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REPORT NUMBER: 214-CAL-01-03

**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT**

GENERAL MOTORS OF CANADA LTD.
2001 CHEVROLET MONTE CARLO
2-DOOR

NHTSA NUMBER: C10103

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

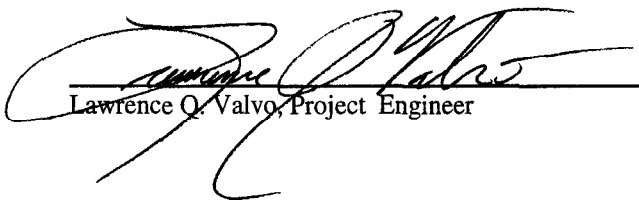


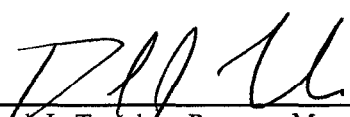
November 2, 2000

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Compliance
400 Seventh Street, SW
Room 6115 (NSA-30)
Washington, DC 20590

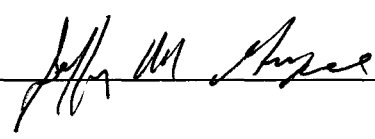
This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-97-C-01033. This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufactures' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

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				14. Sponsoring Agency Code NSA-30																															
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16. Abstract <p>A 55/28 kph 90° Side Impact (Moving Deformable Barrier) Indicant Test was conducted on the subject 2001 Chevrolet Monte Carlo 2-Door. This test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-04, dated September 1, 1995). This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on November 2, 2000.</p> <p>The impact velocity of the Moving Deformable Barrier (MDB) was 62.12 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.1 °C. The target vehicle post-test maximum crush was 422 mm at level 2.</p> <p>The test or target vehicle's performance is given below:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;"><u>Front SID</u></th> <th style="width: 10%;"></th> <th style="width: 15%; text-align: center;"><u>Rear SID</u></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td style="text-align: center;">74</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">54</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td style="text-align: center;">74</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">52</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td style="text-align: center;">95</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">70</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td style="text-align: center;">84</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">62</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center;">112</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">81</td> <td style="text-align: center;">g's</td> </tr> </tbody> </table> <p>The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.</p>							<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration:	74	g's	54	g's	Left Lower Rib Acceleration:	74	g's	52	g's	Lower Spine Acceleration:	95	g's	70	g's	Thoracic Trauma Index (TTI):	84	g's	62	g's	Pelvis Acceleration (PEV):	112	g's	81	g's
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SECTION 1

PURPOSE AND TEST PROCEDURE

This Side Impact Indicant Test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-97-C-01033. The purpose of this indicant test was to evaluate side impact protection in a 2001 Chevrolet Monte Carlo 2-Door when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-04, dated September 1, 1995).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-04, dated September 1, 1995).

A 2001 Chevrolet Monte Carlo 2-Door was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.12 kph (38.6 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Veridian Engineering Transportation Sciences Center in Buffalo, New York on November 2, 2000. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SIDs) are included in Appendix A.

Two restrained Side Impact Dummies (SIDs) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OVSC Side Impact Laboratory Test Procedure. Both SIDs were certified prior to this test. The side impact test was documented by one real-time camera and 10 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SIDs were instrumented with the following accelerometers:

1. Head triaxial accelerometer (X,Y,Z-direction)
2. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
3. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
4. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
5. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 48 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID†	Rear SID
TII (g)	84	62
PEV (g)	112	81

† The driver SID's neck upper surface sheared late in the impact event allowing the head to separate from the body.

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2001 Chevrolet Monte Carlo 2-Door
 Vehicle Body Color: Red VIN: 2G1WW12E219112113
 Vehicle NHTSA No.: C10103 Month & Year of Manufacture: 6/00
 Engine Data: 6 Cylinders; - CID; 3.4 Liters; - cc
 Engine Placement: - Longitudinal; or X Lateral
 Transmission: 4 Speed; - Manual; X Automatic; X Overdrive
 Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel
 Odometer Reading 237 km
 Options: X A/C; X Power Steering; X Pwr.Brakes; X Pwr. Windows

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity); 210 kPa FRONT
210 kPa REAR
 Recommended Tire Size: P225/60R16
 Tires on Test Vehicle: P225/60R16 ; Manufacturer: Goodyear
 Vehicle Capacity Data:
 Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total
 Type of Front Seats: X Bucket; - Bench; - Split Bench
 Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
 Vehicle Max Capacity Loading = 416 kg (A)
 No. of Occupants x 68.04 kg. = 340.2 kg (B)
 Vehicle Cargo Capacity = 75.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>482.0</u> kg	Left Rear	=	<u>269.0</u> kg
Right Front	=	<u>479.5</u> kg	Right Rear	=	<u>286.5</u> kg
TOTAL FRONT	=	<u>961.5</u> kg	TOTAL REAR	=	<u>555.5</u> kg
% of Total Weight	=	<u>63.4</u> %	% of Total Weight	=	<u>36.6</u> %
TOTAL WEIGHT	=	<u>1517.0</u> kg			

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1517.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>75.8</u>	kg (B)
Weight of instrumented Side Impact Dummies (1 or 2 X <u>81.2</u> kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1755.2</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 1 or 2 SID(s) + CARGO):

Left Front	=	<u>533.0</u>	kg	Left Rear	=	<u>377.0</u>	kg
Right Front	=	<u>481.0</u>	kg	Right Rear	=	<u>364.5</u>	kg
TOTAL FRONT	=	<u>1014.0</u>	kg	TOTAL REAR	=	<u>741.5</u>	kg
% of Total Weight	=	<u>57.8</u>	%	% of Total Weight	=	<u>42.2</u>	%
TOTAL TEST WEIGHT	=	<u>1755.5</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (1 OR 2 SID(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>525.5</u>	kg	Left Rear	=	<u>377.5</u>	kg
Right Front	=	<u>484.0</u>	kg	Right Rear	=	<u>362.5</u>	kg
TOTAL FRONT	=	<u>1009.5</u>	kg	TOTAL REAR	=	<u>740.0</u>	kg
% of Total Weight	=	<u>57.7</u>	%	% of Total Weight	=	<u>42.3</u>	%
TOTAL TEST WEIGHT	=	<u>1749.5</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>754</u>	Right Front	<u>754</u>	Left Rear	<u>746</u>	Right Rear	<u>740</u>
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FULLY LOADED:

Left Front	<u>736</u>	Right Front	<u>747</u>	Left Rear	<u>697</u>	Right Rear	<u>706</u>
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READY FOR TEST:

Left Front	<u>738</u>	Right Front	<u>749</u>	Left Rear	<u>698</u>	Right Rear	<u>706</u>
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Test Vehicle Wheelbase: 2811 millimeters

C.G. = 1189 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side	=	<u>4884</u>	millimeters
Left Side	=	<u>4884</u>	millimeters
Centerline	=	<u>5016</u>	millimeters

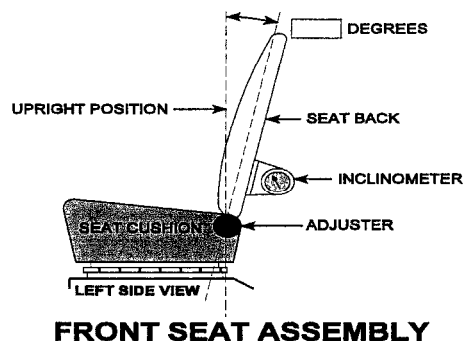
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

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 TRACK POSITION: Mid-position. Detent 12, where the forward-most detent is defined as 0.

Total Length of Adjustment Travel: 238 millimeters

Total Number of Adjustment Positions or Detents: 25

FRONT SEAT BACK ADJUSTMENT POSITION: With the sill level, the seat back is positioned so that the outer frame approximately 229-254 mm above the seat back pivot point is at 29.5 degrees from vertical.

Seat Back Torso Angle: 25.5 degrees (H-point machine back pan)

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Fixed

ADJUSTABLE STEERING COLUMN POSITION: Mid-position

WINDOW POSITIONS: Left Front: Open Left Rear: Fixed

Right Front: Removed Right Rear: Removed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

65.1 liters (Fuel Tank Usable Capacity)

60.2 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2811 millimeters

Impact Point is 466 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 462 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2001 Chevrolet Monte Carlo

Body Style: 2-Door

VIN: 2G1WW12E219112113

NHTSA No.: C10103

Test Date: November 2, 2000

Overall Length = 5016 millimeters; Overall Width = 1830 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 525.5 kg Left Rear = 377.5 kg

Right Front = 484.0 kg Right Rear = 362.5 kg

TOTAL FRONT = 1009.5 kg TOTAL REAR = 740.0 kg

TOTAL VEHICLE WEIGHT 1749.5 kg

Wheelbase = 2811 millimeters

Longitudinal C.G. from Center of Front Axle = 1189.0 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 4 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 1 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (219 mm above ground) = 184 millimeters

2. LEVEL 2 (502 mm above ground) = 422 millimeters

3. LEVEL 3 (586 mm above ground) = 394 millimeters

4. LEVEL 4 (865 mm above ground) = 342 millimeters

5. LEVEL 5 (1331 mm above ground) = 140 millimeters

Maximum Post-Test Intrusion = 422 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification 013

027

Restraints Used 3-Point Active Seat Belt

3-Point Active Seat Belt

INSTRUMENTATION:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3

 Offboard = 6

 TOTAL = 9

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore: 059C0700-1; 038C0600

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT =		<u>782.0</u>	kg	TOTAL REAR =		<u>580.5</u>	kg
TOTAL MDB WEIGHT =		<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>62.12</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>122</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>90</u>	millimeters
3. Row C at Mid Level	=	<u>102</u>	millimeters
4. Row D at Top of Stack Level	=	<u>151</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

VISIBLE DUMMY CONTACT POINTS:

	<u>LEFT FRONT SID</u>	<u>LEFT REAR SID</u>
Head:	<u>Left side of head to top of left door</u>	<u>Left side of head to left C-pillar trim</u>
Upper Torso:	<u>Left shoulder to door trim above arm rest</u>	<u>Left shoulder to interior trim above arm rest</u>
Lower Torso:	<u>Left side of pelvis to door trim below arm rest</u>	<u>Left side of pelvis to interior trim below arm rest</u>
Left Knee:	<u>Left knee to door trim rear of speaker cover</u>	<u>Left knee to B-pillar trim</u>
Right Knee:	<u>Right knee to left knee</u>	<u>Right knee to left knee</u>

DOOR OPENING:

	<u>LEFT DOOR</u>	<u>RIGHT DOOR</u>
Front:	<u>Closed / Inoperable</u>	<u>Closed / Operable</u>
Rear:	<u>-</u>	<u>-</u>

MDB DISTANCE FROM TARGET IMPACT POINT:

Vertical: 1 mm below target
Horizontal: 4 mm forward of target

ARM REST LOCATIONS:

Front:	<u>240 mm below bottom of window opening</u>
Rear:	<u>300 mm below bottom of window opening</u>

SEAT MOVEMENT:

Front:	<u>Seat was deformed inboard against the center console</u>
Rear:	<u>None</u>

GLAZING DAMAGE:

Windshield:	<u>Windshield cracked at its top left edge</u>
Window:	<u>Left door window and rear window shattered during the impact</u>

PILLAR PERFORMANCE:

No visible tears or separations

SILL SEPARATION:

None

AIR BAG DEPLOYMENT STATUS:

	<u>DRIVER</u>	<u>FRONT PASSENGER</u>	<u>REAR PASSENGER</u>
<u>FRONT</u>	<u>No</u>	<u>No</u>	<u>N/A</u>
<u>SIDE</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

OTHER NOTABLE IMPACT EFFECTS:

The left front SID's head skin (left forehead) was cut on the left front door upper pinch weld. The left front SID's head separated from its neck during rebound.

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

	Front Dummy ID# 013				Rear Dummy ID# 027			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS:								
Longitudinal X	8.1	30.6	-91.3	77.2	13.6	140.7	-25.0	48.3
Lateral Y	62.4	77.3	-15.8	64.0	138.2	49.1	-13.0	186.6
Vertical Z	82.4	55.8	-27.6	41.9	22.8	40.9	-67.2	55.0
Resultant R	116.3	77.2	-	-	142.6	49.1	-	-
HIC	911.0				1216.3			
RIB ACCELERATIONS:								
Upper Rib Lateral . . Y	73.5	35.0	-21.1	68.8	53.7	45.0	-12.4	186.9
Upper Rib Lateral . . Y(R)	73.7	35.0	-21.8	68.8	54.6	45.0	-12.7	186.9
Lower Rib Lateral . . Y	74.1	35.6	-18.2	68.1	51.8	28.8	-15.3	77.5
Lower Rib Lateral . . Y(R)	73.7	35.6	-18.5	68.2	52.8	28.8	-15.1	77.5
SPINE ACCELERATIONS:								
Lower Lateral Y	94.8	28.8	-25.8	62.5	69.8	35.7	-31.8	64.4
Lower Lateral Y(R)	92.4	28.8	-25.5	62.5	68.8	35.7	-31.8	64.4
PELVIC ACCELERATIONS:								
Lateral Y	111.5	23.8	-20.6	50.7	80.7	28.2	-19.6	60.0
Lateral Y(R)	112.2	23.8	-20.8	50.7	79.4	28.2	-18.8	60.0

REFERENCE: Positive Direction - Longitudinal (X) = forward
 Lateral (Y) = to right
 Vertical (Z) = up
 Negative Direction - Longitudinal (X) = rearward
 Lateral (Y) = to left
 Vertical (Z) = down

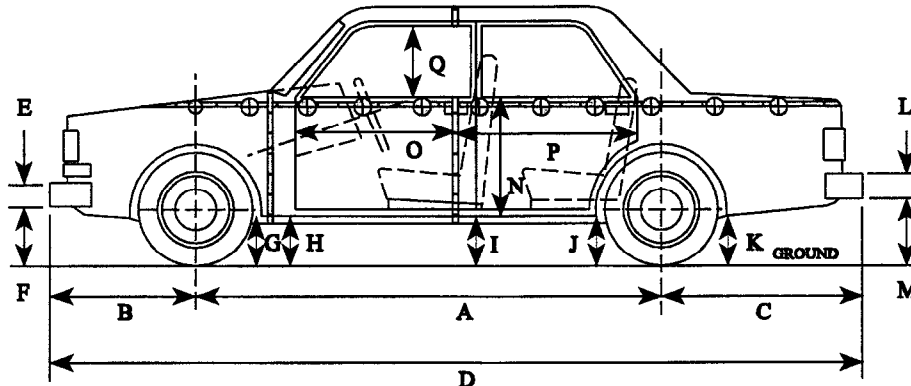
Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.
 Head Accelerations are filtered at SAE Class 1000.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



LEFT SIDE VIEW

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

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2809	2811	2761	-50
B	1096	1096	1123	27
C	1111	1109	1102	-7
D	5016	5016	4986	-30
E	280	-	280	0
F	273	273	322	49
G	193	173	193	20
H	195	174	217	43
I	219	181	200	19
J1	205	164	193	29
J2	206	162	199	37
K	247	200	192	-8
L	354	-	354	0
M	336	287	293	6
N	680	-	556	-124
O	843	-	797	-46
P	570	-	561	-9
Q	453	-	437	-16
R	4884	-	4878	-6
S	4884	-	4826	-58
T	1830	-	1598	-232

D = Length at Centerline
T = Width at B-Pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

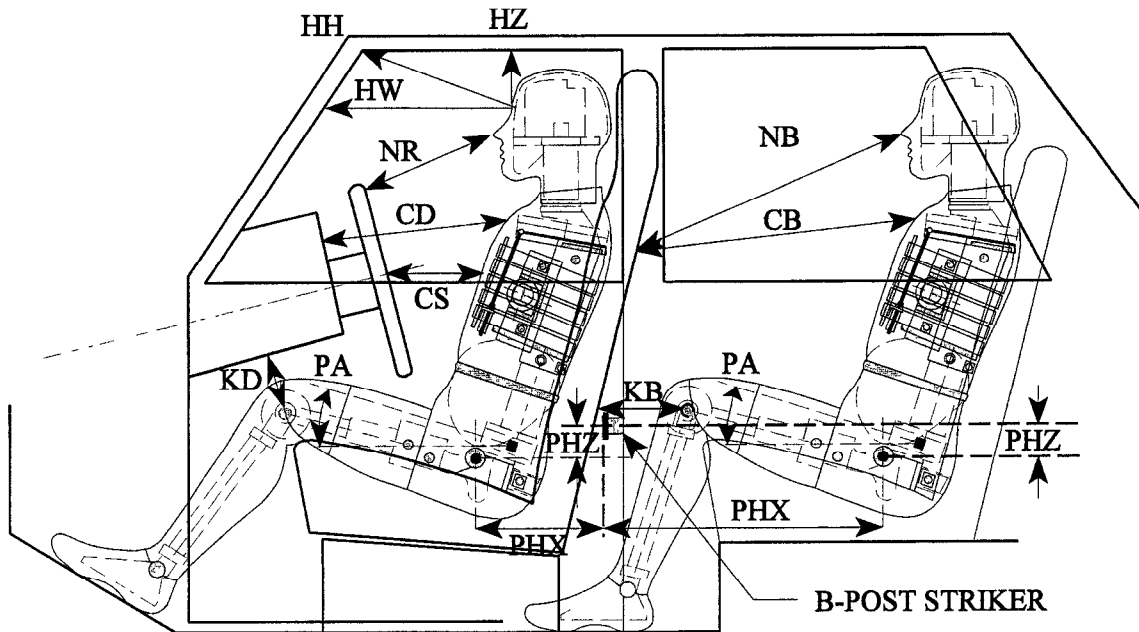
S = Left Side Length

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

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

	DRIVER ID# <u>013</u>	LEFT REAR PASS. ID# <u>027</u>
HH	381	N/A
HW	710	N/A
HZ	146	120
NR/NB	487	520
CD/CB	553	477
CS	300	N/A
KDL(KDA°)/KBL(KDA°)	185 / (34°)	220 / (25°)
KDR(KBA°)/KBR(KBA°)	183 / (40°)	218 / (25°)
PA°	23.7°	24.2°
PHX	468	452
PHZ	108	128

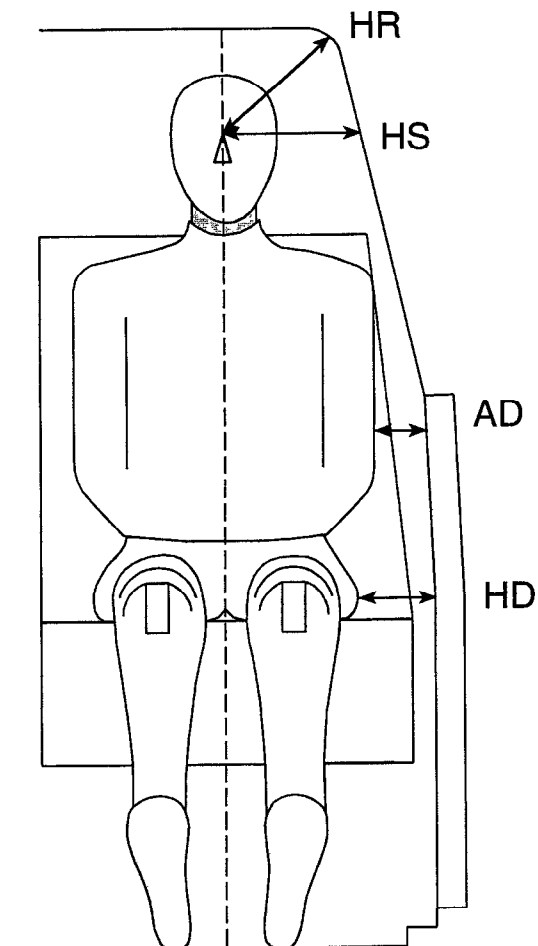
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



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

	DRIVER ID # <u>013</u>		LEFT REAR PASS. ID # <u>027</u>	
HR	168		182	
HS	292		334	
AD*	LOWER: 120	UPPER: 129	LOWER: 144	UPPER: 120
HD	176		175	

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

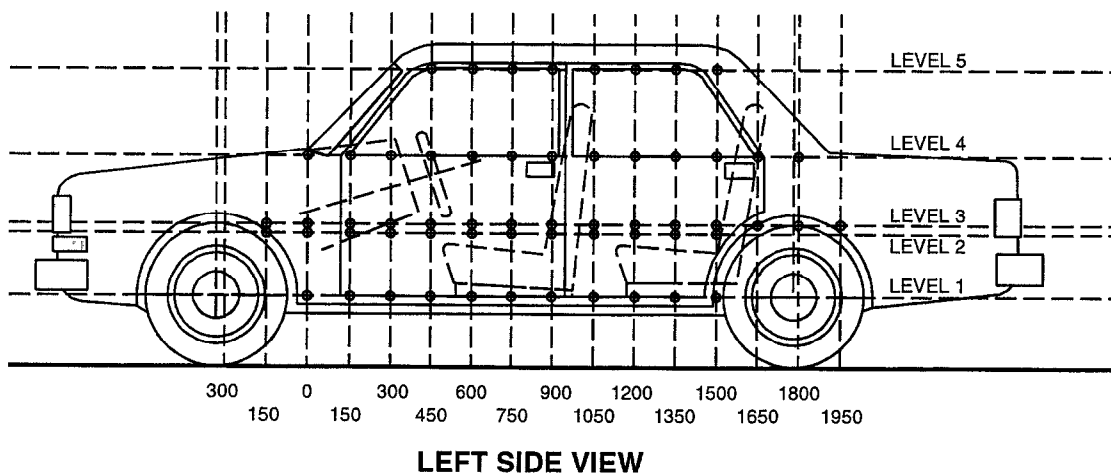
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



NOTE: All measurements are in millimeters (mm)

- LEVEL 5 - WINDOW TOP
- LEVEL 4 - WINDOW SILL
- LEVEL 3 - MID-DOOR
- LEVEL 2 - OCCUPANT H-POINT
- LEVEL 1 - SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.

Measurements Along the Vertical 750 mm Line Shown Above:

Level 5 @ Window Top	=	<u>1331</u>	millimeters
Level 4 @ Window Sill	=	<u>865</u>	millimeters
Level 3 @ Mid Door	=	<u>586</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>502</u>	millimeters
Level 1 @ Sill Top Height	=	<u>219</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

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

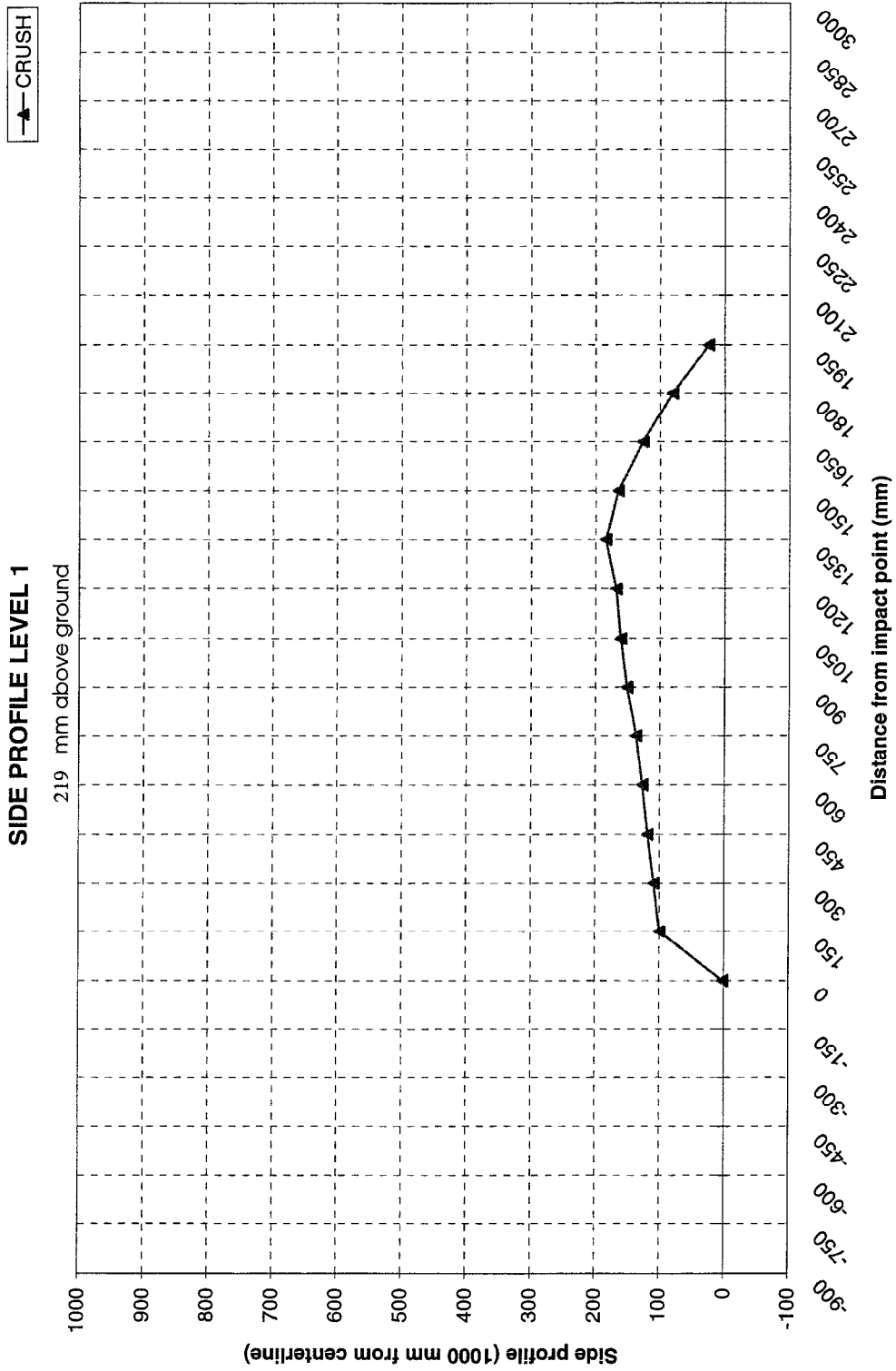
LEVEL	HEIGHT T (mm)	DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																												
		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000		
LEVEL 1	219	PRE	-	-	-	-	-	129	130	128	126	128	127	129	125	126	122	121	118	116	109	-	-	-	-	-	-	-	-	
SIDE		POST	-	-	-	-	-	131	230	237	245	264	280	286	294	306	306	286	245	197	134	-	-	-	-	-	-	-	-	
SILL		CRUSH	N/A	N/A	N/A	N/A	N/A	2	100	109	119	127	137	151	161	168	184	165	127	81	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2	502	PRE	104	-	-	-	-	91	96	96	97	94	95	94	93	92	91	91	90	88	86	-	-	-	-	-	-	-	-	
H		POST	72	-	-	-	-	142	352	406	429	446	460	473	488	502	513	506	484	412	284	-	-	-	-	-	-	-	-	-
POINT		CRUSH	-32	N/A	N/A	N/A	N/A	51	256	310	332	352	365	379	395	410	422	415	394	324	198	N/A	N/A	N/A	N/A	N/A	N/A	14	7	-3
LEVEL 3	586	PRE	106	-	-	-	-	91	94	92	91	91	91	92	90	91	89	88	90	87	83	-	-	-	-	-	-	-	-	
MID		POST	79	-	-	-	-	228	349	359	381	387	395	410	422	431	447	466	484	425	315	-	-	-	-	-	-	-	-	-
DOOR		CRUSH	-27	N/A	N/A	N/A	N/A	137	255	267	290	296	304	318	332	340	358	378	394	338	232	N/A	N/A	N/A	N/A	N/A	N/A	10	5	-5
LEVEL 4	865	PRE	-	204	176	160	150	148	145	142	144	141	143	143	142	143	144	145	148	147	151	160	165	171	183	199	213	232		
WINDOW		POST	-	183	162	149	149	155	153	260	314	354	383	402	419	436	452	463	487	478	393	298	253	209	191	190	189	194	207	
SILL		CRUSH	N/A	-21	-14	-11	-1	7	118	172	210	242	259	276	294	309	319	342	330	246	147	98	44	20	7	-10	-19	-25		
LEVEL 5	1331	PRE	-	-	-	-	-	-	-	-	-	-	442	408	404	406	410	423	457	591	-	-	-	-	-	-	-	-		
WINDOW		POST	-	-	-	-	-	-	-	-	-	-	488	472	490	517	550	531	526	634	-	-	-	-	-	-	-	-		
TOP		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	46	64	86	111	140	108	69	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. CJ0103

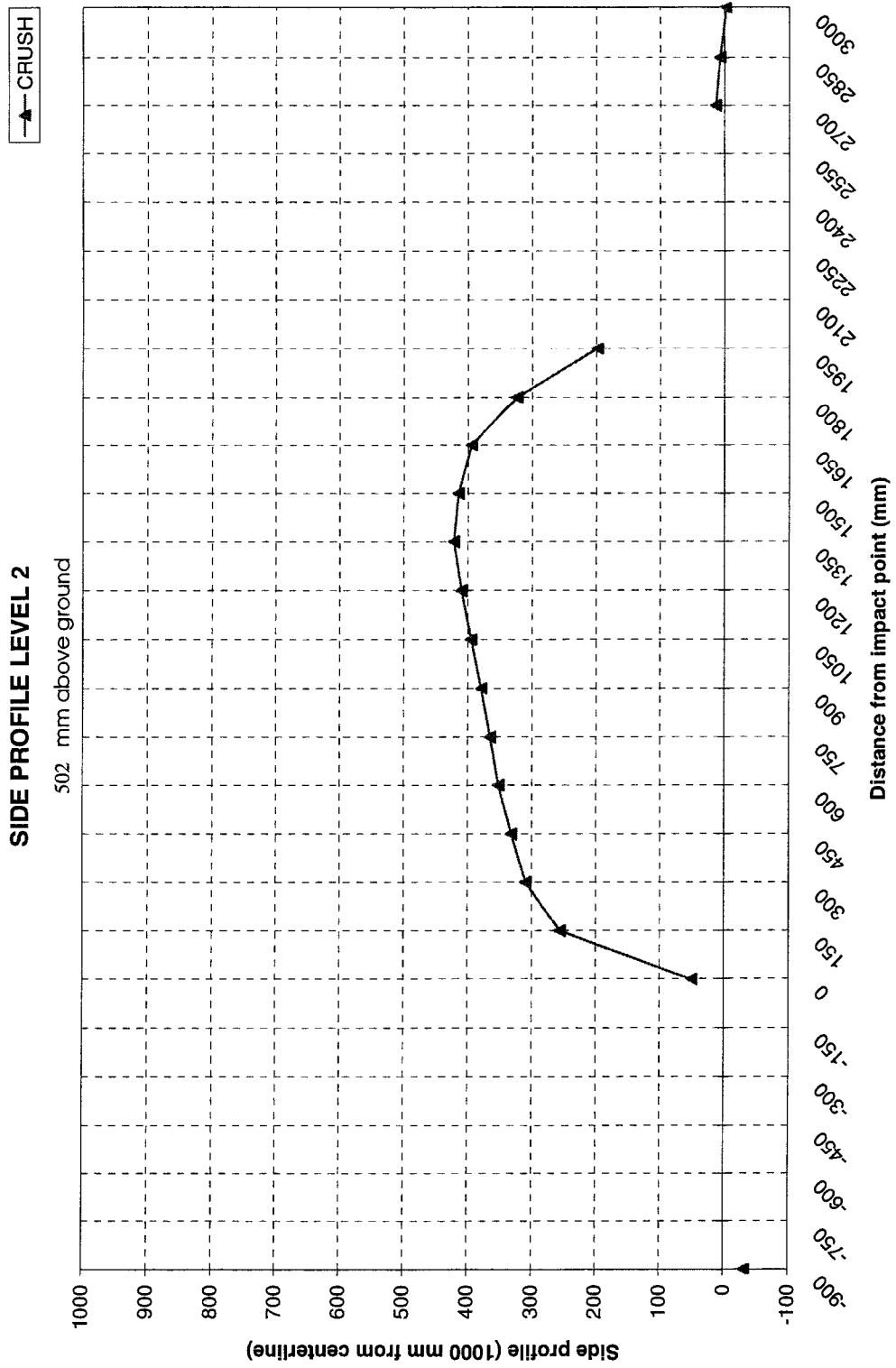


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

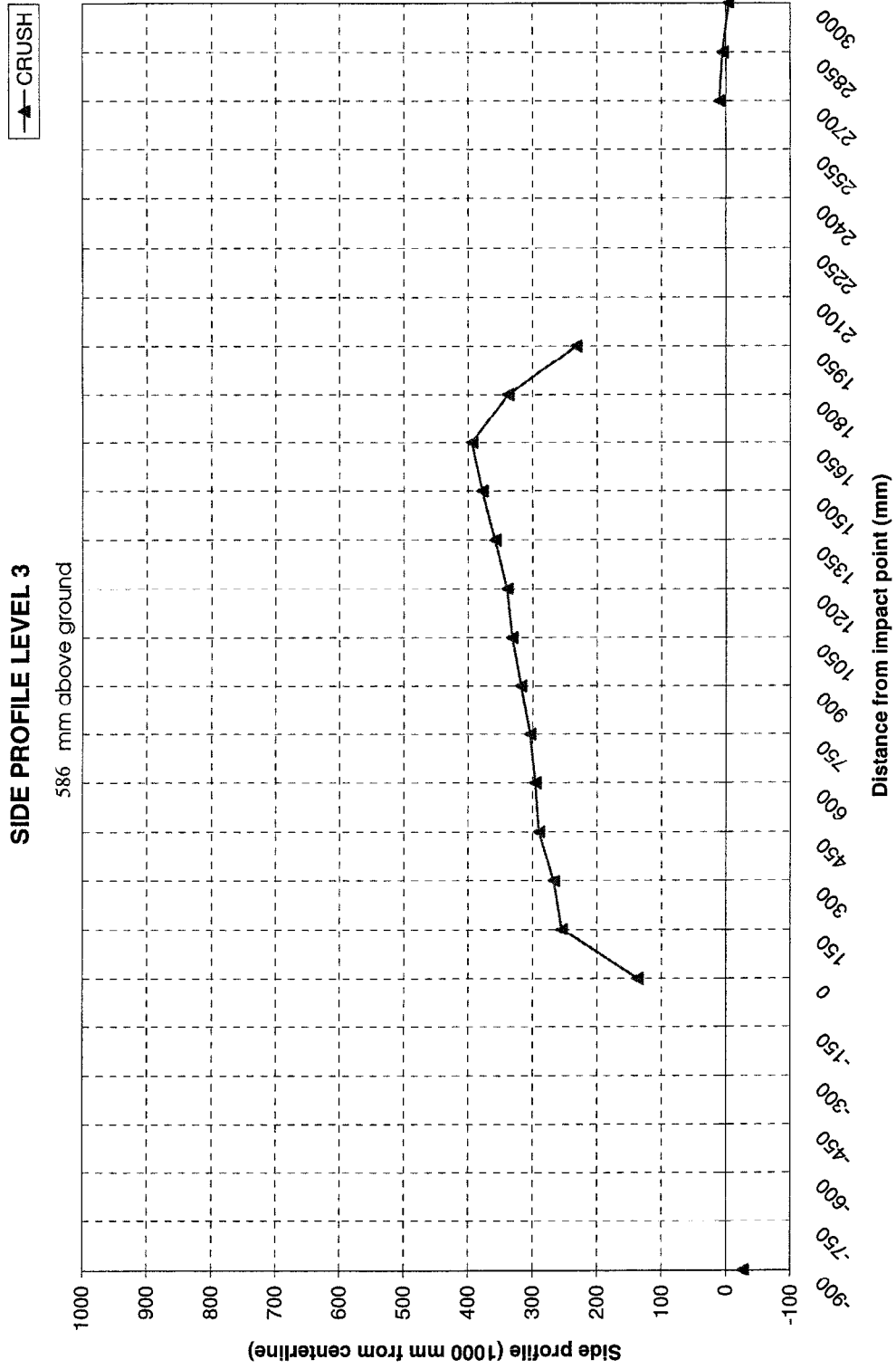


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

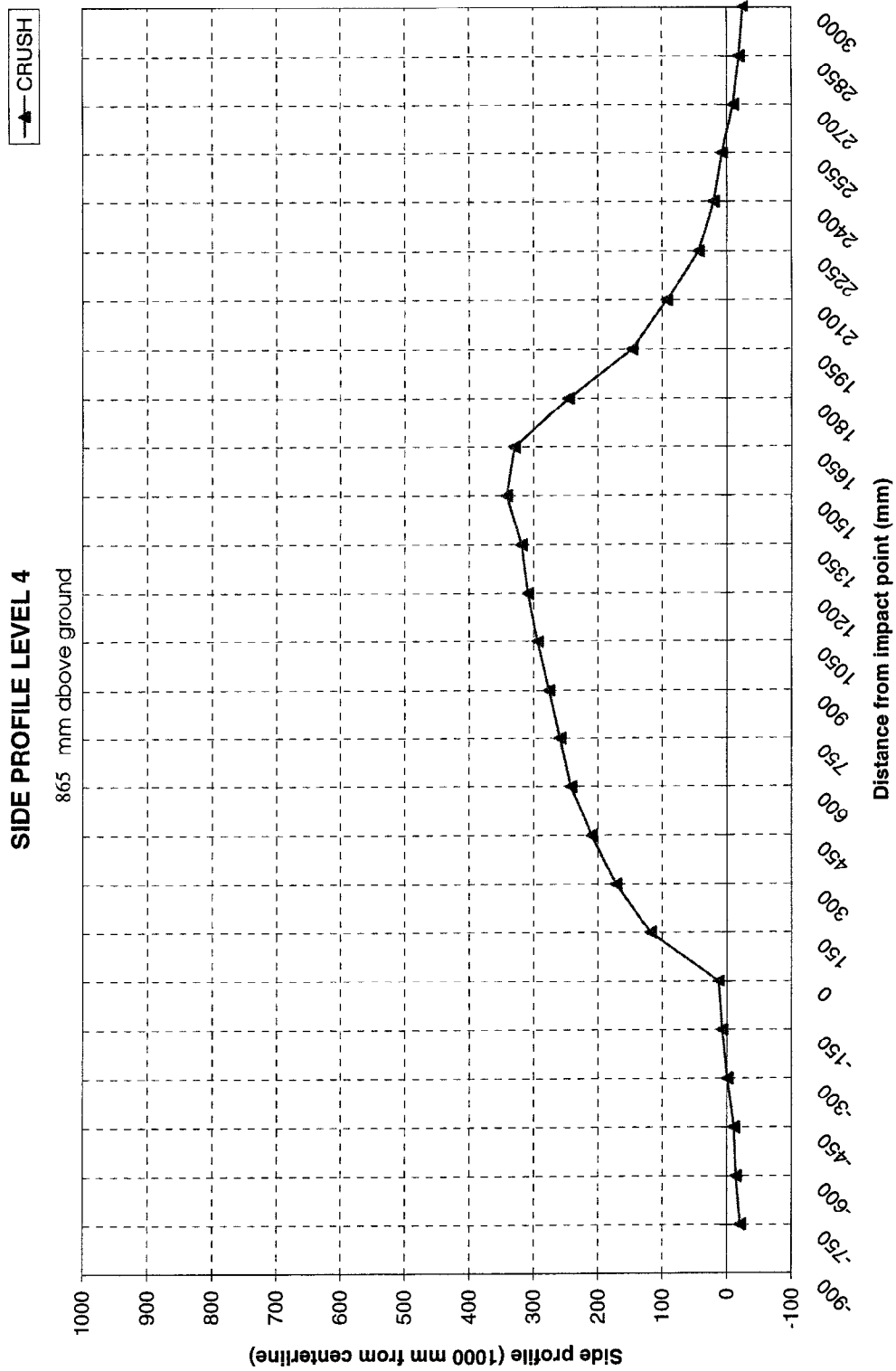


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

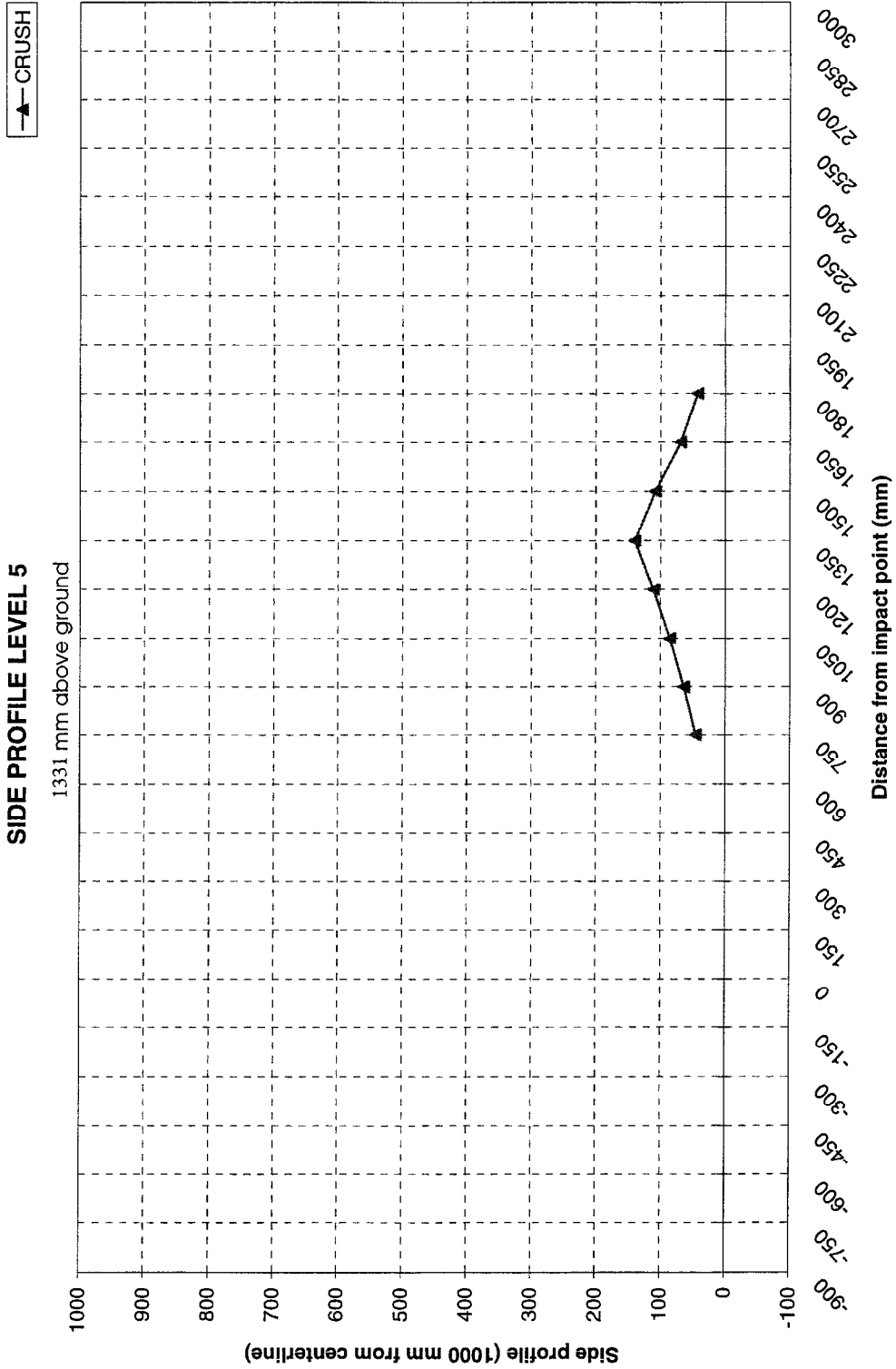


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

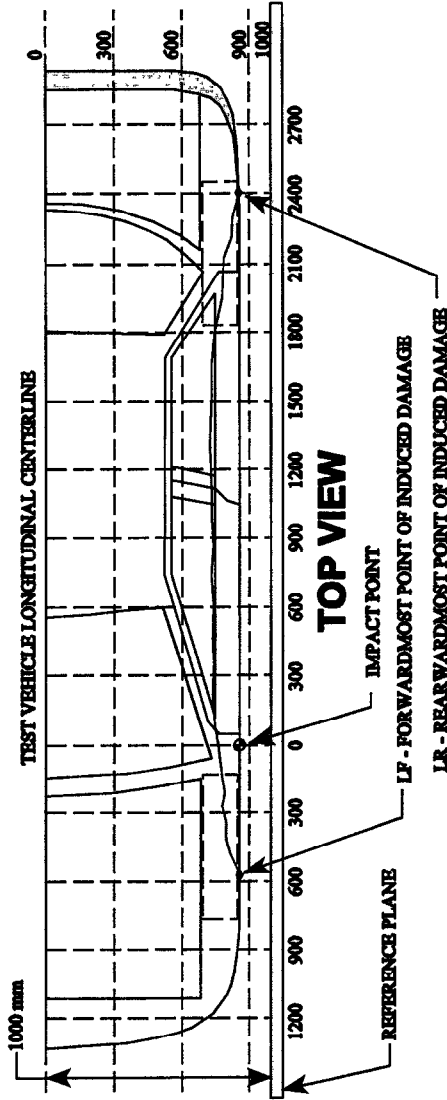


DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-).
 Rearward of the impact point (towards rear of vehicle) is considered positive (+).

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

DPD MEASUREMENTS	POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1 (LR = 2950 mm)	123	123	0
2 2300	203	167	36
3 1650	484	90	394
4 1000	483	93	390
5 350	414	96	318
6 (LF = -300 mm)	149	150	-1

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE
(Grid as looking at MDB from front)

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

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

LEVEL	HEIGHT AT CL (mm)*	DISTANCE RIGHT OF CENTER (mm)								DISTANCE LEFT OF CENTER (mm)								
		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
LEVEL 4	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
TOP		POST	694	638	616	613	616	620	624	630	638	644	653	665	686	719	770	
STACK		CRUSH	75	19	-3	-6	-3	1	5	11	14	19	25	34	46	67	100	151
LEVEL 3	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
MID		POST	698	649	619	629	626	620	619	620	624	630	637	645	655	672	721	
LEVEL		CRUSH	79	30	0	10	7	1	0	1	3	5	11	18	26	36	53	102
LEVEL 2	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
TOP		POST	693	671	652	639	638	640	644	647	653	659	663	669	677	690	709	
BUMPER		CRUSH	74	52	33	20	19	21	23	25	28	34	40	44	50	58	71	90
LEVEL 1	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535
MID		POST	657	623	600	579	566	561	566	569	573	576	578	584	596	612	656	
BUMPER		CRUSH	122	104	82	61	48	43	43	48	51	55	58	60	66	78	93	121

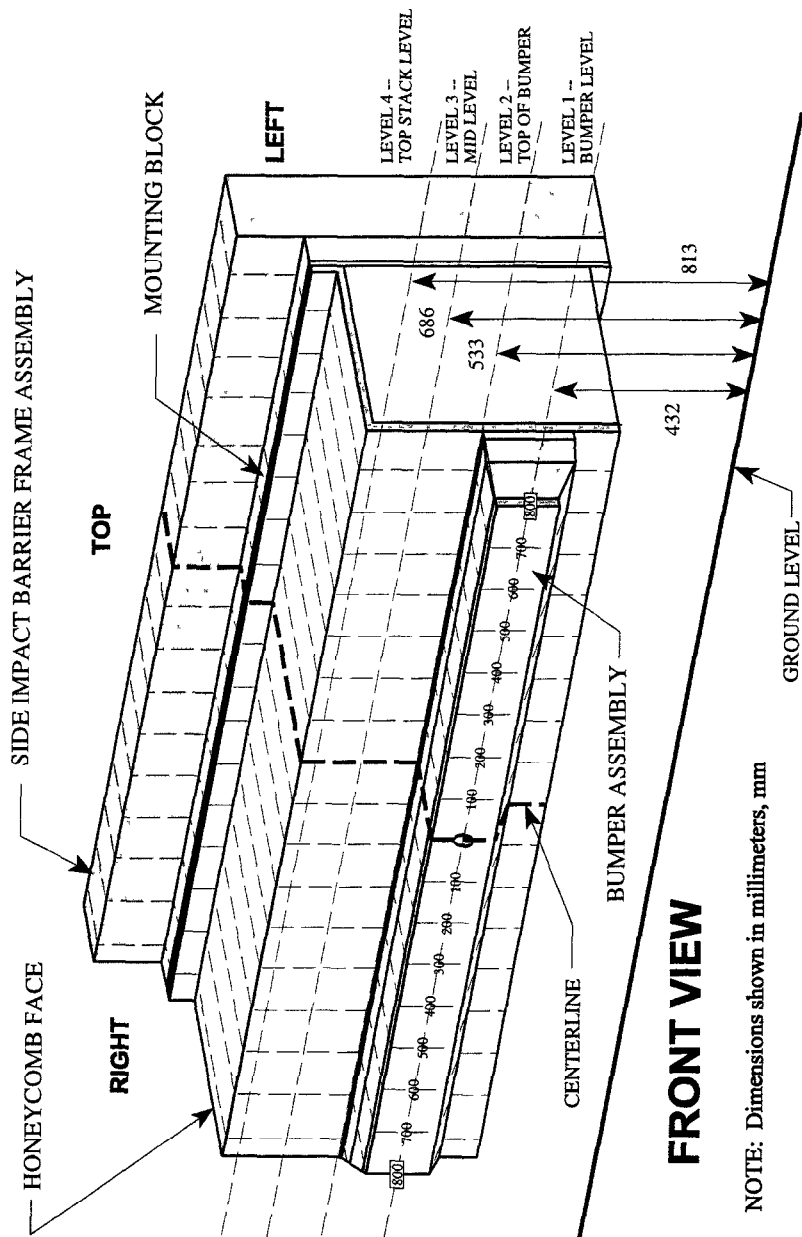
*Heights measured above ground level.

DATA SHEET 12 (continued)

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

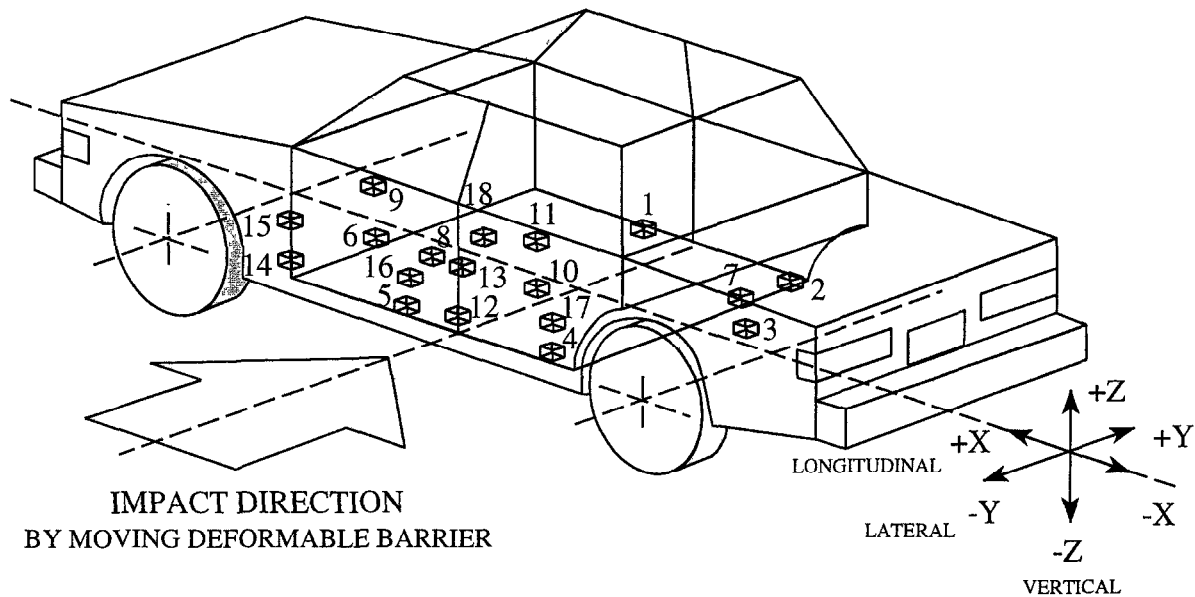


DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



IMPACT DIRECTION
BY MOVING DEFORMABLE BARRIER

- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

Accel. No.	Location	Coordinates (mm)±3		Long. (x)	Lat. (y)		Vert. (z)		Resultant			
		X*	Y*		Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	
1	Right Side Sill at Front Seat	3016	708	295	2.9	68.1	24.2	11.9	4.6	28.5	25.8	11.6
					-4.4	22.0	-3.1	173.3	-8.0	10.8	-	-
2	Right Side Sill at Rear Seat	2056	708	297	3.2	67.9	20.6	8.6	4.4	31.1	20.8	8.7
					-4.1	11.1	-3.0	119.7	-6.4	13.8	-	-
3	Rear Floorpan Above Axle	1183	0	489	3.9	8.3	15.2	29.8	10.0	32.6	18.5	32.6
					-7.7	14.1	-3.1	118.9	-8.4	46.4	-	-
4	Left Side Sill at Rear Seat	2056	-705	284	-	-	118.9	4.6	-	-	-	-
					-	-	-51.0	11.1	-	-	-	-
5	Left Side Sill at Front Seat	3016	-708	284	-	-	160.0	4.0	-	-	-	-
					-	-	-86.9	10.0	-	-	-	-
6**	Left Front Door on Centerline	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
7	Right Rear Occupant Compartment	2040	305	239	-	-	20.2	10.8	-	-	-	-
					-	-	-3.2	186.0	-	-	-	-
8**	Midrear of Left Front Door	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
9**	Left Front Door Upper Centerline	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
10**	Midrear of Left Rear Door	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
11**	Left Rear Door Upper Centerline	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)

** Accelerometer was not requested by COTR.

Y - Vehicle Centerline (+ To Right)

Z - Ground Level (+ Up)

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

Accel. No.	Location	Coordinates (mm)±3			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2106	-710	426	-	-	183.3	3.9	-	-	-	-
					pos.	-	-229.2	16.1	-	-	-	-
					neg.	-						
13	Left Middle B-Pillar	2058	-712	860	-	-	166.5	8.5	-	-	-	-
					pos.	-	-108.3	23.3	-	-	-	-
					neg.	-						
14	Left Lower A-Pillar	3421	-680	494	-	-	90.6	6.6	-	-	-	-
					pos.	-	-31	13.3	-	-	-	-
					neg.	-						
15	Left Middle A-Pillar	3280	-682	944	-	-	31.9	11.2	-	-	-	-
					pos.	-	-6.1	24.8	-	-	-	-
					neg.	-						
16	Front Seat Track	2516	-580	304	-	-	84.9†	14.5	-	-	-	-
					pos.	-	-0.9†	-0.3	-	-	-	-
					neg.	-						
17	Rear Seat Track	1303	-492	482	-	-	26.4	21.1	-	-	-	-
					pos.	-	-3.5	162.8	-	-	-	-
					neg.	-						
18	Vehicle CG	2661	0	497	26	79.8	105.6	50.5	40.9	76.7	106.6	50.4
					pos.	52.5	-69.5	73.5	-27.1	32.5	-	-
					neg.	-						

*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Up)

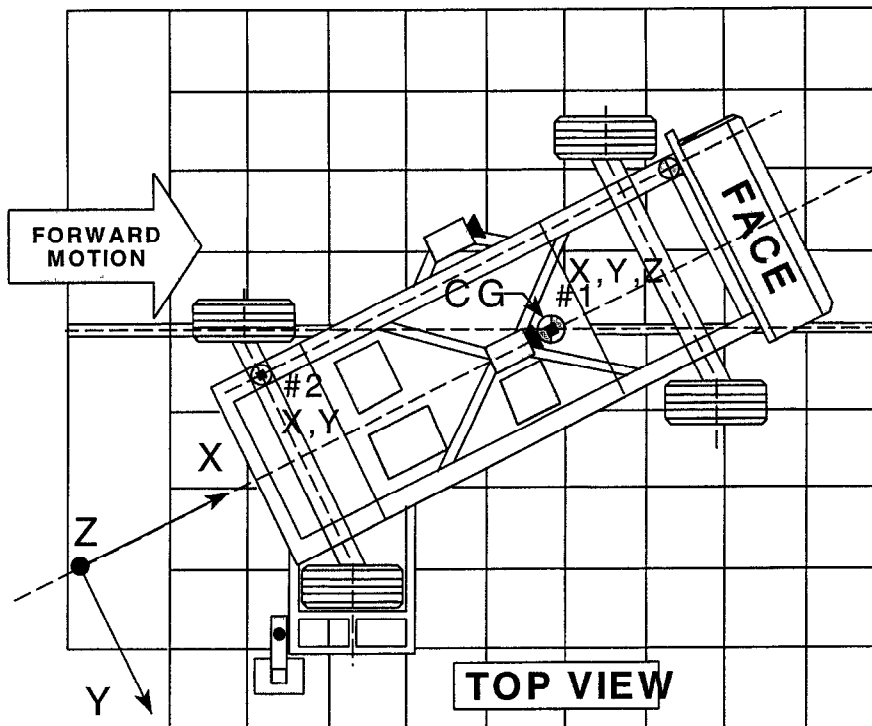
†Transducer cable was damaged during the impact, data is questionable.

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X				1.6	129.4	-19.4	37.1
	Lateral..... Y	1859	0	330	0.7	60.4	-10.9	27.3
	Vertical..... Z				17.8	16.6	-13.9	48.2
	Resultant..... R				24.8	42.7	-	-
2	Rear Frame Member							
	Longitudinal... X				2.1	138.8	-21.0	28.5
	Lateral..... Y	386	-660	660	4.6	30.5	-2.0	77.0

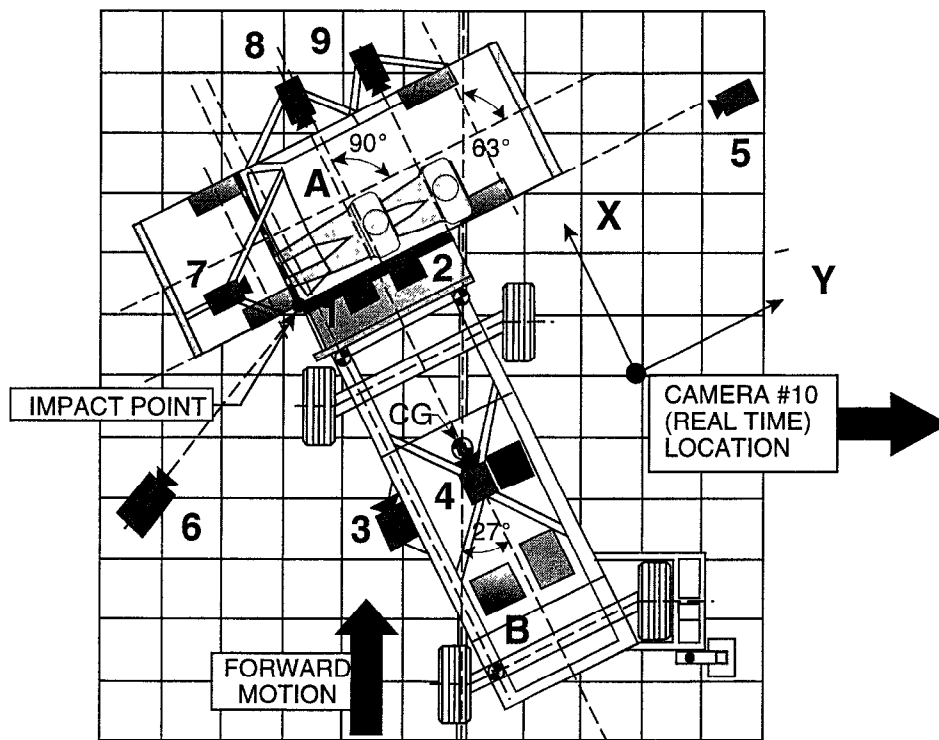
*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Up)
 All measurements accurate to within ±3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	66	806	4880	-90	8	1005
2	Overhead closeup view of impact plane	202	872	4880	-90	12.5	1000
3	MDB onboard closeup view of impact point	-1470	0	847	0	13	1005
4	MDB onboard view of driver dummy	-1140	838	1586	-17	7.5	1005
5	Right side ground level overall view	65	9180	1100	-3.4	25	1005
6	Left side ground level overall view	-2006	-1698	1094	-7.8	13	1010
7	Test vehicle onboard driver front view	541	-362	1263	-15.5	13	955
8	Test vehicle onboard driver side view	1749	822	994	-10.2	8	1000
9	Test vehicle onboard passenger side view	1730	1706	1025	-10.7	8	1000
10	Real time film coverage of test	-	-	-	-	-	24

* Reference (from point of impact); all measurements accurate to within ± 6 mm.

+X = Forward

+Y = To Right

+Z = Upward

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

FMVSS 301 FUEL SYSTEM INTEGRITY DATA

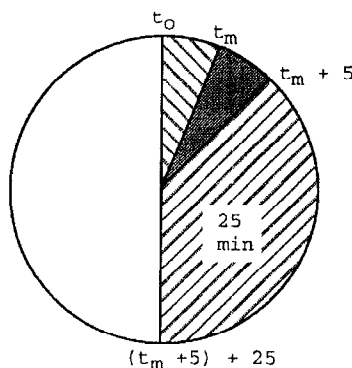
NHTSA No.: C10103 TEST DATE: November 2, 2000

Vehicle Mfgr./Make/Model : 2001 Chevrolet Monte Carlo 2-Door

TEST VEHICLE IMPACT TYPE :

- Frontal (48.28 kph)
- Oblique (48.28 kph) with ° barrier face first
 contacting the side
 (driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.12 kph)
 contacting the driver side side
 (driver/passenger)

FUEL SPILLAGE MEASUREMENT:



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

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS :

None

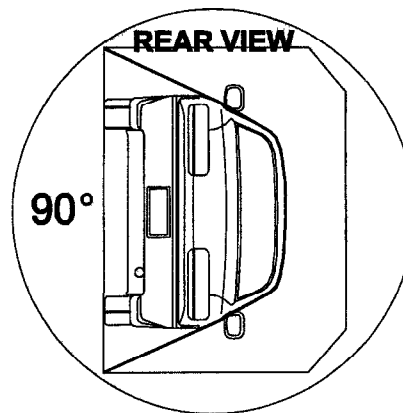
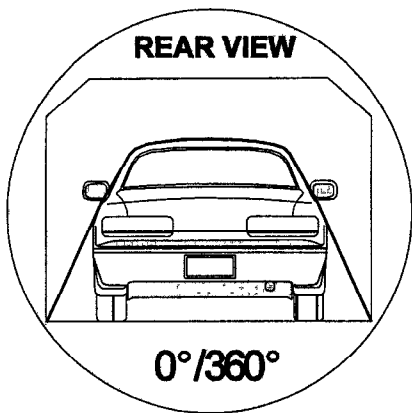
DATA SHEET 17

ROLLOVER DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>16</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>16</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

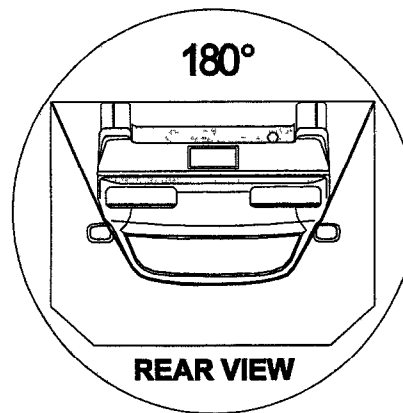
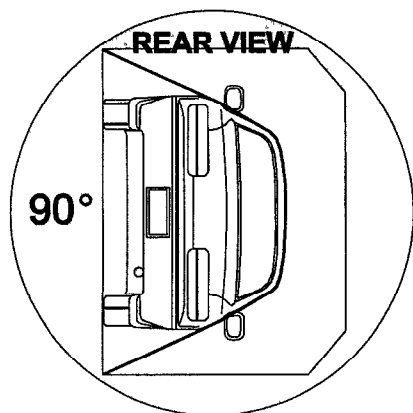
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>2</u> seconds
(Spec. Range = 1 to 3 minutes)		
FMVSS 301 Position Hold Time +	<u>5</u> minutes	<u>0</u> seconds
TOTAL	<u>6</u> minutes	<u>2</u> seconds
Next whole minute interval	<u>7</u> minutes	

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

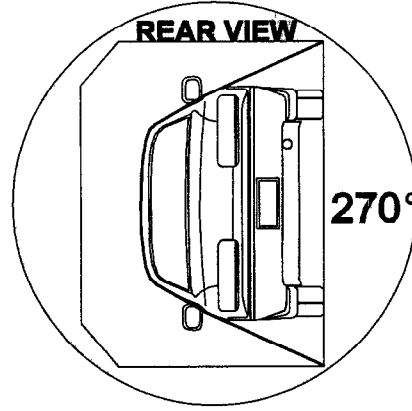
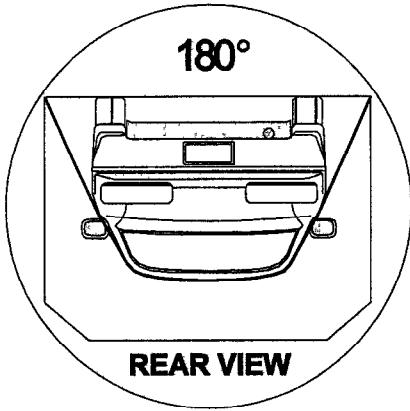
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

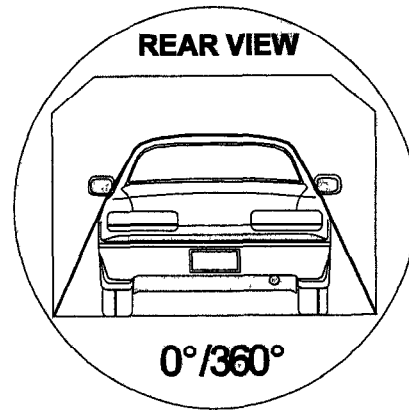
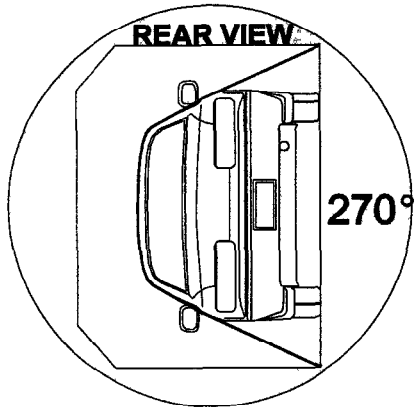
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 2001 Chevrolet Monte Carlo

NHTSA No. C10103

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

APPENDIX A

PHOTOGRAPHS

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Figure A- 37	ROLLOVER 270 DEGREES	A- 39
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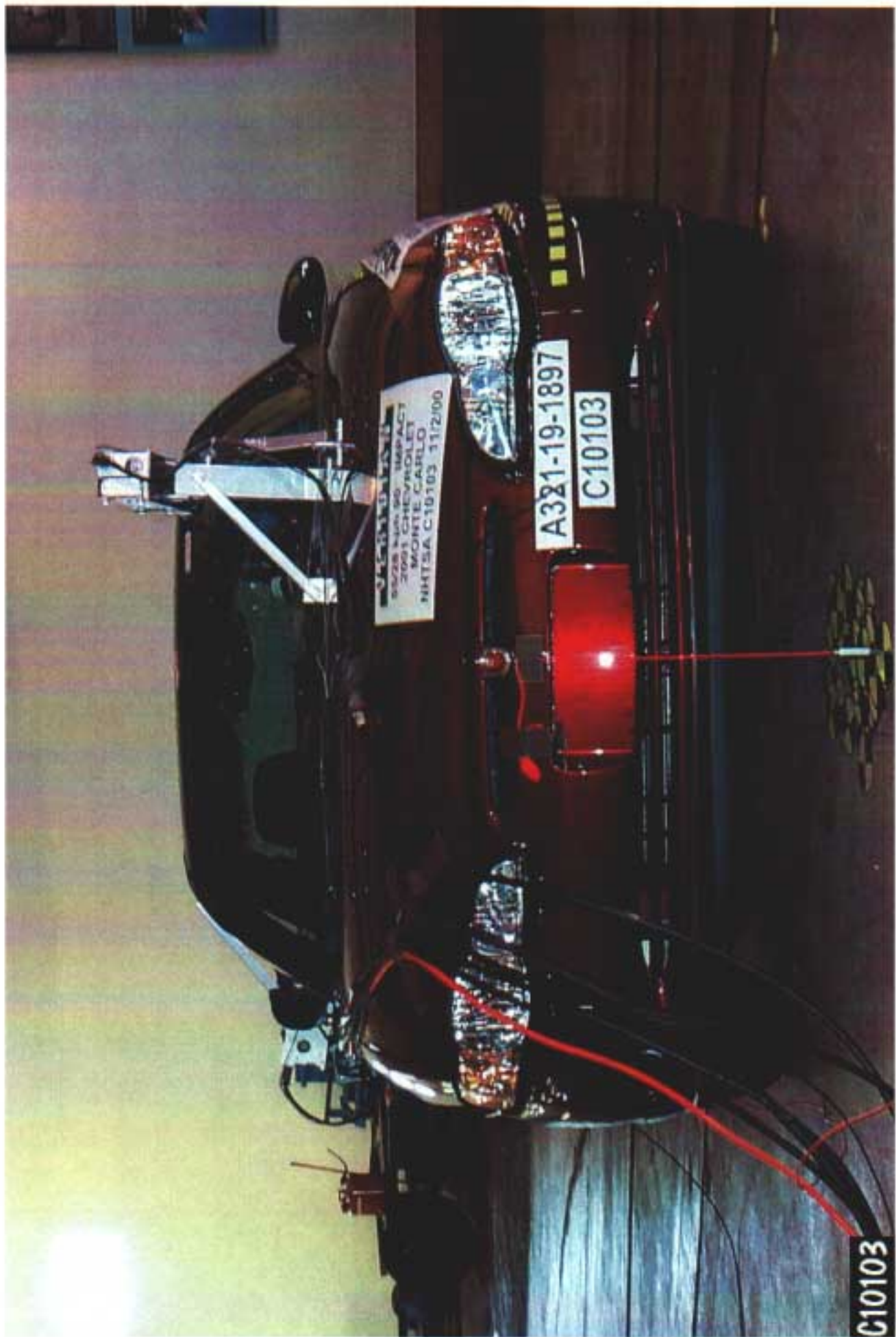


Figure A-1: PRE-TEST FRONTAL VIEW OF TEST VEHICLE



Figure A-2: POST-TEST FRONTAL VIEW OF TEST VEHICLE

C10103

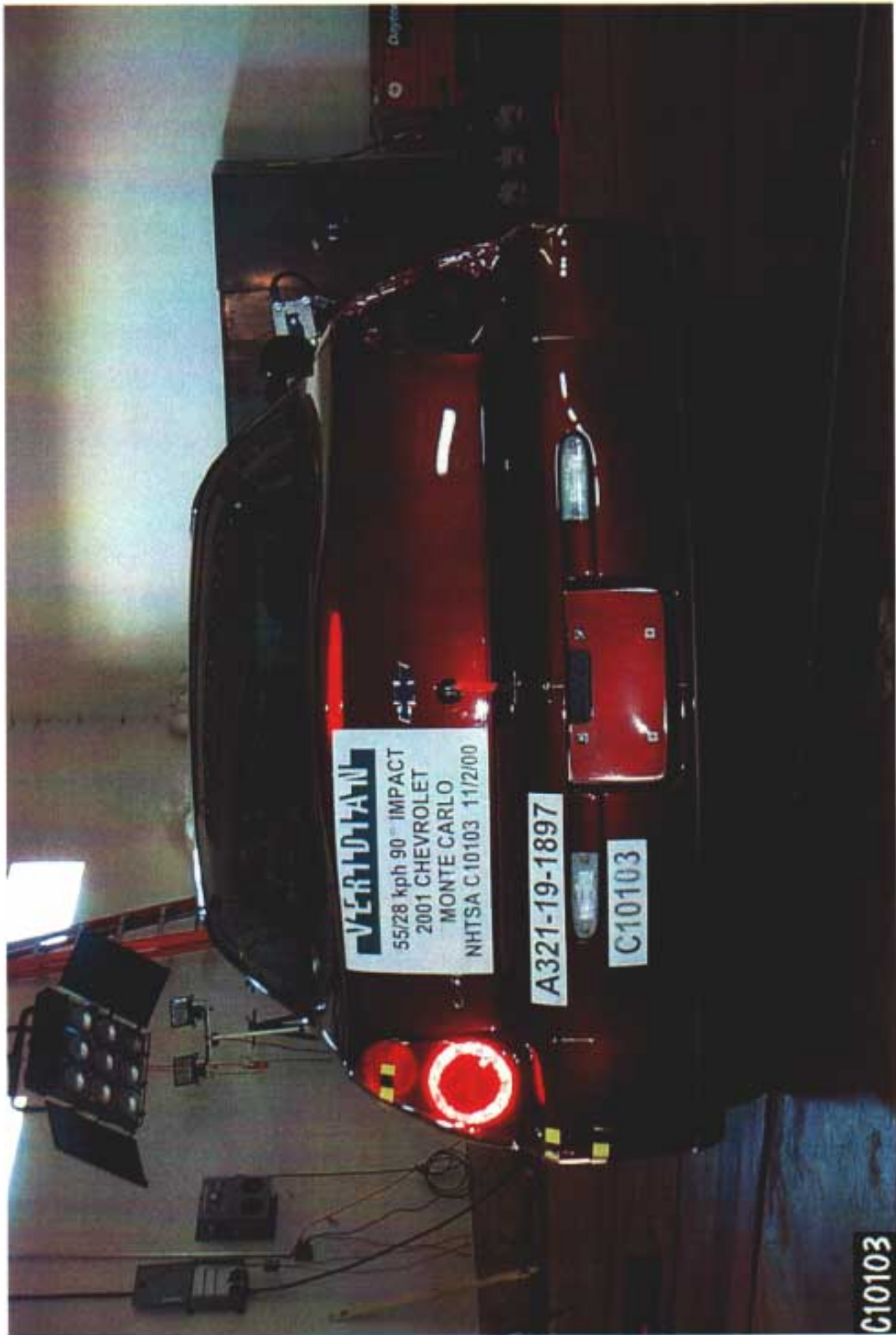


Figure A-3: PRE-TEST REAR VIEW OF TEST VEHICLE



Figure A-4: POST-TEST REAR VIEW OF TEST VEHICLE

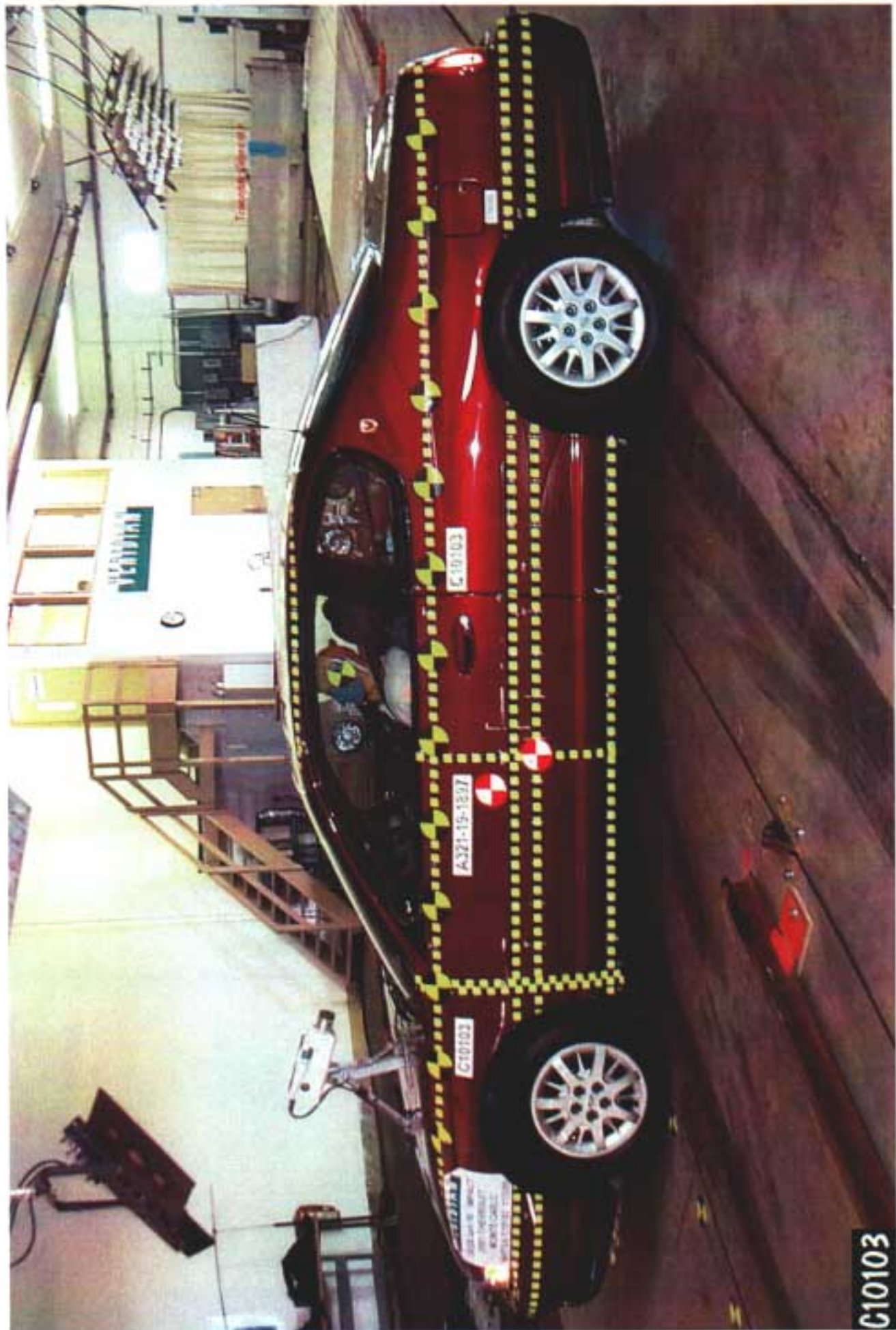


Figure A-5: PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

C10103

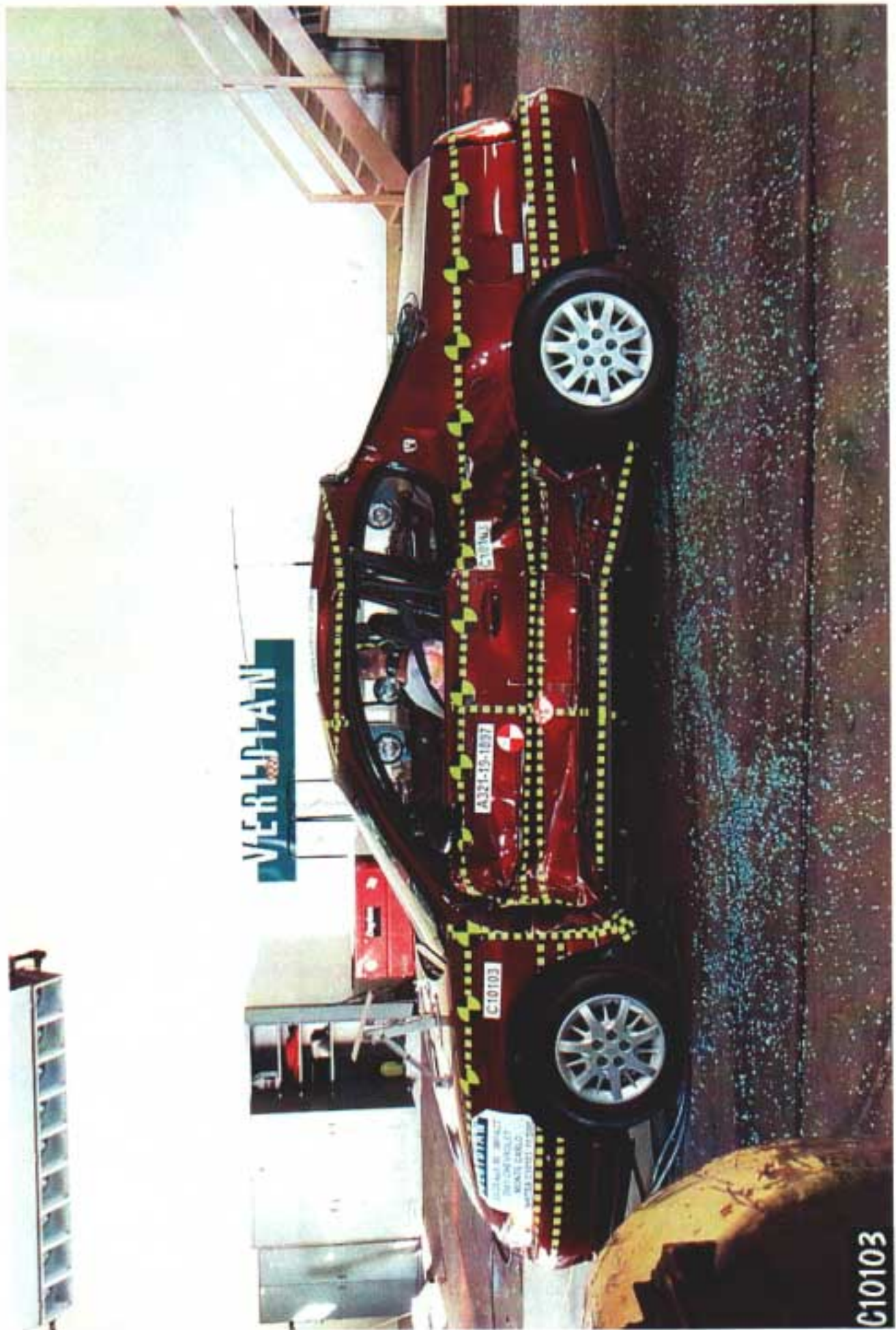


Figure A-6: POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

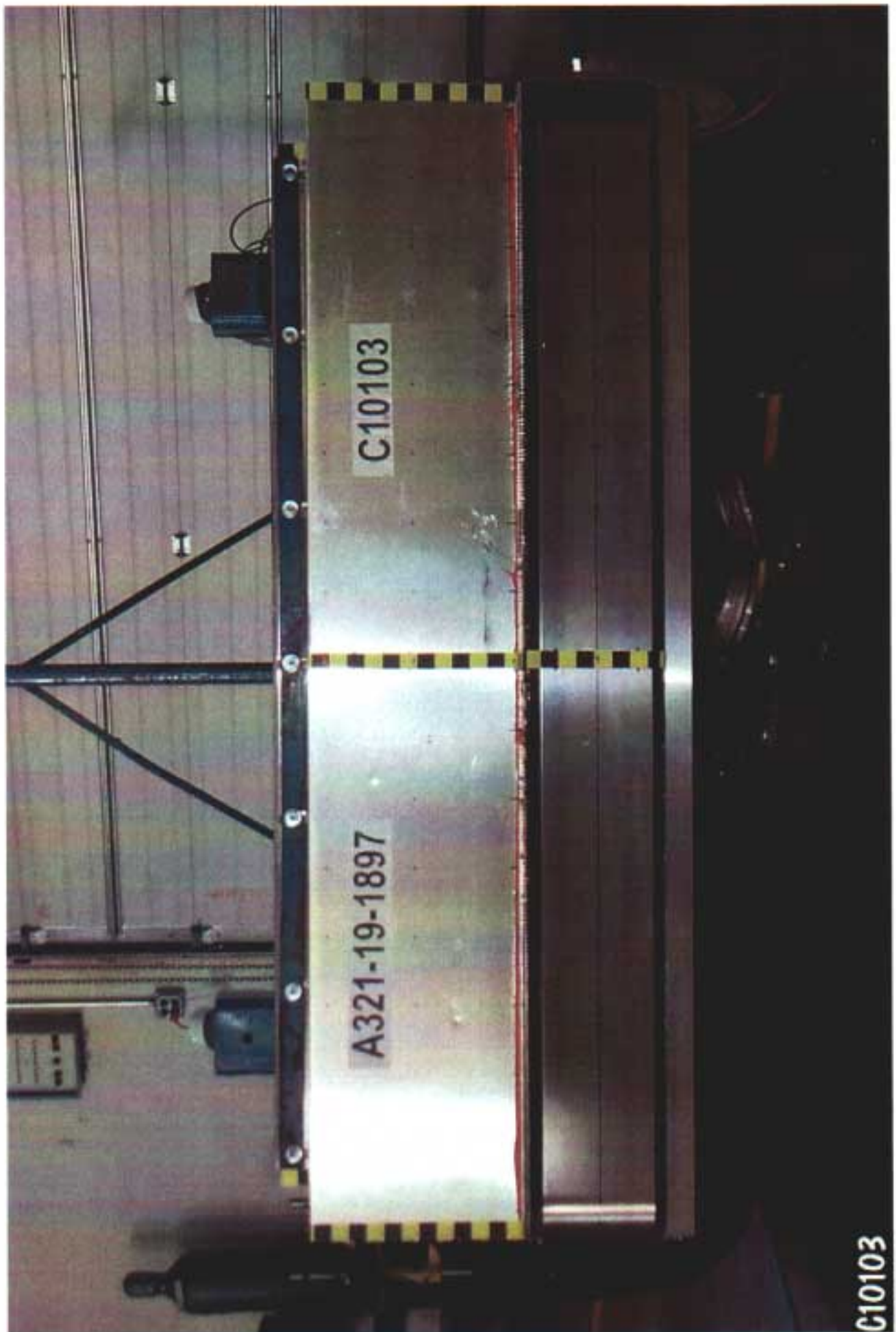


Figure A-7: PRE-TEST FRONTAL VIEW OF IMPACTOR FACE

C10103



Figure A-8: POST-TEST FRONTAL VIEW OF IMPACTOR FACE

C10103



Figure A-9: PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE

C10103

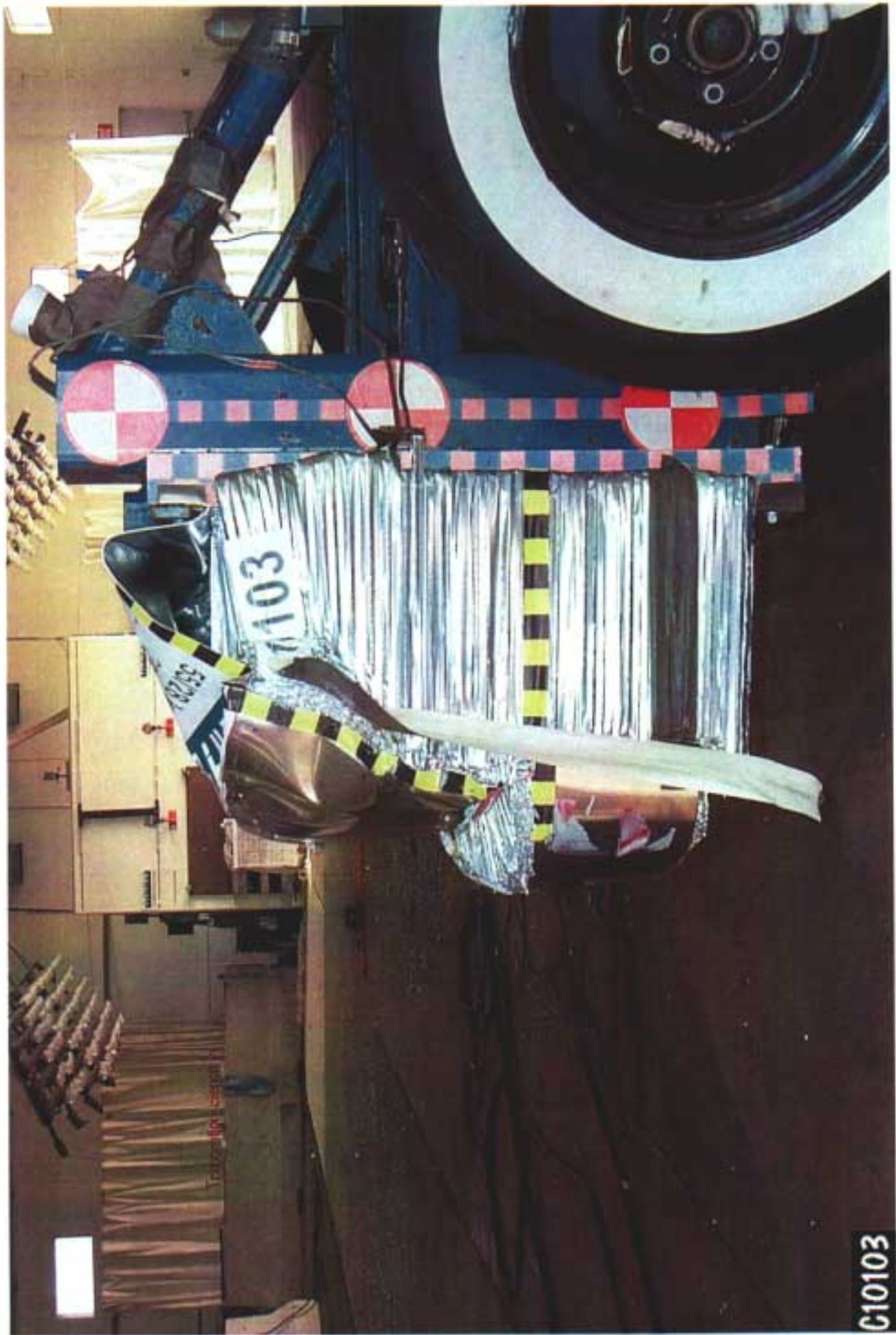


Figure A-10: POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE

C10103

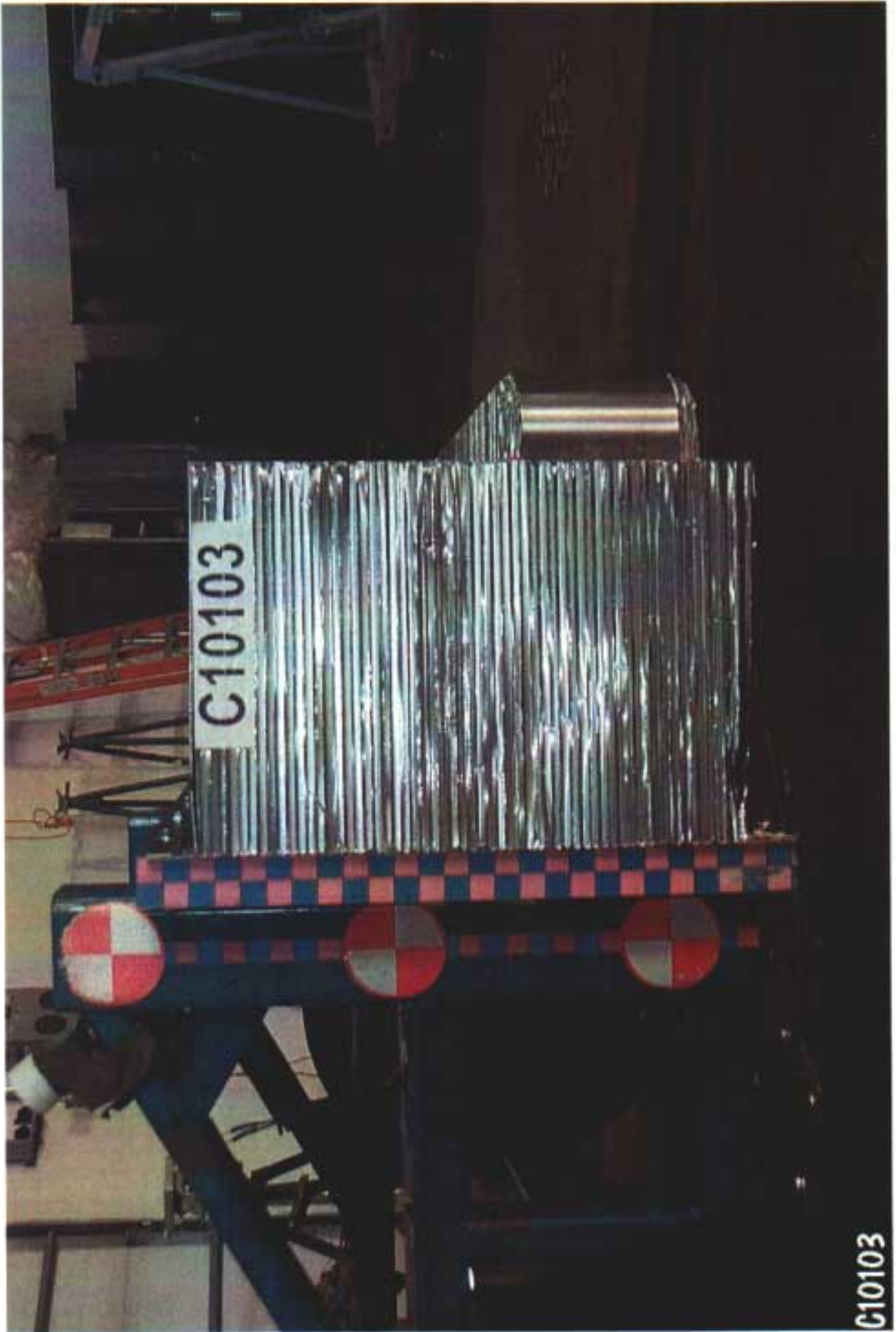


Figure A-11: PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

C10103



Figure A-12: POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

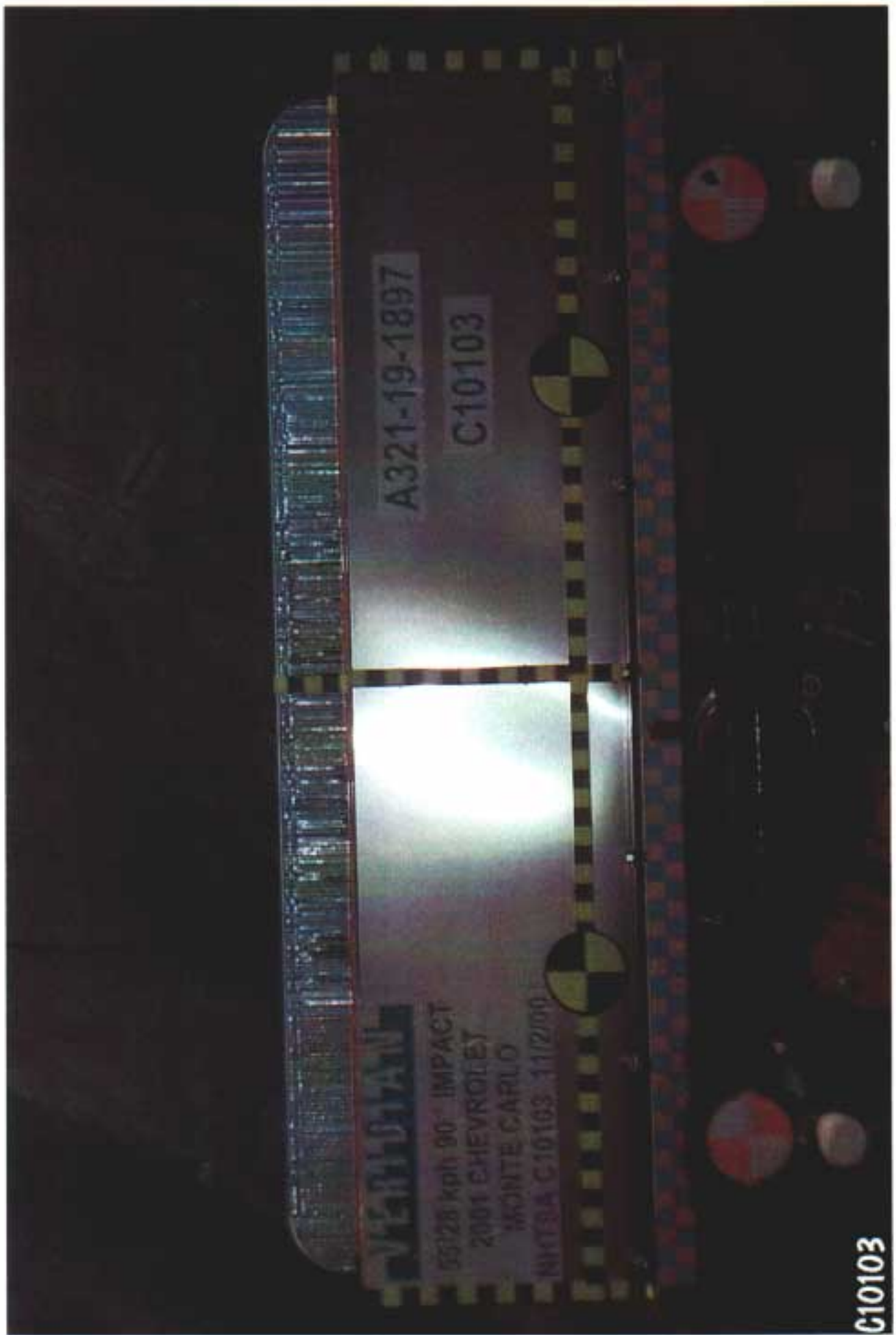


Figure A-13: PRE-TEST TOP VIEW OF IMPACTOR FACE

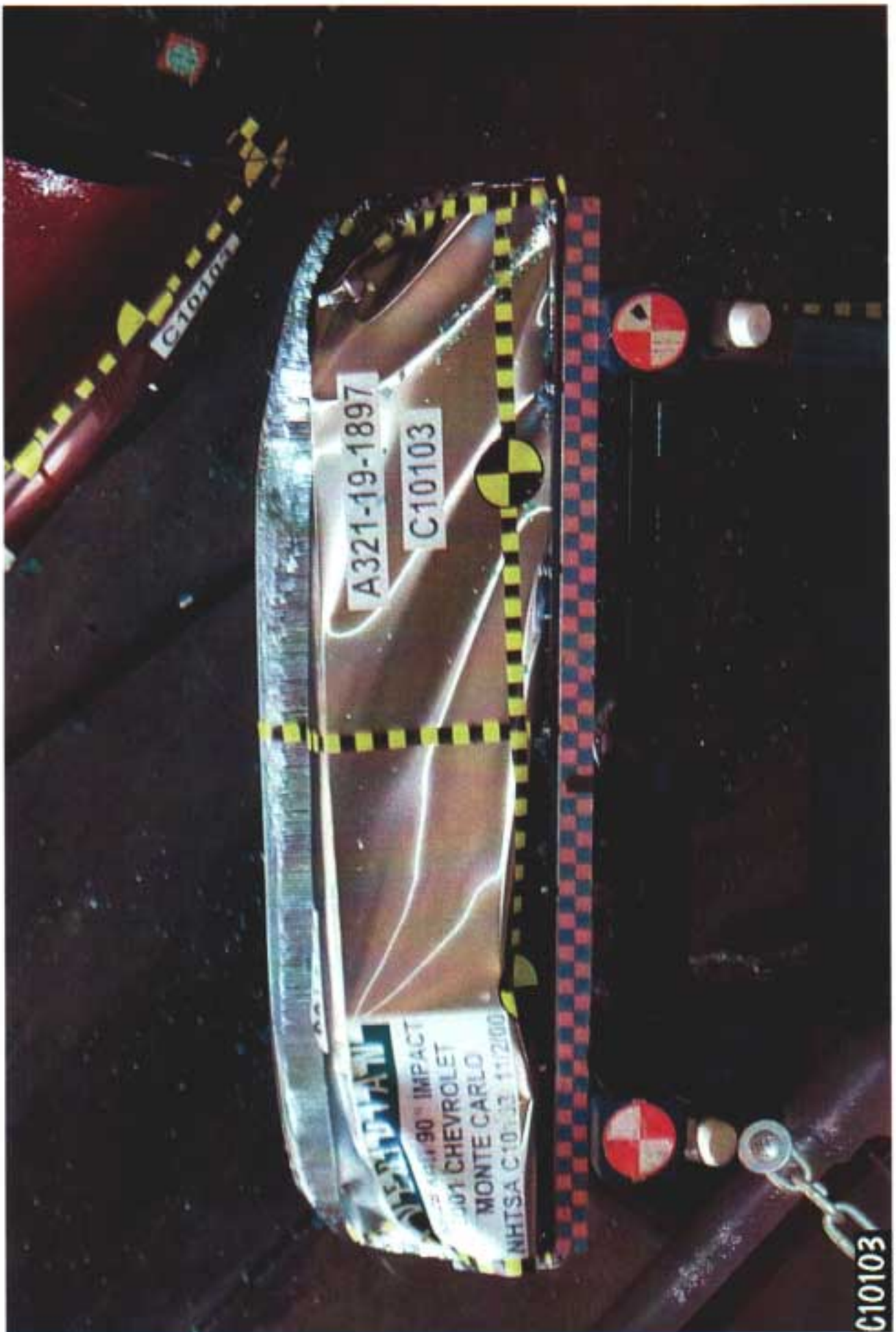
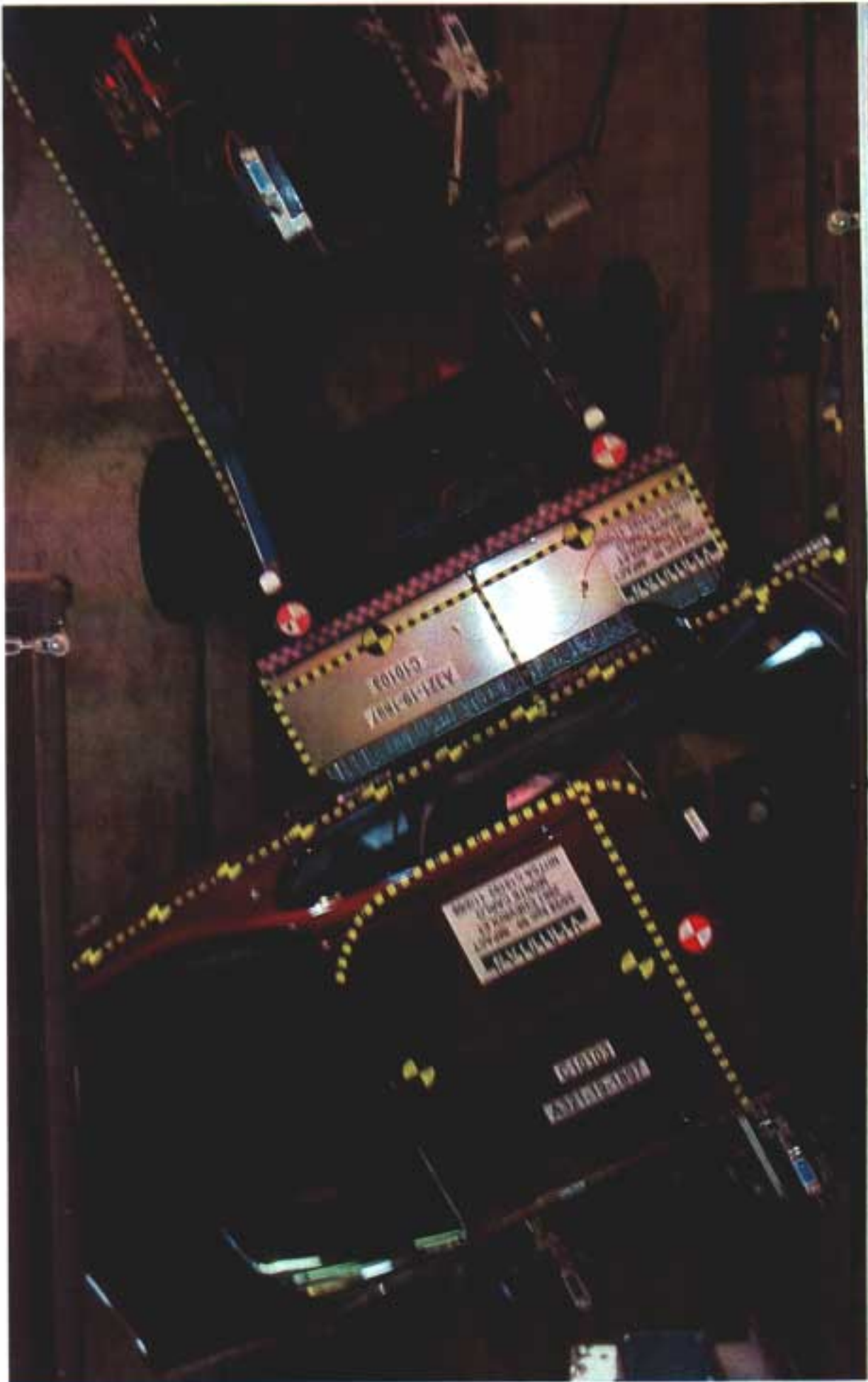


Figure A-14: POST-TEST TOP VIEW OF IMPACTOR FACE

C10103



G10103

Figure A-15: PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



Figure A-16: POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE

C10103

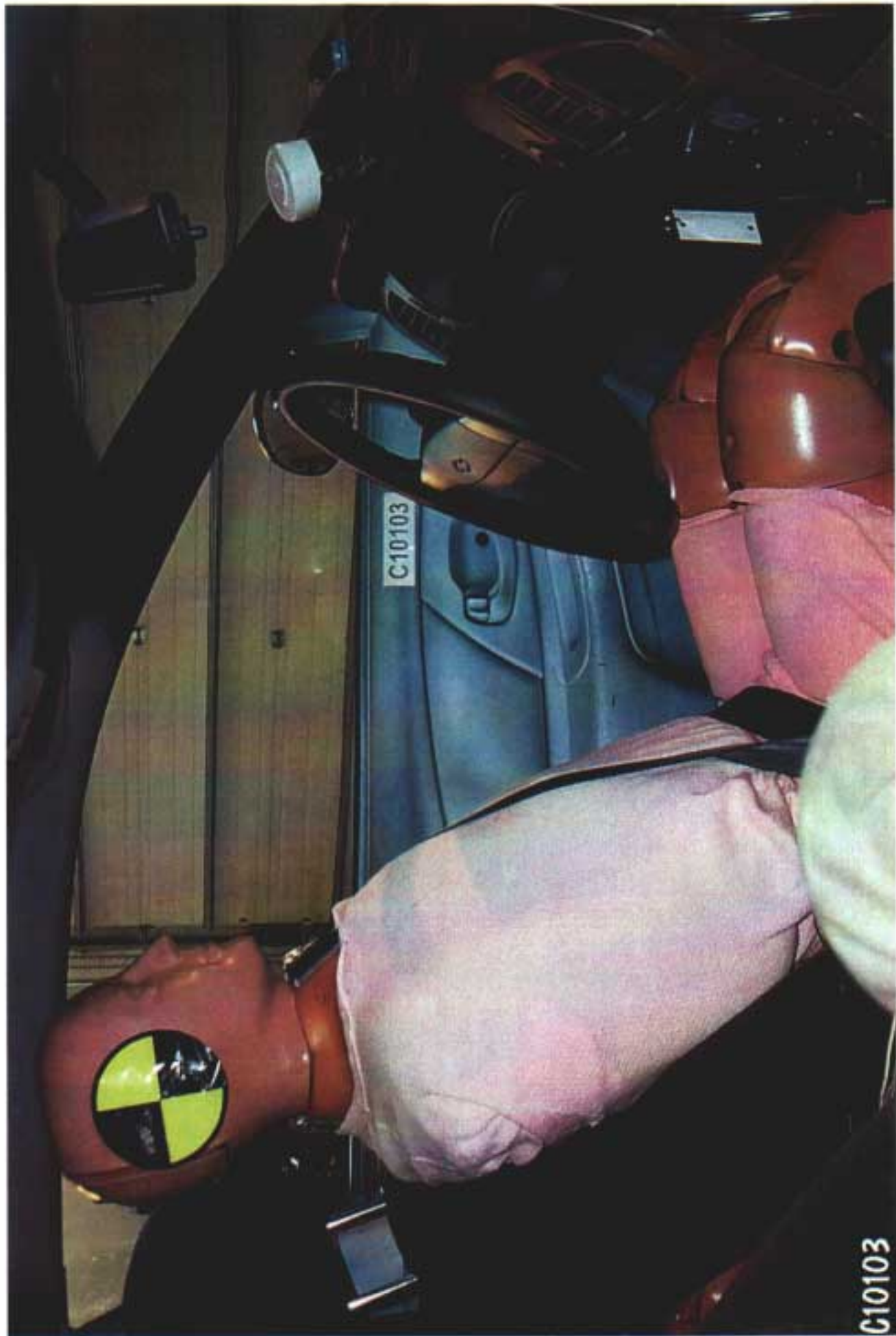


Figure A-17: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-18: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID

