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REPORT NUMBER: 214-CAL-05-05

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

**GENERAL MOTORS CORPORATION
2005 CHEVROLET COBALT
4-DOOR SEDAN**

NHTSA NUMBER: C50112

**CALSPAN
TRANSPORTATION SCIENCES CENTER
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BUFFALO, NEW YORK 14225**



April 12, 2005

FINAL REPORT

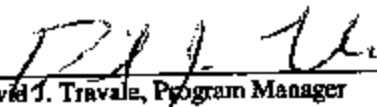
**U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Enforcement
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6111 (NVS-220)
Washington, DC 20590**

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-02-D-01114. 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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16. Abstract A 48/24 kph 90° Impact Moving Deformable Barrier Side Impact Test was conducted on the subject 2005 Chevrolet Cobalt 4-Door Sedan in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-06 (July 26, 2001) to determine FMVSS 214 Side Impact Protection compliance. This test was performed at the Calspan Transportation Sciences Crash Test Facility in Buffalo, New York, on April 12, 2005. The impact velocity of the Moving Deformable Barrier (MDB) was 53.43 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.0°C. The target vehicle post-test maximum crush was 275 mm at level 2. The test vehicle's performance follows: <table border="1" data-bbox="162 1092 1299 1302"> <thead> <tr> <th></th> <th align="center"><u>Front SID</u></th> <th></th> <th align="center"><u>Rear SID</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration (LUR):</td> <td align="center">62.8</td> <td align="center">g's</td> <td align="center">43.4</td> <td align="center">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration (LLR):</td> <td align="center">60.6</td> <td align="center">g's</td> <td align="center">44.3</td> <td align="center">g's</td> </tr> <tr> <td>Lower Spine Acceleration (T₁₂):</td> <td align="center">59.1</td> <td align="center">g's</td> <td align="center">46.2</td> <td align="center">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td align="center">61</td> <td align="center">g's</td> <td align="center">45</td> <td align="center">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td align="center">55</td> <td align="center">g's</td> <td align="center">44</td> <td align="center">g's</td> </tr> </tbody> </table> 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.							<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration (LUR):	62.8	g's	43.4	g's	Left Lower Rib Acceleration (LLR):	60.6	g's	44.3	g's	Lower Spine Acceleration (T ₁₂):	59.1	g's	46.2	g's	Thoracic Trauma Index (TTI):	61	g's	45	g's	Pelvis Acceleration (PEV):	55	g's	44	g's
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact 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. DTNH22-02-D-01114. The purpose of this test was to evaluate side impact protection in a 2005 Chevrolet Cobalt 4-Door Sedan. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2005 Chevrolet Cobalt 4-Door Sedan 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 53.43 kph (33.2 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 Calspan Transportation Sciences Center in Buffalo, New York on April 12, 2005. 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 (TP-214D-06, dated July 26, 2001). Both SIDs were certified prior to this test. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SIDs were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Head triaxial accelerometers (X-, Y- and Z-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
TTI (g)	61	45
PEV (g)	55	44*

* The P4 Pelvis accelerometer cable was damaged during the event, the redundant accelerometer data is reported

FMVSS 214D requires that the TTI not exceed 85 g's for 4 door vehicles and not exceed 90 g's for 2 door vehicles. Peak lateral pelvis acceleration shall not exceed 130 g's.

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2005 Chevrolet Cobalt 4-Door Sedan

Vehicle Body Color: Silver VIN: 1G1AL52P257

Vehicle NHTSA No.: C50112 Month & Year of Manufacture: 12/04

Engine Data: 4 Cylinders; - CID; 2.2 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 Drive

Odometer Reading 399 km

Supplemental Airbag Restraints:

Front Occupant: X Frontal; - Knee; - Side; - Curtain

Rear Occupant: - Frontal; - Knee; - Side; - Curtain

Options:

X ADL; X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P195/60R15

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

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P195/60R15; Manufacturer: Continental

Tire Pressure with Maximum Capacity Vehicle Load: Front: 300 kPa; Rear: 300 kPa

Treadwear: 520; Traction: A; Temperature: B

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 Rear Seats: X Bucket; - Bench; - Split Bench; X Contoured

Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob

Type of Rear Seat Back: X Fixed; - Adjustable with - Lever or - Knob

Vehicle Max Capacity Loading = 404.0 kg (A)

No. of Occupants x 68.04 kg. = 340.2 kg (B)

Vehicle Cargo Capacity = 63.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 396.0 kg Left Rear = 254.0 kg

Right Front = 397.0 kg Right Rear = 249.0 kg

TOTAL FRONT = 793.0 kg TOTAL REAR = 503.0 kg

% of Total Weight = 61.2 % % of Total Weight = 38.8 %

TOTAL WEIGHT = 1296.0 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1296.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>63.8</u>	kg (B)
Weight of instrumented Side Impact Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1522.2</u>	kg (A+B+C)

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

Left Front	=	<u>440.0</u>	kg	Left Rear	=	<u>366.0</u>	kg
Right Front	=	<u>403.0</u>	kg	Right Rear	=	<u>322.0</u>	kg
TOTAL FRONT	=	<u>843.0</u>	kg	TOTAL REAR	=	<u>688.0</u>	kg
% of Total Weight	=	<u>55.7</u>	%	% of Total Weight	=	<u>45.5</u>	%
TOTAL TEST WEIGHT =		<u>1531.0</u>	kg				

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

Left Front	=	<u>434.0</u>	kg	Left Rear	=	<u>355.5</u>	kg
Right Front	=	<u>410.5</u>	kg	Right Rear	=	<u>313.5</u>	kg
TOTAL FRONT	=	<u>844.5</u>	kg	TOTAL REAR	=	<u>669.0</u>	kg
% of Total Weight	=	<u>55.8</u>	%	% of Total Weight	=	<u>44.2</u>	%
TOTAL TEST WEIGHT =		<u>1513.5</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>674</u>	Right Front	<u>685</u>	Left Rear	<u>703</u>	Right Rear	<u>704</u>
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FULLY LOADED:

Left Front	<u>656</u>	Right Front	<u>677</u>	Left Rear	<u>666</u>	Right Rear	<u>676</u>
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READY FOR TEST:

Left Front	<u>668</u>	Right Front	<u>678</u>	Left Rear	<u>669</u>	Right Rear	<u>677</u>
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Test Vehicle Wheelbase: 2622 millimeters

C.G. = 1159 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

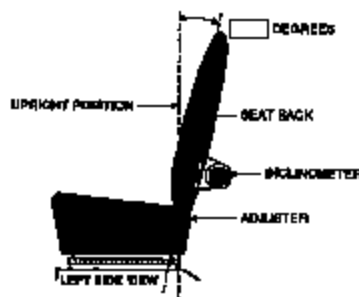
Right Side =	<u>4449</u>	millimeters
Left Side =	<u>4447</u>	millimeters
Centerline =	<u>4594</u>	millimeters

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2005 Chevrolet Cobalt 4-Door SedanNHTSA No. C50112

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT ASSEMBLY

FRONT SEAT CUSHION PLACEMENT:

The seat cushion was placed at the first detent rearward of the middle of its absolute fore/aft travel (detent 13, where the forward most detent is defined as 0 and there are 27 positions total). There was no detent available at the true mid travel location.

Total Length of Adjustment Travel: 266 millimetersTotal Number of Adjustment Positions or Detents: 27FRONT SEAT BACK ADJUSTMENT POSITION:

The seat back was positioned so that the head restraint posts were 3.75 degrees from vertical with the ATD installed.

Seat Back Torso Angle: 22.0 degreesSECOND POSITION SEAT:Total Length of Fore/Aft Adjustment Travel: 0 millimetersSeat Back Adjustment Position: FixedADJUSTABLE STEERING COLUMN POSITION:

The steering column was position at mid-tilt (2 degrees down from the upper-most locking position)

WINDOW POSITIONS:Left Front: ClosedLeft Rear: ClosedRight Front: OpenRight Rear: Open

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

AUTOMATIC DOOR LOCKS:Is test vehicle equipped with ADLs? X Yes - NoDoes vehicle owner's manual describe how to deactivate ADLs? - Yes X No - N/AComments: For this compliance speed test, the vehicle doors were left in the unlocked position.AMOUNT OF STODDARD SOLVENT IN FUEL TANK:49.85 liters (Fuel Tank Usable Capacity)46.2 liters used for test (92%-94% of Fuel Tank Usable Capacity)LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:Wheelbase = 2622 millimetersImpact Point is 371 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 363 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2005 Chevrolet Cobalt

Body Style: 4-Door Sedan

VIN: 1G1AL52F257

NHTSA No.: C50112

Test Date: April 12, 2005

Overall Length = 4594 millimeters; Overall Width = 1727 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 434.0 kg Left Rear = 355.5 kg

Right Front = 410.5 kg Right Rear = 313.5 kg

TOTAL FRONT = 844.5 kg TOTAL REAR = 669.0 kg

TOTAL VEHICLE WEIGHT 1513.5 kg

Wheelbase = 2622 millimeters

Longitudinal C.G. from Center of Front Axle = 1159 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 8 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 7 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (235 mm above ground) = 134 millimeters

2. LEVEL 2 (488 mm above ground) = 275 millimeters

3. LEVEL 3 (611 mm above ground) = 214 millimeters

4. LEVEL 4 (834 mm above ground) = 186 millimeters

5. LEVEL 5 (1342 mm above ground) = 25 millimeters

Maximum Post-Test Intrusion = 275 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification 013

015

Restraints Used 3-point seat belt

3-point seat belt

INSTRUMENTATION:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3

Offboard = 7

TOTAL = 10

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. CS0112

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore:213B0104; 068B0304

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>53.43</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>103</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>57</u>	millimeters
3. Row C at Mid Level	=	<u>76</u>	millimeters
4. Row D at Top of Stack Level	=	<u>87</u>	millimeters

INSTRUMENTATION:

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

POST-TEST OBSERVATIONS

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112

VISIBLE DUMMY CONTACT POINTS:

LEFT FRONT SID

Head: Face to left shoulder
 Upper Torso: Arm to the rear section of the arm rest and to the door trim above the arm rest
 Lower Torso: Pelvis to door trim below the arm rest
 Left Knee: Left knee to door trim
 Right Knee: Right knee to left knee

LEFT REAR SID

Top of head to side header, side window and quarter window frame
Arm to upper door trim below the arm rest
Pelvis to door trim below the arm rest
Left knee to door trim
Right knee to left knee

DOOR OPENING:

LEFT DOOR

Front: Closed, latched, and inoperable without tools
 Rear: Closed, latched, and inoperable without tools

RIGHT DOOR

Closed, latched, and operable without tools
Closed, latched, and operable without tools

MDB DISTANCE FROM TARGET IMPACT POINT:

Vertical: 8 mm forward of target
Horizontal: 7 mm below target

ARM REST LOCATIONS:

Front: 240 mm below the bottom of the window opening
 Rear: 250 mm below the bottom of the window opening

SEAT MOVEMENT:

Front: The seat was deformed slightly inboard
 Rear: None

GLAZING DAMAGE:

Windshield: None
 Window: The driver side window and left rear passenger side window shattered during the event.

PILLAR PERFORMANCE:

No visible tears or separations

SILL SEPARATION:

None

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	No	No	N/A
SIDE	N/A	N/A	N/A

OTHER NOTABLE IMPACT EFFECTS:

None

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112

	Front Dummy ID# 013				Rear Dummy ID# 015				
	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	20.4	77.8	-2.5	188.4	16.9	169.6	-26.0	106.3	
Lateral Y	31.3	46.6	-7.5	31.8	40.9	69.8	-19.5	172.1	
Vertical Z	42.5	58.4	-6.0	78.0	56.2	70.8	-17.8	57.1	
Resultant R	42.6	58.4	-	-	66.3	70.5	-	-	
HIC	201				231				
RIB ACCELERATIONS:									
Upper Rib Lateral Y	62.8	29.3	-17.7	75.0	43.4	42.5	-4.9	115.7	
Upper Rib Lateral Y(R)	61.0	29.3	-17.6	75.6	43.5	42.5	-4.9	116.2	
Lower Rib Lateral Y	60.6	30.0	-8.7	88.7	44.3	37.5	-13.9	66.9	
Lower Rib Lateral Y(R)	59.1	30.0	-8.3	88.7	43.8	37.5	-13.9	67.5	
SPINE ACCELERATIONS:									
Lower Lateral Y	59.1	31.9	-19.7	66.2	46.2	44.4	-12.6	73.1	
Lower Lateral Y(R)	60.4	31.9	-19.5	66.2	47.4	44.4	-12.6	73.1	
PELVIC ACCELERATIONS:									
Lateral Y	55.5	27.5	-8.3	58.1	54.3†	30.6	-7.5†	54.4	
Lateral Y(R)	55.1	27.5	-8.1	58.1	44.3	33.7	-7.5	54.4	

REFERENCE: Positive Direction -
 Longitudinal (X) = forward
 Lateral (Y) = to right
 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.

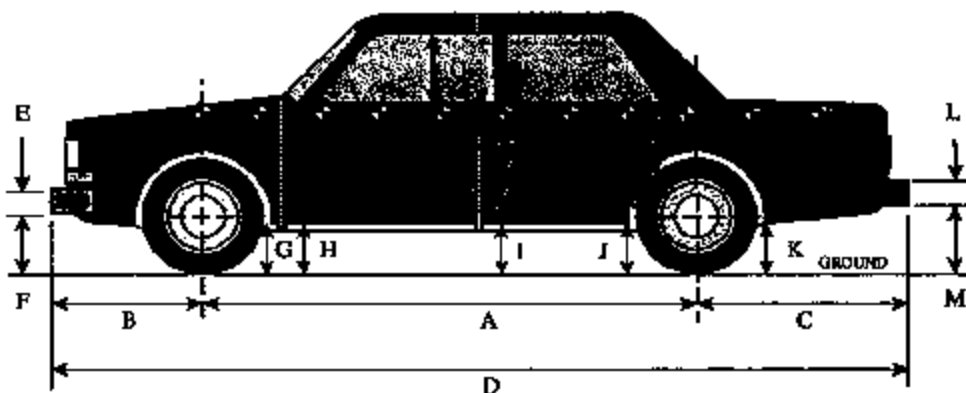
Questionable Data - Cable Damage. The redundant P4 Pelvic Acceleration data was used for to assess vehicle performance.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112



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	2625	2622	2609	-13
B	983	970	985	15
C	986	1002	982	-20
D	4594	-	4576	-18
E	305	-	305	0
F	245	247	254	7
G	207	195	200	5
H	212	199	215	16
I	217	199	211	12
J1	203	176	182	6
J2	225	198	207	9
K	279	243	237	-6
L	334	-	334	0
M	374	337	334	-3
N	655	-	625	-30
O	770	-	762	-8
P	1109	-	1041	-68
Q	417	-	405	-12
R	4449	-	4454	5
S	4447	-	4431	-16
T	1727	-	1616	-111

D = Length at Centerline

E&L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-Pillar

J1 = To Pinch Weld

J2 = To Sill

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
						Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*									
12	Left Lower B-Pillar	2102	-642	-483	pos.	-	-	209.6	4.5	-	-	-	-
					neg.	-	-	-70.2	23.7	-	-	-	-
13	Left Middle B-Pillar	2058	-699	-683	pos.	-	-	208.5	5.1	-	-	-	-
					neg.	-	-	-105.9	26.4	-	-	-	-
14	Left Lower A-Pillar	3081	-673	-335	pos.	-	-	208.4	4.0	-	-	-	-
					neg.	-	-	-125.3	11.0	-	-	-	-
15	Left Middle A-Pillar	3108	-646	-936	pos.	-	-	23.6	36.2	-	-	-	-
					neg.	-	-	-1.8	124.1	-	-	-	-
16	Front Seat Track	2247	-548	-233	pos.	-	-	80.3	12.7	-	-	-	-
					neg.	-	-	-39.7	17.1	-	-	-	-
17	Rear Seat Track	1102	-619	-591	pos.	-	-	26.8	6.7	-	-	-	-
					neg.	-	-	-4.7	78.0	-	-	-	-
18	Vehicle CG	2796	20	-438	pos.	8.4	57.7	71.0	20.4	21.2	56.6	72.2	20.3
					neg.	-22.3	31.7	-47.6	27.8	-13.5	64.9	-	-

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

Z - Ground Level (+ Down)

4-12

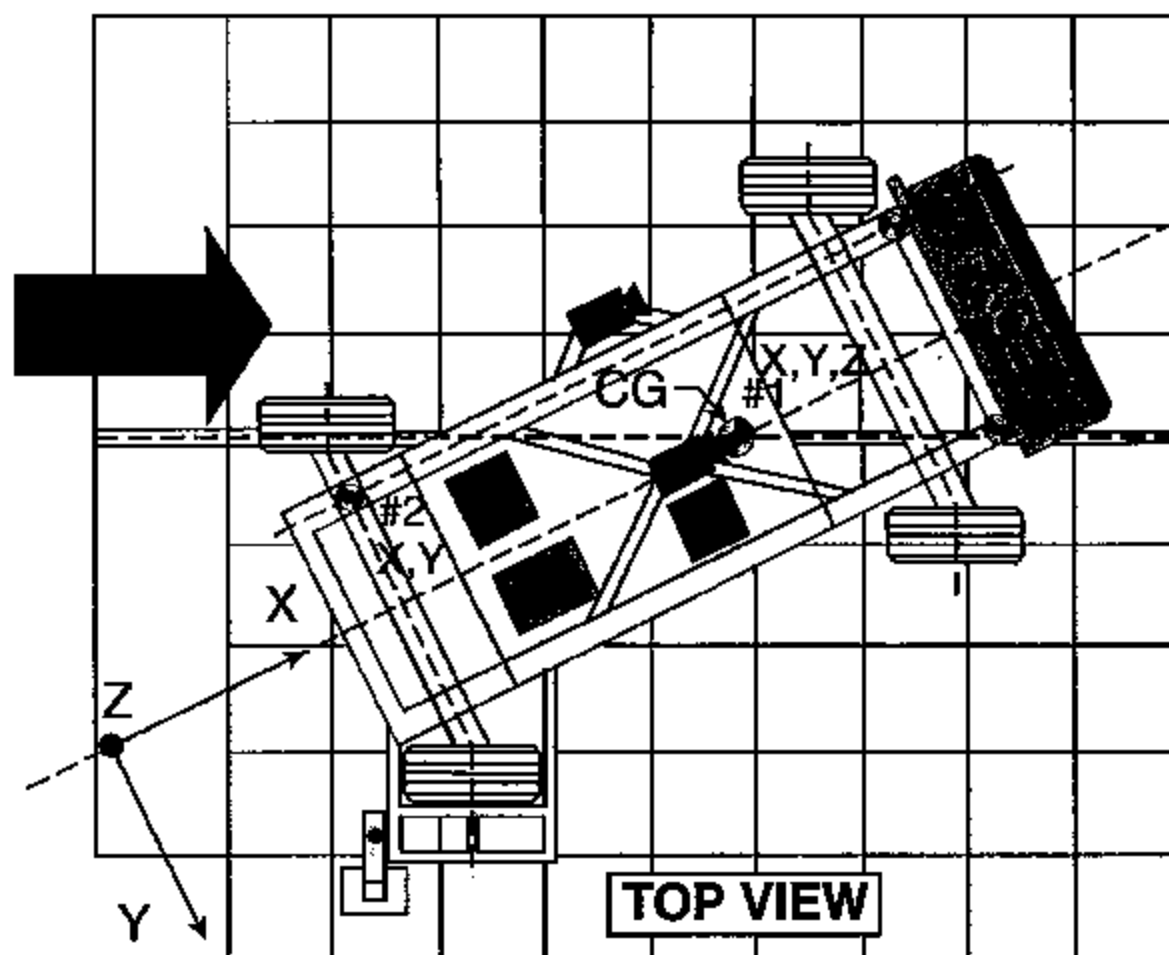
8675-F214-24

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
					Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*				
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	2.3	119.5	-17.5	39.7
	Lateral..... Y				1.5	59.7	-8.5	32.7
	Vertical..... Z				12.2	58.0	-13.9	63.3
	Resultant..... R				20.9	32.1	-	-
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.6	95.6	-22.3	34.5
	Lateral..... Y				5.0	29.1	-1.7	77.8

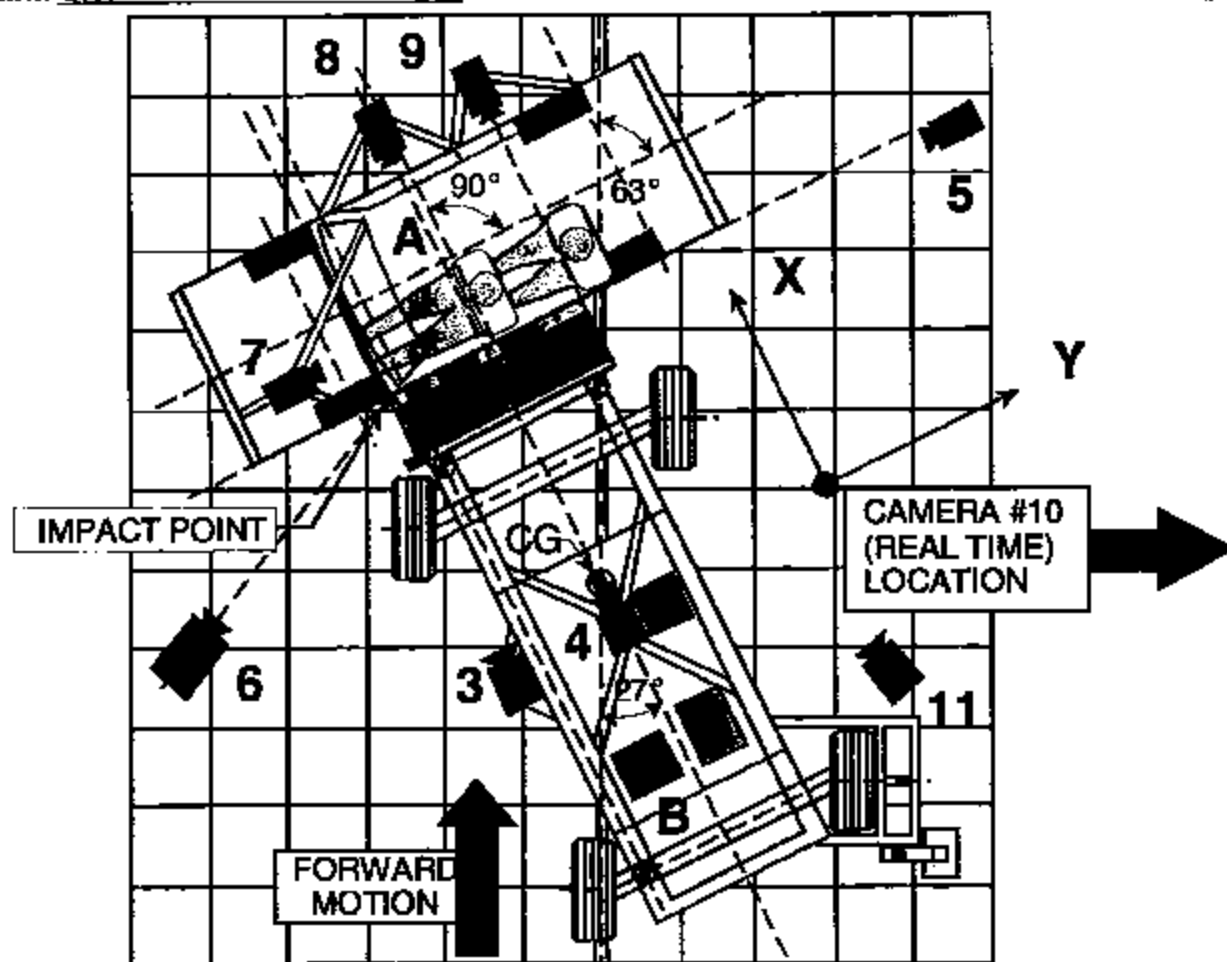
*Reference: X = Rear Bumper (+ Forward)
Y = Vehicle Centerline (+ To Right)
Z = Ground Level (+ Down)
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No. C50112



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	72	812	-4880	-90	8	1000
2	Overhead closeup view of impact plane	195	855	-4880	-90	12.5	1000
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	1000
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	1000
5	Right side ground level overall view	0	9845	-1095	-4	50	1000
6	Left side ground level overall view	1920	-1620	-1003	-7	28	1000
7	Test vehicle onboard driver front view	570	-472	-1237	-10	25	1000
8	Test vehicle onboard driver side view	1675	705	-1025	-10	12.5	1000
9	Test vehicle onboard passenger side view	1605	1626	-1040	-10	12.5	1000
10	Real time film coverage of test	-	-	-	-	-	30

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

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

Z = (Ground Level) + Down

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

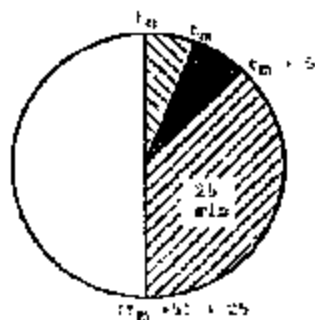
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.: C50112 TEST DATE: April 12, 2005
 Vehicle Mfr./Make/Model: General Motors Corporation 2005 Chevrolet Cobalt 4-Door Sedan

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 (53.43 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/l min.

SOLVENT SPILLAGE DETAILS:

None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2005 Chevrolet Cobalt 4-Door Sedan

NHTSA No.: C50112



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	5	seconds	5	minutes	6	minutes	5	seconds	7	minutes
90° - 180°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes
180°-270°	1	minutes	7	seconds	5	minutes	6	minutes	7	seconds	7	minutes
270°-360°	1	minutes	3	seconds	5	minutes	6	minutes	3	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0° - 90°	None
90° - 180°	None
180°-270°	None
270°-360°	None

APPENDIX A

PHOTOGRAPHS

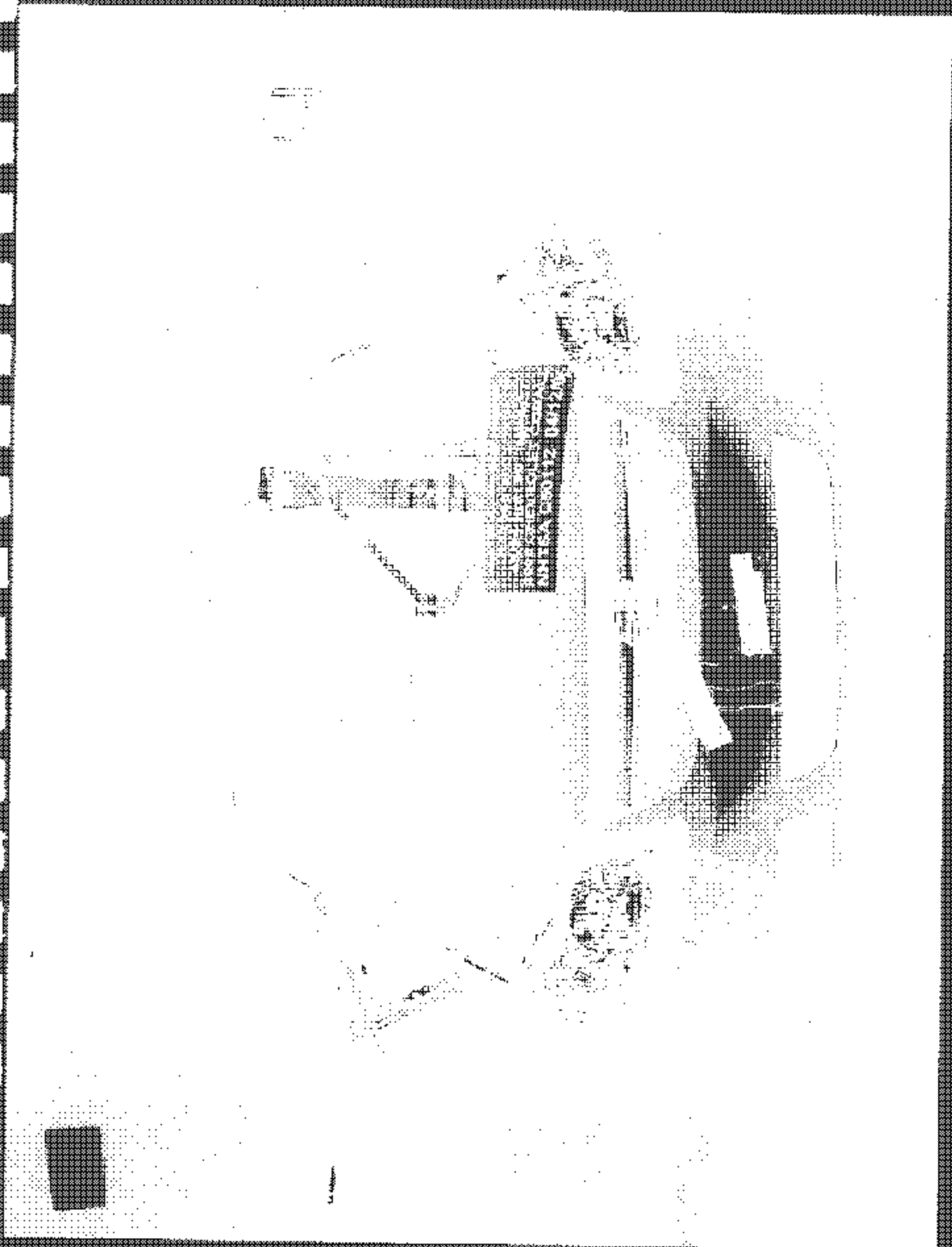


Figure A-1 PRE-TEST FRONTAL VIEW OF TEST VEHICLE

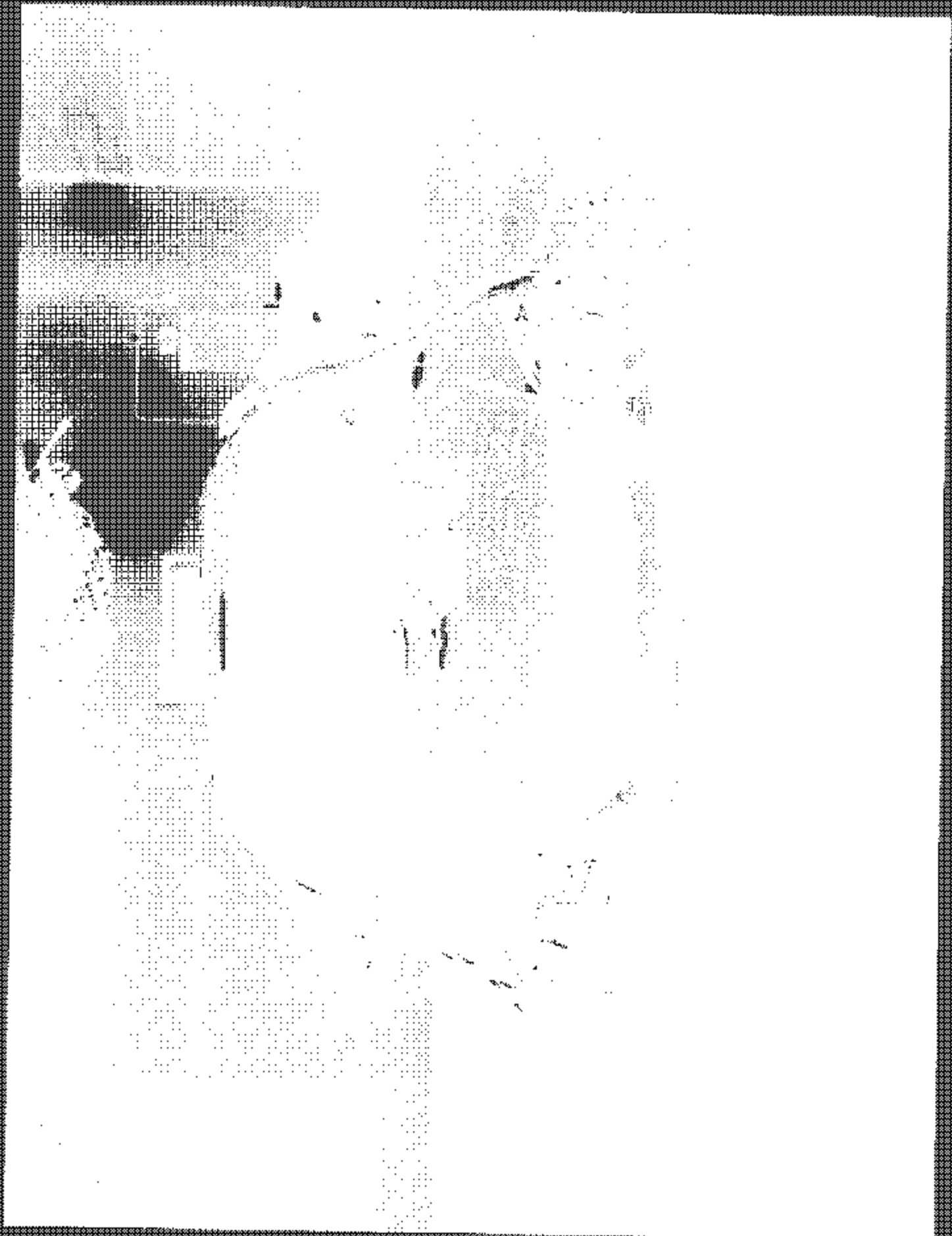


Figure A-2 POST-TEST FRONTAL VIEW OF TEST VEHICLE

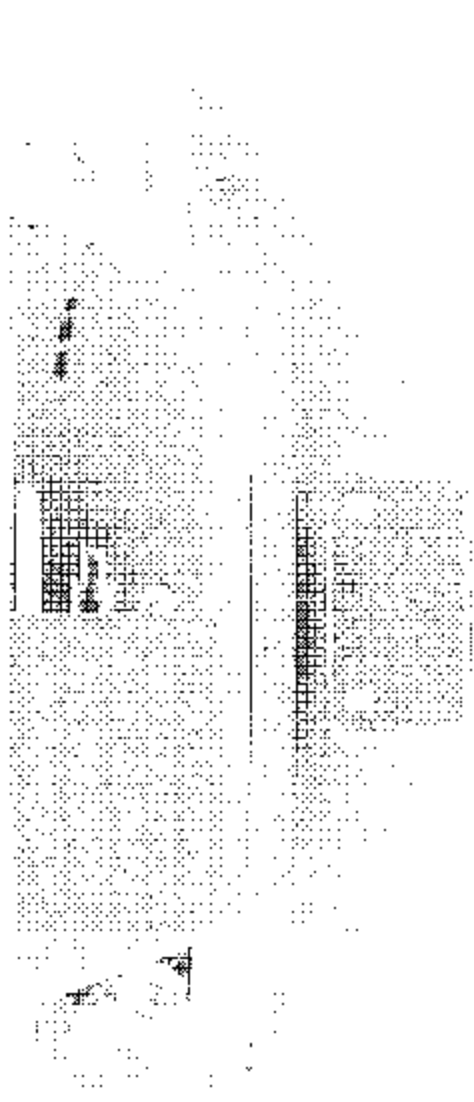


Figure A-3 PRE-TEST REAR VIEW OF TEST VEHICLE

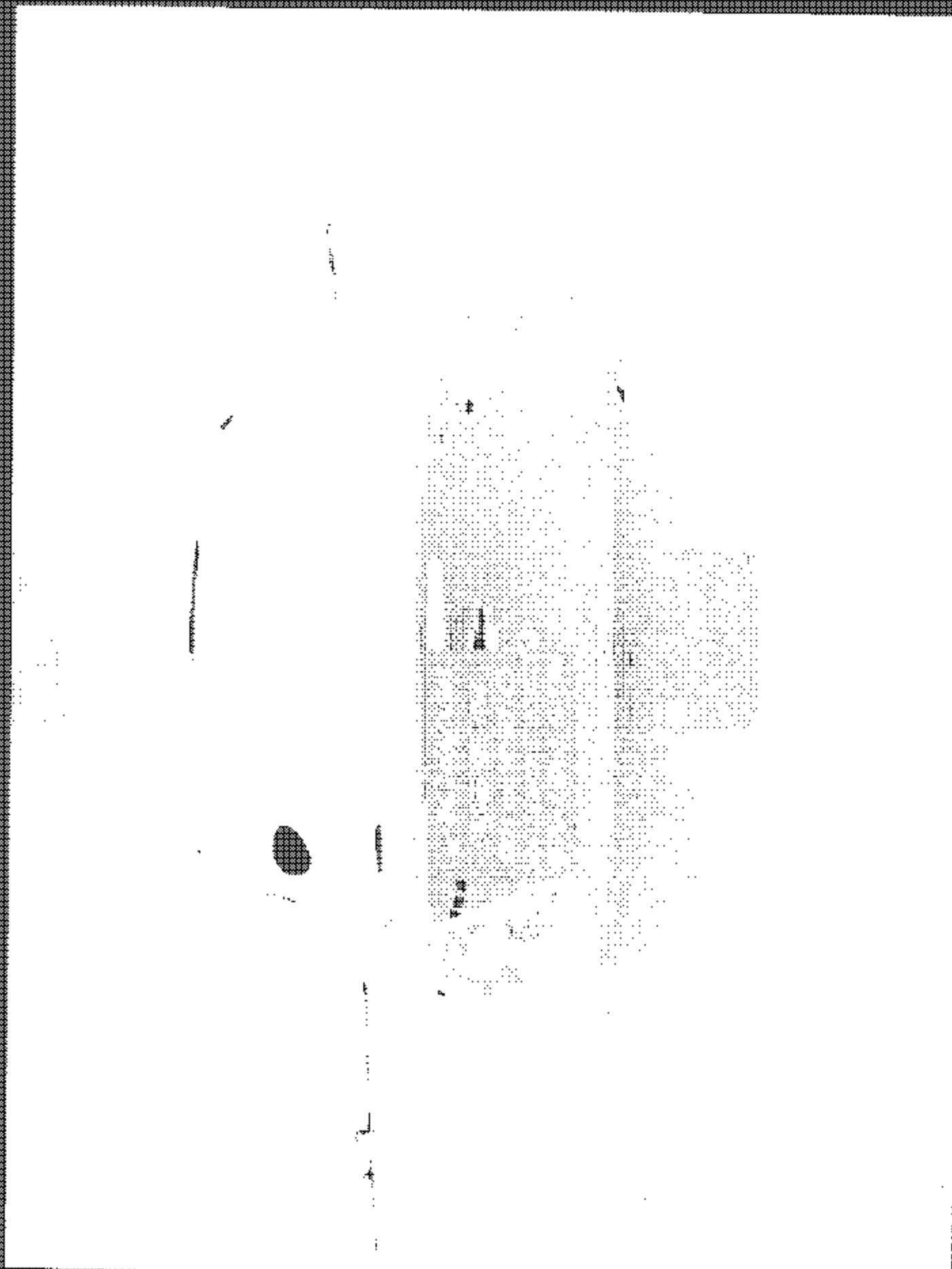


Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE



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

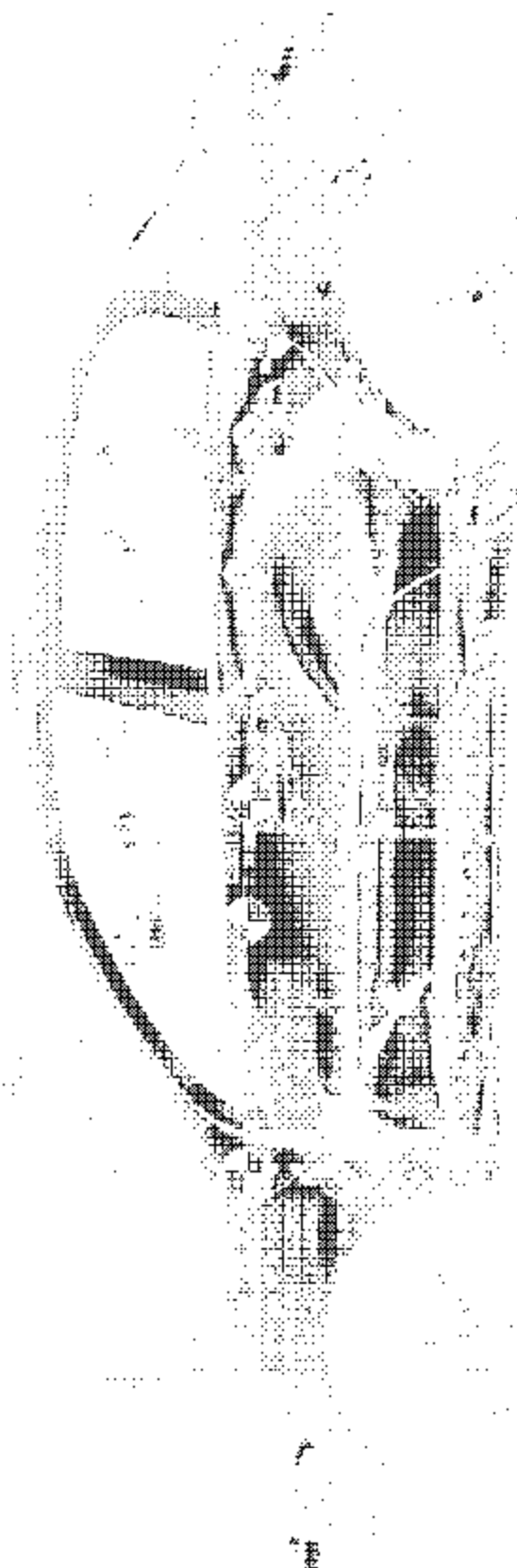


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

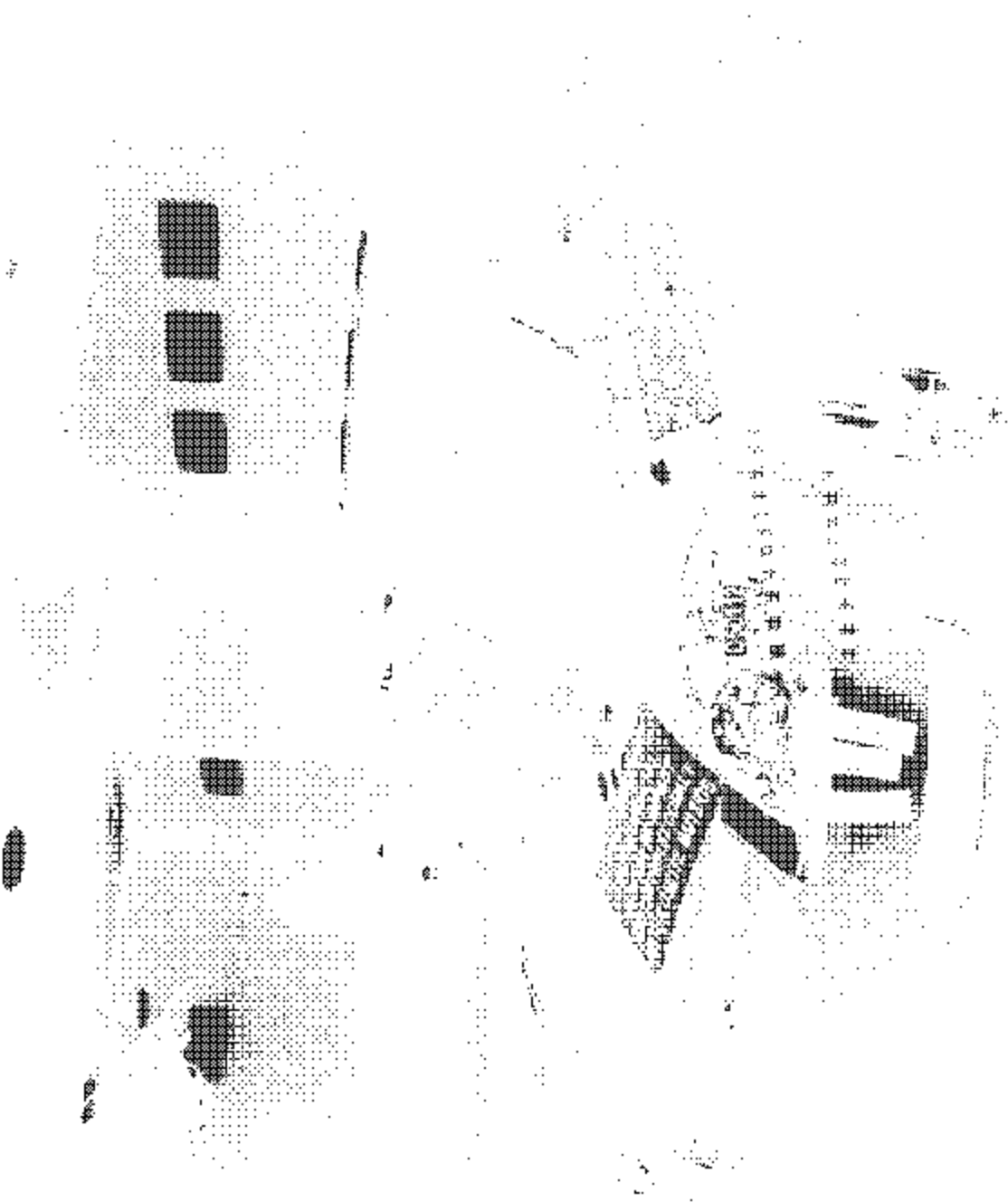


Figure A-7 ONE FIRST LEFT FRONT VIEW OF TEST VEHICLE

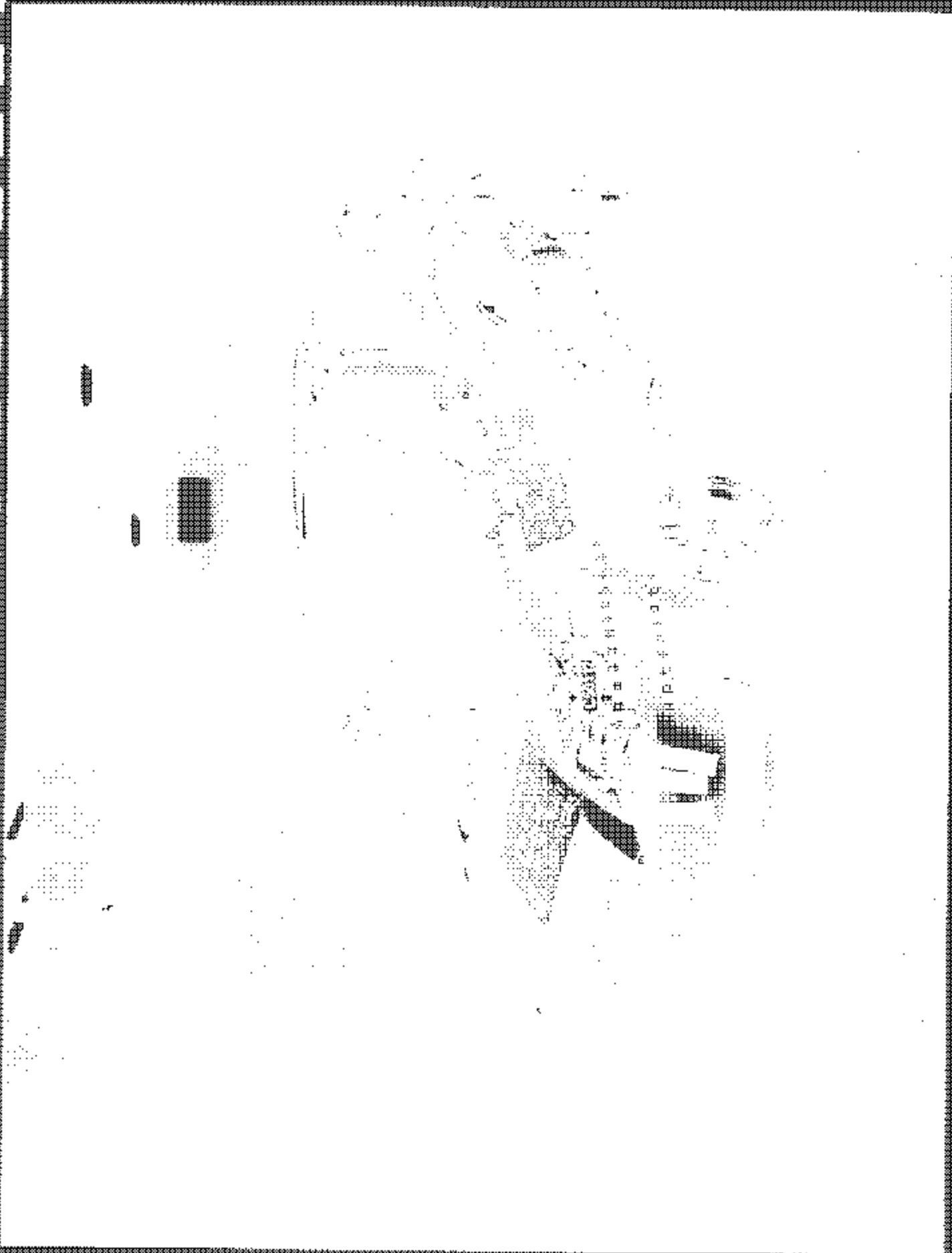


Figure A-4 MUST TEST LEFT FRONT VIEW OF TEST VEHICLE

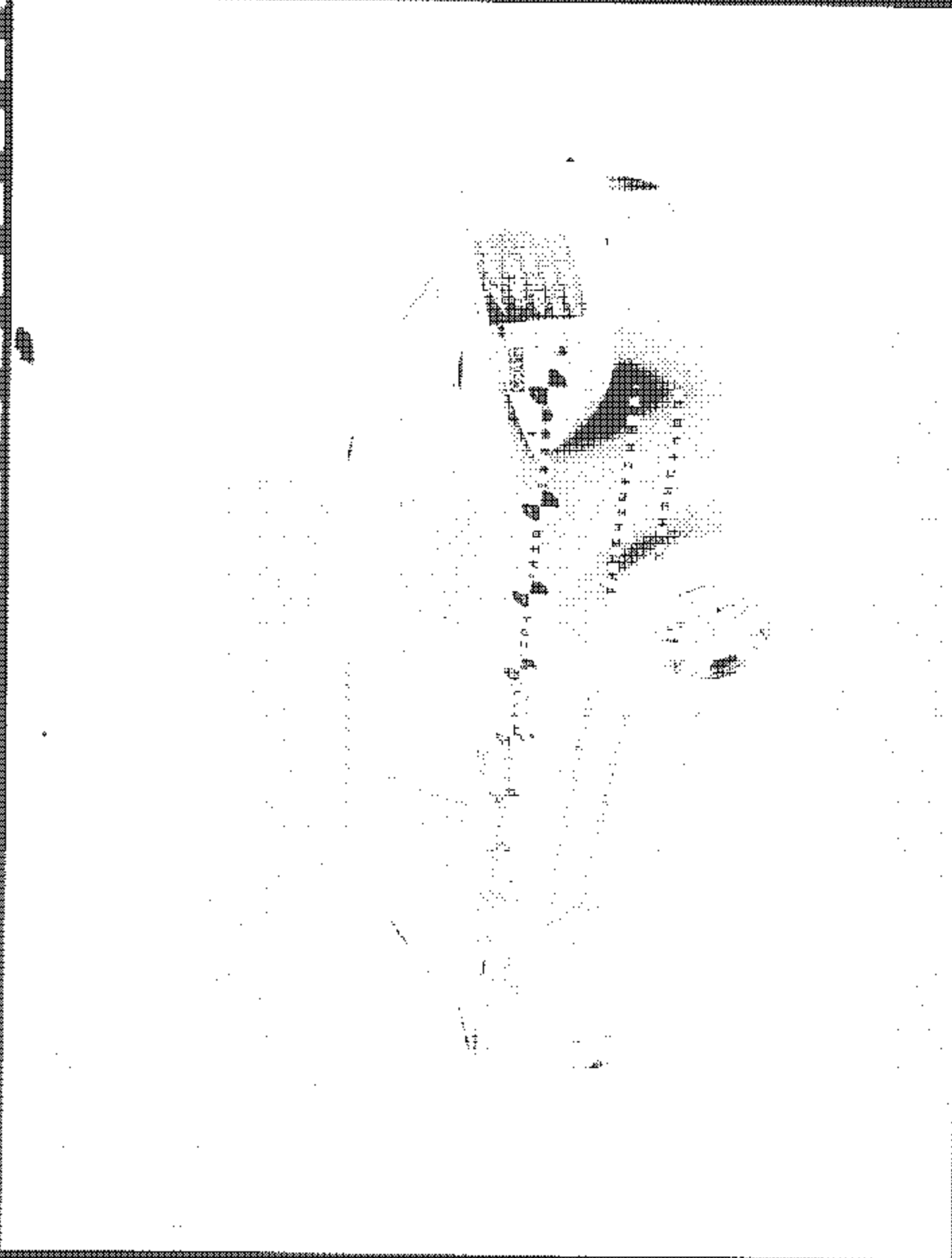


Figure A-9 PRE-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-19 POST-TEST LEFT REAR VIEW OF TEST VEHICLE

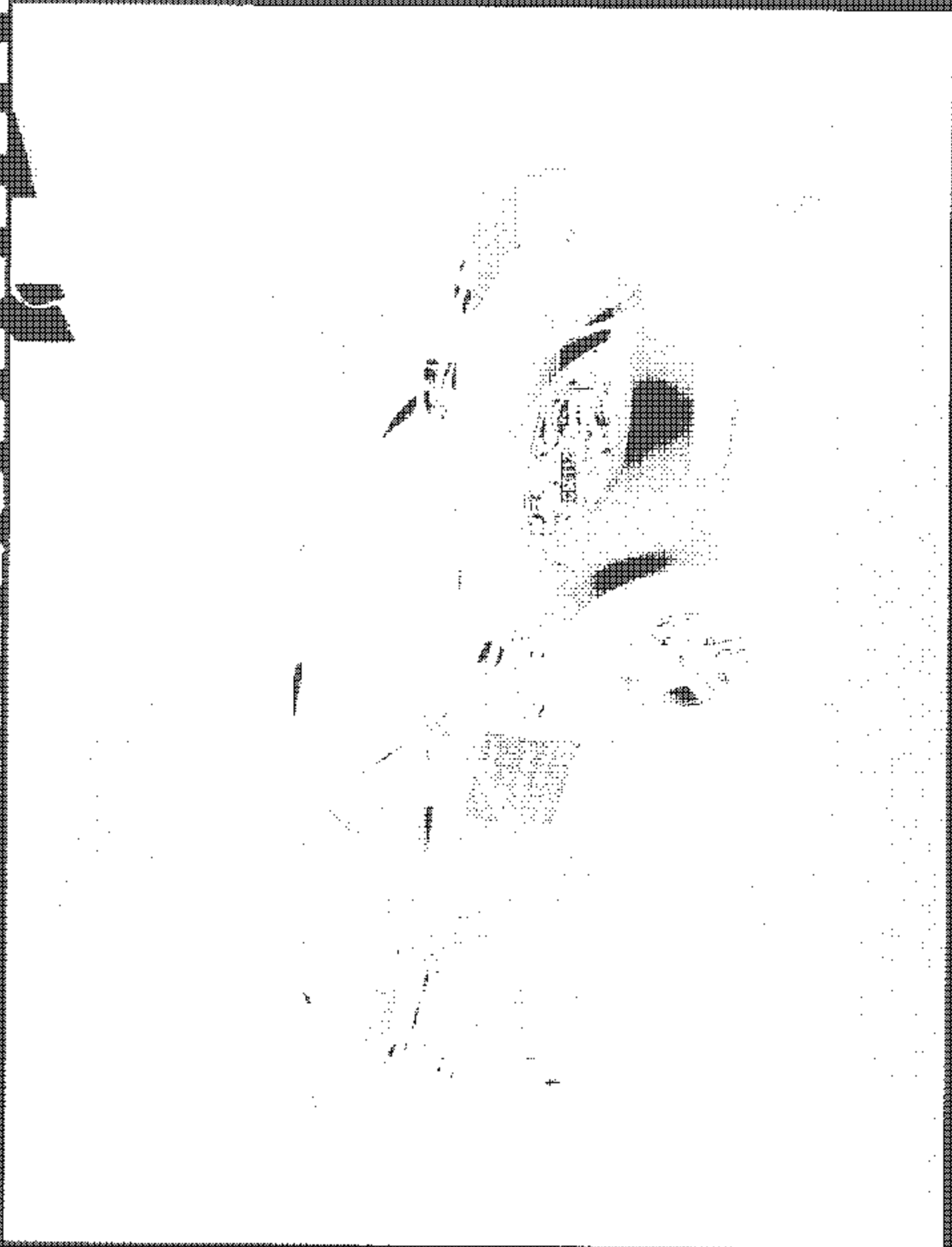


Figure A-11 PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE

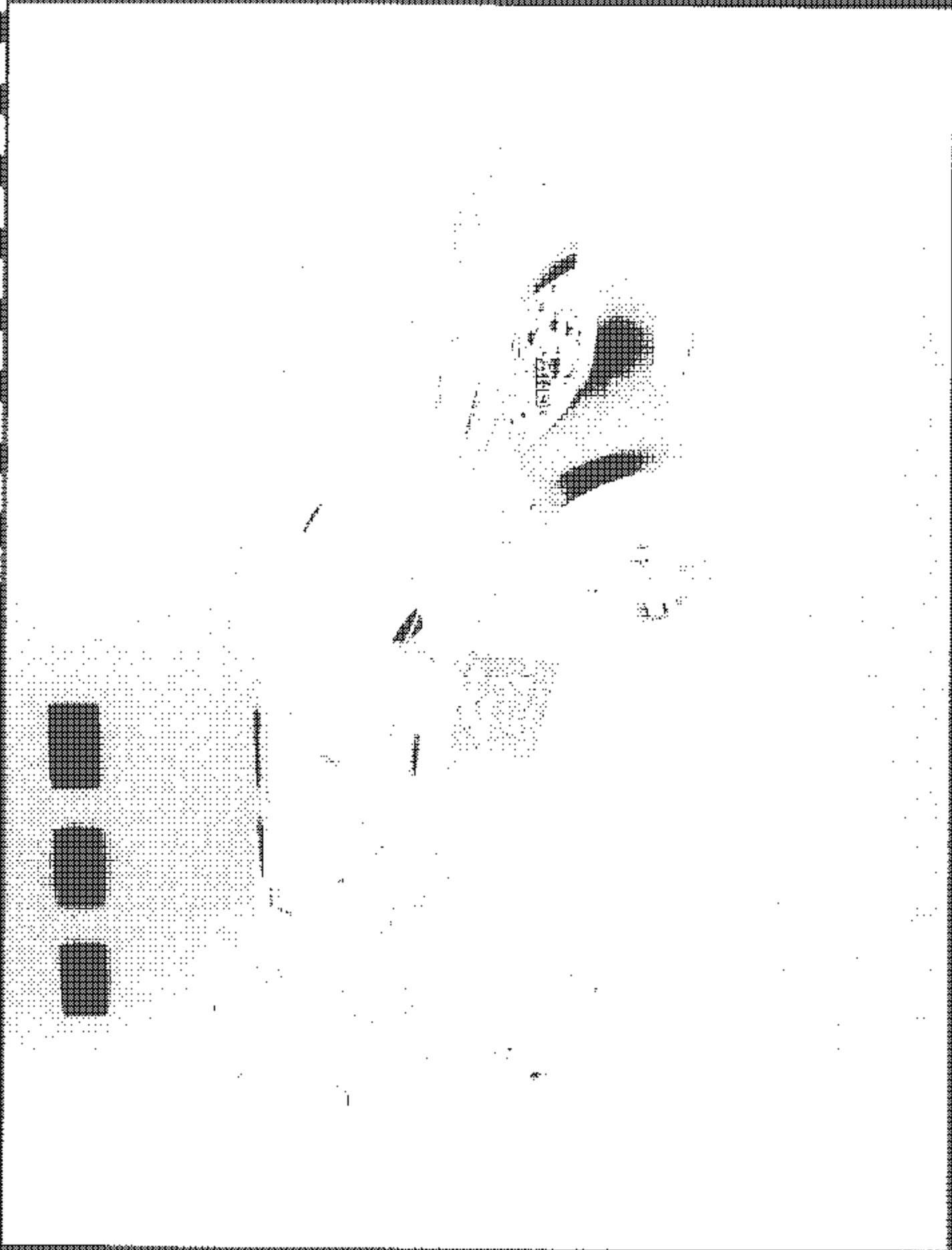


FIGURE A-12 POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE

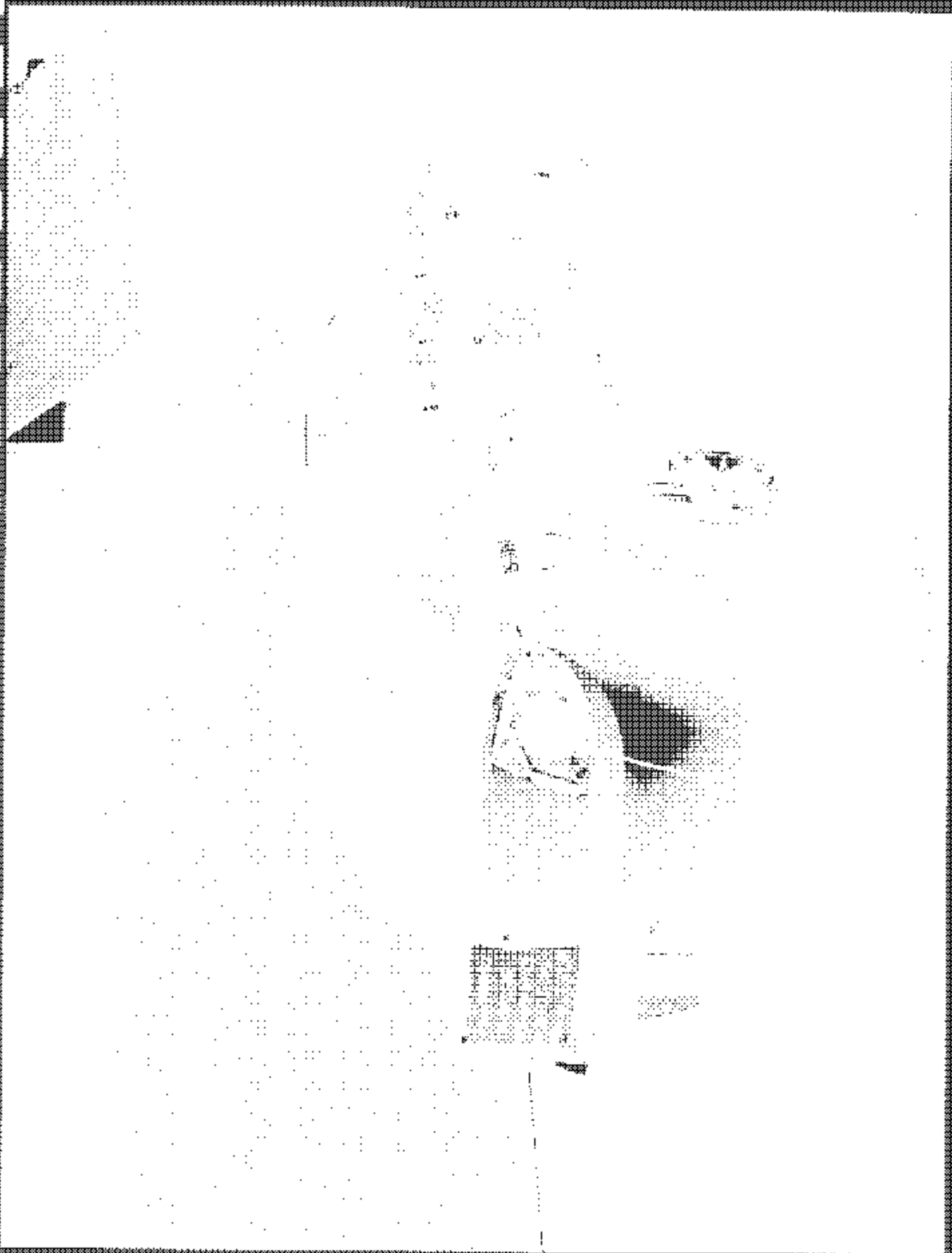




Figure A-14 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE

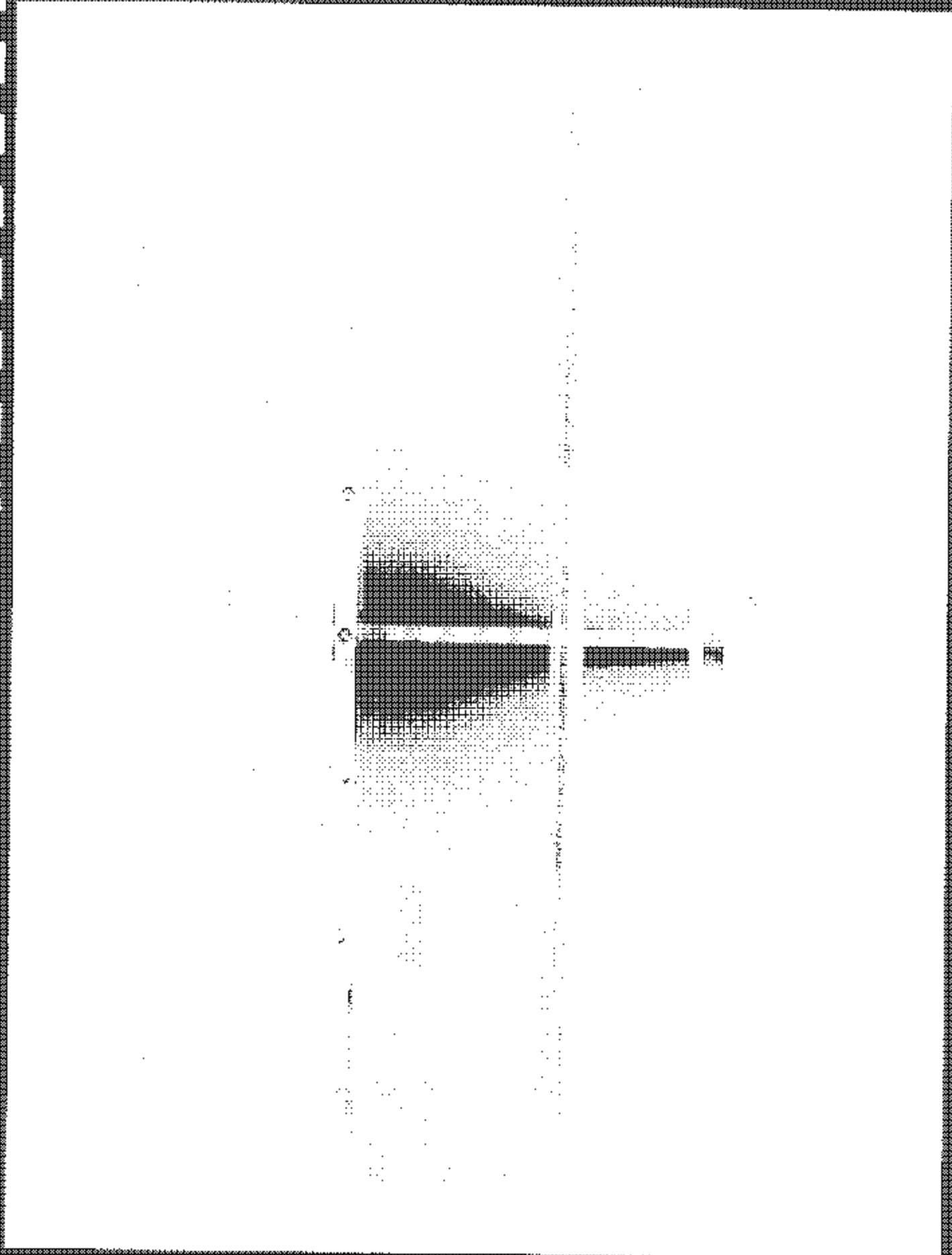


Figure A-15 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-16 POST-TEST FRONTAL VIEW OF IMPACTOR FACE

