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REPORT NUMBER: 214-CAL-99-2

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

**MINITUBISHI MOTOR SALES OF AMERICA, INC.
1999 MITSUBISHI GALANT
4-DOOR SEDAN**

NHTSA NUMBER: CX5600

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



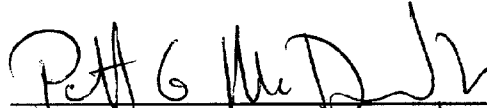
September 23, 1998

FINAL REPORT

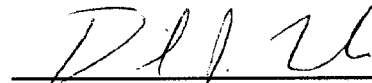
**U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Enforcement
Office of Vehicle Compliance
400 Seventh Street, SW
Room 6115 (NSA-30)
Washington, DC 20590**

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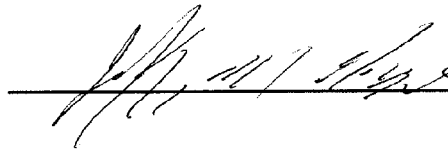

David J. Travale, Program Manager
Transportation Sciences Center

Approval Date:

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FINAL REPORT ACCEPTANCE BY:

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16. Abstract A 48/24 kph 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject 1999 Mitsubishi Galant 4-Door Sedan in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-04 to determine FMVSS 214 Side Impact Protection compliance. This test was conducted at the Calspan Corporation Crash Test Facility in Buffalo, New York, on September 23, 1998. The impact velocity of the Moving Deformable Barrier (MDB) was 52.9 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20 °C. The target vehicle post-test maximum crush was 323 mm at level 2. The test or target vehicle's performance is given below: <table border="0"> <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:</td> <td align="center"><u>46</u></td> <td align="center">g's</td> <td align="center"><u>67</u></td> <td align="center">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td align="center"><u>45</u></td> <td align="center">g's</td> <td align="center"><u>64</u></td> <td align="center">g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td align="center"><u>61</u></td> <td align="center">g's</td> <td align="center"><u>54</u></td> <td align="center">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td align="center"><u>53</u></td> <td align="center">g's</td> <td align="center"><u>61</u></td> <td align="center">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td align="center"><u>64</u></td> <td align="center">g's</td> <td align="center"><u>69</u></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:	<u>46</u>	g's	<u>67</u>	g's	Left Lower Rib Acceleration:	<u>45</u>	g's	<u>64</u>	g's	Lower Spine Acceleration:	<u>61</u>	g's	<u>54</u>	g's	Thoracic Trauma Index (TTI):	<u>53</u>	g's	<u>61</u>	g's	Pelvis Acceleration (PEV):	<u>64</u>	g's	<u>69</u>	g's
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TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
1 PURPOSE AND TEST PROCEDURE	1-1
2 SUMMARY OF SIDE IMPACT TEST	2-1
3 VEHICLE TEST DATA	3-1
Data Sheet 1 - General Vehicle Test Parameter Data	3-2
Data Sheet 2 - Test Vehicle Summary of Results	3-5
Data Sheet 3 - Moving Deformable Barrier (MDB) Summary	3-6
Data Sheet 4 - Post Test Observations	3-7
4 OCCUPANT AND VEHICLE INFORMATION	4-1
Data Sheet 5 - SID Instrumentation Data	4-2
Data Sheet 6 - Vehicle Pre- And Post Test Measurements	4-3
Data Sheet 7 - SID Longitudinal Clearance Dimensions	4-4
Data Sheet 8 - SID Lateral Clearance Dimensions	4-5
Data Sheet 9 - Vehicle Side Measurements	4-6
Data Sheet 10 - Vehicle Exterior Crush Profiles - All Levels	4-7
Data Sheet 11 - Vehicle Damage Profile Distances	4-13
Data Sheet 12 - Exterior Static Crush For Impactor Face	4-14
Data Sheet 13 - Test Vehicle Accelerometer Locations And Data Summary	4-16
Data Sheet 14 - MDB Accelerometer Locations and Data Summary	4-19
Data Sheet 15 - High Speed Camera Locations and Data	4-20
5 VEHICLE FUEL SYSTEM INTEGRITY	5-1
Data Sheet 16 - FMVSS 301 Fuel System Integrity Data	5-2
Data Sheet 17 - FMVSS 301 Rollover Data	5-3
APPENDIX A PHOTOGRAPHS	A-1
APPENDIX B VEHICLE, MDB AND SID RESPONSE DATA	B-1
APPENDIX C SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA	C-1
APPENDIX D TEST EQUIPMENT LIST AND CALIBRATION INFORMATION	D-1

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 Safety Administration (NHTSA) under Contract No. DTNH22-97-C-01033. The purpose of this test was to evaluate side impact protection in a 1999 Mitsubishi Galant 4-Door Sedan. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-04, dated September 1, 1995).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 1999 Mitsubishi Galant 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 52.9 kph (32.9 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 Corporation Transportation Sciences Center in Buffalo, New York on September 23, 1998. 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-04, dated September 1, 1995). 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)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 41 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)	53	61
PEV (g)	64	69

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

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 1999 Mitsubishi Galant 4-Door Sedan

Vehicle Body Color: Silver VIN: 4A3AA46G1XE005120

Vehicle NHTSA No.: CX5600 Month & Year of Manufacture: 06/98

Engine Data: 4 Cylinders; - CID; 2.4 Liters; - cc

Engine Placement: - Longitudinal; or X Lateral

Transmission: 4 Speed; - Manual; X Automatic; X Overdrive

Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel

Odometer Reading 111.0 km

Options: X A/C; X Power Steering; X Pwr.Brakes; X Pwr. Windows

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity); 220 kPa FRONT
200 kPa REAR

Recommended Tire Size: P195/60R15

Tires on Test Vehicle: P195/60R15 ; Manufacturer: Bridgestone

Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total

Type of Front Seats: X Bucket; - Bench; - Split Bench

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

Vehicle Max Capacity Loading = 375 kg (A)

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

Vehicle Cargo Capacity = 34.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>422.5</u> kg	Left Rear	=	<u>275.0</u> kg
Right Front	=	<u>427.0</u> kg	Right Rear	=	<u>274.0</u> kg
TOTAL FRONT	=	<u>849.5</u> kg	TOTAL REAR	=	<u>549.0</u> kg
% of Total Weight	=	<u>60.7</u> %	% of Total Weight	=	<u>39.3</u> %
TOTAL WEIGHT	=	<u>1,398.5</u> kg			

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1398.5</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>34.8</u>	kg (B)
Weight of instrumented Side Impact Dummies (1 or 2 X <u>81.2</u> kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1,595.7</u>	kg (A+B+C)

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

Left Front	=	<u>474.0</u>	kg	Left Rear	=	<u>360.5</u>	kg
Right Front	=	<u>428.5</u>	kg	Right Rear	=	<u>330.0</u>	kg
TOTAL FRONT	=	<u>902.5</u>	kg	TOTAL REAR	=	<u>690.5</u>	kg
% of Total Weight	=	<u>56.7</u>	%	% of Total Weight	=	<u>43.3</u>	%
TOTAL TEST WEIGHT	=	<u>1,593.0</u>	kg				

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

Left Front	=	<u>466.0</u>	kg	Left Rear	=	<u>360.5</u>	kg
Right Front	=	<u>434.5</u>	kg	Right Rear	=	<u>330.0</u>	kg
TOTAL FRONT	=	<u>900.5</u>	kg	TOTAL REAR	=	<u>690.5</u>	kg
% of Total Weight	=	<u>56.6</u>	%	% of Total Weight	=	<u>43.4</u>	%
TOTAL TEST WEIGHT	=	<u>1,591.0</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>709</u>	Right Front	<u>708</u>	Left Rear	<u>677</u>	Right Rear	<u>679</u>
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FULLY LOADED:

Left Front	<u>689</u>	Right Front	<u>704</u>	Left Rear	<u>643</u>	Right Rear	<u>655</u>
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READY FOR TEST:

Left Front	<u>694</u>	Right Front	<u>705</u>	Left Rear	<u>645</u>	Right Rear	<u>657</u>
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Test Vehicle Wheelbase: 2648 millimeters

C.G. = 1,149 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side	=	<u>4714</u>	millimeters
Left Side	=	<u>4722</u>	millimeters
Centerline	=	<u>4763</u>	millimeters

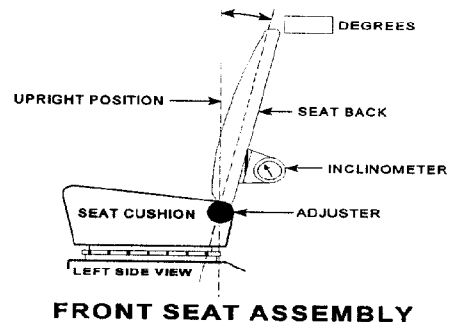
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

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 CUSHION PLACEMENT: Mid-position (detent 11, where the forward most position is detent 0)

Total Length of Adjustment Travel: 220 millimeters

Total Number of Adjustment Positions or Detents: 22

FRONT SEAT BACK ADJUSTMENT POSITION: The seatback was reclined to 34.8° 305 mm above the pivot.

Seat Back Torso Angle: 34.8° degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: N/A millimeters

Seat Back Adjustment Position: N/A

ADJUSTABLE STEERING COLUMN POSITION: Mid-position

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Open Right Rear: Open

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

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

62.1 liters (Fuel Tank Usable Capacity)

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

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

Wheelbase = 2648 millimeters

Impact Point is 384 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 375 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 1999 Mitsubishi Galant

Body Style: 4-Door Sedan

VIN: 4A3AA46G1XE005120

NHTSA No.: CX5600

Test Date: September 23, 1998

Overall Length = 4763 millimeters; Overall Width = 1727 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front	=	<u>466.0</u> kg	Left Rear	=	<u>360.5</u> kg
Right Front	=	<u>434.5</u> kg	Right Rear	=	<u>330.0</u> kg
TOTAL FRONT	=	<u>900.5</u> kg	TOTAL REAR	=	<u>690.5</u> kg
TOTAL VEHICLE WEIGHT		<u>1,591.0</u> kg			

Wheelbase = 2648 millimeters

Longitudinal C.G. from Center of Front Axle = 1,149 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 9 mm forward of nominal impact ref. line (Lateral)

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

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (	<u>236</u> mm above ground)	=	<u>148</u> millimeters
2. LEVEL 2 (	<u>449</u> mm above ground)	=	<u>323</u> millimeters
3. LEVEL 3 (	<u>579</u> mm above ground)	=	<u>265</u> millimeters
4. LEVEL 4 (	<u>778</u> mm above ground)	=	<u>245</u> millimeters
5. LEVEL 5 (	<u>1325</u> mm above ground)	=	<u>10</u> millimeters
Maximum Post-Test Intrusion		=	<u>323</u> millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification	<u>268</u>	<u>027</u>
Restraints Used	<u>3-point active seat belt</u>	<u>3-point active seat belt</u>

INSTRUMENTATION:

Number of Vehicle Data Channels:	=	<u>20</u>
Number of Cameras:	Onboard	= <u>3</u>
	Offboard	= <u>6</u>
	TOTAL	= <u>9</u>

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore, Inc. 125B0597-3 134A0497 4800 C1

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>1,362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>52.9</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>96</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>64</u>	millimeters
3. Row C at Mid Level	=	<u>107</u>	millimeters
4. Row D at Top of Stack Level	=	<u>100</u>	millimeters

INSTRUMENTATION:

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

POST-TEST OBSERVATIONS

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

VISIBLE DUMMY CONTACT POINTS:

LEFT FRONT SID

Head: None
Upper Torso: Rear edge of door interior below the window
Lower Torso: Rear edge of door interior above the armrest
Left Knee: Left knee to door speaker cover
Right Knee: Right knee to left knee

LEFT REAR SID

The top and side of the head to the C-pillar roof intersection

Rear edge of door interior below the window
Rear edge of door interior above arm rest
Left knee to lower portion of front door edge
Right knee to left knee

DOOR OPENING:

LEFT DOOR

Front: Closed/Inoperable
Rear: Closed/Inoperable

RIGHT DOOR

Closed/Operable
Closed/Operable

MDB DISTANCE FROM TARGET IMPACT POINT:

Vertical: 1 mm above the target
Horizontal: 9 mm forward of the target

ARM REST LOCATIONS:

Front: 234 millimeters below the bottom of the window opening
Rear: 225 millimeters below the bottom of the window opening

SEAT MOVEMENT:

Front: The front seat was pushed inboard and rotated clockwise. The seatback contacted the center console armrest.
Rear: The rear seat cushion was pushed inboard.

GLAZING DAMAGE:

Windshield: The windshield was cracked along the driver's side A-pillar
Window: The rear passenger side window shattered upon impact.

PILLAR PERFORMANCE:

No visible tears or separation

SILL SEPARATION:

None

OTHER NOTABLE IMPACT EFFECTS:

The driver and right front passenger airbags did not deploy during the impact. This vehicle was not equipped with side impact airbags.

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

	Front Dummy ID# 268				Rear Dummy ID# 027			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
RIB ACCELERATIONS:								
Upper Rib Lateral . Y	45.85	28.70	-14.75	73.70	67.30	47.50	-7.02	175.00
Upper Rib Lateral . Y(R)	42.71	28.80	-14.41	72.50	64.27	47.50	-5.95	175.00
Lower Rib Lateral . Y	45.03	37.50	-15.51	73.70	63.54	47.50	-14.32	73.70
Lower Rib Lateral . Y(R)	42.95	41.20	-14.97	73.10	62.11	46.90	-14.77	74.30
SPINE ACCELERATIONS:								
Lower Lateral Y	60.70	35.70	-13.33	66.90	53.63	47.50	-12.03	78.10
Lower Lateral Y(R)	61.25	36.20	-13.35	66.90	53.51	47.50	-11.96	78.20
PELVIC ACCELERATIONS:								
Lateral Y	63.78	30.70	-12.71	53.20	68.75	40.00	-8.00	80.60
Lateral Y(R)	63.15	30.70	-13.02	53.10	67.30	40.00	-7.99	80.60

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

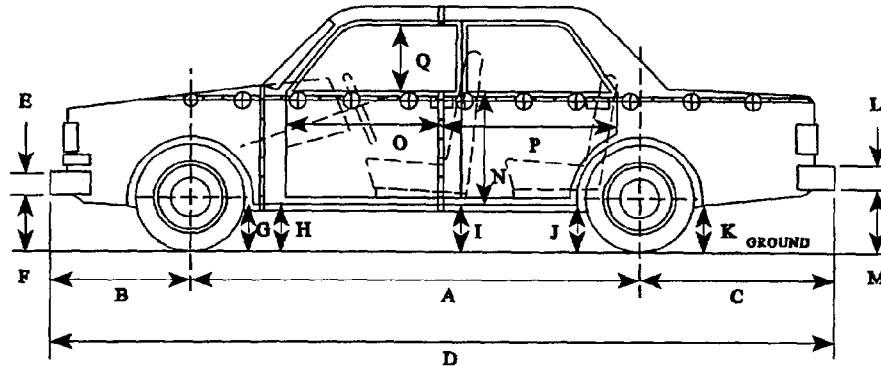
Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



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	2648	-	2626	-22
B	983	-	984	1
C	1140	-	1126	-14
D	4763	-	4736	-27
E	109	-	109	0
F	403	394	428	34
G	207	183	230	47
H	208	186	249	63
I	212	179	270	91
J1	162	130	126	-4
J2	206	174	190	16
K	237	184	228	44
L	270	-	270	0
M	313	278	288	10
N	636	-	525	-111
O	723	-	724	1
P	1118	-	1058	-60
Q	404	-	397	-7
R	4714	-	4705	-9
S	4722	-	4681	-41
T	1727	-	1569	-158

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

F&I. = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

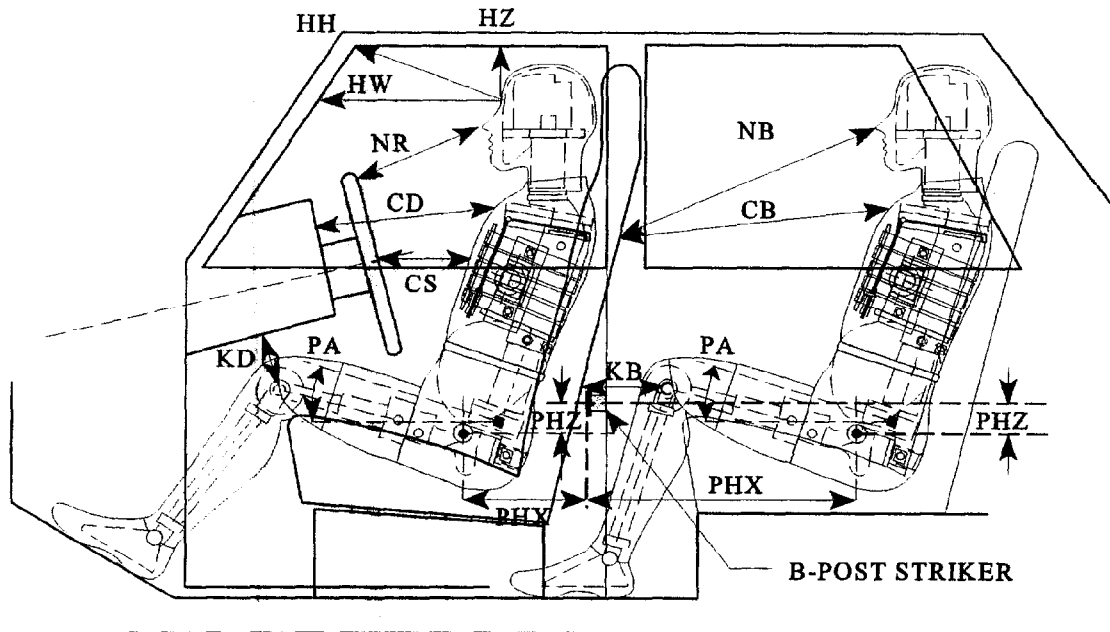
S = Left Side Length

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



LEFT SIDE VIEW

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

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

	DRIVER ID# 268	LEFT REAR PASS. ID# 027
HH	400	N/A
HW	633	N/A
HZ	176	132
NR/NB	476	592
CD/CB	584	495
CS	299	N/A
KDL(KDA°)/KBL(KDA°)	179 / (30°)	185 / (52°)
KDR(KBA°)/KBR(KBA°)	177 / (30°)	173 / (58°)
PA°	25 °	24 °
PHX	210	267
PHZ	127	310

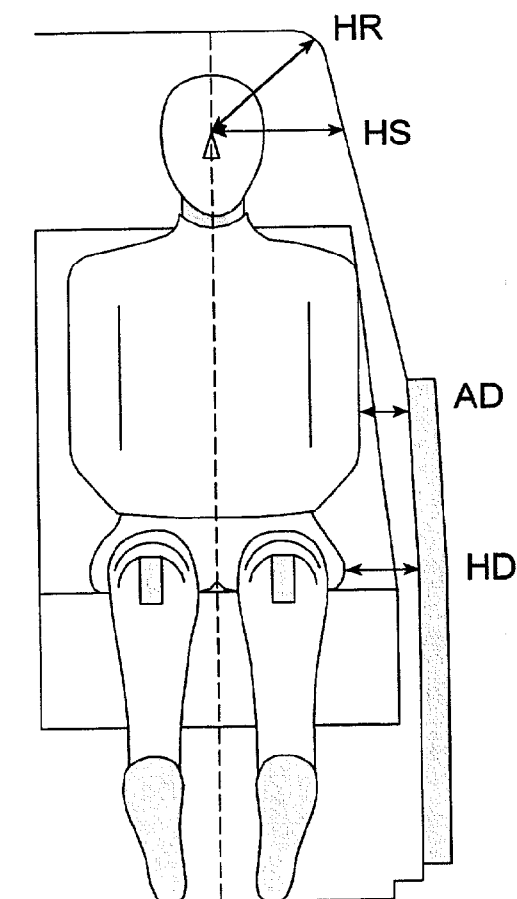
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



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

	DRIVER ID # 268		LEFT REAR PASS. ID # 027	
HR	194		208	
HS	321		350	
AD*	LOWER: 110	UPPER: 94	LOWER: 139	UPPER: 137
HD	155		208	

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

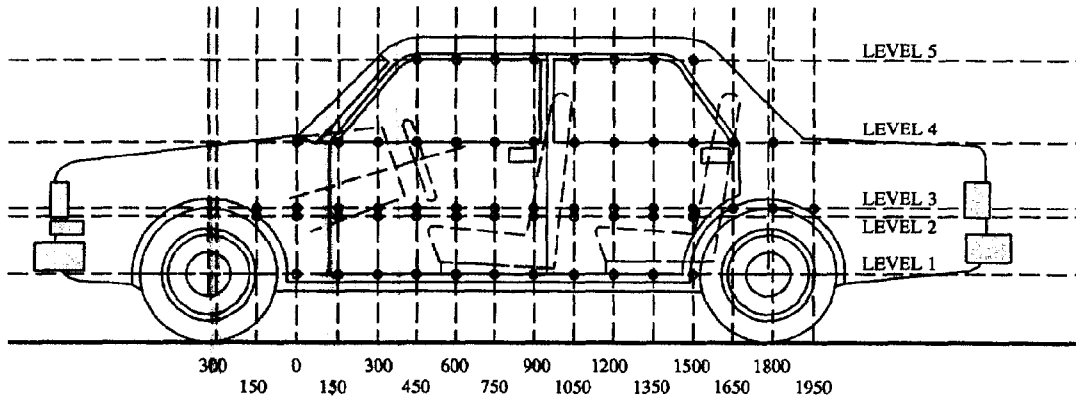
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

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

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

Measurements Along the Vertical 750 mm Line Shown Above:

Level 5 @ Window Top	=	<u>1325</u>	millimeters
Level 4 @ Window Sill	=	<u>778</u>	millimeters
Level 3 @ Mid Door	=	<u>579</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>449</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>236</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

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

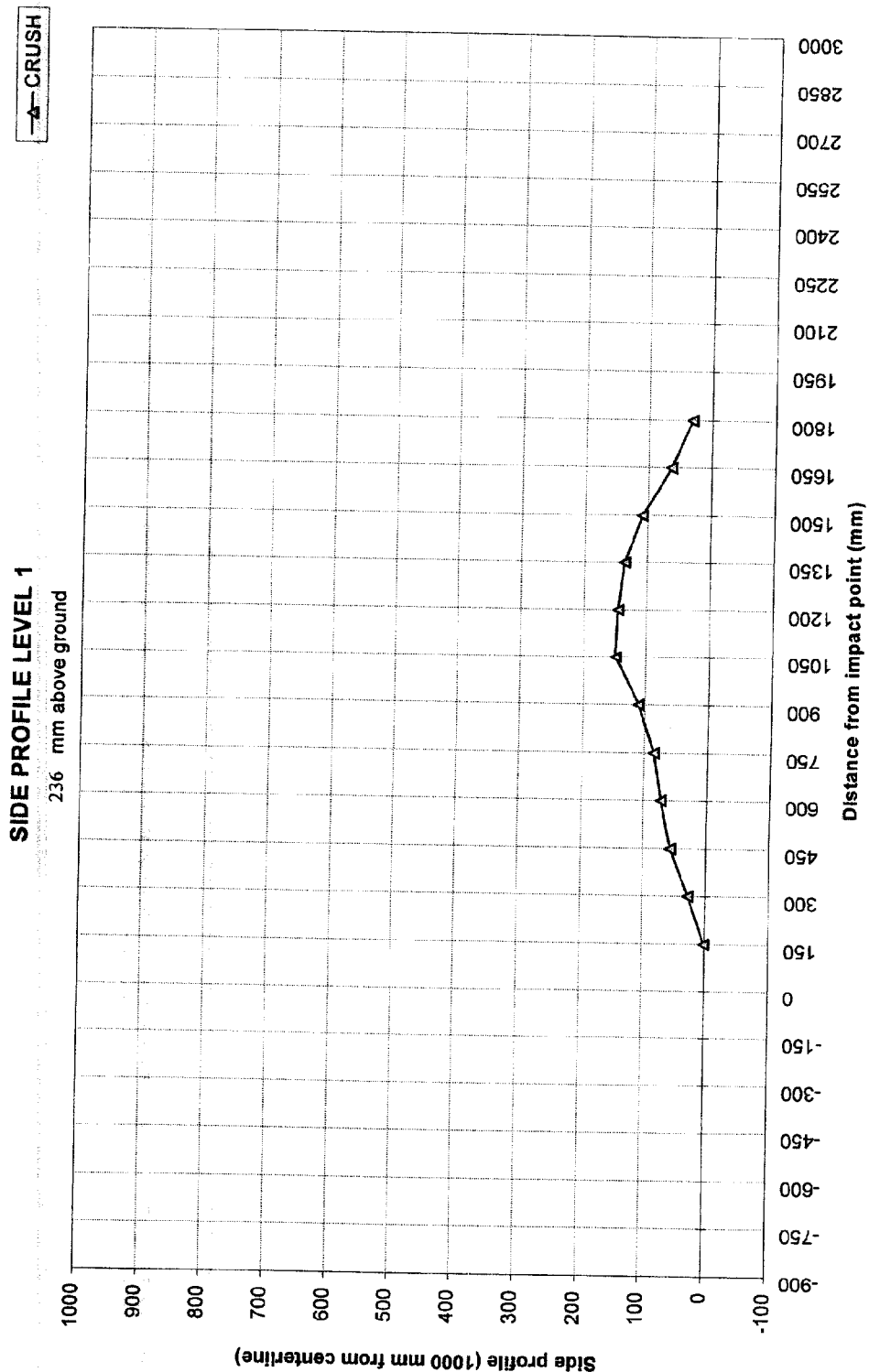
		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																							
LEVEL	HEIGHT (mm)	-900	-750	-600	-450	-300	-150	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	
LEVEL 1	236	PRE	-	-	-	-	-	191	187	184	180	182	180	179	180	179	179	183	184	-	-	-	-	-	
		POST	-	-	-	-	-	192	214	240	251	266	290	327	325	315	287	246	215	-	-	-	-	-	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	1	27	56	72	85	110	148	145	136	108	63	31	N/A	N/A	N/A	N/A	N/A
LEVEL 2	449	PRE	183	161	-	-	-	160	156	156	155	151	148	148	147	144	144	147	153	-	-	-	-	-	
		POST	137	118	-	-	-	-	294	338	373	391	407	418	429	438	466	457	442	348	-	-	-	-	-
		CRUSH	-45	-43	N/A	N/A	N/A	N/A	134	182	217	236	256	270	281	291	323	313	295	195	N/A	N/A	N/A	N/A	N/A
LEVEL 3	579	PRE	223	168	-	-	-	151	151	152	152	151	150	153	154	155	156	154	158	153	-	-	-	-	152
		POST	168	127	-	-	-	-	261	321	326	340	359	369	376	389	420	411	385	348	254	-	-	-	156
		CRUSH	-55	-40	N/A	N/A	N/A	N/A	110	170	174	189	207	219	223	235	265	255	231	190	101	N/A	N/A	N/A	4
LEVEL 4	778	PRE	-	-	242	214	197	189	174	173	167	163	159	157	148	154	152	150	151	151	141	147	153	159	170
		POST	-	-	204	164	177	180	225	284	302	313	314	326	337	356	365	395	395	335	224	145	165	168	174
		CRUSH	N/A	N/A	-38	-29	-20	-10	51	111	135	150	156	169	188	203	214	245	244	184	83	-1	13	9	4
LEVEL 5	1325	PRE	-	-	-	-	-	-	-	-	-	-	-	468	449	444	446	446	450	458	477	-	-	-	-
		POST	-	-	-	-	-	-	-	-	-	-	-	463	445	452	455	455	455	460	478	-	-	-	-
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-5	-4	7	10	9	6	2	1	N/A	N/A	N/A	N/A

DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

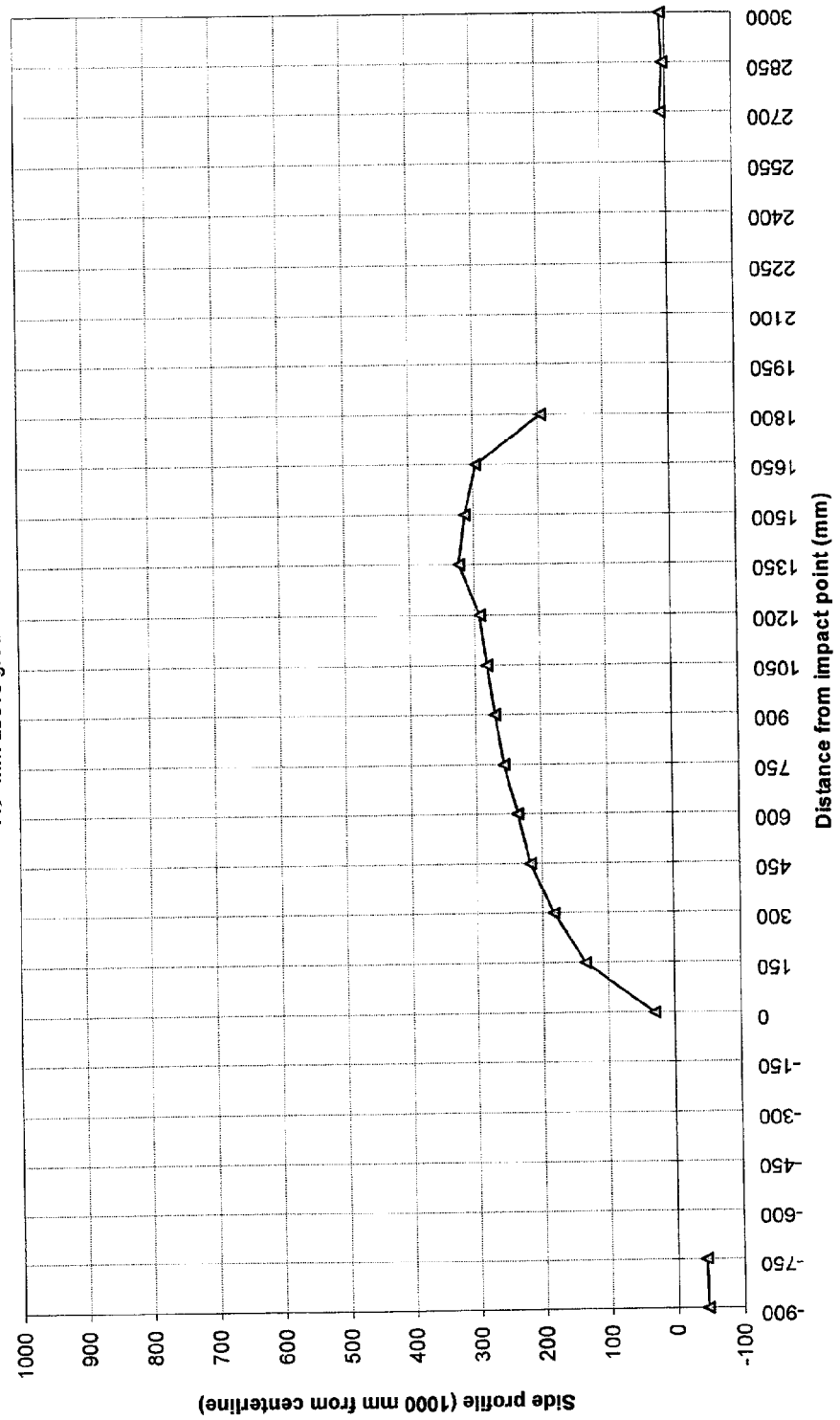
NHTSA No. CX5600

Vehicle: 1999 Mitsubishi Galant

—▲— CRUSH

SIDE PROFILE LEVEL 2

449 mm above ground

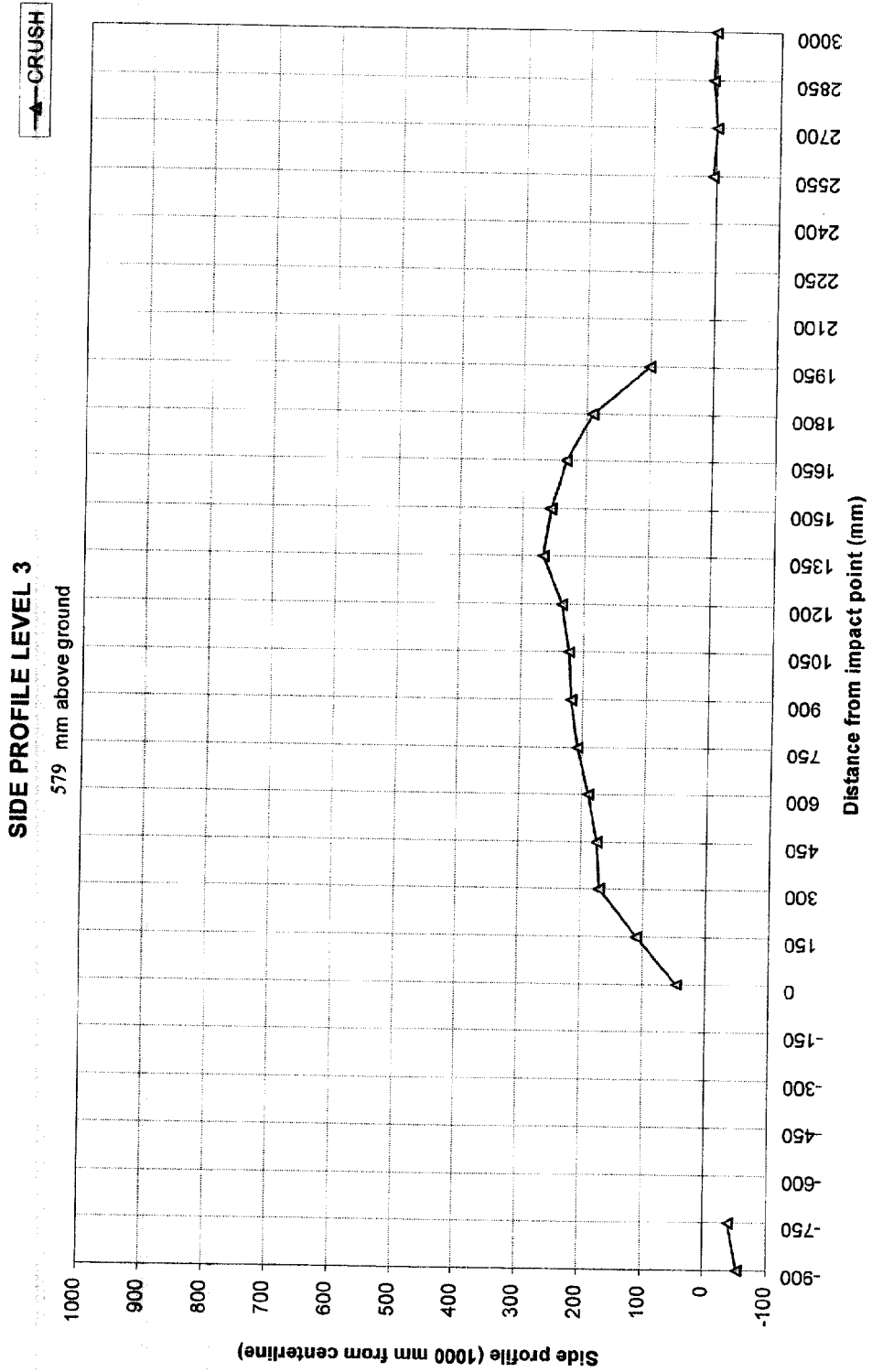


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

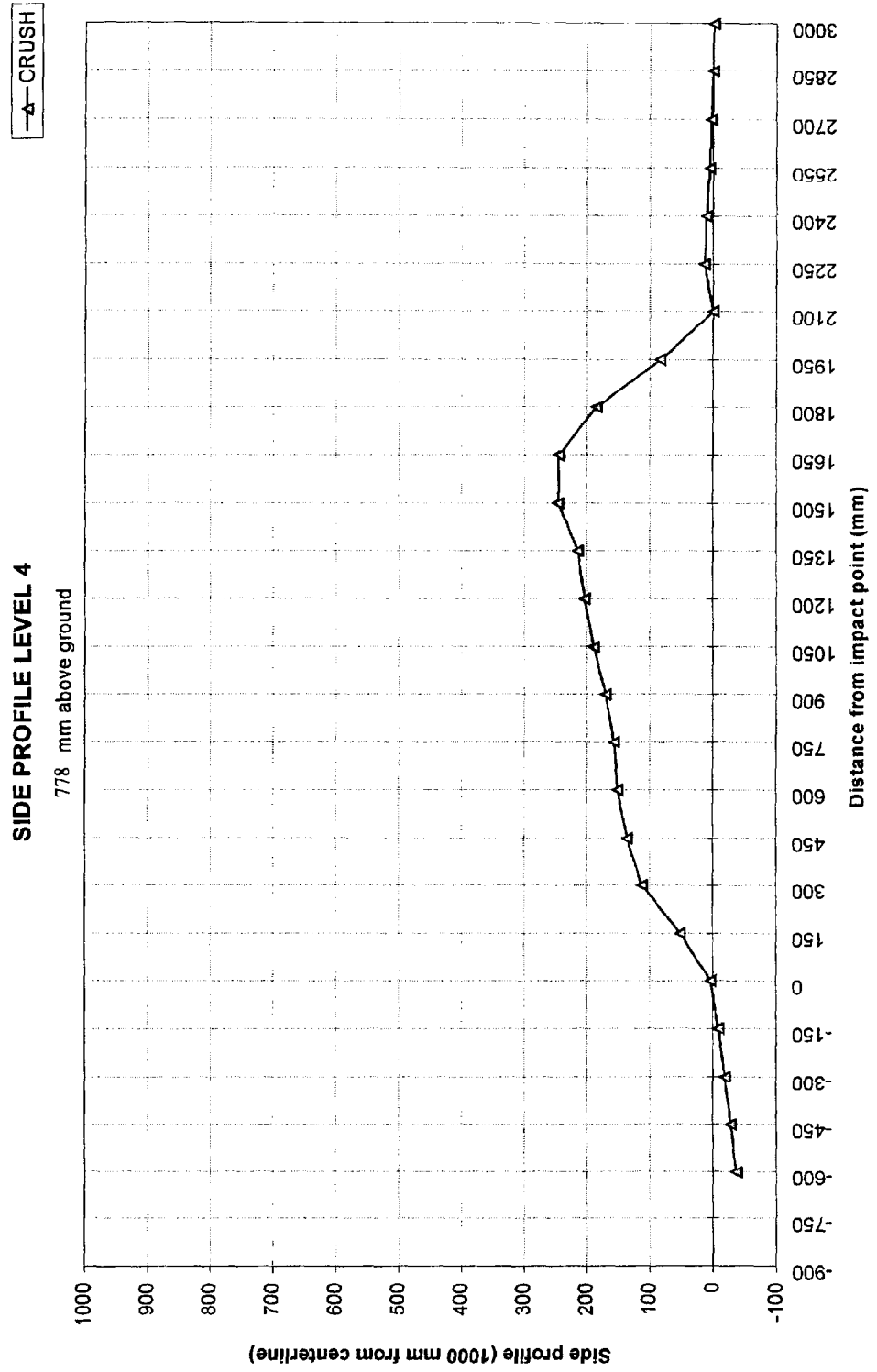


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

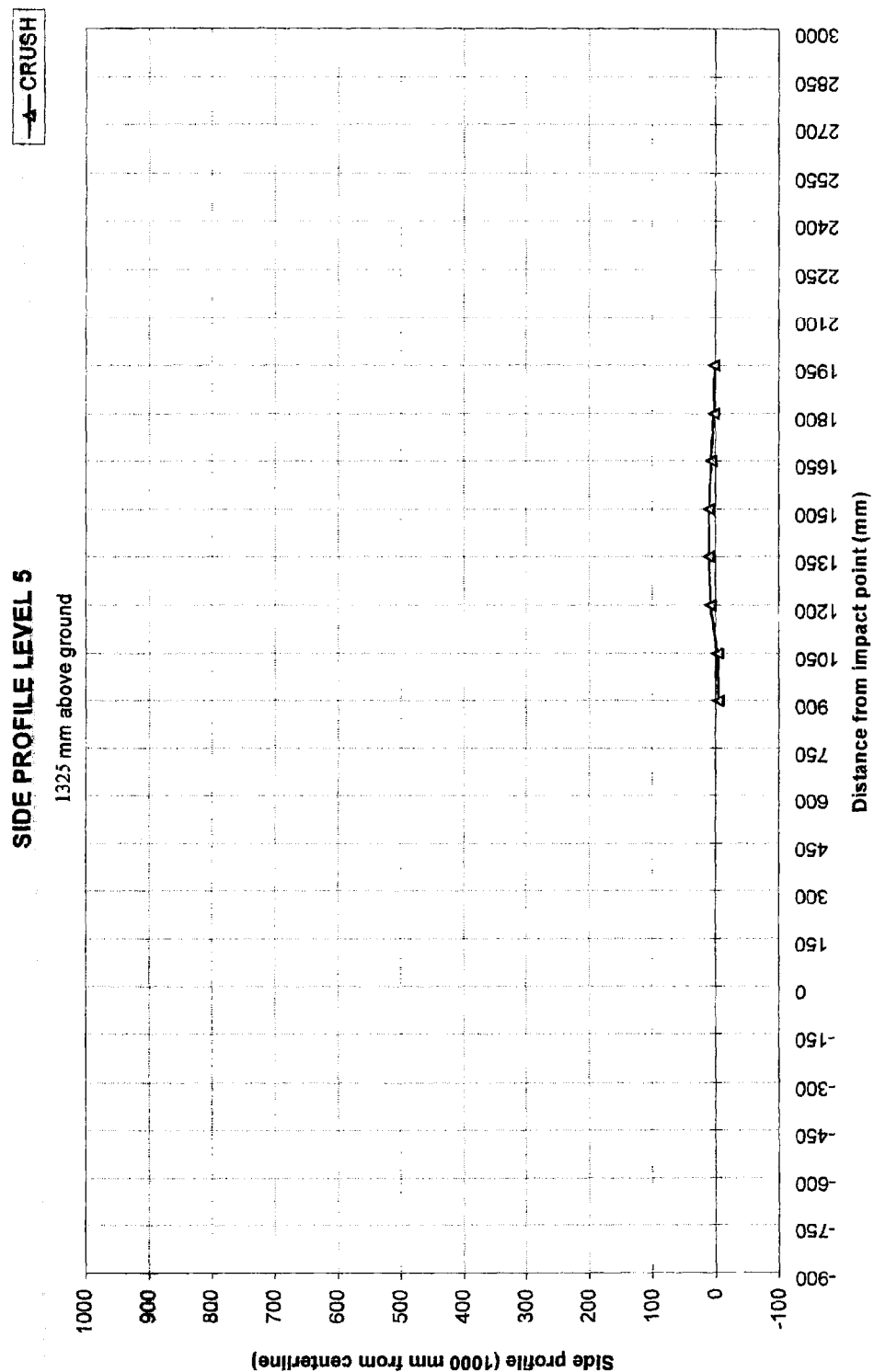


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

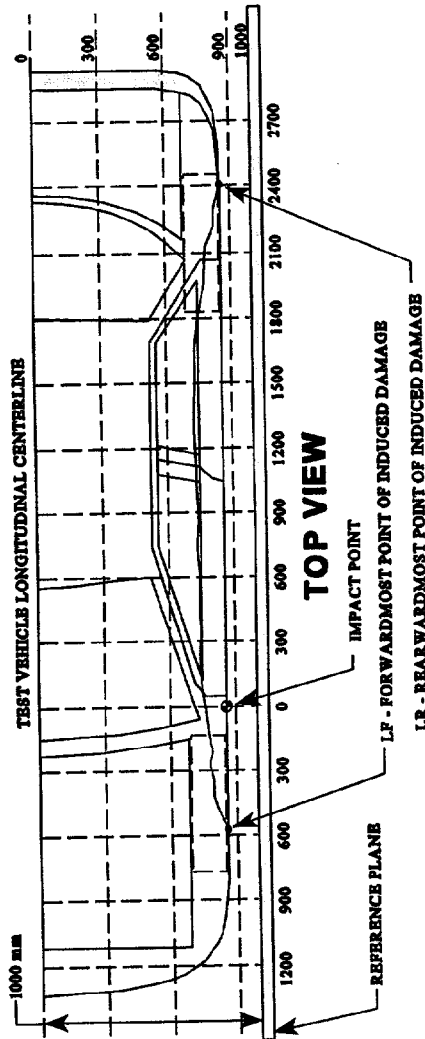


DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

NHTSA No. CX5600

Vehicle: 1999 Mitsubishi Galant



MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (-).
Rearward of the impact point (toward rearward of vehicle) is considered positive (+).

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

DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LF = -300 mm)	177	197	-20
2	258	326	157	169
3	816	412	150	262
4	1374	465	144	321
5	1932	265	154	111
6	(LR = 2490 mm)	171	165	6

DATA SHEET 12

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

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

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

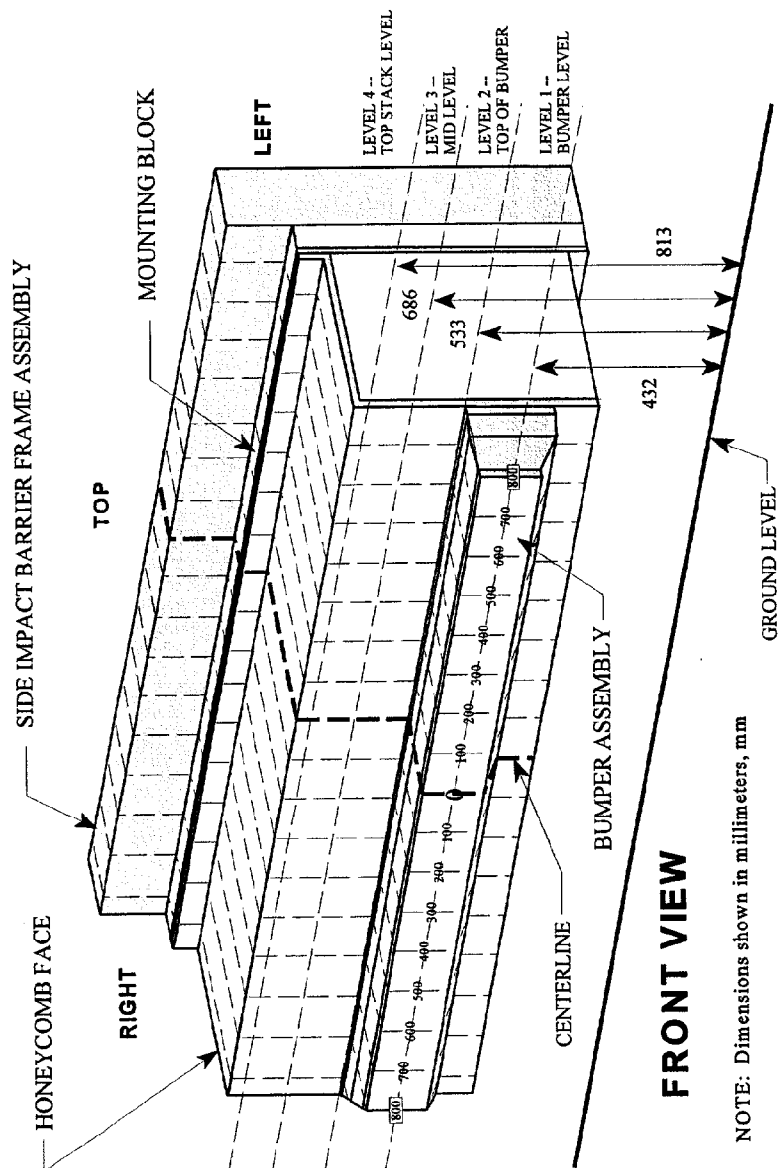
LEVEL	HEIGHT AT CL (mm)*	DISTANCE RIGHT OF CENTER (mm)								DISTANCE LEFT OF CENTER (mm)							
		800	700	600	500	400	300	200	100								
LEVEL 4 TOP STACK	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
	POST	628	609	610	612	615	620	619	620	621	622	624	629	635	647	676	719
	CRUSH	9	-9	-9	-6	-3	1	1	1	2	4	5	10	16	28	57	100
LEVEL 3 MID LEVEL	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
	POST	624	614	608	610	613	615	616	616	617	617	616	620	628	643	668	726
	CRUSH	5	-5	-11	-8	-6	-4	-2	-2	-1	-2	-2	2	9	24	50	107
LEVEL 2 TOP BUMPER	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
	POST	629	611	605	606	610	611	611	613	622	624	630	634	636	645	664	682
	CRUSH	11	-7	-13	-12	-8	-7	-6	-6	3	6	11	16	17	27	45	64
LEVEL 1 MID BUMPER	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535
	POST	553	530	519	517	524	523	525	528	533	539	543	549	556	574	606	630
	CRUSH	19	11	0	-1	6	5	10	10	15	21	25	31	38	56	87	96

DATA SHEET 12 (continued)

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

NHTSA No. CX5600

Vehicle: 1999 Mitsubishi Galant

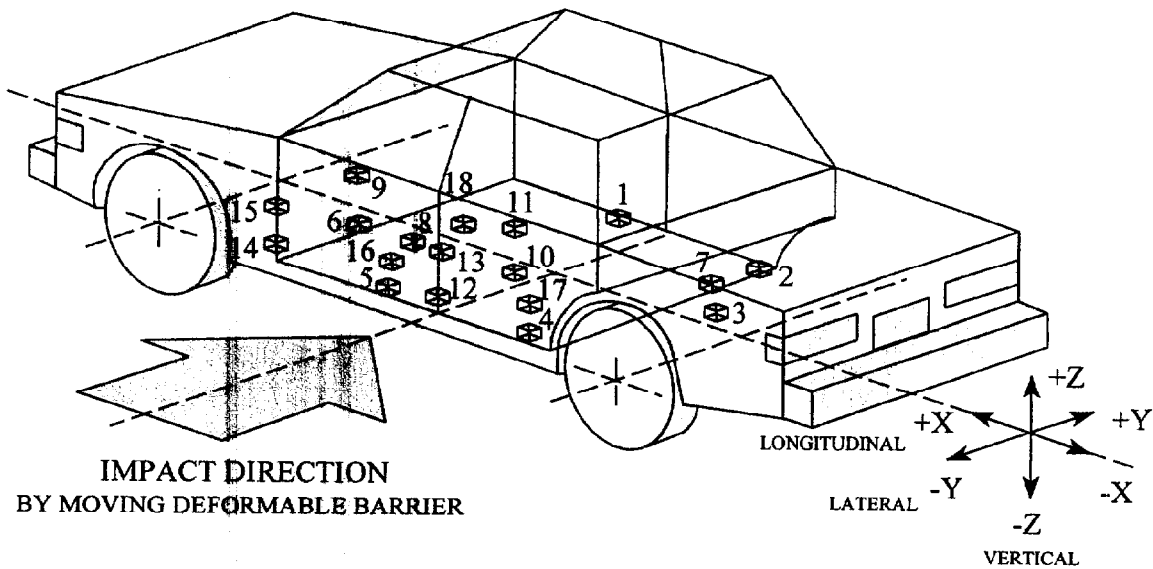


DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



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

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

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

Accel. No.	Location	Coordinates (mm) ±3			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1	Right Side Sill at Front Seat	2912	+864	+278	pos.	2.91	47.20	25.08	6.50	***	25.30	6.50
					neg.	-5.23	17.70	-2.02	127.50	***	0.00	-36.90
2	Right Side Sill at Rear Seat	1988	+864	+278	pos.	3.92	46.20	22.69	7.00	6.56	23.63	7.00
					neg.	-6.63	17.30	-1.83	167.70	8.80	0.00	-64.50
3	Rear Floorpan Above Axle	3610	0	+480	pos.	***	***	20.58	39.30	17.59	***	***
					neg.	***	***	-1.78	111.10	***	***	***
4	Left Side Sill at Rear Seat	1988	-724	+290	pos.	-	-	50.57	10.10	-	-	-
					neg.	-	-	-6.47	44.50	-	-	-
5	Left Side Sill at Front Seat	2912	-715	+288	pos.	-	-	37.47	14.50	-	-	-
					neg.	-	-	-10.18	47.30	-	-	-
6**	Left Front Door on Centerline	-	-	-	pos.	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-
7	Right Rear Occupant Compartment	1958	+368	+231	pos.	-	-	21.81	6.70	-	-	-
					neg.	-	-	-1.66	168.40	-	-	-
8**	Midrear of Left Front Door	-	-	-	pos.	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-
9**	Left Front Door Upper Centerline	-	-	-	pos.	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-
10**	Midrear of Left Rear Door	-	-	-	pos.	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-
11**	Left Rear Door Upper Centerline	-	-	-	pos.	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-

*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Up)
 Accelerometer was not requested by COTR. *Accelerometer damaged during the impact, data is not available.

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

Accel. No.	Location	Coordinates (mm) ± 3			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2157	-616	+466	-	-	****	****	-	-	-	-
13	Left Middle B-Pillar	2157	-654	+790	-	-	129.26	5.20	-	-	-	-
14	Left Lower A-Pillar	3308	-755	+373	-	-	57.06	13.70	-	-	-	-
15	Left Middle A-Pillar	3637	-618	+652	-	-	16.44	15.80	-	-	-	-
16	Front Seat Track	2282	-604	+267	-	-	76.34	3.70	-	-	-	-
17	Rear Seat Track	-	-	-	-	-	-7.78	8.10	-	-	-	-
18	Vehicle CG	2670	0	+460	23.73	26.60	57.27	23.00	17.67	23.20	61.55	31.80
					-43.76	32.10	-38.13	26.60	-16.33	28.90	0.00	-17.30

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right)

Z - Ground Level (+ Up)

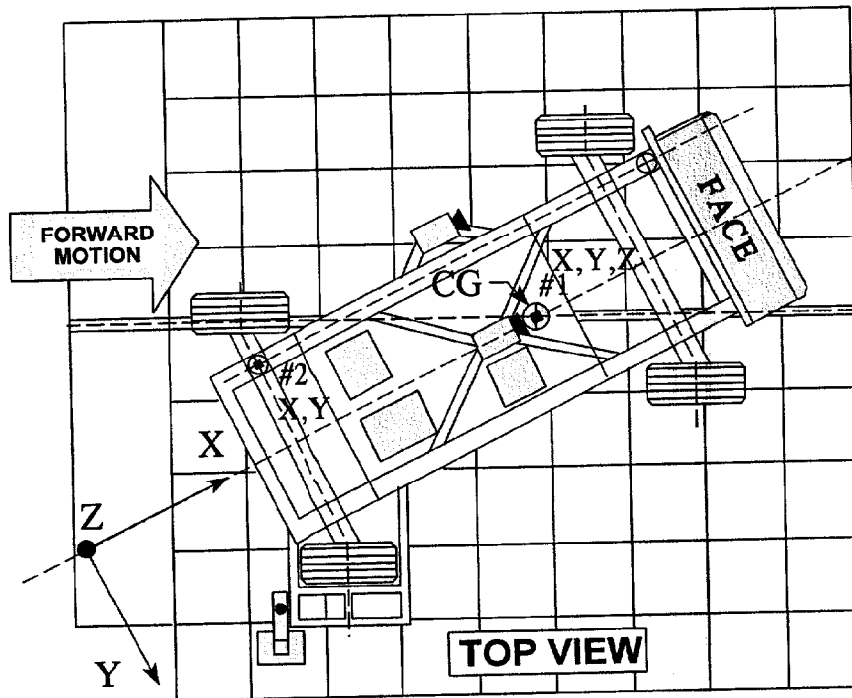
**** Data is not accurate after 25 ms.

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	330	1.35	122.20	-18.10	38.90
	Lateral..... Y				1.85	54.20	-5.95	28.20
	Vertical..... Z				8.80	39.00	-7.63	44.30
	Resultant..... R				20.15	39.00	-	-
2	Rear Frame Member							
	Longitudinal... X	386	-660	660	1.94	120.00	-20.83	31.50
	Lateral..... Y				5.23	28.70	-1.16	67.50

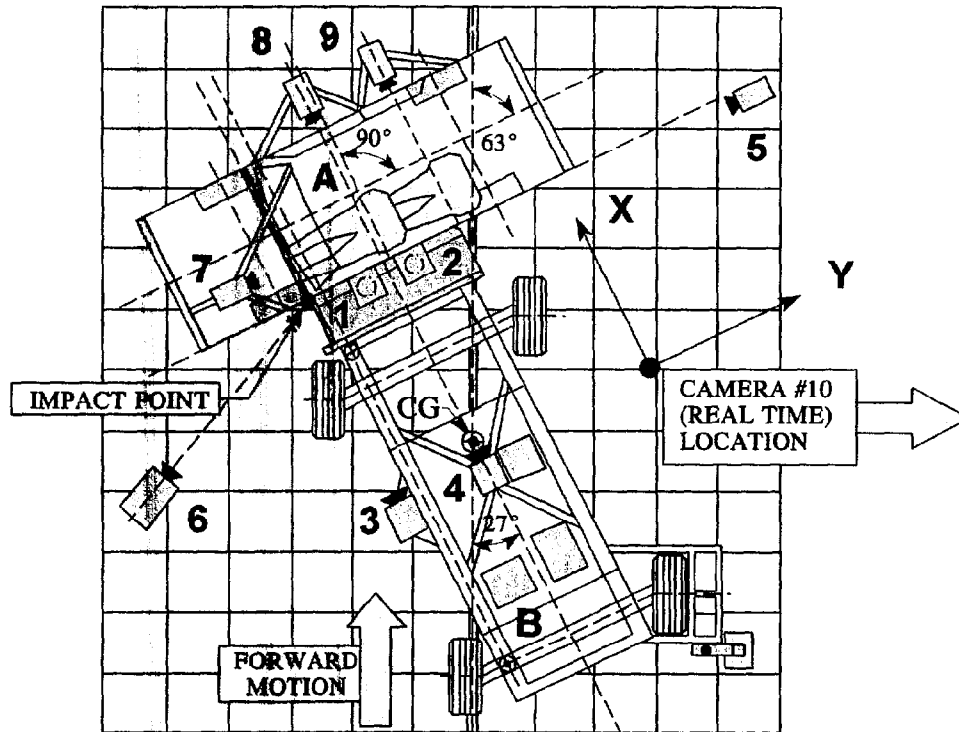
*Reference: X = Rear Bumper (+ Forward)
Y = Vehicle Centerline (+ To Right)
Z = Ground Level (+ Up)
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	724	974	4880	-87	8	1000
2	Overhead closeup view of impact plane	619	871	4880	-90	12.5	1000
3	MDB onboard closeup view of impact point	1470	0	847	0	13	540
4	MDB onboard view of driver dummy	1140	838	1586	-17	7.5	950
5	Right side ground level overall view	8944	748	1043	-2.4	25	1000
6	Left side ground level overall view	-2095	-2792	1057	-7.3	13	1000
7	Test vehicle onboard driver front view	546	-472	1232	-13	13	1000
8	Test vehicle onboard driver side view	1669	887	968	-9.3	8	1000
9	Test vehicle onboard passenger side view	1637	1669	998	-11.6	8	**
10	Real time film coverage of test	-	-	-	-	-	24

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

+X = Forward

+Y = To Right

+Z = Upward

** The onboard vehicle lights grounded against the camera body during the impact. As a result, the timing mark oscillations did not occur at the 10 ms intervals. Timing is not available for this camera.

DATA SHEET 16

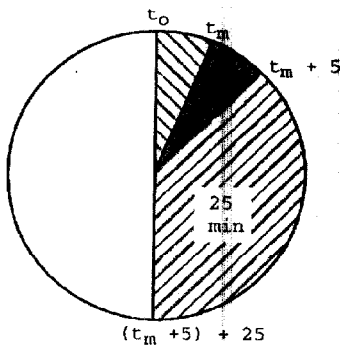
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.: CX5600 TEST DATE: September 23, 1998
 Vehicle Mfgr./Make/Model : 1999 Mitsubishi Galant 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 (53.91 kph)
 contacting the driver side side
 (driver/passenger)

FUEL SPILLAGE MEASUREMENT:



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

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

SOLVENT SPILLAGE DETAILS :

None

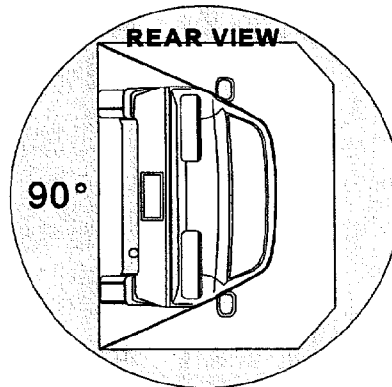
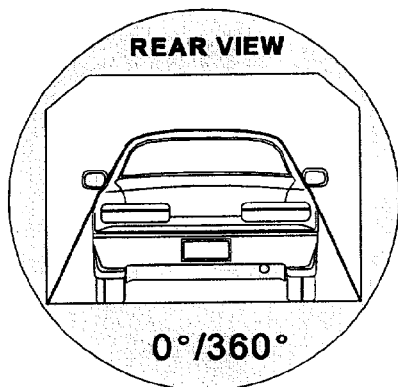
DATA SHEET 17

ROLLOVER DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u> minutes <u>11</u> seconds
(Spec. Range = 1 to 3 minutes)	
FMVSS 301 Position Hold Time +	<u>5</u> minutes <u>0</u> seconds
TOTAL	<u>6</u> minutes <u>11</u> seconds
Next whole minute interval	<u>7</u> minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

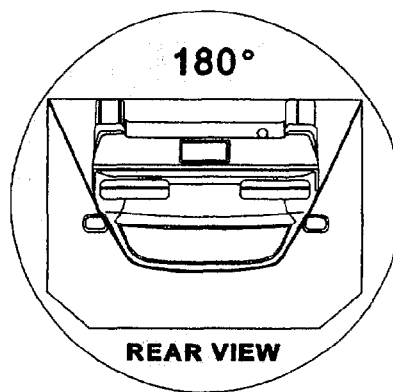
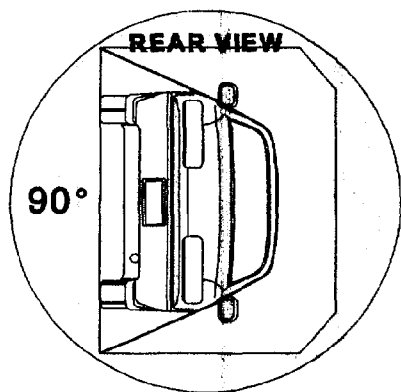
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u> minutes <u>07</u> seconds
(Spec. Range = 1 to 3 minutes)	
FMVSS 301 Position Hold Time +	<u>5</u> minutes <u>0</u> seconds
TOTAL	<u>6</u> minutes <u>7</u> seconds
Next whole minute interval	<u>7</u> minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

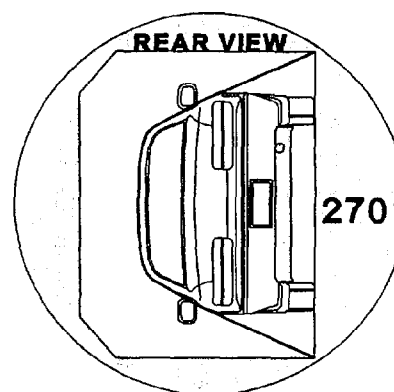
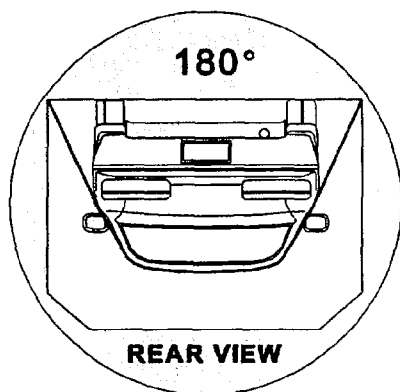
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u> minutes <u>04</u> seconds
(Spec. Range = 1 to 3 minutes)	
FMVSS 301 Position Hold Time +	<u>5</u> minutes <u>0</u> seconds
TOTAL	<u>6</u> minutes <u>4</u> seconds
Next whole minute interval	<u>7</u> minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

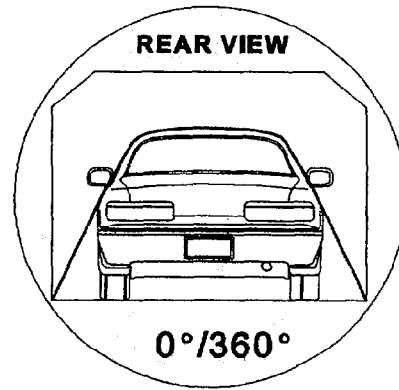
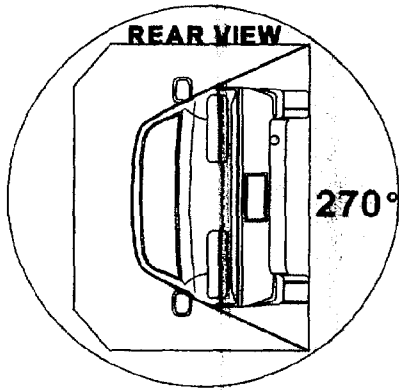
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 1999 Mitsubishi Galant

NHTSA No. CX5600

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u> minutes <u>08</u> seconds
(Spec. Range = 1 to 3 minutes)	
FMVSS 301 Position Hold Time +	<u>5</u> minutes <u>0</u> seconds
TOTAL	<u>6</u> minutes <u>8</u> seconds
Next whole minute interval	<u>7</u> minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

TABLE OF PHOTOGRAPHS

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
Figure A- 1	PRE-TEST FRONTAL VIEW OF TEST VEHICLE	A- 3
Figure A- 2	POST-TEST FRONTAL VIEW OF TEST VEHICLE	A- 4
Figure A- 3	PRE-TEST REAR VIEW OF TEST VEHICLE	A- 5
Figure A- 4	POST-TEST REAR VIEW OF TEST VEHICLE	A- 6
Figure A- 5	PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE	A- 7
Figure A- 6	POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE	A- 8
Figure A- 7	PRE-TEST FRONTAL VIEW OF IMPACTOR FACE	A- 9
Figure A- 8	POST-TEST FRONTAL VIEW OF IMPACTOR FACE	A- 10
Figure A- 9	PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 11
Figure A- 10	POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 12
Figure A- 11	PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 13
Figure A- 12	POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 14
Figure A- 13	PRE-TEST TOP VIEW OF IMPACTOR FACE	A- 15
Figure A- 14	POST-TEST TOP VIEW OF IMPACTOR FACE	A- 16
Figure A- 15	PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE	A- 17
Figure A- 16	POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE	A- 18
Figure A- 17	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 19
Figure A- 18	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 20
Figure A- 19	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 21
Figure A- 20	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 22
Figure A- 21	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 23
Figure A- 22	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 24
Figure A- 23	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 25
Figure A- 24	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 26
Figure A- 25	PRE-TEST INTERIOR OF FRONT DOOR	A- 27
Figure A- 26	POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS	A- 28
Figure A- 27	PRE-TEST INTERIOR OF REAR DOOR	A- 29
Figure A- 28	POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS	A- 30
Figure A- 29	PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION	A- 31
Figure A- 30	PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION	A- 32
Figure A- 31	POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET	A- 33
Figure A- 32	CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL	A- 34
Figure A- 33	CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL	A- 35
Figure A- 34	IMPACT PHOTO	A- 36
Figure A- 35	ROLLOVER 90 DEGREES	A- 37
Figure A- 36	ROLLOVER 180 DEGREES	A- 38
Figure A- 37	ROLLOVER 270 DEGREES	A- 39
Figure A- 38	ROLLOVER 360 DEGREES	A- 40



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

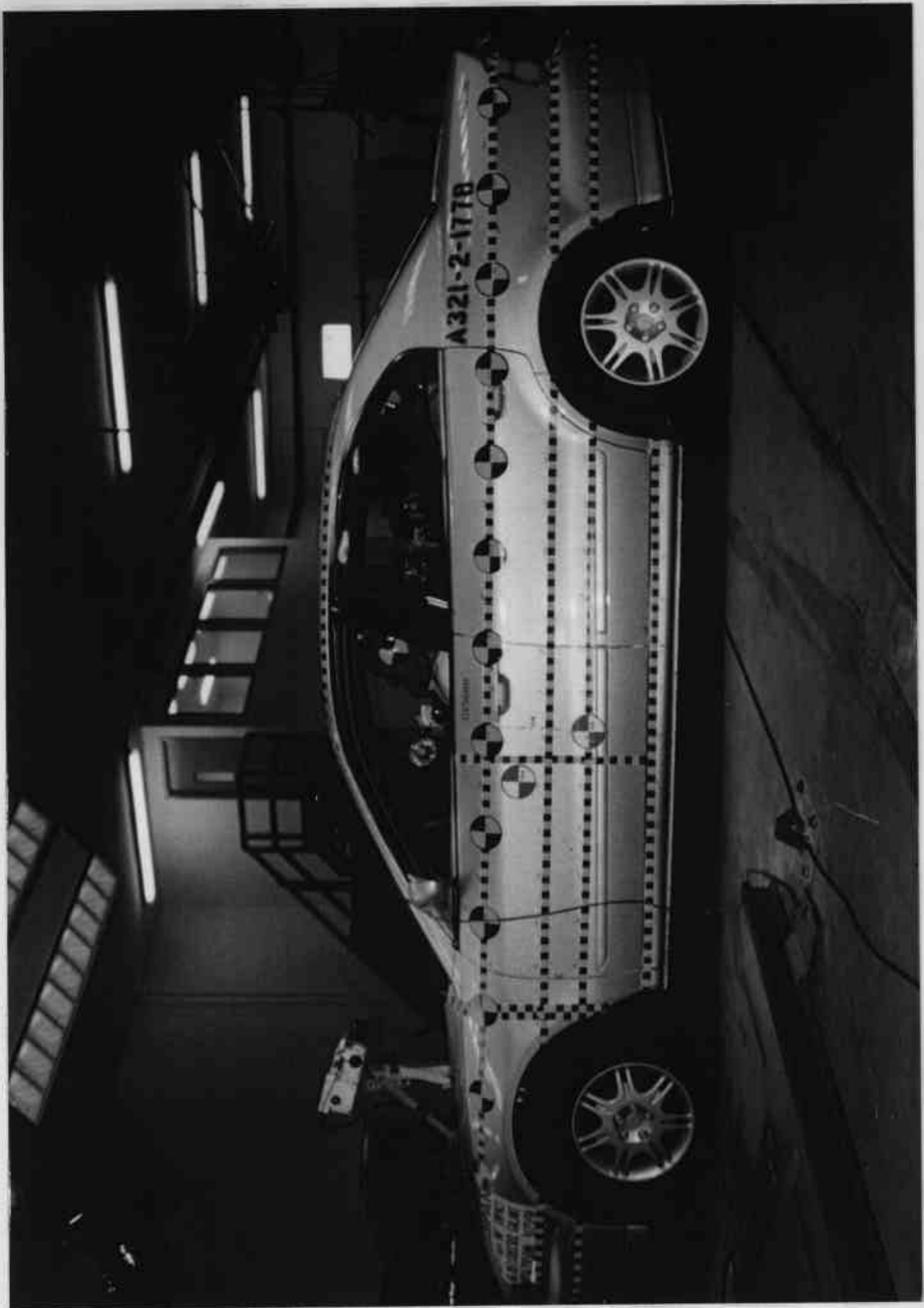


Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

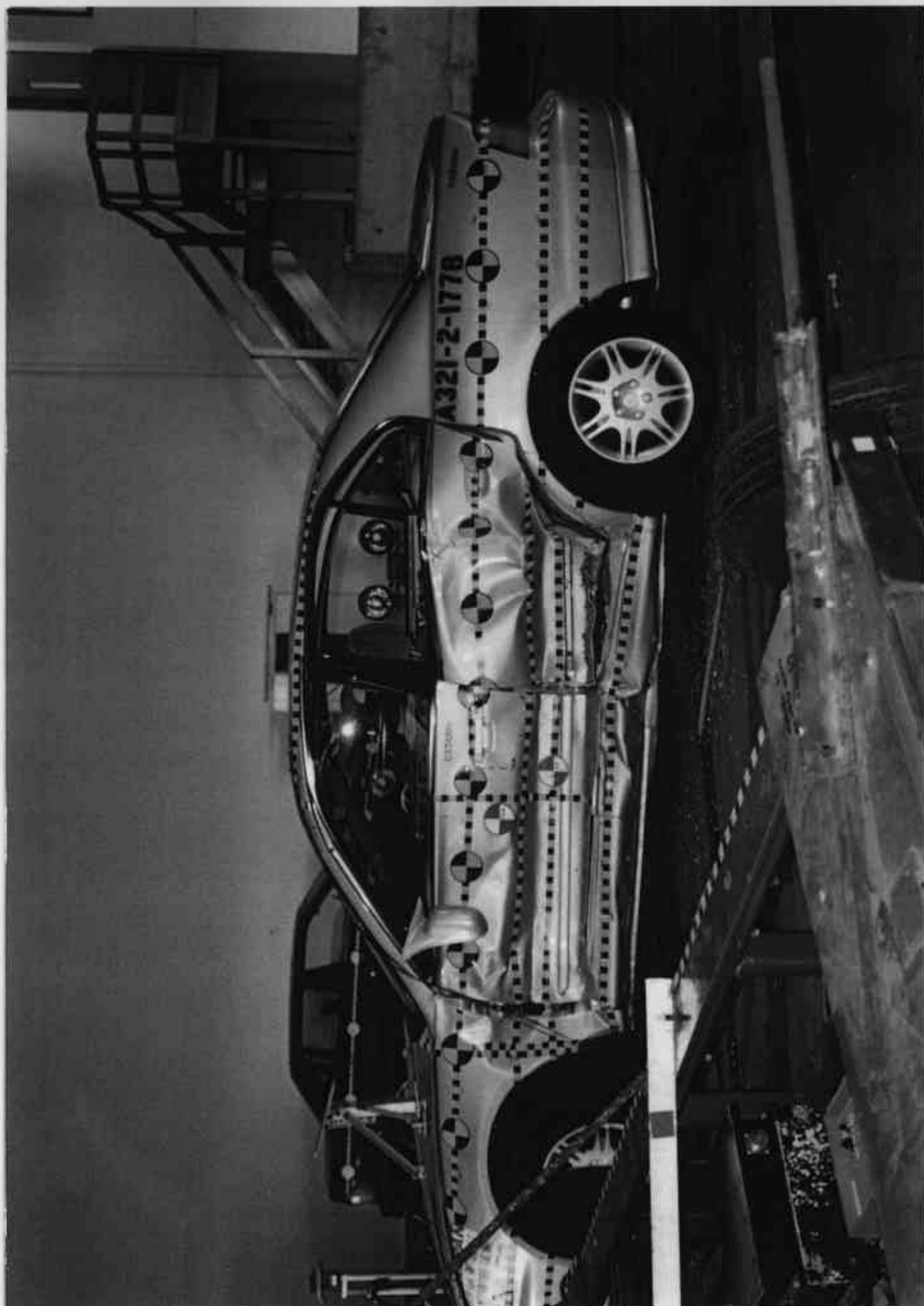
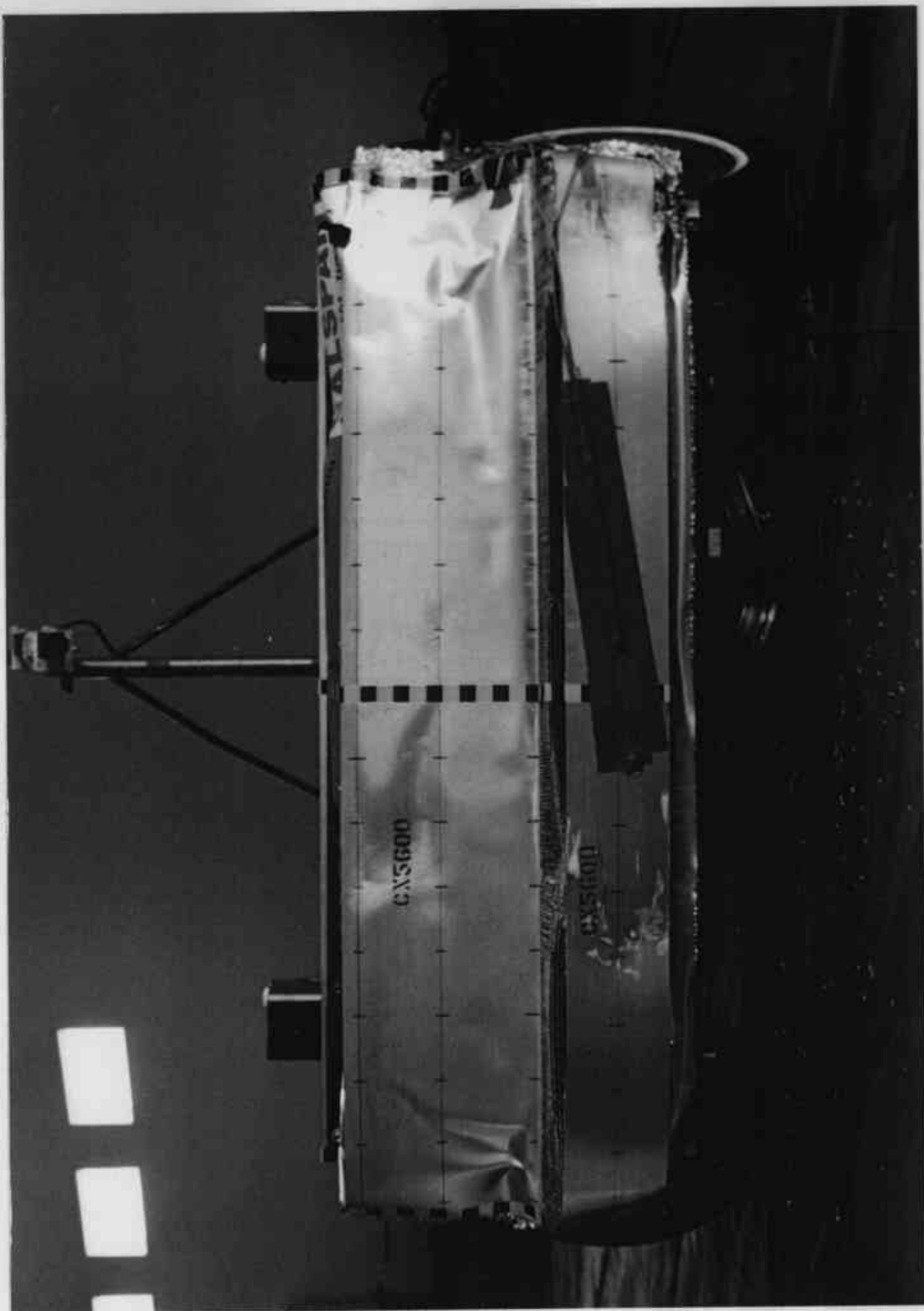


