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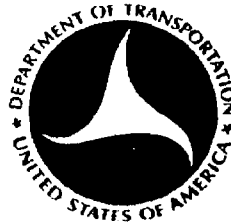
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**CHRYSLER CORPORATION
1999 DODGE RAM 1500 QUAD CAB
TRUCK**

NHTSA NUMBER: MX0306

CALSPAN TEST NUMBER: 8413-28

**CALSPAN CORPORATION
TRANSPORTATION SCIENCE CENTER
P.O. BOX 400
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December 22, 1998

FINAL REPORT

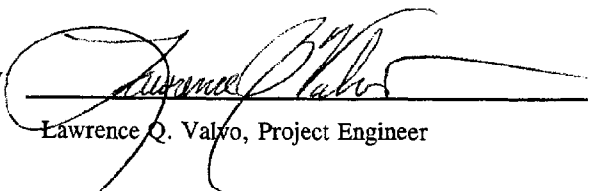
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**U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
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3023

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NHTSA, Office of Crashworthiness Standards

Date of Report Acceptance

COTR, New Car Assessment Program (NCAP)
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16. <i>Abstract</i> A frontal load cell barrier test of a 1999 Dodge Ram 1500 Quad Cab Truck was performed at Calspan Corporation crash test facility in Buffalo, New York, on December 22, 1998. The impact velocity was 56.2 kph and the temperature at the barrier face was 21.1°C. The maximum post-test vehicle crush was 704 mm. The test vehicle was equipped with Next Generation dual frontal airbags. With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appear to comply with head, chest and femur requirements.					
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Section 1

PURPOSE AND SUMMARY OF TEST MX0306

PURPOSE

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

The 56.2 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 1999 Dodge Ram 1500 Quad Cab Truck at a velocity of 56.2 kph. The test was performed at the Calspan Corporation on December 22, 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 16 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

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

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

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

The driver's HIC was 775.1. The maximum chest deceleration over 3 milliseconds was 53.2 g's and maximum chest deflection was 43.7 mm. Femur loads were 4783.1 Newtons on the left and 3661.3 Newtons on the right.

The right front passenger's HIC was 586.2. The maximum chest deceleration over 3 milliseconds was 47.3 g's. Femur loads were 3635.1 Newtons on the left and 4480.4 Newtons on the right. The data recorded for the chest deflection is questionable.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : MX0306 Test Mode : 56.3 kph Frontal Barrier

Test Date : December 22, 1998 Time: 14:15 Temperature : 21.1 °C

Vehicle Make/Model/Body Style : 1999 Dodge Ram 1500 Quad Cab Truck

Vehicle Test Weight : 2495.0 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.2 kph

Maximum Static Crush : 704 mm

Vehicle Rebound : 562 mm

DUMMIES:

DRIVER

PASSENGER

Type :

572E

572E

Restraint System :

Airbag/3-point belt system

Airbag/3-point belt system

Number of Data Channels : 131

Number of Cameras : 1 Real Time

16 High Speed

DOOR OPENING DATA :

Closed / Operable

- Left Front

Closed /Operable

- Right Front

Front Seat(s) Data :

DRIVER

PASSENGER

Seat Track Failure :(mm of shift)

0

0

Seat Back Failure :

None

None

VISIBLE DUMMY CONTACT POINTS :

DRIVER

PASSENGER

Head :

Face to upper center of
airbag

Face to upper center of airbag

Abdomen :

None

None

Chest:

Airbag

Airbag

Knees:

Left knee to bolster left of
steering column, right knee
to bolster right of steering
column

Left knee to left third of glove
compartment door, right knee
to right third of glove
compartment door

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1999 Dodge Ram 1500 Quad Cab Truck
NHTSA No. : MX0306 ; VIN: 3B7HC13Y0XG110621 ; Color : Green
Engine Data: 8 cylinders; - CID; 5.2 Liters; - cc
Placement : X Longitudinal or In-Line; - Transverse or Lateral
Transmission Data : 4 speeds; - Manual; X 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 : 12/8/98 ; Odometer Reading 163 km
Selling Dealer : Doan Dodge
& Address: 4477 Ridge Road West, Rochester NY 14626-3593

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Chrysler Corporation
Date of Manufacture 08/98
GVWR : 2903.0 kg; GAWR: 1656.0 kg FRONT; 1727.0 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 300 kpa FRONT
300 kpa REAR
Recommended Tire Size : P225/75R16
* Recommended Cold Tire Pressure : 240 kpa FRONT; 240 kpa REAR
Size of Tires on Test Vehicle: 245/75R16 ; Manufacturer: Goodyear
Vehicle Capacity Data :
Type of Front Seats: - Bench; X Bucket; - Split Bench
Number of Occupants: 3 Front; 3 Rear; 6 Total
Vehicle Capacity Weight (VCW) = 688 kg
No. of Occupants x 68 kg = 408 kg
** Rated Cargo/Luggage Weight (RCLW) = 280 kg

*Tire pressure used for test, as indicated in the Owner's Manual package.

** Maximum RCLW of 136.1 kg used for target weight calculation.

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>626.0</u>	kg	Right Rear	=	<u>461.0</u>	kg
Left Front	=	<u>652.0</u>	kg	Left Rear	=	<u>476.0</u>	kg
TOTAL FRONT	=	<u>1,278.0</u>	kg	TOTAL REAR	=	<u>937.0</u>	kg
TOTAL DELIVERED WEIGHT = <u>2,215.0</u> kg							
% of Total Front of Vehicle Weight = <u>57.7</u> %				% of Total Rear Weight = <u>42.3</u> %			

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	<u>2,215.0</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>136.1</u>	kg
Weight of 2 p.572 Dummies @ 76 each	=	<u>152</u>	kg
TARGET TEST WEIGHT	=	<u>2,503.1</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 128 KG OF CARGO WEIGHT:

Right Front	=	<u>653.0</u>	kg	Right Rear	=	<u>577.0</u>	kg
Left Front	=	<u>694.5</u>	kg	Left Rear	=	<u>570.5</u>	kg
TOTAL FRONT	=	<u>1,347.5</u>	kg	TOTAL REAR	=	<u>1,147.5</u>	kg
TOTAL TEST WEIGHT = <u>2,495.0</u> kg							
% of Total Front Weight = <u>54.0</u> %				% of Total Rear Weight = <u>46.0</u> %			
Weight of Ballast Secured in Vehicle Trunk Area = <u>15.5</u> kg							
Vehicle Components Removed for Weight Reduction: <u>None</u>							

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	<u>885</u>	LF	<u>871</u>	RR	<u>972</u>	LR	<u>959</u>
FULLY LOADED :	RF	<u>872</u>	LF	<u>859</u>	RR	<u>945</u>	LR	<u>932</u>
AS TESTED :	RF	<u>879</u>	LF	<u>868</u>	RR	<u>945</u>	LR	<u>936</u>
Vehicle's Wheel Base : <u>3530</u> mm								
Location of Vehicle's C.G. : <u>1,624</u> mm rearward of front wheel center.								

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	<u>98.4</u>	liters
Usable Capacity Figure Furnished by COTR	=	<u>98.4</u>	liters
Test Volume Range (92 to 94% of Usable Capacity)	=	<u>90.5</u>	to <u>92.5</u> liters
ACTUAL TEST VOLUME	=	<u>91.6</u>	liters (with entire fuel system filled)
Test Fluid Type:	<u>Stoddard Solution</u> ;	Spec. Grav. =	<u>0.764</u>
Kinematic Viscosity	=	<u>0.96</u>	centistokes; Color = <u>Orange</u>
Type of Fuel Pump:	Electric- <u>X</u> ;	Mechanical-	<u>-</u>
Does Electric Pump operate with ignition switch "ON" & engine "OFF"	Yes- <u>X</u>	No-	<u>-</u>
Details of Fuel System <u>Fuel lines - inboard of left frame rail; Fuel tank - forward of rear axle and inboard of left frame rail; Fuel filler - on left side of box forward of rear axle.</u>			

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°
Test Date : December 22, 1998 Time: 14:15 Temperature: 21.1 °C
Vehicle NHTSA No. : MX0306
Required Impact Velocity Range : 55.5 to 57.1 kph

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

Trap No. 1 = 56.2 kph; Trap No. 2 = 56.2 kph
Distance from vehicle to barrier : (1) entering trap = 813 mm
(2) exiting trap = 305 mm

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

Vehicle Length:

Pre-Test	Right =	<u>5658</u>	; C/L =	<u>5706</u>	; Left =	<u>5656</u>
Post-Test	Right =	<u>5024</u>	; C/L =	<u>5002</u>	; Left =	<u>5044</u>
Crush	Right =	<u>634</u>	; C/L =	<u>704</u>	; Left =	<u>612</u>
AVERAGE	=	<u>650</u>	mm			

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

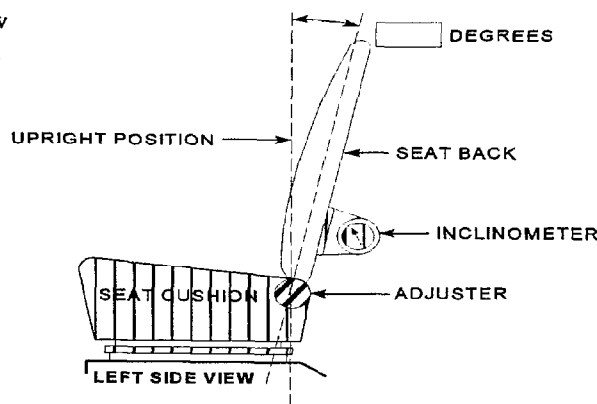
	Right =	<u>550</u>	; C/L =	<u>585</u>	; Left =	<u>550</u>
AVERAGE	=	<u>562</u>	mm			

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1999 Vehicle Model: Dodge Ram 1500 Quad Cab Body Style : Truck

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 : 19°

Measurement instructions : Without a dummy placed in the seat, adjust the seat back so that 19° from the vertical is measured on the seat frame at the location shown in the above diagram.

Seat back angle for passenger's seat : 19°

Measurement instructions : Without a dummy placed in the seat, adjust the seat back so that 19° from the vertical is measured on the seat frame at the location shown in the above diagram.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Place in mid-position, locking pin is in the forward half of the 5th window from the front.

Positioning of the passenger's seat (if applicable) : Place in mid-position, locking pin is in the forward half of the 5th window from the front.

3. Fuel Tank Capacity Data

3.1

A. "Usable Capacity" of the standard equipment fuel tank is 98.4 liters

B. "Usable Capacity" of the optional equipment fuel tank is 128.7 or 132.5 liters

C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 98.4 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 91.6 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.

Pump operates when the vehicle's electrical system is activated.

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

4. STEERING COLUMN ADJUSTMENTS :

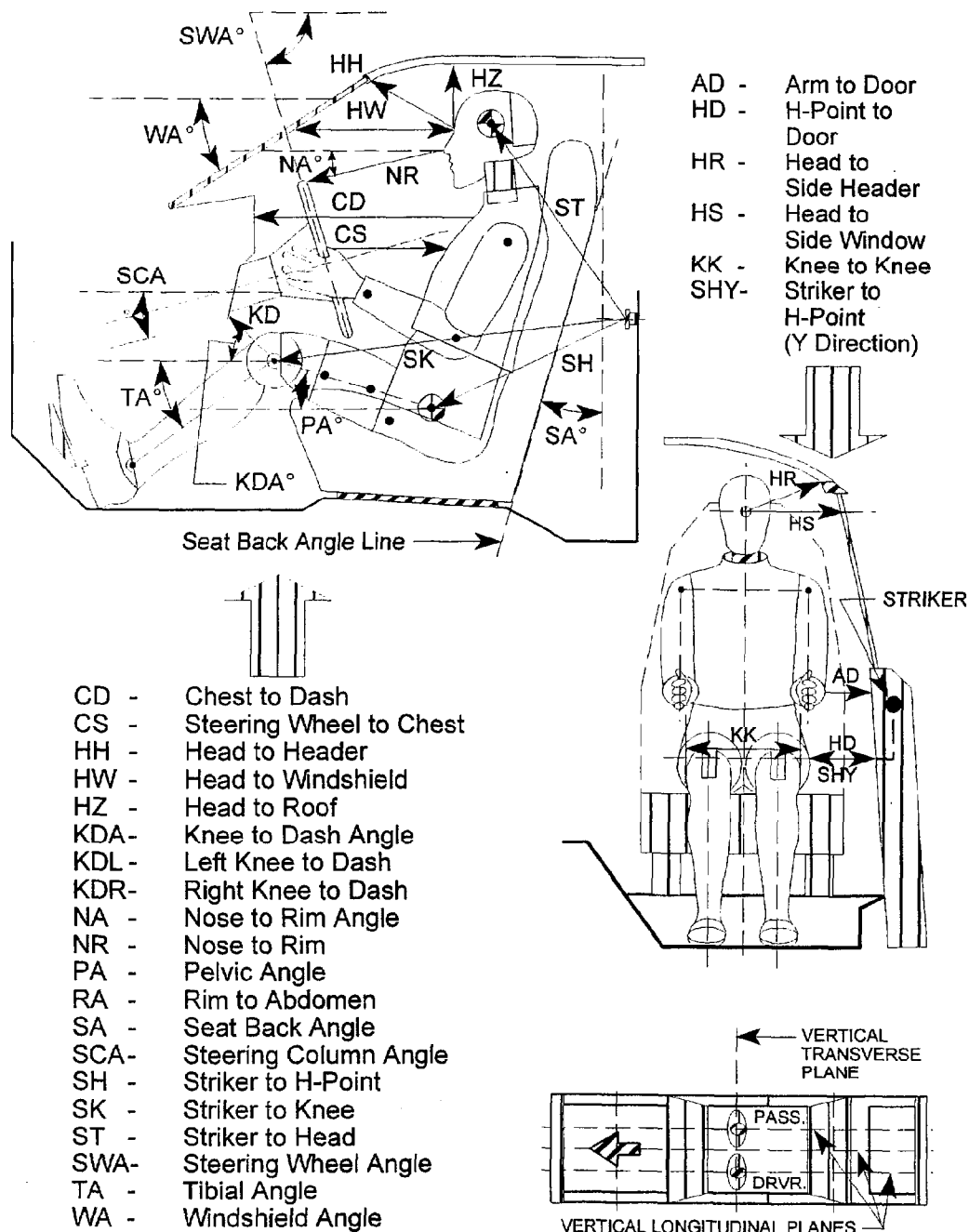
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: Positioned so that the steering wheel face is 25° from vertical.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: N/A - retractor was integrated into the seat back.

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



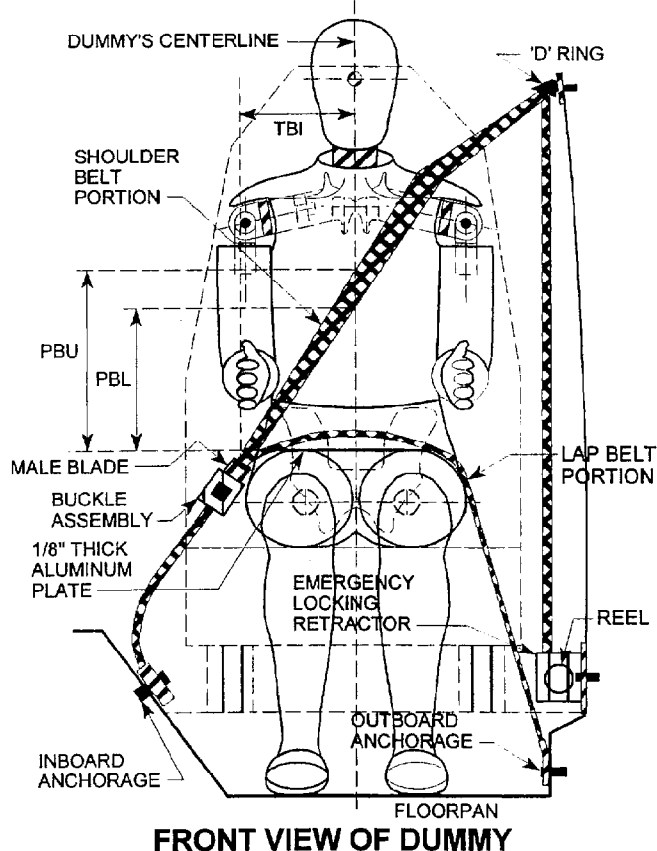
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE

	DRIVER (Serial #061)			PASS. (Serial # 064)		
WA ^o	36.5 deg.			N/A		
SWA ^o	26 deg.			N/A		
SCA ^o	64 deg.			N/A		
SA ^o	19 deg.			19 deg.		
HZ	212			197		
HH	415			390		
HW	580			538		
HR	232			227		
NR	389	Angle	15 deg.	N/A		
CD	515			502		
CS	269			N/A		
RA	162			N/A		
KDL	165	Angle (KDA)	28 deg.	114		
KDR	164			116	Angle (KDA)	29 deg.
PA ^o	22 deg.			22 deg.		
TA ^o	53 deg.			59 deg.		
KK	305			272		
ST	700	Angle	20 deg.	728	Angle	21 deg.
SK	773	Angle	84 deg.	805	Angle	82 deg.
SH	366	Angle	0 deg.	407	Angle	89 deg.
SHY	245			226		
HS	255			245		
HD	194			158		
AD	103			96		

Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

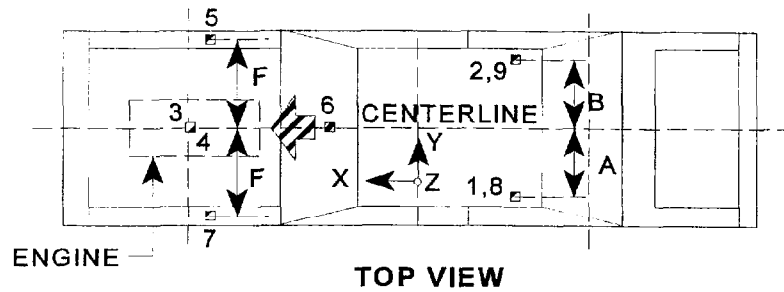
SEAT BELT POSITIONING DATA



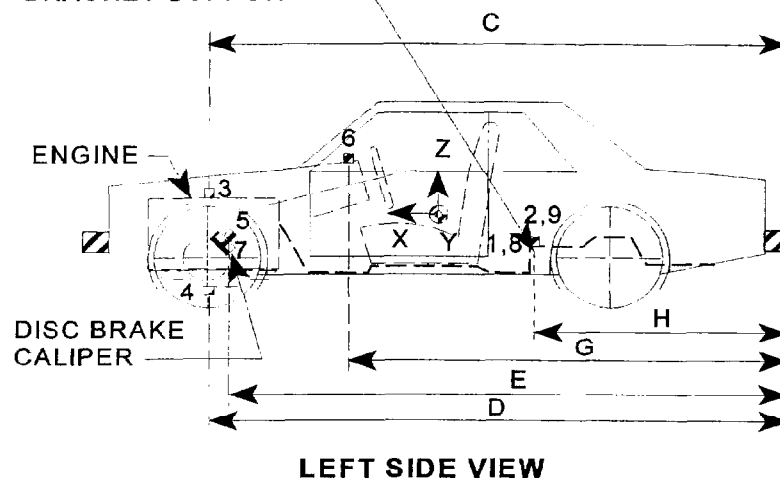
FRONT VIEW OF DUMMY

	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	324	323
PBL-- Top surface of alum. plate to belt lower edge	245	244
<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	-697
B Right Rear Seat Crossmember Y	696
C Top of Engine X	4967
D Bottom of Engine X	4570
E Disc Brake Calipers X	4589
F Disc Brake Calipers Y	±553
G Instrument Panel X	3866
H Rear Seat Crossmembers X	2940

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	4.3	90.1	-33.7	65.6
2	Rear Seat X-Member @ Right Side	5.1	153.8	-44.9	66.0
3	Top of Engine Block	18.2	61.3	-92.5	43.3
4	Bottom of Engine	†	†	†	†
5	Disc Brake Caliper @ Right Side	28.8	71.8	-101.8	47.0
6	Instrument Panel	29.6	53.9	-76.9	70.7
7	Disc Brake Caliper @Left Side	29.3	60.9	-115.9	50.6
8	Rear Seat X-Member @ Left-Redundant	4.8	90.1	-34.0	65.5
9	Rear Seat X-Member @ Right-Redundant	3.9	154.3	-33.5	66.2

† Transducer cable was damaged approximately 30 milliseconds into the event.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

NHTSA Test No.: MX0306 Vehicle: 1999 Dodge Ram 1500 Quad Cab Truck

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
Pos. 1 Head X	g's	18.4	205.0	-57.1	78.2
Pos. 1 Head Y	g's	3.6	174.1	-37.7	96.1
Pos. 1 Head Z	g's	23.6	61.9	-9.1	156.6
Pos. 1 Head Resultant	g's	64.3	89.5	0.0	-52.4
Pos. 2 Head X	g's	22.5	242.8	-55.9	87.4
Pos. 2 Head Y	g's	3.5	235.5	-20.6	96.4
Pos. 2 Head Z	g's	27.6	87.6	-8.1	151.7
Pos. 2 Head Resultant	g's	63.7	87.5	0.0	13.9
Pos. 1 Chest X	g's	11.4	167.5	-53.7	91.7
Pos. 1 Chest Y	g's	3.7	70.3	-6.7	87.5
Pos. 1 Chest Z	g's	14.9	72.9	-7.8	151.6
Pos. 1 Chest Resultant	g's	55.3	91.6	0.0	-94.0
Pos. 1 Chest Displacement	mm	0.0	21.9	-43.7	79.9
Pos. 2 Chest X	g's	5.2	185.9	-50.8	81.7
Pos. 2 Chest Y	g's	2.2	87.7	-5.2	78.1
Pos. 2 Chest Z	g's	25.0	88.7	-13.3	152.3
Pos. 2 Chest Resultant	g's	52.7	81.7	0.0	-66.0
Pos. 2 Chest Displacement	mm	0.0†	-88.2†	-14.0†	92.6†
Pos. 1 Left Femur	N	105.5	335.4	-4783.1	57.5
Pos. 1 Right Femur	N	260.7	87.9	-3661.3	53.9
Pos. 2 Left Femur	N	127.8	269.4	-3635.1	54.1
Pos. 2 Right Femur	N	103.2	120.8	-4480.4	84.0
Pos. 1 Left Belt Load	N	5350.7	59.8	-5.1	194.7
Pos. 1 Torso Belt Load	N	5076.2	91.4	-18.5	190.2
Pos. 2 Right Belt Load	N	3354.4	64.1	-32.1	139.1
Pos. 2 Torso Belt Load	N	5640.5	90.2	-80.1	313.4

† Data is questionable.

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

NHTSA Test No.: MX0306 Vehicle: 1999 Dodge Ram 1500 Quad Cab Truck

	HEAD INJURY CRITERIA (HIC)			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	775.1	65.4	101.4	54.1
Position #2 - Passenger	586.2	72.3	108.3	48.4

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

	CLIP SUMMARY*			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	53.2	89.9	92.9	588.5
Position #2 - Passenger	47.3	80.7	83.7	488.0

* 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 Dodge Ram 1500 Quad Cab Truck
 NHTSA Test No.: MX0306 Test Date: December 22, 1998

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Upper Neck Fx	N	132.4	584.9	-330.5	92.9
Pos. 1 Upper Neck Fy	N	384.4	85.1	-299.4	127.6
Pos. 1 Upper Neck Fz	N	2644.5	73.4	-590.8	217.2
Pos. 1 Neck Force Result	N	2659.1	73.4	1.8	-57.0
Pos. 1 Upper Neck Mx	N-m	5.9	167.8	-30.5	108.7
Pos. 1 Upper Neck My	N-m	20.8	164.7	-40.7	94.3
Pos. 1 Upper Neck Mz	N-m	37.2	96.9	-16.5	158.9
Pos. 1 Neck Moment Result	N-m	58.2	91.0	0.2	6.1
Pos. 2 Upper Neck Fx	N	76.5	295.9	-924.6	67.7
Pos. 2 Upper Neck Fy	N	364.2	93.6	-211.6	127.6
Pos. 2 Upper Neck Fz	N	2480.4	87.4	-551.7	137.7
Pos. 2 Neck Force Result	N	2615.5	87.1	0.7	10.2
Pos. 2 Upper Neck Mx	N-m	9.4	232.3	-45.9	98.8
Pos. 2 Upper Neck My	N-m	40.3	175.9	-75.6	67.6
Pos. 2 Upper Neck Mz	N-m	18.6	88.2	-11.2	157.1
Pos. 2 Neck Moment Result	N-m	76.7	67.6	0.1	13.0
Pos. 1 Pelvic (X)	g's	5.4	142.8	-60.1	57.7
Pos. 1 Pelvic (Y)	g's	4.8	84.5	-9.8	54.0
Pos. 1 Pelvic (Z)	g's	4.1	210.1	-9.5	124.0
Pos. 1 Pelvic (R)	g's	60.4	54.4	0.1	-72.7
Pos. 2 Pelvic (X)	g's	7.2	164.6	-44.9	49.6
Pos. 2 Pelvic (Y)	g's	4.8	57.9	-7.1	83.7
Pos. 2 Pelvic (Z)	g's	7.0	87.3	-11.2	143.4
Pos. 2 Pelvic (R)	g's	45.0	49.6	0.0	-61.9

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

Vehicle Year/Make/Model/Body Style: 1999 Dodge Ram 1500 Quad Cab Truck
 NHTSA Test No.: MX0306 Test Date: December 22, 1998

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
P1 Lt Upper Tibia Mx	N-m	31.5	83.0	-13.3	96.3
P1 Lt Upper Tibia My	N-m	20.6	153.9	-96.7	53.6
P1 Lt Lower Tibia Fz	N	254.0	167.5	-1703.2	45.4
P1 Lt Lower Tibia Mx	N-m	32.5	77.8	-11.0	46.1
P1 Lt Lower Tibia My	N-m	40.1	63.2	-25.1	108.6
P1 Rt Upper Tibia Mx	N-m	78.0	61.3	-22.7	49.3
P1 Rt Upper Tibia My	N-m	33.7	169.4	-265.2	56.0
P1 Rt Lower Tibia Fz	N	185.7	167.3	-5334.5	55.3
P1 Rt Lower Tibia Mx	N-m	†	†	†	†
P1 Rt Lower Tibia My	N-m	61.7	57.9	-186.5	71.9
Pos. 2 Lt Upper Tibia Mx	N-m	19.4	88.3	-61.6	65.3
Pos. 2 Lt Upper Tibia My	N-m	16.1	491.4	-76.6	58.1
Pos. 2 Lt Lower Tibia Fz	N	124.6	193.2	-2198.8	61.1
Pos. 2 Lt Lower Tibia Mx	N-m	21.2	40.0	-75.2	77.4
Pos. 2 Lt Lower Tibia My	N-m	37.0	55.2	-44.1	79.0
Pos. 2 Rt Upper Tibia Mx	N-m	22.4	208.3	-24.4	62.6
Pos. 2 Rt Upper Tibia My	N-m	156.3	86.7	-94.0	48.4
Pos. 2 Rt Lower Tibia Fz	N	171.2	137.7	-2054.8	41.6
Pos. 2 Rt Lower Tibia Mx	N-m	9.3	70.9	-8.1	536.1
Pos. 2 Rt Lower Tibia My	N-m	30.8	48.2	-75.6	86.9

† Data is questionable.

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

Vehicle Year/Make/Model/Body Style: 1999 Dodge Ram 1500 Quad Cab Truck
 NHTSA Test No.: MX0306 Test Date: December 22, 1998

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Left Ankle X	g's	5.3	569.3	-66.6	44.1
Pos. 1 Left Ankle Z	g's	6.2	47.7	-19.4	115.9
Pos. 1 Left Toe Z	g's	21.0	47.9	-38.0	62.3
Pos. 1 Right Ankle X	g's	22.3	68.1	-106.9	57.6
Pos. 1 Right Ankle Z	g's	21.7	186.3	-106.9	54.6
Pos. 1 Right Toe Z	g's	58.1	60.8	-213.5	54.5
Pos. 2 Left Ankle X	g's	7.3	110.7	-85.8	64.3
Pos. 2 Left Ankle Z	g's	26.9	46.2	-55.8	57.0
Pos. 2 Left Toe Z	g's	55.4	73.8	-82.9	57.1
Pos. 2 Right Ankle X	g's	28.2	109.4	-60.9	74.8
Pos. 2 Right Ankle Z	g's	12.9	35.2	-31.4	38.9
Pos. 2 Right Toe Z	g's	719.5	115.1	-566.9	53.9

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

NHTSA Test No.: MX0306 Vehicle: 1999 Dodge Ram 1500 Quad Cab Truck

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Head X(R)	g's	18.6	206.3	-65.2	81.4
Pos. 1 Head Y(R)	g's	3.1	47.8	-35.2	94.7
Pos. 1 Head Z(R)	g's	28.3	62.4	-12.5	156.4
Pos. 1 Head Resultant(RR)	g's	70.8	84.2	0.1	-50.6
Pos. 2 Head X(R)	g's	21.5	243.2	-60.4	87.4
Pos. 2 Head Y(R)	g's	3.0	255.4	-21.7	96.4
Pos. 2 Head Z(R)	g's	29.2	87.6	-10.3	174.0
Pos. 2 Head Resultant(RR)	g's	68.4	87.5	0.0	12.8
Pos. 1 Chest X(R)	g's	11.5	167.6	-54.8	91.8
Pos. 1 Chest Y(R)	g's	†	†	†	†
Pos. 1 Chest Z(R)	g's	16.3	76.1	-8.2	131.9
Pos. 1 Chest Resultant(RR)	g's	†	†	†	†
Pos. 2 Chest X(R)	g's	5.3	186.2	-47.6	81.7
Pos. 2 Chest Y(R)	g's	2.8	97.0	-4.0	78.1
Pos. 2 Chest Z(R)	g's	25.2	88.8	-13.3	152.0
Pos. 2 Chest Resultant(RR)	g's	50.2	81.7	0.0	-67.6

† No data, transducer cable was damaged at impact.

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

NHTSA Test No.: MX0306 Vehicle: 1999 Dodge Ram 1500 Quad Cab Truck

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	955.0	65.6	100.1	59.8
Position #2 - Passenger	637.6	71.0	107.0	50.0

** 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	†	†	†	†
Position #2 - Passenger	45.5	80.7	84.0	460.8

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

† No data available, the Driver Chest Acceleration Redundant Y accelerometer data cable was damaged at impact.

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:

	<u>Driver</u>	<u>Passenger</u>
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	<u>1515</u>	<u>1492</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>805</u>	<u>780</u>
Lap belt length as measured on Part 572 Dummy.	<u>710</u>	<u>712</u>

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.	<u>†</u>	<u>†</u>
As determined mechanically.	<u>70</u>	<u>85</u>
As determined electronically.	<u>†</u>	<u>†</u>

BELT STRETCH DATA:

Measured electronically between shoulder belt load cell and the "D" ring.	<u>64 mm/M</u>	<u>56 mm/M</u>
Measured mechanically.	<u>10 mm/M</u>	<u>20 mm/M</u>

Dimensions in millimeters

† The front outboard seating positions were equipped with integrated 3-point seat belts with the retractor mounted inside the seat back. Due to the shoulder belt exit location, the belt spool-off could not be viewed closely by camera or measured electronically.

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 20 mm molding.

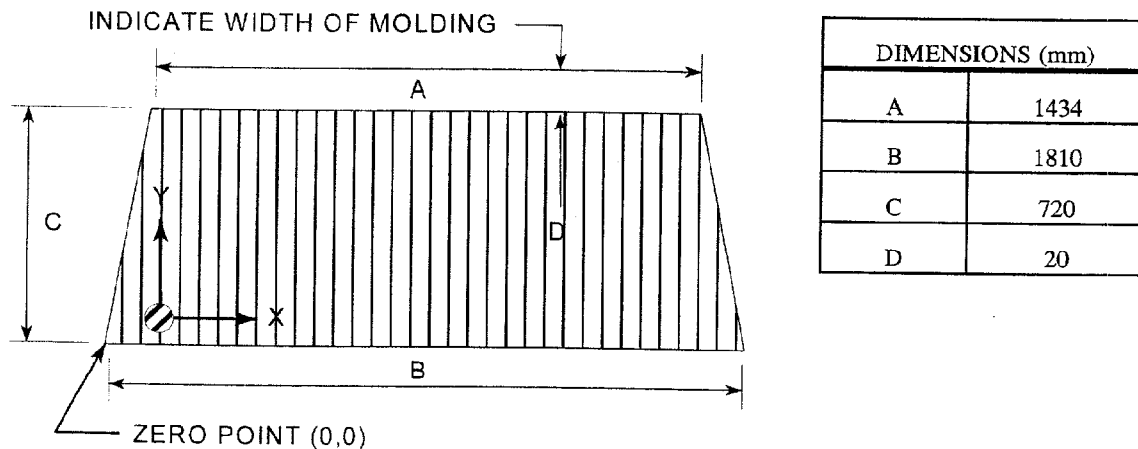
FMVSS 212 REQUIREMENTS:

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

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		% OF RETENTION
	PRE-TEST (mm)	POST-TEST(mm)	
RIGHT SIDE	2342	2342	100
LEFT SIDE	2342	2342	100
TOTAL	4,684	4,684	100

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

FAILURE DETAILS: None

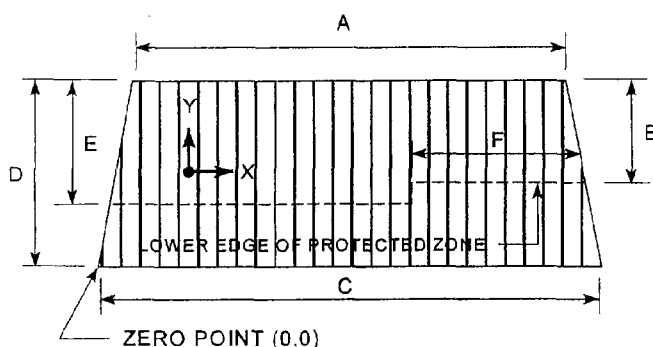
DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

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

FMVSS 219 TEST DATA:

(Dimensions in mm)



FRONT VIEW OF WINDSHIELD

DIMENSIONS	
A	1434
B	348
C	1810
D	720
E	458
F	988

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

(Show location of penetration on the above sketch)

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

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

NHTSA TEST No.: MX0306 TEST DATE: December 22, 1998

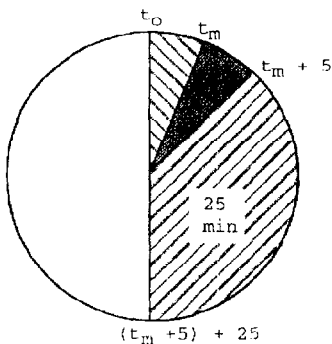
VEHICLE MAKE/MODEL: 1999 Dodge Ram 1500 Quad Cab

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

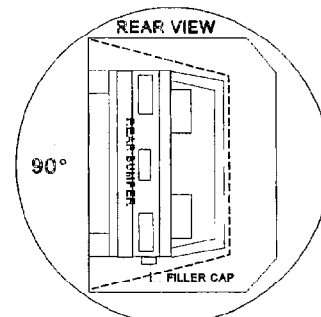
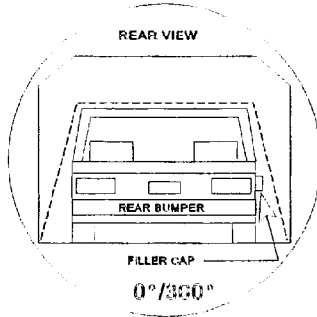
ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

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

TEST PHASE:
0-90 deg.

NHTSA Test No.:
MX0306



INDETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

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

1 minutes 8 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 8 seconds

Next whole minute interval

7 minutes 00 seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S): None

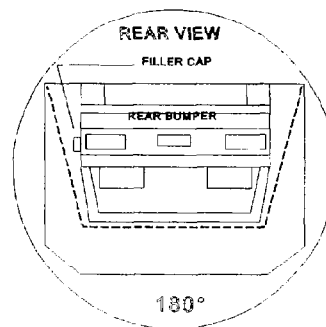
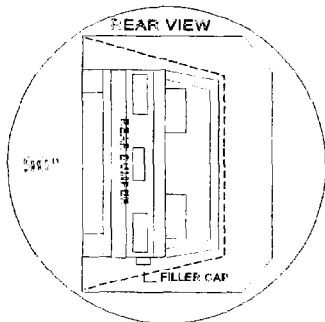
TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:

90-180 deg.

NHTSA Test No.:

MX0306



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

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

1 minutes 7 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 7 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 g	0 g	0 g	N/A
-----	-----	-----	-----

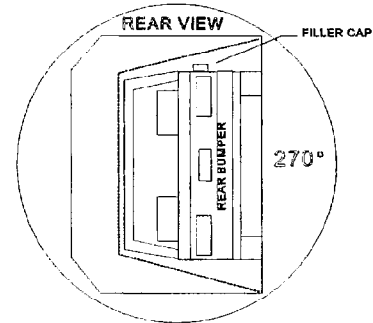
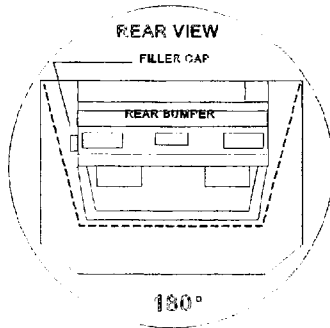
Note: Record spillage for whole minute intervals only as determined above.

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.:
MX0306



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

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

1 minutes 14 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 14 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 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S): None

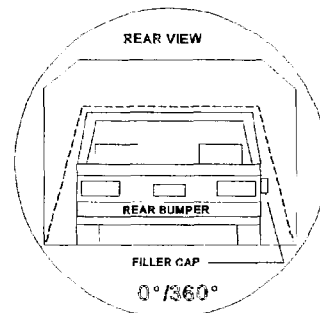
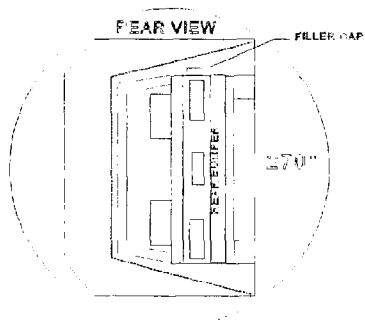
TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:

270-360 deg.

NHTSA Test No.:

MX0306



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

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

1 minutes

12 seconds

FMVSS 301 Position Hold Time +

5 minutes

00 seconds

TOTAL

6 minutes

12 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
-------	------	------	------

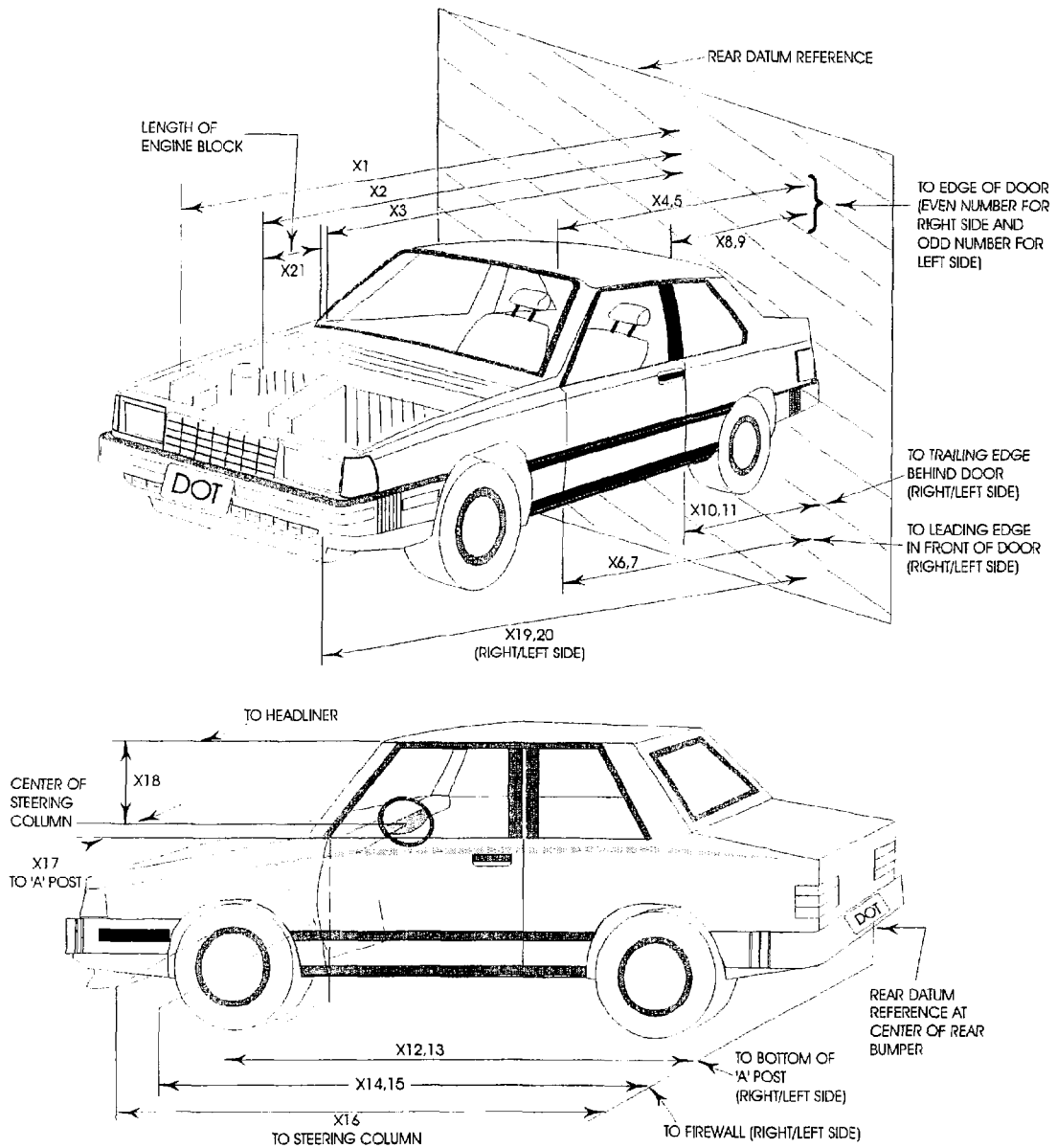
III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S): None

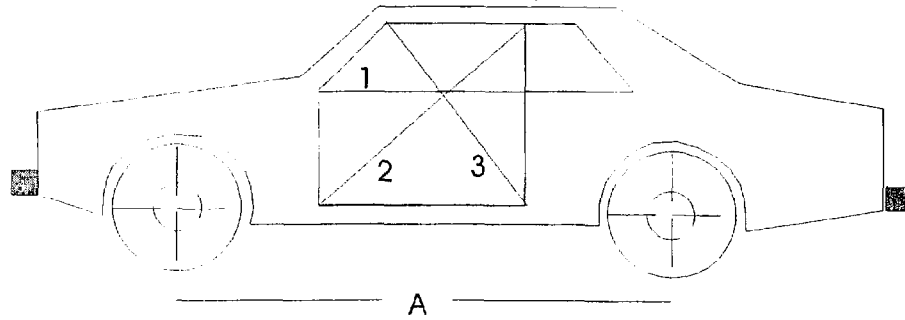
TEST VEHICLE MEASUREMENTS



DATA SHEET NO.14 VEHICLE MEASUREMENTS

No.		All Dimensions in mm			Differences
		Pre-Test	Post-Test		
X1	Total Length of Vehicle at Centerline	5706	5002	704	
X2	Rear Surface of Vehicle to Front of Engine	4971	4830	141	
X3	Rear Surface of Vehicle to Firewall	4305	4248	57	
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	4194	4186	8	
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	4204	4171	33	
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	4167	4108	59	
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	4180	4082	98	
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2890	2885	5	
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2902	2872	30	
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2928	2874	54	
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2939	2848	91	
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	4207	4161	46	
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	4216	4112	104	
X14	Rear Surface of Vehicle to Firewall, Right Side	4398	4366	32	
X15	Rear Surface of Vehicle to Firewall, Left Side	4380	4394	-14	
X16	Rear Surface of Vehicle to Steering Column	3652	3623	29	
X17	Center of Steering Column to "A" Post	294	258	36	
X18	Center of Steering Column to Headliner	463	493	-30	
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5658	5024	634	
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5656	5044	612	
X21	Length of Engine Block	511	511	0	
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3864	3867	-3	
CD	Rear Surface of Vehicle to Center of Dash Panel	3893	3892	1	
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3865	3837	28	

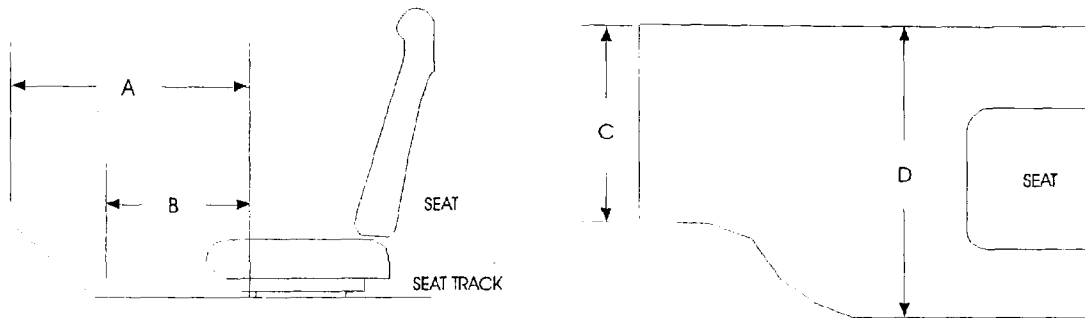
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	1717	2026	1699	1713	2028	1688
AFTER TEST	1689	2013	1706	1703	2022	1698
DIFFERENCE	28	13	-7	10	6	-10

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	3530	3530
AFTER TEST	3387	3424
DIFFERENCE	143	106

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



DRIVER

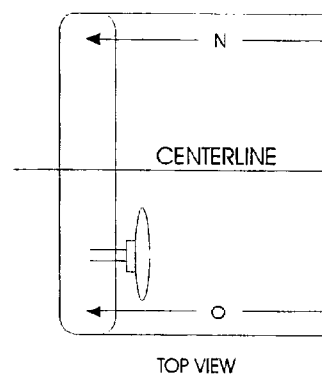
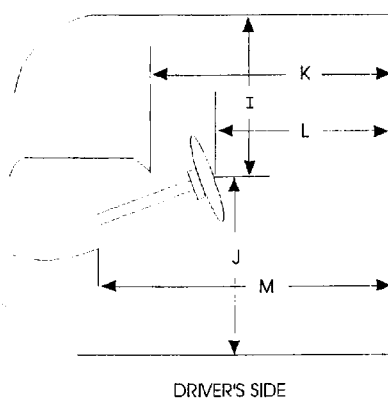
Measurement	Pre-Test	Post-Test	Difference
A	771	749	22
B	456	435	21
C	575	577	-2
D	527	515	12

PASSENGER

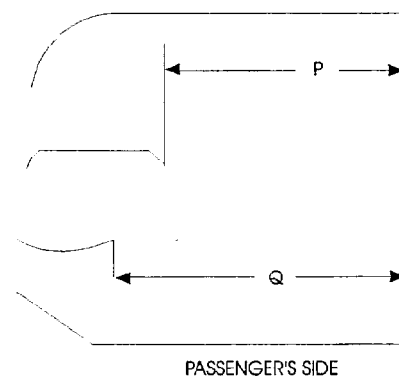
Measurement	Pre-Test	Post-Test	Difference
A	768	740	28
B	441	410	31
C	538	548	-10
D	539	564	-25

Units = mm

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



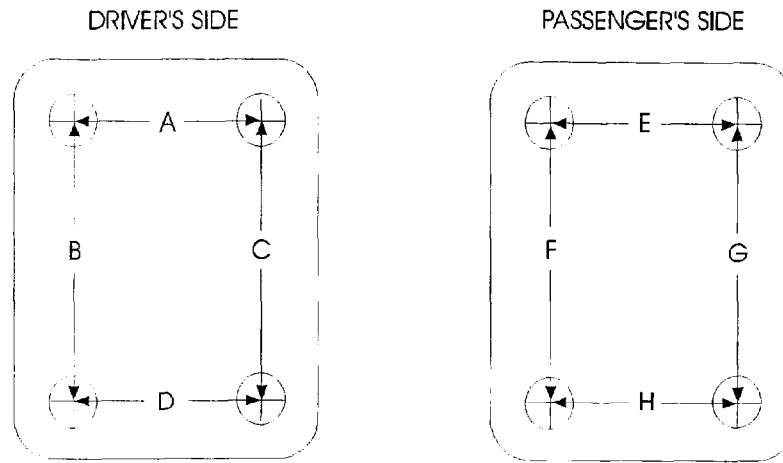
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	463	493	-30
J	723	721	2
K	1543	1546	-3
L	1325	1293	32
M	1600	1547	53
N	1536	1532	4
O	1537	1510	27
P = K (PASS.)	1542	1553	-11
Q = M (PASS.)	1614	1597	17

Units = mm

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

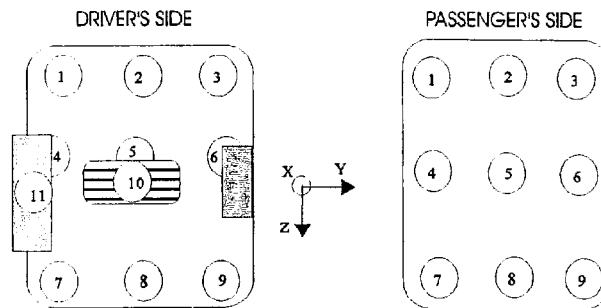


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	400	396	4
B	950	950	0
C	950	947	3
D	400	400	0
E	400	398	2
F	950	948	2
G	950	950	0
H	400	400	0

Units = mm

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



Driver Side Floorpan Measurements

Reference: X = Rear Bumper; Z = Ground

Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	4317	4195	122	-720	-573	-147
2	4349	4210	139	-713	-576	-137
3	4300	4118	182	-746	-655	-91
4	4189	4075	114	-587	-447	-140
5	4210	4055	155	-596	-513	-83
6	4214	4030	184	-595	-540	-55
7	4052	3939	113	-528	-381	-147
8	4048	3928	120	-527	-389	-138
9	4046	3940	106	-531	-412	-119
10	4113	3973	140	-703	-599	-104
11	-	-	-	-	-	-

Passenger Side Floorpan Measurements

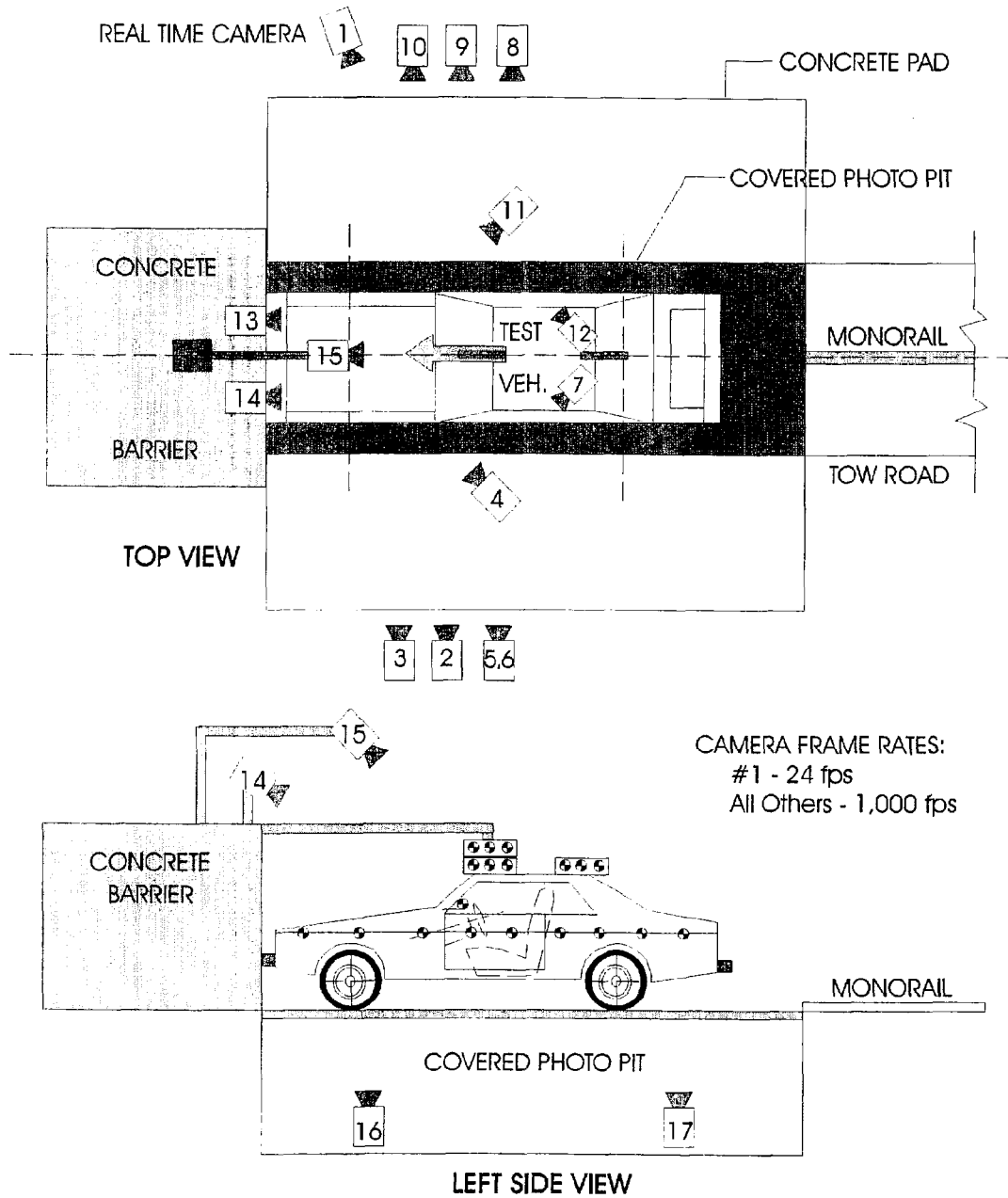
Reference: X = Rear Bumper; Z = Ground

Floorpan Location	X Deformation			Z Deformation		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	4247	4104	143	-756	-679	-77
2	4319	4202	117	-688	-610	-78
3	4297	4203	94	-716	-602	-114
4	4139	4018	121	-662	-577	-85
5	4193	4086	107	-599	-524	-75
6	4180	4103	77	-597	-479	-118
7	4014	3924	90	-558	-433	-125
8	4037	3932	105	-530	-424	-106
9	4037	3955	82	-531	-422	-109

Units in mm

CAMERA POSITIONS FOR FRONTAL IMPACTS

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



DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

NHTSA Test No.:

MX0306

Vehicle:

1999 Dodge Ram 1500 Quad Cab Truck

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE** (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	7808	1930	1042	-2	7274	12.5	1005
3	Left Side View	8501	860	1075	-2	7967	25	1010
4	Driver and Interior View	5146	3325	2024	-10	-	25	1000
5	Steering Column (Bottom)	8606	2279	1175	-2	8072	25	1000
6	Steering Column (Top)	8606	2794	1795	-7	8072	25	1005
7	Left Belt	-	-	-	-	-	8	-
8	Overall Right Side	7166	2020	1082	-5	7232	12.5	1010
9	Right Side View	8796	1376	1105	-2	8262	25	1000
10	Right Passenger View	8752	1799	1352	-3	8218	35	1010
11	Passenger and Interior View	5436	3260	2128	-10	-	25	1015
12	Right Belt	-	-	-	-	-	8	-
13	Passenger Front View	580	-25	1975	-28	-	8	1010
14	Driver Front View	580	-25	1975	-28	-	8	1010
15	Windshield View	0	-130	3558	-46	-	13	1010
16	Pit View of Engine	0	1530	-3048	90	-	13	1050
17	Pit View of Fuel Tank	0	3445	-3048	90	-	13	1050

*X = film plane to monorail centerline

** = referenced to horizontal plane

Y = film plane to impact location

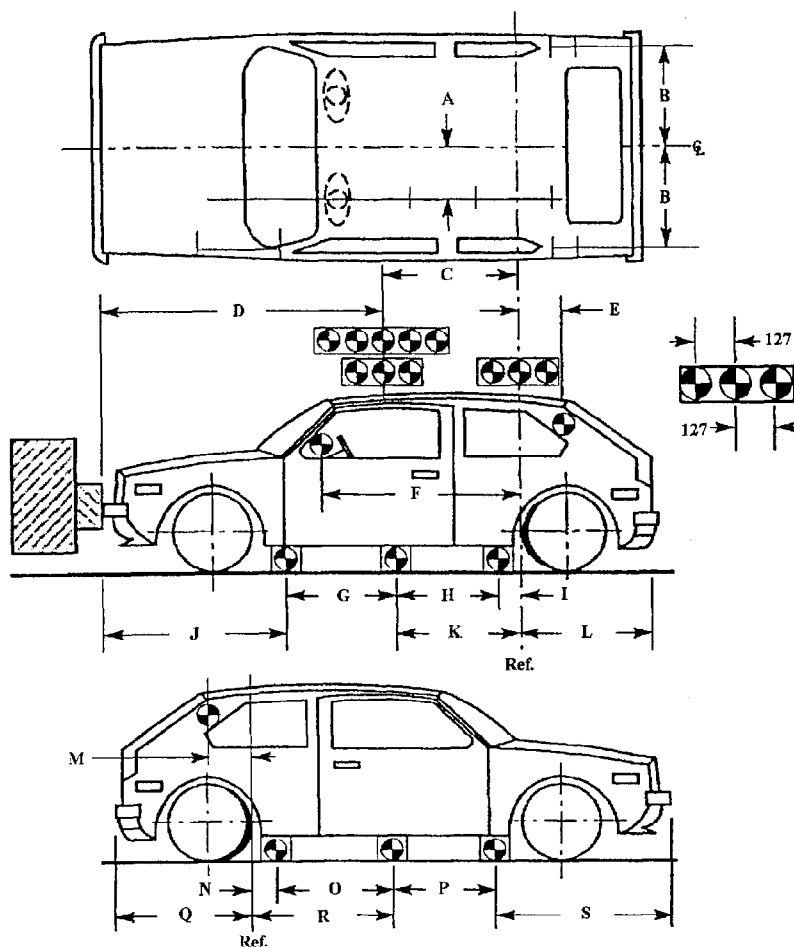
N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

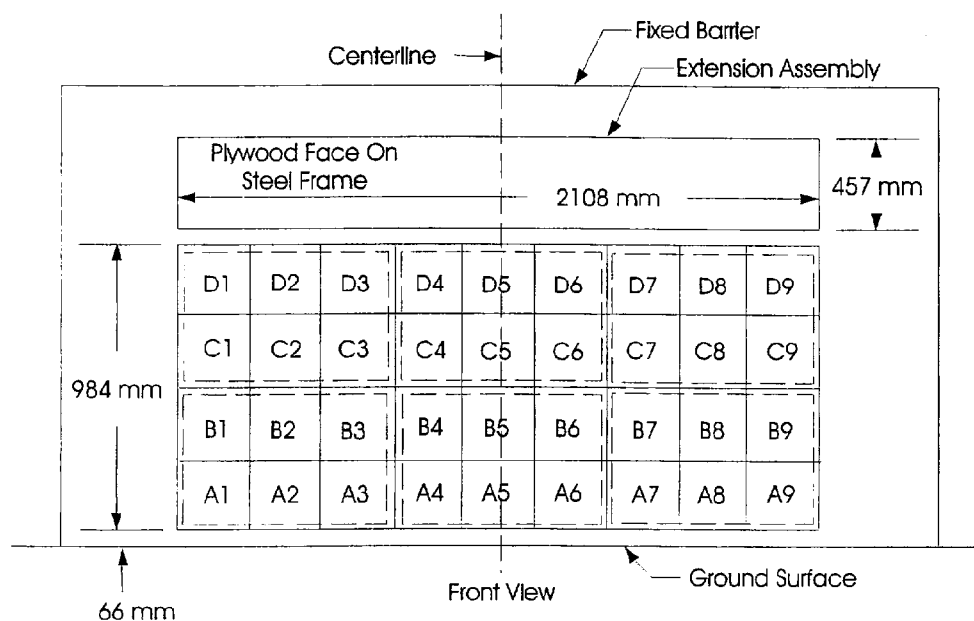
(Dimensions in millimeters)

A	458
B	805
C	911
D	2436
E	-724
F	2222
G	1185
H	1194
I	149
J	1575
K	1343
L	1603
M	-724
N	149
O	1179
P	1195
Q	1603
R	1328
S	1580



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)

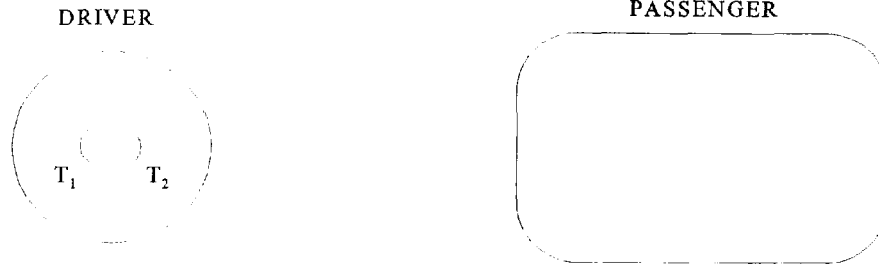
DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No. : MX0306; Test Date: December 22, 1998; Technician: LQV

Vehicle Model Year/Make/Model: 1999 Dodge Ram 1500 Quad Cab

- A. No. of vent holes: 0 -Driver 0 -Passenger
- B. Size of vent holes: (mm²) - -Driver - -Passenger
- C. Total vent area: (mm³) - -Driver - -Passenger
- D. Deflated air bag length and width dimensions or, if round, diameter. (mm)
- Driver: - -Length; - -Width; 605 -Diameter
- Passenger: 545 -Height; 900 -Width; 560 -Depth
- E. Is the air bag tethered?
- Driver: X -Yes; - -No; If yes, record length of tether- 160
- 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_n, T_n = Tether_n).



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

Driver: Air bag: P118137 - 02C

Generator: CBKJ7D3ZFVI; TAPDM2018X0583; P5GT63DX9AA

Passenger: Air bag: -

Generator: TCTPB208810487

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Dodge Ram 1500 Quad Cab Truck

NHTSA Test No.: MX0306 VIN: 3B7HC13Y0XG110621

Model Year: 1999 Build Date: 08/98 Test Date: December 22, 1998

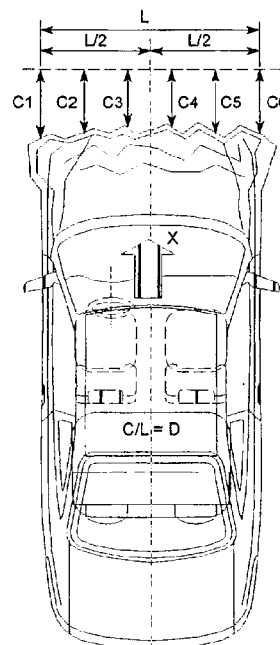
Vehicle Size Category: Pickup Truck Test Weight: 2495.0 kg

Vehicle Wheelbase: 3530 mm; Front Overhang: 1491 mm; Overall Width: 2035 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	5619	5043	-576	mm
C2 =	5682	5036	-646	mm
C3 =	5703	5003	-700	mm
C4 =	5703	5003	-700	mm
C5 =	5679	5023	-656	mm
C6 =	5618	5035	-583	mm



Midpoint of Damage: D = Vehicle Centerline
(Longitudinal)

Length of Damaged Region:

L1 = 2040 mm

L2 = 1020 mm

L3 = 680 mm

Appendix A
PHOTOGRAPHS

PHOTOGRAPHS

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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
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A-13	POST-TEST WINDSHIELD VIEW	A-16
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A-29	POST-TEST PASSENGER AND INTERIOR VIEW	A-32
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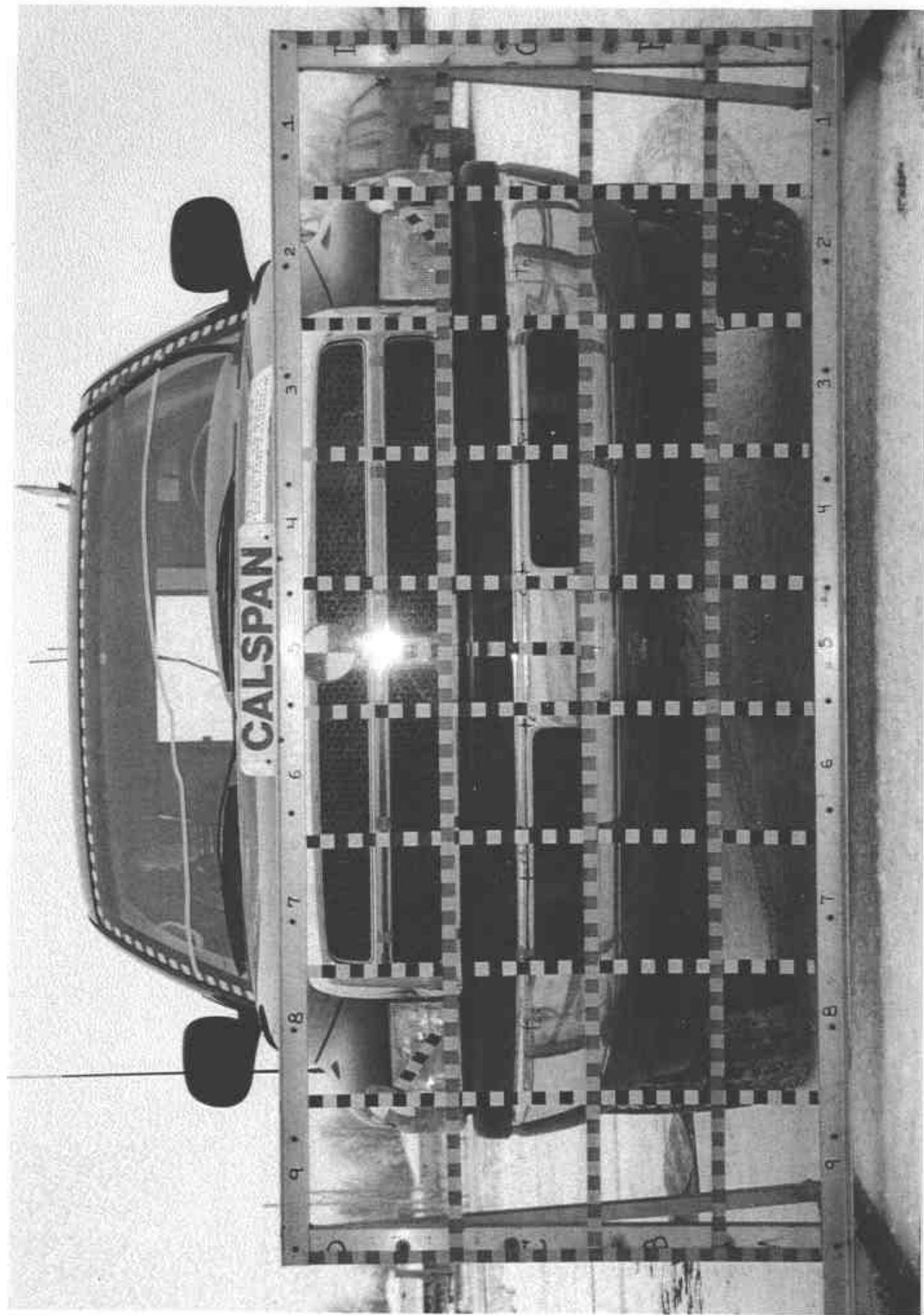


