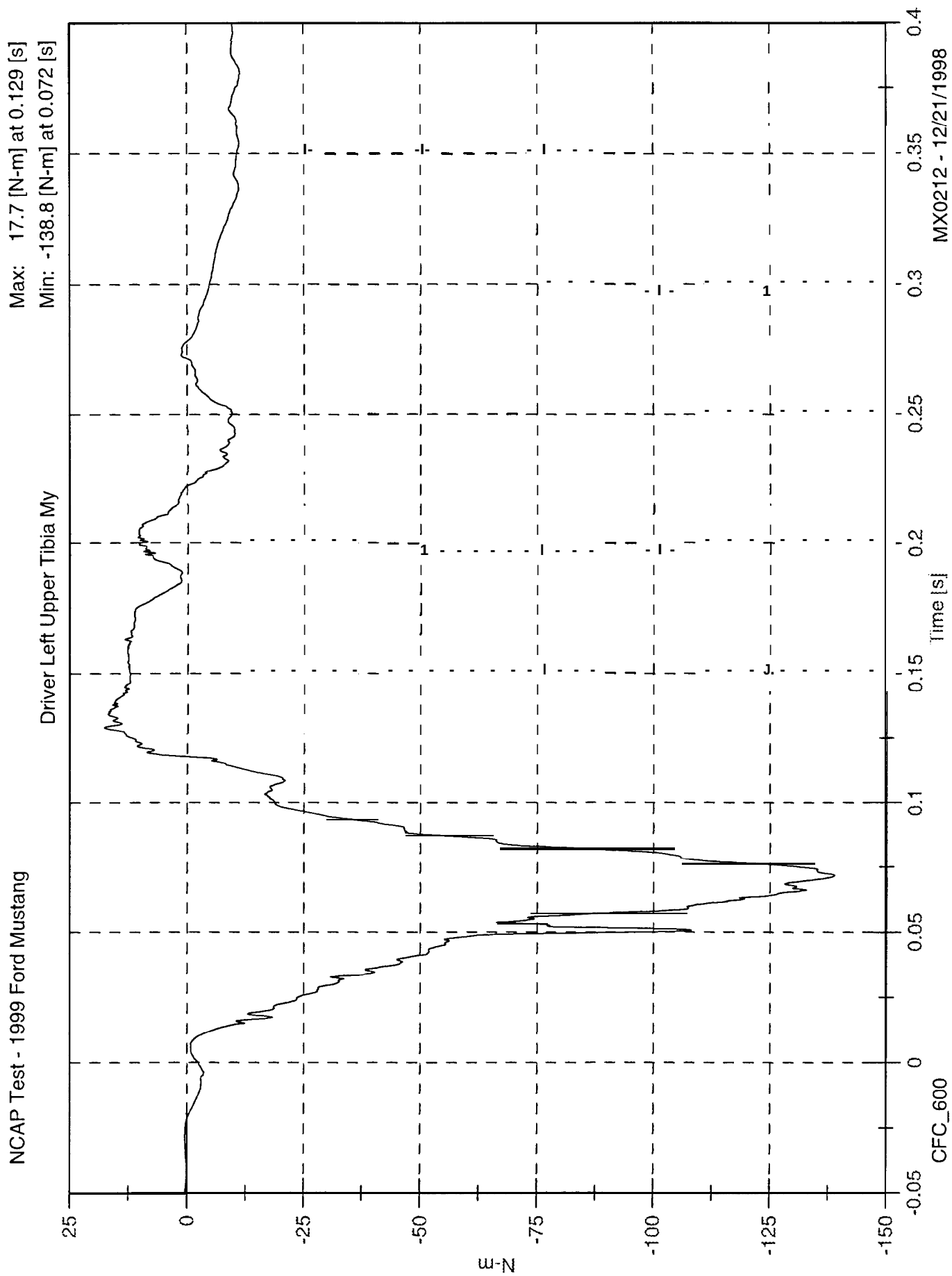
NCAP Test - 1999 Ford Mustang

Max: 31.2 [N-m] at 0.074 [s]
 Min: -15.0 [N-m] at 0.054 [s]

Driver Left Upper Tibia Mx



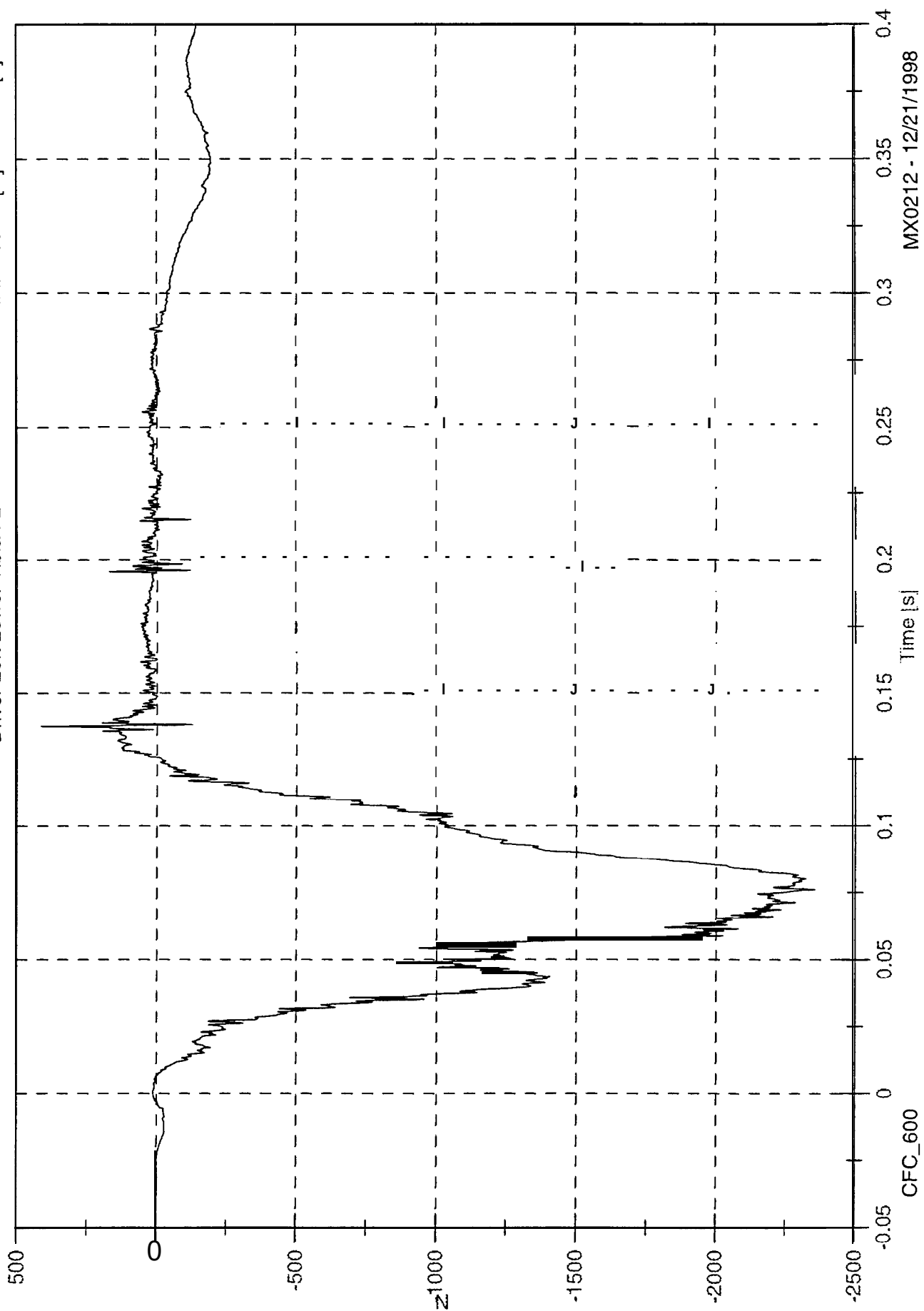
MX0212 - 12/21/1998



NCAP Test - 1999 Ford Mustang

Max: 414.3 [N] at 0.138 [s]
Min: -2354.4 [N] at 0.076 [s]

Driver Left Lower Tibia Fz

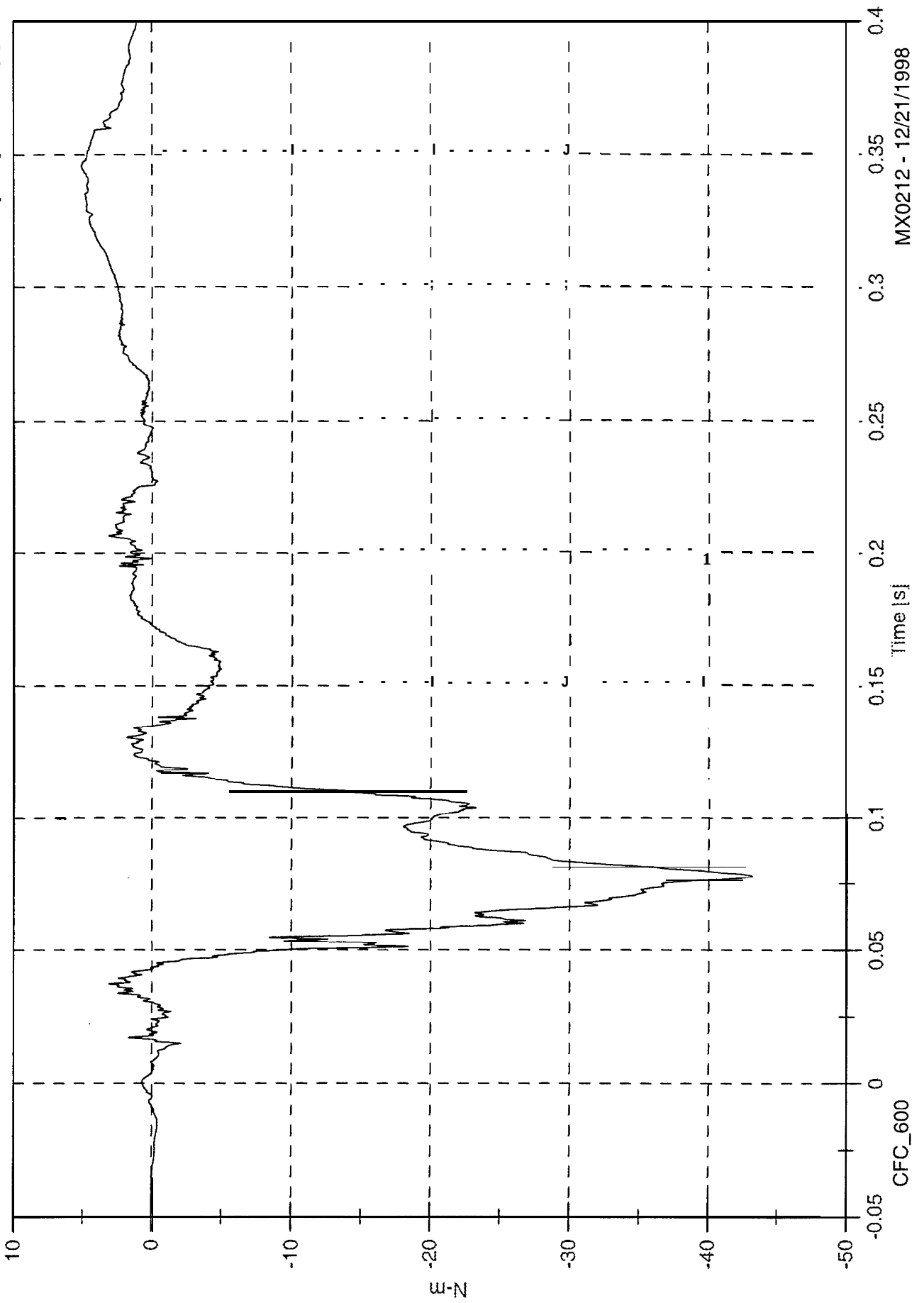


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.1 [N-m] at 0.345 [s]
 Min: -43.2 [N-m] at 0.078 [s]

Driver Left Lower Tibia Mx

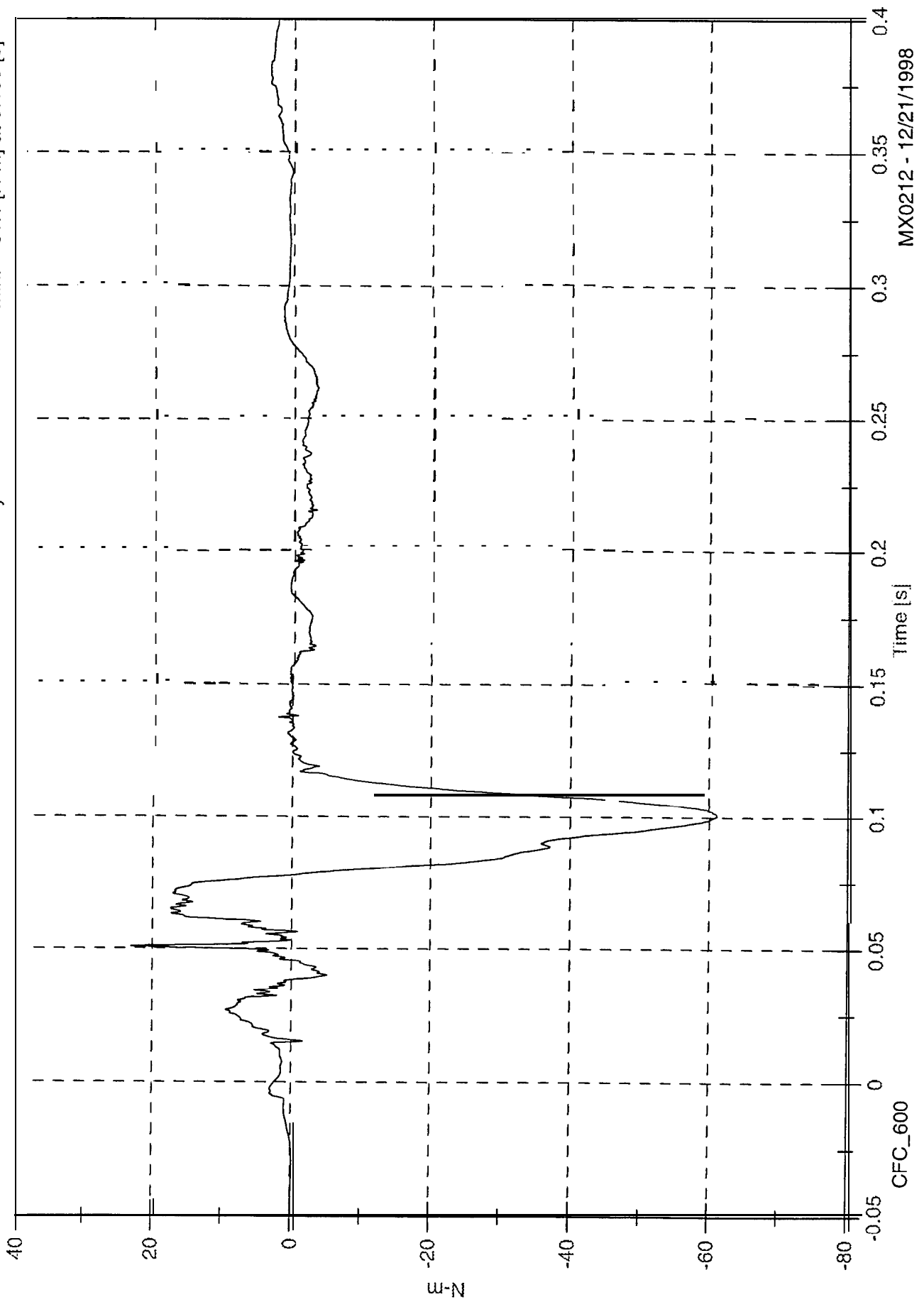


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Driver Left Lower Tibia My

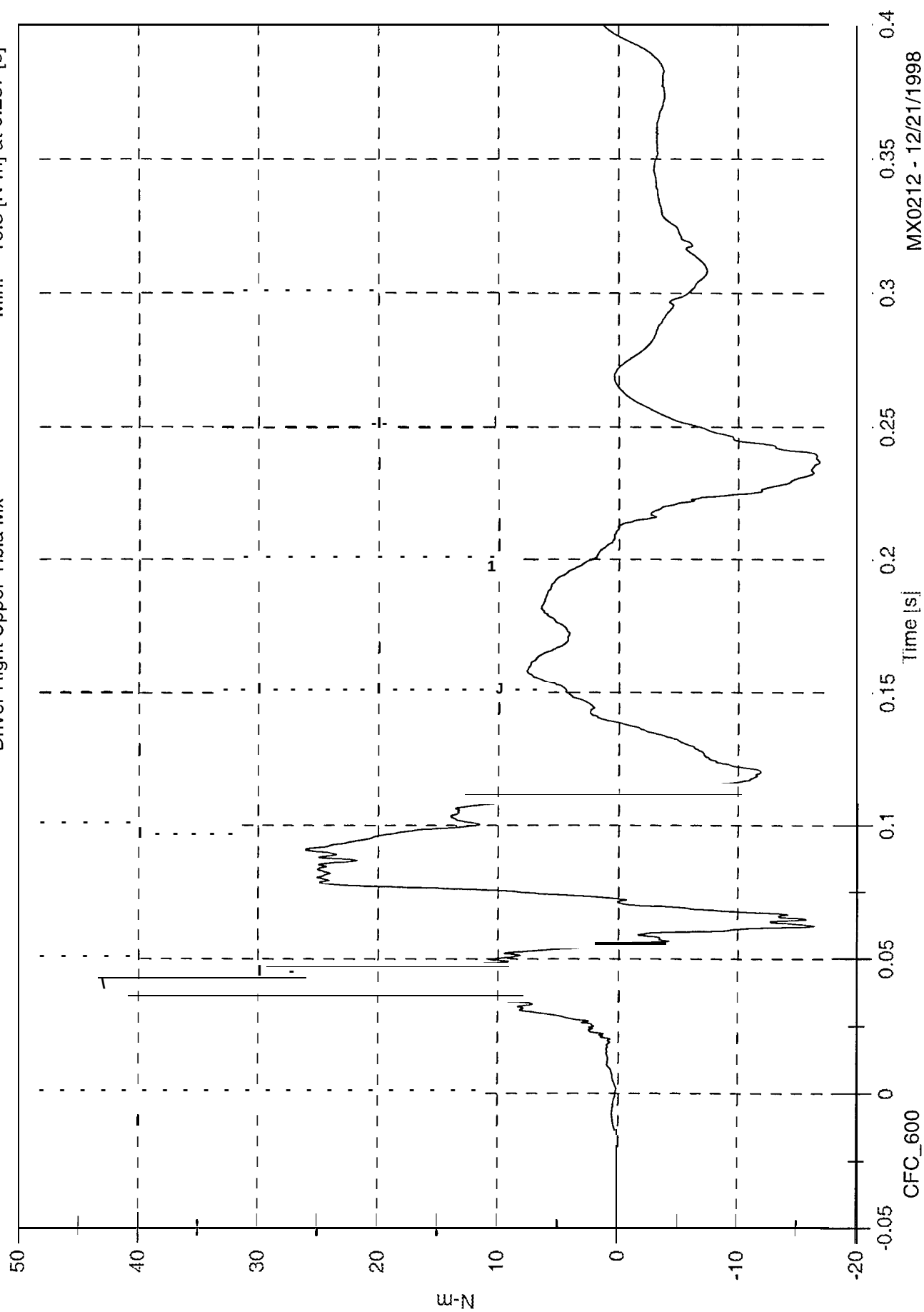
Max: 23.1 [N-m] at 0.051 [s]
Min: -61.1 [N-m] at 0.100 [s]



NCAP Test - 1999 Ford Mustang

Max: 43.3 [N-m] at 0.041 [s]
 Min: -16.8 [N-m] at 0.237 [s]

Driver Right Upper Tibia Mx

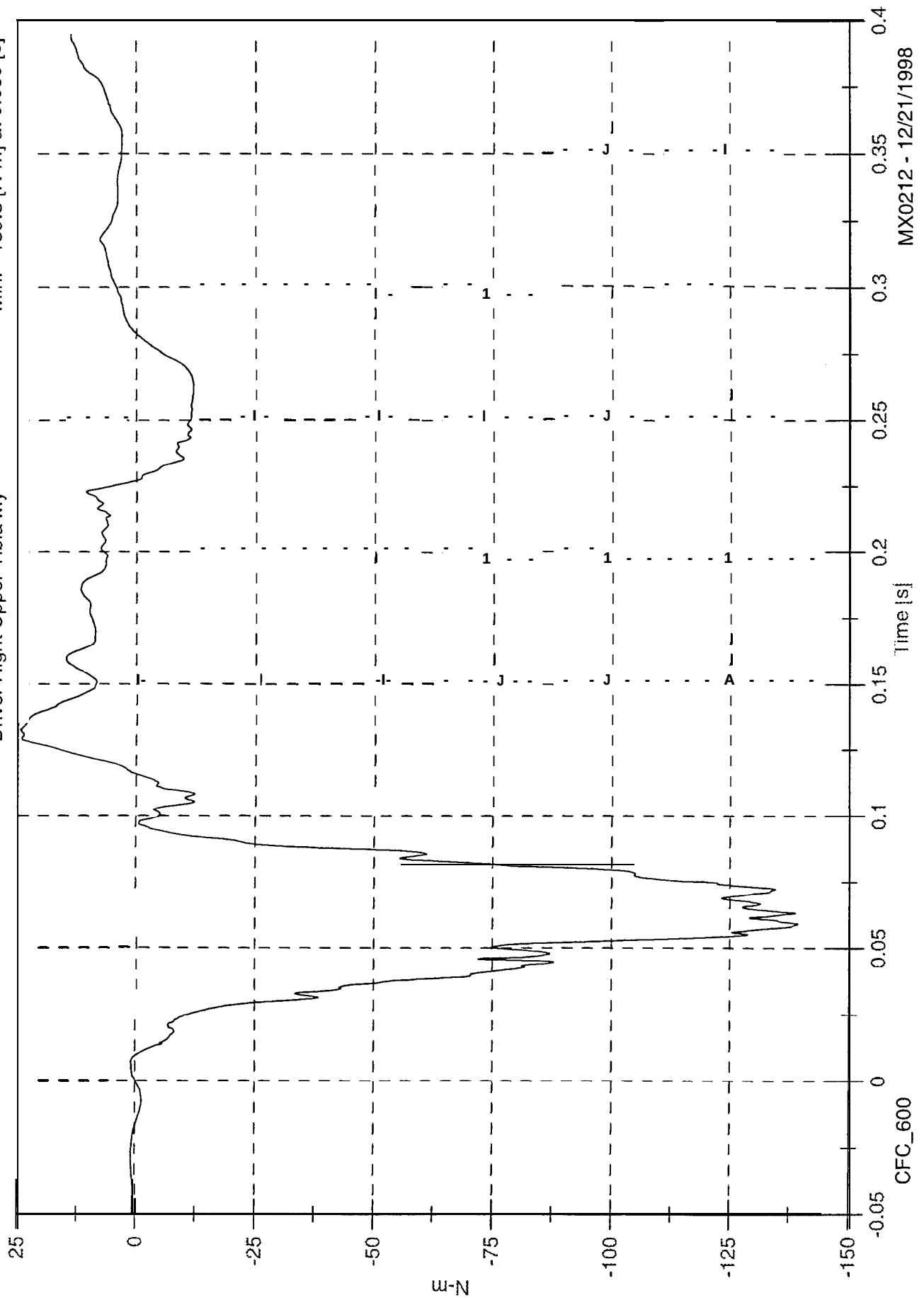


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 24.5 [N-m] at 0.132 [s]
Min: -139.3 [N-m] at 0.059 [s]

Driver Right Upper Tibia My

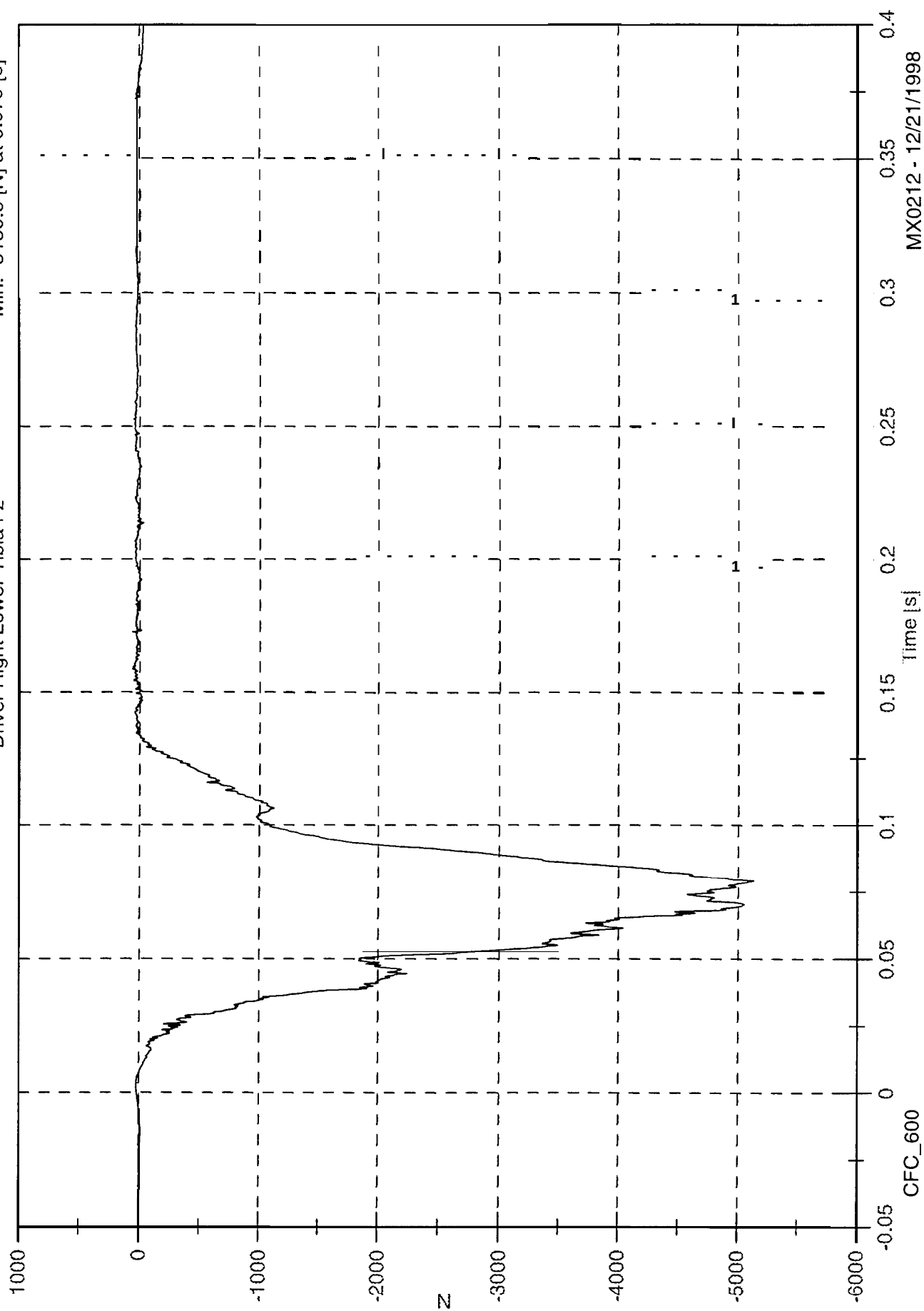


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 65.4 [N] at 0.534 [s]
Min: -5130.6 [N] at 0.079 [s]

Driver Right Lower Tibia Fz

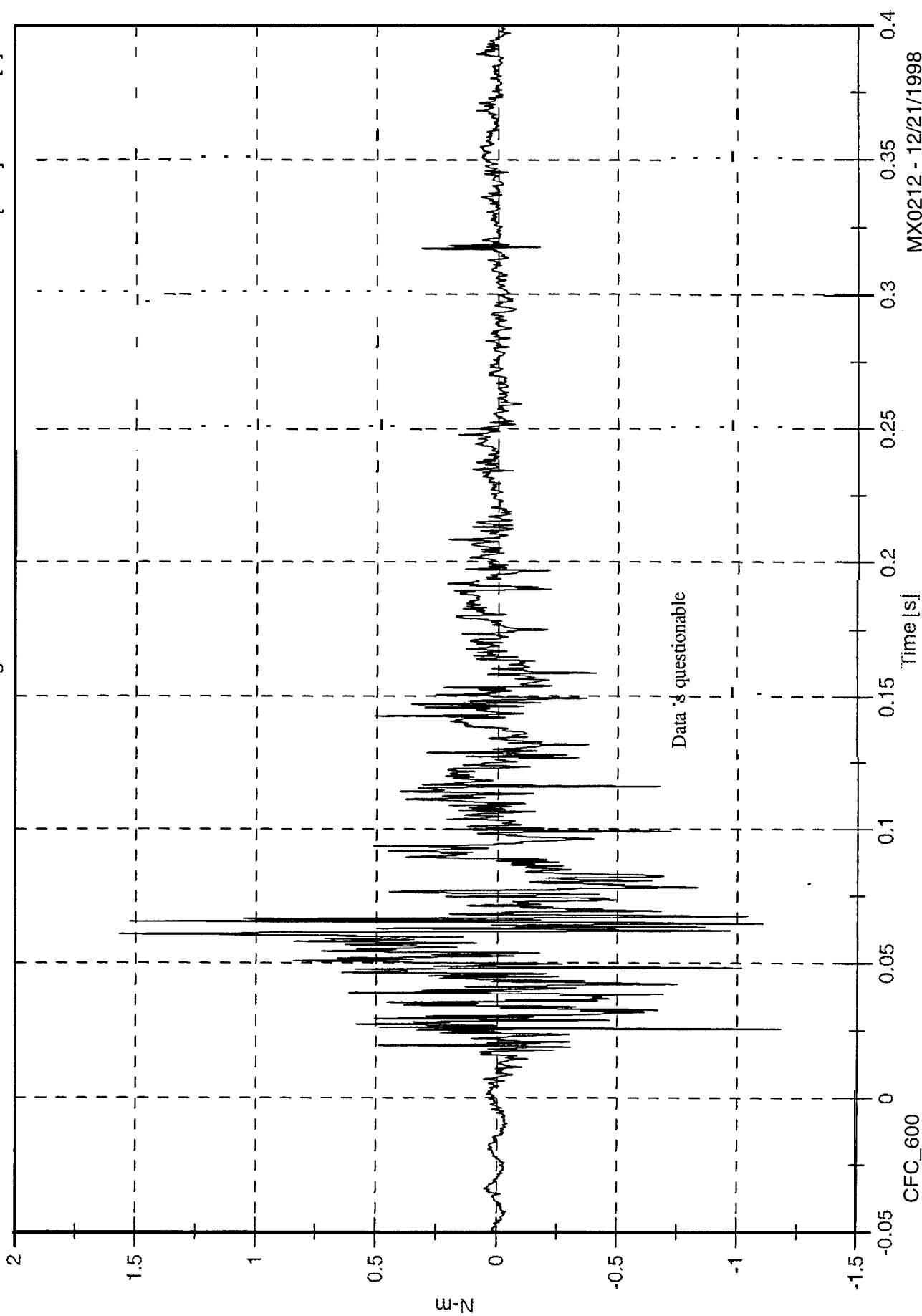


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 1.6 [N-m] at 0.061 [s]
Min: -1.2 [N-m] at 0.026 [s]

Driver Right Lower Tibia Mx



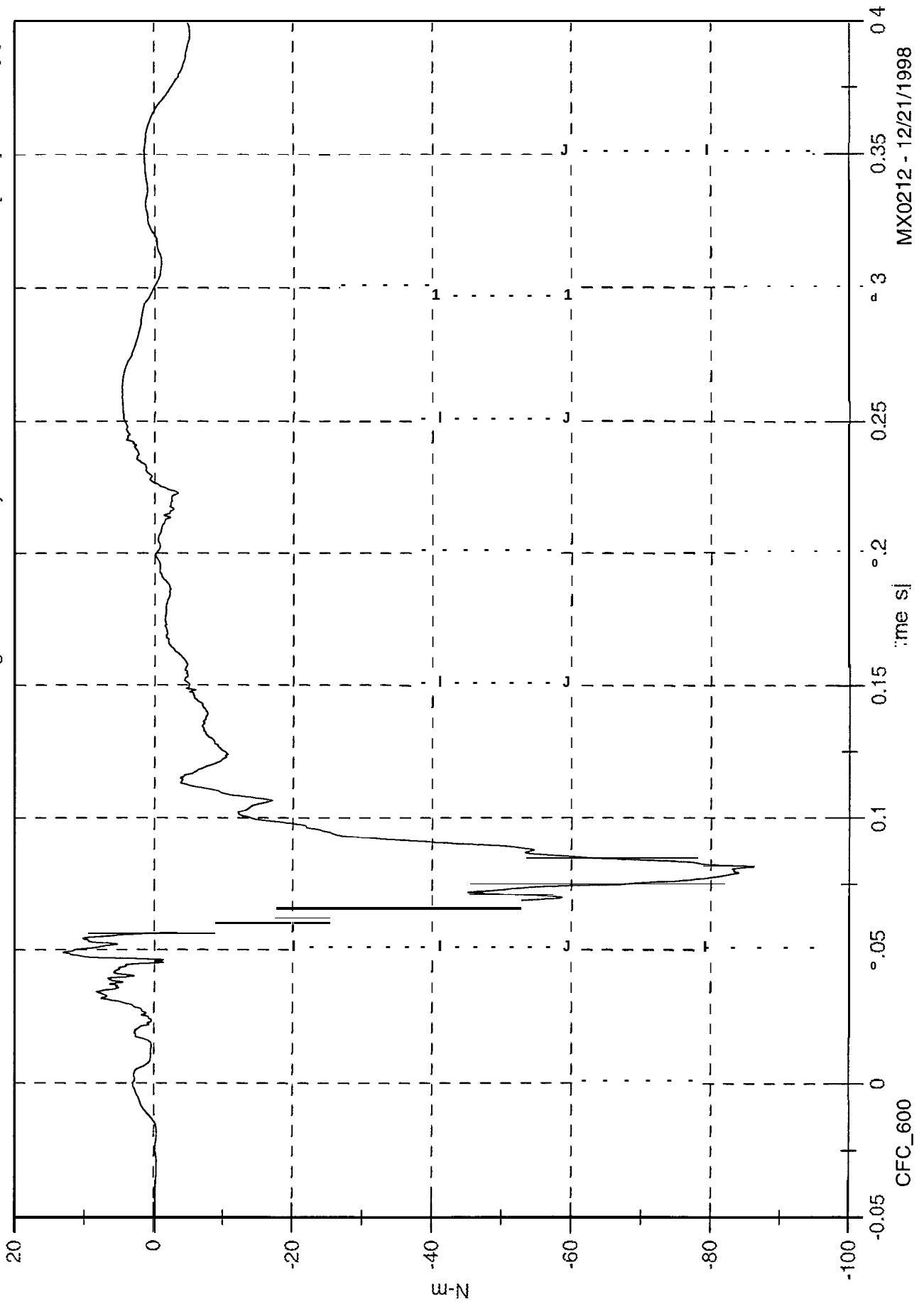
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 13.1 [N-m] at 0.049 [s]

Min: -86.2 [N-m] at 0.081 [s]

Driver Right Lower Tibia My

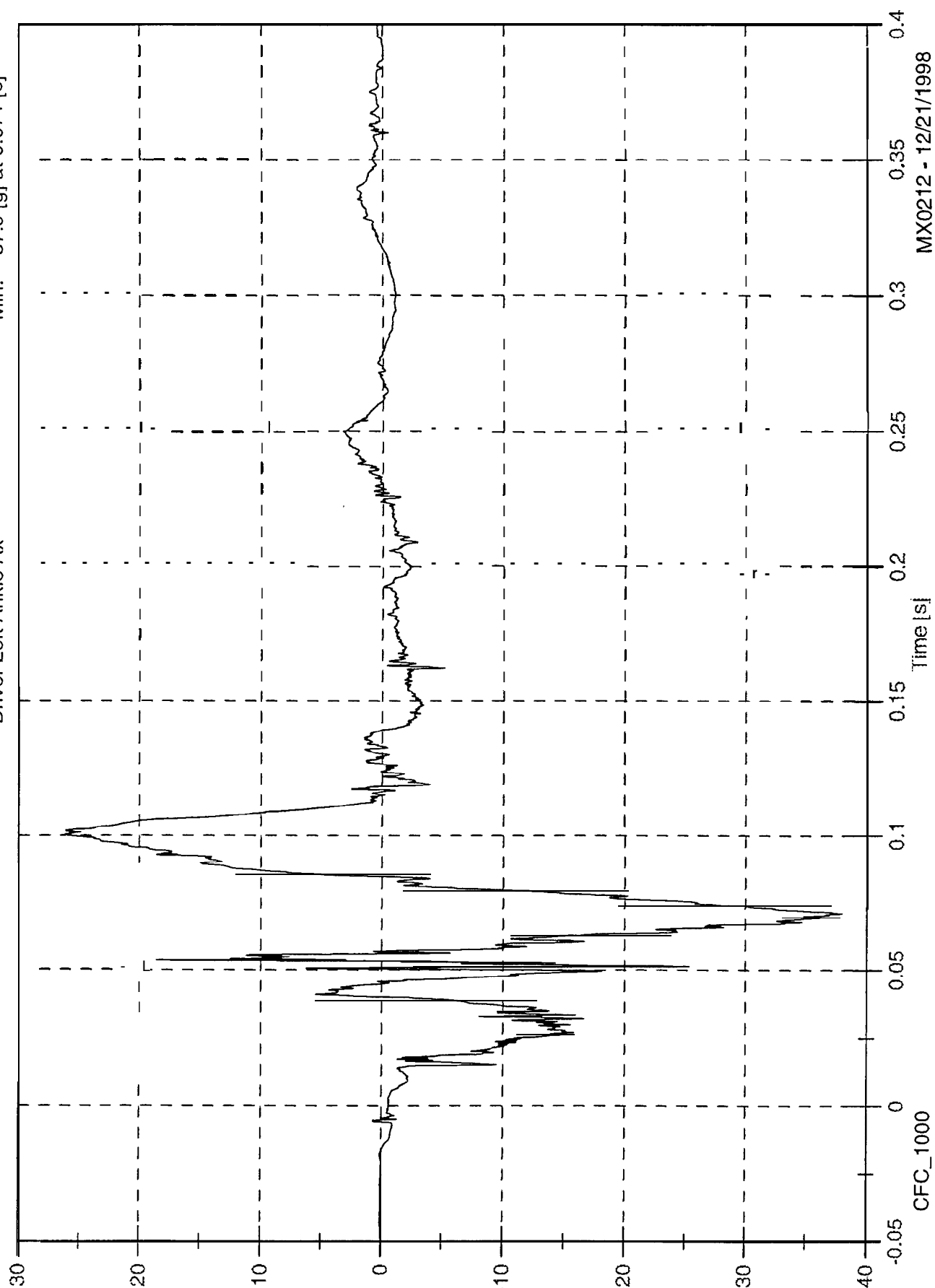


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 26.2 [g] at 0.100 [s]
Min: -37.9 [g] at 0.071 [s]

Driver Left Ankle Ax

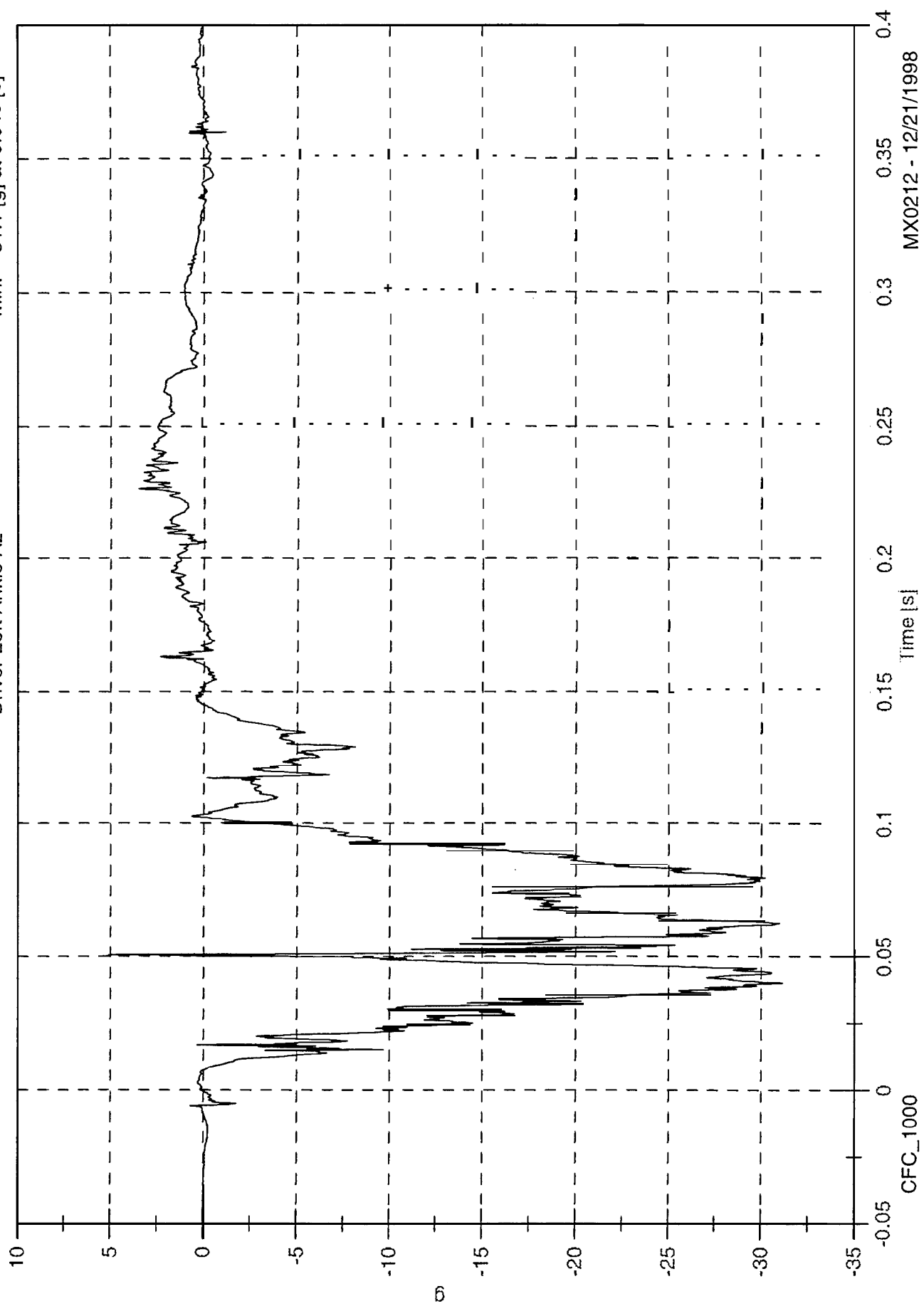


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.1 [g] at 0.051 [s]
Min: -31.1 [g] at 0.040 [s]

Driver Left Ankle Az

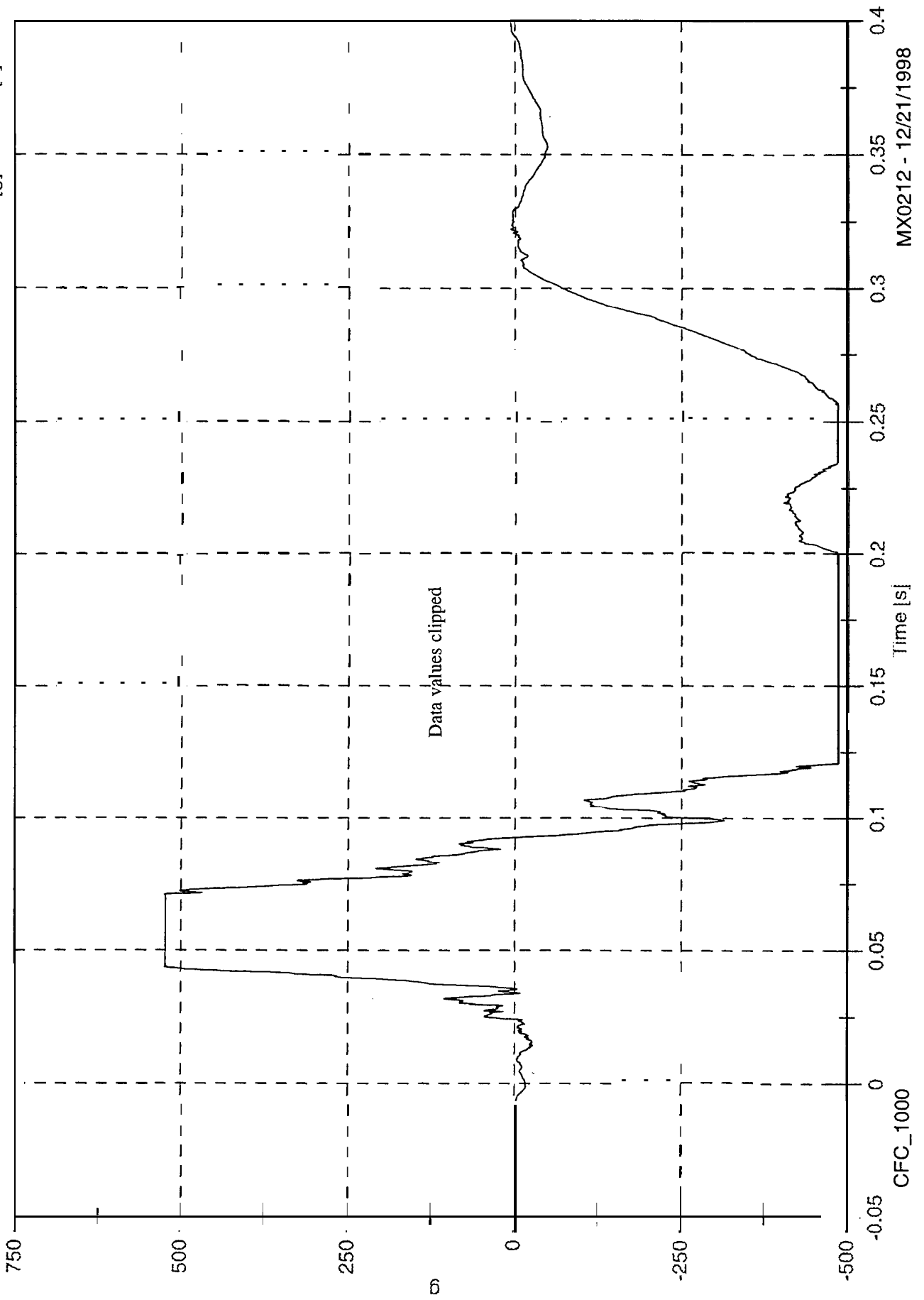


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 524.6 [g] at 0.071 [s]
Min: -485.1 [g] at 0.121 [s]

Driver Left Toe Az

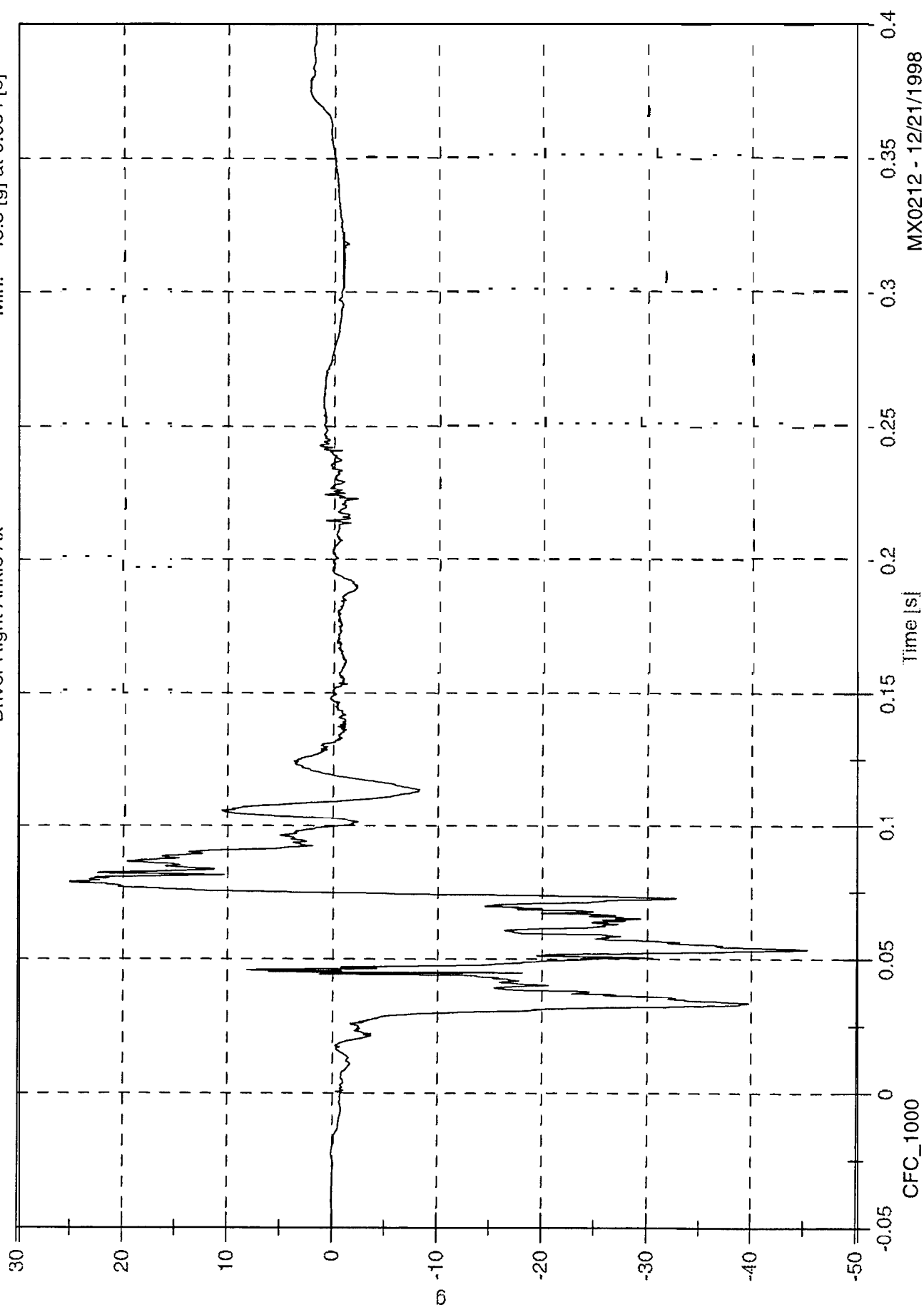


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 25.1 [g] at 0.079 [s]
Min: -45.3 [g] at 0.054 [s]

Driver Right Ankle Ax

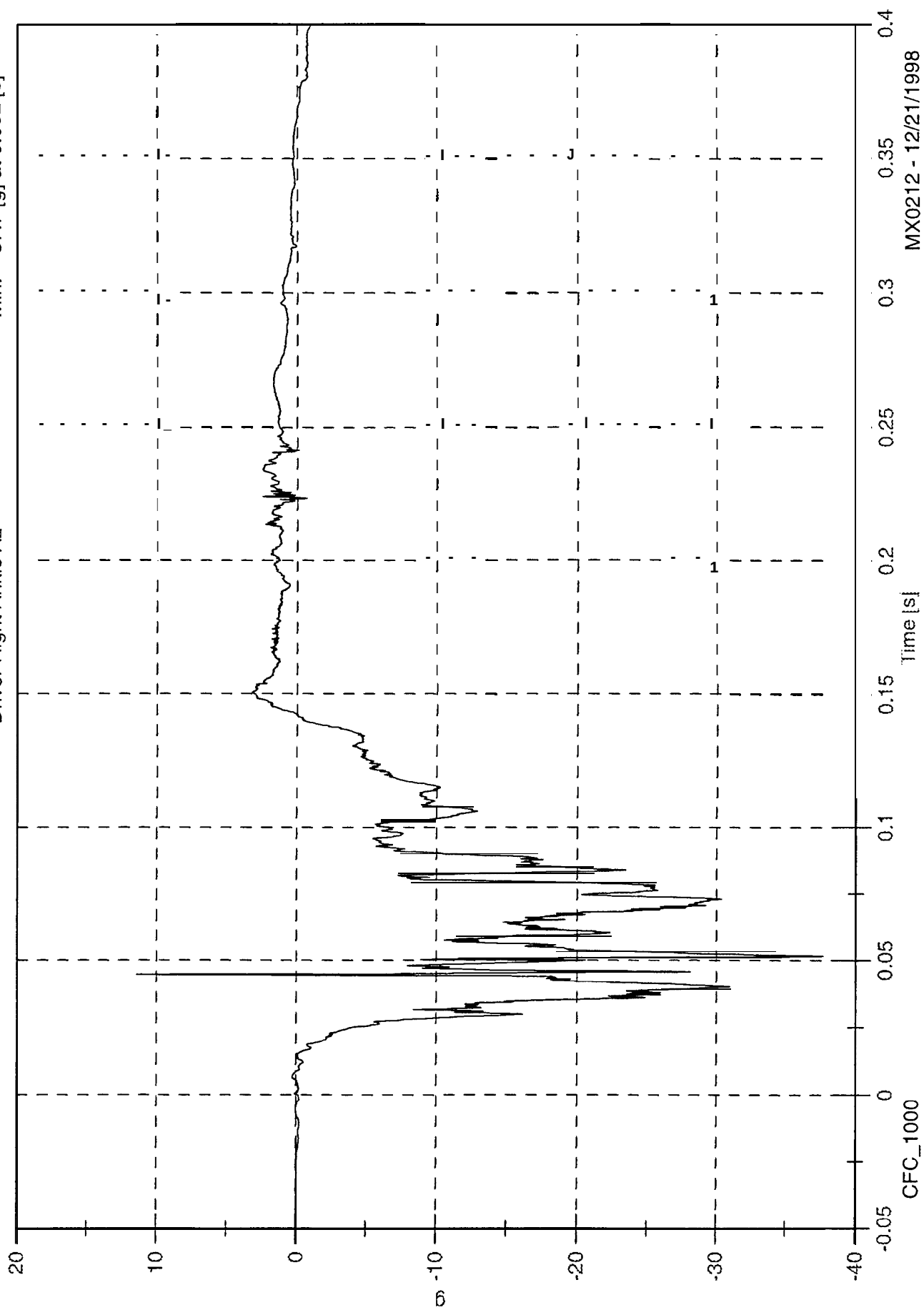


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 11.4 [g] at 0.045 [s]
Min: -37.7 [g] at 0.052 [s]

Driver Right Ankle Az



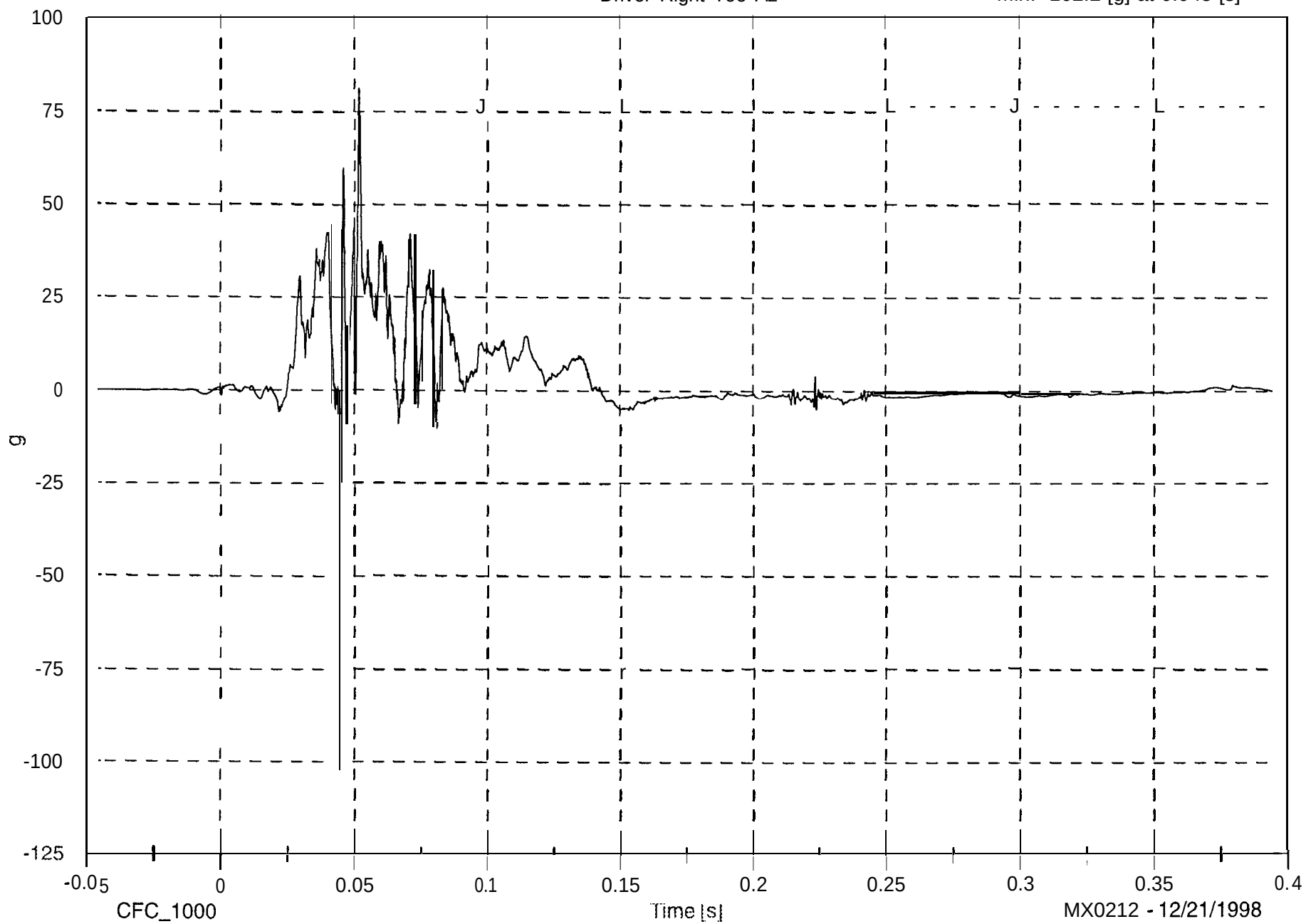
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 81 .0 [g] at 0.052 [s]

Min: -102.2 [g] at 0.045 [s]

Driver Right Toe Az



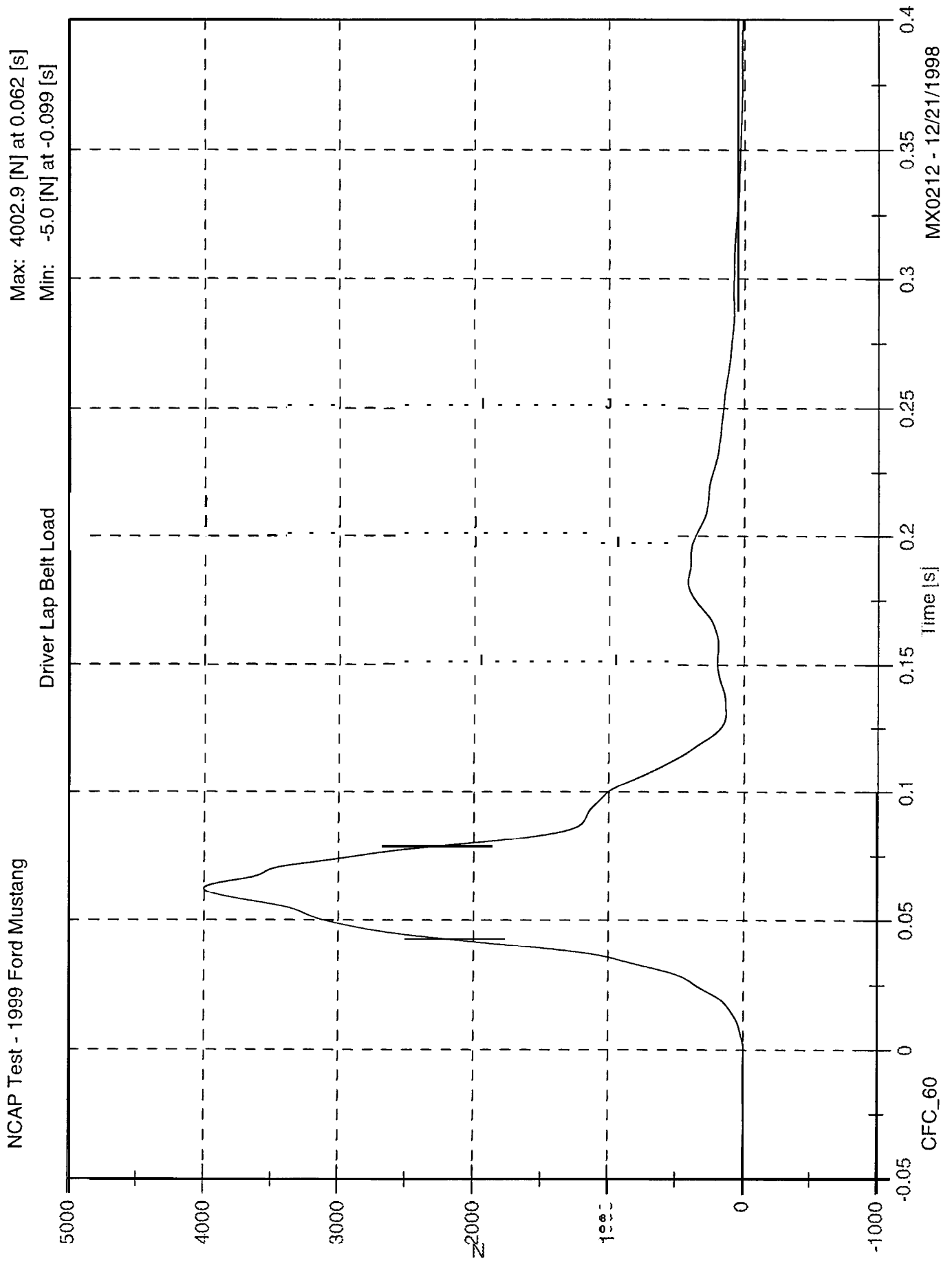
B-50

8413-27

CFC_1000

Time [s]

MX0212 - 12/21/1998

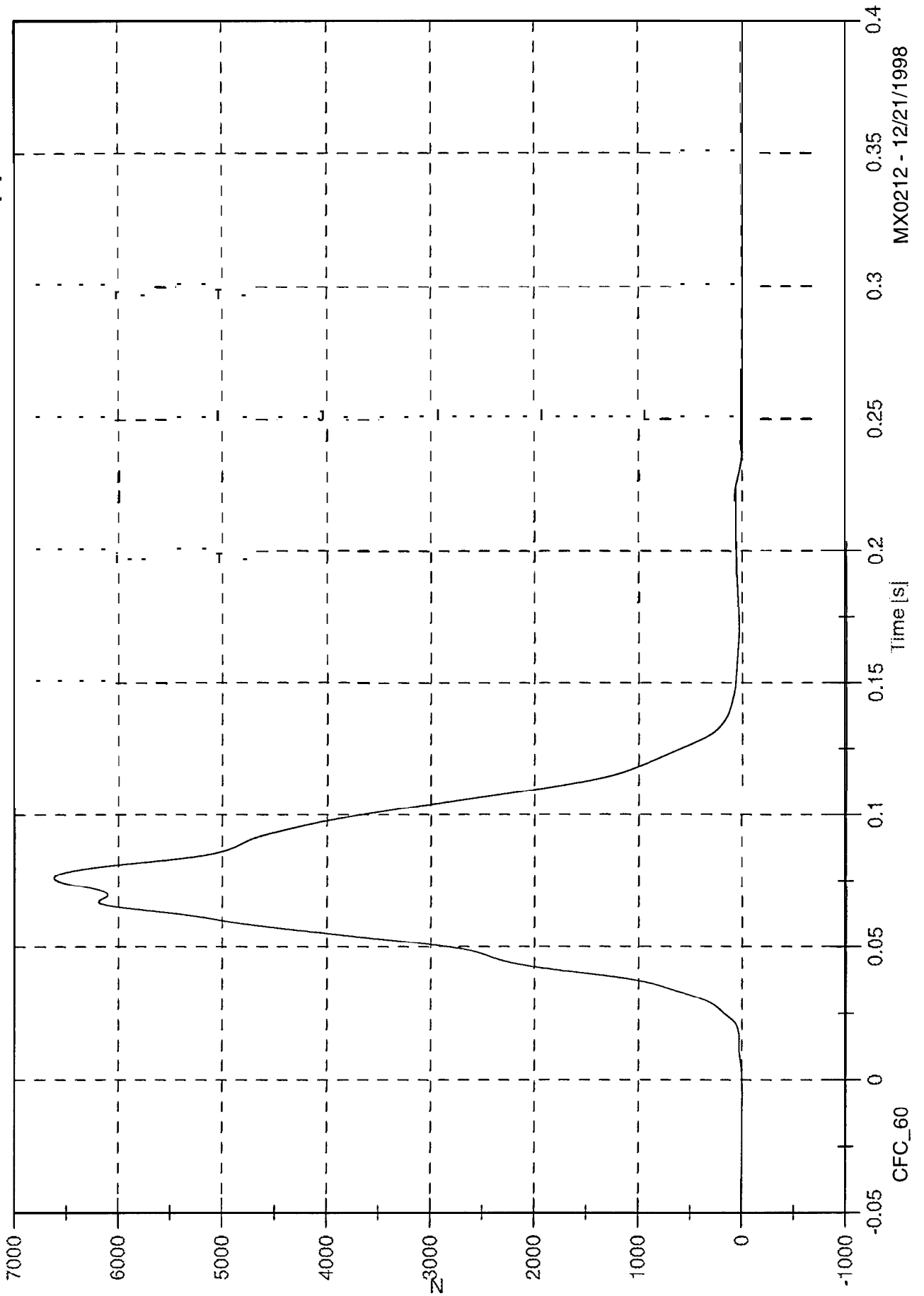


NCAP Test - 1999 Ford Mustang

Max: 6624.1 [N] at 0.076 [s]

Min: -24.0 [N] at 0.434 [s]

Driver Torso Belt

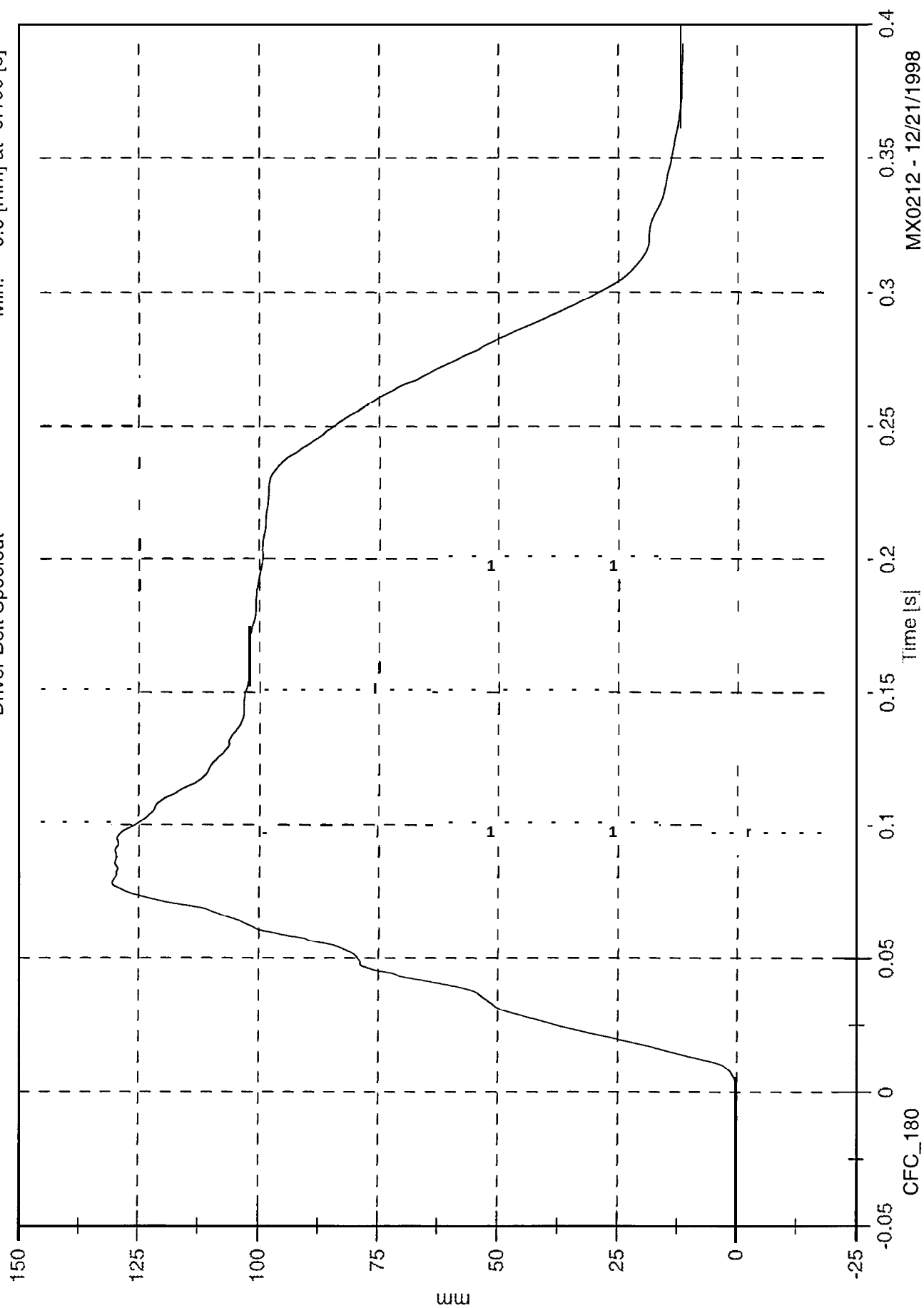


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 130.6 [mm] at 0.078 [s]
Min: -0.0 [mm] at -0.100 [s]