C10103

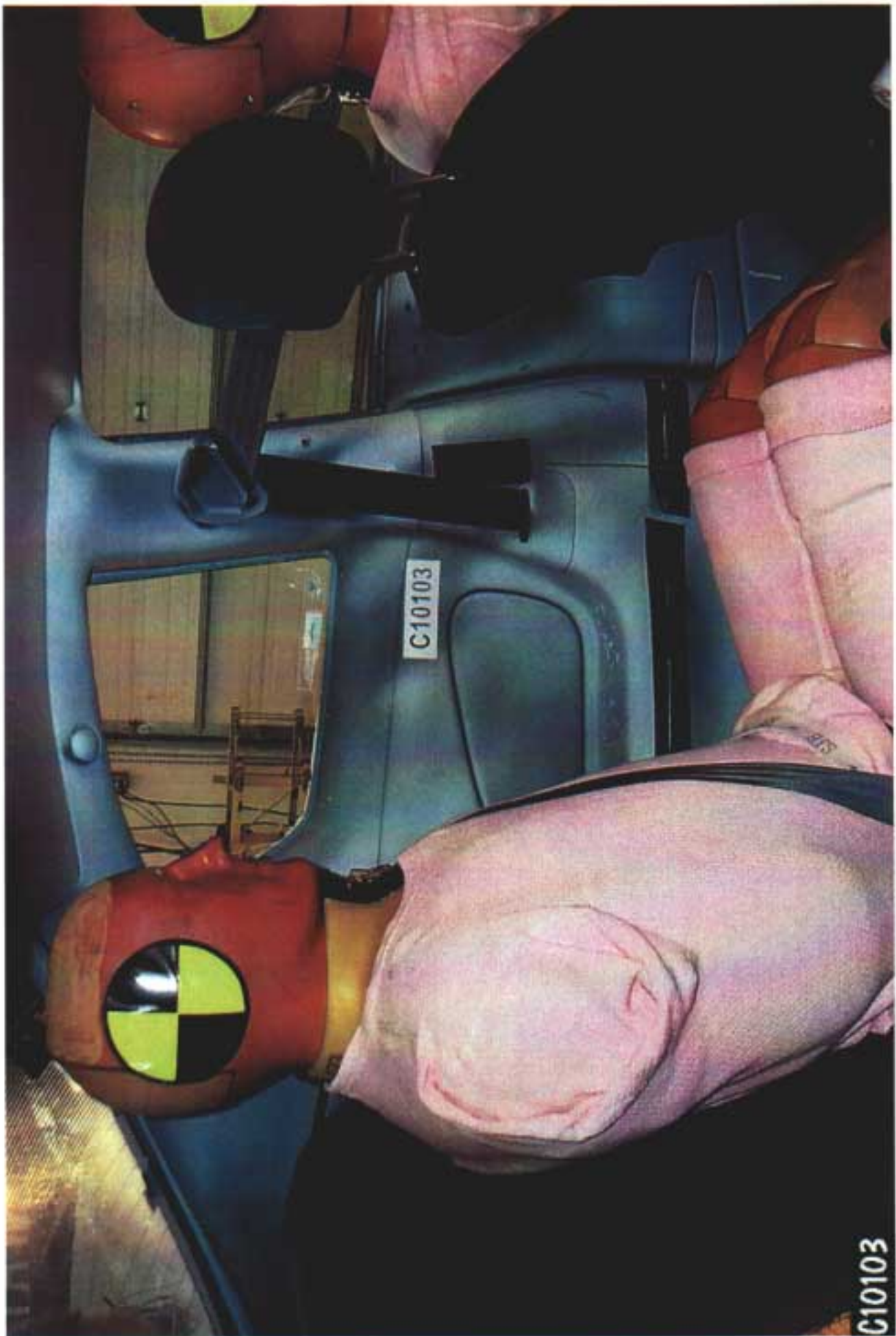


Figure A-19: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID

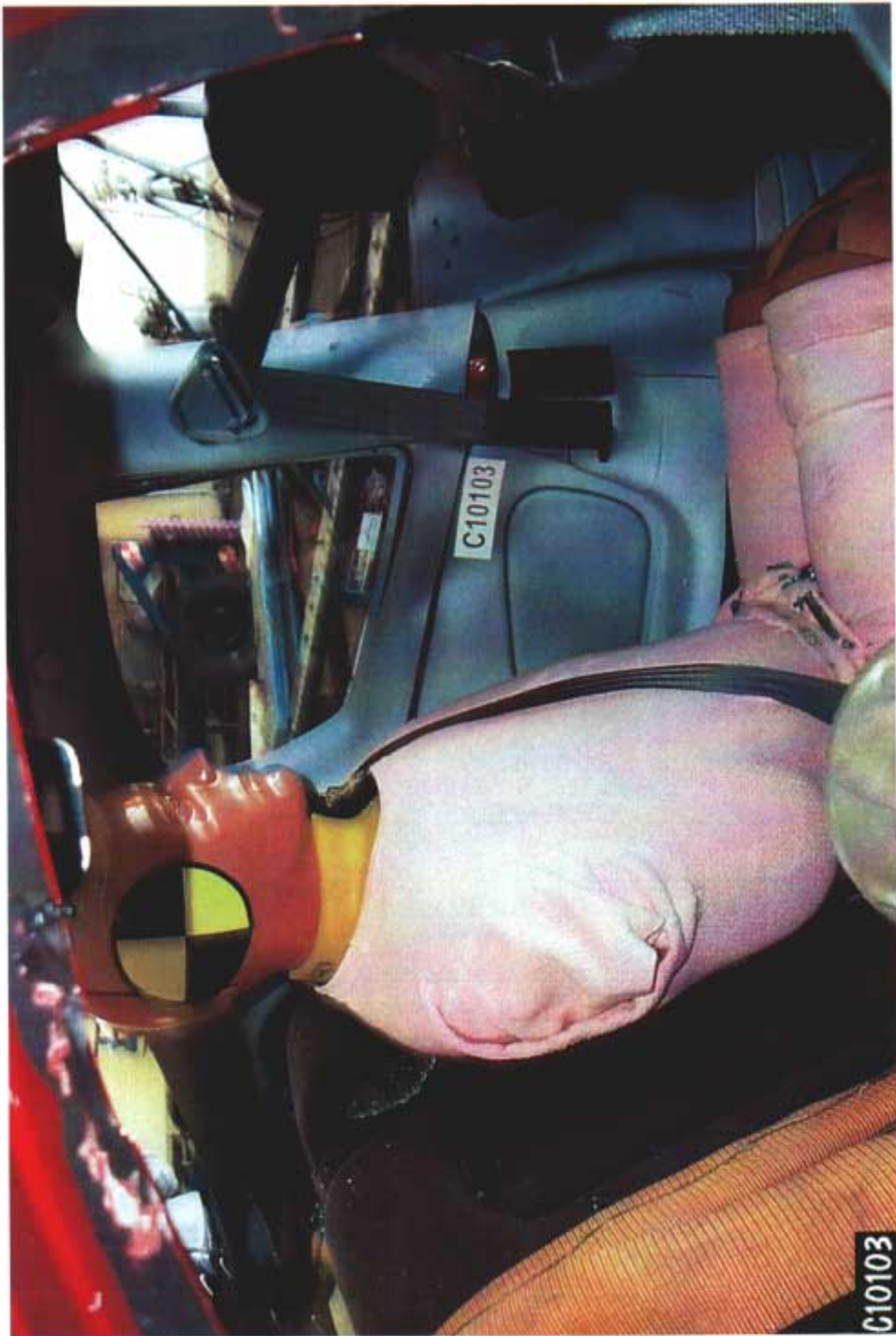


Figure A-20: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID

C10103



Figure A-21: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

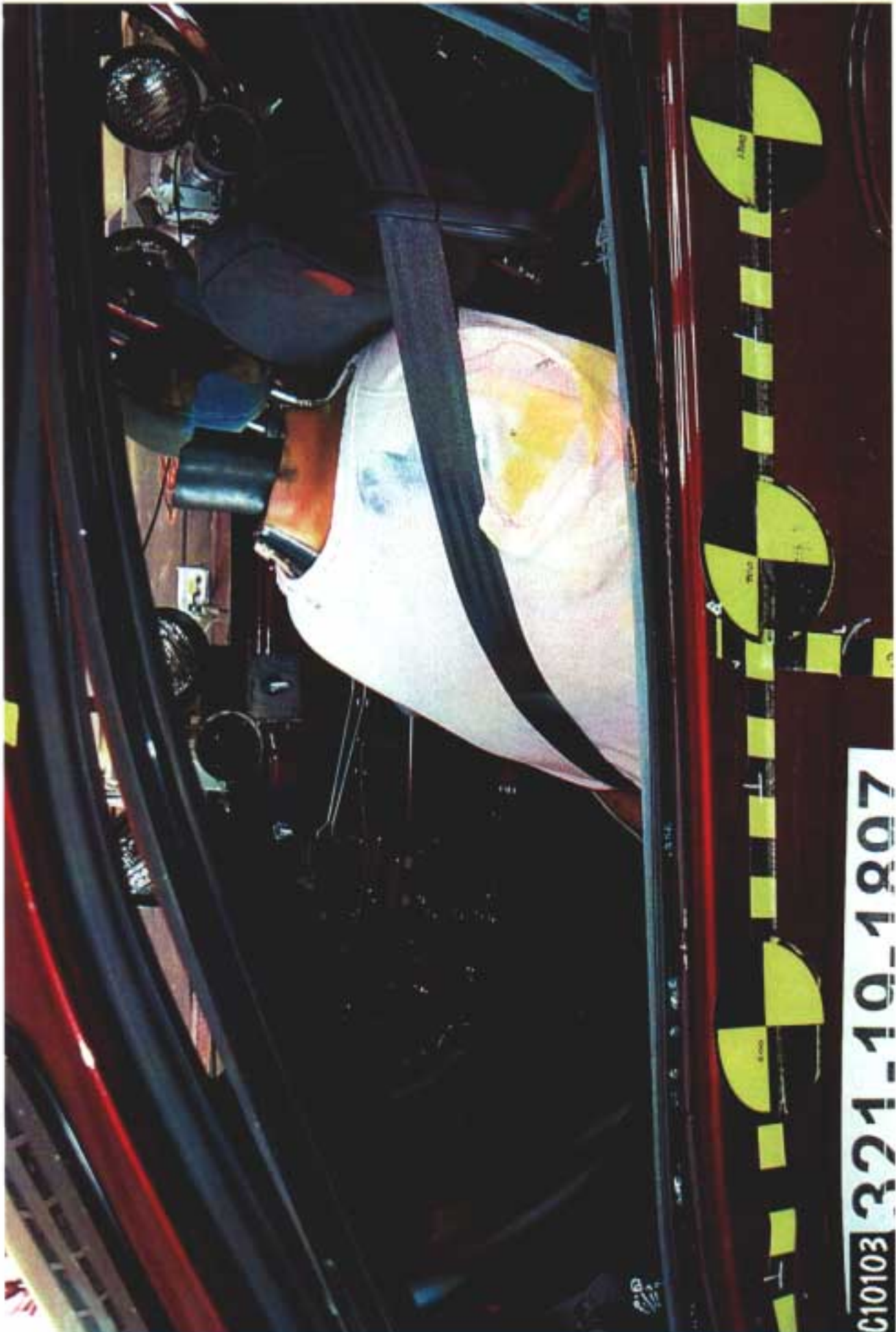


Figure A-22: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-23: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-24: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

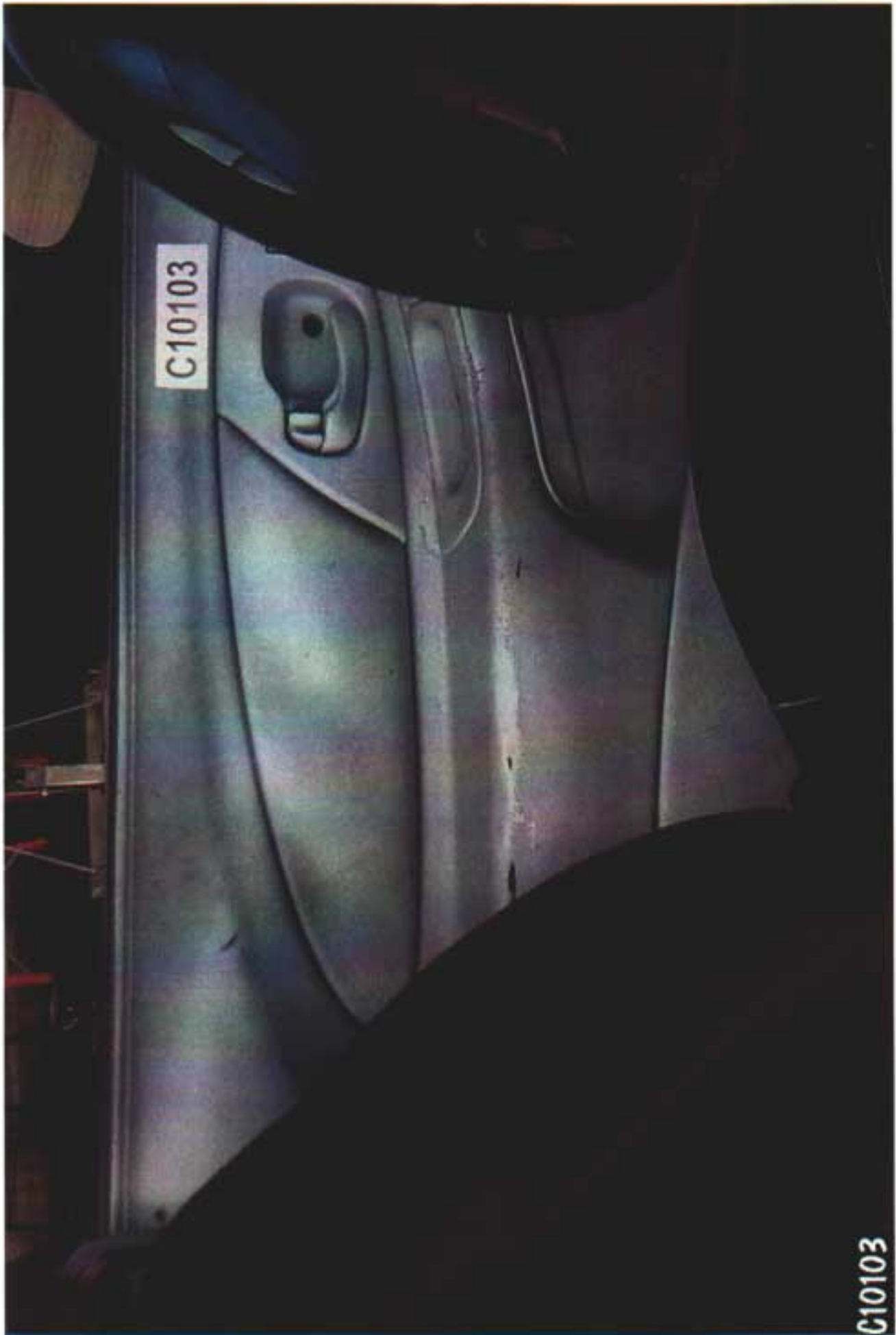


Figure A-25: PRE-TEST FRONT INTERIOR TRIM

C10103

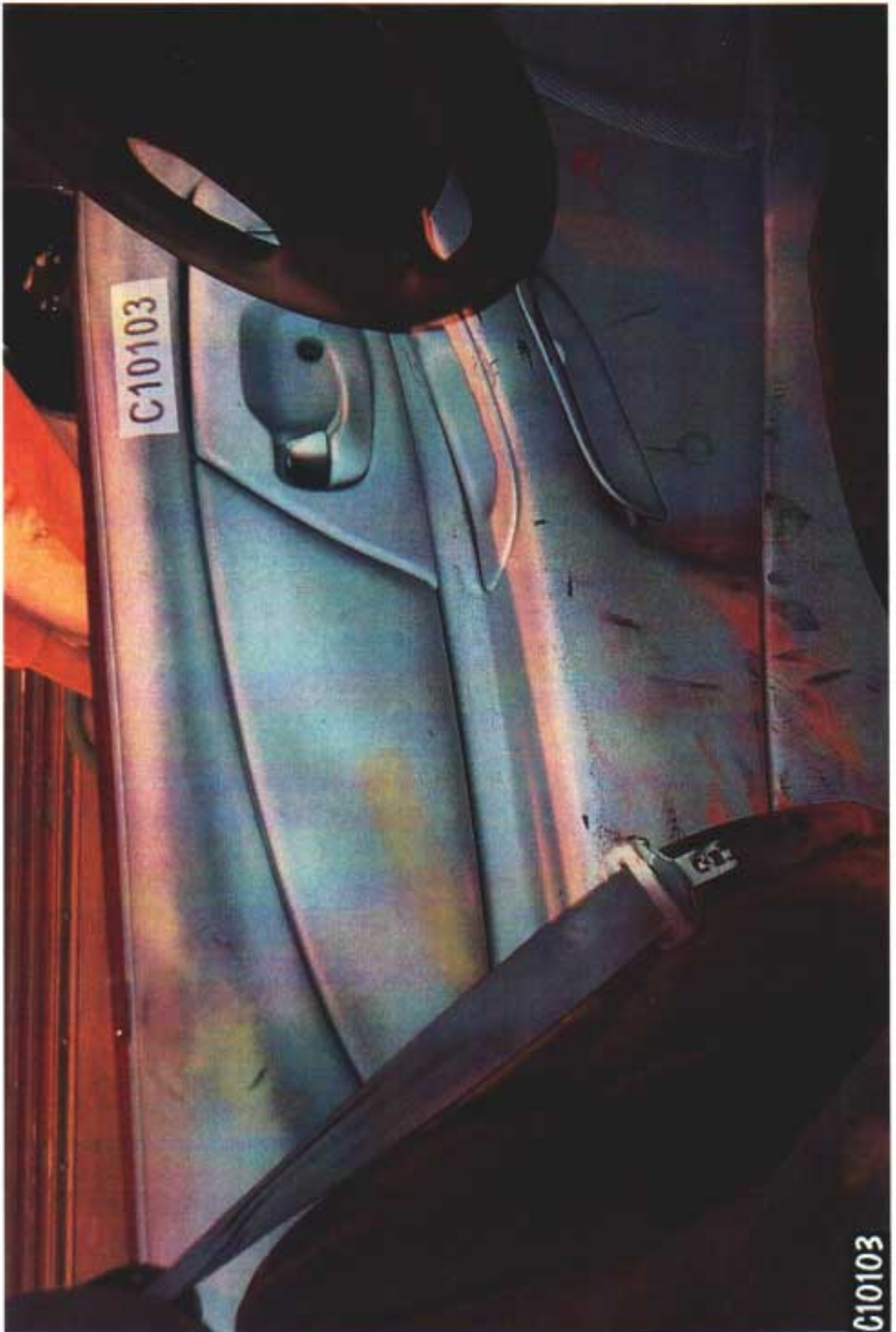


Figure A-26: POST-TEST FRONT INTERIOR TRIM SHOWING SID IMPACT LOCATIONS



Figure A-27: PRE-TEST REAR INTERIOR TRIM

C10103

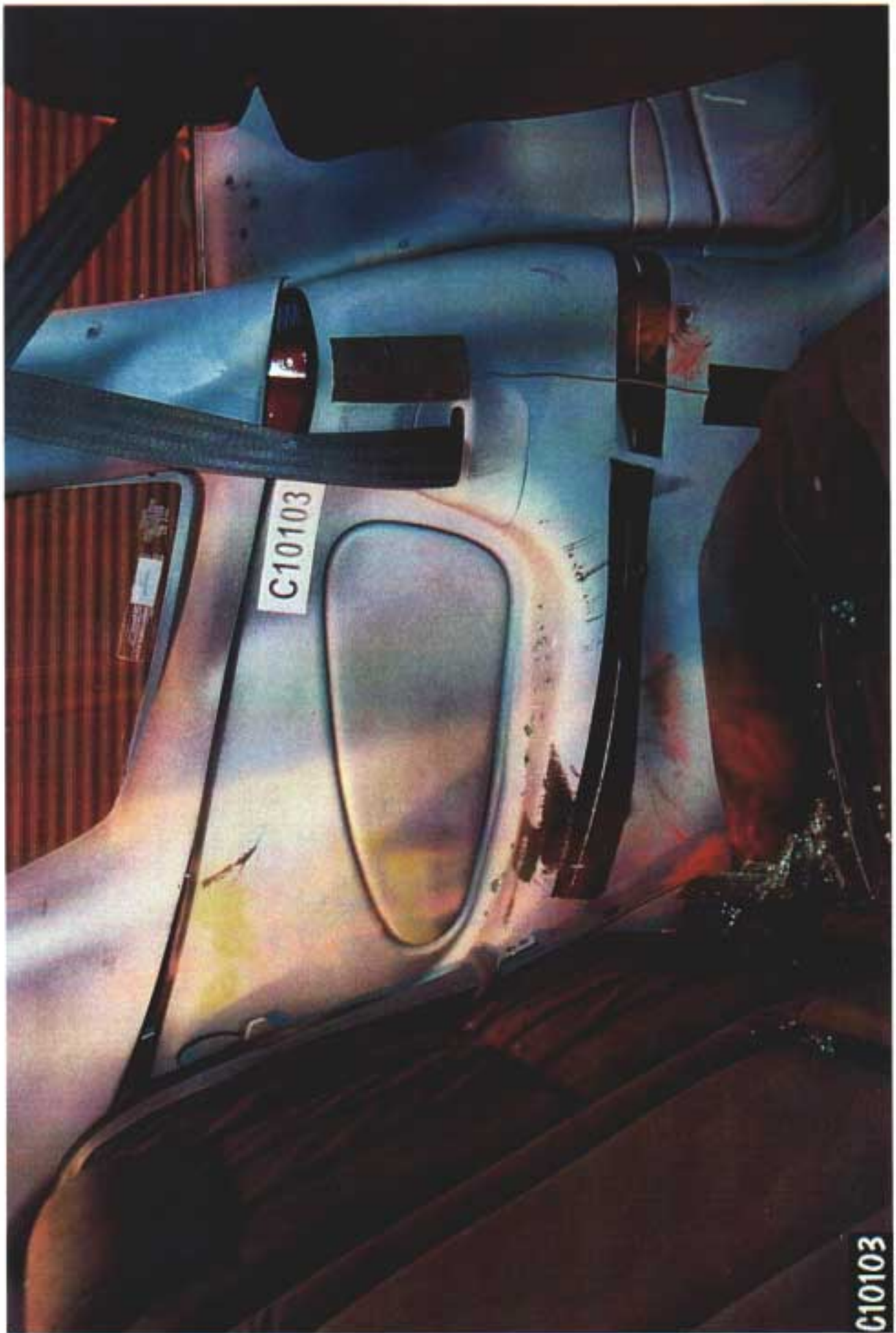


Figure A-28: POST-TEST REAR INTERIOR TRIM SHOWING SID IMPACT LOCATIONS

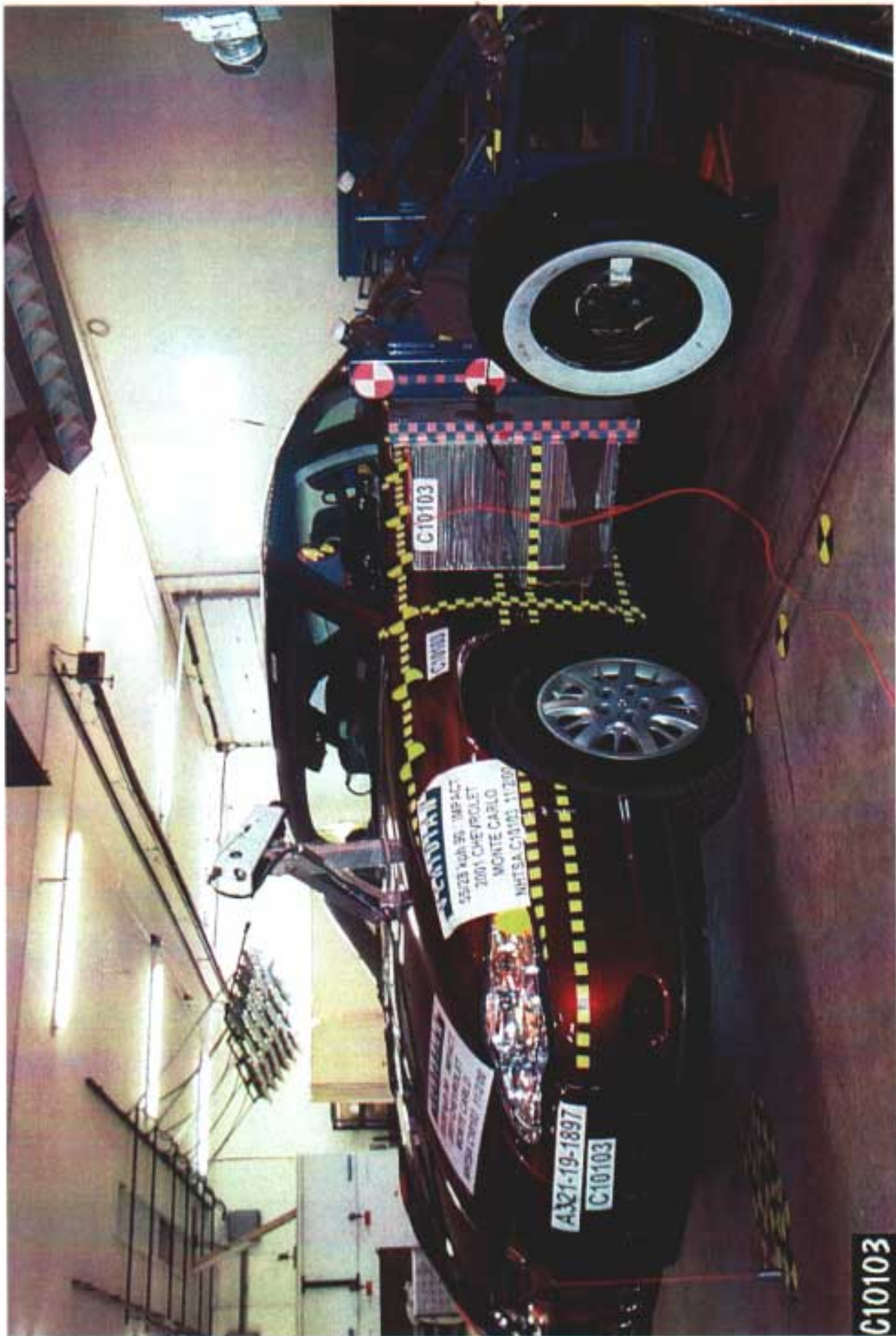


Figure A-29: PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-30: PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-31: POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

C10103

MFD BY GENERAL MOTORS OF CANADA LTD.



DATE	GVWR	GAWR FRT	GAWR RR
06/00	1952 KG	1072 KG	880 KG
	4303 LB	2363 LB	1940 LB

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

2G1WW12E219112113

TYPE: PASS CAR

C10103

Figure A-32: CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL



TIRE - LOADING INFORMATION

OCCUPANTS		VEHICLE CAP. WT.	
FRT. CTR.	RR.	TOTAL	LBS
2	0	3	5
			416
			917

MAX. LOADING @ GVWR SAME AS VEHICLE CAPACITY WEIGHT.
2G1WW12E219112113

MODEL: WW27 WAK

TIRE SIZE	SPEED RTG	COLD TIRE PRESSURE
FRT P225/60R16	S	210KPA(30PSI)
RR P225/60R16	S	210KPA(30PSI)
SPA T125/70D16	M	420KPA(60PSI)

IF TIRES ARE HOT, ADD 28KPA(4PSI)
SEE OWNER'S MANUAL FOR MORE INFORMATION

C10103

Figure A-33: CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL

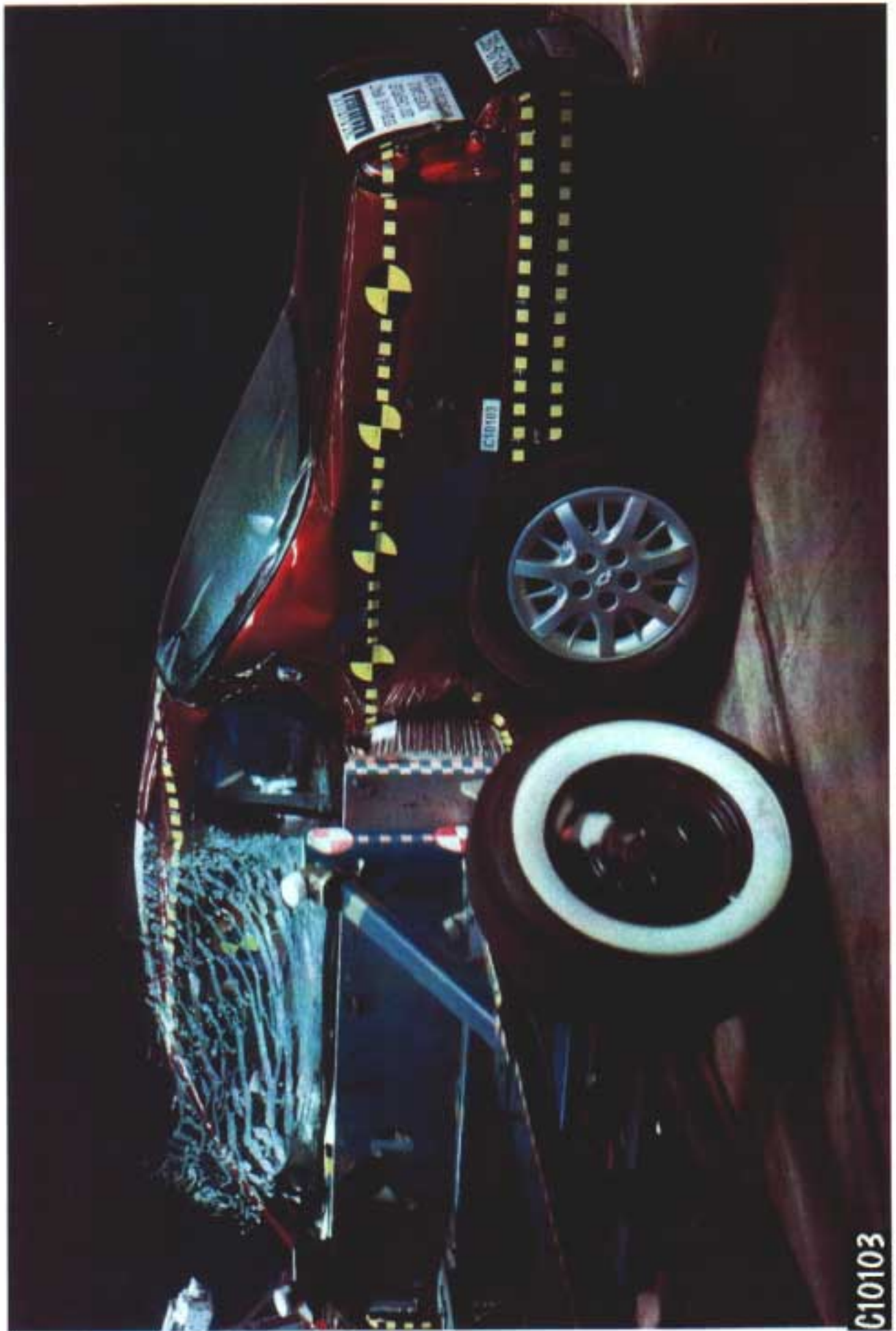


Figure A-34: IMPACT PHOTO

C10103

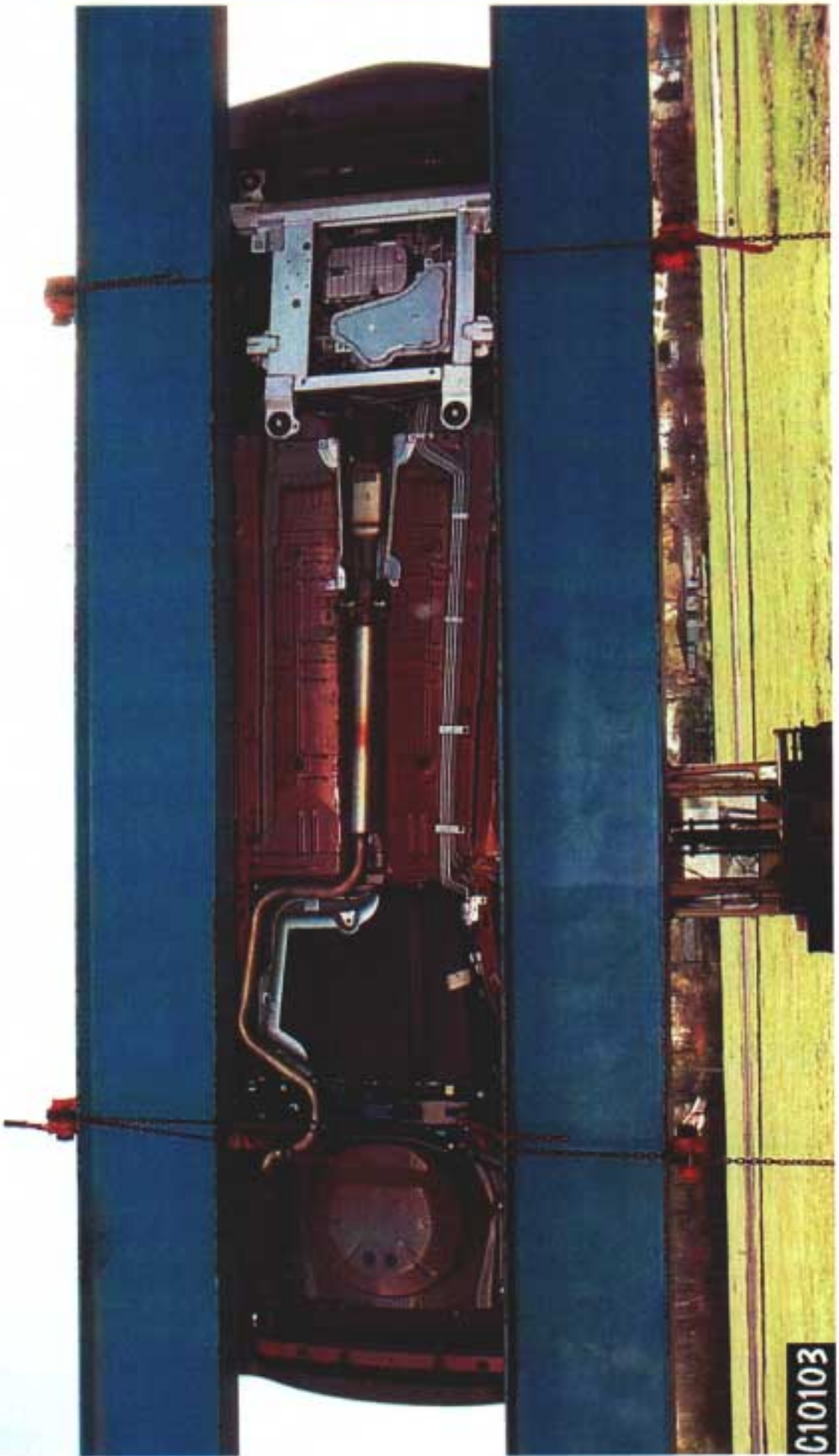


Figure A-35: ROLLOVER 90 DEGREES

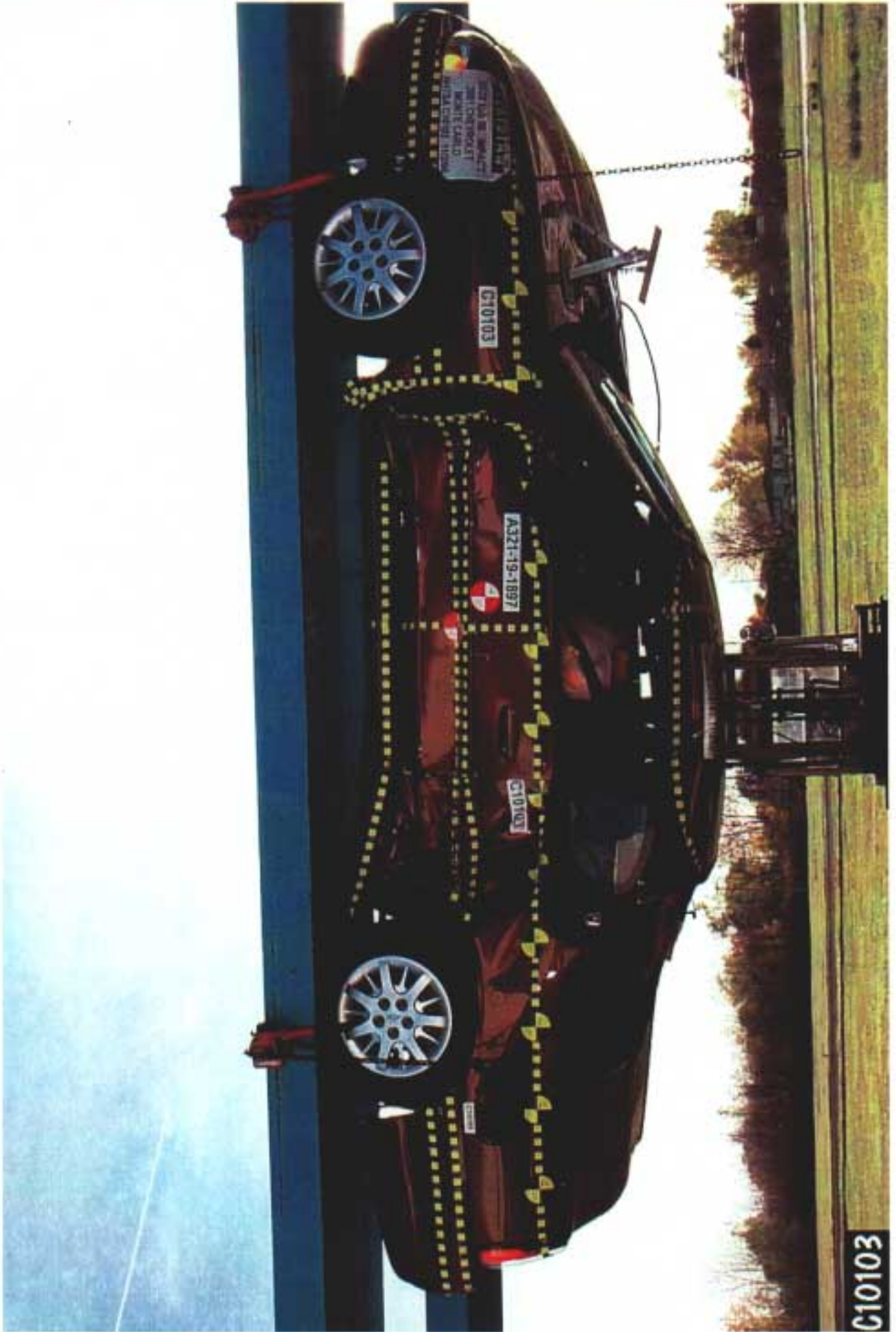


Figure A-36: ROLLOVER 180 DEGREES

PHOTOGRAPH NOT AVAILABLE

Figure A-37: ROLLOVER 270 DEGREES



Figure A-38: ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID RESPONSE DATA

TABLE OF DATA PLOTS

**DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 1000
INTEGRATION DATA - FILTER CLASS 180**

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD (X) ACCELERATION VS TIME	B- 6
2	DRIVER HEAD (X) VELOCITY VS TIME	B- 7
3	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD (Y) VELOCITY VS TIME	B- 9
5	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 10
6	DRIVER HEAD (Z) VELOCITY VS TIME	B- 11
7	DRIVER HEAD RESULTANT VS TIME	B- 12
8	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 13
9	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 14
10	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 15
11	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 16
12	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 17
13	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 18
14	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 19
15	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 20
16	PASSENGER HEAD (X) VELOCITY VS TIME	B- 21
17	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 22
18	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 23
19	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 24
20	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 25
21	PASSENGER HEAD RESULTANT VS TIME	B- 26
22	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 27
23	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 28
24	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 29
25	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 30
26	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 31
27	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 32
28	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 33
29	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 34
30	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 35

**DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION DATA - FIR FILTERED**

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
31	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 36
32	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 37
33	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 38
34	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 39
35	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 40
36	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 41
37	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 42
38	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 43

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
39	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 44
40	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 45
41	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 46
42	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 47
43	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 48
44	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 49
45	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 50
46	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 51
47	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 52
48	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 53
49	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 54
50	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 55
51	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 56
52	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 57
53	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 58
54	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 59
55	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 60
56	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 61
57	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 62
58	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 63
59	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 64
60	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 65
61	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 66
62	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 67
63	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 68
64	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 69
65	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 70
66	LOWER B-POST (Y) ACCELERATION VS TIME	B- 71
67	LOWER B-POST (Y) VELOCITY VS TIME	B- 72
68	UPPER B-POST (Y) ACCELERATION VS TIME	B- 73
69	UPPER B-POST (Y) VELOCITY VS TIME	B- 74
70	LOWER A-POST (Y) ACCELERATION VS TIME	B- 75
71	LOWER A-POST (Y) VELOCITY VS TIME	B- 76
72	UPPER A-POST (Y) ACCELERATION VS TIME	B- 77
73	UPPER A-POST (Y) VELOCITY VS TIME	B- 78
74	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 79
75	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 80
76	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 81
77	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 82

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
78	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 83
79	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 84
80	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 85
81	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 86
82	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 87
83	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 88
84	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 89

MDB INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
85	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 90
86	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 91
87	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 92
88	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 93
89	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 94
90	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 95
91	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 96
92	MDB REAR (X) ACCELERATION VS TIME	B- 97
93	MDB REAR (X) VELOCITY VS TIME	B- 98
94	MDB REAR (Y) ACCELERATION VS TIME	B- 99
95	MDB REAR (Y) VELOCITY VS TIME	B- 100

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FILTER CLASS 1000
INTEGRATION DATA - FILTER CLASS 180

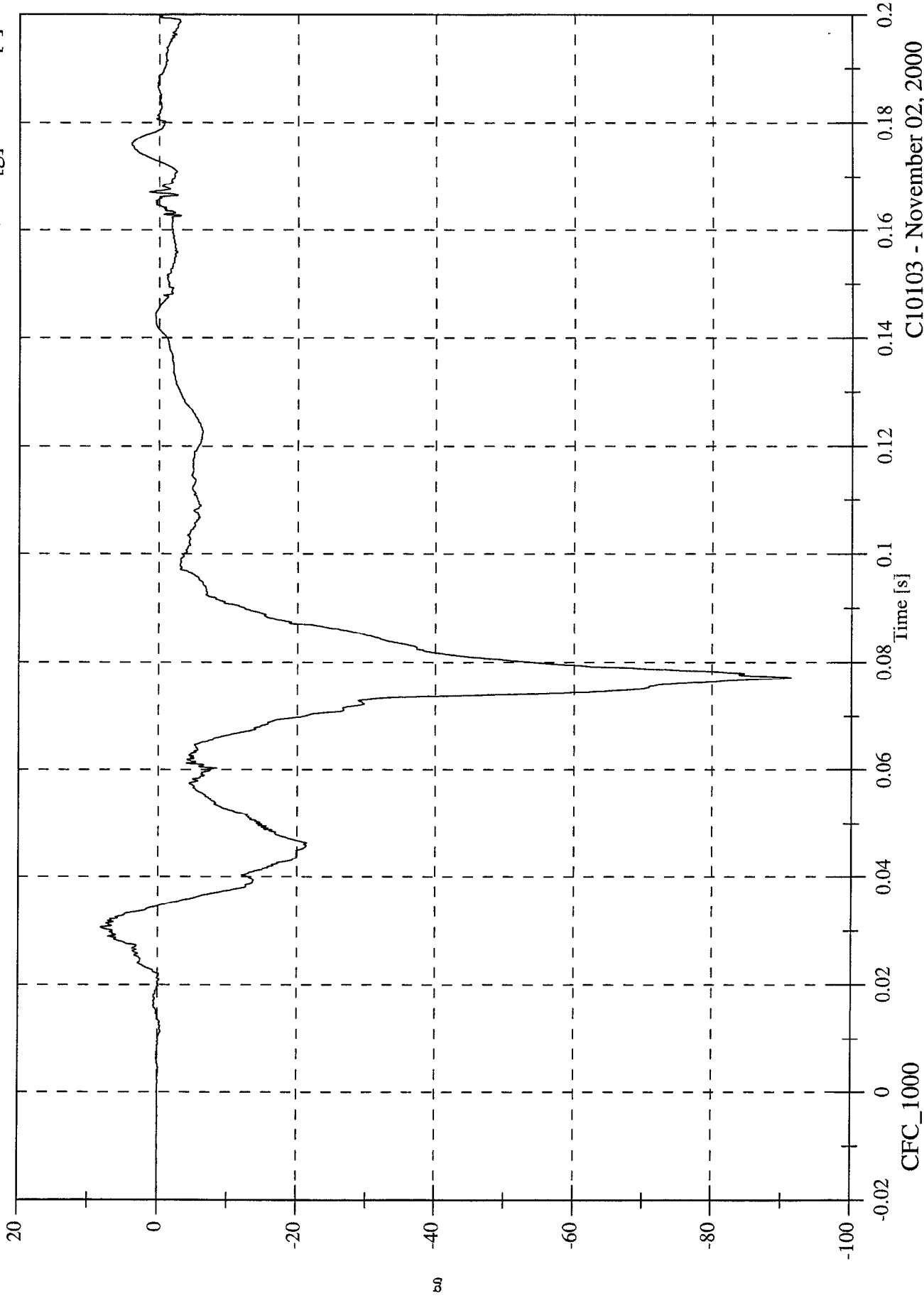
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
96	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 101
97	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 102
98	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 103
99	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 104
100	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 105
101	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 106
102	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 107
103	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 108
104	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 109
105	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 110
106	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 111
107	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 112
108	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 113
109	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 114
110	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 115
111	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 116

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
112	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 117
113	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 118
114	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 119
115	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 120
116	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 121
117	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 122
118	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 123
119	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 124

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
PI Head x

Max: 8.1 [g] at 0.031 [s]
Min: -91.3 [g] at 0.077 [s]



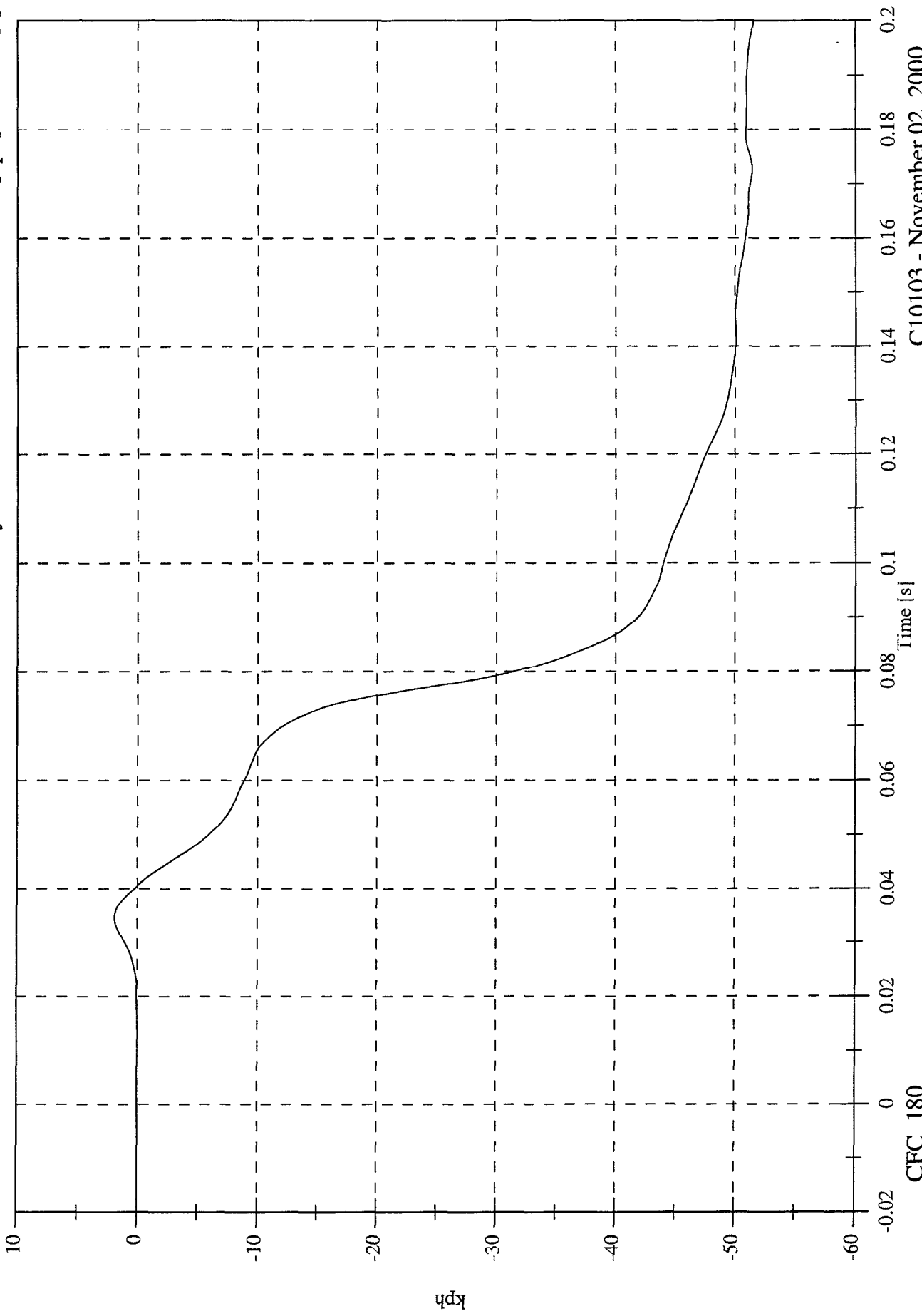
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 1.9 [kph] at 0.035 [s]

Min: -51.5 [kph] at 0.200 [s]

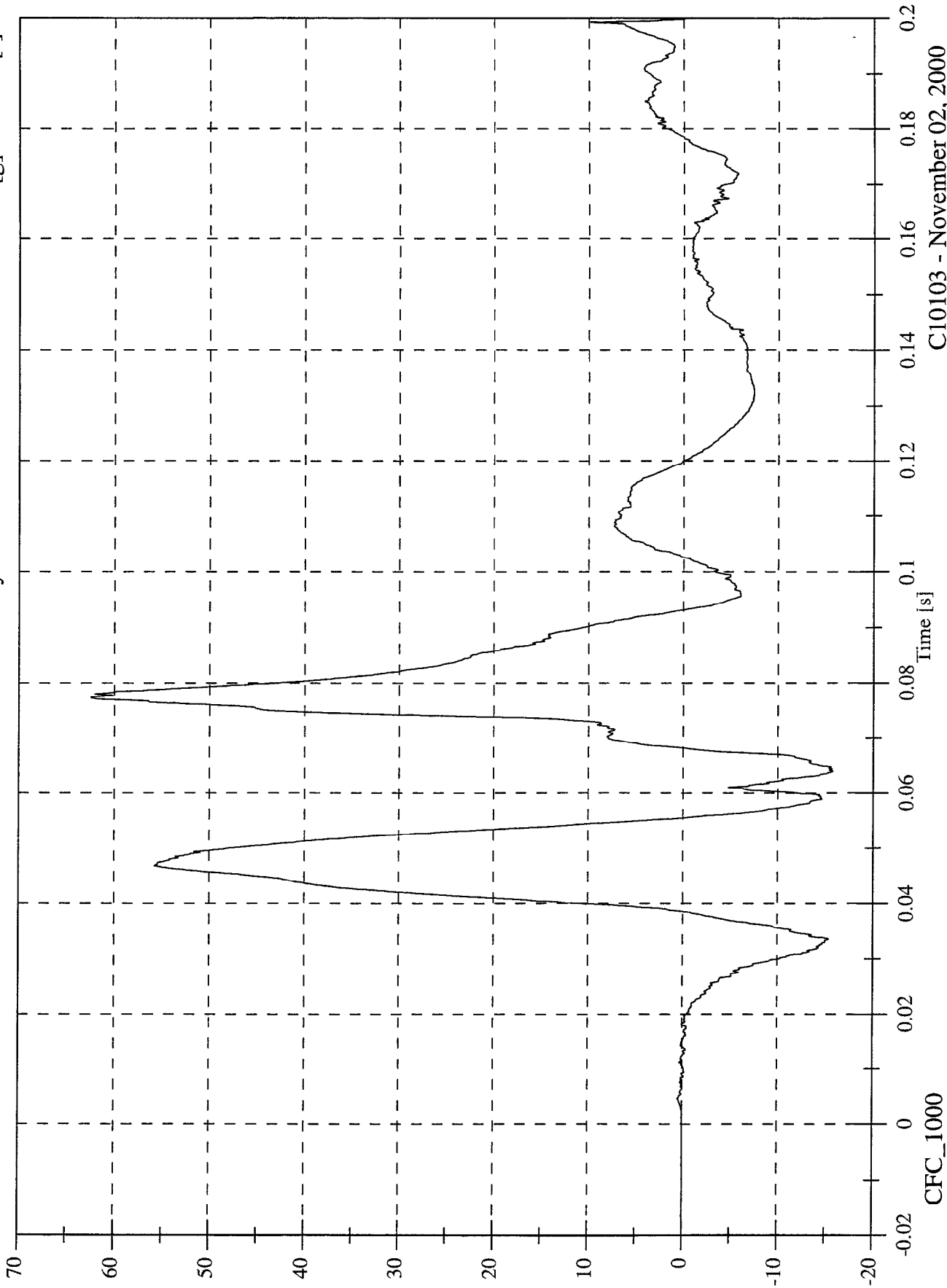
P1 Head x Velocity



C10103 - November 02, 2000

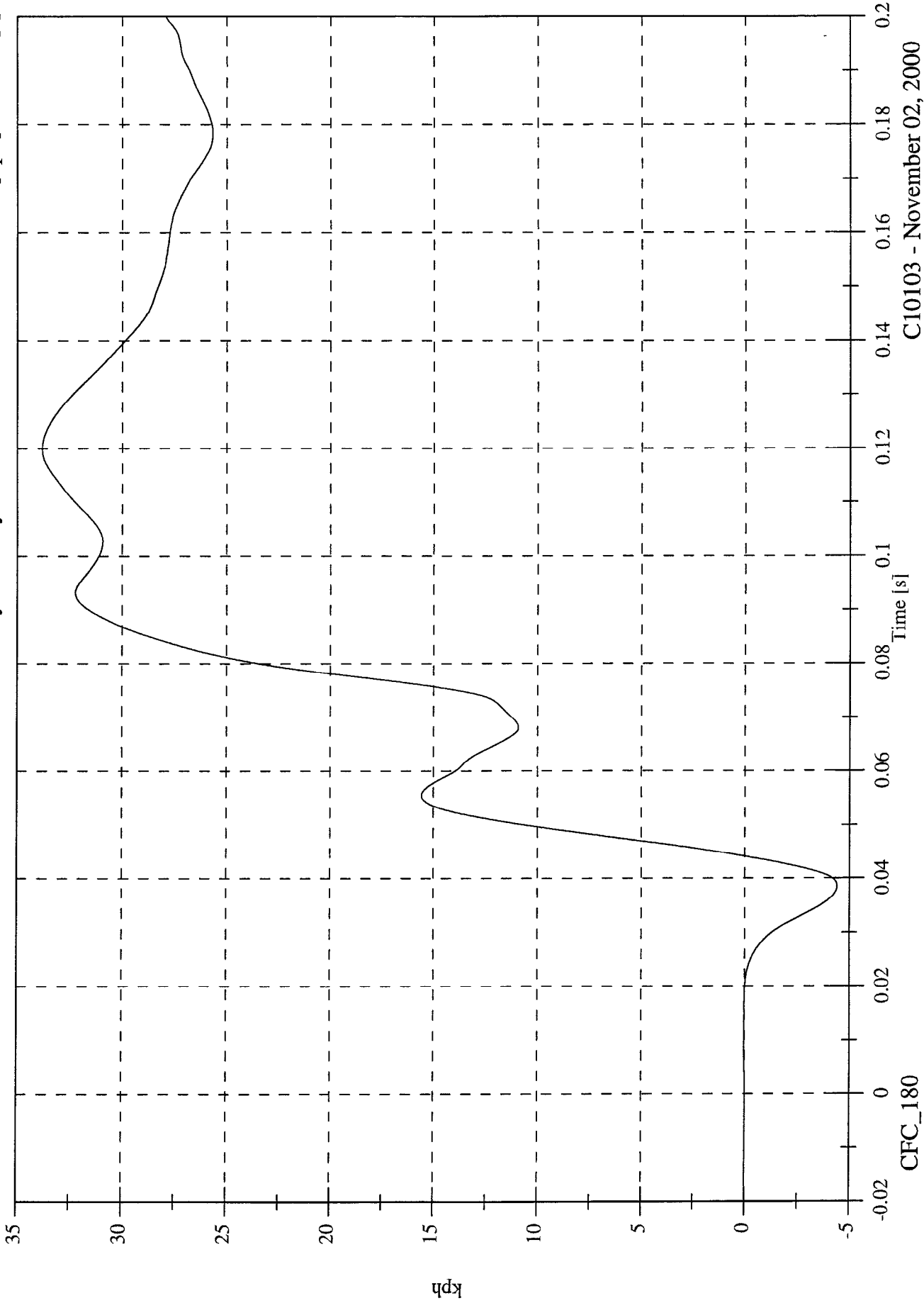
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Head y

Max: 62.4 [g] at 0.077 [s]
Min: -15.8 [g] at 0.064 [s]



C10103 - November 02, 2000

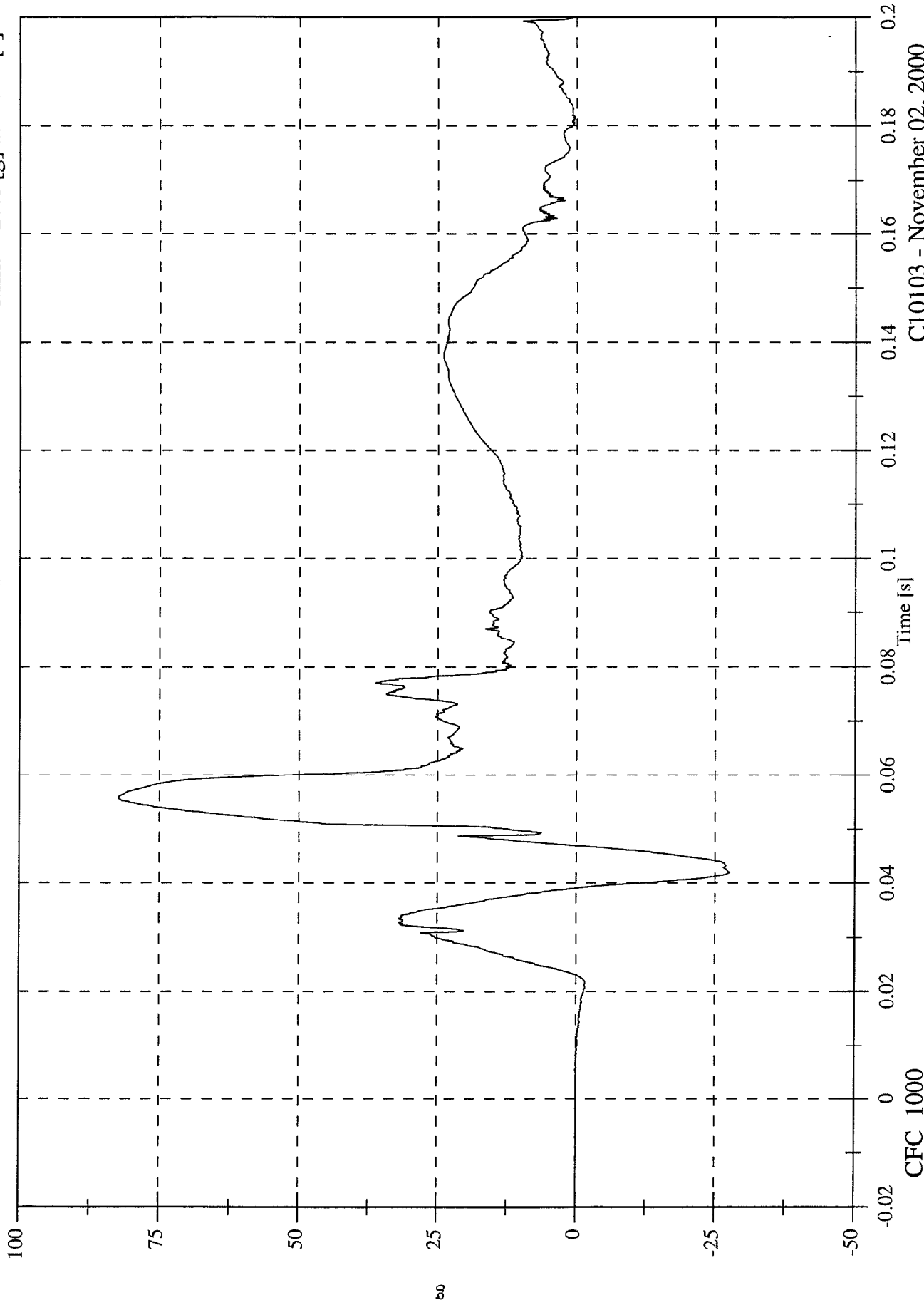
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Head y Velocity
Max: 33.8 [kph] at 0.120 [s]
Min: -4.4 [kph] at 0.039 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Head z

Max: 82.4 [g] at 0.056 [s]
Min: -27.6 [g] at 0.042 [s]



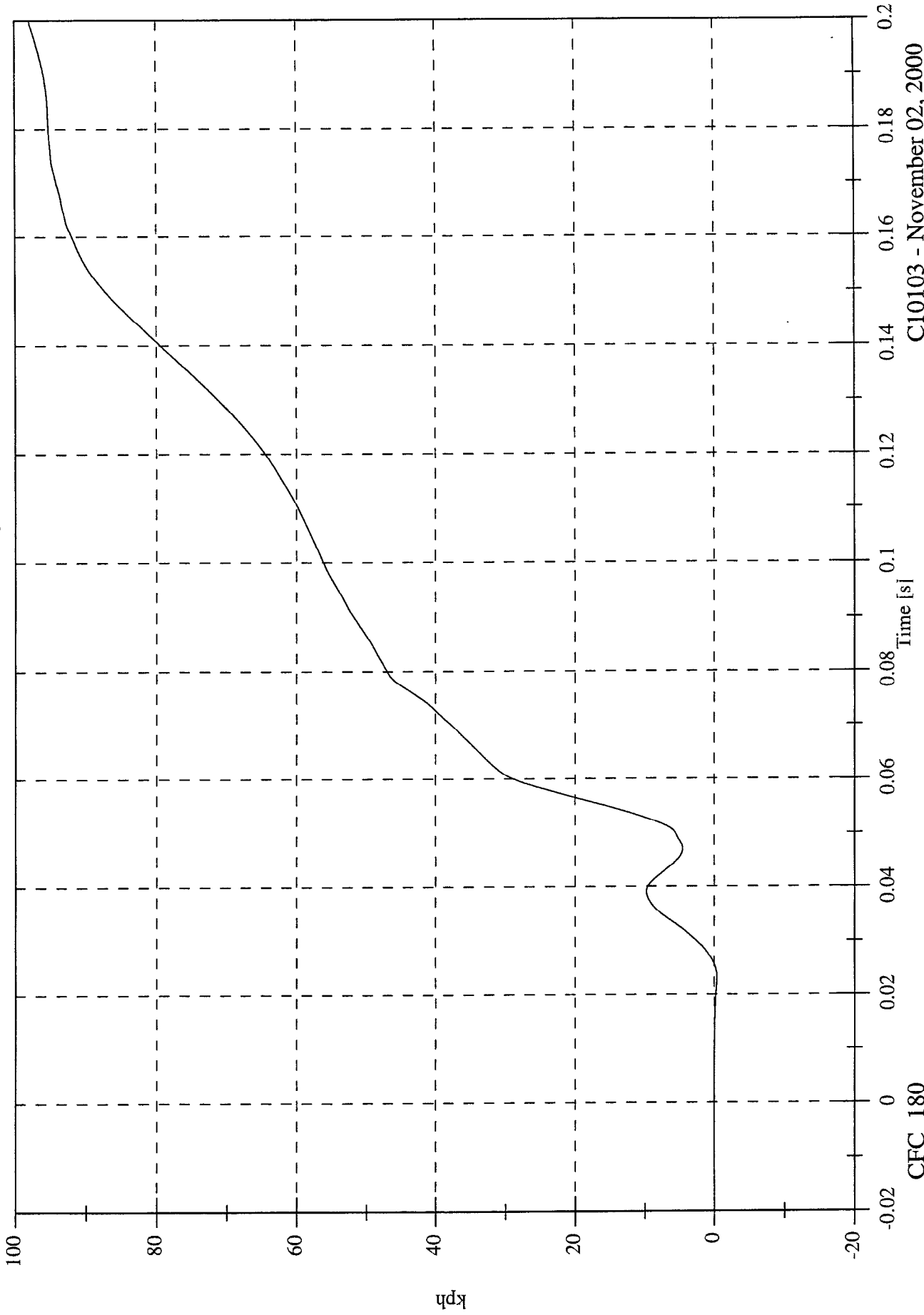
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 97.9 [kph] at 0.200 [s]

Min: -0.4 [kph] at 0.023 [s]

P1 Head z Velocity

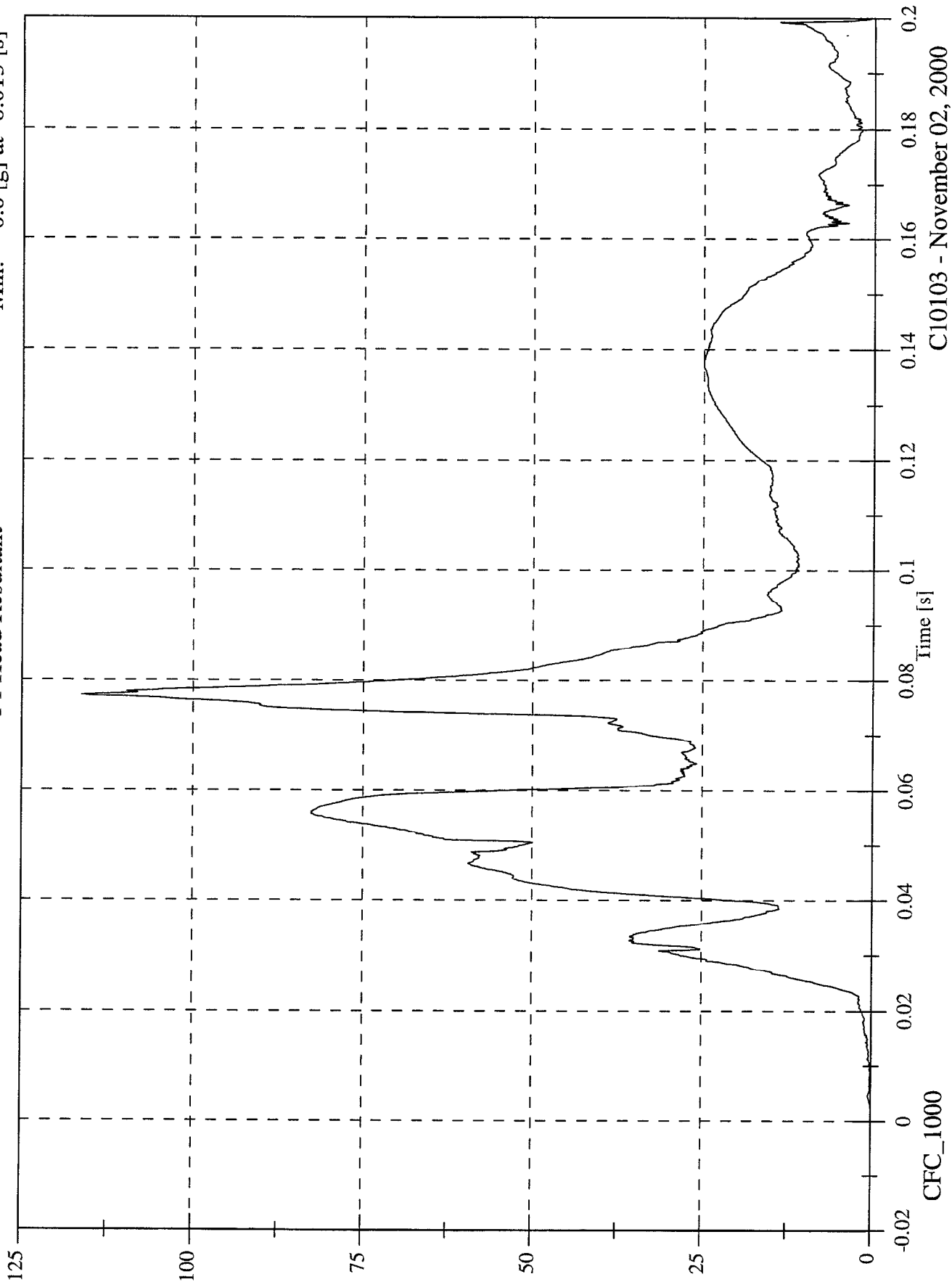


CFC_180

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Head Resultant

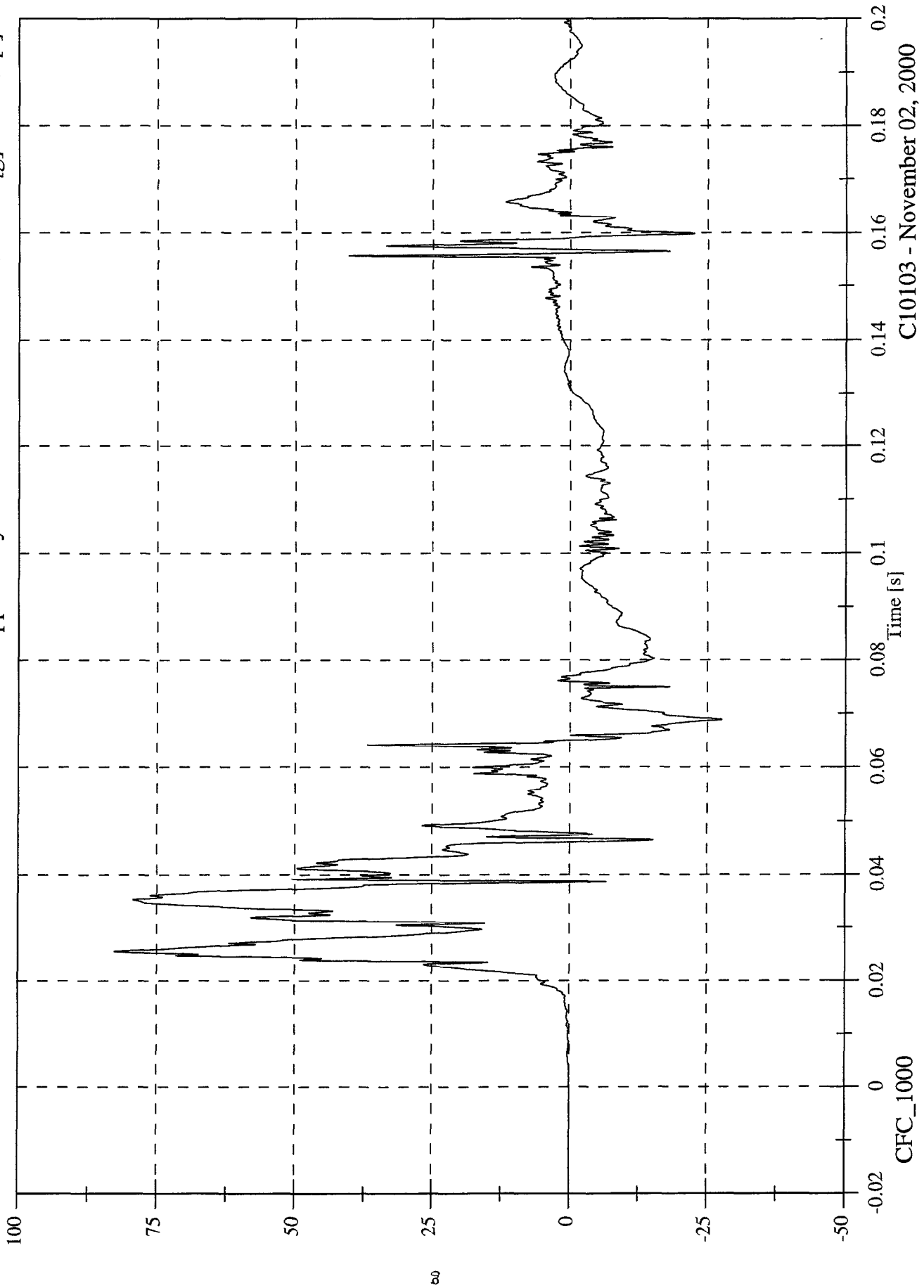
Max: 116.3 [g] at 0.077 [s]
Min: 0.0 [g] at -0.013 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
PI Upper Rib y

Max: 82.6 [g] at 0.026 [s]
Min: -27.6 [g] at 0.069 [s]

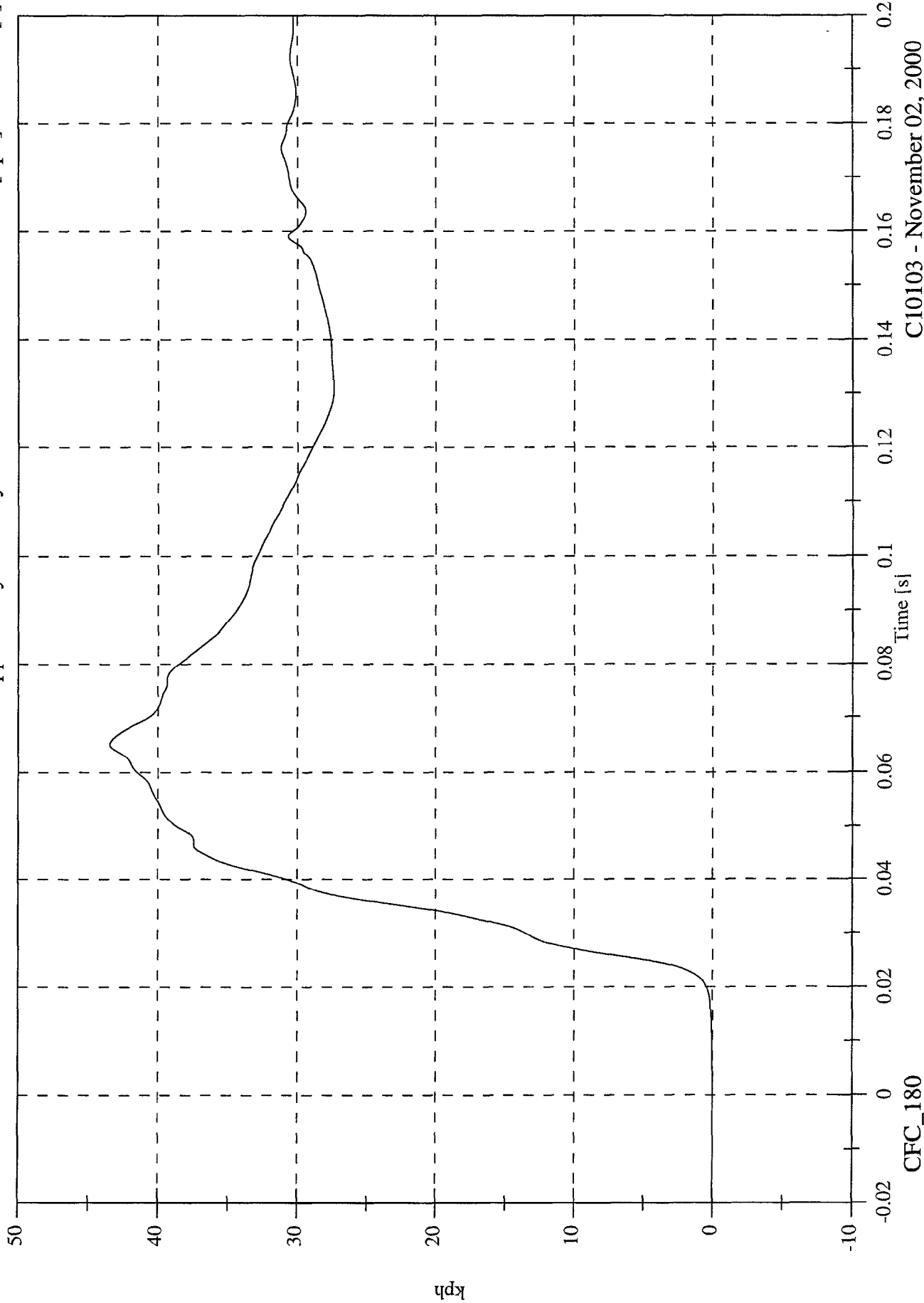


C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Upper Rib y Velocity

Max: 43.4 [kph] at 0.065 [s]

Min: -0.0 [kph] at -0.015 [s]

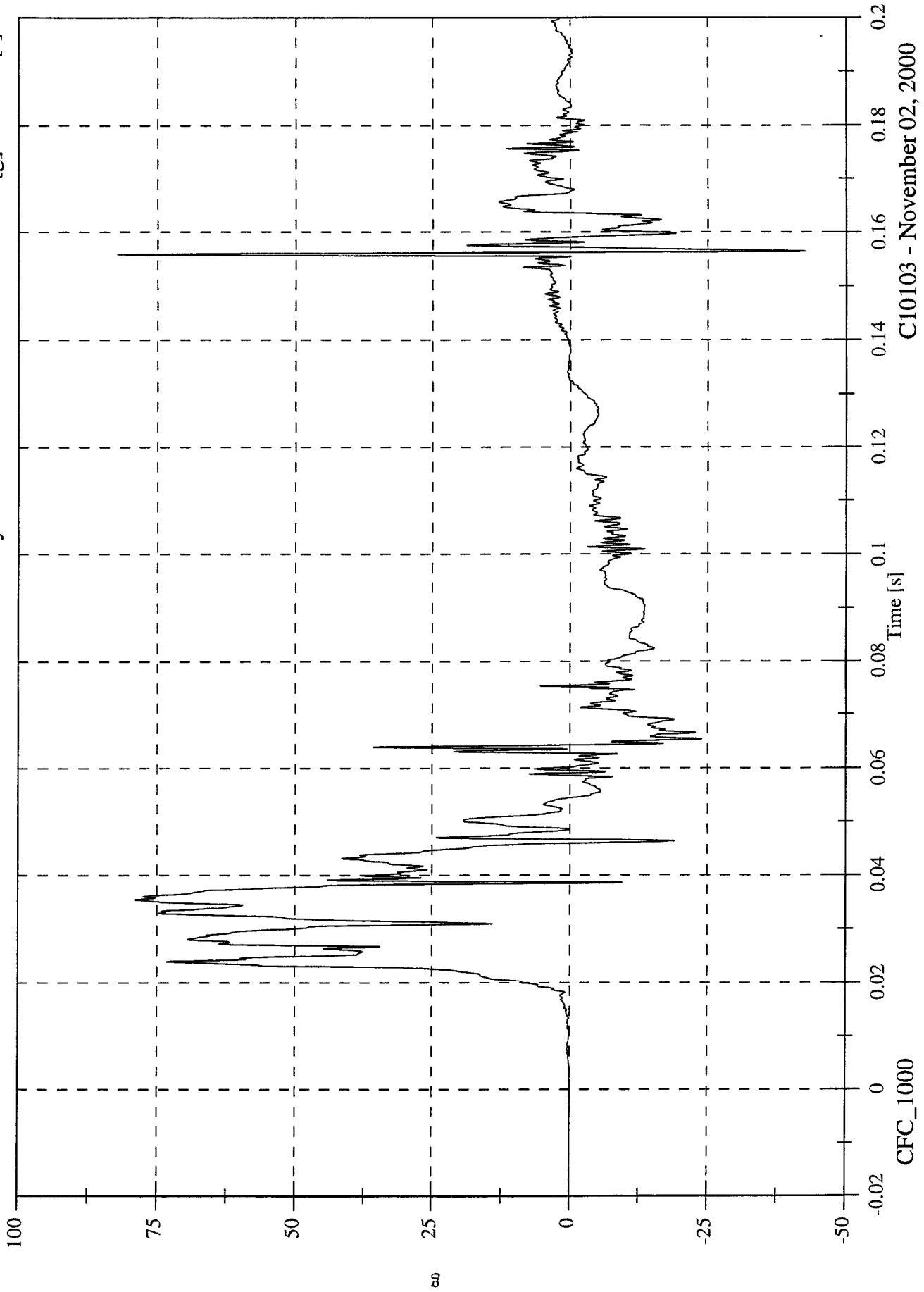


CFC_180

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
PI Lower Rib y

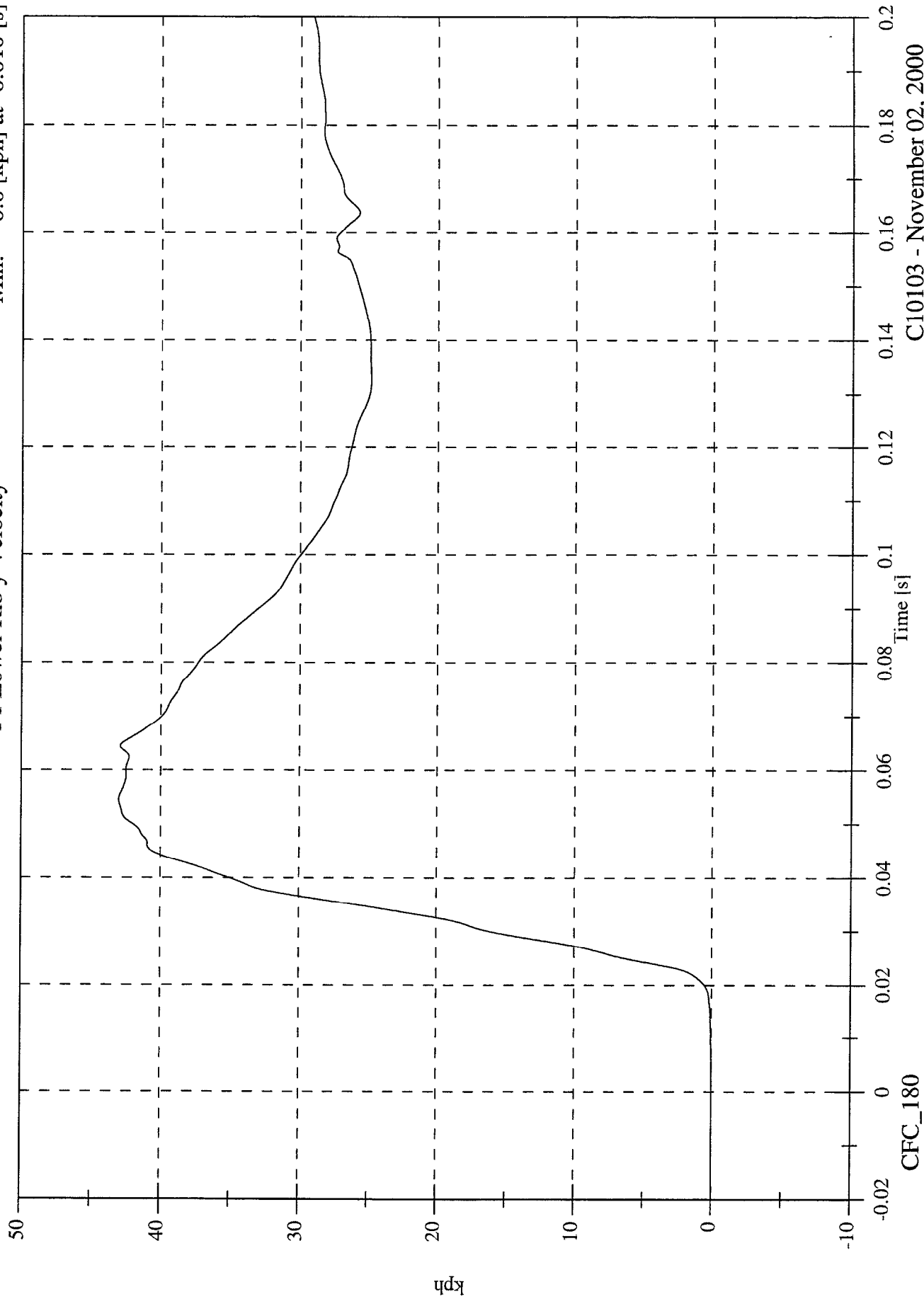
Max: 82.2 [g] at 0.156 [s]
Min: -42.7 [g] at 0.156 [s]



CI10103 - November 02, 2000

Max: 43.0 [kph] at 0.055 [s]
Min: -0.0 [kph] at -0.010 [s]

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Rib y Velocity

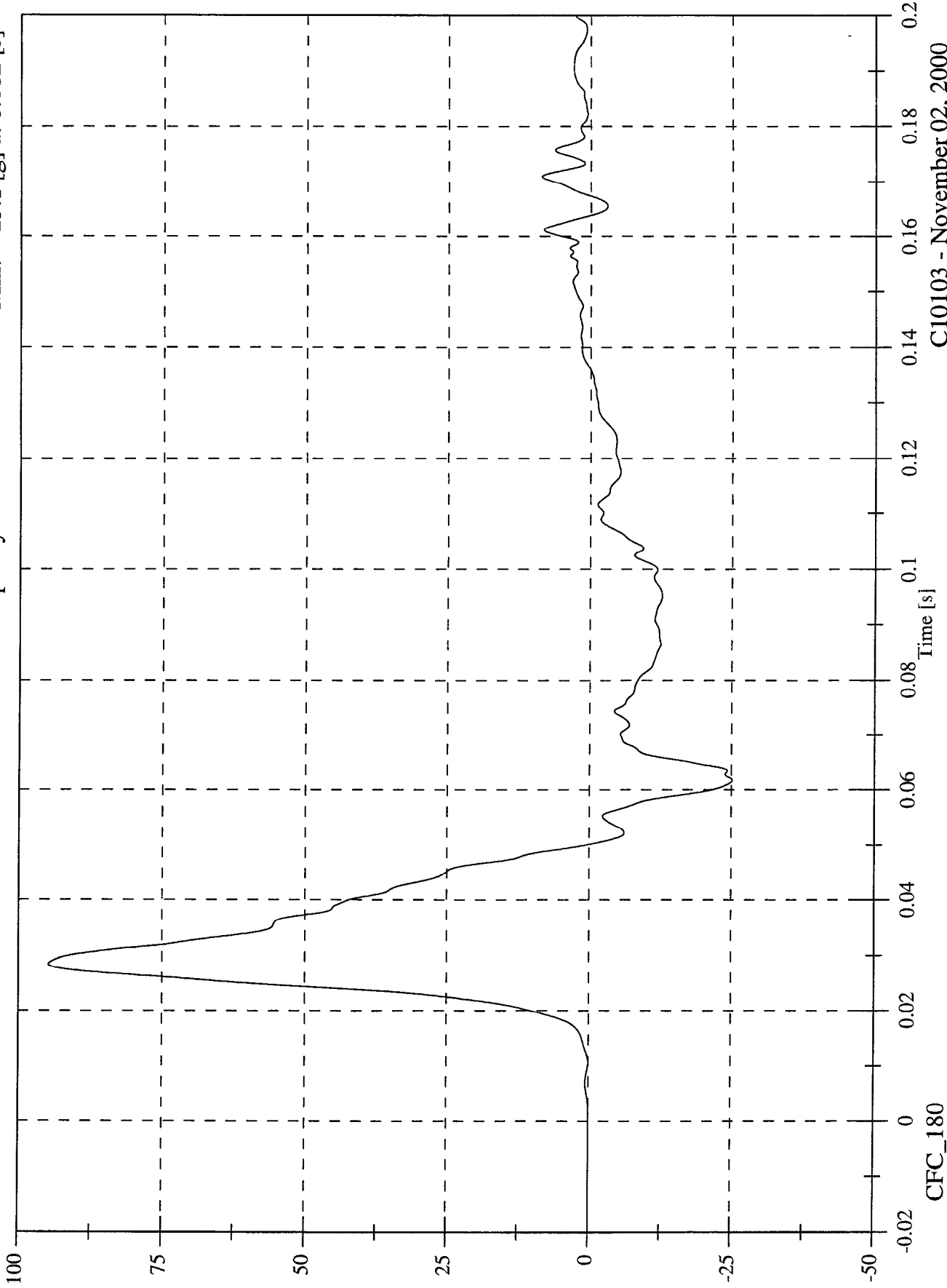


CFC_180

C10103 - November 02, 2000

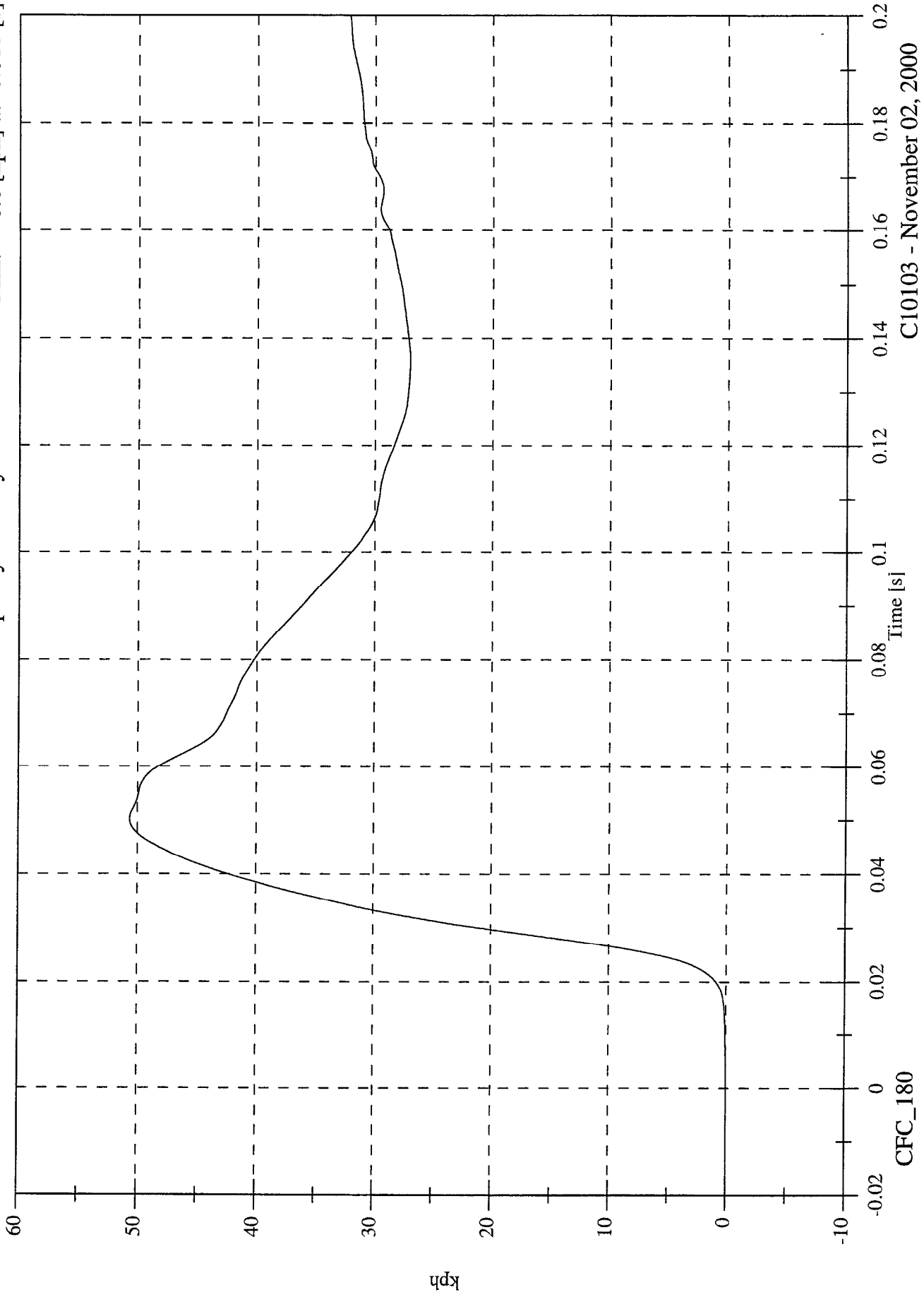
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Spine y

Max: 94.8 [g] at 0.028 [s]
Min: -25.1 [g] at 0.062 [s]



C10103 - November 02, 2000

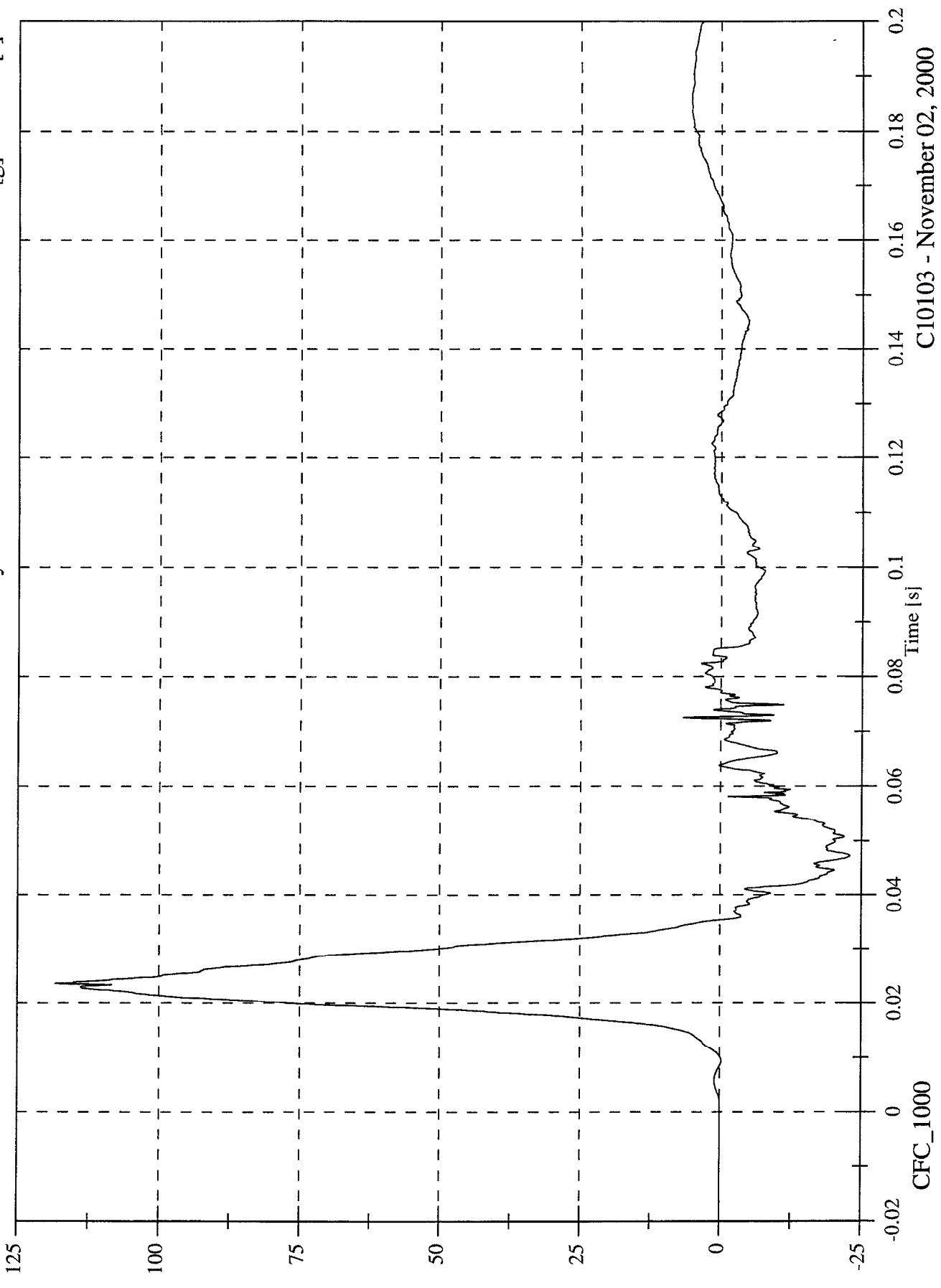
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Spine y Velocity
Max: 50.7 [kph] at 0.050 [s]
Min: -0.0 [kph] at -0.016 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Pelvic y

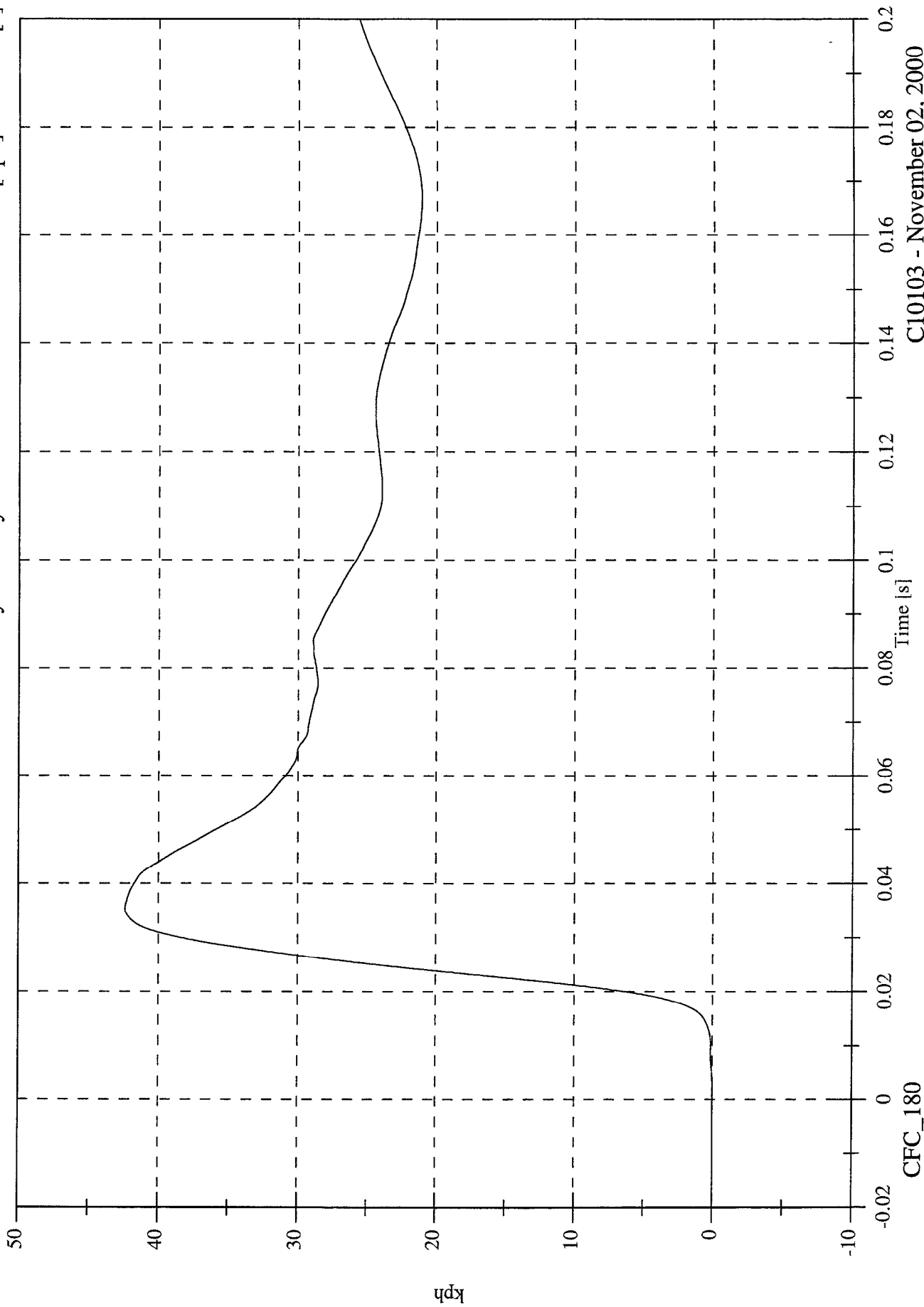
Max: 118.3 [g] at 0.024 [s]
Min: -22.9 [g] at 0.047 [s]



C10103 - November 02, 2000

Max: 42.4 [kph] at 0.035 [s]
Min: -0.0 [kph] at -0.016 [s]

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Pelvic y Velocity

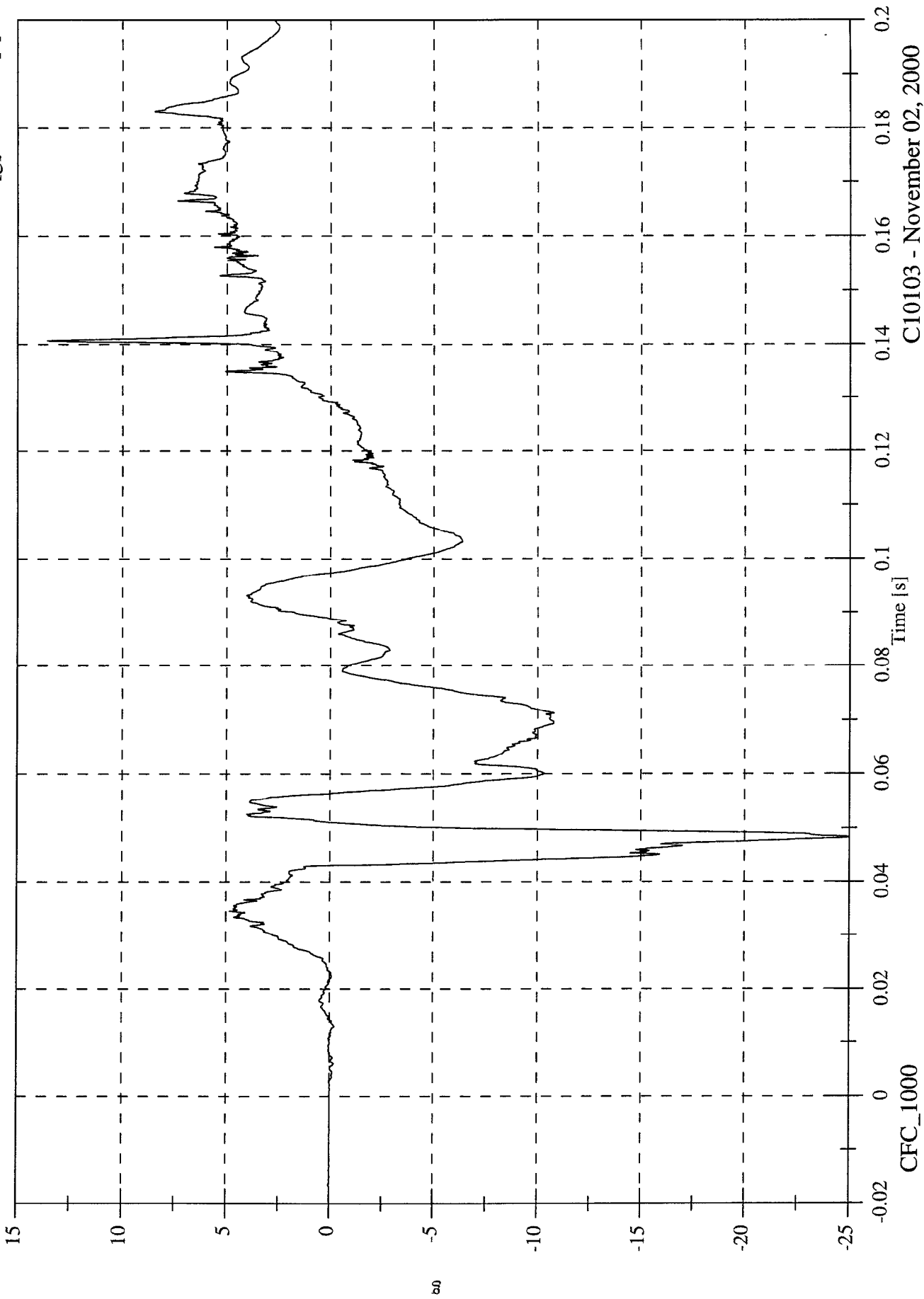


CFC_180

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Head x

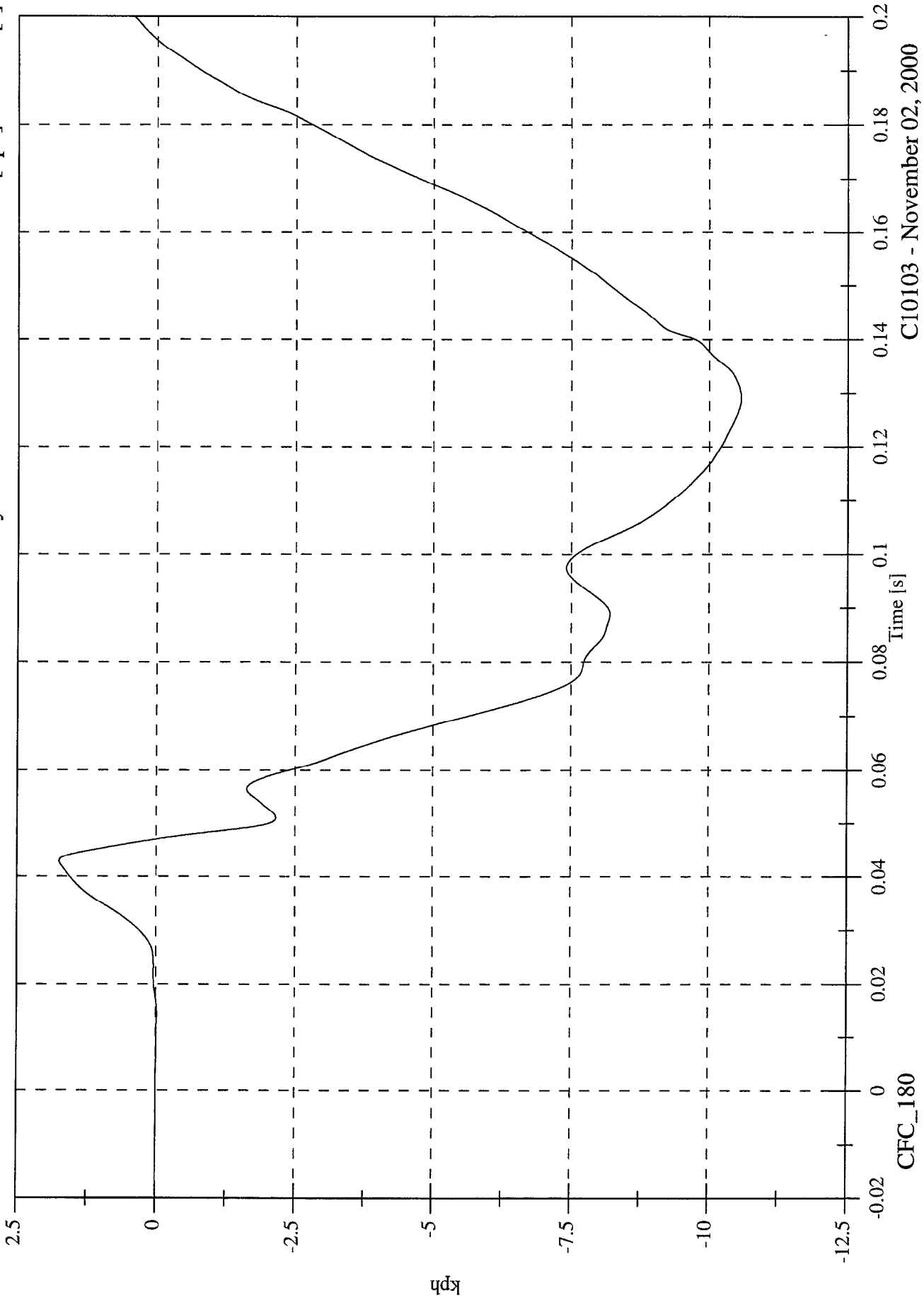
Max: 13.6 [g] at 0.141 [s]
Min: -25.0 [g] at 0.048 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Head x Velocity

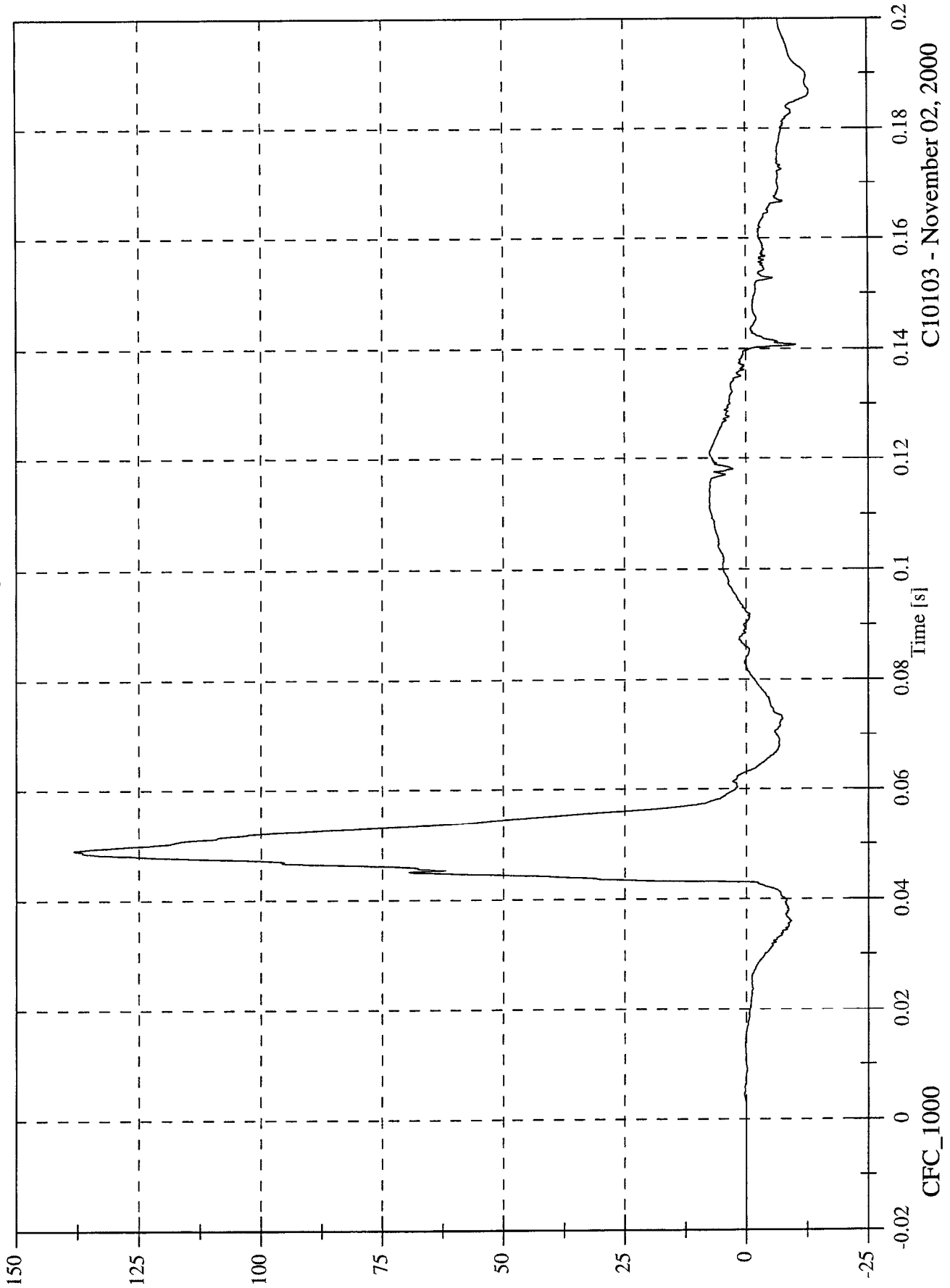
Max: 1.7 [kph] at 0.043 [s]
Min: -10.6 [kph] at 0.129 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Head y