Figure A-1 LOAD CELL LOCATIONS



Figure A-2 PRE-TEST FRONT VIEW

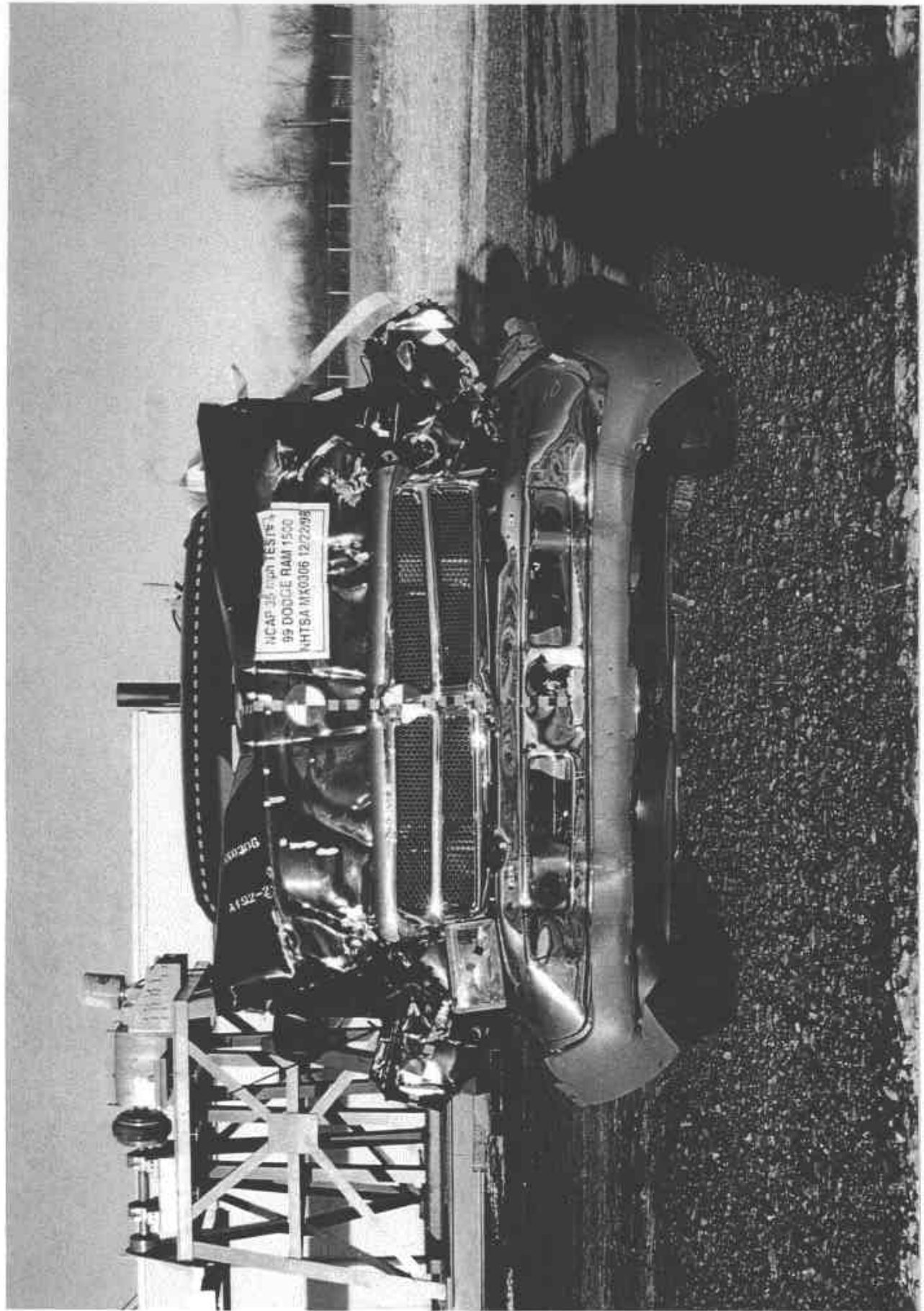


Figure A-3 POST-TEST FRONT VIEW

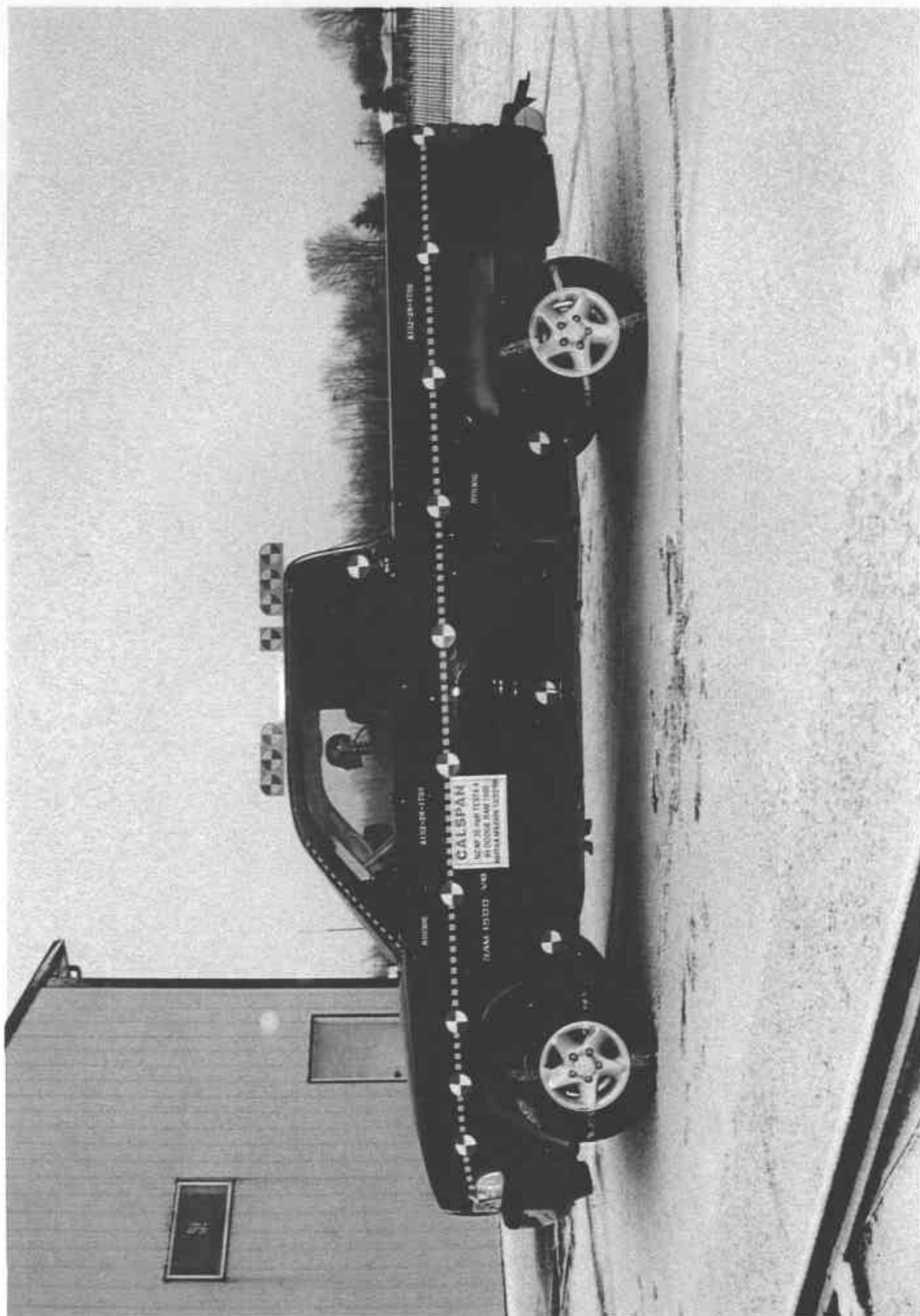


Figure A-4 PRE-TEST LEFT SIDE VIEW



Figure A-5 POST-TEST LEFT SIDE VIEW



Figure A-6 PRE-TEST RIGHT SIDE VIEW



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

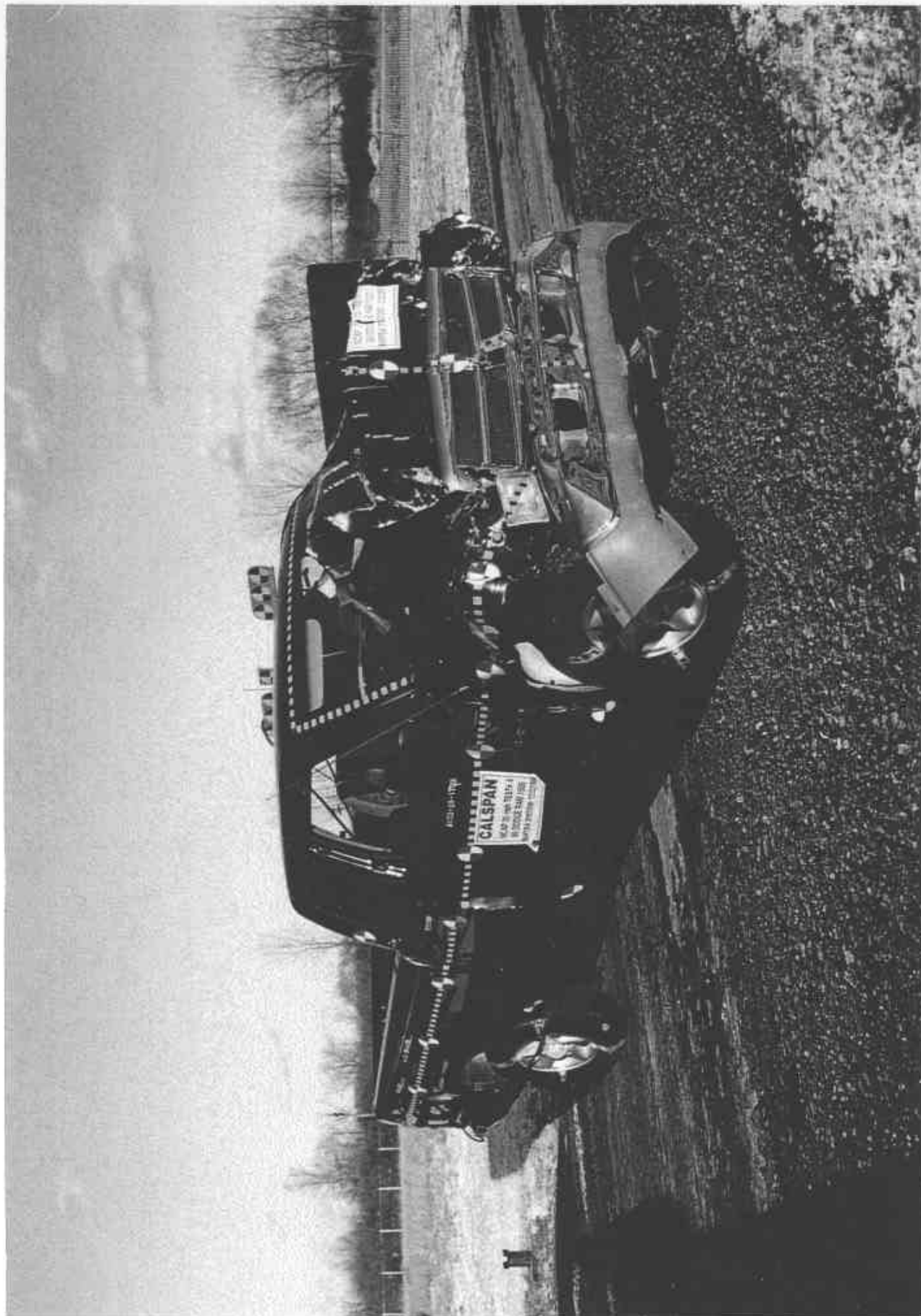


Figure A-9 POST-TEST RIGHT FRONT THREE-QUARTER VIEW



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

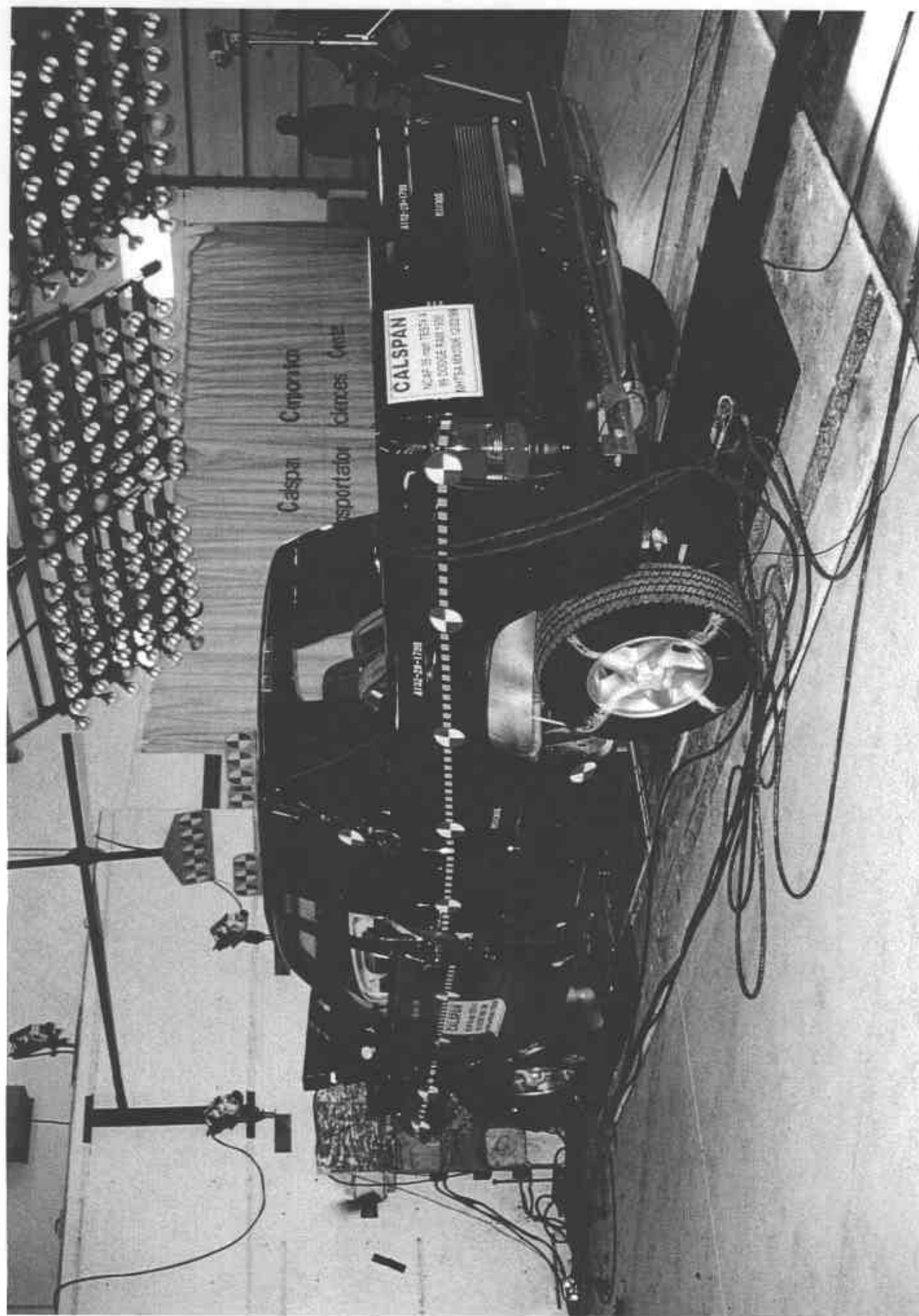


Figure A-11 POST-TEST LEFT REAR THREE-QUARTER VIEW

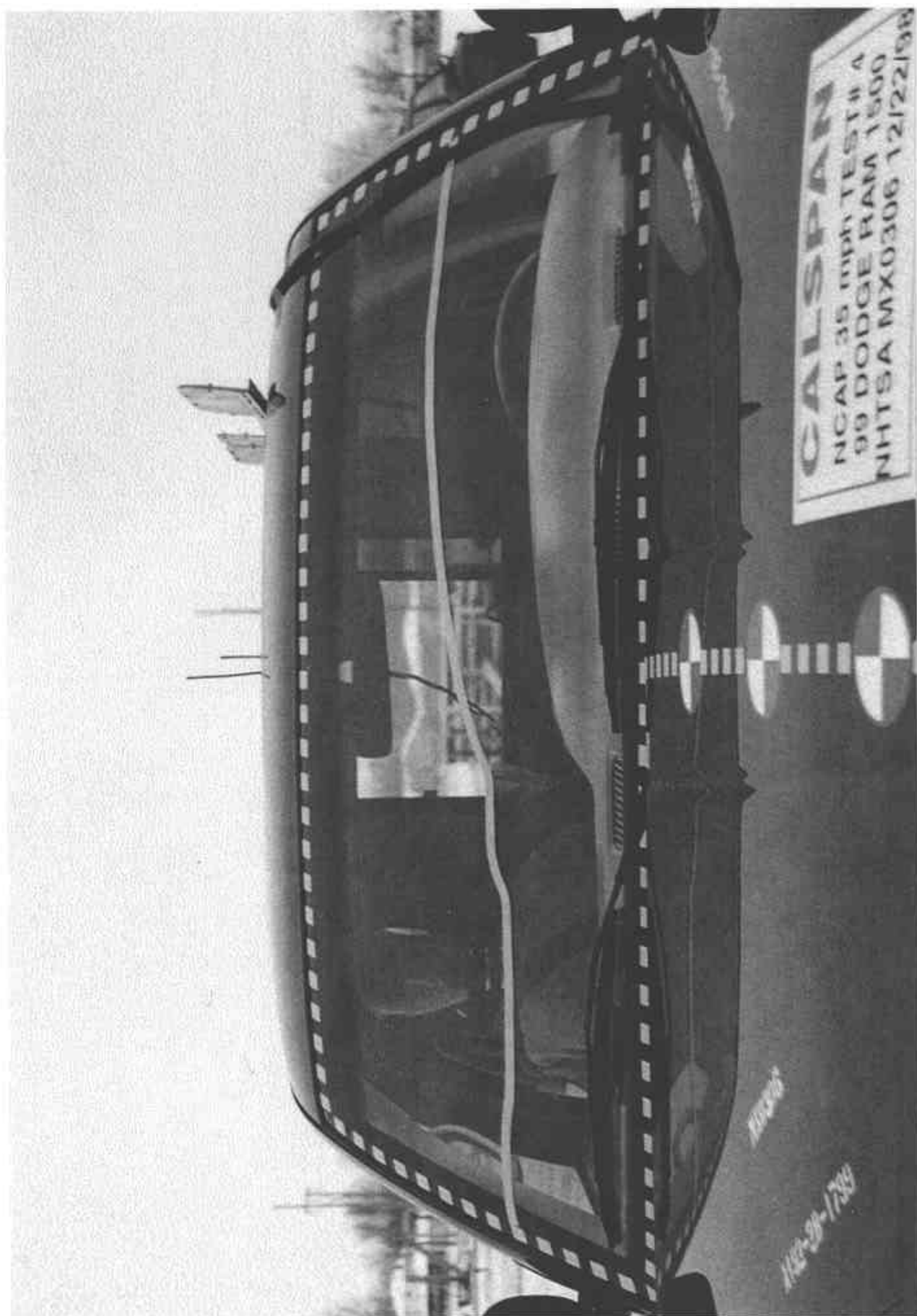


Figure A-12 PRE-TEST WINDSHIELD VIEW

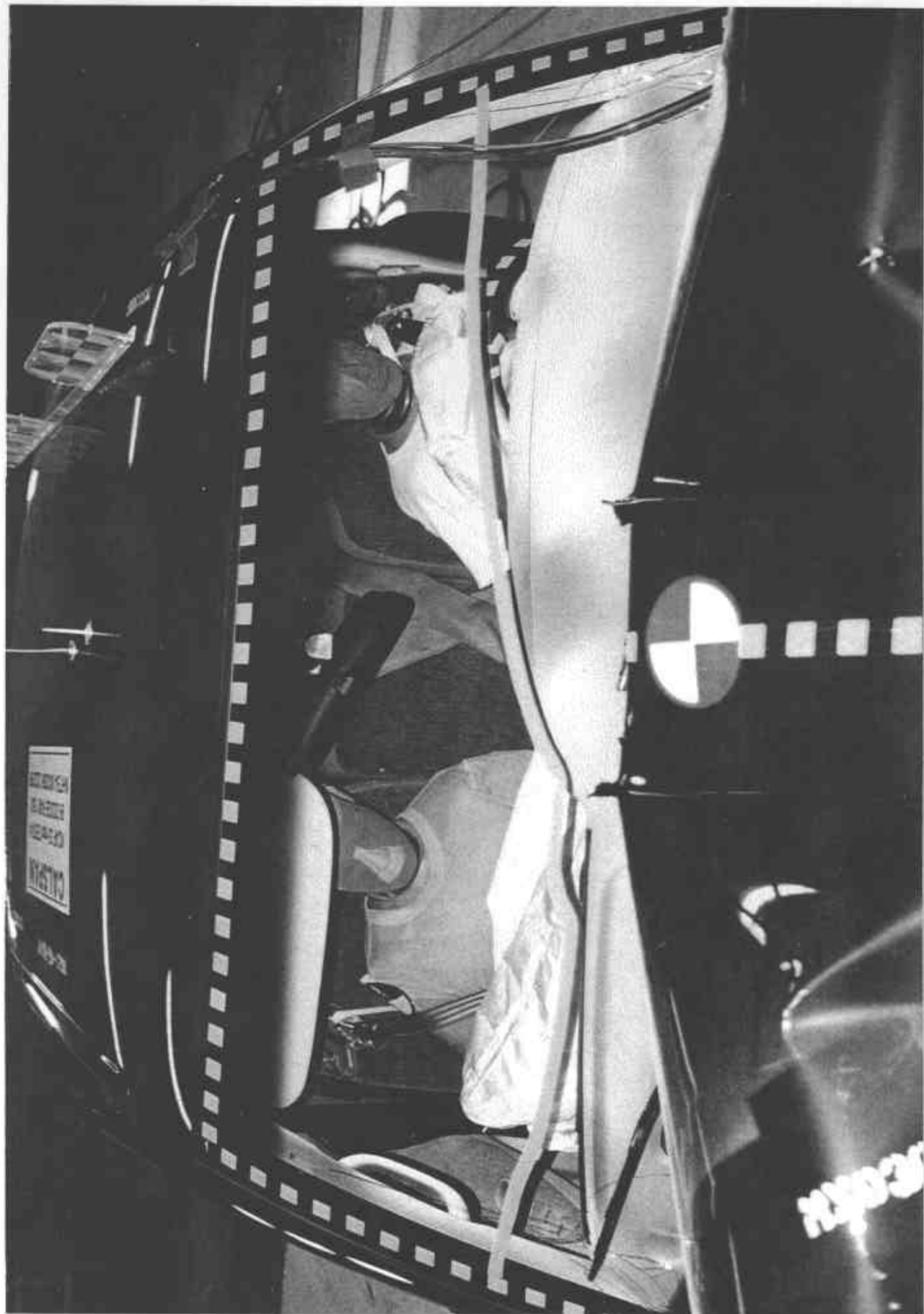


Figure A-13 POST-TEST WINDSHIELD VIEW

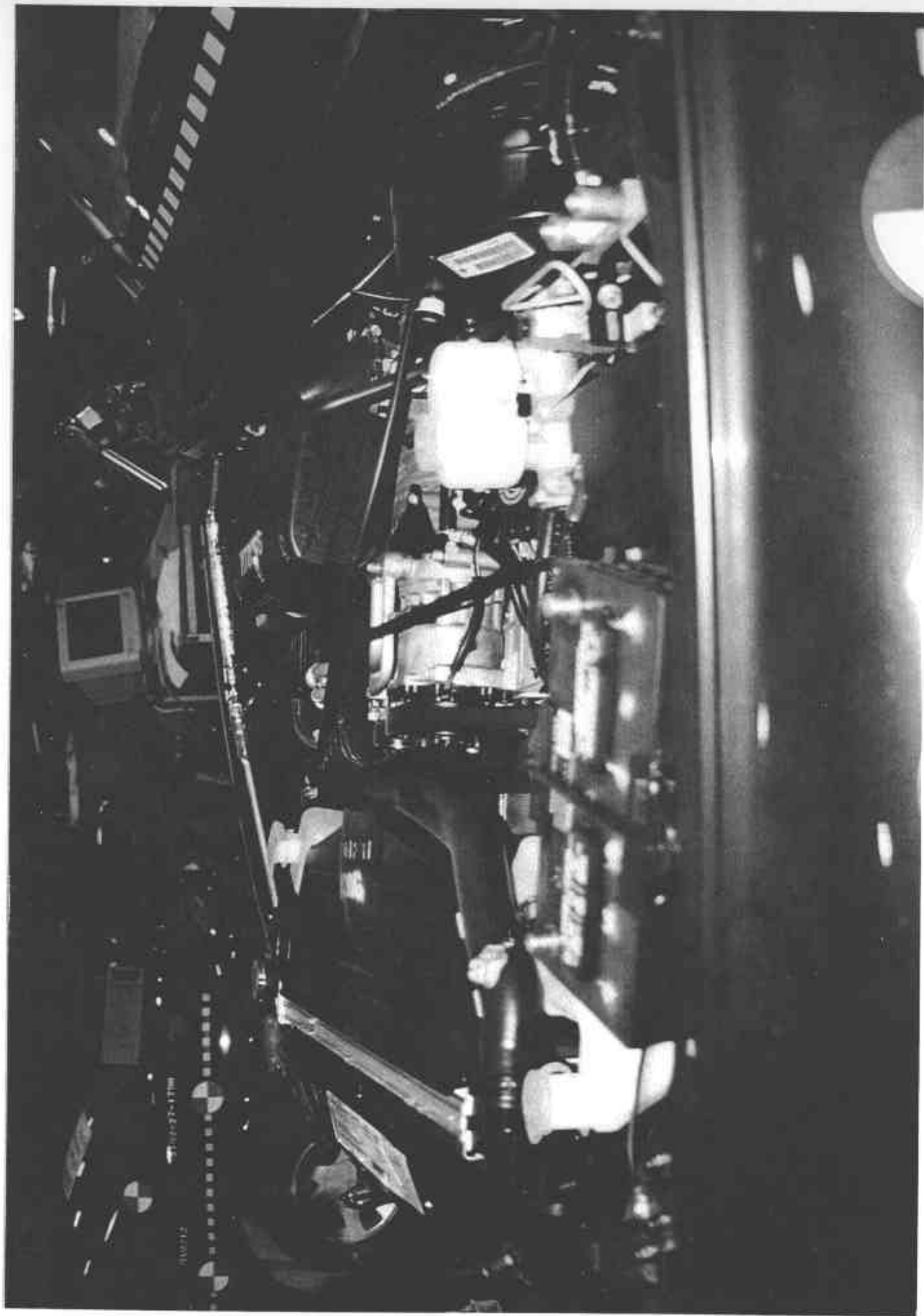


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

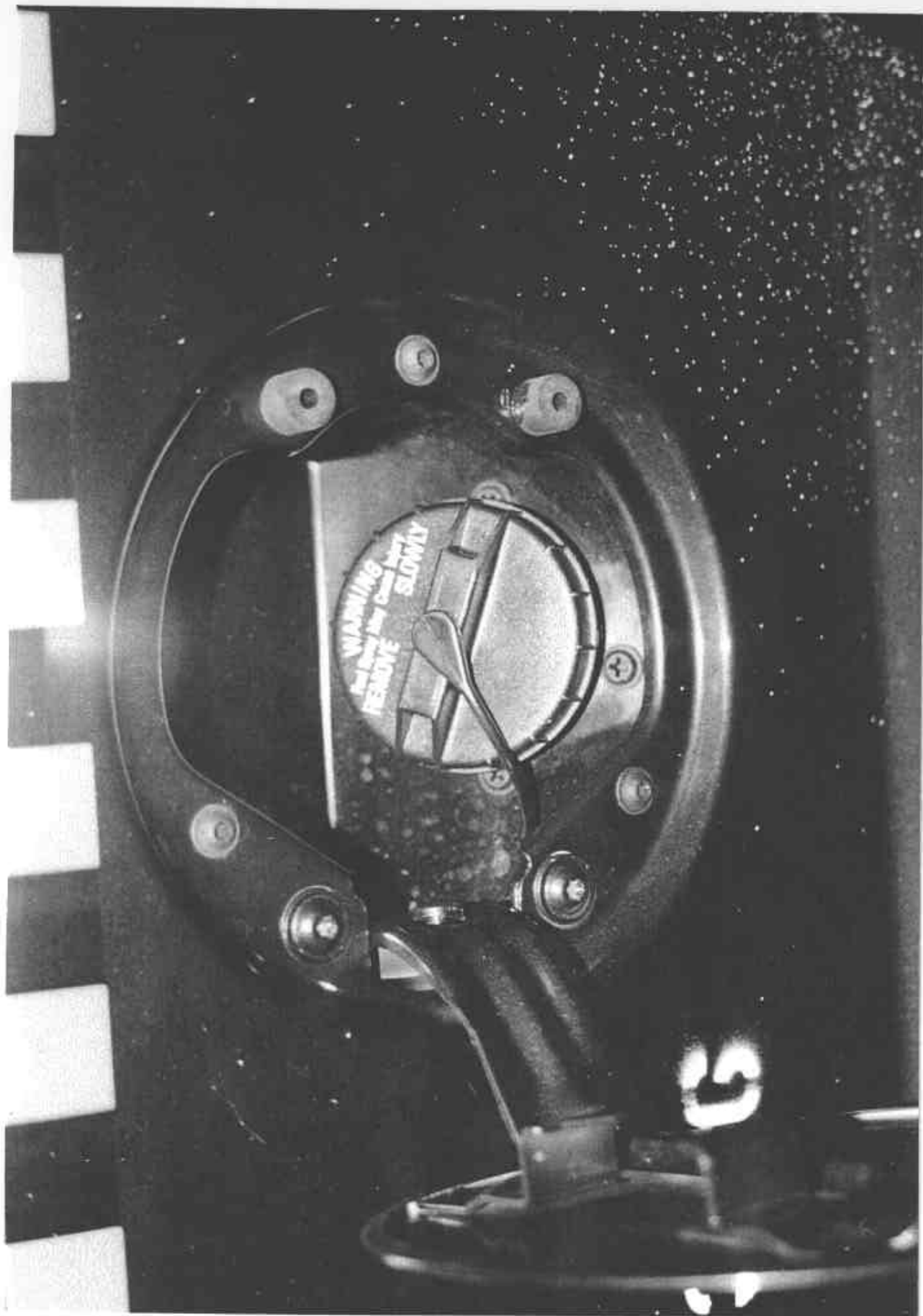


Figure A-15 FUEL CAP VIEW

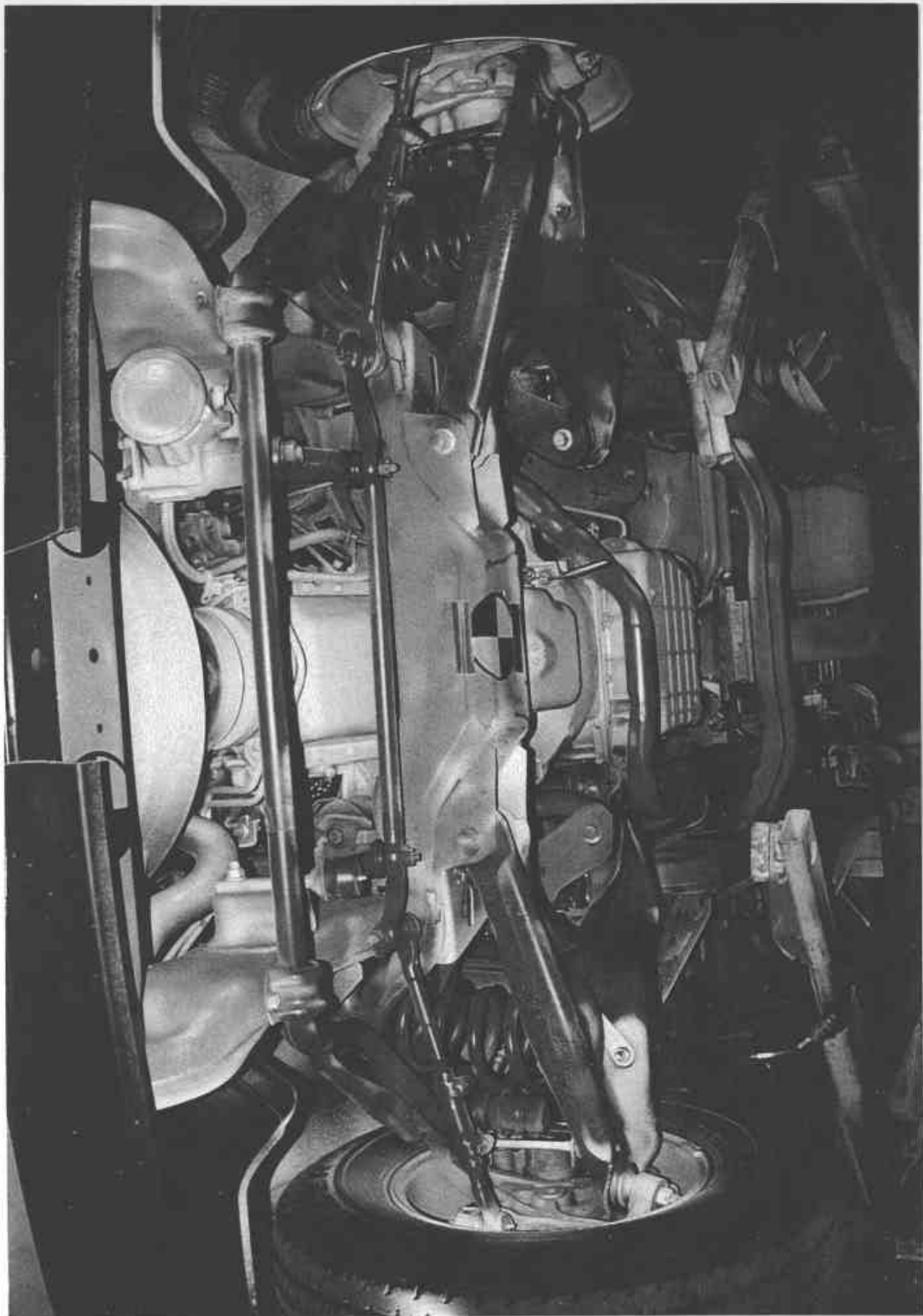


Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

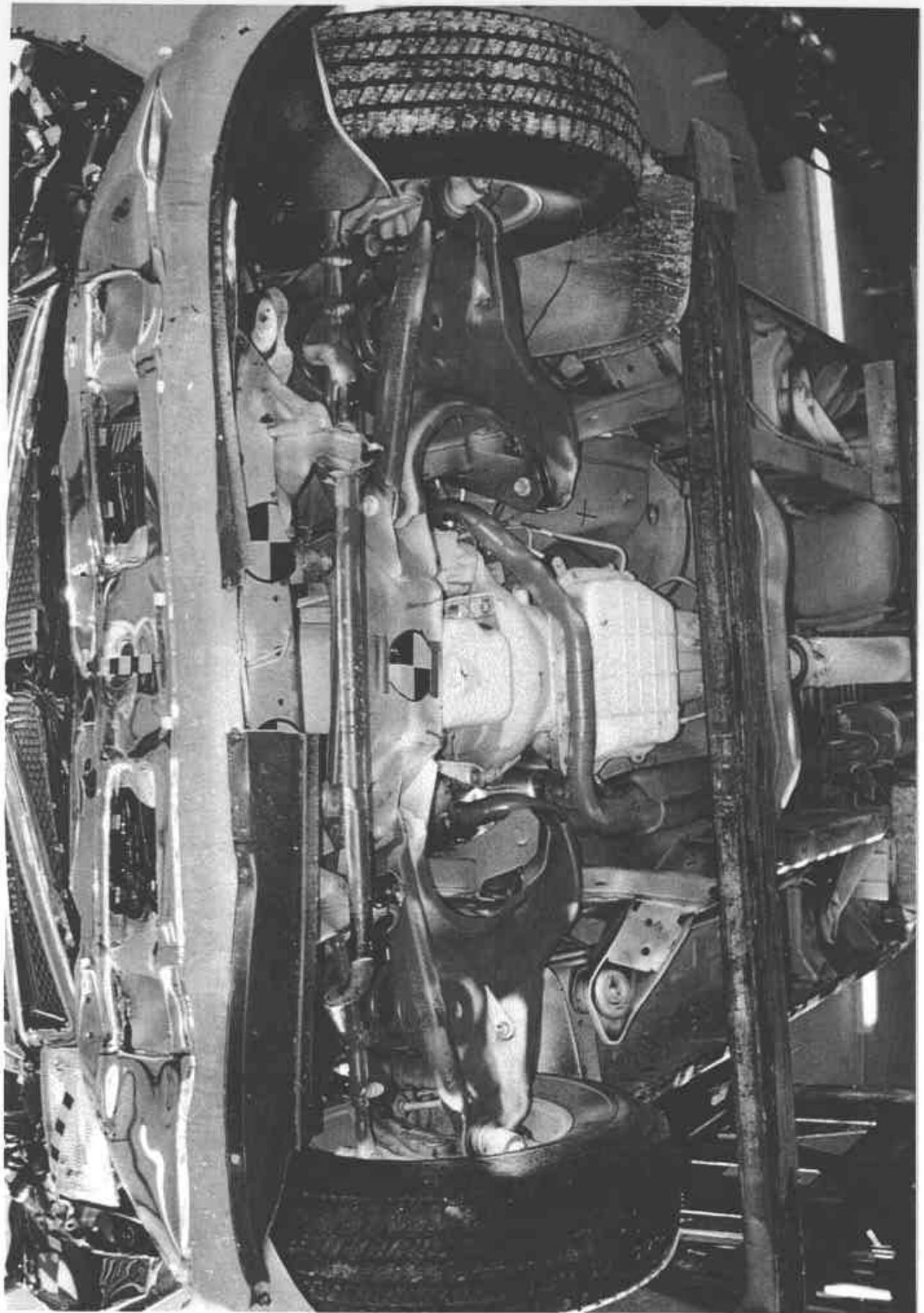


Figure A-17 POST-TEST FRONT UNDERBODY VIEW

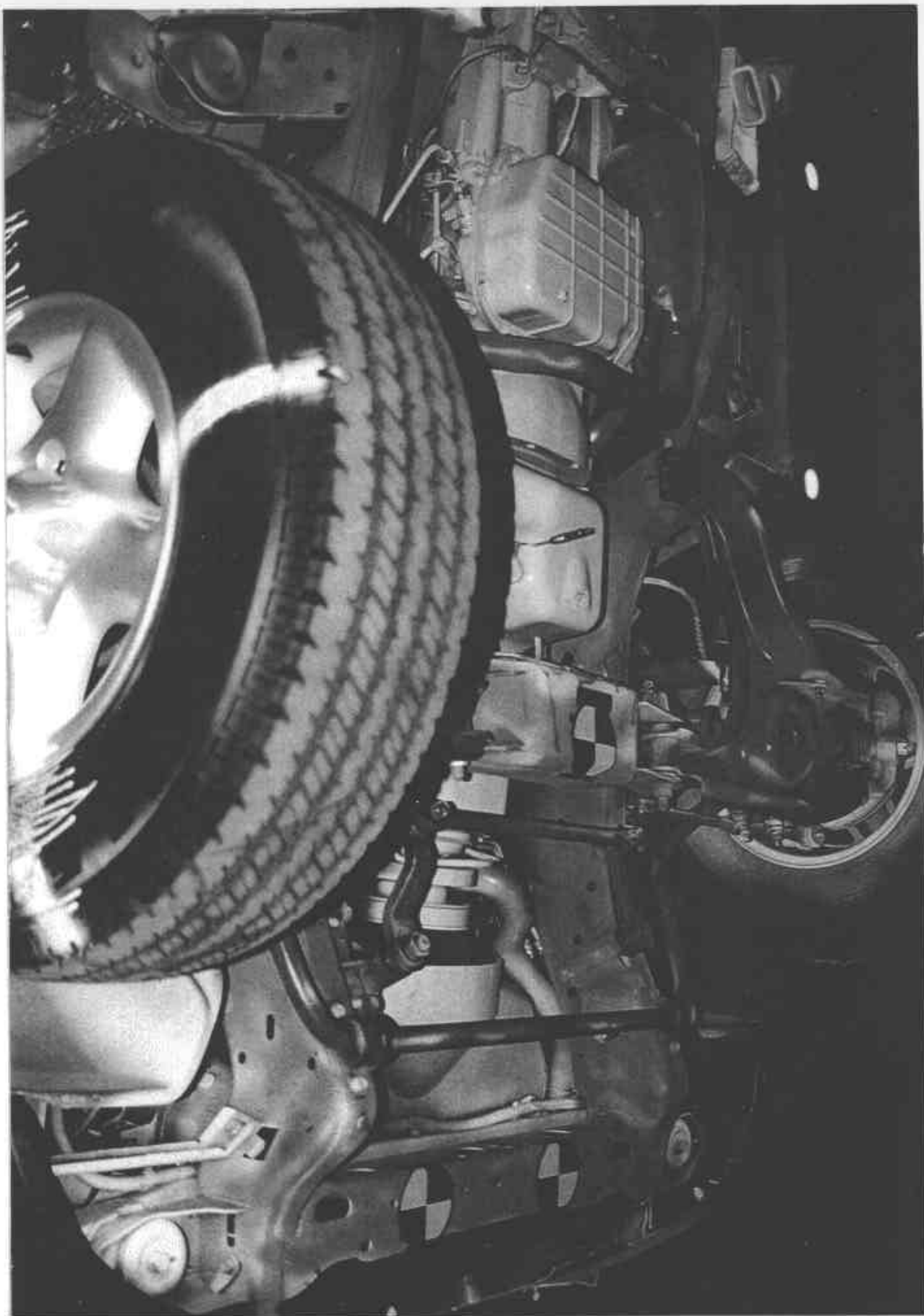


Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

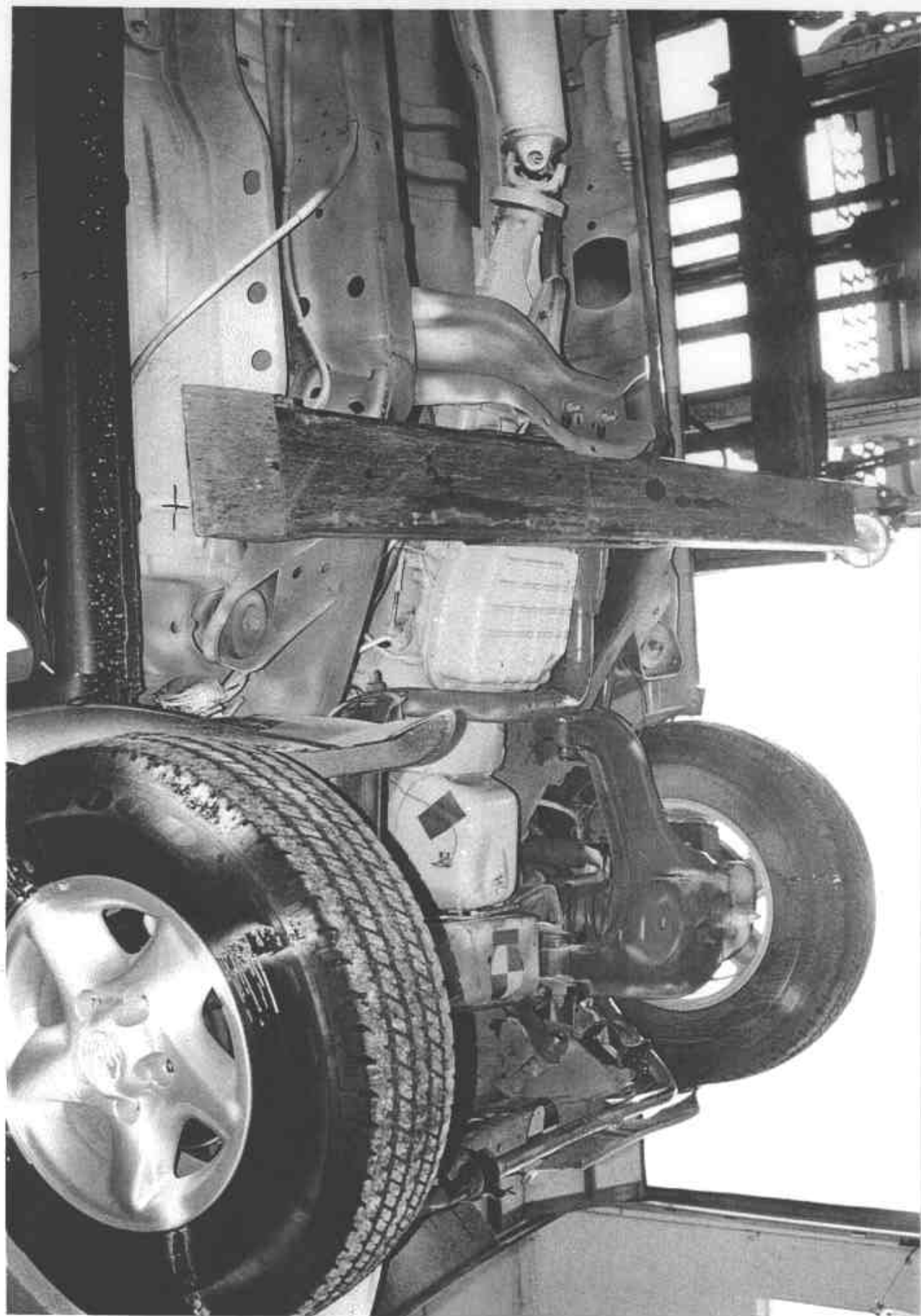


Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW

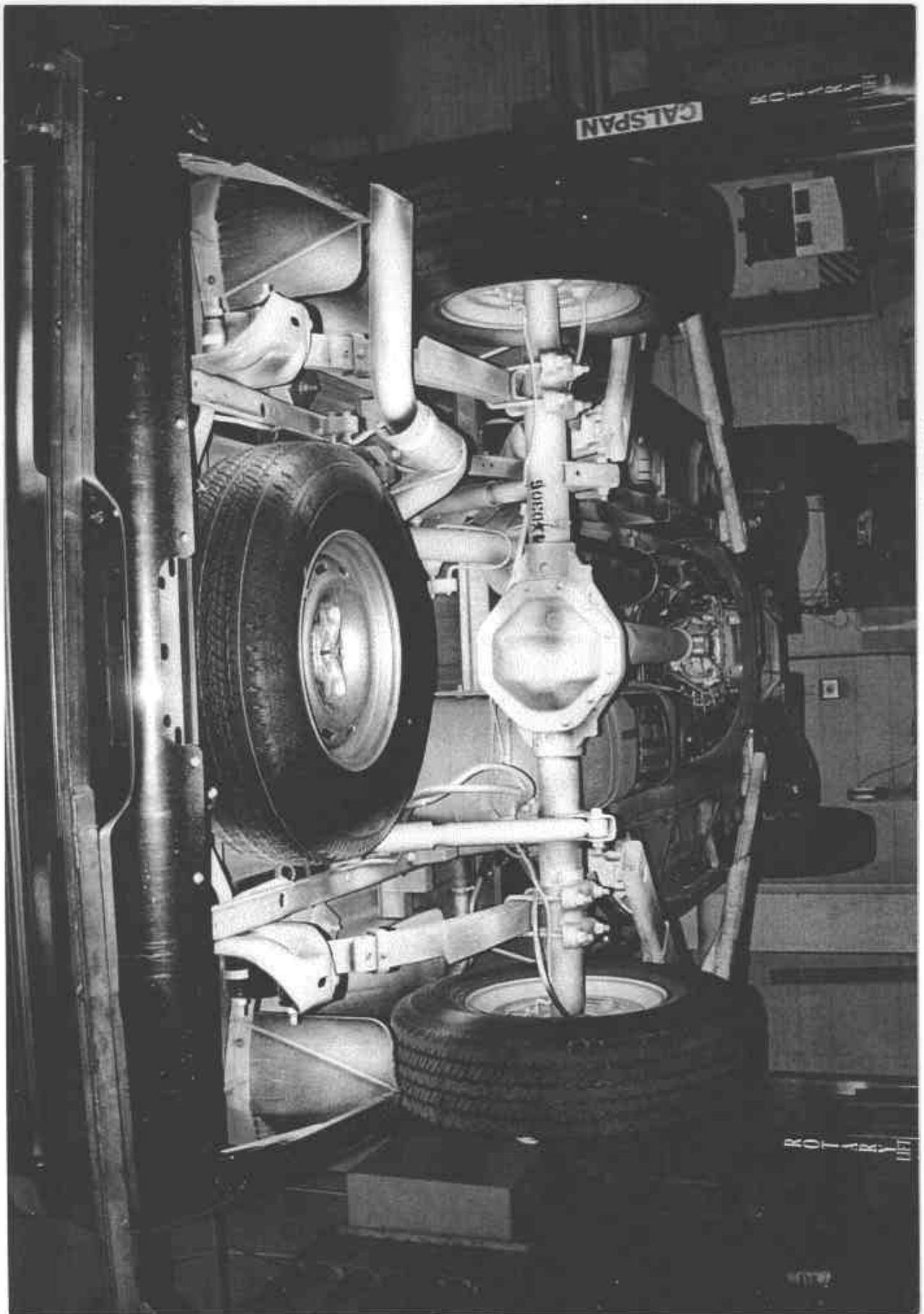


Figure A-20 PRE-TEST REAR UNDERBODY VIEW

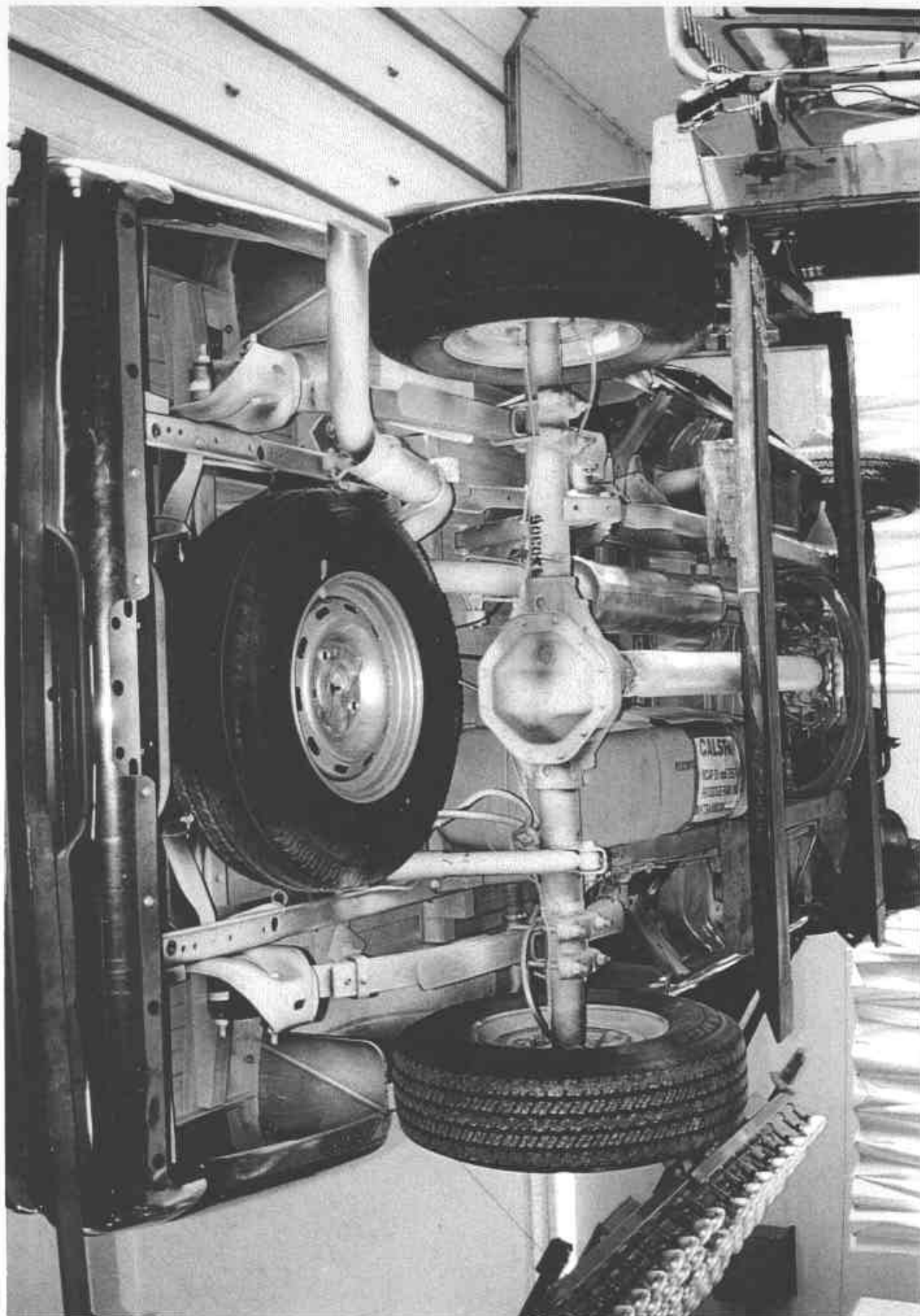


Figure A-21 POST-TEST REAR UNDERBODY VIEW



Figure A-22 PRE-TEST DRIVER POSITION VIEW



Figure A-23 POST-TEST DRIVER POSITION VIEW



Figure A-24 PRE-TEST PASSENGER POSITION VIEW

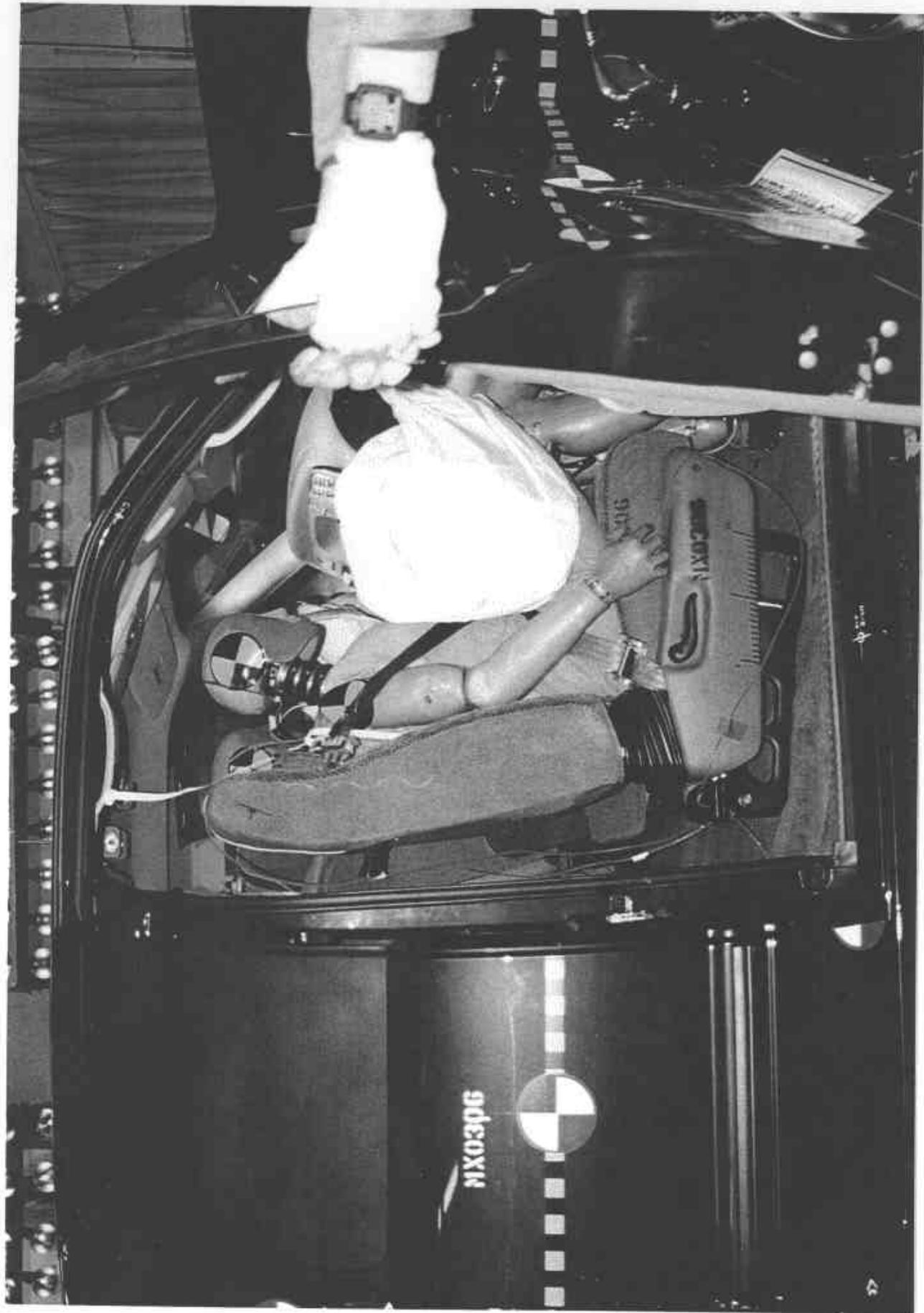


Figure A-25 POST-TEST PASSENGER POSITION VIEW

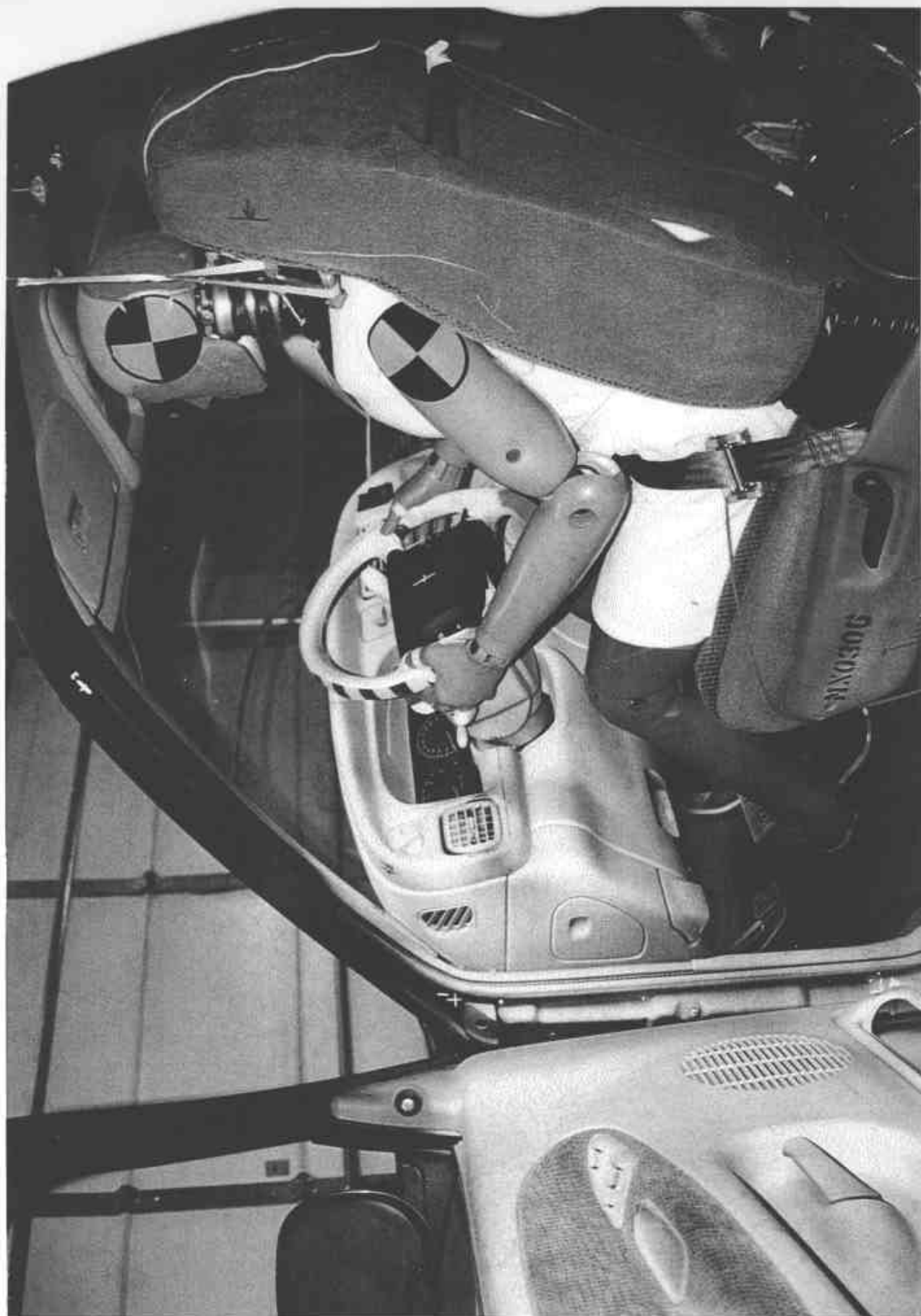


Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW



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

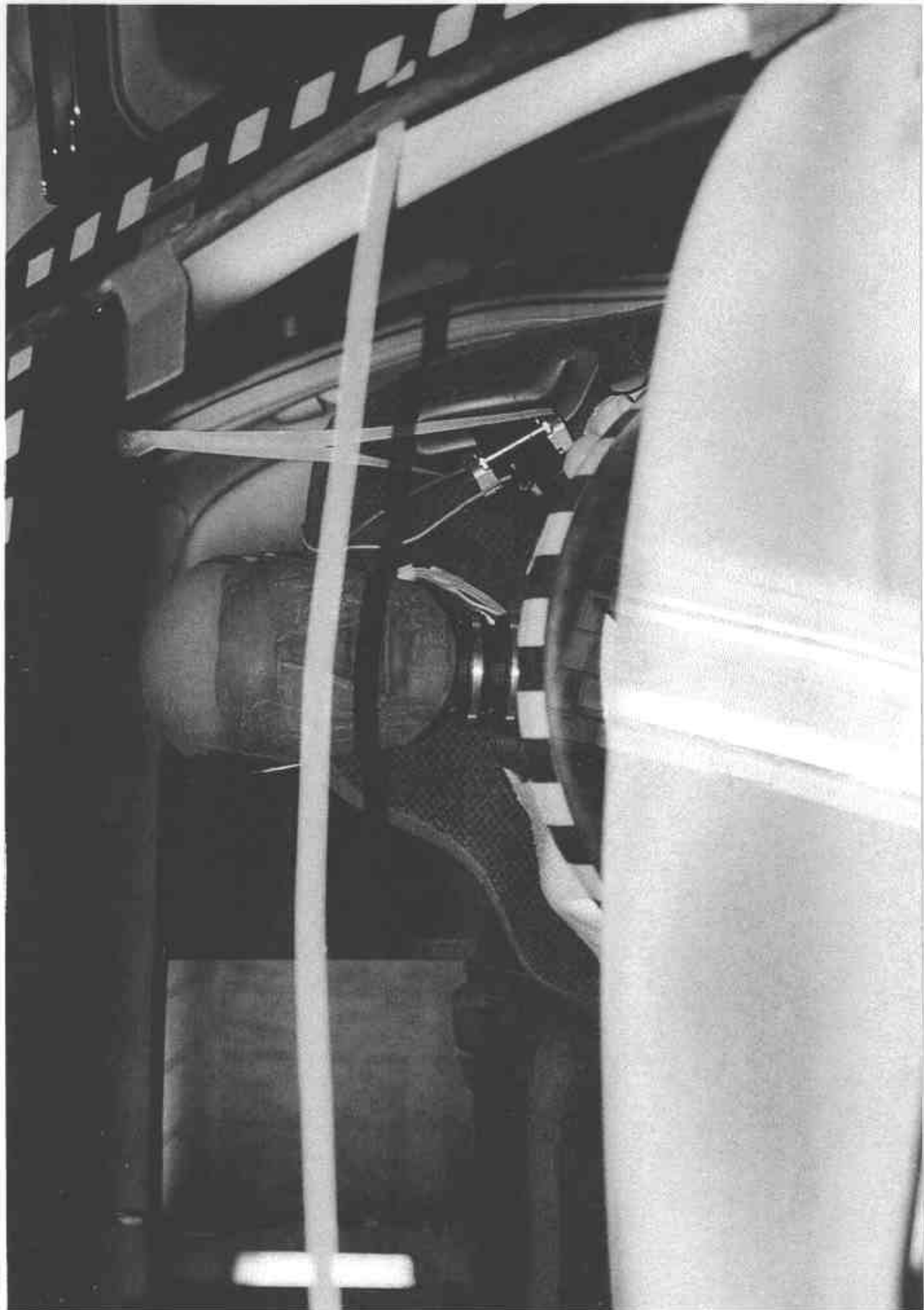


Figure A-30 PRE-TEST DRIVER HEAD LOCATION

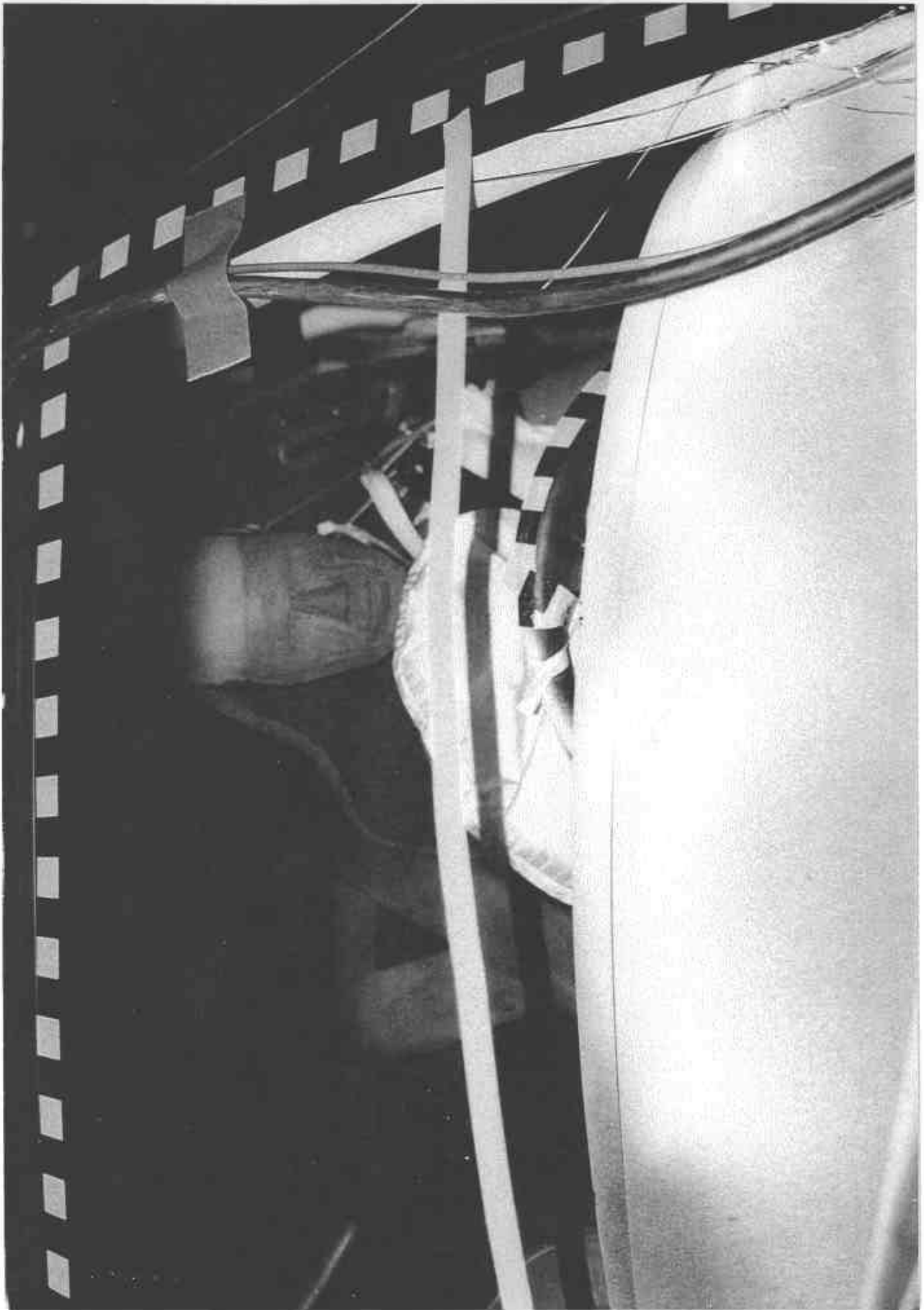


Figure A-31 POST-TEST DRIVER HEAD LOCATION

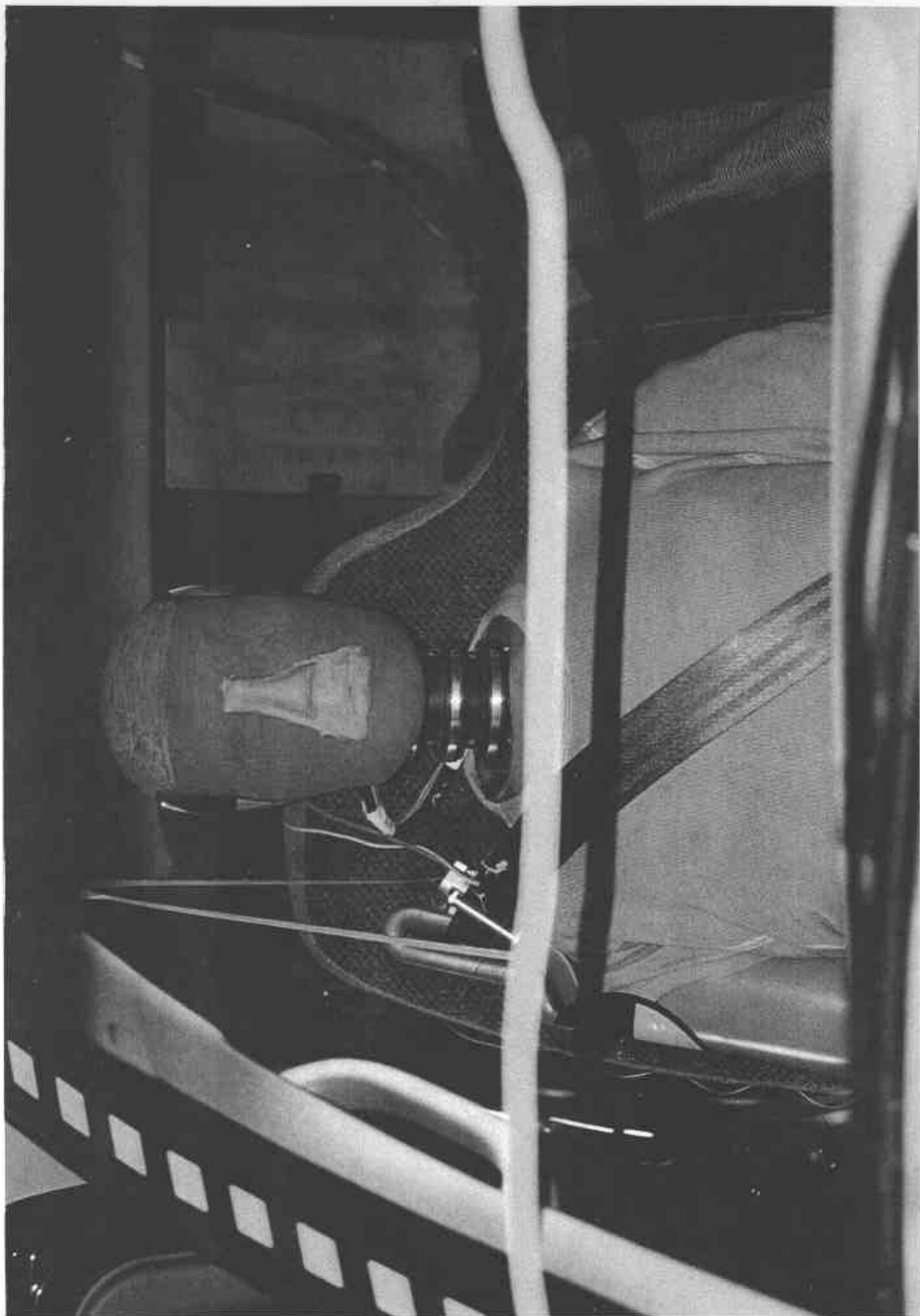


Figure A-32 PRE-TEST PASSENGER HEAD LOCATION

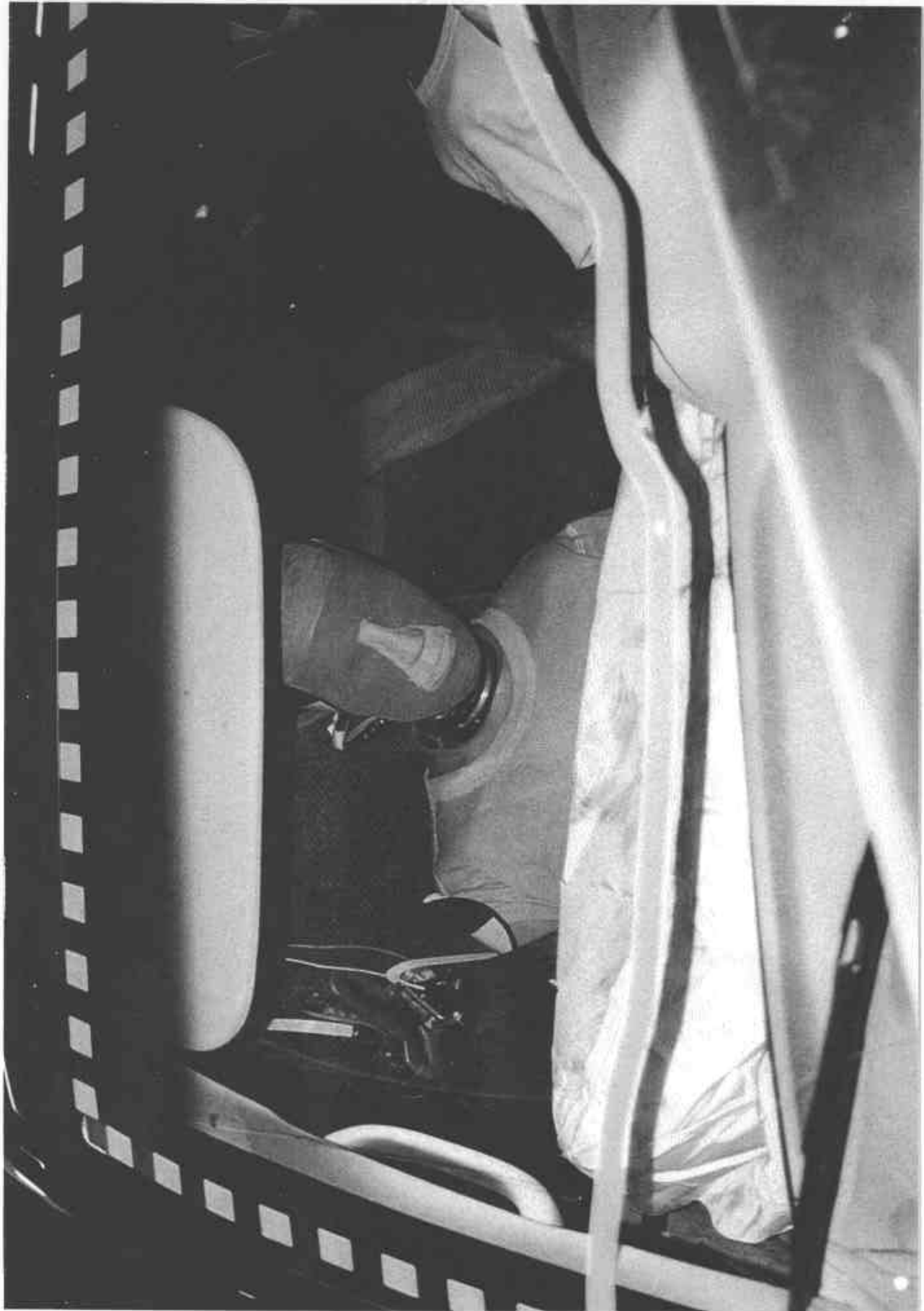


Figure A-33 POST-TEST PASSENGER HEAD LOCATION



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

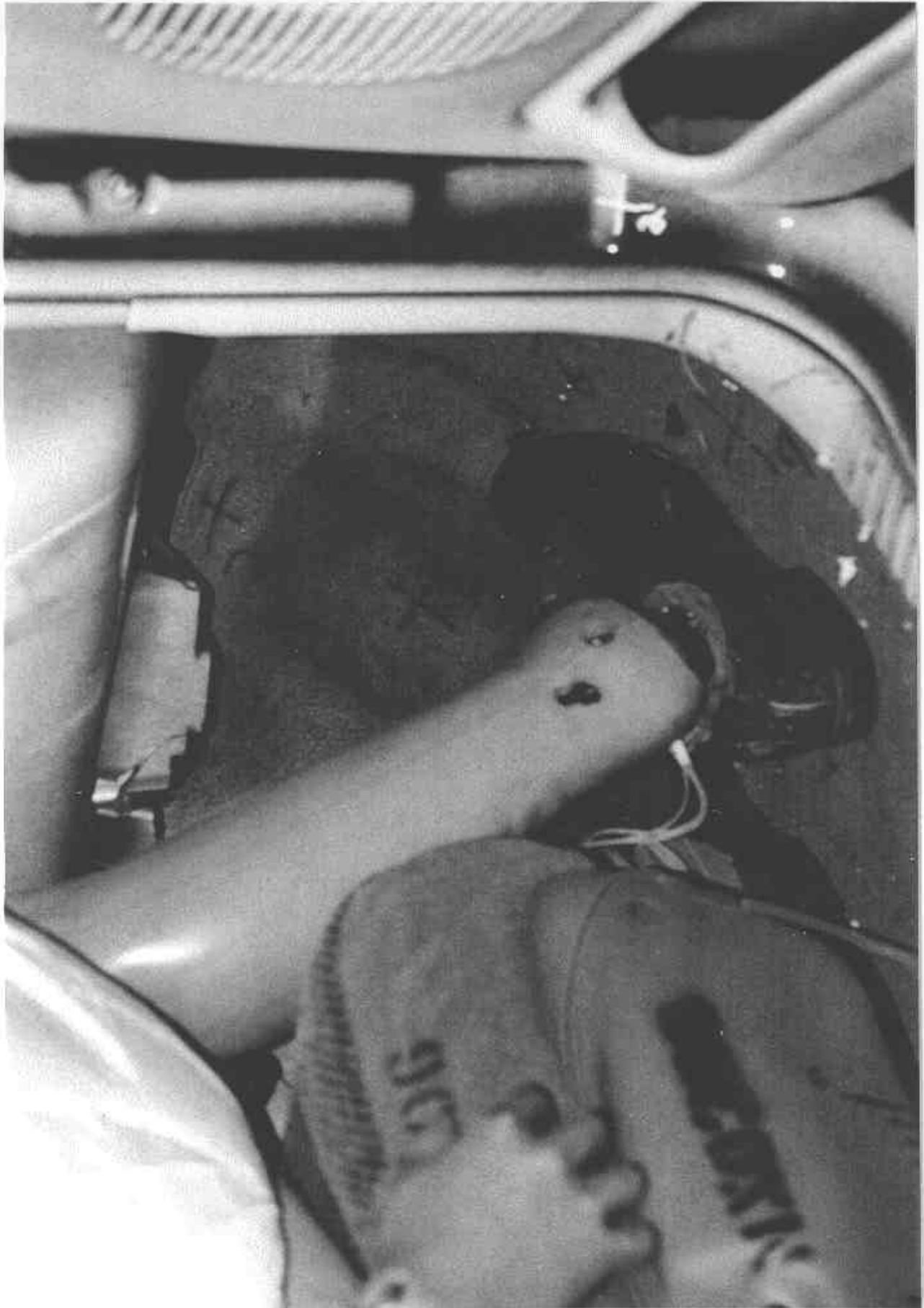


Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW

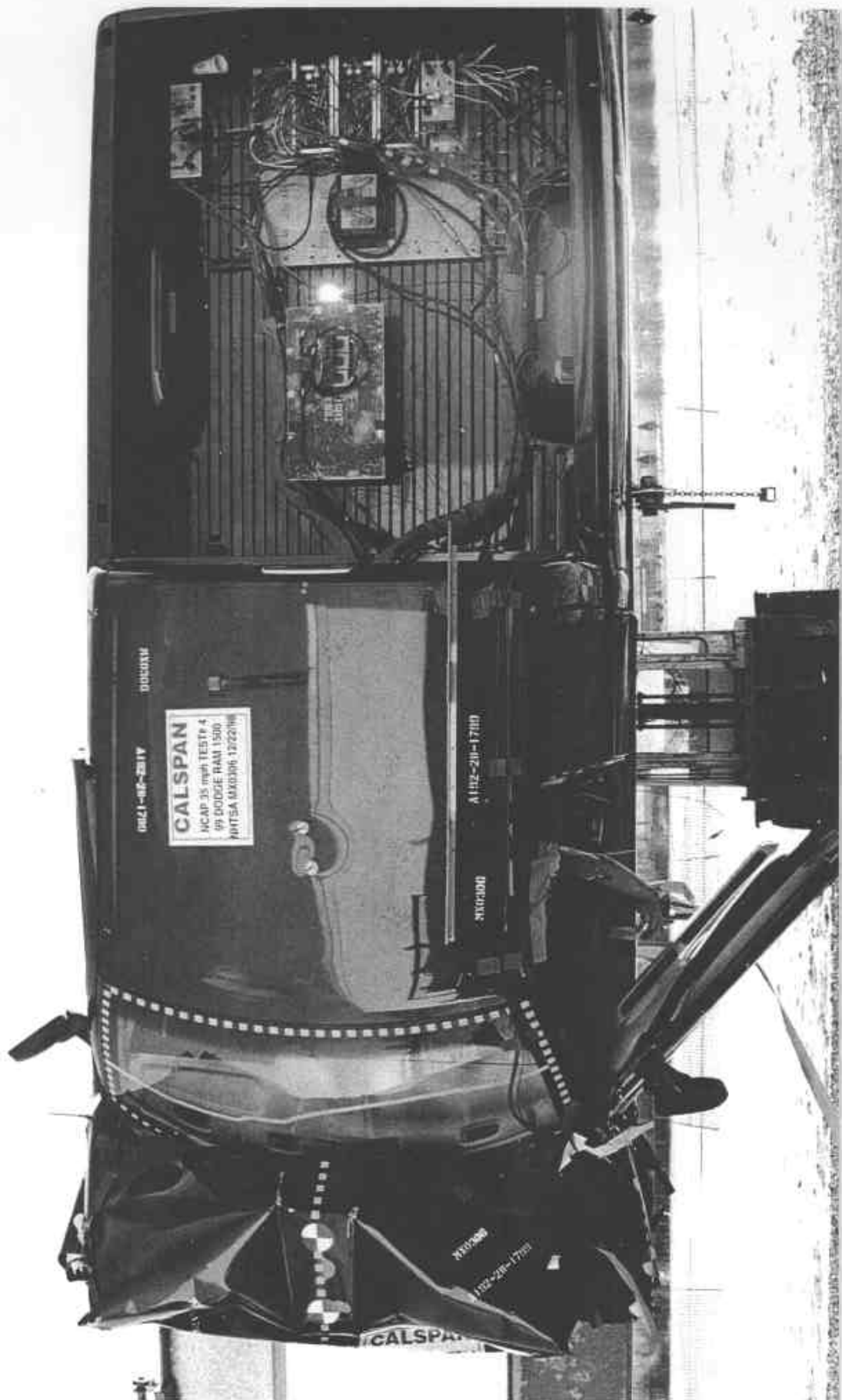


Figure A-38 ROLLOVER VIEW

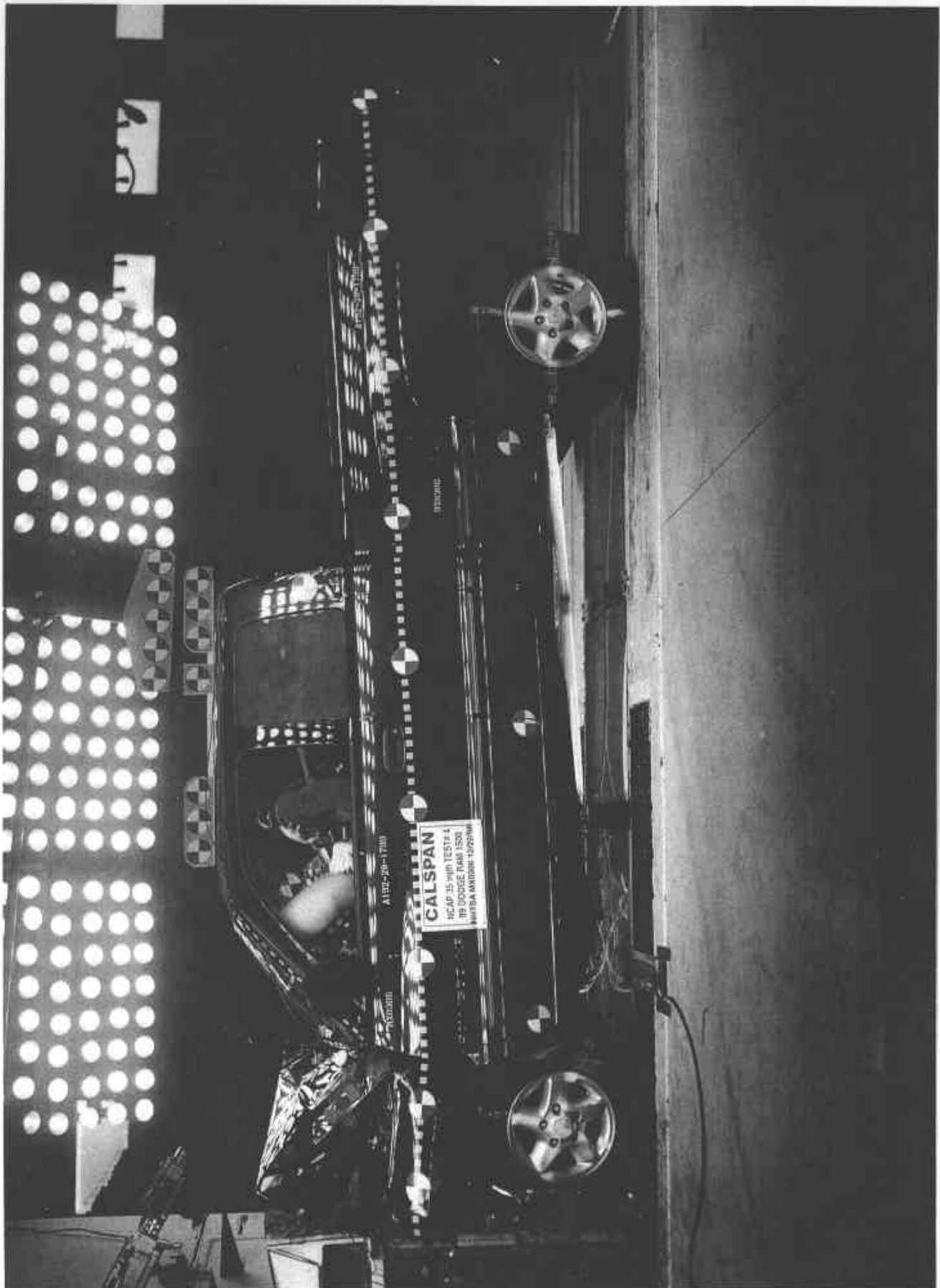


Figure A-39 IMPACT VIEW

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

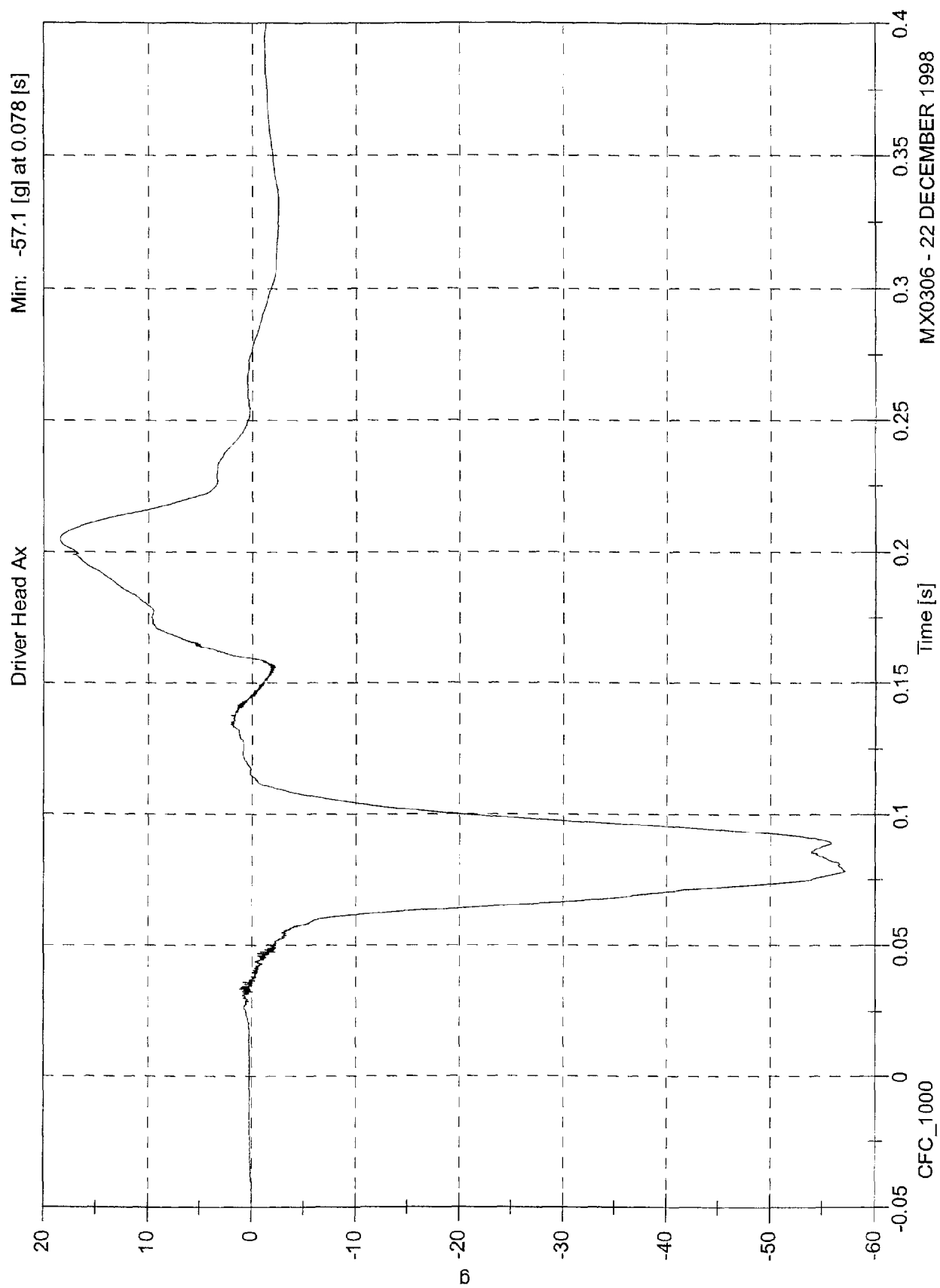
NHTSA TEST NO. MX0306

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#4 - 1999 DODGE RAM QUAD CAB

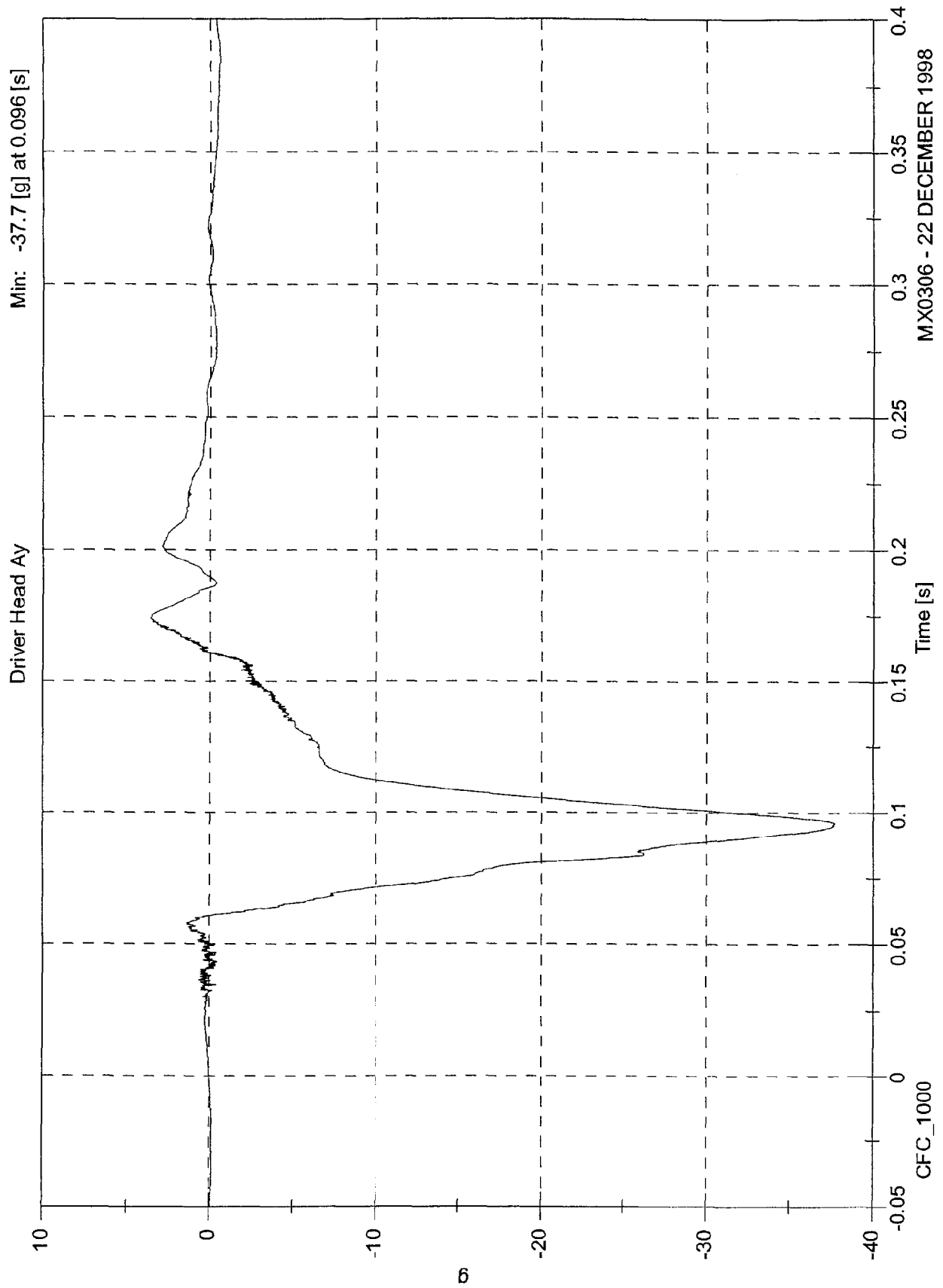
Max: 18.4 [g] at 0.205 [s]
 Min: -57.1 [g] at 0.078 [s]



MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

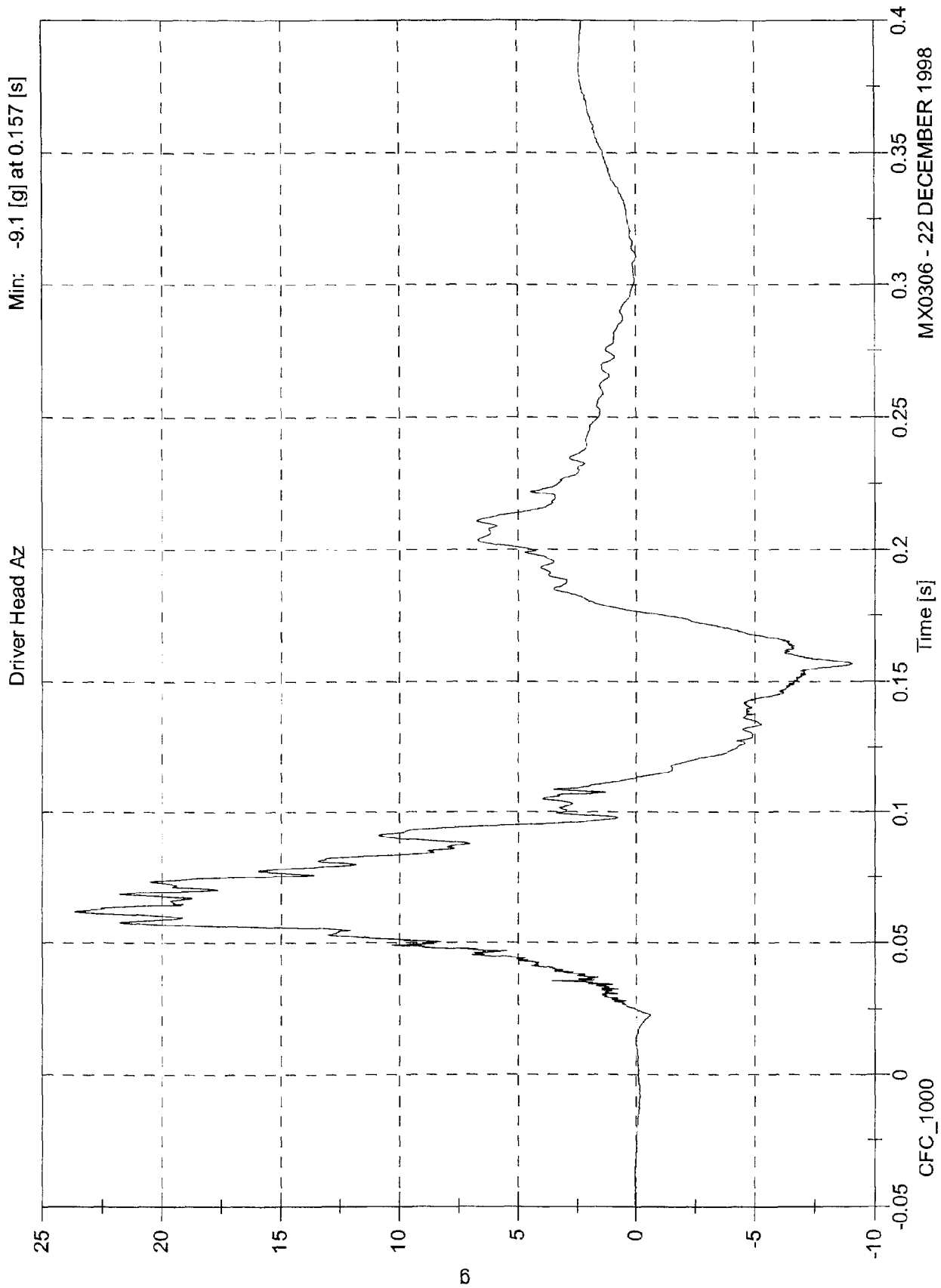
Max: 3.6 [g] at 0.174 [s]
Min: -37.7 [g] at 0.096 [s]



MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 23.6 [g] at 0.062 [s]
 Min: -9.1 [g] at 0.157 [s]

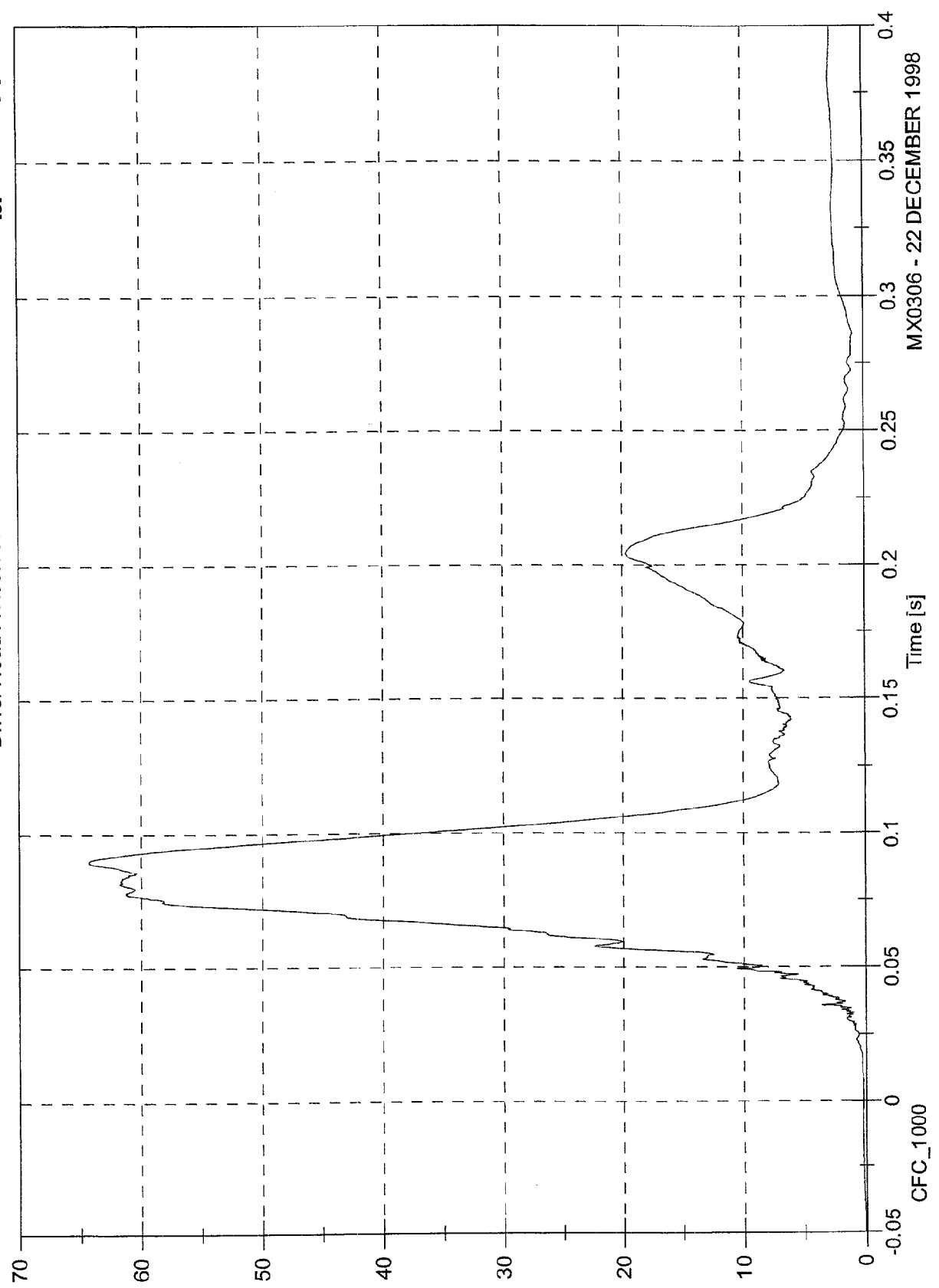


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Head A Resultant

Max: 64.3 [g] at 0.090 [s]
Min: 0.0 [g] at -0.052 [s]

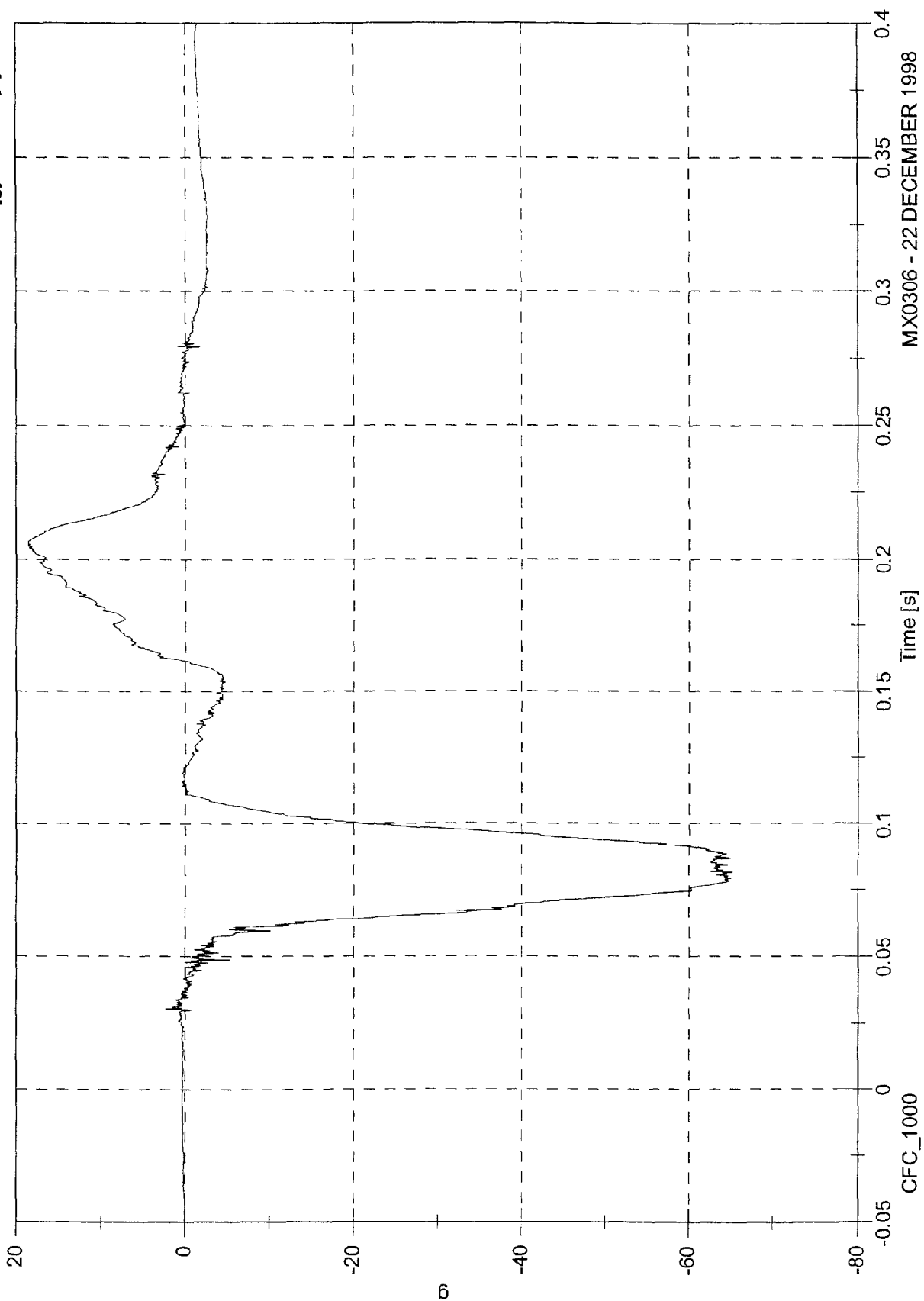


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 18.6 [g] at 0.206 [s]
Min: -65.2 [g] at 0.081 [s]

Driver Head Ax Redundant

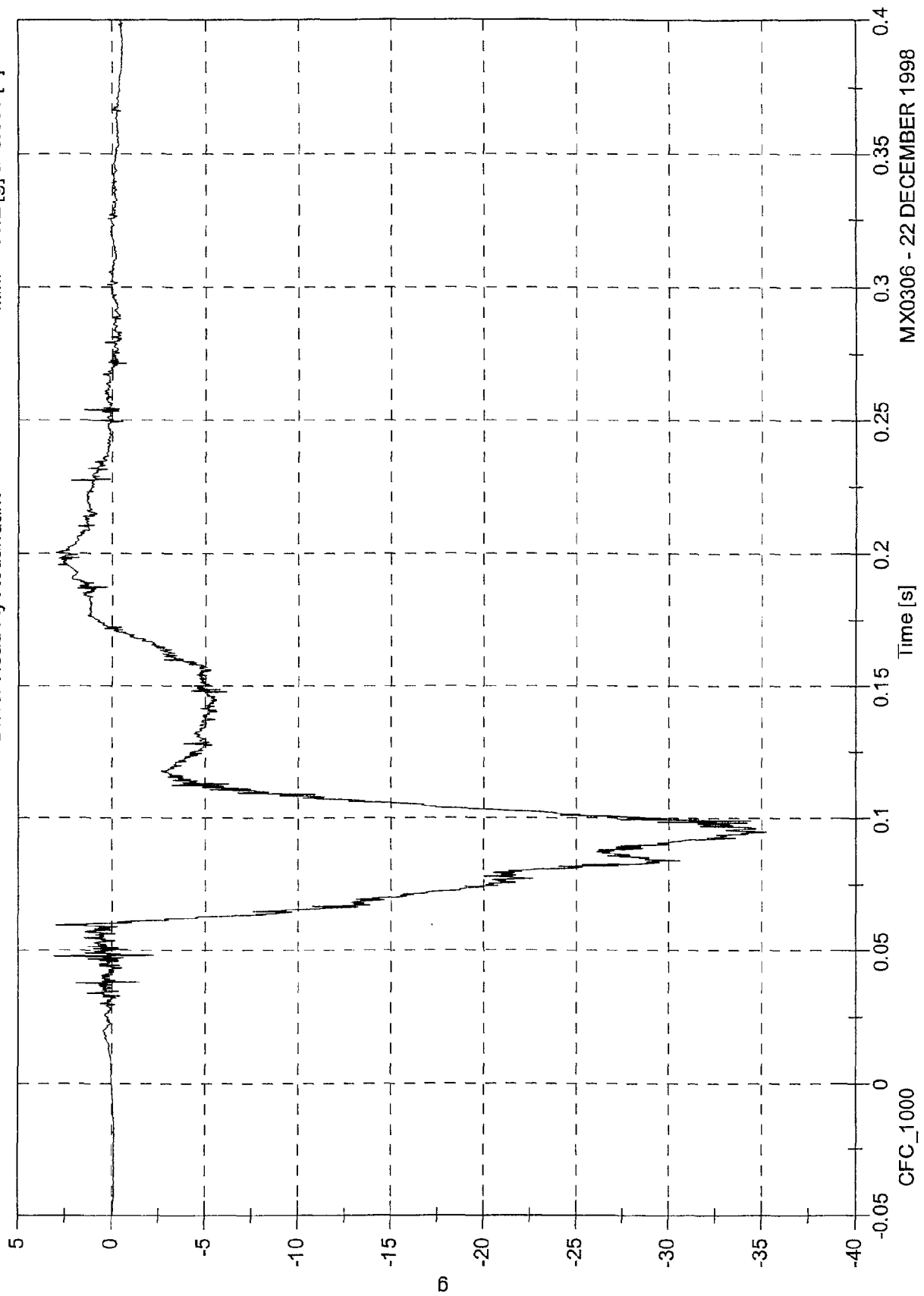


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Head Ay Redundant

Max: 3.1 [g] at 0.048 [s]
Min: -35.2 [g] at 0.095 [s]

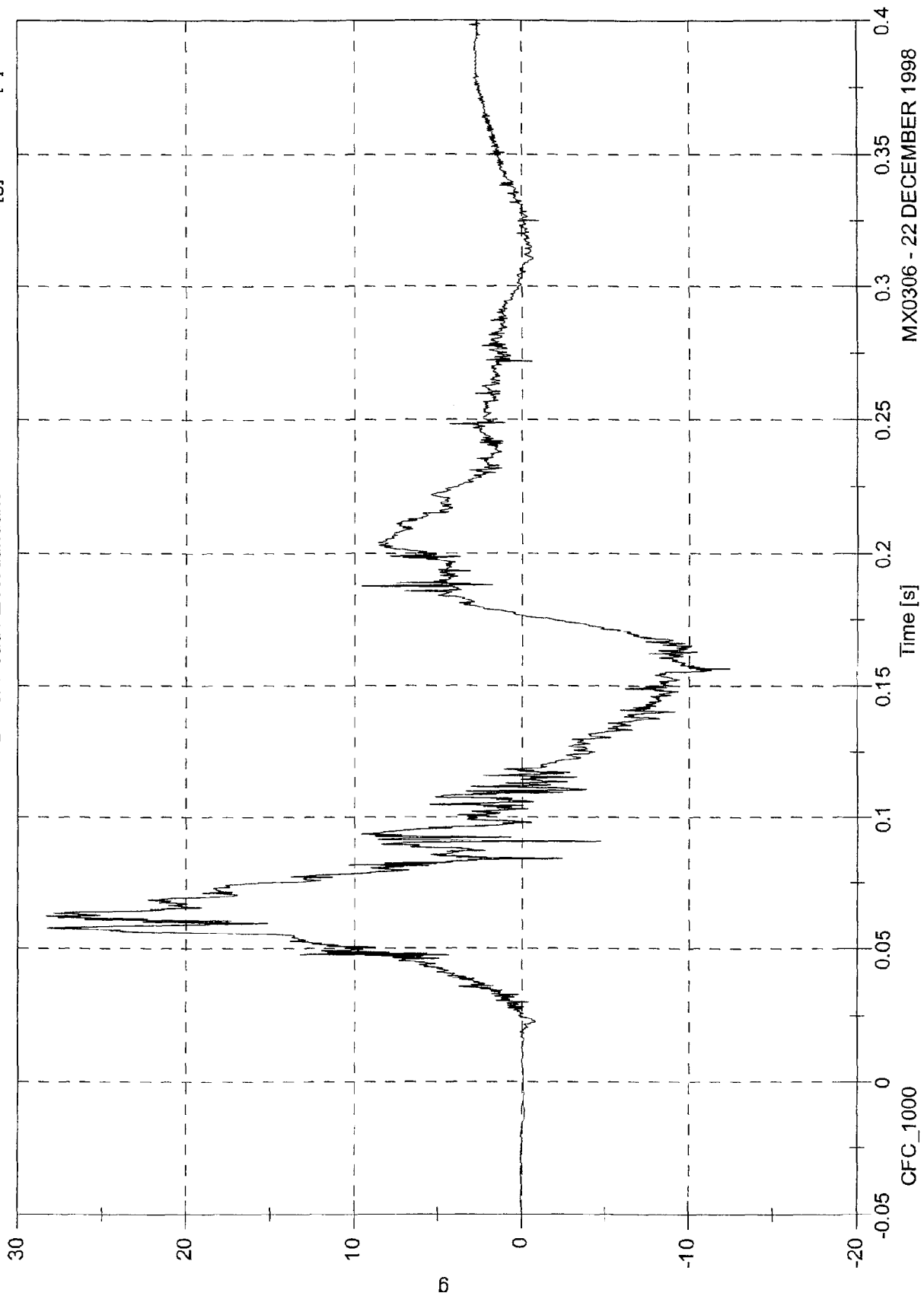


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 28.3 [g] at 0.062 [s]
Min: -12.5 [g] at 0.156 [s]

Driver Head Az Redundant



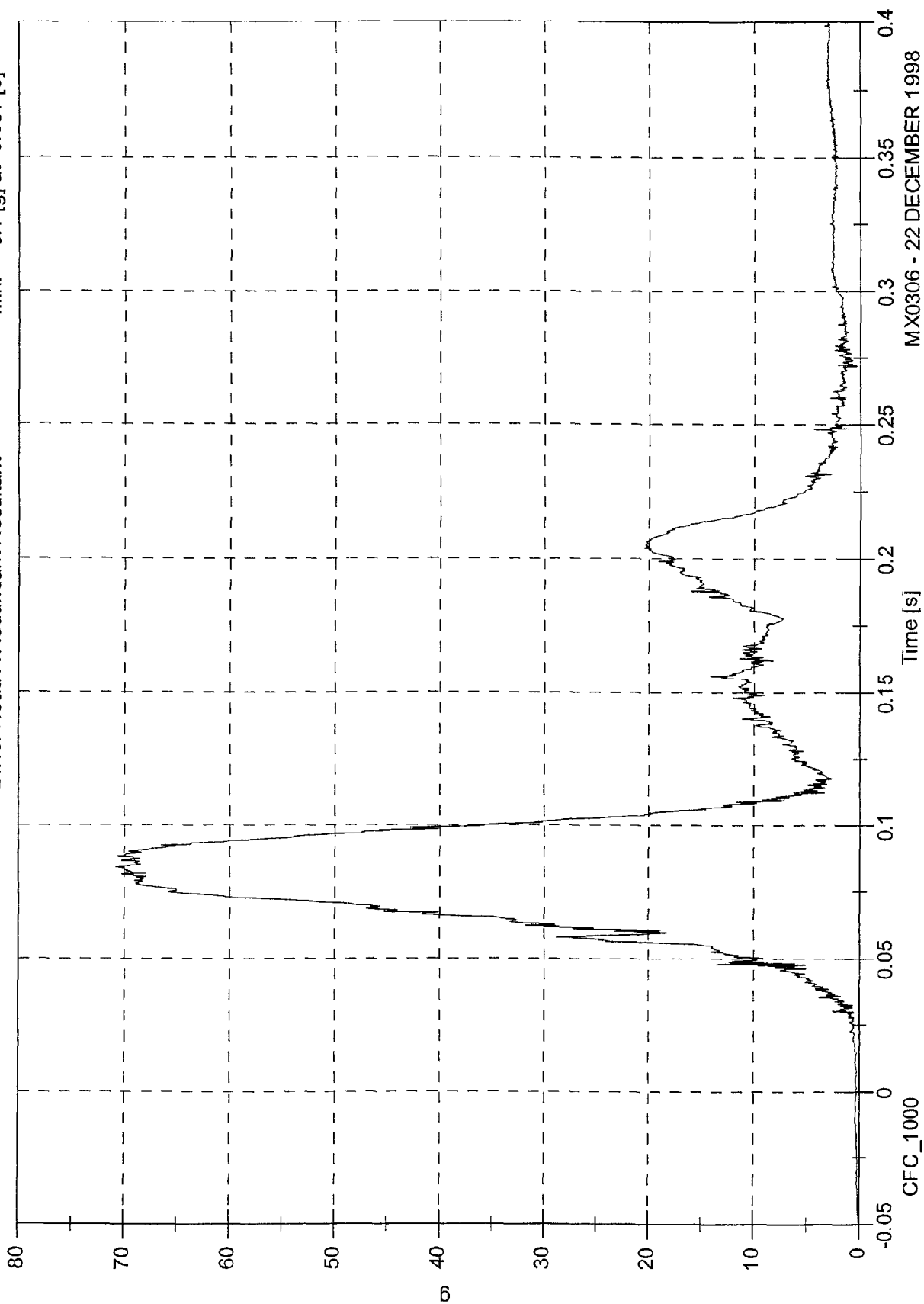
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 70.8 [g] at 0.084 [s]

Min: 0.1 [g] at -0.051 [s]

Driver Head A Redundant Resultant

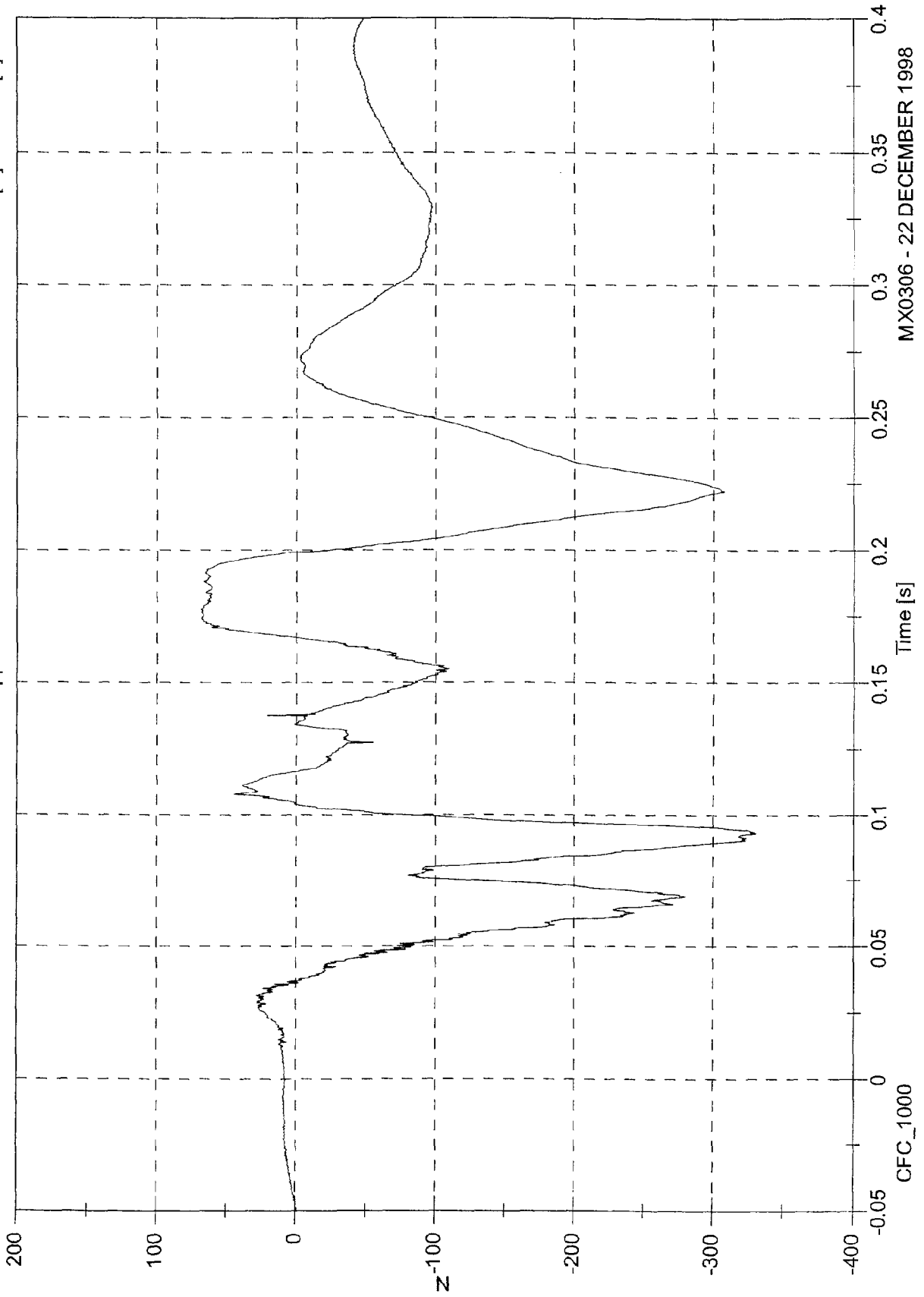


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Driver Upper Neck Load Cell Fx

Max: 132.4 [N] at 0.585 [s]
Min: -330.5 [N] at 0.093 [s]



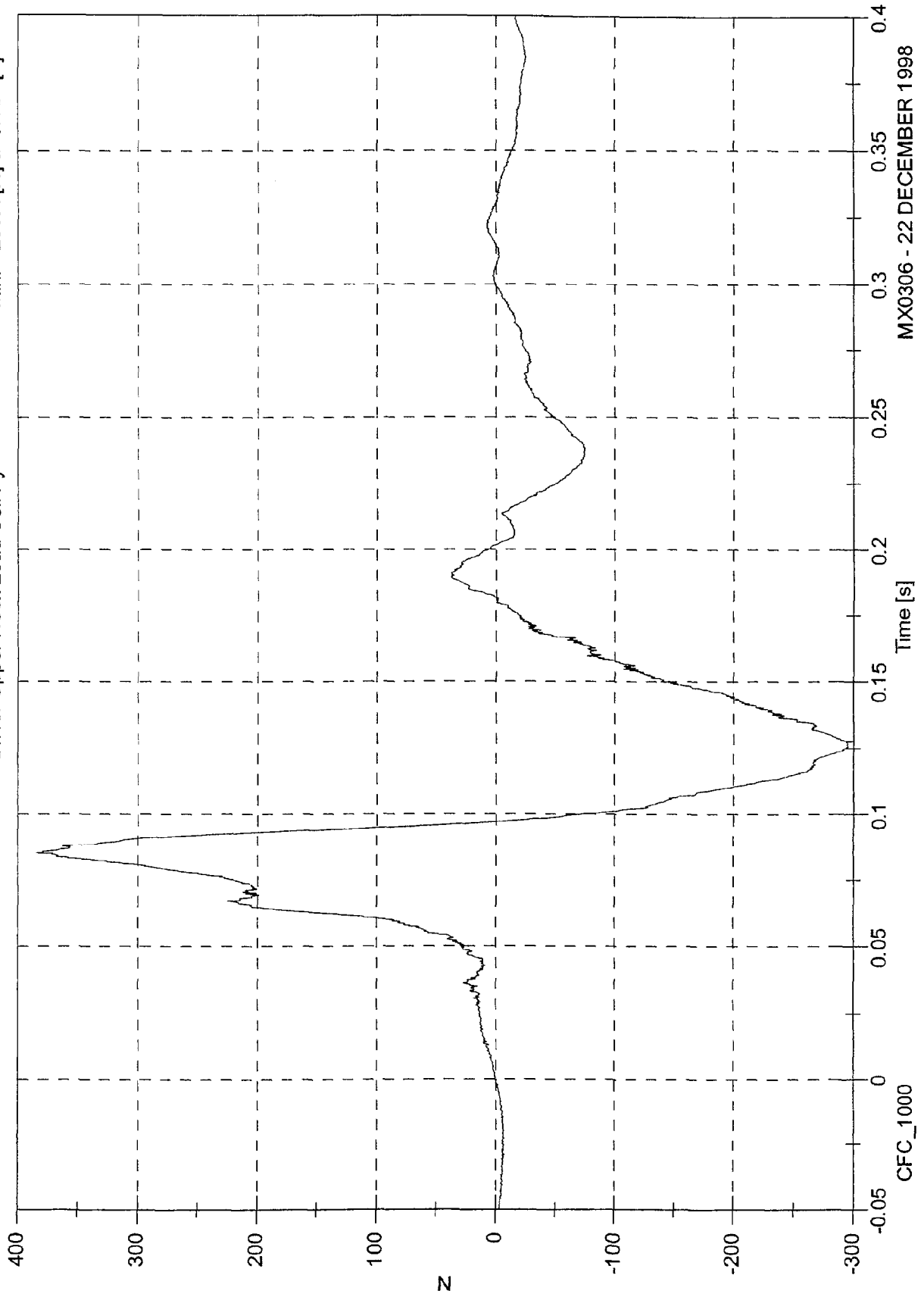
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Upper Neck Load Cell Fy

Max: 384.4 [N] at 0.085 [s]

Min: -299.4 [N] at 0.128 [s]

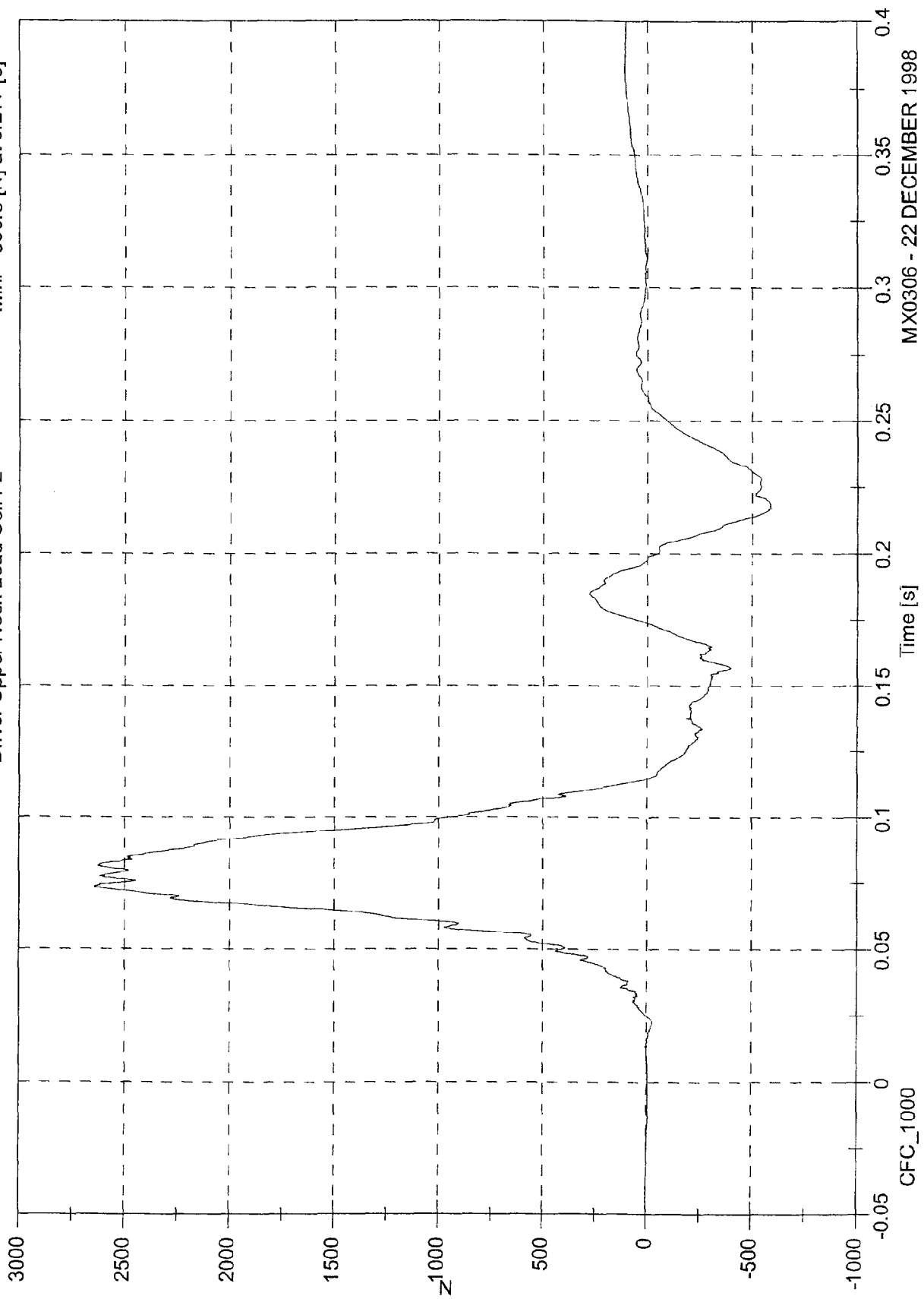


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Upper Neck Load Cell Fz

Max: 2644.5 [N] at 0.073 [s]
Min: -590.8 [N] at 0.217 [s]

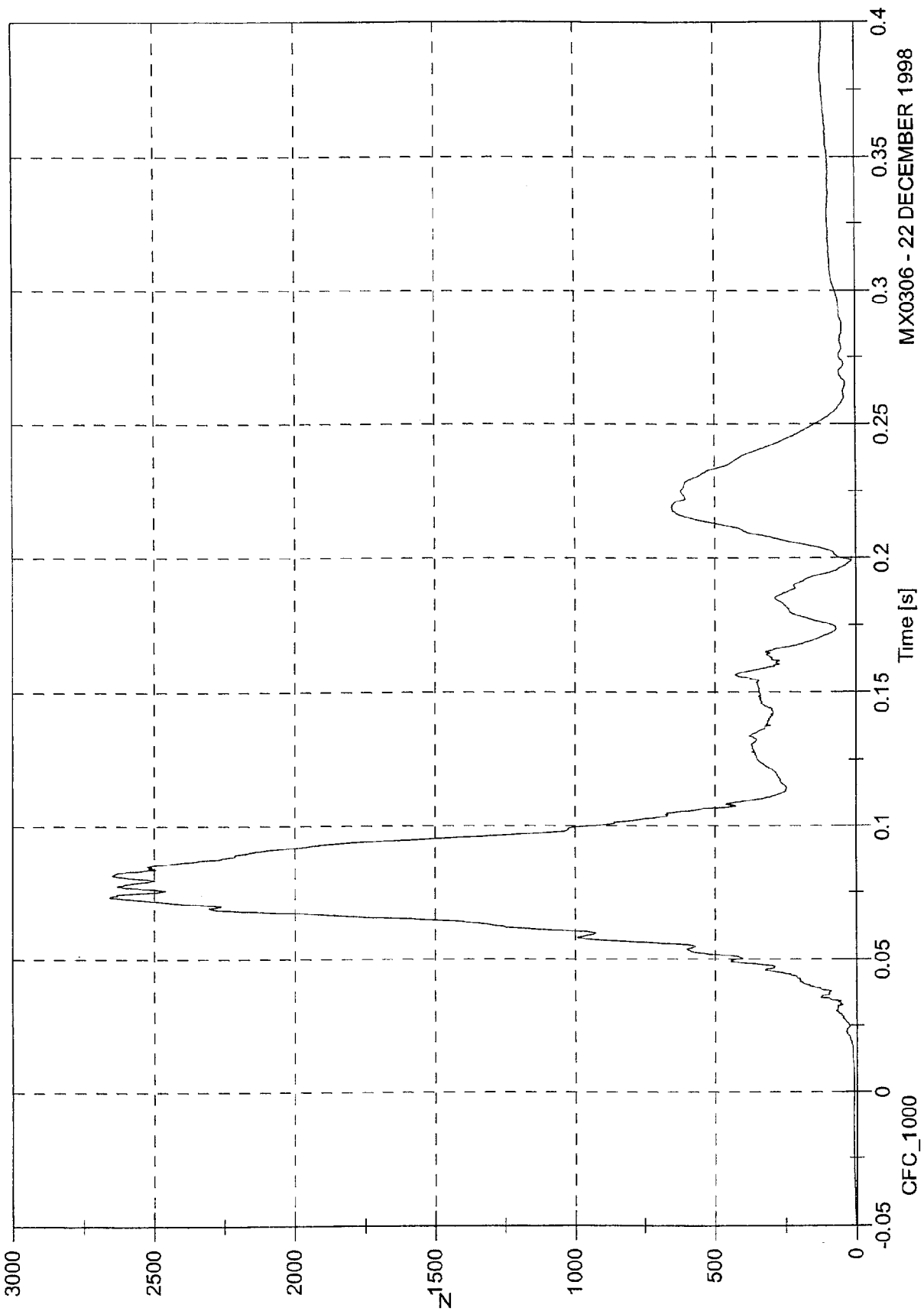


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Upper Neck Load Cell F Resultant

Max: 2659.1 [N] at 0.073 [s]
Min: 1.8 [N] at -0.057 [s]



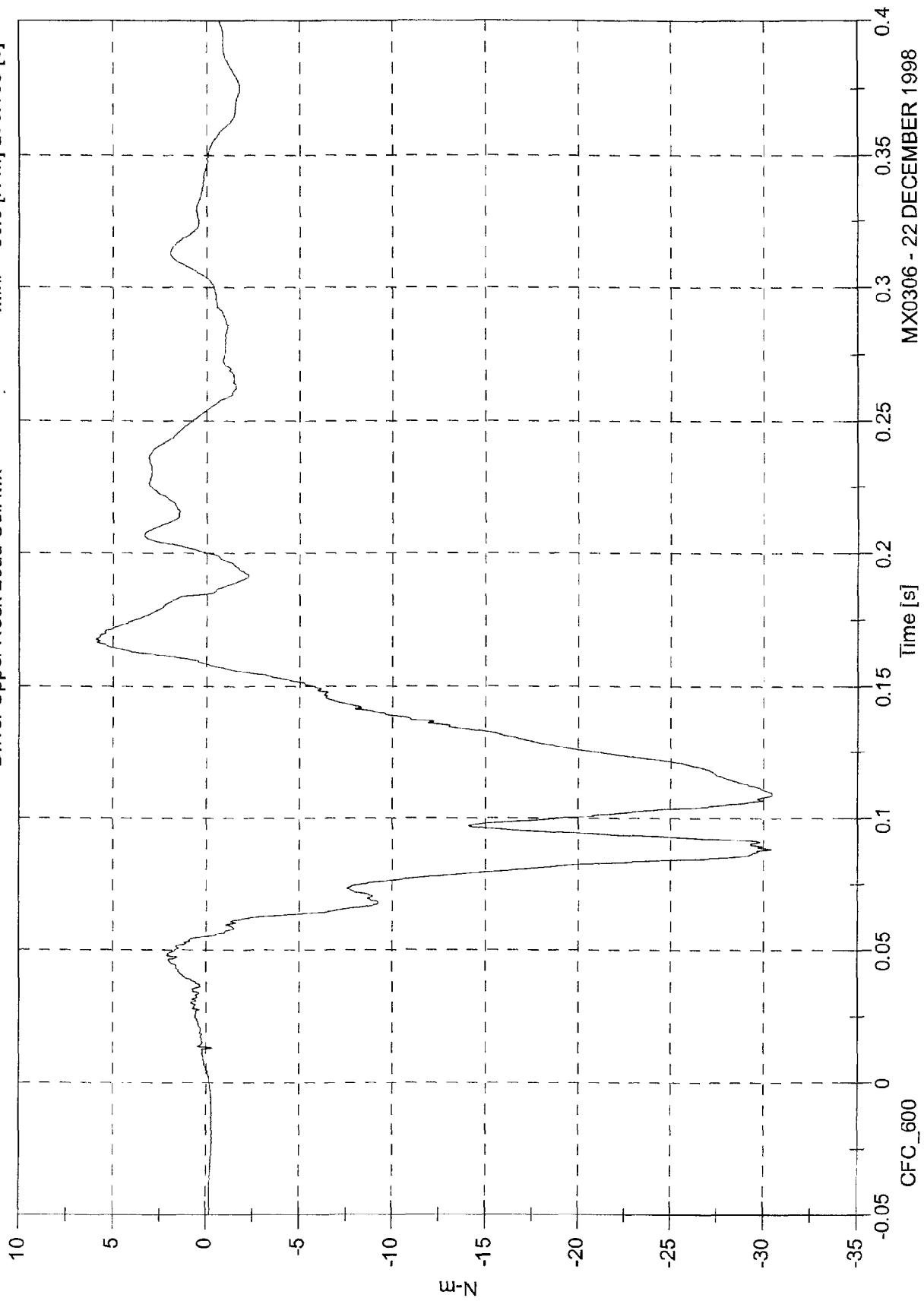
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Upper Neck Load Cell Mx