Driver Belt Spoolout

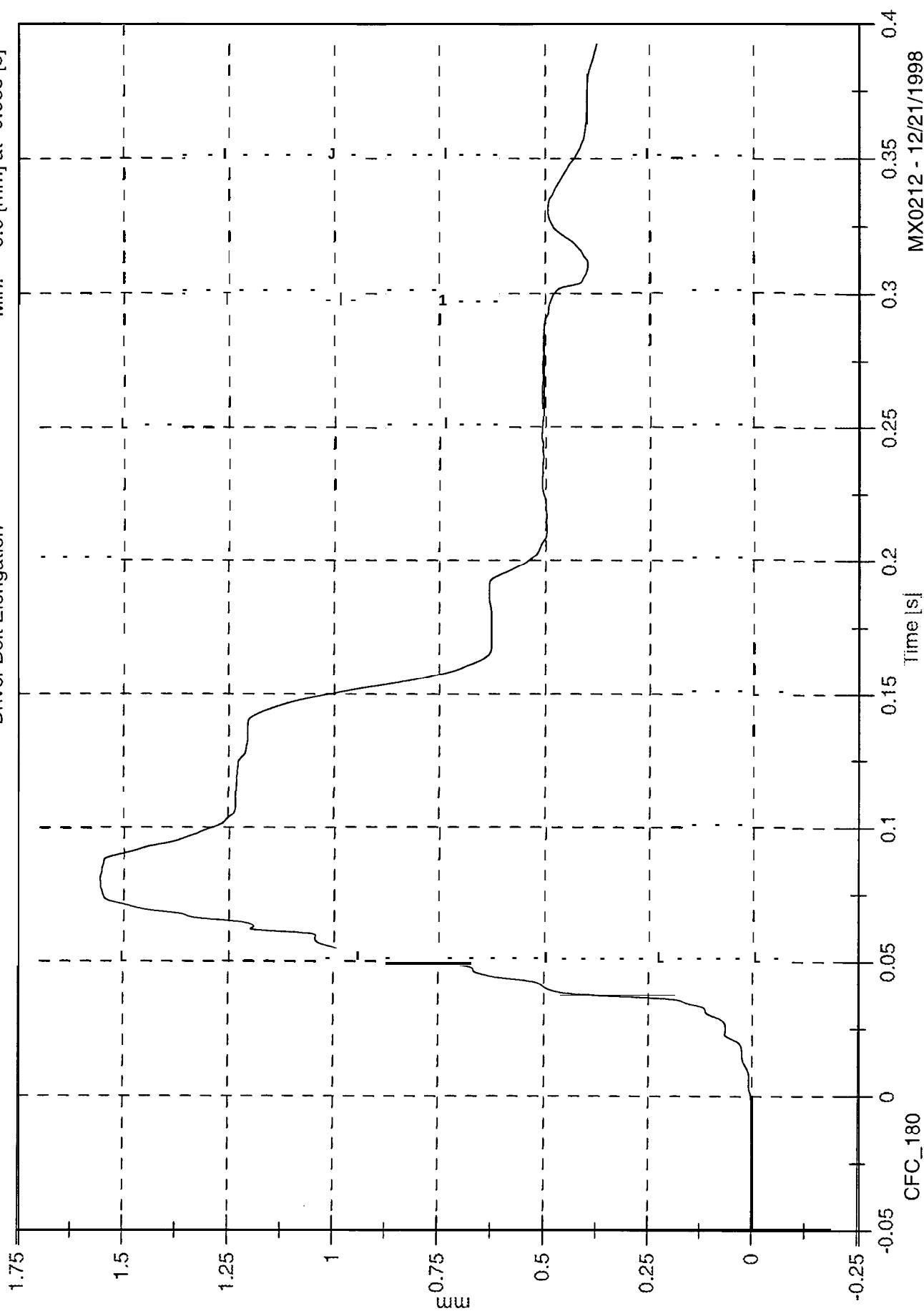


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 1.6 [mm] at 0.081 [s]
Min: -0.0 [mm] at -0.085 [s]

Driver Belt Elongation

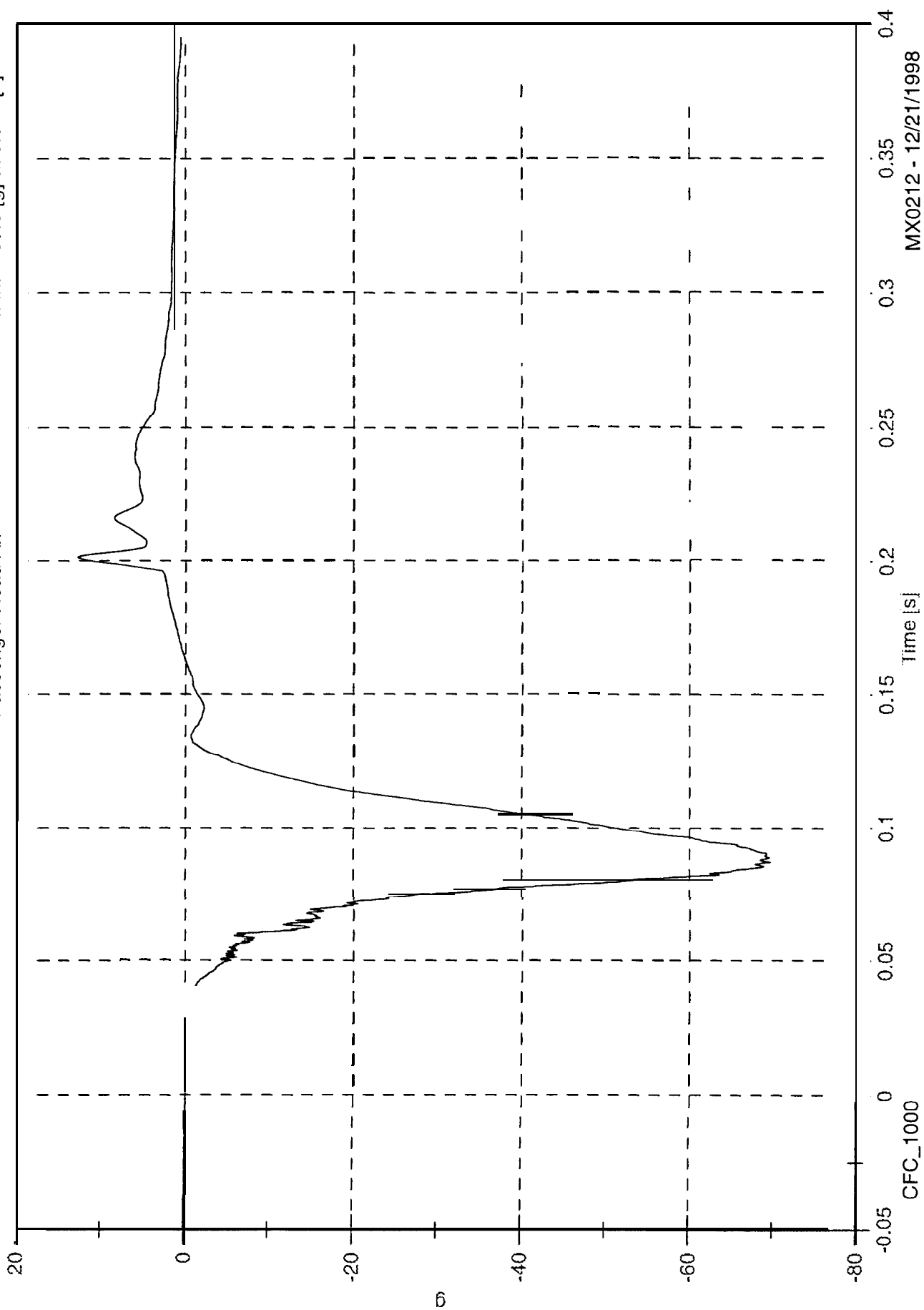


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 12.8 [g] at 0.201 [s]
Min: -69.6 [g] at 0.087 [s]

Passenger Head Ax

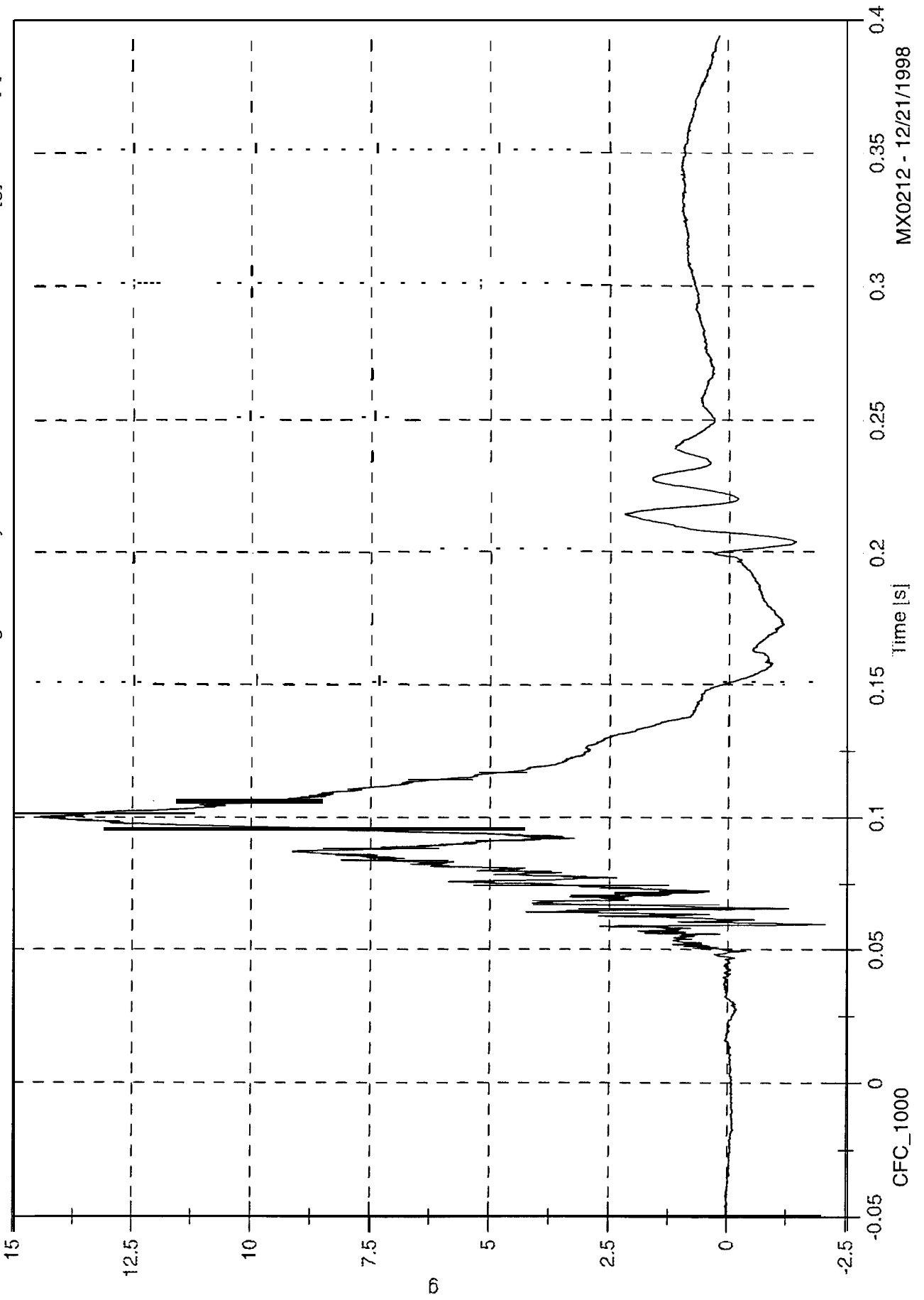


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 14.4 [g] at 0.100 [s]
Min: -2.0 [g] at 0.060 [s]

Passenger Head Ay

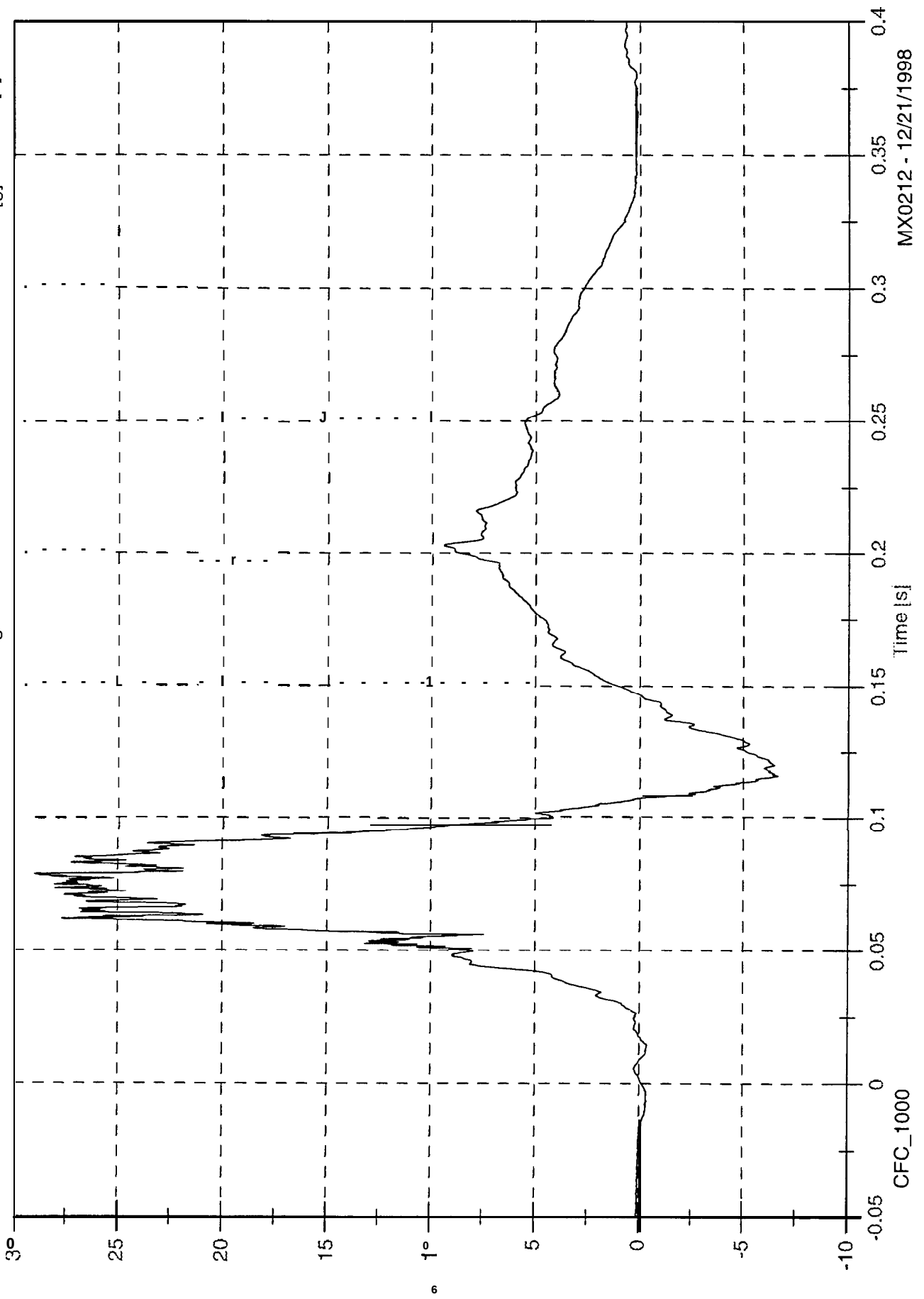


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 29.0 [g] at 0.079 [s]
Min: -6.6 [g] at 0.116 [s]

Passenger Head Az

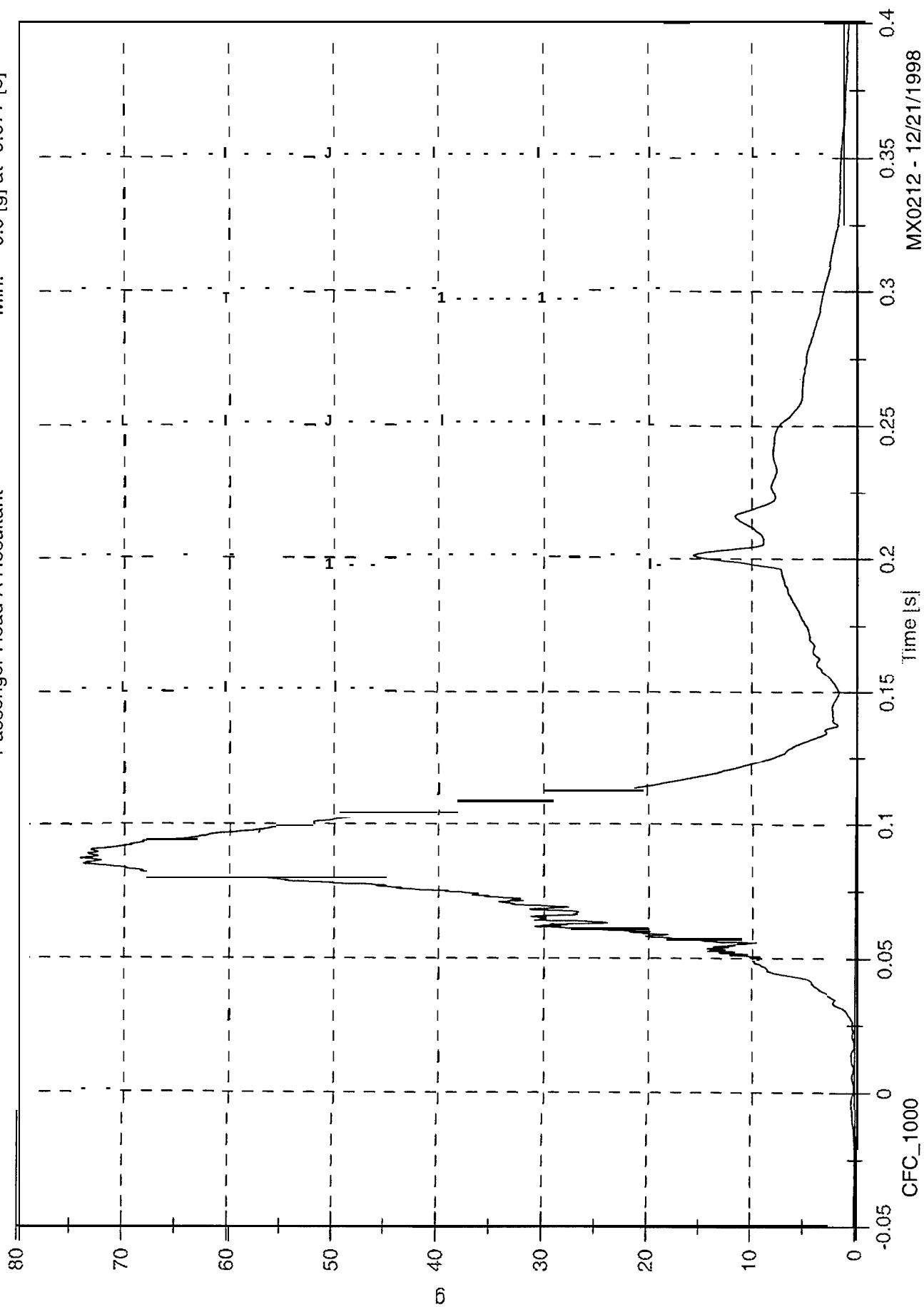


MX0212 - 12/21/1998

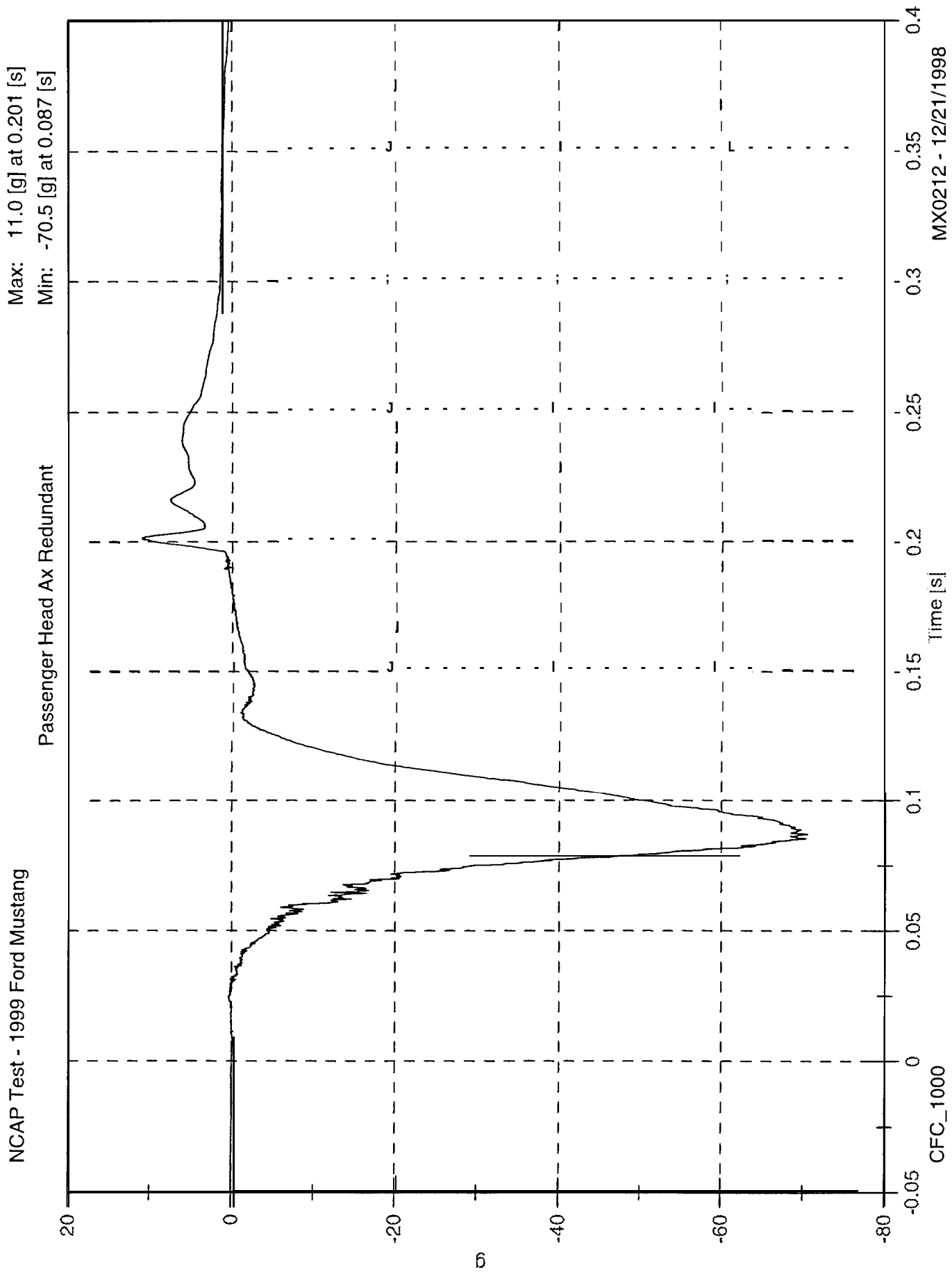
NCAP Test - 1999 Ford Mustang

Passenger Head A Resultant

Max: 74.3 [g] at 0.087 [s]
Min: 0.0 [g] at -0.077 [s]



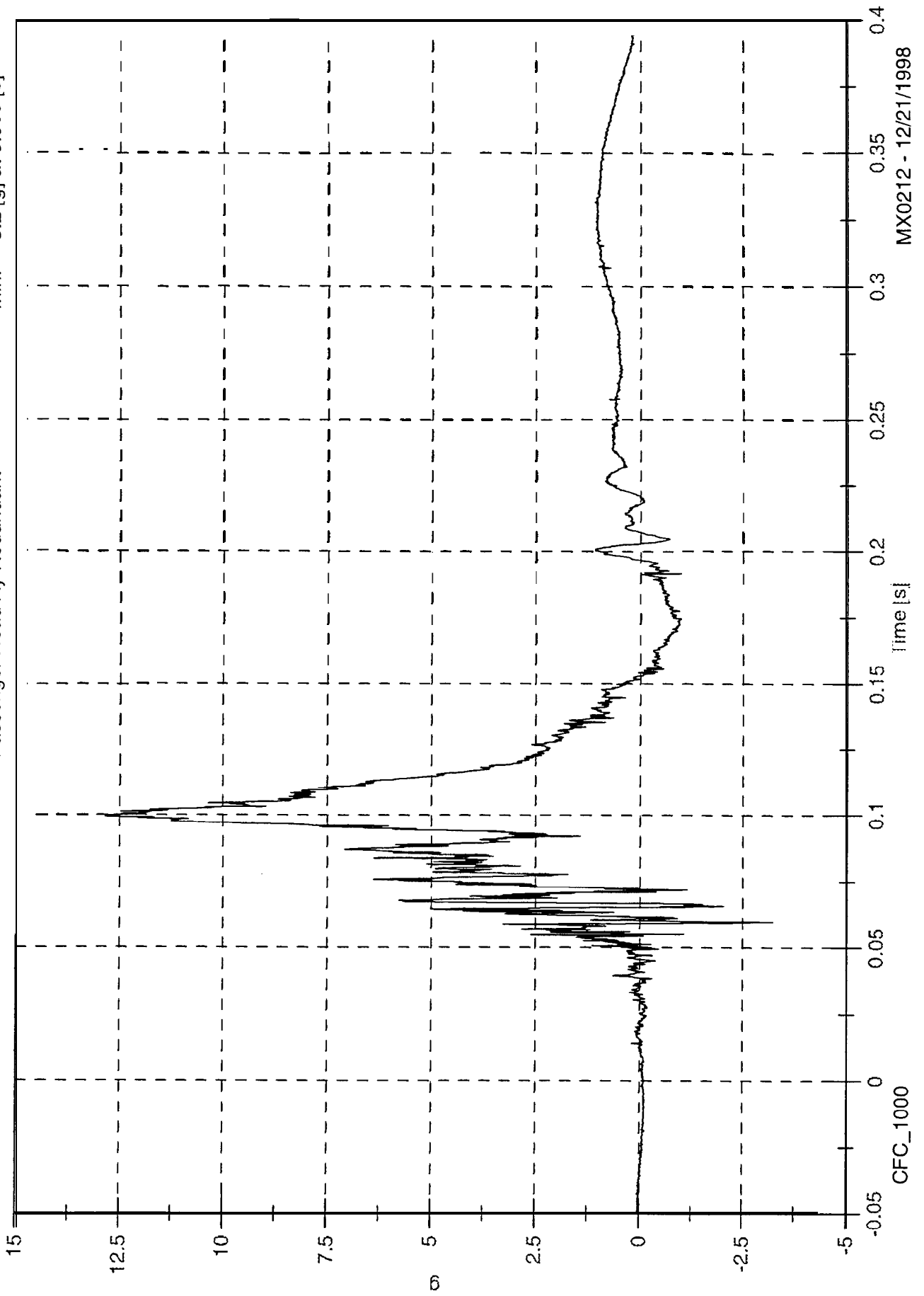
MX0212 - 12/21/1998



NCAP Test - 1999 Ford Mustang

Max: 12.8 [g] at 0.099 [s]
Min: -3.2 [g] at 0.060 [s]

Passenger Head Ay Redundant

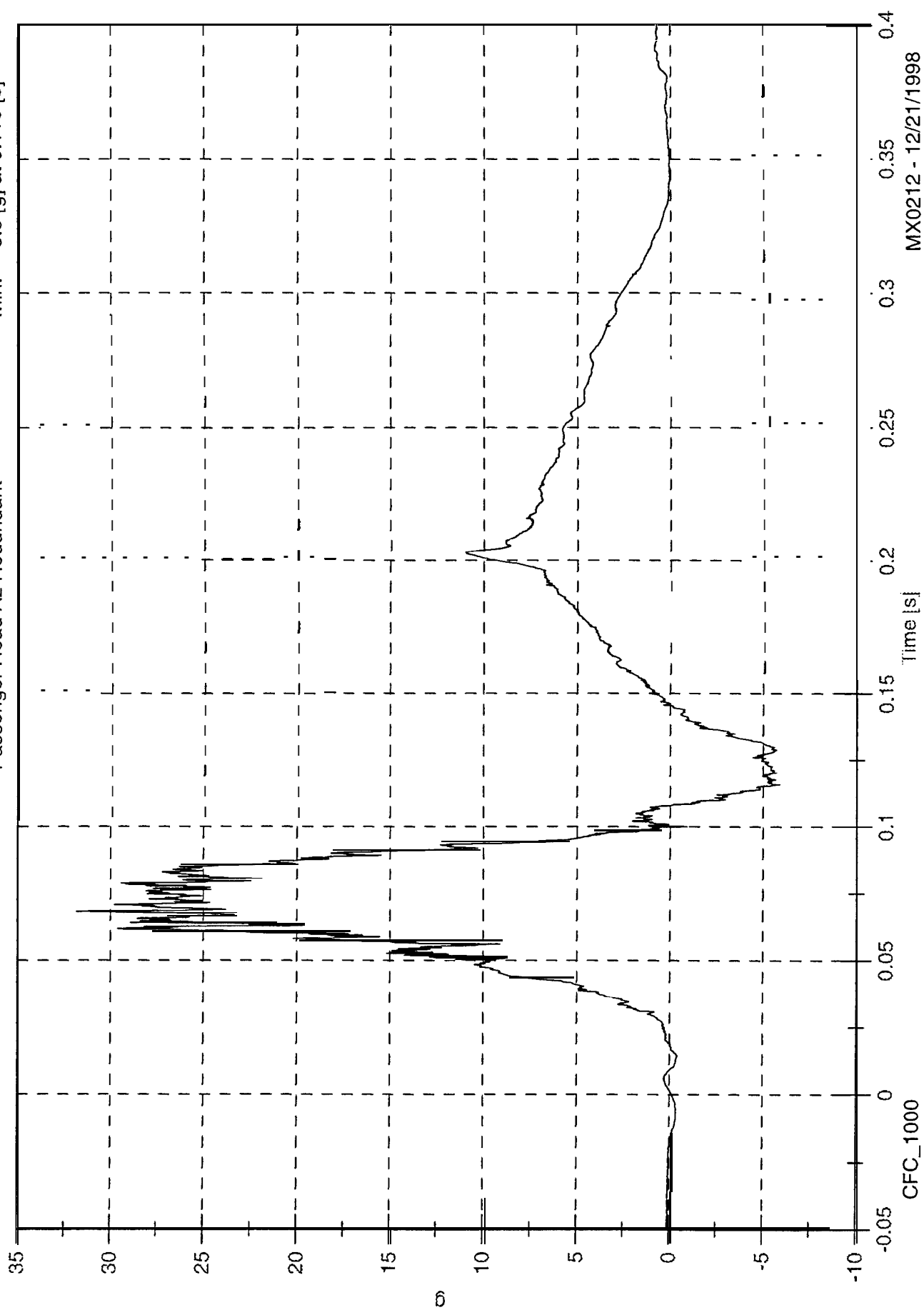


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 31.8 [g] at 0.068 [s]
Min: -5.9 [g] at 0.116 [s]

Passenger Head Az Redundant

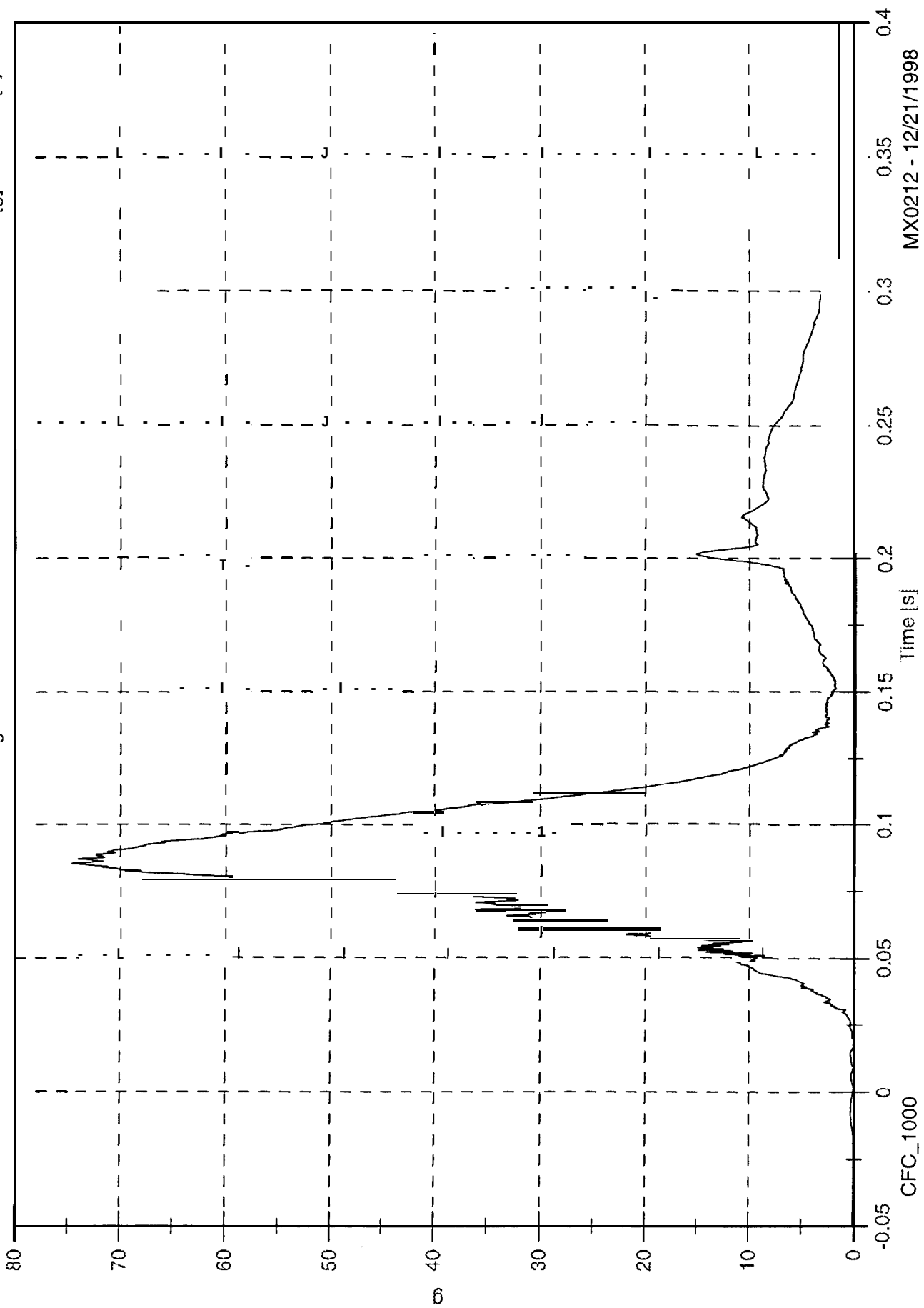


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 74.6 [g] at 0.086 [s]
Min: 0.0 [g] at -0.076 [s]

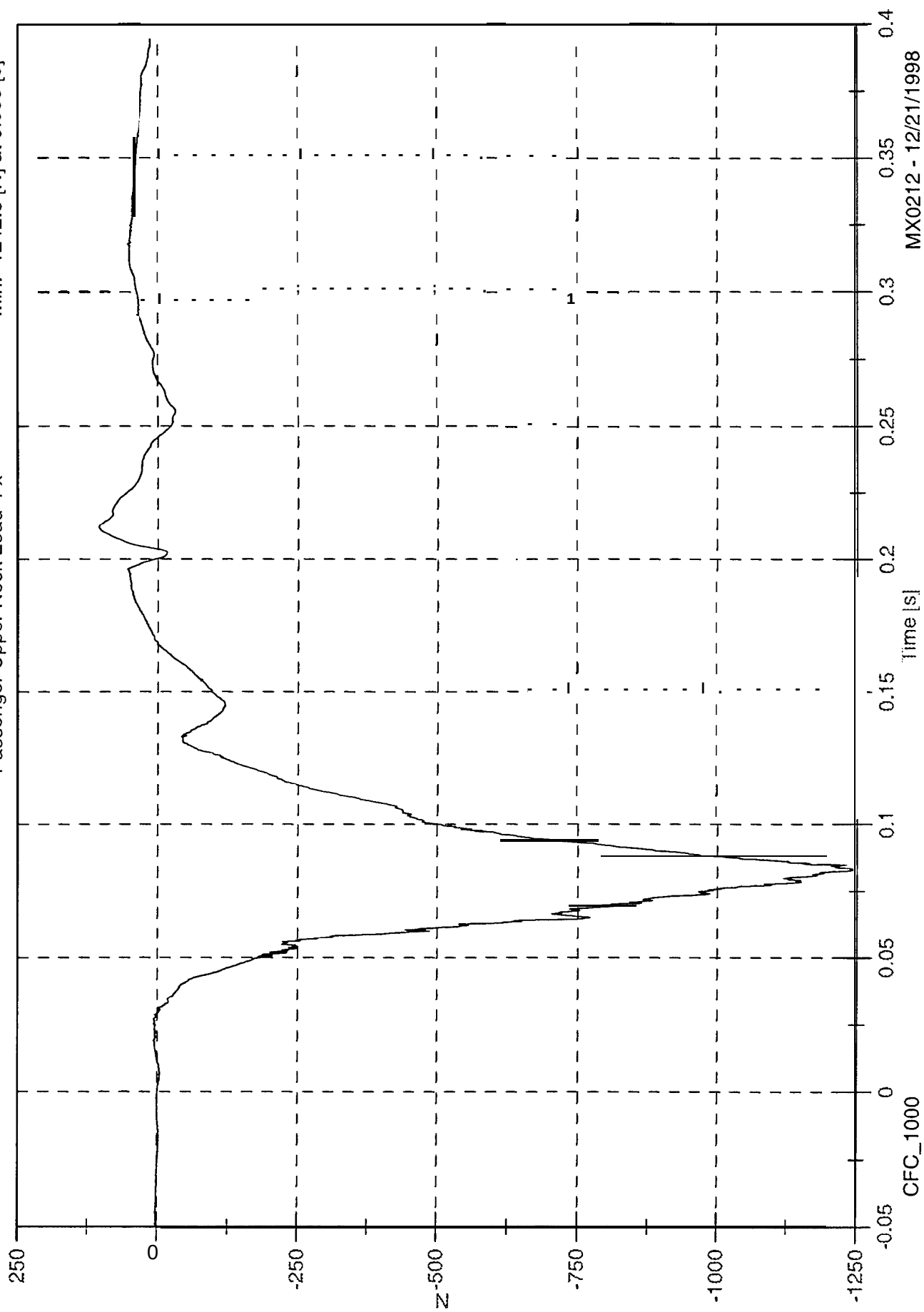
Passenger Head Ax Redundan Resultant



NCAP Test - 1999 Ford Mustang

Max: 105.9 [N] at 0.212 [s]
Min: -1242.6 [N] at 0.083 [s]

Passenger Upper Neck Load Fx



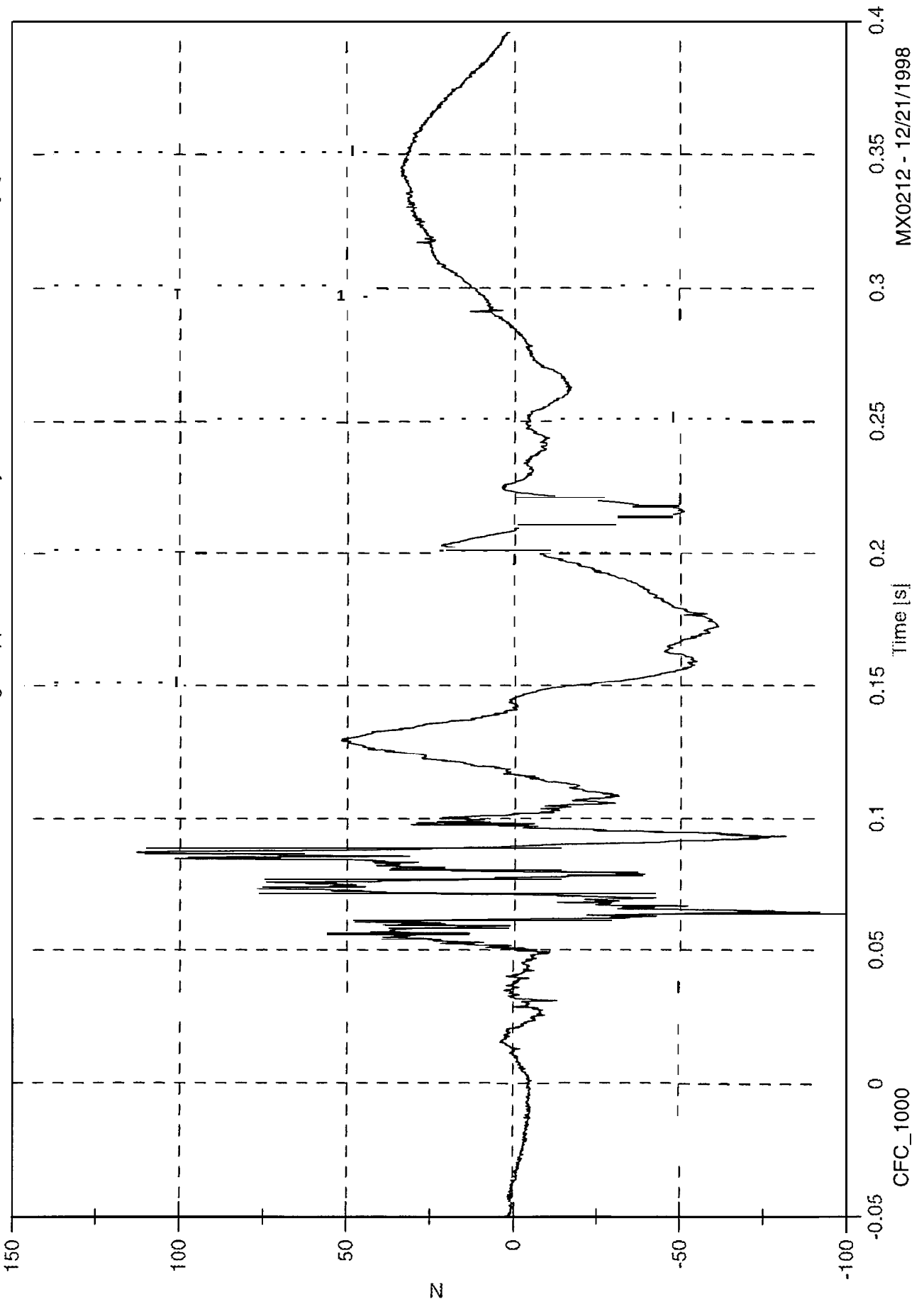
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

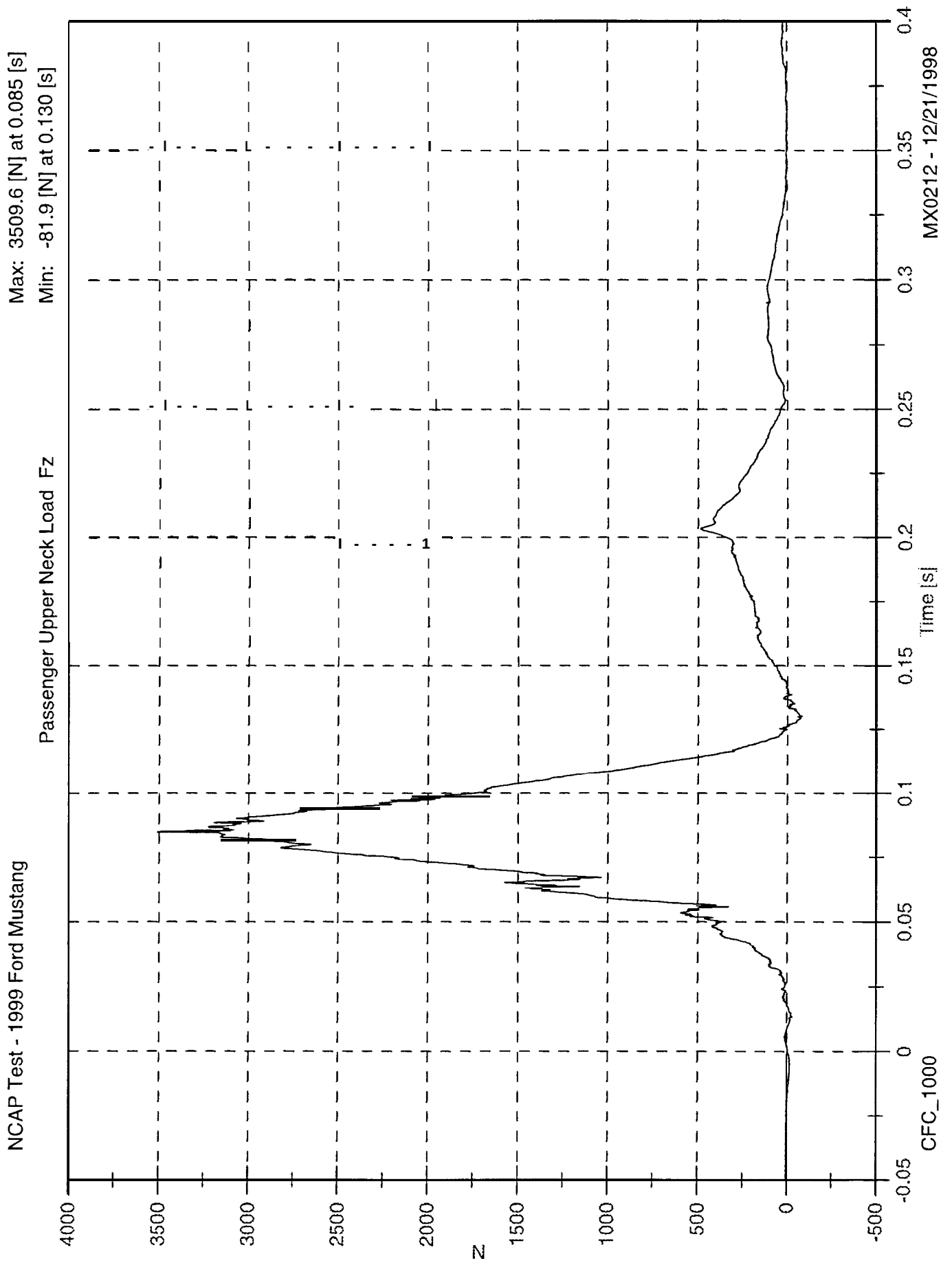
Max: 112.9 [N] at 0.087 [s]

Min: -94.9 [N] at 0.064 [s]

Passenger Upper Neck Load Fy



MX0212 - 12/21/1998

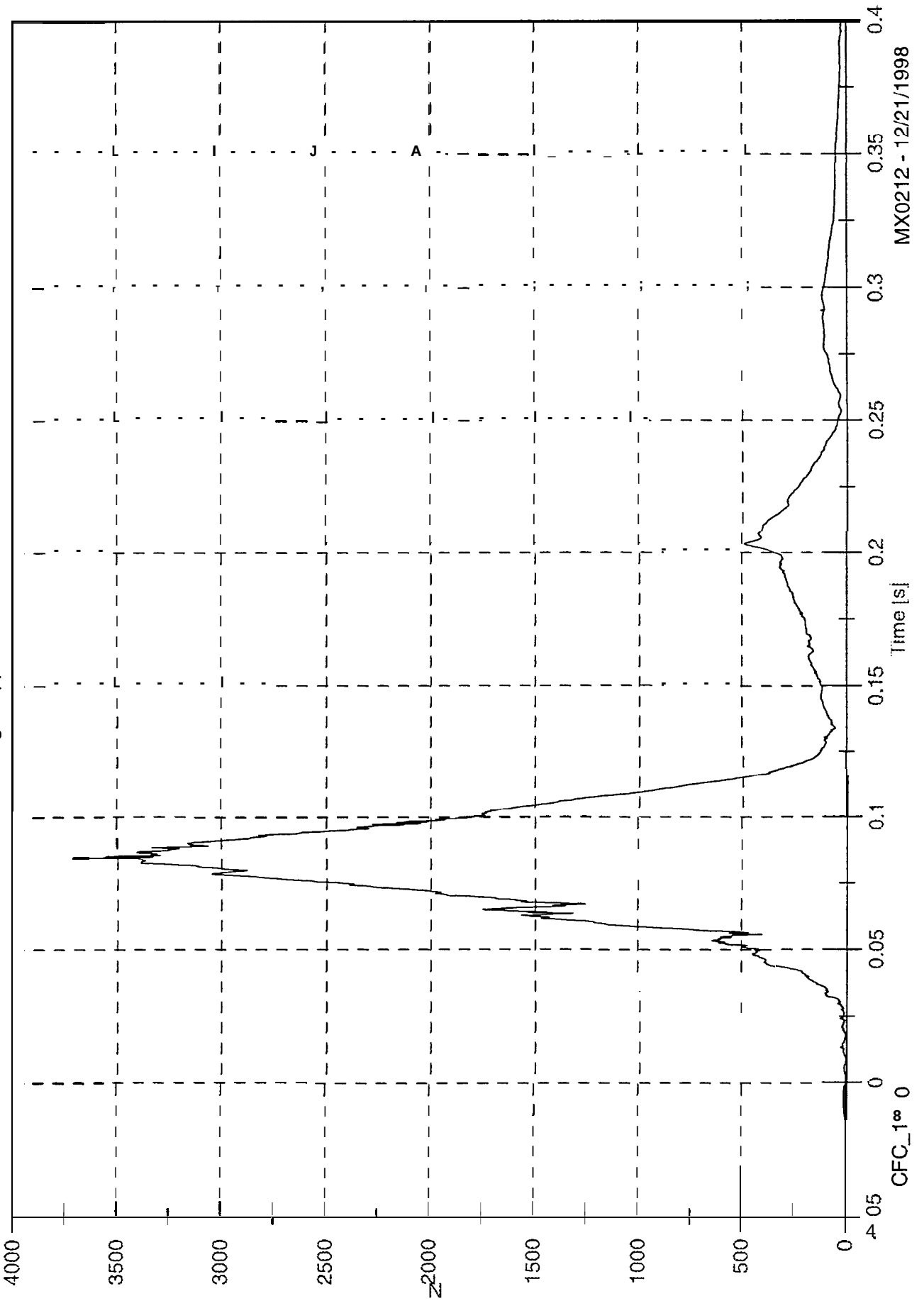


NCAP Test - 1999 Ford Mustang

Max: 3711.5 [N] at 0.085 [s]

Min: 1.4 [N] at -0.070 [s]

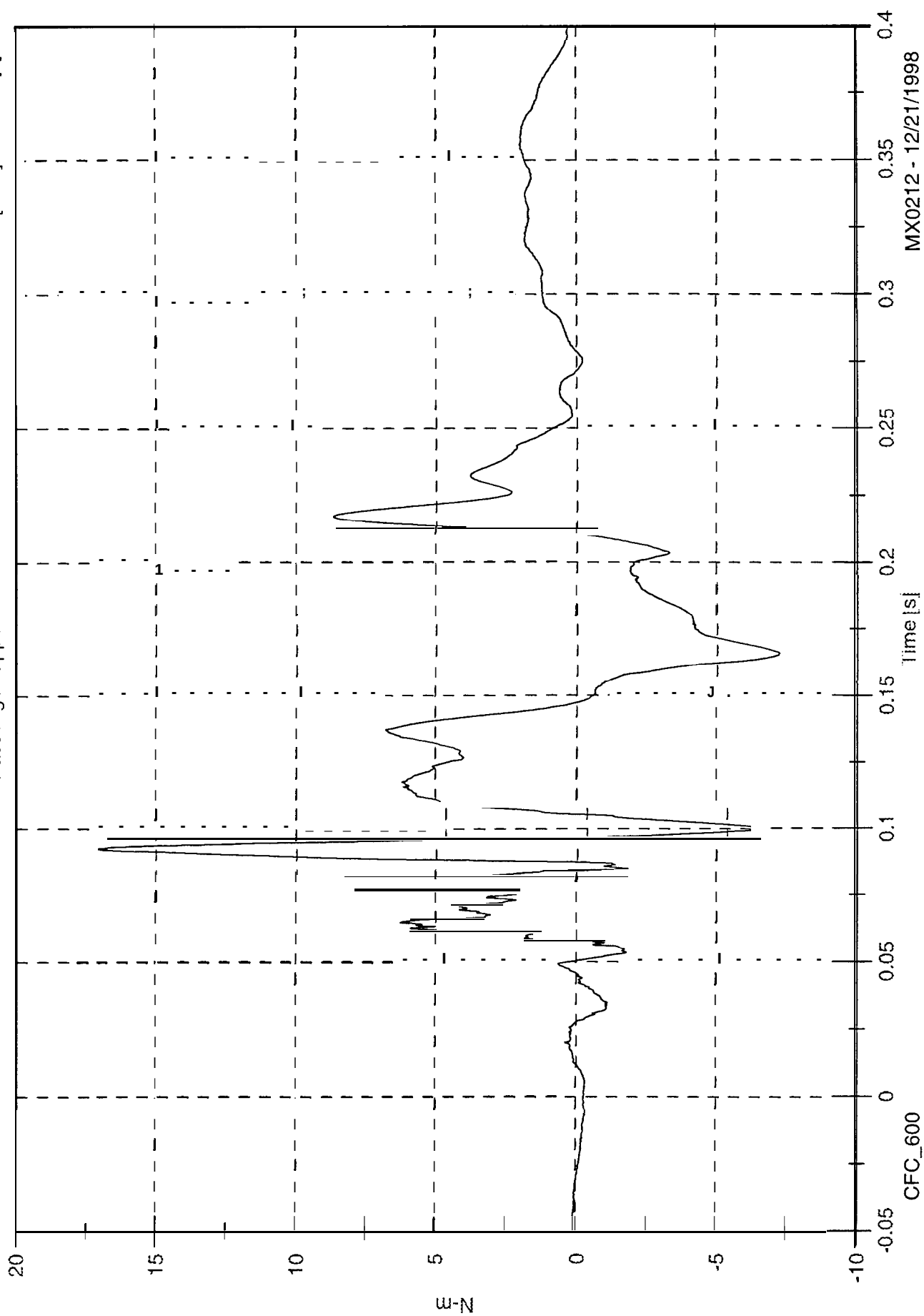
Passenger Upper Neck Load F Resultant



NCAP Test - 1999 Ford Mustang

Max: 17.1 [N-m] at 0.092 [s]
 Min: -7.2 [N-m] at 0.166 [s]

Passenger Upper Neck Load Mx

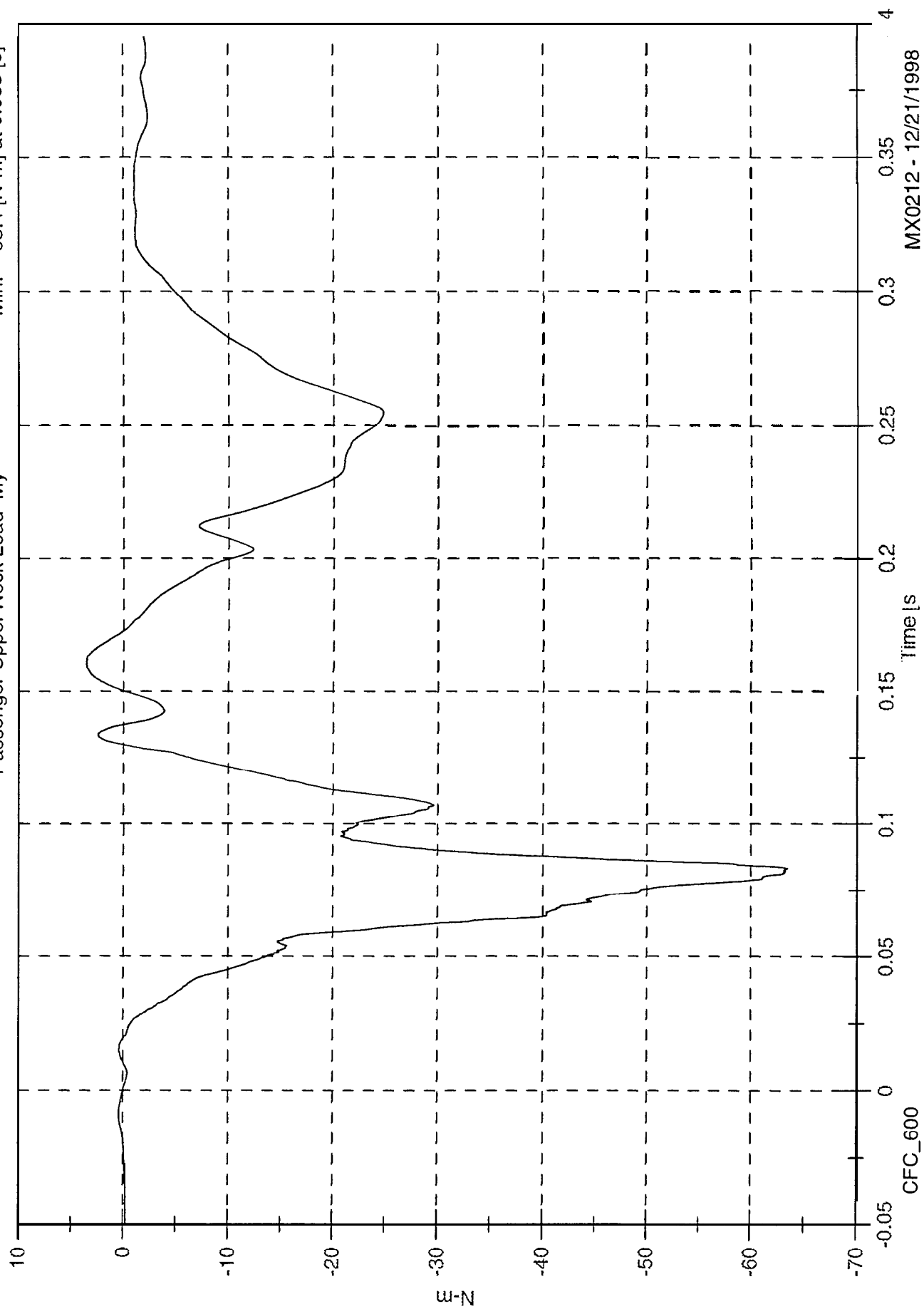


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 9.8 [N-m] at 0.490 [s]
Min: -63.4 [N-m] at 0.083 [s]

Passenger Upper Neck Load My



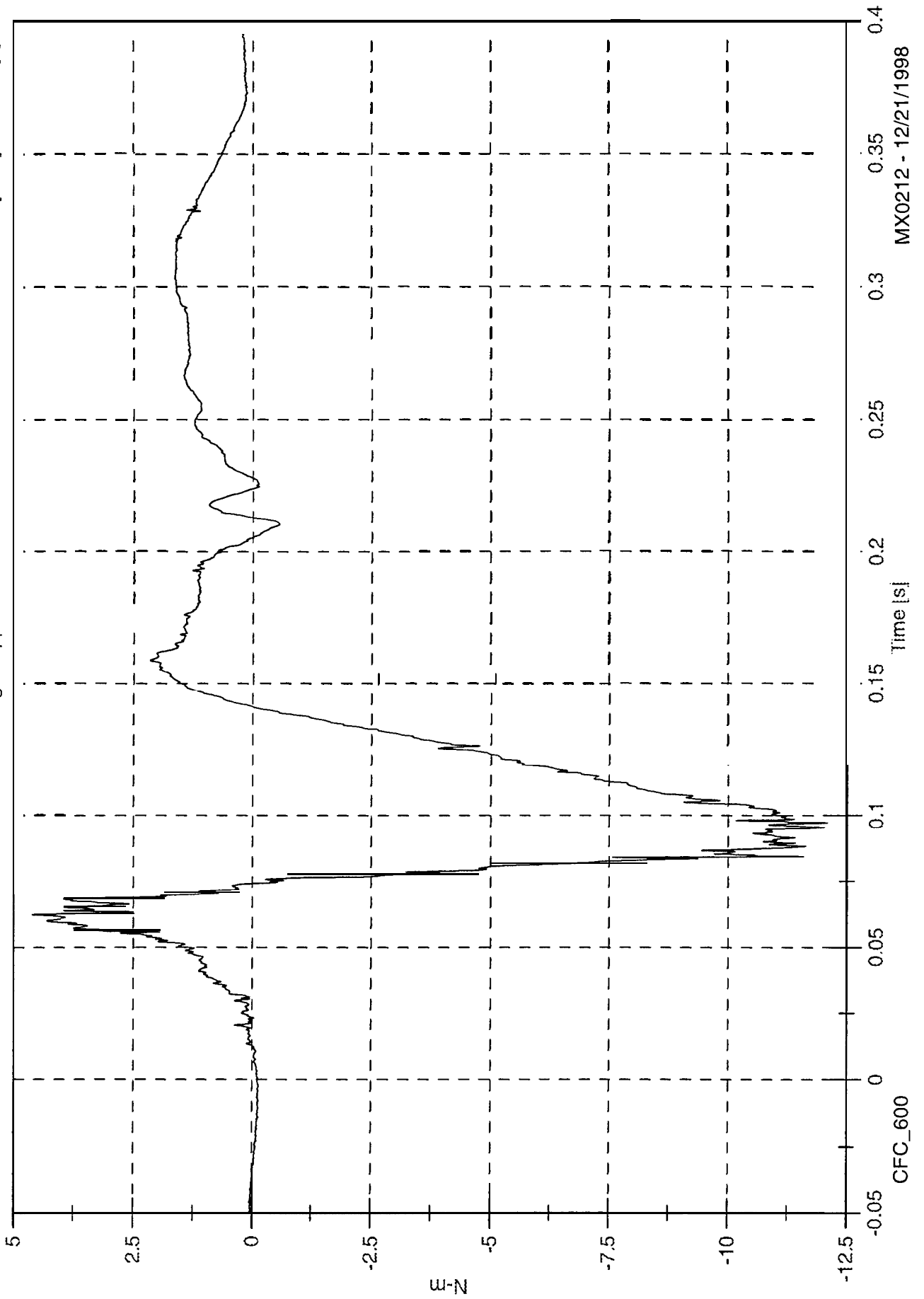
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 4.6 [N-m] at 0.062 [s]

Min: -12.1 [N-m] at 0.097 [s]

Passenger Upper Neck Load Mz

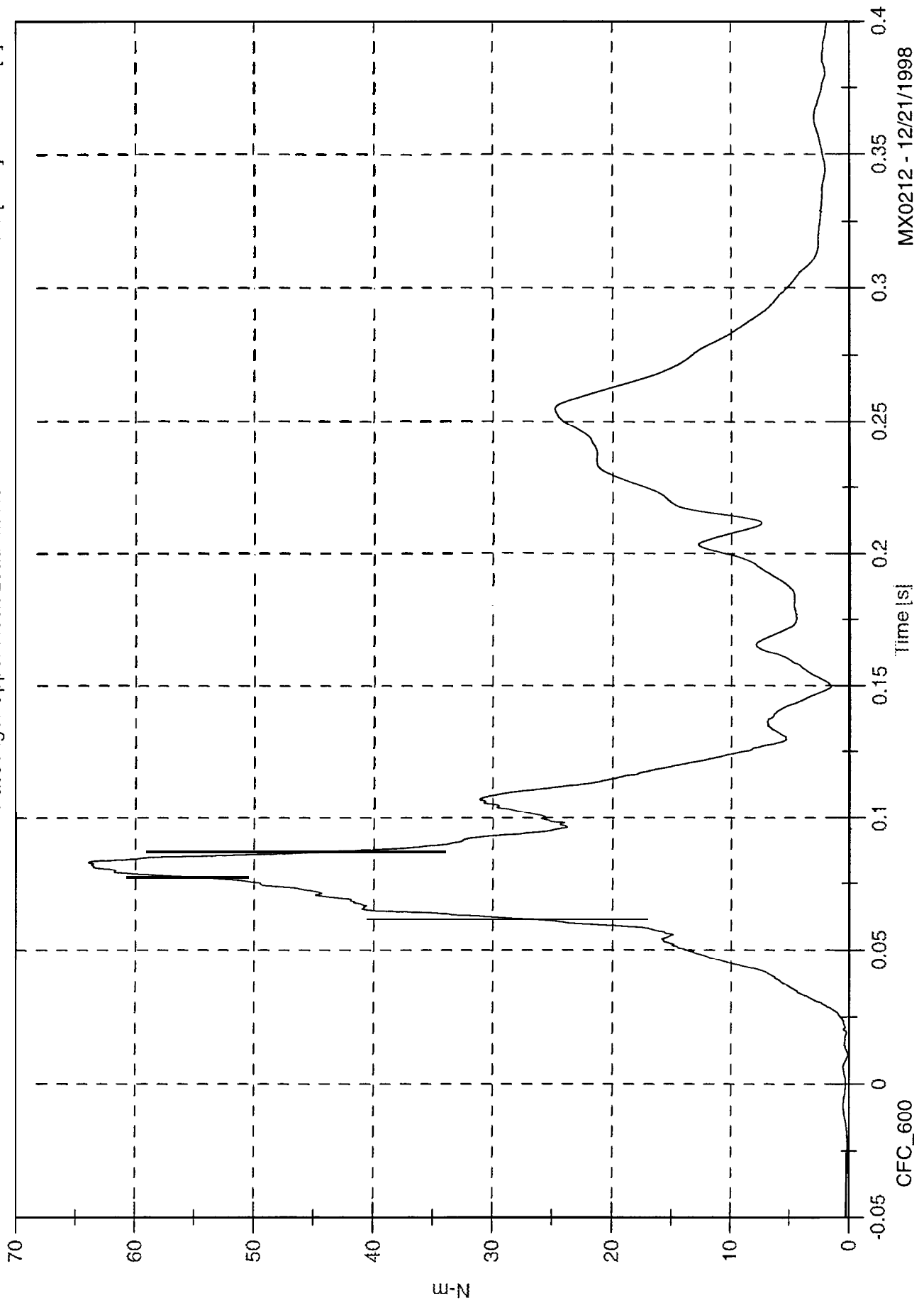


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 64.0 [N-m] at 0.083 [s]
 Min: 0.0 [N-m] at -0.073 [s]

Passenger Upper Neck Load M Resultant

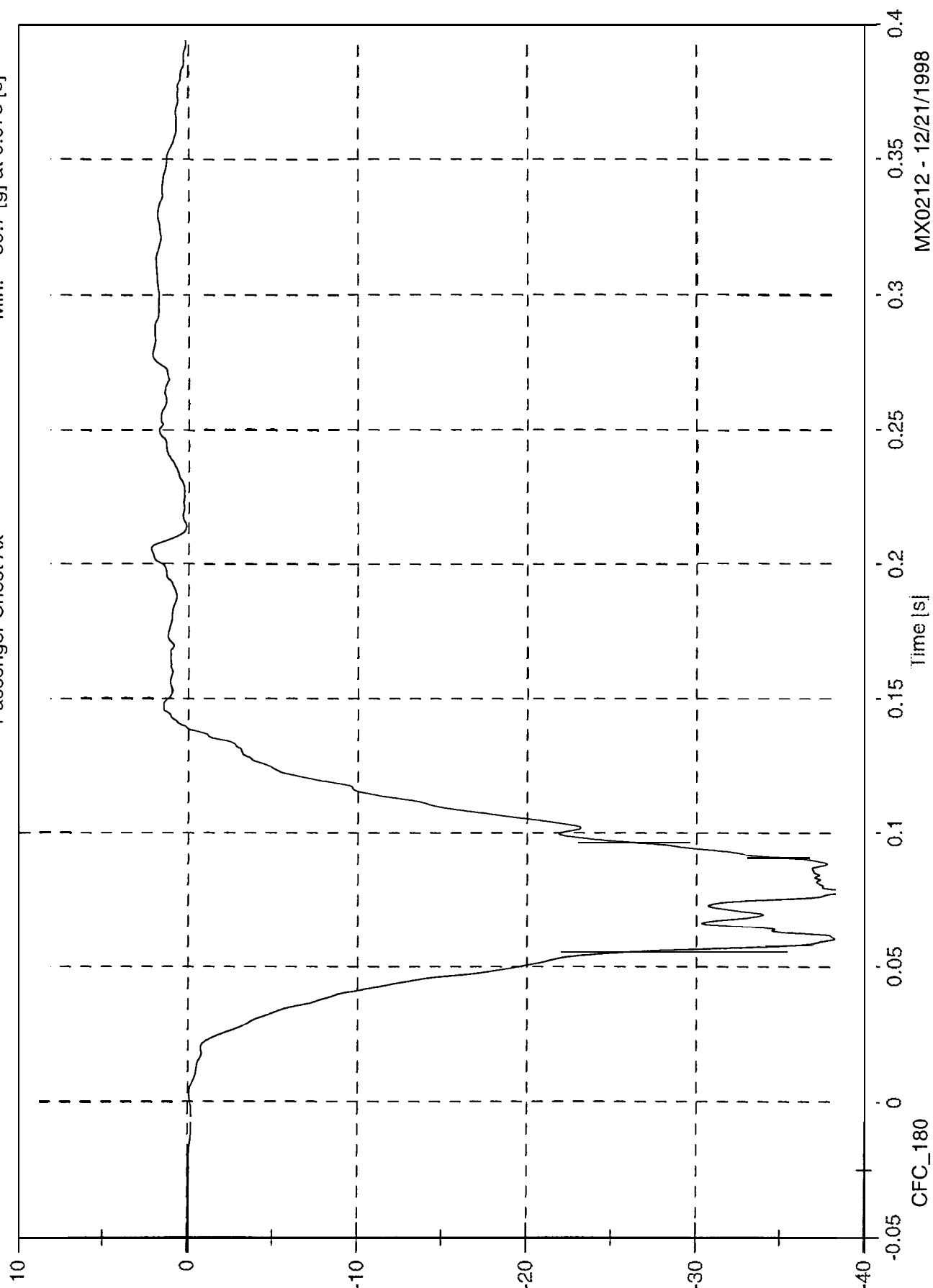


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 2.2 [g] at 0.206 [s]
Min: -39.7 [g] at 0.078 [s]