Max: 138.2 [g] at 0.049 [s]
Min: -13.0 [g] at 0.187 [s]

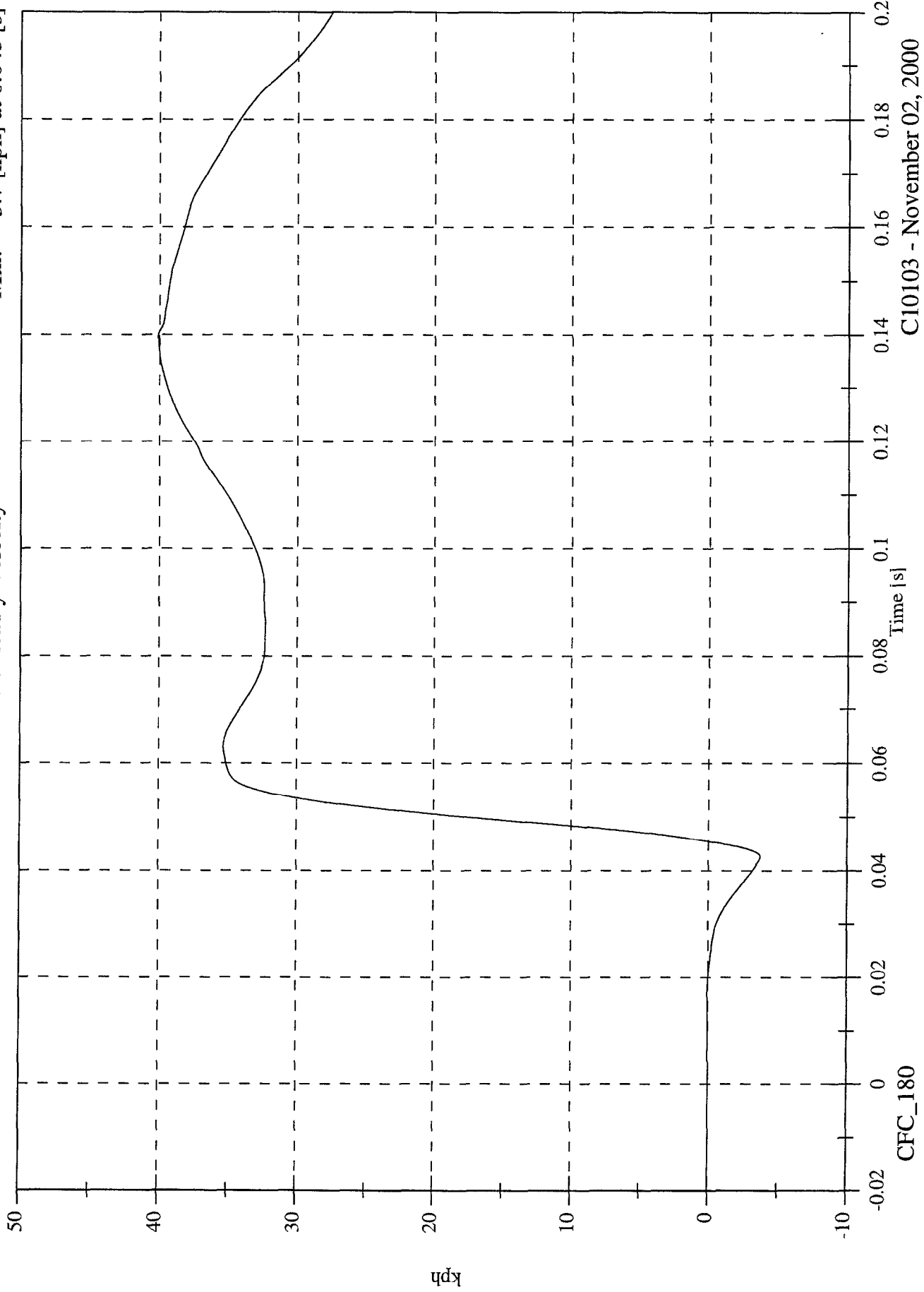


C10103 - November 02, 2000

Max: 40.1 [kph] at 0.139 [s]
Min: -3.7 [kph] at 0.043 [s]

P4 Head y Velocity

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo



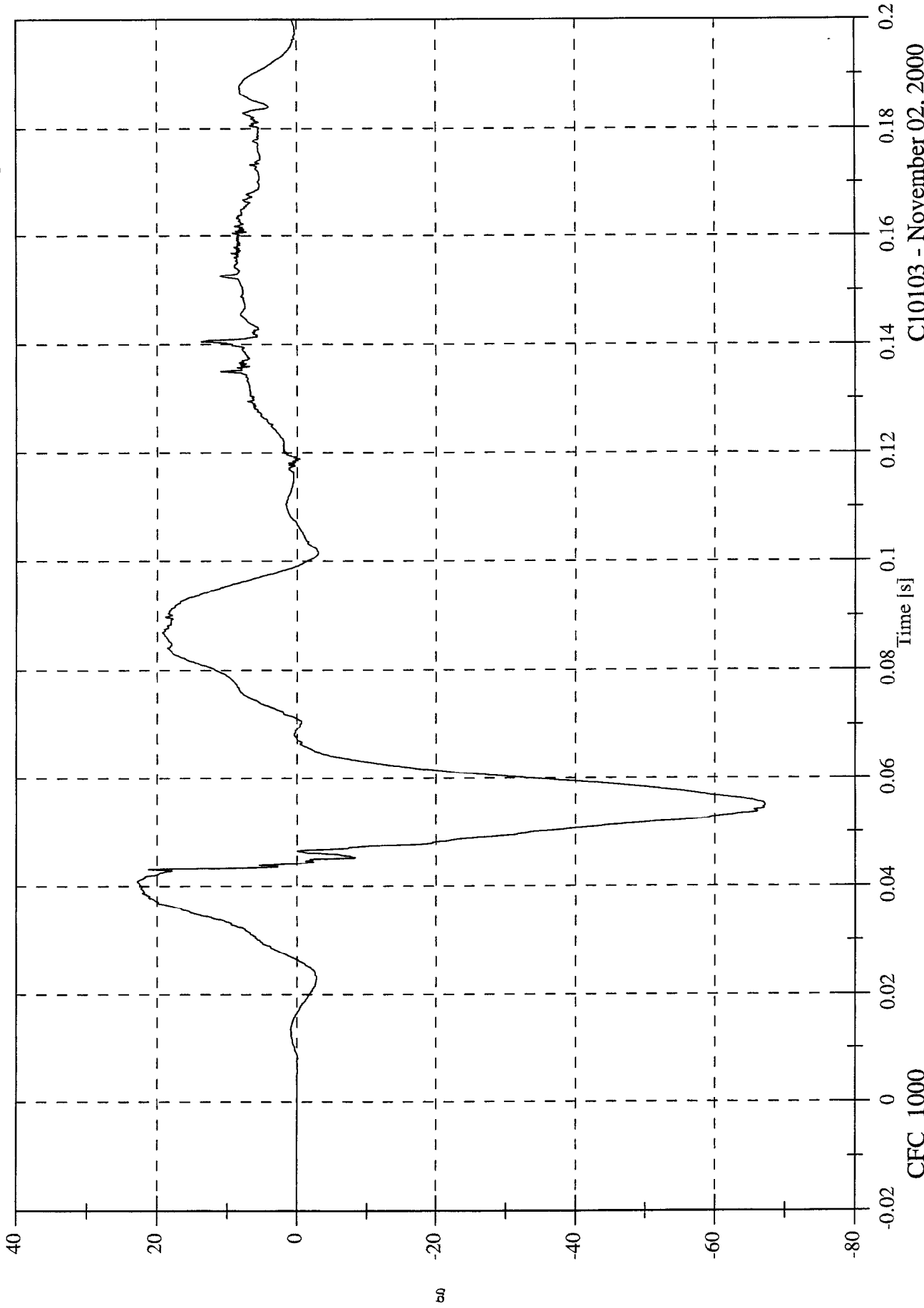
CFC_180

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

P4 Head z

Max: 22.8 [g] at 0.041 [s]
Min: -67.2 [g] at 0.055 [s]



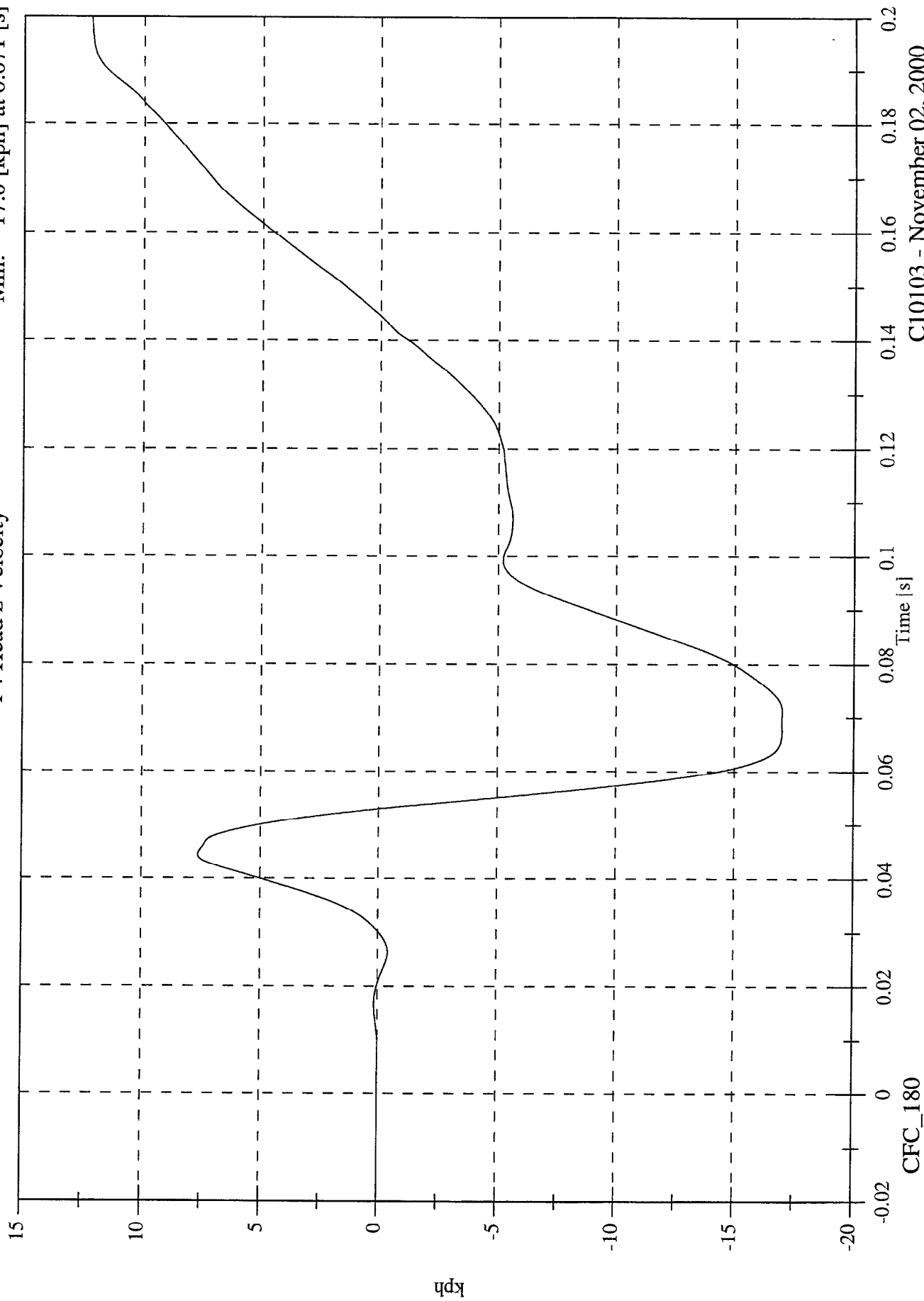
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

P4 Head z Velocity

Max: 12.2 [kph] at 0.200 [s]

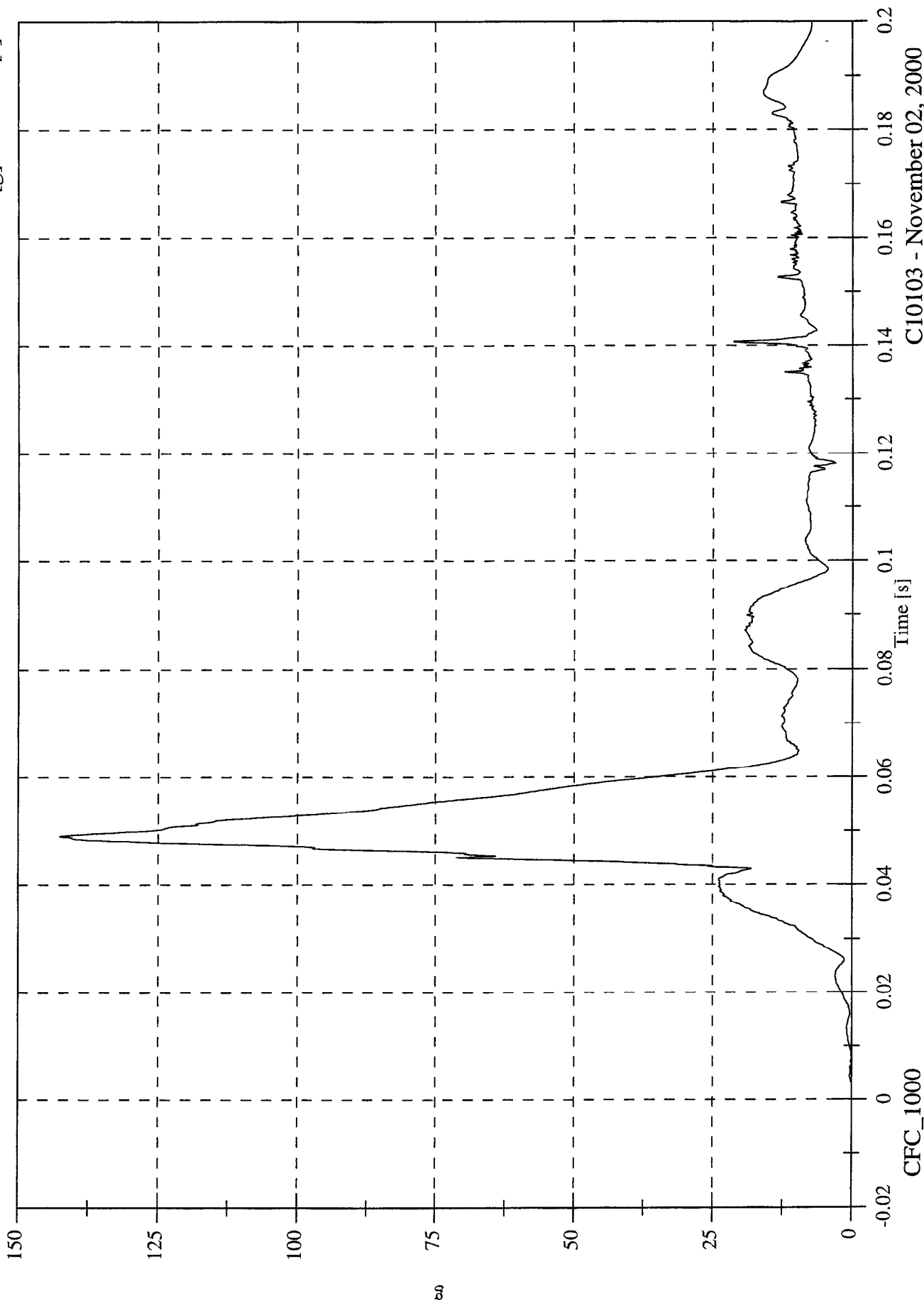
Min: -17.0 [kph] at 0.071 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Head Resultant

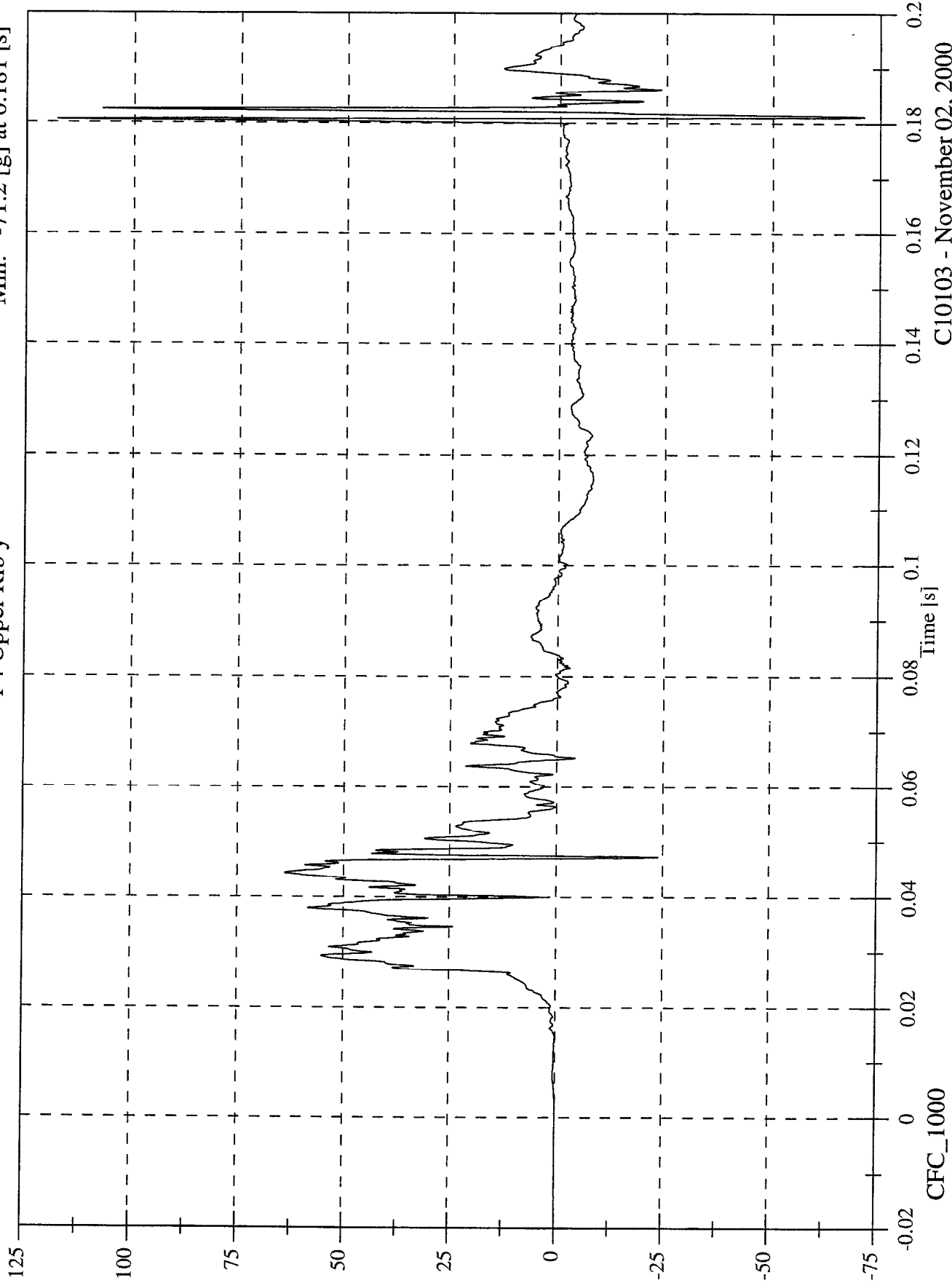
Max: 142.6 [g] at 0.049 [s]
Min: 0.0 [g] at -0.007 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Upper Rib y

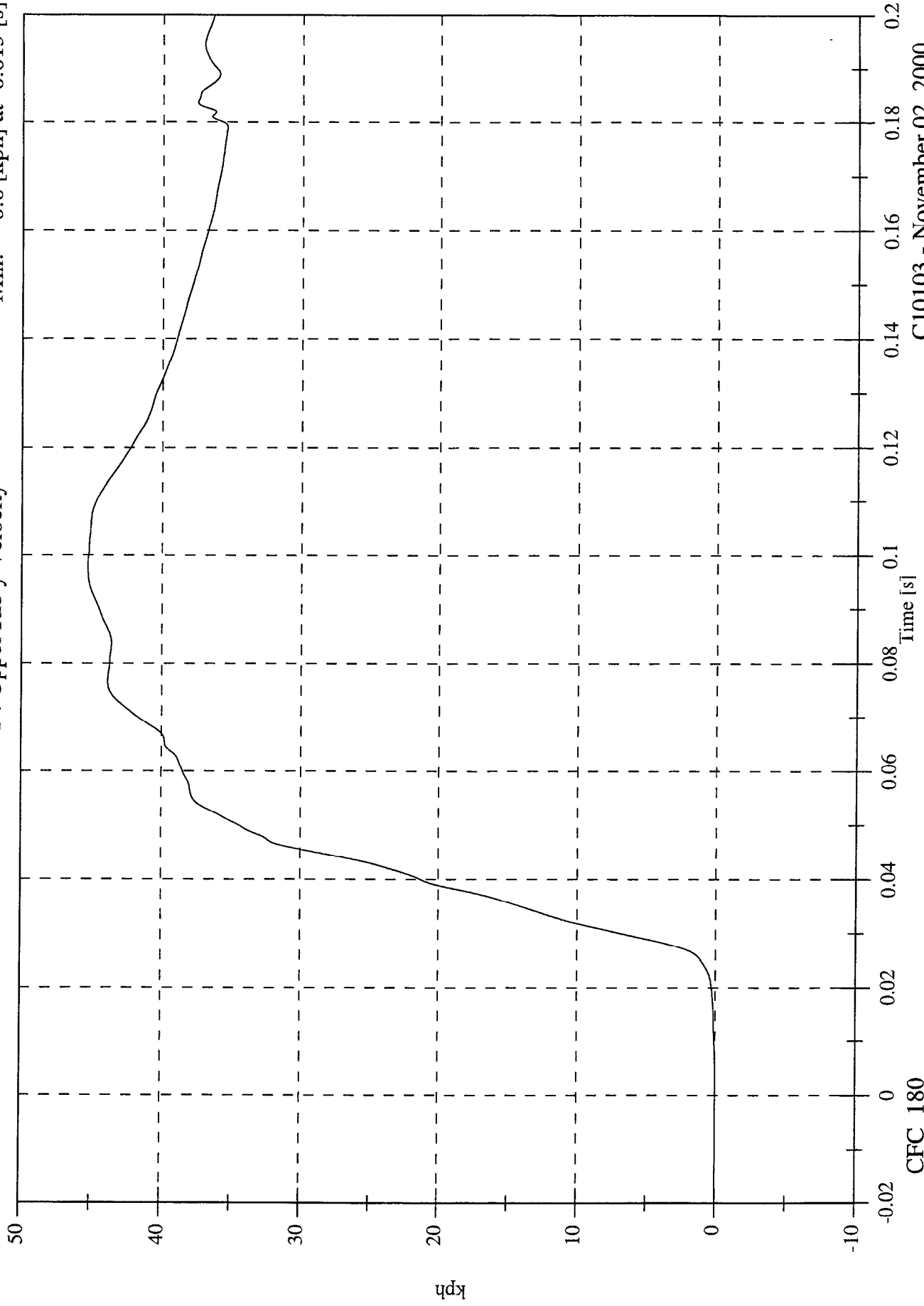
Max: 117.9 [g] at 0.181 [s]
Min: -71.2 [g] at 0.181 [s]



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Max: 45.3 [kph] at 0.098 [s]
Min: -0.0 [kph] at -0.015 [s]

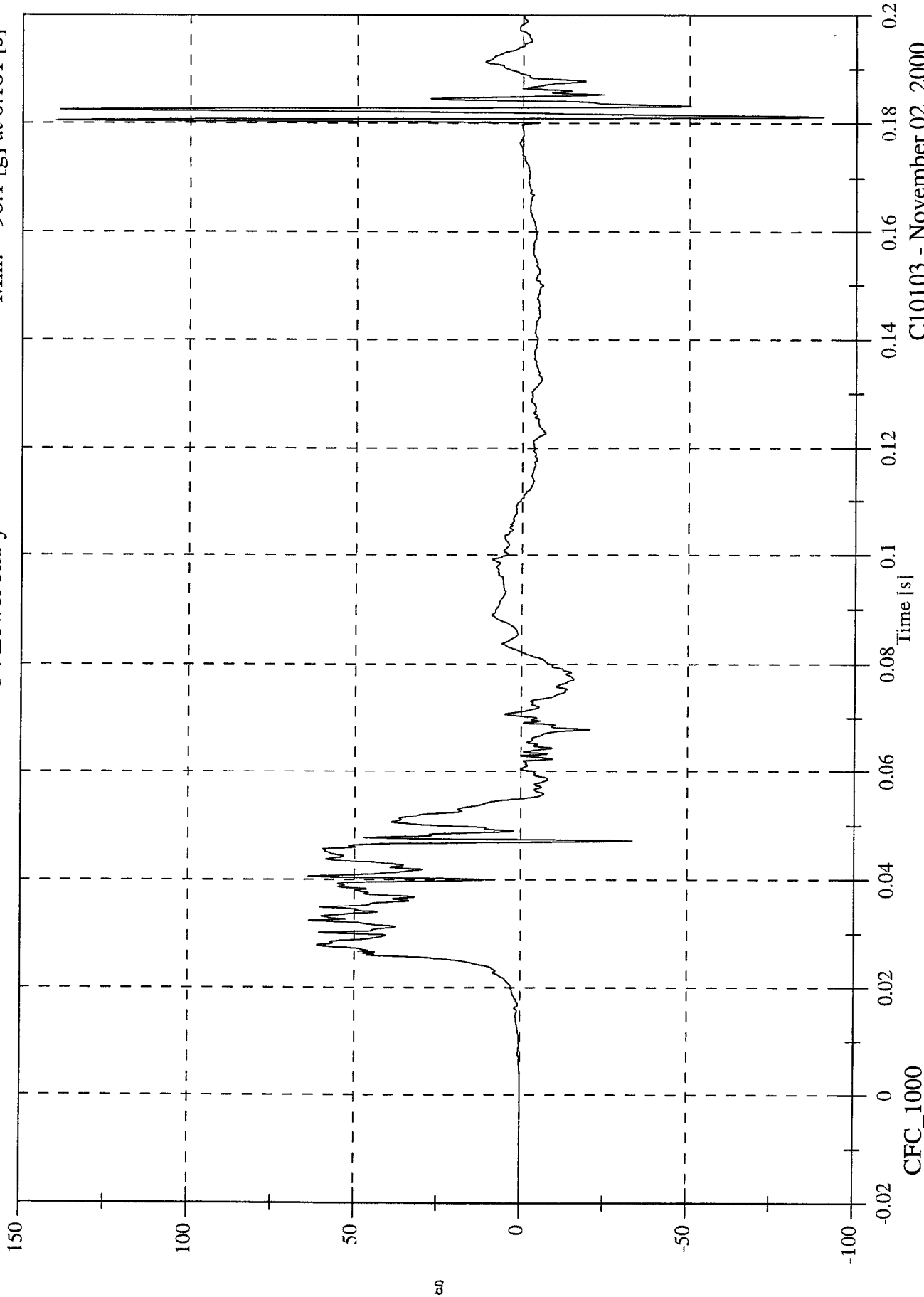
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Upper Rib y Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Rib y

Max: 139.9 [g] at 0.180 [s]
Min: -90.1 [g] at 0.181 [s]



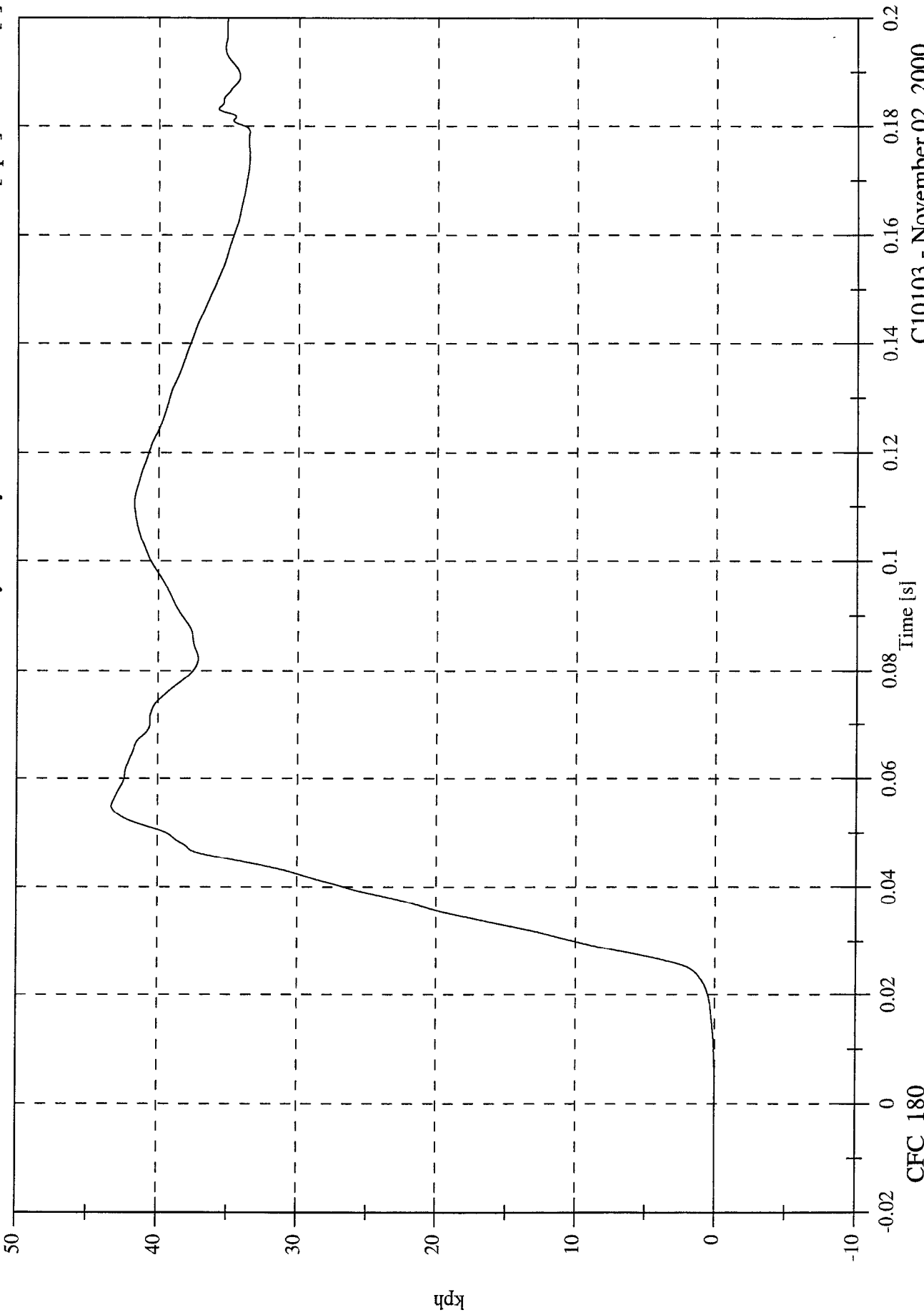
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

P4 Lower Rib y Velocity

Max: 43.3 [kph] at 0.055 [s]

Min: -0.0 [kph] at -0.009 [s]

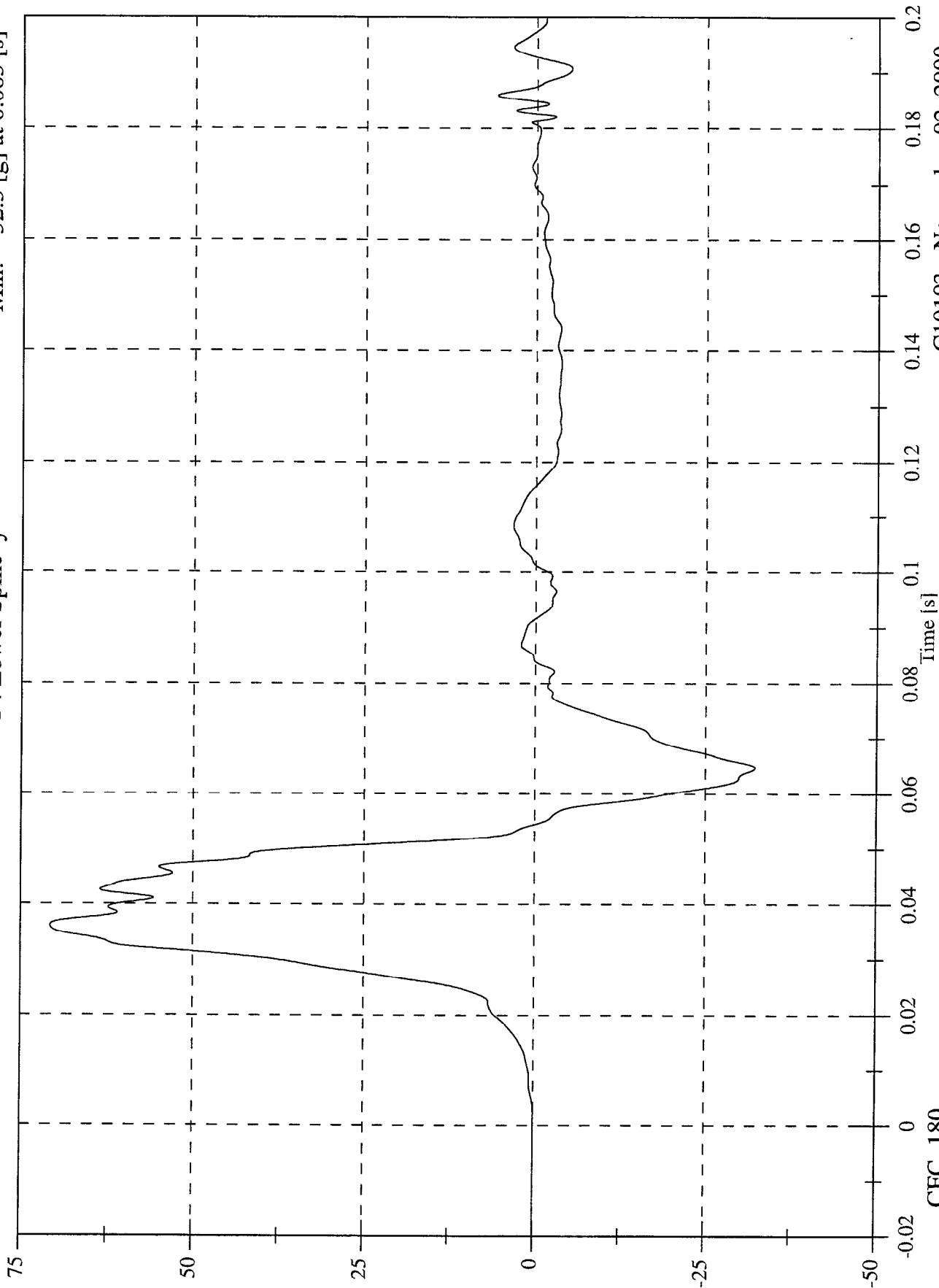


CFC_180

C10103 - November 02, 2000

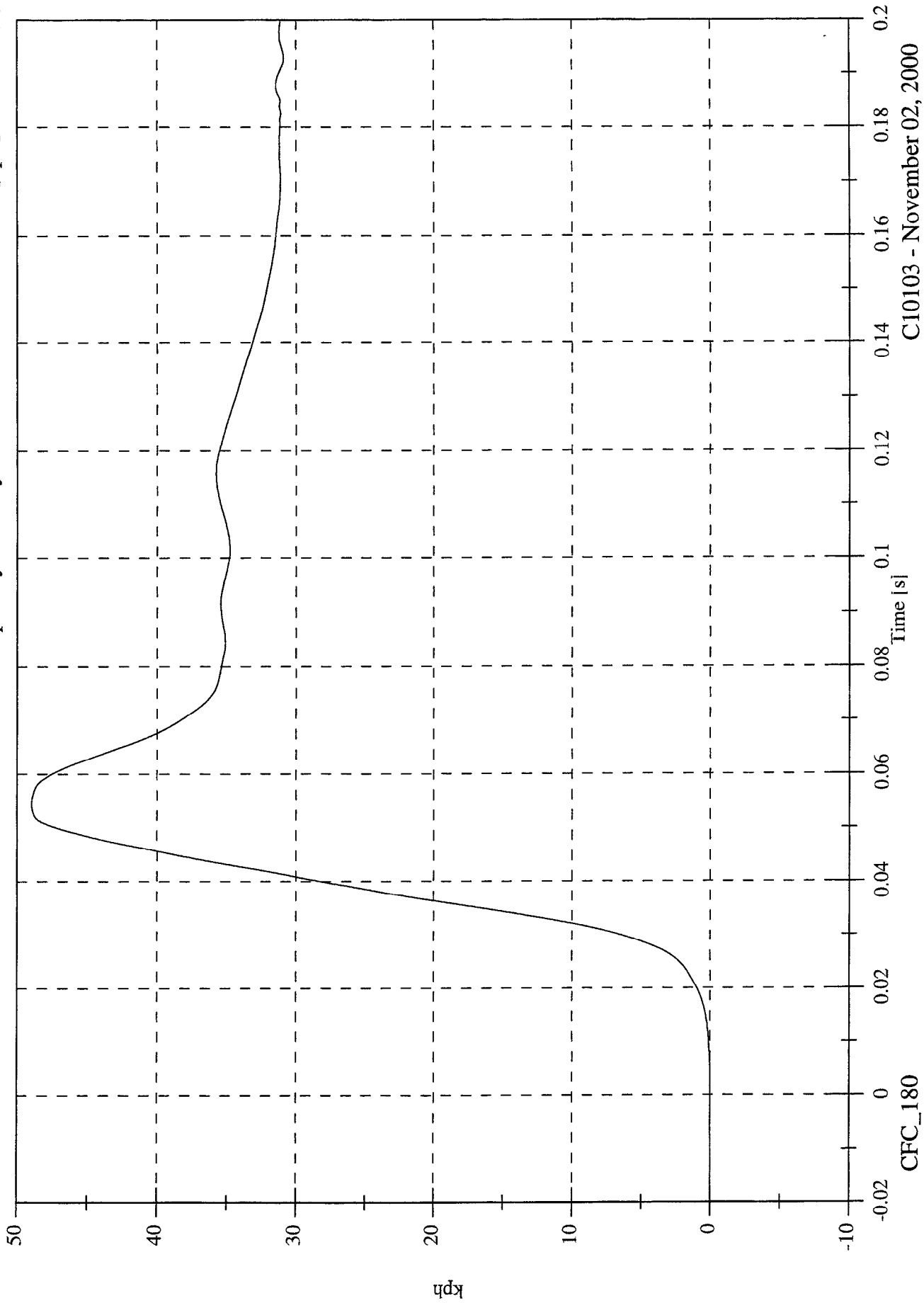
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Spine y

Max: 70.7 [g] at 0.036 [s]
Min: -32.3 [g] at 0.065 [s]



C10103 - November 02, 2000

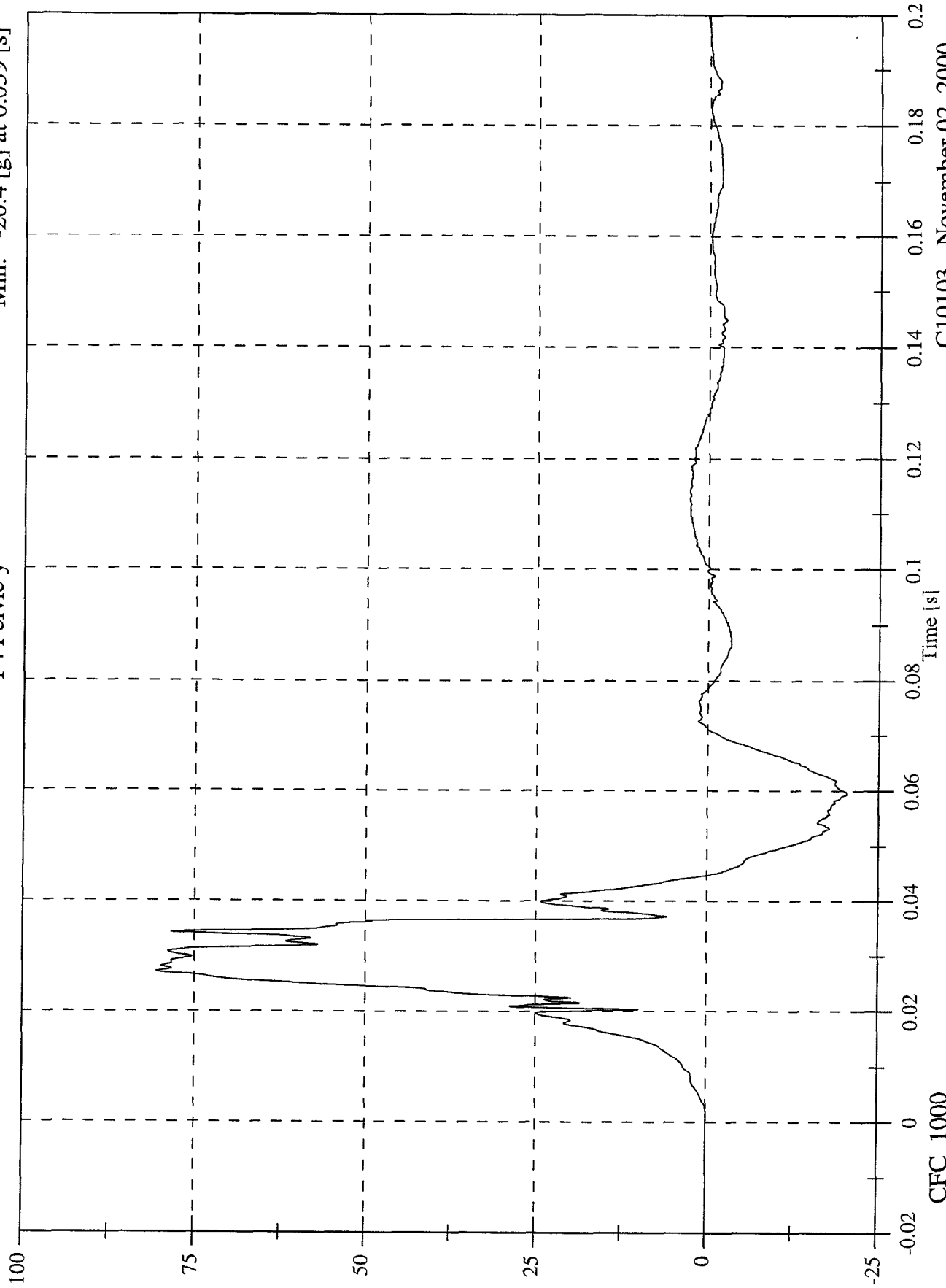
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Spine y Velocity
Max: 49.0 [kph] at 0.054 [s]
Min: -0.0 [kph] at -0.020 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Pelvic y

Max: 80.5 [g] at 0.027 [s]
Min: -20.4 [g] at 0.059 [s]



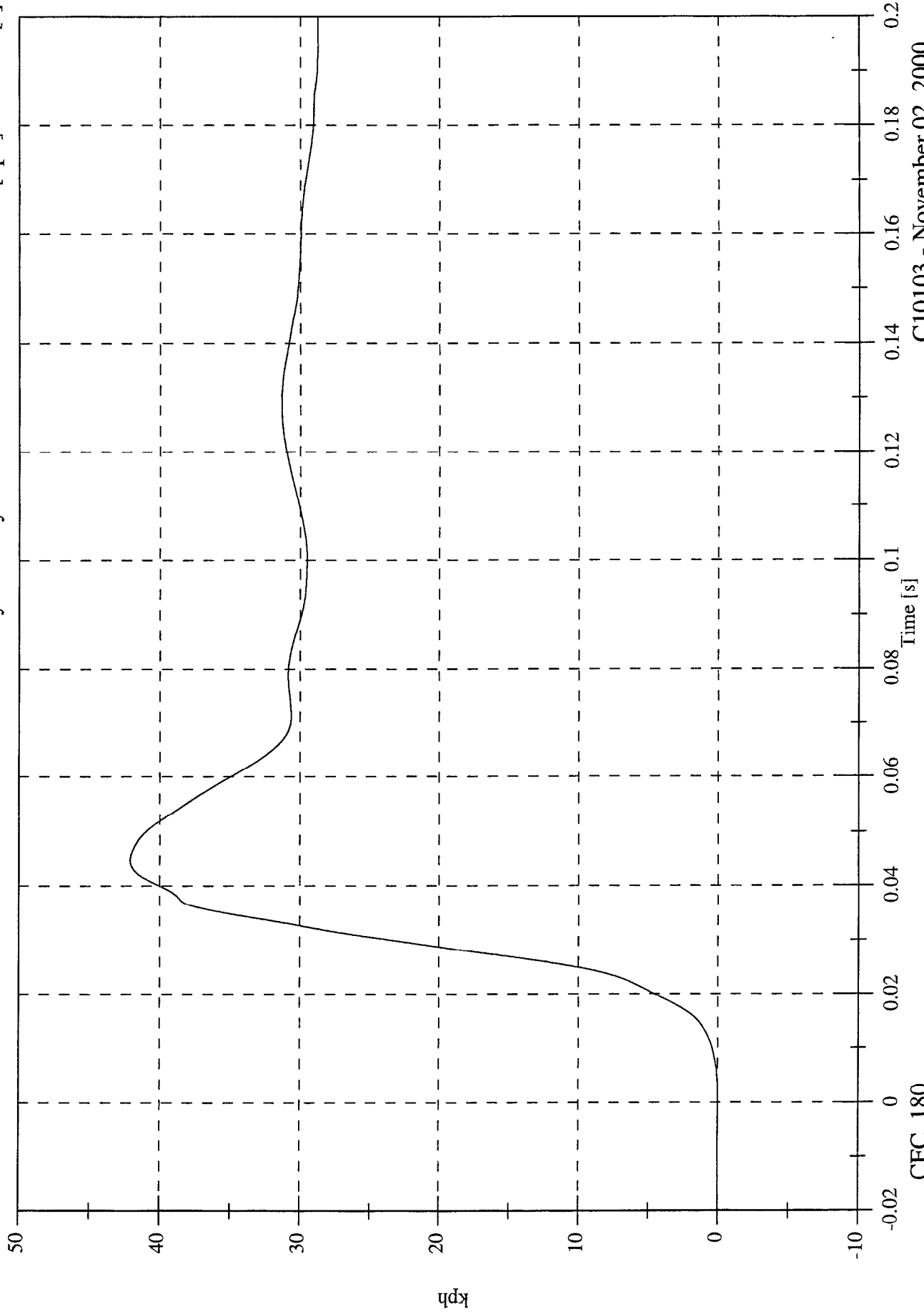
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 42.1 [kph] at 0.045 [s]

Min: -0.0 [kph] at -0.020 [s]

P4 Pelvic y Velocity

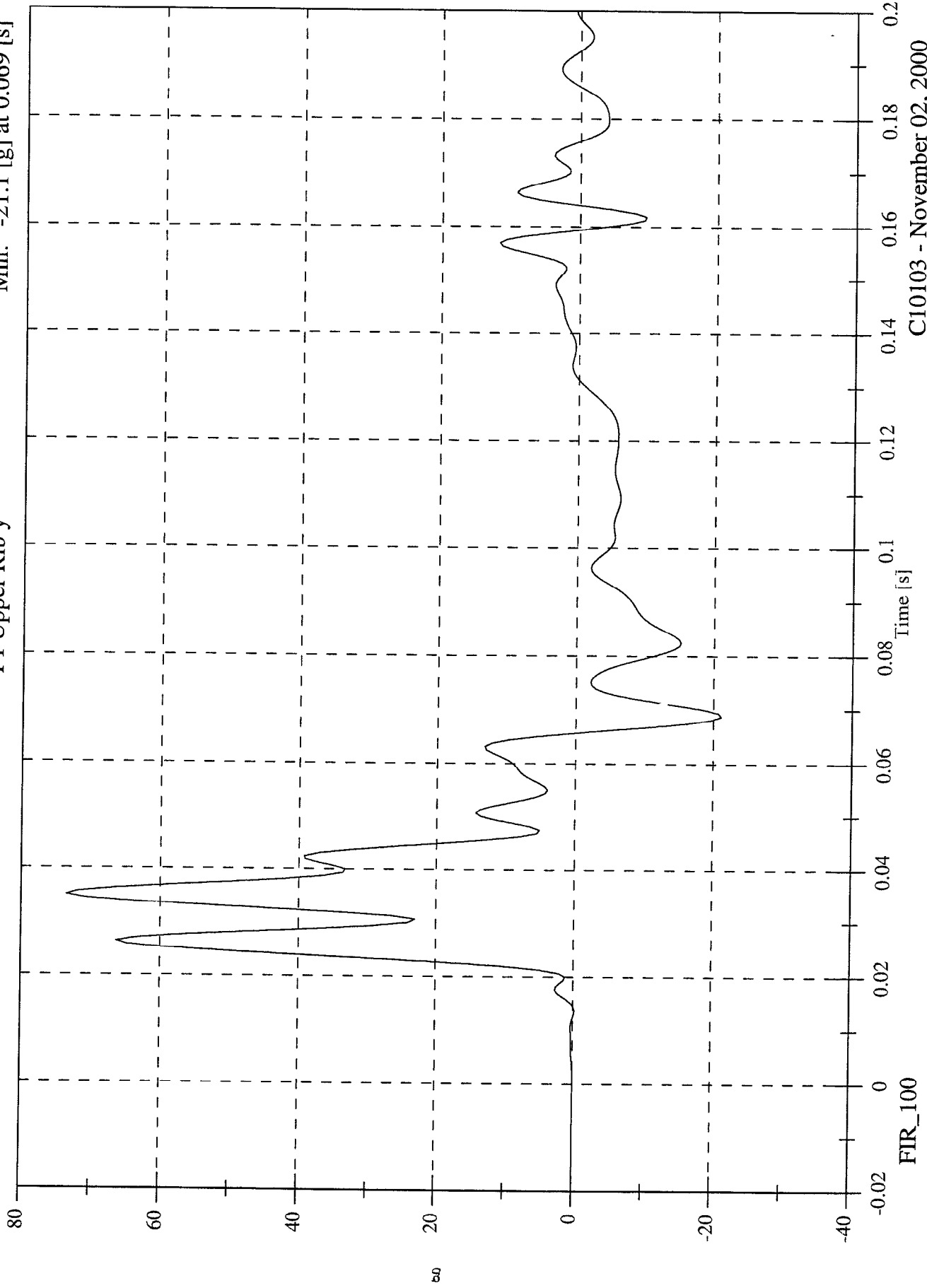


C10103 - November 02, 2000

CFC_180

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Upper Rib y

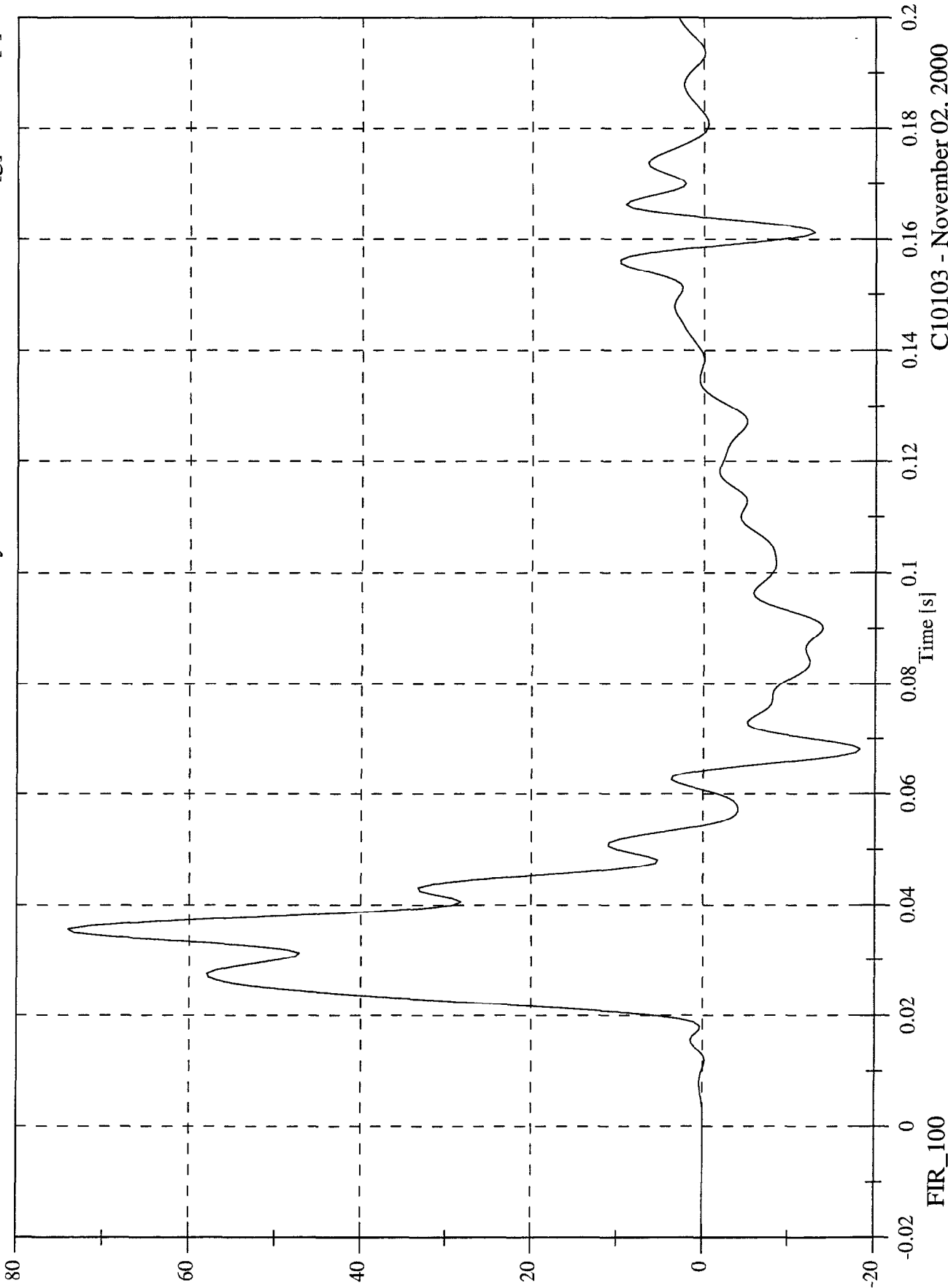
Max: 73.5 [g] at 0.035 [s]
Min: -21.1 [g] at 0.069 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Rib y

Max: 74.1 [g] at 0.036 [s]
Min: -18.2 [g] at 0.068 [s]

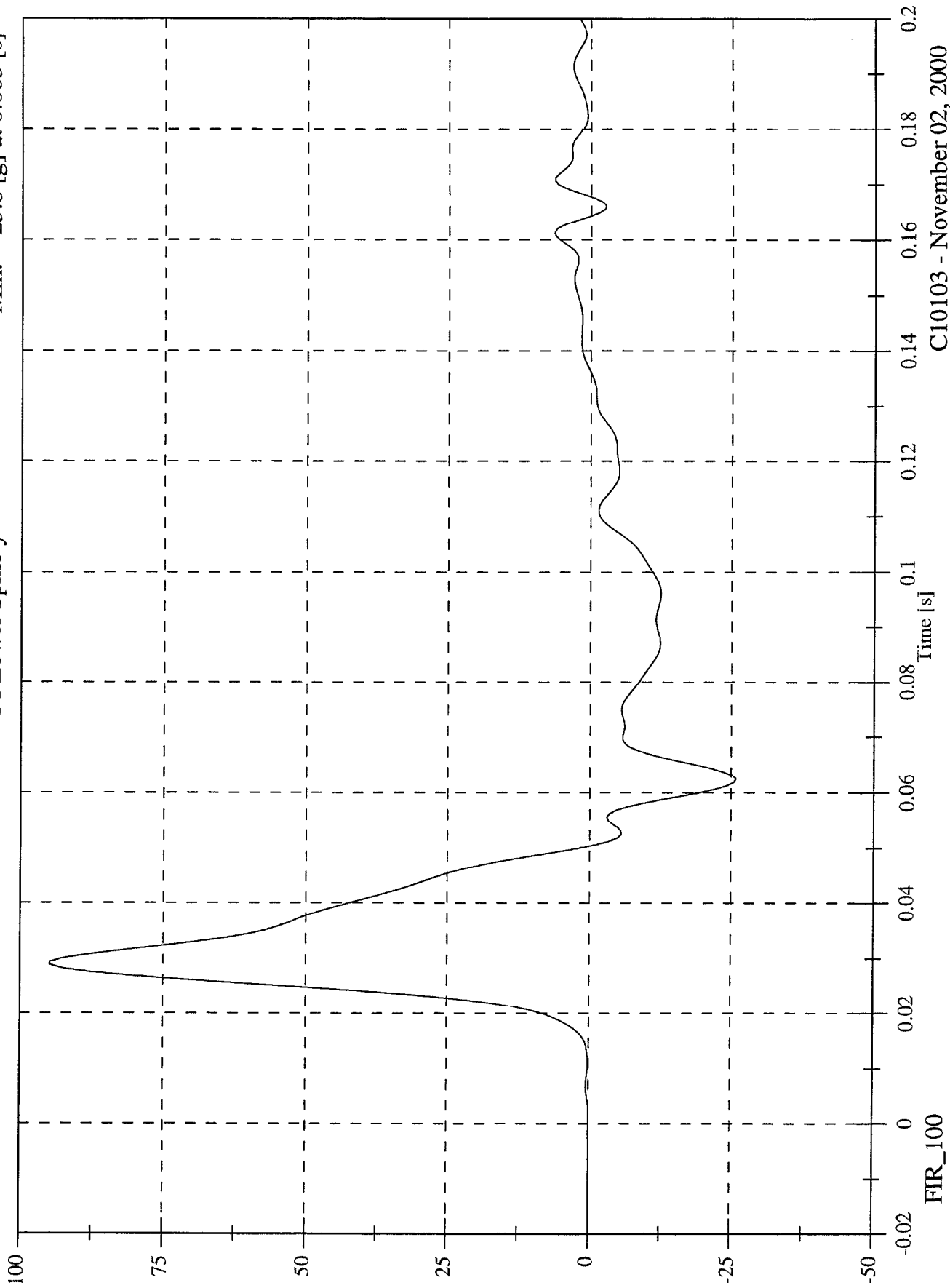


FIR_100

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Spine y

Max: 94.8 [g] at 0.029 [s]
Min: -25.8 [g] at 0.063 [s]

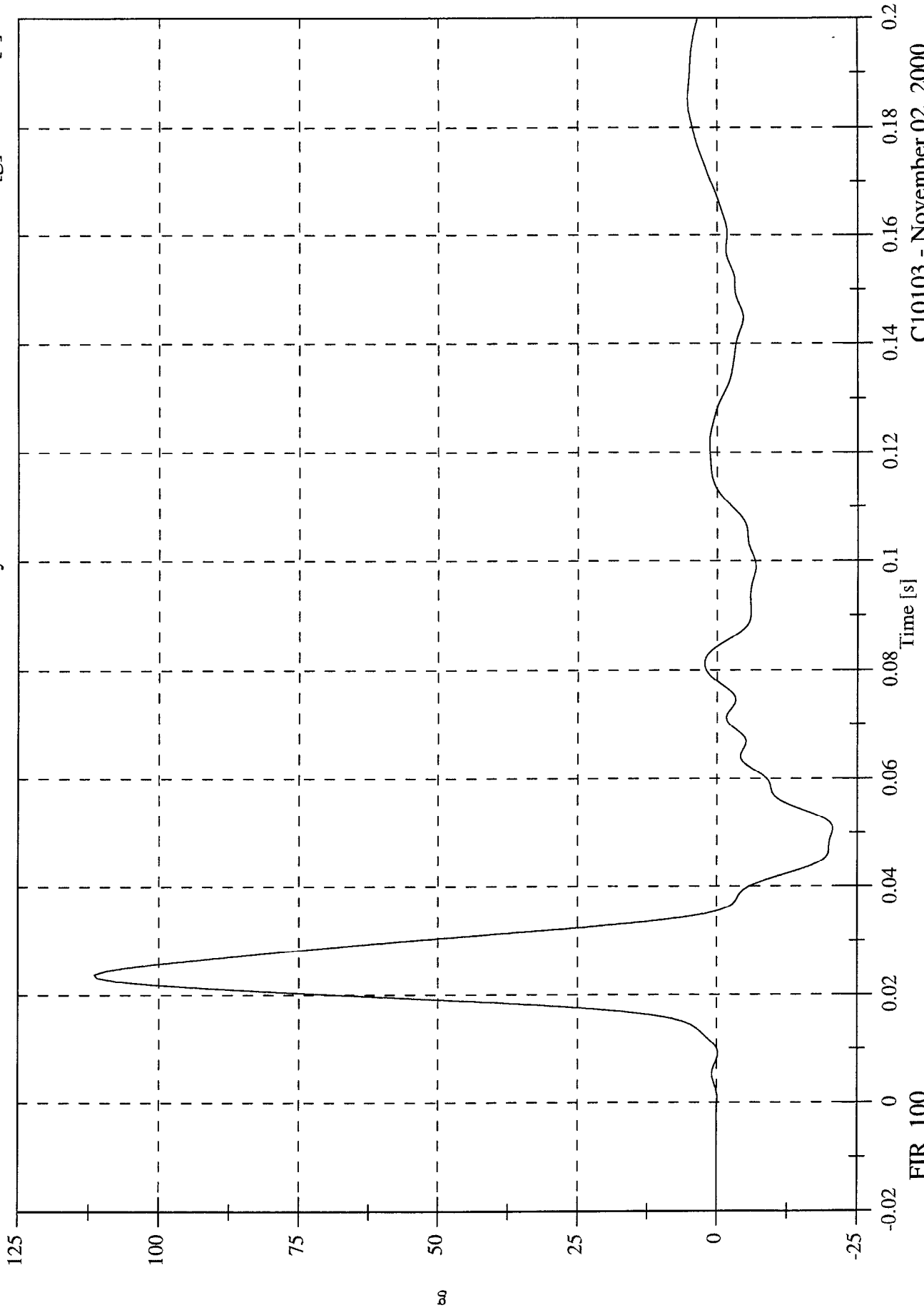


FIR_100

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Pelvic y

Max: 111.5 [g] at 0.024 [s]
Min: -20.6 [g] at 0.051 [s]

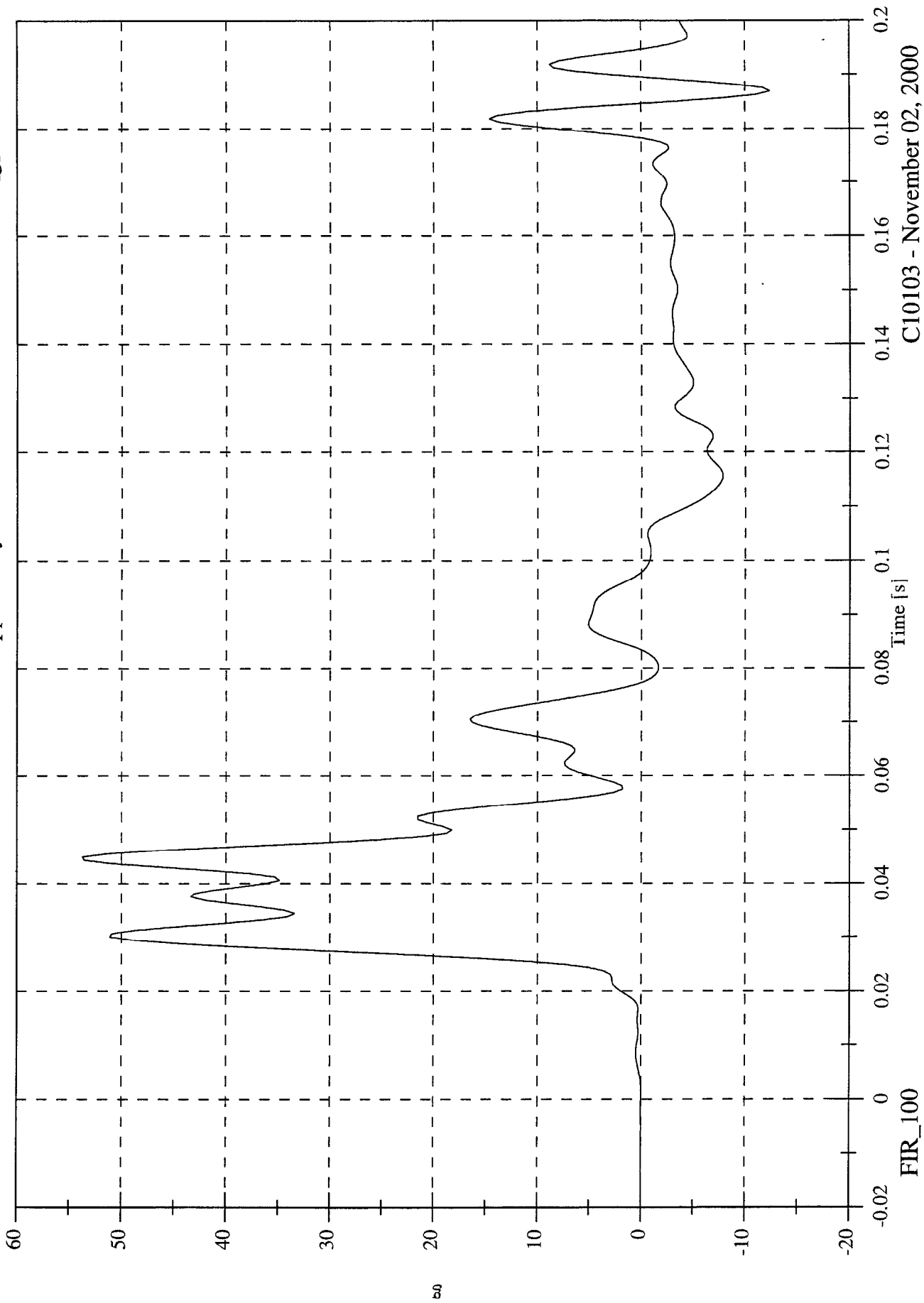


FIR_100

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Upper Rib y

Max: 53.7 [g] at 0.045 [s]
Min: -12.4 [g] at 0.187 [s]

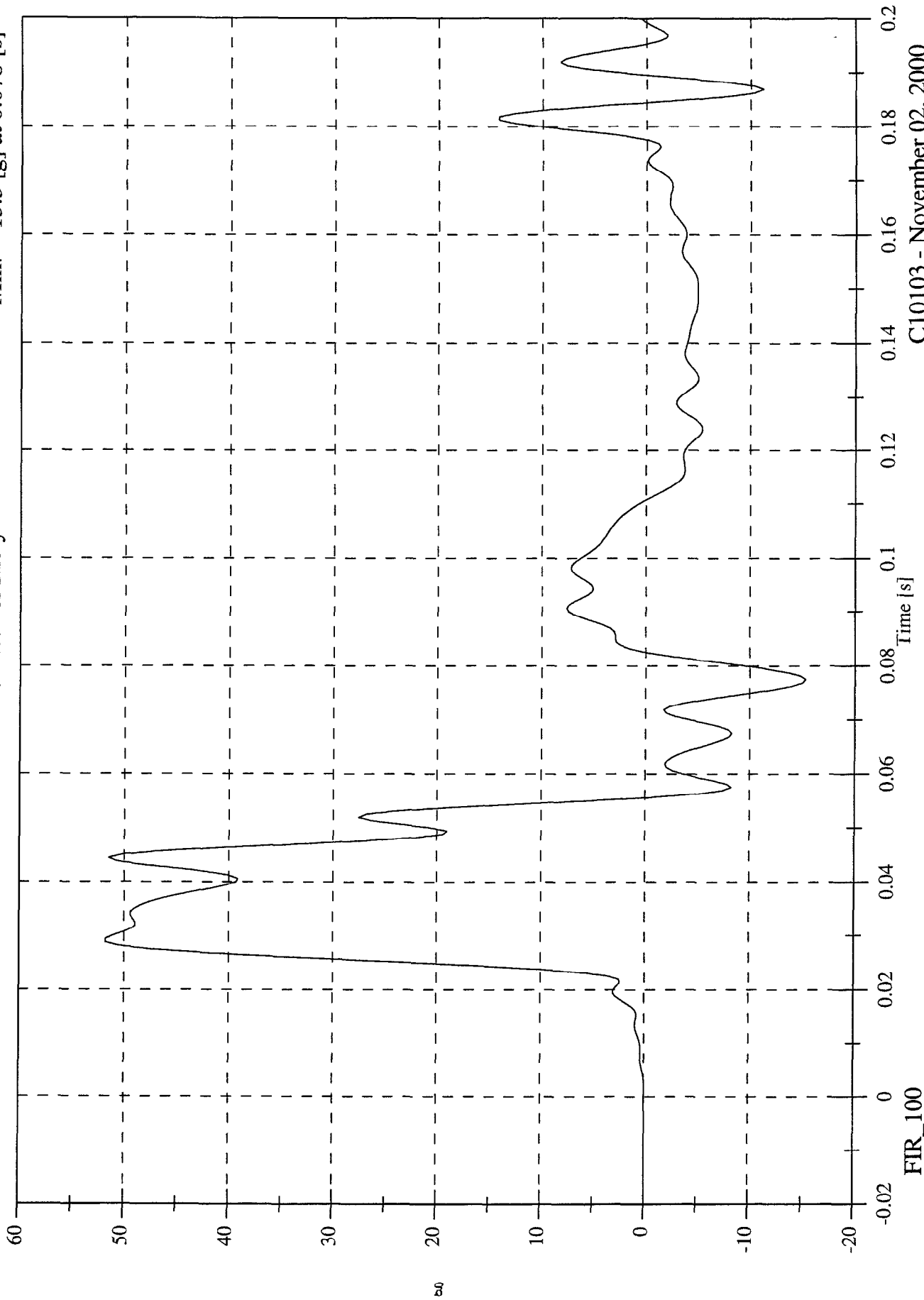


FIR_100

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Rib y

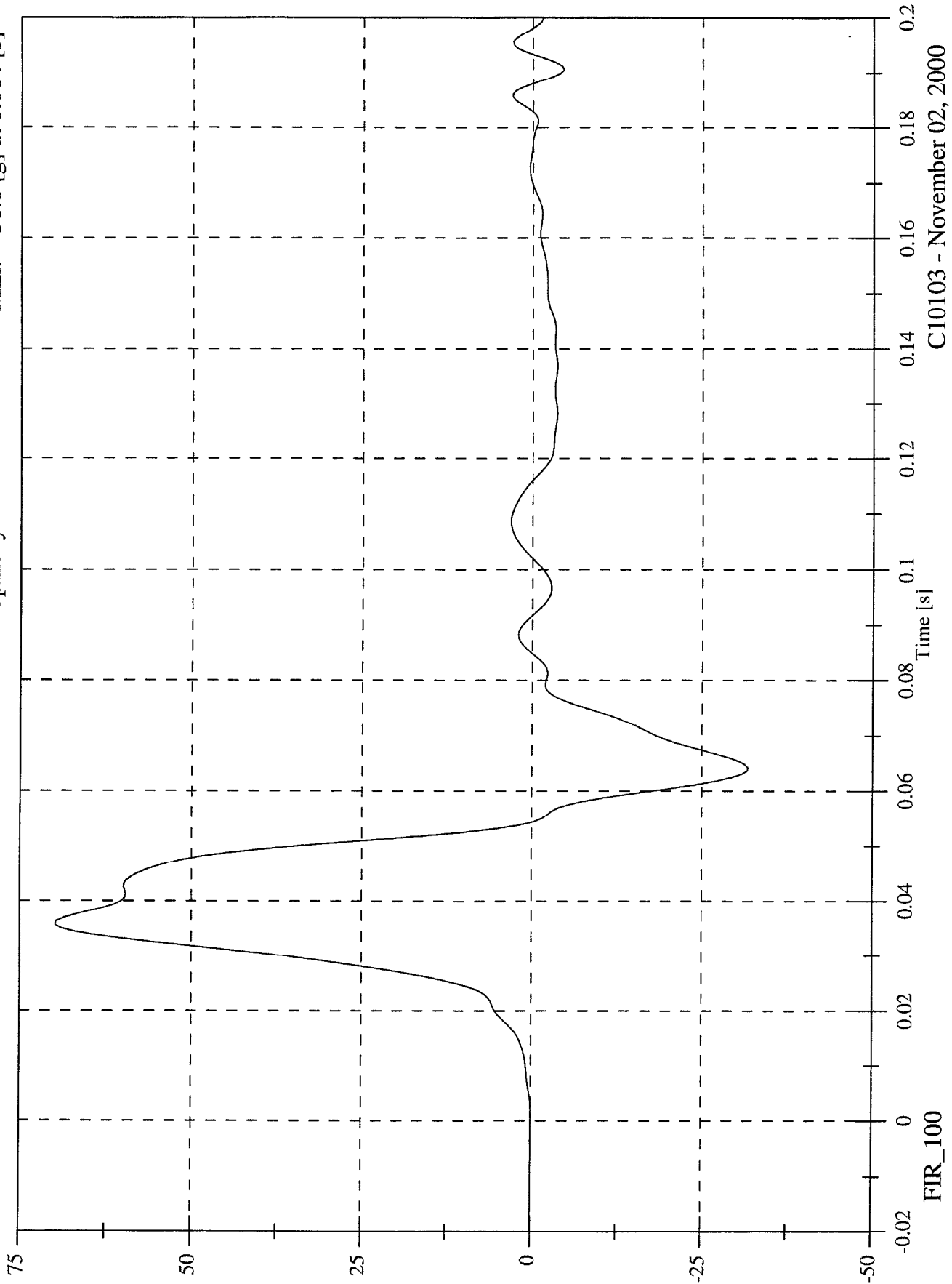
Max: 51.8 [g] at 0.029 [s]
Min: -15.3 [g] at 0.078 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Spine y

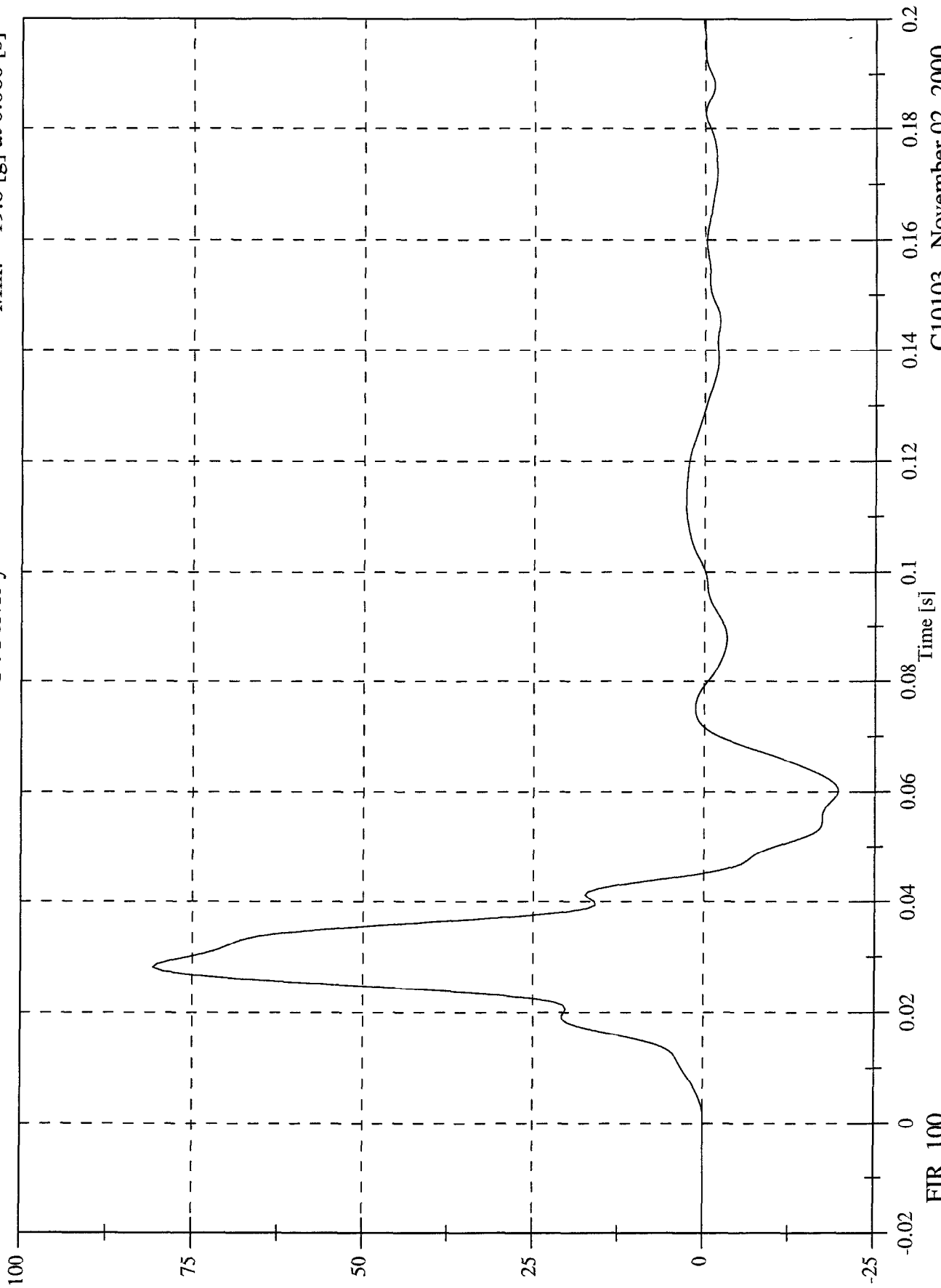
Max: 69.8 [g] at 0.036 [s]
Min: -31.8 [g] at 0.064 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Pelvic y

Max: 80.7 [g] at 0.028 [s]
Min: -19.6 [g] at 0.060 [s]

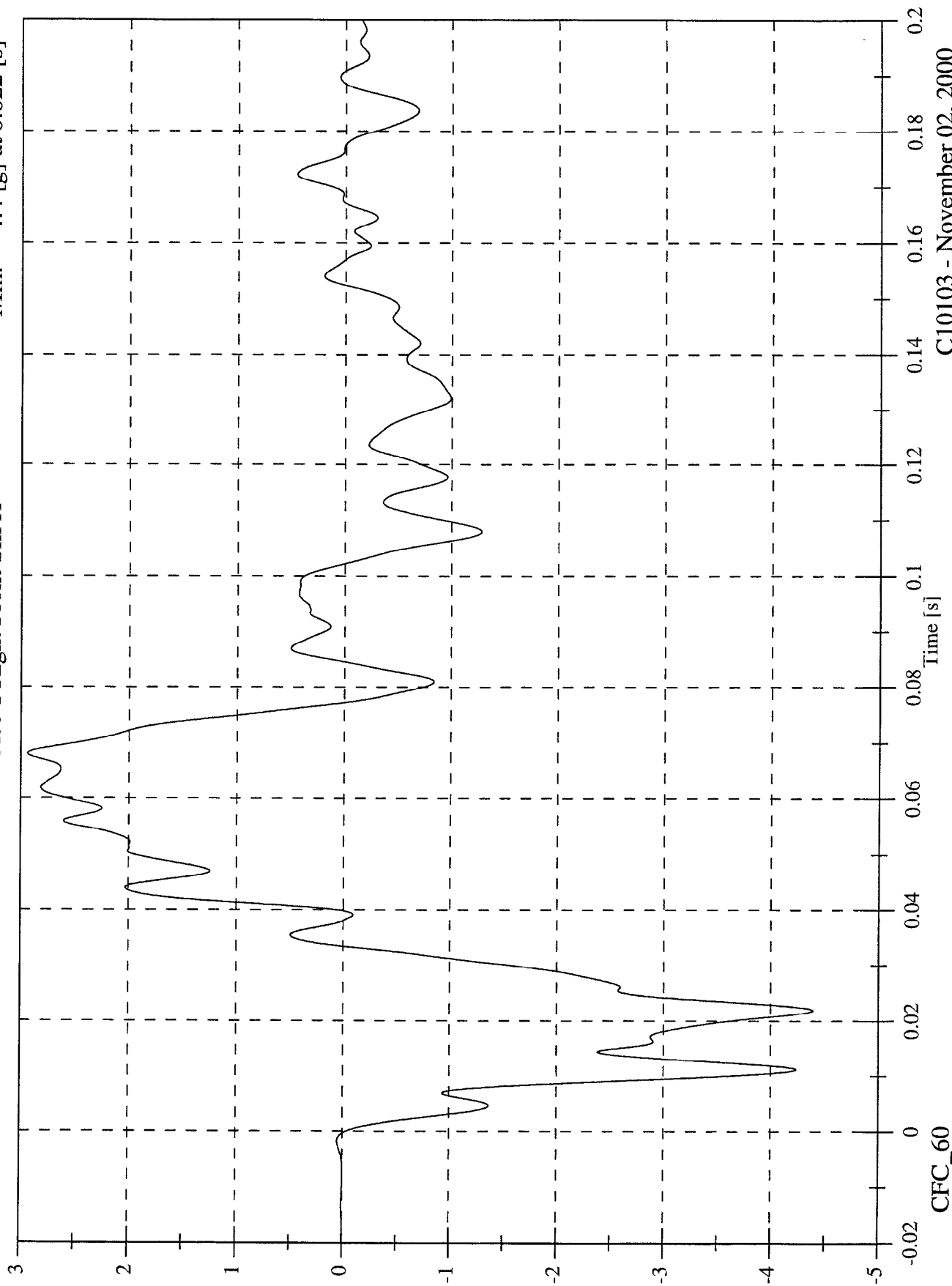


C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 1 Right Front Sill X

Max: 2.9 [g] at 0.068 [s]
Min: -4.4 [g] at 0.022 [s]



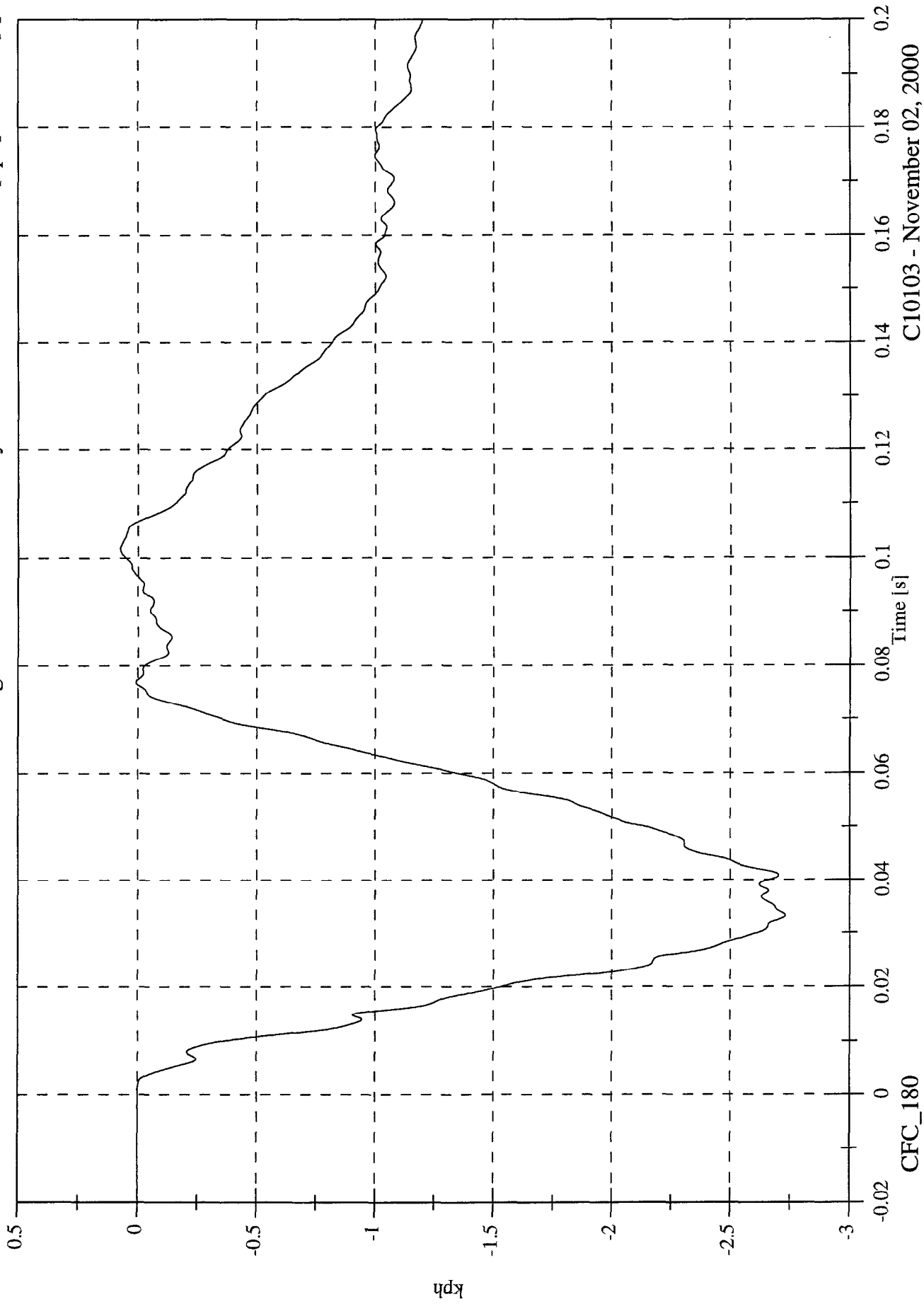
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 1 Right Front Sill X Velocity

Max: 0.1 [kph] at 0.102 [s]

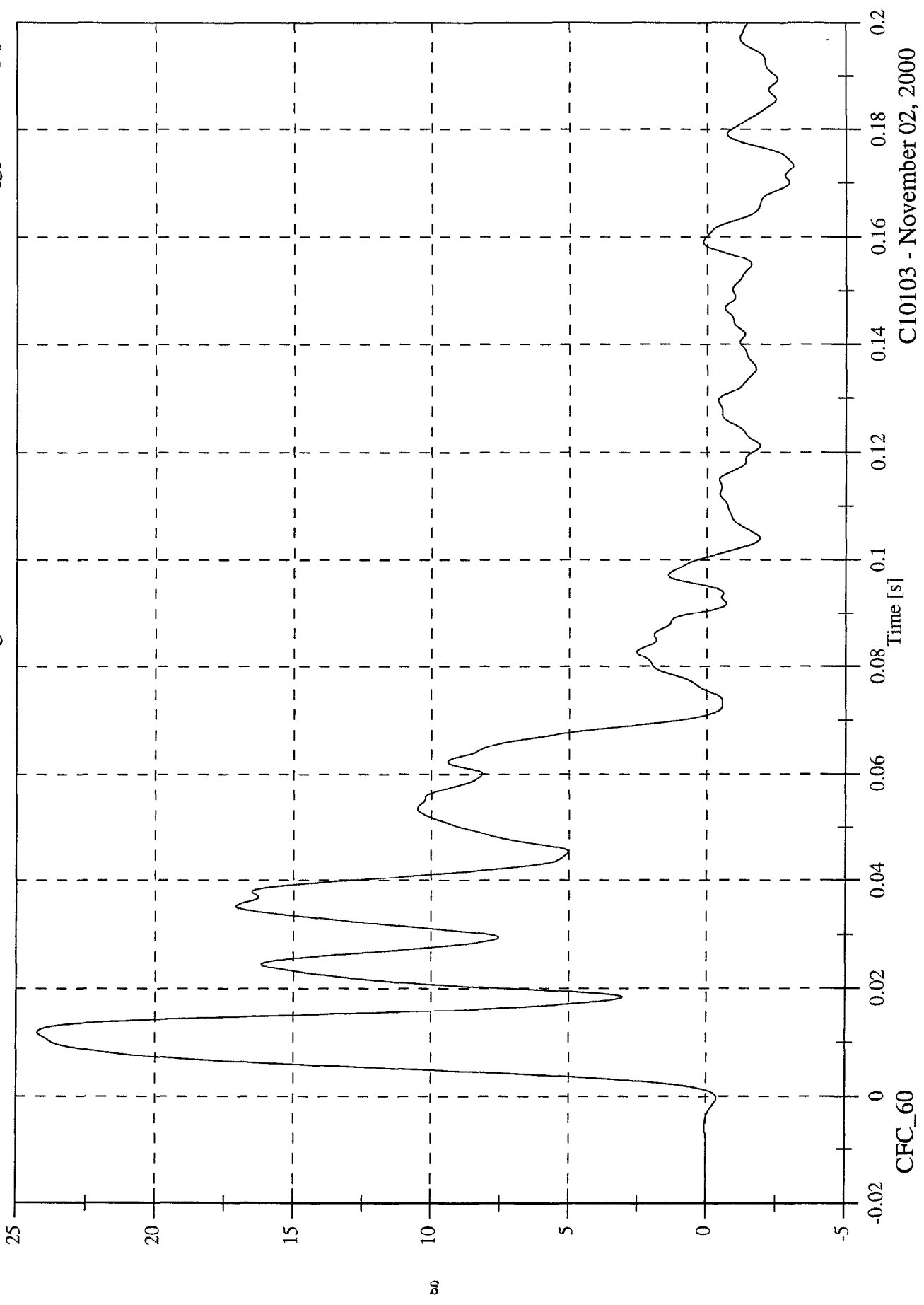
Min: -2.7 [kph] at 0.033 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 1 Right Front Sill Y

Max: 24.2 [g] at 0.012 [s]
Min: -3.1 [g] at 0.173 [s]



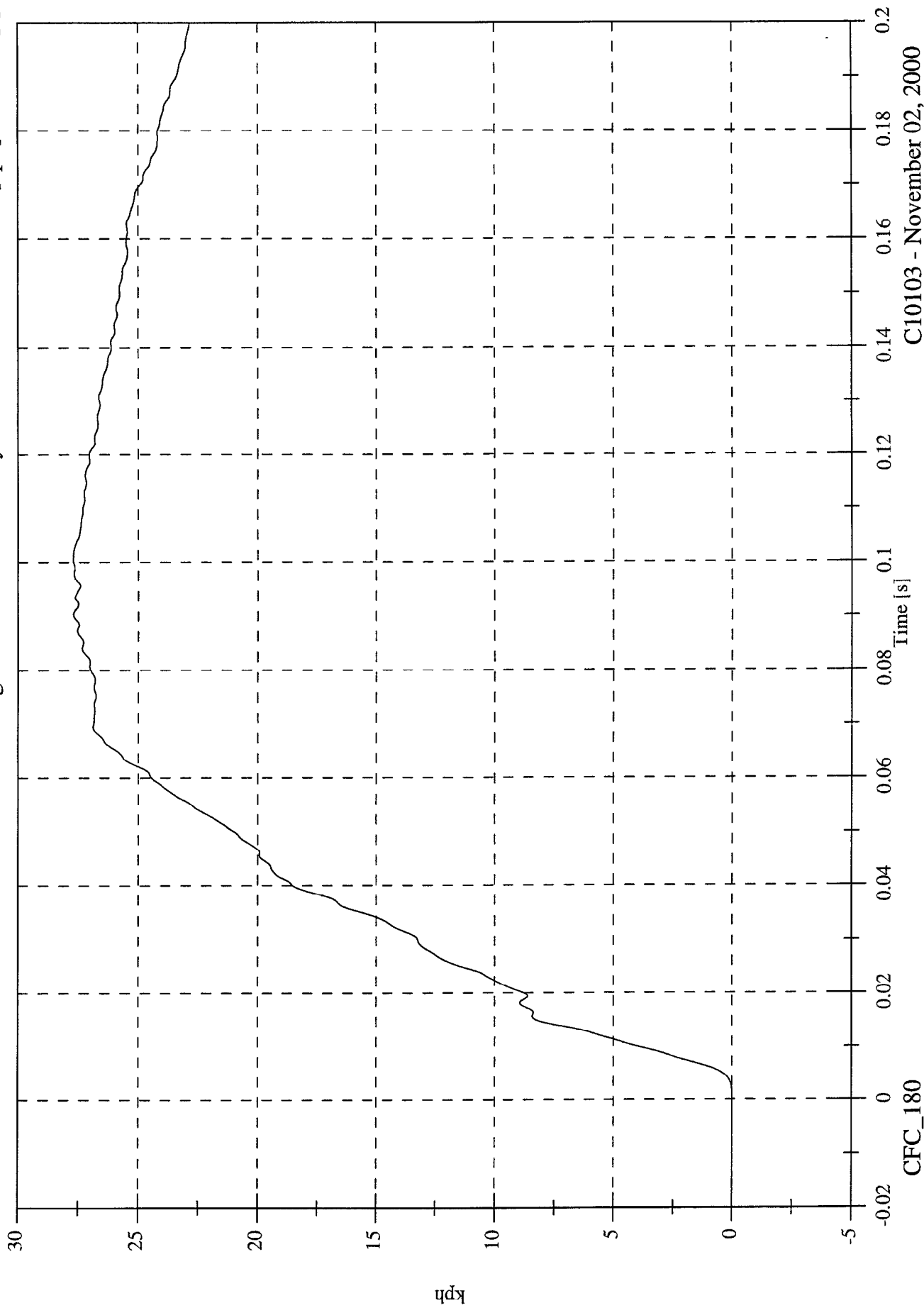
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 27.7 [kph] at 0.100 [s]

Min: -0.0 [kph] at -0.017 [s]

Acc 1 Right Front Sill Y Velocity



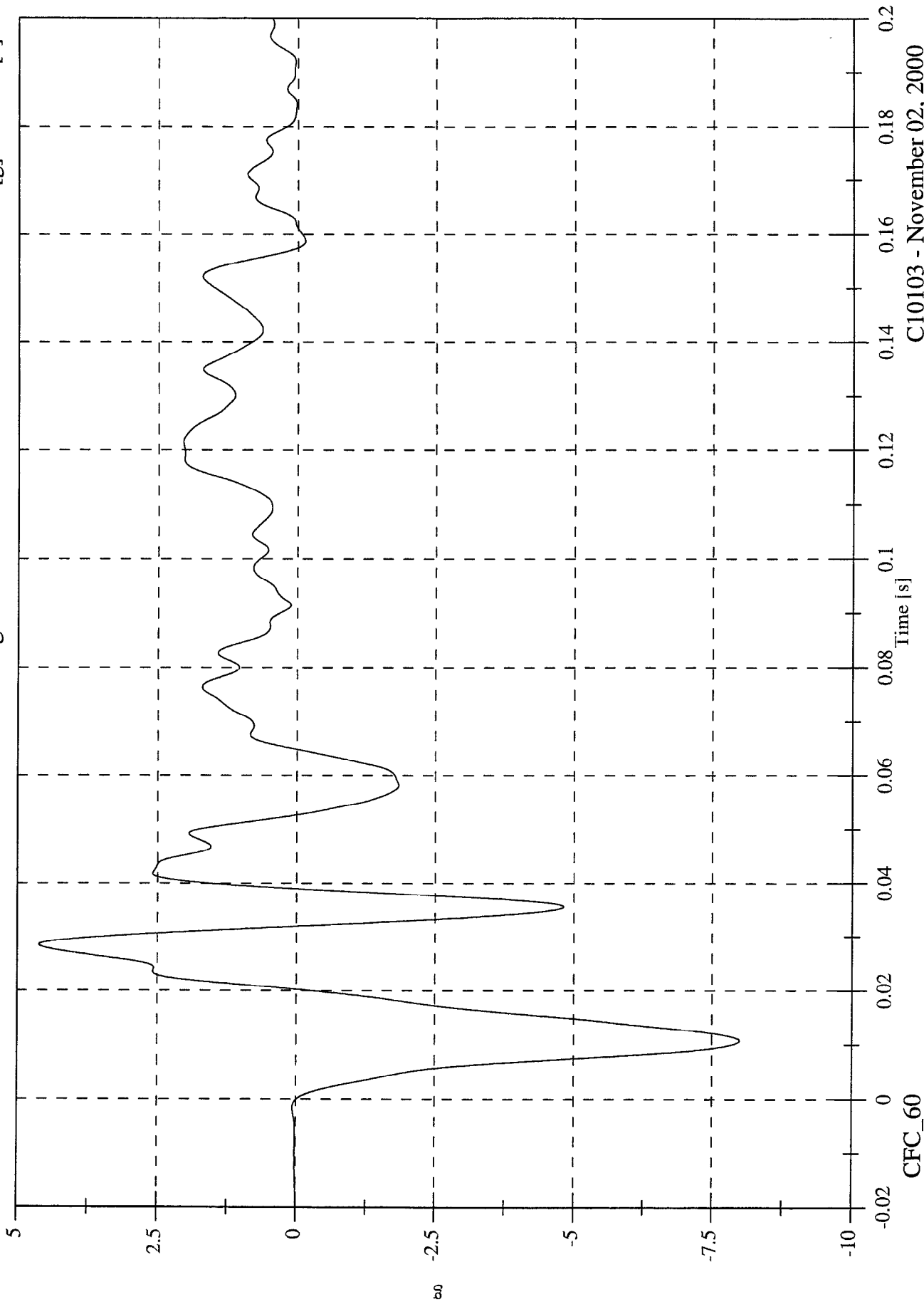
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 1 Right Front Sill Z

Max: 4.6 [g] at 0.028 [s]

Min: -8.0 [g] at 0.011 [s]



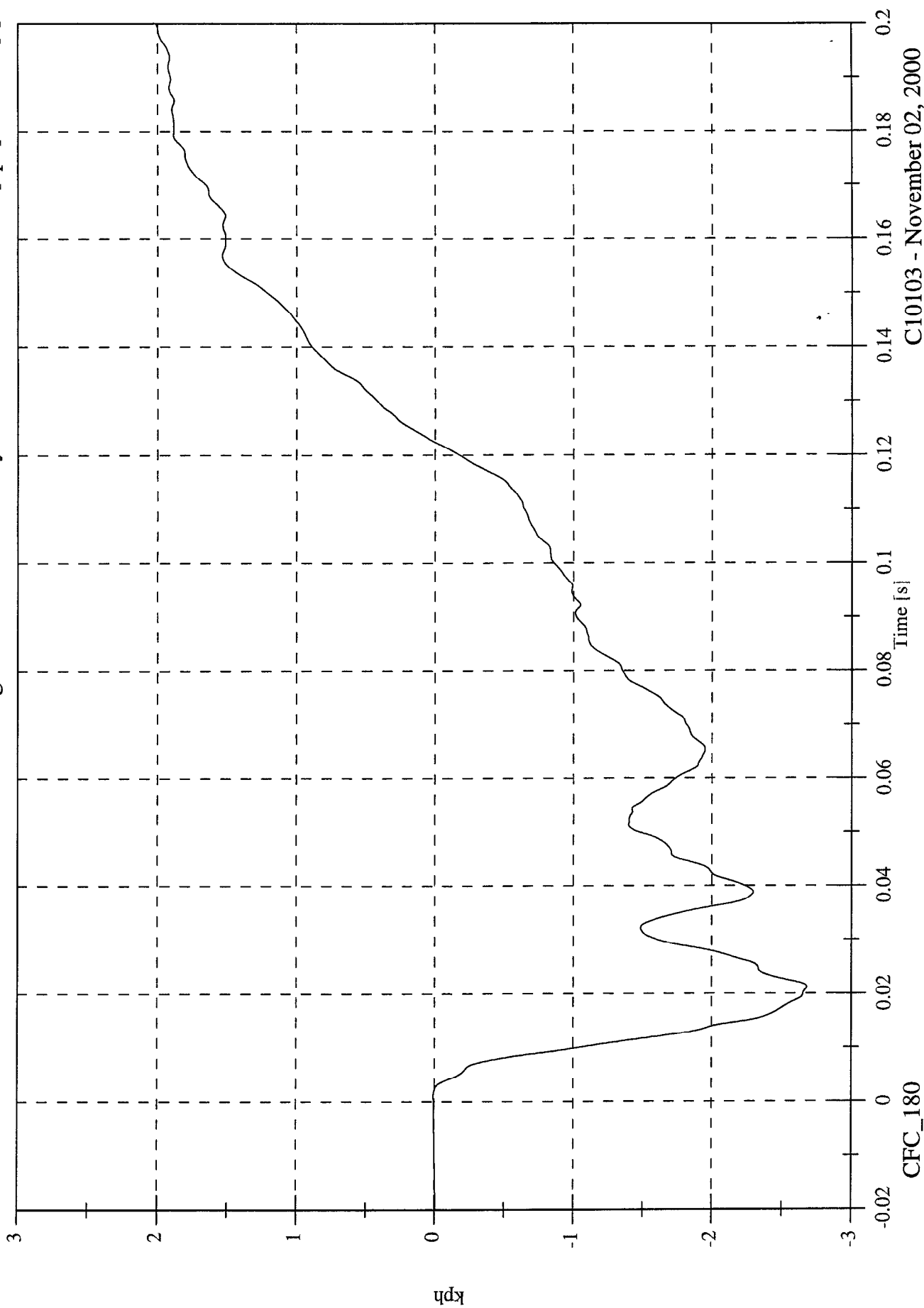
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 2.0 [kph] at 0.200 [s]

Min: -2.7 [kph] at 0.021 [s]

Acc 1 Right Front Sill Z Velocity



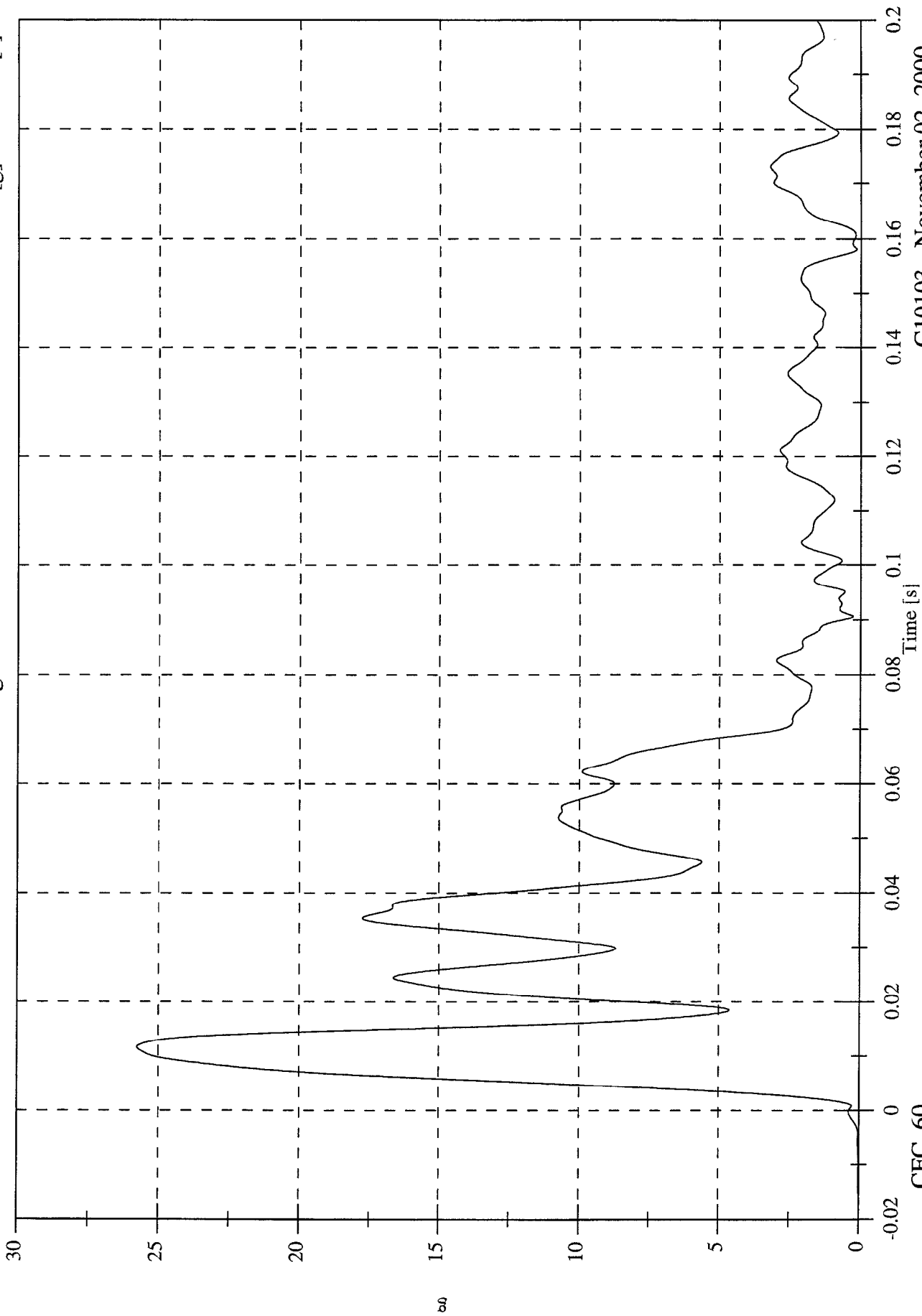
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 25.8 [g] at 0.012 [s]

Min: 0.0 [g] at -0.018 [s]

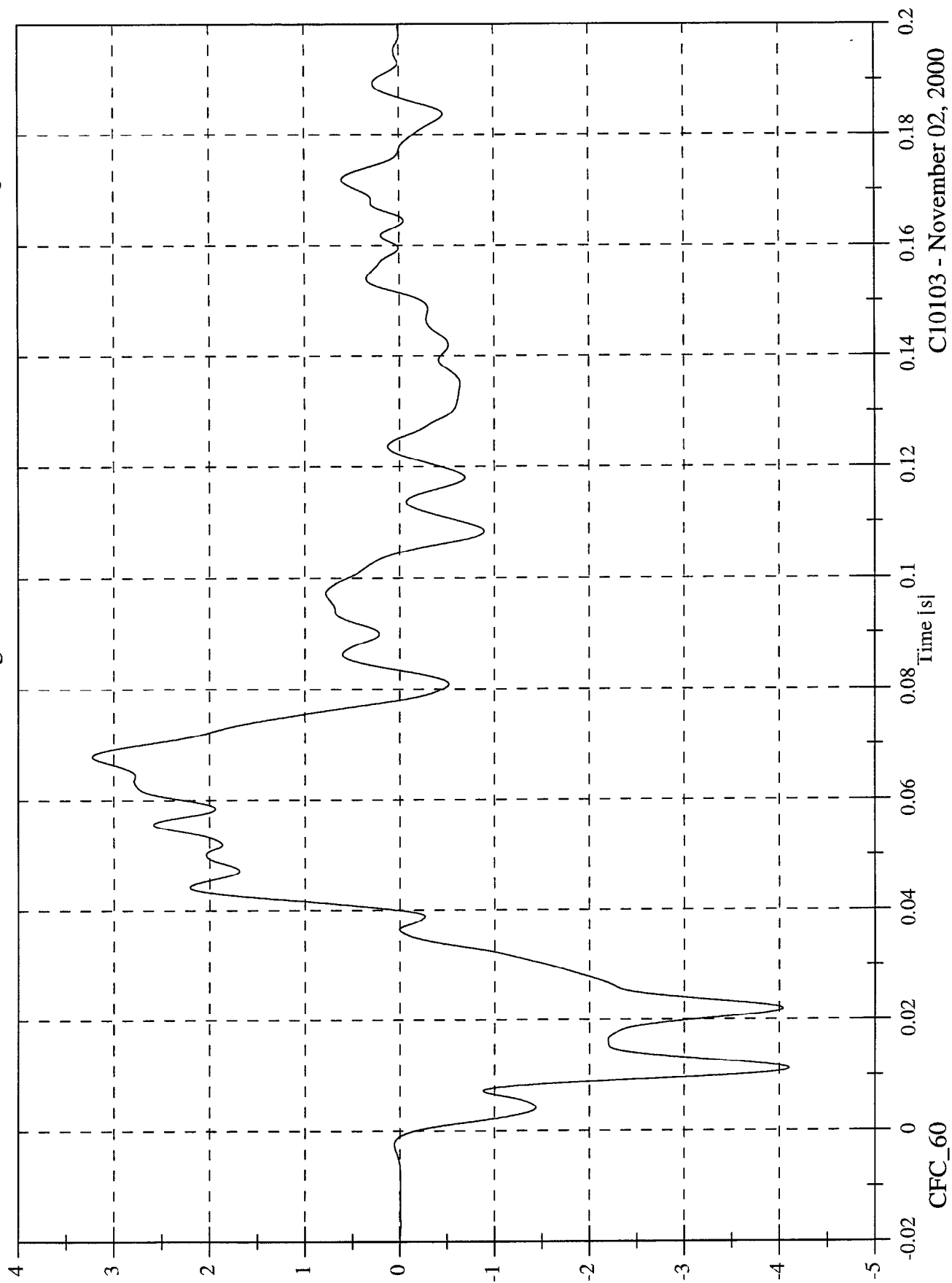
Acc 1 Right Front Sill Resultant



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 2 Right Rear Sill X

Max: 3.2 [g] at 0.068 [s]
Min: -4.1 [g] at 0.011 [s]