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



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

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



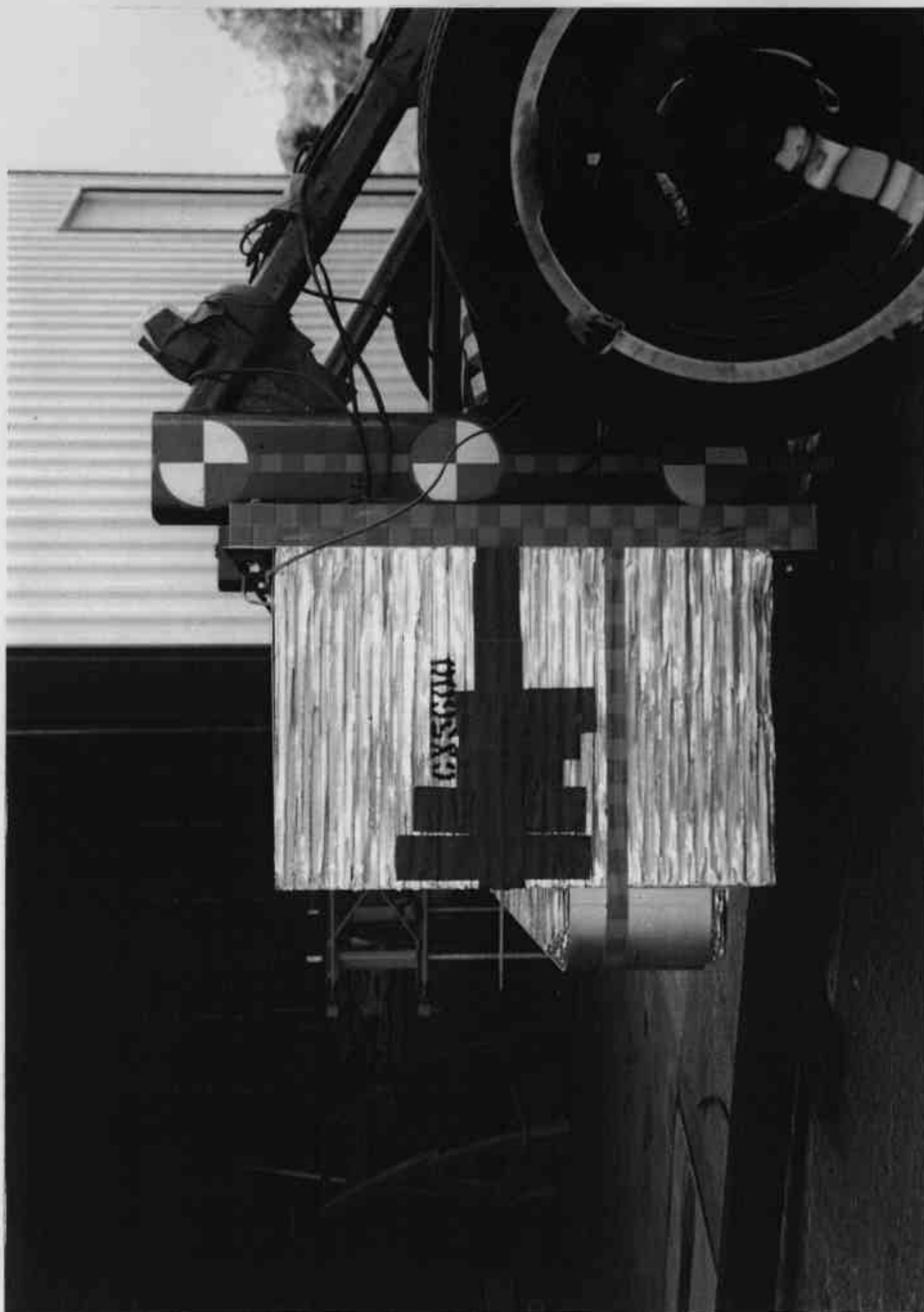


Figure A-9 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE

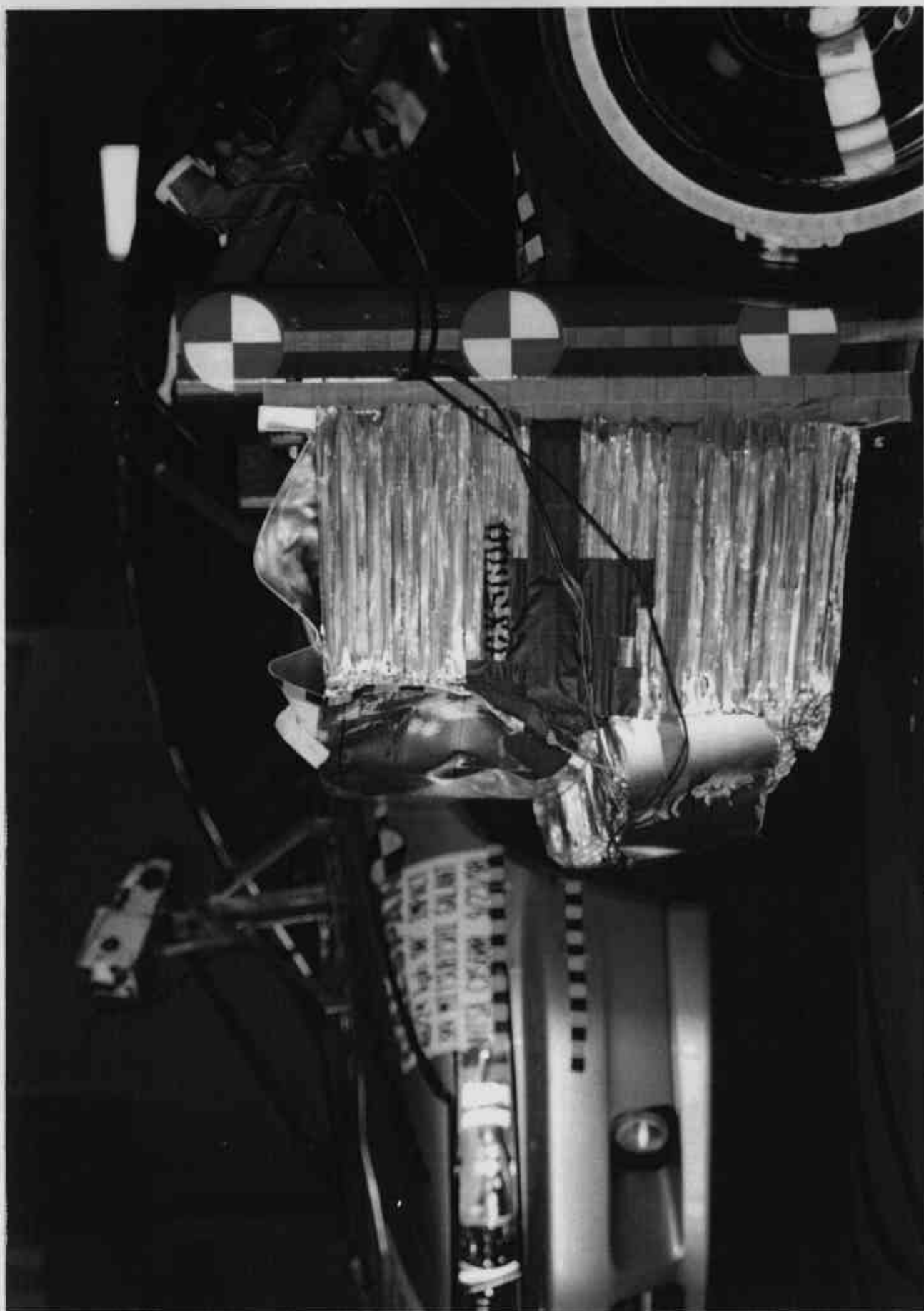


Figure A-10 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



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



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

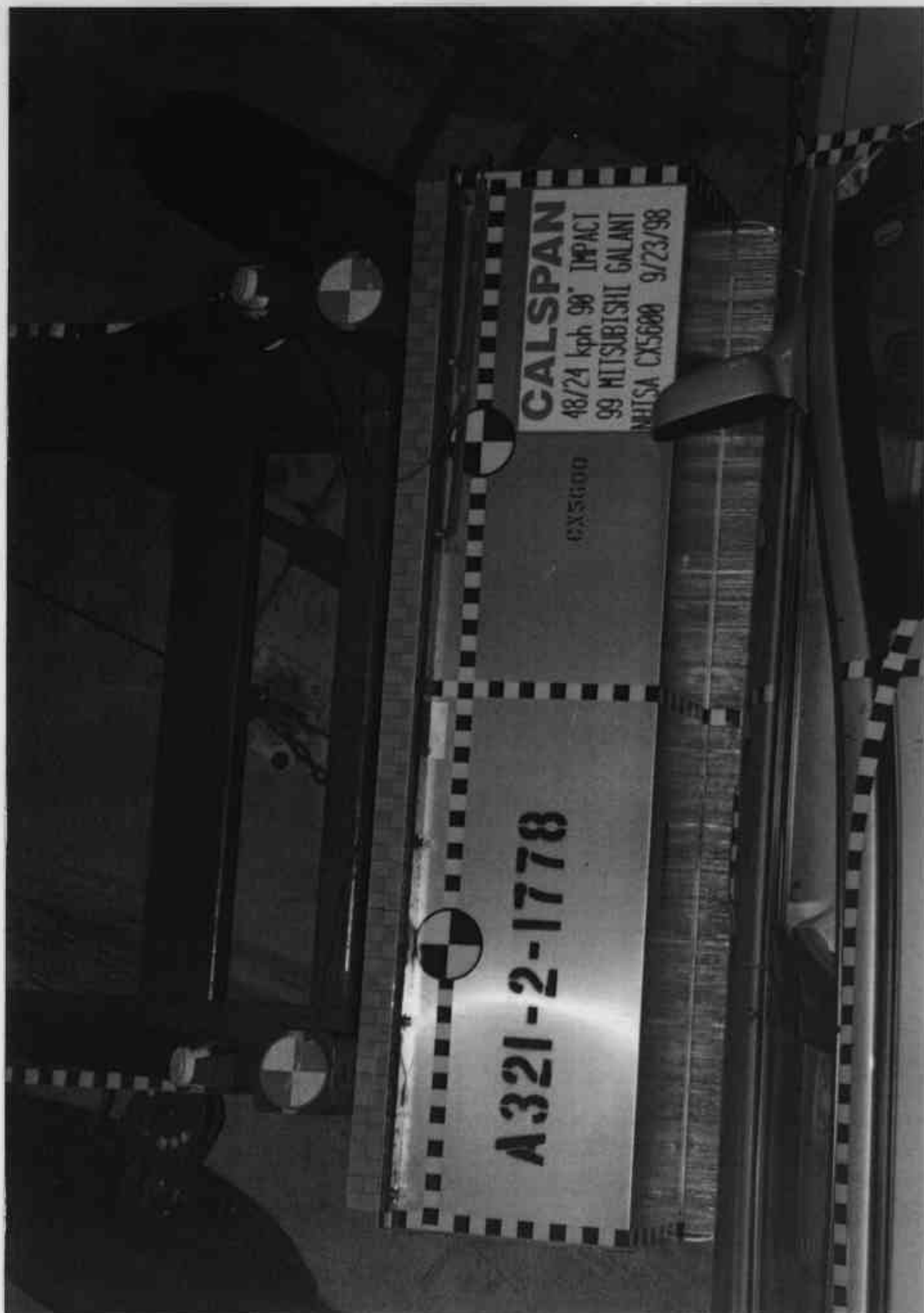


Figure A-13 PRE-TEST TOP VIEW OF IMPACTOR FACE

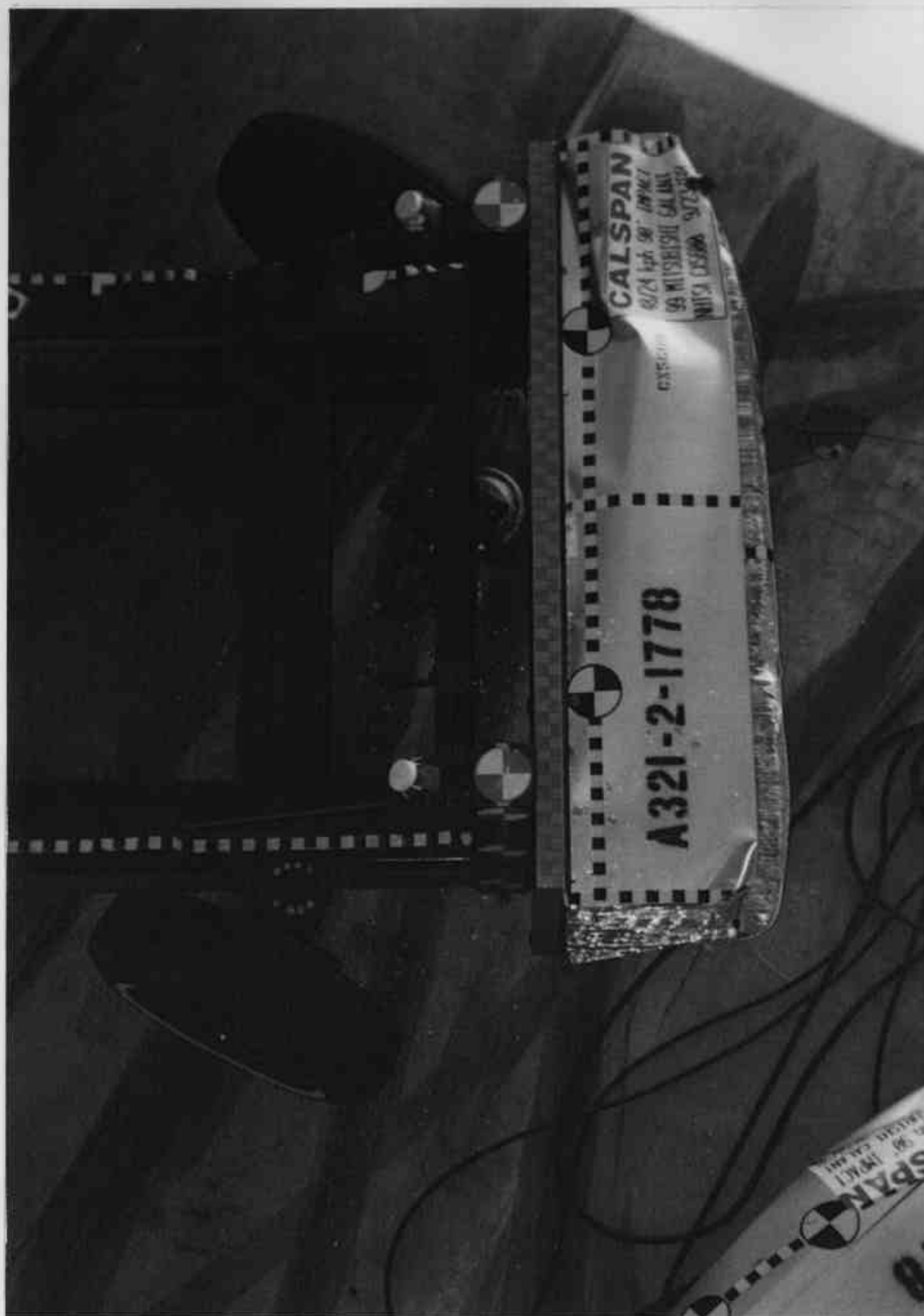


Figure A-14 POST-TEST TOP VIEW OF IMPACTOR FACE

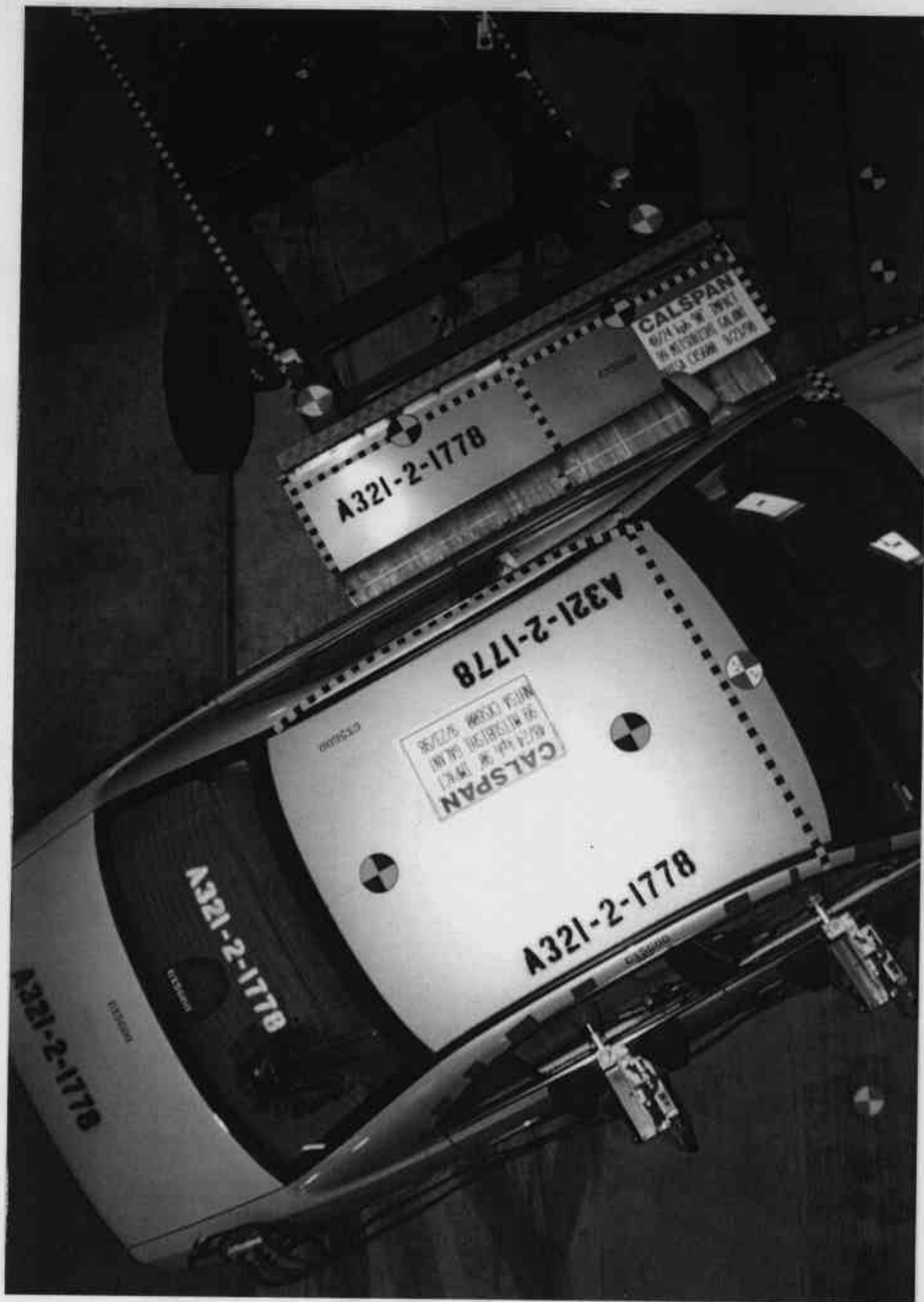


Figure A-15 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



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



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



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



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



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



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

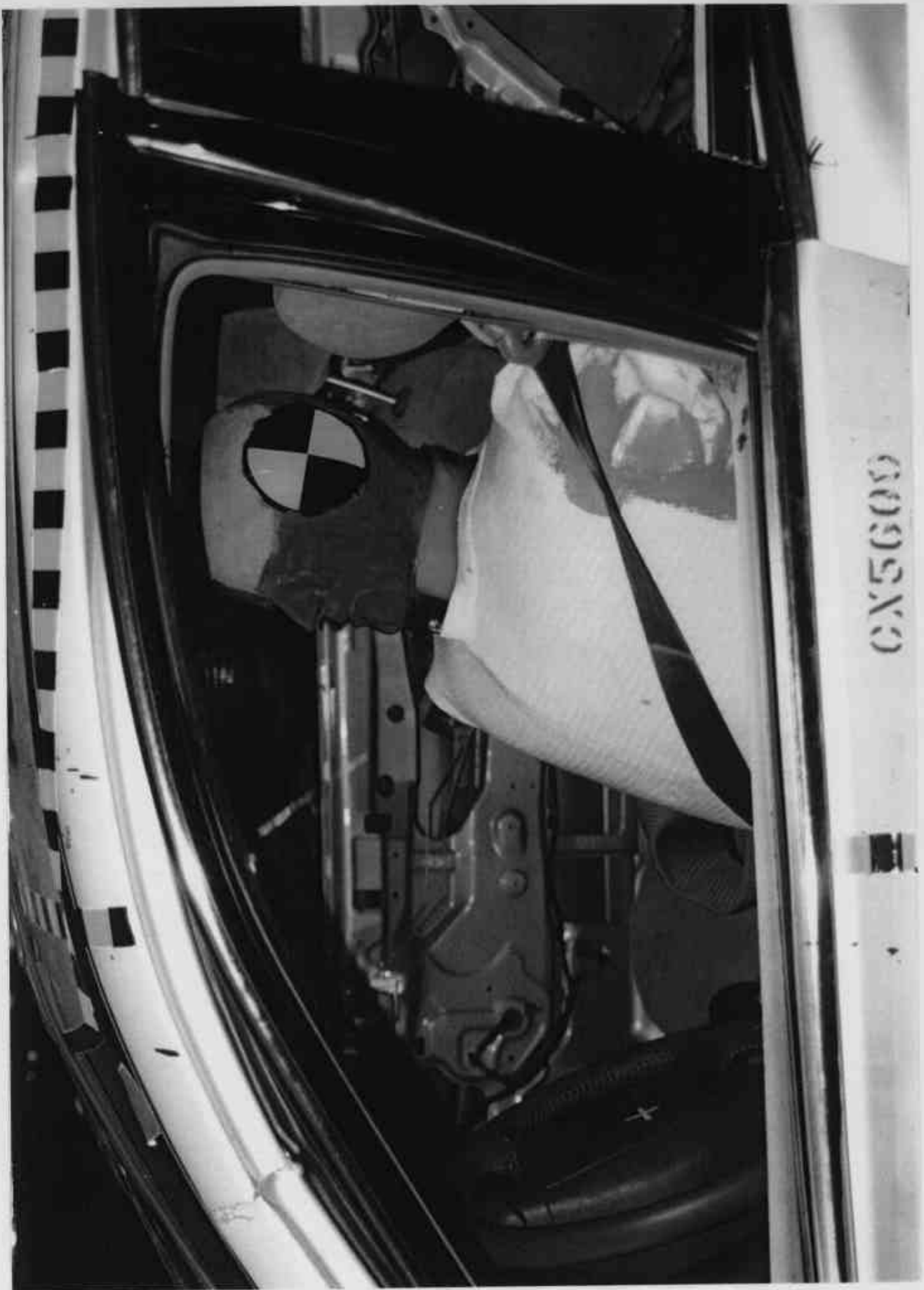


Figure A-22 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



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



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



Figure A-25 PRE-TEST INTERIOR OF FRONT DOOR





Figure A-27 PRE-TEST INTERIOR OF REAR DOOR

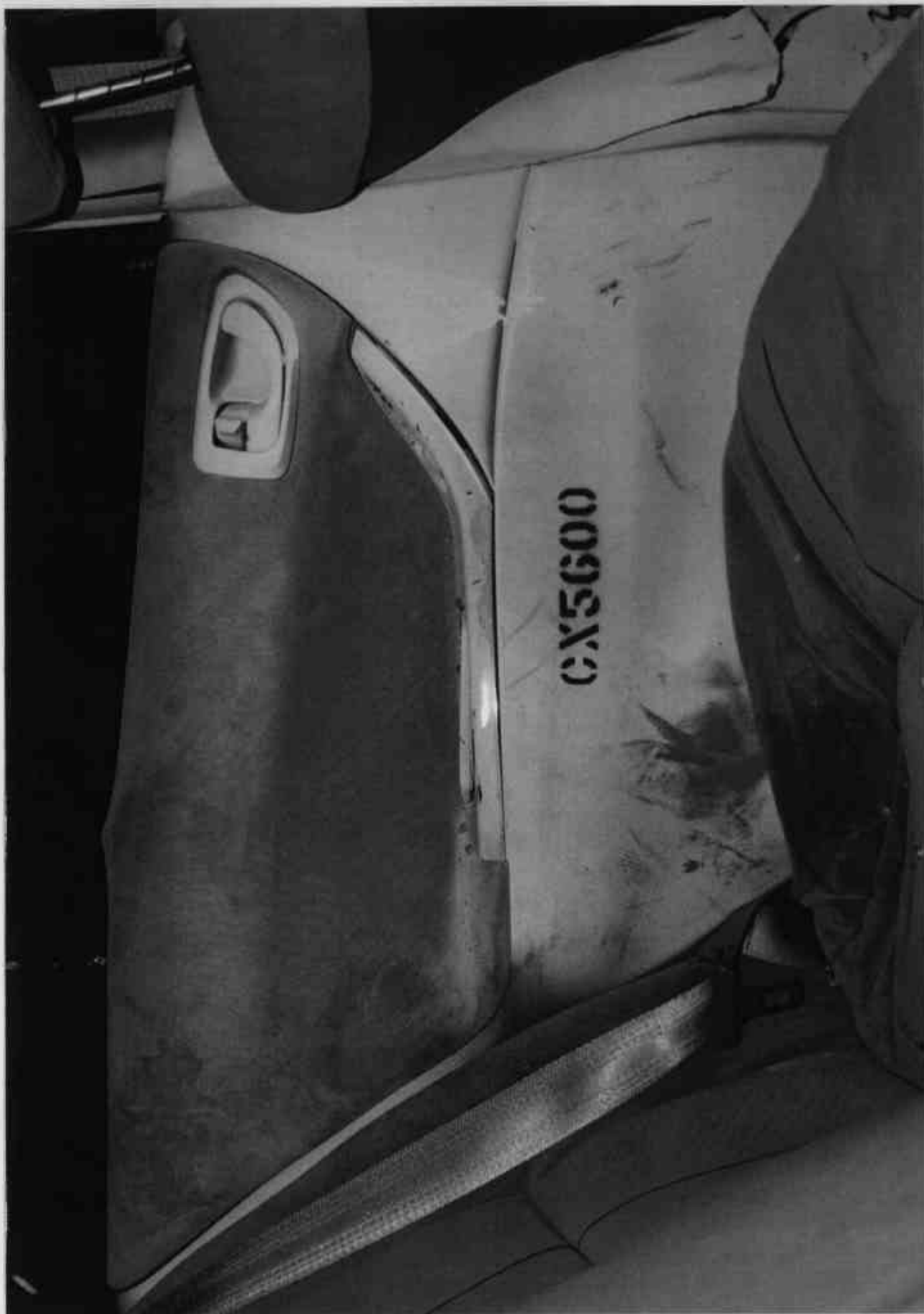


Figure A-28 POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS



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

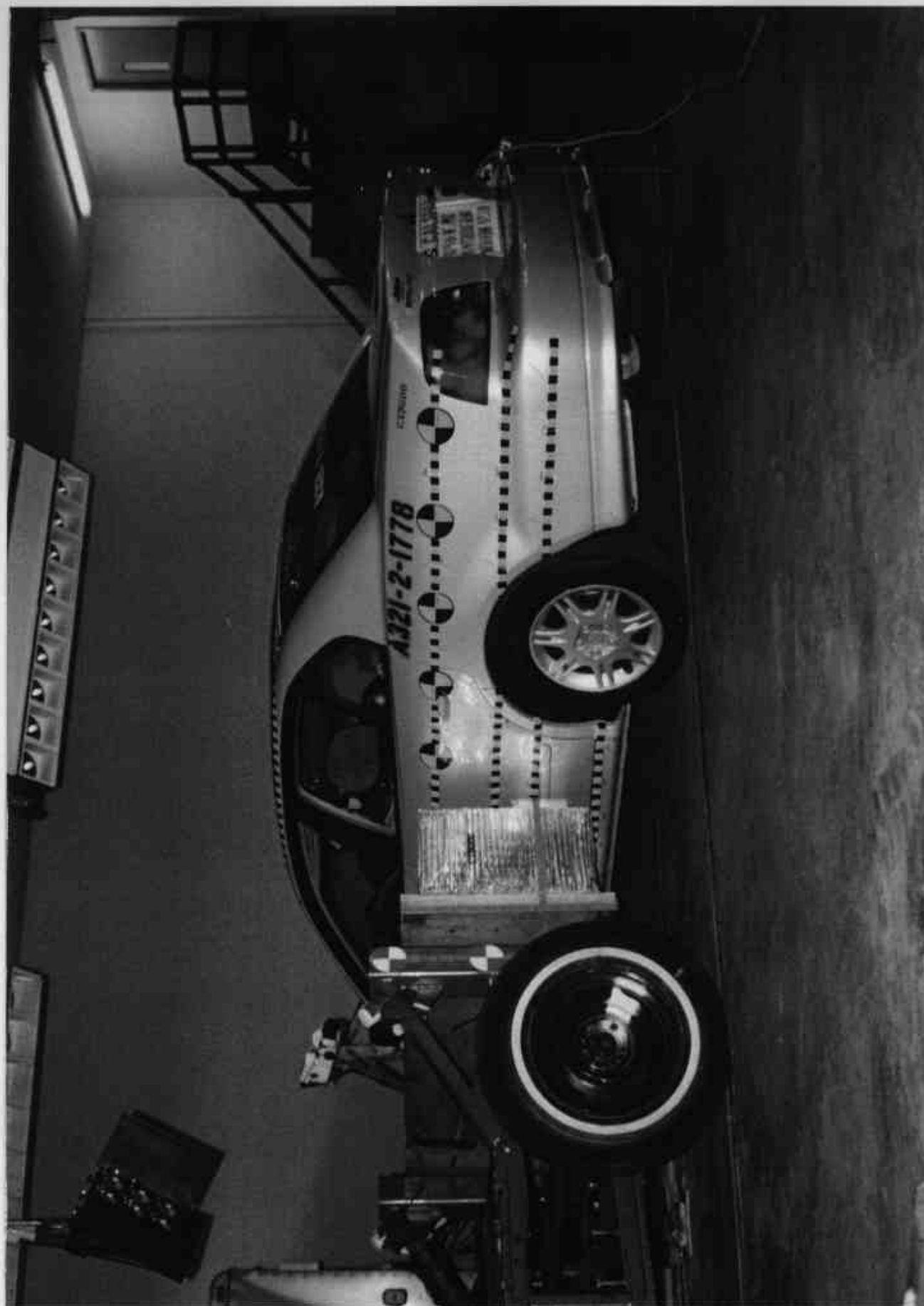


Figure A-30 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

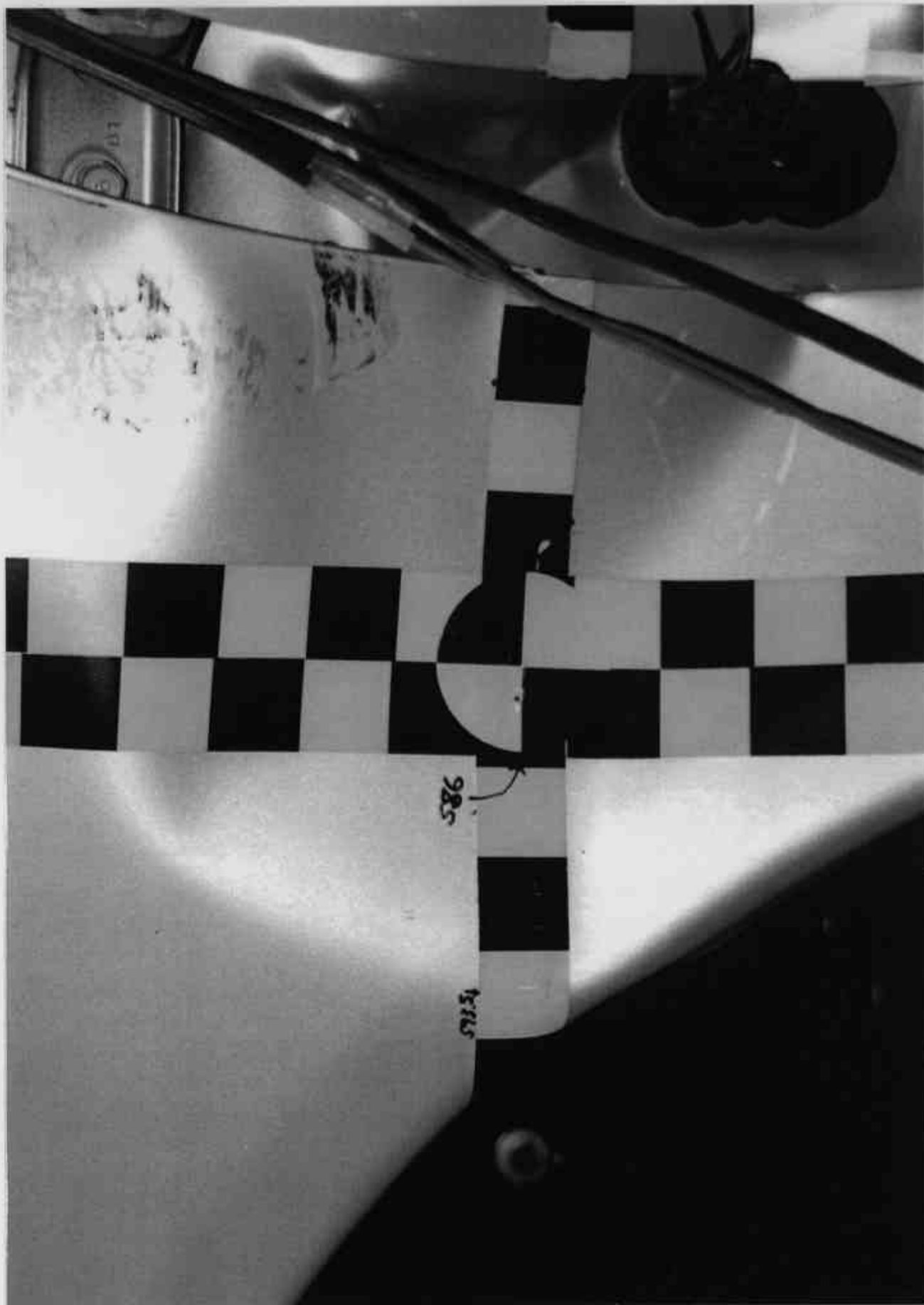


Figure A-31 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

MADE IN U S A DATE JUN 1998
MFD BY MITSUBISHI MOTOR MFG OF AMERICA, INC

GWR 3950 LBS GAWR 2140 LBS GAWR 1850 LBS
1810 KG FR 970 KG RR 840 KG

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

4 A 3 A A 4 6 G 1 X E 0 0 5 1 2 0



052313
VEHICLE TYPE: PASSENGER CAR MU900353

TIRE INFLATION PRESSURE (COLD)

STANDARD INFLATION
PRESSURE FOR ALL LOAD

1ST SEAT	2	PASS.
2ND SEAT	3	PASS.
	5	PASS.

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

TIRE INFLATION PRESSURE (COLD)			
STANDARD INFLATION PRESSURE FOR ALL LOAD			
1ST SEAT	2	PASS.	
2ND SEAT	3	PASS.	
TOTAL	5	PASS.	
LUGGAGE		35 kg (77 lbs)	
TOTAL WEIGHT		375 kg (827 lbs)	
TIRE SIZE	P195/60R15 87H		
FRONT		REAR	
220 kPa (32psi)		200 kPa (29psi)	
TIRE SIZE		T125/70D15 TEMPORARY USE ONLY	
420 kPa		(60 psi)	
PART NO.		MR369735	

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

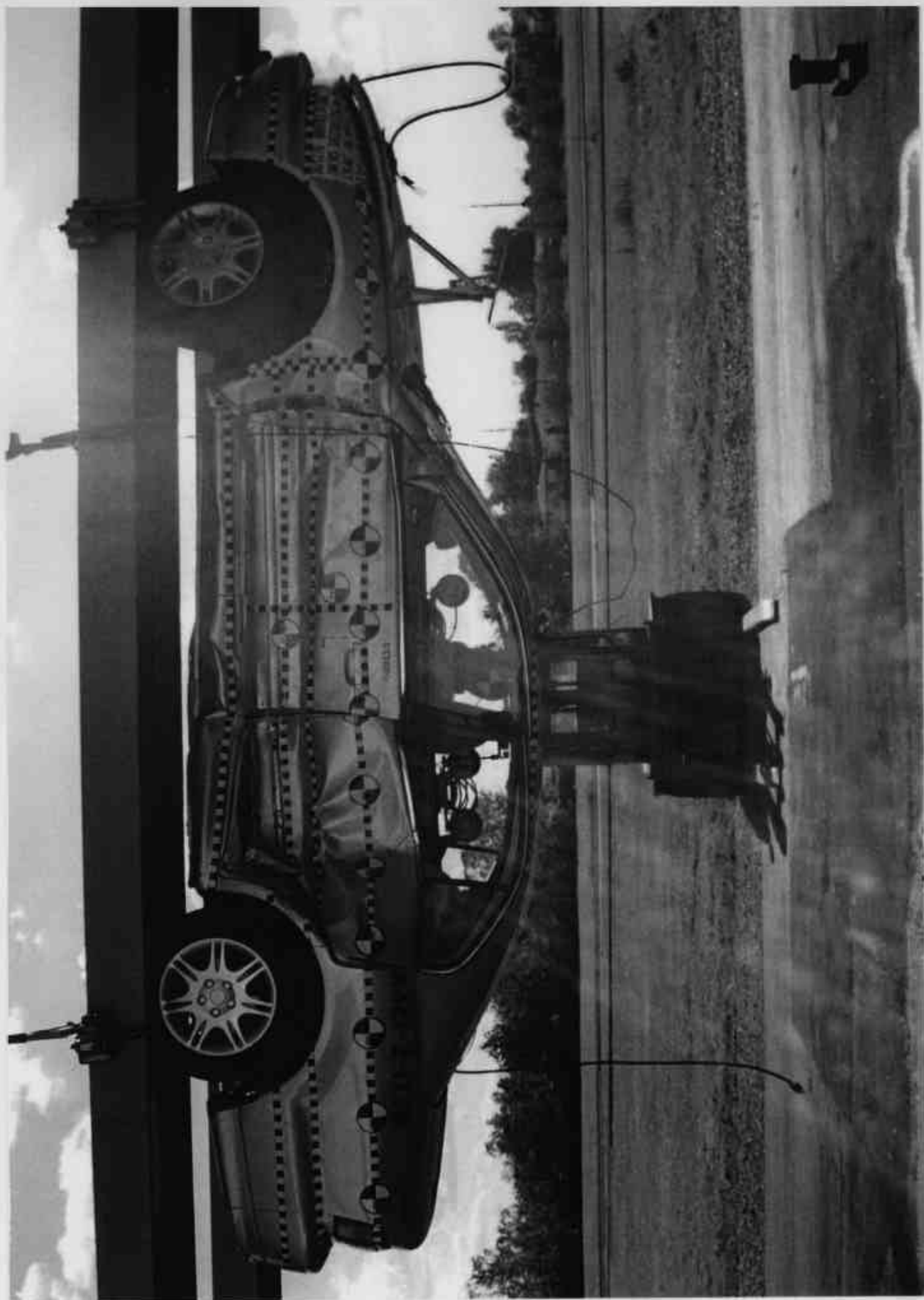


Figure A-34 IMPACT PHOTO



Figure A-35 ROLLOVER 90 DEGREES

Figure A-36 ROLLOVER 180 DEGREES



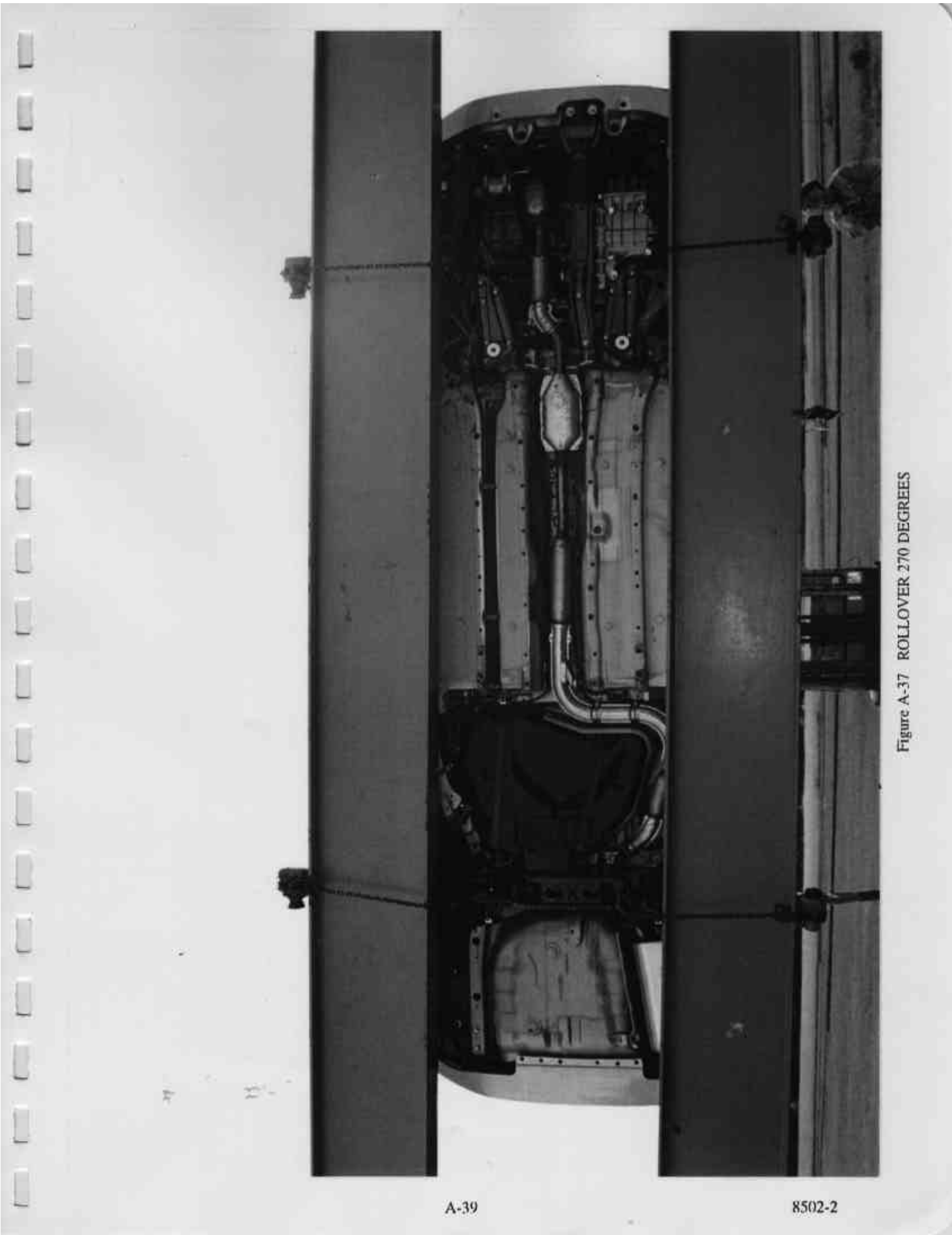


Figure A-37 ROLLOVER 270 DEGREES



Figure A-38 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION DATA - FILTER CLASS 1000

INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 6
2	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 7
3	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 8
4	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 9
5	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 10
6	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 11
7	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 12
8	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 13
9	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 14
10	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 15
11	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 16
12	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 17
13	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 18
14	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 19
15	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 20
16	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 21

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
17	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 22
18	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 23
19	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 24
20	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 25
21	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 26
22	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 27
23	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 28
24	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 29

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>
25	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 30
26	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 31
27	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 32
28	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 33
29	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 34
30	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 35
31	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 36
32	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 37
33	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 38
34	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 39
35	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 40
36	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 41
37	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 42
38	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 43
39	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 44
40	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 45
41	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 46
42	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 47
43	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 48
44	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 49
45	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 50
46	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 51
47	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 52
48	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 53
49	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 54
50	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 55
51	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 56
52	LOWER B-POST (Y) ACCELERATION VS TIME	B- 57
53	LOWER B-POST (Y) VELOCITY VS TIME	B- 58
54	UPPER B-POST (Y) ACCELERATION VS TIME	B- 59
55	UPPER B-POST (Y) VELOCITY VS TIME	B- 60
56	LOWER A-POST (Y) ACCELERATION VS TIME	B- 61
57	LOWER A-POST (Y) VELOCITY VS TIME	B- 62
58	UPPER A-POST (Y) ACCELERATION VS TIME	B- 63
59	UPPER A-POST (Y) VELOCITY VS TIME	B- 64
60	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 65
61	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 66
62	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 67
63	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 68
64	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 69
65	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 70
66	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 71
67	VEHICLE CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 72
68	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 73
69	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 74
70	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 75

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>
71	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 76
72	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 77
73	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 78
74	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 79
75	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 80
76	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 81
77	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 82
78	MDB REAR (X) ACCELERATION VS TIME	B- 83
79	MDB REAR (X) VELOCITY VS TIME	B- 84
80	MDB REAR (Y) ACCELERATION VS TIME	B- 85
81	MDB REAR (Y) VELOCITY VS TIME	B- 86

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

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
82	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 87
83	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 88
84	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 89
85	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 90
86	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 91
87	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 92
88	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 93
89	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 94
90	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 95
91	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 96
92	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 97
93	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 98
94	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 99
95	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 100
96	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 101
97	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 102

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

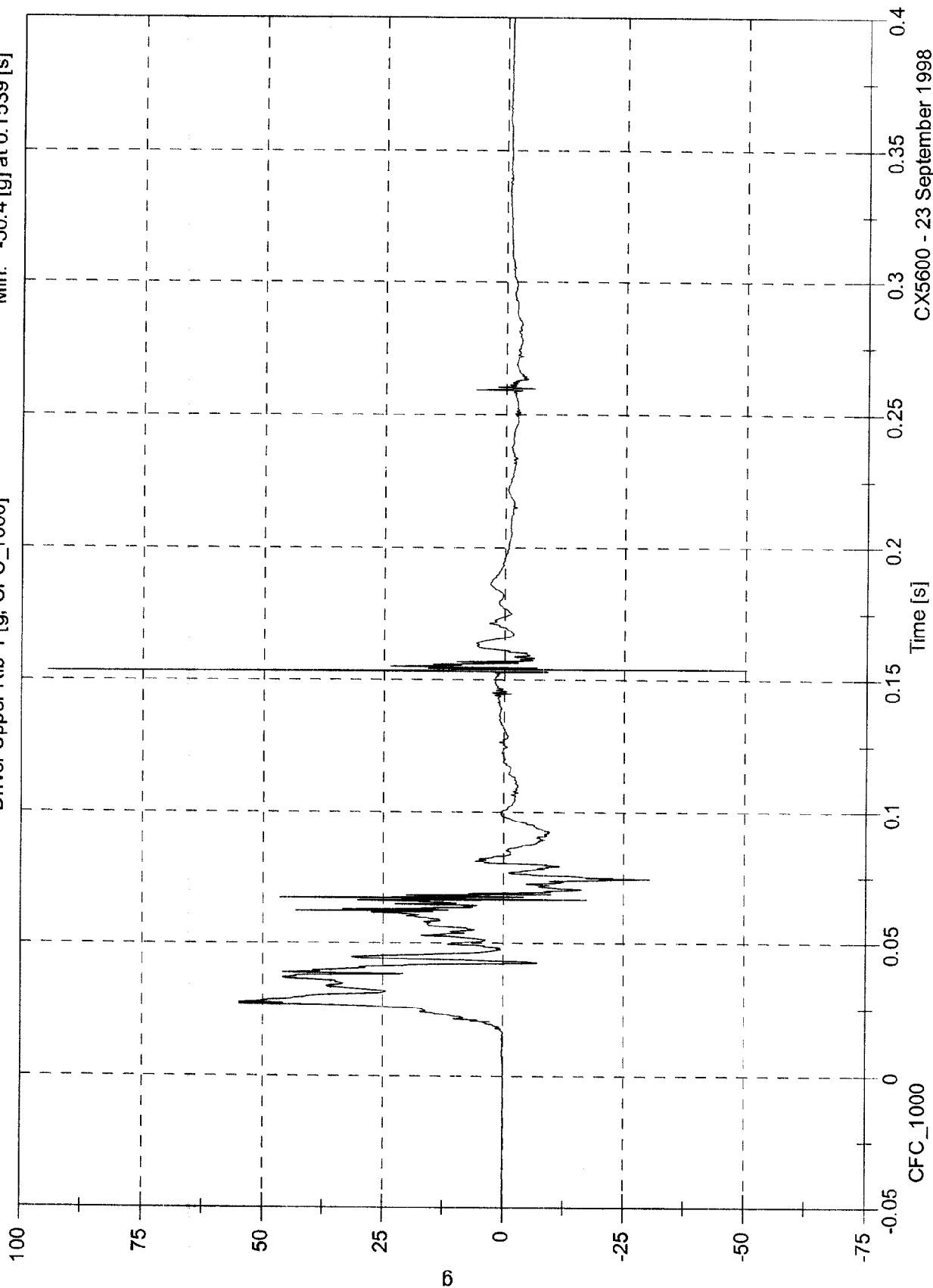
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
98	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 103
99	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 104
100	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 105
101	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 106
102	PASSENGER UPPER RIB (Y) ACCELERATION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

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Upper Rib Y [g, CFC_1000]

Max: 94.6 [g] at 0.1533 [s]

Min: -50.4 [g] at 0.1539 [s]



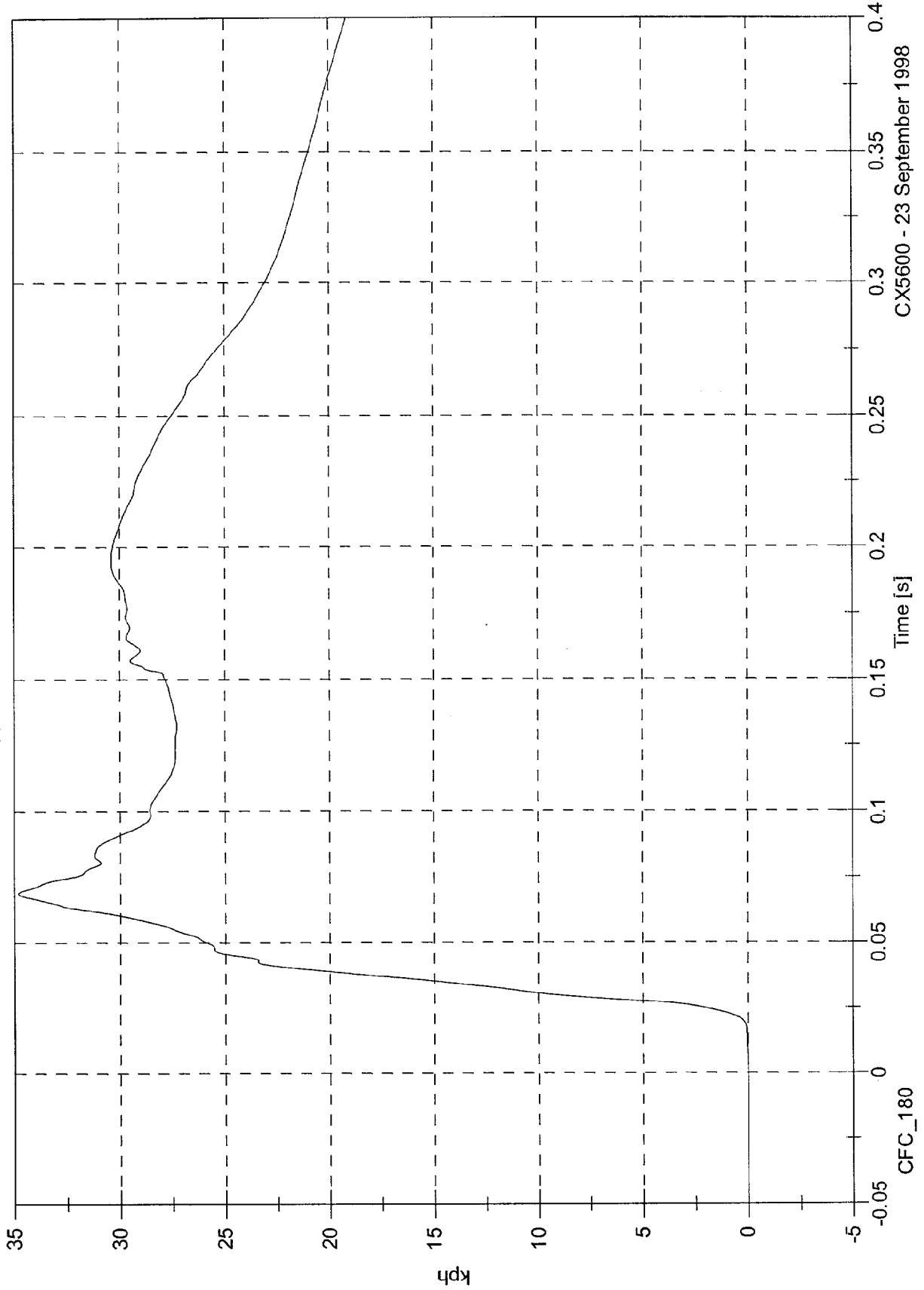
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Upper Rib Y [kph, CFC_180]

Max: 34.8 [kph] at 0.069 [s]

Min: -0.0 [kph] at -0.0758 [s]



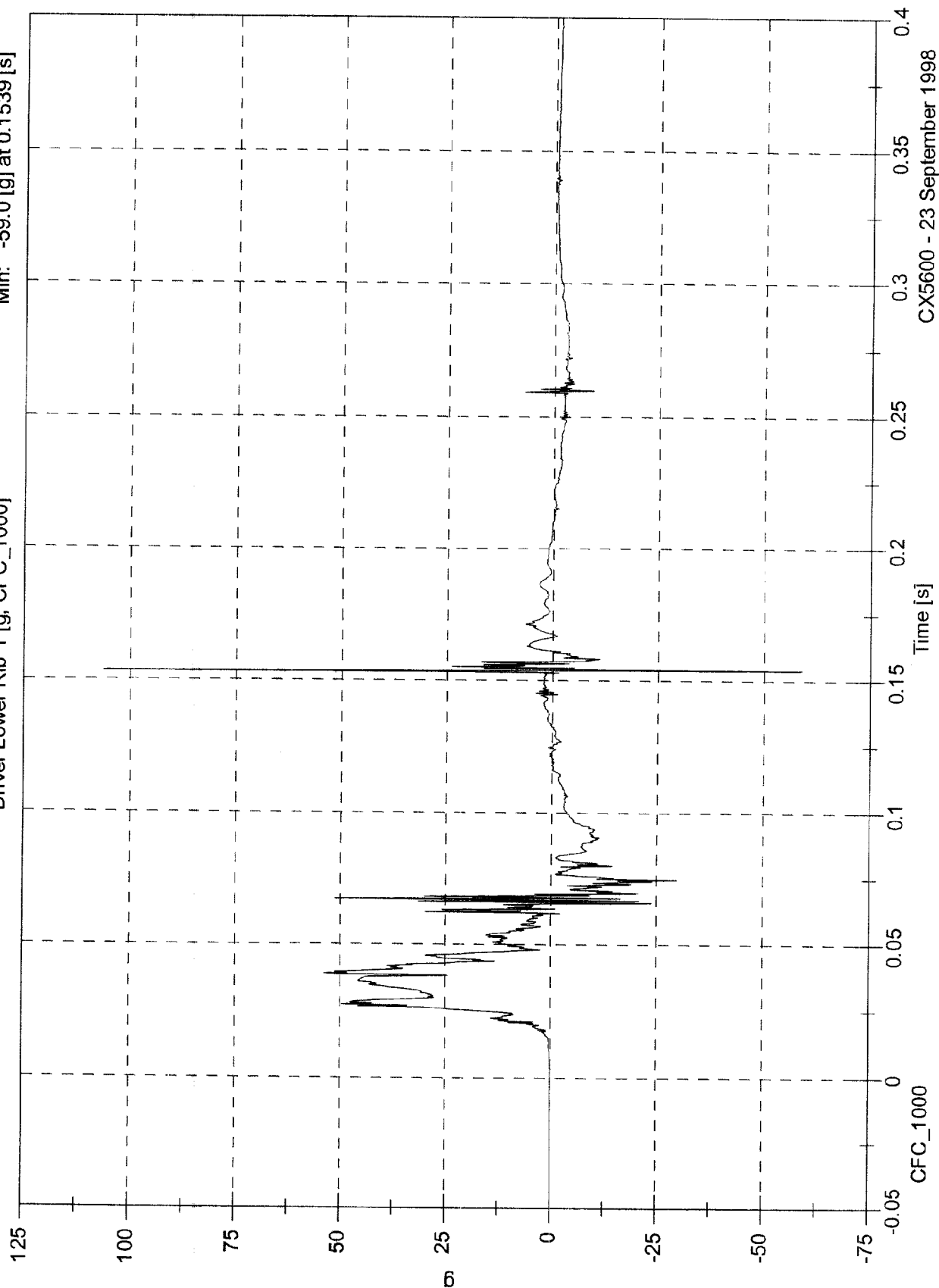
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Max: 106.4 [g] at 0.1533 [s]

Min: -59.0 [g] at 0.1539 [s]

Driver Lower Rib Y [g, CFC_1000]

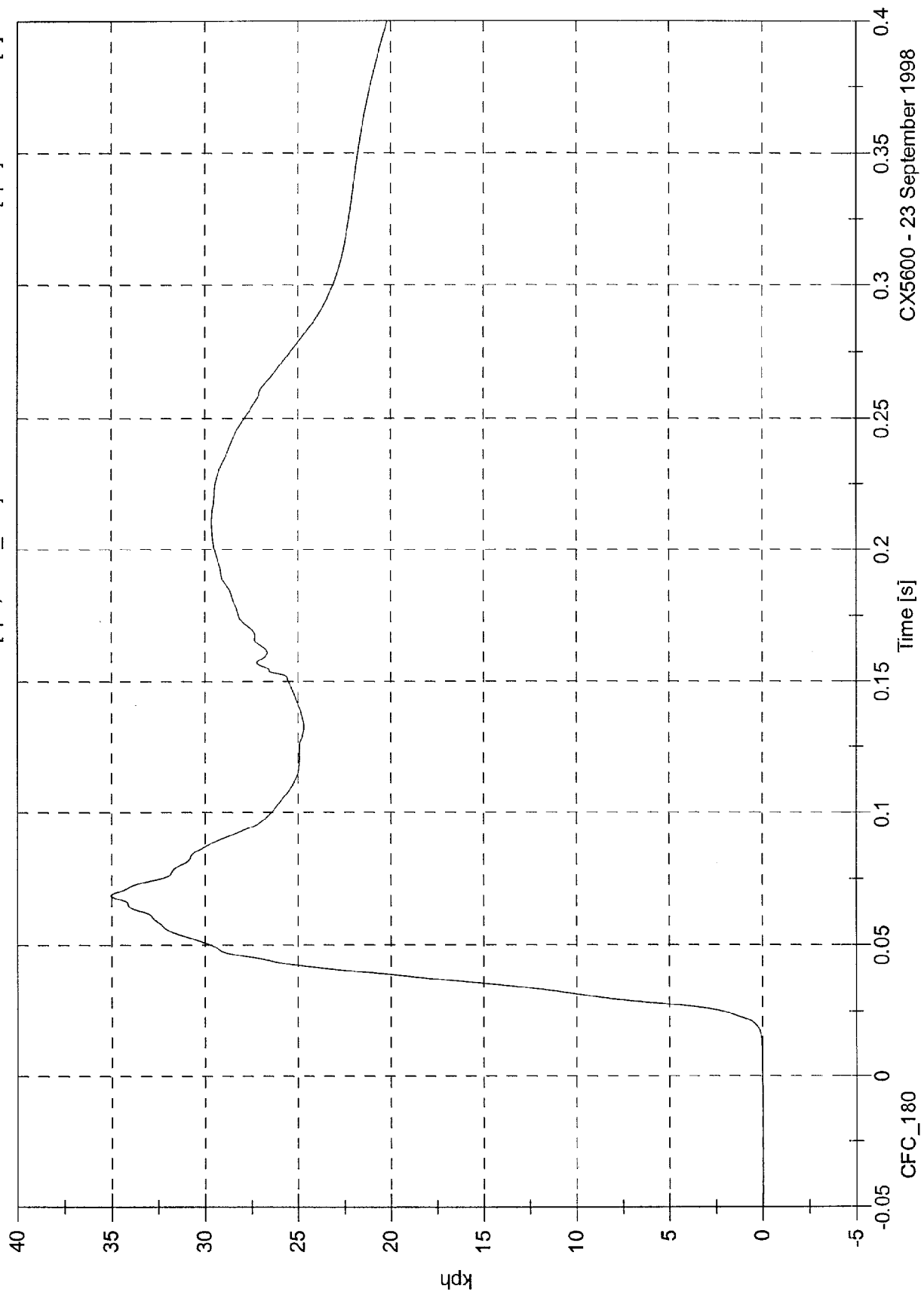


NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Rib Y [kph, CFC_180]

Max: 35.0 [kph] at 0.0688 [s]

Min: -0.0 [kph] at -0.0665 [s]



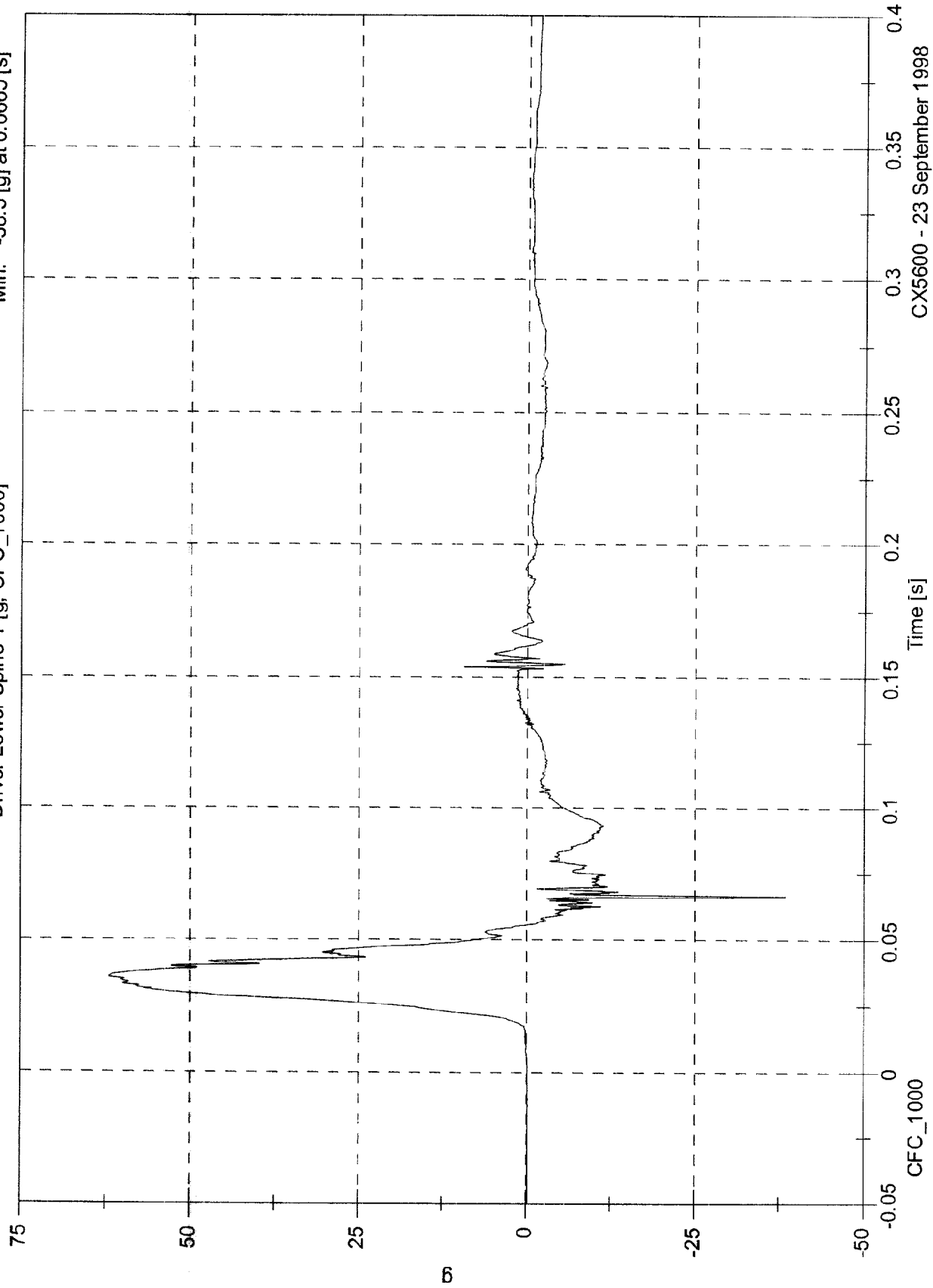
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Spine Y [g, CFC_1000]

Max: 62.0 [g] at 0.0358 [s]

Min: -38.5 [g] at 0.0665 [s]



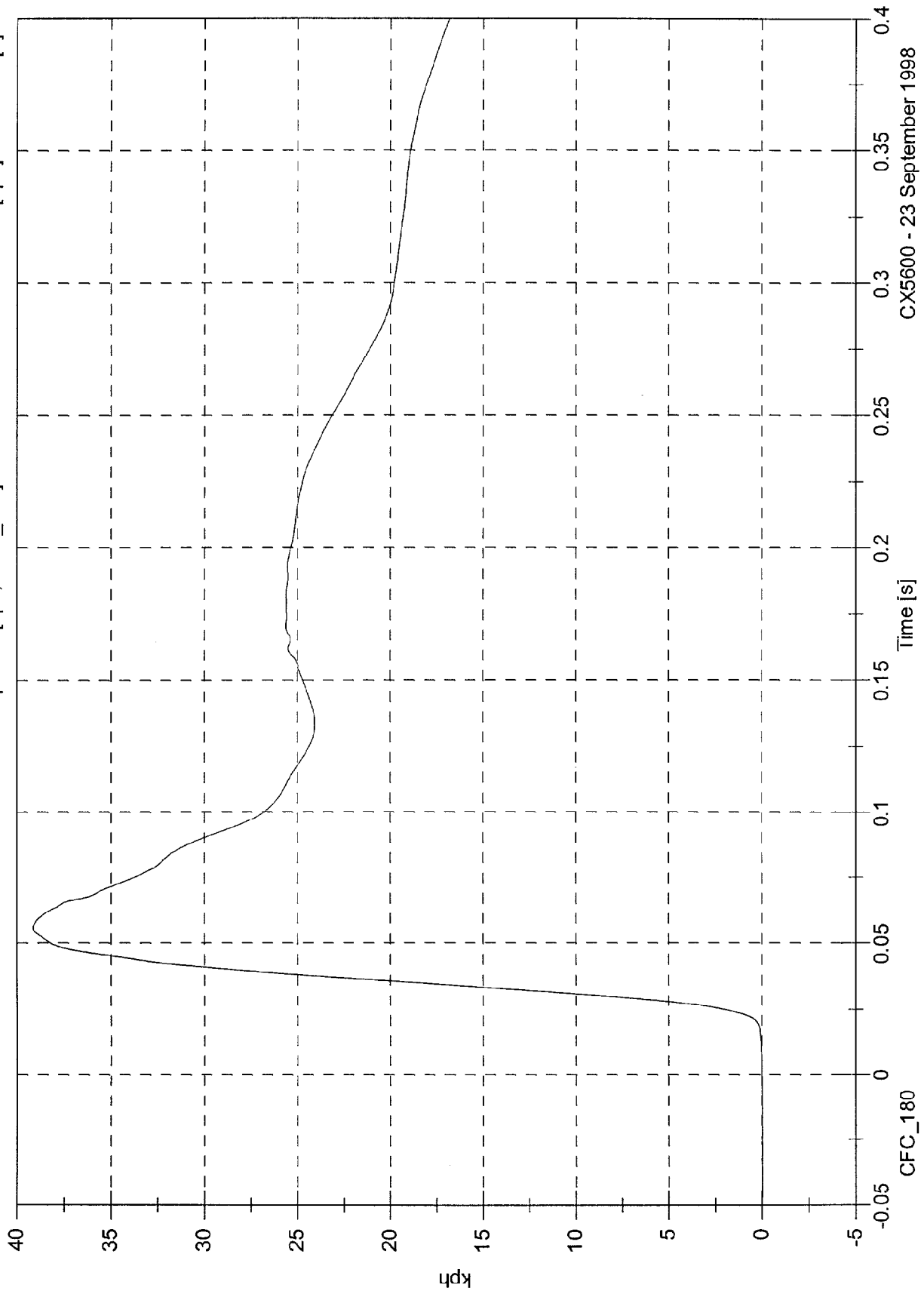
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Spine Y [kph, CFC_180]

Max: 39.1 [kph] at 0.0556 [s]

Min: -0.0 [kph] at -0.0398 [s]

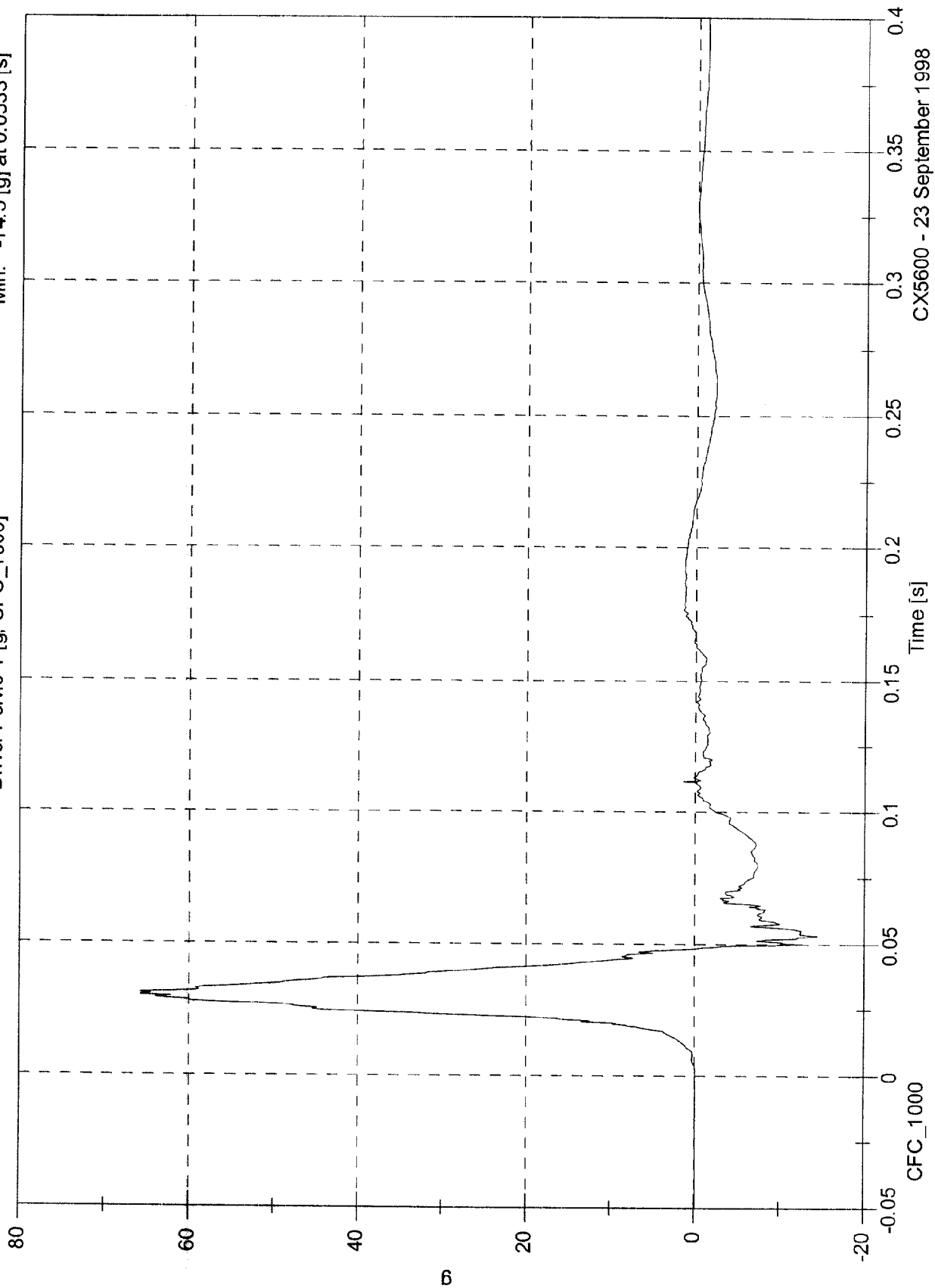


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Pelvic Y [g, CFC_1000]

Max: 65.8 [g] at 0.0303 [s]
Min: -14.5 [g] at 0.0533 [s]



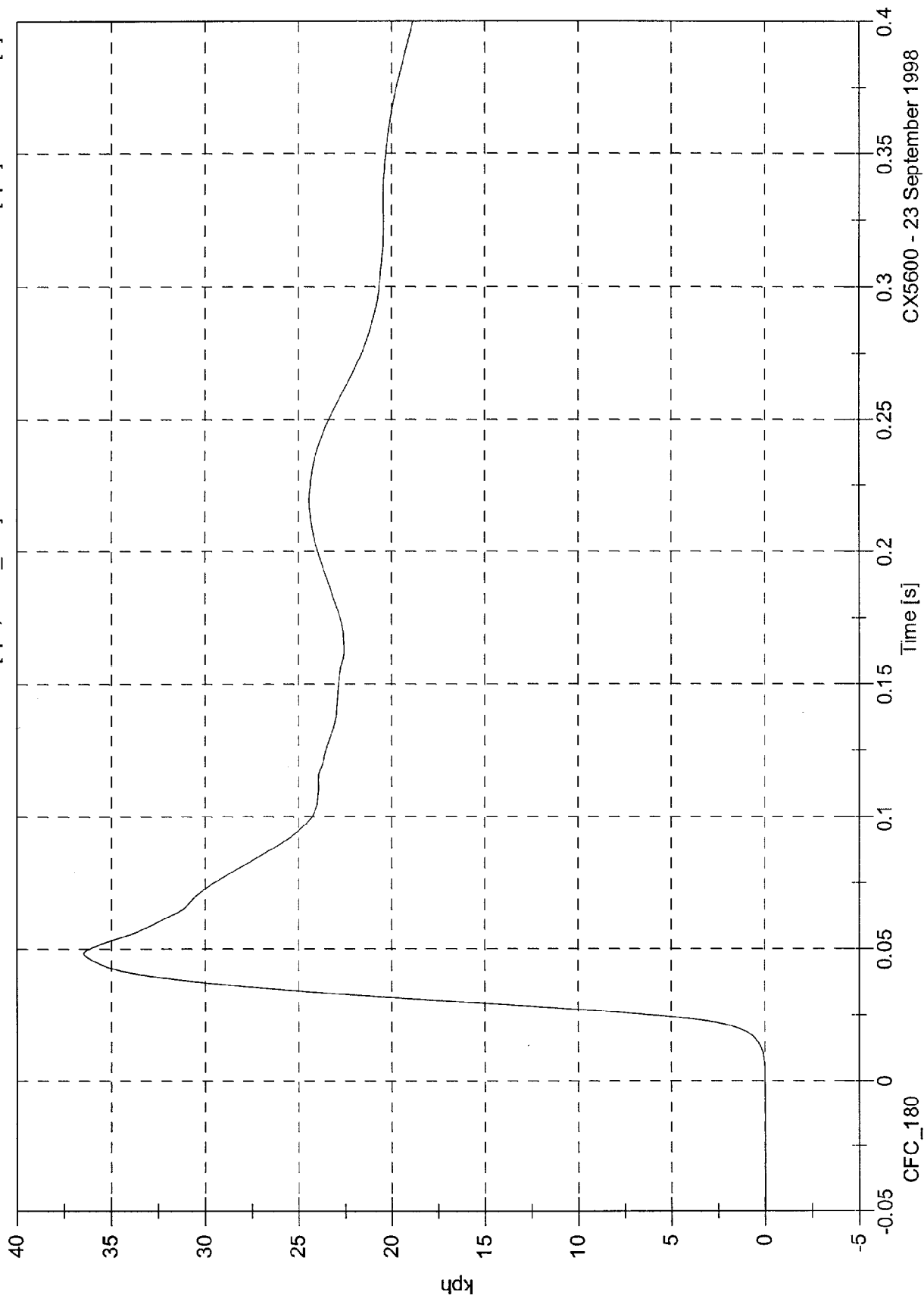
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Pelvic Y [kph, CFC_180]

Max: 36.4 [kph] at 0.0484 [s]

Min: -0.0 [kph] at -0.0511 [s]

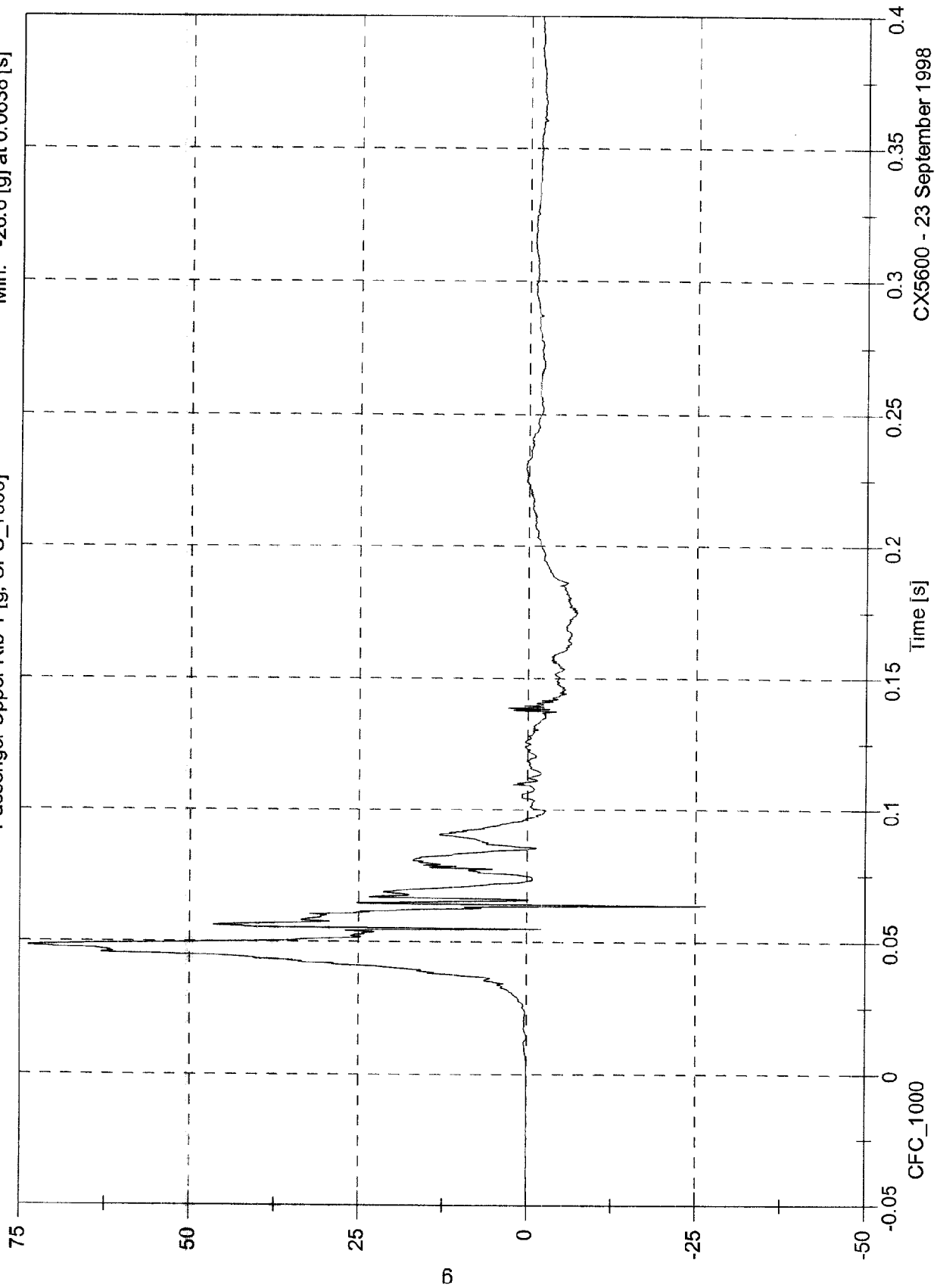


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Upper Rib Y [g, CFC_1000]

Max: 73.9 [g] at 0.0484 [s]
Min: -26.6 [g] at 0.0638 [s]

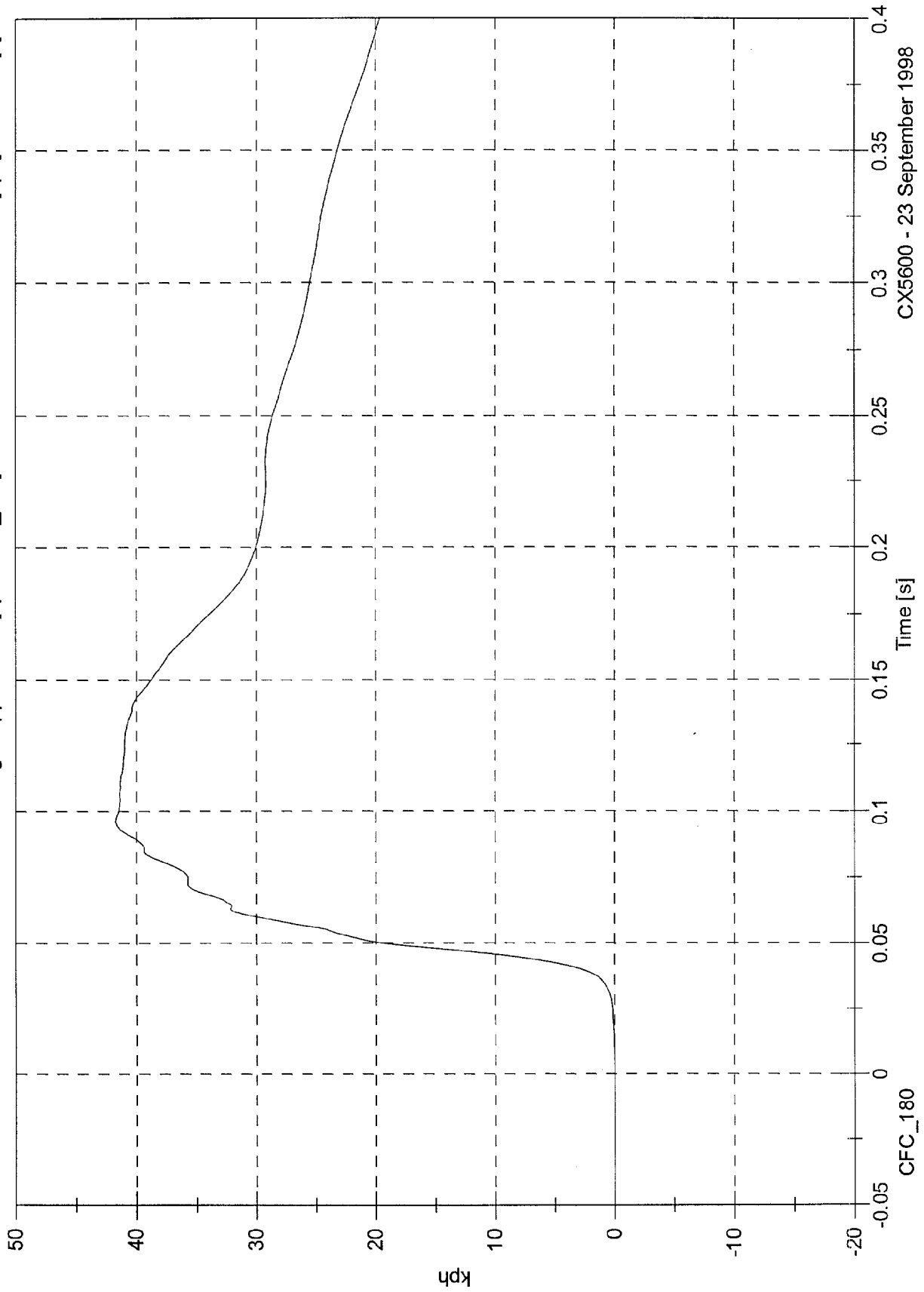


NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Upper Rib Y [kph, CFC_180]

Max: 41.7 [kph] at 0.0962 [s]

Min: -12.5 [kph] at 0.9999 [s]

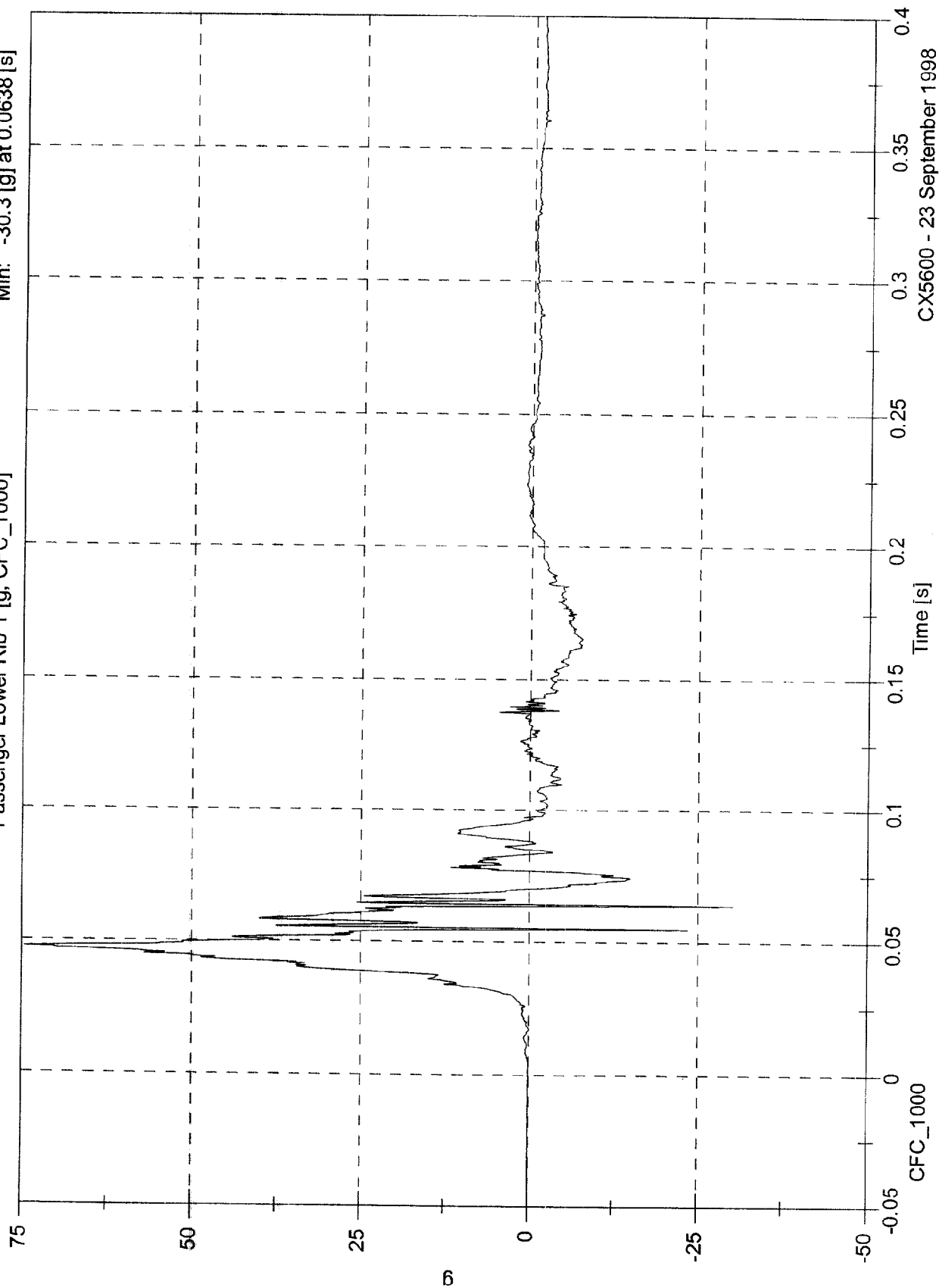


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Lower Rib Y [g, CFC_1000]

Max: 74.6 [g] at 0.0475 [s]
Min: -30.3 [g] at 0.0638 [s]