Passenger Chest Ax



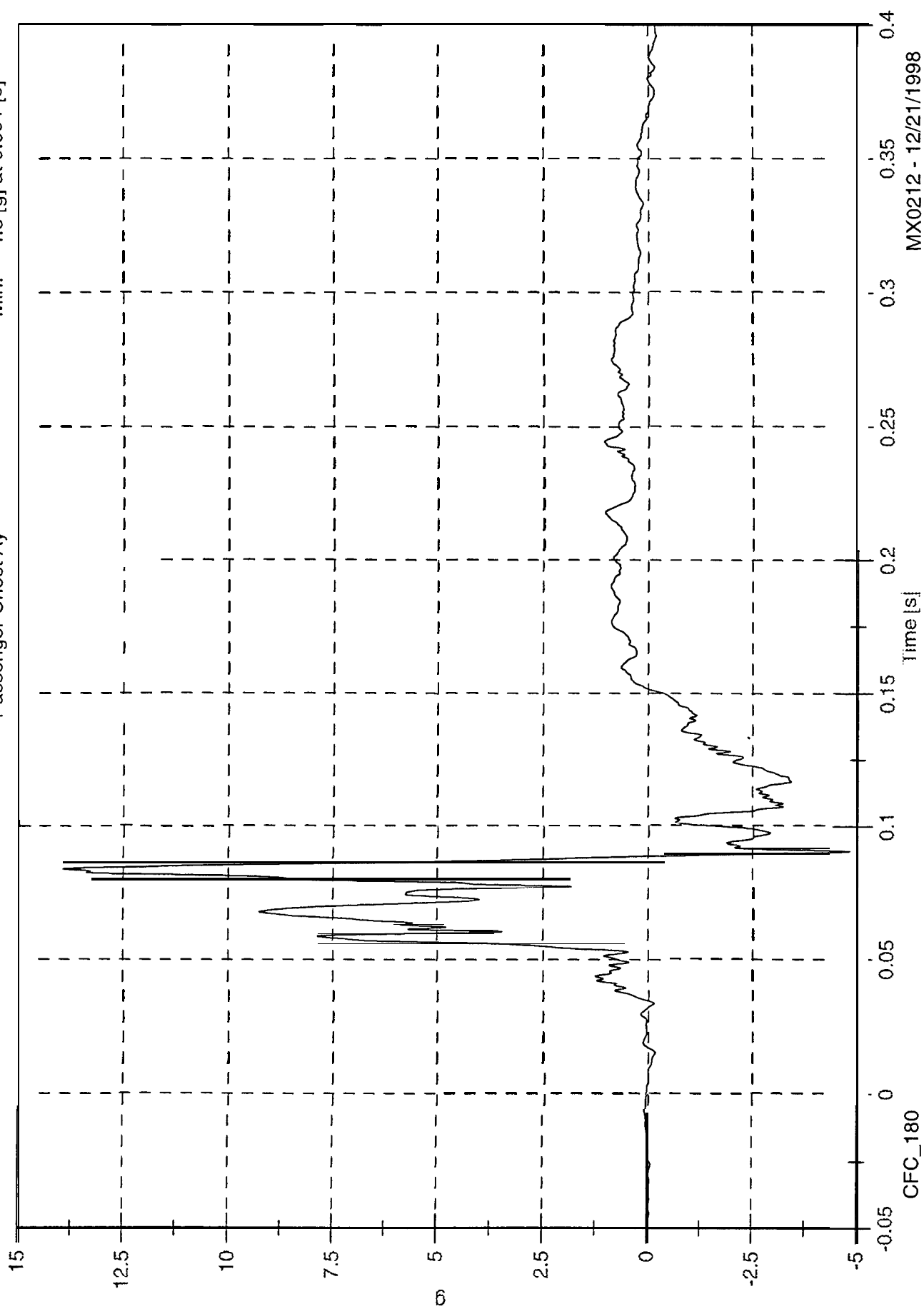
MX0212 - 12/21/1998

CFC_180

NCAP Test - 1999 Ford Mustang

Max: 13.9 [g] at 0.084 [s]
Min: -4.8 [g] at 0.091 [s]

Passenger Chest Ay

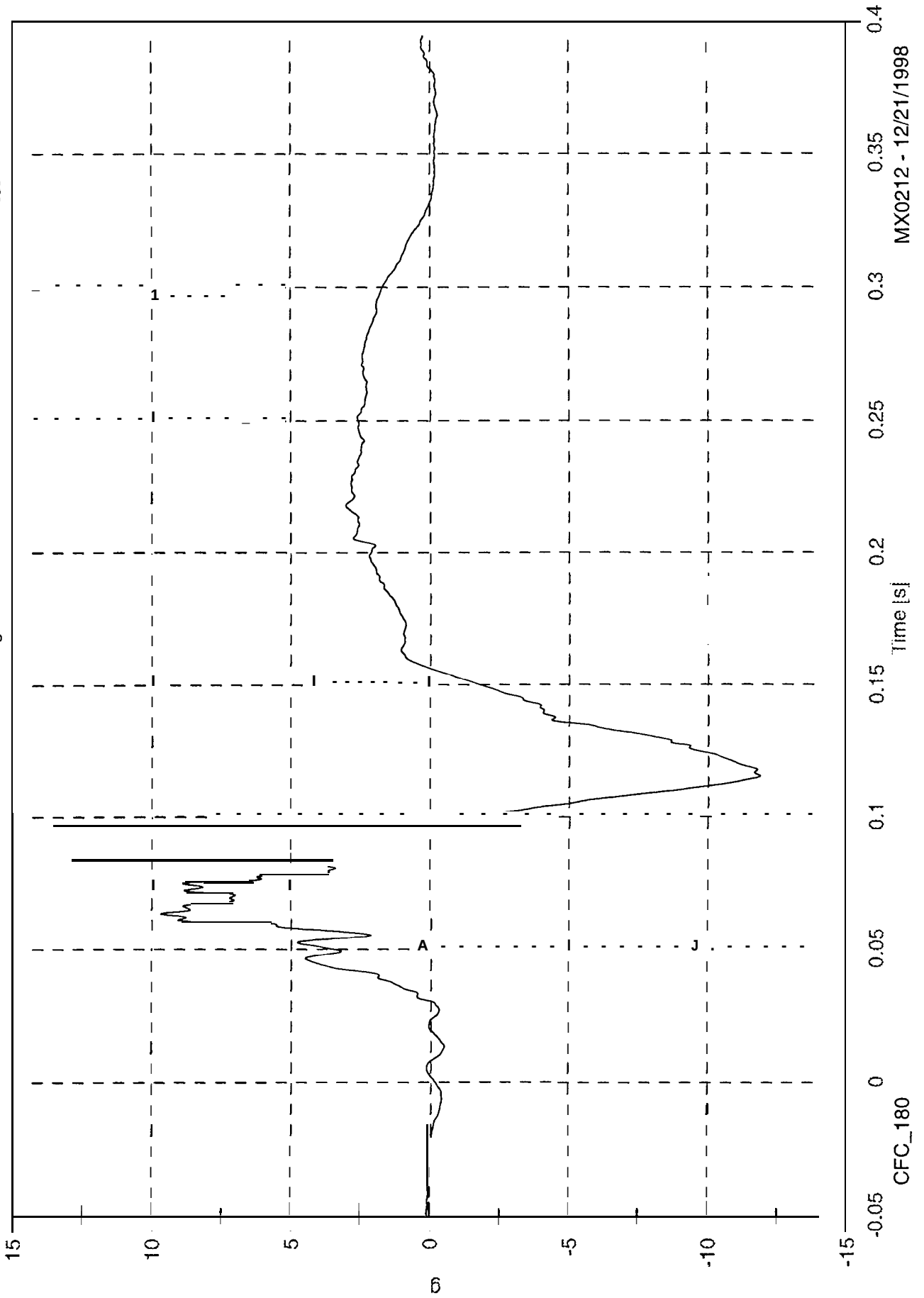


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 13.7 [g] at 0.091 [s]
Min: -11.9 [g] at 0.115 [s]

Passenger Chest Az

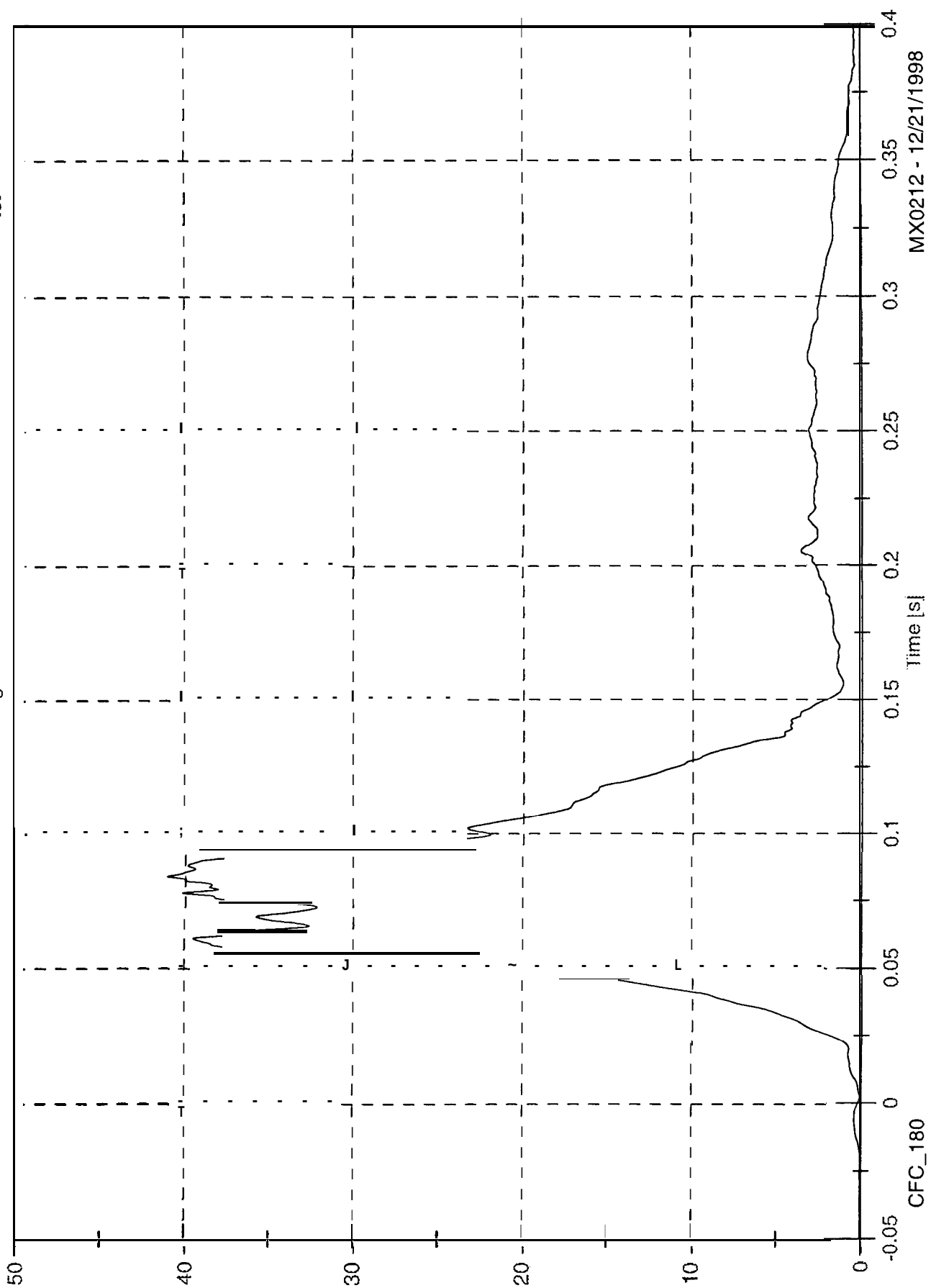


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 41.1 [g] at 0.084 [s]
Min: 0.1 [g] at -0.077 [s]

Passenger Chest A Resultant

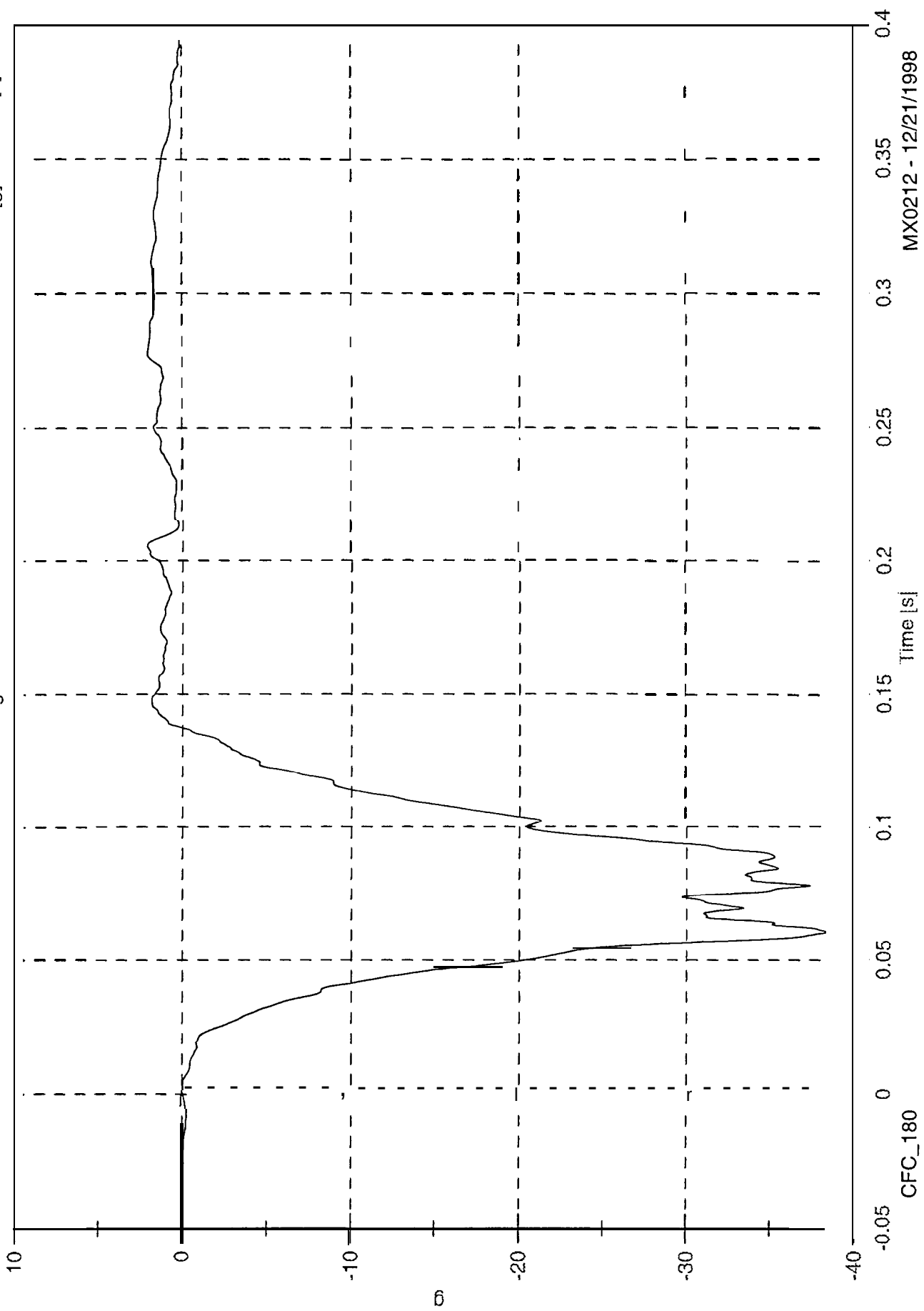


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 2.1 [g] at 0.206 [s]
Min: -38.3 [g] at 0.060 [s]

Passenger Chest Ax Redundant



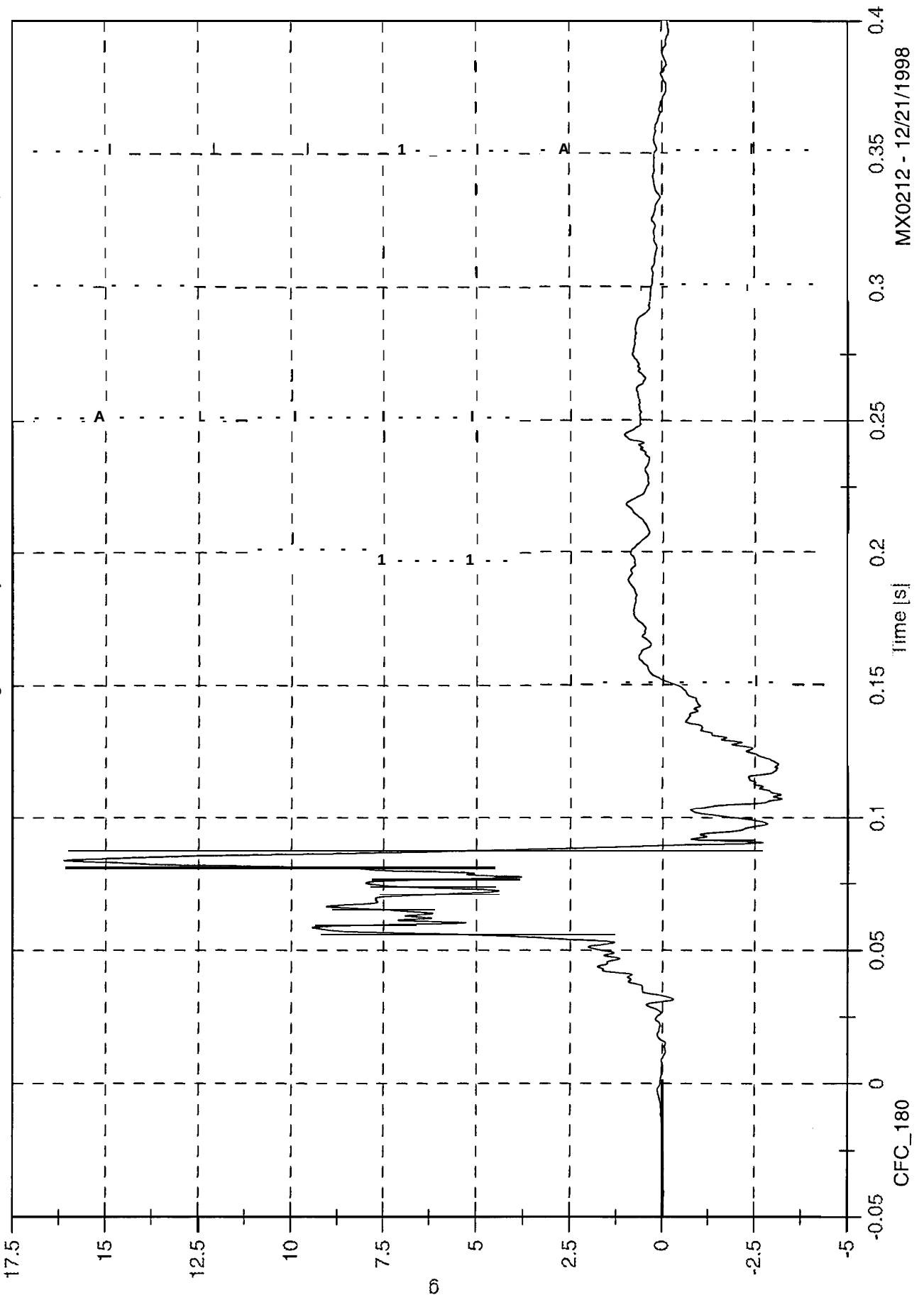
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 16.1 [g] at 0.084 [s]

Min: -3.2 [g] at 0.107 [s]

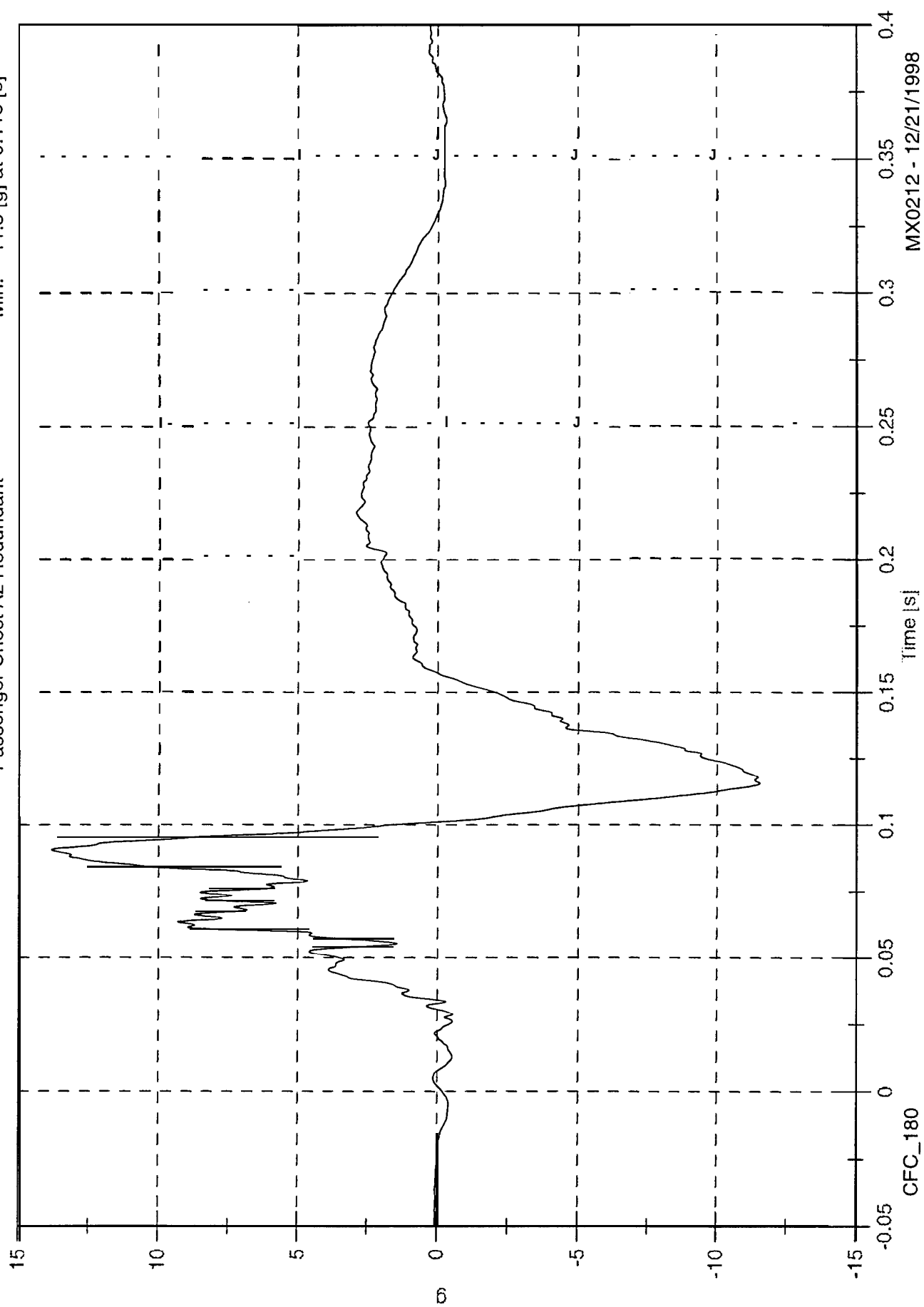
Passenger Chest Ay Redundant



NCAP Test - 1999 Ford Mustang

Max: 13.8 [g] at 0.091 [s]
Min: -11.5 [g] at 0.115 [s]

Passenger Chest Az Redundant

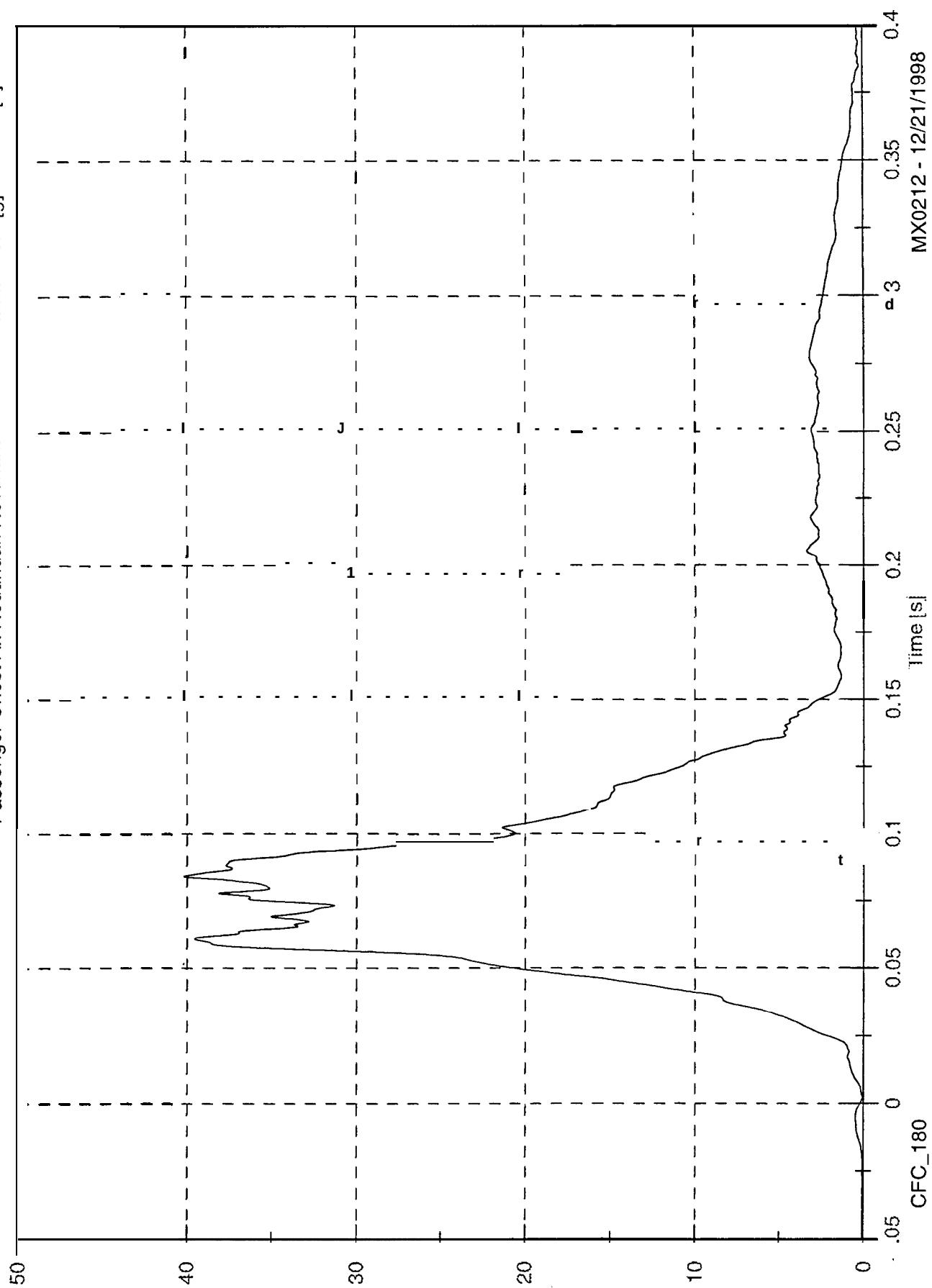


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 40.2 [g] at 0.084 [s]
Min: 0.1 [g] at 0.002 [s]

Passenger Chest Ax Redundan Resultant

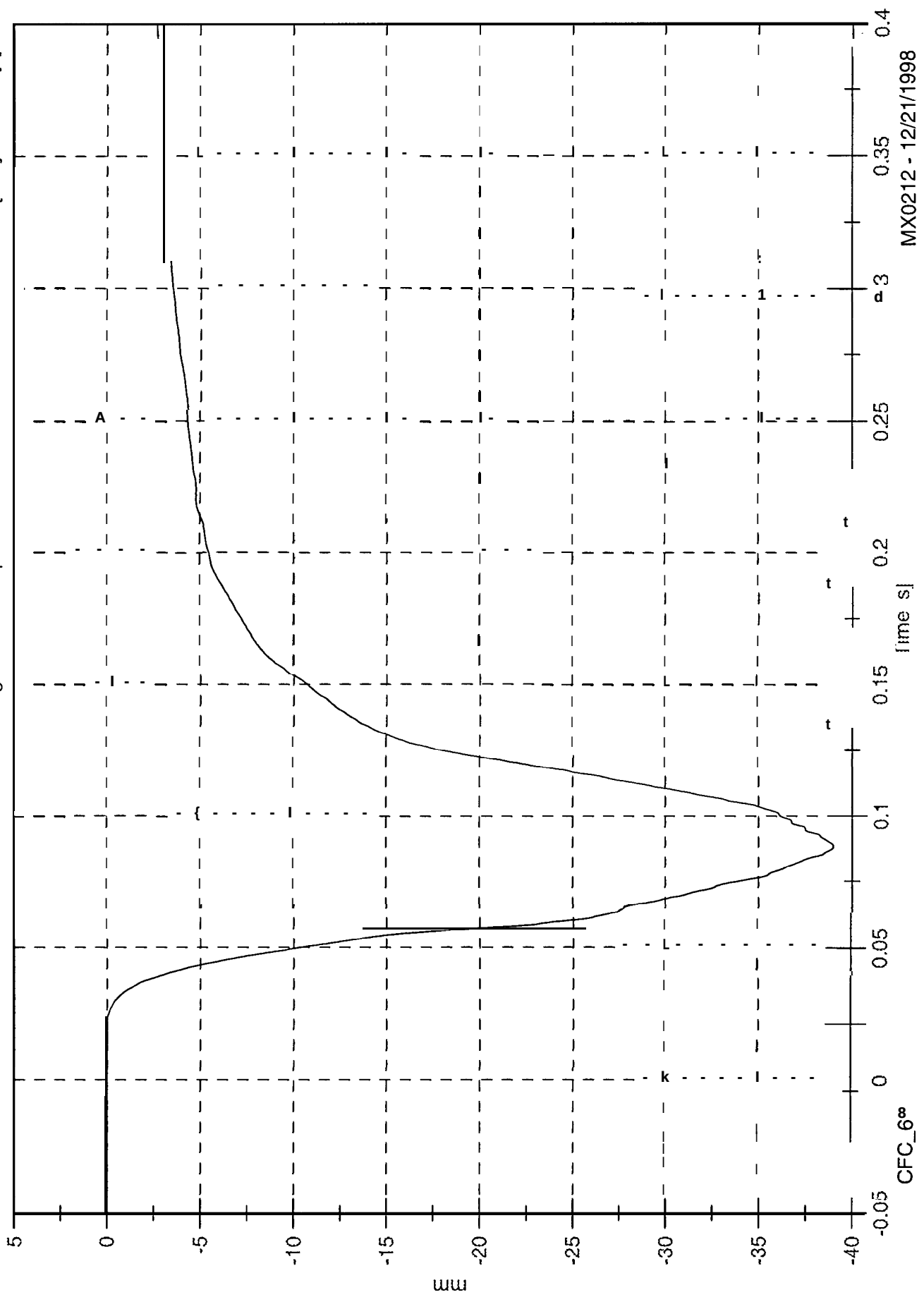


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 0.0 [mm] at -0.012 [s]
 Min: -39.0 [mm] at 0.089 [s]

Passenger Chest Displacement

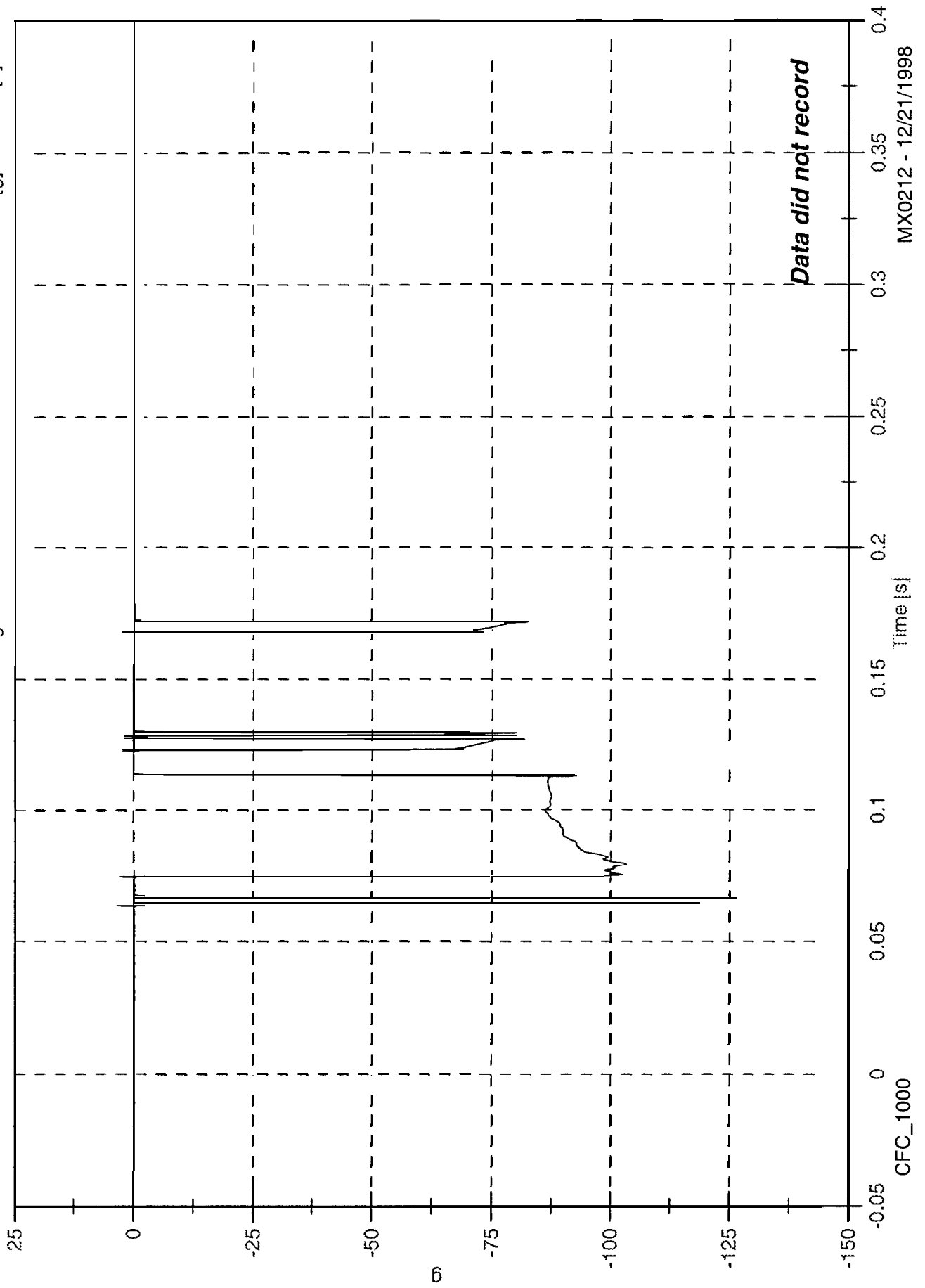


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 3.6 [g] at 0.063 [s]
Min: -126.3 [g] at 0.067 [s]

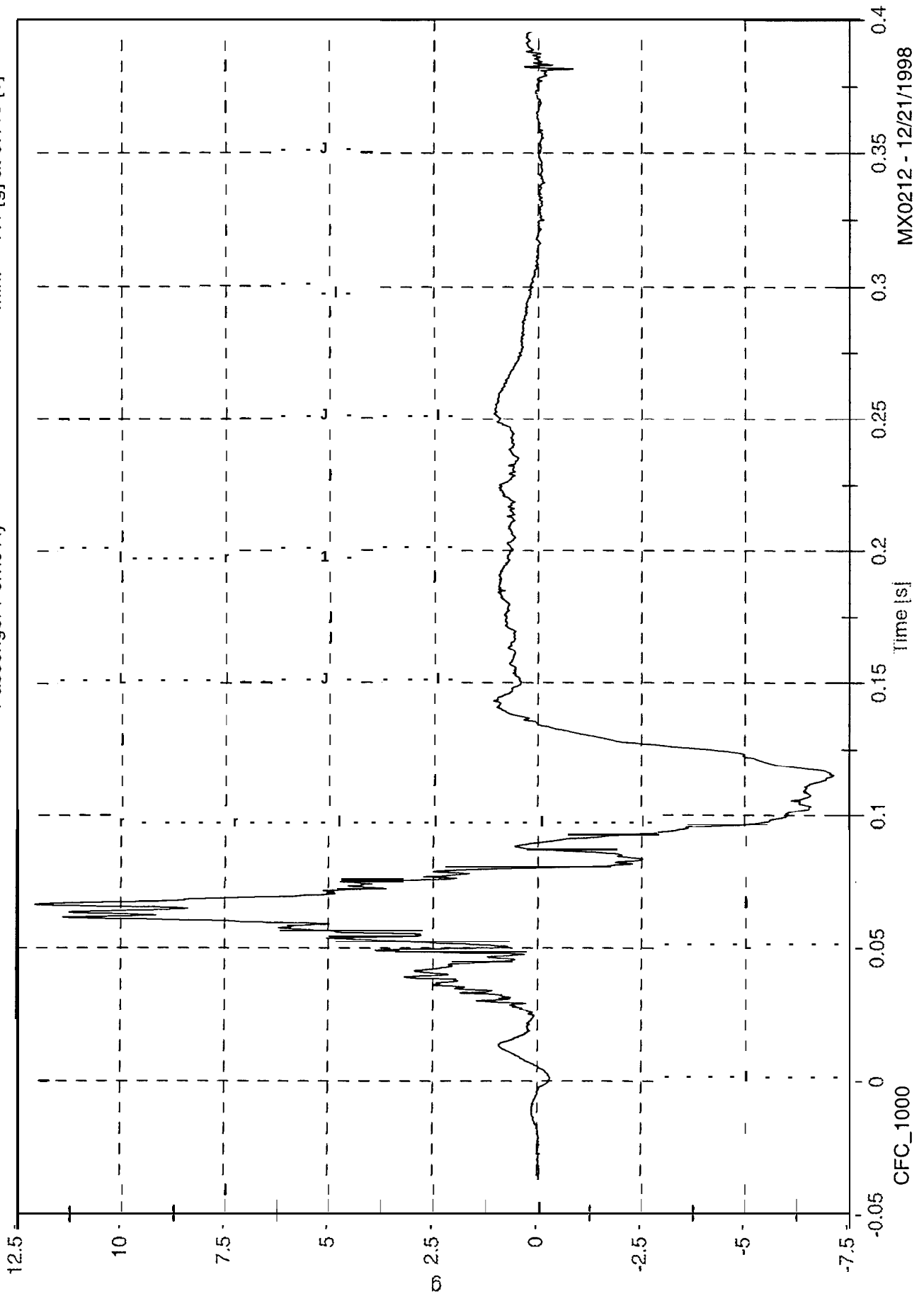
Passenger Pelvic Ax



NCAP Test - 1999 Ford Mustang

Max: 12.1 [g] at 0.066 [s]
Min: -7.1 [g] at 0.115 [s]

Passenger Pelvic Ay

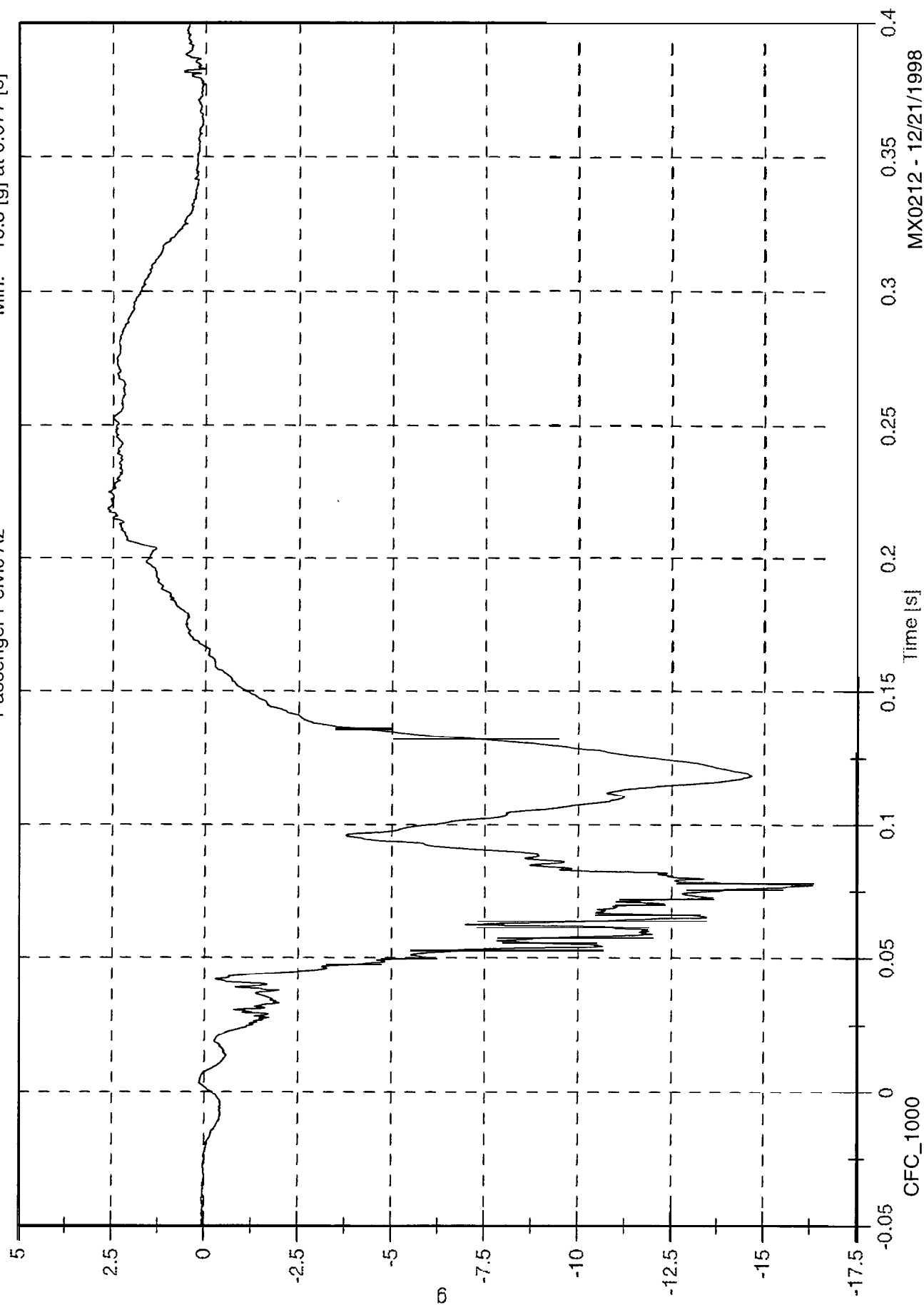


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 2.6 [g] at 0.219 [s]
Min: -16.3 [g] at 0.077 [s]

Passenger Pelvic Az

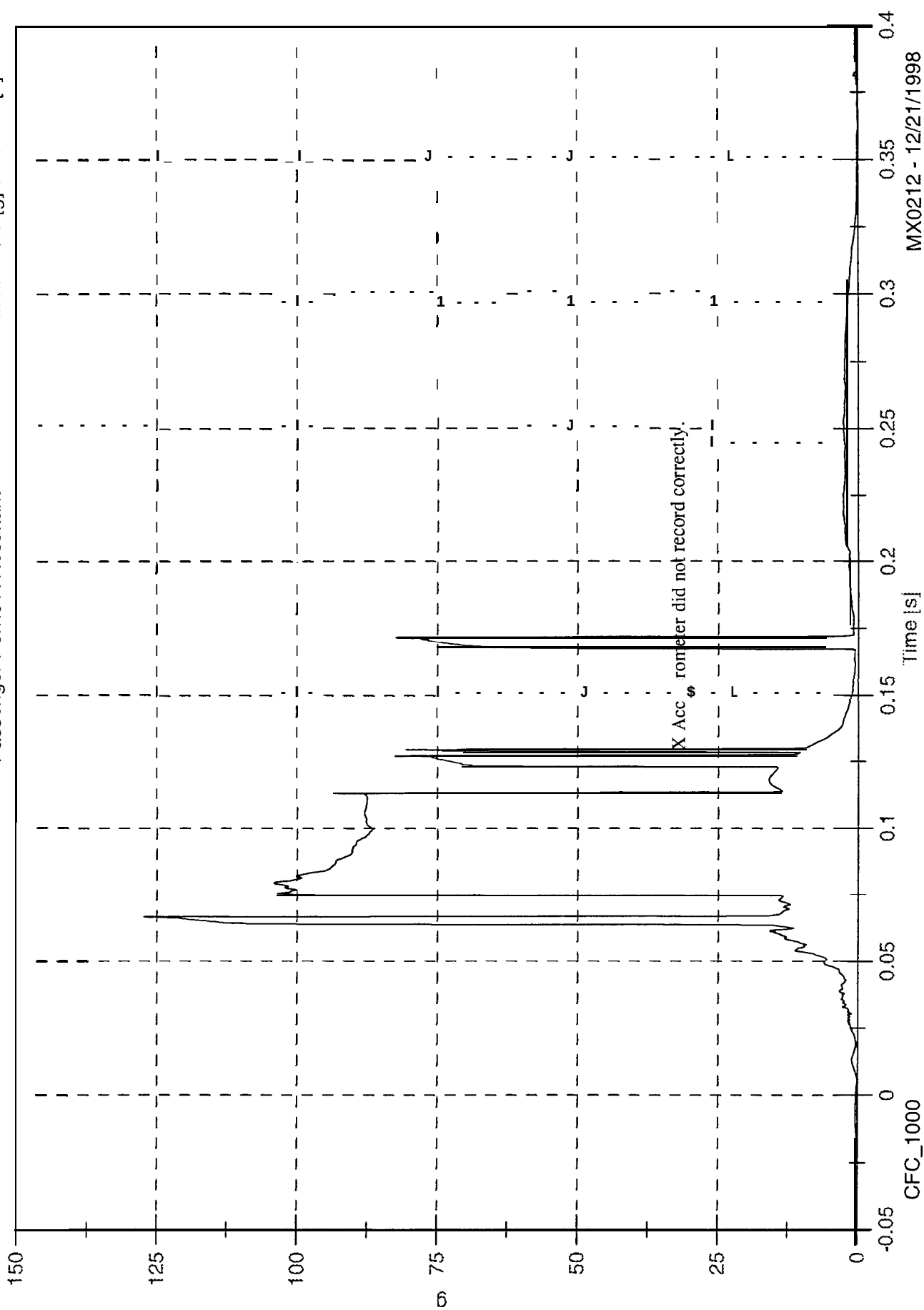


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Passenger Pelvic A Resultant

Max: 127.3 [g] at 0.067 [s]
Min: 0.0 [g] at -0.086 [s]

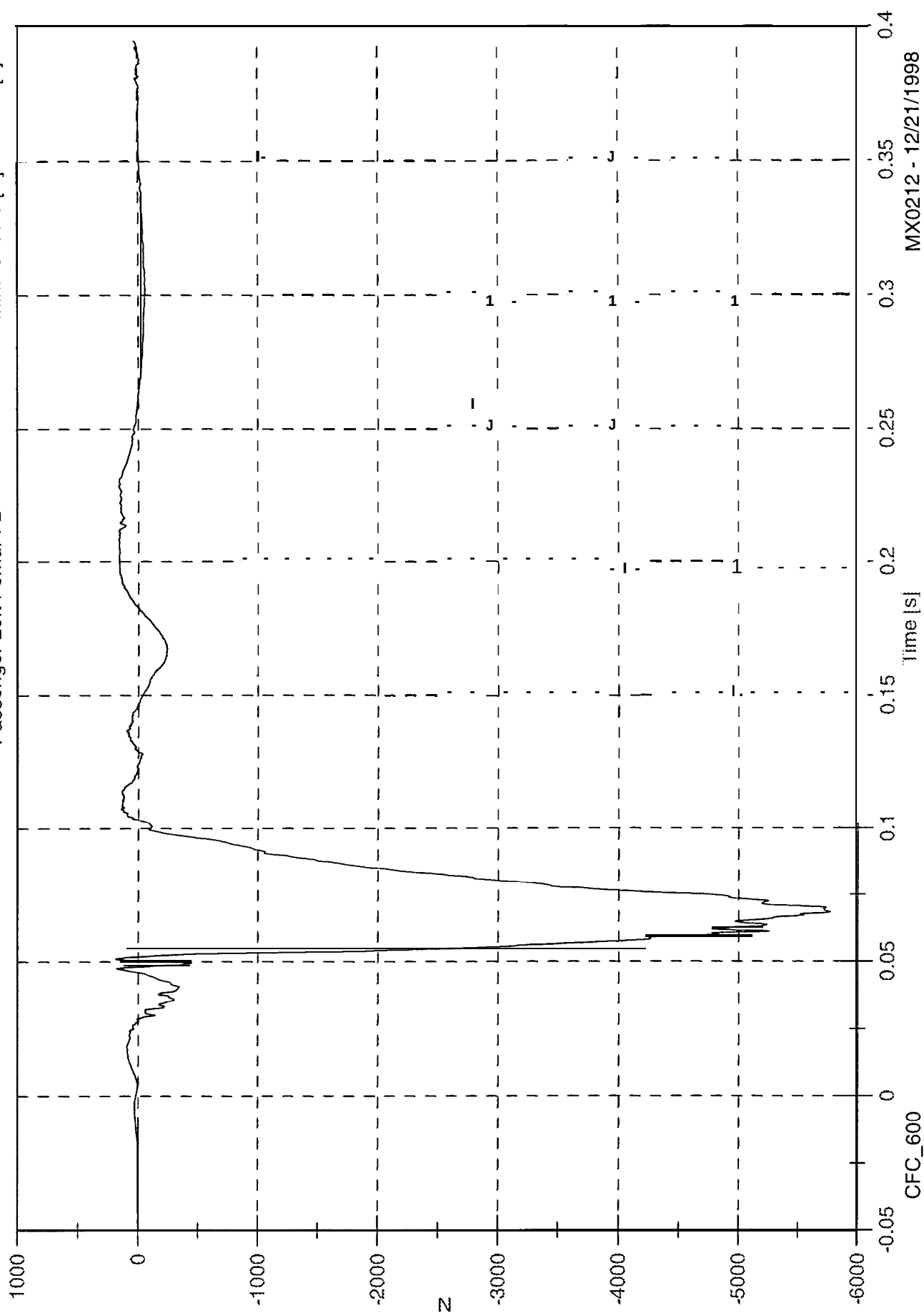


NCAP Test - 1999 Ford Mustang

Max: 186.5 [N] at 0.051 [s]

Min: -5769.0 [N] at 0.068 [s]

Passenger Left Femur Fz

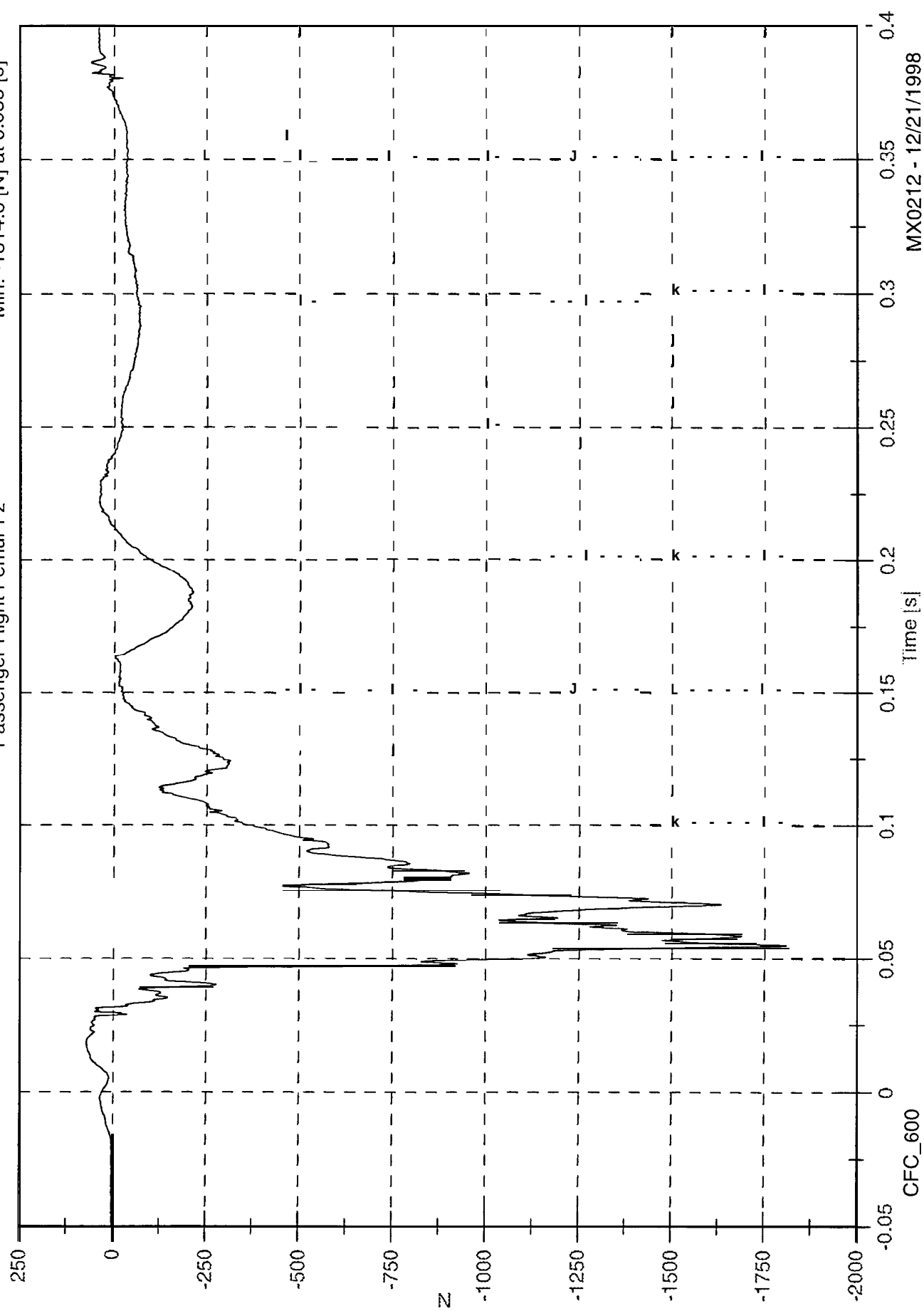


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 125.5 [N] at 0.461 [s]
Min: -1814.6 [N] at 0.055 [s]

Passenger Right Femur Fz

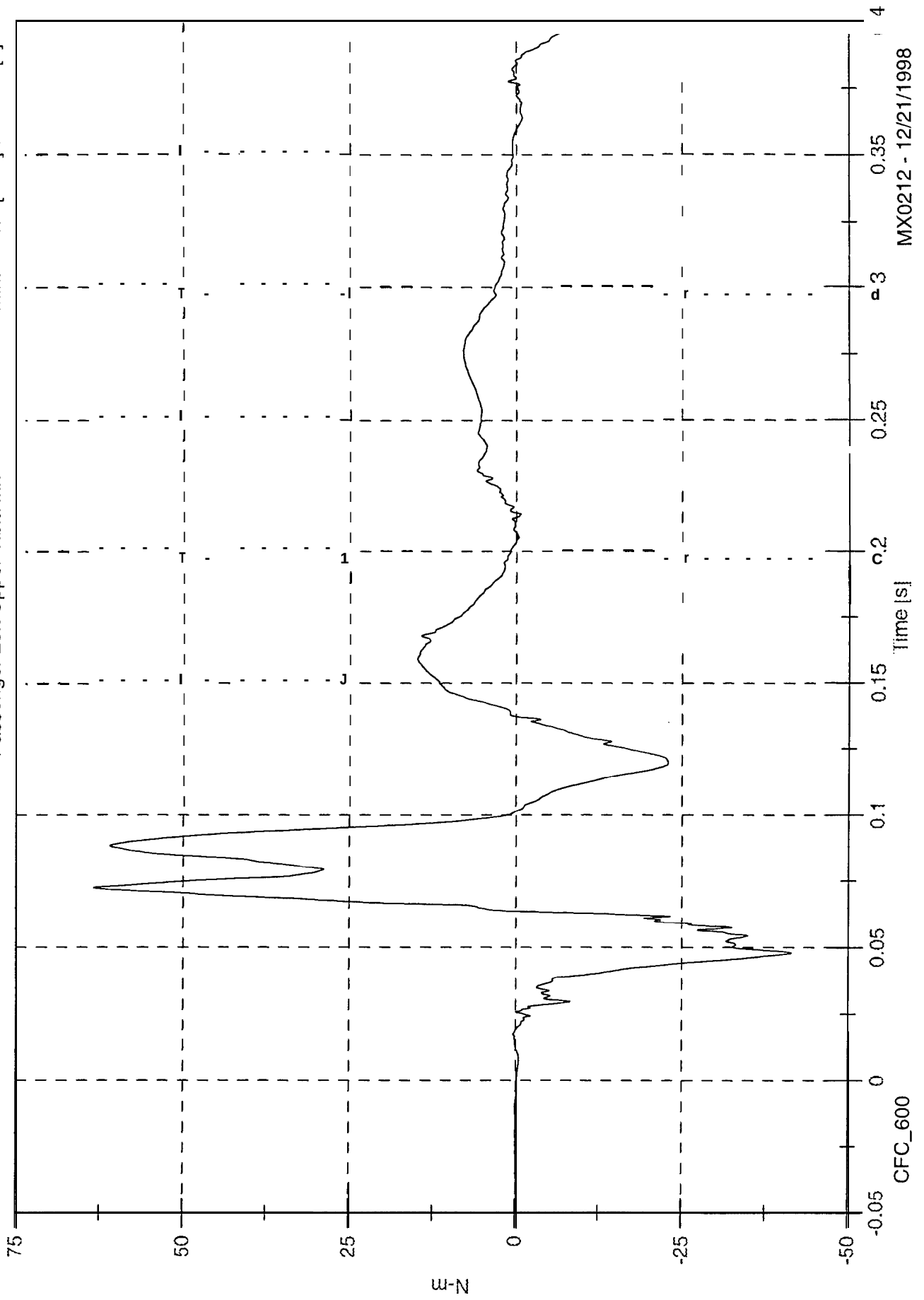


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 63.4 [N-m] at 0.072 [s]
 Min: -41.4 [N-m] at 0.048 [s]

Passenger Left Upper Tibia Mx

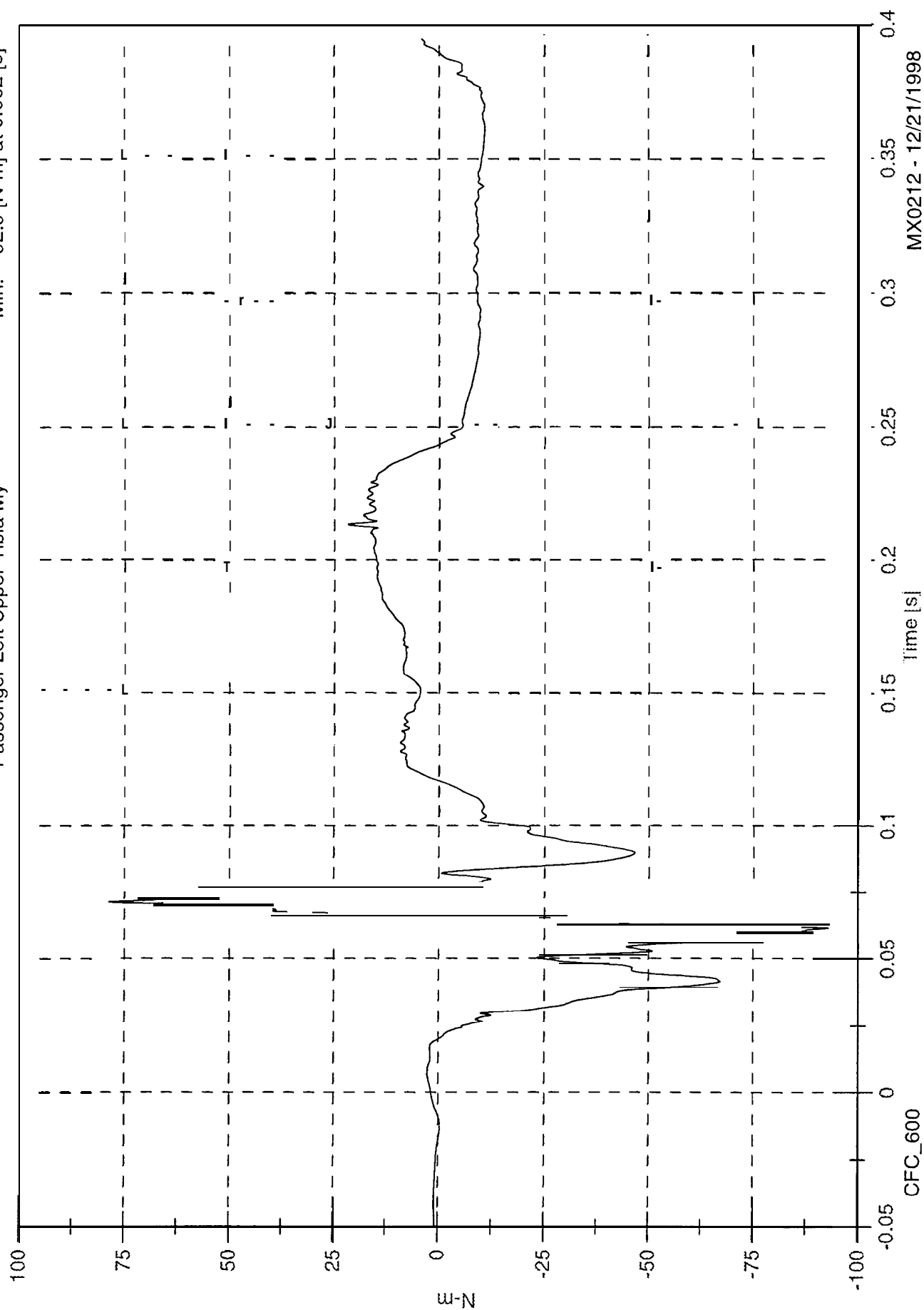


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 78.7 [N-m] at 0.071 [s]
 Min: -92.9 [N-m] at 0.062 [s]

Passenger Left Upper Tibia My

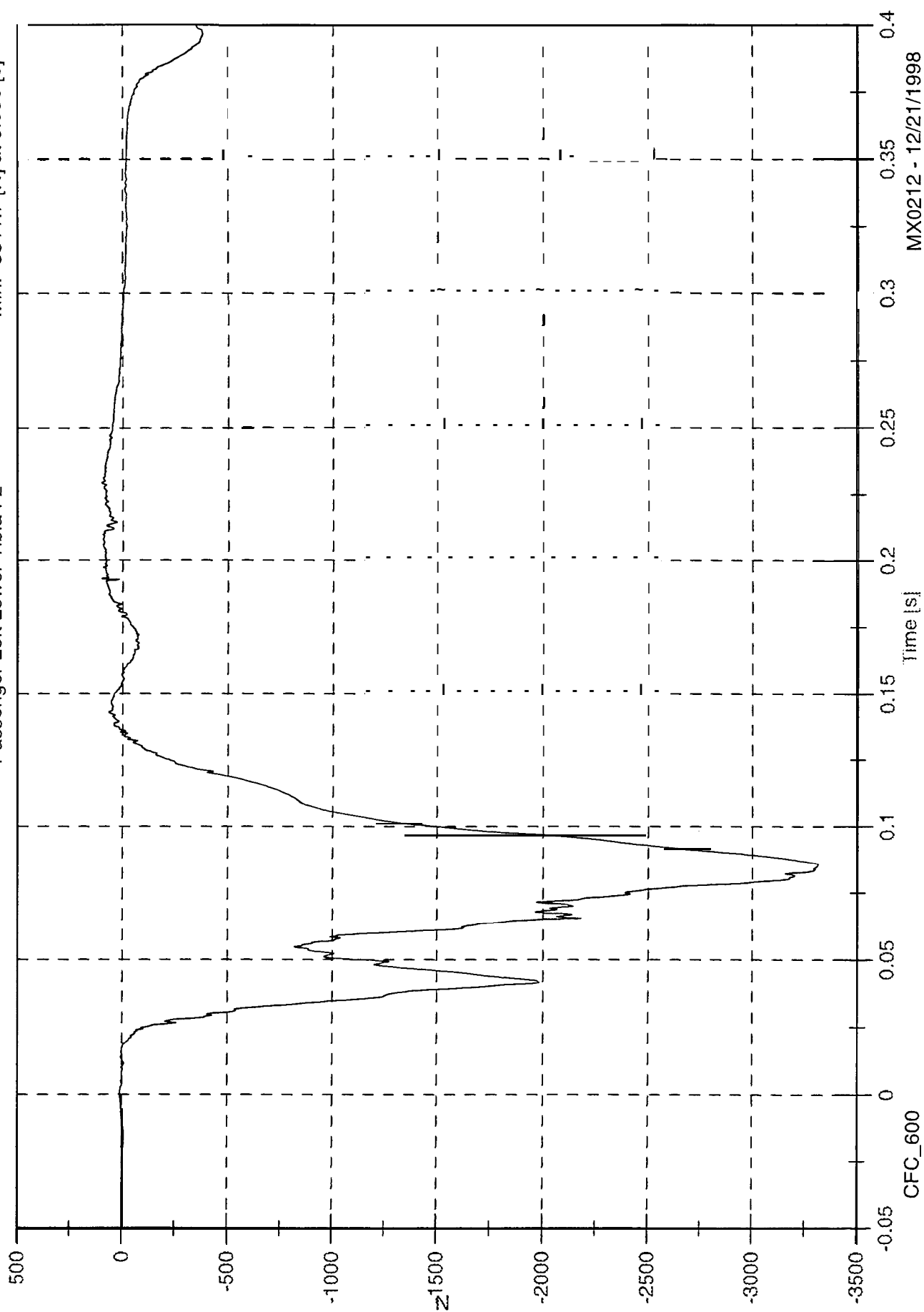


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 100.9 [N] at 0.229 [s]
Min: -3311.7 [N] at 0.086 [s]

Passenger Left Lower Tibia Fz

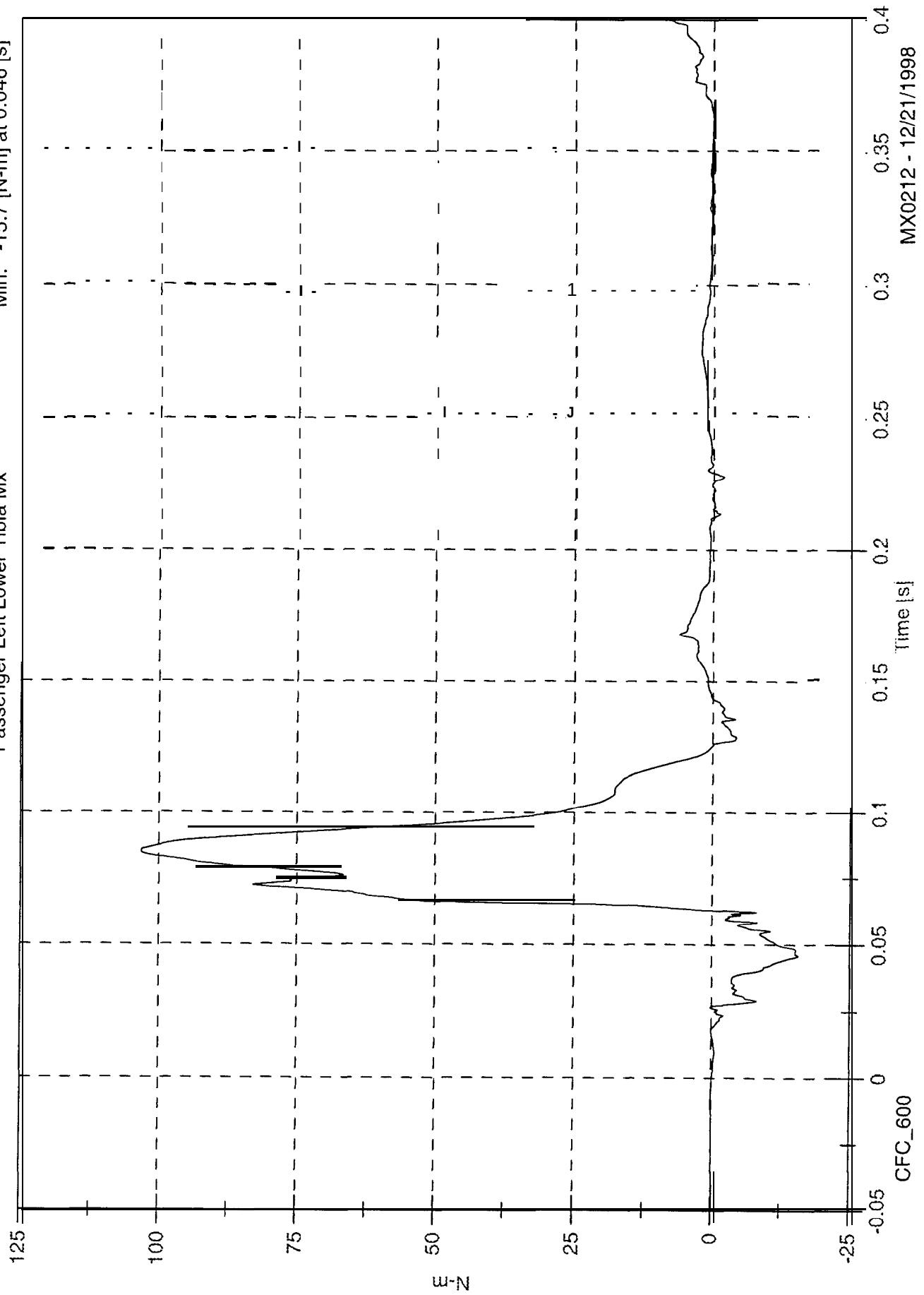


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 103.2 [N-m] at 0.085 [s]
 Min: -15.7 [N-m] at 0.046 [s]