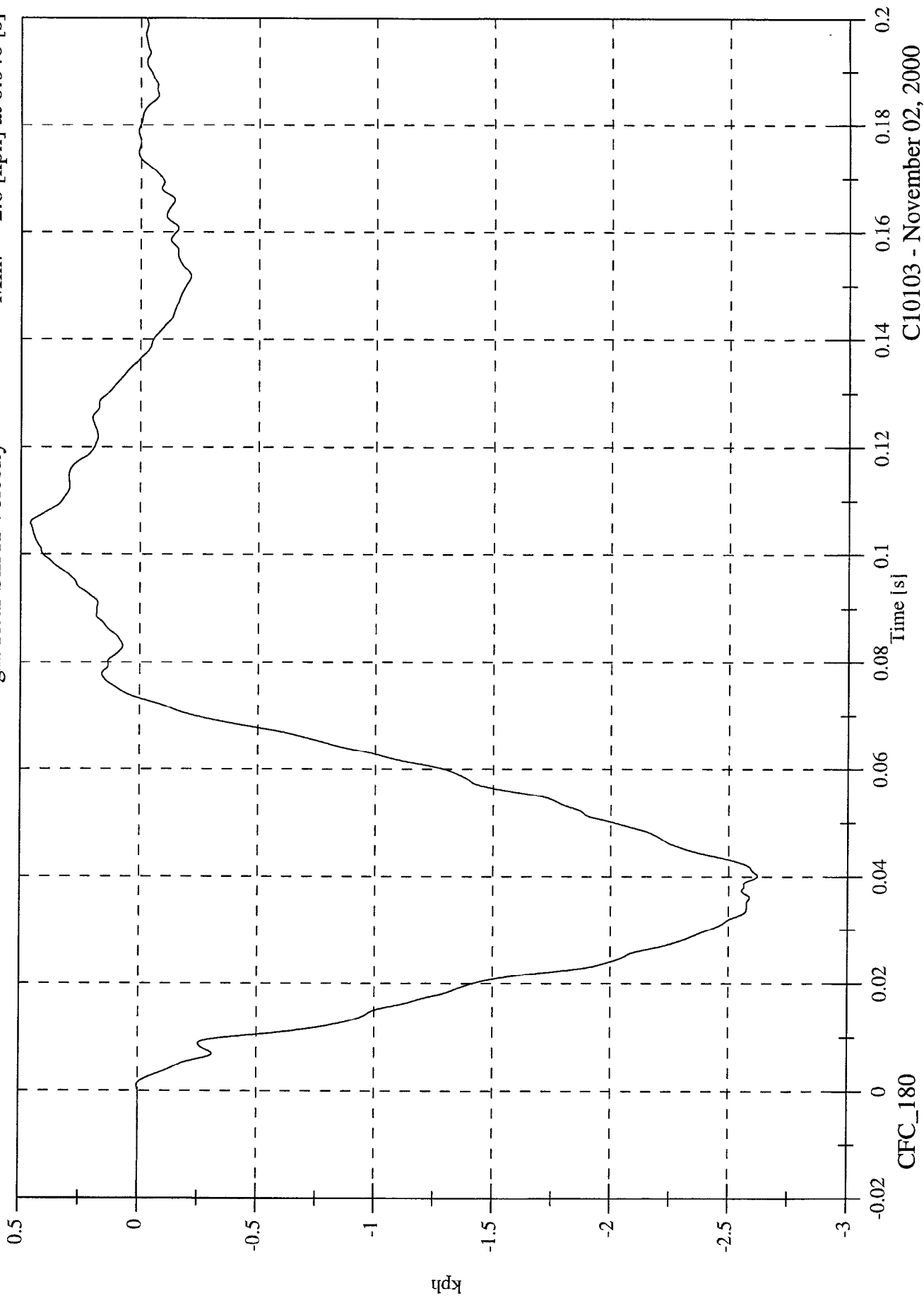
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 0.5 [kph] at 0.106 [s]

Min: -2.6 [kph] at 0.040 [s]

Acc 2 Right Rear Sill X Velocity

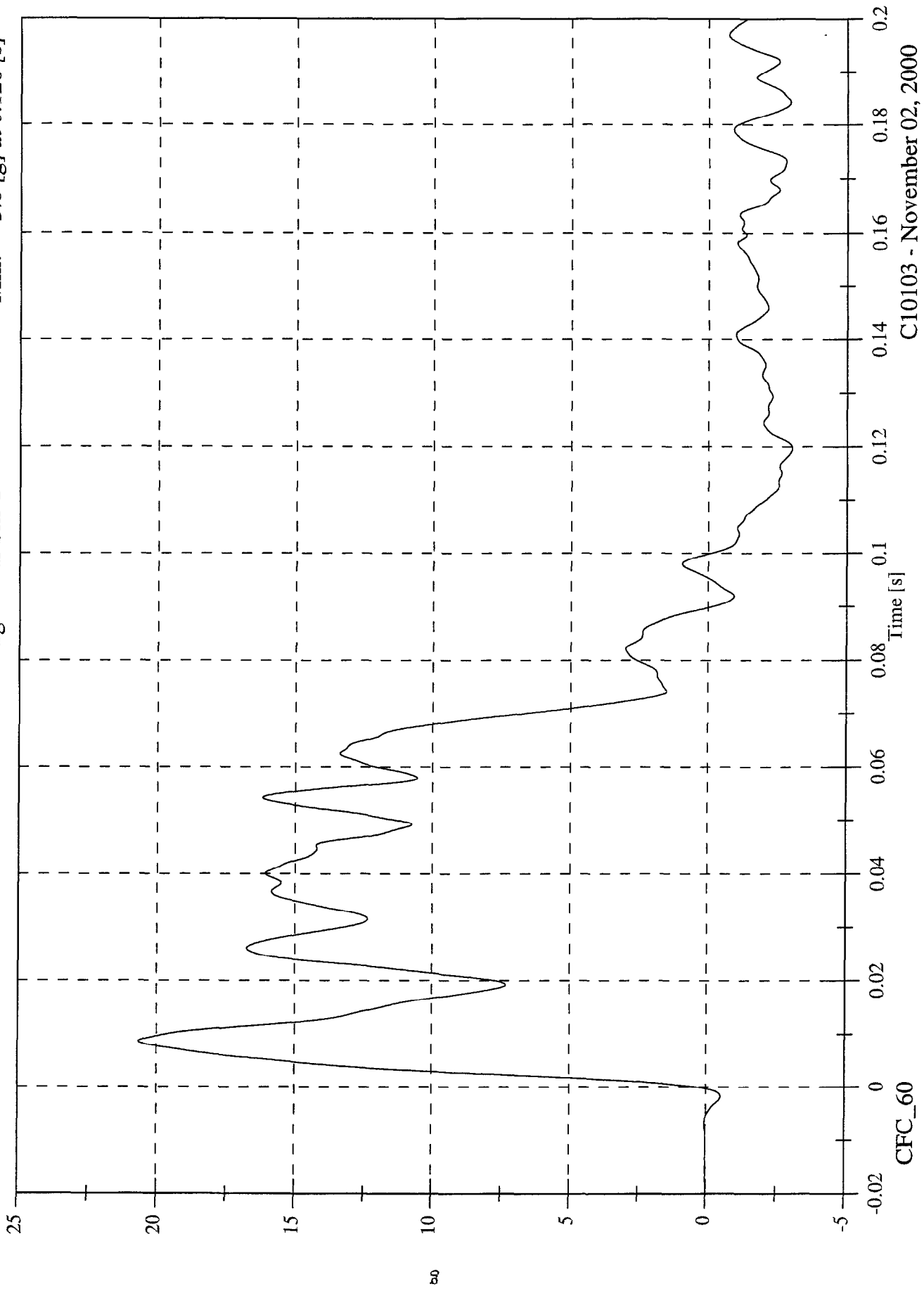


CFC_180

C10103 - November 02, 2000

Max: 20.6 [g] at 0.009 [s]
Min: -3.0 [g] at 0.120 [s]

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 2 Right Rear Sill Y



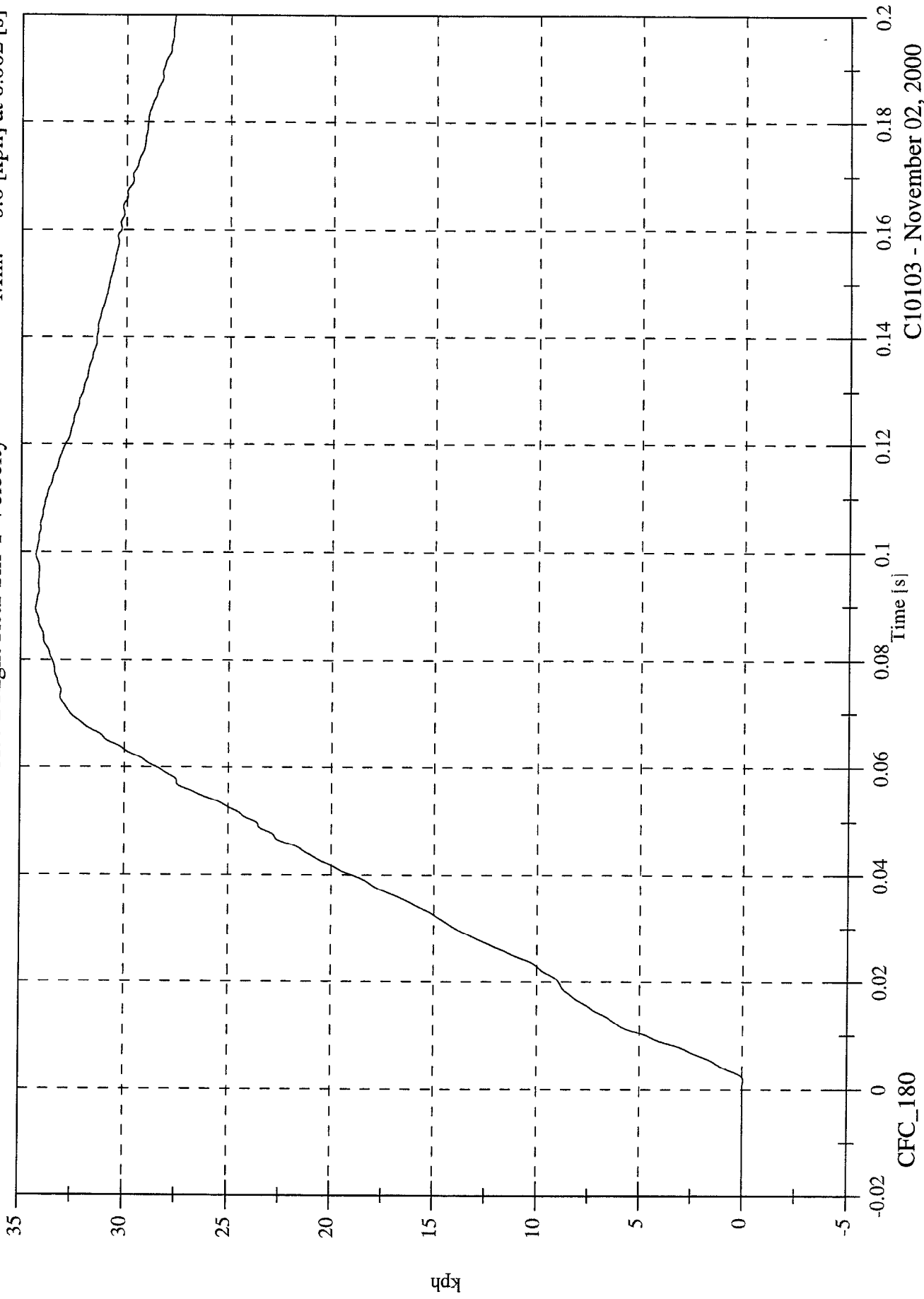
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 34.3 [kph] at 0.089 [s]

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

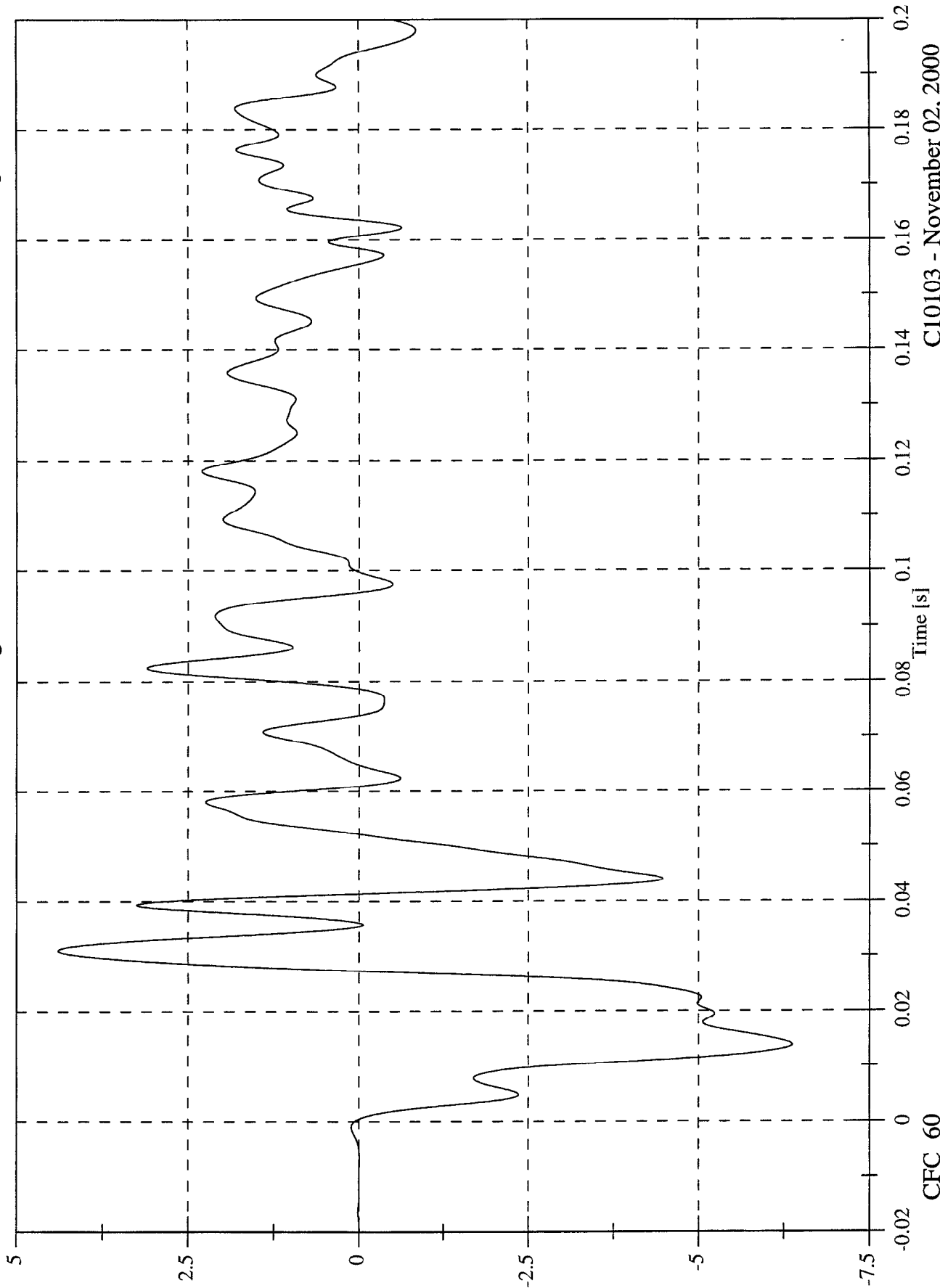
Acc 2 Right Rear Sill Y Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 2 Right Rear Sill Z

Max: 4.4 [g] at 0.031 [s]
Min: -6.4 [g] at 0.014 [s]



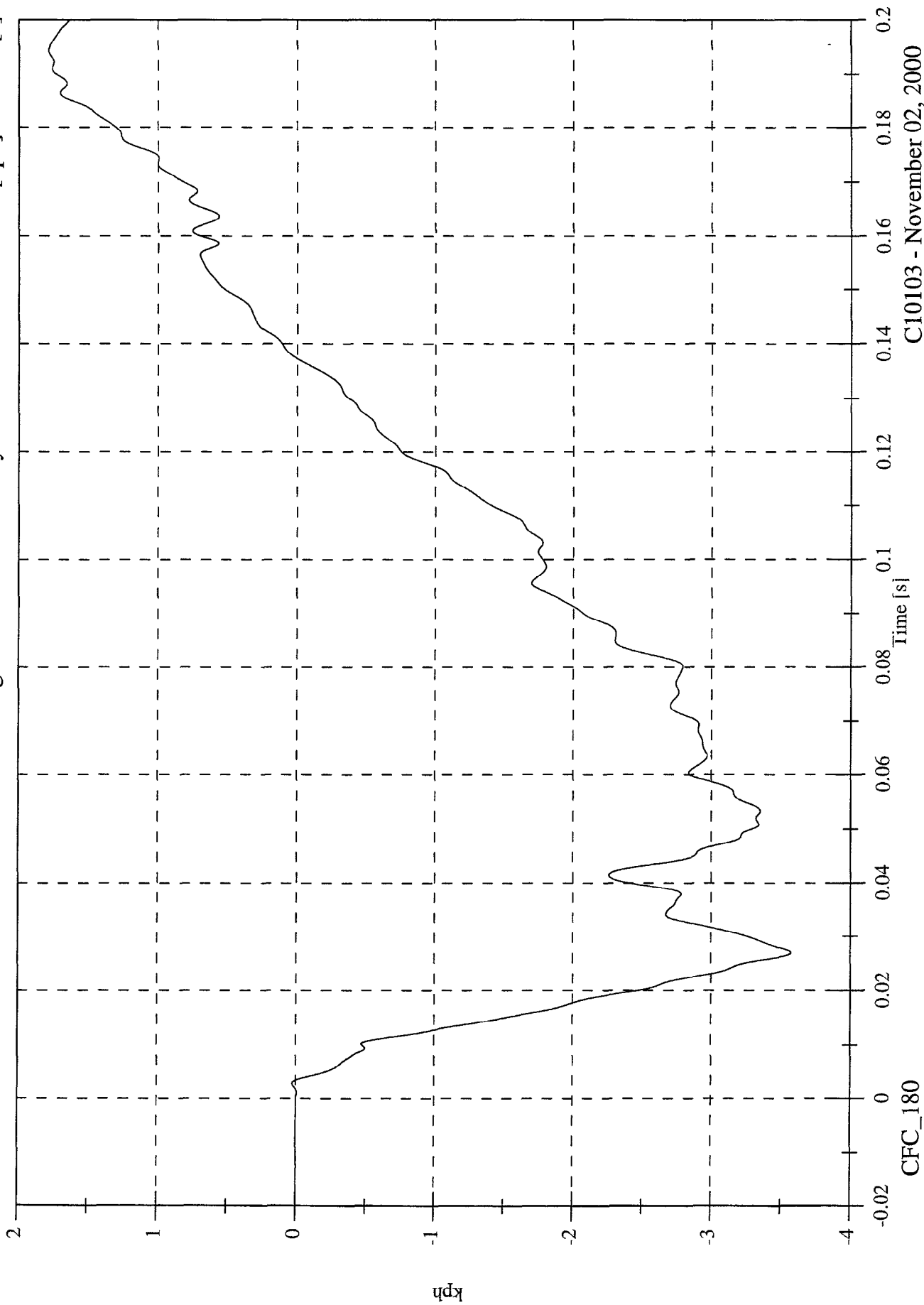
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 2 Right Rear Sill Z Velocity

Max: 1.8 [kph] at 0.194 [s]

Min: -3.6 [kph] at 0.027 [s]

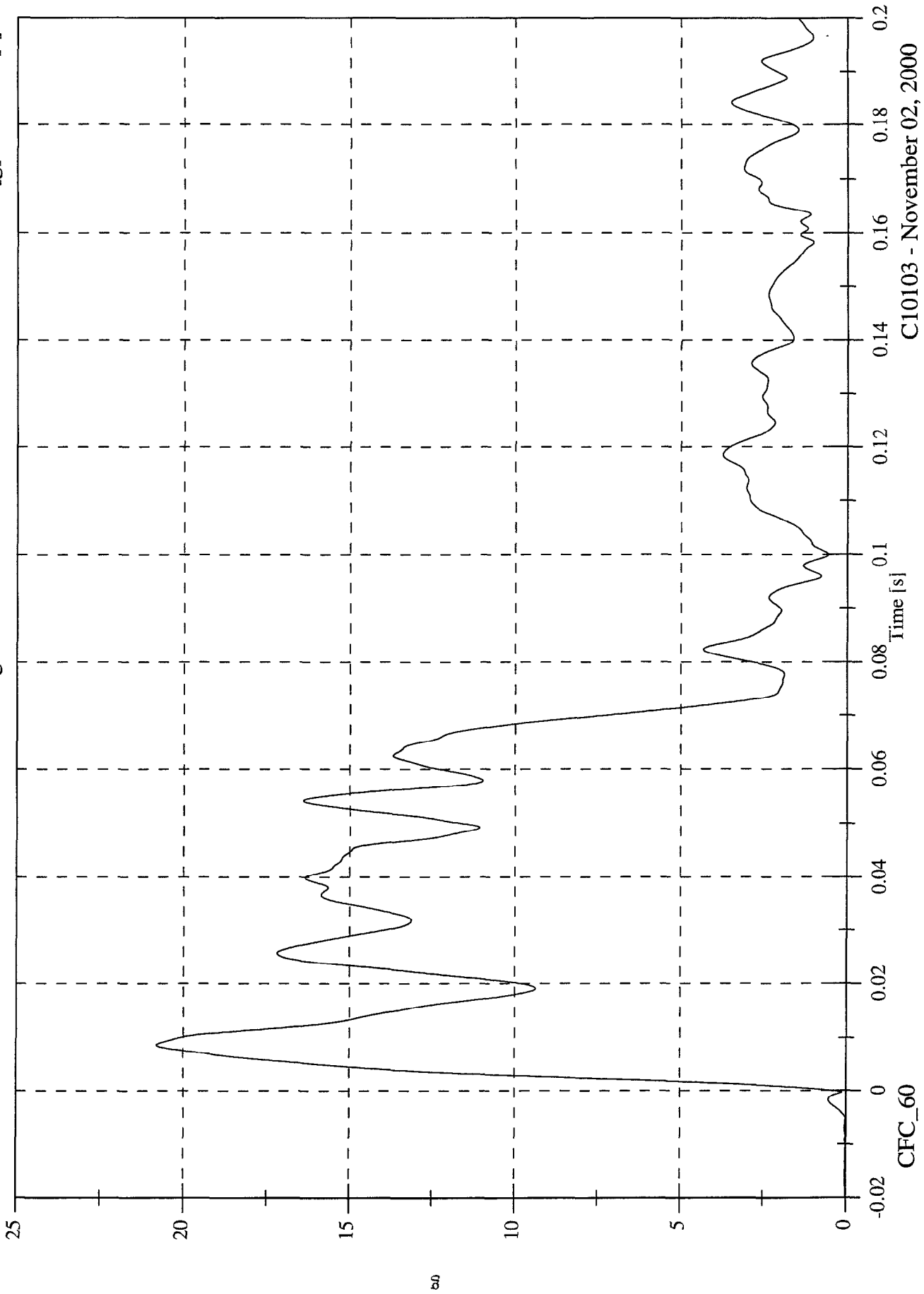


CFC_180

C10103 - November 02, 2000

Max: 20.8 [g] at 0.009 [s]
Min: 0.0 [g] at -0.010 [s]

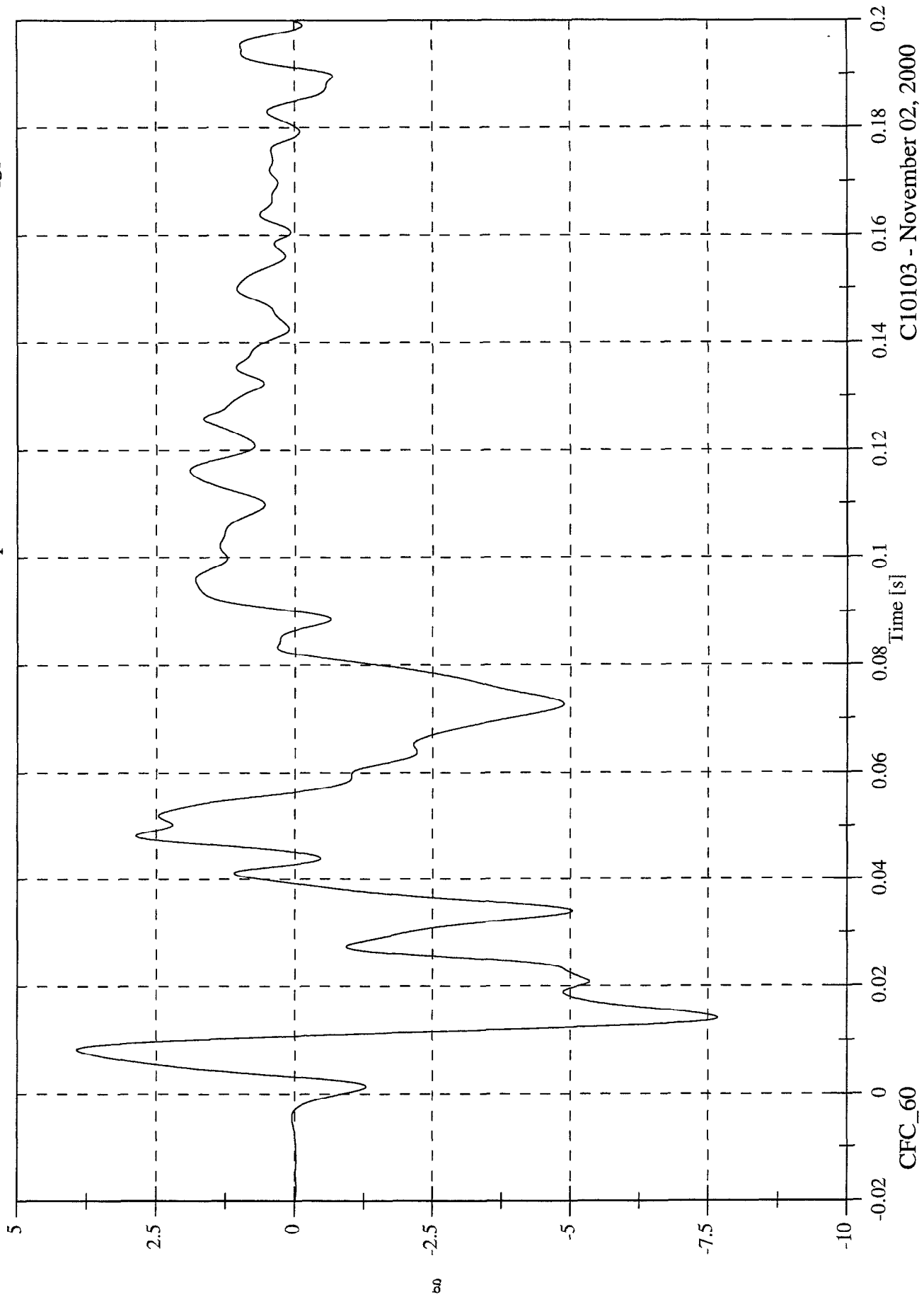
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 2 Right Rear Sill Resultant



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 3 Rear Floorpan X

Max: 3.9 [g] at 0.008 [s]
Min: -7.7 [g] at 0.014 [s]



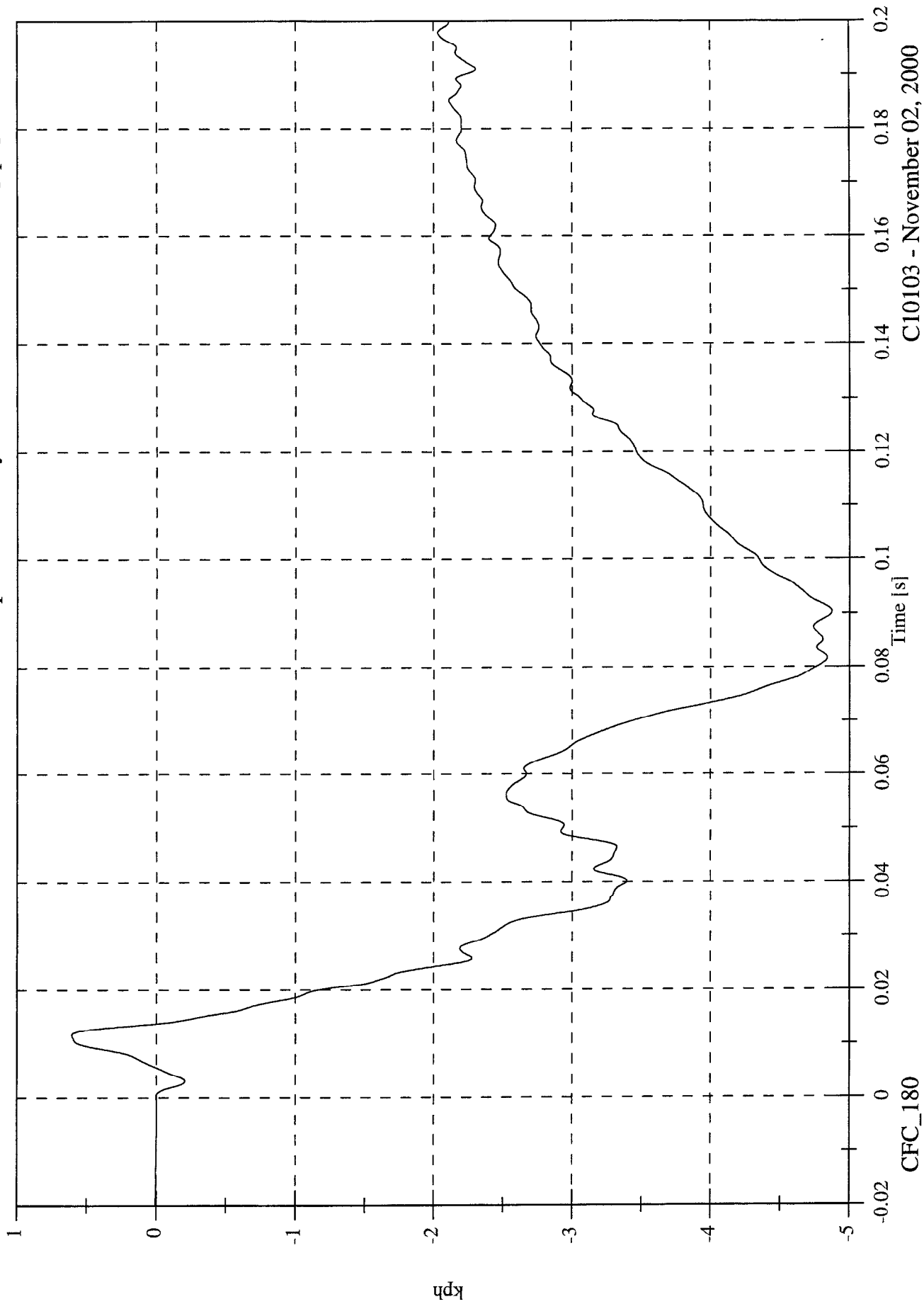
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 3 Rear Floorpan X Velocity

Max: 0.6 [kph] at 0.012 [s]

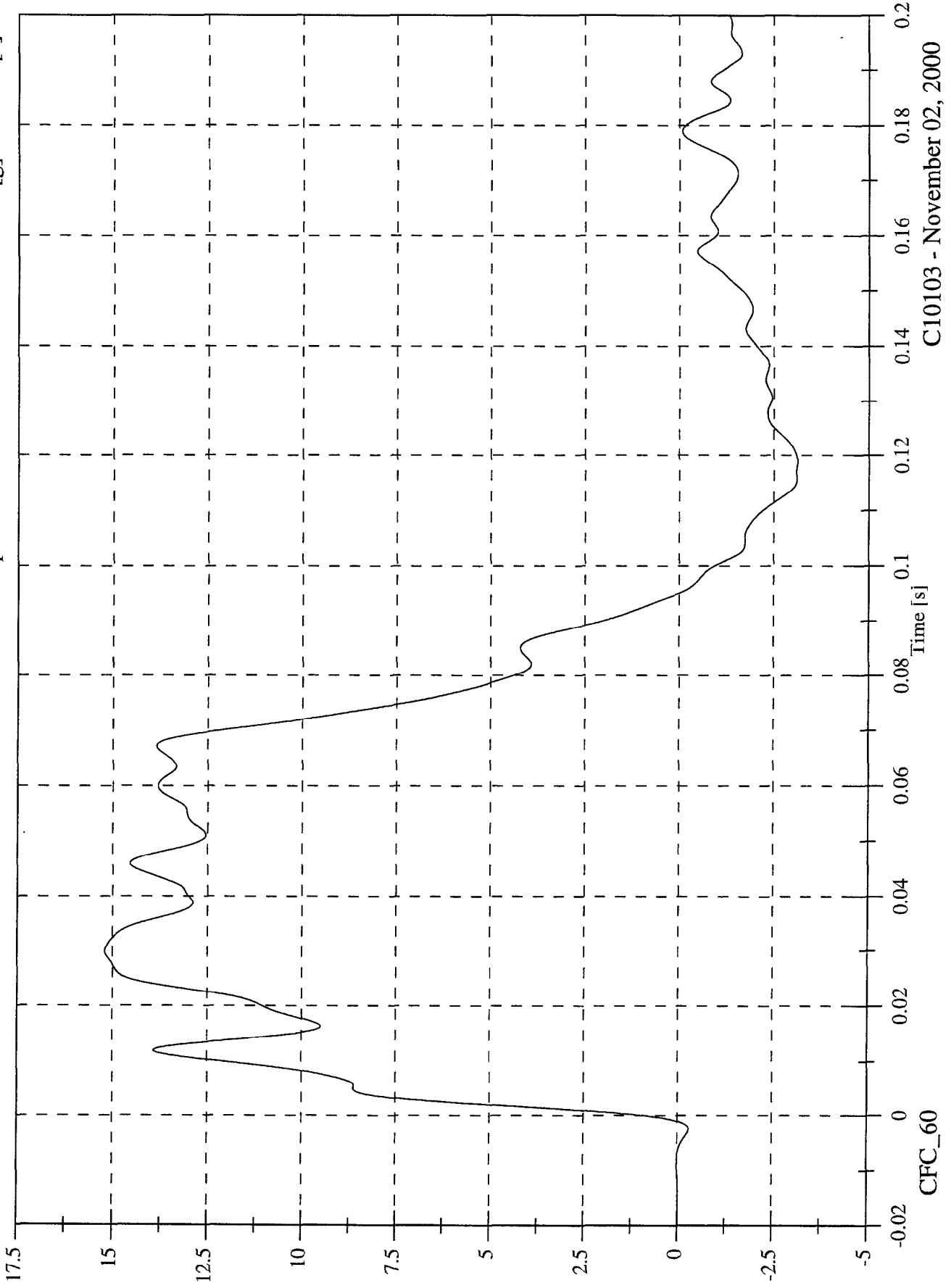
Min: -4.9 [kph] at 0.090 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 3 Rear Floorpan Y

Max: 15.2 [g] at 0.030 [s]
Min: -3.1 [g] at 0.119 [s]



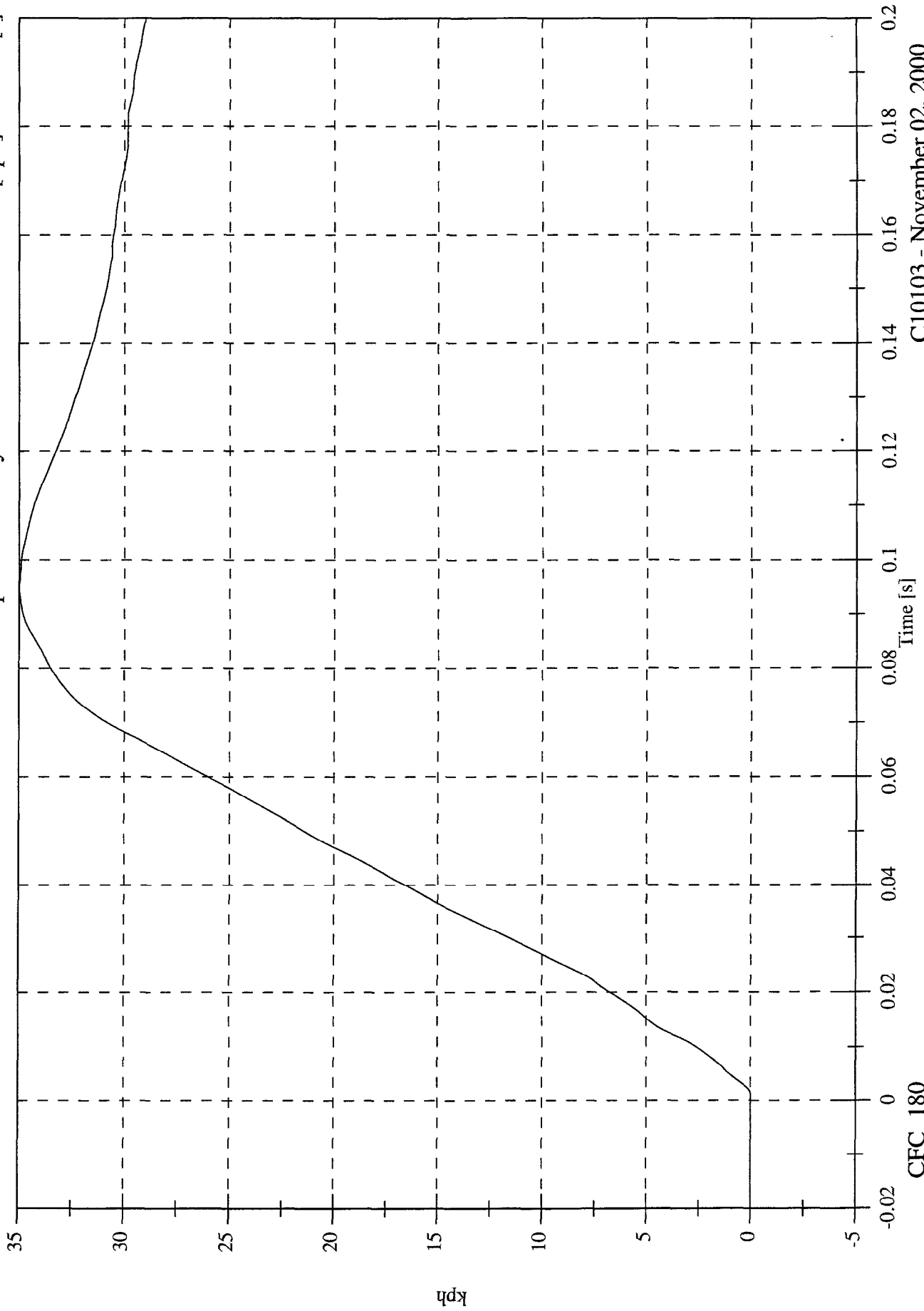
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 3 Rear Floorpan Y Velocity

Max: 35.0 [kph] at 0.095 [s]

Min: -0.0 [kph] at 0.001 [s]



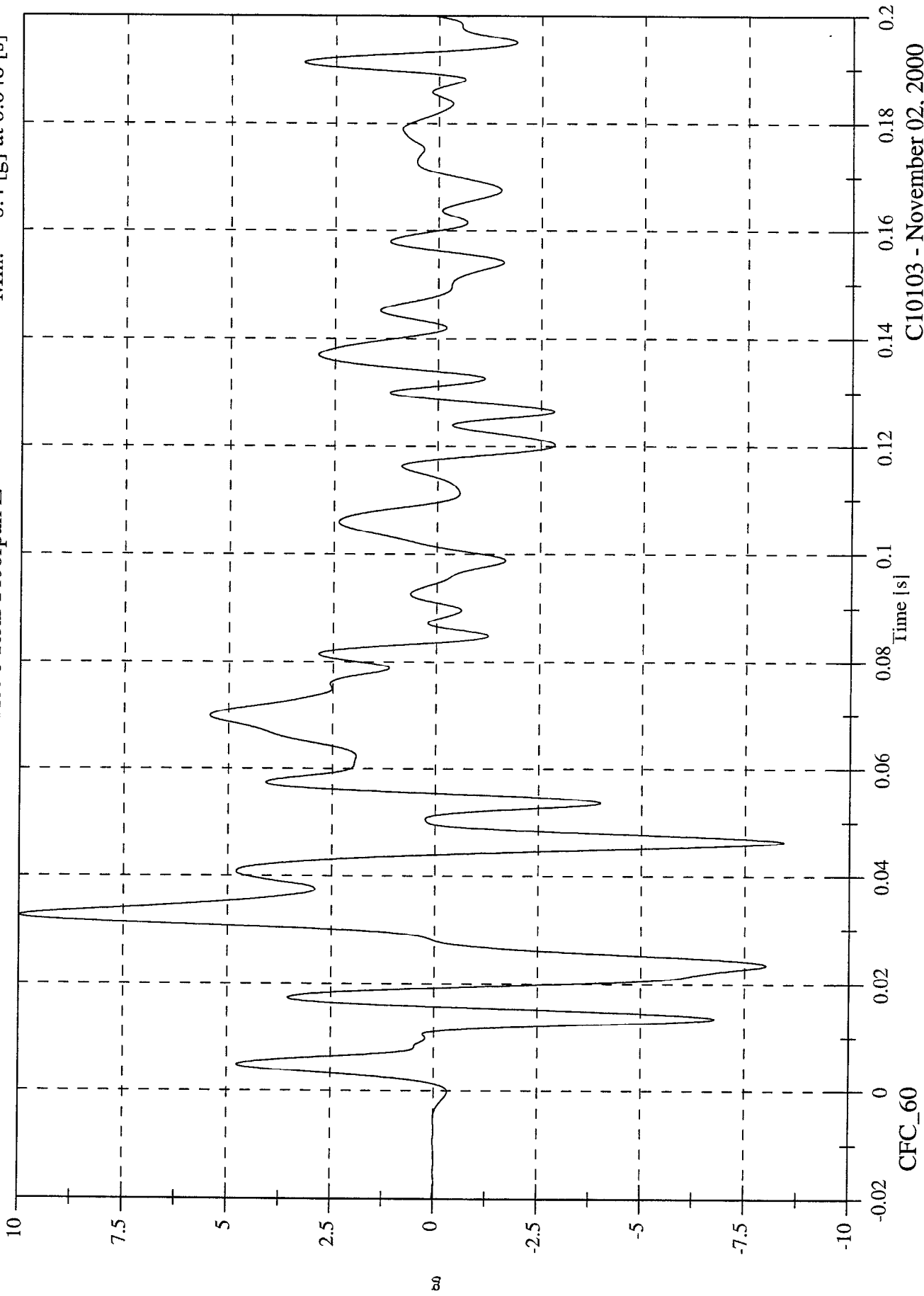
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 3 Rear Floorpan Z

Max: 10.0 [g] at 0.033 [s]

Min: -8.4 [g] at 0.046 [s]



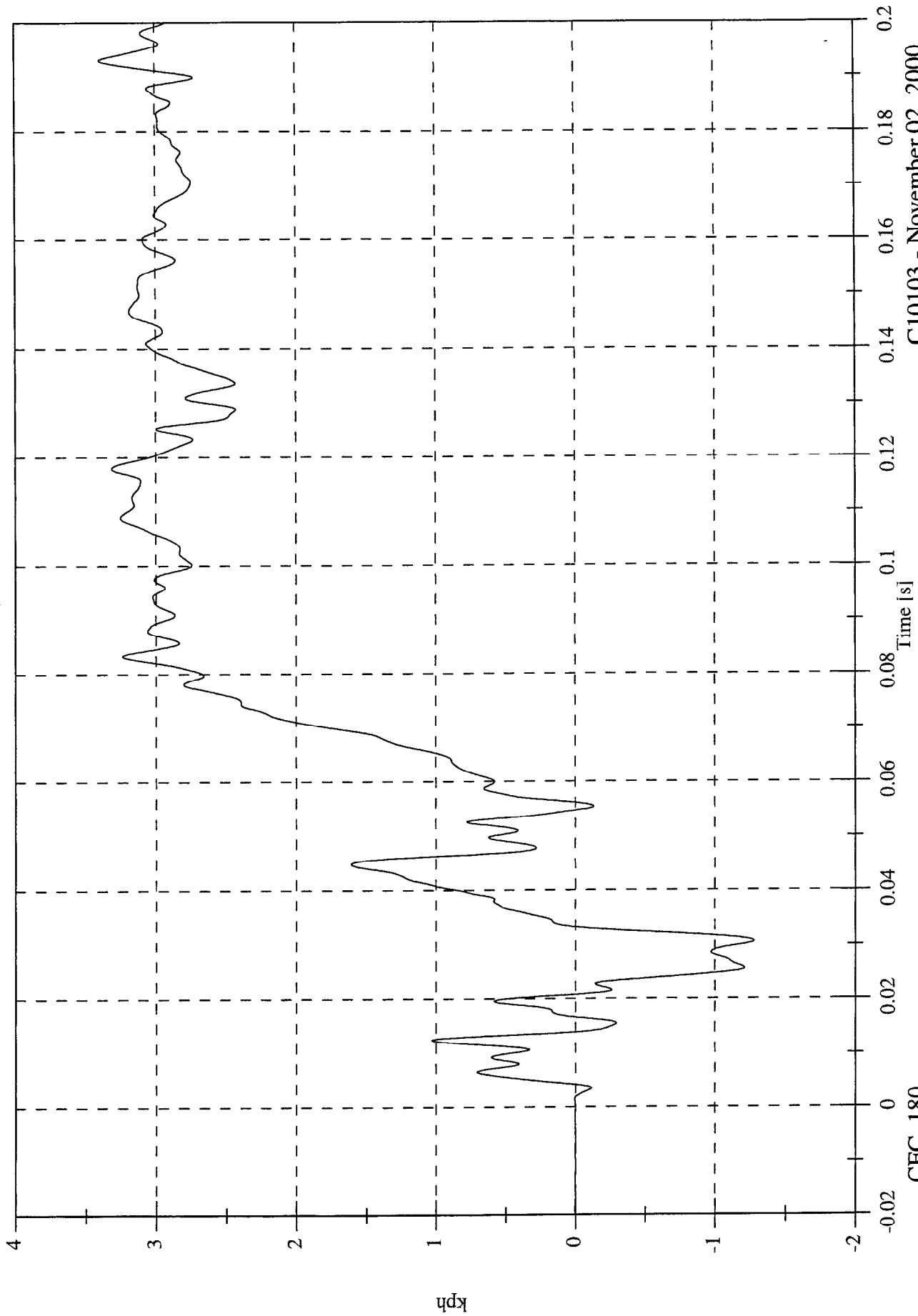
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 3.4 [kph] at 0.193 [s]

Min: -1.3 [kph] at 0.031 [s]

Acc 3 Rear Floorpan Z Velocity



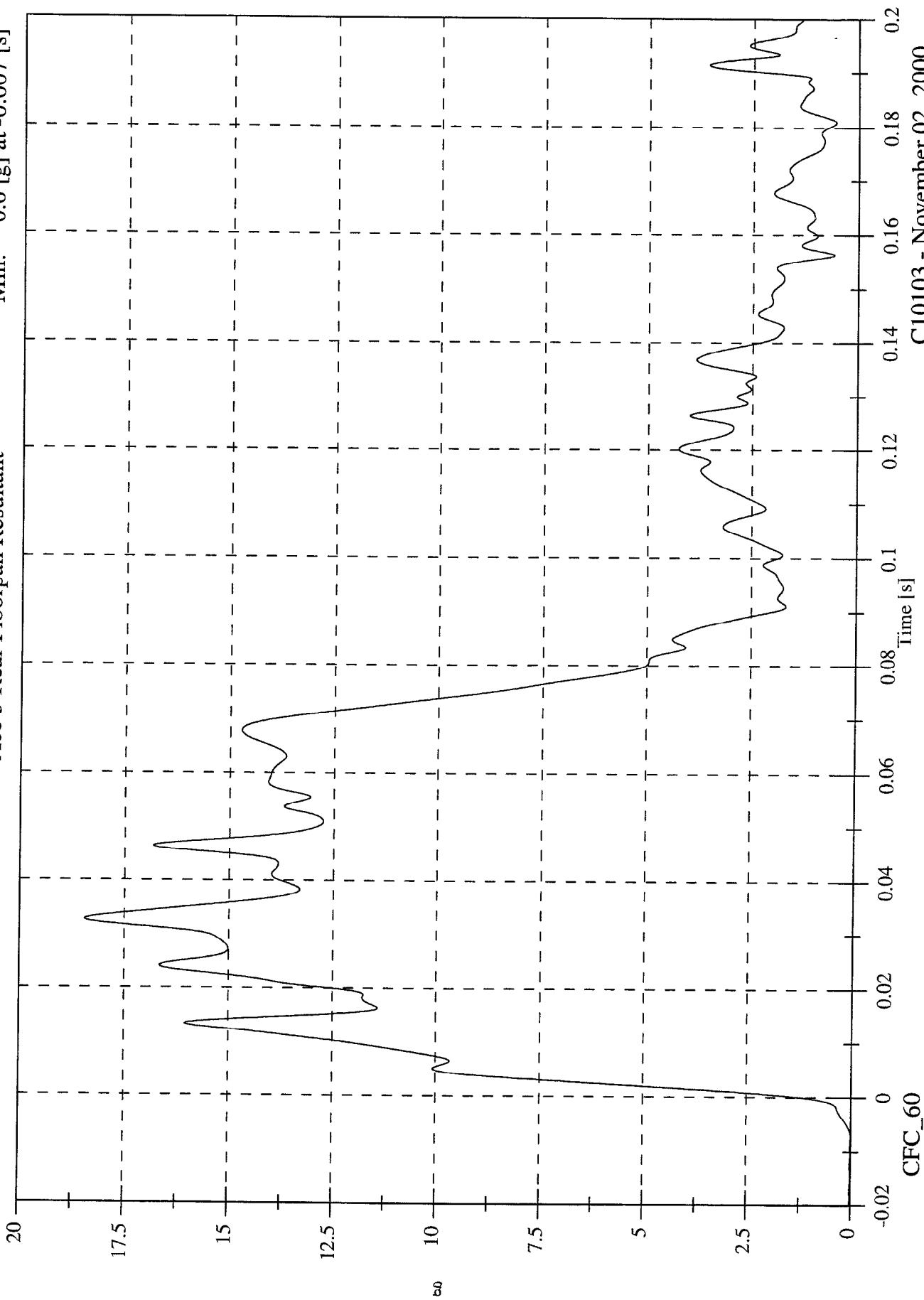
CFC_180

CI0103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 3 Rear Floorpan Resultant

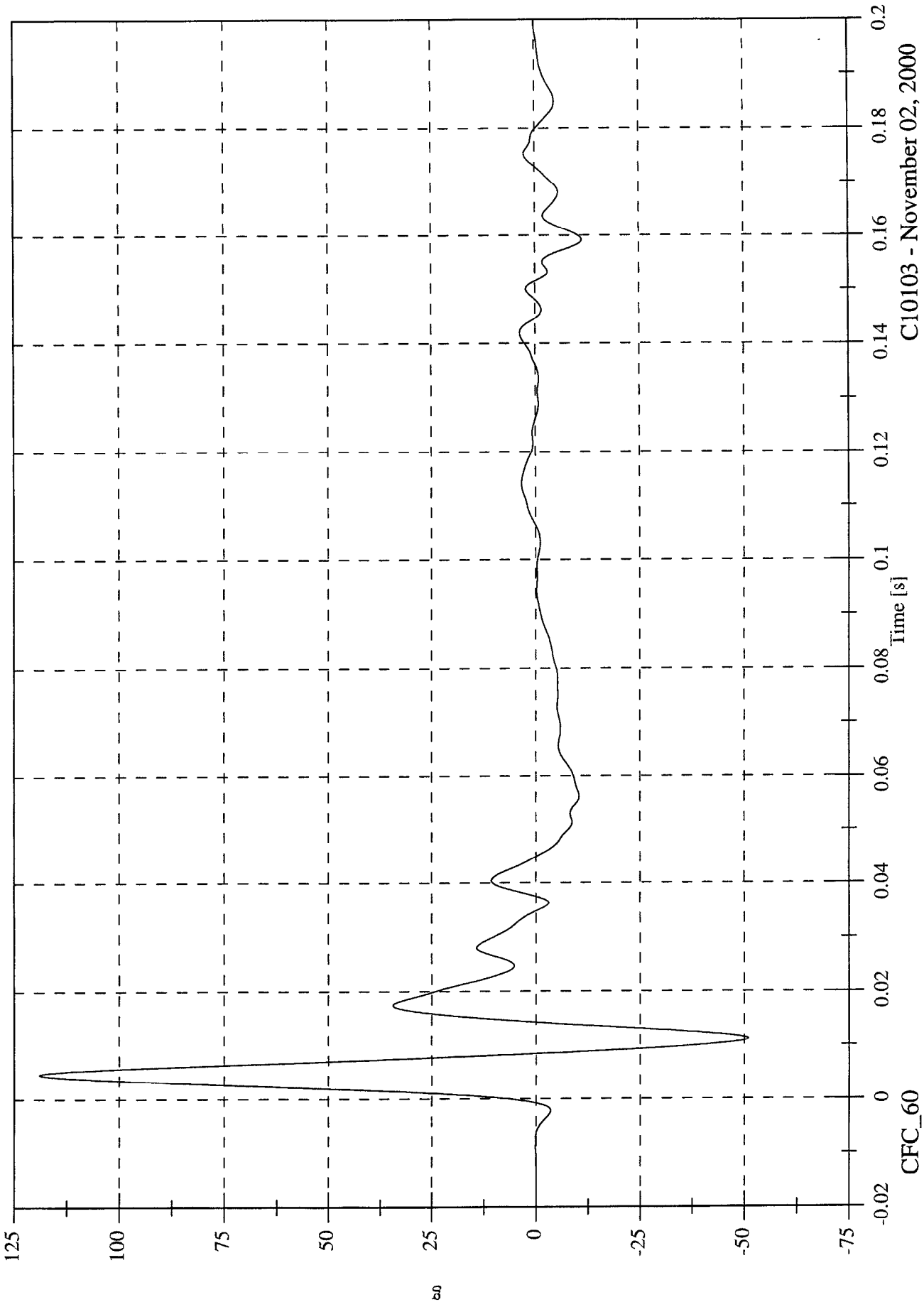
Max: 18.5 [g] at 0.033 [s]
Min: 0.0 [g] at -0.007 [s]



C10103 - November 02, 2000

Max: 118.9 [g] at 0.005 [s]
Min: -51.0 [g] at 0.011 [s]

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 4 Left Rear Sill Y



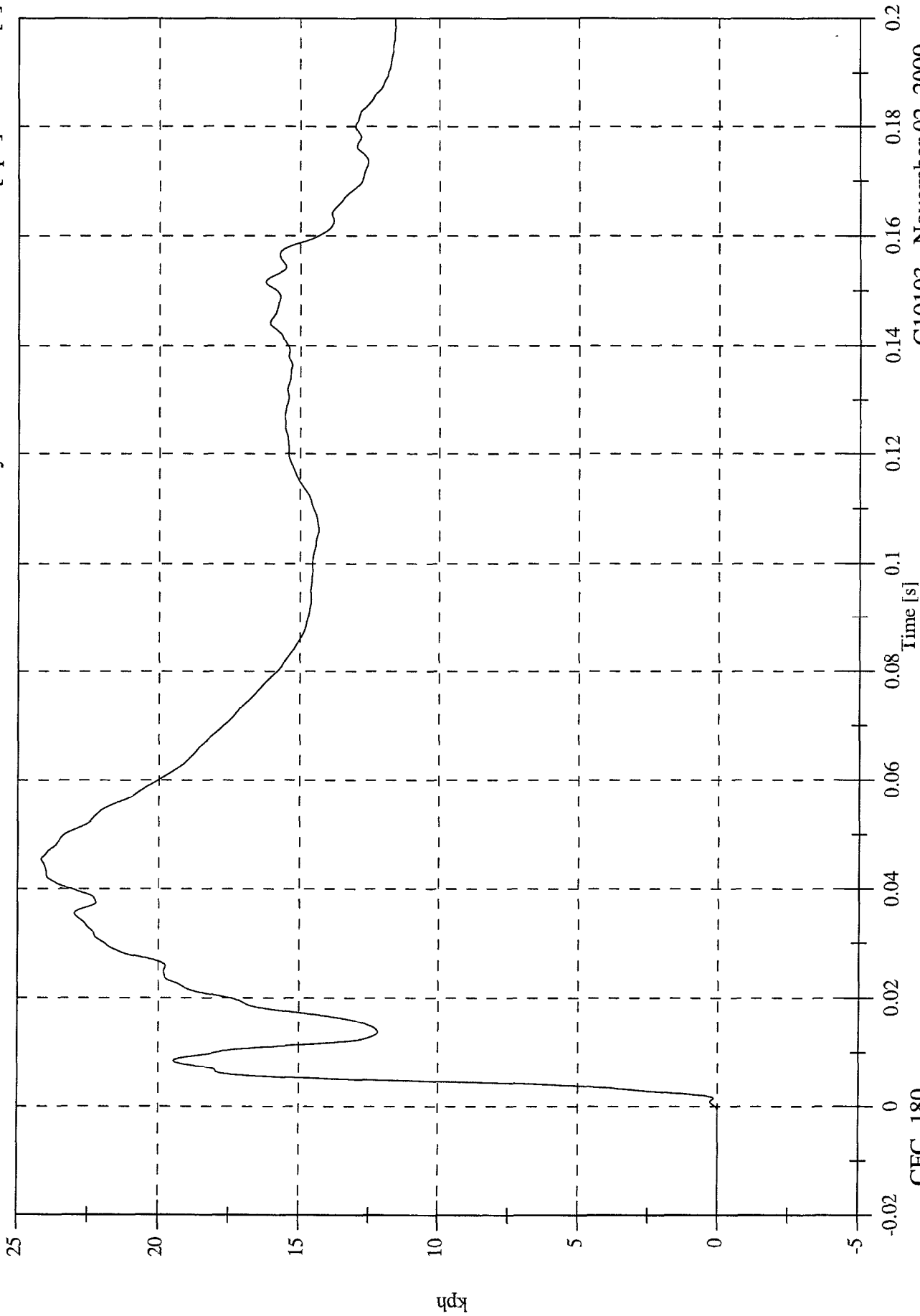
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 24.2 [kph] at 0.045 [s]

Min: -0.0 [kph] at -0.020 [s]

Acc 4 Left Rear Sill Y Velocity



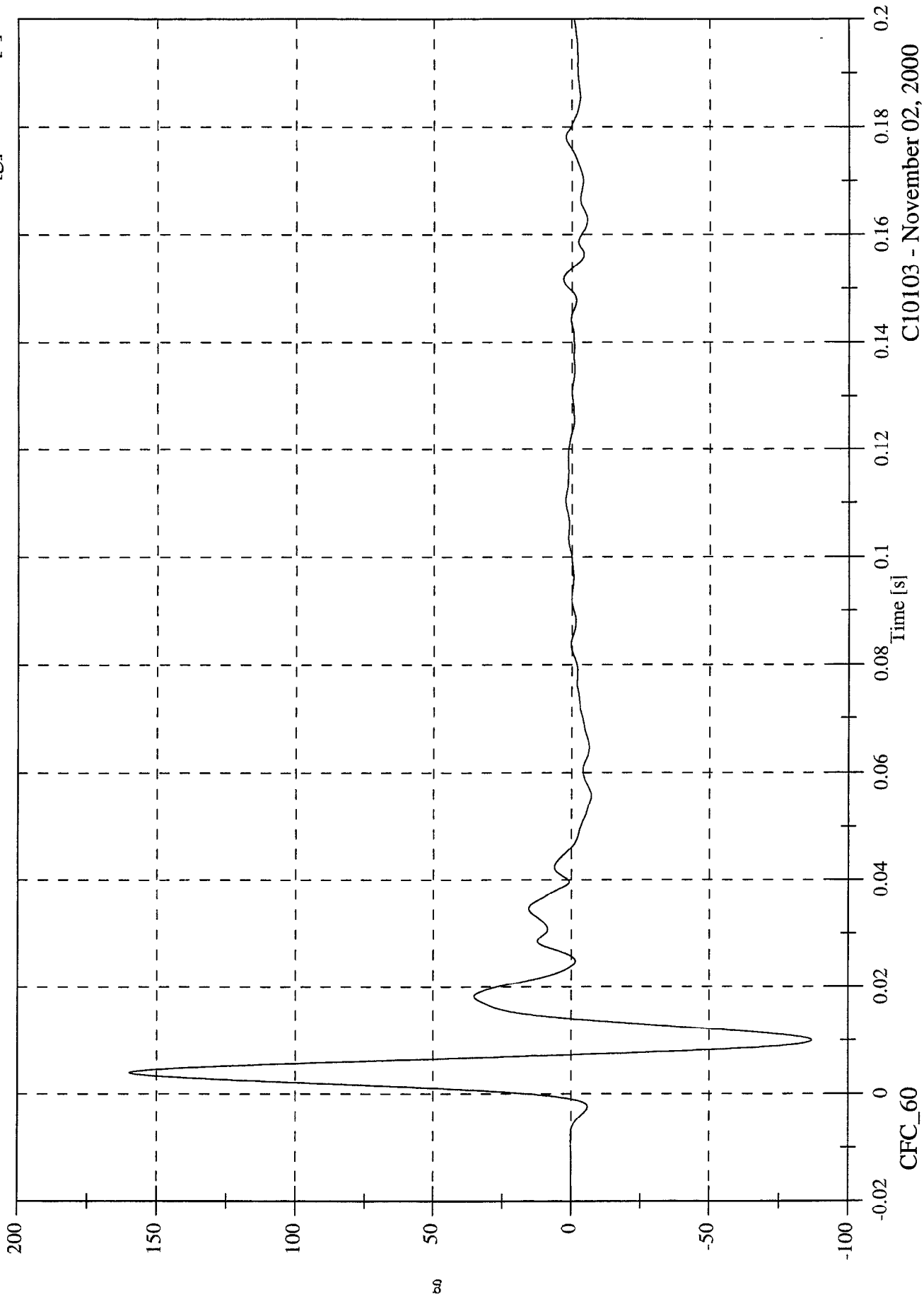
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 5 Left Front Sill Y

Max: 160.0 [g] at 0.004 [s]

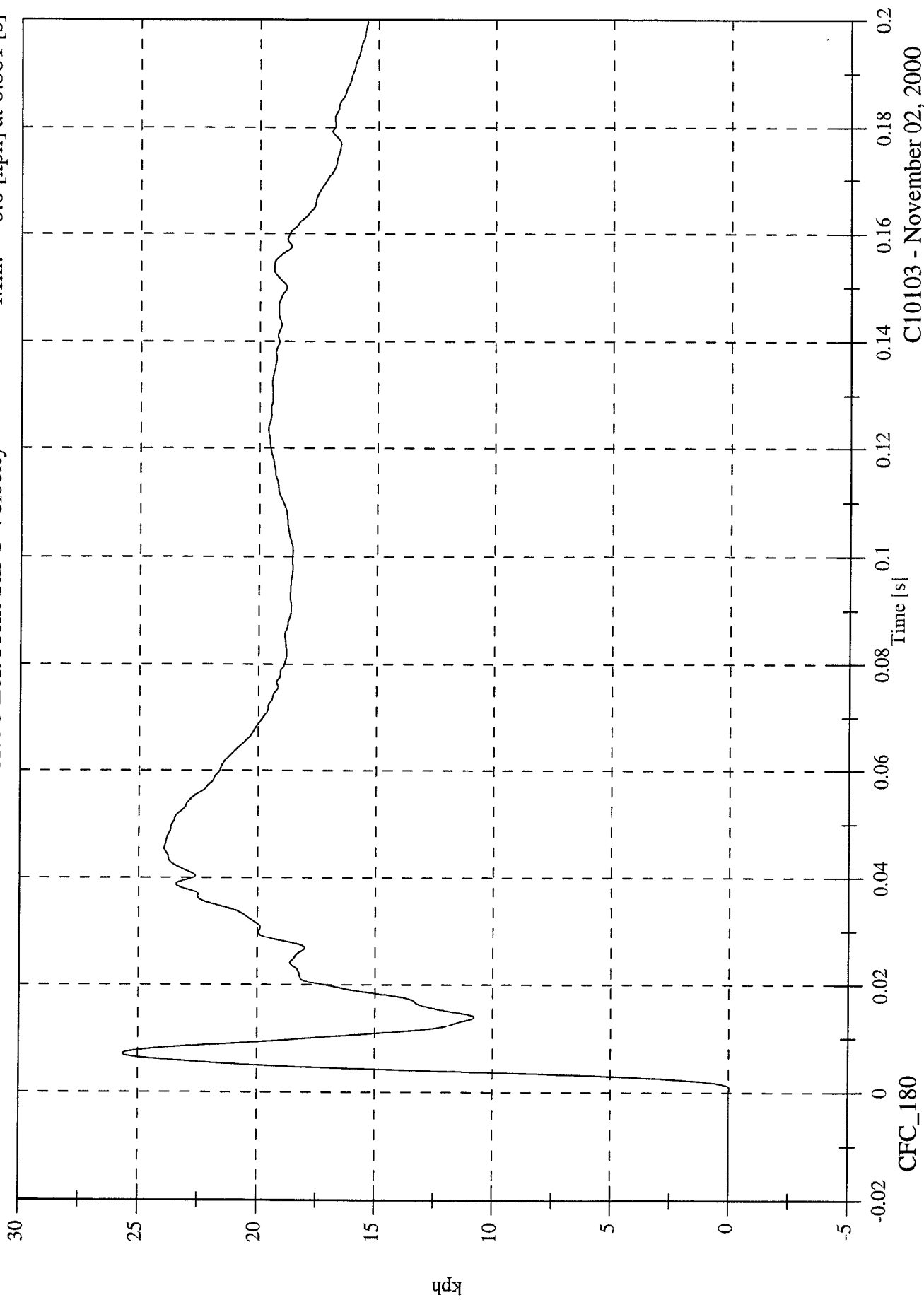
Min: -86.9 [g] at 0.010 [s]



C10103 - November 02, 2000

CFC_60

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 5 Left Front Sill Y Velocity
Max: 25.6 [kph] at 0.007 [s]
Min: -0.0 [kph] at 0.001 [s]



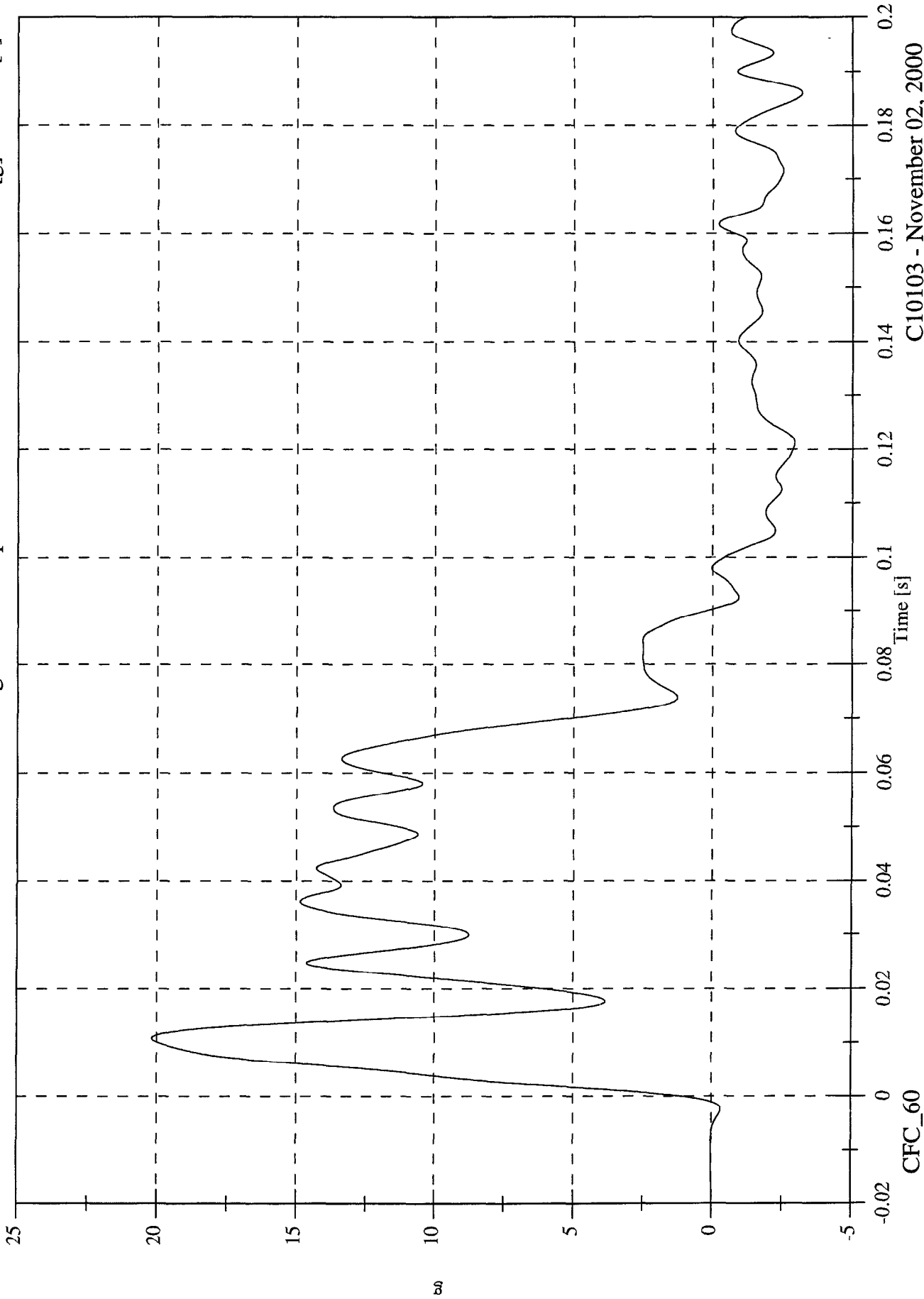
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 7 Right Rear Compartment Y

Max: 20.2 [g] at 0.011 [s]

Min: -3.2 [g] at 0.186 [s]



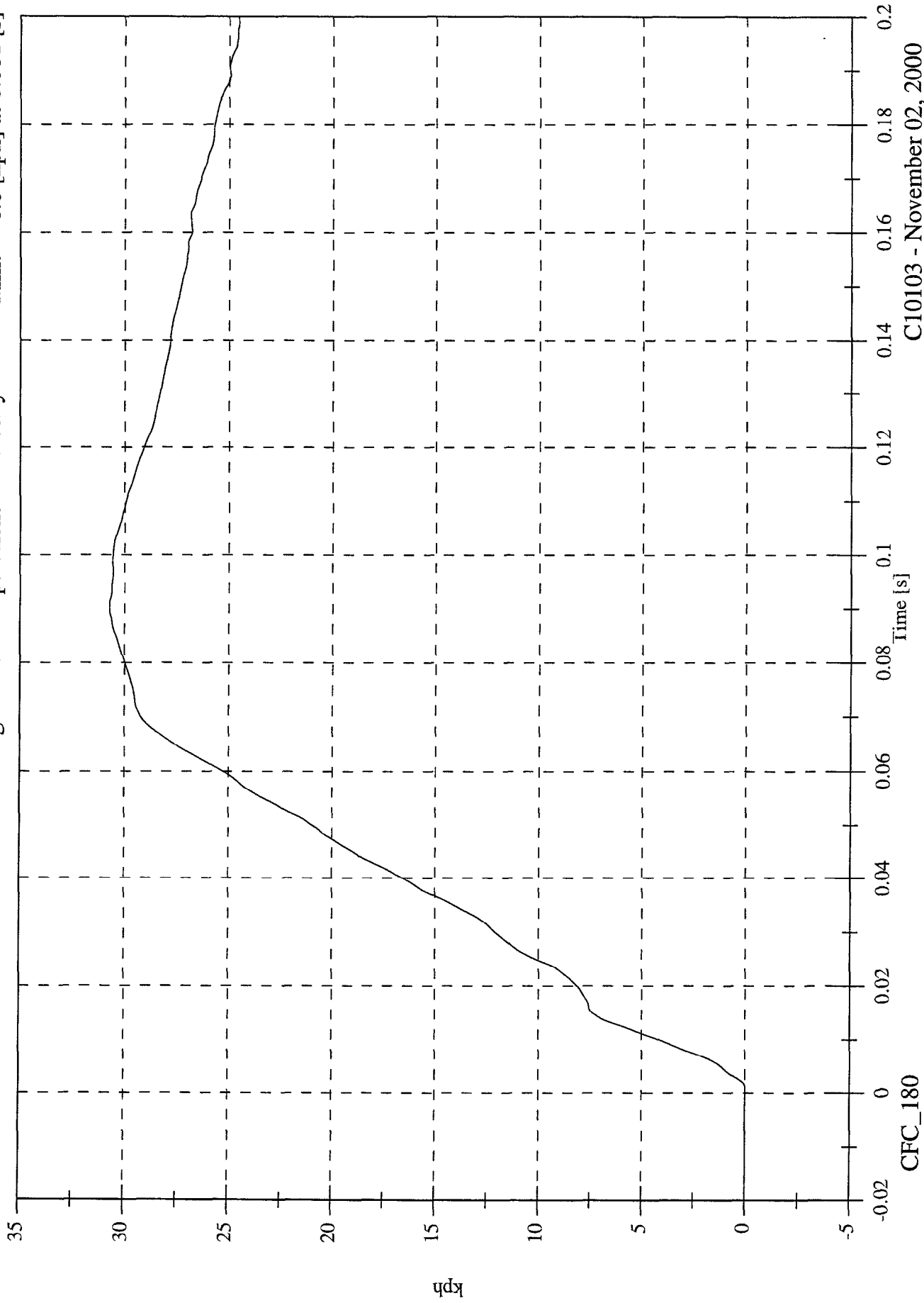
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 30.7 [kph] at 0.090 [s]

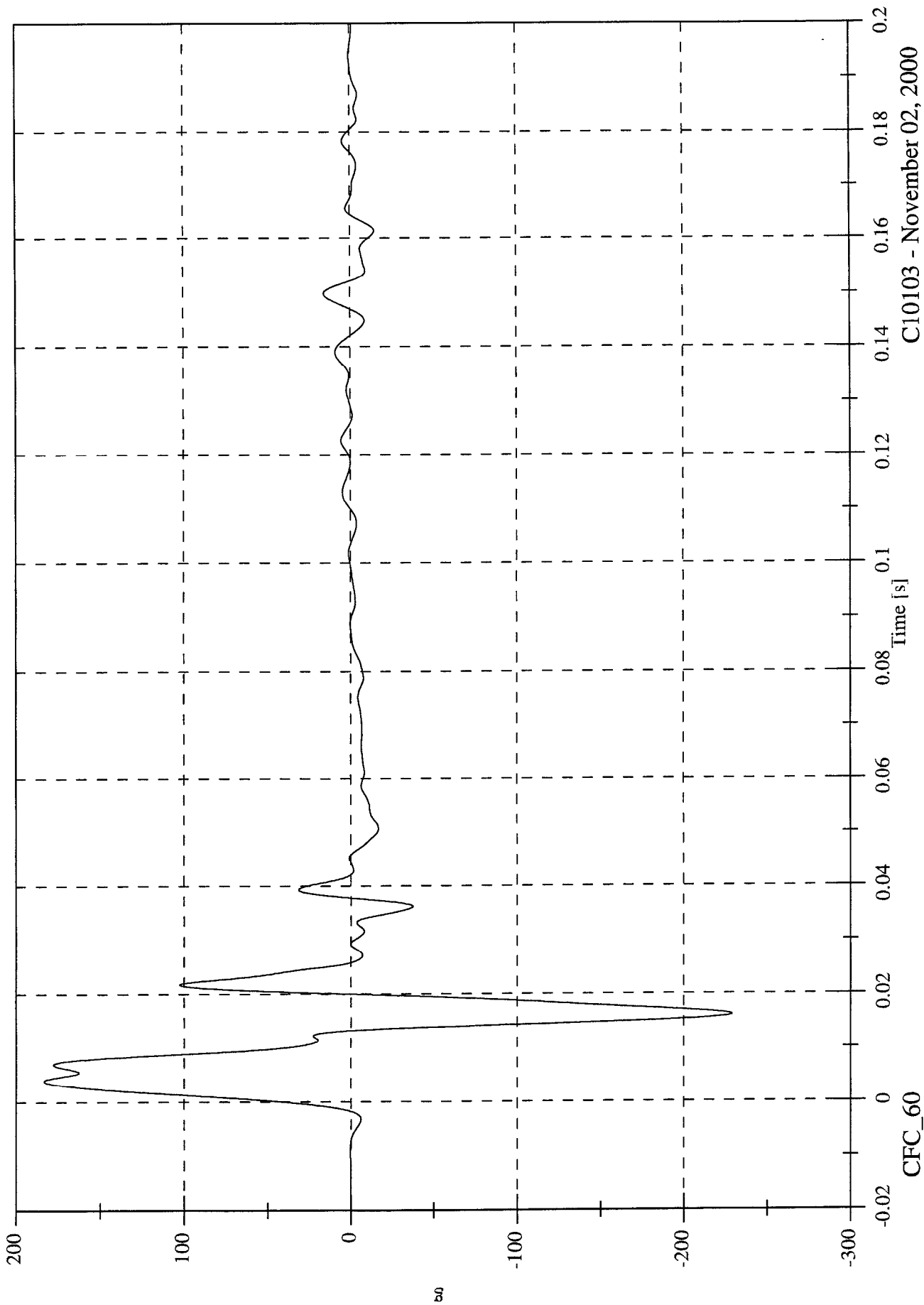
Min: -0.0 [kph] at 0.001 [s]

Acc 7 Right Rear Compartment Y Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 12 Left Lower B Post Y
Max: 183.3 [g] at 0.004 [s]
Min: -229.2 [g] at 0.016 [s]



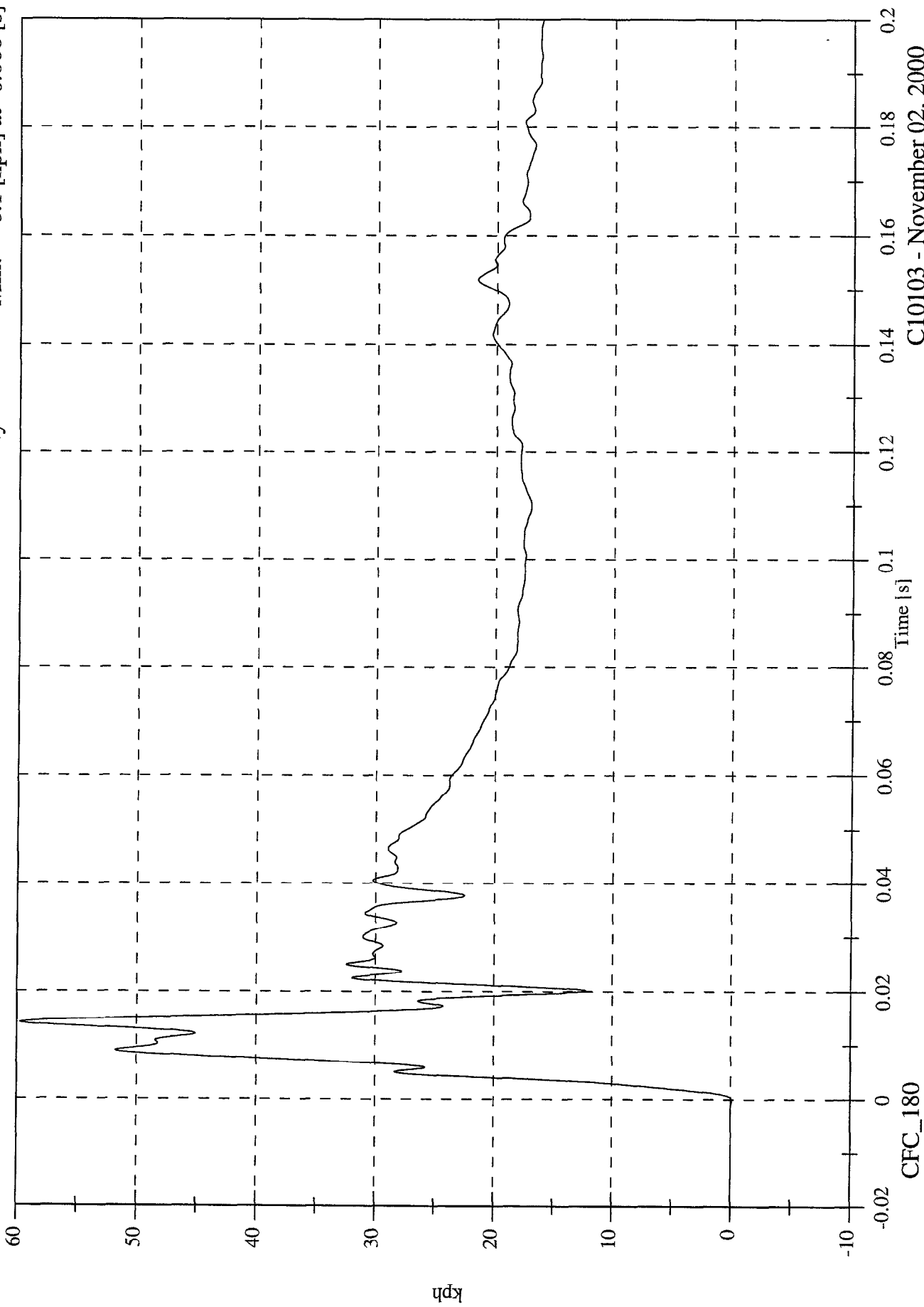
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 59.7 [kph] at 0.014 [s]

Min: -0.1 [kph] at -0.000 [s]

Acc 12 Left Lower B Post Y Velocity



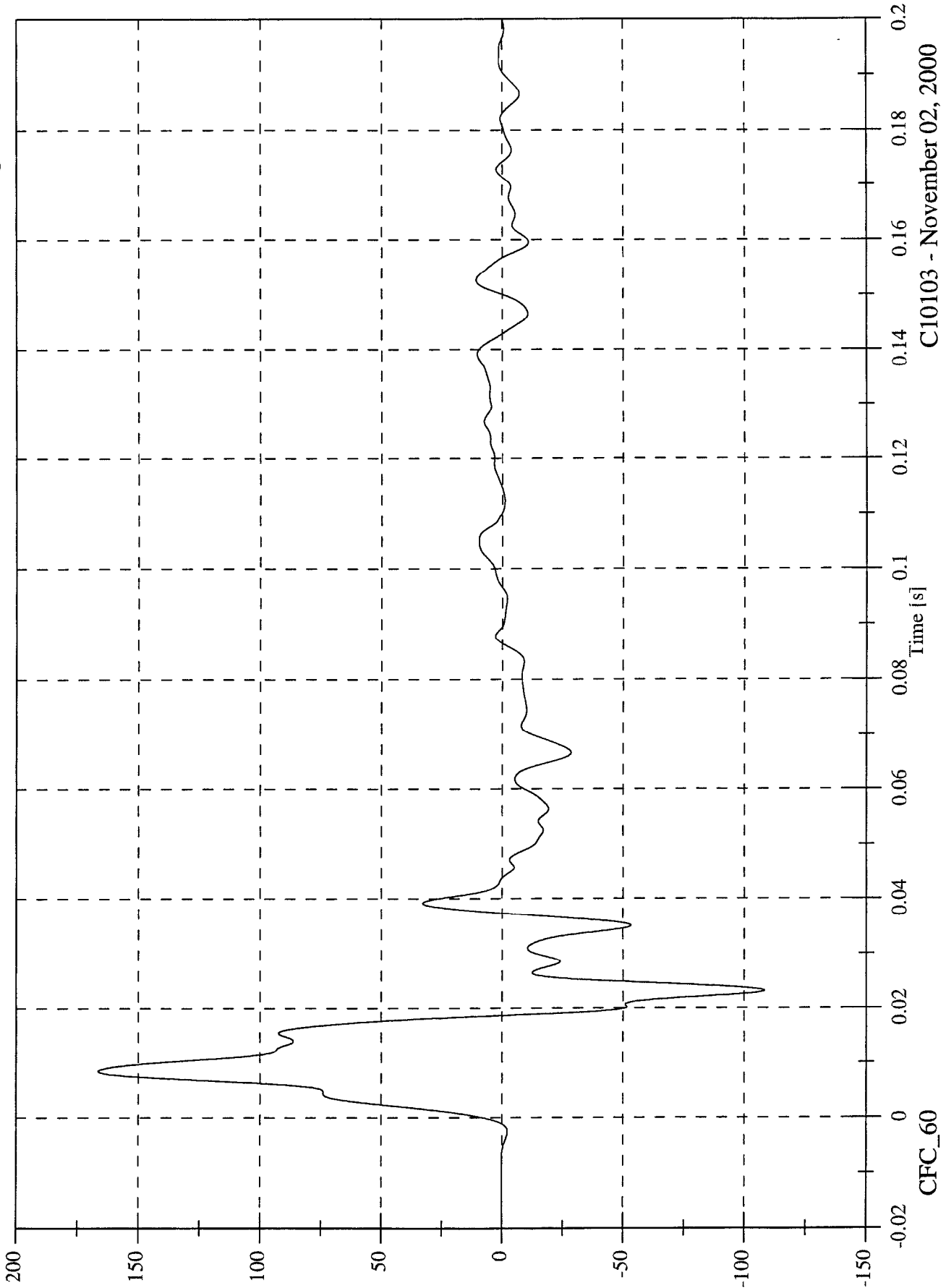
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 13 Left Mid B Post Y

Max: 166.5 [g] at 0.008 [s]

Min: -108.3 [g] at 0.023 [s]



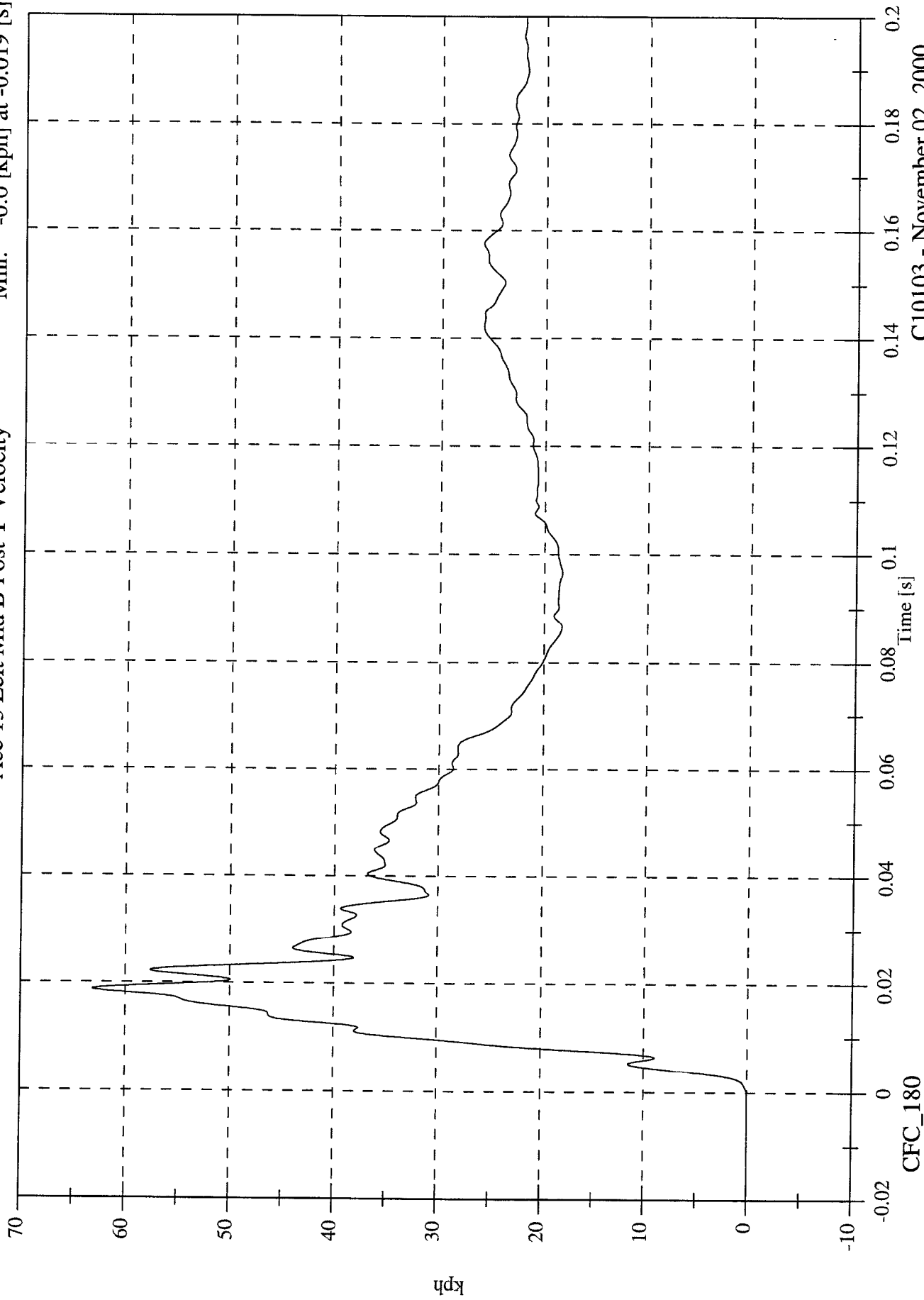
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 63.2 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.019 [s]

Acc 13 Left Mid B Post Y Velocity



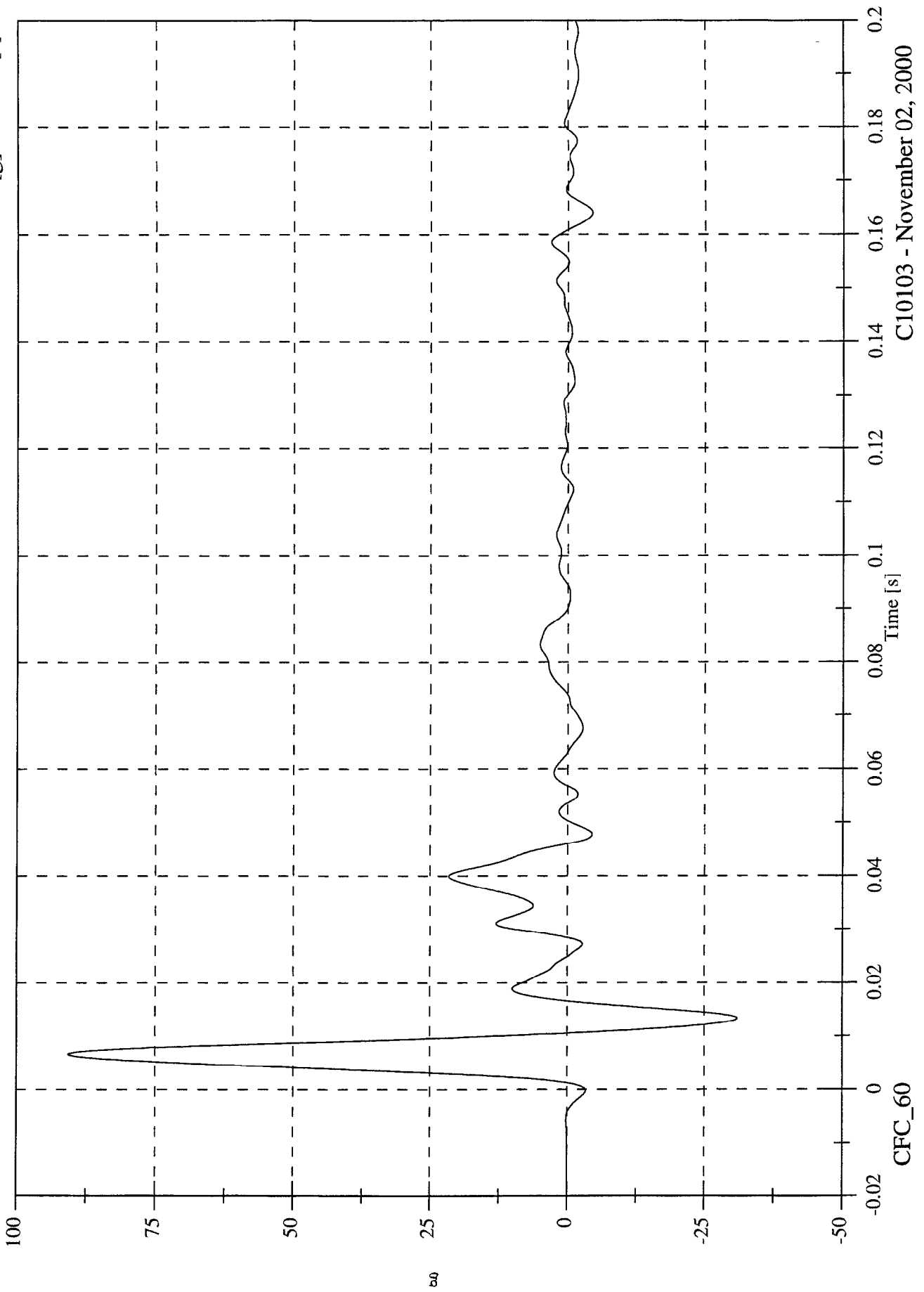
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 14 Left Lower A Post Y

Max: 90.6 [g] at 0.007 [s]

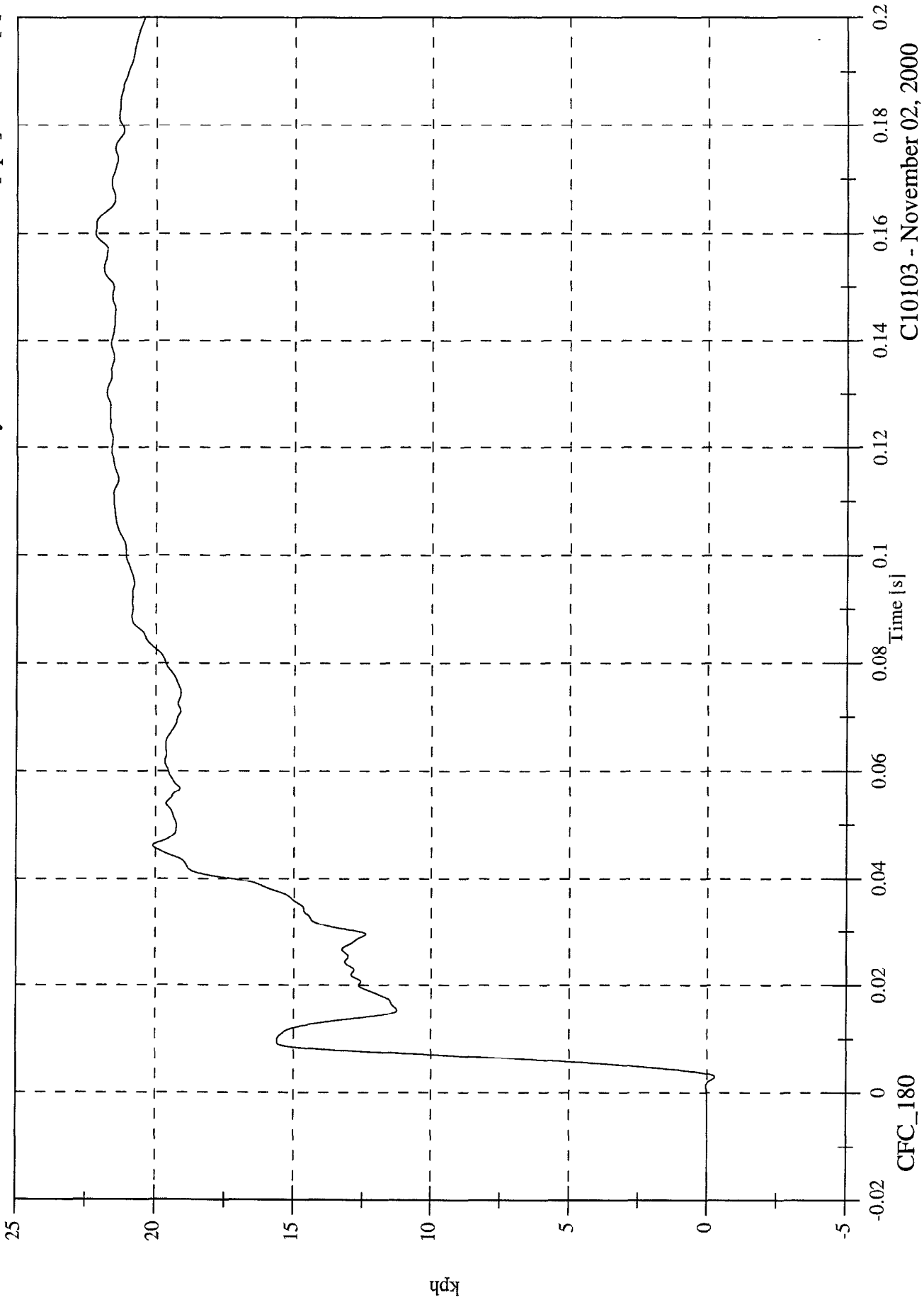
Min: -31.0 [g] at 0.013 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 14 Left Lower A Post Y Velocity

Max: 22.2 [kph] at 0.160 [s]
Min: -0.3 [kph] at 0.003 [s]



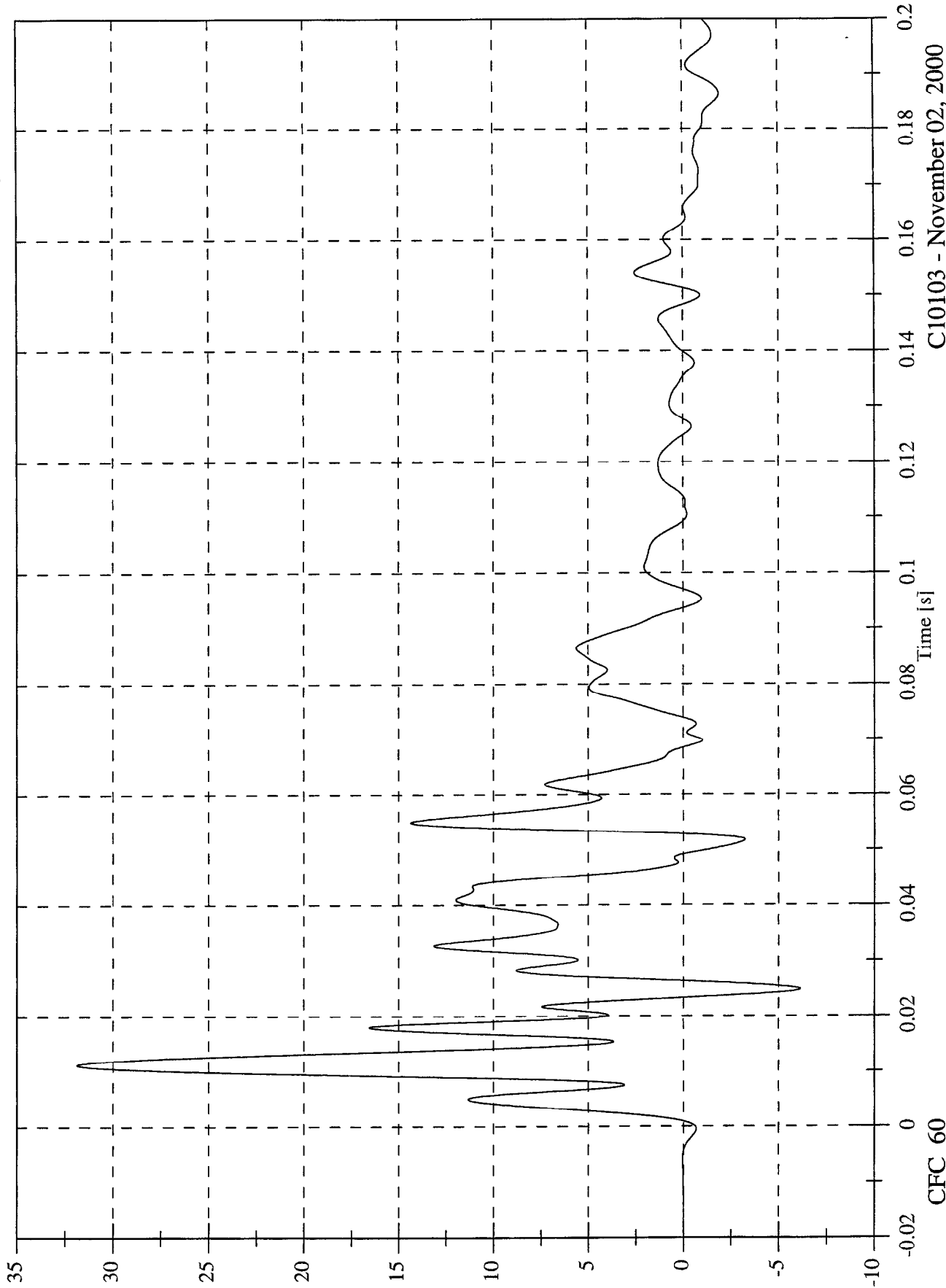
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 15 Left Mid A Post Y

Max: 31.9 [g] at 0.011 [s]

Min: -6.1 [g] at 0.025 [s]



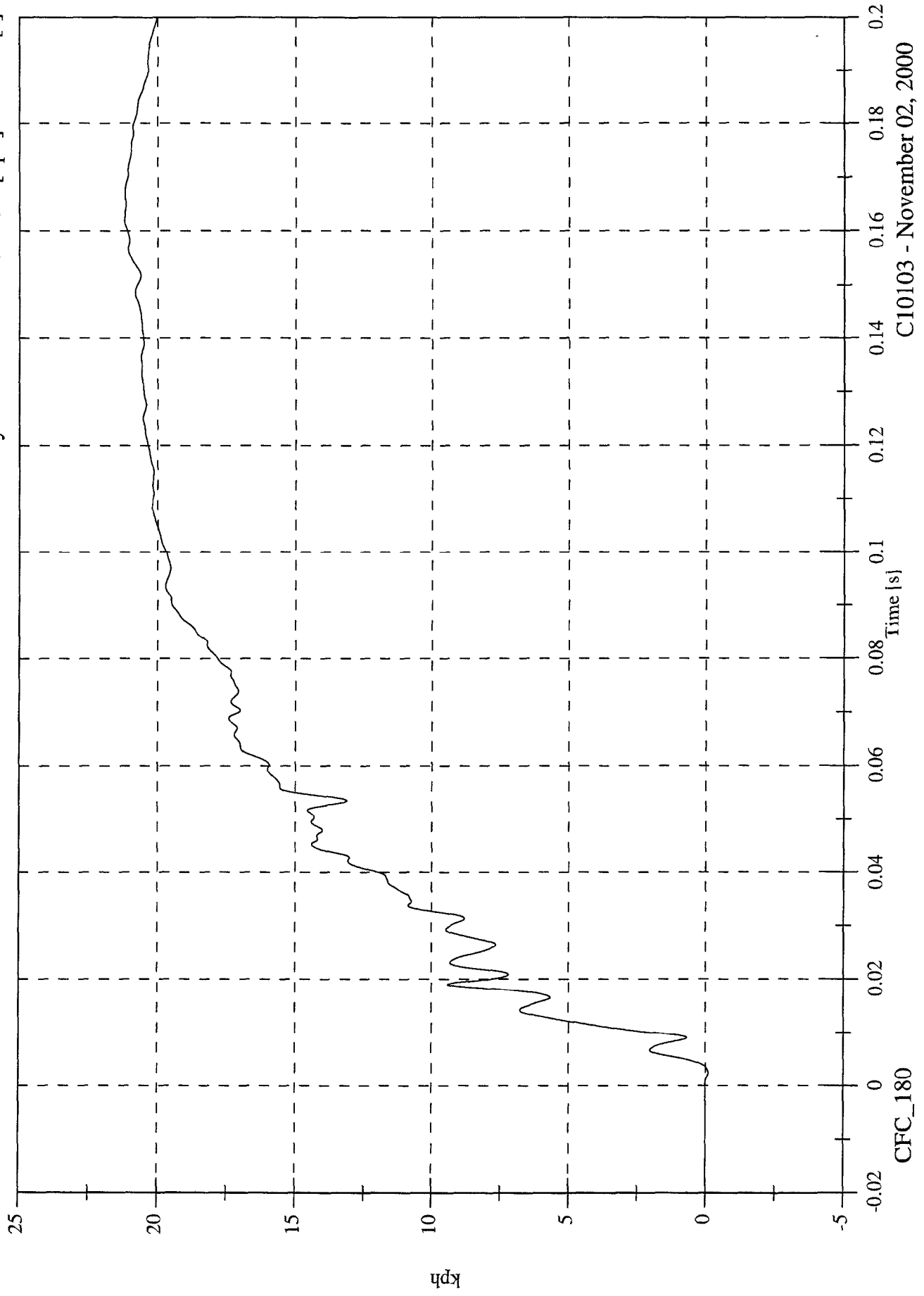
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 15 Left Mid A Post Y Velocity

Max: 21.2 [kph] at 0.162 [s]

Min: -0.1 [kph] at 0.003 [s]



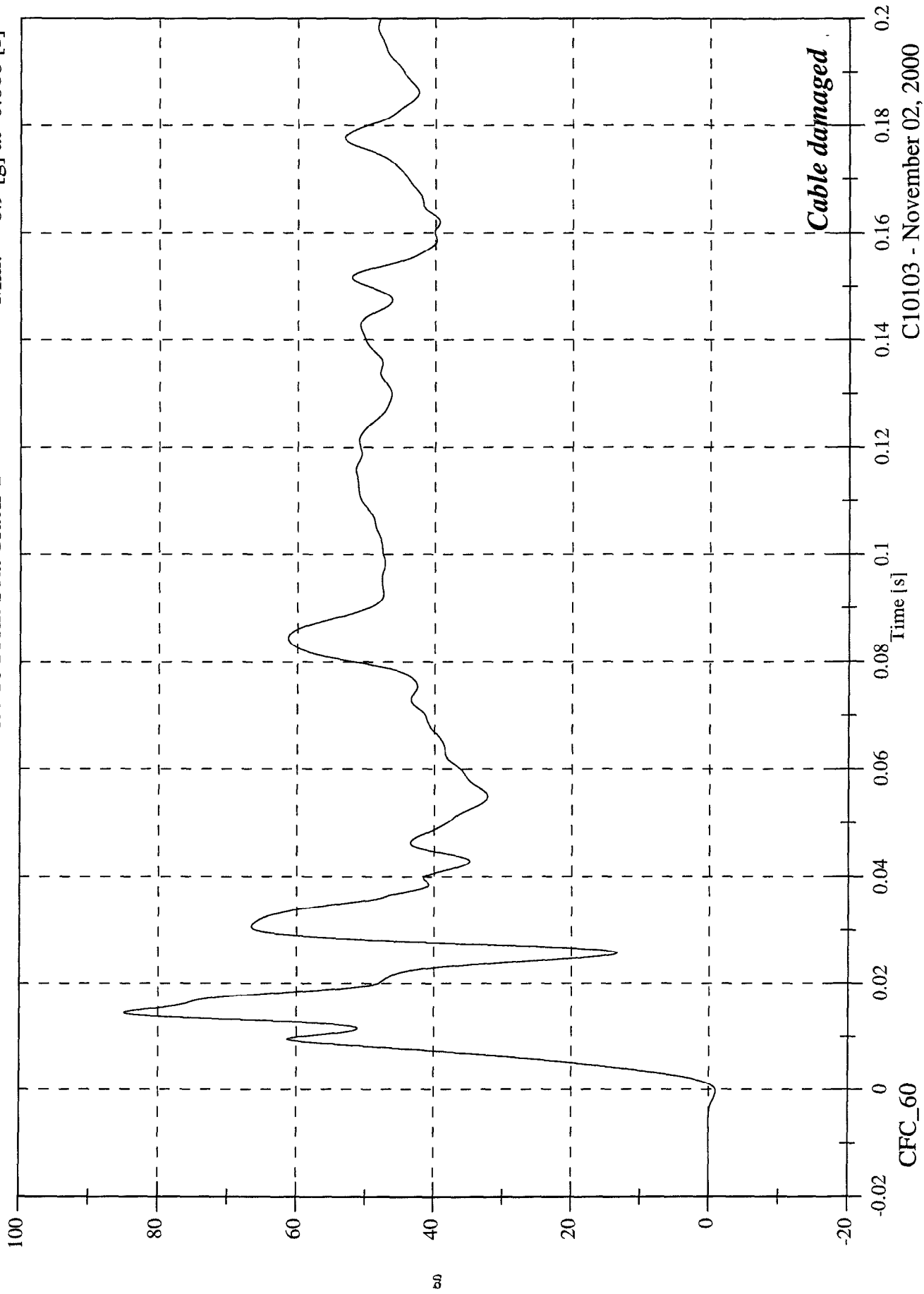
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 16 Front Seat Track Y

Max: 84.9 [g] at 0.014 [s]

Min: -0.9 [g] at -0.000 [s]