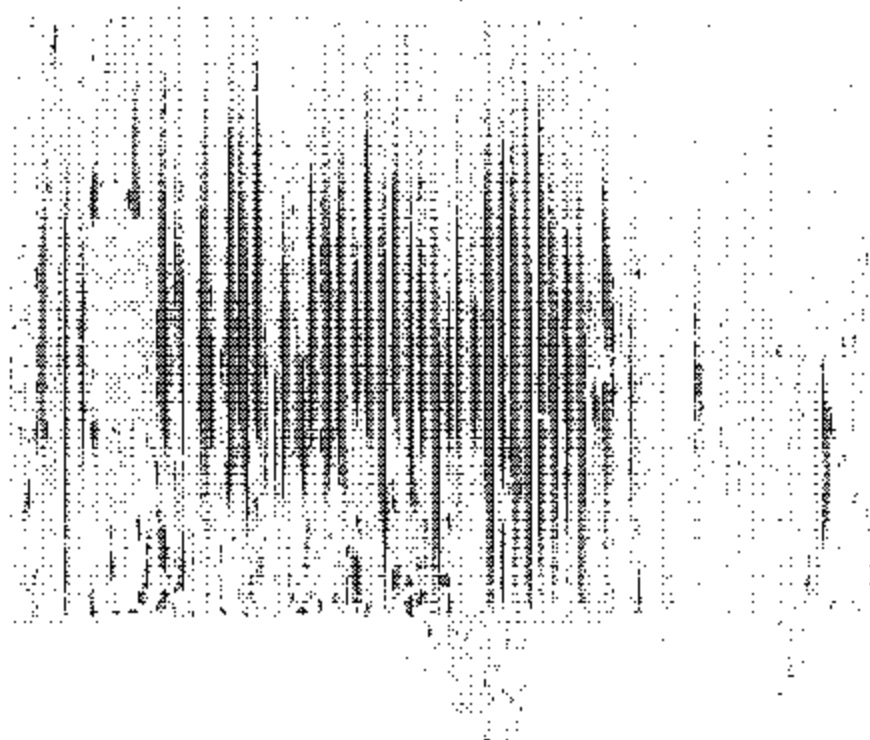


Figure A-10 PRE-TEST LEFT SIDE VIEW OF IMPACTOR PAGE

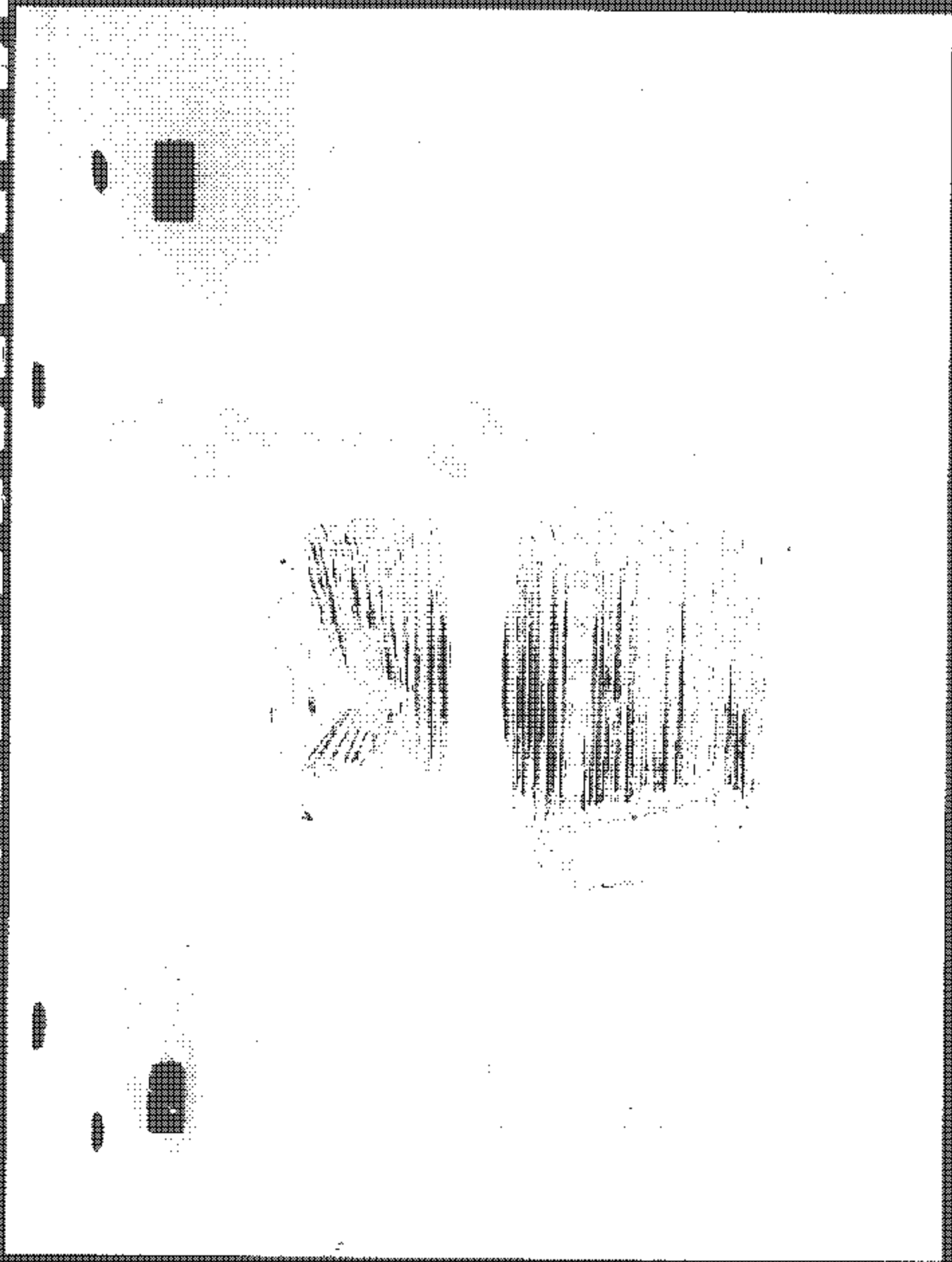


Figure A-18 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE

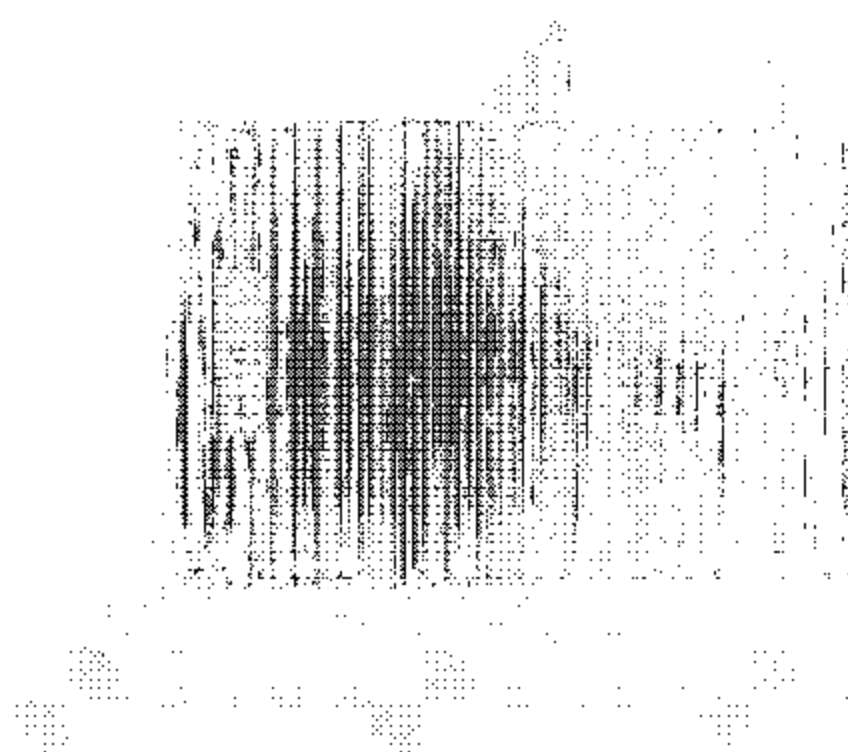


Figure A-13 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

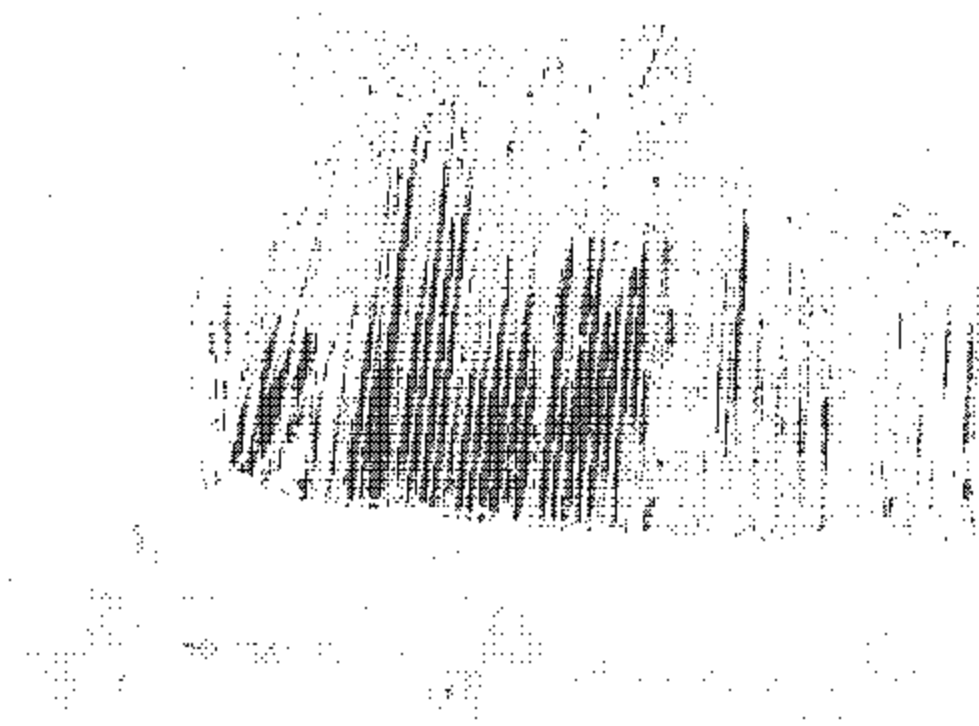


Figure A-20 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

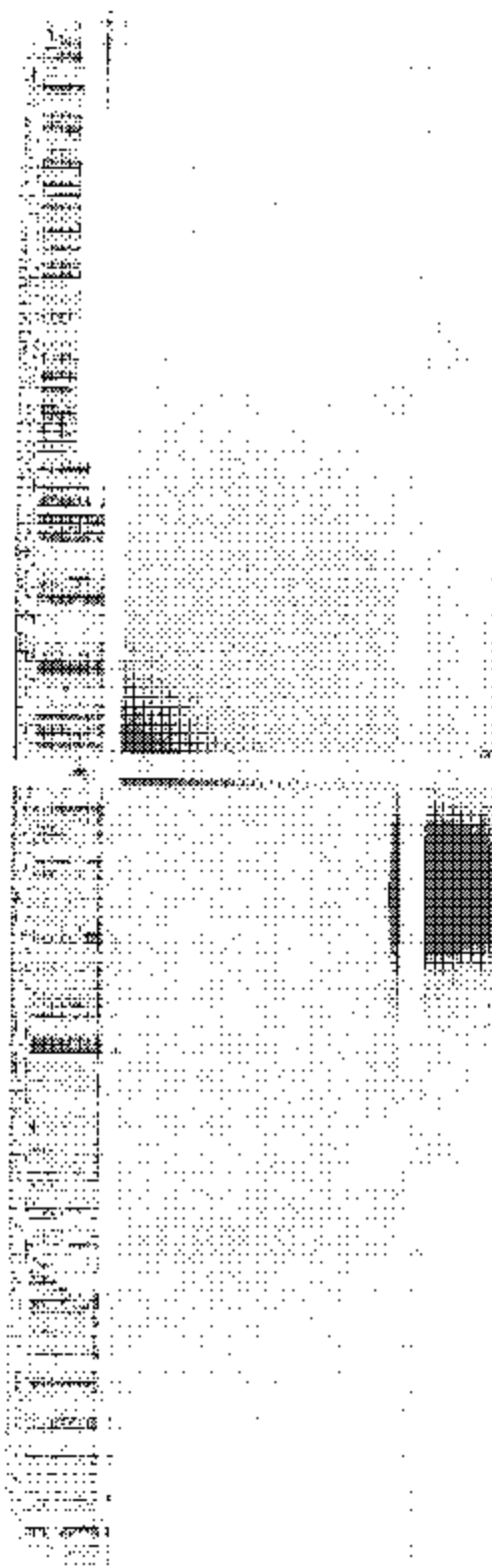


FIGURE 21 PRE-TEST TOP VIEW OF IMPACTOR FACE



Figure A-21 POST-TEST VIEW OF IMPACTOR FACE

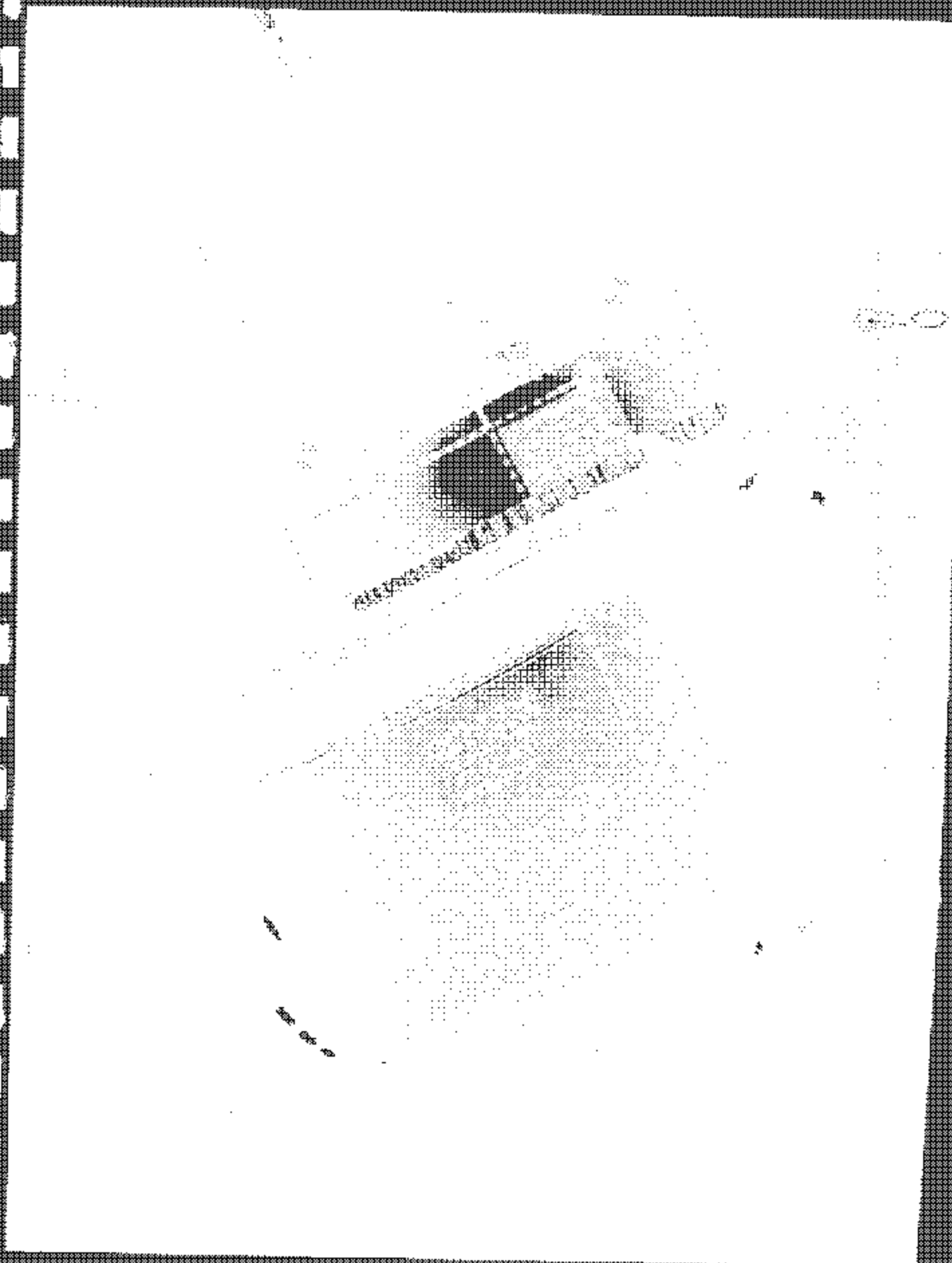


Figure A-23 PRE-TEST OVERHEAD VIEW OF ALIGNED MDE AND VEHICLE

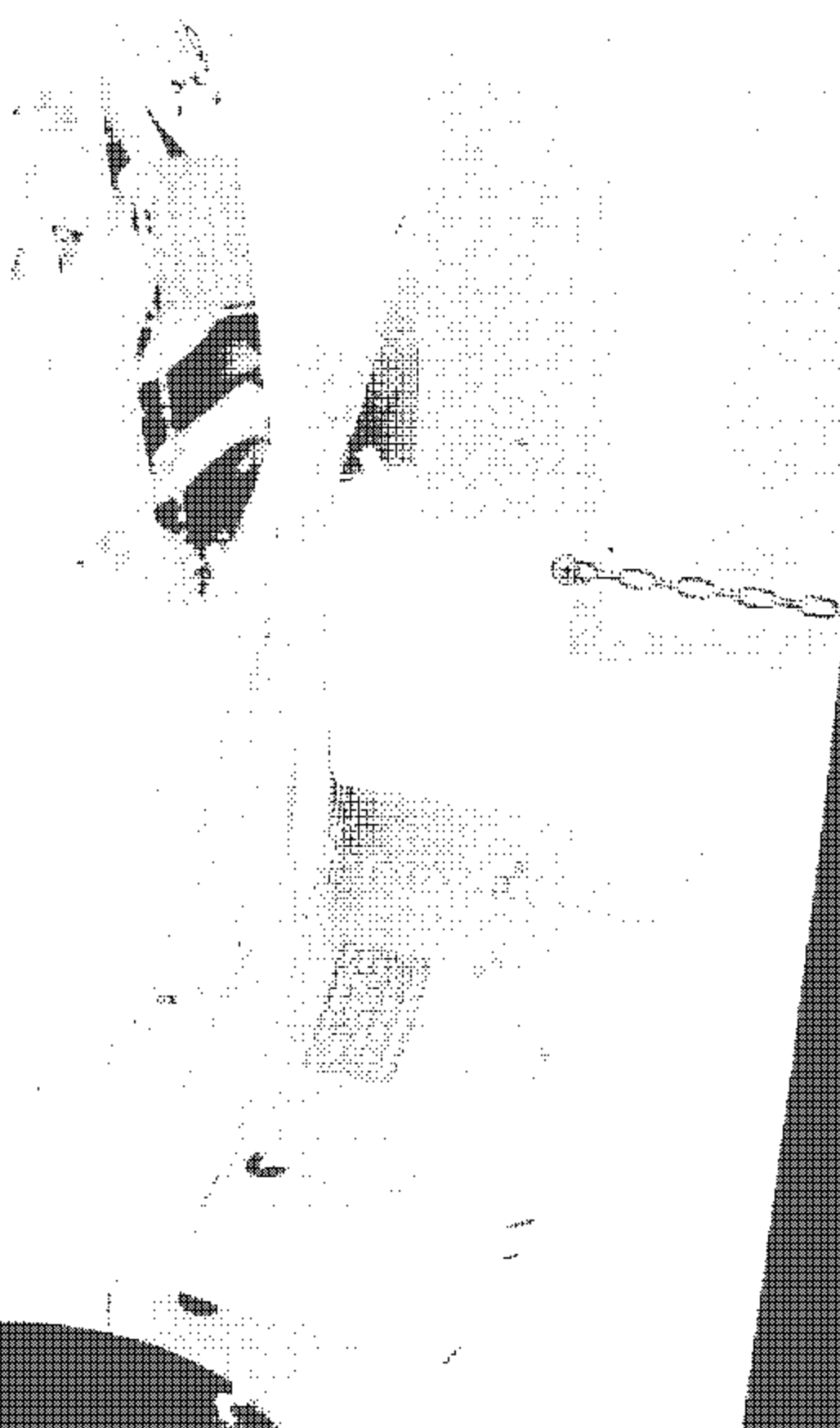


Figure A-24. POST-TEST OVERHEAD VIEW OF MDR AND VEHICLE

A-27

6075-7214-24

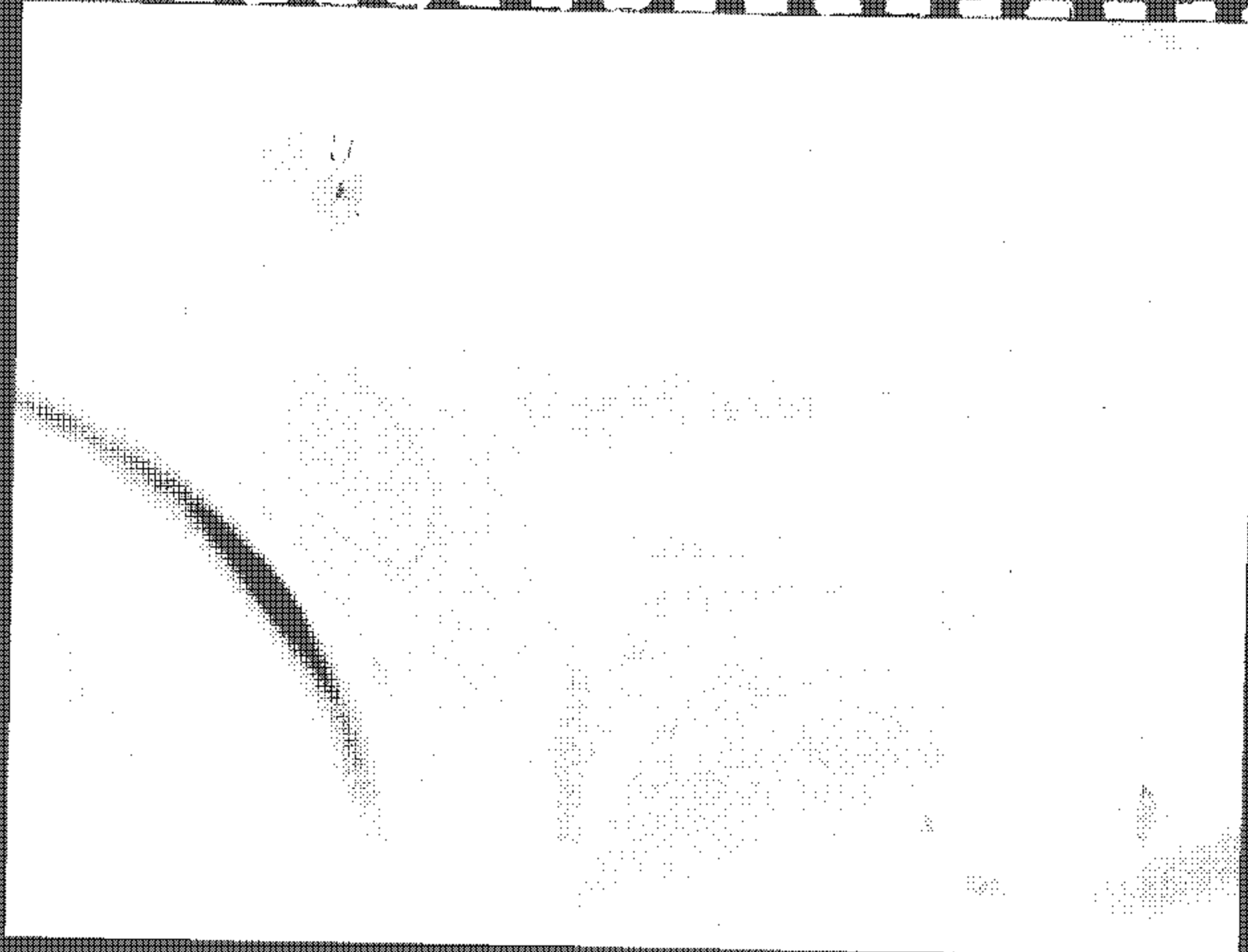


FIGURE A-25 PRE TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID

A-28

PCN1245/08

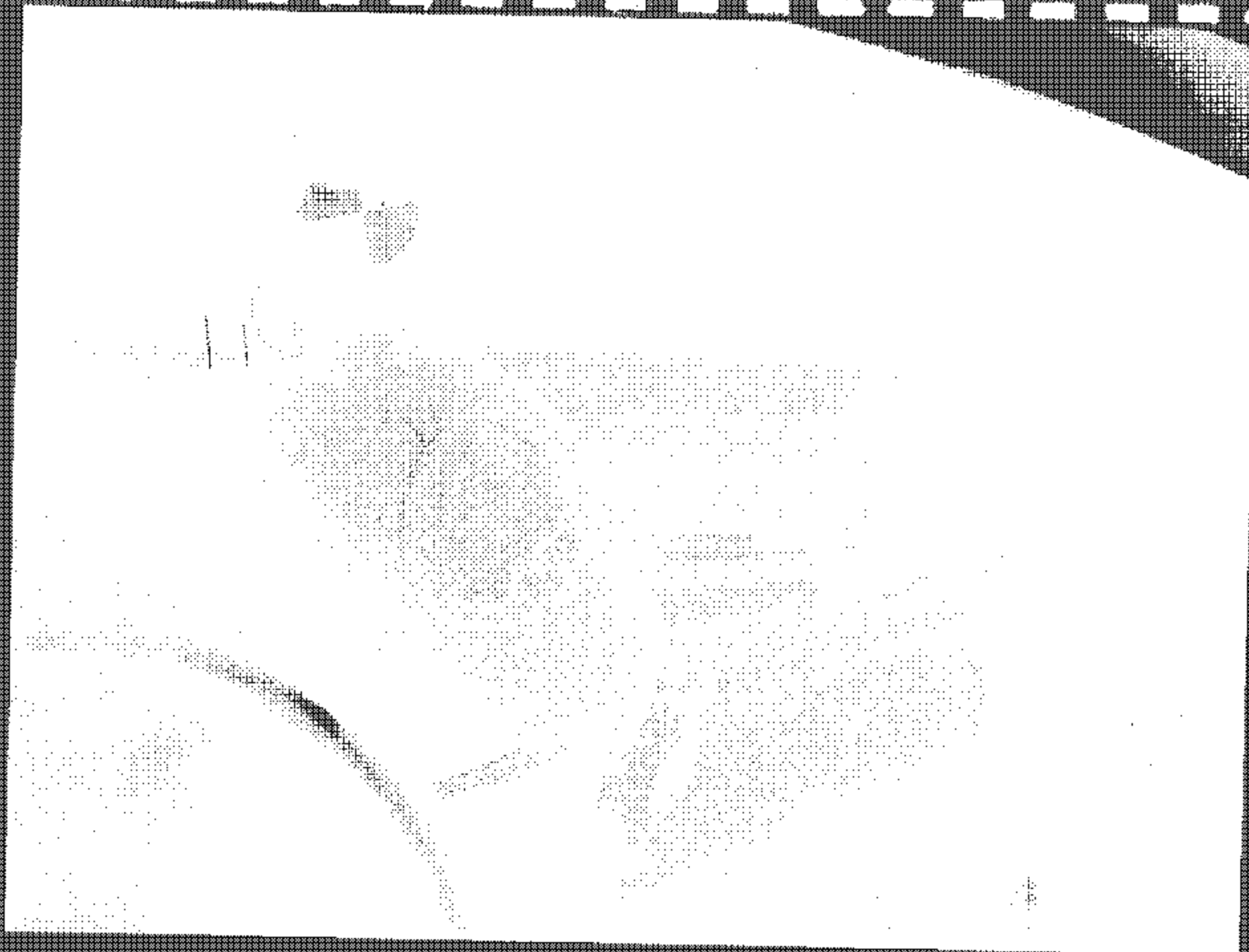


Figure A-26 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID

A-21

10/10/1974

Figure A-21 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID

A-28

8/5/54/14/24

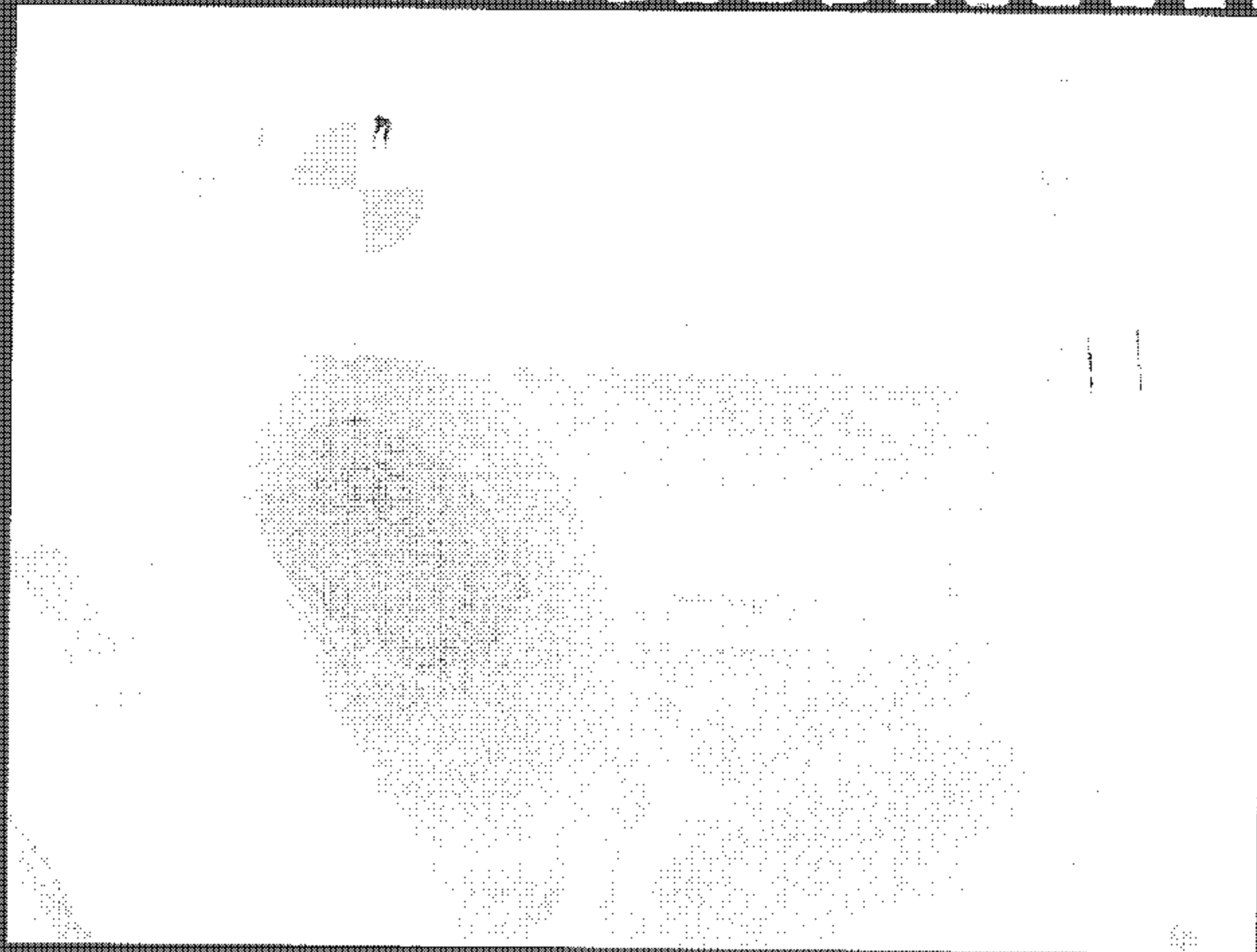


Figure A-28 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID

A-31

8675-1P214-24

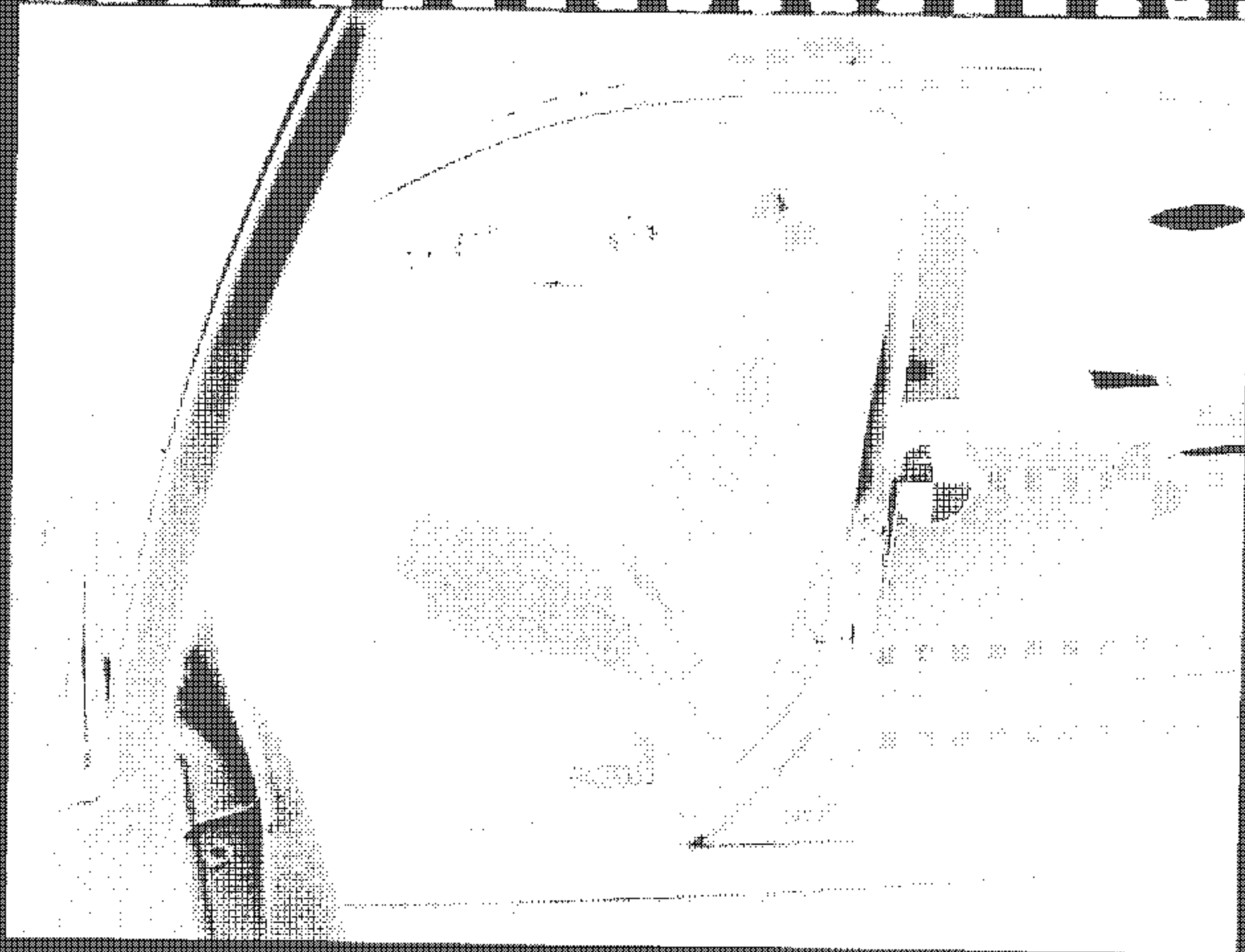


Figure A-29 PRG-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

ASD

86231214-24

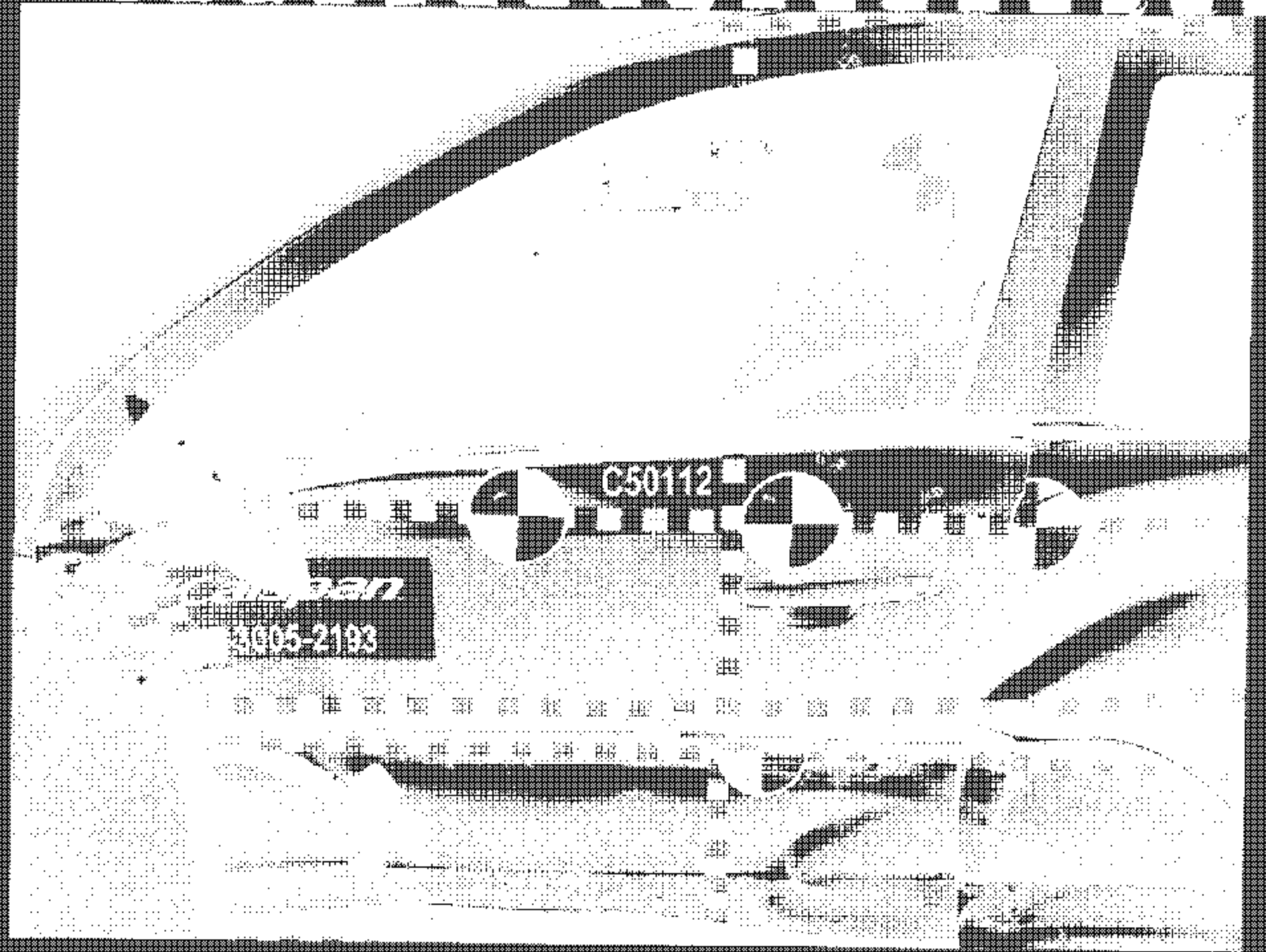


Figure A-30 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

A-31

86745711-04

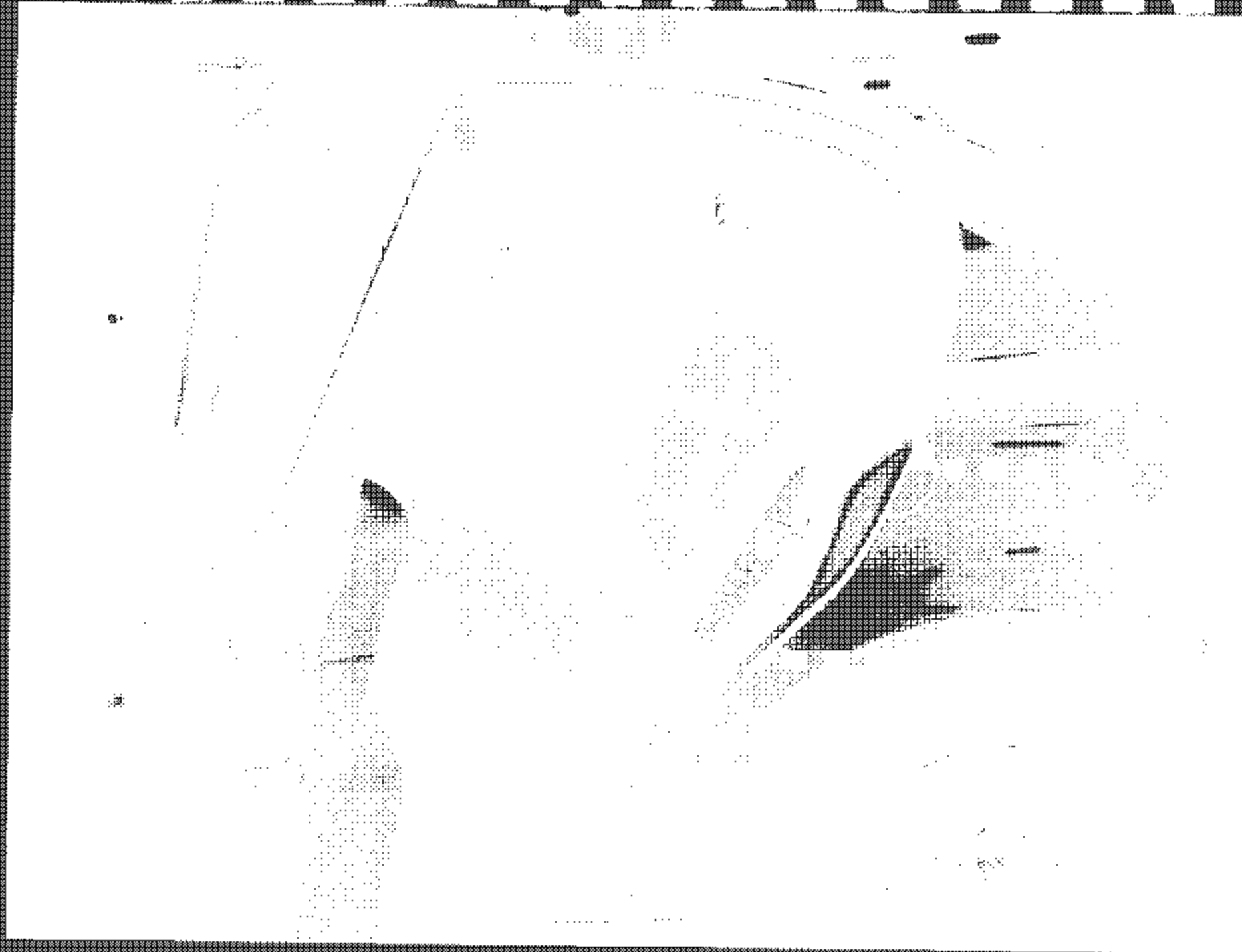


Figure A-31 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

ASR

RSR:PM:24

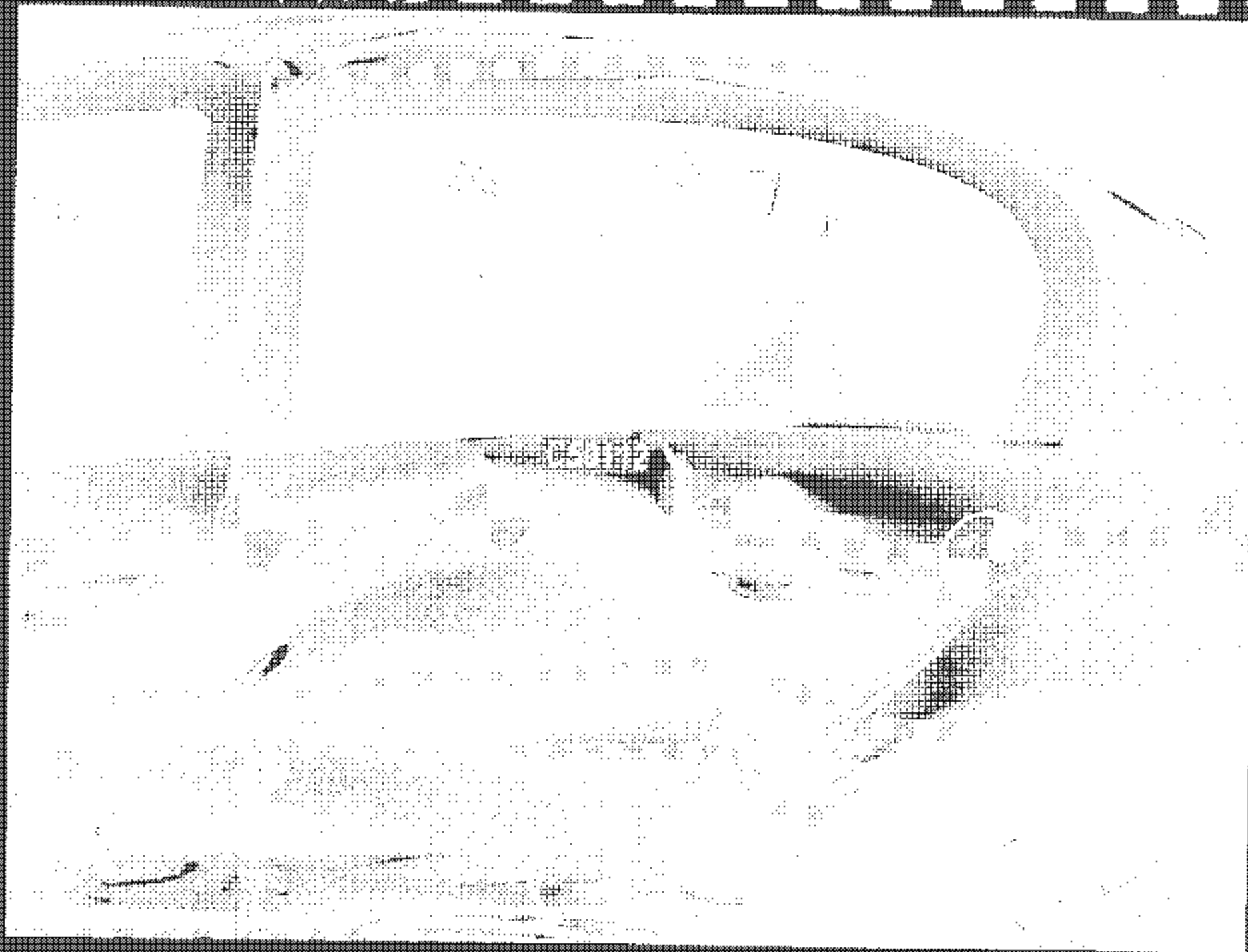


Figure A-32 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

A-33

8075921 A02A

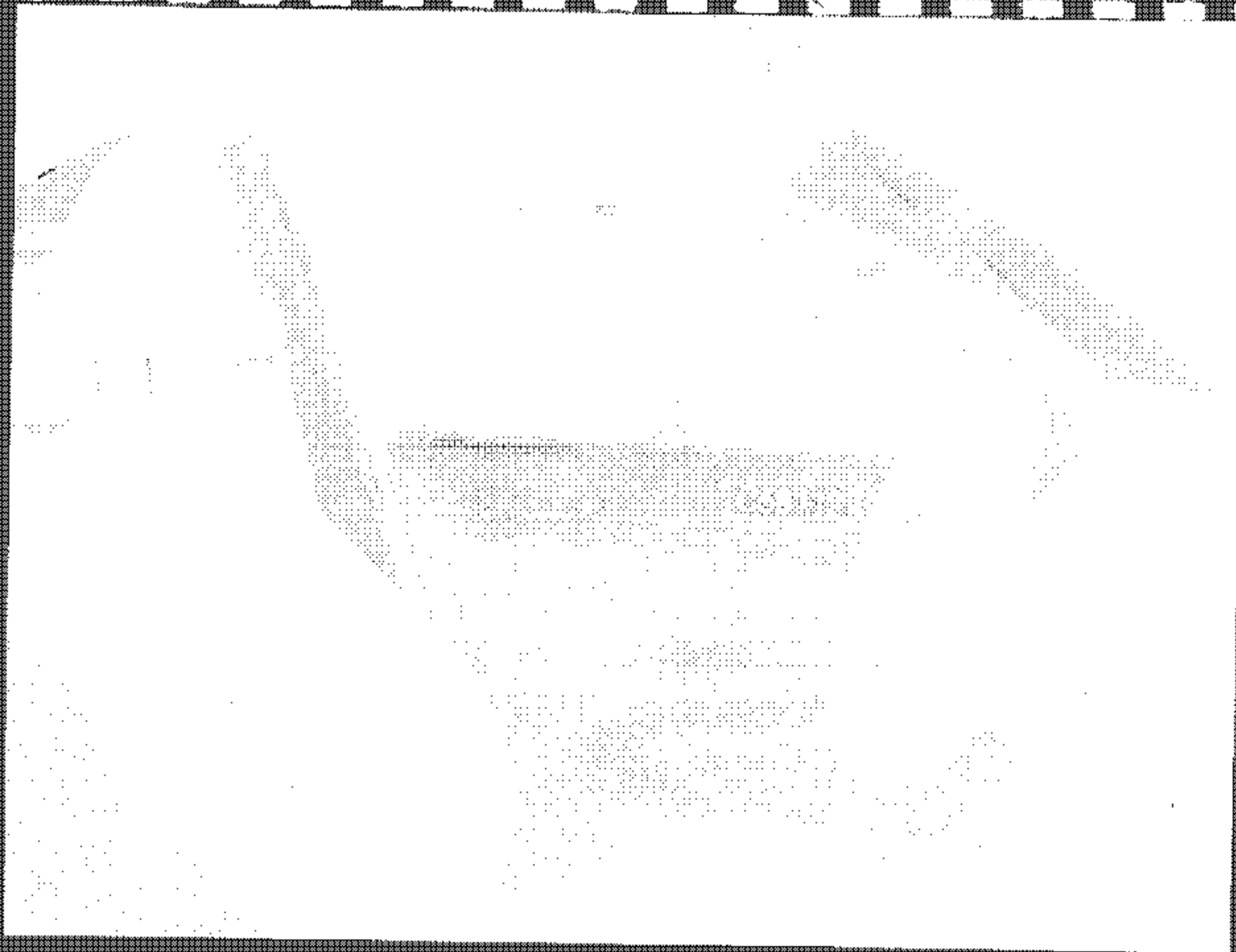


Figure A-33 PRE-TEST INTERIOR OF FRONT DOOR

A-34

6075-F214-24

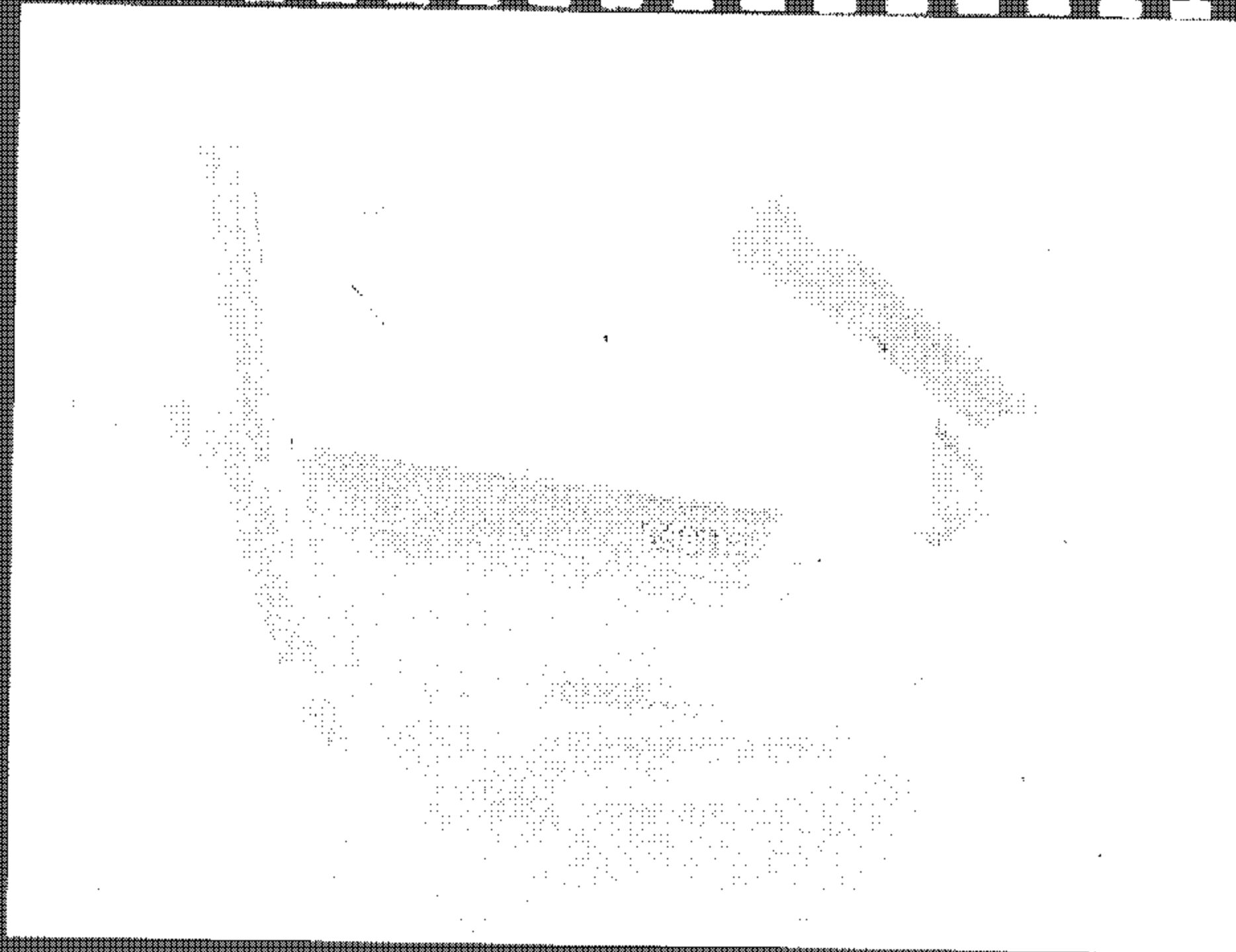


Figure A-34 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS

A-37

8079 H244 24

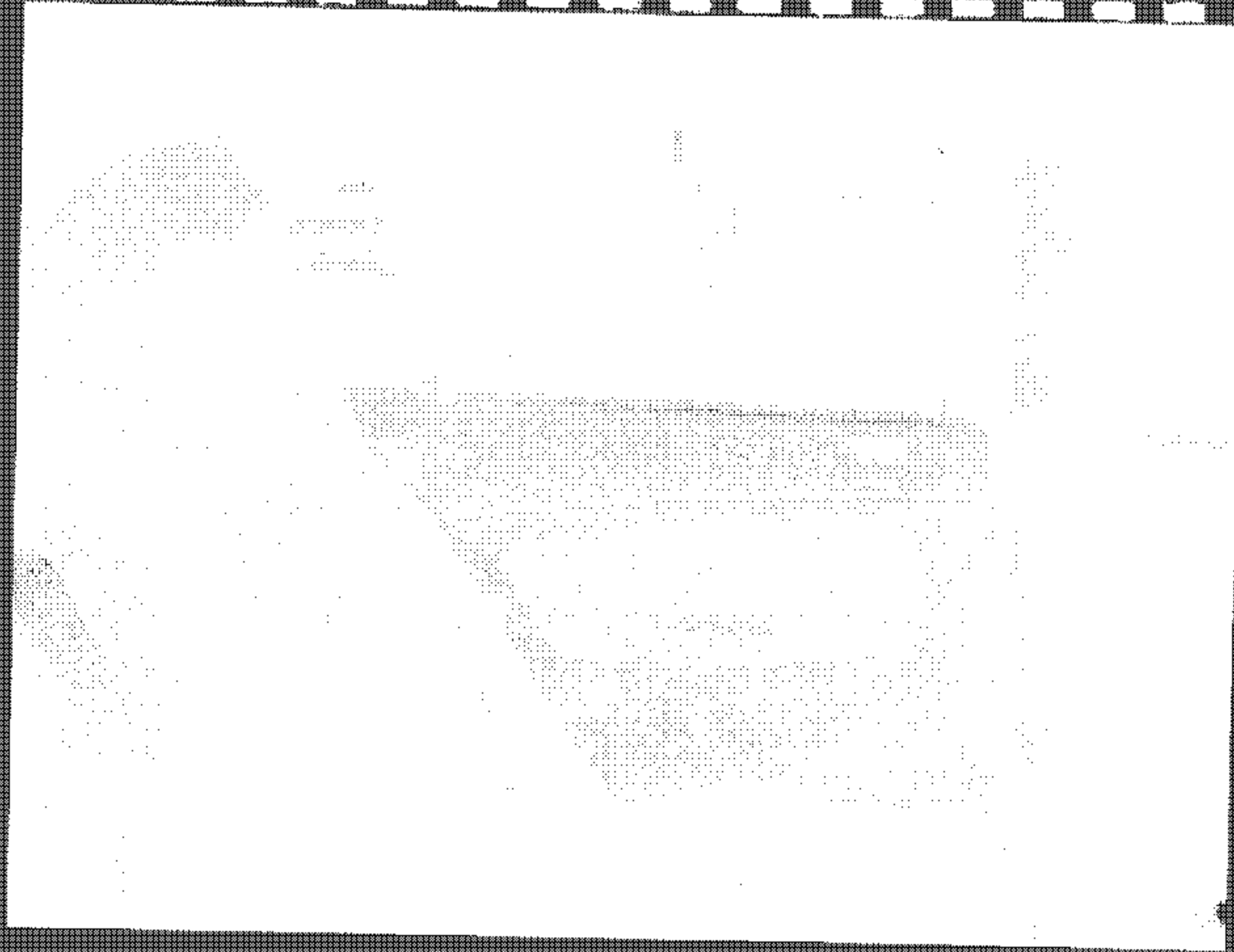


Figure A-35 PRE-TEST INTERIOR OF REAR DOOR

A-38

8675 P214 04

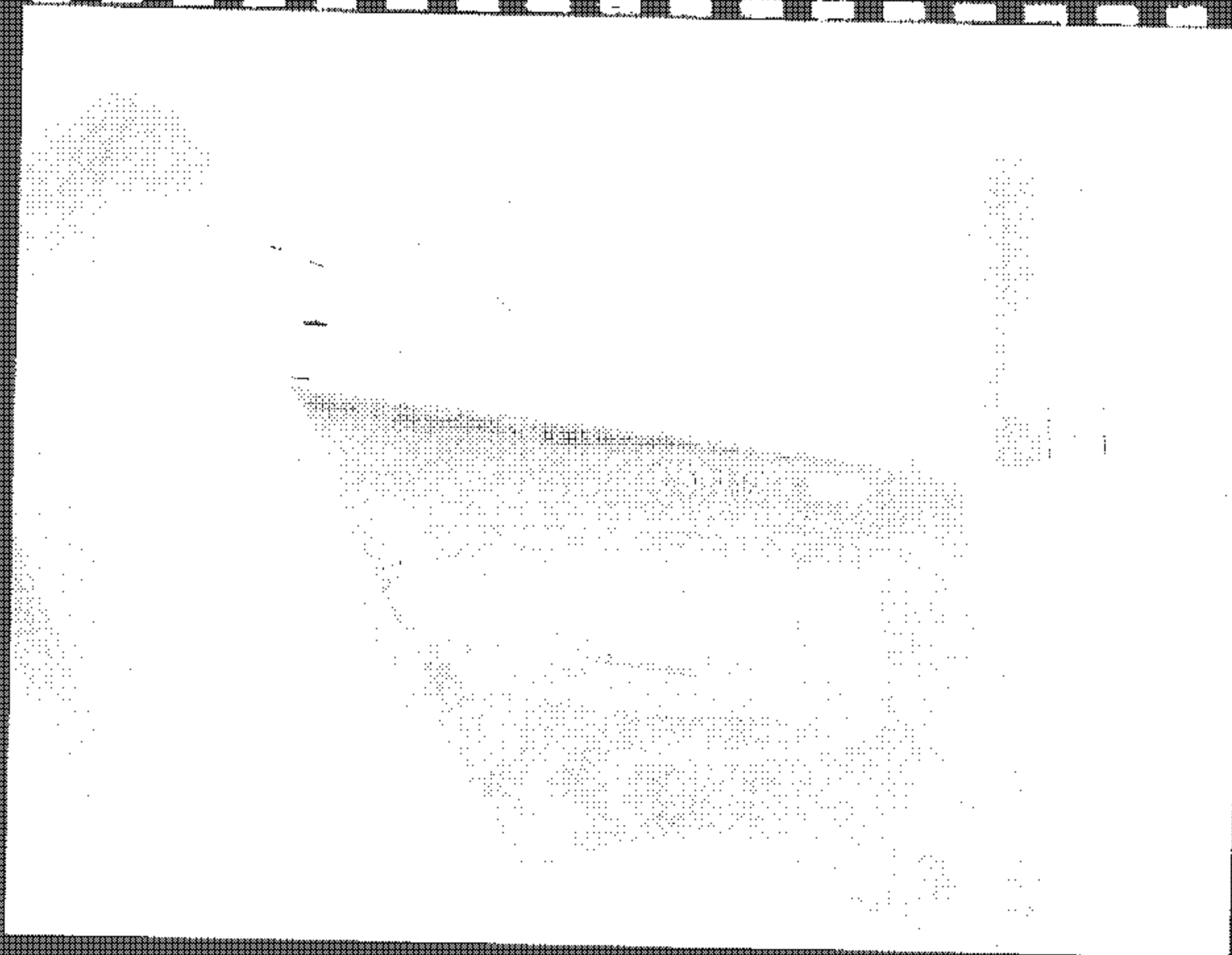


Figure A-36 POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS

NOT

REVISION

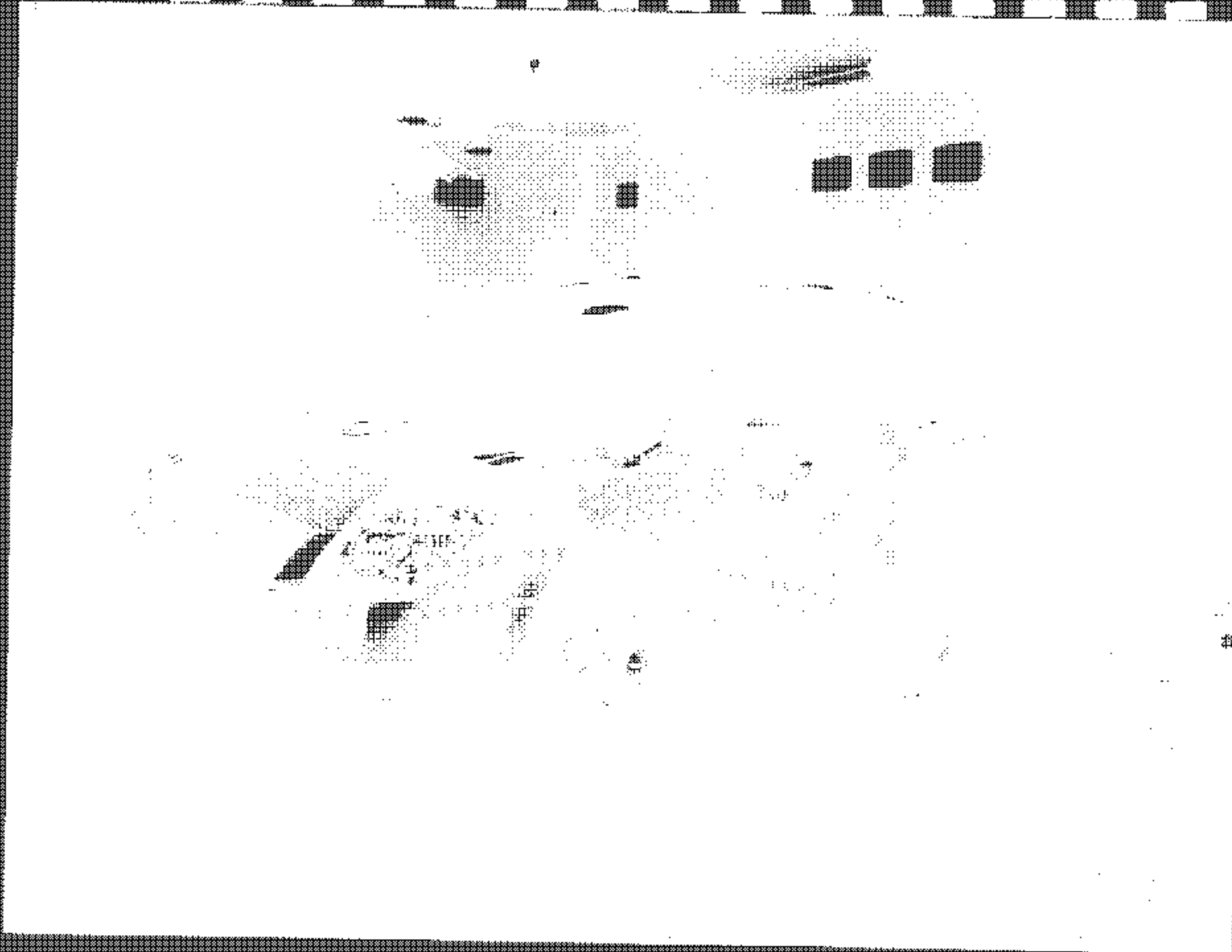


Figure A-37 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

A-48

RG73-P21A-24

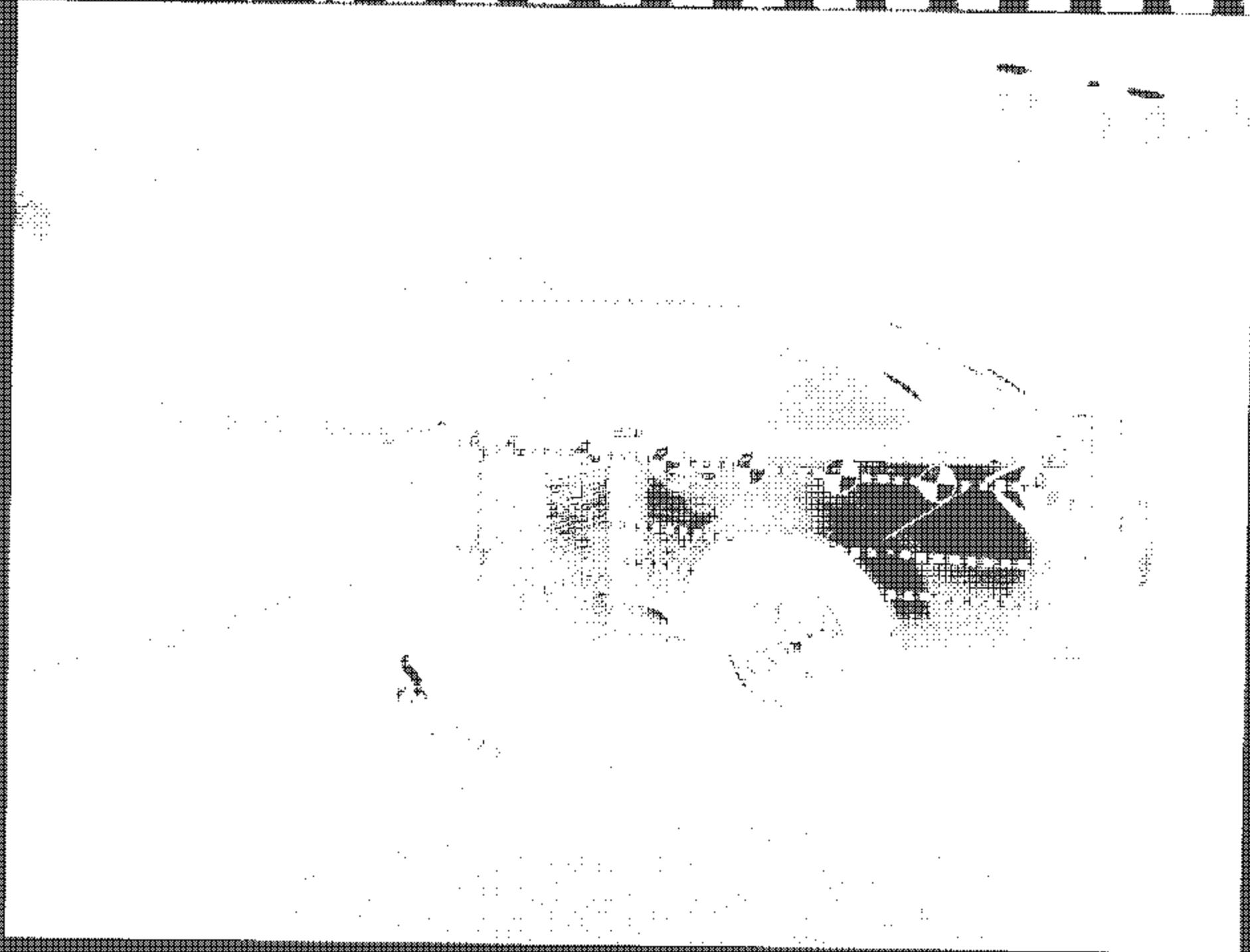


Figure A-28 PRG-TEST KAGET SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

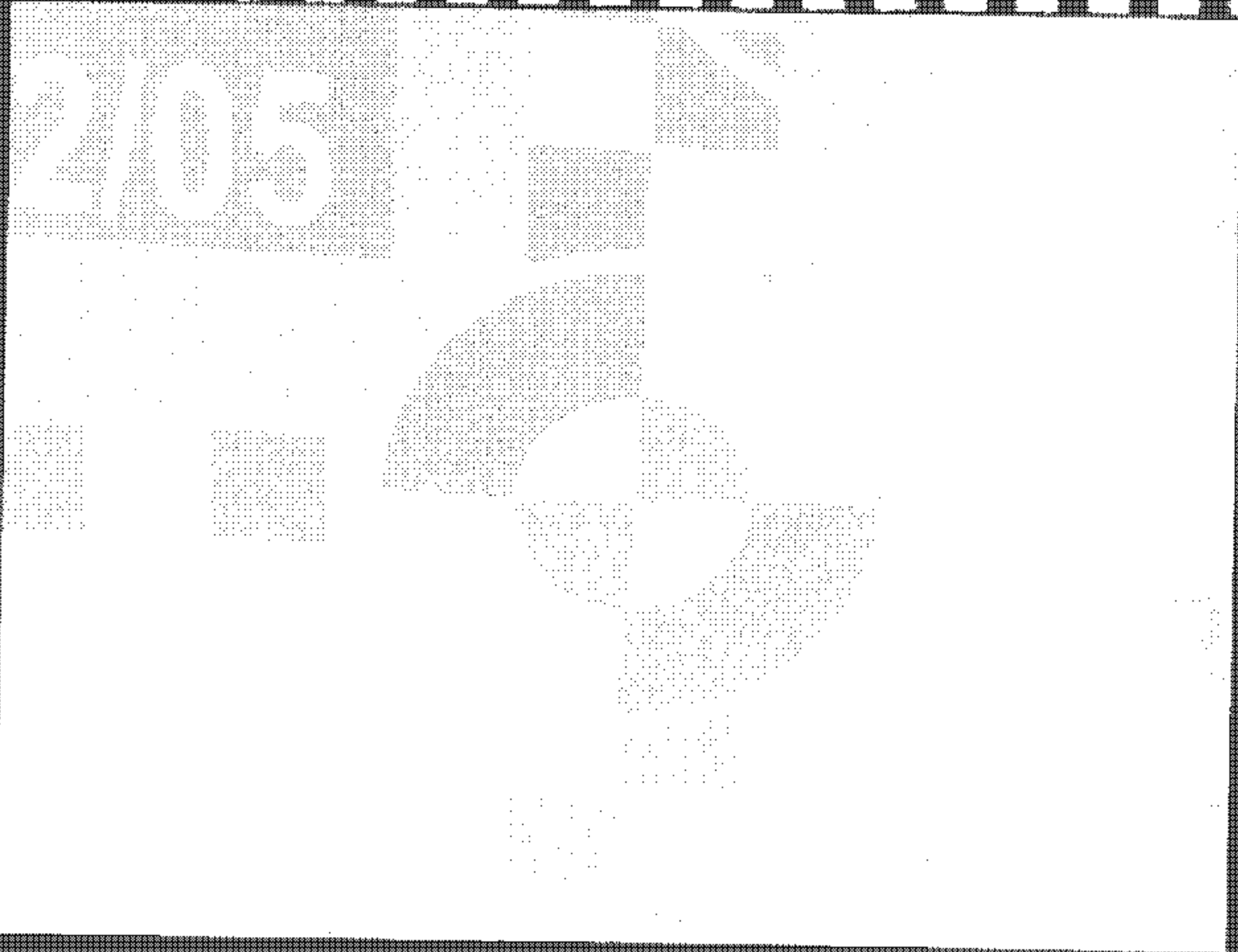


Figure A-39 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET



MFD BY GENERAL MOTORS CORP

DATE
12/04

GVWR
1725 KG
3804 LB

GAWR FRT
899 KG
1983 LB

GAWR RR
826 KG
1821 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.

1G1AL52F257526695

TYPE: PASS CAR

Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL

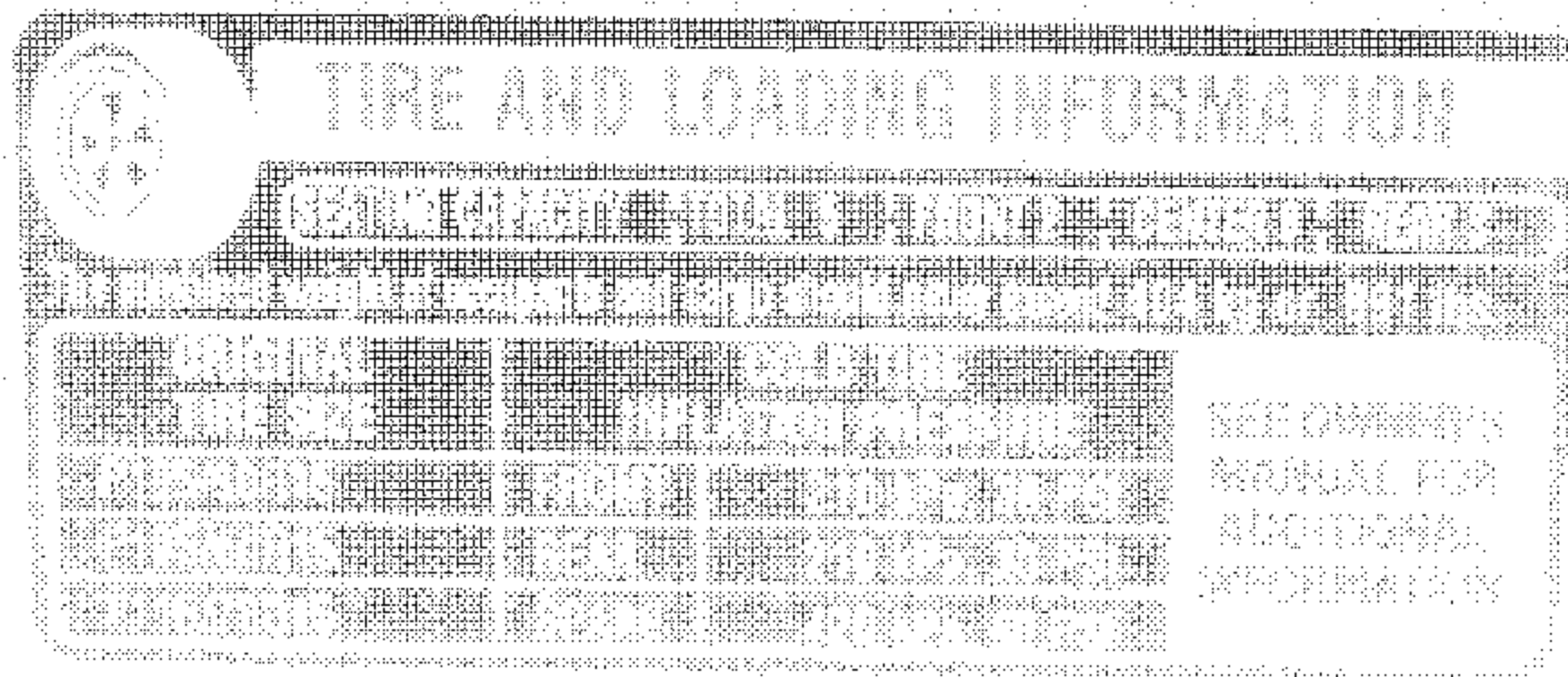


Figure A-41 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL

A44

8675P21124

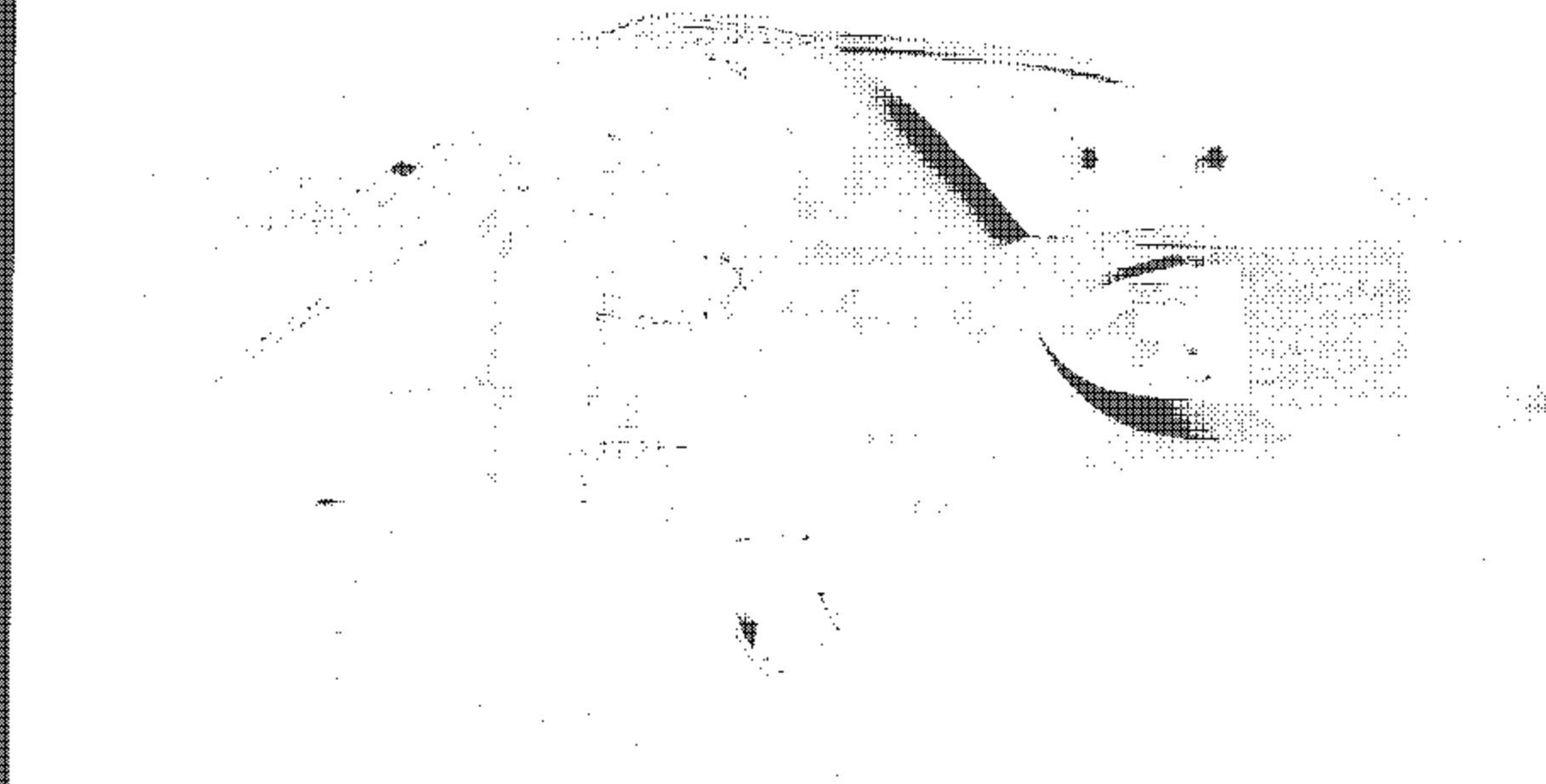


Figure A-42 IMPACT PHOTO

A-45

8675-1714-21

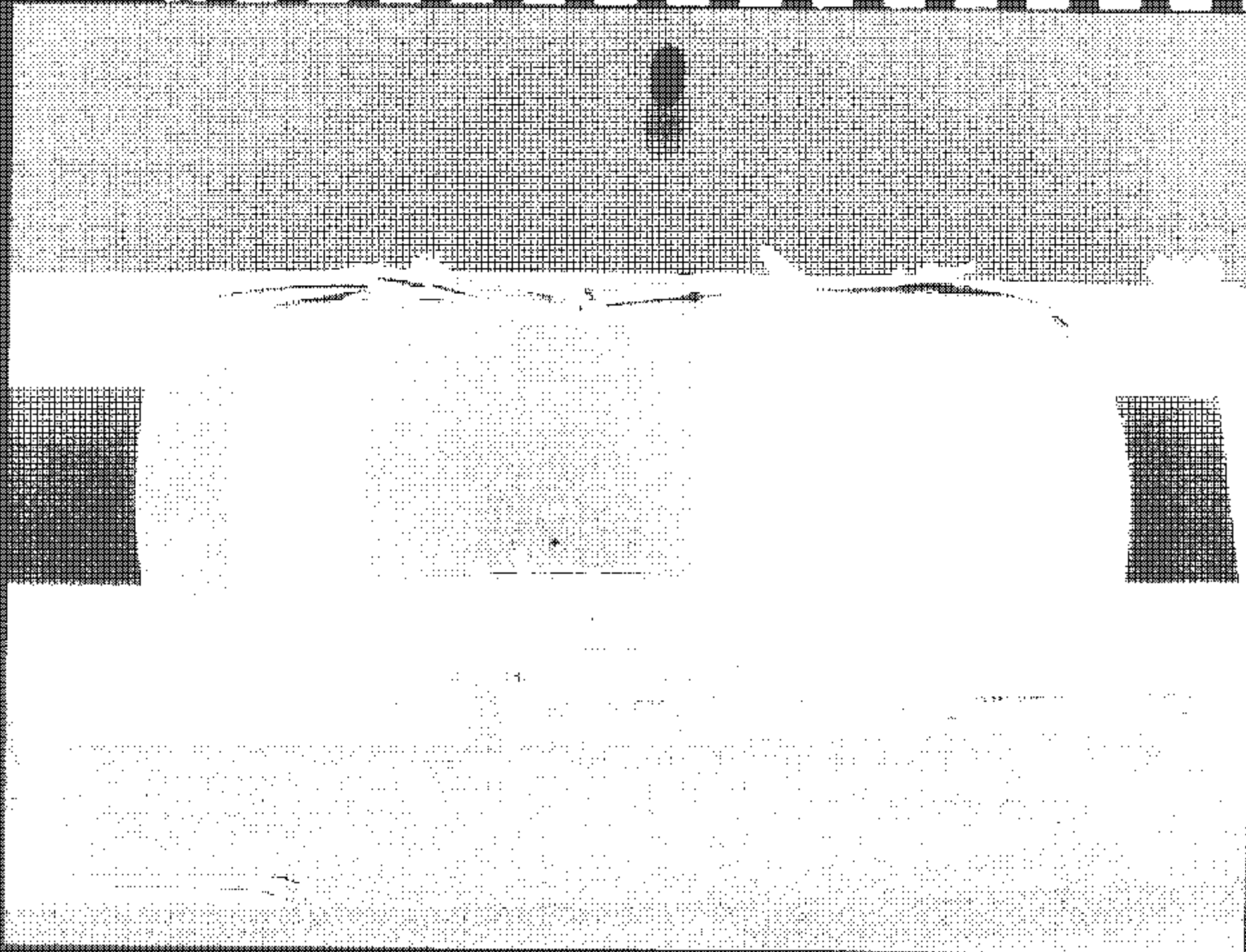
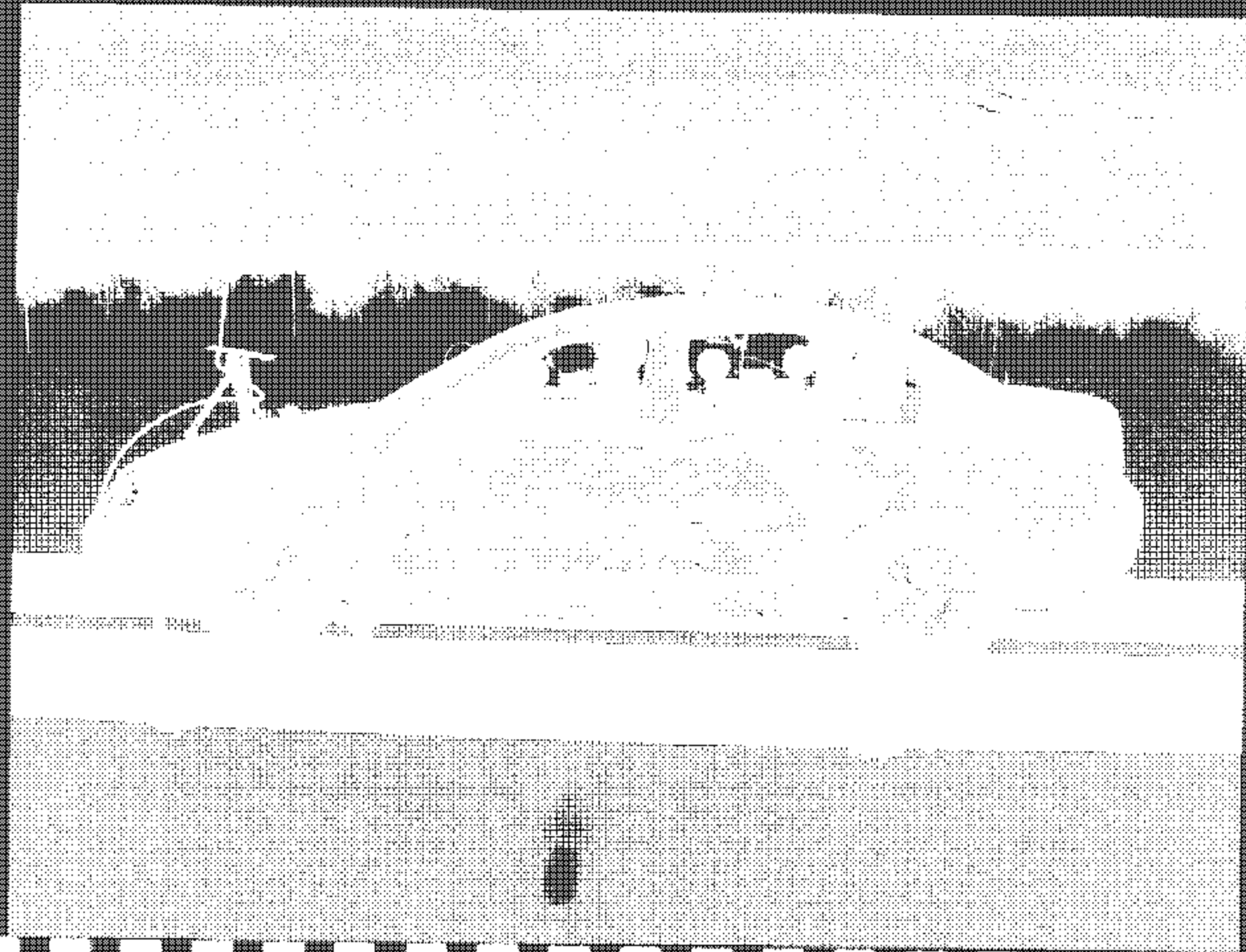


Figure A-33 ROLLOVER 90 DEGREES



A-47

8075-2214-26

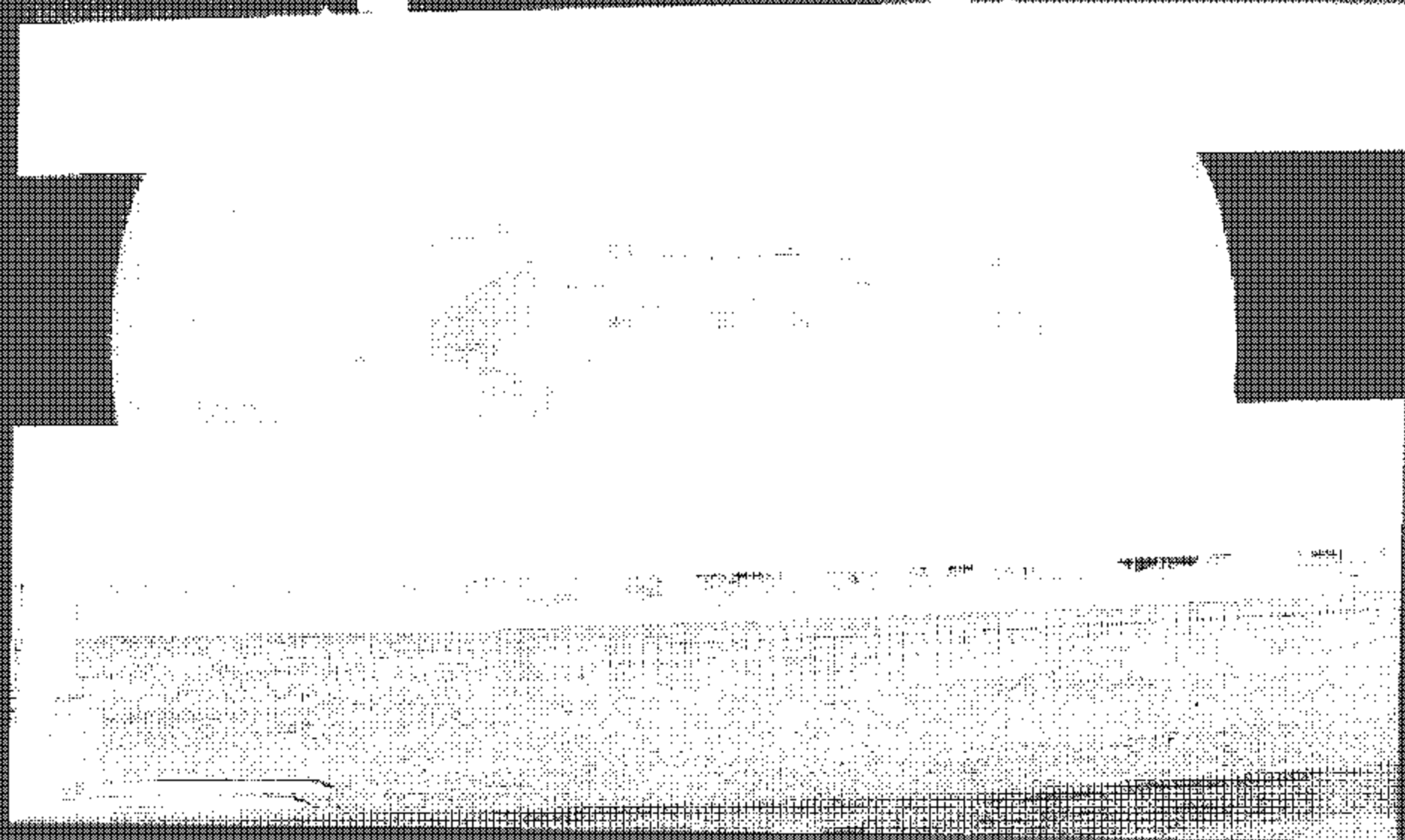


Figure A-45 ROLLOVER 270 DEGREES

A-48

8044P1J1-24

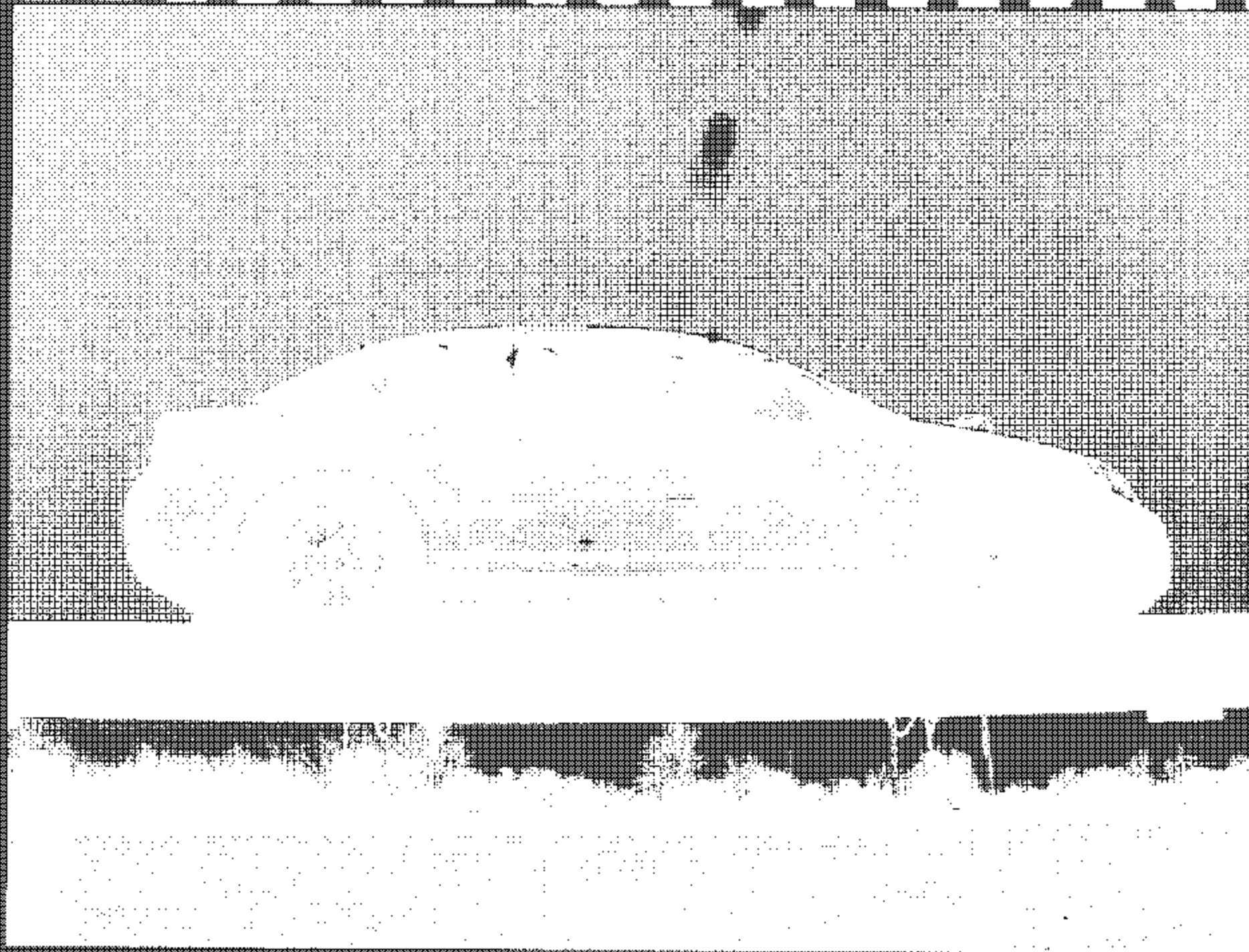


Figure A-46 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180 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 ACCELERATION 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) ACCELERATION VS TIME	B- 21
17	PASSENGER HEAD (X) VELOCITY VS TIME	B- 22
18	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 23
19	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 24
20	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 25
21	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 26
22	PASSENGER HEAD RESULTANT 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	MIDDLE B-POST (Y) ACCELERATION VS TIME	B- 73
69	MIDDLE 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	MIDDLE A-POST (Y) ACCELERATION VS TIME	B- 77
73	MIDDLE 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, LOWER SPINE - FILTER CLASS 180
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

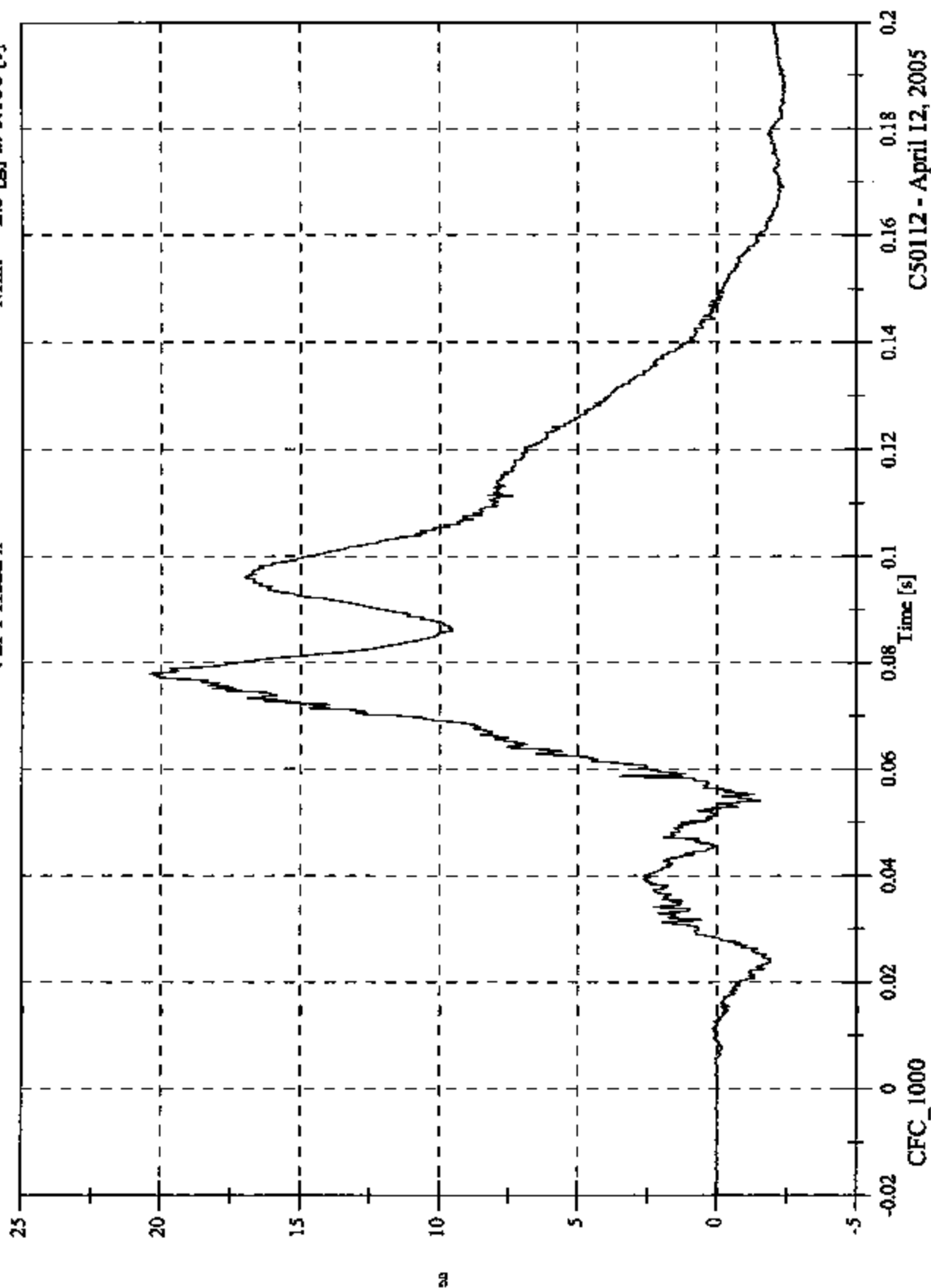
**DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED**

<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

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 20.4 [g] at 0.078 [s]
Min: -2.5 [g] at 0.188 [s]

V2P1 Head x

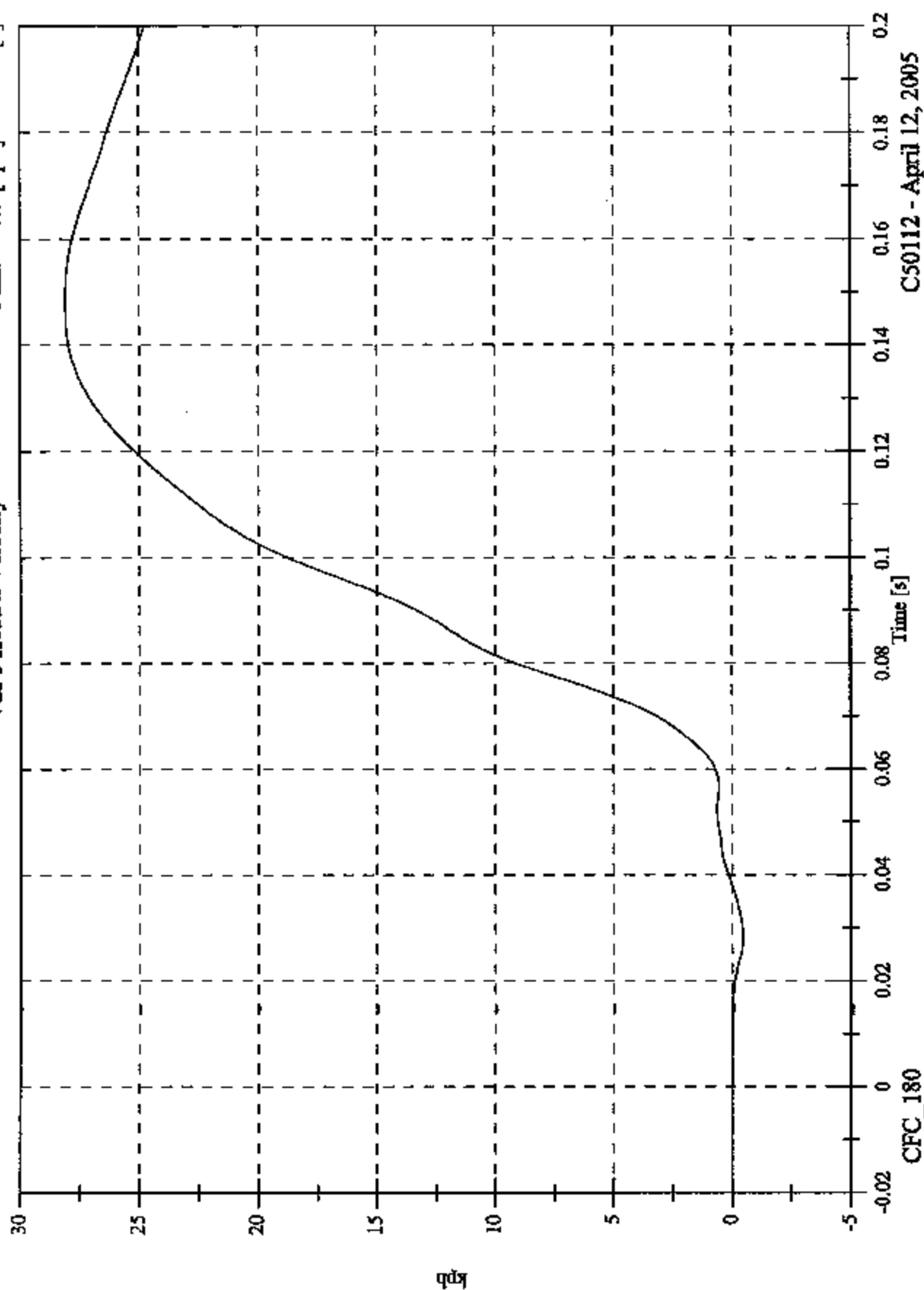


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Head x Velocity

Max: 28.1 [kph] at 0.148 [s]
Min: -0.5 [kph] at 0.028 [s]

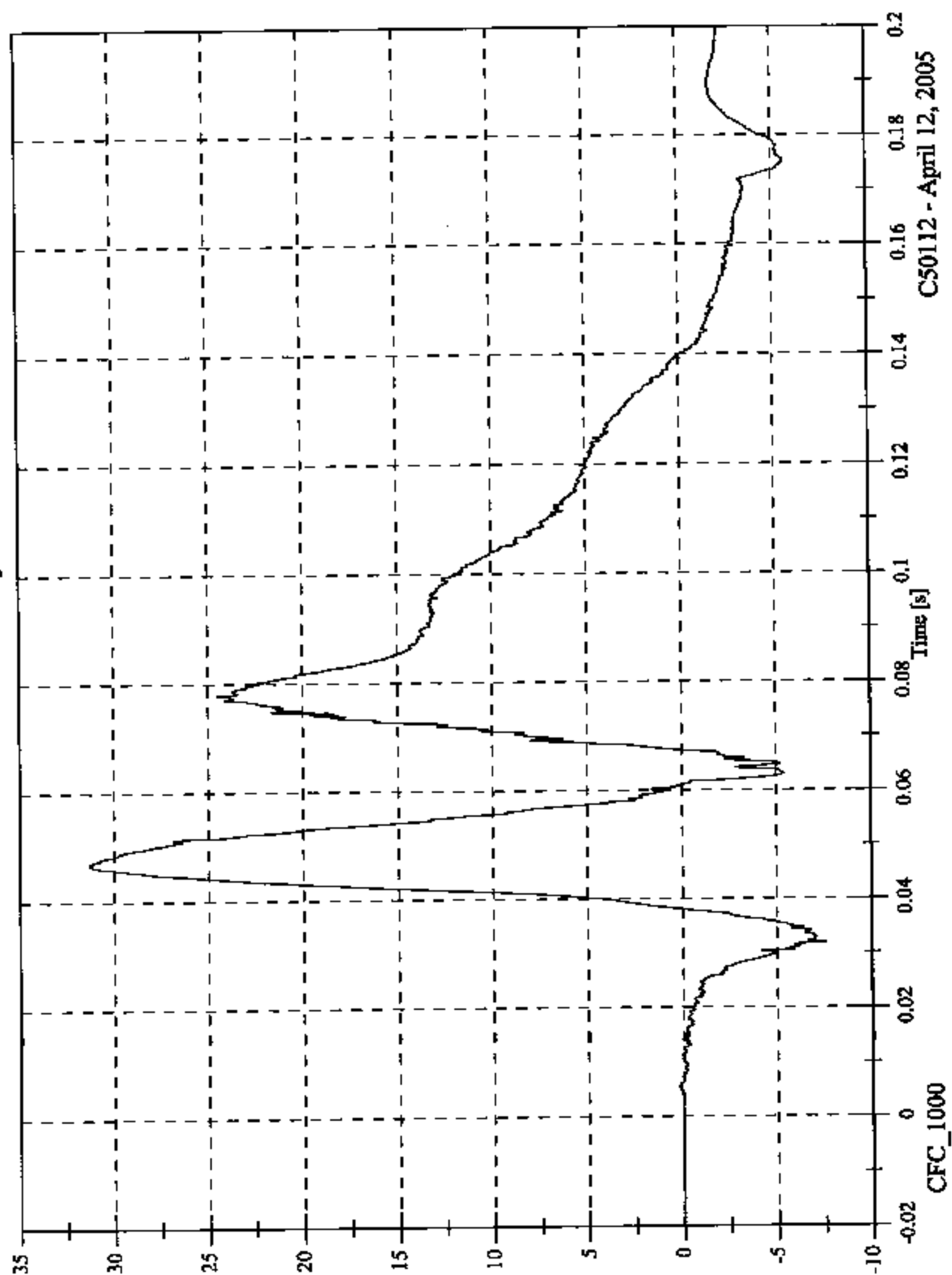


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 31.3 [g] at 0.047 [s]
Min: -7.5 [g] at 0.032 [s]

V2P1 Head y

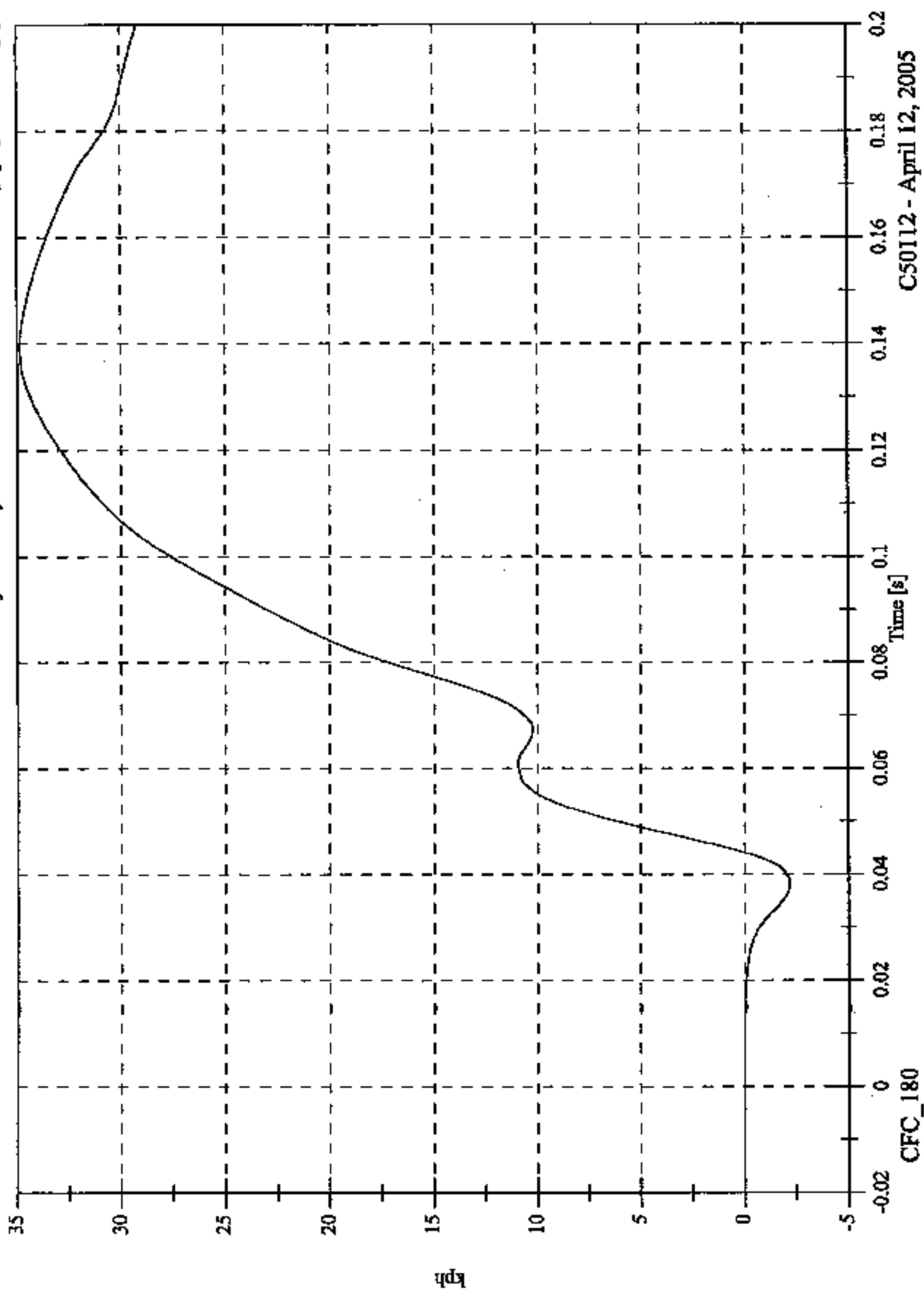


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

VZP1 Head y Velocity

Max: 34.9 [kph] at 0.140 [s]
Min: -2.2 [kph] at 0.038 [s]

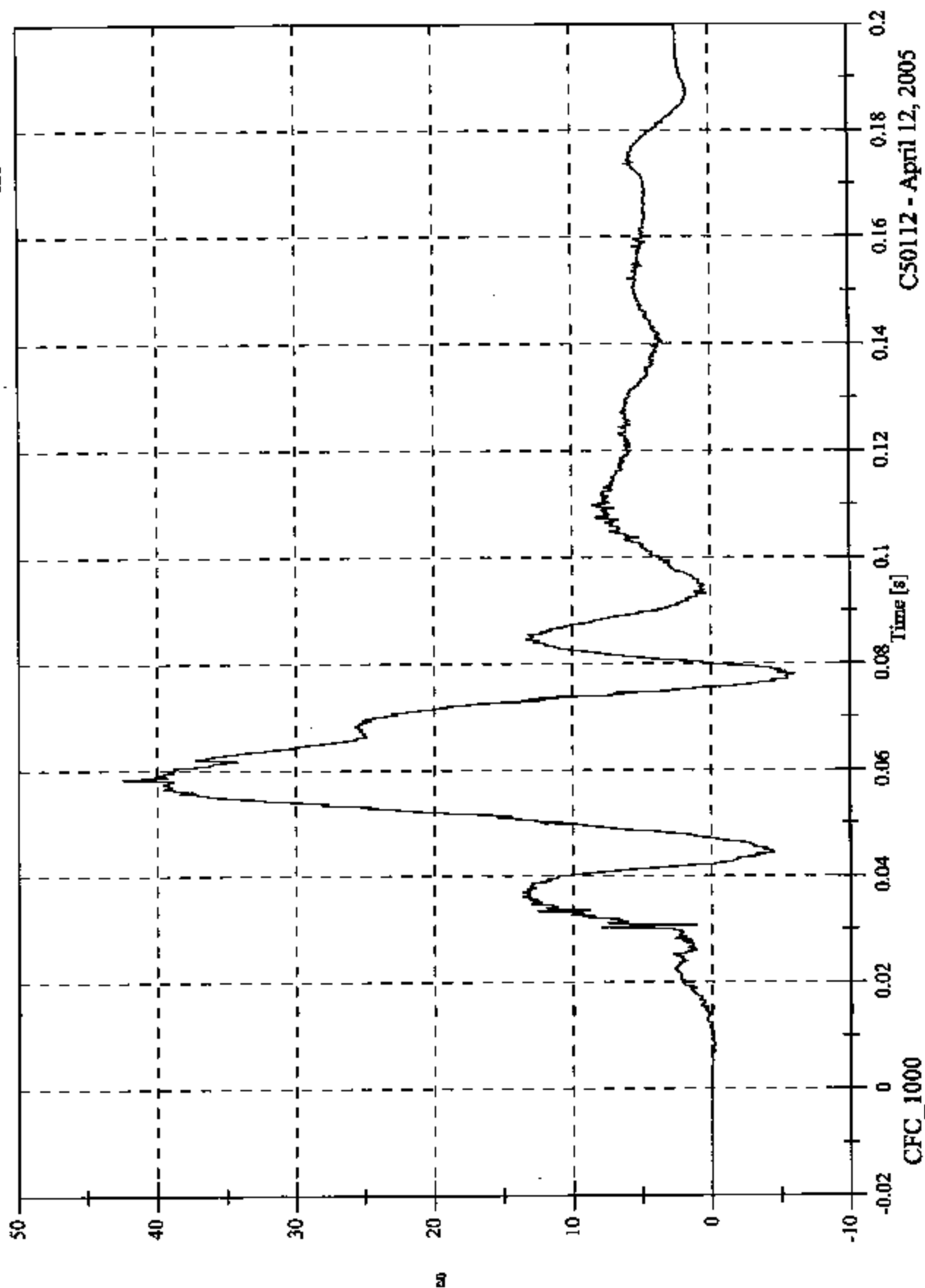


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 42.5 [g] at 0.058 [s]
Min: -6.0 [g] at 0.078 [s]