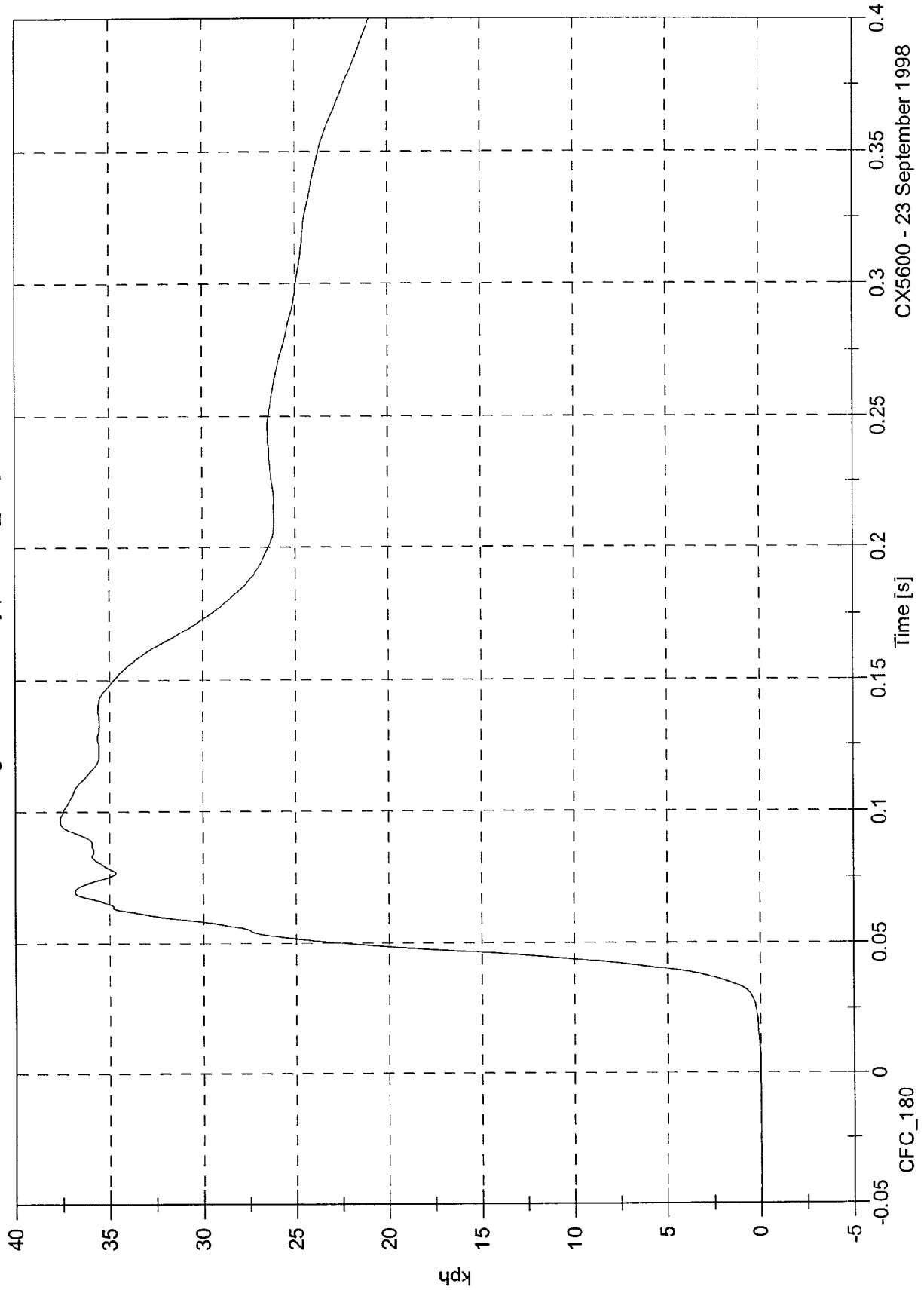


NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Lower Rib Y [kph, CFC_180]

Max: 37.6 [kph] at 0.0961 [s]

Min: -0.8 [kph] at 0.9999 [s]

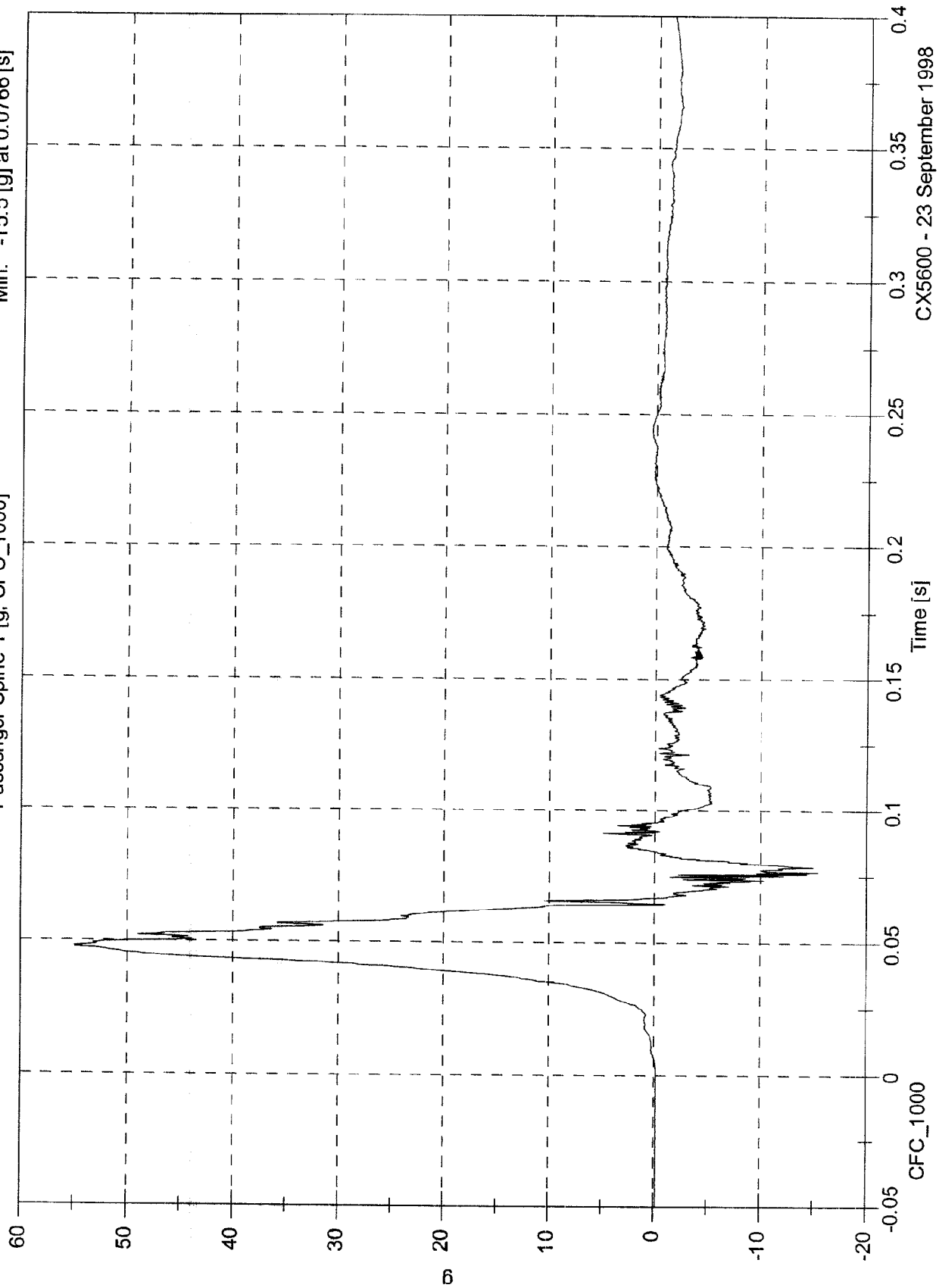


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Spine Y [g, CFC_1000]

Max: 55.0 [g] at 0.0481 [s]
Min: -15.5 [g] at 0.0766 [s]



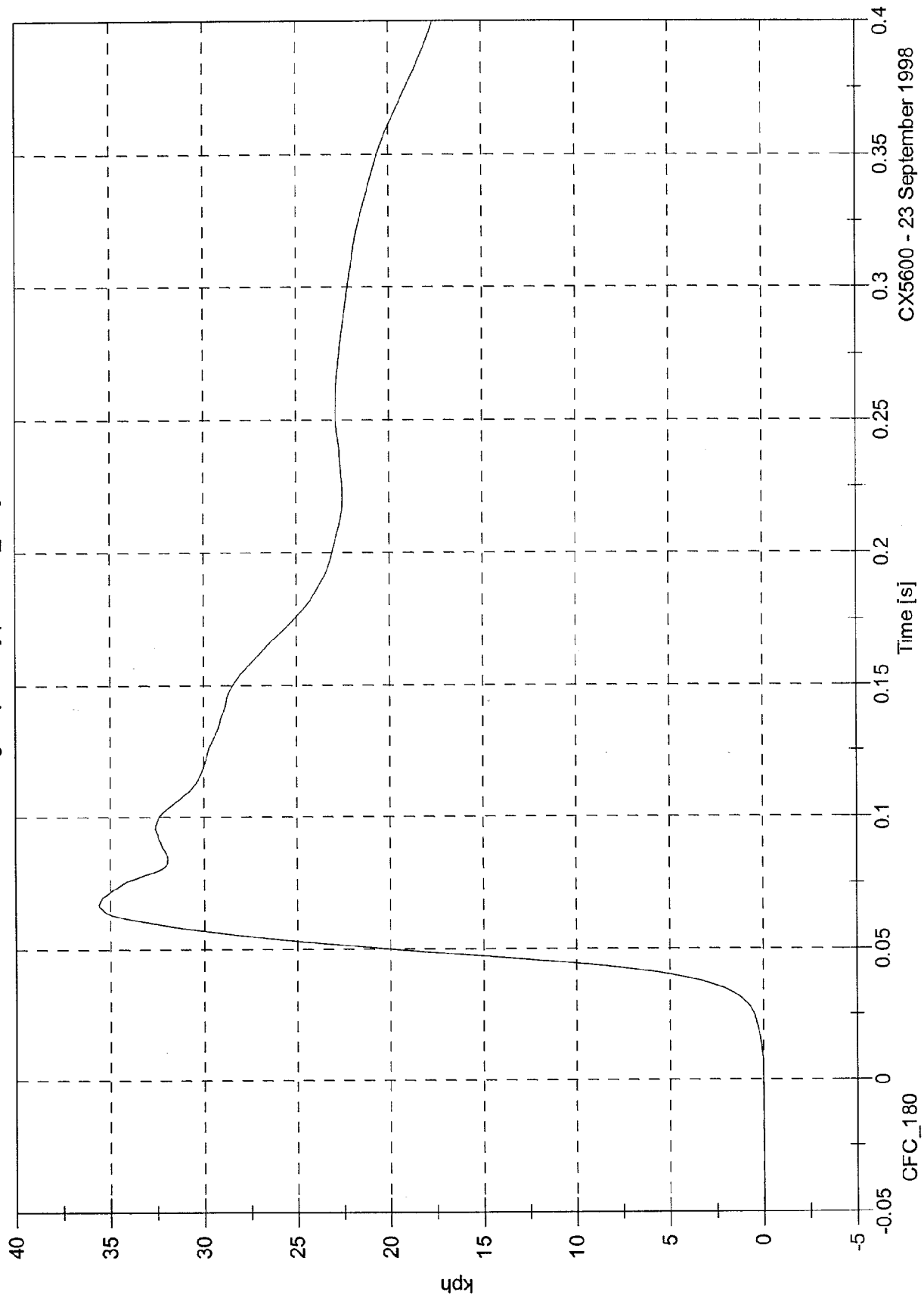
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Spine Y [kph, CFC_180]

Max: 35.6 [kph] at 0.067 [s]

Min: -3.0 [kph] at 0.9999 [s]



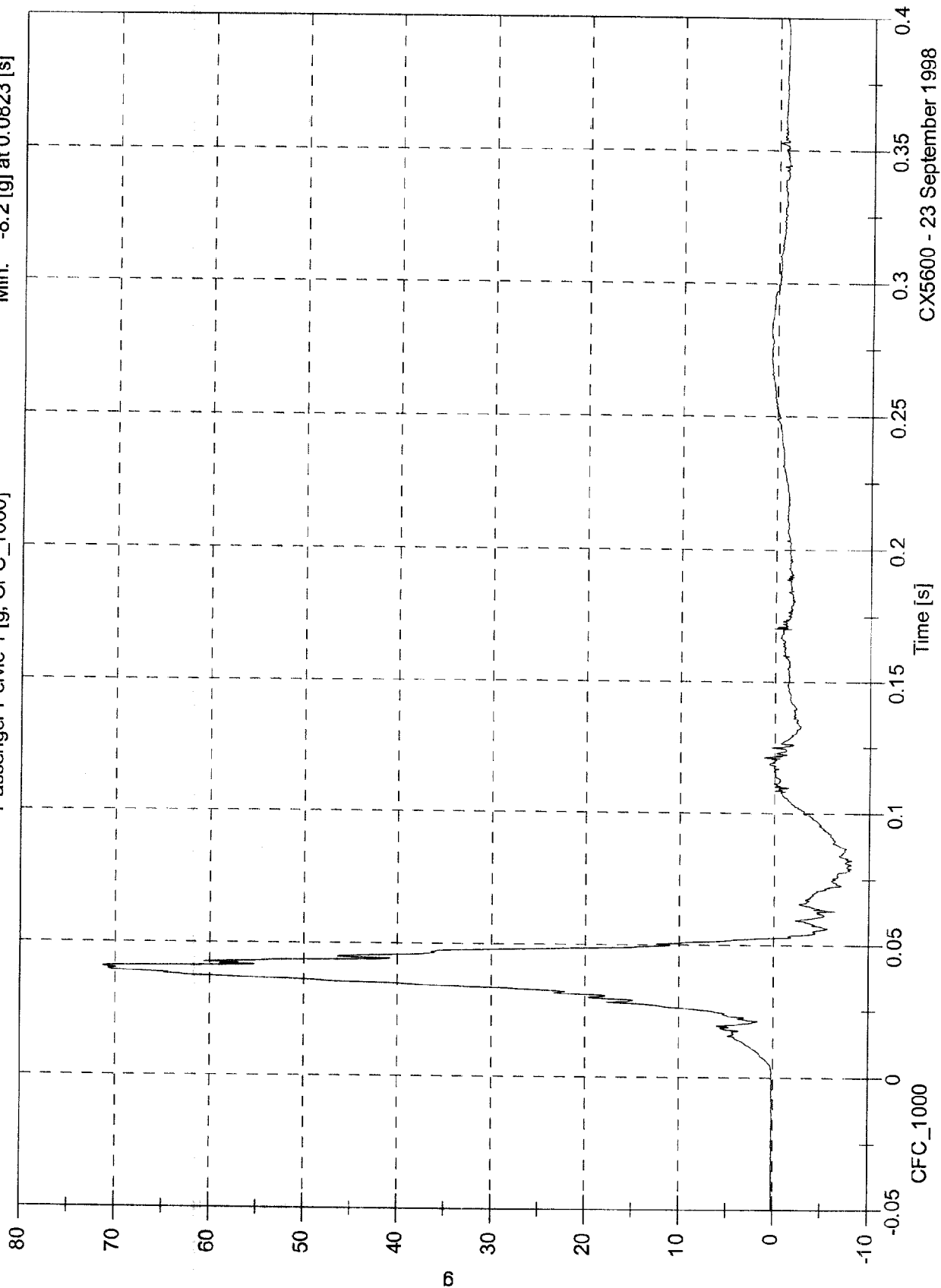
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Max: 71.3 [g] at 0.0406 [s]

Min: -8.2 [g] at 0.0823 [s]

Passenger Pelvic Y [g, CFC_1000]



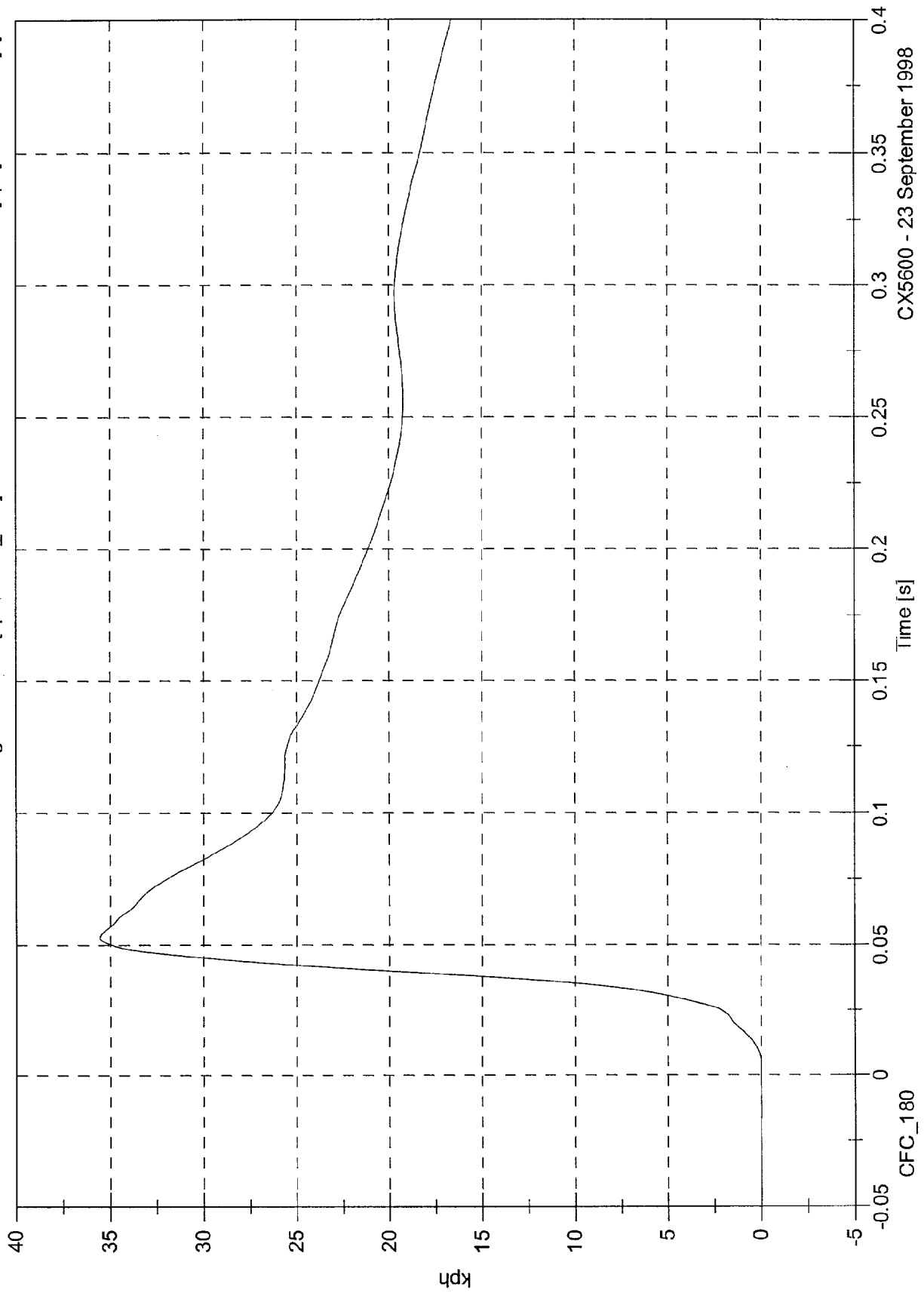
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Pelvic Y [kph, CFC_180]

Max: 35.5 [kph] at 0.0528 [s]

Min: -0.0 [kph] at -0.0399 [s]

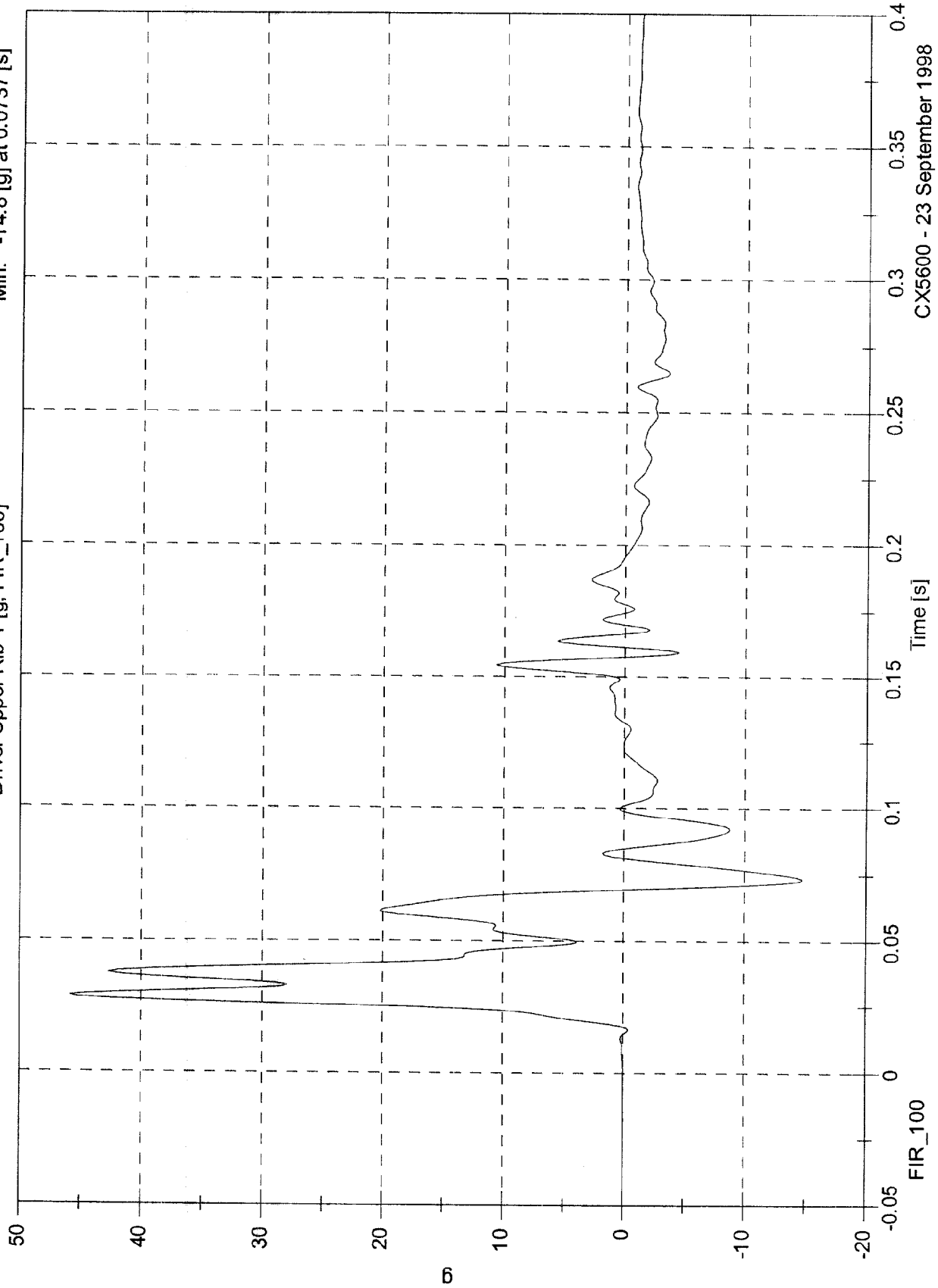


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Upper Rib Y [g, FIR_100]

Max: 45.9 [g] at 0.0287 [s]
Min: -14.8 [g] at 0.0737 [s]

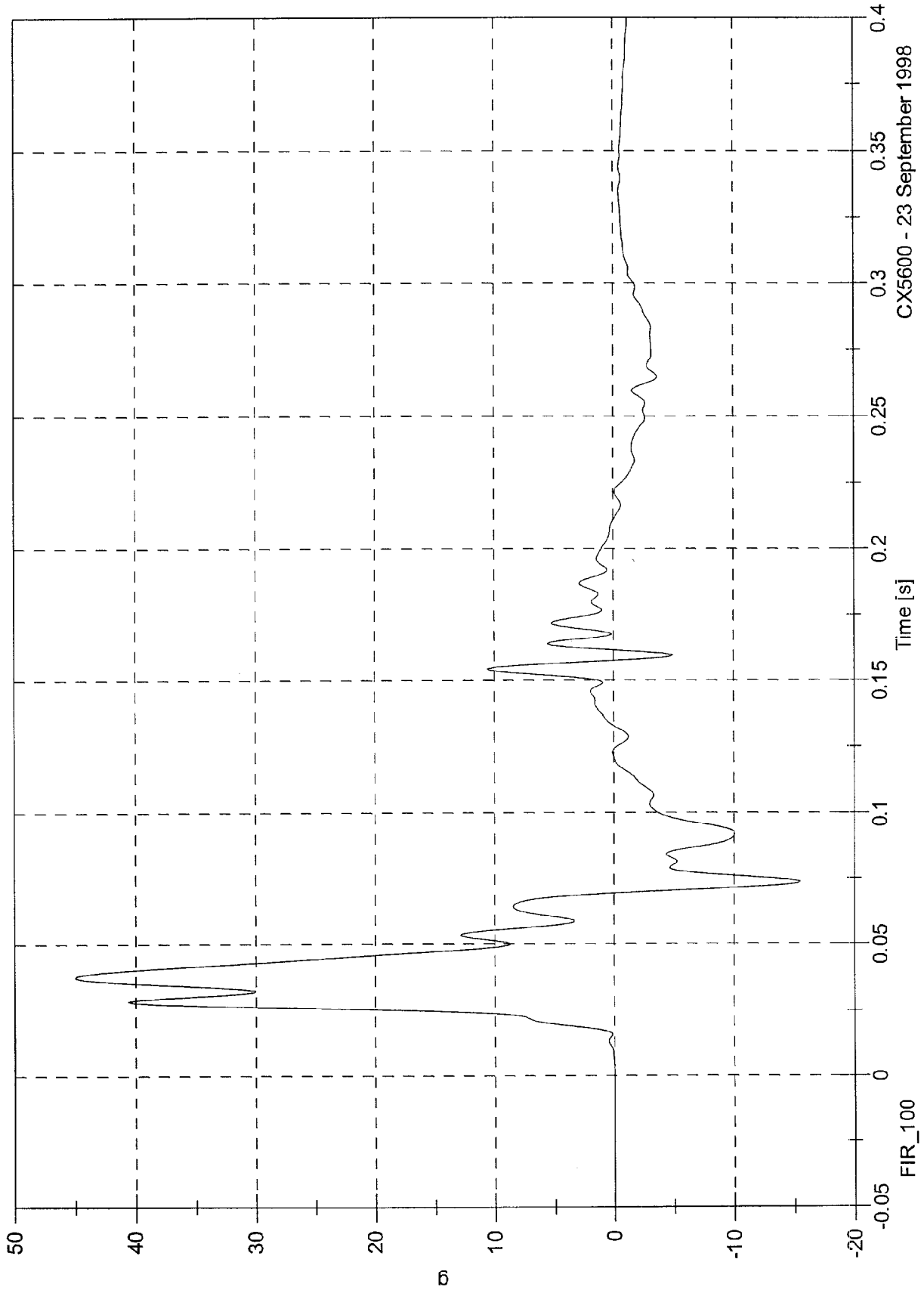


NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Rib Y [g, FIR_100]

Max: 45.0 [g] at 0.0375 [s]

Min: -15.5 [g] at 0.0737 [s]

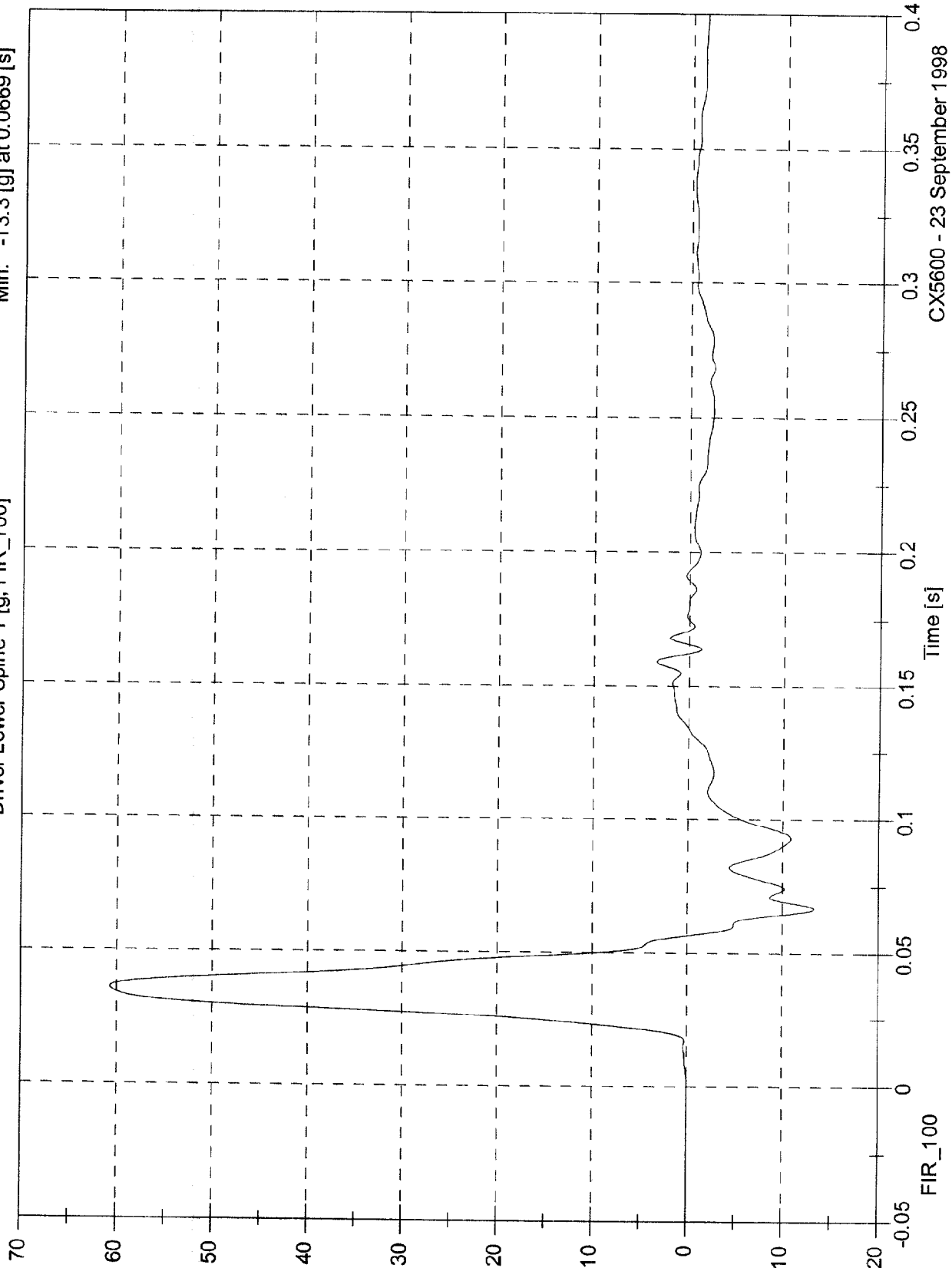


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Spine Y [g, FIR_100]

Max: 60.7 [g] at 0.0357 [s]
Min: -13.3 [g] at 0.0669 [s]



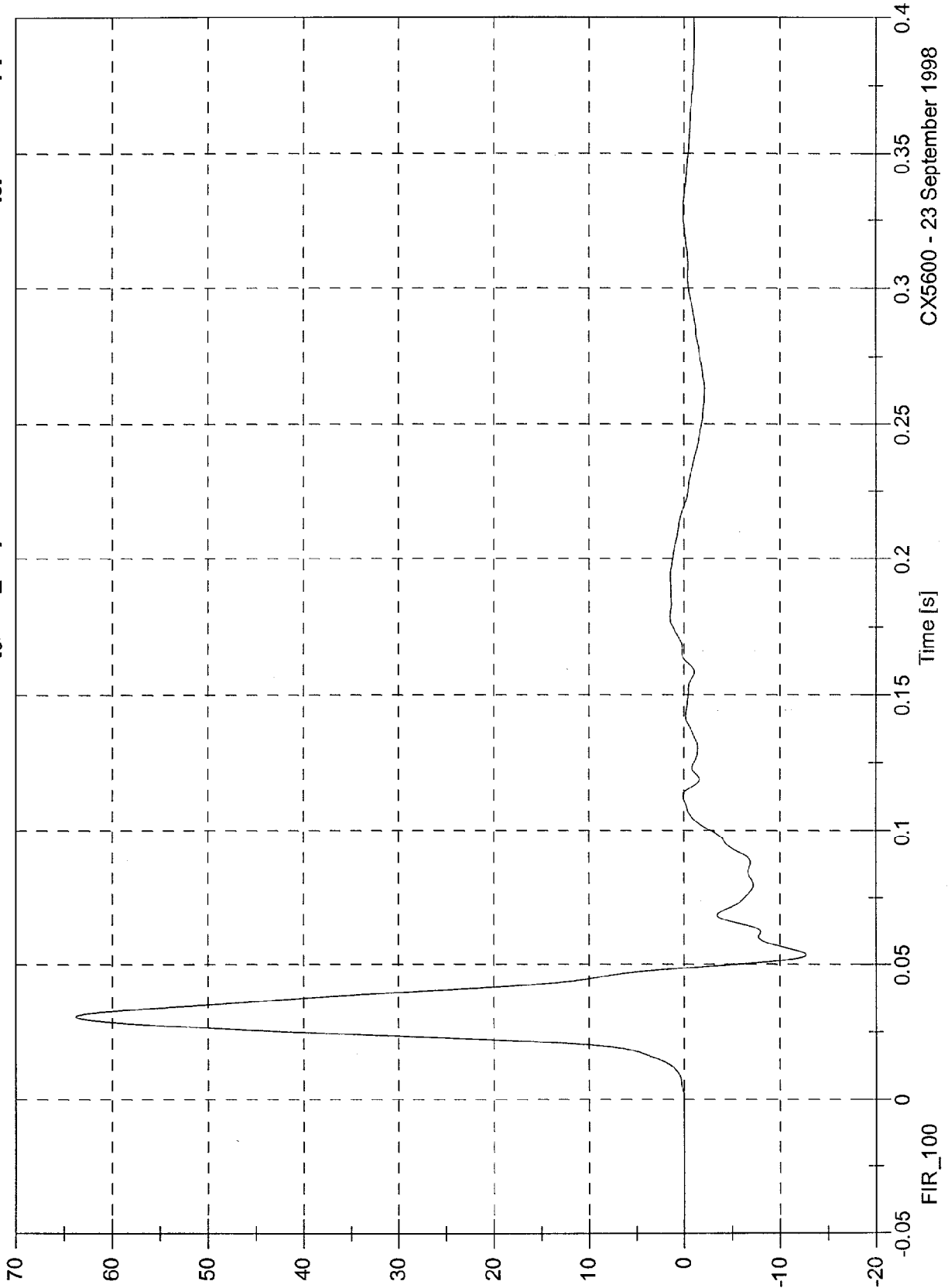
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Pelvic Y [g, FIR_100]

Max: 63.8 [g] at 0.0307 [s]

Min: -12.7 [g] at 0.0532 [s]



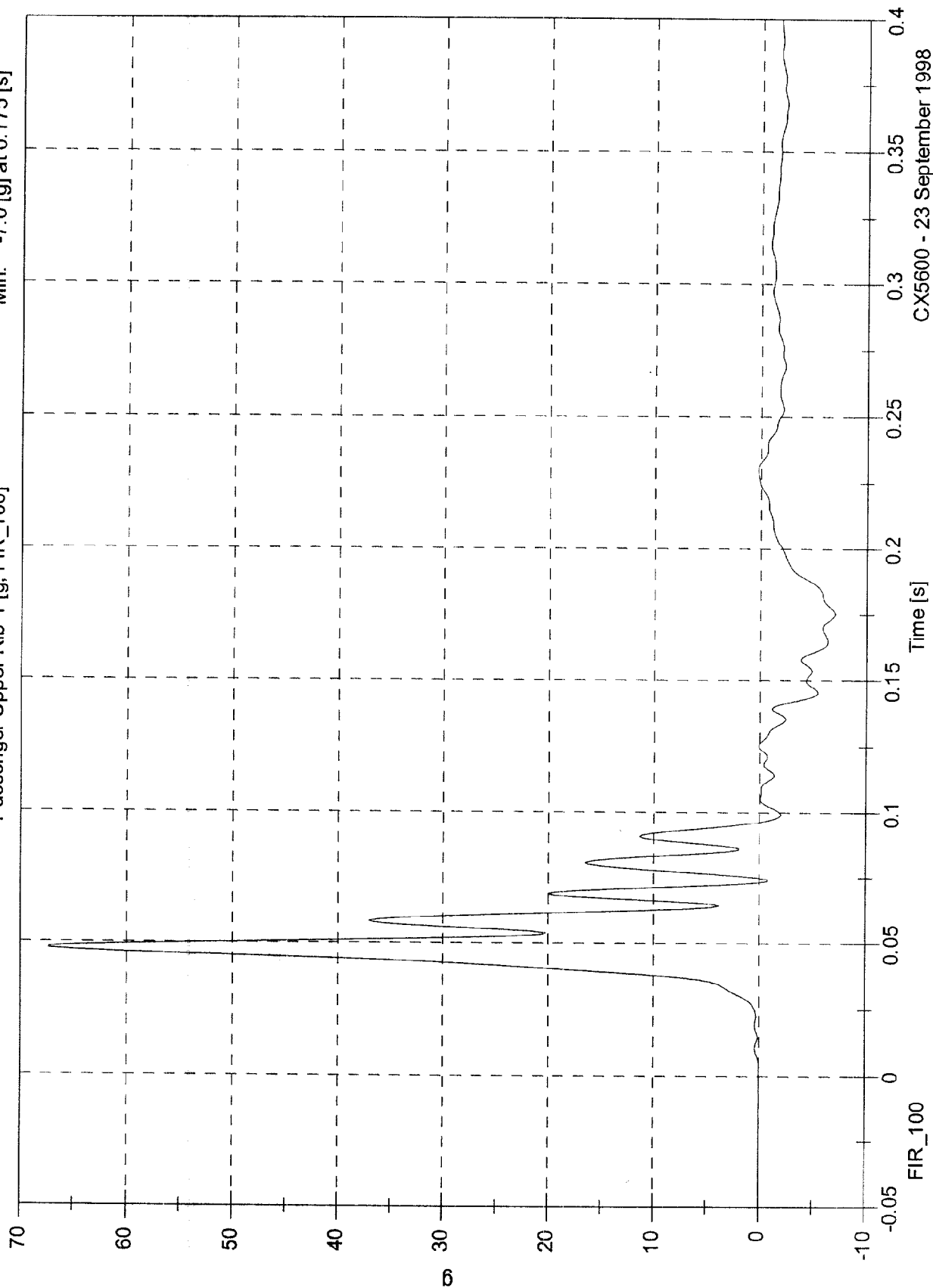
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Upper Rib Y [g, FIR_100]

Max: 67.3 [g] at 0.0475 [s]

Min: -7.0 [g] at 0.175 [s]



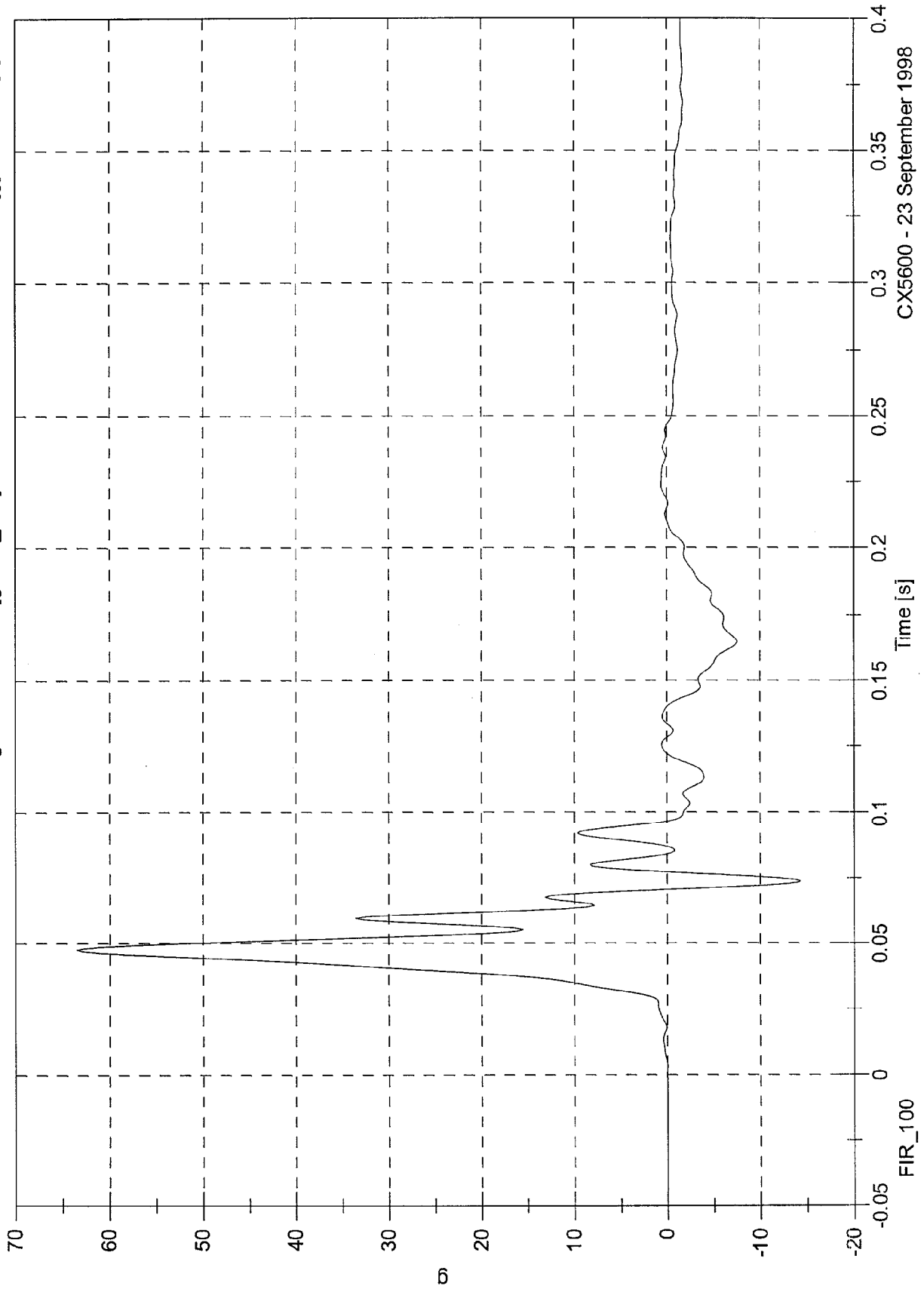
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Lower Rib Y [g, FIR_100]

Max: 63.5 [g] at 0.0475 [s]

Min: -14.3 [g] at 0.0737 [s]

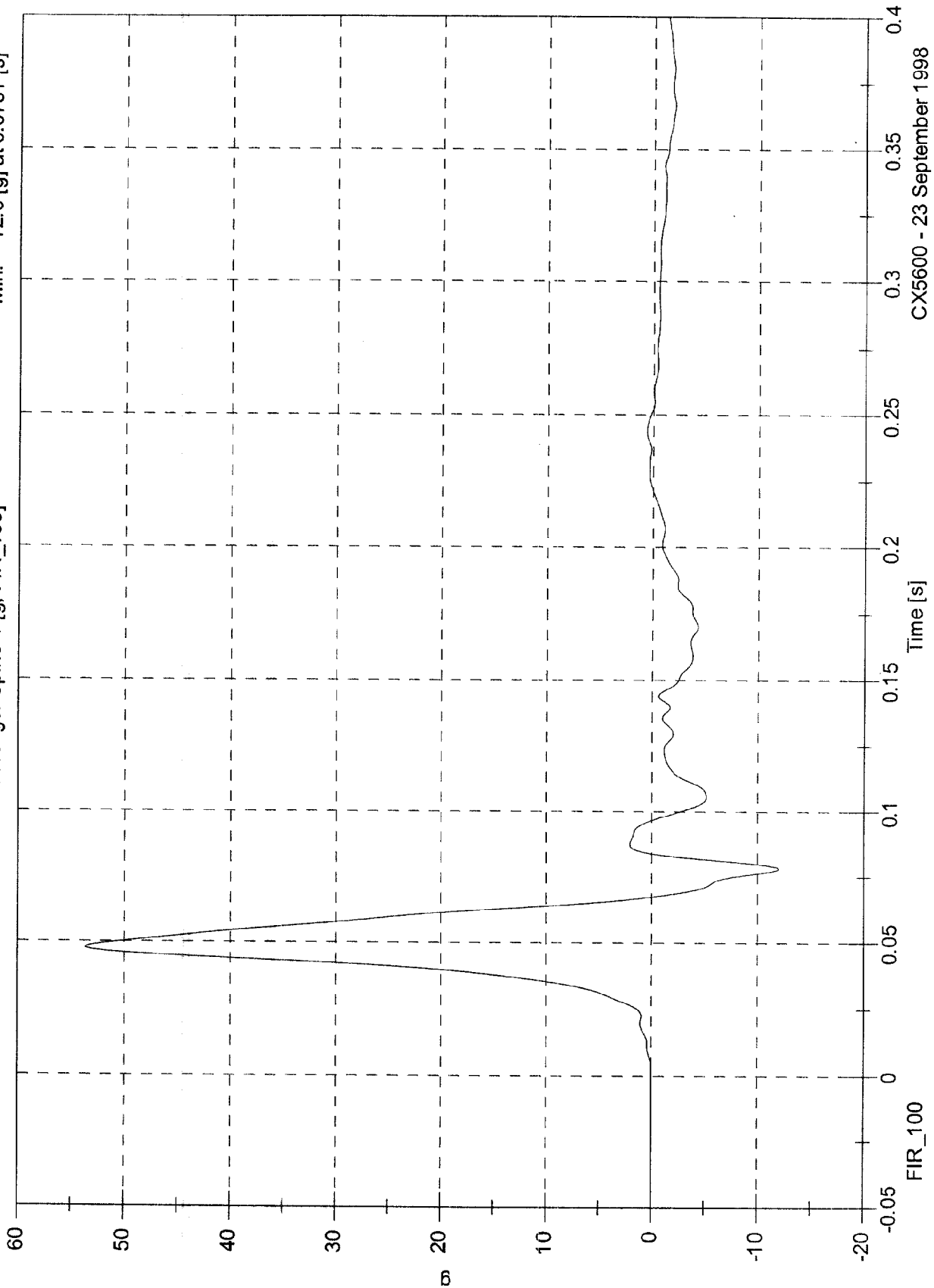


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Spine Y [g, FIR_100]

Max 53.6 [g] at 0.0475 [s]
Min: -12.0 [g] at 0.0781 [s]



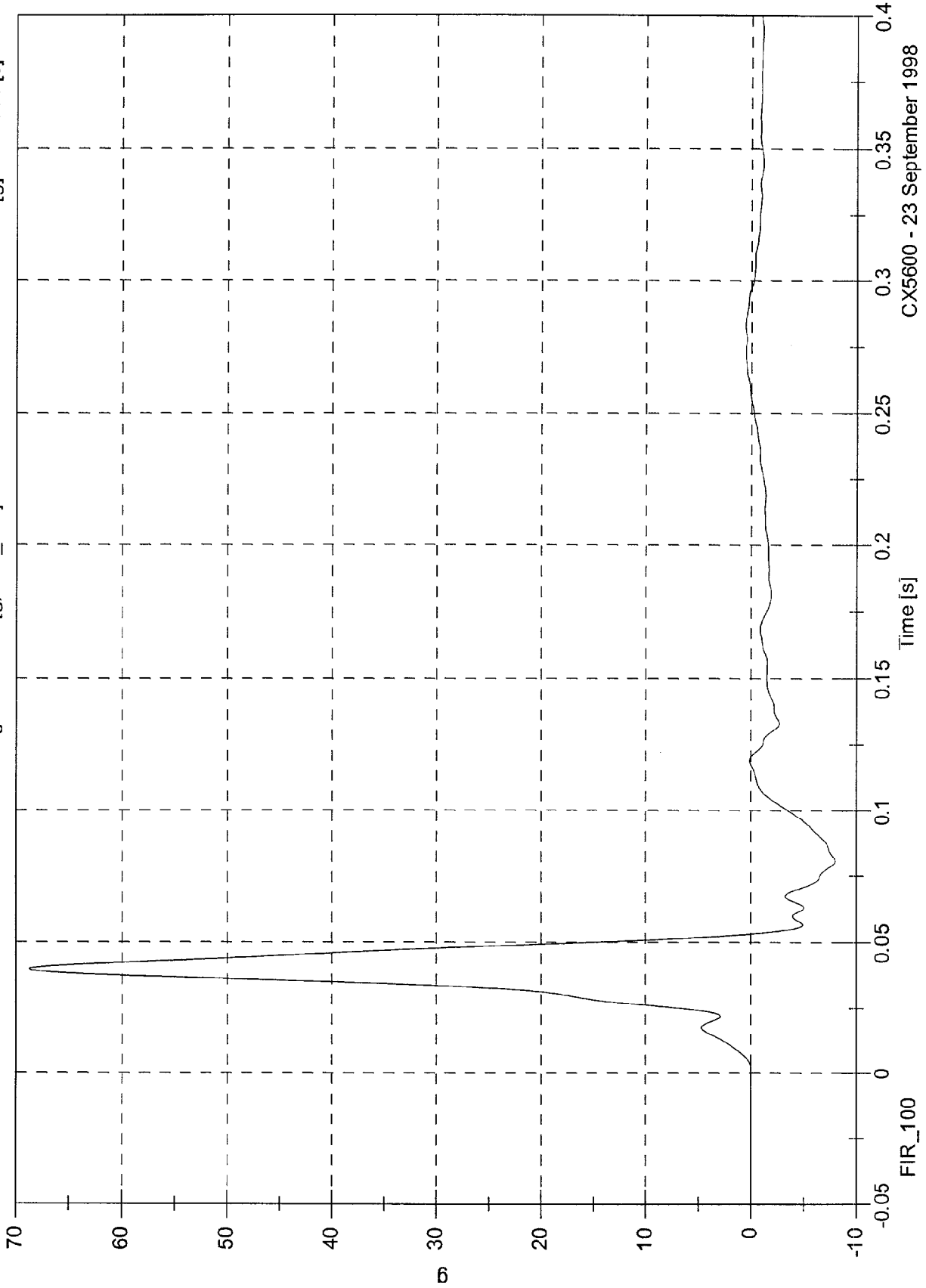
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Pelvic Y [g, FIR_100]

Max: 68.8 [g] at 0.04 [s]

Min: -8.0 [g] at 0.0806 [s]



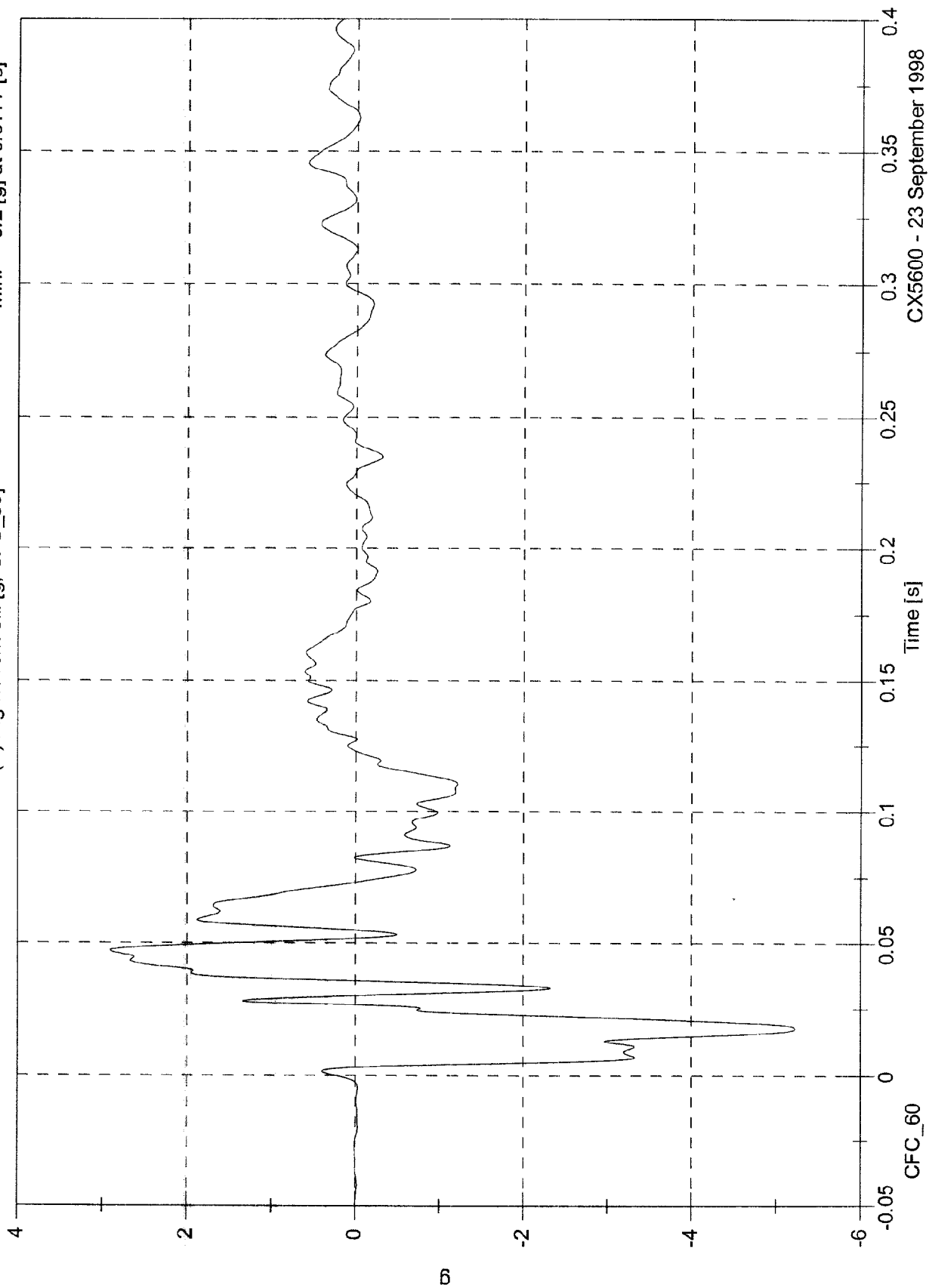
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 1 (X) Right Front Sill [g, CFC_60]

Max: 2.9 [g] at 0.0472 [s]

Min: -5.2 [g] at 0.0177 [s]



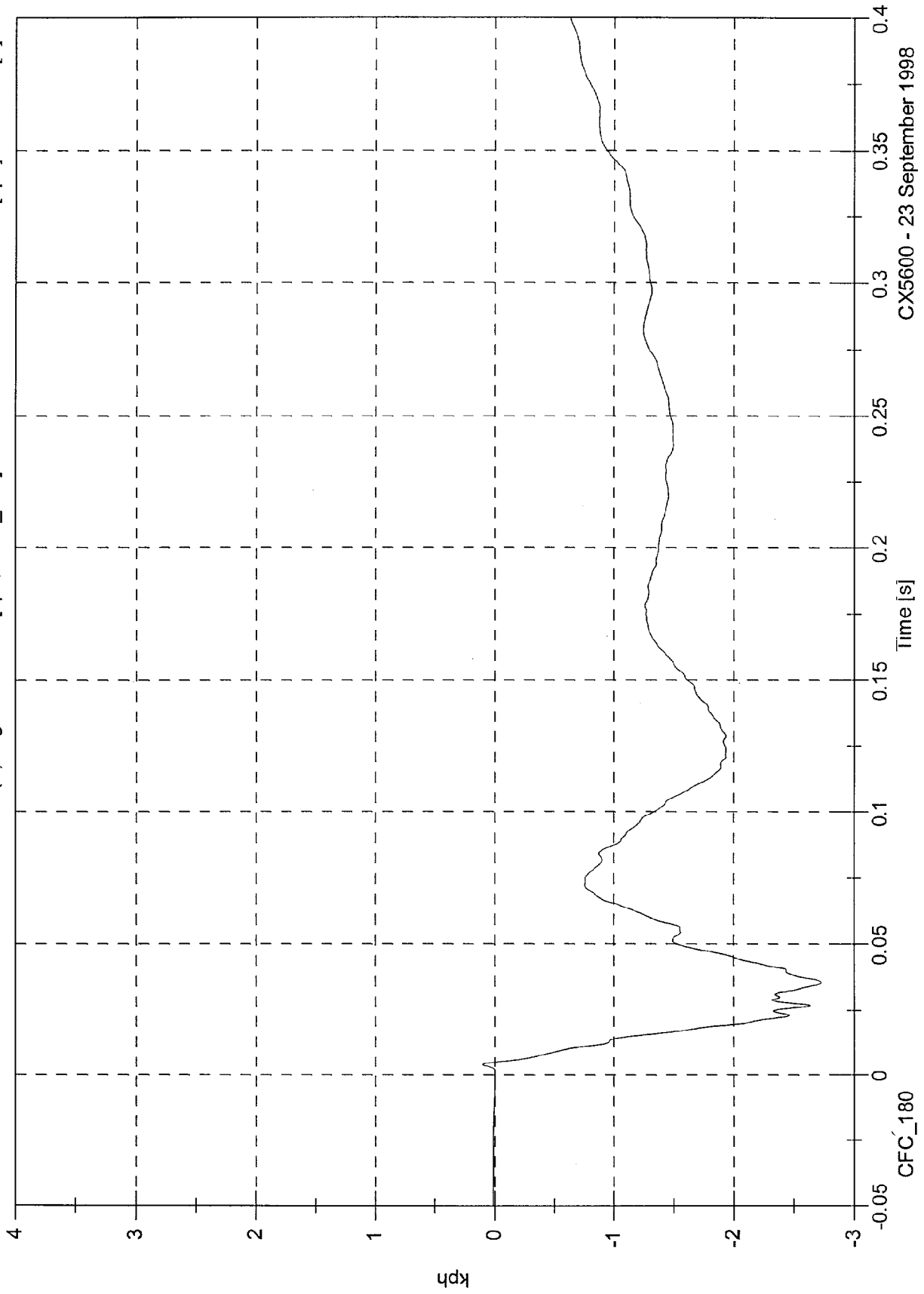
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 1 (X) Right Front Sill [kph, CFC_180]

Max: 3.9 [kph] at 0.9998 [s]

Min: -2.7 [kph] at 0.0356 [s]

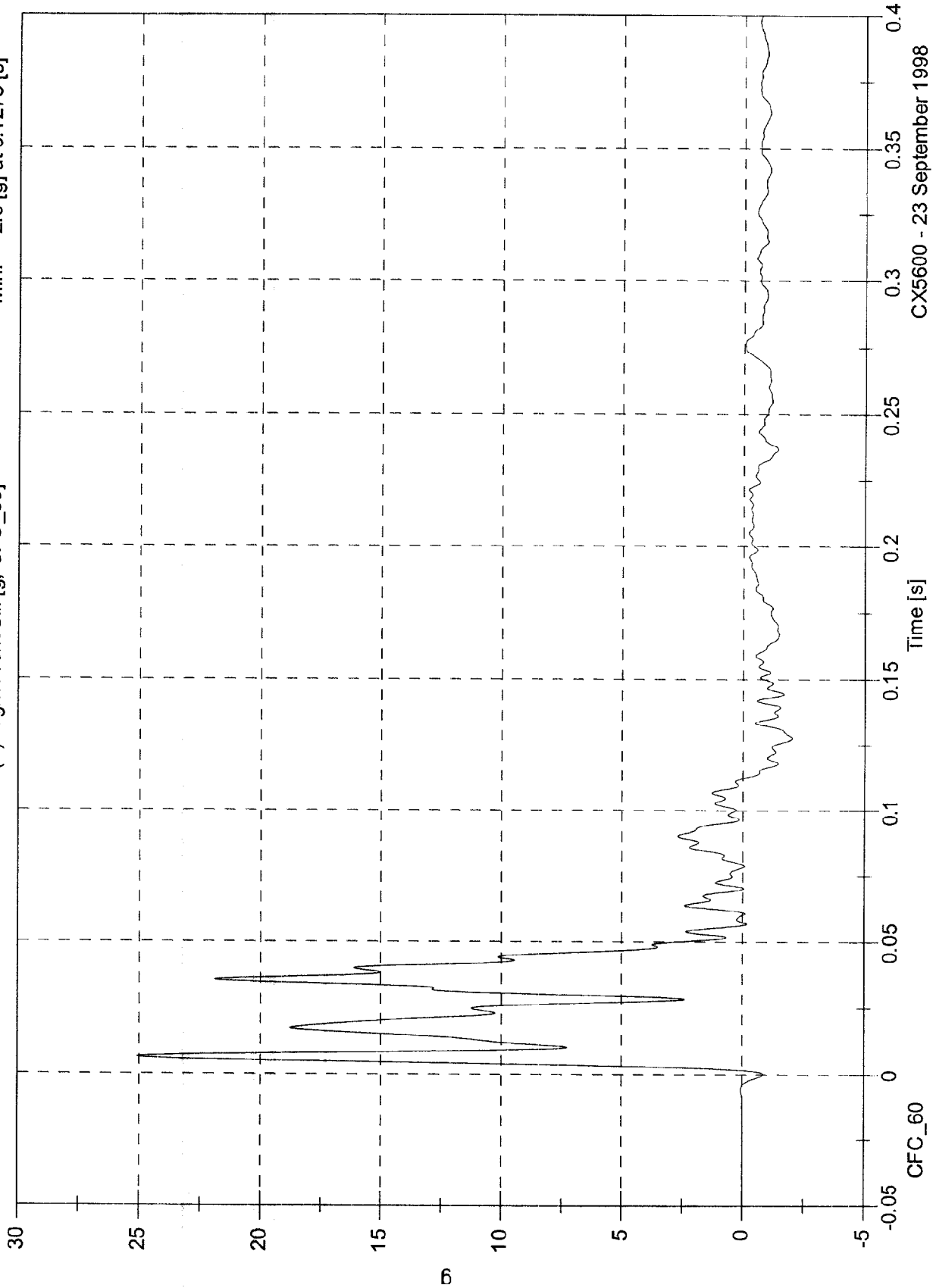


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 1(Y) Right Front Sill [g, CFC_60]

Max: 25.1 [g] at 0.0065 [s]
Min: -2.0 [g] at 0.1275 [s]

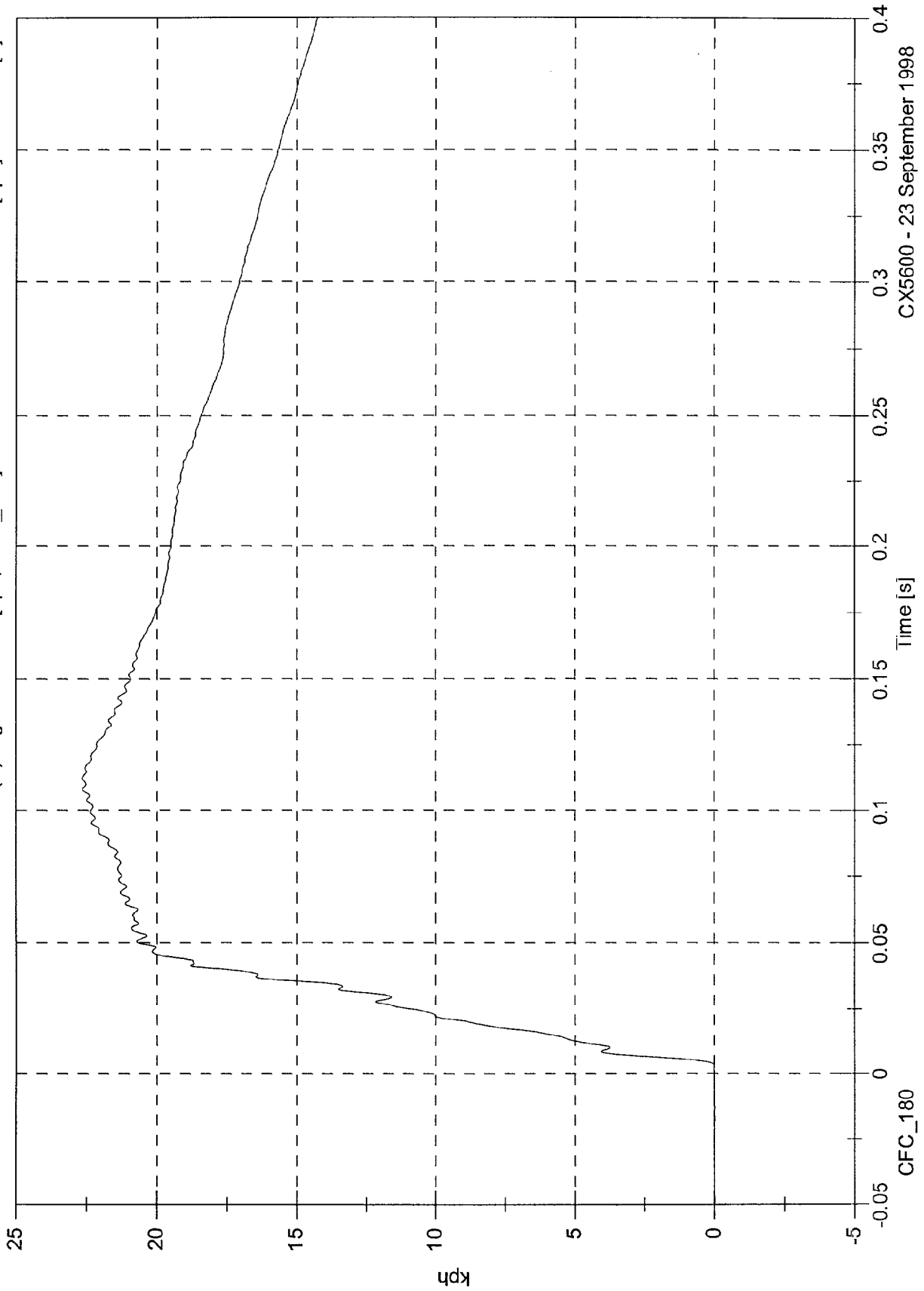


NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 1(Y) Right Front Sill [kph, CFC_180]

Max: 22.7 [kph] at 0.1121 [s]

Min: -0.0 [kph] at 0.9997 [s]



CX5600 - 23 September 1998

Accelerometer 1(Z) Right Front Sill

This Accelerometer was Damaged During the Impact this Data is Not Available

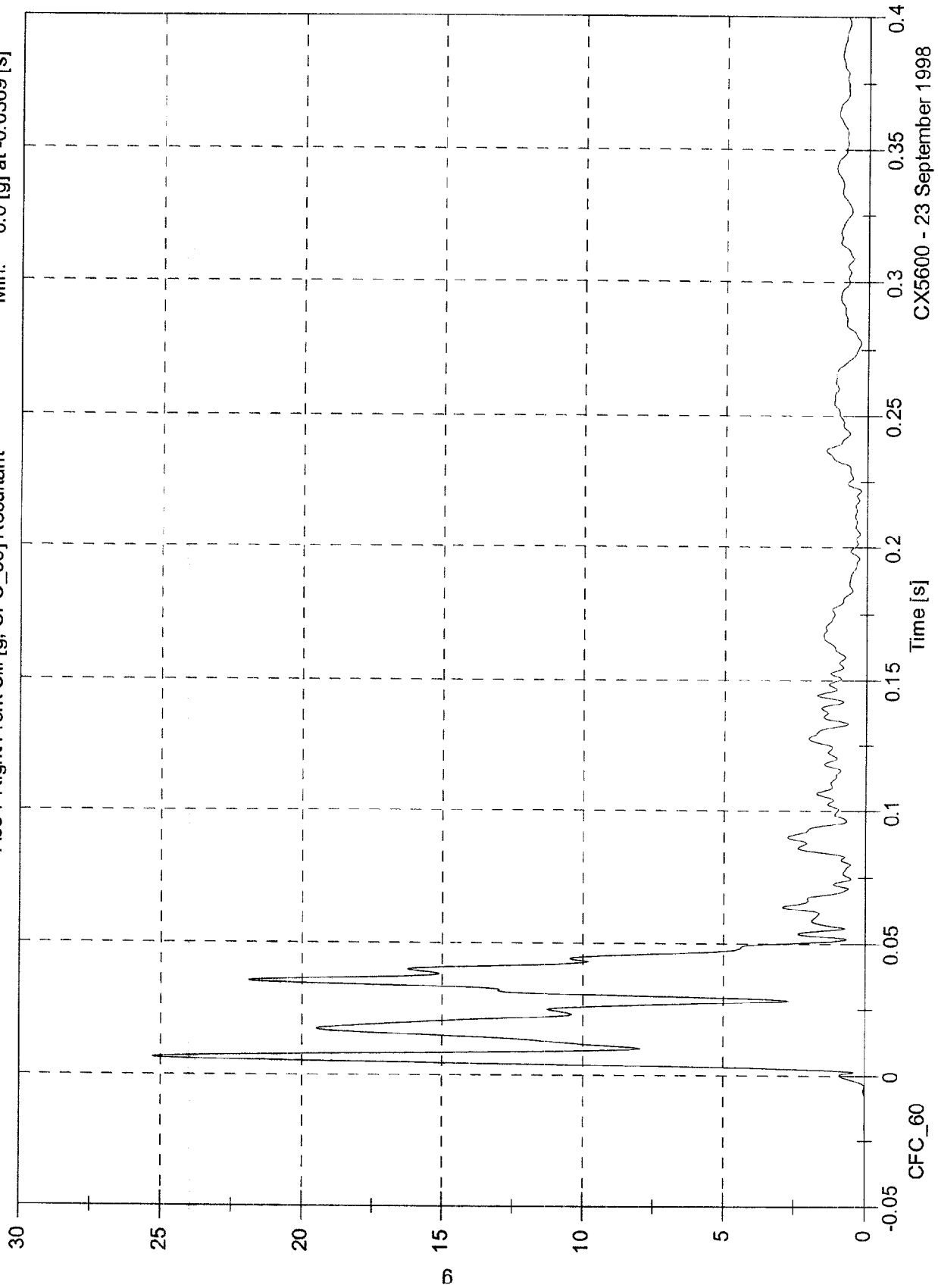
Accelerometer 1(Z) Right Front Sill

This Accelerometer was Damaged During the Impact this Data is Not Available

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 1 Right Front Sill [g, CFC_60] Resultant

Max: 25.3 [g] at 0.0065 [s]
Min: 0.0 [g] at -0.0369 [s]



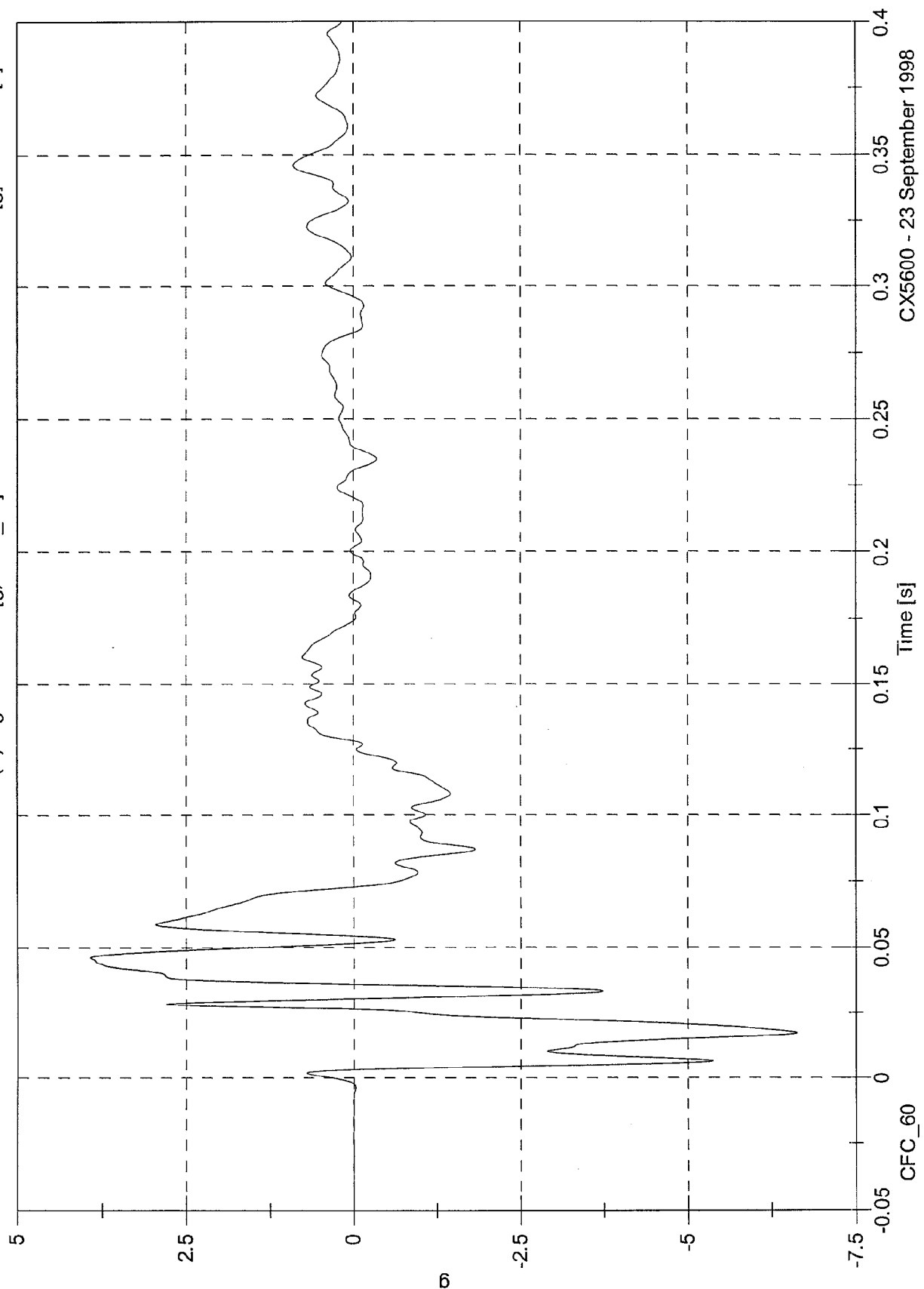
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 2(X) Right Rear Sill [g, CFC_60]

Max: 3.9 [g] at 0.0462 [s]

Min: -6.6 [g] at 0.0173 [s]

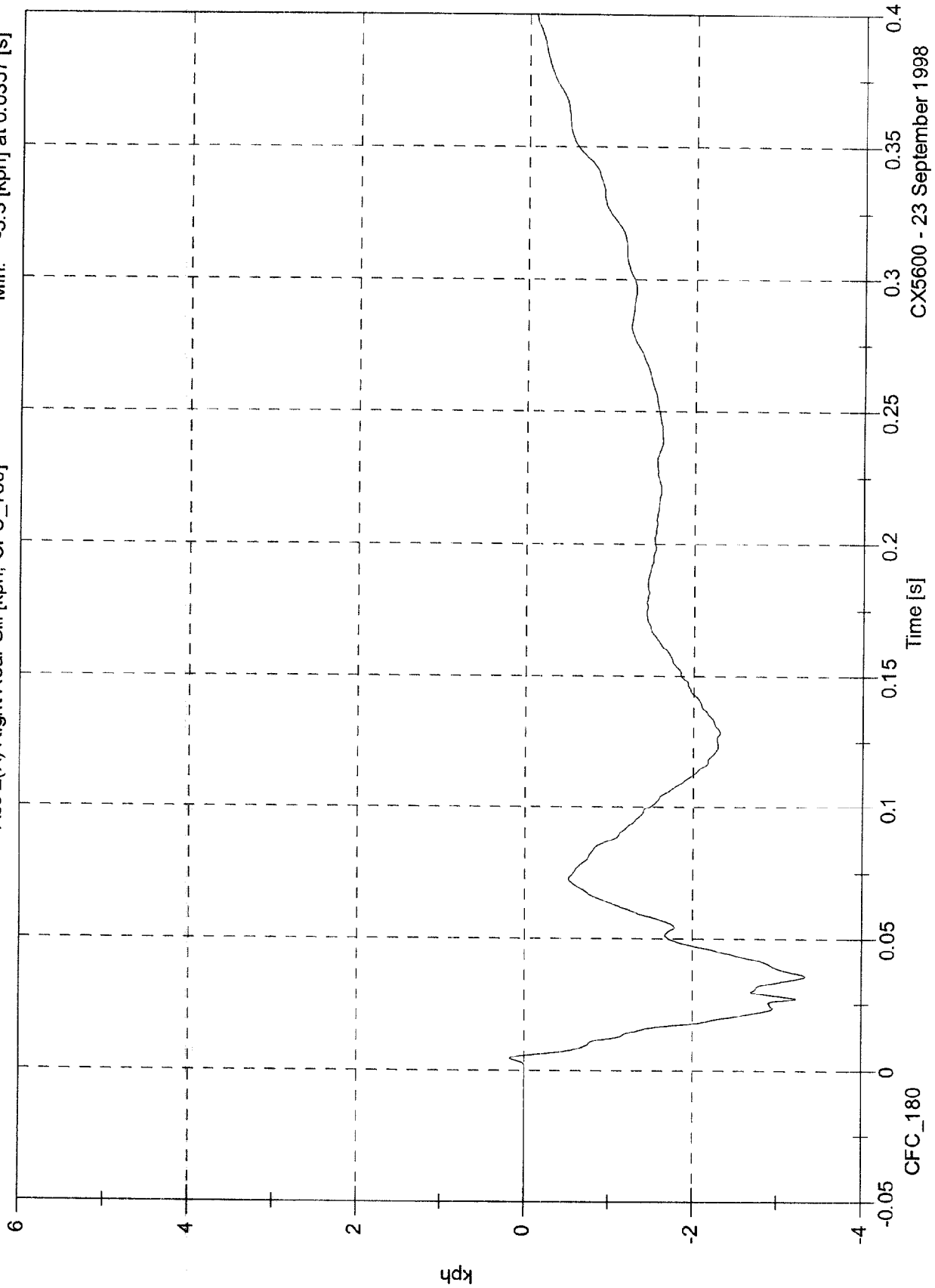


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 2(X) Right Rear Sill [kph, CFC_180]

Max: 5.6 [kph] at 0.9999 [s]
Min: -3.3 [kph] at 0.0357 [s]



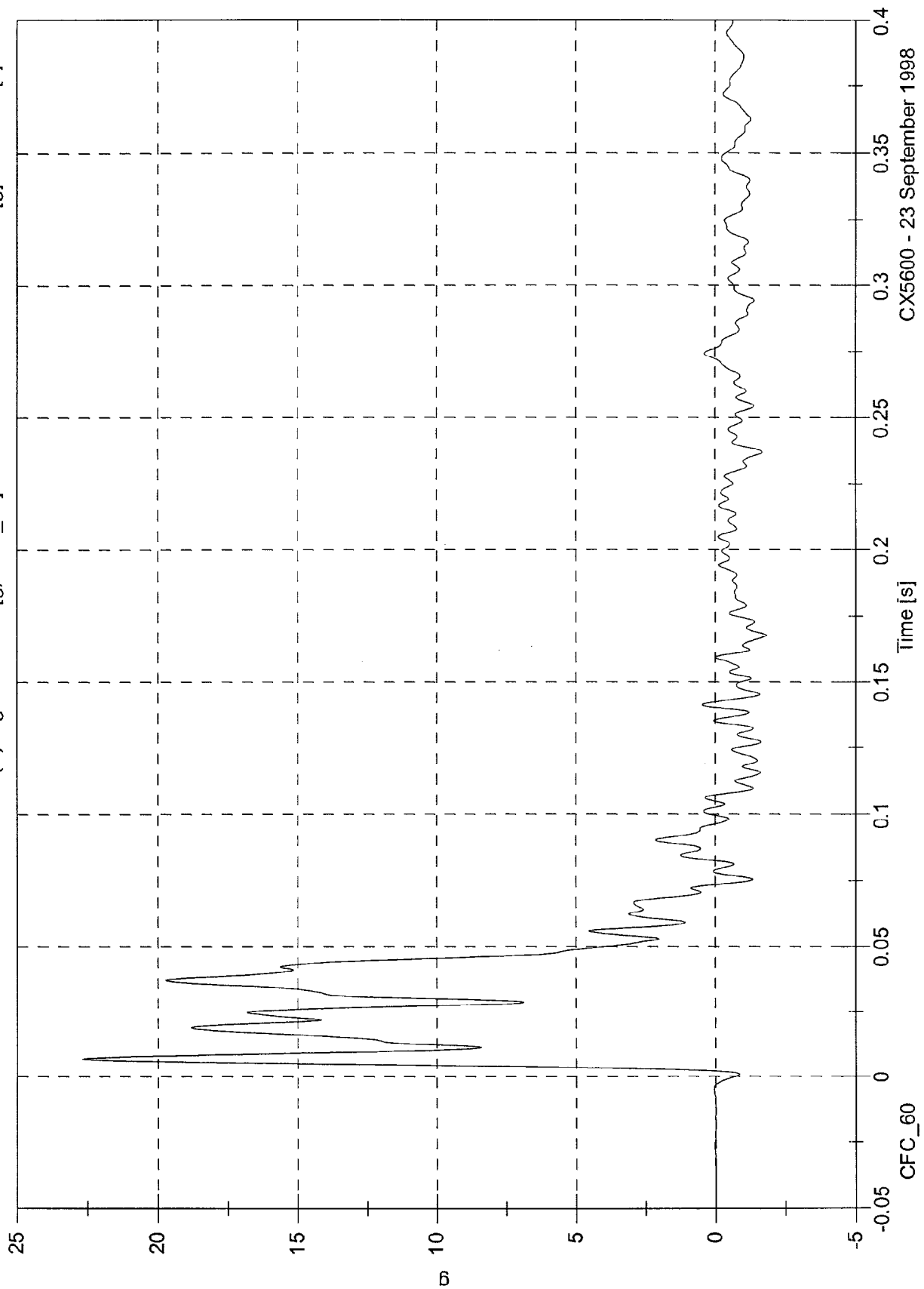
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 2(Y) Right Rear Sill [g, CFC_60]

Max: 22.7 [g] at 0.007 [s]