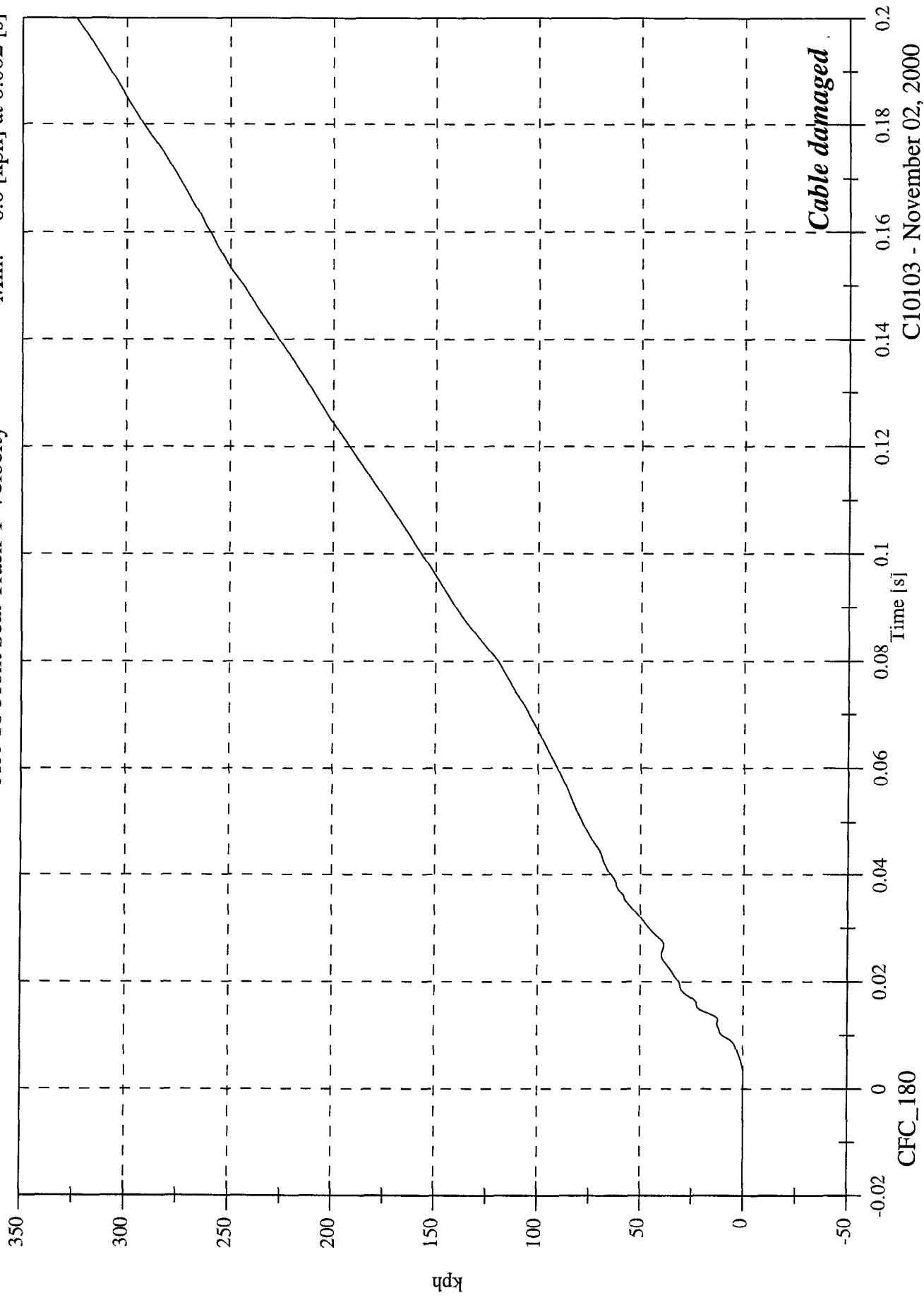
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 324.1 [kph] at 0.200 [s]

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

Acc 16 Front Seat Track Y Velocity



C10103 - November 02, 2000

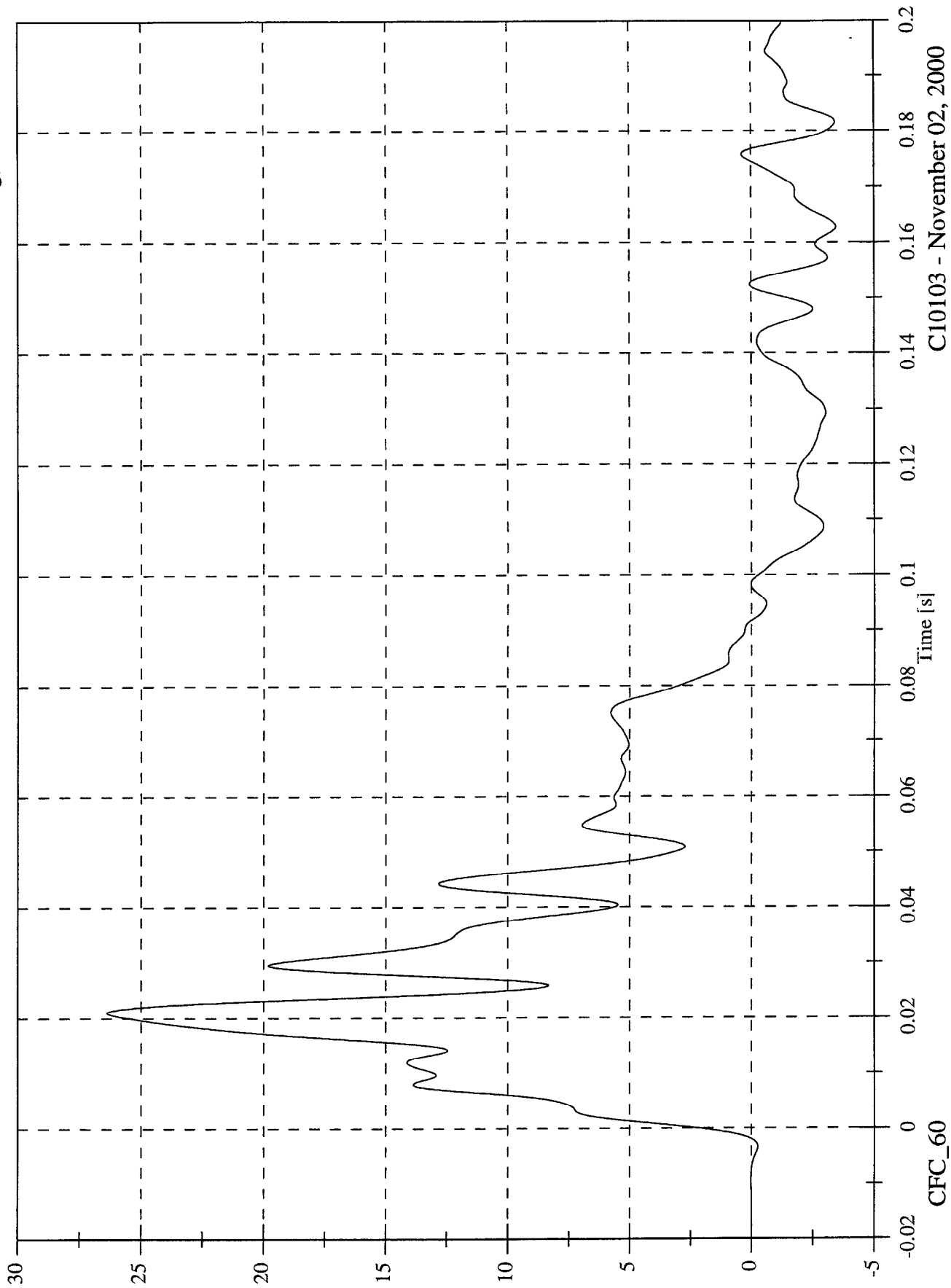
CFC_180

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 17 Rear Seat Track Y

Max: 26.4 [g] at 0.021 [s]

Min: -3.5 [g] at 0.163 [s]



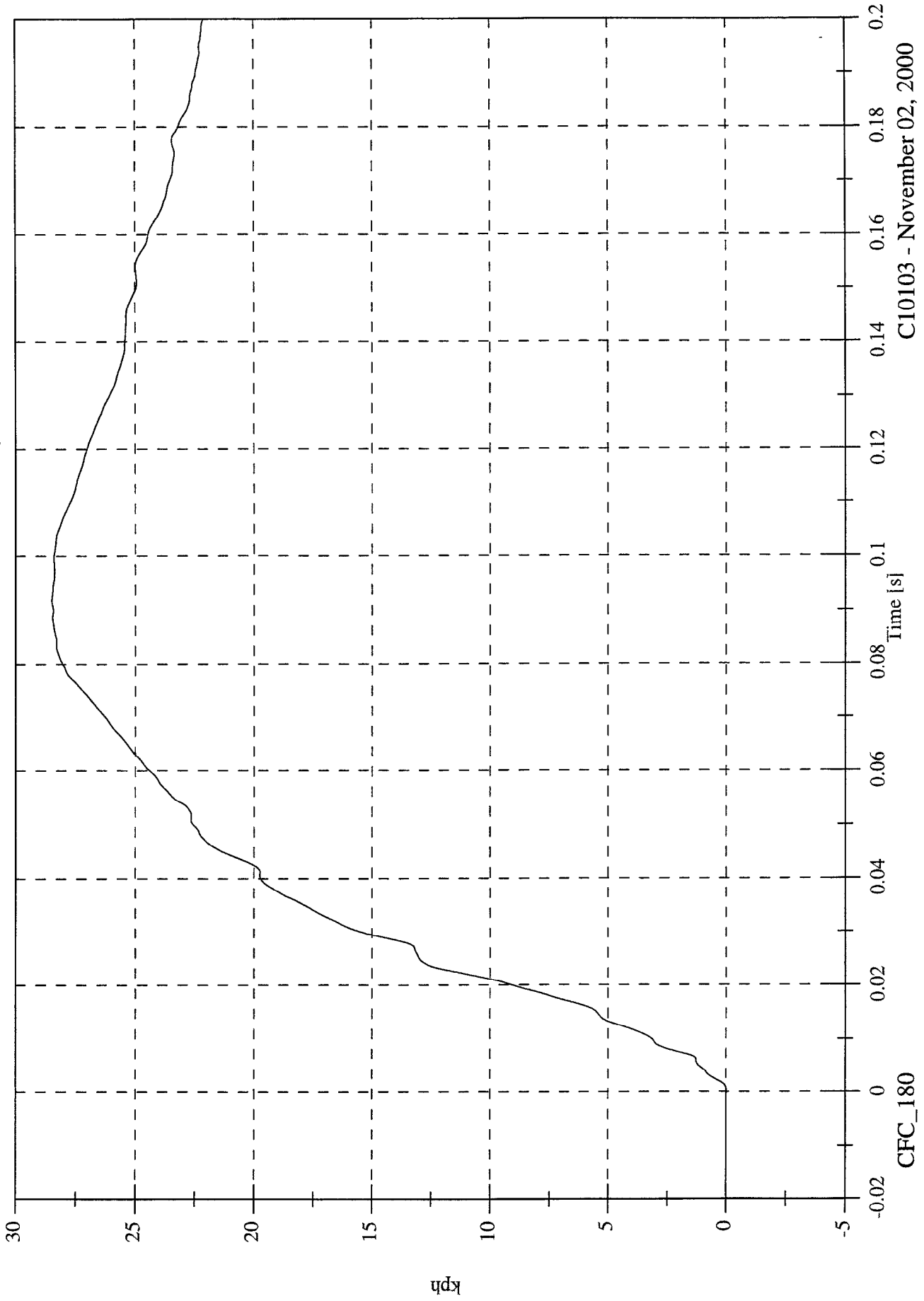
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 17 Rear Seat Track Y Velocity

Max: 28.5 [kph] at 0.092 [s]

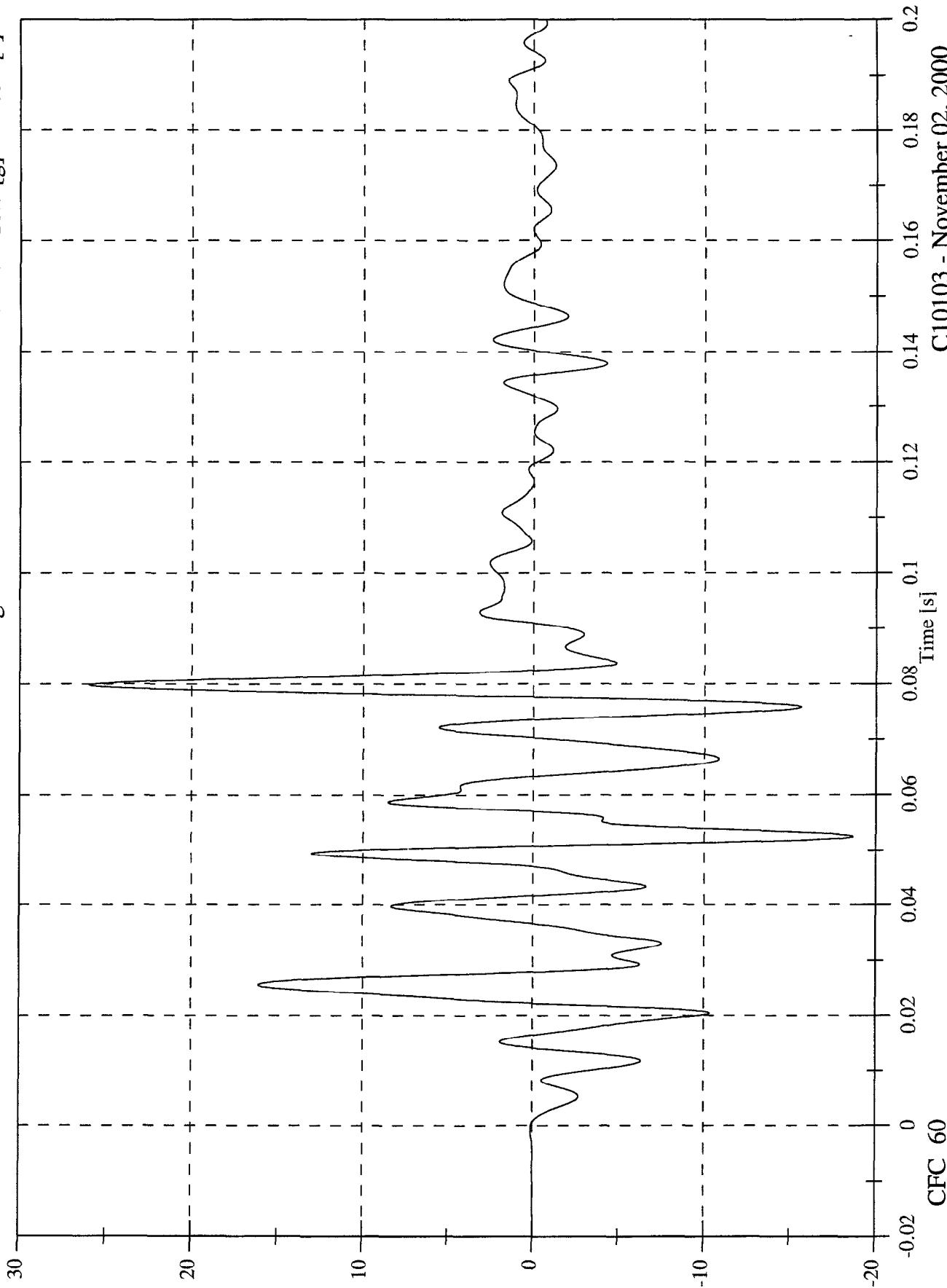
Min: -0.0 [kph] at 0.000 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 18 Target CG X

Max: 26.0 [g] at 0.080 [s]
Min: -18.7 [g] at 0.052 [s]

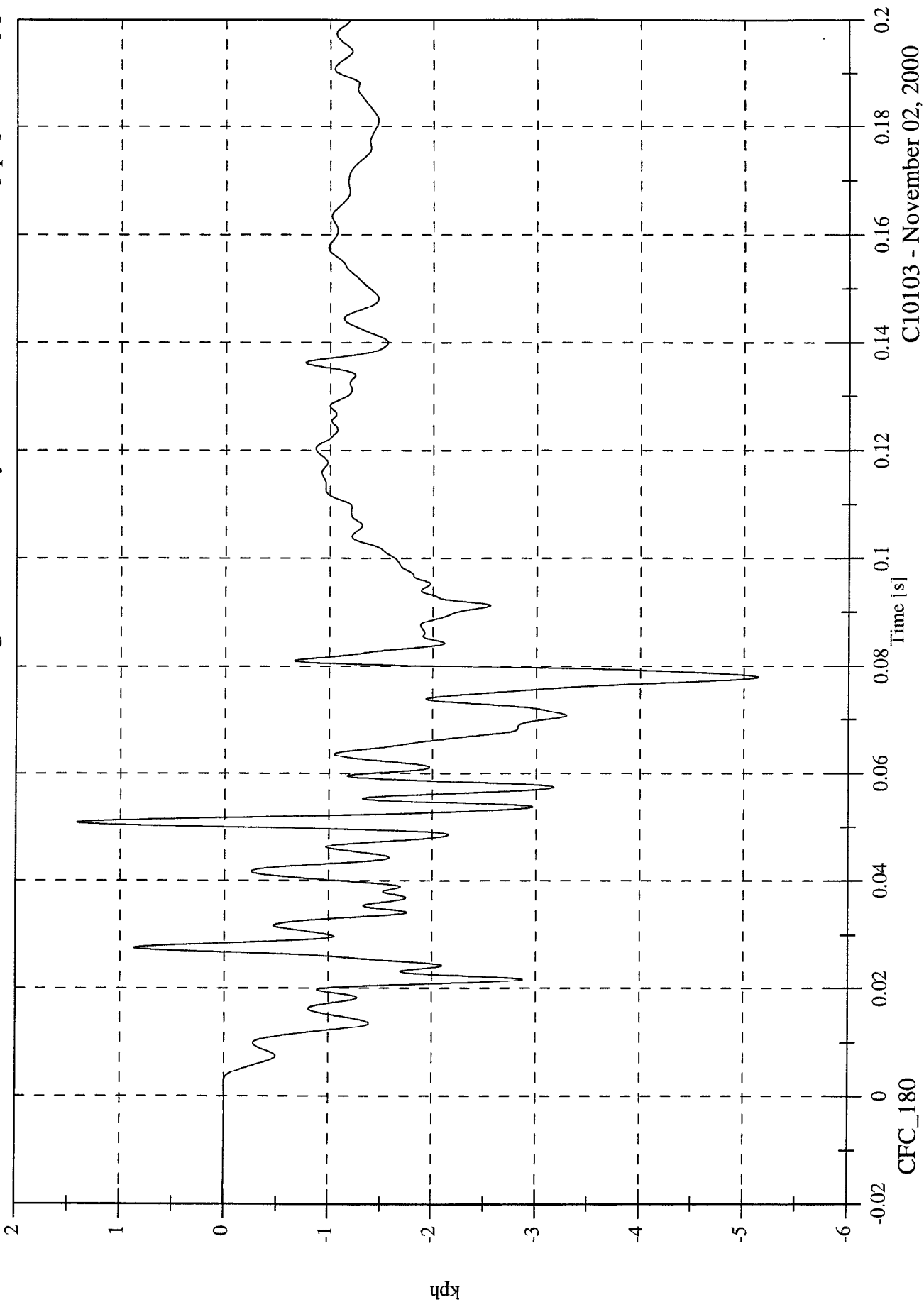


C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Acc 18 Target CG X Velocity

Max: 1.4 [kph] at 0.051 [s]

Min: -5.1 [kph] at 0.078 [s]



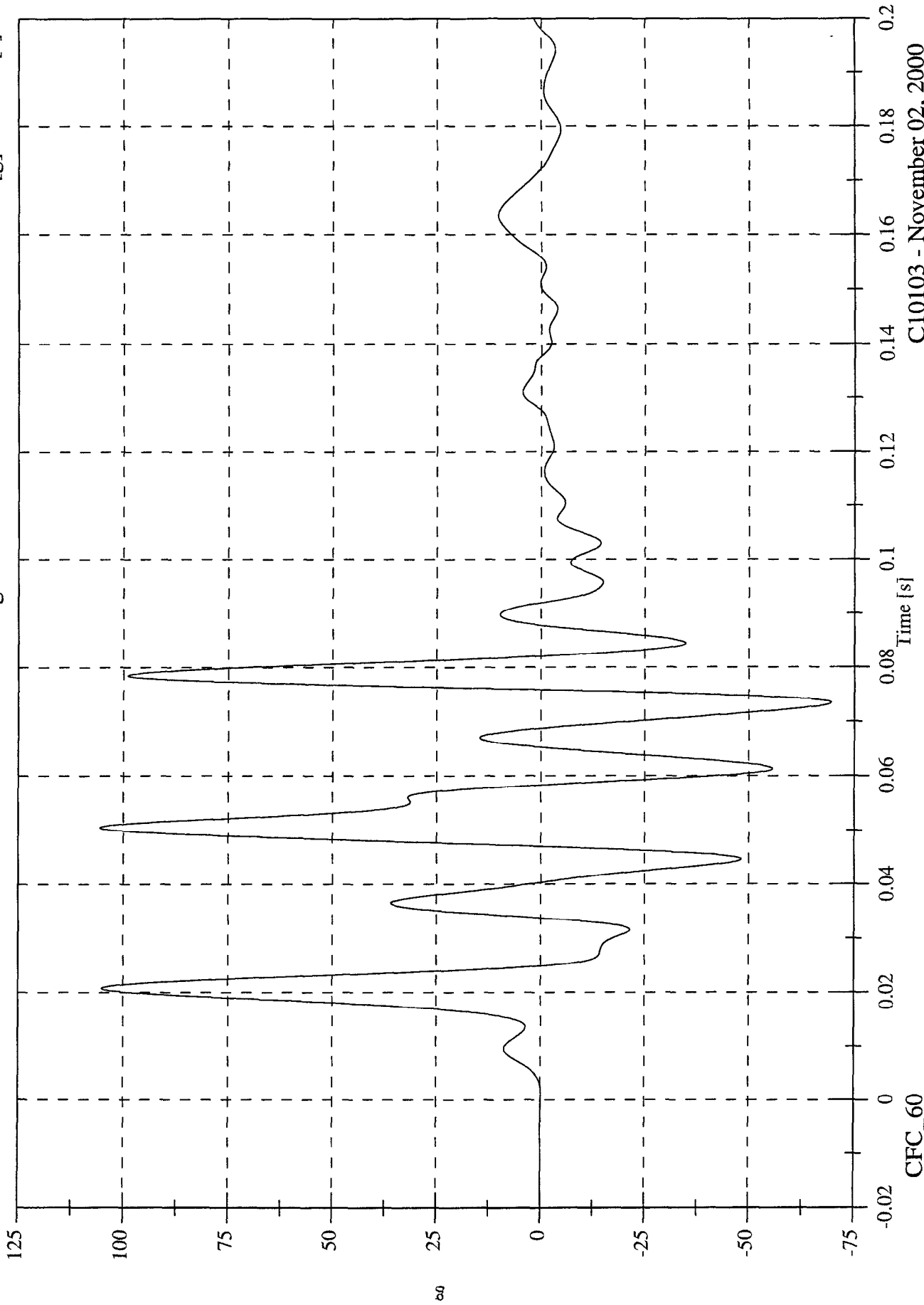
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 18 Target CG Y

Max: 105.6 [g] at 0.050 [s]

Min: -69.5 [g] at 0.073 [s]



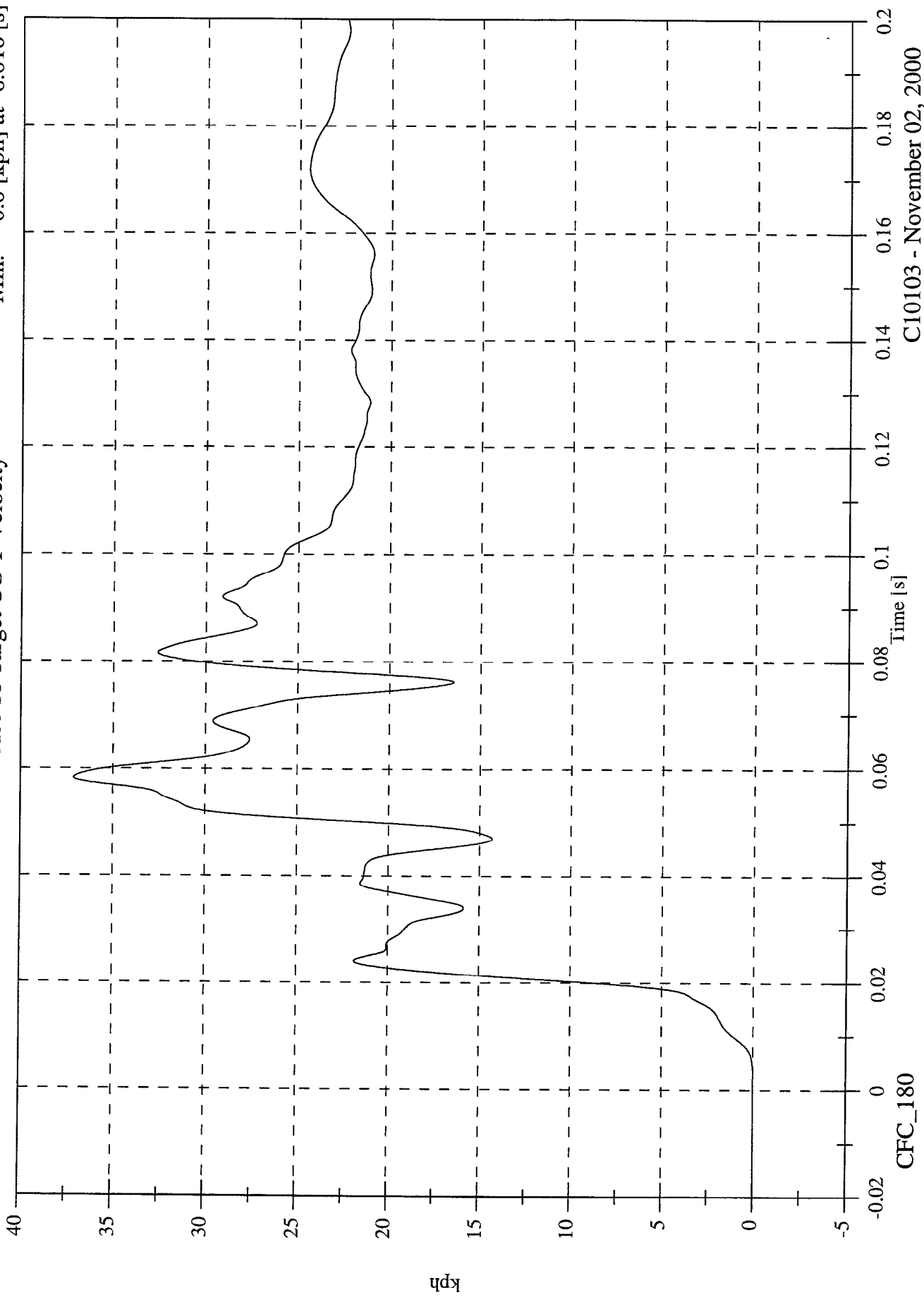
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 37.1 [kph] at 0.058 [s]

Min: -0.0 [kph] at -0.016 [s]

Acc 18 Target CG Y Velocity



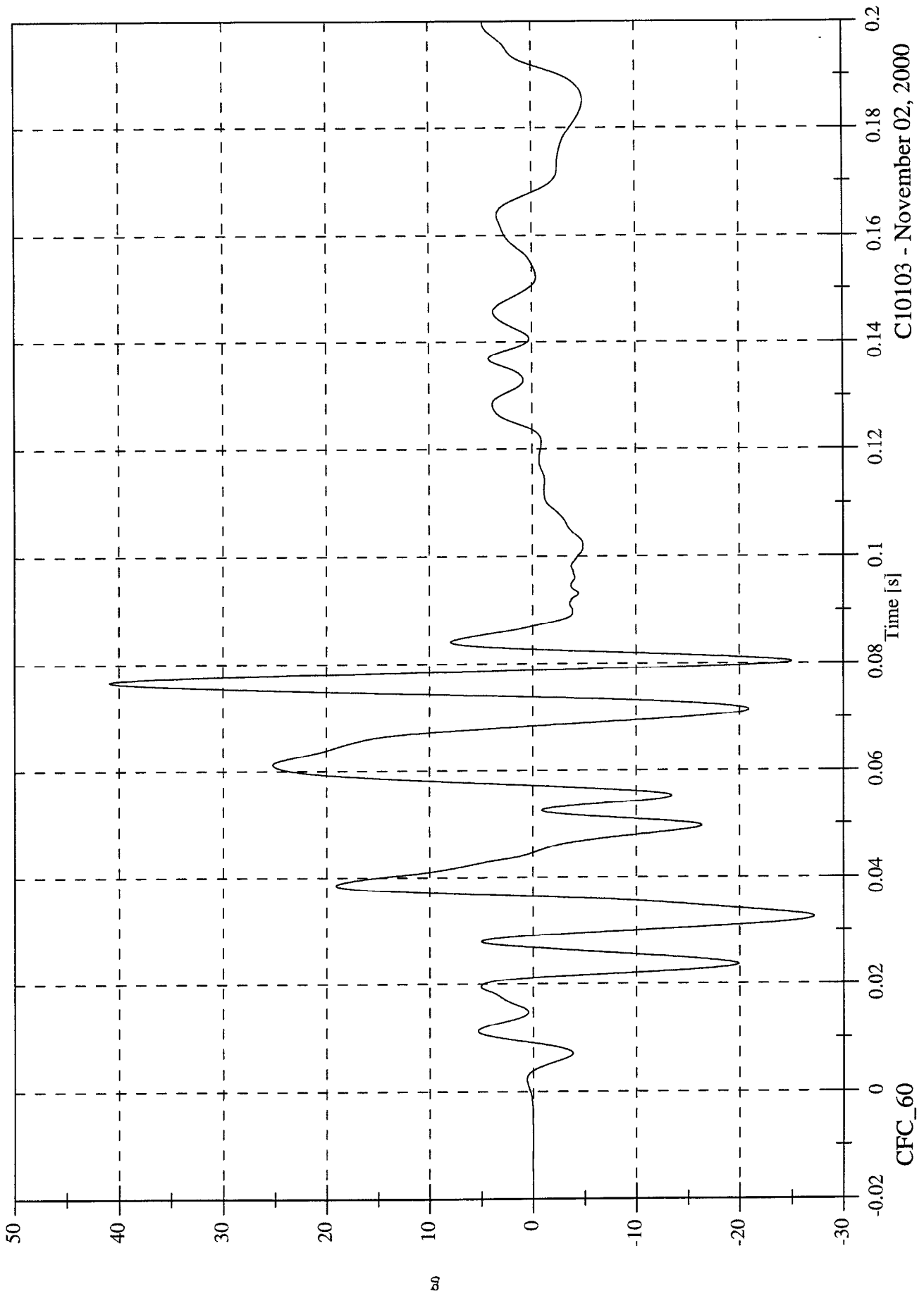
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 40.9 [g] at 0.077 [s]

Acc 18 Target CG Z

Min: -27.1 [g] at 0.033 [s]



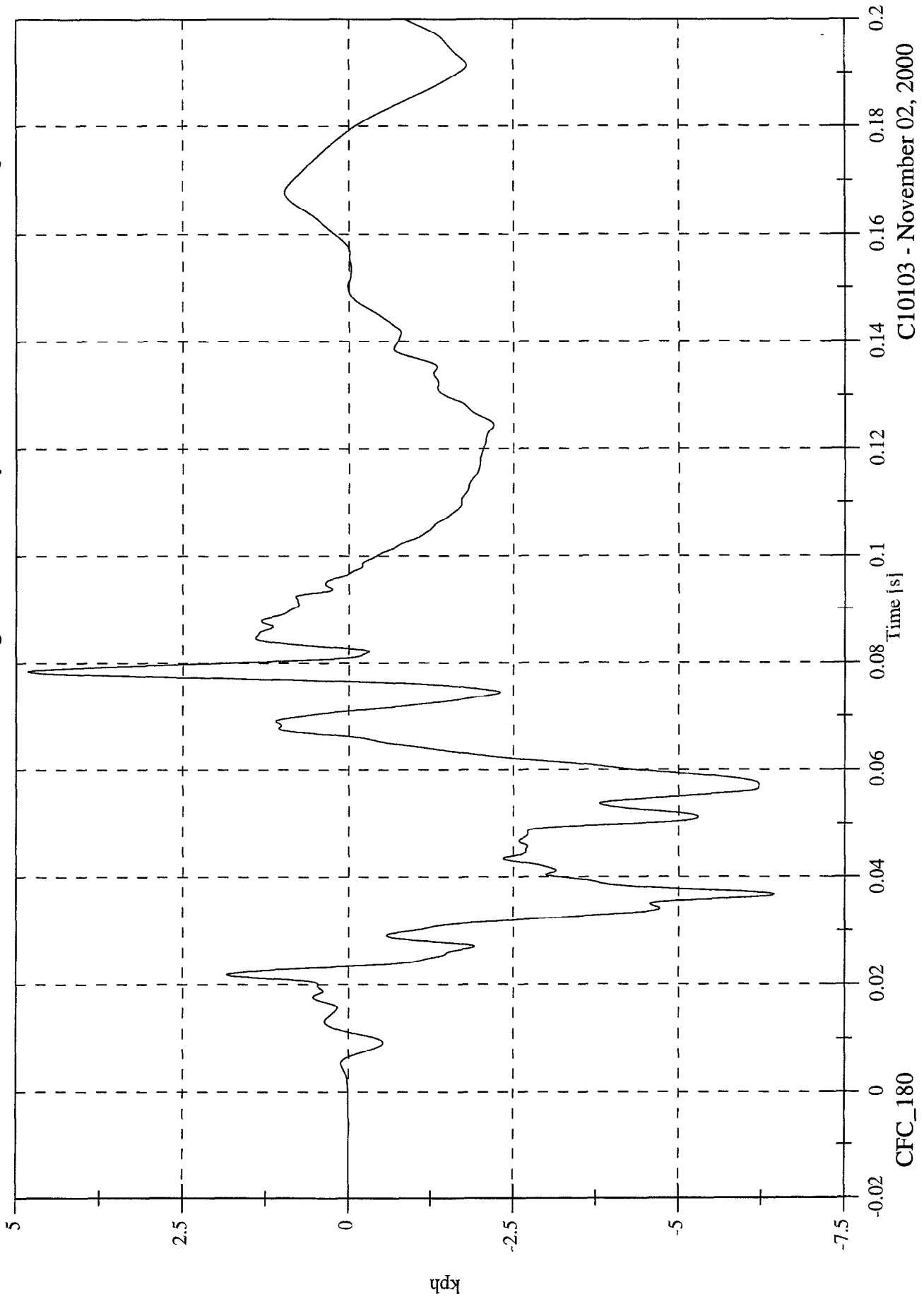
CI10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 4.8 [kph] at 0.078 [s]

Acc 18 Target CG Z Velocity

Min: -6.4 [kph] at 0.037 [s]



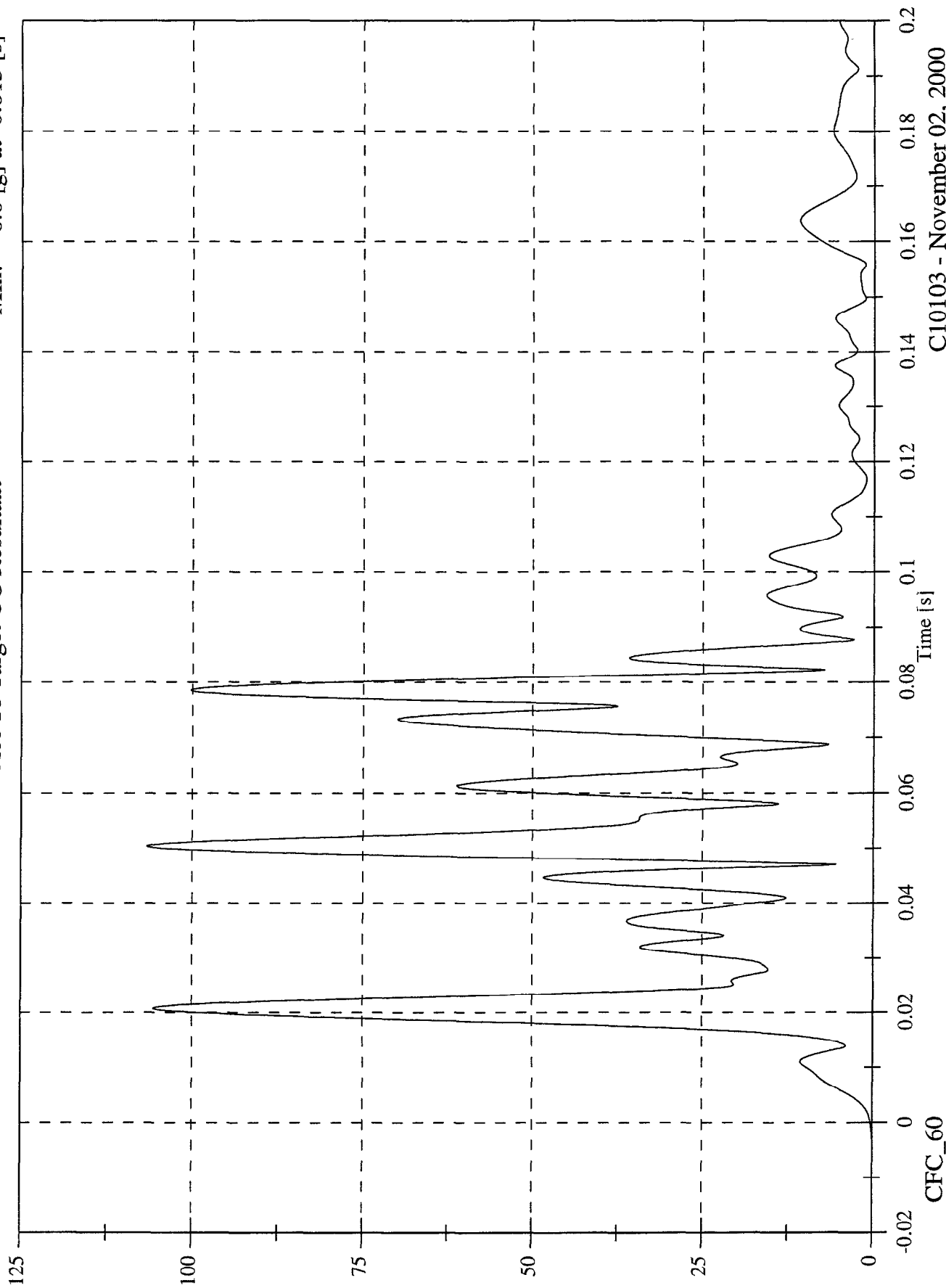
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Acc 18 Target CG Resultant

Max: 106.6 [g] at 0.050 [s]

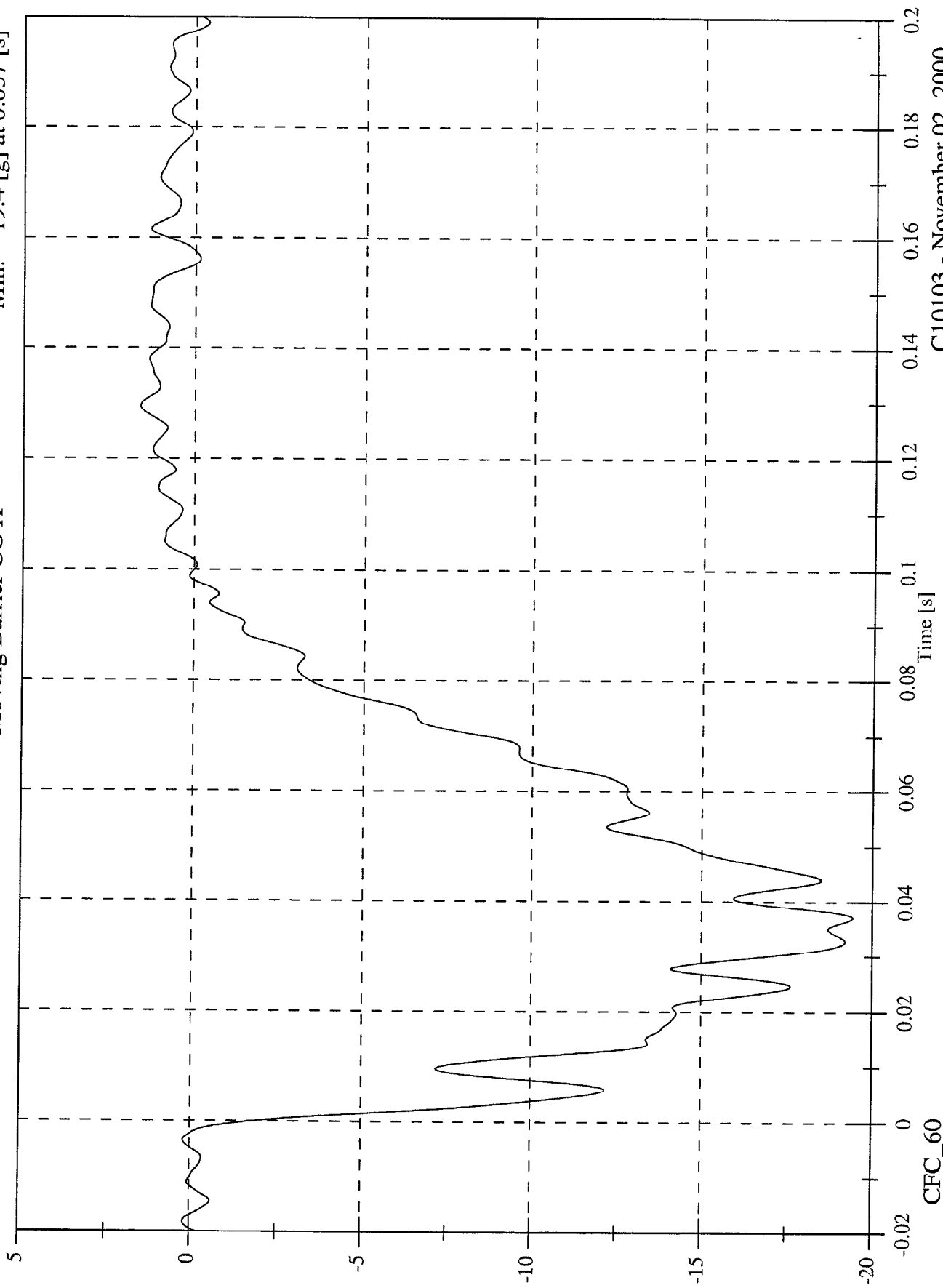
Min: 0.0 [g] at -0.015 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier CG X

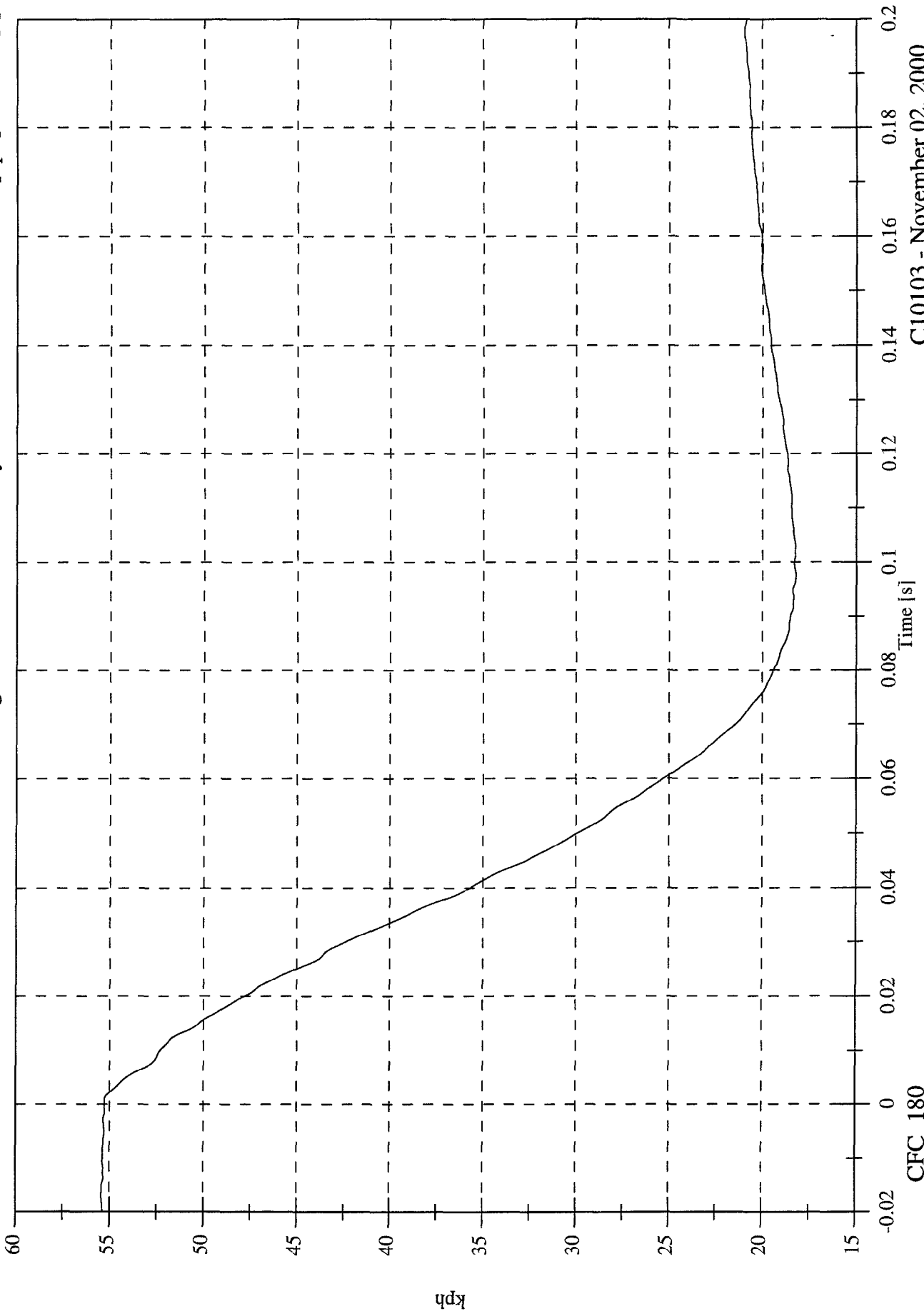
Max: 1.6 [g] at 0.129 [s]
Min: -19.4 [g] at 0.037 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier CG X Velocity

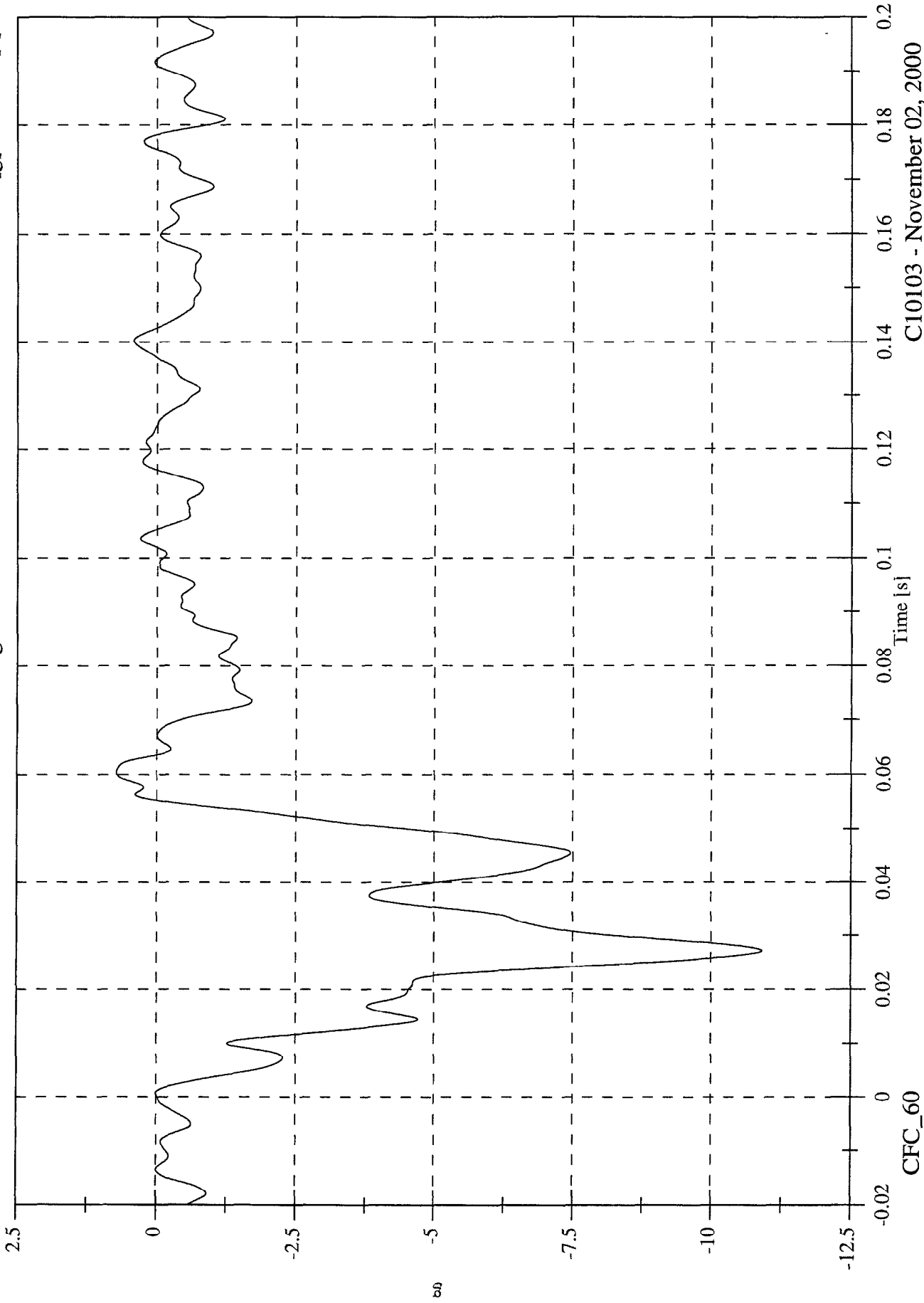
Max: 55.4 [kph] at -0.017 [s]
Min: 18.2 [kph] at 0.098 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier CG Y

Max: 0.7 [g] at 0.060 [s]
Min: -10.9 [g] at 0.027 [s]



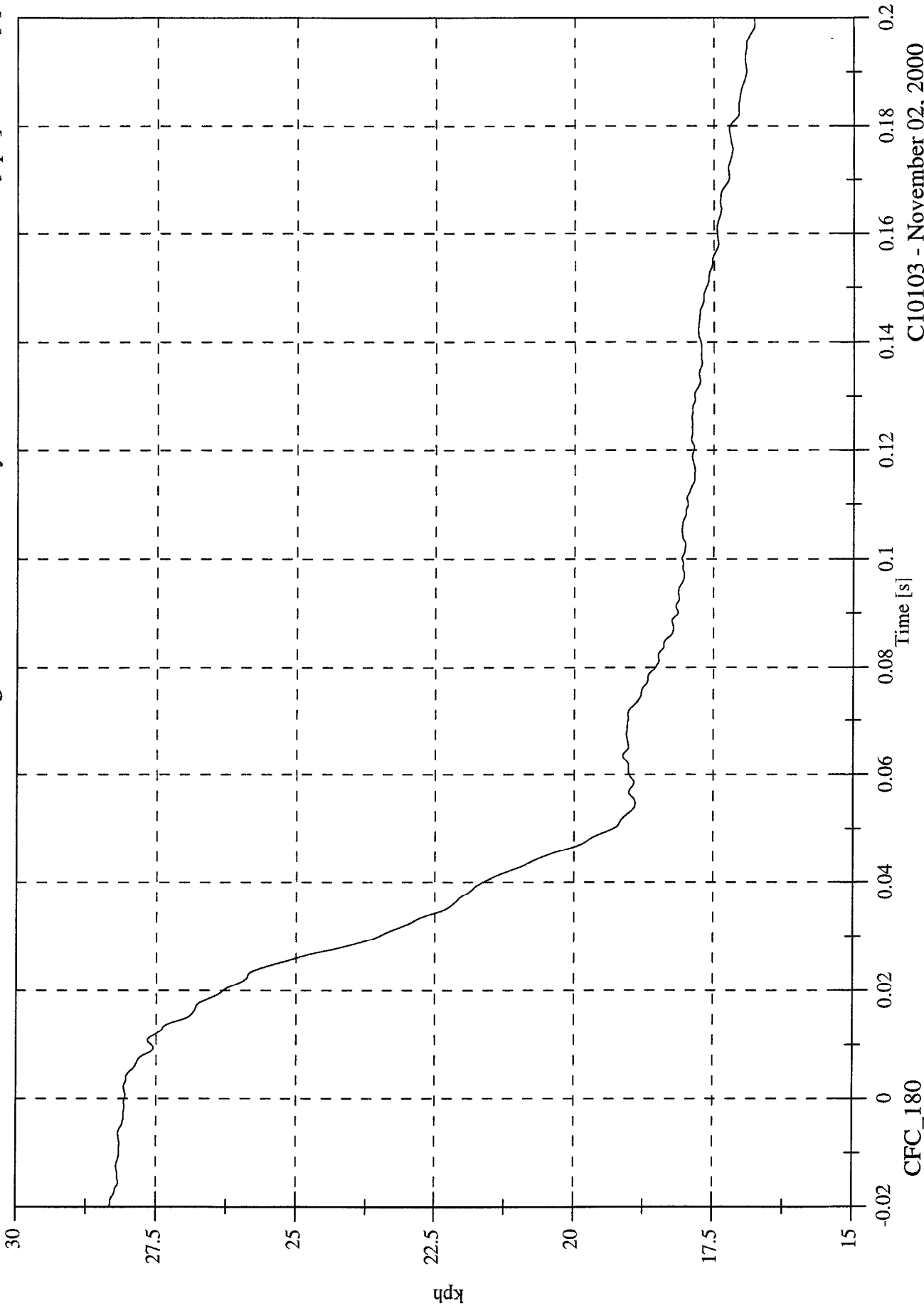
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 28.3 [kph] at -0.020 [s]

Min: 16.8 [kph] at 0.199 [s]

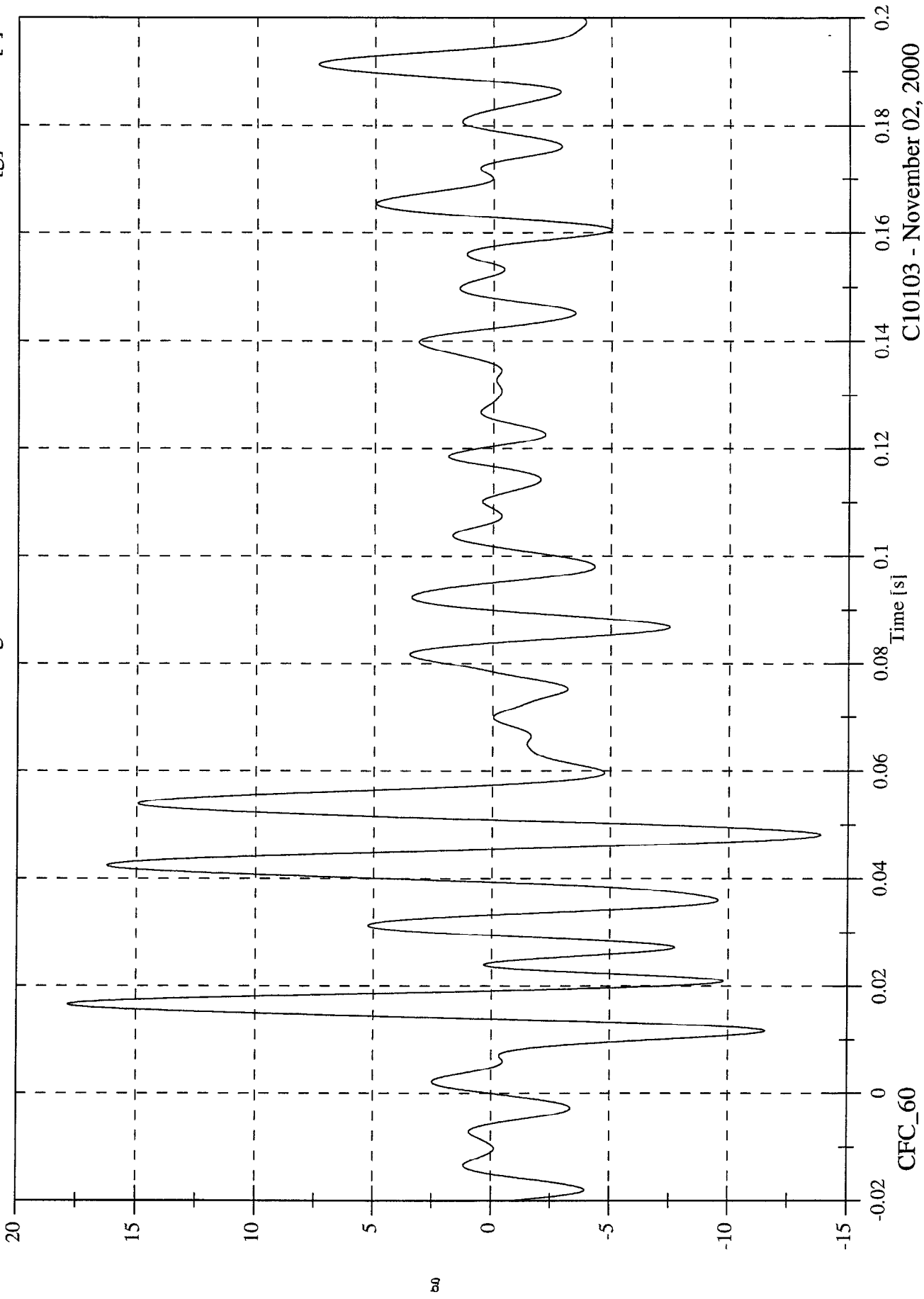
Moving Barrier CG Y Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier CGZ

Max: 17.8 [g] at 0.017 [s]
Min: -13.9 [g] at 0.048 [s]

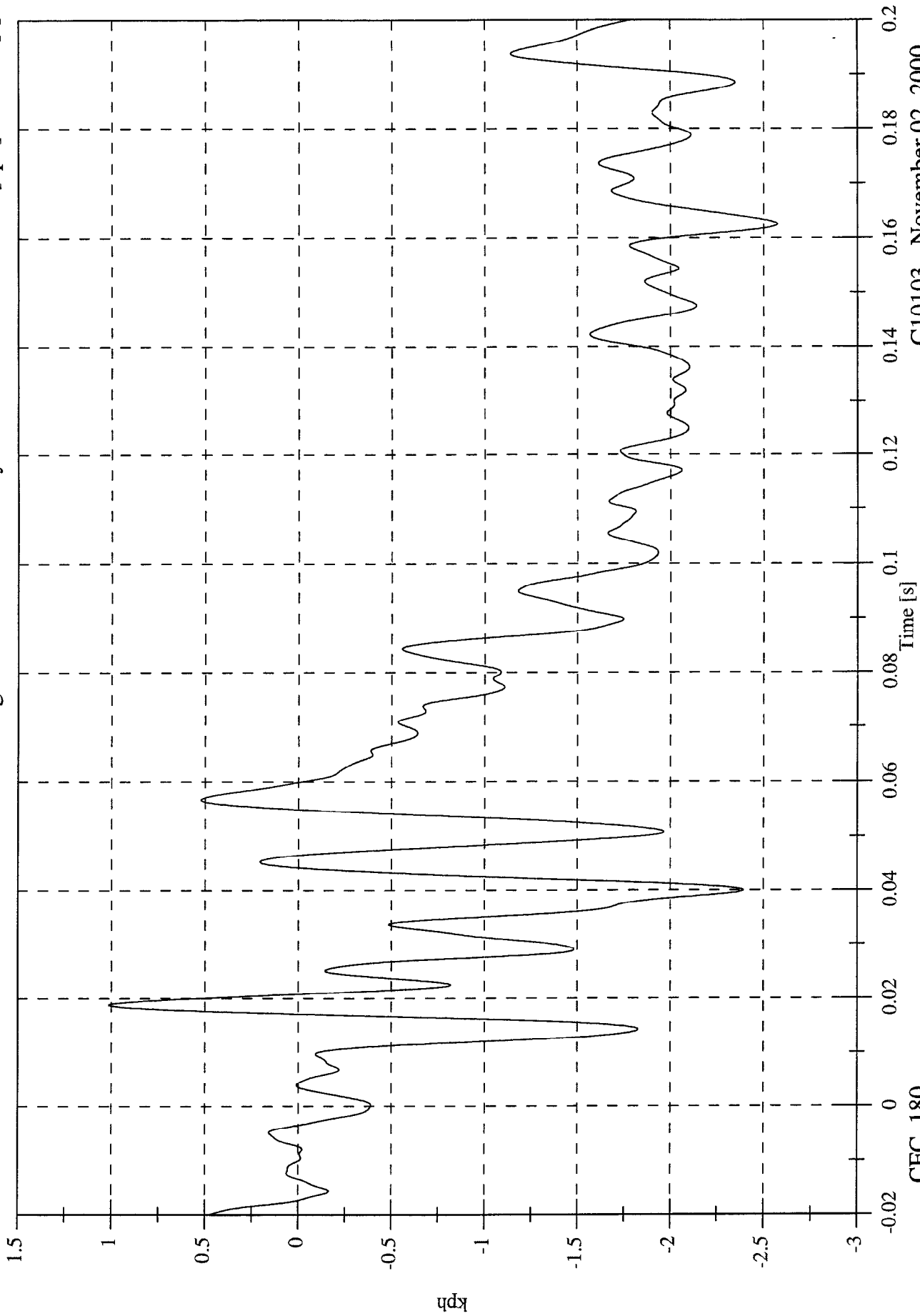


FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Moving Barrier CG Z Velocity

Max: 1.0 [kph] at 0.019 [s]

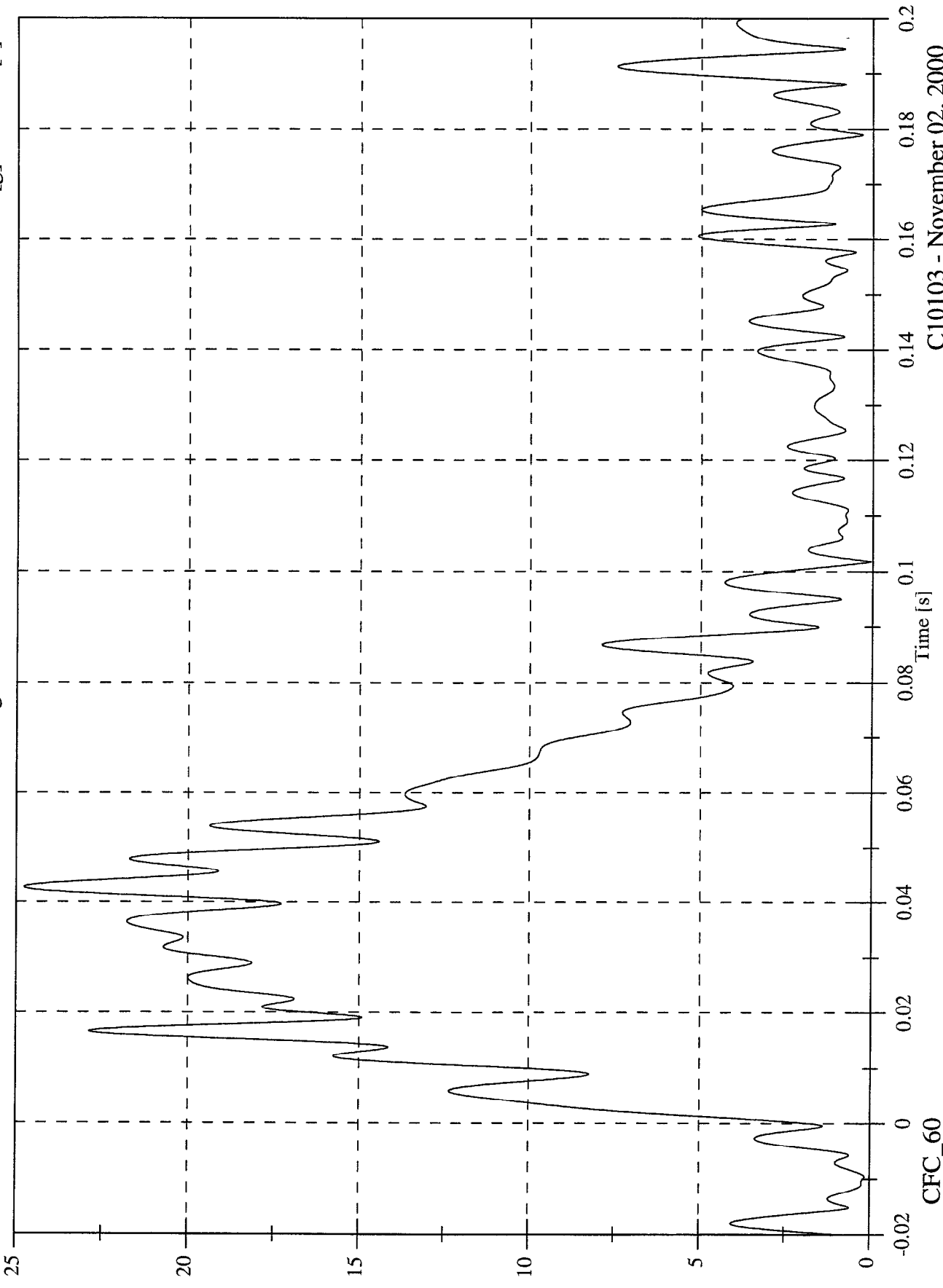
Min: -2.6 [kph] at 0.162 [s]



C10103 - November 02, 2000

Max: 24.8 [g] at 0.043 [s]
Min: 0.1 [g] at 0.102 [s]

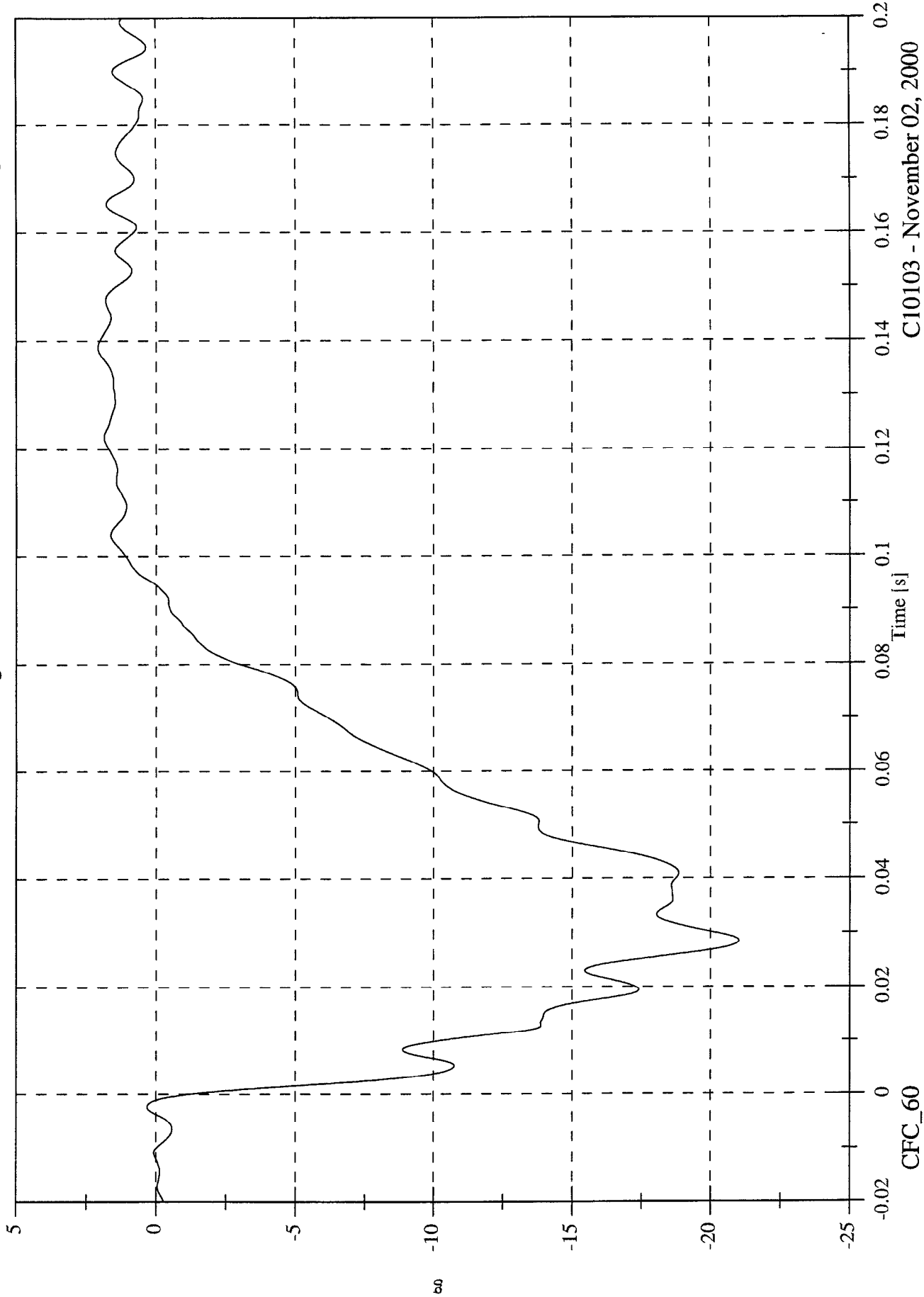
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier CG Resultant



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier Left Rail X

Max: 2.1 [g] at 0.139 [s]
Min: -21.0 [g] at 0.028 [s]



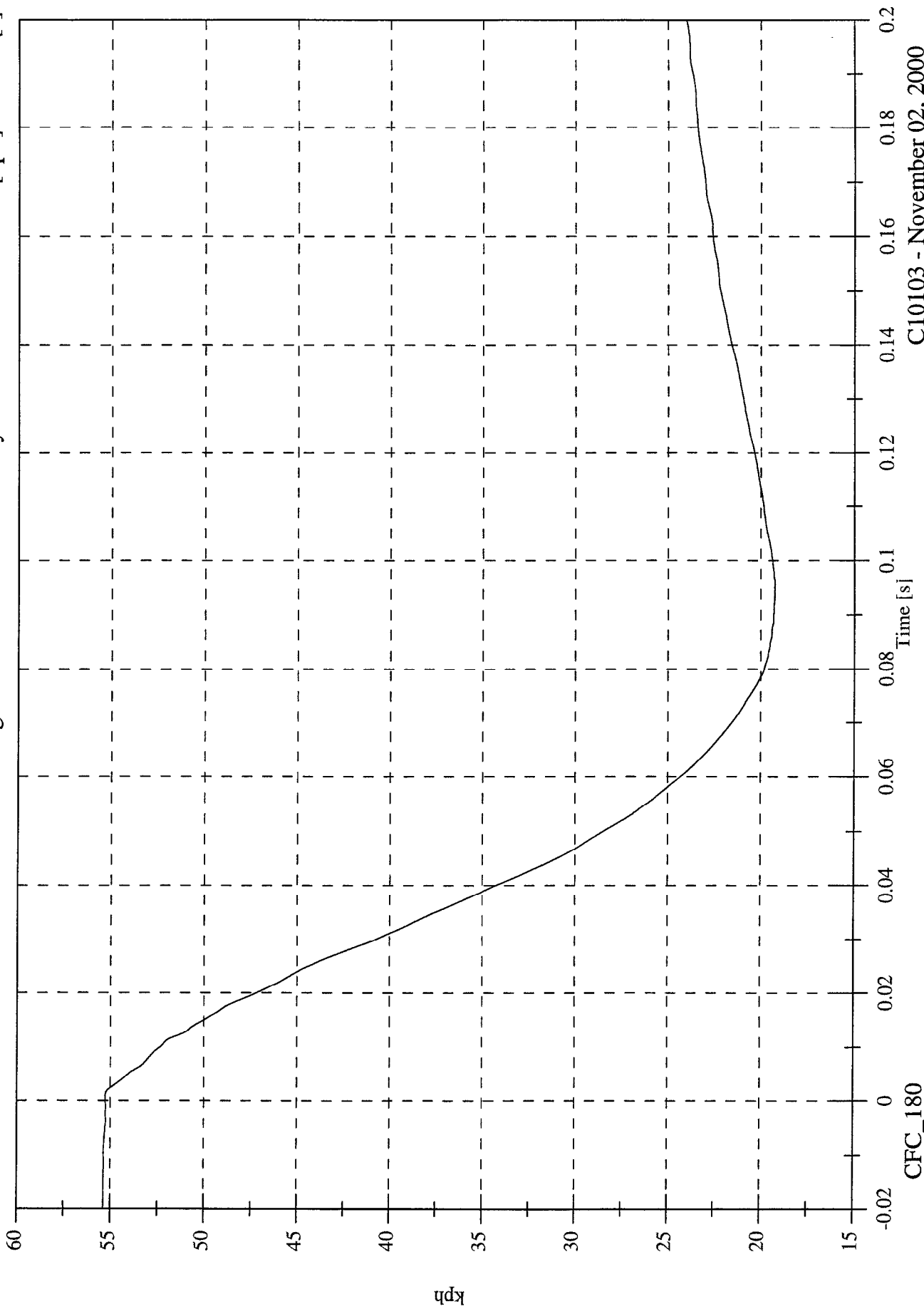
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 55.4 [kph] at -0.020 [s]

Min: 19.3 [kph] at 0.096 [s]

Moving Barrier Left Rail X Velocity

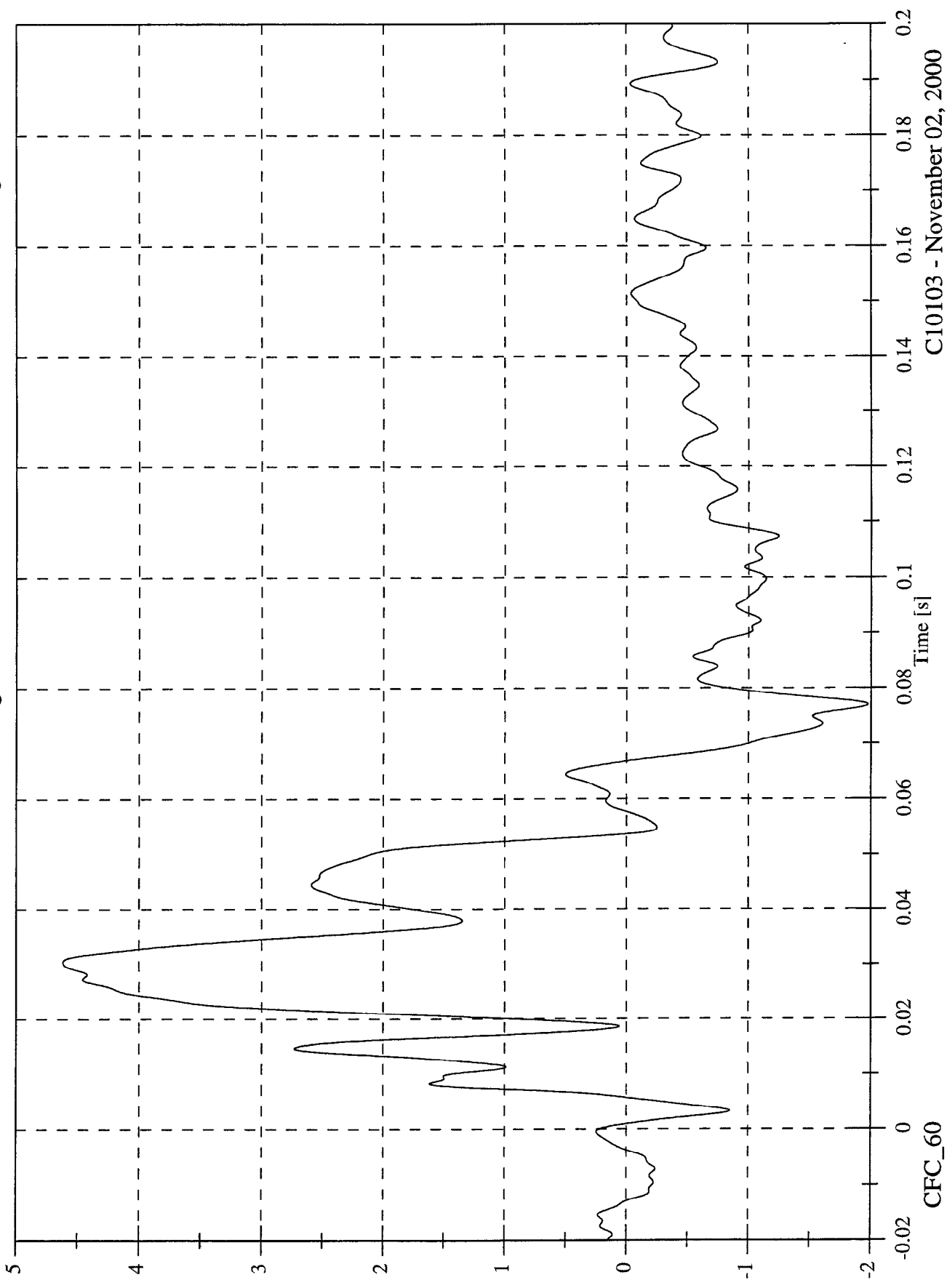


C10103 - November 02, 2000

CFC_180

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier Left Rail Y

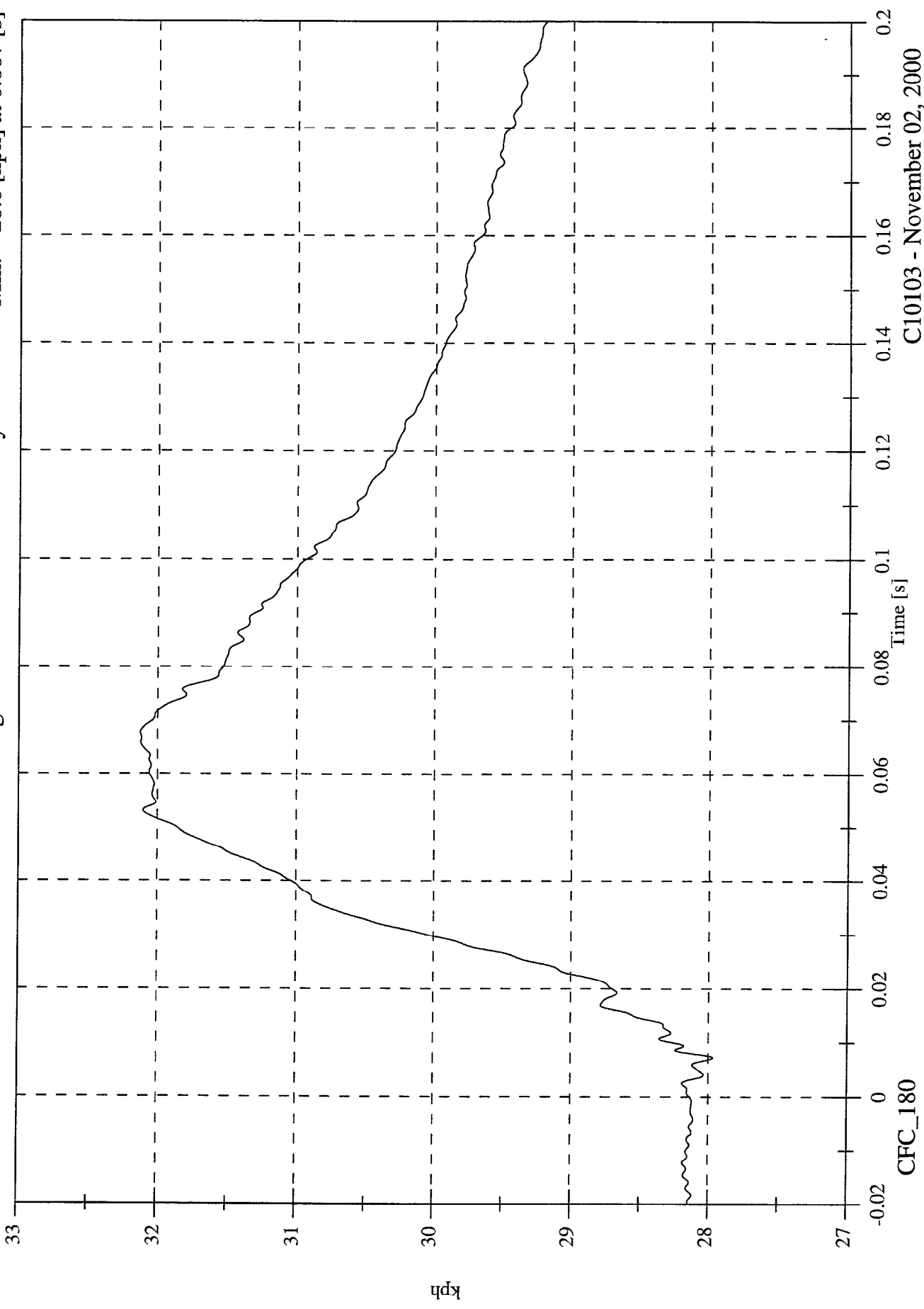
Max: 4.6 [g] at 0.030 [s]
Min: -2.0 [g] at 0.077 [s]



C10103 - November 02, 2000

Max: 32.1 [kph] at 0.068 [s]
Min: 28.0 [kph] at 0.007 [s]

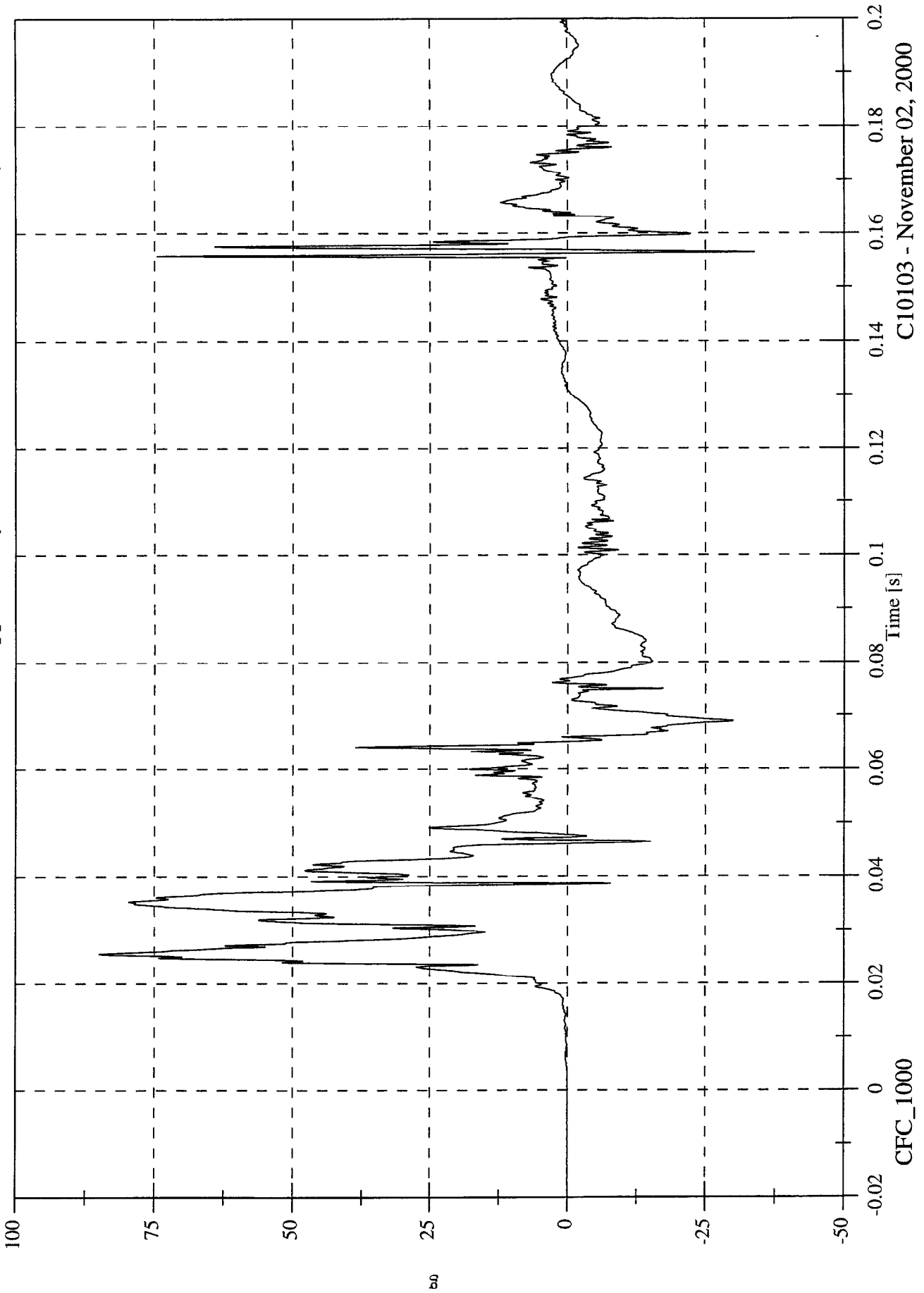
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
Moving Barrier Left Rail Y Velocity



C10103 - November 02, 2000

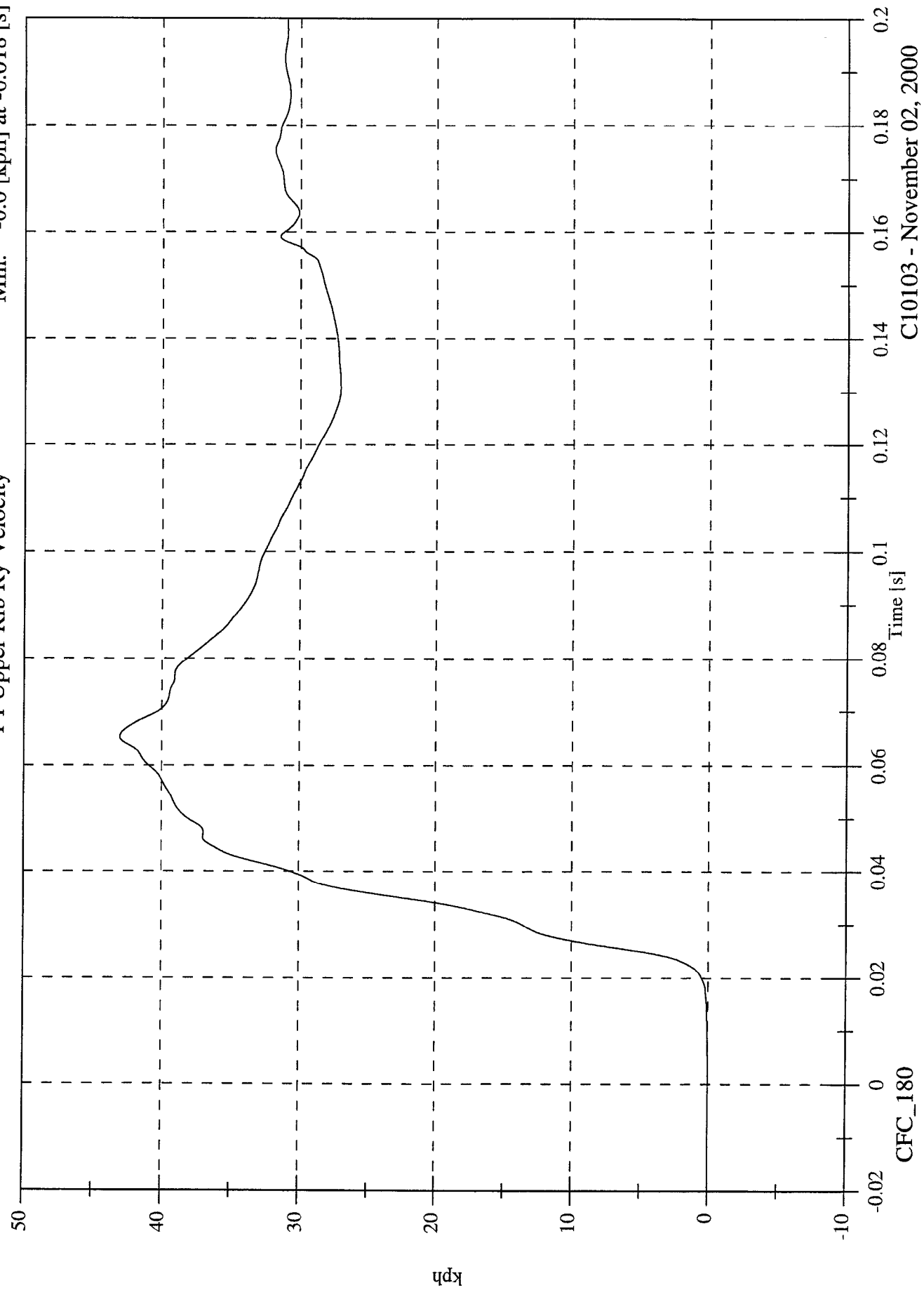
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Upper Rib Ry

Max: 84.9 [g] at 0.026 [s]
Min: -33.8 [g] at 0.156 [s]



Max: 43.0 [kph] at 0.065 [s]
Min: -0.0 [kph] at -0.018 [s]

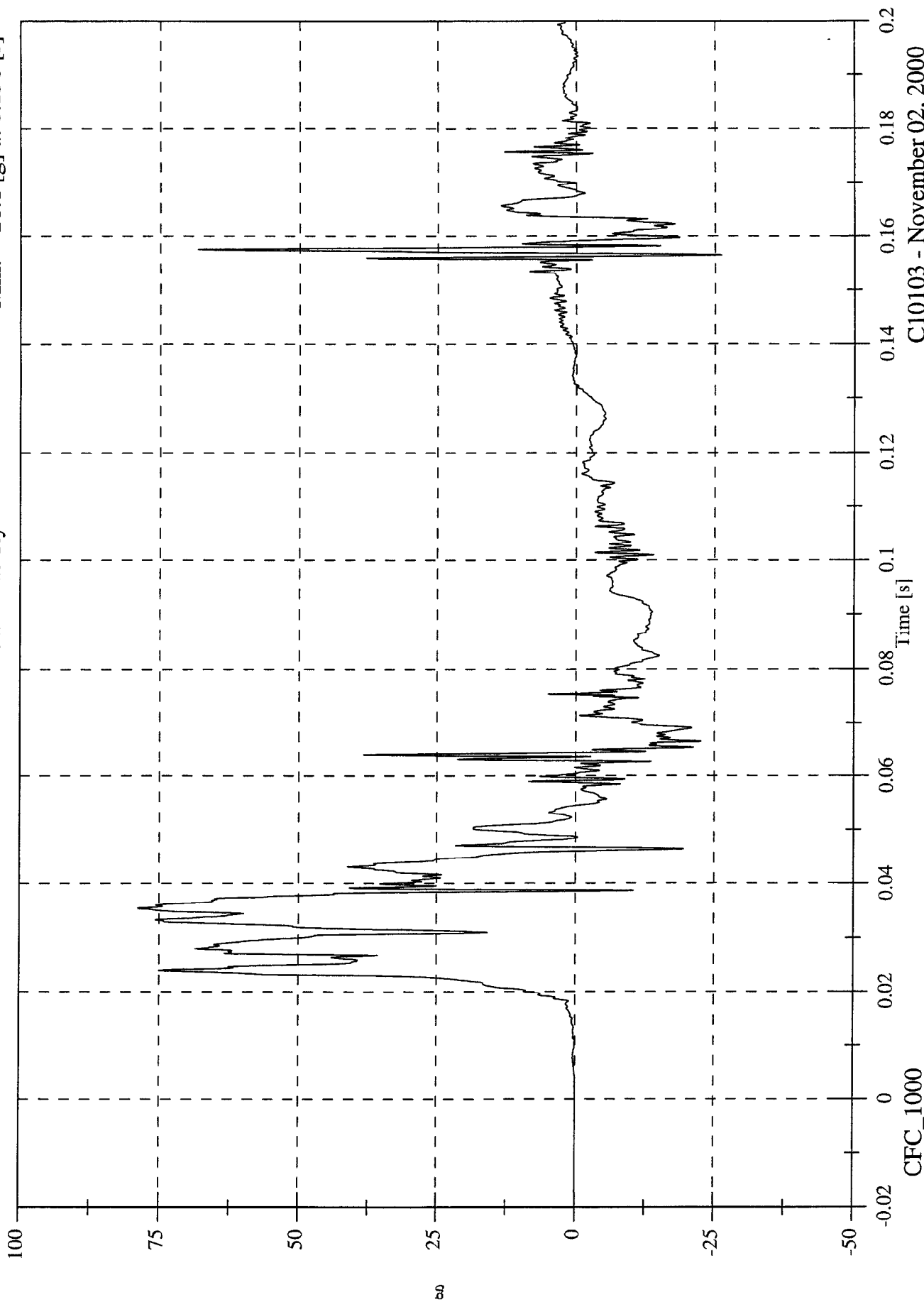
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Upper Rib Ry Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Rib Ry

Max: 78.8 [g] at 0.035 [s]
Min: -26.1 [g] at 0.156 [s]

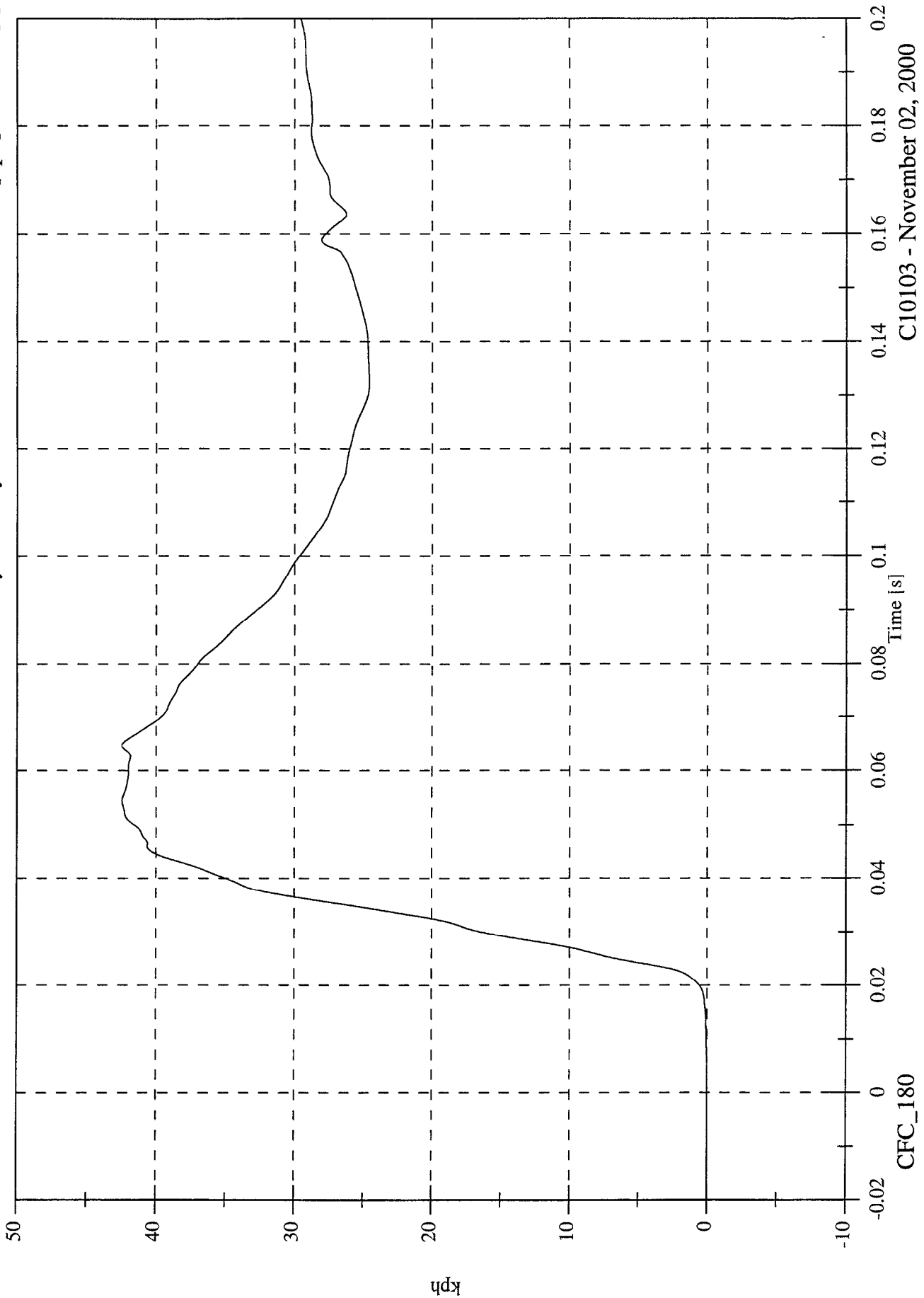


FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

P1 Lower Rib Ry Velocity

Max: 42.5 [kph] at 0.065 [s]

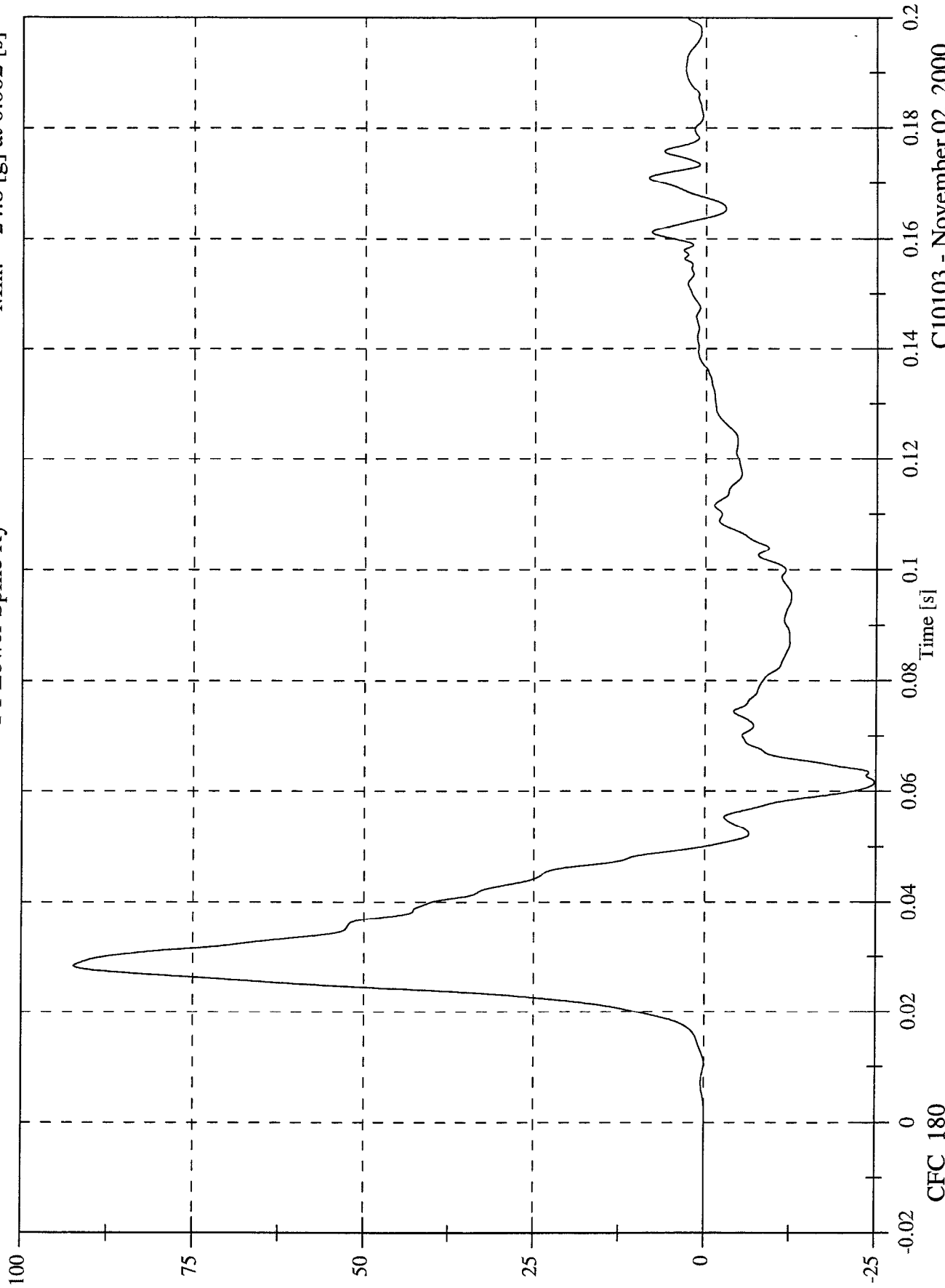
Min: -0.0 [kph] at -0.019 [s]



C10103 - November 02, 2000

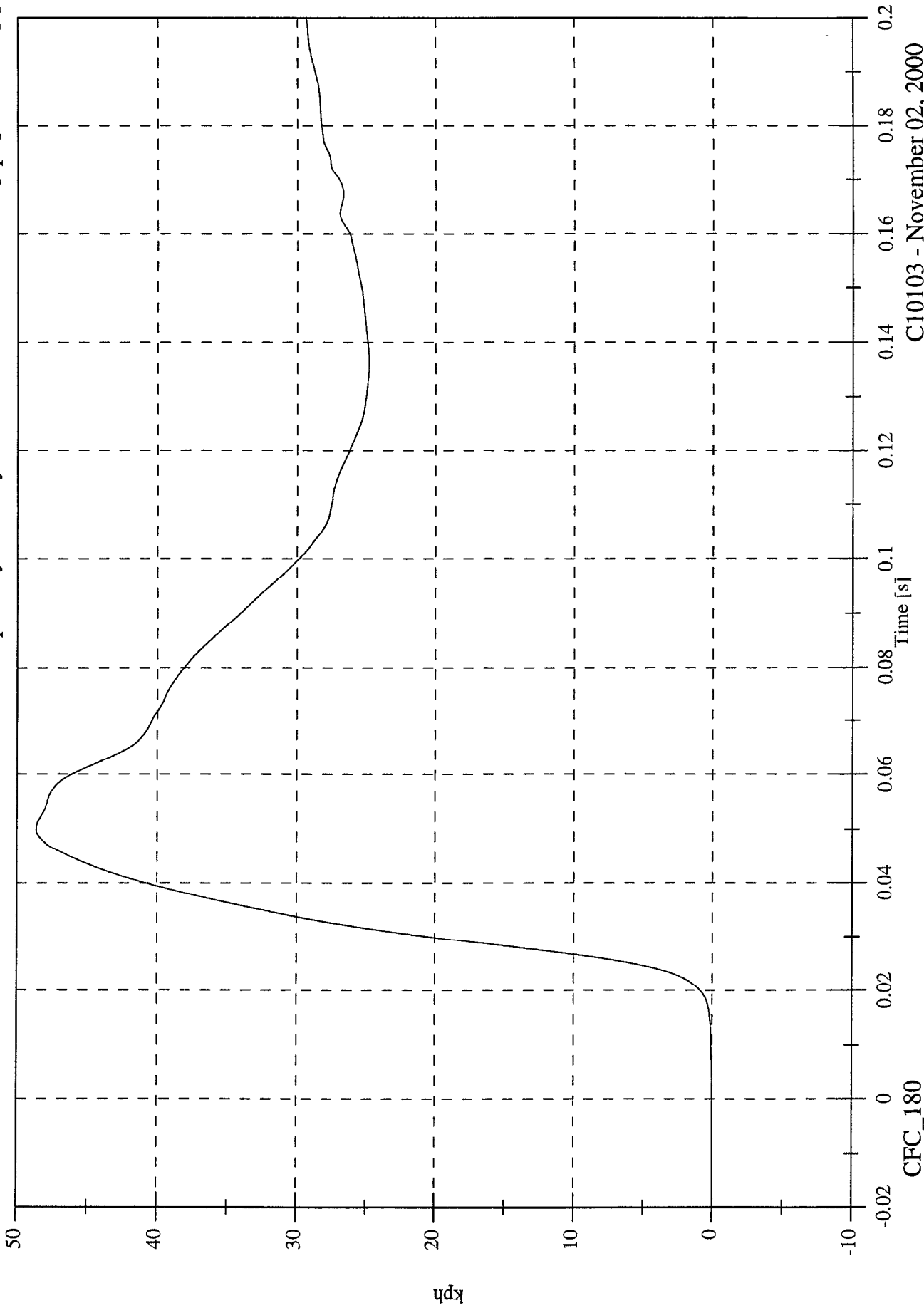
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Spine Ry

Max: 92.4 [g] at 0.028 [s]
Min: -24.8 [g] at 0.062 [s]



CI10103 - November 02, 2000

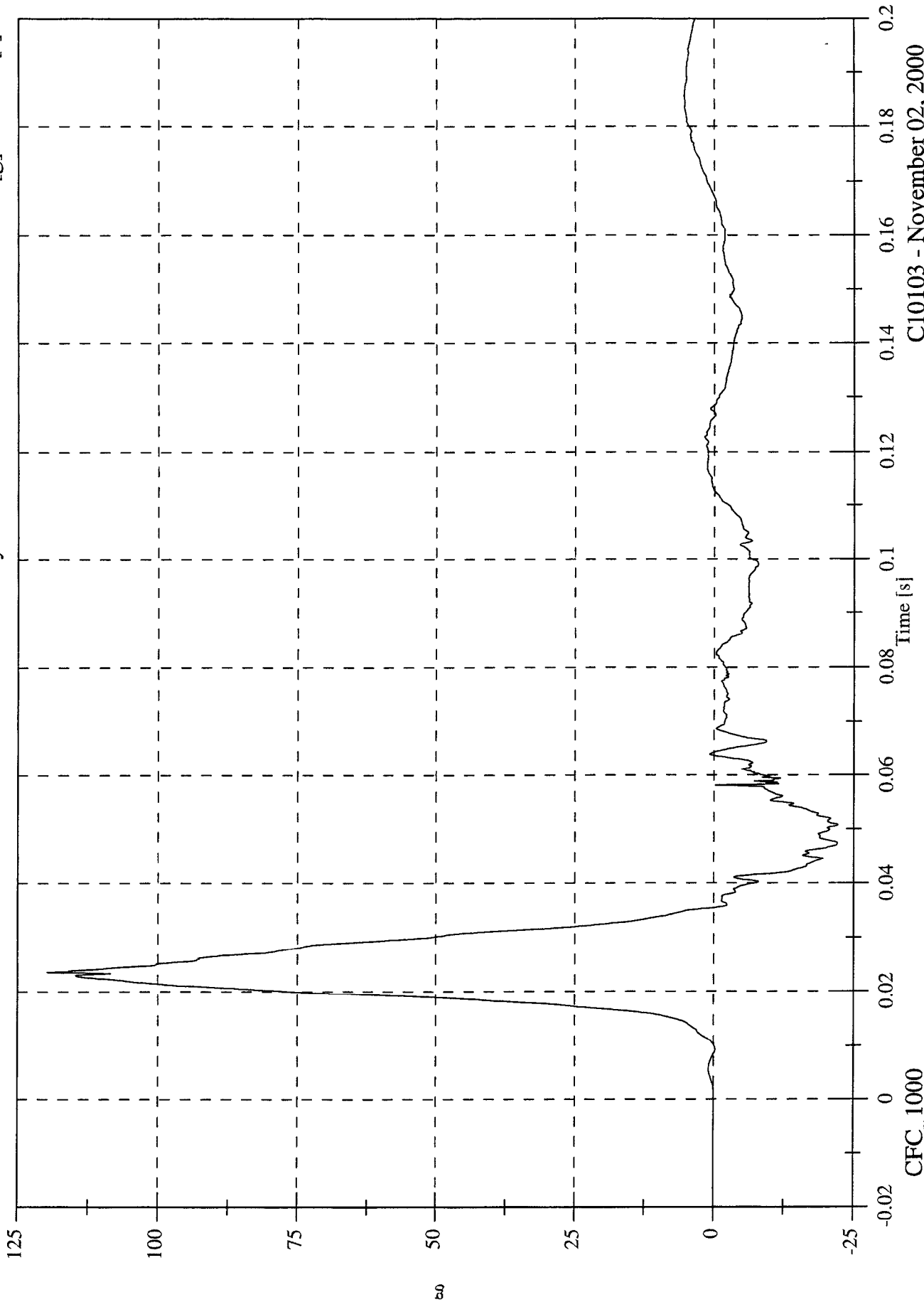
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Spine Ry Velocity
Max: 48.6 [kph] at 0.050 [s]
Min: -0.0 [kph] at -0.015 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Pelvic Ry

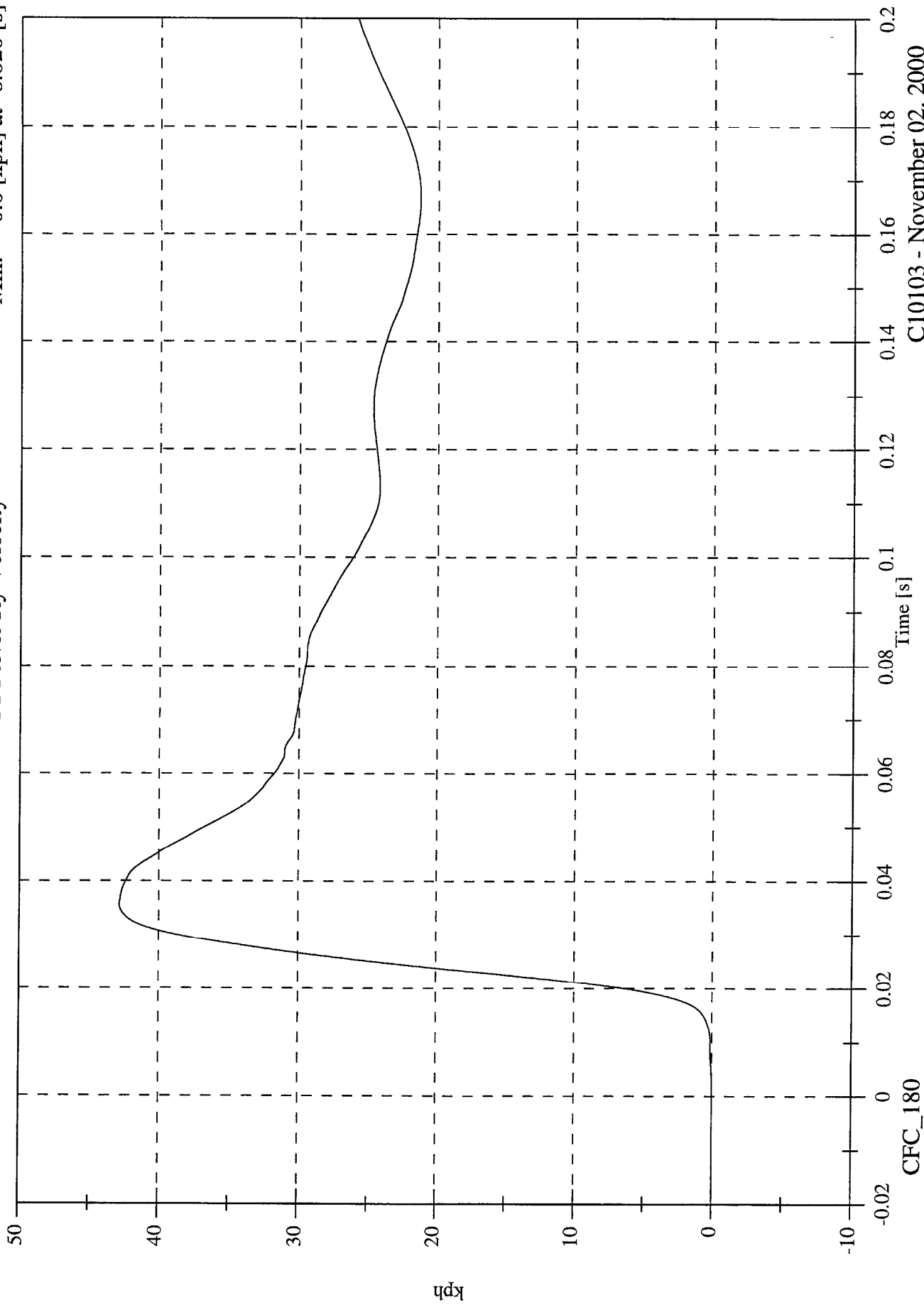
Max: 119.7 [g] at 0.024 [s]
Min: -22.1 [g] at 0.051 [s]