Max: 5.9 [N-m] at 0.168 [s]

Min: -30.5 [N-m] at 0.109 [s]



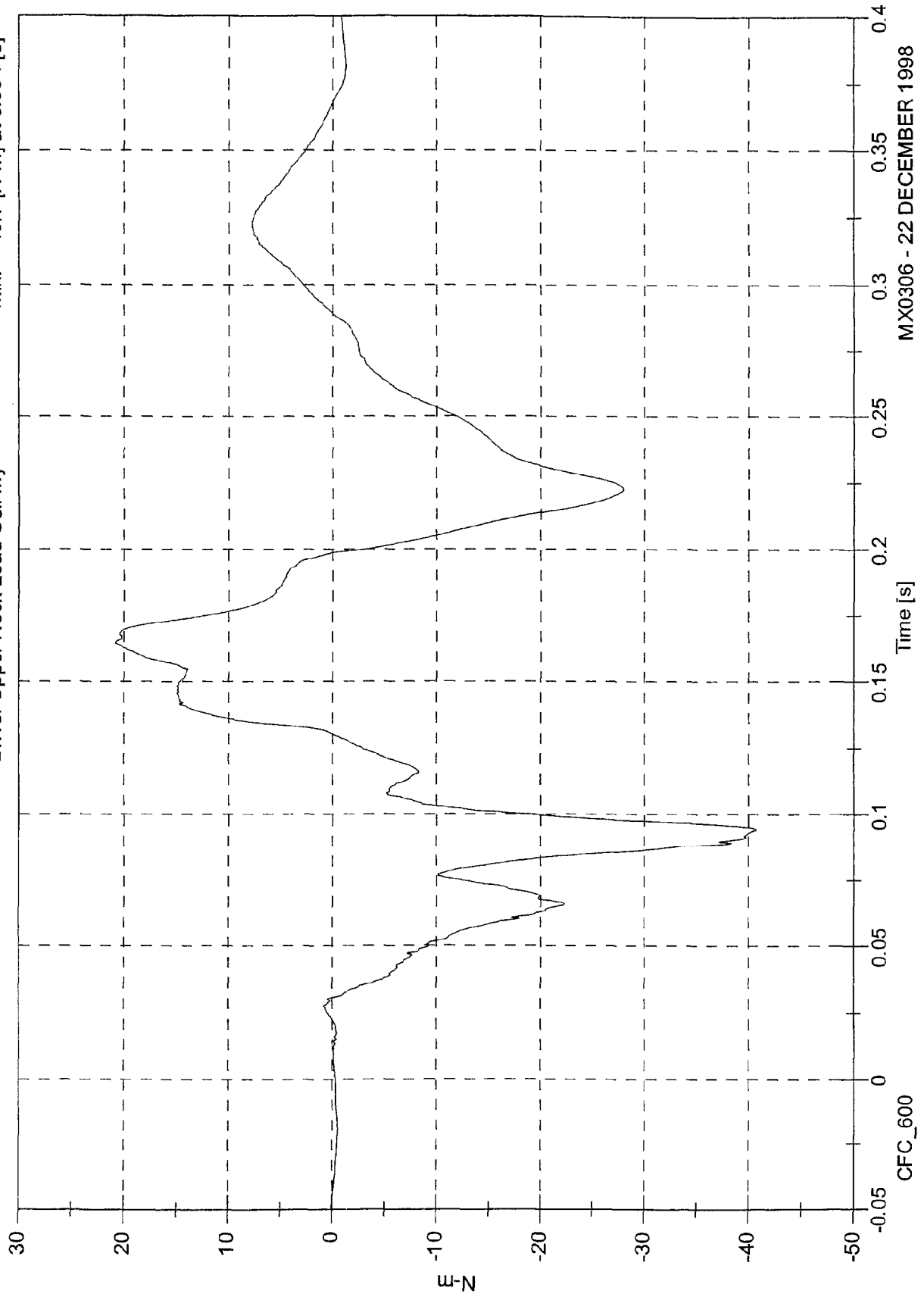
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Upper Neck Load Cell My

Max: 20.8 [N-m] at 0.165 [s]

Min: -40.7 [N-m] at 0.094 [s]

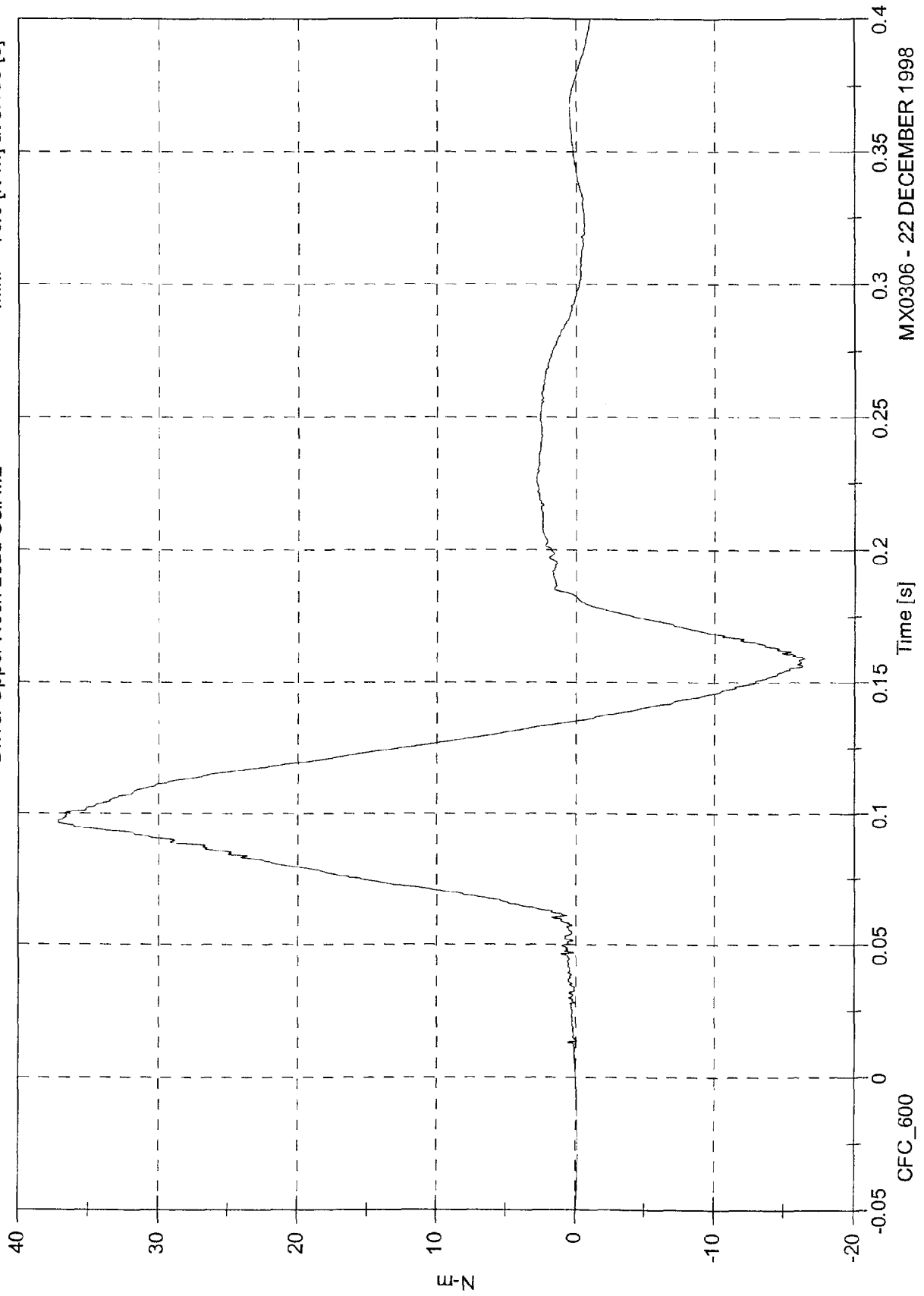


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Driver Upper Neck Load Cell Mz

Max: 37.2 [N-m] at 0.097 [s]
Min: -16.5 [N-m] at 0.159 [s]

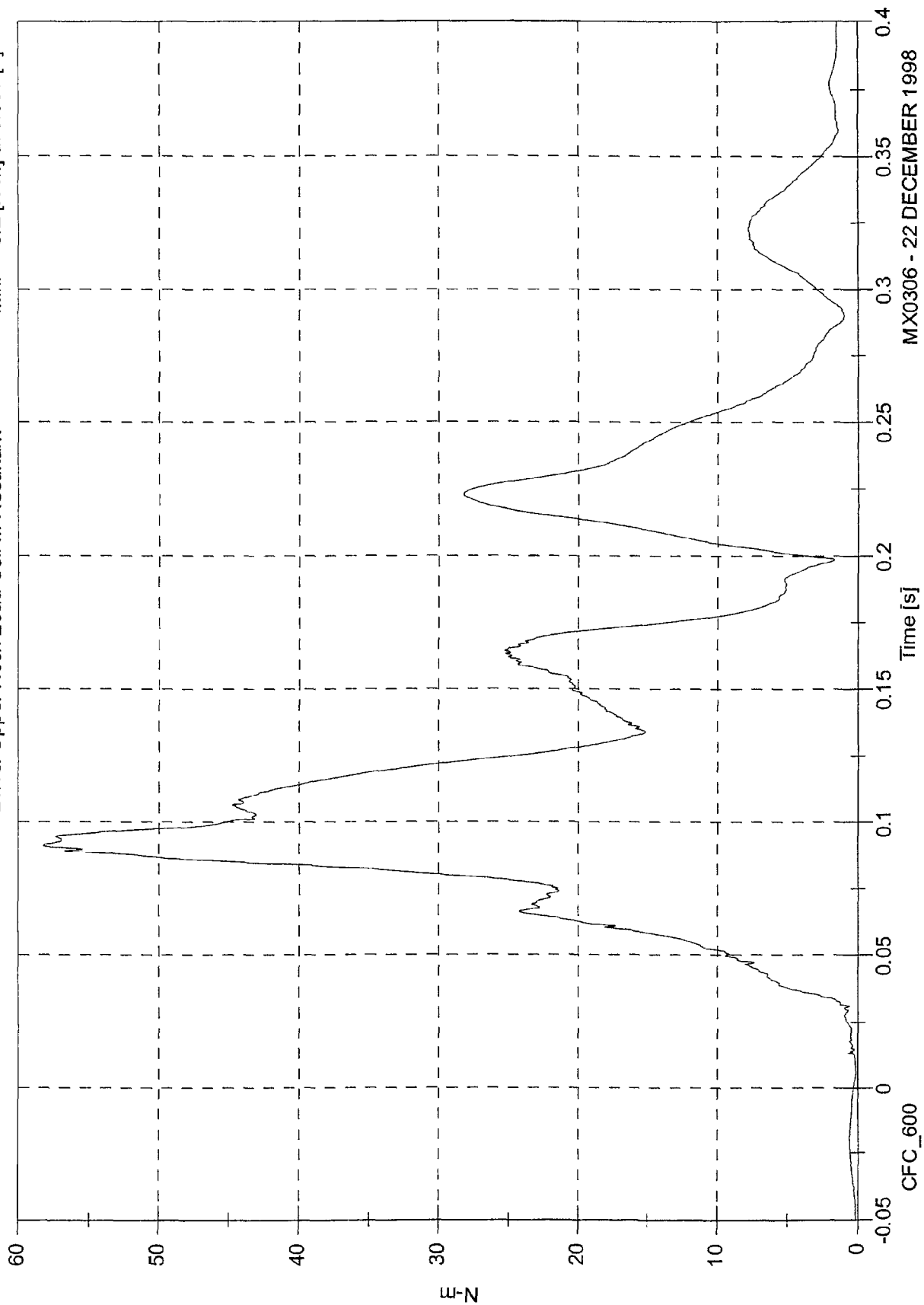


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 58.2 [N-m] at 0.091 [s]
Min: 0.2 [N-m] at 0.006 [s]

Driver Upper Neck Load Cell M Resultant

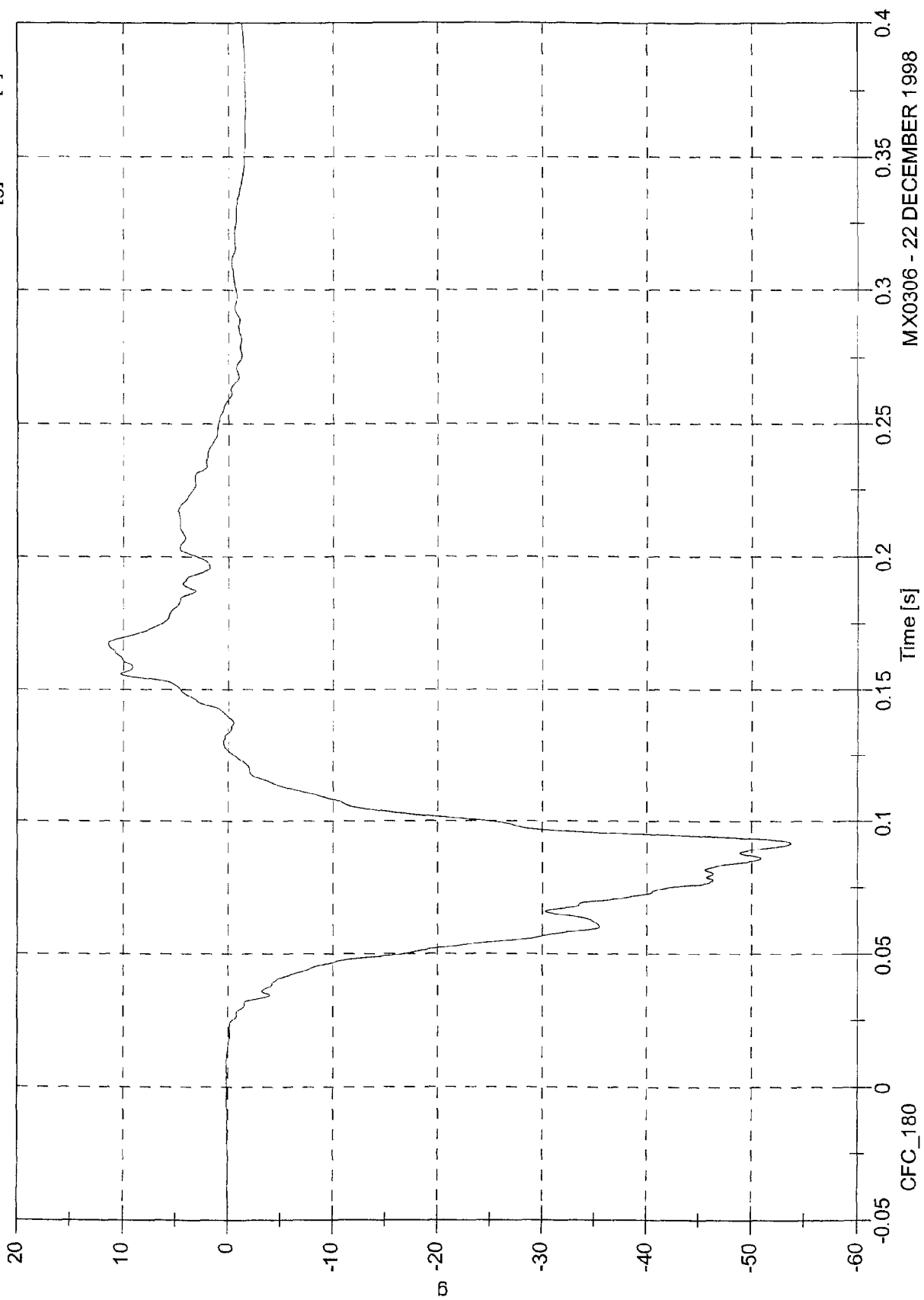


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 11.4 [g] at 0.168 [s]
Min: -53.7 [g] at 0.092 [s]

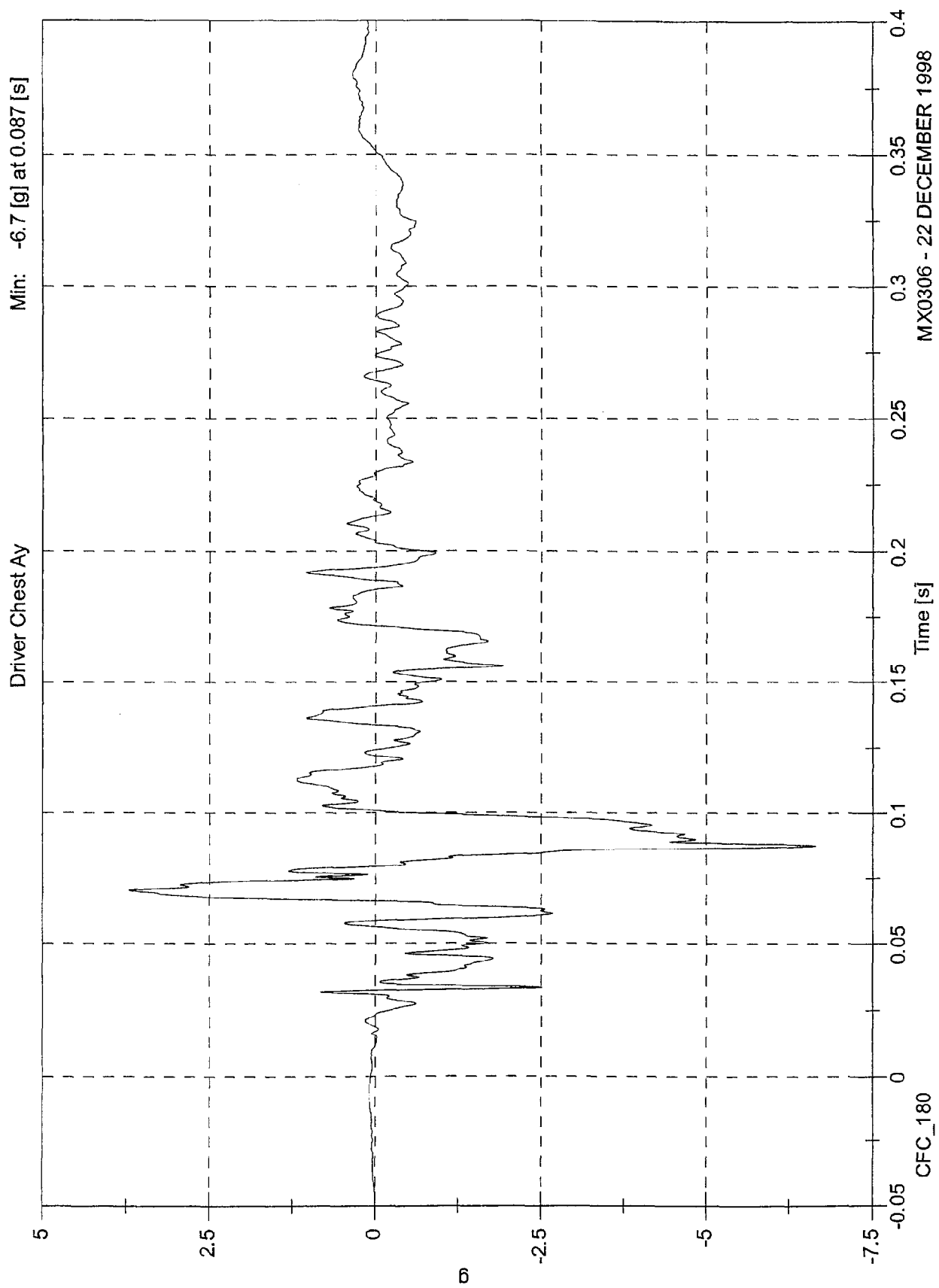
Driver Chest Ax



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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 3.7 [g] at 0.070 [s]
Min: -6.7 [g] at 0.087 [s]

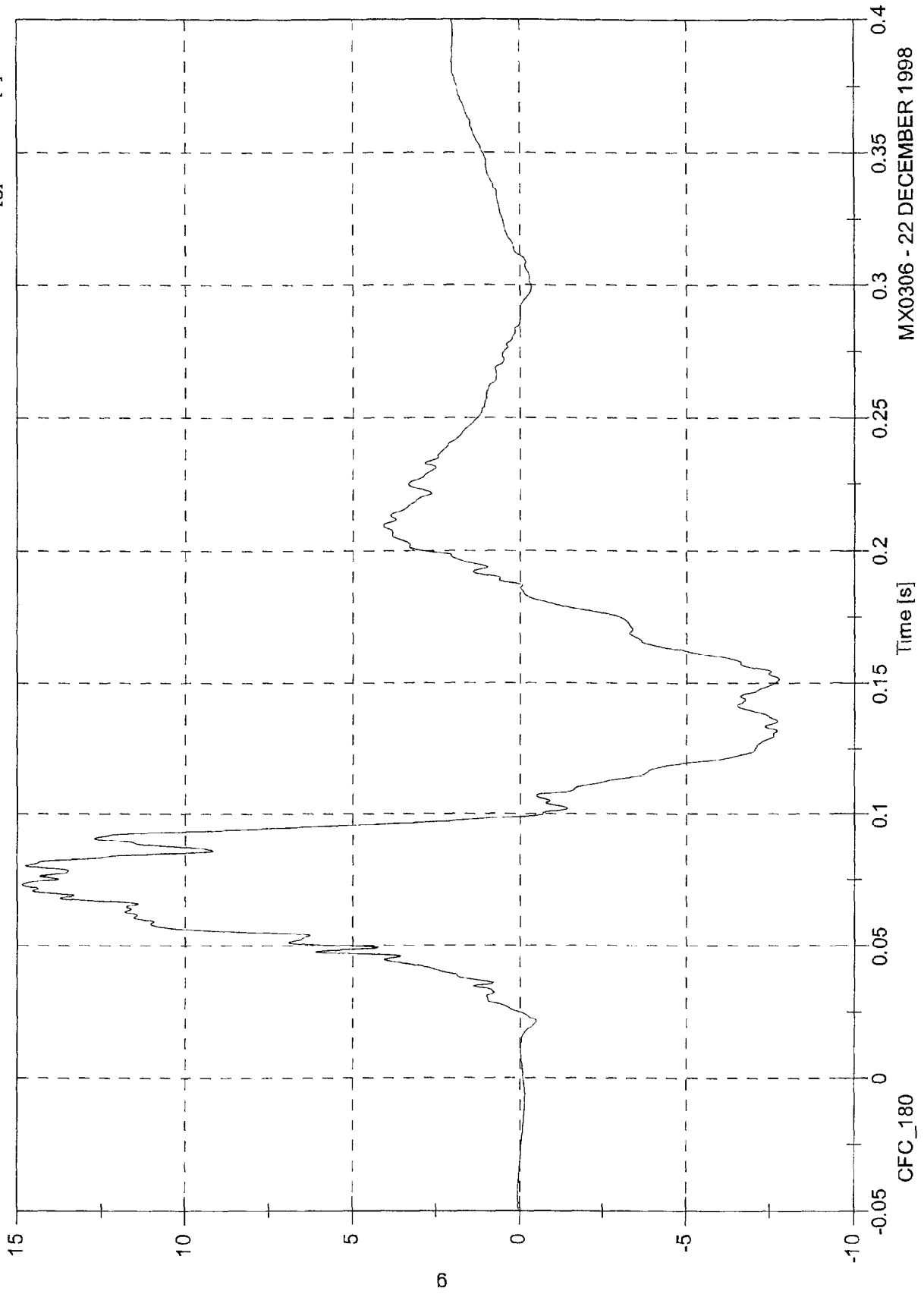


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 14.9 [g] at 0.073 [s]
Min: -7.8 [g] at 0.152 [s]

Driver Chest Az

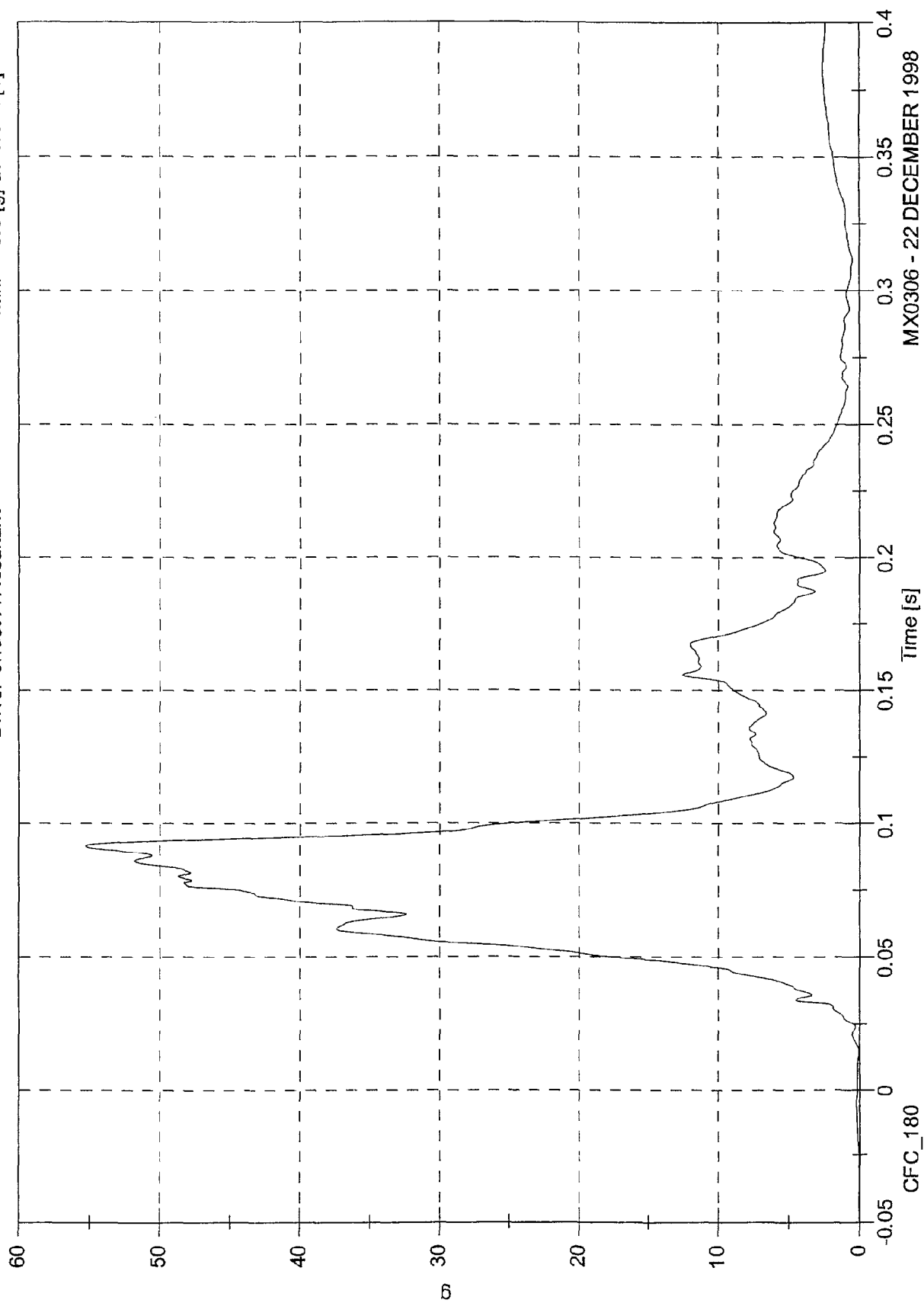


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Chest A Resultant

Max: 55.3 [g] at 0.092 [s]
Min: 0.0 [g] at -0.094 [s]



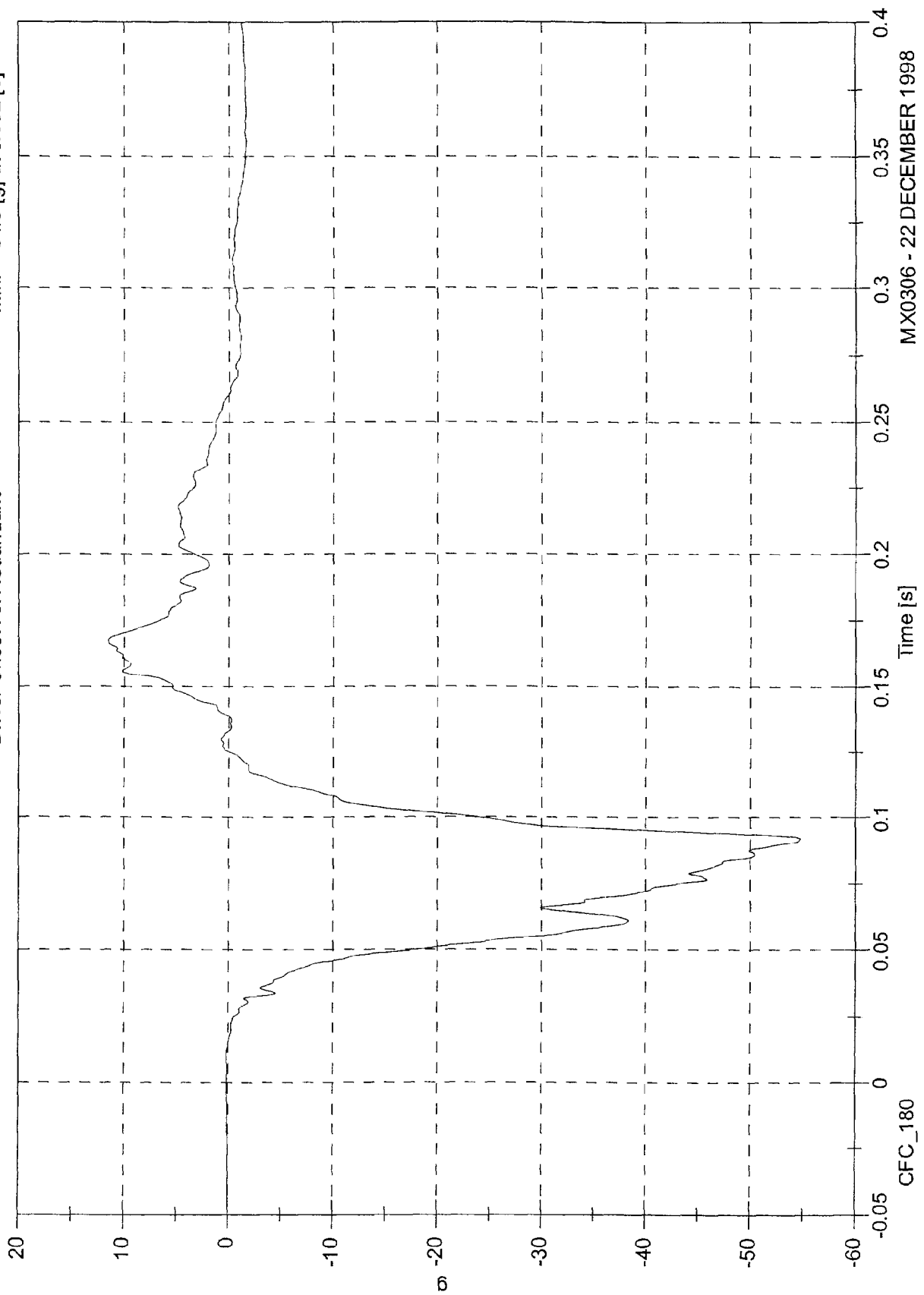
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Chest Ax Redundant

Max: 11.5 [g] at 0.168 [s]

Min: -54.8 [g] at 0.092 [s]

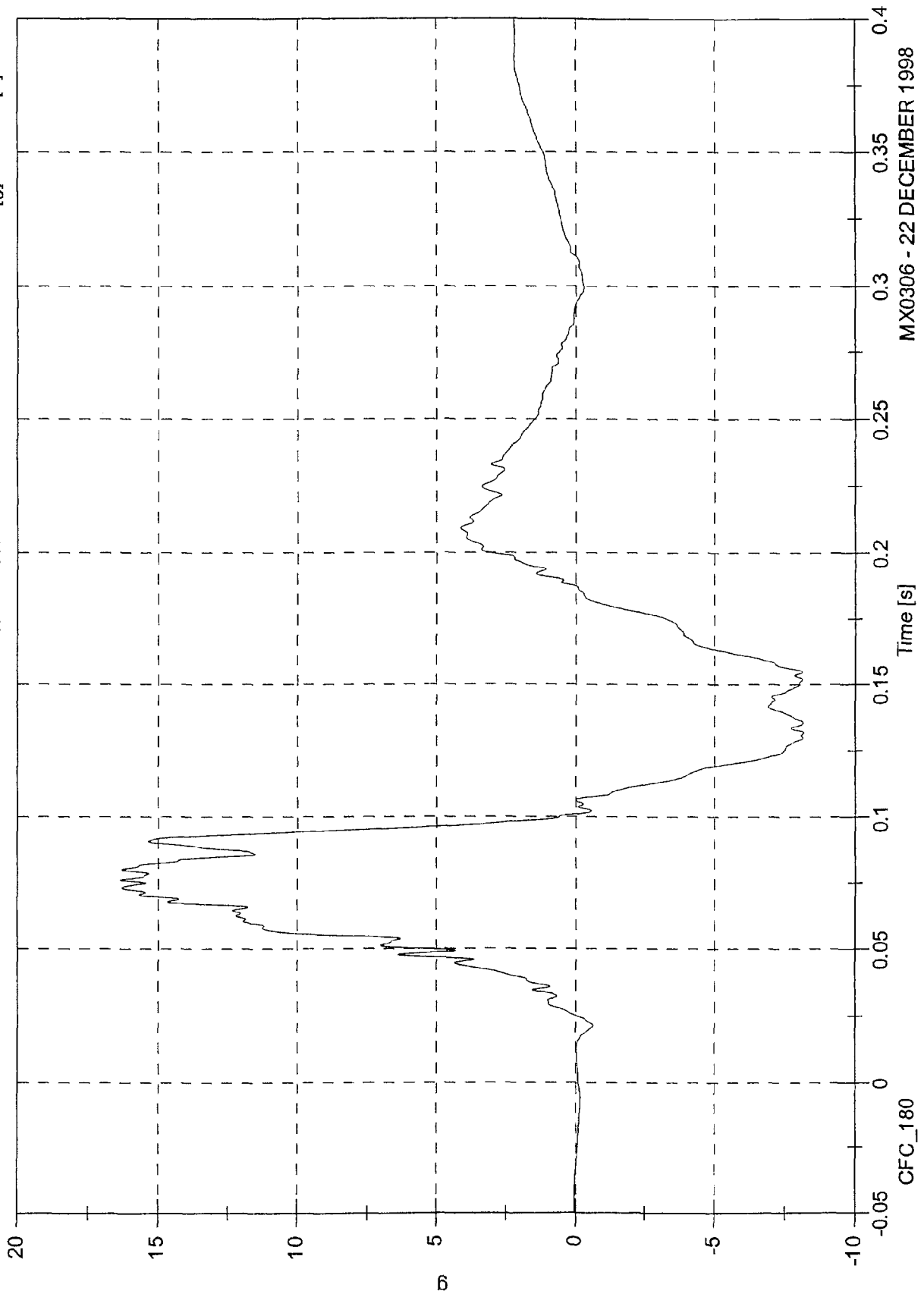


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Chest Az Redundant

Max: 16.3 [g] at 0.076 [s]
Min: -8.2 [g] at 0.132 [s]

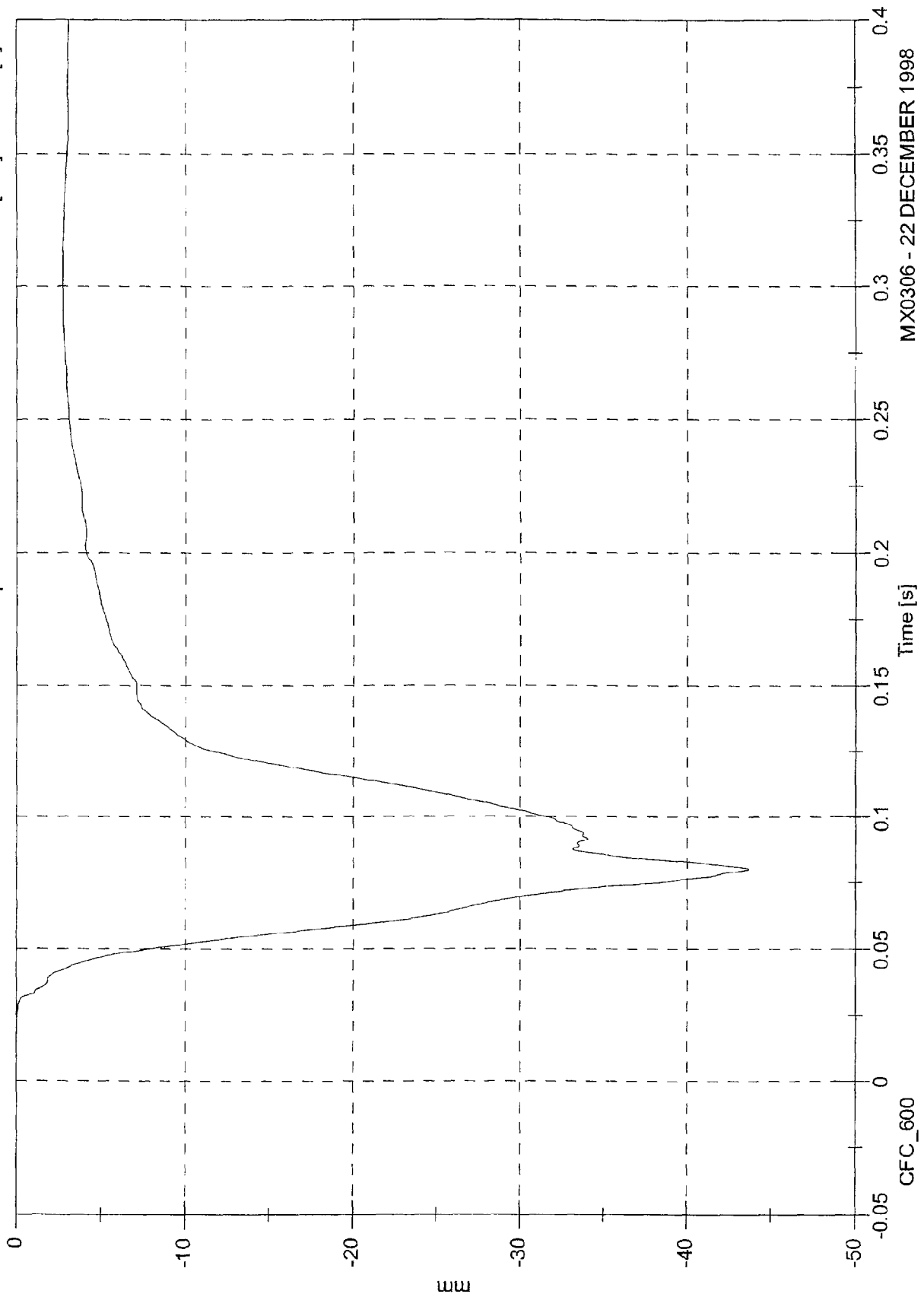


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 0.0 [mm] at 0.022 [s]
Min: -43.7 [mm] at 0.080 [s]

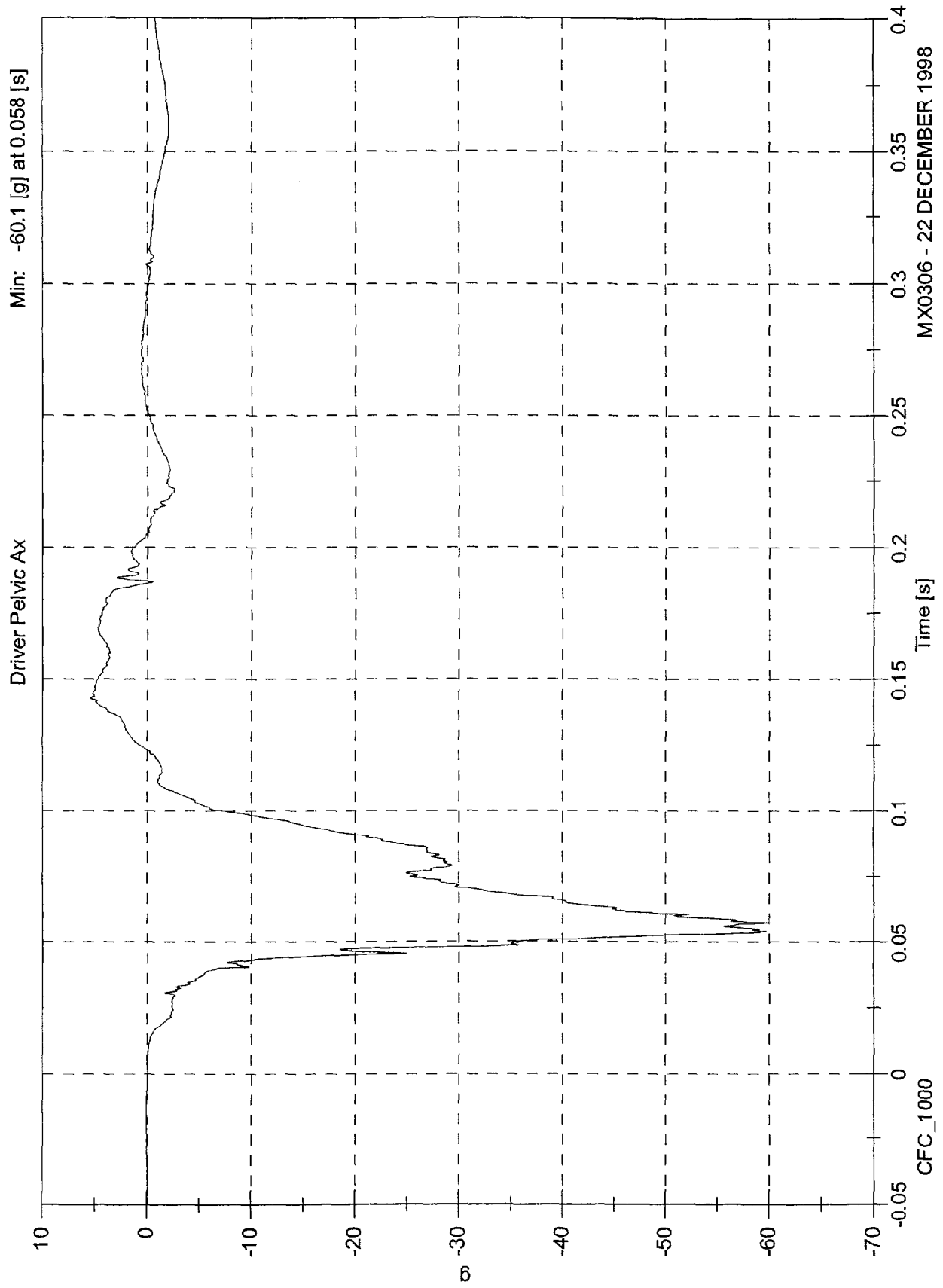
Driver Chest Displacement



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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

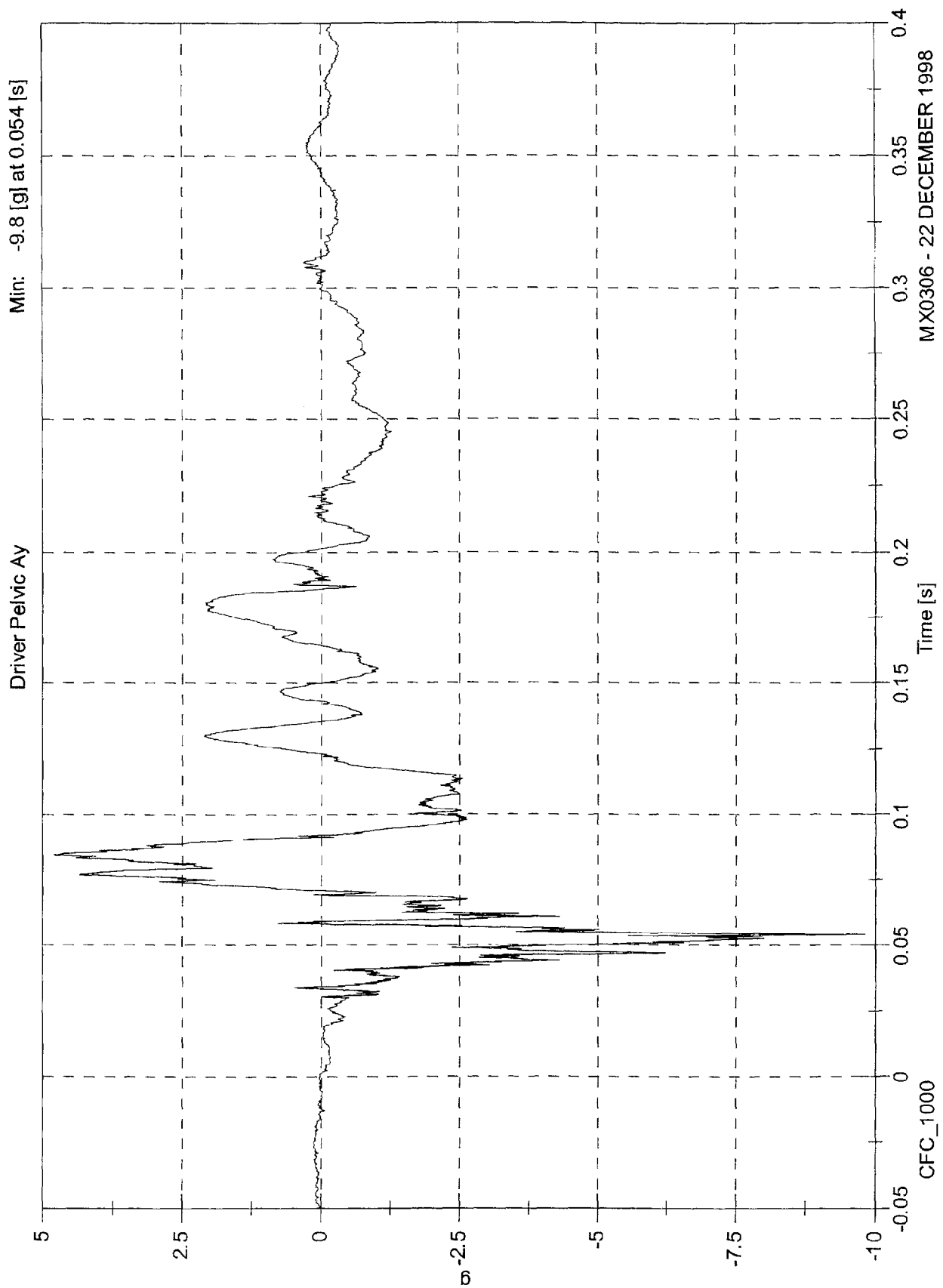
Max: 5.4 [g] at 0.143 [s]
Min: -60.1 [g] at 0.058 [s]



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NCAP TEST#4 - 1999 DODGE RAM QUADCAB

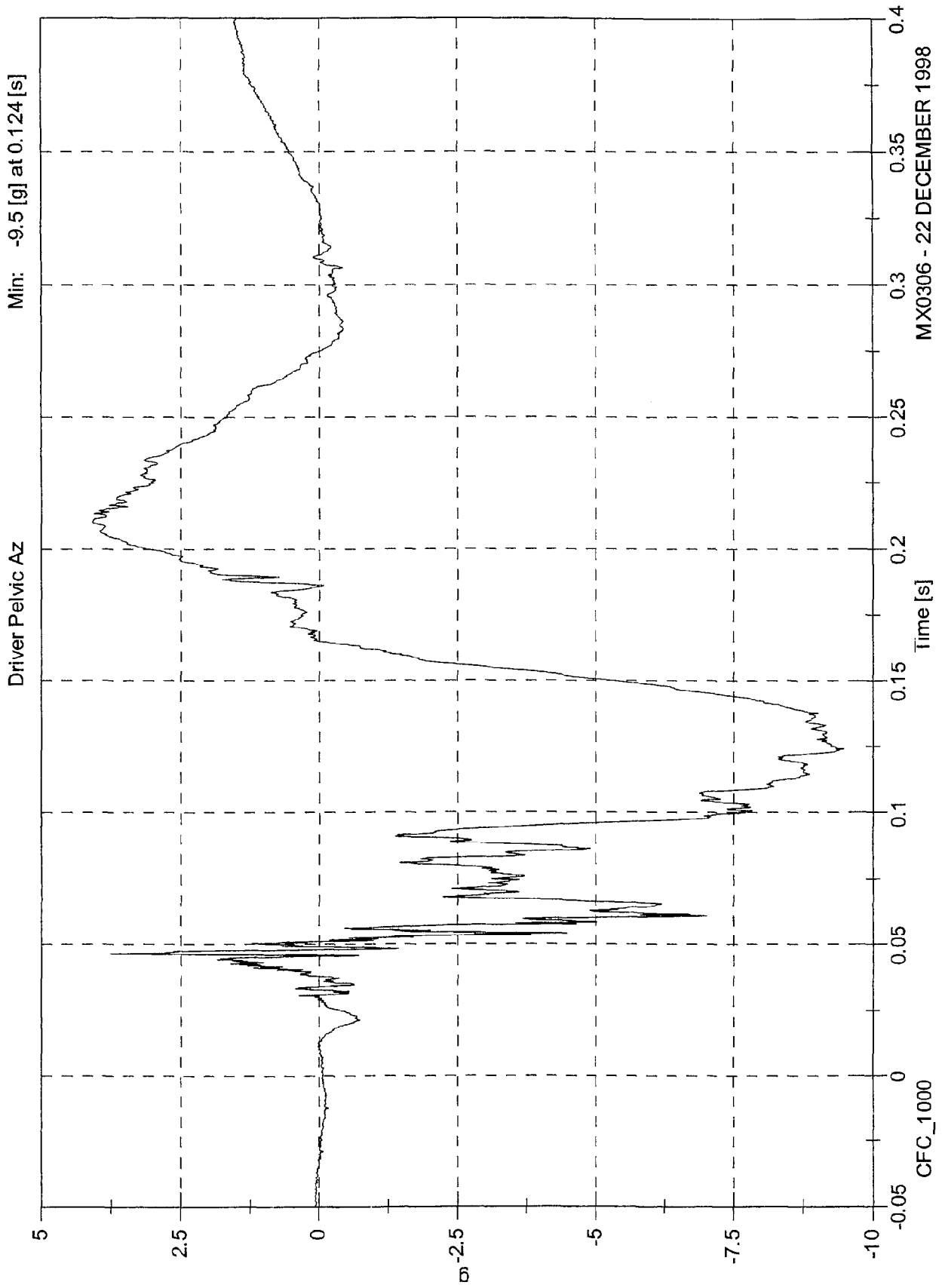
Max: 4.8 [g] at 0.085 [s]
Min: -9.8 [g] at 0.054 [s]



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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 4.1 [g] at 0.210 [s]
Min: -9.5 [g] at 0.124 [s]



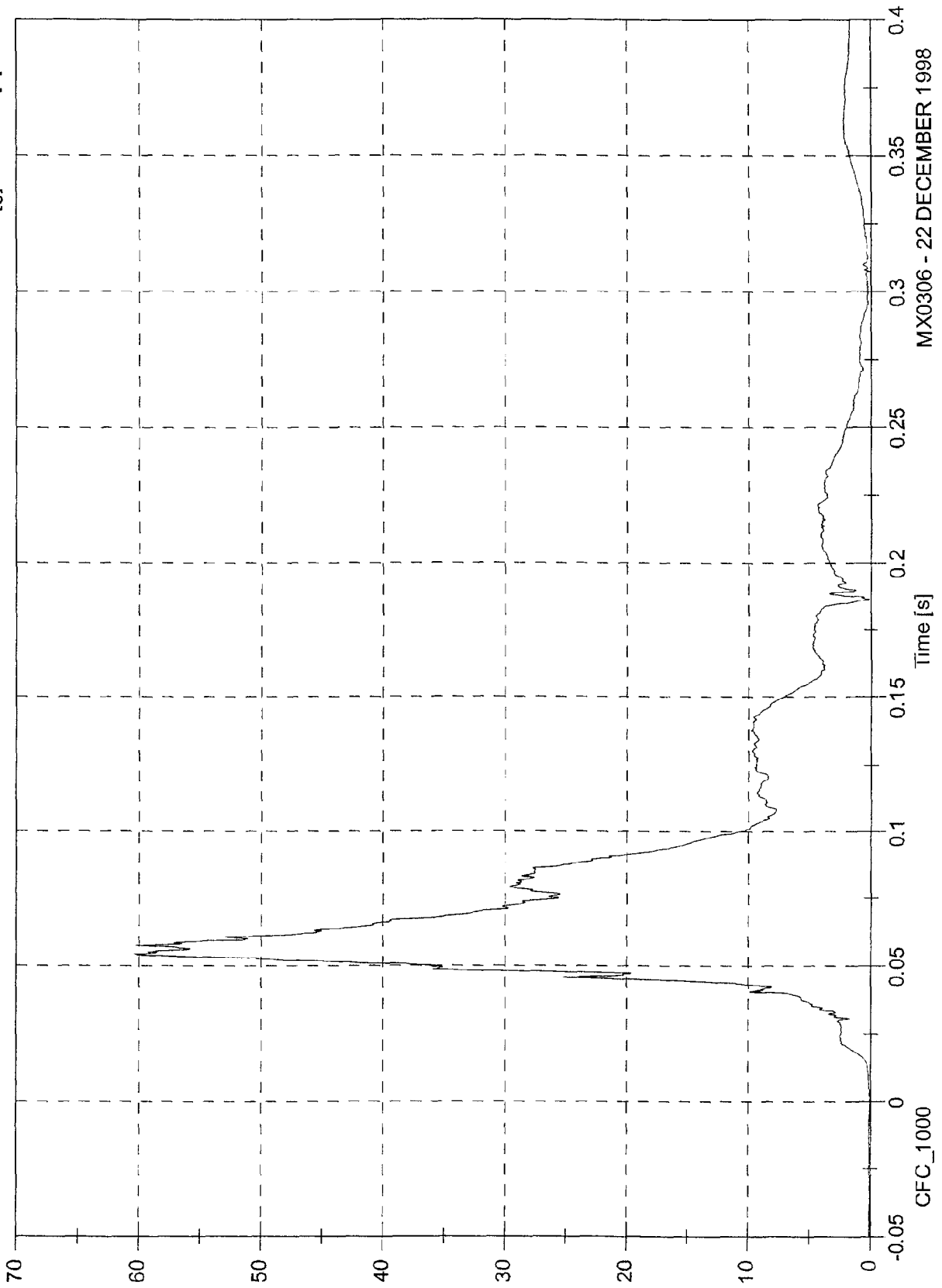
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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Pelvic A Resultant

Max: 60.4 [g] at 0.054 [s]

Min: 0.1 [g] at -0.073 [s]

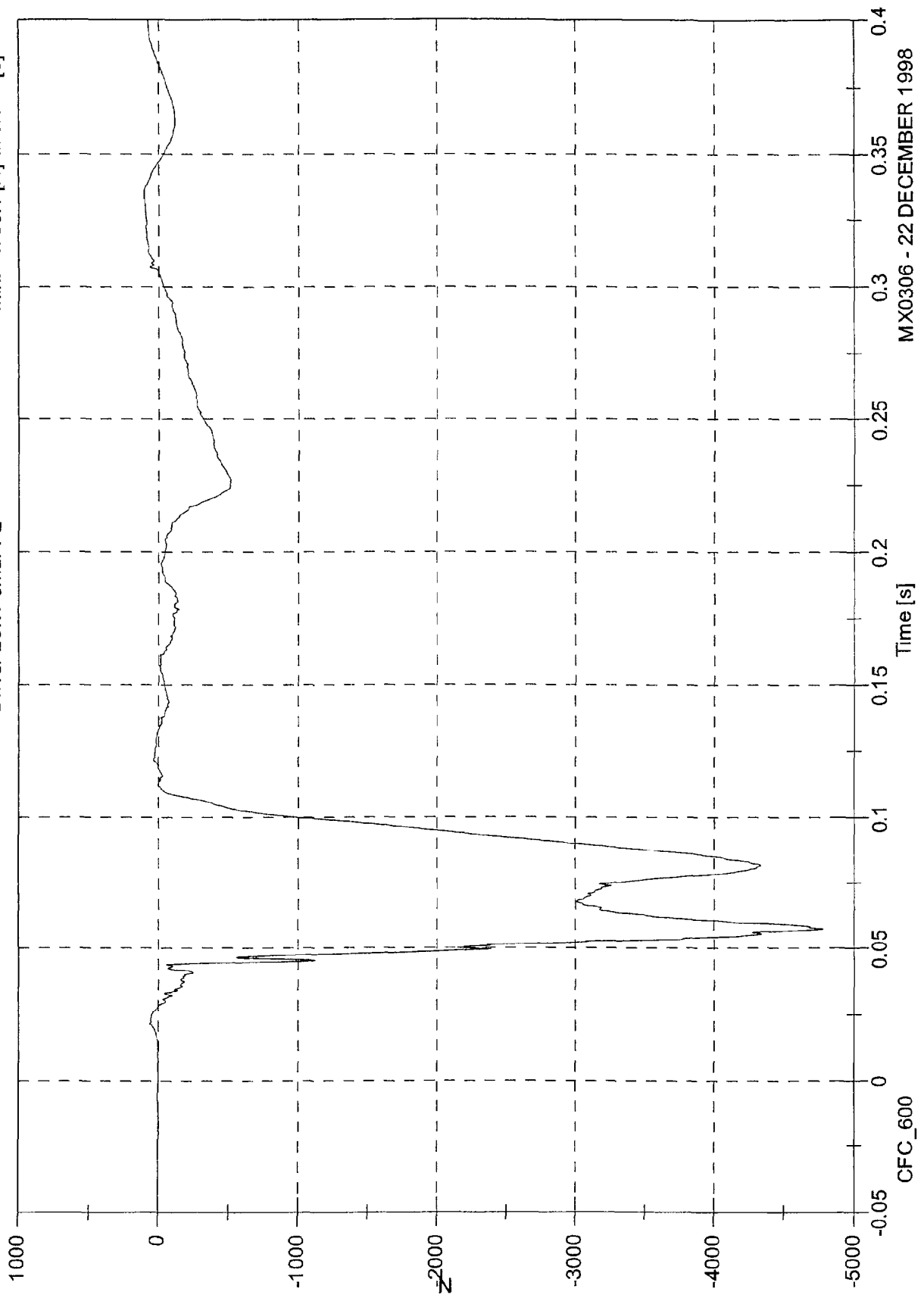


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 105.5 [N] at 0.335 [s]
Min: -4783.1 [N] at 0.058 [s]

Driver Left Femur Fz

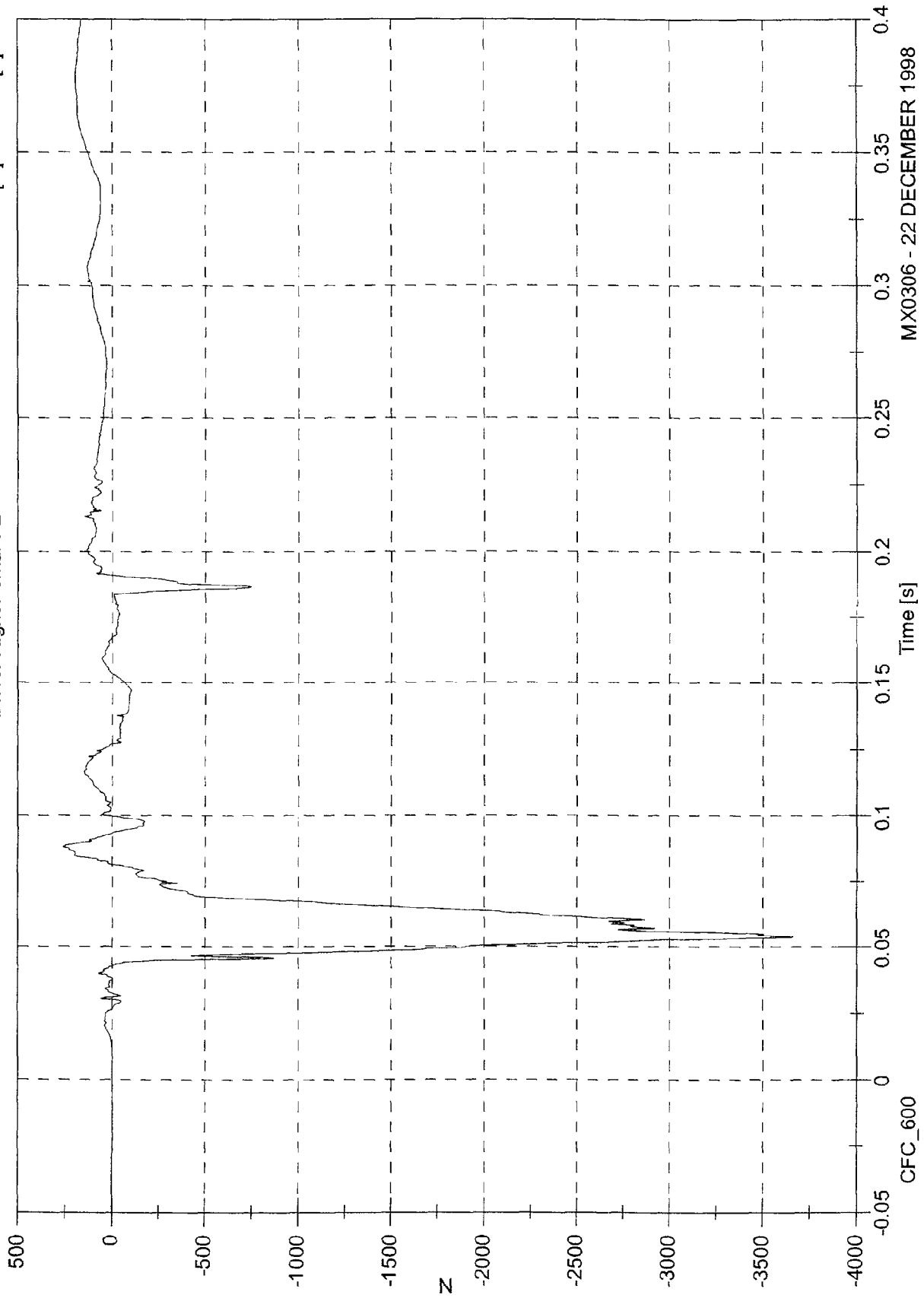


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NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 260.7 [N] at 0.088 [s]
Min: -3661.3 [N] at 0.054 [s]

Driver Right Femur Fz

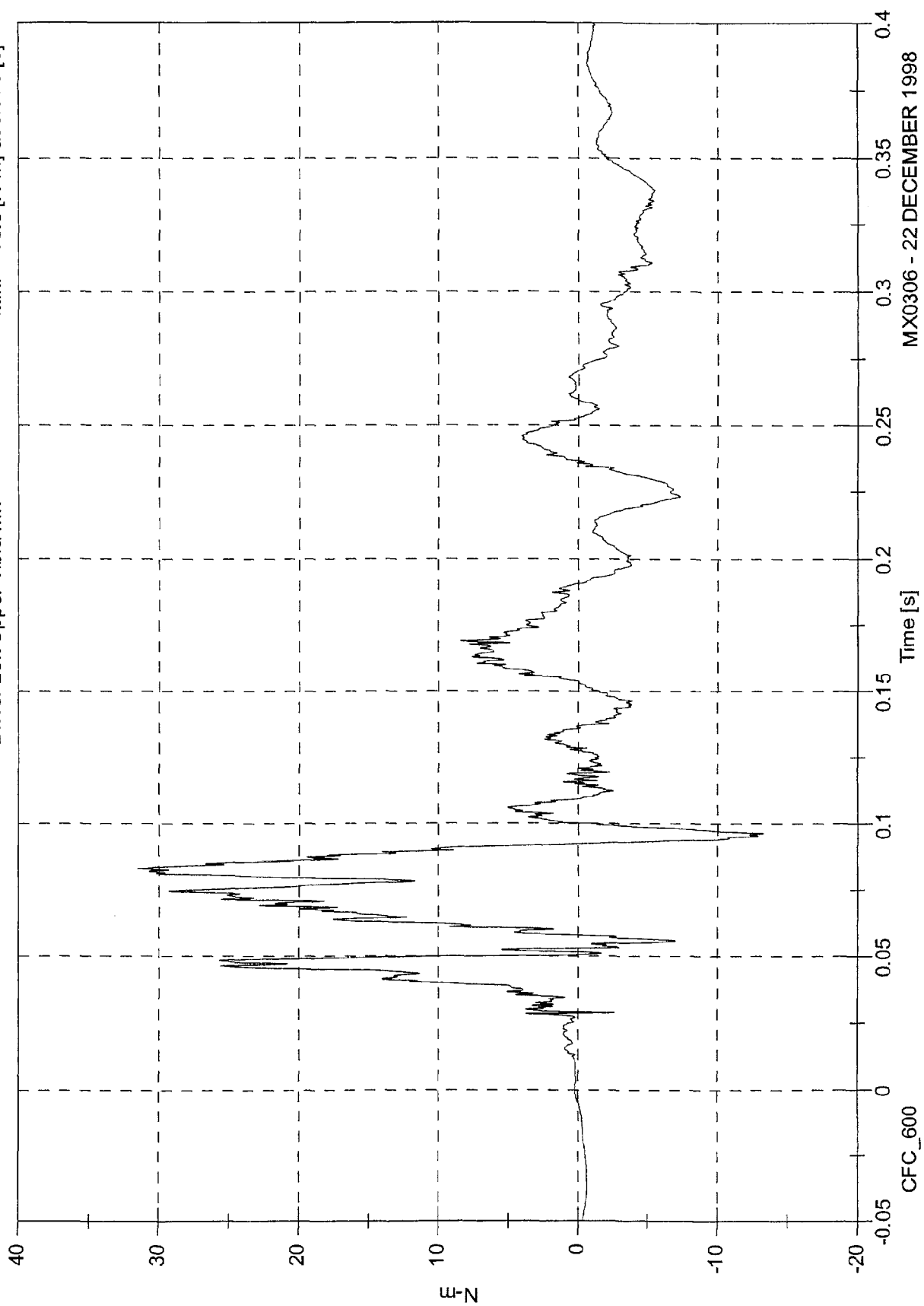


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 31.5 [N-m] at 0.083 [s]
 Min: -13.3 [N-m] at 0.096 [s]

Driver Left Upper Tibia Mx

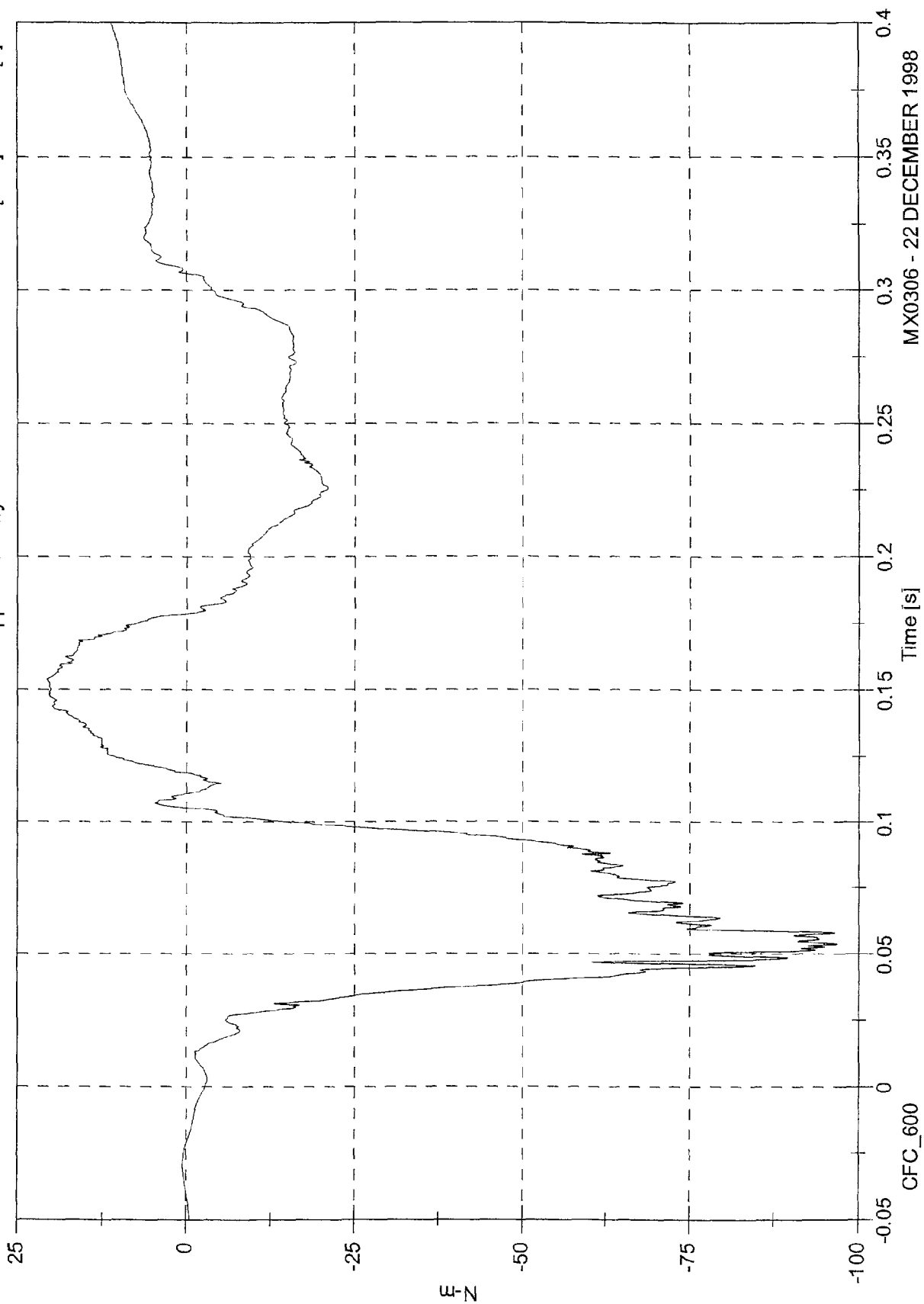


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NCAP TEST#4 - 1999 DODGE RAM QUADCAB

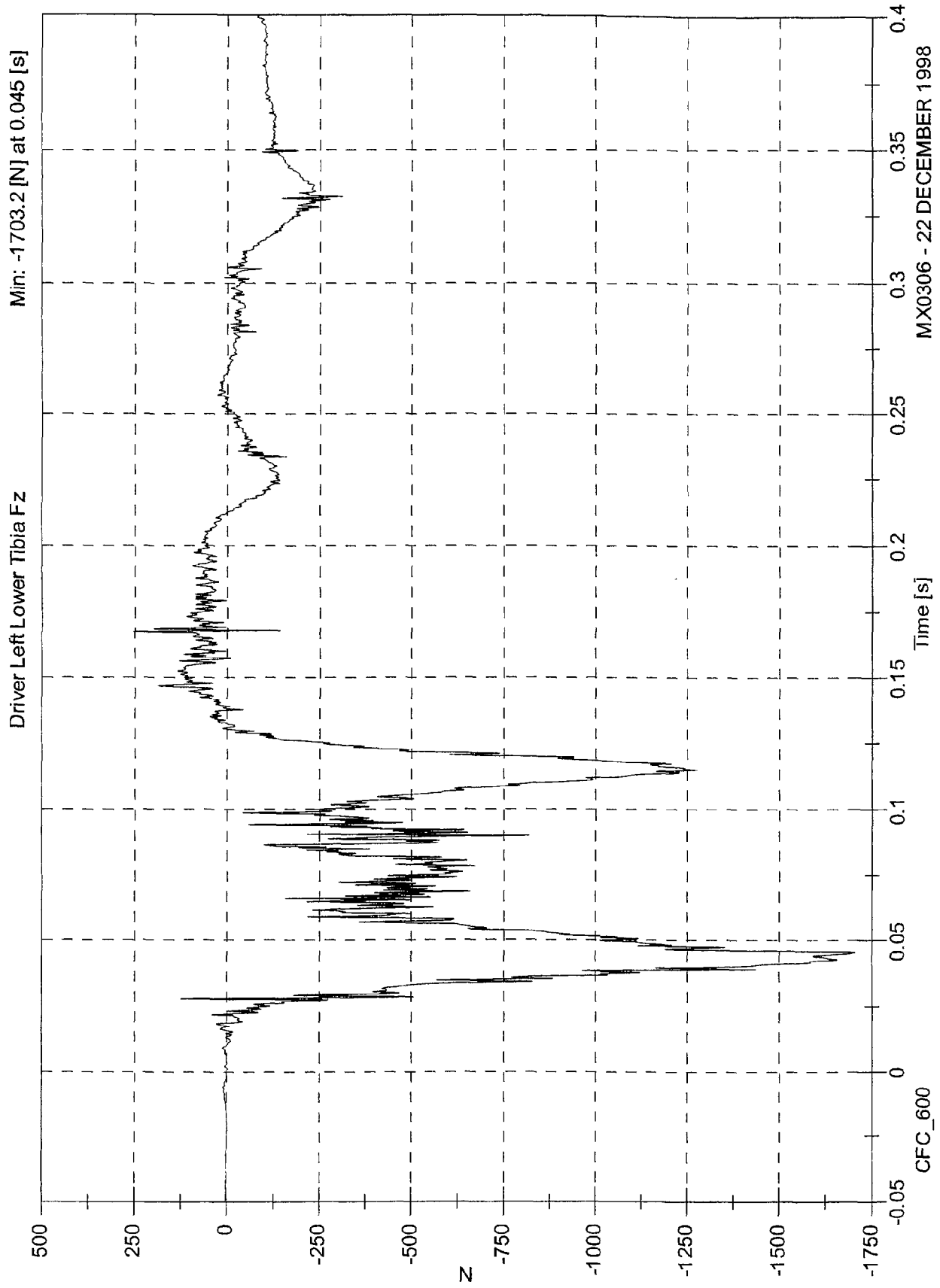
Max: 20.6 [N-m] at 0.154 [s]
 Min: -96.7 [N-m] at 0.054 [s]

Driver Left Upper Tibia My



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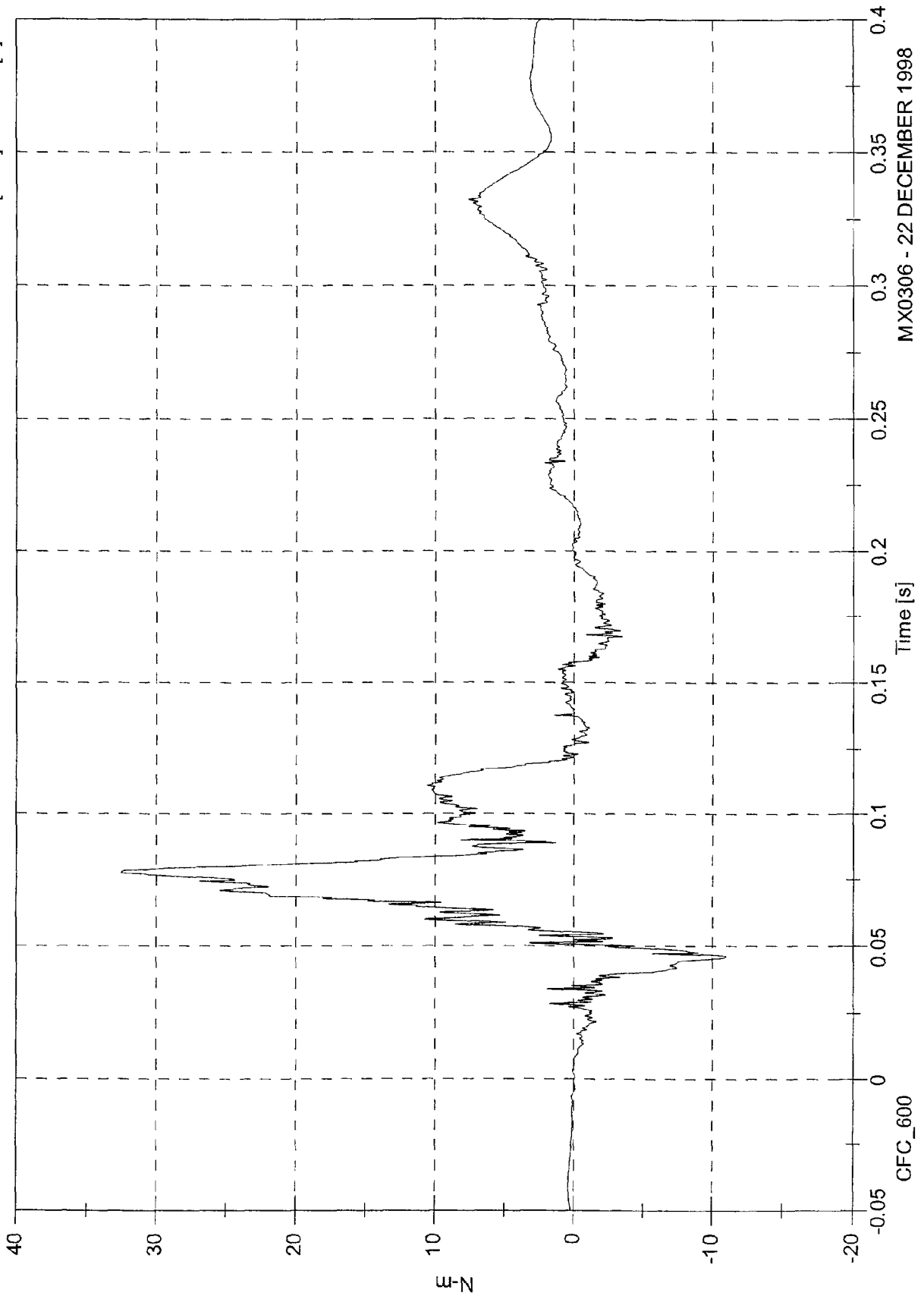
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB



NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 32.5 [N-m] at 0.078 [s]
 Min: -11.0 [N-m] at 0.046 [s]

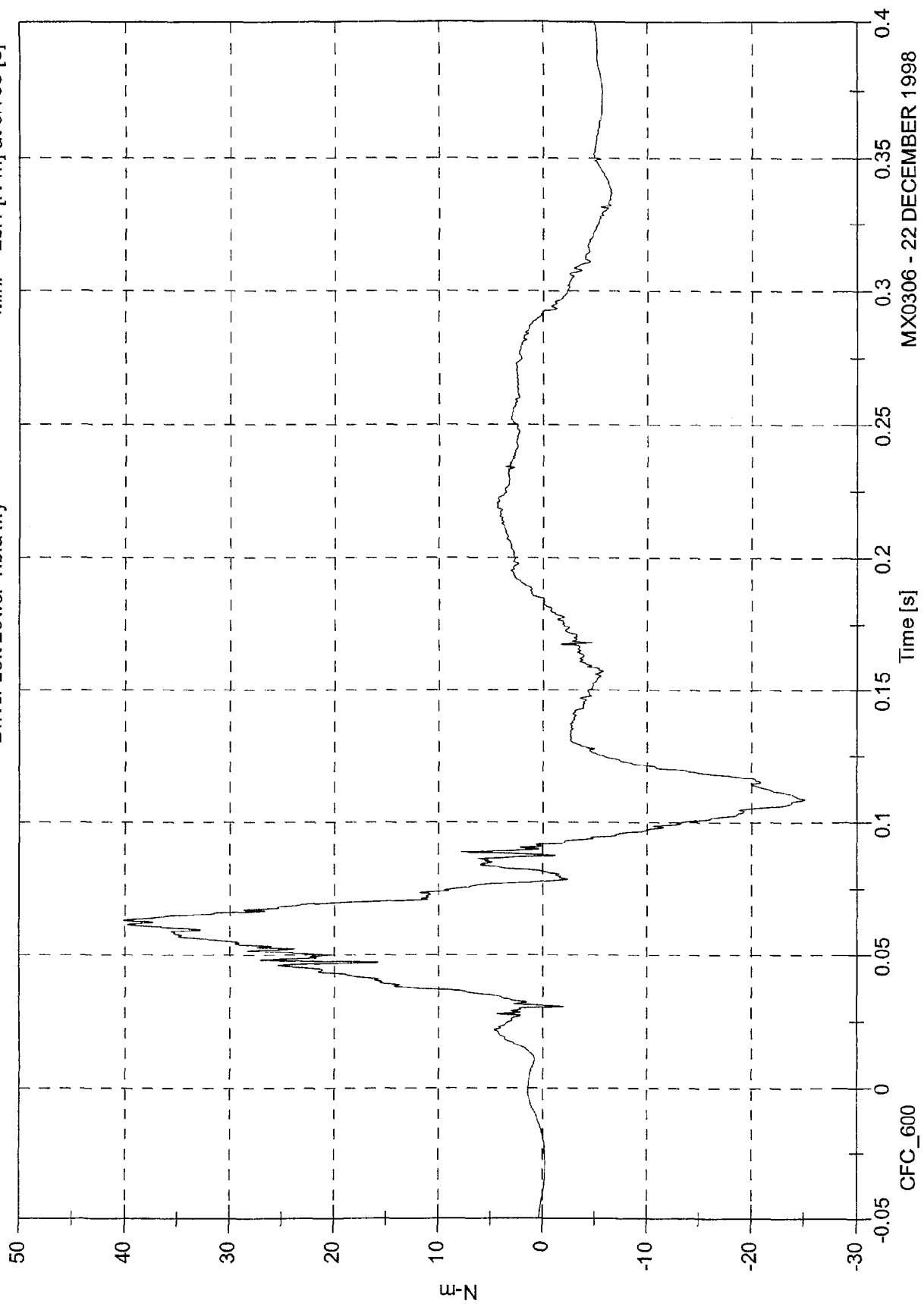
Driver Left Lower Tibia Mx



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 40.1 [N-m] at 0.063 [s]
 Min: -25.1 [N-m] at 0.109 [s]

Driver Left Lower Tibia My

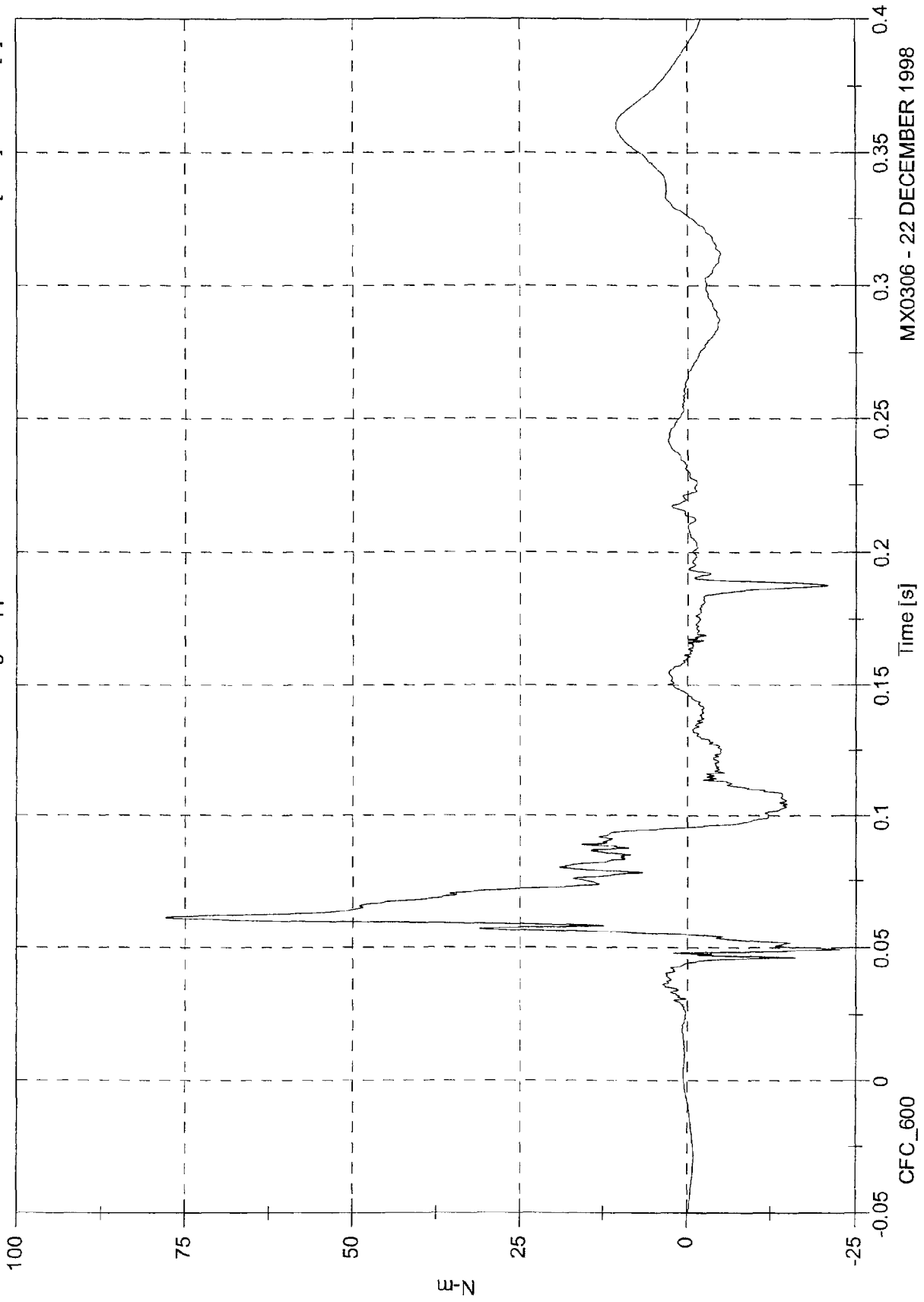


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 78.0 [N-m] at 0.061 [s]
Min: -22.7 [N-m] at 0.049 [s]

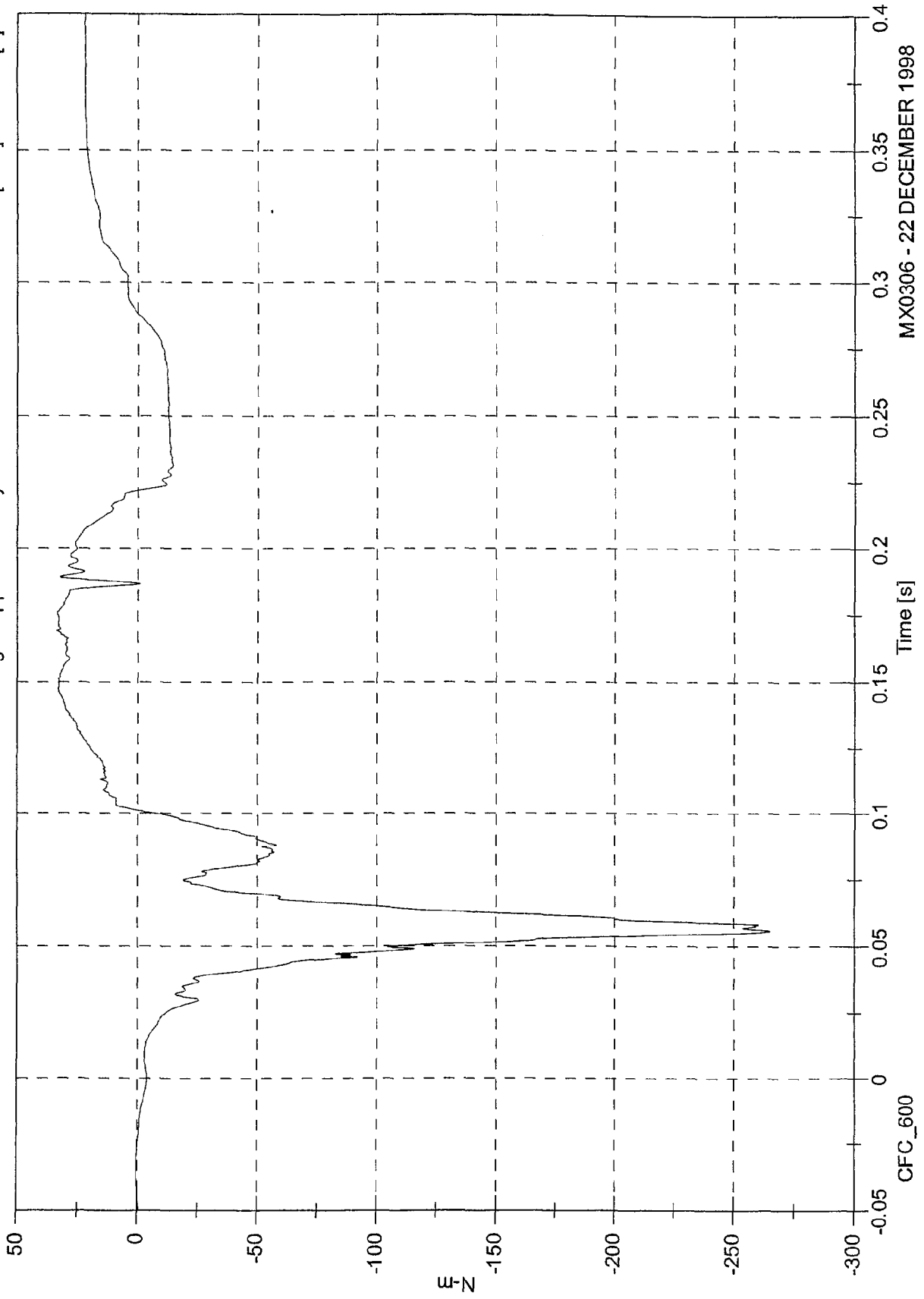
Driver Right Upper Tibia Mx



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 33.7 [N-m] at 0.169 [s]
Min: -265.2 [N-m] at 0.056 [s]

Driver Right Upper Tibia My

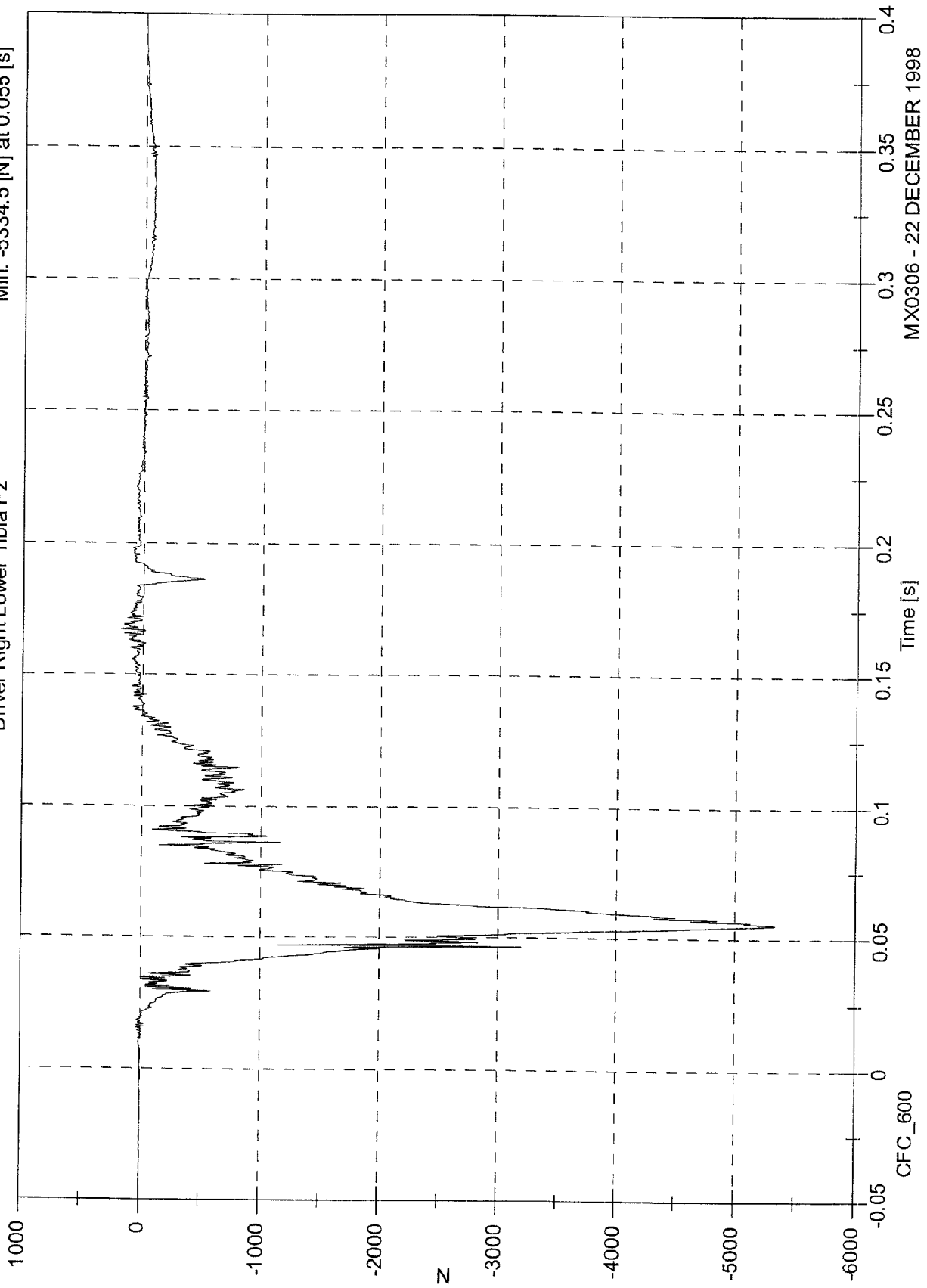


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 185.7 [N] at 0.167 [s]
Min: -5334.5 [N] at 0.055 [s]

Driver Right Lower Tibia Fz

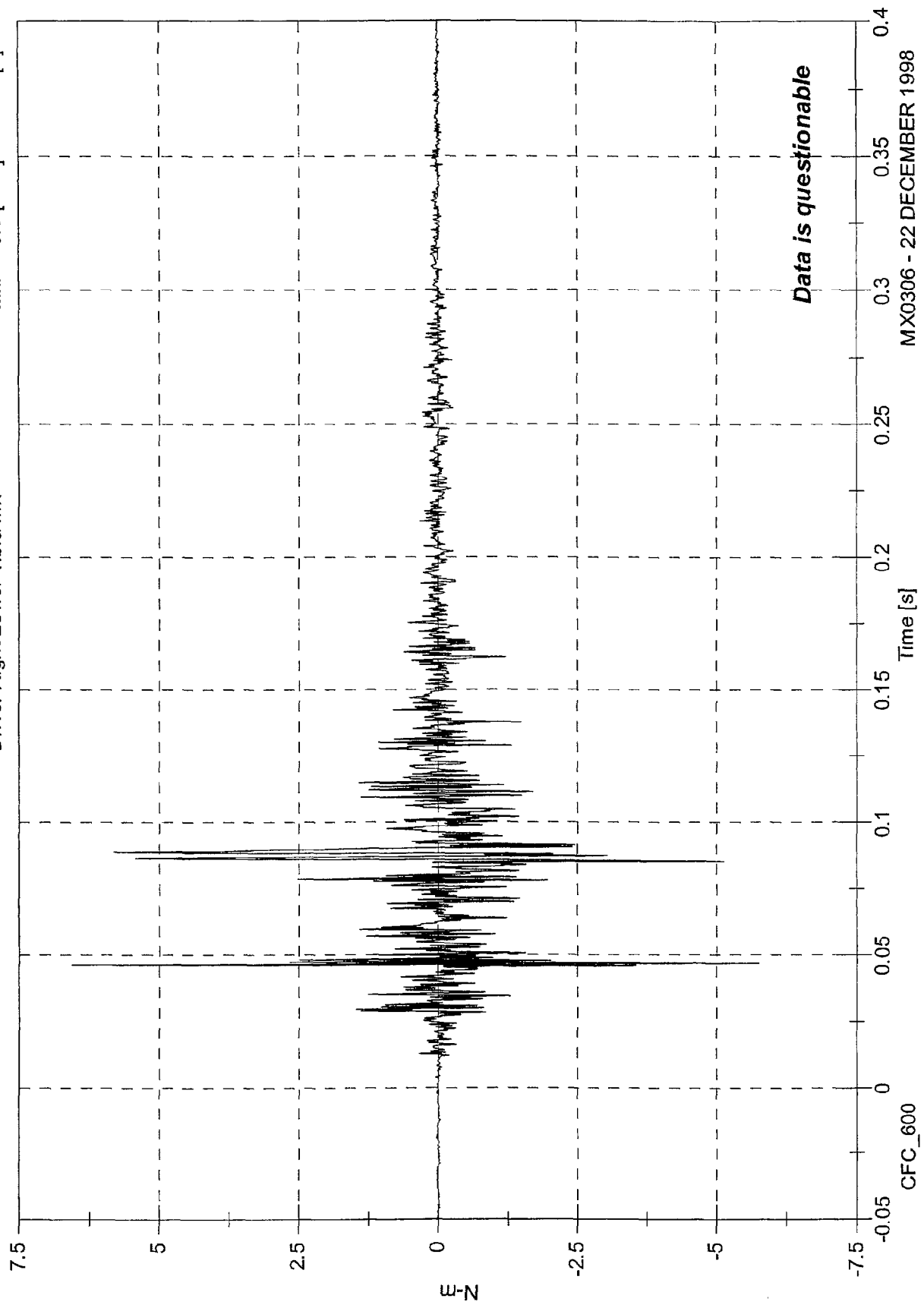


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 6.6 [N-m] at 0.046 [s]
 Min: -5.8 [N-m] at 0.047 [s]

Driver Right Lower Tibia Mx

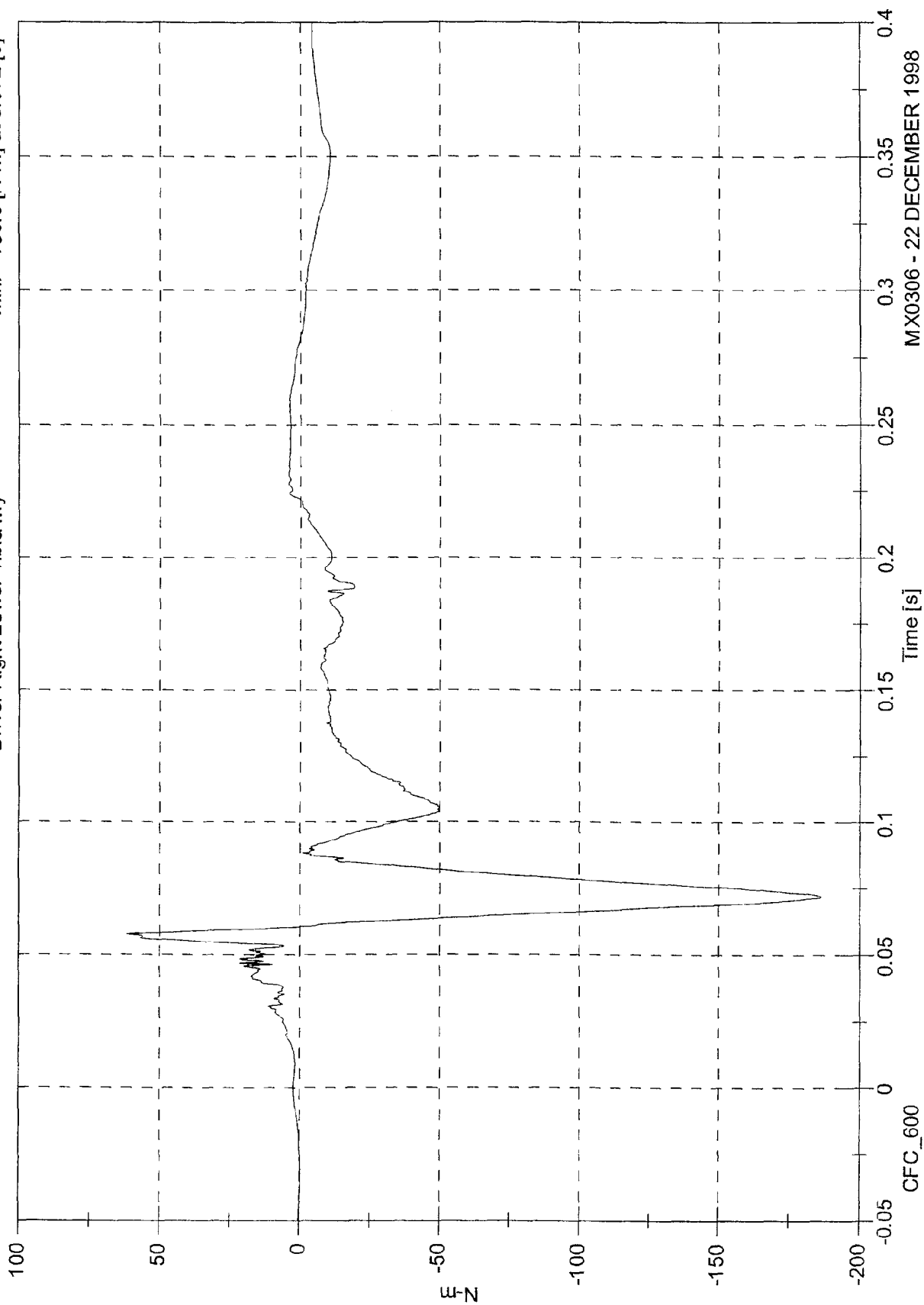


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 61.7 [N-m] at 0.058 [s]
 Min: -186.5 [N-m] at 0.072 [s]