V2P1 Head z

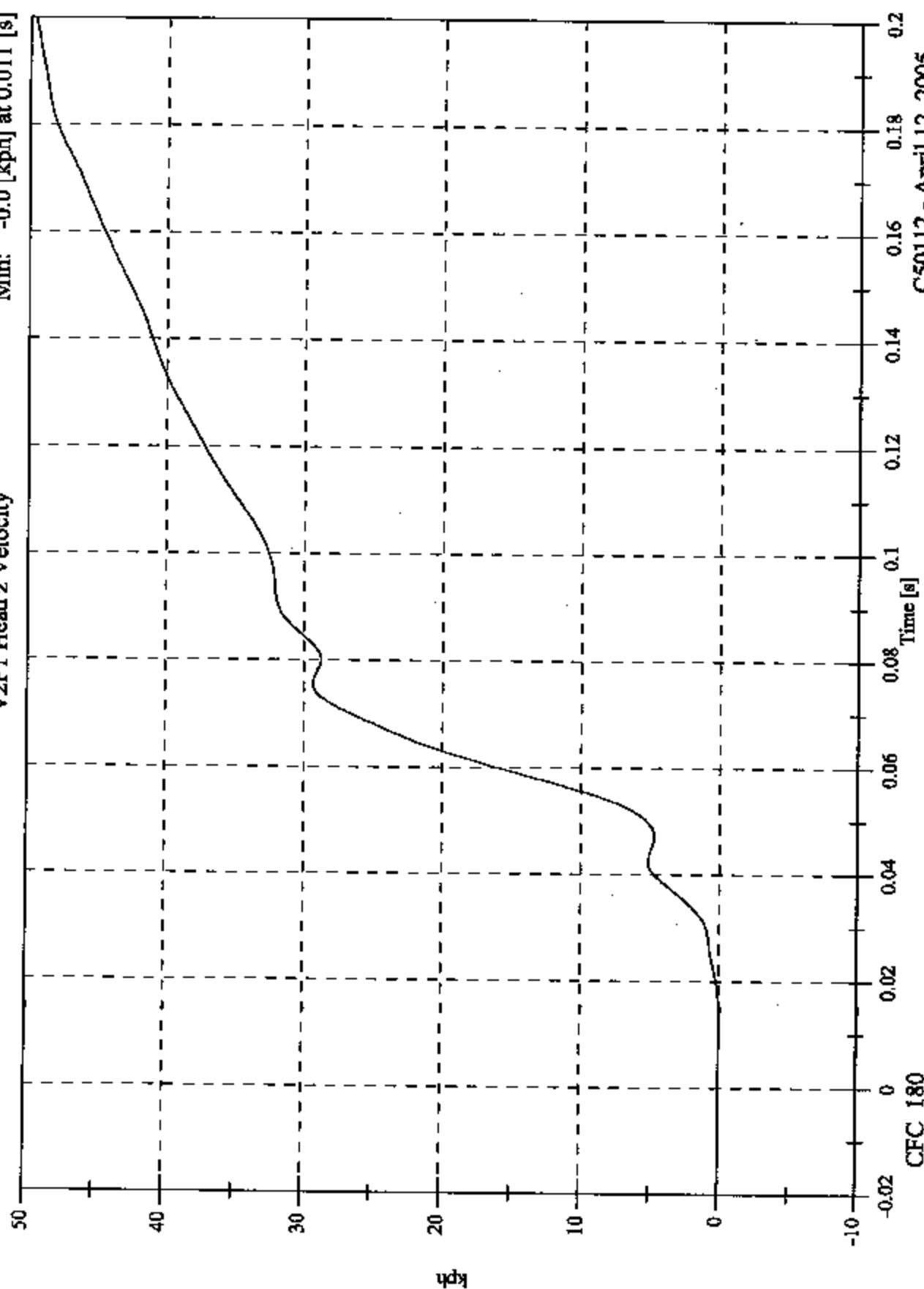


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Head z Velocity

Max: 49.7 [kph] at 0.200 [s]
Min: -0.0 [kph] at 0.011 [s]

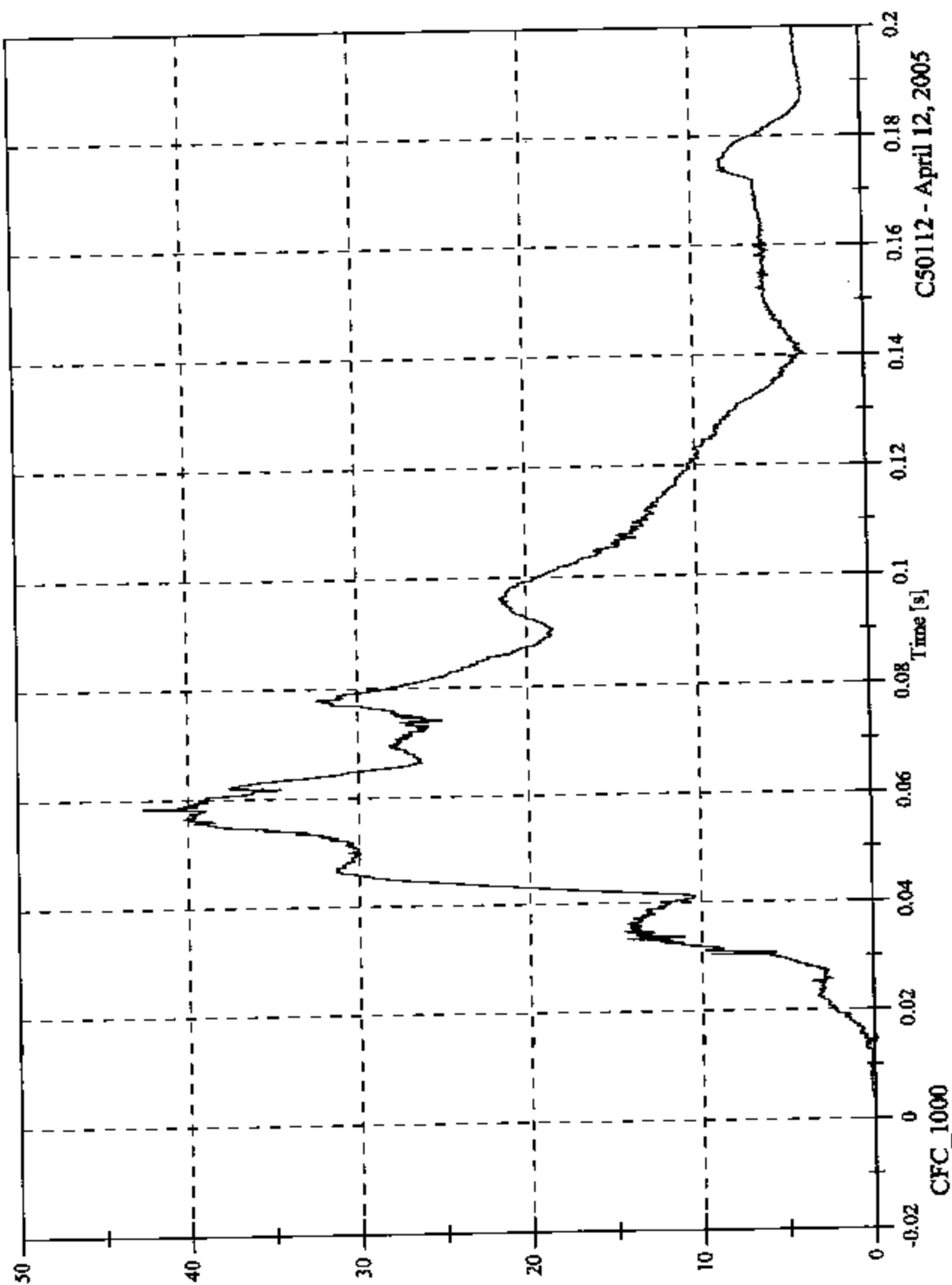


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Head Resultant

Max: 42.6 [g] at 0.058 [s]
Min: 0.0 [g] at -0.002 [s]

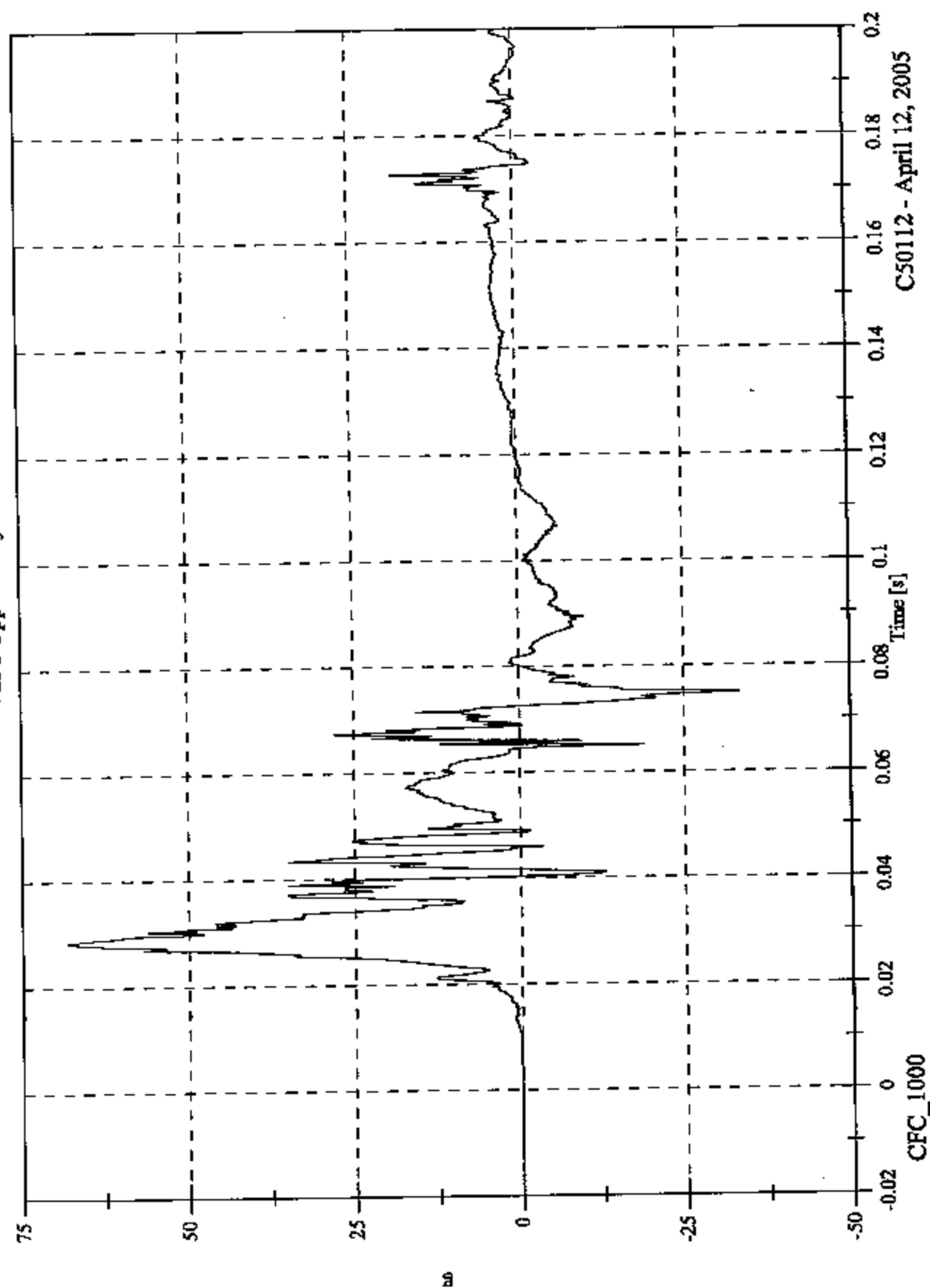


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2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Upper Rib y

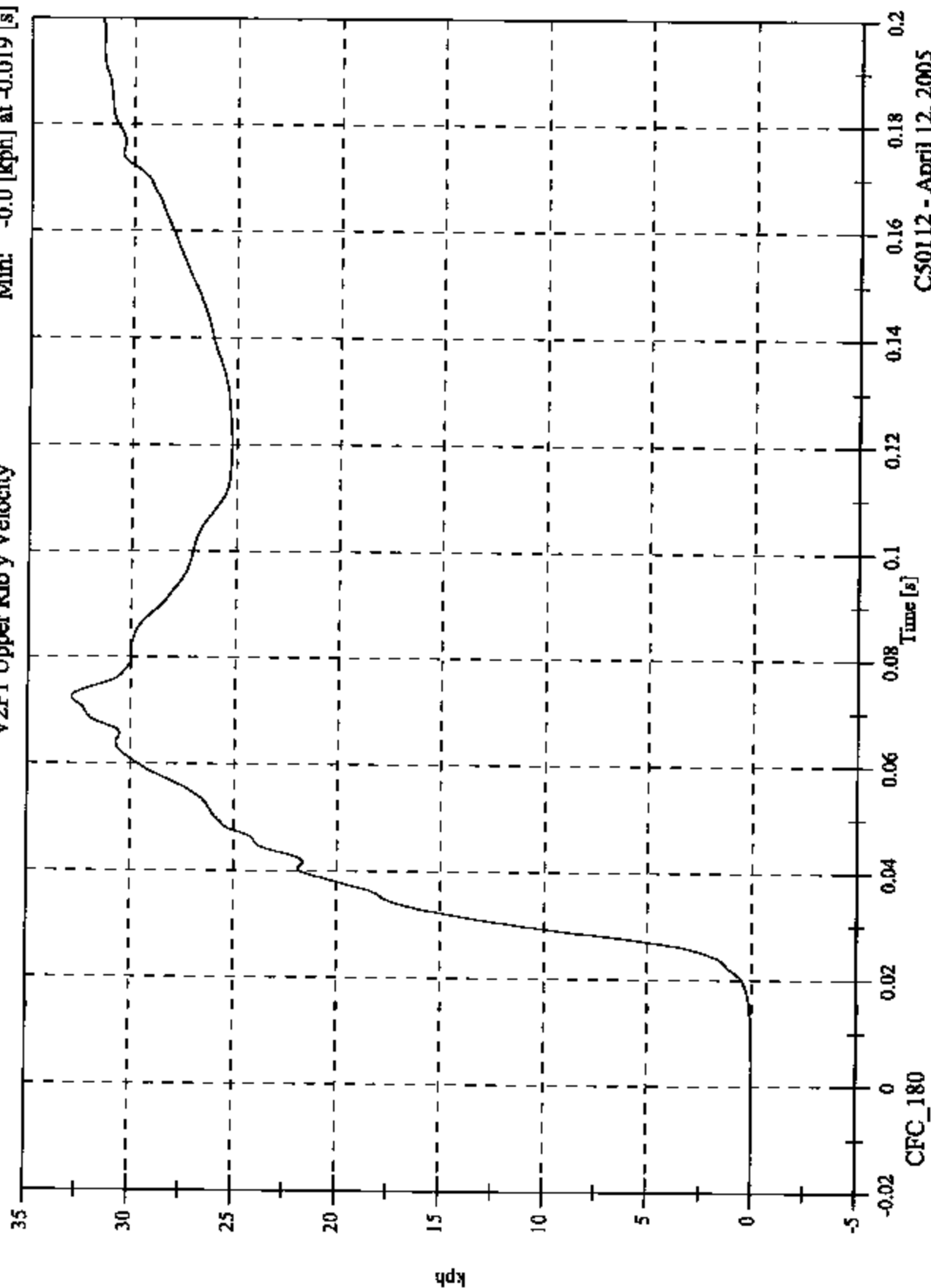
Max: 68.1 [g] at 0.028 [s]
Min: -33.3 [g] at 0.075 [s]



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Max: 32.9 [kph] at 0.072 [s]
Min: -0.0 [kph] at -0.019 [s]

V2P1 Upper Rib y Velocity

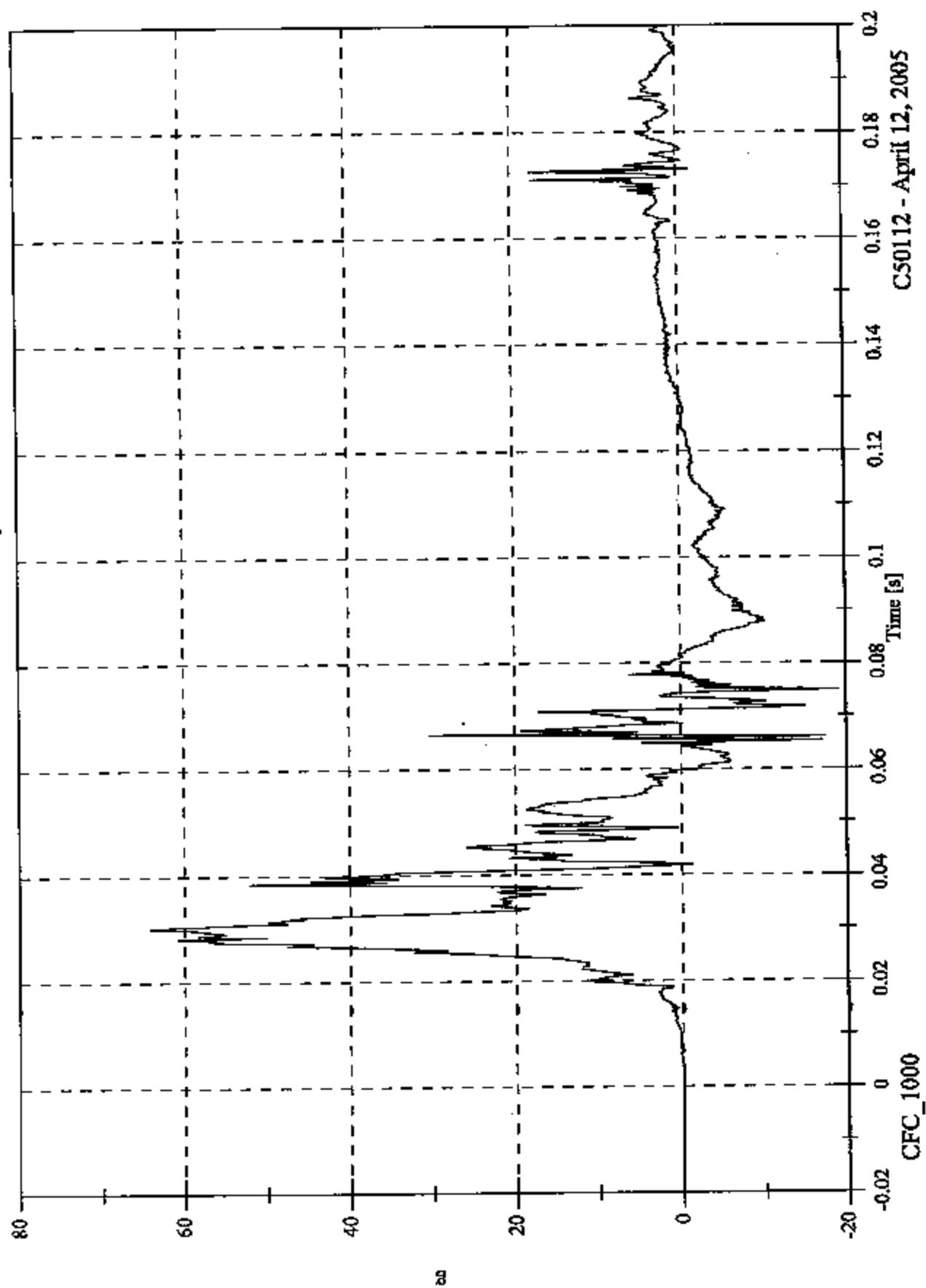


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

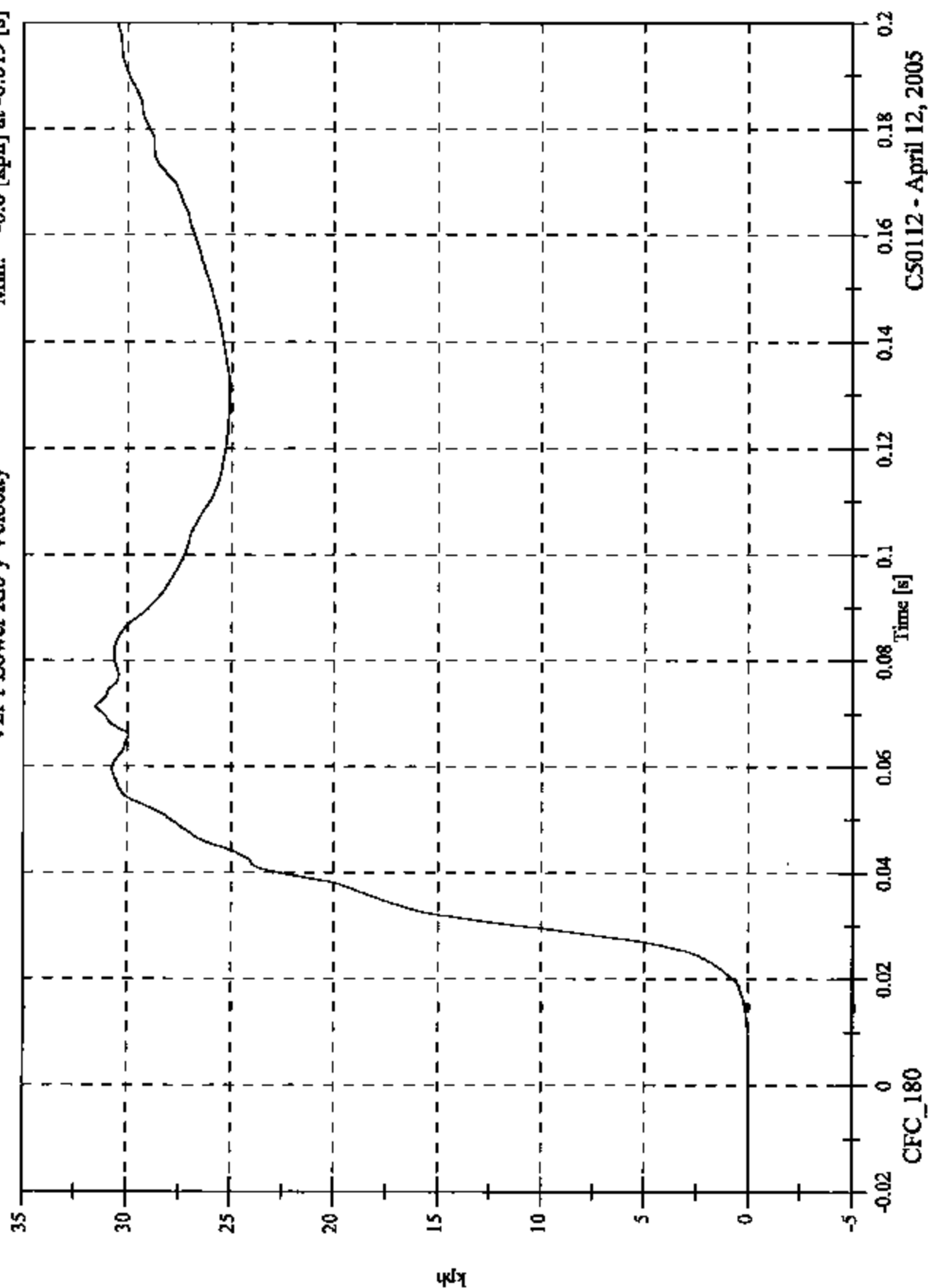
V2P1 Lower Rib y

Max: 64.1 [g] at 0.030 [s]
Min: -19.1 [g] at 0.075 [s]



C50112 - April 12, 2005

V2P1 Lower Rib y Velocity



CFC_180

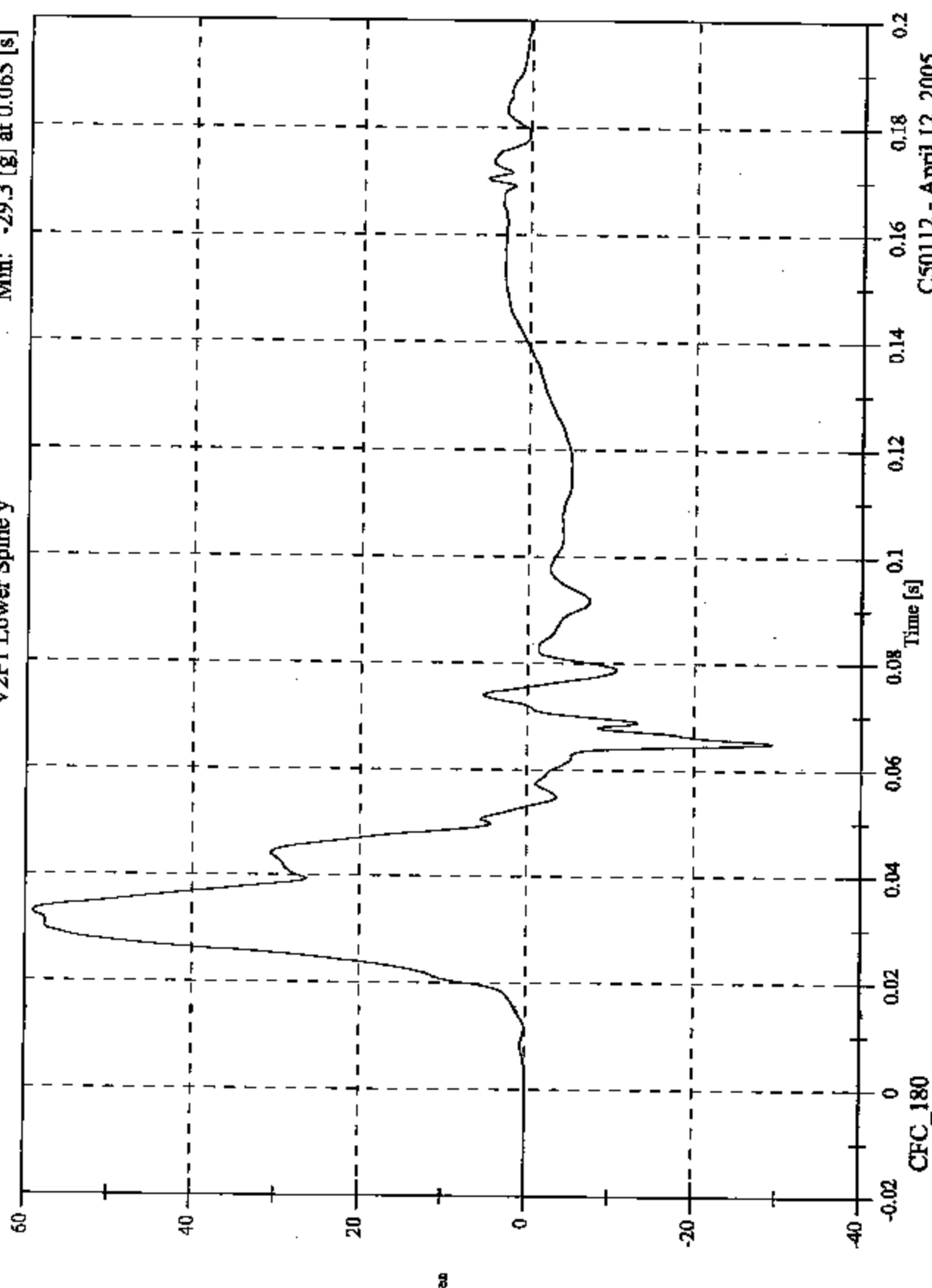
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Spine y

Max: 59.1 [g] at 0.033 [s]

Min: -29.3 [g] at 0.065 [s]

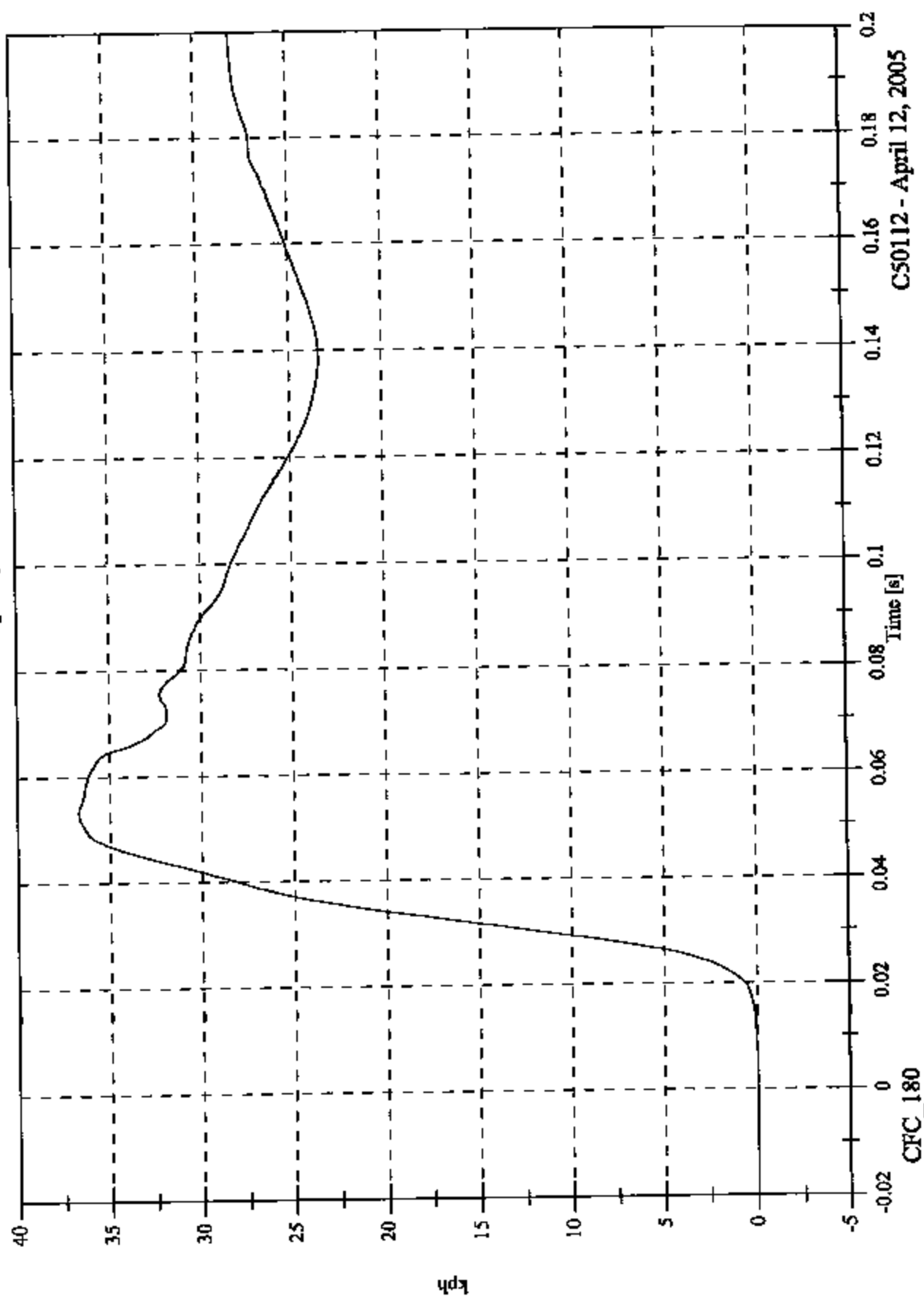


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Spine y Velocity

Max: 36.7 [kph] at 0.053 [s]
Min: -0.0 [kph] at -0.020 [s]

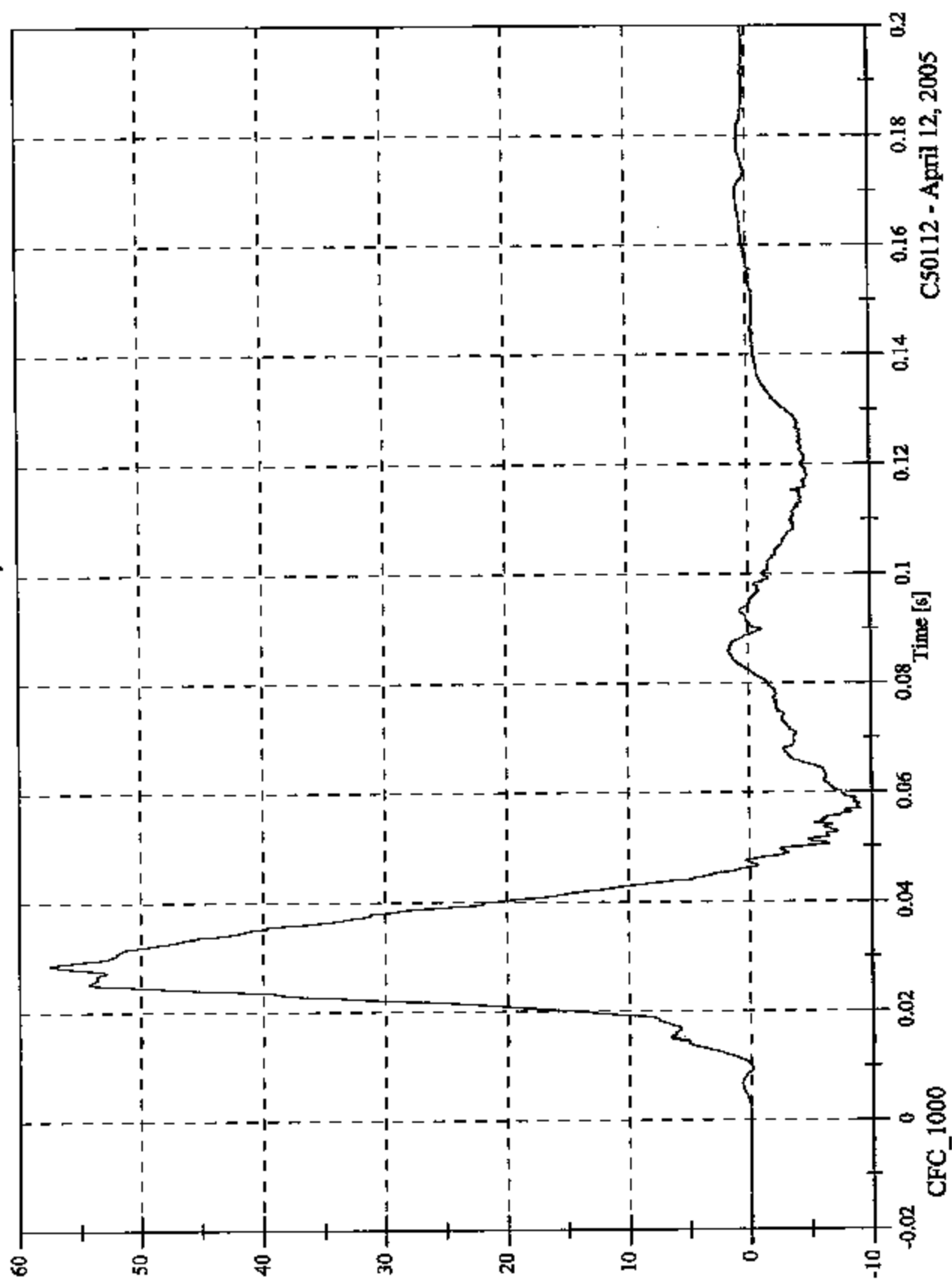


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 57.5 [g] at 0.029 [s]
Min: -9.1 [g] at 0.057 [s]

V2P1 Pelvic y

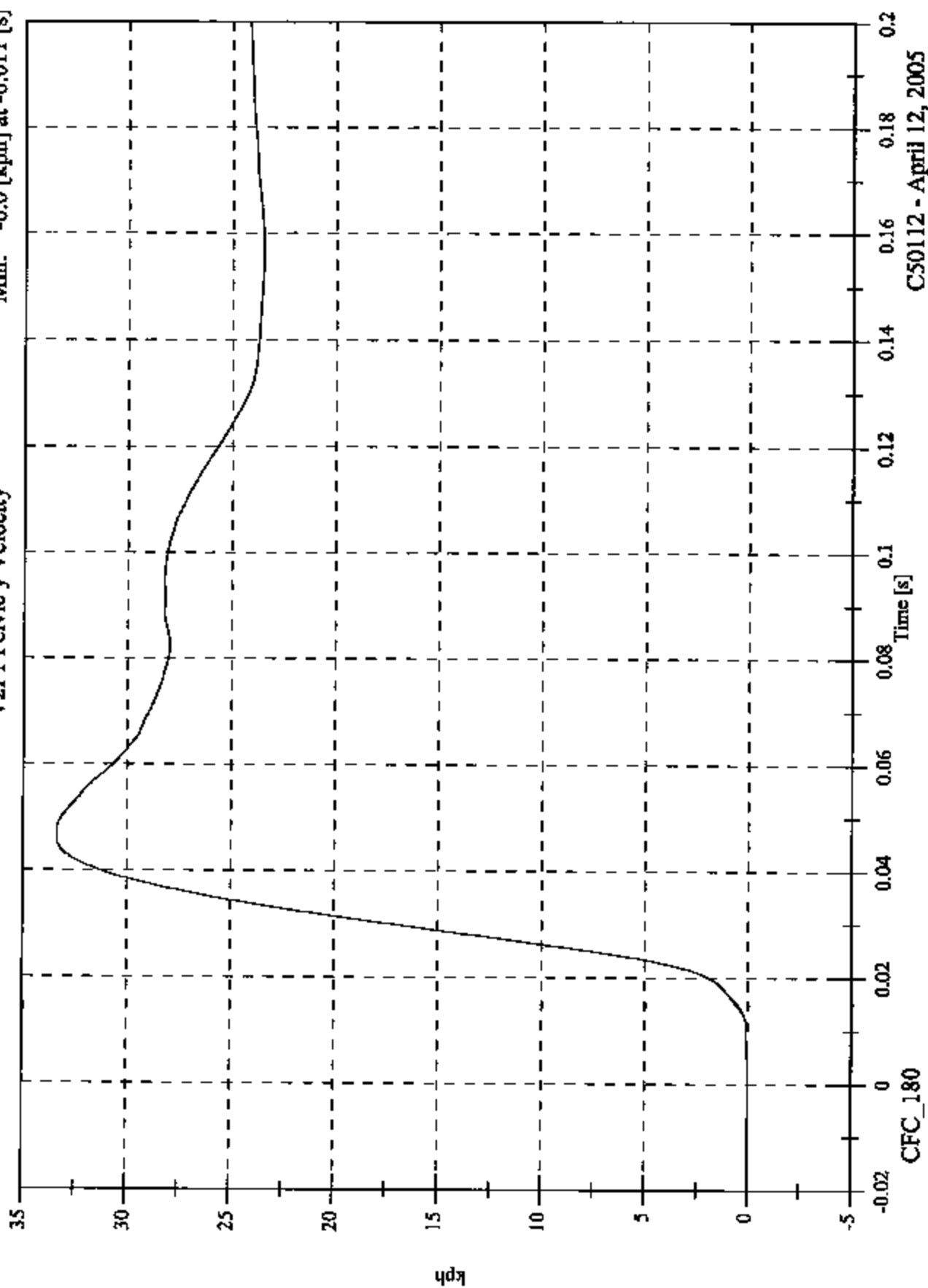


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 33.4 [kph] at 0.046 [s]
 Min: -0.0 [kph] at -0.011 [s]

V2P1 Pelvic y Velocity

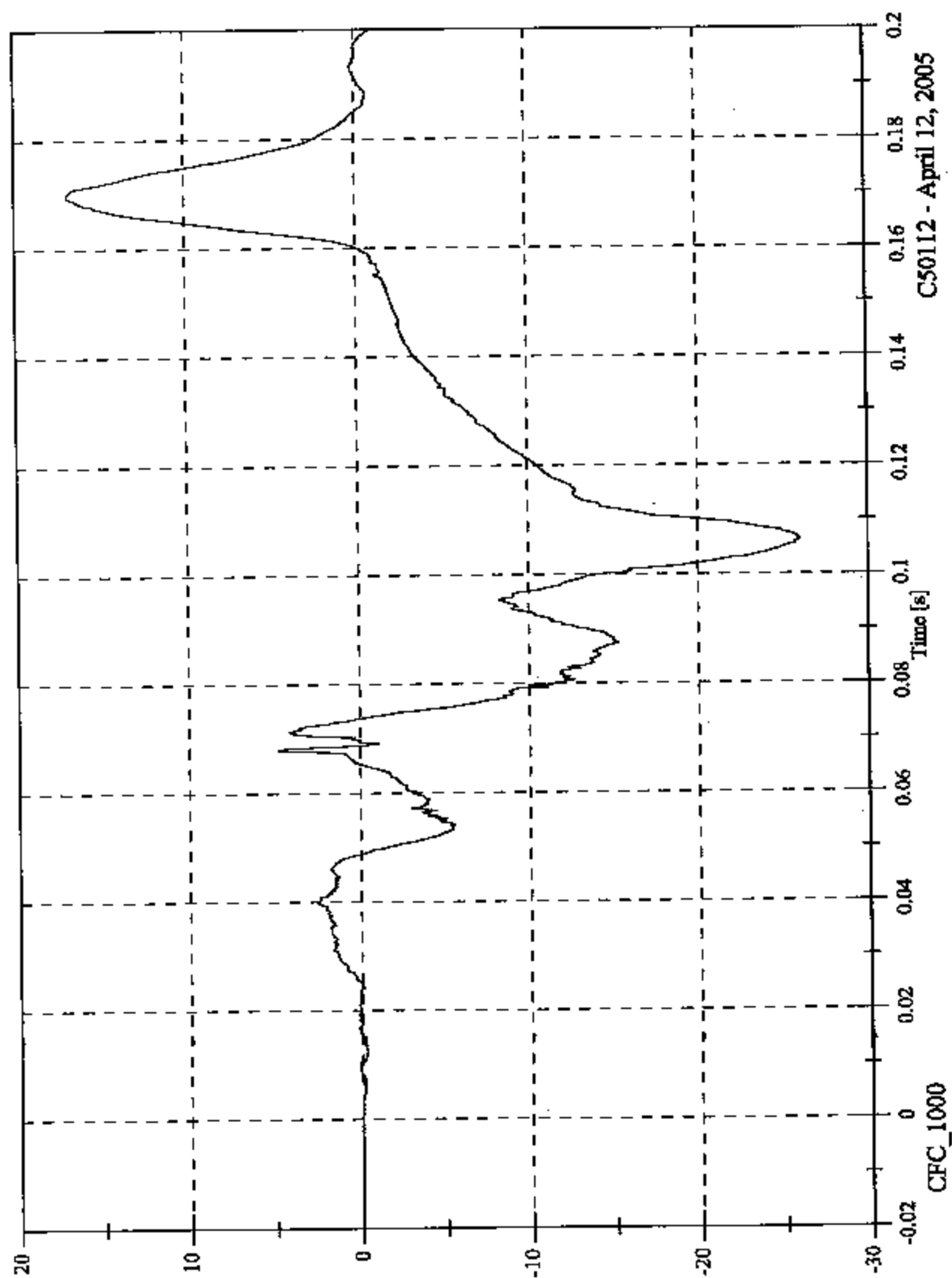


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Head x

Max: 16.9 [g] at 0.170 [s]
Min: -26.0 [g] at 0.106 [s]

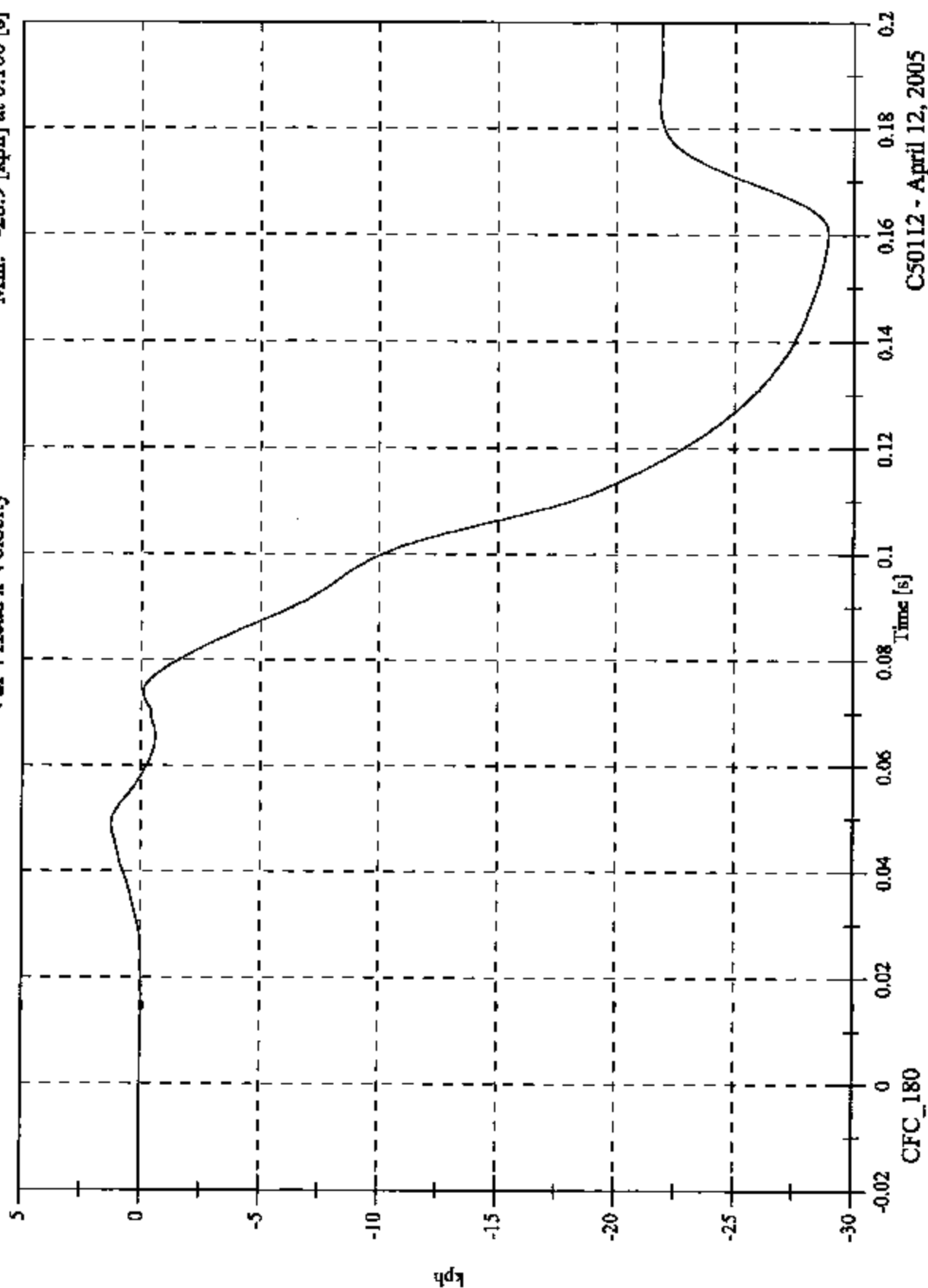


C50112 - April 12, 2005

Max: 1.2 [kph] at 0.049 [s]

Min: -28.9 [kph] at 0.160 [s]

V2P4 Head x Velocity

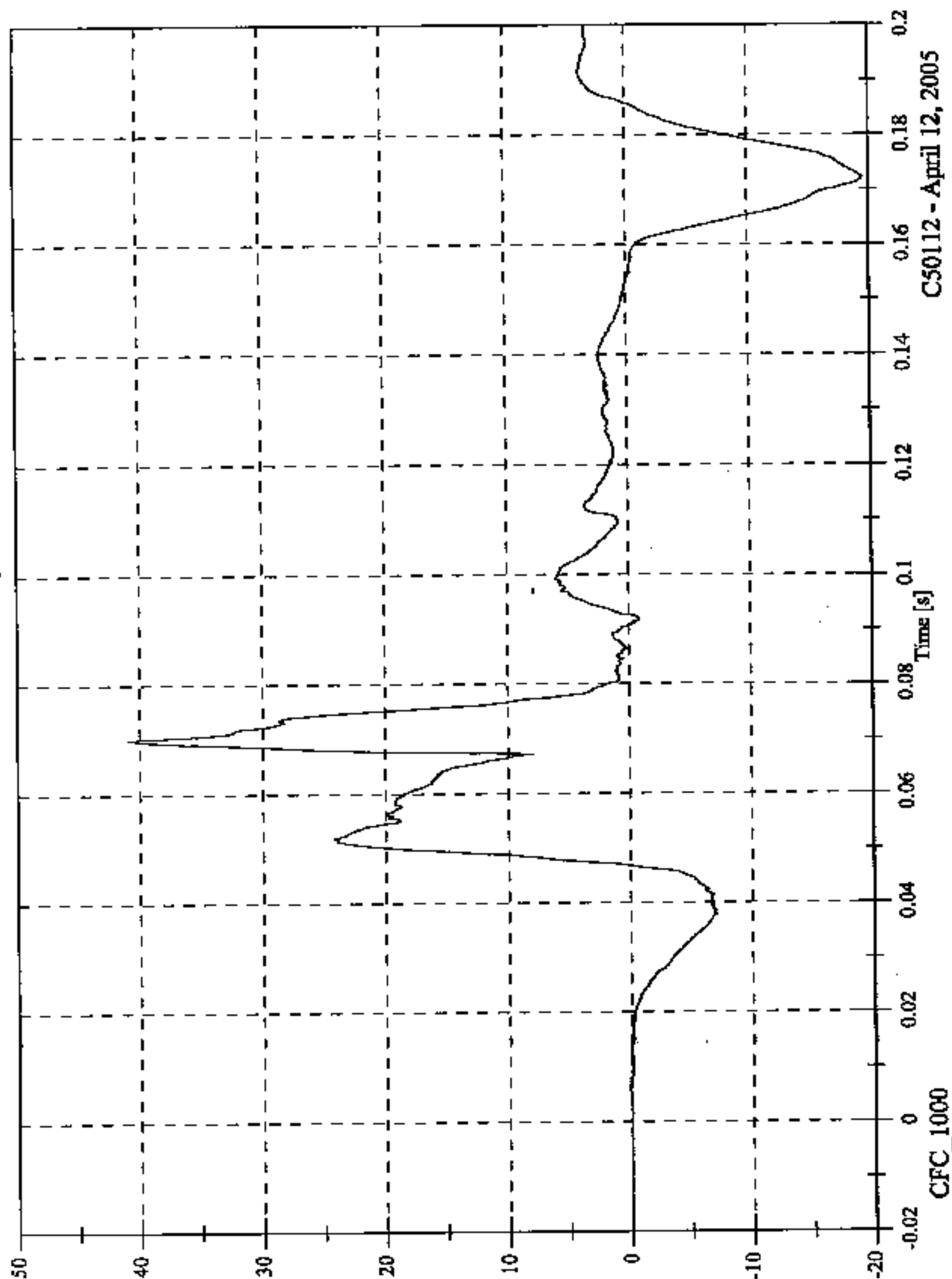


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 40.9 [g] at 0.070 [s]
Min: -19.5 [g] at 0.172 [s]

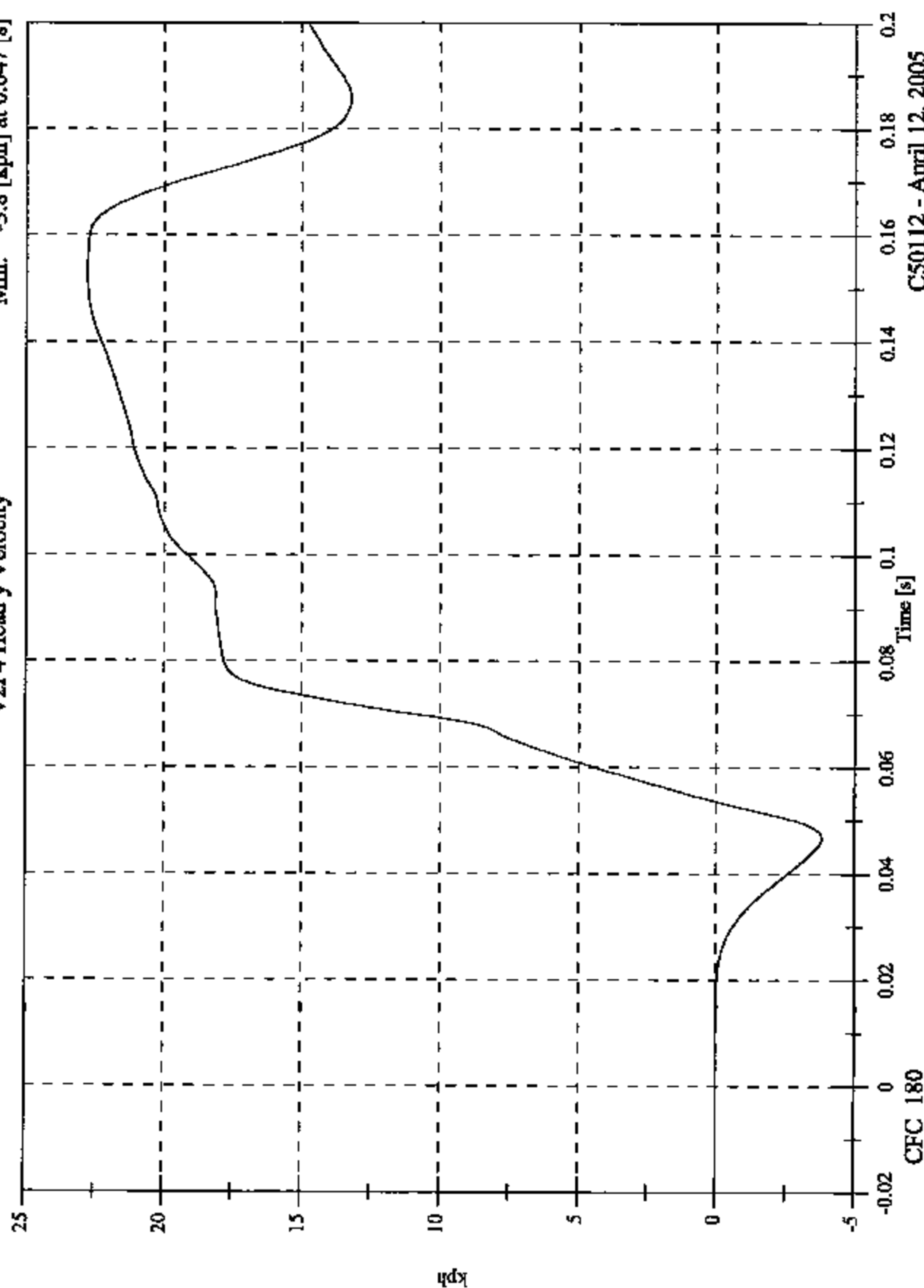
V2P4 Head y



2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Head y Velocity

Max: 22.8 [kph] at 0.153 [s]
Min: -3.8 [kph] at 0.047 [s]

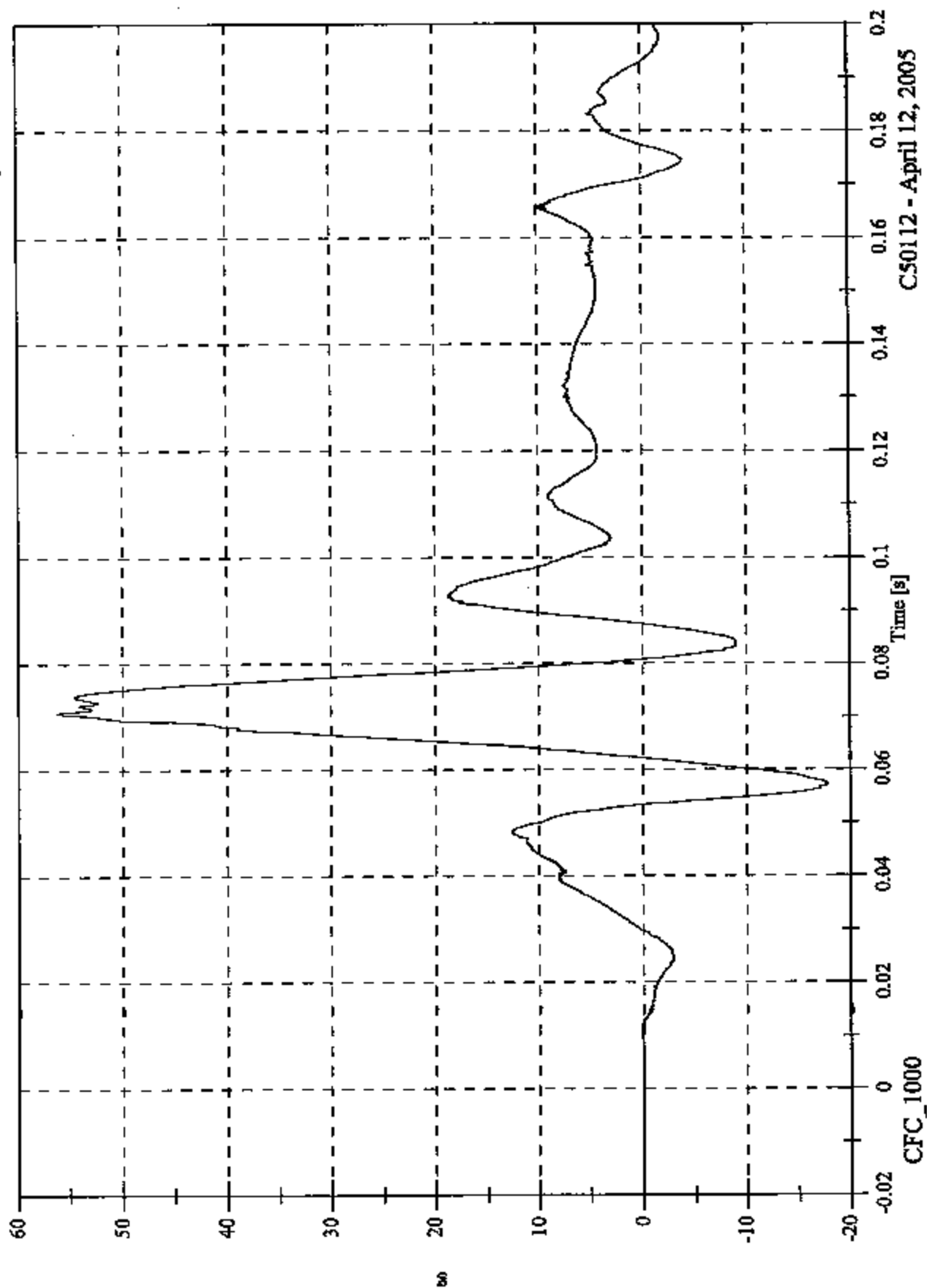


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 56.2 [g] at 0.071 [s]
Min: -17.8 [g] at 0.057 [s]

V2P4 Head z

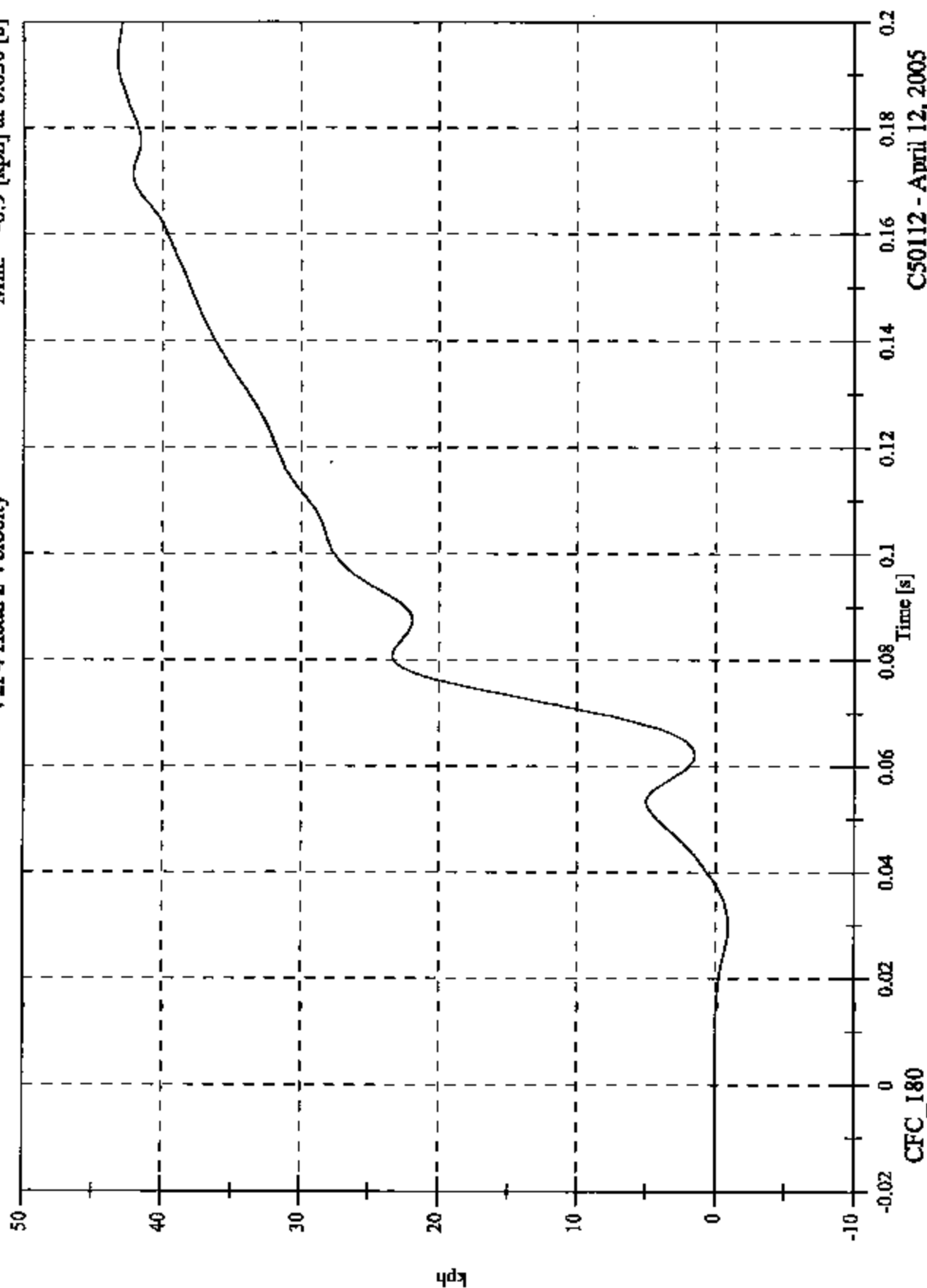


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Head z Velocity

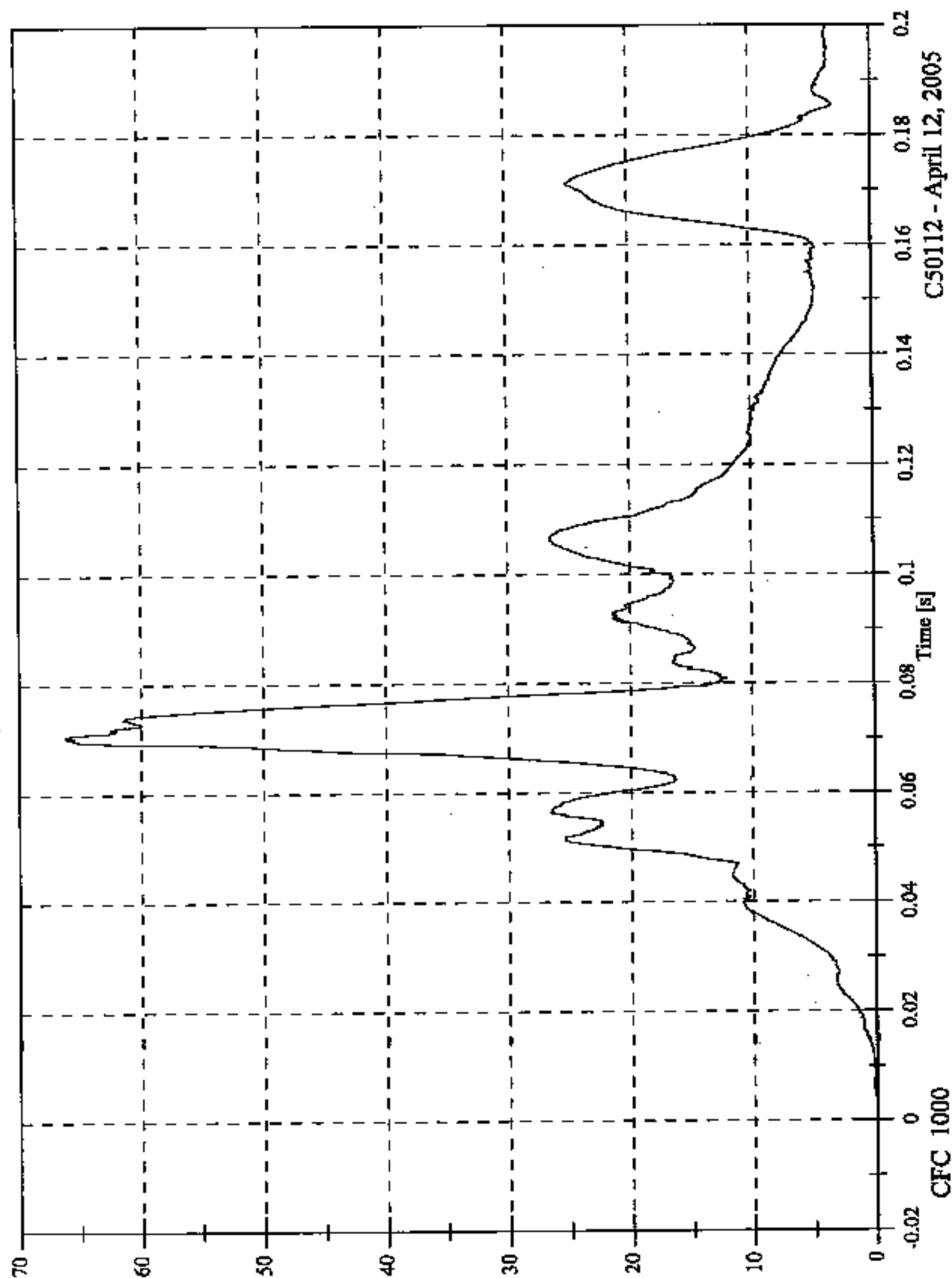
Max: 43.2 [kph] at 0.193 [s]
Min: -0.9 [kph] at 0.030 [s]



2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Head Resultant

Max: 66.3 [g] at 0.070 [s]
Min: 0.0 [g] at -0.011 [s]

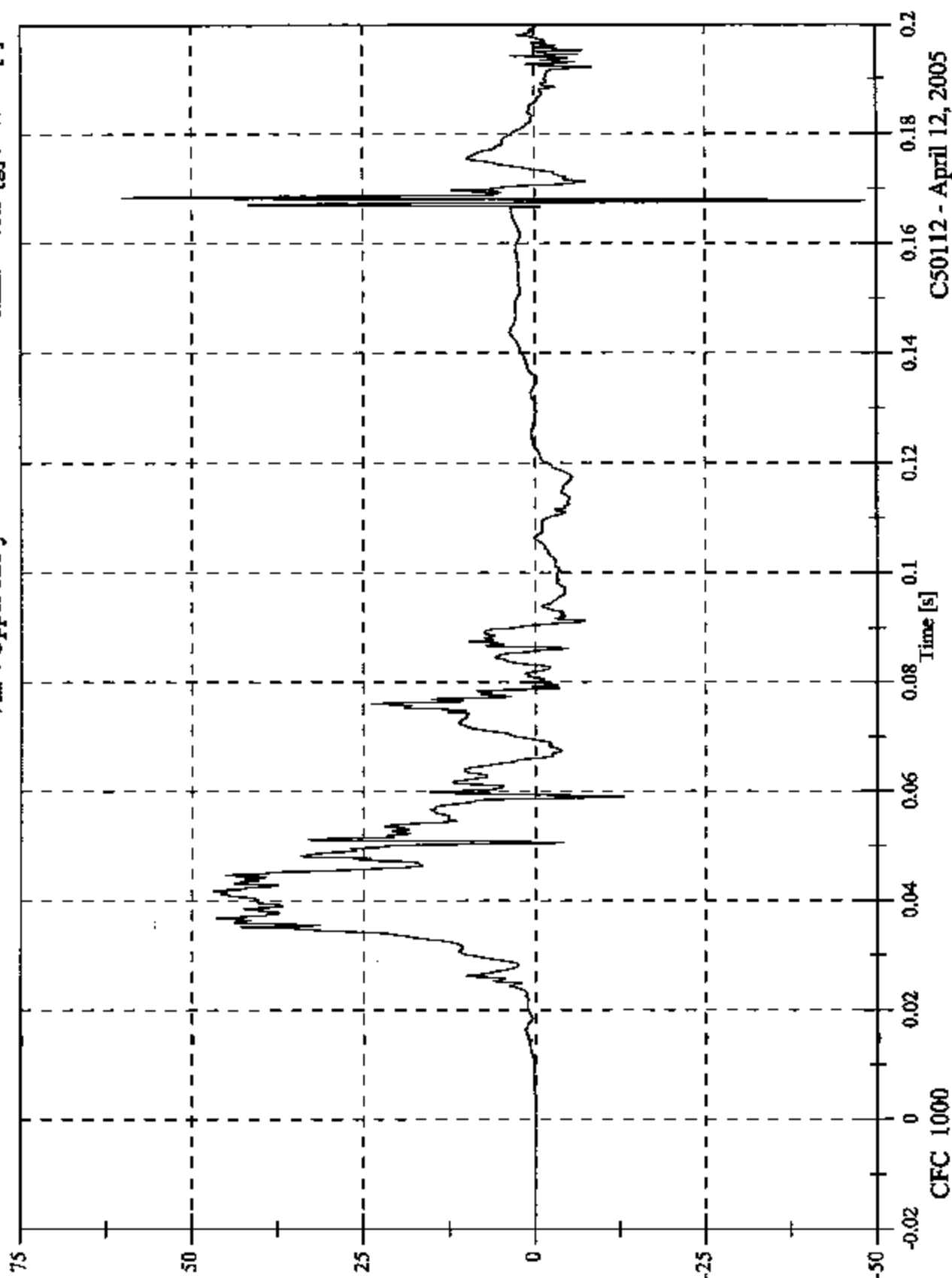


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Upper Rib y

Max: 60.3 [g] at 0.168 [s]
Min: -48.3 [g] at 0.168 [s]

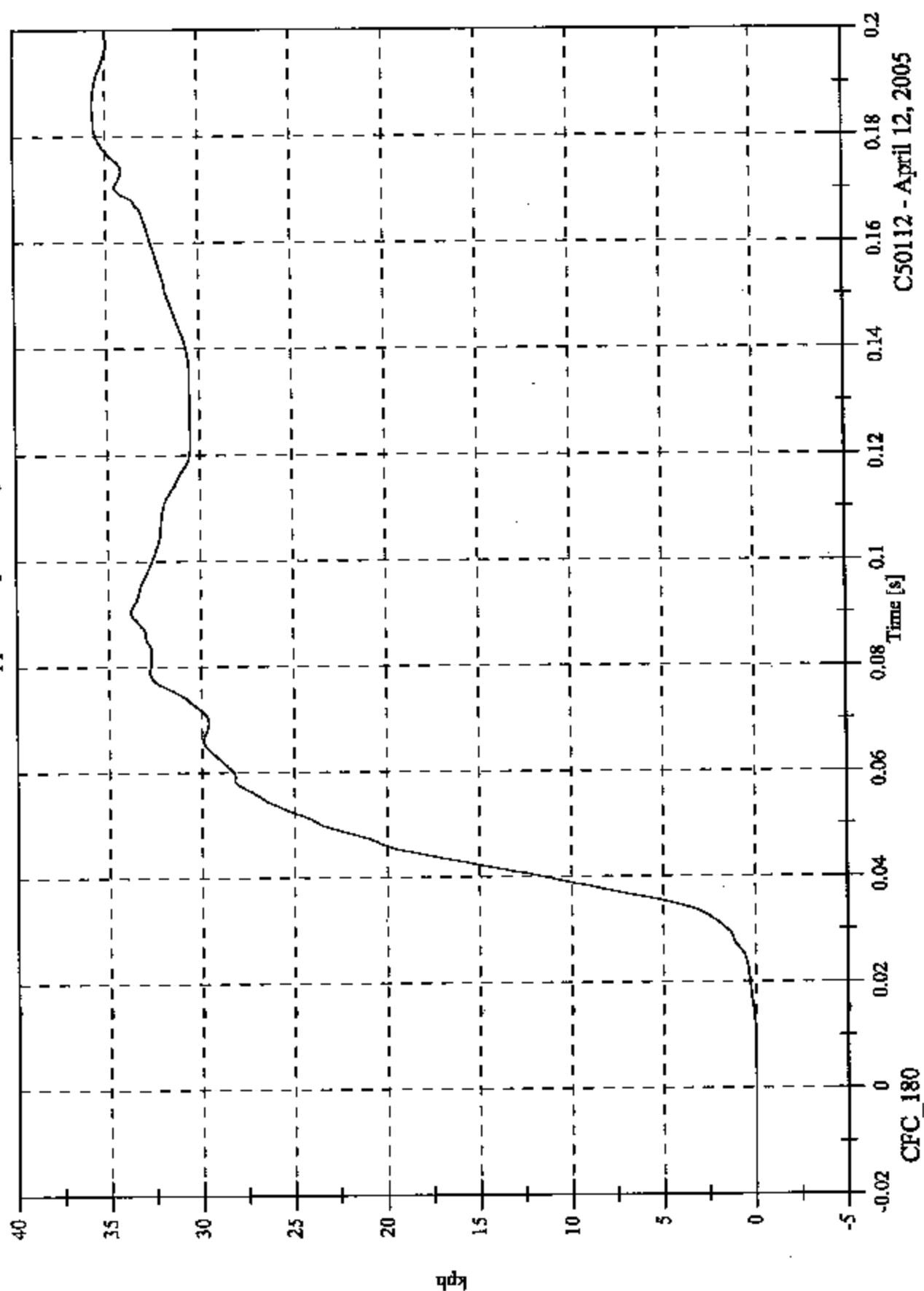


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Upper Rib y Velocity

Max: 35.7 [kph] at 0.186 [s]
Min: -0.0 [kph] at -0.019 [s]

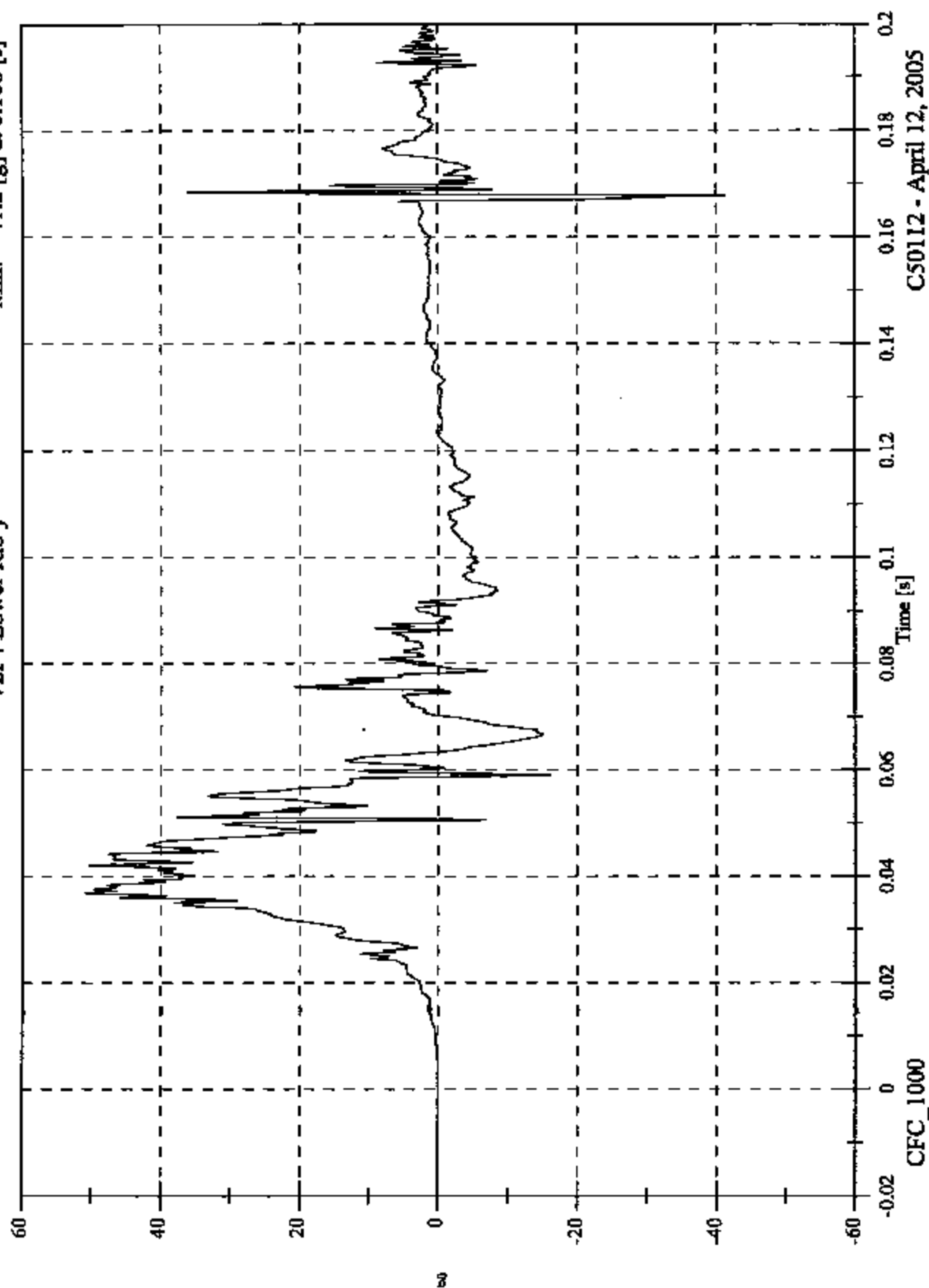


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Rib y

Max: 50.9 [g] at 0.037 [s]
Min: -41.2 [g] at 0.168 [s]

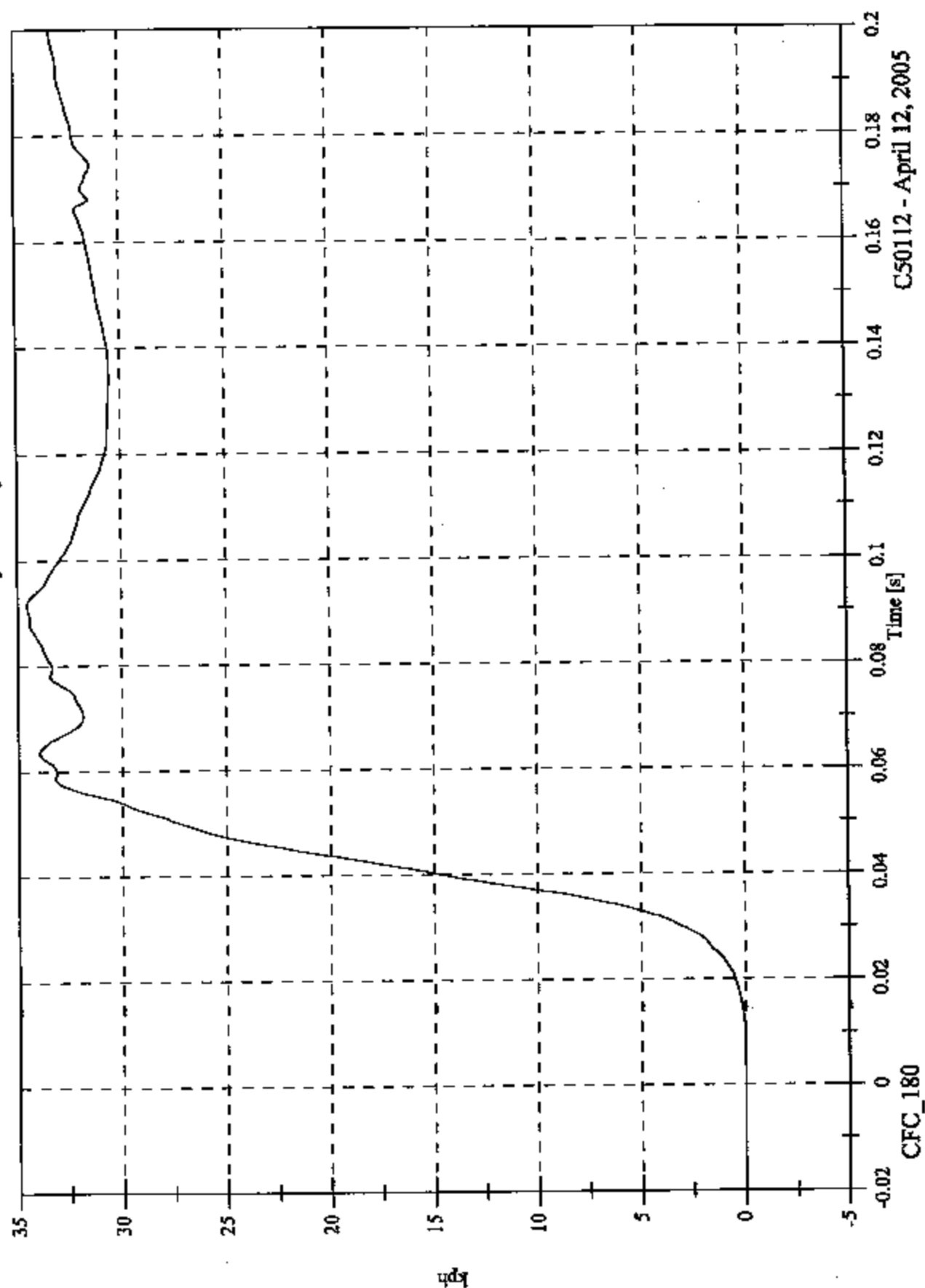


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Rib y Velocity

Max: 34.5 [kph] at 0.092 [s]
Min: -0.0 [kph] at -0.018 [s]

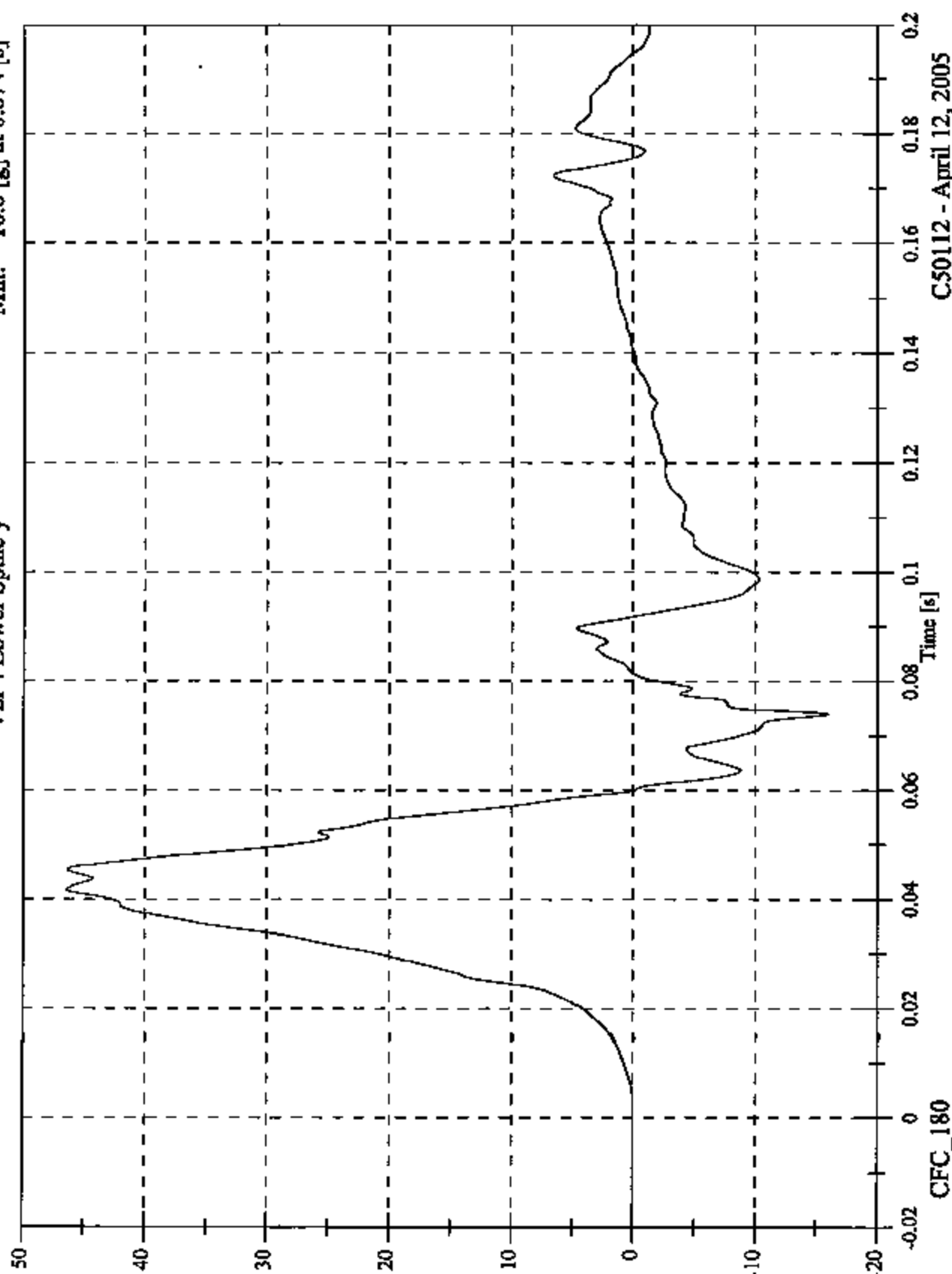


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Spine y

Max: 46.4 [g] at 0.042 [s]
Min: -16.0 [g] at 0.074 [s]

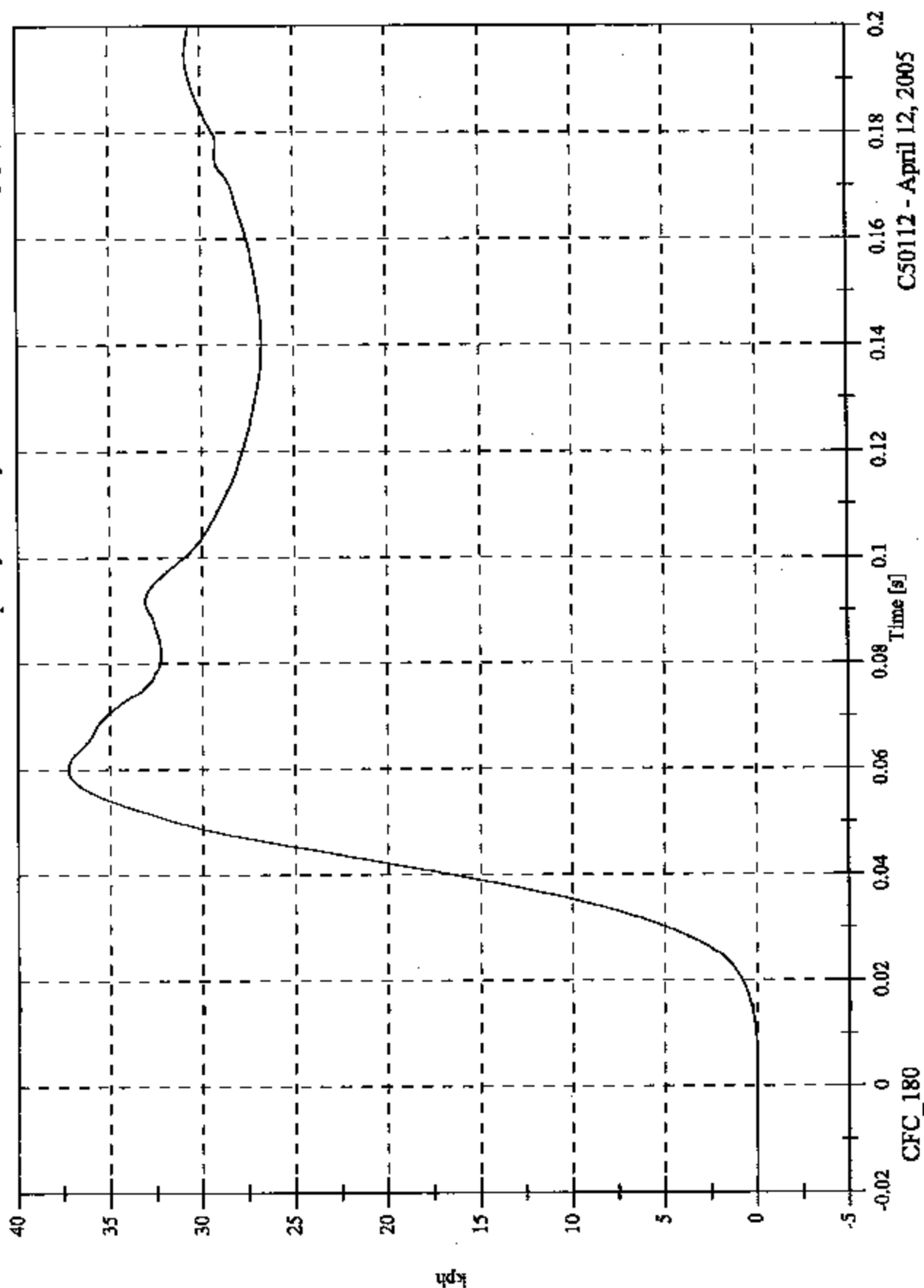


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Spine y Velocity

Max: 37.3 [kph] at 0.060 [s]
Min: -0.0 [kph] at -0.019 [s]