CI0103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Pelvic Ry Velocity

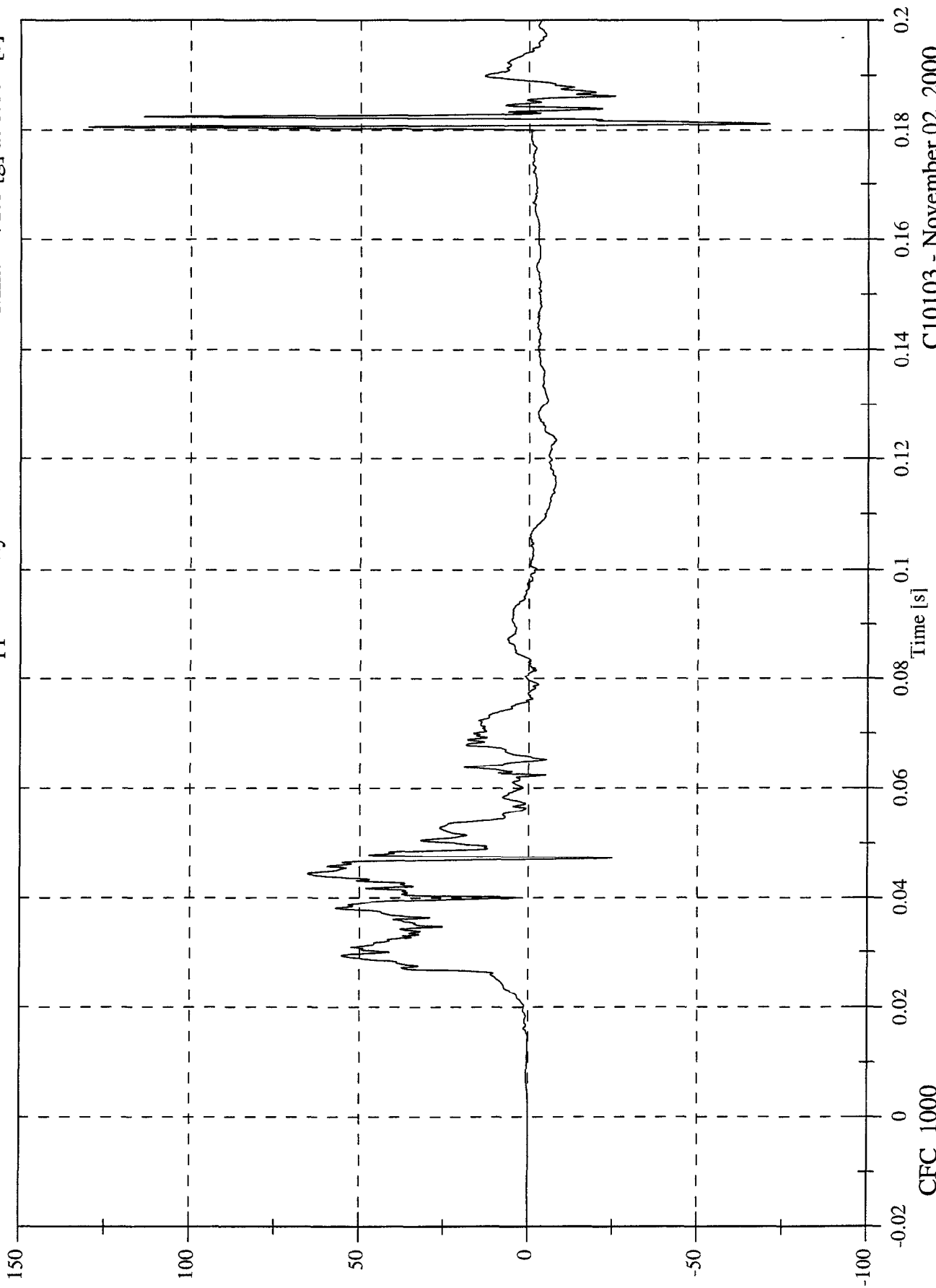
Max: 42.8 [kph] at 0.036 [s]
Min: -0.0 [kph] at -0.020 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Upper Rib Ry

Max: 130.1 [g] at 0.181 [s]
Min: -71.0 [g] at 0.181 [s]

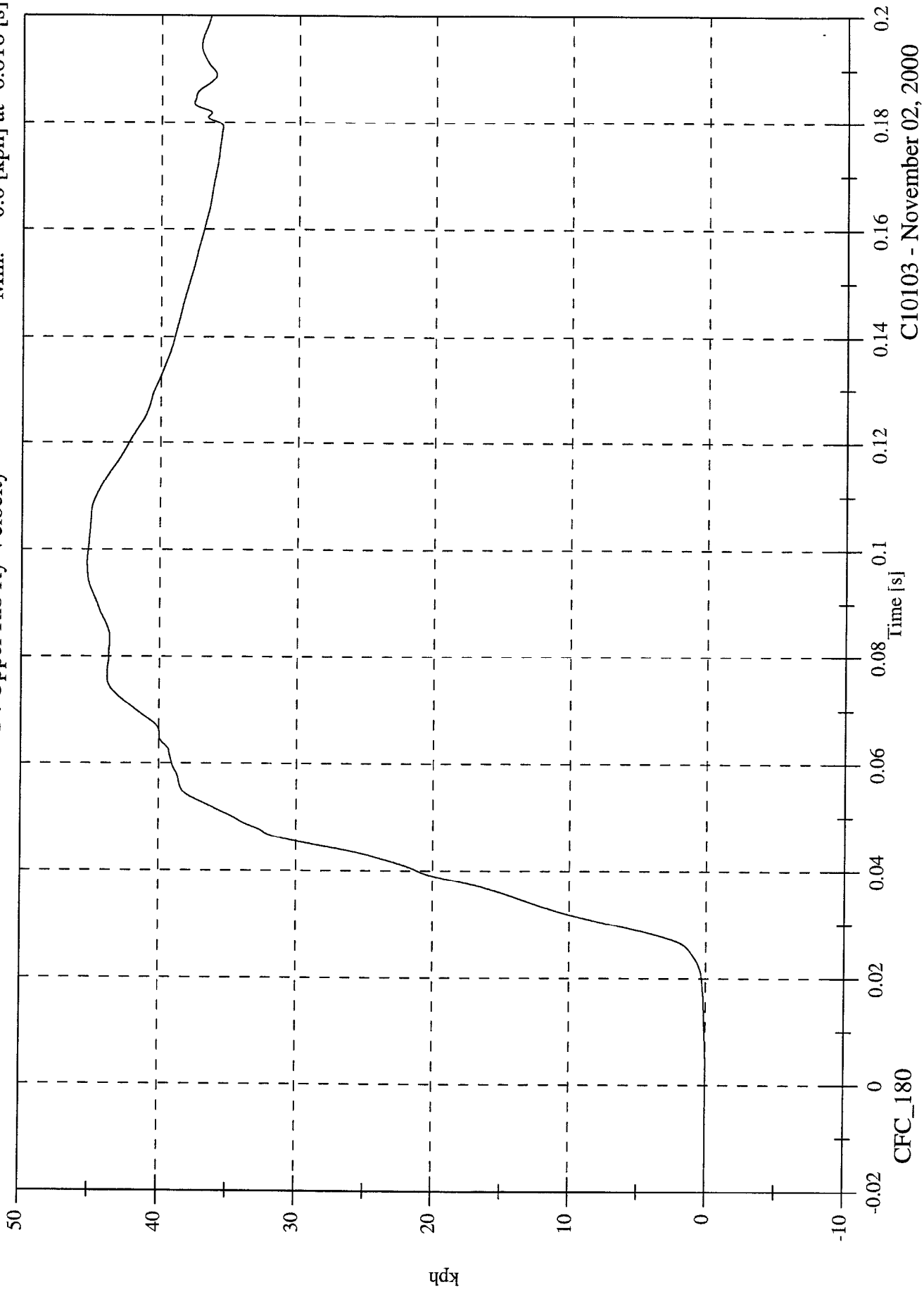


CFC_1000

Time [s]

C10103 - November 02, 2000

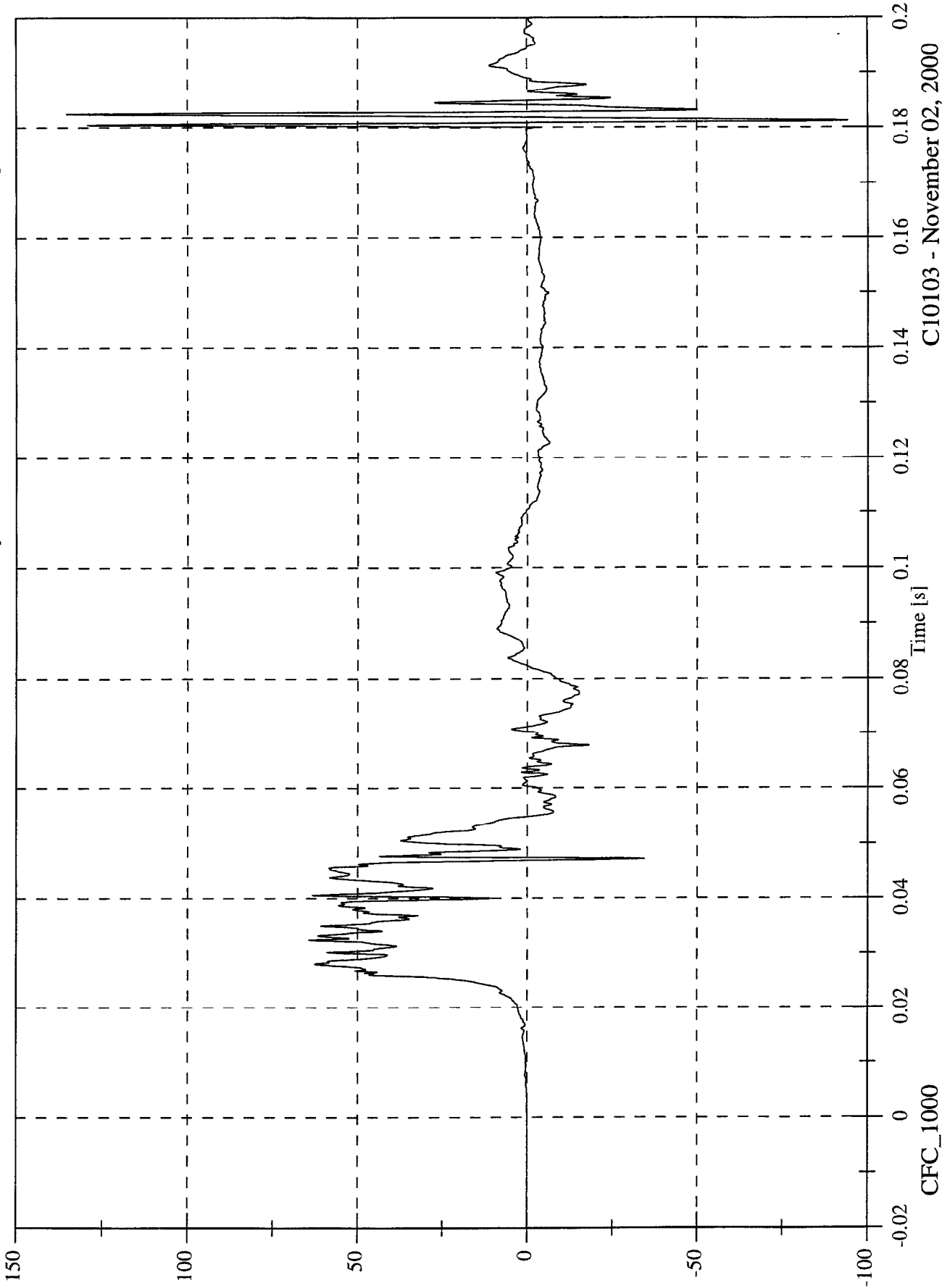
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Upper Rib Ry Velocity
Max: 45.3 [kph] at 0.098 [s]
Min: -0.0 [kph] at -0.016 [s]



C10103 - November 02, 2000

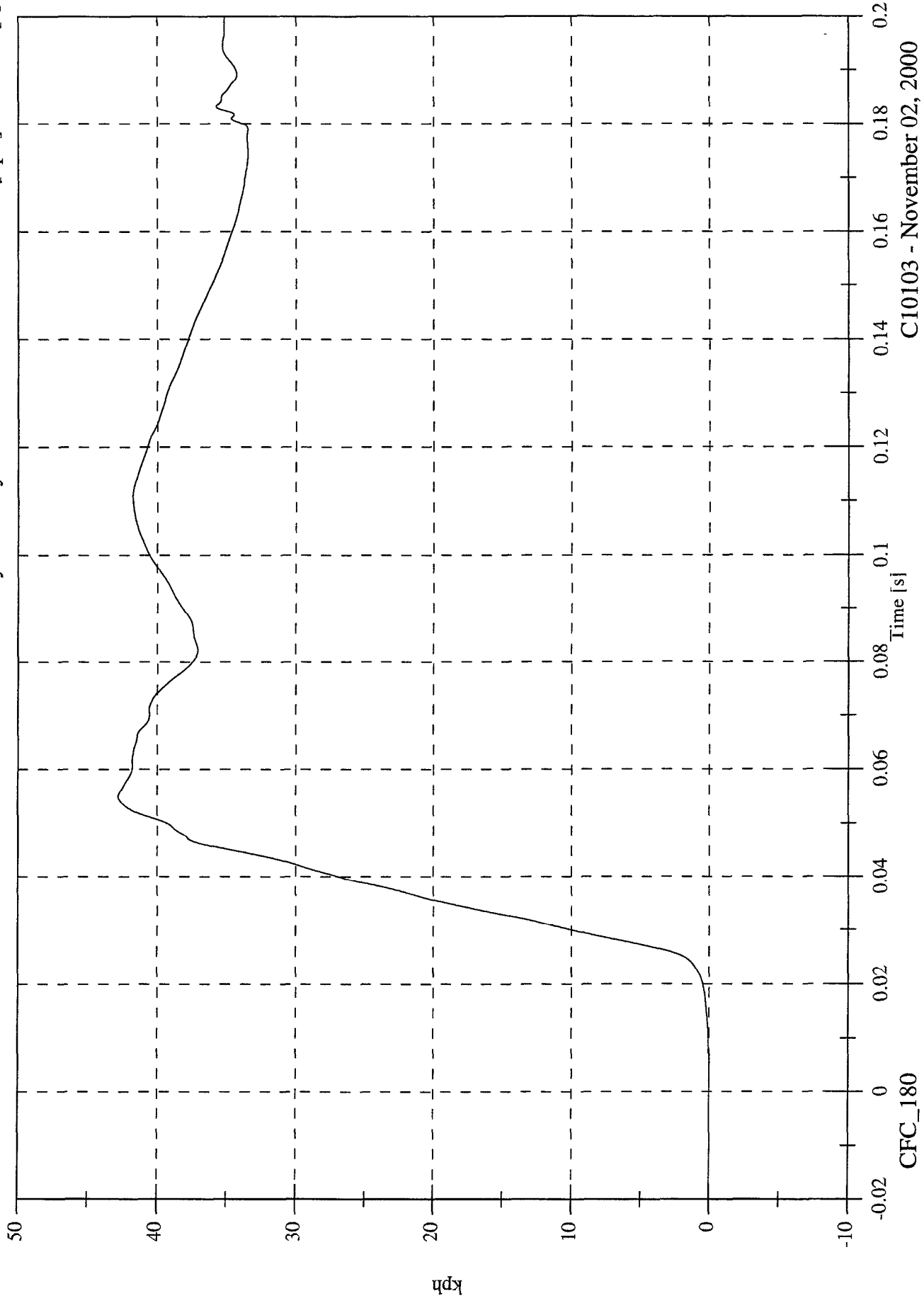
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Rib Ry

Max: 135.3 [g] at 0.182 [s]
Min: -94.1 [g] at 0.181 [s]



Max: 42.8 [kph] at 0.055 [s]
Min: -0.0 [kph] at -0.020 [s]

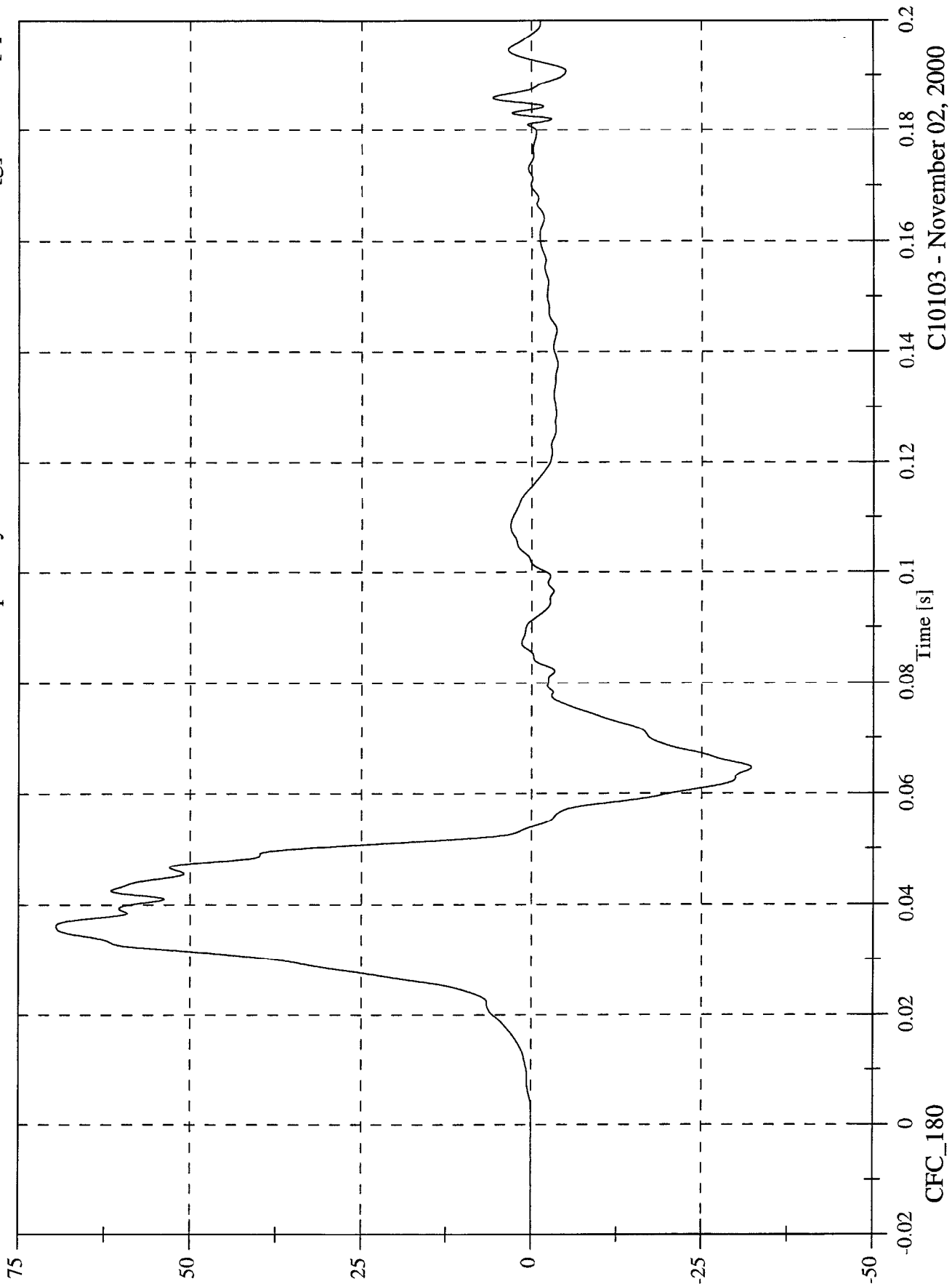
FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Rib Ry Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Spine Ry

Max: 69.5 [g] at 0.036 [s]
Min: -32.2 [g] at 0.065 [s]

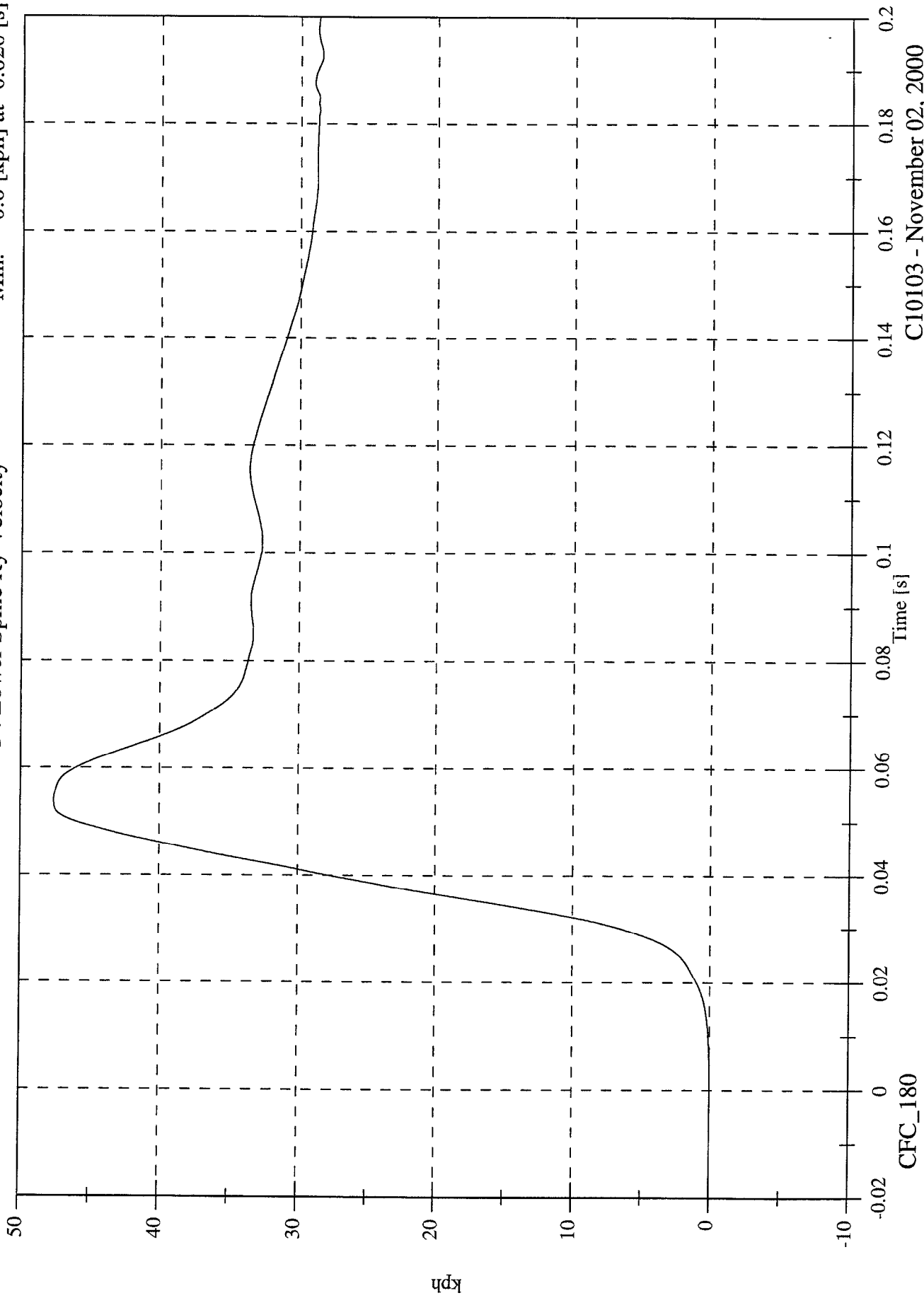


C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

P4 Lower Spine Ry Velocity

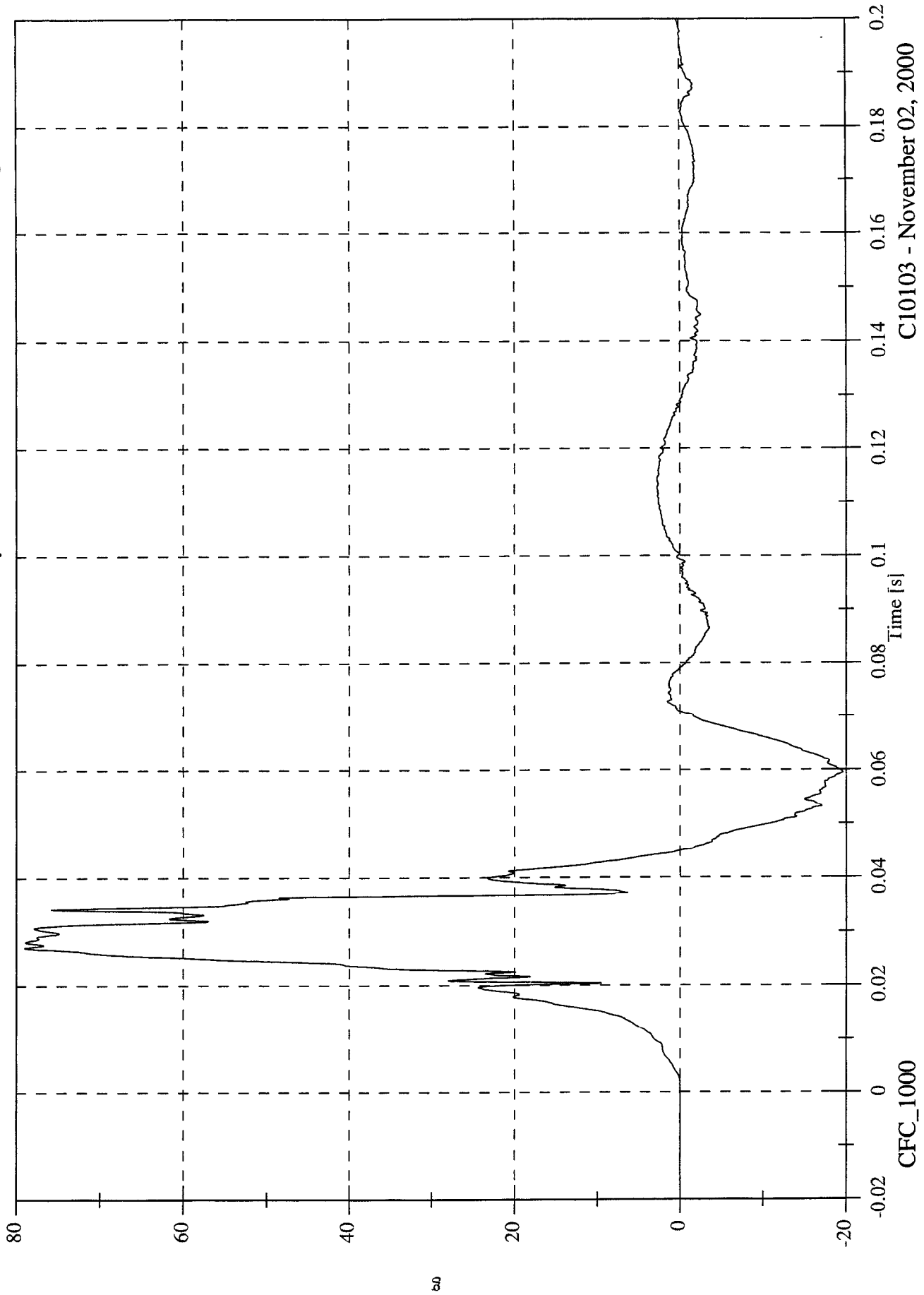
Max: 47.6 [kph] at 0.054 [s]
Min: -0.0 [kph] at -0.020 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Pelvic Ry

Max: 79.0 [g] at 0.027 [s]
Min: -19.6 [g] at 0.060 [s]

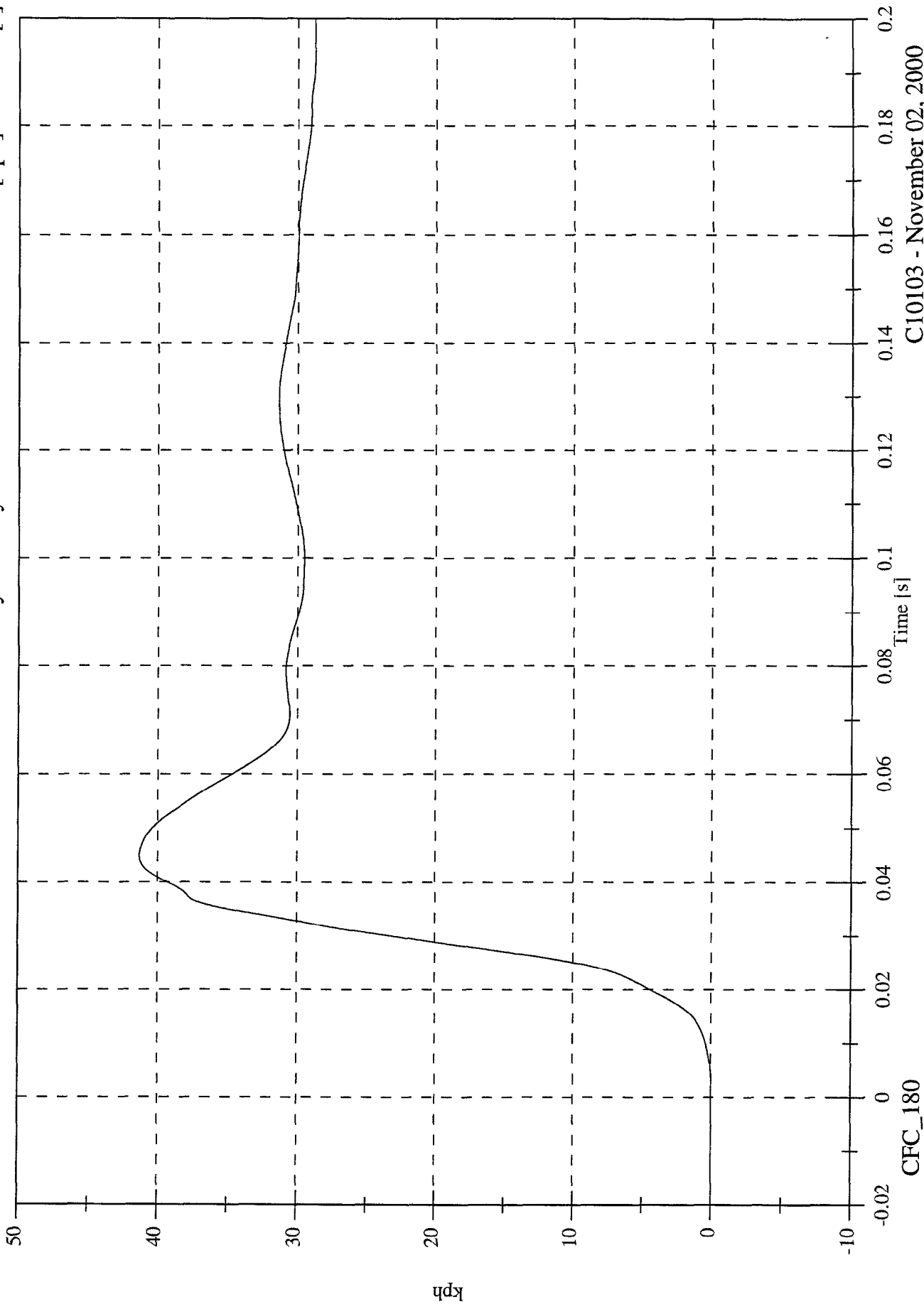


FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

Max: 41.3 [kph] at 0.045 [s]

Min: -0.0 [kph] at -0.015 [s]

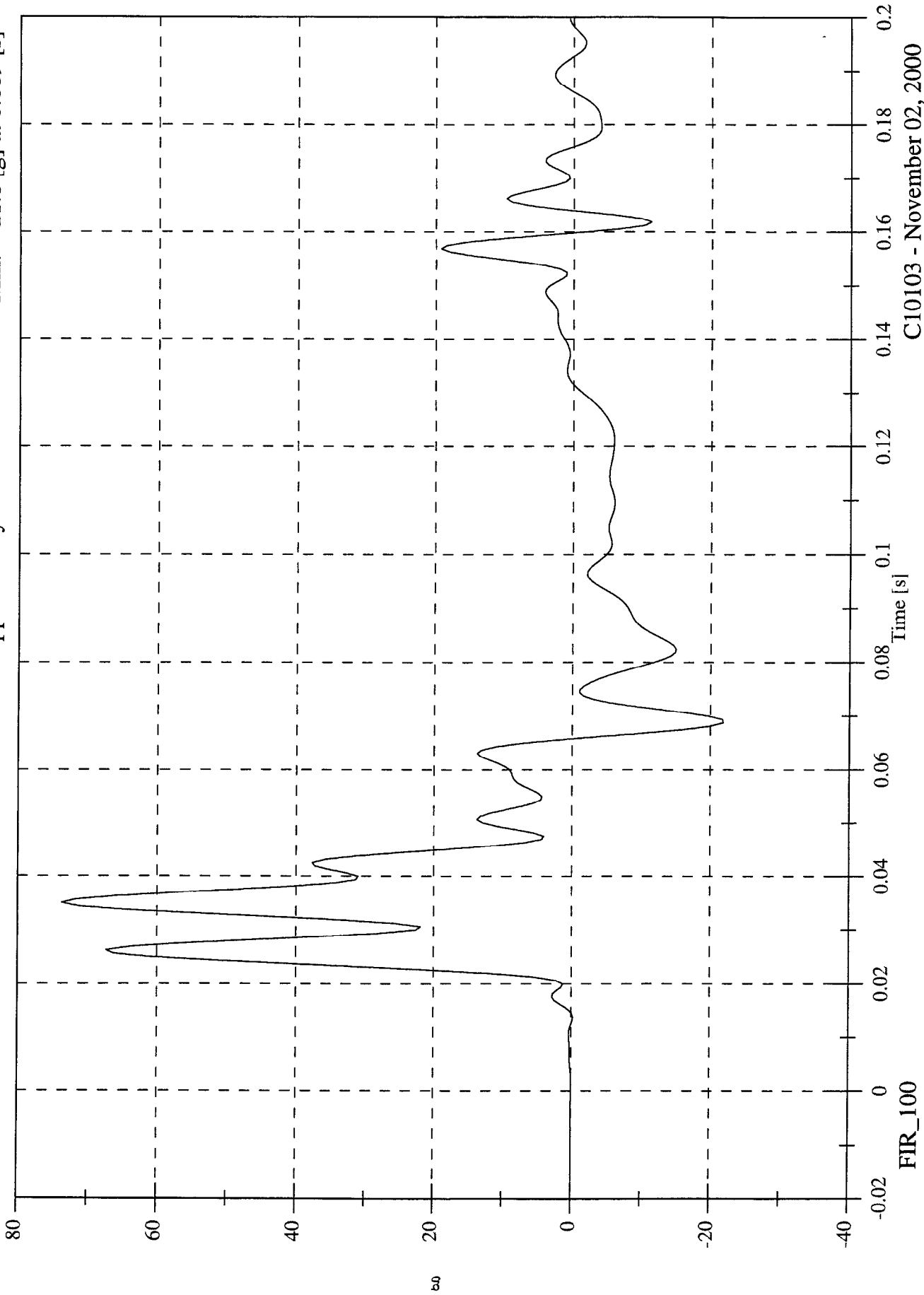
P4 Pelvic Ry Velocity



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Upper Rib Ry

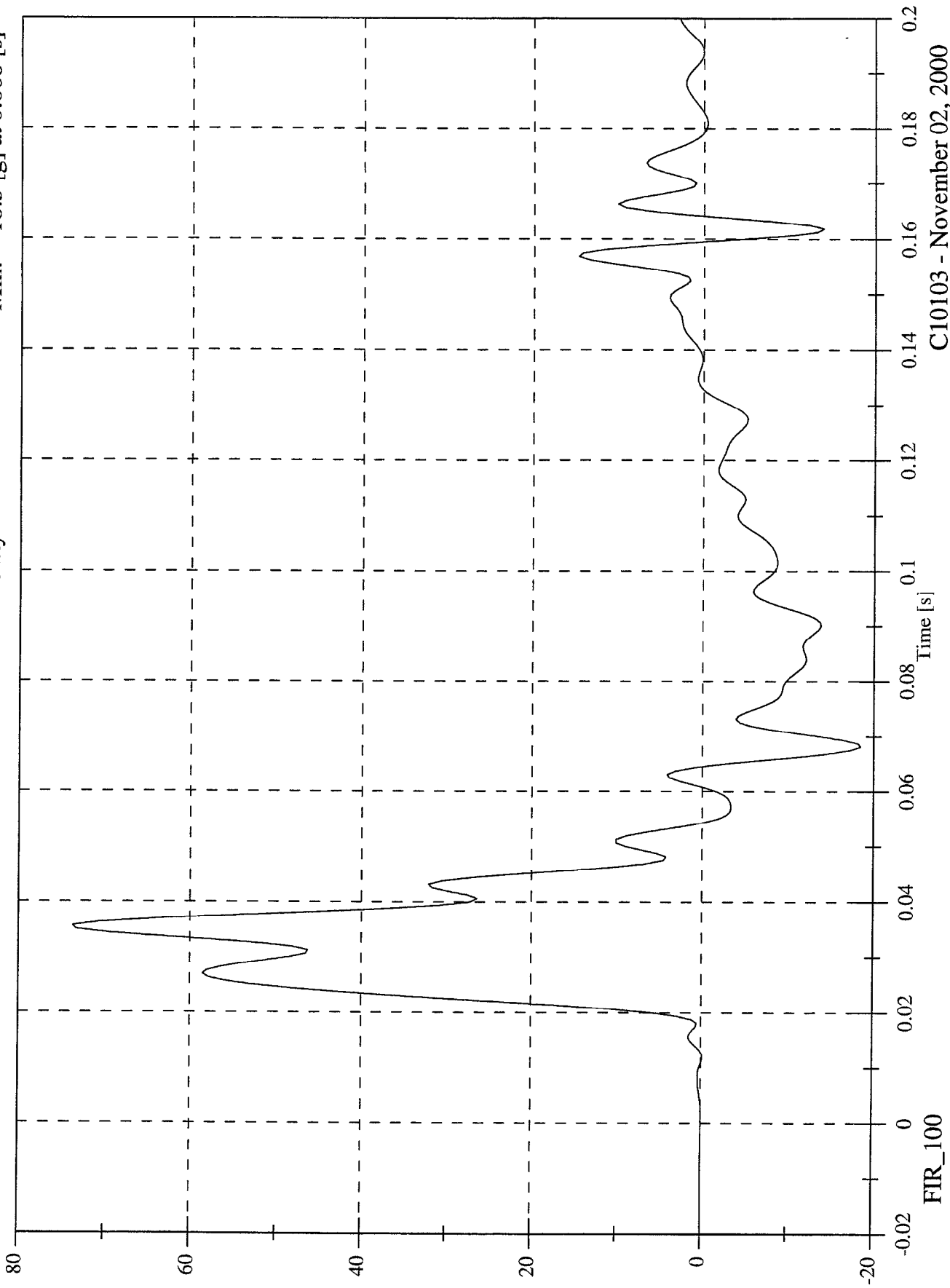
Max: 73.7 [g] at 0.035 [s]
Min: -21.8 [g] at 0.069 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Lower Rib Ry

Max: 73.7 [g] at 0.036 [s]
Min: -18.5 [g] at 0.068 [s]



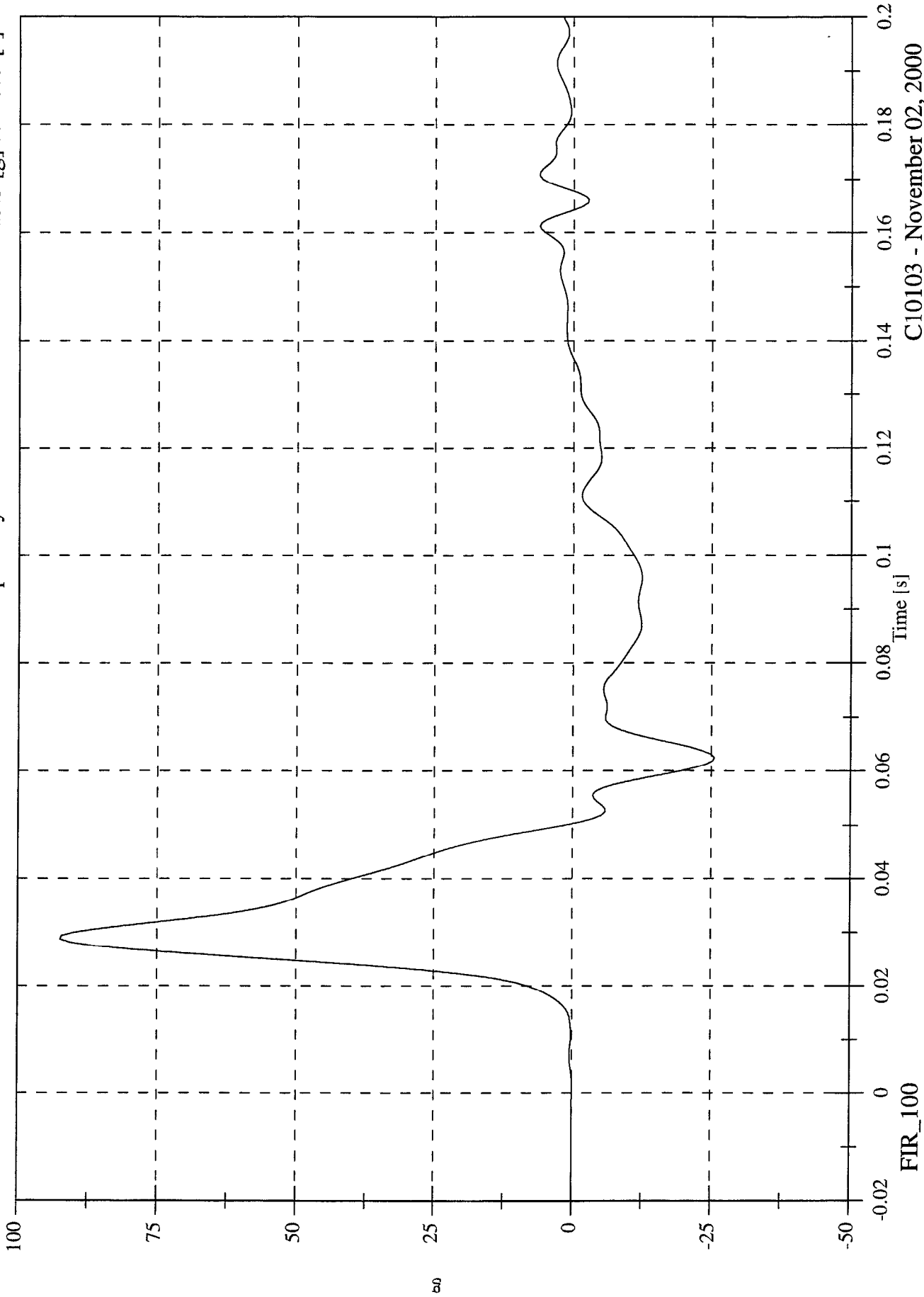
C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo

P1 Lower Spine Ry

Max: 92.4 [g] at 0.029 [s]

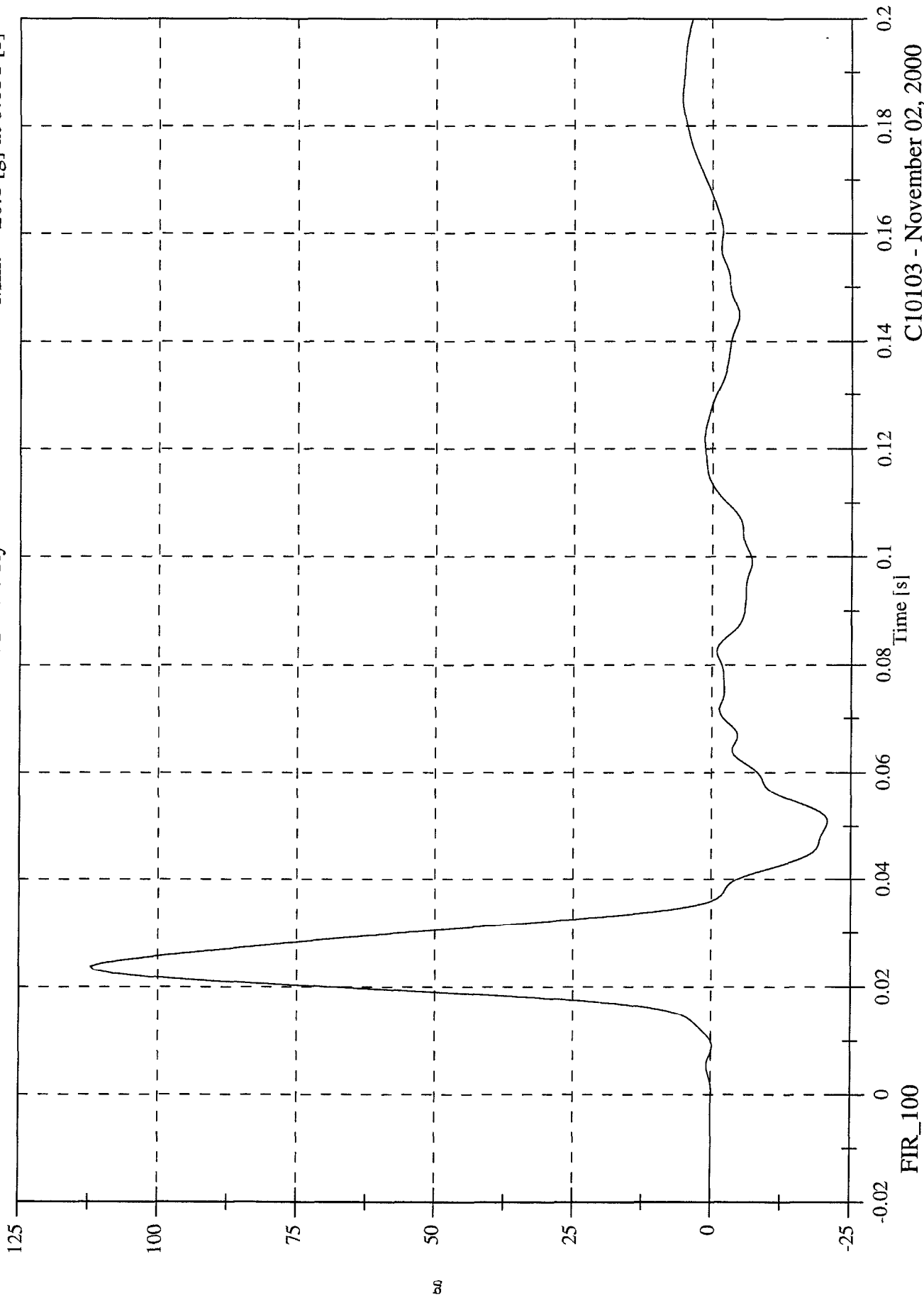
Min: -25.5 [g] at 0.063 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P1 Pelvic Ry

Max: 112.2 [g] at 0.024 [s]
Min: -20.8 [g] at 0.051 [s]

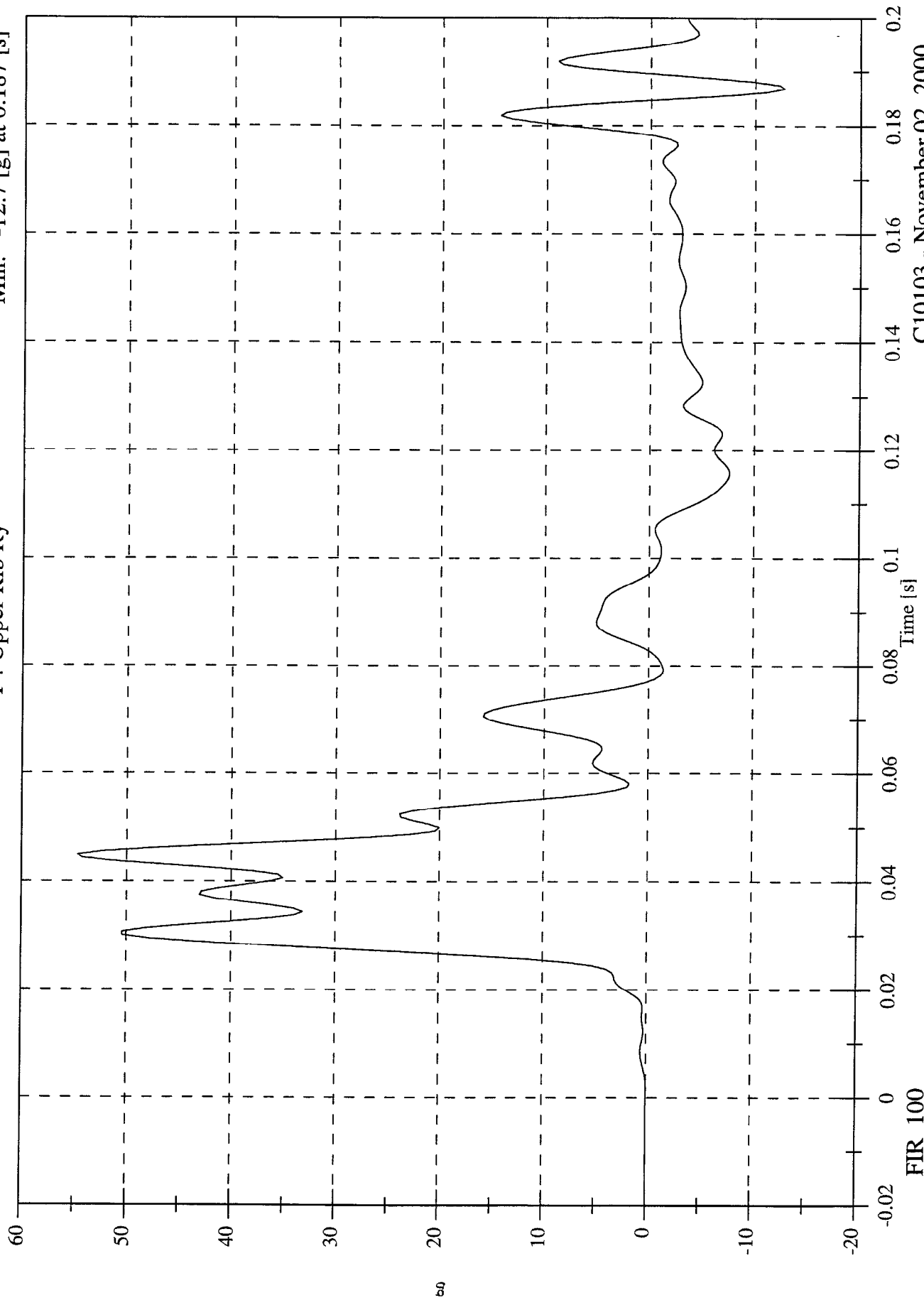


FIR_100

C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Upper Rib Ry

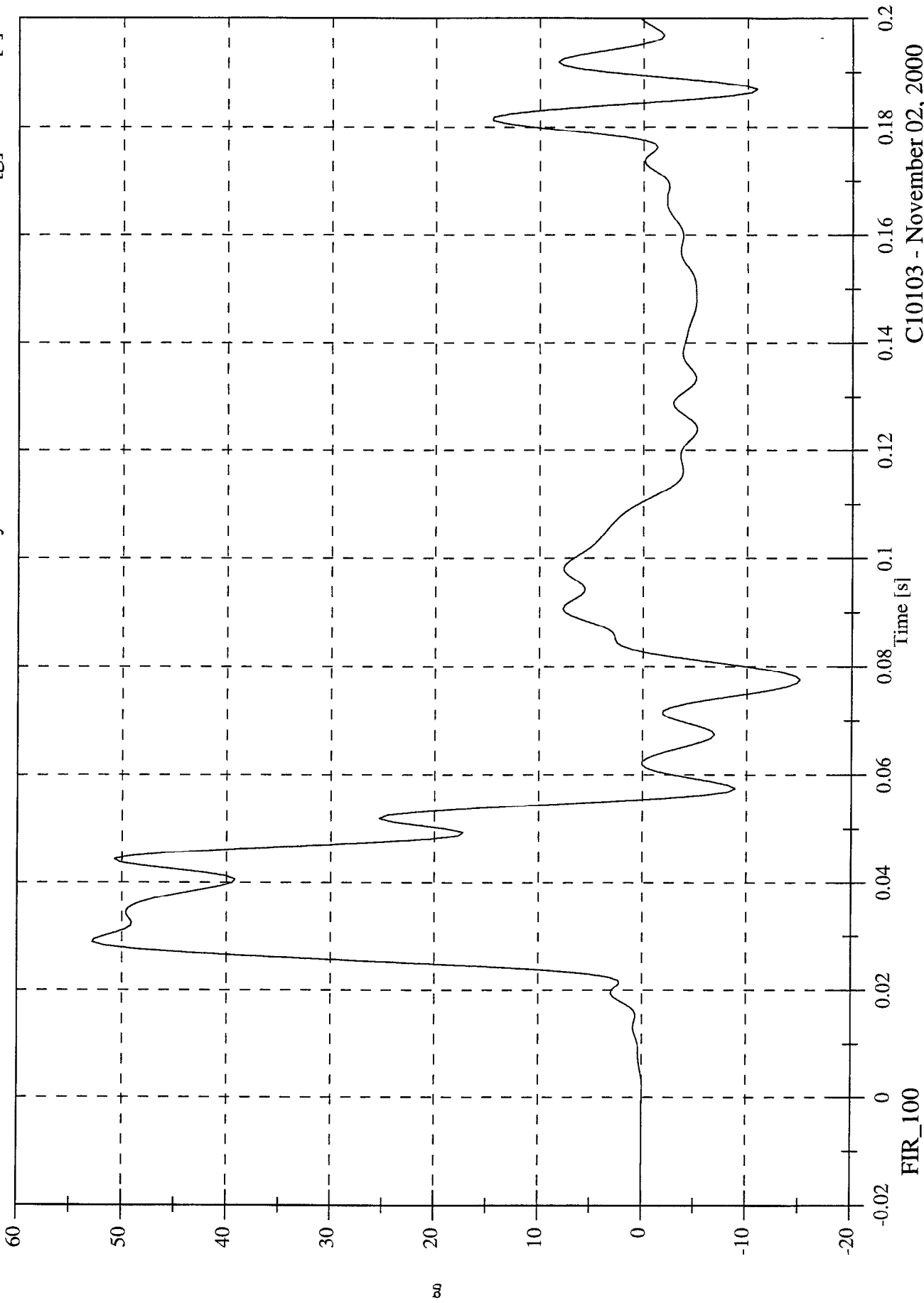
Max: 54.6 [g] at 0.045 [s]
Min: -12.7 [g] at 0.187 [s]



CI10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Rib Ry

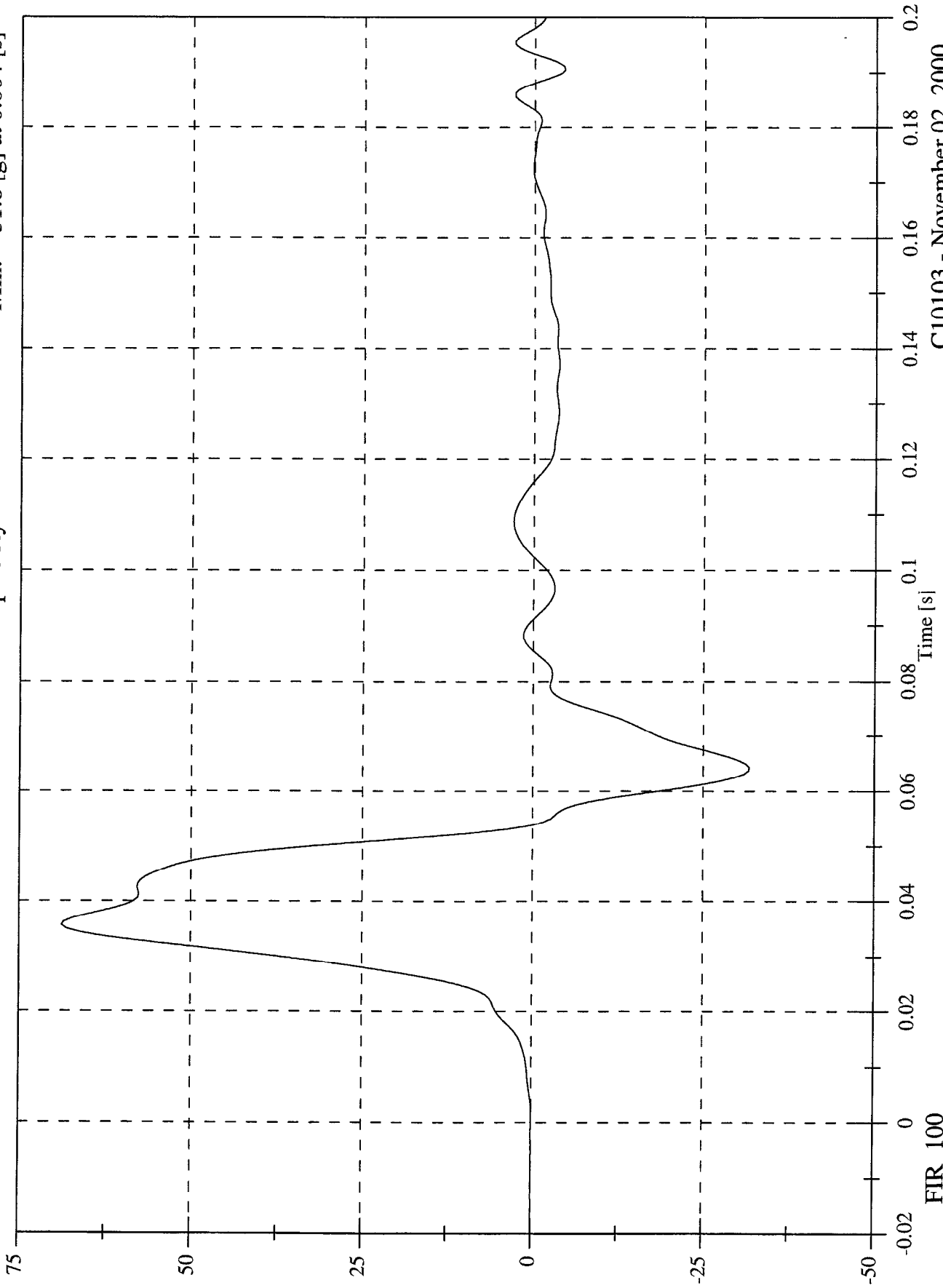
Max: 52.8 [g] at 0.029 [s]
Min: -15.1 [g] at 0.078 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Lower Spine Ry

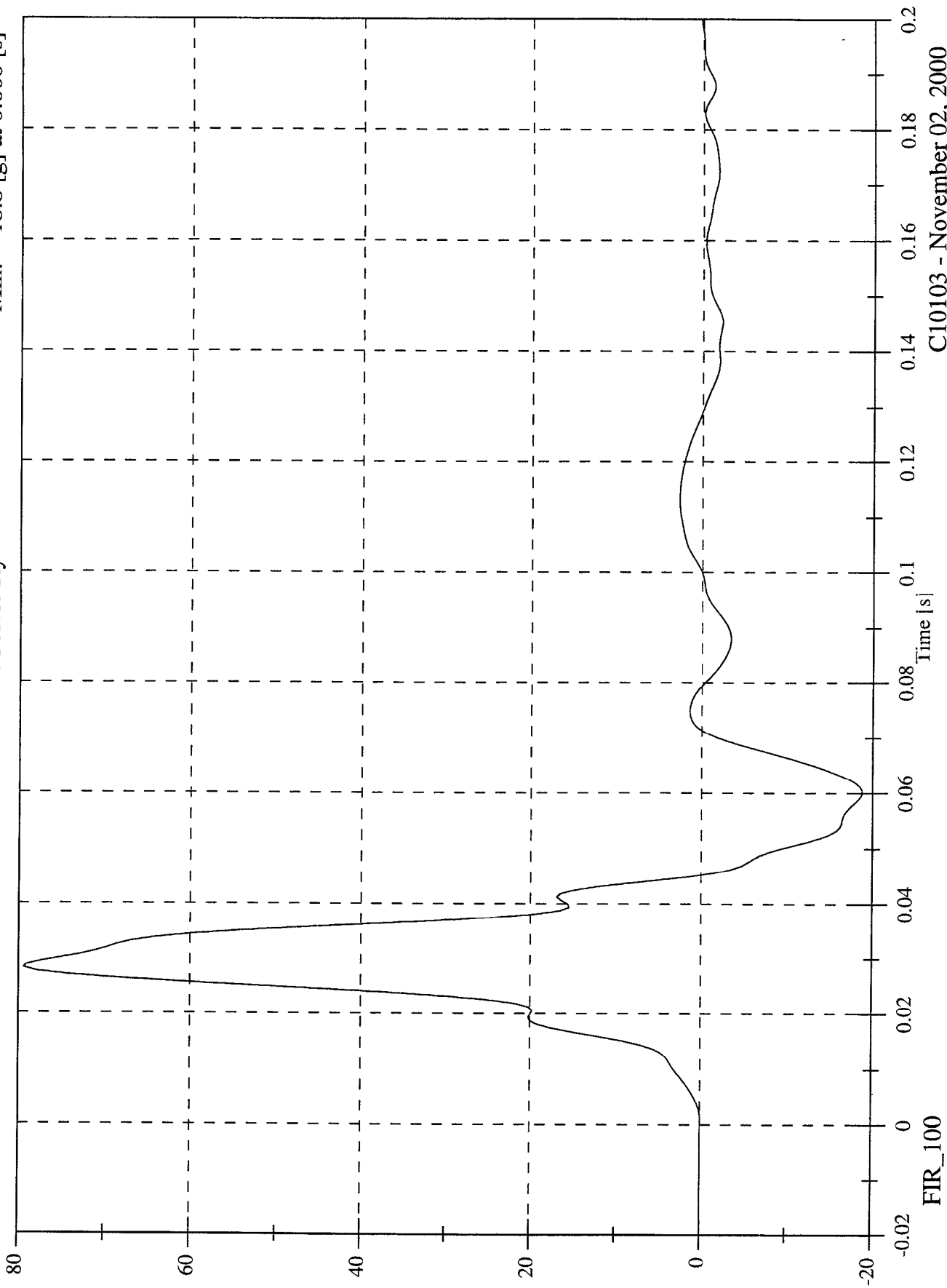
Max: 68.8 [g] at 0.036 [s]
Min: -31.8 [g] at 0.064 [s]



C10103 - November 02, 2000

FMVSS 214D INDICANT TEST - 2001 Chevrolet Monte Carlo
P4 Pelvic Ry

Max: 79.4 [g] at 0.028 [s]
Min: -18.8 [g] at 0.060 [s]



C10103 - November 02, 2000

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

**SUMMARY
SID PRE & POST TEST CALIBRATION**

CONFIGURED FOR LEFT SIDE IMPACT

Date: 10/21/00; 10/21/00

Sequential Test Number:

1.1;1.3

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID NO.: 013		SID NO.: 027	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	907	907
RH- Rib Height (mm)	501 - 521	511	511	519	519
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	236	236	236	236
KV- Knee Pivot from Back Line (mm)	511 - 526	518	518	518	518
SW- Knee Pivot to Floor (mm)	490 - 505	493	493	493	493
HW- Hip Width (mm)	356 - 391	371	373	368	368
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.7	21.7	21.7	21.1
RELATIVE HUMIDITY (%)	10 - 70	31	31	31	32
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.28	4.29	4.30
UPPER RIB (g's)	37 - 46	40.2	40.0	38.0	39.9
LOWER RIB (g's)	37 - 46	38.0	38.7	37.4	39.8
LOWER SPINE (g's)	15 - 22	21.3	21.7	19.3	21.1
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.7	21.7	21.7	21.1
RELATIVE HUMIDITY (%)	10 - 70	31	31	31	32
PROBE SPEED (m/s)	4.27 - 4.33	4.33	4.29	4.28	4.29
PELVIS (g's)	40 - 60	43.2	44.2	51.4	53.4

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 013

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS

PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
 Date: 9/26/00 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: 013

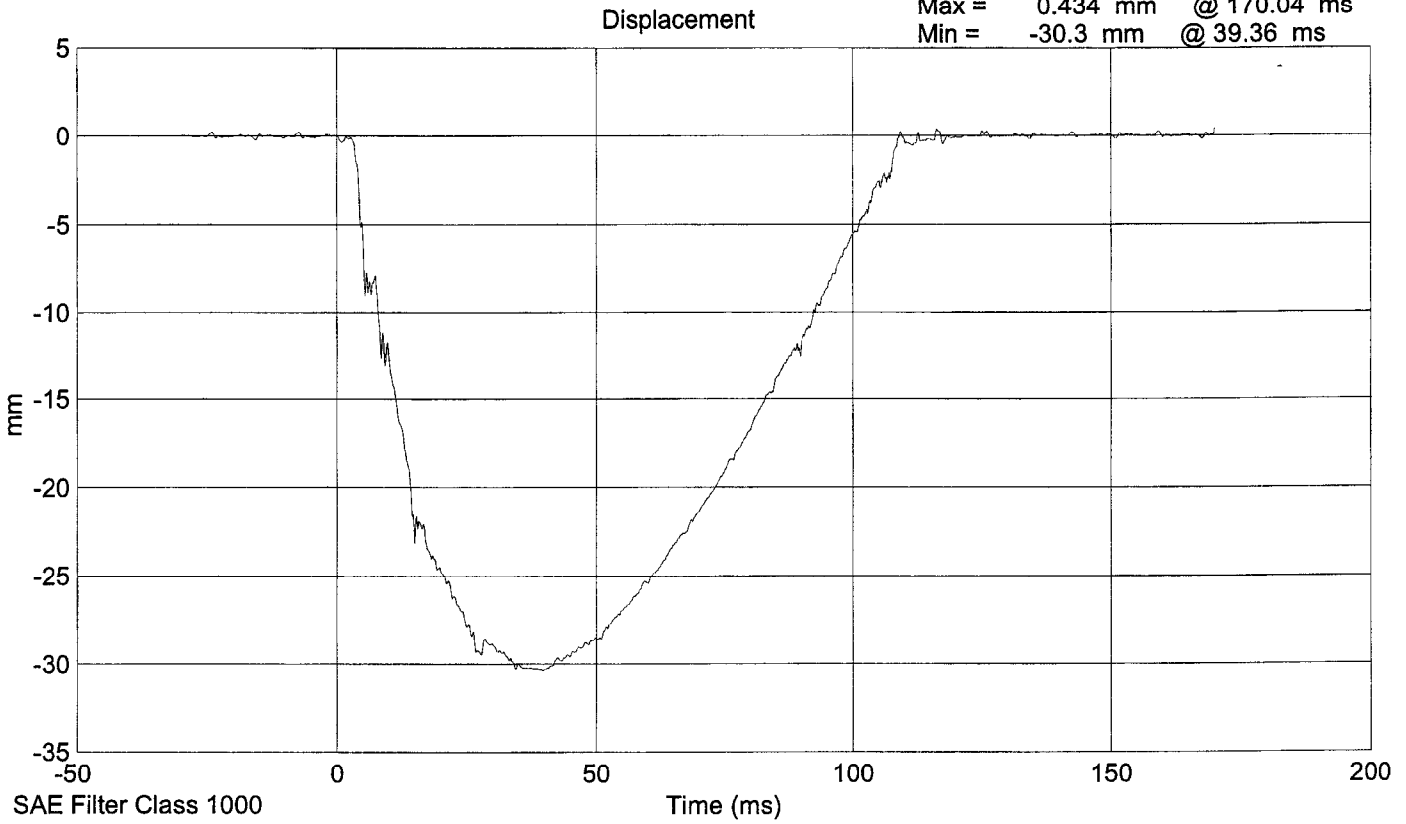
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	30
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1046
	DISPLACEMENT (mm)	30 - 35	30
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1899
	DISPLACEMENT (mm)	32 - 37	34
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4263
	DISPLACEMENT (mm)	33 - 40	36

DAMPER SETTING: 5

REMARKS: None

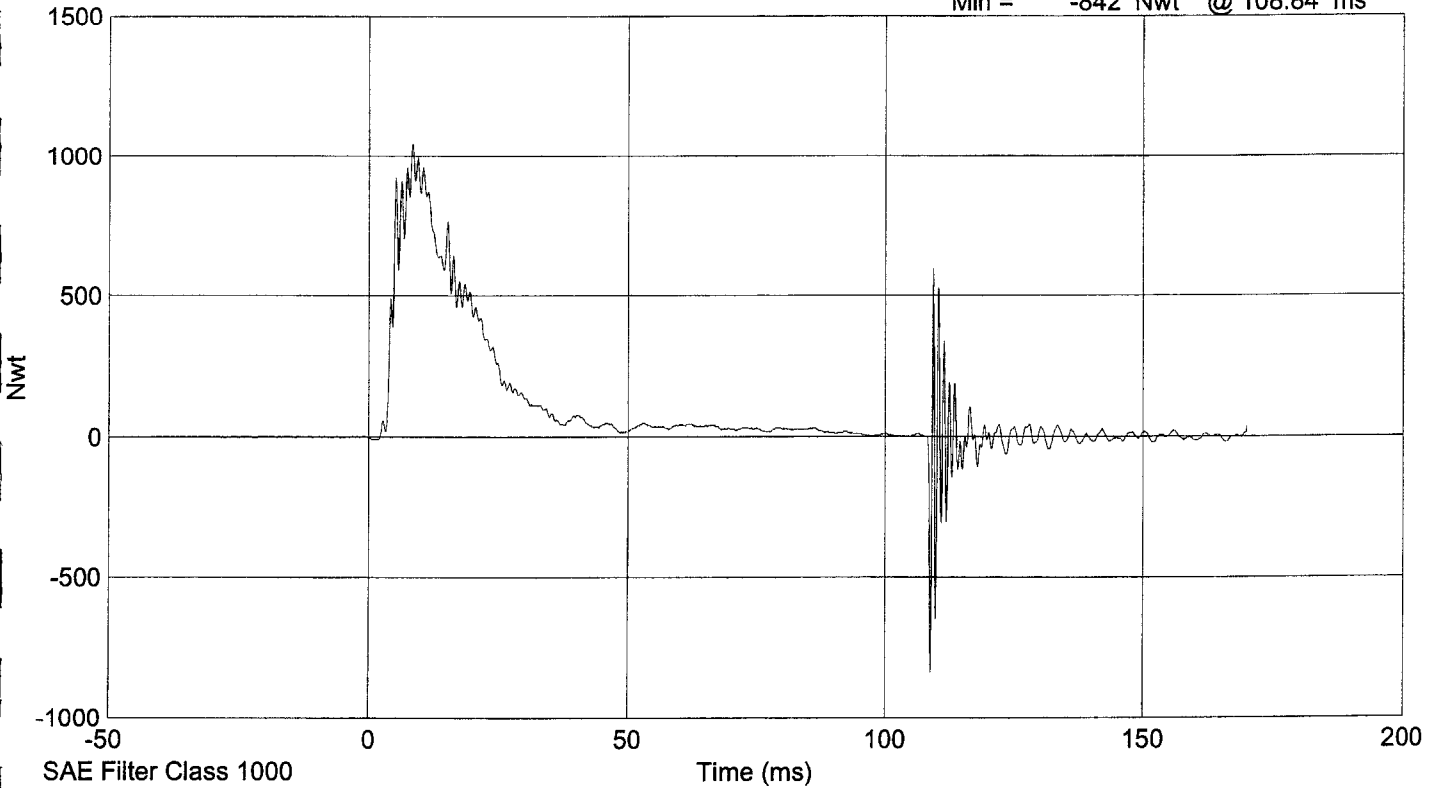
SID 013 Shock Absorber Impact Test @ 3.048 m/s

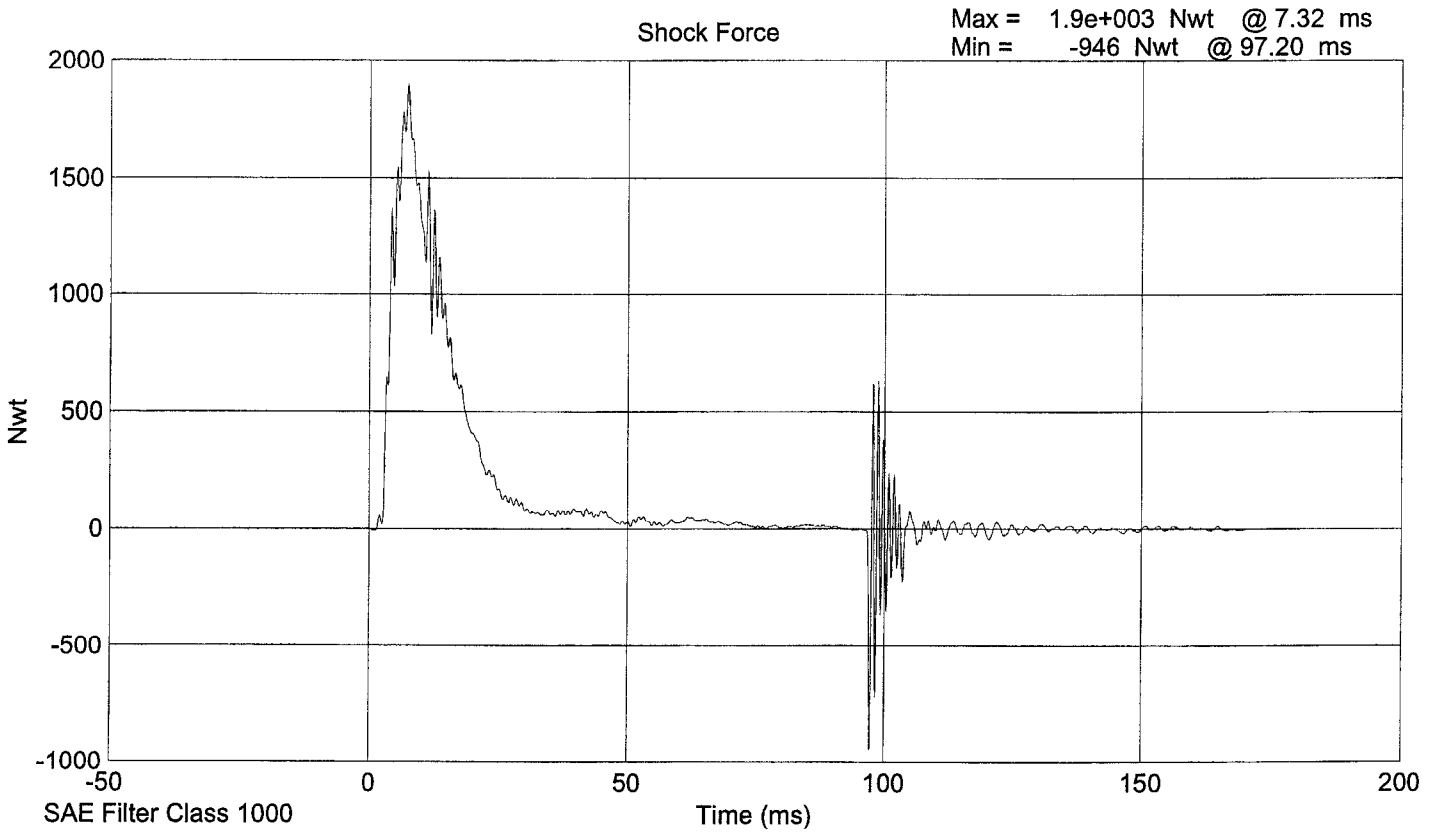
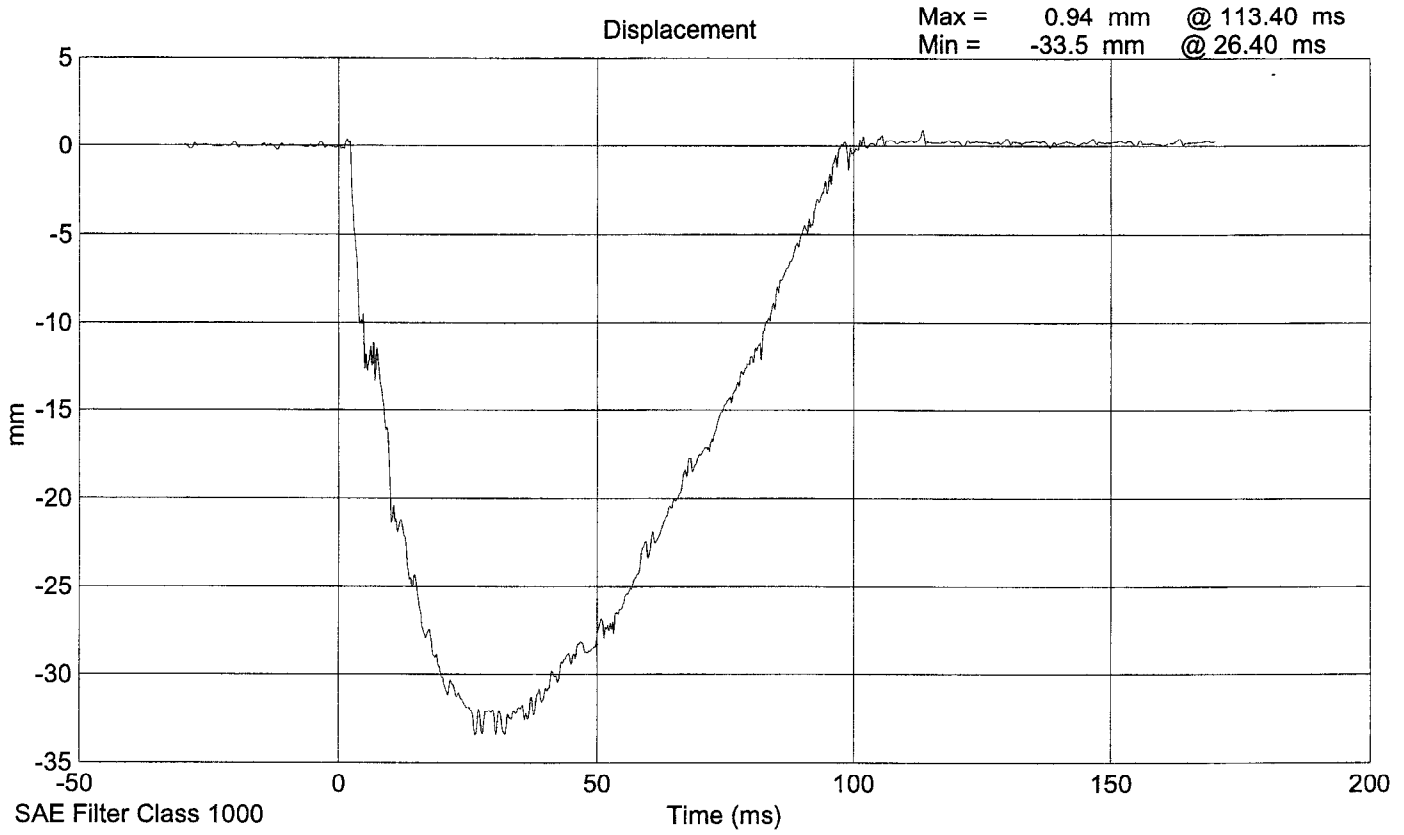
Max = 0.434 mm @ 170.04 ms
Min = -30.3 mm @ 39.36 ms



Max = 1.05e+003 Nwt @ 8.28 ms
Min = -842 Nwt @ 108.84 ms

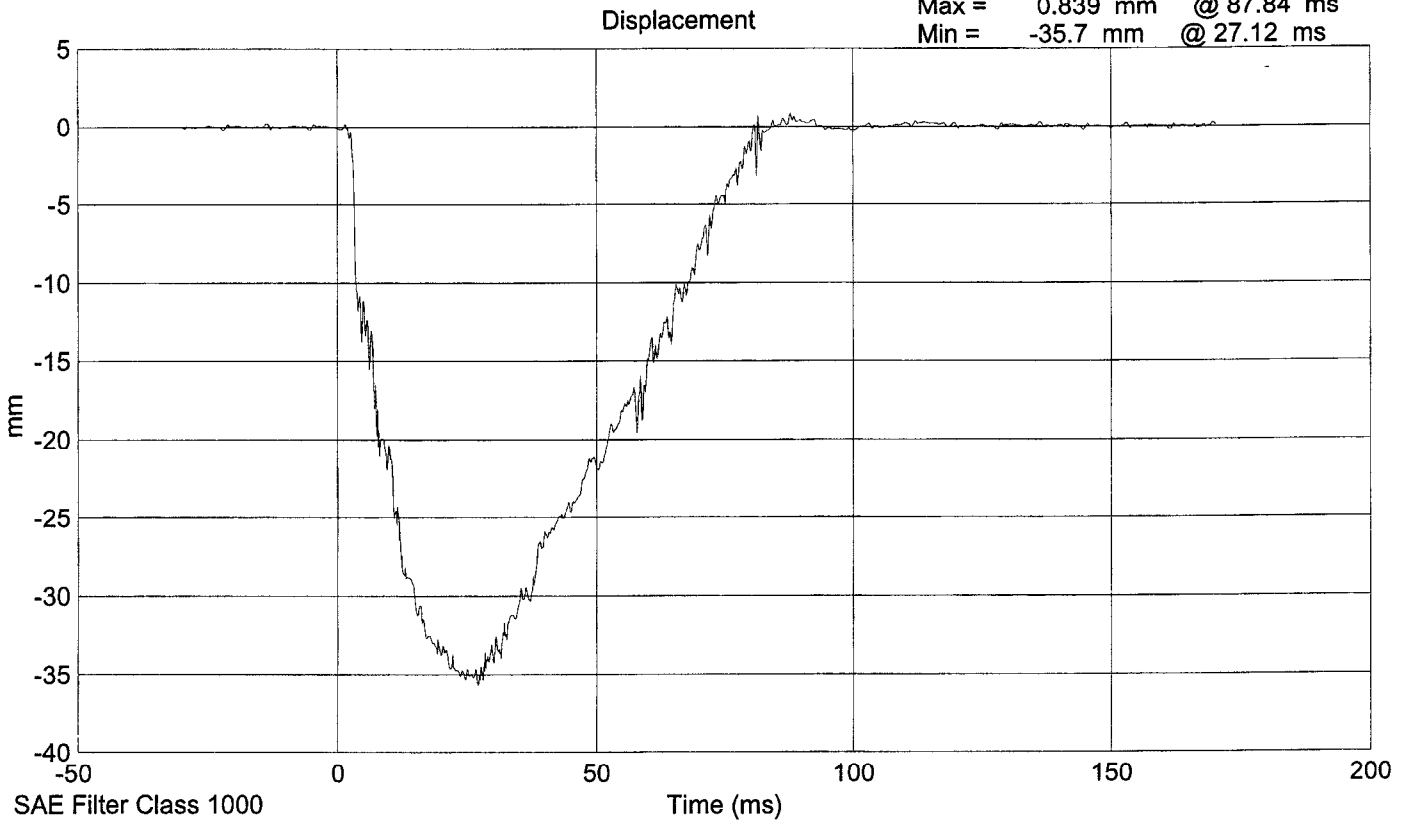
Shock Force



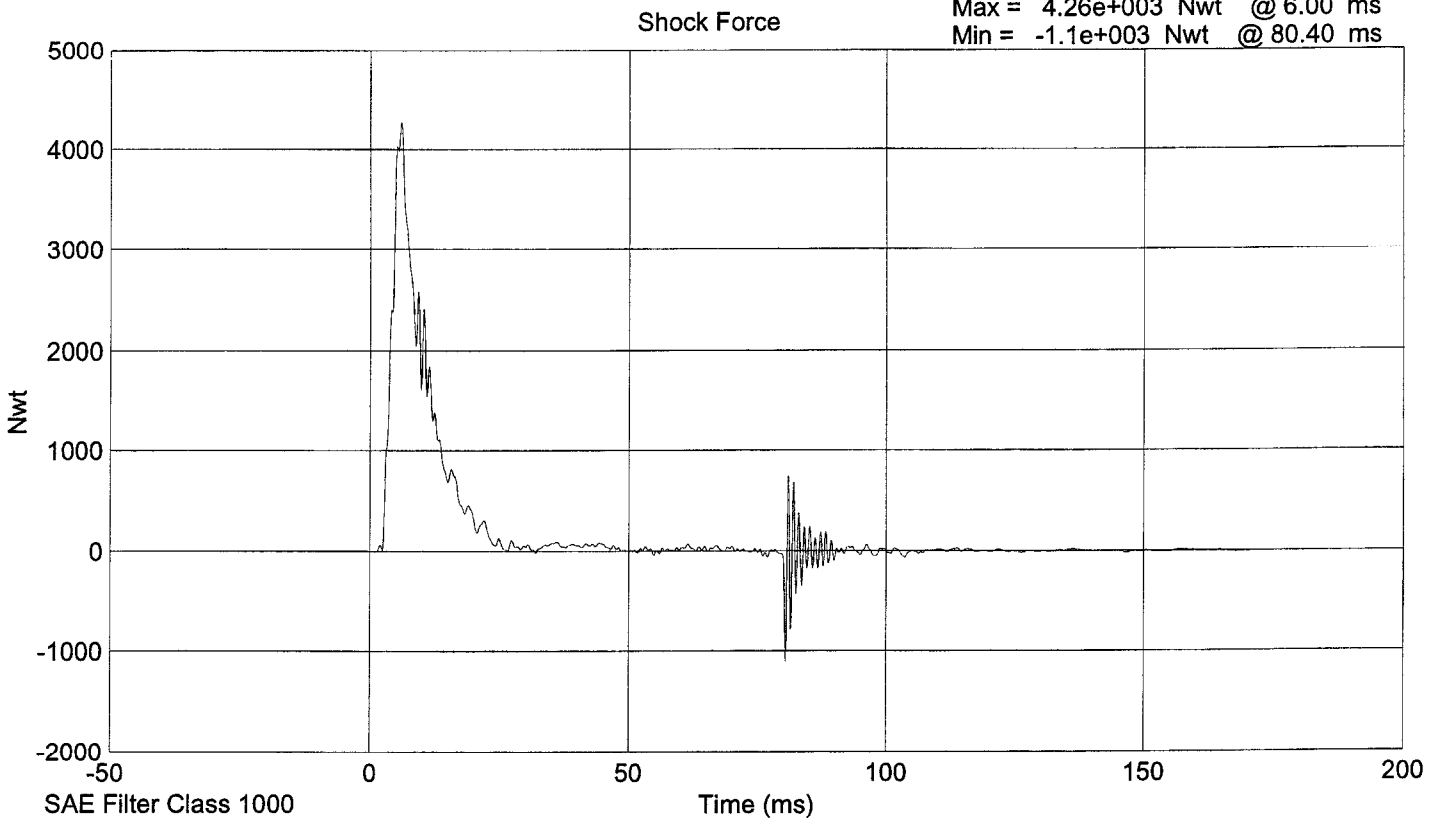


SID 013 Shock Absorber Impact Test @ 6.096 m/s

Max = 0.839 mm @ 87.84 ms
Min = -35.7 mm @ 27.12 ms



Max = 4.26e+003 Nwt @ 6.00 ms
Min = -1.1e+003 Nwt @ 80.40 ms



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

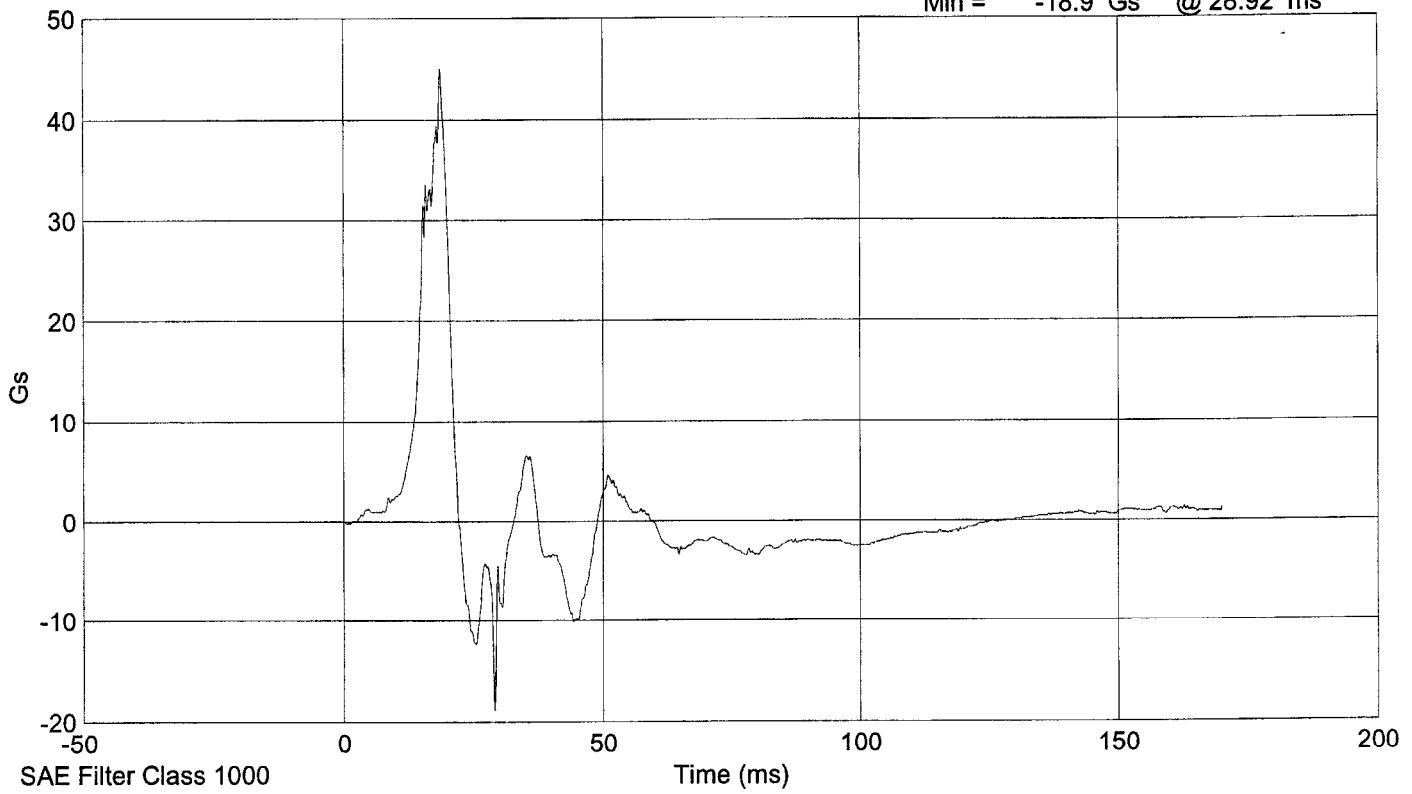
SID Serial No.: 013 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	40.2
LOWER RIB (g's)	37 - 46	38.0
LOWER SPINE (g's)	15 - 22	21.3

REMARKS: None

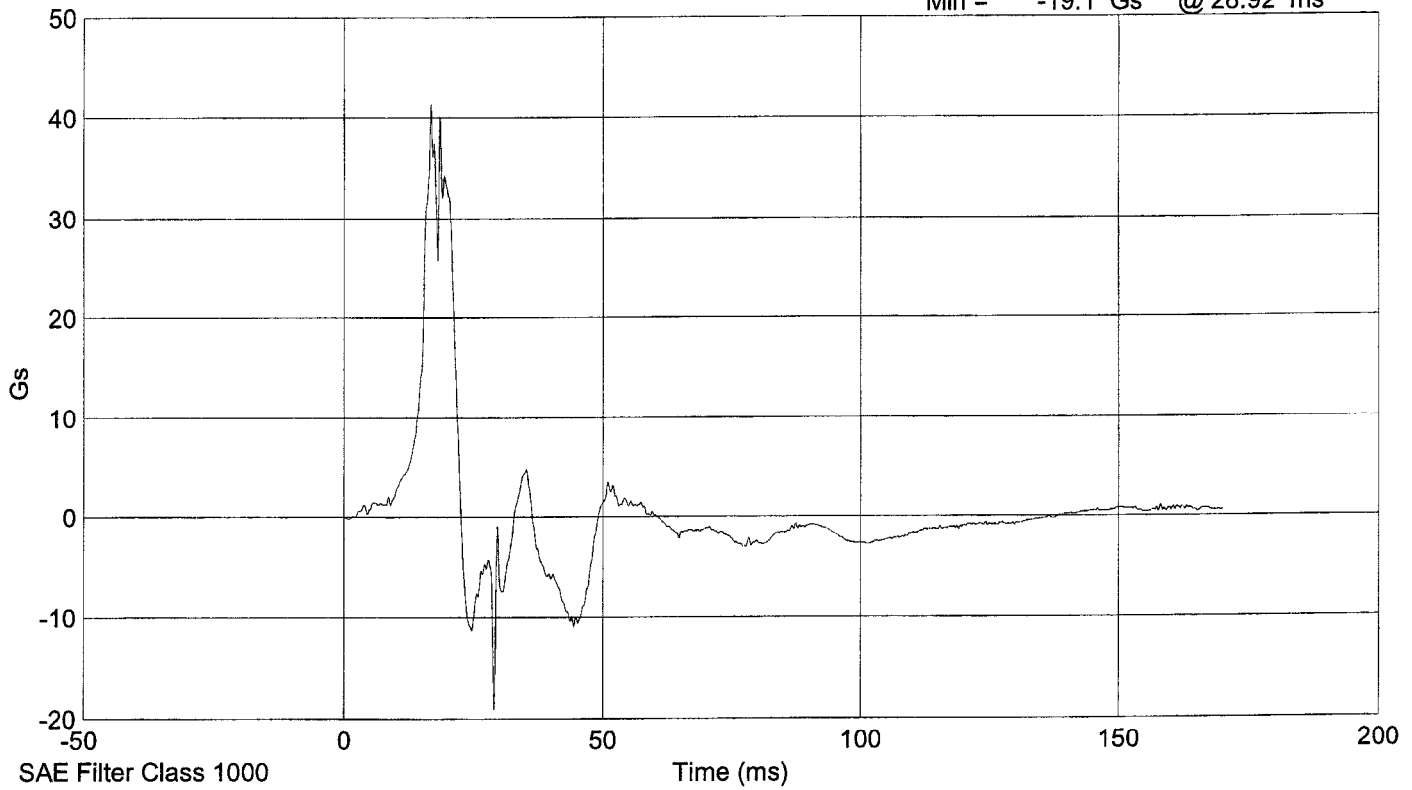
UPPER RIB Y

Max = 45.1 Gs @ 18.48 ms
Min = -18.9 Gs @ 28.92 ms



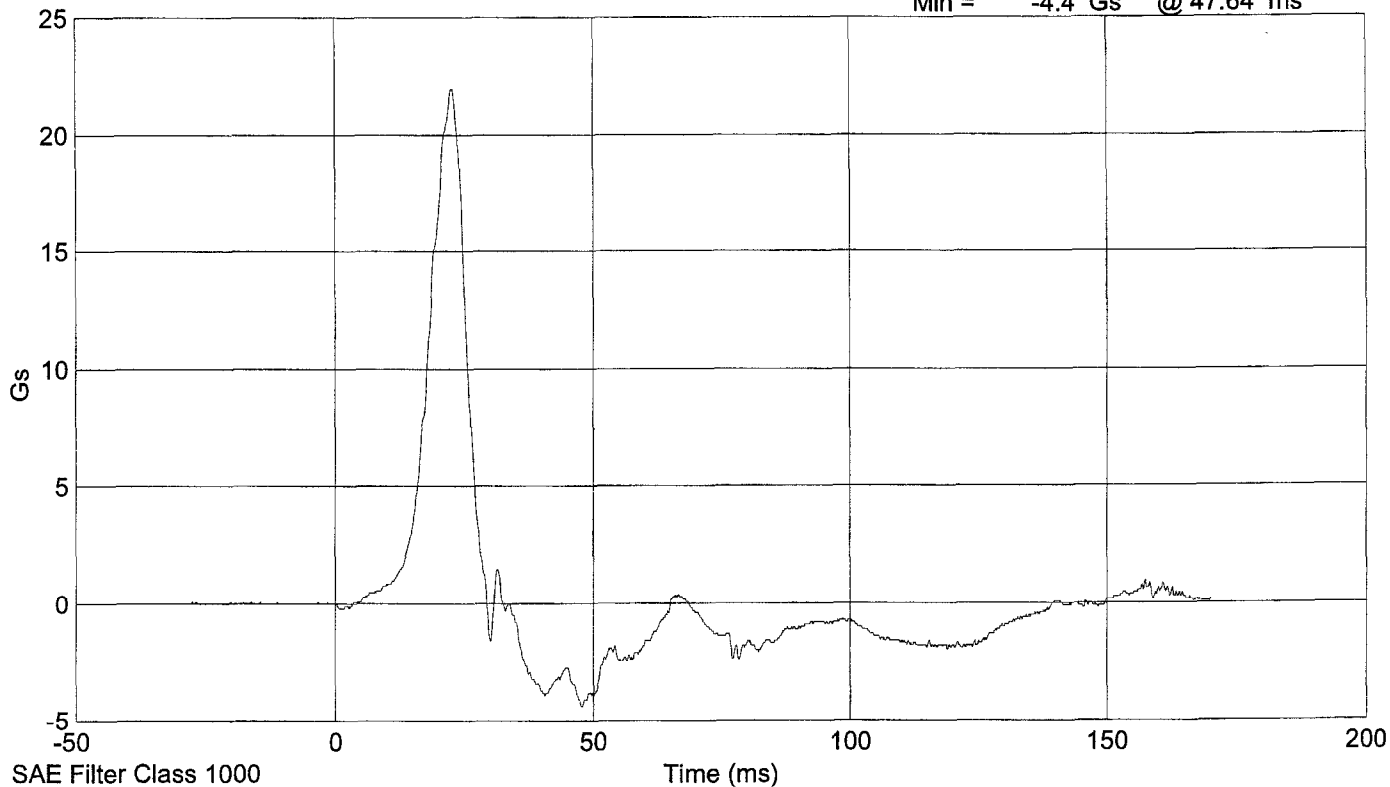
LOWER RIB Y

Max = 41.3 Gs @ 16.68 ms
Min = -19.1 Gs @ 28.92 ms



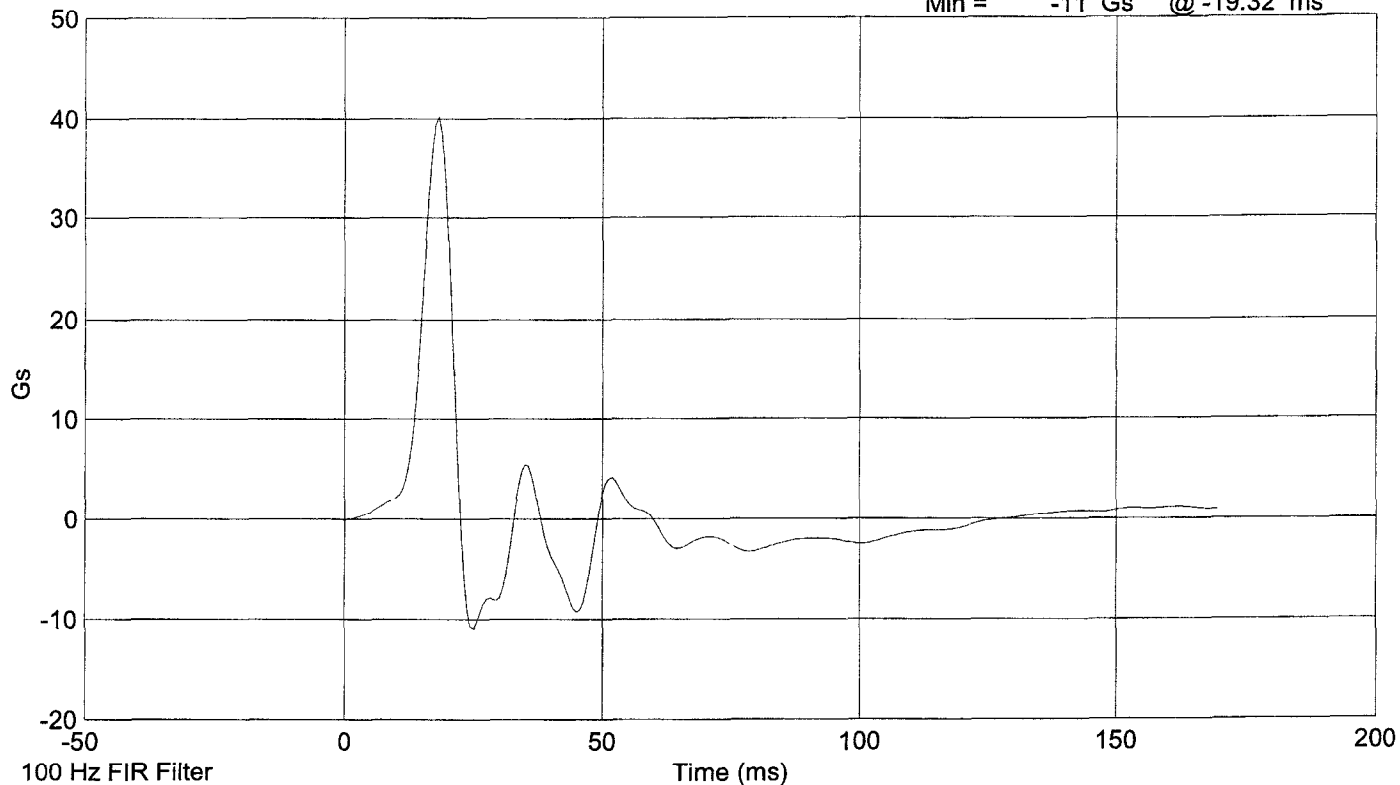
LOWER SPINE Y

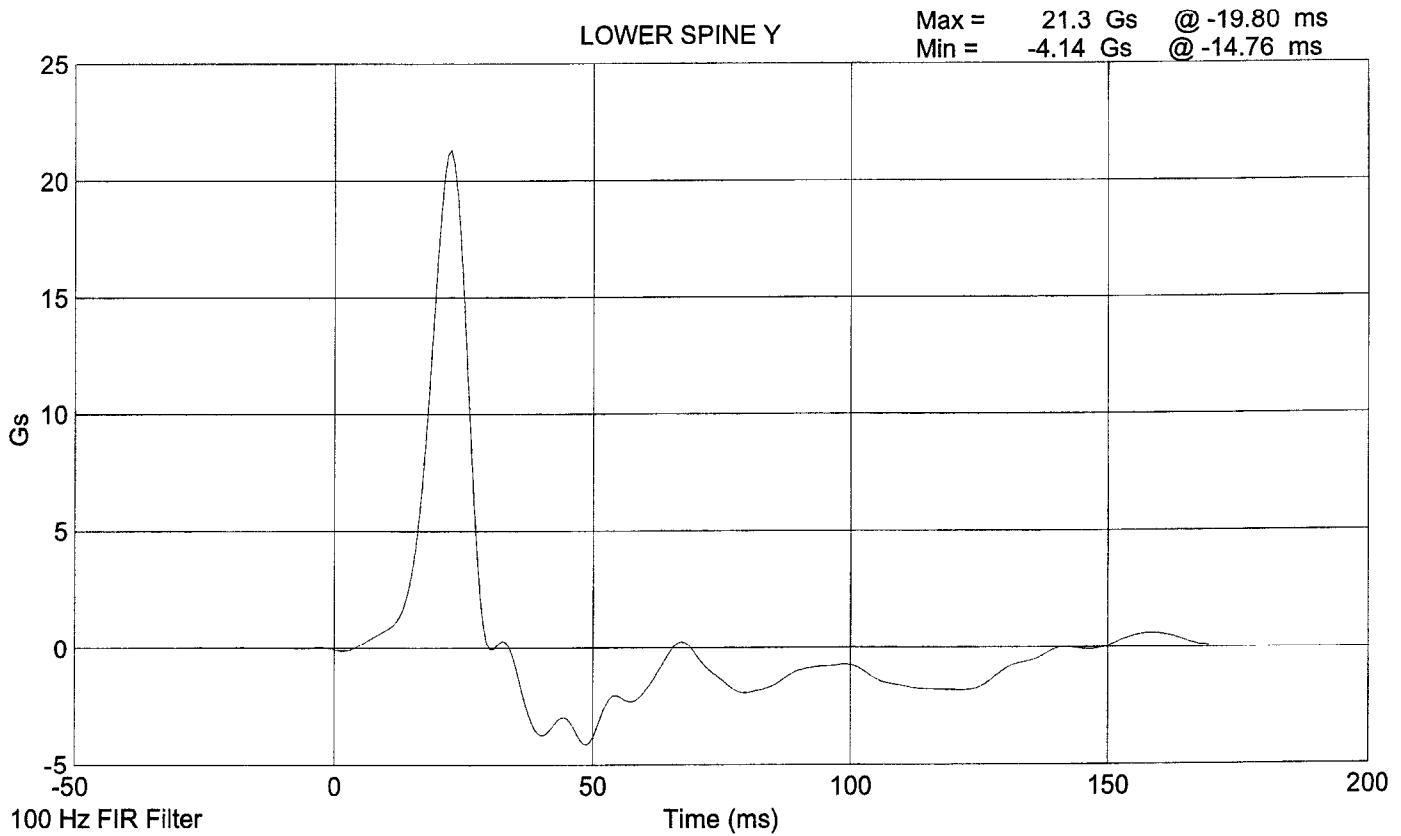
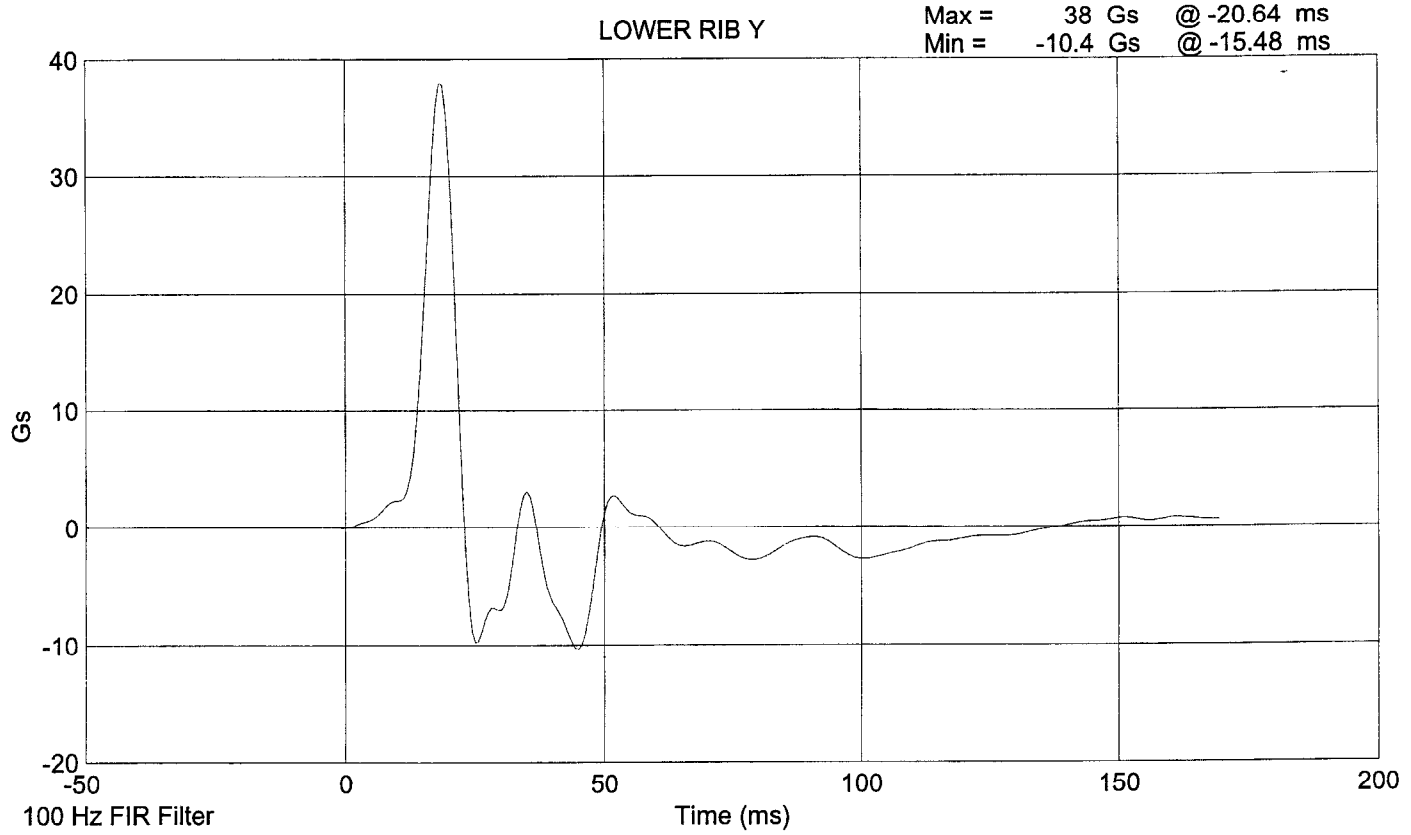
Max = 22 Gs @ 22.44 ms
Min = -4.4 Gs @ 47.64 ms