Driver Right Lower Tibia My

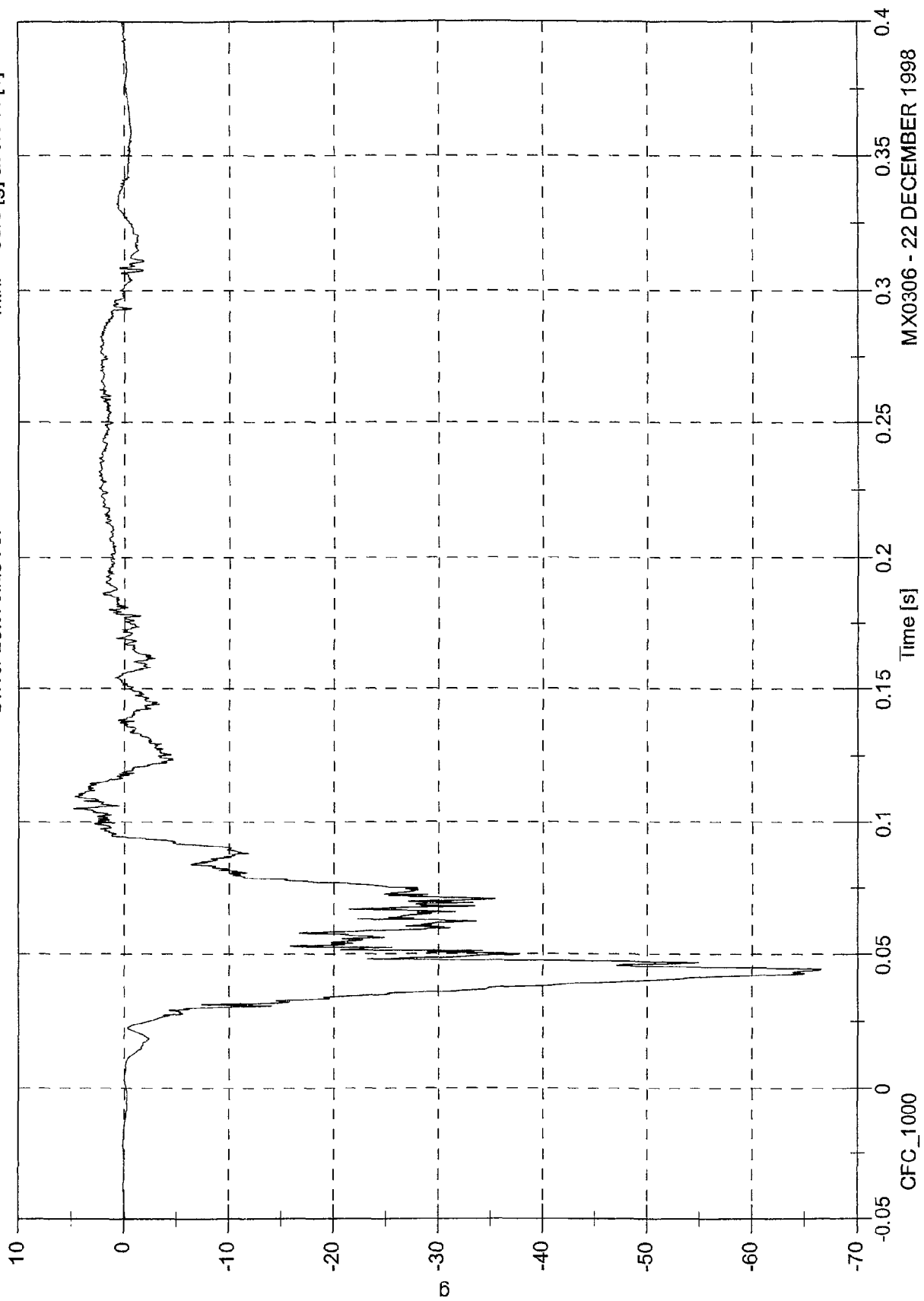


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 5.3 [g] at 0.569 [s]
Min: -66.6 [g] at 0.044 [s]

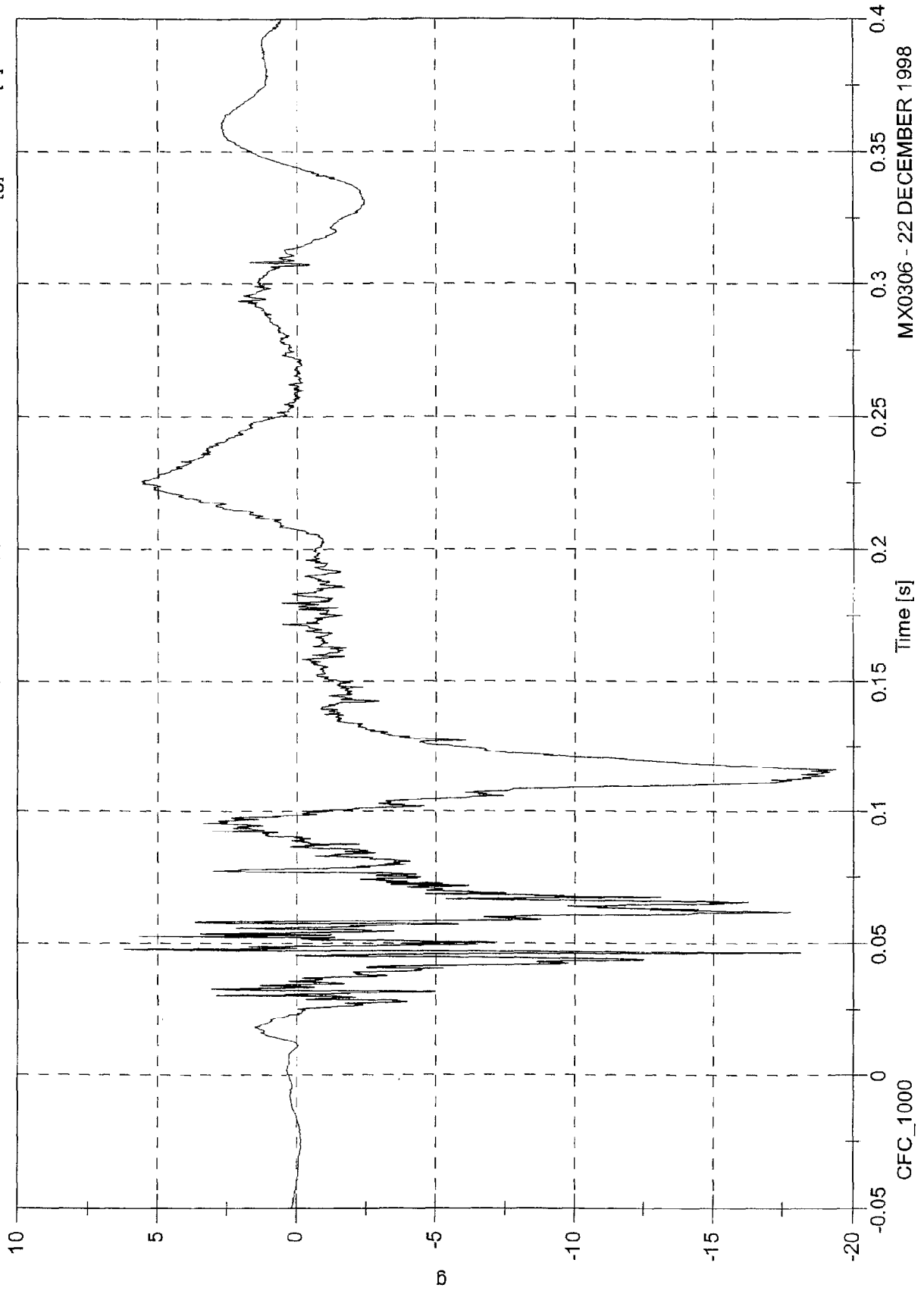
Driver Left Ankle Ax



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 6.2 [g] at 0.048 [s]
 Min: -19.4 [g] at 0.116 [s]

Driver Left Ankle Az



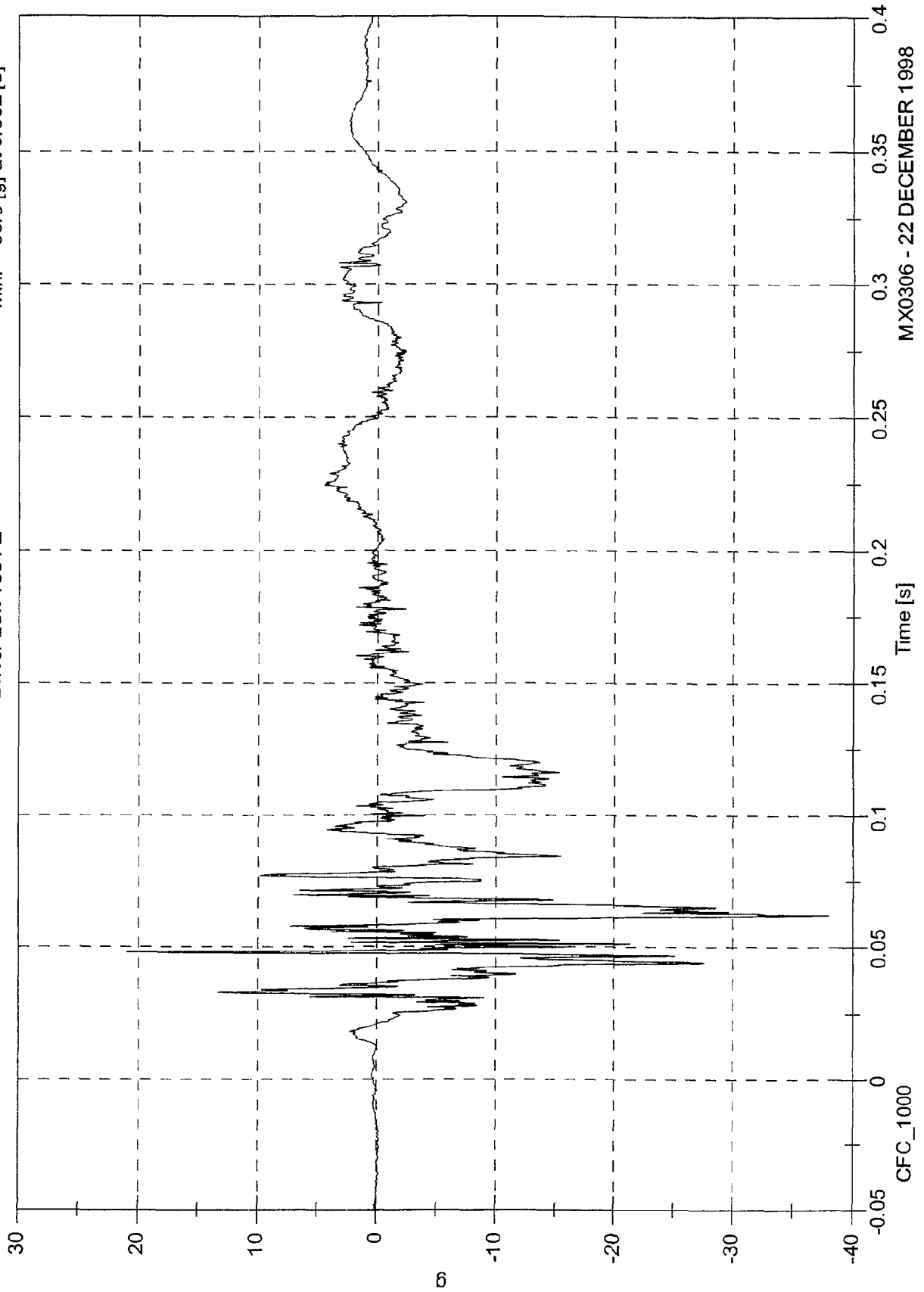
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 21.0 [g] at 0.048 [s]

Min: -38.0 [g] at 0.062 [s]

Driver Left Toe Az

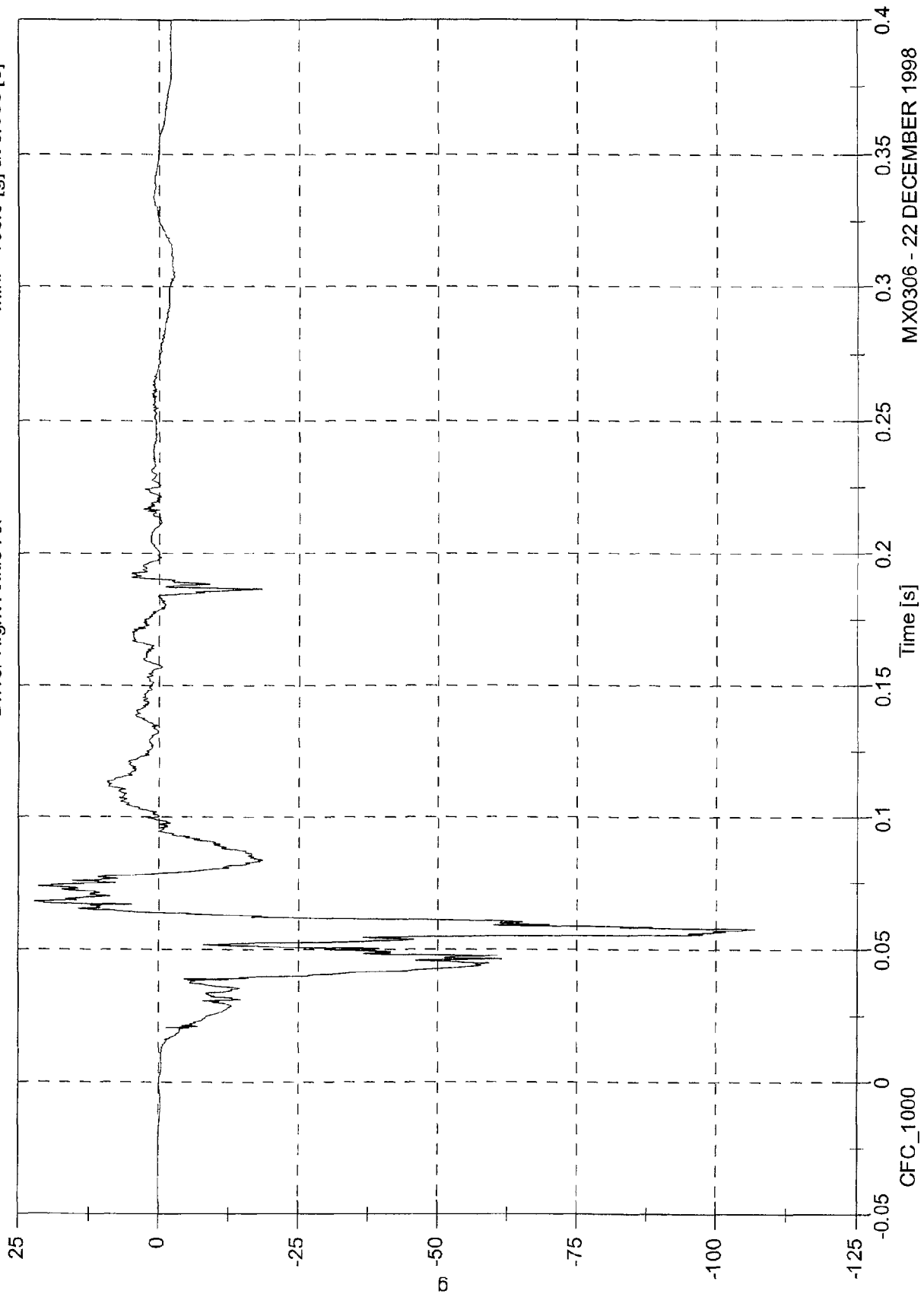


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 22.3 [g] at 0.068 [s]
Min: -106.9 [g] at 0.058 [s]

Driver Right Ankle Ax

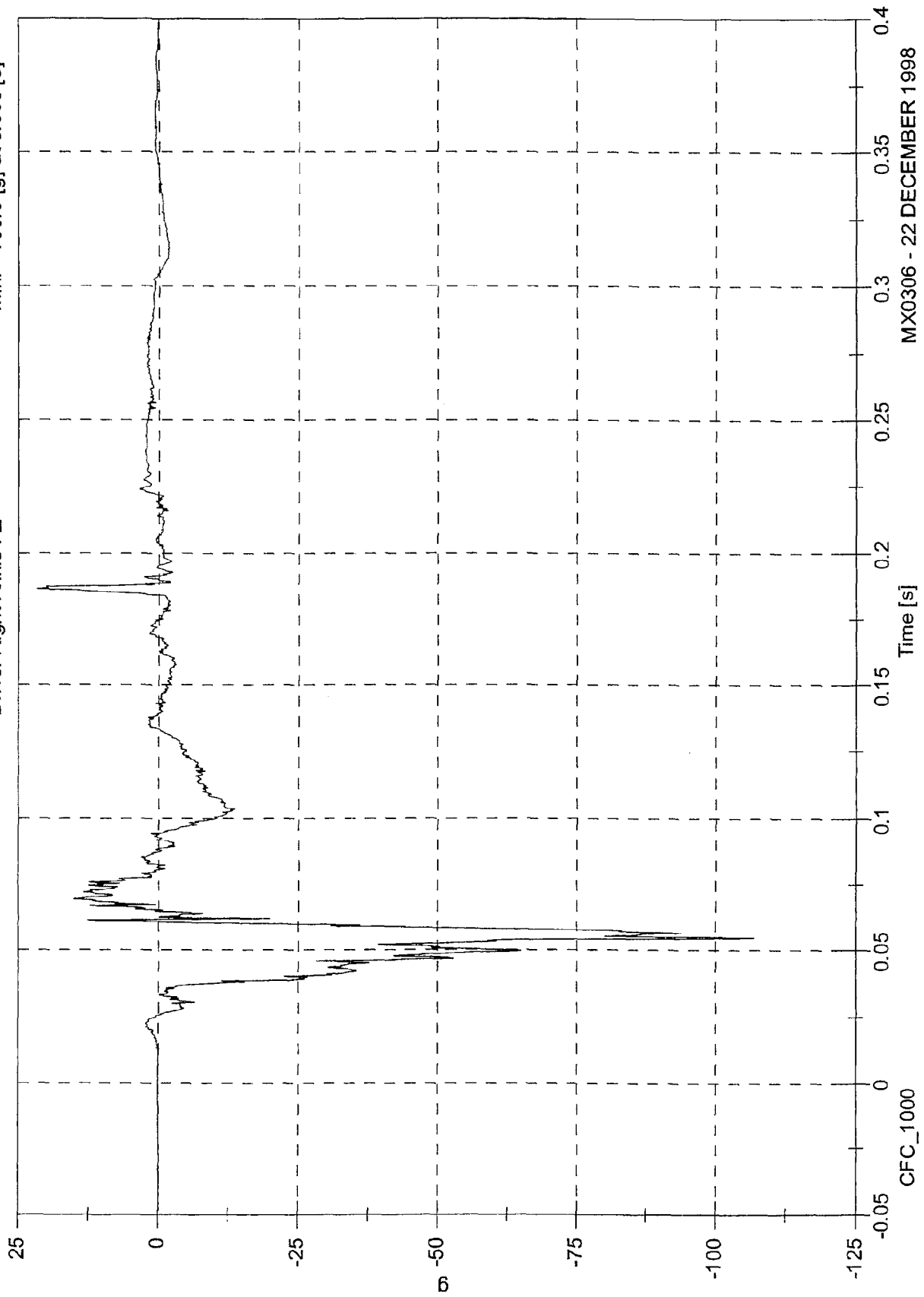


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 21.7 [g] at 0.186 [s]
Min: -106.9 [g] at 0.055 [s]

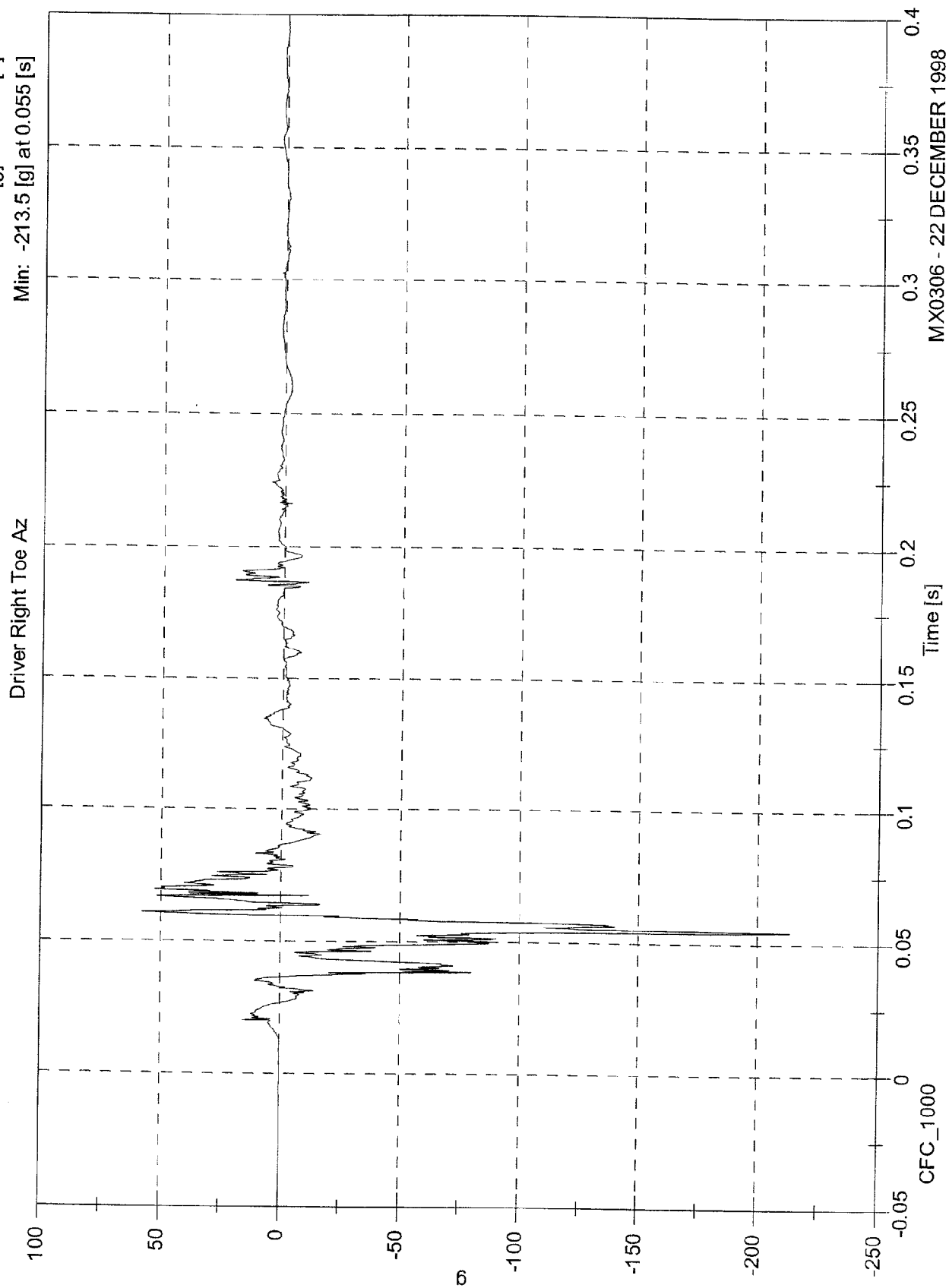
Driver Right Ankle Az



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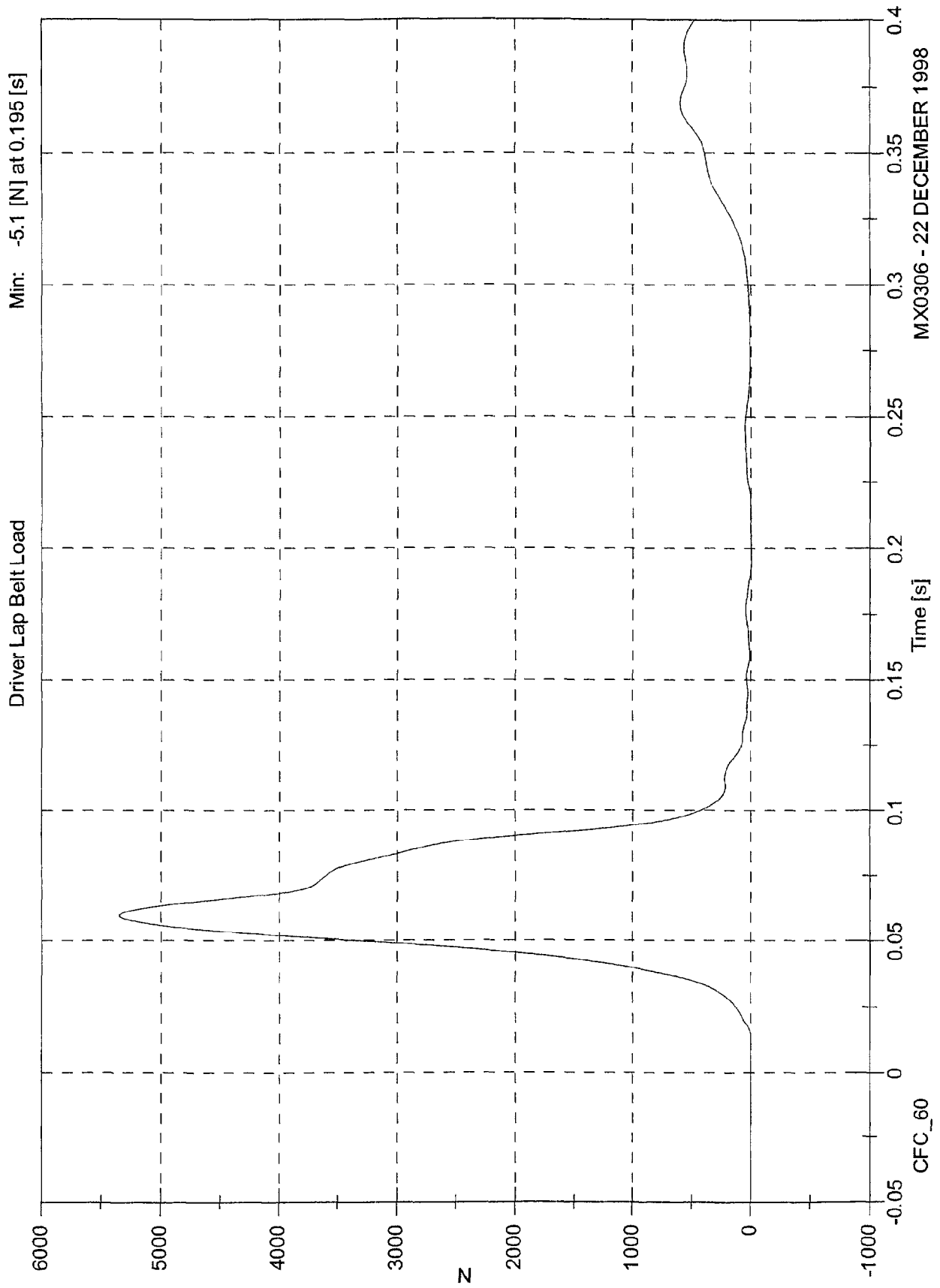
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 58.1 [g] at 0.061 [s]
Min: -213.5 [g] at 0.055 [s]



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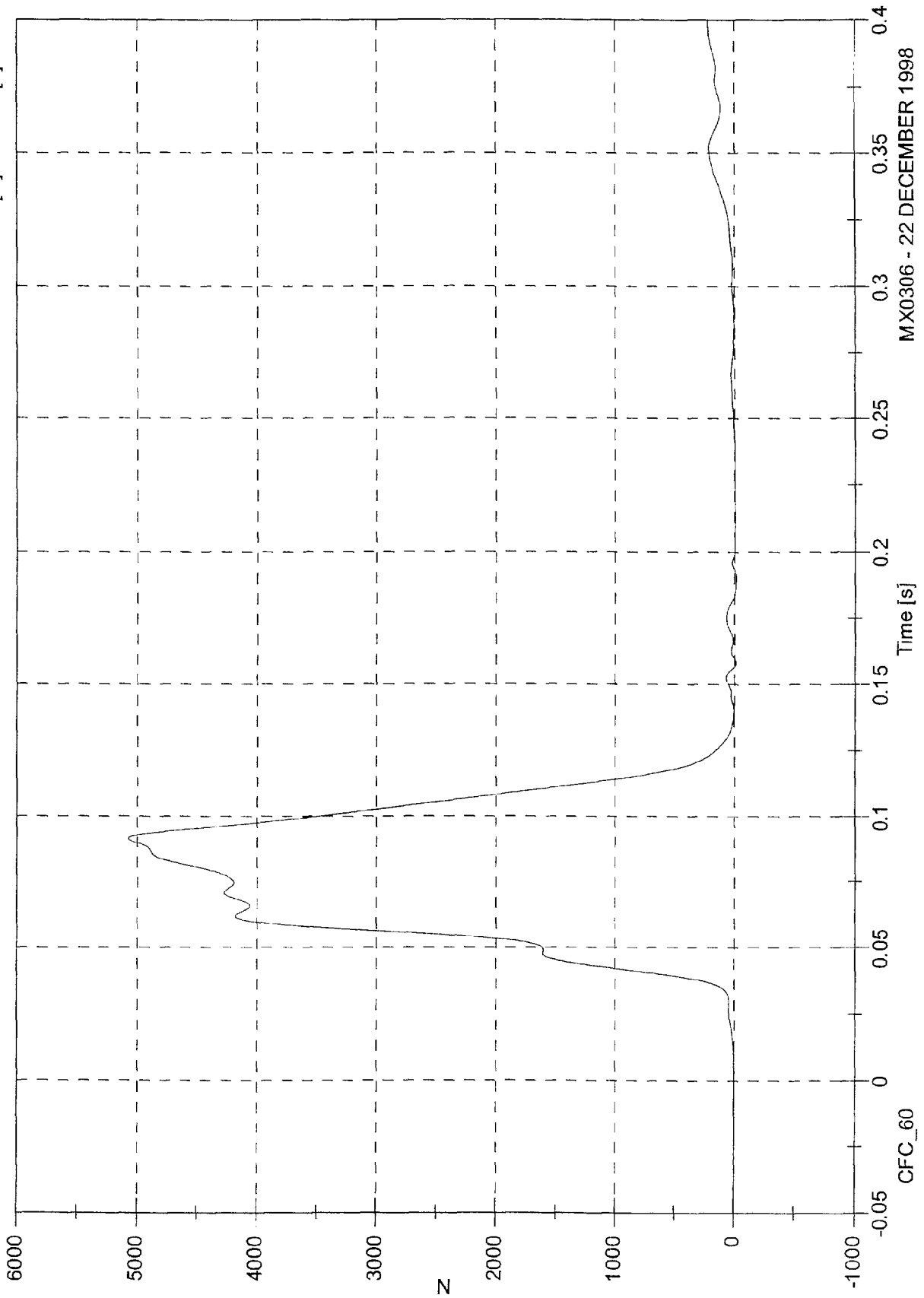
NCAP TEST#4 - 1999 DODGE RAM QUADCAB



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Driver Torso Belt

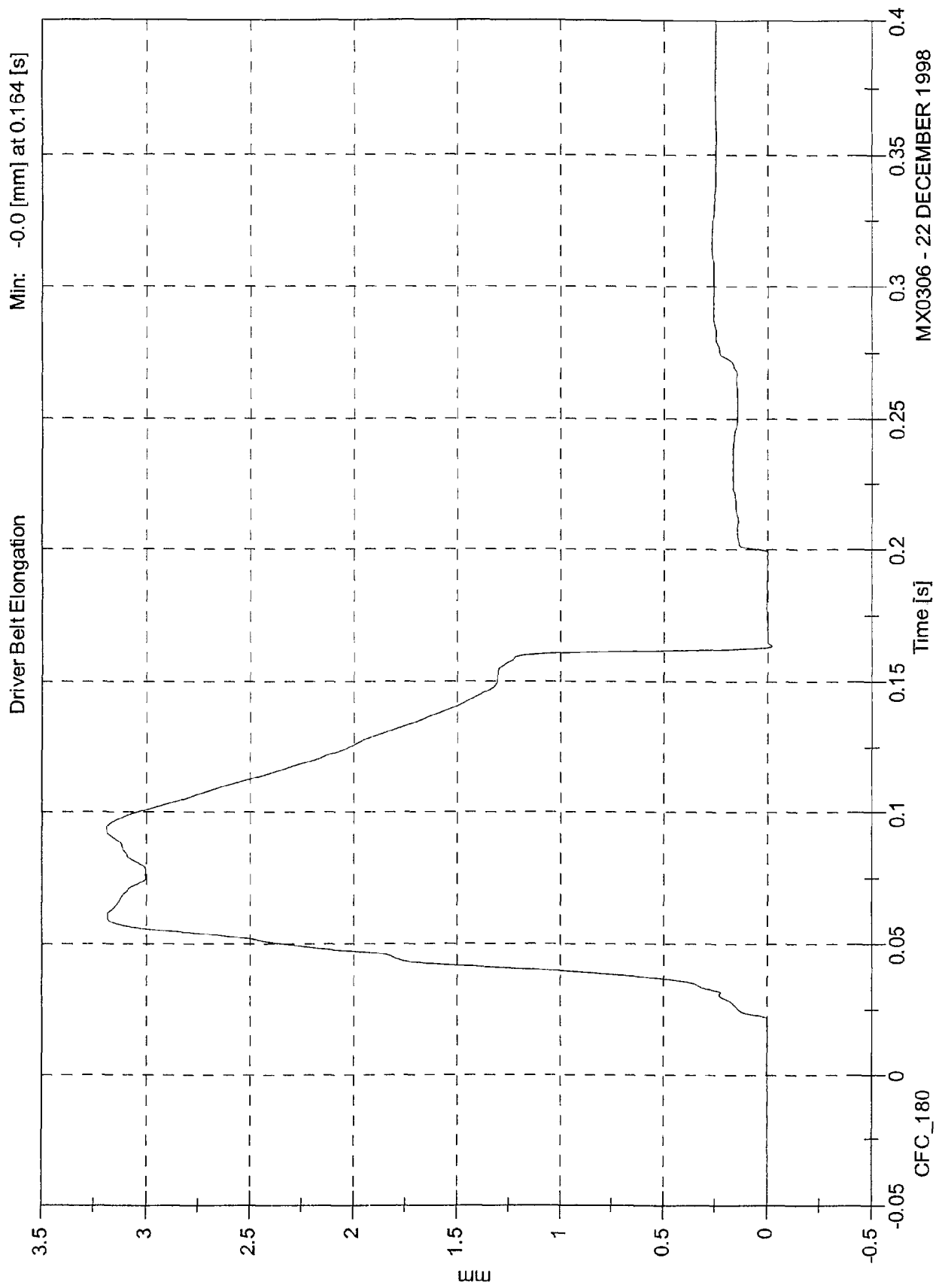
Max: 5076.2 [N] at 0.091 [s]
Min: -18.5 [N] at 0.190 [s]



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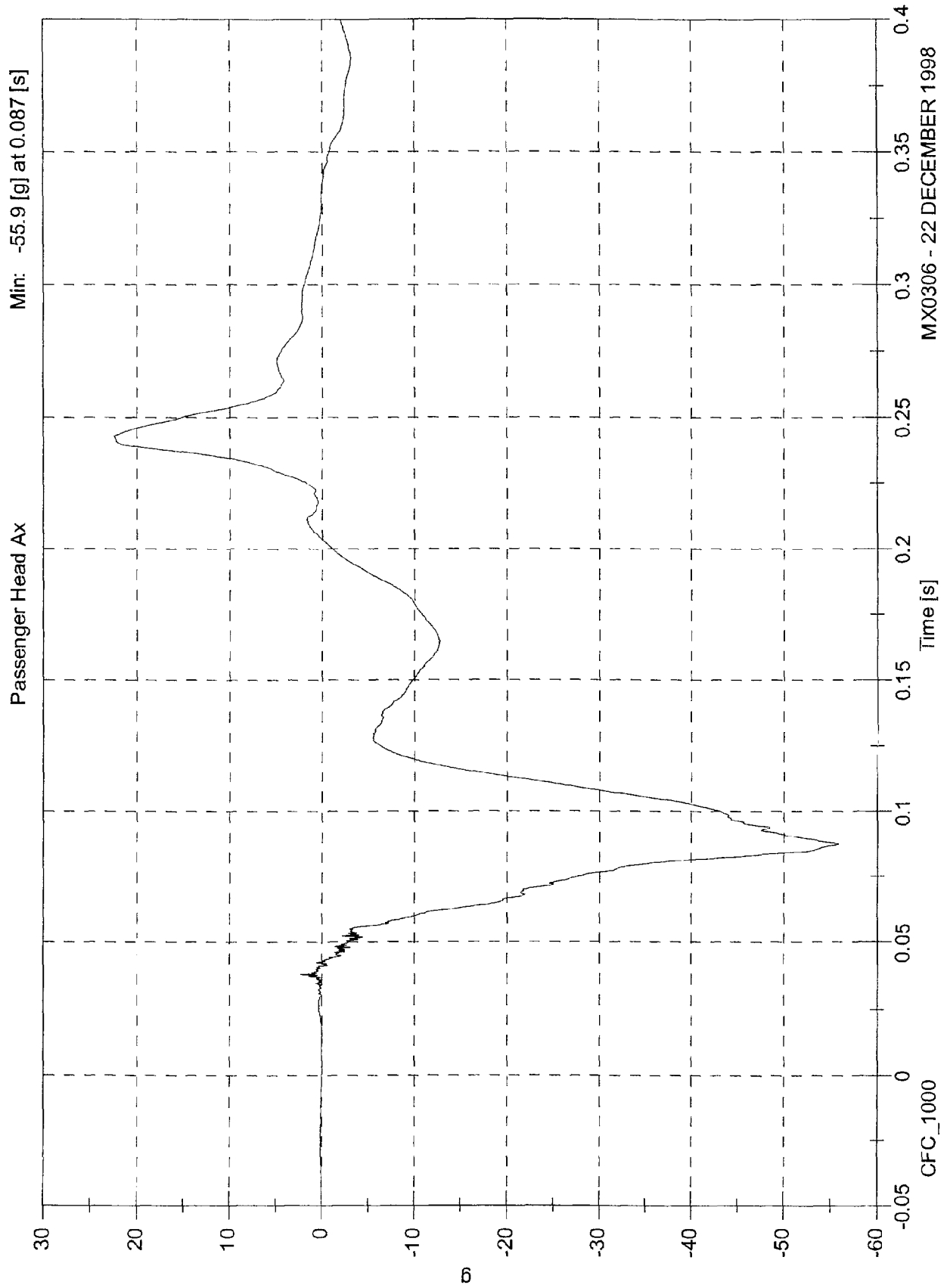
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 3.2 [mm] at 0.094 [s]
 Min: -0.0 [mm] at 0.164 [s]



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

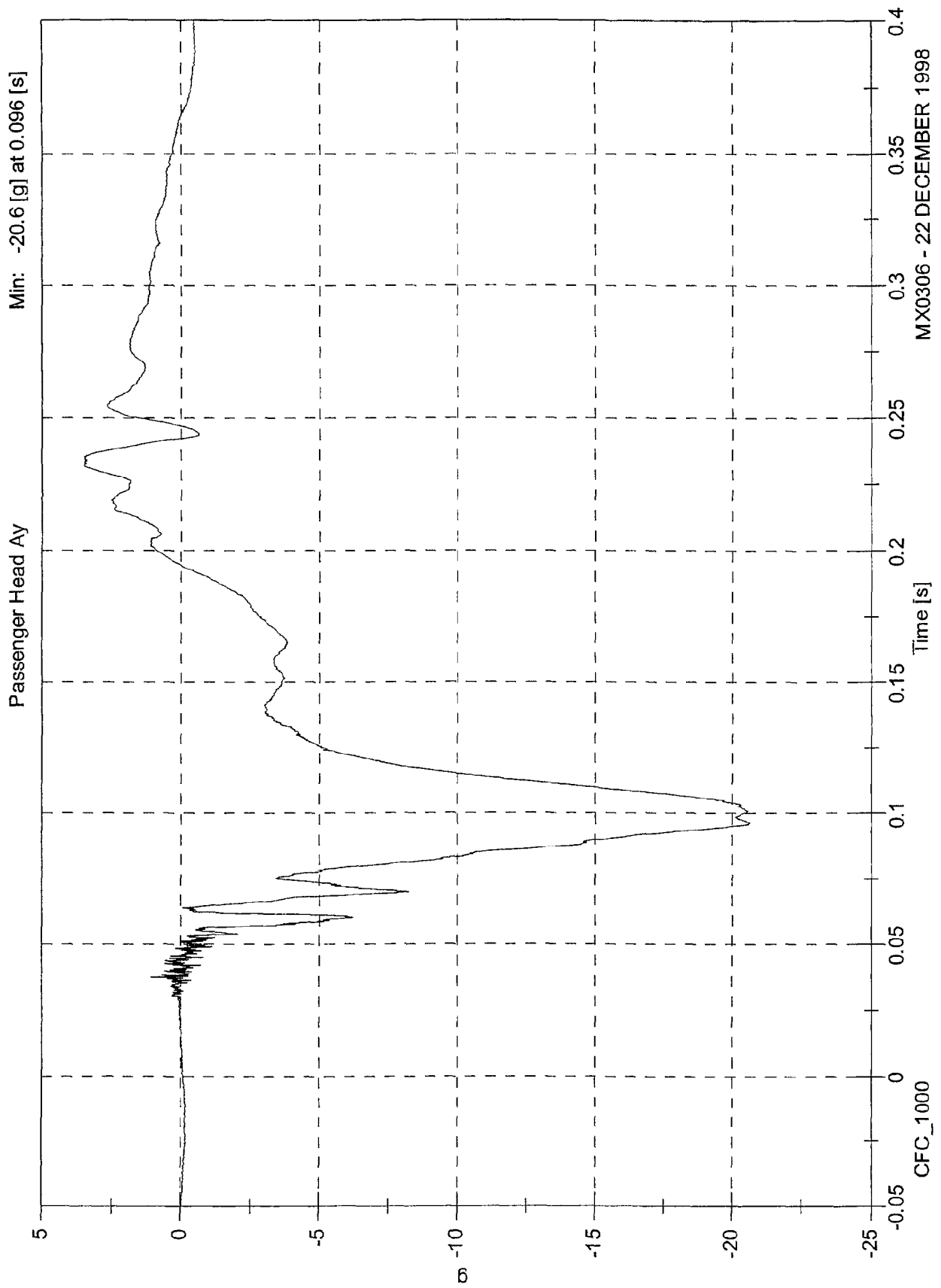
Max: 22.5 [g] at 0.243 [s]
Min: -55.9 [g] at 0.087 [s]



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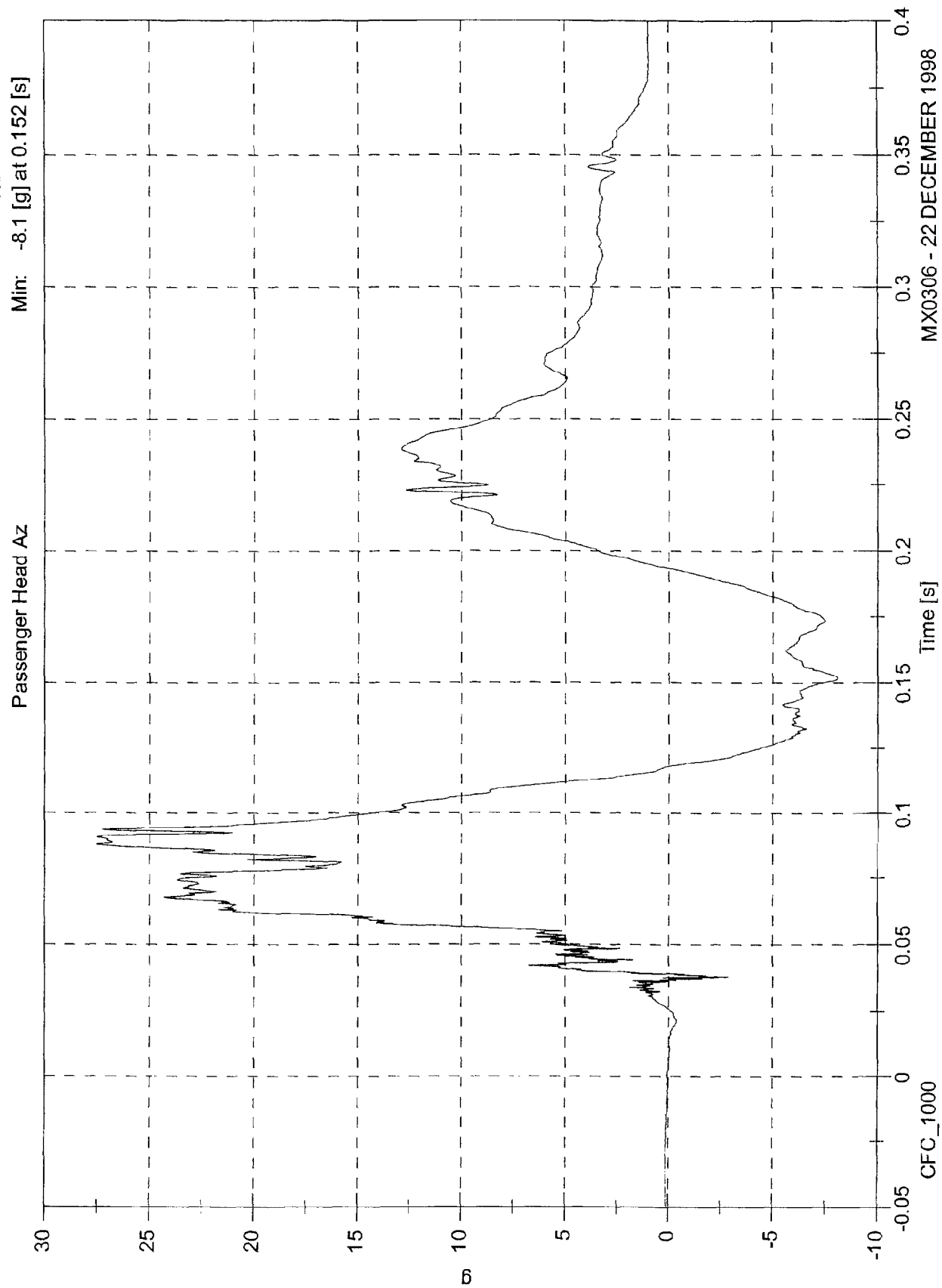
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 3.5 [g] at 0.236 [s]
Min: -20.6 [g] at 0.096 [s]



MX0306 - 22 DECEMBER 1998

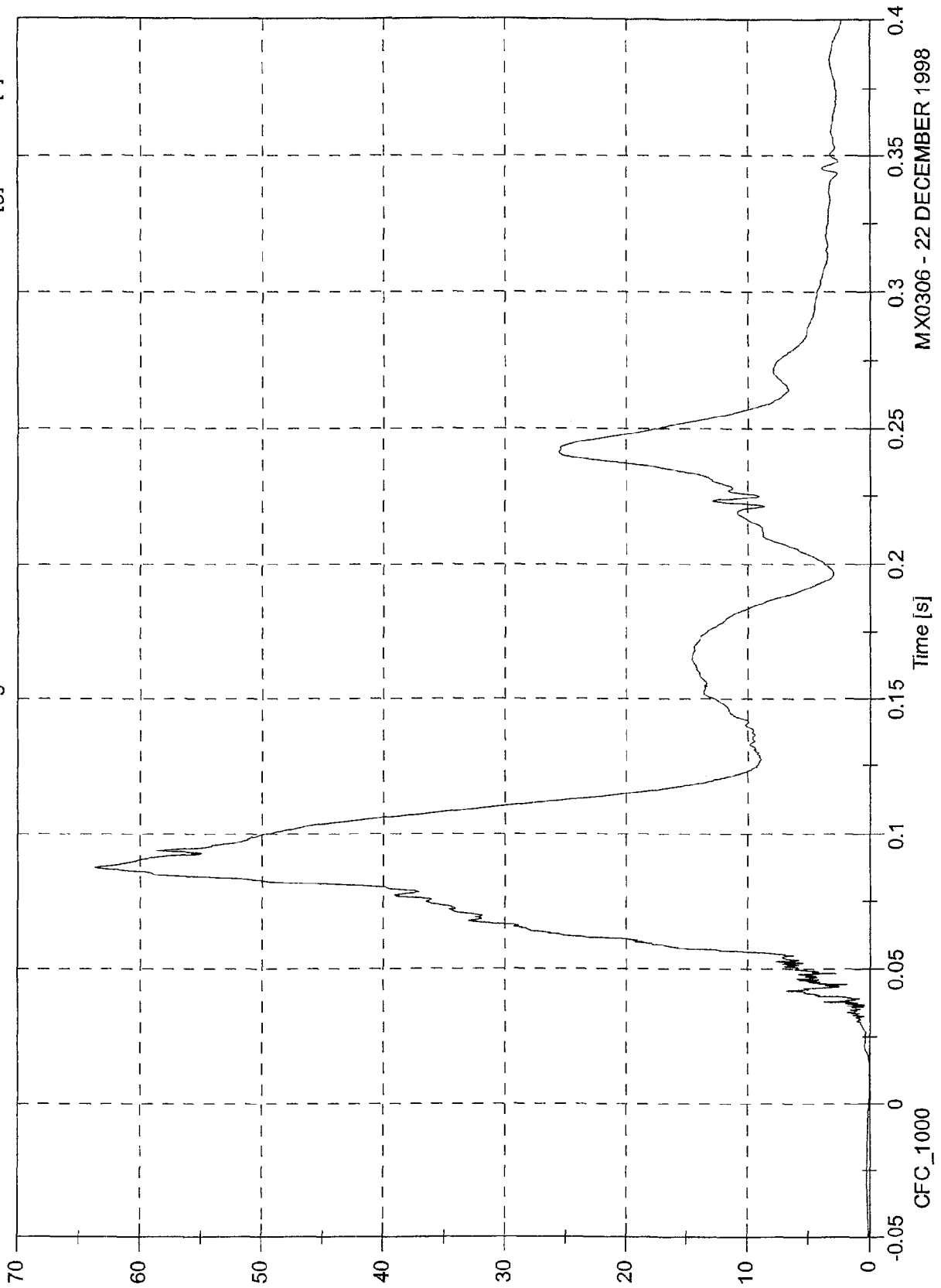
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 63.7 [g] at 0.087 [s]
Min: 0.0 [g] at 0.014 [s]

Passenger Head A Resultant

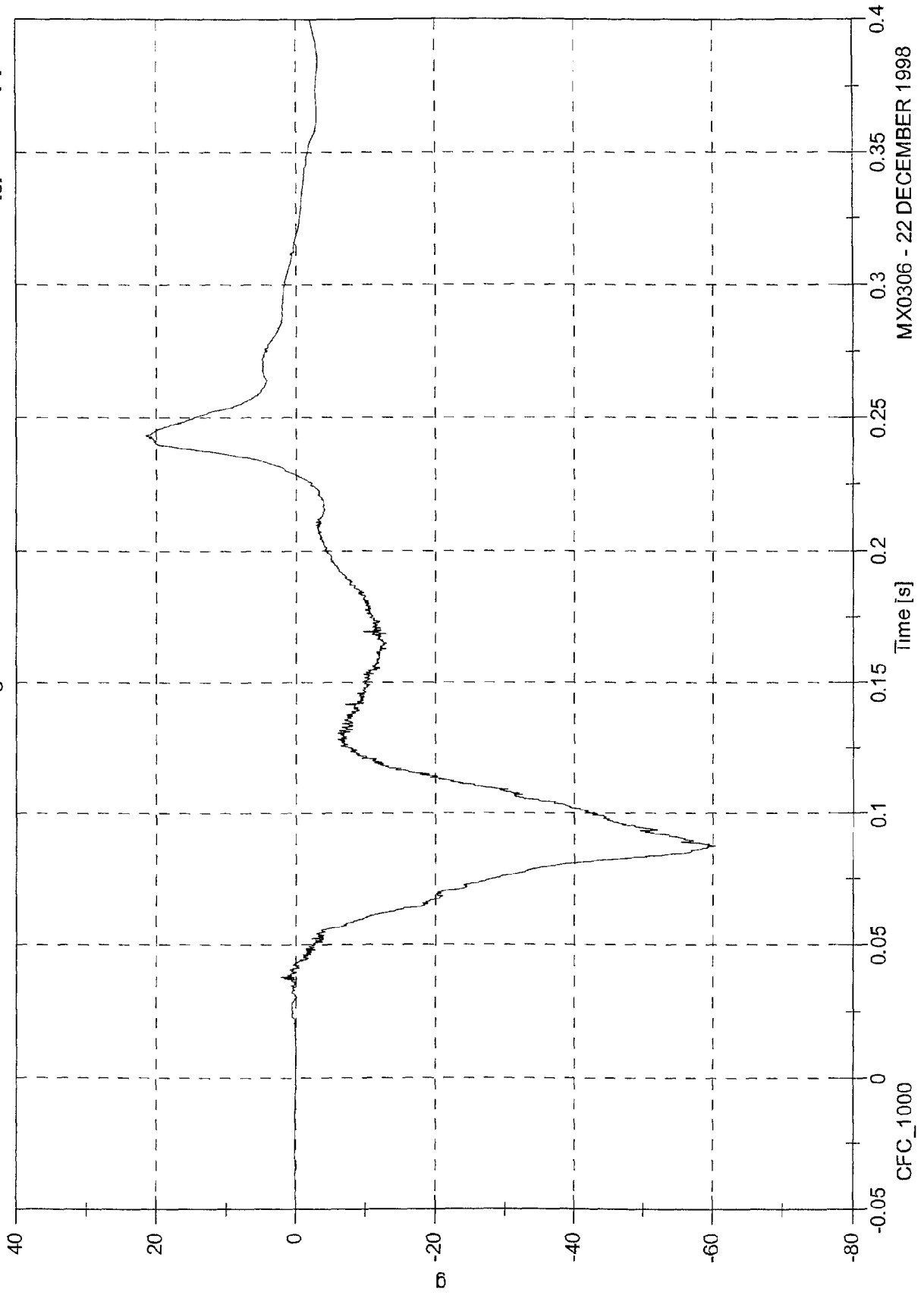


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Head Ax Redundant

Max: 21.5 [g] at 0.243 [s]
Min: -60.4 [g] at 0.087 [s]

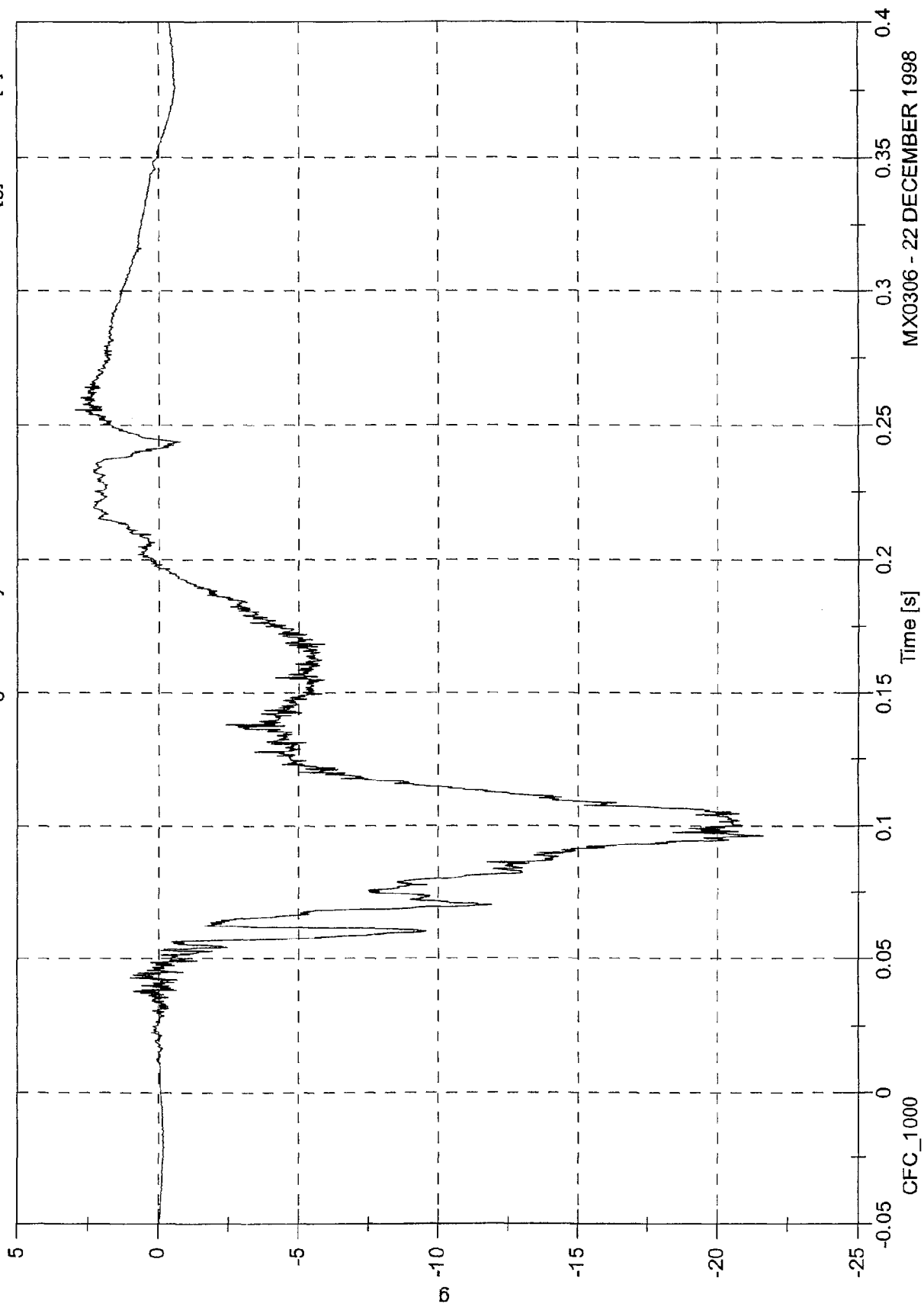


NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Head Ay Redundant

Max: 3.0 [g] at 0.255 [s]

Min: -21.7 [g] at 0.096 [s]

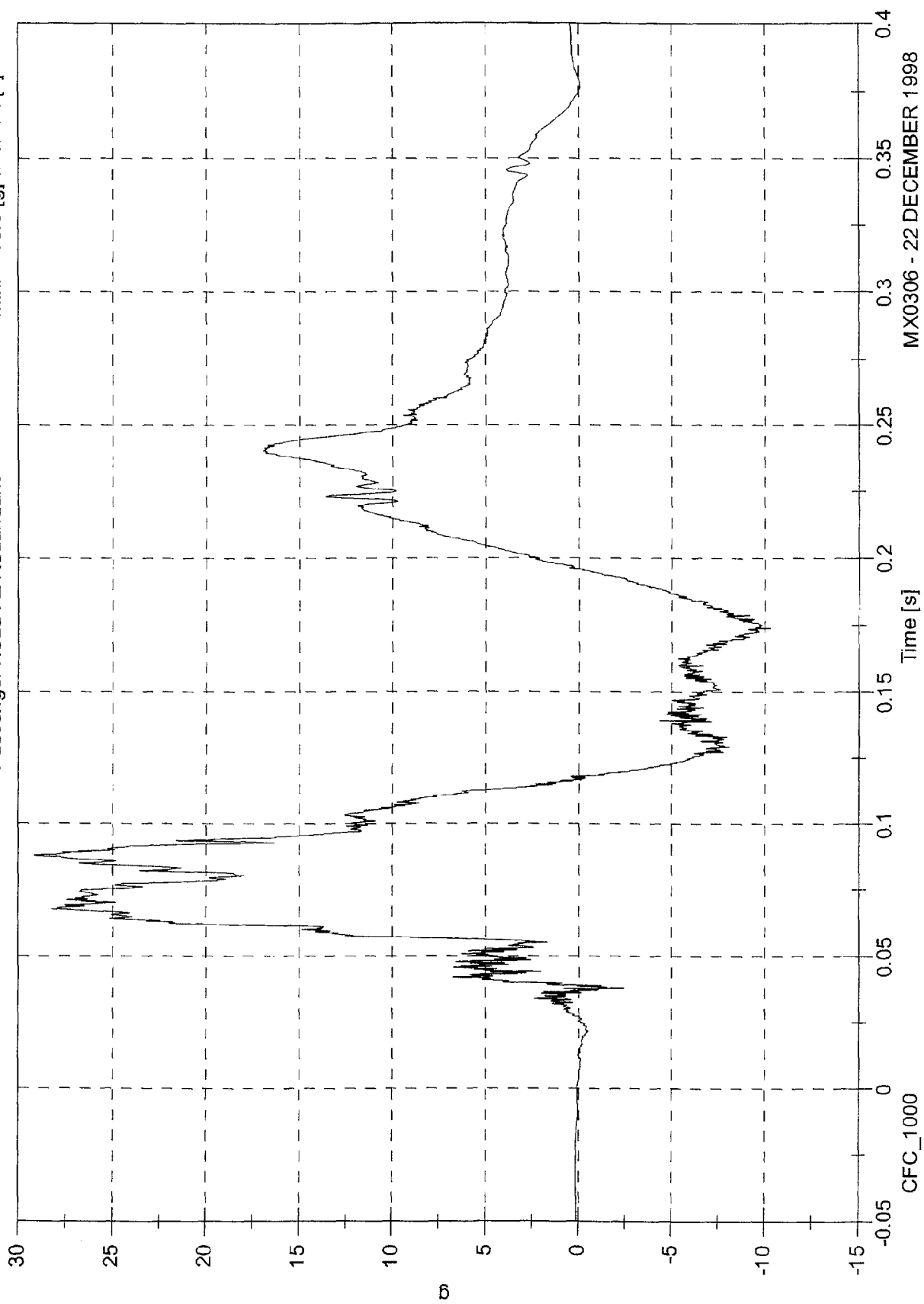


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 29.2 [g] at 0.088 [s]
Min: -10.3 [g] at 0.174 [s]

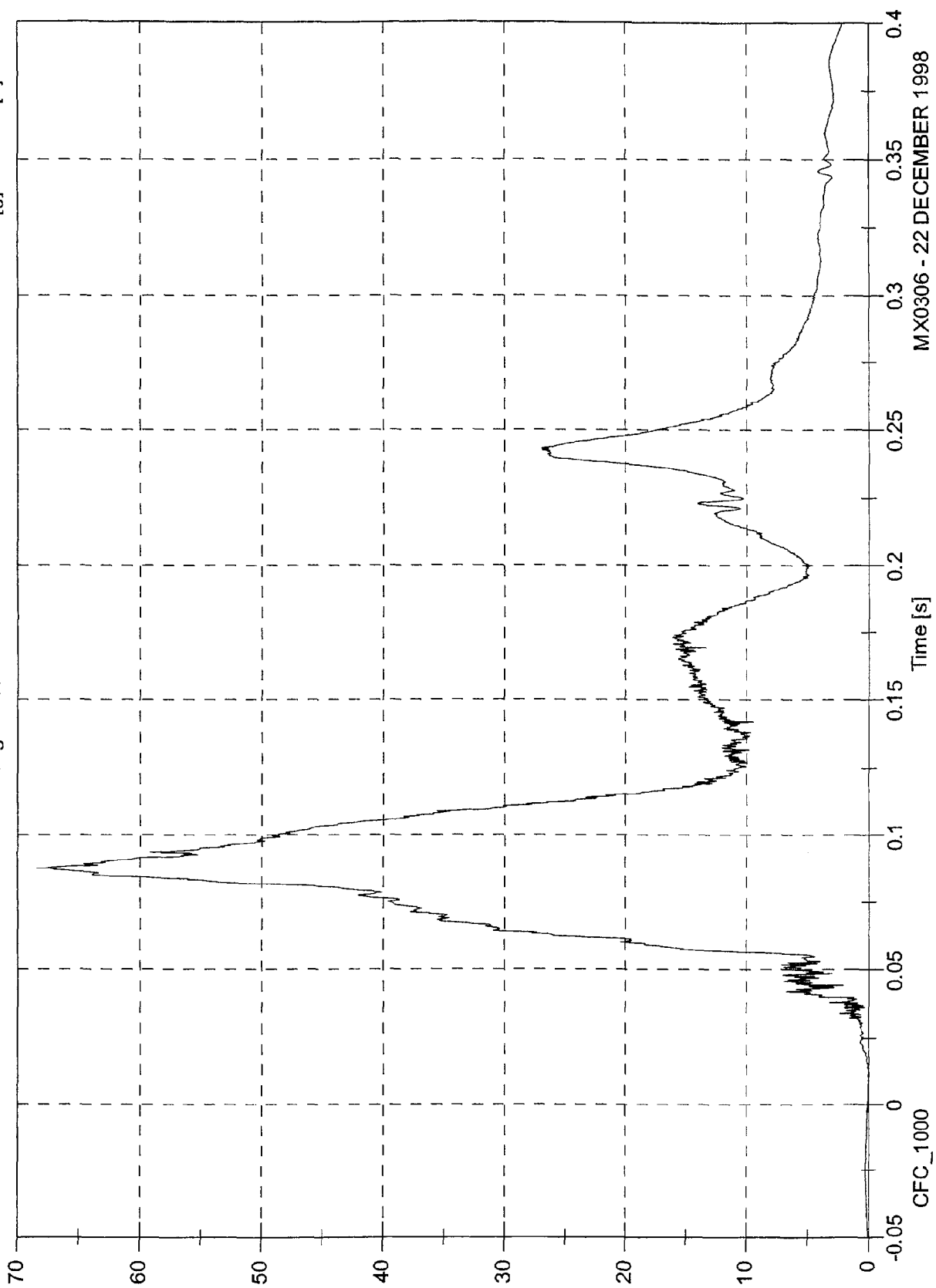
Passenger Head Az Redundant



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 68.4 [g] at 0.087 [s]
Min: 0.0 [g] at 0.013 [s]

Passenger Head A Redundant Resultant

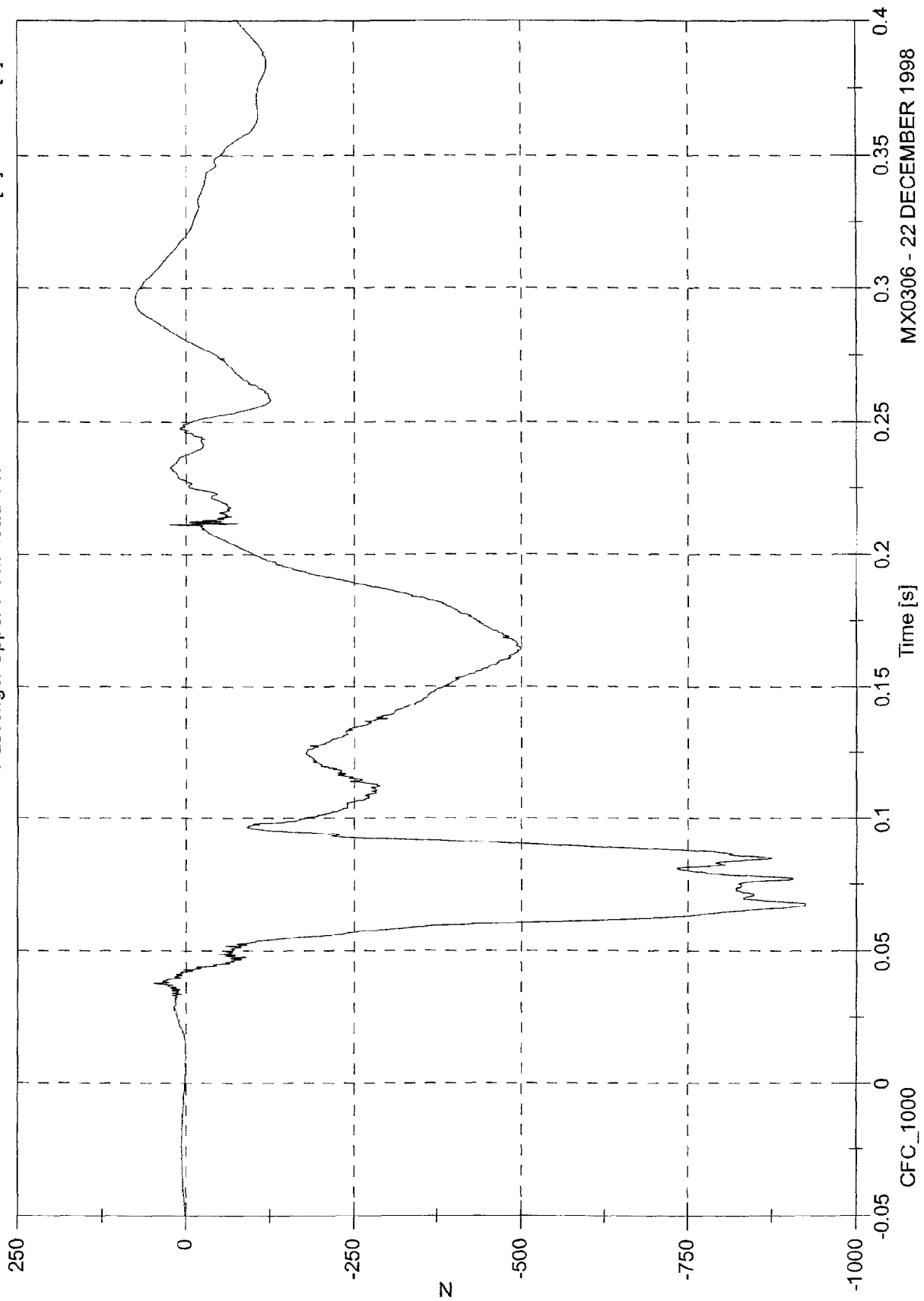


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NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Passenger Upper Neck Load Fx

Max: 76.5 [N] at 0.296 [s]
Min: -924.6 [N] at 0.068 [s]



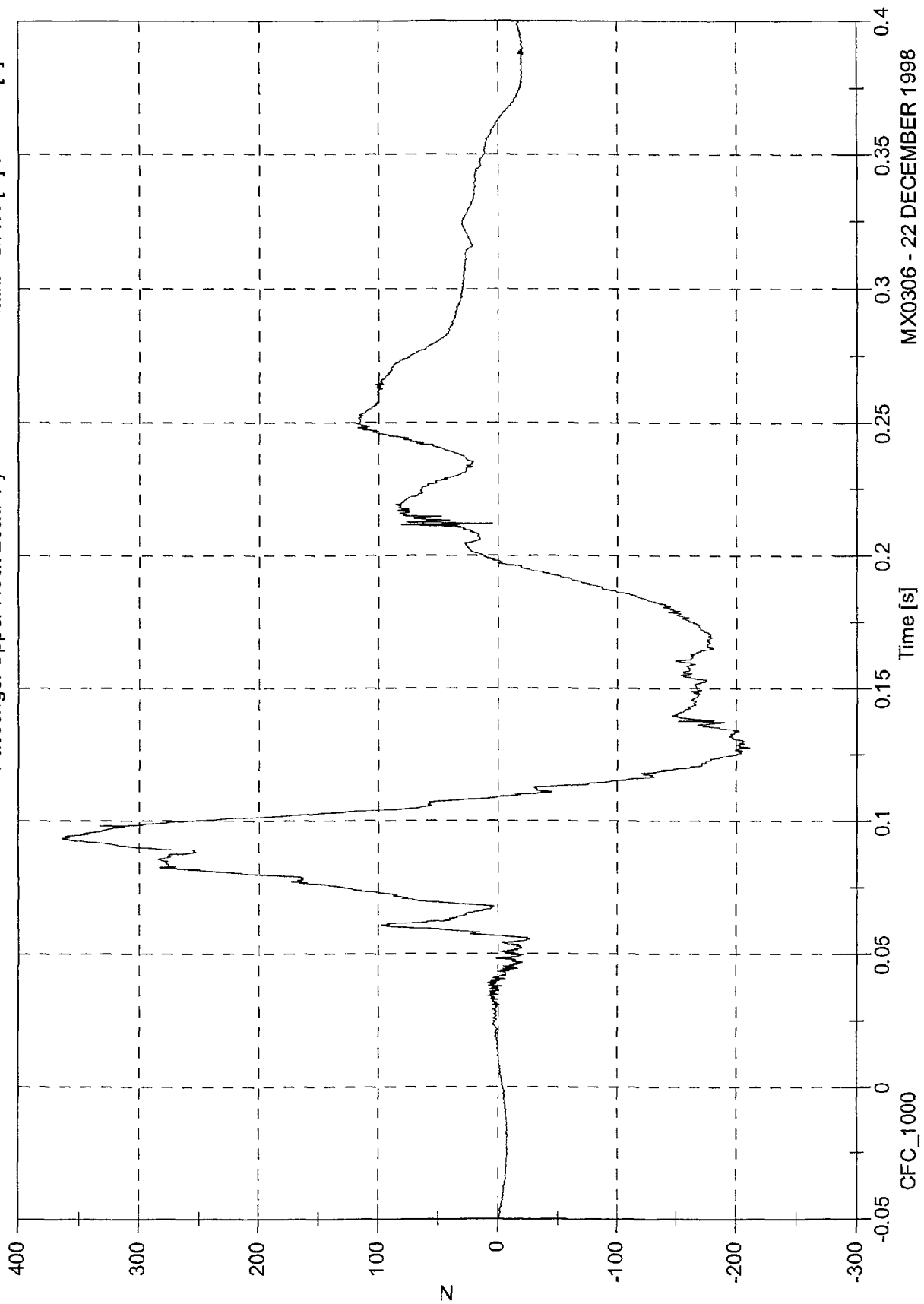
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 364.2 [N] at 0.094 [s]

Min: -211.6 [N] at 0.128 [s]

Passenger Upper Neck Load Fy

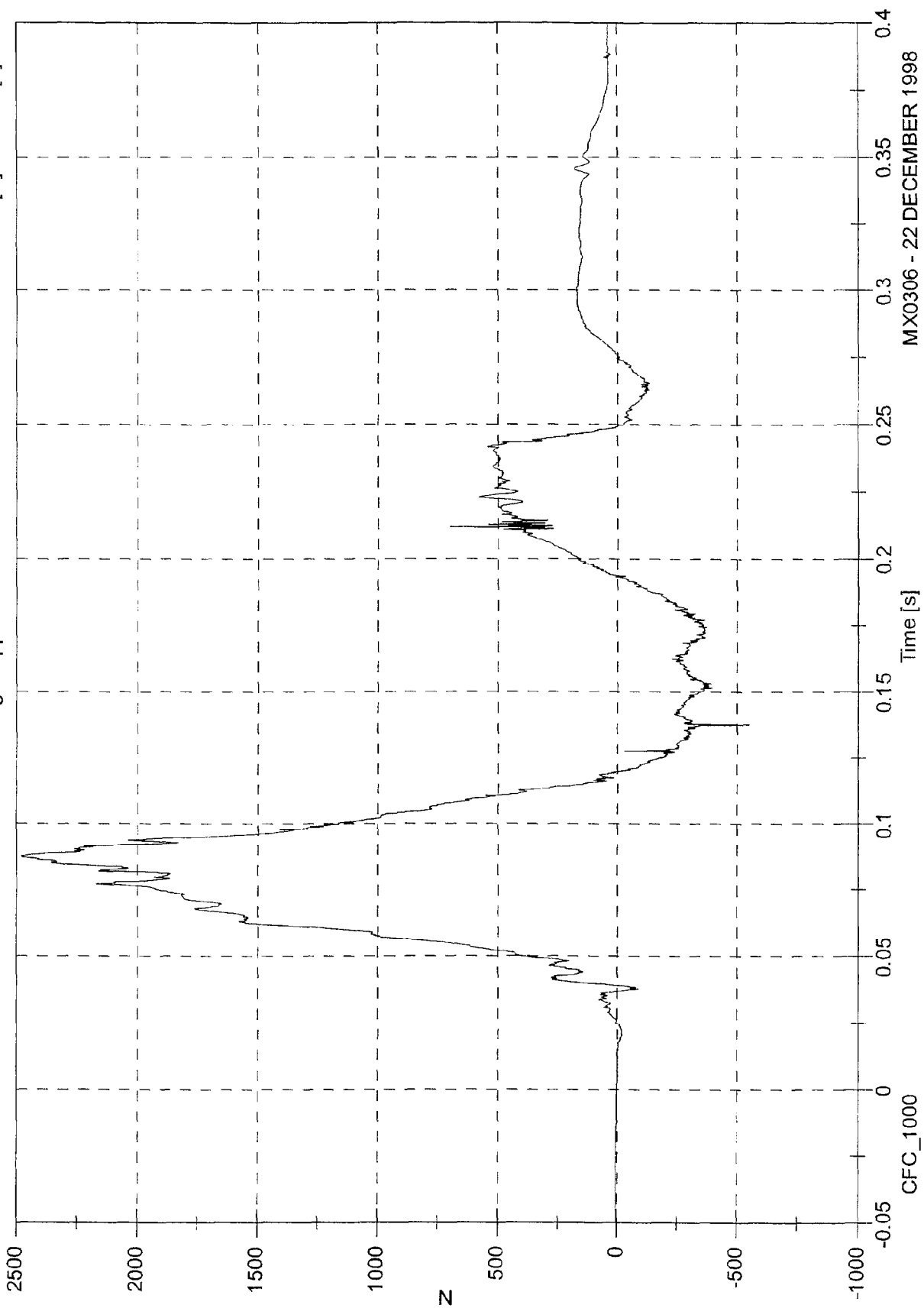


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Upper Neck Load Fz

Max: 2480.4 [N] at 0.087 [s]
Min: -551.7 [N] at 0.138 [s]



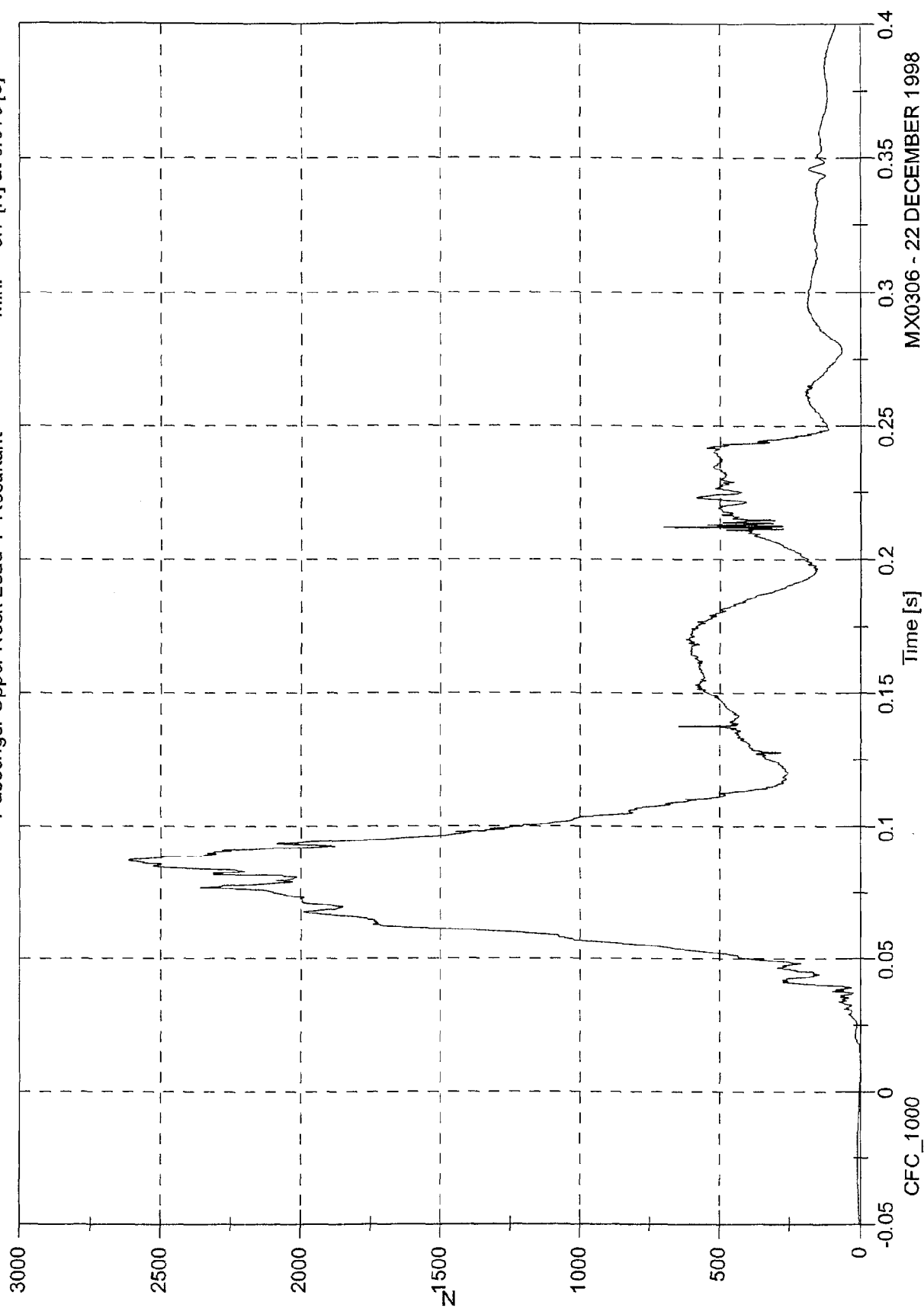
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 2615.5 [N] at 0.087 [s]

Min: 0.7 [N] at 0.010 [s]

Passenger Upper Neck Load F Resultant

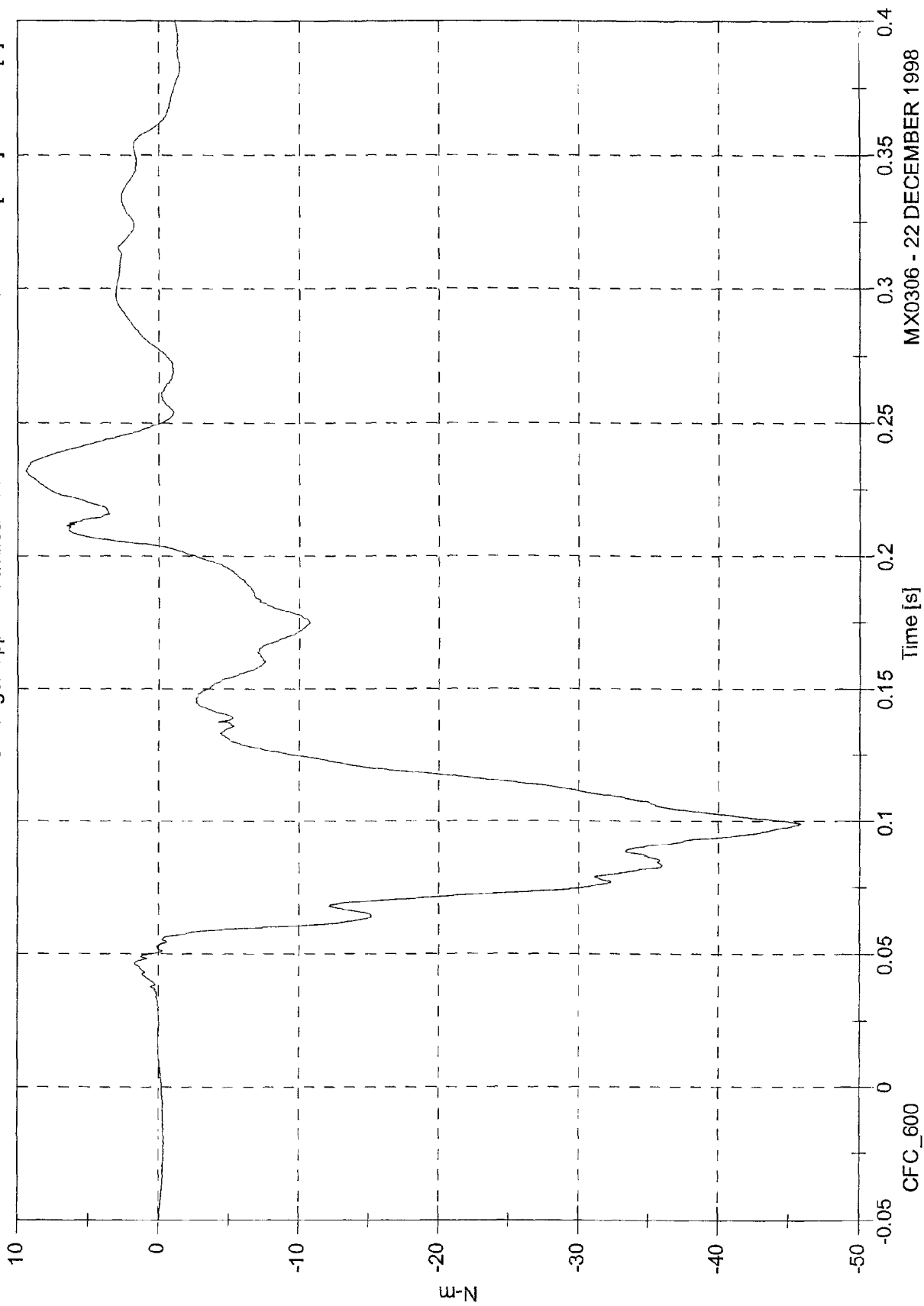


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max 9.4 [N-m] at 0.232 [s]
Min: -45.9 [N-m] at 0.099 [s]

Passenger Upper Neck Load Mx

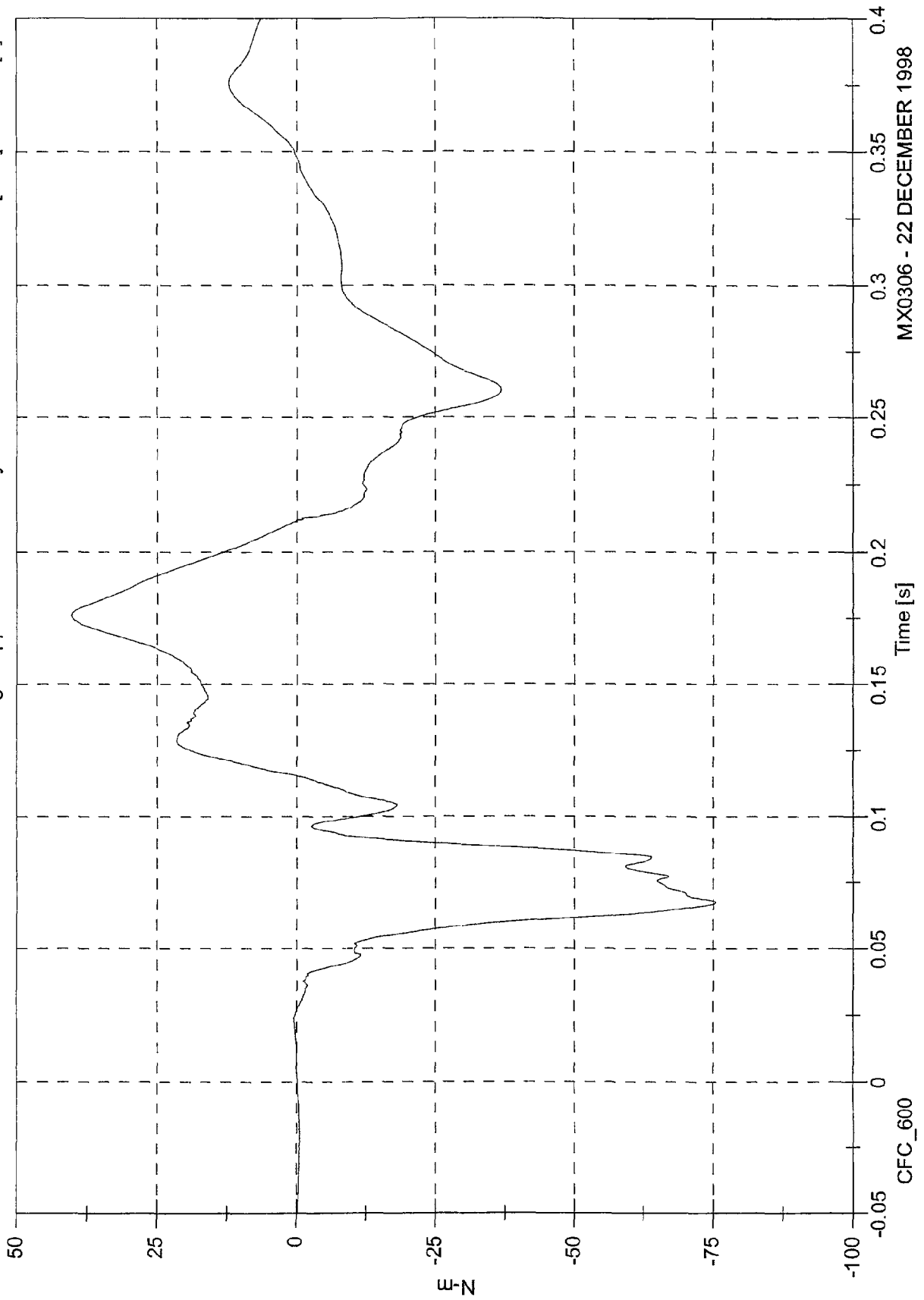


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Upper Neck Load My

Max: 40.3 [N-m] at 0.176 [s]
Min: -75.6 [N-m] at 0.068 [s]

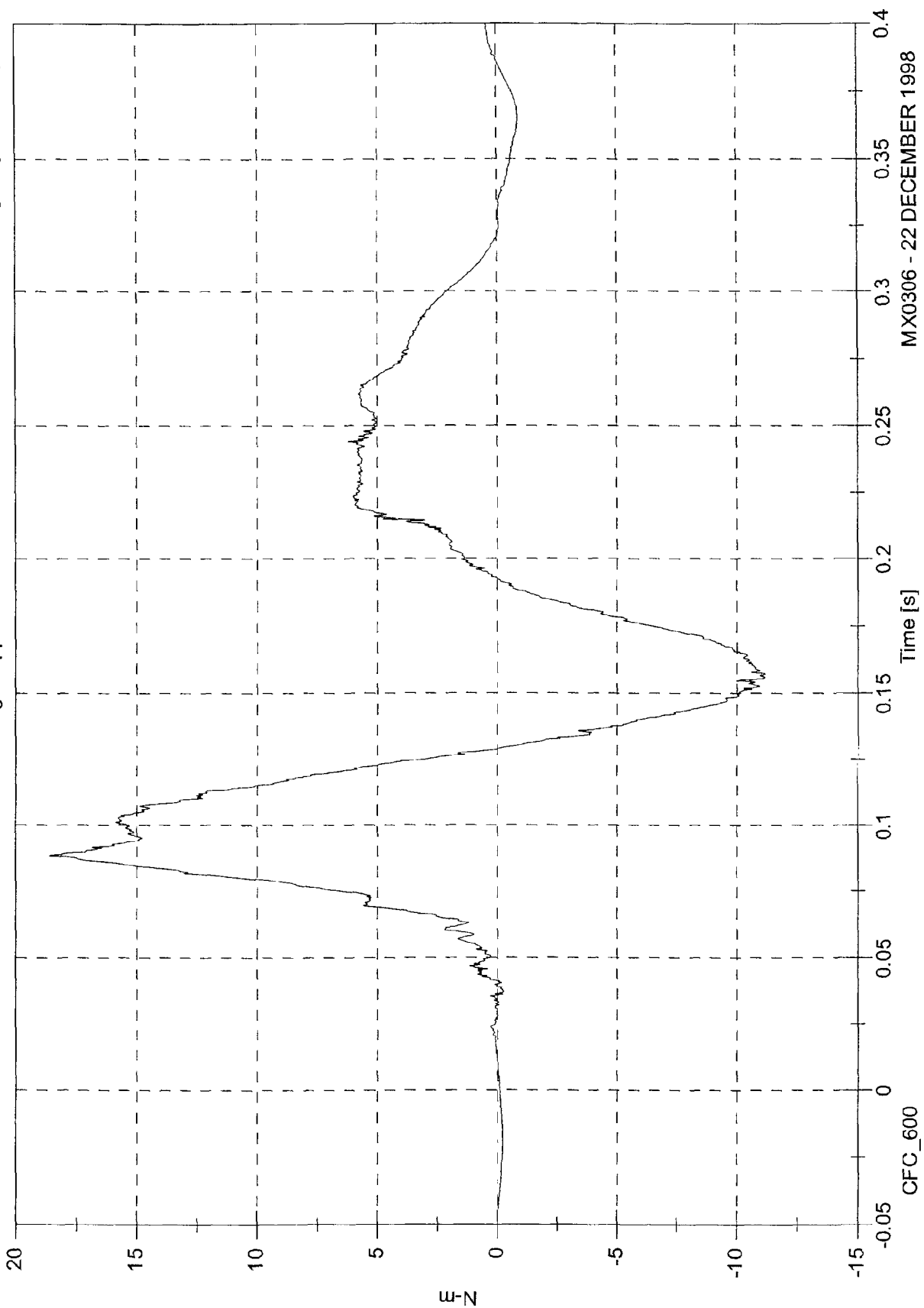


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 18.6 [N-m] at 0.088 [s]
 Min: -11.2 [N-m] at 0.157 [s]

Passenger Upper Neck Load Mz

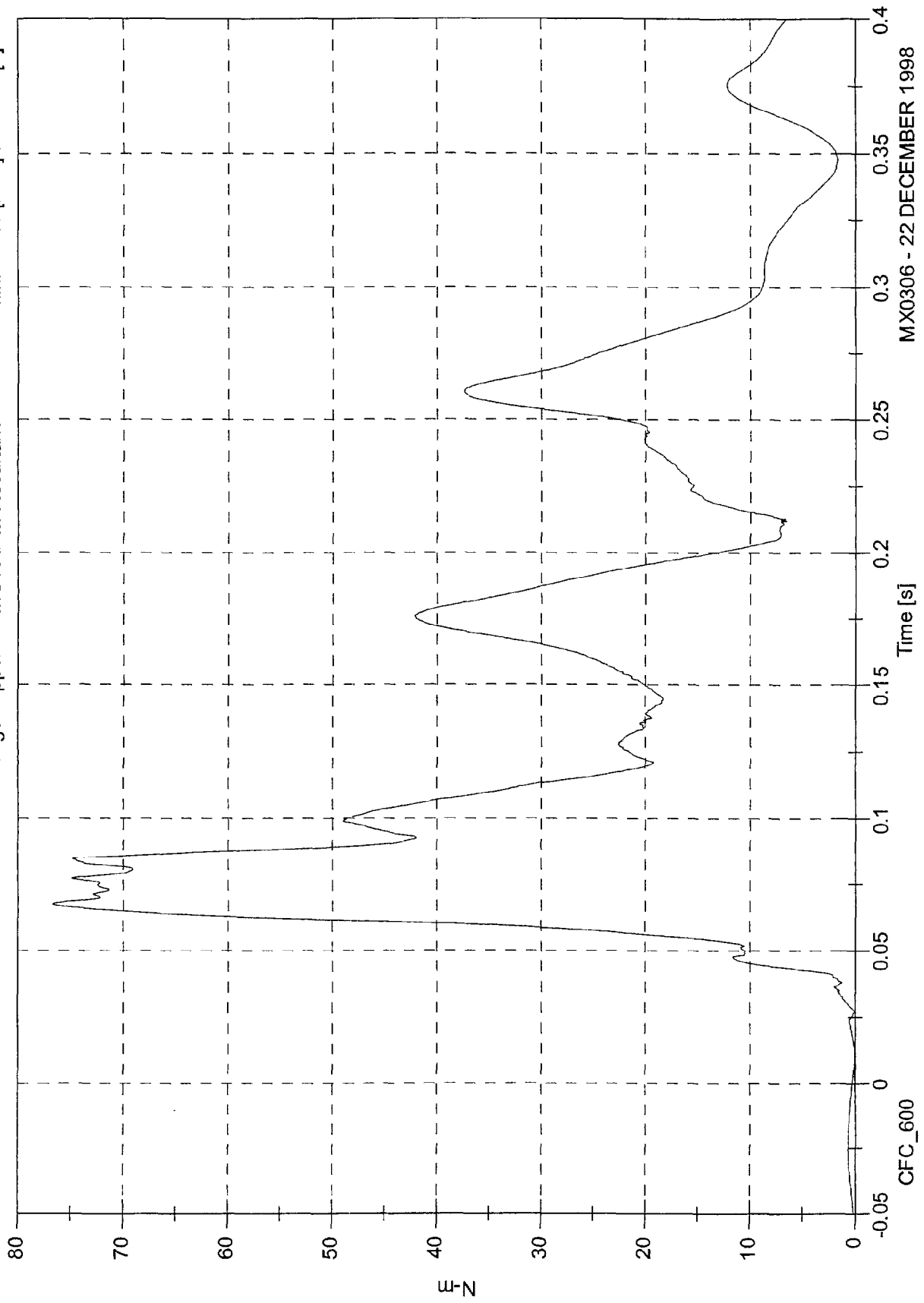


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

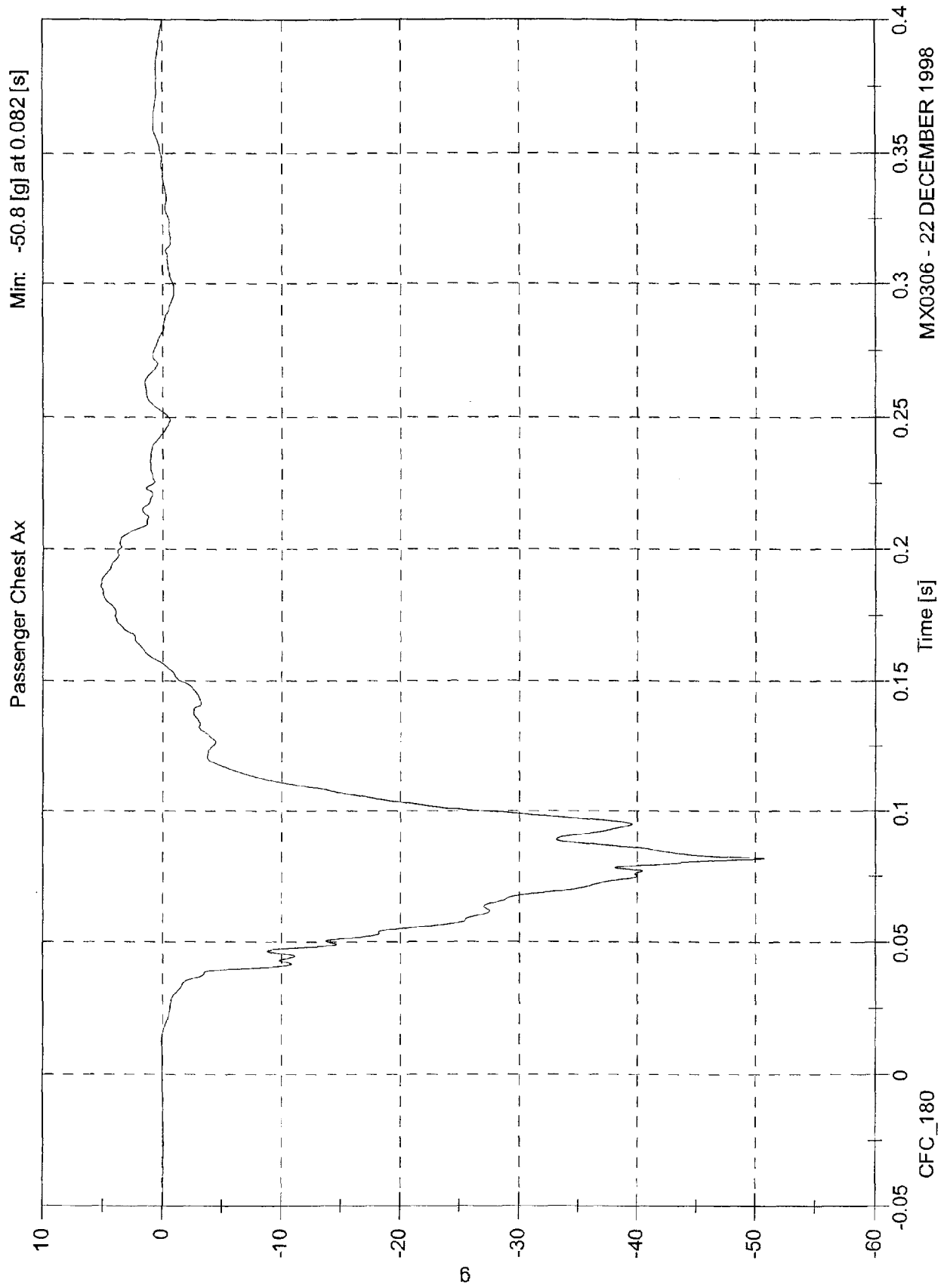
Passenger Upper Neck Load M Resultant

Max: 76.7 [N-m] at 0.068 [s]
Min: 0.1 [N-m] at 0.013 [s]



MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

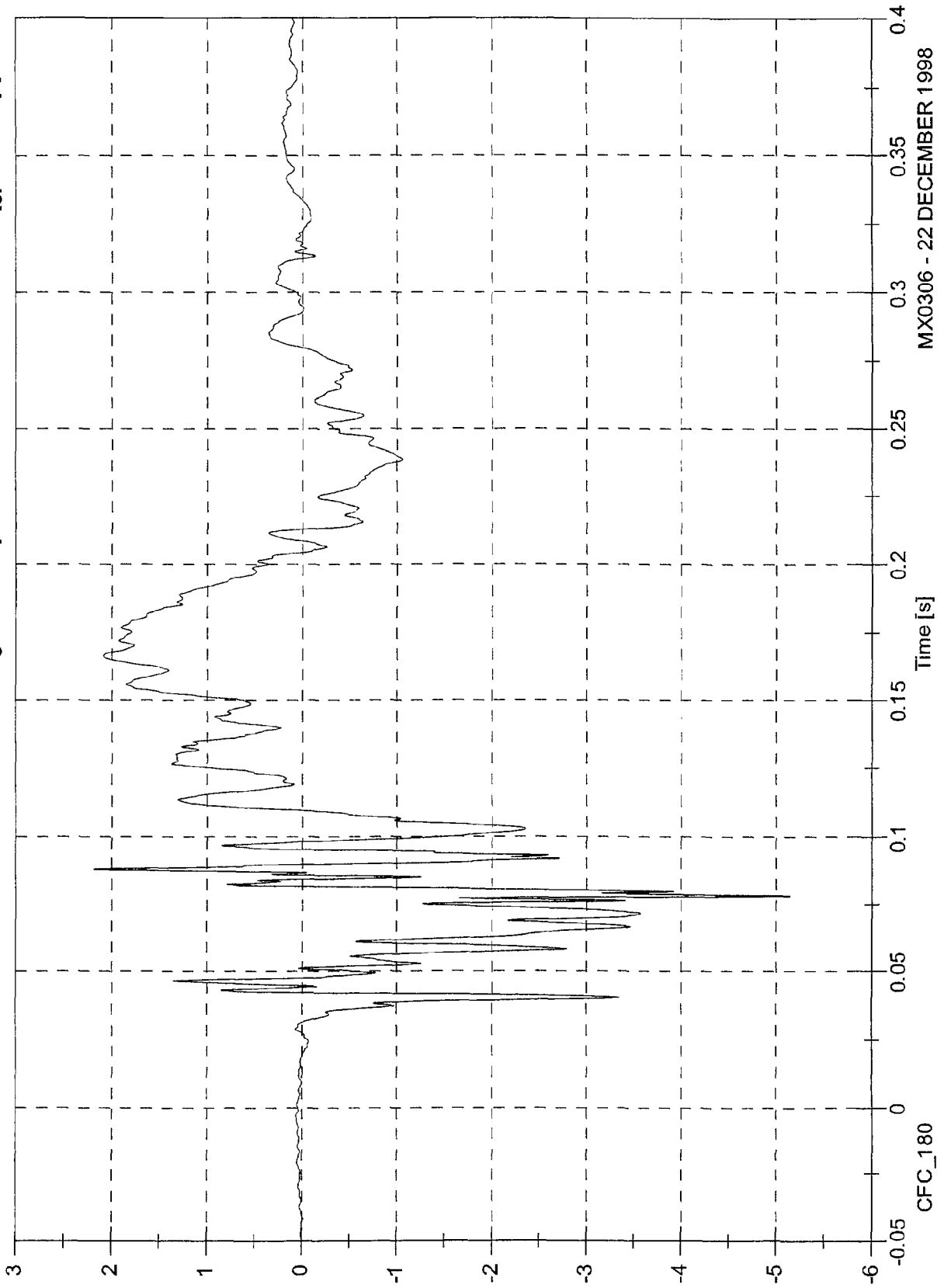


NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 2.2 [g] at 0.088 [s]

Min: -5.2 [g] at 0.078 [s]

Passenger Chest Ay

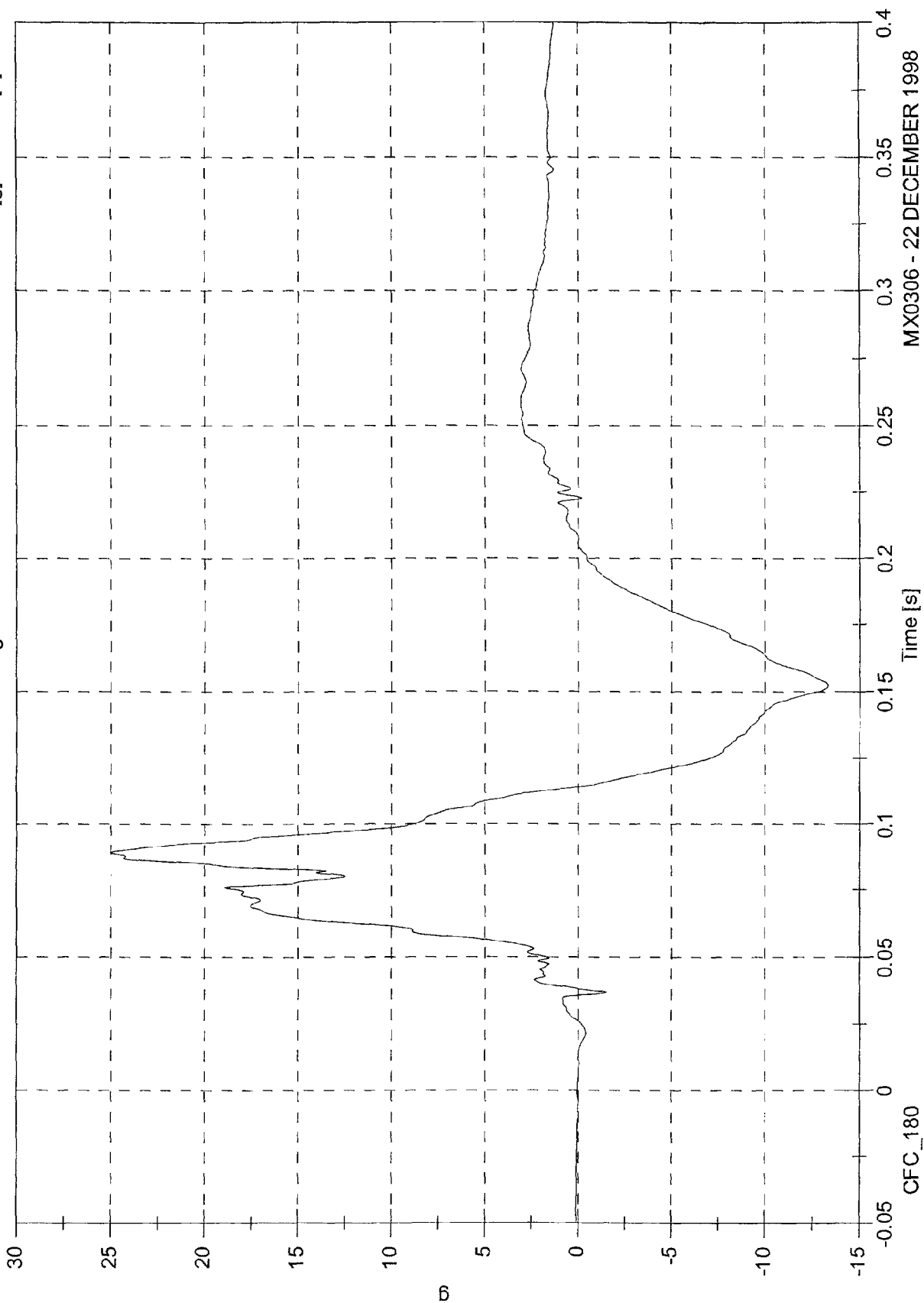


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Chest Az

Max: 25.0 [g] at 0.089 [s]
Min: -13.3 [g] at 0.152 [s]



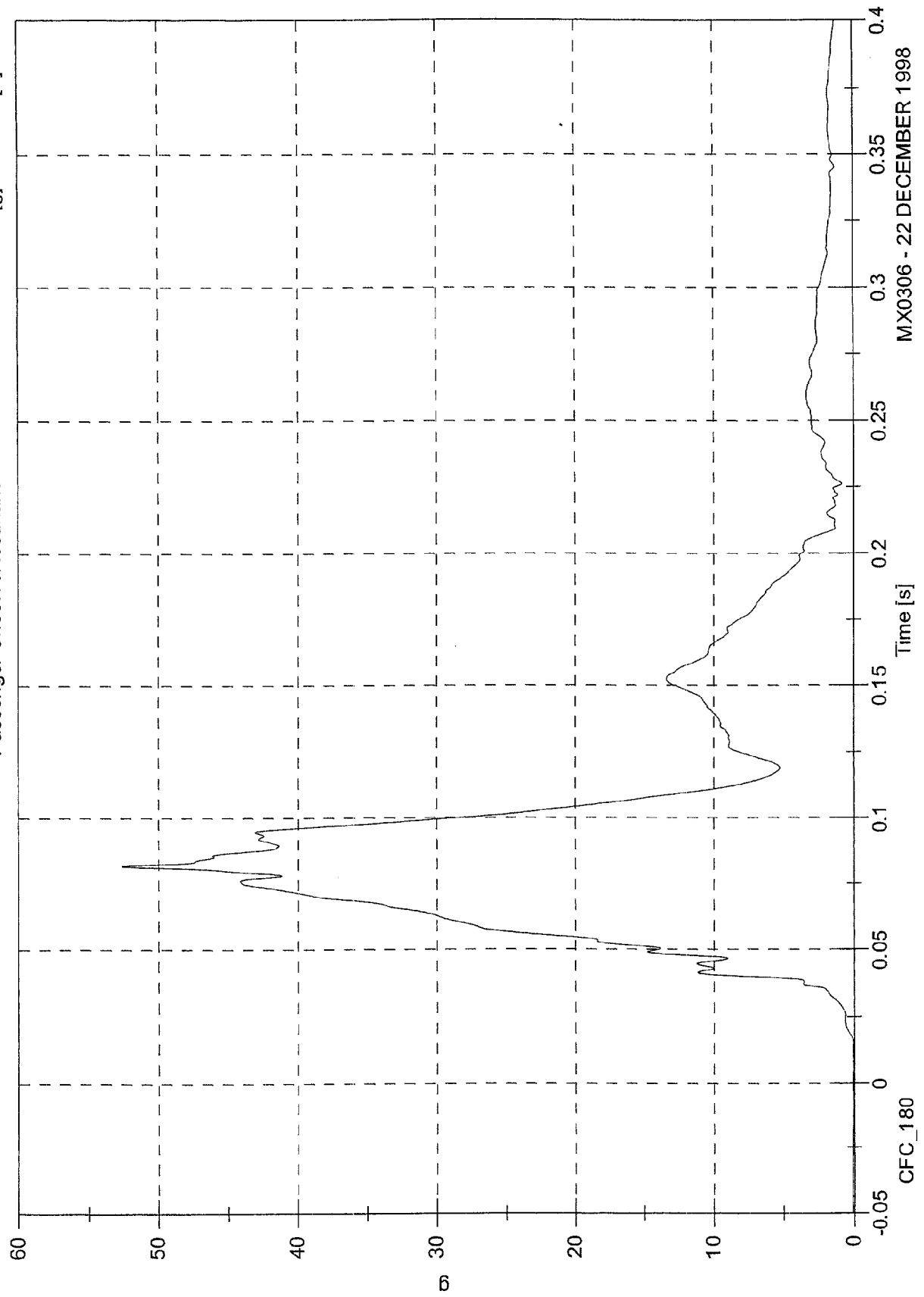
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Chest A Resultant

Max: 52.7 [g] at 0.082 [s]

Min: 0.0 [g] at -0.066 [s]

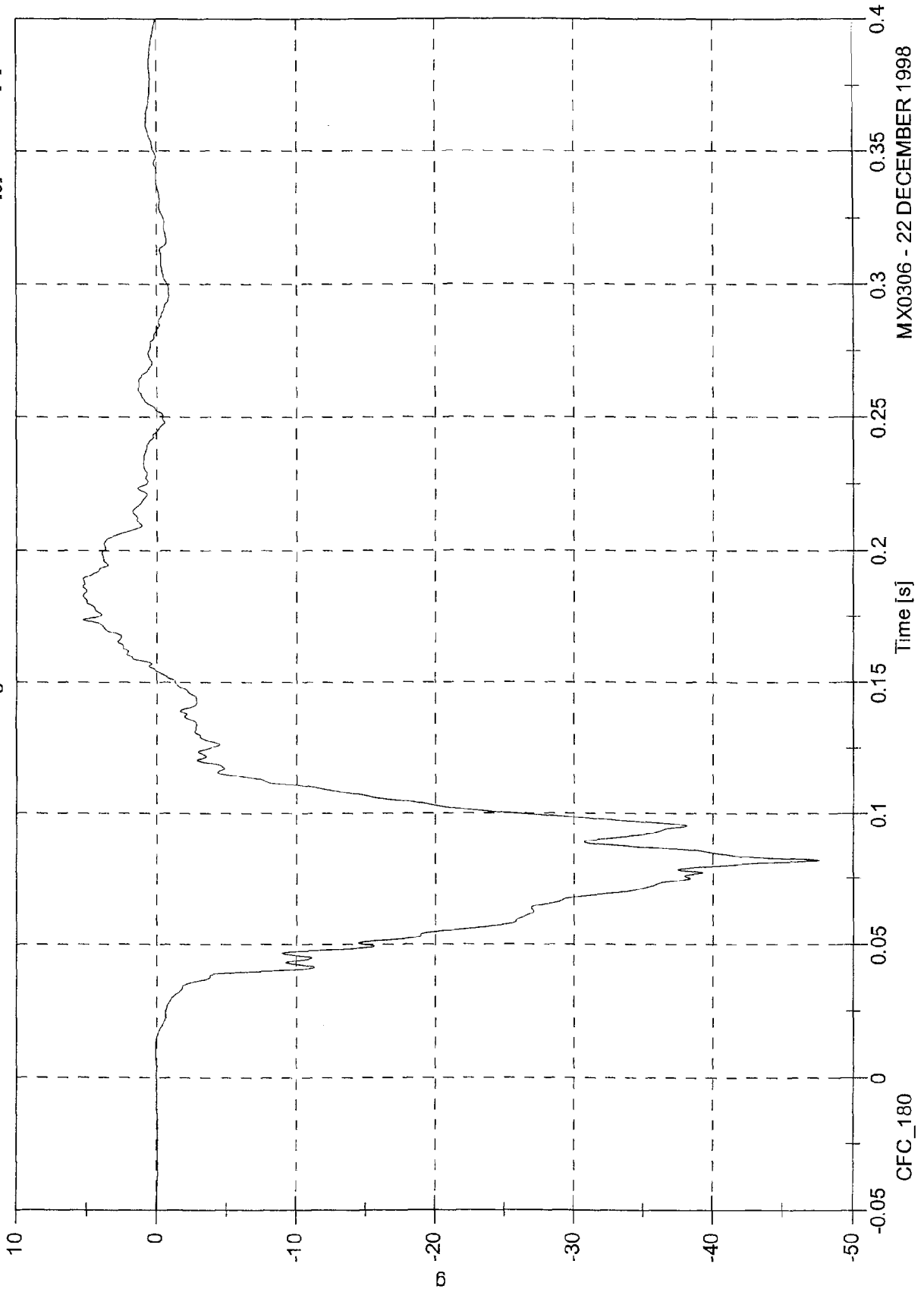


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Chest Ax Redundant

Max: 5.3 [g] at 0.186 [s]
Min: -47.6 [g] at 0.082 [s]

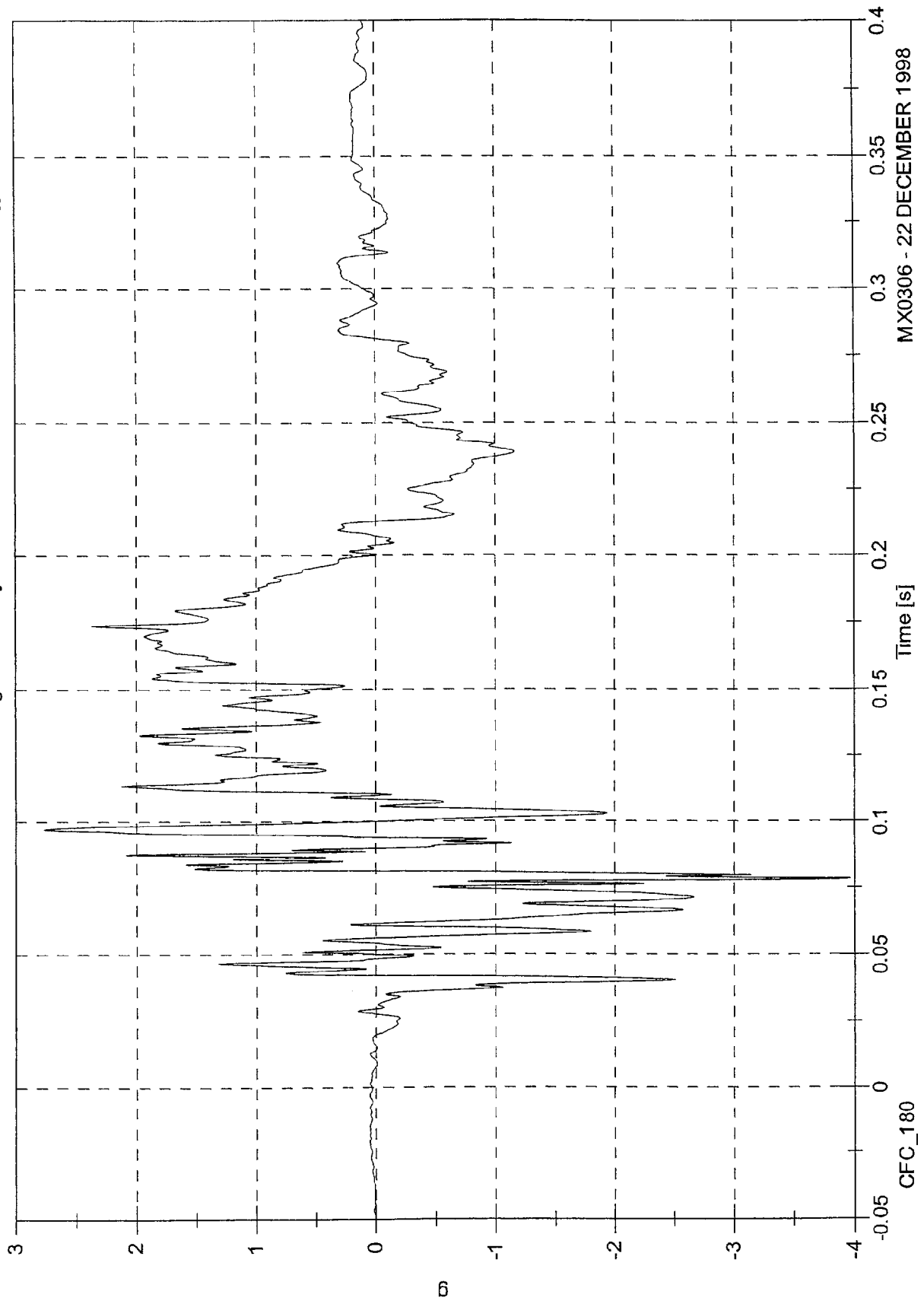


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Chest Ay Redundant

Max: 2.8 [g] at 0.097 [s]
Min: -4.0 [g] at 0.078 [s]

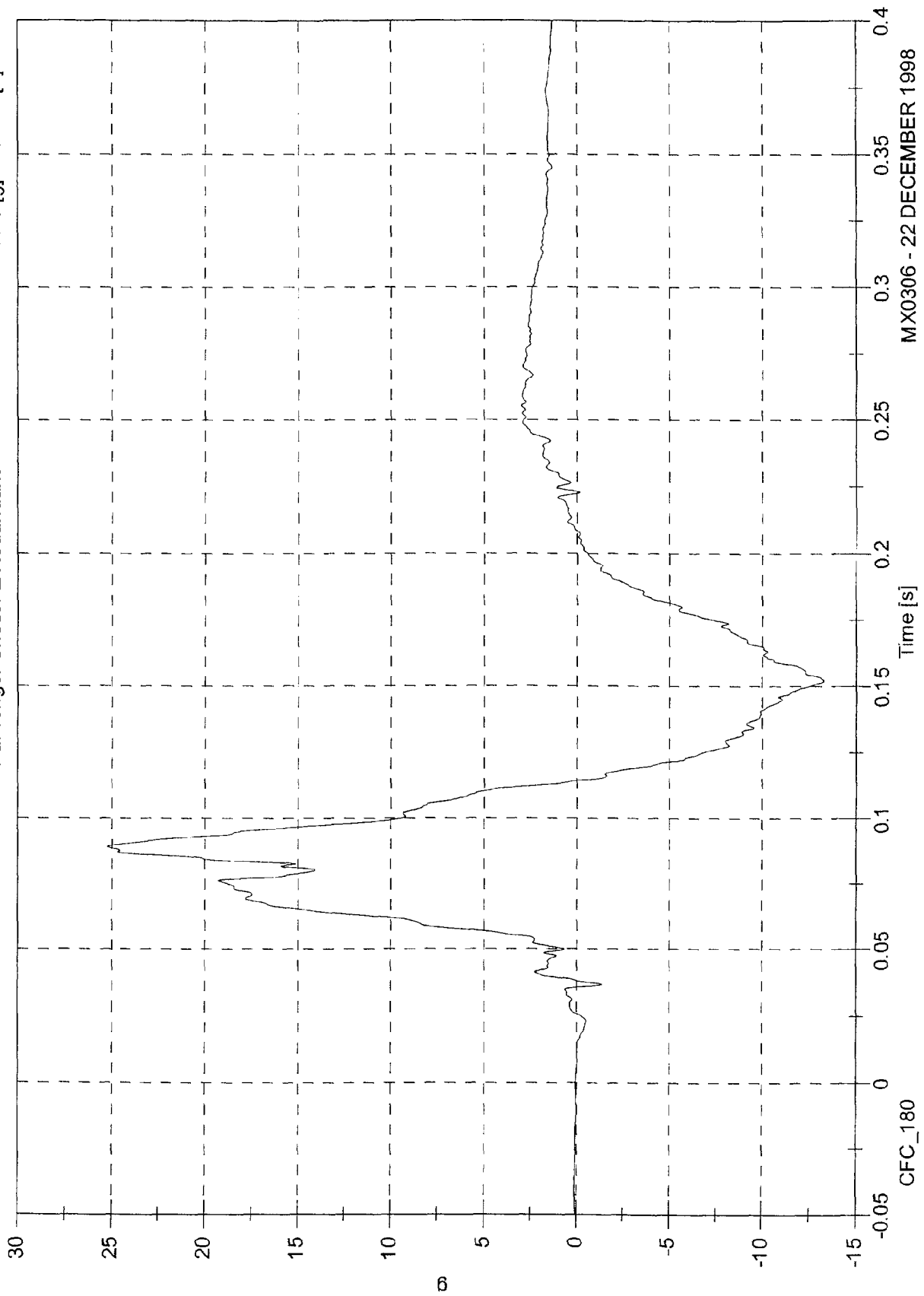


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 25.2 [g] at 0.089 [s]
Min: -13.3 [g] at 0.152 [s]

Passenger Chest Az Redundant

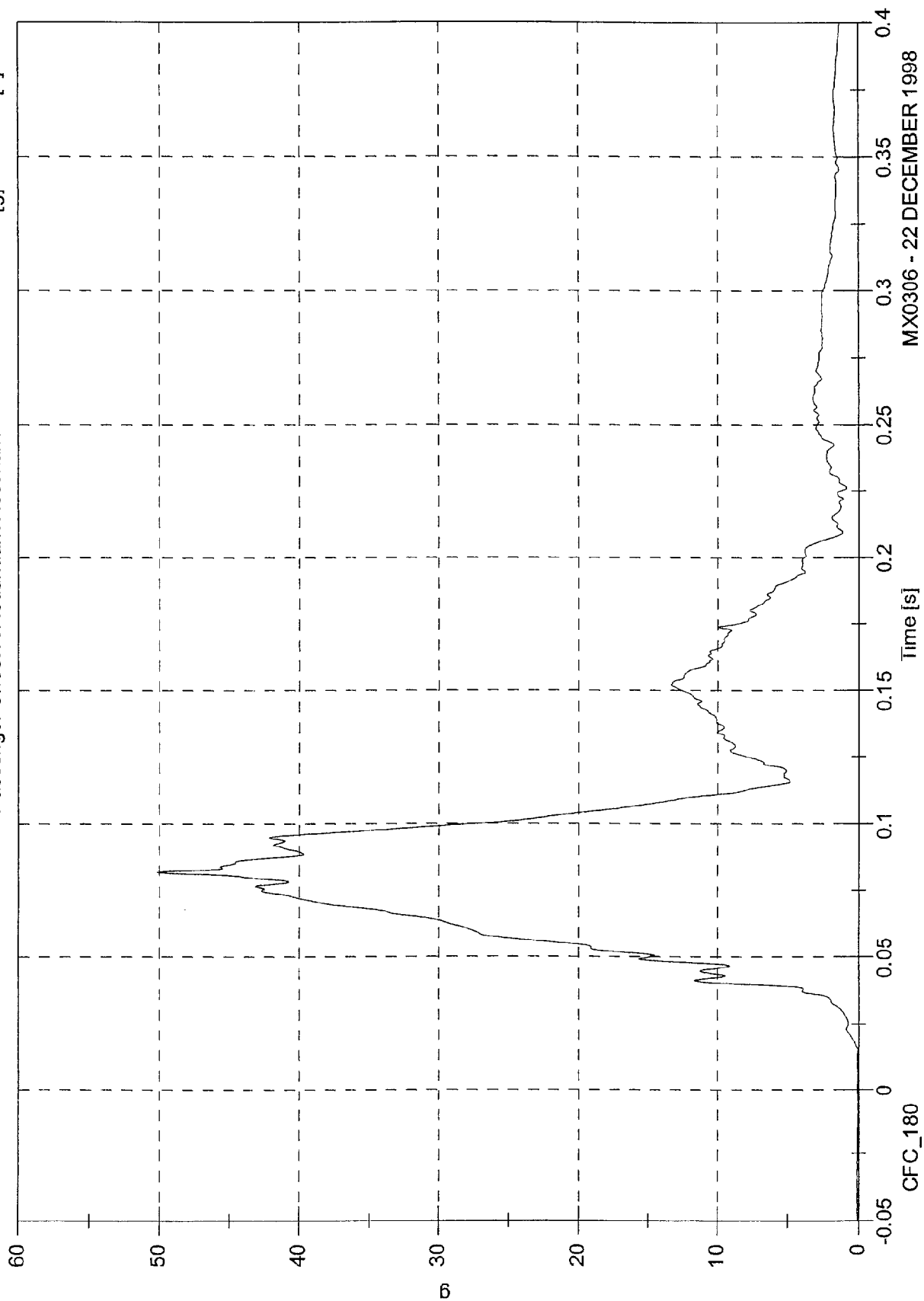


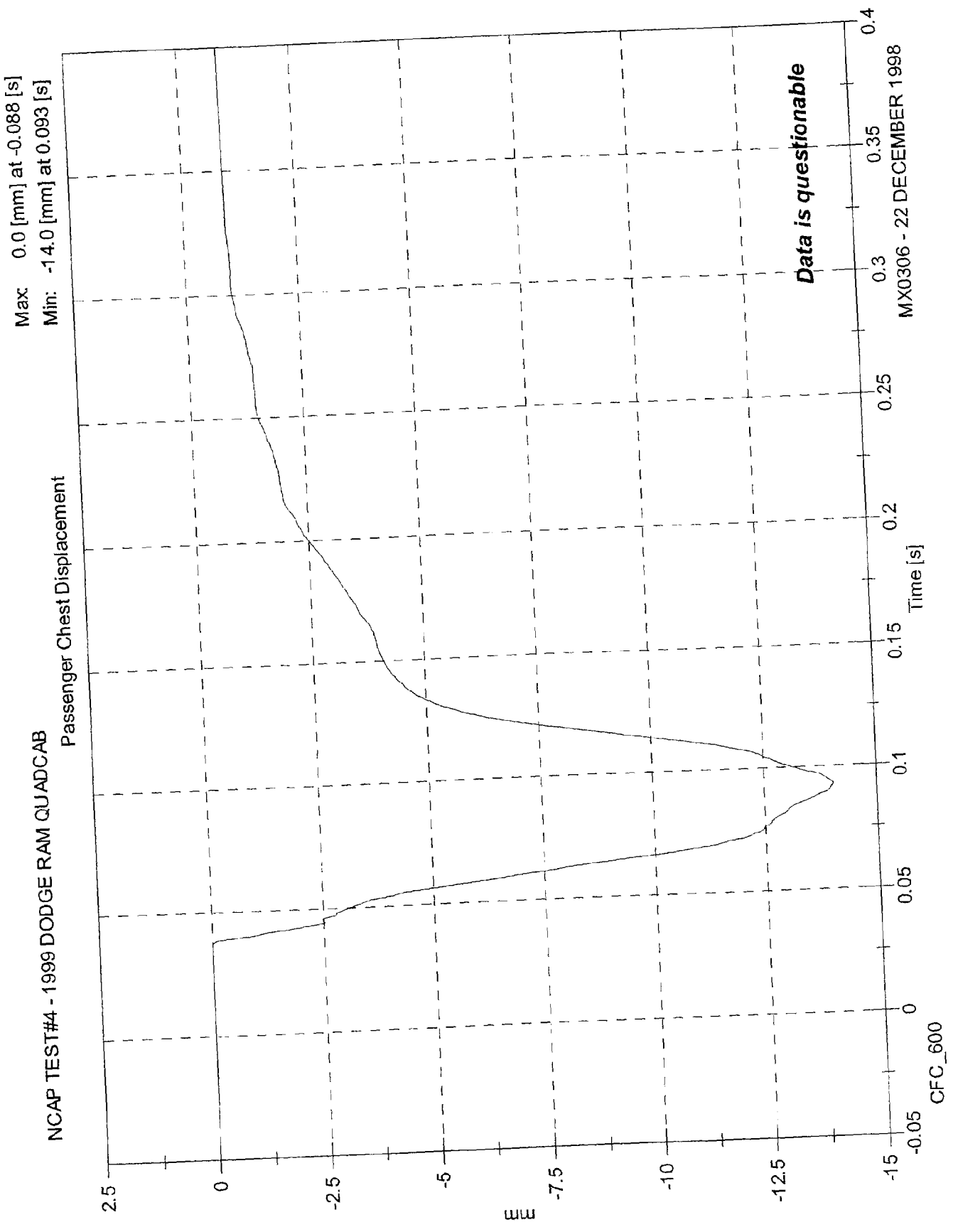
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Passenger Chest A Redundant Resultant

Max: 50.2 [g] at 0.082 [s]
Min: 0.0 [g] at -0.068 [s]



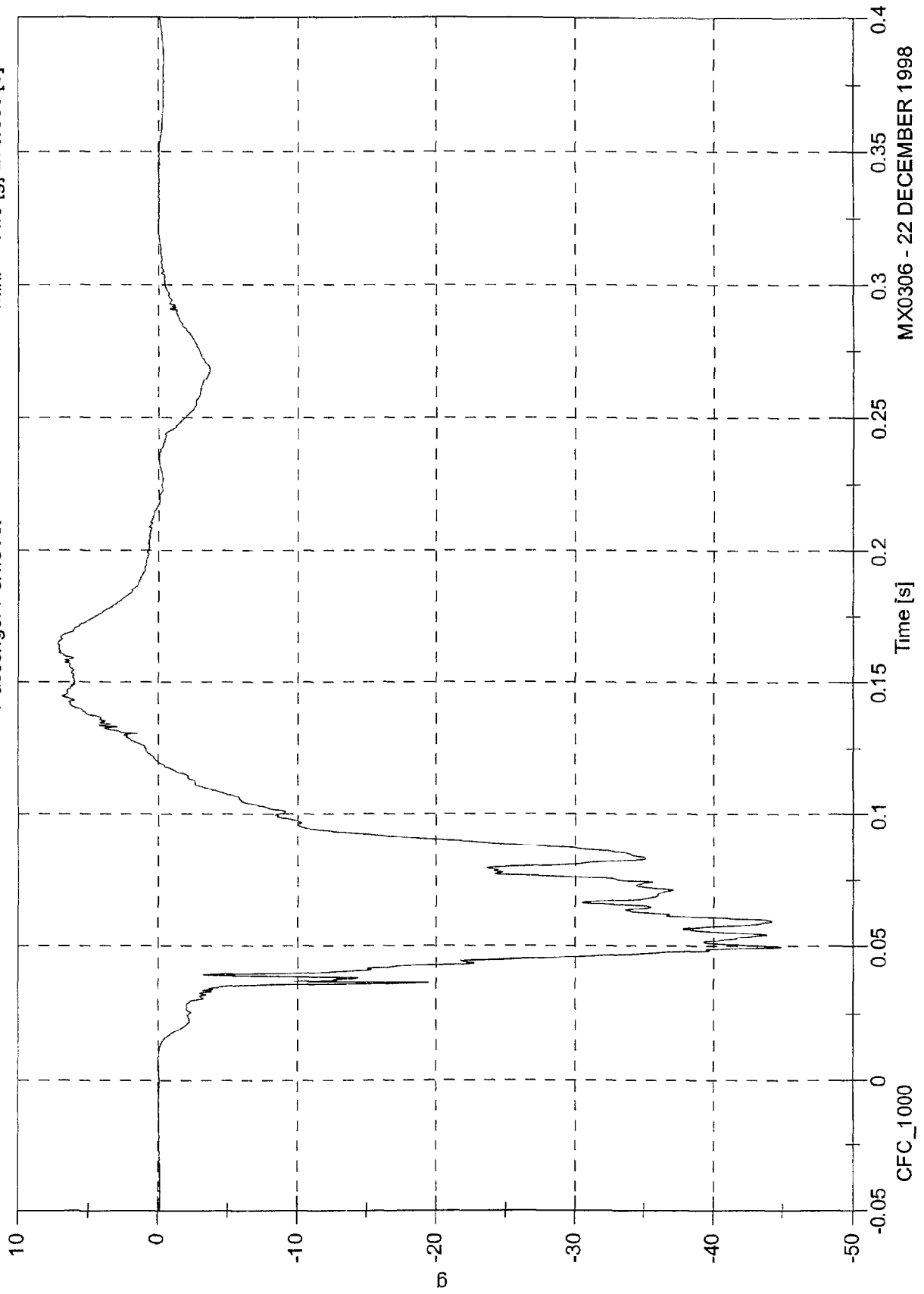


NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 7.2 [g] at 0.165 [s]

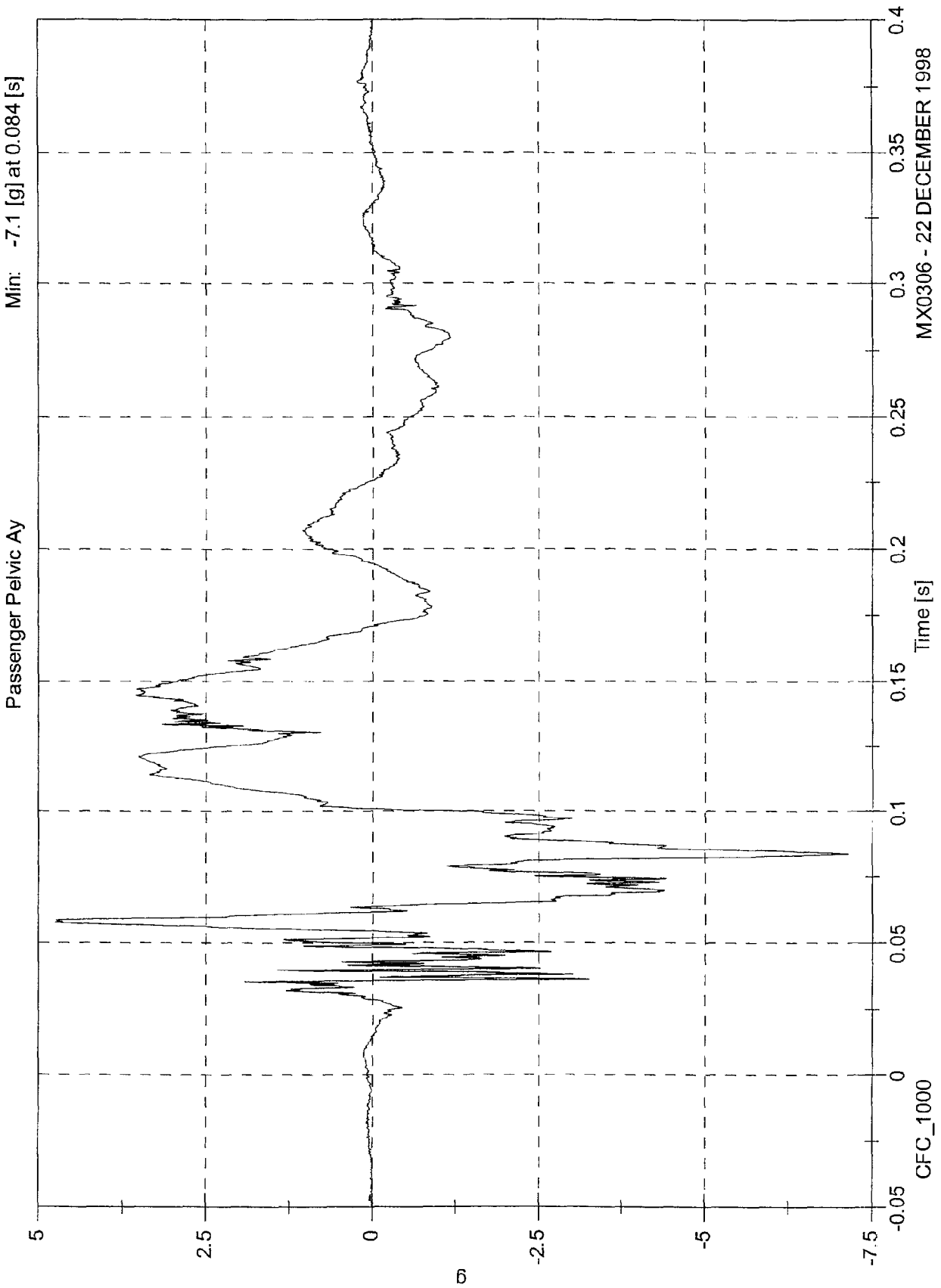
Min: -44.9 [g] at 0.050 [s]

Passenger Pelvic Ax



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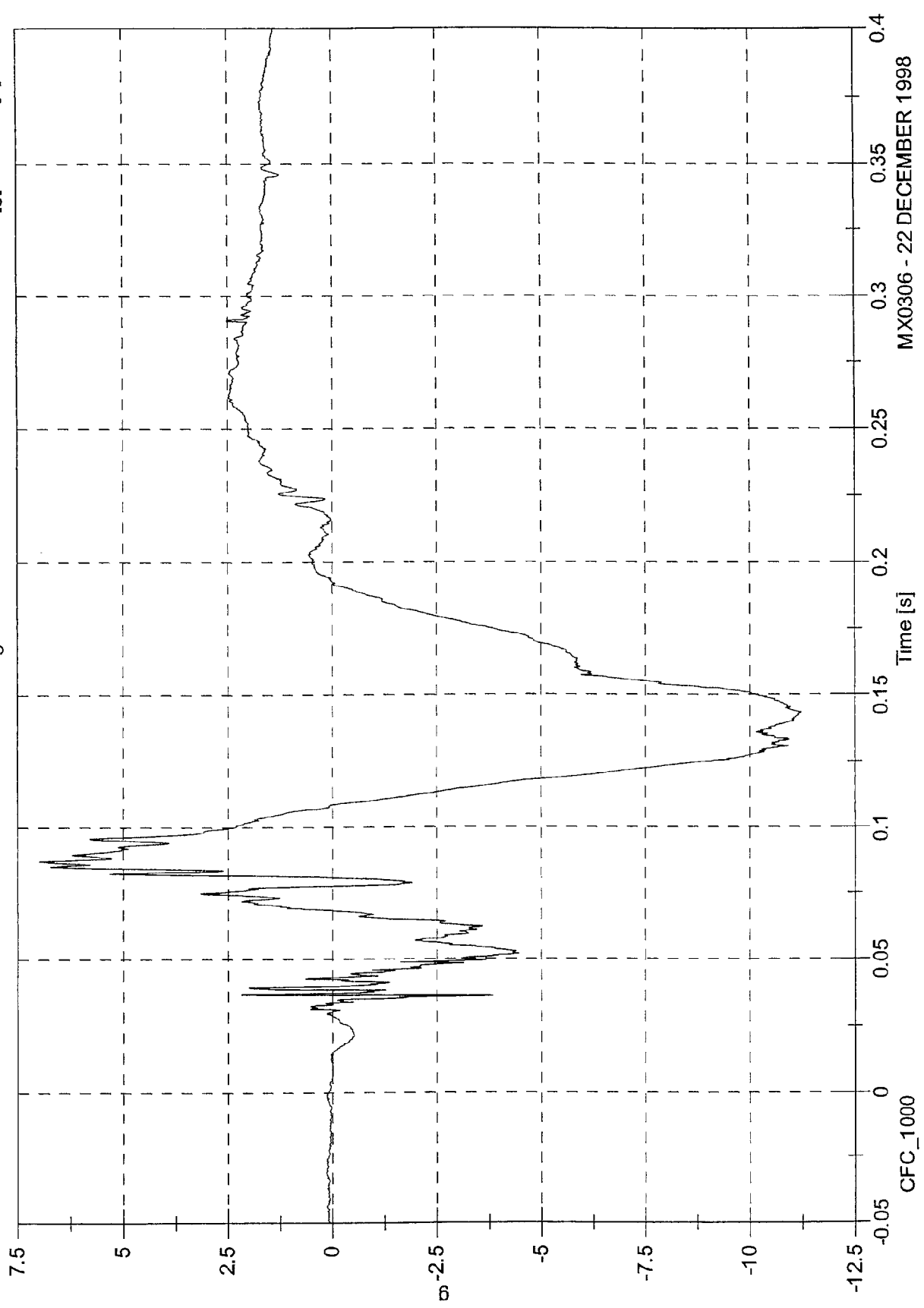
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 7.0 [g] at 0.087 [s]
Min: -11.2 [g] at 0.143 [s]

Passenger Pelvic Az

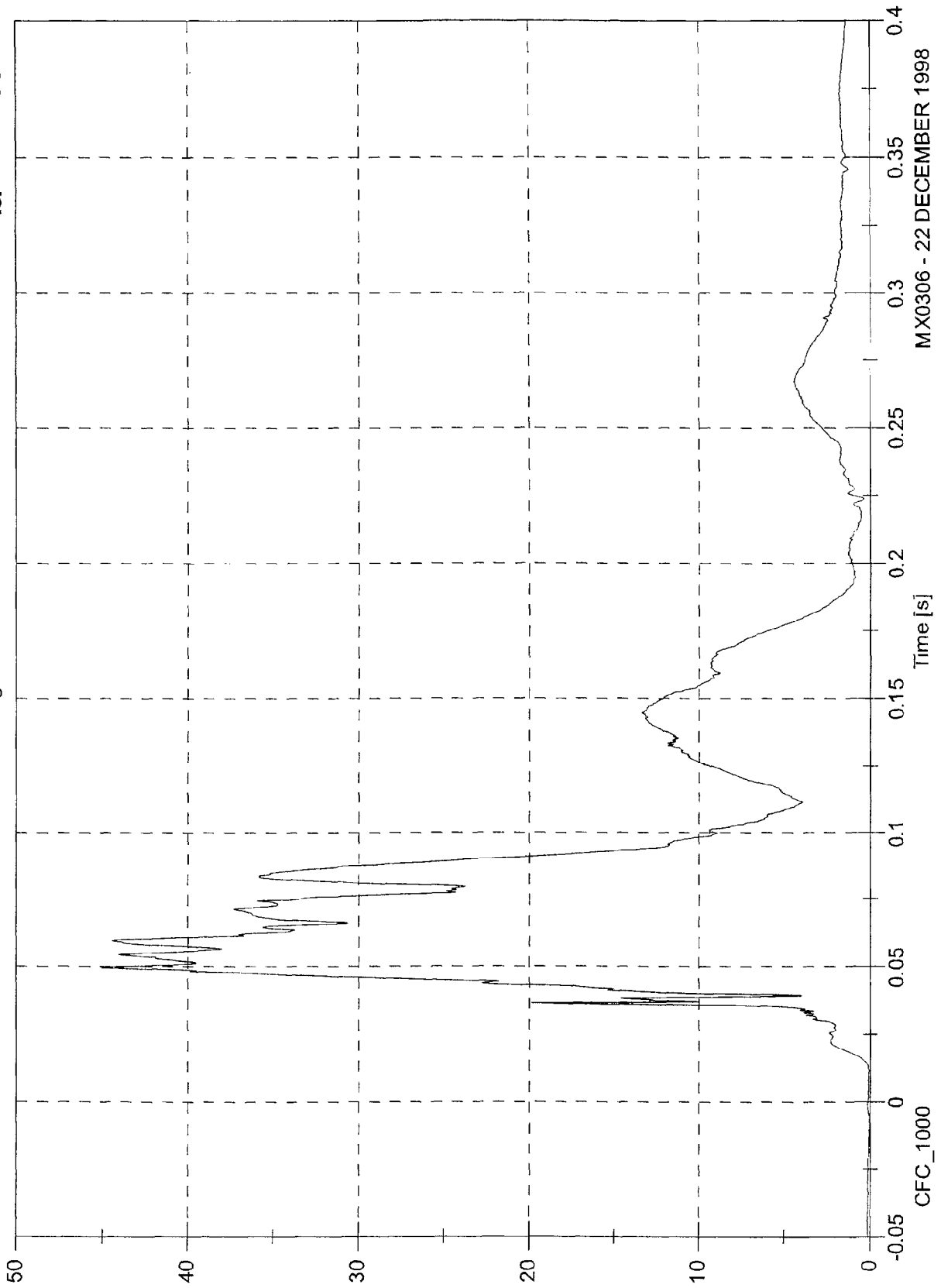


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Pelvic A Resultant

Max 45.0 [g] at 0.050 [s]
Min: 0.0 [g] at -0.062 [s]

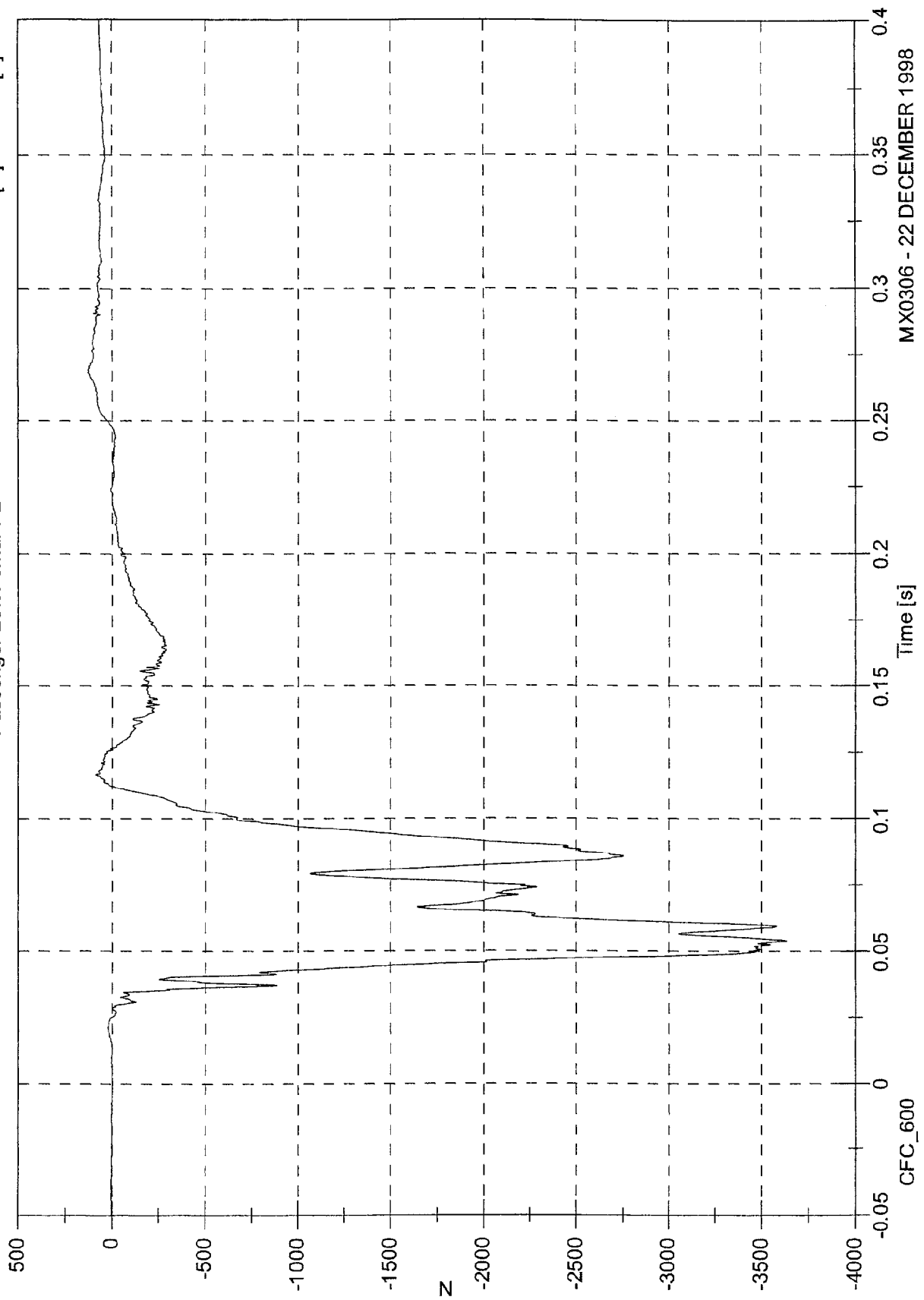


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 127.8 [N] at 0.269 [s]
Min: -3635.1 [N] at 0.054 [s]

Passenger Left Femur Fz

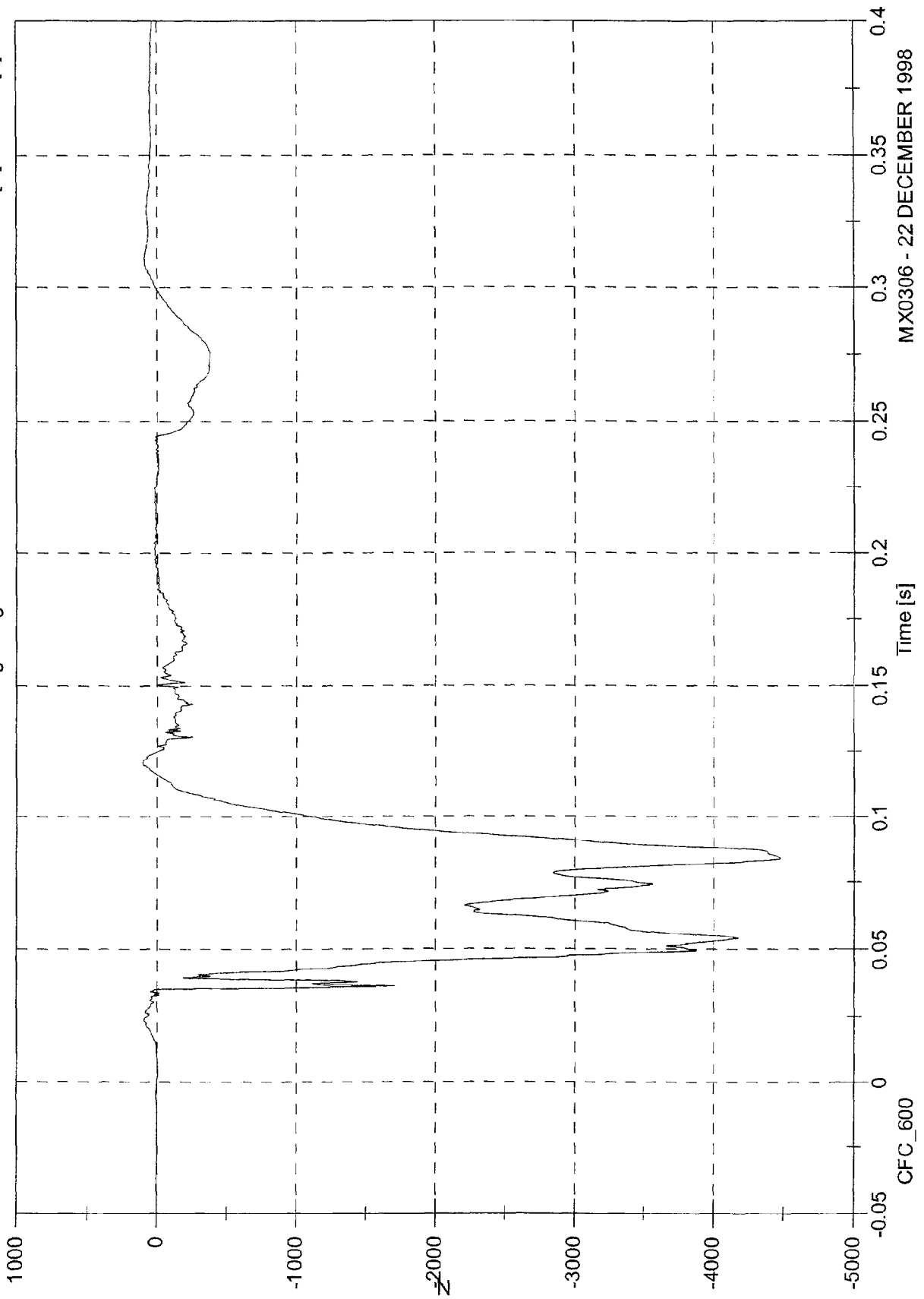


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 103.2 [N] at 0.121 [s]
Min: -4480.4 [N] at 0.084 [s]

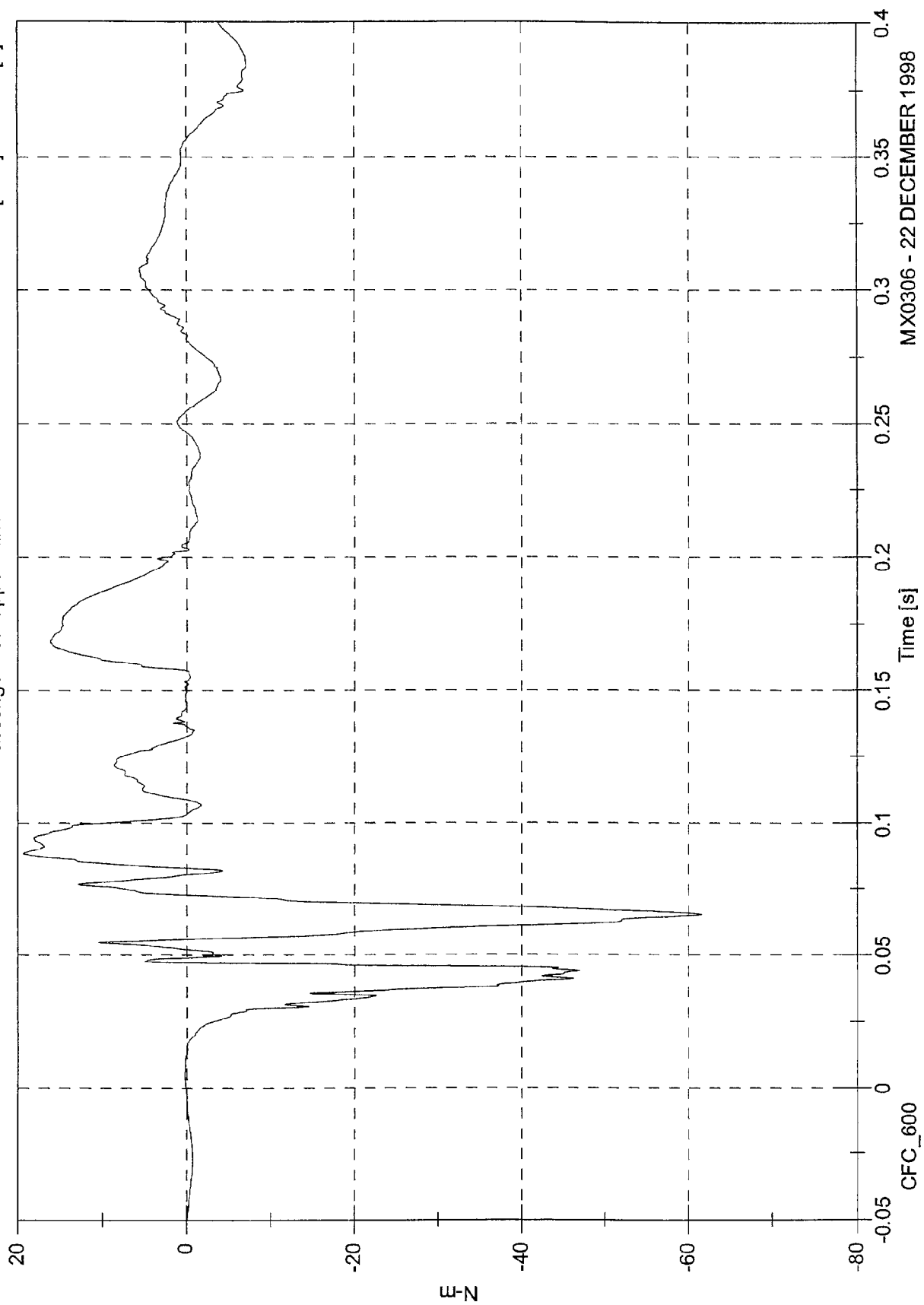
Passenger Right Femur Fz



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 19.4 [N-m] at 0.088 [s]
 Min: -61.6 [N-m] at 0.065 [s]

Passenger Left Upper Tibia Mx

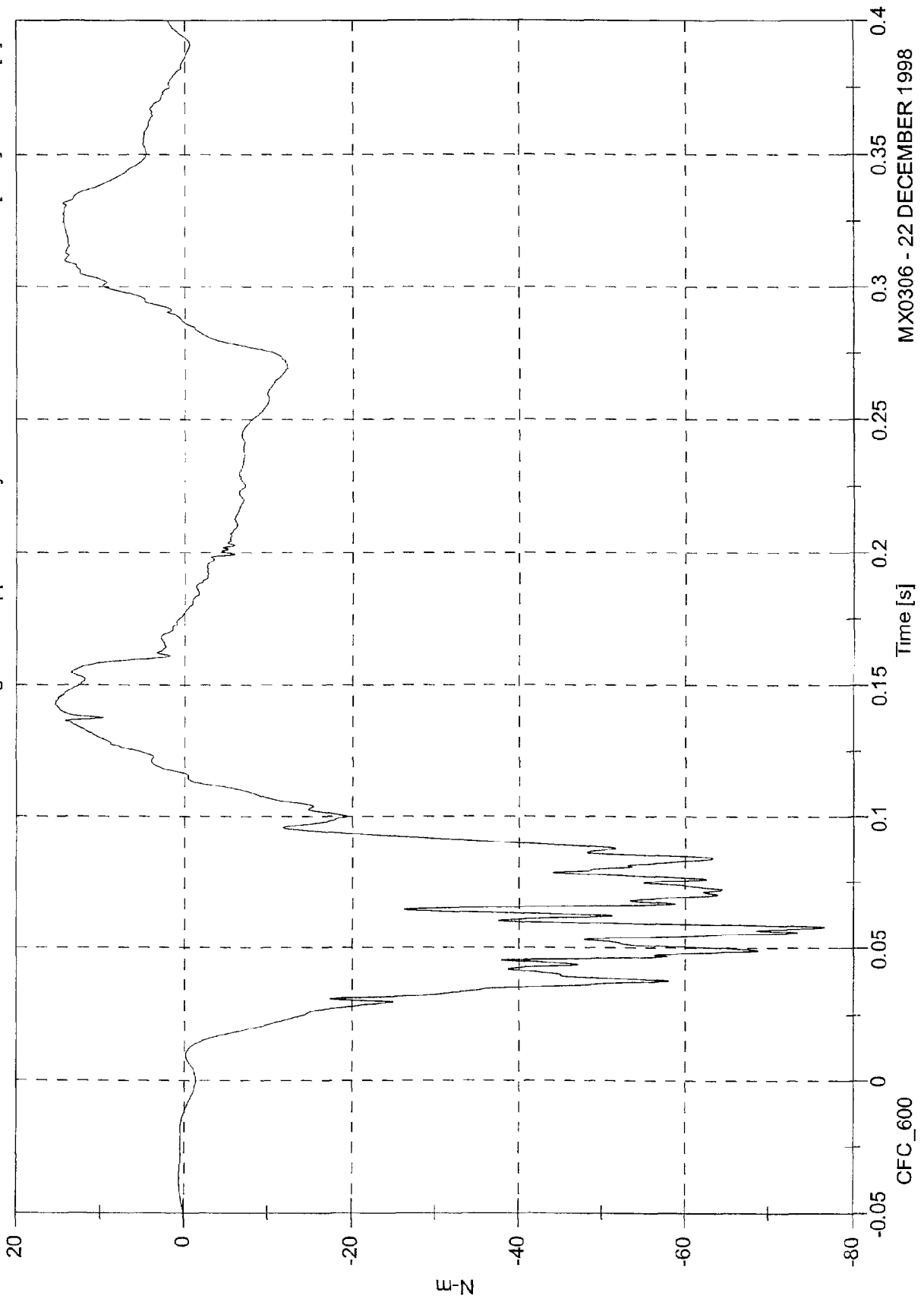


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 16.1 [N-m] at 0.491 [s]
Min: -76.6 [N-m] at 0.058 [s]

Passenger Left Upper Tibia My

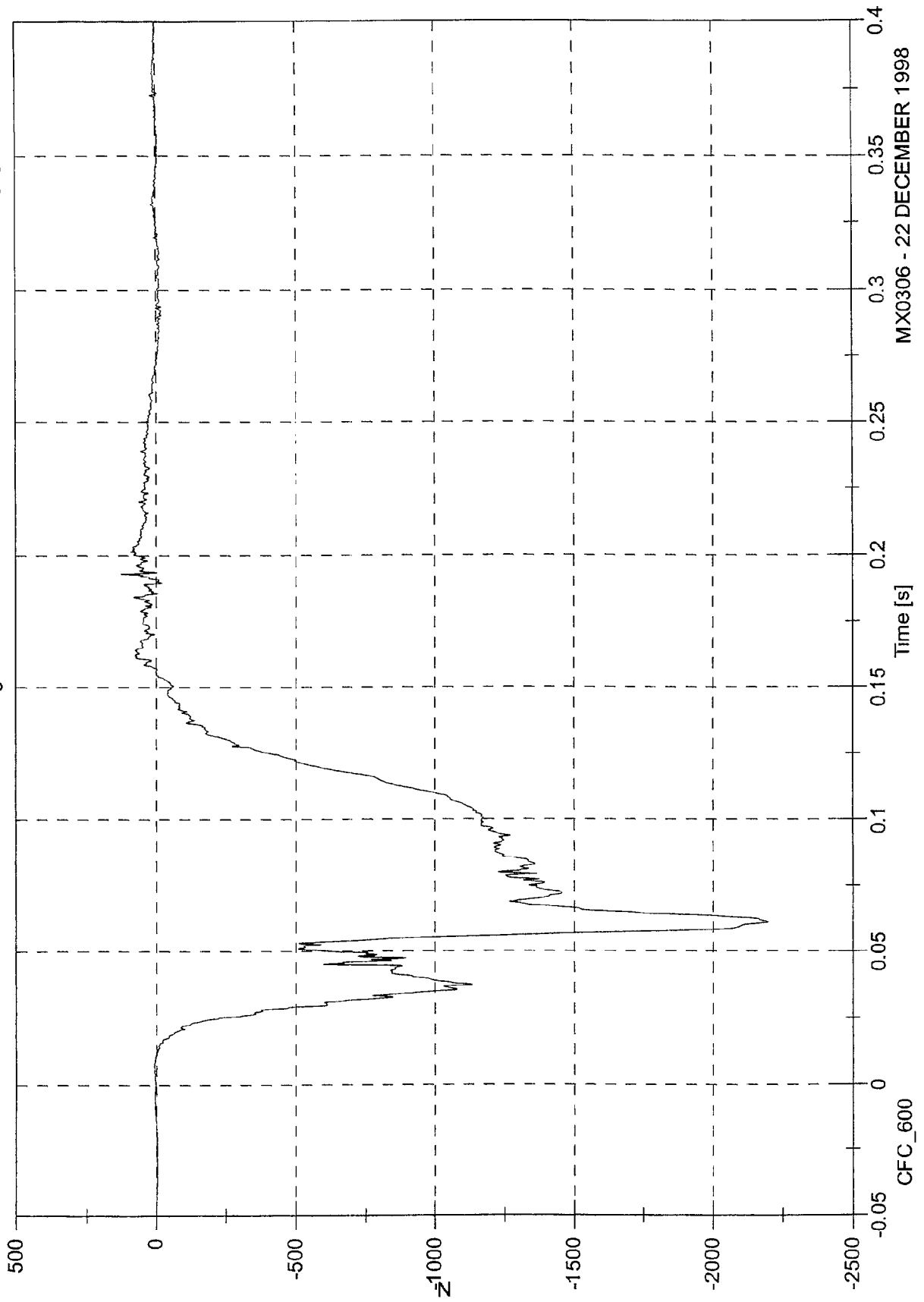


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD/CAB

Passenger Left Lower Tibia Fz

Max: 124.6 [N] at 0.193 [s]
Min: -2198.8 [N] at 0.061 [s]

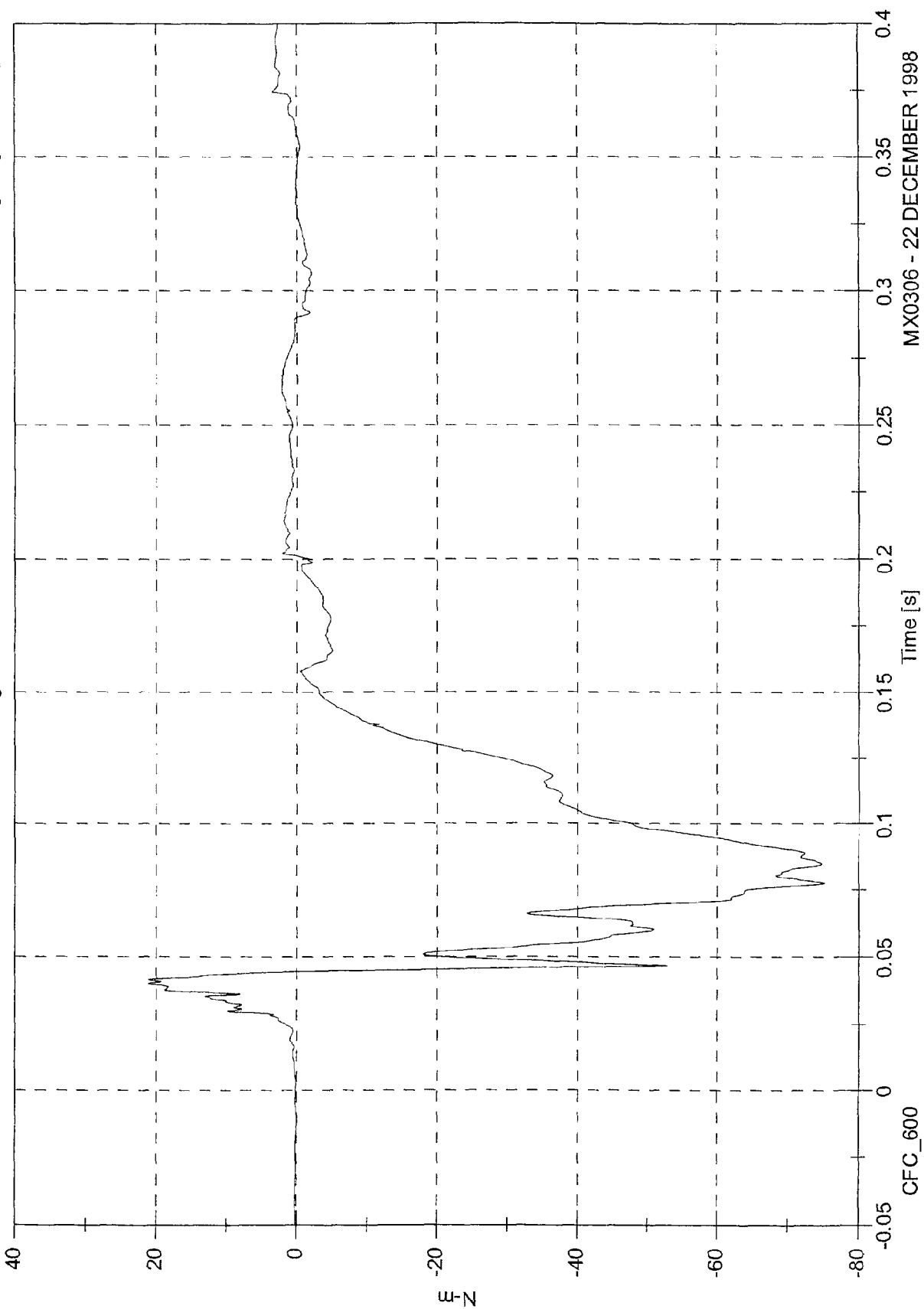


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Passenger Left Lower Tibia Mx

Max: 21.2 [N-m] at 0.040 [s]
Min: -75.2 [N-m] at 0.077 [s]

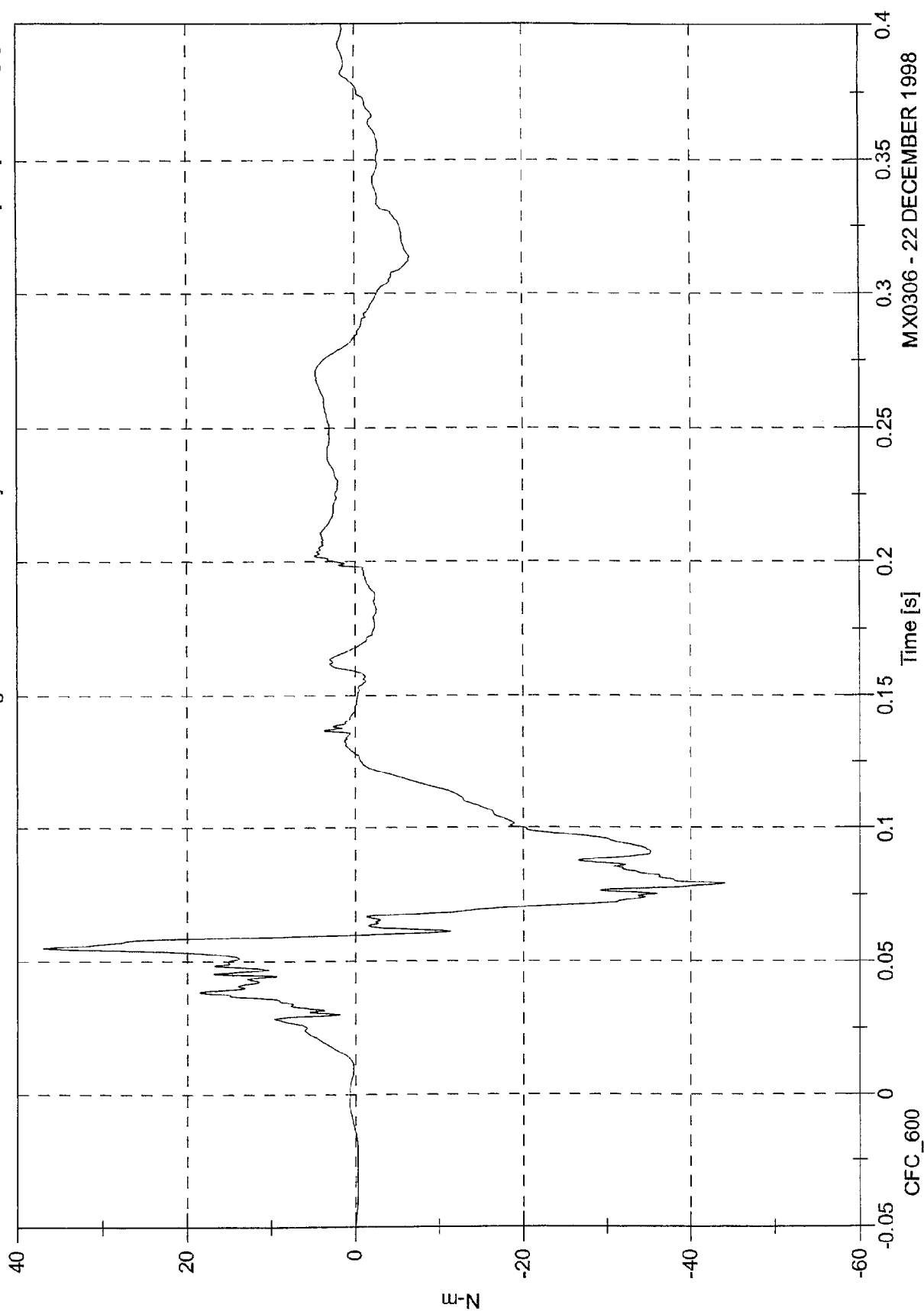


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD/CAB

Max: 37.0 [N-m] at 0.055 [s]
 Min: -44.1 [N-m] at 0.079 [s]

Passenger Left Lower Tibia My



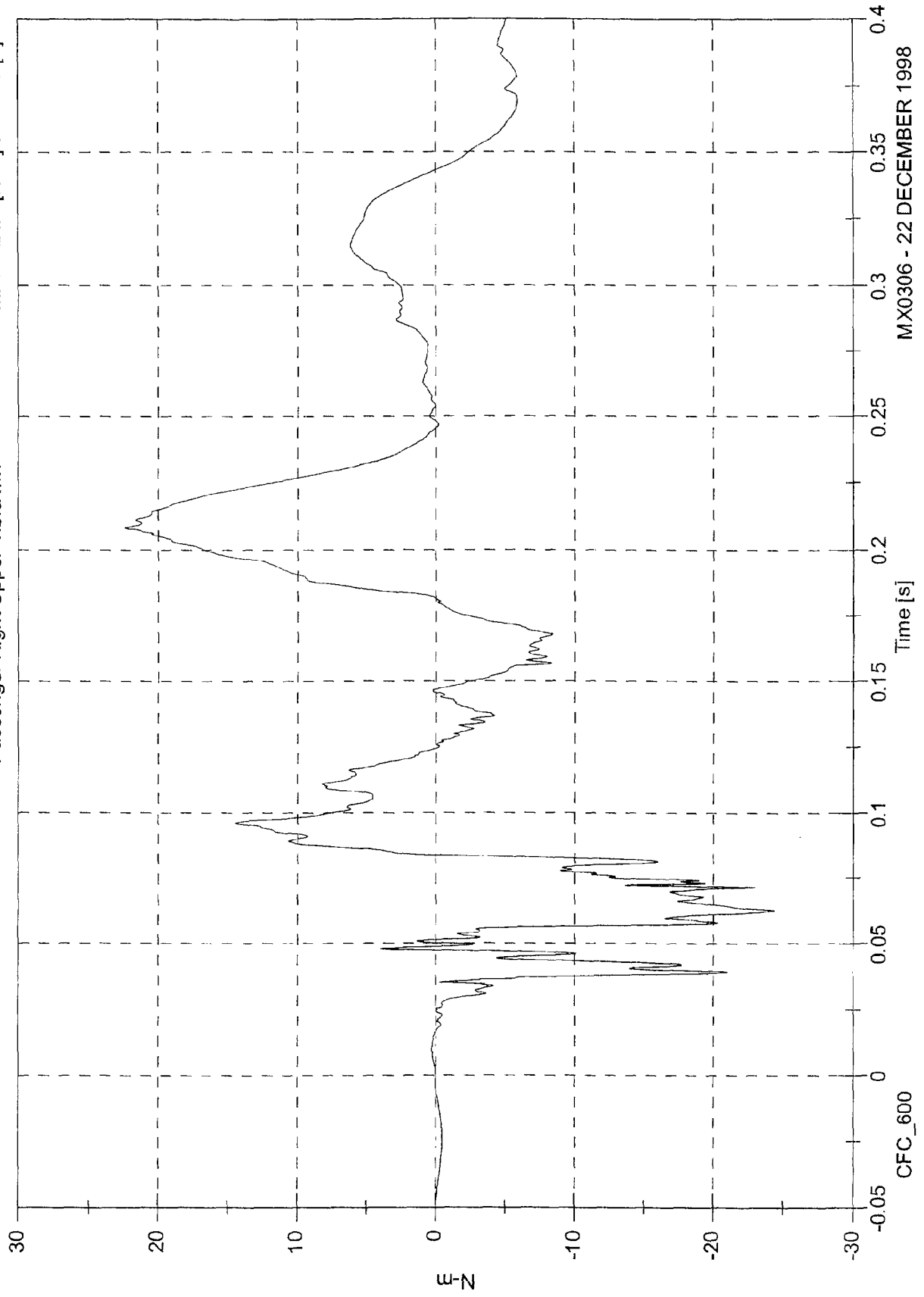
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 22.4 [N-m] at 0.208 [s]

Min: -24.4 [N-m] at 0.063 [s]

Passenger Right Upper Tibia Mx

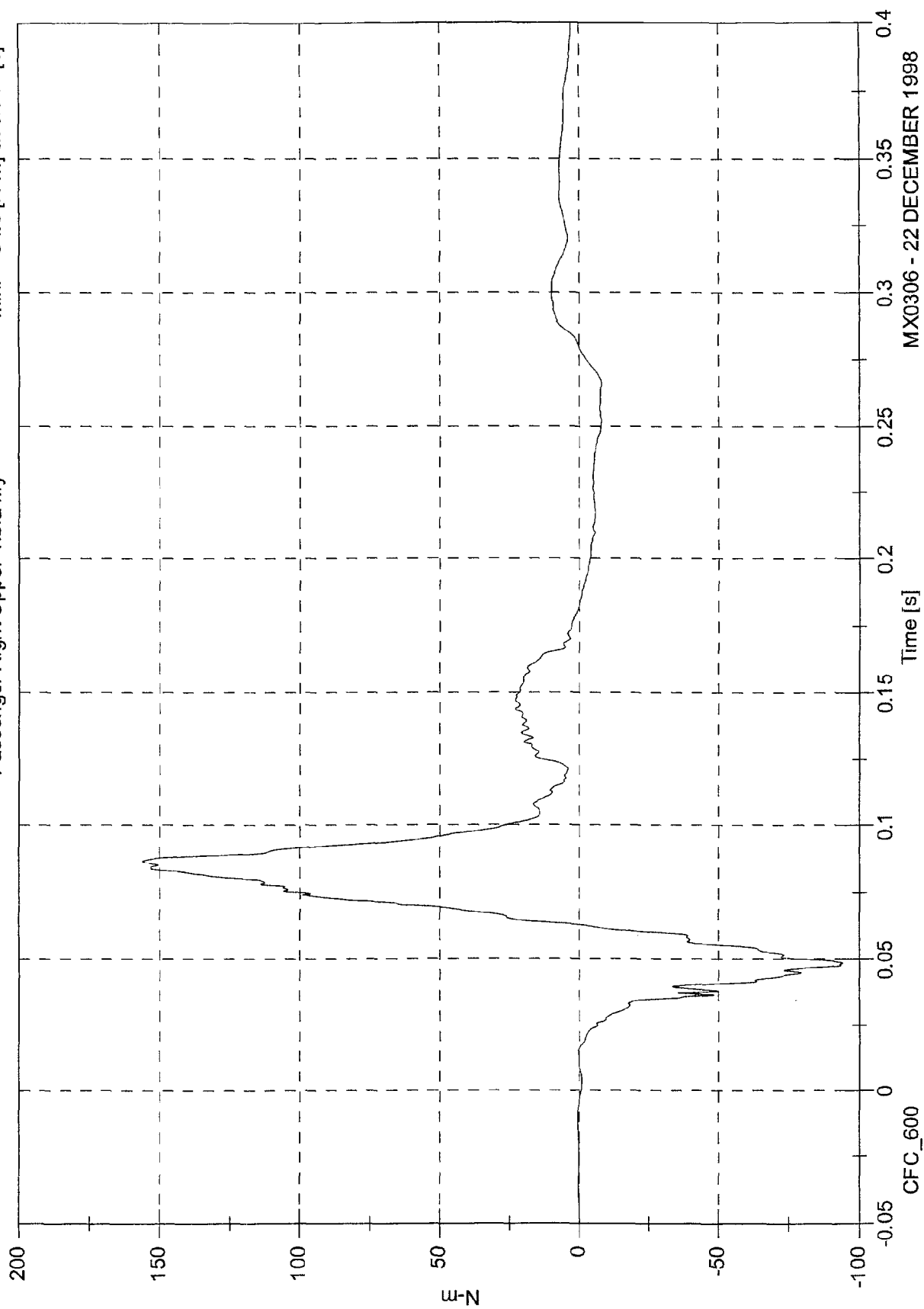


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Right Upper Tibia My

Max: 156.3 [N-m] at 0.087 [s]
Min: -94.0 [N-m] at 0.048 [s]

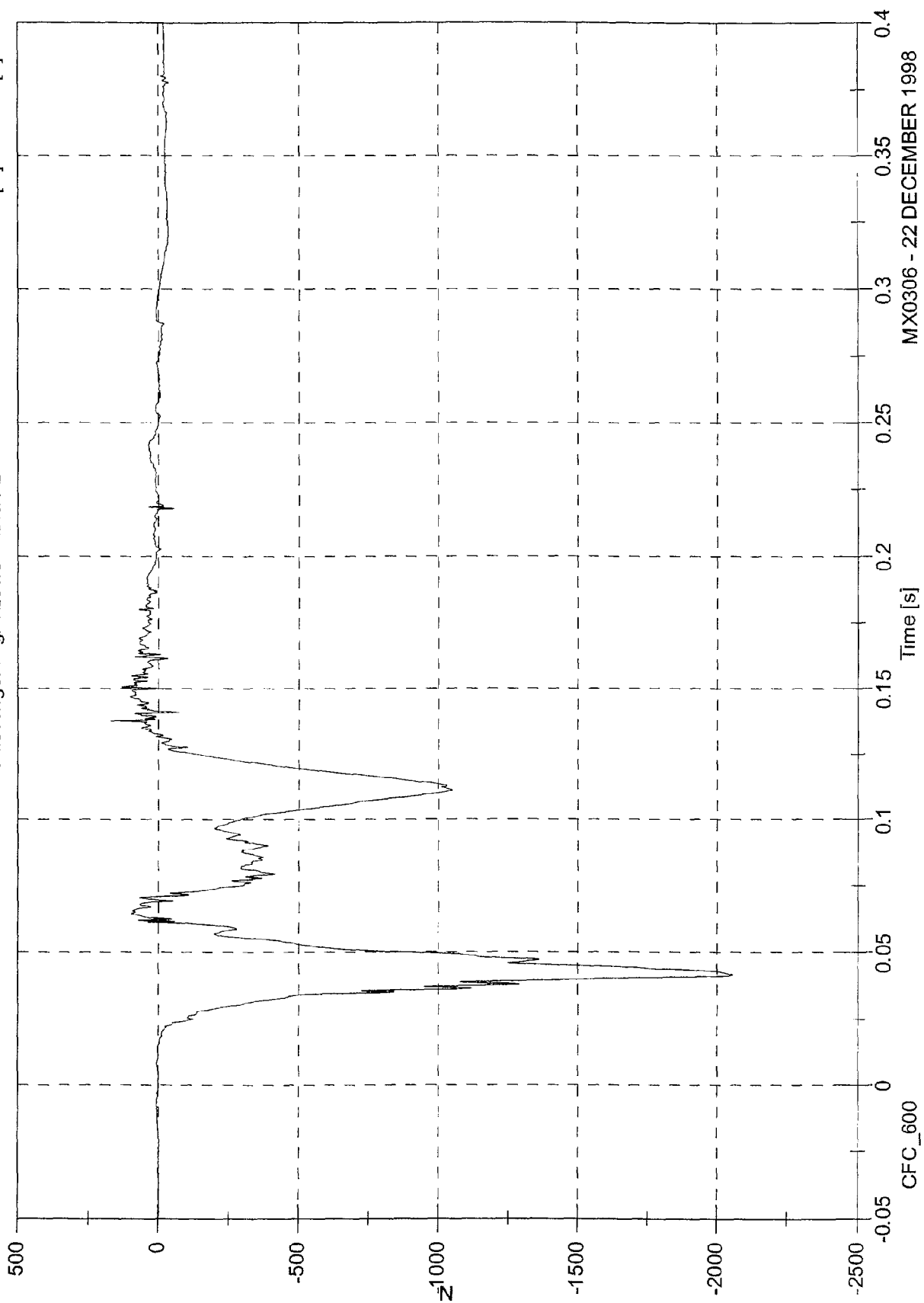


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 171.2 [N] at 0.138 [s]
Min: -2054.8 [N] at 0.042 [s]

Passenger Right Lower Tibia Fz

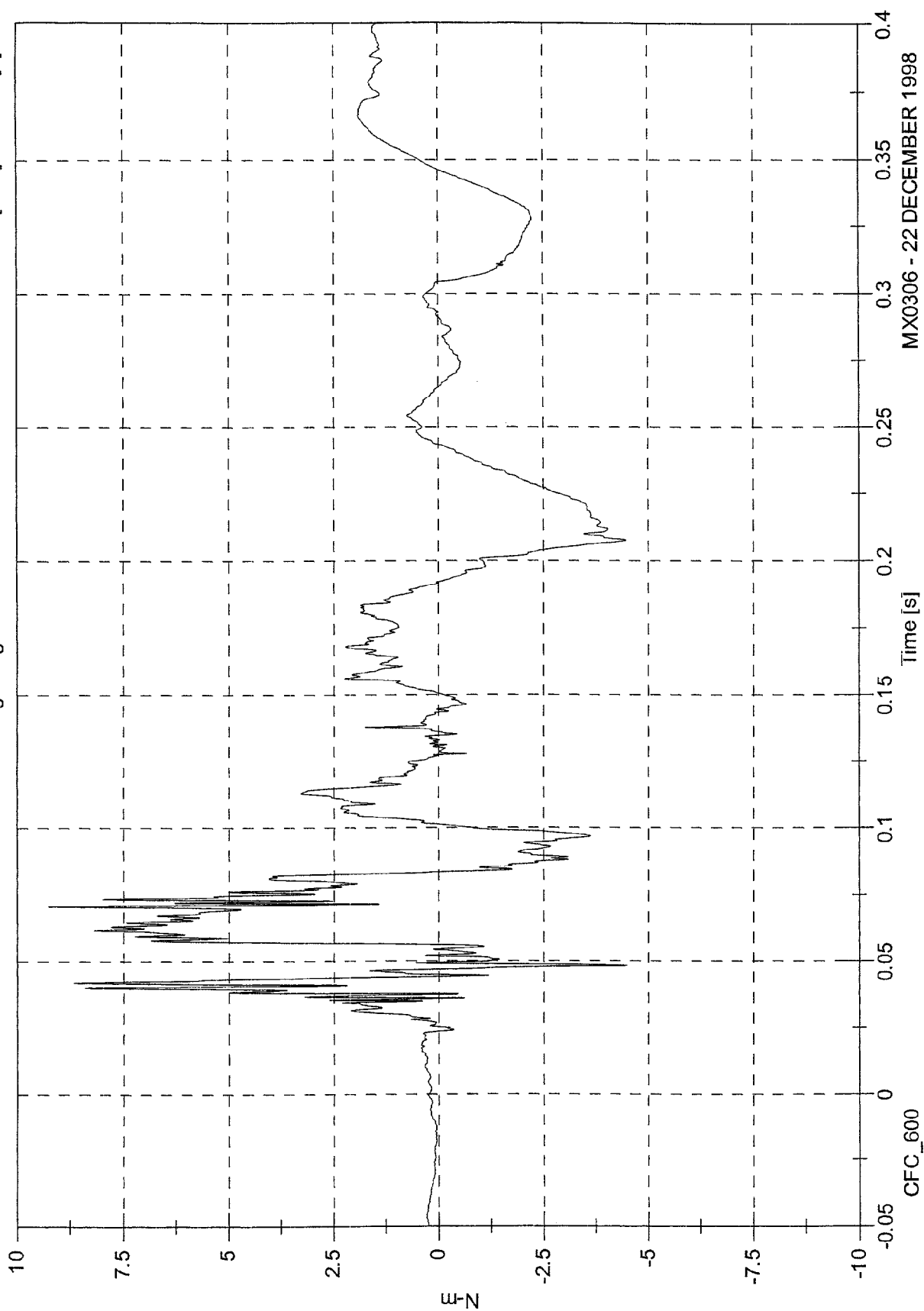


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 9.3 [N-m] at 0.071 [s]
 Min: -8.1 [N-m] at 0.536 [s]

Passenger Right Lower Tibia Mx

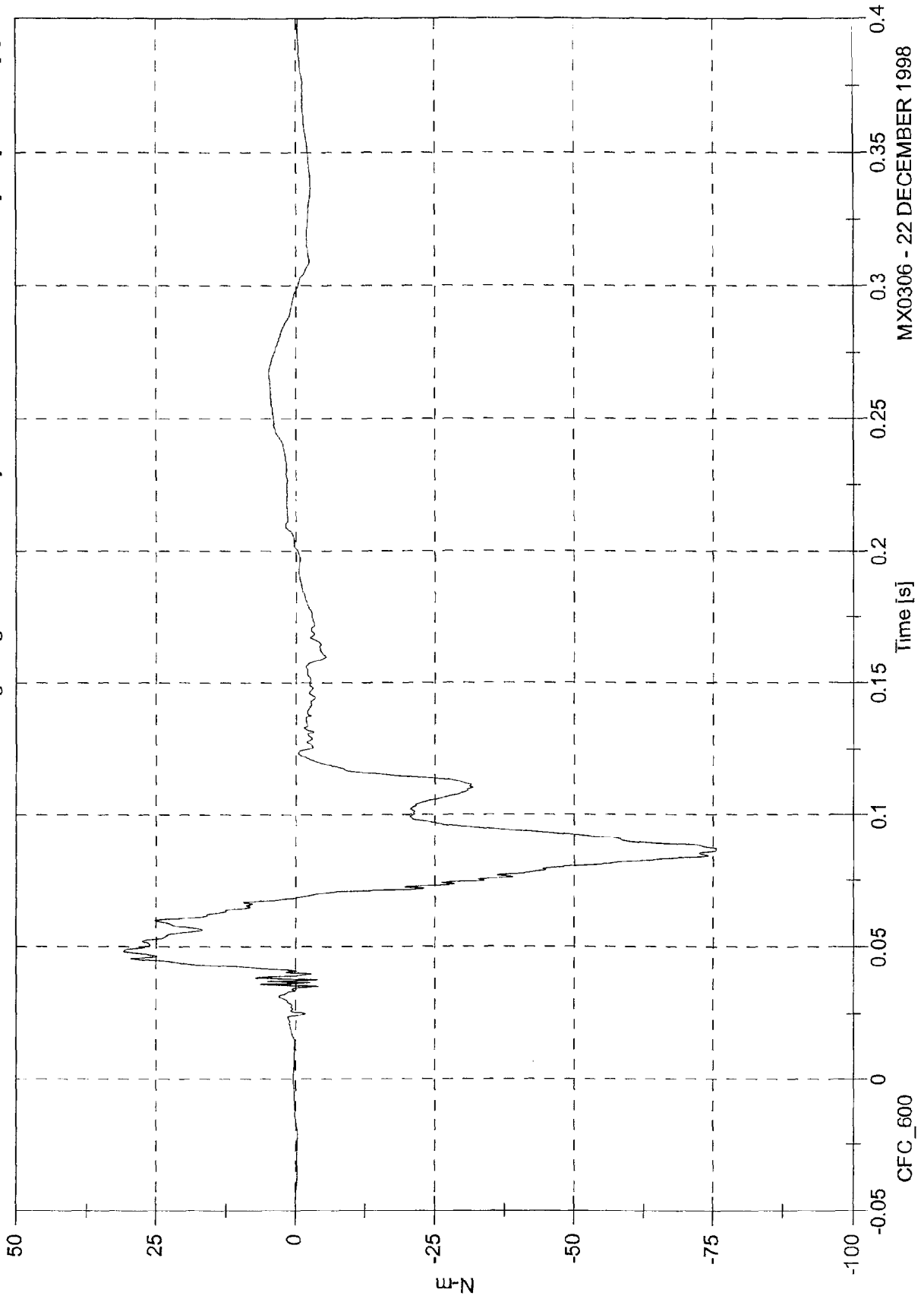


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Passenger Right Lower Tibia My

Max: 30.8 [N-m] at 0.048 [s]
Min: -75.6 [N-m] at 0.087 [s]

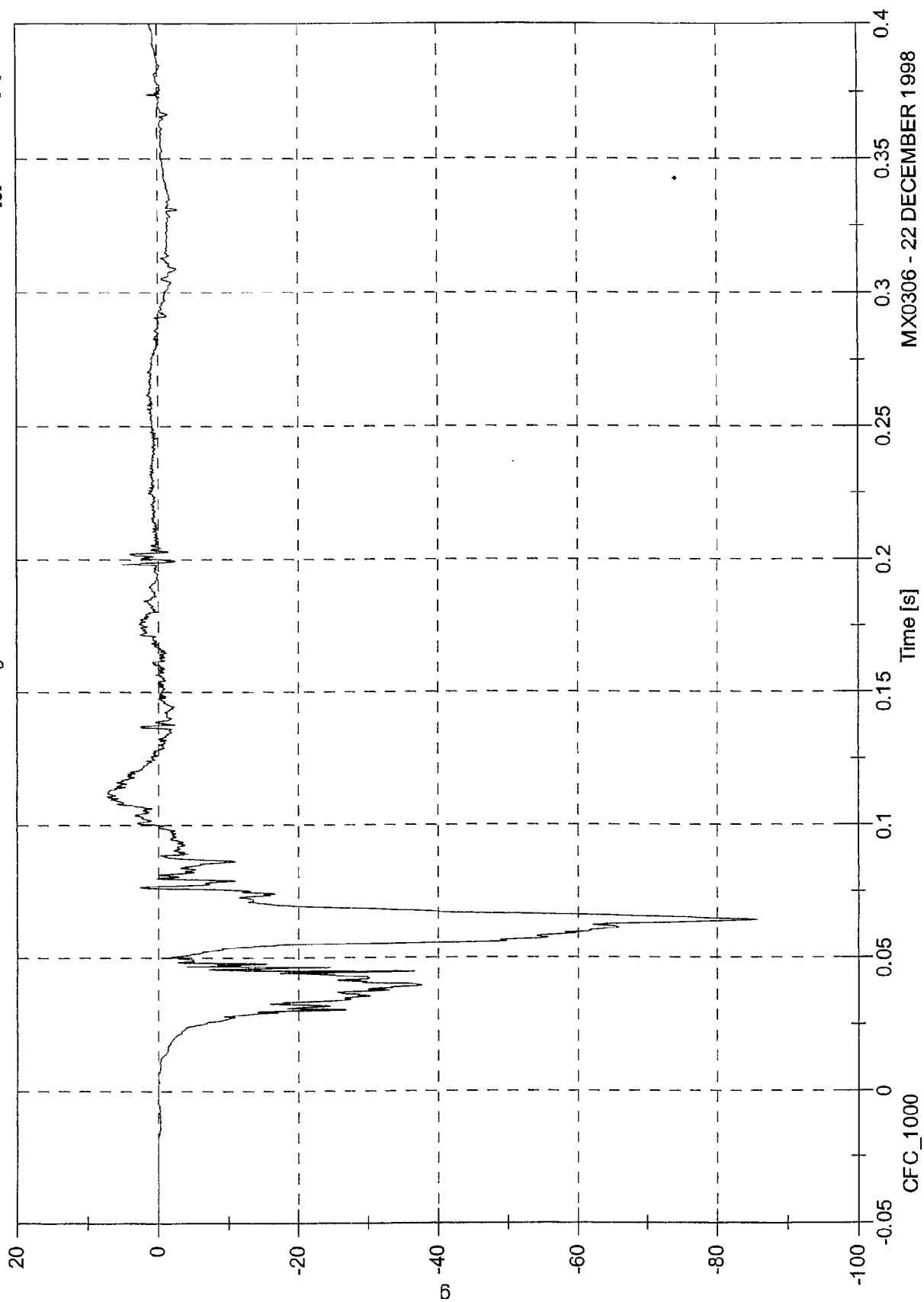


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 7.3 [g] at 0.111 [s]
Min: -85.8 [g] at 0.064 [s]

Passenger Left Ankle Ax

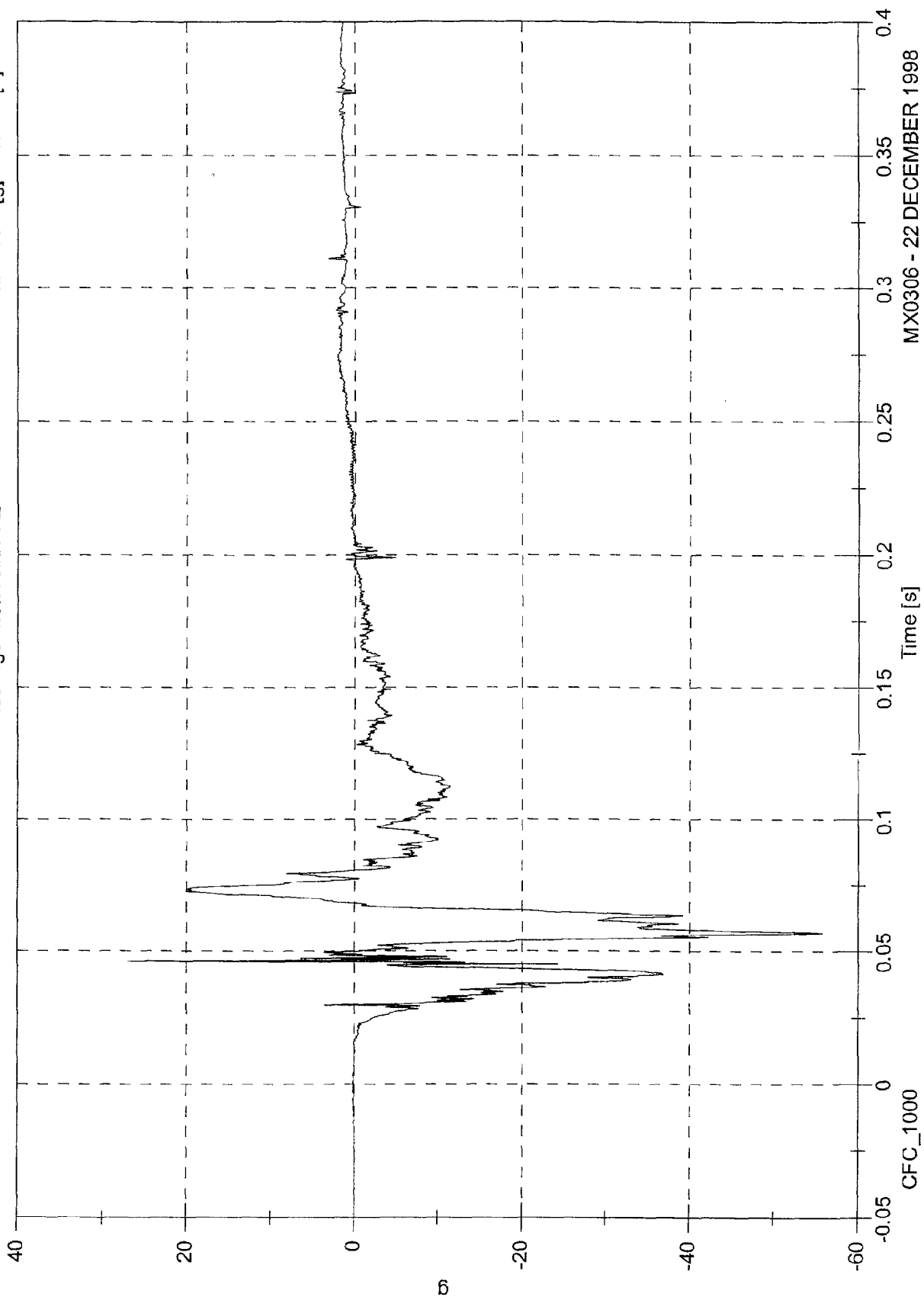


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 26.9 [g] at 0.046 [s]
Min: -55.8 [g] at 0.057 [s]

Passenger Left Ankle Az



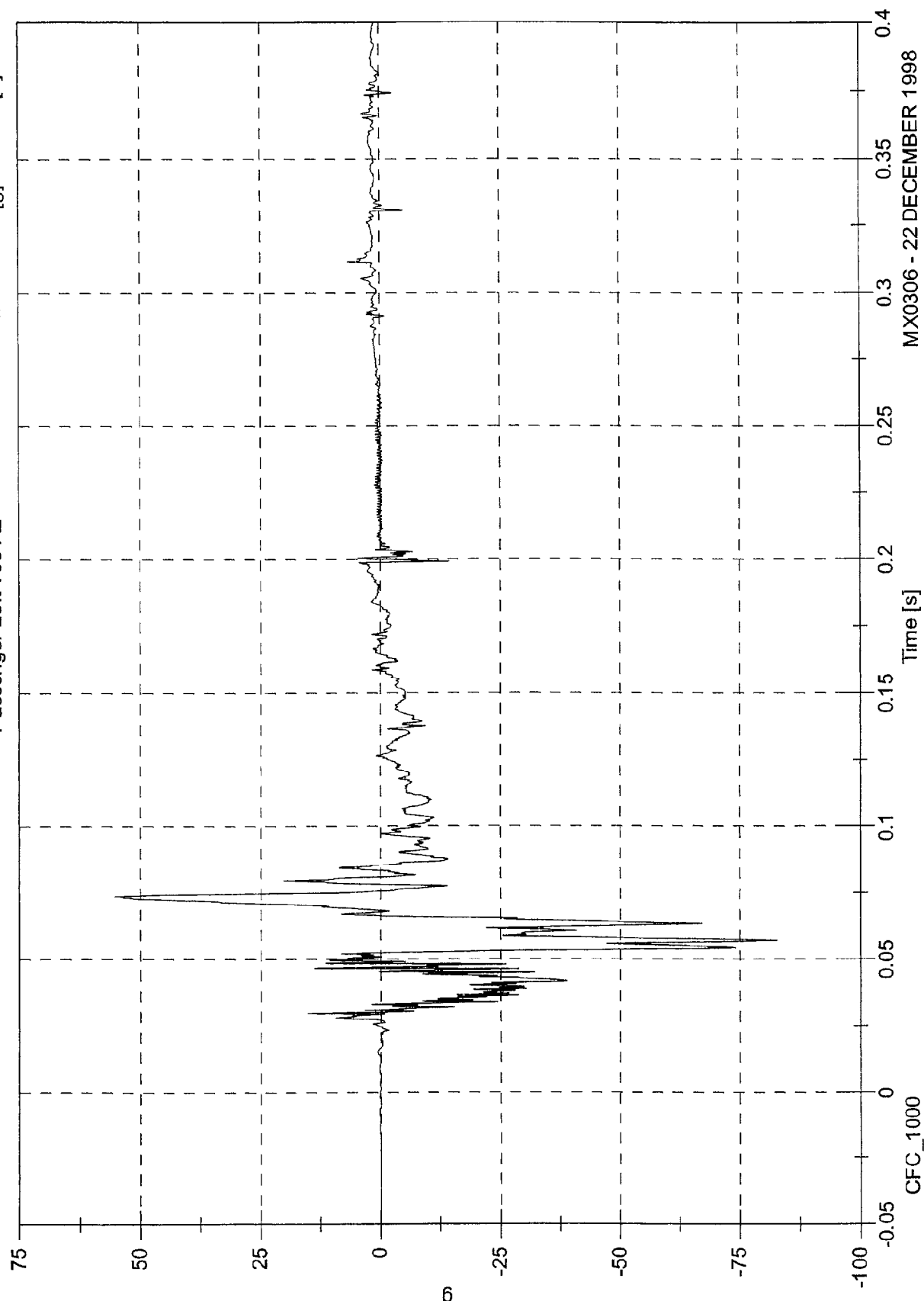
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 55.4 [g] at 0.074 [s]