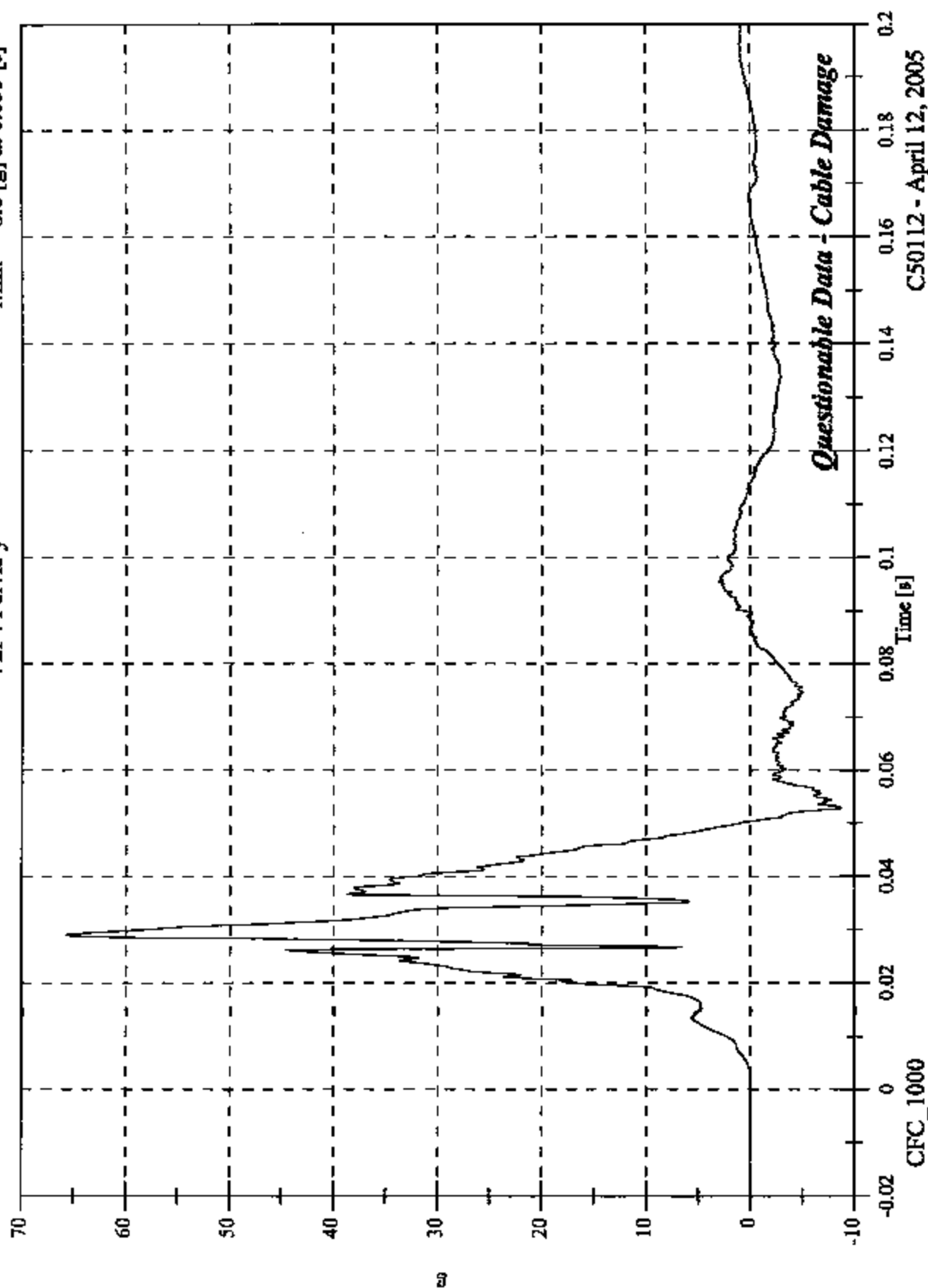


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Pelvic y

Max: 65.7 [g] at 0.029 [s]
Min: -8.6 [g] at 0.053 [s]



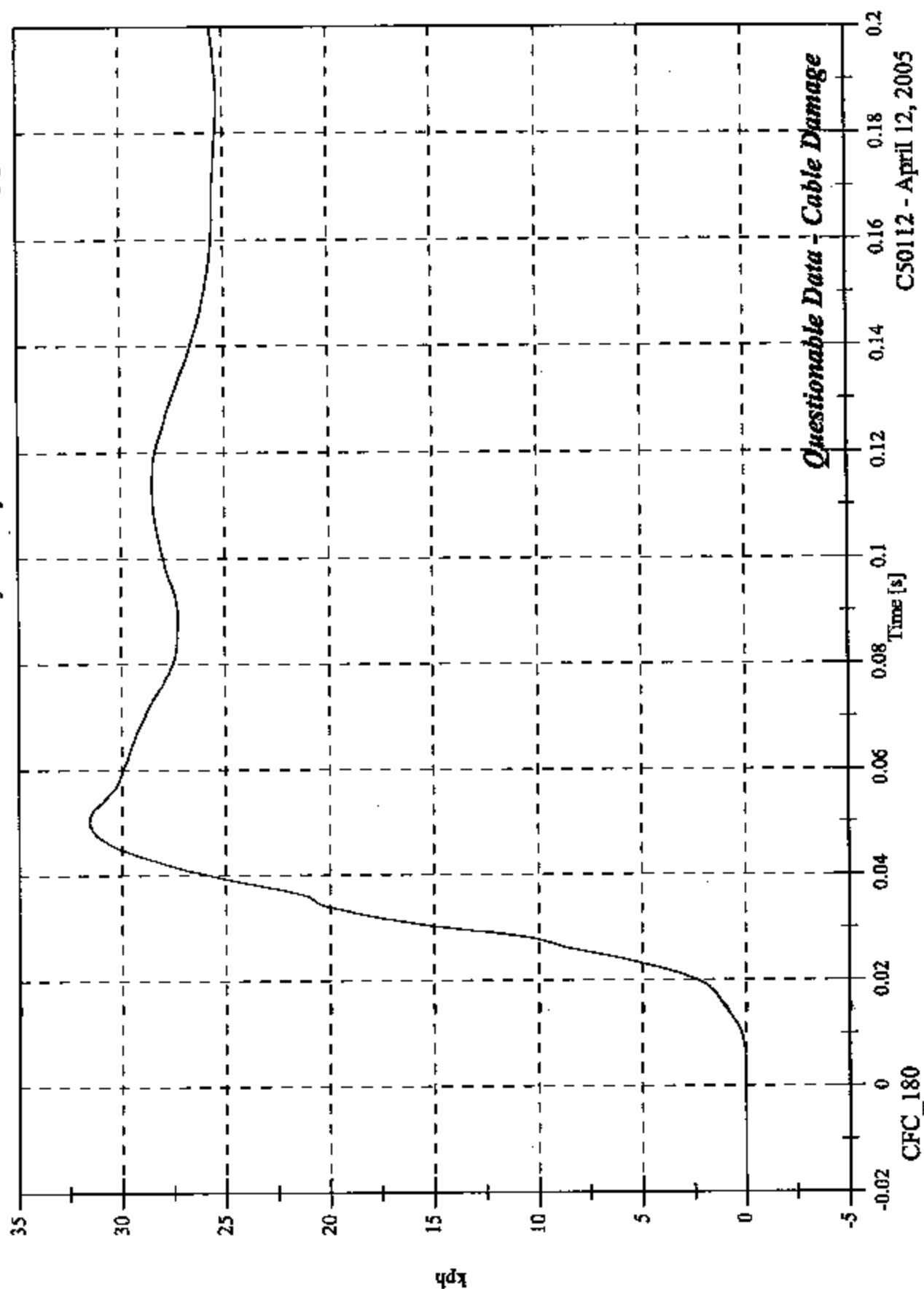
CFC_1000

C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Pelvic y Velocity

Max: 31.6 [kph] at 0.050 [s]
Min: -0.0 [kph] at -0.020 [s]



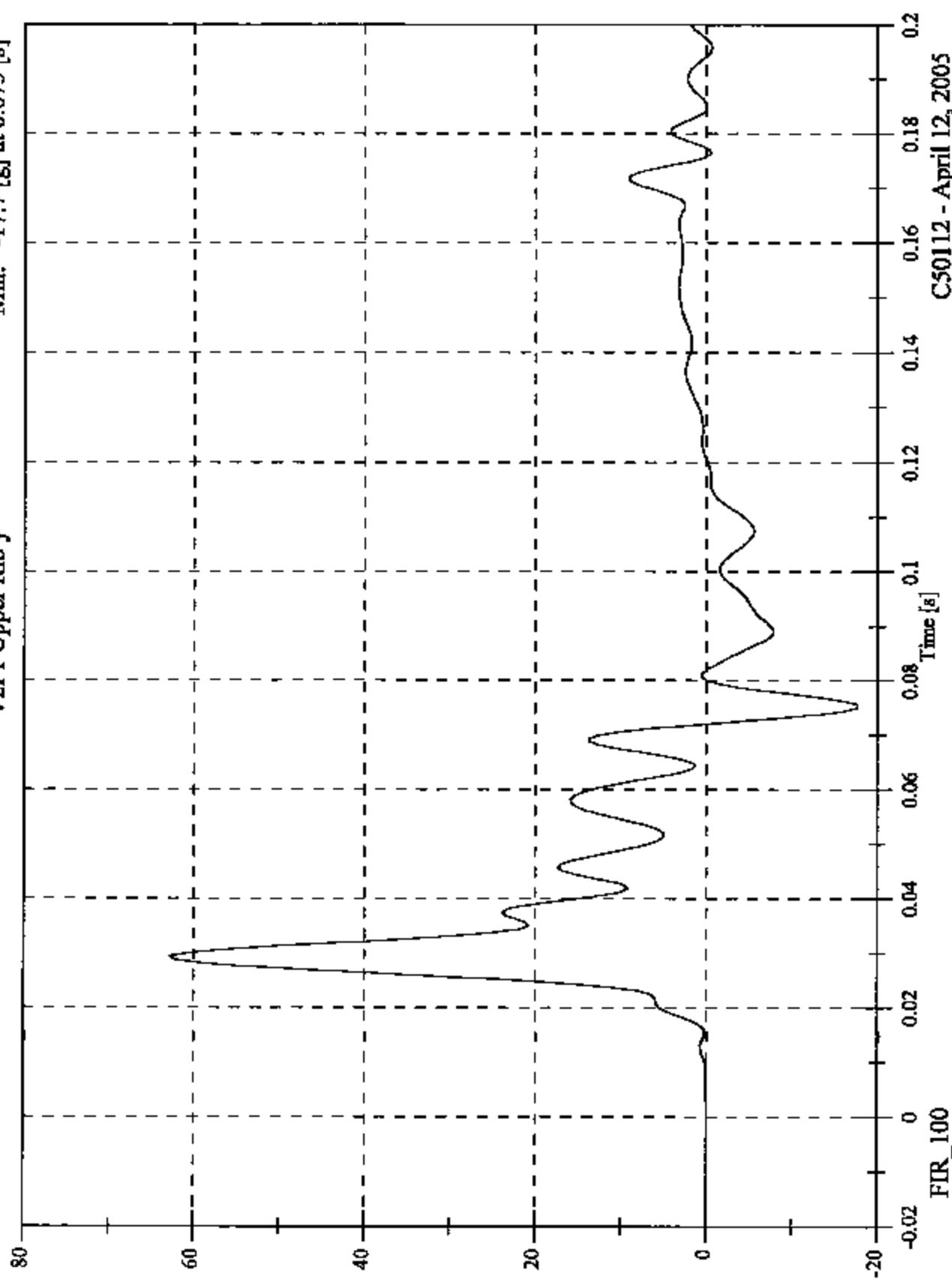
Questionable Data - Cable Damage

C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Upper Rib y

Max: 62.8 [g] at 0.029 [s]
Min: -17.7 [g] at 0.075 [s]

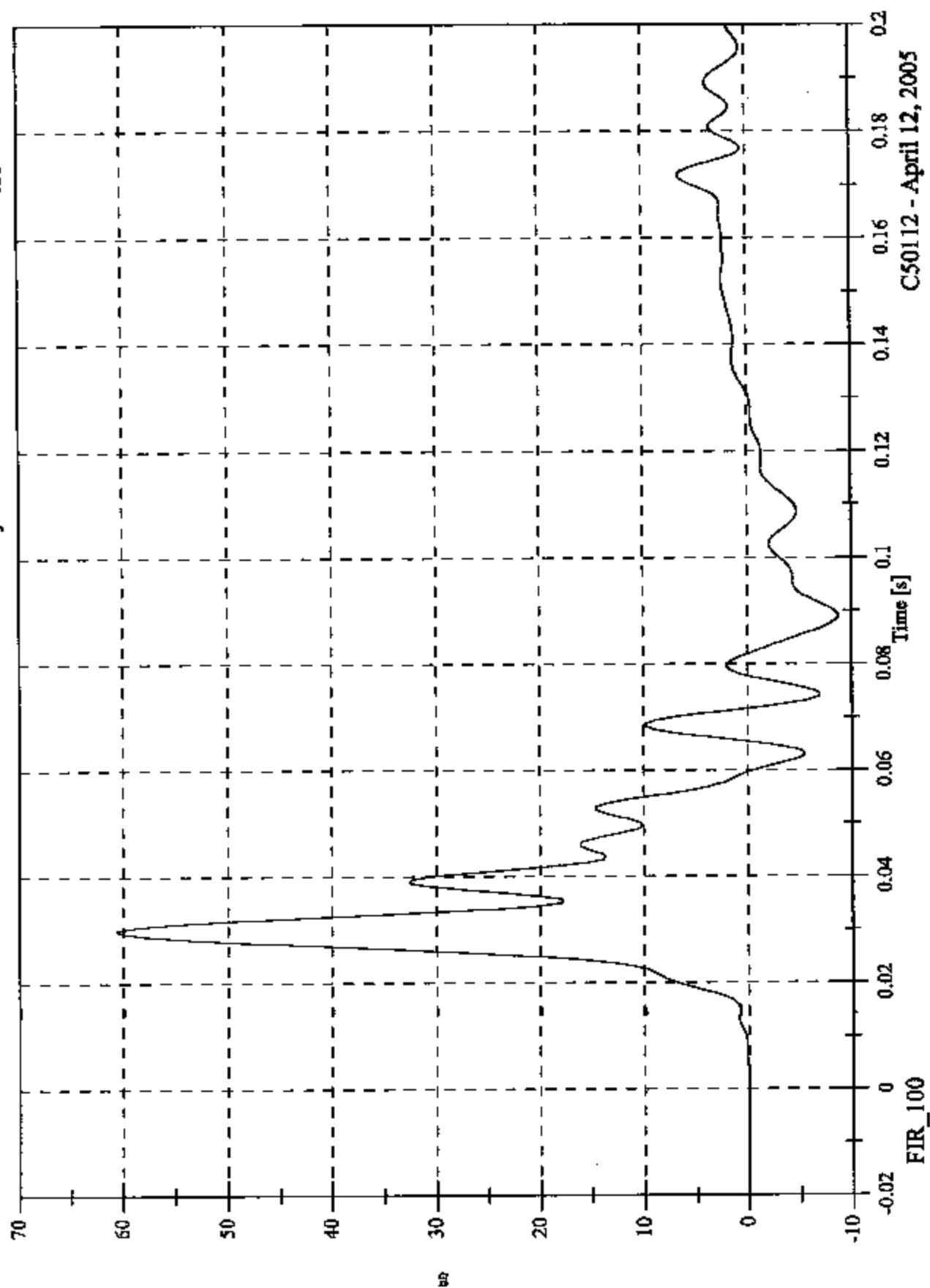


2005 FIMVSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 60.6 [g] at 0.030 [s]

Min: -8.7 [g] at 0.089 [s]

V2P1 Lower Rib y

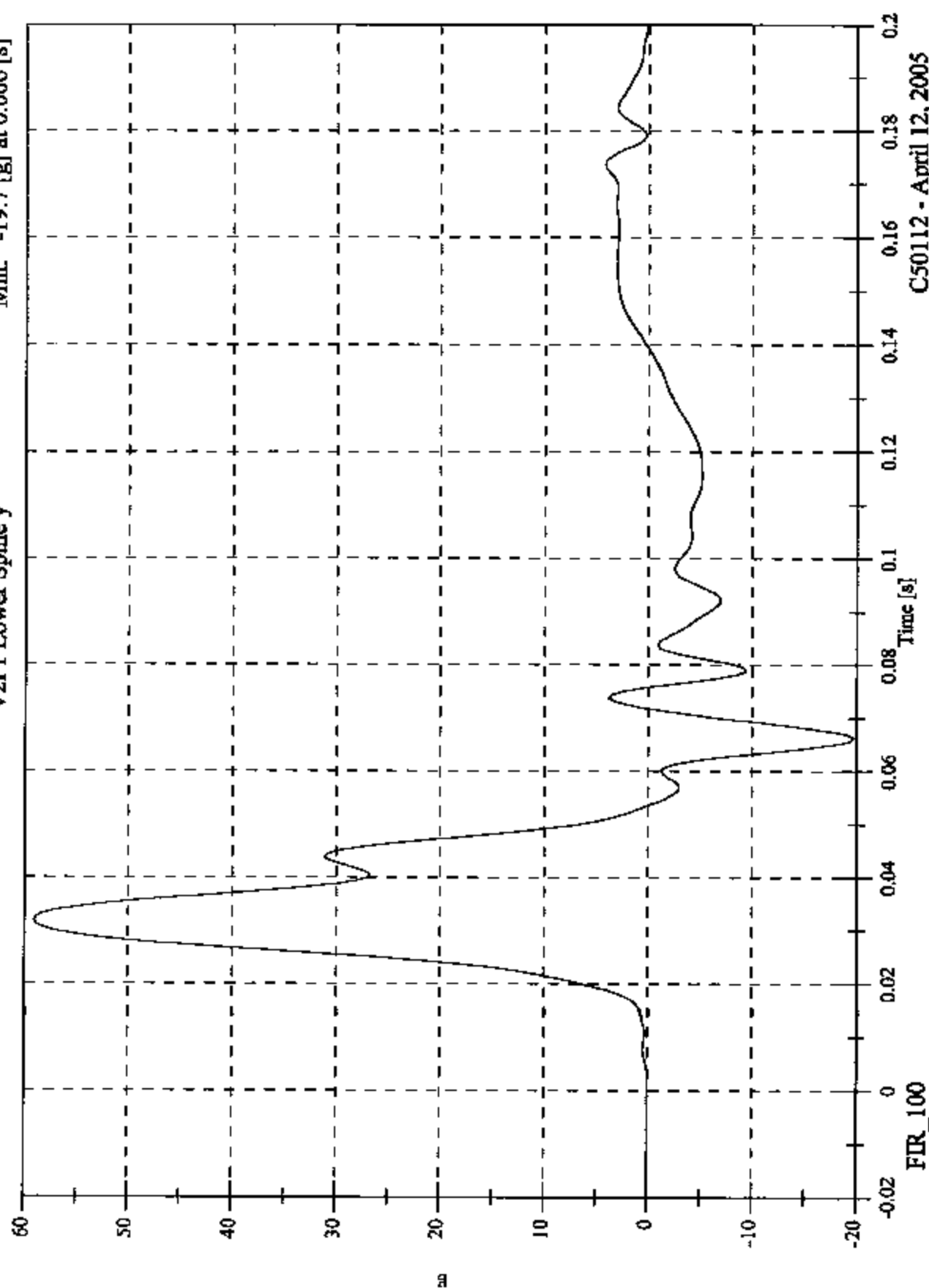


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Spine y

Max: 59.1 [g] at 0.032 [s]
Min: -19.7 [g] at 0.066 [s]

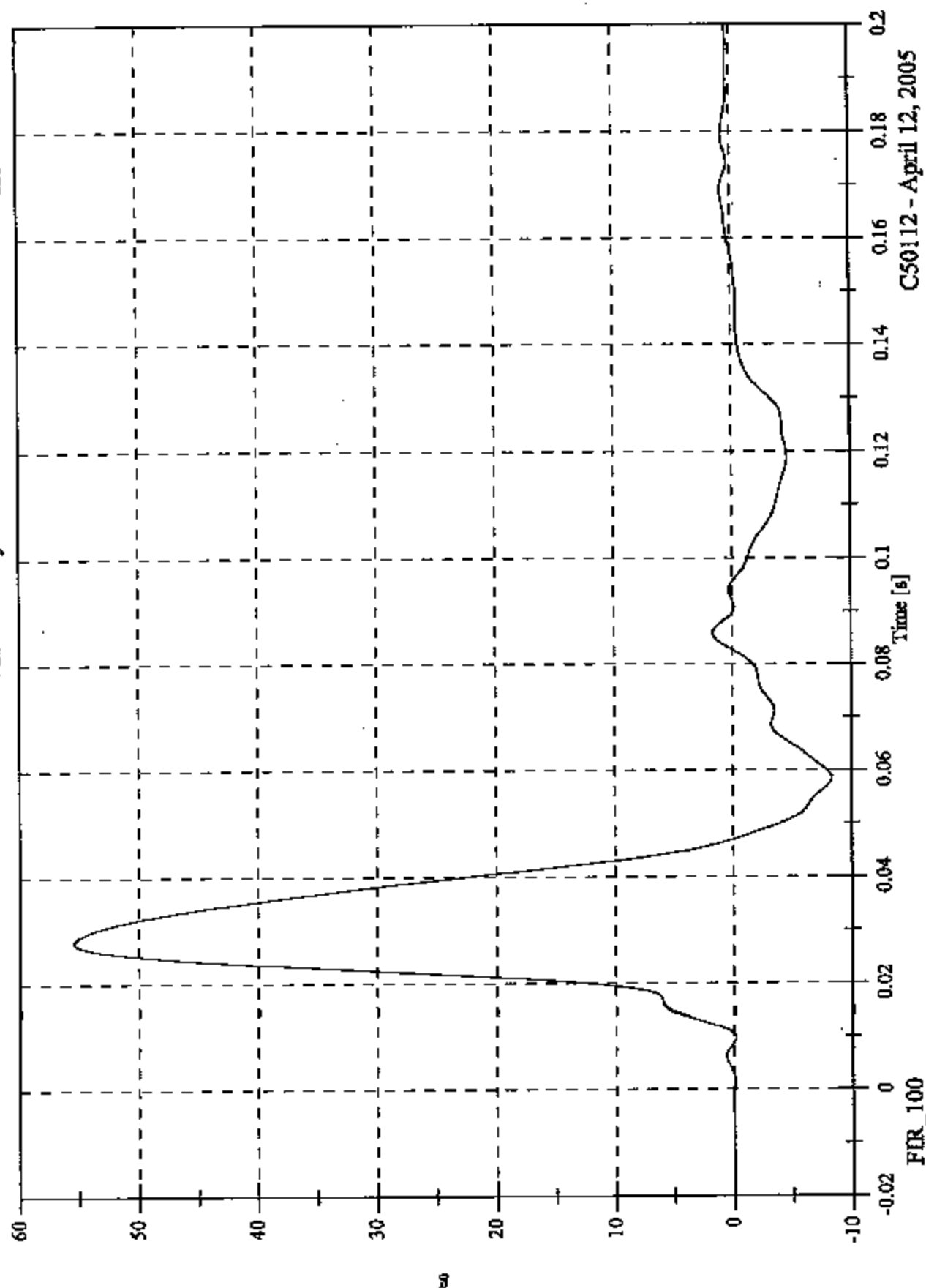


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 55.5 [g] at 0.027 [s]
Min: -8.3 [g] at 0.058 [s]

V2P1 Pelvic y

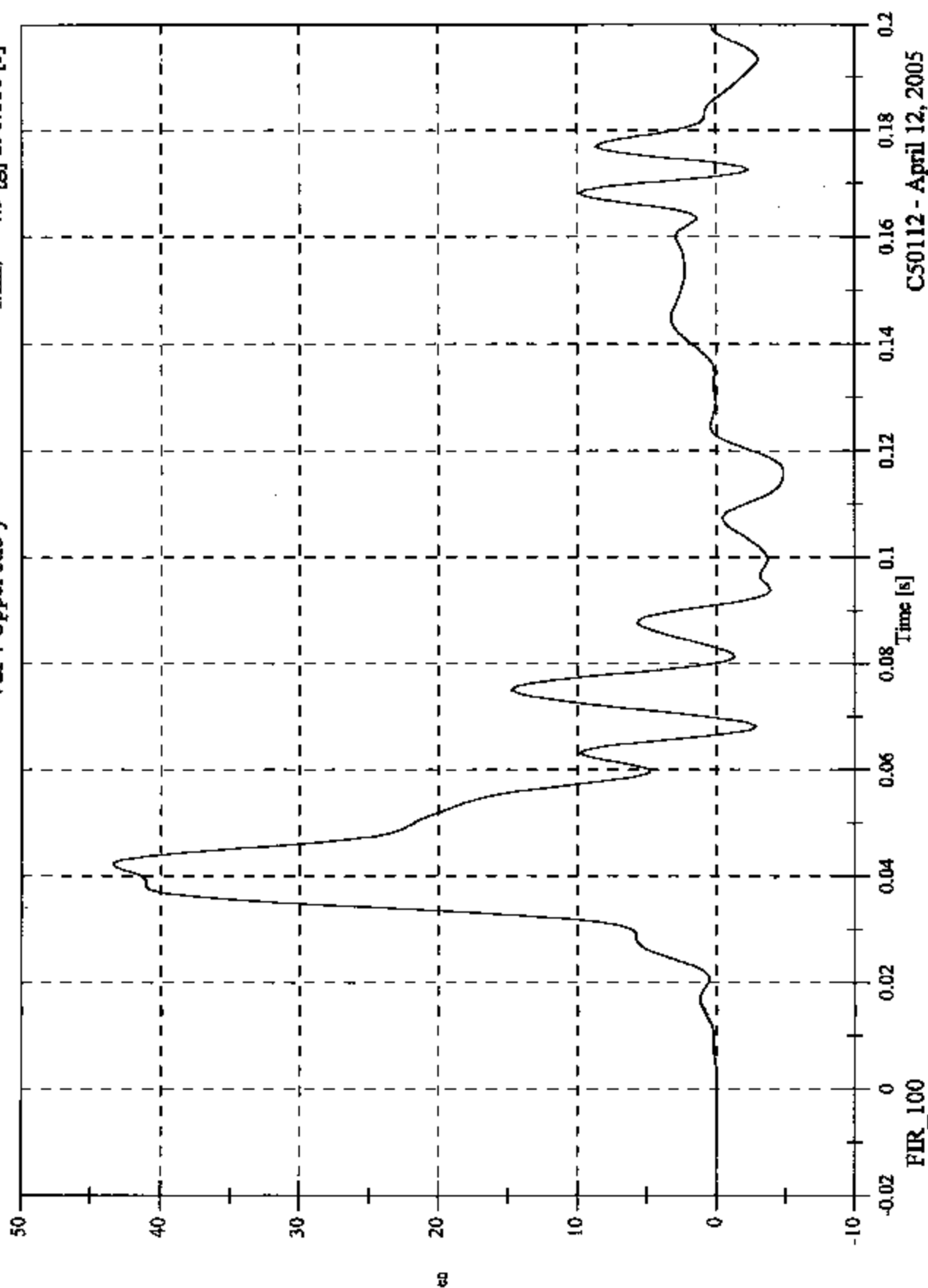


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Upper Rib y

Max: 43.4 [g] at 0.043 [s]
Min: -4.9 [g] at 0.116 [s]

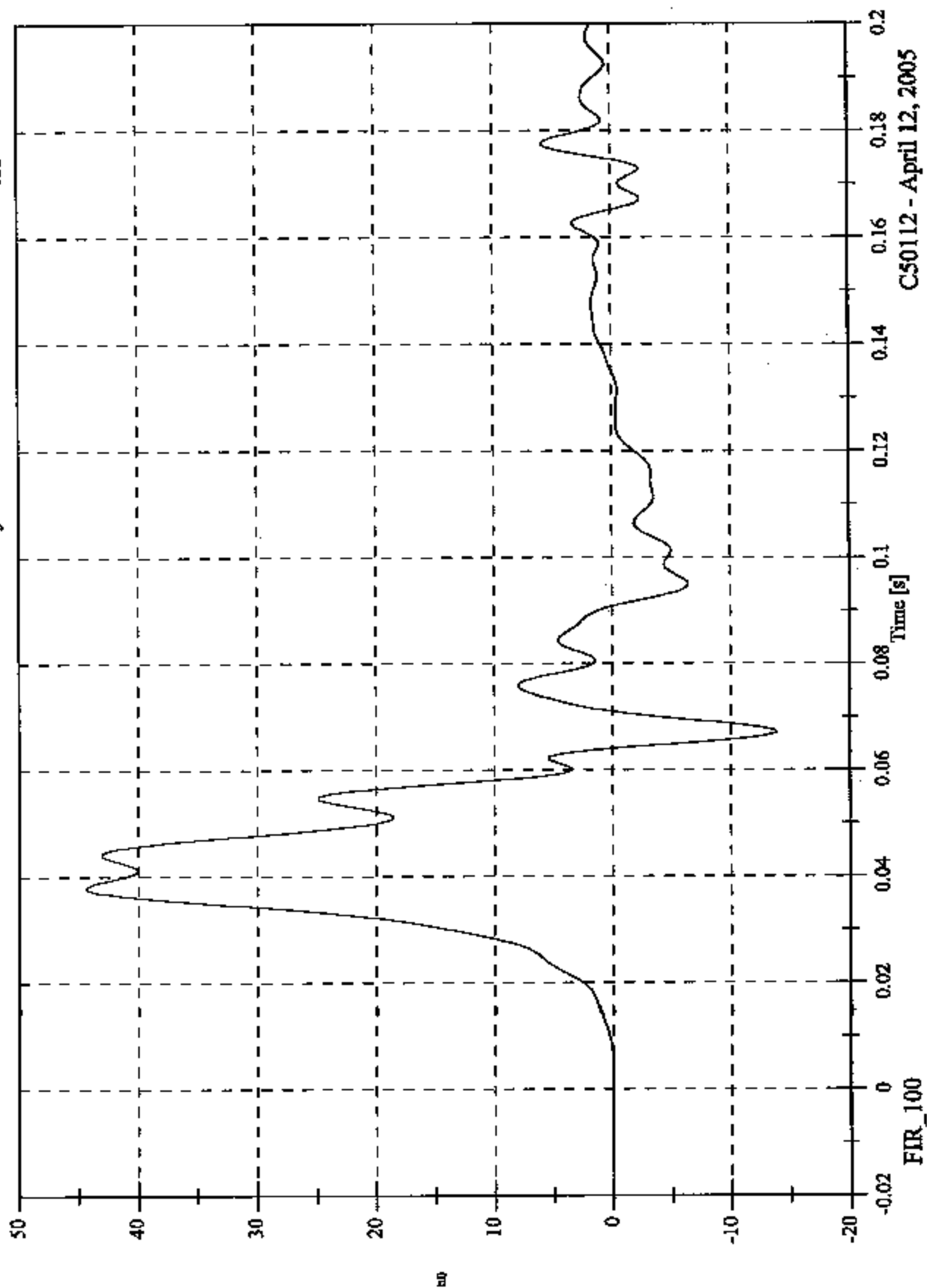


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Rib y

Max: 44.3 [g] at 0.037 [s]
Min: -13.9 [g] at 0.067 [s]

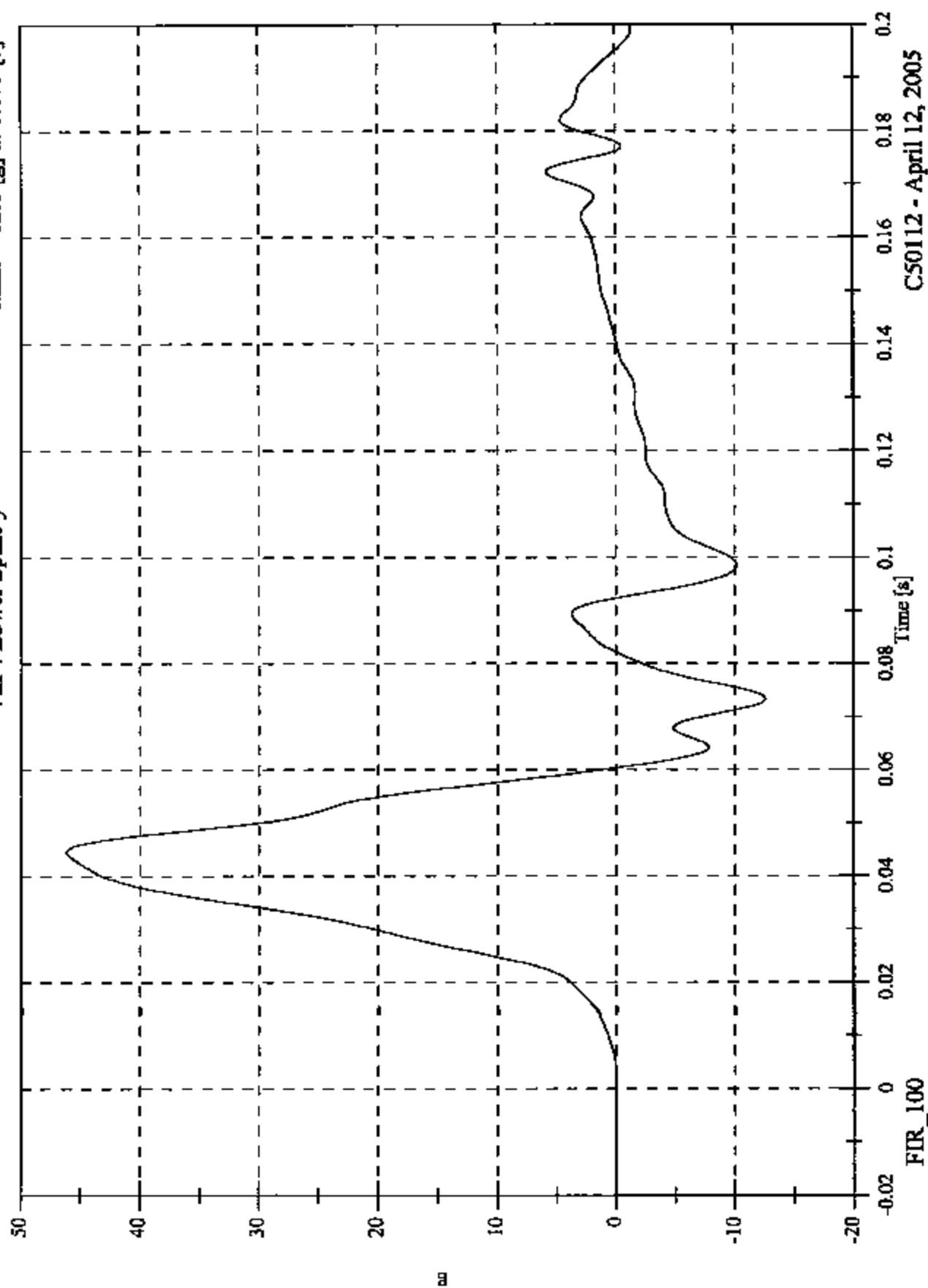


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Spine y

Max: 46.2 [g] at 0.044 [s]
Min: -12.6 [g] at 0.073 [s]

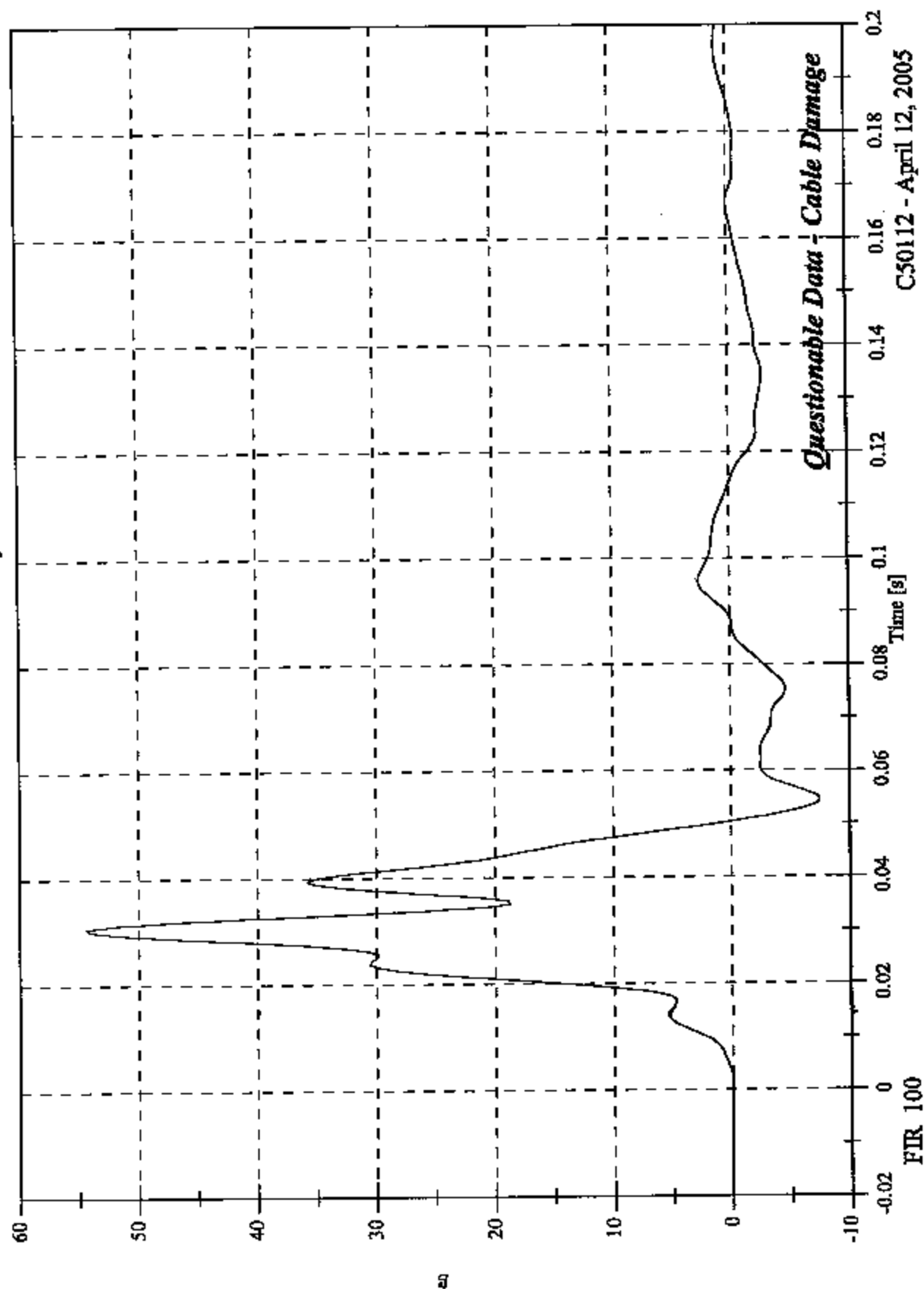


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Pelvic y

Max: 54.3 [g] at 0.031 [s]
Min: -7.5 [g] at 0.054 [s]

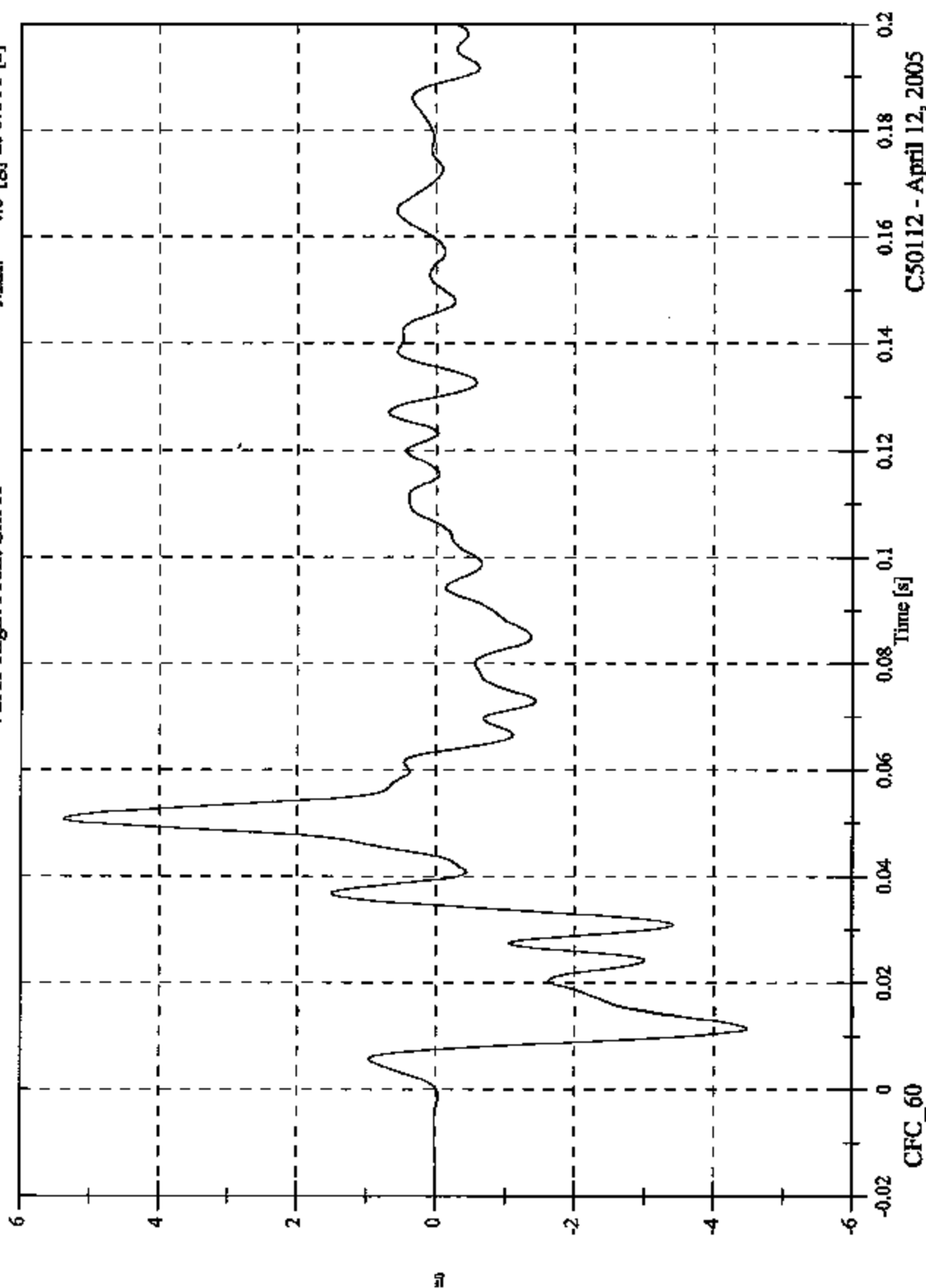


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill X

Max: 5.4 [g] at 0.051 [s]
Min: -4.5 [g] at 0.011 [s]

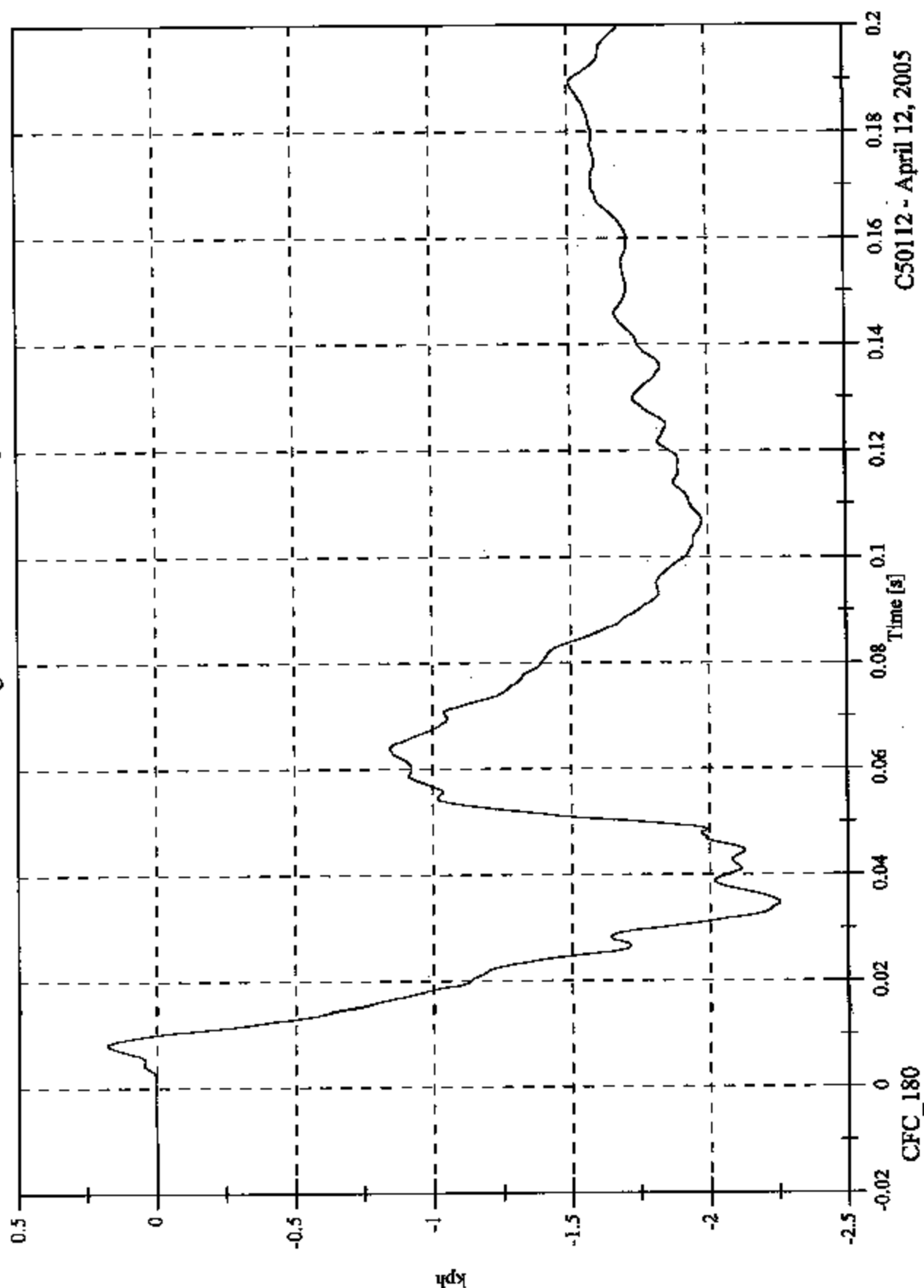


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill X Velocity

Max: 0.2 [kph] at 0.008 [s]
Min: -2.3 [kph] at 0.035 [s]

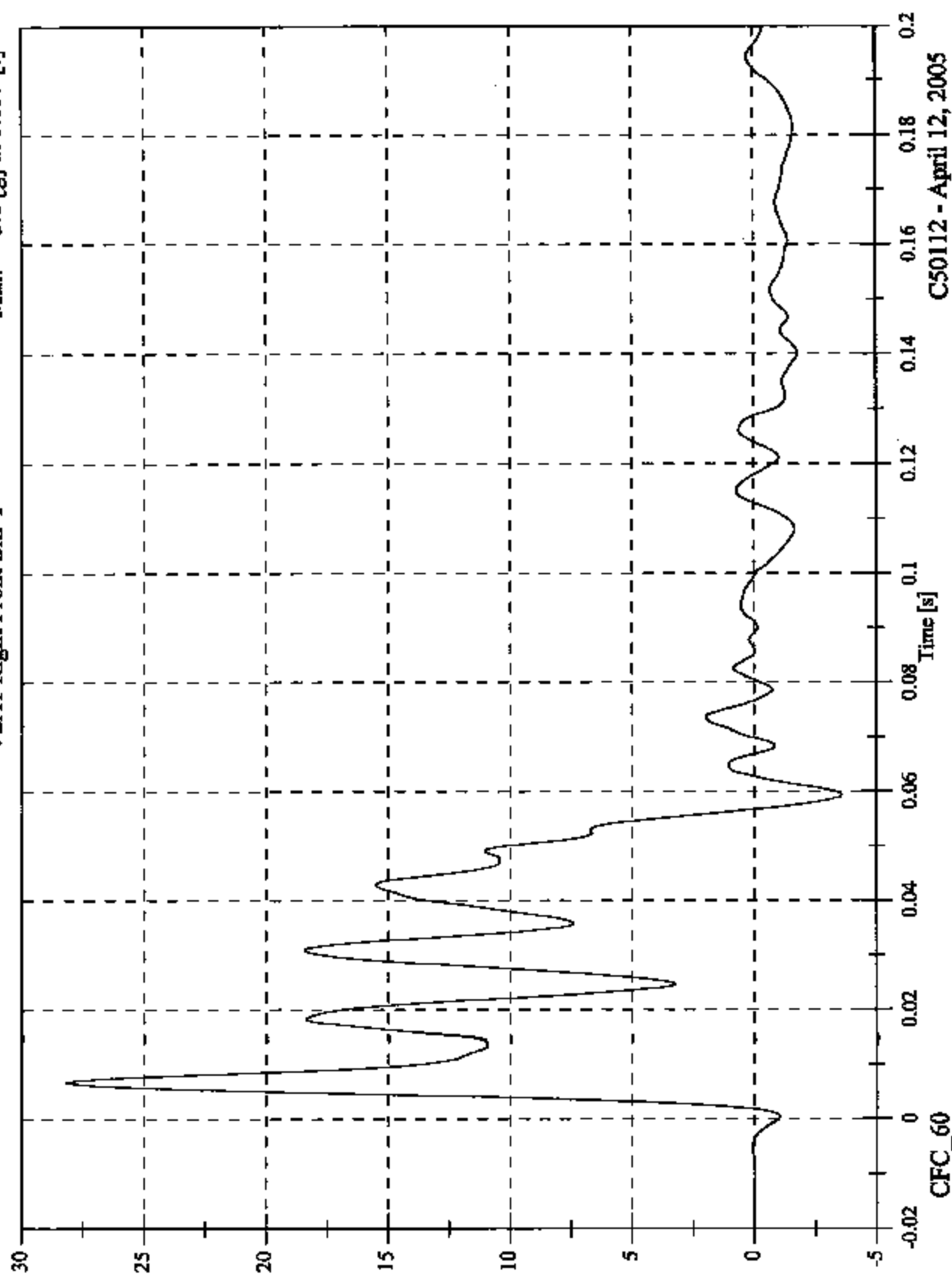


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill Y

Max: 28.2 [g] at 0.007 [s]
Min: -3.6 [g] at 0.059 [s]

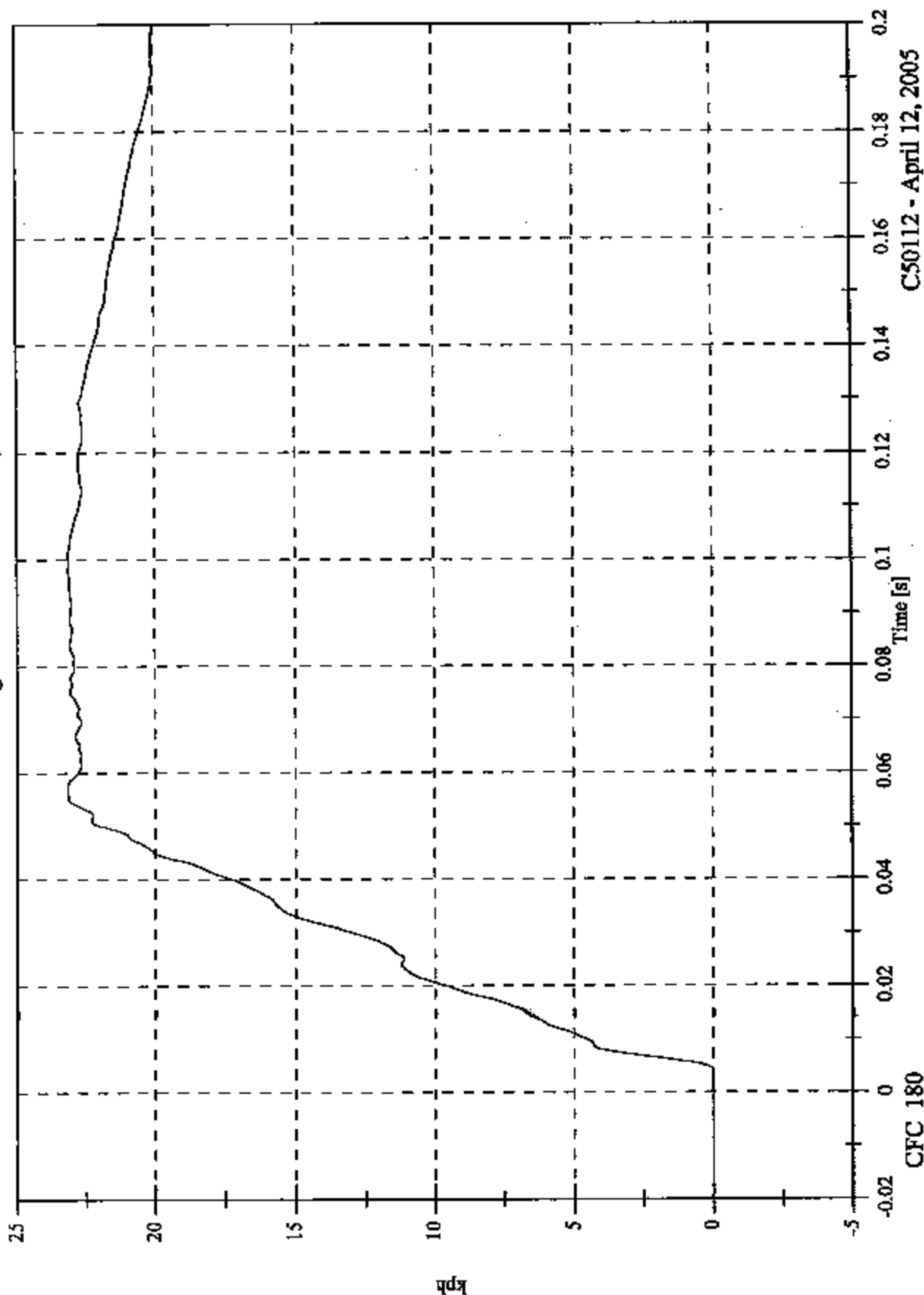


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill Y Velocity

Max: 23.2 [kph] at 0.057 [s]
Min: -0.0 [kph] at 0.004 [s]



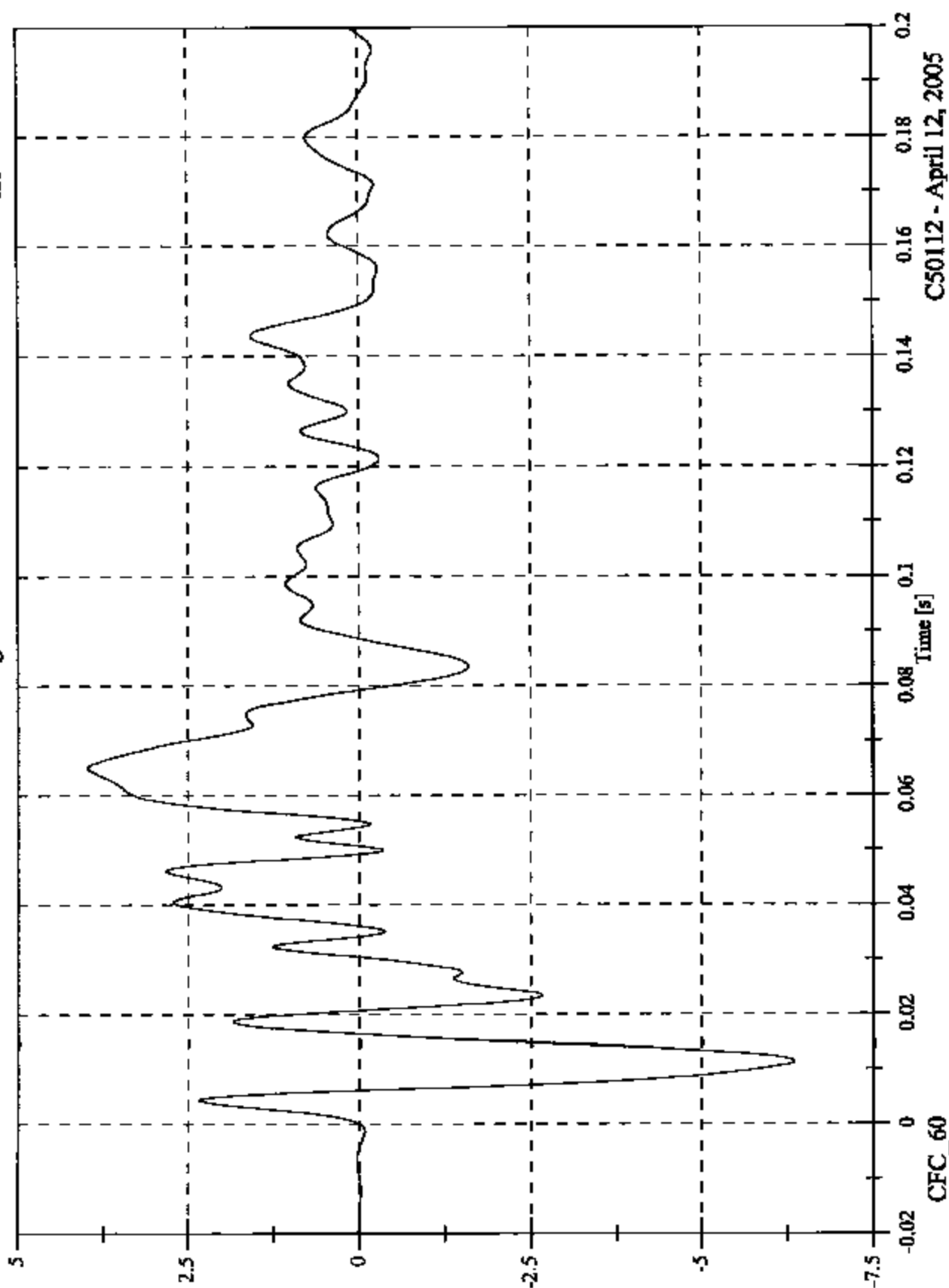
CFC_180

C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill Z

Max: 4.0 [g] at 0.065 [s]
Min: -6.3 [g] at 0.011 [s]

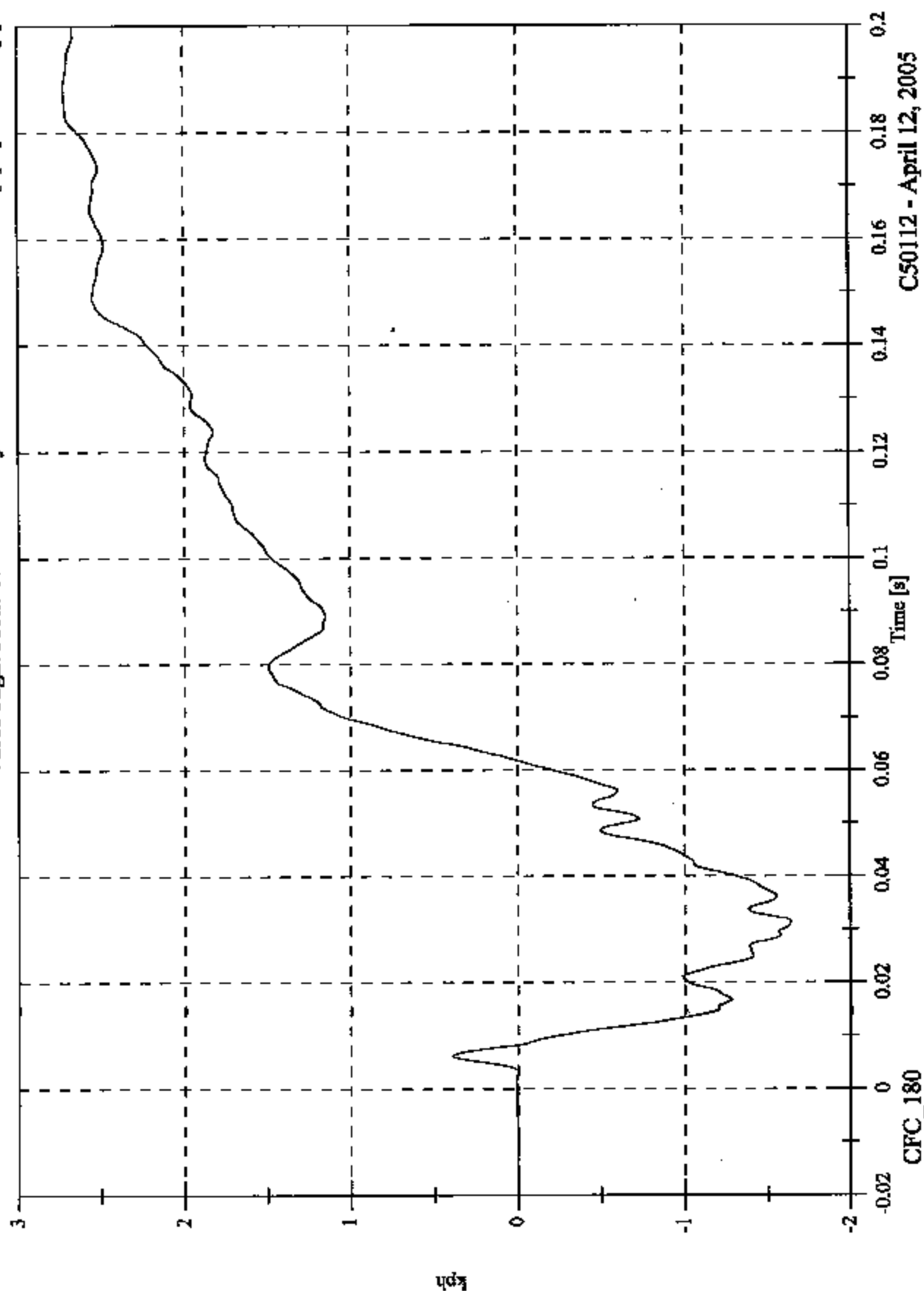


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill Z Velocity

Max: 2.7 [kph] at 0.189 [s]
Min: -1.6 [kph] at 0.031 [s]

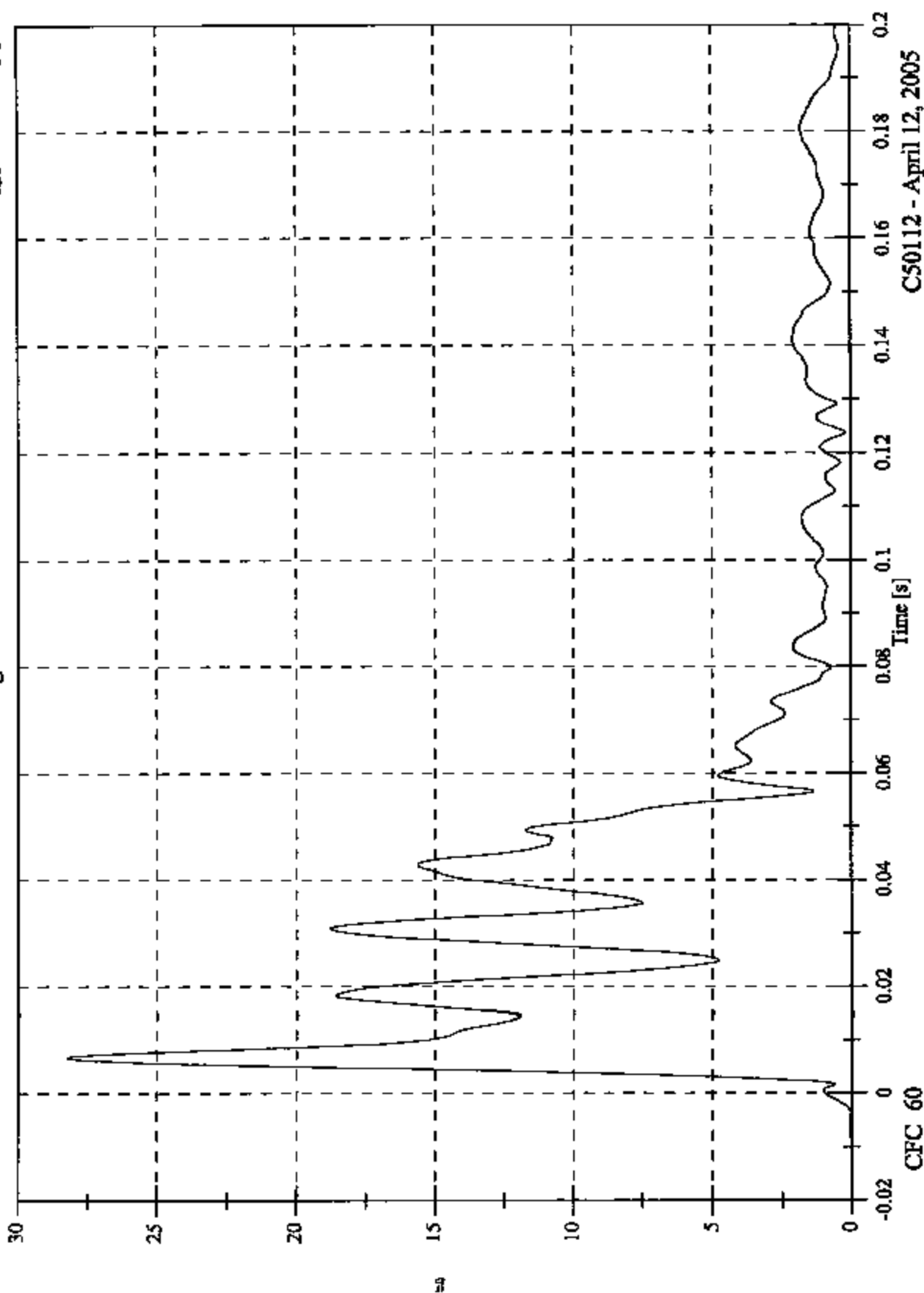


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A1 Right Front Sill Resultant

Max: 28.2 [g] at 0.007 [s]
Min: 0.0 [g] at -0.017 [s]



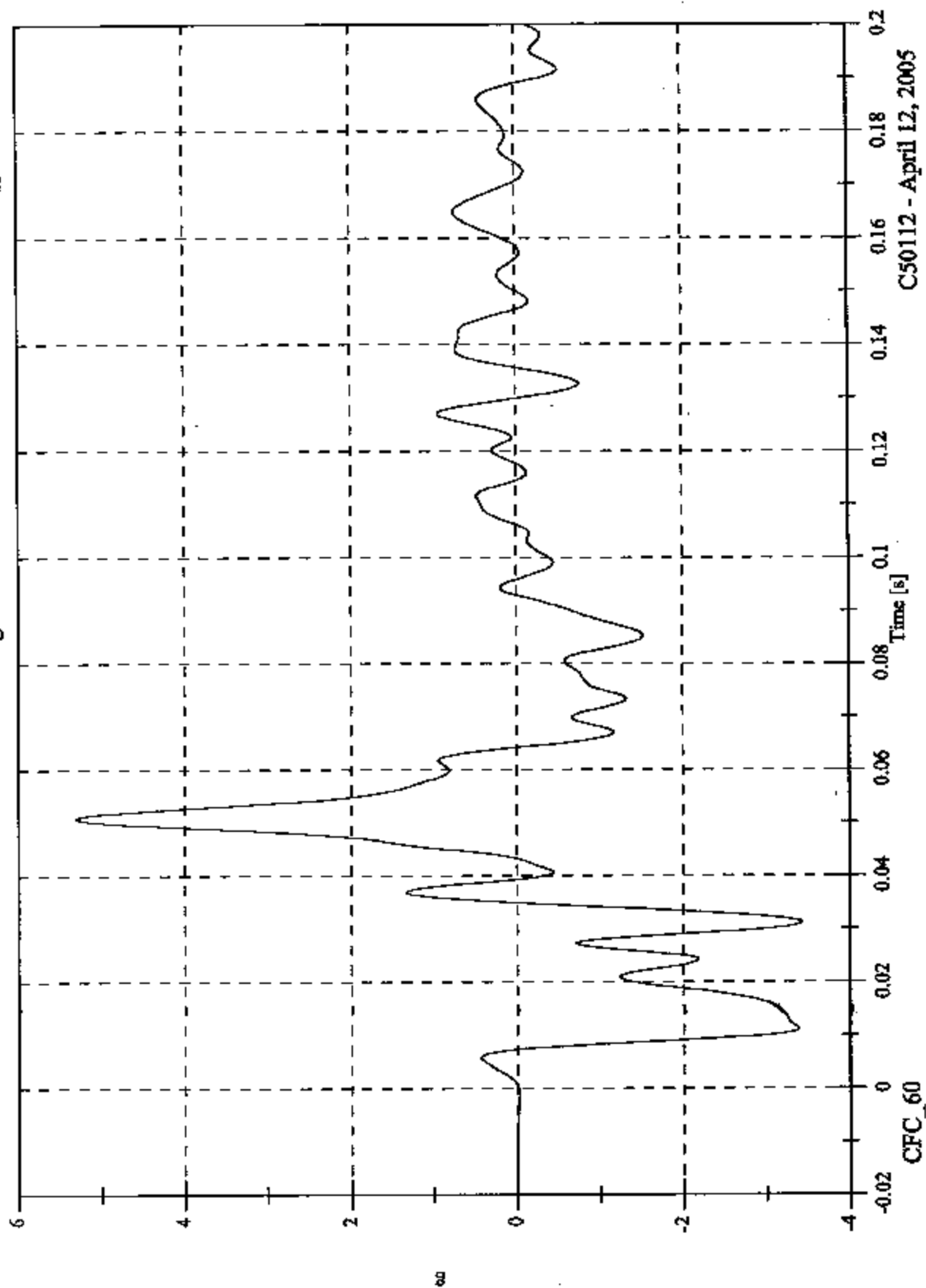
CS0112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill X

Max: 5.3 [g] at 0.051 [s]

Min: -3.4 [g] at 0.031 [s]



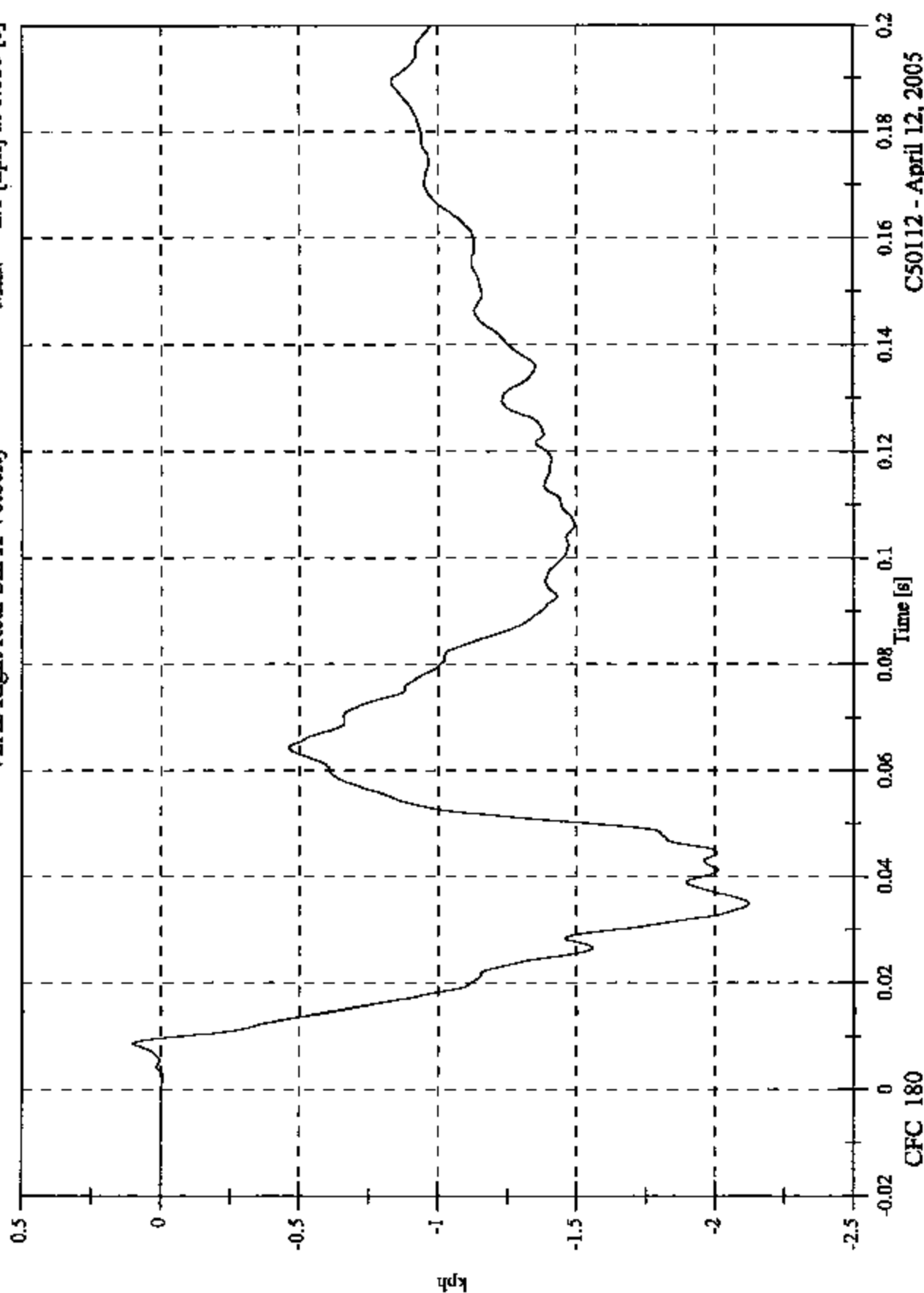
C50112 - April 12, 2005

2005 FNVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill X Velocity

Max: 0.1 [kph] at 0.009 [s]

Min: -2.1 [kph] at 0.035 [s]

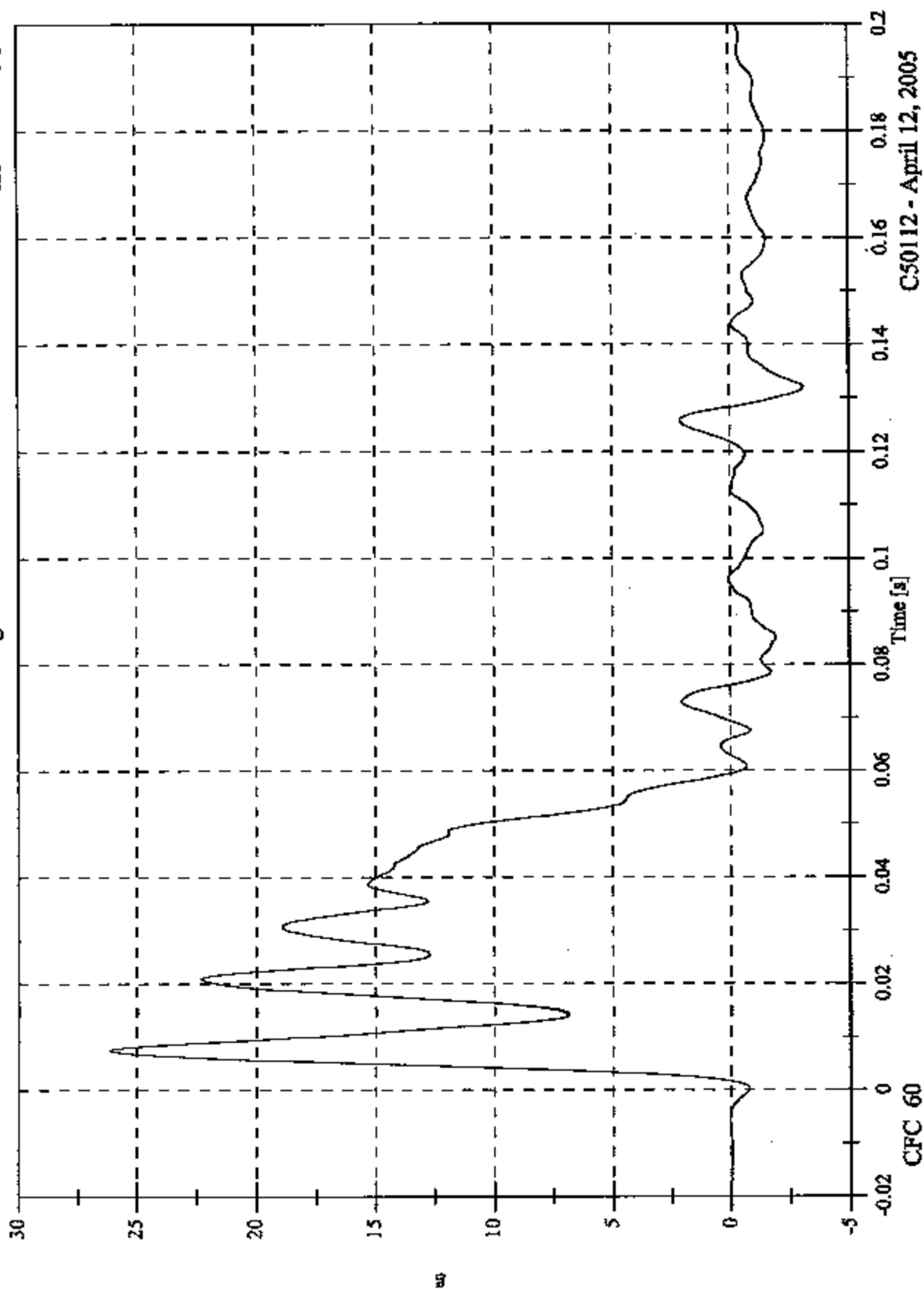


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill Y

Max: 26.1 [g] at 0.007 [s]
Min: -3.1 [g] at 0.132 [s]

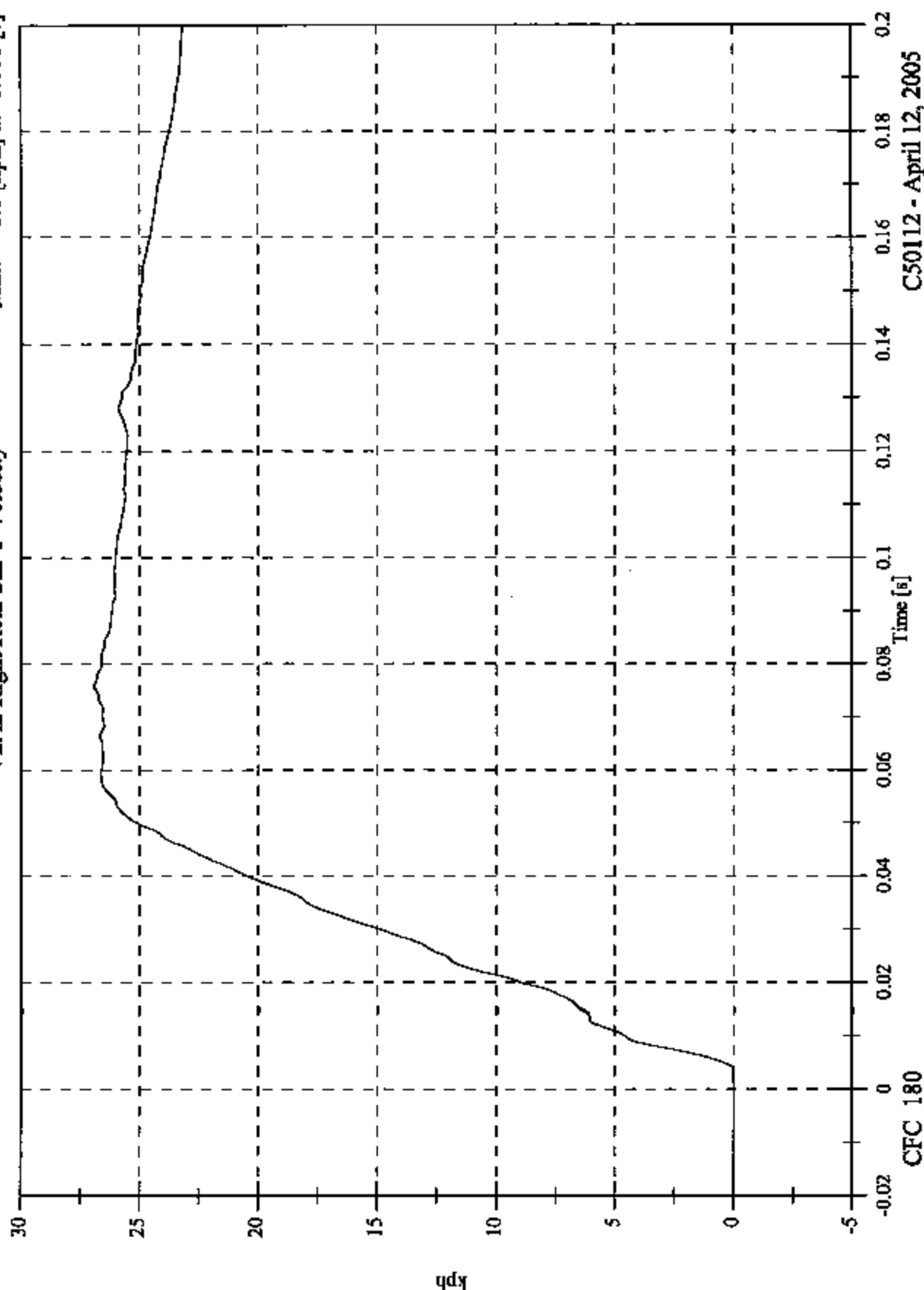


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill Y Velocity

Max: 26.9 [kph] at 0.076 [s]
Min: -0.0 [kph] at -0.008 [s]



CFC_180

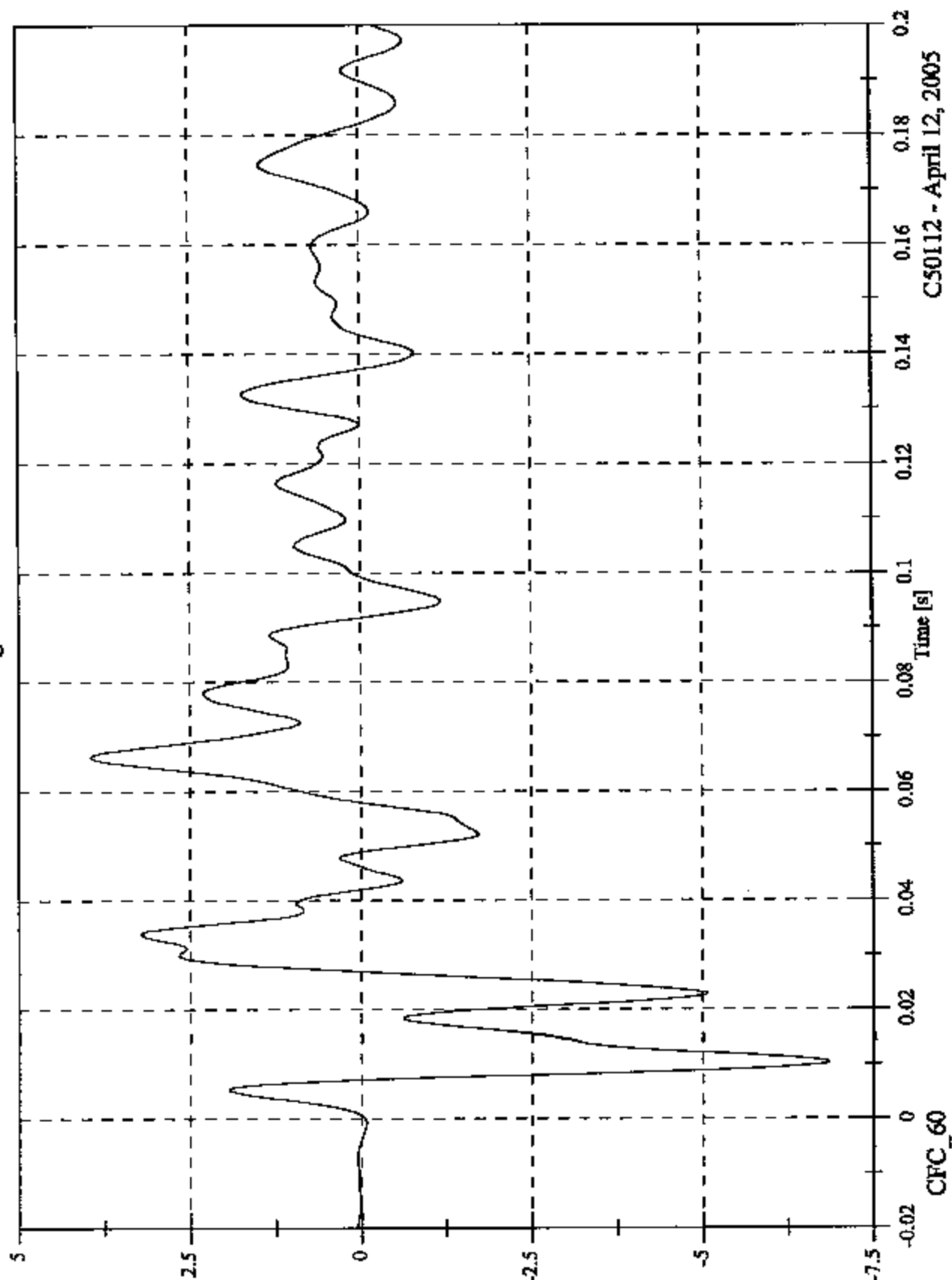
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill Z

Max: 3.9 [g] at 0.066 [s]

Min: -6.9 [g] at 0.010 [s]



CFC_60

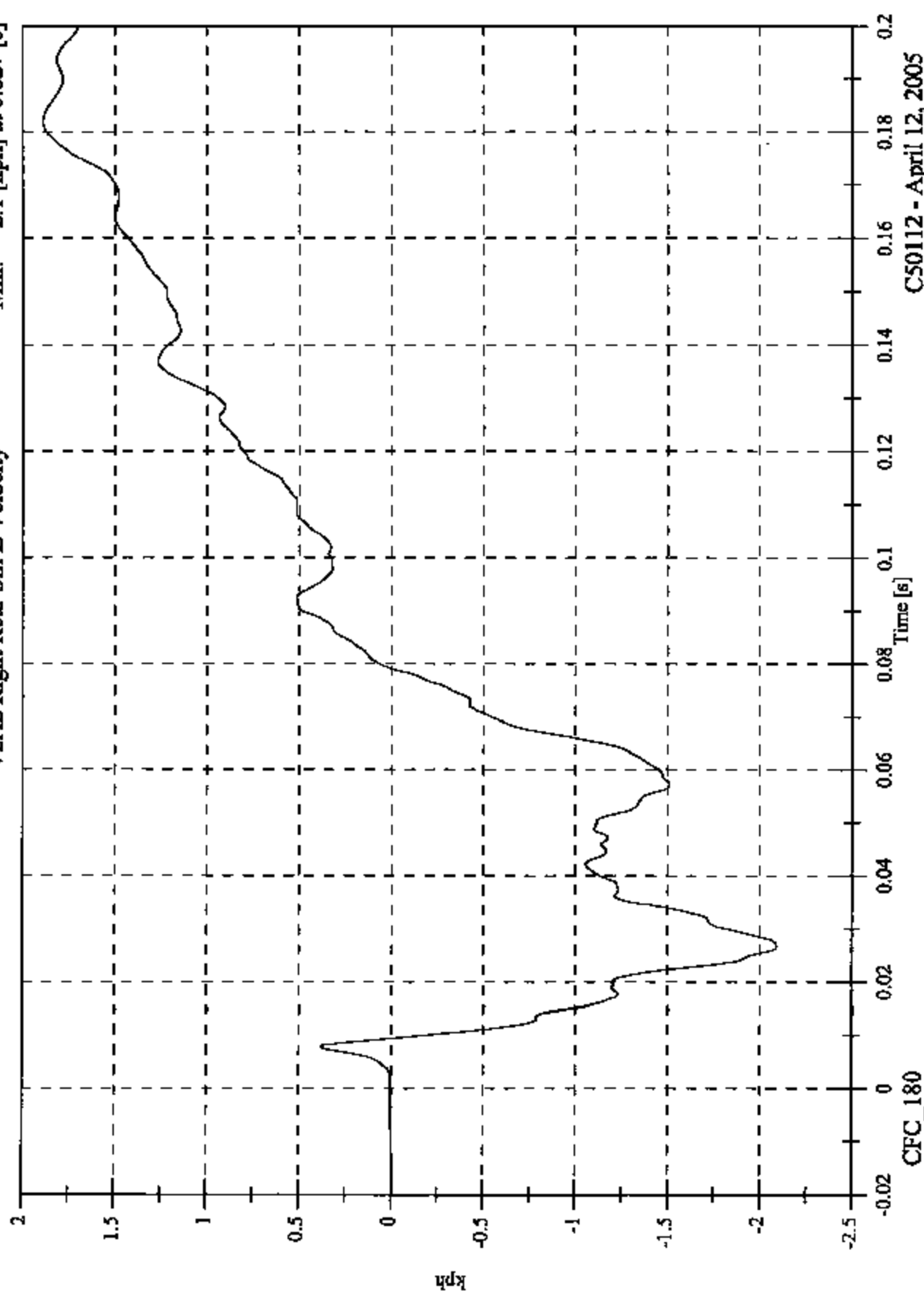
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill Z Velocity

Max: 1.9 [kph] at 0.182 [s]

Min: -2.1 [kph] at 0.027 [s]

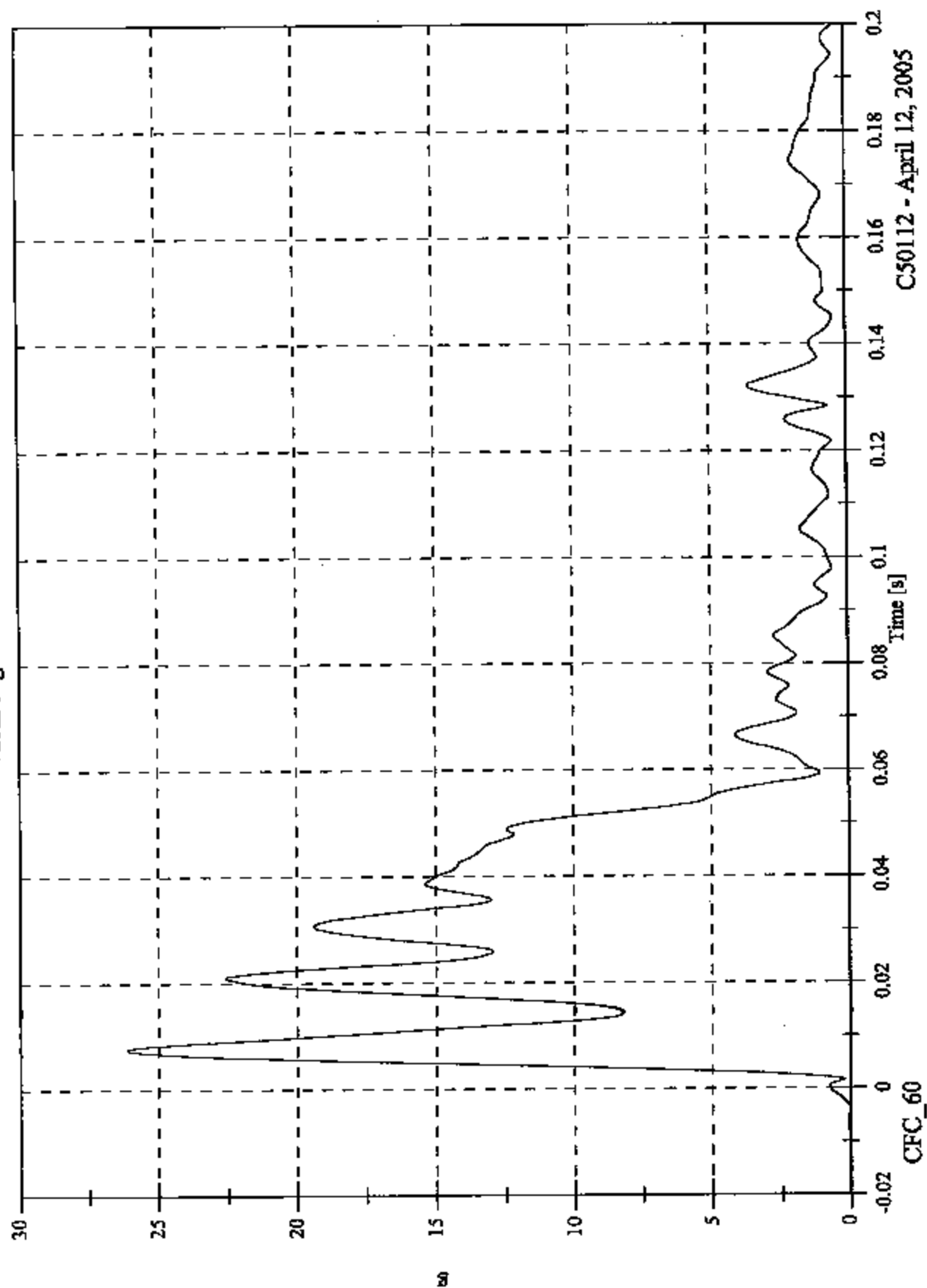


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A2 Right Rear Sill Resultant