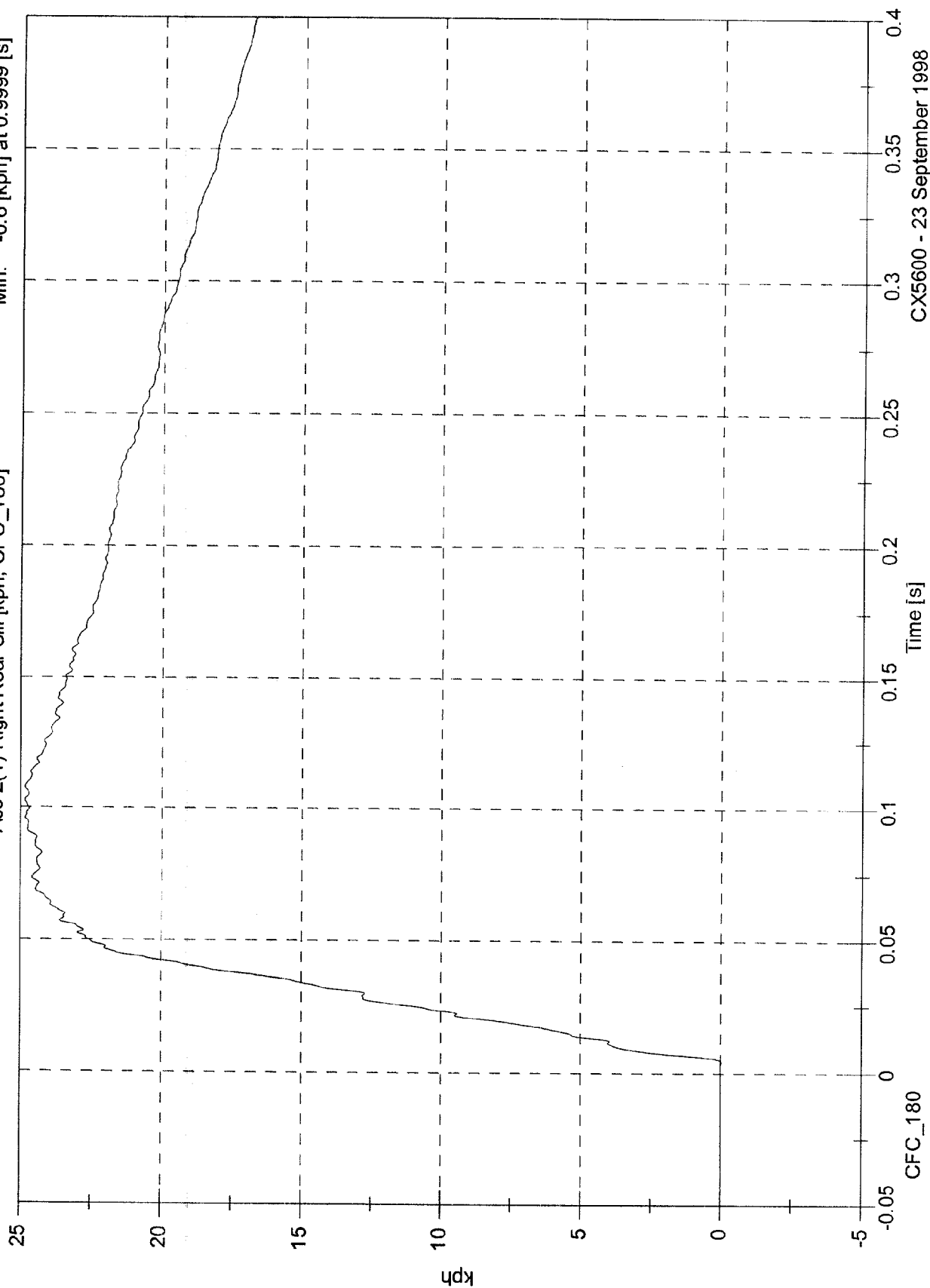
Min: -1.8 [g] at 0.1677 [s]



NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 2(Y) Right Rear Sill [kph, CFC_180]

Max: 24.9 [kph] at 0.1027 [s]
Min: -0.6 [kph] at 0.9999 [s]

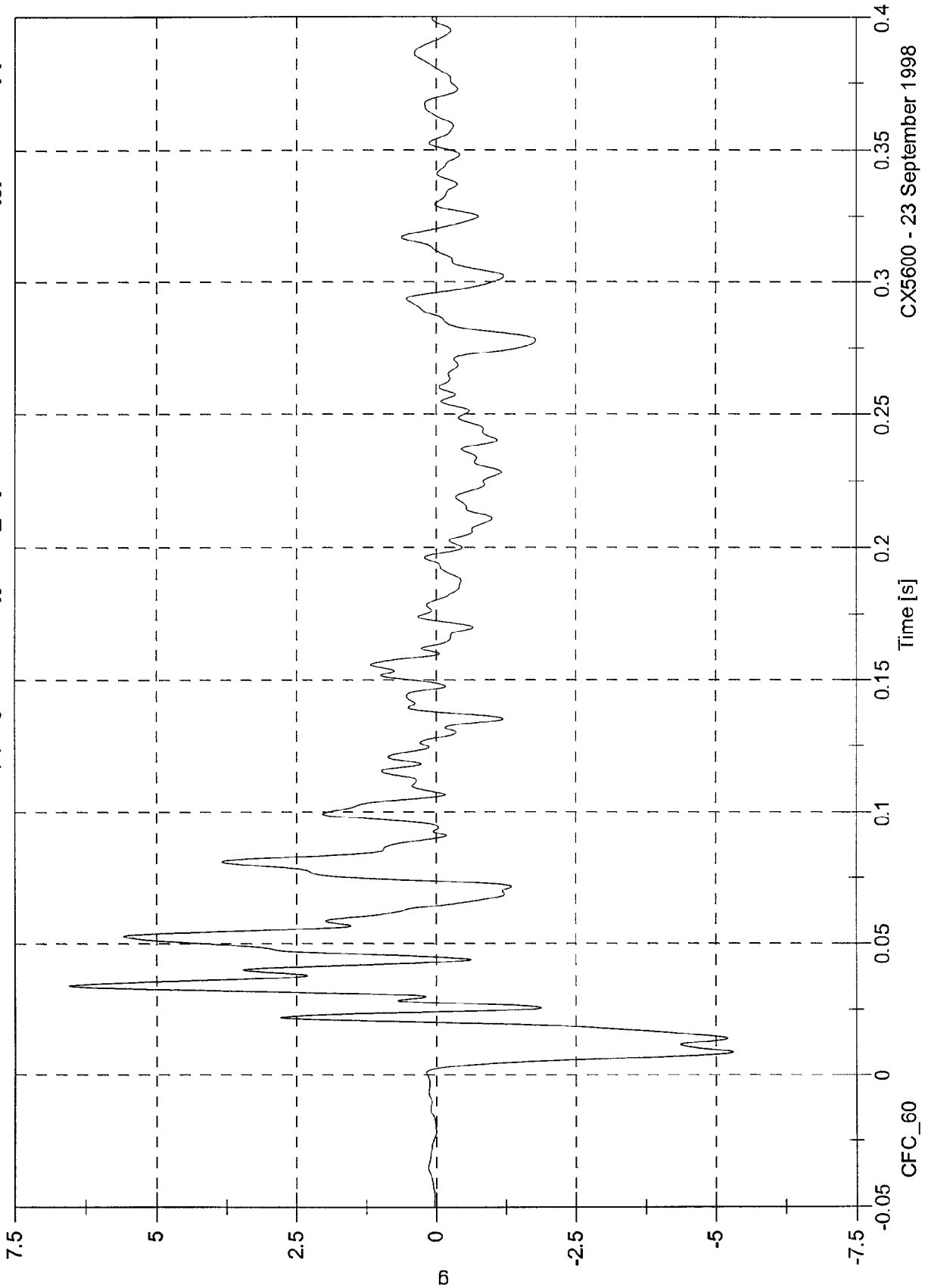


NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 2(Z) Right Rear Sill [g, CFC_60]

Max: 6.6 [g] at 0.0342 [s]

Min: -5.3 [g] at 0.0088 [s]

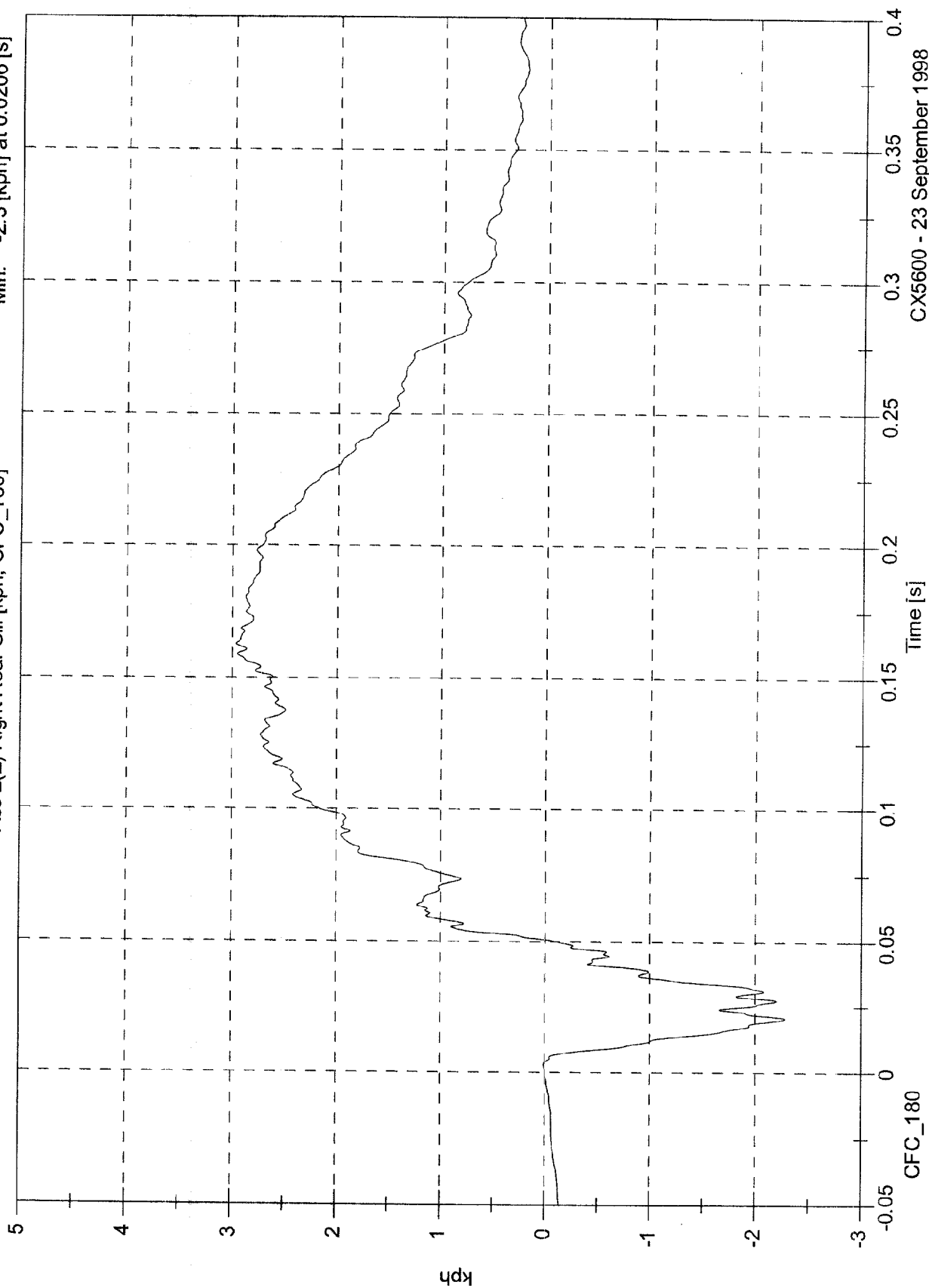


NHTSA Side Impact - 1999 Mitsubishi Galant

Max: 4.2 [kph] at 0.9704 [s]

Min: -2.3 [kph] at 0.0206 [s]

Acc 2(Z) Right Rear Sill [kph, CFC_180]

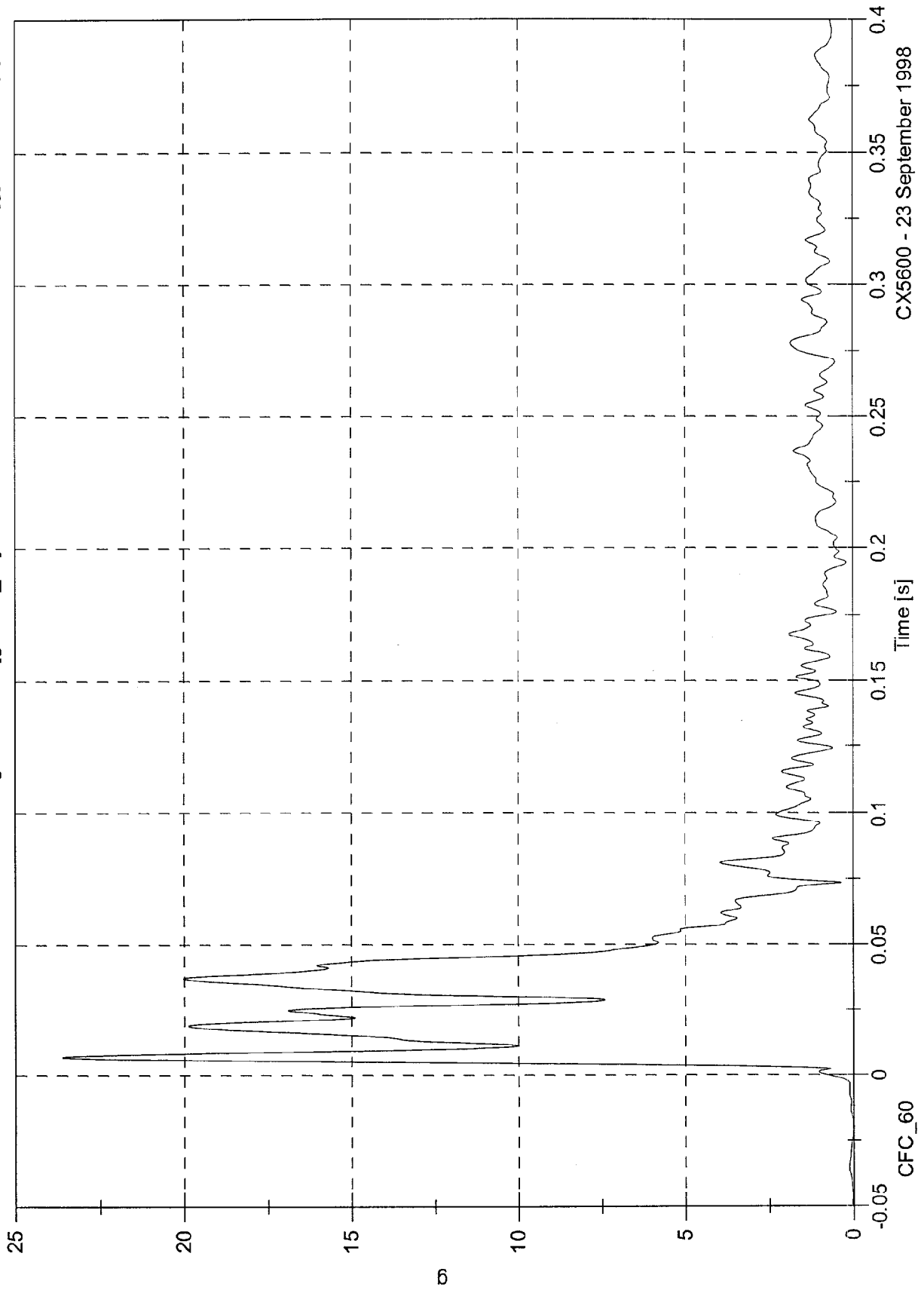


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 2 Right Rear Sill [g, CFC_60] Resultant

Max: 23.6 [g] at 0.007 [s]
Min: 0.0 [g] at -0.0645 [s]



CX5600 - 23 September 1998

Accelerometer 3(X) Rear Floorpan

This Accelerometer was Damaged During the Impact this Data is Not Available

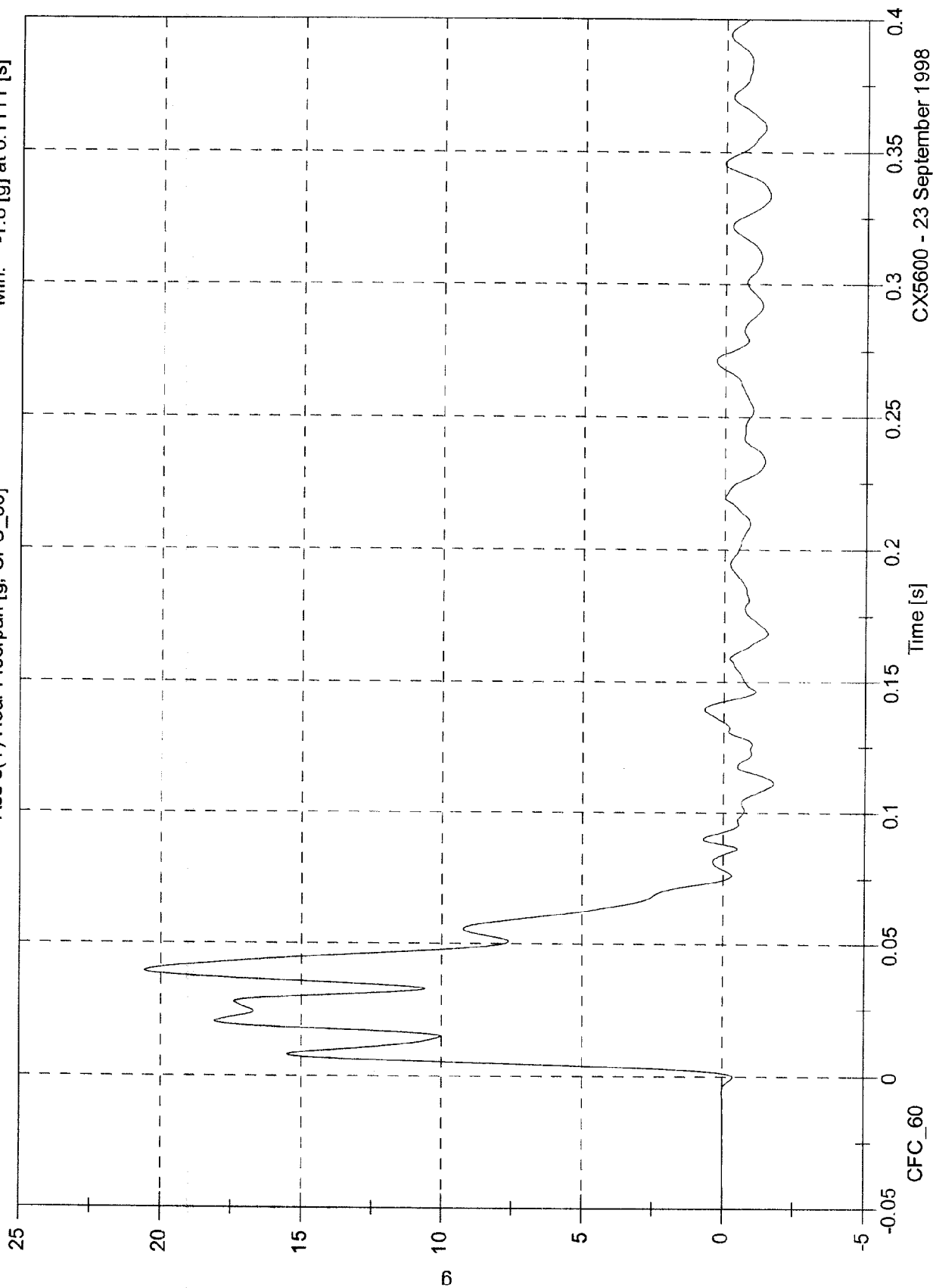
Accelerometer 3(X) Rear Floorpan

This Accelerometer was Damaged During the Impact this Data is Not Available

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 3(Y) Rear Floorpan [g, CFC_60]

Max: 20.6 [g] at 0.0393 [s]
Min: -1.8 [g] at 0.1111 [s]



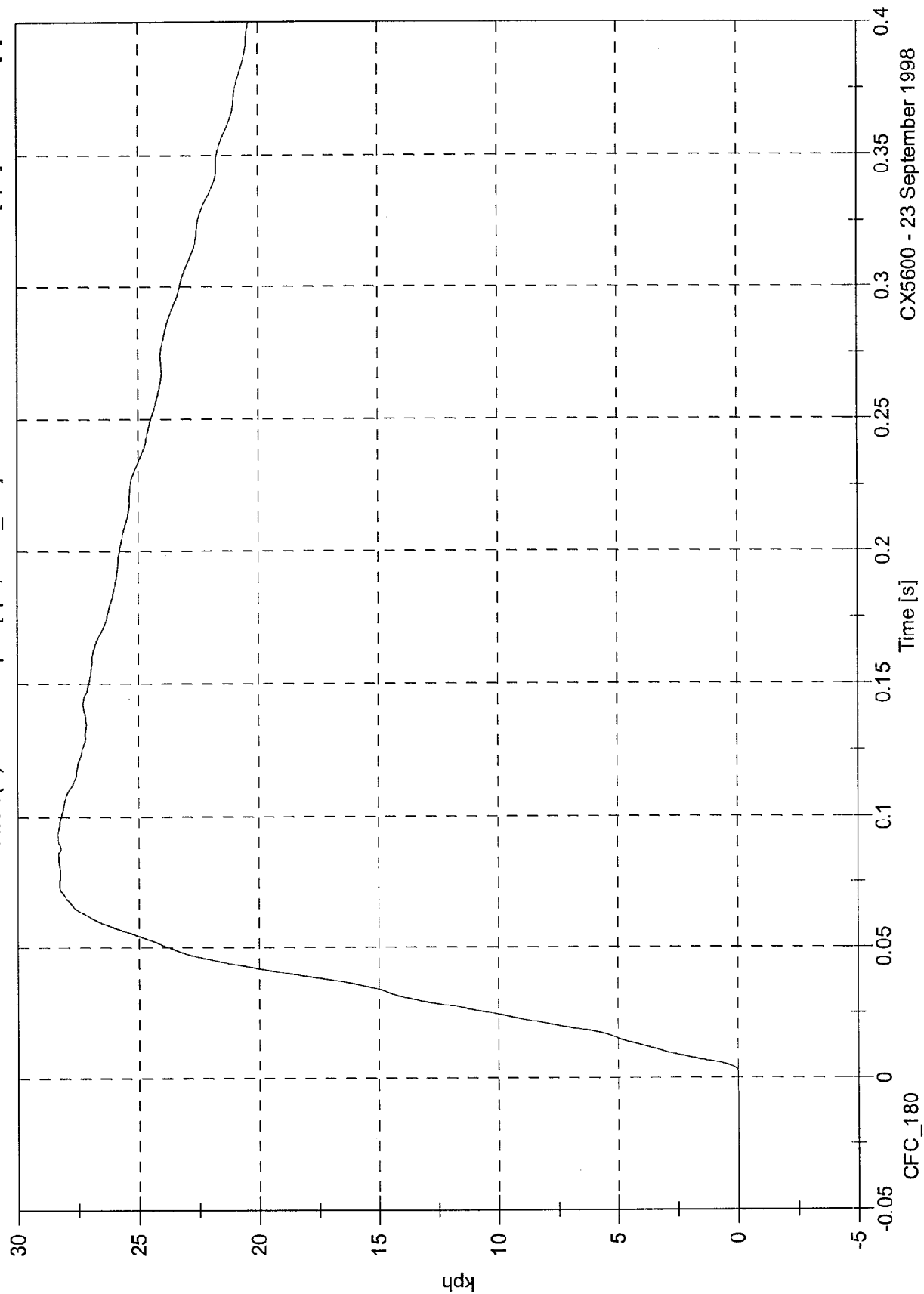
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 3(Y) Rear Floorpan [kph, CFC_180]

Max: 28.3 [kph] at 0.0935 [s]

Min: -0.0 [kph] at -0.0256 [s]

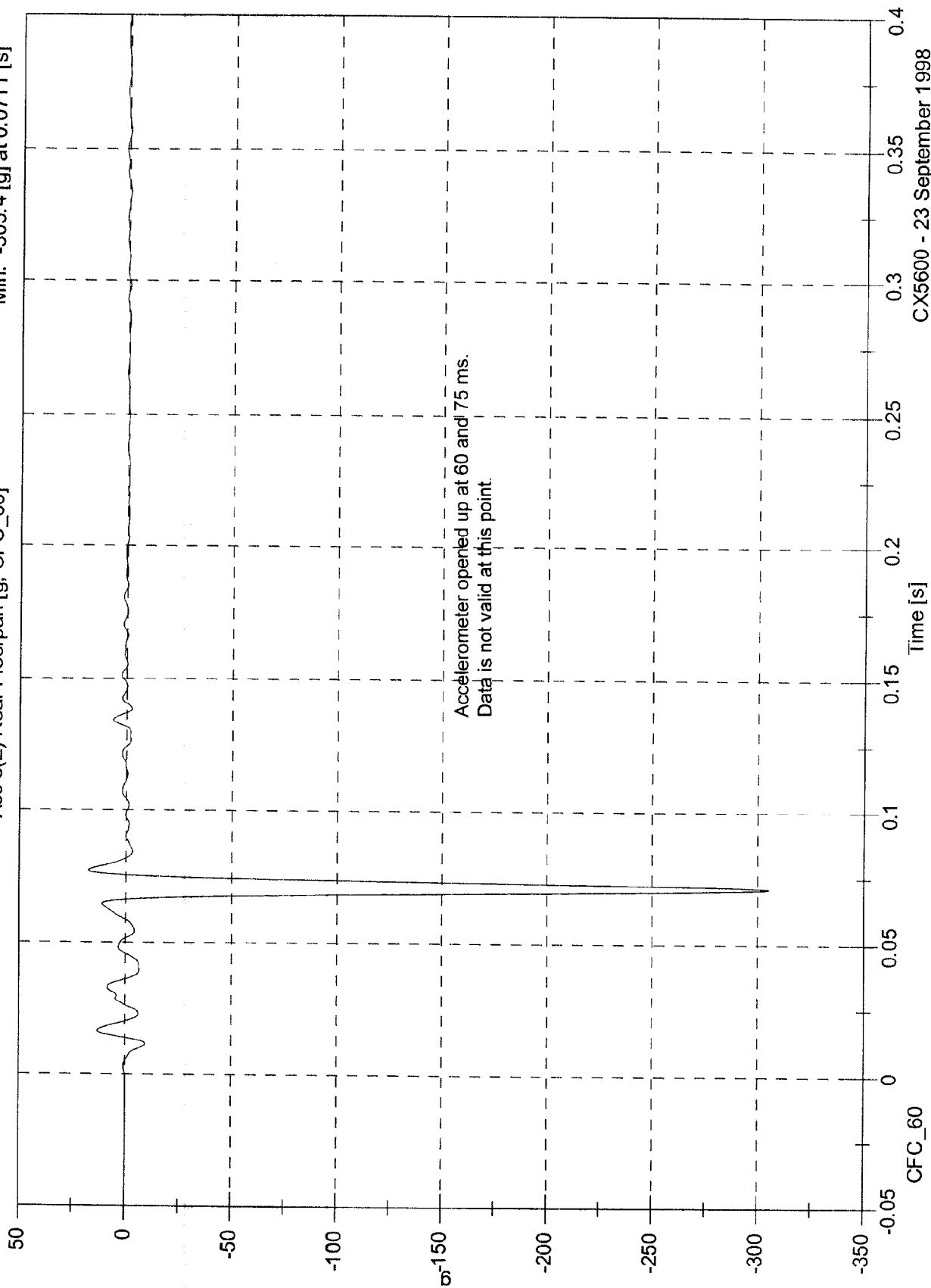


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 3(Z) Rear Floorpan [g, CFC_60]

Max: 17.6 [g] at 0.0772 [s]
Min: -305.4 [g] at 0.0711 [s]



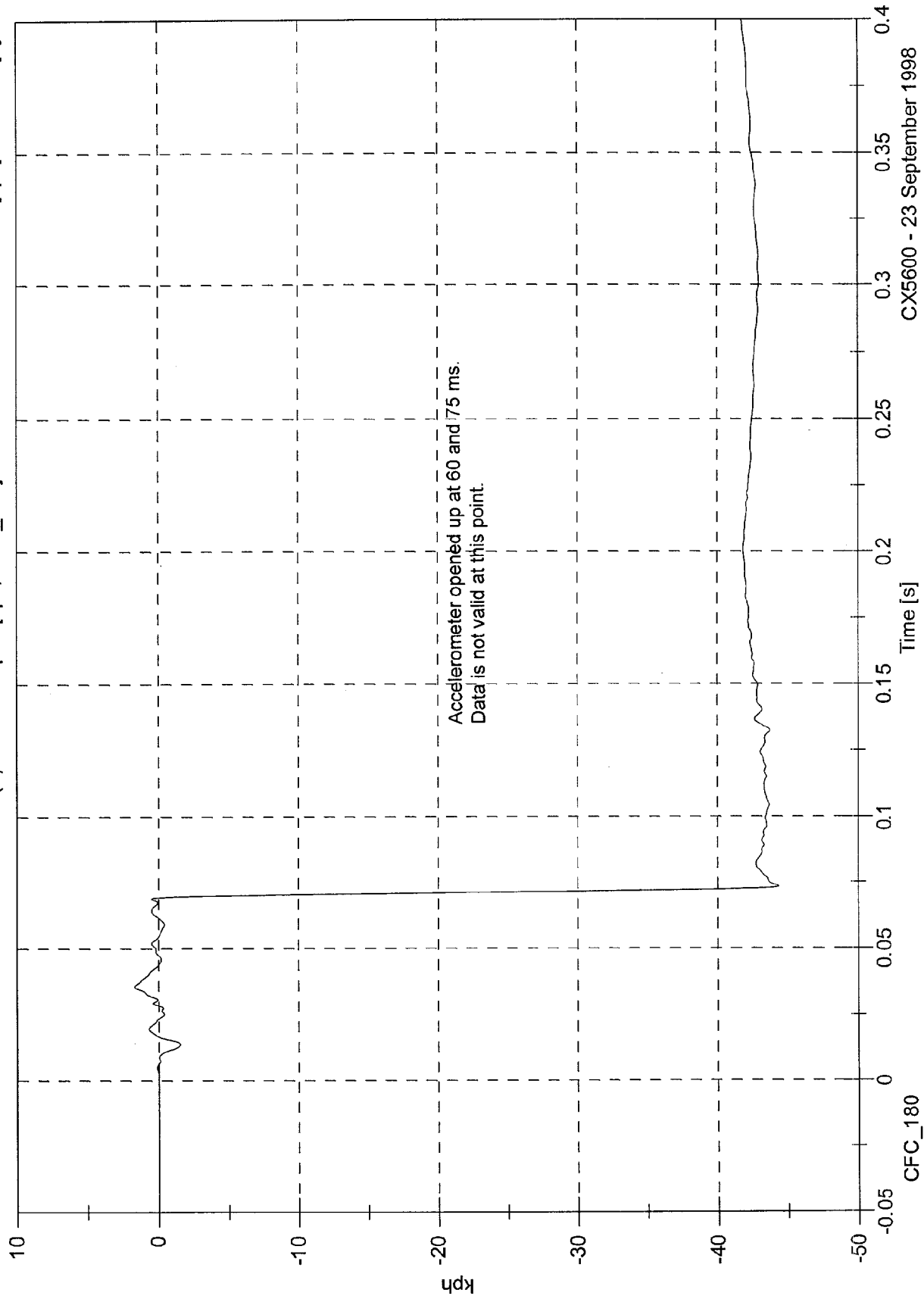
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 3(Z) Rear Floorpan [kph, CFC_180]

Max: 1.7 [kph] at 0.0359 [s]

Min: -44.4 [kph] at 0.0733 [s]



Accelerometer 3 Rear Floorpan Resultant

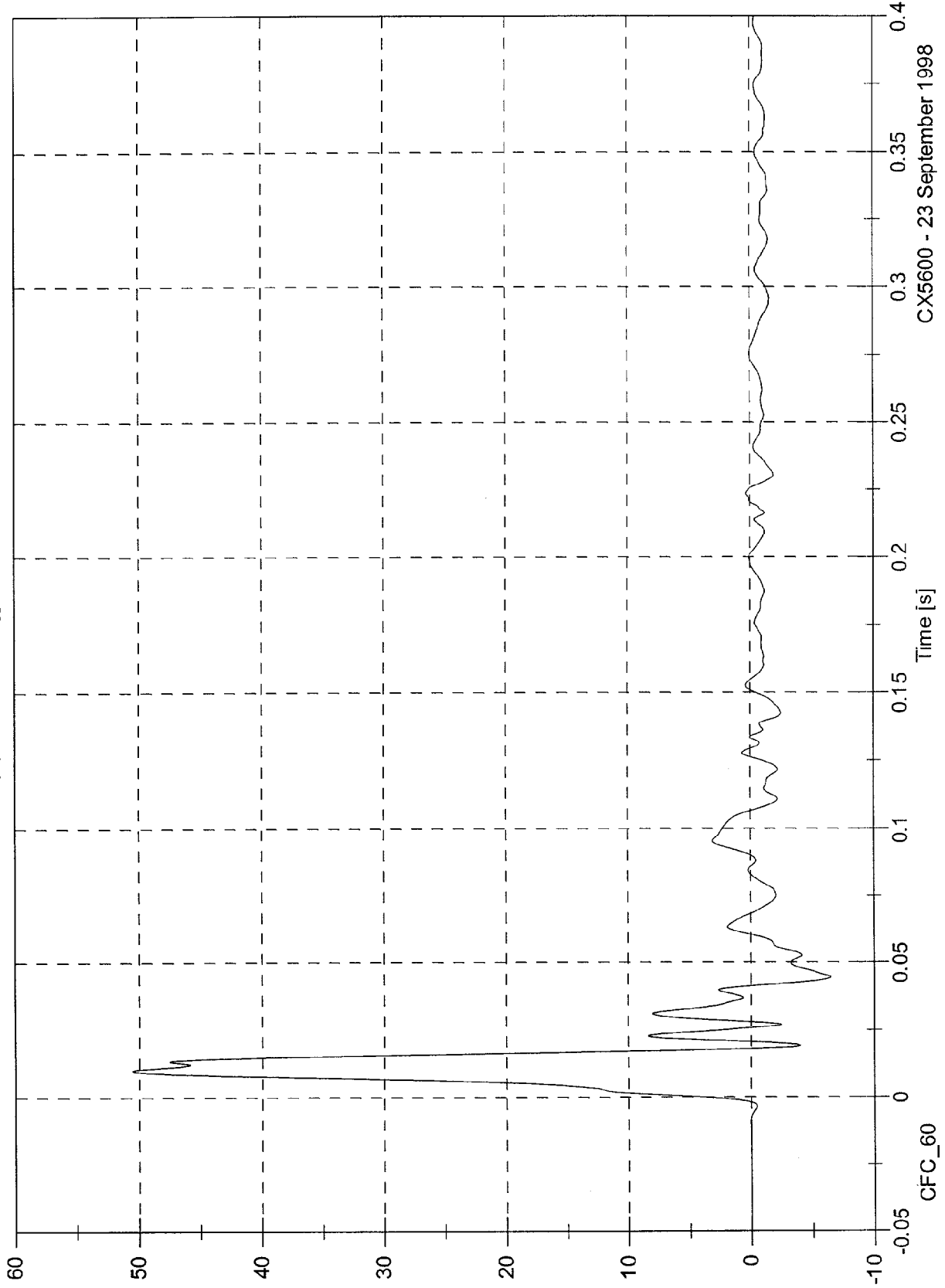
The Rear Floorpan X Accelerometer was Damaged During the Impact the Resultant Data is Not Available

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 4(Y) Left Rear Sill [g, CFC_60]

Max: 50.6 [g] at 0.0101 [s]

Min: -6.5 [g] at 0.0445 [s]

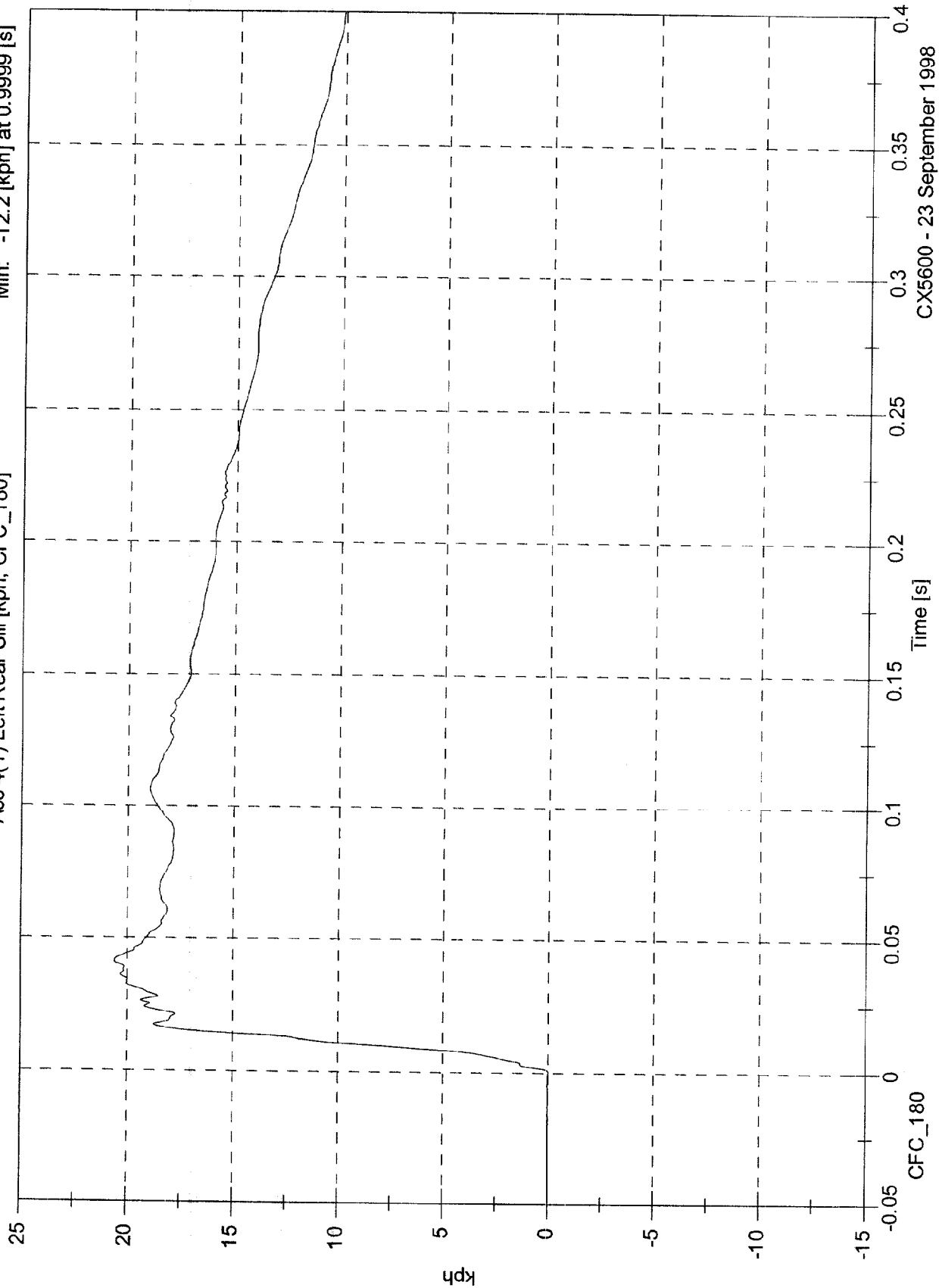


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 4(Y) Left Rear Sill [kph, CFC_180]

Max: 20.6 [kph] at 0.0412 [s]
Min: -12.2 [kph] at 0.9999 [s]



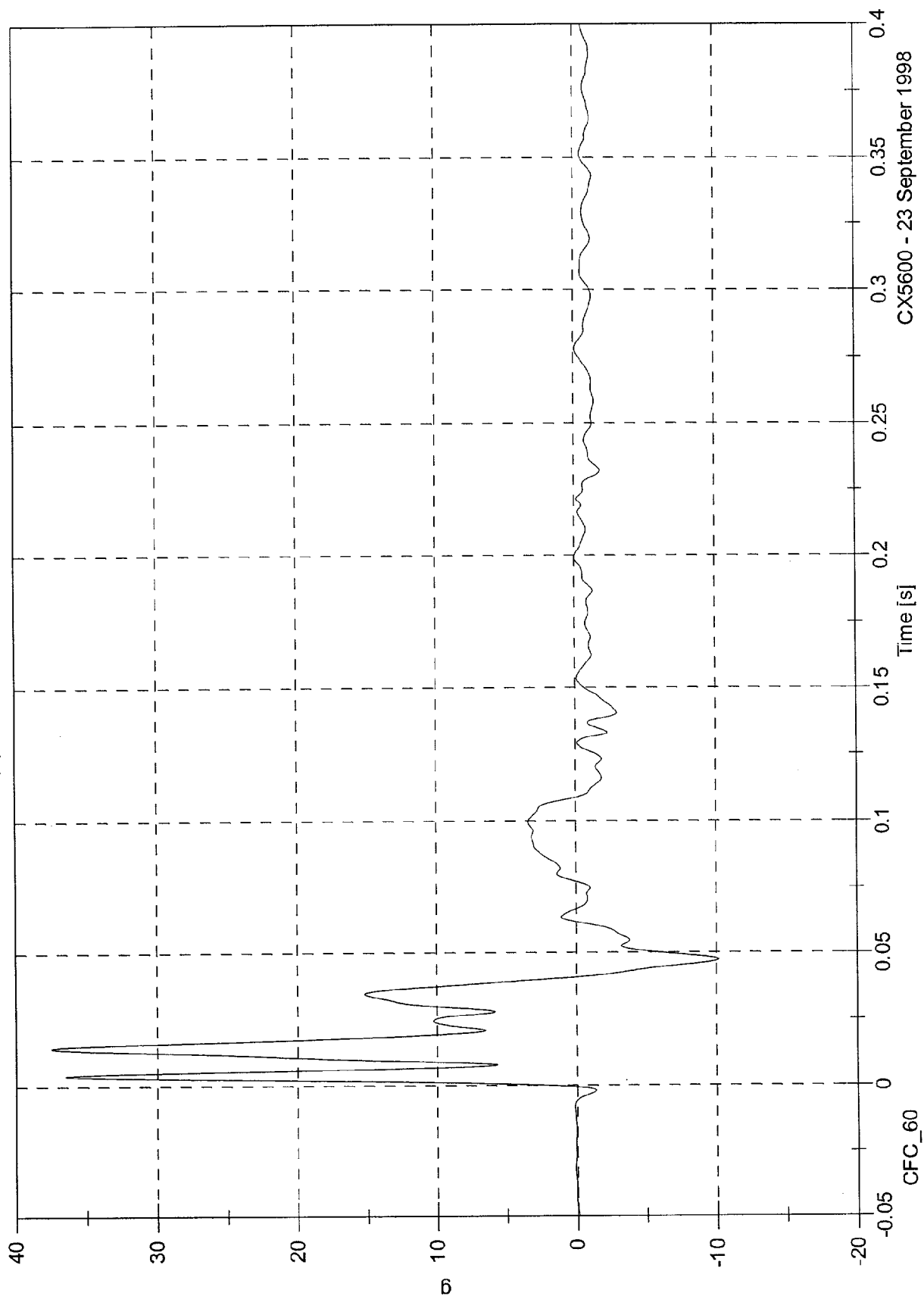
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 5(Y) Left Front Sill [g, CFC_60]

Max: 37.5 [g] at 0.0145 [s]

Min: -10.2 [g] at 0.0473 [s]



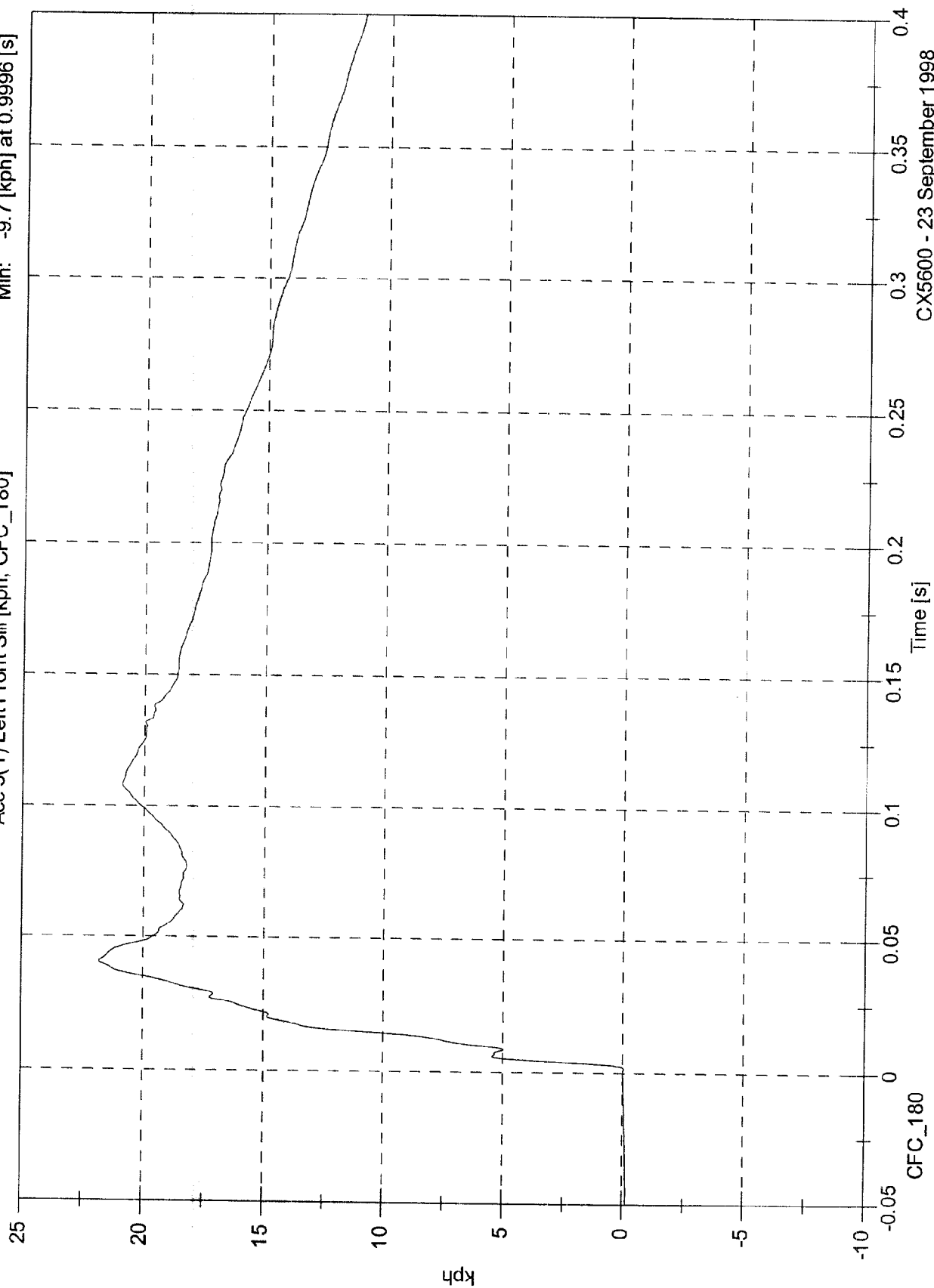
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 5(Y) Left Front Sill [kph, CFC_180]

Max: 21.8 [kph] at 0.0404 [s]

Min: -9.7 [kph] at 0.9996 [s]



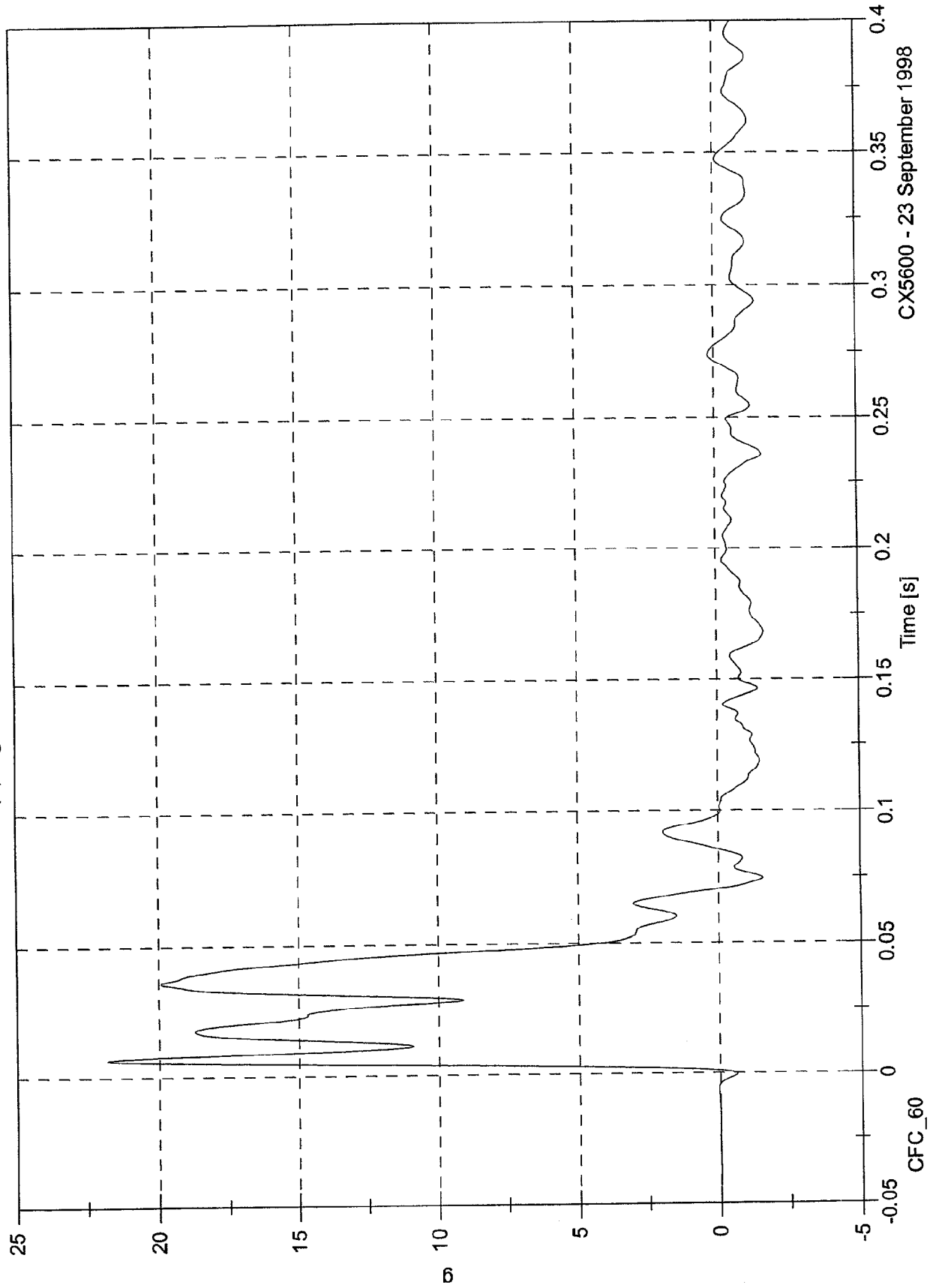
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 7(Y) Right Rear Compartment [g, CFC_60]

Max: 21.8 [g] at 0.0067 [s]

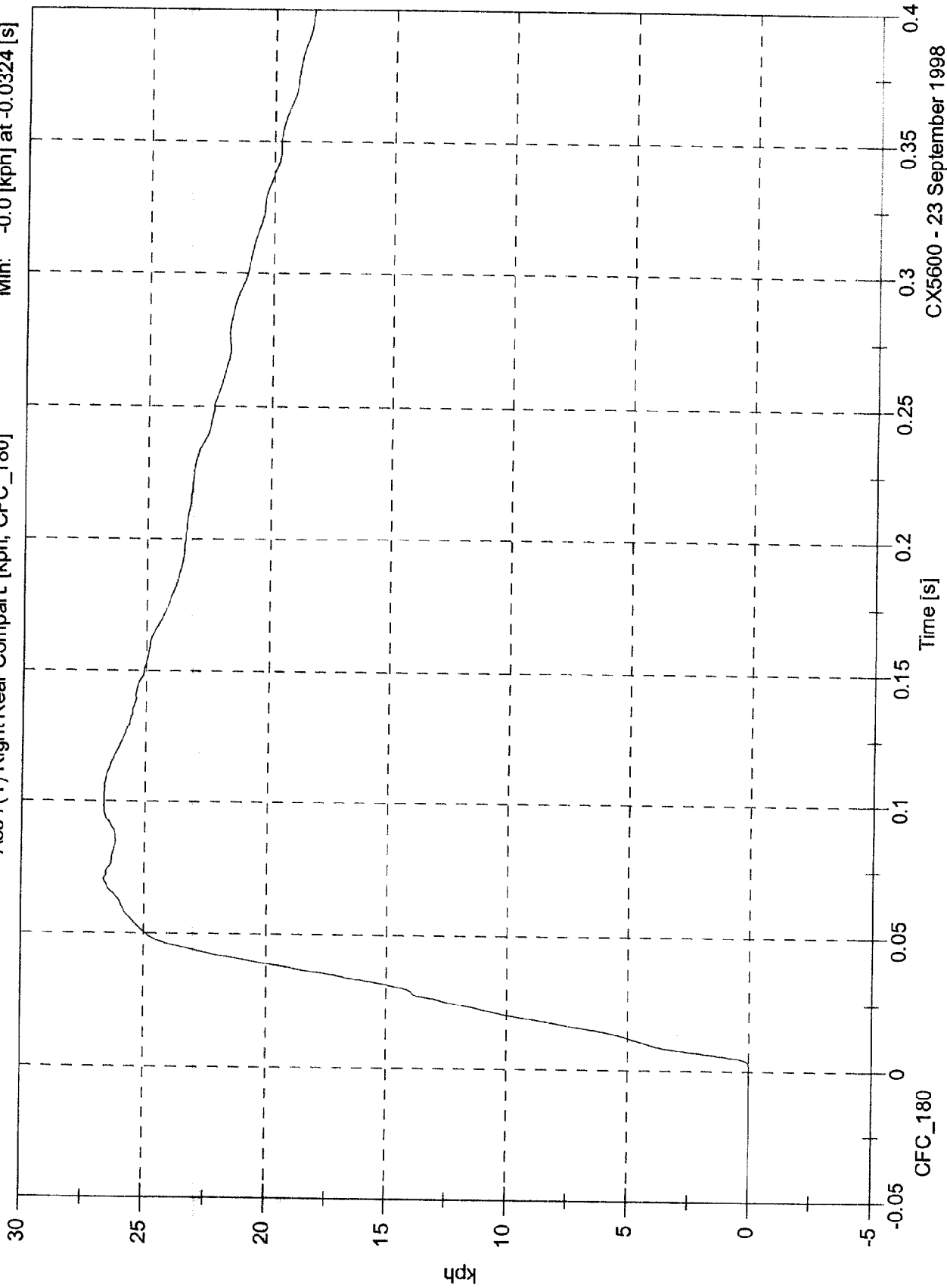
Min: -1.7 [g] at 0.1684 [s]



NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 7(Y) Right Rear Compart [kph, CFC_180]

Max: 26.7 [kph] at 0.0985 [s]
Min: -0.0 [kph] at -0.0324 [s]

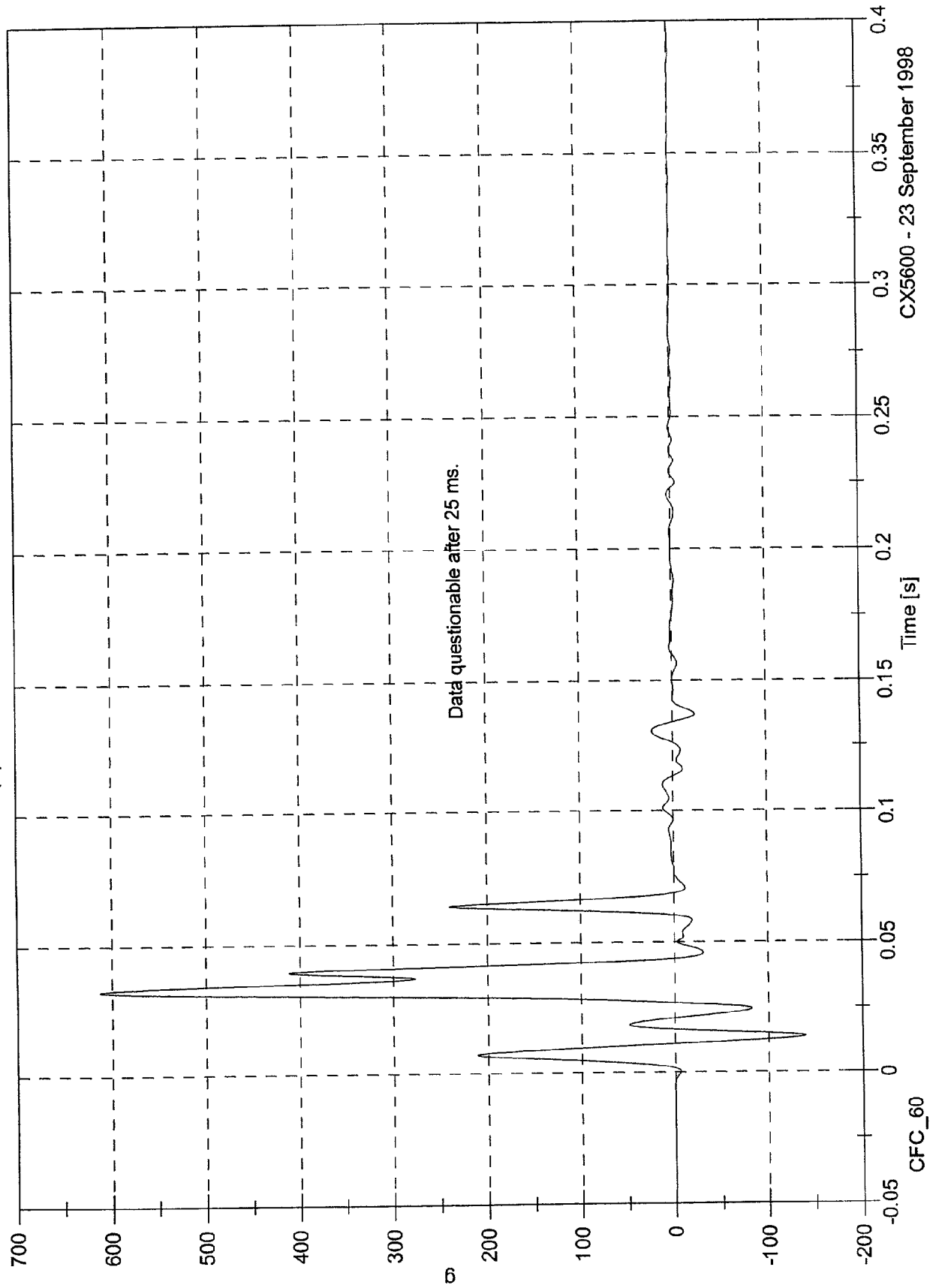


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 12(Y) Left Lower B Pillar [g, CFC_60]

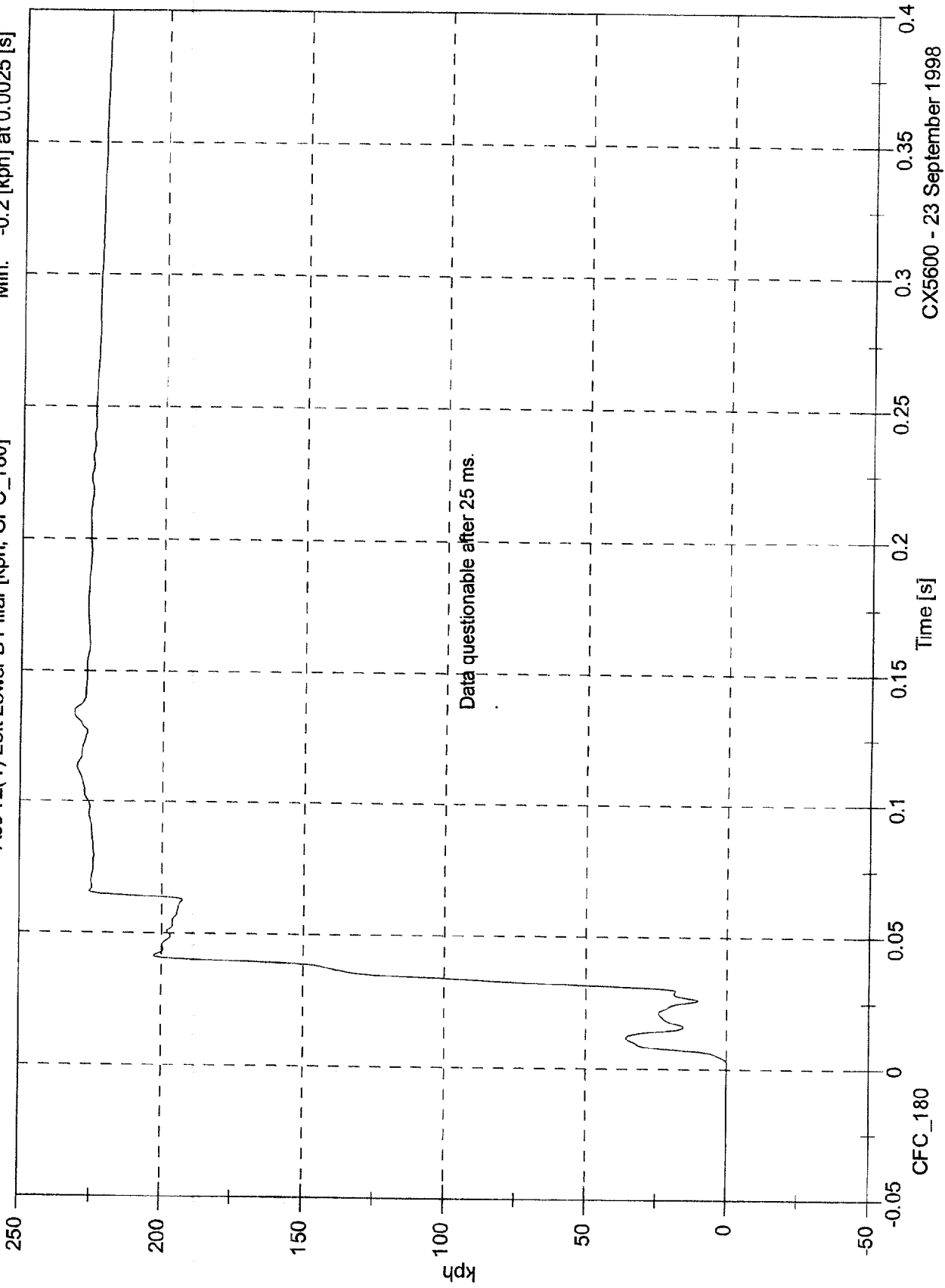
Max: 613.2 [g] at 0.0325 [s]
Min: -139.6 [g] at 0.0137 [s]



NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 12(Y) Left Lower B Pillar [kph, CFC_180]

Max: 231.3 [kph] at 0.1342 [s]
Min: -0.2 [kph] at 0.0025 [s]



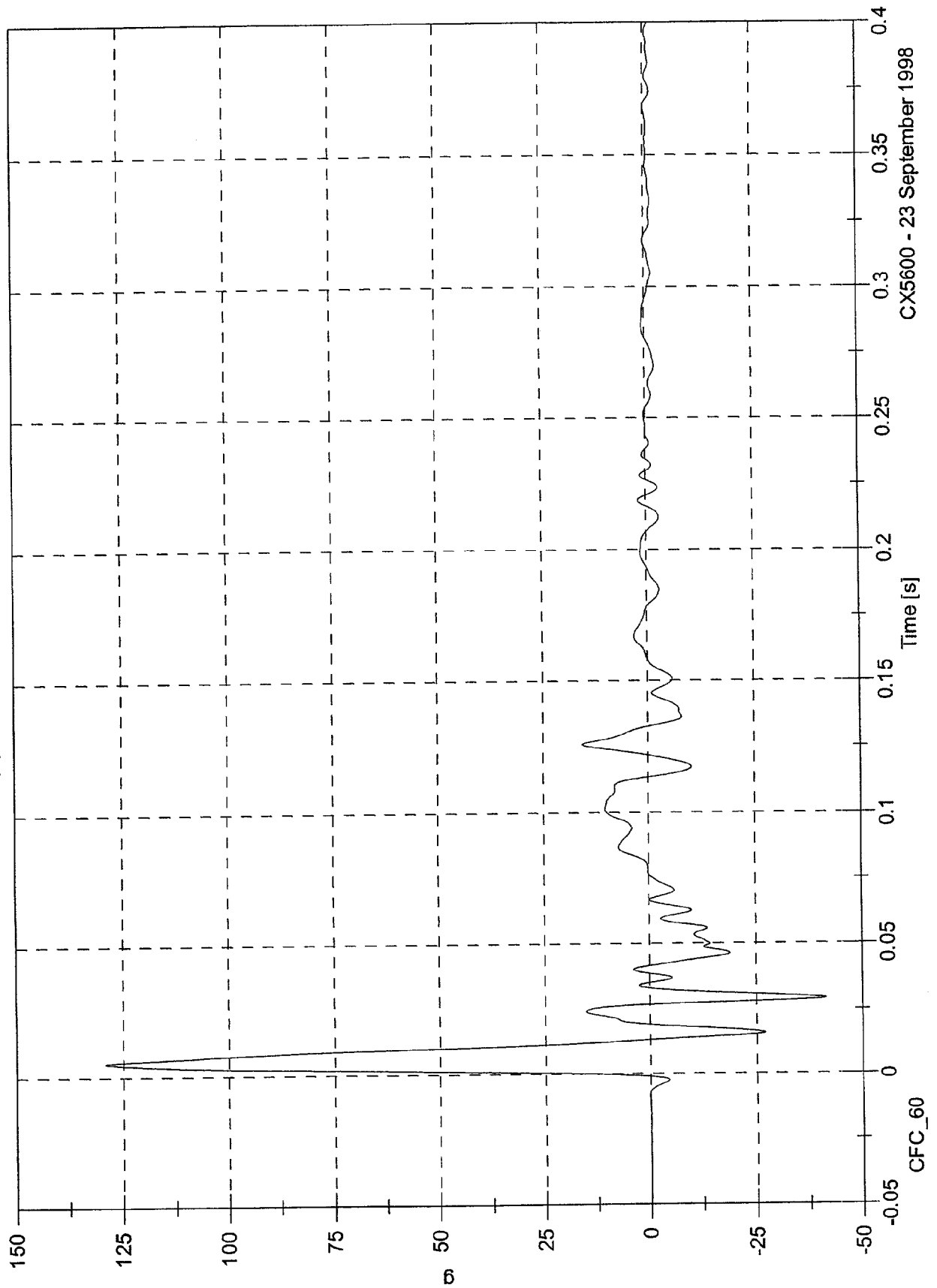
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 13(Y) Left Mid B Pillar [g, CFC_60]

Max: 129.3 [g] at 0.0052 [s]

Min: -41.5 [g] at 0.0291 [s]



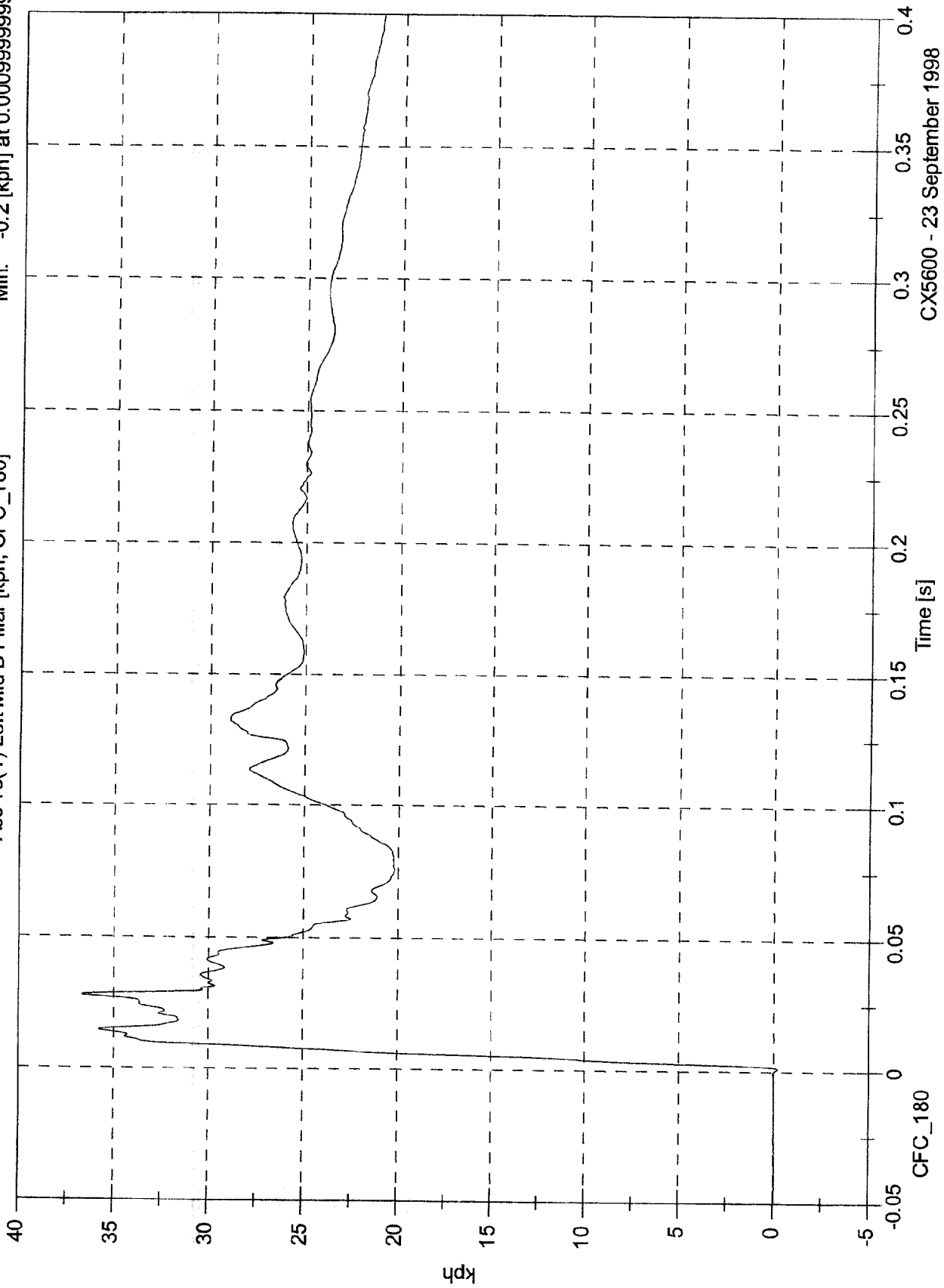
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 13(Y) Left Mid B Pillar [kph, CFC_180]

Max: 36.7 [kph] at 0.0278 [s]

Min: -0.2 [kph] at 0.0009999999999999 [s]



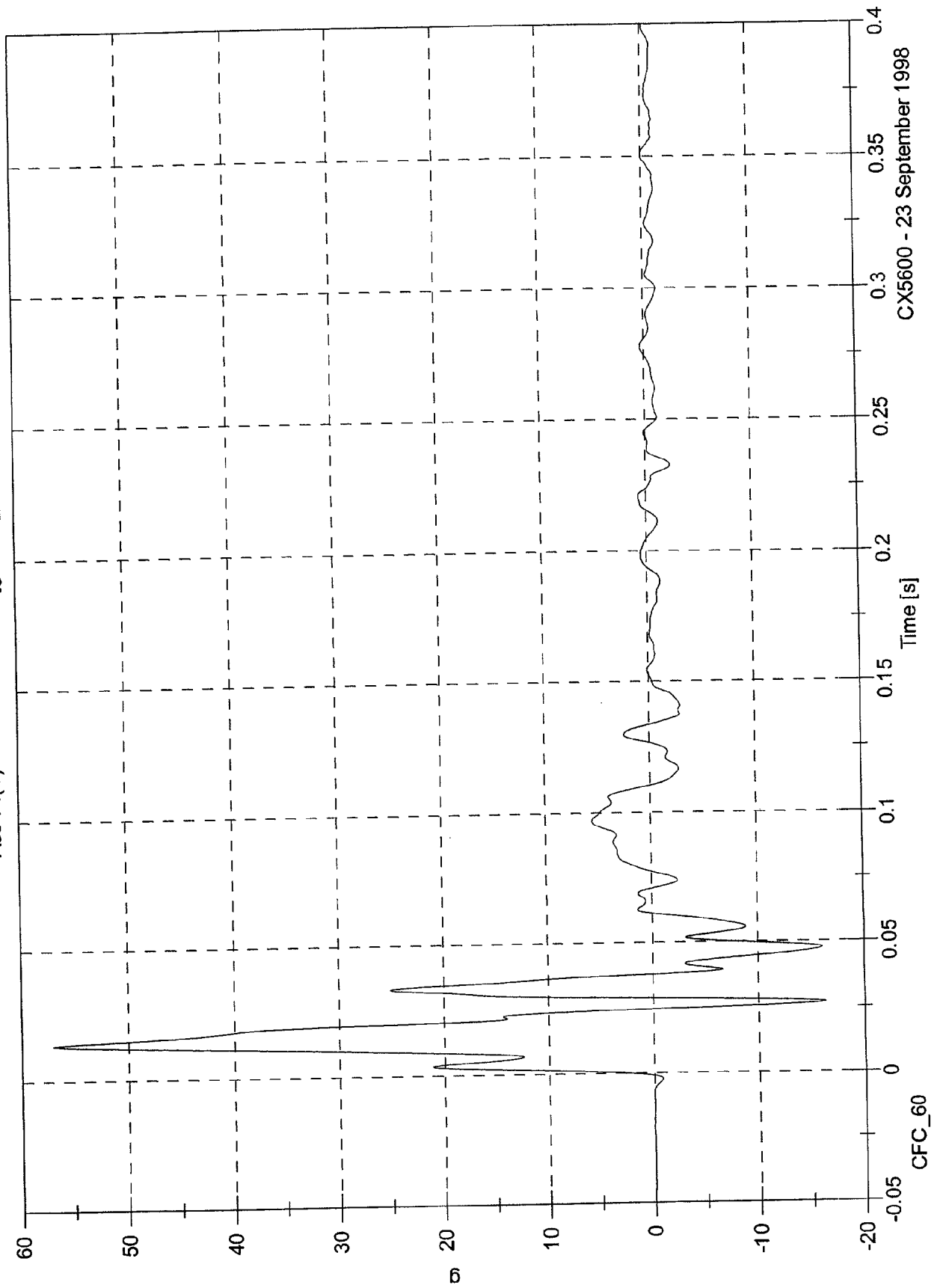
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 14(Y) Left Lower A Pillar [g, CFC_60]

Max: 57.1 [g] at 0.0137 [s]

Min: -16.3 [g] at 0.027 [s]

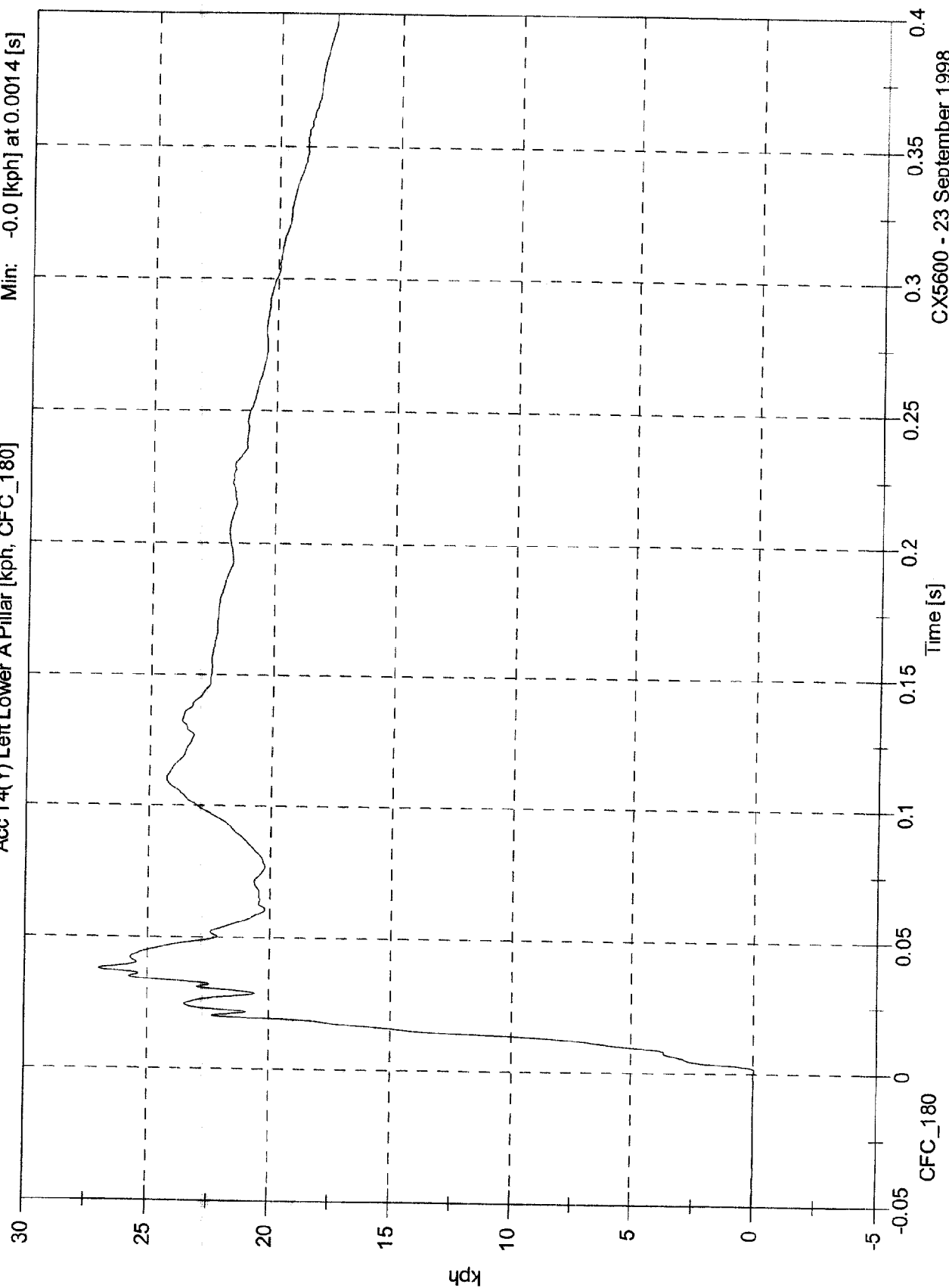


CX5600 - 23 September 1998

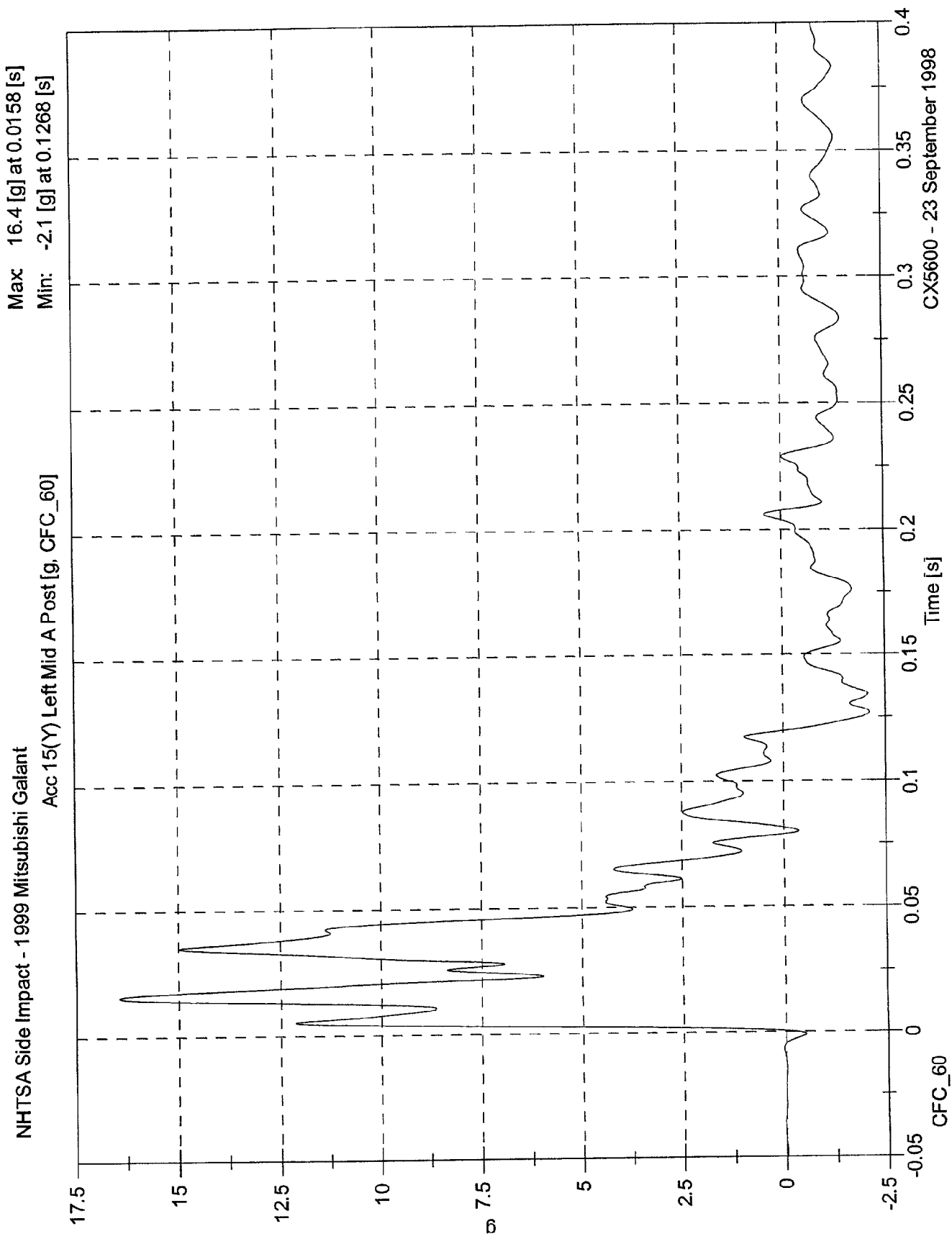
NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 14(Y) Left Lower A Pillar [kph, CFC_180]

Max: 27.0 [kph] at 0.0378 [s]
Min: -0.0 [kph] at 0.0014 [s]



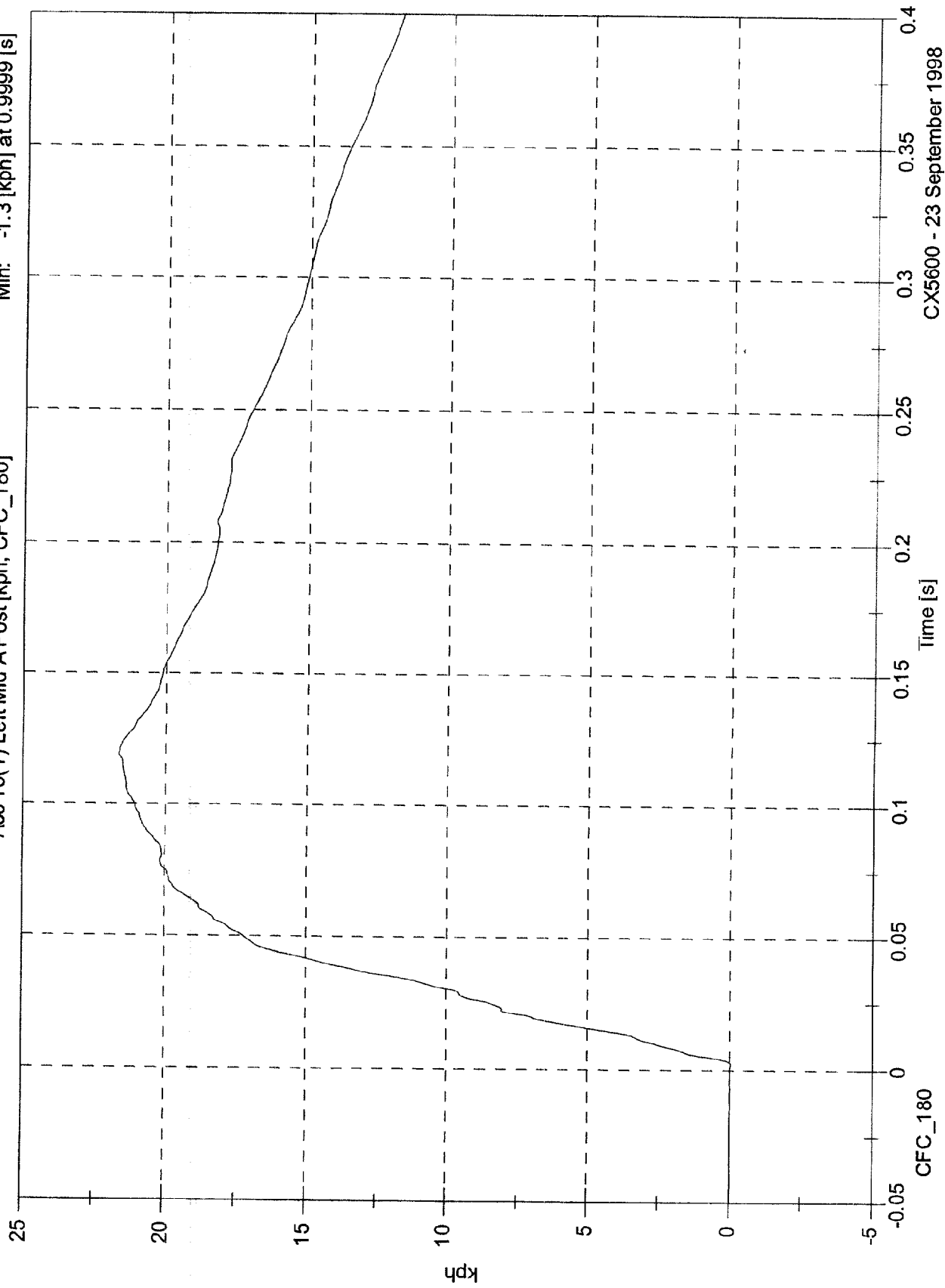
CX5600 - 23 September 1998



NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 15(Y) Left Mid A Post [kph, CFC_180]