Passenger Left Lower Tibia Mx

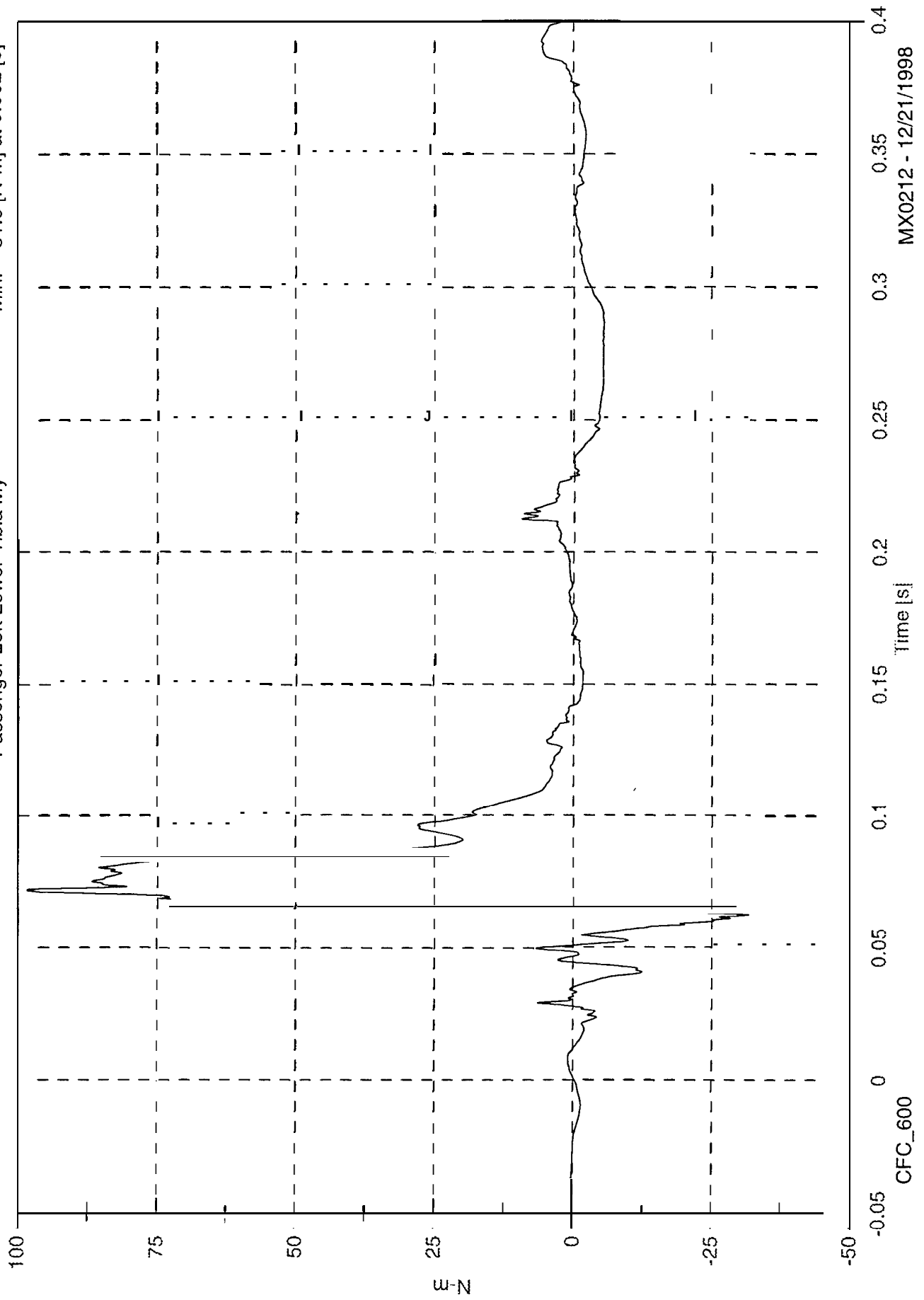


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 98.4 [N-m] at 0.072 [s]
 Min: -31.6 [N-m] at 0.062 [s]

Passenger Left Lower Tibia My

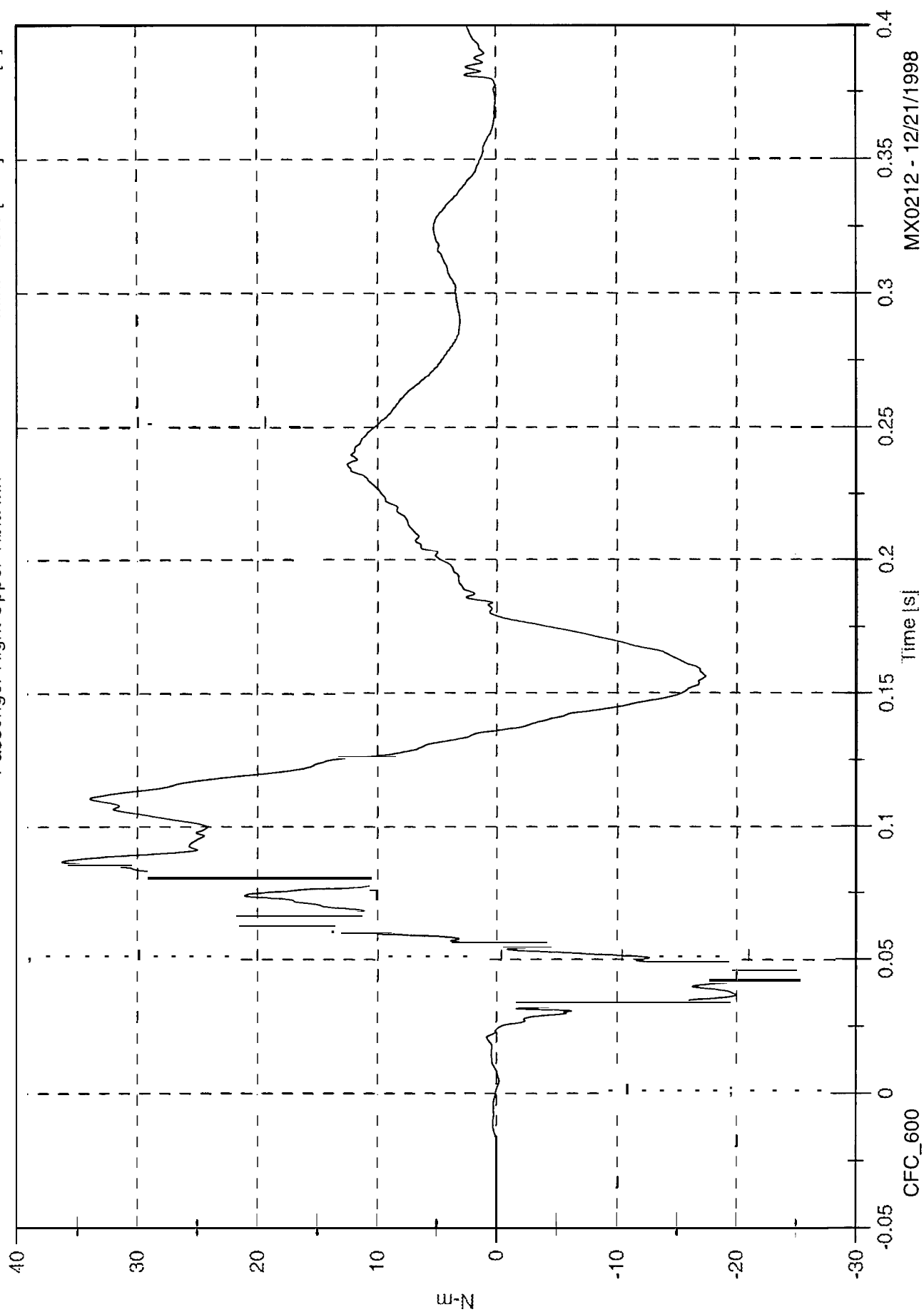


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 36.3 [N-m] at 0.087 [s]
Min: -25.6 [N-m] at 0.044 [s]

Passenger Right Upper Tibia Mx

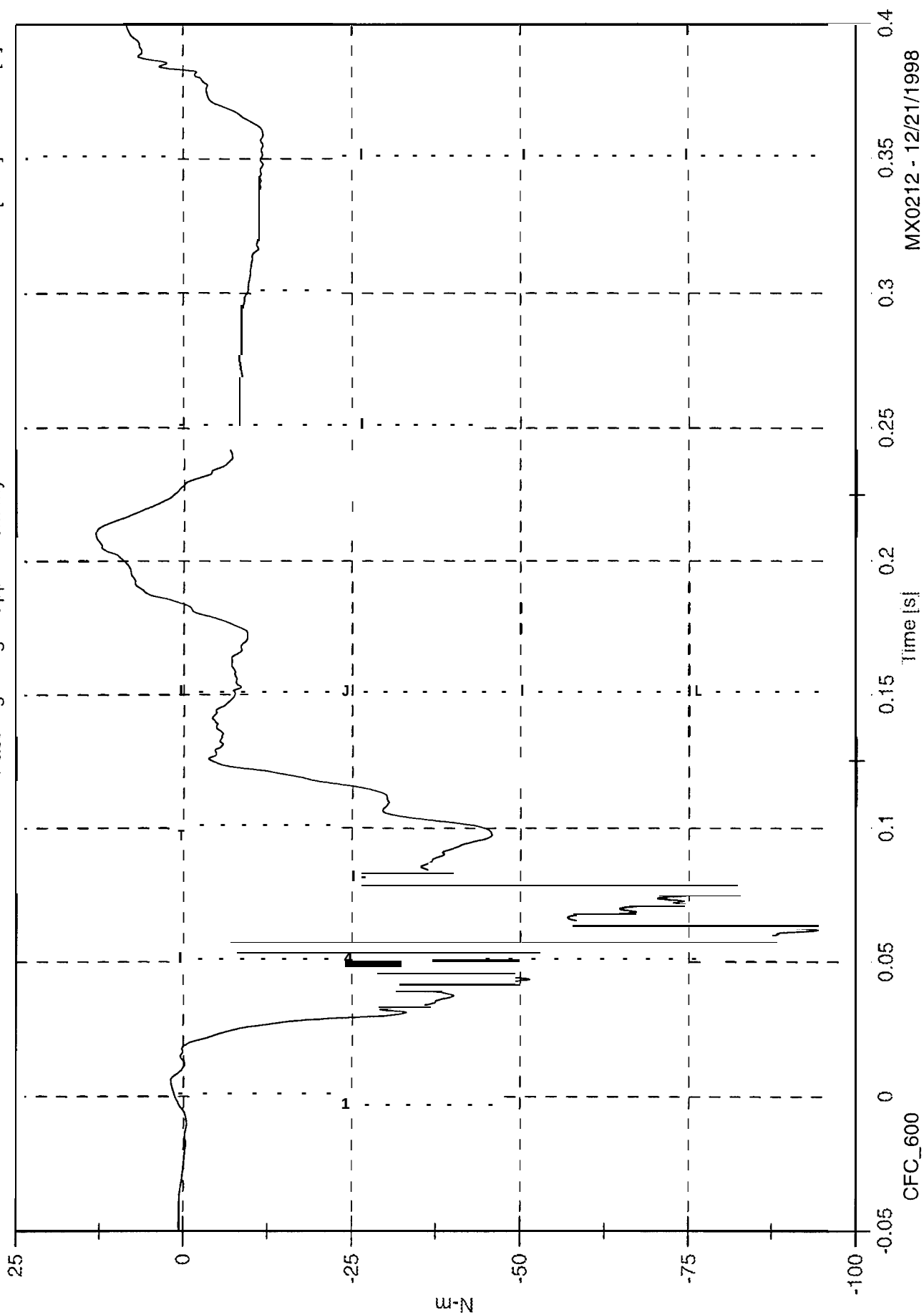


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 13.1 [N-m] at 0.211 [s]
 Min: -94.2 [N-m] at 0.062 [s]

Passenger Right Upper Tibia My



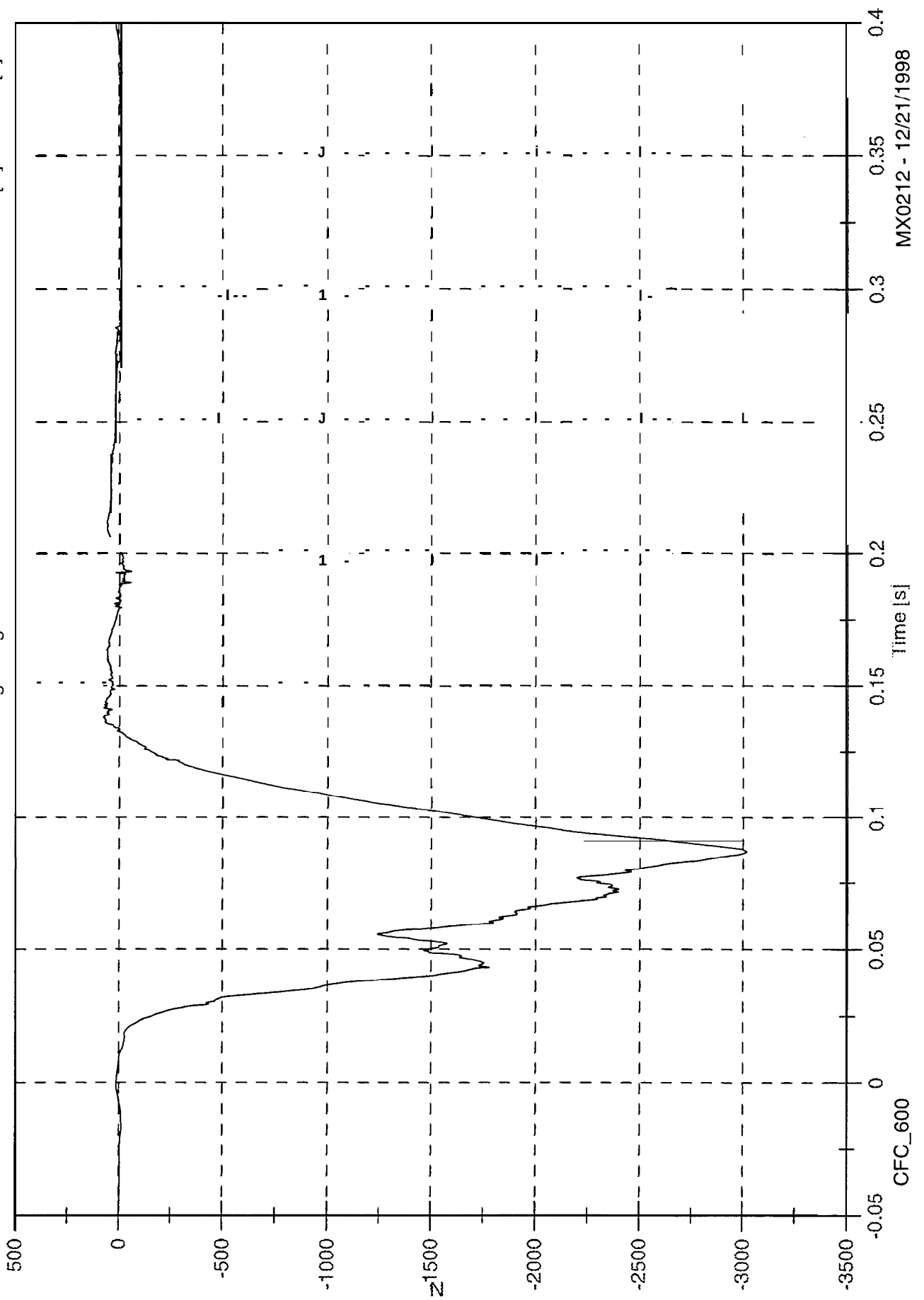
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 78.4 [N] at 0.138 [s]

Min: -3015.7 [N] at 0.087 [s]

Passenger Right Lower Tibia Fz

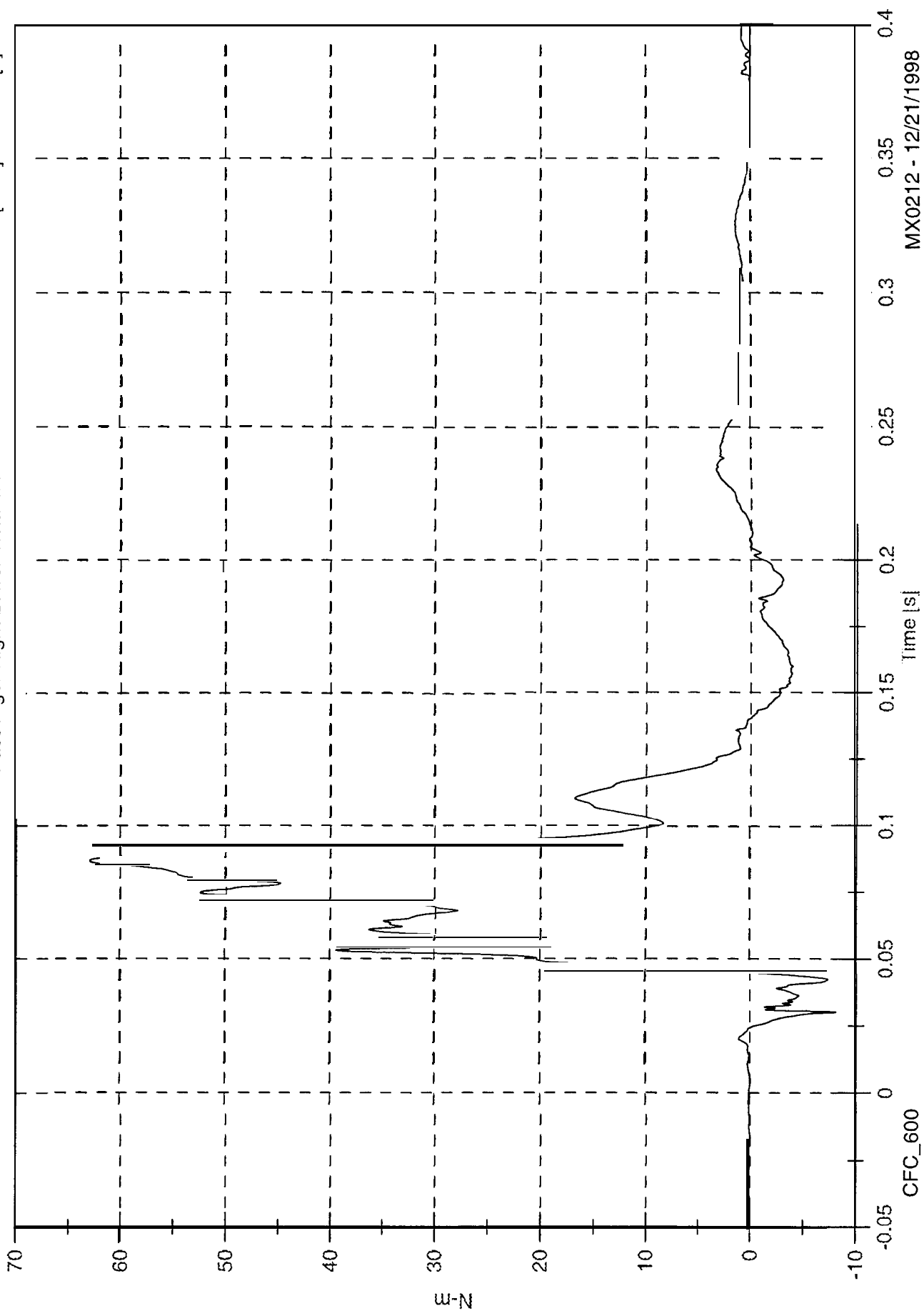


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 62.9 [N-m] at 0.087 [s]
Min: -8.1 [N-m] at 0.030 [s]

Passenger Right Lower Tibia Mx



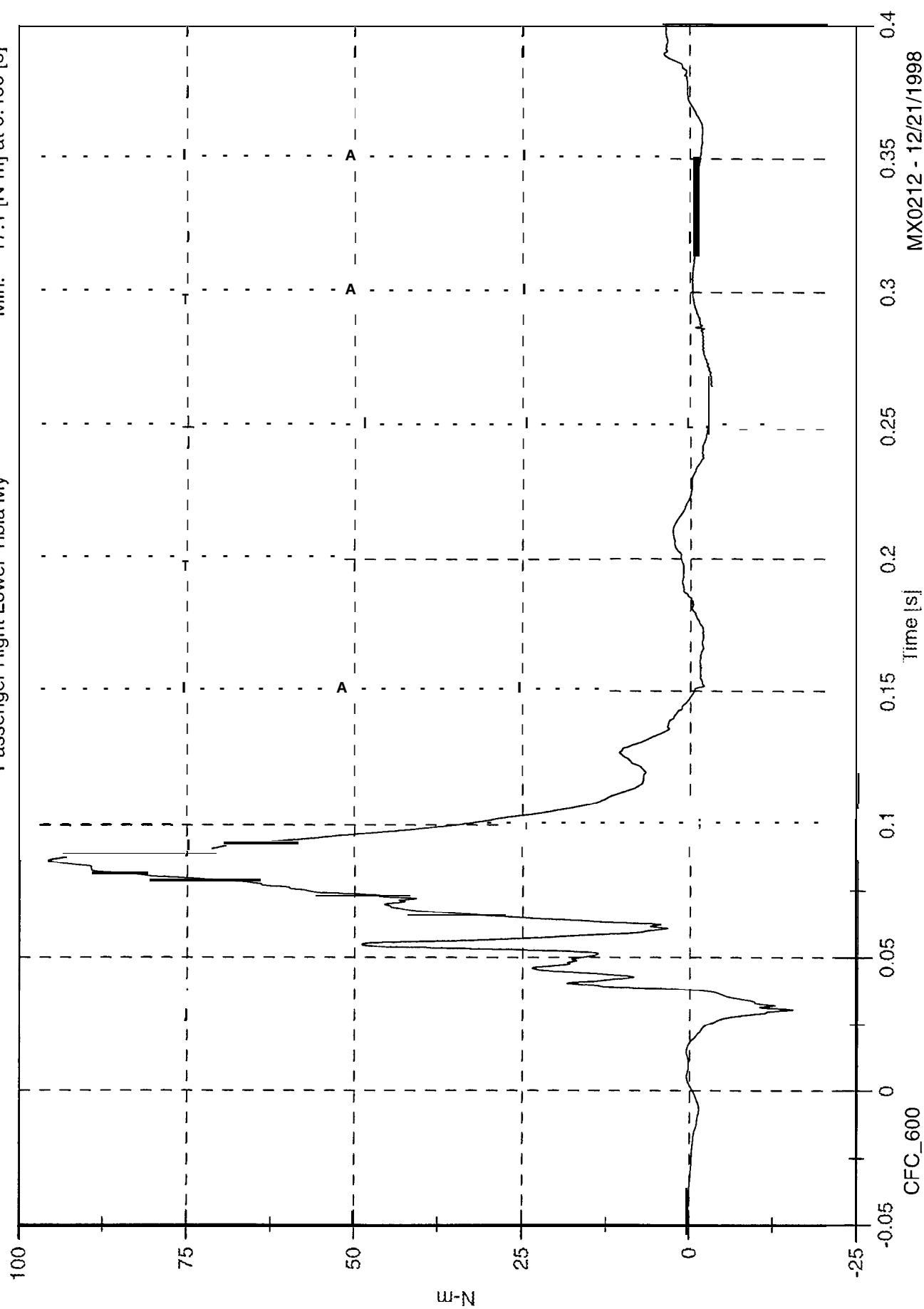
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 95.7 [N-m] at 0.086 [s]

Min: -17.1 [N-m] at 0.460 [s]

Passenger Right Lower Tibia My

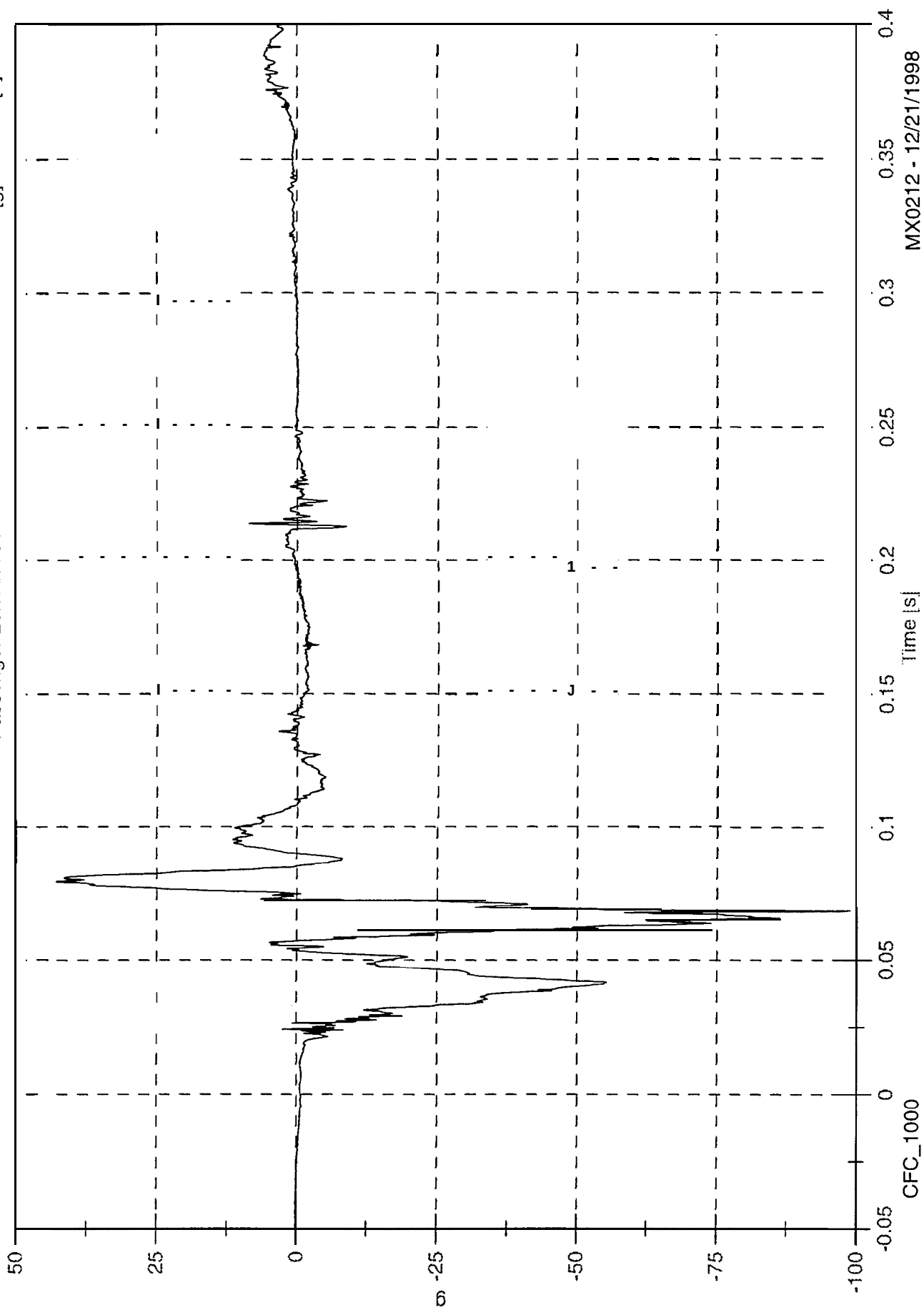


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 42.9 [g] at 0.079 [s]
Min: -98.7 [g] at 0.068 [s]

Passenger Left Ankle Ax

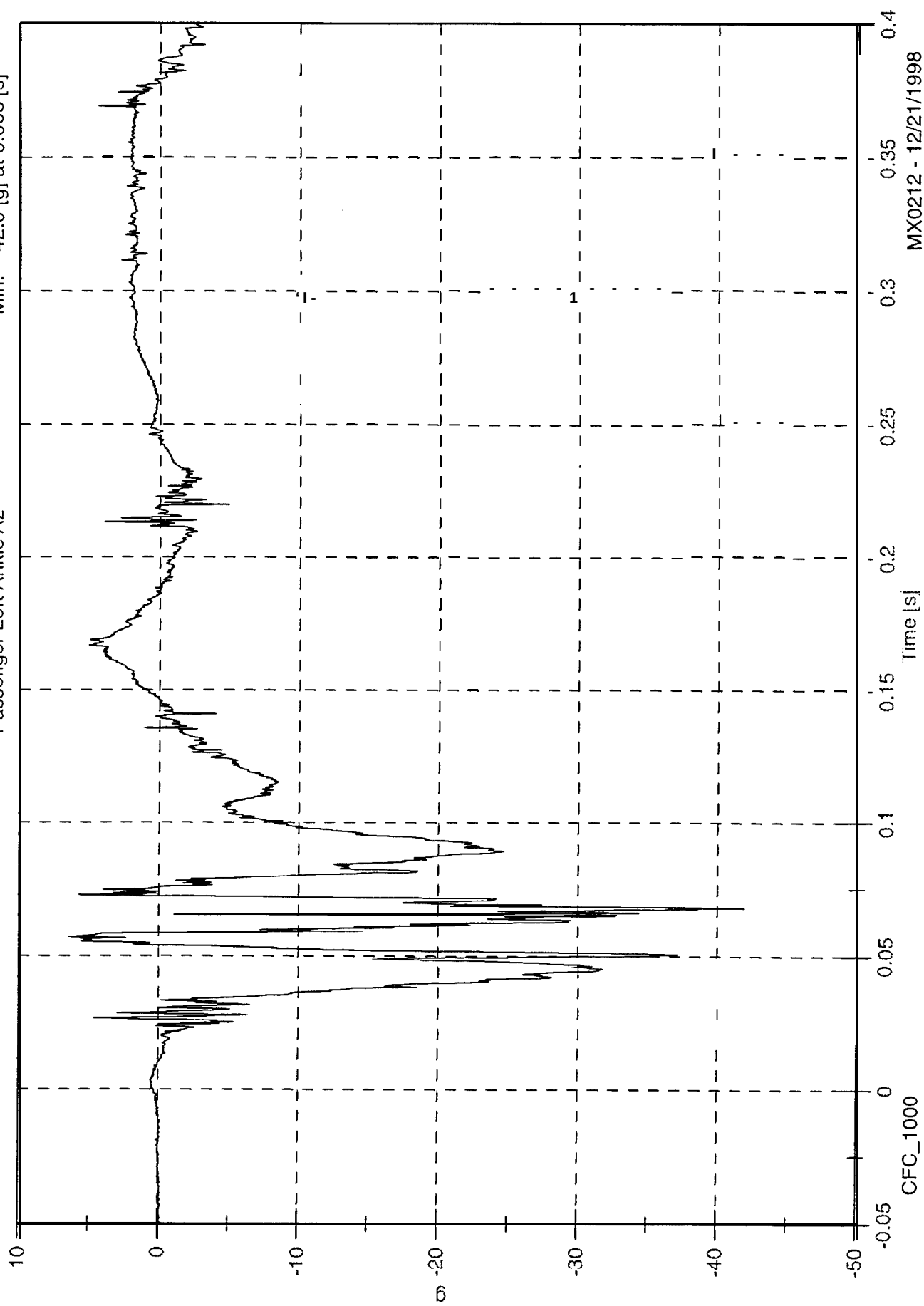


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 6.4 [g] at 0.057 [s]
Min: -42.0 [g] at 0.068 [s]

Passenger Left Ankle Az

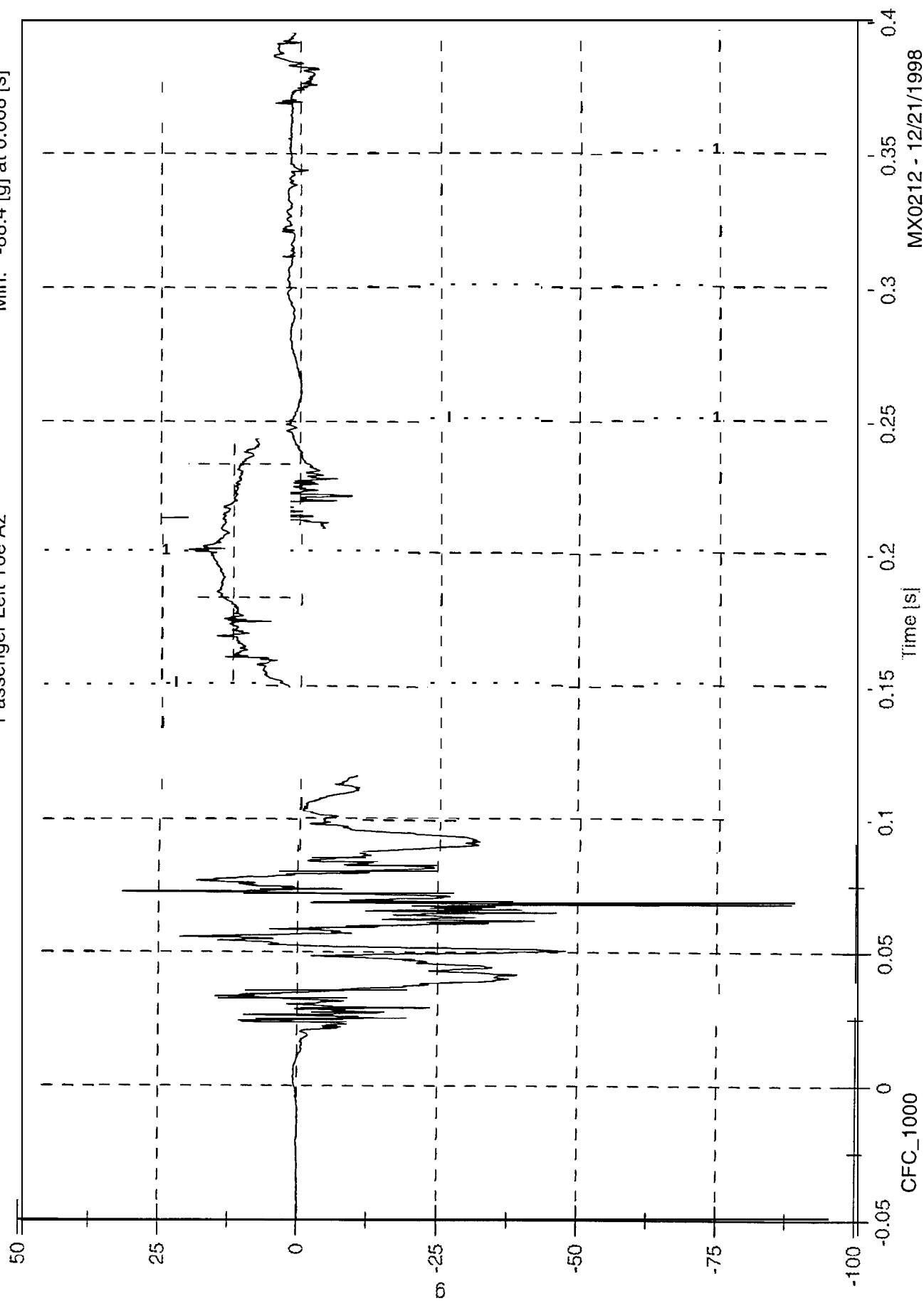


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 31.6 [g] at 0.073 [s]
Min: -88.4 [g] at 0.068 [s]

Passenger Left Toe Az

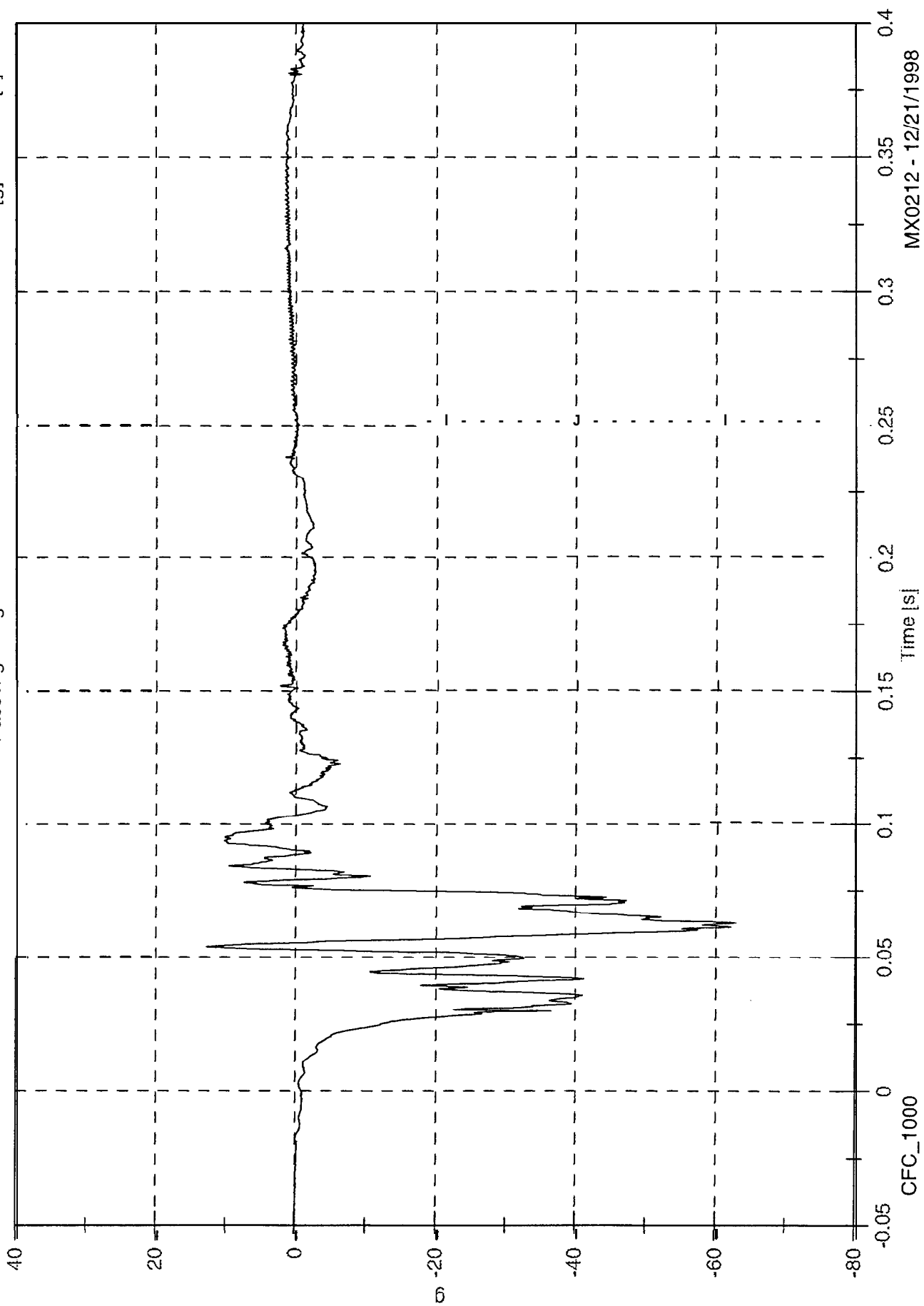


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 21.3 [g] at 0.440 [s]
Min: -62.9 [g] at 0.063 [s]

Passenger Right Ankle Ax

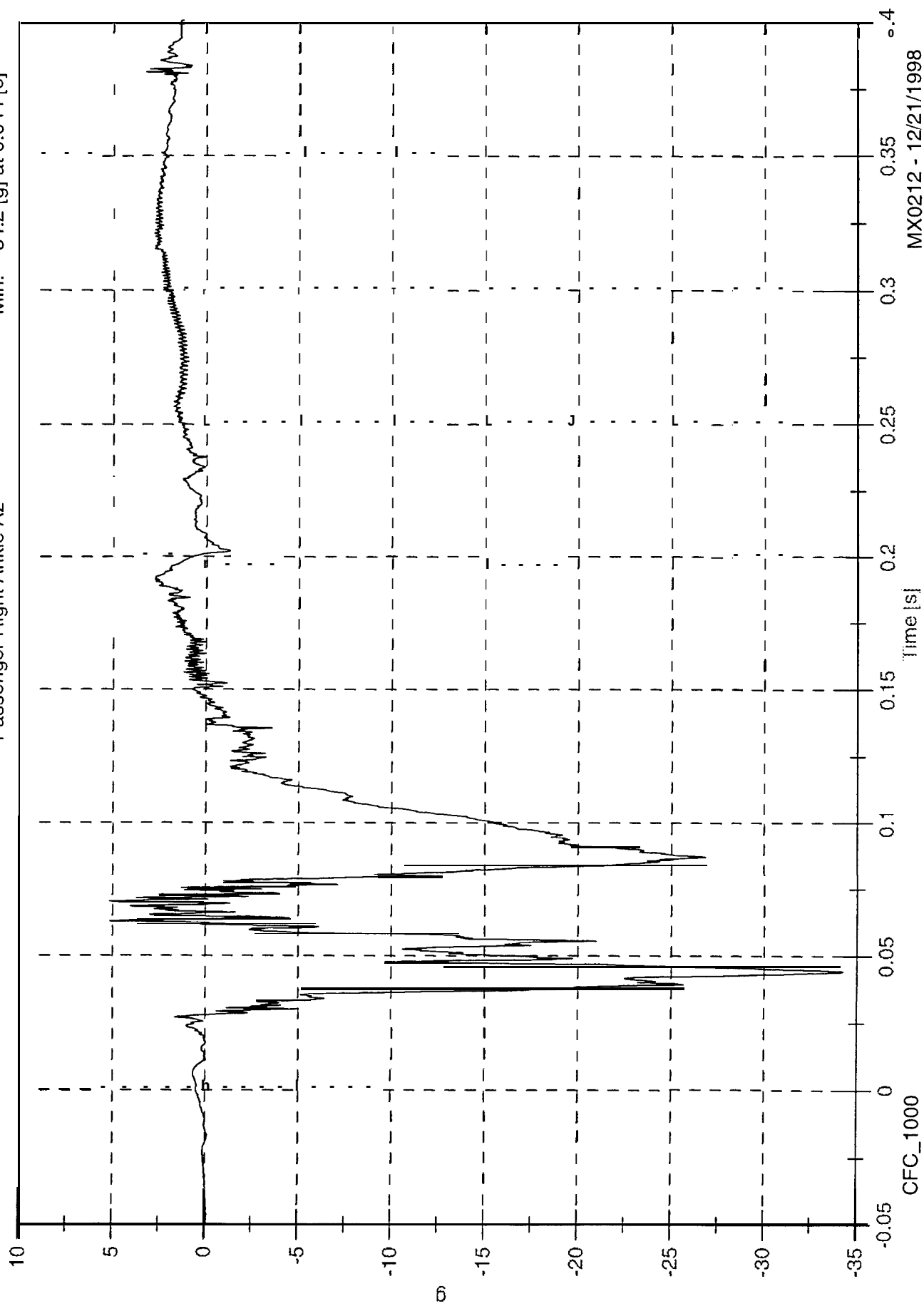


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.1 [g] at 0.070 [s]
Min: -34.2 [g] at 0.044 [s]

Passenger Right Ankle Az



CFC_1000

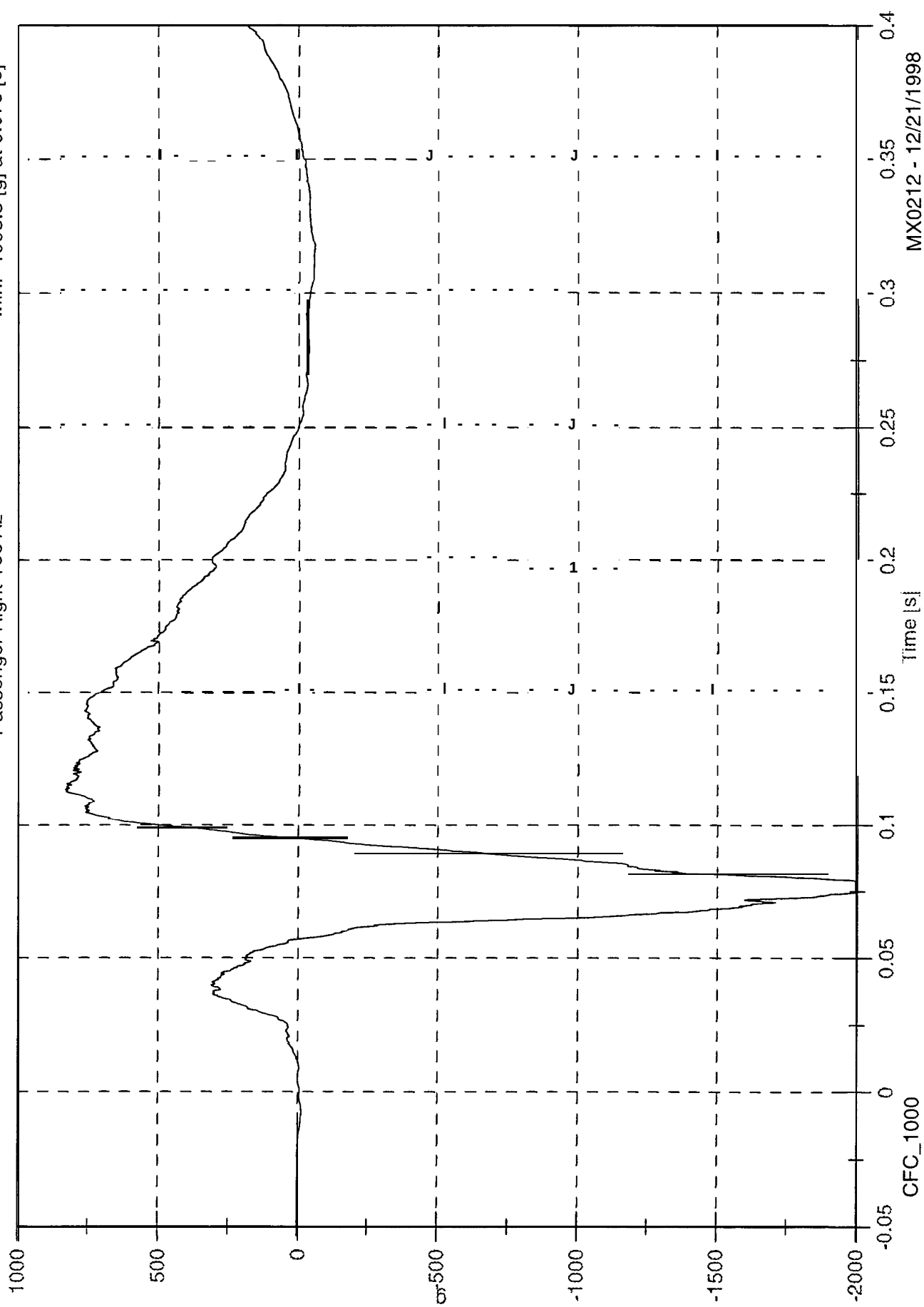
Time [s]

MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 831.4 [g] at 0.114 [s]
Min: -1993.8 [g] at 0.075 [s]

Passenger Right Toe Az



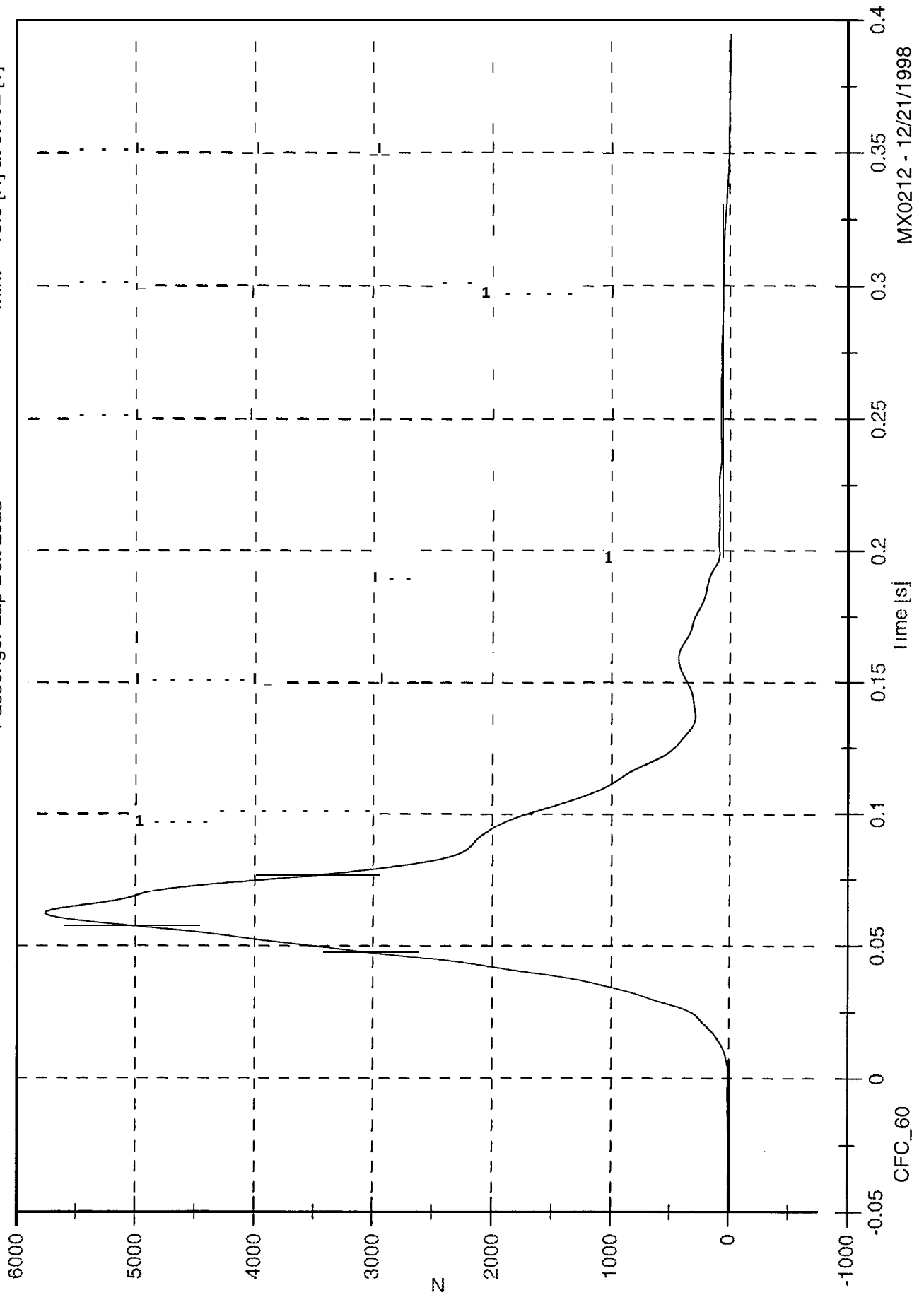
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5762.4 [N] at 0.062 [s]

Min: -16.6 [N] at 0.502 [s]

Passenger Lap Belt Load



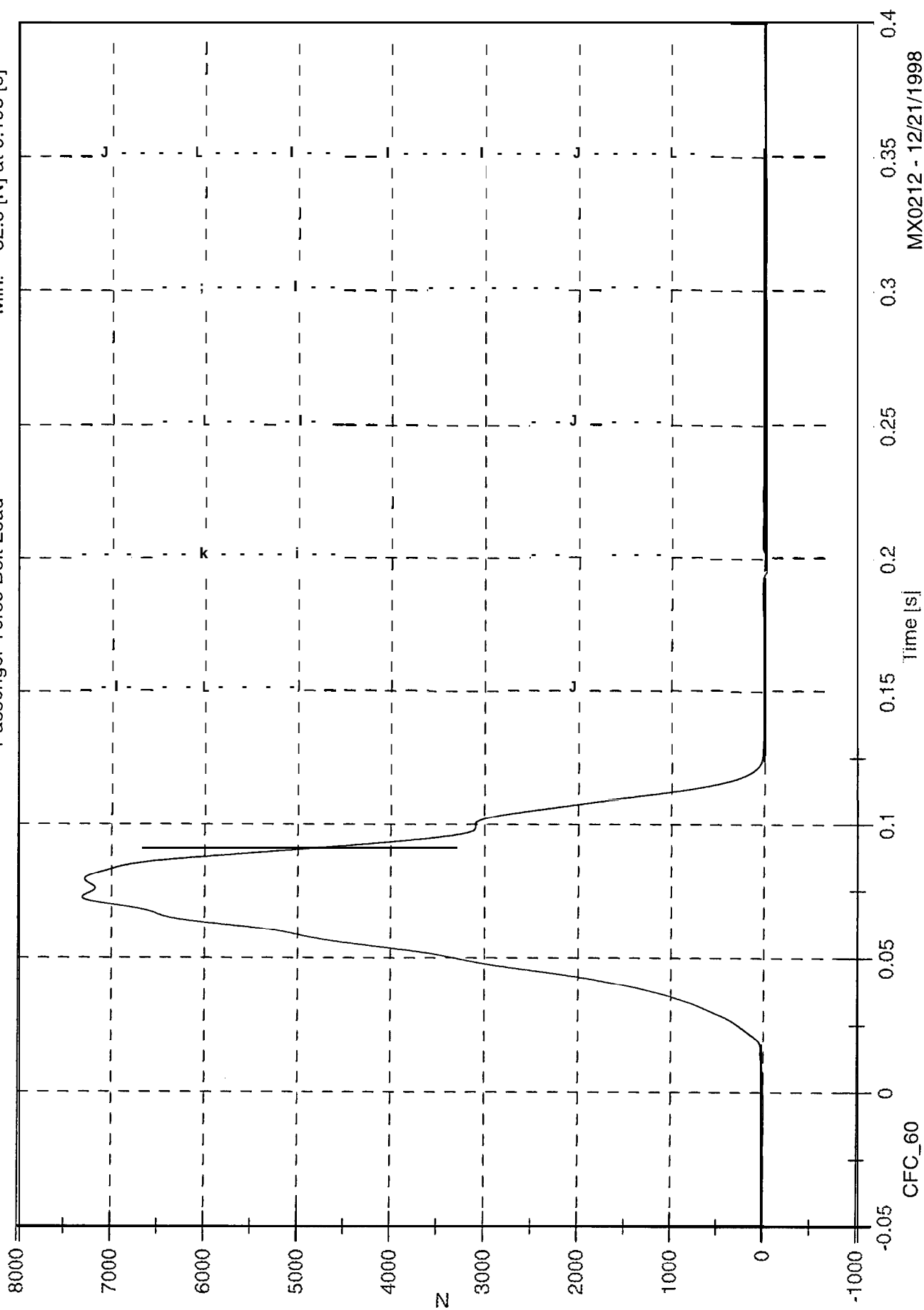
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 7315.1 [N] at 0.072 [s]

Min: -52.6 [N] at 0.198 [s]

Passenger Torso Belt Load



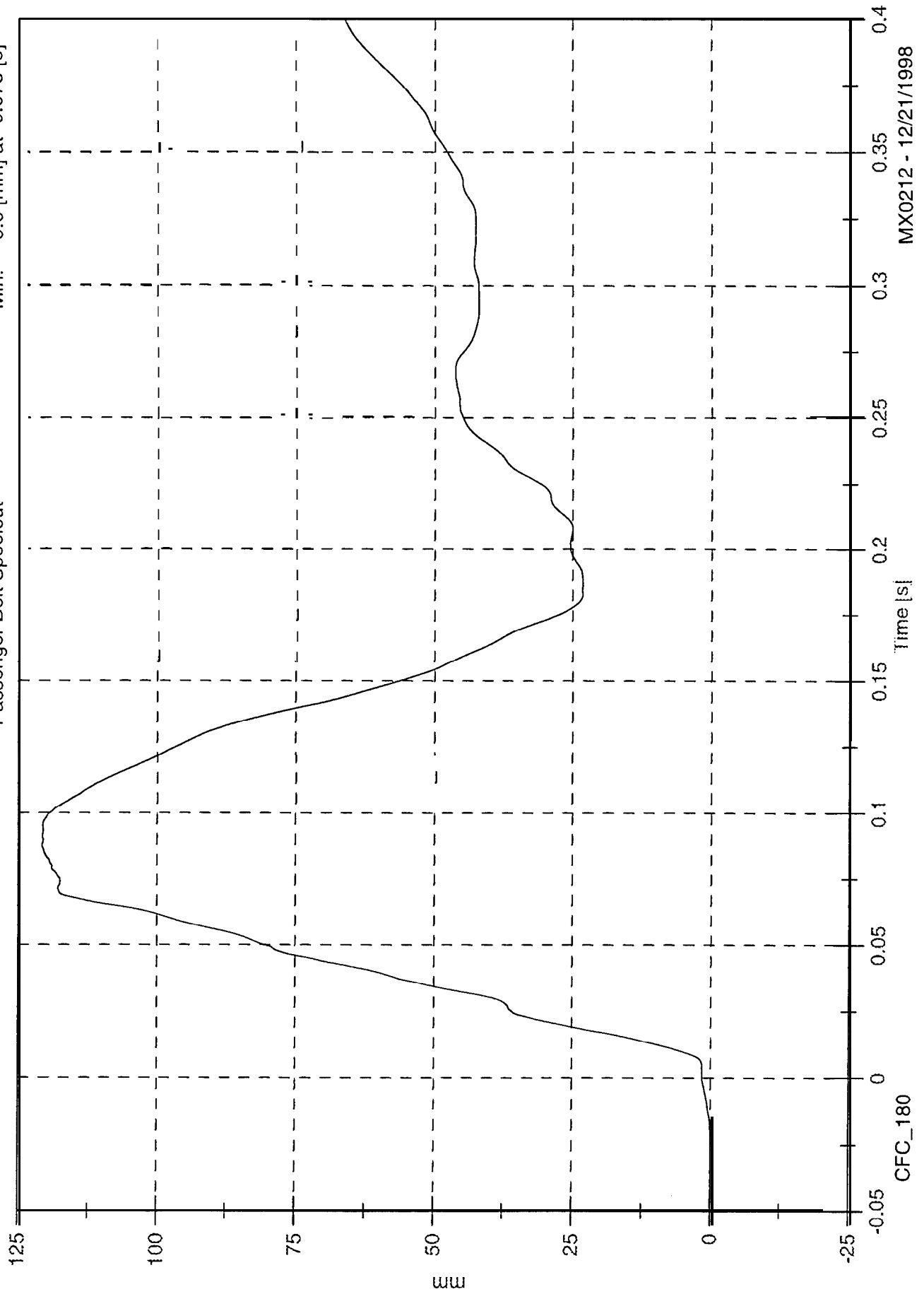
CFC_60

MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 120.8 [mm] at 0.088 [s]
Min: -0.0 [mm] at -0.078 [s]

Passenger Belt Spoolout

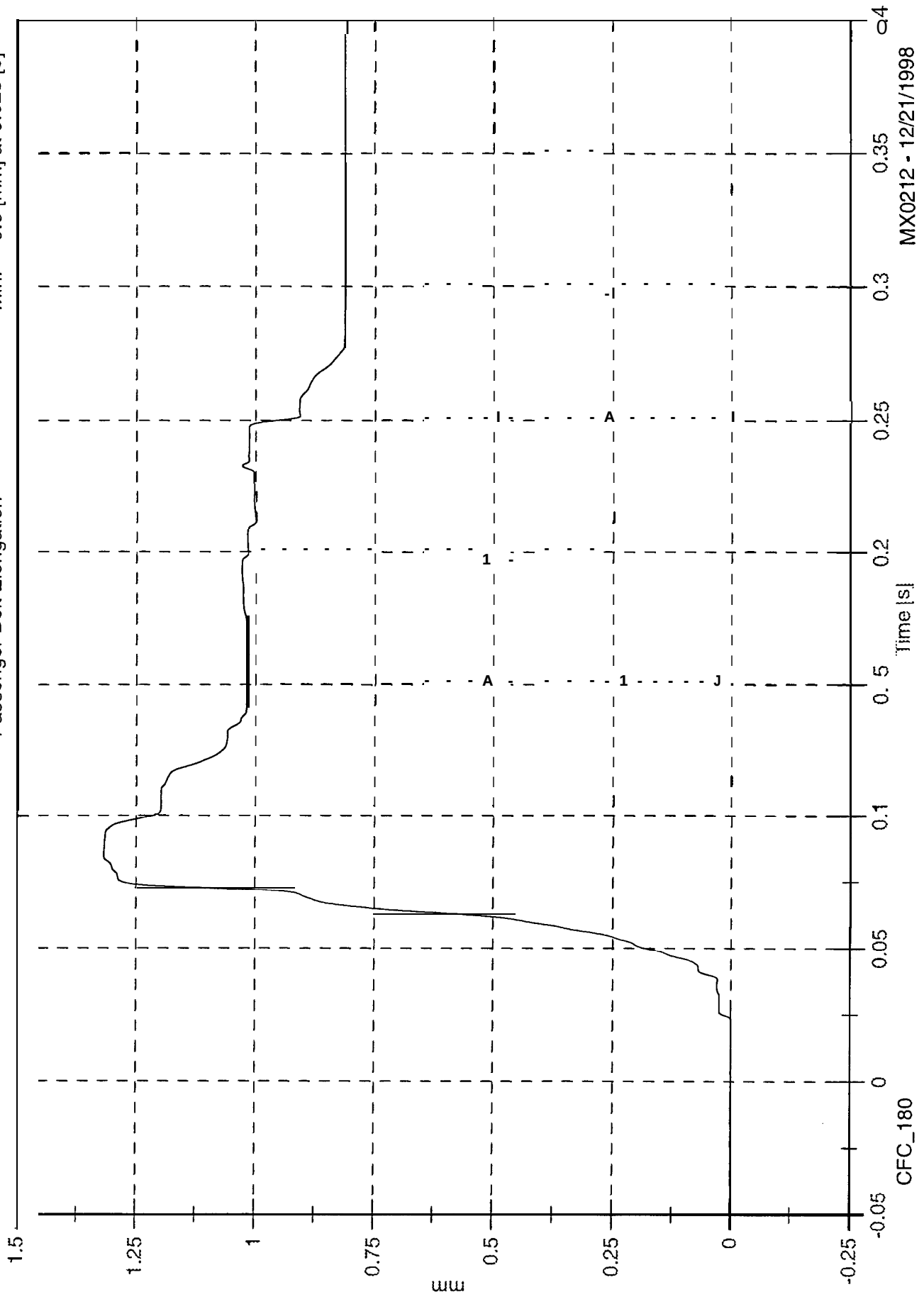


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 1.3 [mm] at 0.086 [s]
 Min: -0.0 [mm] at 0.023 [s]

Passenger Belt Elongation



NHTSA TEST NO. MX0212

VEHICLE DATA

FILTER CHANNEL CLASS

Acceleration

60

Velocity

180

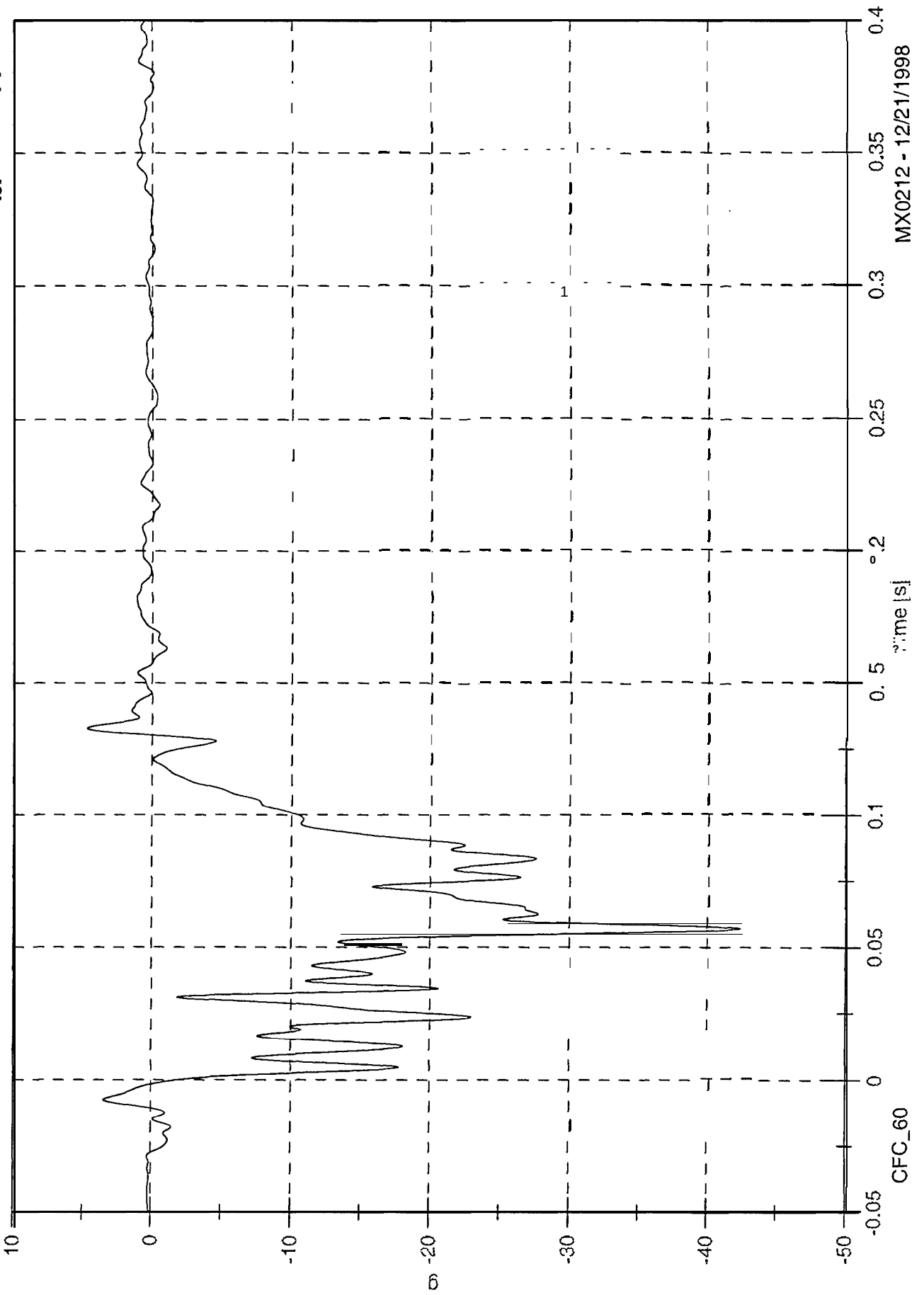
Displacement

180

NCAP Test - 1999 Ford Mustang

Max: 4.7 [g] at 0.133 [s]
Min: -42.4 [g] at 0.057 [s]