Max: 26.1 [g] at 0.007 [s]
Min: 0.0 [g] at -0.004 [s]



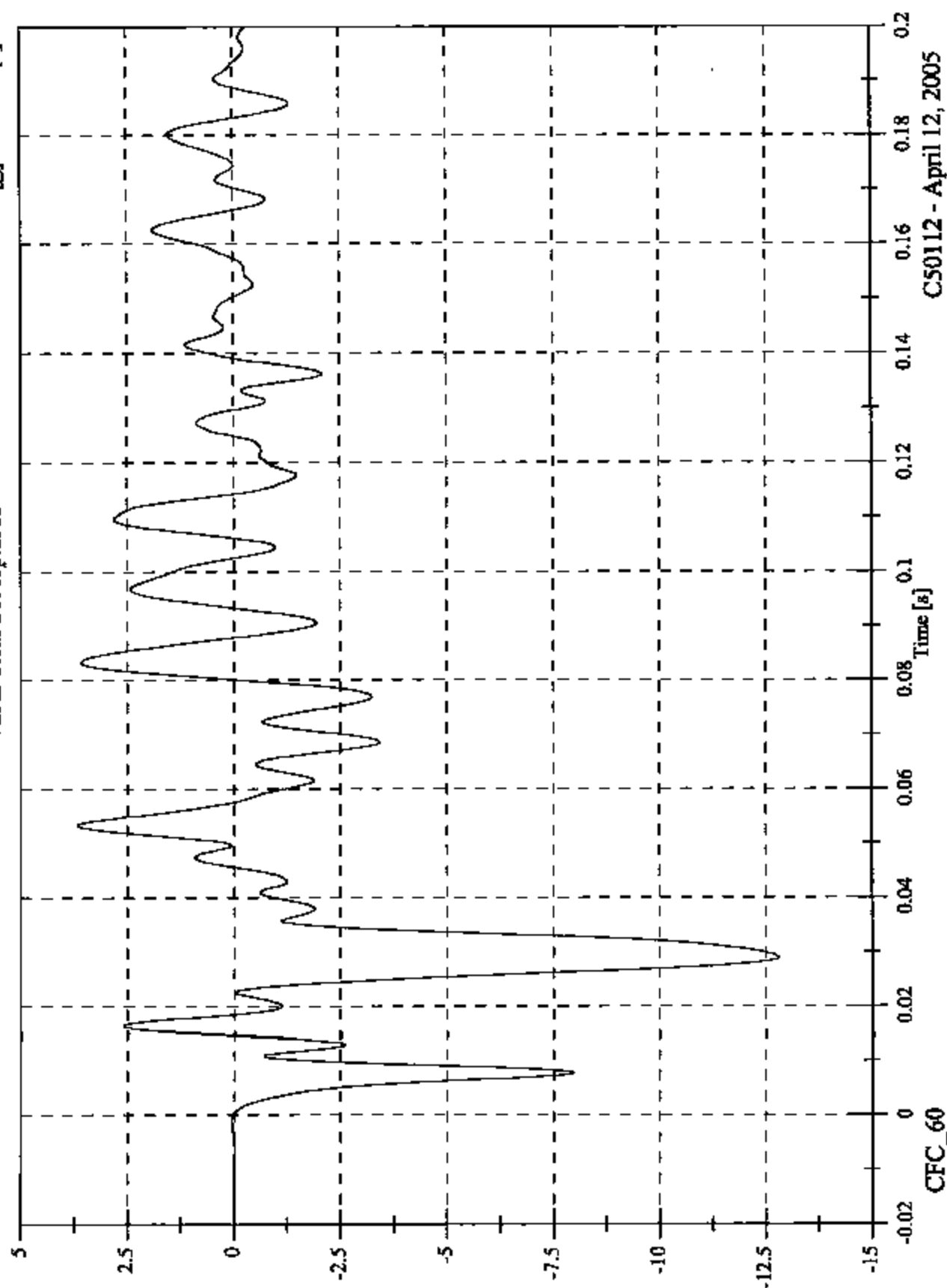
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan X

Max: 3.7 [g] at 0.053 [s]

Min: -12.8 [g] at 0.029 [s]

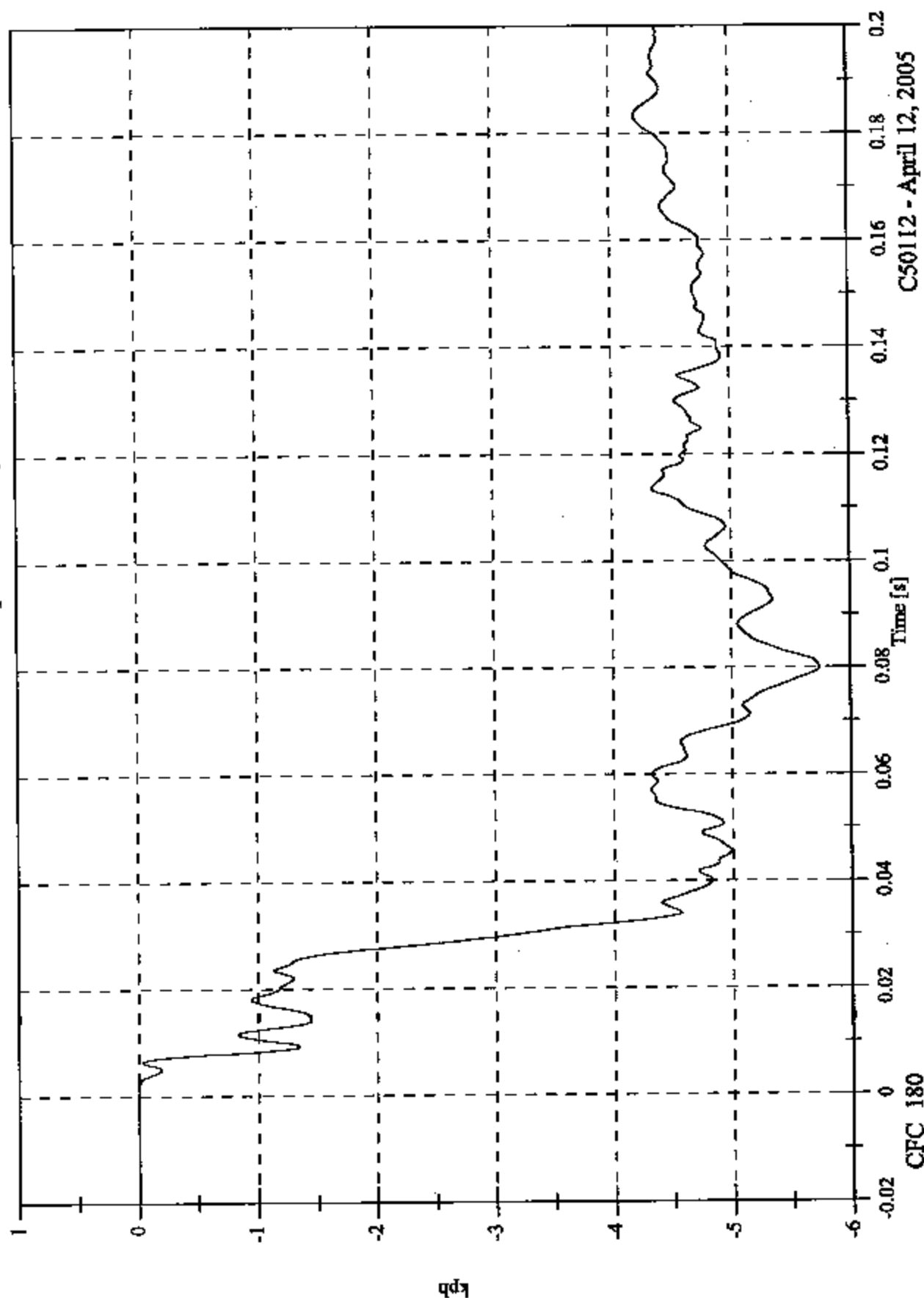


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan X Velocity

Max: 0.0 [kph] at -0.009 [s]
Min: -5.7 [kph] at 0.080 [s]

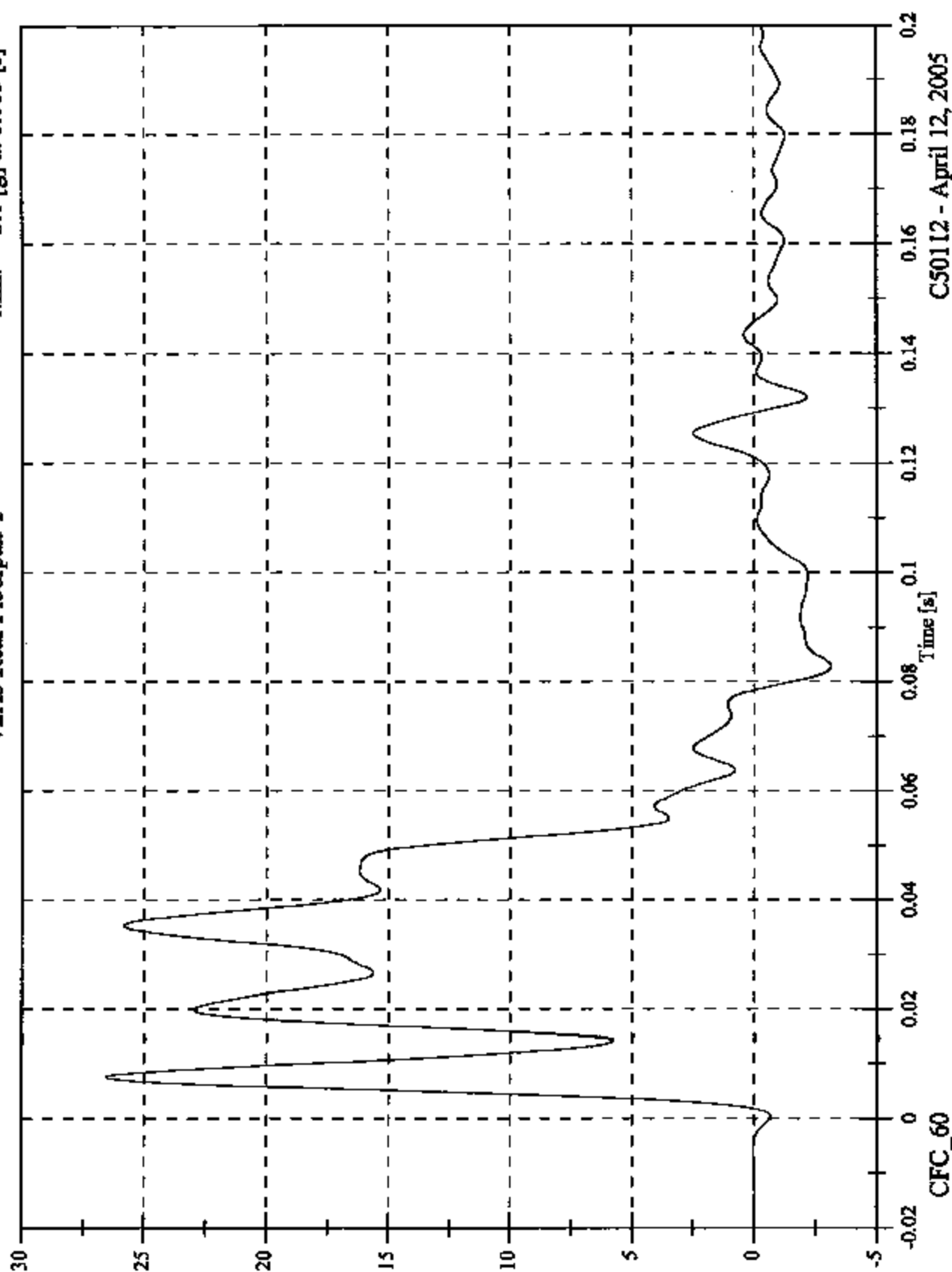


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan Y

Max: 26.6 [g] at 0.008 [s]
Min: -3.1 [g] at 0.083 [s]

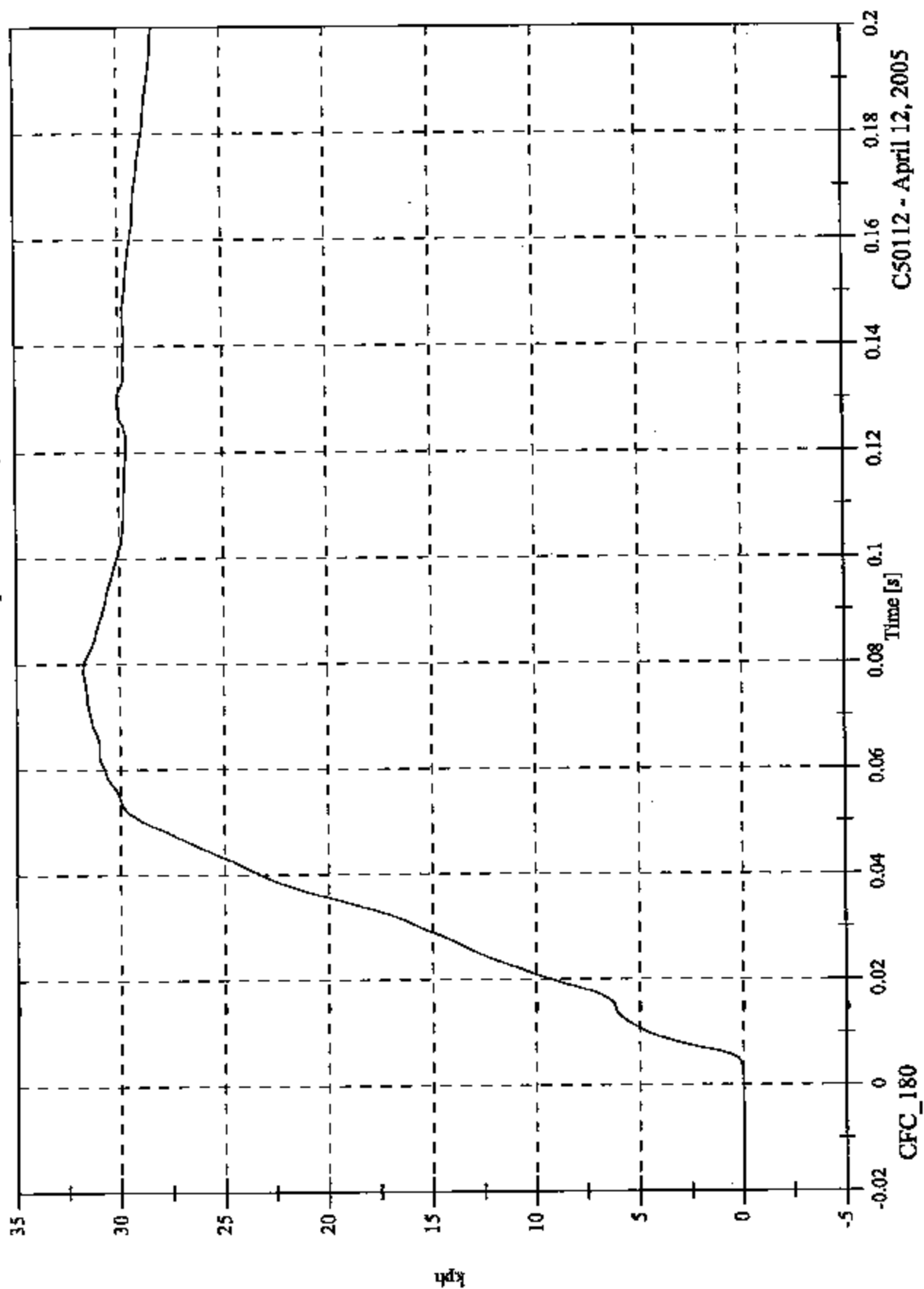


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan Y Velocity

Max: 31.8 [kph] at 0.079 [s]
Min: -0.0 [kph] at -0.012 [s]

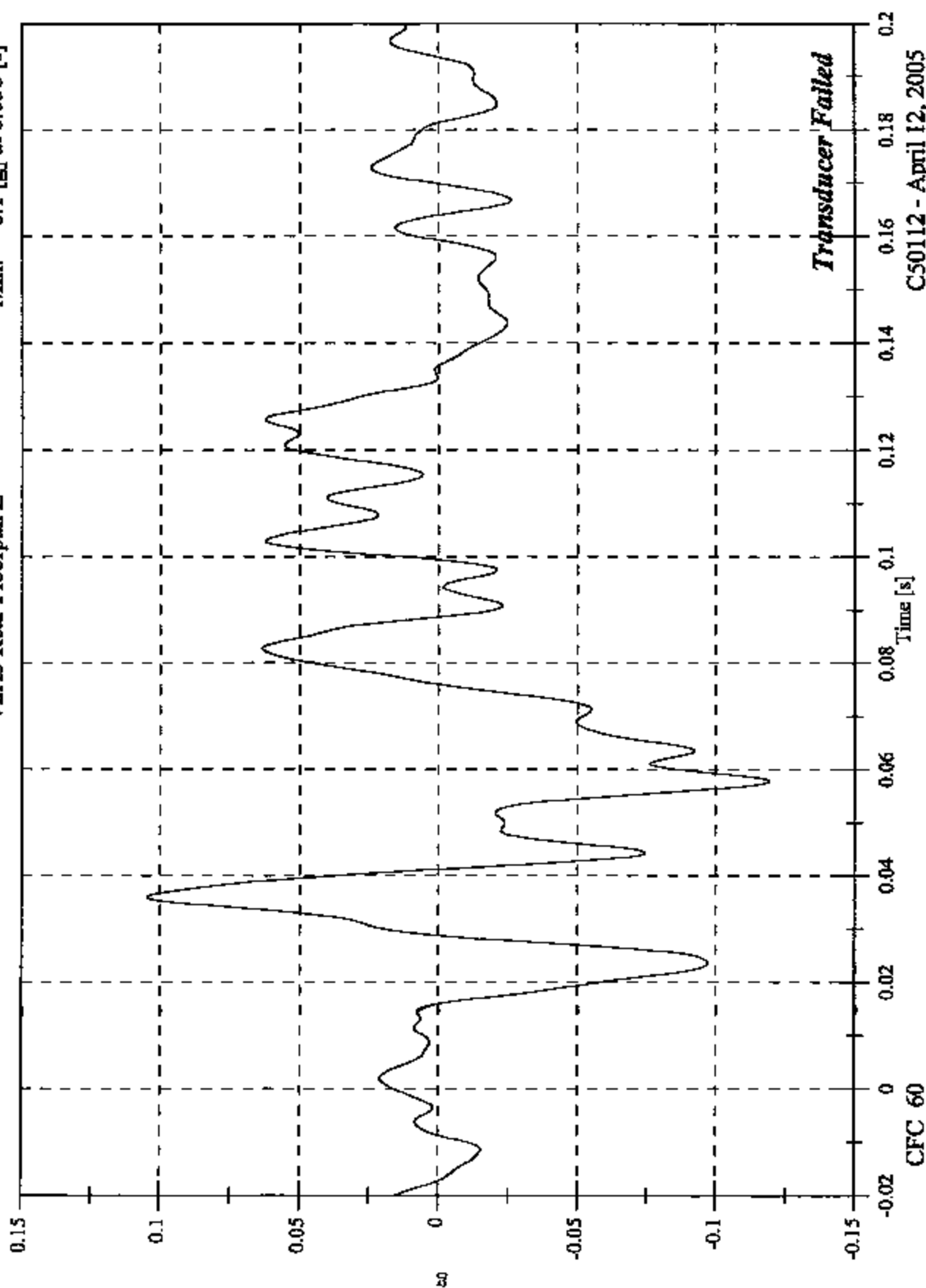


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan Z

Max: 0.1 [g] at 0.036 [s]
Min: -0.1 [g] at 0.058 [s]

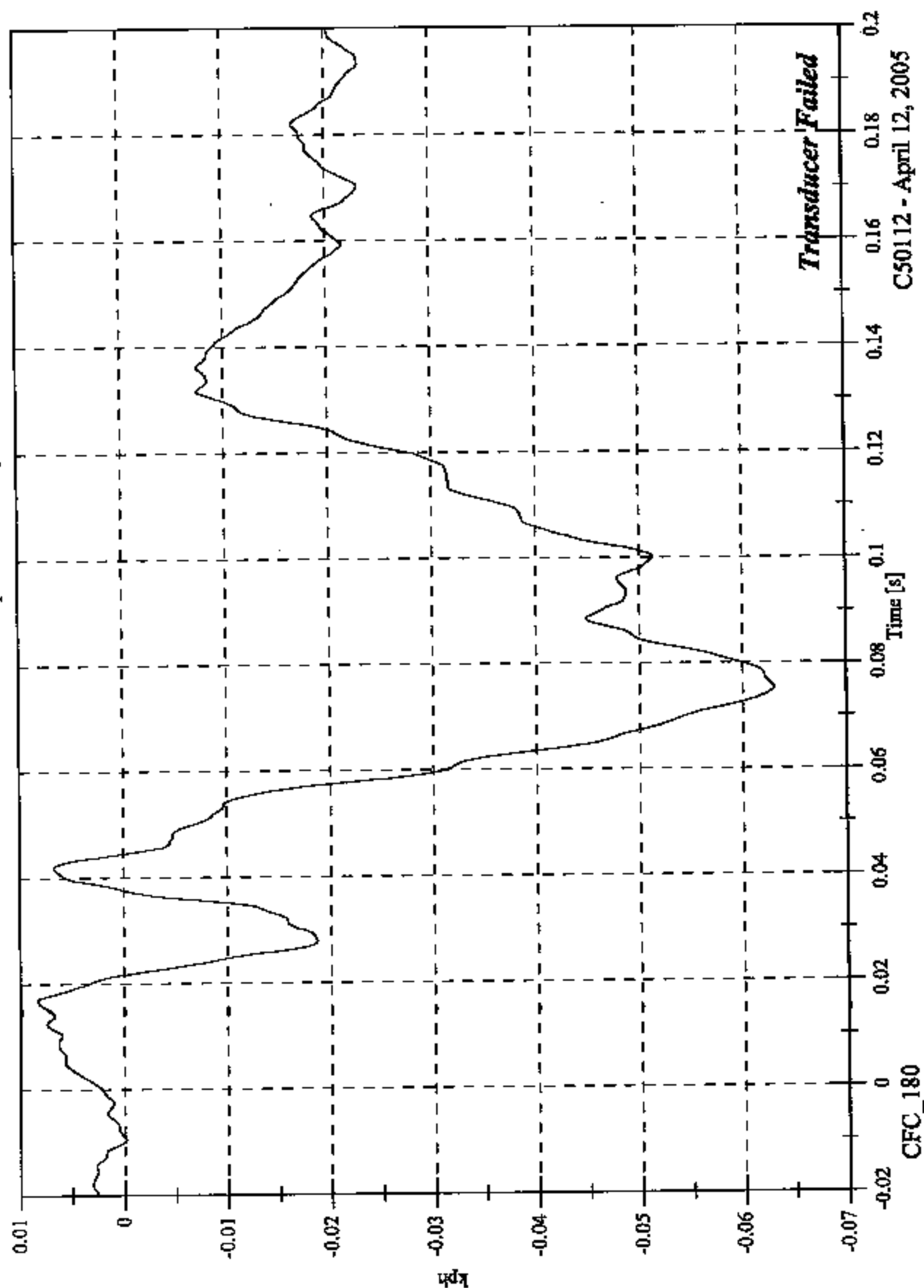


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan Z Velocity

Max: 0.0 [kph] at 0.017 [s]
Min: -0.1 [kph] at 0.075 [s]

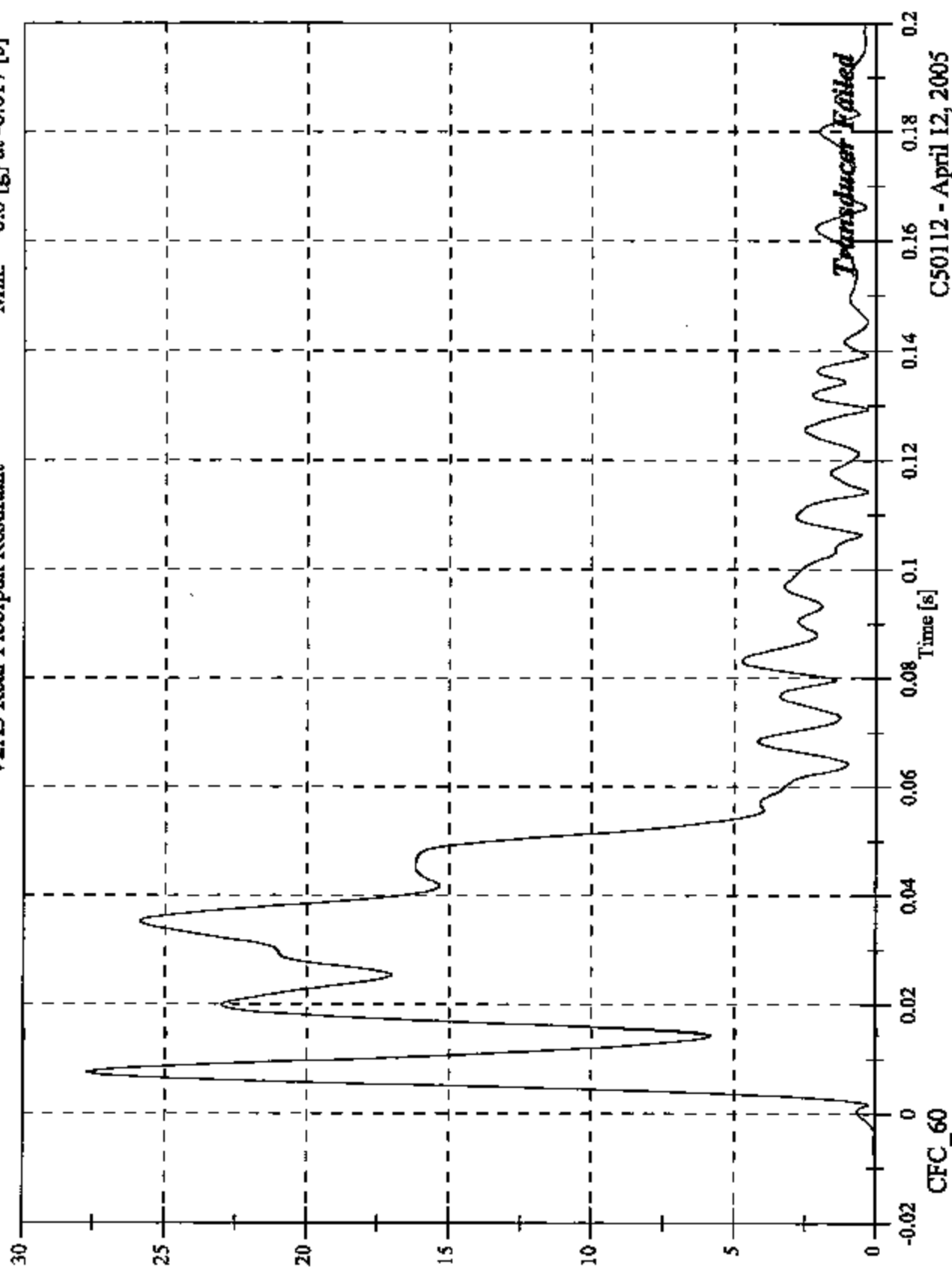


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A3 Rear Floorpan Resultant

Max: 27.7 [g] at 0.008 [s]
Min: 0.0 [g] at -0.017 [s]

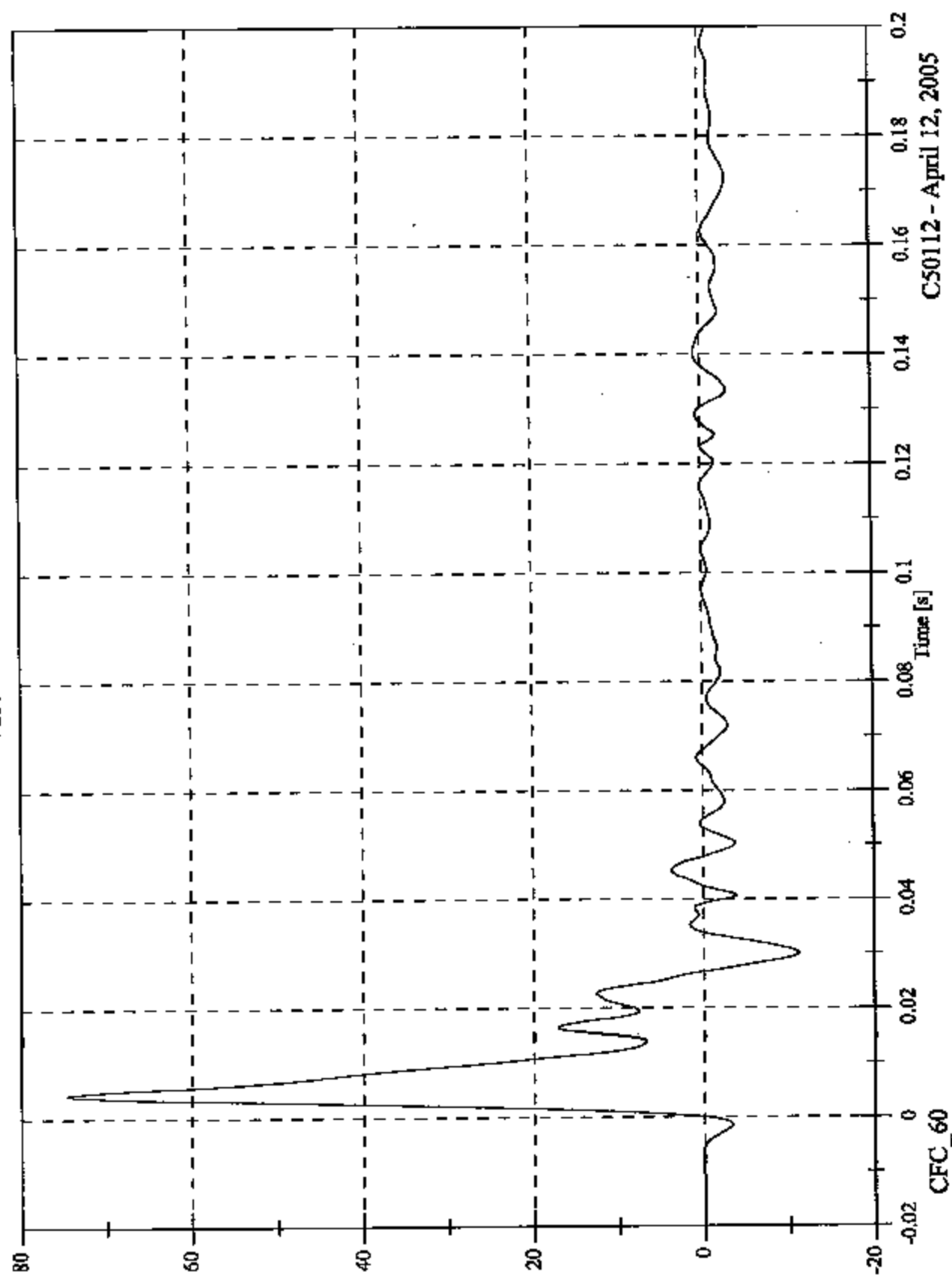


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A4 Left Rear Sill Y

Max: 74.7 [g] at 0.004 [s]
Min: -11.1 [g] at 0.030 [s]

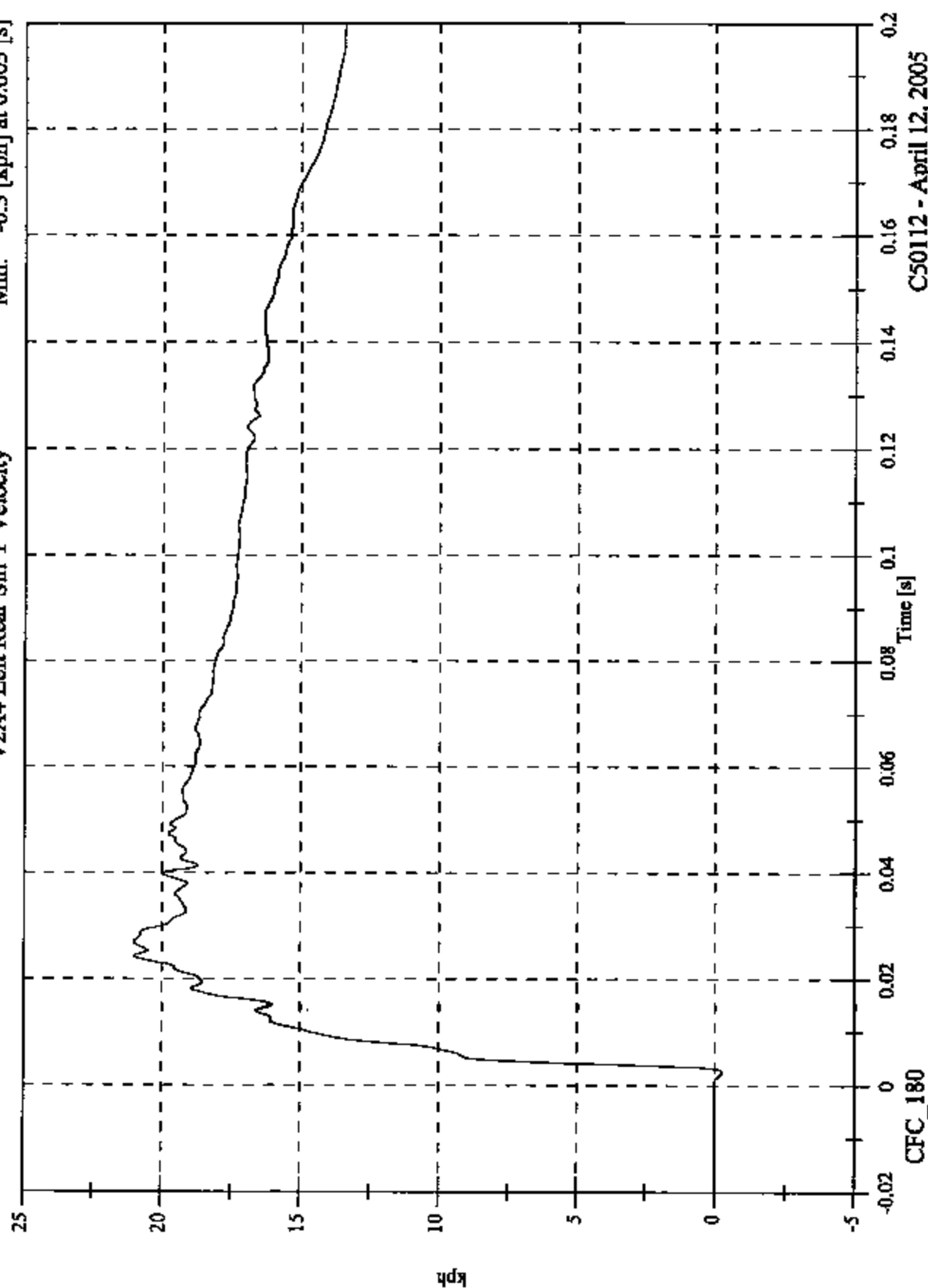


C50112 - April 12, 2005

2005 F MVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A4 Left Rear Sill Y Velocity

Max: 21.0 [kph] at 0.027 [s]
Min: -0.3 [kph] at 0.003 [s]

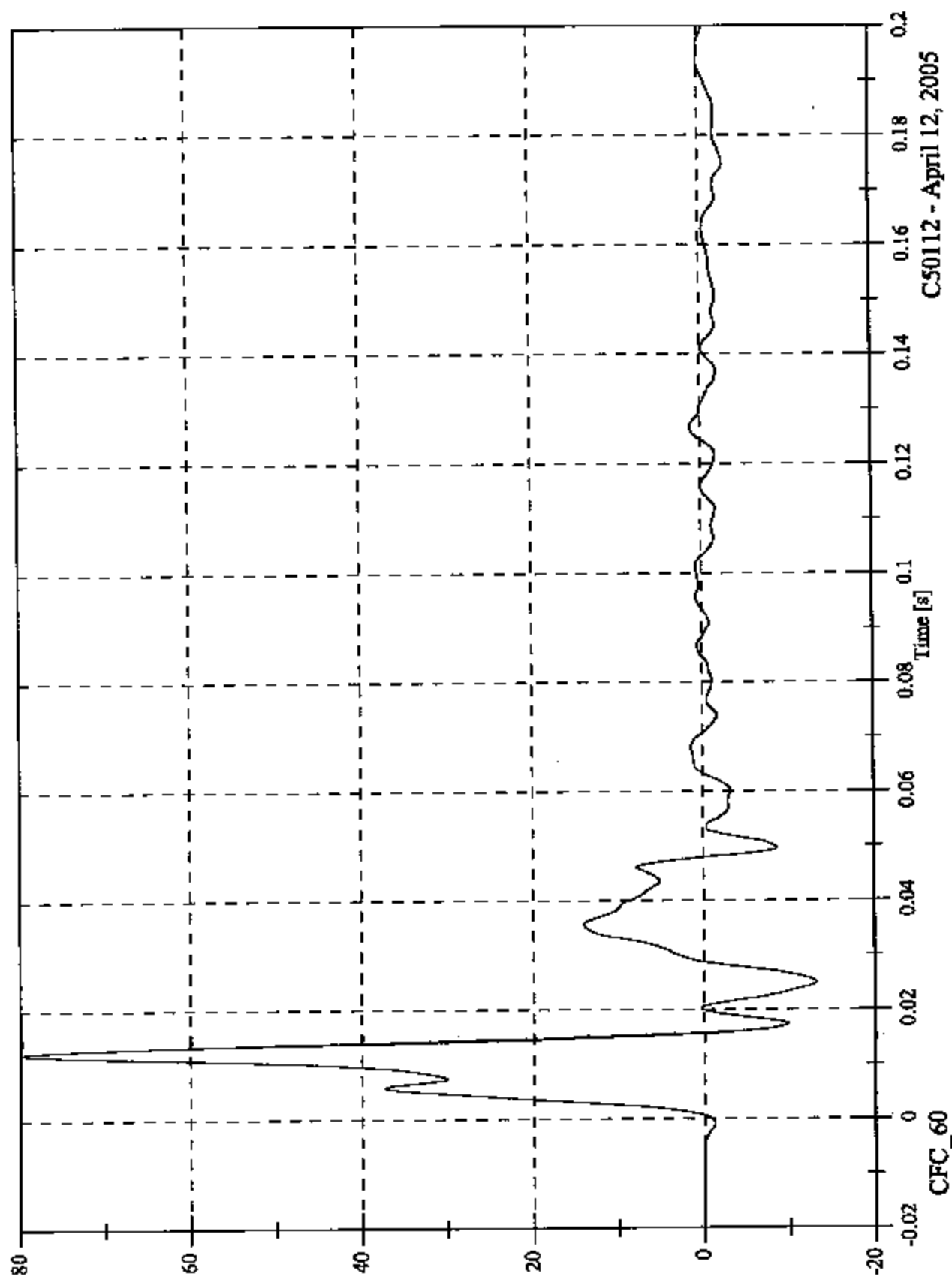


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A5 Left Front Sill Y

Max: 79.9 [g] at 0.012 [s]
Min: -13.2 [g] at 0.025 [s]

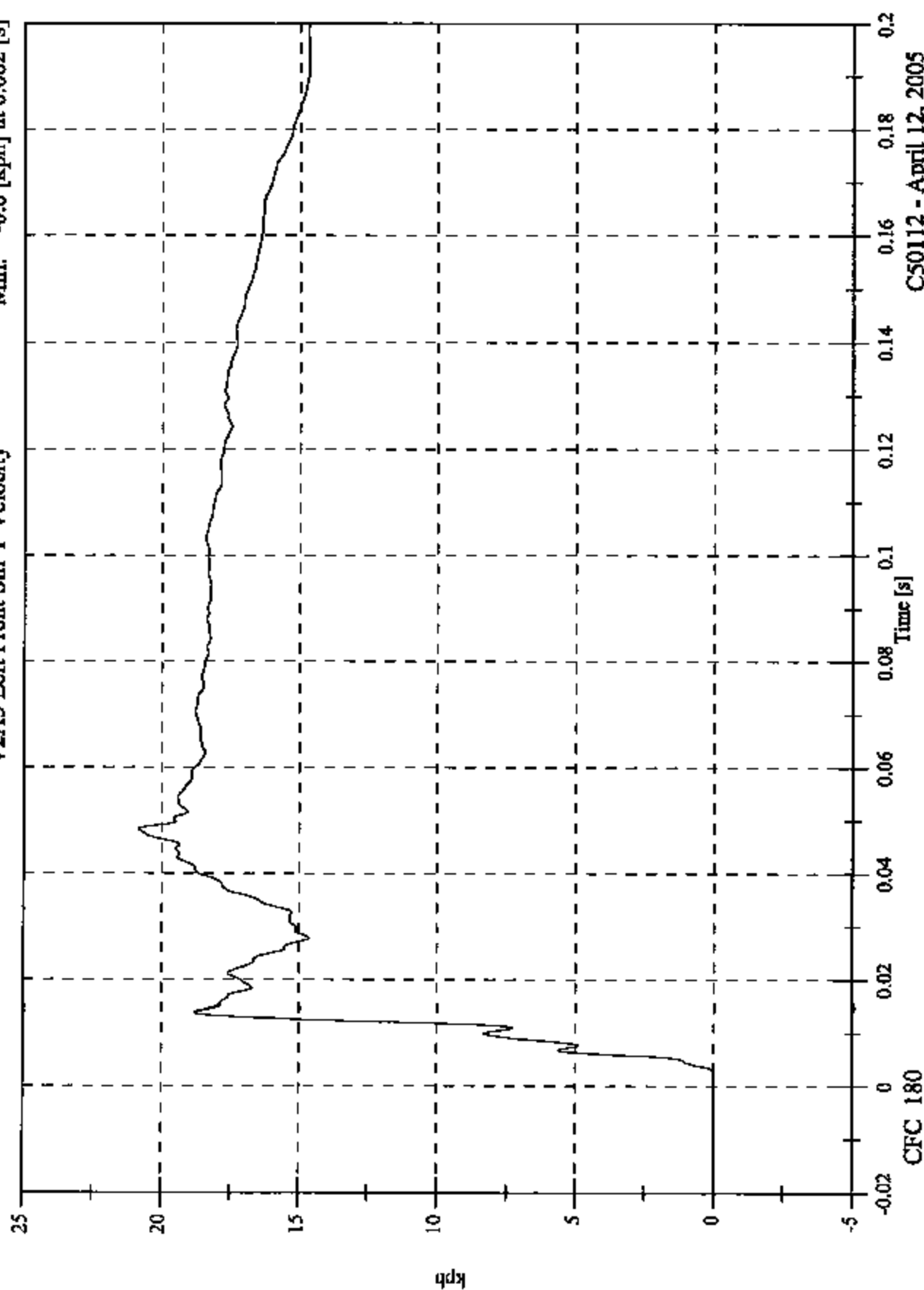


C50112 - April 12, 2005

2005 F MVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A5 Left Front Sill Y Velocity

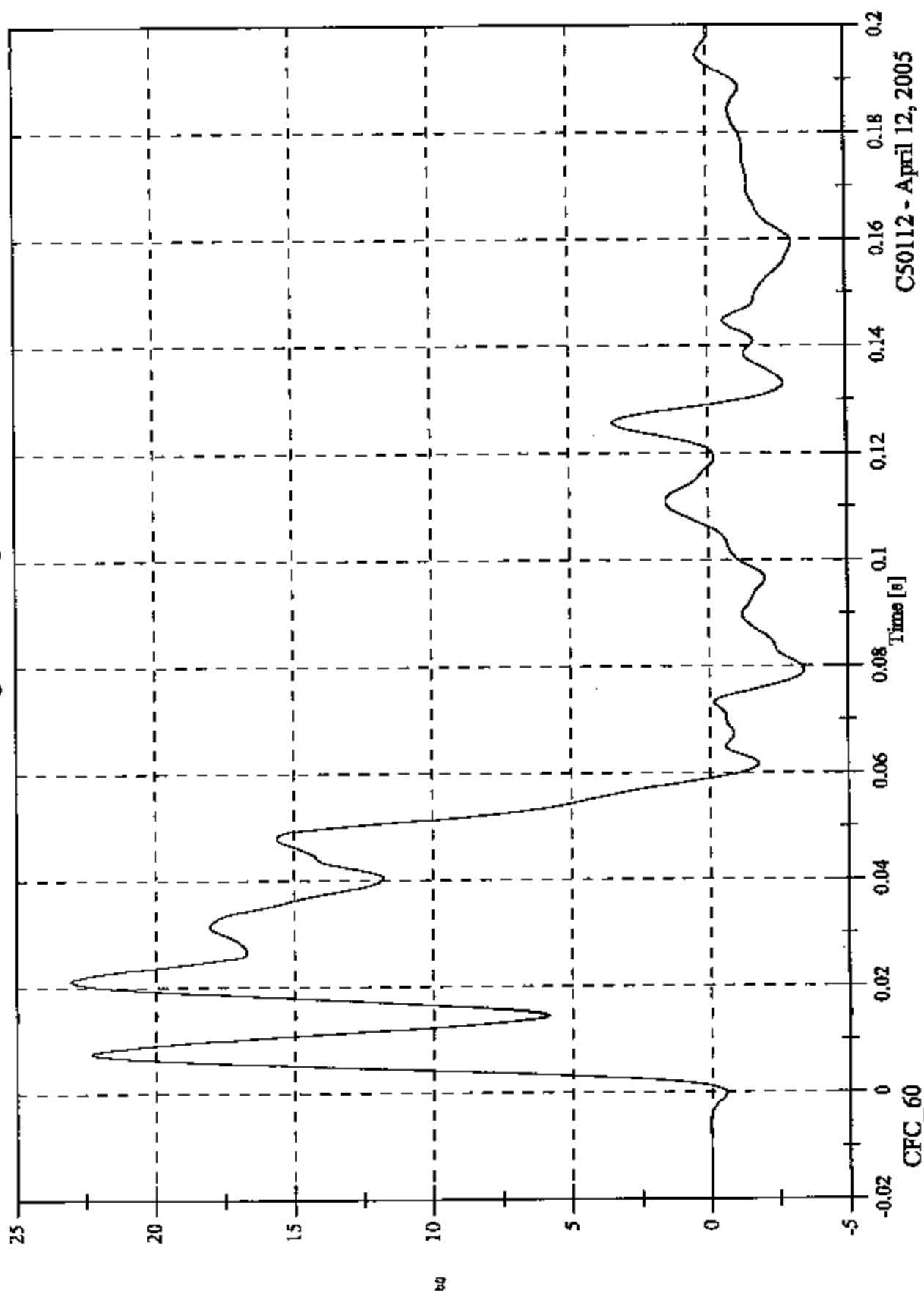
Max: 20.8 [kph] at 0.048 [s]
Min: -0.0 [kph] at 0.002 [s]



C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt
V2A7 Right Rear Compartment Y

Max: 23.1 [g] at 0.021 [s]
Min: -3.4 [g] at 0.079 [s]

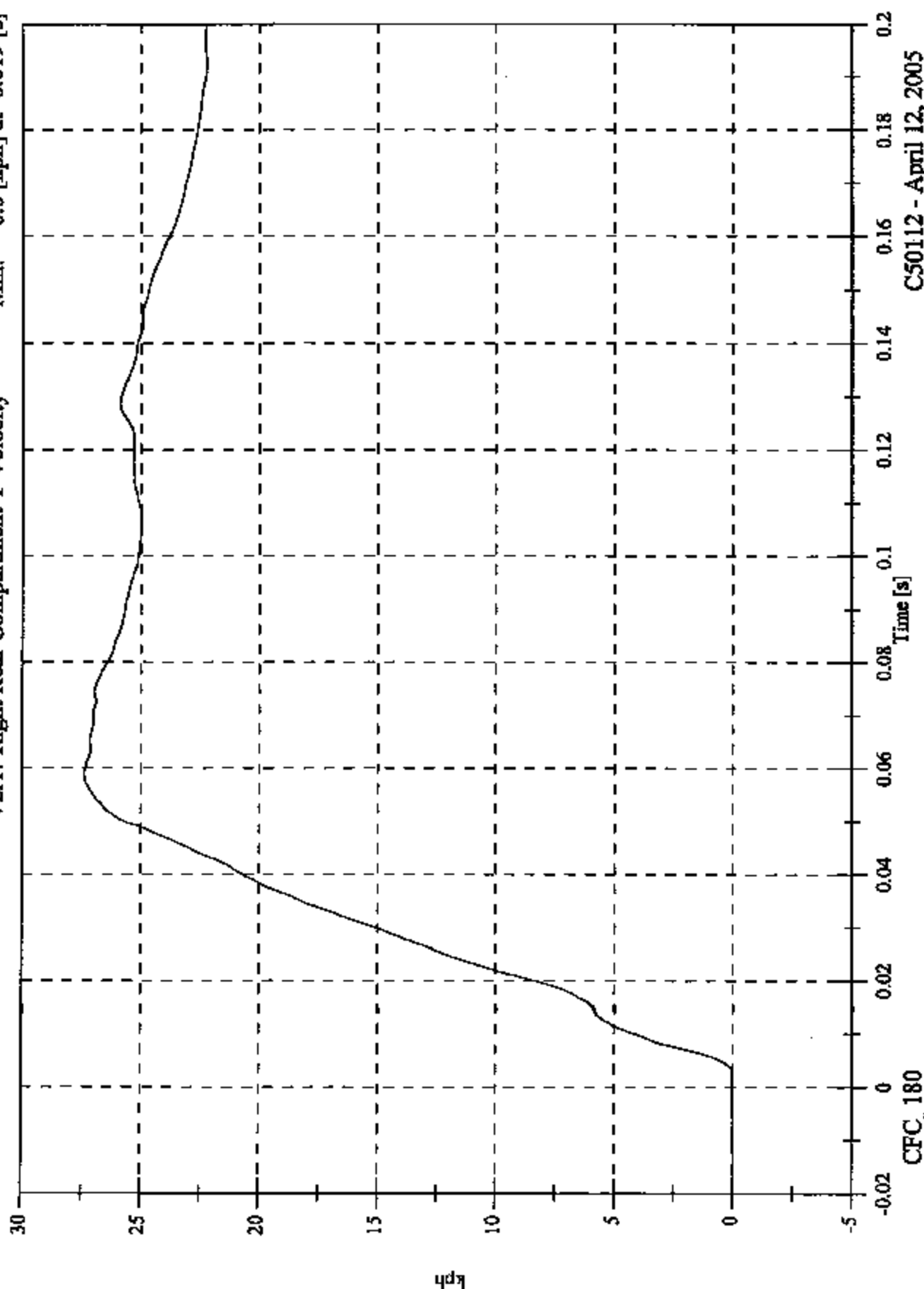


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A7 Right Rear Compartment Y Velocity

Max: 27.4 [kph] at 0.059 [s]
Min: -0.0 [kph] at -0.019 [s]

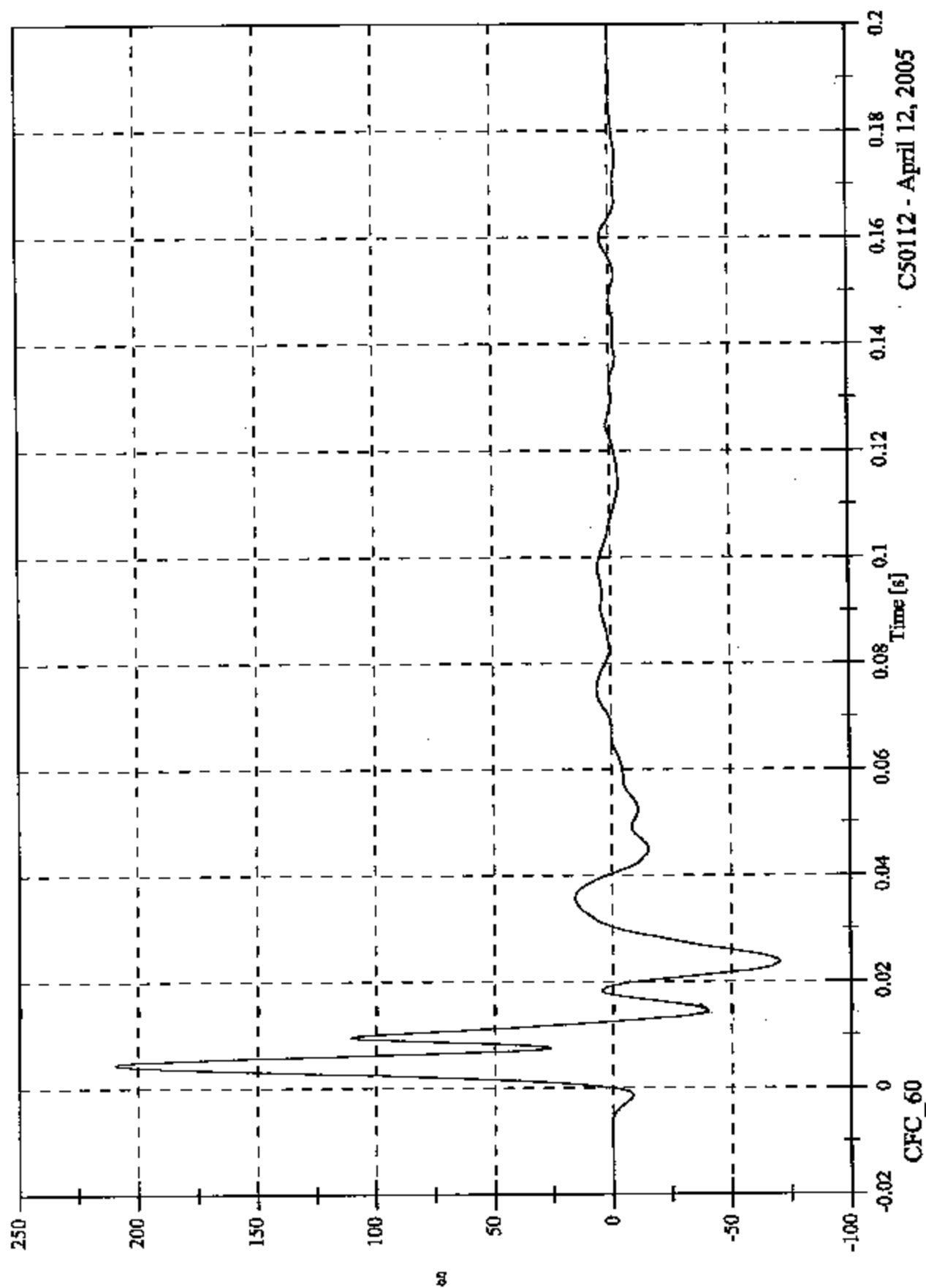


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A12 Left Lower B Post Y

Max: 209.6 [g] at 0.004 [s]
Min: -70.2 [g] at 0.024 [s]



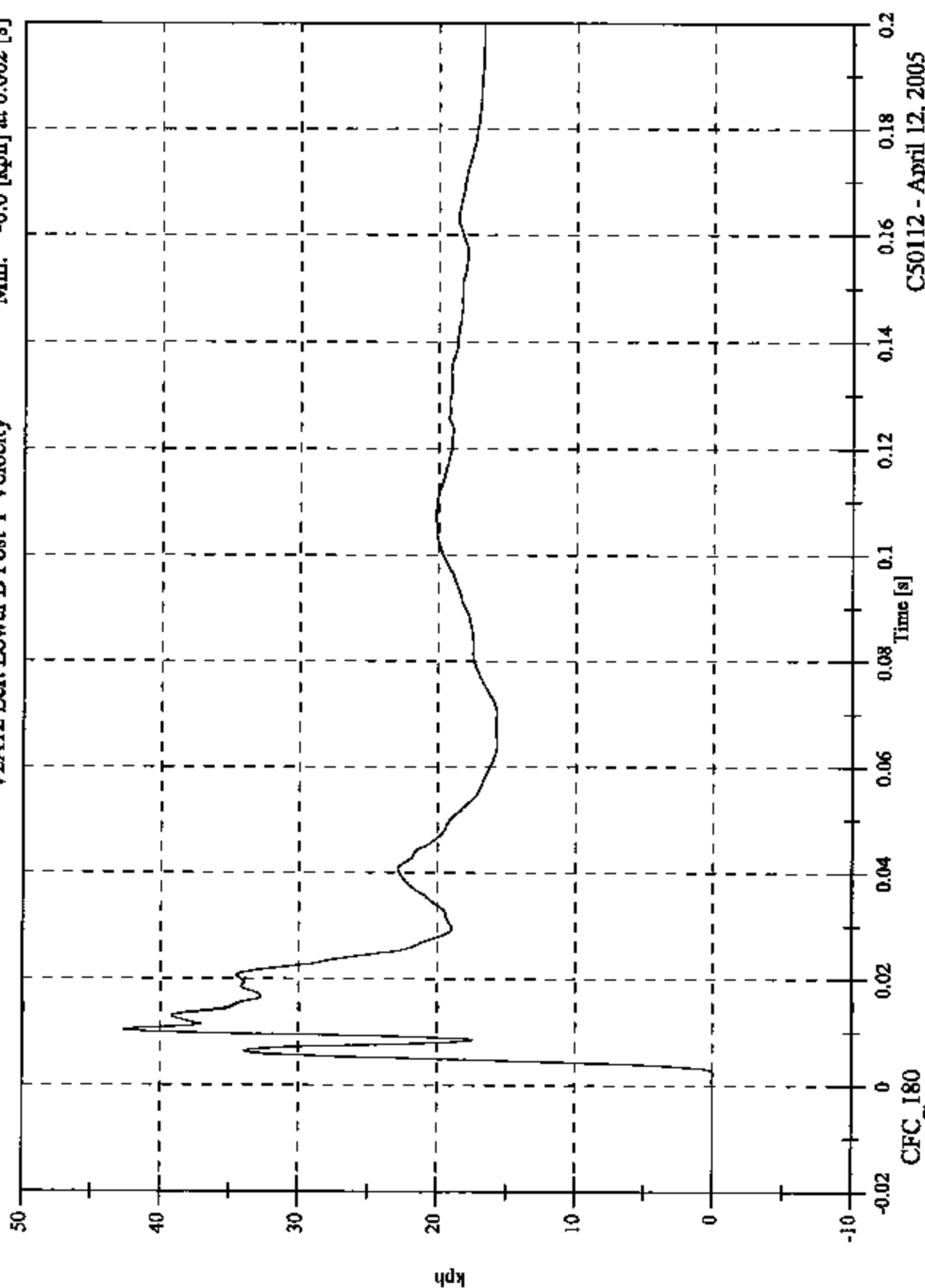
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A12 Left Lower B Post Y Velocity

Max: 42.6 [kph] at 0.010 [s]

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

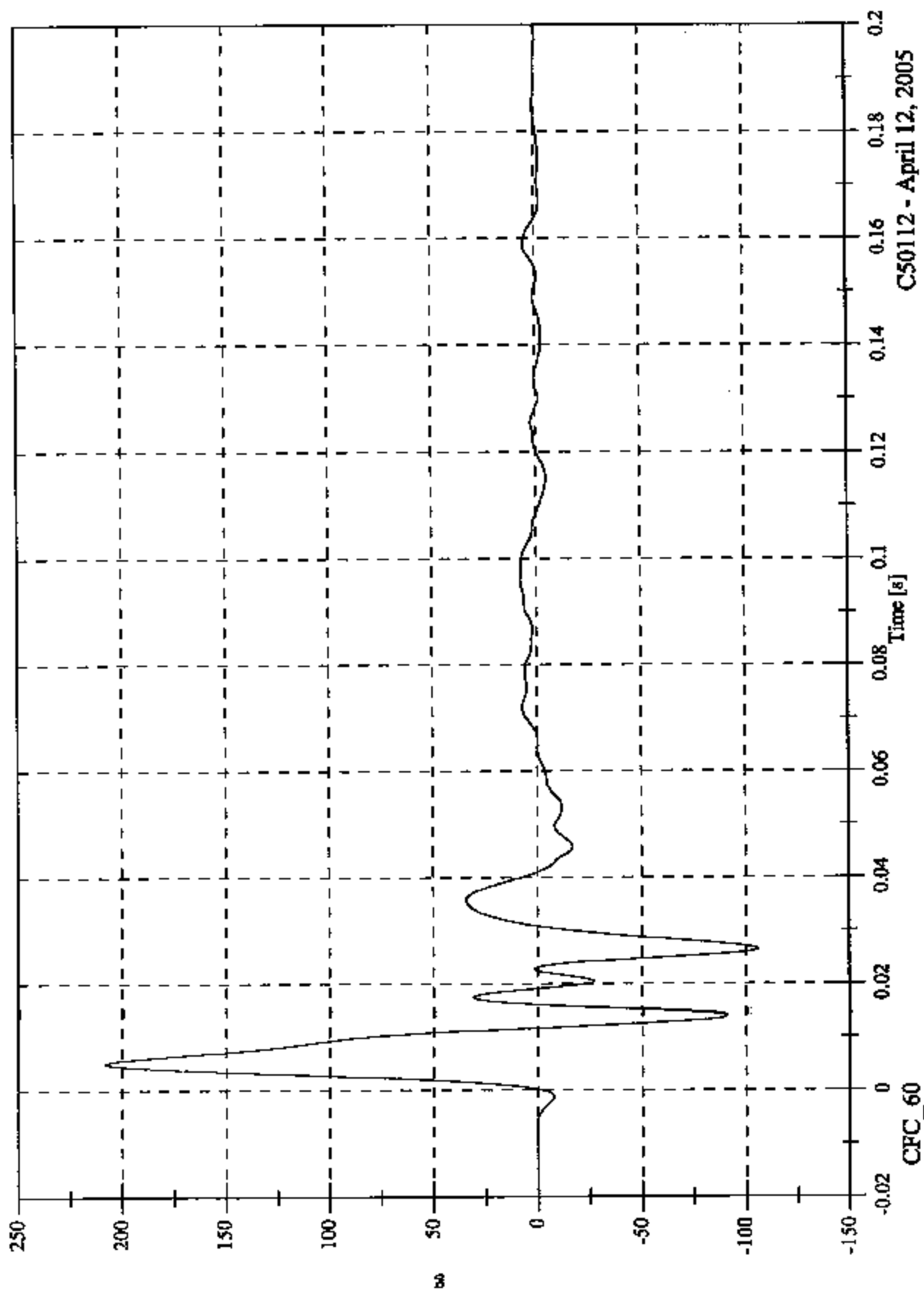


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A13 Left Middle B Post Y

Max: 208.5 [g] at 0.005 [s]
Min: -105.9 [g] at 0.026 [s]

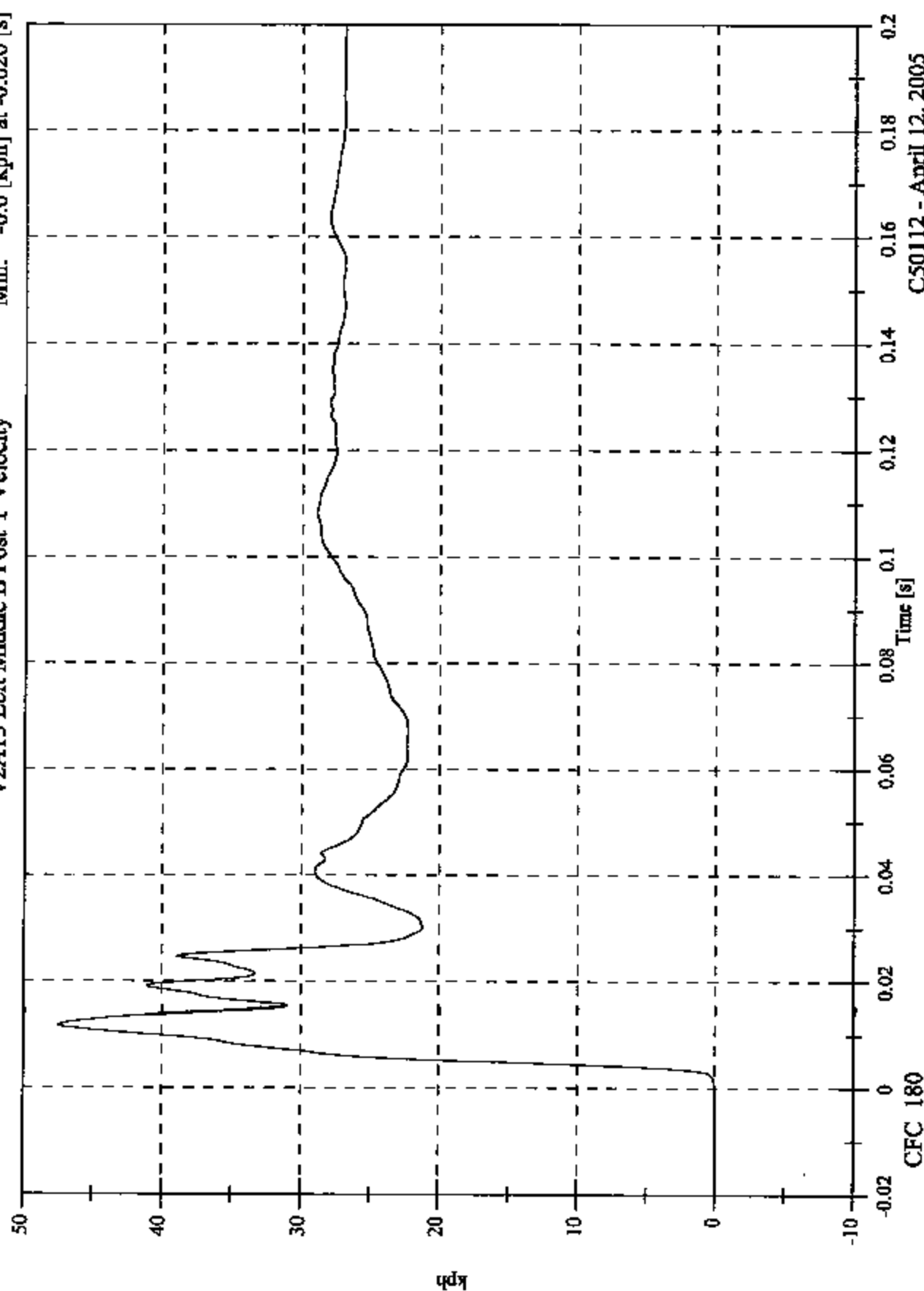


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A13 Left Middle B Post Y Velocity

Max: 47.4 [kph] at 0.012 [s]
Min: -0.0 [kph] at -0.020 [s]



CFC_180

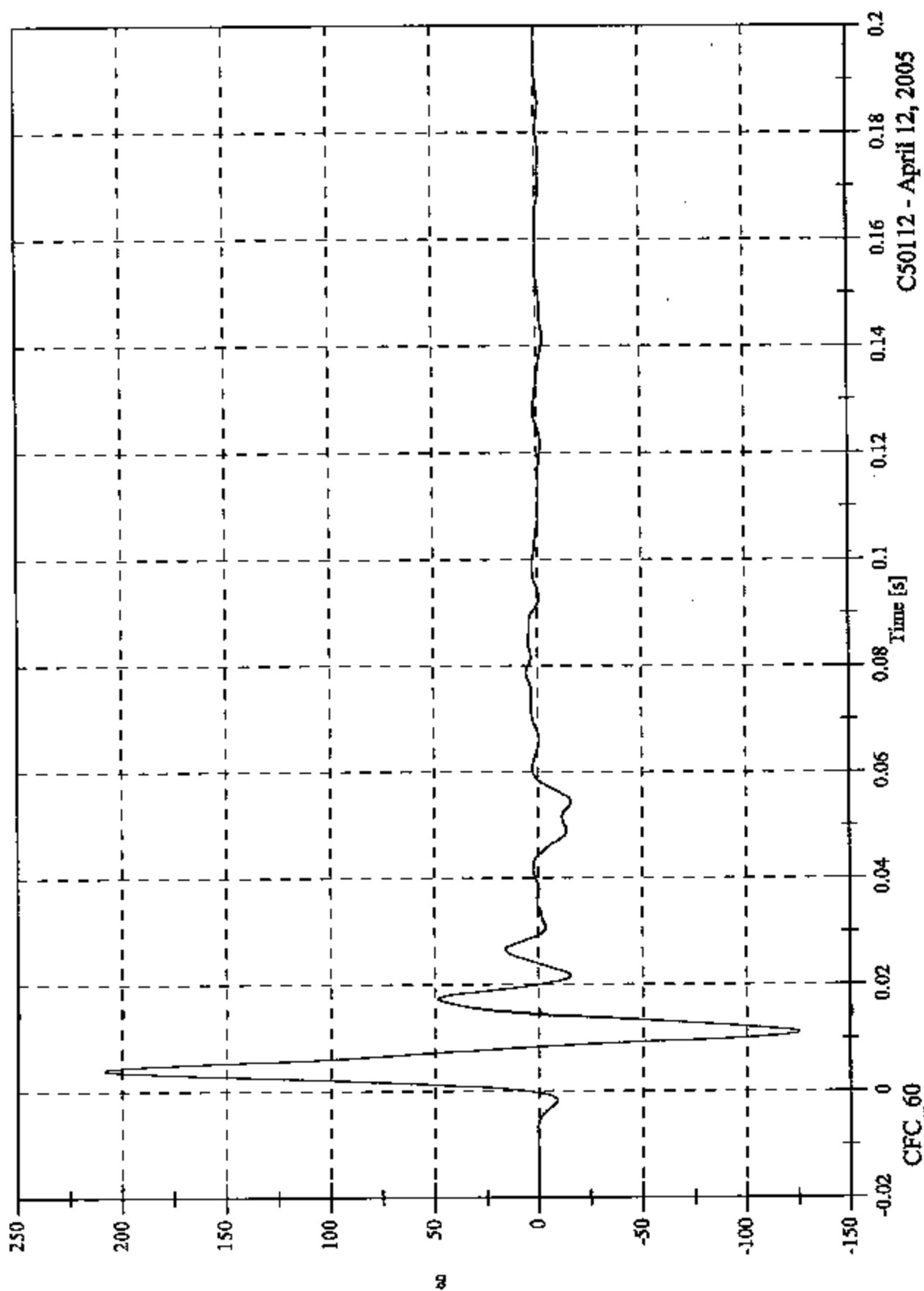
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A14 Left Lower A Post Y

Max: 208.4 [g] at 0.004 [s]

Min: -125.3 [g] at 0.011 [s]

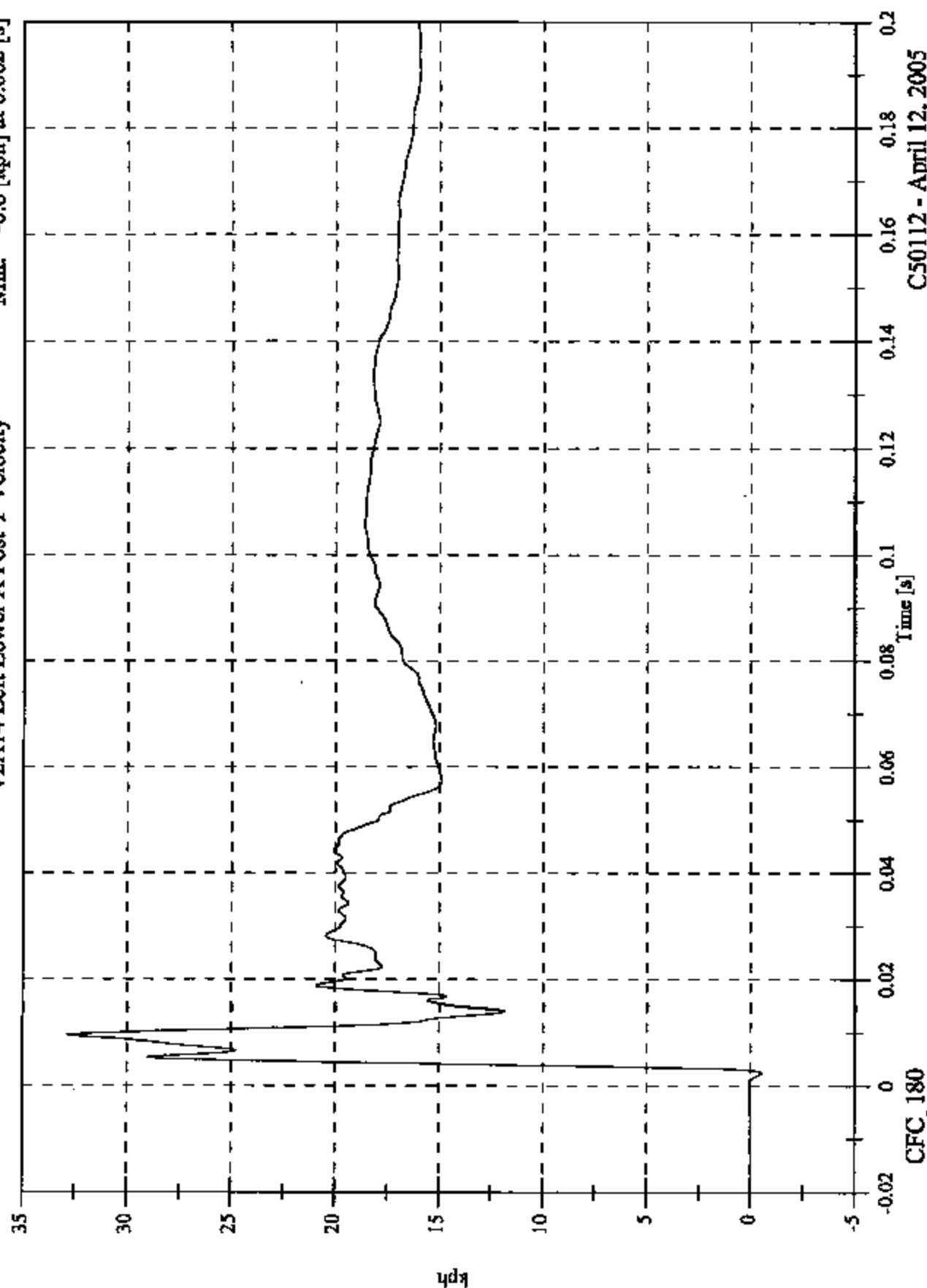


C50112 - April 12, 2005

2005 F MVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A14 Left Lower A Post Y Velocity

Max: 32.9 [kph] at 0.010 [s]
Min: -0.6 [kph] at 0.002 [s]

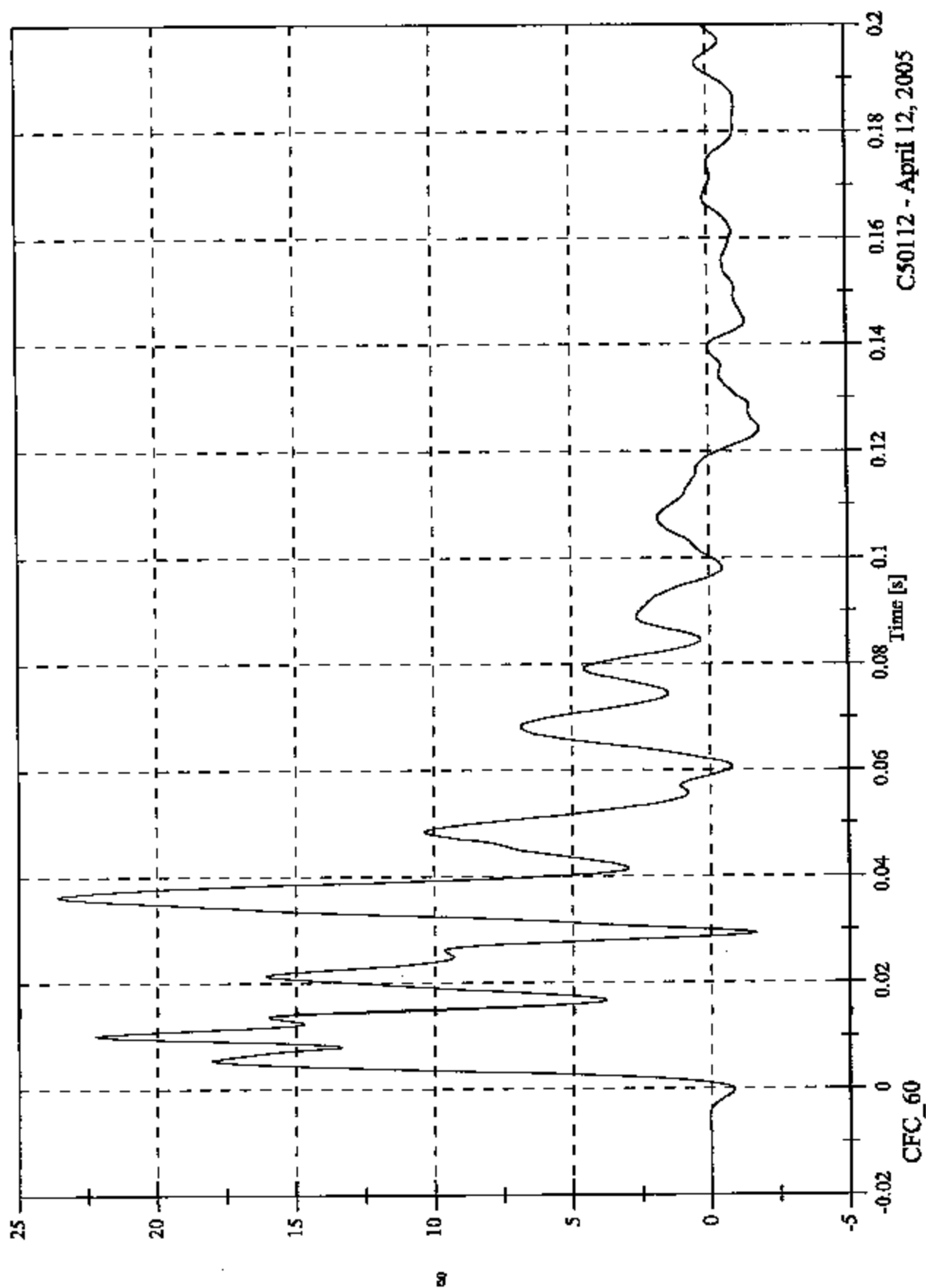


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A15 Left Mid A Post Y

Max: 23.6 [g] at 0.036 [s]
Min: -1.8 [g] at 0.124 [s]



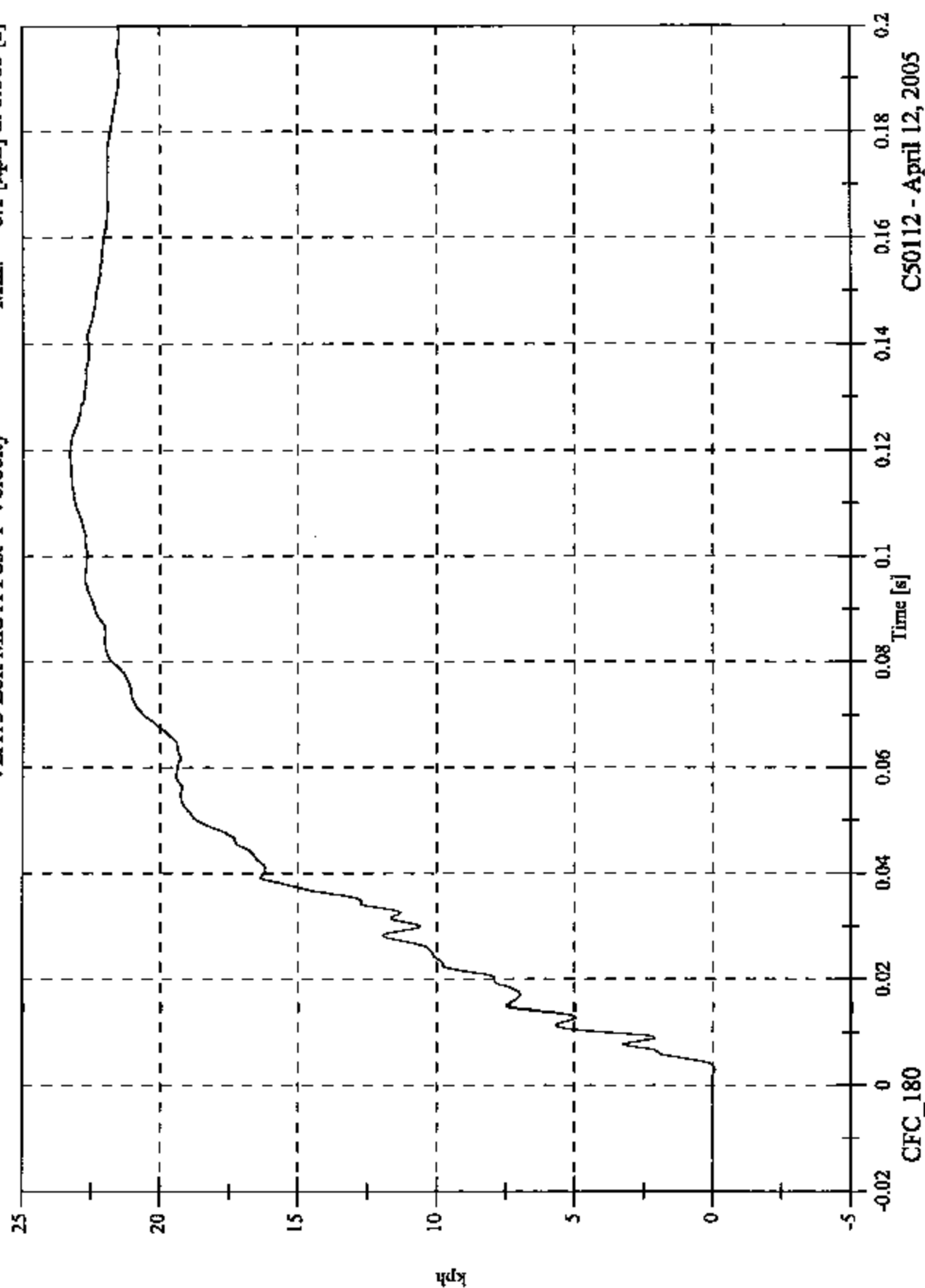
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A15 Left Mid A Post Y Velocity

Max: 23.3 [kph] at 0.119 [s]

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

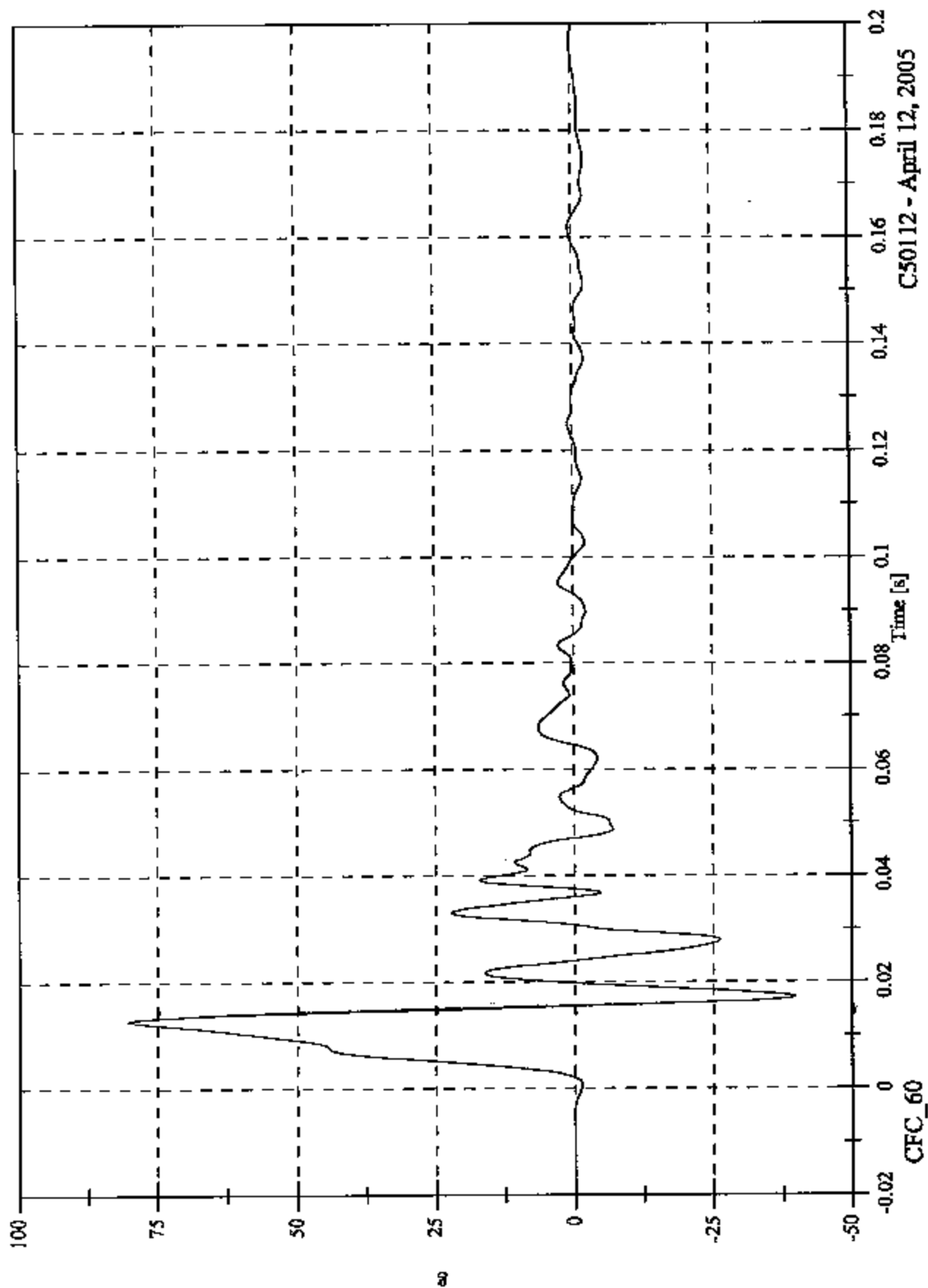


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A16 Front Seat Track Y

Max: 80.3 [g] at 0.013 [s]
Min: -39.7 [g] at 0.017 [s]

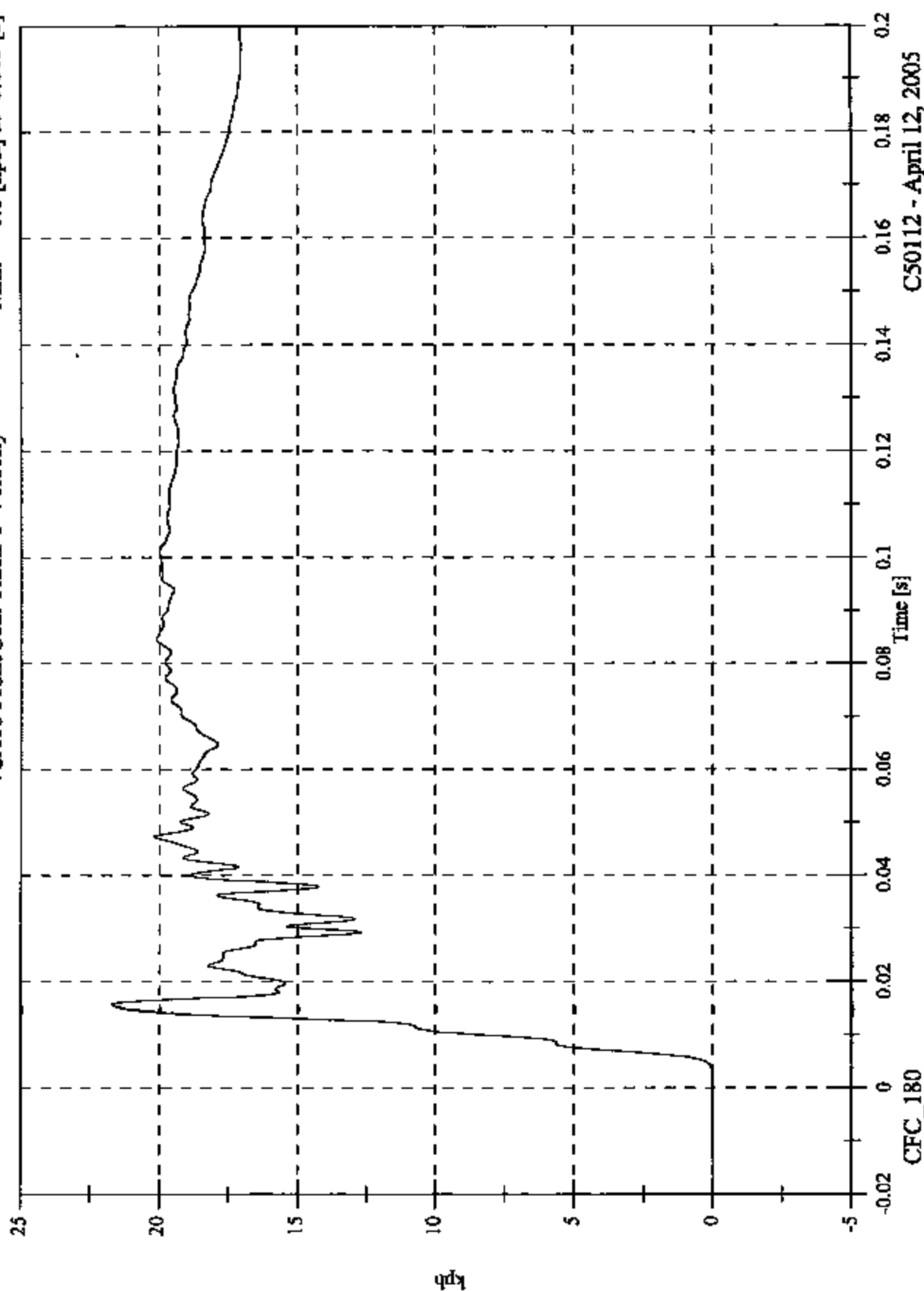


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A16 Front Seat Track Y Velocity