Min: -82.9 [g] at 0.057 [s]

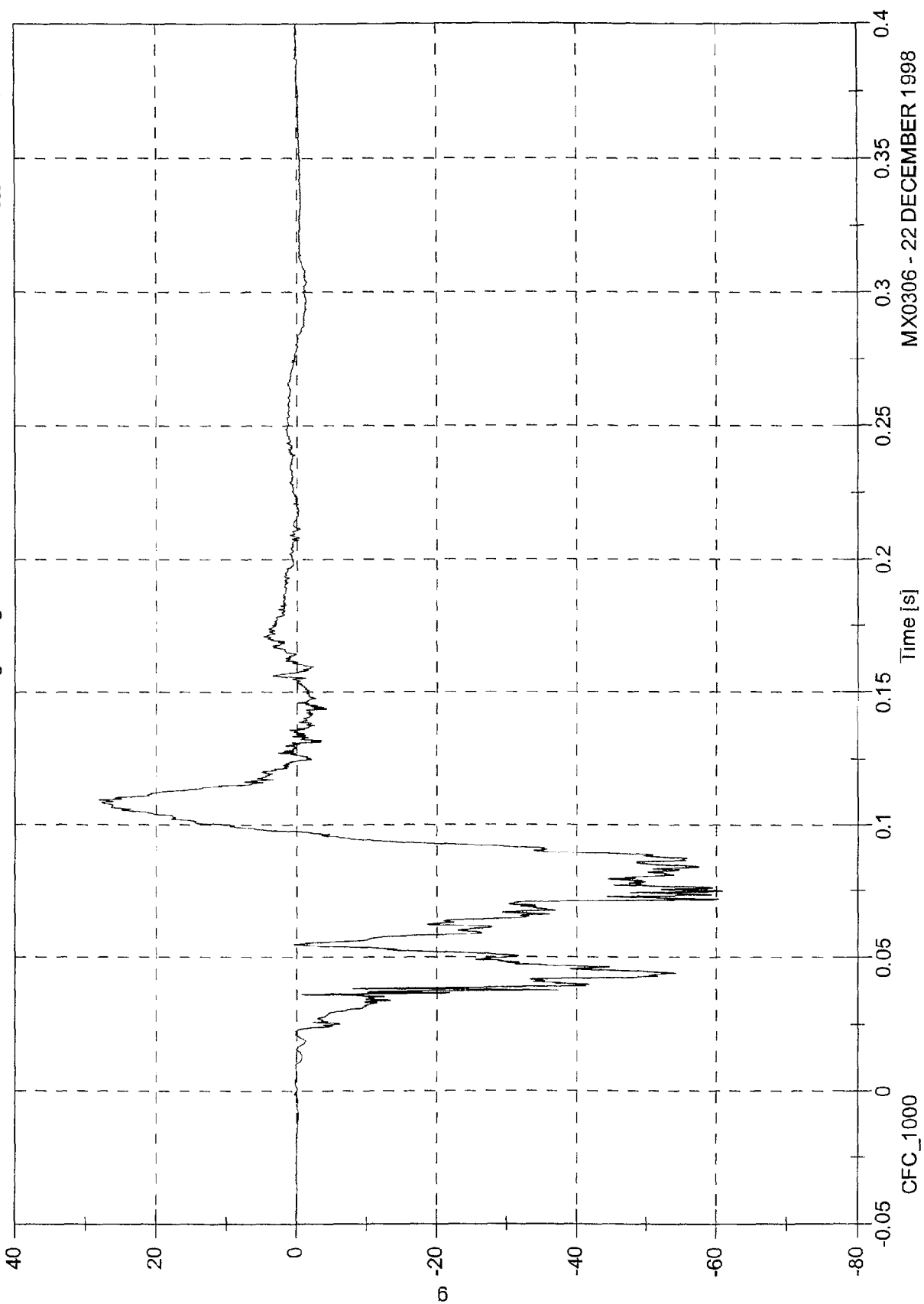
Passenger Left Toe Az



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 28.2 [g] at 0.109 [s]
Min: -60.9 [g] at 0.075 [s]

Passenger Right Ankle Ax

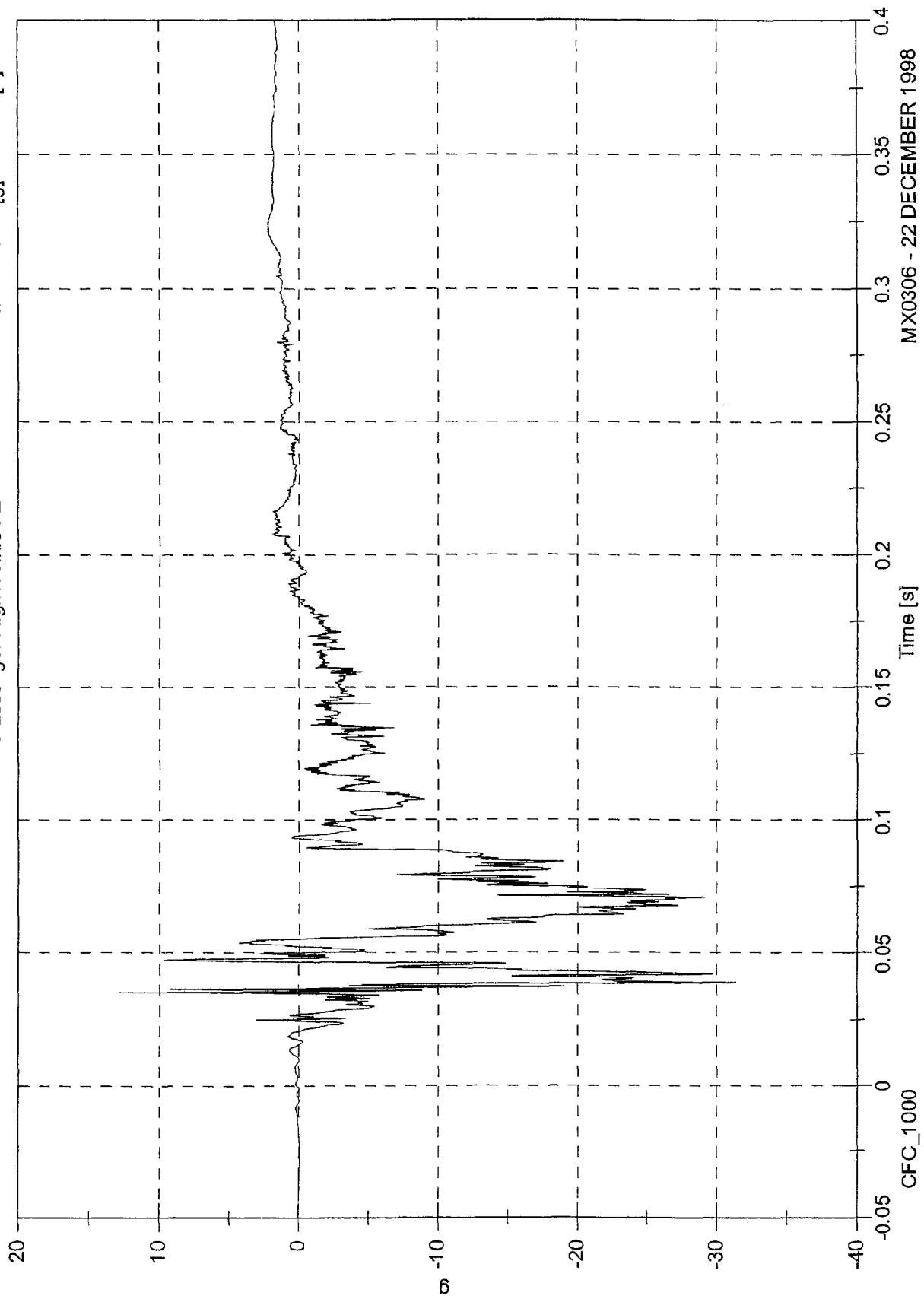


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 12.9 [g] at 0.035 [s]
Min: -31.4 [g] at 0.039 [s]

Passenger Right Ankle Az



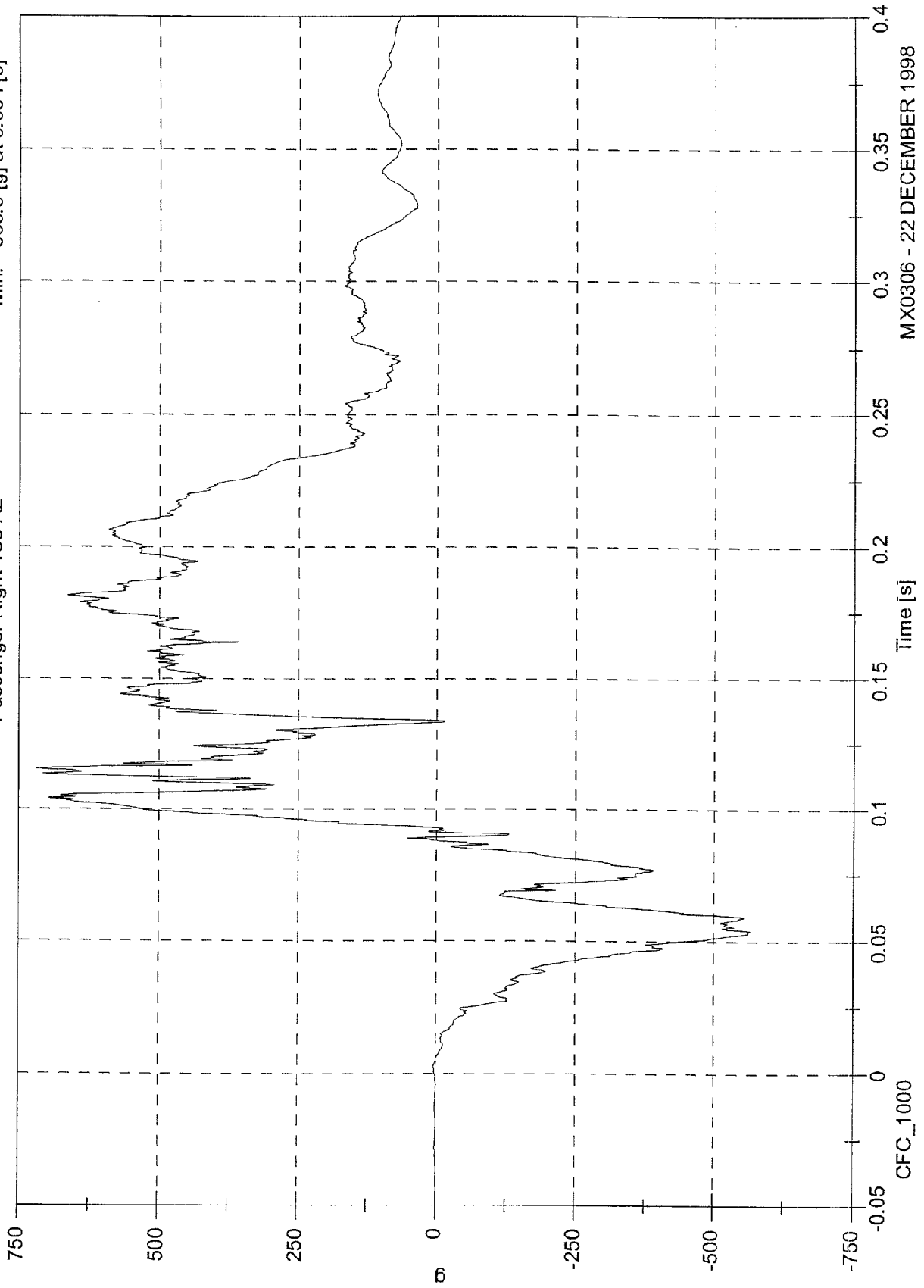
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 719.5 [g] at 0.115 [s]

Min: -566.9 [g] at 0.054 [s]

Passenger Right Toe Az



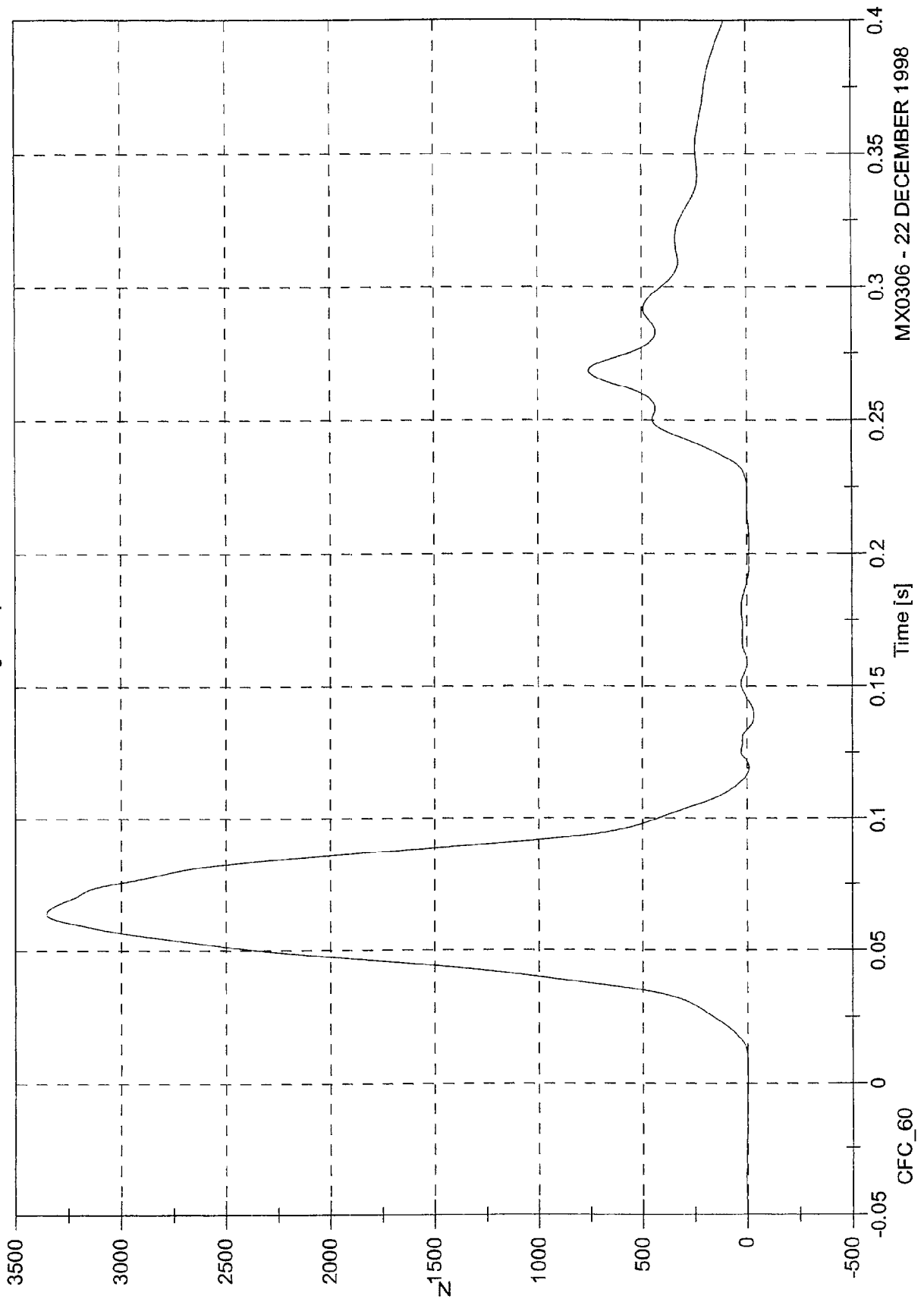
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Passenger Lap Belt Load

Max: 3354.4 [N] at 0.064 [s]

Min: -32.1 [N] at 0.139 [s]

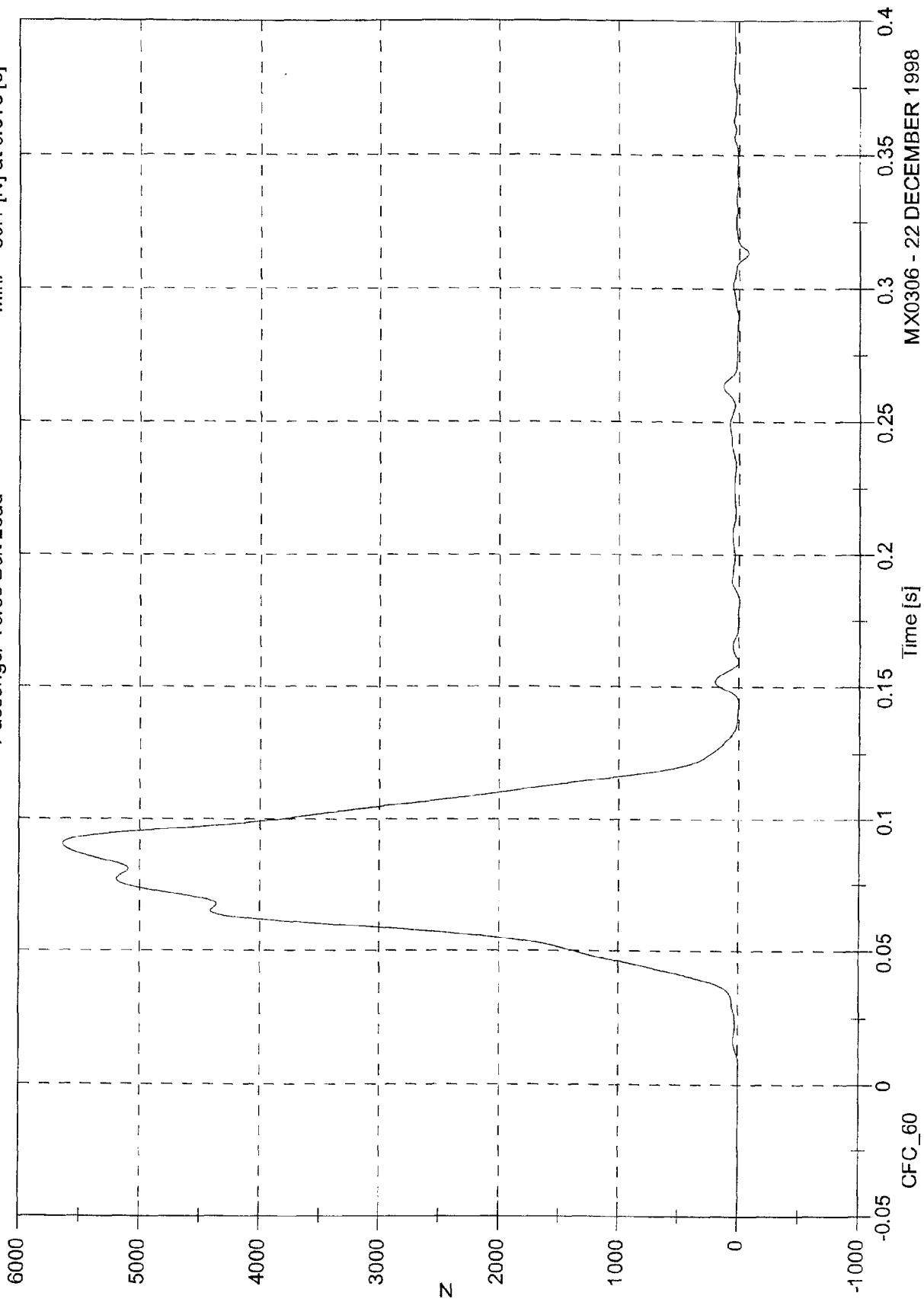


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 5640.5 [N] at 0.090 [s]
 Min: -80.1 [N] at 0.313 [s]

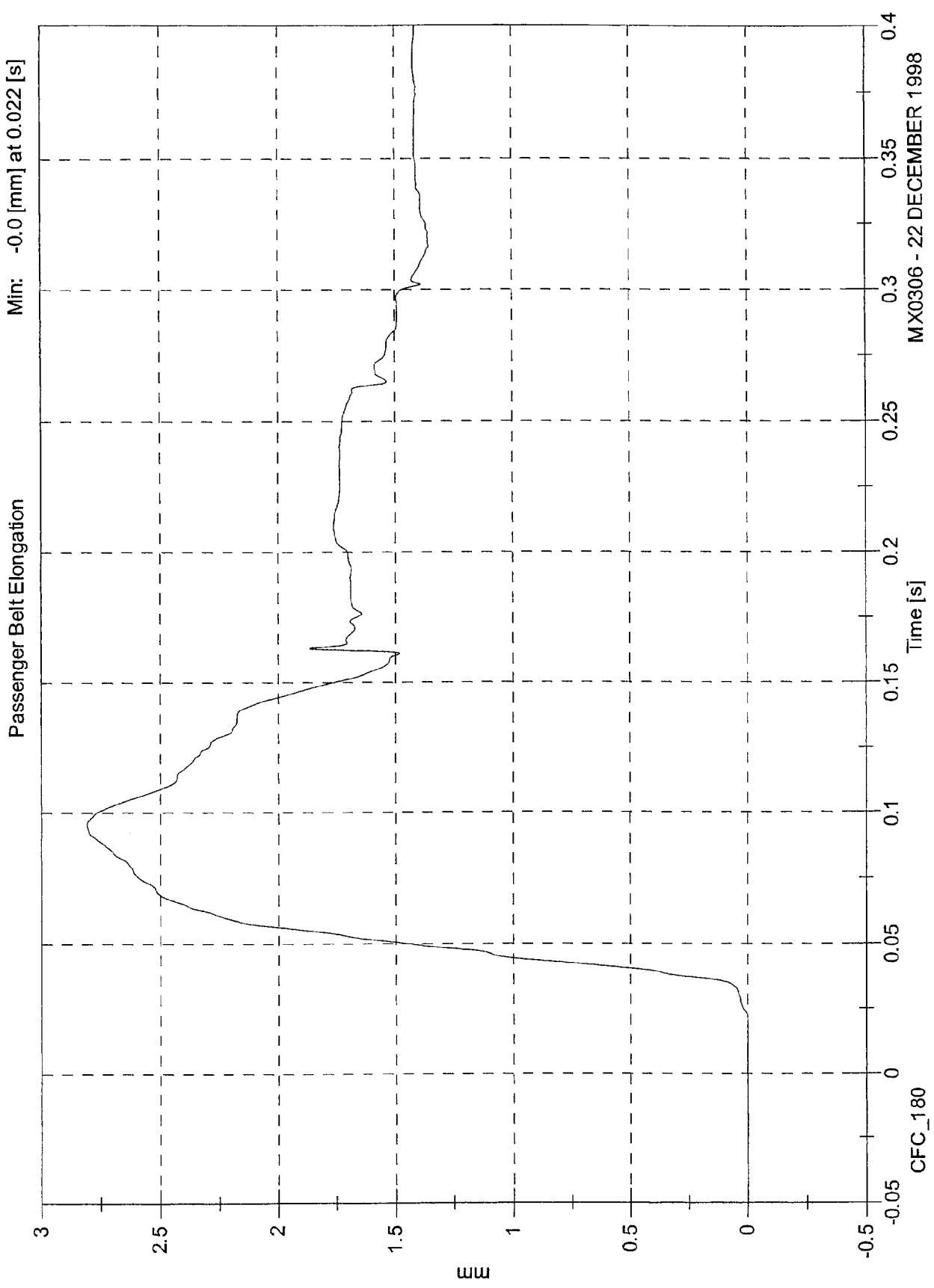
Passenger Torso Belt Load



MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 2.8 [mm] at 0.096 [s]
Min: -0.0 [mm] at 0.022 [s]



NHTSA TEST NO. MX0306

VEHICLE DATA

Acceleration

Velocity

Displacement

FILTER CHANNEL CLASS

60

180

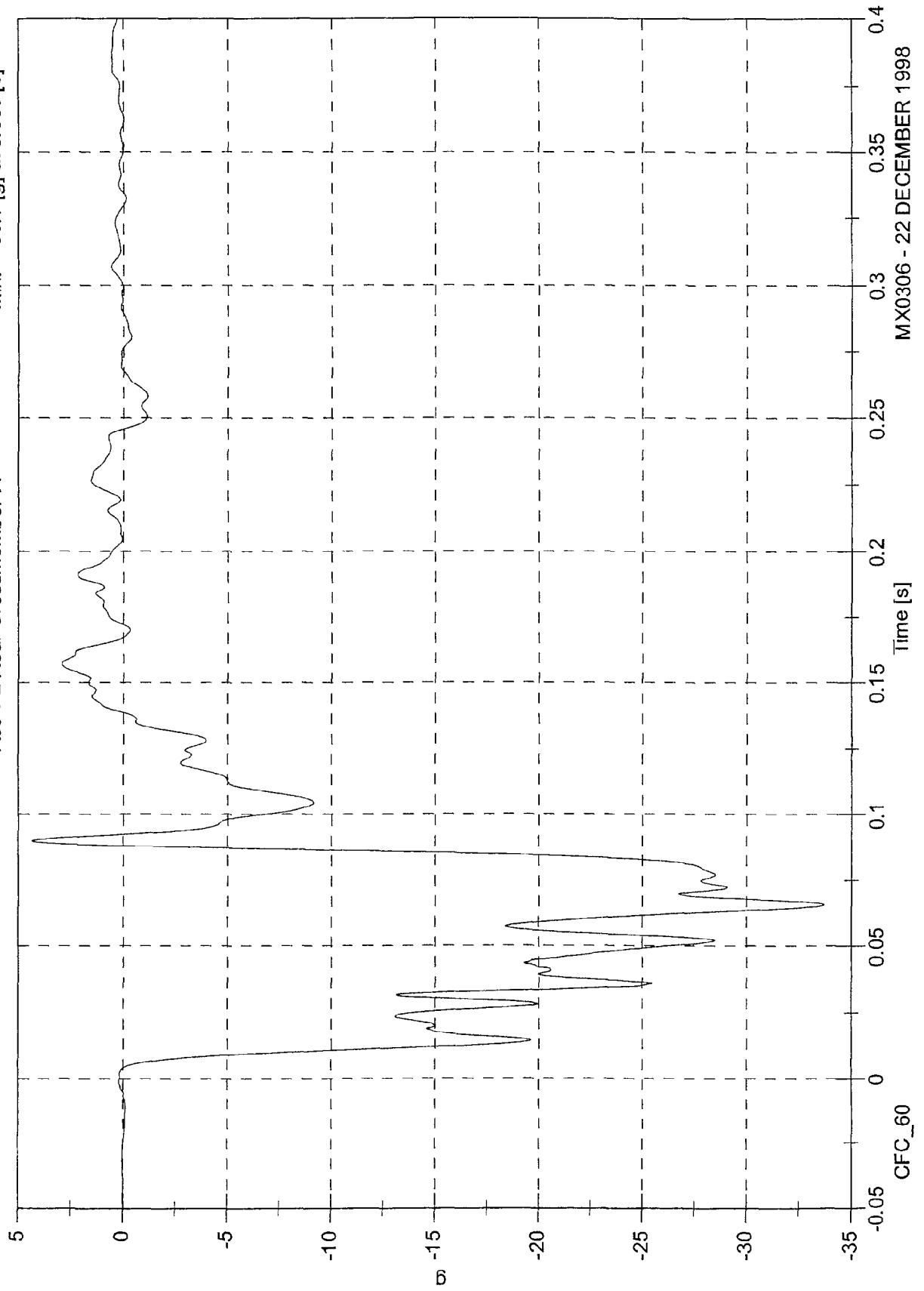
180

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 4.3 [g] at 0.090 [s]

Min: -33.7 [g] at 0.066 [s]

Acc 1 L Rear Crossmember X



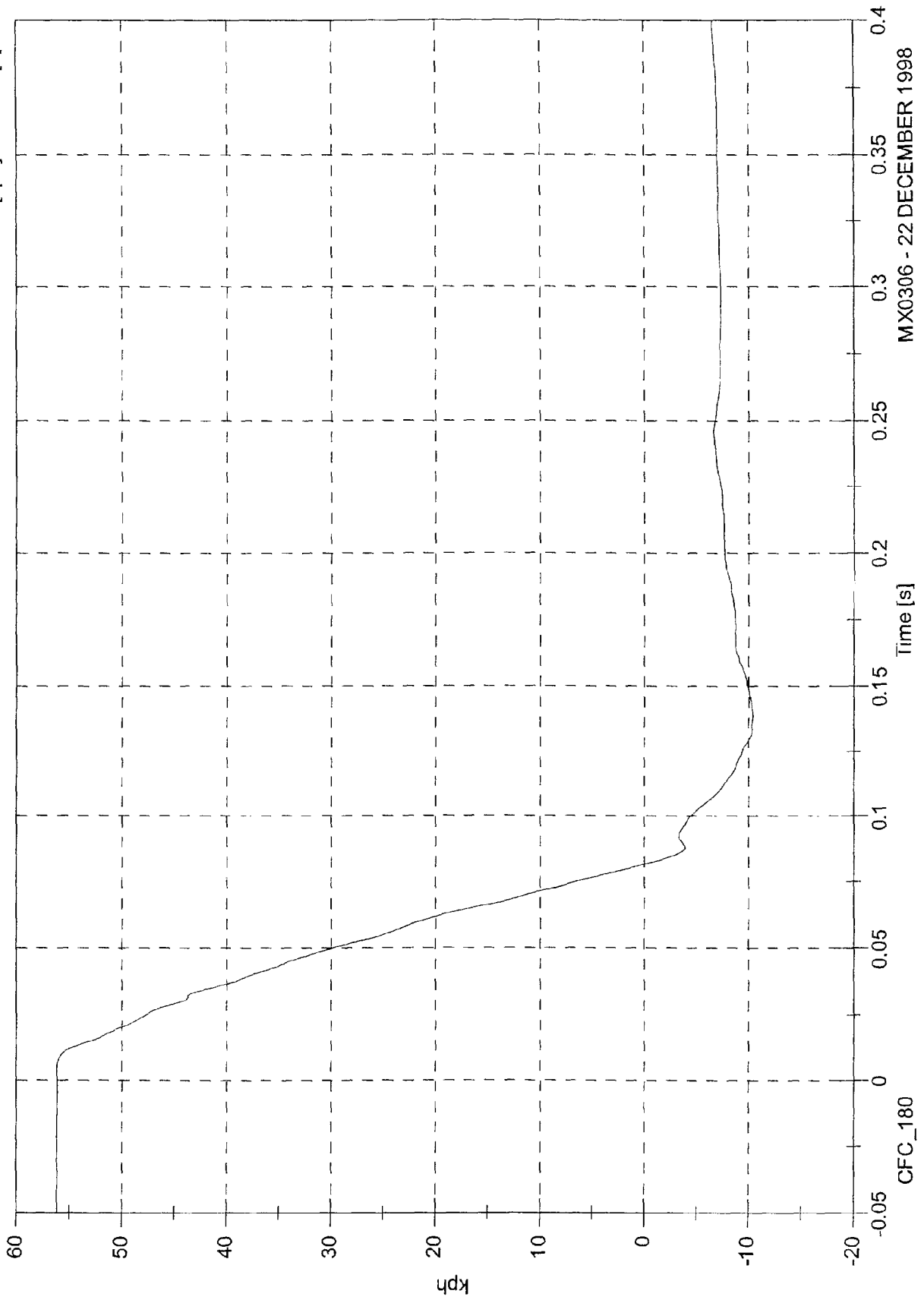
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Acc 1 L Rear Crossmember X

Max: 56.2 [kph] at -0.026 [s]

Min: -10.4 [kph] at 0.139 [s]



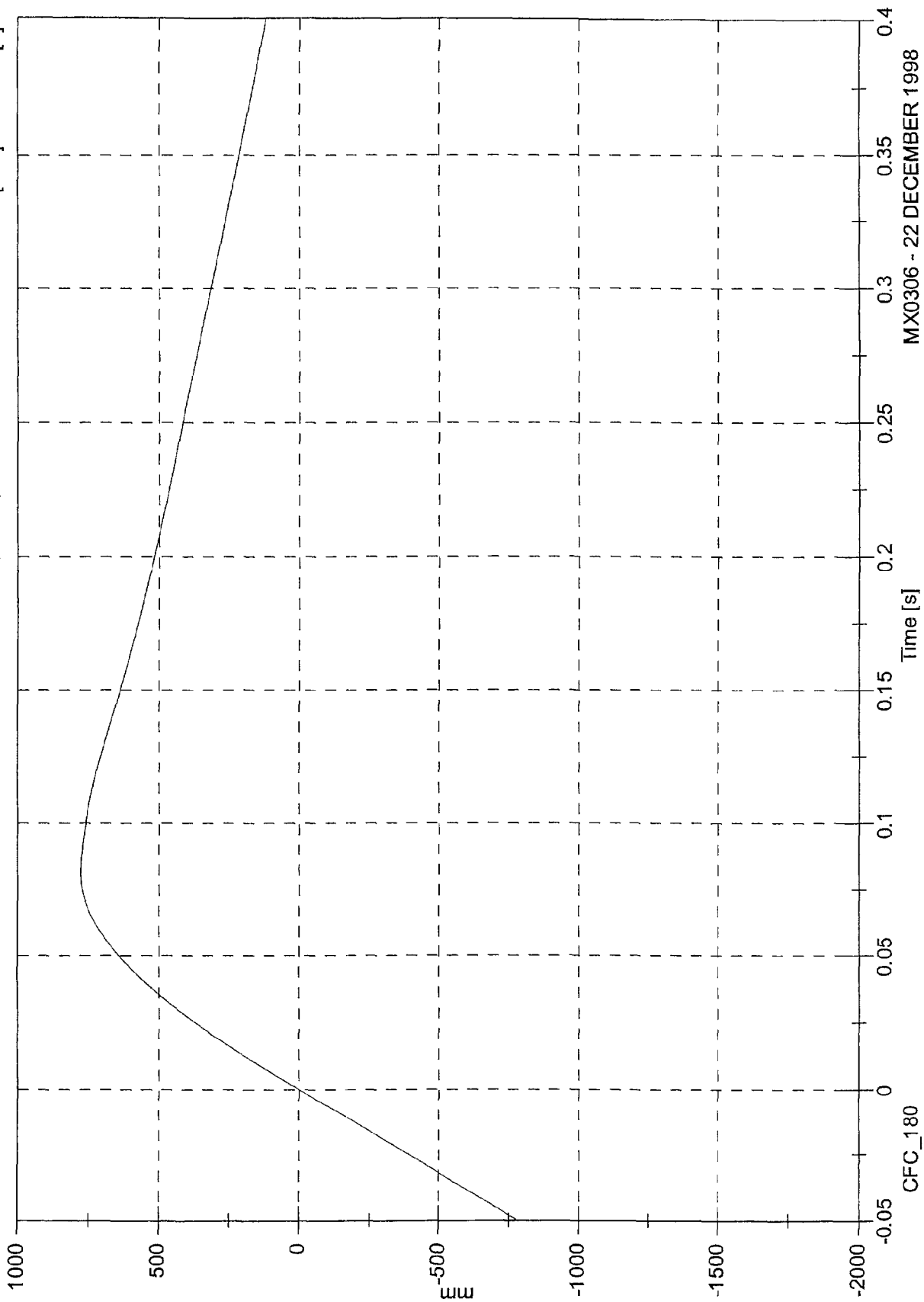
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Acc 1 L Rear Crossmember X

Max: 777.1 [mm] at 0.081 [s]

Min: -1560.2 [mm] at -0.100 [s]

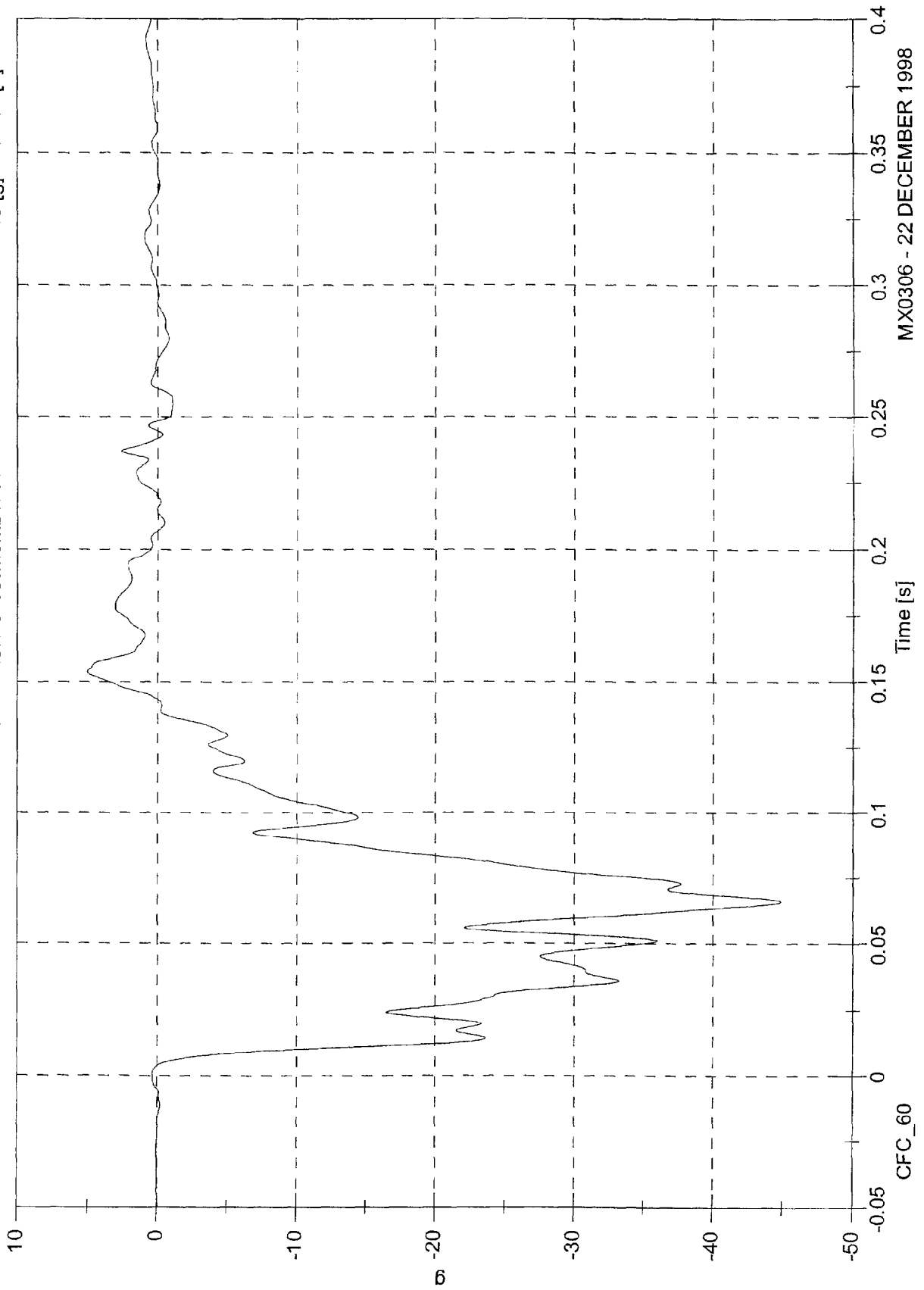


MX0306 - 22 DECEMBER 1998

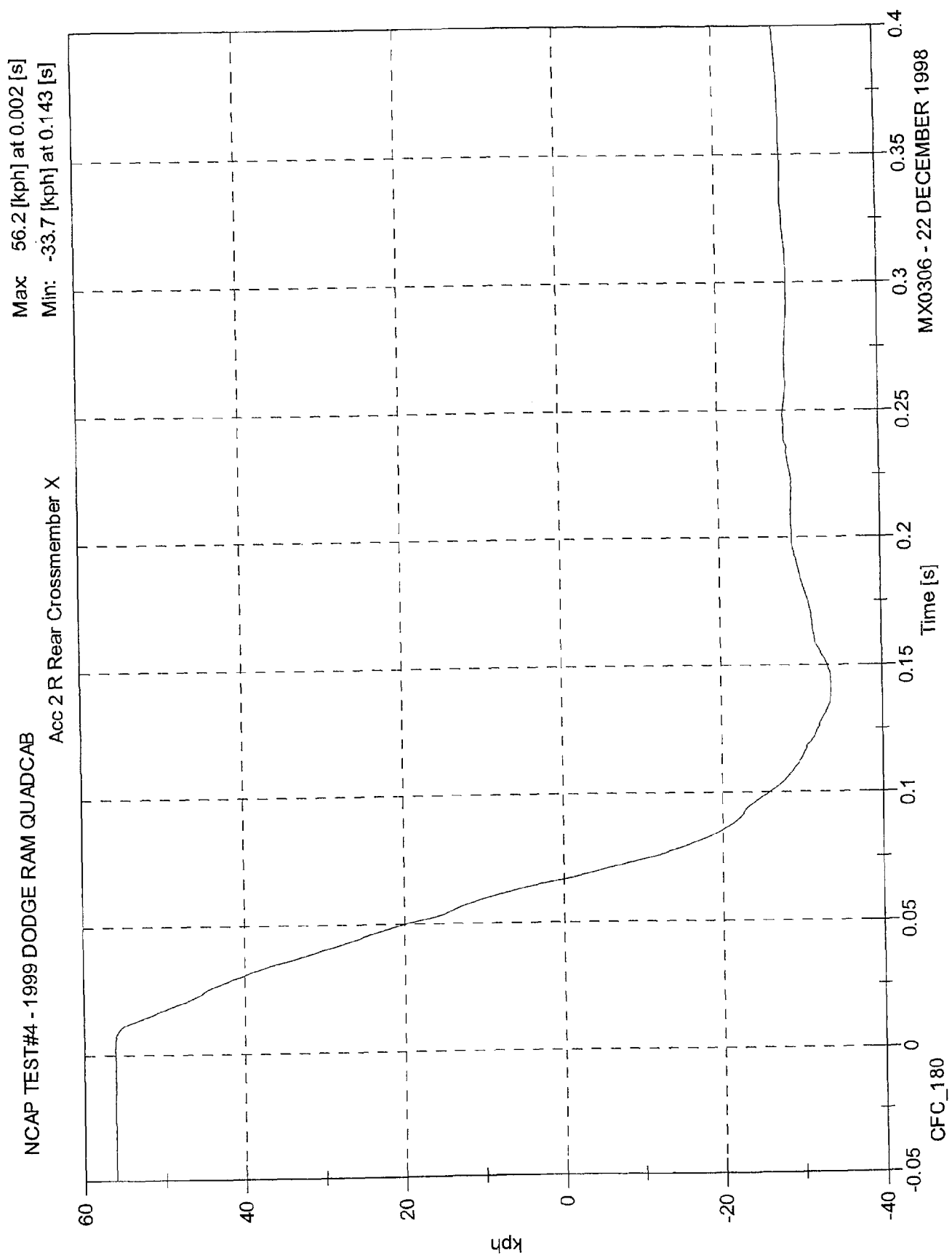
NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 5.1 [g] at 0.154 [s]
Min: -44.9 [g] at 0.066 [s]

Acc 2 R Rear Crossmember X



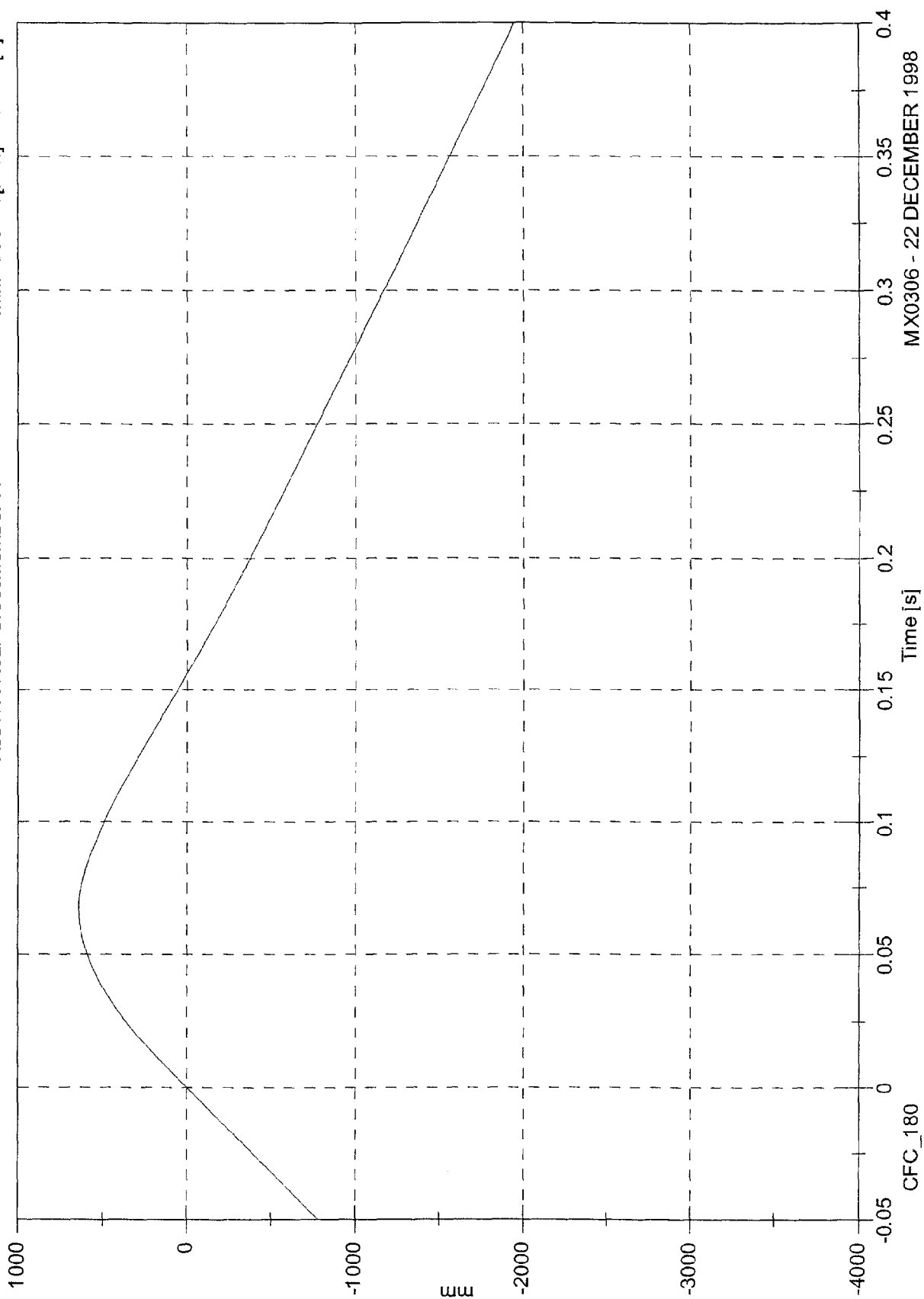
MX0306 - 22 DECEMBER 1998



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 643.7 [mm] at 0.067 [s]
Min: -3384.2 [mm] at 0.600 [s]

Acc 2 R Rear Crossmember X



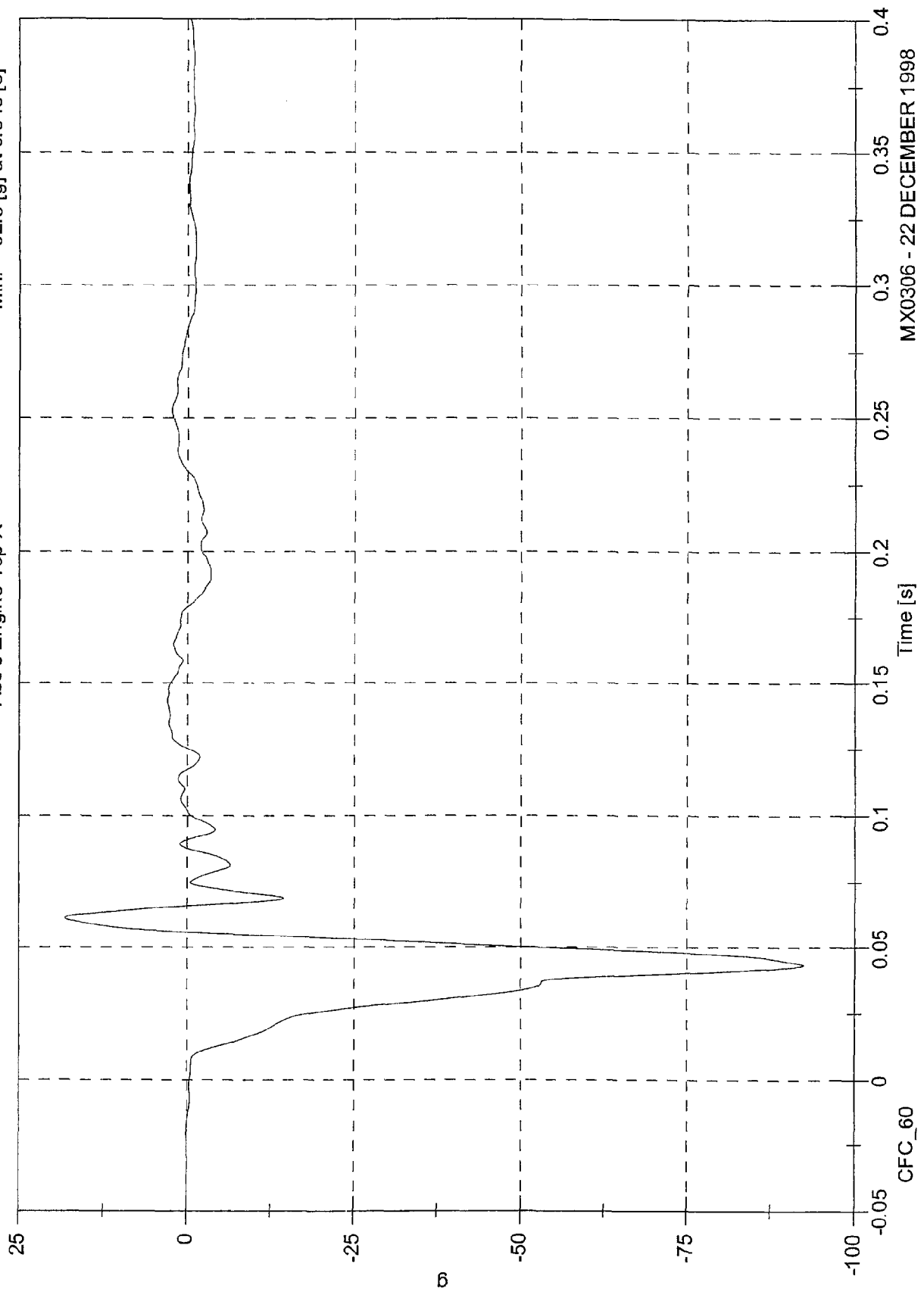
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 18.2 [g] at 0.061 [s]

Min: -92.5 [g] at 0.043 [s]

Acc 3 Engine Top X

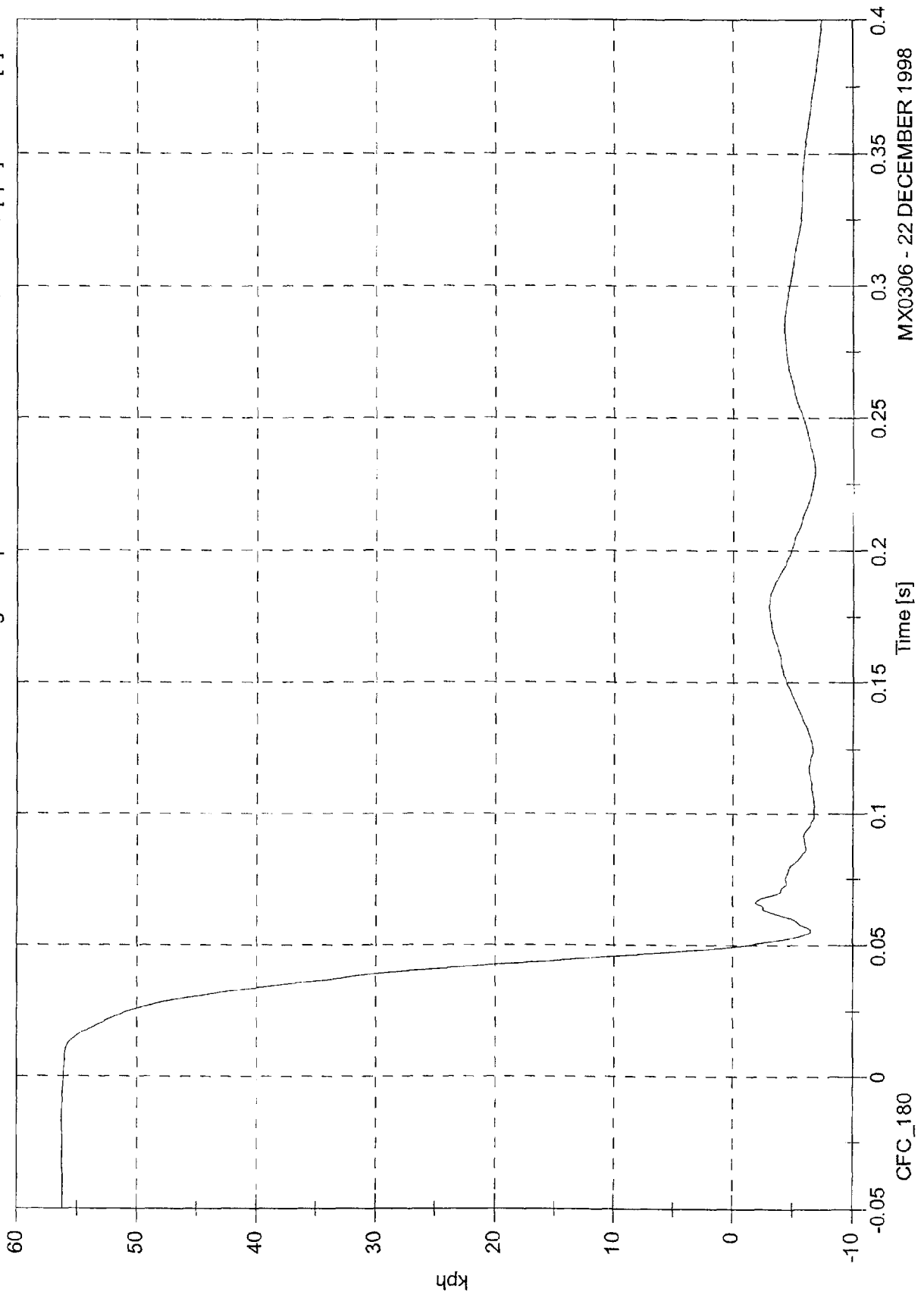


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 3 Engine Top X

Max: 56.3 [kph] at -0.015 [s]
Min: -7.7 [kph] at 0.552 [s]

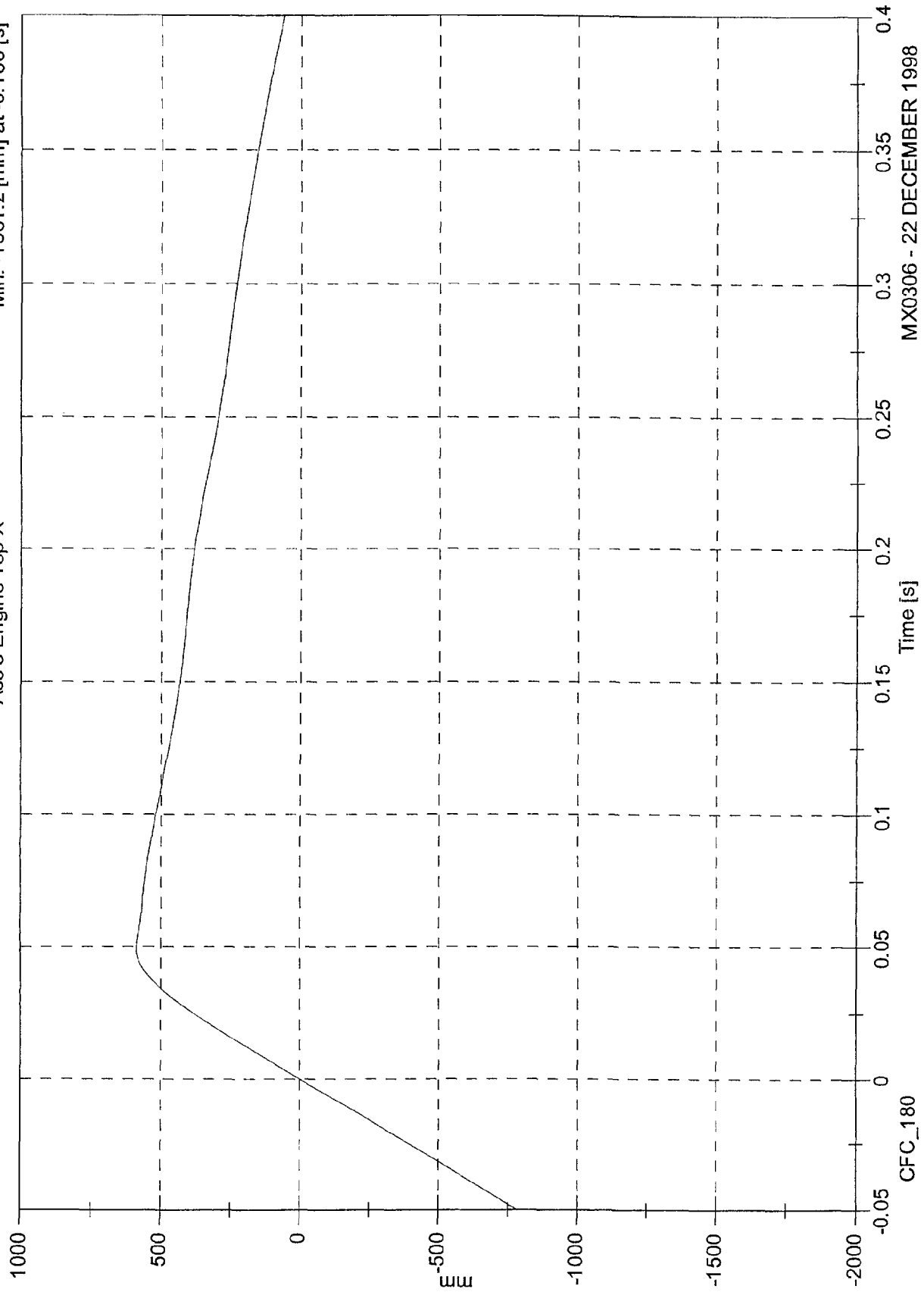


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 587.1 [mm] at 0.049 [s]
Min: -1561.2 [mm] at -0.100 [s]

Acc 3 Engine Top X



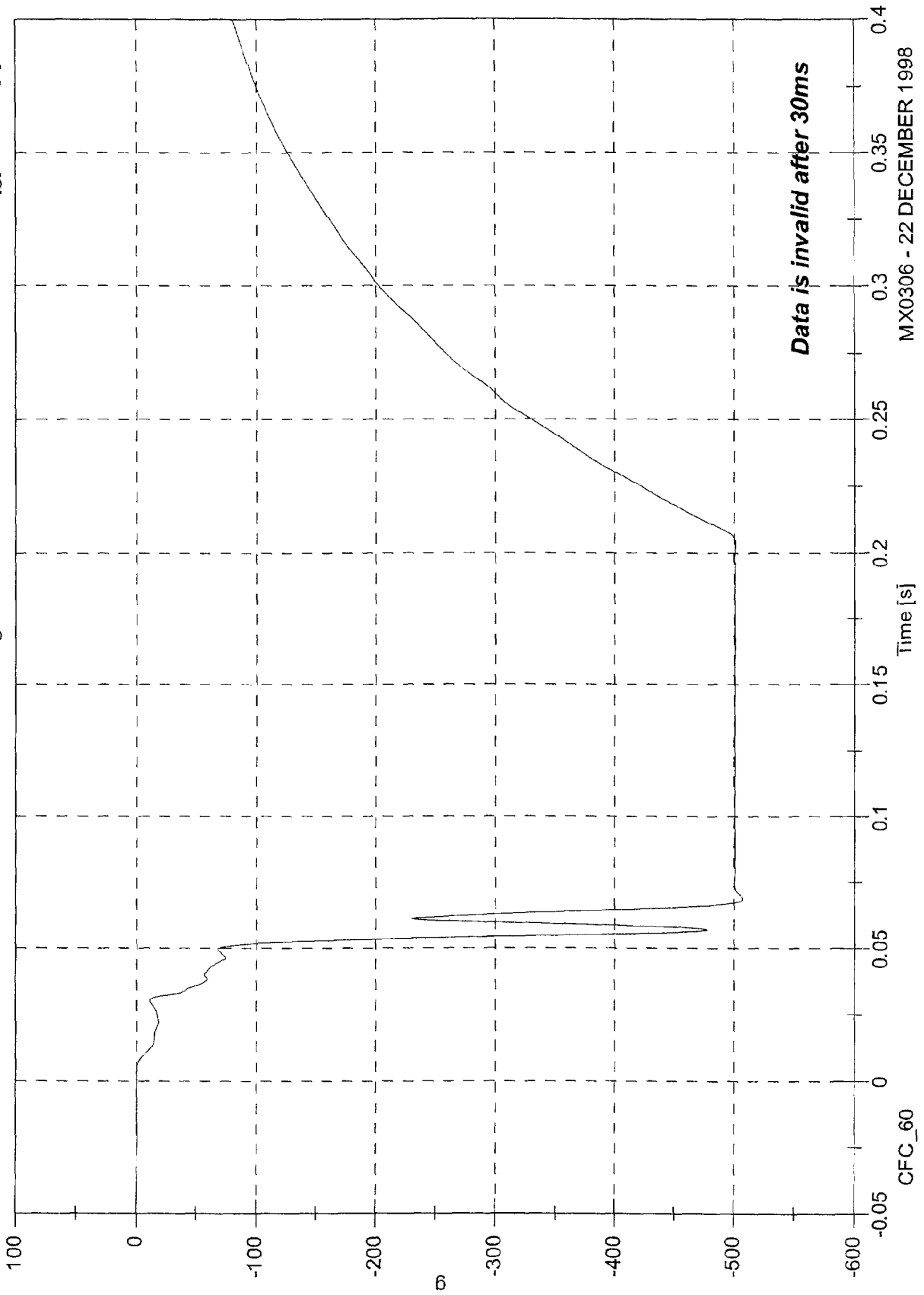
CFC_180

MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 0.3 [g] at -0.100 [s]
Min: -507.5 [g] at 0.069 [s]

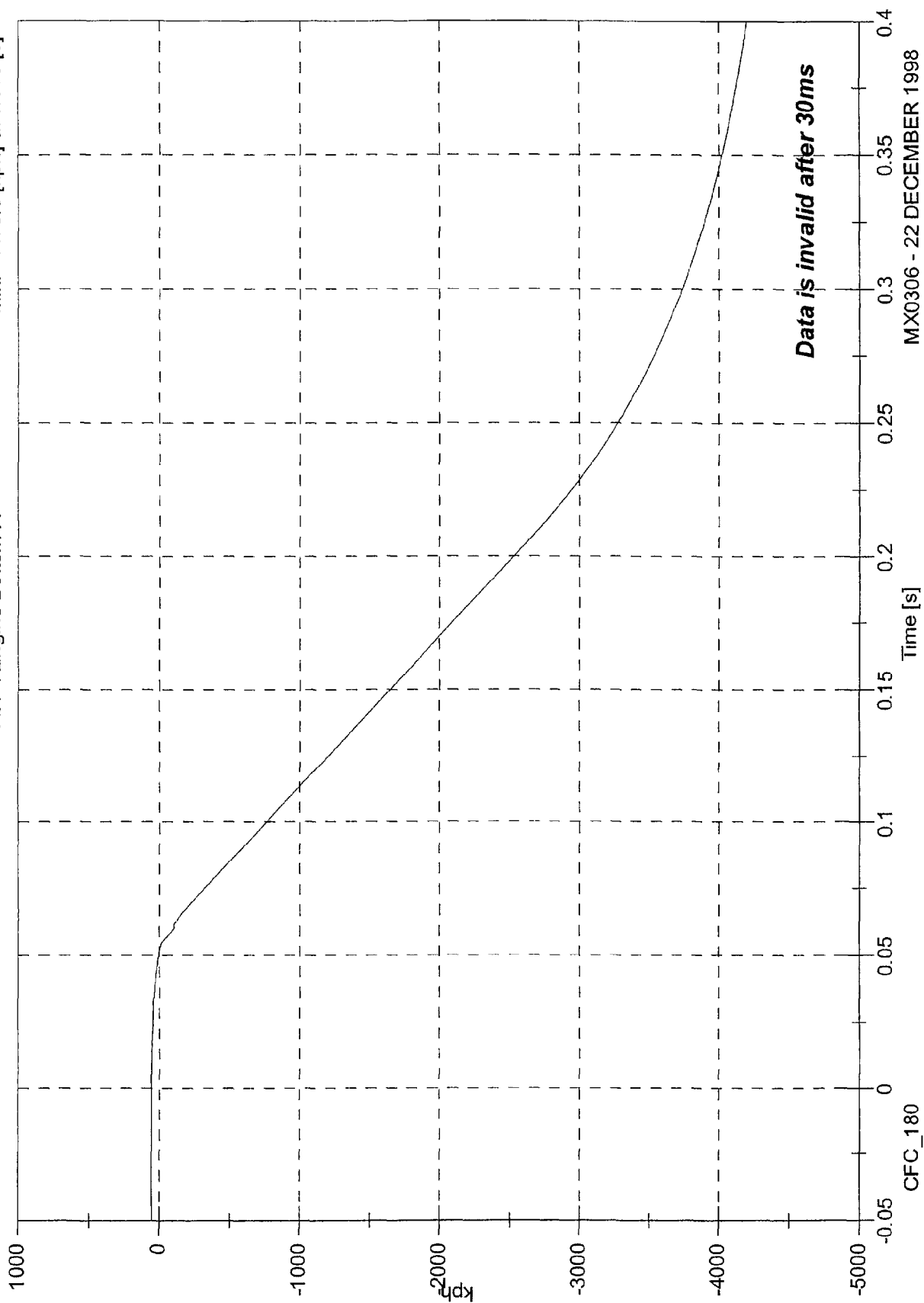
Acc 4 Engine Bottom X



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 4 Engine Bottom X

Max: 56.2 [kph] at -0.039 [s]
Min: -4470.8 [kph] at 0.600 [s]

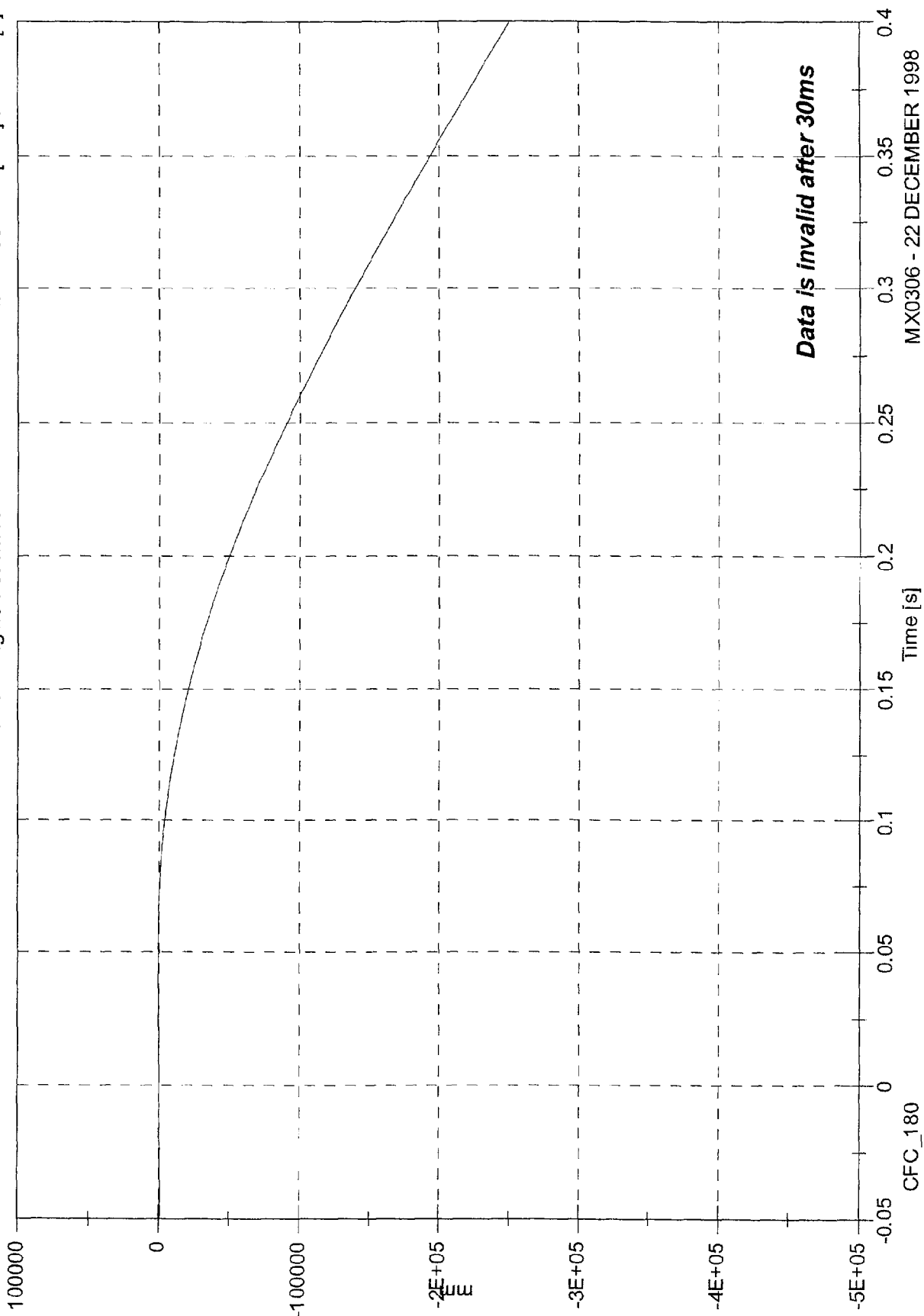


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 4 Engine Bottom X

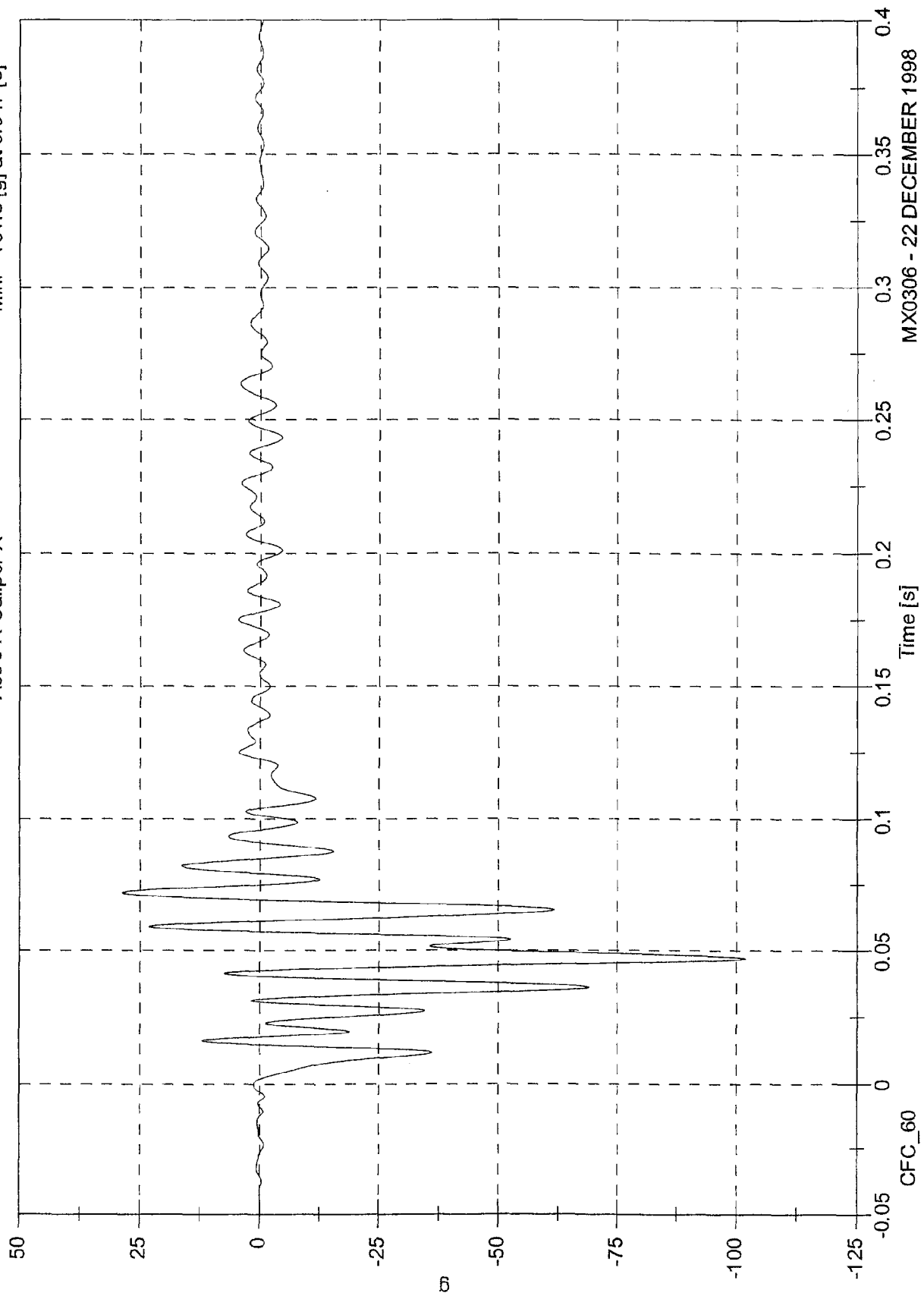
Max: 601.6 [mm] at 0.052 [s]
Min: -493435.5 [mm] at 0.600 [s]



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 28.8 [g] at 0.072 [s]
Min: -101.8 [g] at 0.047 [s]

Acc 5 R Caliper X

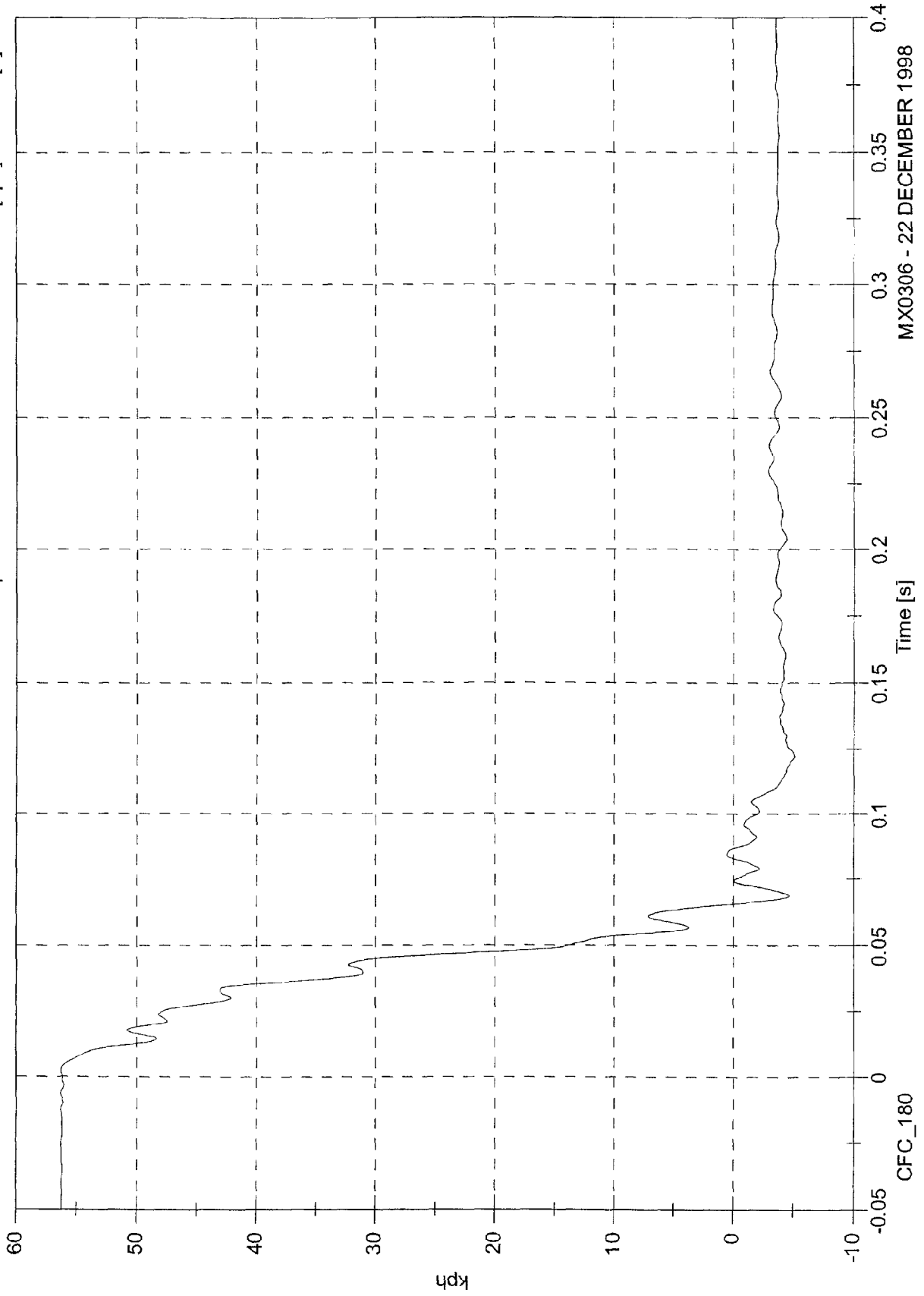


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max 56.4 [kph] at -0.063 [s]
 Min: -5.1 [kph] at 0.122 [s]

Acc 5 R Caliper X

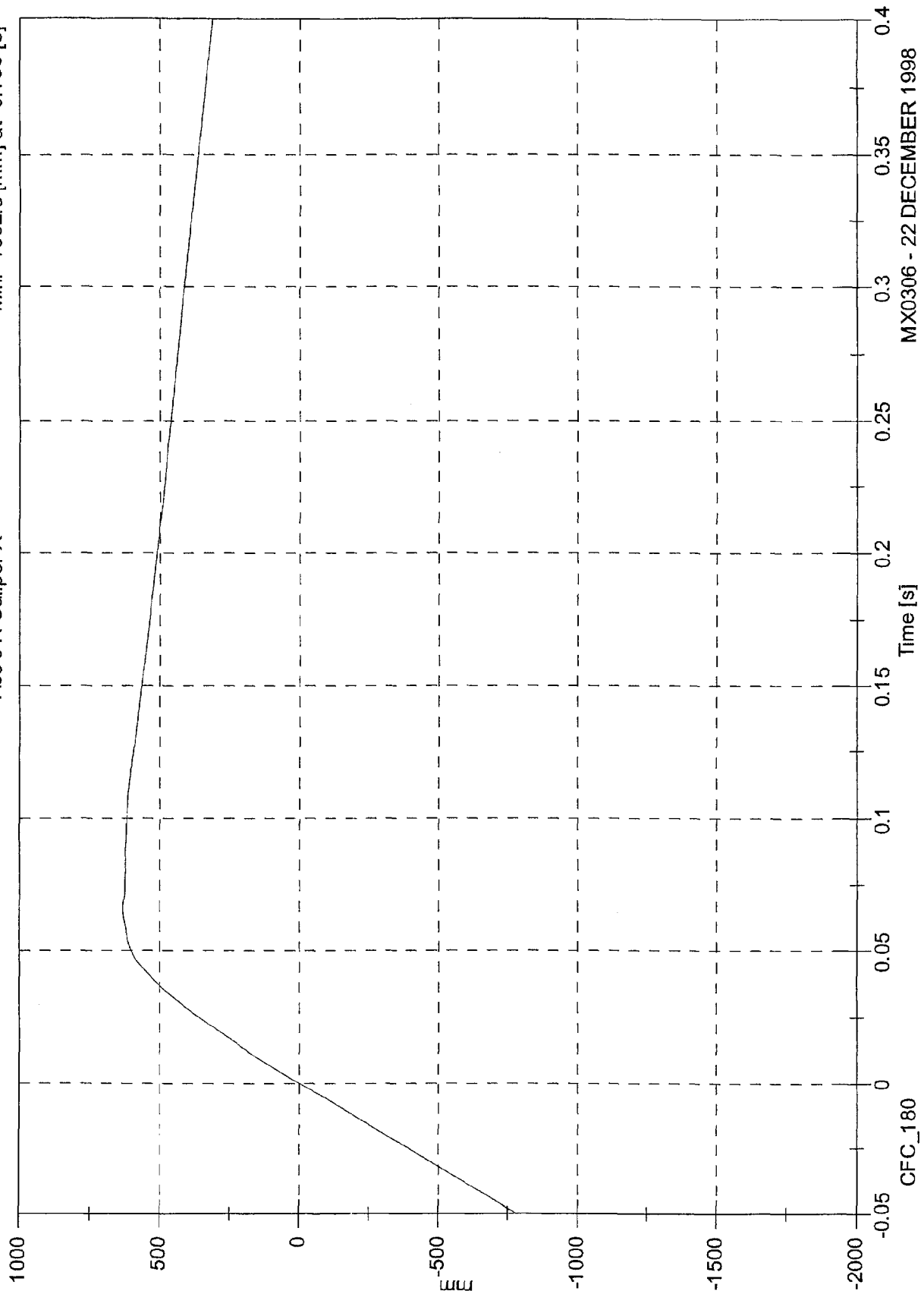


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 632.5 [mm] at 0.066 [s]
 Min: -1562.3 [mm] at -0.100 [s]

Acc 5 R Caliper X

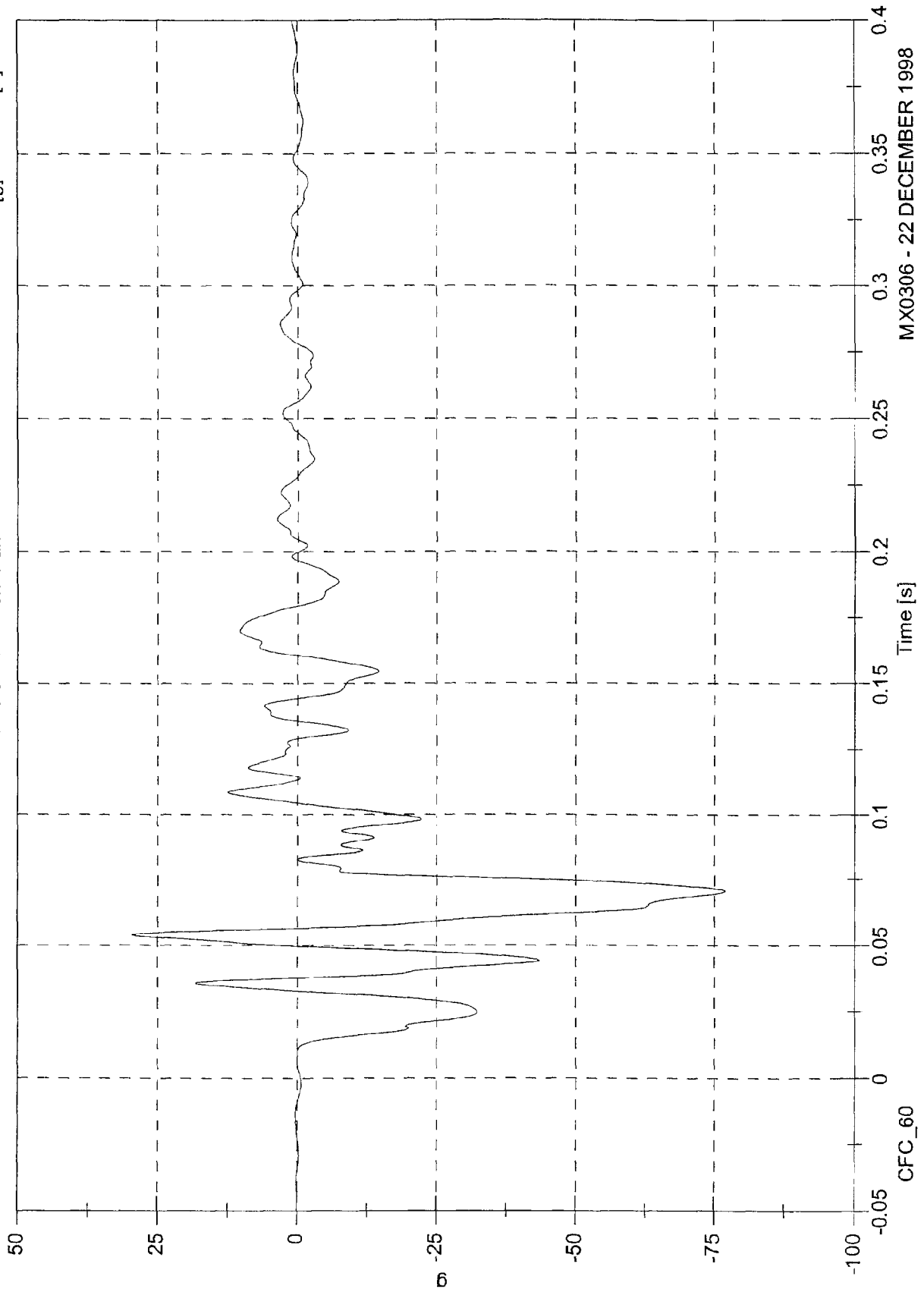


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 6 Instrument Panel X

Max: 29.6 [g] at 0.054 [s]
Min: -76.9 [g] at 0.071 [s]

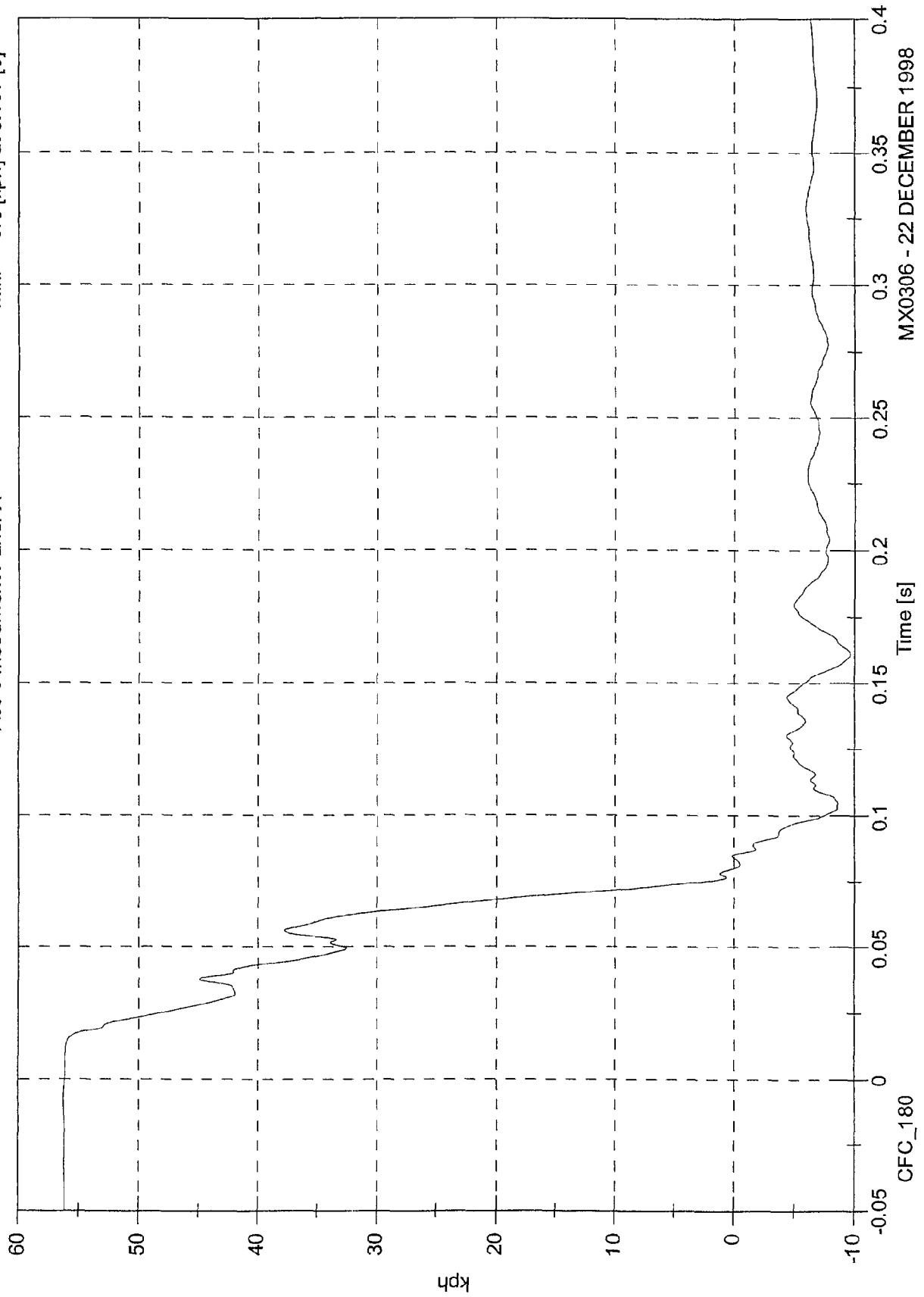


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 56.3 [kph] at -0.009 [s]
 Min: -9.6 [kph] at 0.161 [s]

Acc 6 Instrument Panel X

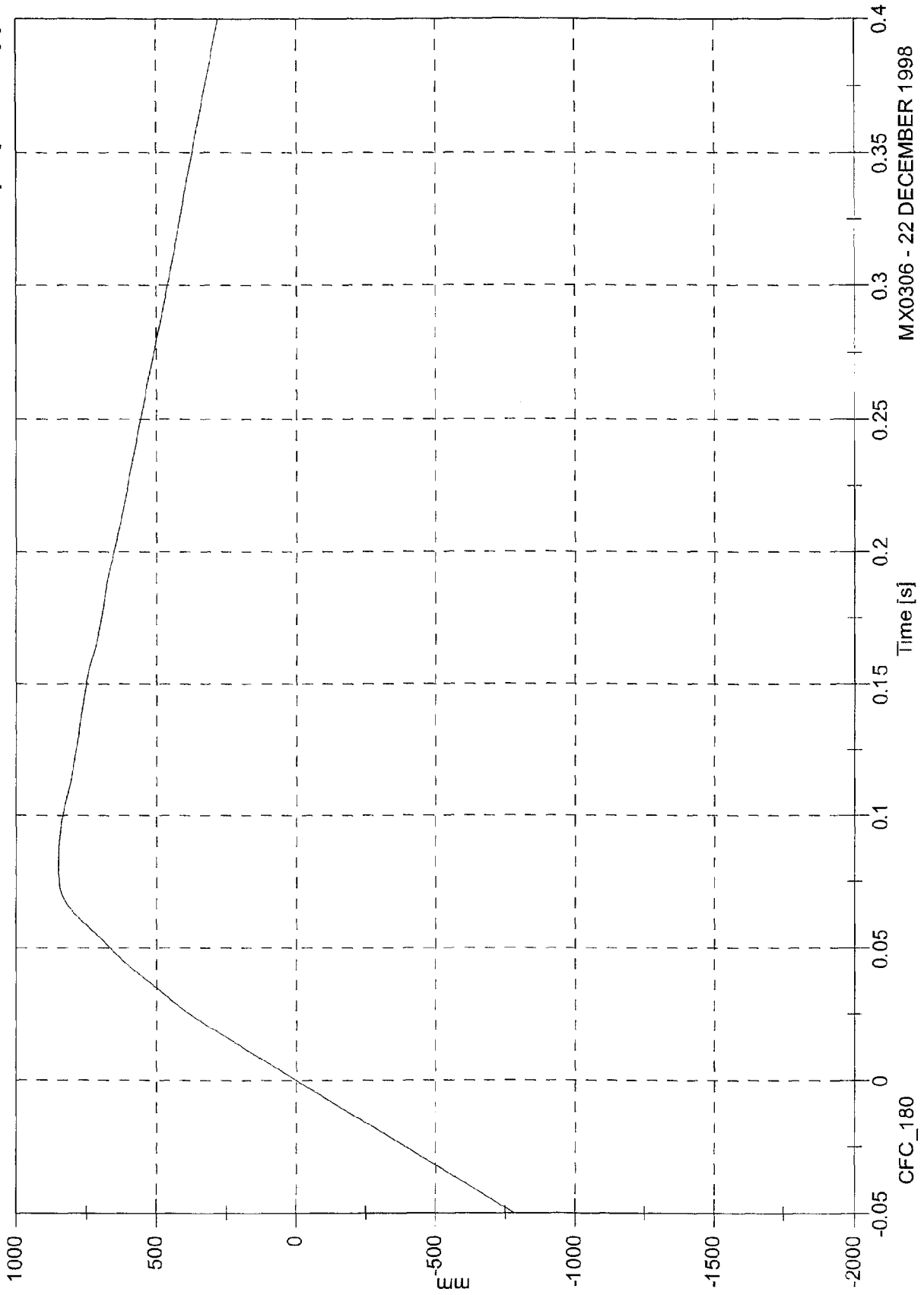


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 849.3 [mm] at 0.080 [s]
 Min: -1560.7 [mm] at -0.100 [s]

Acc 6 Instrument Panel X



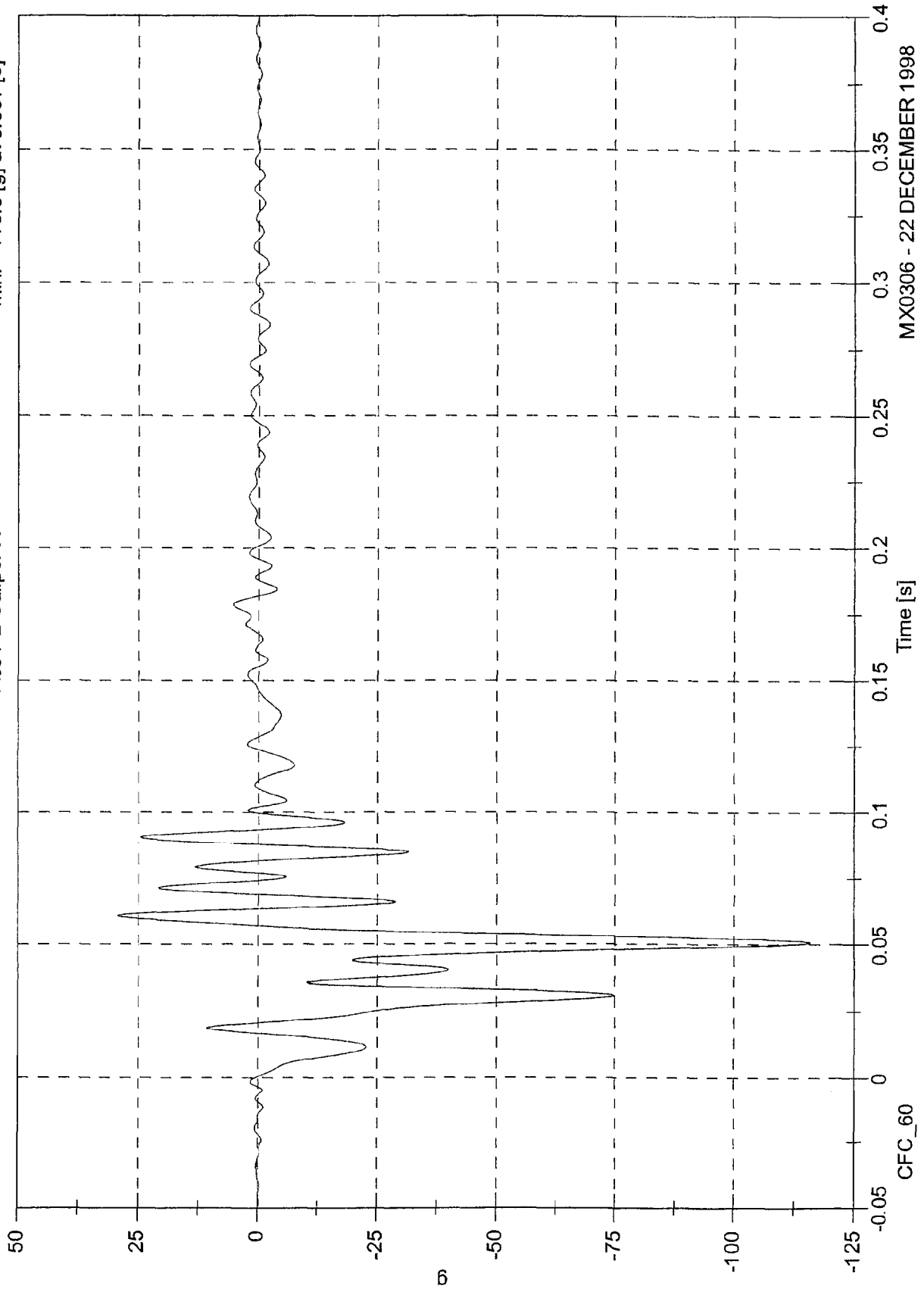
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 29.3 [g] at 0.061 [s]

Min: -115.9 [g] at 0.051 [s]

Acc 7 L Caliper X

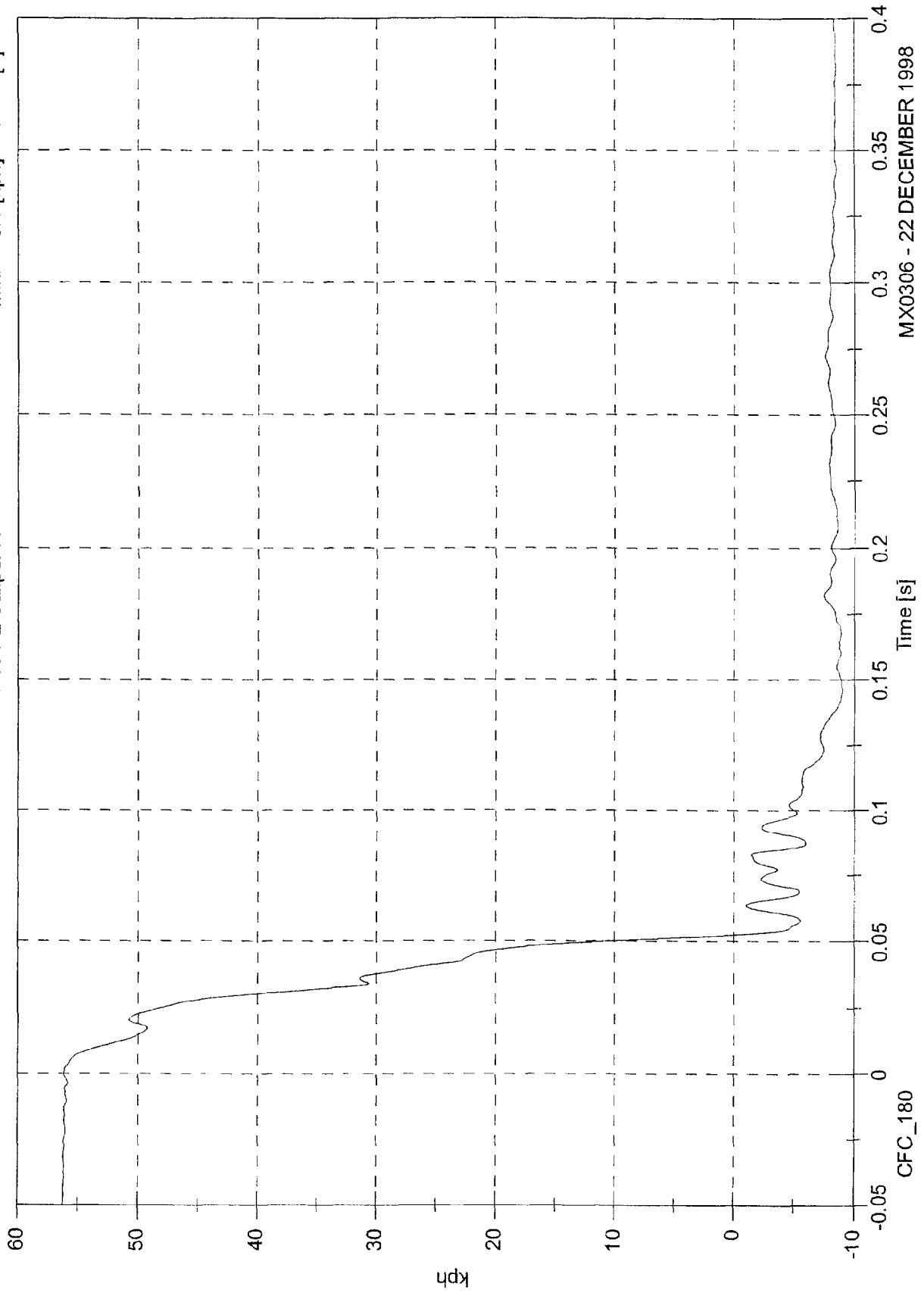


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 56.3 [kph] at -0.069 [s]
Min: -9.0 [kph] at 0.146 [s]