Max: 21.6 [kph] at 0.1187 [s]
Min: -1.3 [kph] at 0.9999 [s]



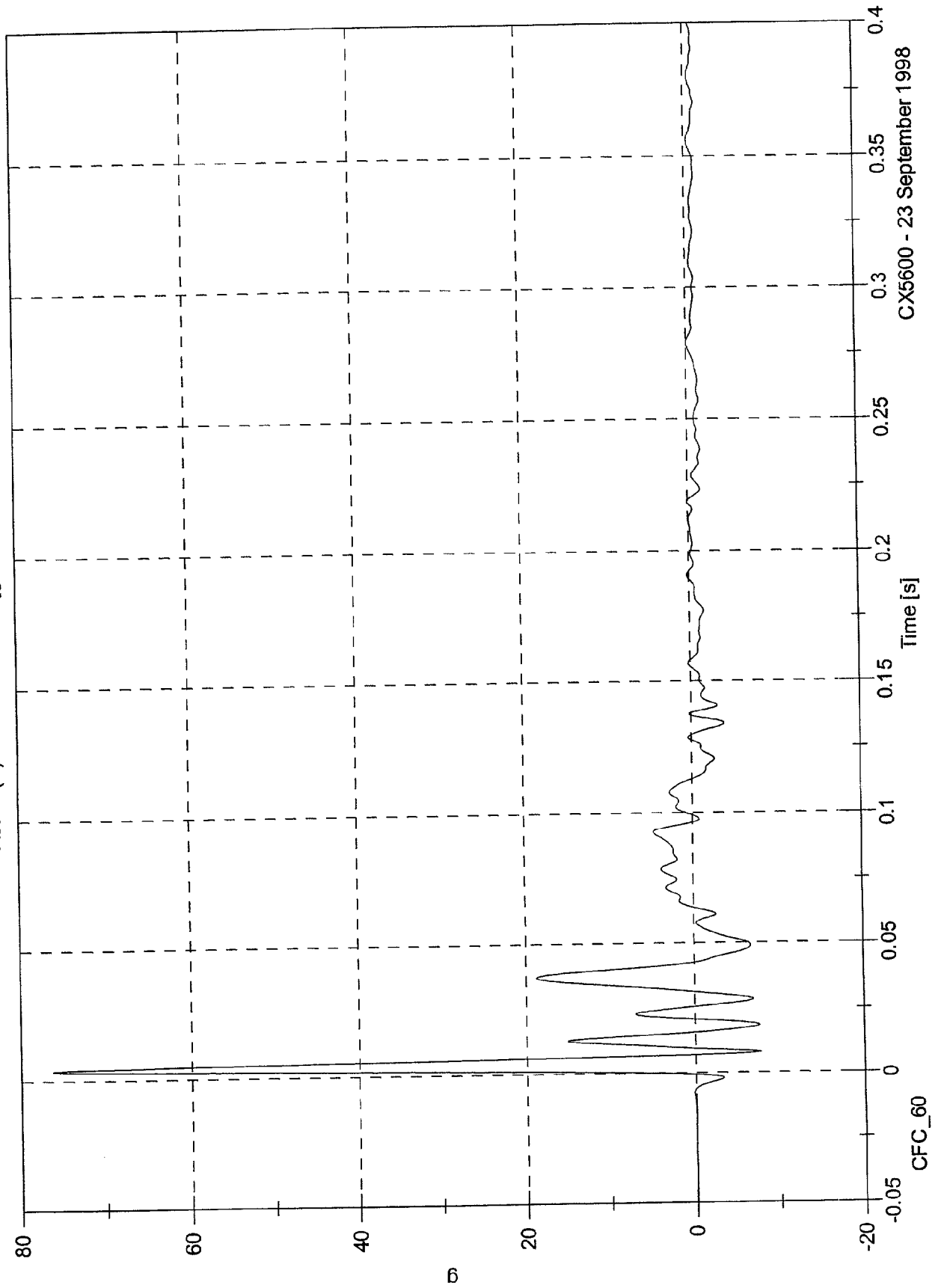
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 16(Y) Front Seat Track [g, CFC_60]

Max: 76.3 [g] at 0.0037 [s]

Min: -7.8 [g] at 0.0081 [s]

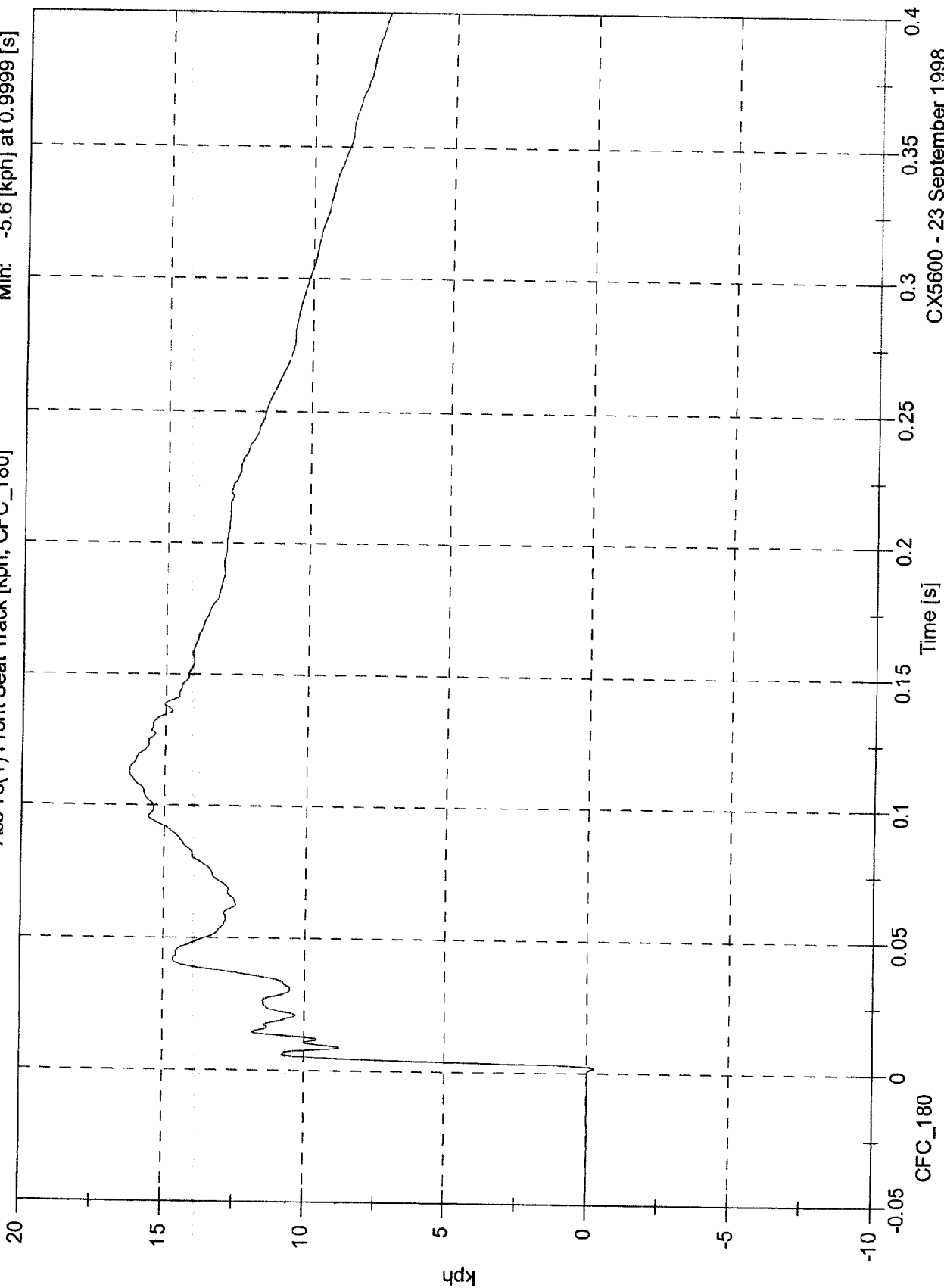


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 16(Y) Front Seat Track [kph, CFC_180]

Max: 16.3 [kph] at 0.1126 [s]
Min: -5.6 [kph] at 0.9999 [s]

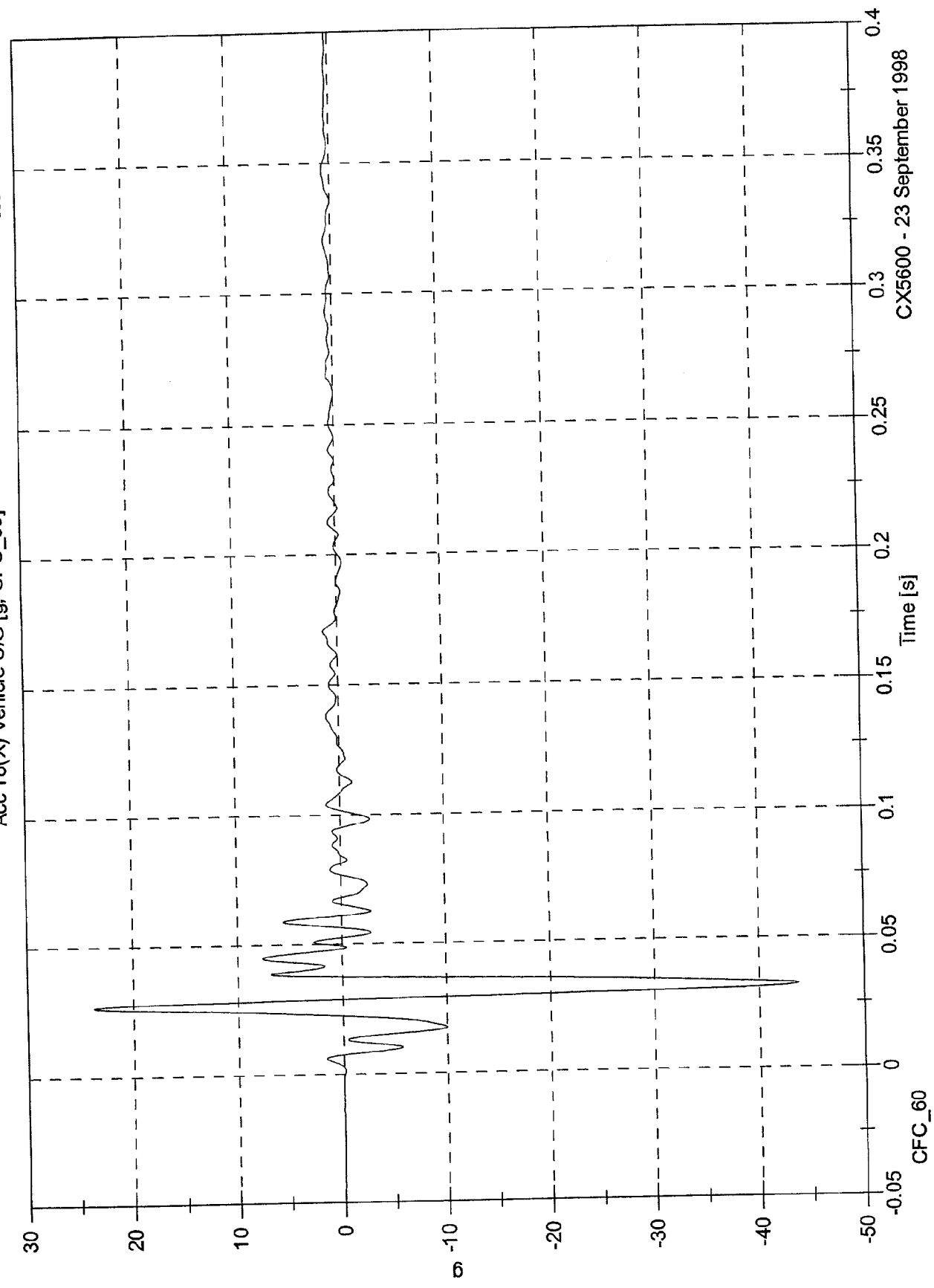


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18(X) Vehicle C/G [g, CFC_60]

Max: 23.7 [g] at 0.0266 [s]
Min: -43.8 [g] at 0.0321 [s]

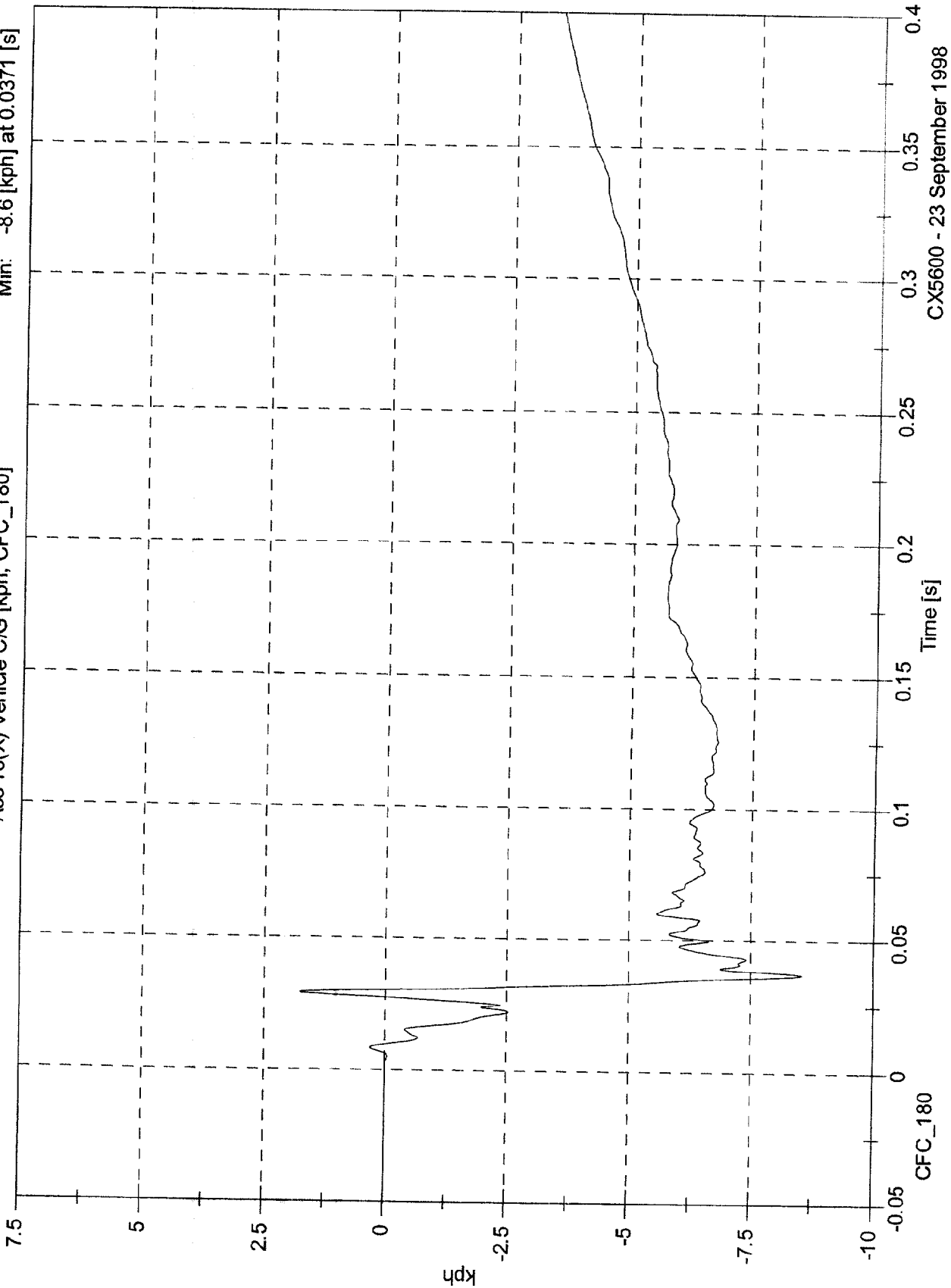


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18(X) Vehicle C/G [kph, CFC_180]

Max: 6.8 [kph] at 0.9999 [s]
Min: -8.6 [kph] at 0.0371 [s]

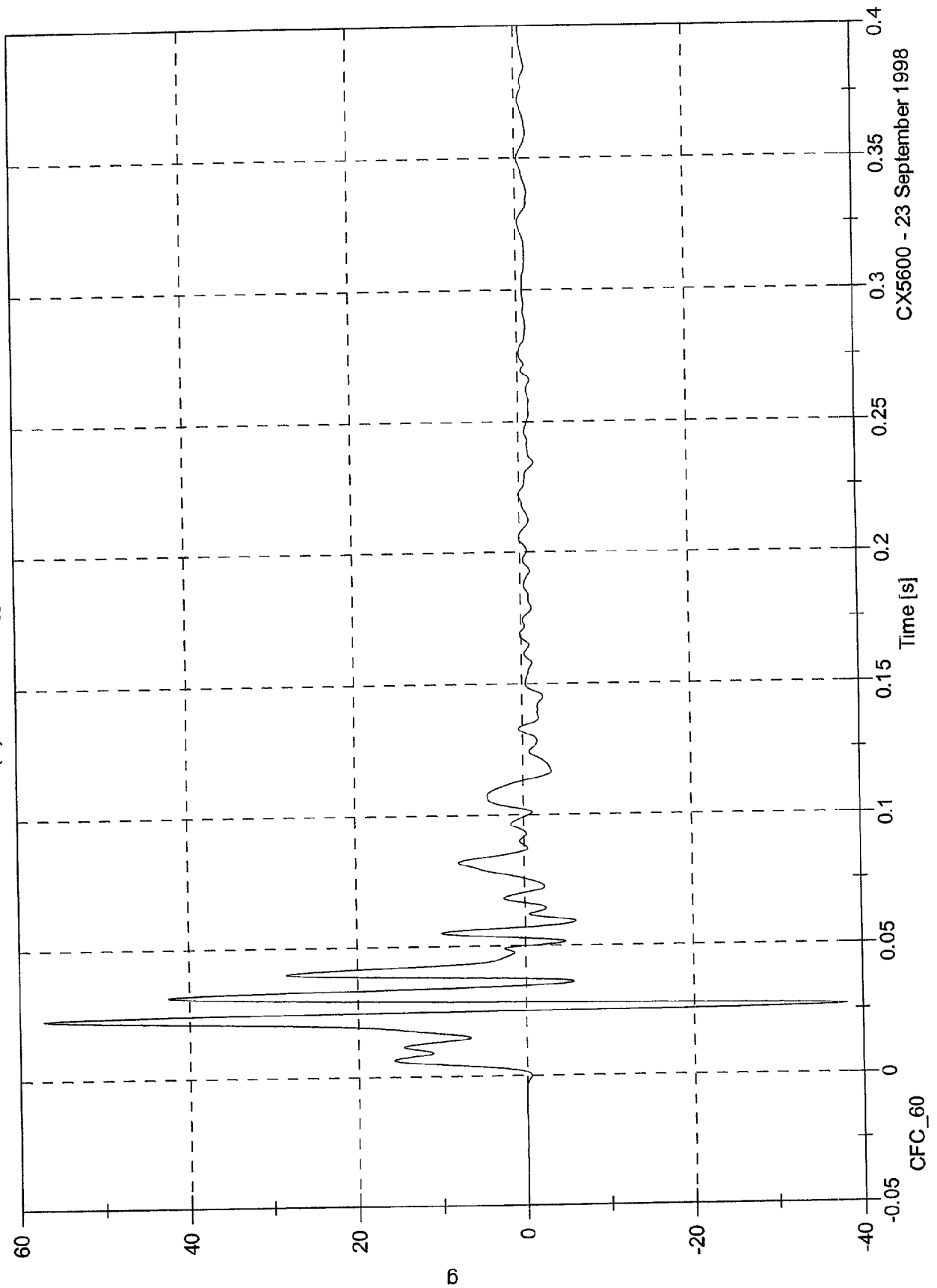


CX5600 - 23 September 1998

Max: 57.3 [g] at 0.023 [s]
Min: -38.1 [g] at 0.0266 [s]

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18(Y) Vehicle C/G [g, CFC_60]

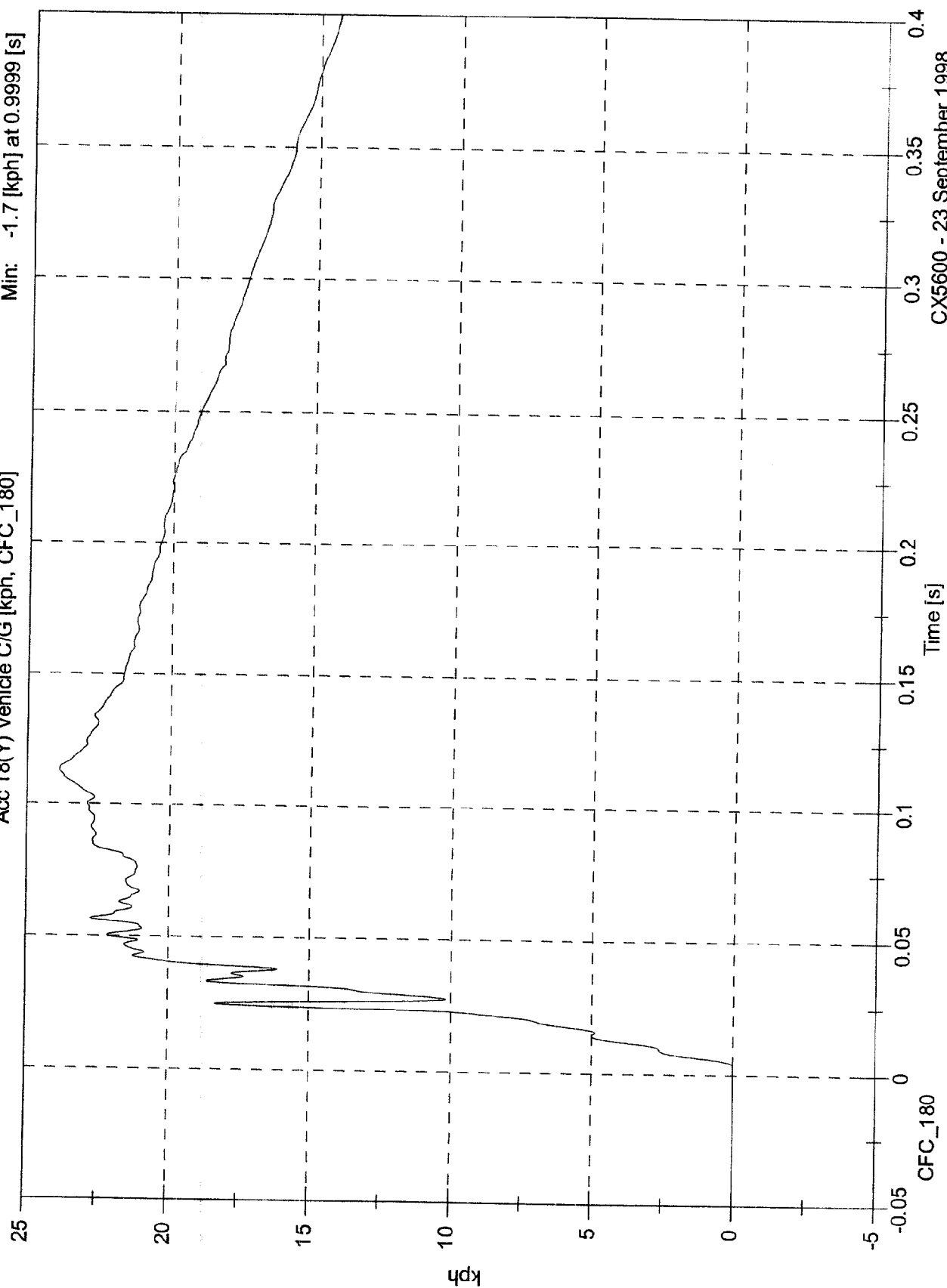


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18(Y) Vehicle C/G [kph, CFC_180]

Max: 23.9 [kph] at 0.113 [s]
Min: -1.7 [kph] at 0.9999 [s]



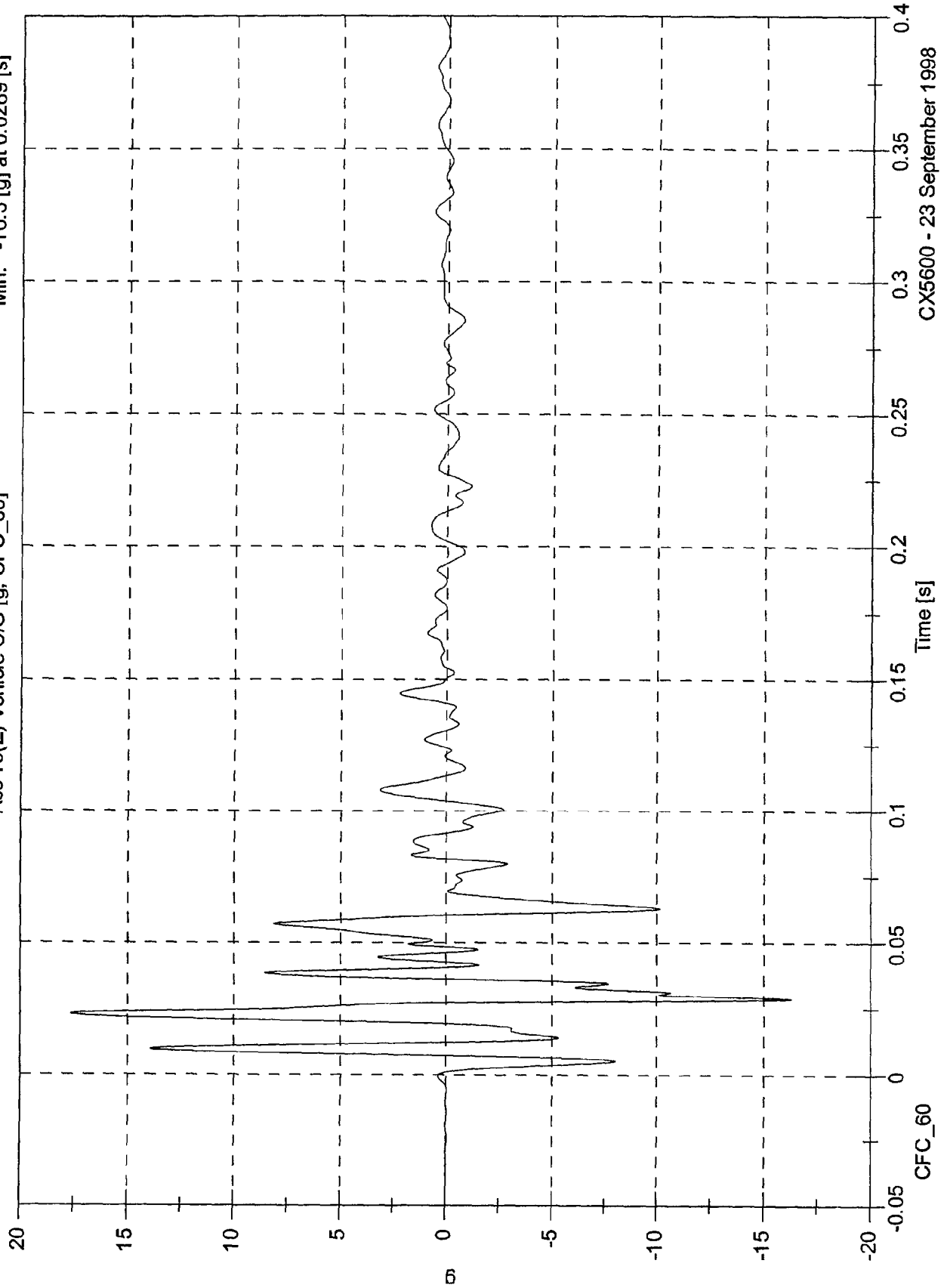
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18(Z) Vehicle C/G [g, CFC_60]

Max: 17.7 [g] at 0.0232 [s]

Min: -16.3 [g] at 0.0289 [s]

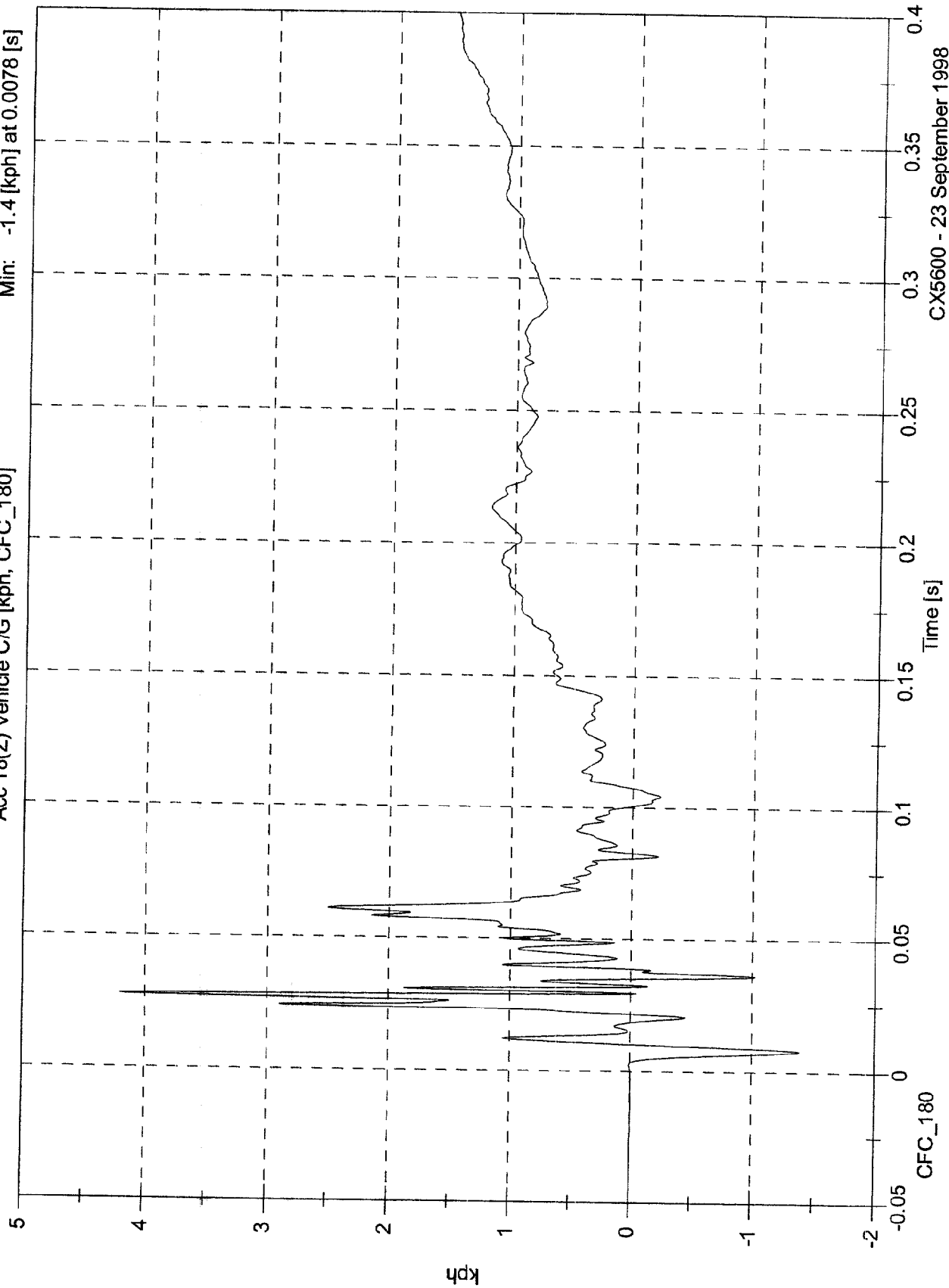


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18(Z) Vehicle C/G [kph, CFC_180]

Max: 4.6 [kph] at 0.9999 [s]
Min: -1.4 [kph] at 0.0078 [s]

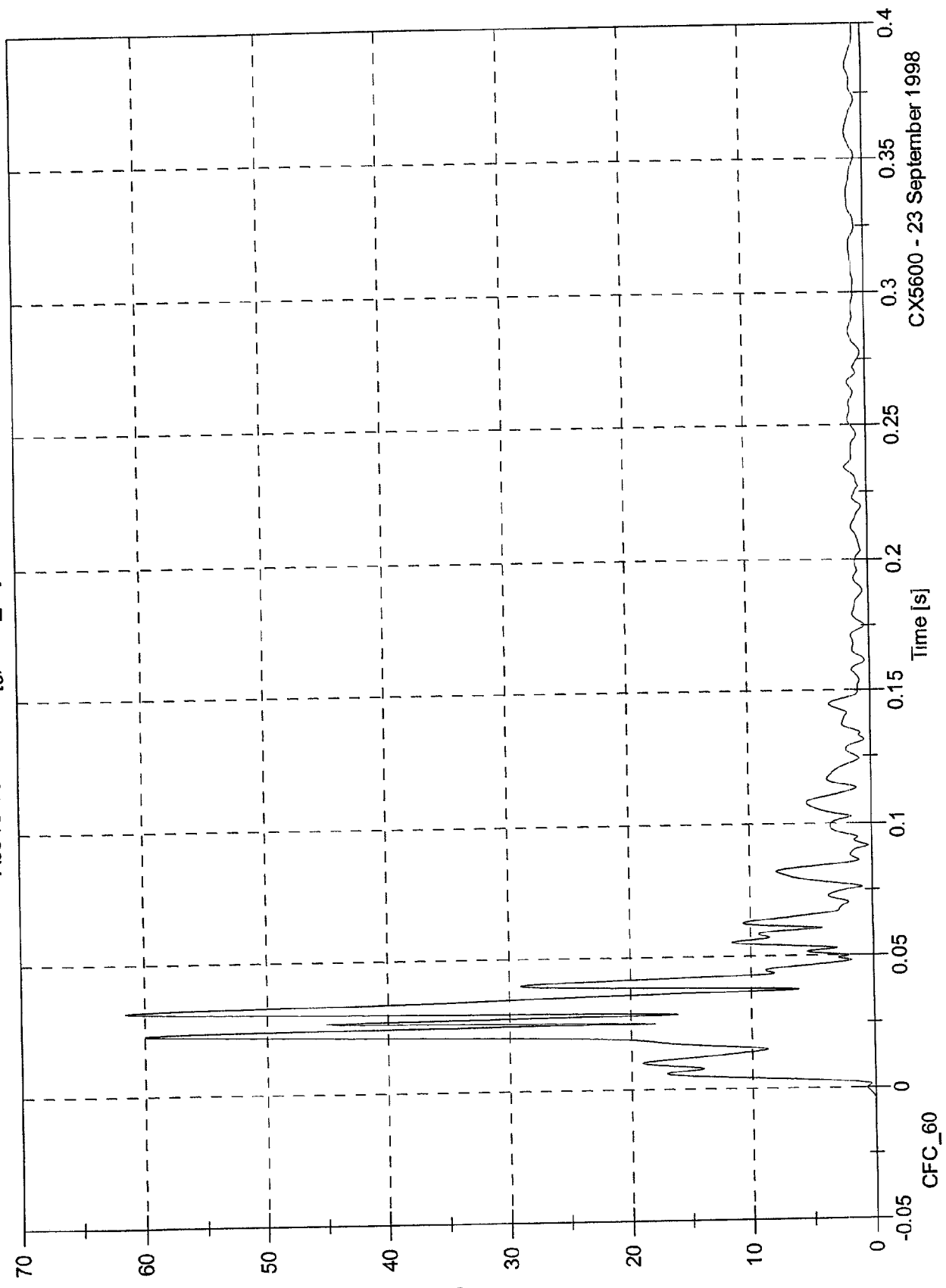


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Acc 18 Vehicle C/G [g, CFC_60] Resultant

Max: 61.5 [g] at 0.0318 [s]
Min: 0.0 [g] at -0.0173 [s]

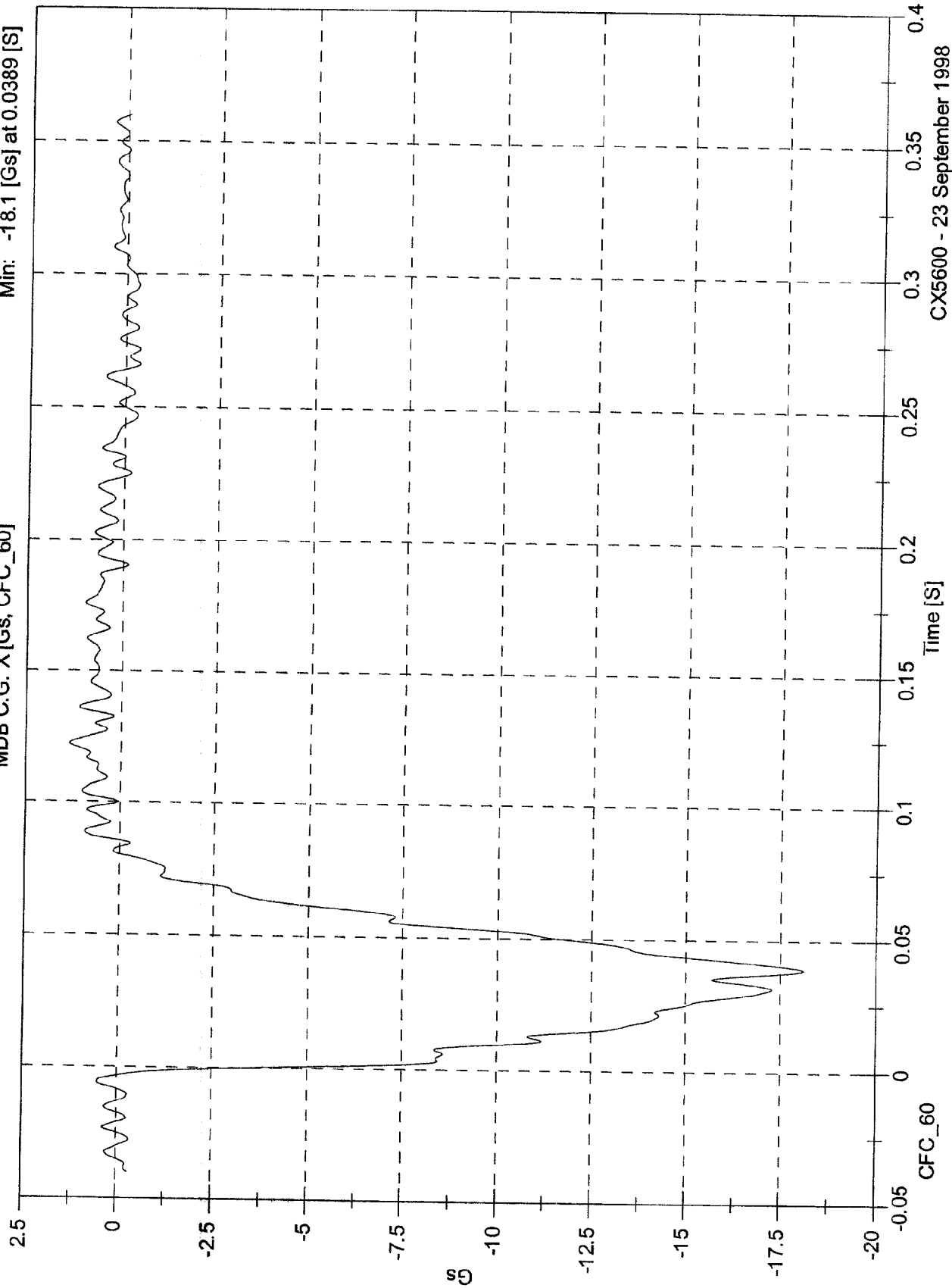


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Max: 1.3 [Gs] at 0.1222 [S]
 Min: -18.1 [Gs] at 0.0389 [S]

MDB C.G. X [Gs, CFC_60]



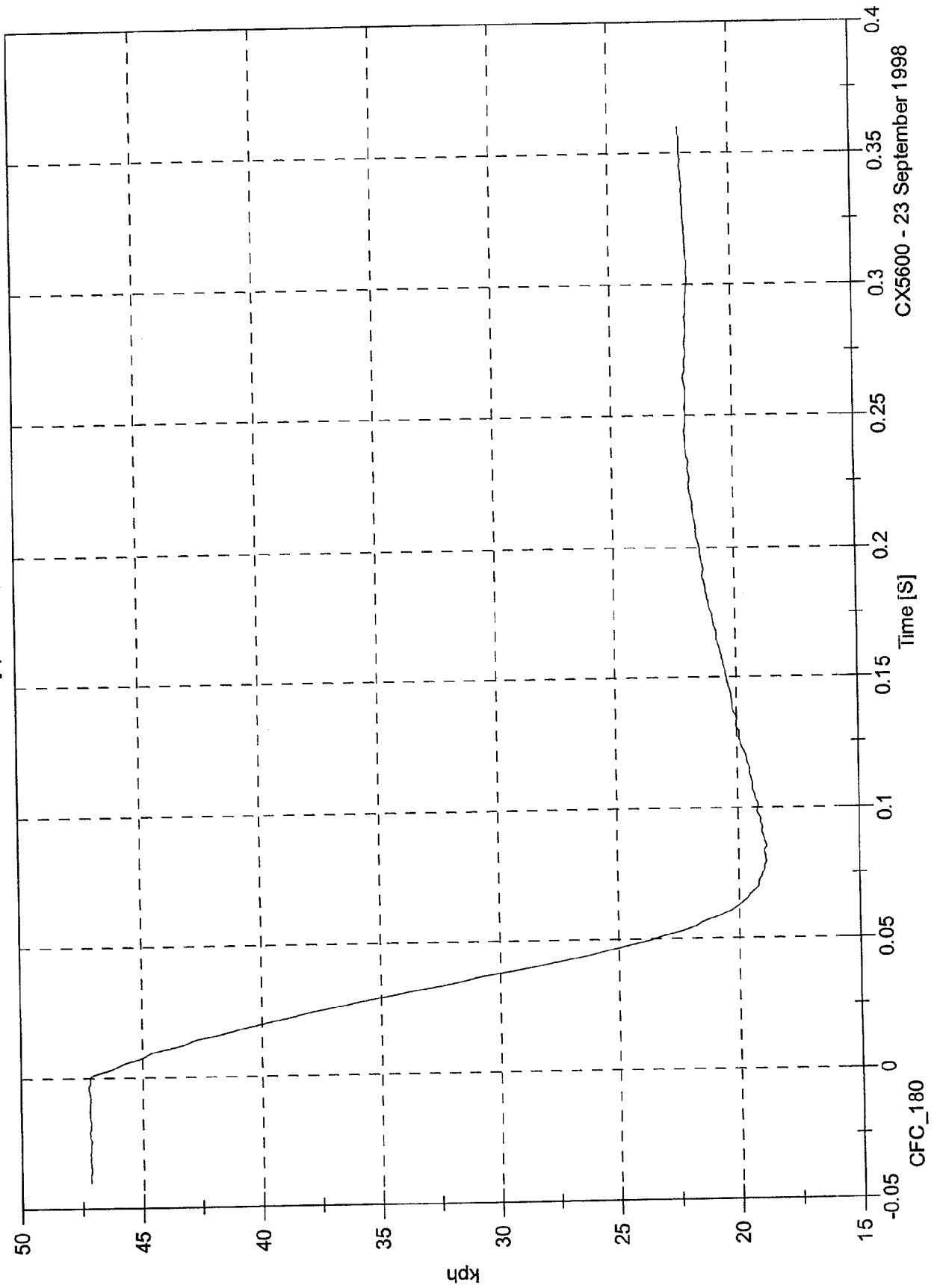
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB C.G. X [kph, CFC_180]

Max: 47.2 [kph] at -0.0039 [S]

Min: 18.8 [kph] at 0.0855 [S]

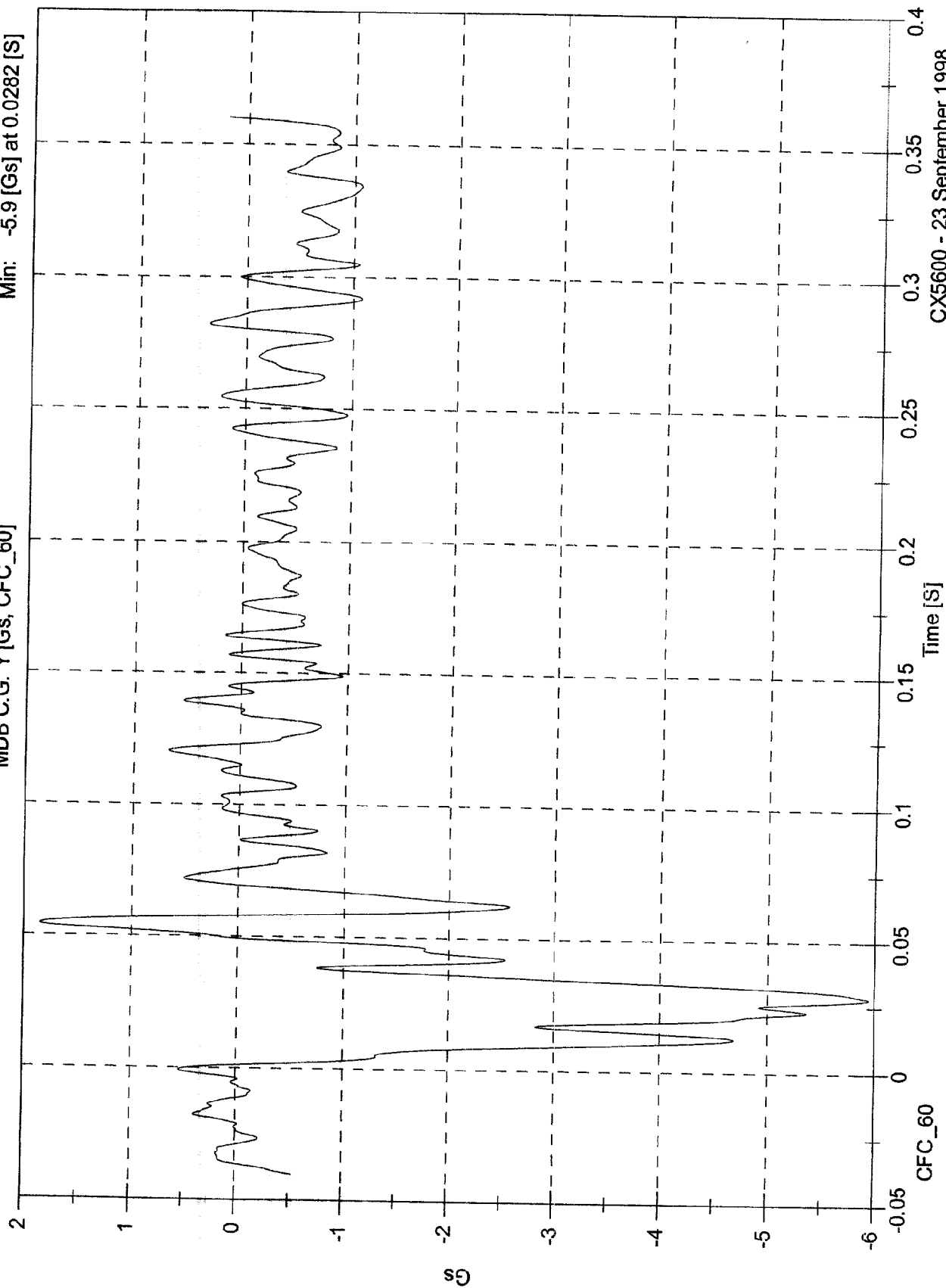


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB C.G. Y [Gs, CFC_60]

Max: 1.8 [Gs] at 0.0542 [S]
Min: -5.9 [Gs] at 0.0282 [S]

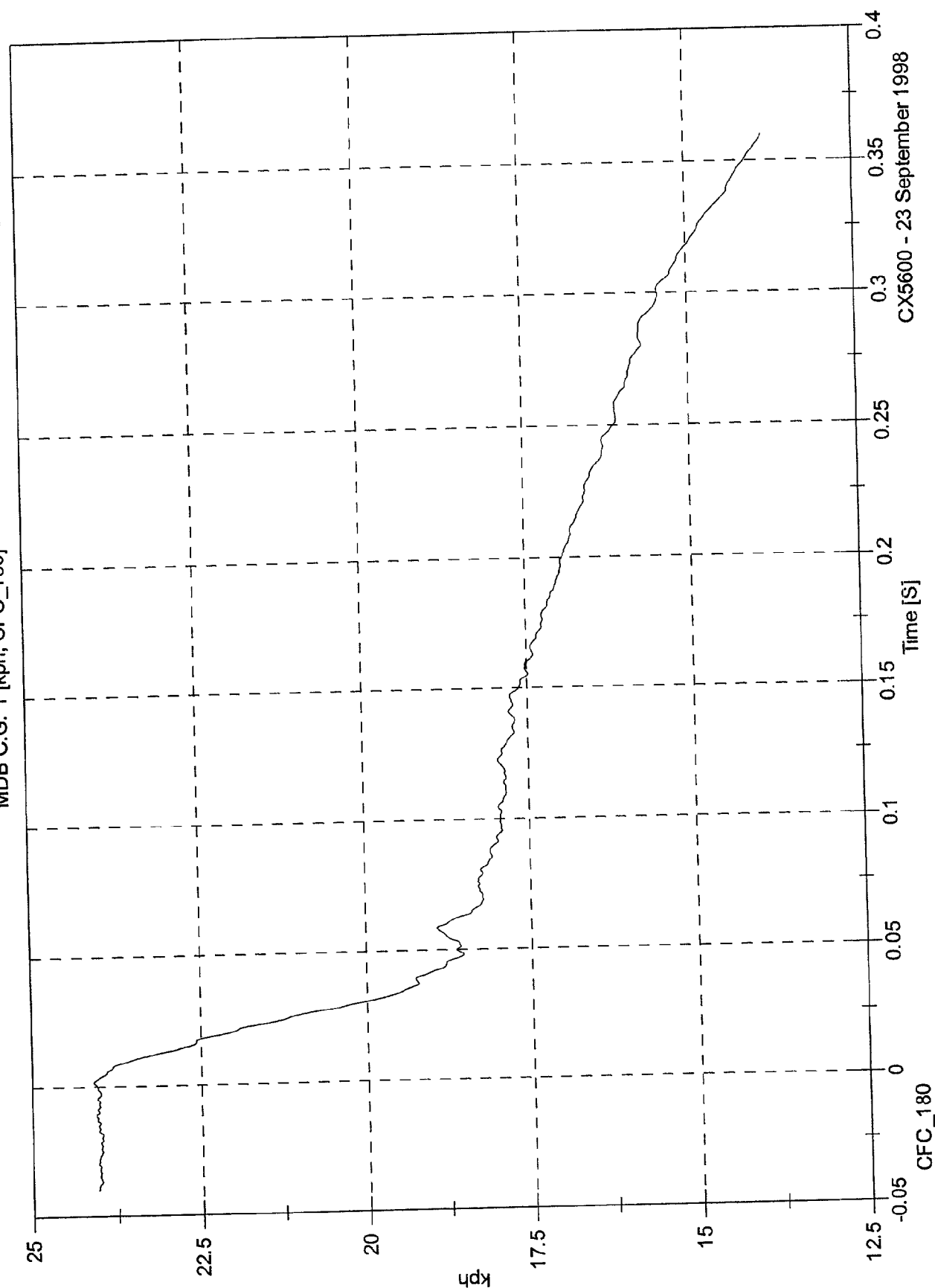


CX5600 - 23 September 1998

Max: 24.1 [kph] at 0.0015 [S]
Min: 13.8 [kph] at 0.3598 [S]

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB C.G. Y [kph, CFC_180]

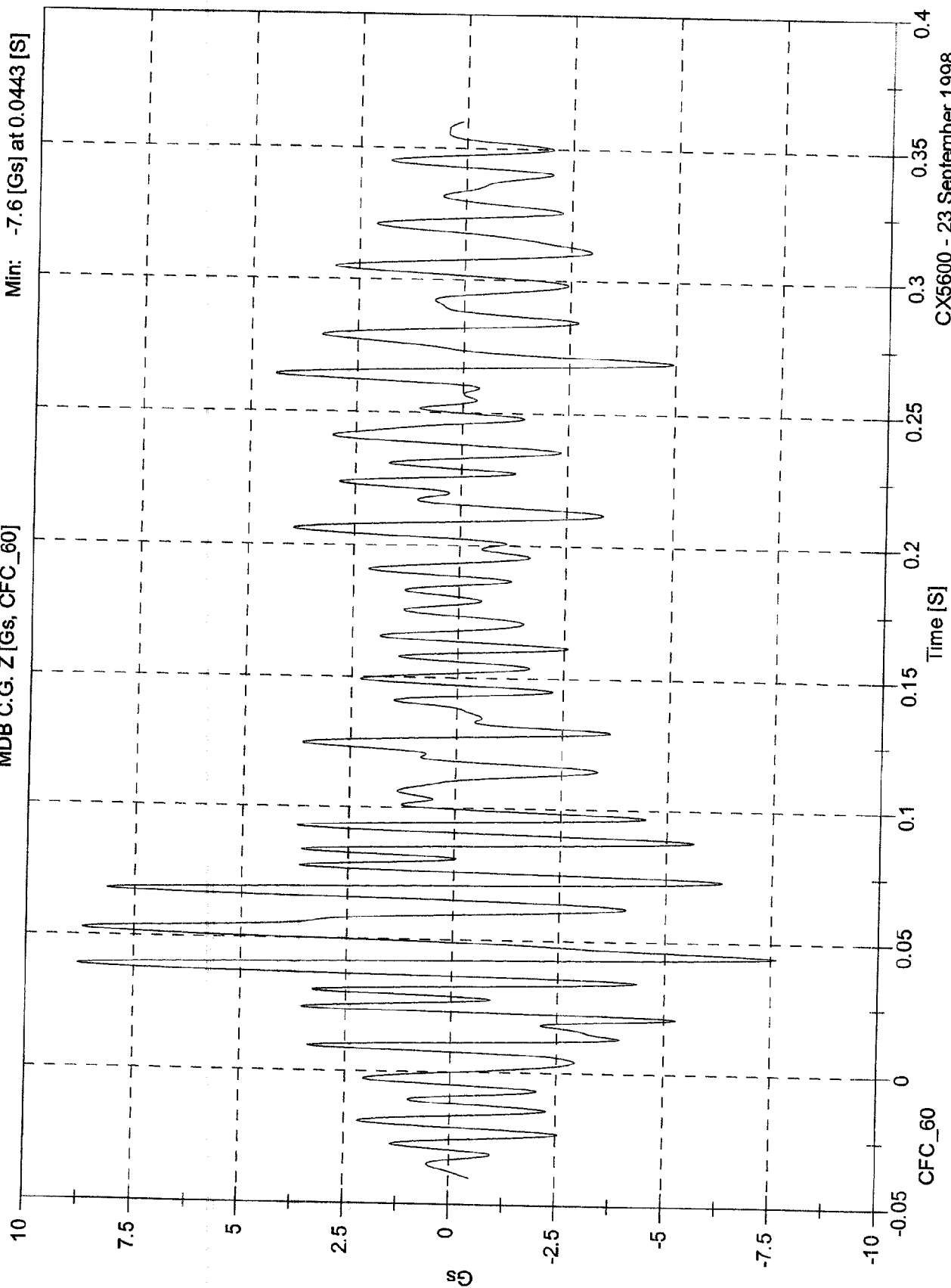


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB C.G. Z [Gs, CFC_60]

Max: 8.8 [Gs] at 0.039 [S]
Min: -7.6 [Gs] at 0.0443 [S]



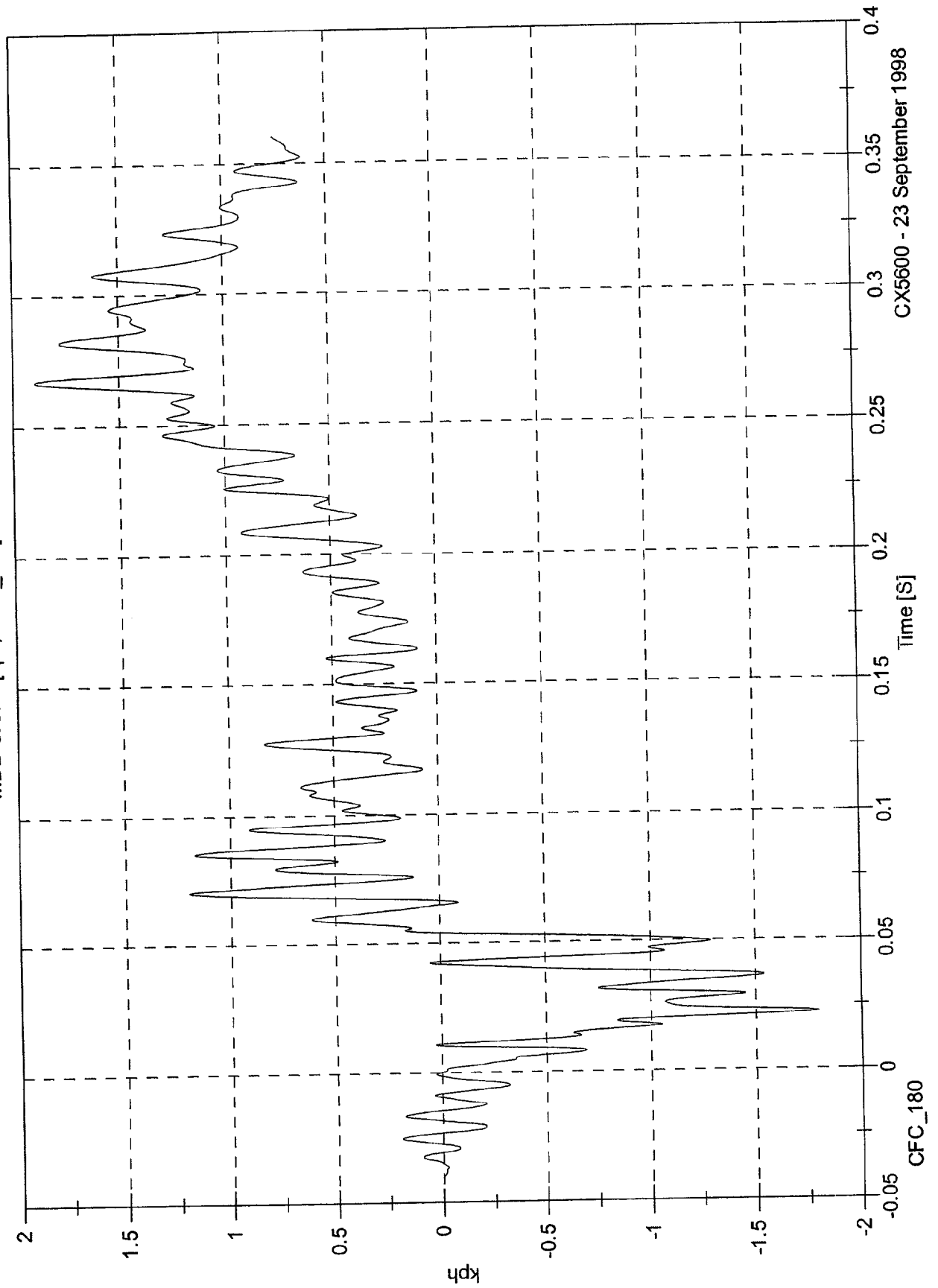
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB C.G. Z [kph, CFC_180]

Max: 1.9 [kph] at 0.2668 [S]

Min: -1.8 [kph] at 0.0222 [S]

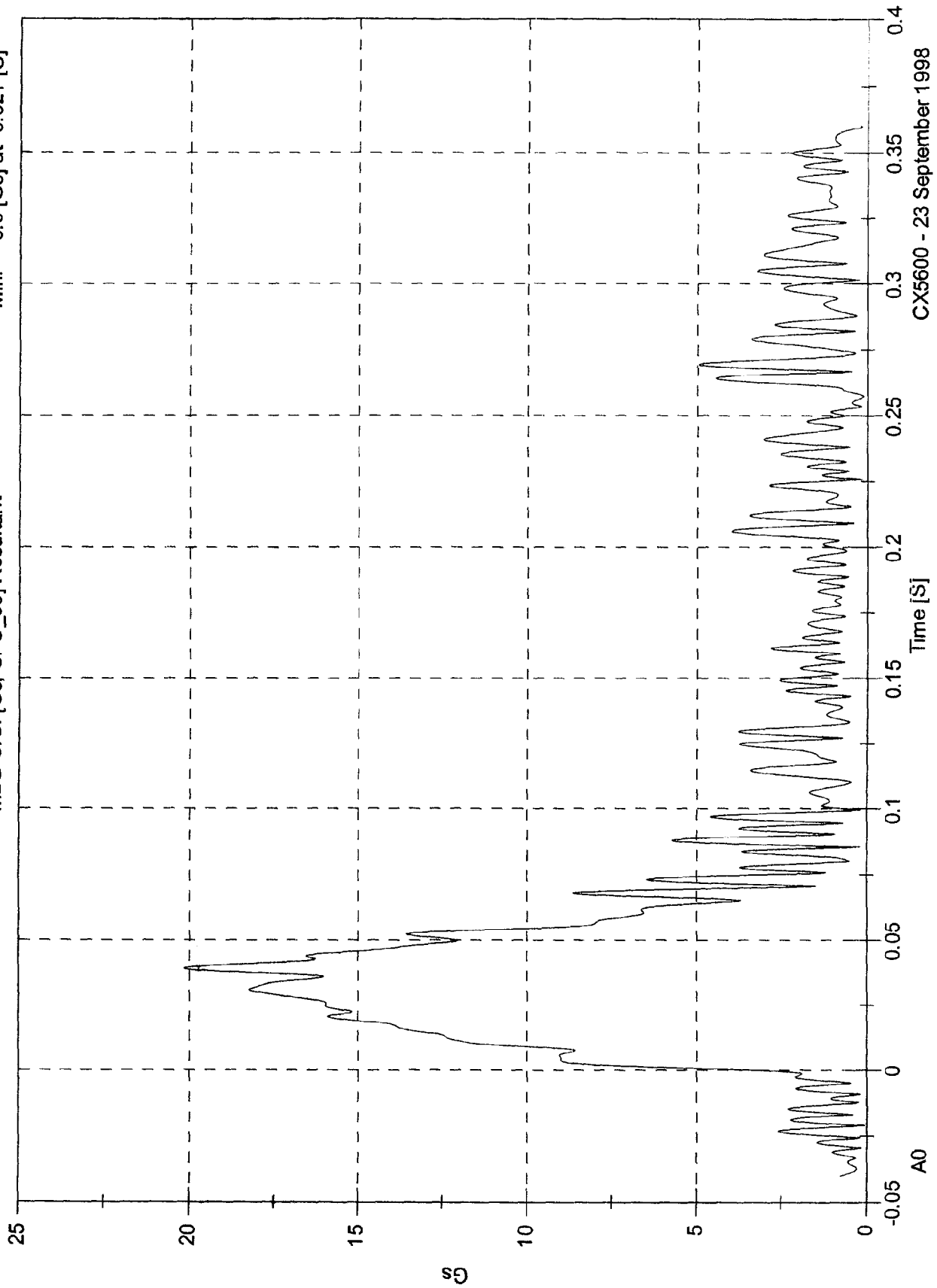


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB C.G. [Gs, CFC_60] Resultant

Max: 20.2 [Gs] at 0.039 [S]
Min: 0.0 [Gs] at -0.021 [S]



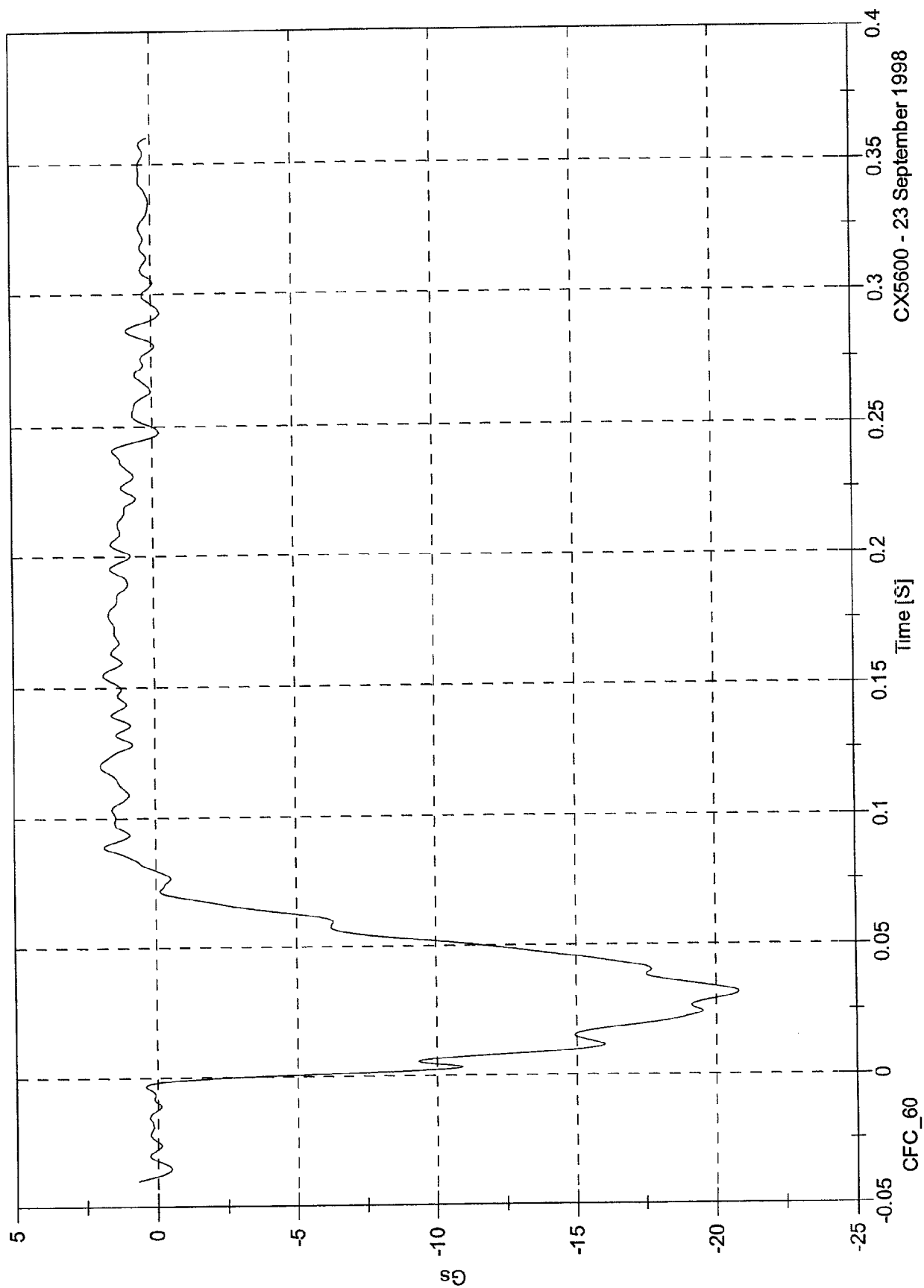
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB Left Rear Rail X [Gs, CFC_60]

Max: 1.9 [Gs] at 0.12 [S]

Min: -20.8 [Gs] at 0.0315 [S]



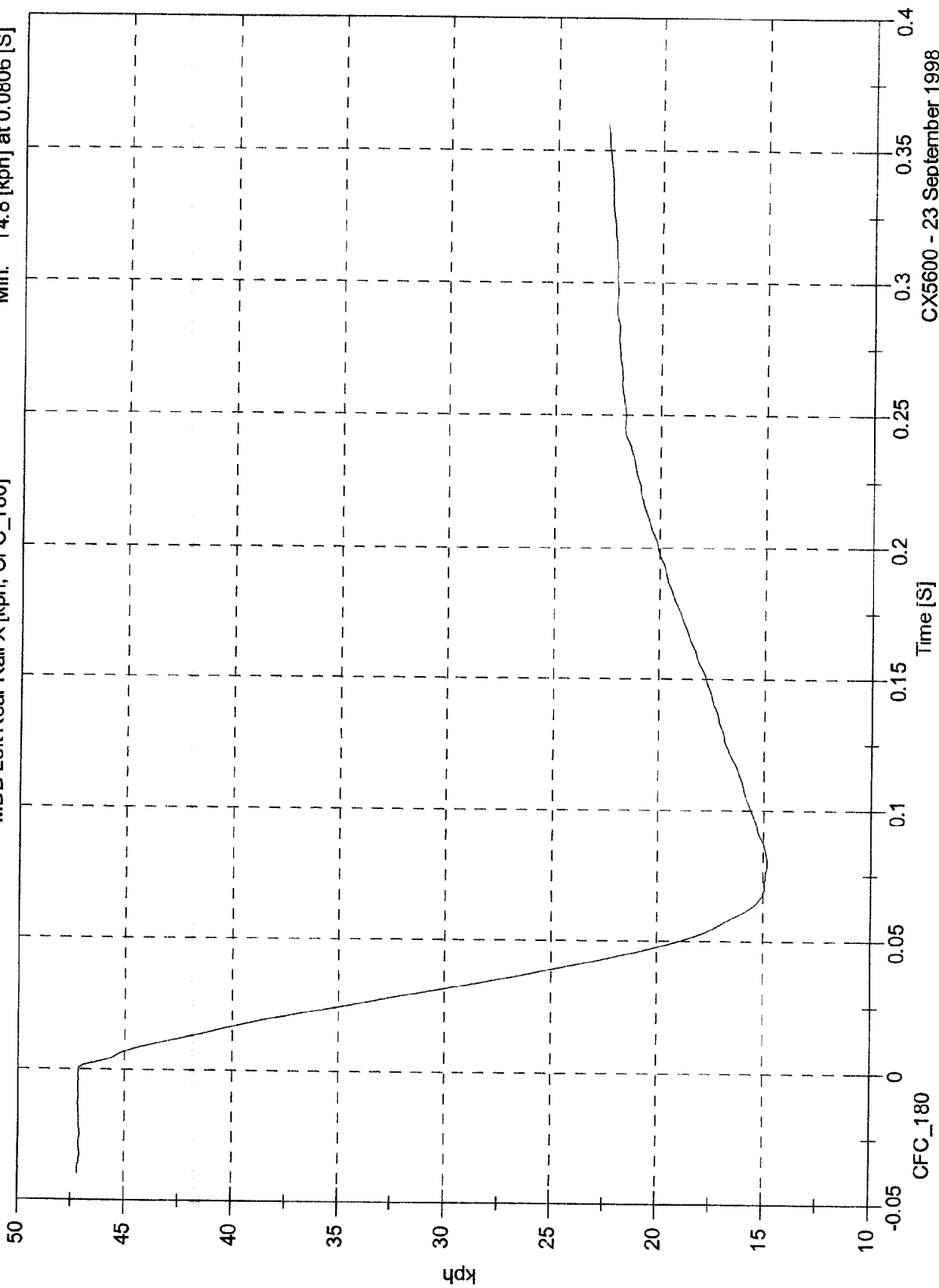
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB Left Rear Rail X [kph, CFC_180]

Max: 47.2 [kph] at -0.0126 [S]

Min: 14.8 [kph] at 0.0806 [S]



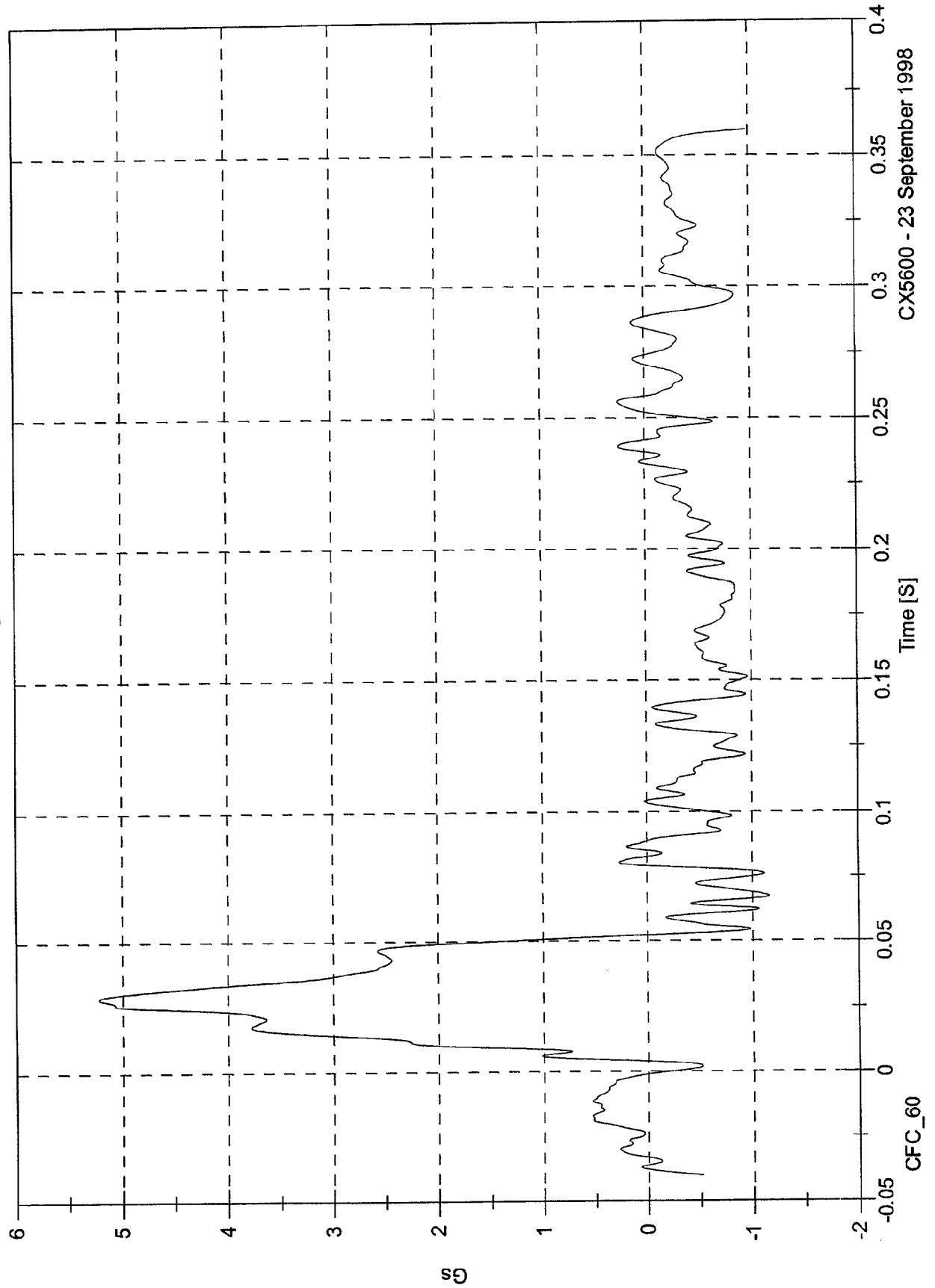
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB Left Rear Rail Y [Gs, CFC_60]

Max: 5.2 [Gs] at 0.0287 [S]

Min: -1.2 [Gs] at 0.0675 [S]



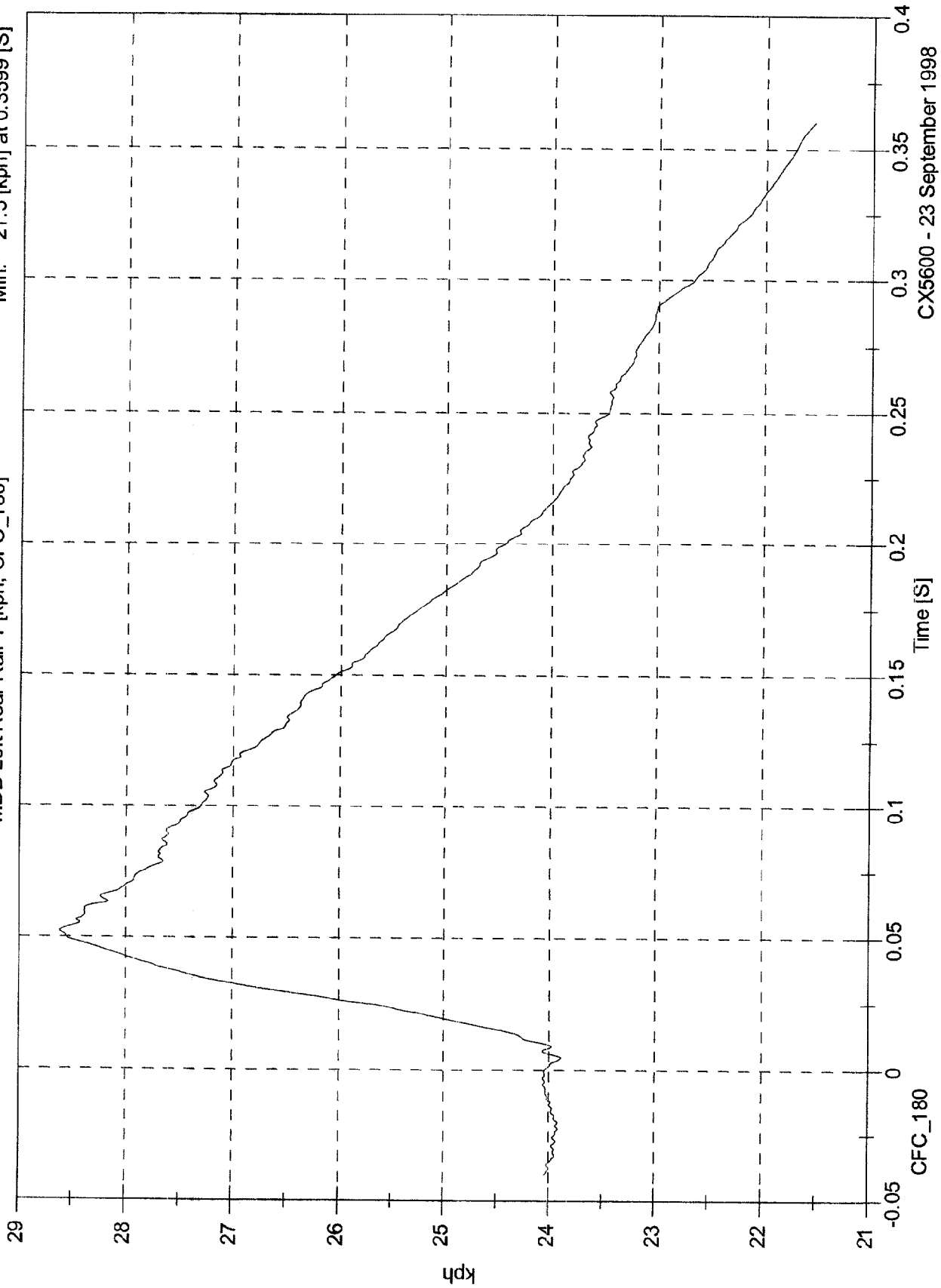
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

MDB Left Rear Rail Y [kph, CFC_180]

Max: 28.6 [kph] at 0.0523 [S]

Min: 21.5 [kph] at 0.3599 [S]

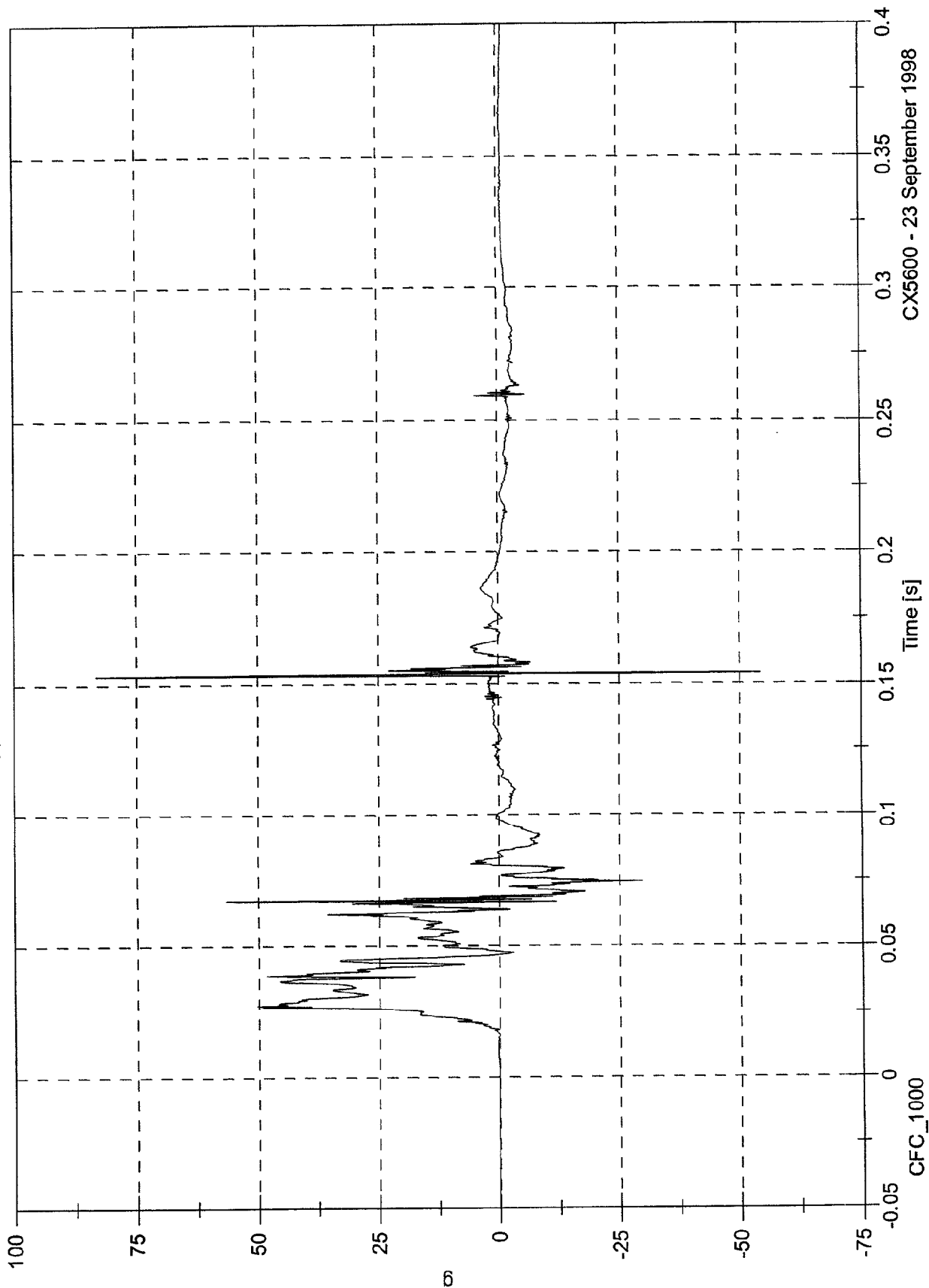


NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Upper Rib Y(R) [g, CFC_1000]