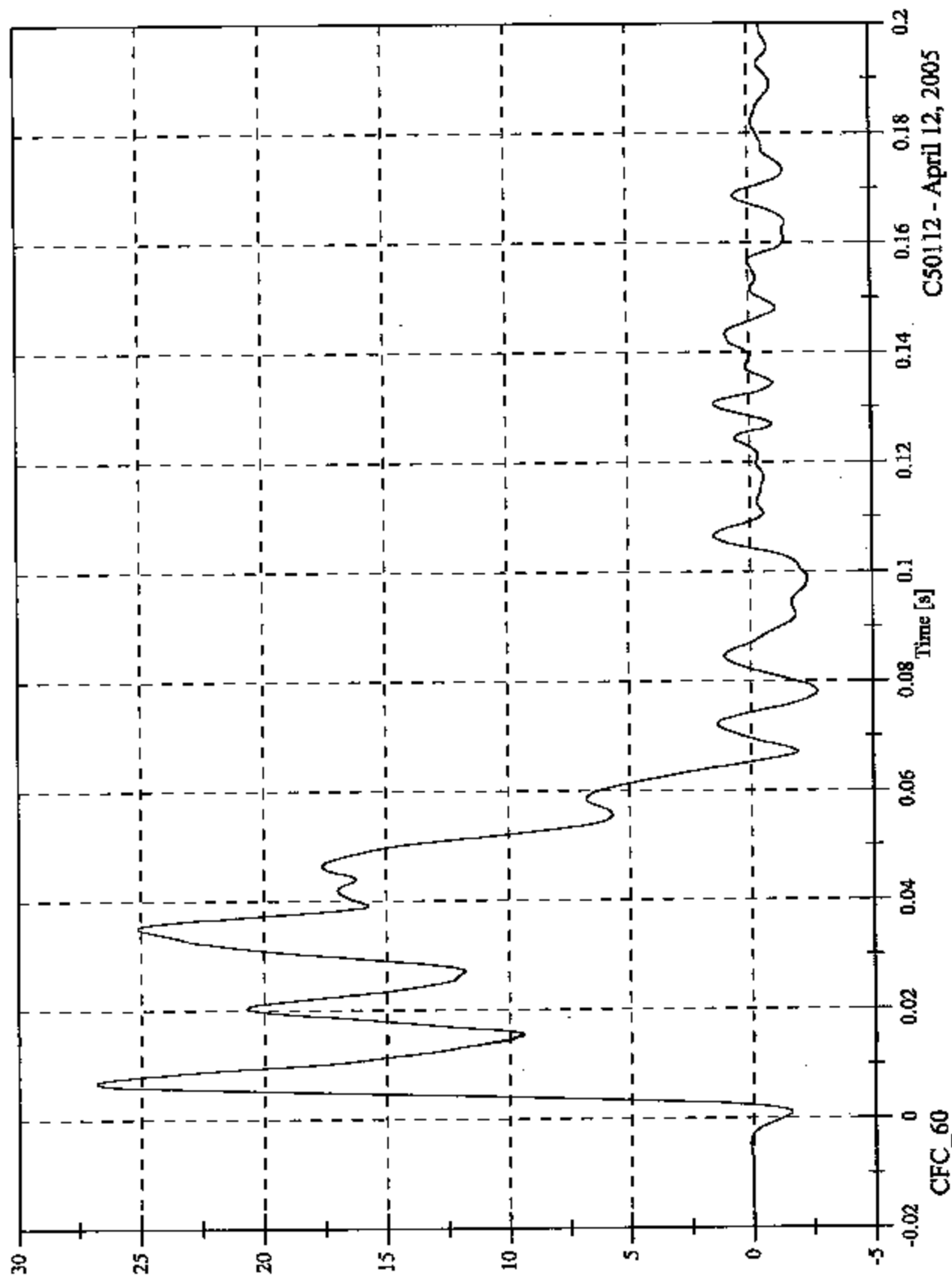
Max: 21.7 [kph] at 0.016 [s]
Min: -0.0 [kph] at -0.015 [s]



C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt
V2A17 Rear Seat Track Y

Max: 26.8 [g] at 0.007 [s]
Min: -2.7 [g] at 0.078 [s]

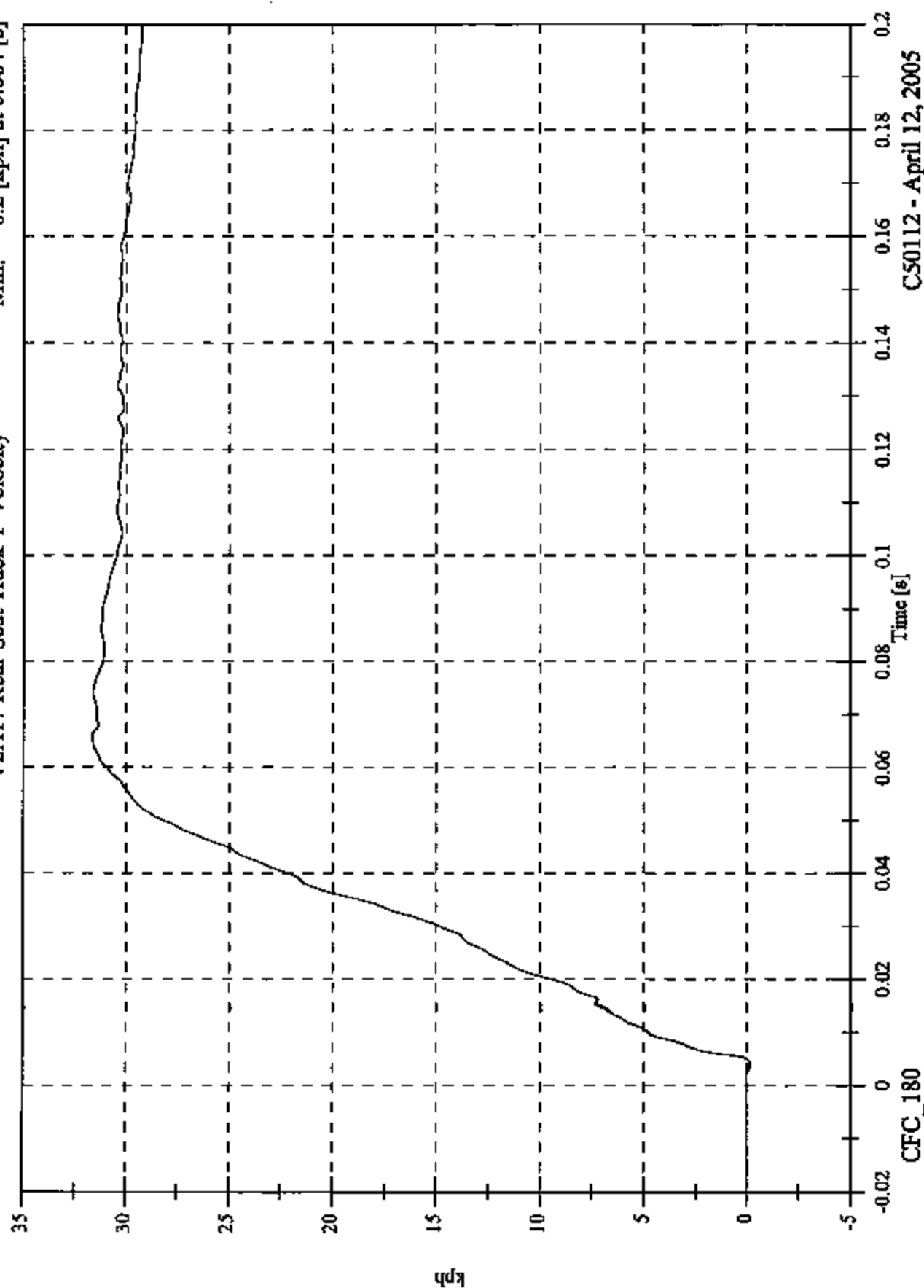


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A17 Rear Seat Track Y Velocity

Max: 31.7 [kph] at 0.066 [s]
Min: -0.2 [kph] at 0.004 [s]

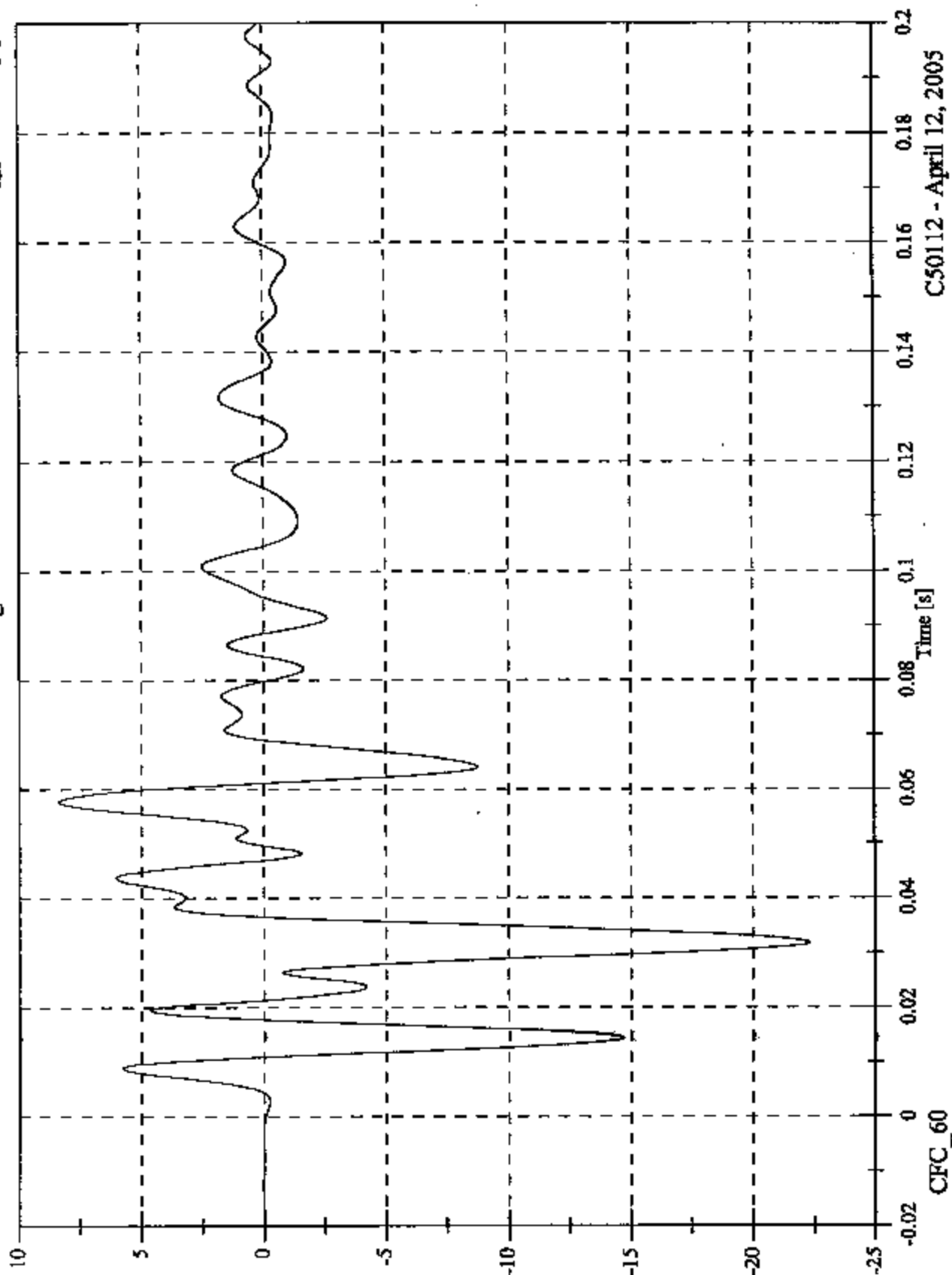


C50112 - April 12, 2005

2005 F MVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A18 Target CG X

Max: 8.4 [g] at 0.058 [s]
Min: -22.3 [g] at 0.032 [s]

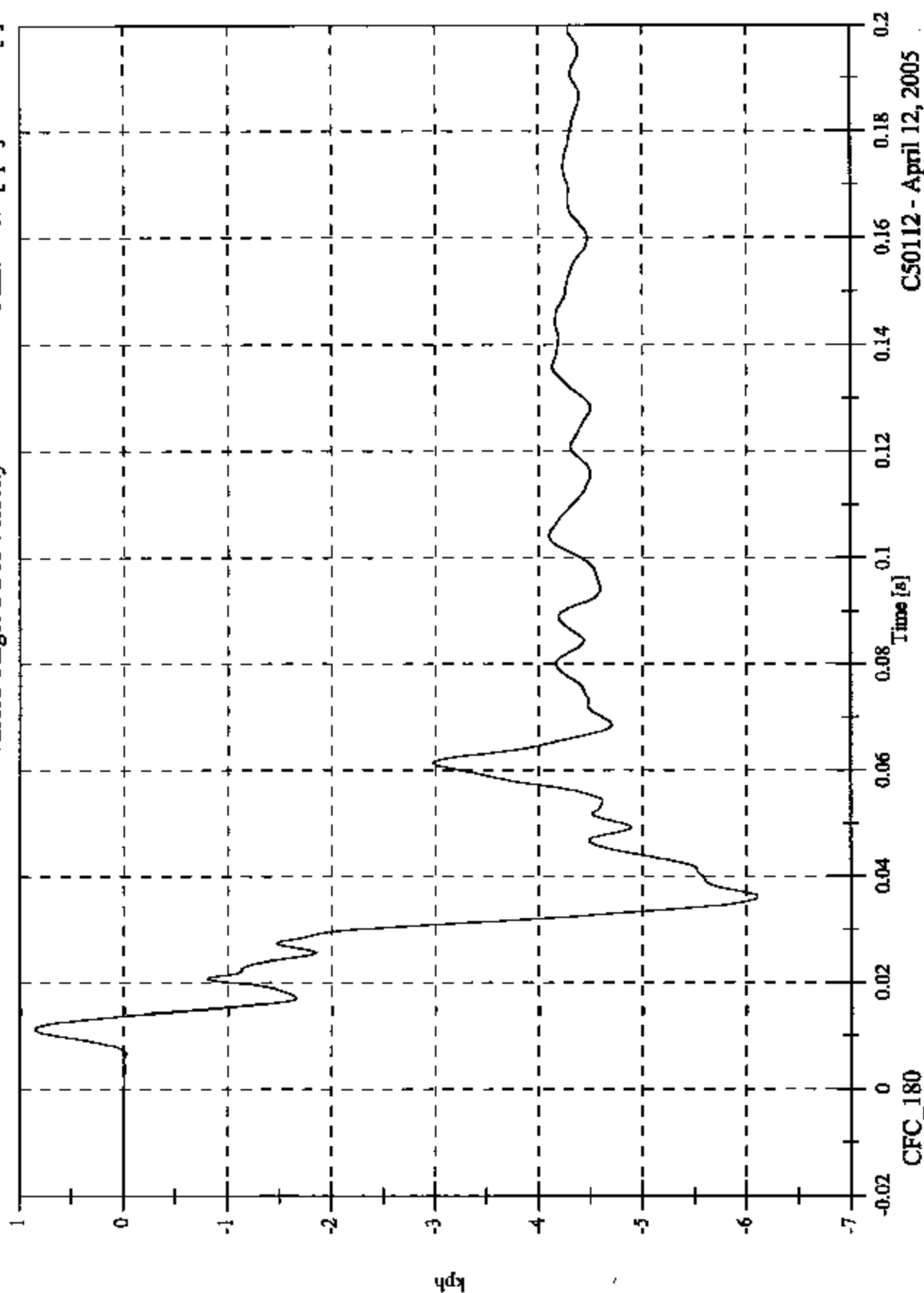


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 0.9 [kph] at 0.011 [s]
Min: -6.1 [kph] at 0.036 [s]

V2A18 Target CG X Velocity



CFC_180

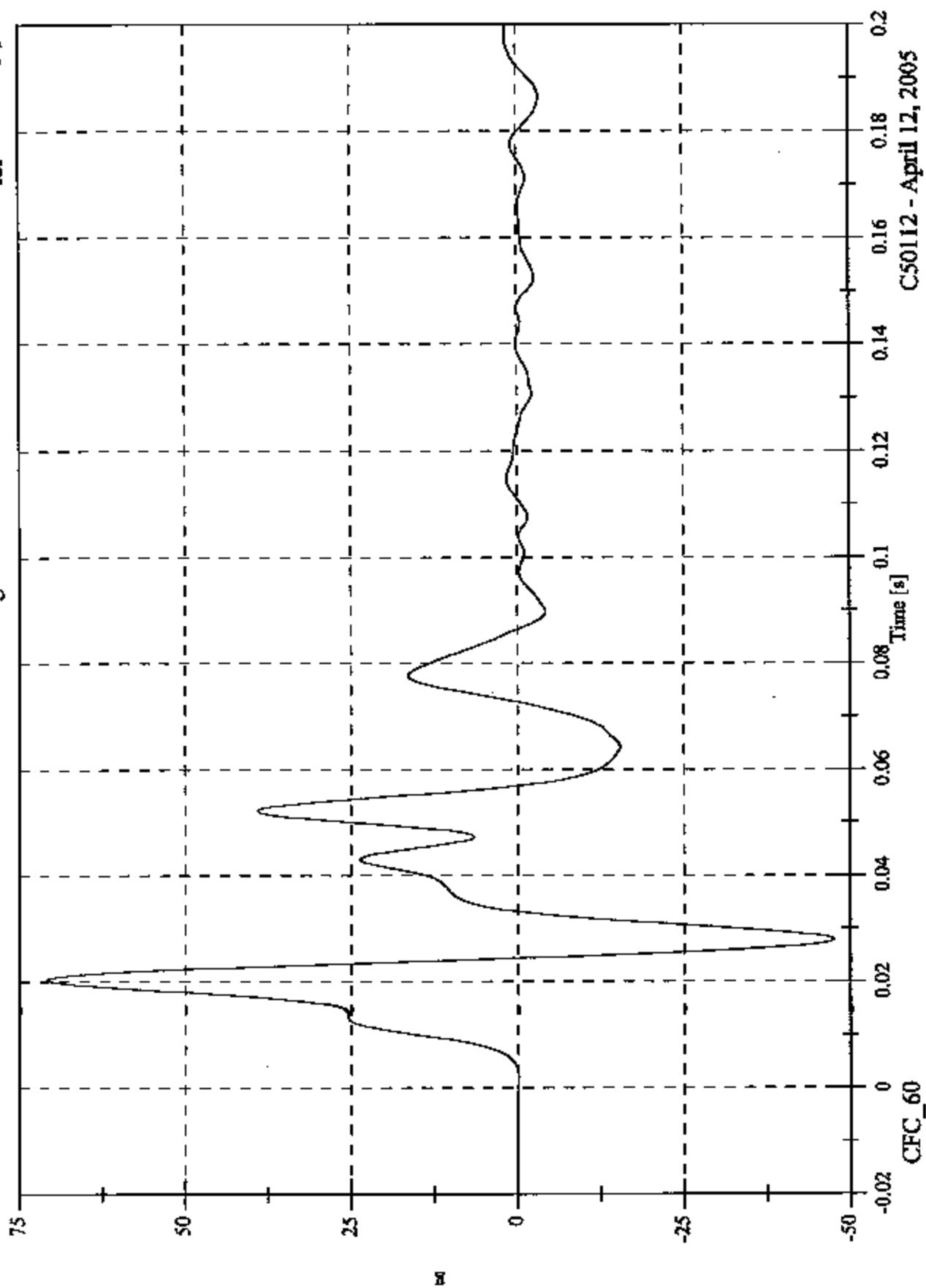
C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A18 Target CG Y

Max: 71.0 [g] at 0.020 [s]

Min: -47.6 [g] at 0.028 [s]

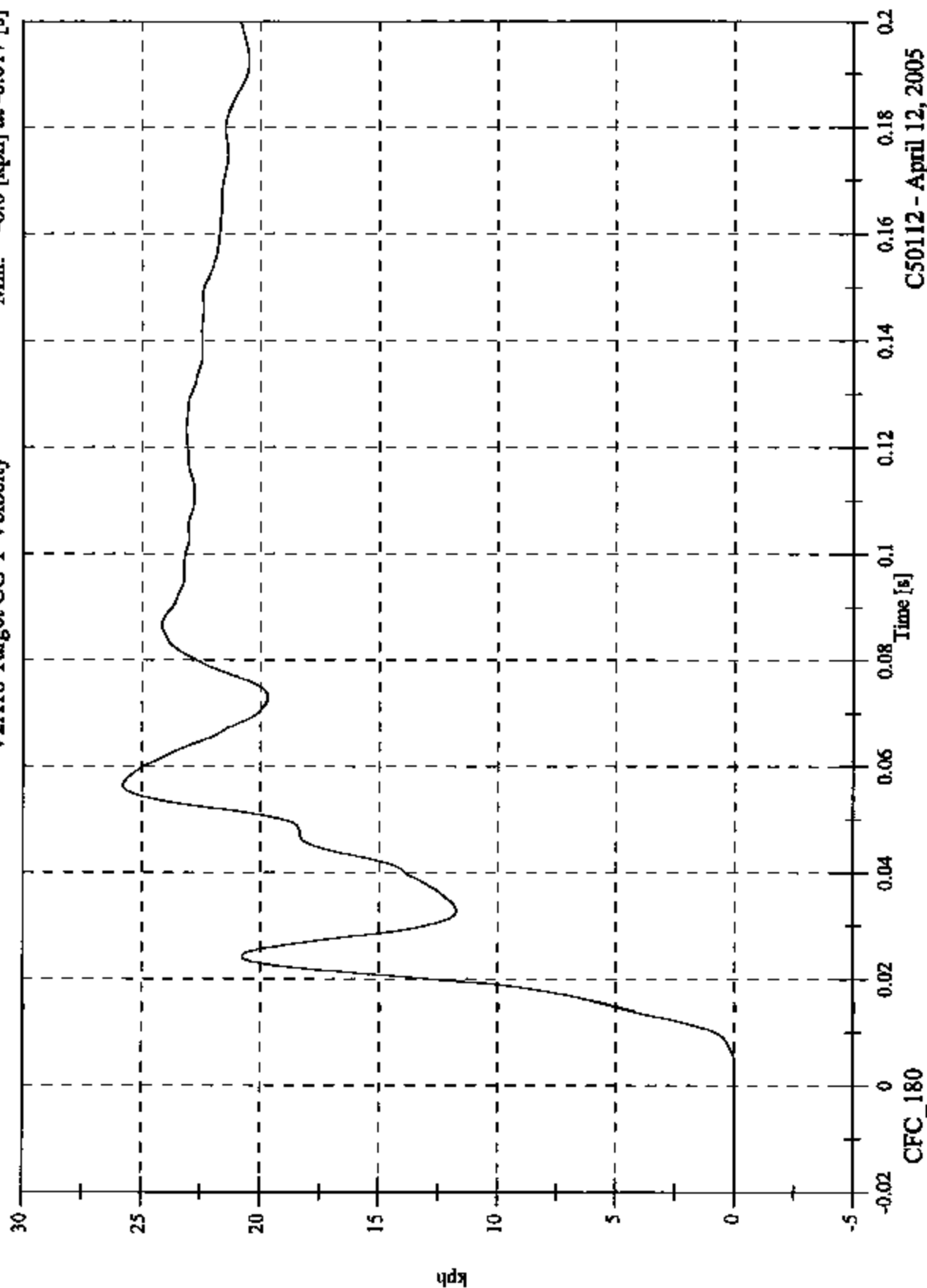


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2A18 Target CG Y Velocity

Max: 25.8 [kph] at 0.056 [s]
Min: -0.0 [kph] at -0.017 [s]

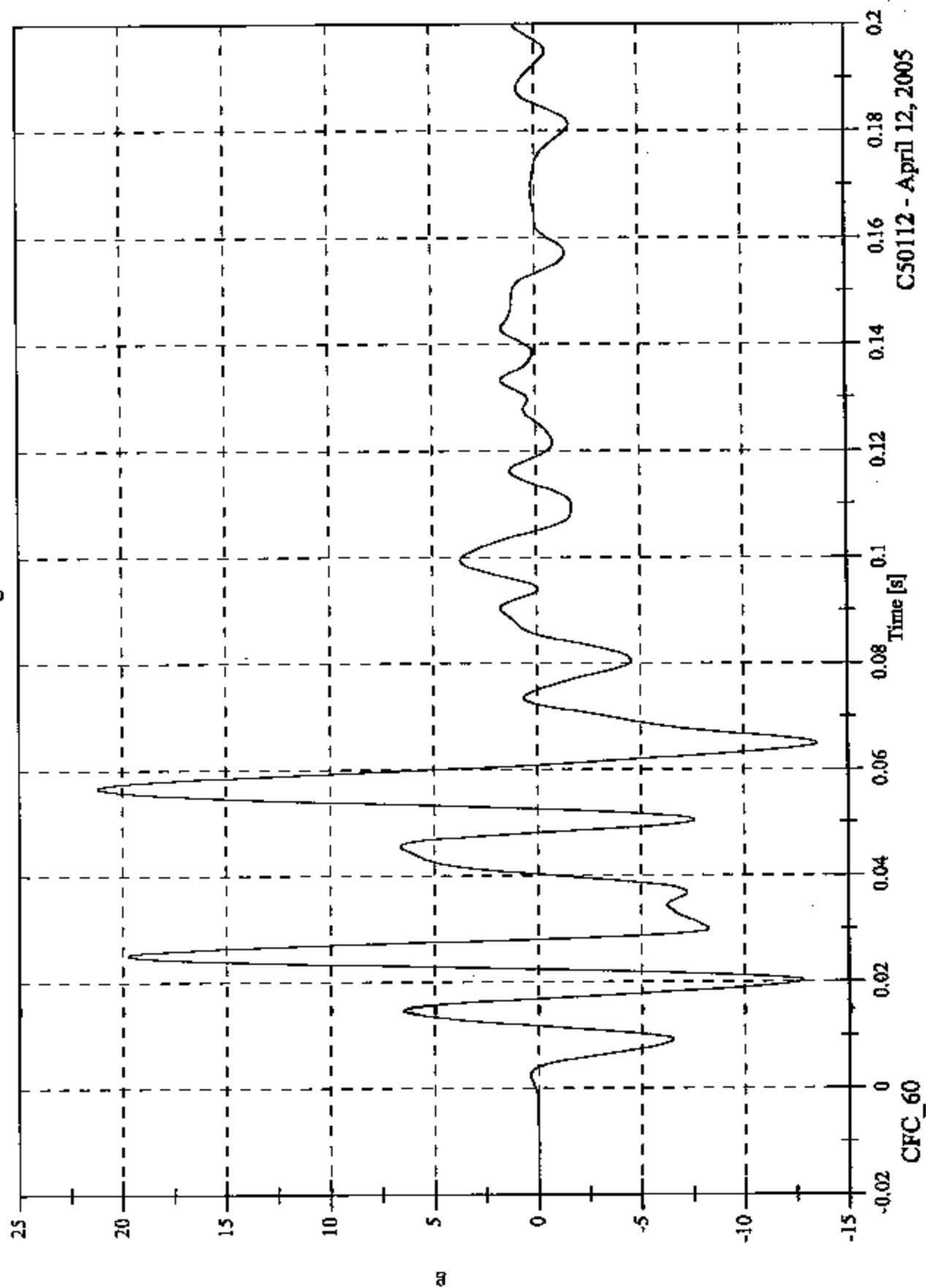


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

VZA18 Target CG Z

Max: 21.2 [g] at 0.057 [s]
Min: -13.5 [g] at 0.065 [s]



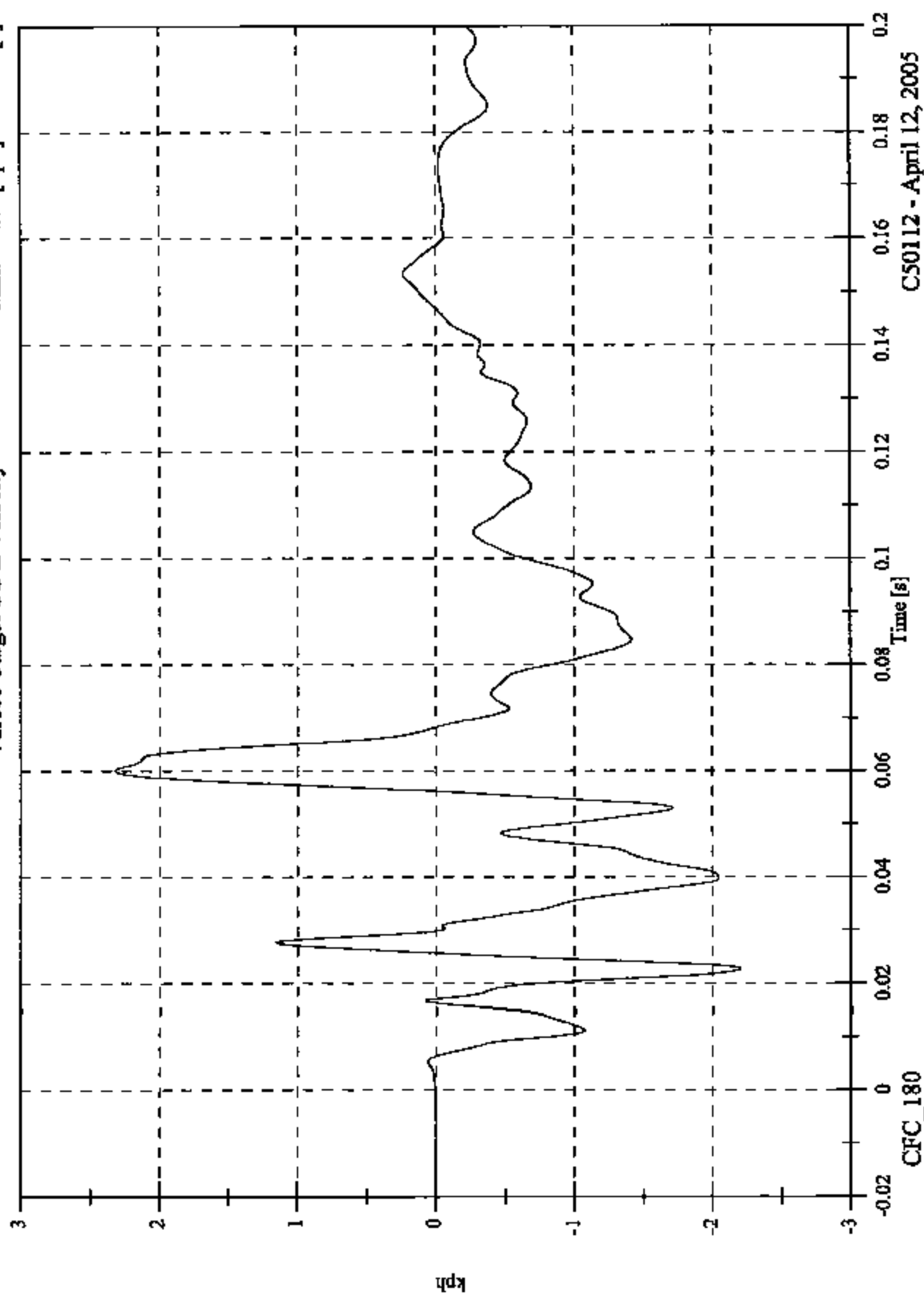
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A18 Target CG Z Velocity

Max: 2.3 [kph] at 0.060 [s]

Min: -2.2 [kph] at 0.023 [s]

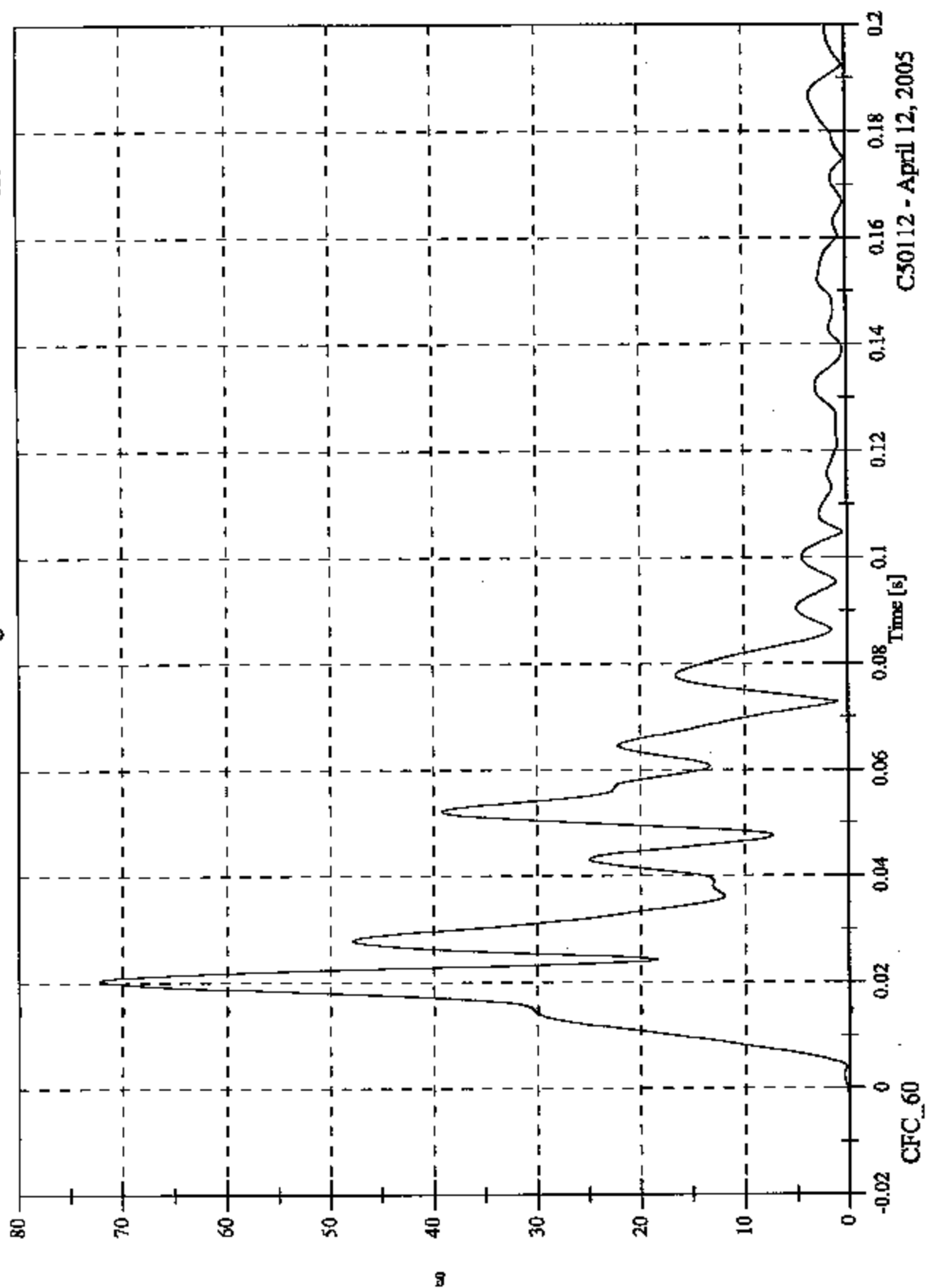


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2A18 Target CG Resultant

Max: 72.2 [g] at 0.020 [s]
Min: 0.0 [g] at -0.020 [s]

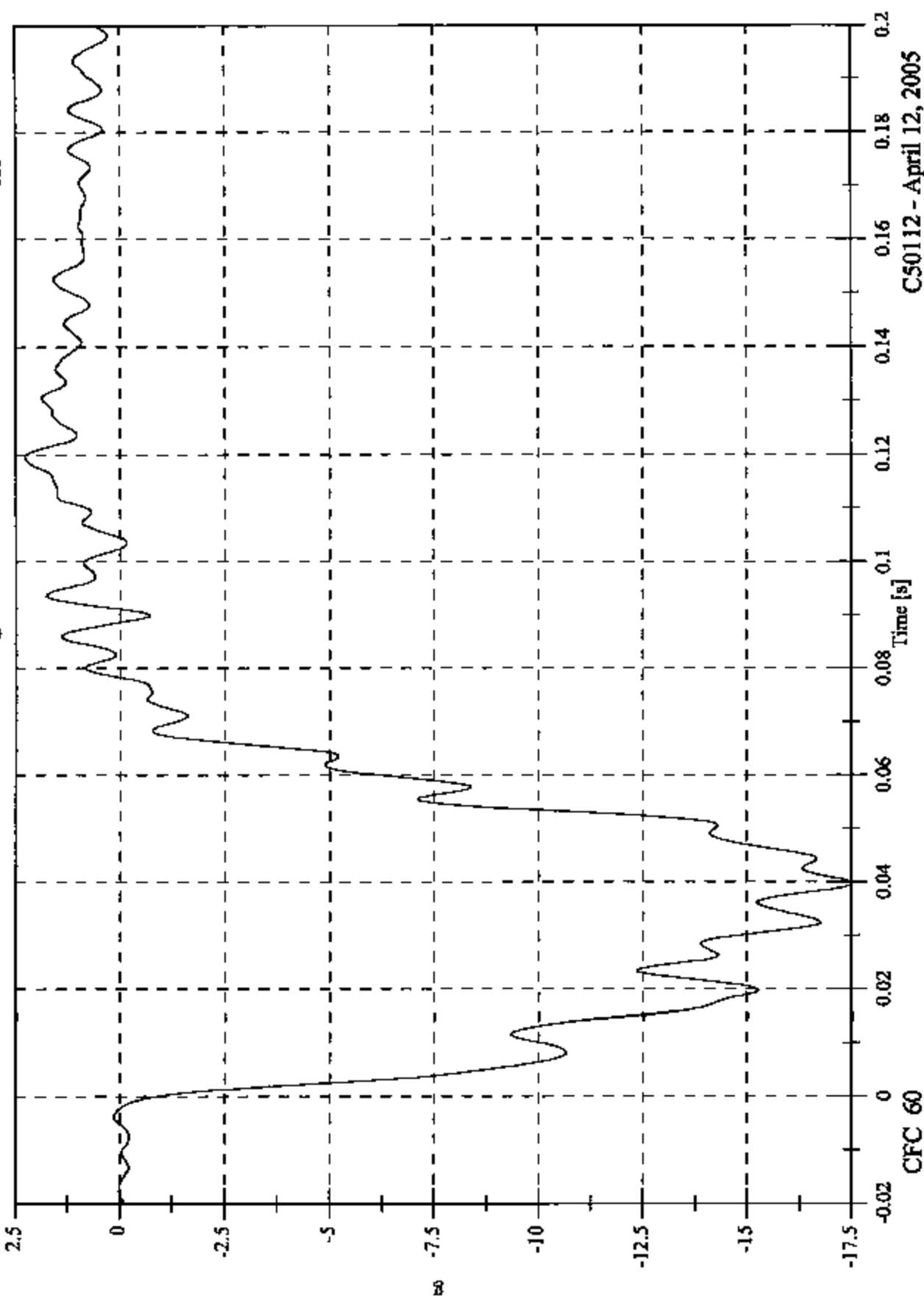


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG X

Max: 2.3 [g] at 0.120 [s]
Min: -17.5 [g] at 0.040 [s]



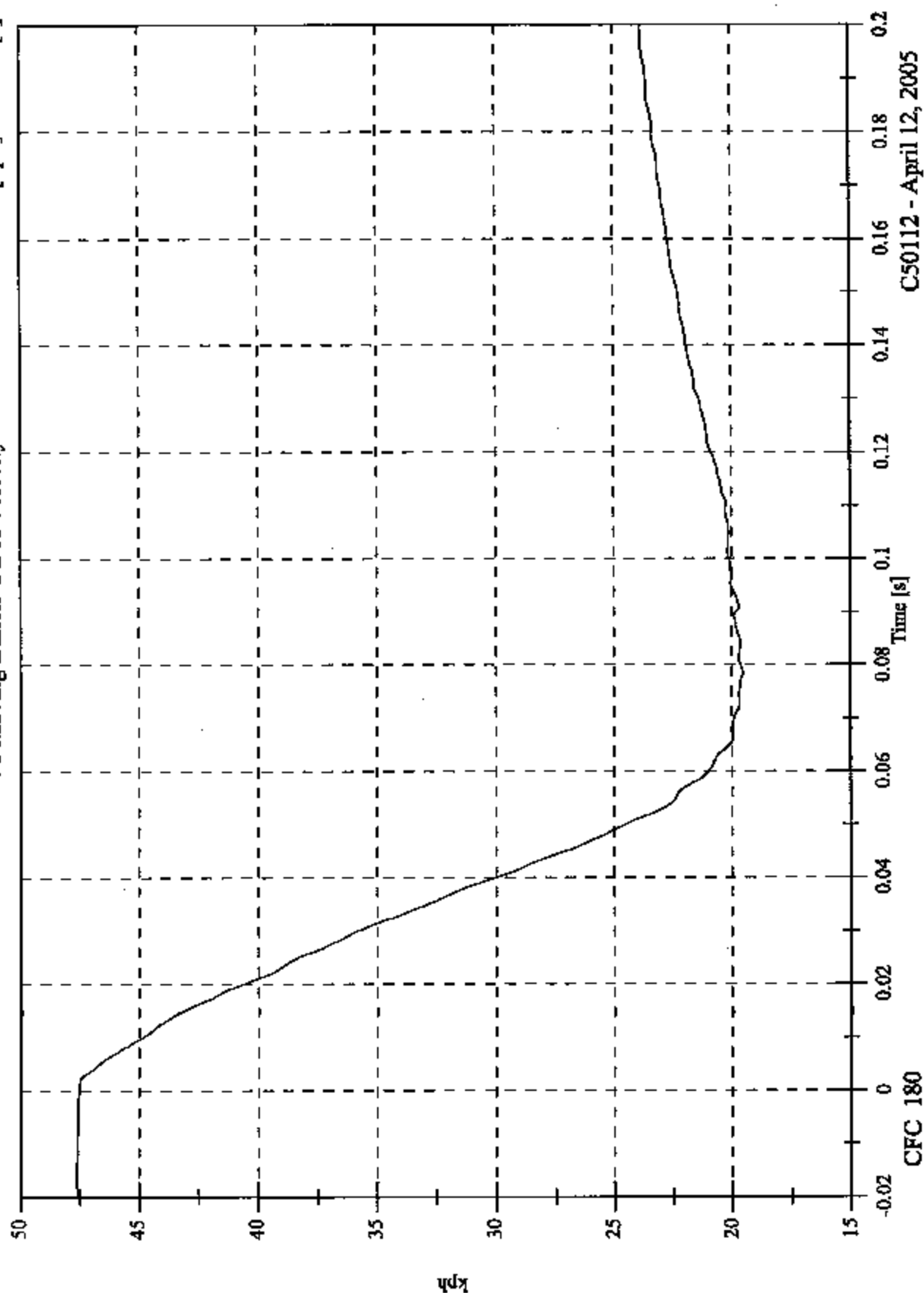
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG X Velocity

Max: 47.6 [kph] at -0.016 [s]

Min: 19.5 [kph] at 0.078 [s]

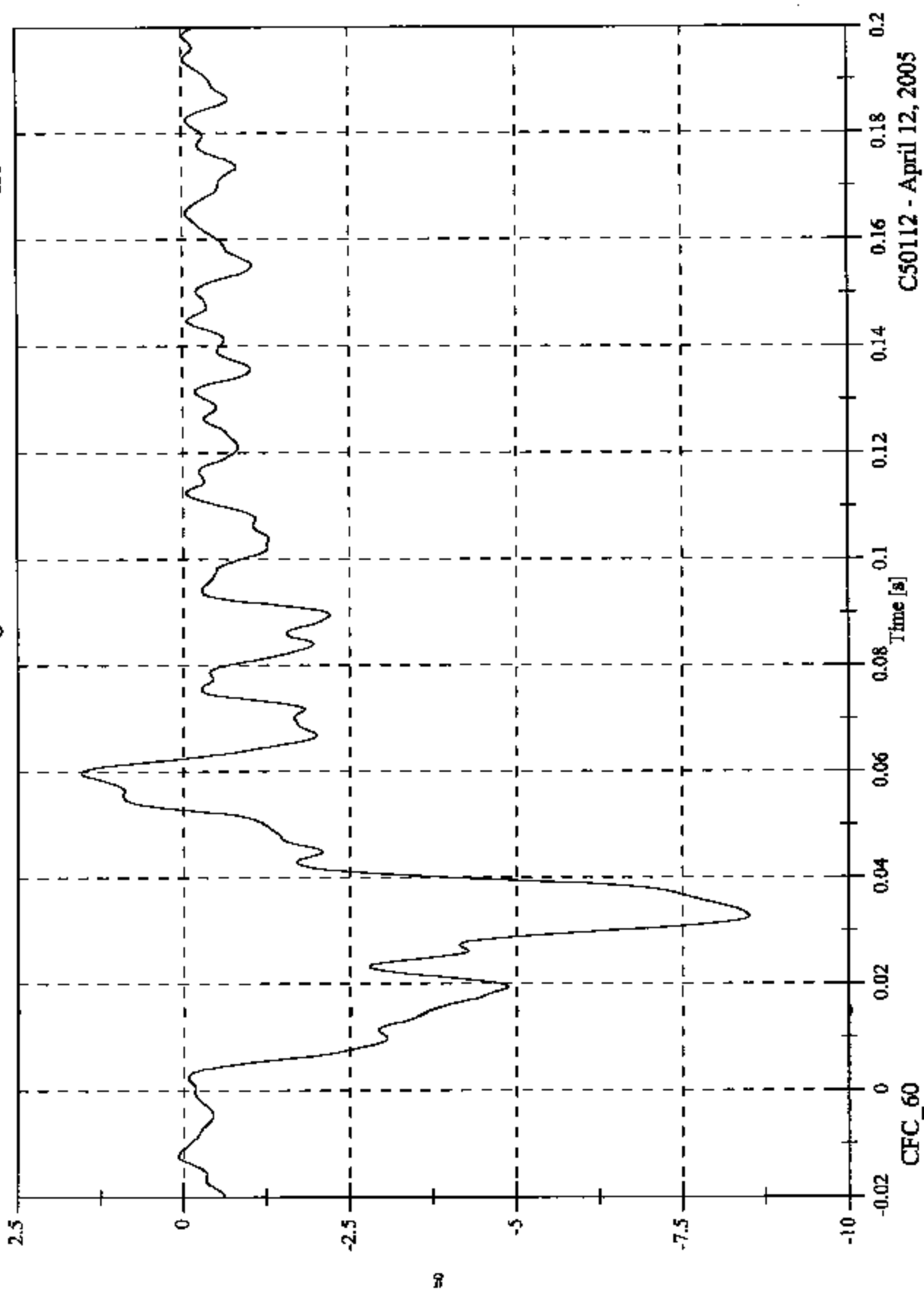


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG Y

Max: 1.5 [g] at 0.060 [s]
Min: -8.5 [g] at 0.033 [s]

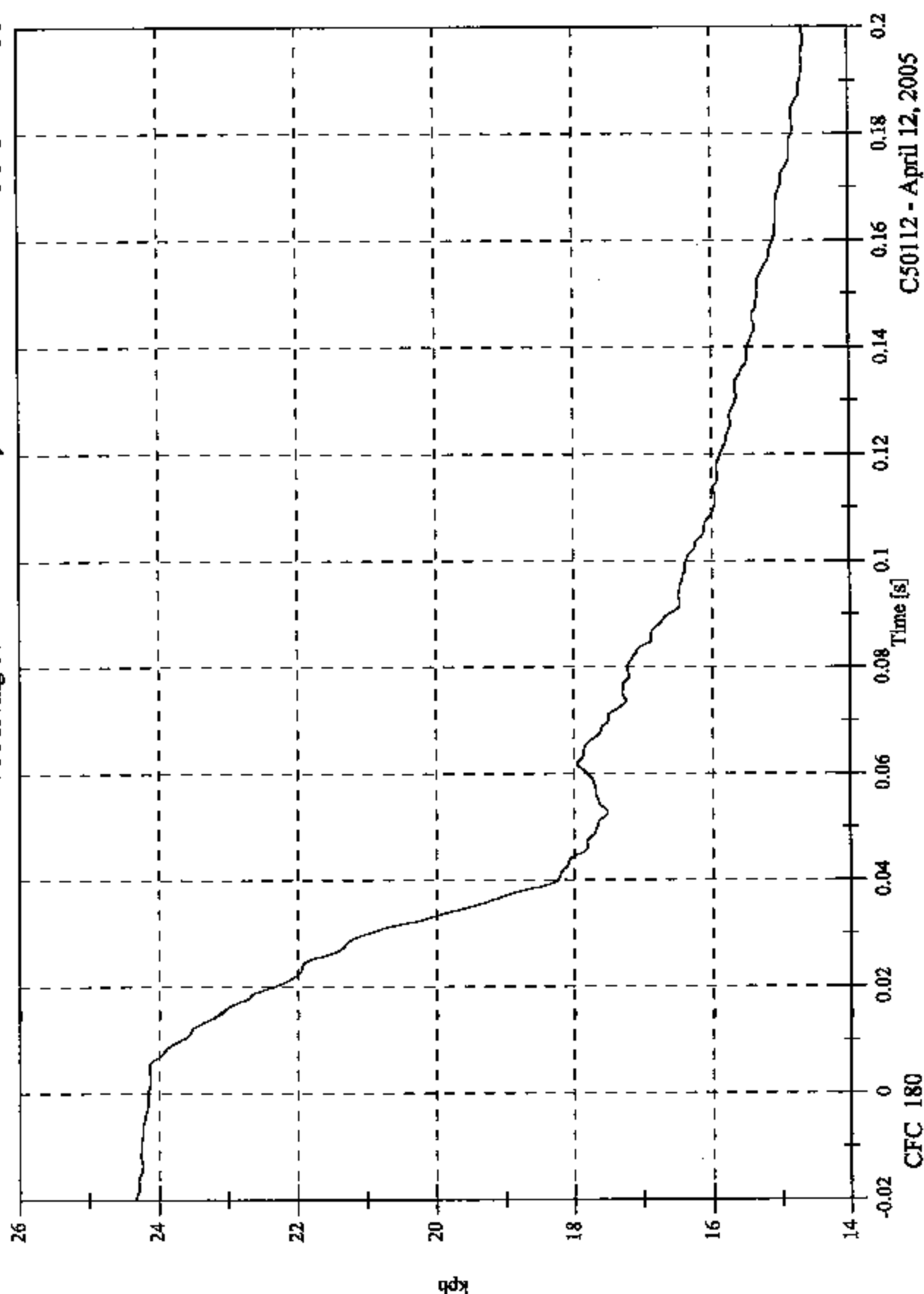


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG Y Velocity

Max: 24.3 [kph] at -0.020 [s]
Min: 14.6 [kph] at 0.197 [s]



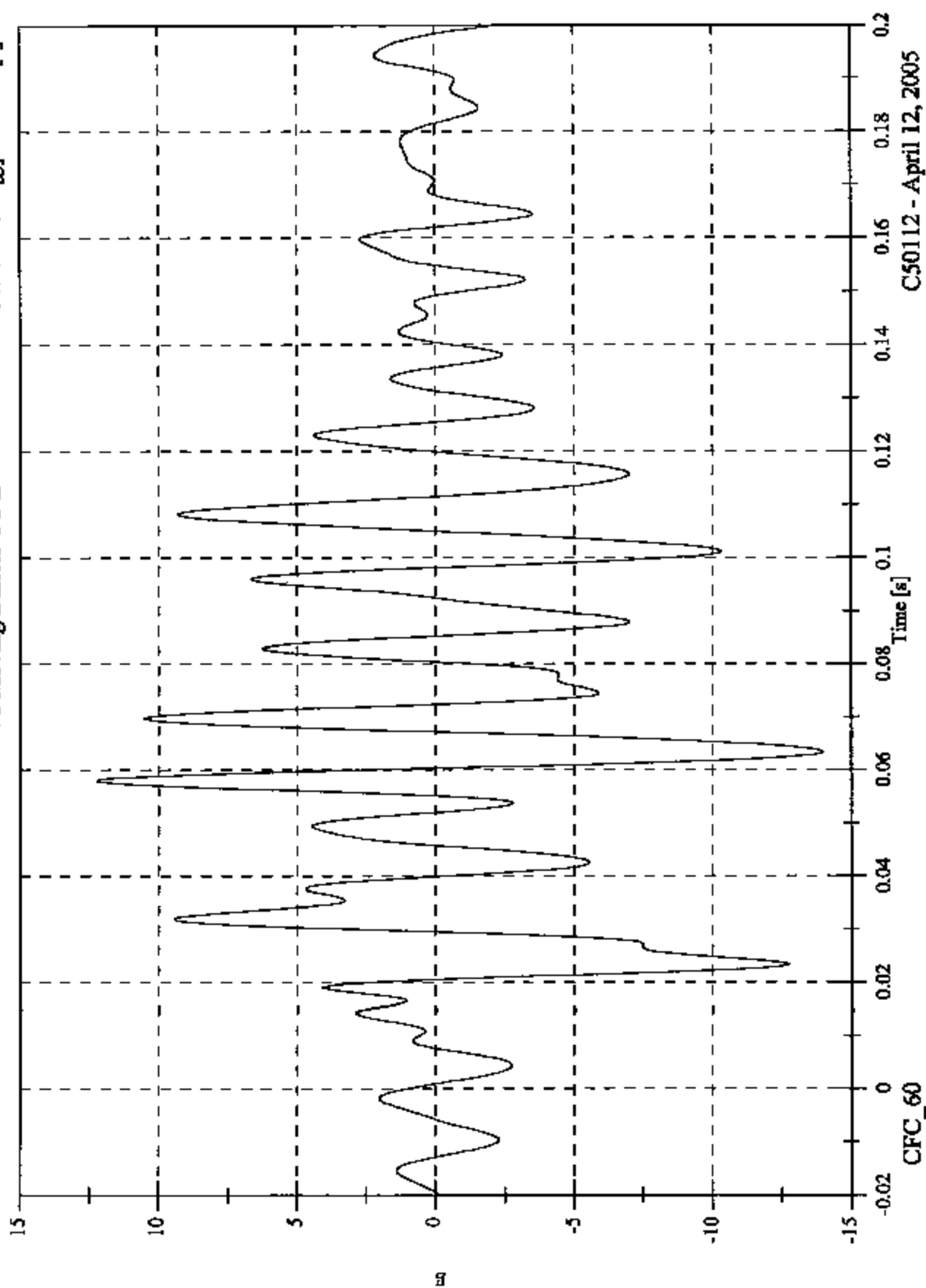
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG Z

Max: 12.2 [g] at 0.058 [s]

Min: -13.9 [g] at 0.063 [s]

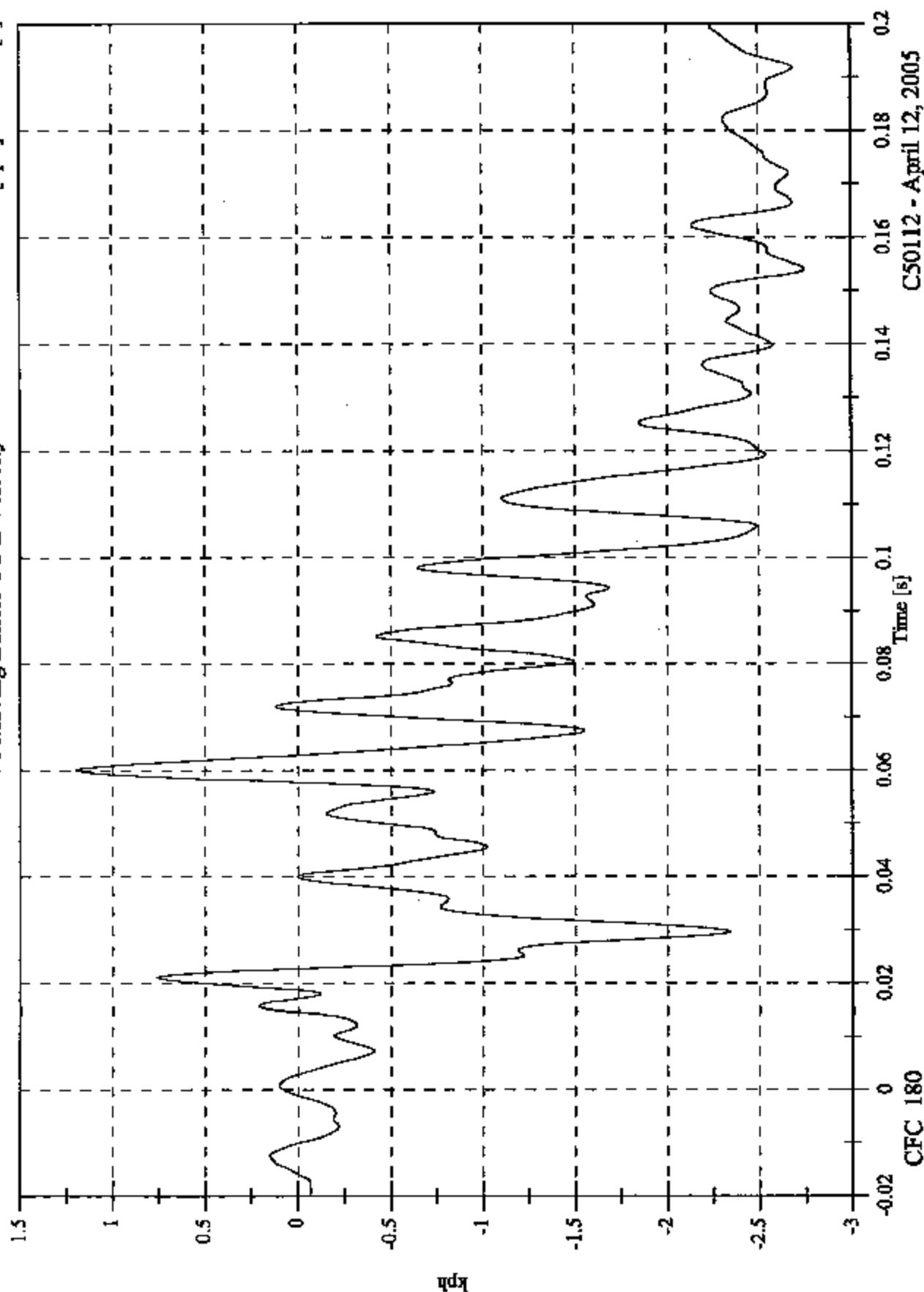


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG Z Velocity

Max: 1.2 [kph] at 0.060 [s]
Min: -2.7 [kph] at 0.154 [s]



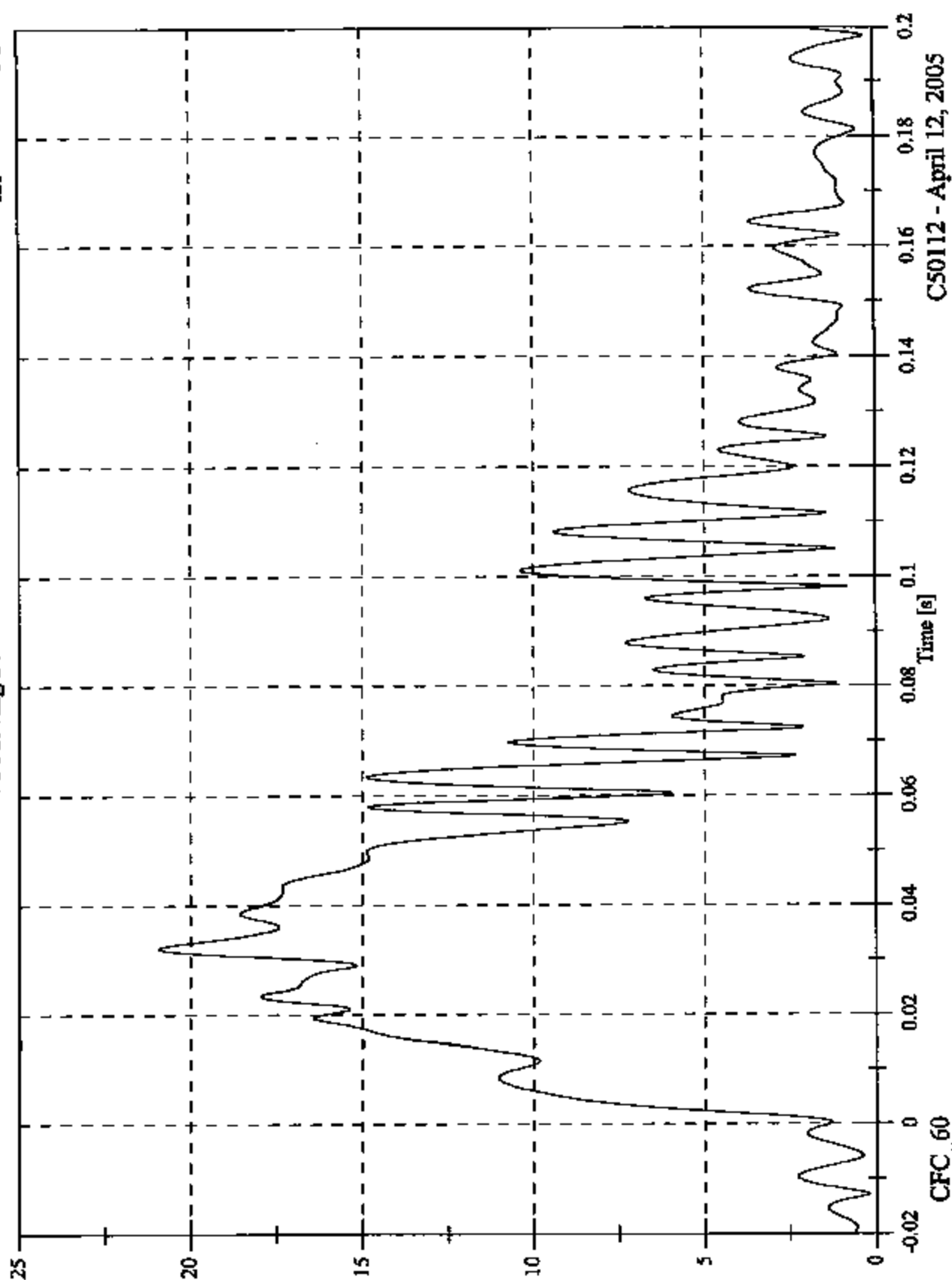
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier CG Resultant

Max: 20.9 [g] at 0.032 [s]

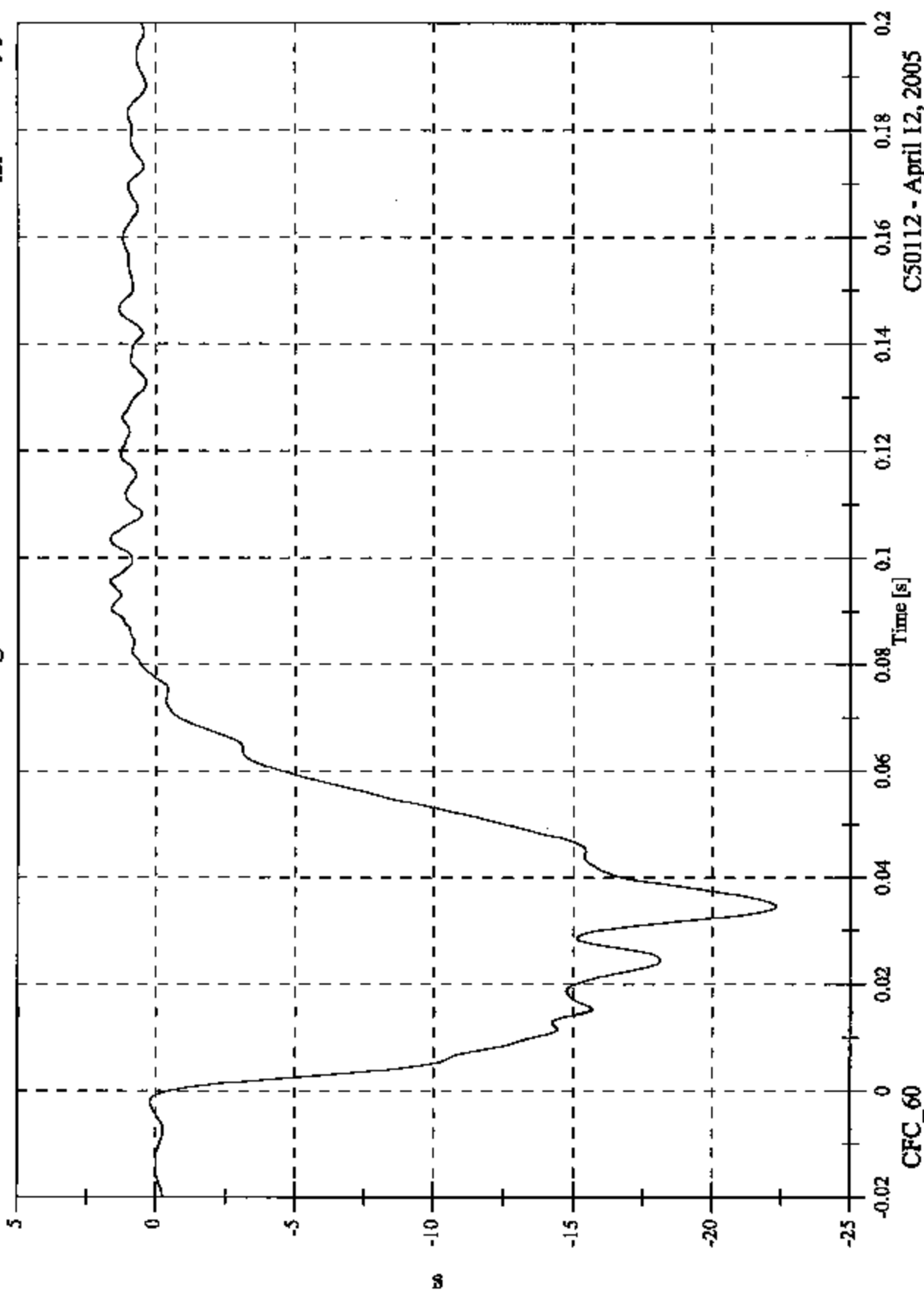
Min: 0.2 [g] at -0.013 [s]



2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier Left Rail X

Max: 1.6 [g] at 0.096 [s]
Min: -22.3 [g] at 0.034 [s]

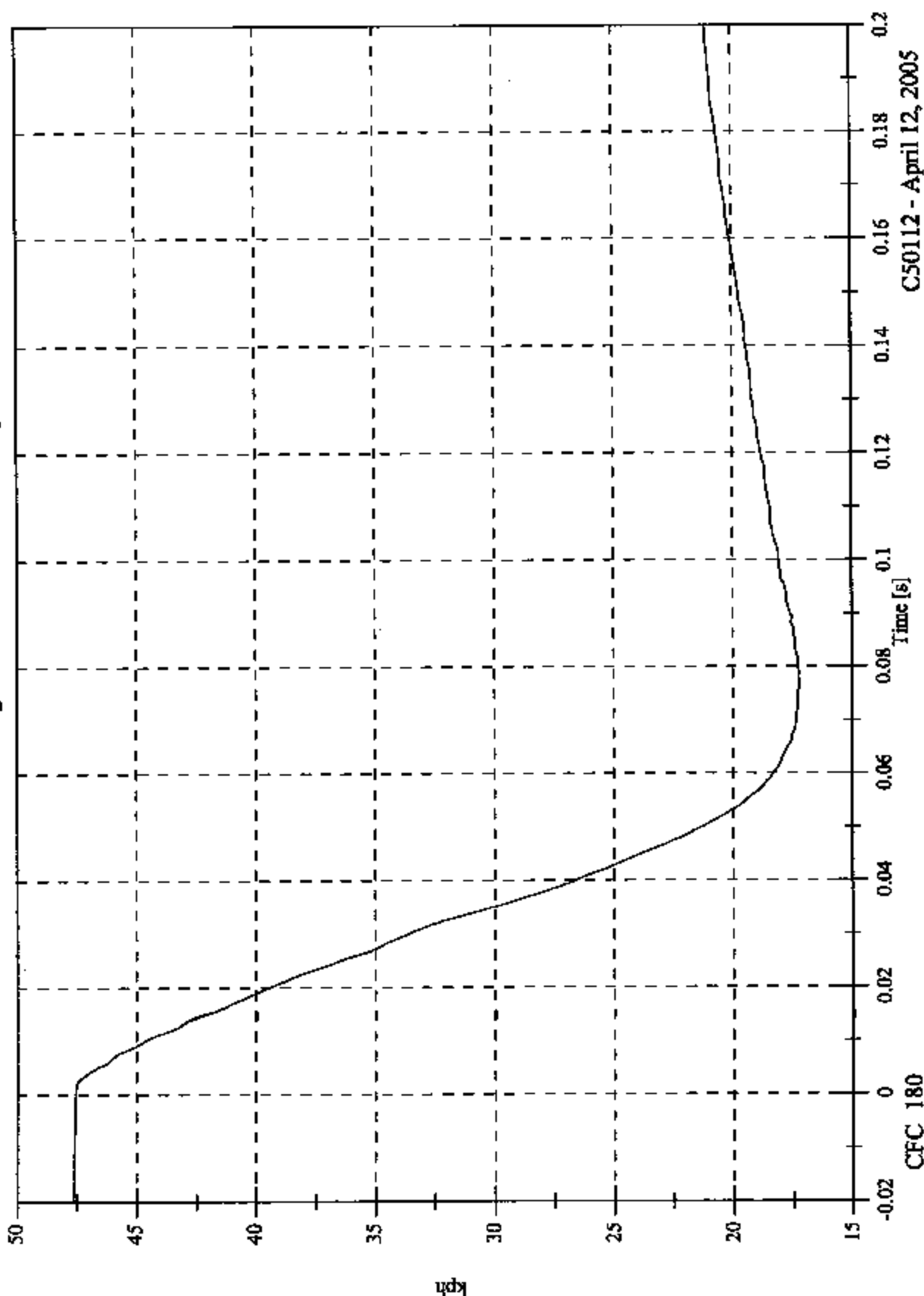


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier Left Rail X Velocity

Max: 47.6 [kph] at -0.019 [s]
Min: 17.2 [kph] at 0.077 [s]

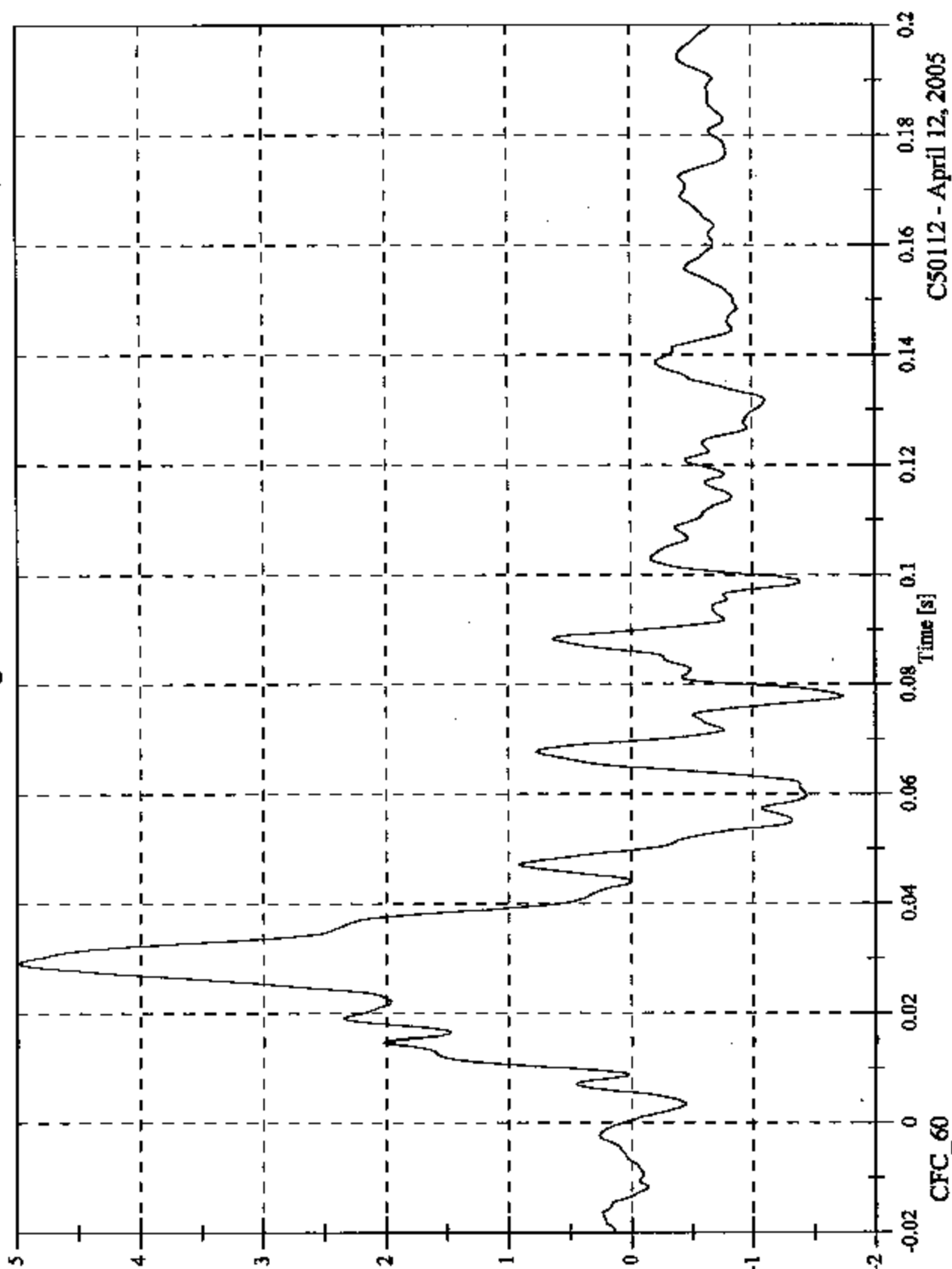


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V1 Moving Barrier Left Rail Y

Max: 5.0 [g] at 0.029 [s]
Min: -1.7 [g] at 0.078 [s]



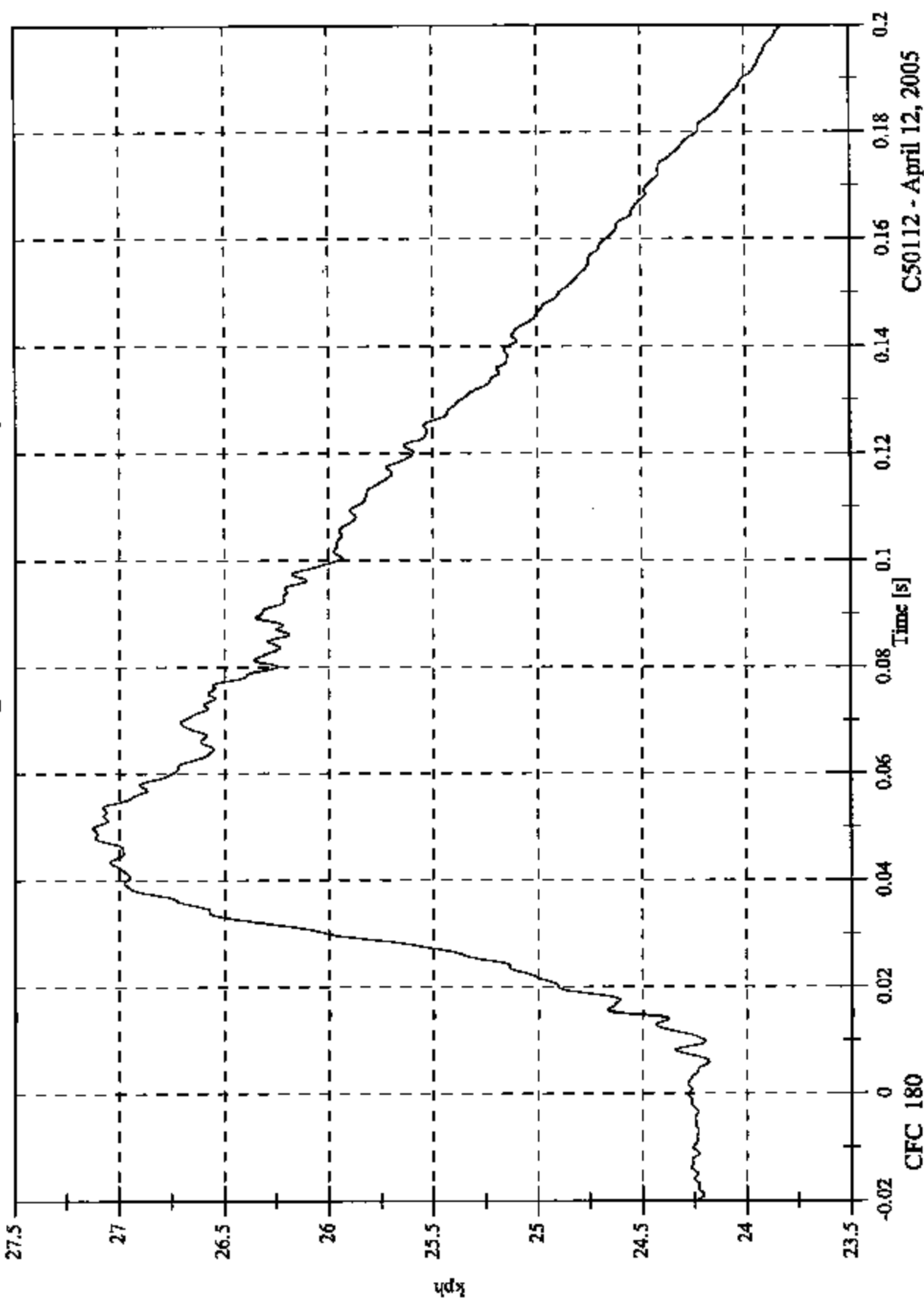
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

VI Moving Barrier Left Rail Y Velocity

Max: 27.1 [kph] at 0.050 [s]

Min: 23.8 [kph] at 0.200 [s]

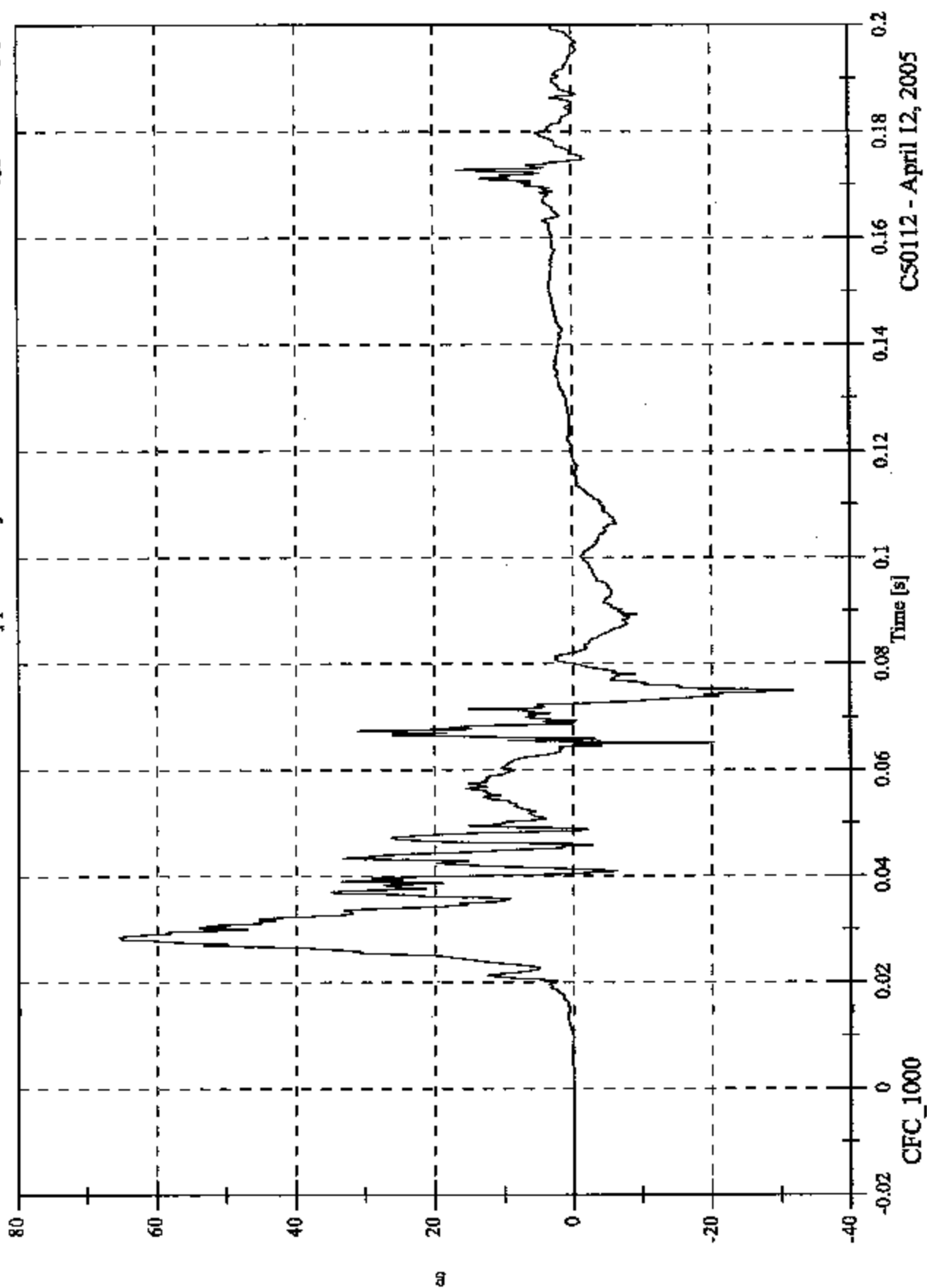


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Upper Rib Ry

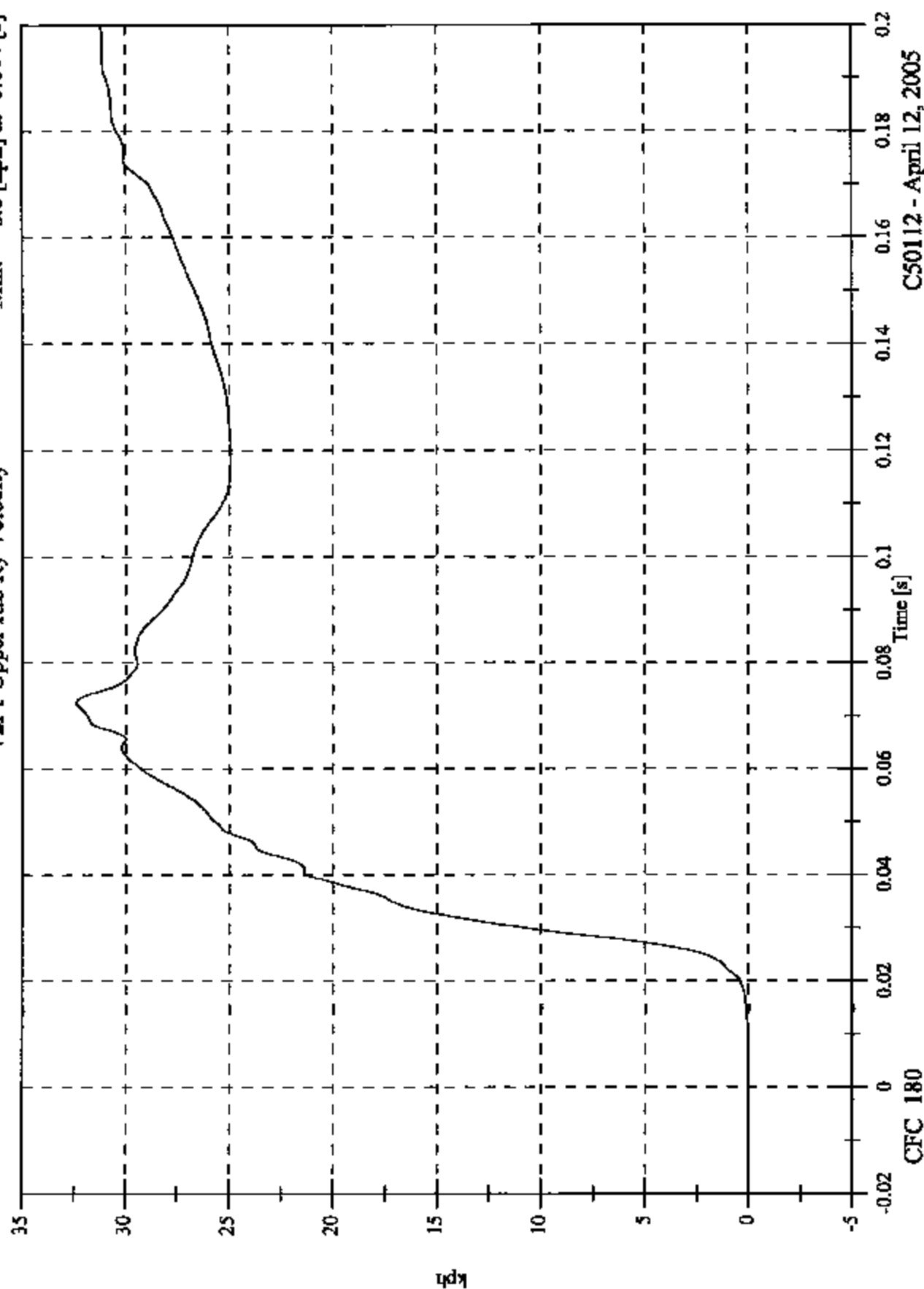
Max: 65.5 [g] at 0.029 [s]
Min: -31.7 [g] at 0.075 [s]



2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Upper Rib Ry Velocity

Max: 32.4 [kph] at 0.072 [s]
Min: -0.0 [kph] at -0.014 [s]

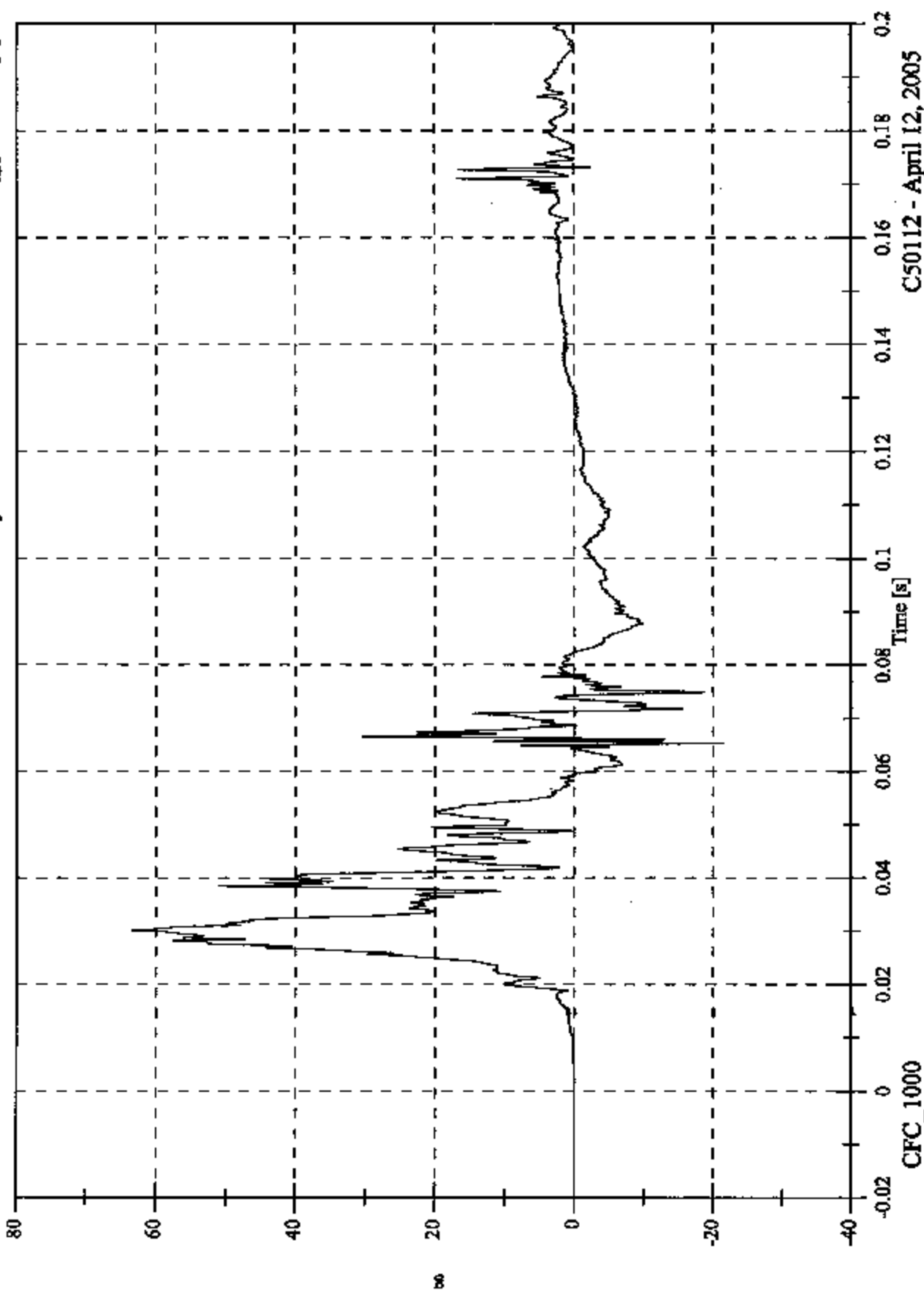


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Rib Ry

Max: 63.3 [g] at 0.030 [s]
Min: -21.5 [g] at 0.065 [s]

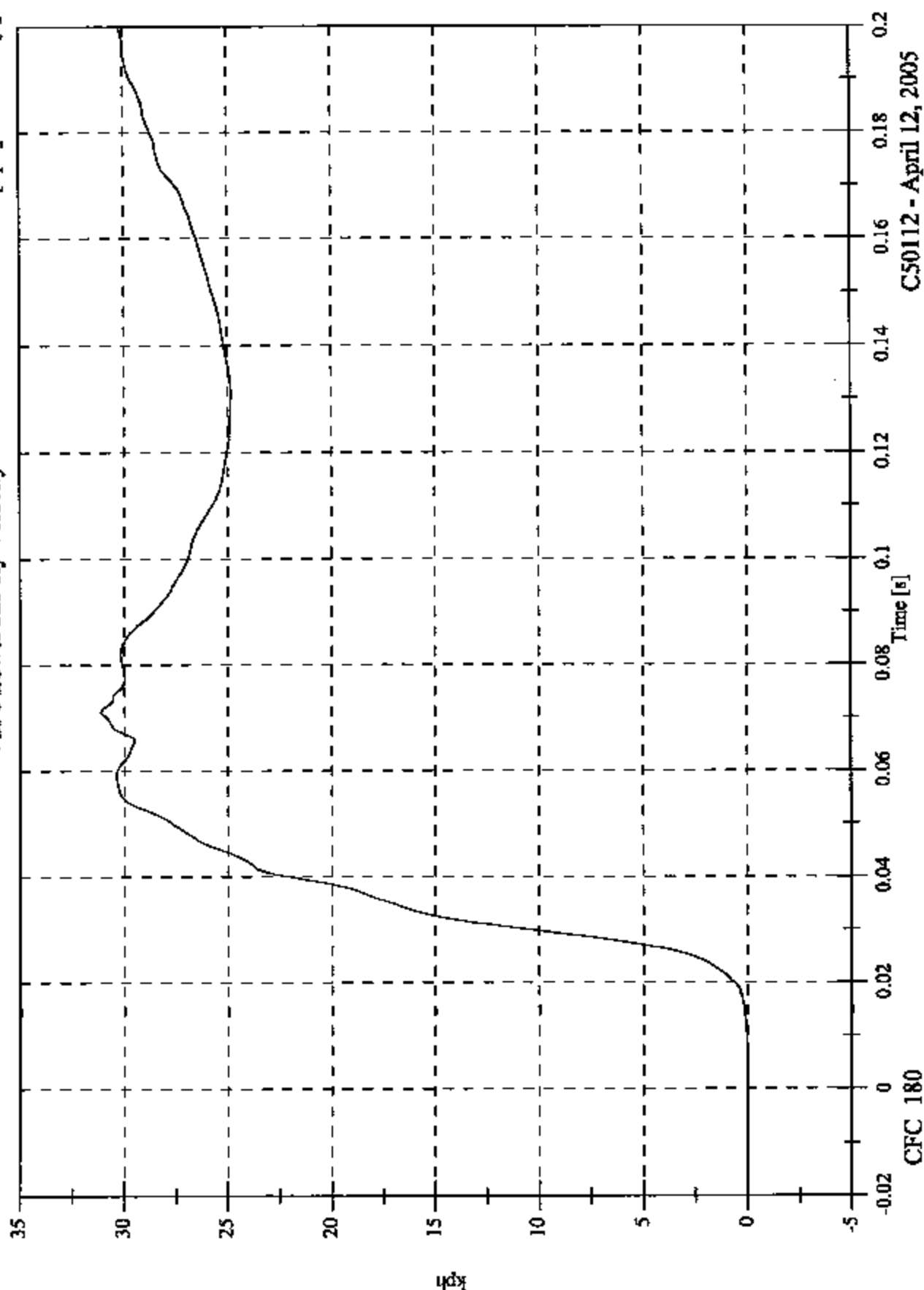


C50112 - April 12, 2005

2005 F5VSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Rib Ry Velocity

Max: 31.1 [kph] at 0.071 [s]
Min: -0.0 [kph] at -0.018 [s]