Acc 7 L Caliper X

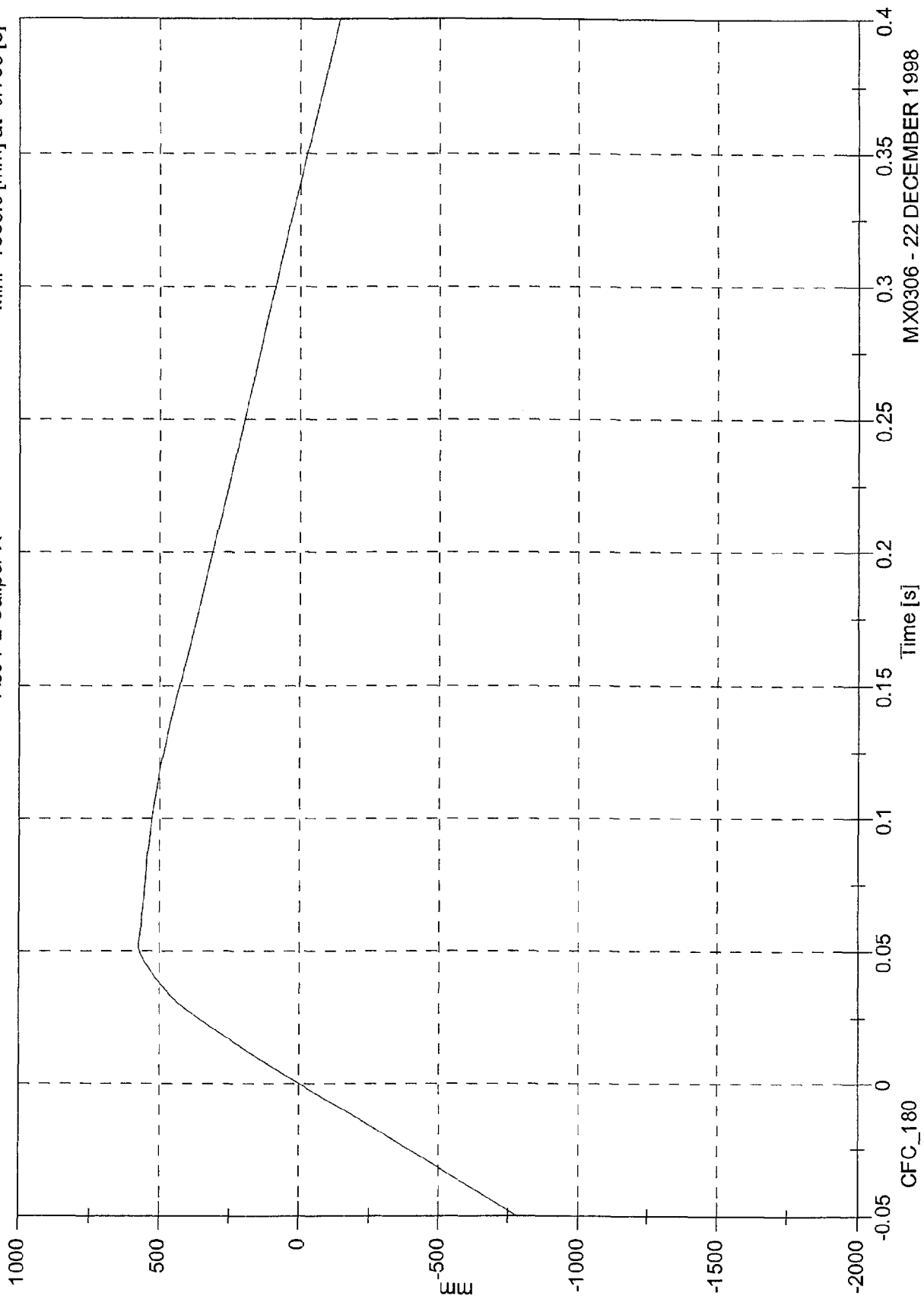


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 575.1 [mm] at 0.052 [s]
Min: -1560.0 [mm] at -0.100 [s]

Acc 7 L Caliper X

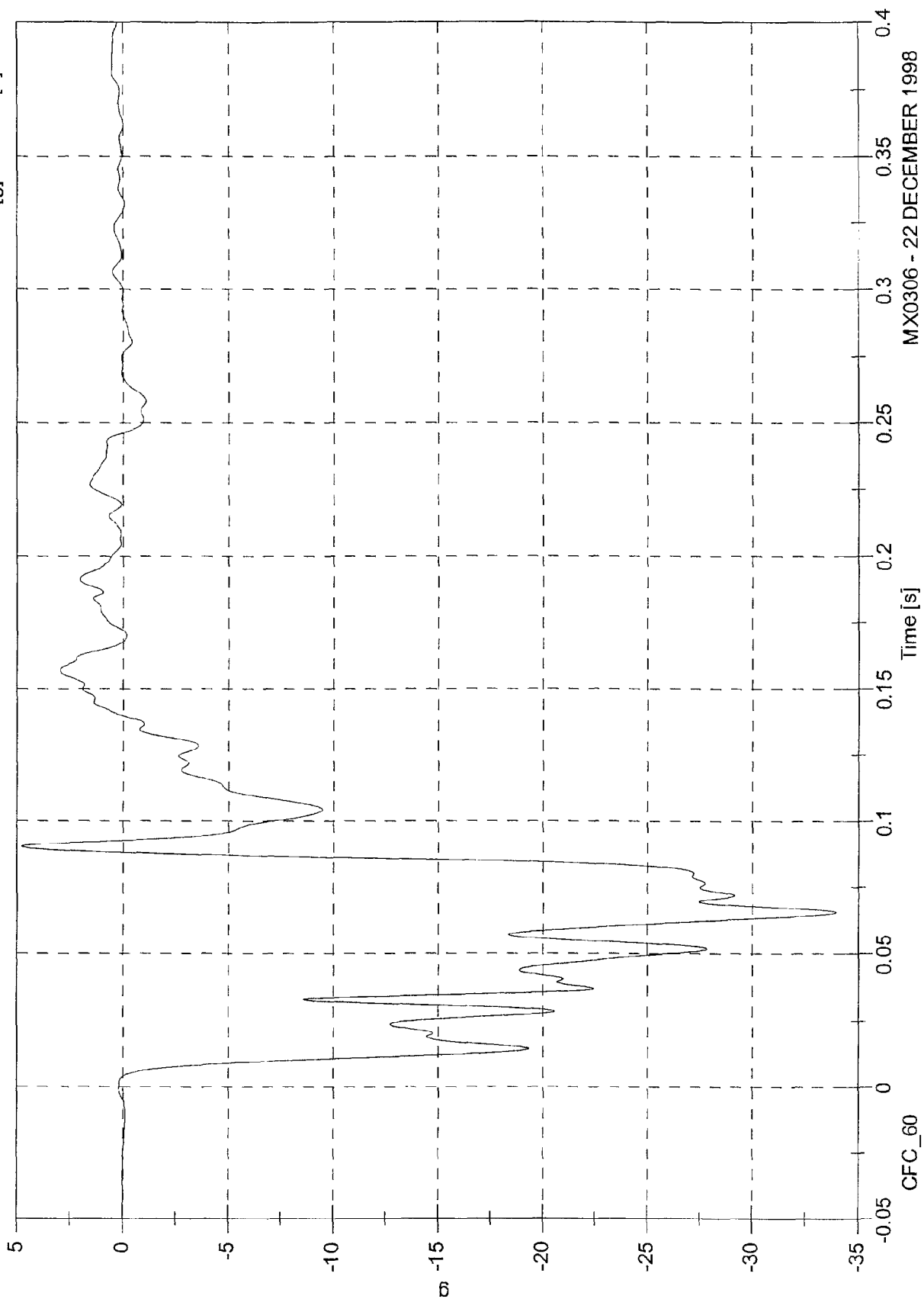


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 4.8 [g] at 0.090 [s]
Min: -34.0 [g] at 0.066 [s]

Acc 8 Redundant LR Xmember X

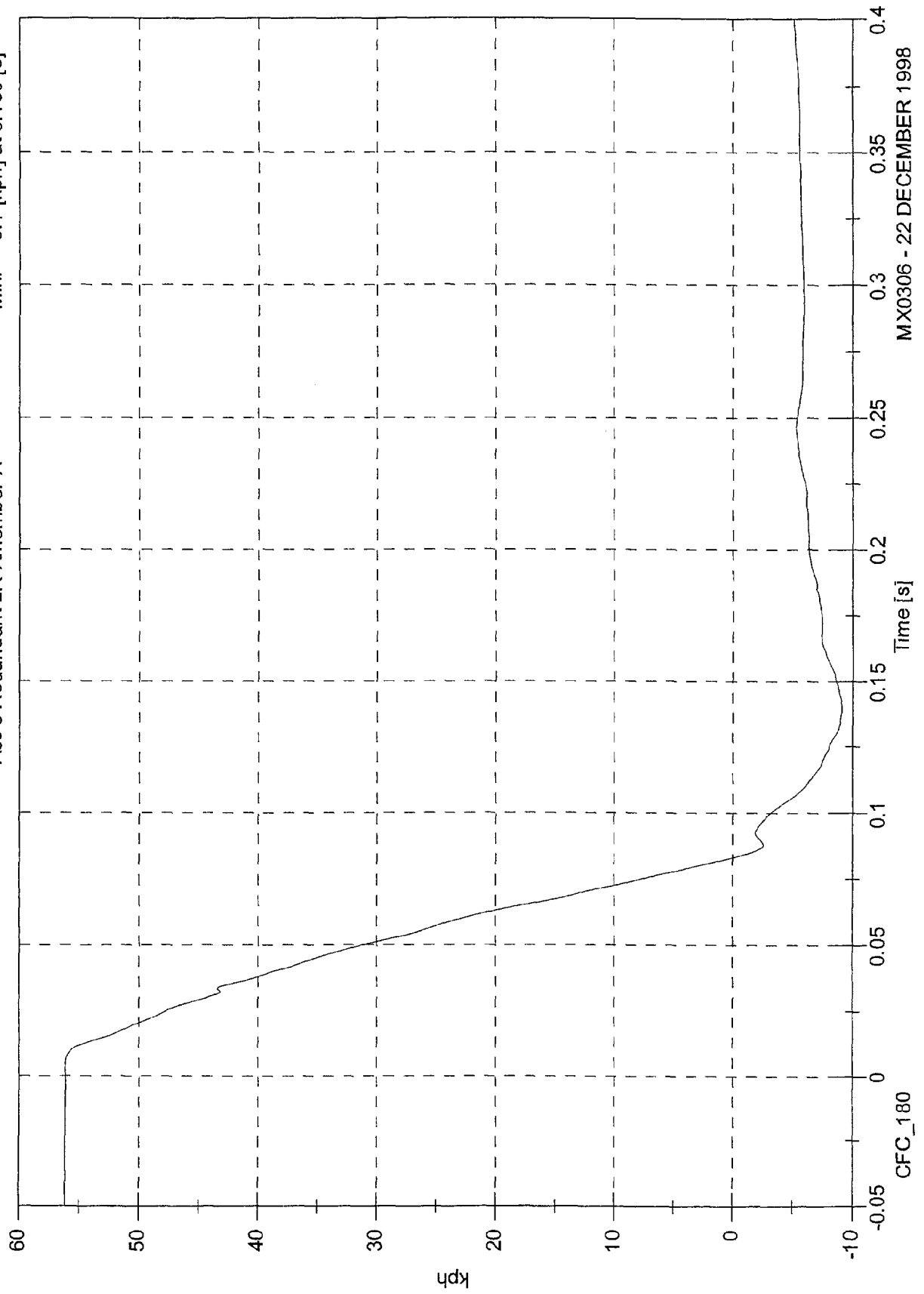


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 8 Redundant LR Xmember X

Max: 56.2 [kph] at -0.026 [s]
Min: -9.1 [kph] at 0.139 [s]

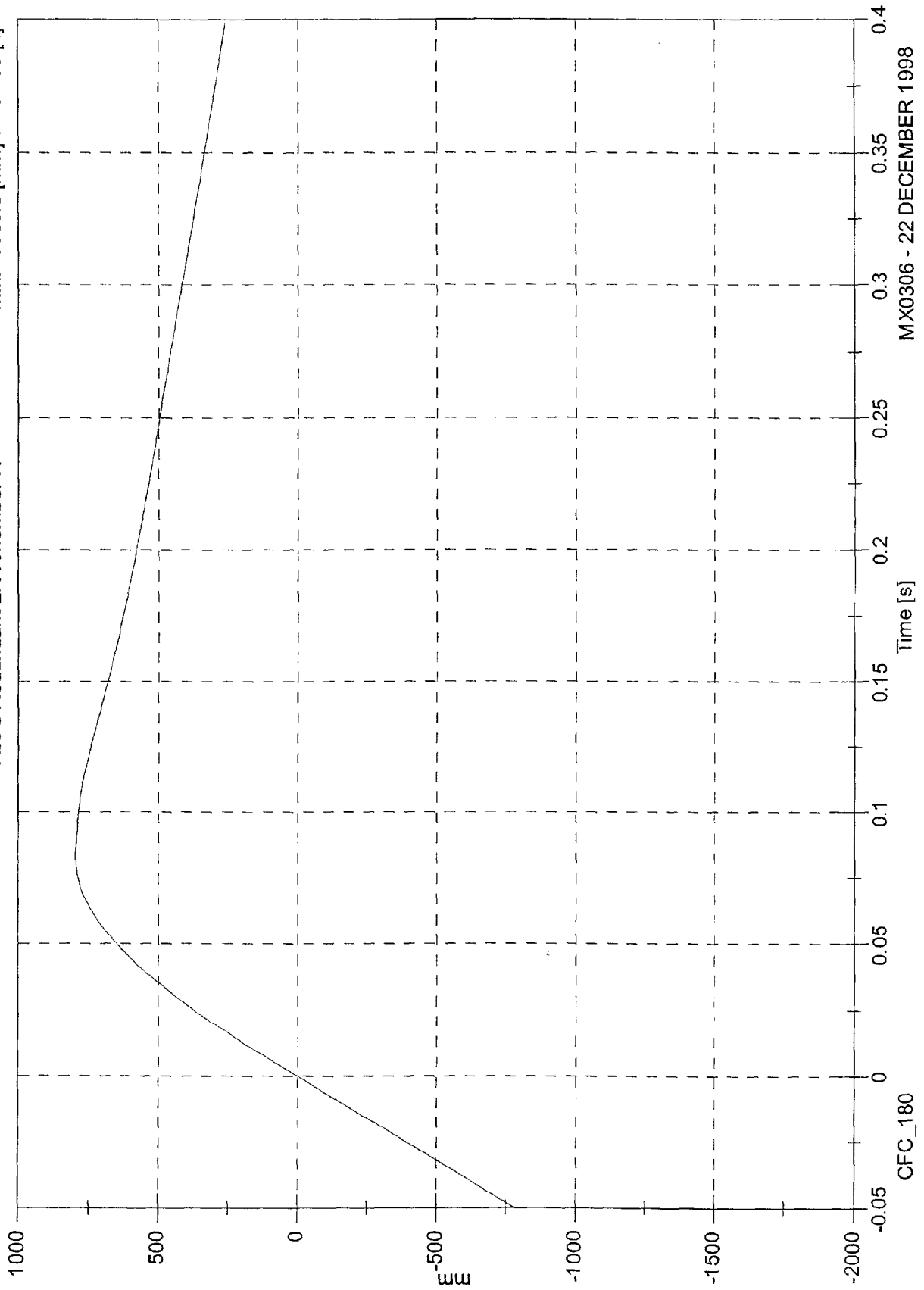


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Acc 8 Redundant LR Xmember X

Max: 795.6 [mm] at 0.083 [s]
Min: -1560.3 [mm] at -0.100 [s]



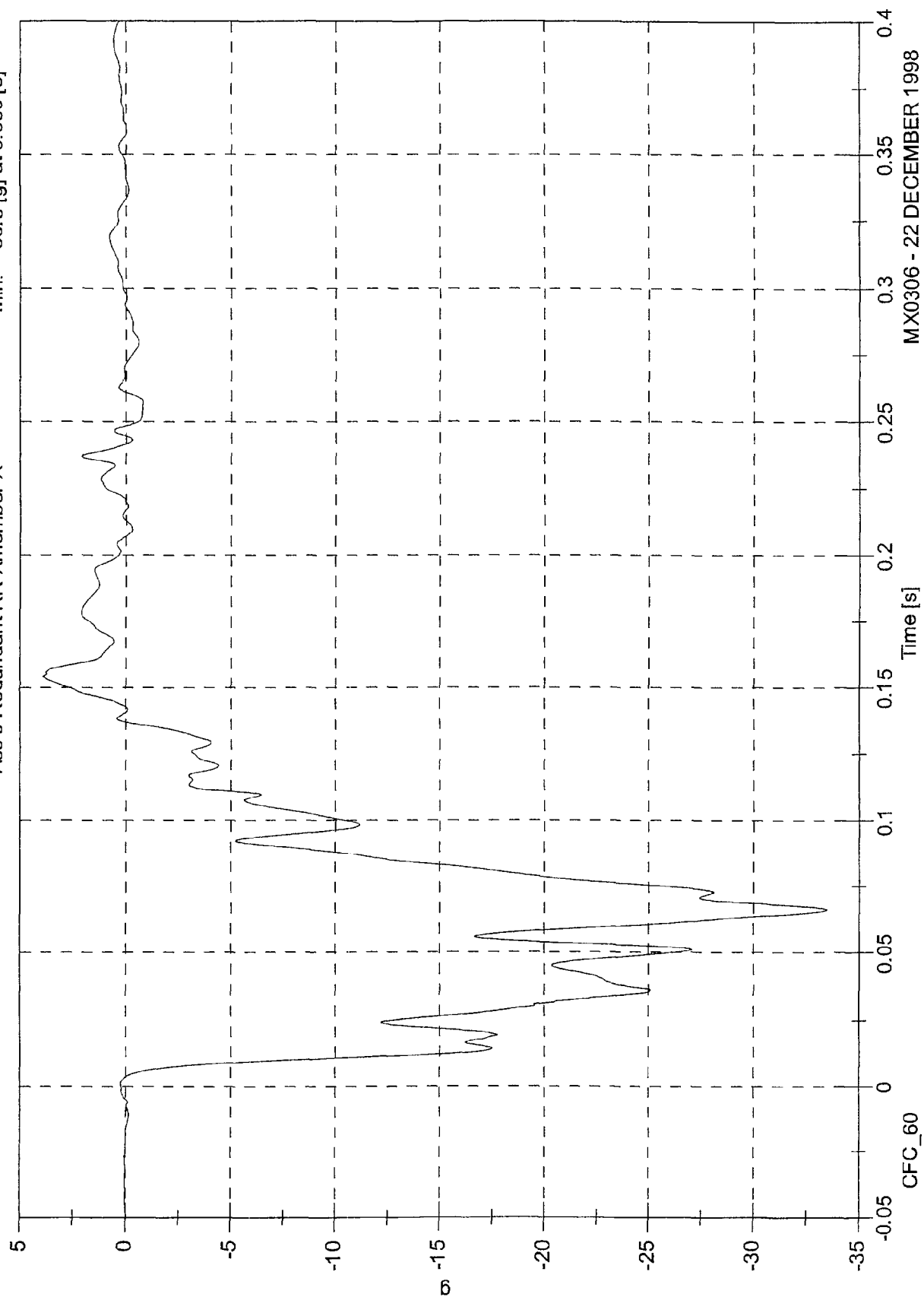
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 9 Redundant RR Xmember X

Max 3.9 [g] at 0.154 [s]

Min: -33.5 [g] at 0.066 [s]



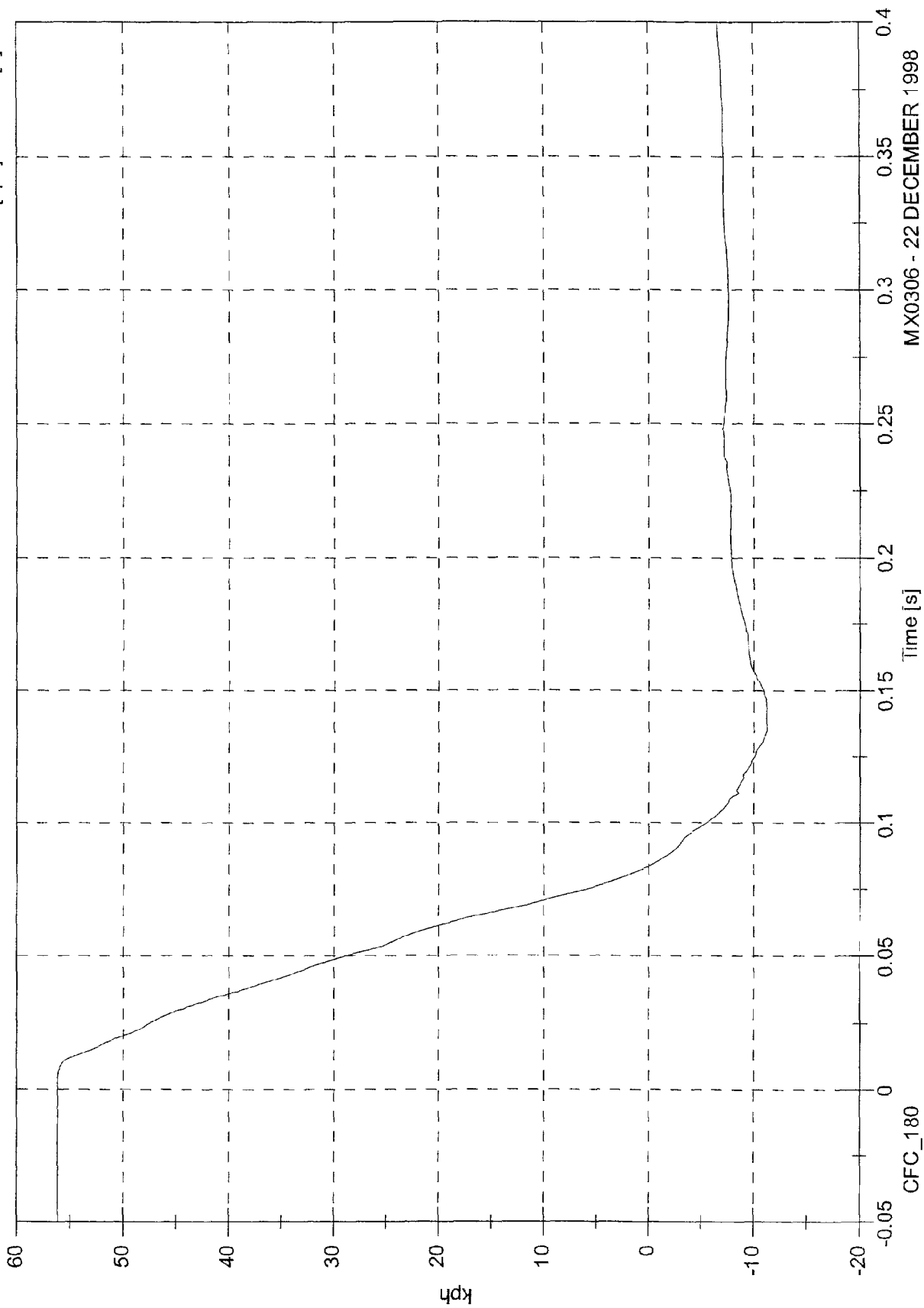
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 9 Redundant RR Xmember X

Max: 56.2 [kph] at 0.002 [s]

Min: -11.3 [kph] at 0.136 [s]

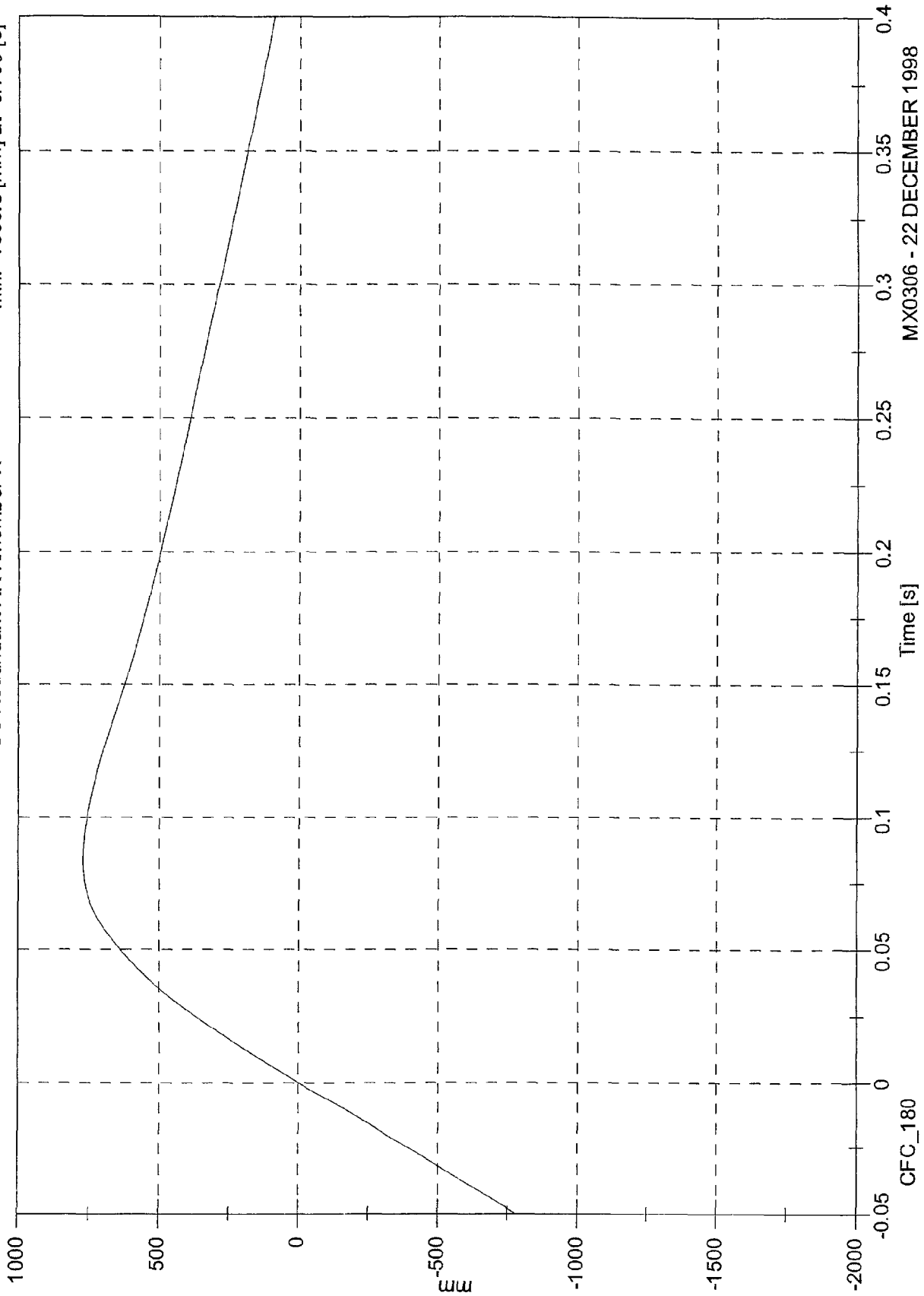


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Acc 9 Redundant RR Xmember X

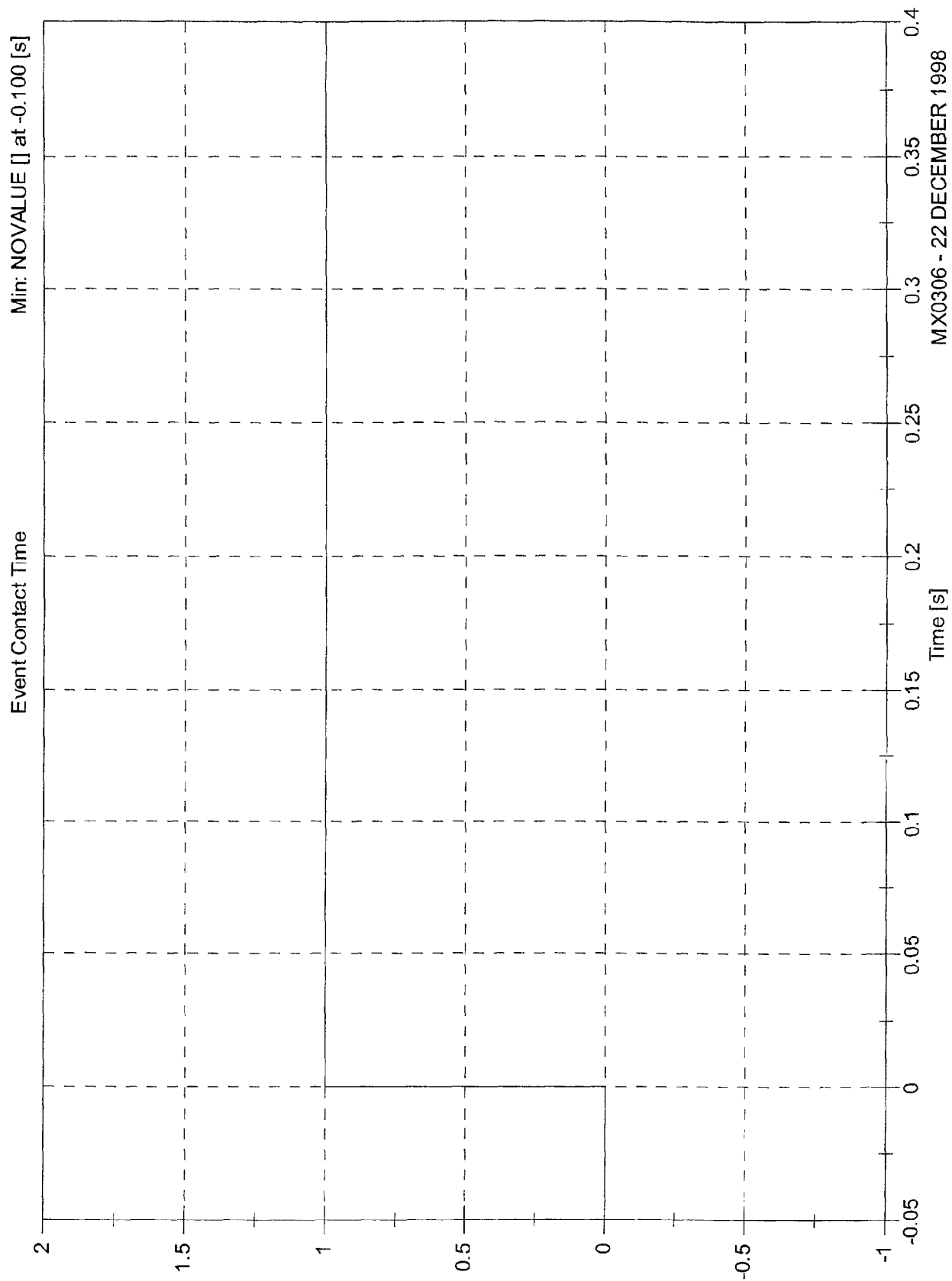
Max: 770.1 [mm] at 0.083 [s]
Min: -1560.3 [mm] at -0.100 [s]



MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: NOVALUE [] at -0.100 [s]
Min: NOVALUE [] at -0.100 [s]



NHTSA TEST NO. MX0306

LOAD CELL BARRIER DATA

Barrier Forces

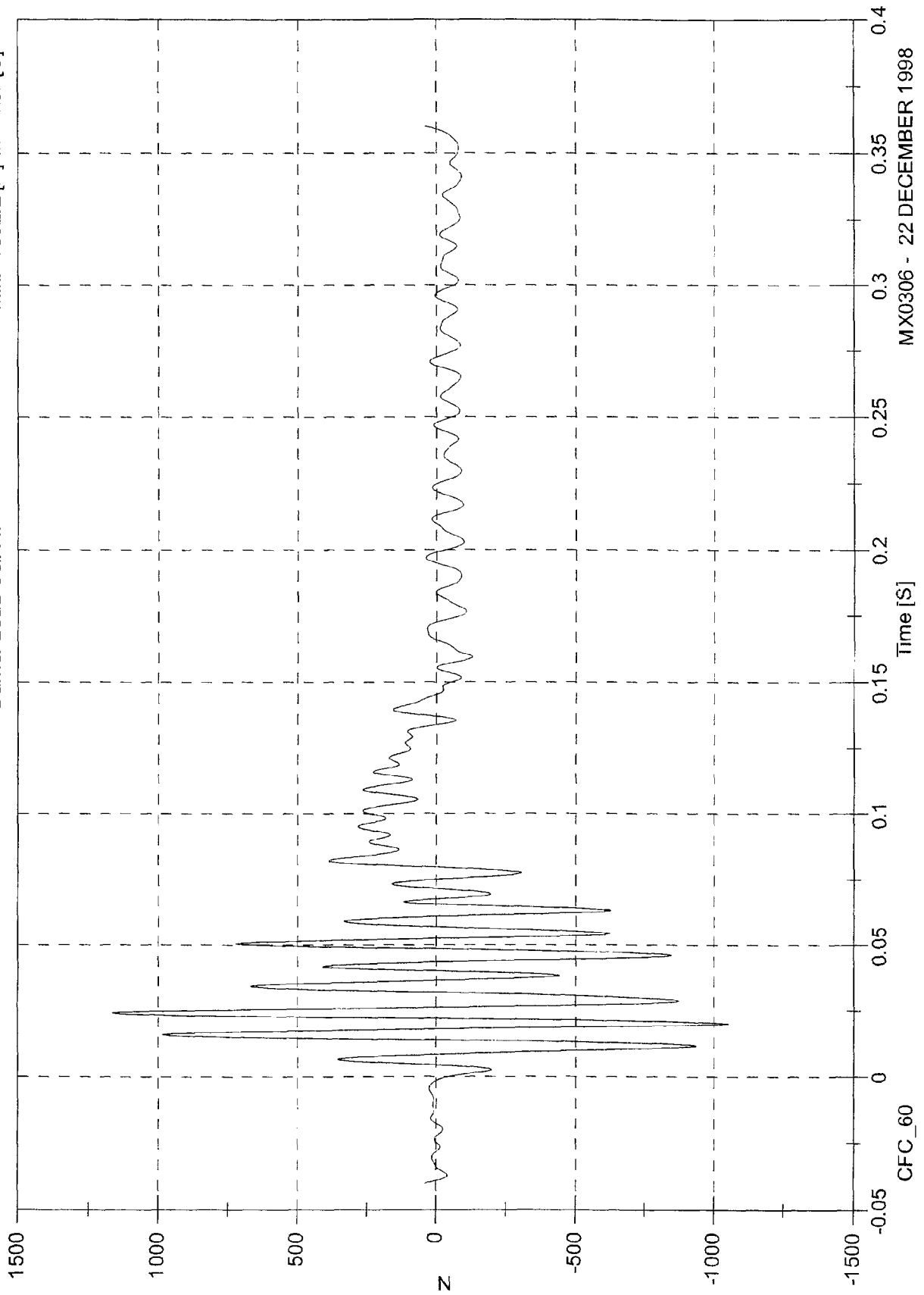
FILTER CHANNEL CLASS

60

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 1166.5 [N] at 0.024 [S]
Min: -1052.2 [N] at 0.020 [S]

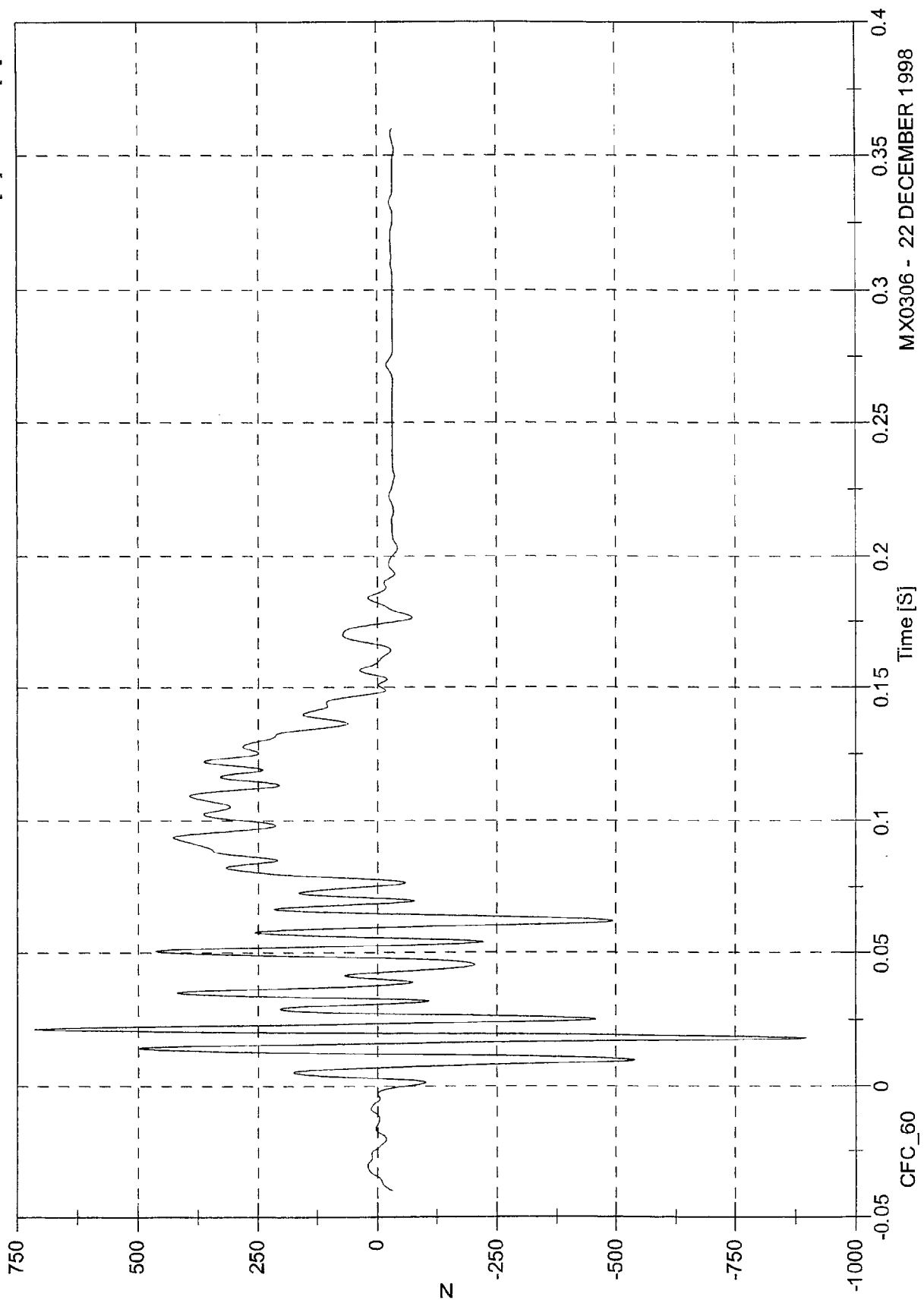
Barrier Load Cell A1



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 715.0 [N] at 0.022 [S]
Min: -897.2 [N] at 0.018 [S]

Barrier Load Cell A2

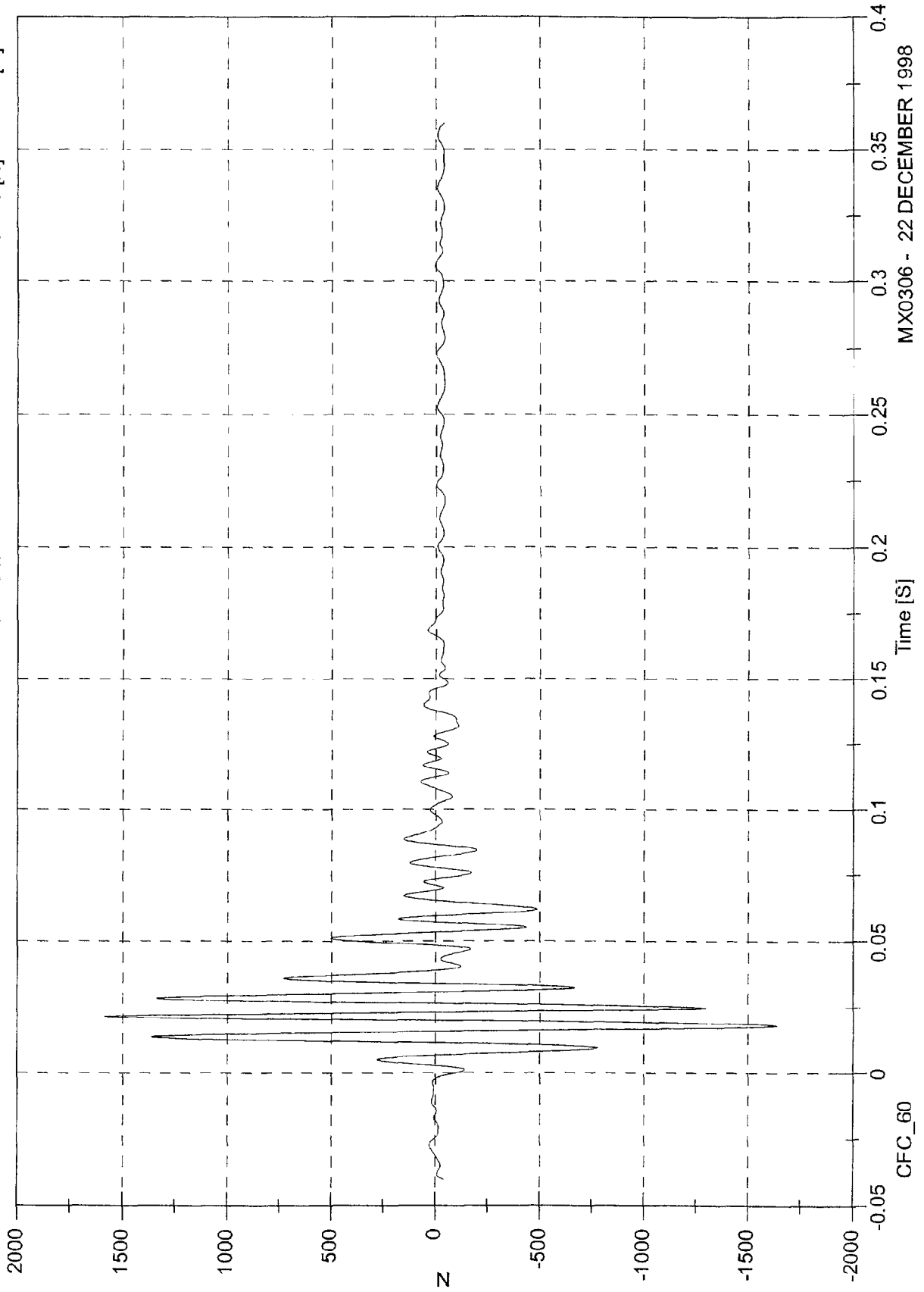


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell A3

Max: 1588.8 [N] at 0.022 [S]
Min: -1639.9 [N] at 0.018 [S]

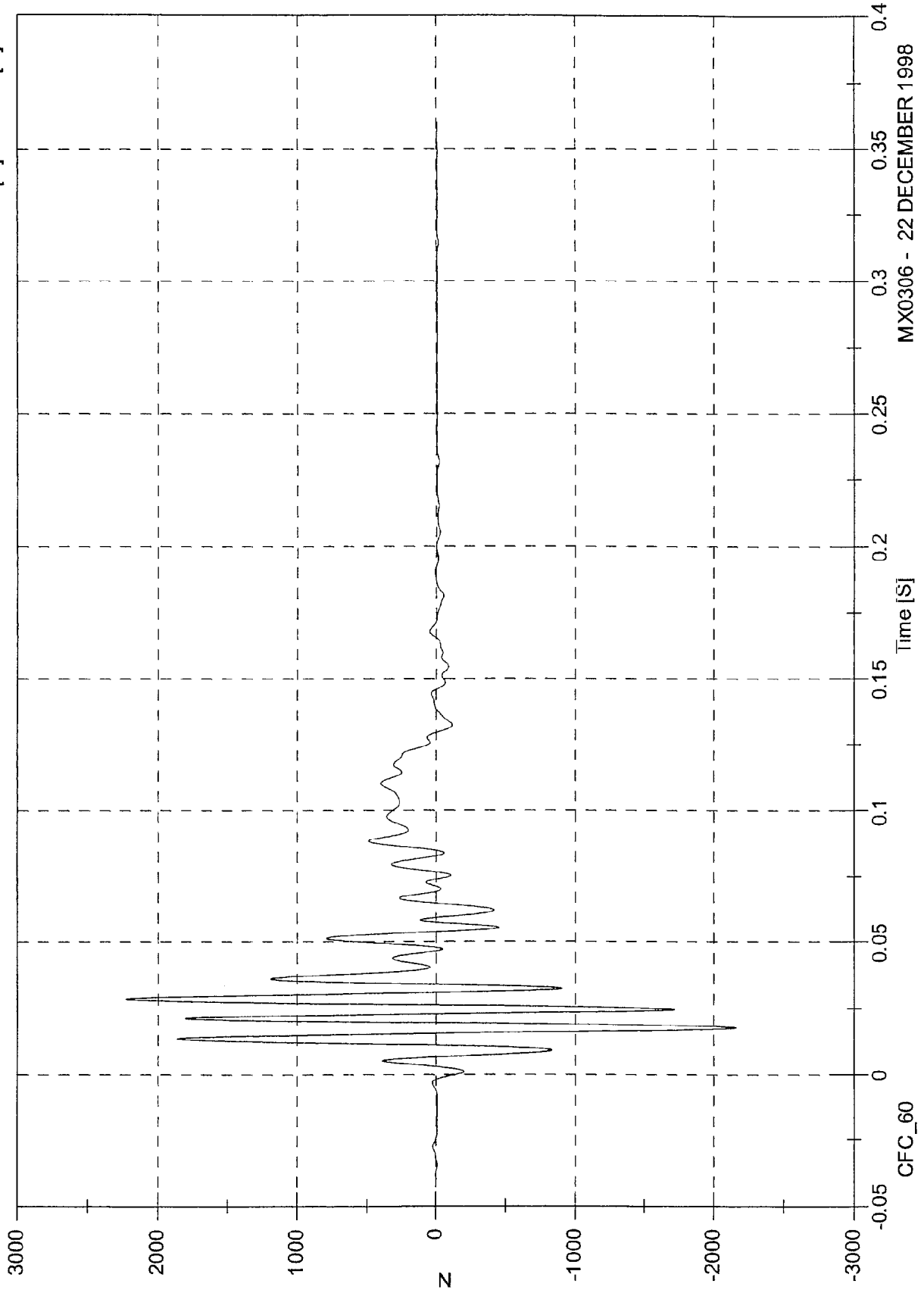


MX0306 - 22 DECEMBER 1998

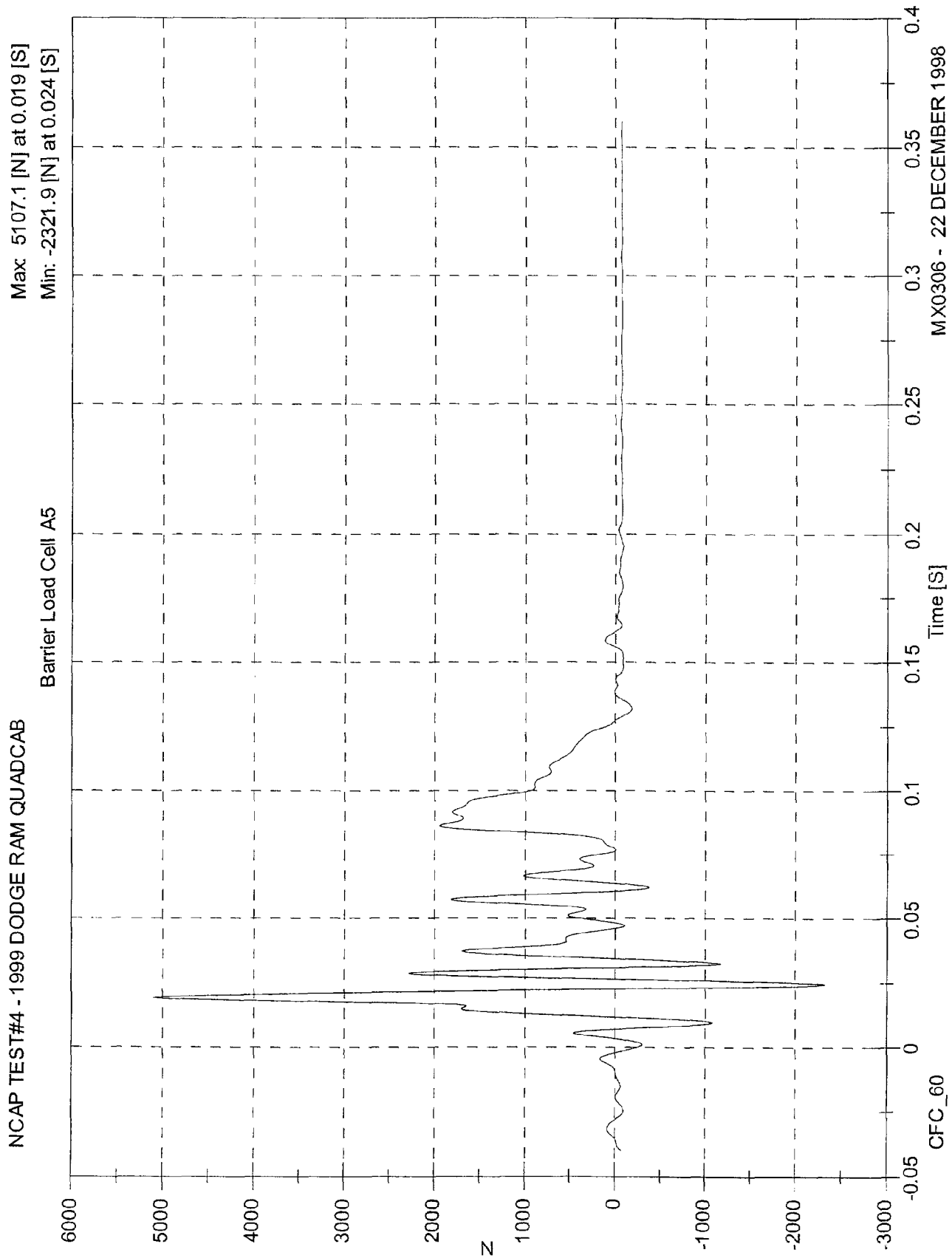
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 2230.7 [N] at 0.029 [S]
Min: -2162.1 [N] at 0.018 [S]

Barrier Load Cell A4



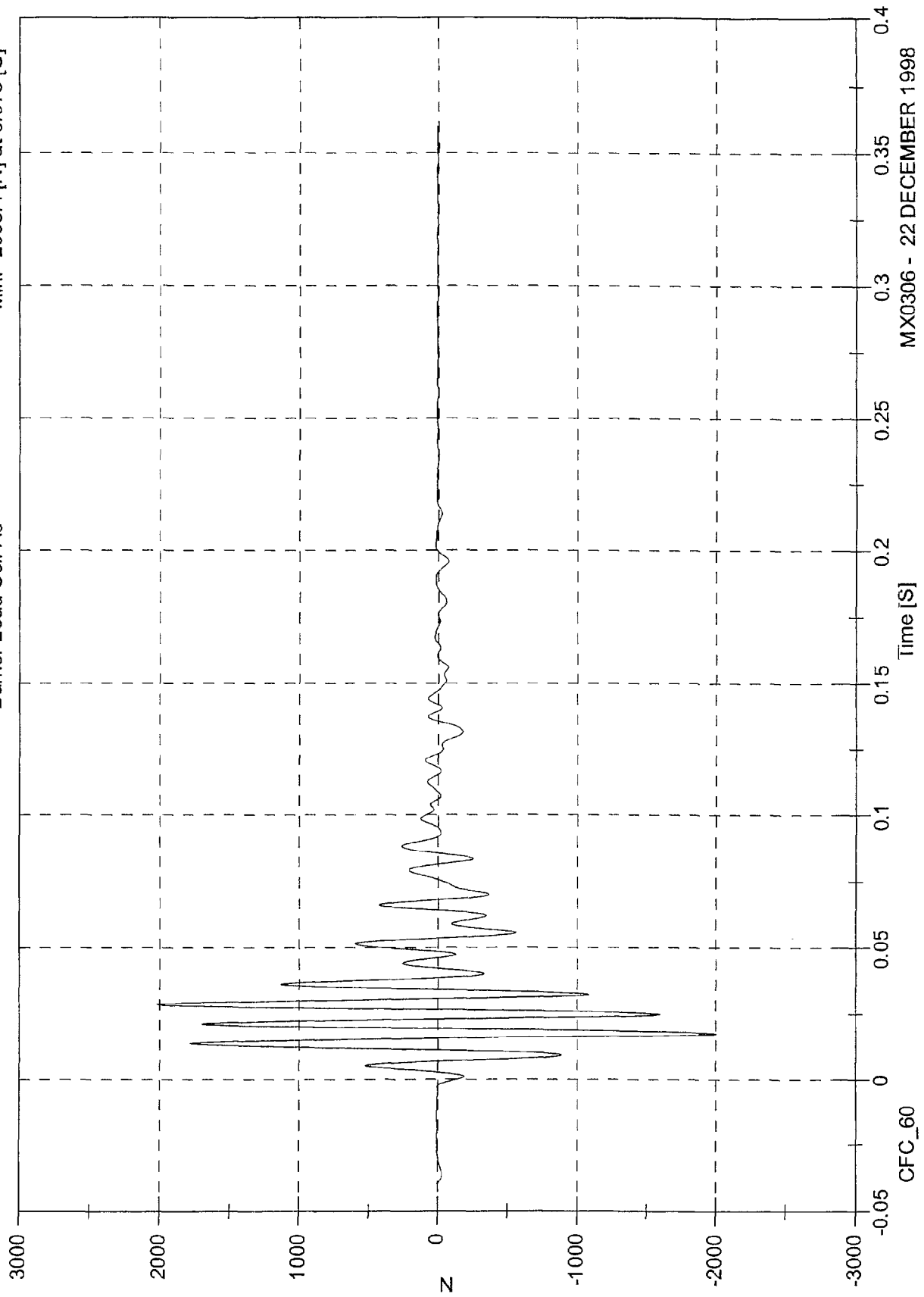
MX0306 - 22 DECEMBER 1998



NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max: 2017.9 [N] at 0.029 [S]
Min: -2005.4 [N] at 0.018 [S]

Barrier Load Cell A6



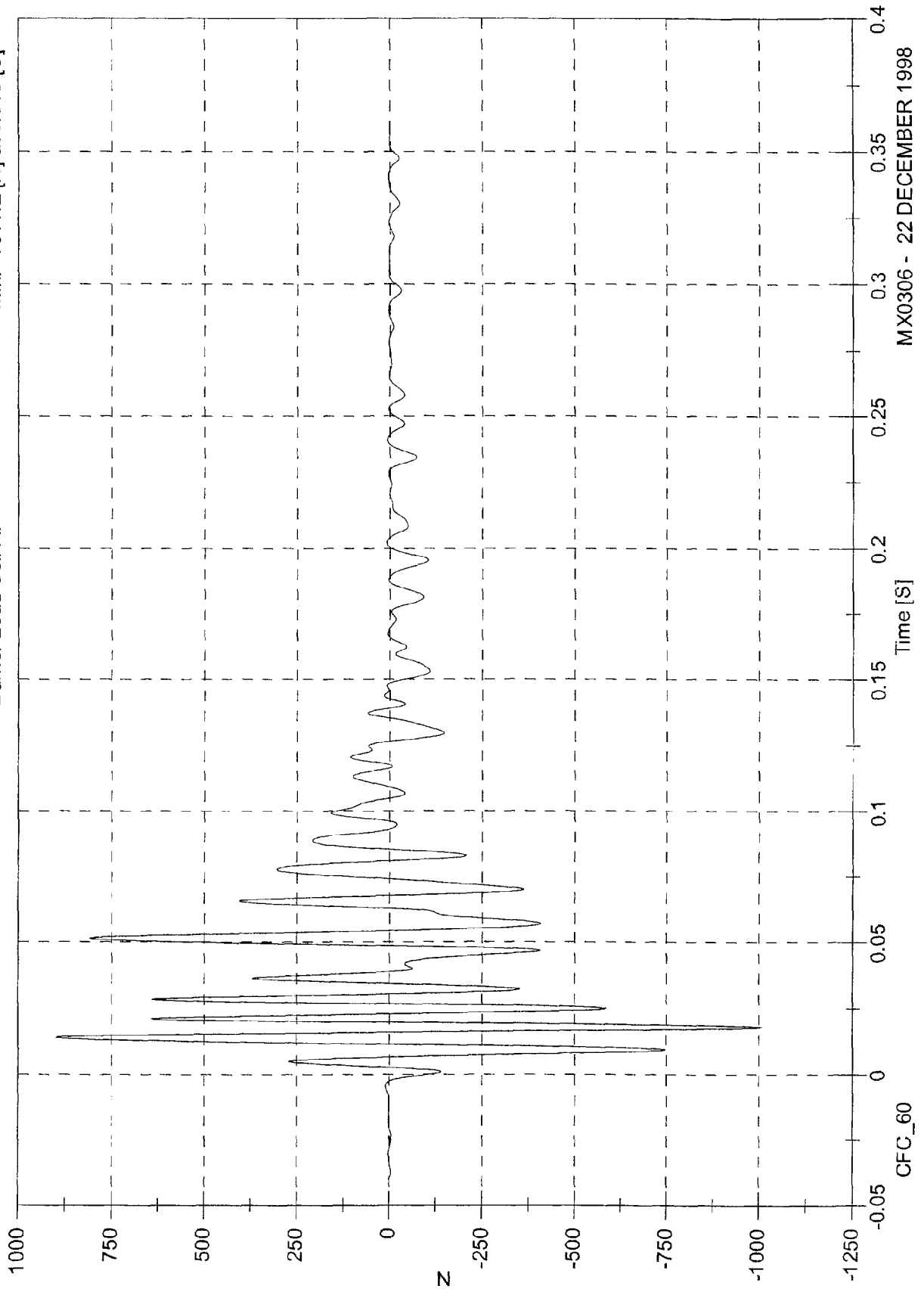
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Barrier Load Cell A7

Max: 898.8 [N] at 0.014 [S]

Min: -1011.2 [N] at 0.018 [S]

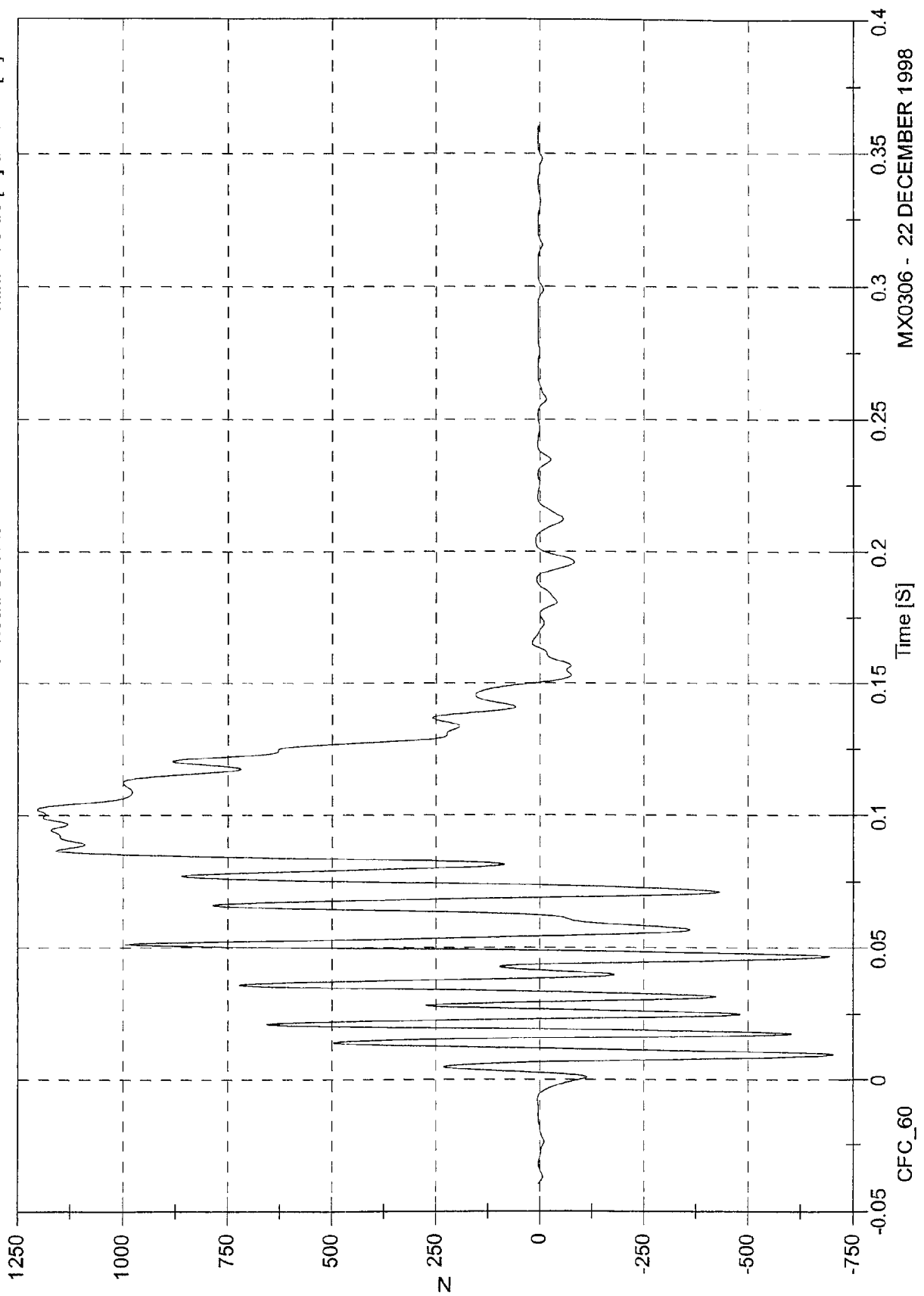


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 1204.0 [N] at 0.102 [S]
Min: -702.5 [N] at 0.009 [S]

Barrier Load Cell A8

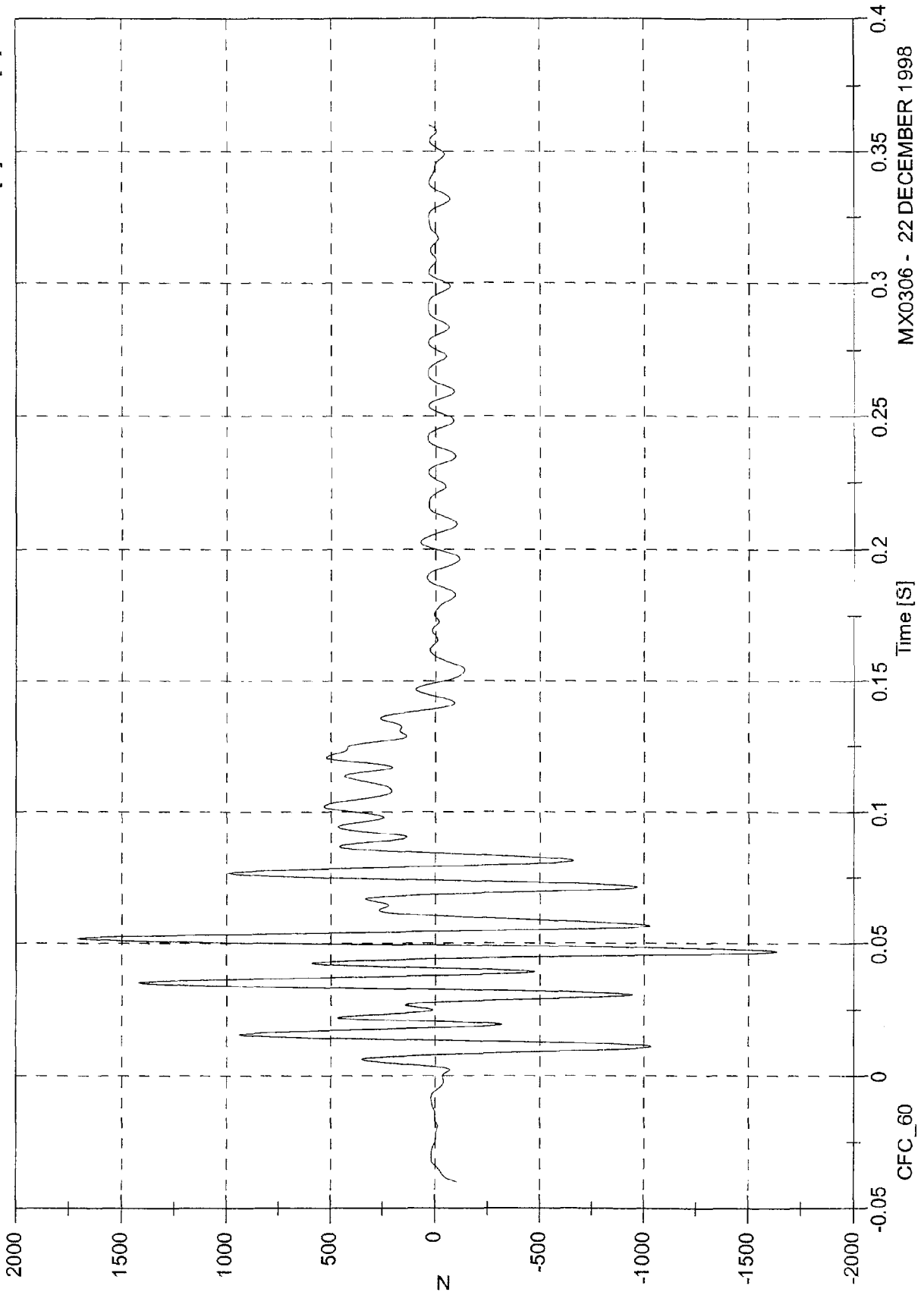


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell A9

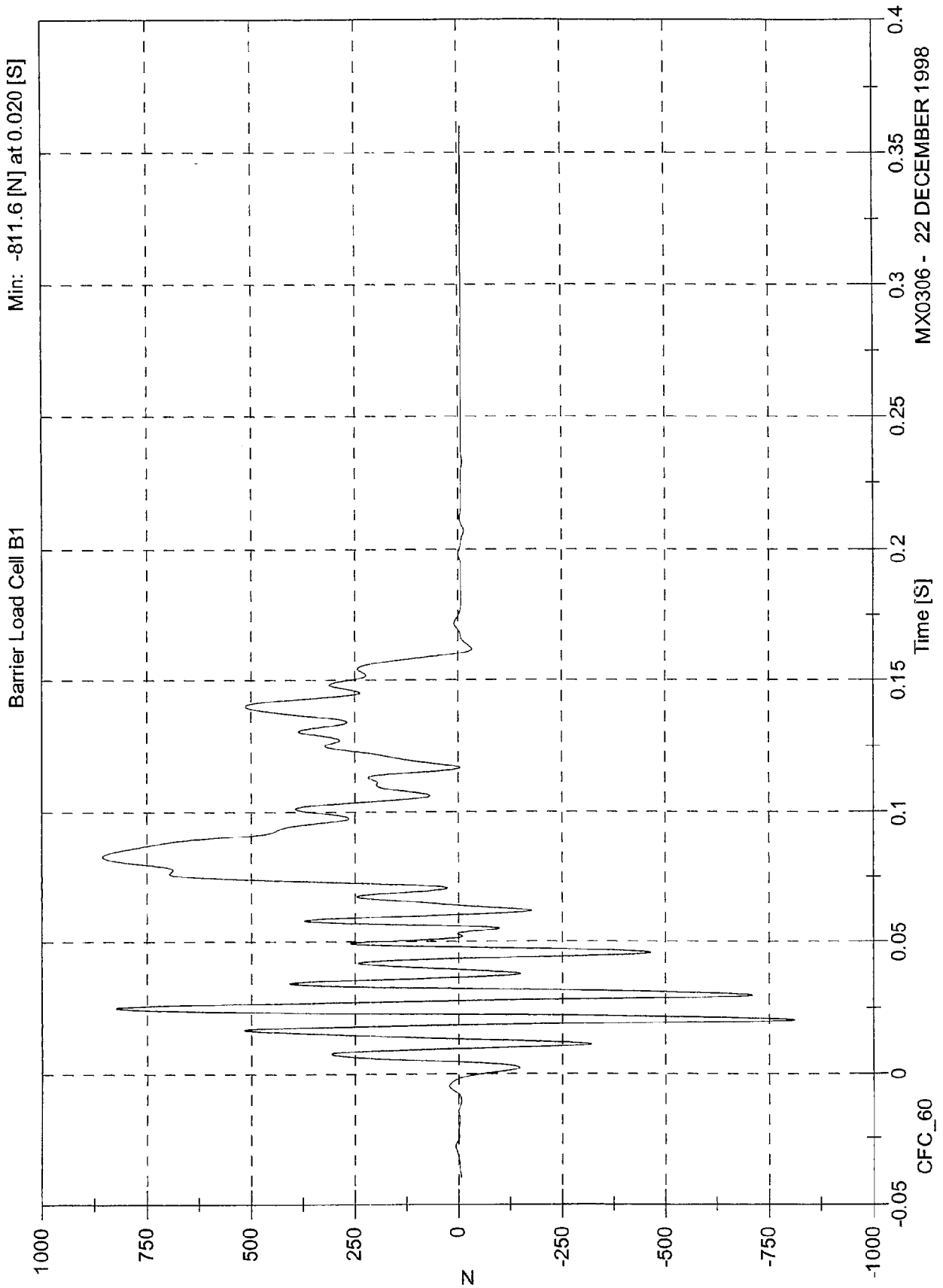
Max: 1708.7 [N] at 0.052 [S]
Min: -1638.4 [N] at 0.047 [S]



MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

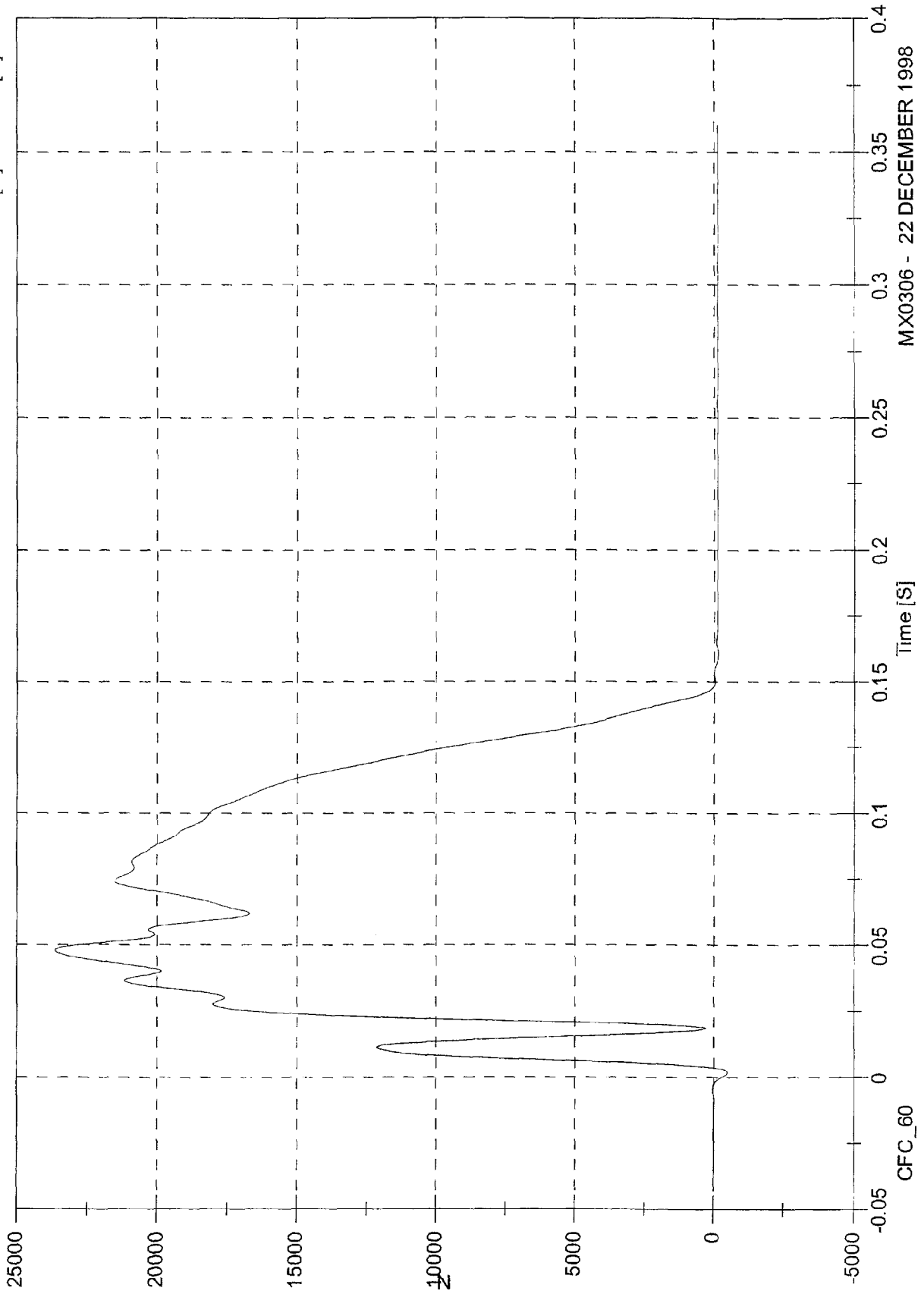
Max: 855.4 [N] at 0.083 [S]
Min: -811.6 [N] at 0.020 [S]



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell B2

Max: 23634.4 [N] at 0.048 [S]
Min: -504.9 [N] at 0.002 [S]

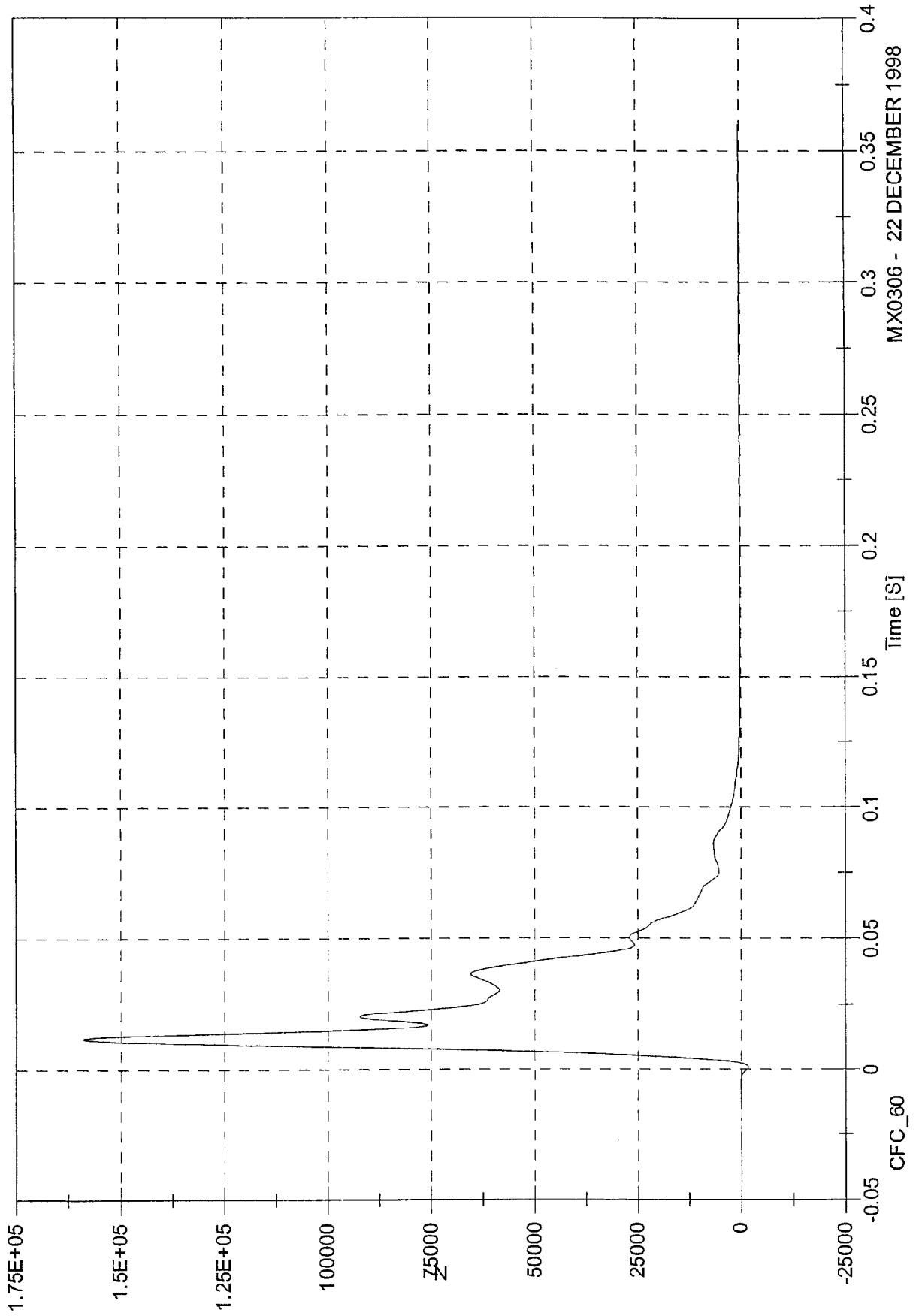


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Max 159035.5 [N] at 0.012 [S]
Min: -1719.1 [N] at 0.001 [S]

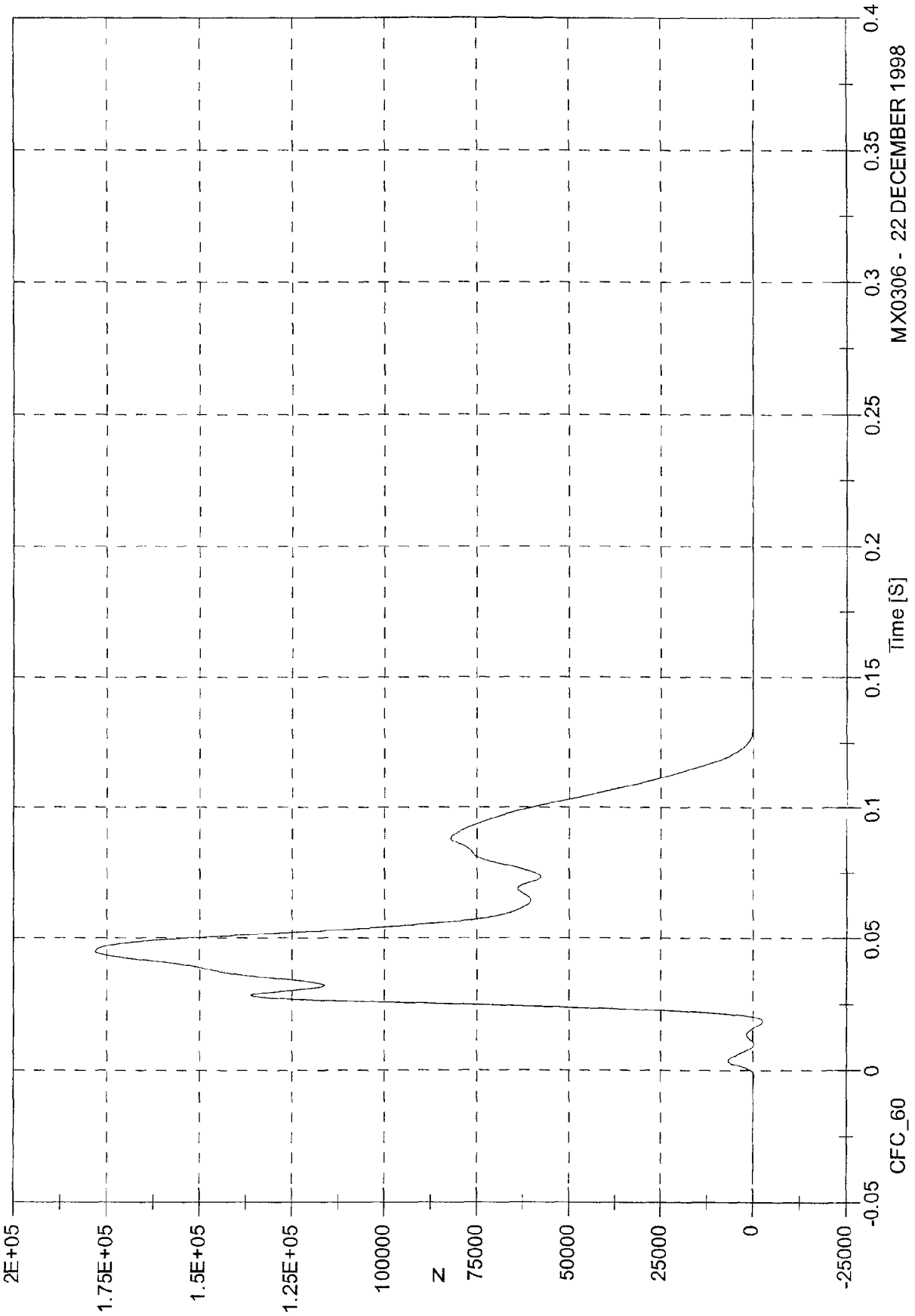
Barrier Load Cell B3



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell B4

Max: 178094.9 [N] at 0.045 [S]
Min: -2610.5 [N] at 0.019 [S]



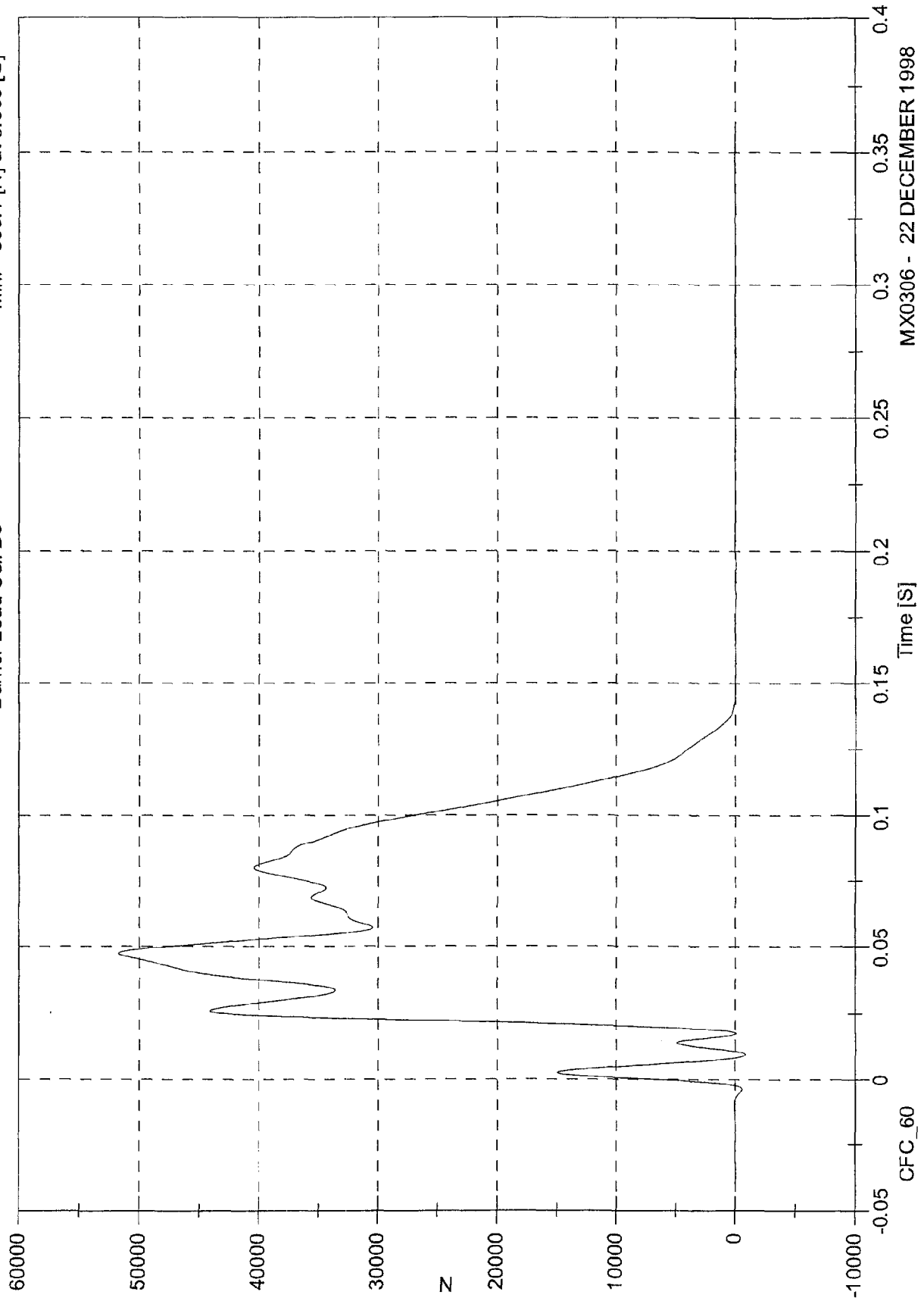
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell B5

Max: 51753.0 [N] at 0.047 [S]

Min: -859.1 [N] at 0.009 [S]

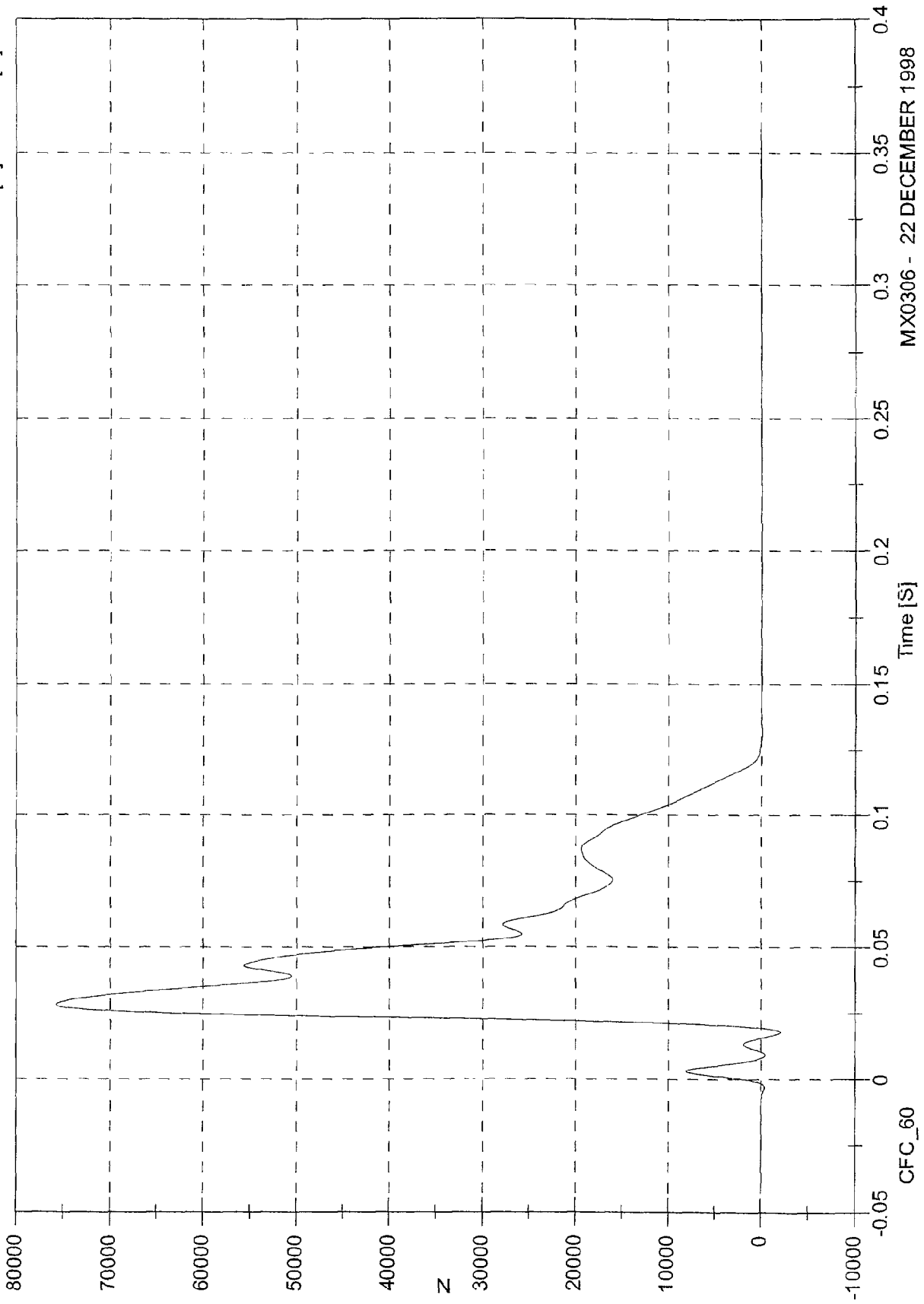


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Barrier Load Cell B6

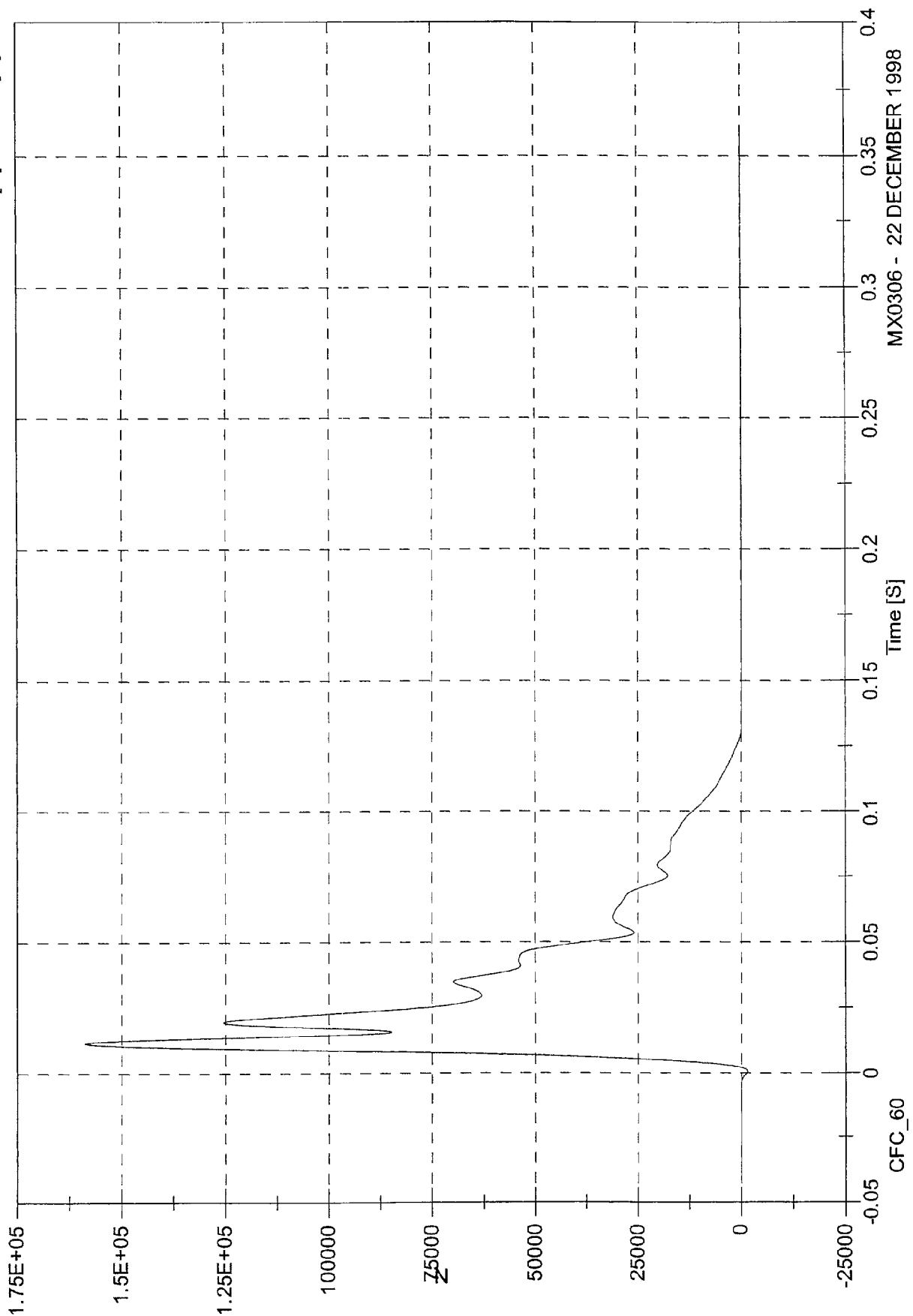
Max: 75728.7 [N] at 0.028 [S]
Min: -2023.9 [N] at 0.018 [S]



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 158833.6 [N] at 0.011 [S]
Min: -1486.6 [N] at 0.001 [S]

Barrier Load Cell B7

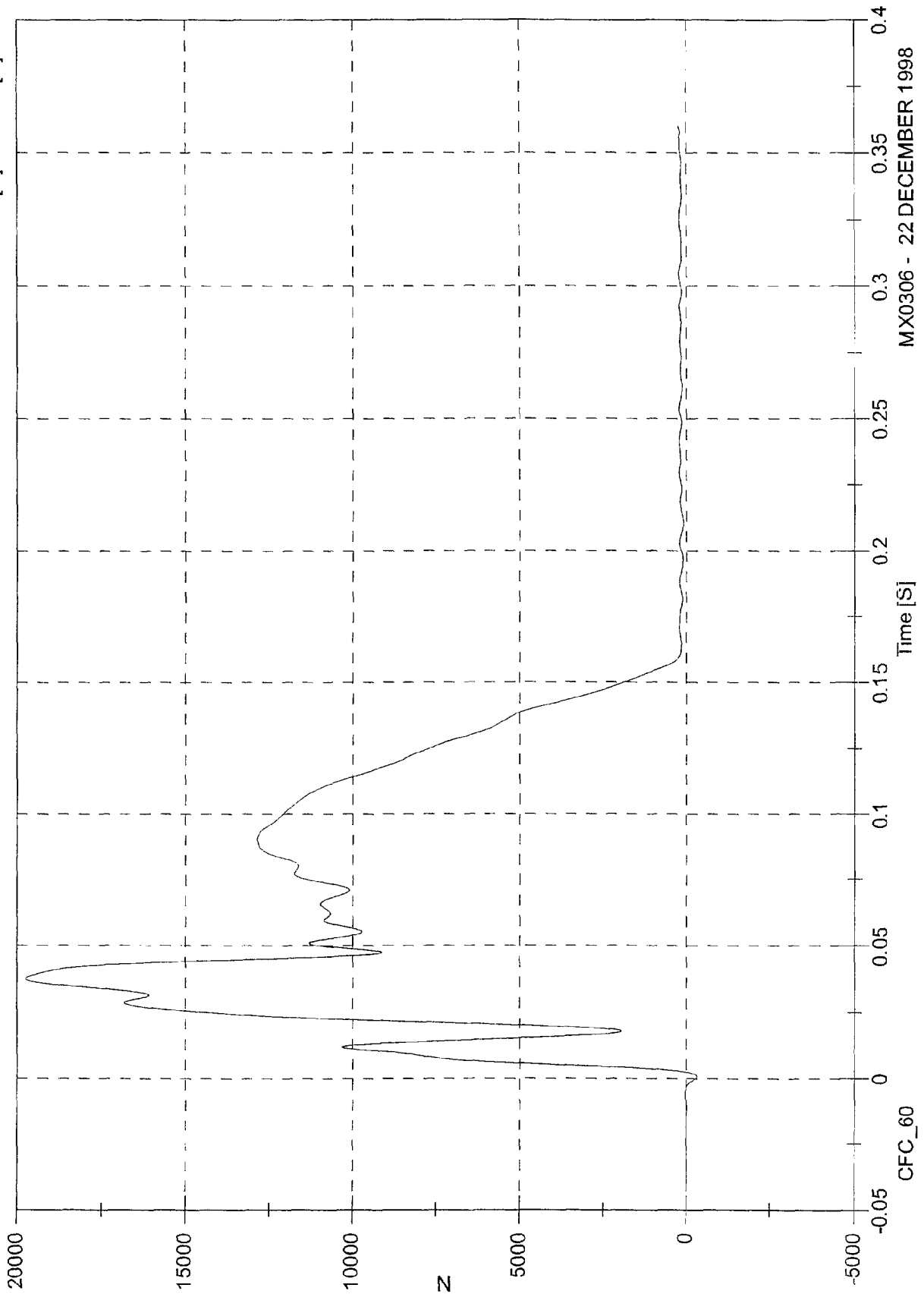


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Barrier Load Cell B8

Max: 19752.5 [N] at 0.038 [S]
Min: -324.6 [N] at 0.001 [S]

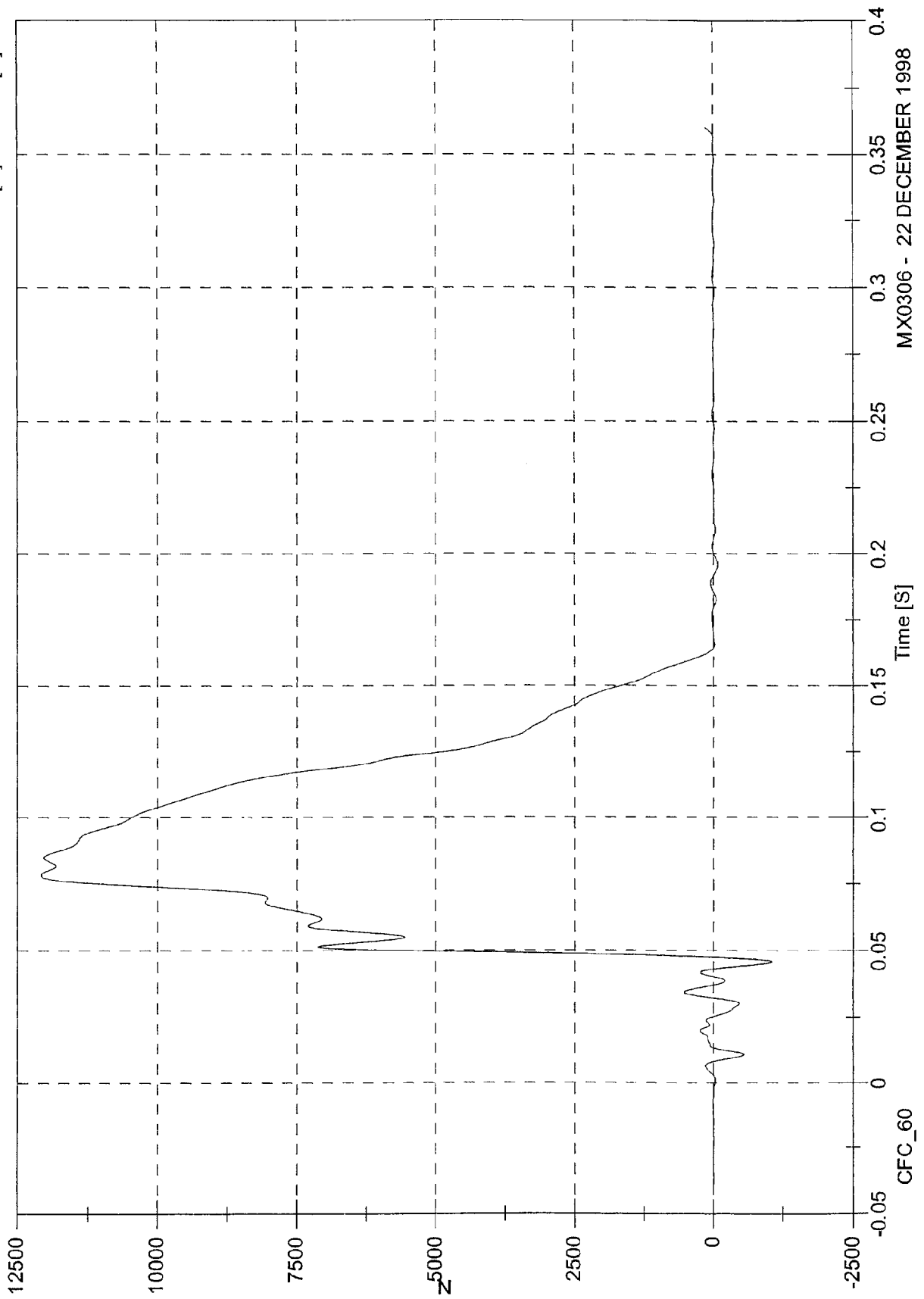


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 12083.6 [N] at 0.078 [S]
Min: -1053.5 [N] at 0.046 [S]

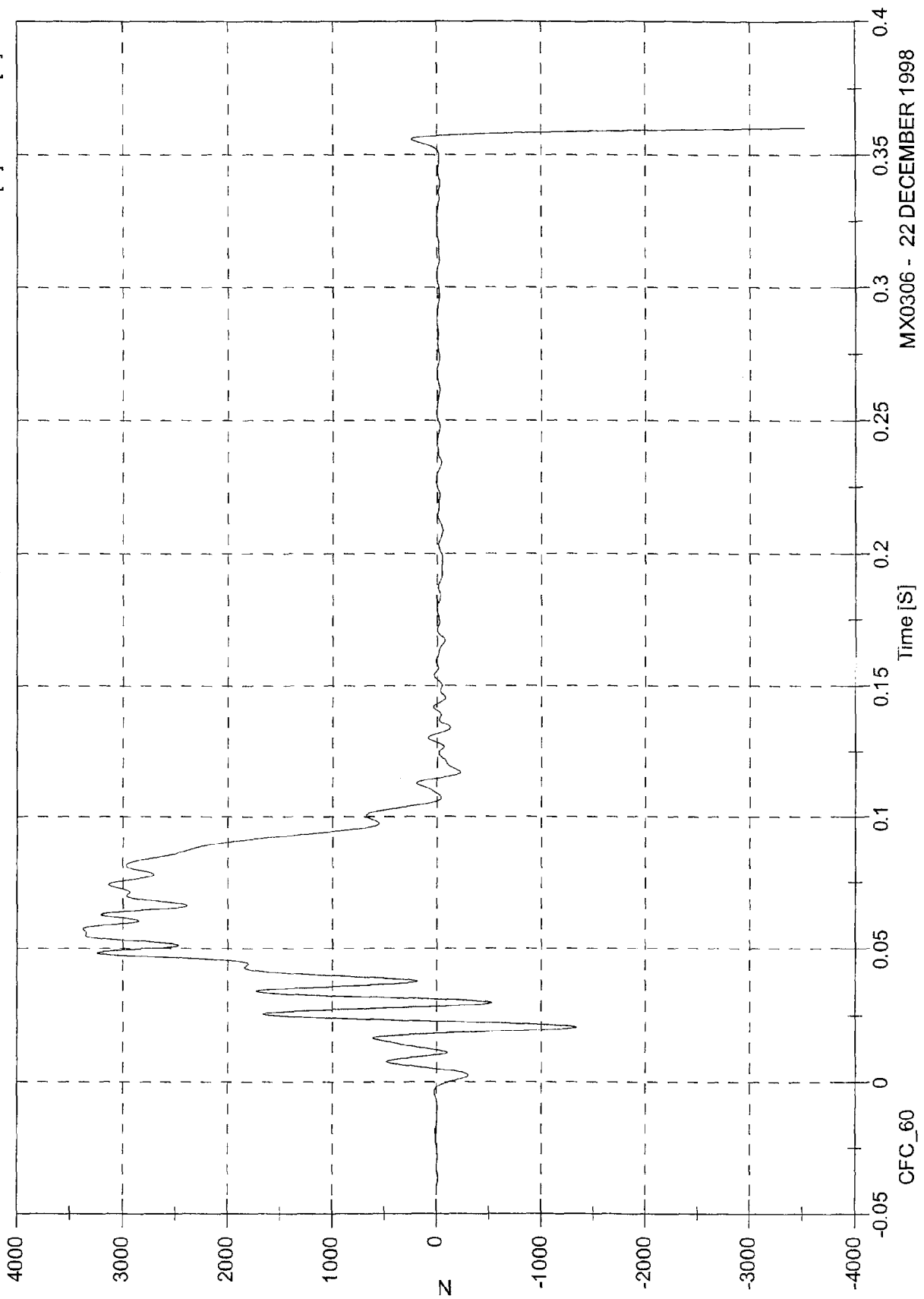
Barrier Load Cell B9



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 3377.0 [N] at 0.057 [S]
Min: -3525.9 [N] at 0.360 [S]