UPPER RIB Y

Max = 40.2 Gs @ -20.64 ms
Min = -11 Gs @ -19.32 ms





LATERAL PELVIS IMPACT TEST
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

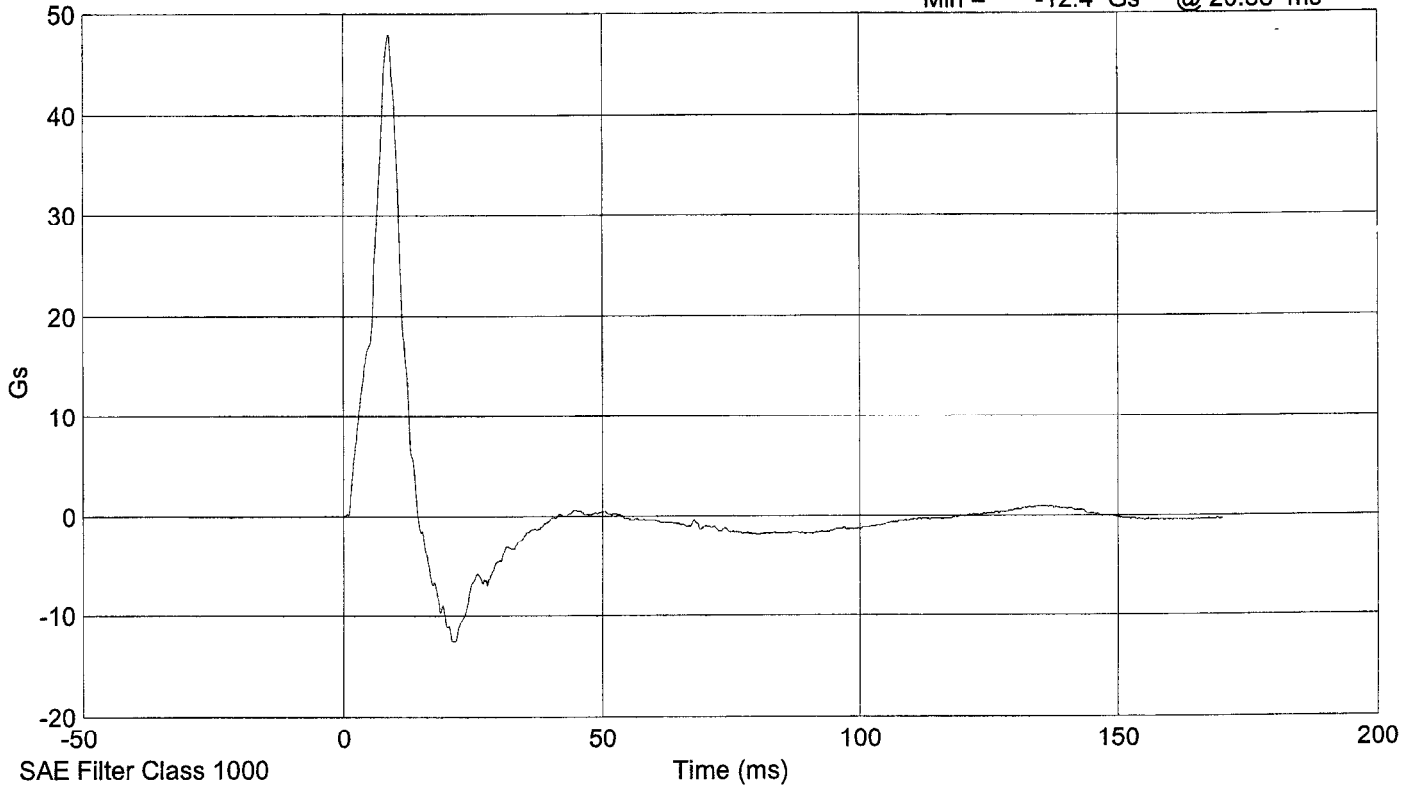
SID Serial No.: 013 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.33
PELVIS ACCELERATION (g's)	40 - 60	43.2

REMARKS: None

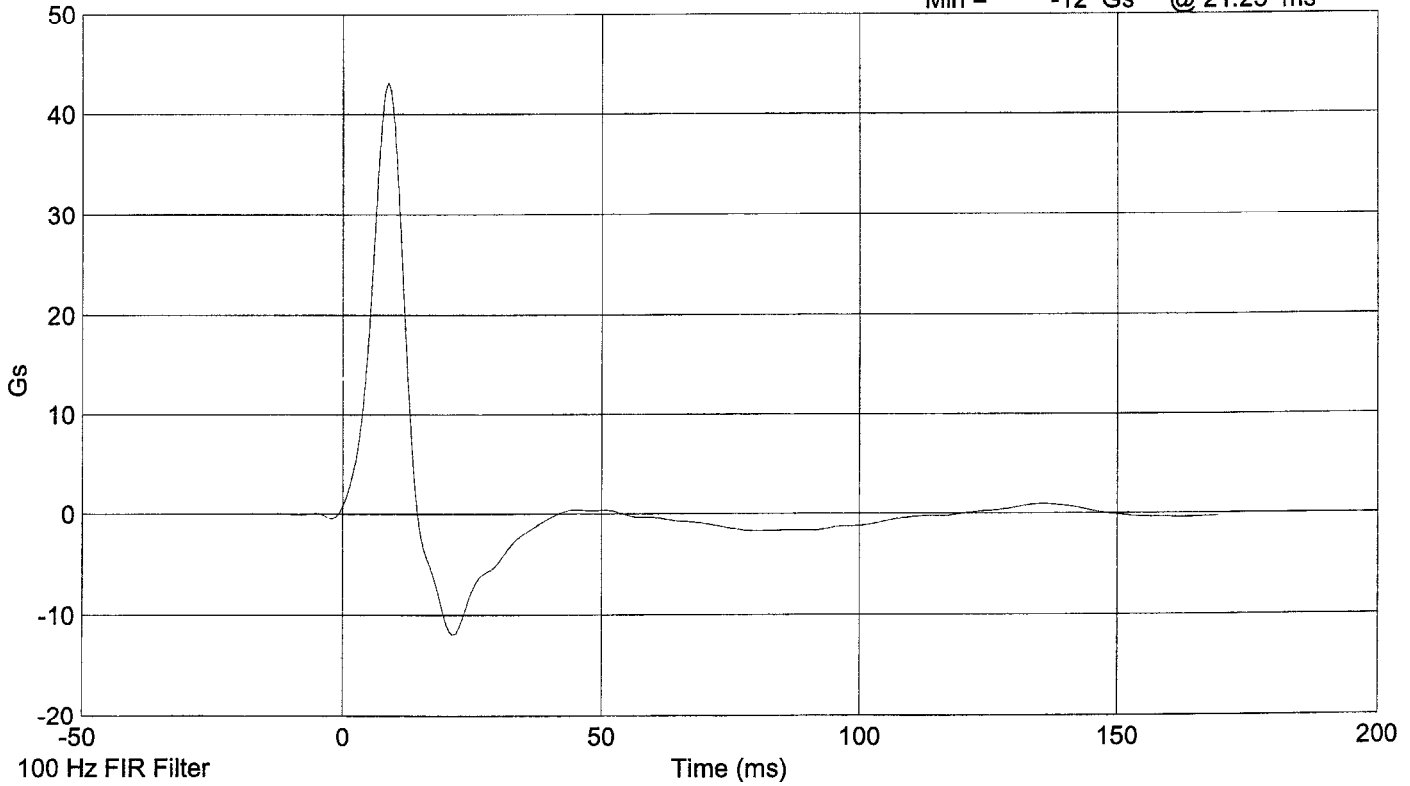
PELVIC Y

Max = 48 Gs @ 8.76 ms
Min = -12.4 Gs @ 20.88 ms



PELVIC Y

Max = 43.2 Gs @ 8.75 ms
Min = -12 Gs @ 21.25 ms



HEAD DROP TEST

PRE-TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013

Sequential Test Number: 1

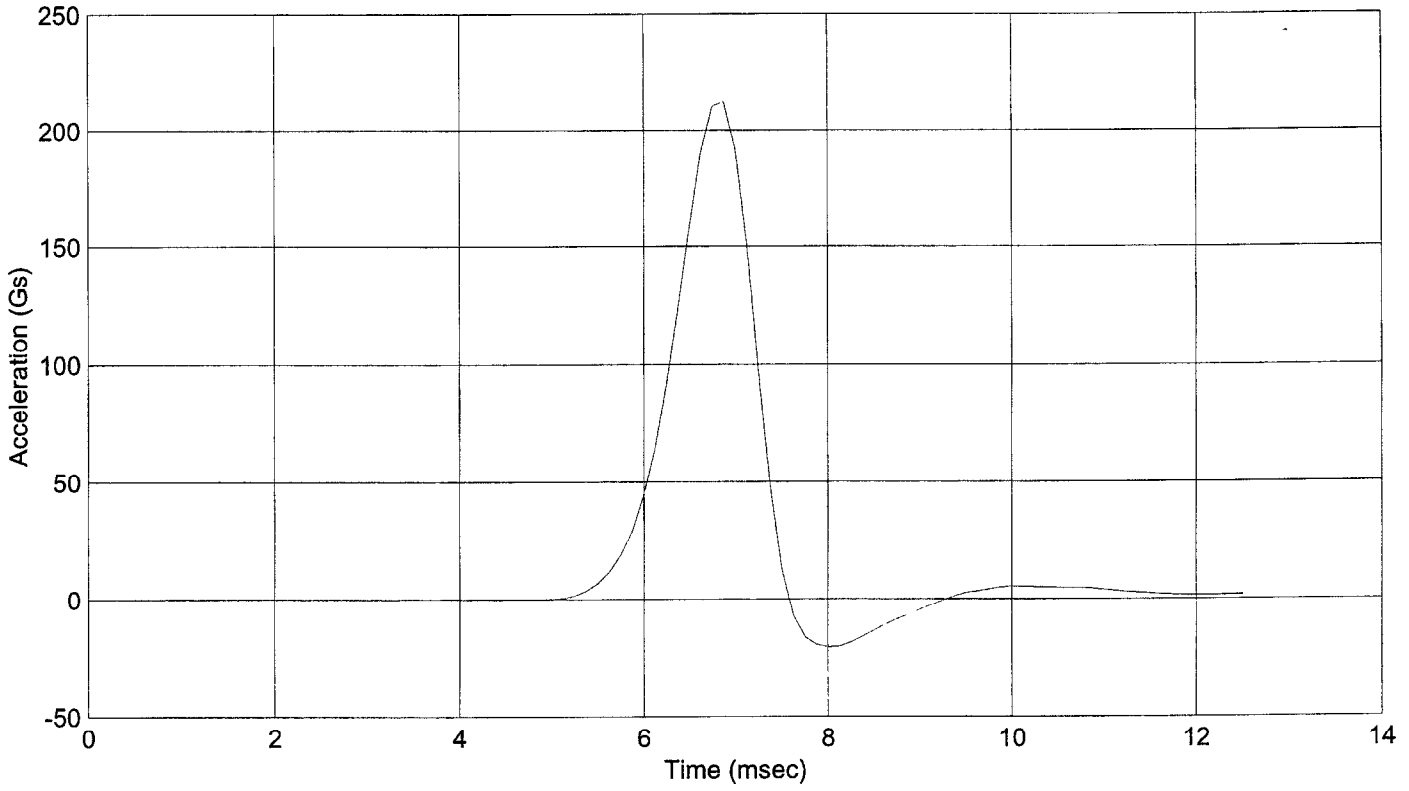
Date: 10/21/00

Laboratory Technician: B. Swiecicki

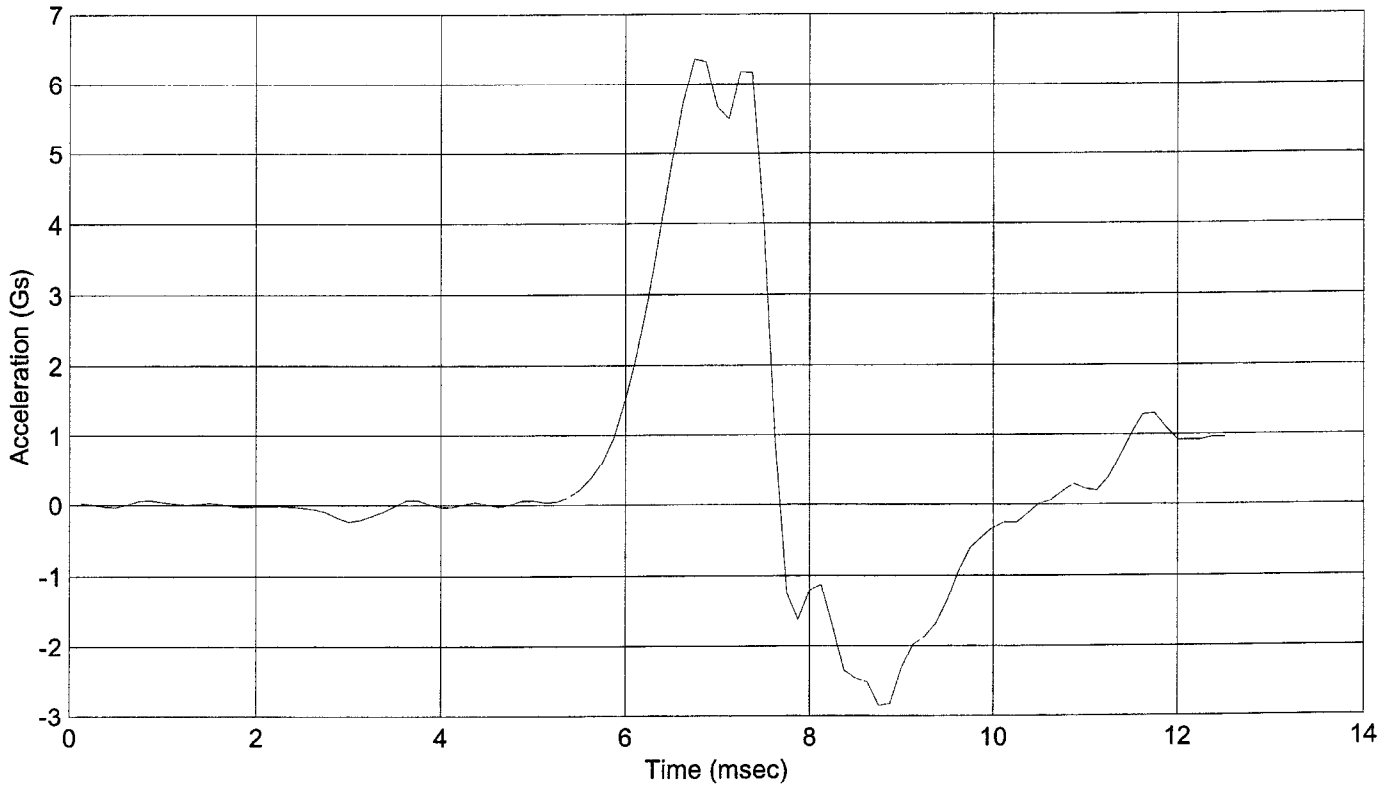
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	259.8
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	6.4
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.00

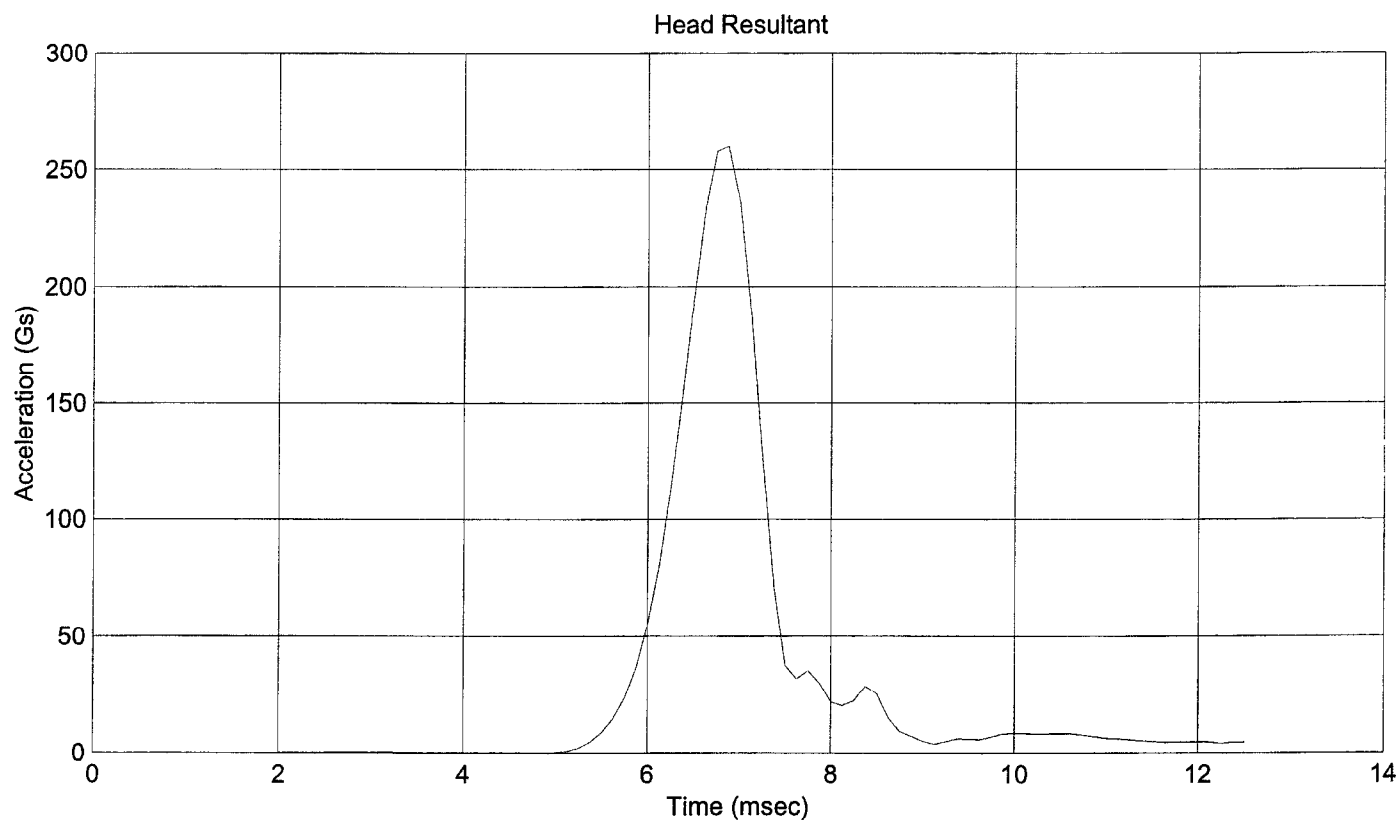
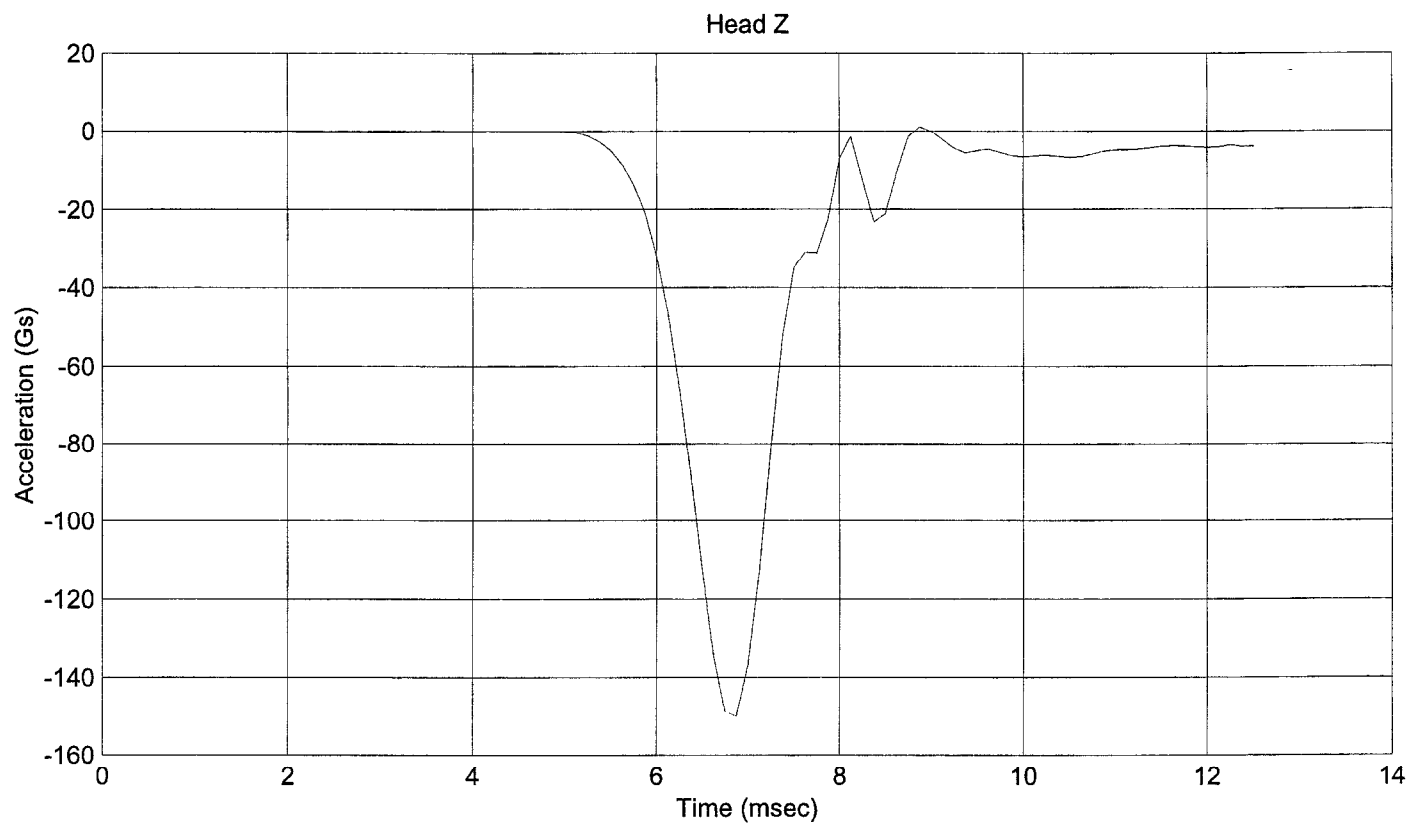
REMARKS: None

Head X



Head Y





ABDOMINAL COMPRESSION TEST

PRE-TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013

Sequential Test Number: 1

Date: 10/21/00

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 13 mm (N)	104 - 162	113
FORCE @ 19 mm (N)	163 - 221	177
FORCE @ 25 mm (N)	222 - 280	254
FORCE @ 33 mm (N)	325 - 391	373

REMARKS: None

Dummy S/N 013

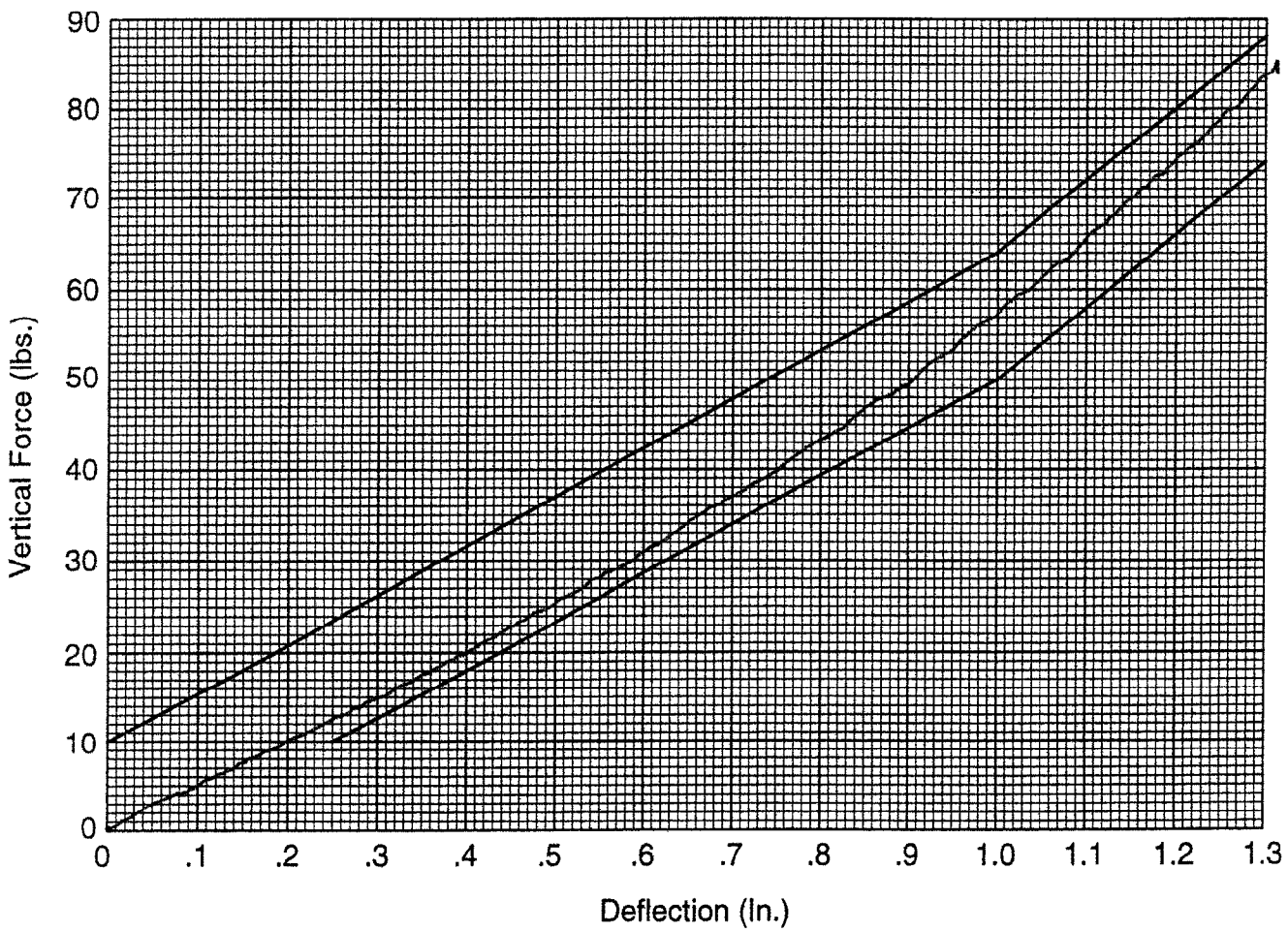
W/A _____

Date 10-21-2000

Performed By BS

Temp. 70°

Humidity 31%



**Hybrid II
Abdomen Static Press**

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

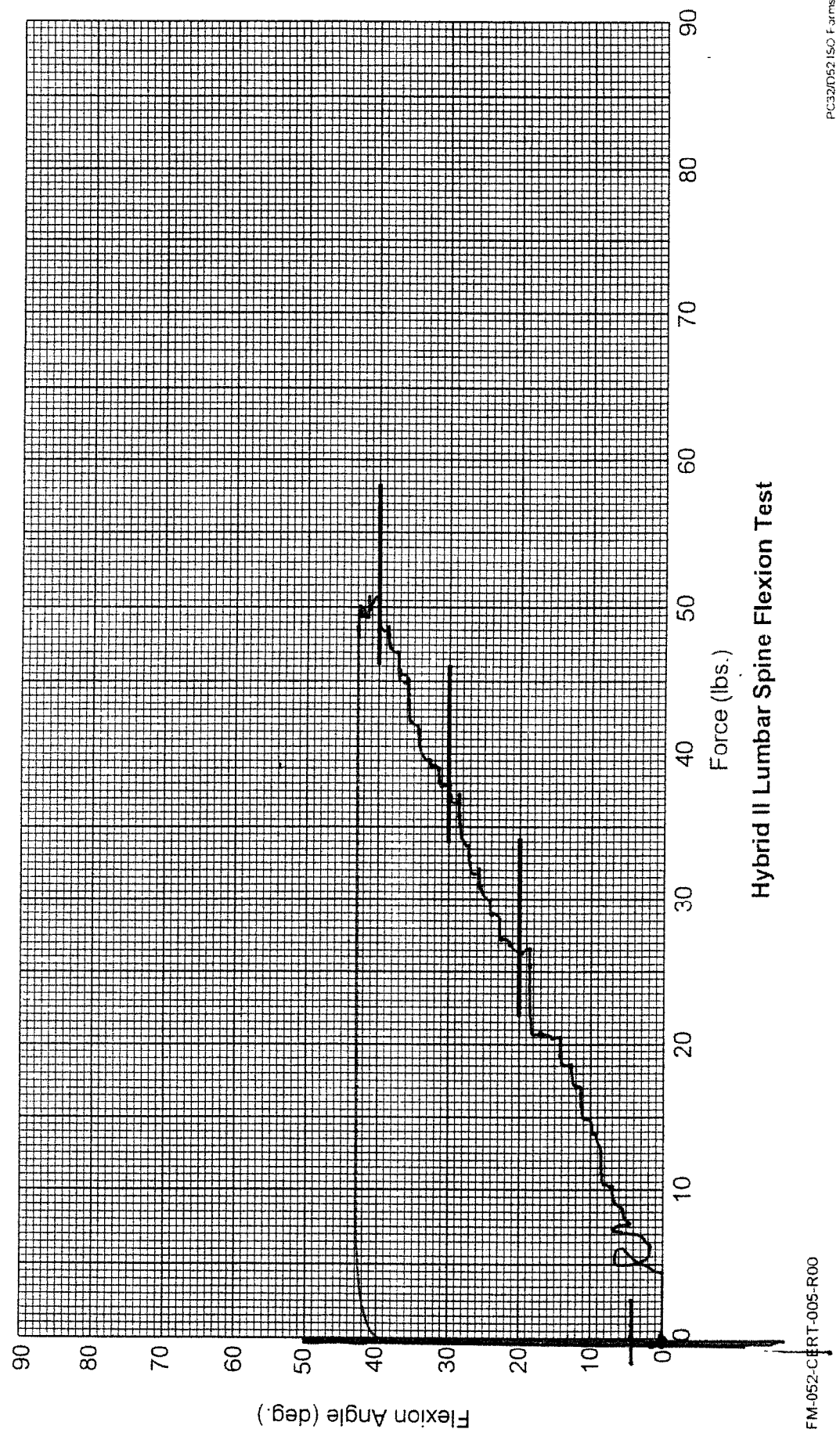
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.0
FORCE @ 30° (N)	151.2 - 204.6	166.8
FORCE @ 40° (N)	204.6 - 258	221.1
RETURN ANGLE	12° max.	4.2

REMARKS: None

Dummy S/N 013
 WIA _____
 Date 10-21-2000
 Performed By [Signature]
 Temp. 71°
 Humidity 31%



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PC32D52150 Farms

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
 Date: 10/21/00 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	519
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
Date: 6/19/00 Laboratory Technician: B. Swiecicki

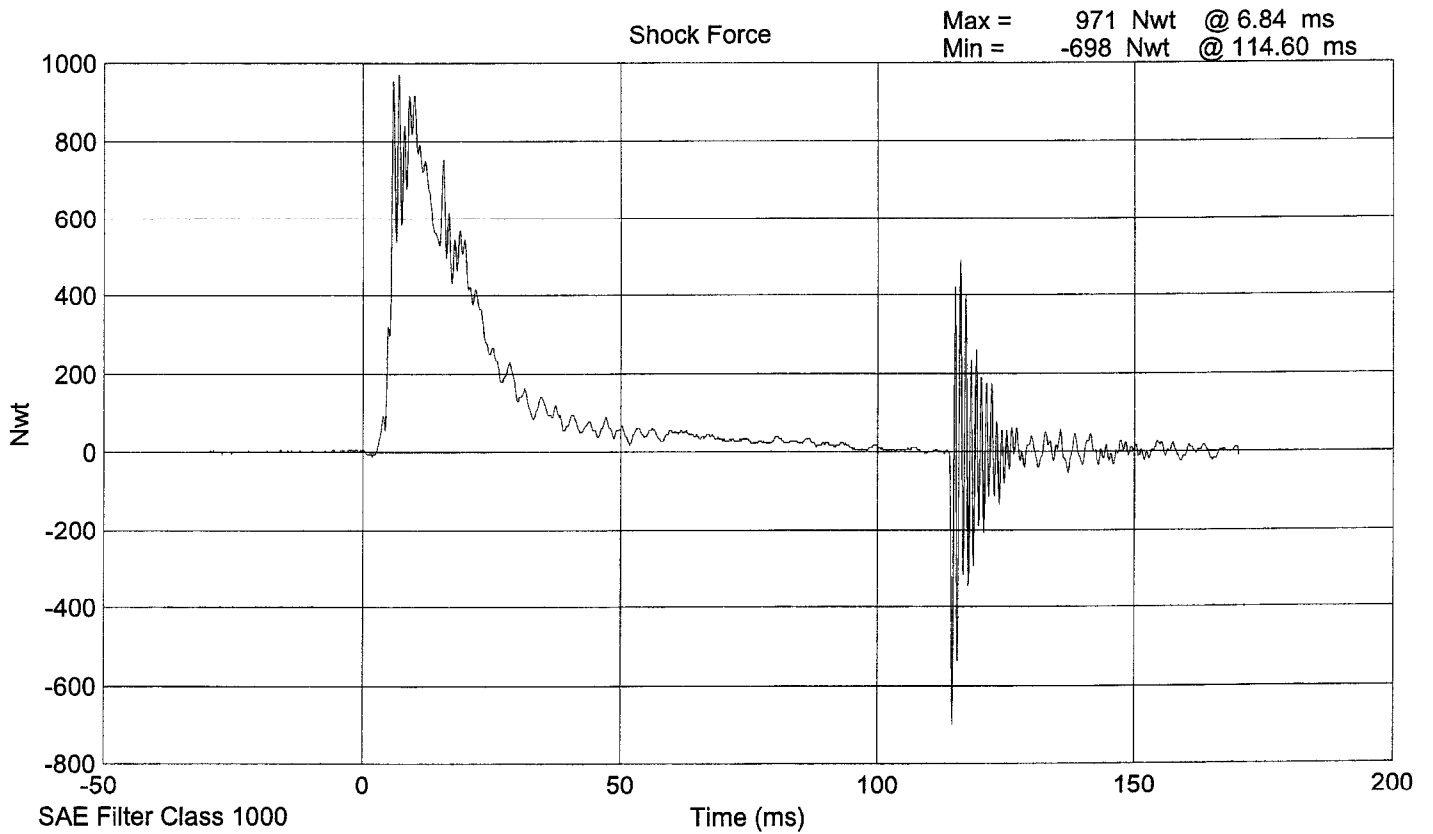
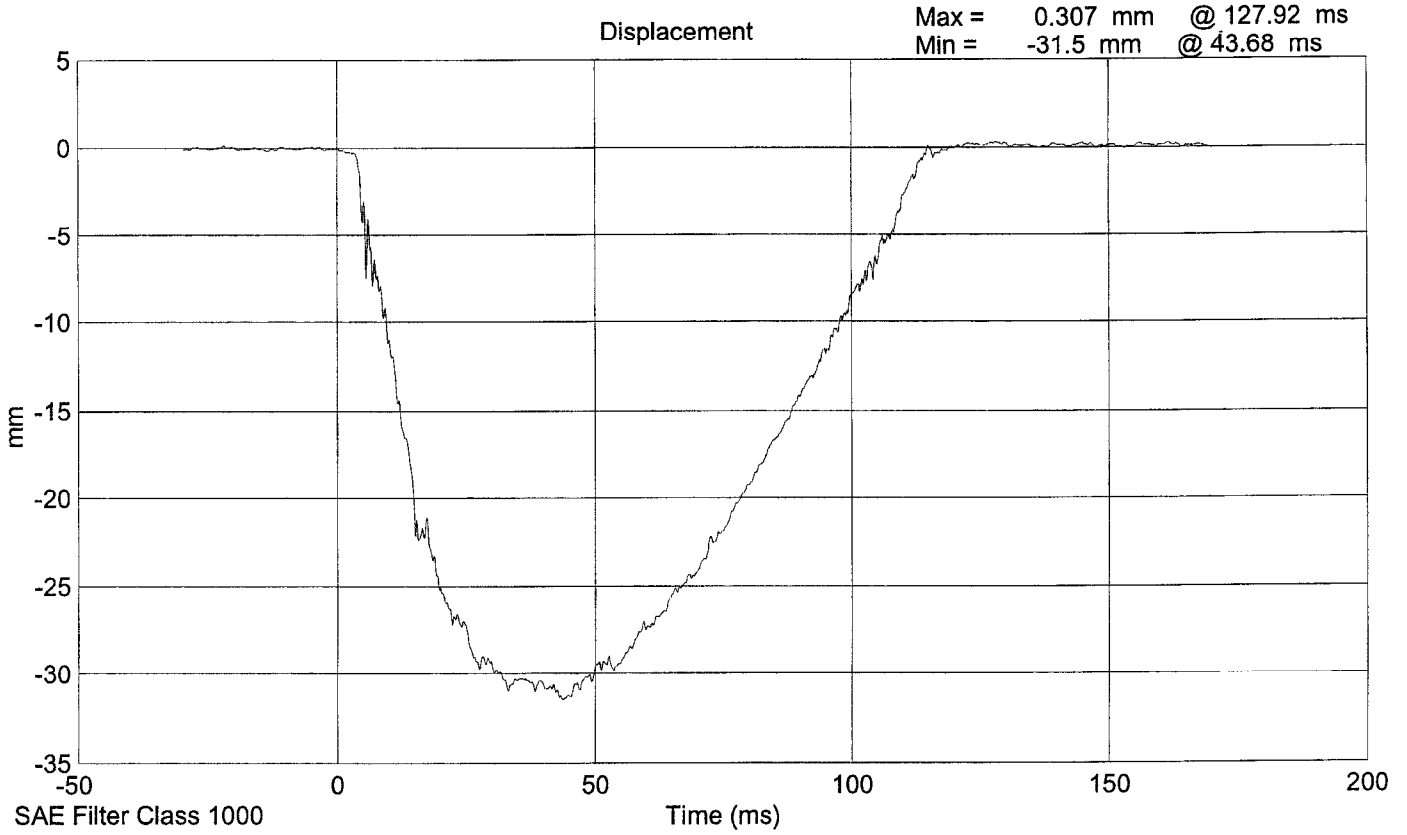
DAMPER IDENTIFICATION: 027

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)		10 - 70	31
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	970.6
	DISPLACEMENT (mm)	30 - 35	31.5
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1825.9
	DISPLACEMENT (mm)	32 - 37	34.8
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3875.5
	DISPLACEMENT (mm)	33 - 40	35.4

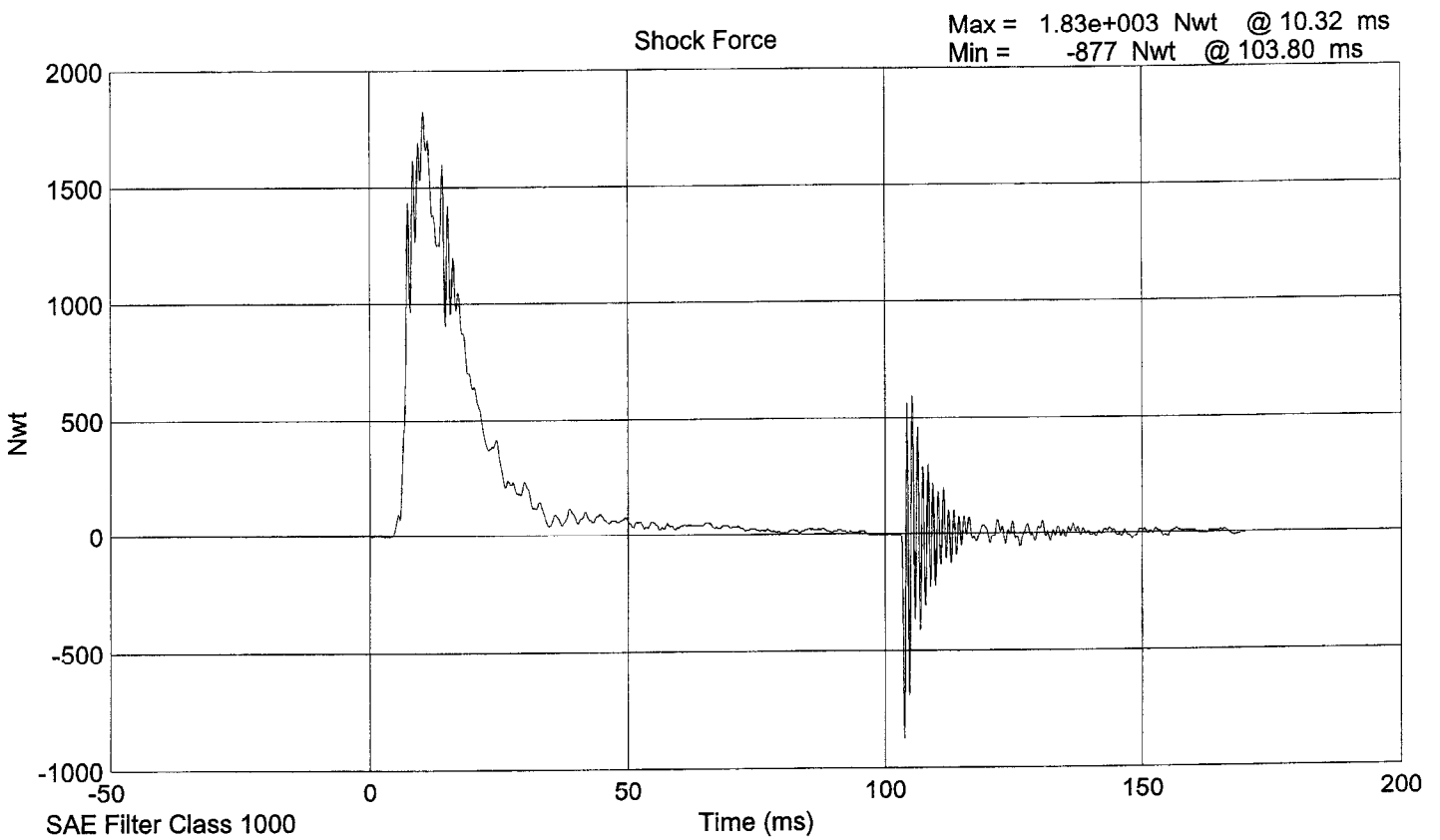
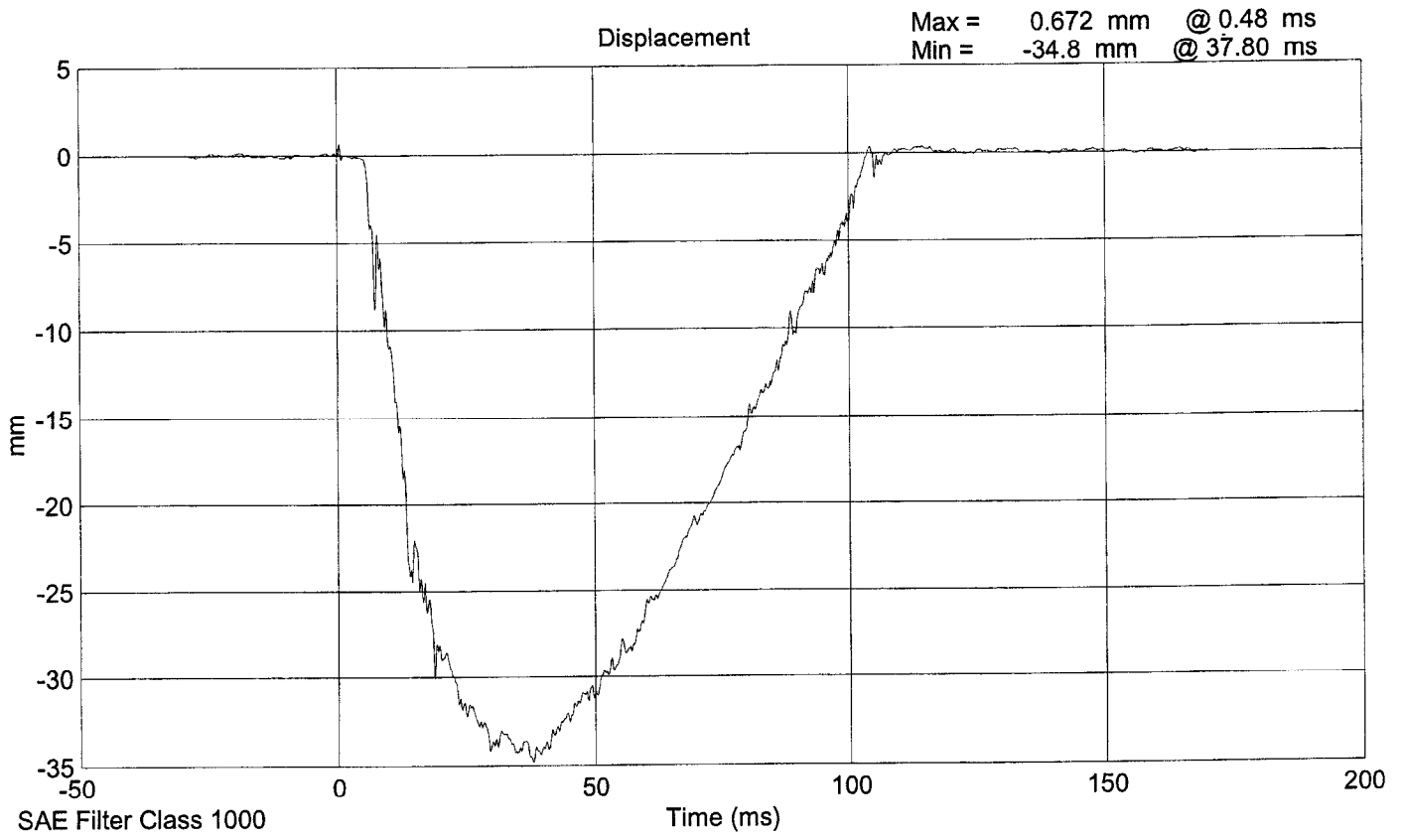
DAMPER SETTING: 5

REMARKS: None

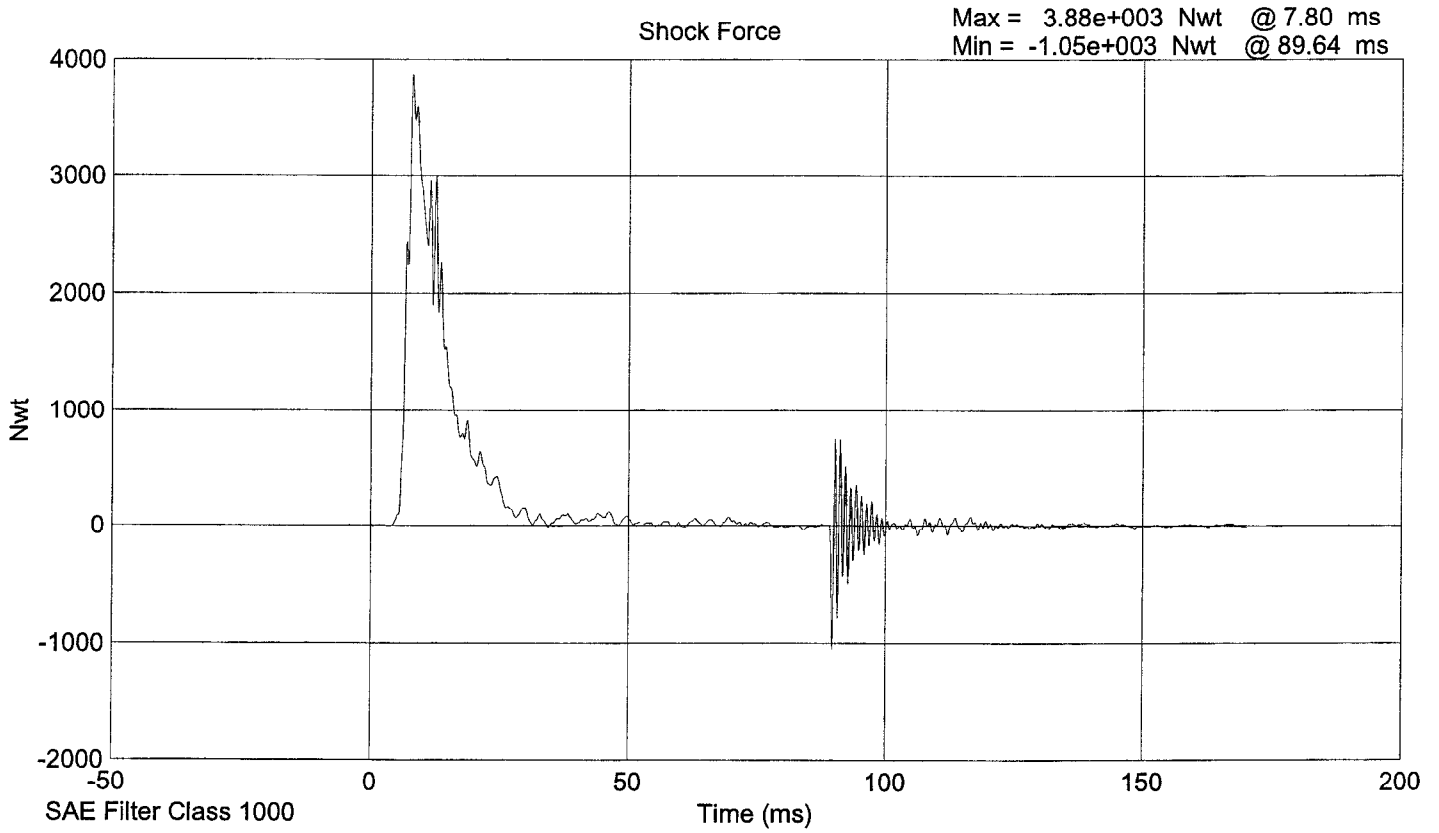
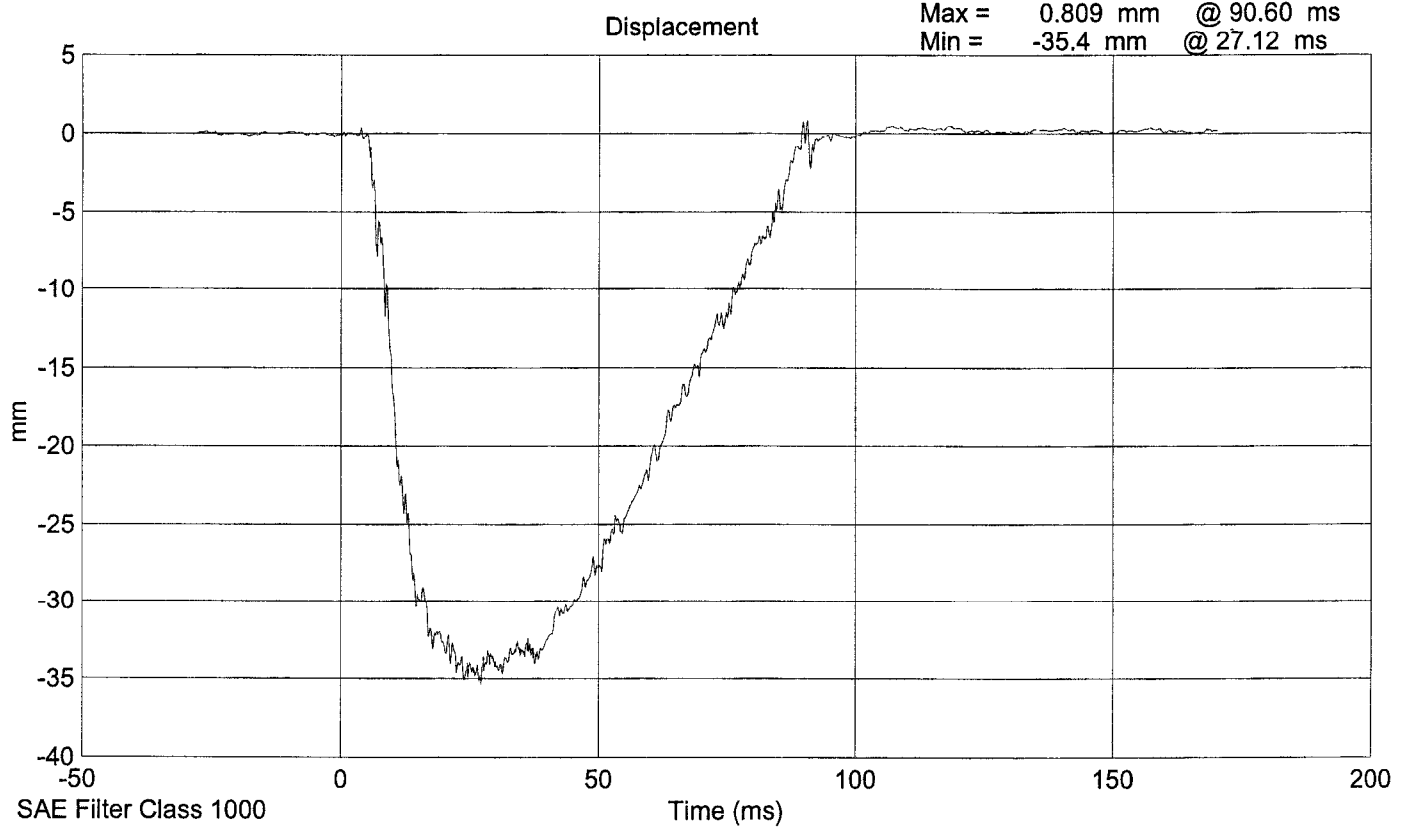
SID 027 Shock Absorber Impact Test @ 3.048 m/s



SID 027 Shock Absorber Impact Test @ 4.572 m/s



SID 027 Shock Absorber Impact Test @ 6.096 m/s



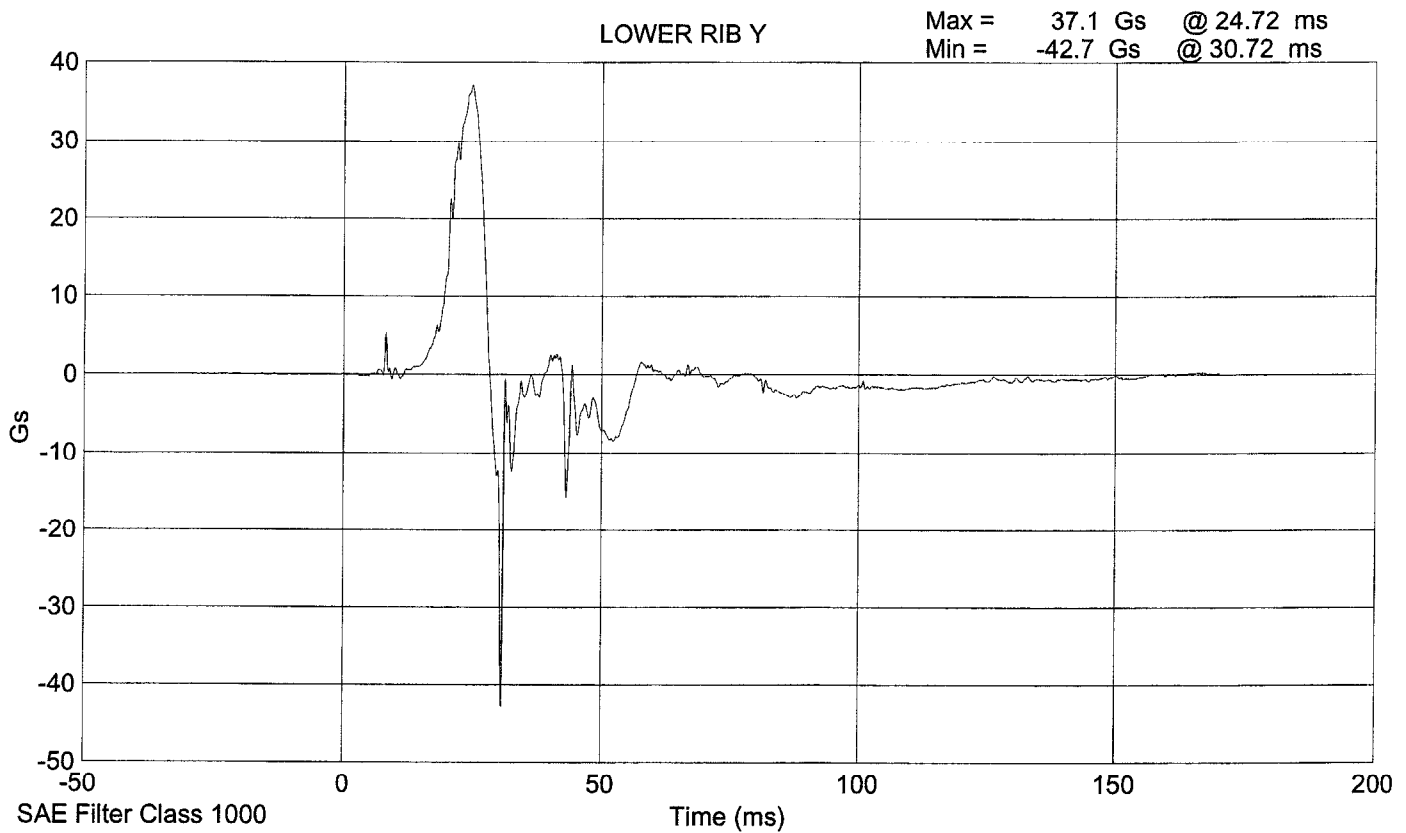
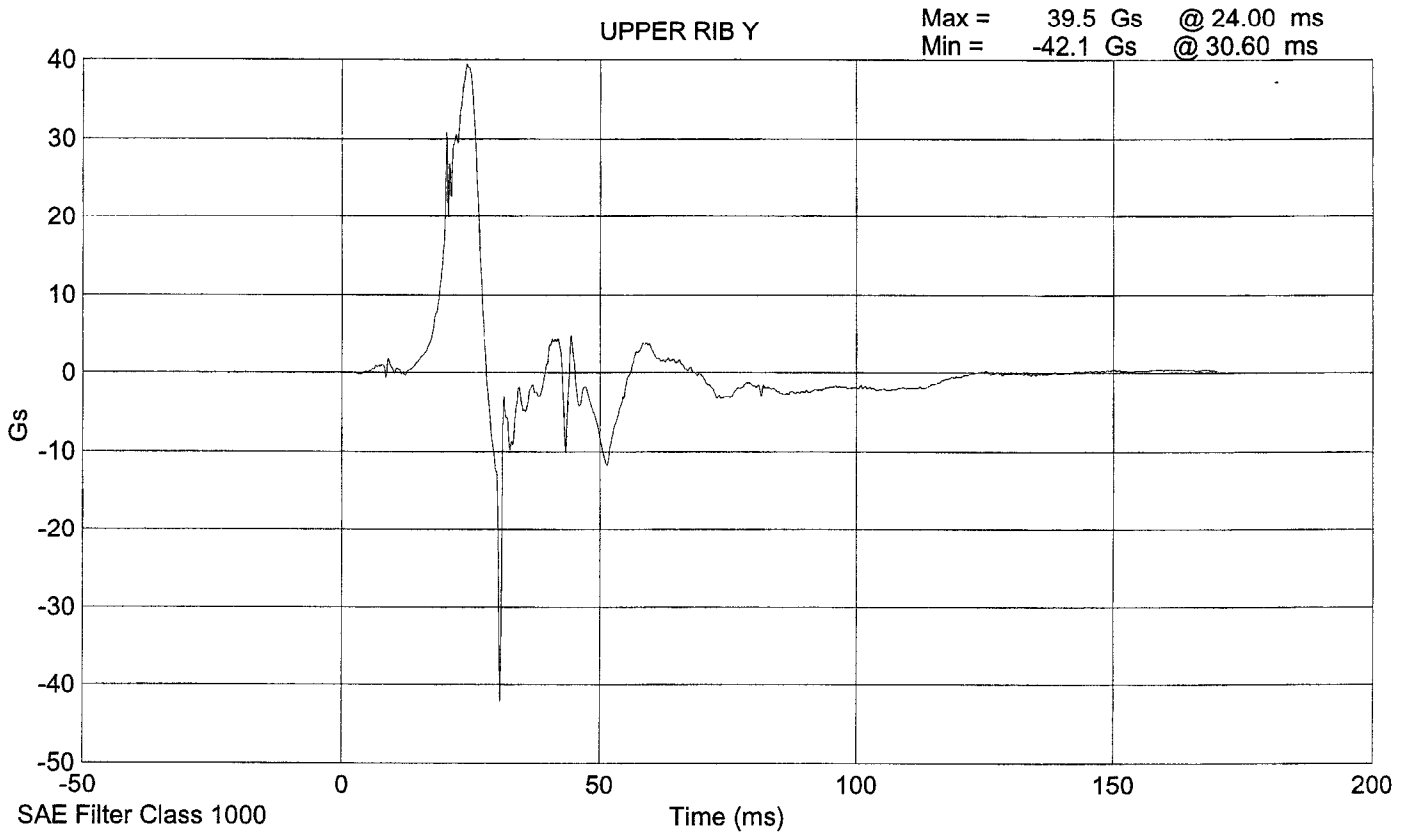
**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

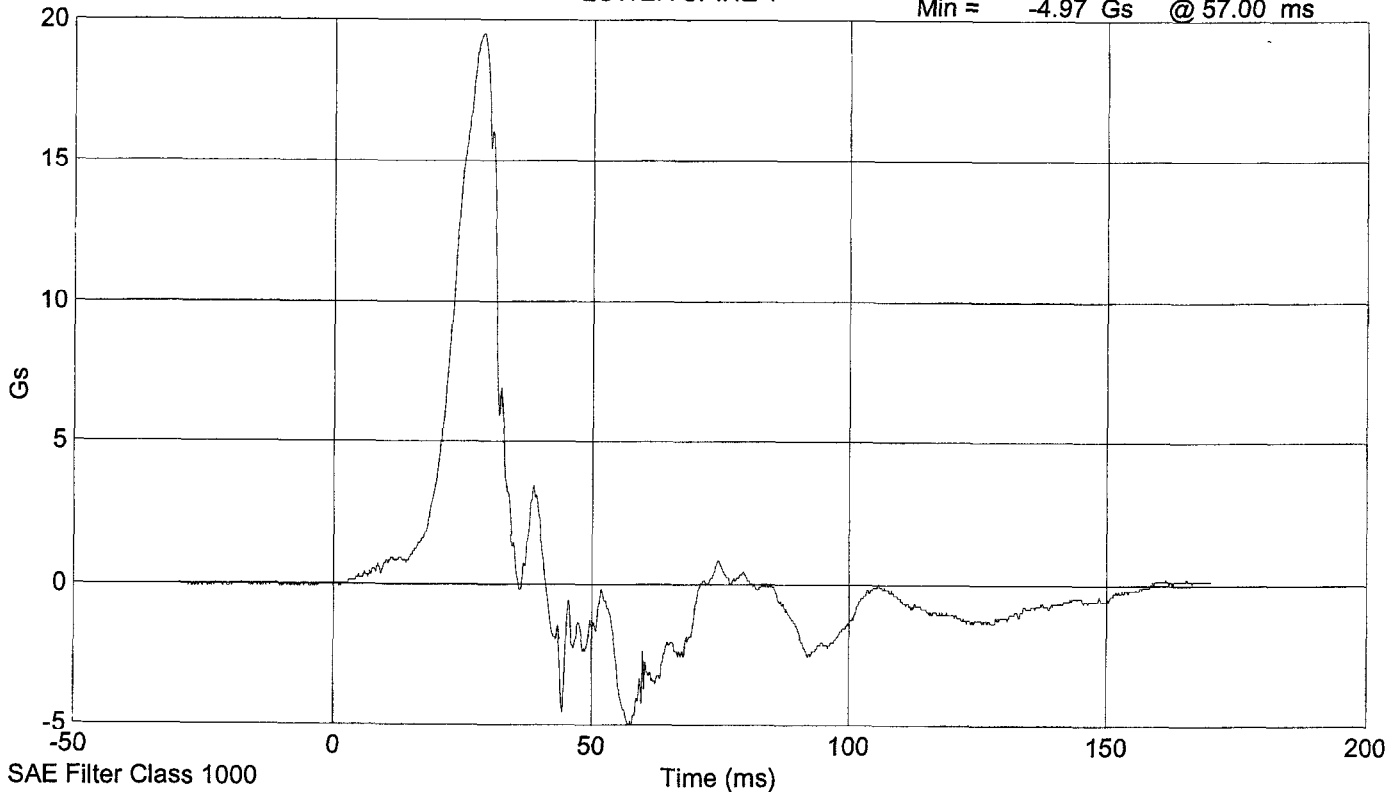
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.29
UPPER RIB (g's)	37 - 46	38.0
LOWER RIB (g's)	37 - 46	37.4
LOWER SPINE (g's)	15 - 22	19.3

REMARKS: None



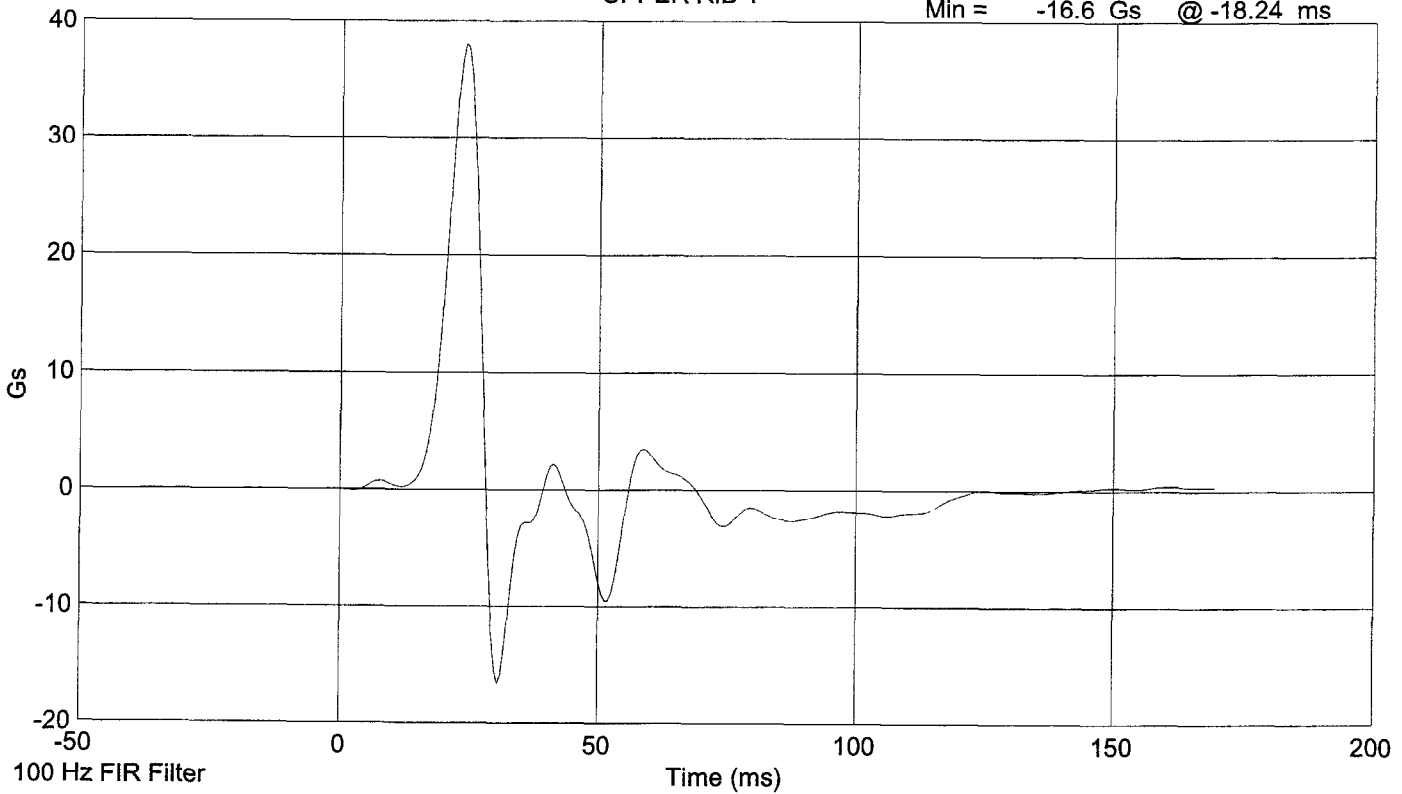
LOWER SPINE Y

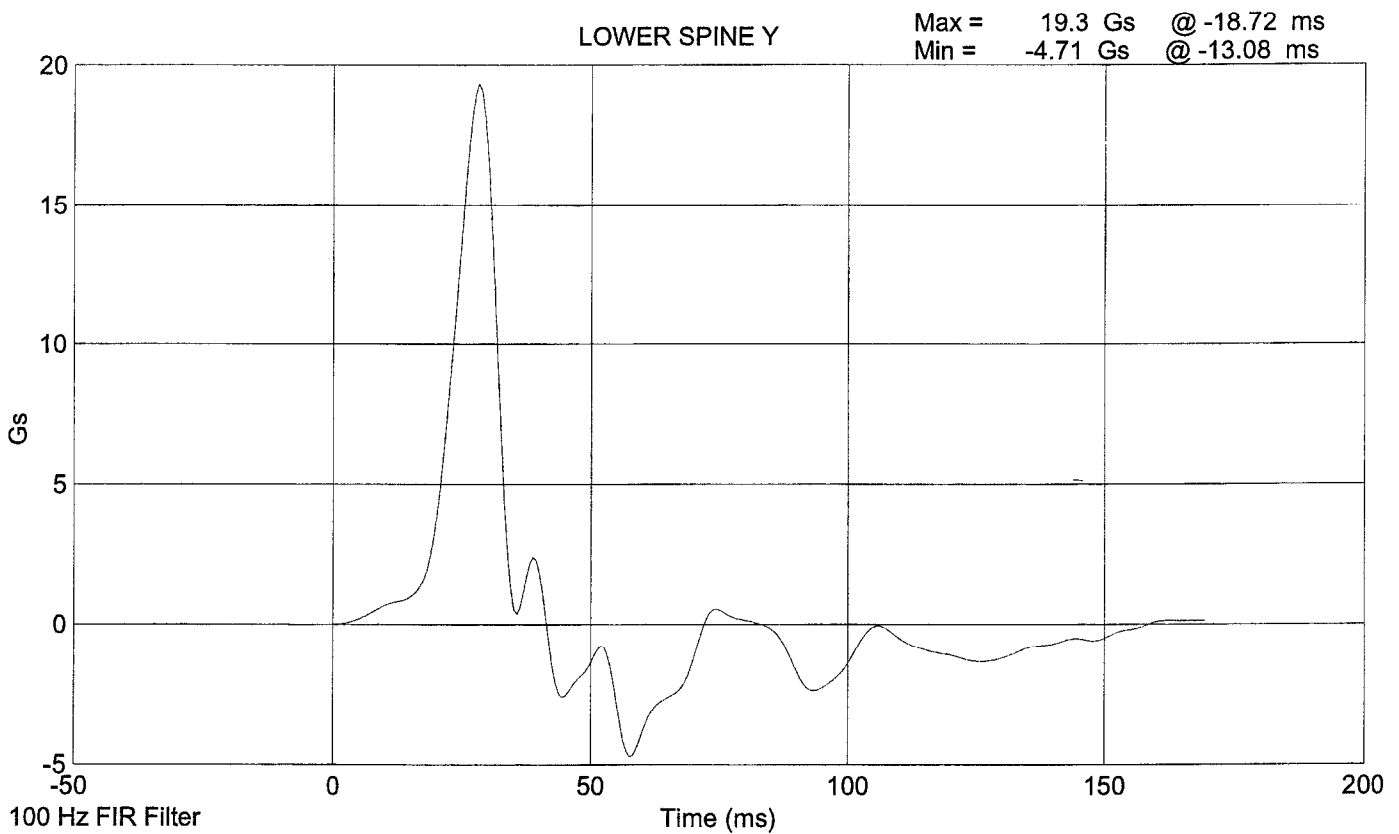
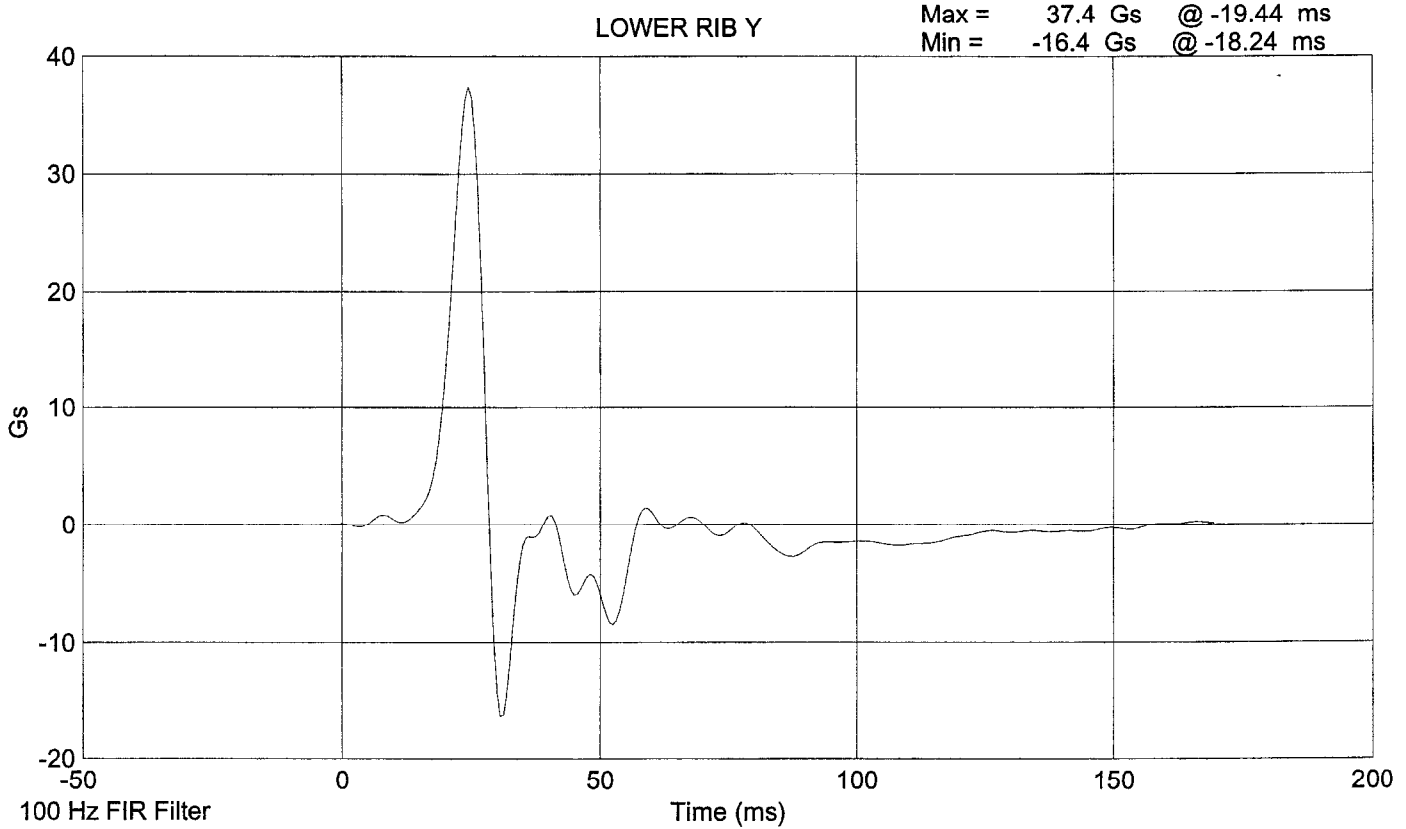
Max = 19.5 Gs @ 28.44 ms
Min = -4.97 Gs @ 57.00 ms



UPPER RIB Y

Max = 38 Gs @ -19.56 ms
Min = -16.6 Gs @ -18.24 ms





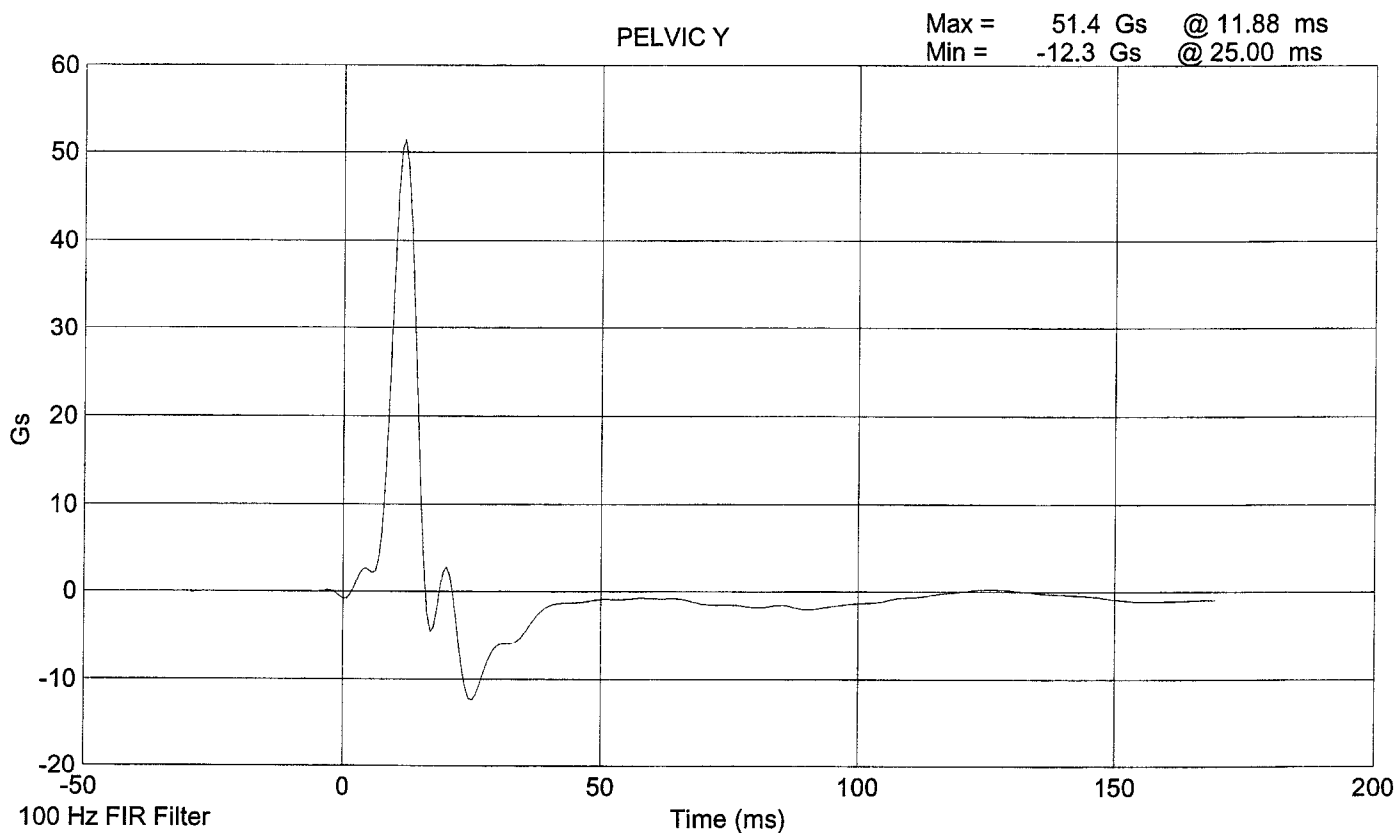
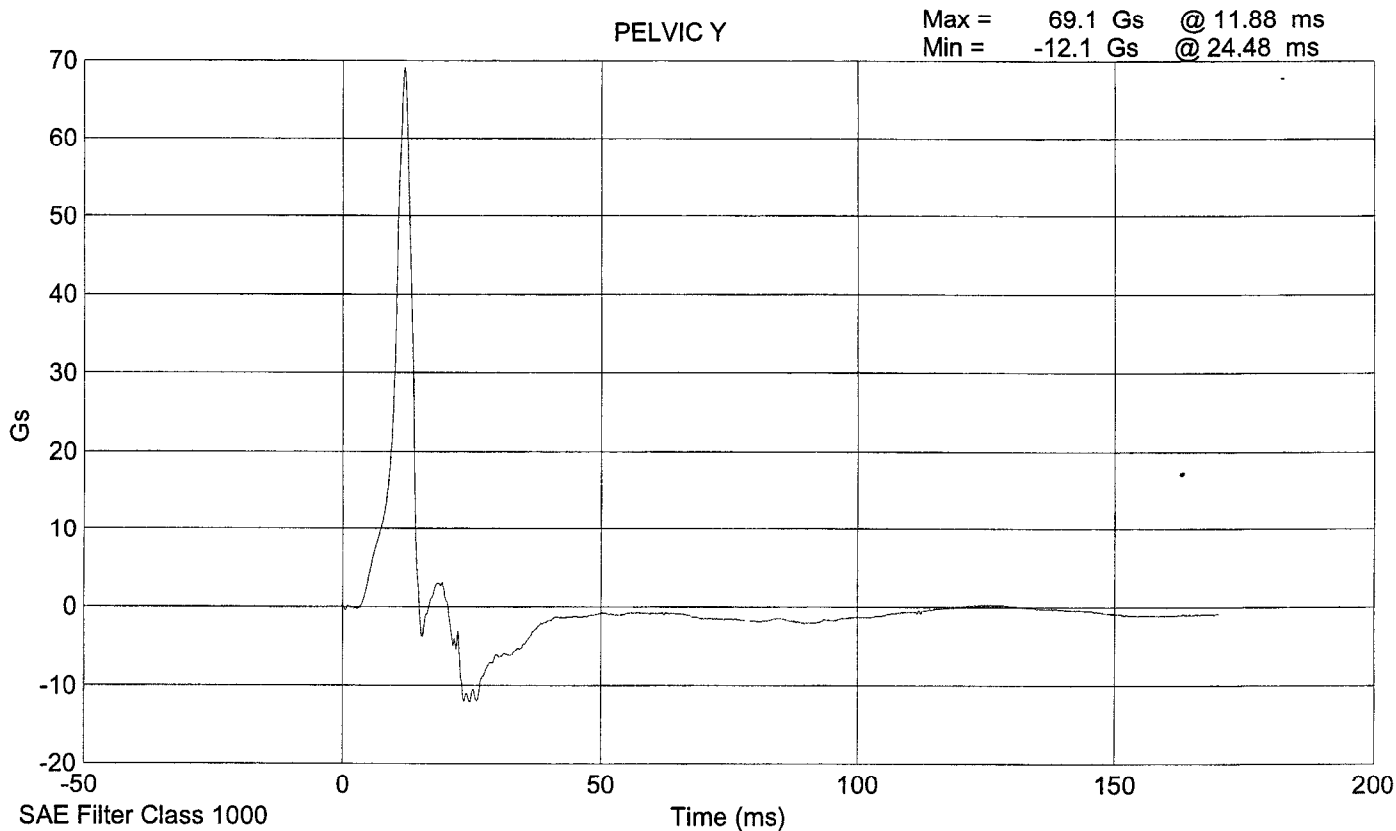
LATERAL PELVIS IMPACT TEST
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	51.4

REMARKS: None



HEAD DROP TEST

PRE-TEST

(Test not required for SID certification)

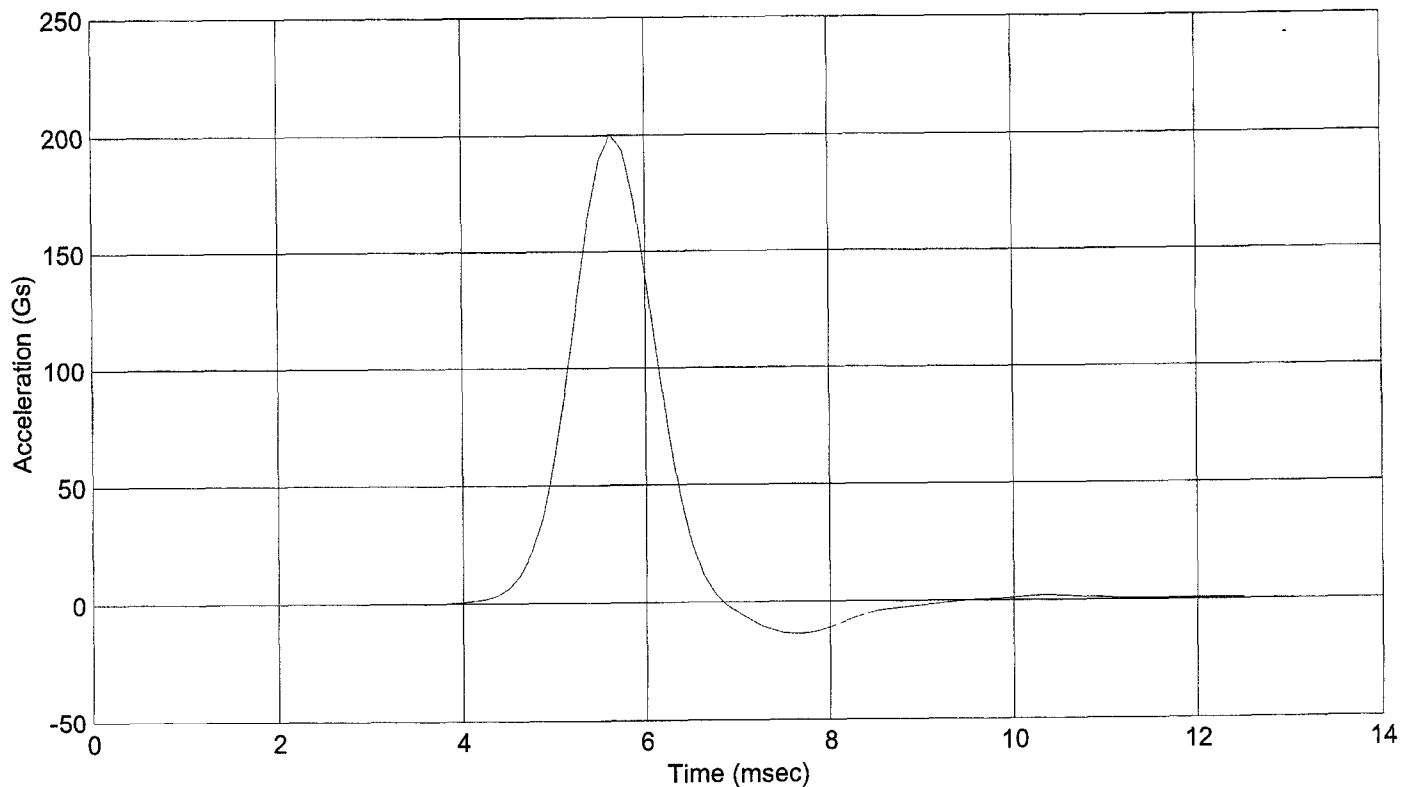
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

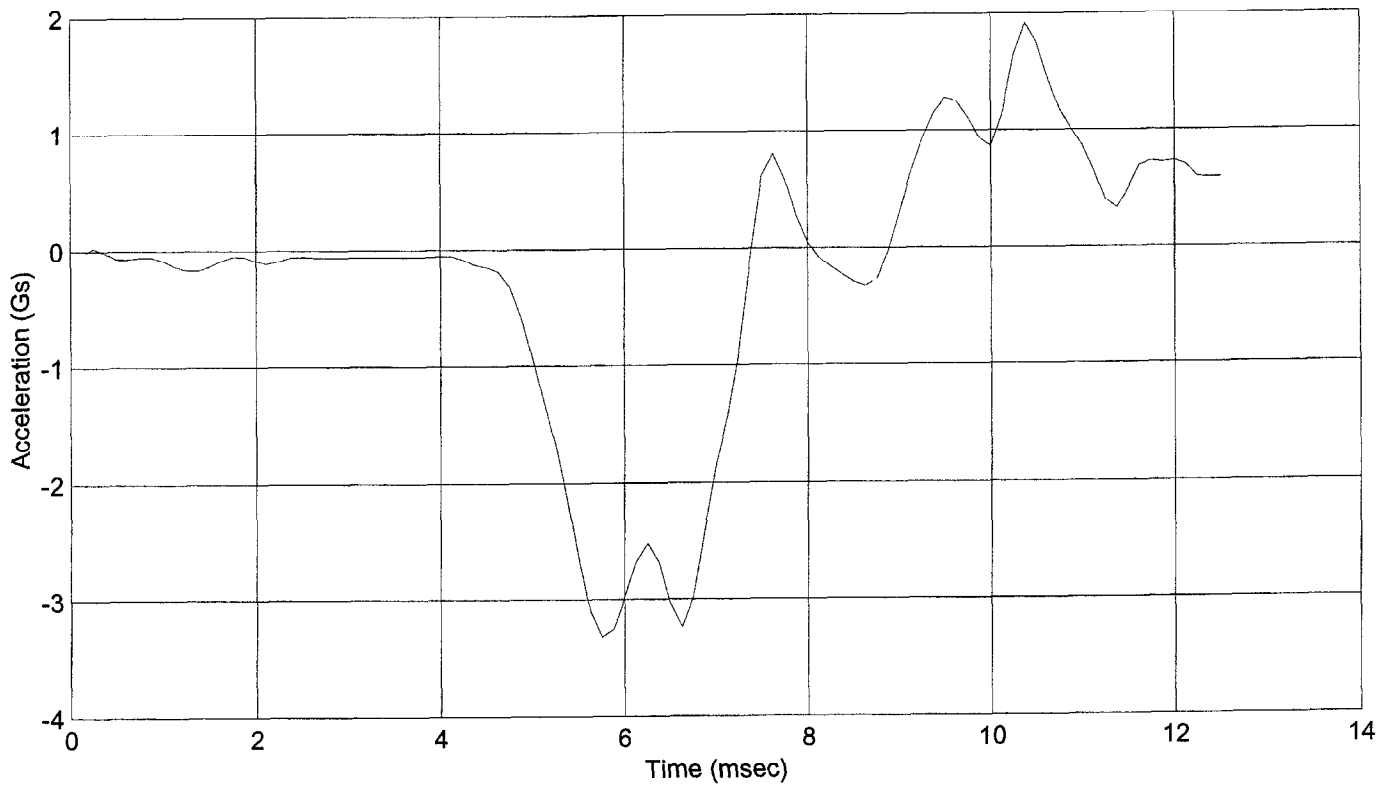
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	250.3
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	3.32
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

REMARKS: None

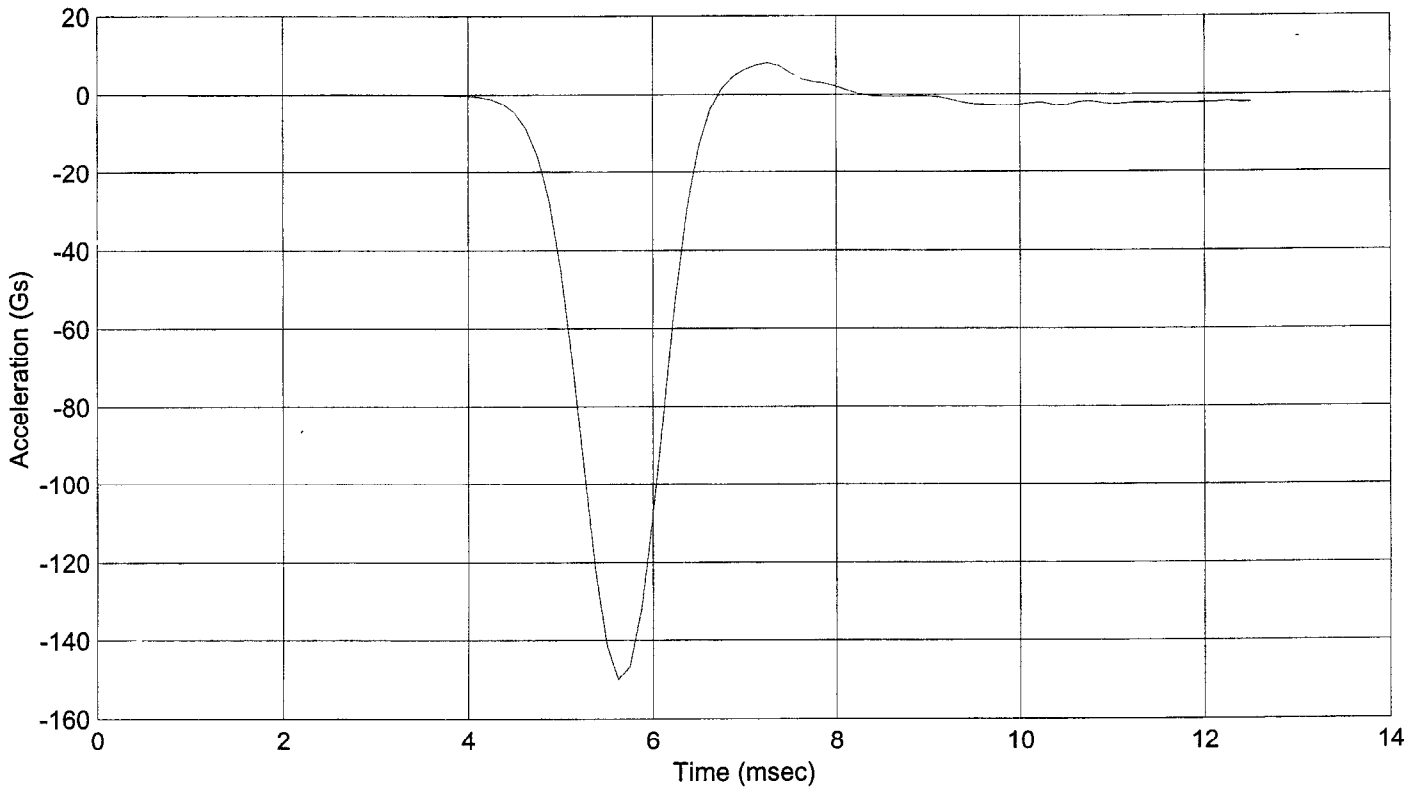
Head X



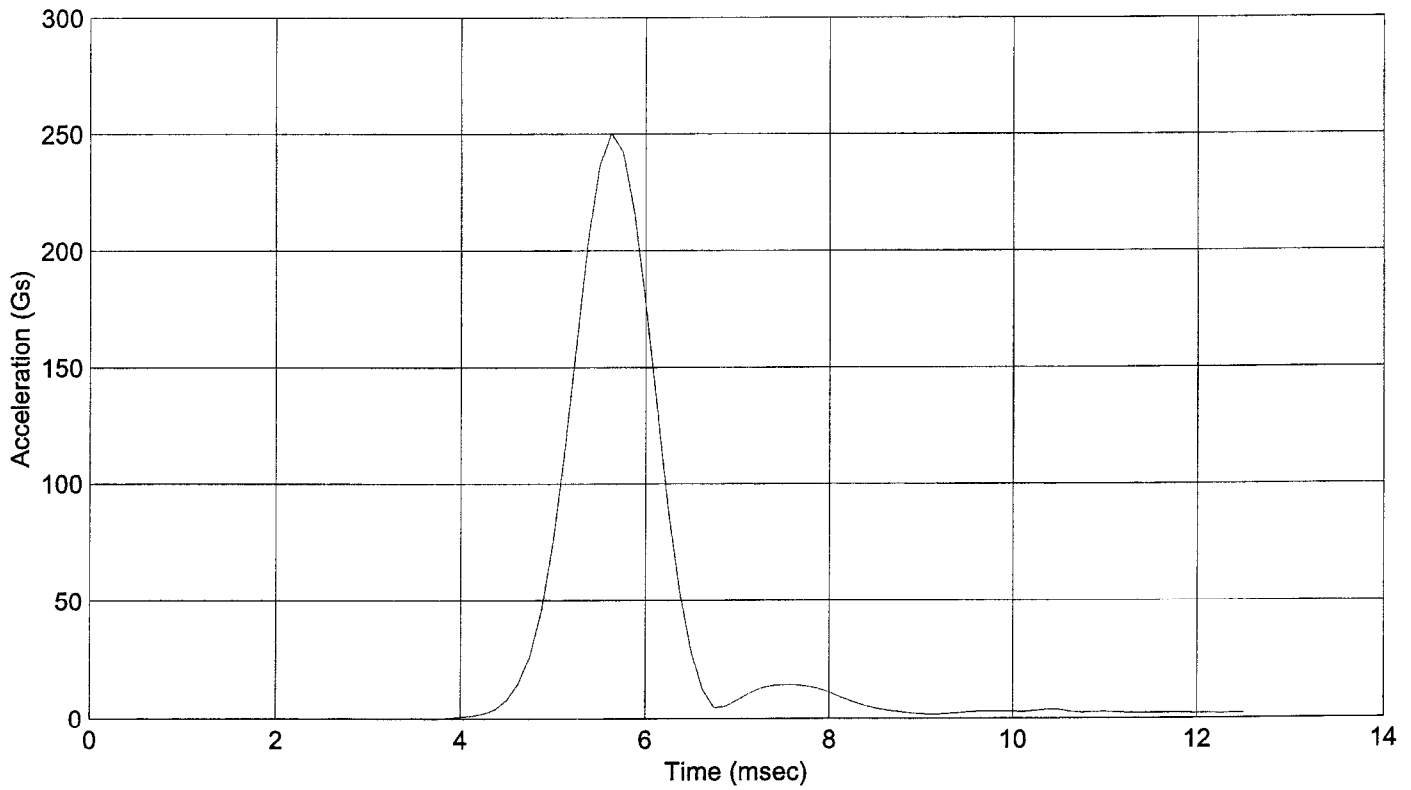
Head Y



Head Z



Head Resultant



ABDOMINAL COMPRESSION TEST

PRE-TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	114
FORCE @ 19 mm (N)	163 - 221	175
FORCE @ 25 mm (N)	222 - 280	254
FORCE @ 33 mm (N)	325 - 391	369

REMARKS: None

Dummy S/N 027

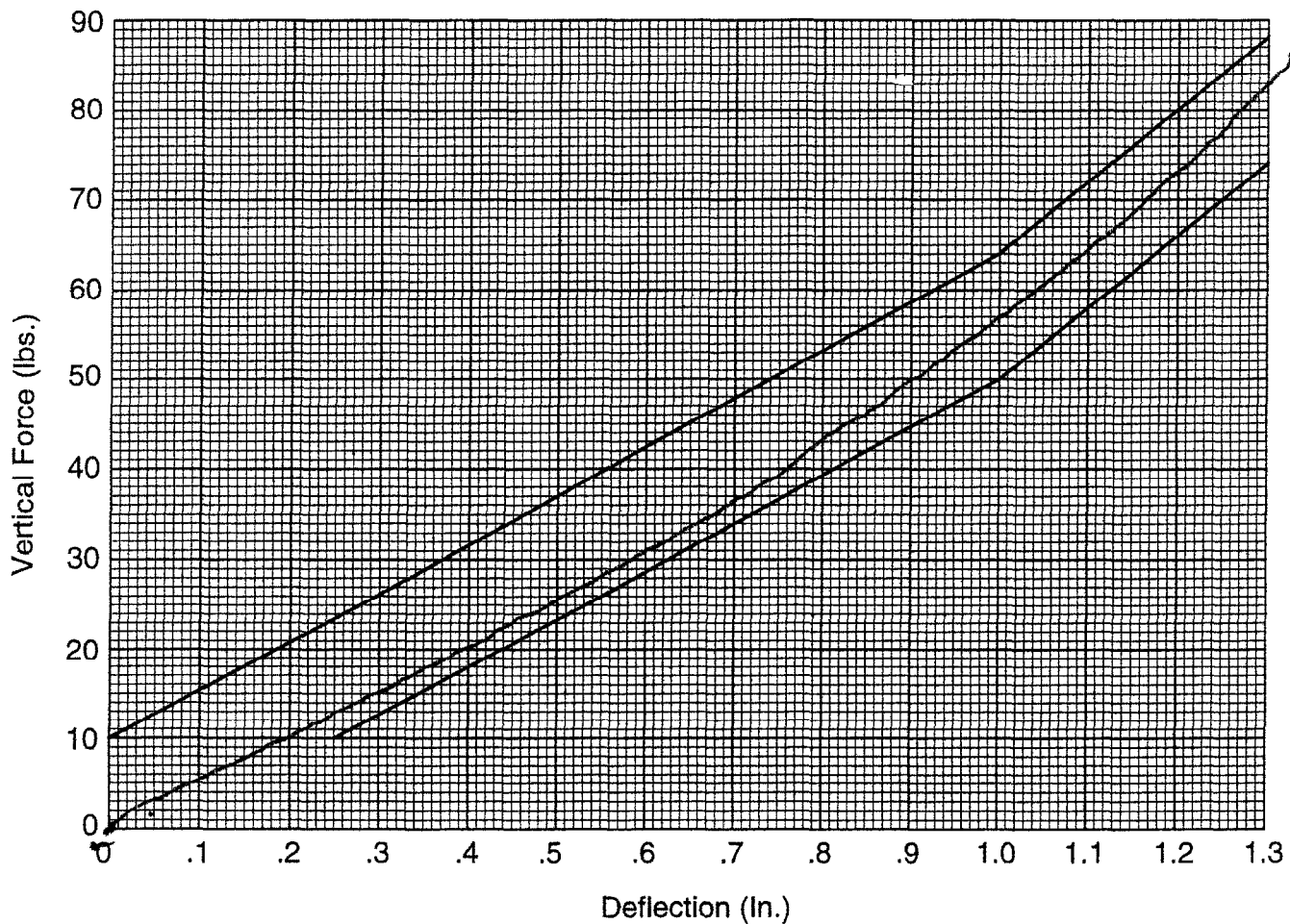
W/A _____

Date 10-21-2000

Performed By [Signature]

Temp. 70°

Humidity 31%



**Hybrid II
Abdomen Static Press**

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

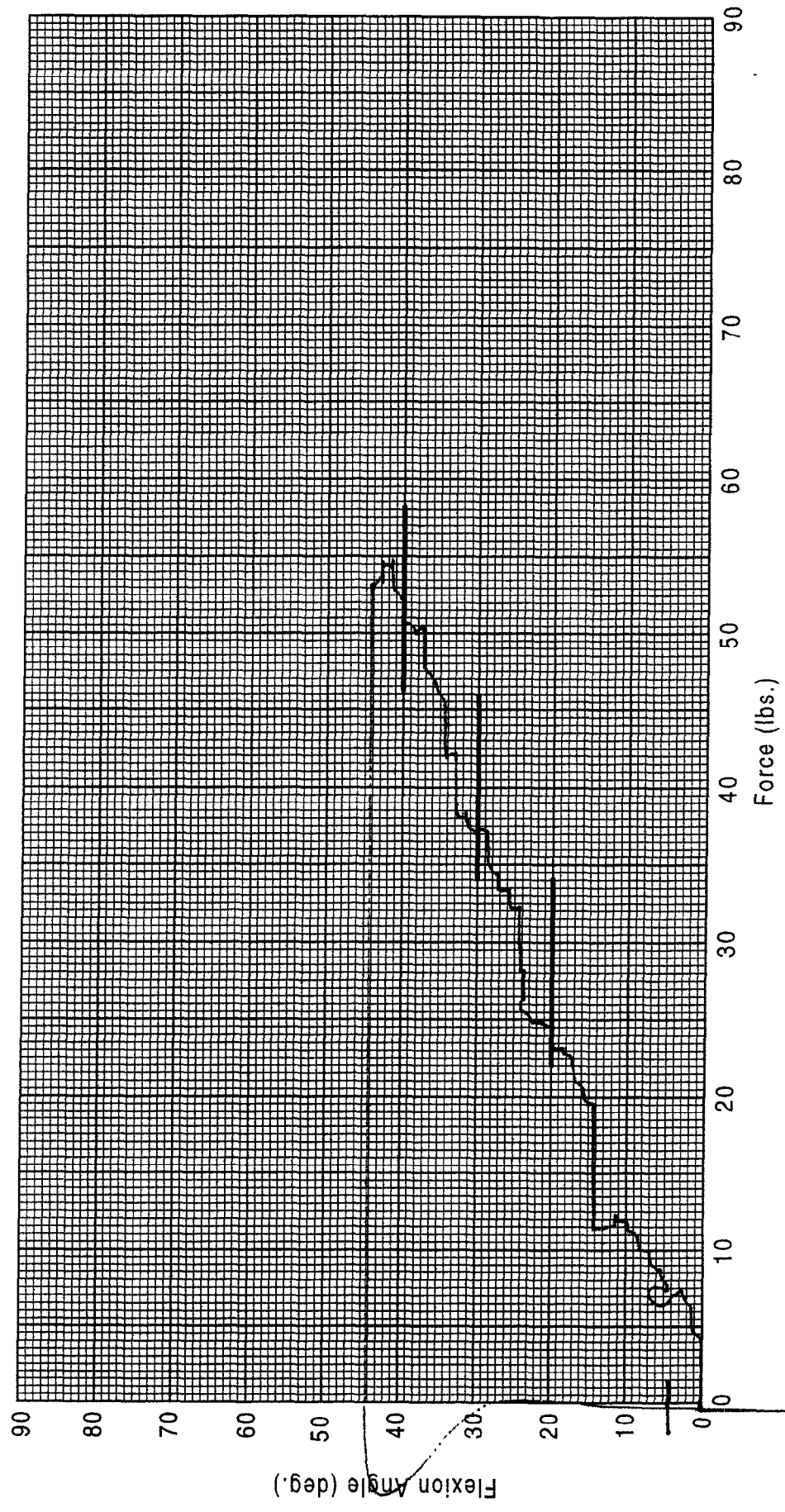
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 10/21/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	106.3
FORCE @ 30° (N)	151.2 - 204.6	165.5
FORCE @ 40° (N)	204.6 - 258	229.1
RETURN ANGLE	12° max.	4.3

REMARKS: None

Dummy S/N 027
 W/A _____
 Date 10-21-2000
 Performed By [Signature]
 Temp. 71°
 Humidity 31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
 Date: 10/21/00 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 013

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
Date: 11/30/00 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
Date: 11/30/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	373