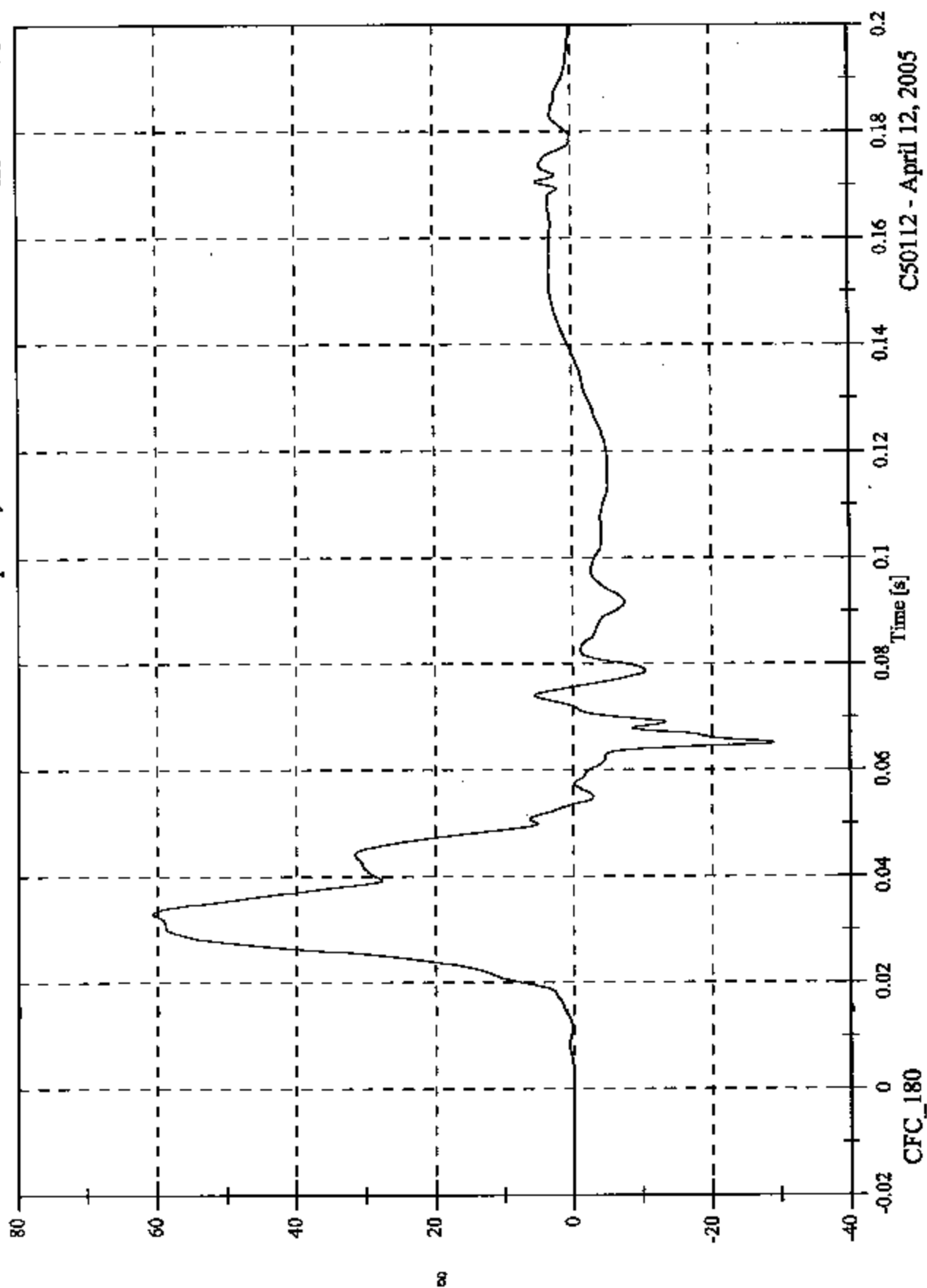


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Spine Ry

Max: 60.5 [g] at 0.033 [s]
Min: -28.9 [g] at 0.065 [s]



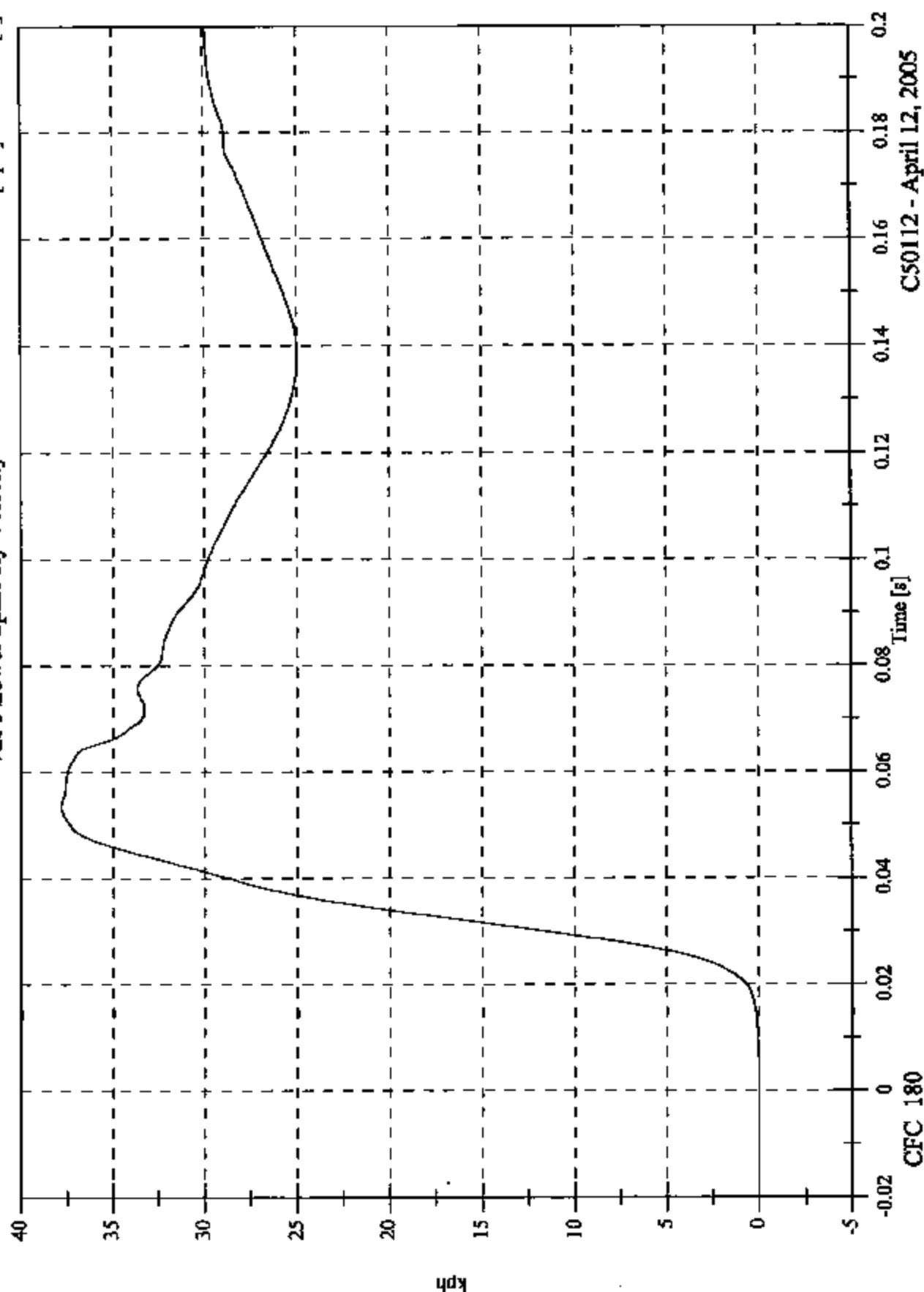
C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 37.8 [kph] at 0.053 [s]

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

V2P1 Lower Spine Ry Velocity

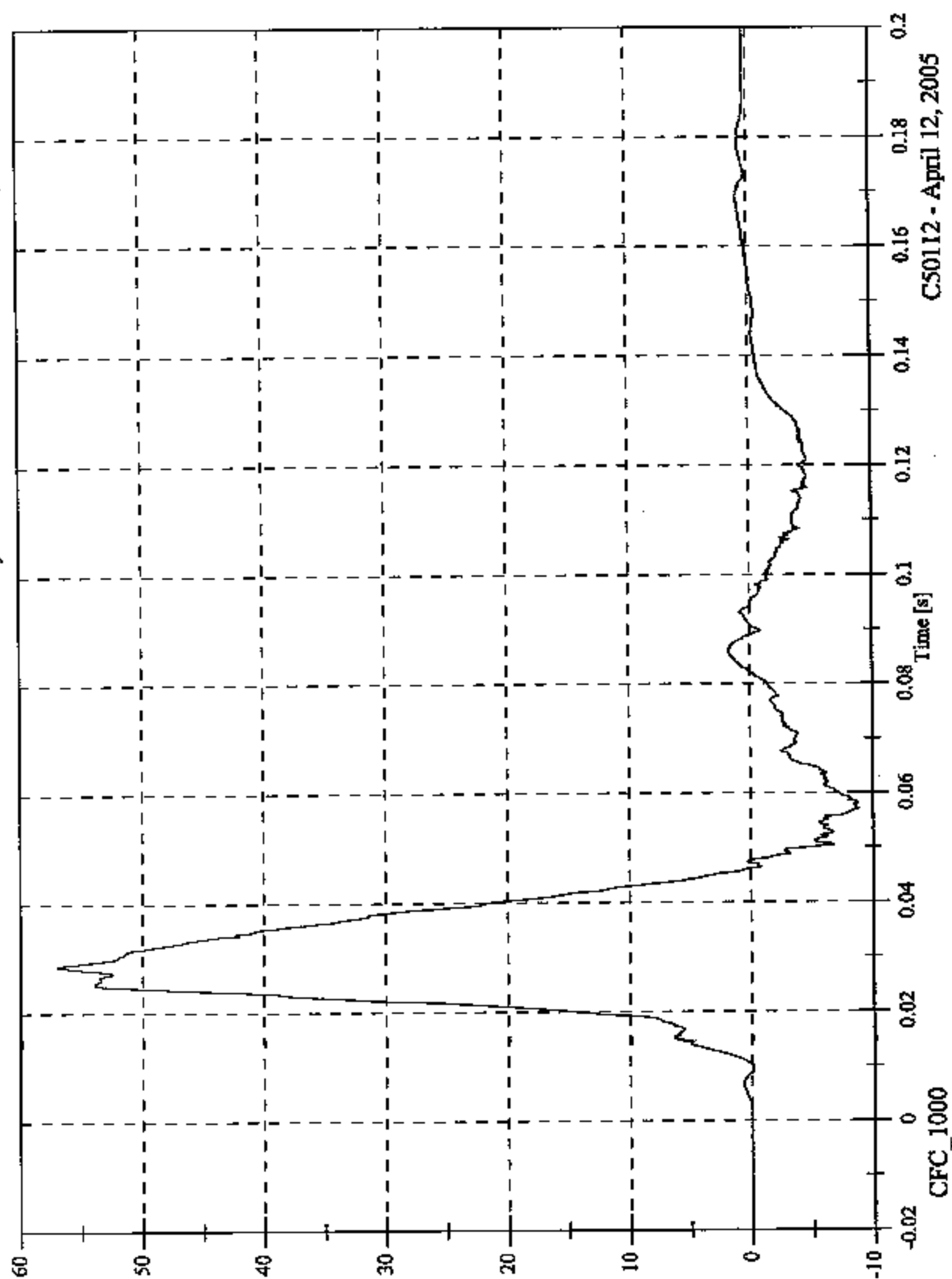


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Pelvic Ry

Max: 57.0 [g] at 0.029 [s]
Min: -8.8 [g] at 0.057 [s]

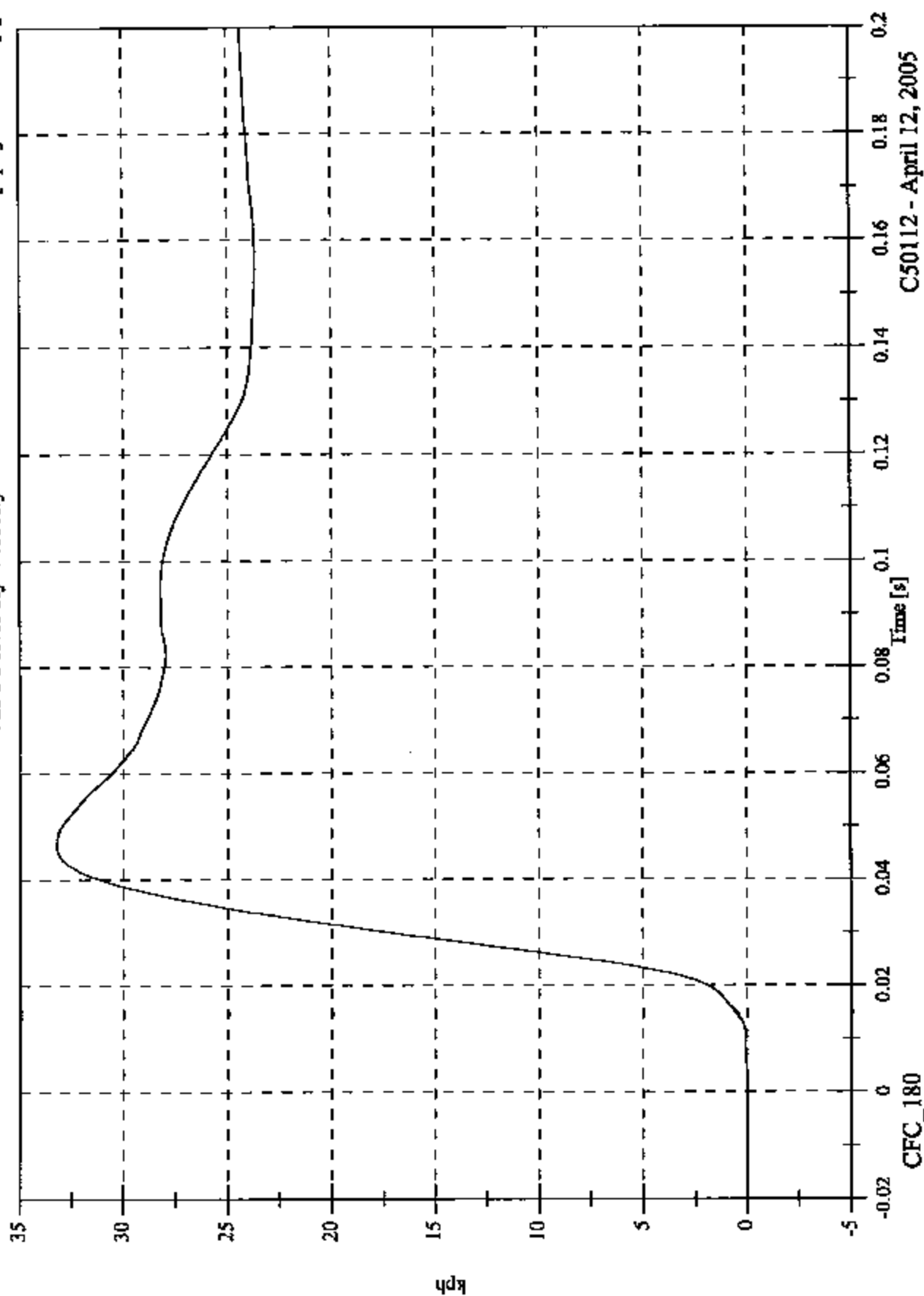


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 33.2 [kph] at 0.046 [s]
Min: -0.0 [kph] at -0.016 [s]

V2P1 Pelvic Ry Velocity

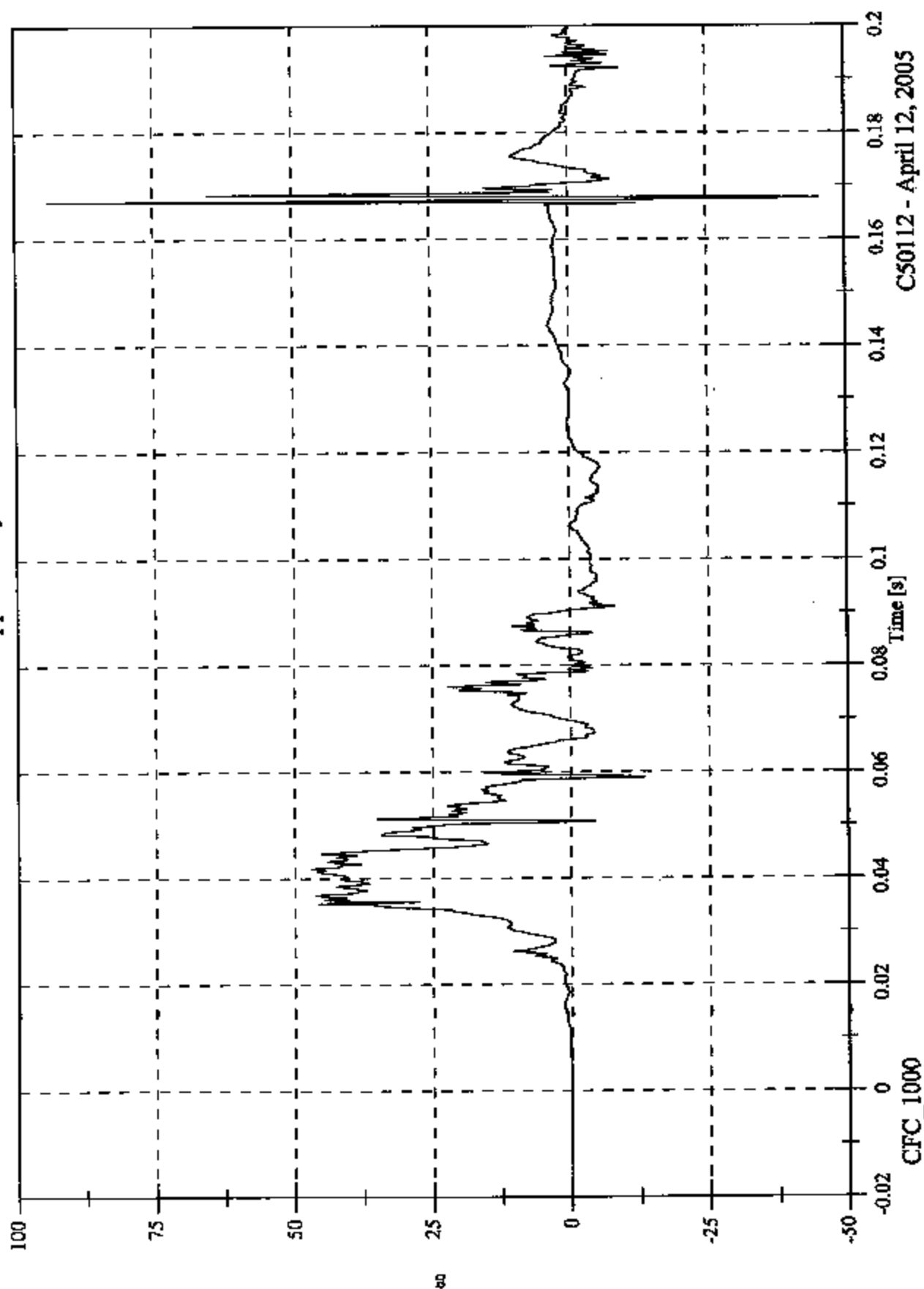


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Upper Rib Ry

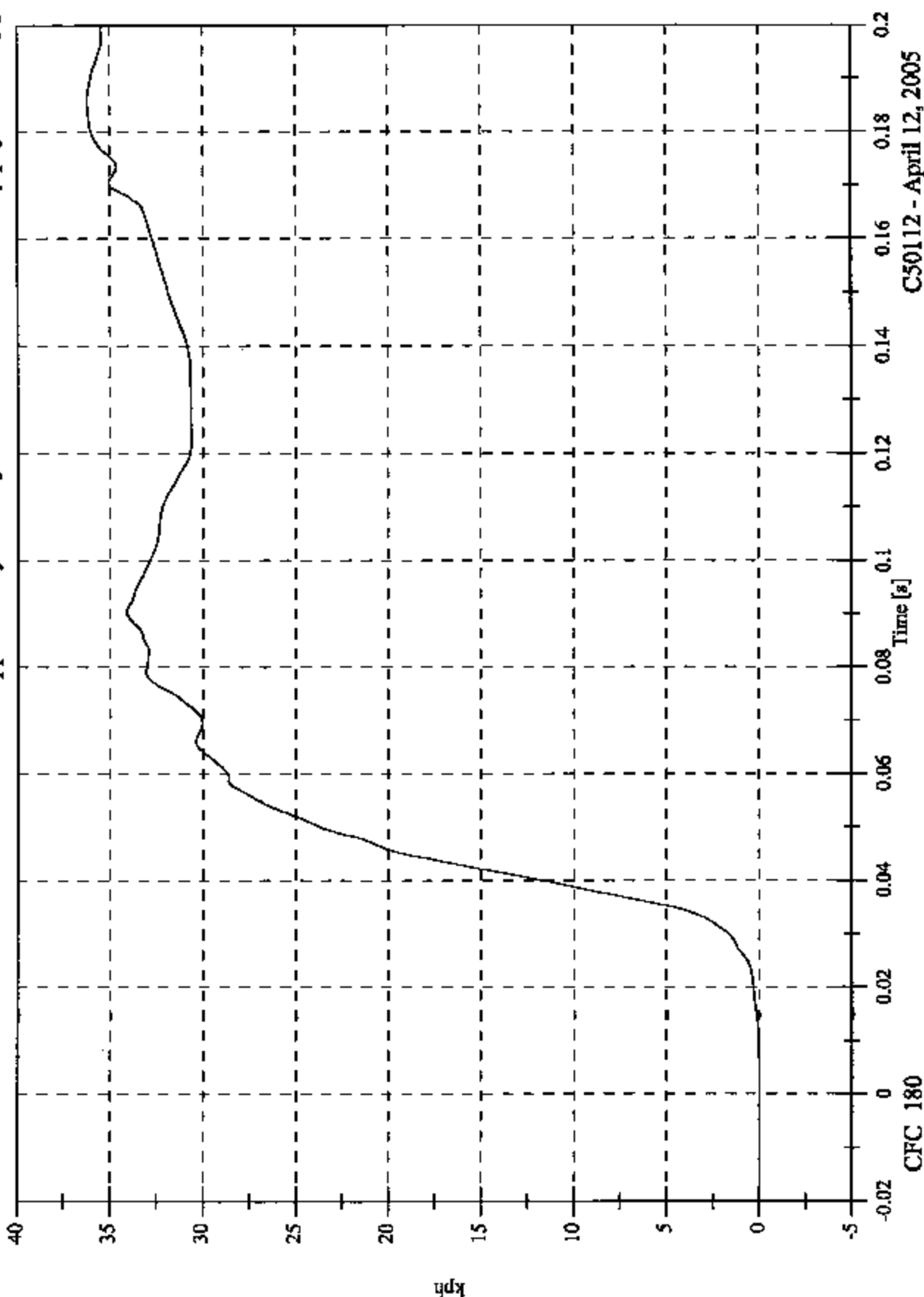
Max: 94.1 [g] at 0.167 [s]
Min: -45.3 [g] at 0.168 [s]



2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Upper Rib Ry Velocity

Max: 36.2 [kph] at 0.186 [s]
Min: -0.0 [kph] at -0.020 [s]



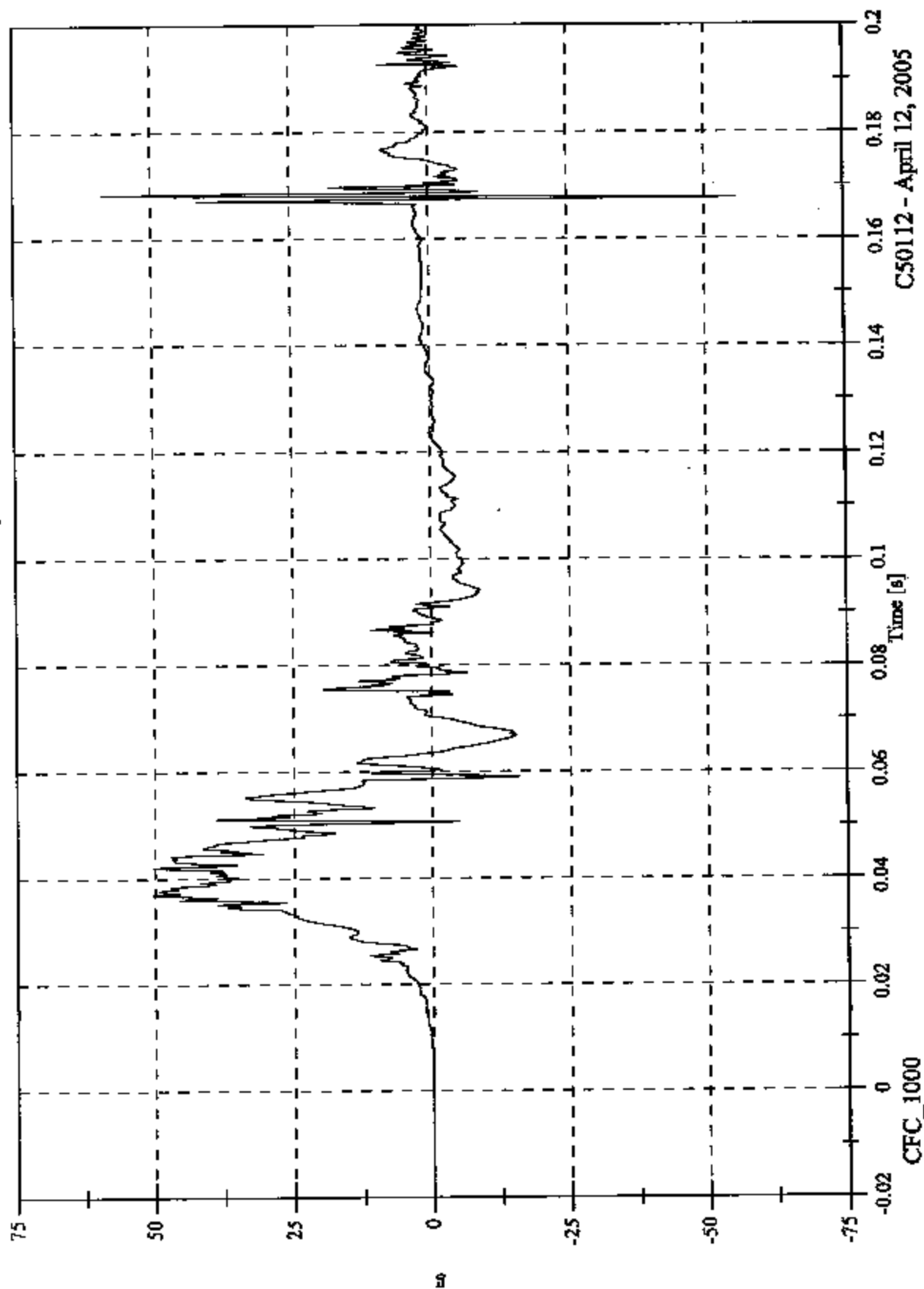
CFC_180

C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Rib Ry

Max: 58.9 [g] at 0.168 [s]
Min: -55.7 [g] at 0.168 [s]

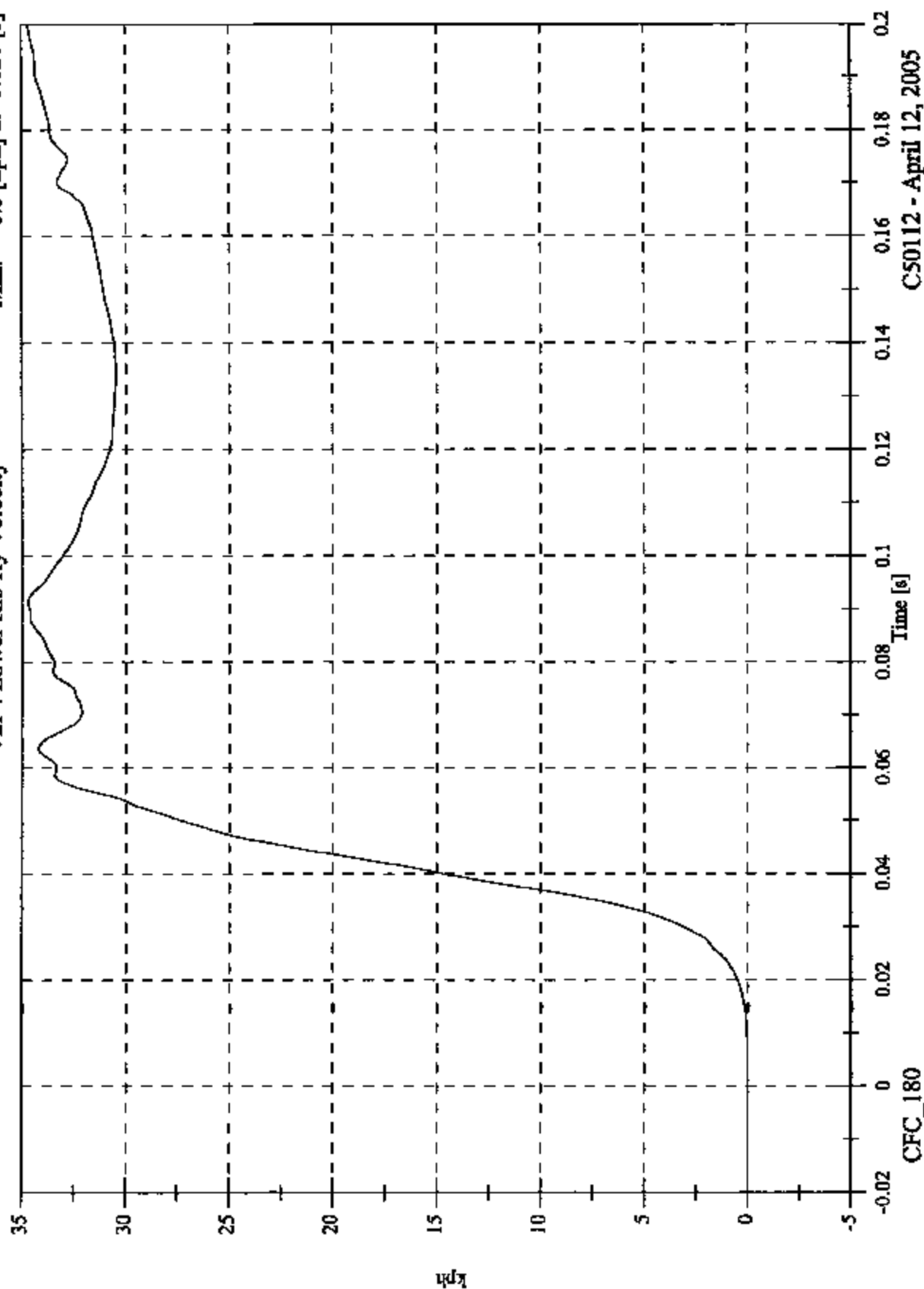


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

Max: 34.7 [kph] at 0.200 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P4 Lower Rib Ry Velocity



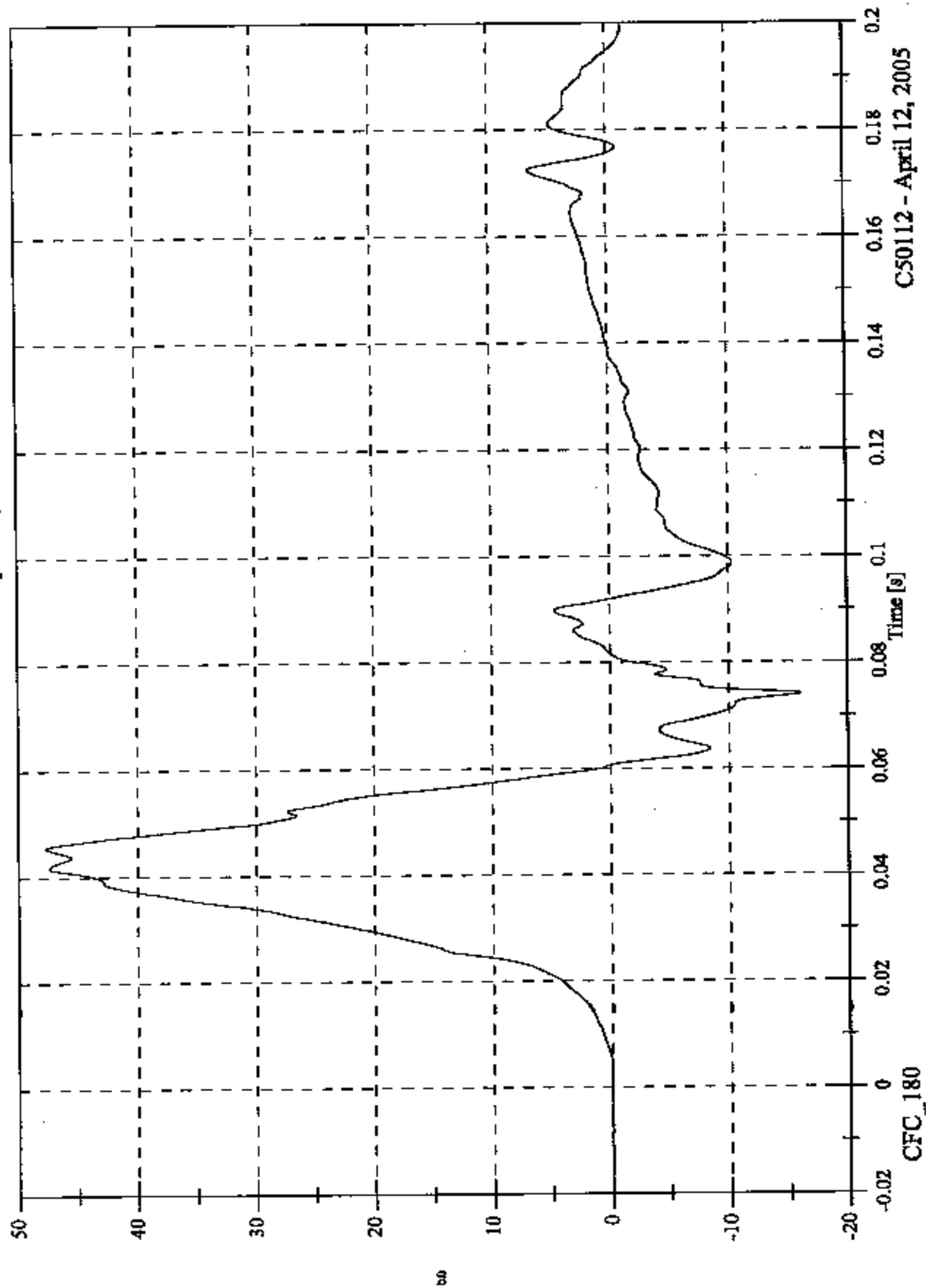
CFC_180

C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Spine Ry

Max: 47.7 [g] at 0.045 [s]
Min: -16.0 [g] at 0.074 [s]

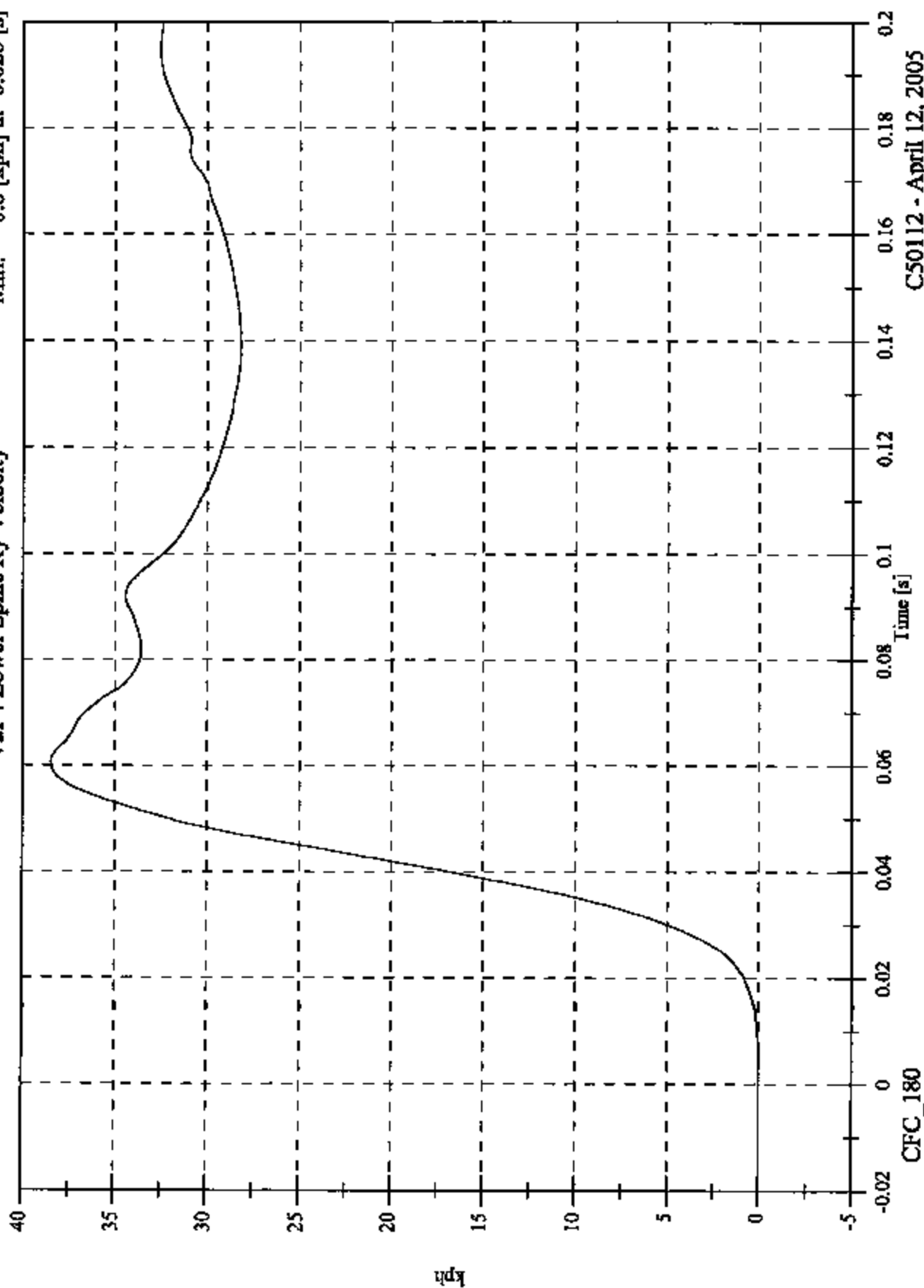


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Spine Ry Velocity

Max: 38.5 [kph] at 0.061 [s]
Min: -0.0 [kph] at -0.020 [s]



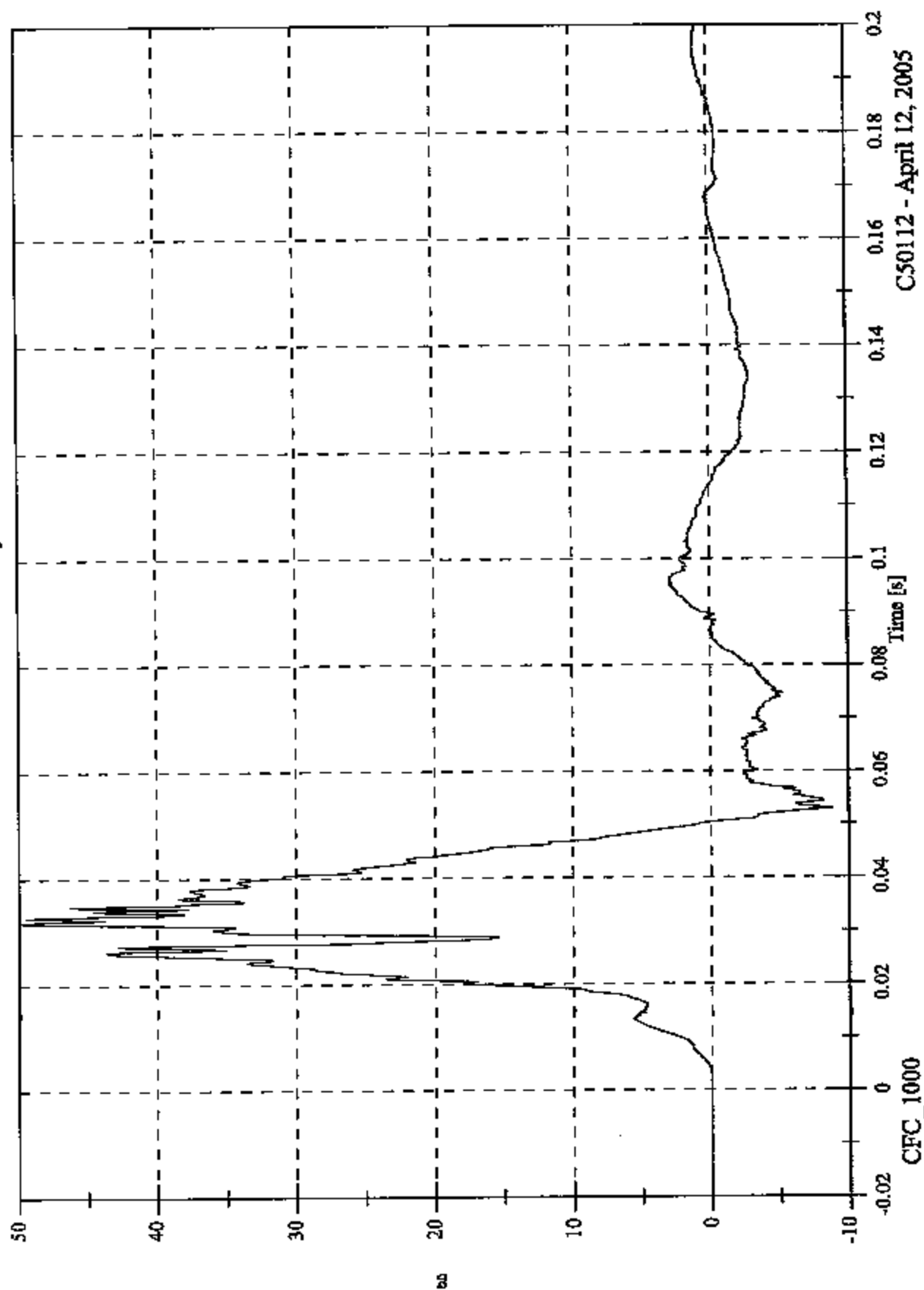
CFC_180

C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Pelvic Ry

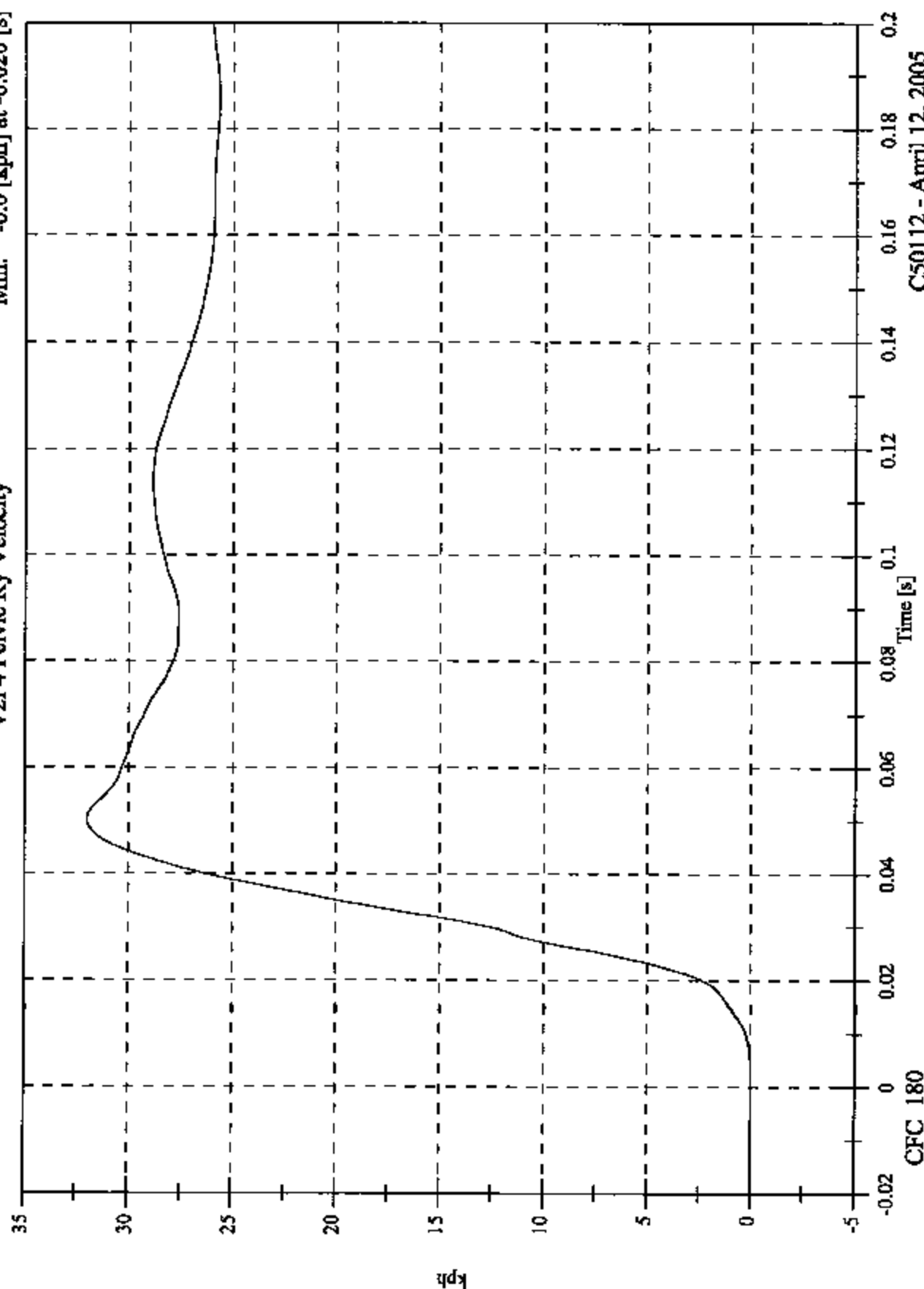
Max: 50.0 [g] at 0.032 [s]
Min: -8.8 [g] at 0.053 [s]



2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Pelvic Ry Velocity

Max: 32.0 [kph] at 0.050 [s]
Min: -0.0 [kph] at -0.020 [s]

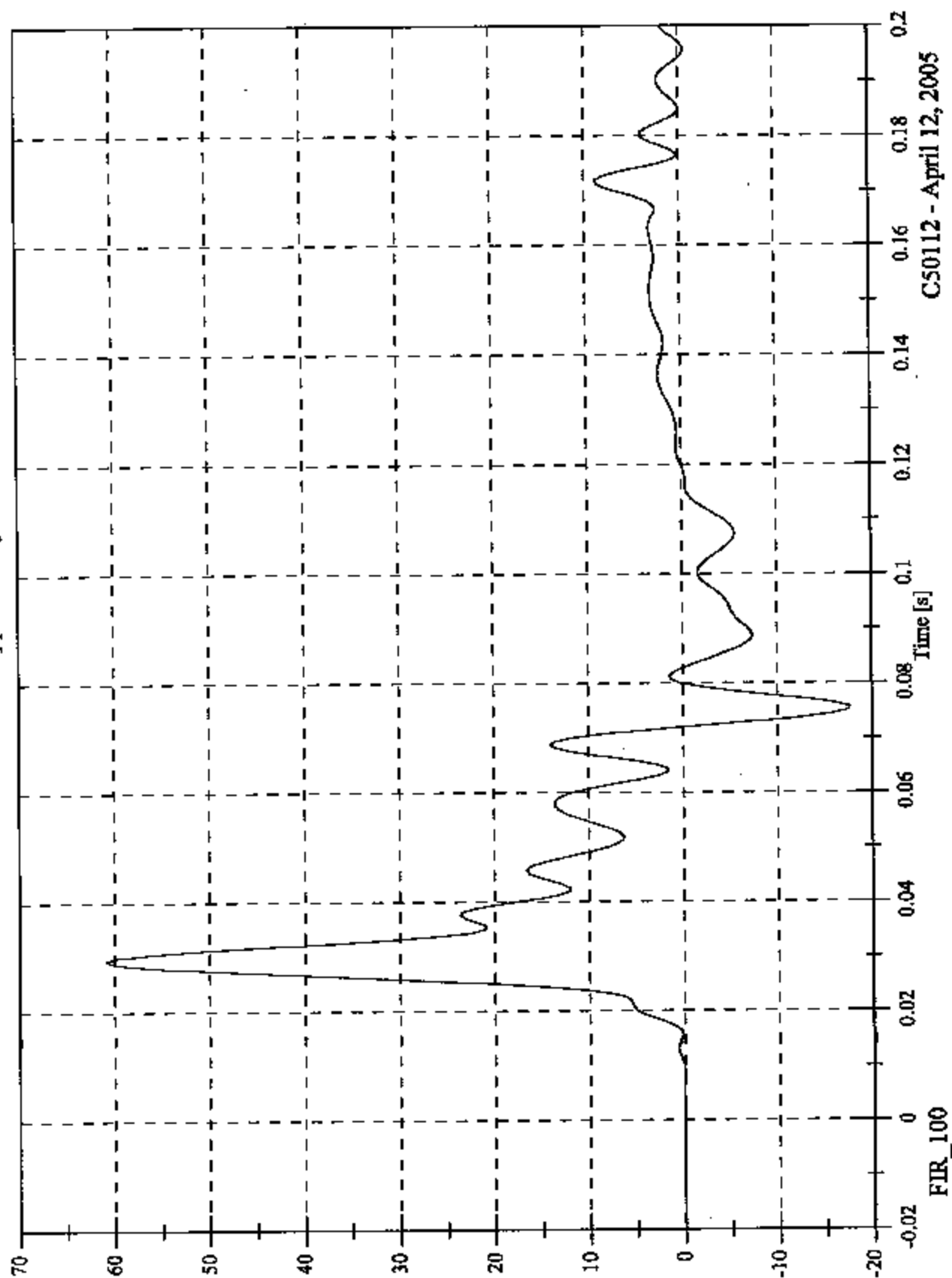


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Upper Rib Ry

Max: 61.0 [g] at 0.029 [s]
Min: -17.6 [g] at 0.076 [s]

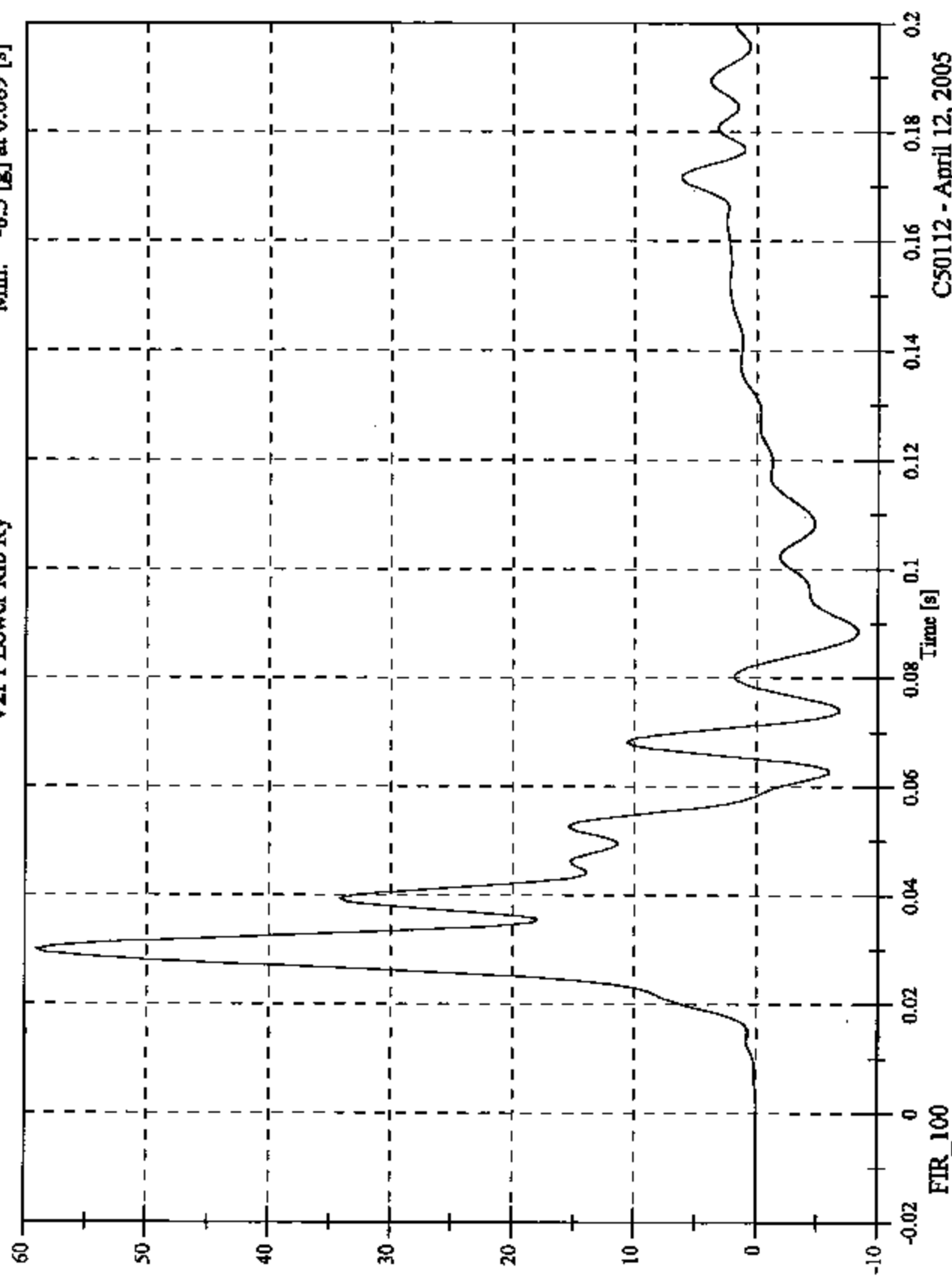


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Rib Ry

Max: 59.1 [g] at 0.030 [s]
Min: -8.3 [g] at 0.089 [s]



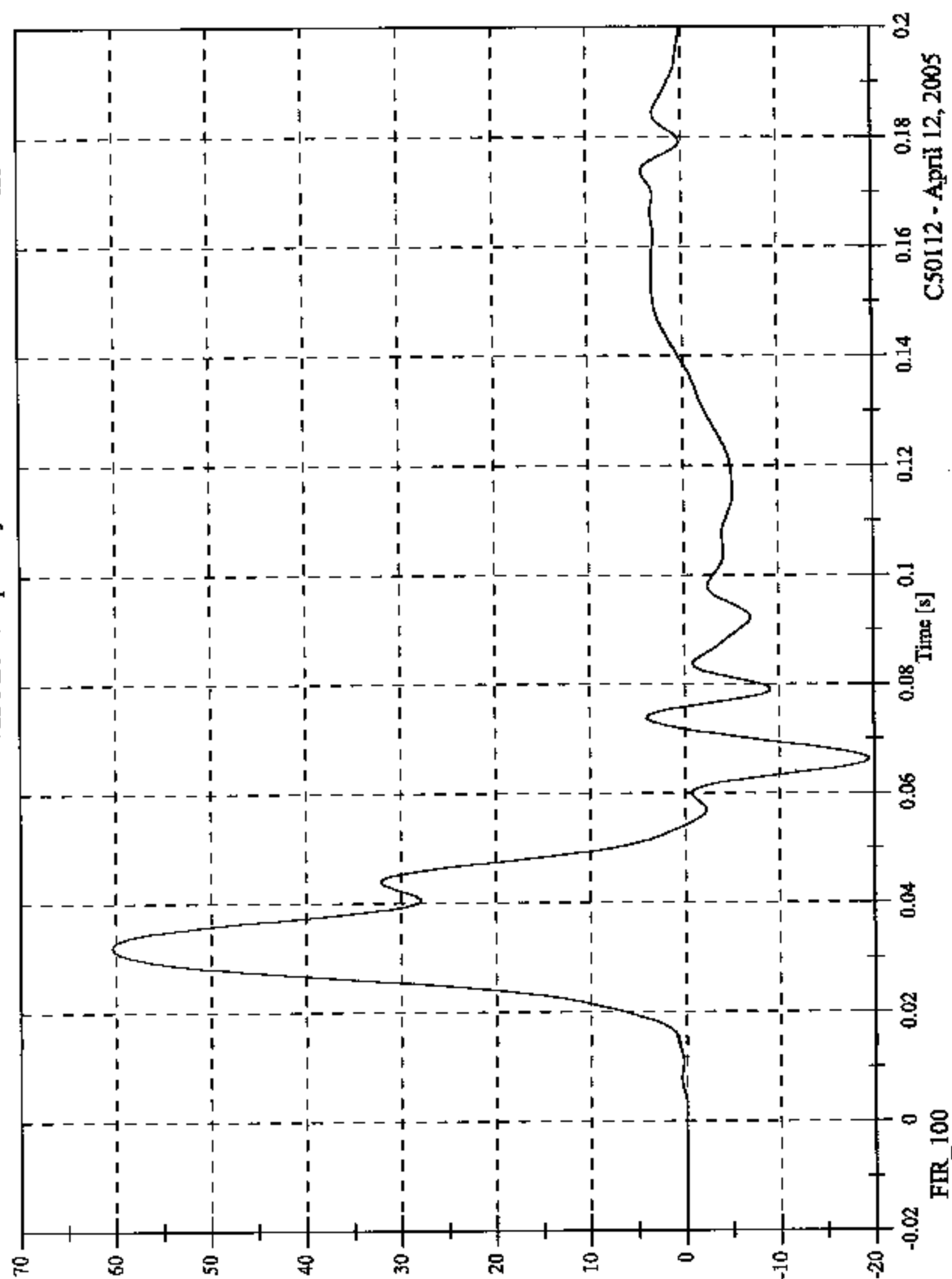
C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Lower Spine Ry

Max: 60.4 [g] at 0.032 [s]

Min: -19.5 [g] at 0.066 [s]

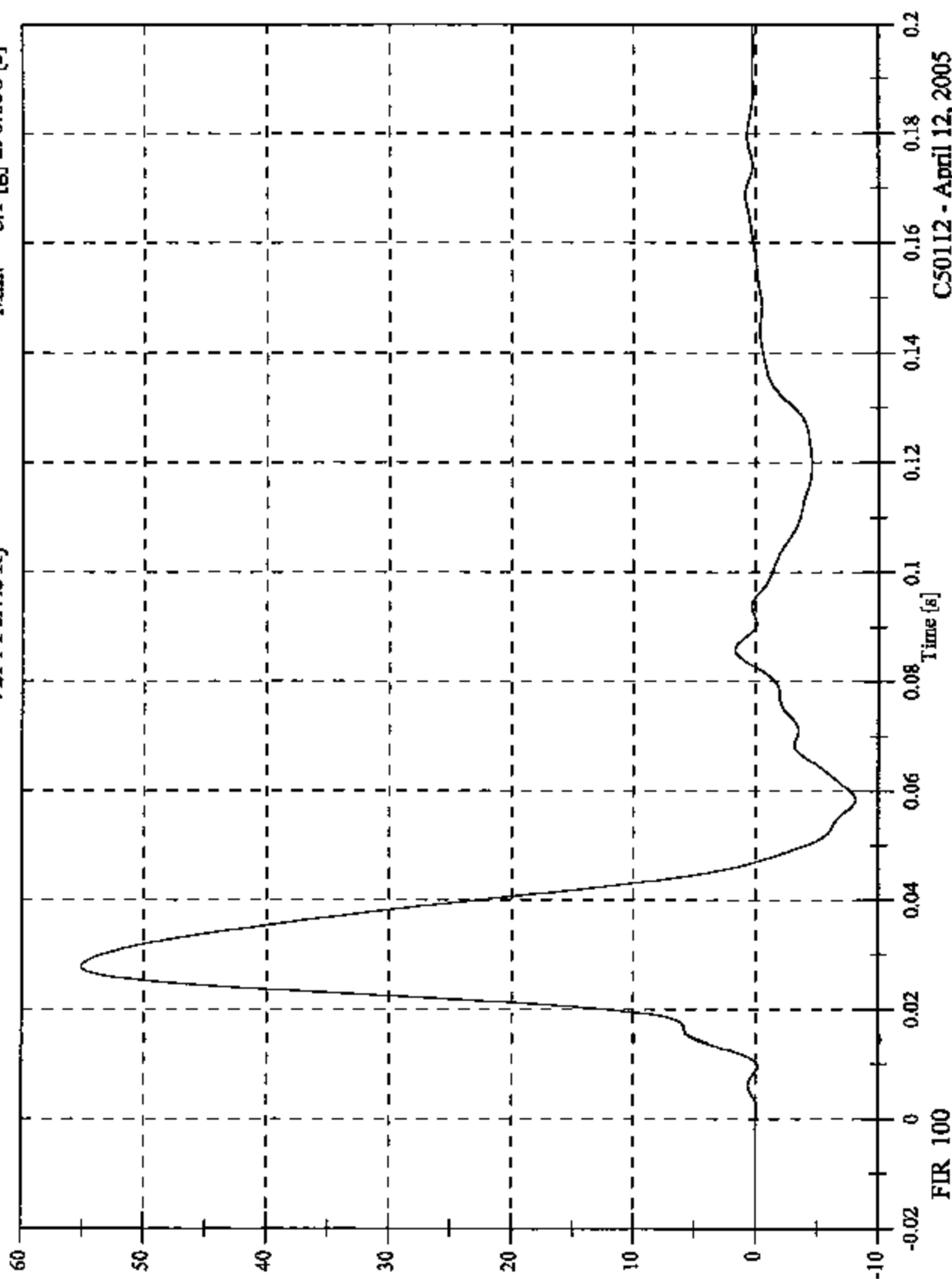


C50112 - April 12, 2005

2005 FMYSS214D Test 5 - 2005 Chevrolet Cobalt

V2P1 Pelvic Ry

Max: 55.1 [g] at 0.027 [s]
Min: -8.1 [g] at 0.058 [s]

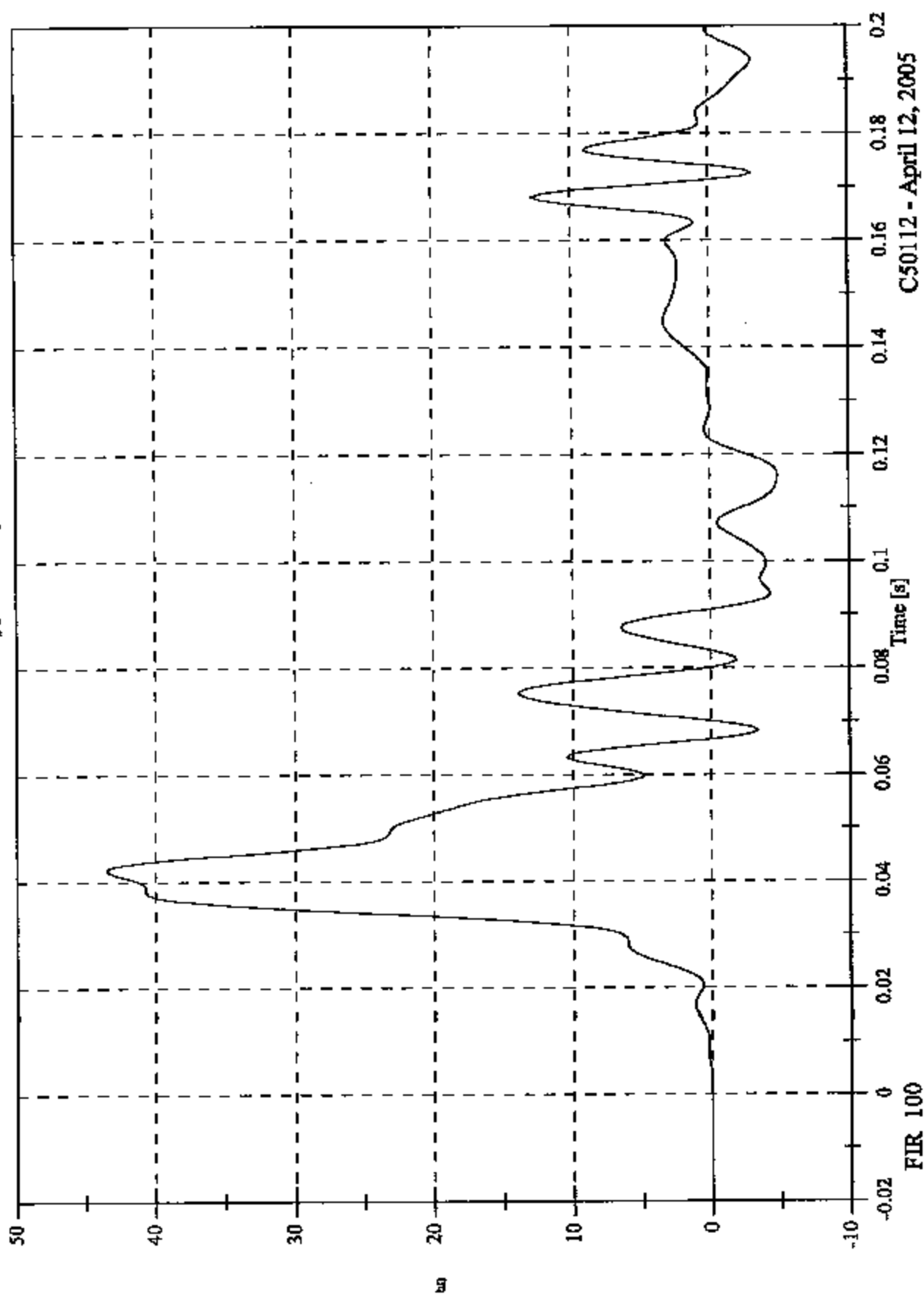


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Upper Rib Ry

Max: 43.5 [g] at 0.043 [s]
Min: -4.9 [g] at 0.116 [s]

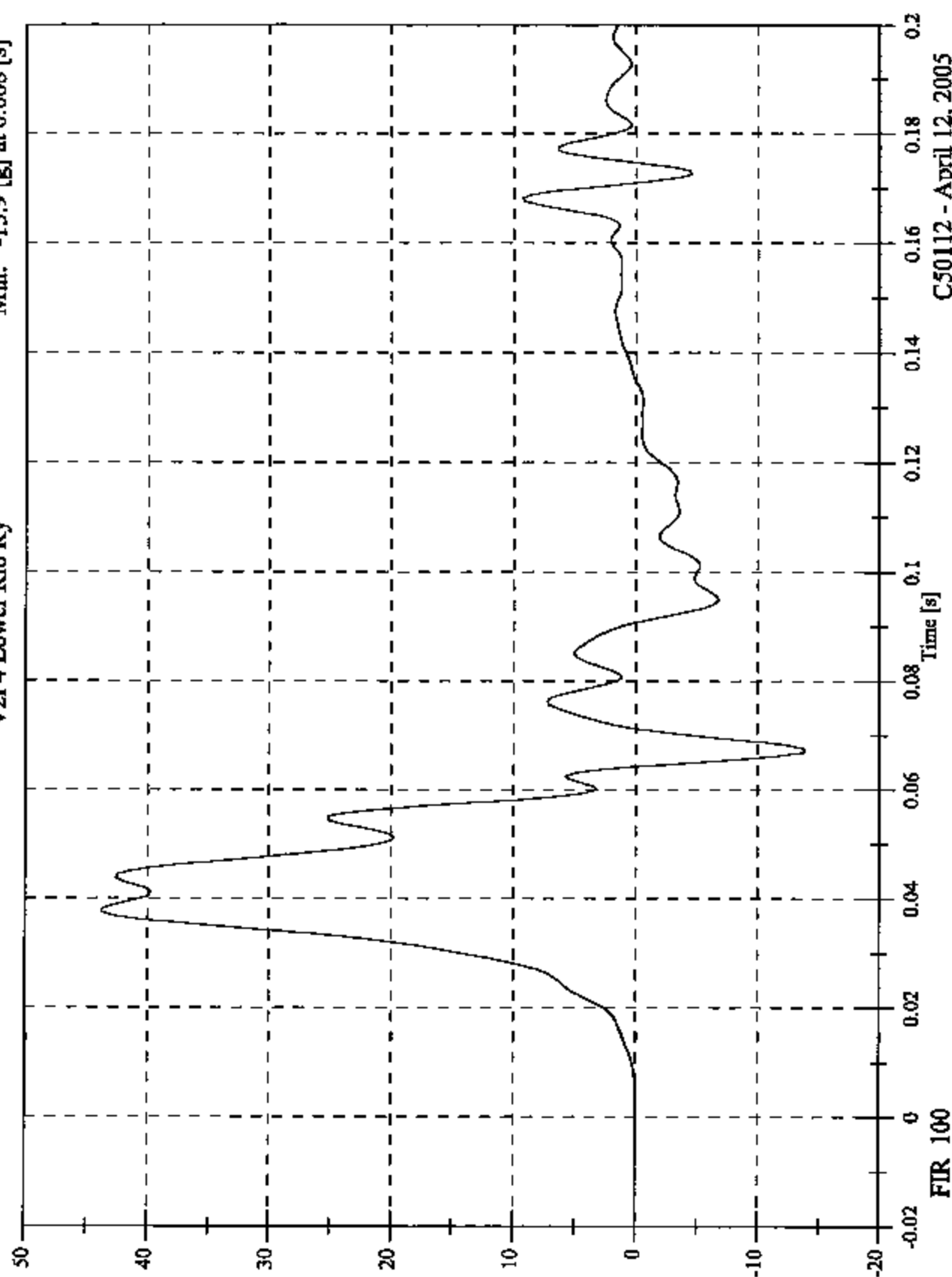


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Rib Ry

Max: 43.8 [g] at 0.037 [s]
Min: -13.9 [g] at 0.068 [s]

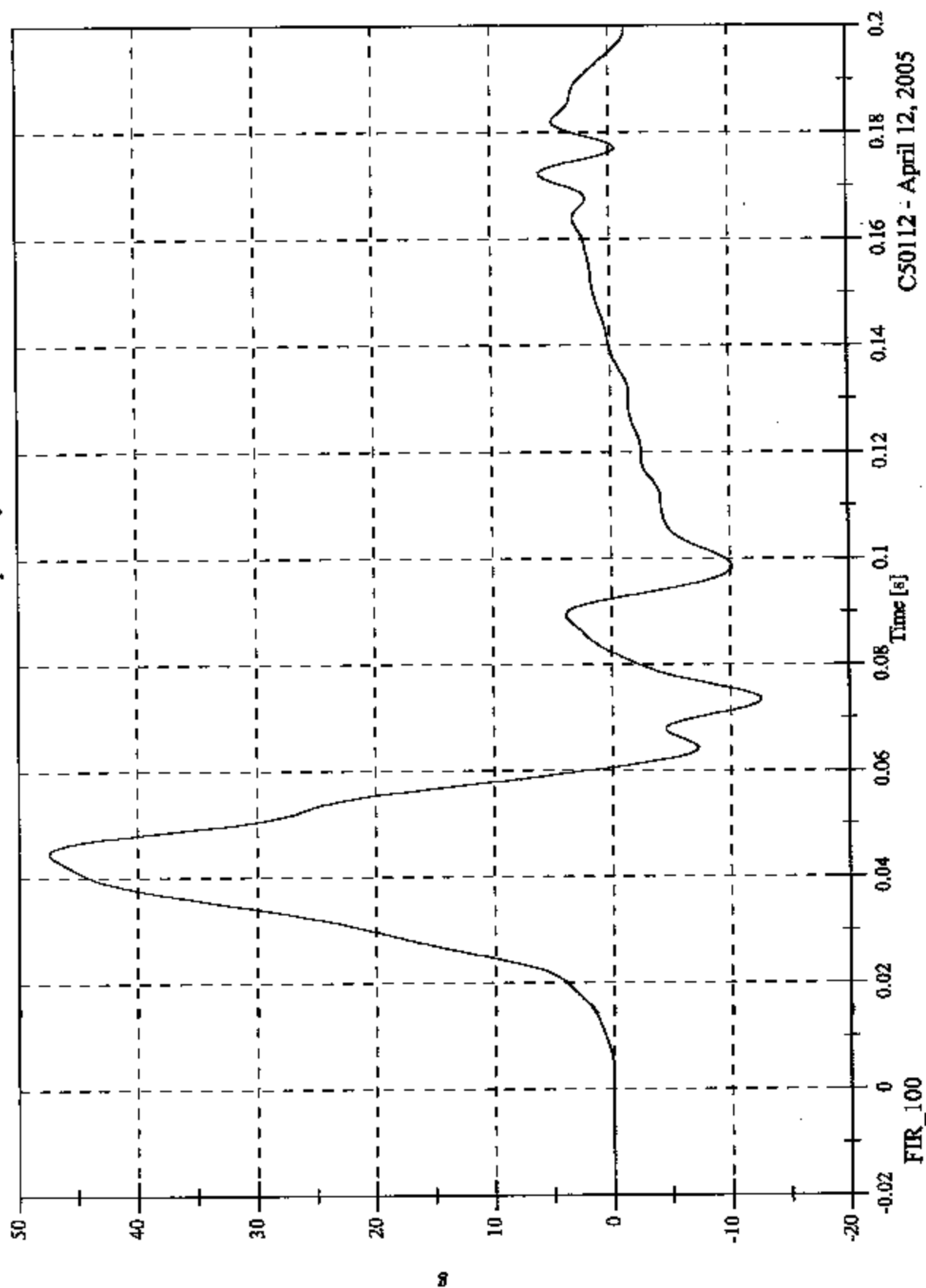


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2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Lower Spine Ry

Max: 47.4 [g] at 0.044 [s]
Min: -12.6 [g] at 0.073 [s]

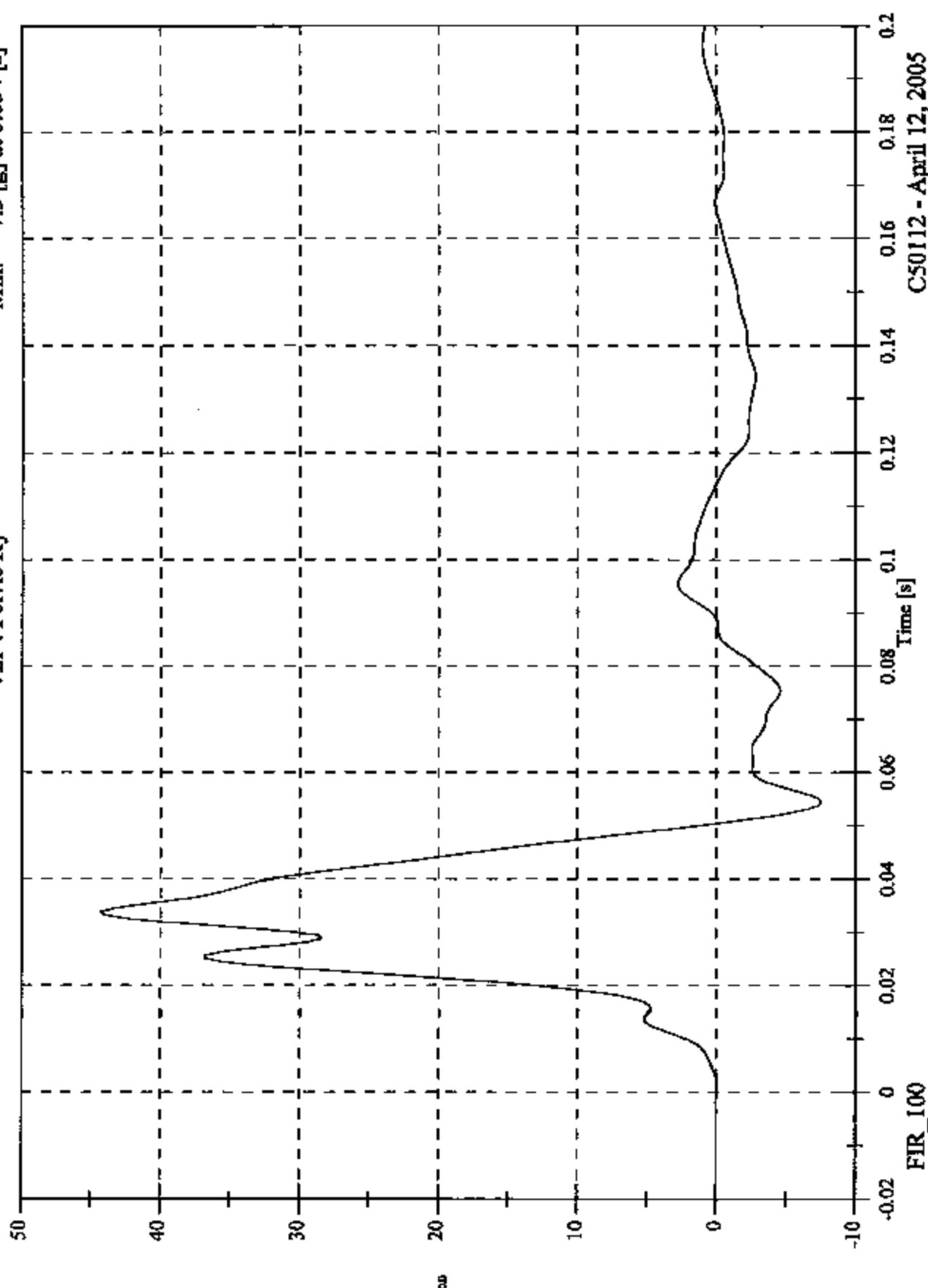


C50112 - April 12, 2005

2005 FMVSS214D Test 5 - 2005 Chevrolet Cobalt

V2P4 Pelvic Ry

Max: 44.3 [g] at 0.034 [s]
Min: -7.5 [g] at 0.054 [s]



C50112 - April 12, 2005

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: March 31, 2005; January 19, 2005

Sequential Test Number:

1.1; 1.2

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID NO.: 013		SID NO.: 015	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	904	904	899	899
RH- Rib Height (mm)	501 - 521	513	513	511	511
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	239	239	239	239
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	376	376	373	373
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0	38.0	28.0	37.0
PROBE SPEED (m/s)	4.27 - 4.33	4.31	4.32	4.27	4.31
UPPER RIB (g's)	37 - 46	42.65	42.48	41.27	40.16
LOWER RIB (g's)	37 - 46	39.85	43.42	43.33	39.36
LOWER SPINE (g's)	15 - 22	19.13	19.19	20.06	18.97
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0	37.0	28.0	37.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.32	4.28	4.31
PELVIS (g's)	40 - 60	50.78	51.96	41.79	40.55

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: March 31, 2005 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: March 31, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
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	376

REMARKS: None

Shock Impact (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 013

Date: 03-29-05

Sequential Test Number: 1 File: 013SL 03-29-05

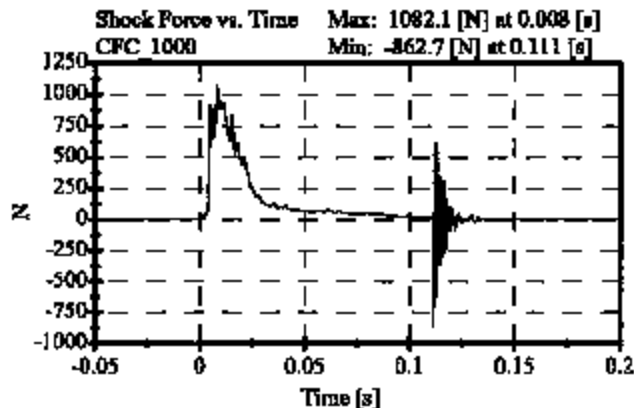
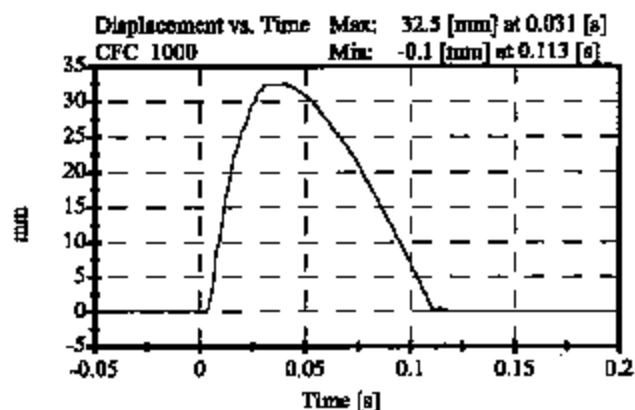
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Displacement:	30.00-35.00 mm	32.51 mm	Passed
Maximum Force:	836.00-1125.00 N	1082.14 N	Passed

Impact Test Velocity: 3.05 m/s

Damper Identification: 013

Damper Setting: 5



Shock Impact (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

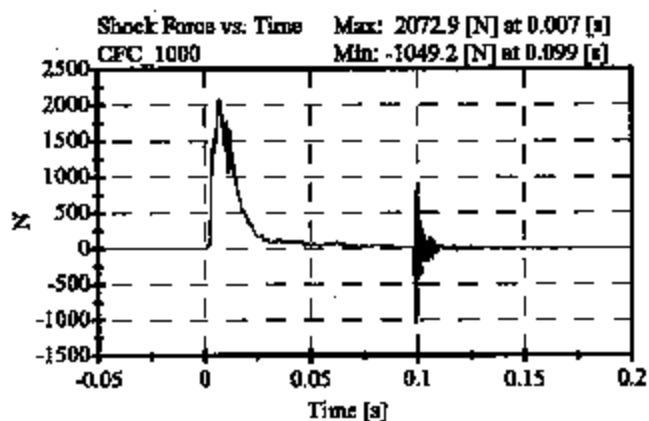
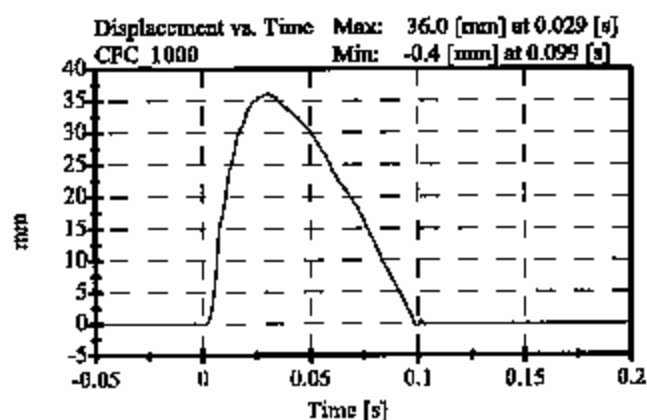
ATD Serial No: 013

Date: 03-29-05

Sequential Test Number: 1 File: 013SM 03-29-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Displacement:	32.00-37.00 mm	36.04 mm	Passed
Maximum Force:	1730.00-2099.00 N	2072.86 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	013		
Damper Setting:	5		

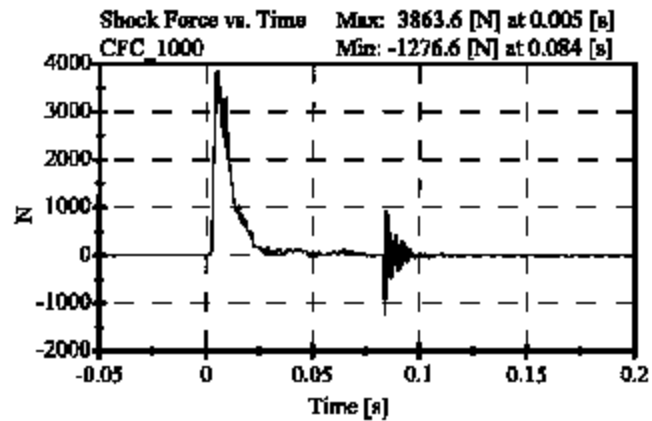
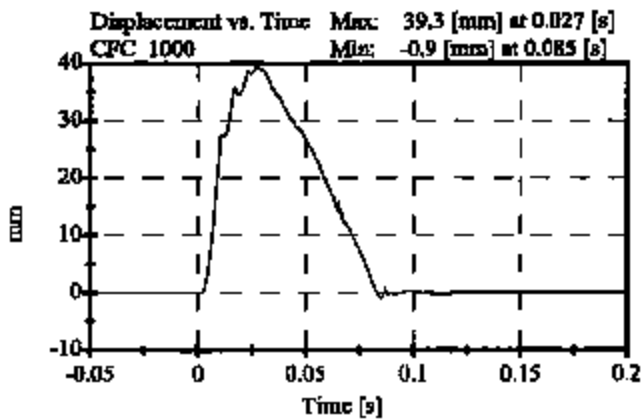


Shock Impact (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 013
 Date: 03-29-05

Sequential Test Number: 1 File: 013SH 03-29-05
 Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Displacement:	33.00-40.00 mm	39.28 mm	Passed
Maximum Force:	3741.00-4448.00 N	3863.64 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	013		
Damper Setting:	5		

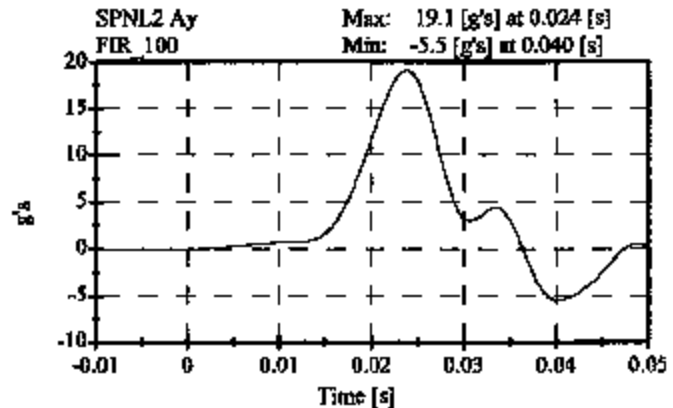
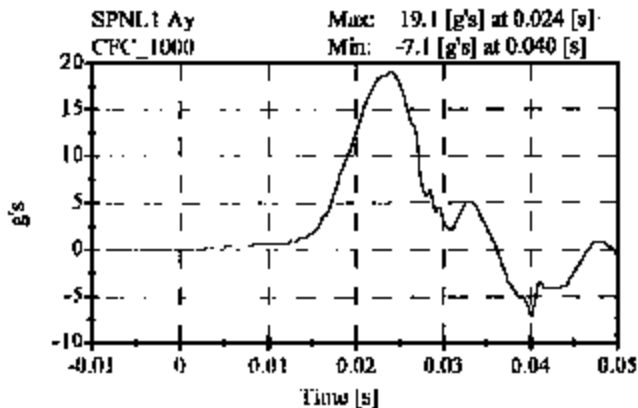
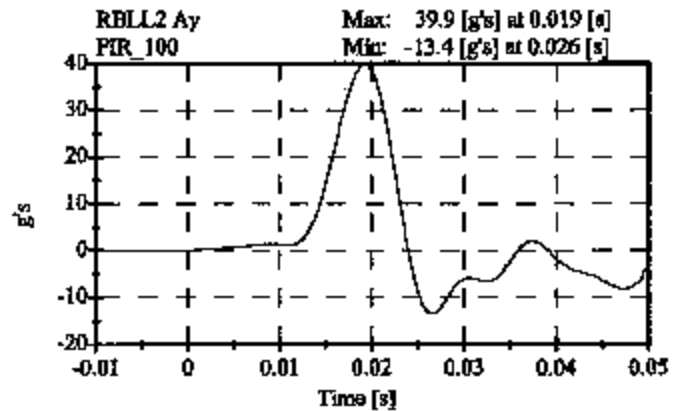
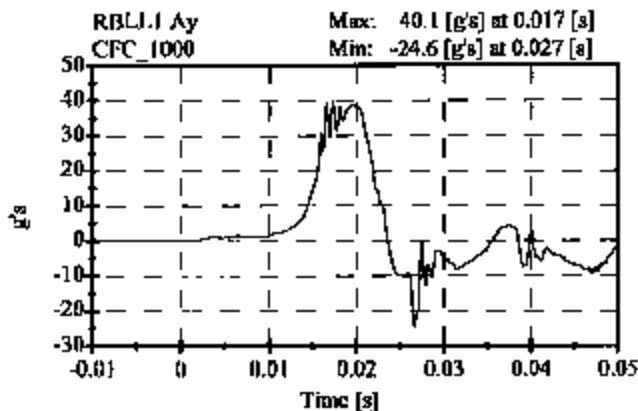
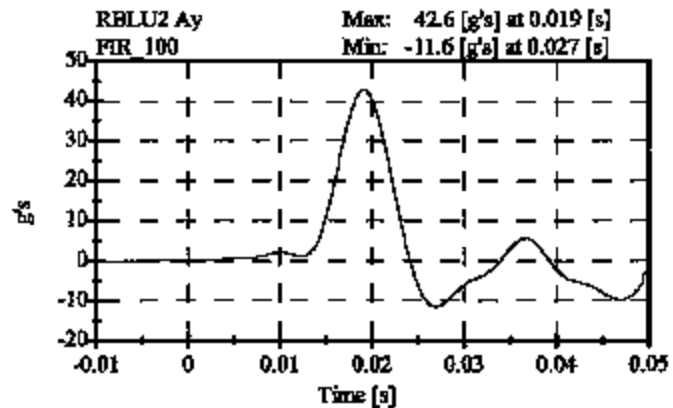
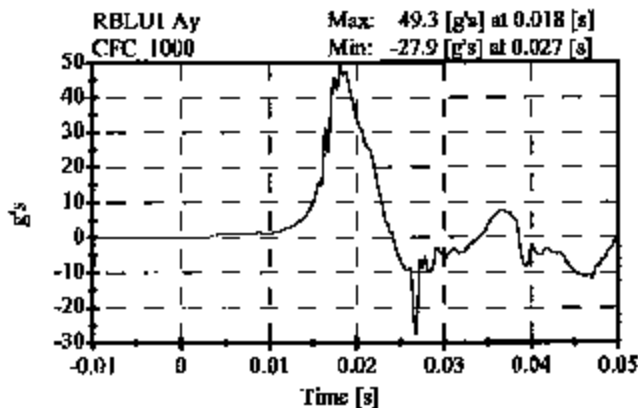


Thorax Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 013
 Date: 03-31-05

Sequential Test Number: 1 File: 013T2 03-31-05
 Laboratory Technician: B. Swieczki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 g's	42.65 g's	Passed
Lower Rib Acceleration:	37.00-46.00 g's	39.85 g's	Passed
Lower Spine Acceleration:	15.00-22.00 g's	19.13 g's	Passed