Max: 83.3 [g] at 0.1533 [s]

Min: -54.4 [g] at 0.1539 [s]

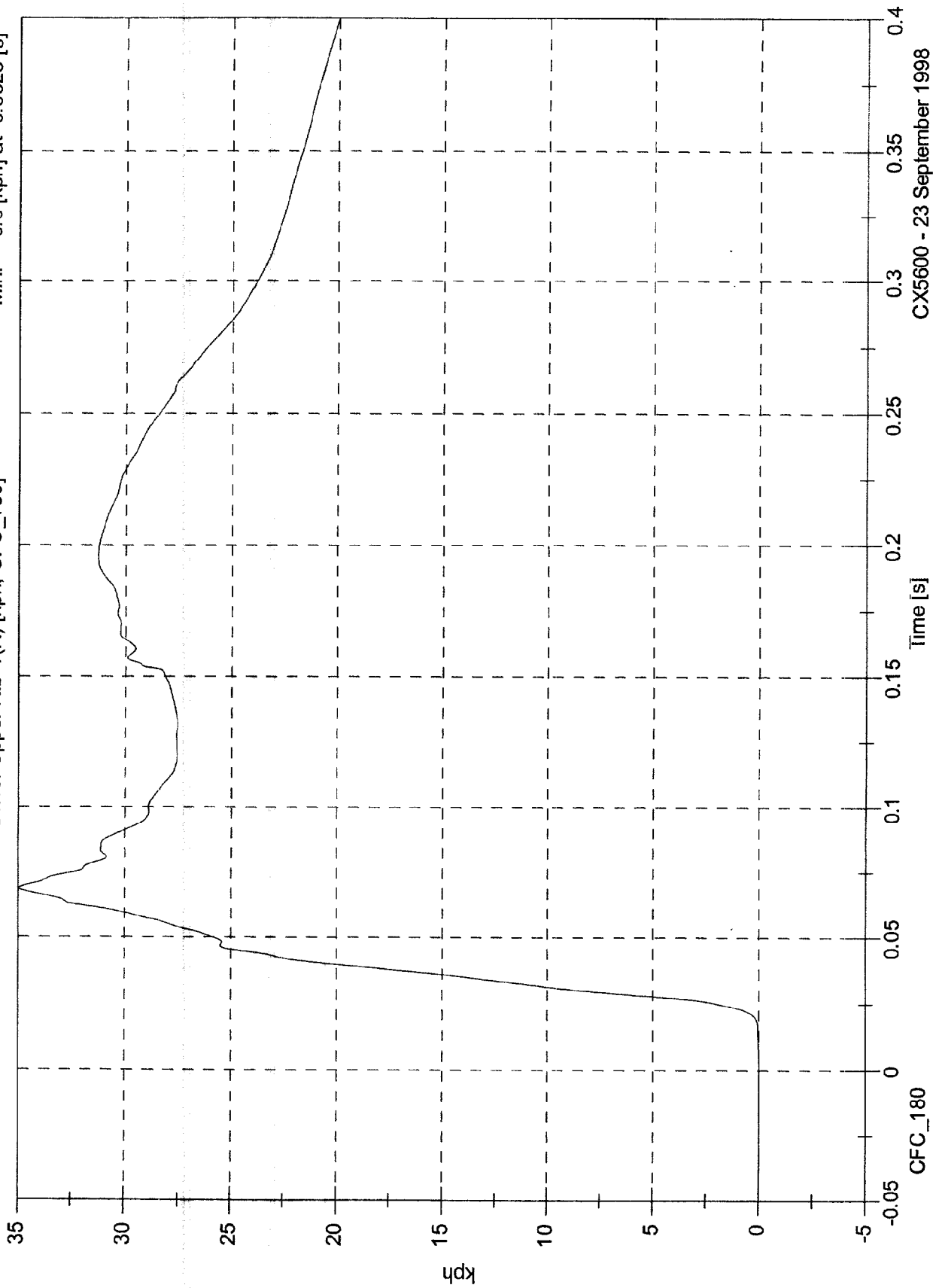


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Upper Rib Y(R) [kph, CFC_180]

Max: 35.0 [kph] at 0.0687 [s]
Min: -0.0 [kph] at -0.0625 [s]



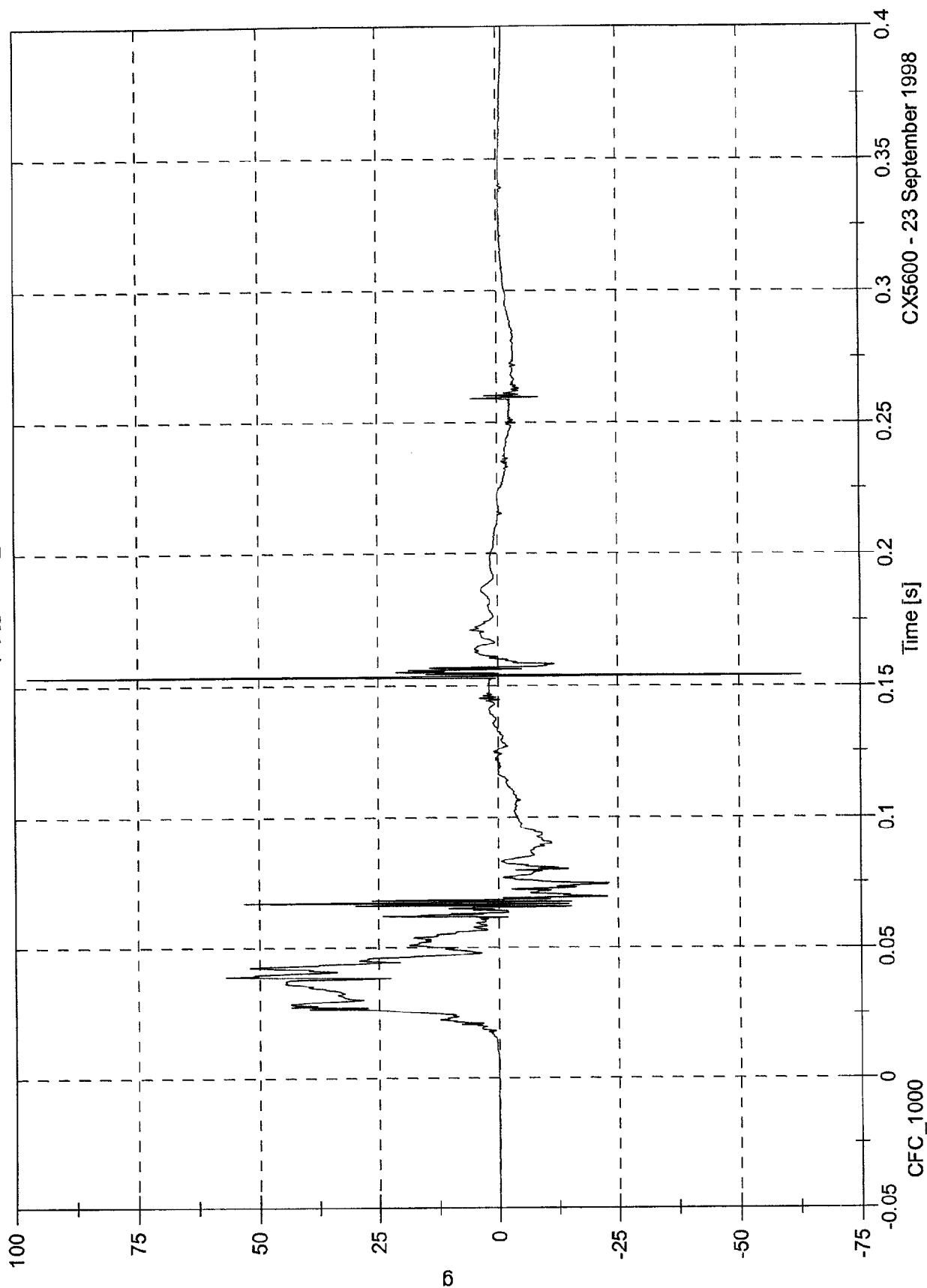
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Rib Y(R) [g, CFC_1000]

Max: 97.6 [g] at 0.1533 [s]

Min: -62.8 [g] at 0.1539 [s]



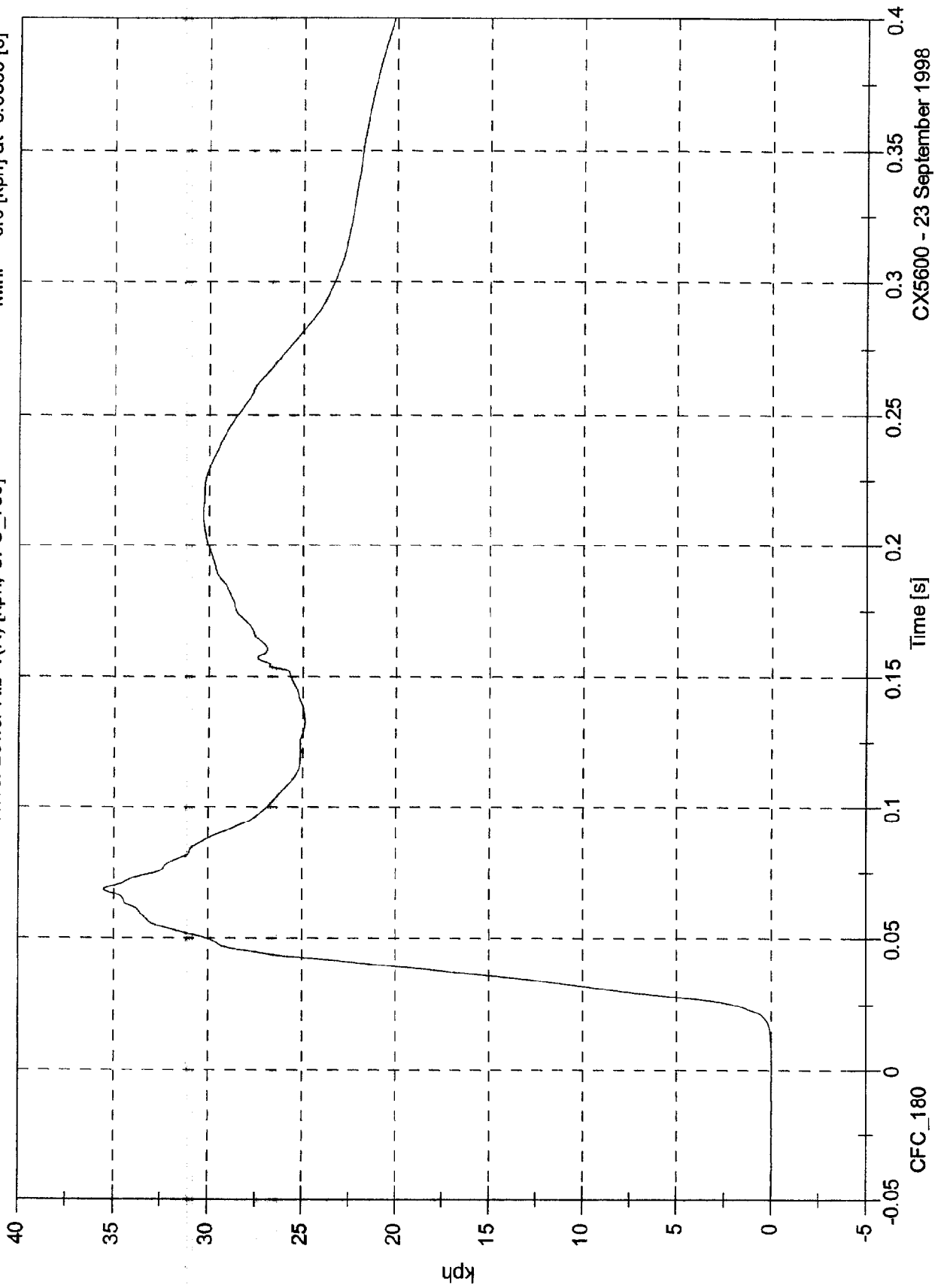
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Rib Y(R) [kph, CFC_180]

Max: 35.5 [kph] at 0.0686 [s]

Min: -0.0 [kph] at -0.0369 [s]



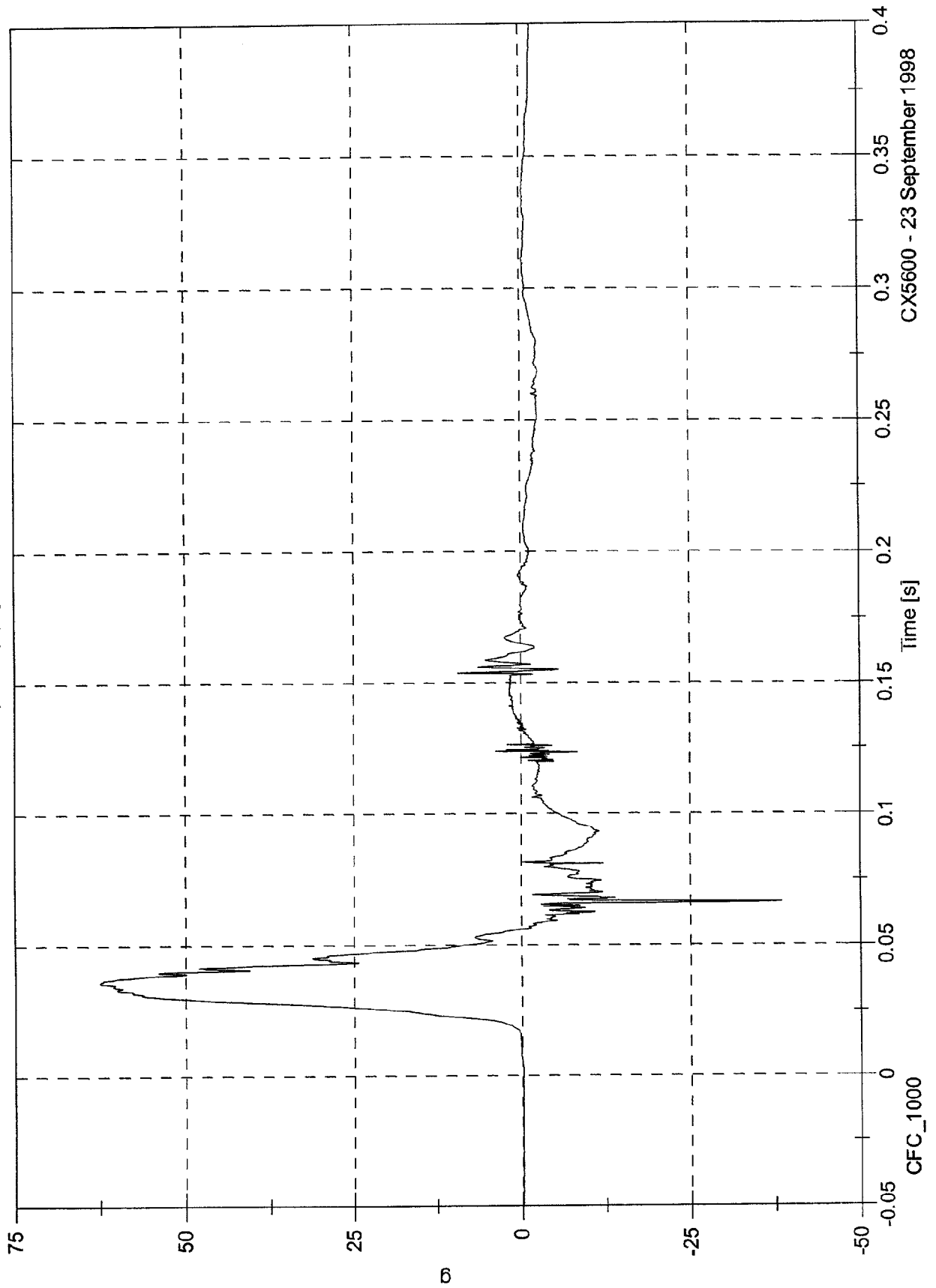
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Spine Y(R) [g, CFC_1000]

Max: 62.5 [g] at 0.0358 [s]

Min: -38.5 [g] at 0.0665 [s]

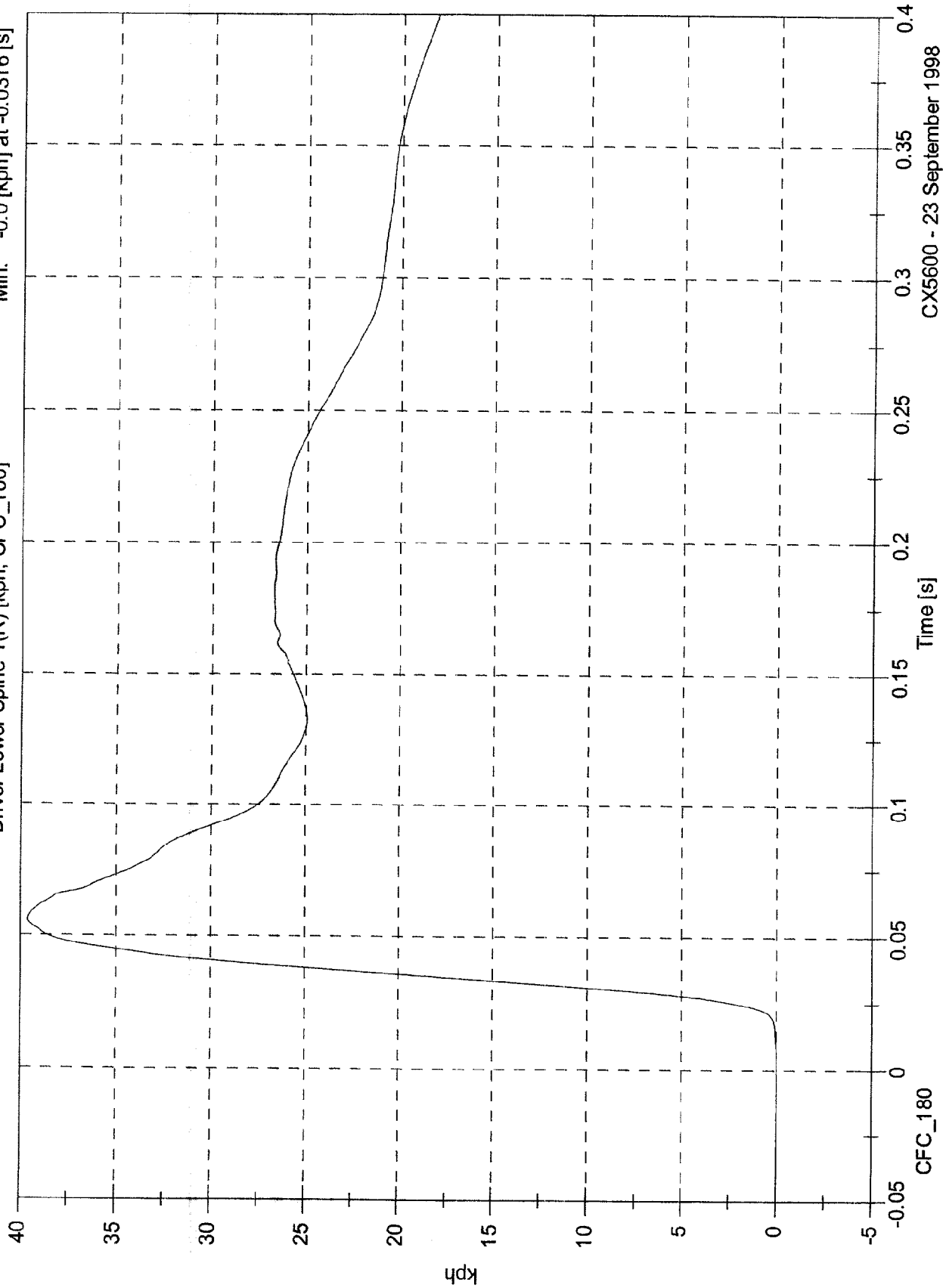


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Spine Y(R) [kph, CFC_180]

Max: 39.6 [kph] at 0.0559 [s]
Min: -0.0 [kph] at -0.0316 [s]



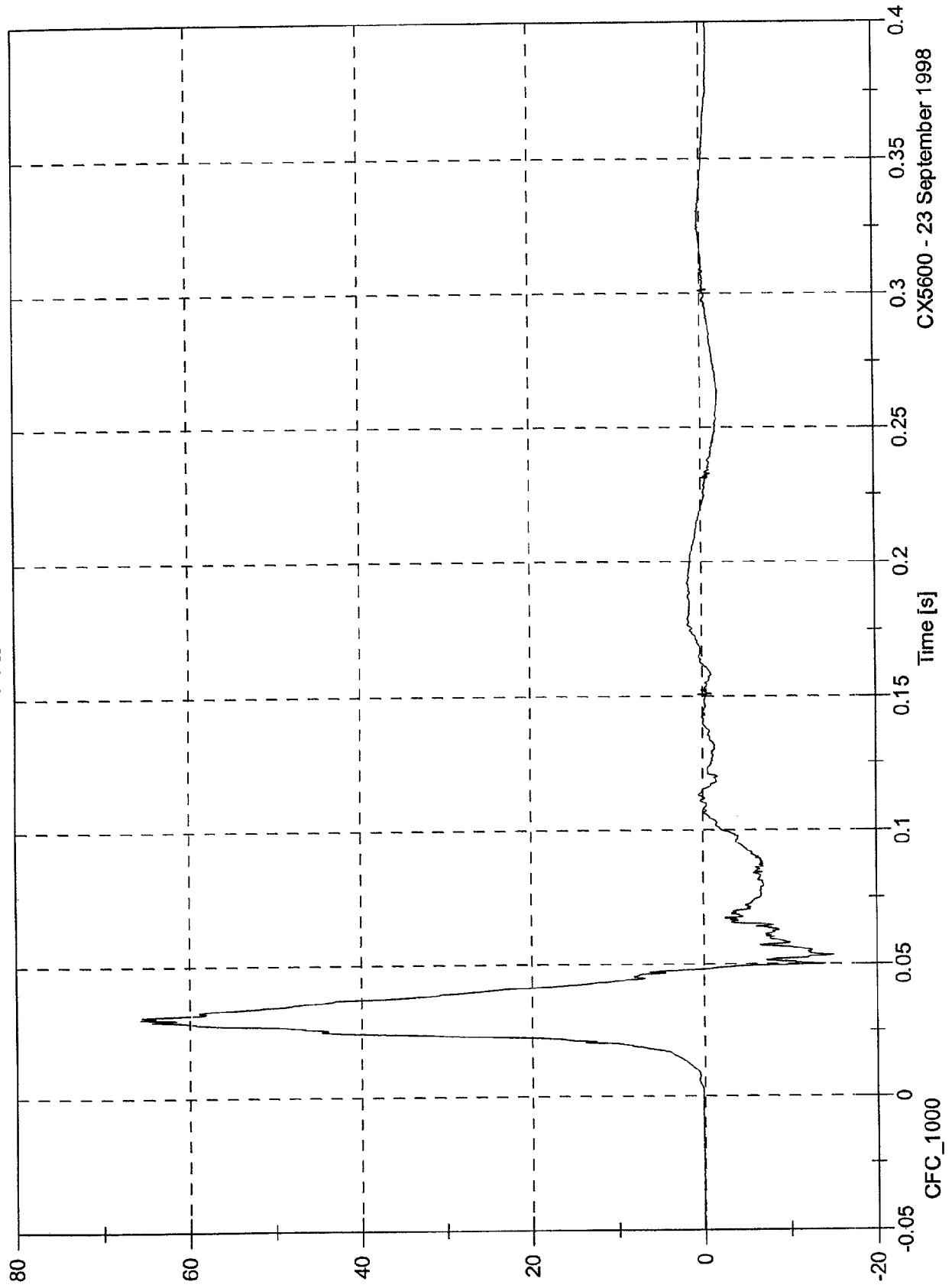
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Pelvic Y(R) [g, CFC_1000]

Max: 65.8 [g] at 0.0303 [s]

Min: -15.0 [g] at 0.0533 [s]



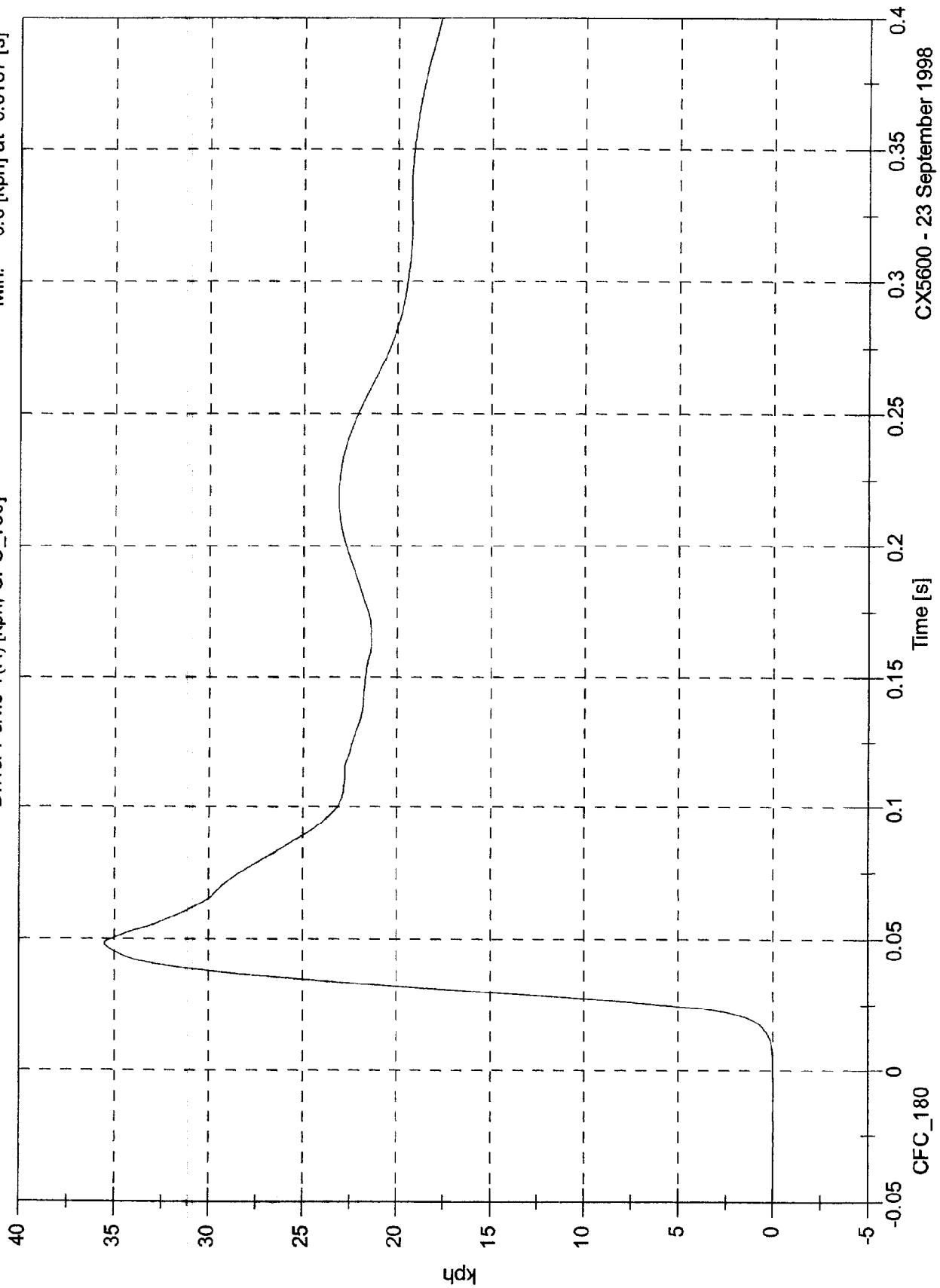
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Pelvic Y(R) [kph, CFC_180]

Max: 35.5 [kph] at 0.0482 [s]

Min: -0.0 [kph] at -0.0137 [s]



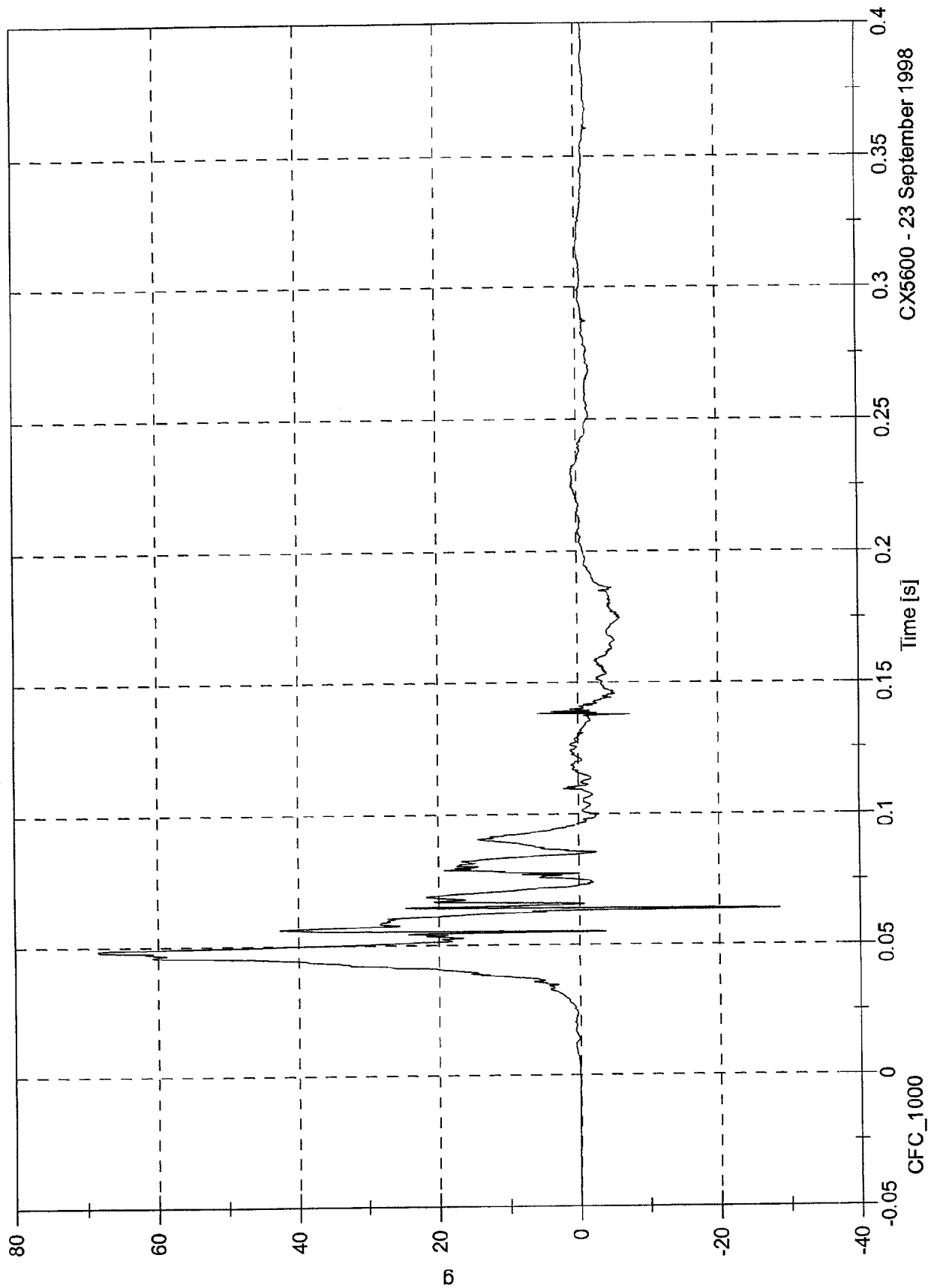
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Upper Rib Y(R) [g, CFC_1000]

Max: 68.4 [g] at 0.0483 [s]

Min: -28.6 [g] at 0.0639 [s]



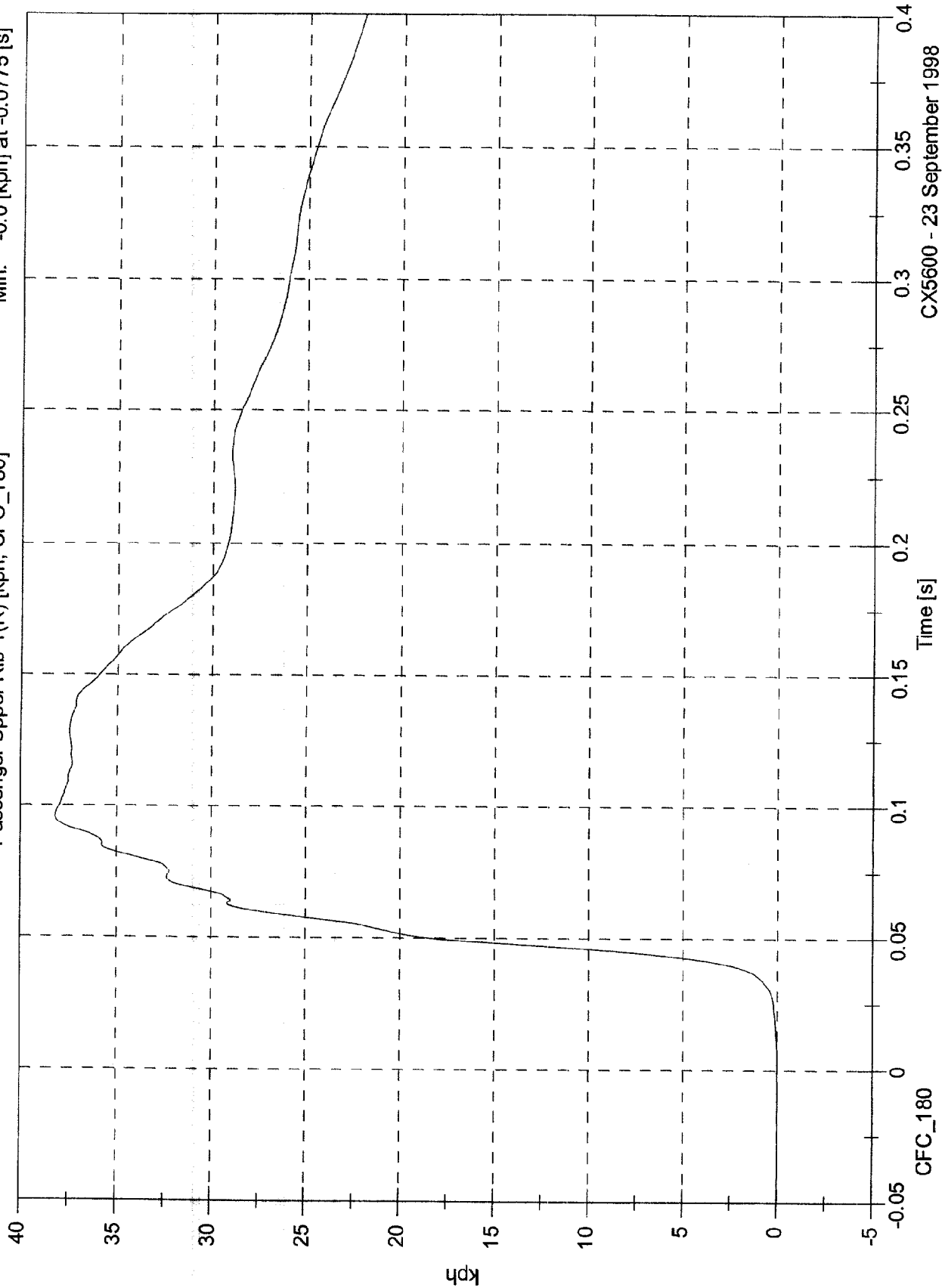
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Upper Rib Y(R) [kph, CFC_180]

Max: 38.2 [kph] at 0.0962 [s]

Min: -0.0 [kph] at -0.0775 [s]



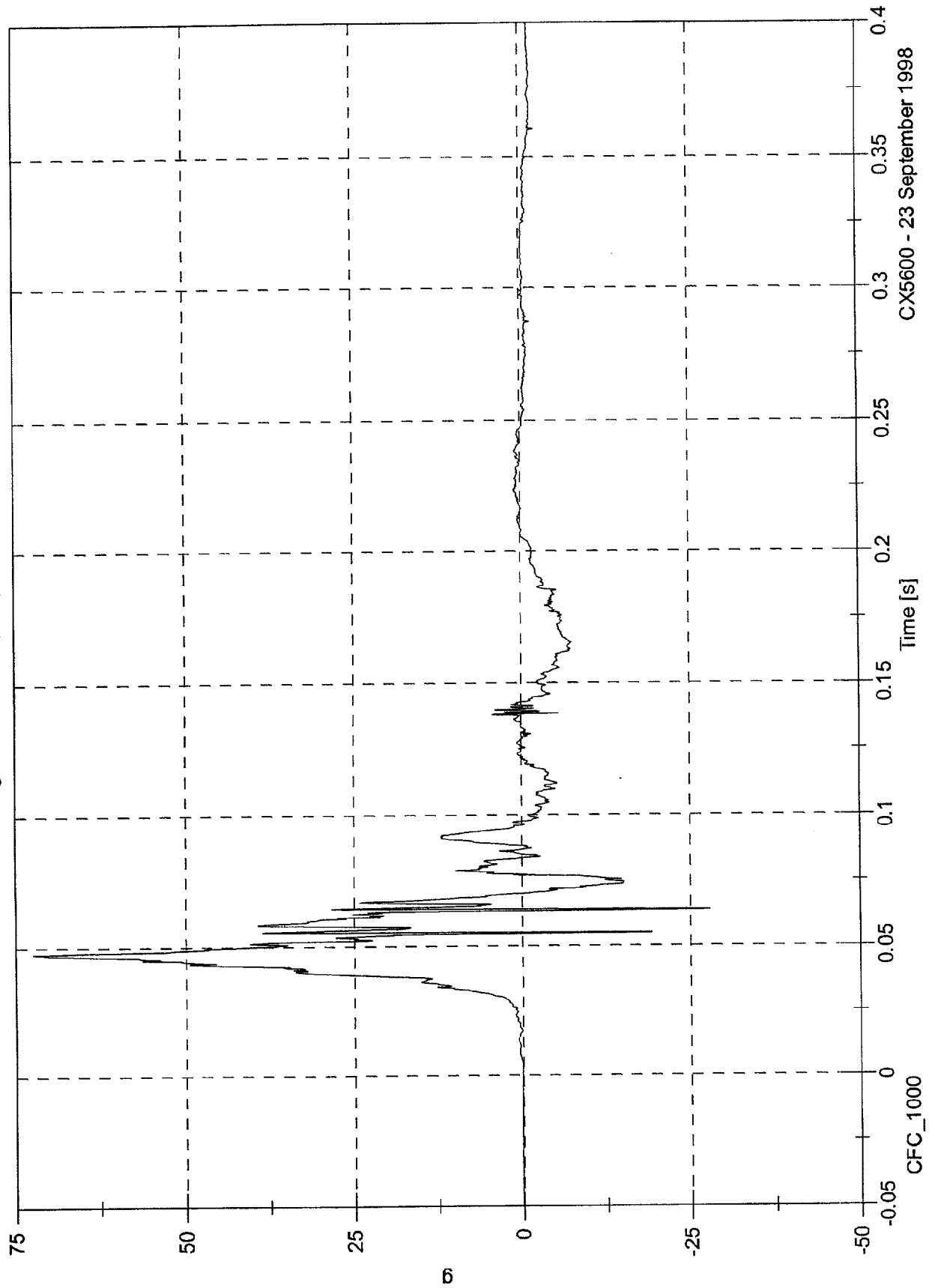
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Lower Rib Y(R) [g, CFC_1000]

Max: 72.4 [g] at 0.0475 [s]

Min: -27.9 [g] at 0.0639 [s]

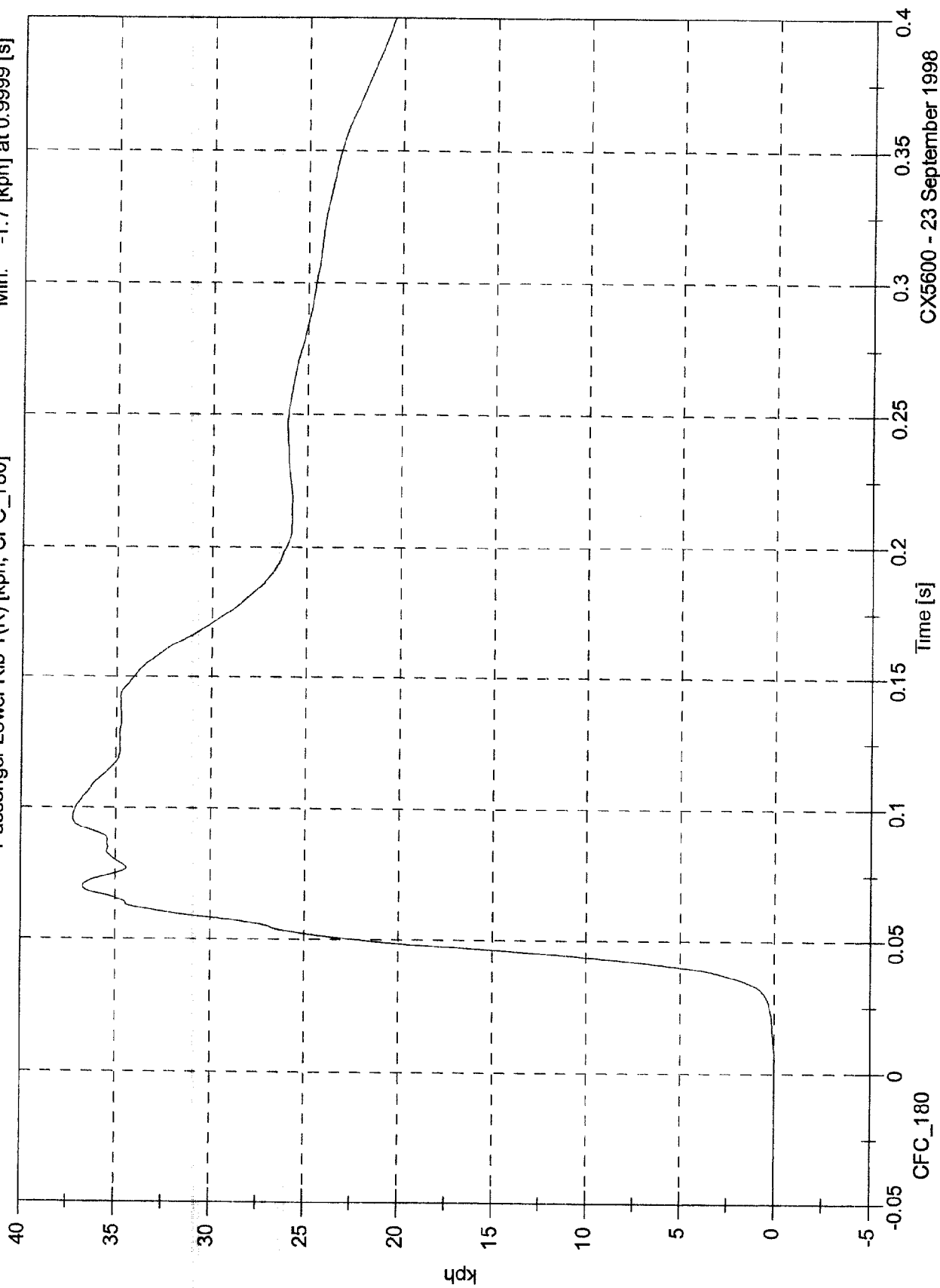


NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Lower Rib Y(R) [kph, CFC_180]

Max: 37.2 [kph] at 0.0973 [s]

Min: -1.7 [kph] at 0.9999 [s]



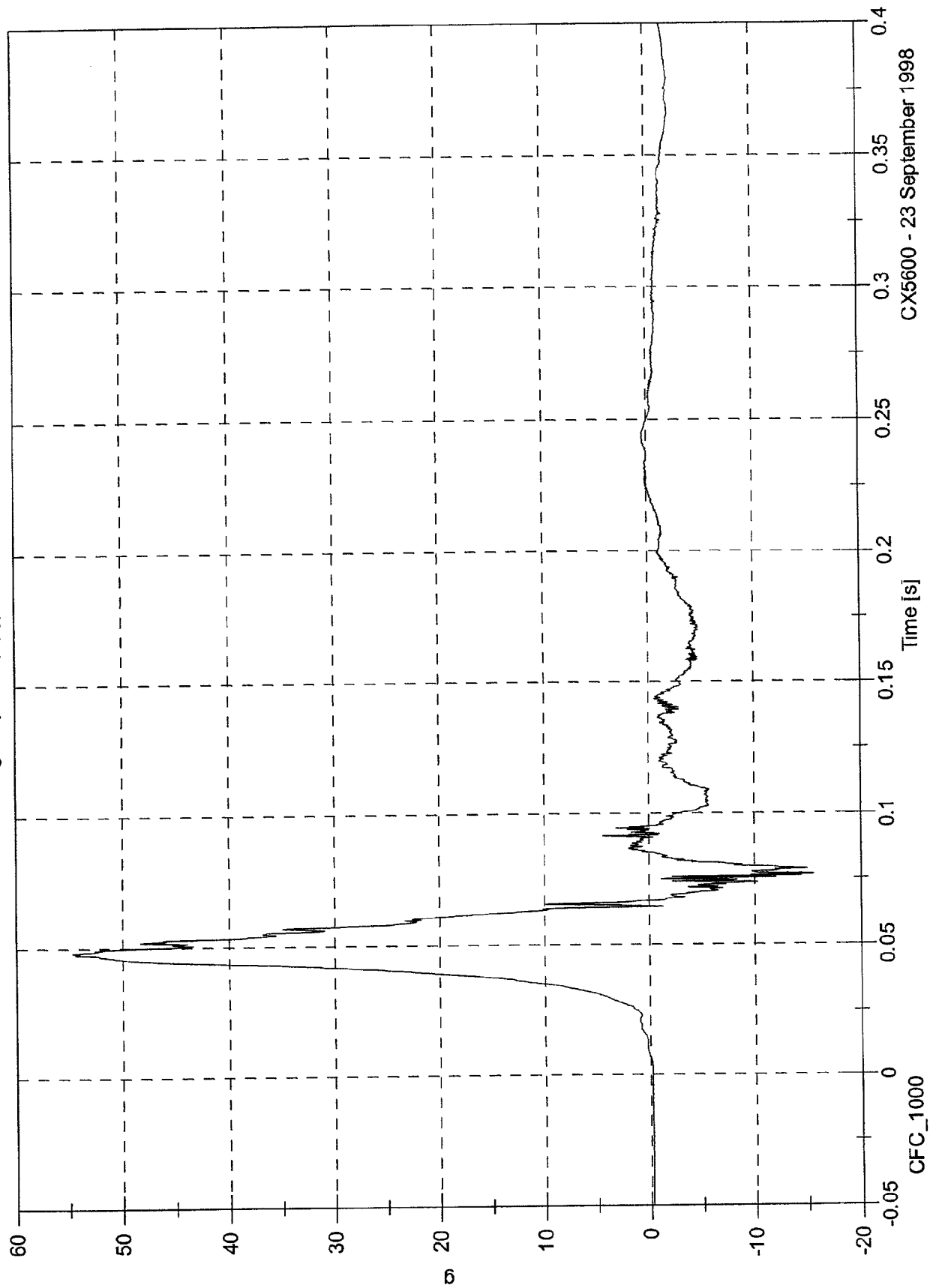
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Spine Y(R) [g, CFC_1000]

Max: 54.8 [g] at 0.0481 [s]

Min: -15.6 [g] at 0.0766 [s]

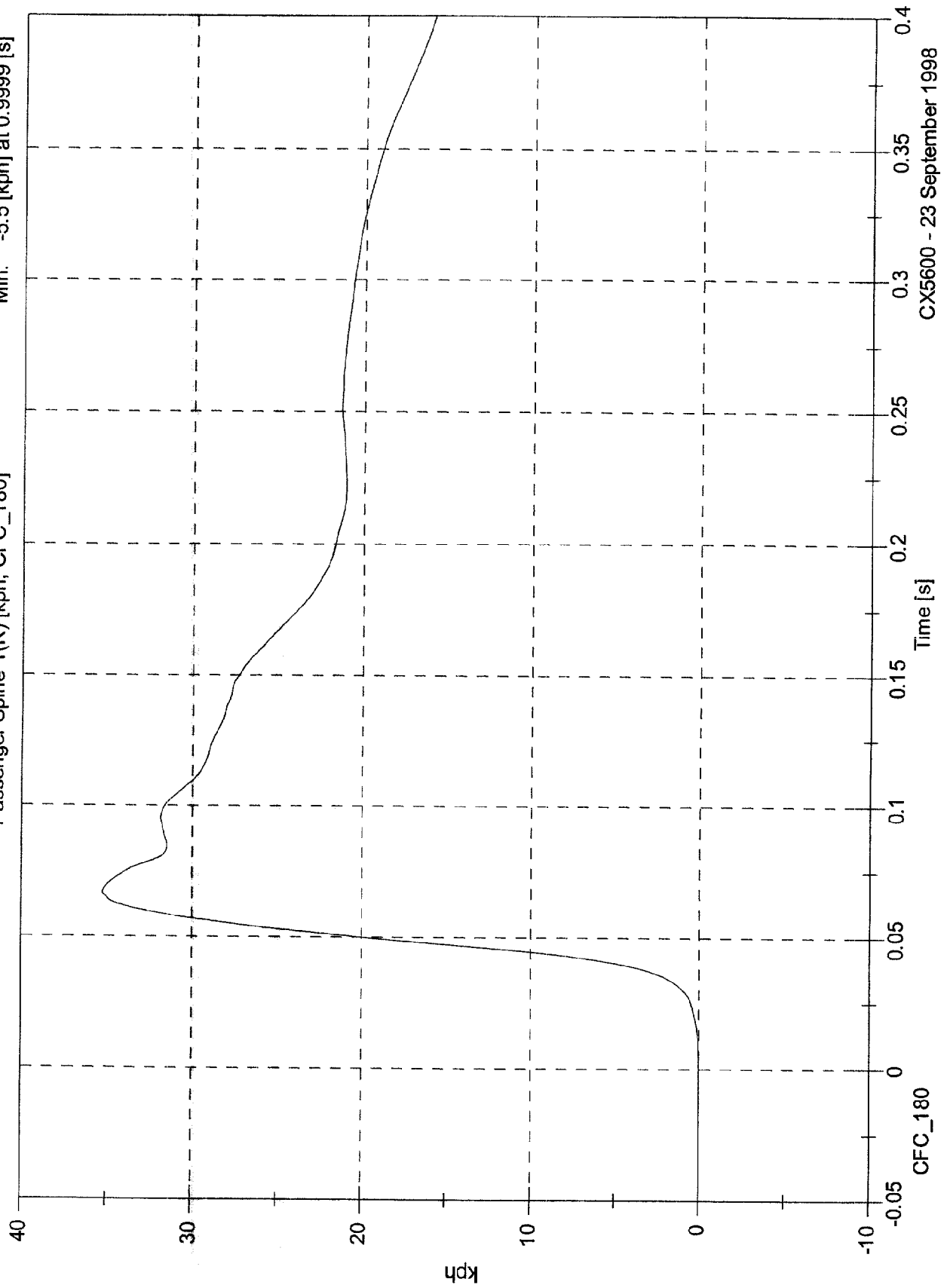


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Spine Y(R) [kph, CFC_180]

Max: 35.3 [kph] at 0.0669 [s]
Min: -5.5 [kph] at 0.9999 [s]



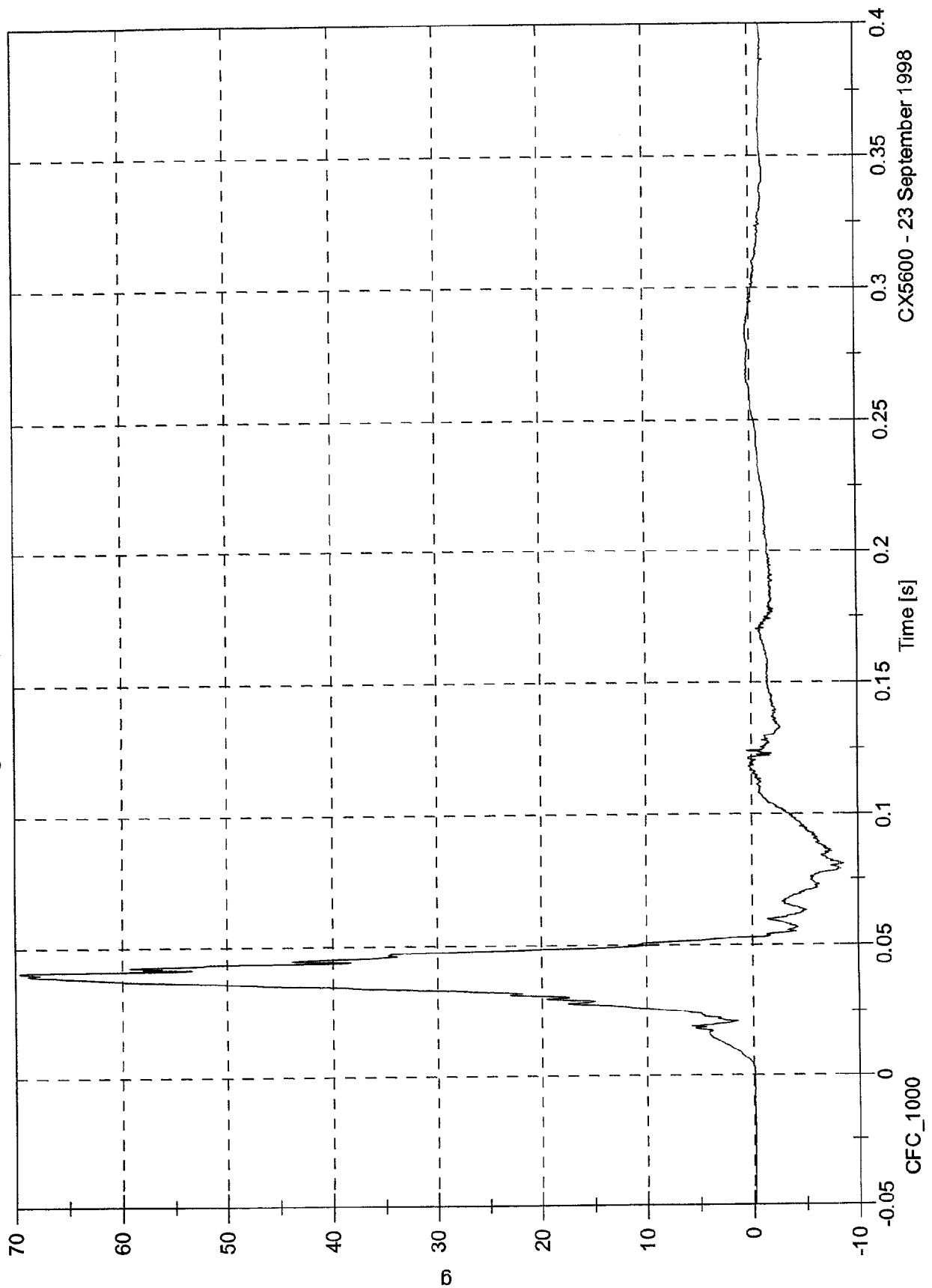
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Pelvic Y(R) [g, CFC_1000]

Max: 69.7 [g] at 0.0407 [s]

Min: -8.6 [g] at 0.0807 [s]

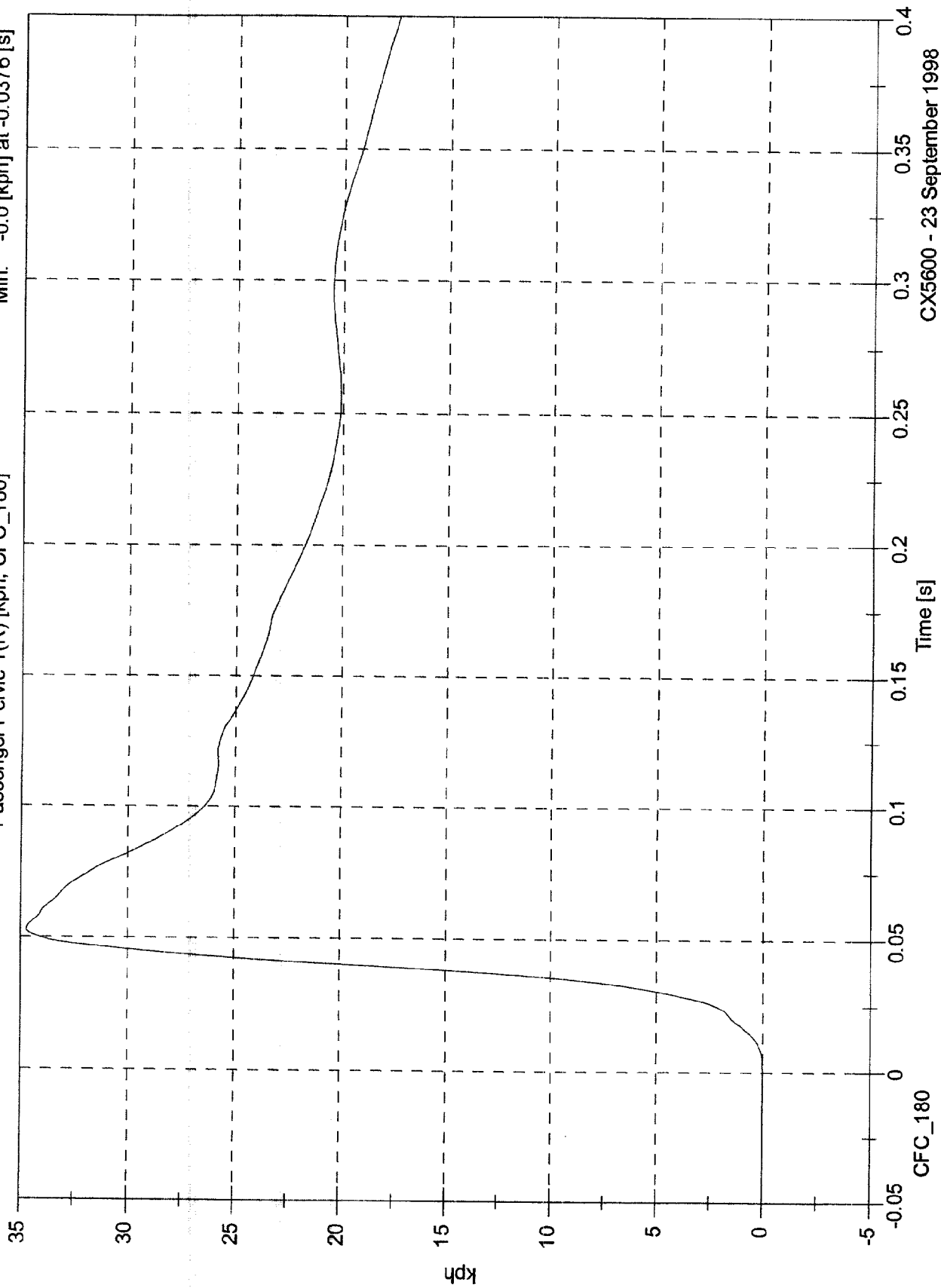


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Pelvic Y(R) [kph, CFC_180]

Max: 34.7 [kph] at 0.0528 [s]
Min: -0.0 [kph] at -0.0376 [s]



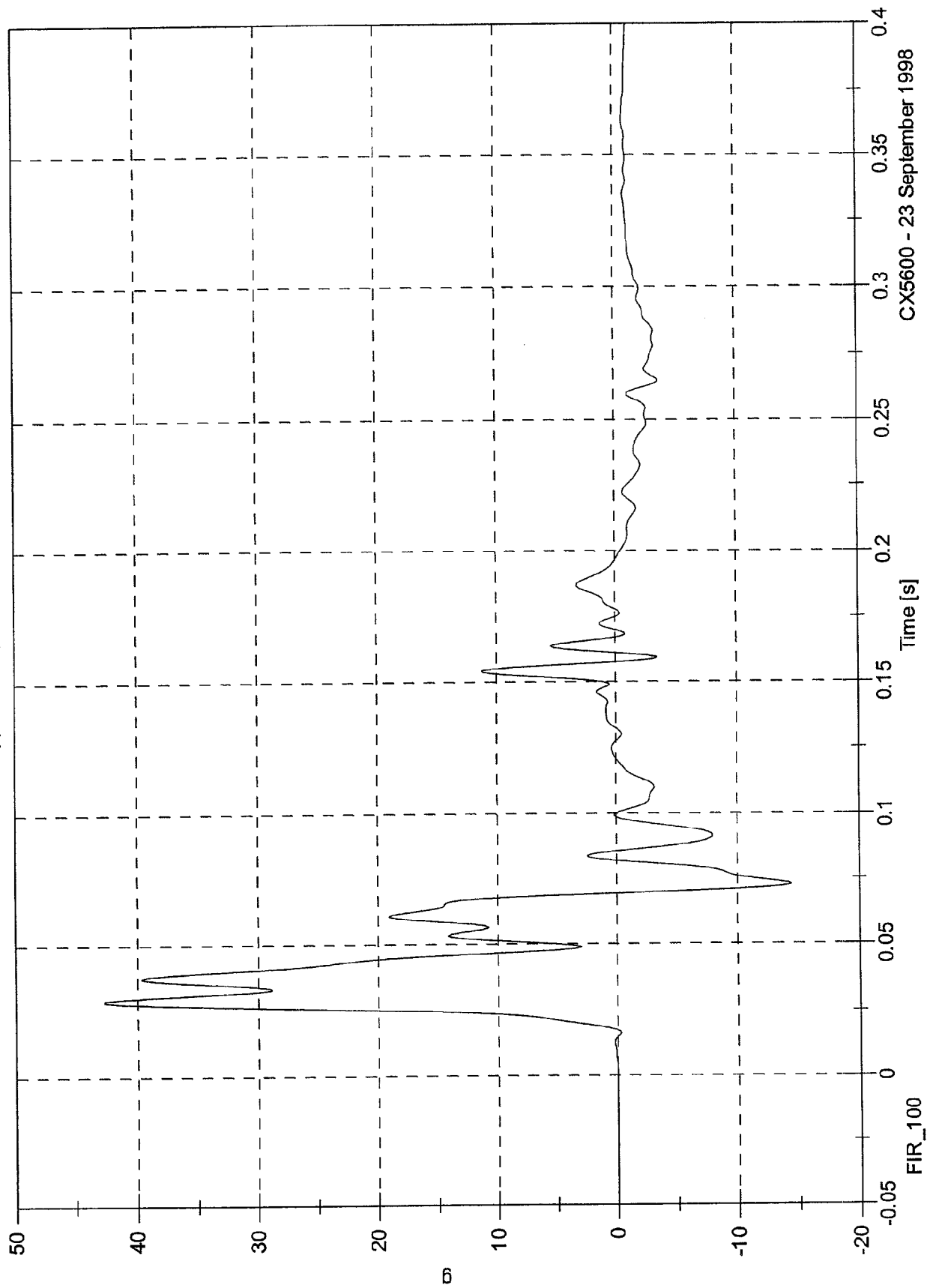
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Upper Rib Y(R) [g, FIR_100]

Max: 42.7 [g] at 0.0288 [s]

Min: -14.4 [g] at 0.0725 [s]

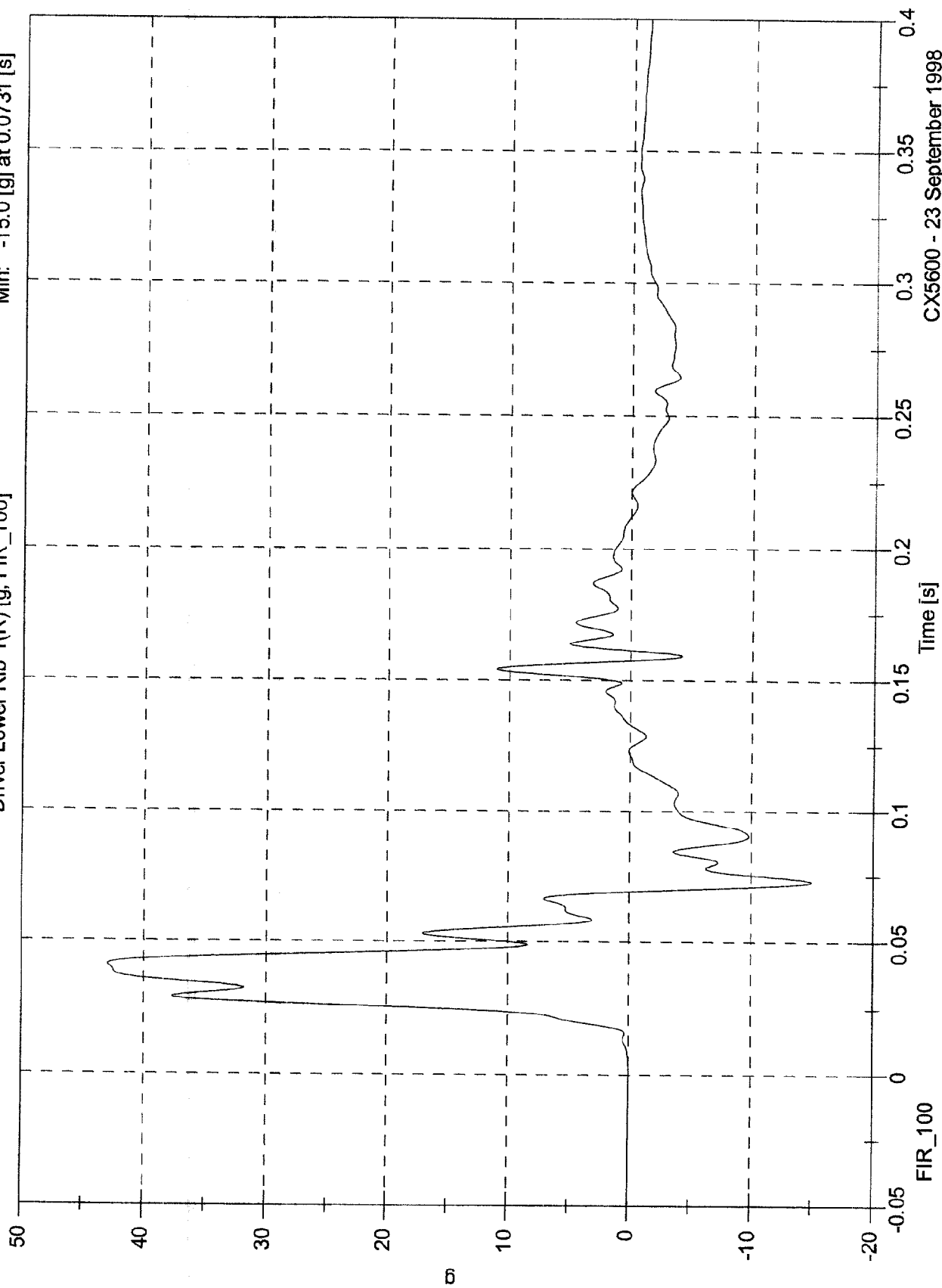


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Rib Y(R) [g, FIR_100]

Max: 43.0 [g] at 0.0412 [s]
Min: -15.0 [g] at 0.0731 [s]



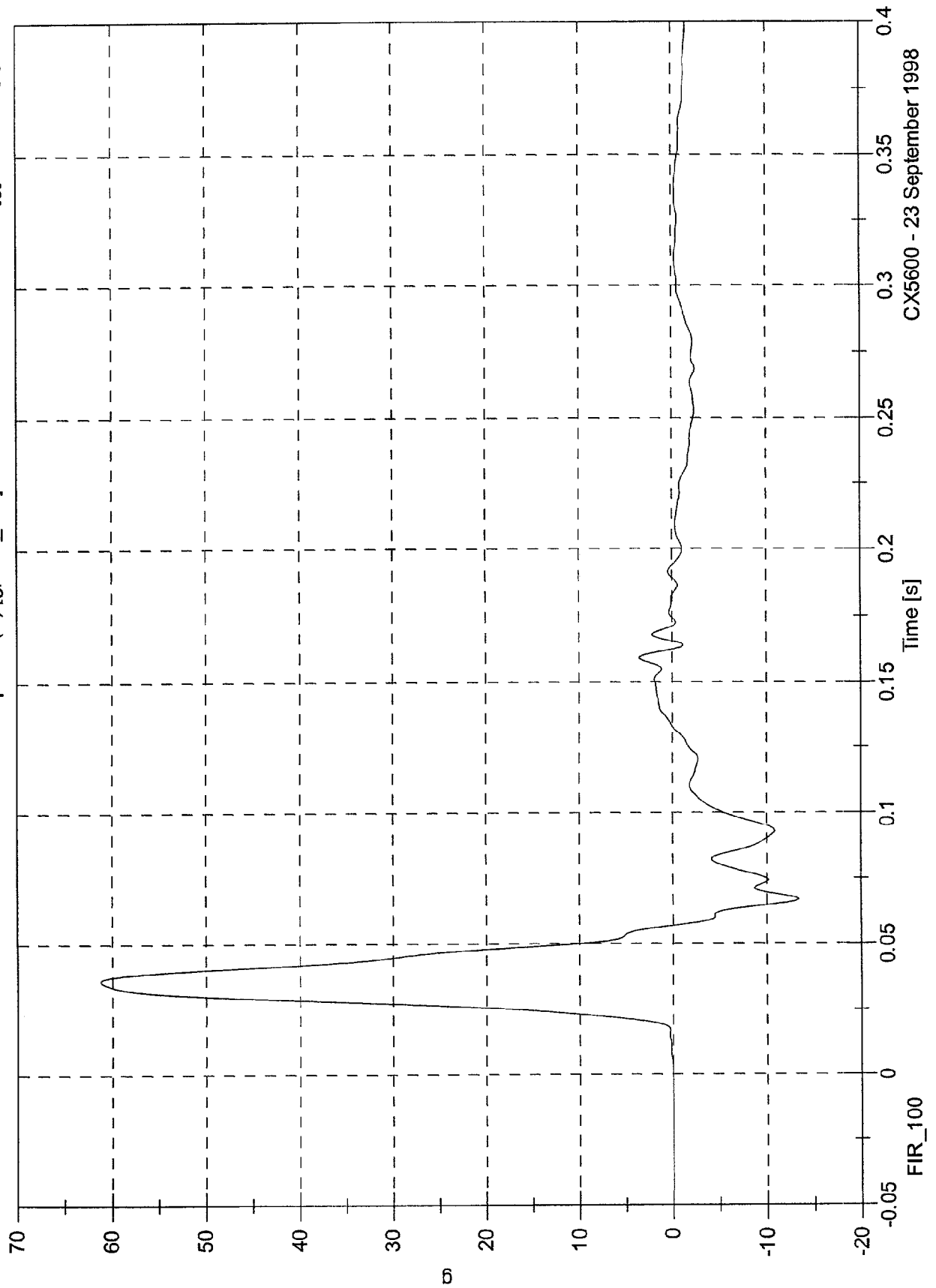
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Driver Lower Spine Y(R) [g, FIR_100]

Max 61.3 [g] at 0.0362 [s]

Min: -13.4 [g] at 0.0669 [s]



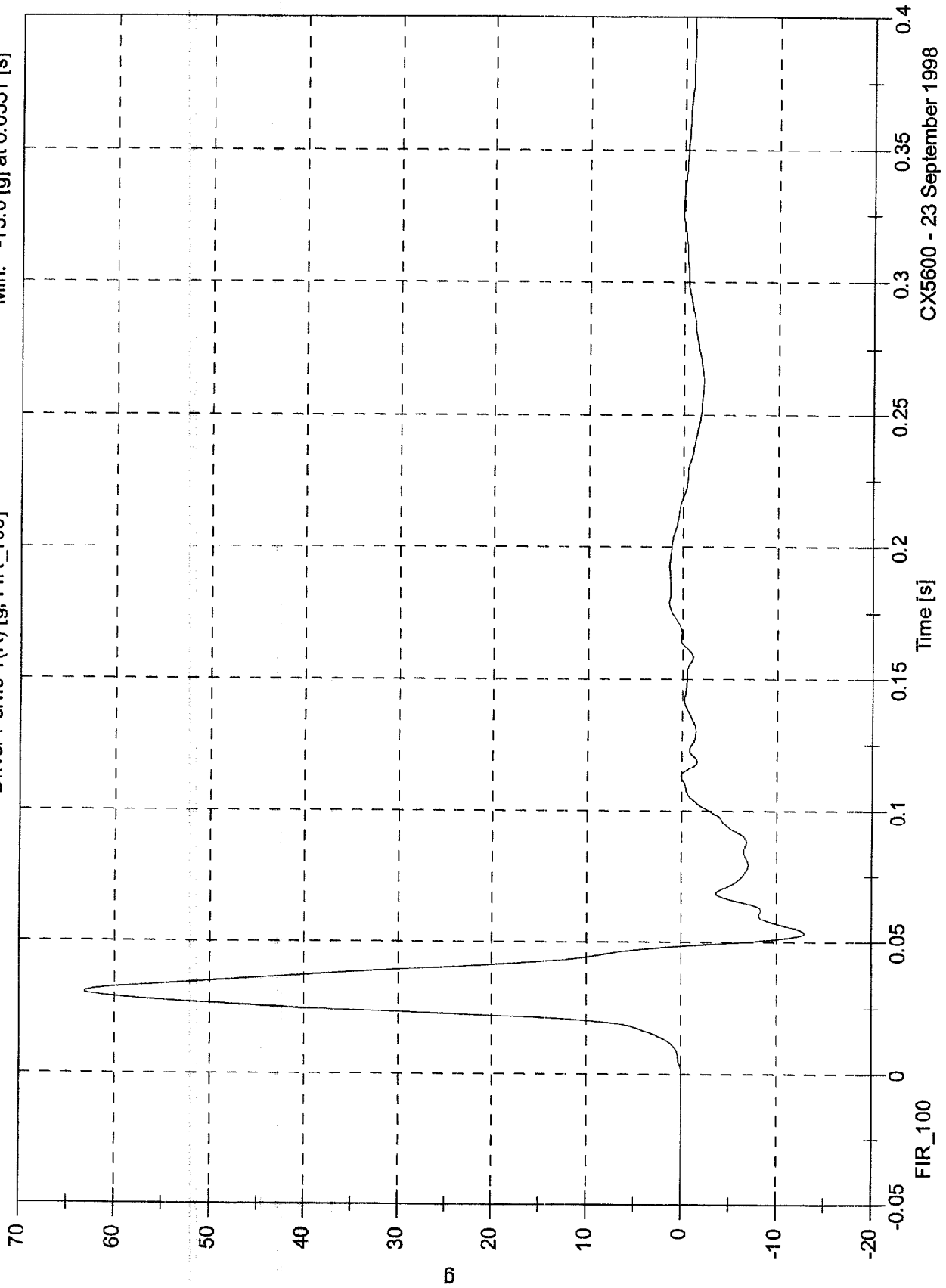
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Max: 63.2 [g] at 0.0307 [s]

Min: -13.0 [g] at 0.0531 [s]

Driver Pelvic Y(R) [g, FIR_100]



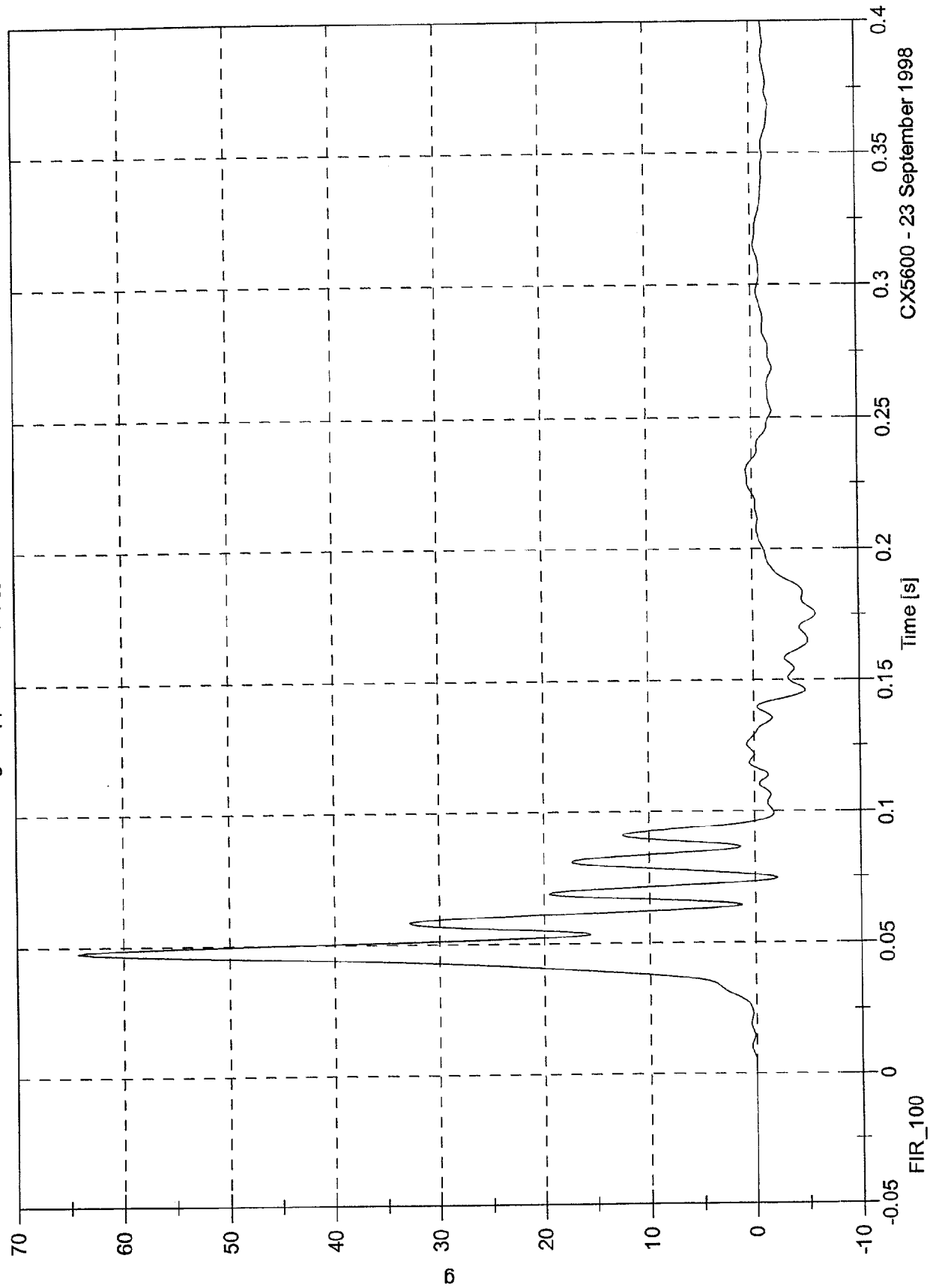
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Upper Rib Y(R) [g, FIR_100]

Max: 64.3 [g] at 0.0475 [s]

Min: -6.0 [g] at 0.175 [s]



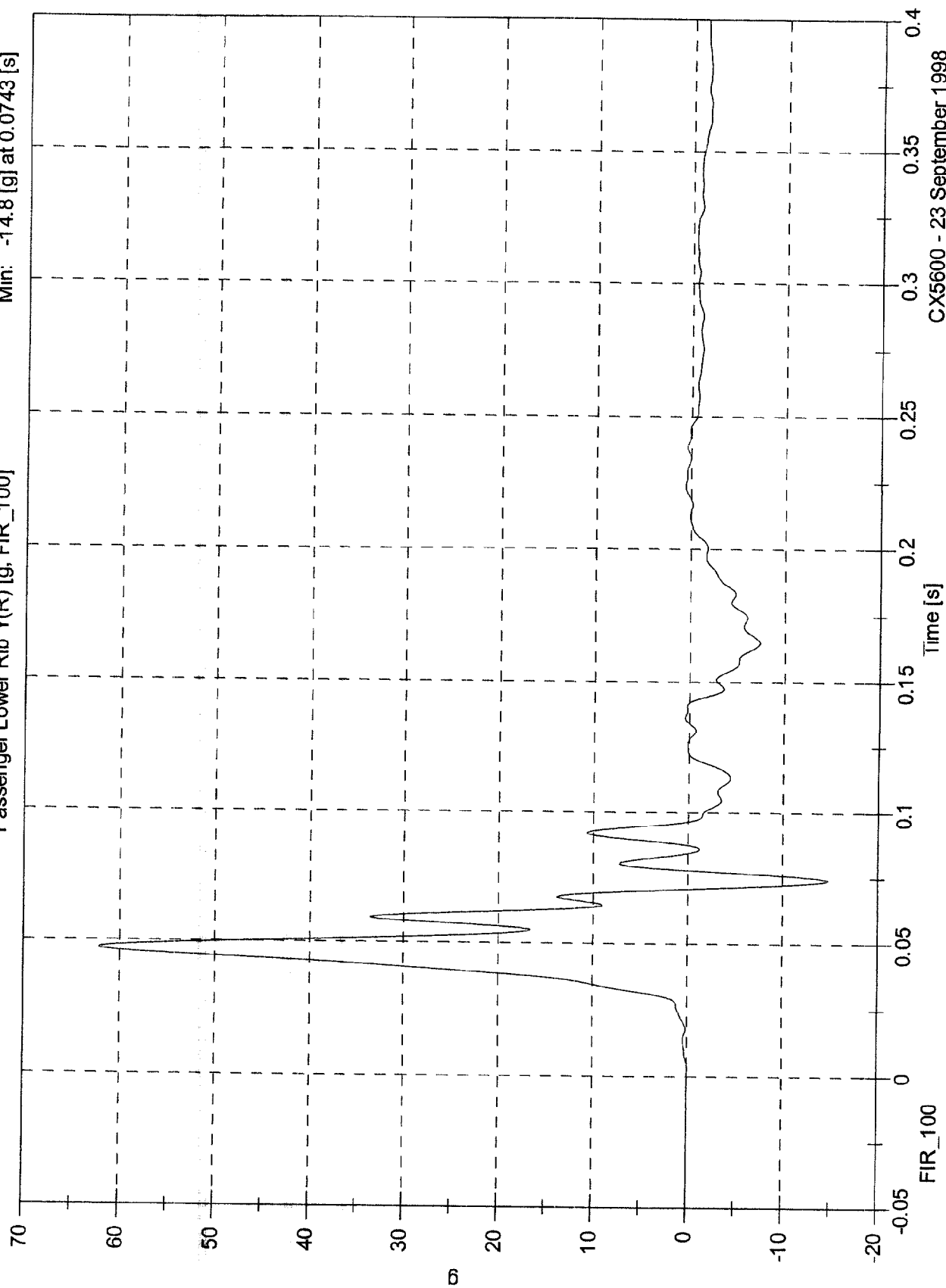
CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Lower Rib Y(R) [g, FIR_100]

Max: 62.1 [g] at 0.0469 [s]

Min: -14.8 [g] at 0.0743 [s]