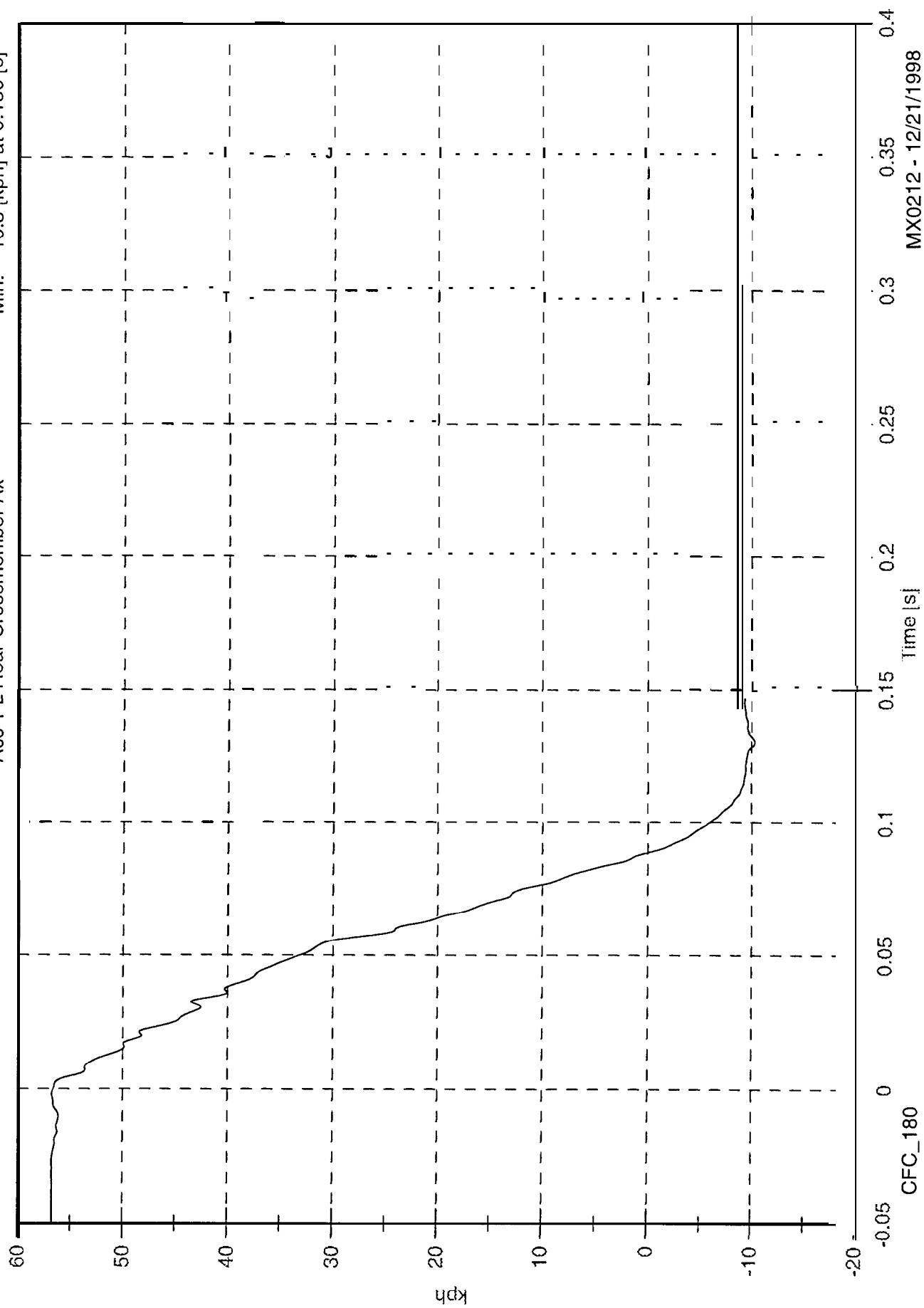
Acc 1 L Rear Crossmember Ax



NCAP Test - 1999 Ford Mustang

Max: 56.8 [kph] at -0.027 [s]
Min: -10.3 [kph] at 0.130 [s]

Acc 1 L Rear Crossmember Ax

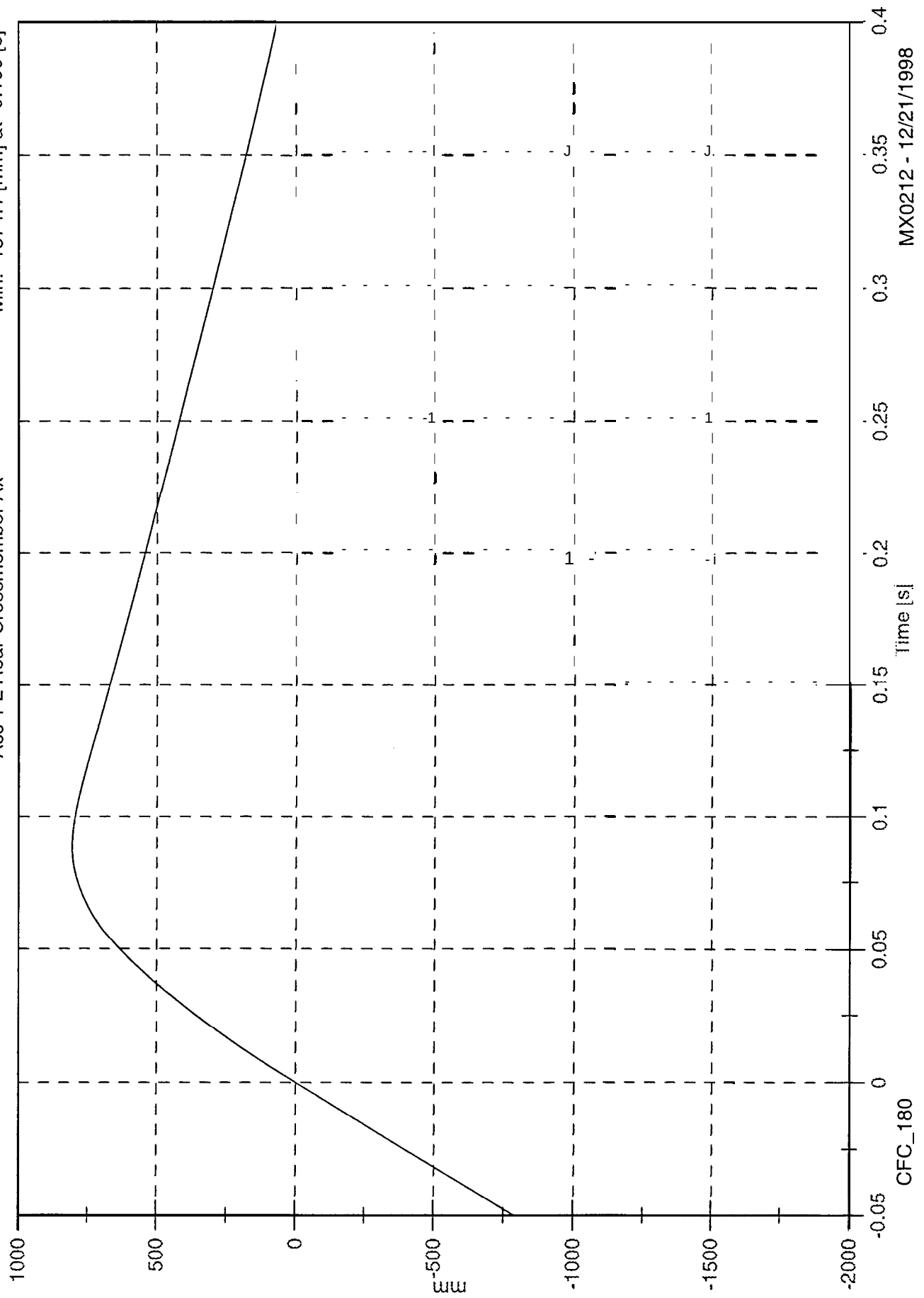


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 808.9 [mm] at 0.089 [s]
Min: -1574.1 [mm] at -0.100 [s]

Acc 1 L Rear Crossmember Ax

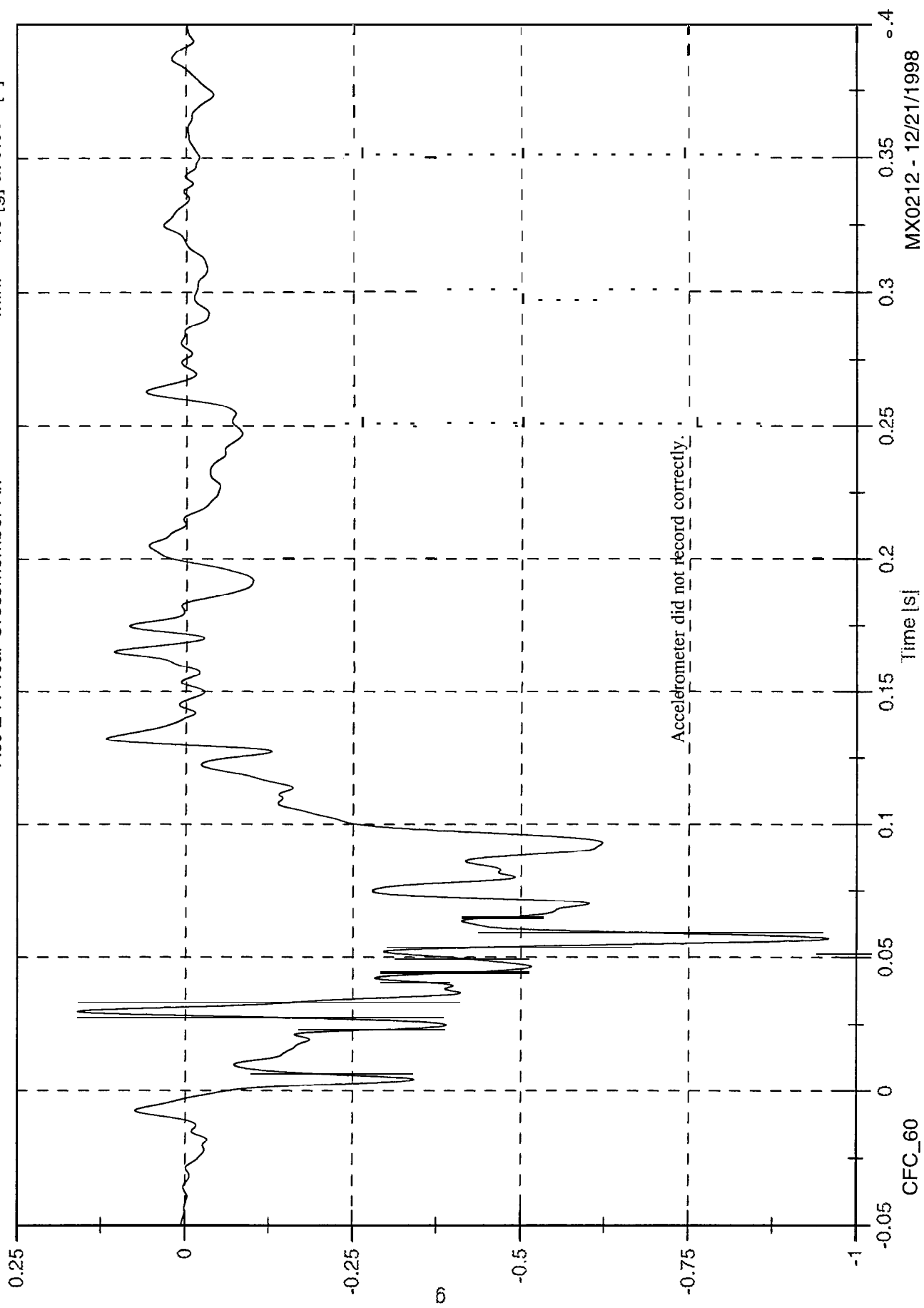


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 0.2 [g] at 0.030 [s]
Min: -1.0 [g] at 0.057 [s]

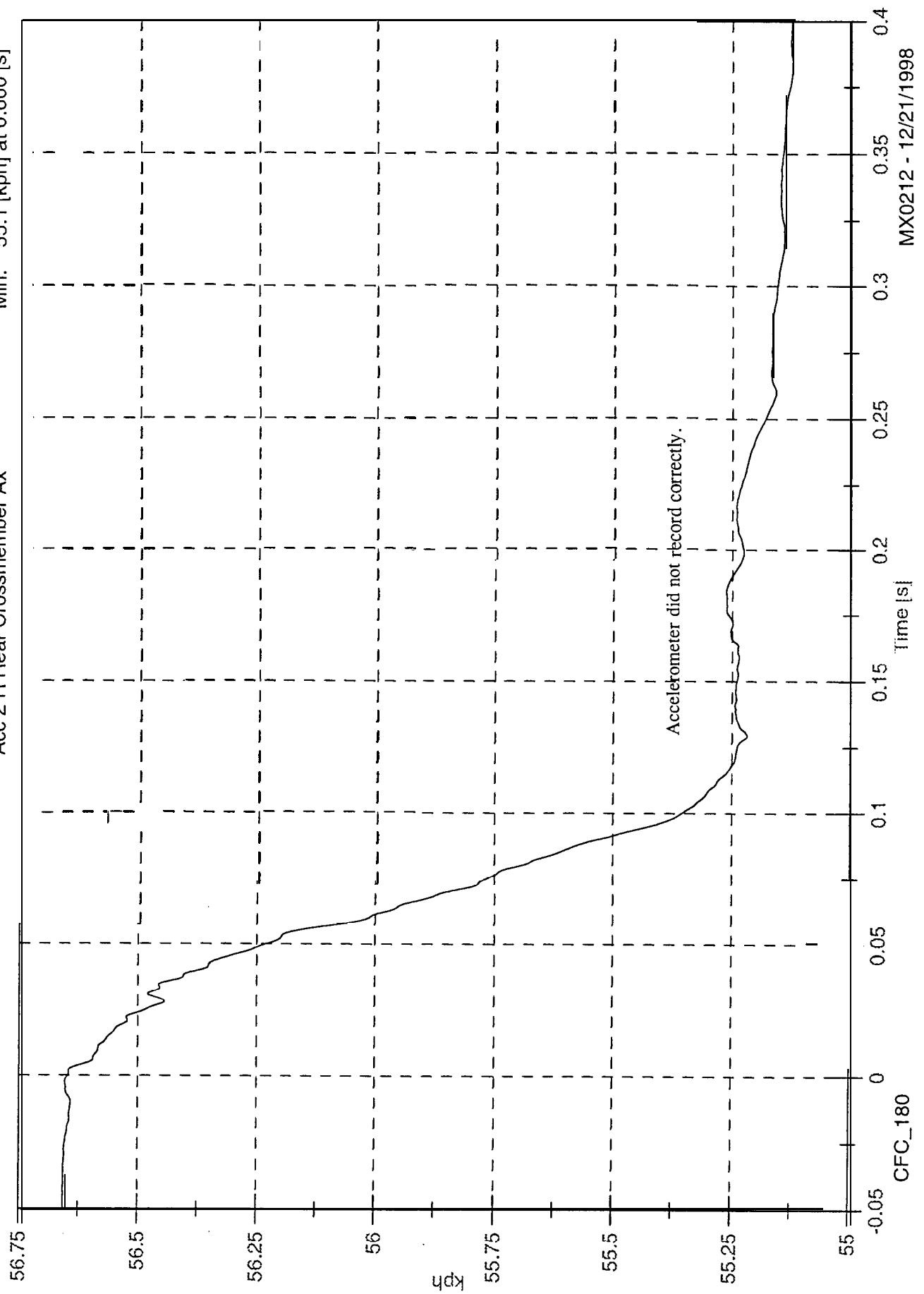
Acc 2 R Rear Crossmember Ax



NCAP Test - 1999 Ford Mustang

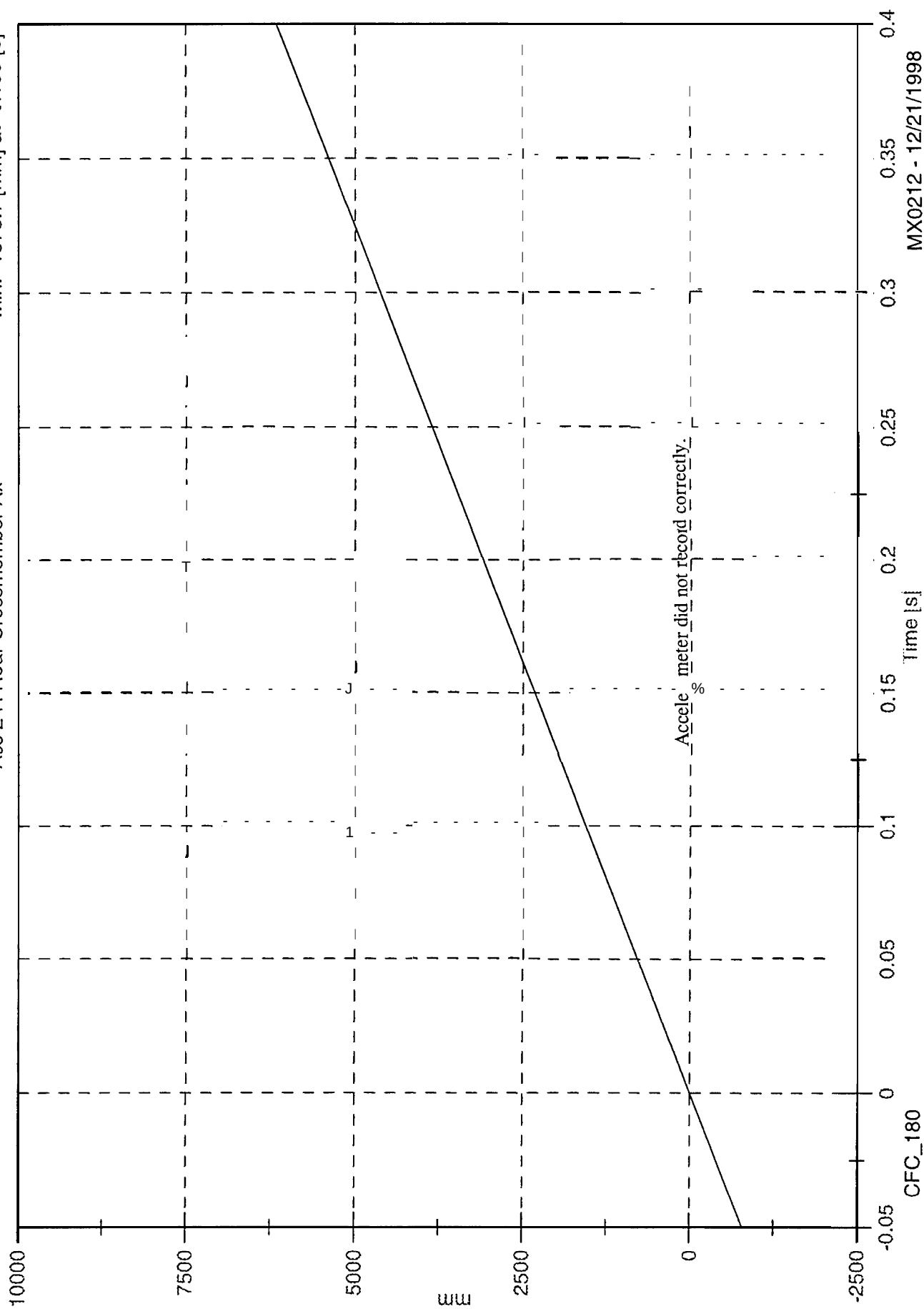
Acc 2 R Rear Crossmember Ax

Max: 56.7 [kph] at -0.046 [s]
Min: 55.1 [kph] at 0.600 [s]



MX0212 - 12/21/1998

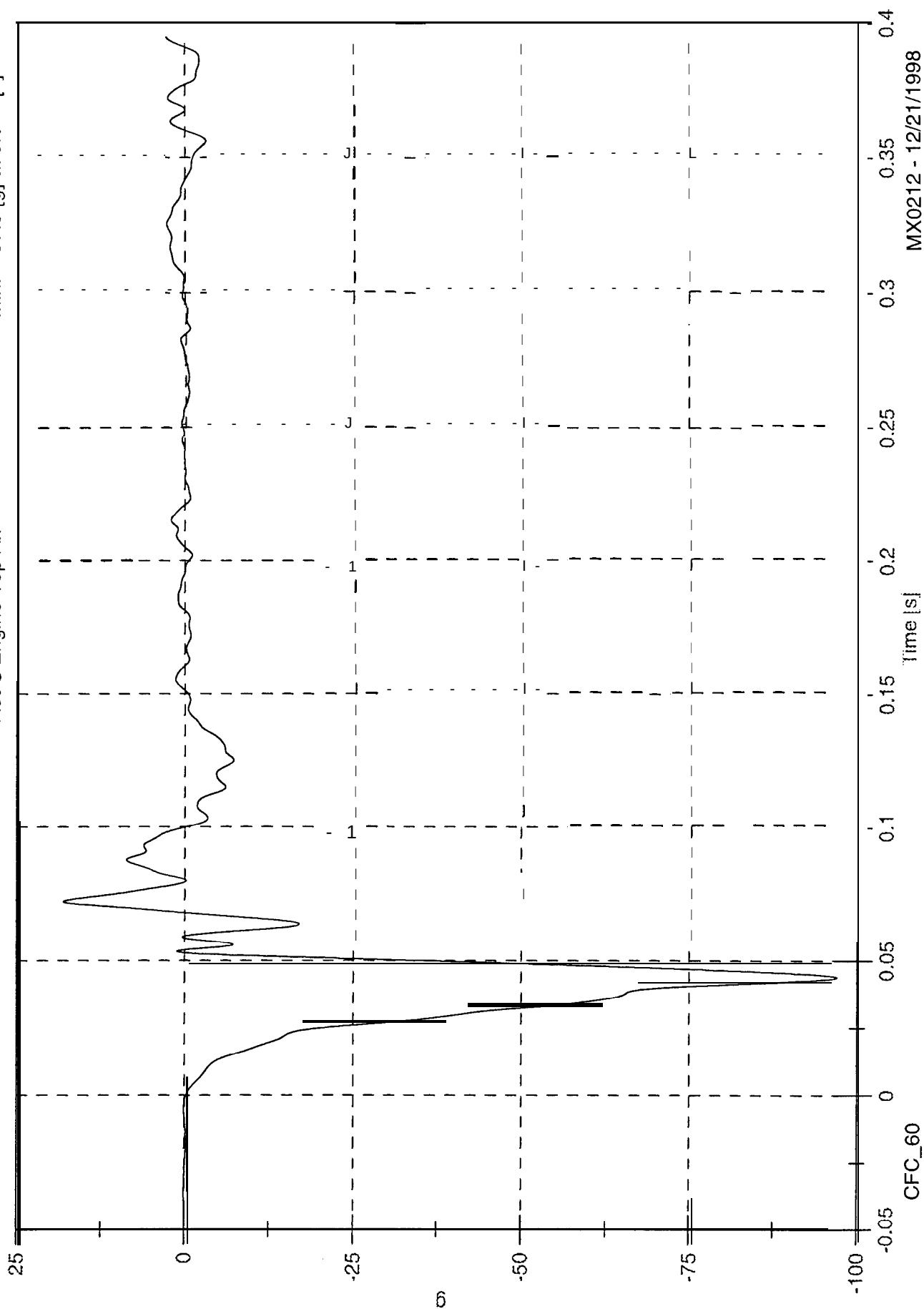
Acc 2 R Rear Crossmember Ax



NCAP Test - 1999 Ford Mustang

Max: 18.1 [g] at 0.072 [s]
Min: -97.0 [g] at 0.044 [s]

Acc 3 Engine Top Ax

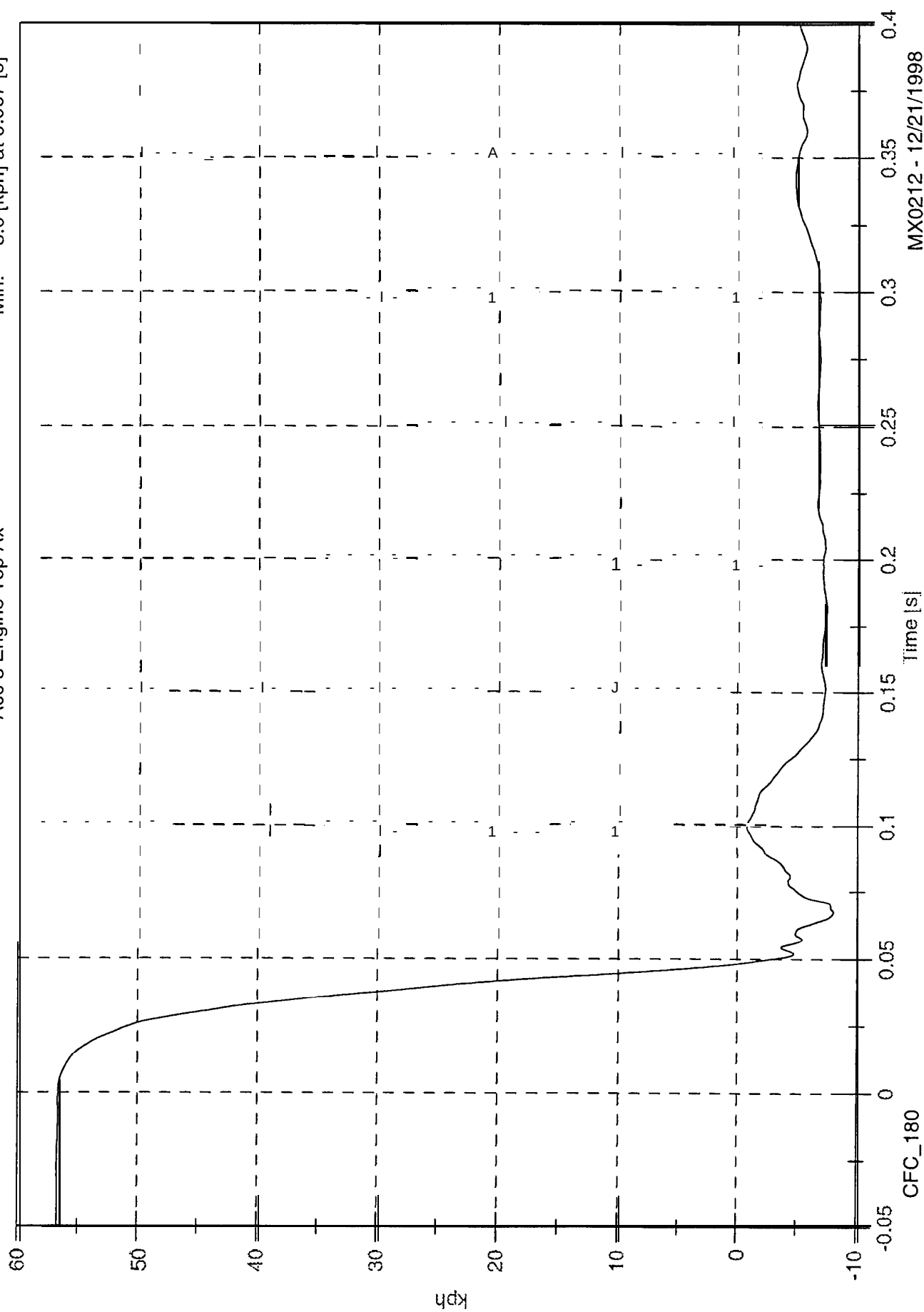


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 56.7 [kph] at -0.027 [s]
 Min: -8.0 [kph] at 0.067 [s]

Acc 3 Engine Top Ax

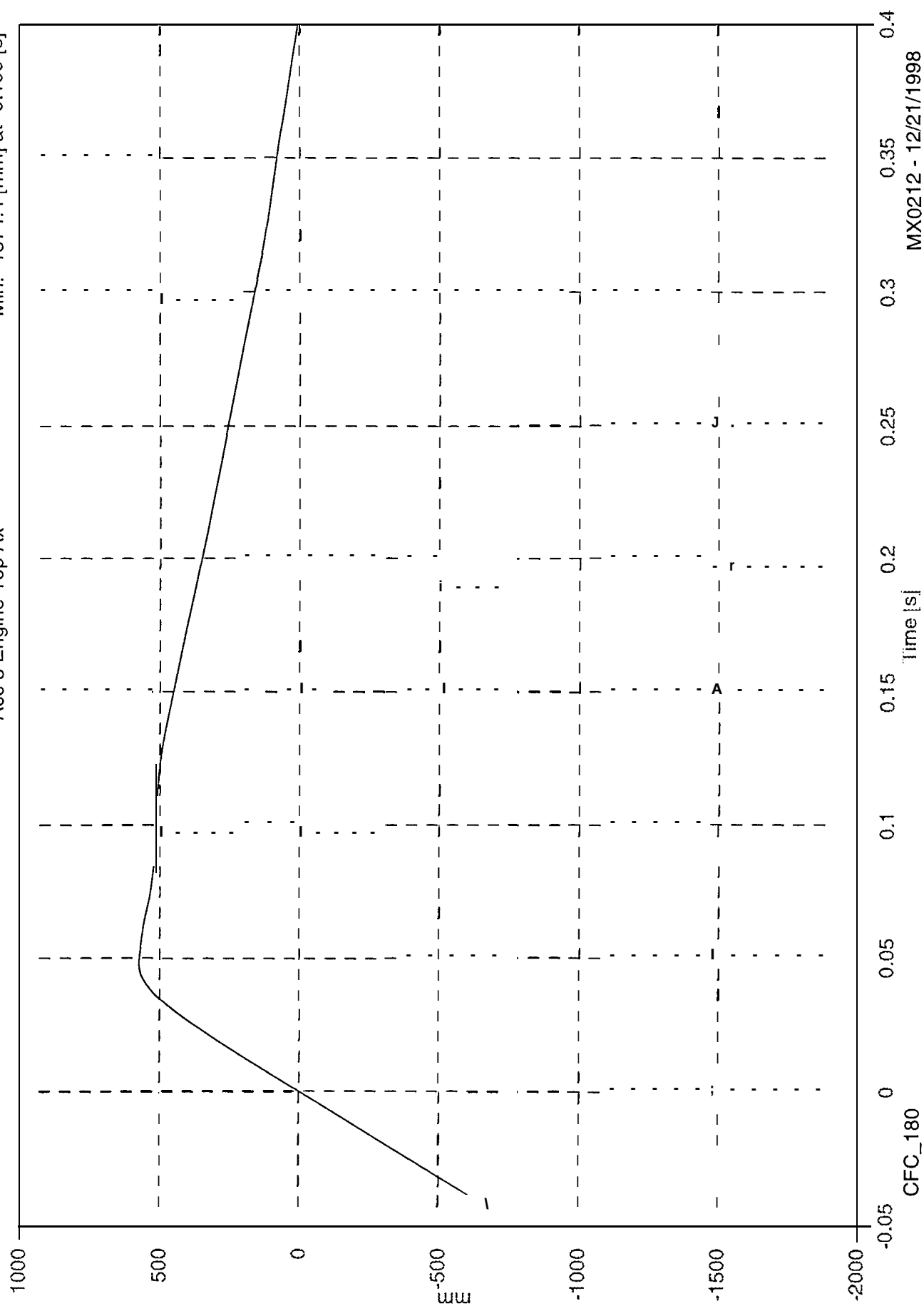


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 574.9 [mm] at 0.048 [s]
Min: -1574.4 [mm] at -0.100 [s]

Acc 3 Engine Top Ax

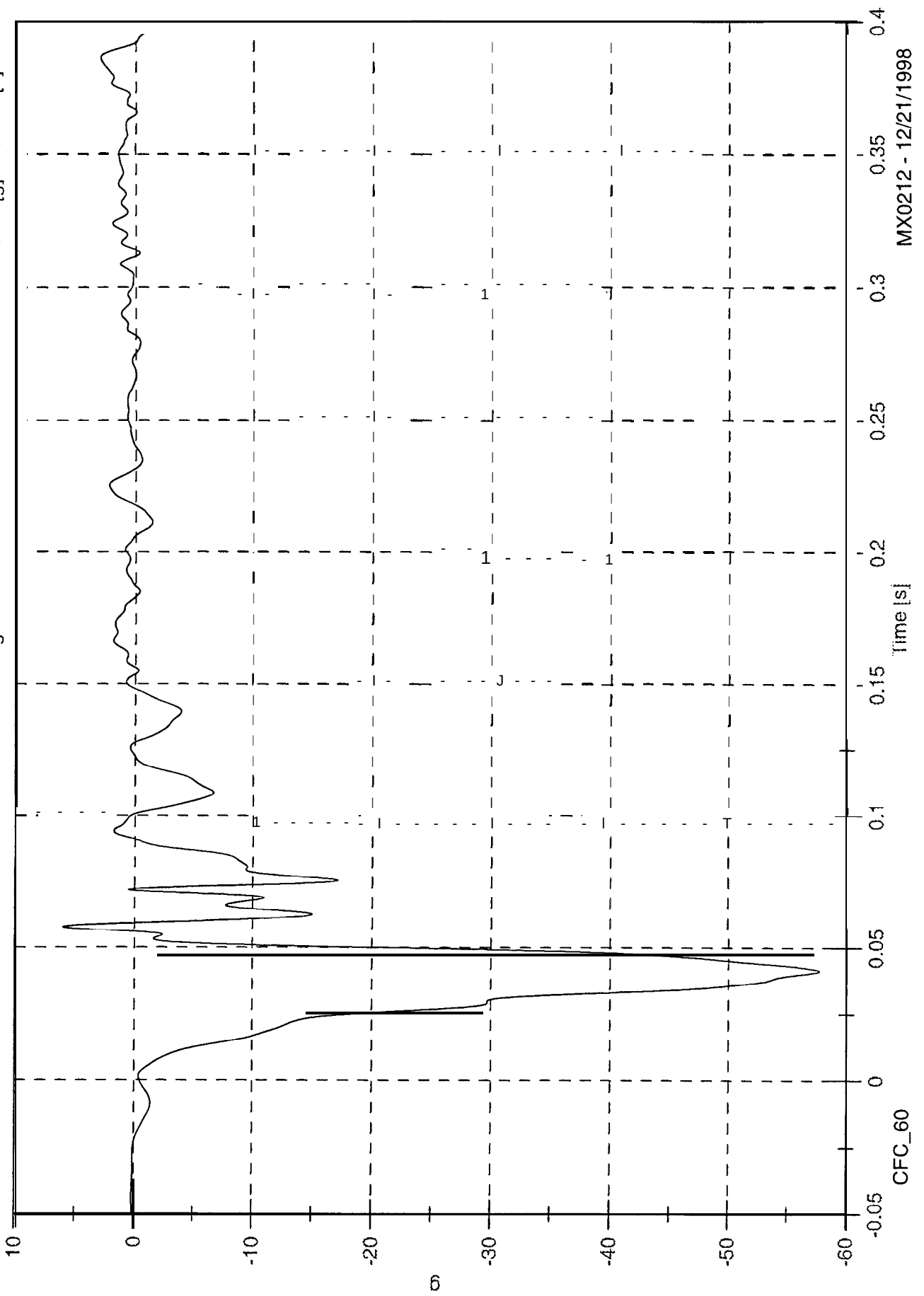


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 6.0 [g] at 0.058 [s]
Min: -57.7 [g] at 0.041 [s]

Acc 4 Engine Bottom Ax

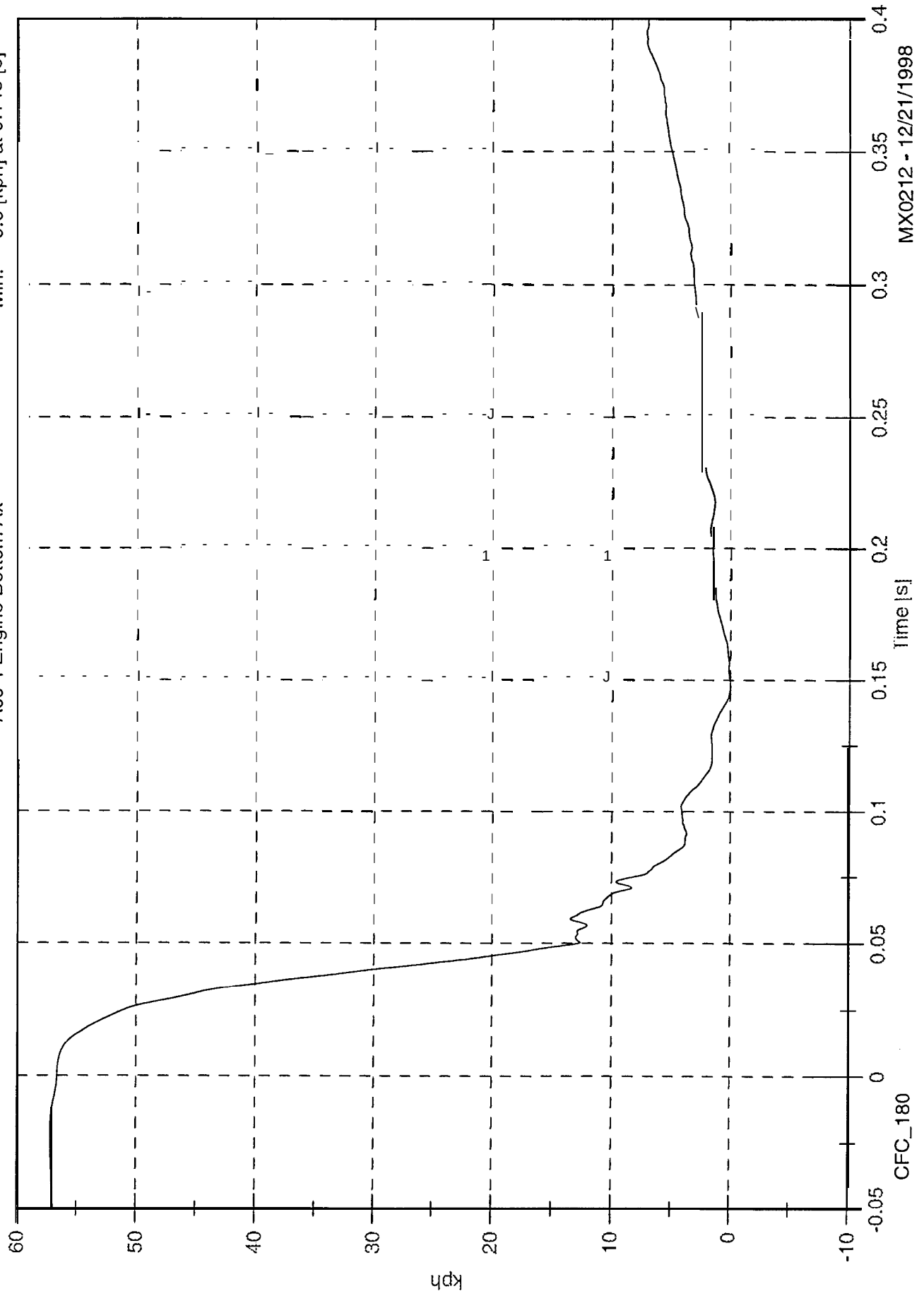


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Acc 4 Engine Bottom Ax

Max: 57.2 [kph] at -0.021 [s]
Min: -0.0 [kph] at 0.148 [s]



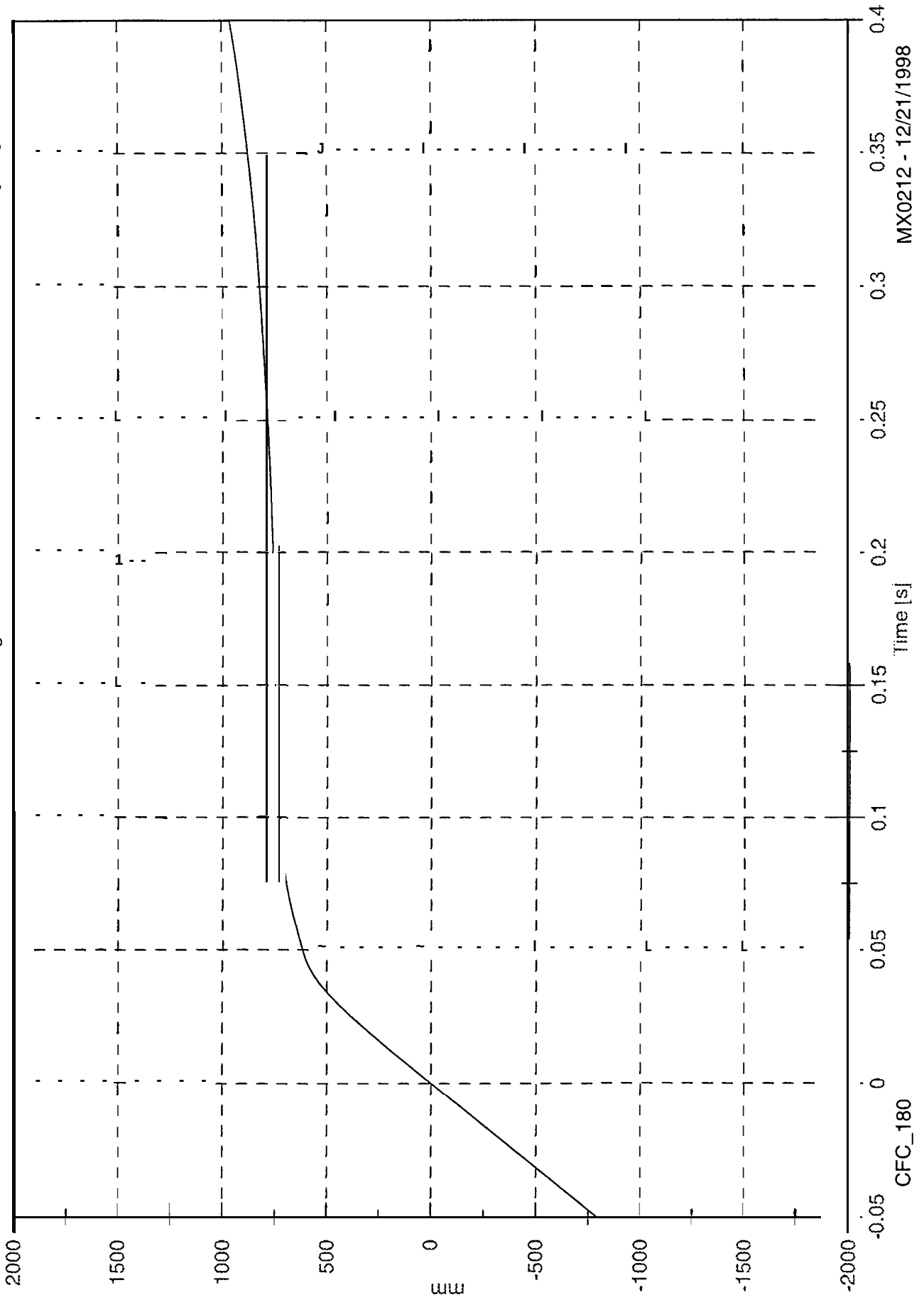
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Acc 4 Engine Bottom Ax

Max: 1552.5 [mm] at 0.600 [s]

Min: -1581.3 [mm] at -0.100 [s]

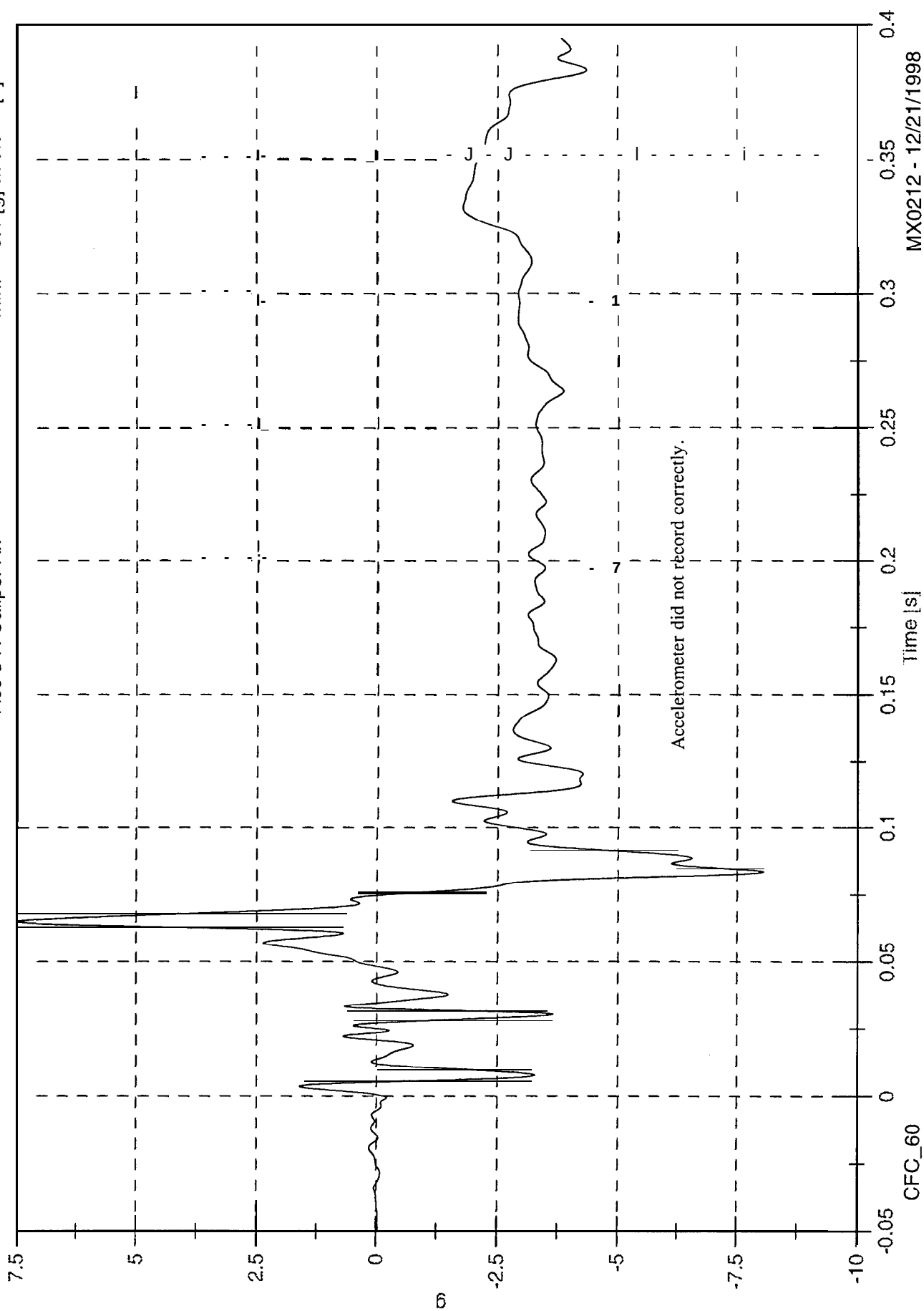


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 7.5 [g] at 0.065 [s]
Min: -8.1 [g] at 0.084 [s]

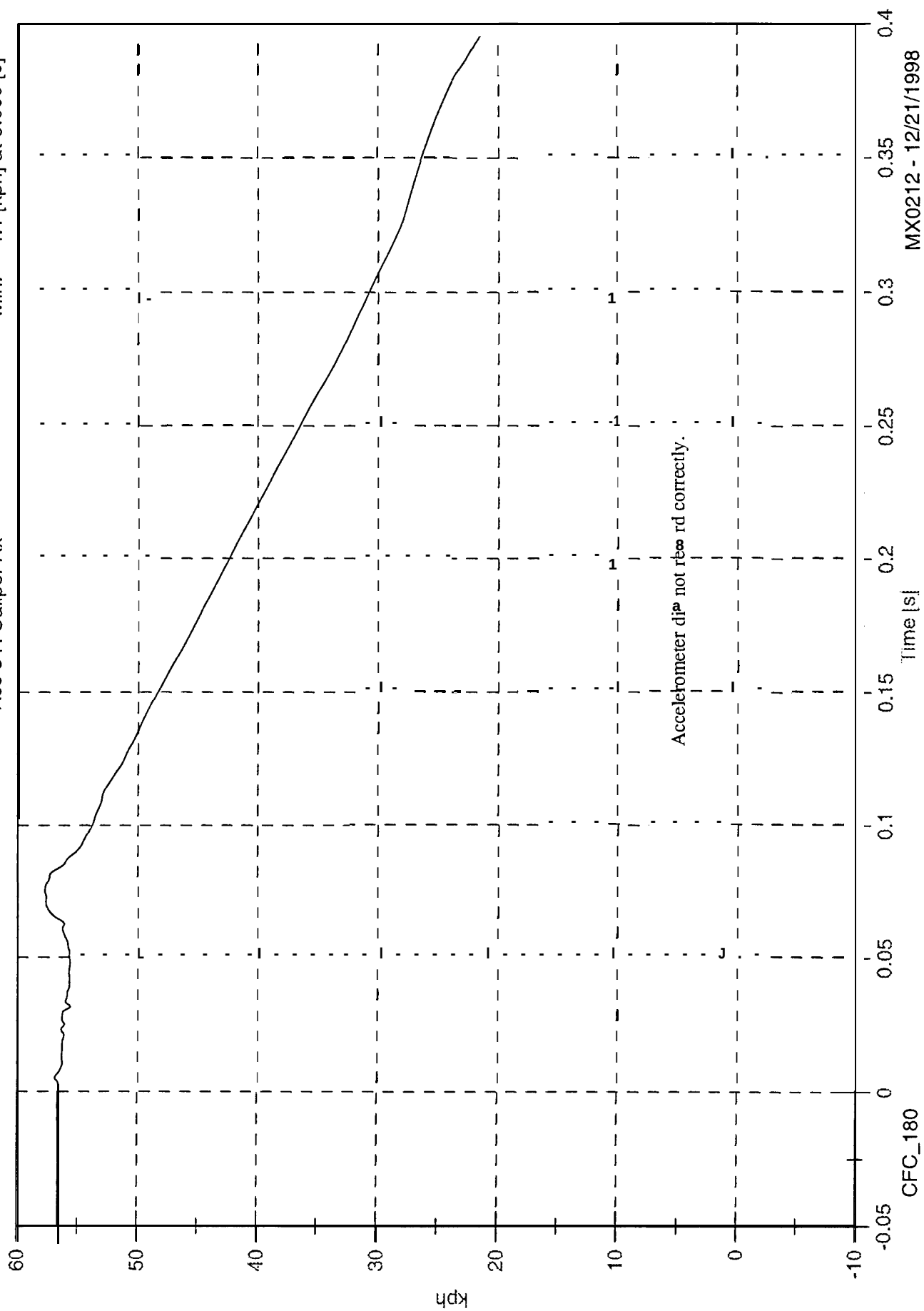
Acc 5 R Caliper Ax



NCAP Test - 1999 Ford Mustang

Max: 57.8 [kph] at 0.075 [s]
 Min: -4.1 [kph] at 0.600 [s]

Acc 5 R Caliper Ax

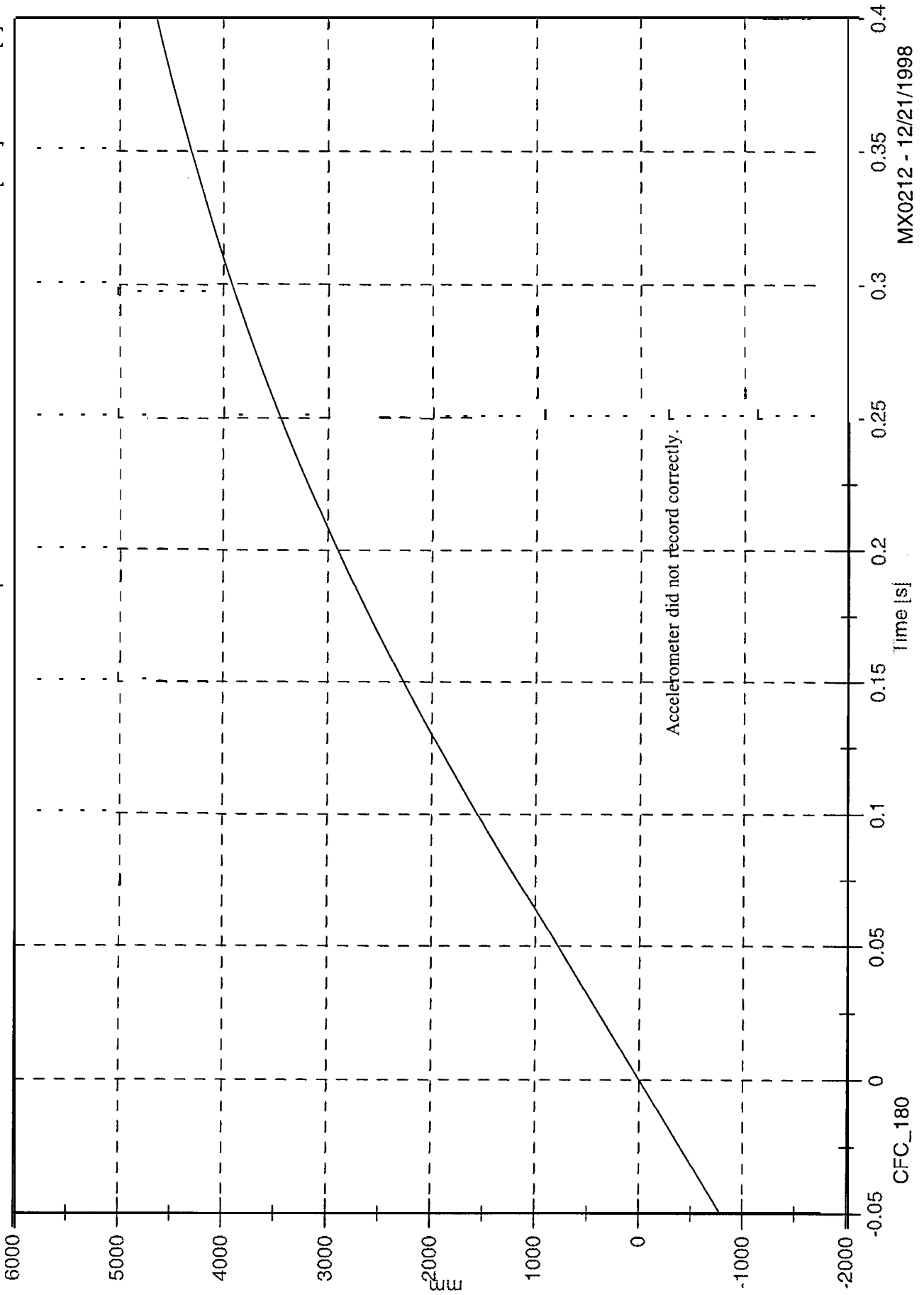


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5131.9 [mm] at 0.568 [s]
Min: -1573.2 [mm] at -0.100 [s]

Acc 5 R Caliper Ax

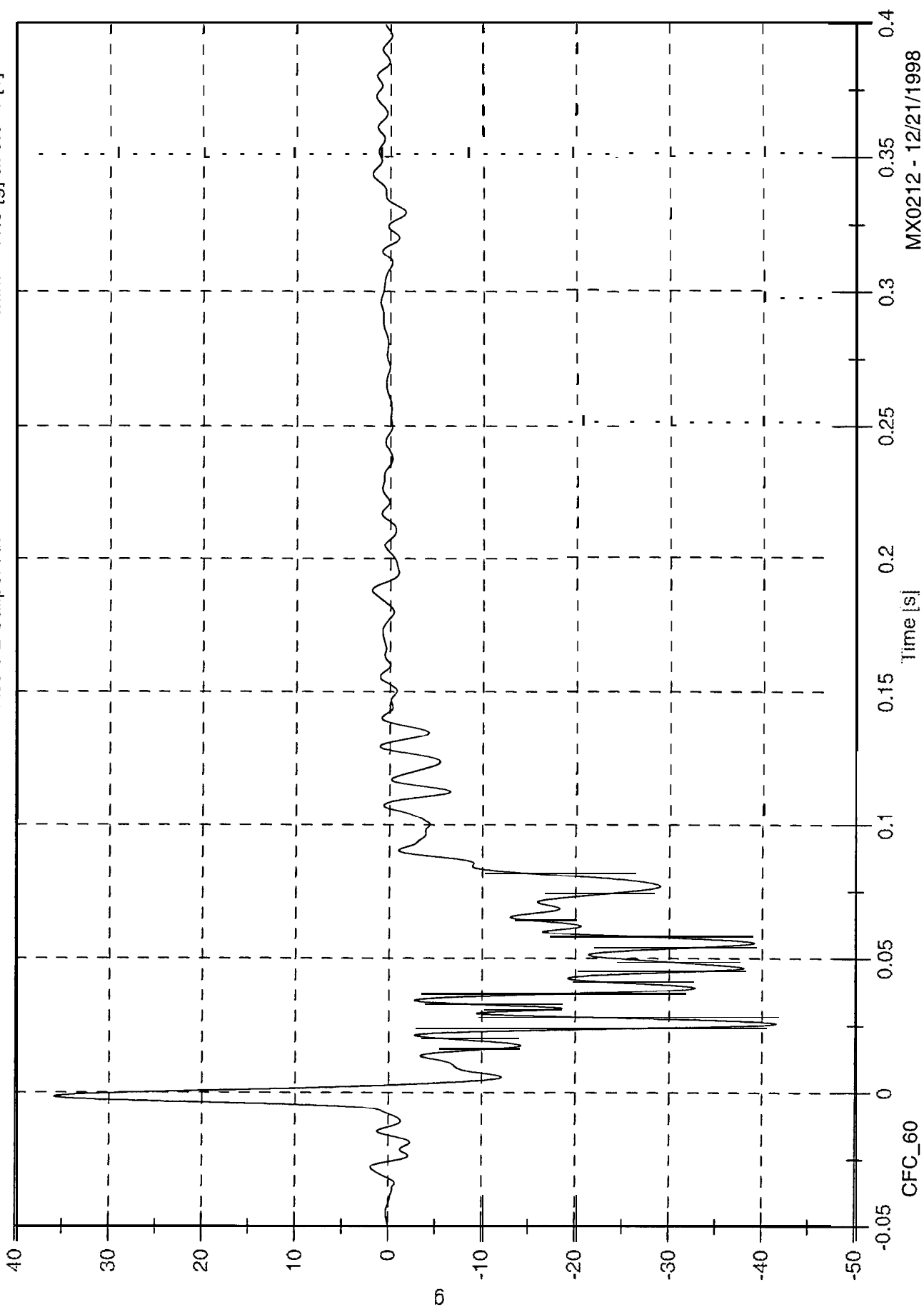


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Acc 6 L Caliper Ax

Max: 35.9 [g] at -0.002 [s]
Min: -41.5 [g] at 0.026 [s]



CFC_60

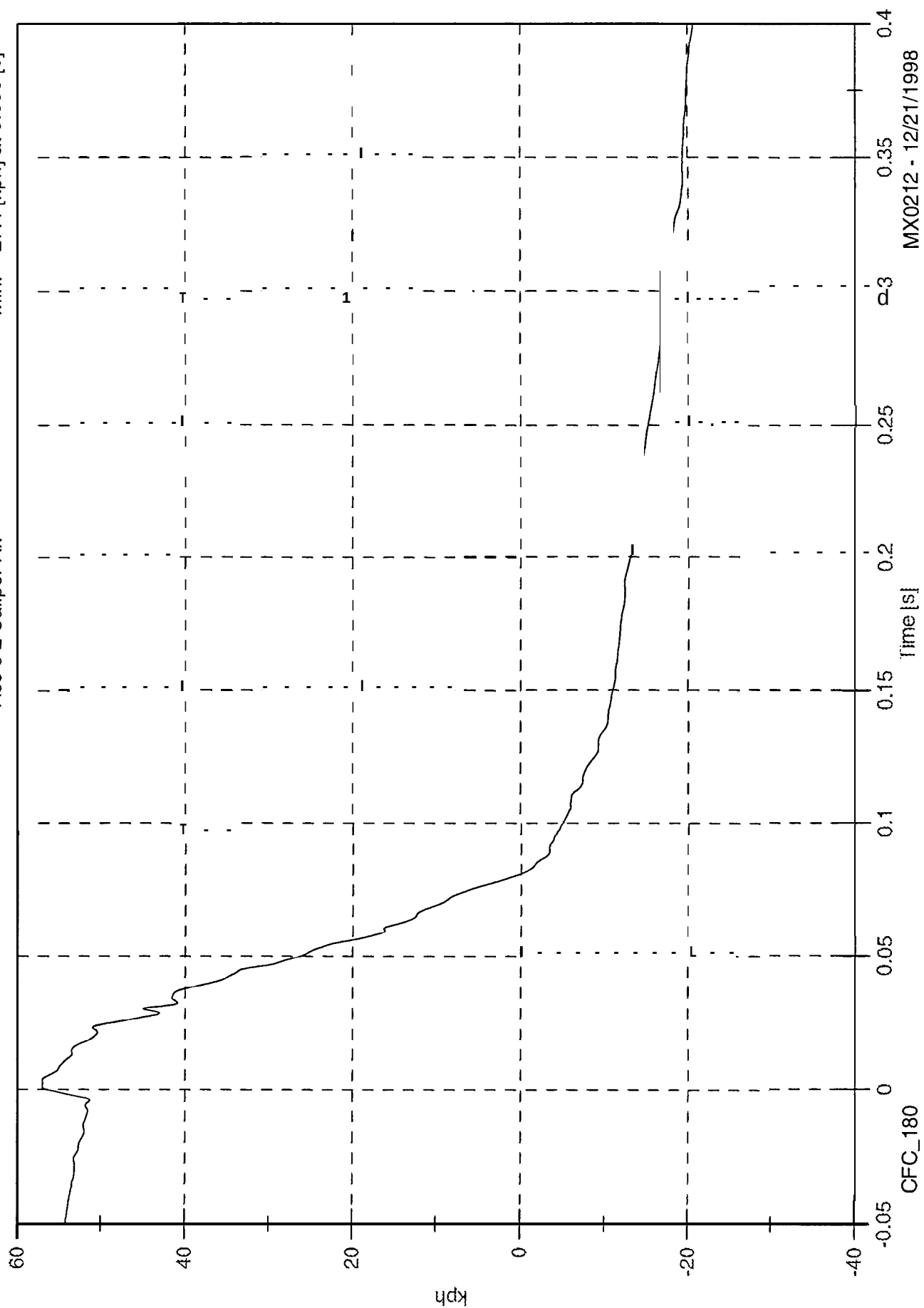
Time [s]

MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Acc 6 L Caliper Ax

Max: 57.1 [kph] at 0.001 [s]
Min: -27.4 [kph] at 0.600 [s]



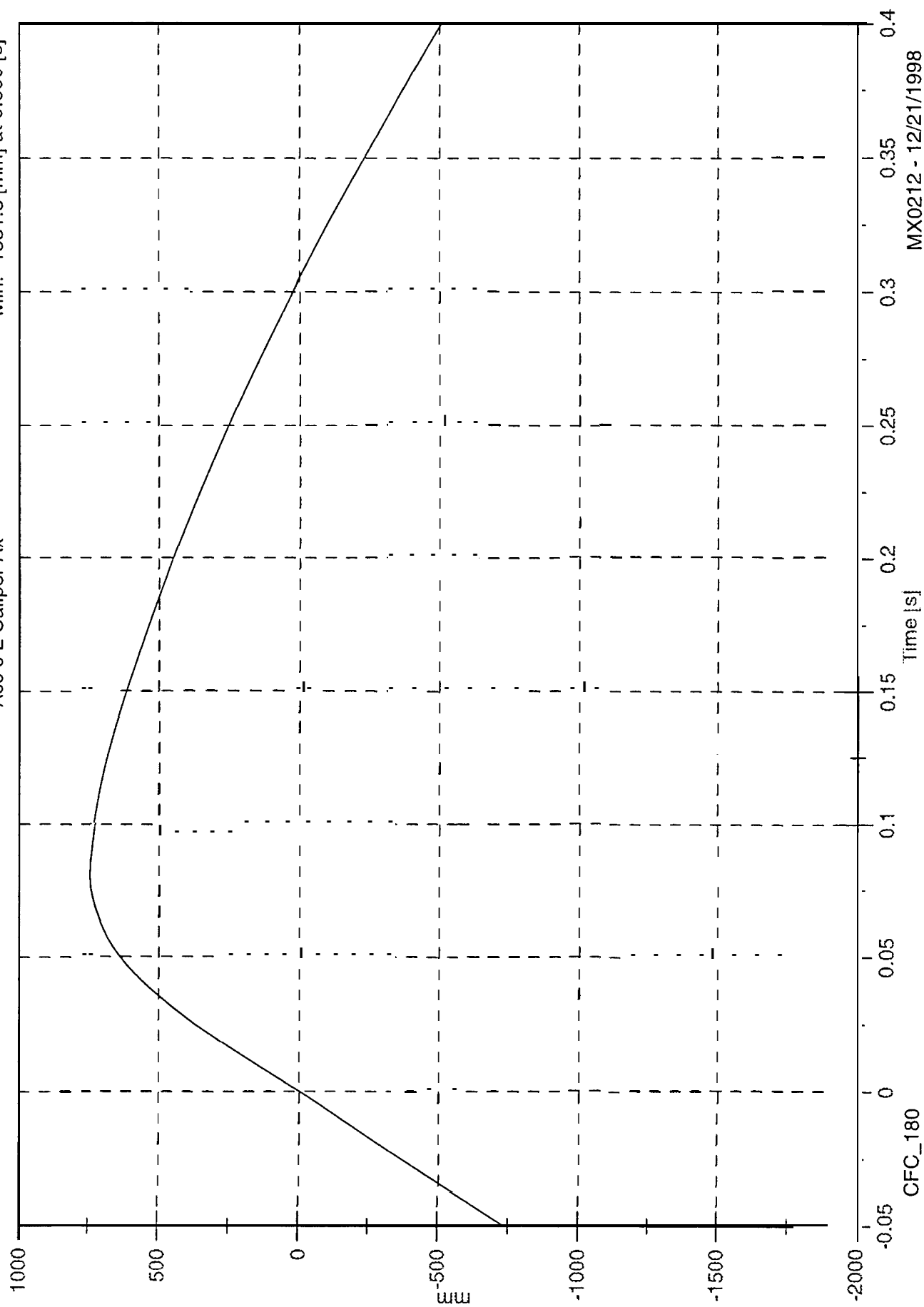
MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 748.0 [mm] at 0.081 [s]

Min: -1831.8 [mm] at 0.600 [s]

Acc 6 L Caliper Ax



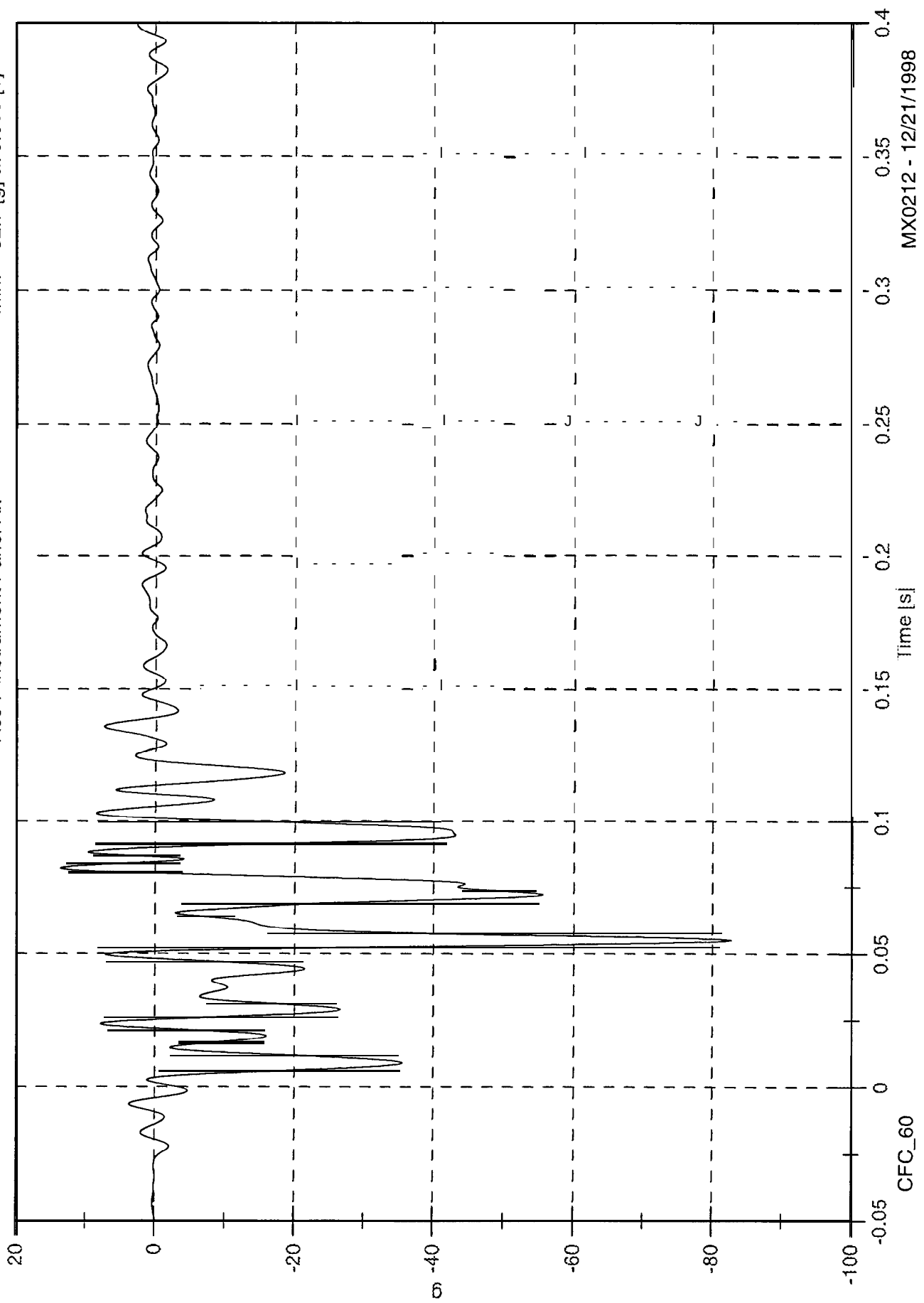
CFC_180

MX0212 - 12/21/1998

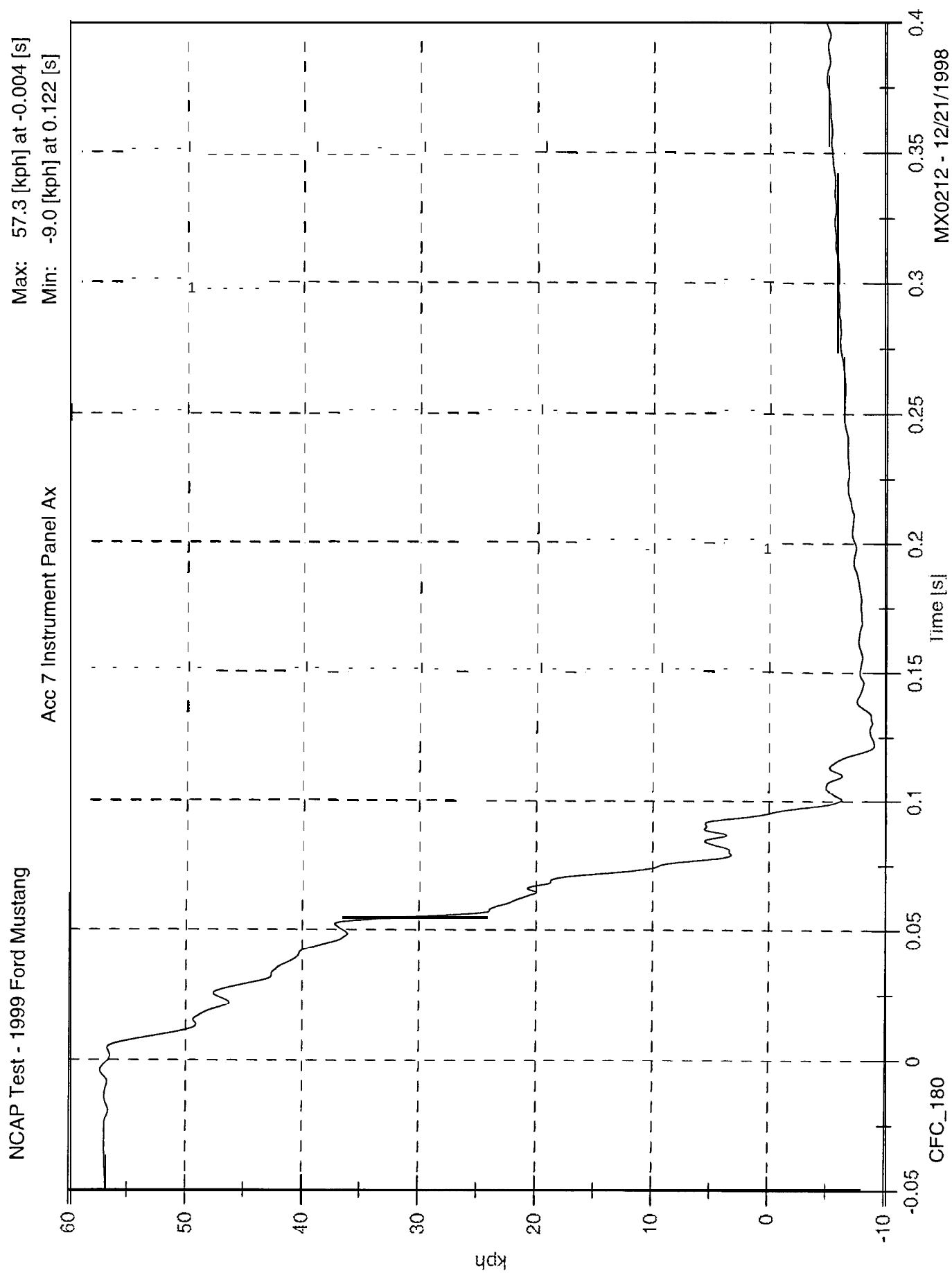
NCAP Test - 1999 Ford Mustang

Max: 13.6 [g] at 0.082 [s]
Min: -82.7 [g] at 0.055 [s]