Pelvic Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

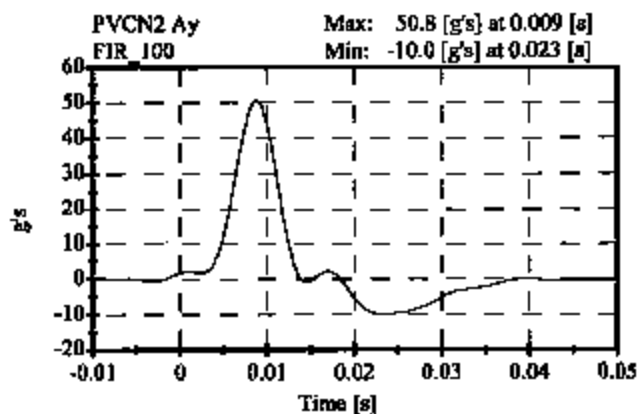
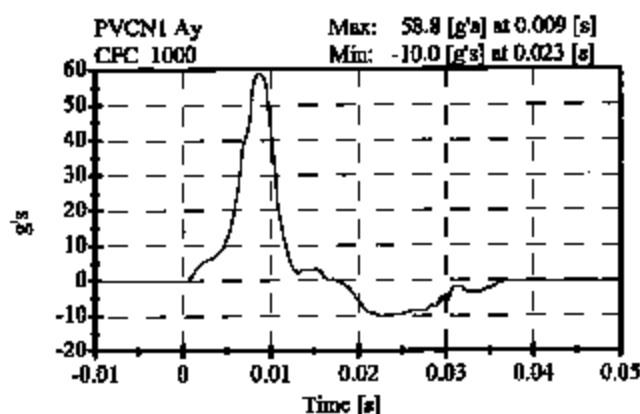
ATD Serial No: 013

Date: 03-30-05

Sequential Test Number: 1 File: 013P 03-30-05

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 g's	50.78 g's	Passed
Time Above 20 Gs	3.0-7.0 ms	6.0 ms	Passed



Head Drop

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

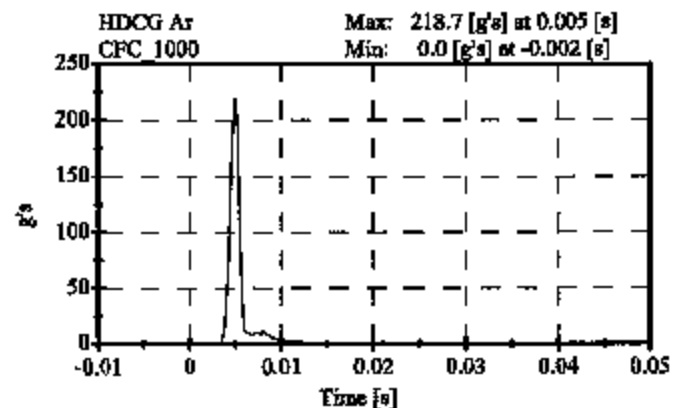
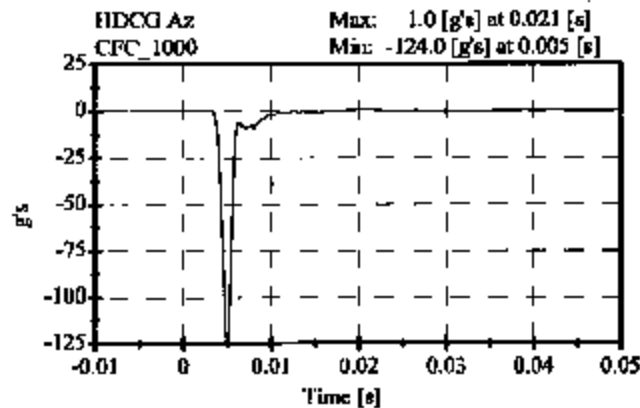
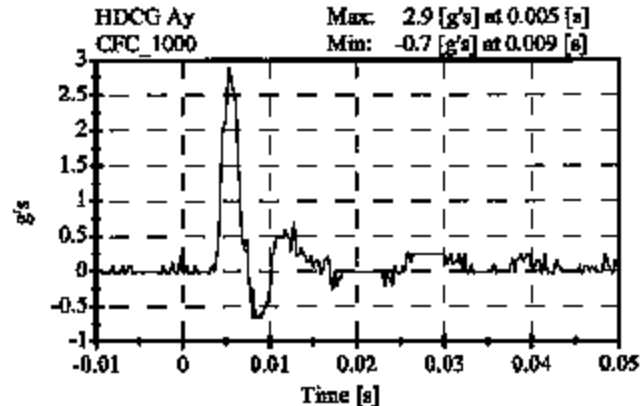
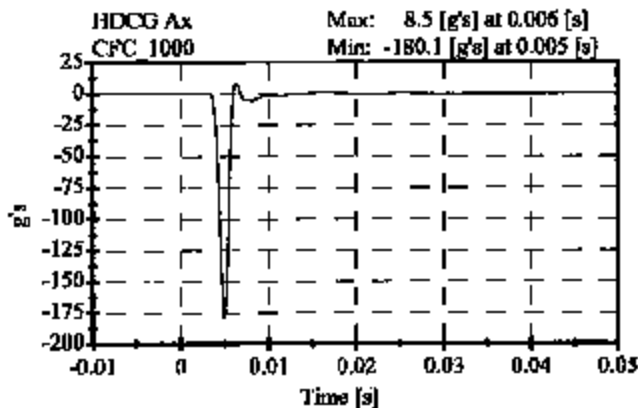
ATD Serial No: 013

Date: 03-28-05

Sequential Test Number: 1 File: 013H 03-28-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Peak Resultant Accel.:	210-260 Gs	218.72 Gs	Passed
Peak Lateral Accel.:	10 Gs Max	2.89 Gs	Passed
Unimodal Criteria Above 100 Gs:	0.9-1.5 ms	1.22 ms	Passed
Curve PerCent NonModal:	< 10%	5.20 %	Passed



Abdomen test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 013

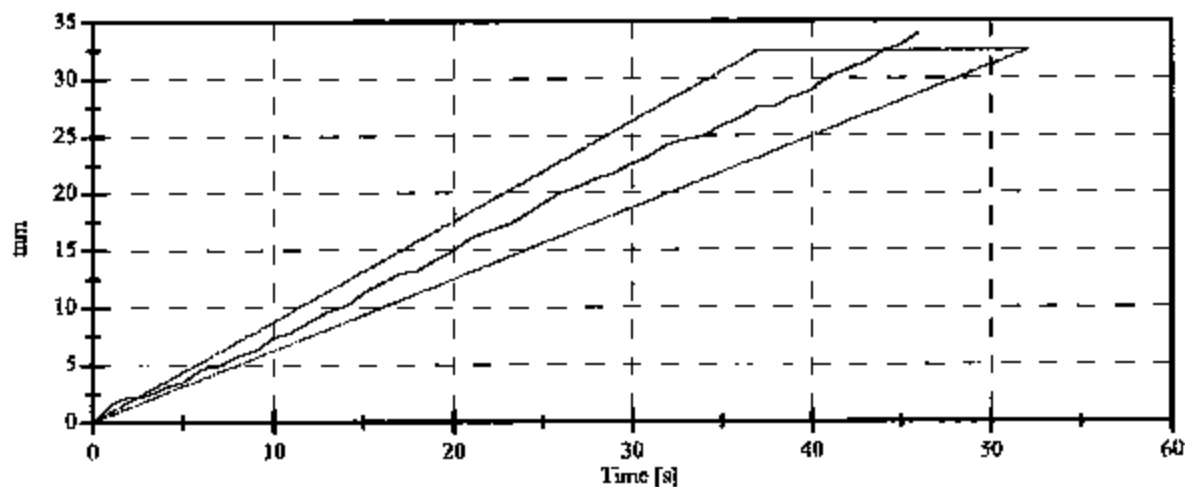
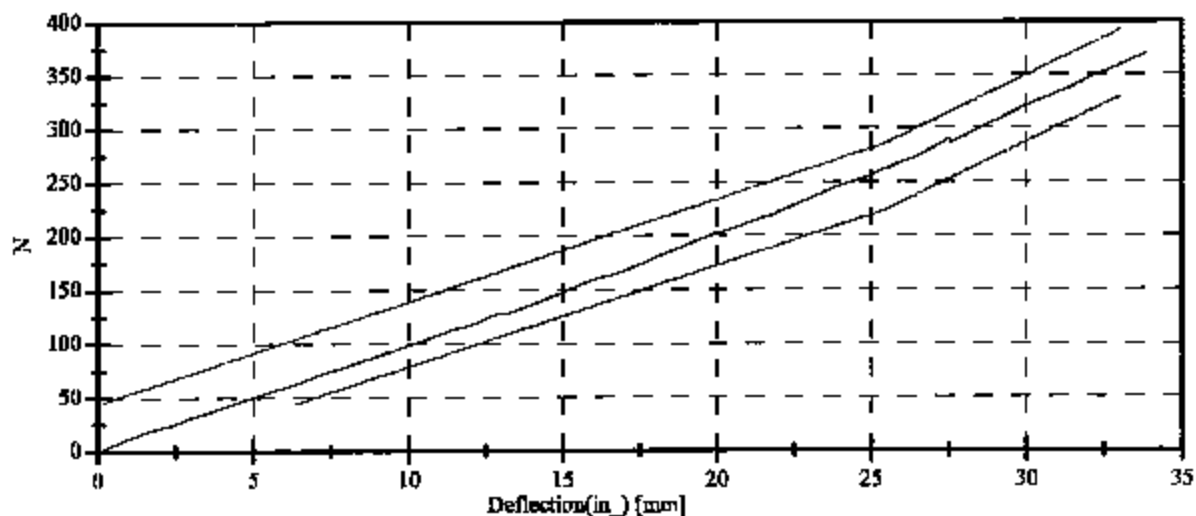
Date: 03-31-05

Sequential Test Number: 1 File: 013ab2 03-31-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	128.01 N	Passed
Force at 19.05 mm :	162.98-220.99 N	191.61 N	Passed
Force at 25.40 mm :	221.97-280.02 N	254.48 N	Passed
Force at 33.02 mm :	324.99-391.00 N	357.56 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 013

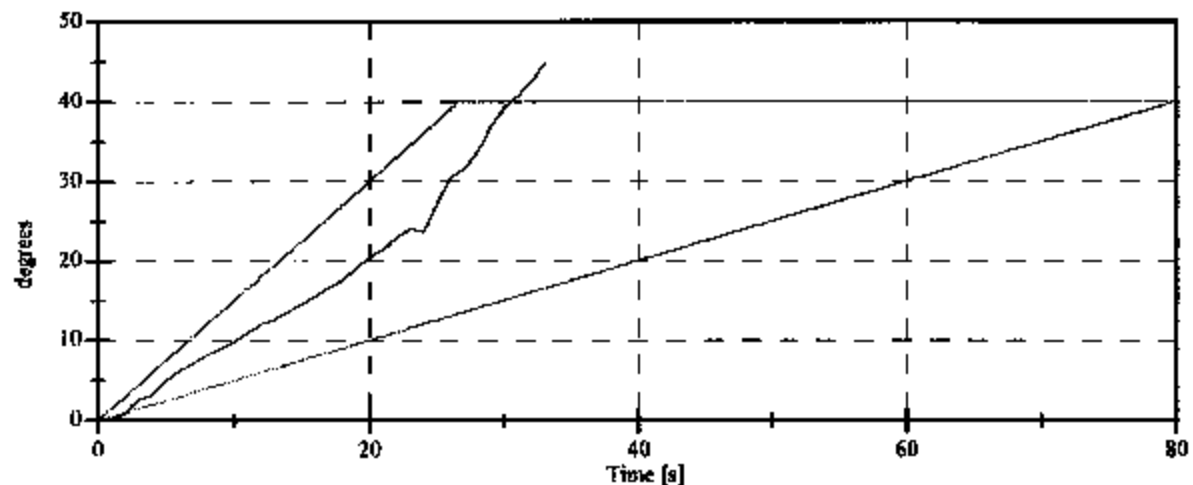
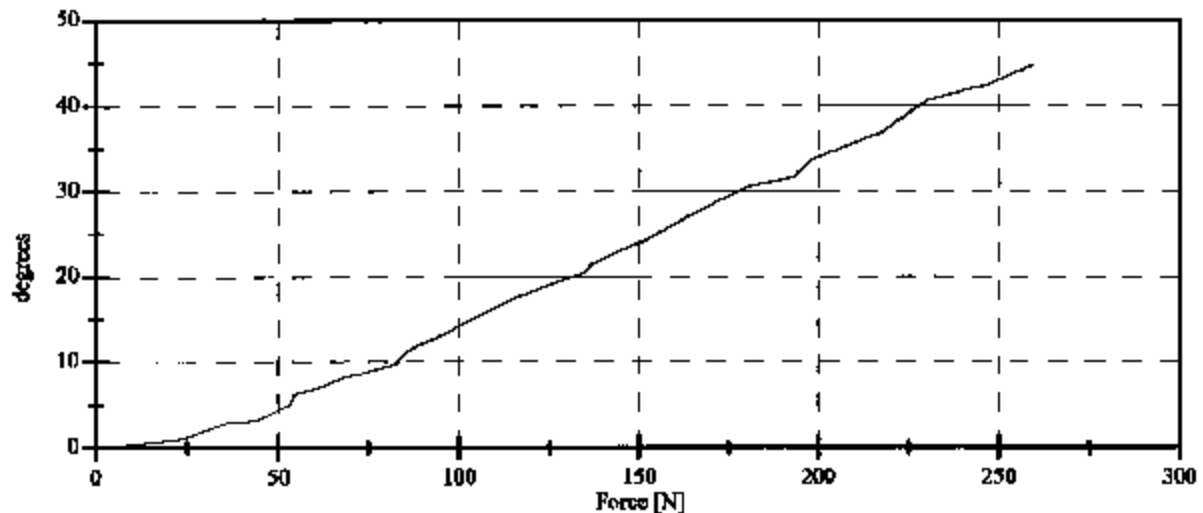
Date: 03-31-05

Sequential Test Number: 1 File: 013spine1 03-31-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.71 N	Passed
Force at 20 Deg:	97.86-151.24 N	134.65 N	Passed
Force at 30 Deg:	151.24-204.62 N	180.28 N	Passed
Force at 40 Deg:	204.62-258.00 N	230.36 N	Passed
Return Angle	12 Deg Max	8.08 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
 Date: March 31, 2005 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.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 1
Date: January 19, 2005 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.: 015 Sequential Test Number: 1
 Date: January 19, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPRINT (mm)	TEST RESULT
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
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

Shock Impact Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

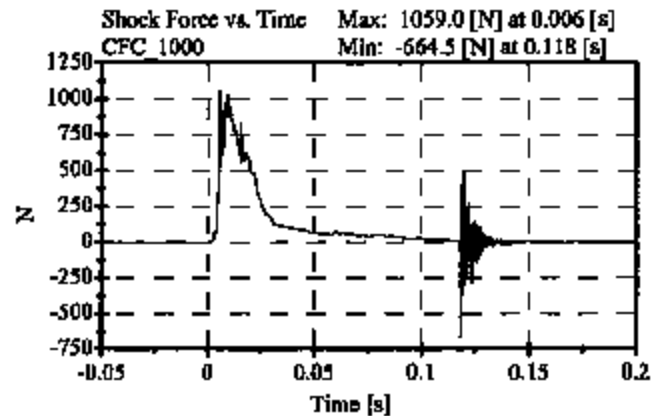
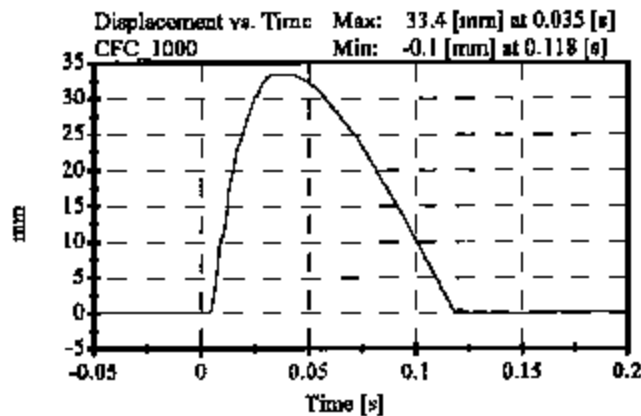
ATD Serial No: 015

Date: January 4, 2005

Sequential Test Number:2 File: 015SL 01-04-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Displacement:	30.00-35.00 mm	33.42 mm	Passed
Maximum Force:	836.00-1125.00 N	1059.03 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	015		
Damper Setting:	5		



Shock Impact Med (4.27 m/s)

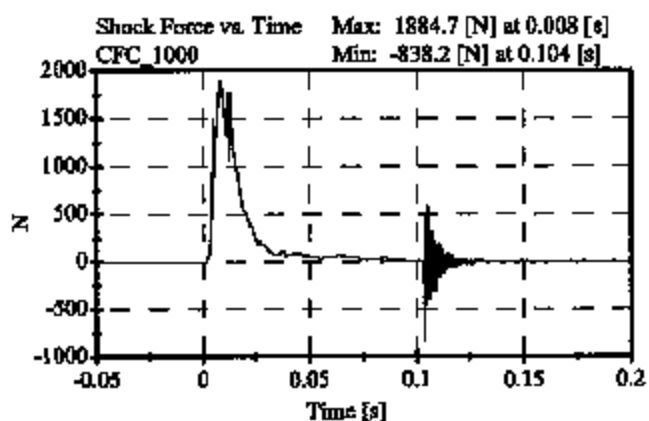
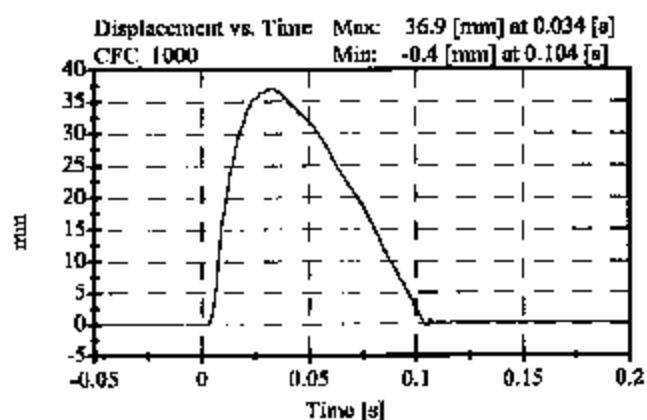
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 4, 2005

Sequential Test Number: 1 File: 015SM 01-04-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Displacement:	32.00-37.00 mm	36.94 mm	Passed
Maximum Force:	1730.00-2099.00 N	1884.66 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	015		
Damper Setting:	5		



Shock Impact High (6.10 m/s)

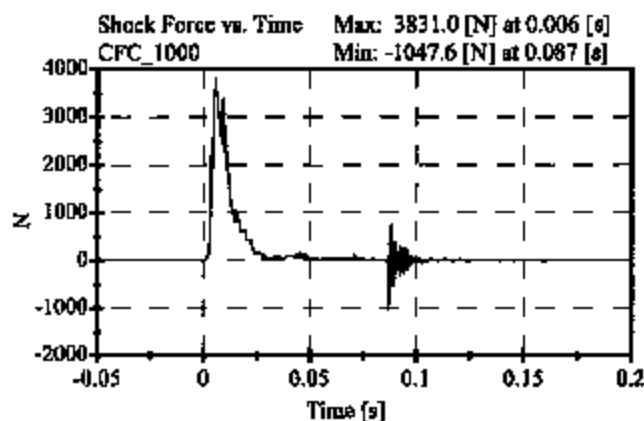
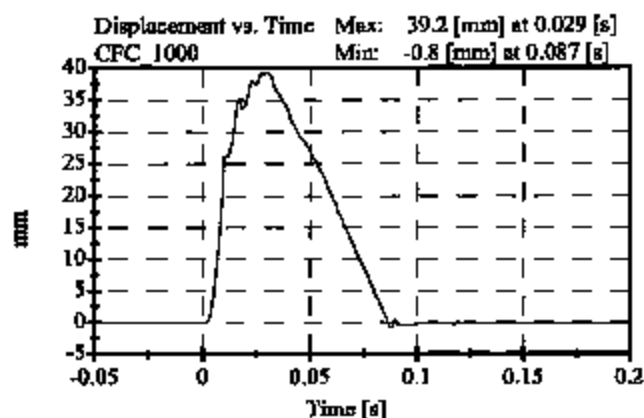
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 4, 2005

Sequential Test Number: 2 File: 015SH 01-04-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Displacement:	33.00-40.00 mm	39.16 mm	Passed
Maximum Force:	3741.00-4448.00 N	3831.04 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	015		
Damper Setting:	5		



Thorax Impact

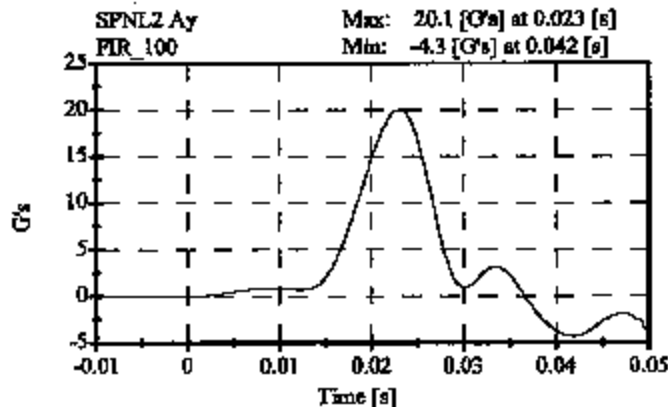
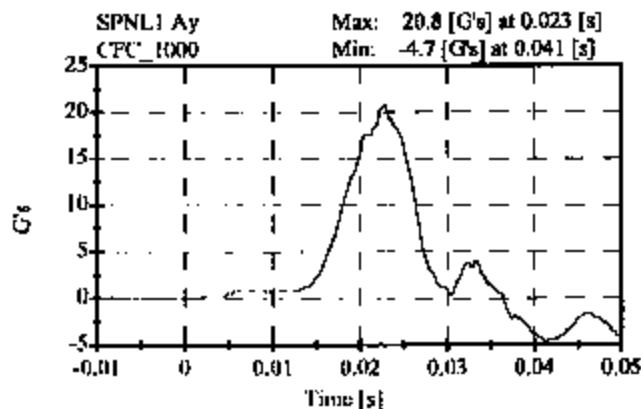
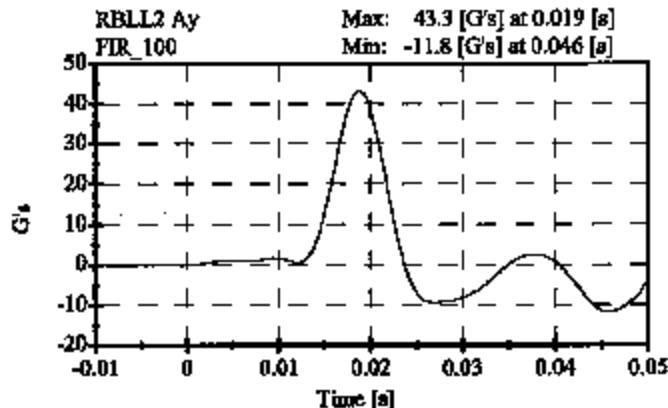
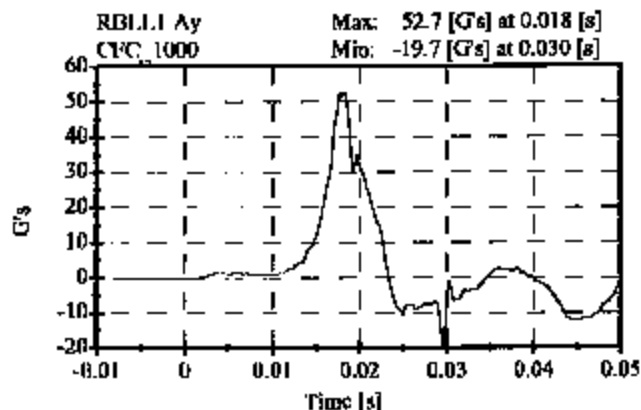
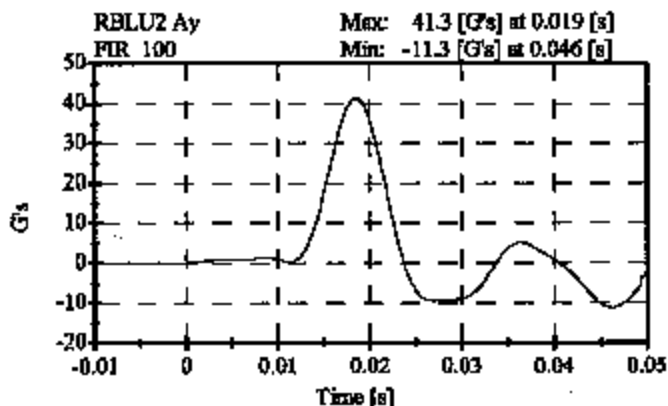
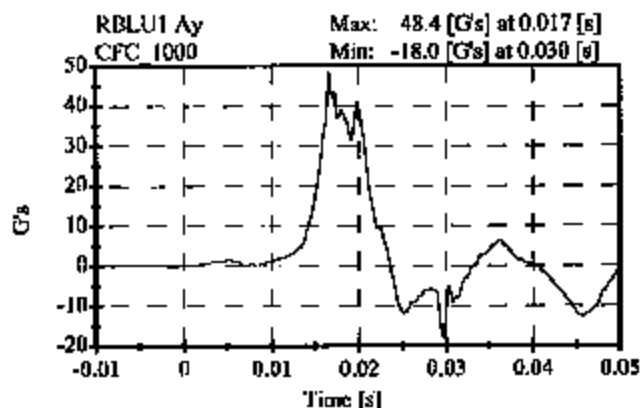
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 18, 2005

Sequential Test Number: 1 File: 015T 01-18-05
Laboratory Technician: B. Swiecki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.27 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	43.33 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.06 G's	Passed



Pelvic Impact

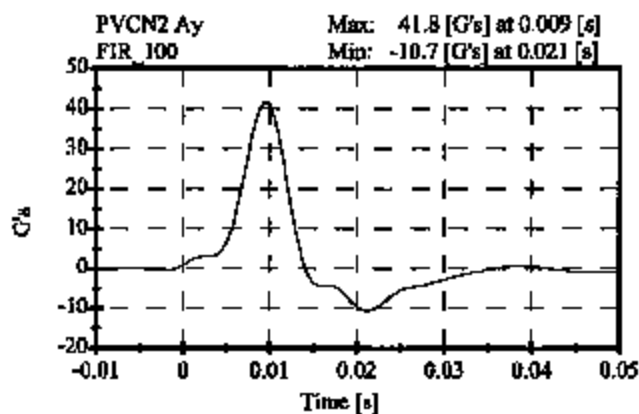
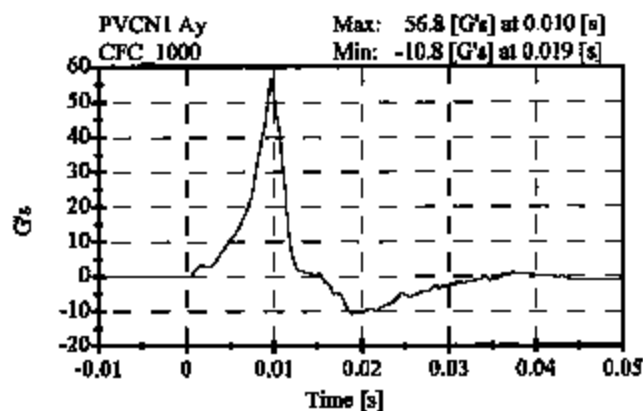
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 18, 2005

Sequential Test Number: 1 File: 015P1 01-18-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	28.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	41.79 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



Head Drop

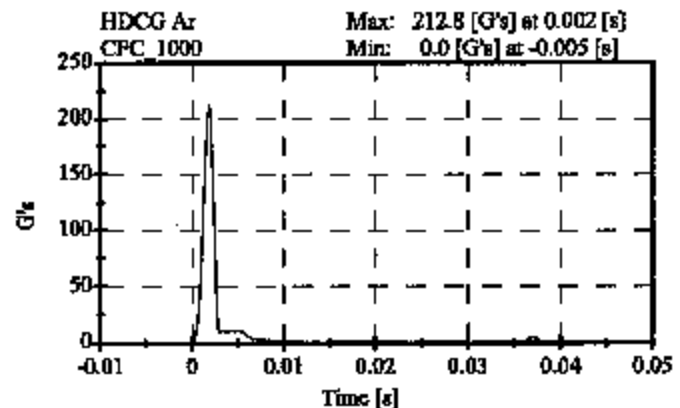
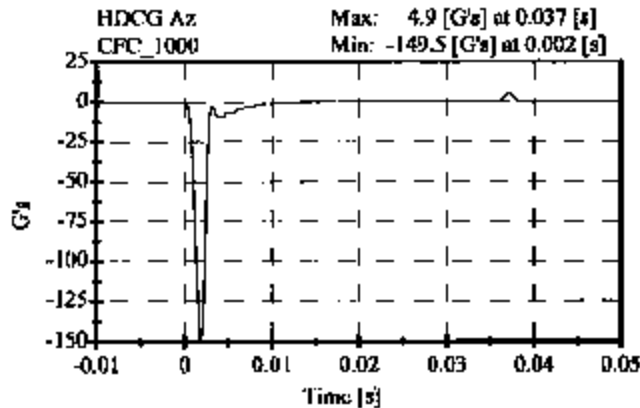
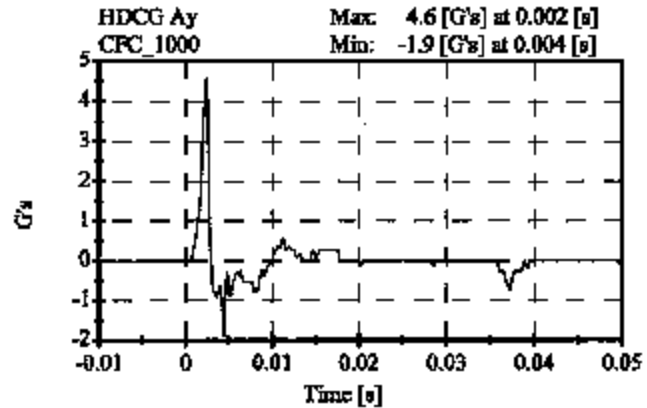
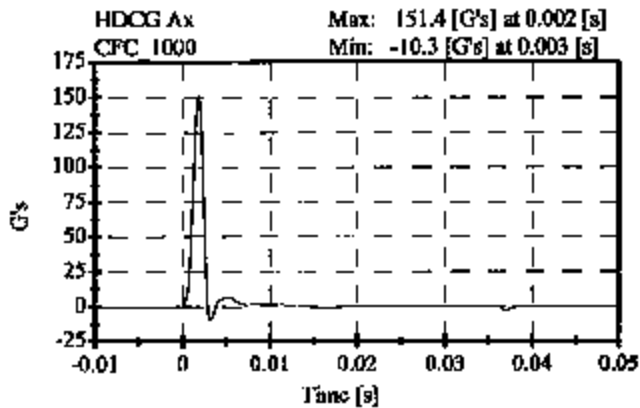
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 18, 2005

Sequential Test Number: 1 File: 015H2 01-18-05
Laboratory Technician: B. Swiecki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	210-260 Gs	212.80 Gs	Passed
Peak Lateral Accel.:	10 Gs Max	4.57 Gs	Passed
Unimodal Criteria Above 100 Gs:	0.9-1.5 ms	1.29 ms	Passed
Curve PerCent NonModal:	< 10%	5.09 %	Passed



Abdomen Test

Pre-Test

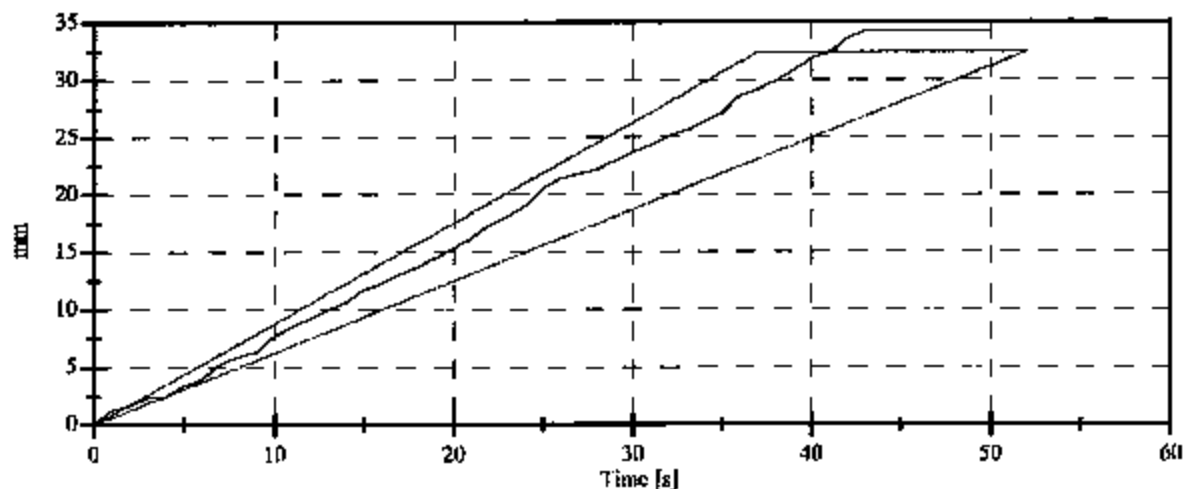
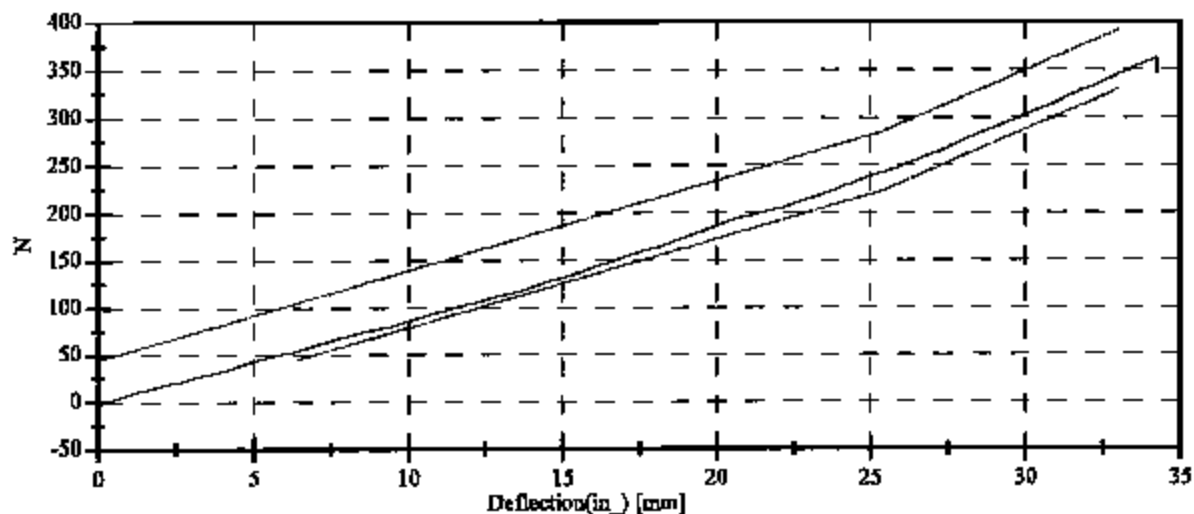
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 19, 2005

Sequential Test Number: 1 File: 015Ab 01-19-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	112.66 N	Passed
Force at 19.05 mm :	162.98-220.99 N	173.70 N	Passed
Force at 25.40 mm :	221.97-280.02 N	242.42 N	Passed
Force at 33.02 mm :	324.99-391.00 N	352.81 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Pre-Test

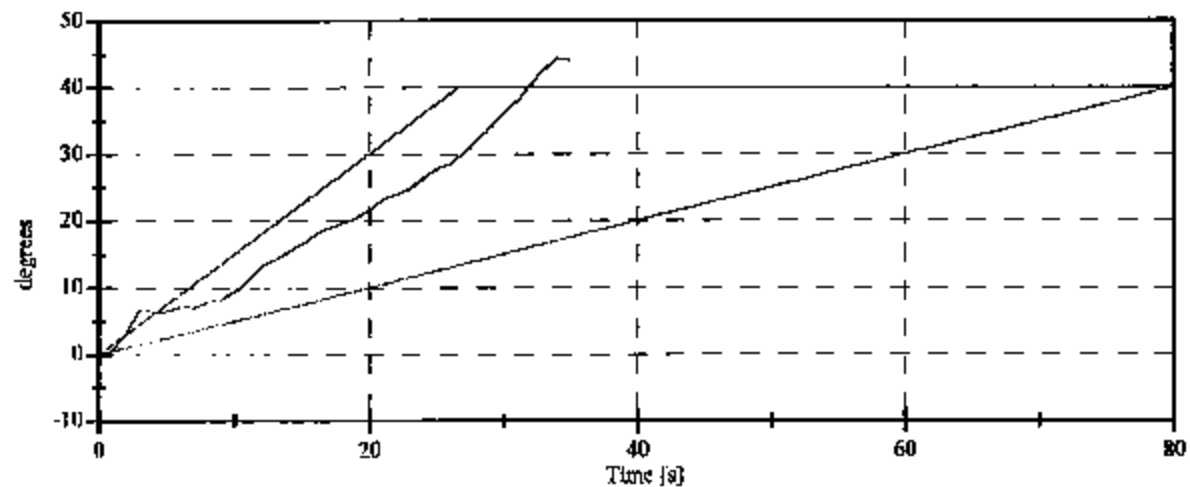
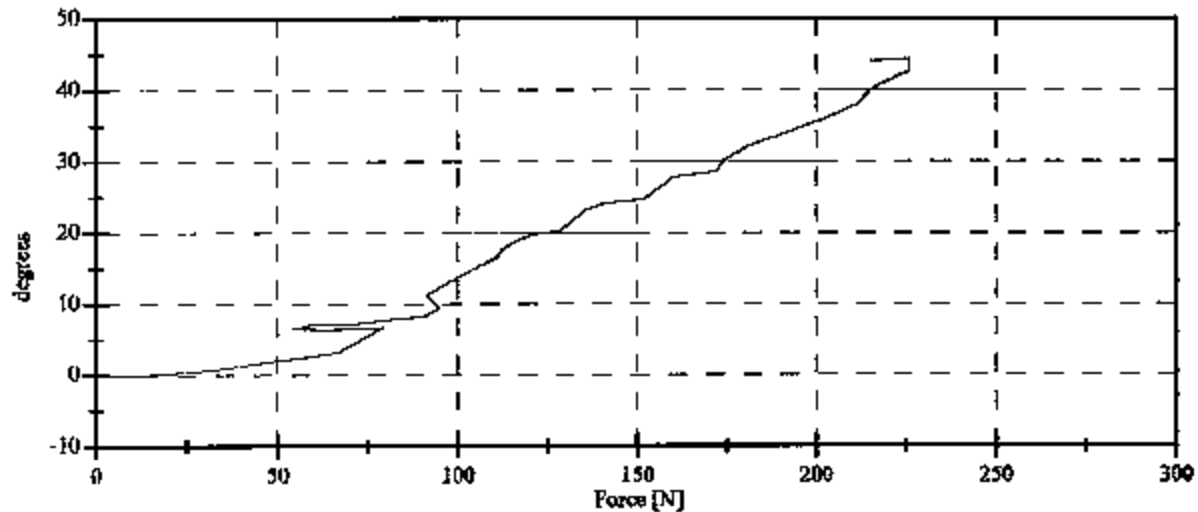
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: January 19, 2005

Sequential Test Number: 1 File: 015Spine 01-19-05
Laboratory Technician: B. Swiericki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	6.43 N	Passed
Force at 20 Deg:	97.86-151.24 N	120.75 N	Passed
Force at 30 Deg:	151.24-204.62 N	173.98 N	Passed
Force at 40 Deg:	204.62-258.00 N	215.94 N	Passed
Return Angle:	12 Deg Max	7.68 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 1
 Date: January 19, 2005 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: April 22, 2005 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: April 22, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFIED RANGE	TEST RESULT
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
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	376

REMARKS: None

Thorax Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

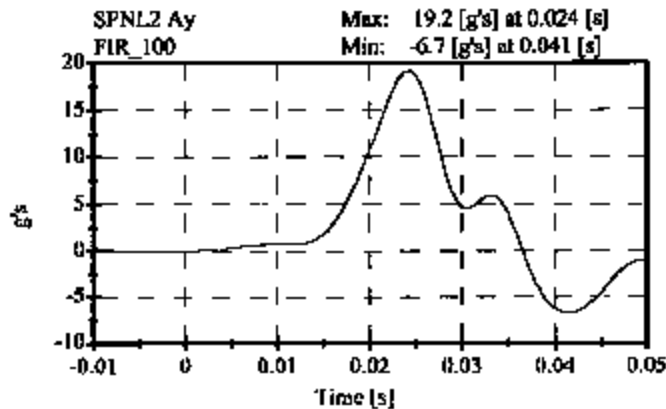
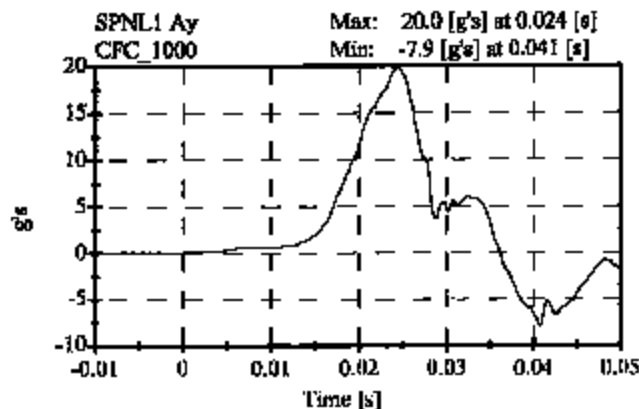
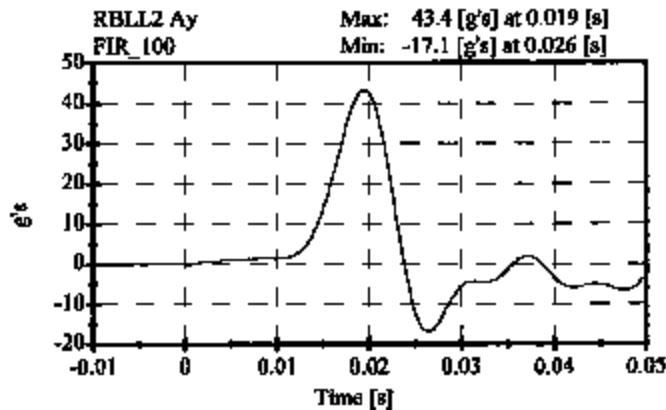
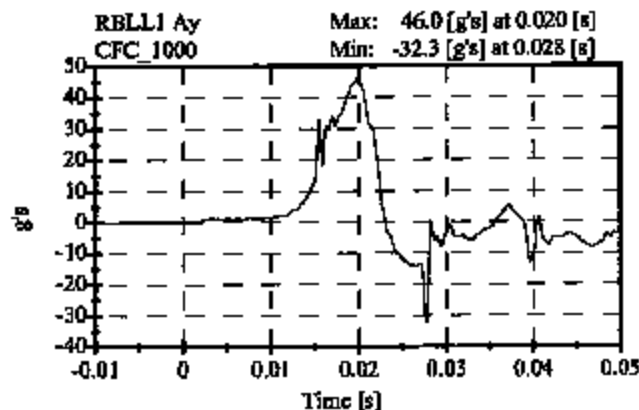
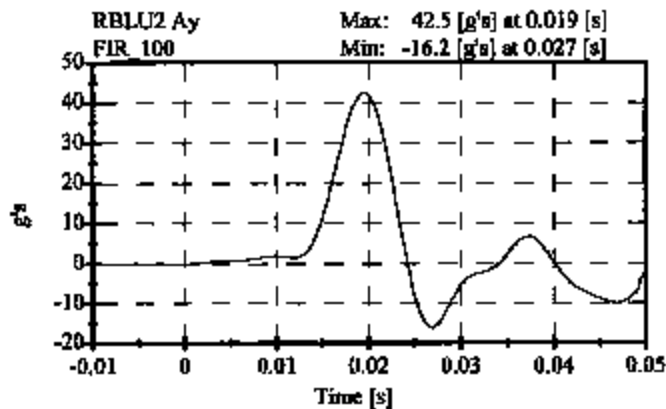
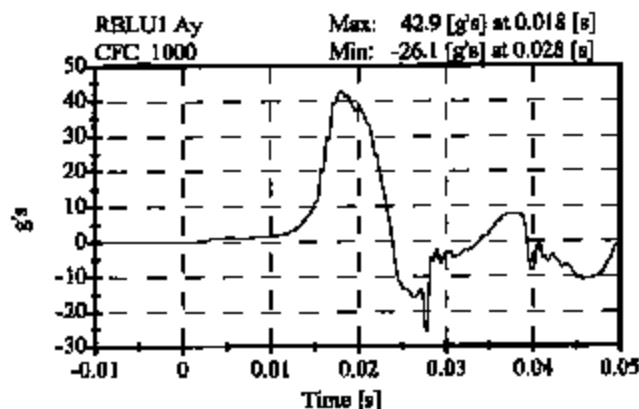
ATD Serial No: 013

Date: 04-22-05

Sequential Test Number: 1 File: 013T 04-22-05

Laboratory Technician: B. Swieczki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 g's	42.48 g's	Passed
Lower Rib Acceleration:	37.00-46.00 g's	43.42 g's	Passed
Lower Spine Acceleration:	15.00-22.00 g's	19.19 g's	Passed

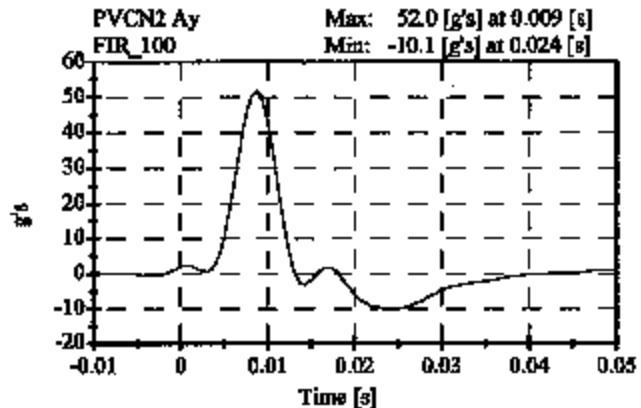
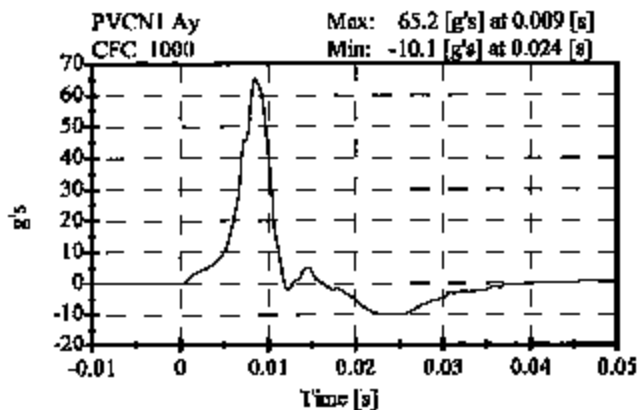


**Pelvic Impact
POST TEST
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 013
Date: 04-22-05

Sequential Test Number: 1 File: 013P 04-22-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 g's	51.96 g's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed



Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

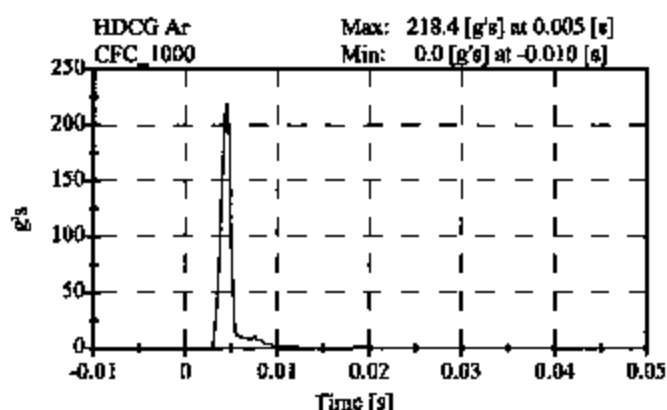
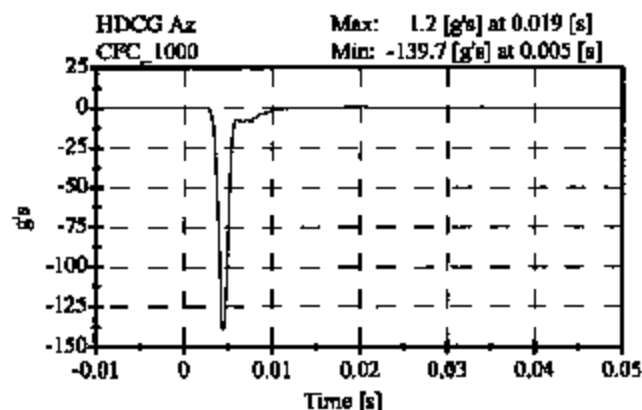
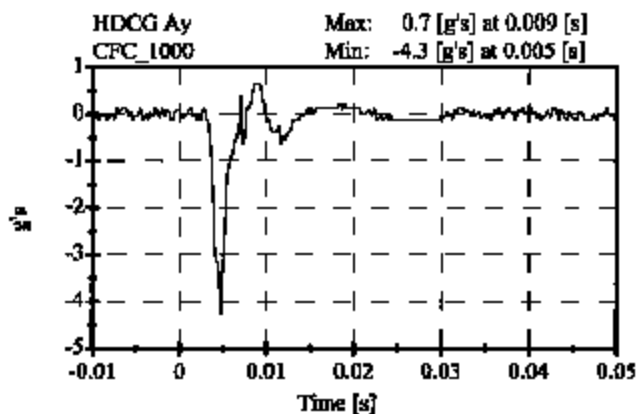
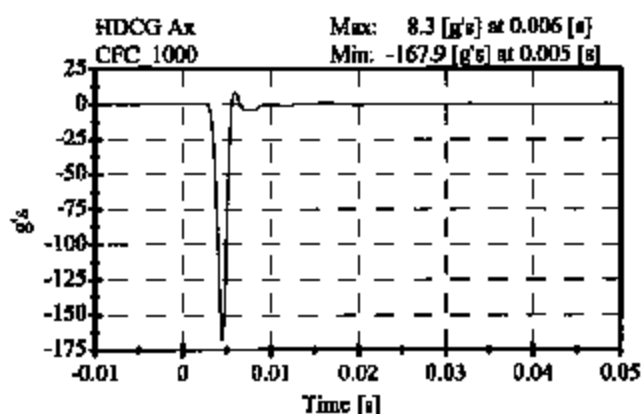
ATD Serial No: 013

Date: 04-21-05

Sequential Test Number: 1 File: 013H 04-21-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Peak Resultant Accel.:	210-260 Gs	218.45 Gs	Passed
Peak Lateral Accel.:	10 Gs Max	4.26 Gs	Passed
Unimodal Criteria Above 100 Gs:	0.9-1.5 ms	1.24 ms	Passed
Curve PerCent NonModal:	< 10%	5.10 %	Passed



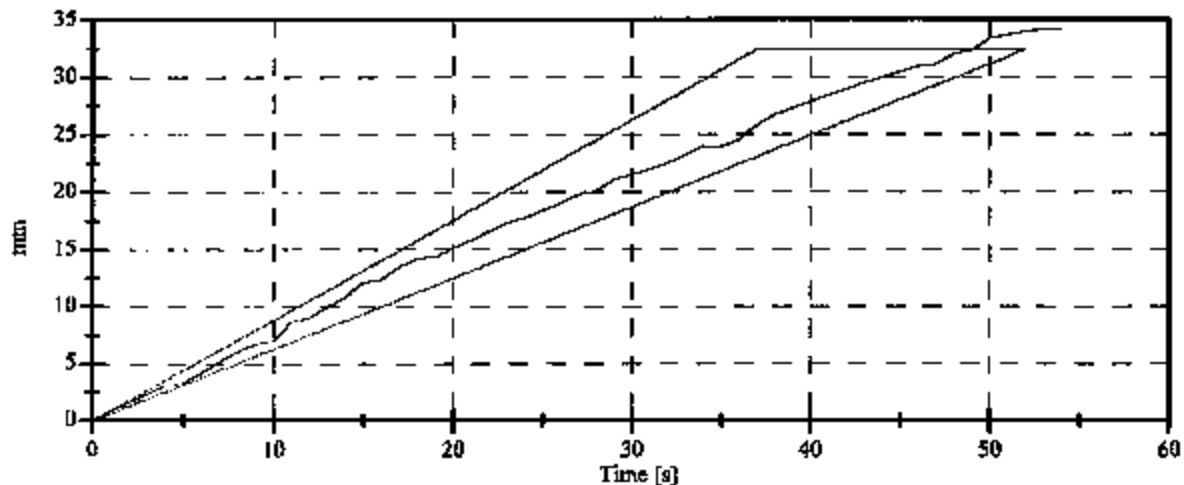
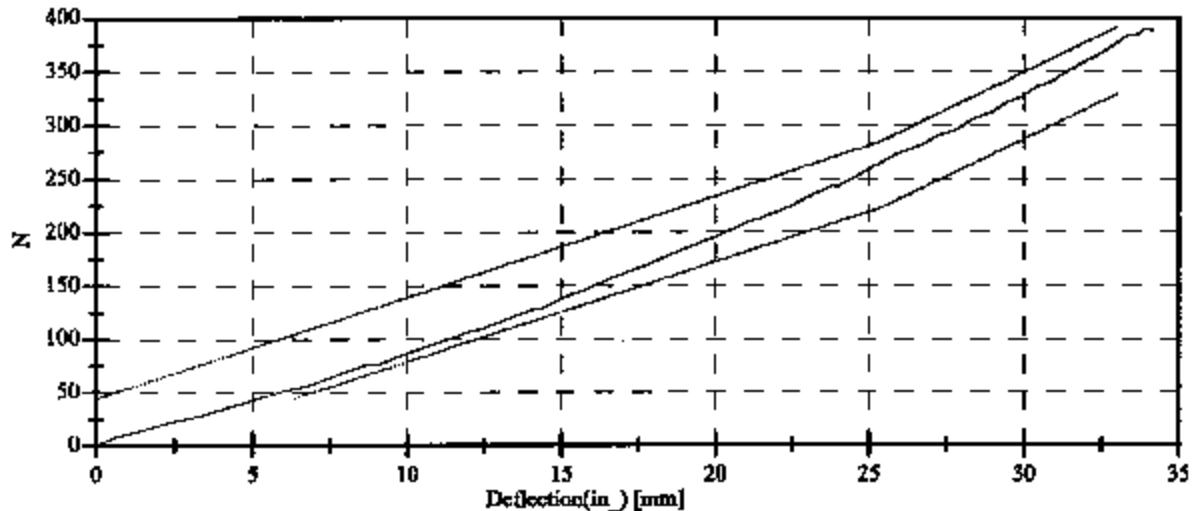
**Abdominal Test
POST TEST
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 013
Date: 04-22-05

Sequential Test Number: 1 File: 013 ab 04-22-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	121.14 N	Passed
Force at 19.05 mm :	162.98-220.99 N	184.58 N	Passed
Force at 25.40 mm :	221.97-280.02 N	271.93 N	Passed
Force at 33.02 mm :	324.99-391.00 N	383.22 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test
POST TEST

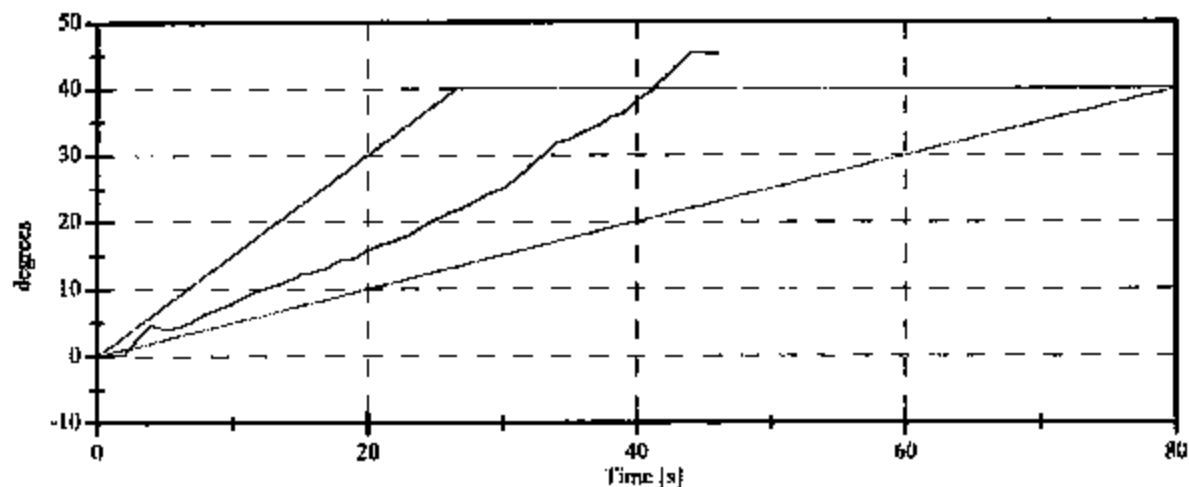
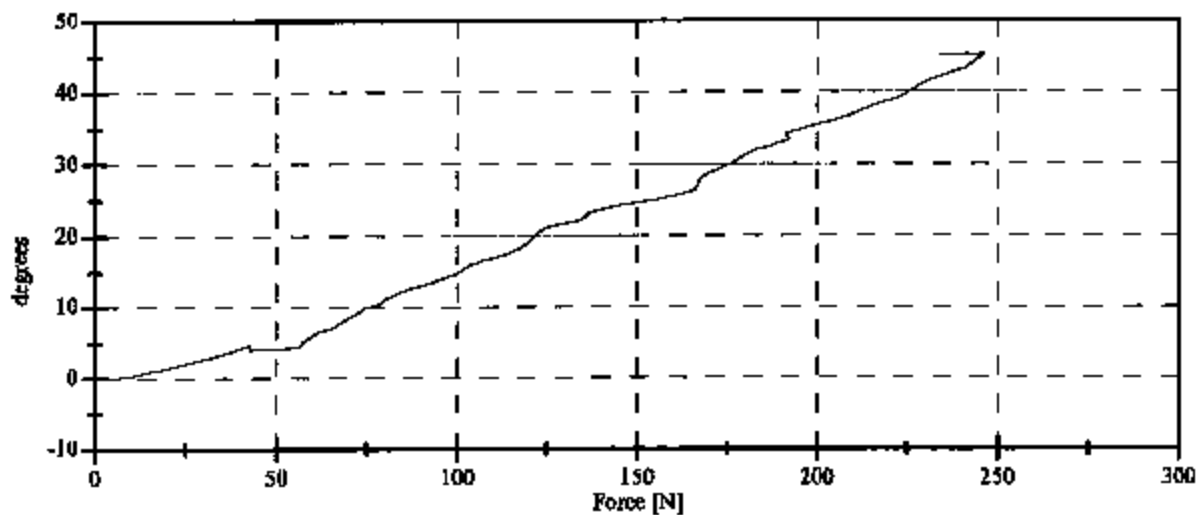
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 013
Date: 04-22-05

Sequential Test Number: 1 File: 013 Spine 04-22-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.76 N	Passed
Force at 20 Deg:	97.86-151.24 N	122.59 N	Passed
Force at 30 Deg:	151.24-204.62 N	175.82 N	Passed
Force at 40 Deg:	204.62-258.00 N	223.80 N	Passed
Return Angle	12 Deg Max	4.04 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 013 Sequential Test Number: 1
 Date: April 22, 2005 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	REMARKS
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.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 1
Date: April 22, 2005 Laboratory Technician: B. Swiecicki

TEST	REQUIREMENTS
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.: 015 Sequential Test Number: 1
Date: April 22, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
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

Thorax Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

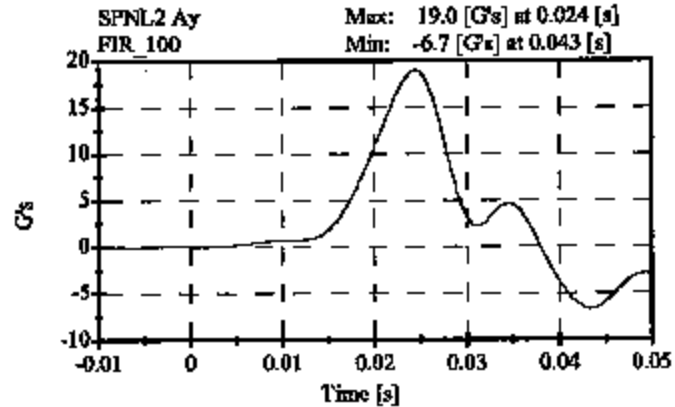
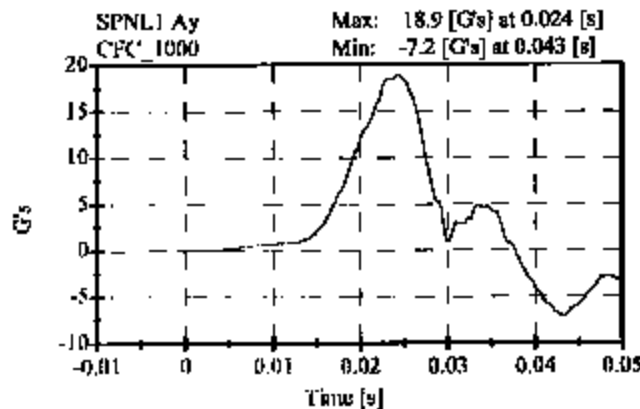
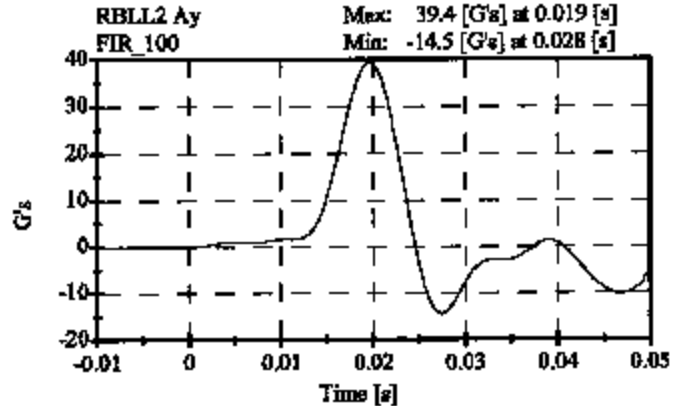
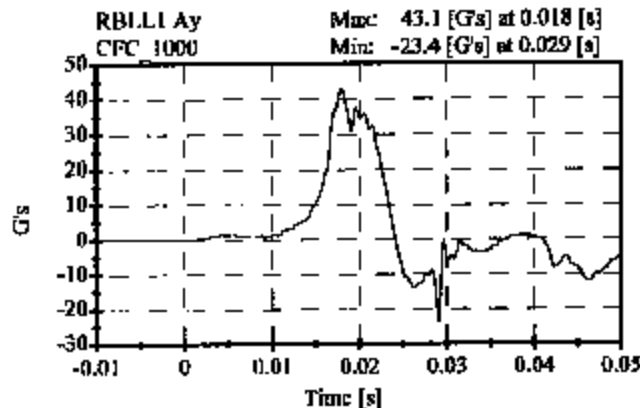
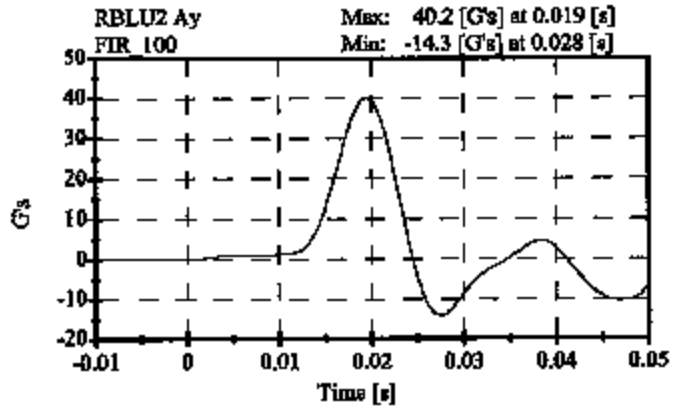
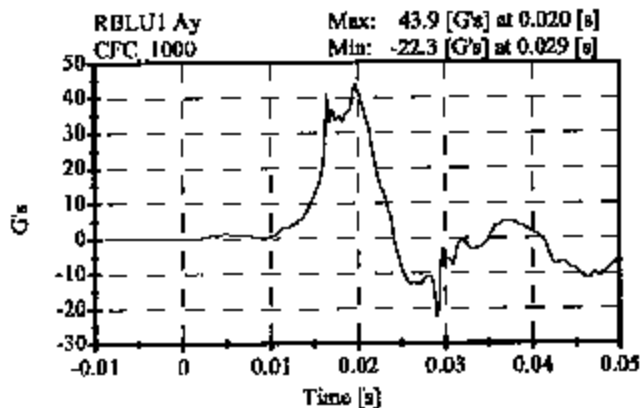
ATD Serial No: 015

Date: 04-22-05

Sequential Test Number: 1 File: 015T 04-22-05

Laboratory Technician: B. Swieczicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.16 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	39.36 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.97 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

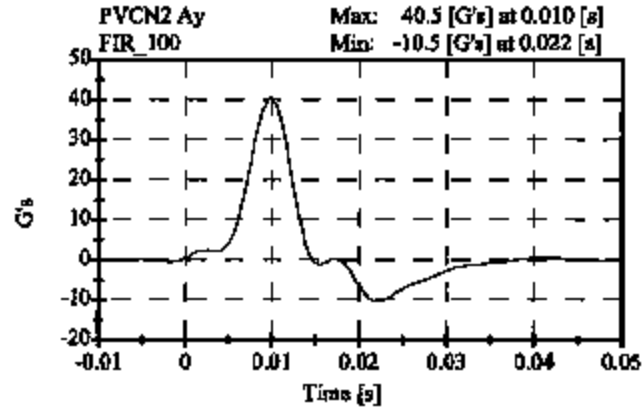
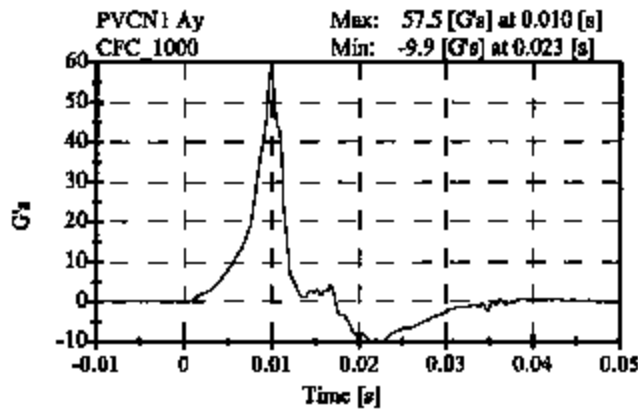
ATD Serial No: 015

Date: 04-22-05

Sequential Test Number: 1 File: 015P1 04-22-05

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	40.55 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.2 ms	Passed



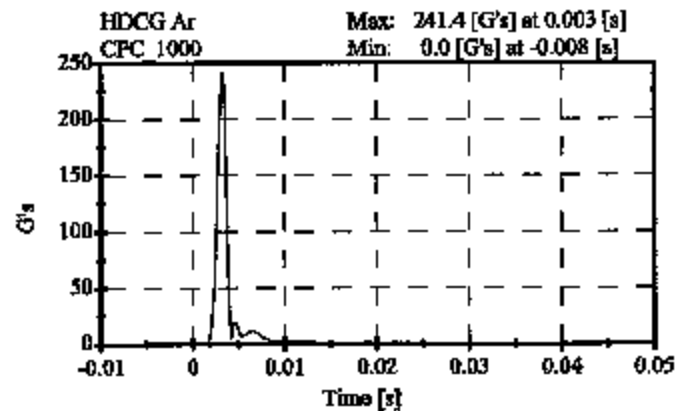
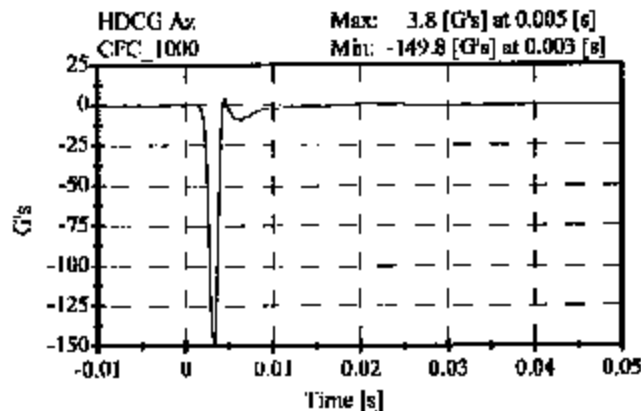
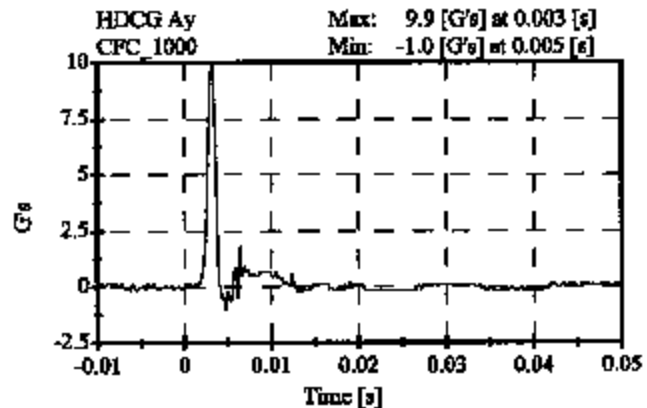
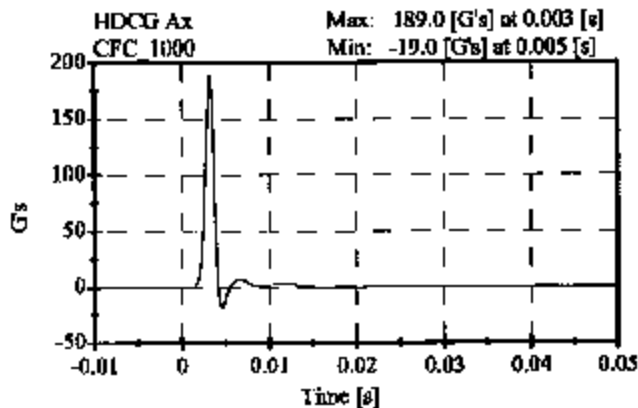
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: 04-21-05

Sequential Test Number: 1 File: 015H 04-21-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Peak Resultant Accel.:	210-260 Gs	241.36 Gs	Passed
Peak Lateral Accel.:	10 Gs Max	9.91 Gs	Passed
Unimodal Criteria Above 100 Gs:	0.9-1.5 ms	1.22 ms	Passed
Curve PerCent NonModal:	< 10%	7.99 %	Passed



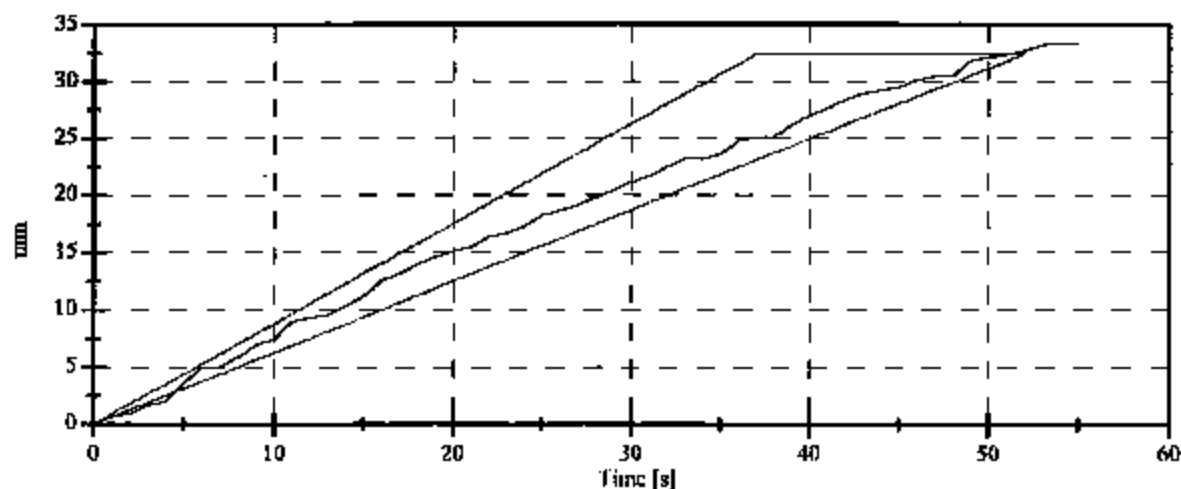
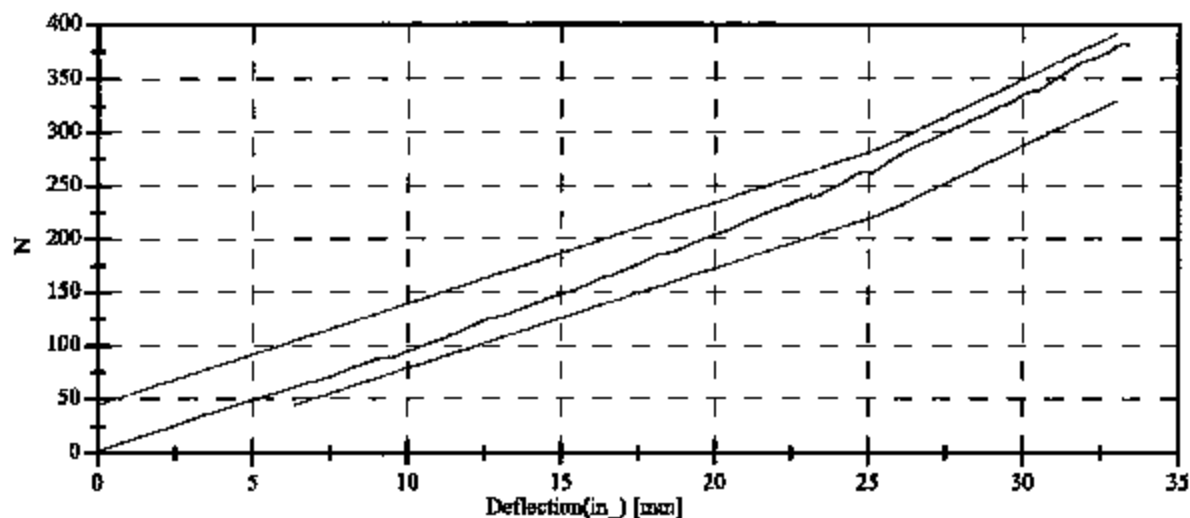
Abdominal Test
POST TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
 Date: 04-22-05

Sequential Test Number: 1 File: 015 ab 04-22-05
 Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	128.39 N	Passed
Force at 19.05 mm :	162.98-220.99 N	192.91 N	Passed
Force at 25.40 mm :	221.97-280.02 N	263.24 N	Passed
Force at 33.02 mm :	324.99-391.00 N	383.22 N	Passed

ABDOMINAL COMPRESSION TEST



**Spine Test
POST TEST**

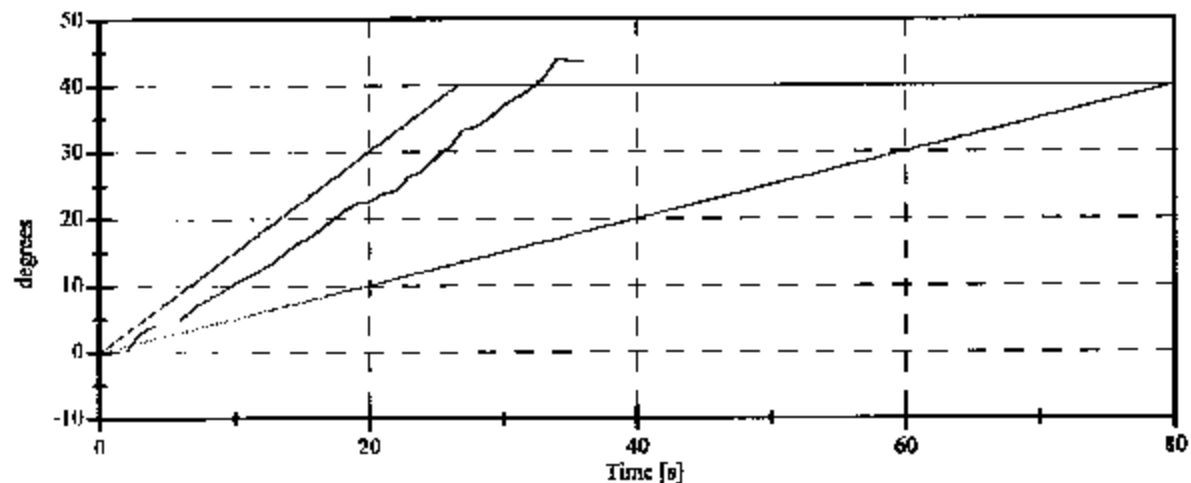
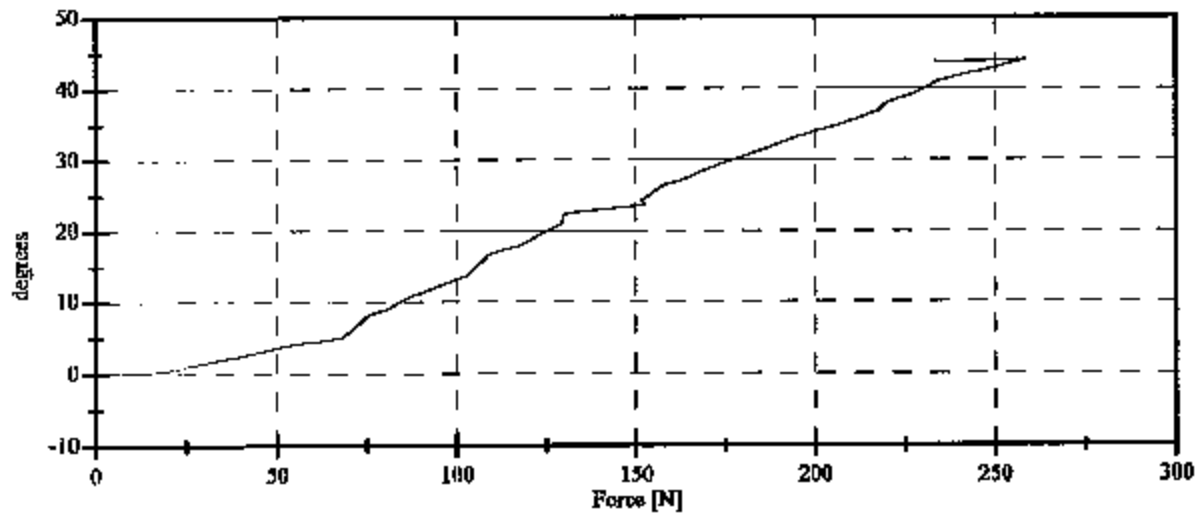
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 015
Date: 04-22-05

Sequential Test Number: 1 File: 015 Spine 04-22-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.71 N	Passed
Force at 20 Deg:	97.86-151.24 N	123.38 N	Passed
Force at 30 Deg:	151.24-204.62 N	181.59 N	Passed
Force at 40 Deg:	204.62-258.00 N	228.26 N	Passed
Return Angle:	12 Deg Max	3.14 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

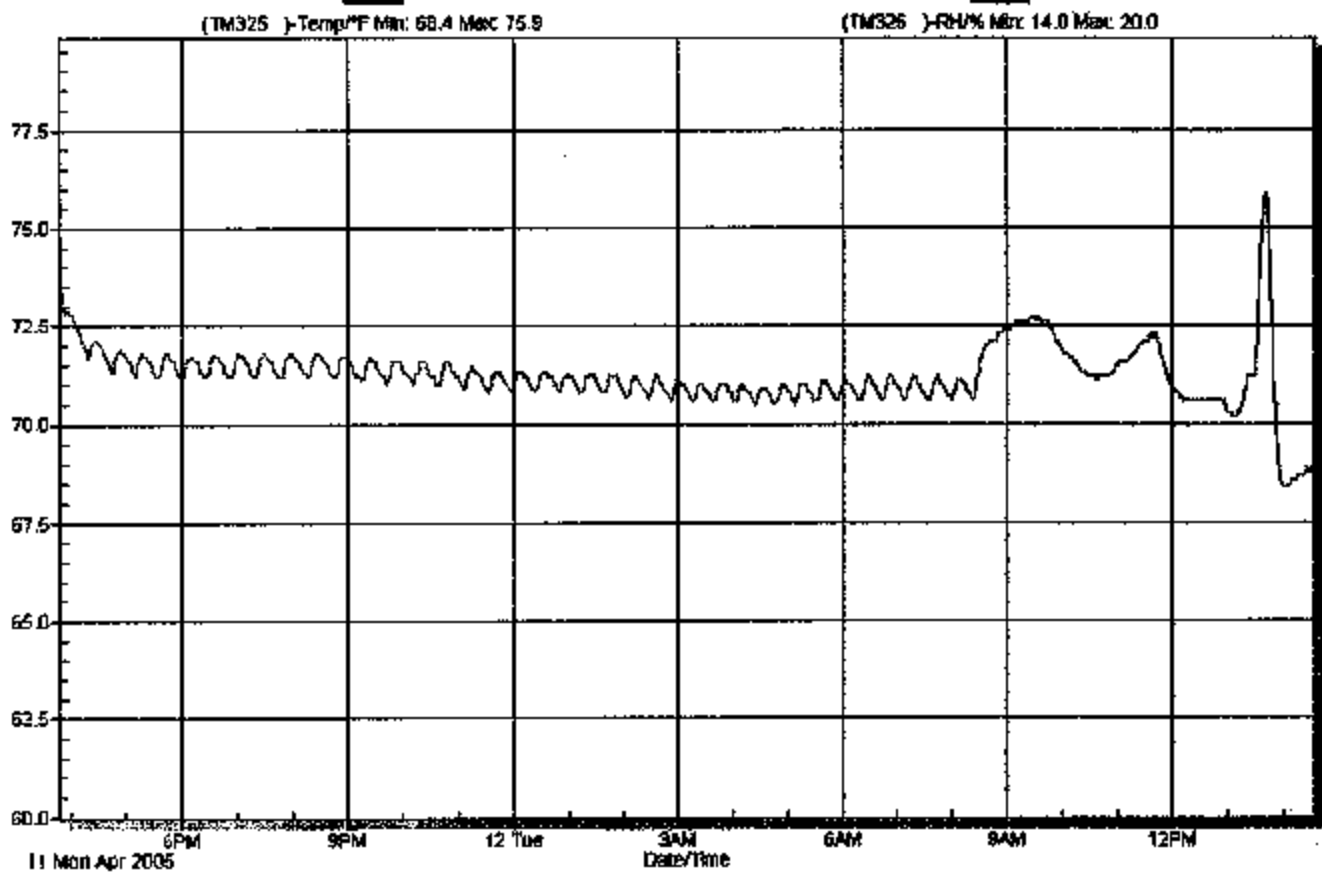
SID Serial No.: 015 Sequential Test Number: 1
 Date: April 22, 2005 Laboratory Technician: B. Swiecicki

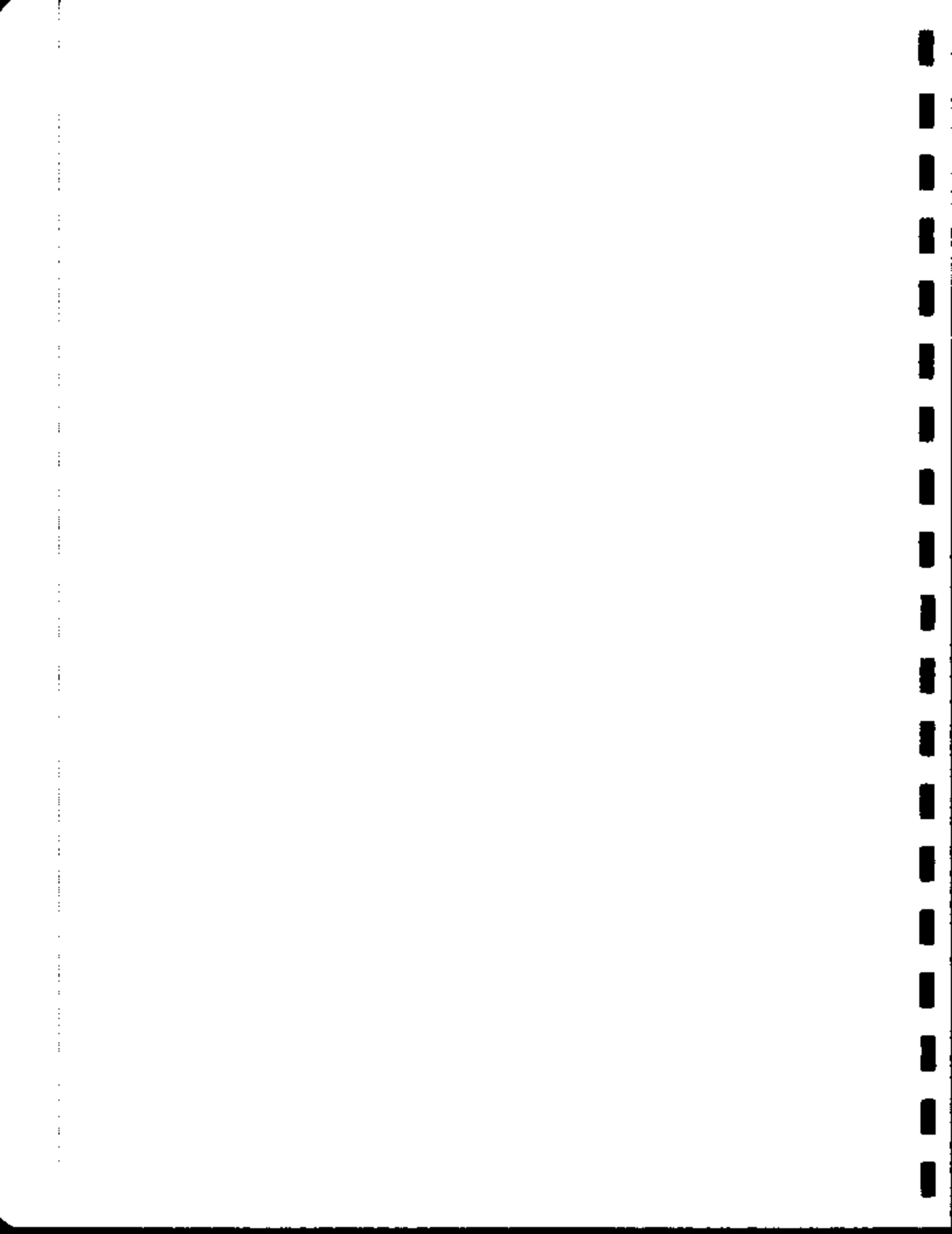
PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, 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

Downloaded Data - Wednesday, April 13, 2005





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 AX	AC-P21373	ENDEVCO	12/3/2004
HEAD AY	AC-P21297	ENDEVCO	12/3/2004
HEAD AZ	AC-P23128	ENDEVCO	12/3/2004
UPPER RIB	AC-P18516	ENDEVCO	12/3/2004
LOWER RIB	AC-P19222	ENDEVCO	12/3/2004
LOWER SPINE	AC-P18663	ENDEVCO	12/3/2004
PELVIS	AC-P21171	ENDEVCO	12/3/2004
UPPER RIB REDUNDANT	AC-P18558	ENDEVCO	12/3/2004
LOWER RIB REDUNDANT	AC-P18537	ENDEVCO	12/3/2004
LOWER SPINE REDUNDANT	AC-P18639	ENDEVCO	12/3/2004
PELVIS REDUNDANT	AC-P22639	ENDEVCO	12/3/2004

	REAR SID NO.: 015		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P39574	ENDEVCO	12/10/2004
HEAD AY	AC-P35817	ENDEVCO	12/10/2004
HEAD AZ	AC-P35790	ENDEVCO	12/10/2004
UPPER RIB	AC-P39731	ENDEVCO	12/7/2004
LOWER RIB	AC-P38896	ENDEVCO	12/9/2004
LOWER SPINE	AC-P38188	ENDEVCO	12/7/2004
PELVIS	AC-P35757	ENDEVCO	12/7/2004
UPPER RIB REDUNDANT	AC-P39740	ENDEVCO	12/7/2004
LOWER RIB REDUNDANT	AC-P35786	ENDEVCO	12/9/2004
LOWER SPINE REDUNDANT	AC-P38216	ENDEVCO	12/9/2004
PELVIS REDUNDANT	AC-P38132	ENDEVCO	12/9/2004

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-P23161	ENDEVCO	3/24/2005
RIGHT FRONT SILL (Y)	AC-P24011	ENDEVCO	3/24/2005
RIGHT FRONT SILL (Z)	AC-P19111	ENDEVCO	3/24/2005
RIGHT REAR SILL (X)	AC-P16625	ENDEVCO	3/23/2005
RIGHT REAR SILL (Y)	AC-P23178	ENDEVCO	3/23/2005
RIGHT REAR SILL (Z)	AC-J33843	ENDEVCO	3/23/2005
REAR FLOORPAN ABOVE AXLE (X)	AC-P22943	ENDEVCO	10/27/2004
REAR FLOORPAN ABOVE AXLE (Y)	AC-P23139	ENDEVCO	10/27/2004
REAR FLOORPAN ABOVE AXLE (Z)	AC-P13323	ENDEVCO	10/27/2004
LEFT REAR SILL (Y)	AC-P18718	ENDEVCO	1/6/2005
LEFT FRONT SILL (Y)	AC-PGP39	ICS	3/22/2005
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-9440-045	GS SENSORS	12/1/2004
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER CL (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER CL (Y)	-	-	-
LOWER LEFT B-PILLAR (Y)	AC-P17539	ENDEVCO	1/7/2005
MIDDLE LEFT B-PILLAR (Y)	AC-P23155	ENDEVCO	12/2/2004
LOWER LEFT A-PILLAR (Y)	AC-P18728	ENDEVCO	1/7/2005
UPPER LEFT A-PILLAR (Y)	AC-P23136	ENDEVCO	12/3/2004
FRONT SEAT TRACK (Y)	AC-P16628	ENDEVCO	10/16/2004
REAR SEAT TRACK (Y)	AC-P21399	ENDEVCO	12/2/2004
VEHICLE CG (X)	AC-P23976	ENDEVCO	3/23/2005
VEHICLE CG (Y)	AC-P18628	ENDEVCO	3/23/2005
VEHICLE CG (Z)	AC-P18545	ENDEVCO	3/23/2005
MDB CG (X)	AC-C16433	ENDEVCO	3/31/2005
MDB CG (Y)	AC-C16416	ENDEVCO	3/31/2005
MDB CG (Z)	AC-C16499	ENDEVCO	3/31/2005
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	3/31/2005
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	3/31/2005

REMARKS: None