Barrier Load Cell C1

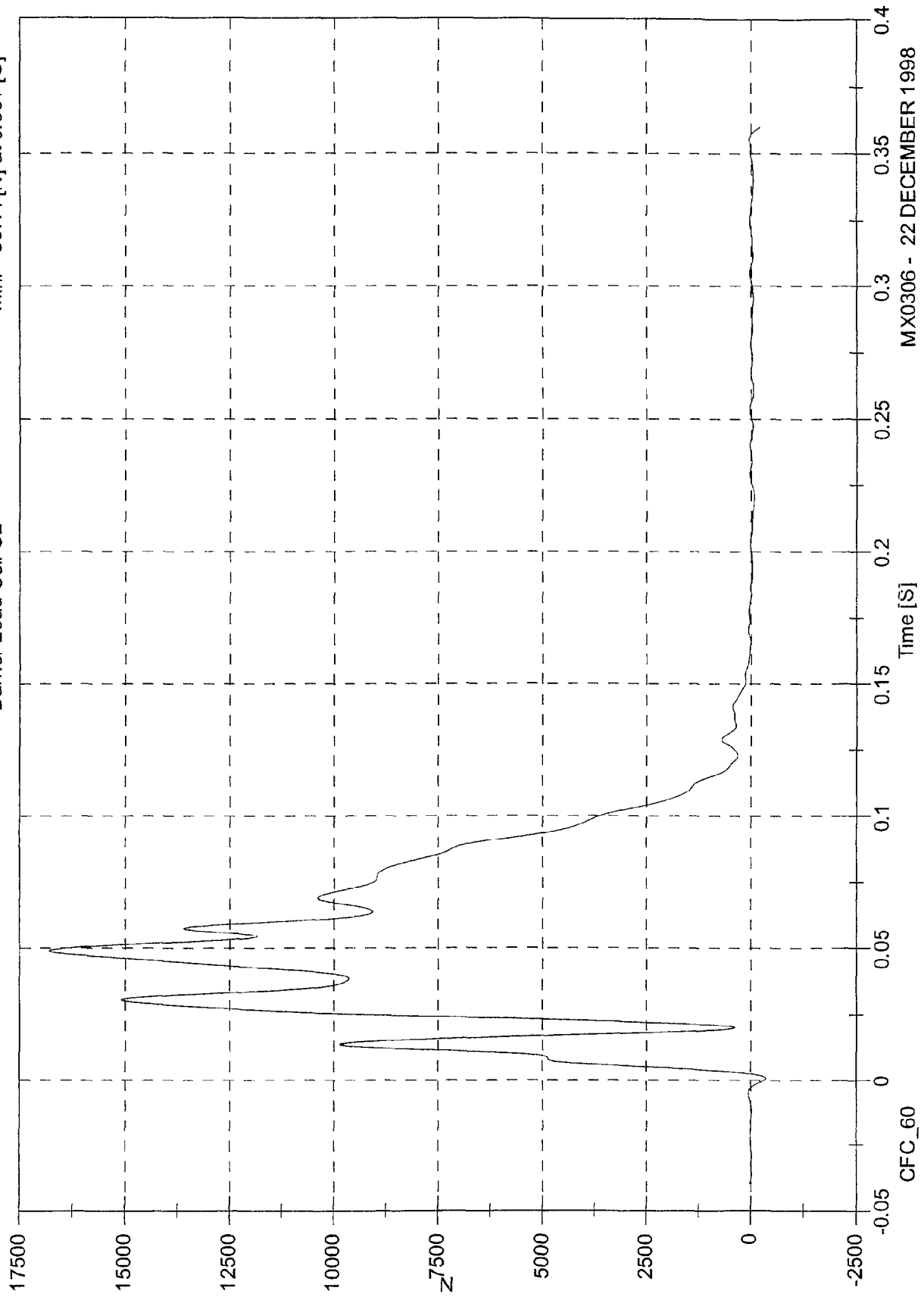


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell C2

Max: 16799.4 [N] at 0.049 [S]
Min: -367.4 [N] at 0.001 [S]

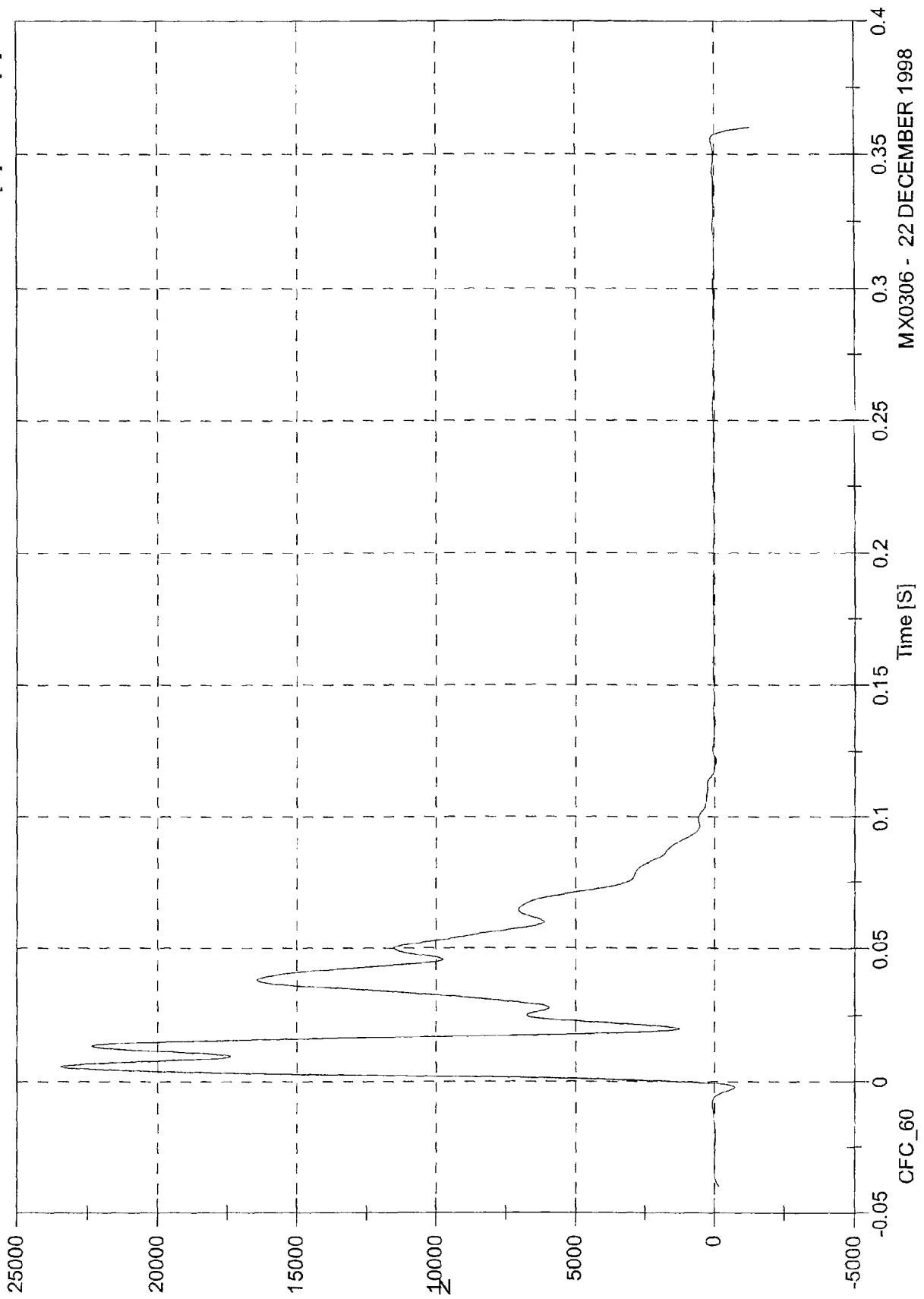


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 23458.6 [N] at 0.005 [S]
 Min: -1280.5 [N] at 0.360 [S]

Barrier Load Cell C3

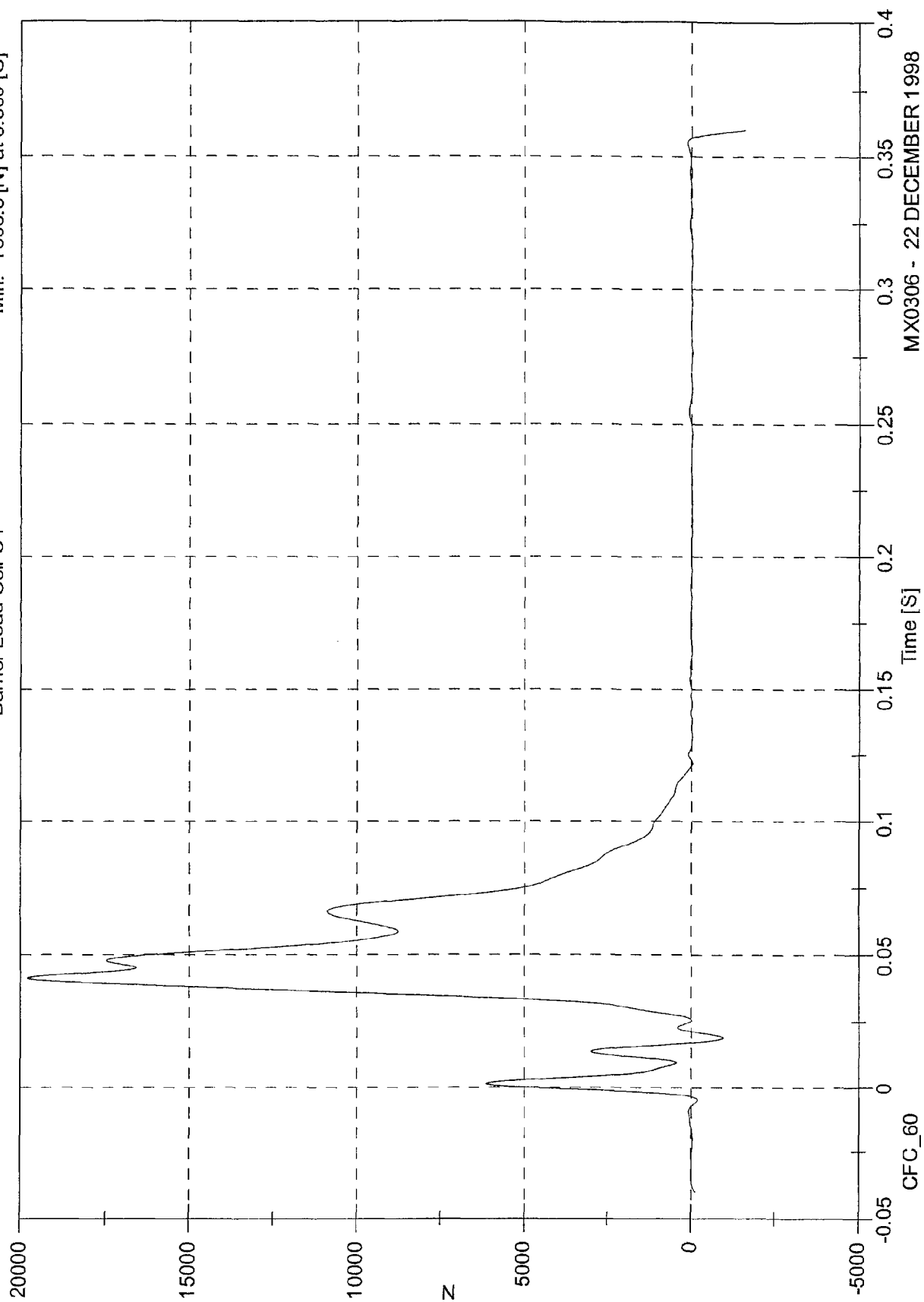


MX0306 - 22 DECEMBER 1998

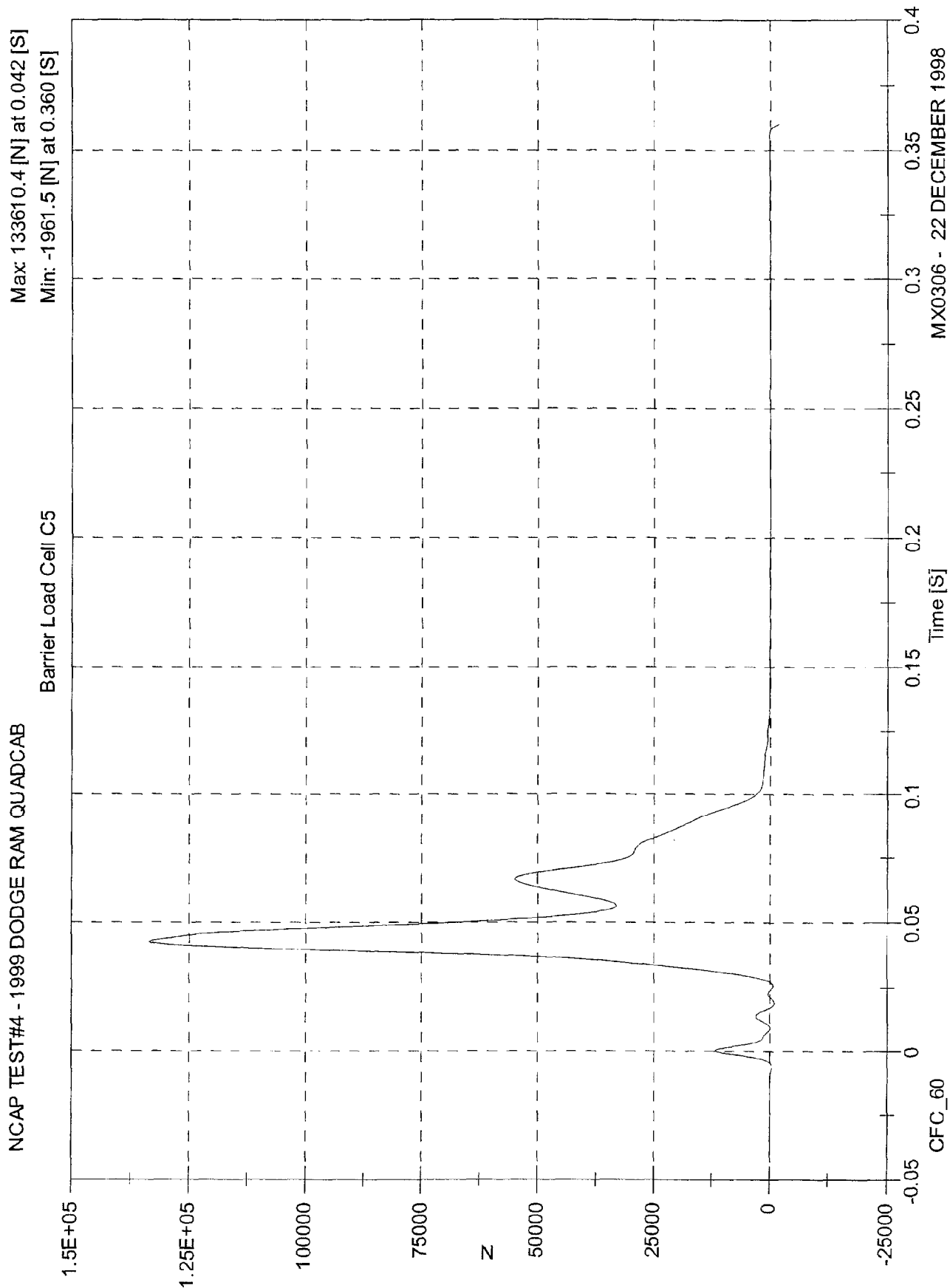
NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 19794.7 [N] at 0.041 [S]
Min: -1606.3 [N] at 0.360 [S]

Barrier Load Cell C4



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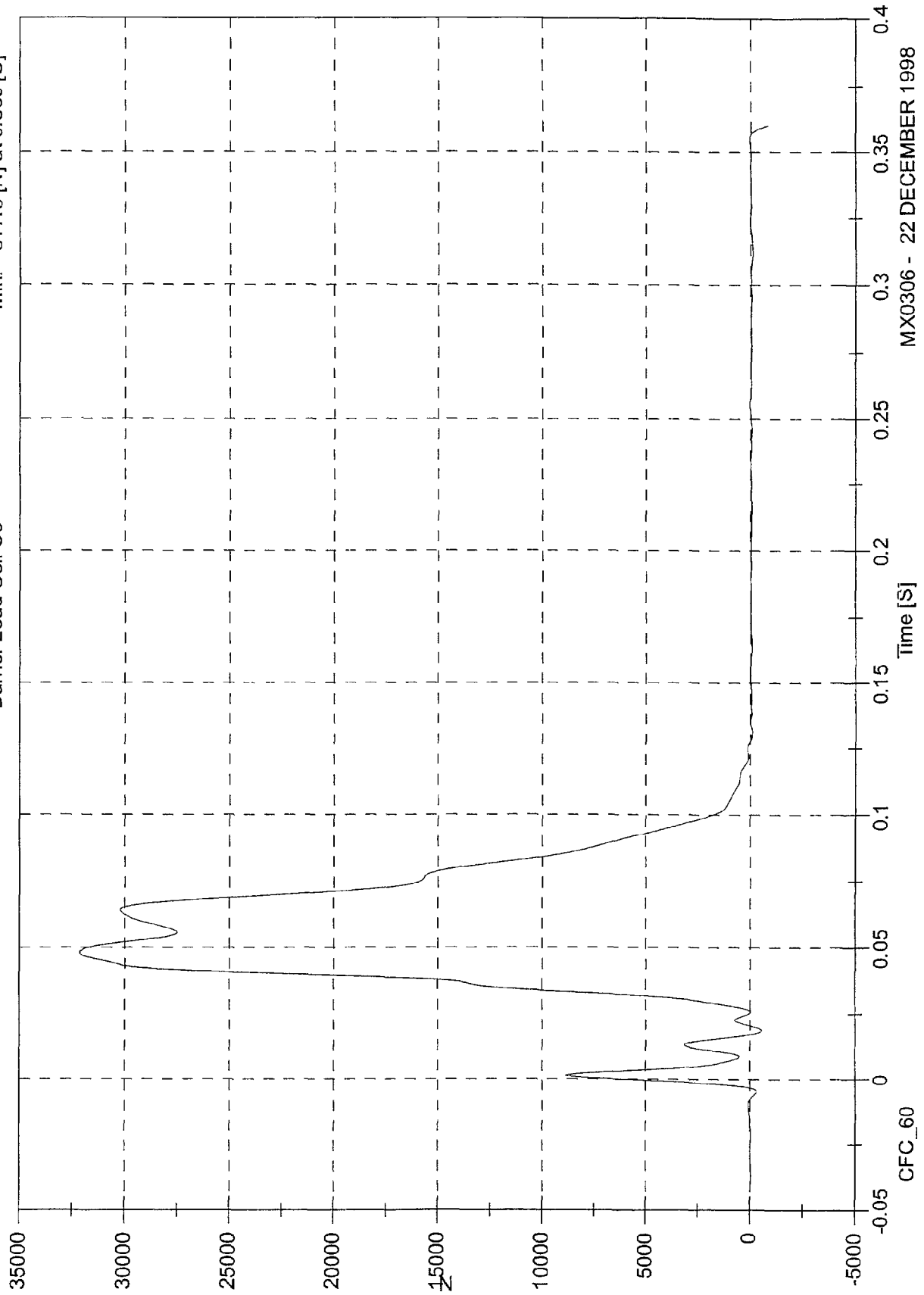


NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell C6

Max 32158.8 [N] at 0.048 [S]

Min: -817.6 [N] at 0.360 [S]

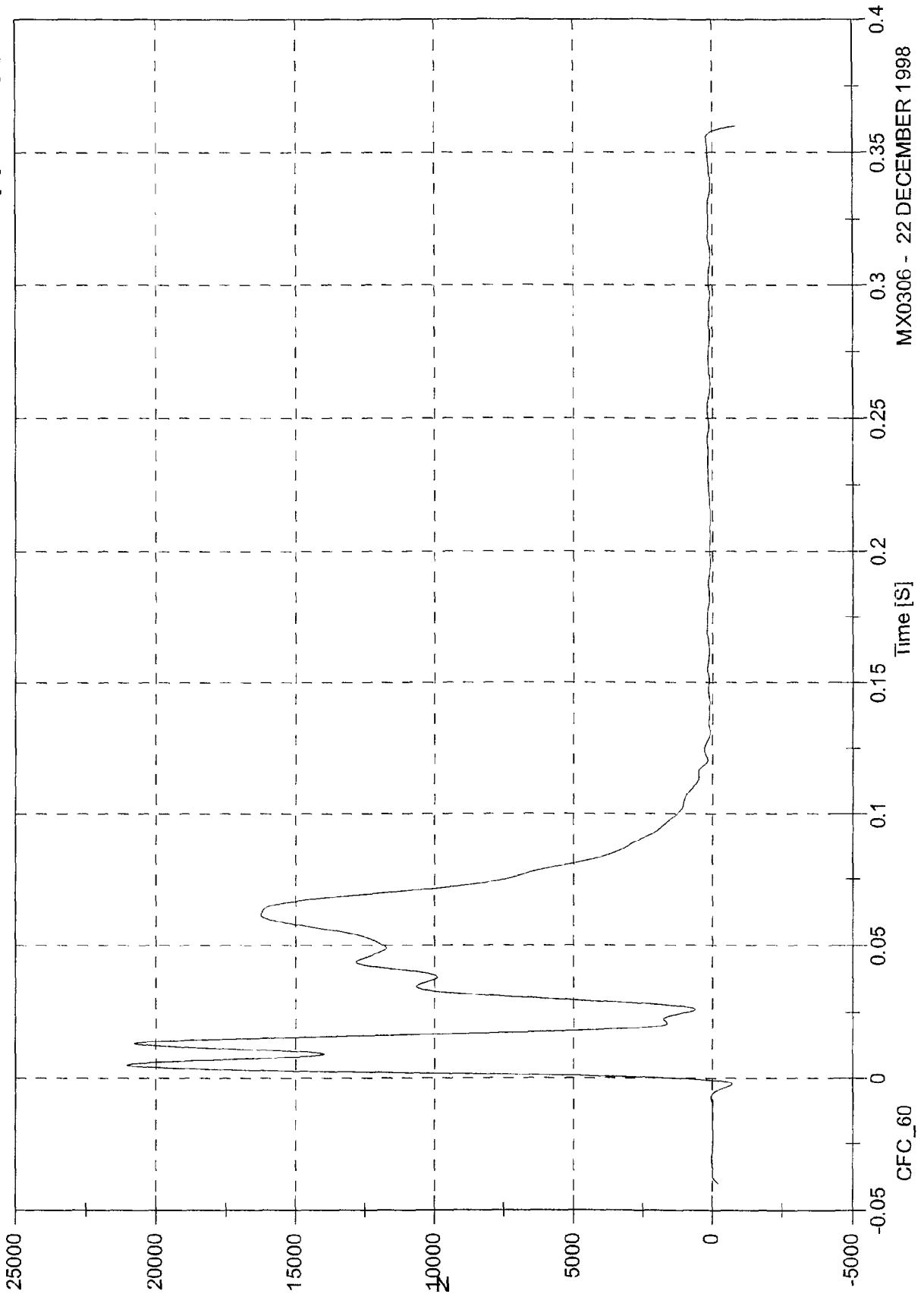


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

Barrier Load Cell C7

Max 21051.8 [N] at 0.005 [S]
Min: -870.2 [N] at 0.360 [S]

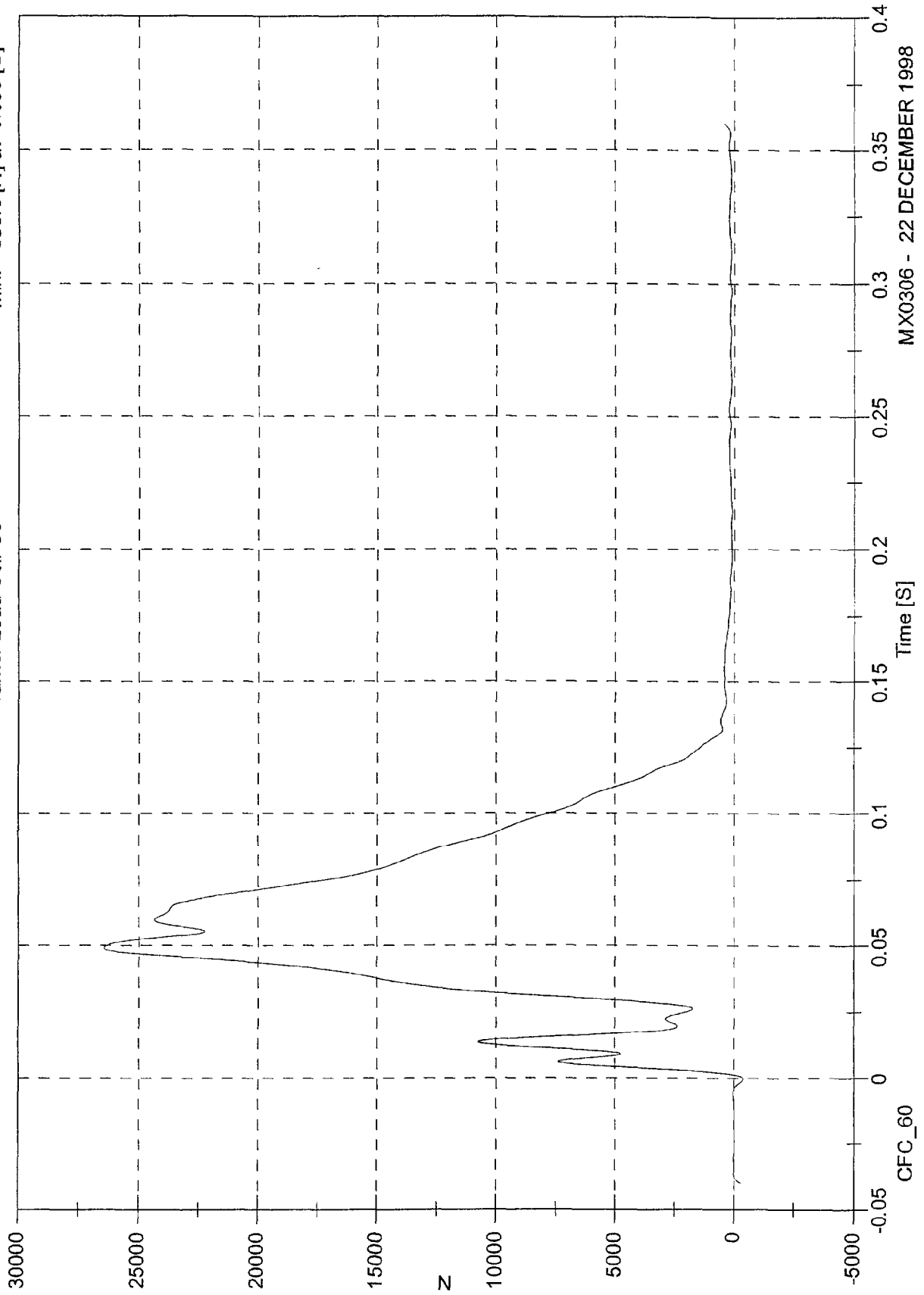


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 26450.0 [N] at 0.049 [S]
Min: -390.0 [N] at -0.000 [S]

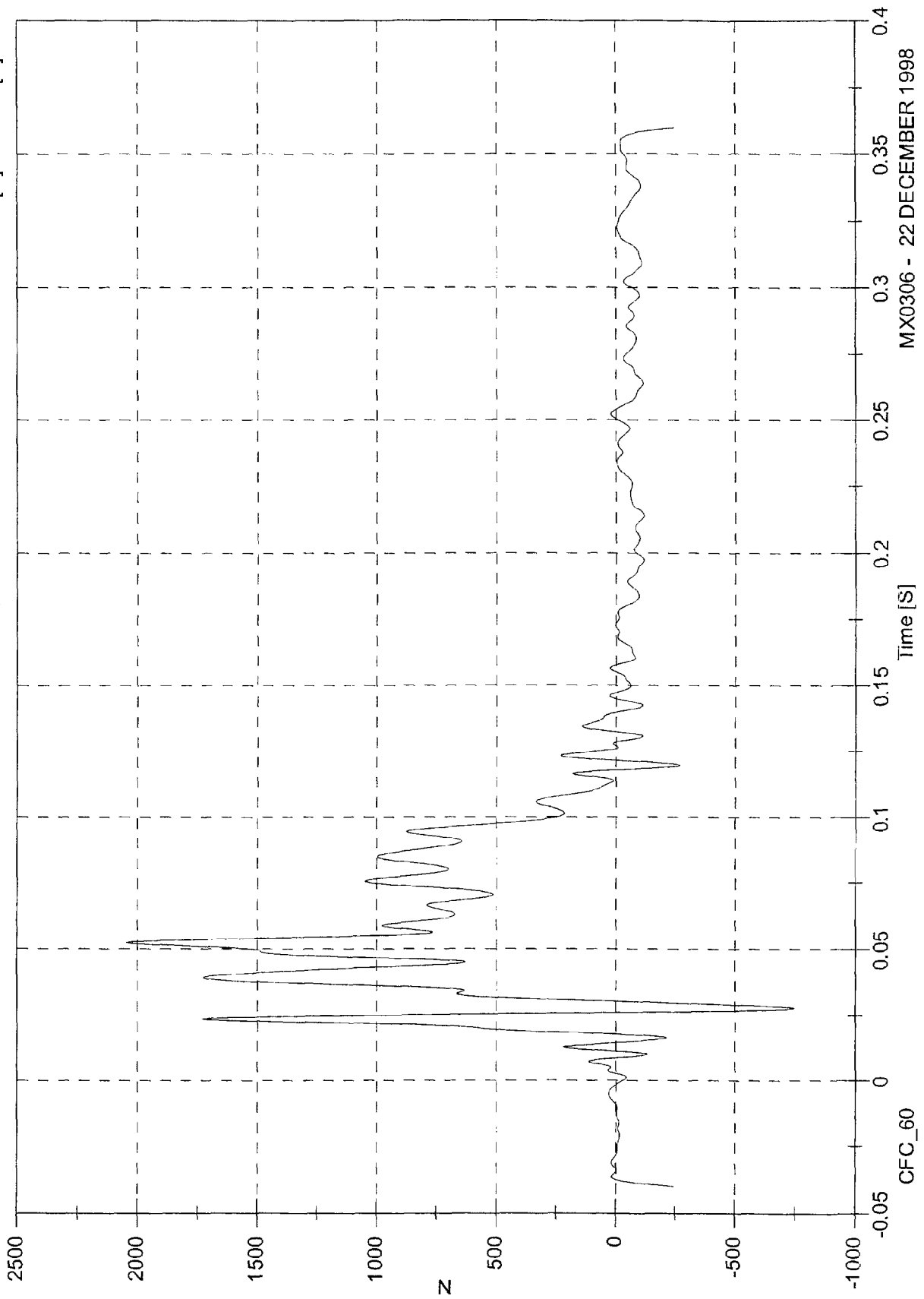
Barrier Load Cell C8



NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell C9

Max: 2048.2 [N] at 0.052 [S]
Min: -746.5 [N] at 0.028 [S]

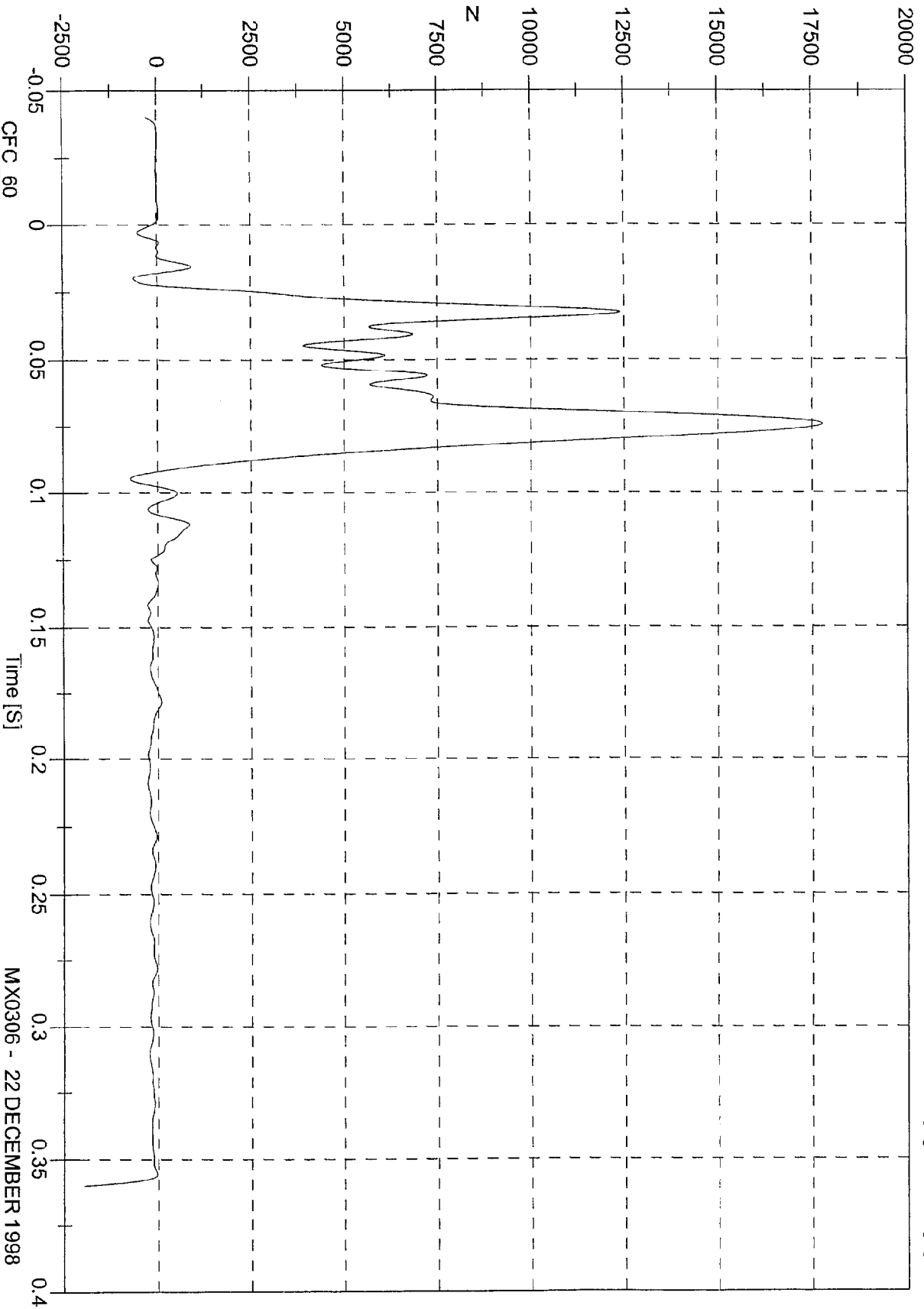


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D1

Max: 17769.1 [N] at 0.074 [S]
Min: -1983.5 [N] at 0.360 [S]

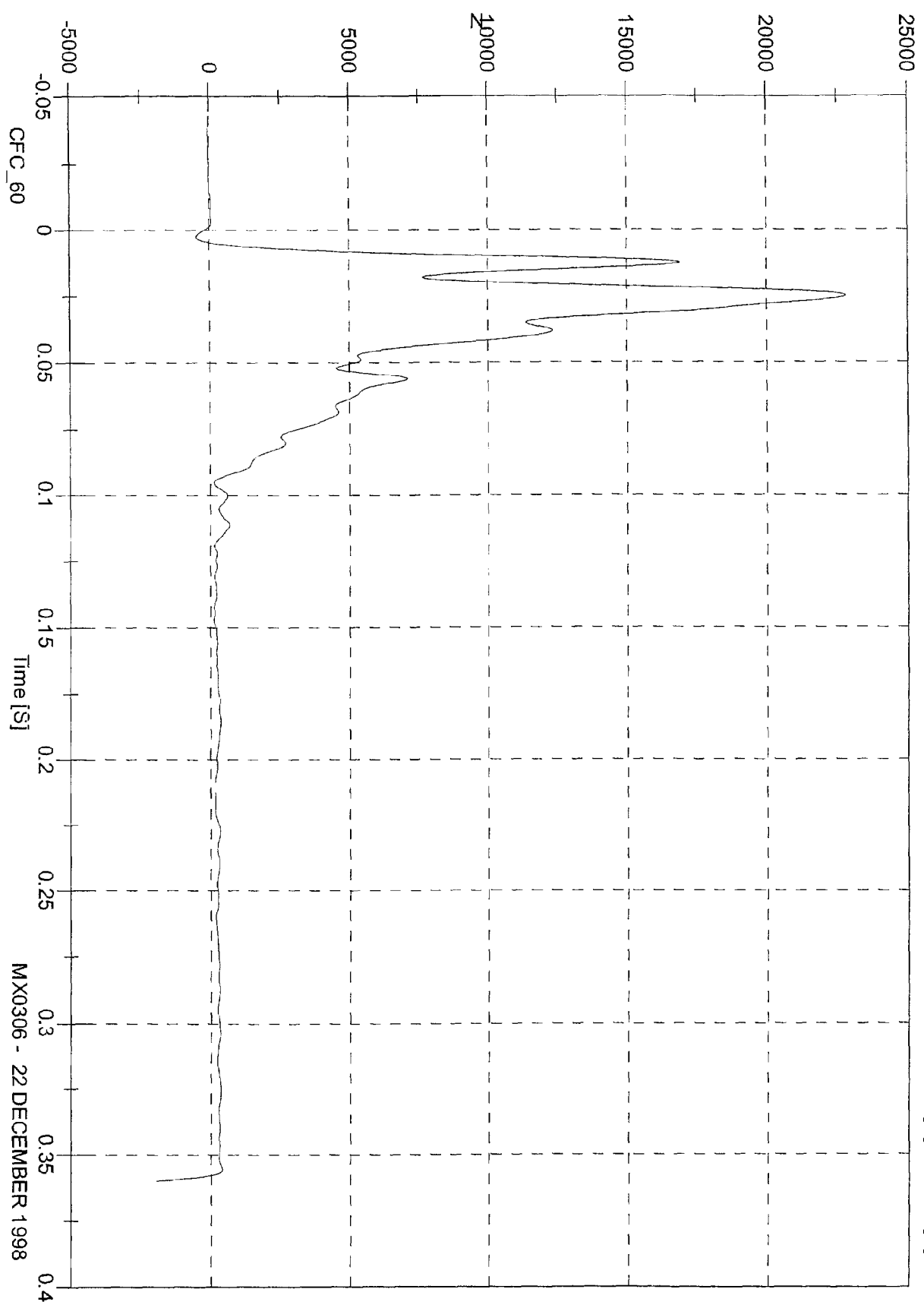


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD/CAB

Barrier Load Cell D2

Max 22806.6 [N] at 0.025 [s]
Min: -1978.2 [N] at 0.360 [s]

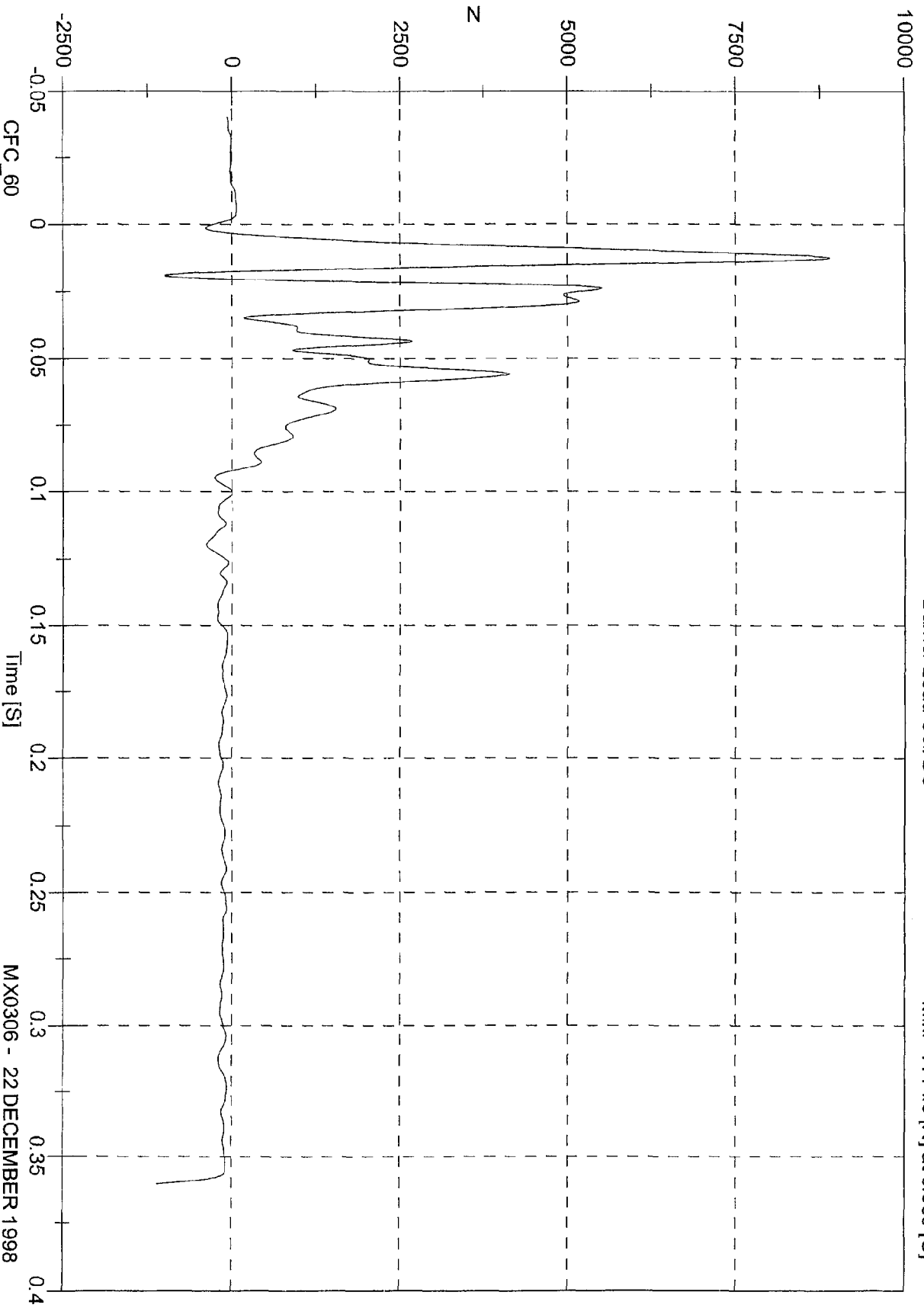


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D3

Max: 8892.3 [N] at 0.012 [s]
Min: -1114.6 [N] at 0.360 [s]



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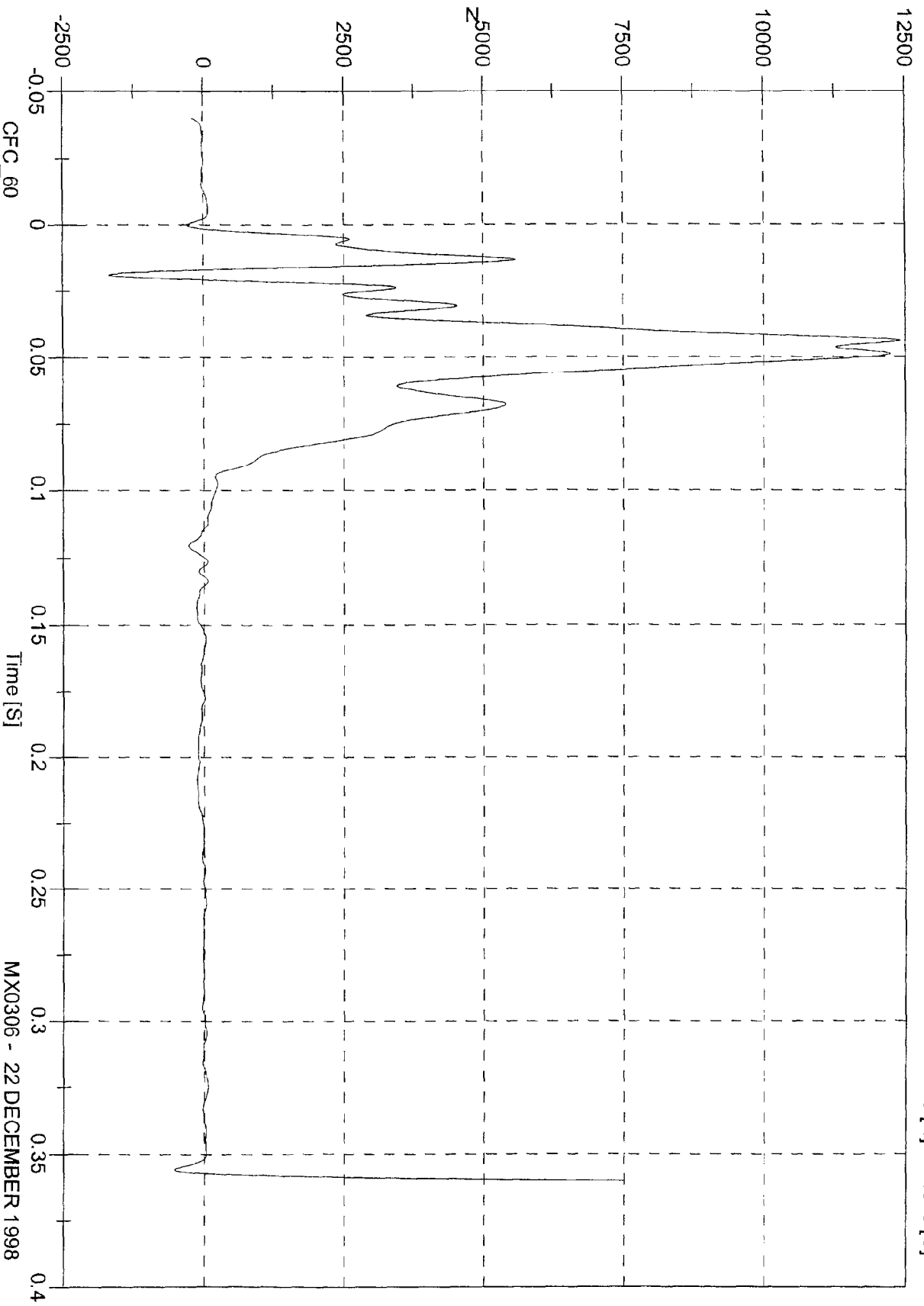
8413-28

MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D4

Max: 12412.6 [N] at 0.044 [S]
Min: -1678.3 [N] at 0.019 [S]



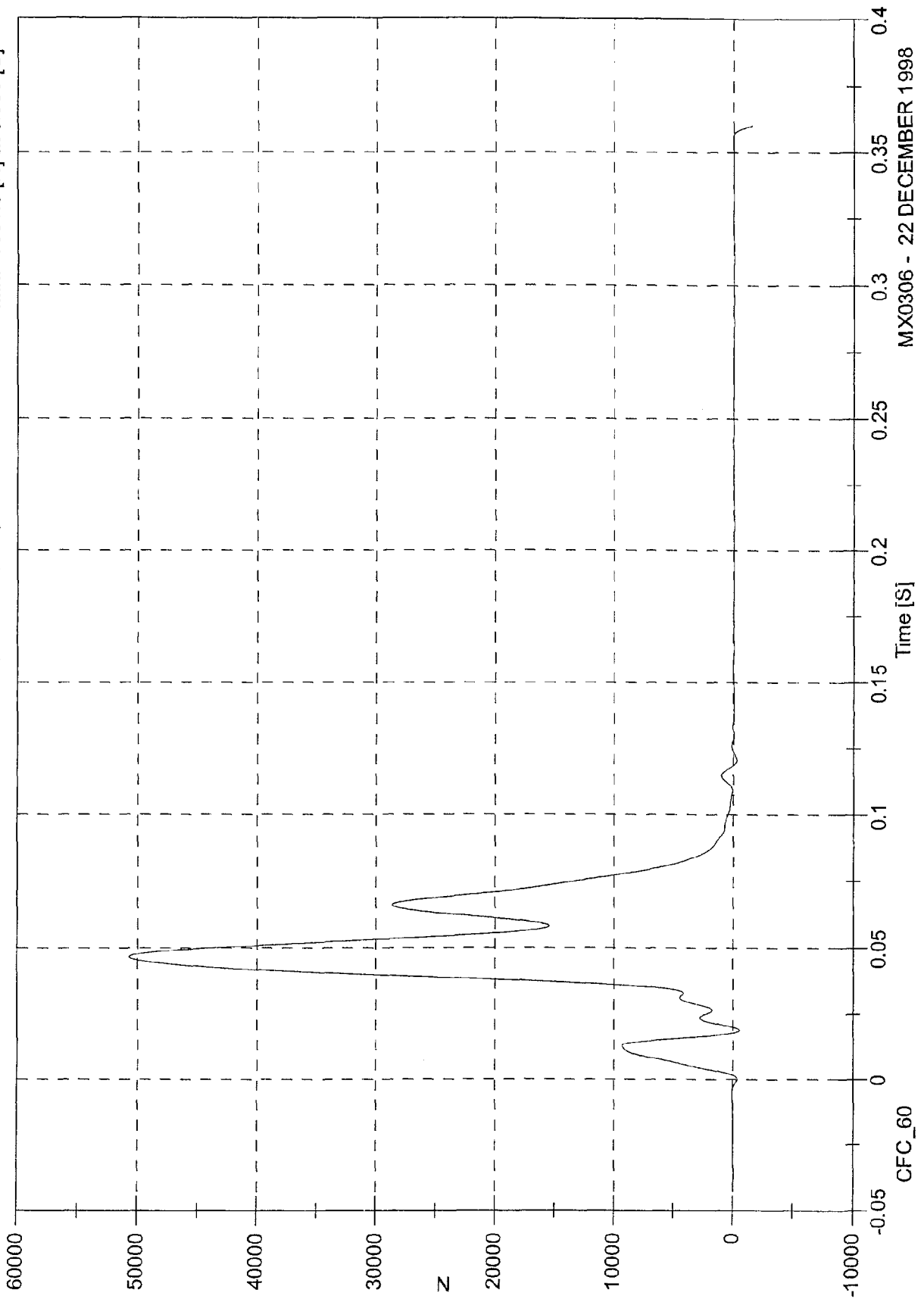
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D5

Max: 50688.3 [N] at 0.046 [S]

Min: -1551.8 [N] at 0.360 [S]

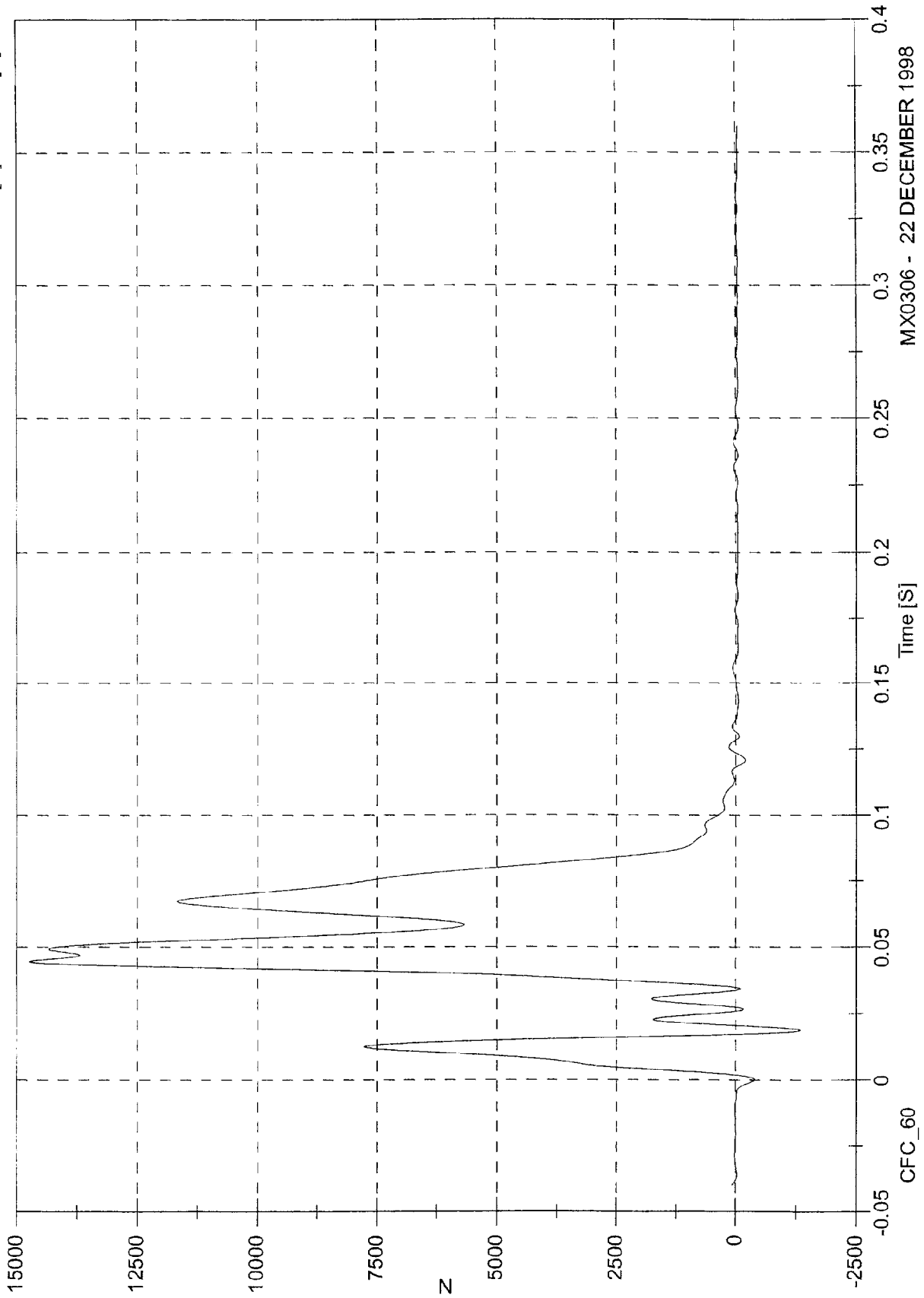


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D6

Max: 14737.2 [N] at 0.044 [S]
Min: -1355.9 [N] at 0.018 [S]



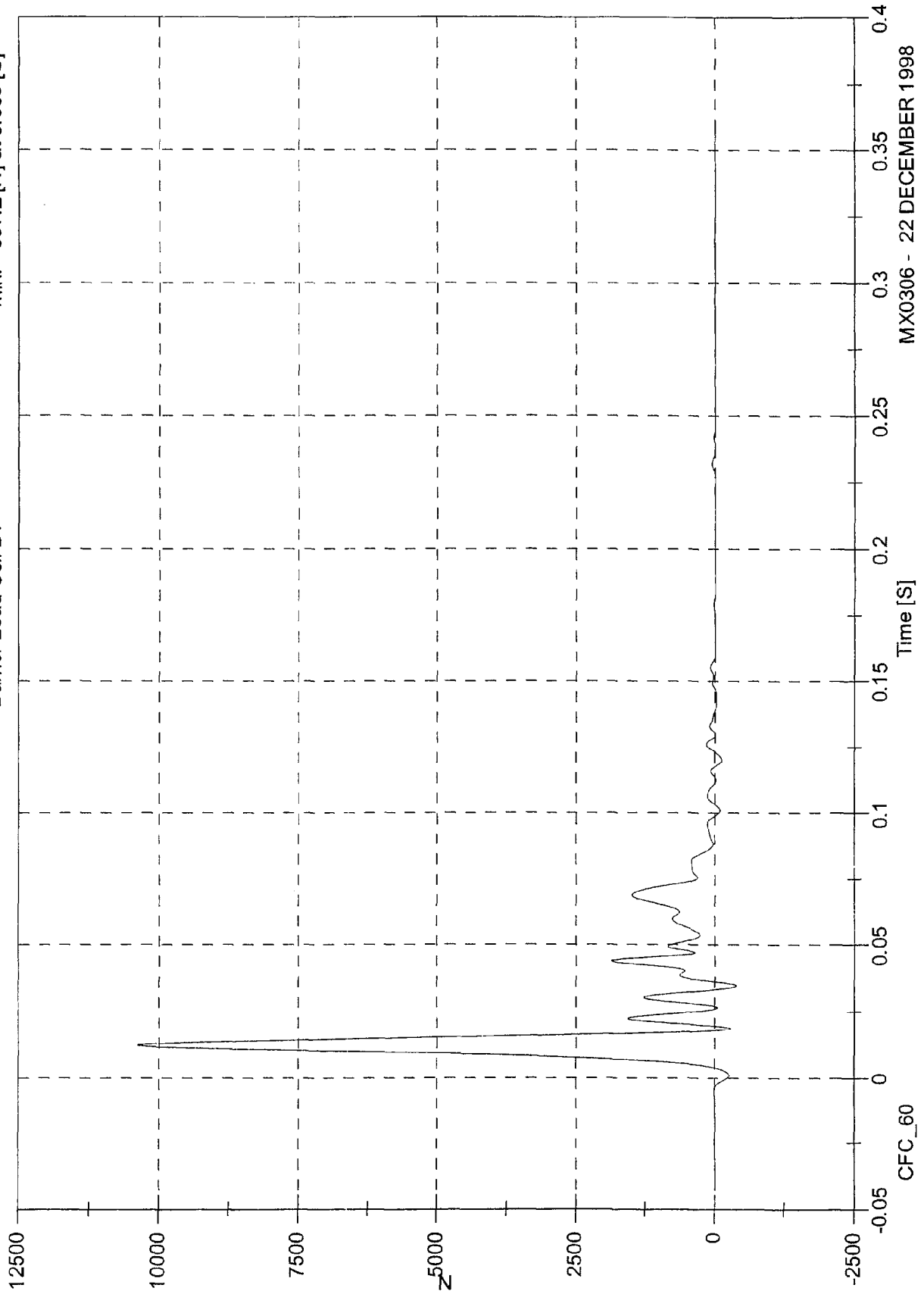
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D7

Max 10391.1 [N] at 0.012 [S]

Min: -397.2 [N] at 0.035 [S]

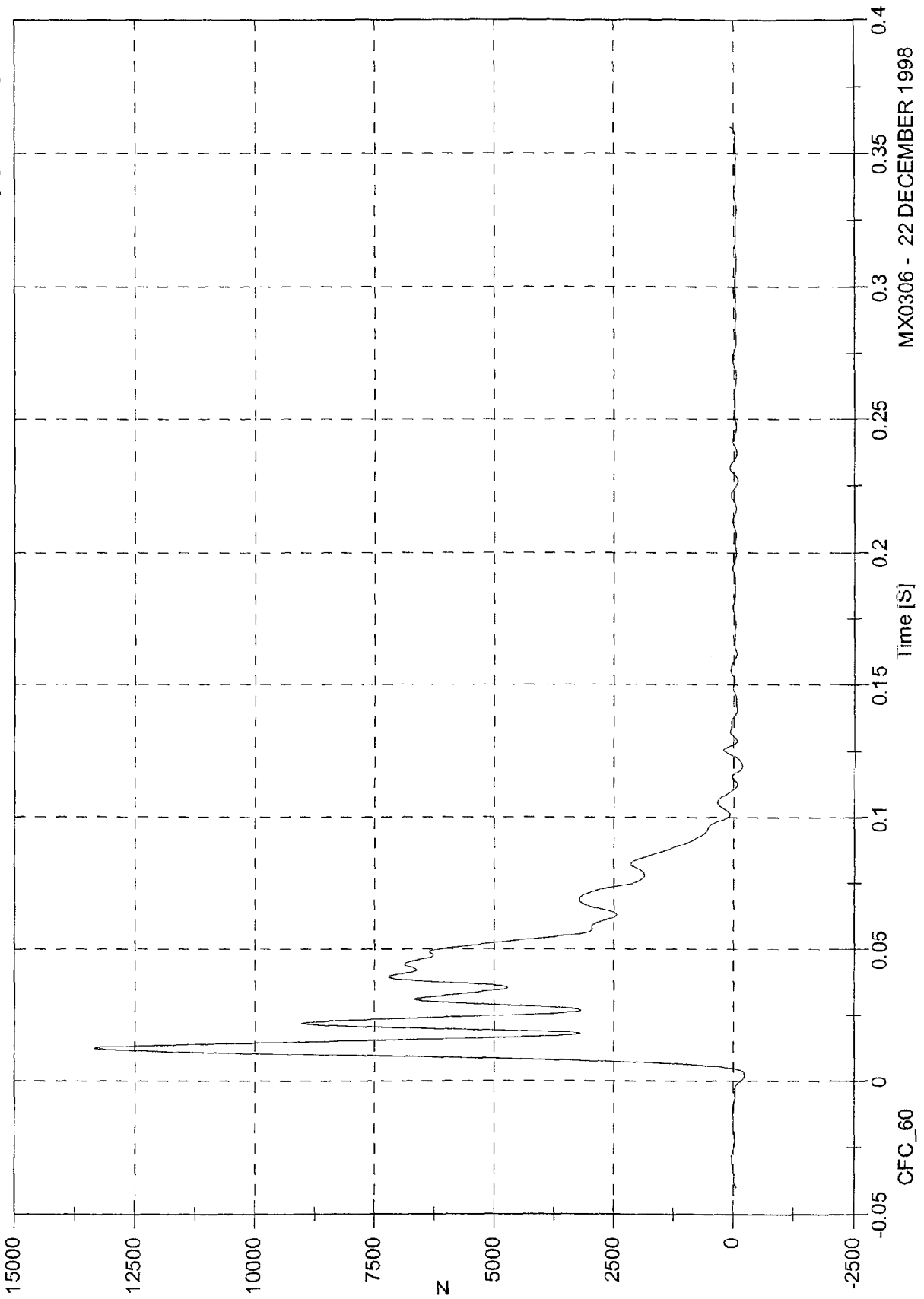


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D8

Max: 13354.8 [N] at 0.012 [S]
Min: -232.1 [N] at 0.002 [S]



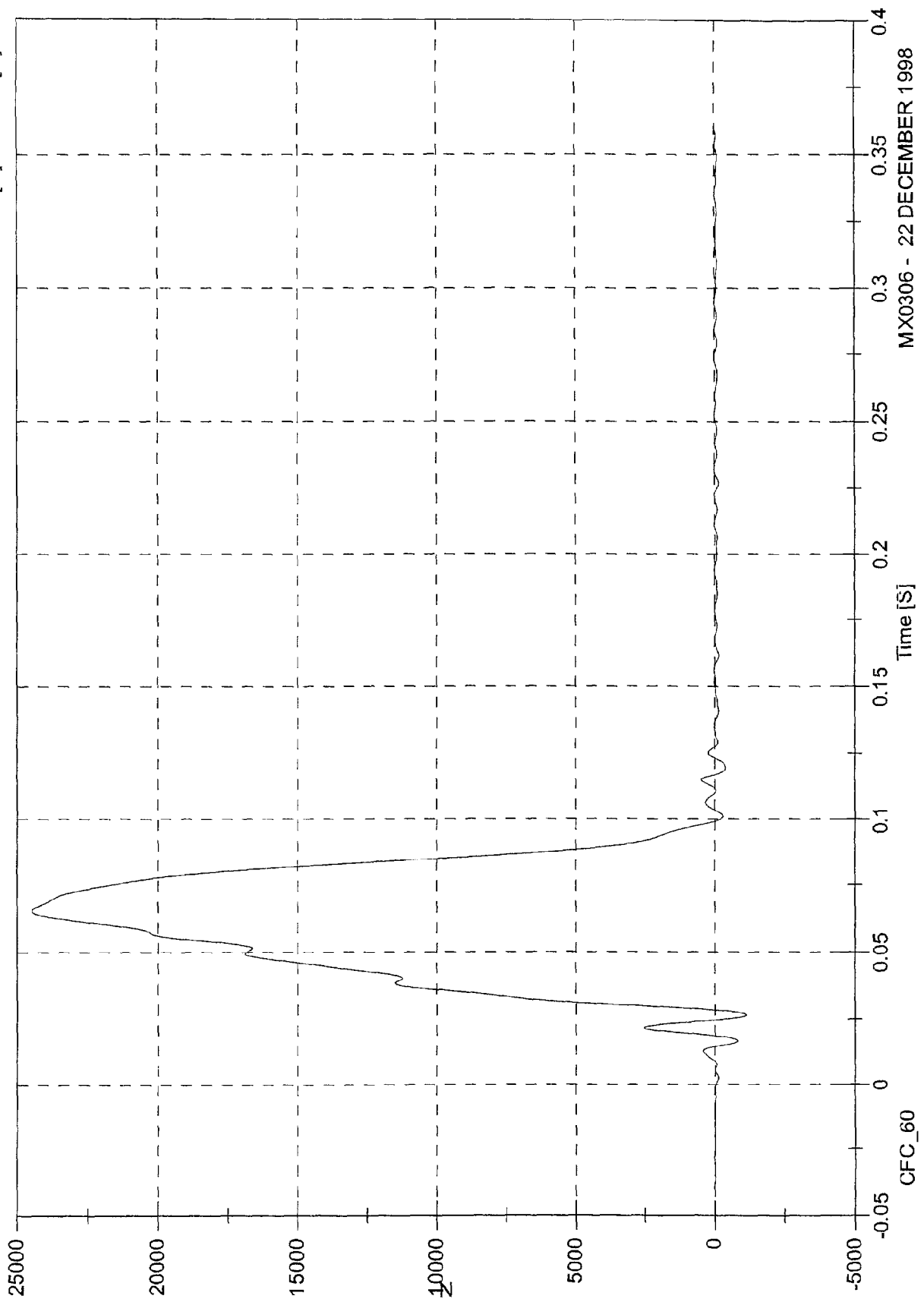
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Barrier Load Cell D9

Max: 24489.0 [N] at 0.065 [S]

Min: -1128.1 [N] at 0.026 [S]

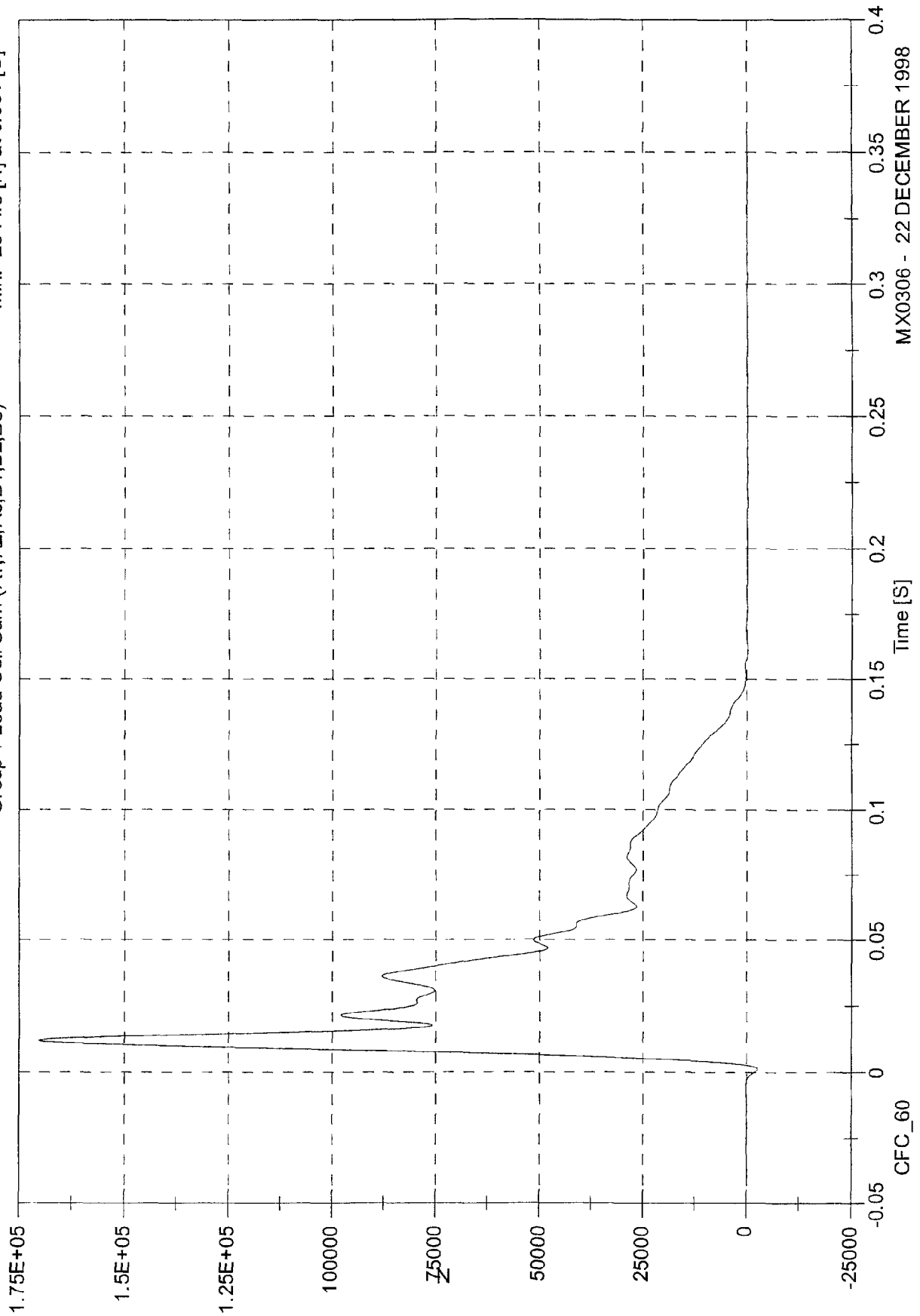


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max 170170.1 [N] at 0.012 [S]
Min: -2644.6 [N] at 0.001 [S]

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

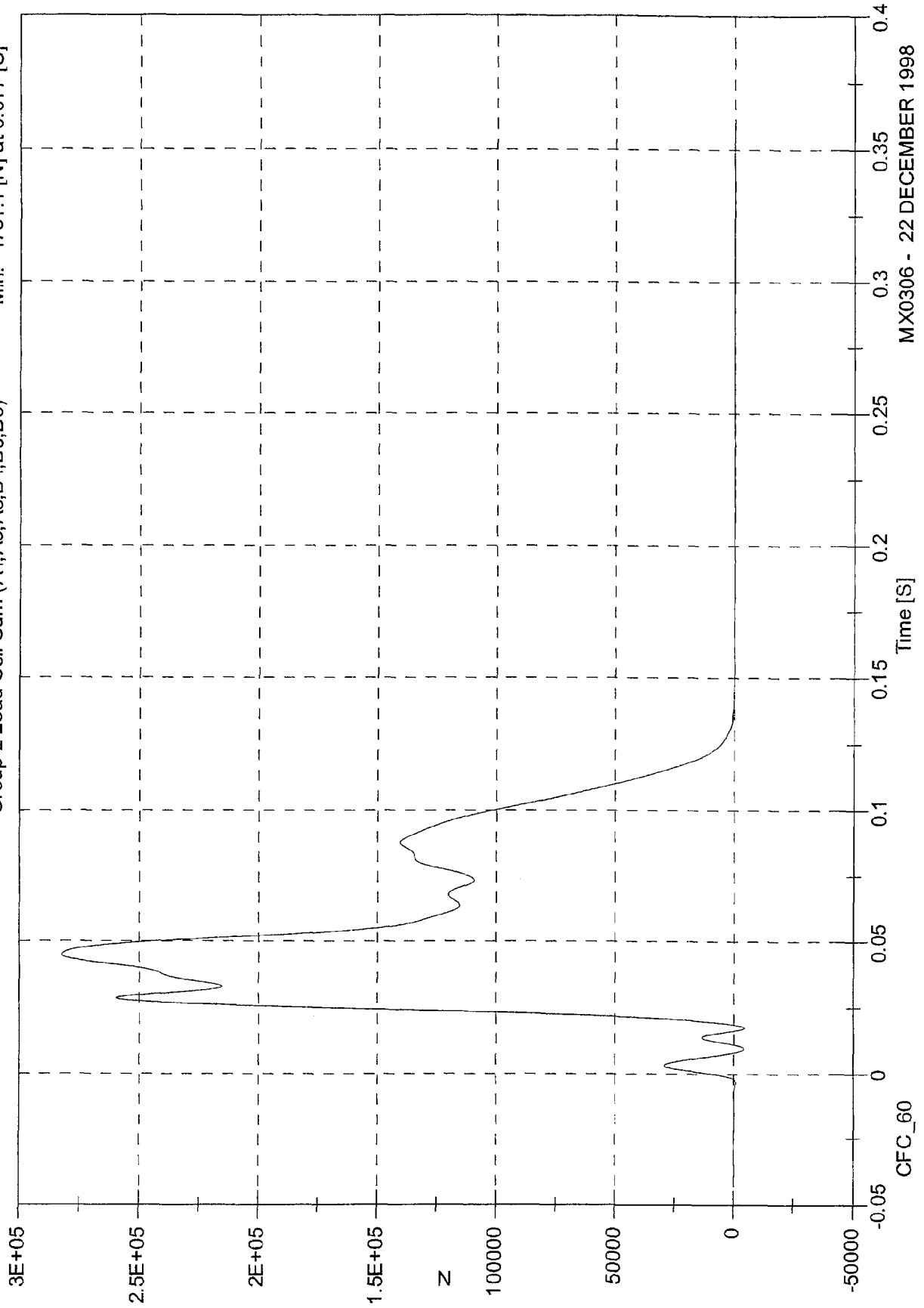


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Max: 282503.0 [N] at 0.045 [S]
 Min: -4731.1 [N] at 0.017 [S]

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

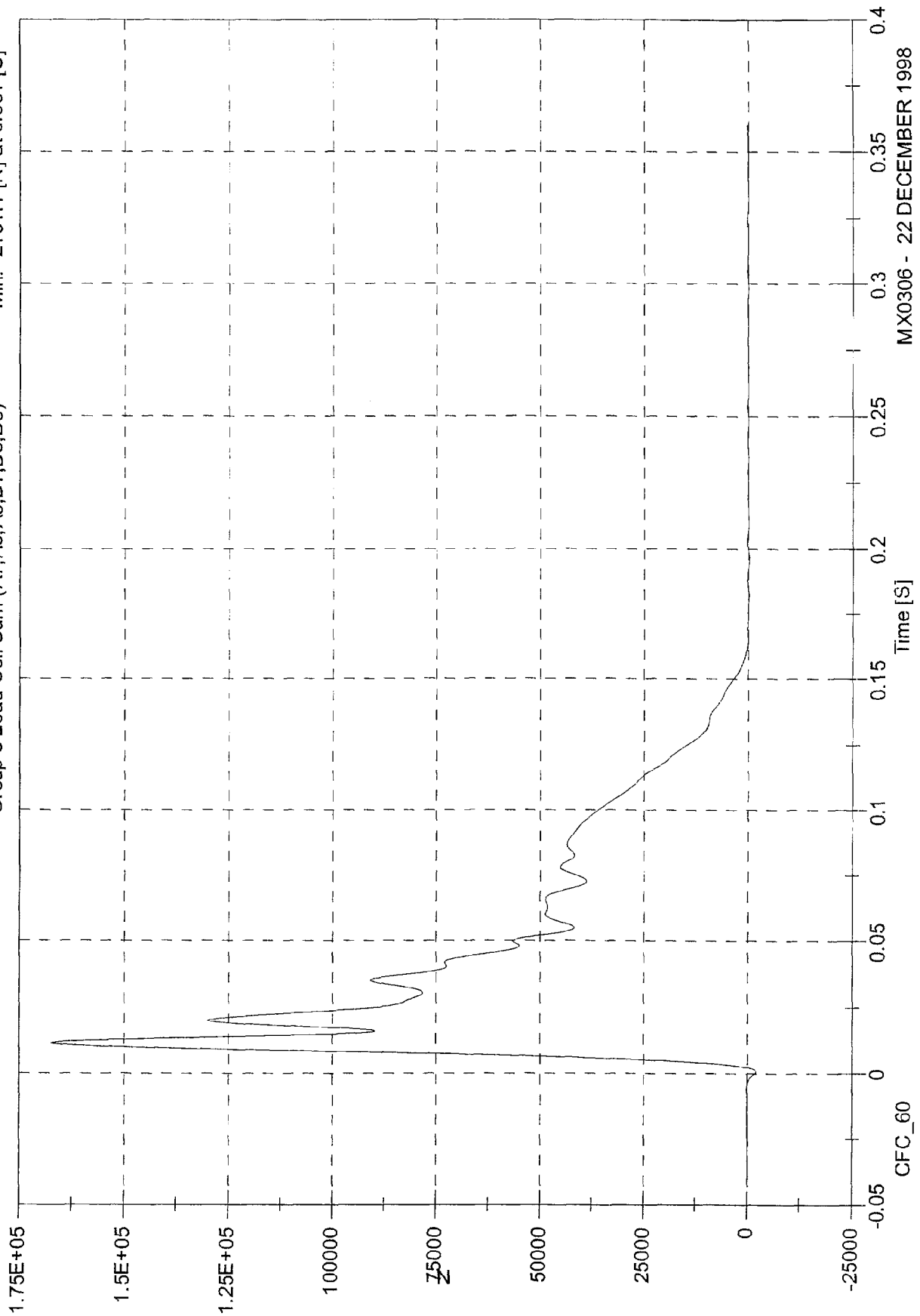


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUADCAB

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

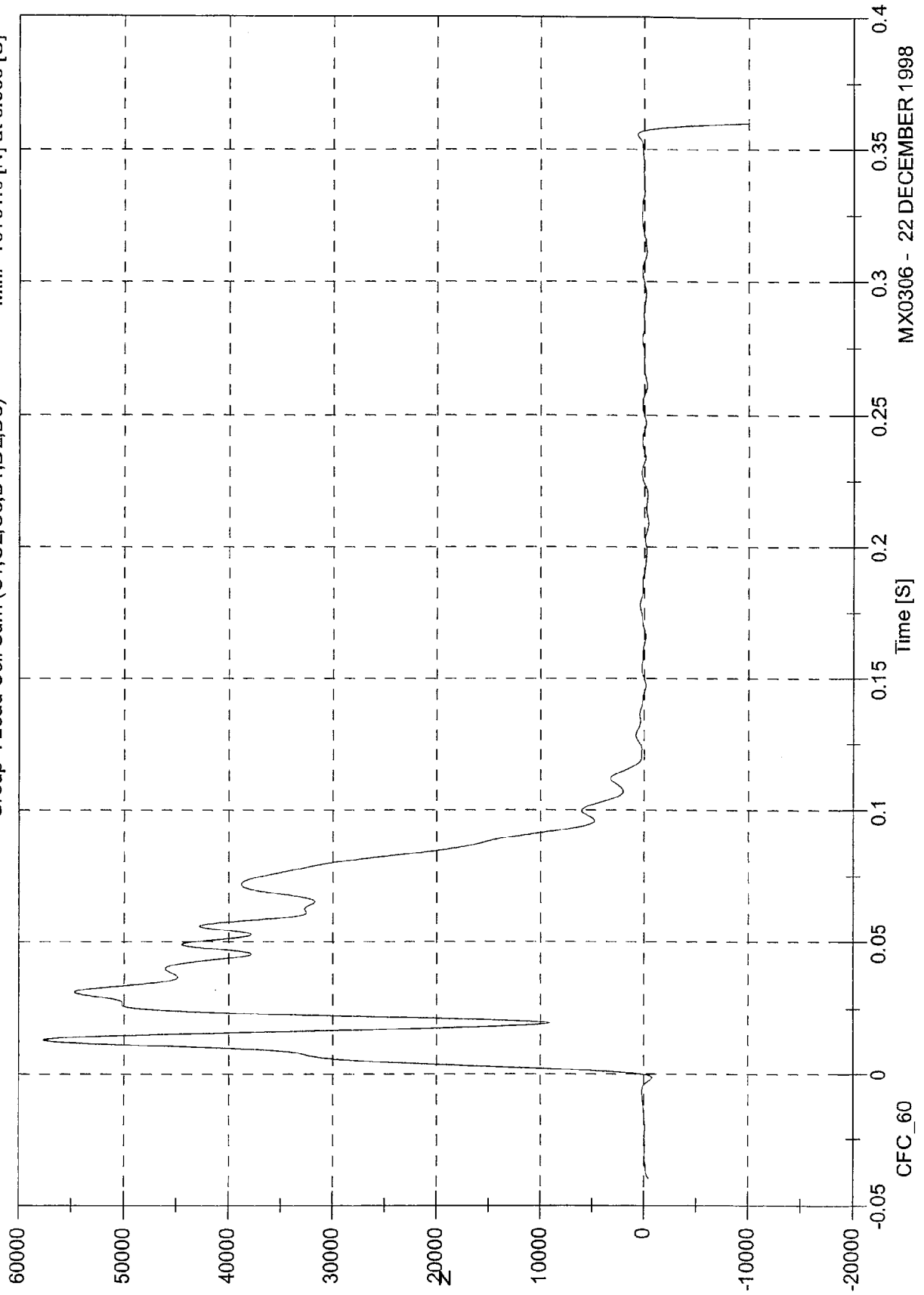
Max: 167366.2 [N] at 0.011 [S]
Min: -2131.1 [N] at 0.001 [S]



NCAP TEST#4 - 1999 DODGE RAM QUAD/CAB

Max: 57679.8 [N] at 0.013 [S]
Min: -10101.0 [N] at 0.360 [S]

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



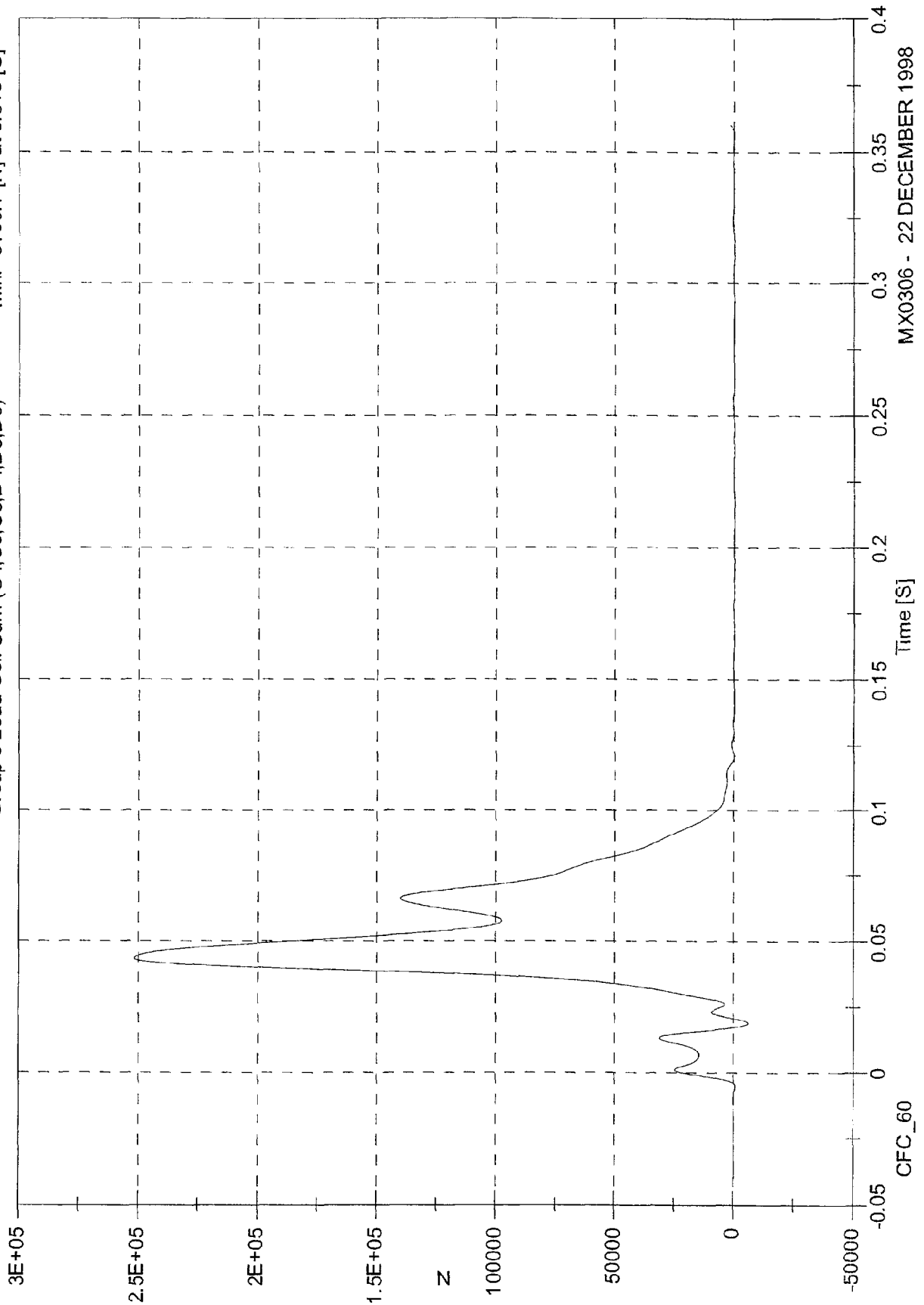
MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

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

Max: 251727.7 [N] at 0.043 [S]

Min: -6150.7 [N] at 0.019 [S]

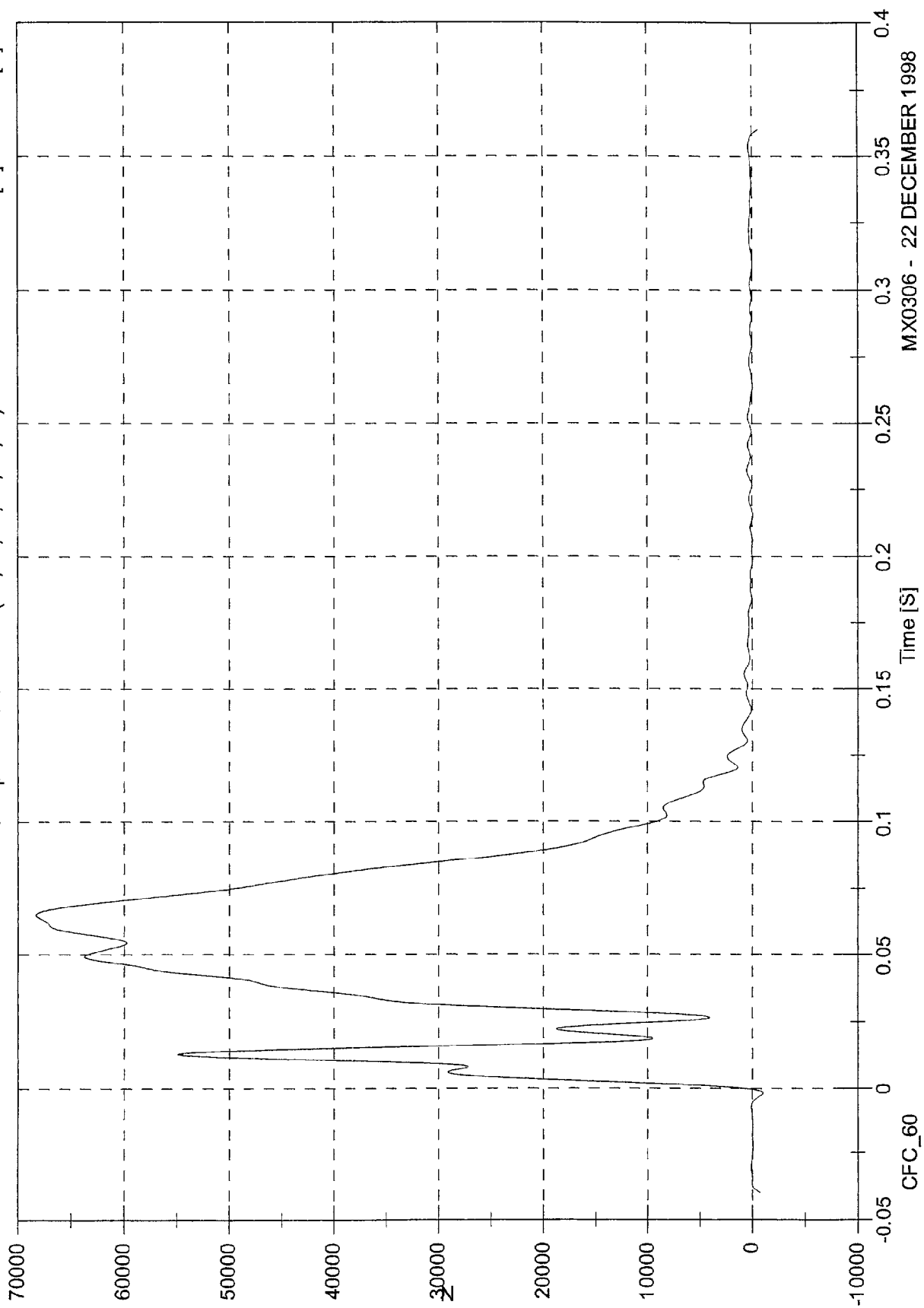


MX0306 - 22 DECEMBER 1998

NCAP TEST#4 - 1999 DODGE RAM QUAD/CAB

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

Max: 68317.9 [N] at 0.065 [S]
Min: -1041.1 [N] at -0.002 [S]

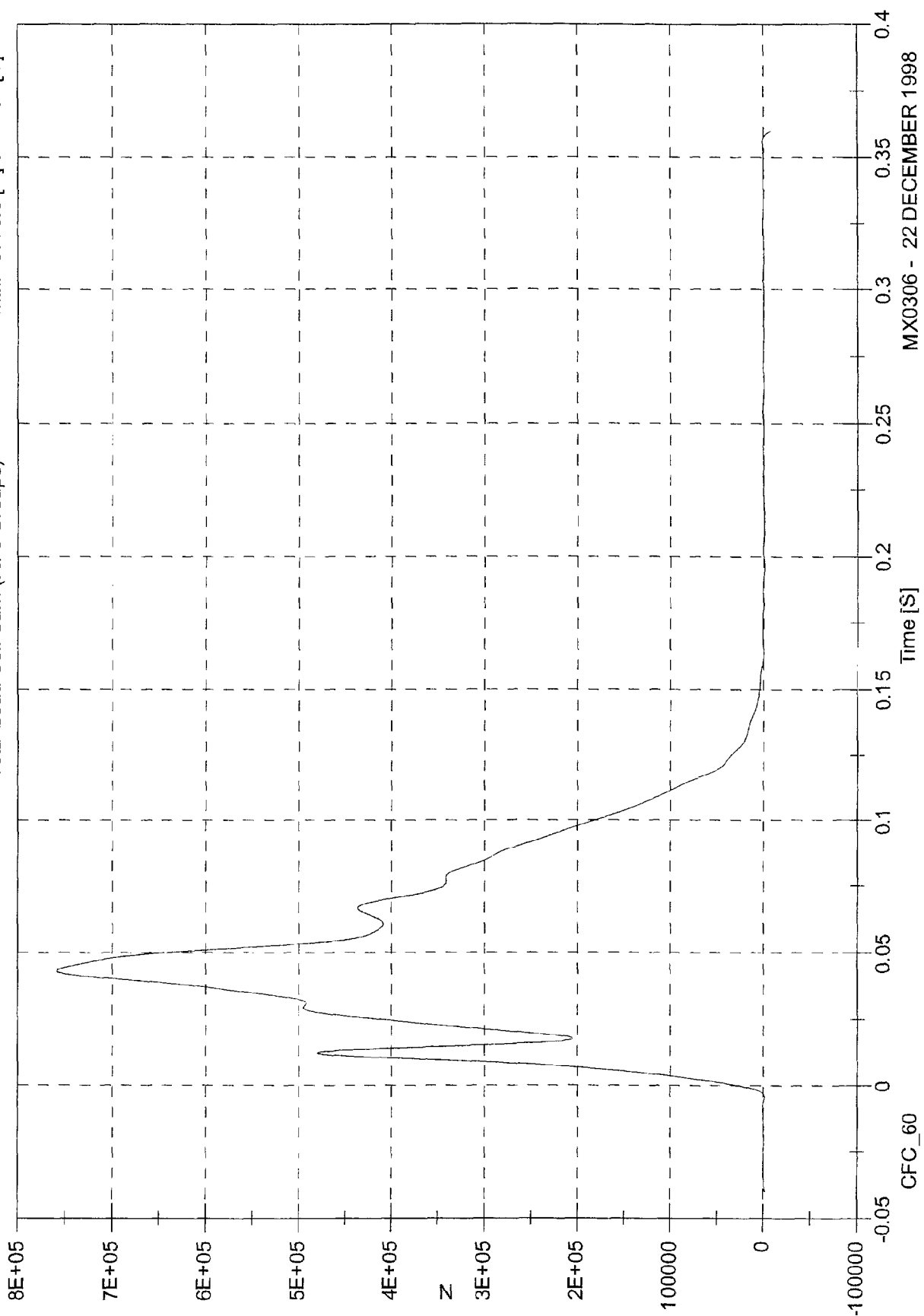


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NCAP TEST#4 - 1999 DODGE RAM QUAD CAB

Total Load Cell Sum (All 6 Groups)

Max: 758940.4 [N] at 0.043 [S]
Min: -8775.9 [N] at 0.360 [S]



MX0306 - 22 DECEMBER 1998

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:

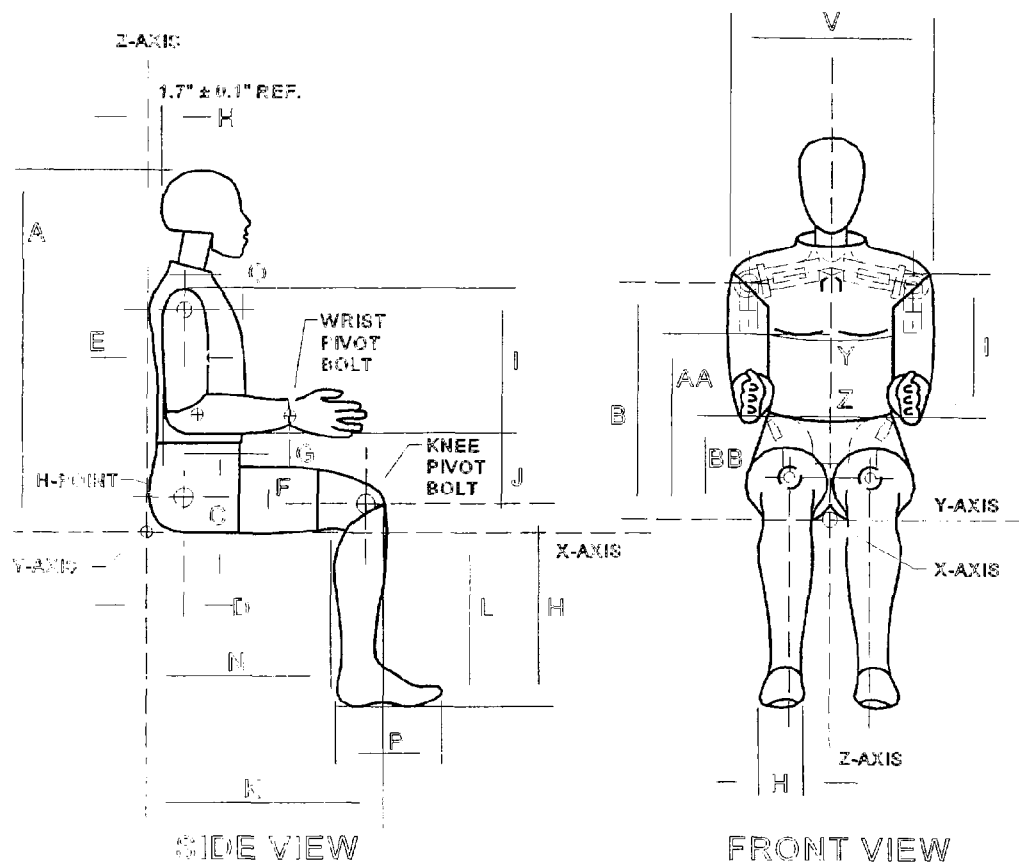
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	061	12/17/98
#2/Right Front Passenger	064	12/17/98

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: 6572.81(A)(3))

PART 572E
HEAD DROP TEST

Dummy Serial Number 061
Calspan Sequential Test Number 5
Date 12/11/98
Workfile 061598.HDP

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	20
Peak Resultant Acceleration	225-275 G's	273.9
Peak Lateral Acceleration	15 G's Max	2.3
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number 061
 Calspan Sequential Test Number 5
 Date 12/17/98
 Workfile 061598.NFL

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	22.80
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	25.19
	20 ms	17.60 - 22.60 G's	20.34
	30 ms	12.50 - 18.50 G's	16.49
Max Pendulum G's Above 30 ms		29 G's Max	16.49
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	37.25
D Plane Rotation	Max	64 - 78 Deg	77.46
	Time	57 - 64 ms	57.63
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	70.76
	Time	47 - 58 ms	52.13
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	120.63
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	101.38

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 061
 Calspan Sequential Test Number 5
 Date 12/17/98
 Workfile 061598.NEX

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	19.70
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.04
	20 ms	14.00 - 19.00 G's	16.27
	30 ms	11.00 - 16.00 G's	13.67
Max Pendulum G's Above 30 ms		22 G's Max	13.67
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	42.88
D Plane Rotation	Max	81 - 106 Deg	91.22
	Time	72 - 82 ms	74.50
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-58.37
	Time	65 - 79 ms	68.63
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	148.25
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	137.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 061
Calspan Sequential Test Number 5
Date 12/17/98
Workfile 061598.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	1205.95
Internal Hysteresis	69 - 85 %	73.73

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 061
Calspan Sequential Test Number 5
Date 11/21/98
Workfile 061598

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	1228.0
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	1214.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 061
Calspan Sequential Test Number 5
Date 12/17/98

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			24.0
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	39.3
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	34.9
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.6
Knee Pivot Height	M	19.1 - 19.7 in	19.5
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.9
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.5
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	7.8
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 064
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.NFL

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	22.9
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.NEX

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	1181.0
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	1185.0

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 DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 061)	Serial #	Manufacturer	Calibration	
			Last	Next
Head				
X	AL553	ENDEVCO	8/98	2/99
Y	A83G	ENDEVCO	12/98	6/99
Z	C14901	ENDEVCO	8/98	2/99
Chest				
X	A26A	ENDEVCO	8/98	2/99
Y	C14961	ENDEVCO	12/98	6/99
Z	AL6H7	ENDEVCO	12/98	6/99
Right Femur Load Cell	955	GSE	9/98	3/99
Left Femur Load Cell	954	GSE	9/98	3/99
Neck Load Cell	205	DENTON	8/98	2/99
X	205	DENTON	8/98	2/99
Y	205	DENTON	8/98	2/99
Z	205	DENTON	8/98	2/99
Neck Moment	205	DENTON	8/98	2/99
X	205	DENTON	8/98	2/99
Y	205	DENTON	8/98	2/99
Z	205	DENTON	8/98	2/99
Chest Deflection Gauge	061	HUMANOID	10/98	4/99
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	-	MAGNETEK	-	-
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)	APBF4	ENDEVCO	10/98	4/99
Y (R)	APBD9	ENDEVCO	10/98	4/99
Z (R)	AP1A2	ENDEVCO	10/98	4/99
Chest				
X (R)	B11407	ENDEVCO	12/98	6/99
Y (R)	B11408	ENDEVCO	9/98	3/99
Z (R)	B10827	ENDEVCO	8/98	2/99
Pelvic				
X	ADMB8	ENDEVCO	10/98	4/99
Y	ADL44	ENDEVCO	10/98	4/99
Z	ACT12	ENDEVCO	10/98	4/99
Left Upper Tibia				
Mx	016	DENTON	9/98	3/99
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	A14510	ENDEVCO	12/98	6/99
Left Foot Rear X	A14383	ENDEVCO	12/98	6/99
Left Foot Rear Z	A14307	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 (S/N 064)	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	440	DENTON	9/98	3/99
Y	440	DENTON	9/98	3/99
Z	440	DENTON	9/98	3/99
Neck Moment	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	-	MAGNETEK	-	-
Belt Stretch Transducer	E6	CALSPAN	10/98	4/99

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY	Serial #	Manufacturer	Calibration	
			Last	Next
Head				
X (R)	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)	ACCW0	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	038	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 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 VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Serial #	Manufacturer	Calibration	
			Last	Next
Left Seat Rear Crossmember	D71	ICS	8/98	2/99
Right Rear Seat Crossmember	D69	ICS	8/98	2/99
Top of Engine	D19	ICS	12/98	6/99
Bottom of Engine	F53	ICS	10/98	4/99
Left Disc Brake Caliper	A175	CEC	11/98	5/99
Right Disc Brake Caliper	A156	CEC	11/98	5/99
Instrument Panel	D53	ICS	8/98	2/99
Left Seat Rear Crossmember (R)	D74	ICS	10/98	4/99
Right Seat Rear Crossmember (R)	D61	ICS	8/98	2/99