Acc 7 Instrument Panel Ax



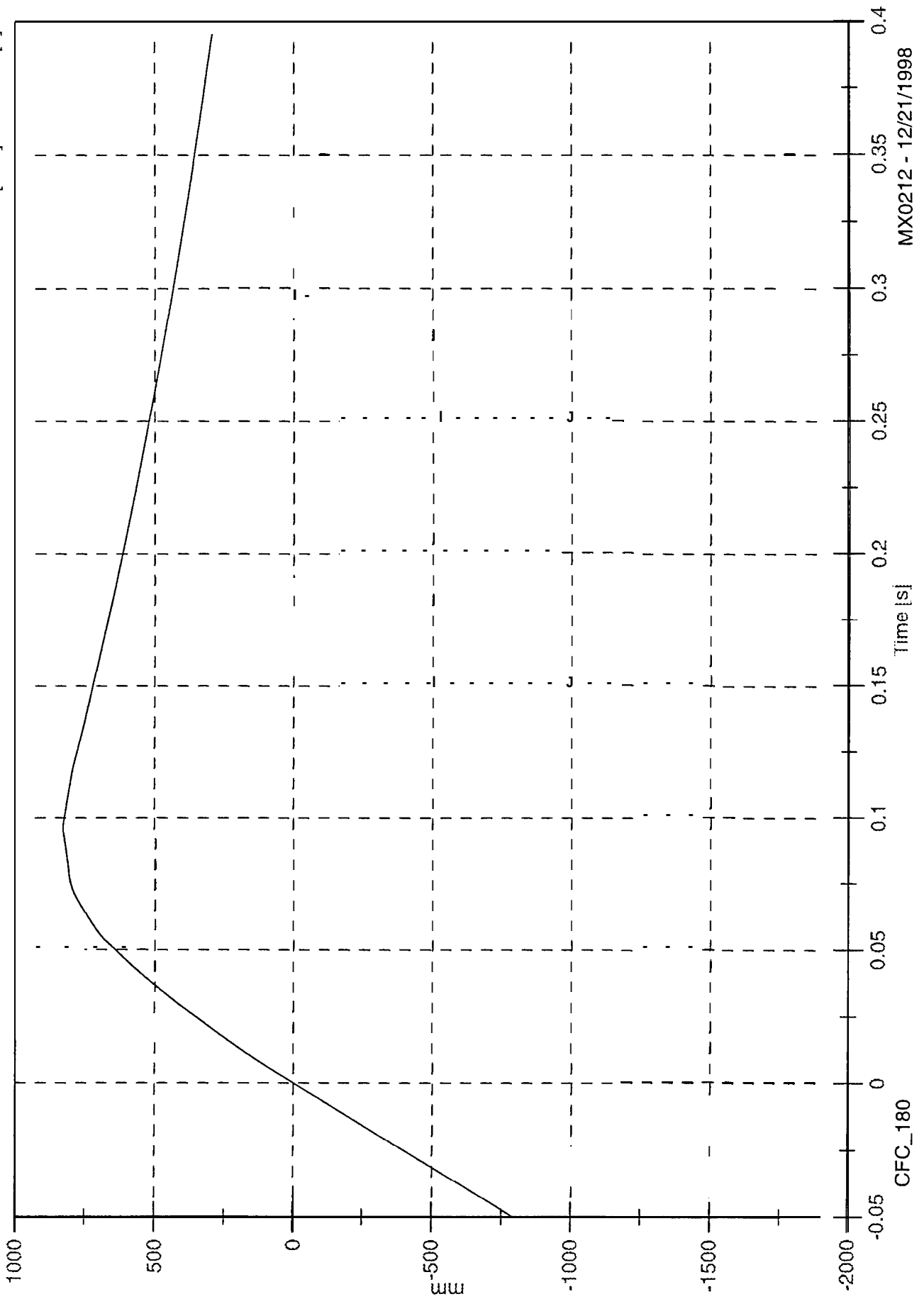
MX0212 - 12/21/1998



NCAP Test - 1999 Ford Mustang

Acc 7 Instrument Panel Ax

Max: 826.9 [mm] at 0.095 [s]
Min: -1579.1 [mm] at -0.100 [s]

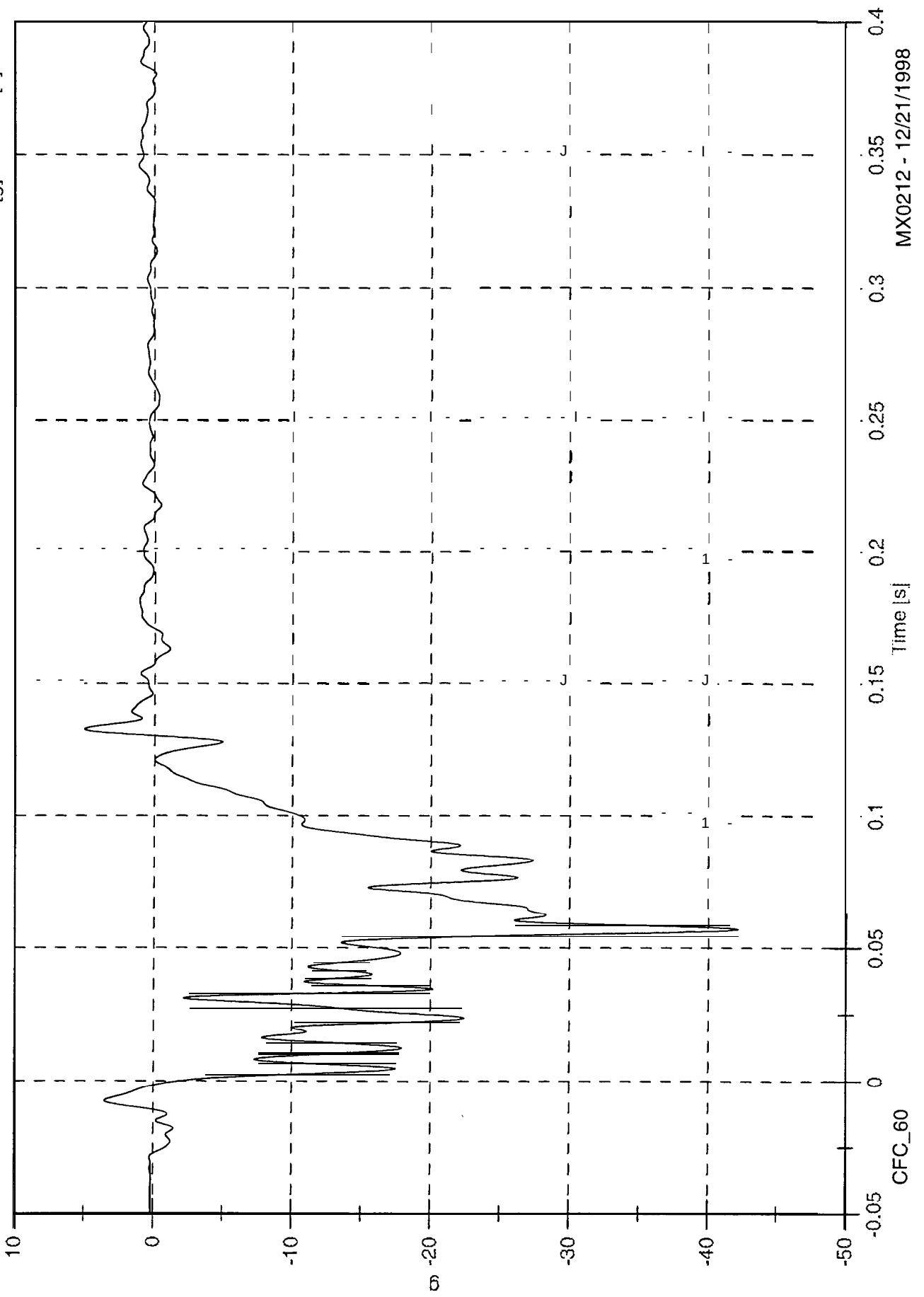


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 5.0 [g] at 0.133 [s]
Min: -42.1 [g] at 0.057 [s]

Acc 8 Redundant LR Xmember RAX



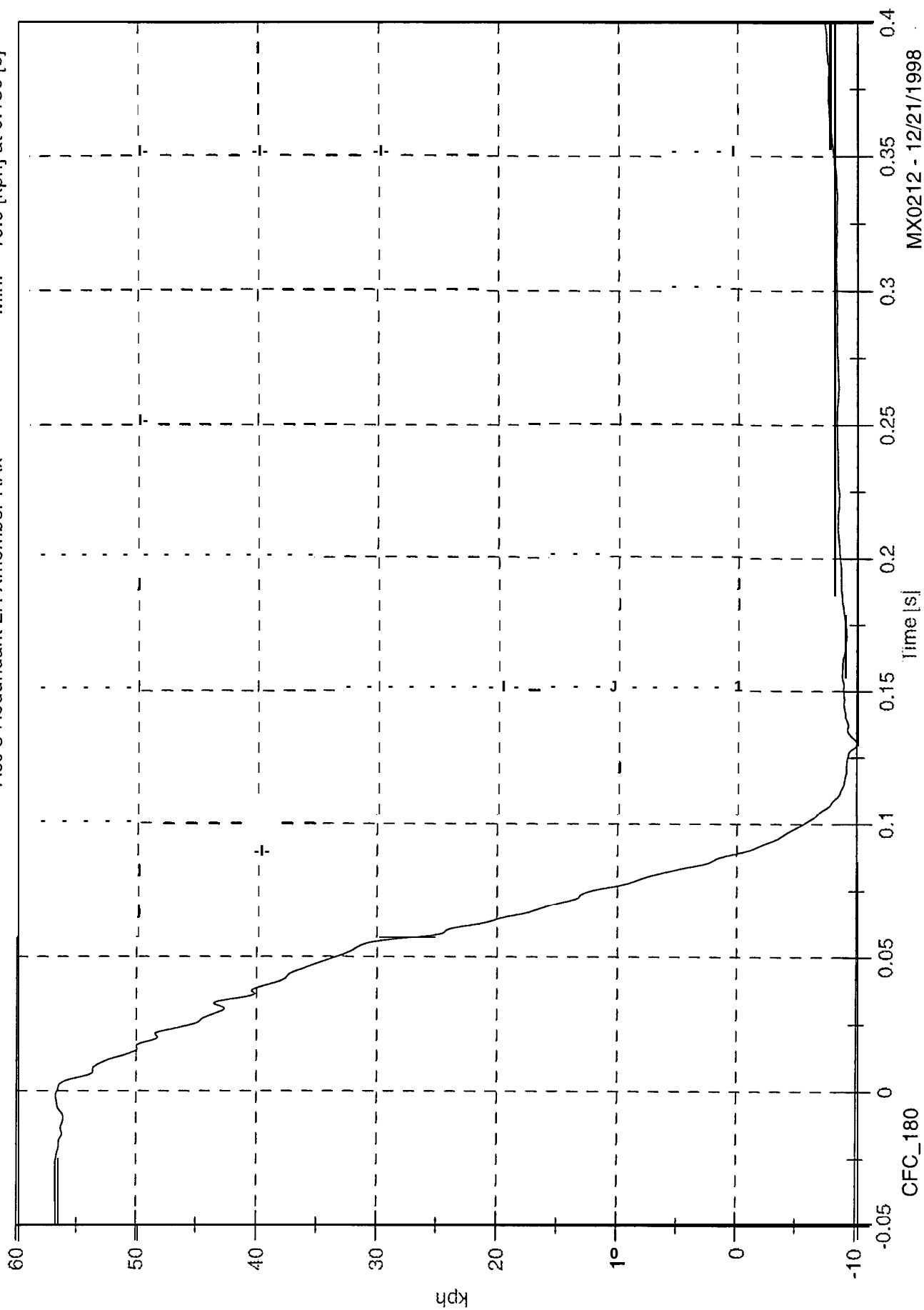
CFC_60

MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 56.8 [kph] at -0.027 [s]
 Min: -10.0 [kph] at 0.130 [s]

Acc 8 Redundant LR Xmember RAx

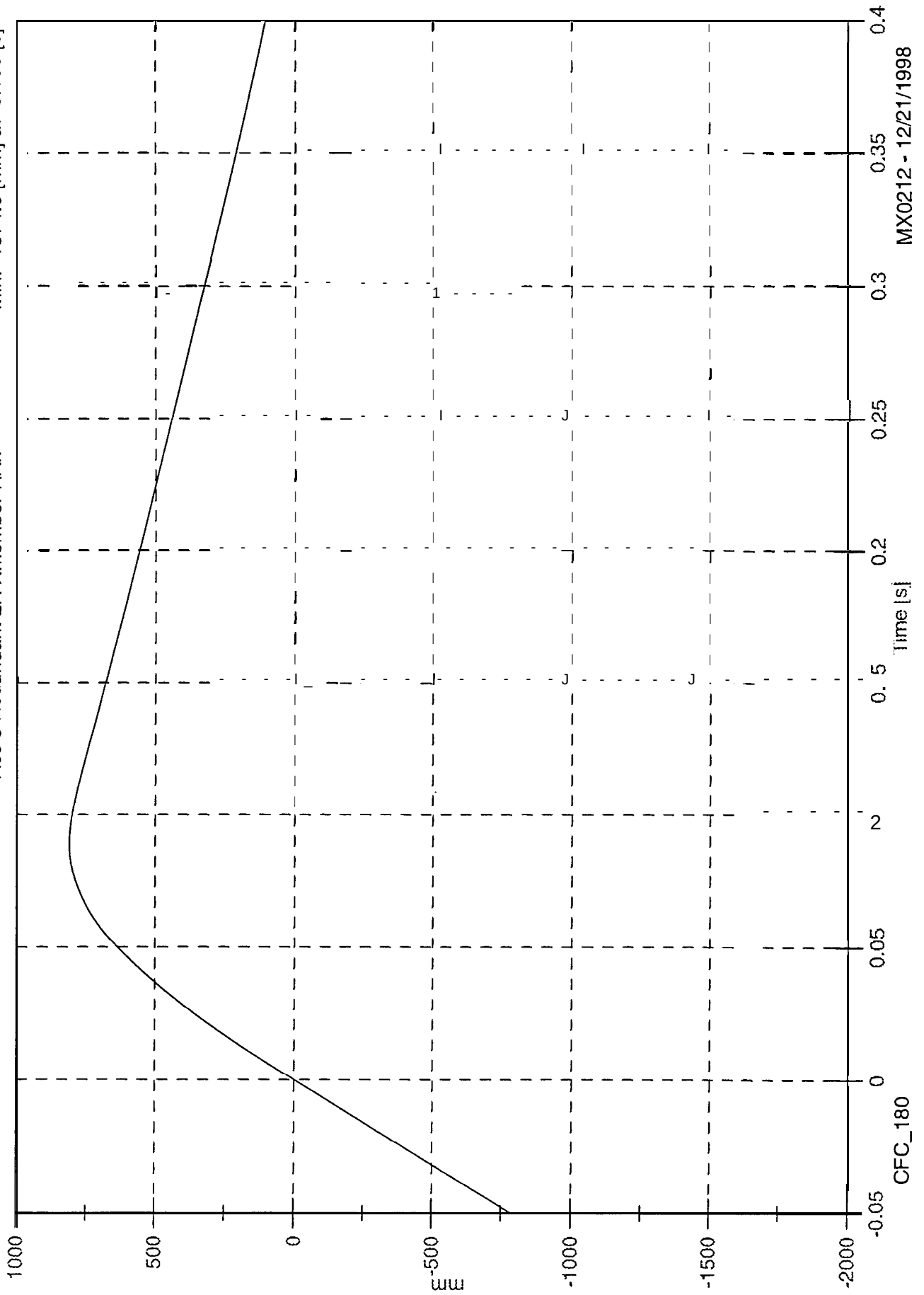


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Acc 8 Redundant LR Xmember RAX

Max: 812.2 [mm] at 0.089 [s]
Min: -1574.0 [mm] at -0.100 [s]

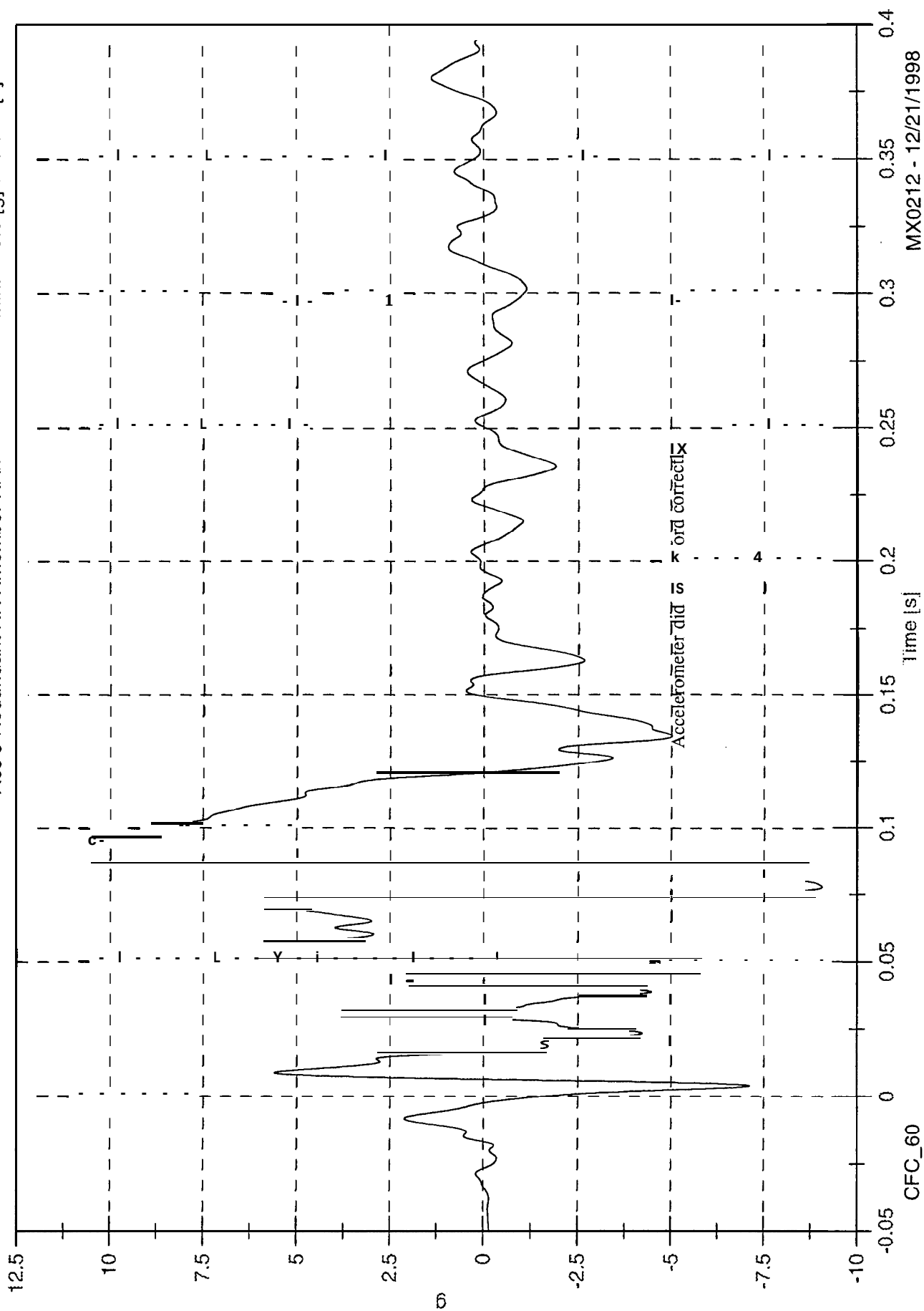


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 10.6 [g] at 0.094 [s]
Min: -9.0 [g] at 0.078 [s]

Acc 9 Redundant RR Xmember R/Ax

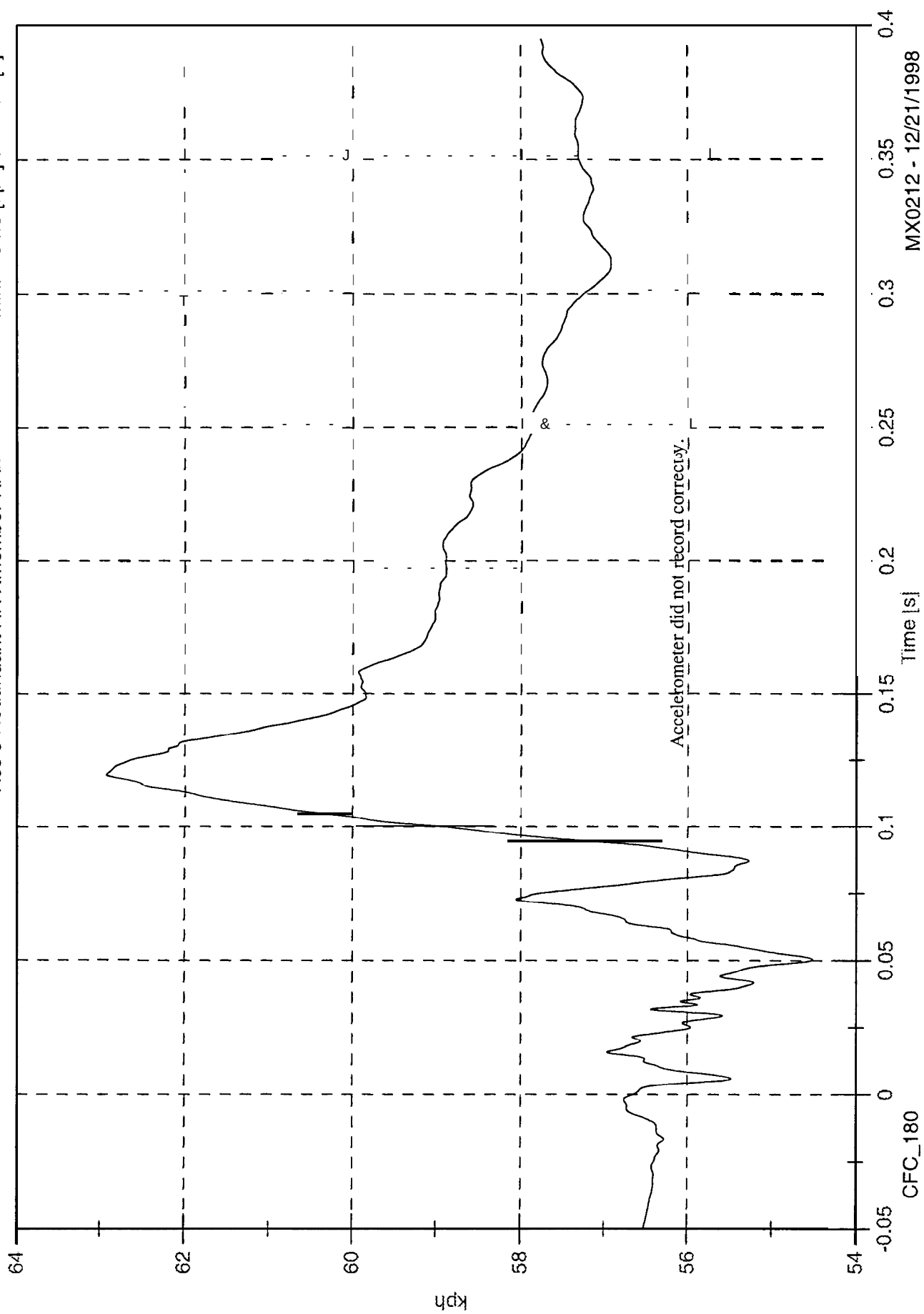


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 62.9 [kph] at 0.120 [s]
Min: 54.5 [kph] at 0.050 [s]

Acc 9 Redundant RR Xmember RAX

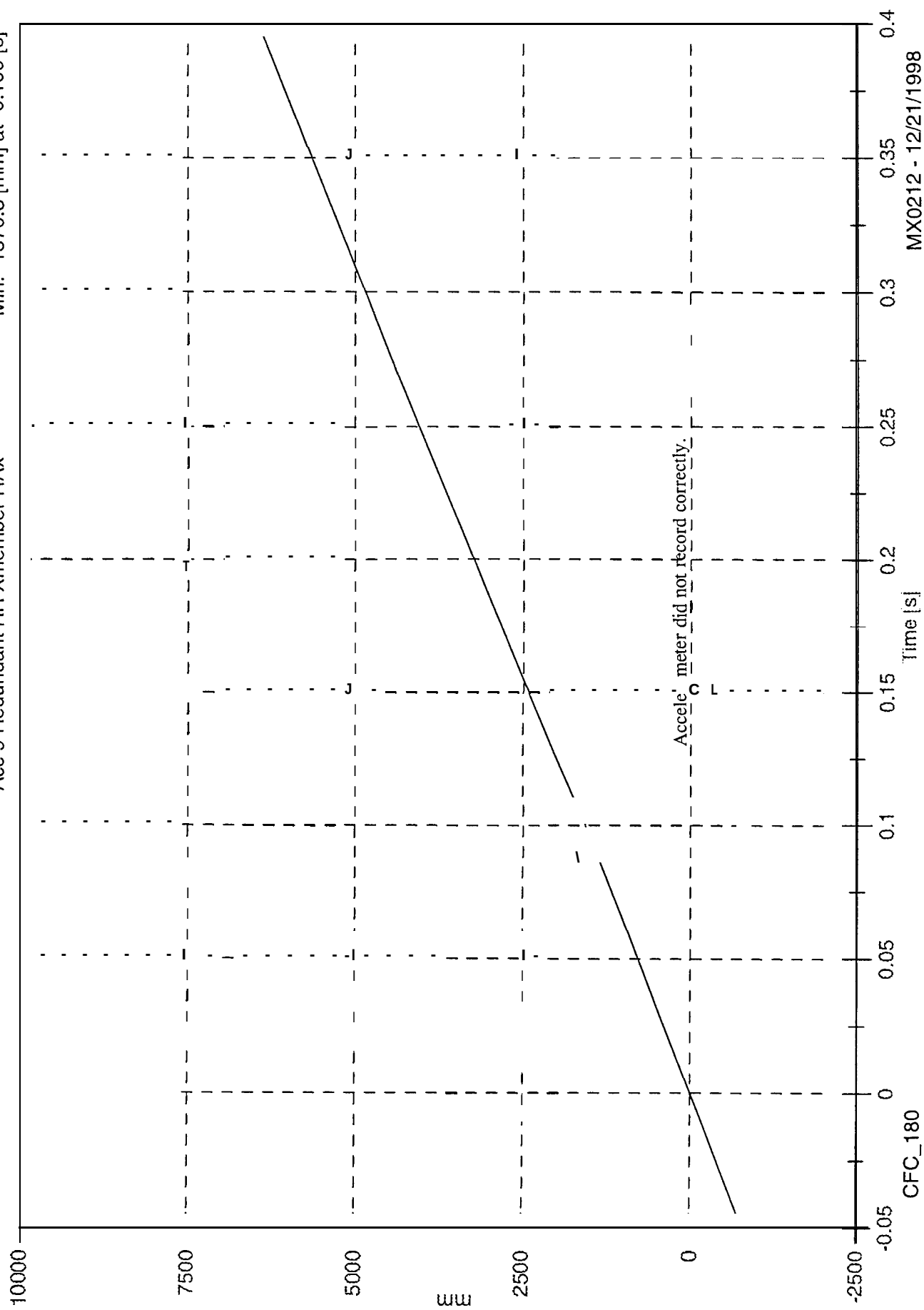


MX0212 - 12/21/1998

NCAP Test - 1999 Ford Mustang

Max: 9649.7 [mm] at 0.600 [s]
Min: -1570.3 [mm] at -0.100 [s]

Acc 9 Redundant RR Xmember RAX



NHTSA TEST NO. MX0212

LOAD CELL BARRIER DATA

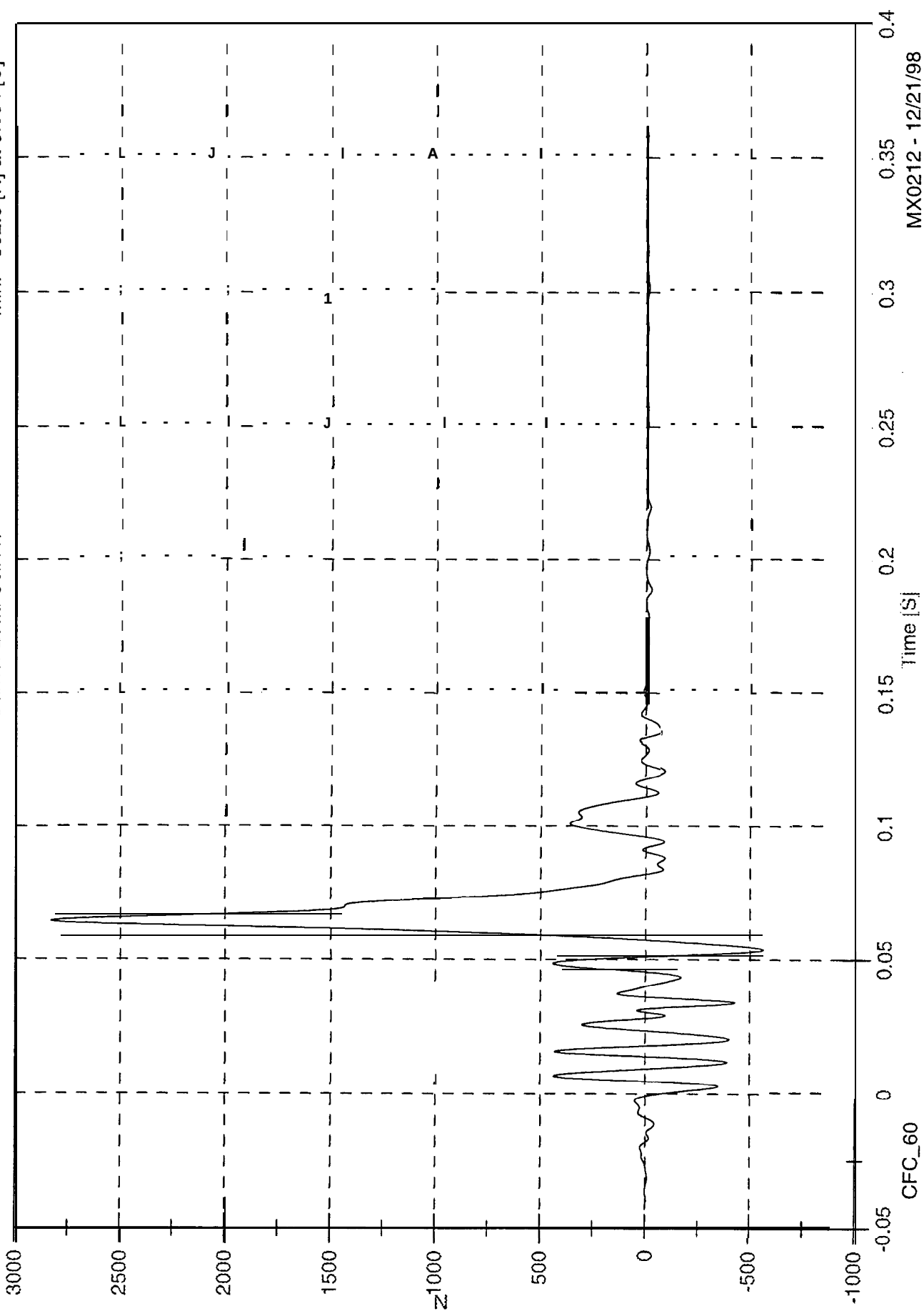
FILTER CHANNEL CLASS

60

NCAP Test #3 - 1999 Ford Mustang

Max: 2830.9 [N] at 0.064 [S]
Min: -562.0 [N] at 0.054 [S]

Barrier Load Cell A1

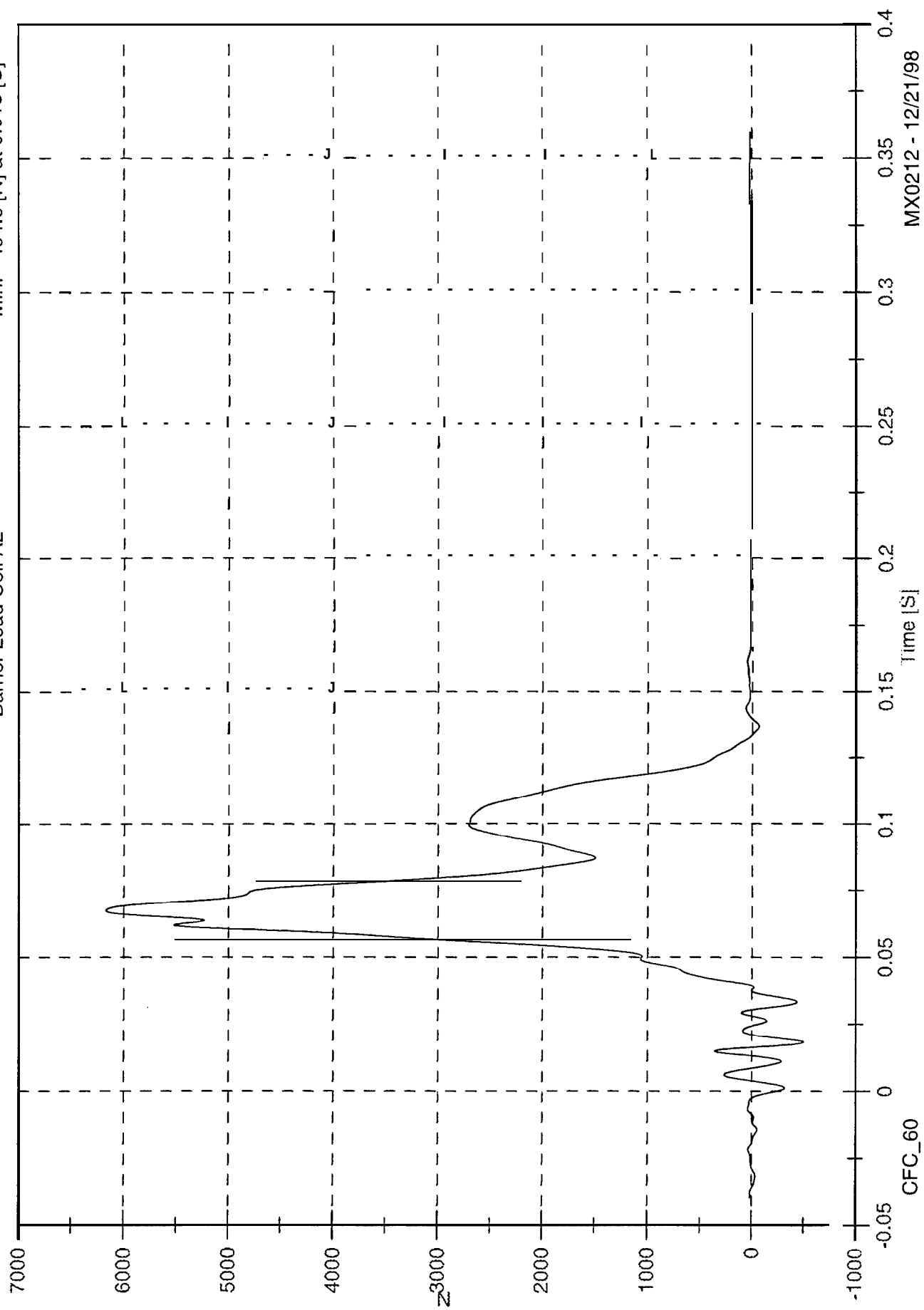


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 6168.6 [N] at 0.067 [S]
Min: -494.6 [N] at 0.018 [S]

Barrier Load Cell A2

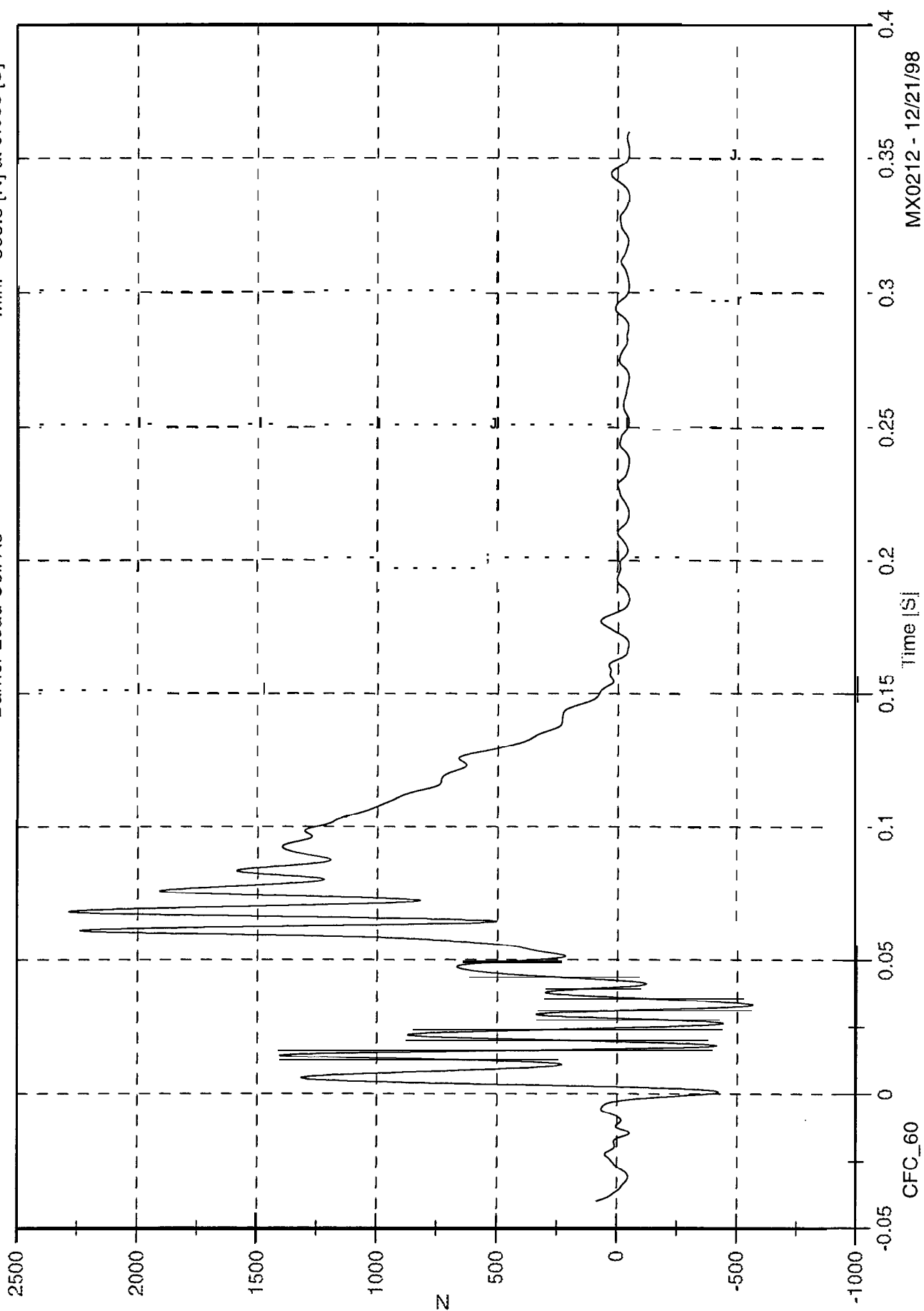


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 2287.4 [N] at 0.068 [S]
Min: -565.5 [N] at 0.033 [S]

Barrier Load Cell A3



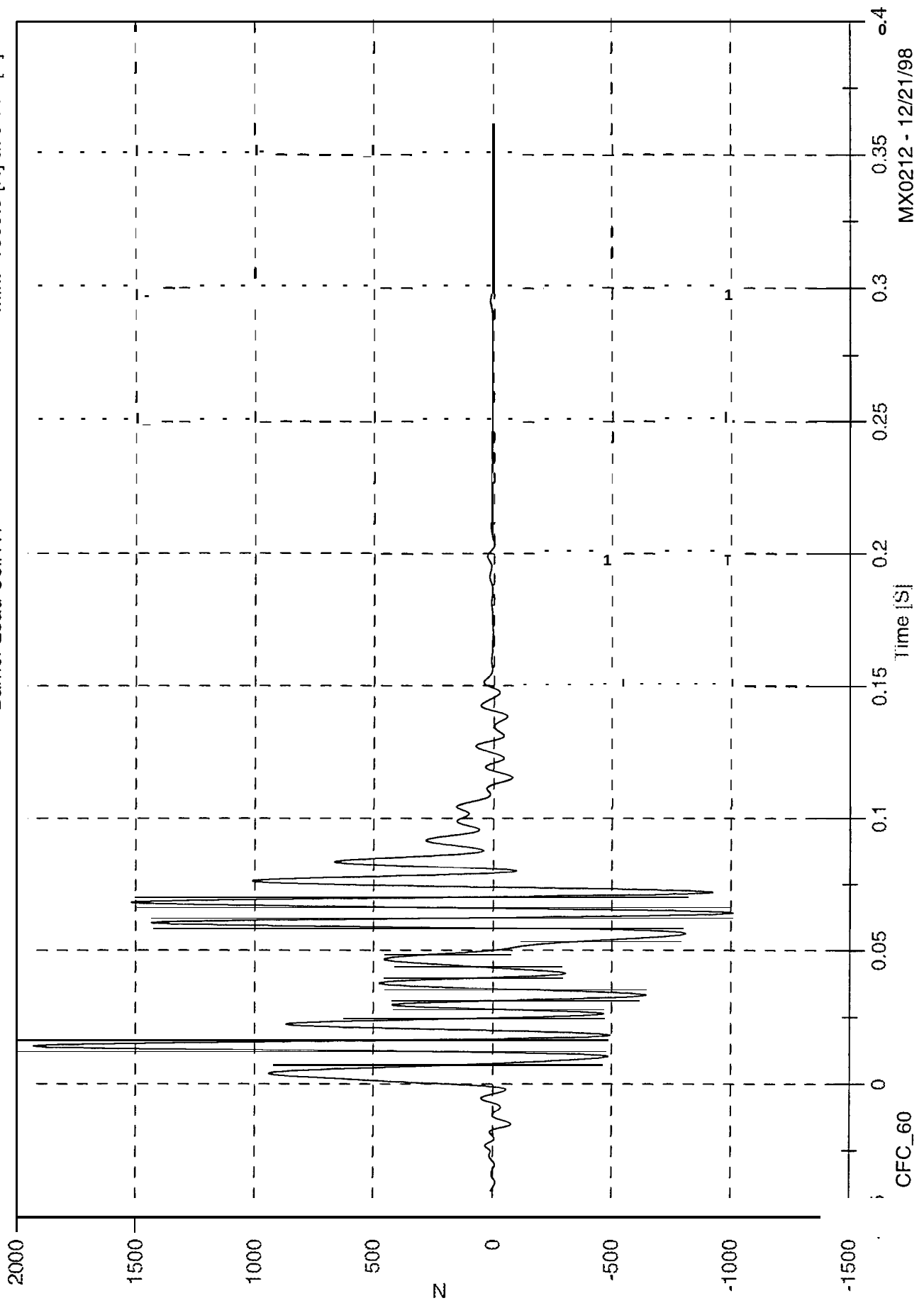
CFC_60

MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 1929.6 [N] at 0.014 [S]
Min: -1009.9 [N] at 0.064 [S]

Barrier Load Cell A4

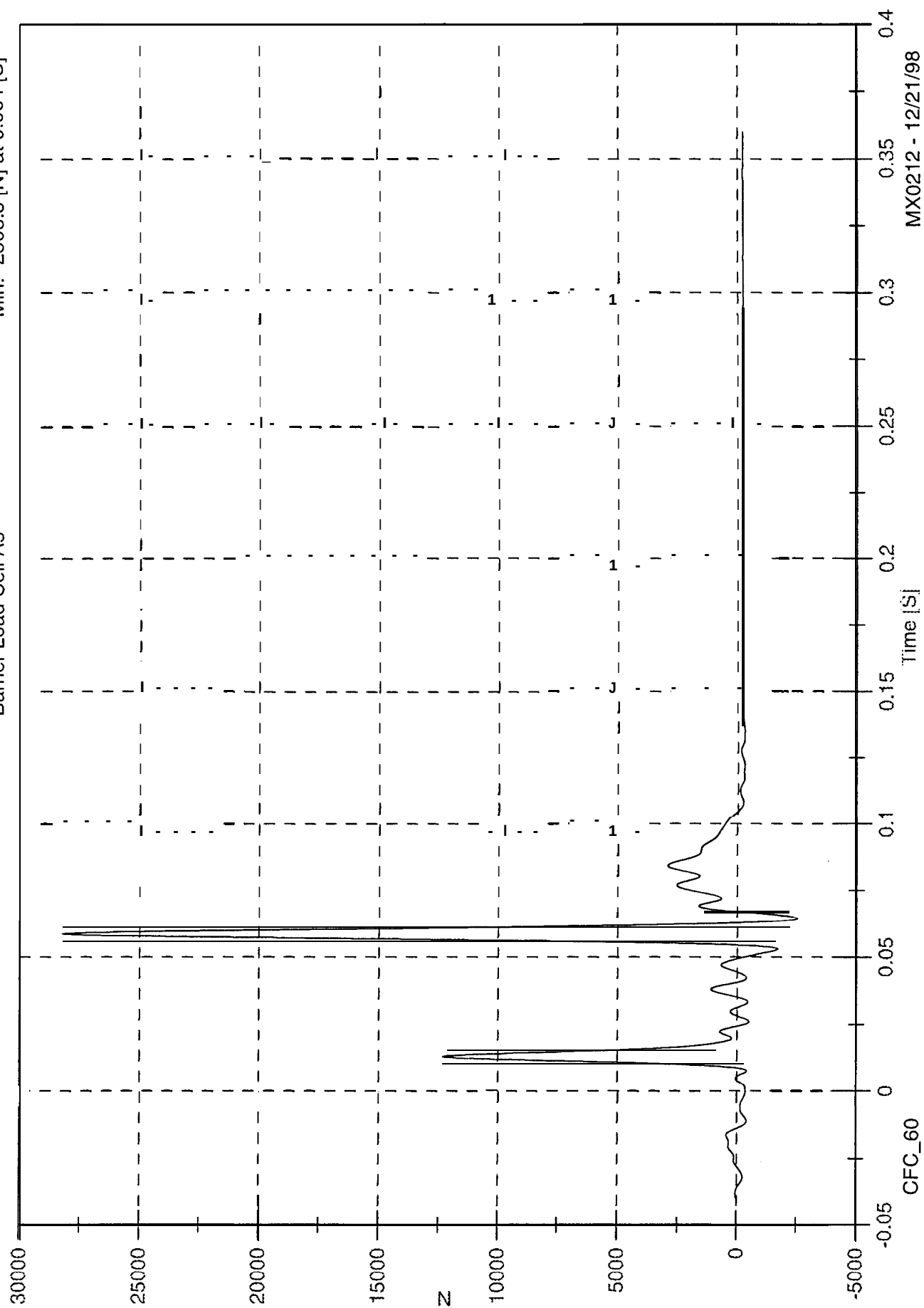


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 28216.1 [N] at 0.059 [S]
Min: -2508.5 [N] at 0.064 [S]

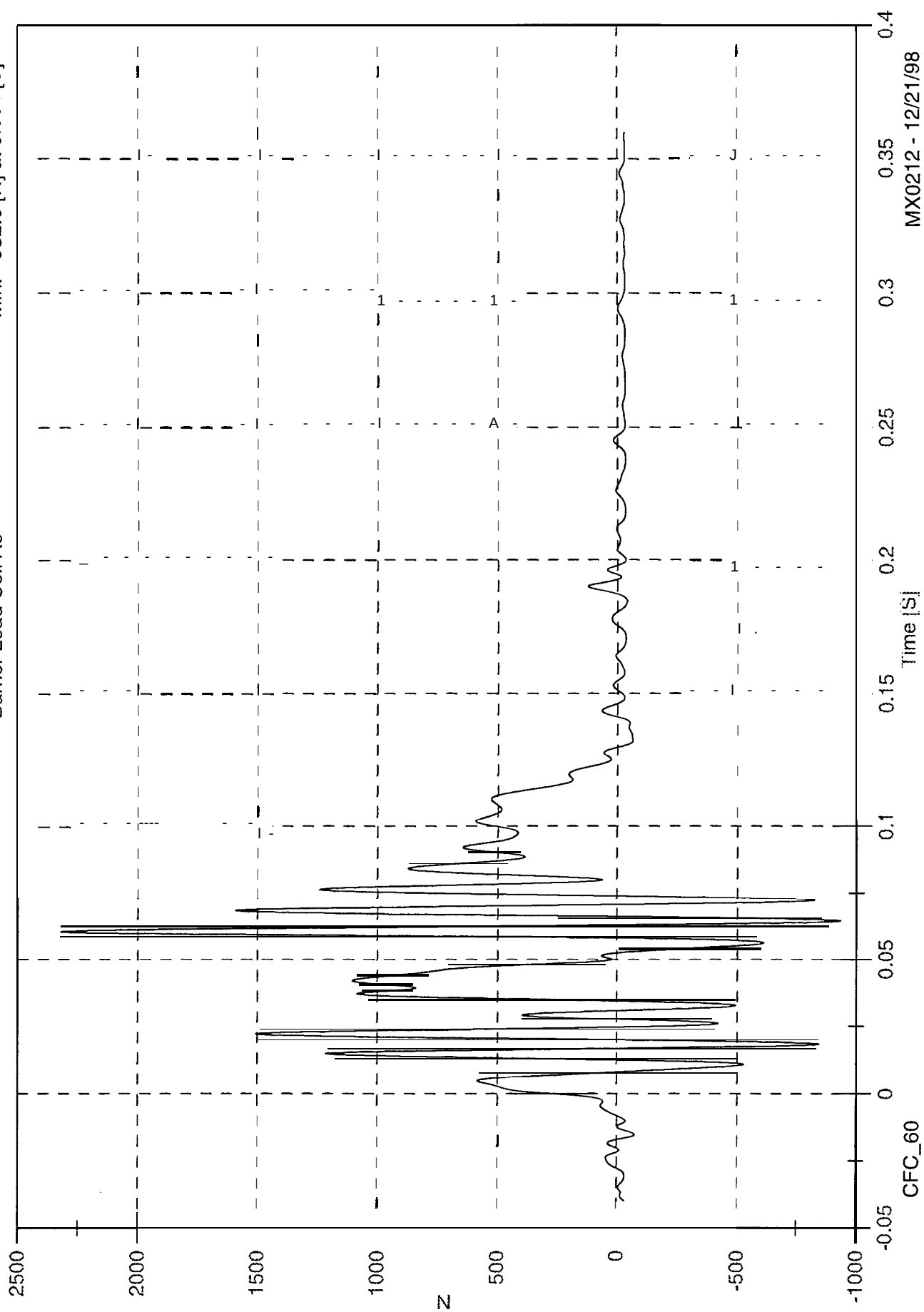
Barrier Load Cell A5



NCAP Test #3 - 1999 Ford Mustang

Max: 2320.3 [N] at 0.060 [S]
Min: -932.0 [N] at 0.064 [S]

Barrier Load Cell A6

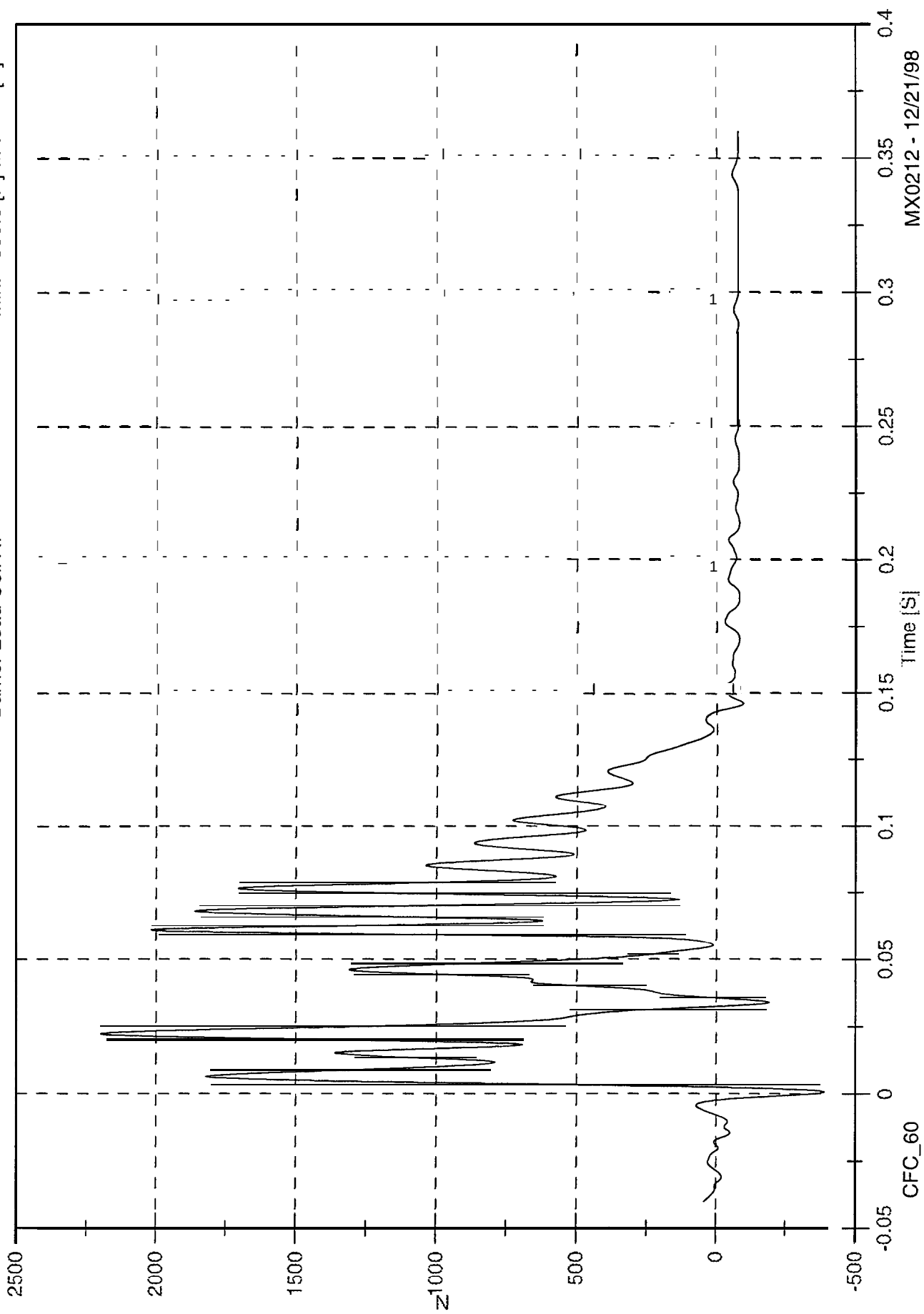


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 2199.9 [N] at 0.022 [S]
Min: -388.5 [N] at 0.001 [S]

Barrier Load Cell A7

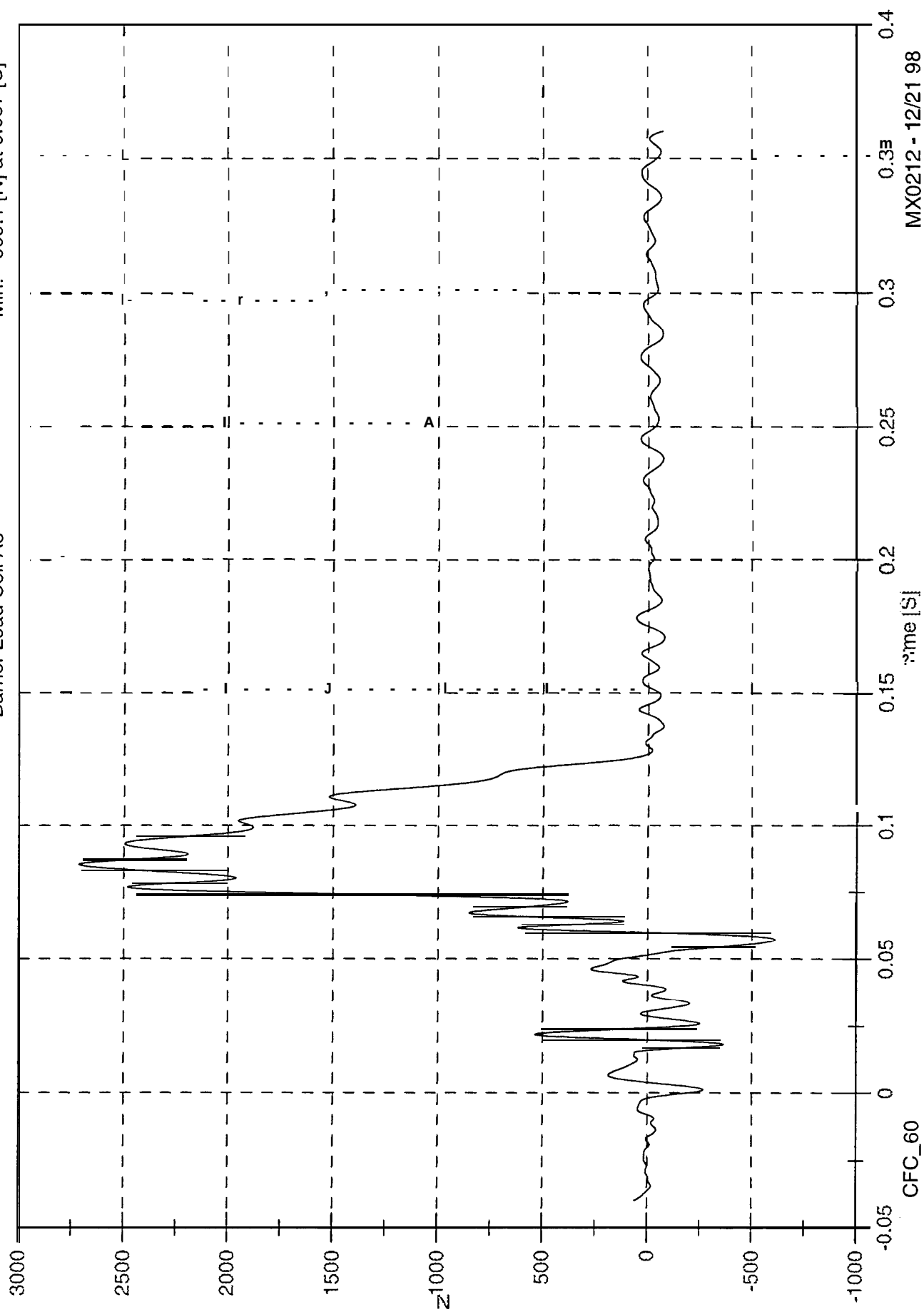


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 2713.9 [N] at 0.086 [S]
 Min: -609.1 [N] at 0.057 [S]

Barrier Load Cell A8

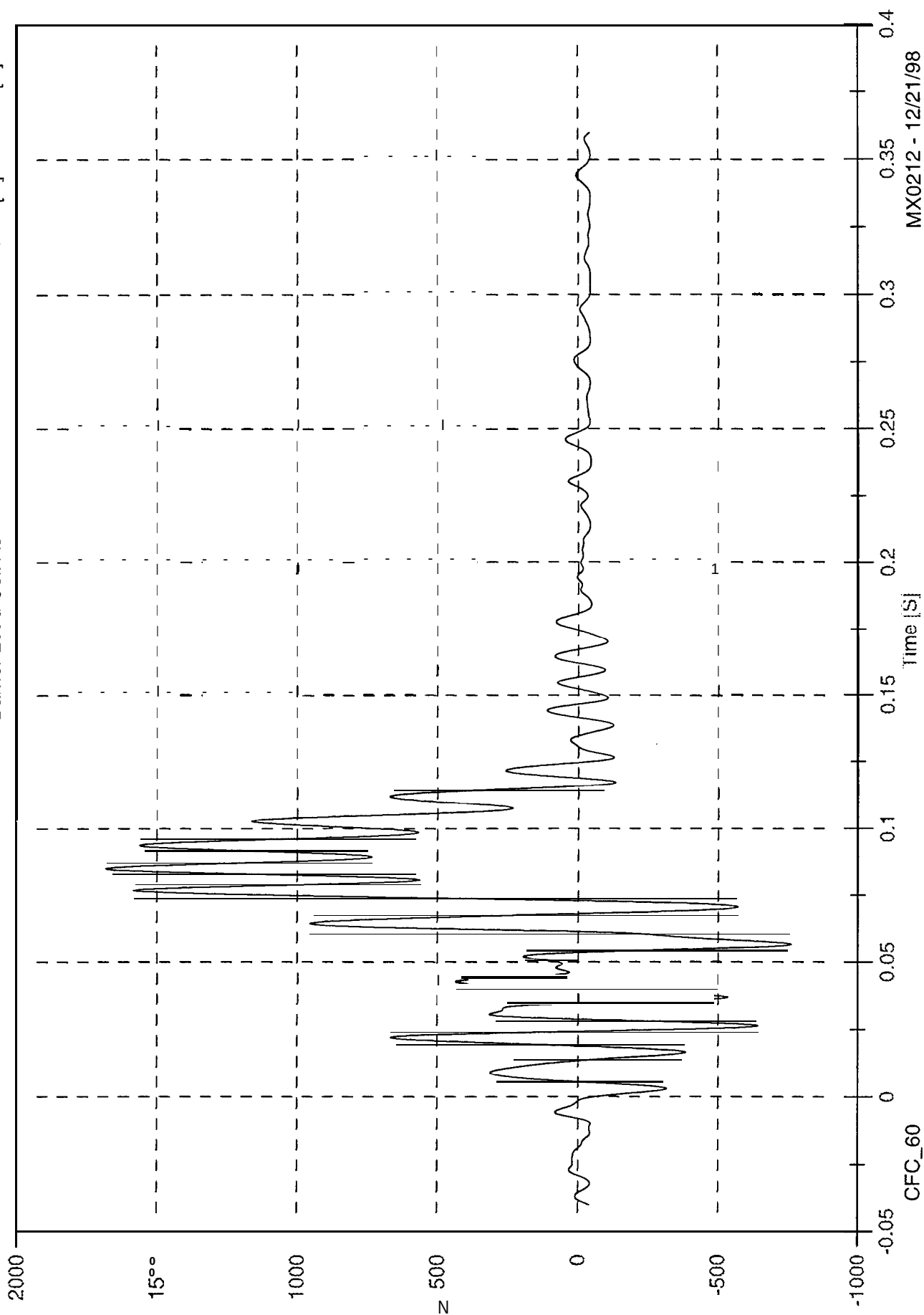


MX0212 - 12/21 98

NCAP Test #3 - 1999 Ford Mustang

Max: 1681.7 [N] at 0.085 [S]
Min: -759.4 [N] at 0.057 [S]

Barrier Load Cell A9



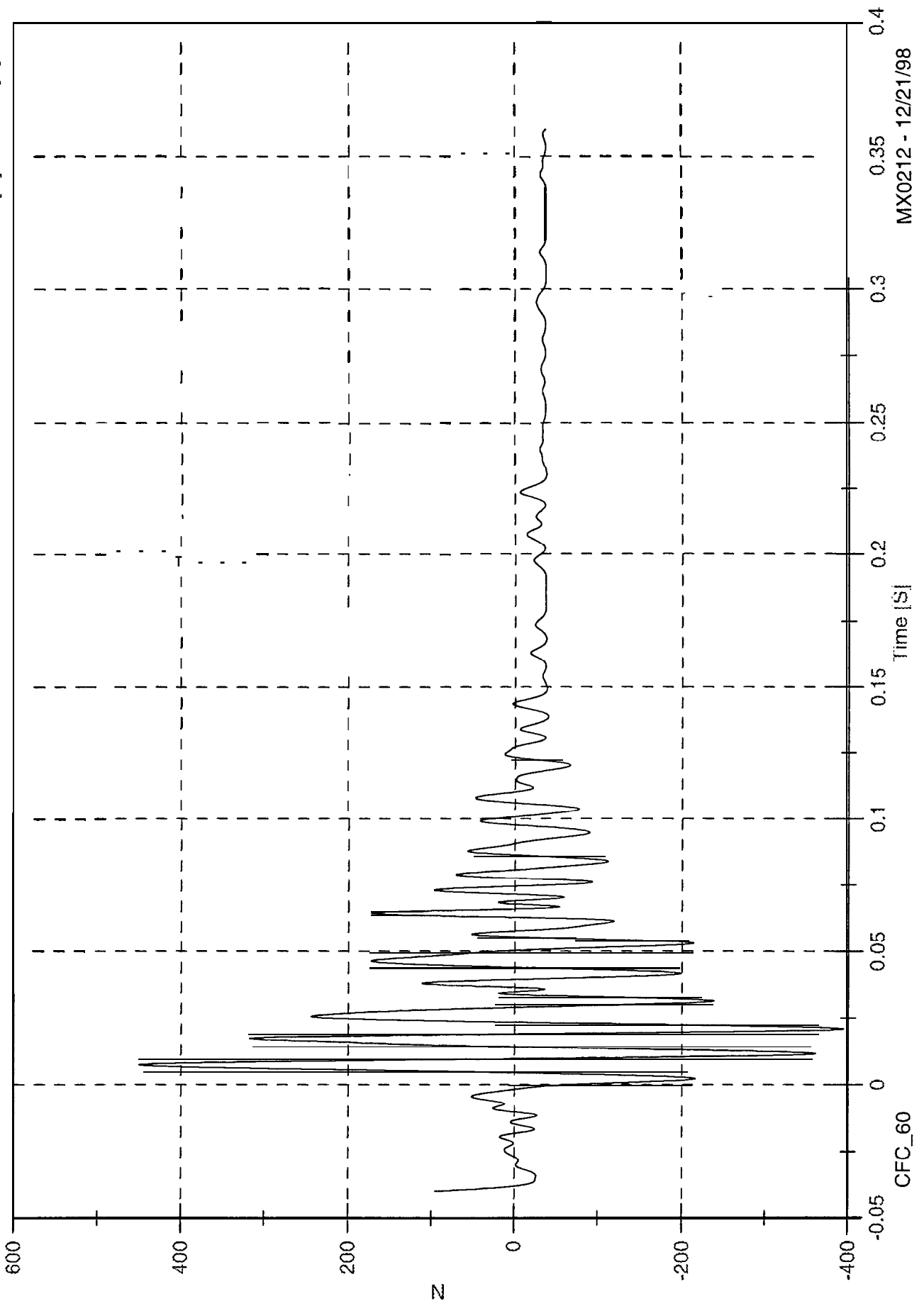
MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 449.9 [N] at 0.007 [S]

Min: -394.5 [N] at 0.021 [S]