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013

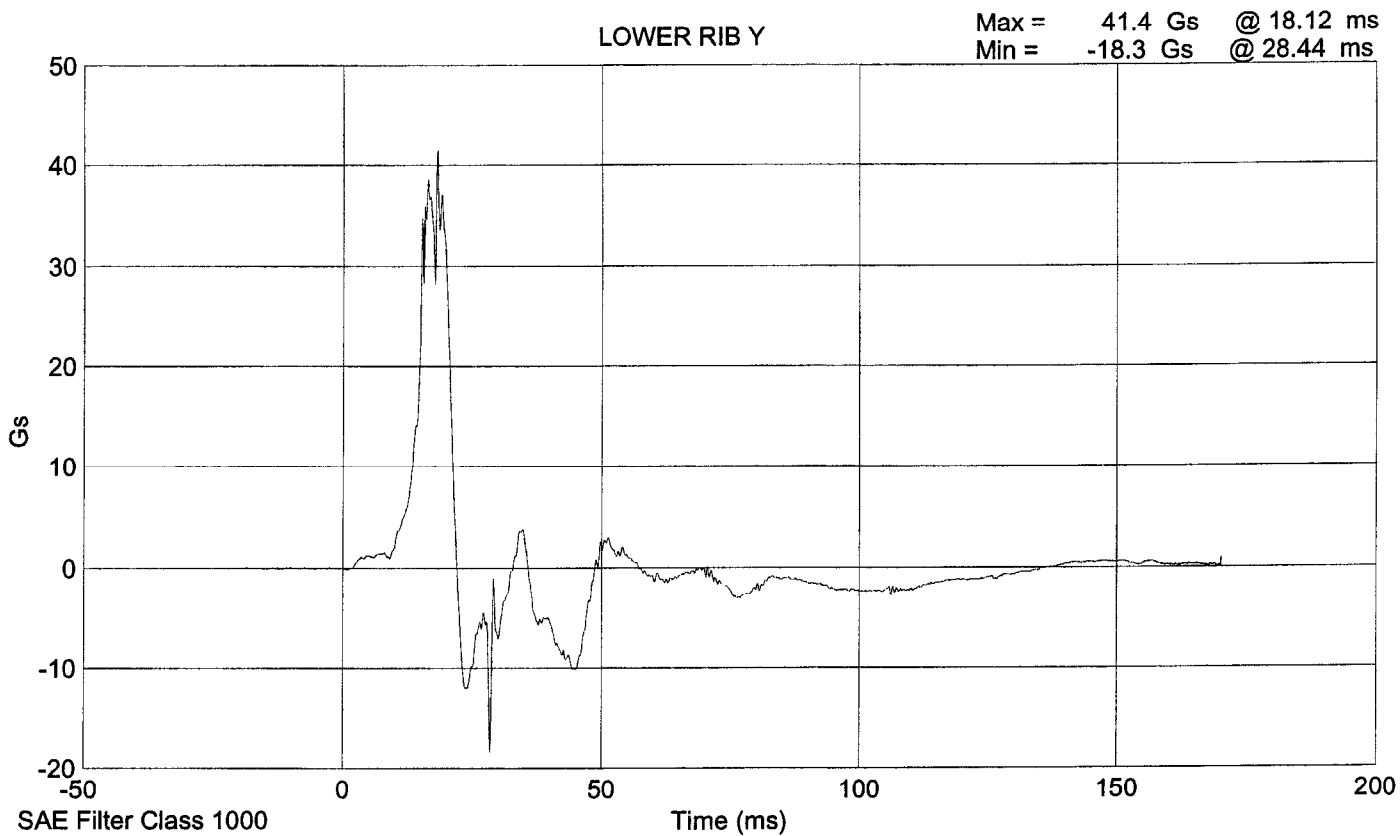
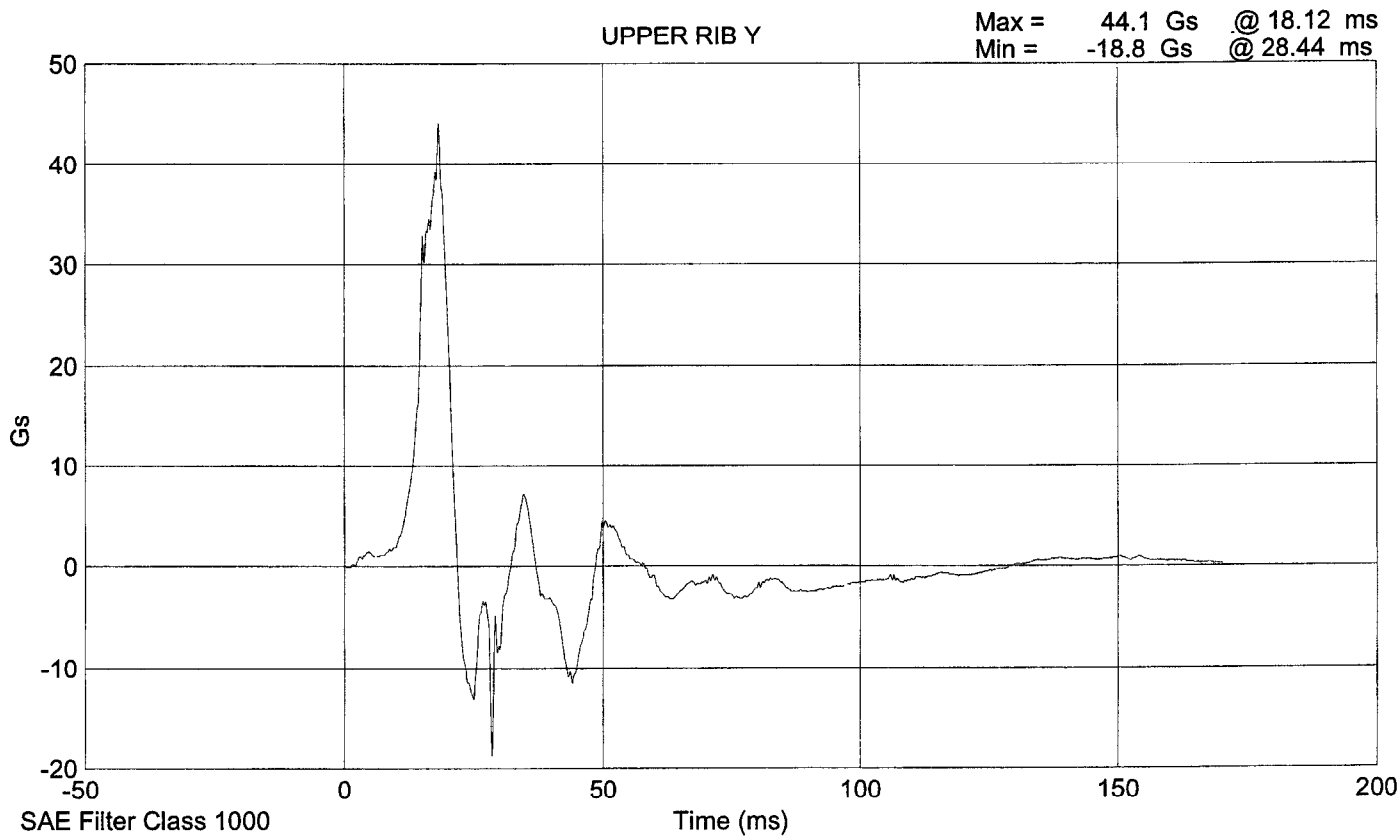
Sequential Test Number: 1

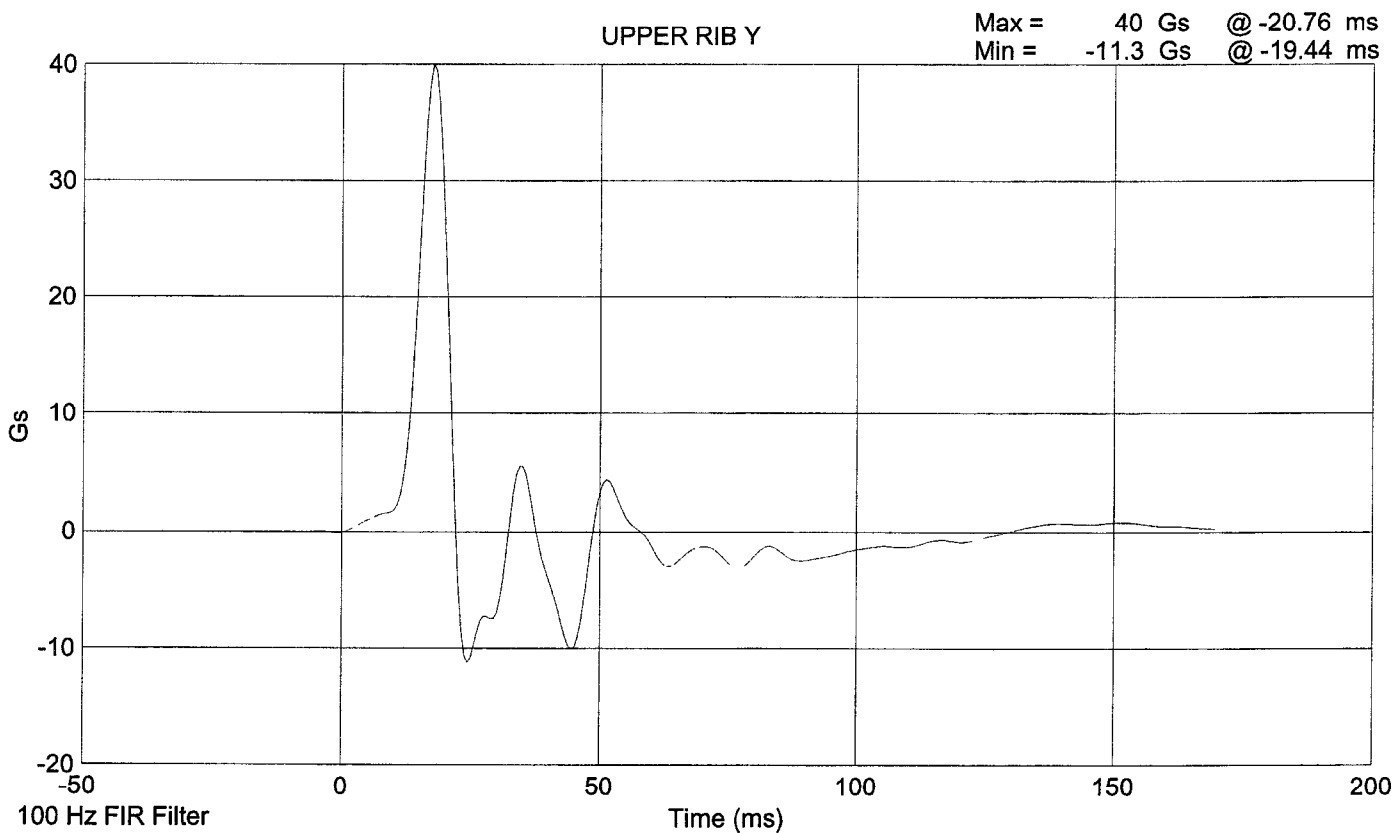
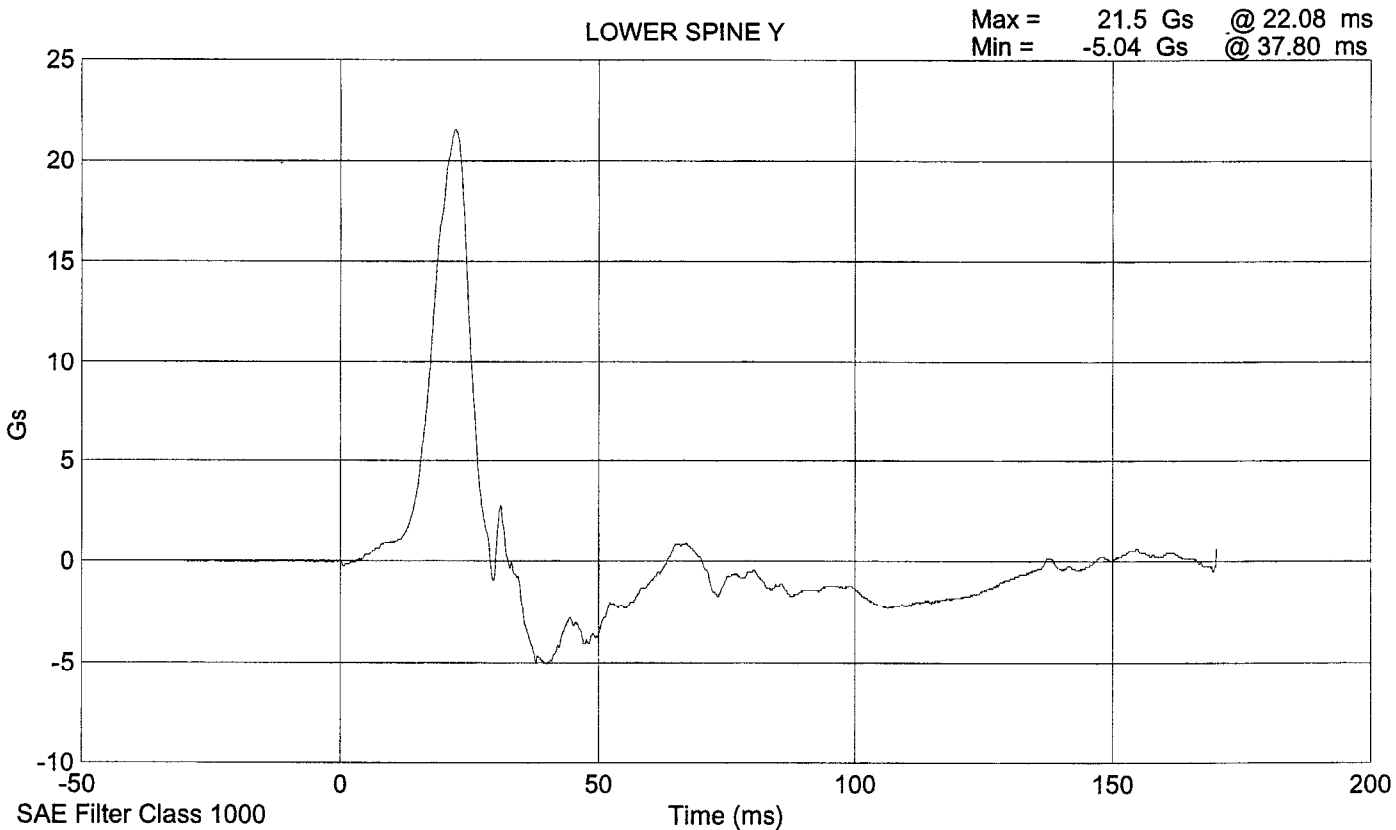
Date: 11/30/00

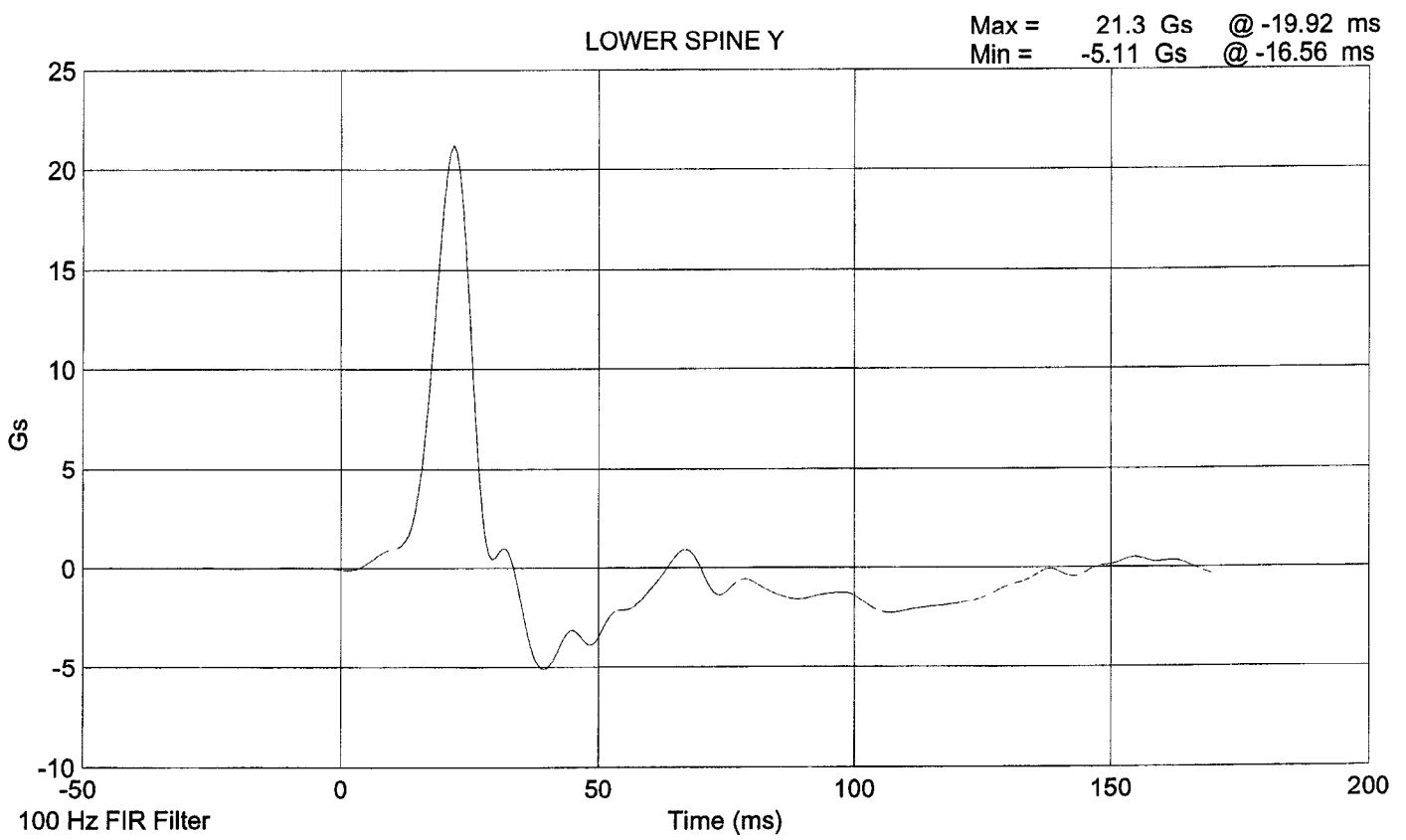
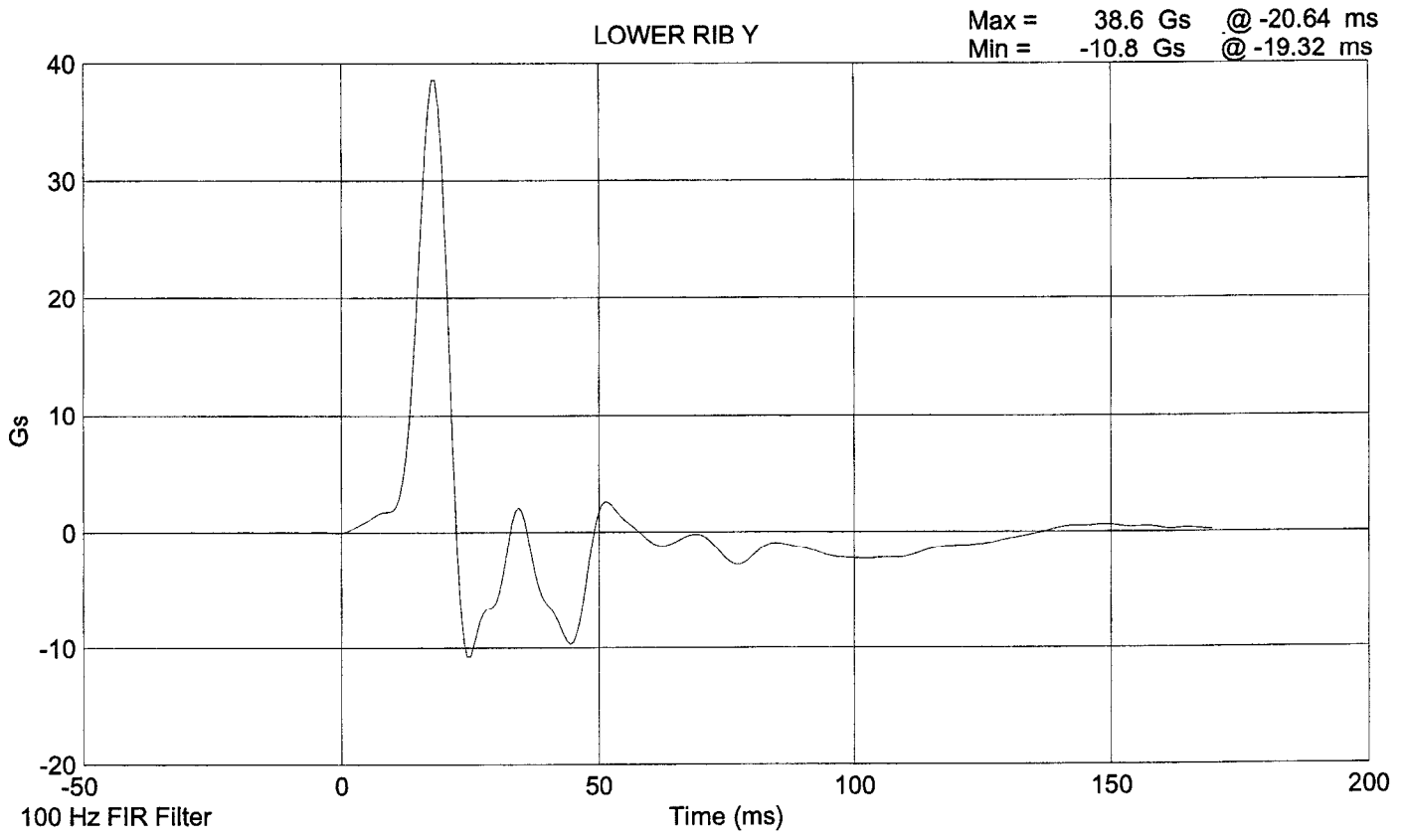
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46	39.99
LOWER RIB (g's)	37 - 46	38.65
LOWER SPINE (g's)	15 - 22	21.26

REMARKS: None







LATERAL PELVIS IMPACT TEST
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013

Sequential Test Number: 1

Date: 11/30/00

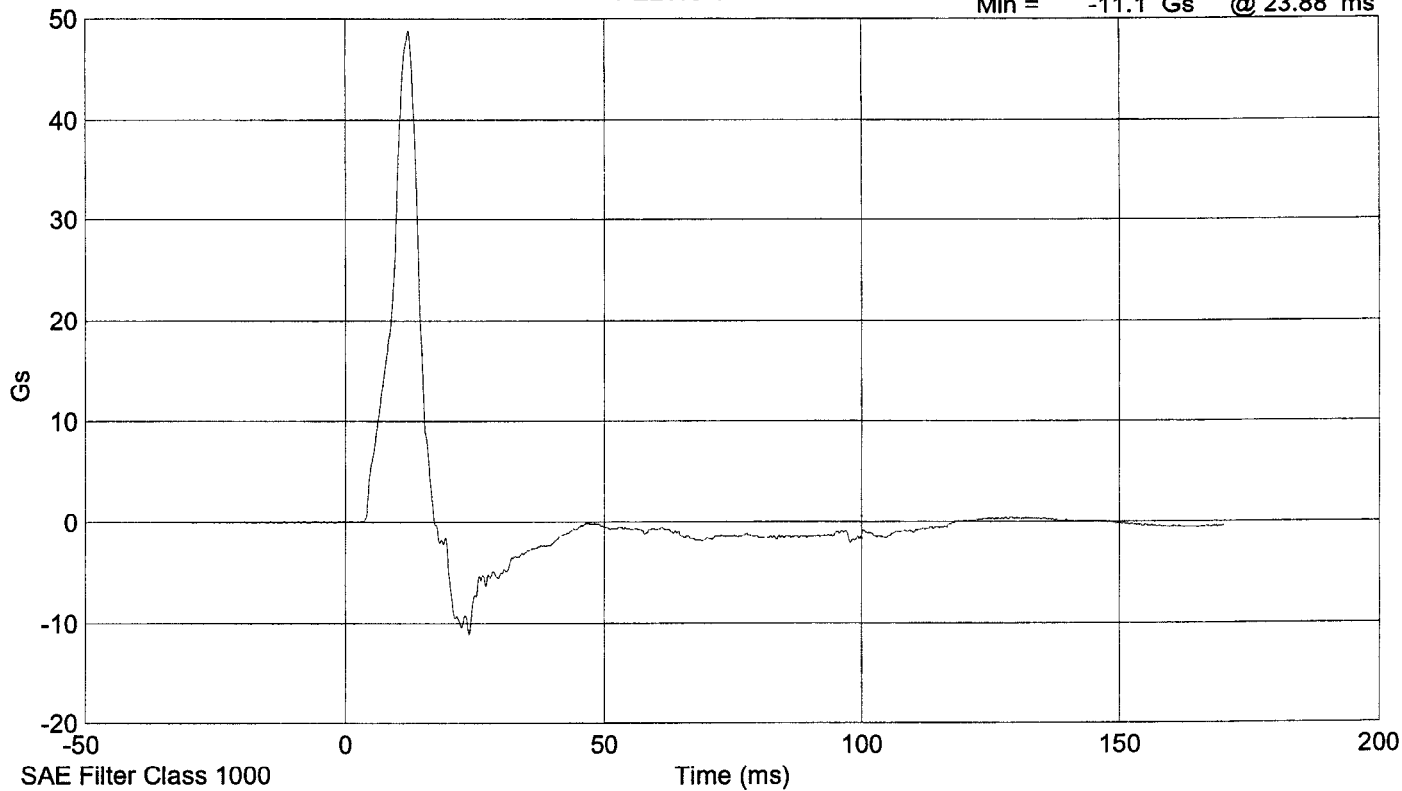
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	44.2

REMARKS: None

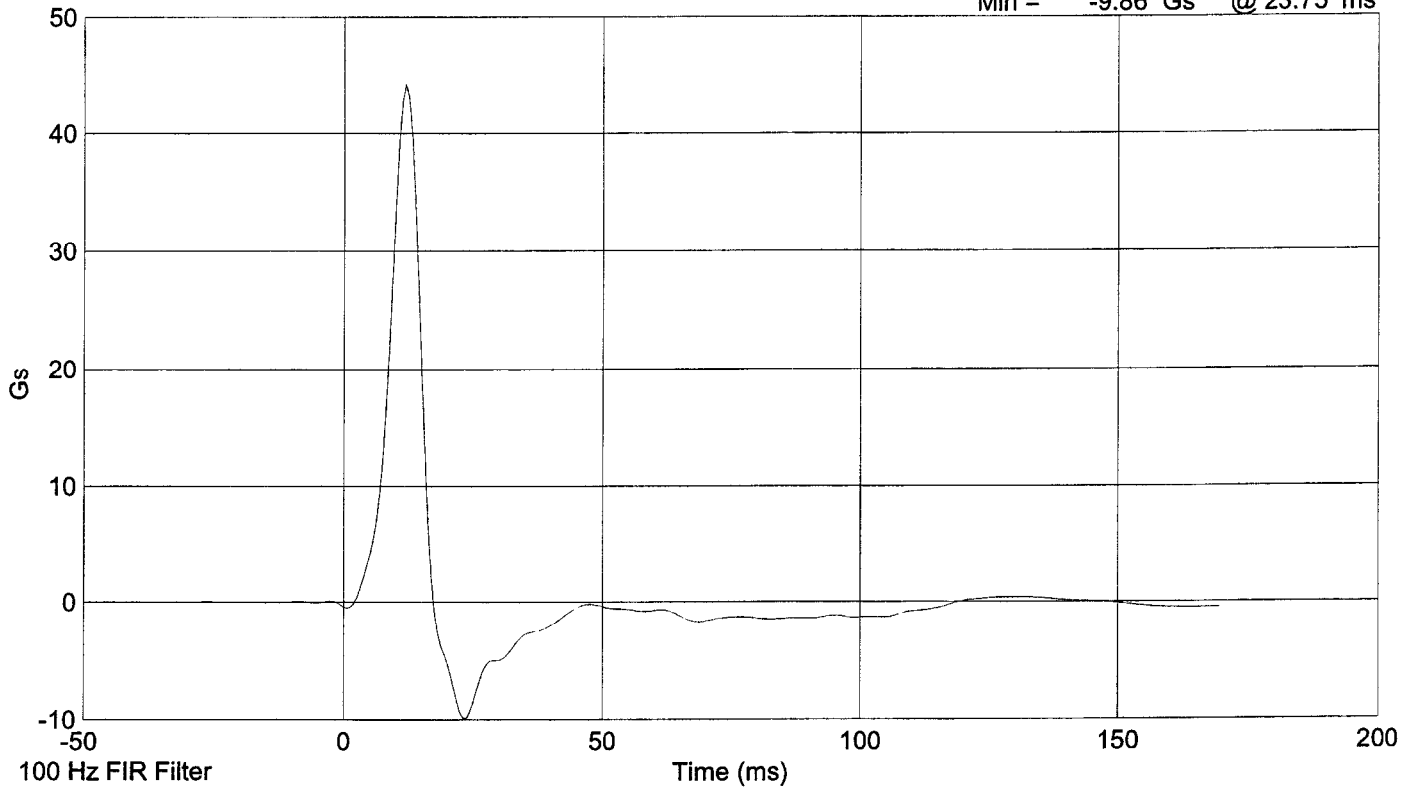
PELVIC Y

Max = 48.8 Gs @ 12.00 ms
Min = -11.1 Gs @ 23.88 ms



PELVIC Y

Max = 44.2 Gs @ 11.88 ms
Min = -9.86 Gs @ 23.75 ms



HEAD DROP TEST

POST-TEST

(Test not required for SID certification)

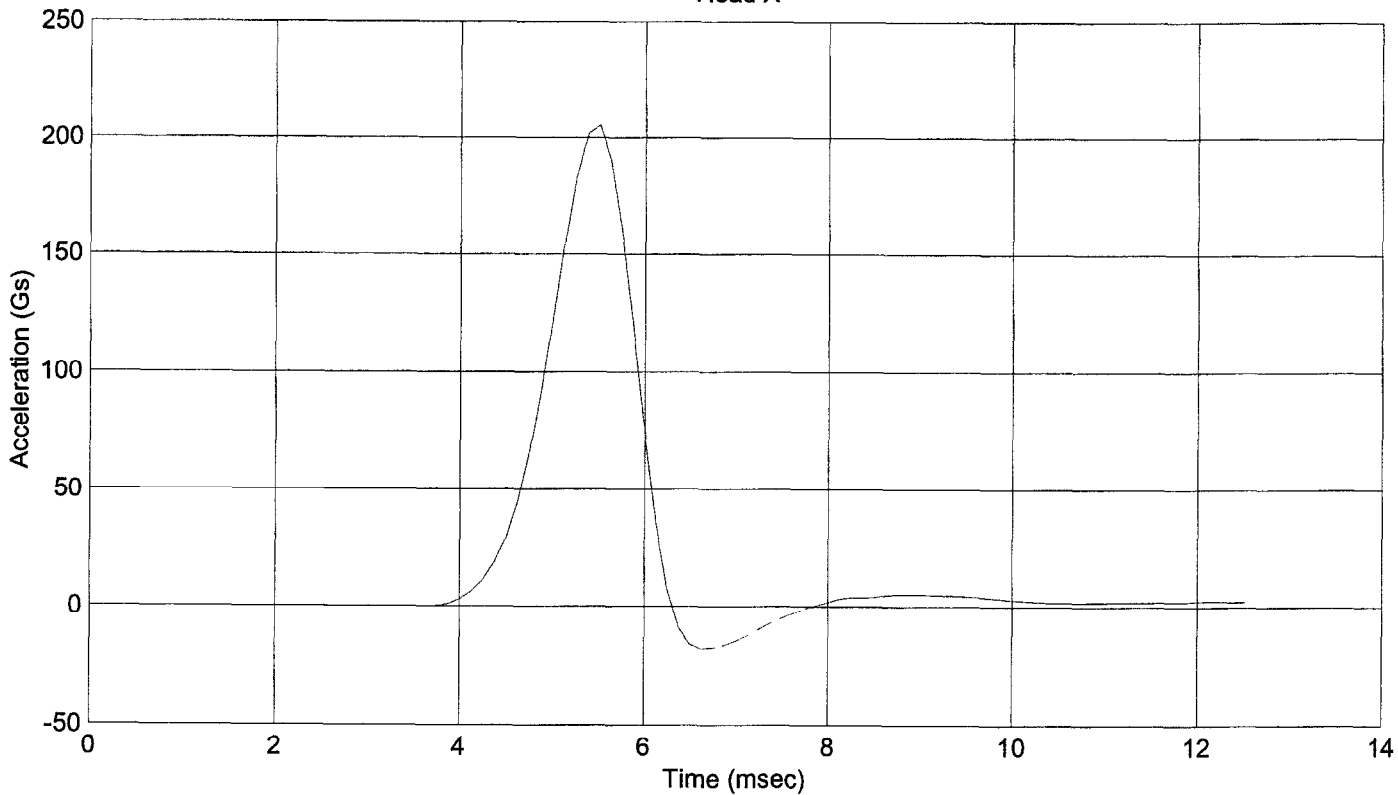
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
Date: 11/29/00 Laboratory Technician: B. Swiecicki

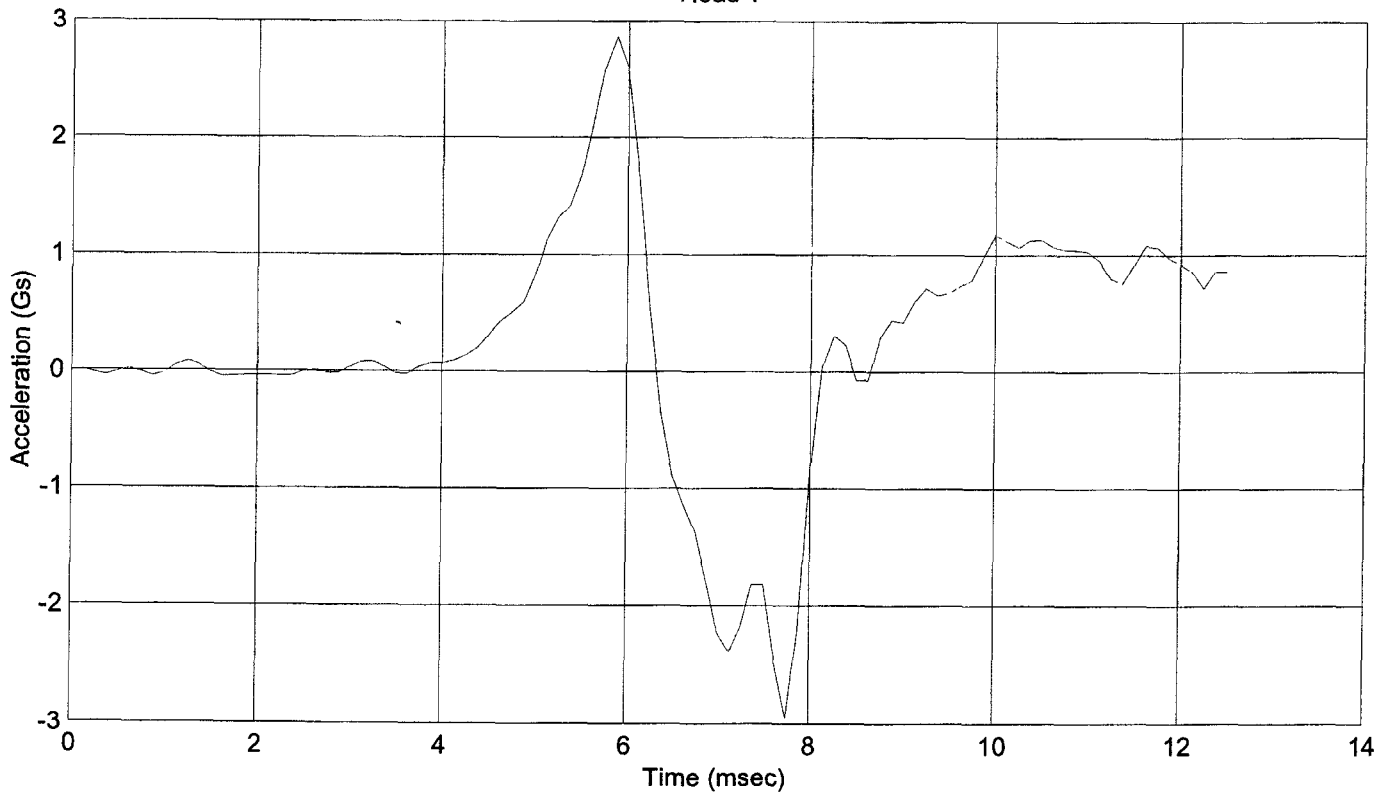
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	245.23
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	2.95
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

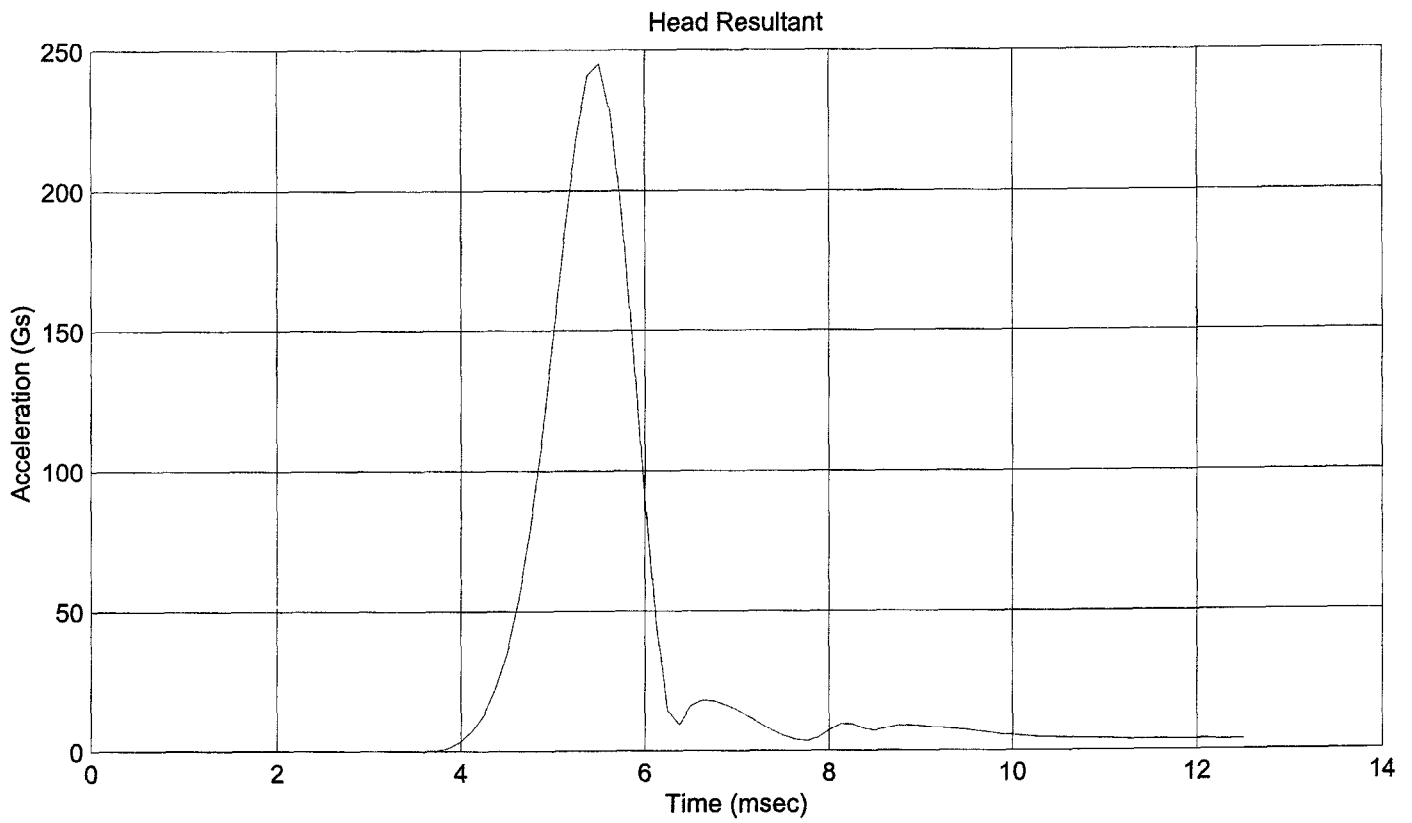
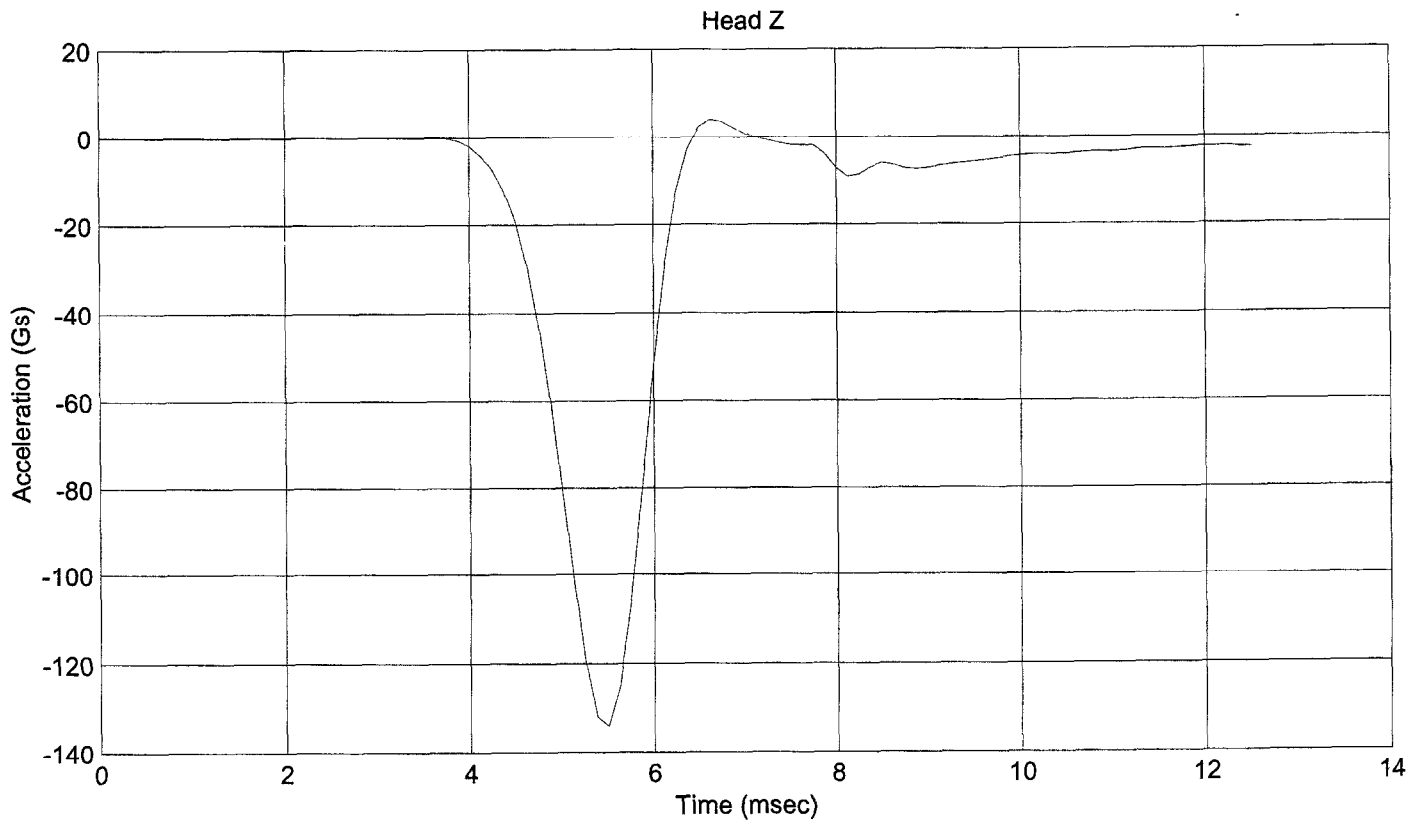
REMARKS: None

Head X



Head Y





ABDOMINAL COMPRESSION TEST

POST TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013

Sequential Test Number: 1

Date: 11/30/00

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	109
FORCE @ 19 mm (N)	163 - 221	173
FORCE @ 25 mm (N)	222 - 280	256
FORCE @ 33 mm (N)	325 - 391	383

REMARKS: None

Dummy S/N 013

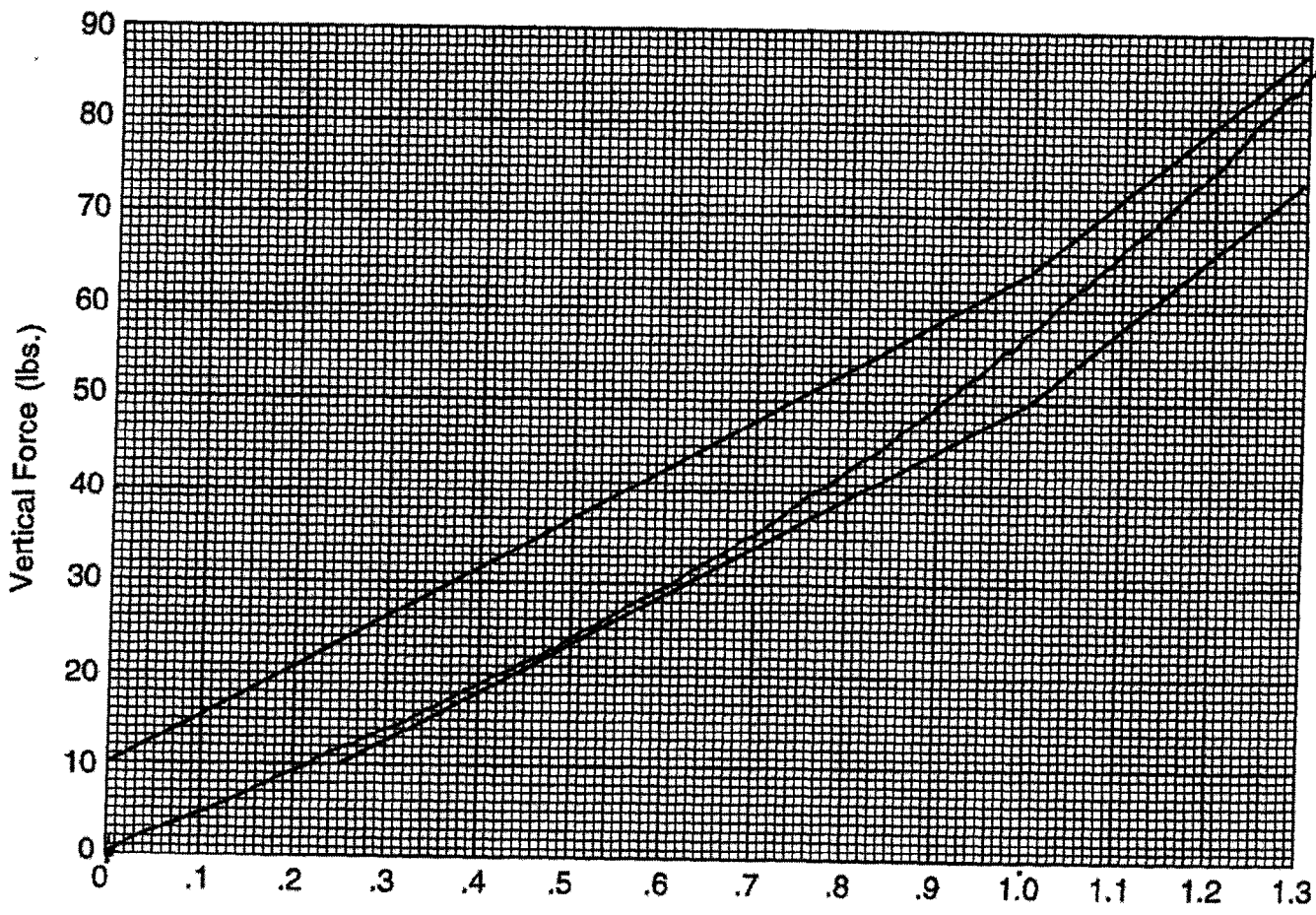
W/A _____

Date 11-30-2000

Performed By [Signature]

Temp. 70°

Humidity 31%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

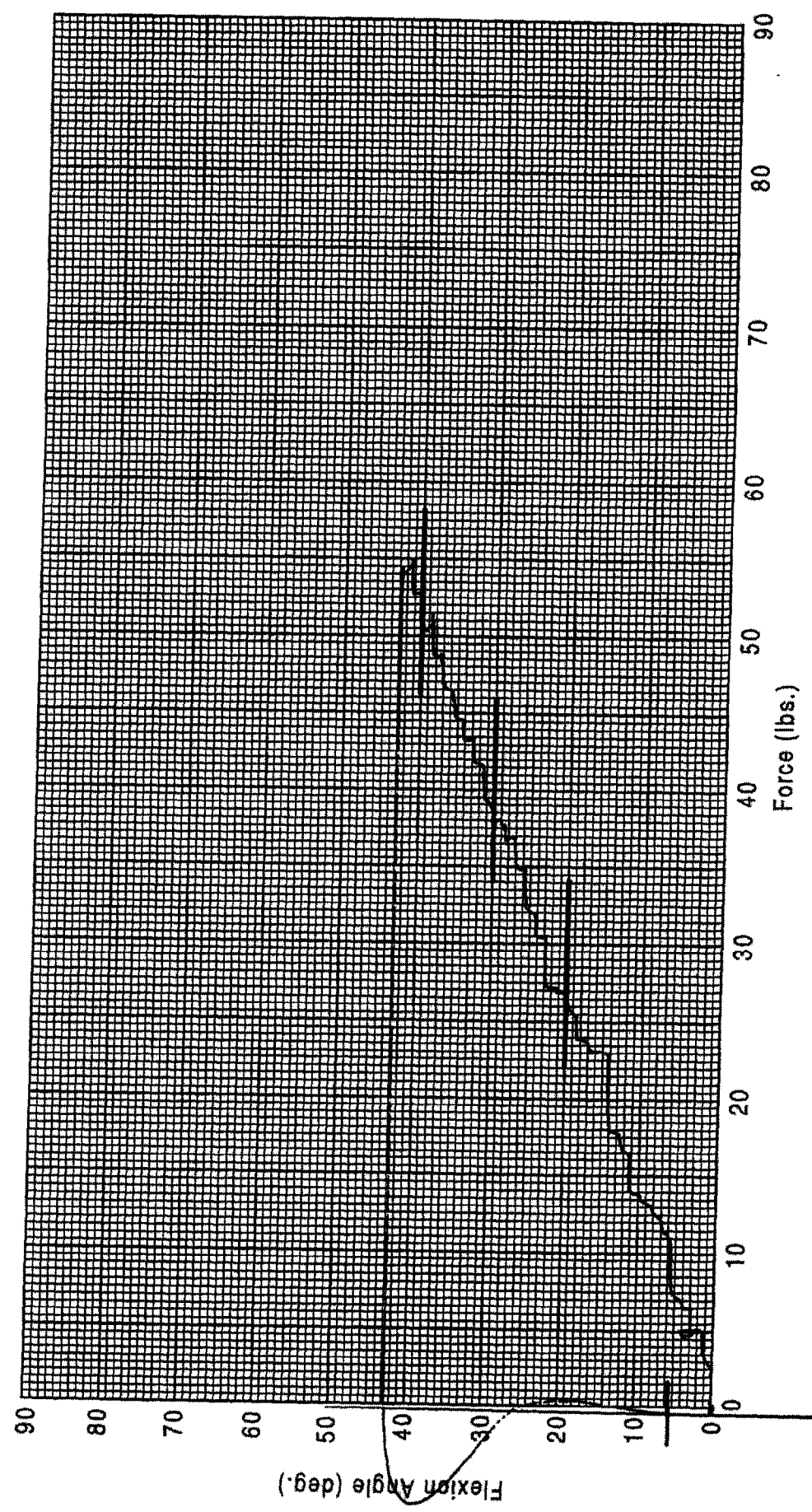
SID Serial No.: 013 Sequential Test Number: 1
Date: 11/30/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	118
FORCE @ 30° (N)	151.2 - 204.6	171
FORCE @ 40° (N)	204.6 - 258	235
RETURN ANGLE	12° max.	5.5°

REMARKS: None

ORIGINAL

Dummy S/N 013
W/A _____
Date 11-30-2000
Performed By BS
Temp. 71°
Humidity 31%



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PC30109 ISO Flight

POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
 Date: 11/30/00 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 12/5/00 Laboratory Technician: B. Swiccicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027
Date: 12/5/00

Sequential Test Number: 1
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	519
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

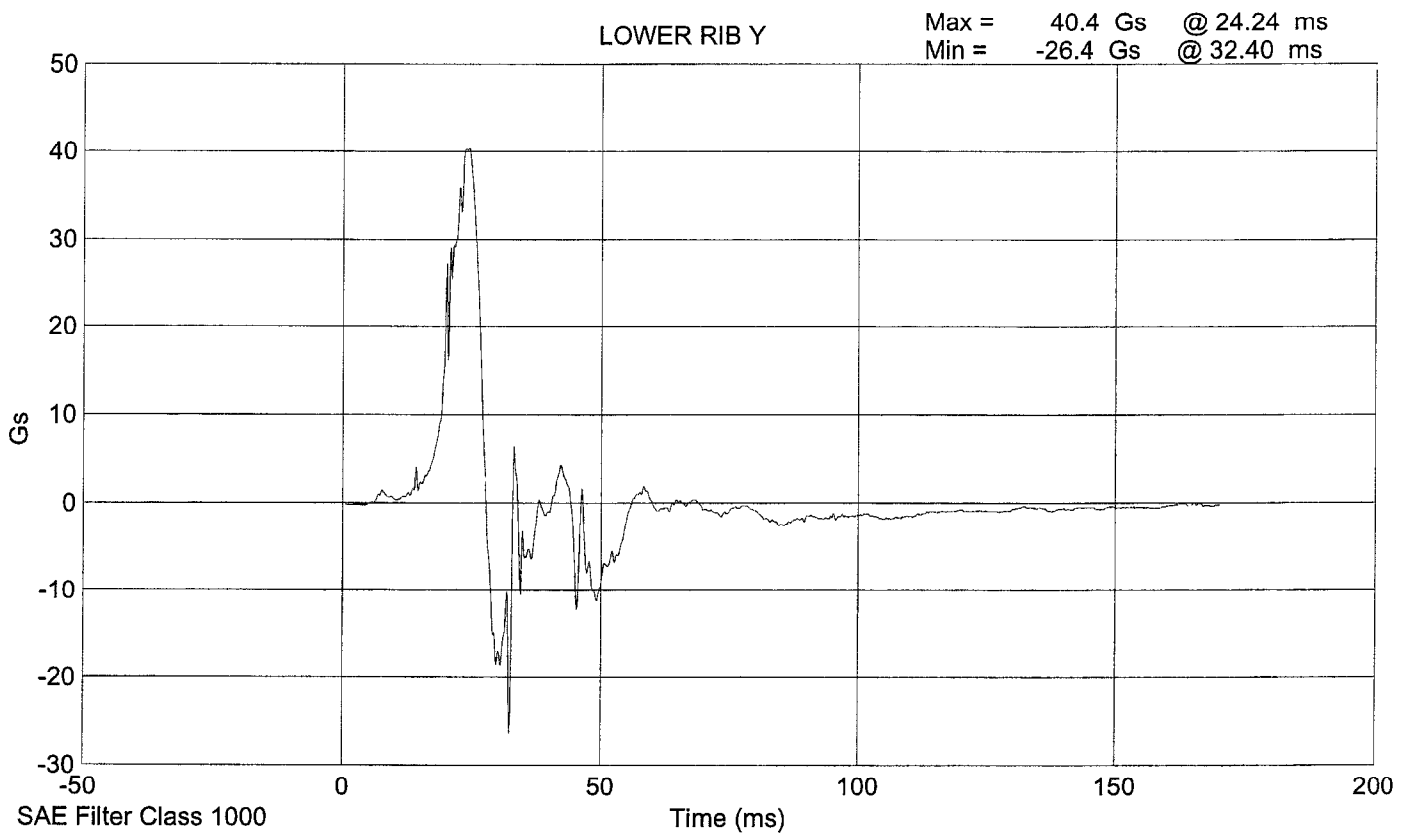
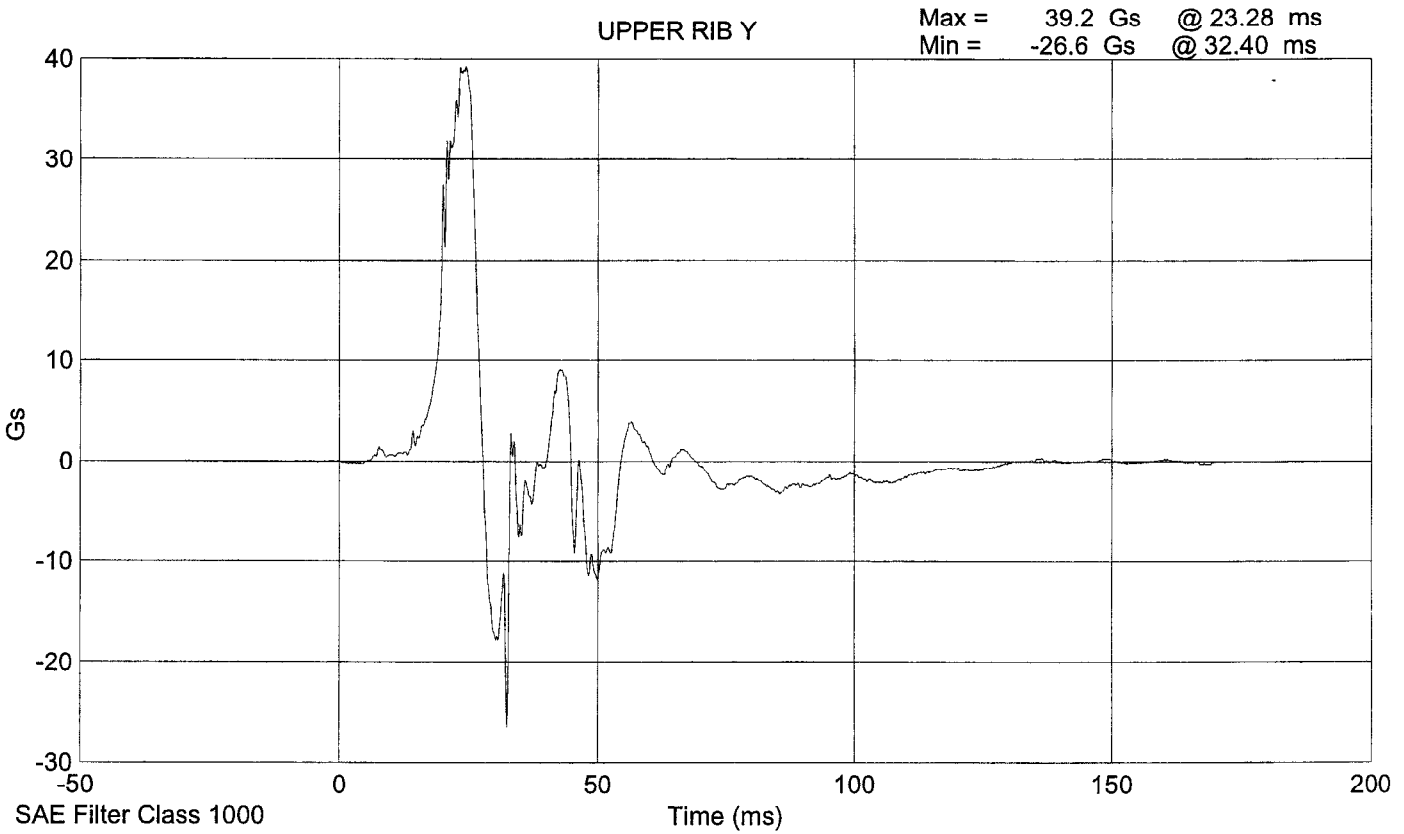
LATERAL THORAX IMPACT TEST
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 12/4/00 Laboratory Technician: B. Swiecicki

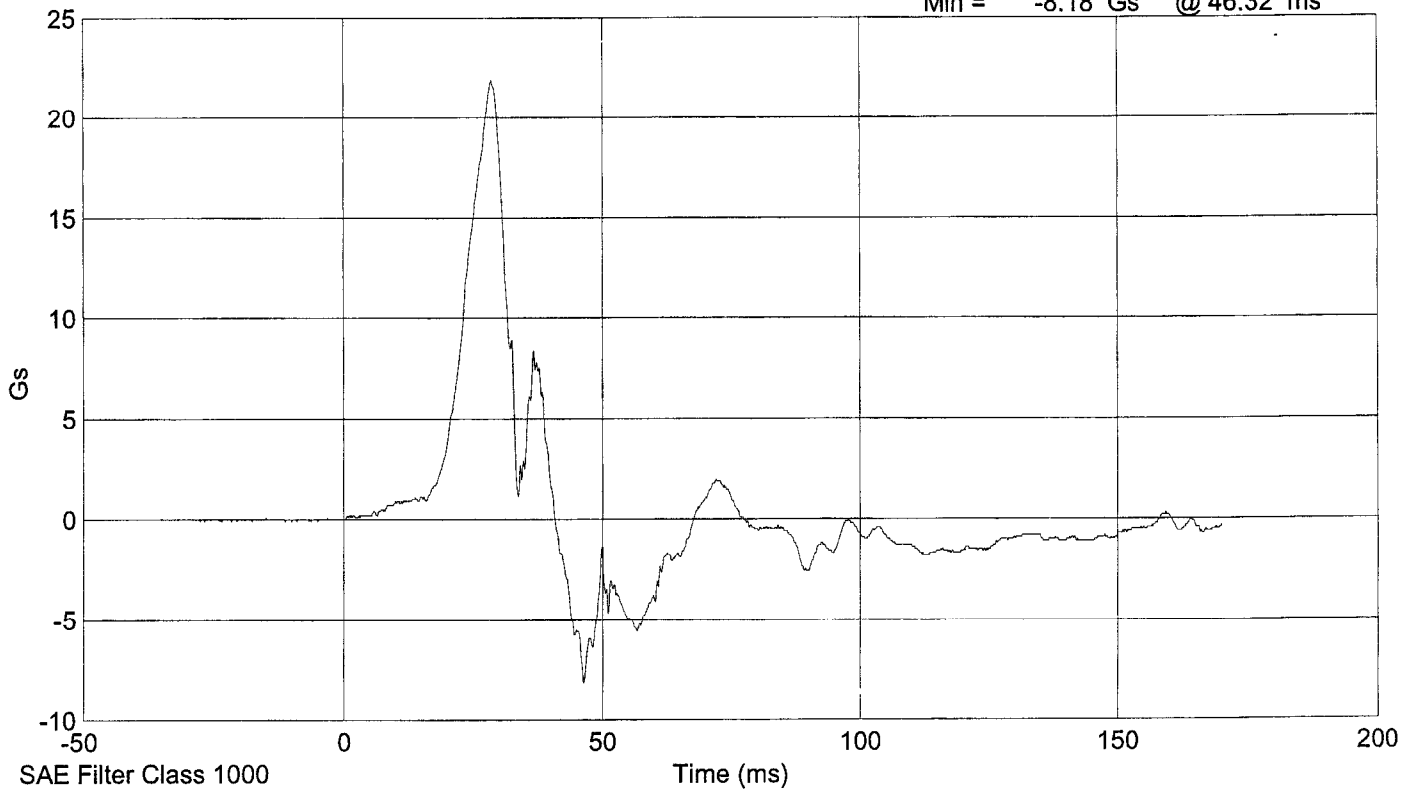
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	39.9
LOWER RIB (g's)	37 - 46	39.8
LOWER SPINE (g's)	15 - 22	21.1

REMARKS: None



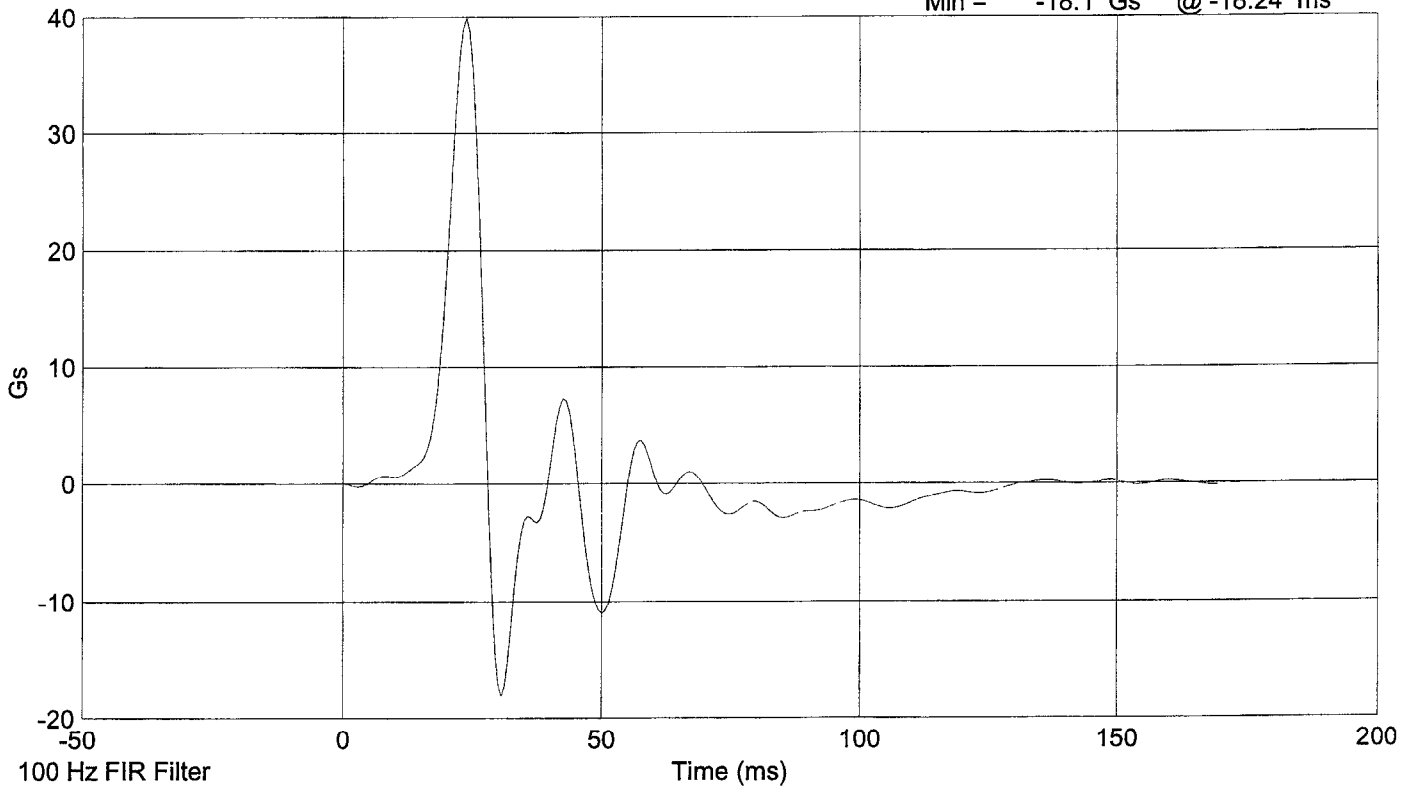
LOWER SPINE Y

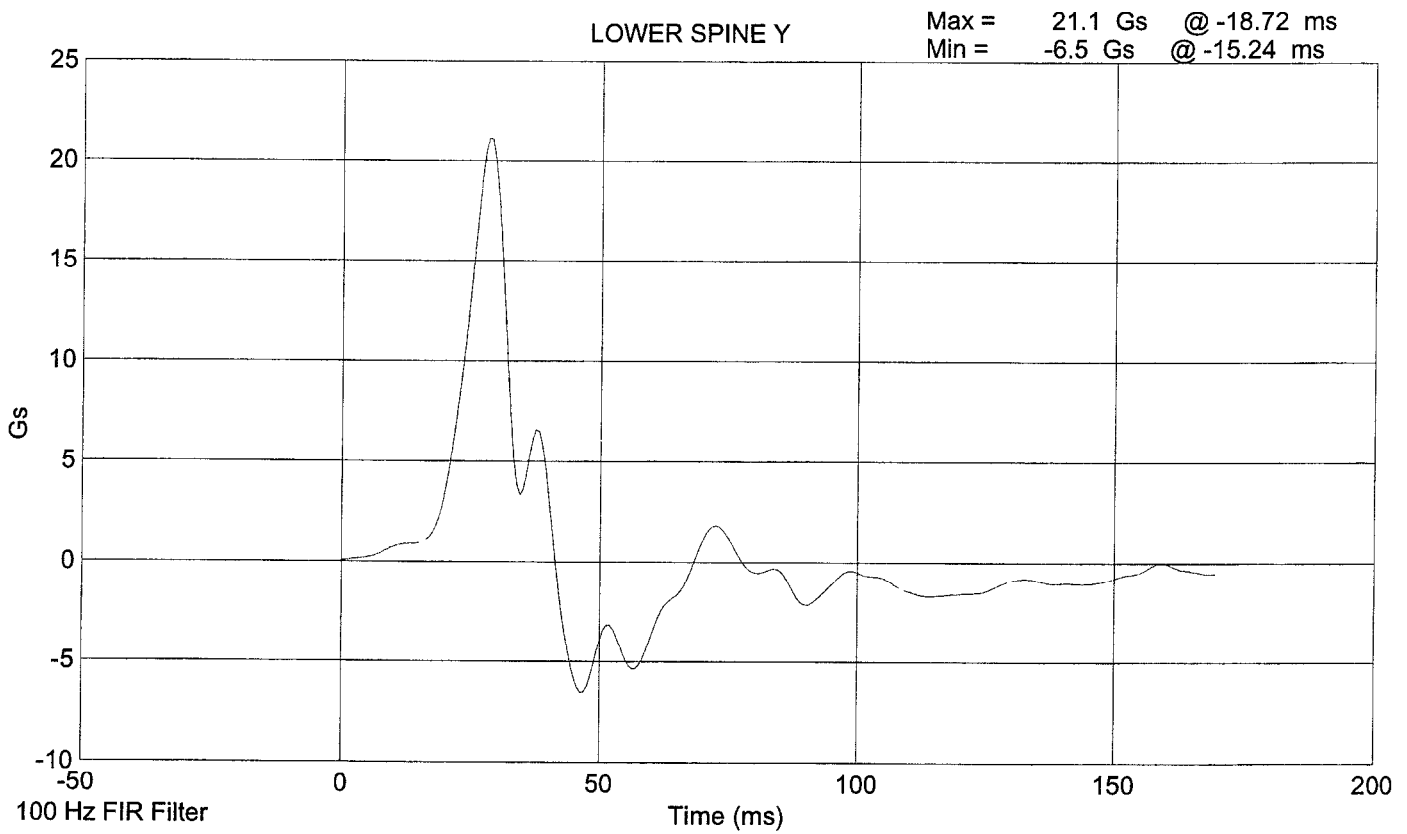
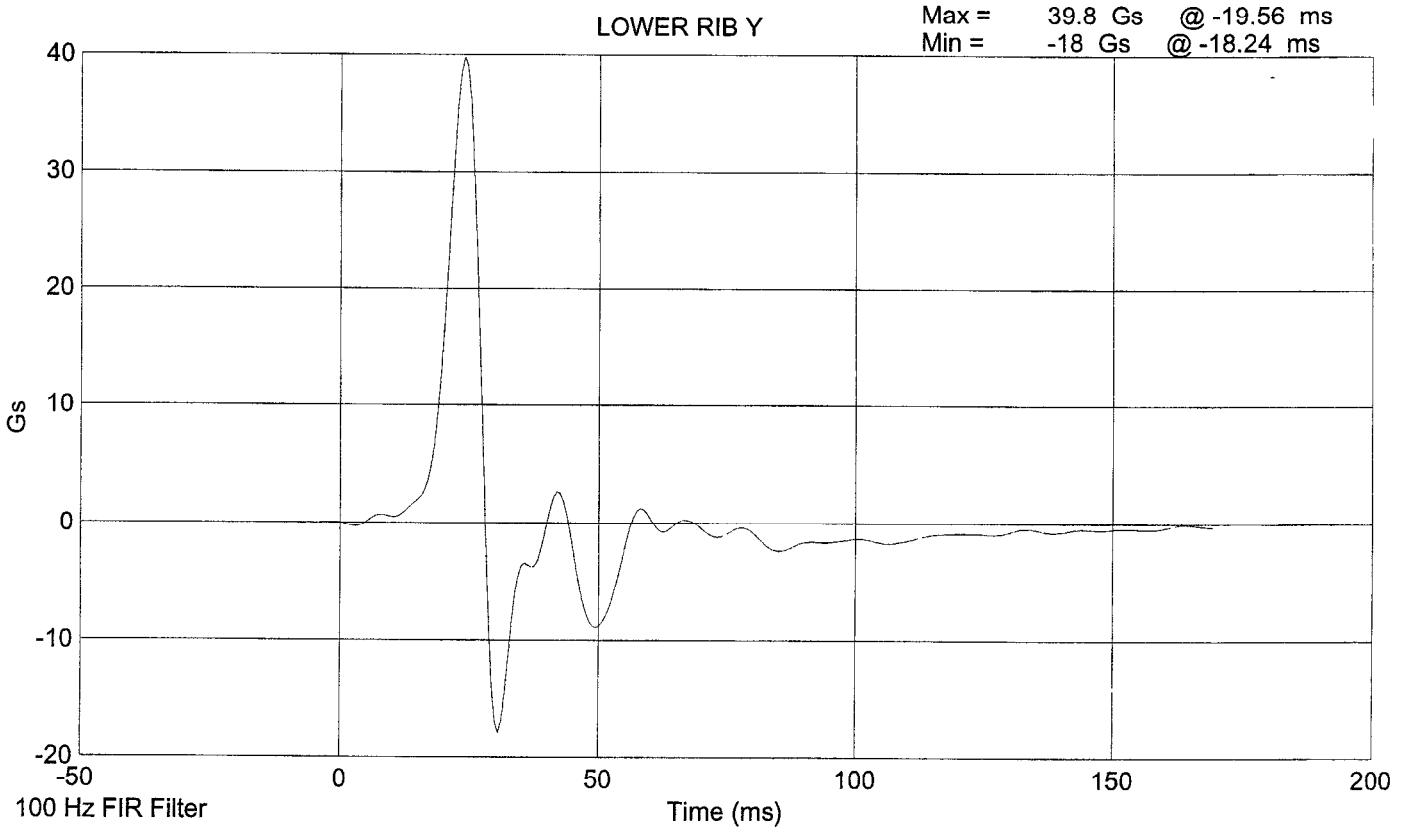
Max = 21.9 Gs @ 28.44 ms
Min = -8.18 Gs @ 46.32 ms



UPPER RIB Y

Max = 39.9 Gs @ -19.56 ms
Min = -18.1 Gs @ -18.24 ms





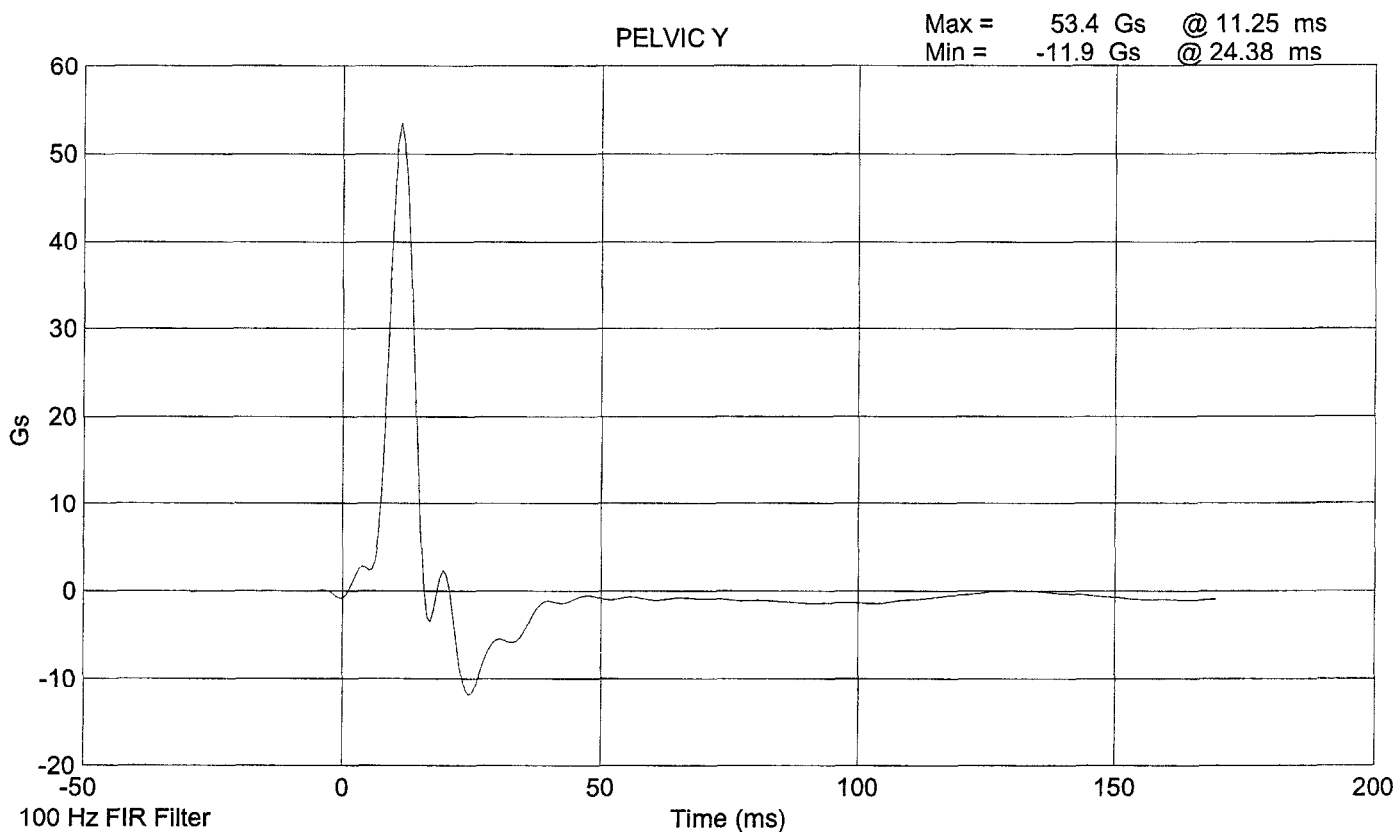
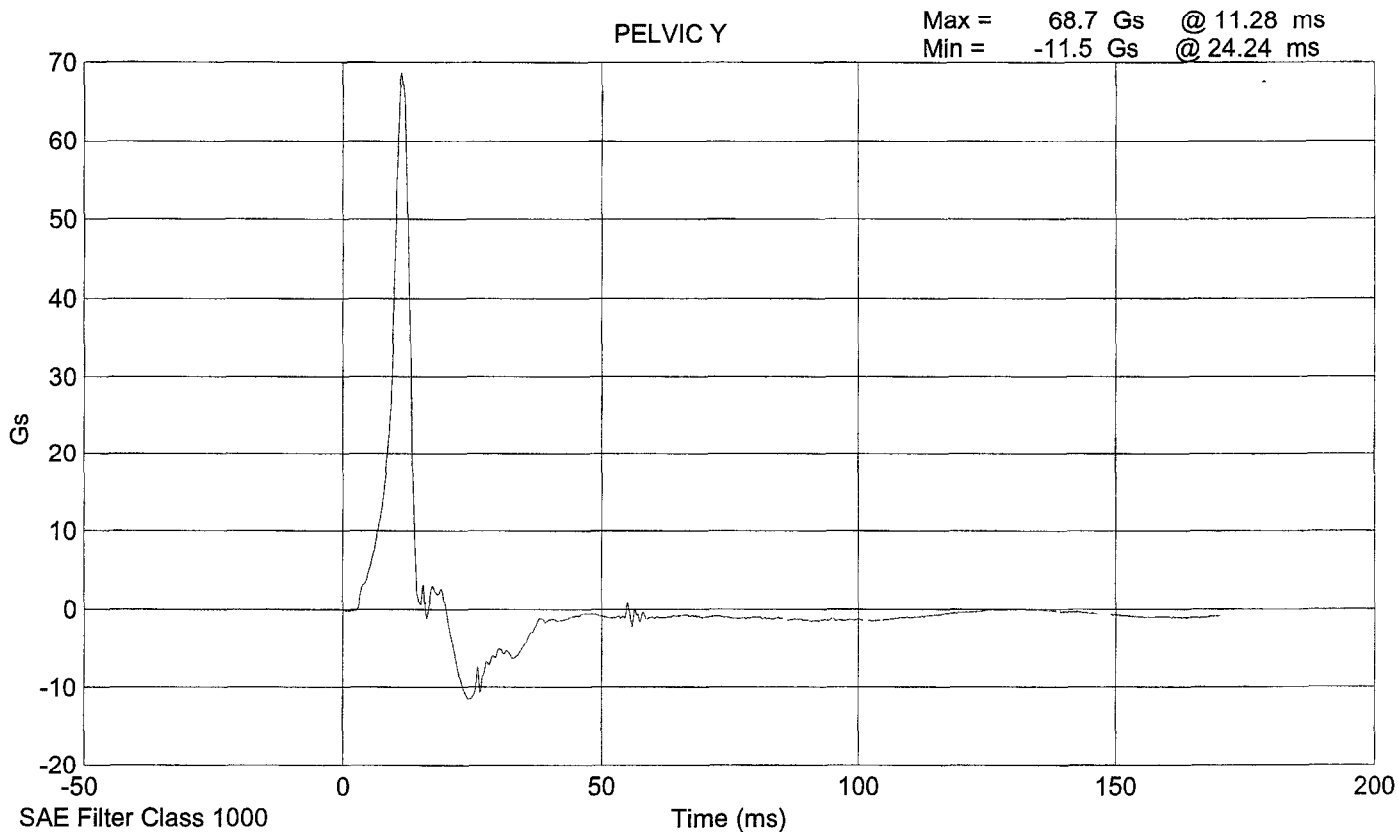
LATERAL PELVIS IMPACT TEST
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 12/4/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	53.4

REMARKS: None



HEAD DROP TEST

POST-TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

Sequential Test Number: 1

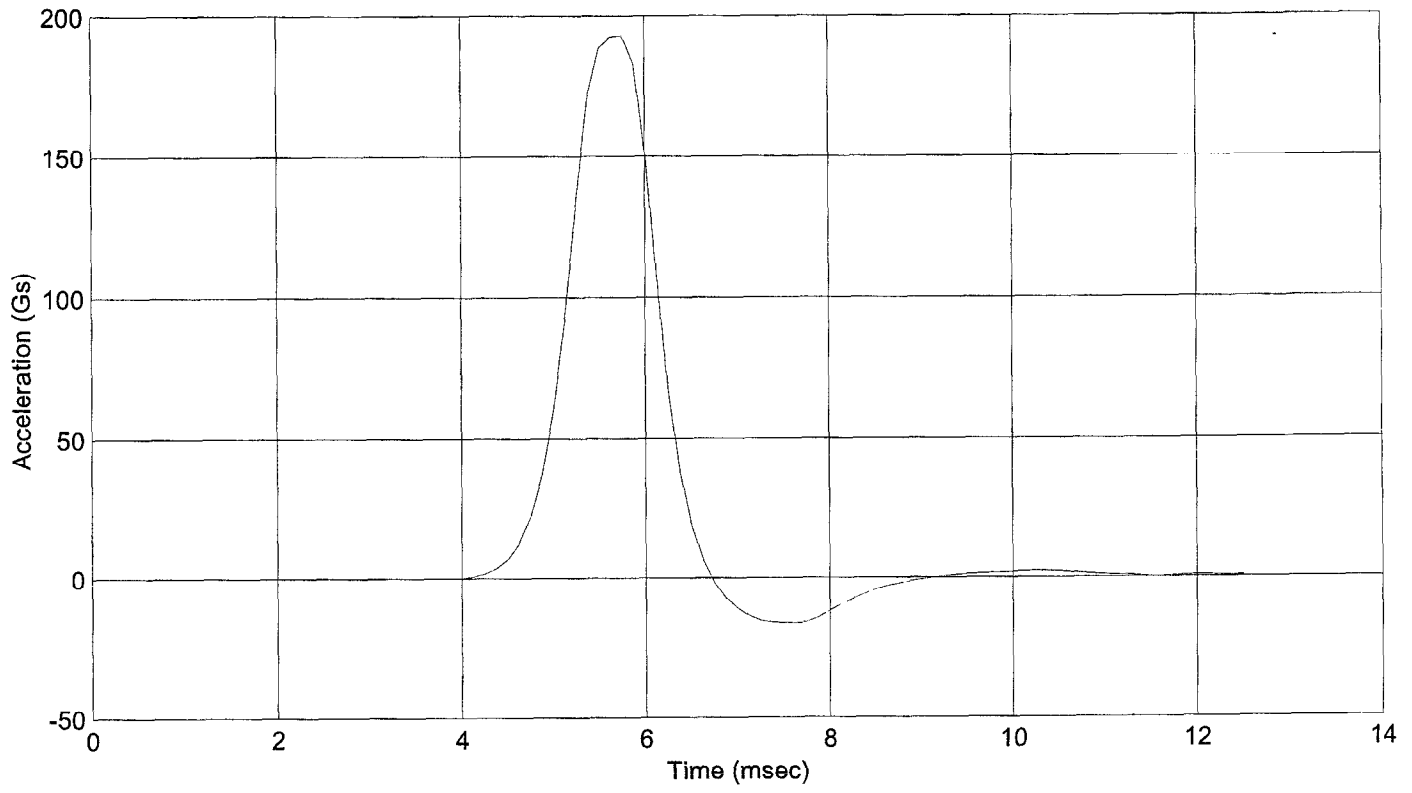
Date: 12/1/00

Laboratory Technician: B. Swiecicki

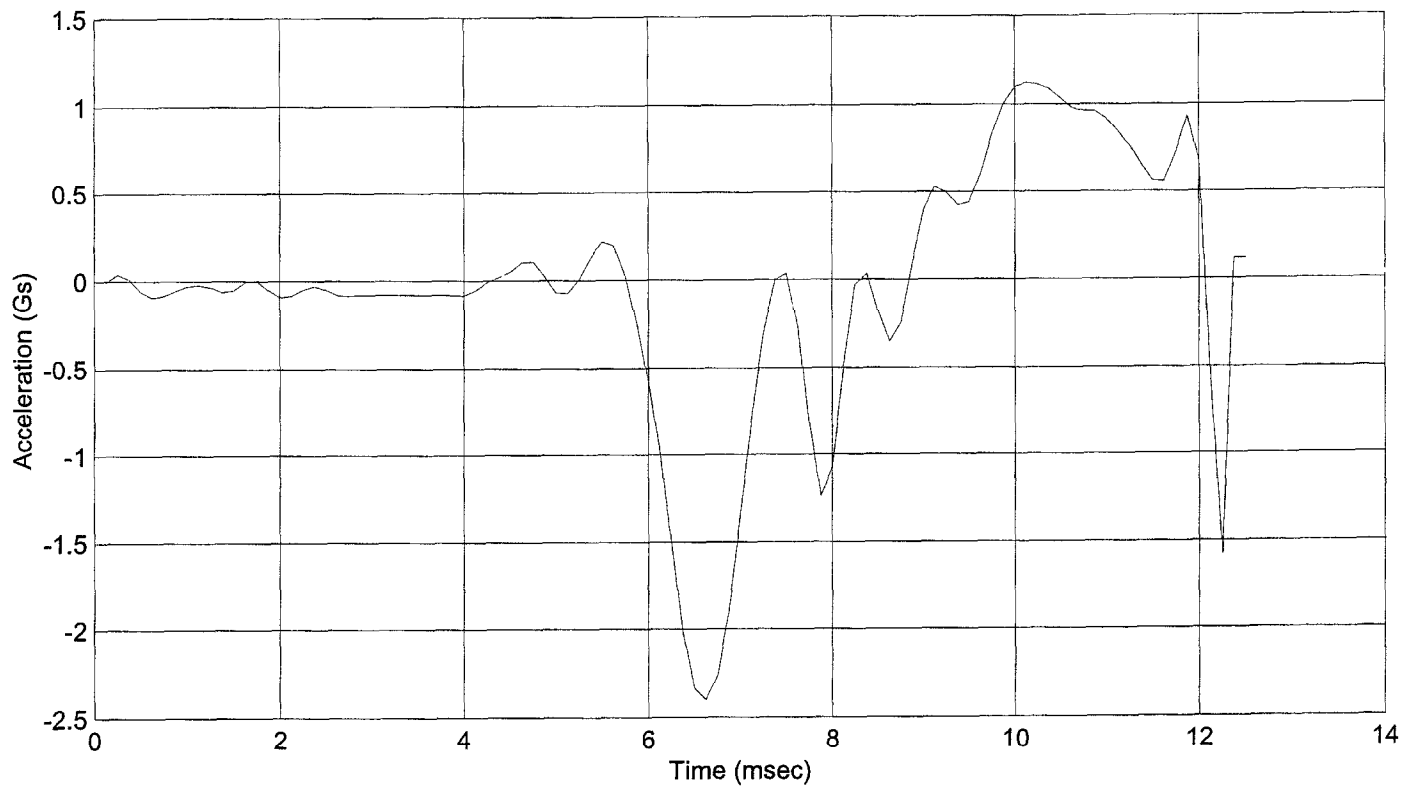
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	243.5
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	2.4
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

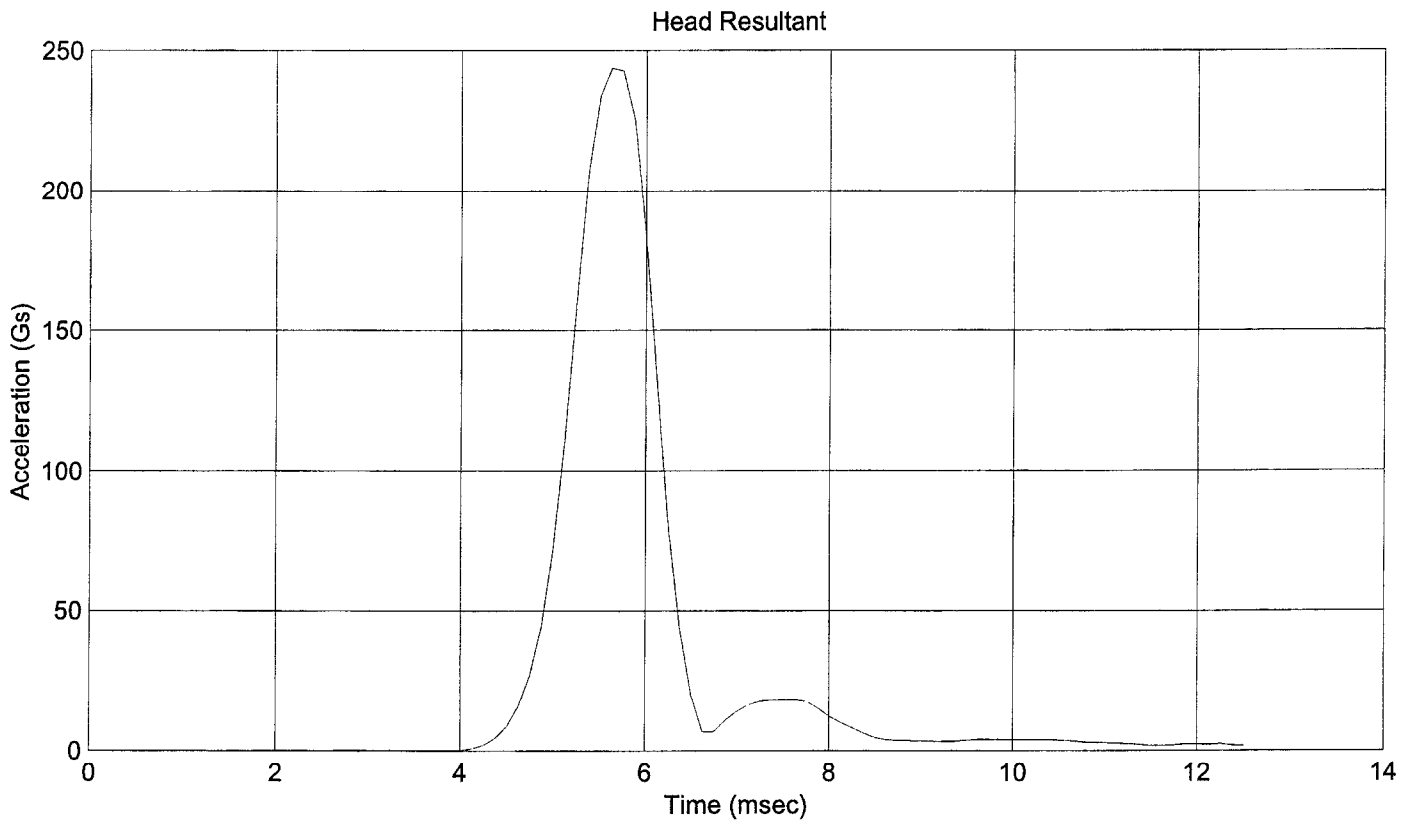
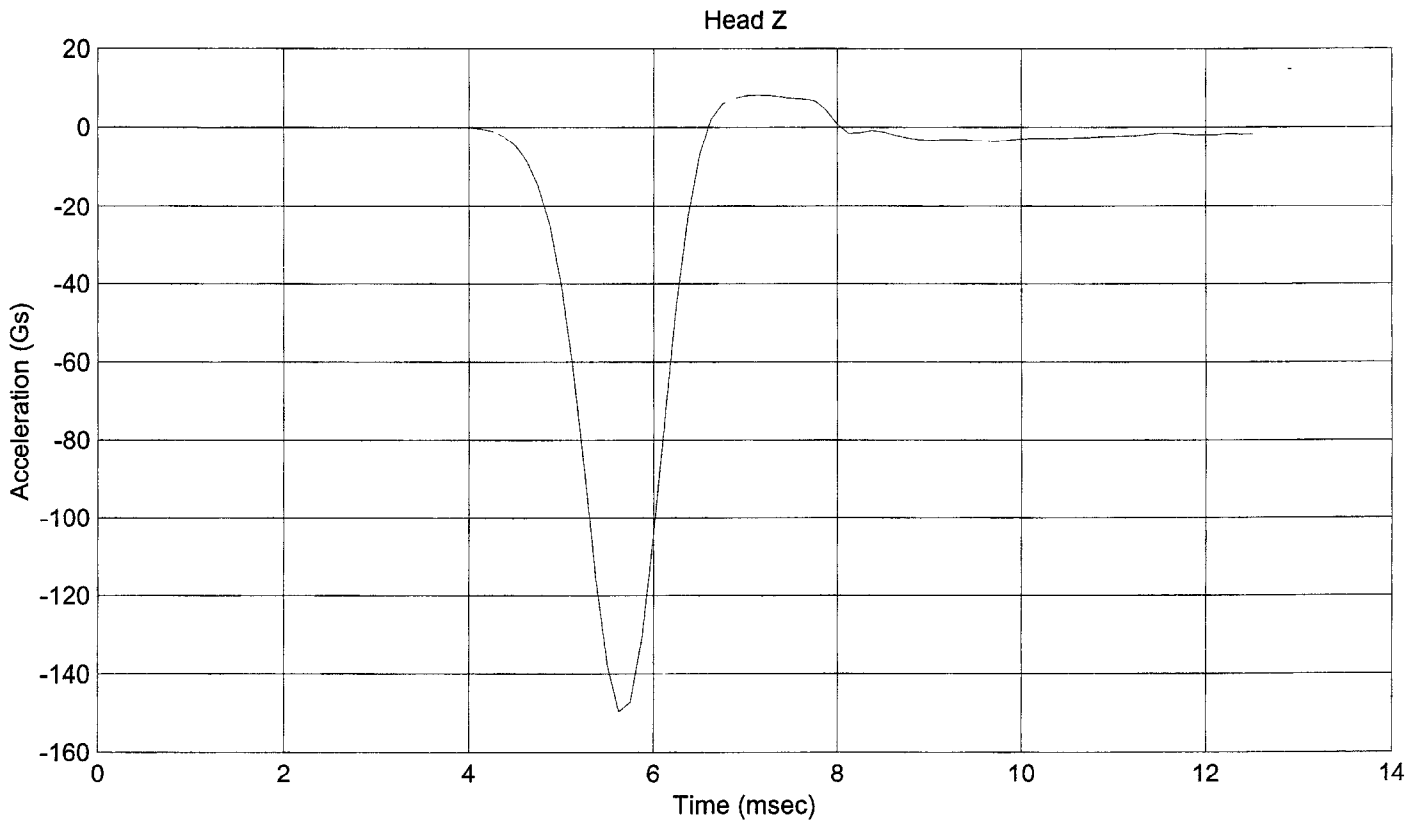
REMARKS: None

Head X



Head Y





ABDOMINAL COMPRESSION TEST

POST TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 12/5/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	115
FORCE @ 19 mm (N)	163 - 221	179
FORCE @ 25 mm (N)	222 - 280	260
FORCE @ 33 mm (N)	325 - 391	389

REMARKS: None

Dummy S/N 027

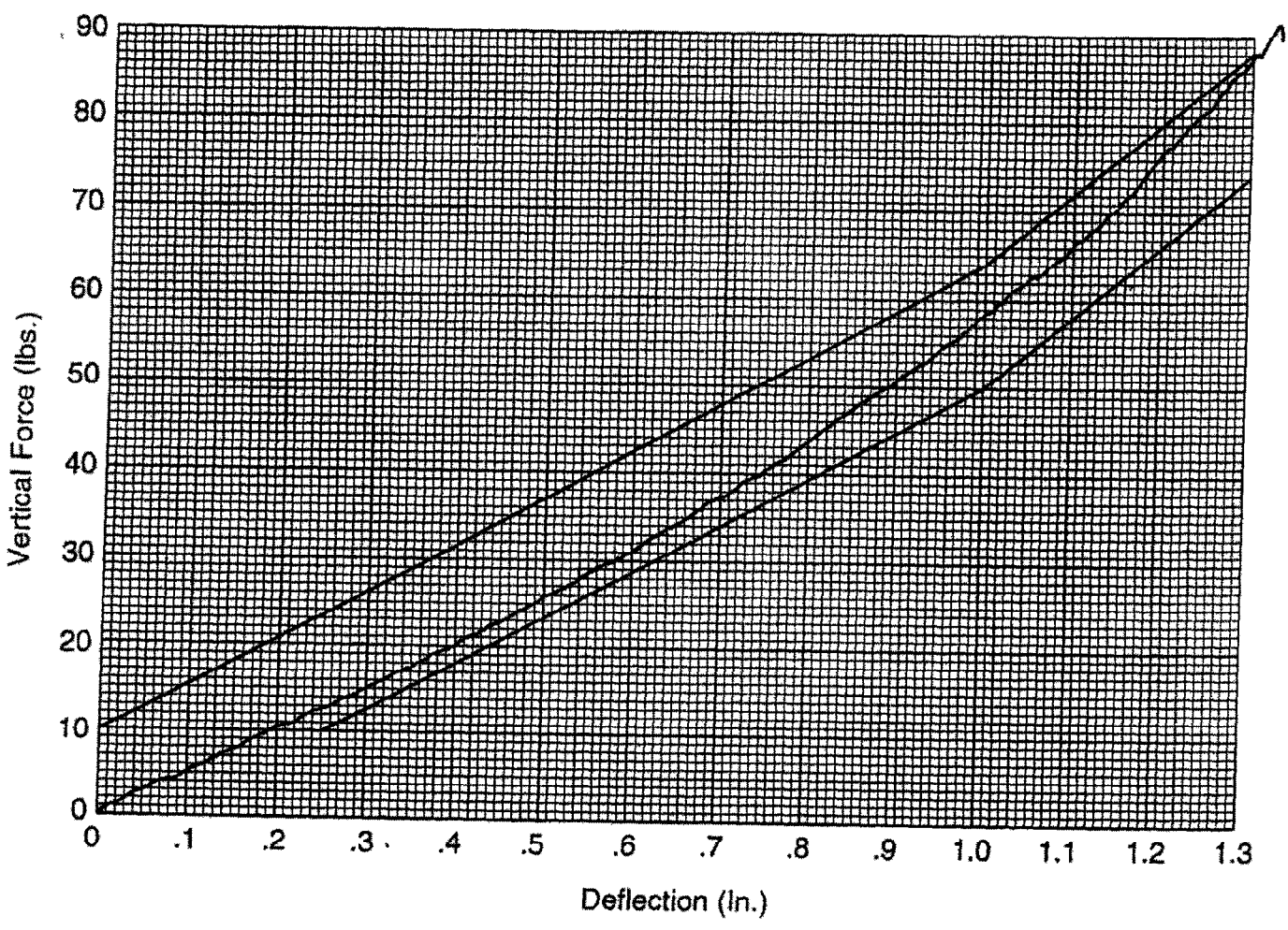
W/A _____

Date 12-5-2000

Performed By [Signature]

Temp. 71°

Humidity 32%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

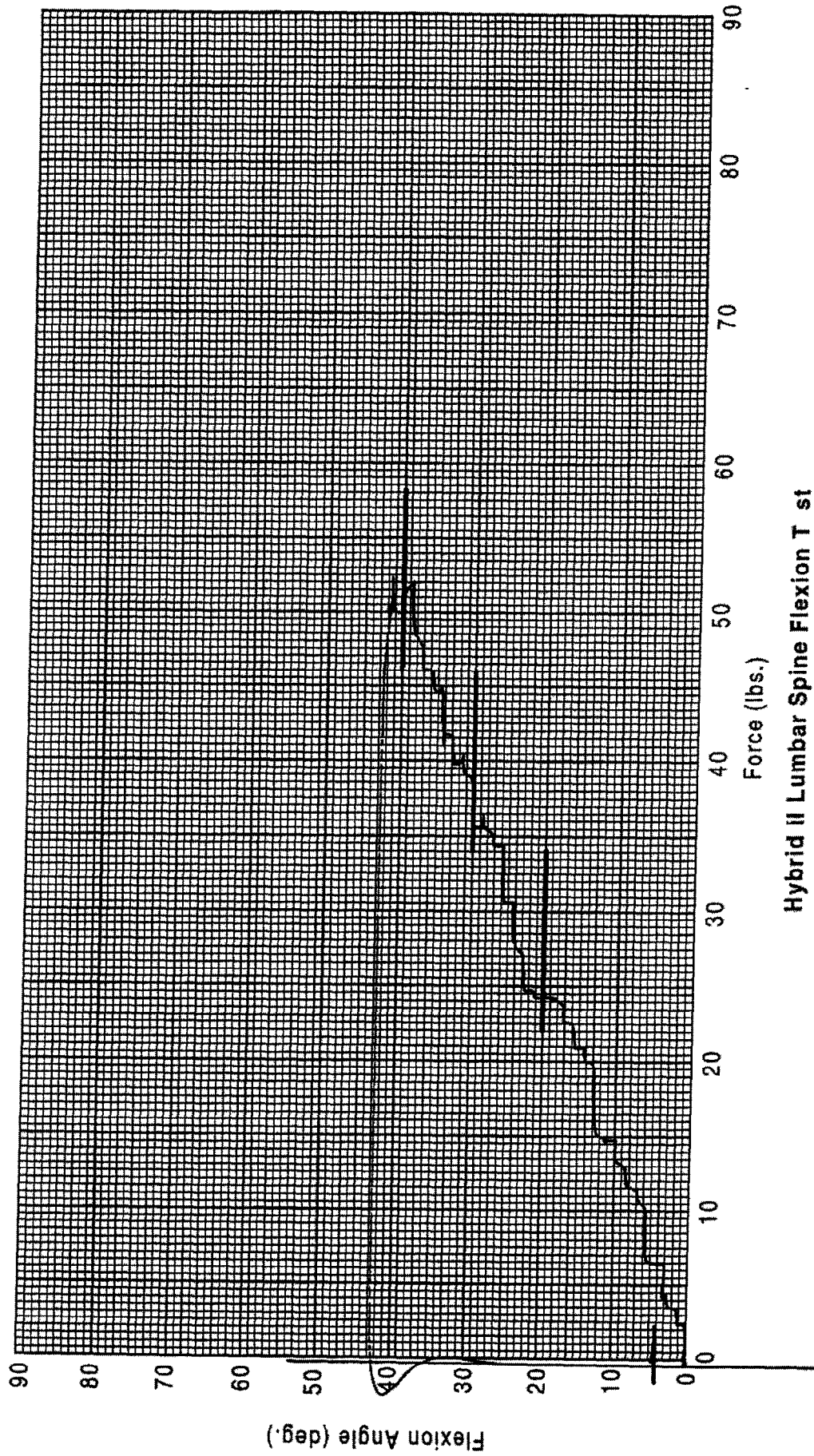
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
Date: 12/5/00 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	107.6
FORCE @ 30° (N)	151.2 - 204.6	160.1
FORCE @ 40° (N)	204.6 - 258	226.9
RETURN ANGLE	12° max.	4.2°

REMARKS: None

Dummy S/N 027
W/A _____
Date 12-5-2000
Performed By [Signature]
Temp. 71°
Humidity 32%



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PC32/D52 ISO Formt

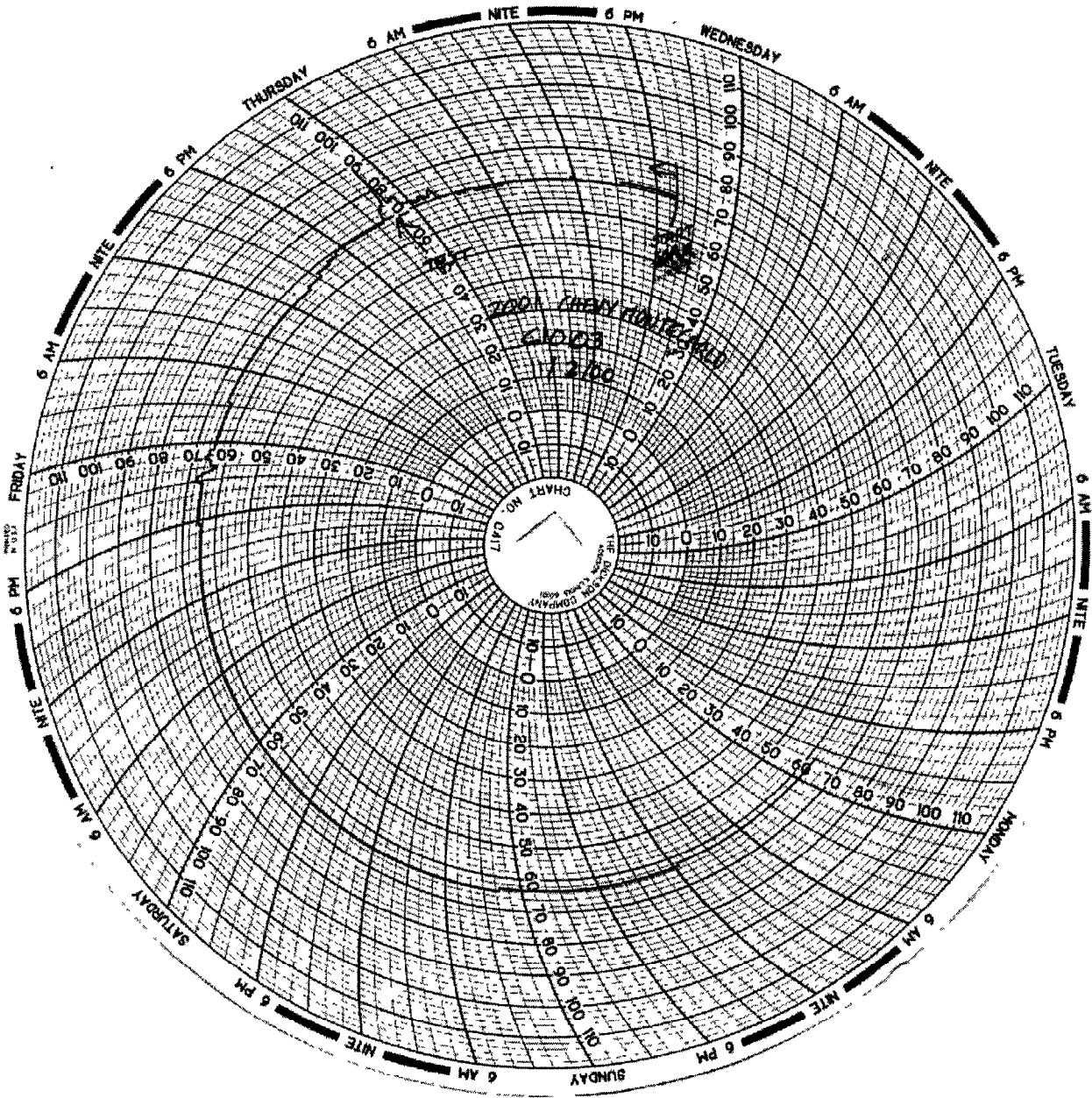
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1
 Date: 12/5/00 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

FRONT SID NO.: 013			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD (X)	AC-P16813	ENDEVCO	9/13/00
HEAD (Y)	AC-P17255	ENDEVCO	9/14/00
HEAD (Z)	AC-P17145	ENDEVCO	9/14/00
UPPER RIB (Y)	AC-P16761	ENDEVCO	9/14/00
LOWER RIB (Y)	AC-P17131	ENDEVCO	9/14/00
LOWER SPINE (Y)	AC-P15736	ENDEVCO	9/14/00
PELVIS (Y)	AC-P16628	ENDEVCO	9/14/00
UPPER RIB REDUNDANT (Y)	AC-P17247	ENDEVCO	9/14/00
LOWER RIB REDUNDANT (Y)	AC-P16616	ENDEVCO	9/13/00
LOWER SPINE REDUNDANT (Y)	AC-P17288	ENDEVCO	9/14/00
PELVIS REDUNDANT (Y)	AC-P16575	ENDEVCO	9/14/00

REAR SID NO.: 027			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD (X)	AC-P16964	ENDEVCO	9/13/00
HEAD (Y)	AC-P17286	ENDEVCO	9/13/00
HEAD (Z)	AC-P16597	ENDEVCO	9/13/00
UPPER RIB (Y)	AC-P17236	ENDEVCO	9/13/00
LOWER RIB (Y)	AC-P16593	ENDEVCO	9/13/00
LOWER SPINE (Y)	AC-P16979	ENDEVCO	9/15/00
PELVIS (Y)	AC-P14388	ENDEVCO	9/15/00
UPPER RIB REDUNDANT (Y)	AC-P16662	ENDEVCO	9/13/00
LOWER RIB REDUNDANT (Y)	AC-P17237	ENDEVCO	9/13/00
LOWER SPINE REDUNDANT (Y)	AC-P17258	ENDEVCO	9/15/00
PELVIS REDUNDANT (Y)	AC-P12587	ENDEVCO	9/15/00

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-B11073	ENDEVCO	9/7/00
RIGHT FRONT SILL (Y)	AC-B10954	ENDEVCO	9/7/00
RIGHT FRONT SILL (Z)	AC-J27941	ENDEVCO	8/31/00
RIGHT REAR SILL (X)	AC-ACC06	ENDEVCO	9/8/00
RIGHT REAR SILL (Y)	AC-B10481	ENDEVCO	9/8/00
RIGHT REAR SILL (Z)	AC-B11351	ENDEVCO	9/8/00
REAR FLOORPAN ABOVE AXLE (X)	AC-J32831	ENDEVCO	7/6/00
REAR FLOORPAN ABOVE AXLE (Y)	AC-J31026	ENDEVCO	9/21/00
REAR FLOORPAN ABOVE AXLE (Z)	AC-APA30	ENDEVCO	7/6/00
LEFT REAR SILL (Y)	AC-ACCW0	ENDEVCO	8/7/00
LEFT FRONT SILL (Y)	AC-J18436	ENDEVCO	8/31/00
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-D29	ICS	8/14/00
LOWER LEFT B- PILLAR (Y)	AC-A13883	ENDEVCO	6/13/00
MIDDLE LEFT B-PILLAR (Y)	AC-A14126	ENDEVCO	6/13/00
LOWER LEFT A-PILLAR (Y)	AC-A14131	ENDEVCO	6/13/00
UPPER LEFT A-PILLAR (Y)	AC-A12776	ENDEVCO	6/12/00
FRONT SEAT TRACK (Y)	AC-A13926	ENDEVCO	6/12/00
REAR SEAT TRACK (Y)	AC-D79	ICS	8/14/00
VEHICLE CG (X)	AC-BB14	ENDEVCO	9/18/00
VEHICLE CG (Y)	AC-AP064	ENDEVCO	9/18/00
VEHICLE CG (Z)	AC-B10955	ENDEVCO	9/18/00
MDB CG (X)	AC-CL60	ENDEVCO	8/31/00
MDB CG (Y)	AC-CJ54	ENDEVCO	8/31/00
MDB CG (Z)	AC-GK12	ENDEVCO	8/31/00
MDB REAR FRAME MEMBER (X)	AC-CX05	ENDEVCO	8/31/00
MDB REAR FRAME MEMBER (Y)	AC-A27F	ENDEVCO	8/31/00

REMARKS: None