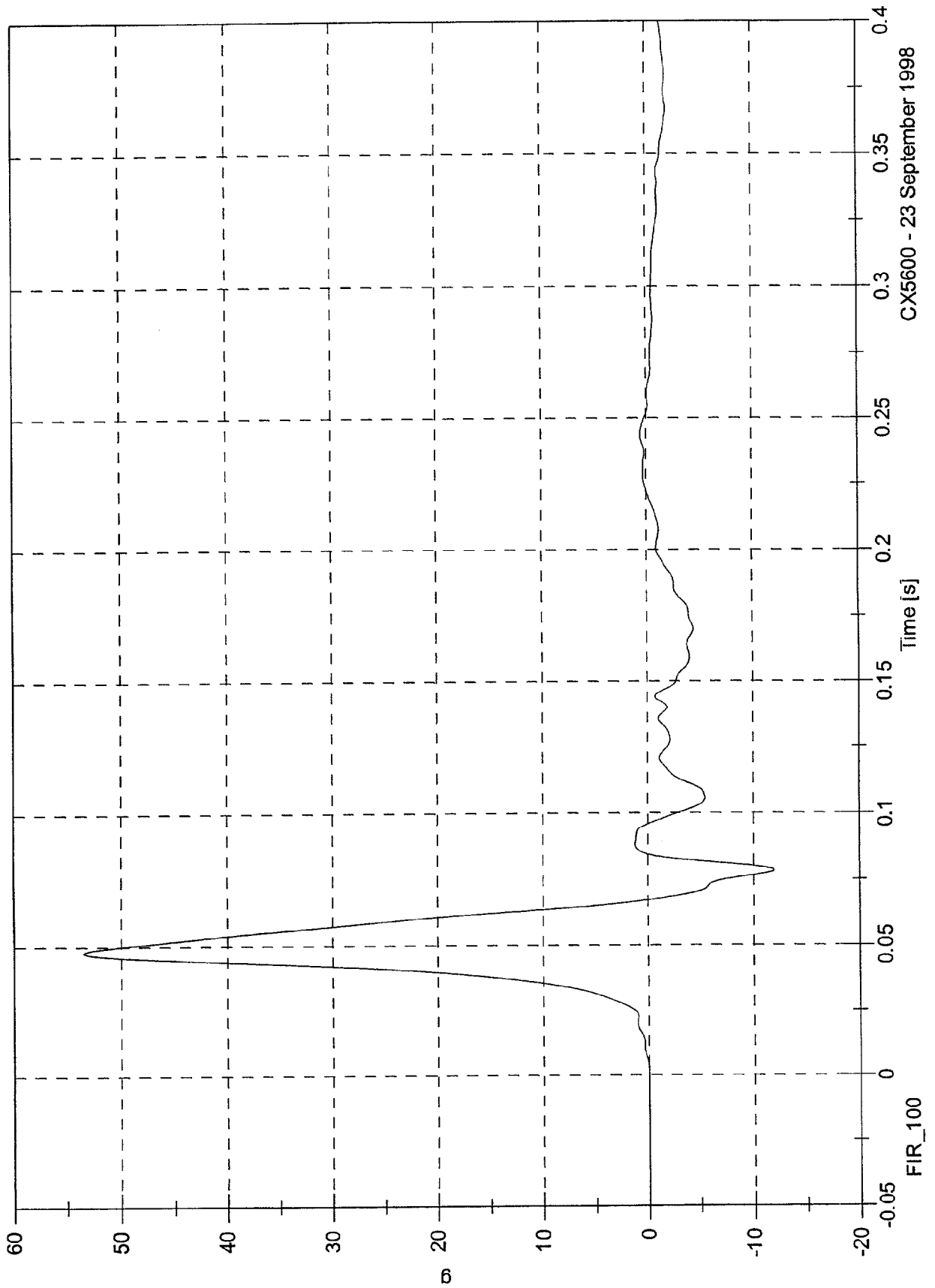


NHTSA Side Impact - 1999 Mitsubishi Galant

Passenger Spine Y(R) [g, FIR_100]

Max 53.5 [g] at 0.0475 [s]

Min: -12.0 [g] at 0.0782 [s]

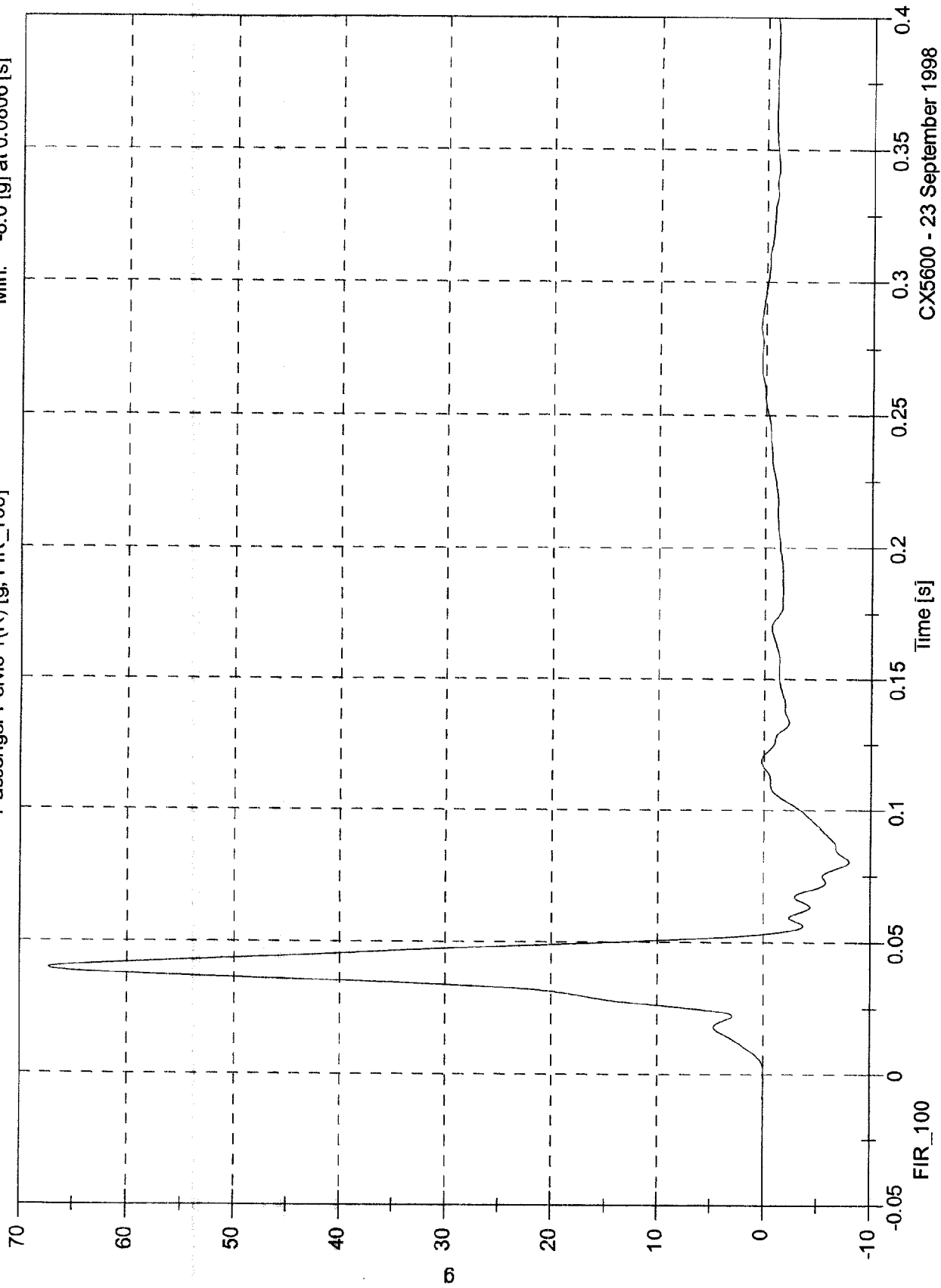


CX5600 - 23 September 1998

NHTSA Side Impact - 1999 Mitsubishi Galant

Max: 67.3 [g] at 0.04 [s]
 Min: -8.0 [g] at 0.0806 [s]

Passenger Pelvic Y(R) [g, FIR_100]



CX5600 - 23 September 1998

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 9-15-98, 9-25-98

Calspan Sequential Test Number: 1, 2

Laboratory Technician:

B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	SID NO.: 268		SID NO.: 027	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	904	904	909	909
RH- Rib Height (mm)	501 - 521	516	516	516	516
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	231	232	235	236
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	516	516
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	493	493
HW- Hip Width (mm)	356 - 391	371	371	366	366
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	45	40	45	35
PROBE SPEED (m/s)	4.27 - 4.33	4.29	4.33	4.27	4.29
UPPER RIB (g's)	37 - 46	42.8	44.4	41.4	41.3
LOWER RIB (g's)	37 - 46	39.2	41.3	40.8	41.3
LOWER SPINE (g's)	15 - 22	19.7	21.1	21.4	21.7
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	45	40	45	35
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.29	4.30	4.30
PELVIS (g's)	40 - 60	43.6	40.9	50.9	45.2

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 268

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Calspan Sequential Test Number: 1
Date: 9-18-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

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.
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.: 268Calspan Sequential Test Number: 1Date: 9-18-98Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	231
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Calspan Sequential Test Number: 1
Date: 9-21-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

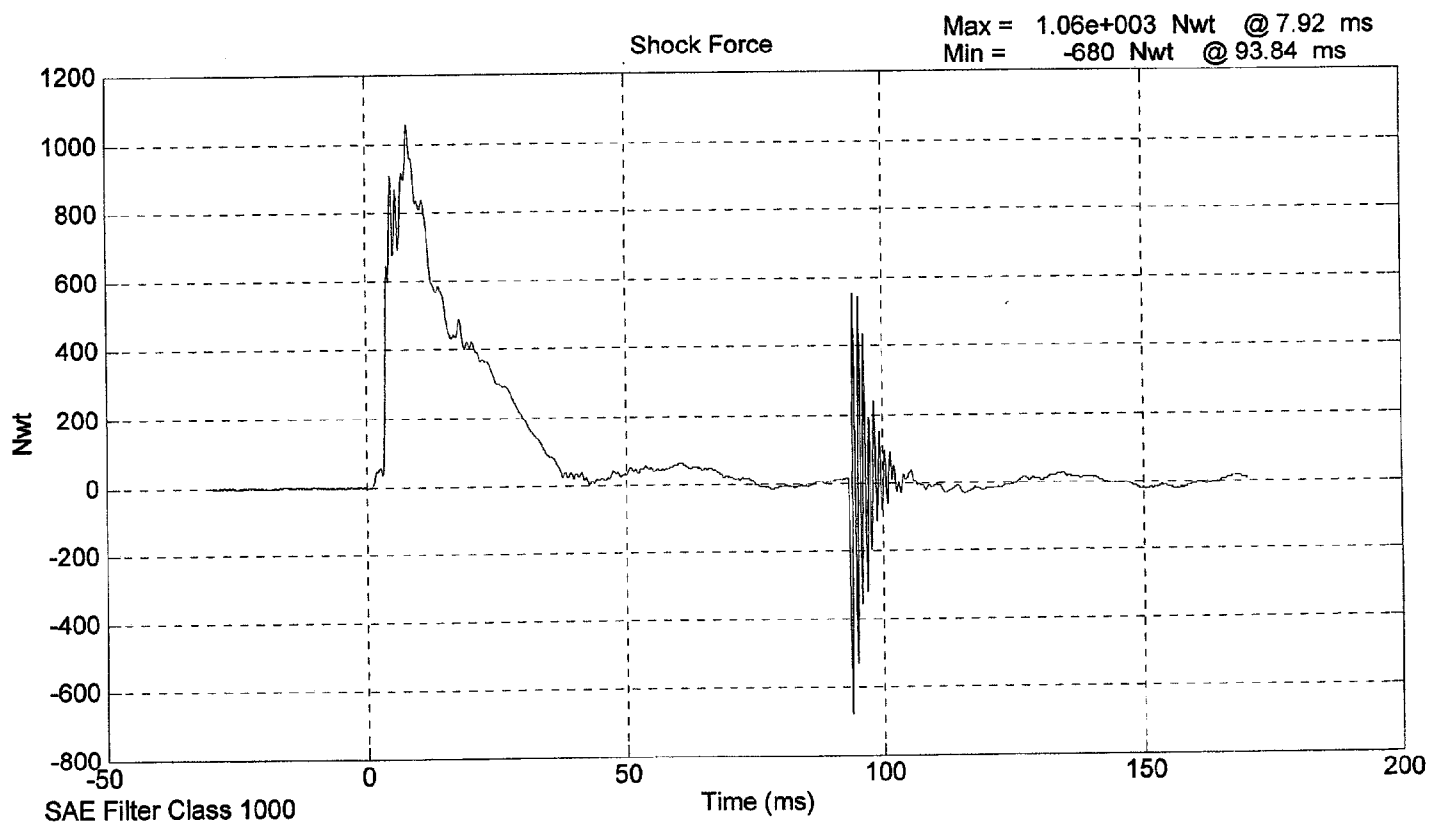
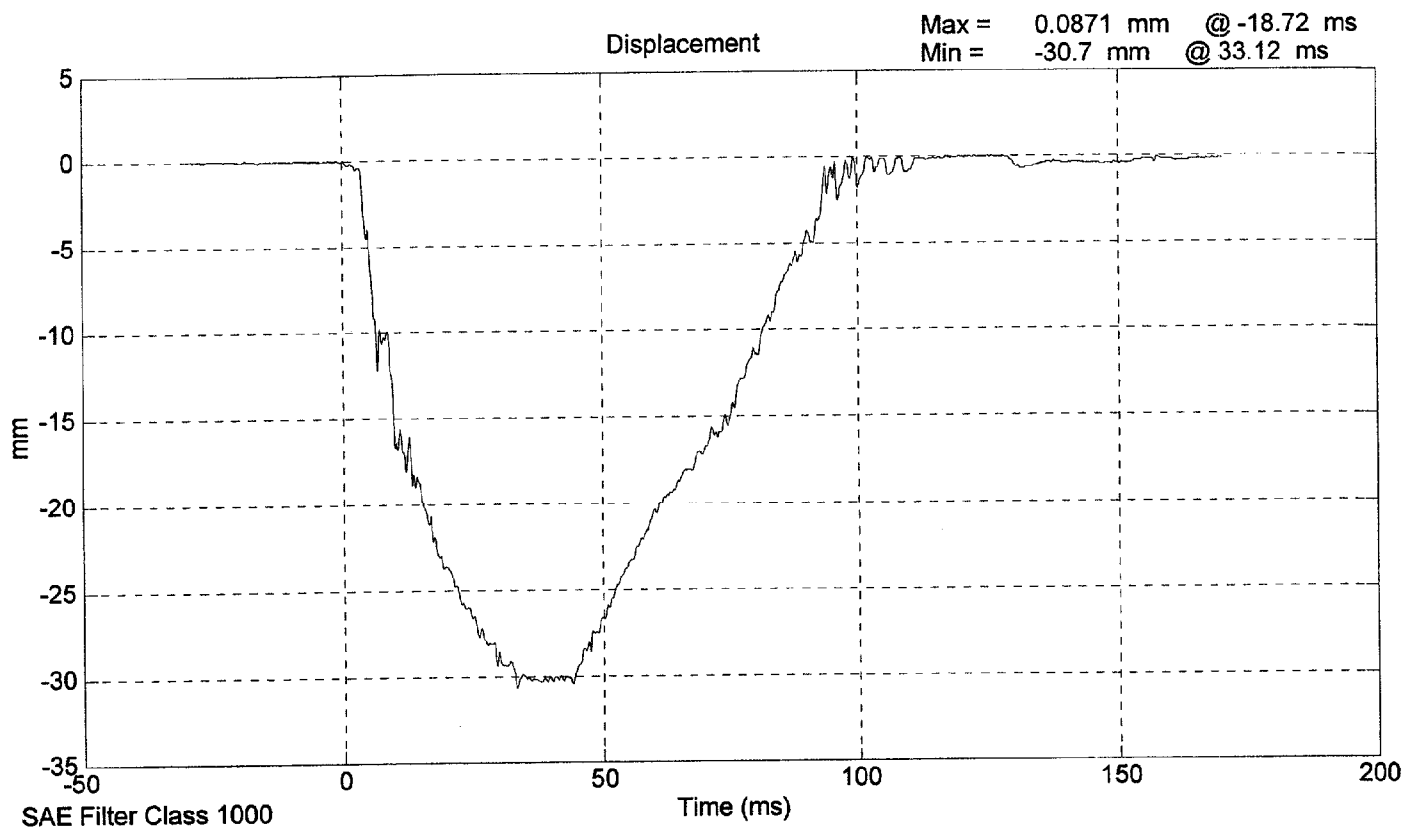
DAMPER IDENTIFICATION: 268

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	45
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1059
	DISPLACEMENT (mm)	30 - 35	30
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1986
	DISPLACEMENT (mm)	32 - 37	33
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4098
	DISPLACEMENT (mm)	33 - 40	36

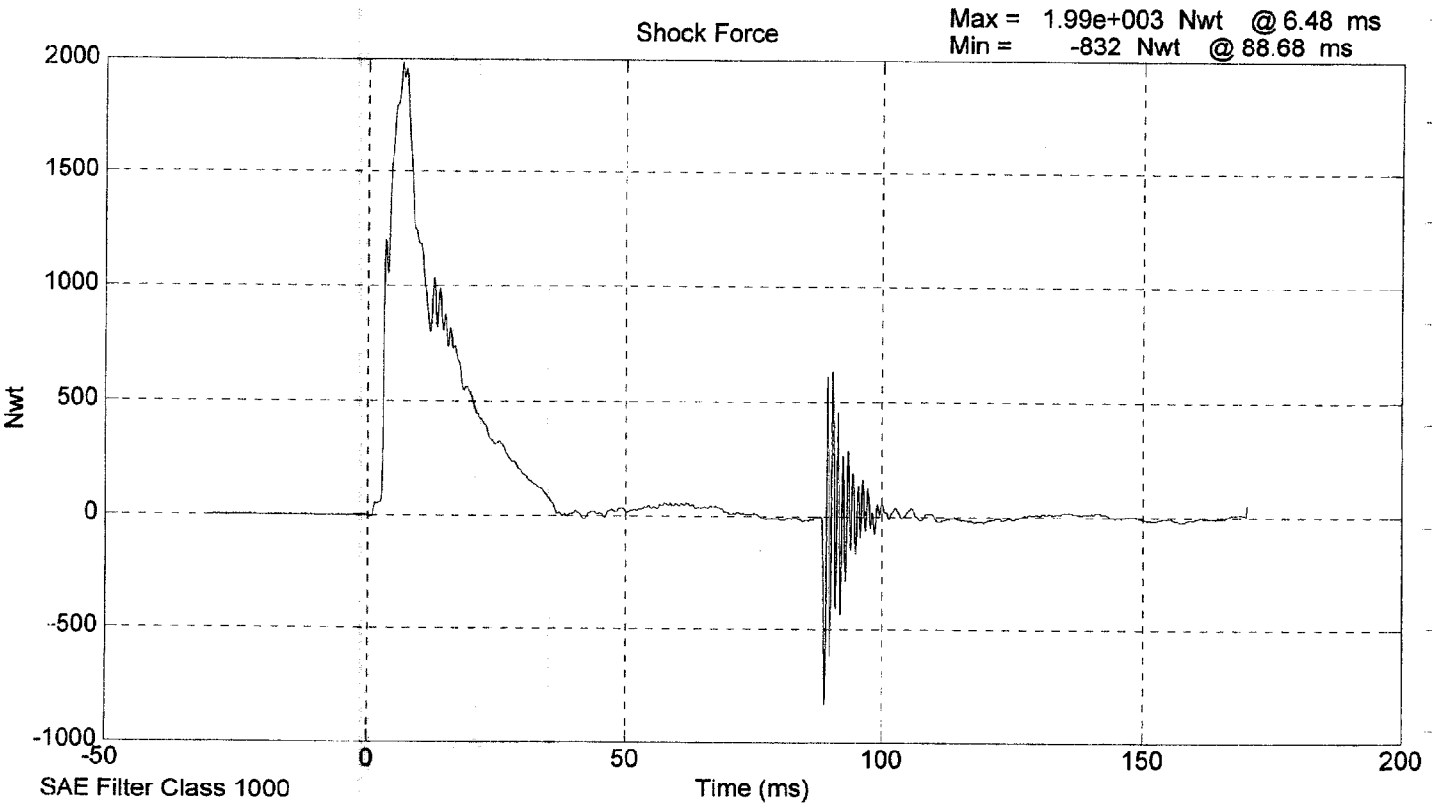
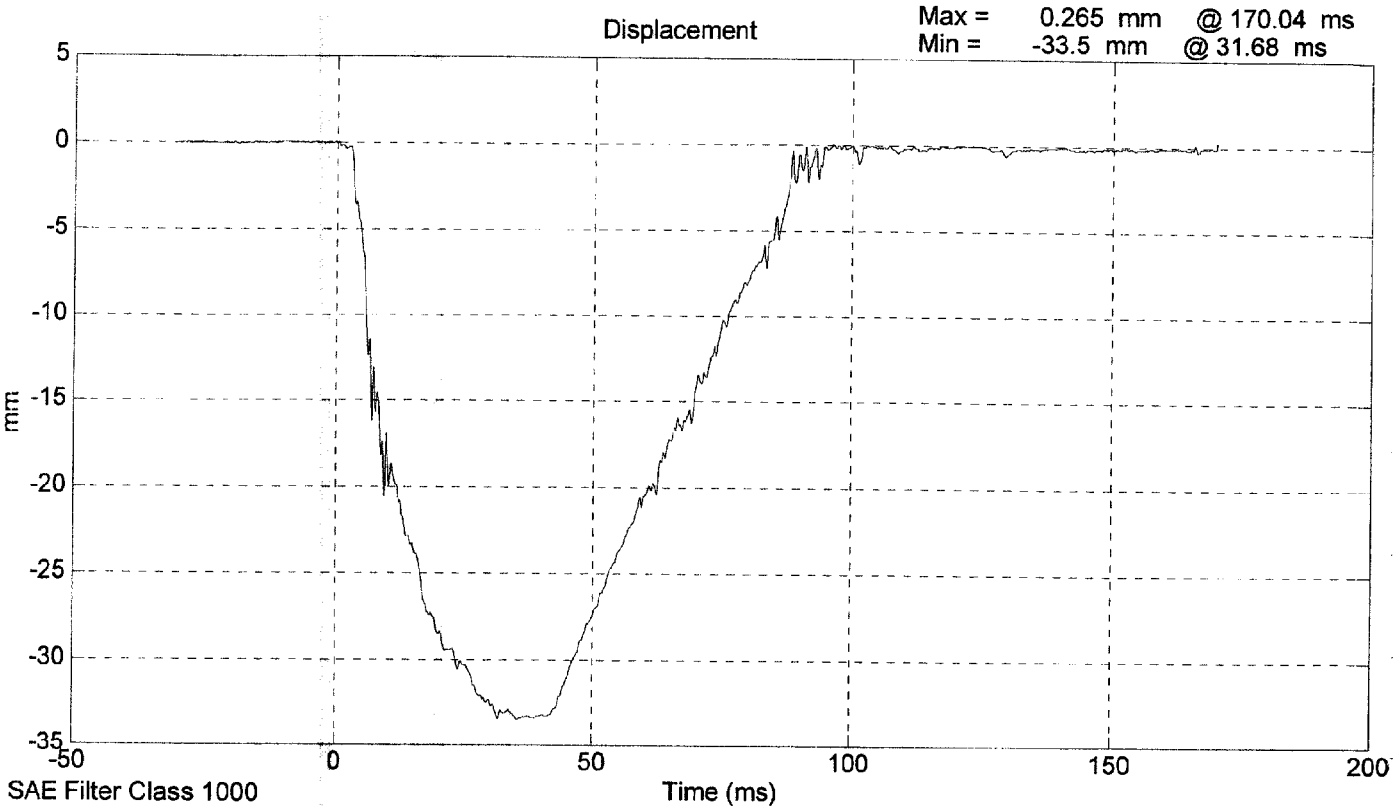
DAMPER SETTING: 5

REMARKS: None

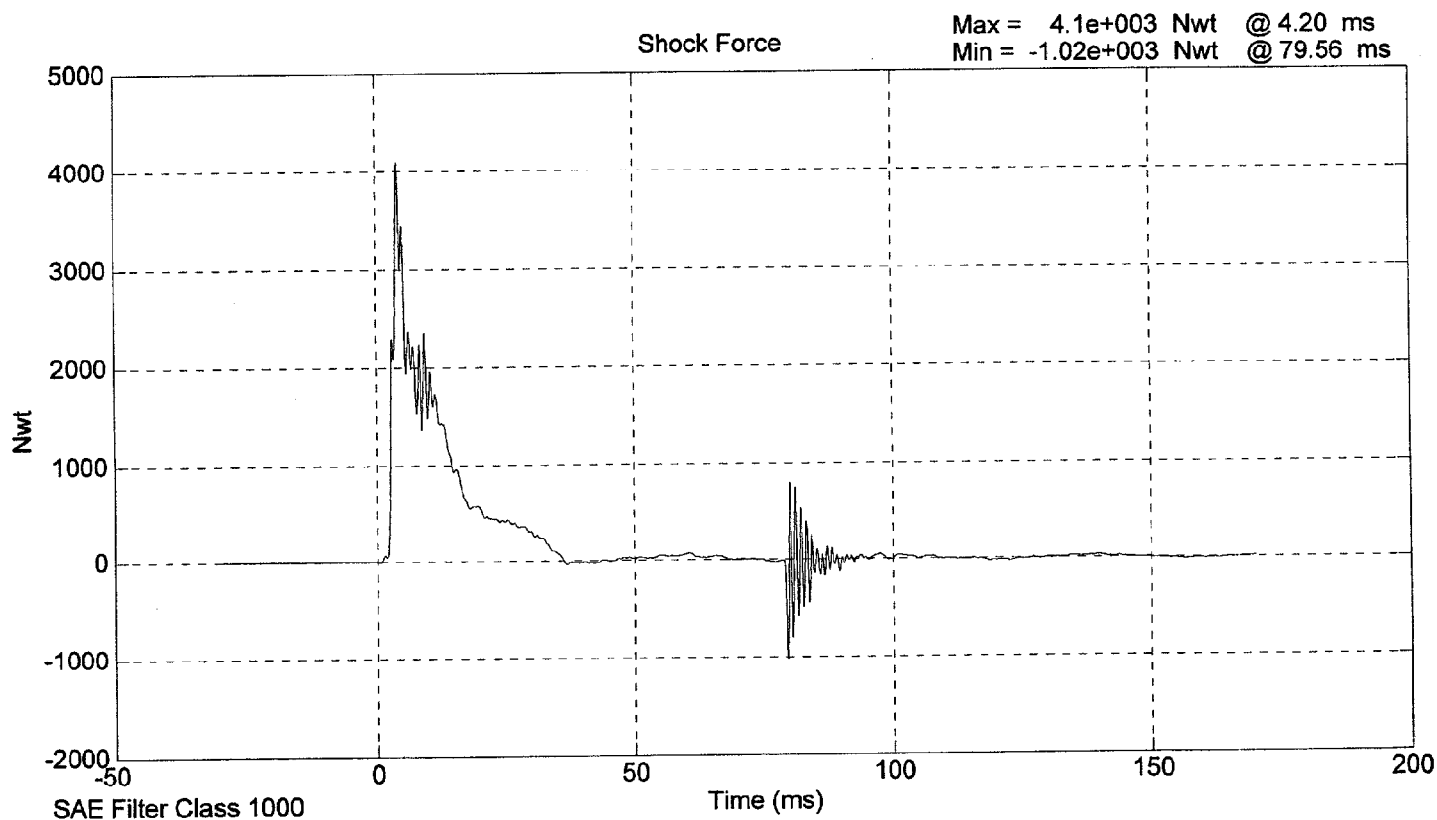
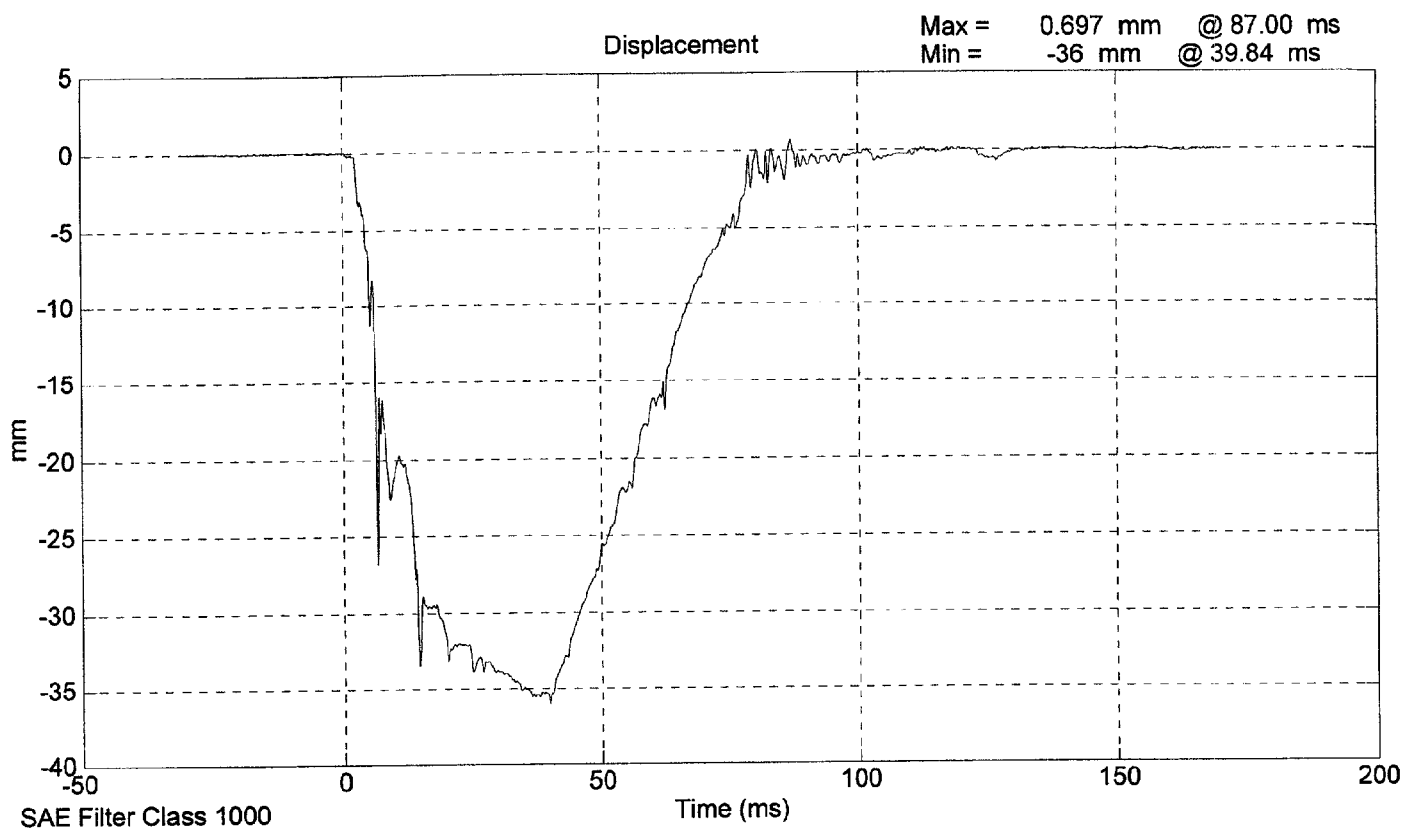
SID Shock Absorber Impact Test 268 @ 3.045 m/s



SID Shock Absorber Impact Test 268 @ 4.2642 m/s



SID Shock Absorber Impact Test 268 @ 6.1265 m/s



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268

Calspan Sequential Test Number: 1

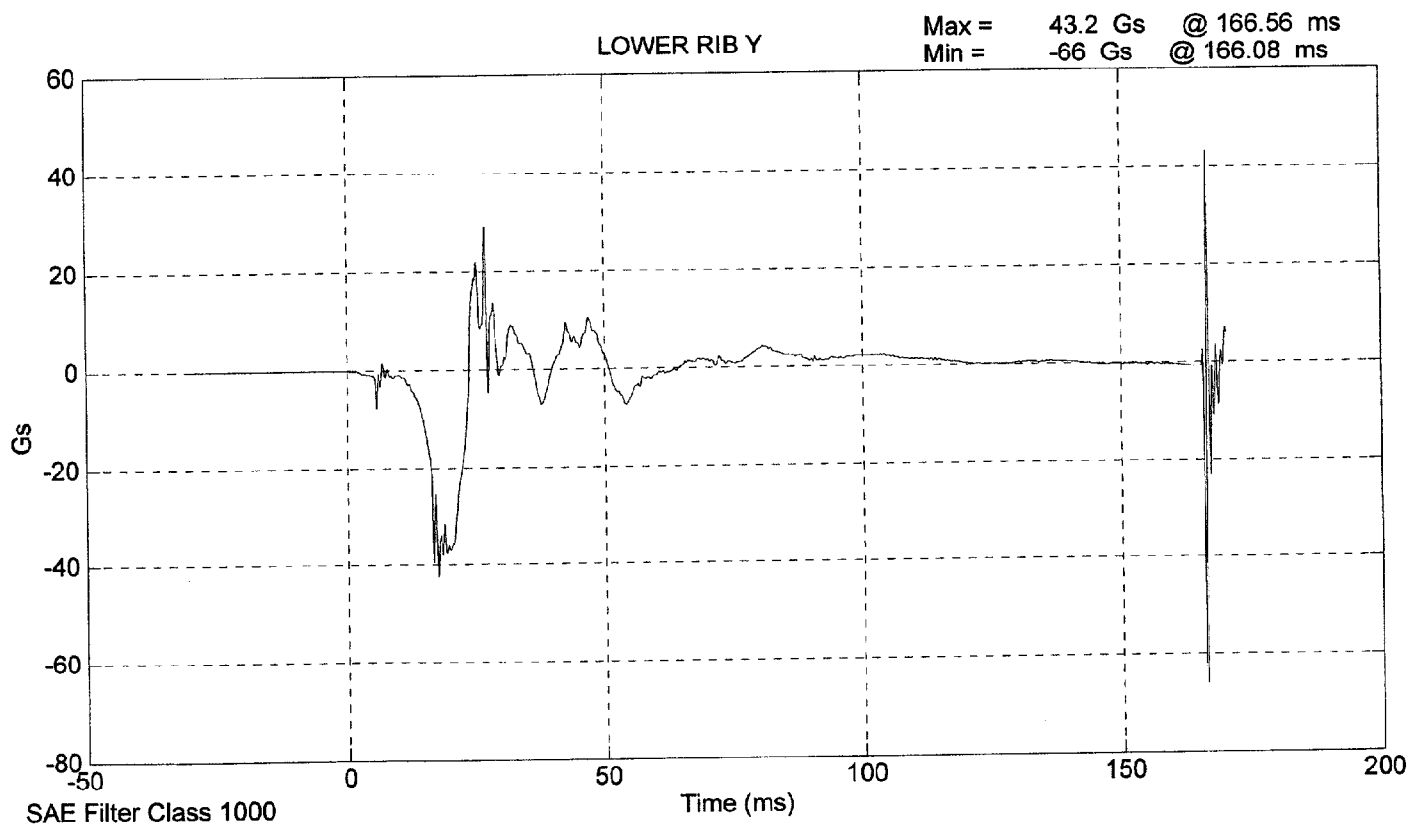
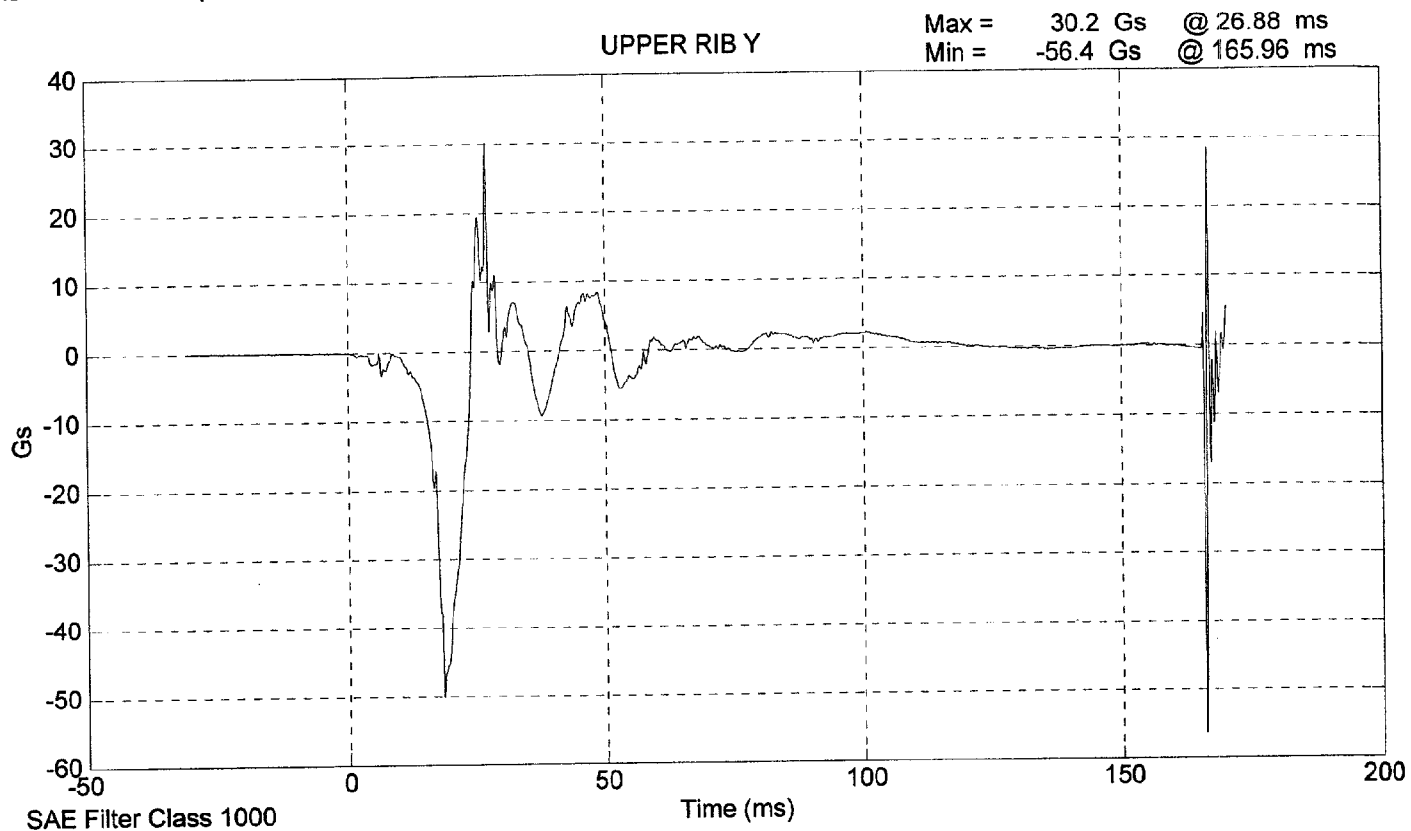
Date: 9-18-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

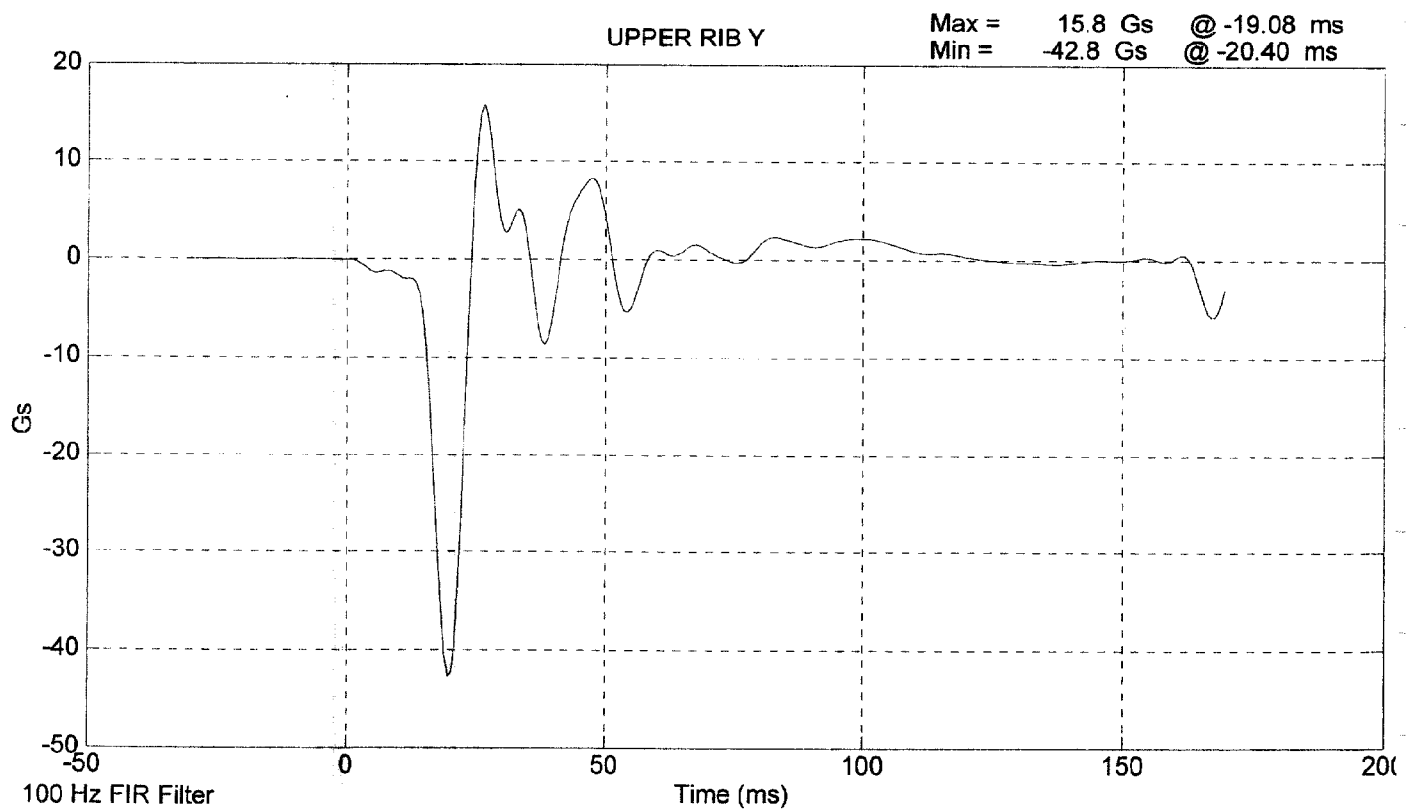
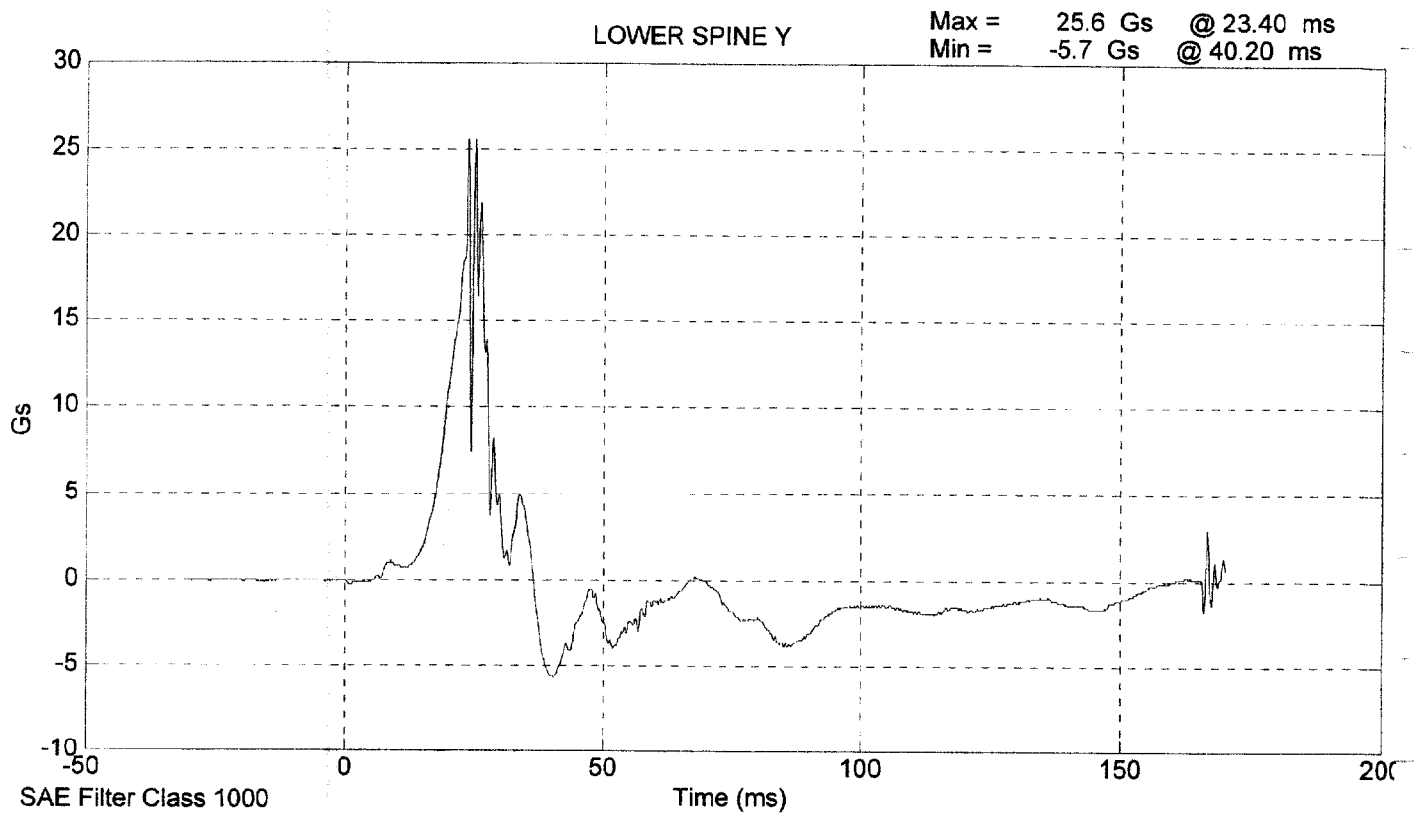
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
PROBE SPEED (m/s)	4.27 - 4.33	4.29
UPPER RIB (g's)	37 - 46	42.8
LOWER RIB (g's)	37 - 46	39.2
LOWER SPINE (g's)	15 - 22	19.7

REMARKS: None

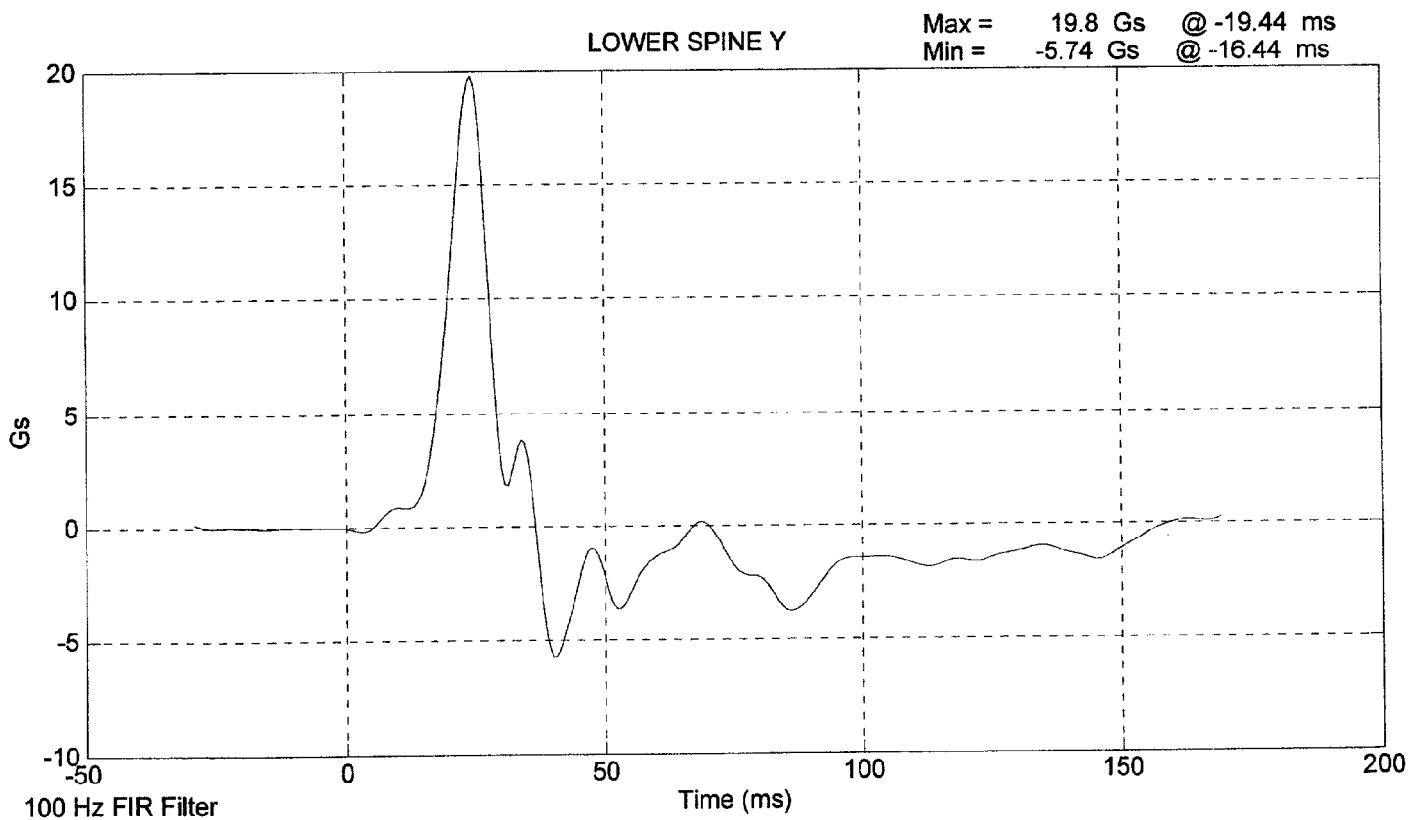
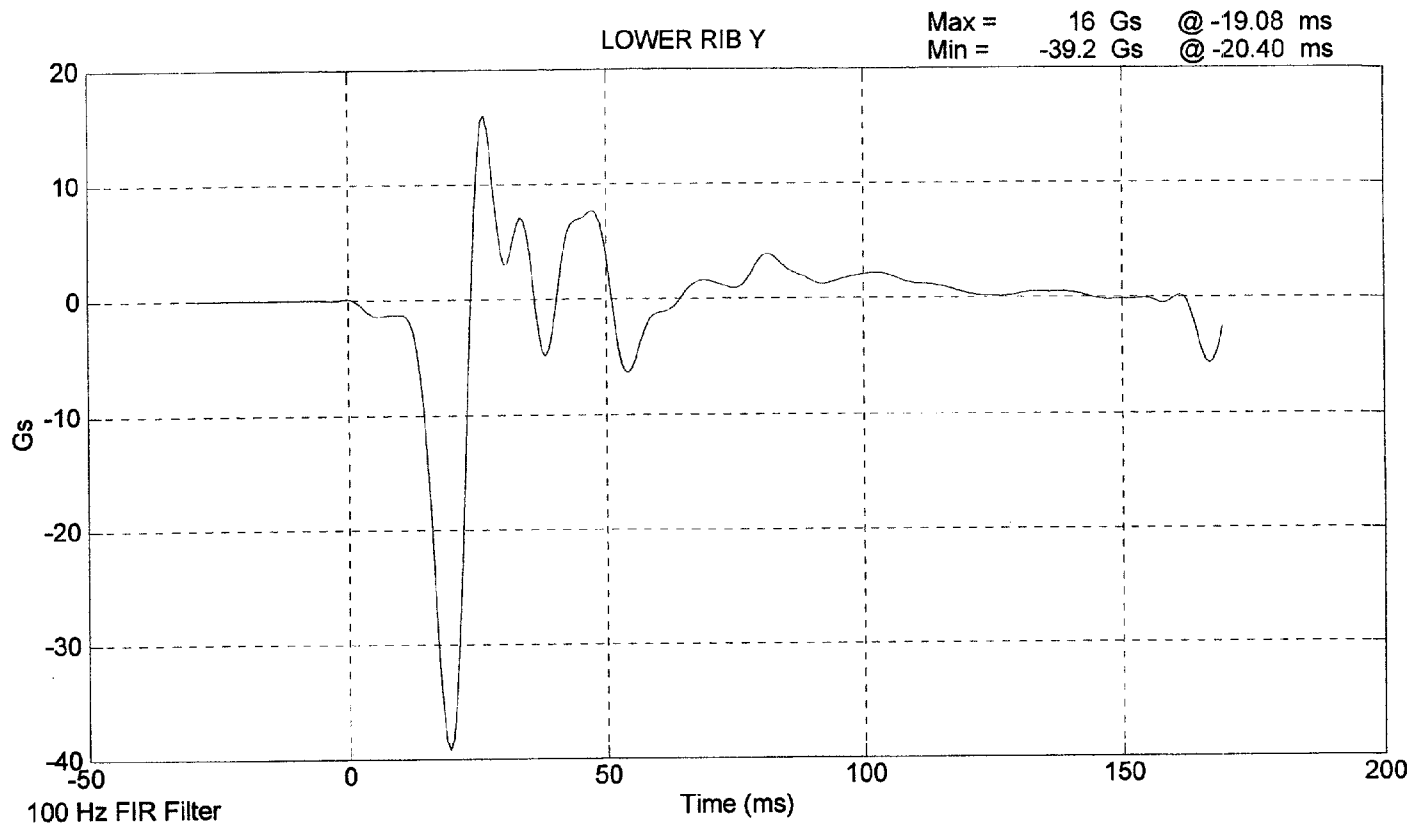
SID 268 Thorax Impact Test @ 4.2946 m/s



SID 268 Thorax Impact Test @ 4.2946 m/s



SID 268 Thorax Impact Test @ 4.2946 m/s



**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

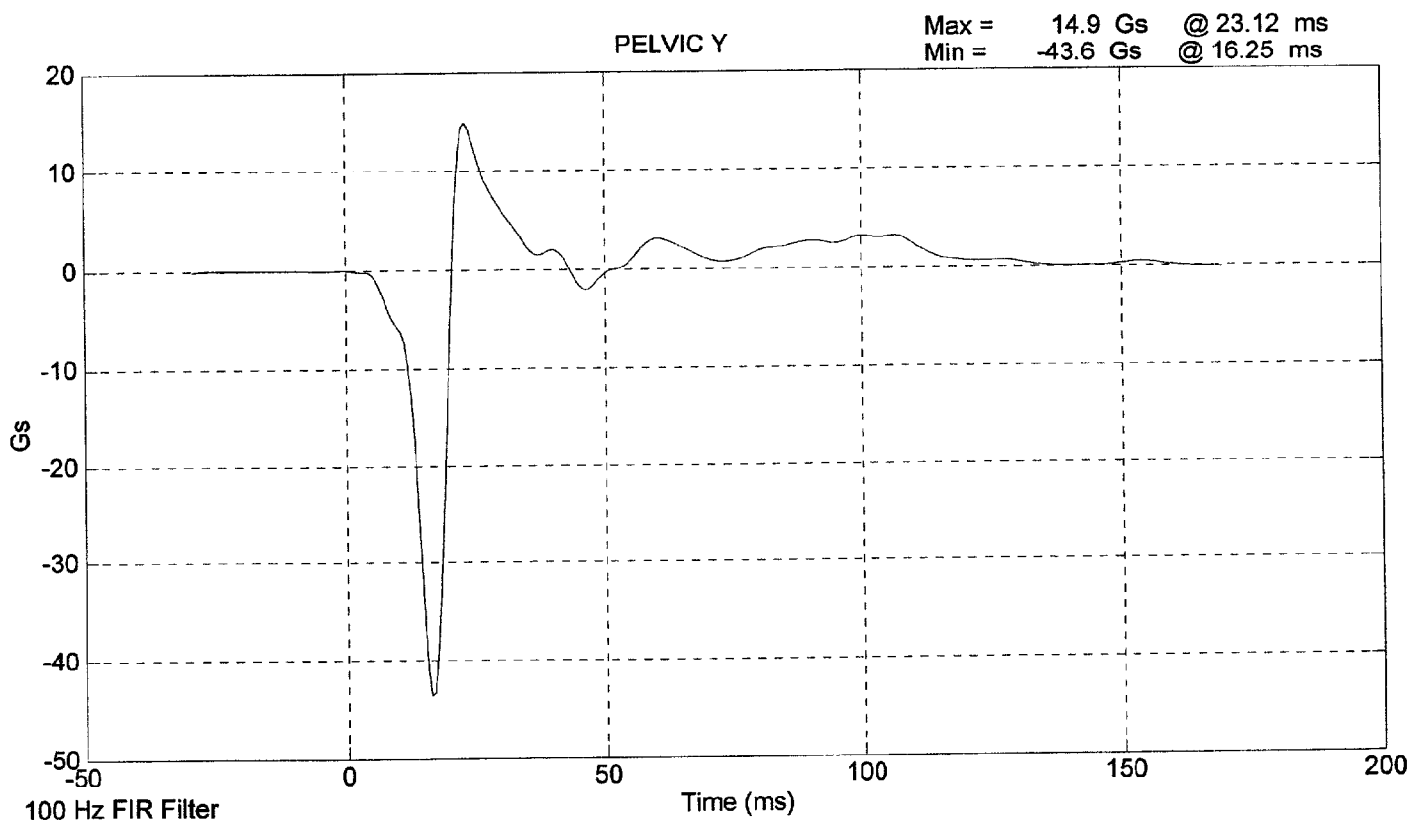
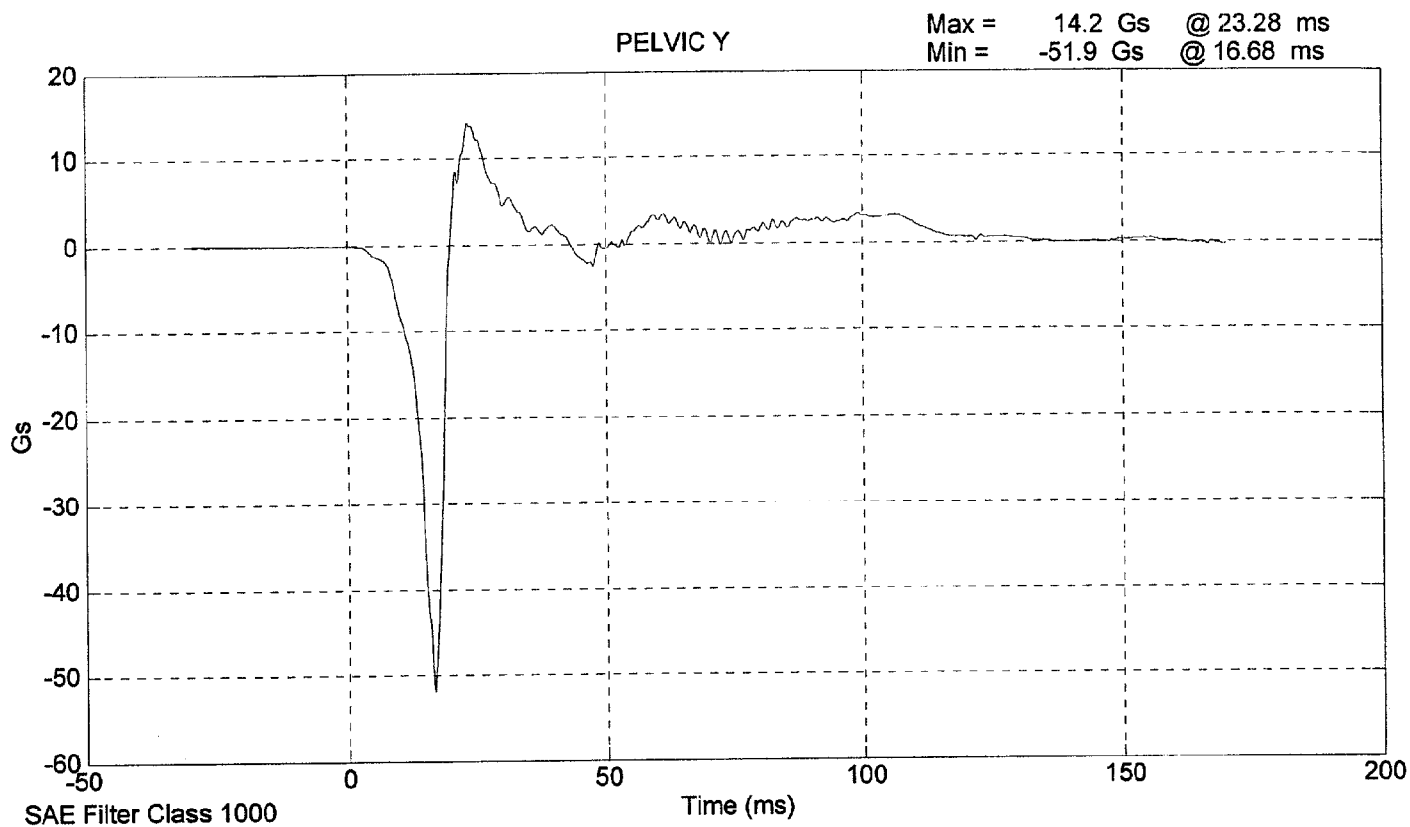
SID Serial No.: 268
Date: 9-21-98

Calspan Sequential Test Number: 1
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
PROBE SPEED (m/s)	4.27 - 4.33	4.27
PELVIS ACCELERATION (g's)	40 - 60	43.6

REMARKS: None

SID 268 Pelvic Impact Test @ 4.2702 m/s



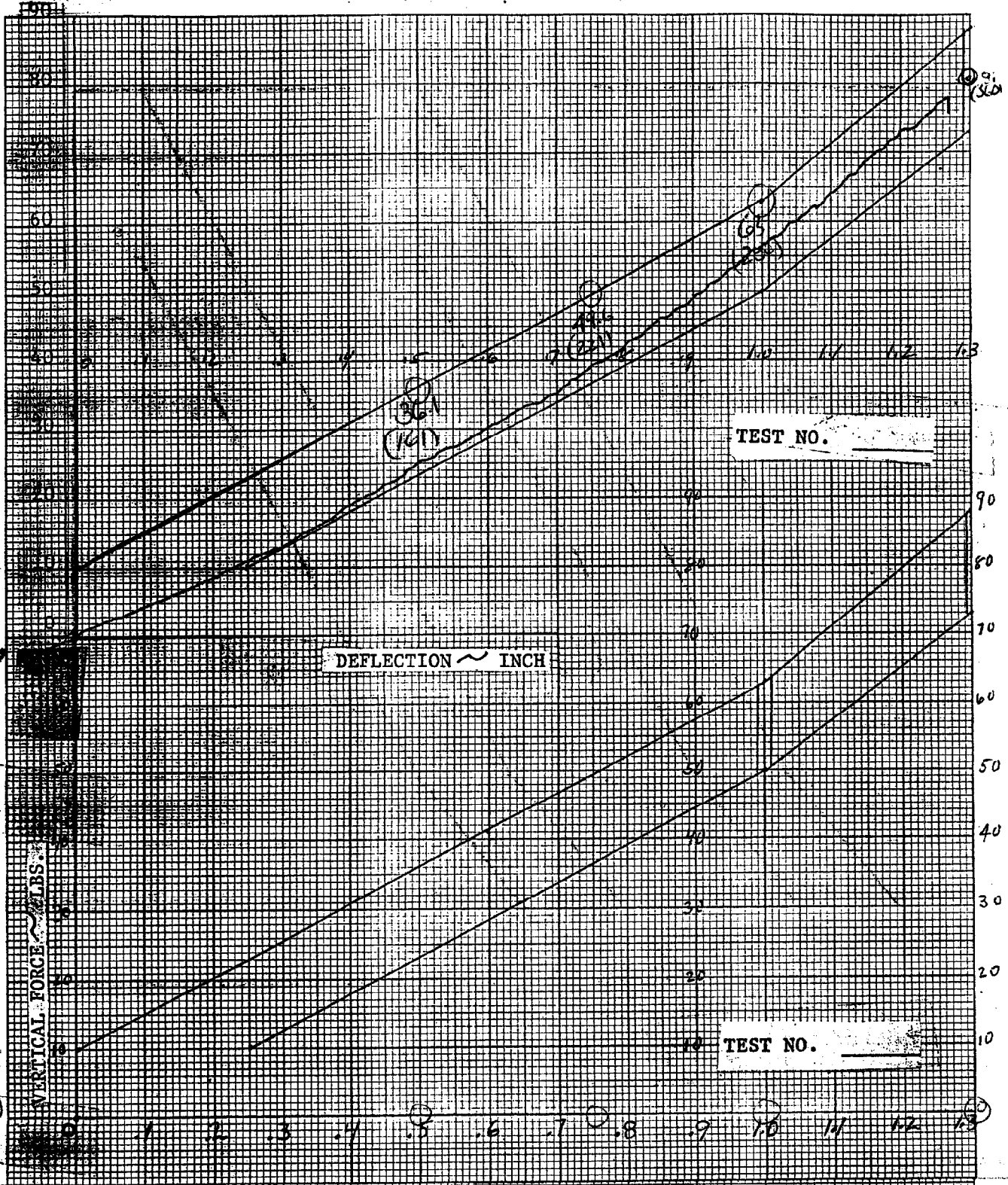
ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACTSID Serial No.: 268Calspan Sequential Test Number: 1Date: 9-15-98Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
FORCE @ 13 mm (N)	104 - 162	161
FORCE @ 19 mm (N)	163 - 221	221
FORCE @ 25 mm (N)	222 - 280	280
FORCE @ 33 mm (N)	325 - 391	360

REMARKS: None



DUMMY S/N 268

9-15-88

CONTRACT AUTHORIZATION

TEMP 70° HUMIDITY 45%

PERFORMED BY [Signature]

PART 572
ABDOMEN STATIC PRESS
DOT - 13 DEC. '77

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

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268
Date: 9-15-98

Calspan Sequential Test Number: 1
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	125
FORCE @ 30° (N)	151.2 - 204.6	185
FORCE @ 40° (N)	204.6 - 258	249
RETURN ANGLE	12° max.	10

REMARKS: None

LUMBAR SPINE FLEXION TEST

DUMMY S/N 248 TEST NO. 1

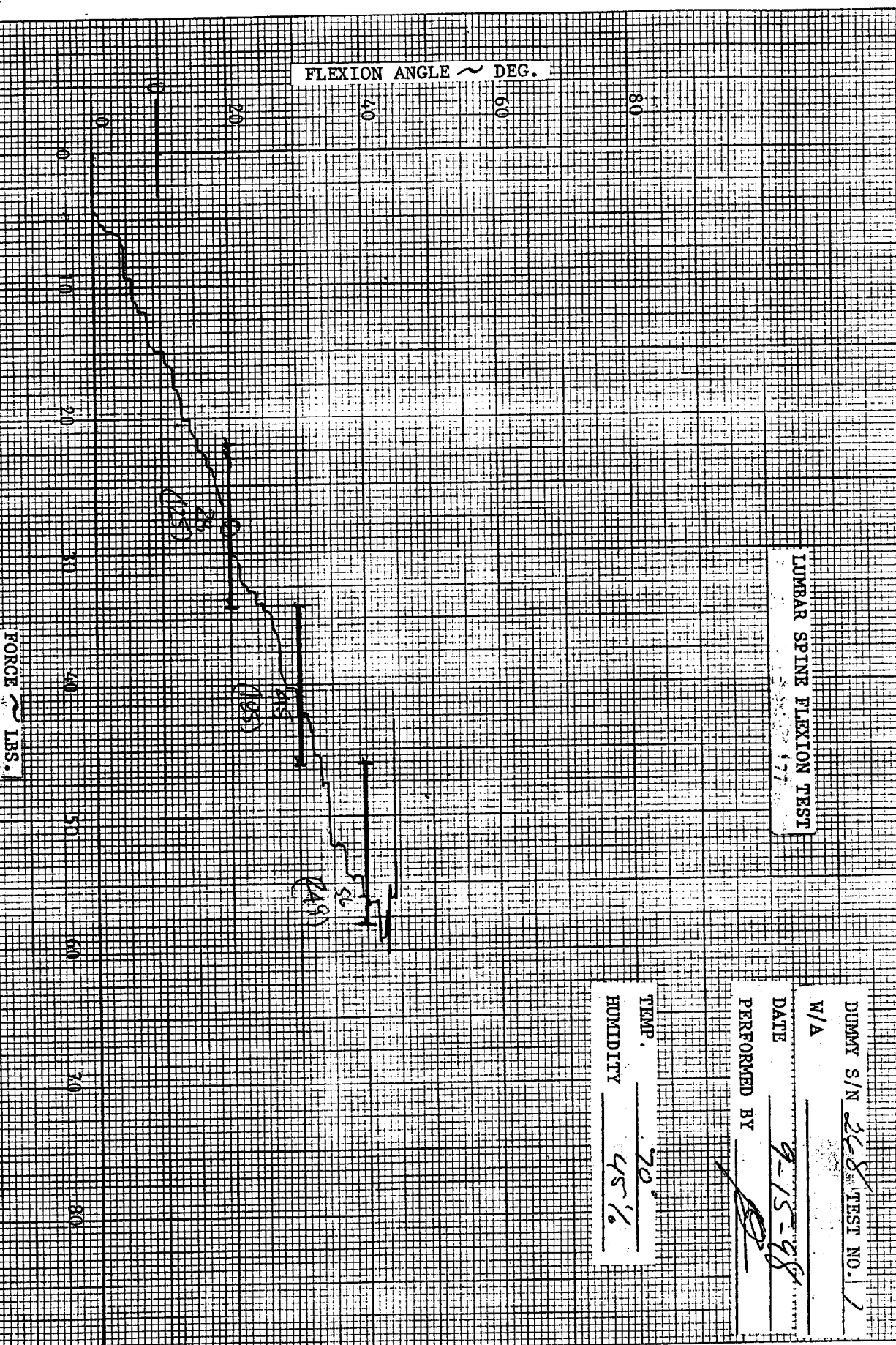
W/A _____

DATE 9-15-98

PERFORMED BY [Signature]

TEMP. 70°

HUMIDITY 45%



PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268
Date: 9-21-98

Calspan Sequential Test Number: 1
Laboratory Technician: B. Swiecicki, G. Serbinowski

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

REMARKS: None

CALIBRATION TEST RESULTS
PRE-TEST

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

CALIBRATION TEST RESULTS SUMMARY
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Calspan Sequential Test Number: 1
Date: 9-18-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

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.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027
Date: 9-18-98

Calspan Sequential Test Number: 1
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	909
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	235
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	366

REMARKS: None

THORACIC SHOCK ABSORBER TESTS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

Calspan Sequential Test Number: 1

Date: 9-18-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

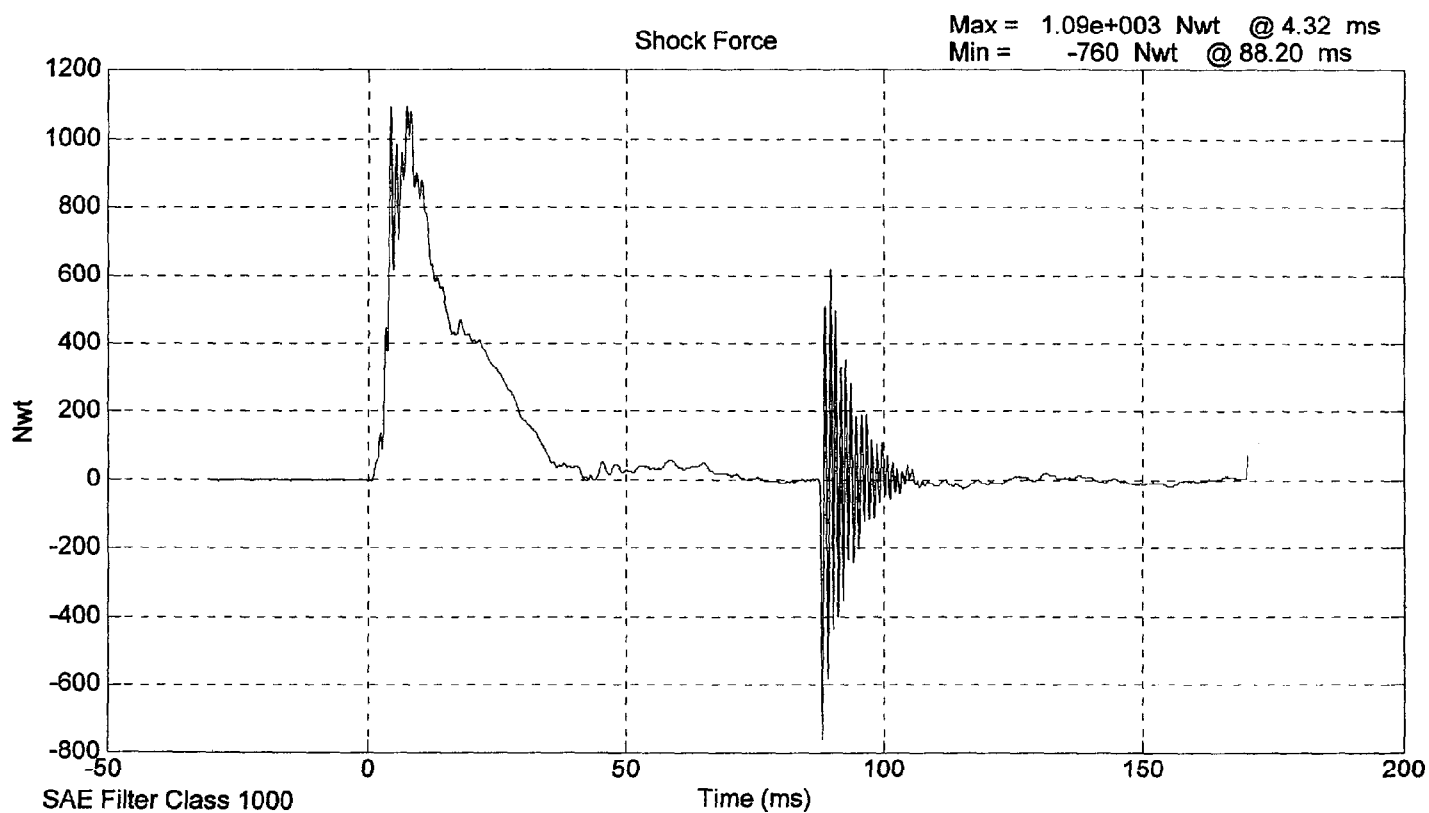
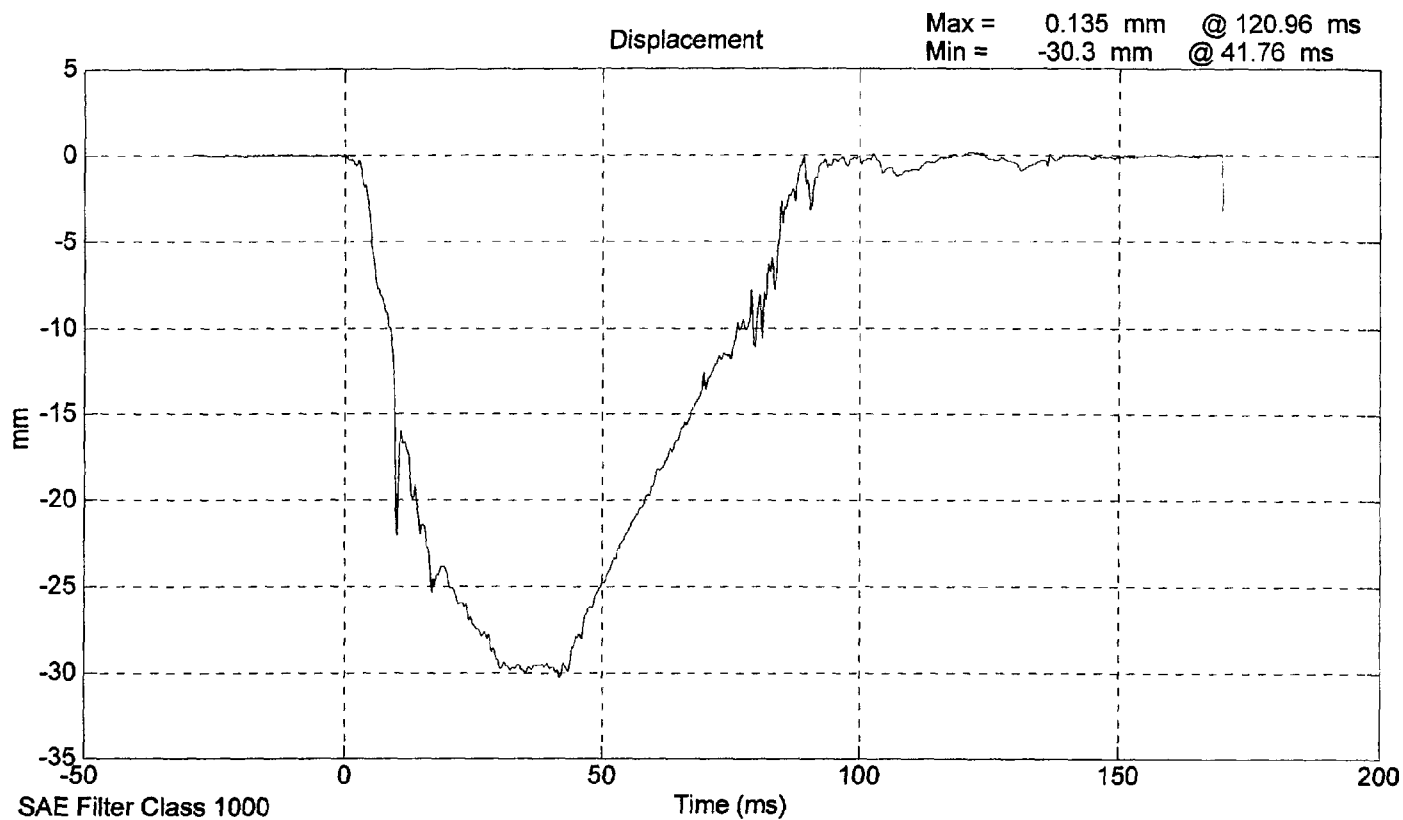
DAMPER IDENTIFICATION: 027

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	45
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1094
	DISPLACEMENT (mm)	30 - 35	30
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1777
	DISPLACEMENT (mm)	32 - 37	32
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3801
	DISPLACEMENT (mm)	33 - 40	36

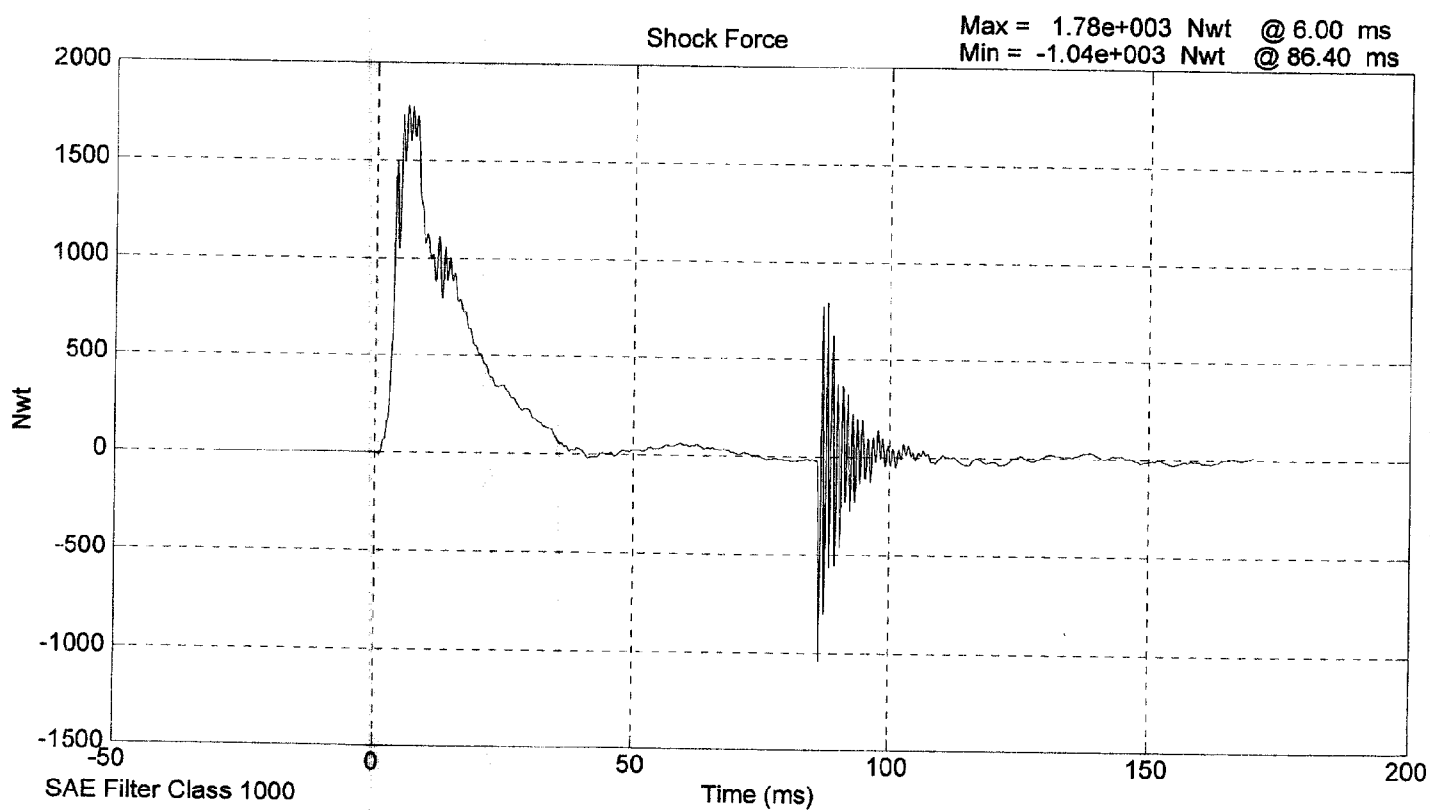
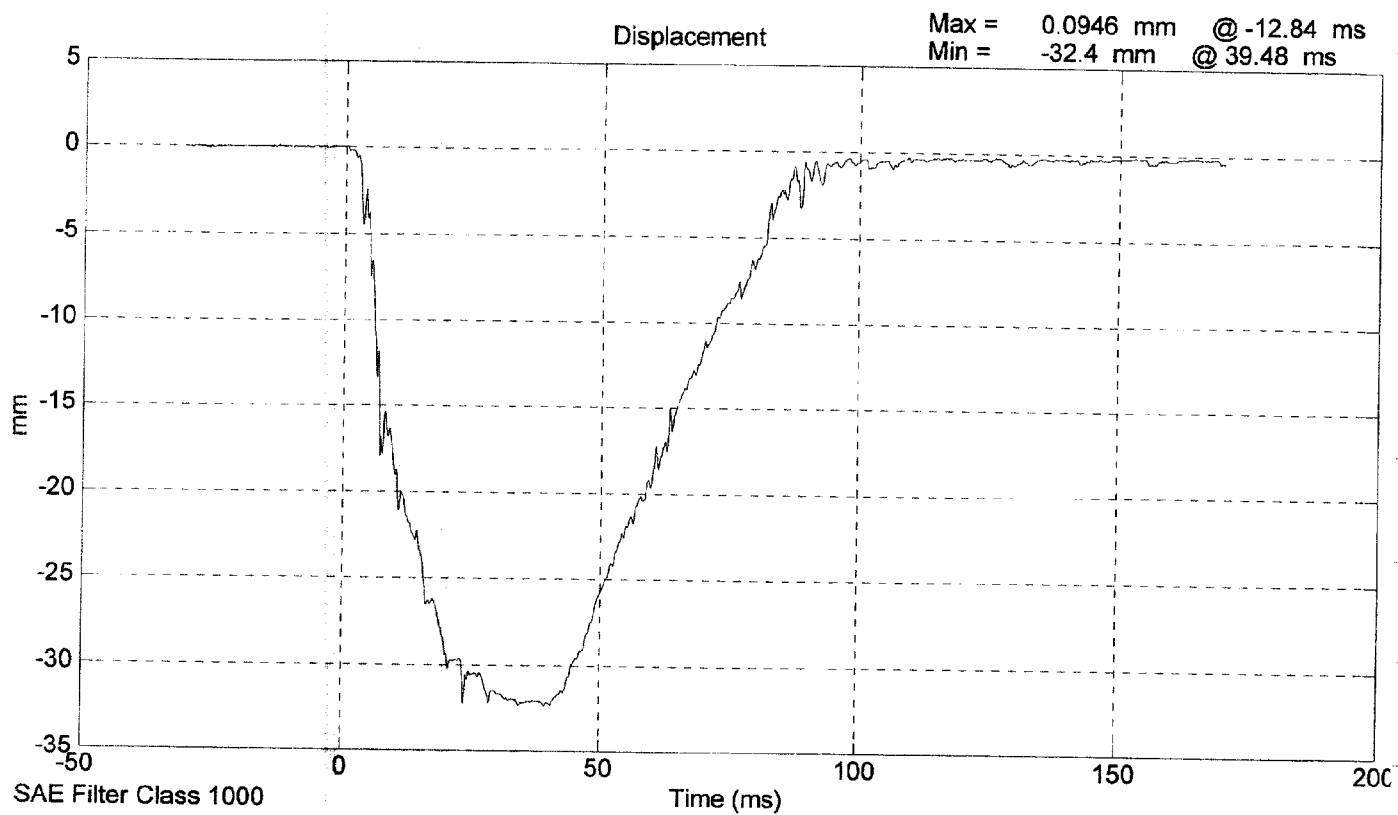
DAMPER SETTING: 5