Barrier Load Cell B1

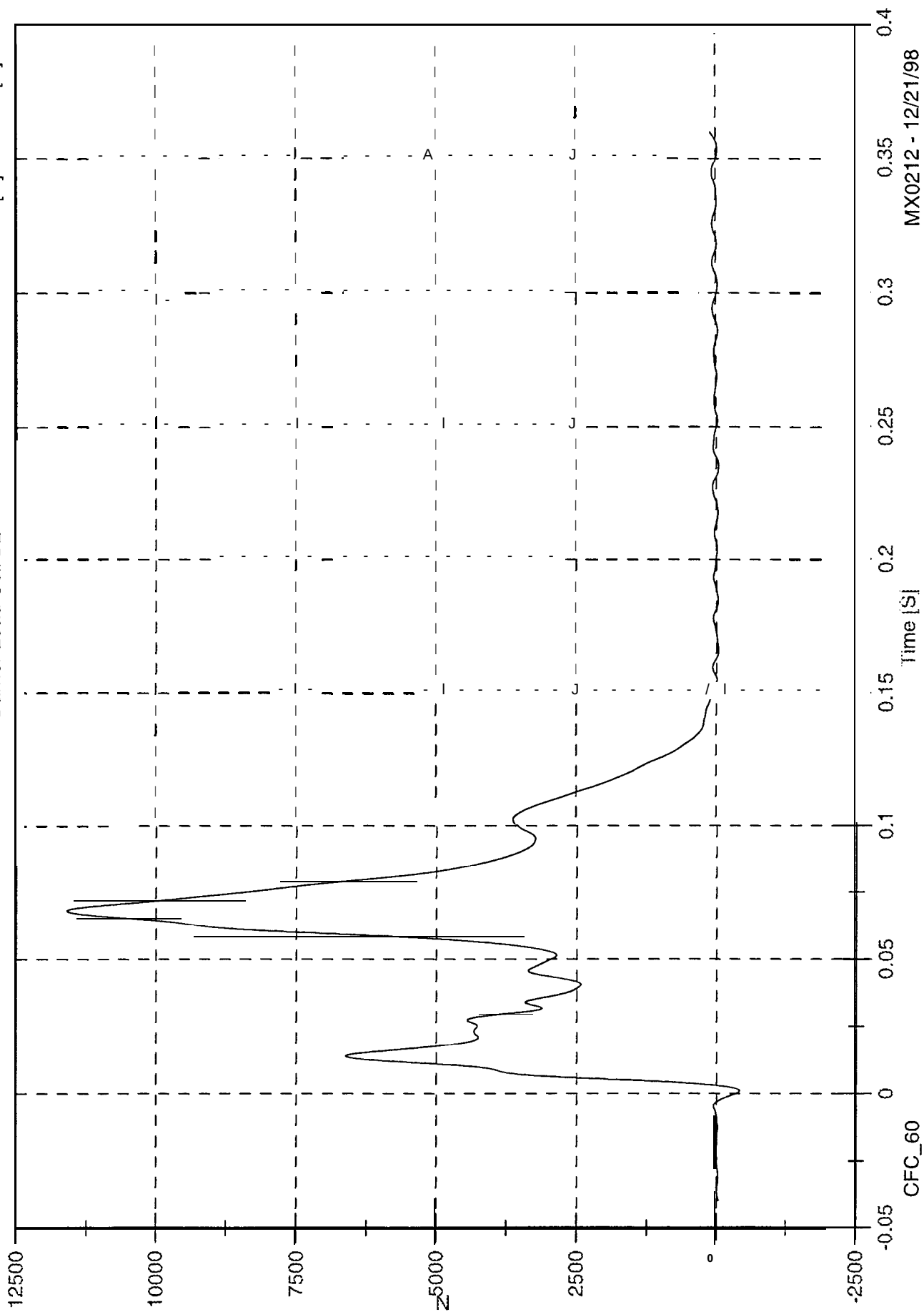


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 11602.3 [N] at 0.068 [S]
Min: -415.8 [N] at 0.001 [S]

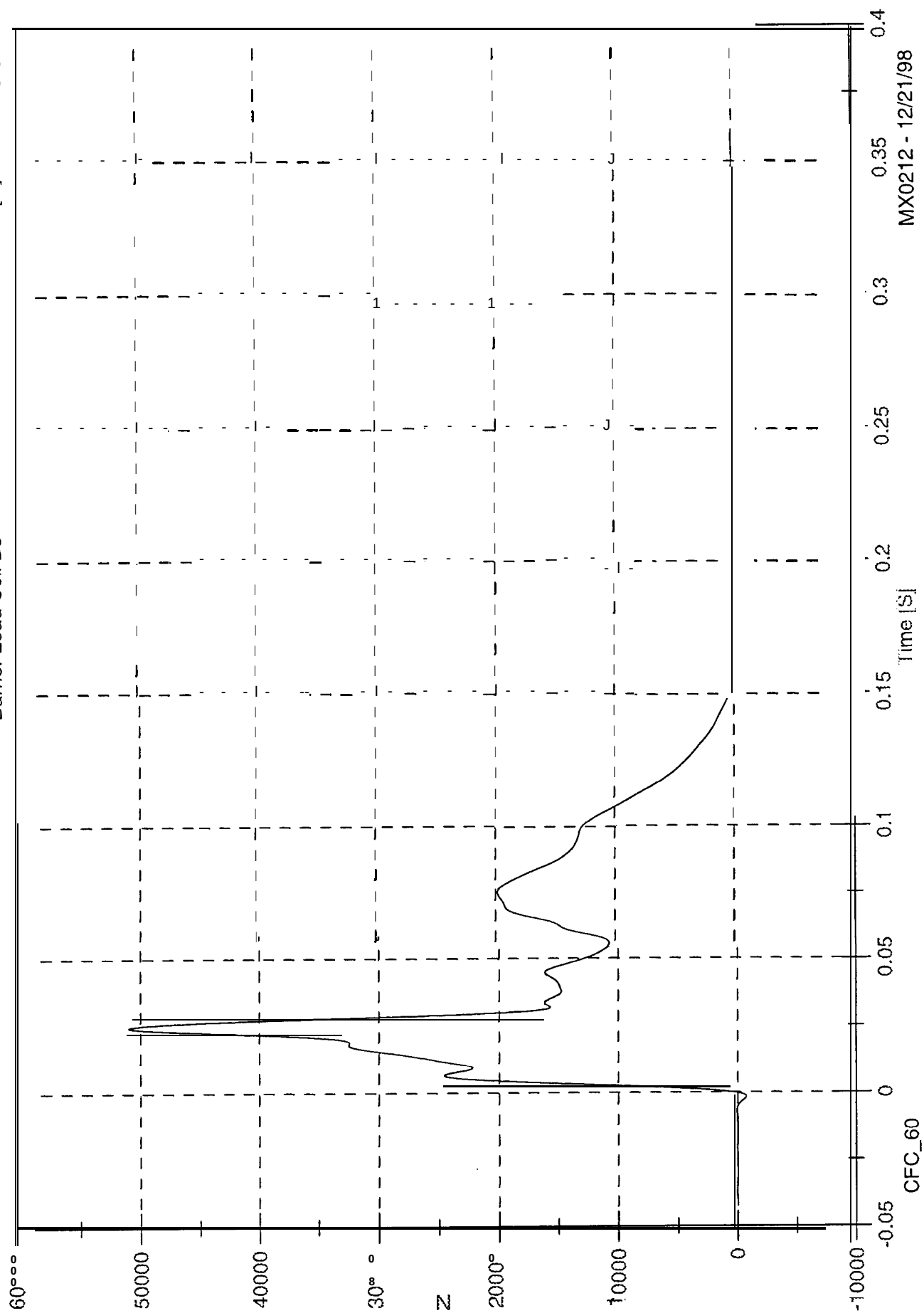
Barrier Load Cell B2



NCAP Test #3 - 1999 Ford Mustang

Max: 50972.4 [N] at 0.024 [S]
Min: -746.5 [N] at -0.002 [S]

Barrier Load Cell B3

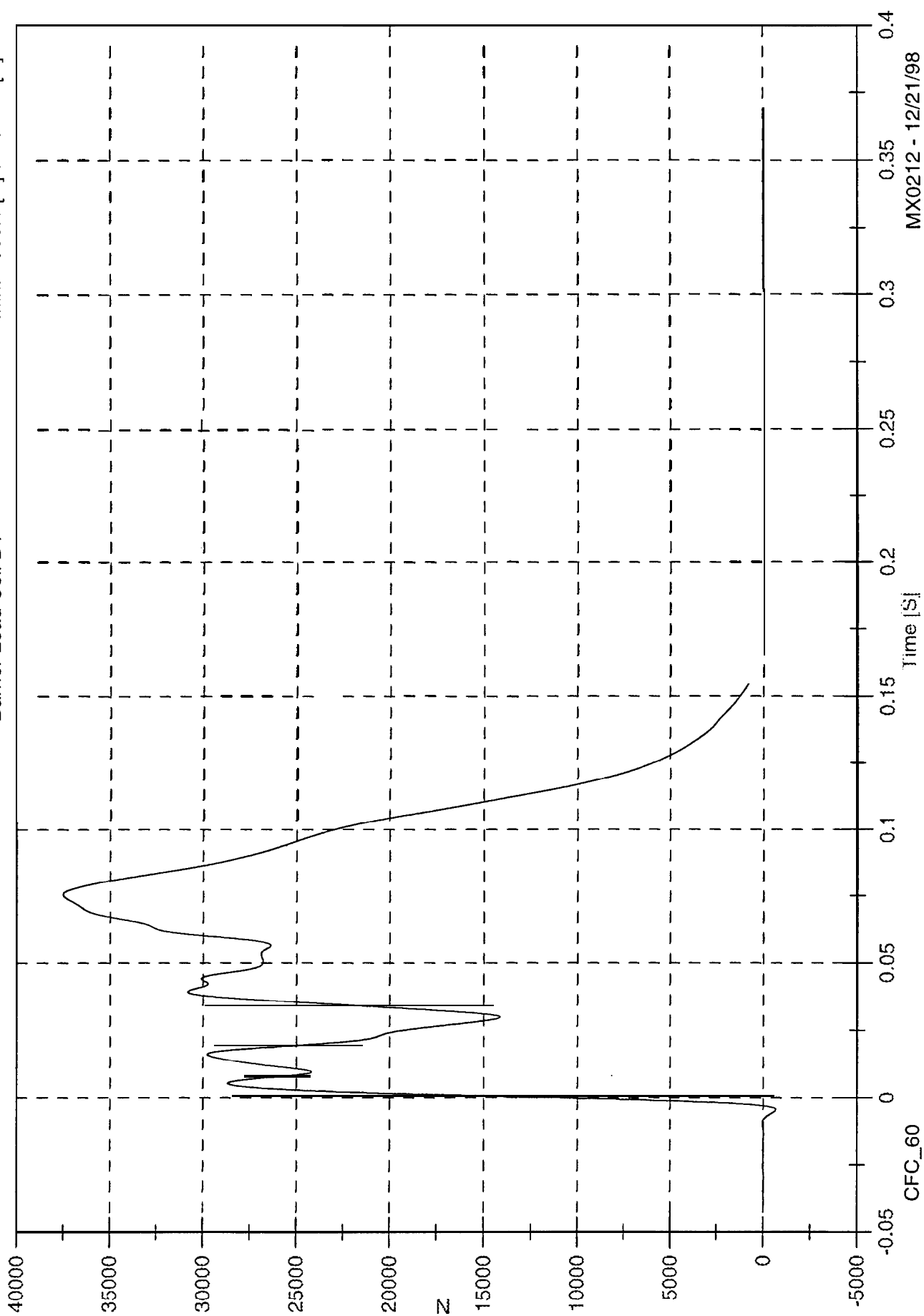


NCAP Test #3 - 1999 Ford Mustang

Max: 37526.5 [N] at 0.076 [S]

Min: -666.1 [N] at -0.004 [S]

Barrier Load Cell B4

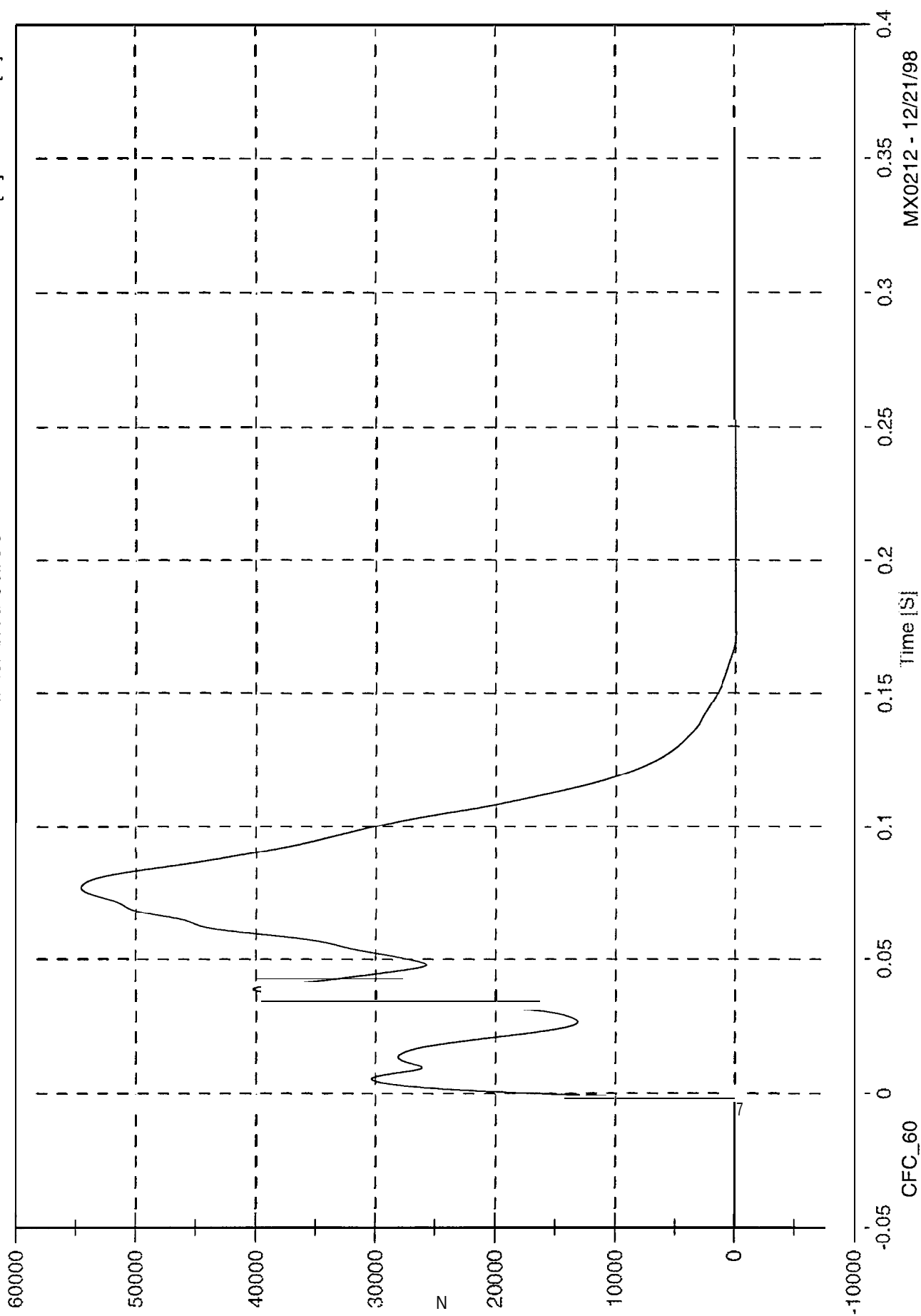


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 54628.7 [N] at 0.077 [S]
Min: -748.3 [N] at -0.005 [S]

Barrier Load Cell B5

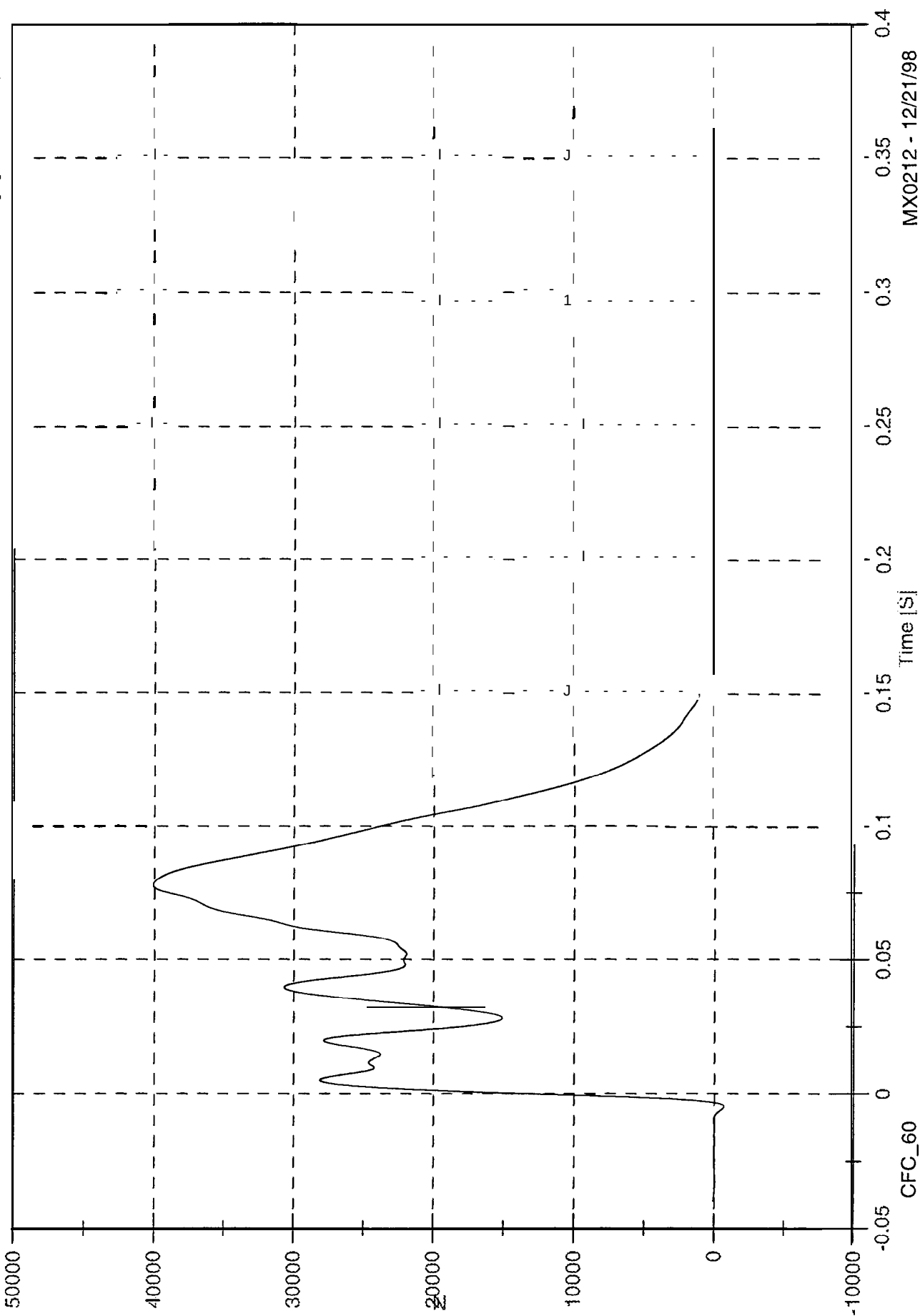


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 40102.4 [N] at 0.078 [S]
 Min: -675.6 [N] at -0.005 [S]

Barrier Load Cell B6

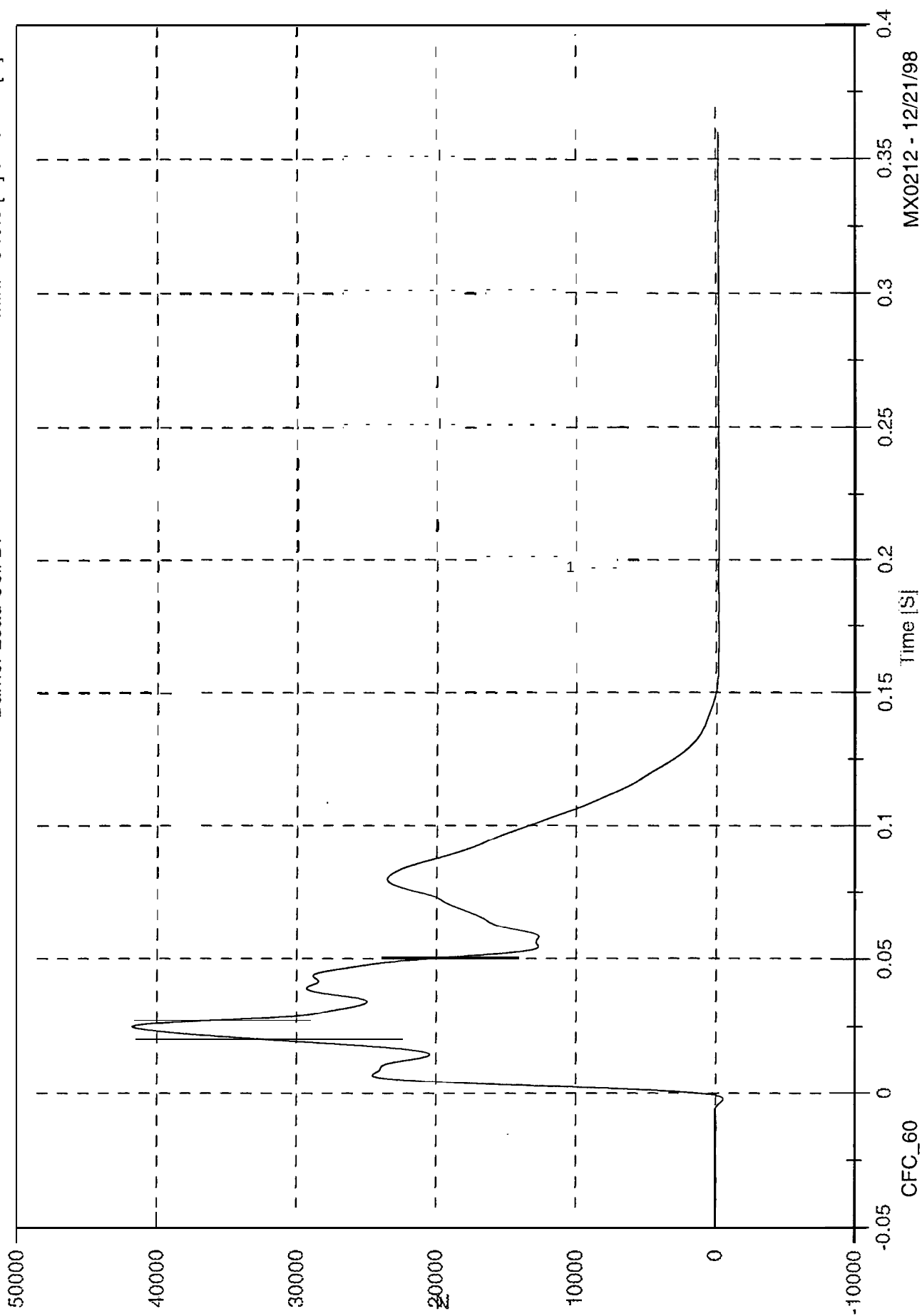


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 41750.9 [N] at 0.025 [S]
Min: -548.9 [N] at -0.002 [S]

Barrier Load Cell B7

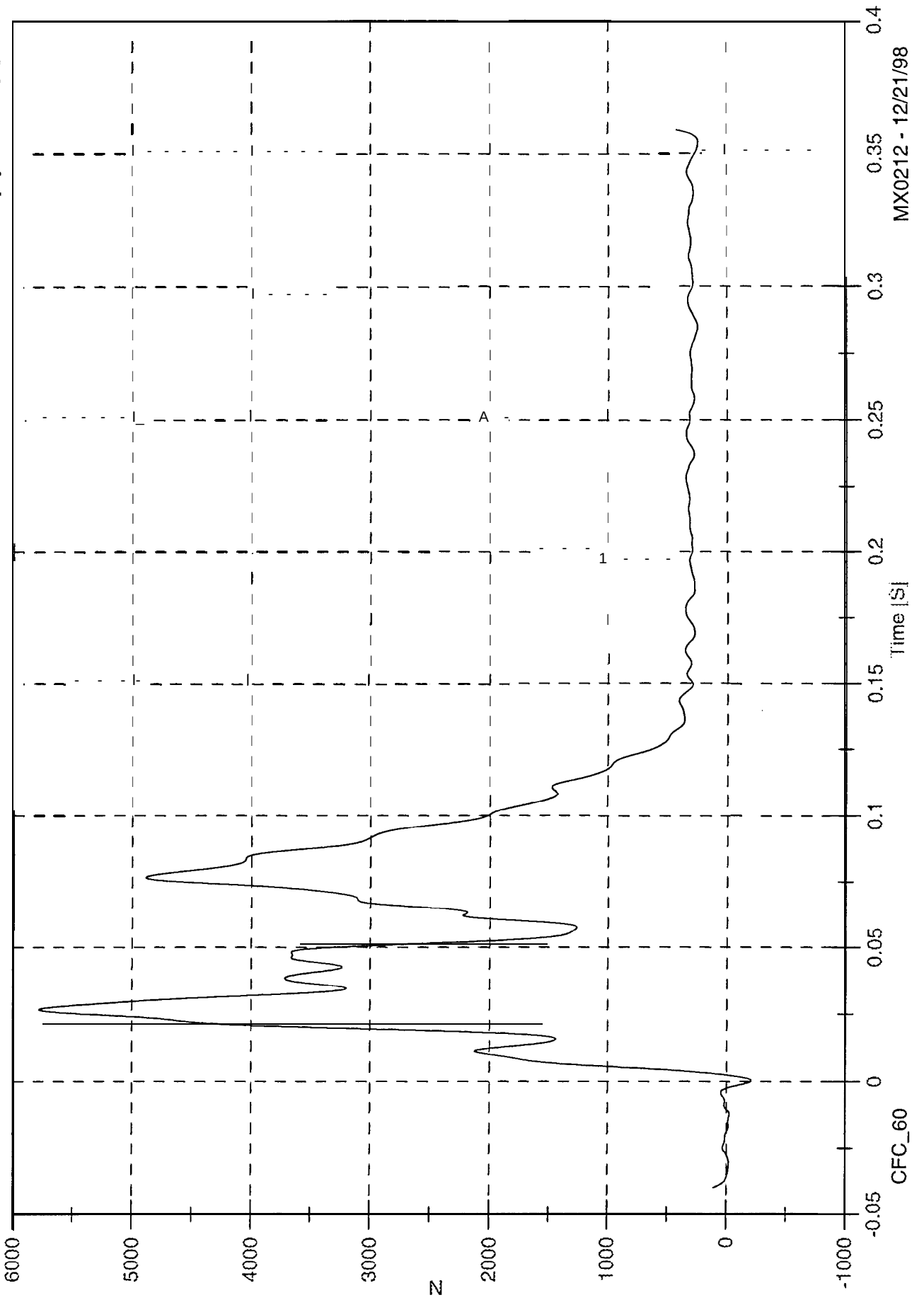


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 5781.5 [N] at 0.027 [S]
Min: -207.9 [N] at 0.000 [S]

Barrier Load Cell B8

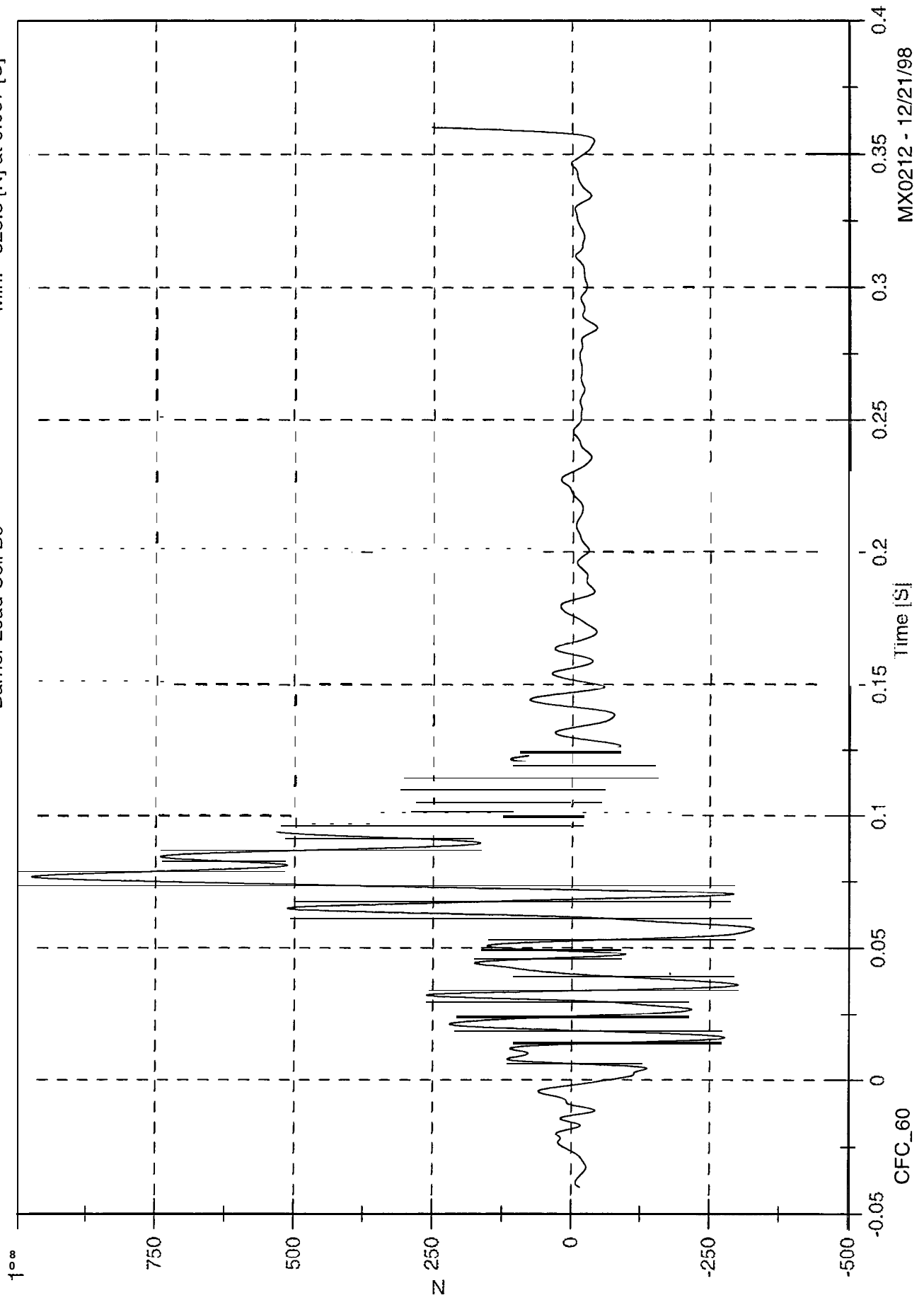


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 974.9 [N] at 0.077 [S]
 Min: -328.8 [N] at 0.057 [S]

Barrier Load Cell B9

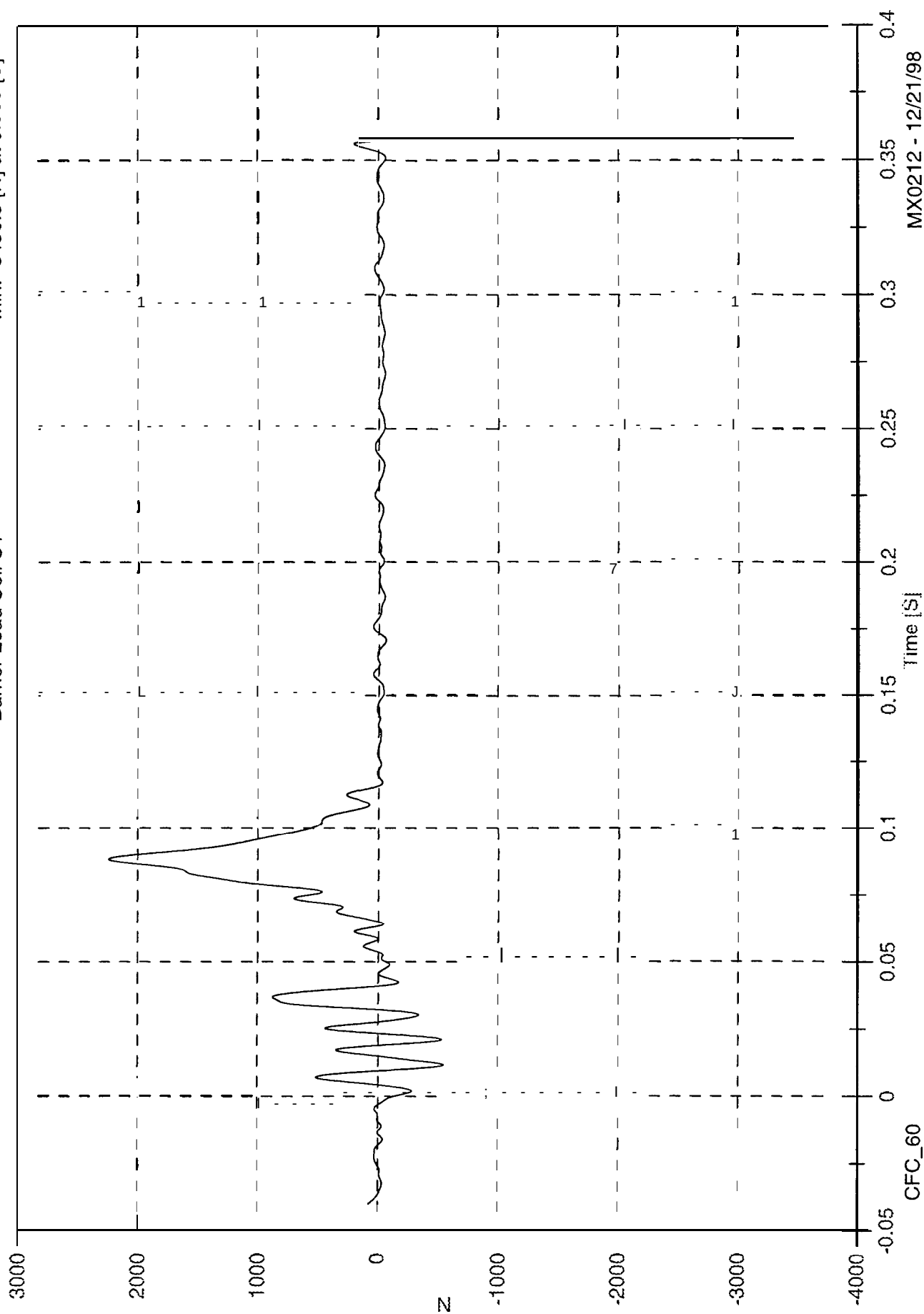


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 2243.3 [N] at 0.088 [S]
Min: -3456.8 [N] at 0.360 [S]

Barrier Load Cell C1

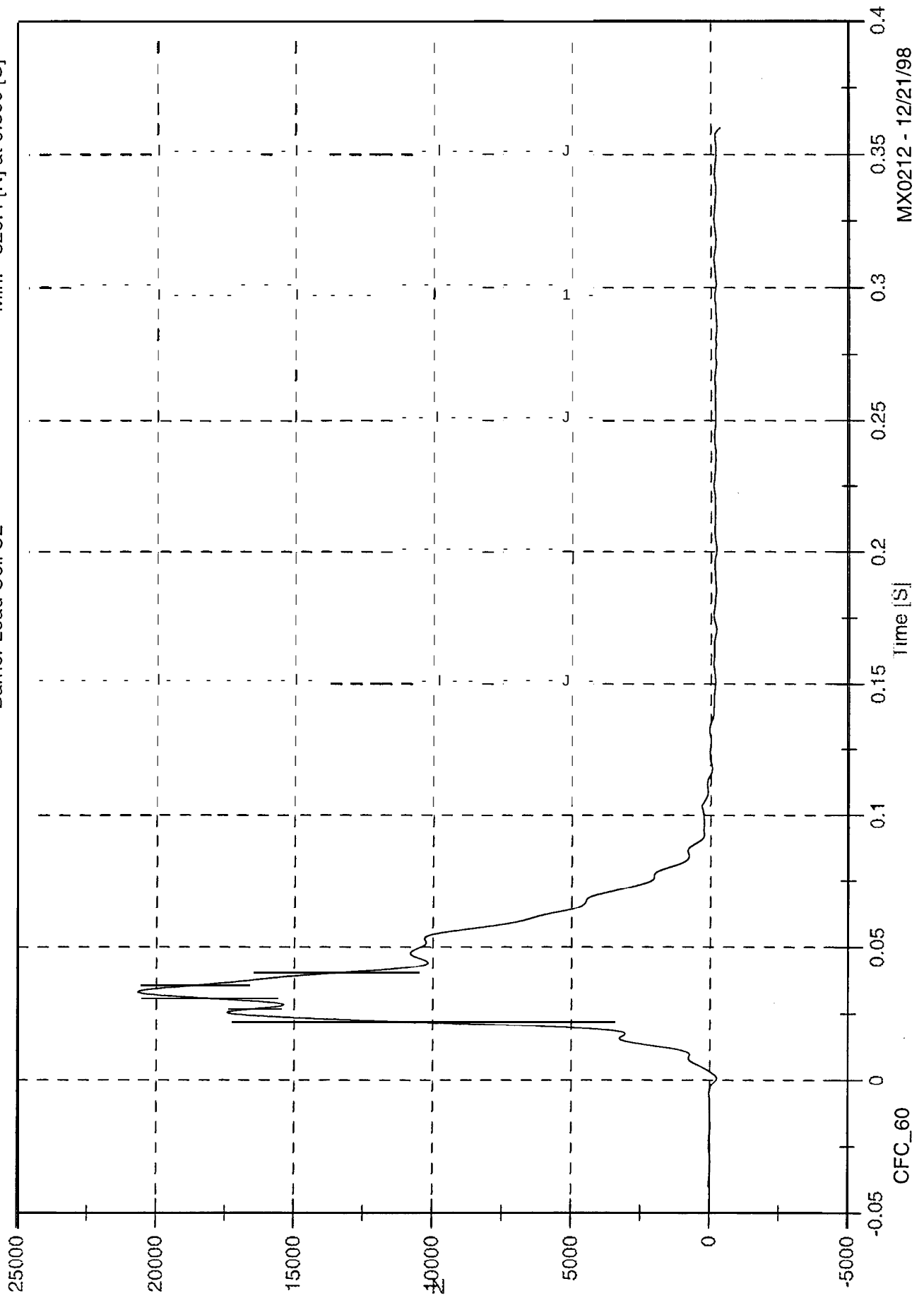


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 20668.6 [N] at 0.033 [S]
Min: -326.4 [N] at 0.360 [S]

Barrier Load Cell C2

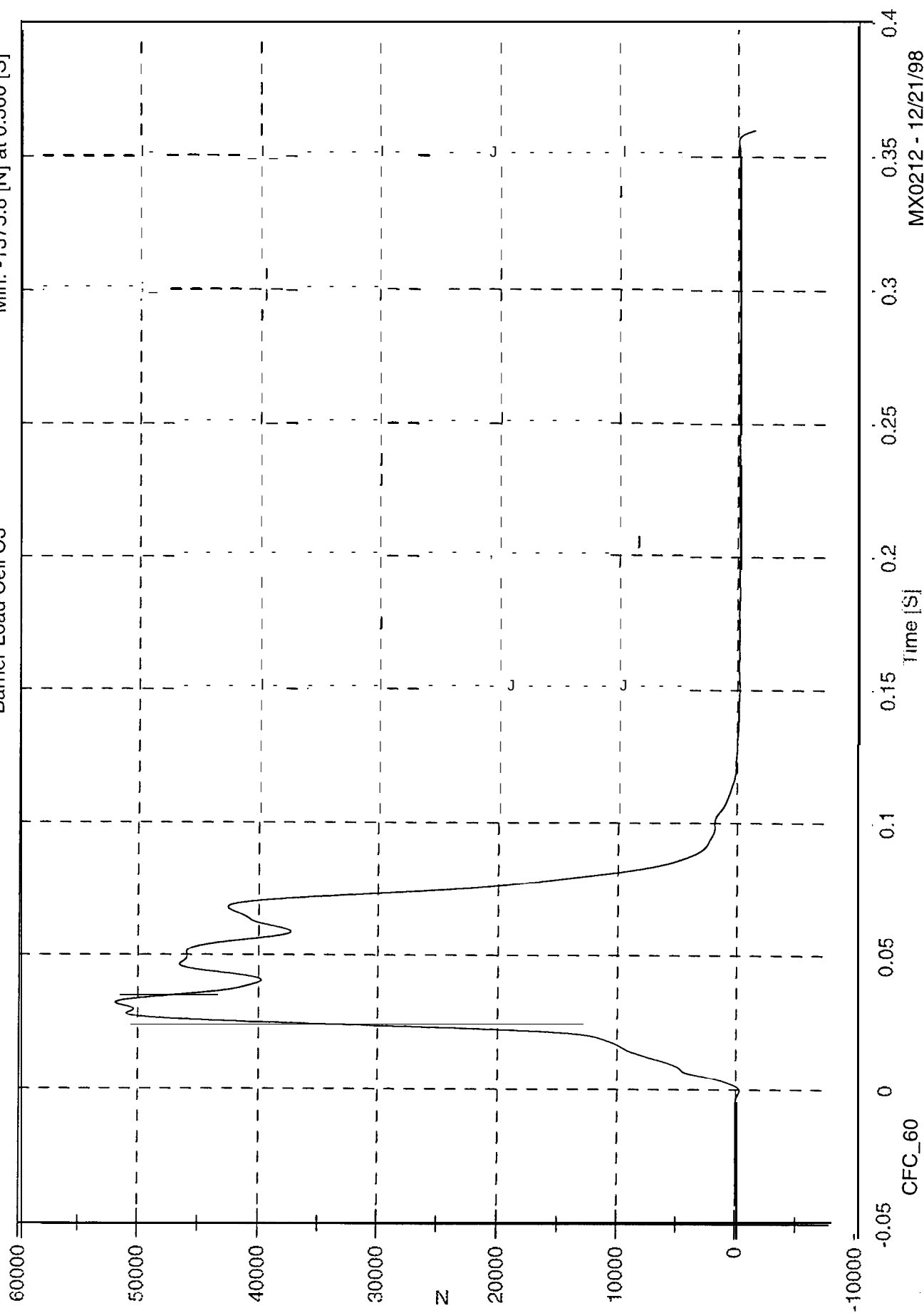


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Barrier Load Cell C3

Max: 51886.5 [N] at 0.032 [S]
Min: -1375.8 [N] at 0.360 [S]

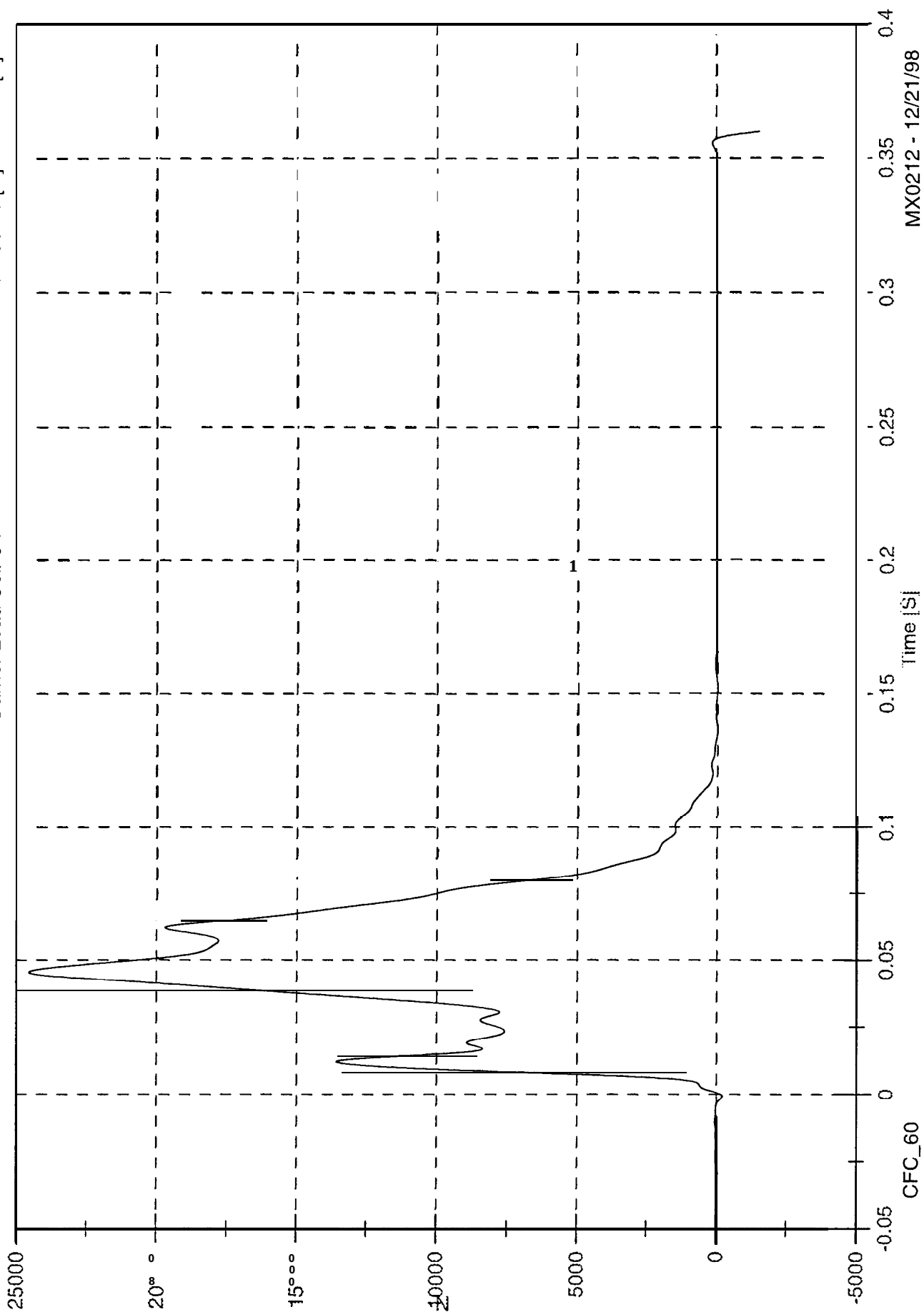


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 24541.3 [N] at 0.045 [S]
Min: -1507.6 [N] at 0.360 [S]

Barrier Load Cell C4

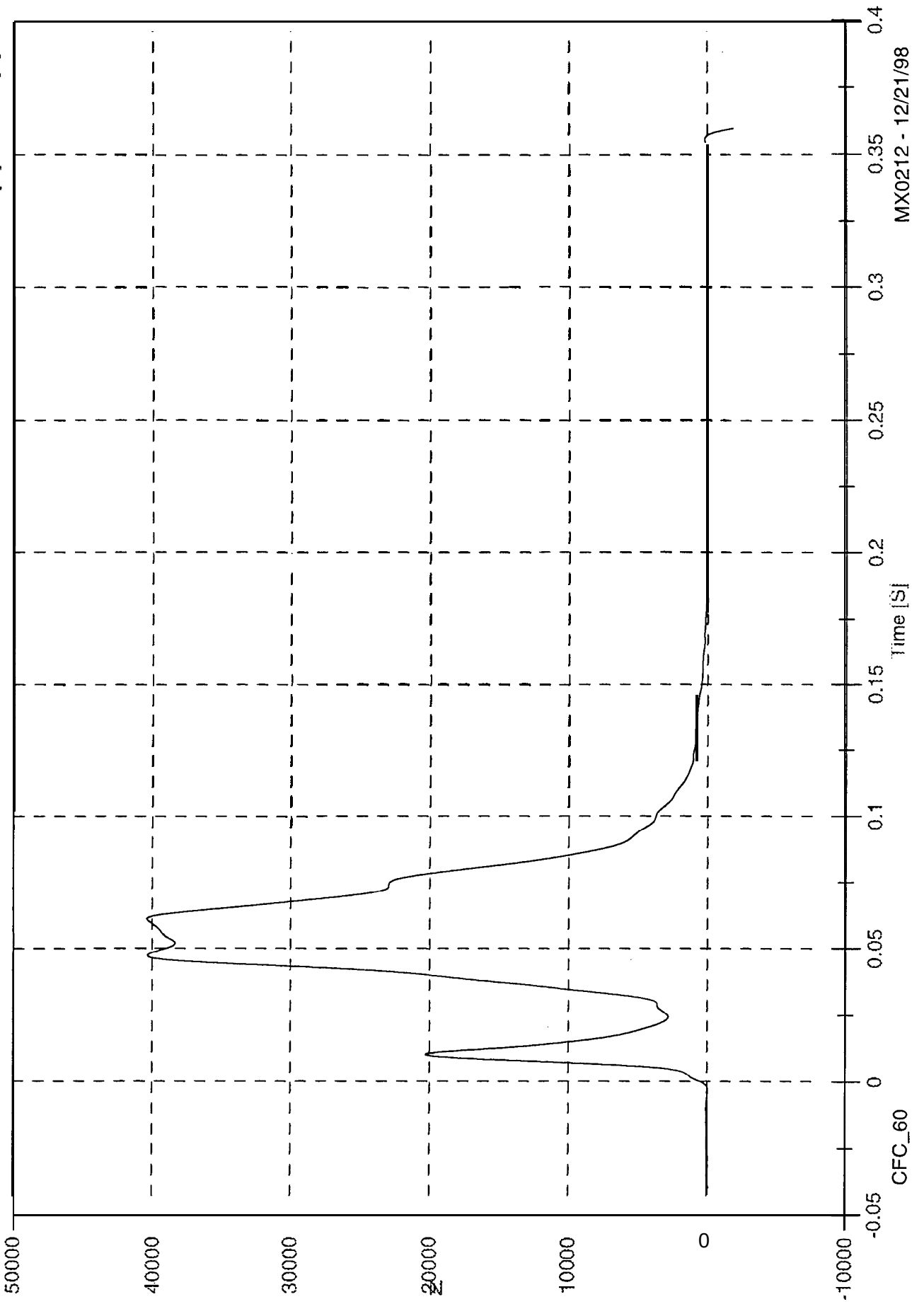


MX0212 - 12/21/98

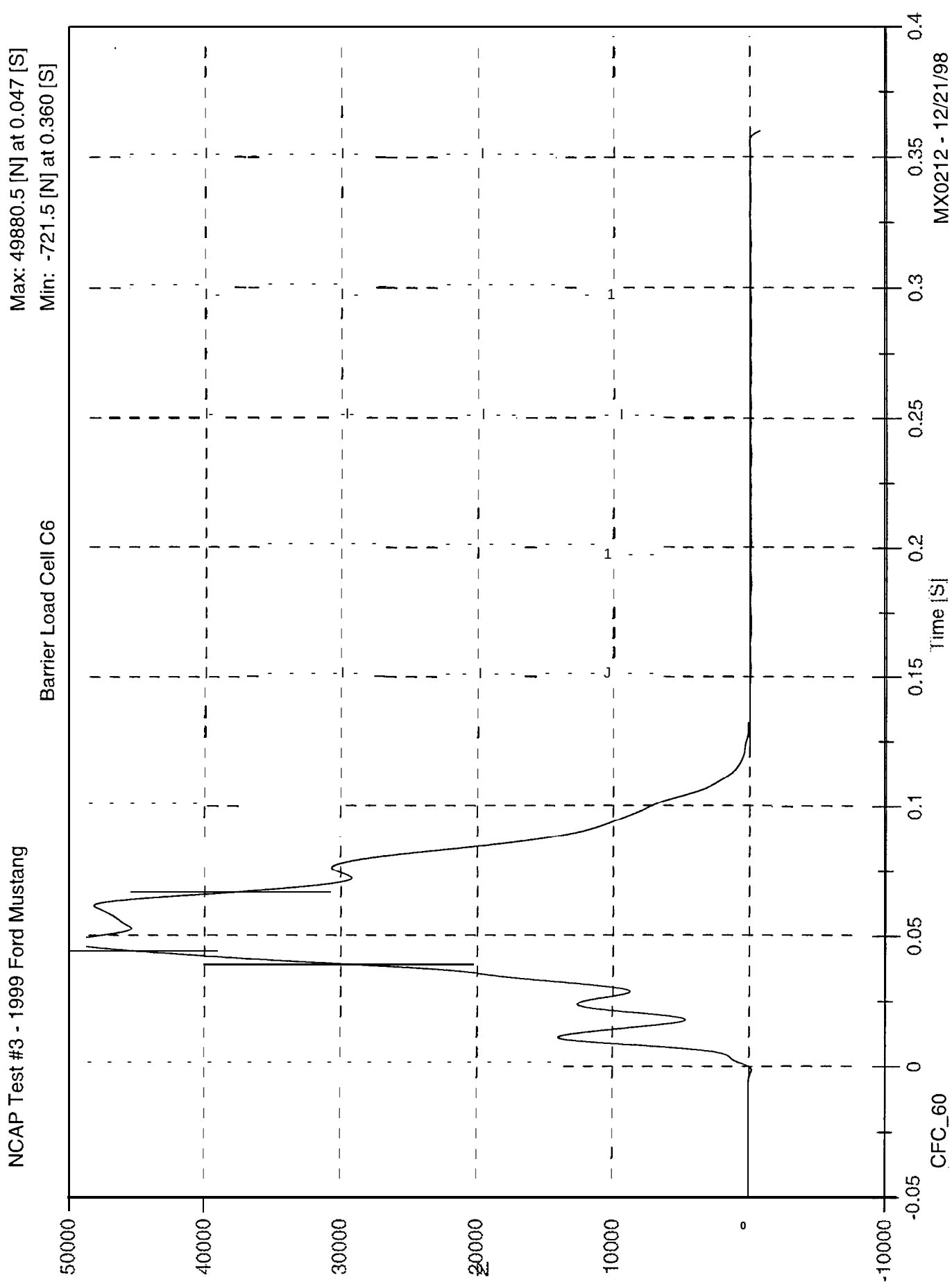
NCAP Test #3 - 1999 Ford Mustang

Max: 40379.2 [N] at 0.061 [S]
Min: -1856.0 [N] at 0.360 [S]

Barrier Load Cell C5



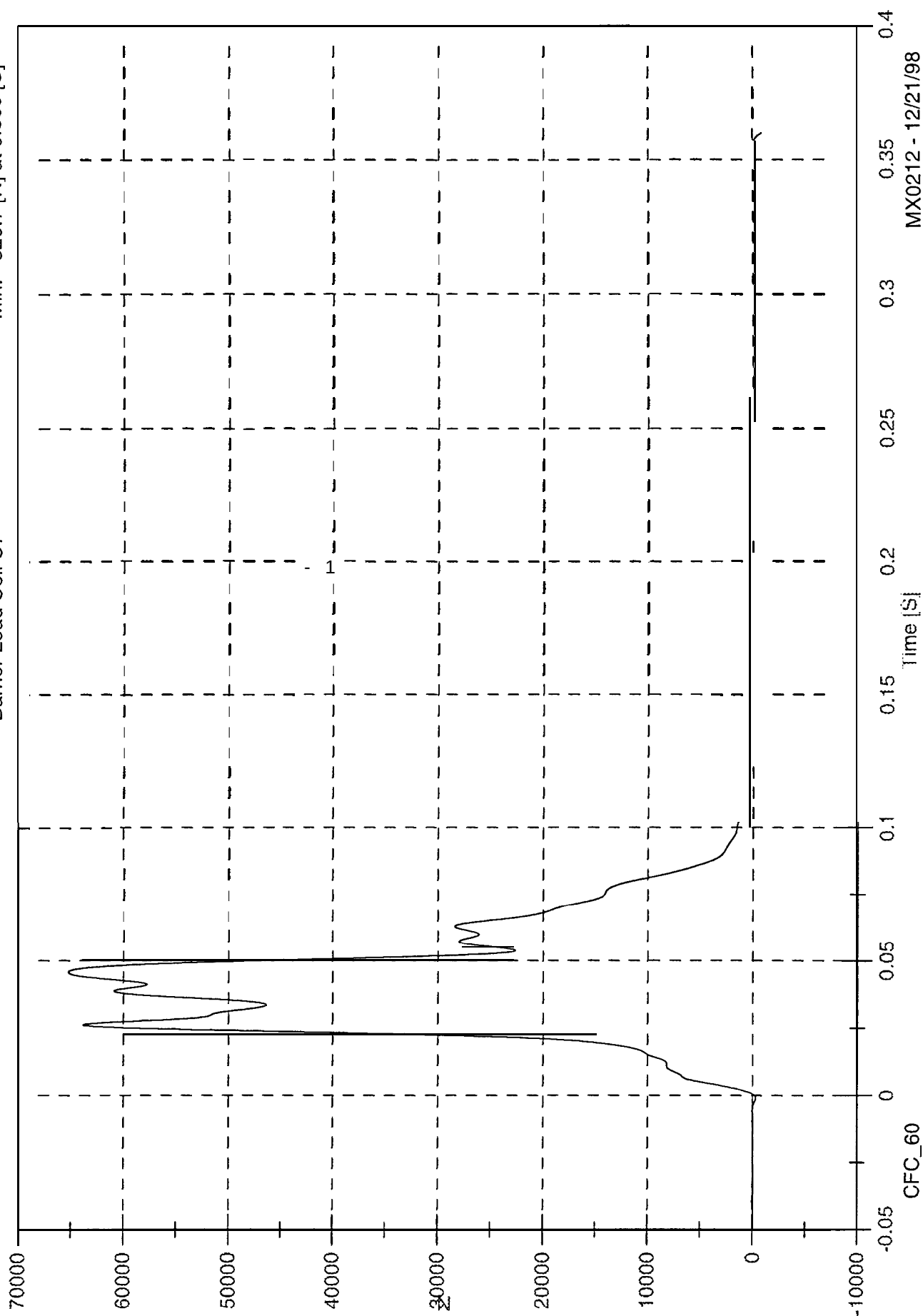
MX0212 - 12/21/98



NCAP Test #3 - 1999 Ford Mustang

Max: 65264.7 [N] at 0.046 [S]
Min: -820.7 [N] at 0.360 [S]

Barrier Load Cell C7



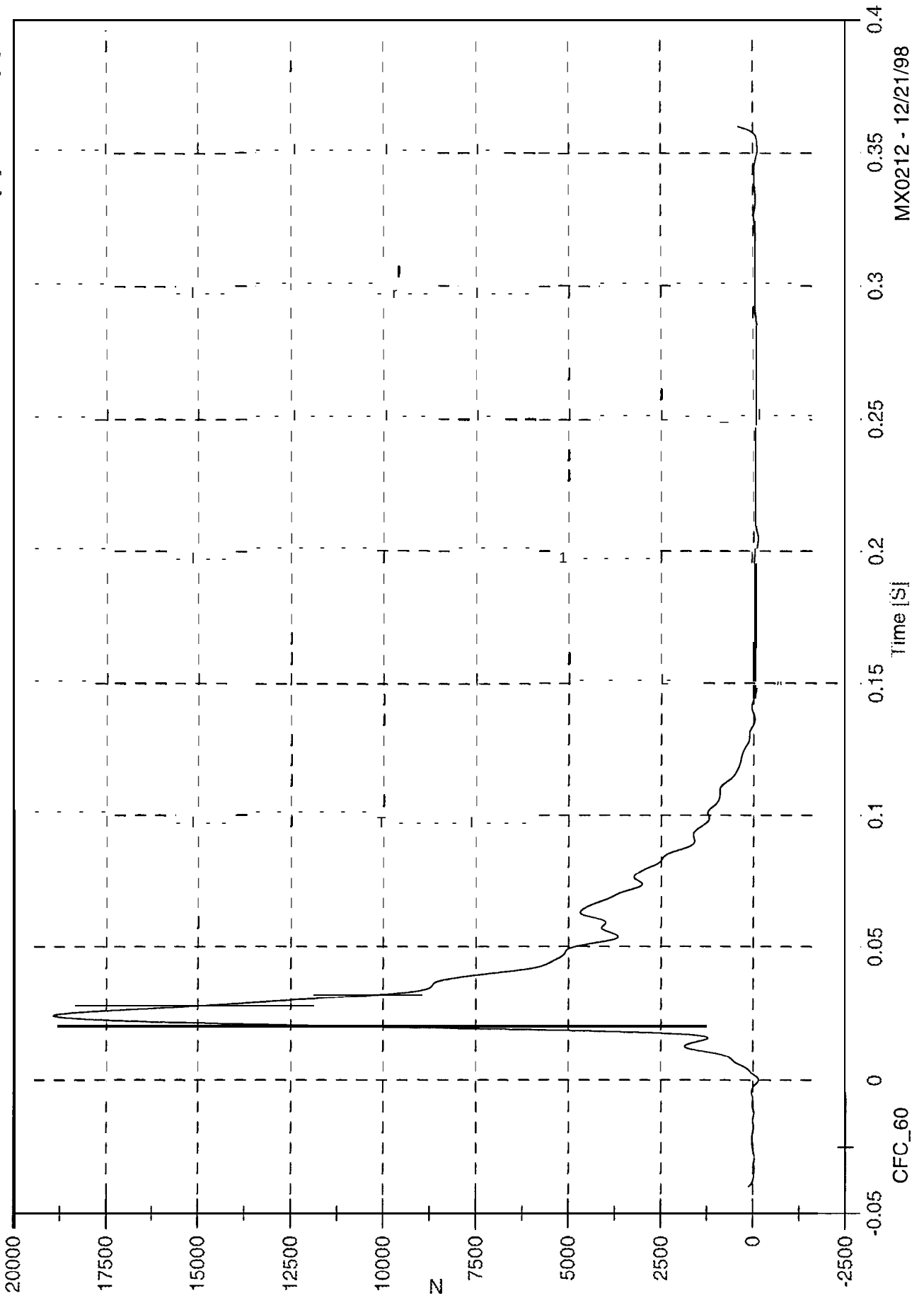
MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 18927.8 [N] at 0.024 [S]

Min: -153.0 [N] at -0.000 [S]

Barrier Load Cell C8



CFC_60

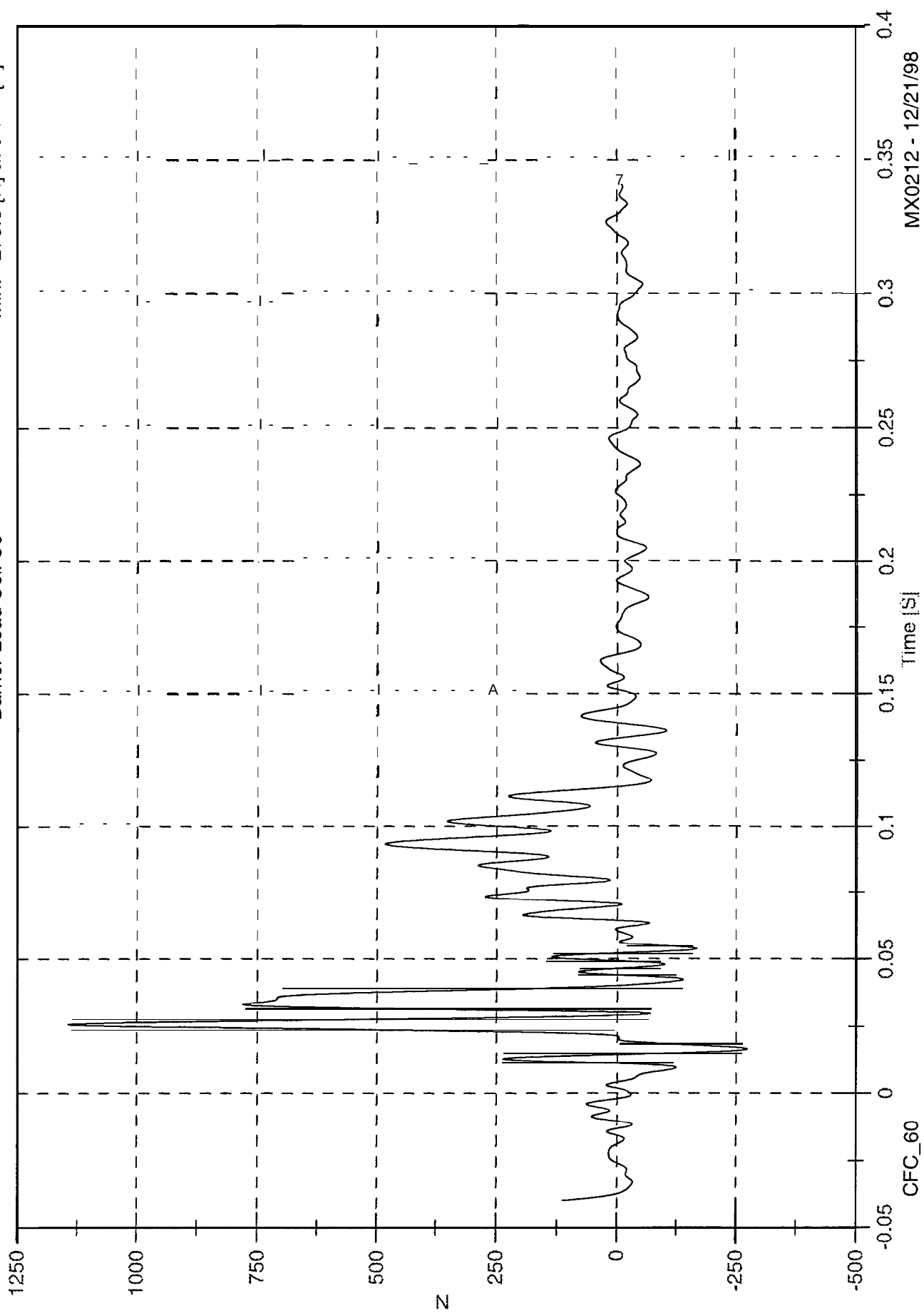
Time [S]

MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 1144.2 [N] at 0.026 [S]
Min: -273.5 [N] at 0.017 [S]

Barrier Load Cell C9

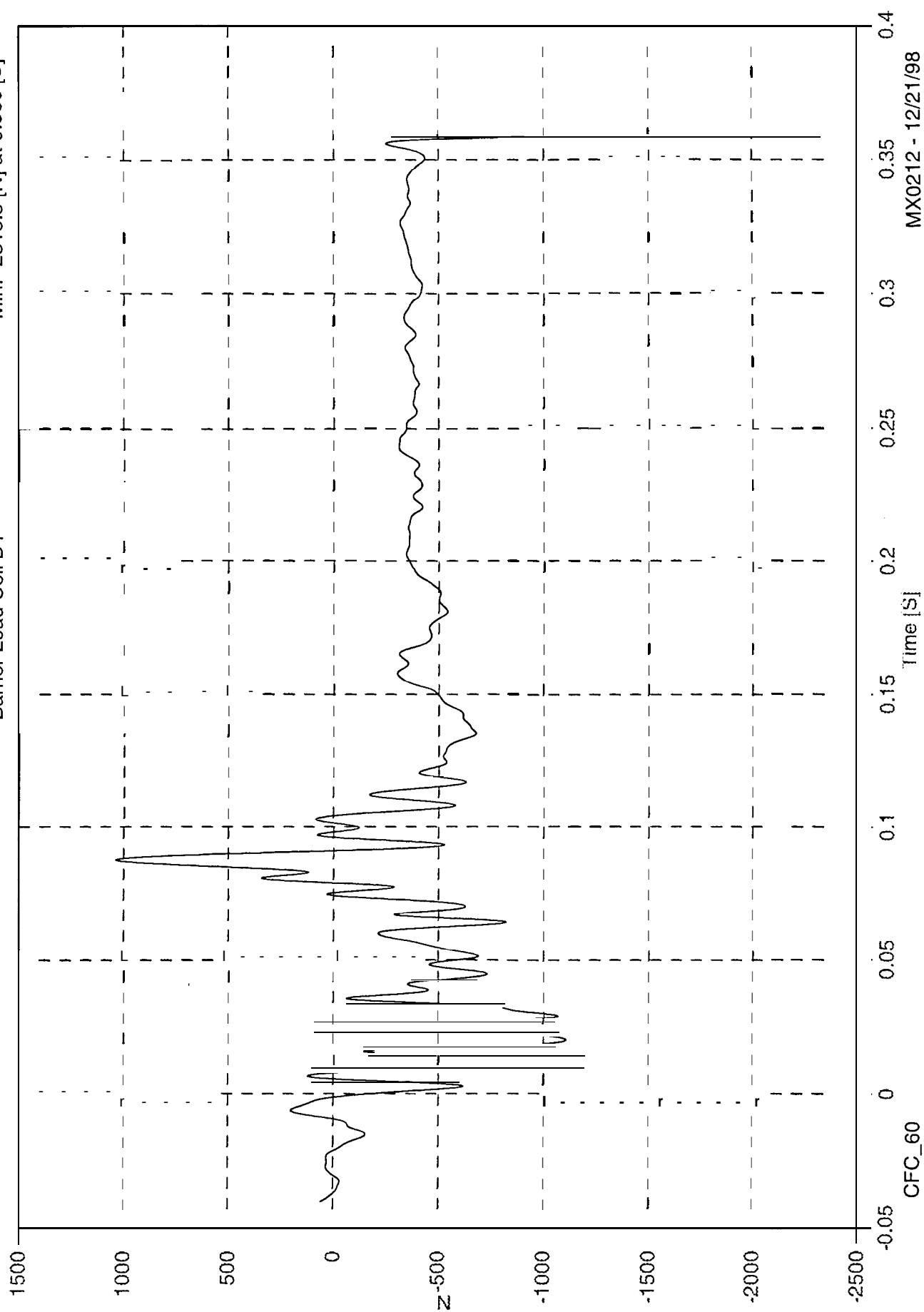


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 1036.3 [N] at 0.088 [S]
Min: -2318.5 [N] at 0.360 [S]

Barrier Load Cell D1

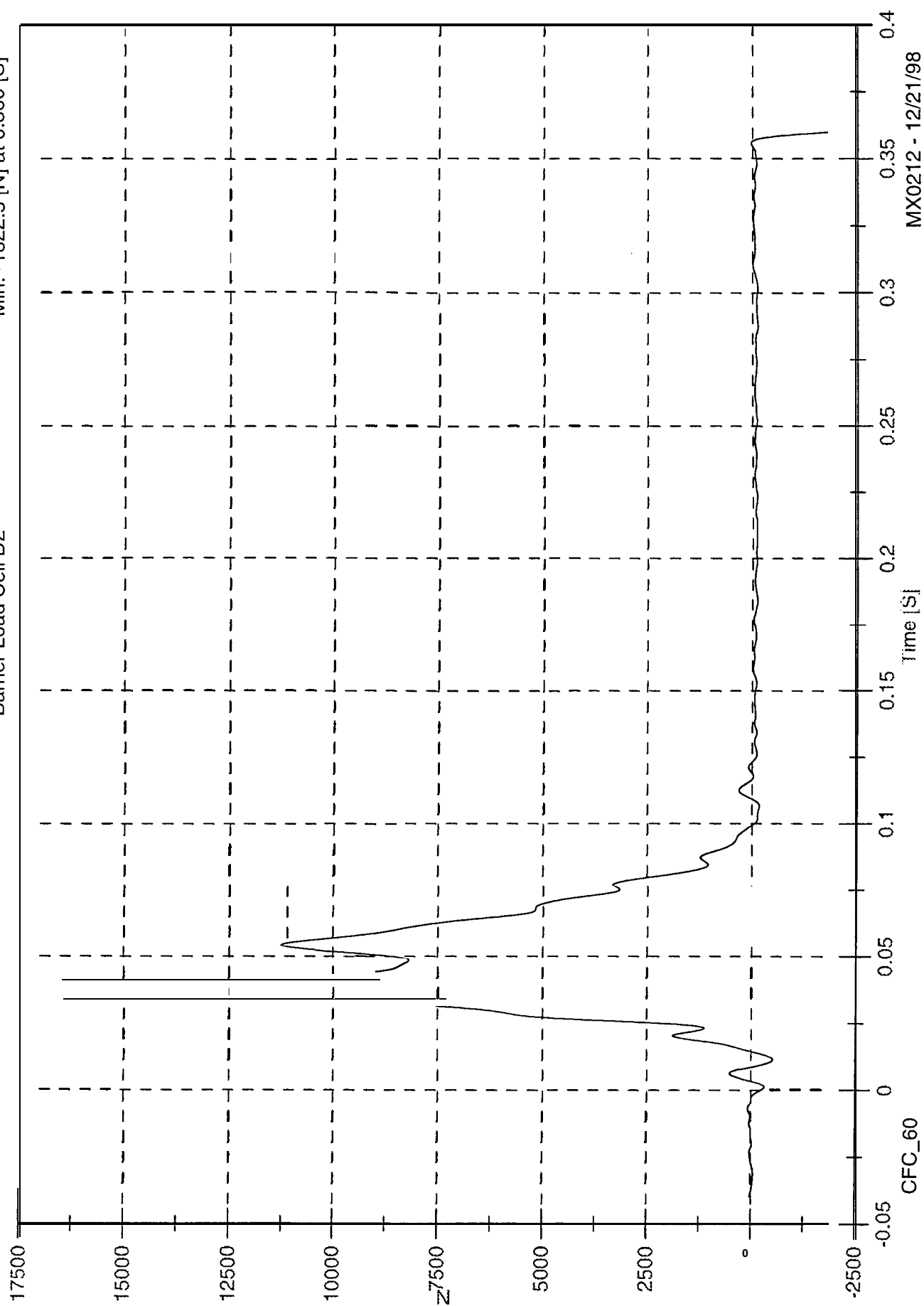


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 16584.5 [N] at 0.037 [S]
Min: -1822.5 [N] at 0.360 [S]

Barrier Load Cell D2

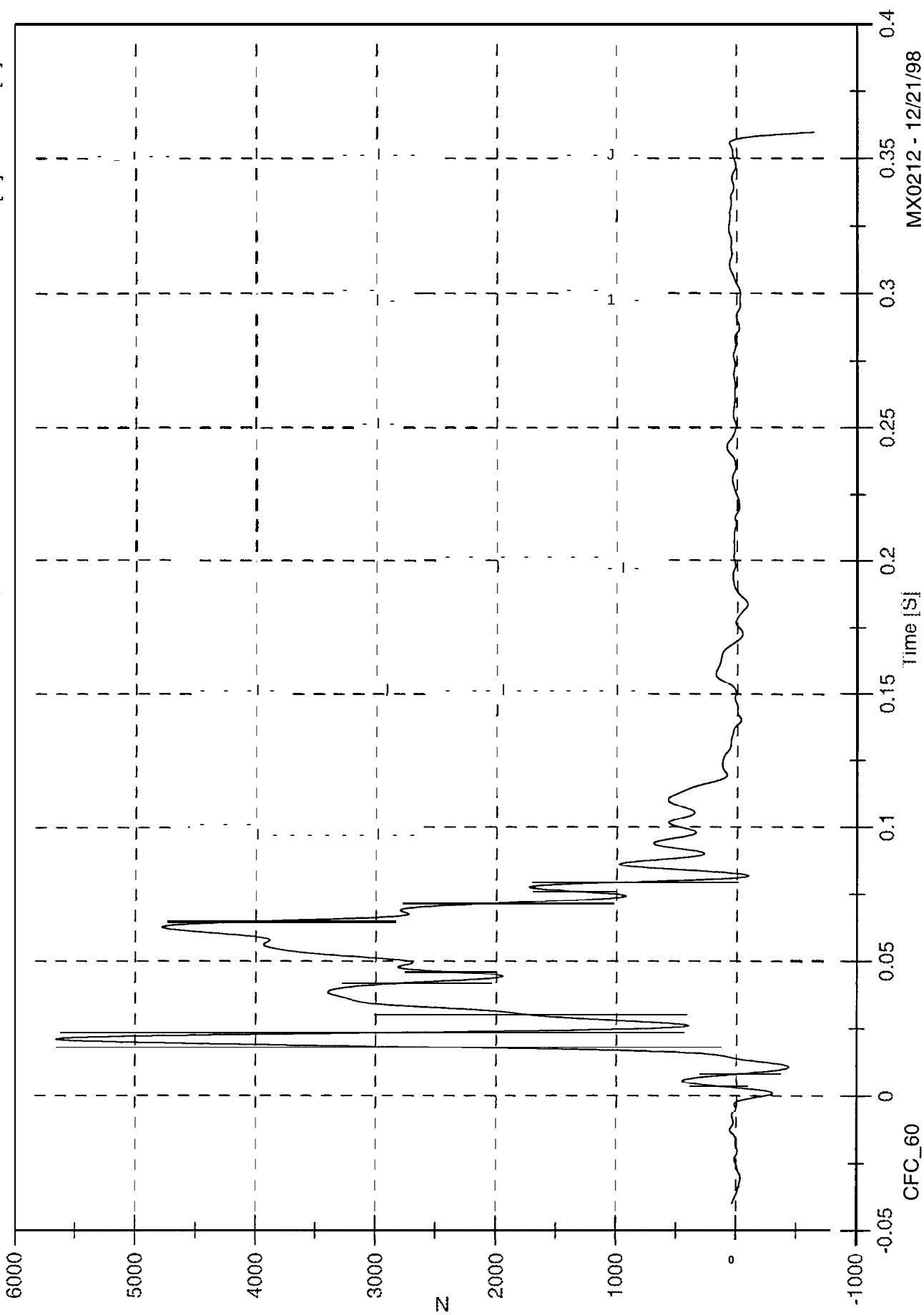


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 5655.5 [N] at 0.021 [S]
Min: -629.5 [N] at 0.360 [S]

Barrier Load Cell D3

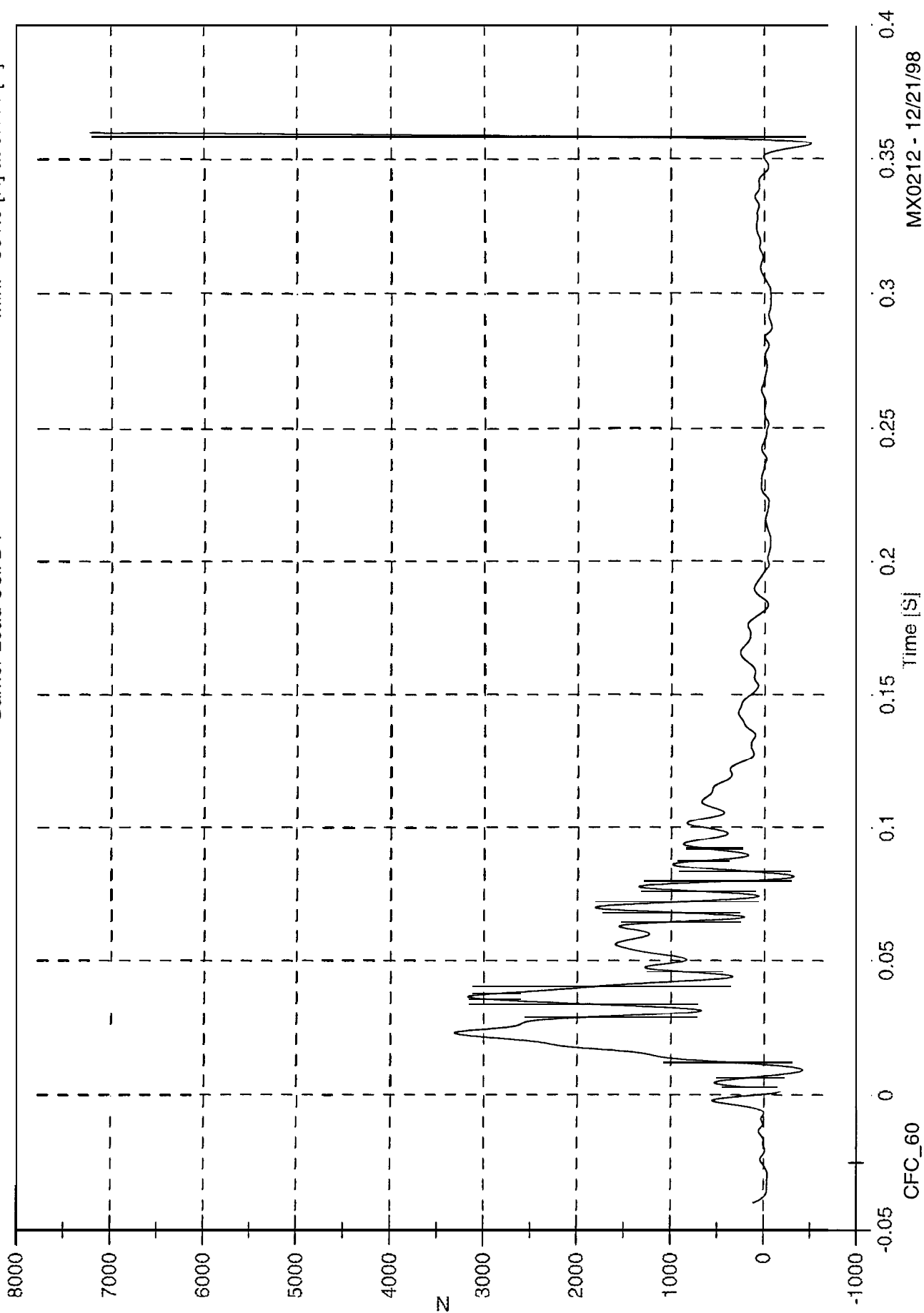


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 7221.9 [N] at 0.360 [S]
Min: -501.9 [N] at 0.356 [S]

Barrier Load Cell D4

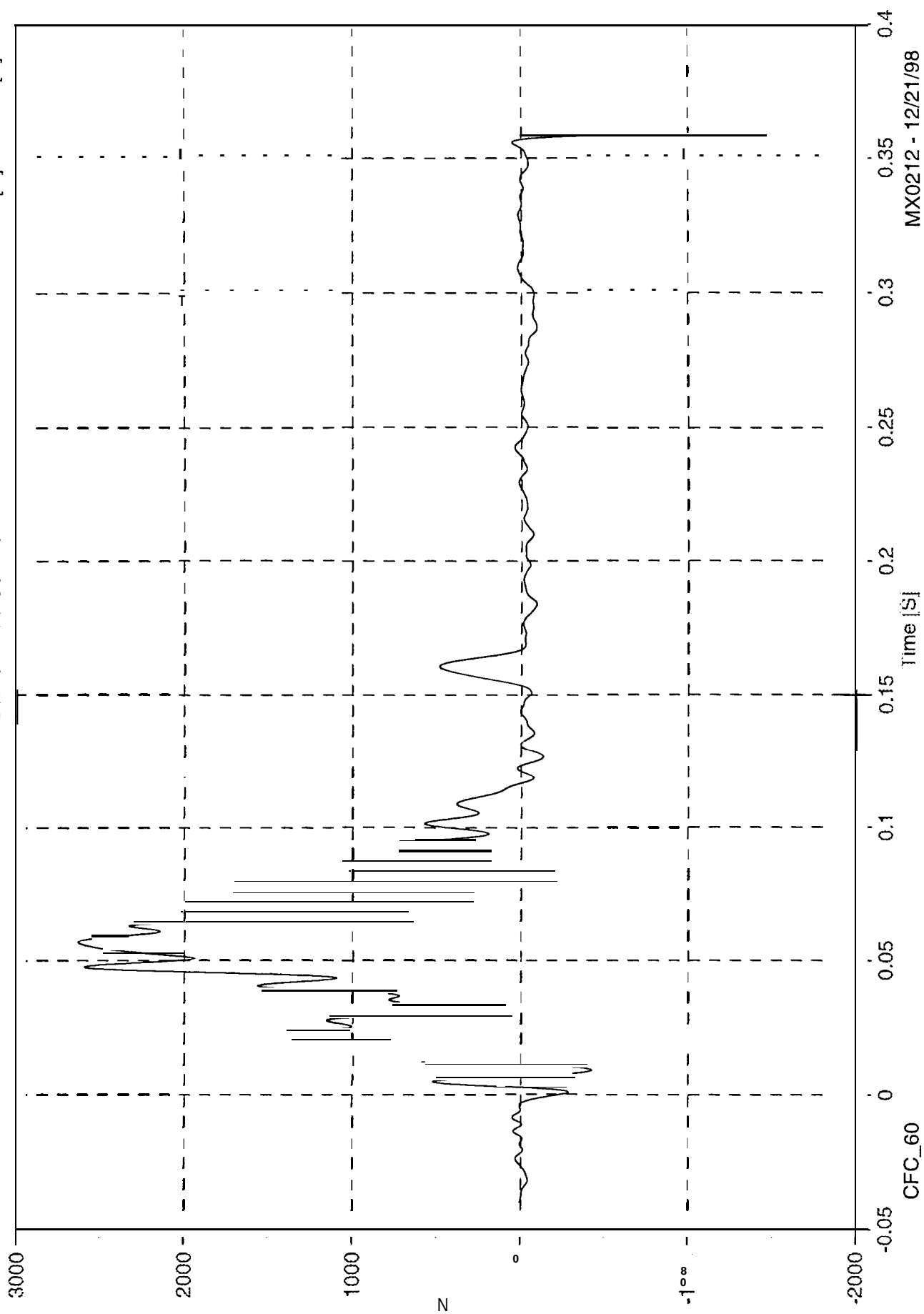


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 2631.8 [N] at 0.057 [S]
Min: -1459.5 [N] at 0.360 [S]

Barrier Load Cell D5

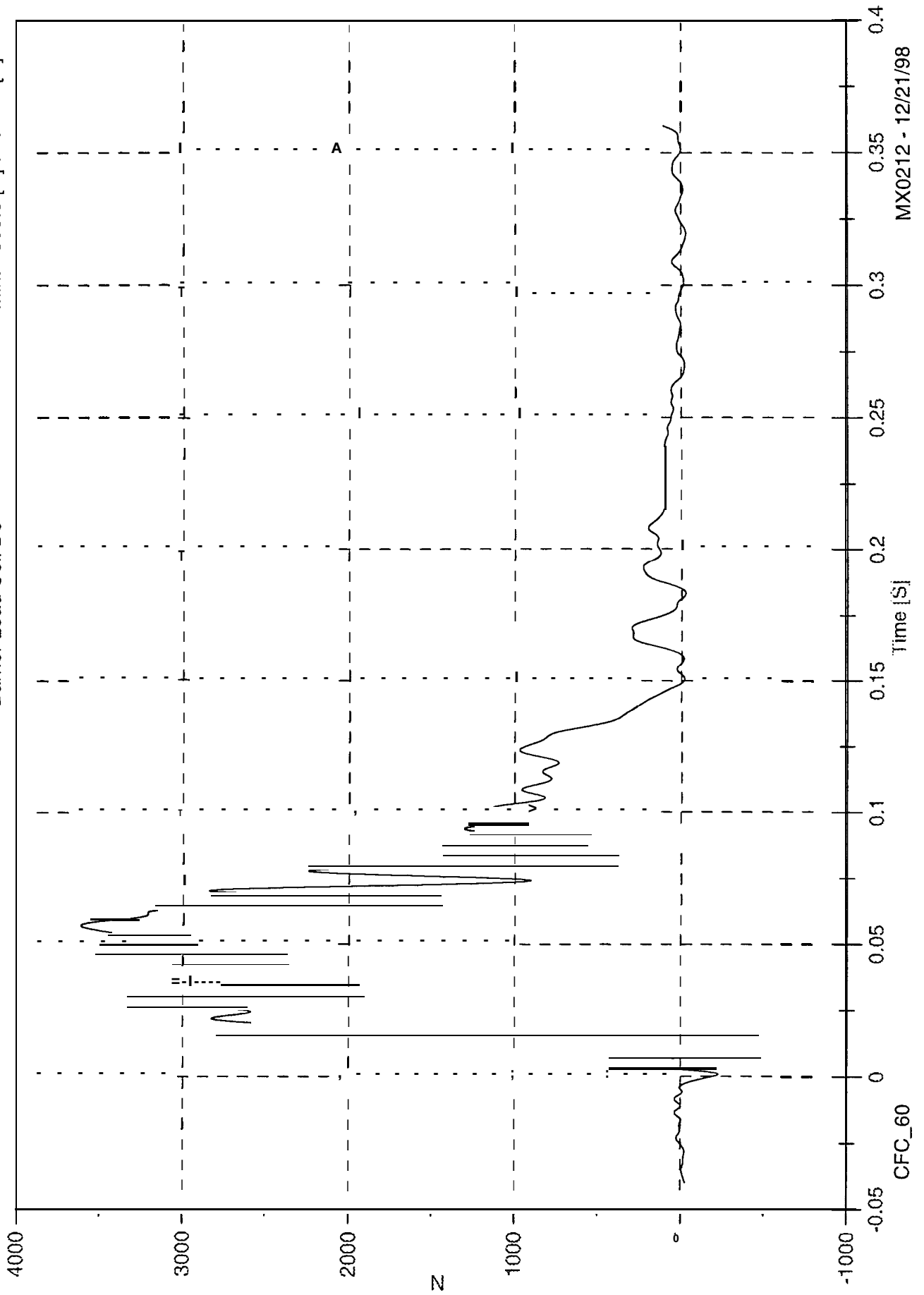


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 3615.0 [N] at 0.057 [S]
Min: -505.5 [N] at 0.009 [S]

Barrier Load Cell D6



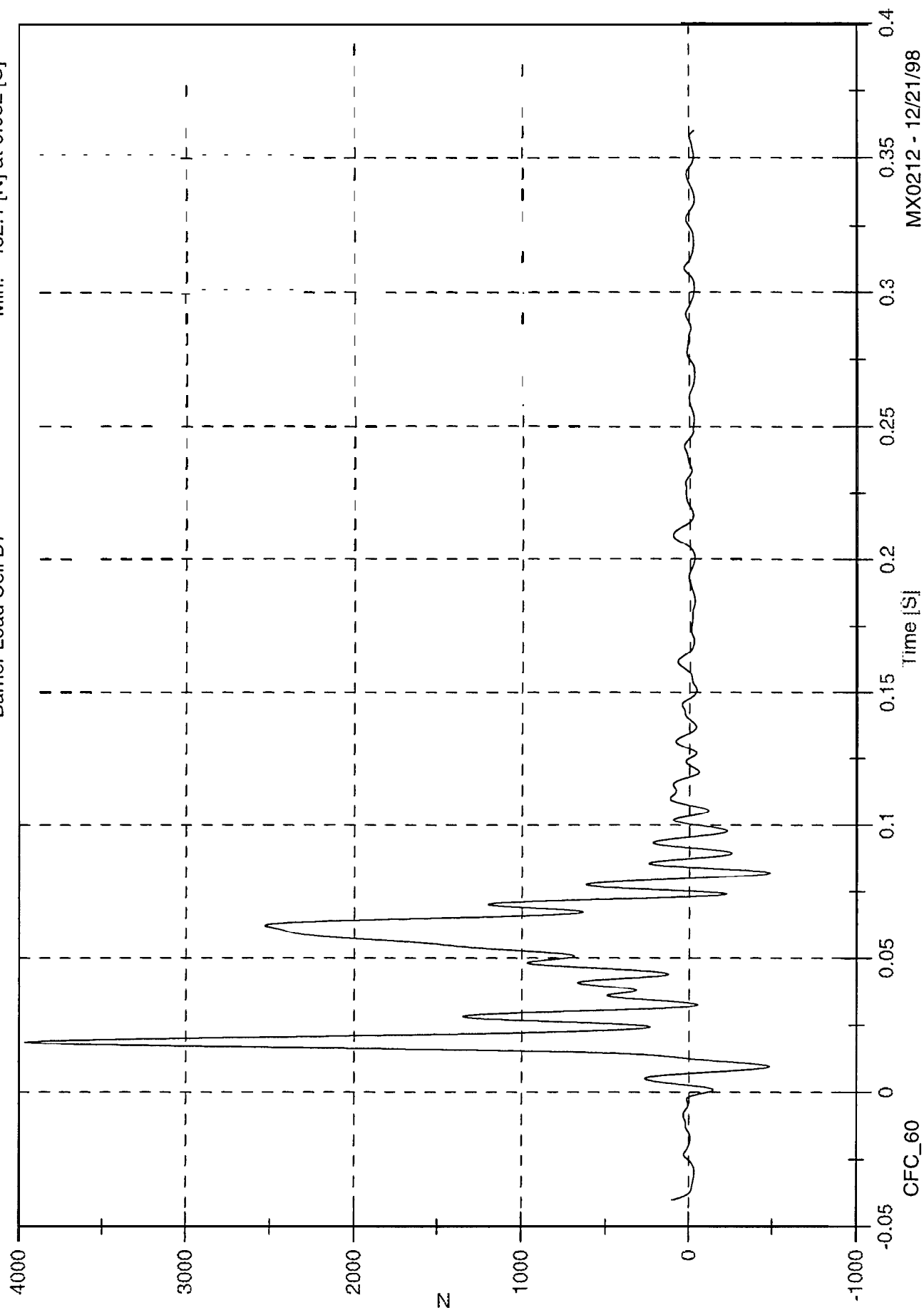
MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 3964.9 [N] at 0.018 [S]

Min: -482.1 [N] at 0.082 [S]

Barrier Load Cell D7

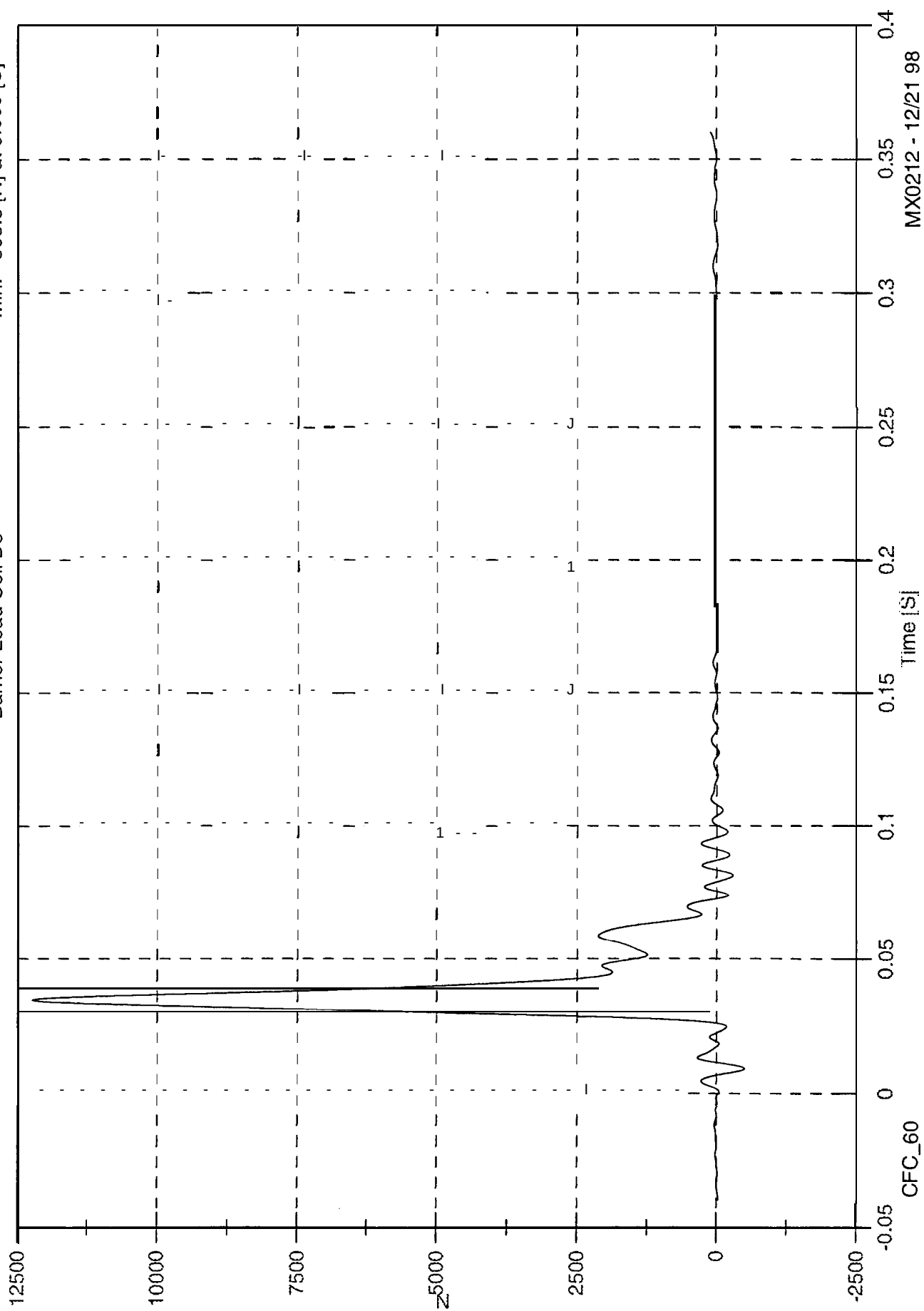


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 12236.7 [N] at 0.035 [S]
Min: -505.5 [N] at 0.009 [S]

Barrier Load Cell D8

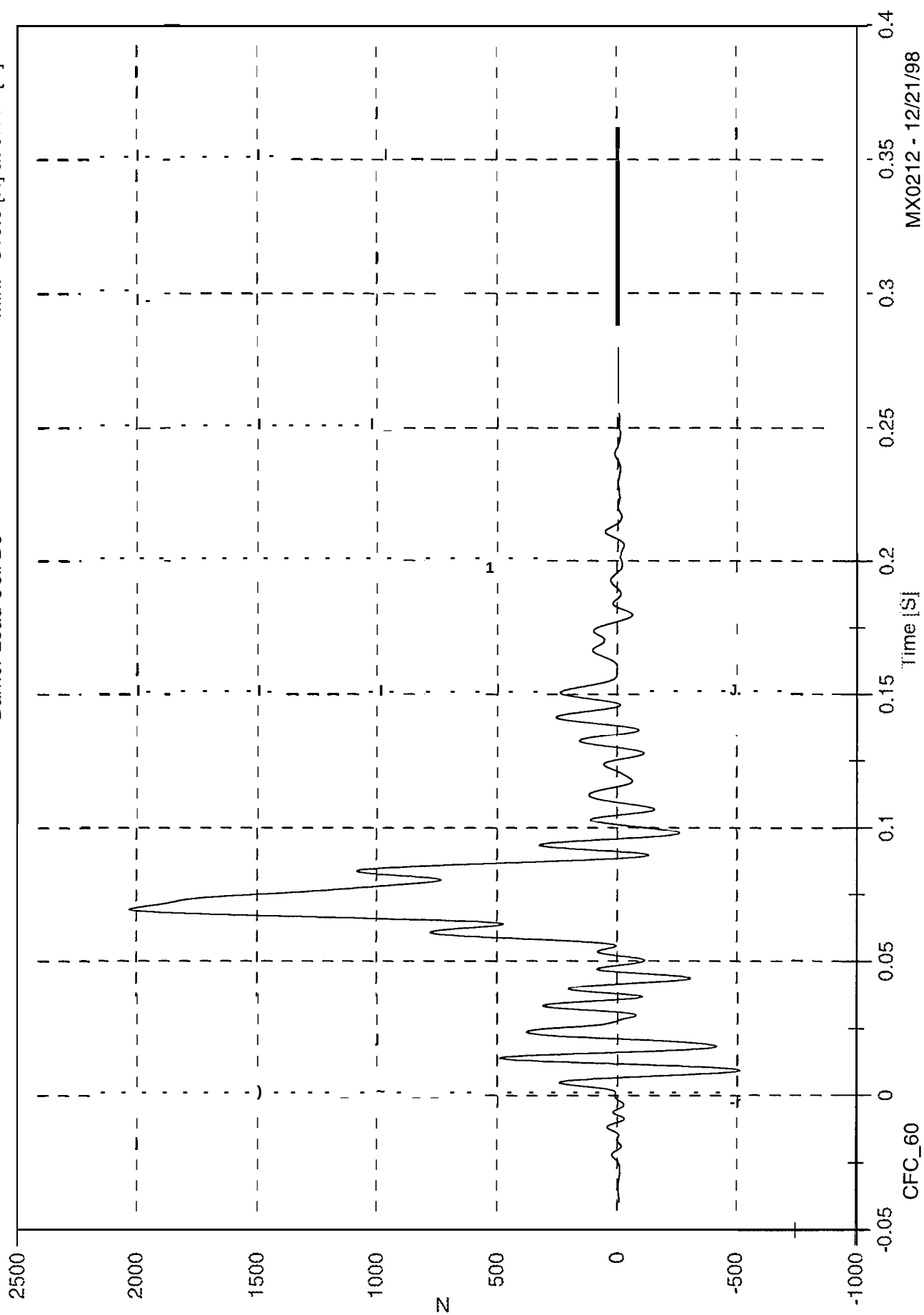


MX0212 - 12/21 98

NCAP Test #3 - 1999 Ford Mustang

Max: 2030.6 [N] at 0.069 [S]
Min: -510.8 [N] at 0.009 [S]

Barrier Load Cell D9

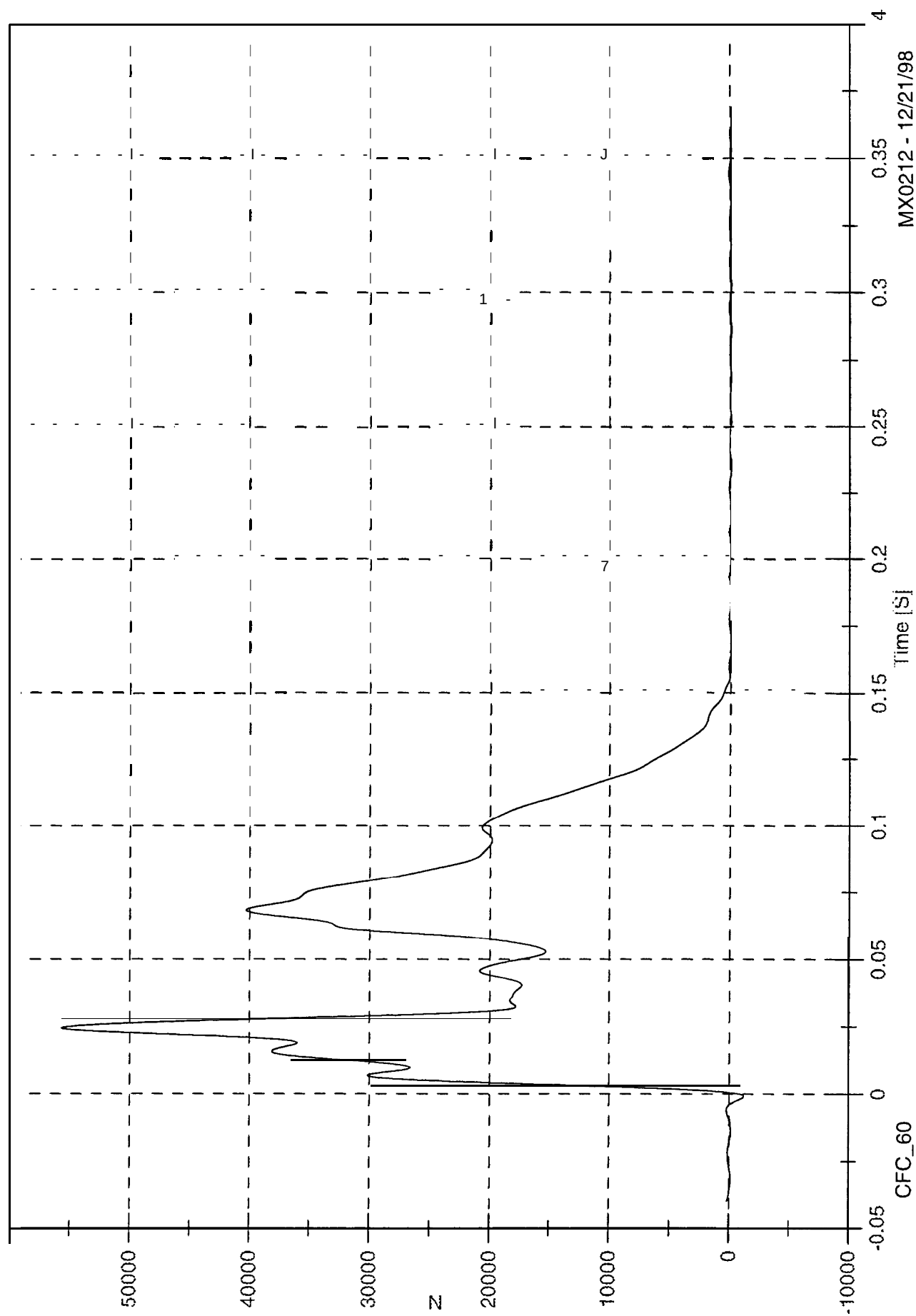


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 55669.4 [N] at 0.024 [S]
 Min: -1208.6 [N] at -0.001 [S]

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

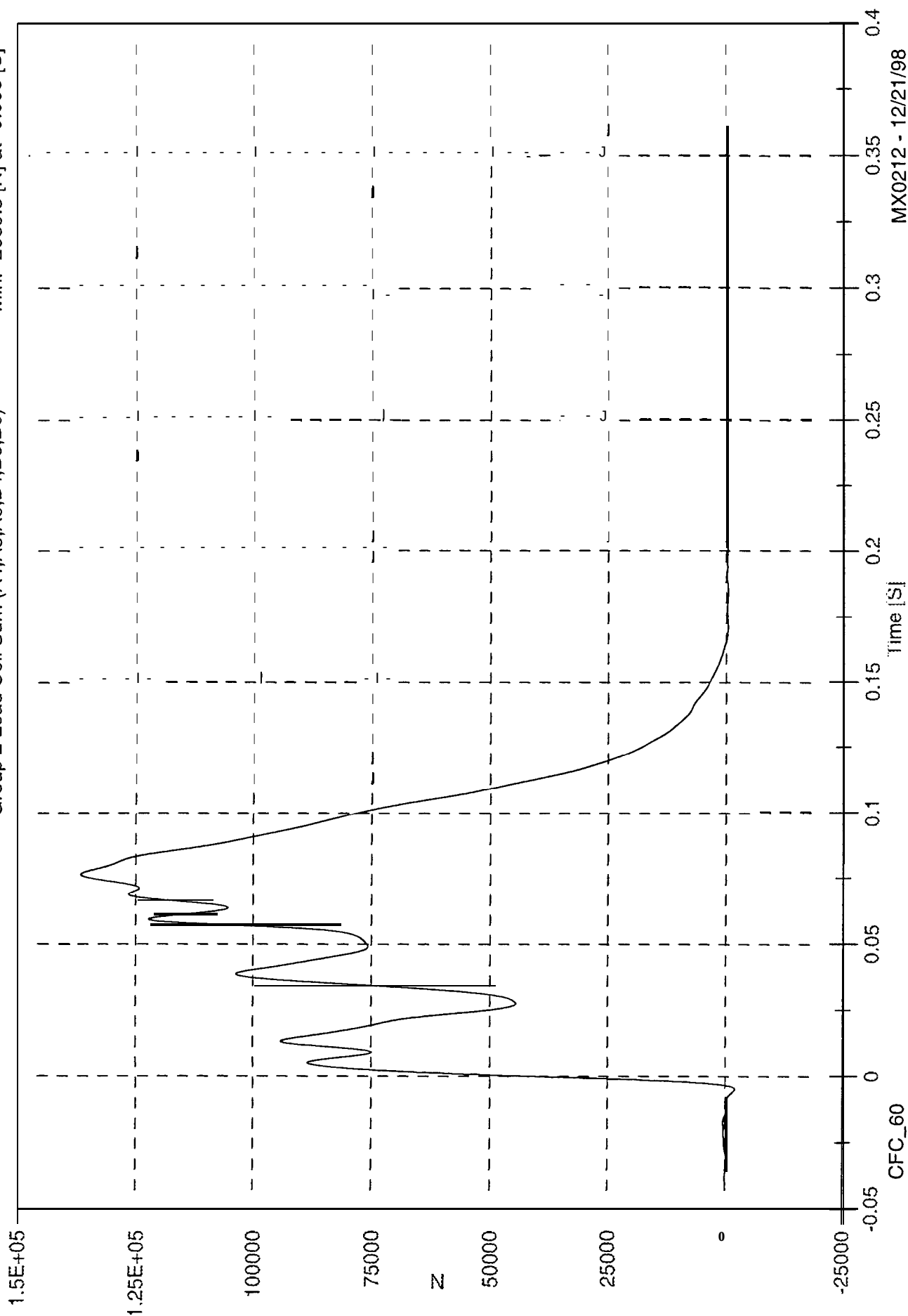


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 136624.7 [N] at 0.077 [S]
 Min: -2089.3 [N] at -0.005 [S]

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

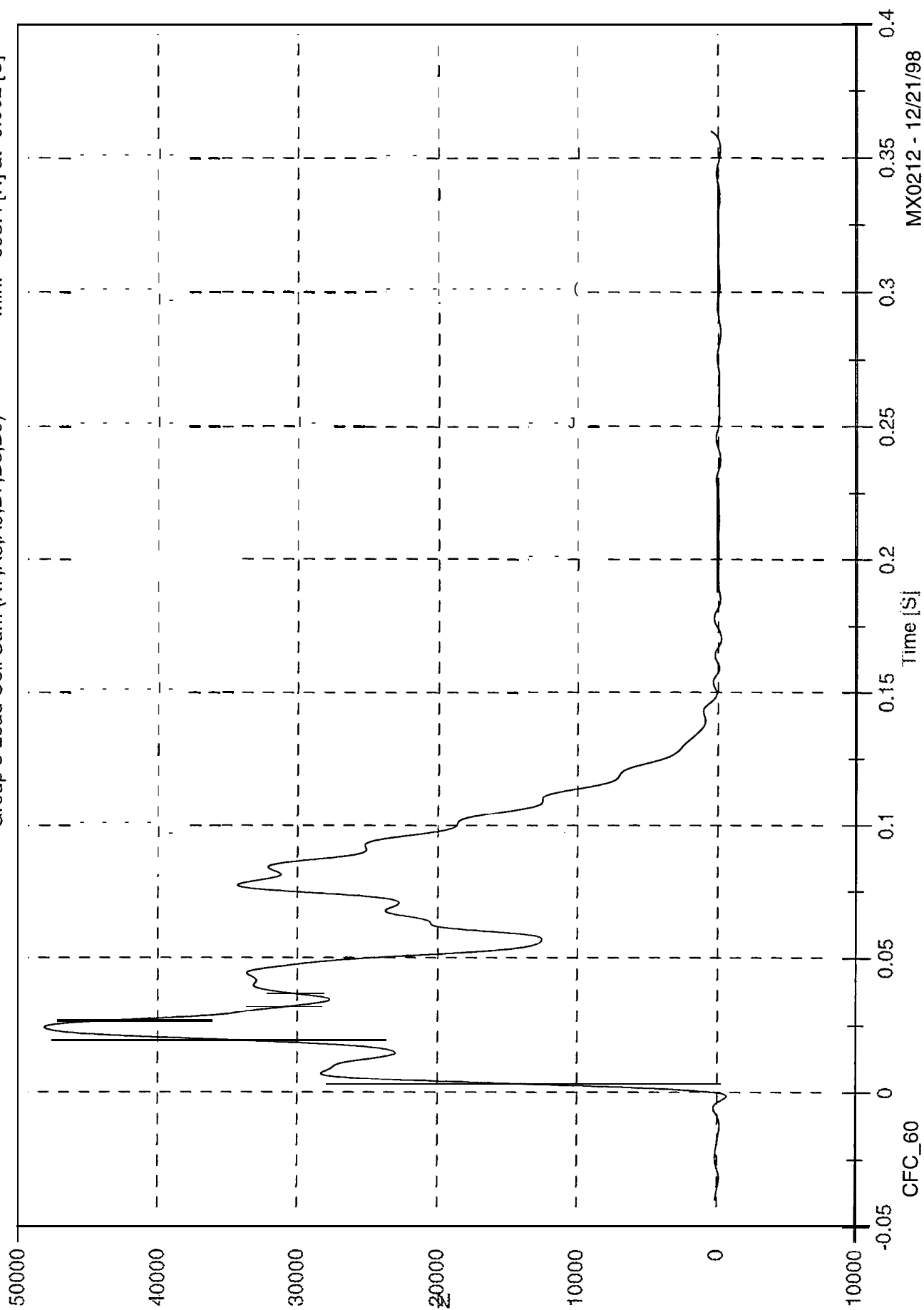


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

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

Max: 48115.8 [N] at 0.024 [S]
Min: -693.4 [N] at -0.002 [S]

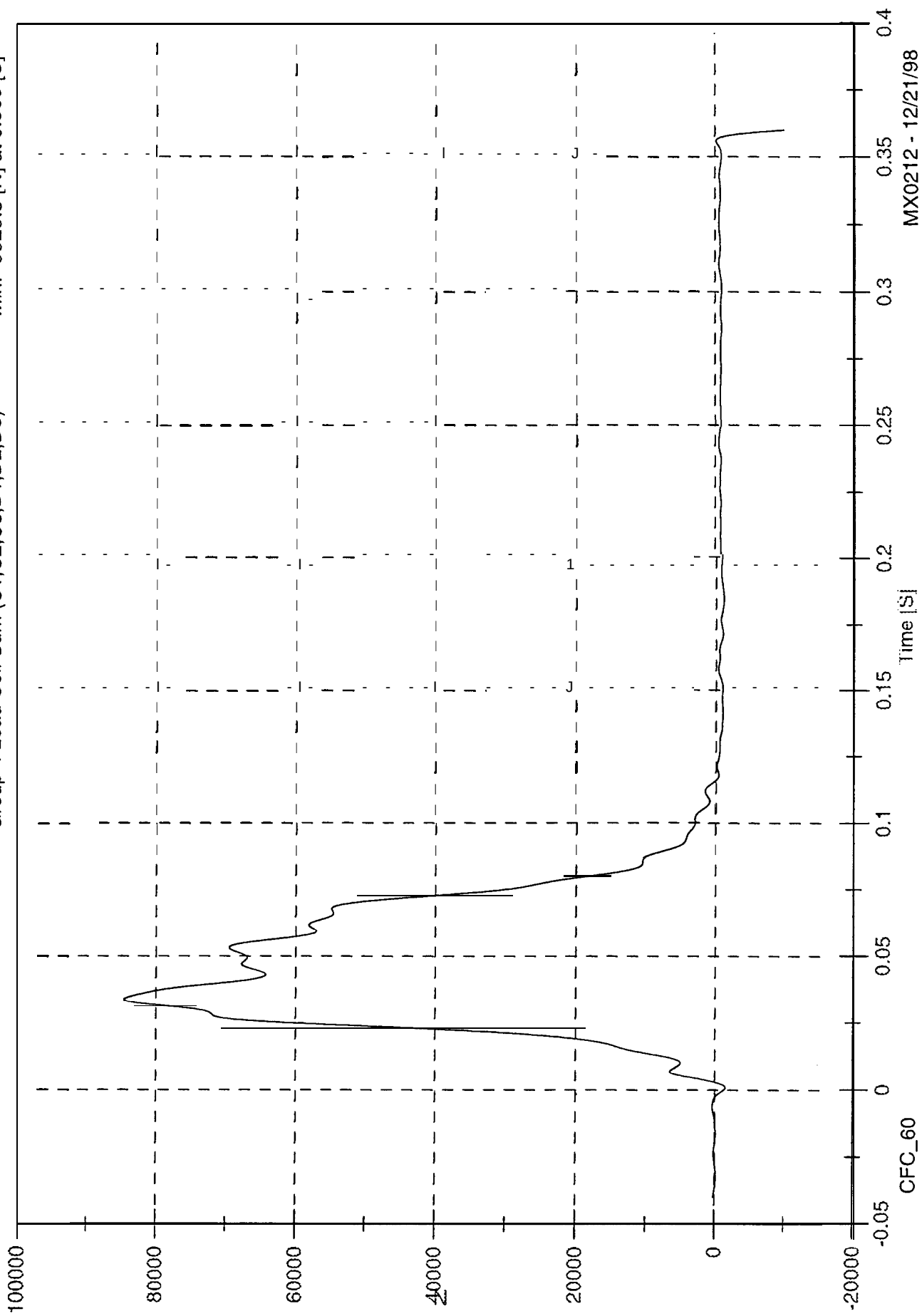


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

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

Max: 84609.0 [N] at 0.034 [S]
Min: -9929.5 [N] at 0.360 [S]



CFC_60

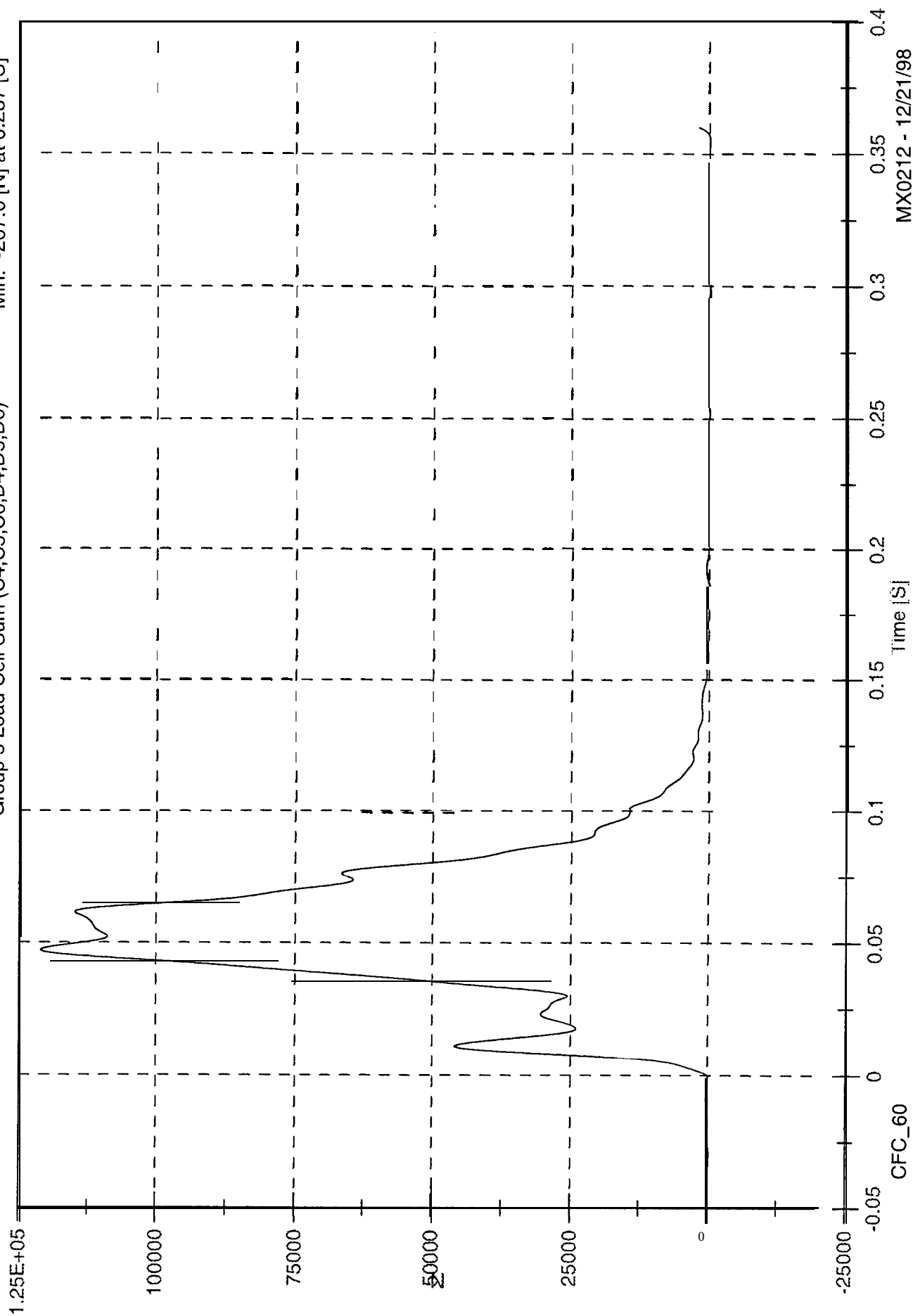
Time [S]

MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 121116.0 [N] at 0.047 [S]
Min: -267.0 [N] at 0.287 [S]

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

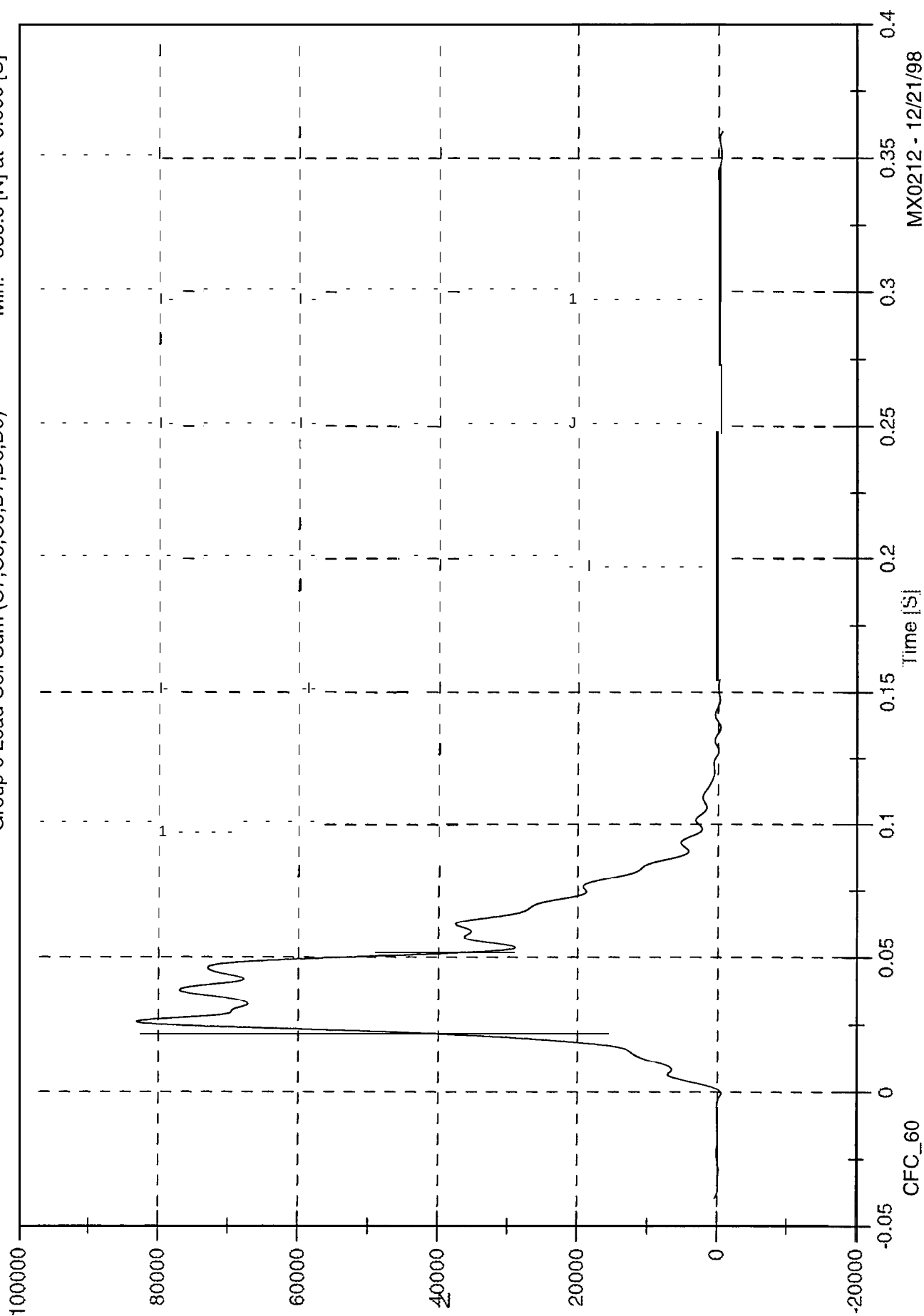


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 83159.6 [N] at 0.026 [S]
 Min: -538.6 [N] at -0.000 [S]

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

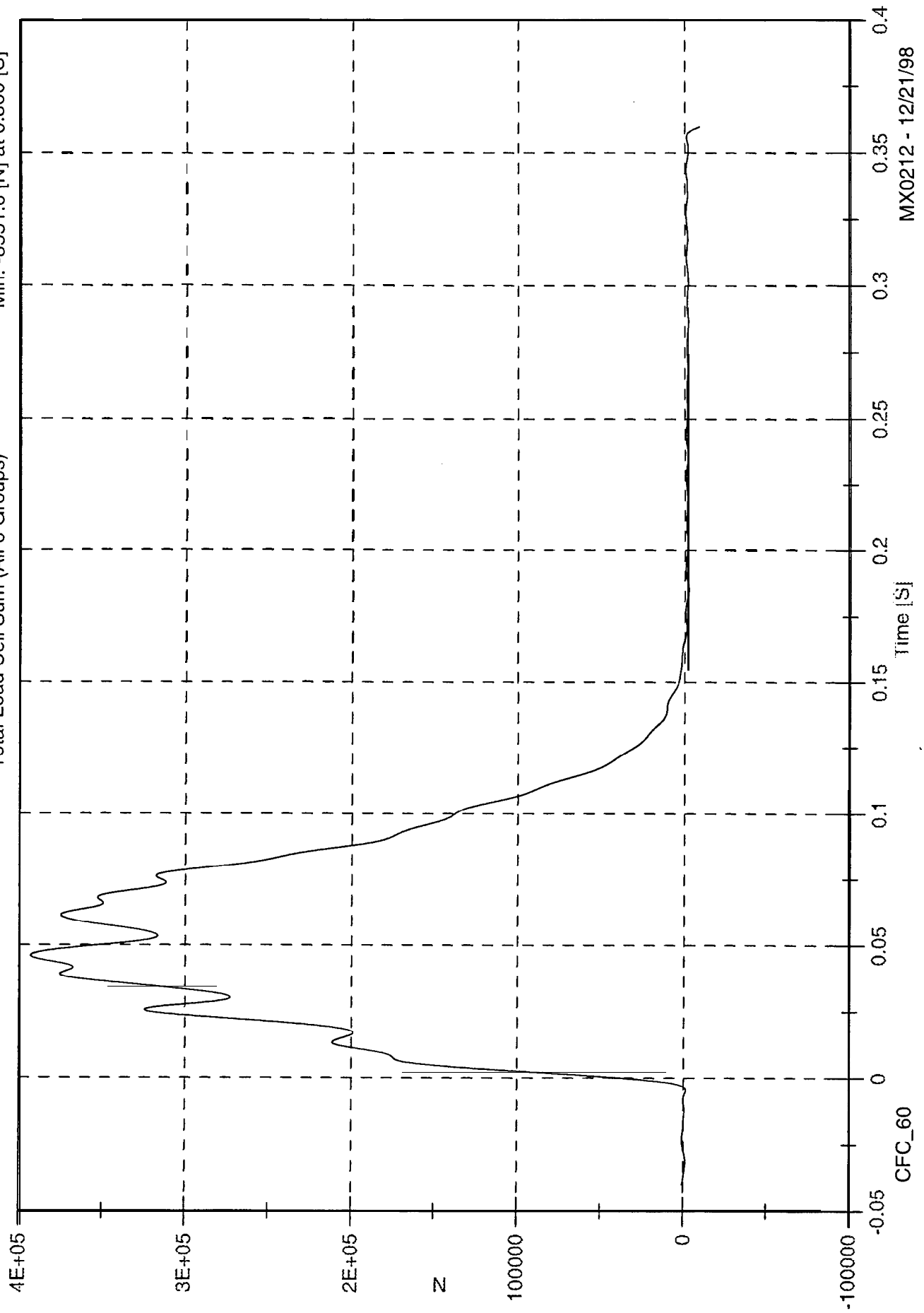


MX0212 - 12/21/98

NCAP Test #3 - 1999 Ford Mustang

Max: 393231.9 [N] at 0.046 [S]
 Min: -8551.6 [N] at 0.360 [S]

Total Load Cell Sum (All 6 Groups)



MX0212 - 12/21/98

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:

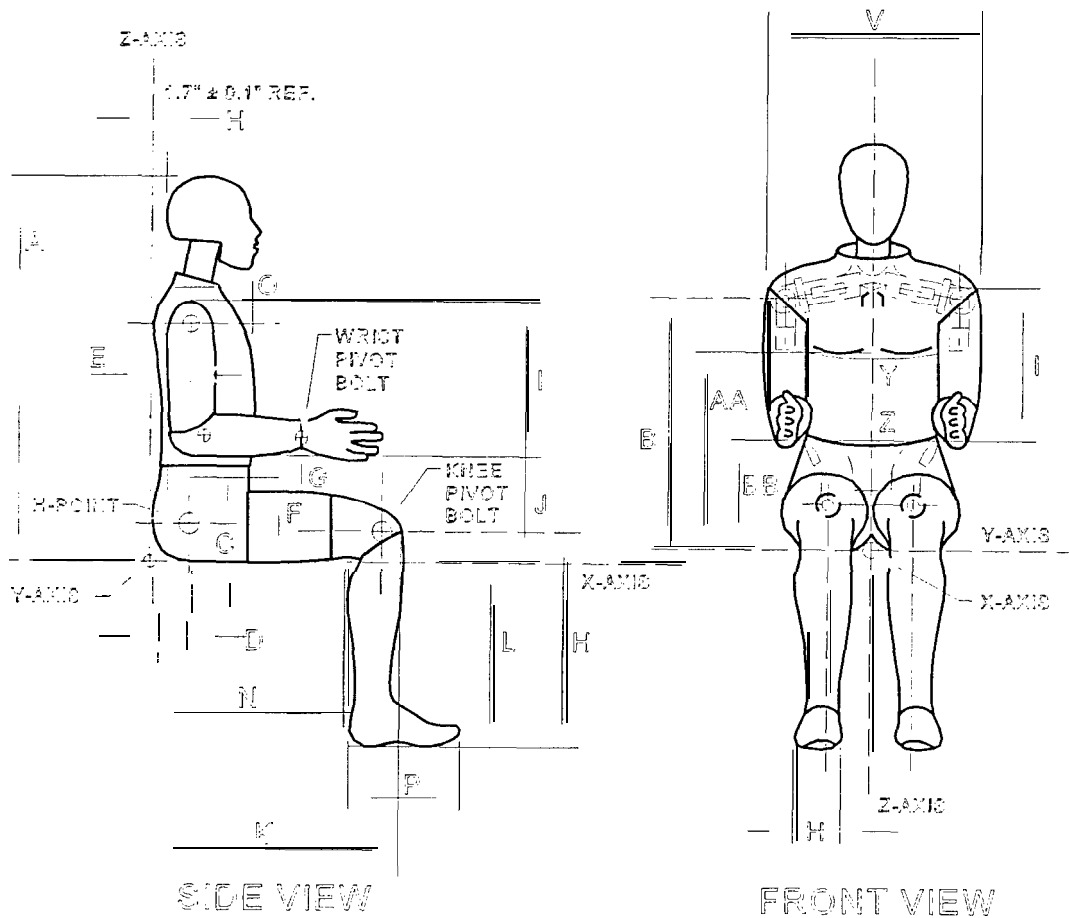
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	150	11/21/98
#2/Right Front Passenger	064	12/17/98

Electronic Test Equipment

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

DUMMY CONFIGURATION DIMENSIONS

EXTERNAL DIMENSIONS SPECIFICATIONS



NOTE: Figure is referenced to the erect seated position. The curved lumbar does not allow the Hybrid III to be positioned in a perfect erect attitude.
(REF: 6772.01(A)(6))

PART 572E
HEAD DROP TEST

Dummy Serial Number 150
Calspan Sequential Test Number 4
Date 1 1-20-98
Workfile 150498.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	35
Peak Resultant Acceleration	225-275 G's	242.7
Peak Lateral Acceleration	15 G's Max	14.9
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number 150
Calspan Sequential Test Number 4
Date 11/20/98
Workfile 150498.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	35
Impact Velocity		22.60 - 23.40 Ft/s	23.10
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.64
	20 ms	17.60 - 22.60 G's	20.82
	30 ms	12.50 - 18.50 G's	15.27
Max Pendulum G's Above 30 ms		29 G's Max	15.27
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.75
D Plane Rotation	Max	64 - 78 Deg	74.72
	Time	57 - 64 ms	59.12
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	69.18
	Time	47 - 58 ms	53.75
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	122.88
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	102.62

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 150
 Calspan Sequential Test Number 4
 Date 11/20/98
 Workfile 150498.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	35
Impact Velocity		19.50 - 20.30 Ft/s	19.90
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.37
	20 ms	14.00 - 19.00 G's	16.66
	30 ms	11.00 - 16.00 G's	13.22
Max Pendulum G's Above 30 ms		22 G's Max	13.22
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	43.38
D Plane Rotation	Max	81 - 106 Deg	99.78
	Time	72 - 82 ms	76.63
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-56.90
	Time	65 - 79 ms	71.25
Rotation Angle - Time Curve Decay Tune to Zero		147 - 174 ms	157.75
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	146.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 150
Calspan Sequential Test Number 4
Date 11/21/98
Workfile 150498.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	32
Pendulum Velocity	21.6 - 22.4 Ft/s	22.29
Maximum Deflection	2.50 - 2.86 in	2.56
Maximum Resistive Force	1160 - 1325 Lbs	1174.71
Internal Hysteresis	69 - 85 %	70.9

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 150
Calspan Sequential Test Number 4
Date 11/21/98
Workfile 150498

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1265.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1278.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Calspan Sequential Test Number 4
Date 11/21/98

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	34.0
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	5.7
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.5
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.1
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 064
Calspan Sequential Test Number 4
Date 12/11/98
Workfile 064498. hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	20
Peak Resultant Acceleration	225-275 G's	244.6
Peak Lateral Acceleration	15 G's Max	2.7
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number 064
 Calspan Sequential Test Number 4
 Date 12/17/98
 Workfile 064498.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	23
Impact Velocity		22.60 - 23.40 Ft/s	22.90
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.54
	20 ms	17.60 - 22.60 G's	21.45
	30 ms	12.50 - 18.50 G's	16.30
Max Pendulum G's Above 30 ms		29 G's Max	16.30
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.25
D Plane Rotation	Max	64 - 78 Deg	71.12
	Time	57 - 64 ms	62.75
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	72.77
	Time	47 - 58 ms	51.63
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	121.88
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.88

Remarks :

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 064
Calspan Sequential Test Number 4
Date 12/17/98
Workfile 064498.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	23
Impact Velocity		19.50 - 20.30 Ft/s	19.50
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.44
	20 ms	14.00 - 19.00 G's	16.86
	30 ms	11.00 - 16.00 G's	13.85
Max Pendulum G's Above 30 ms		22 G's Max	13.85
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	40.63
D Plane Rotation	Max	81 - 106 Deg	96.63
	Time	72 - 82 ms	72.88
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-56.78
	Time	65 - 79 ms	69.13
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	148.88
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	136.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 064
Calspan Sequential Test Number 4
Date 12/17/98
Workfile 064498. th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	24
Pendulum Velocity	21.6 - 22.4 Ft/s	21.70
Maximum Deflection	2.50 - 2.86 in	2.52
Maximum Resistive Force	1160 - 1325 Lbs	1260.78
Internal Hysteresis	69 - 85 %	76.76

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 064
Calspan Sequential Test Number 4
Date 11/21/98
Workfile 064498

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1181.00
RIGHT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	32
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1185.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 064
Calspan Sequential Test Number 4
Date 12/17/98

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			24
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	38.9
Waist Circumference	Z	32.9 - 34.1 in	33.4
Chest Depth	O	8.4 - 9.0 in	8.6
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.3
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.4
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.3
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

Appendix D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR 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	D63	ICS	8/98	2/99
Top of Engine	D57	ICS	8/98	2/99
Bottom of Engine	D85	ICS	12/98	6/99
Left Disc Brake Caliper	D80	CEC	7/98	1/99
Right Disc Brake Caliper	D25	CEC	7/98	1/99
Instrument Panel	Z08	CEC	11/98	5/99
Left Seat Rear Crossmember (R)	Y93	ICS	12/98	6/99
Right Seat Rear Crossmember (R)	Y18	ICS	7/98	1/99

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

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

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	A13924	ENDEVCO	12/98	6/99
	Y (R)	A13827	ENDEVCO	11/98	5/99
	Z (R)	A13921	ENDEVCO	11/98	5/99
Chest	X (R)	A14077	ENDEVCO	11/98	5/99
	Y (R)	A13882	ENDEVCO	11/98	5/99
	Z (R)	ACCWO	ENDEVCO	11/98	5/99
Pelvic	X	AF480	ENDEVCO	12/98	6/99
	Y	AC2M6	ENDEVCO	12/98	6/99
	Z	AF5C1	ENDEVCO	12/98	6/99
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	138	DENTON	9/98	3/99
Right Upper Tibia	My	038	DENTON	9/98	3/99
Right Lower Tibia	Fz	0124	DENTON	8/98	2/99
Right Lower Tibia	Mx	0124	DENTON	8/98	2/99
Right Lower Tibia	My	0124	DENTON	8/98	2/99

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (<i>SIN</i> 150)		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	AF5P8	ENDEVCO	10/98	4/99
	Y	C 14948	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		551	GSE	9/98	3/99
Left Femur Load Cell		548	GSE	9/98	3/99
Neck Load Cell	X	076	DENTON	8/98	4/99
	Y	076	DENTON	8/98	4/99
	Z	076	DENTON	8/98	4/99
Neck Moment	X	076	DENTON	8/98	4/99
	Y	076	DENTON	8/98	4/99
	Z	076	DENTON	8/98	4/99
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		M10	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	12/98	6/99
	Y (R)	A14181	ENDEVCO	10/98	4/99
	Z (R)	A14124	ENDEVCO	10/98	4/99
Pelvic	X	CI5018	ENDEVCO	9/98	3/99
	Y	CI4883	ENDEVCO	9/98	3/99
	Z	C 14972	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	A14150	ENDEVCO	12/98	6/99
Left Foot Rear	X	A14383	ENDEVCO	12/98	6/99
Left Foot Rear	Z	A14434	ENDEVCO	12/98	6/99
Right Foot Front	Z	A14321	ENDEVCO	12/98	6/99
Right Foot Rear	X	A14381	ENDEVCO	12/98	6/99
Right Foot Rear	Z	A14485	ENDEVCO	12/98	6/99

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY <i>(SIN 064)</i>		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	AD4A9	ENDEVCO	11/98	5/99
	Y	AE8T7	ENDEVCO	11/98	5/99
	Z	AF5R1	ENDEVCO	11/98	5/99
Chest	X	A08A	ENDEVCO	11/98	5/99
	Y	ADL42	ENDEVCO	11/98	5/99
	Z	A28F	ENDEVCO	11/98	5/99
Right Femur Load Cell		F659	GSE	10/98	4/99
Left Femur Load Cell		F658	GSE	10/98	4/99
Neck Load Cell	X	440	DENTON	9/98	3/99
	Y	440	DENTON	9/98	3/99
	Z	440	DENTON	9/98	3/99
Neck Moment	X	440	DENTON	9/98	3/99
	Y	440	DENTON	9/98	3/99
	Z	440	DENTON	9/98	3/99
Chest Deflection Gauge		064	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		M6	MAGNETEK	10/98	4/99
Belt Stretch Transducer		E6	CALSPAN	10/98	4/99