REMARKS: None

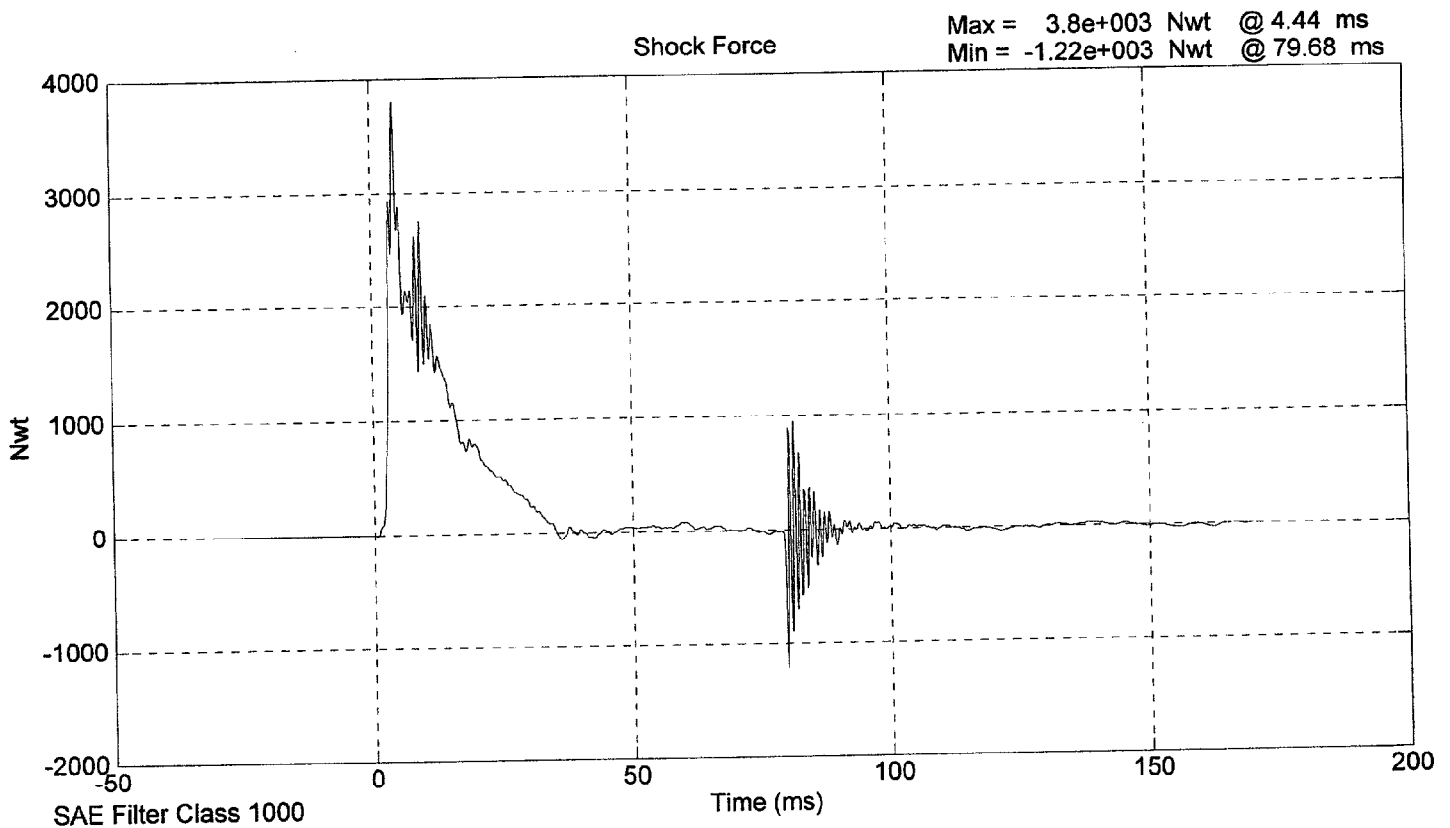
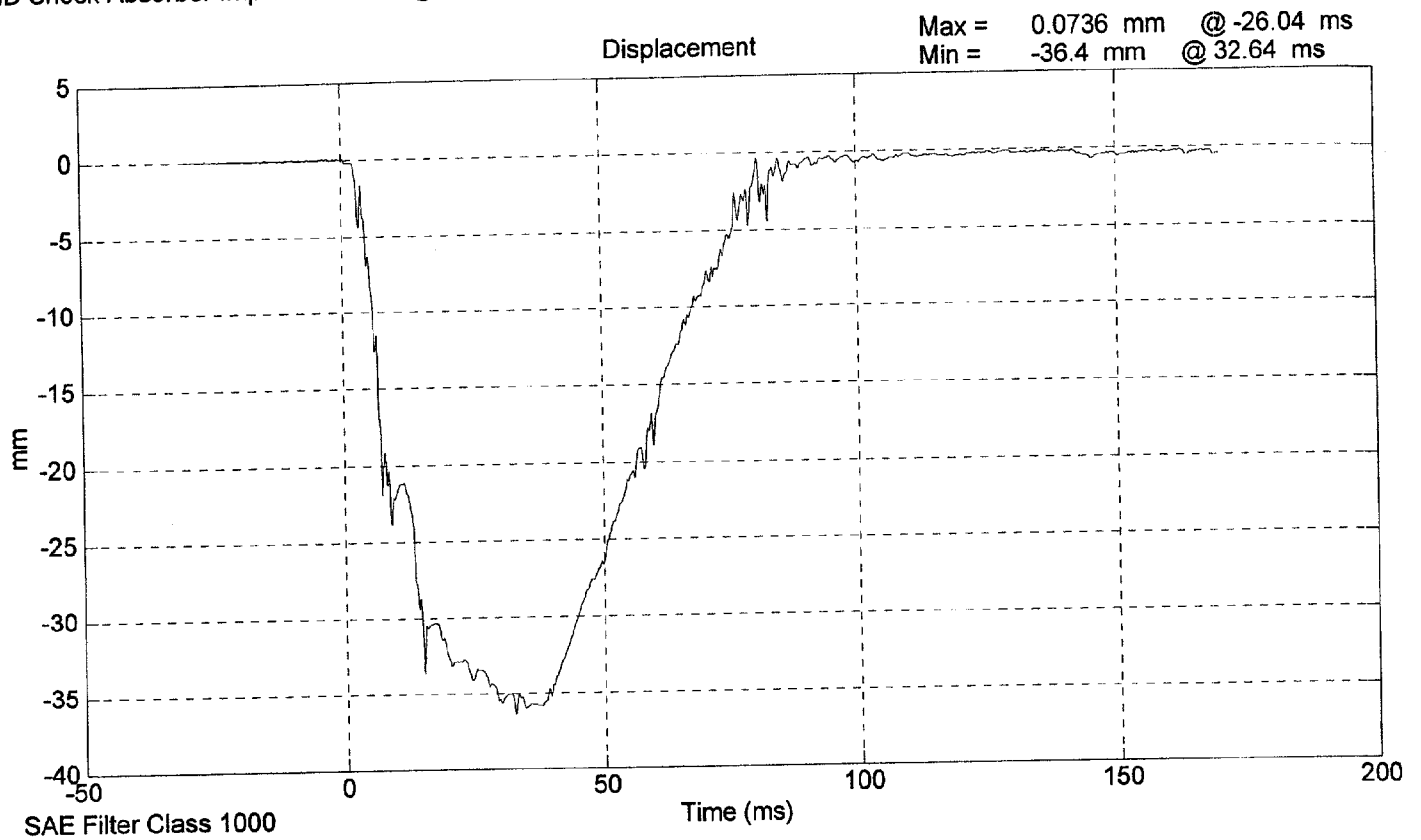
SID Shock Absorber Impact Test 027 @ 3.0358 m/s



SID Shock Absorber Impact Test 027 @ 4.252 m/s



SID Shock Absorber Impact Test 027 @ 6.1143 m/s



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

Calspan Sequential Test Number: 1

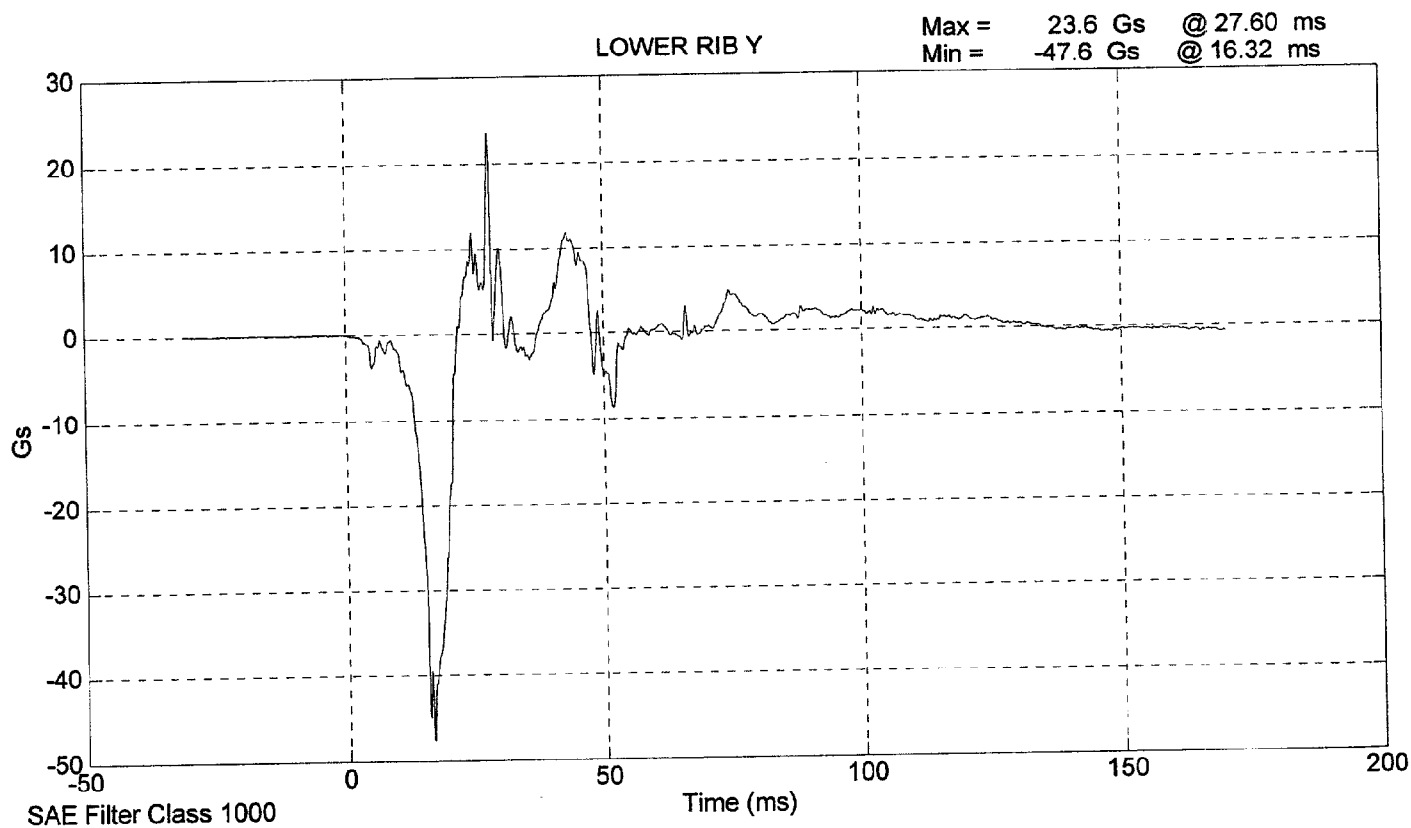
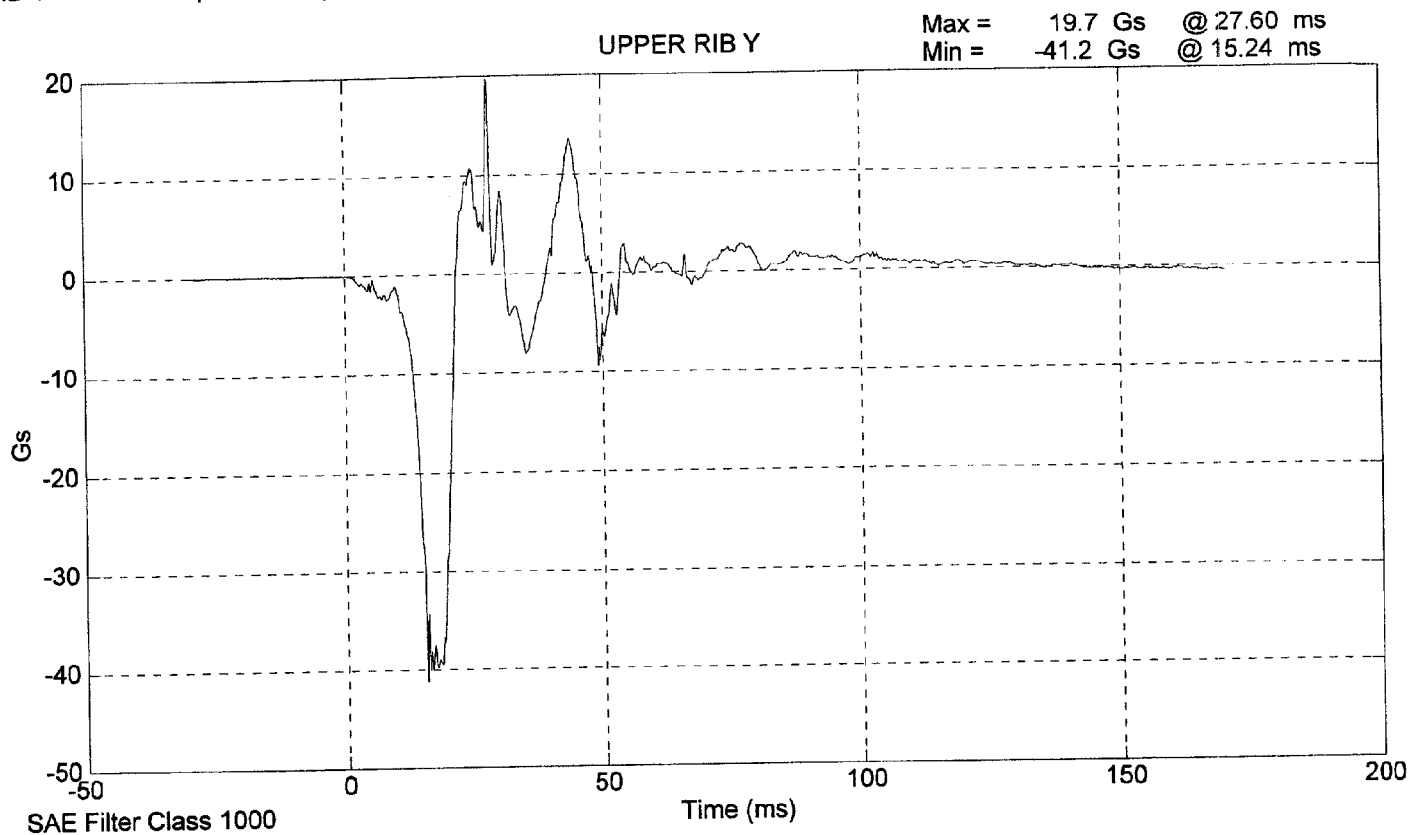
Date: 9-18-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

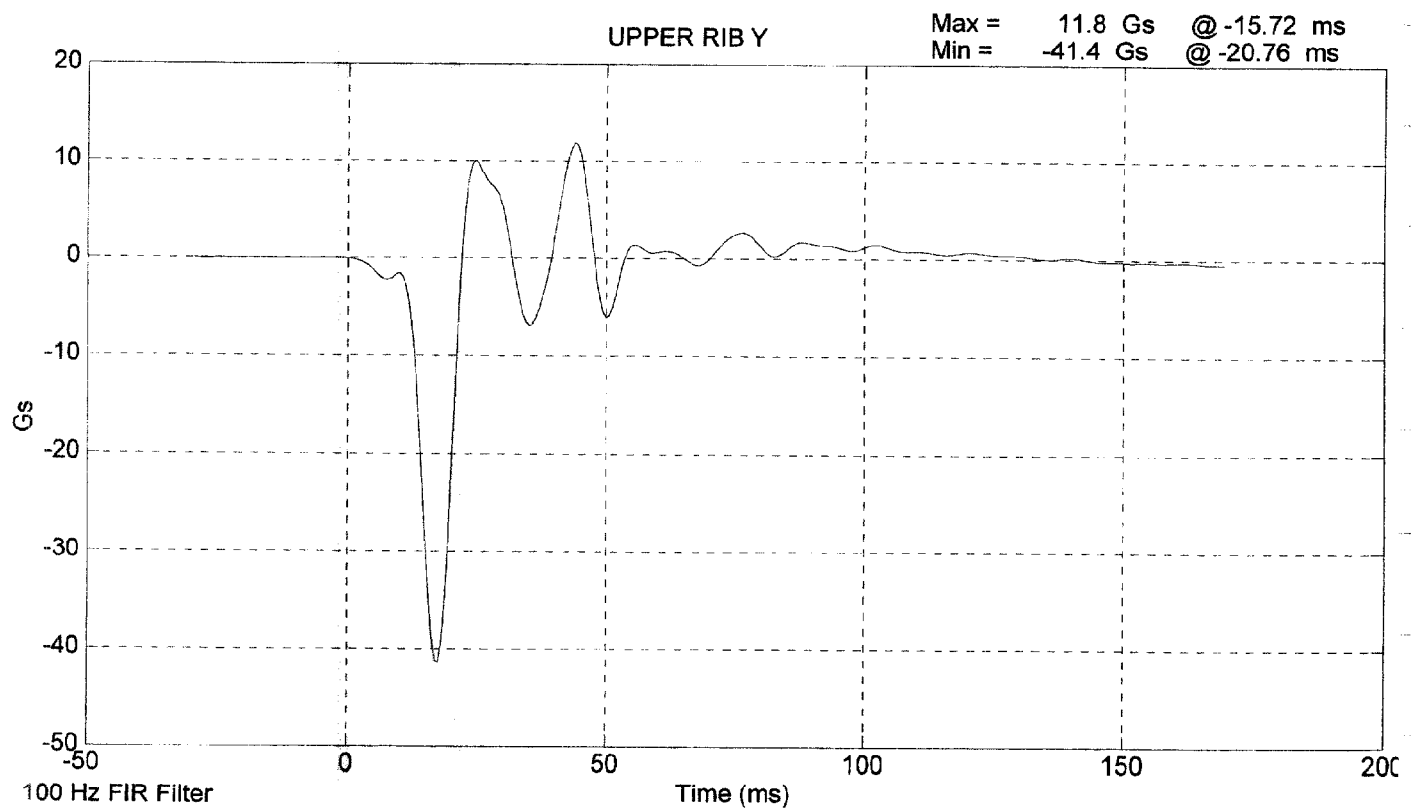
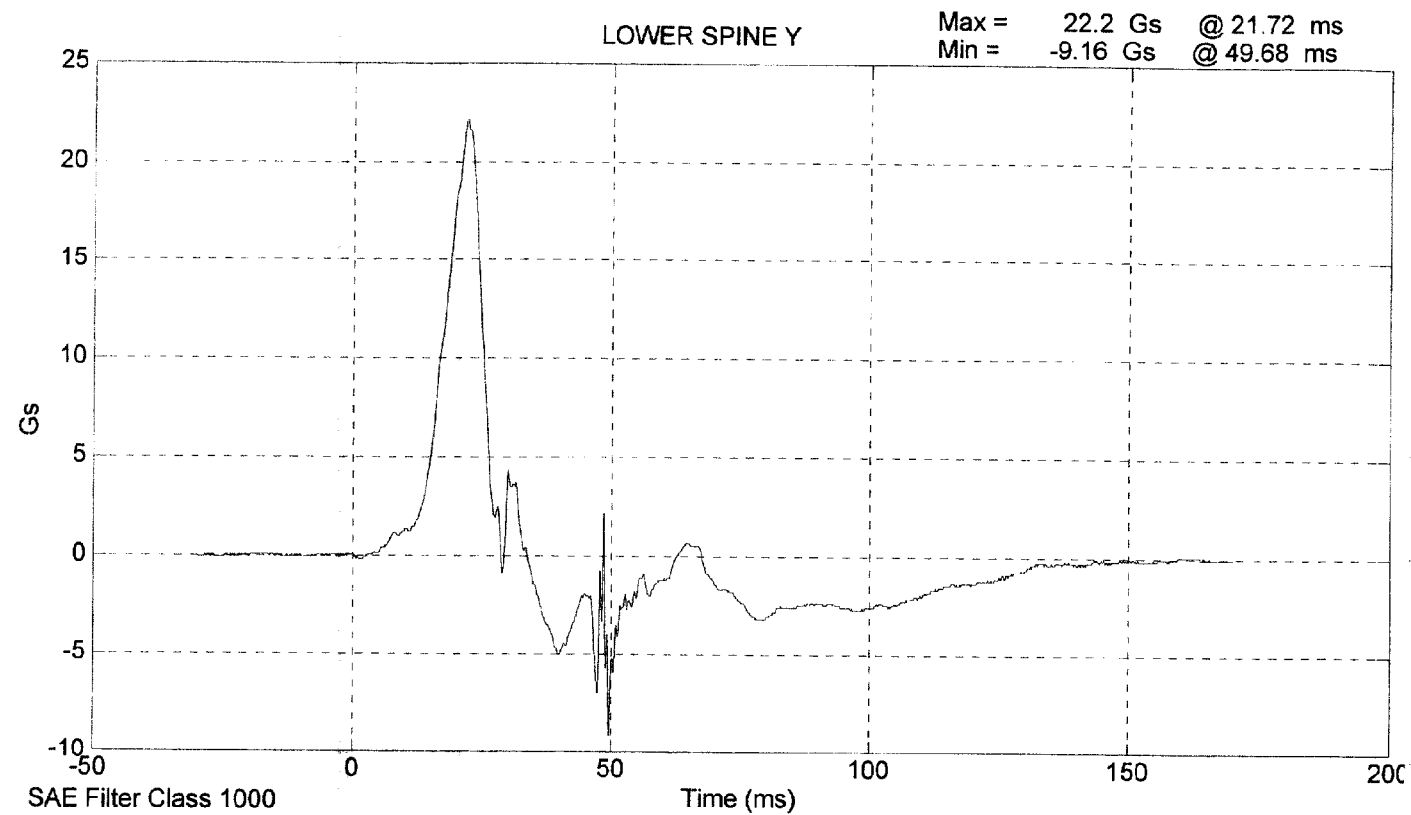
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	41.4
LOWER RIB (g's)	37 - 46	40.8
LOWER SPINE (g's)	15 - 22	21.4

REMARKS: None

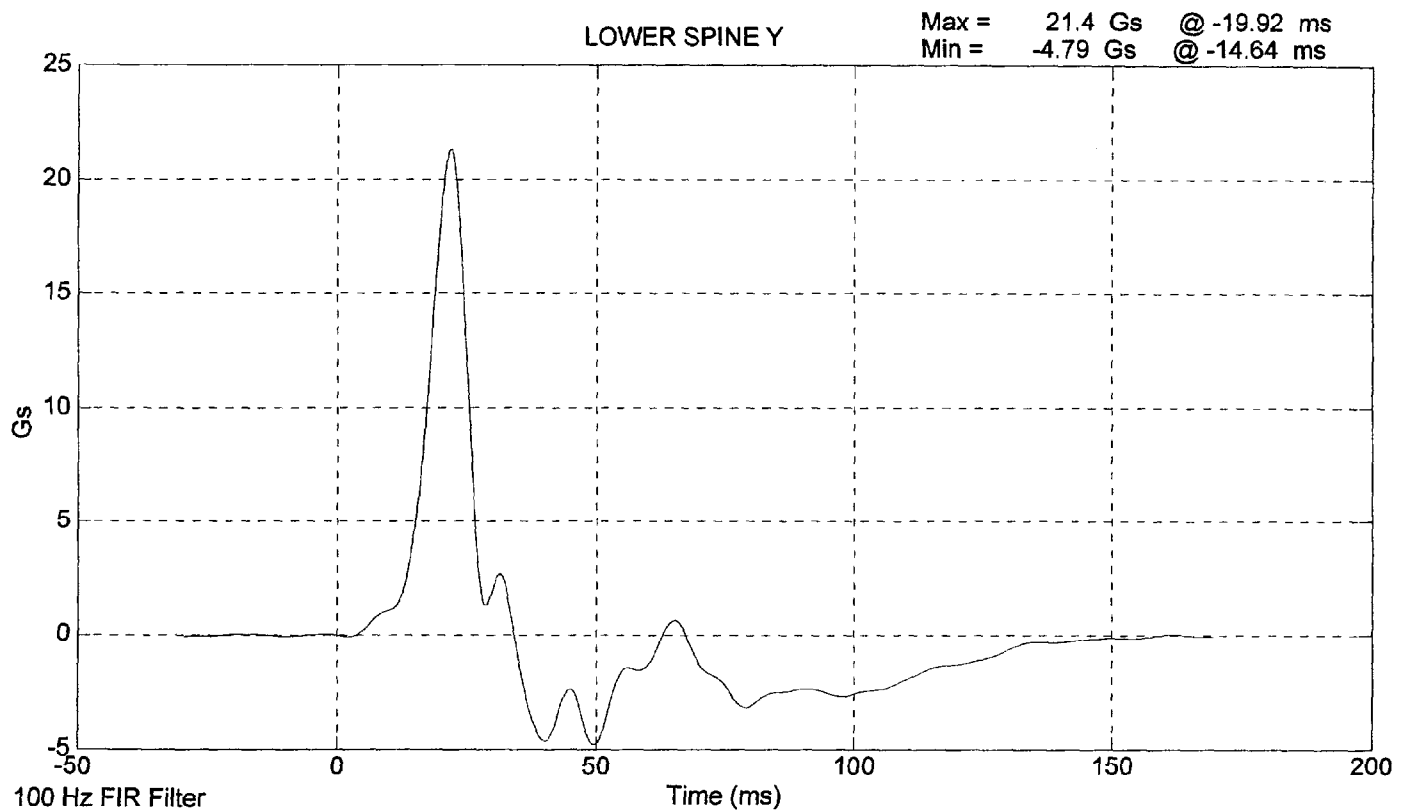
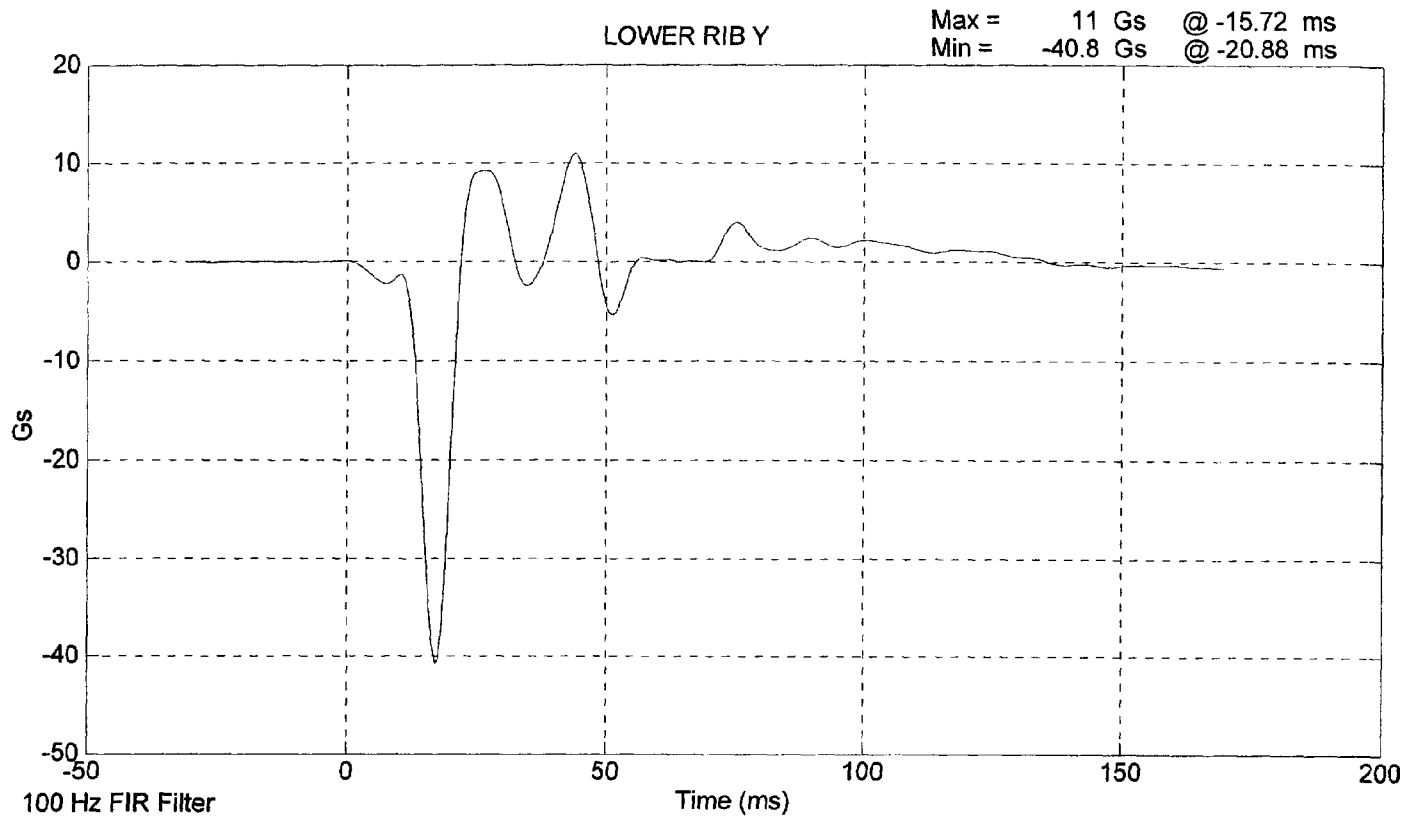
SID 027 Thorax Impact Test @ 4.2672 m/s



SID 027 Thorax Impact Test @ 4.2672 m/s



SID 027 Thorax Impact Test @ 4.2672 m/s



**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

Calspan Sequential Test Number: 1

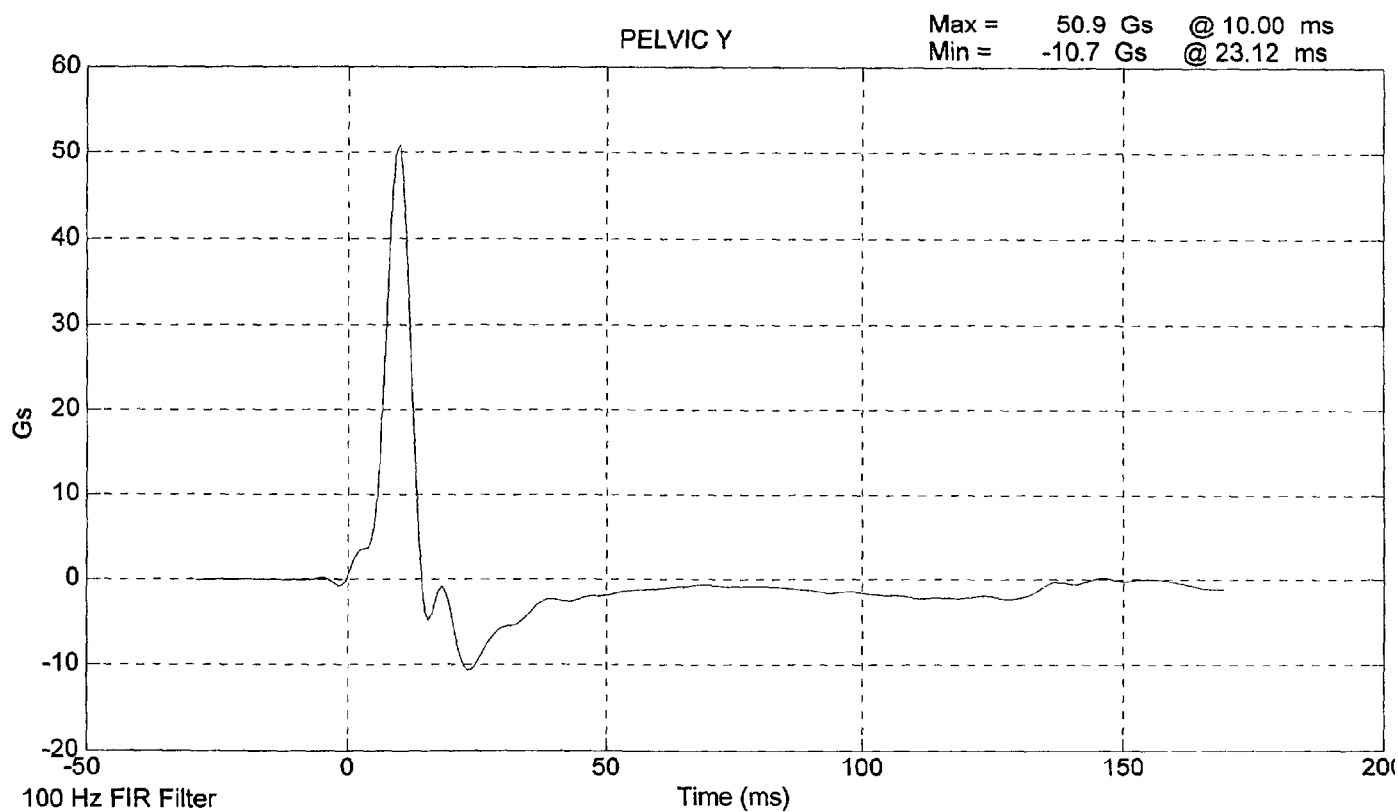
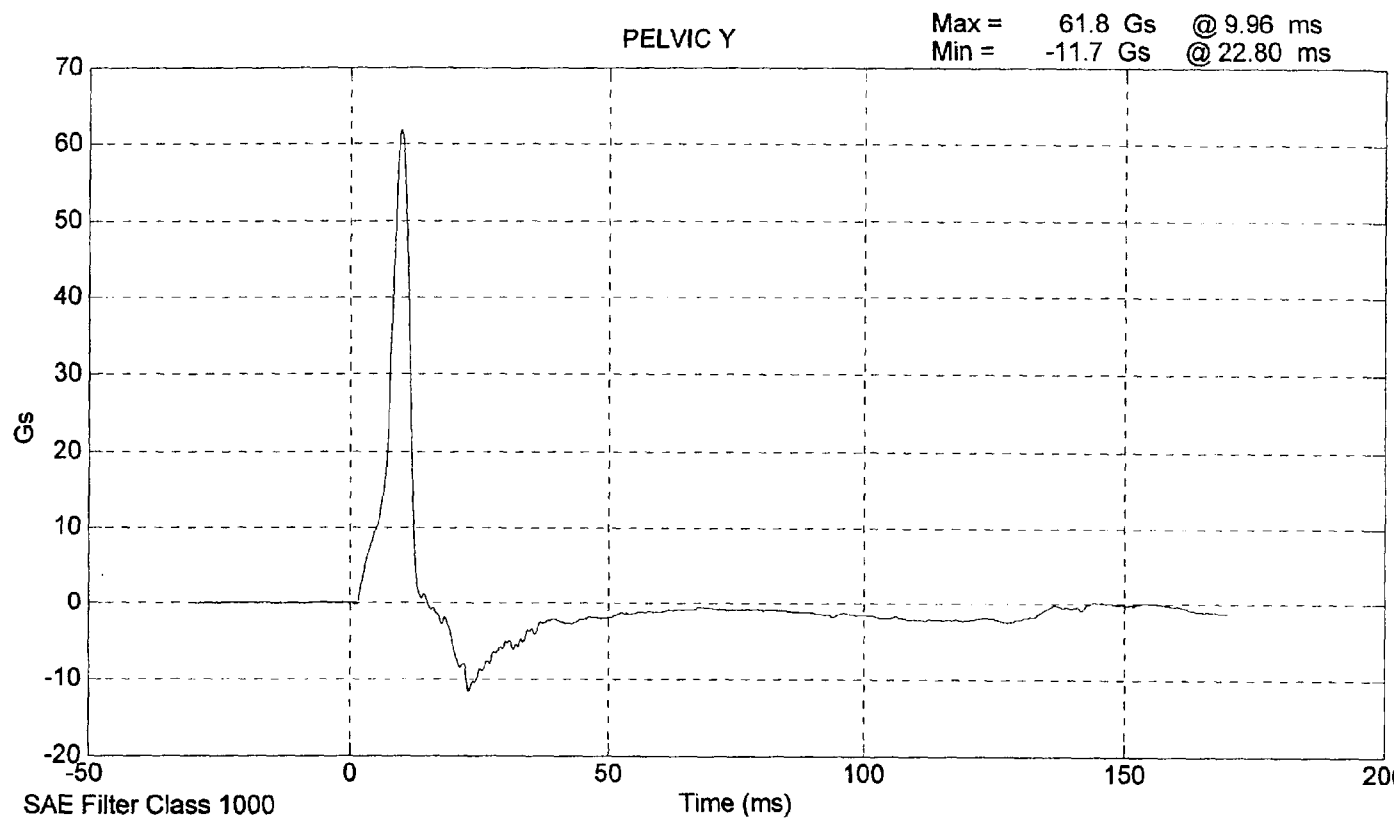
Date: 9-18-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
PROBE SPEED (m/s)	4.27 - 4.33	4.30
PELVIS ACCELERATION (g's)	40 - 60	50.9

REMARKS: None

SID 027 Pelvic Impact Test @ 4.3007 m/s



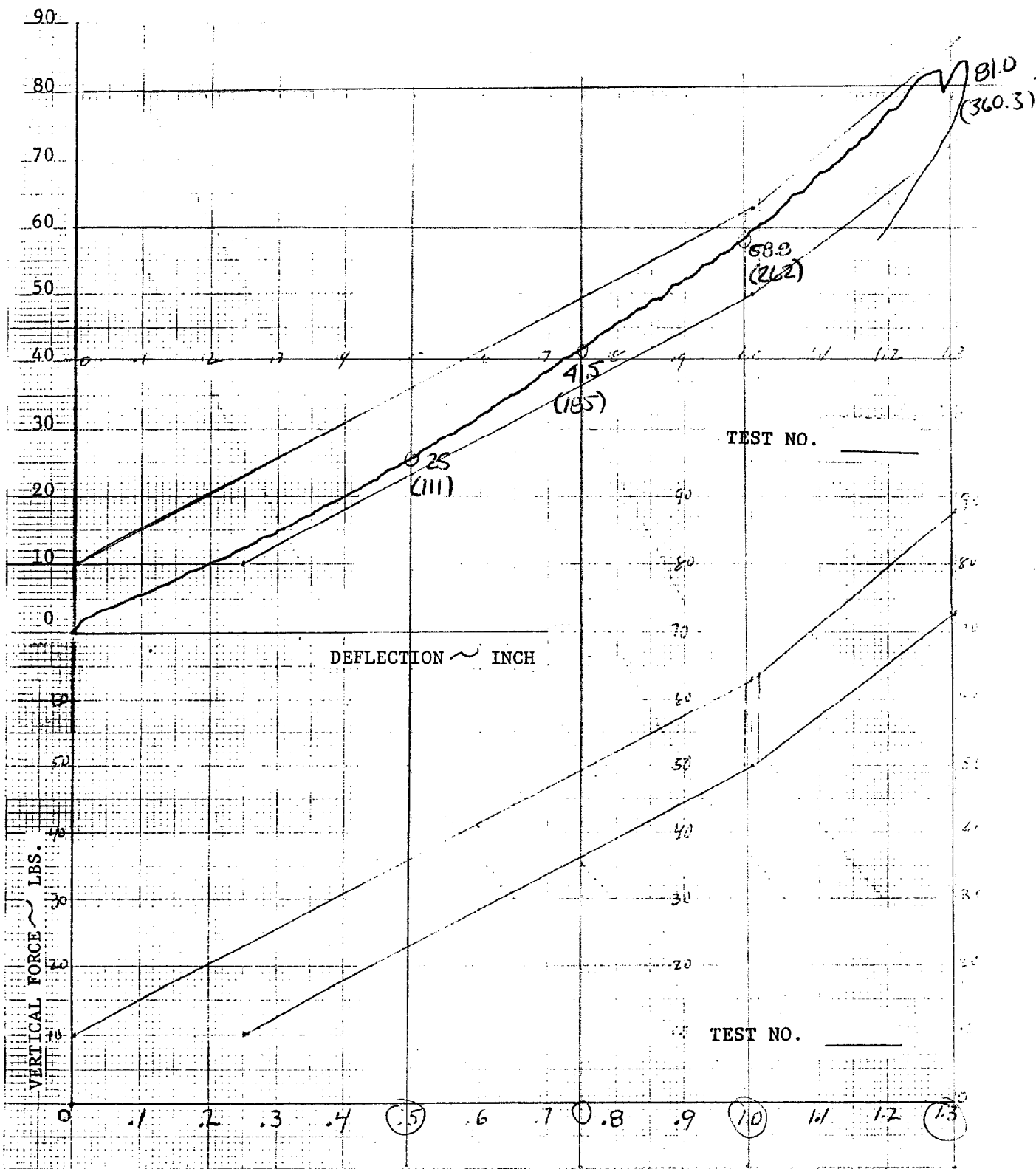
ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACTSID Serial No.: 027Calspan Sequential Test Number: 1Date: 9-15-98Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
FORCE @ 13 mm (N)	104 - 162	111
FORCE @ 19 mm (N)	163 - 221	185
FORCE @ 25 mm (N)	222 - 280	262
FORCE @ 33 mm (N)	325 - 391	360

REMARKS: None



DUMMY S/N 027

DATE 9-15-98

CONTRACT AUTHORIZATION _____

TEMP. 70 HUMIDITY 45%

PERFORMED BY [Signature]

PART 572
ABDOMEN STATIC PRESS
DOT - 13 DEC. '77

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

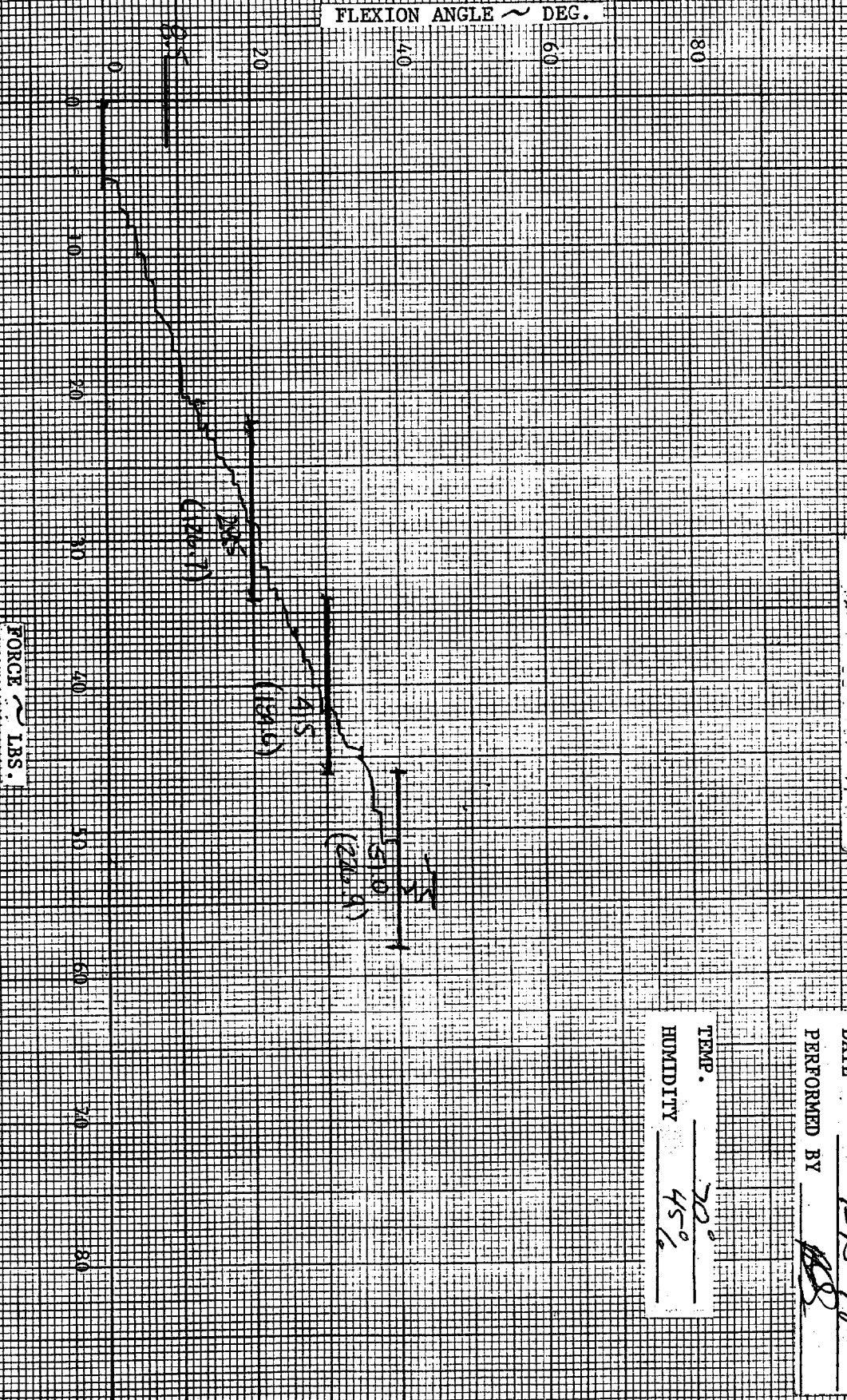
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Calspan Sequential Test Number: 1
Date: 9-15-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	45
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	127
FORCE @ 30° (N)	151.2 - 204.6	185
FORCE @ 40° (N)	204.6 - 258	227
RETURN ANGLE	12° max.	8.5

REMARKS: None

LUMBAR SPINE FLEXION TEST



DUMMY S/N 027 TEST NO. 1

W/A _____

DATE 9-15-98

PERFORMED BY ABJ

TEMP. 70°

HUMIDITY 45%

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

Calspan Sequential Test Number: 1

Date: 9-18-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

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.: 268

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268

Calspan Sequential Test Number: 2

Date: 9-25-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT 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.: 268 Calspan Sequential Test Number: 2
Date: 9-24-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	232
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

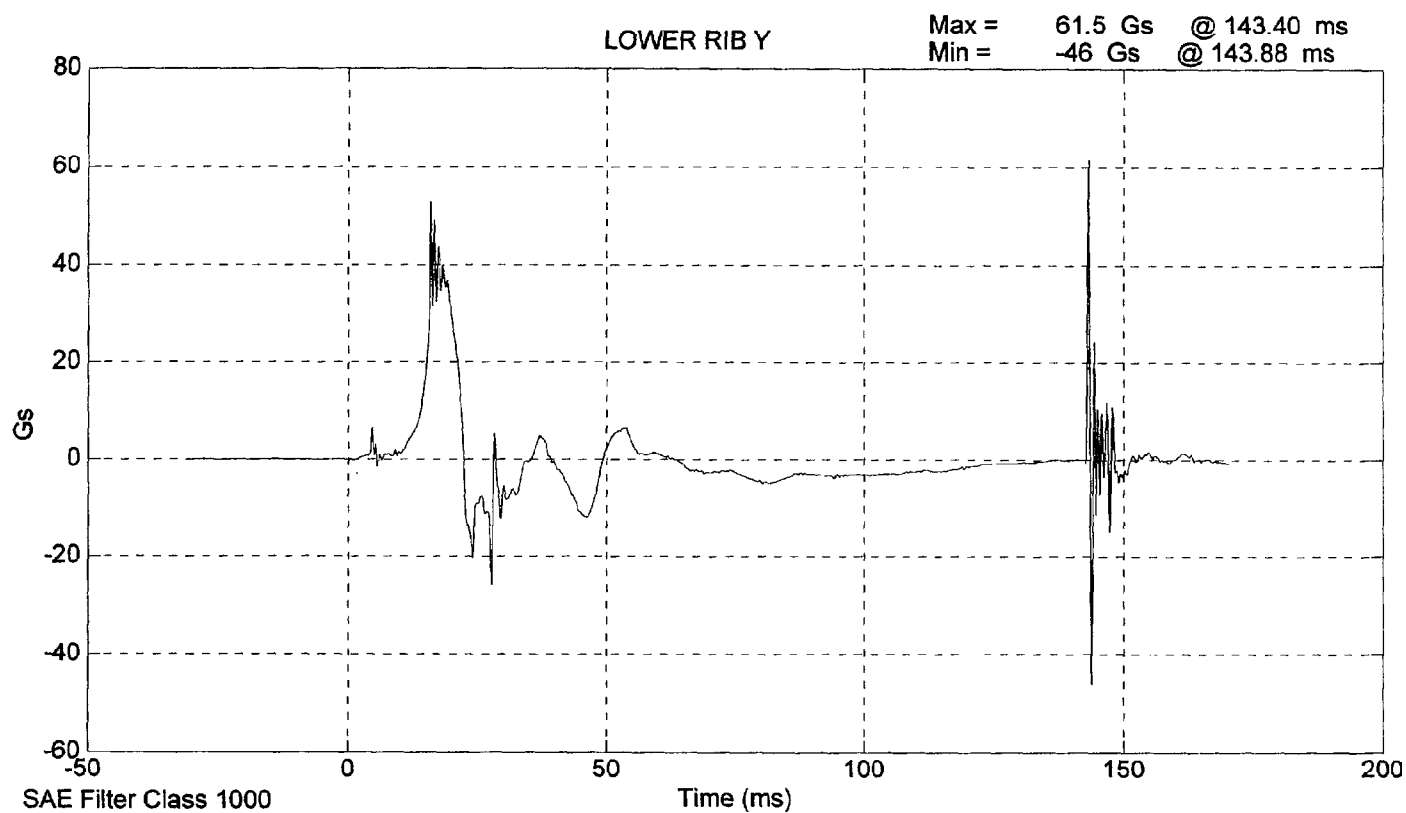
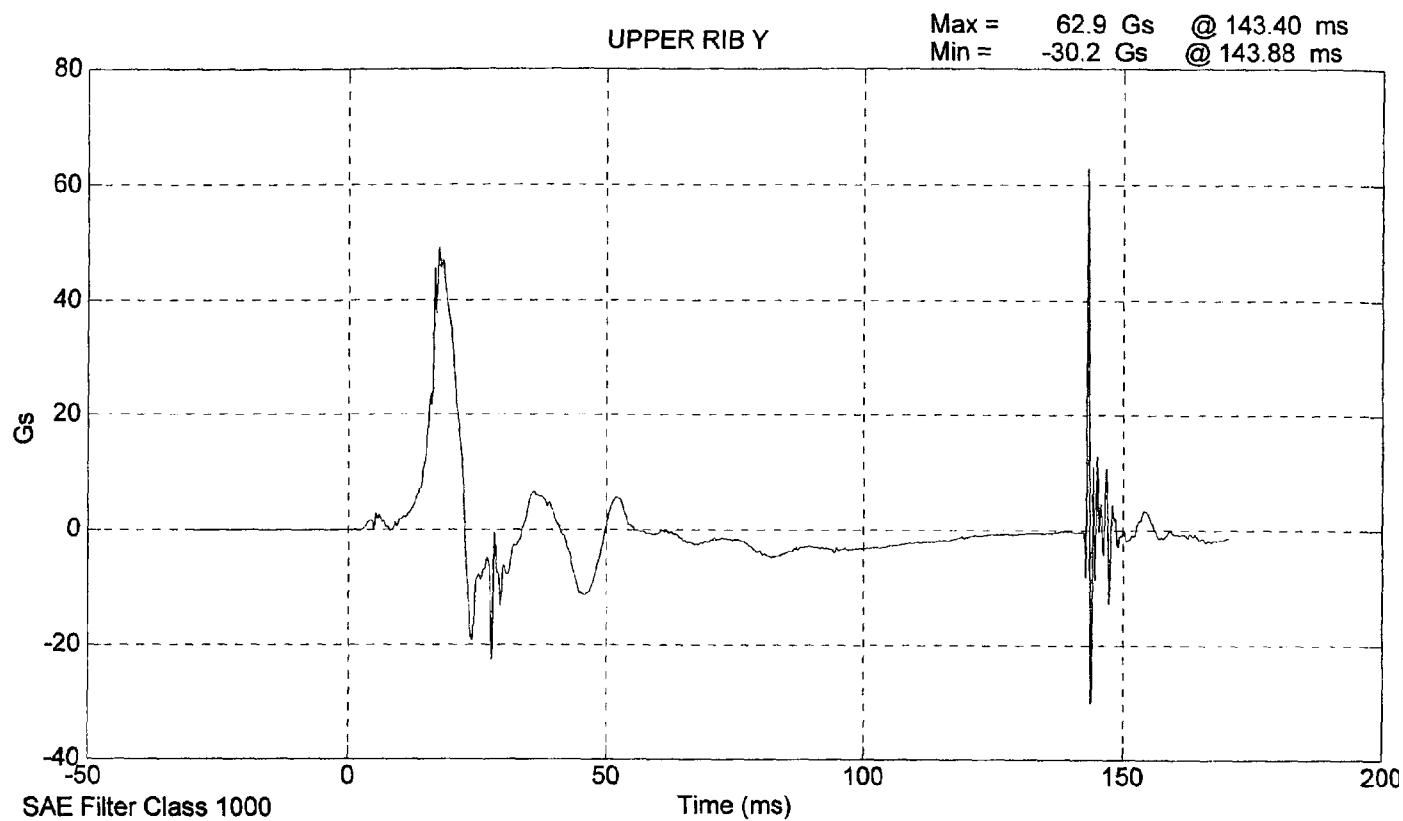
CONFIGURED FOR LEFT SIDE IMPACT

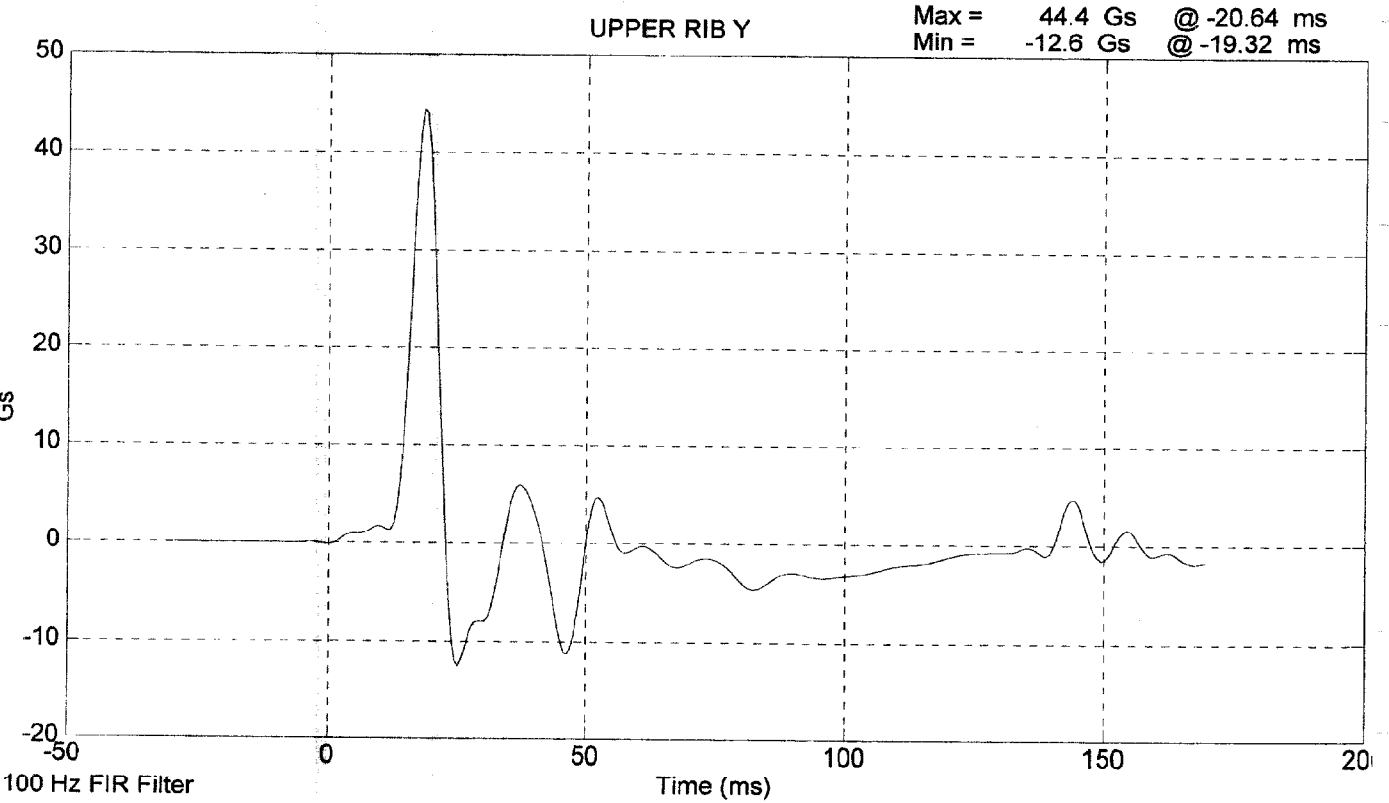
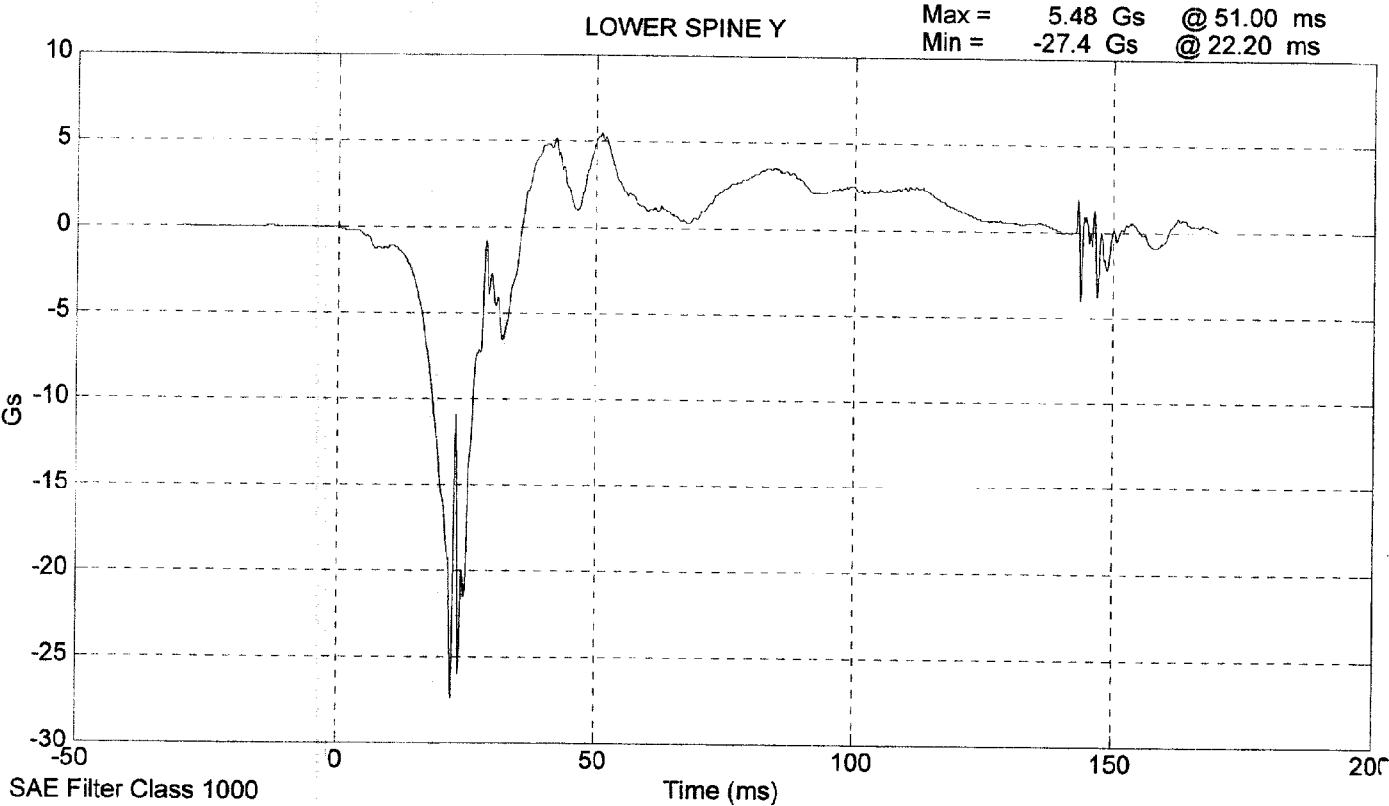
SID Serial No.: 268 Calspan Sequential Test Number: 2
Date: 9-24-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	40
PROBE SPEED (m/s)	4.27 - 4.33	4.33
UPPER RIB (g's)	37 - 46	44.4
LOWER RIB (g's)	37 - 46	41.3
LOWER SPINE (g's)	15 - 22	21.6

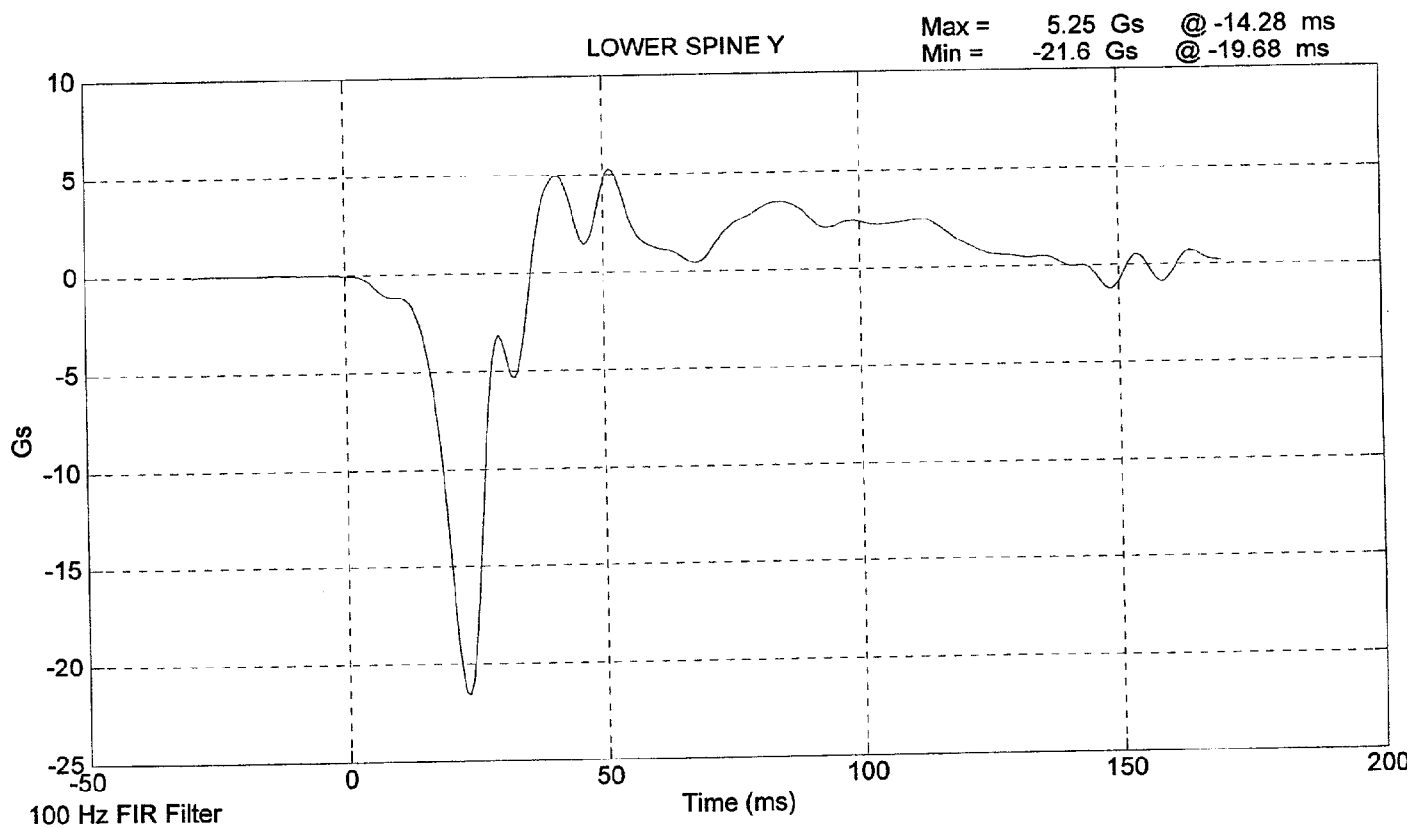
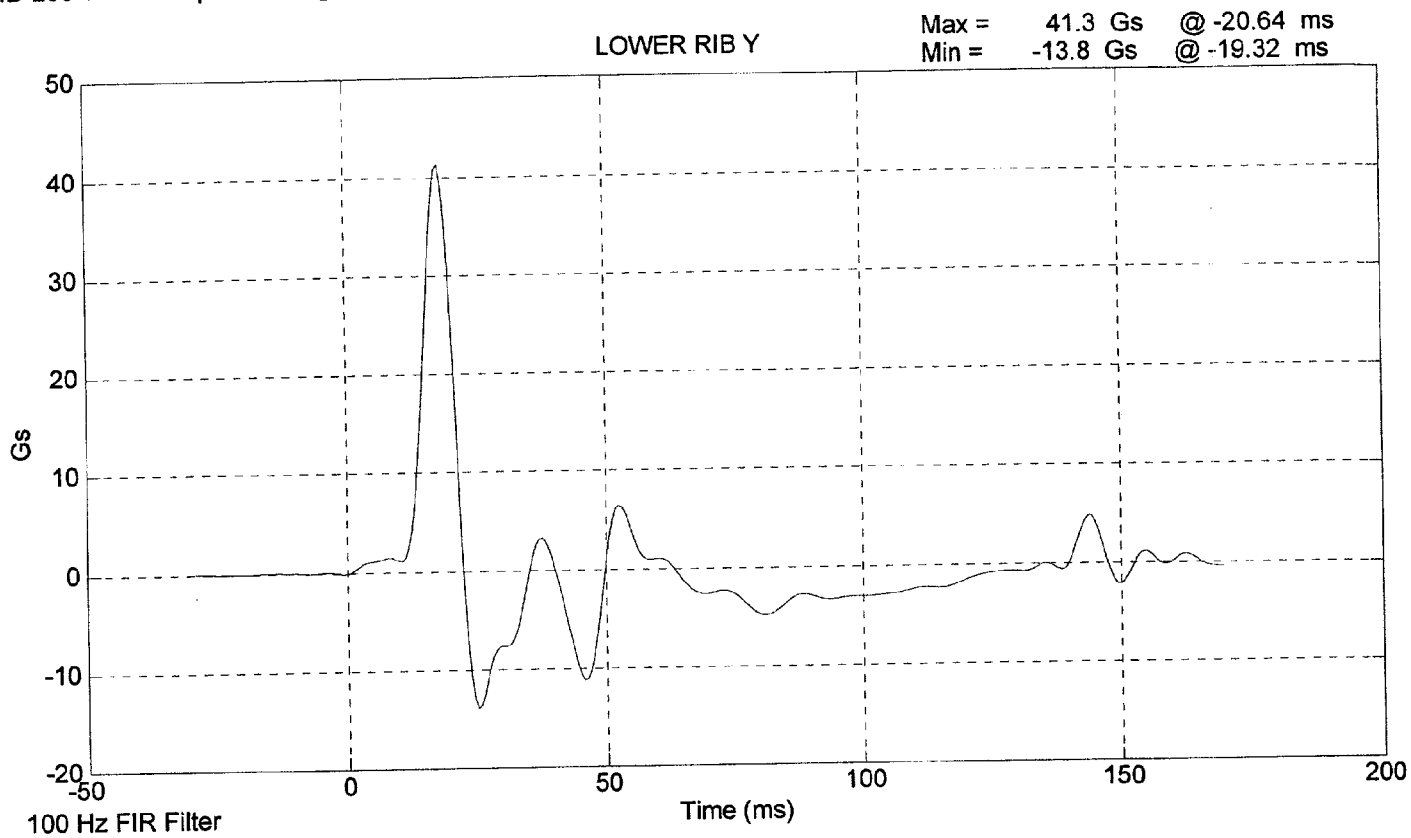
REMARKS: None

SID 268 Thorax Impact Test @ 4.3282 m/s





SID 268 Thorax Impact Test @ 4.3282 m/s



**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268

Calspan Sequential Test Number: 2

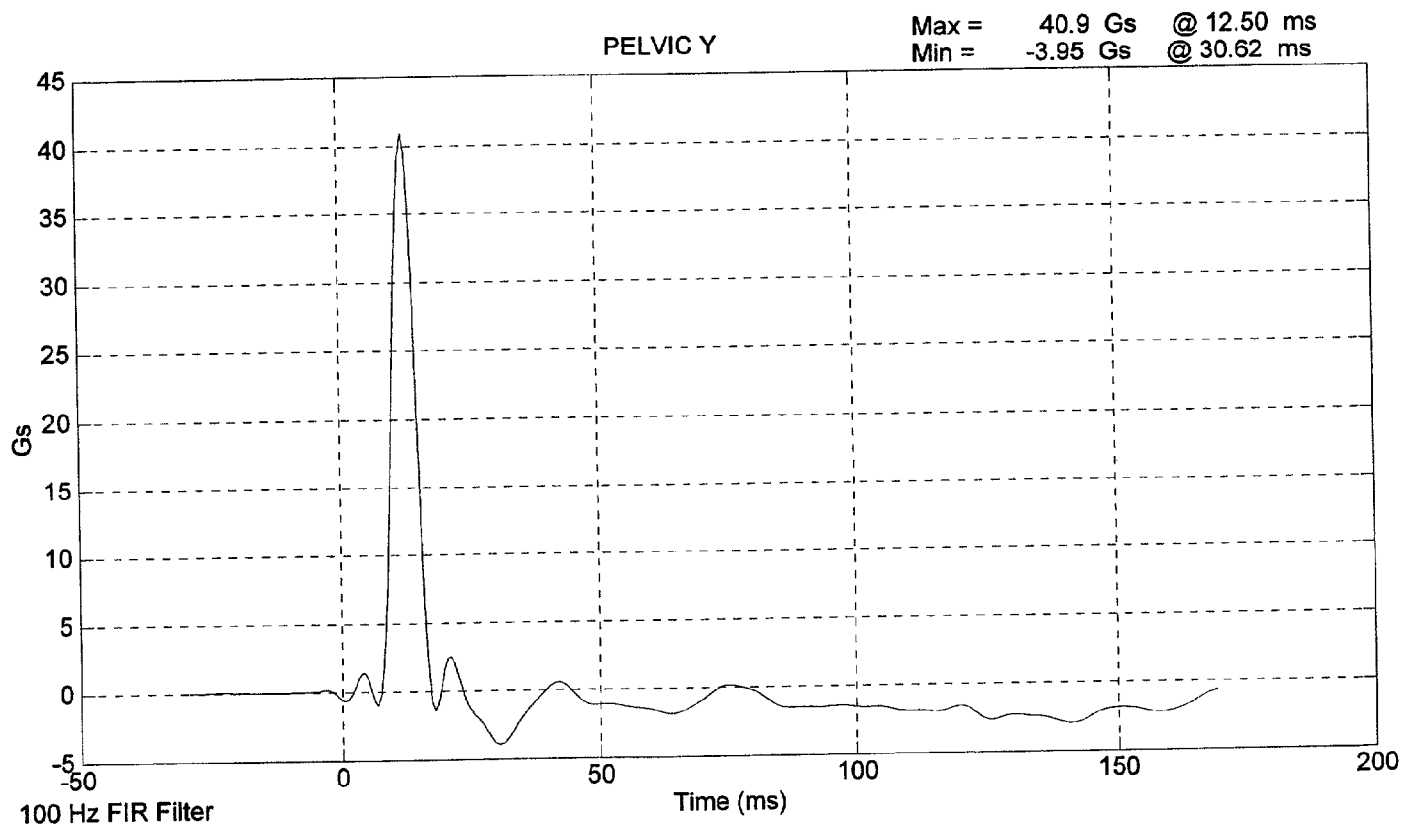
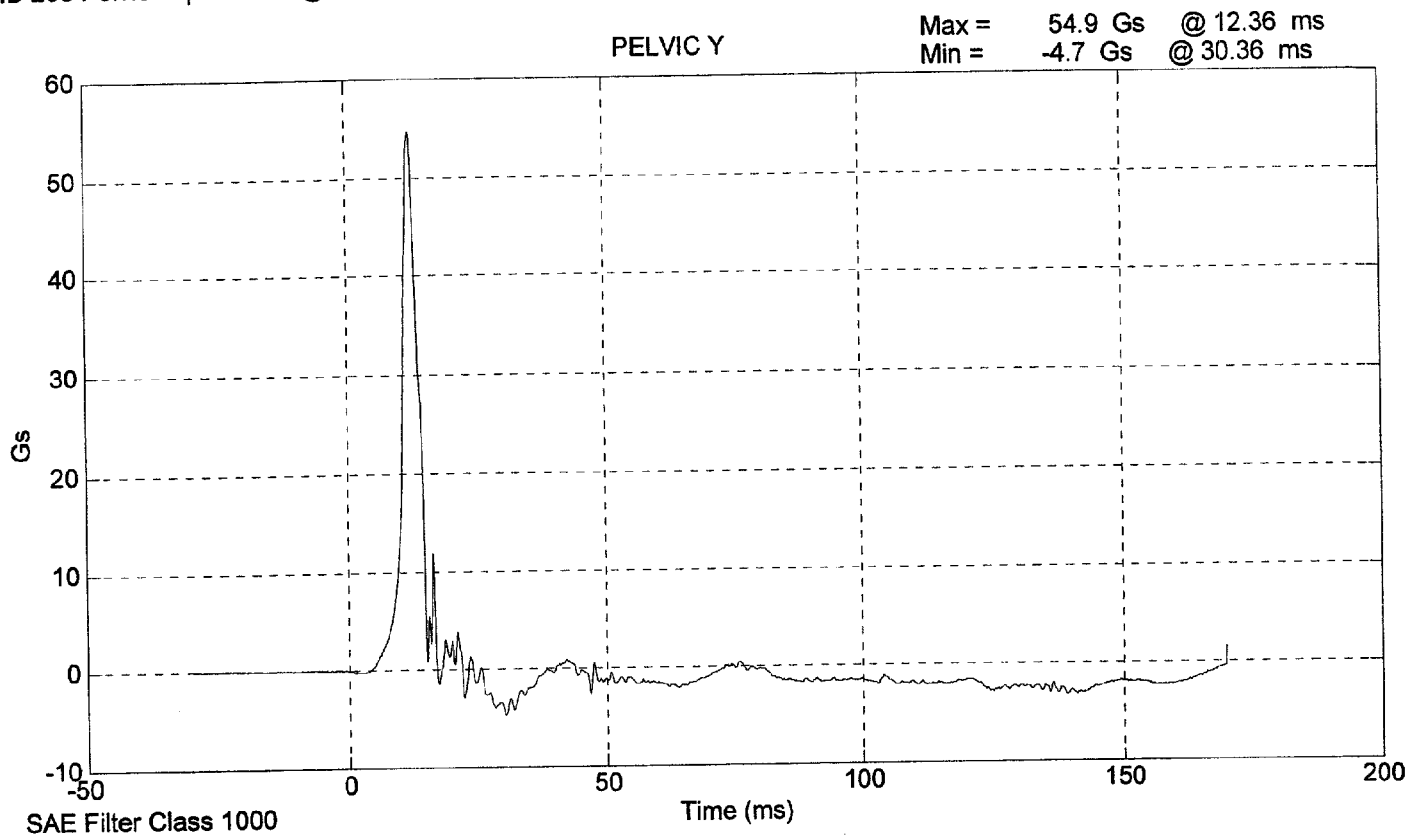
Date: 9-25-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	40
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	40.9

REMARKS: None

SID 268 Pelvic Impact Test @ 4.2977 m/s



ABDOMINAL COMPRESSION TEST
POST TEST

(Test not required for SID certification)

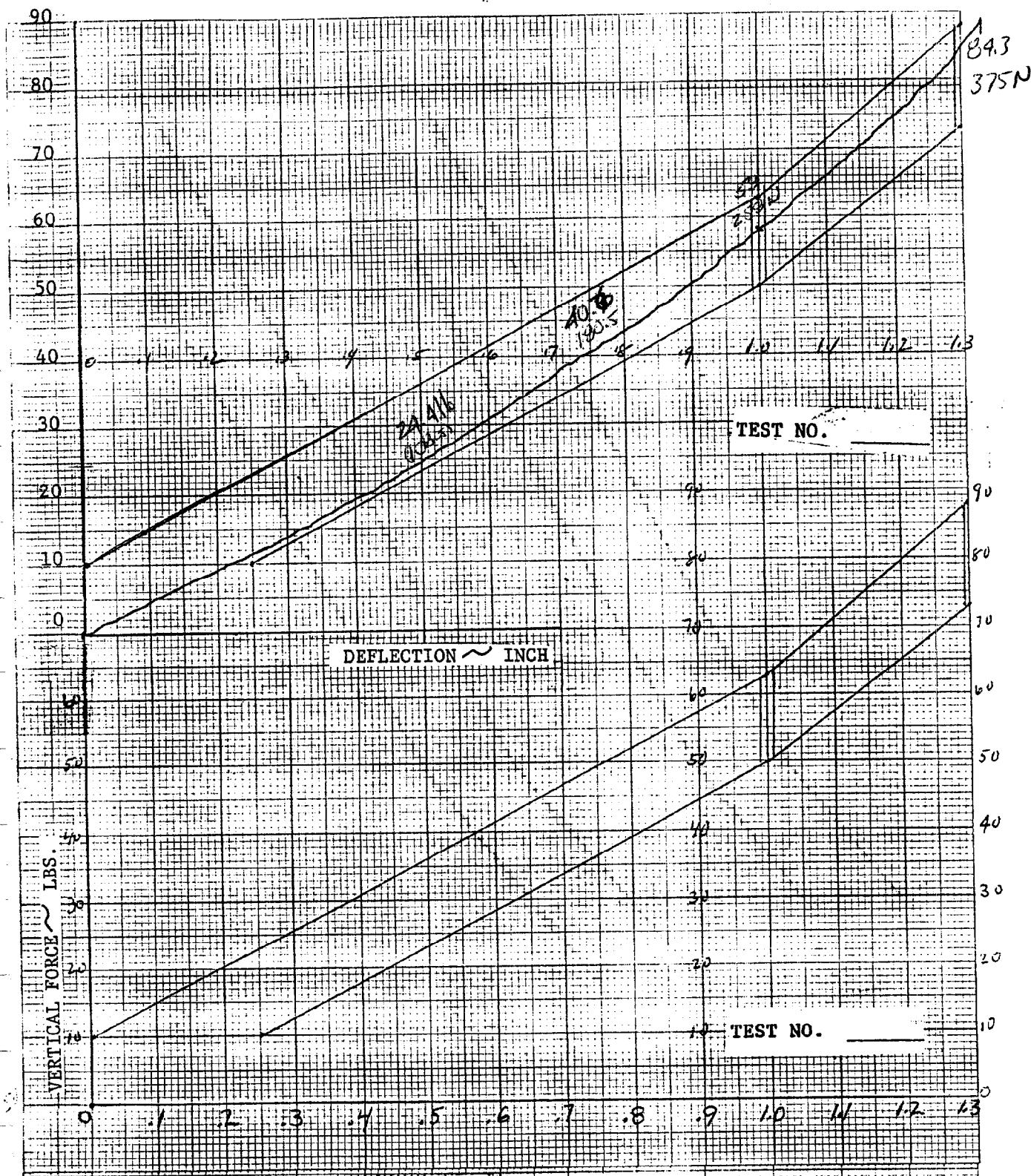
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268
Date: 9-24-98

Calspan Sequential Test Number: 2
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	40
FORCE @ 13 mm (N)	104 - 162	109
FORCE @ 19 mm (N)	163 - 221	181
FORCE @ 25 mm (N)	222 - 280	258
FORCE @ 33 mm (N)	325 - 391	375

REMARKS: None



SHAW-WALKER
JANUARY 1978
Includes Flow Cook Printed in U.S.A.

SQUARE
11 x 17 IN THE 1000 1000
AS 1013-01

DUMMY S/N 268
 DATE 9-24-78
 CONTRACT AUTHORIZATION _____
 TEMP. 70 HUMIDITY 40%
 PERFORMED BY [Signature]

PART 572
 ABDOMEN STATIC PRESS
 DOT - 13 DEC. '77

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

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268
Date: 9-24-98

Calspan Sequential Test Number: 2
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	40
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	136
FORCE @ 30° (N)	151.2 - 204.6	184
FORCE @ 40° (N)	204.6 - 258	245
RETURN ANGLE	12° max.	9.5

REMARKS: None

DUMMY S/N 268 TEST NO. 2

W/A

DATE 9-24-98

PERFORMED BY [Signature]

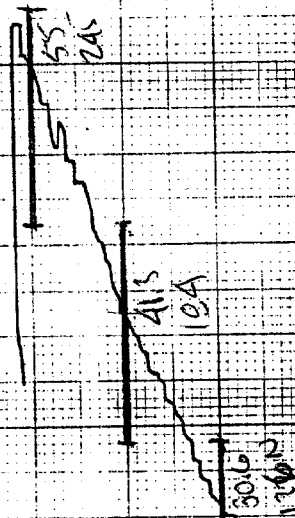
TEMP. 70

HUMIDITY 40%

LUMBAR SPINE FLEXION TEST

FLEXION ANGLE ~ DEG.

FORCE ~ LBS.



POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268

Calspan Sequential Test Number: 2

Date: 9-25-98

Laboratory Technician:

B. Swiecicki, G. Serbinowski

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

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Calspan Sequential Test Number: 2
Date: 9-25-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Calspan Sequential Test Number: 2
Date: 9-24-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	909
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	366

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

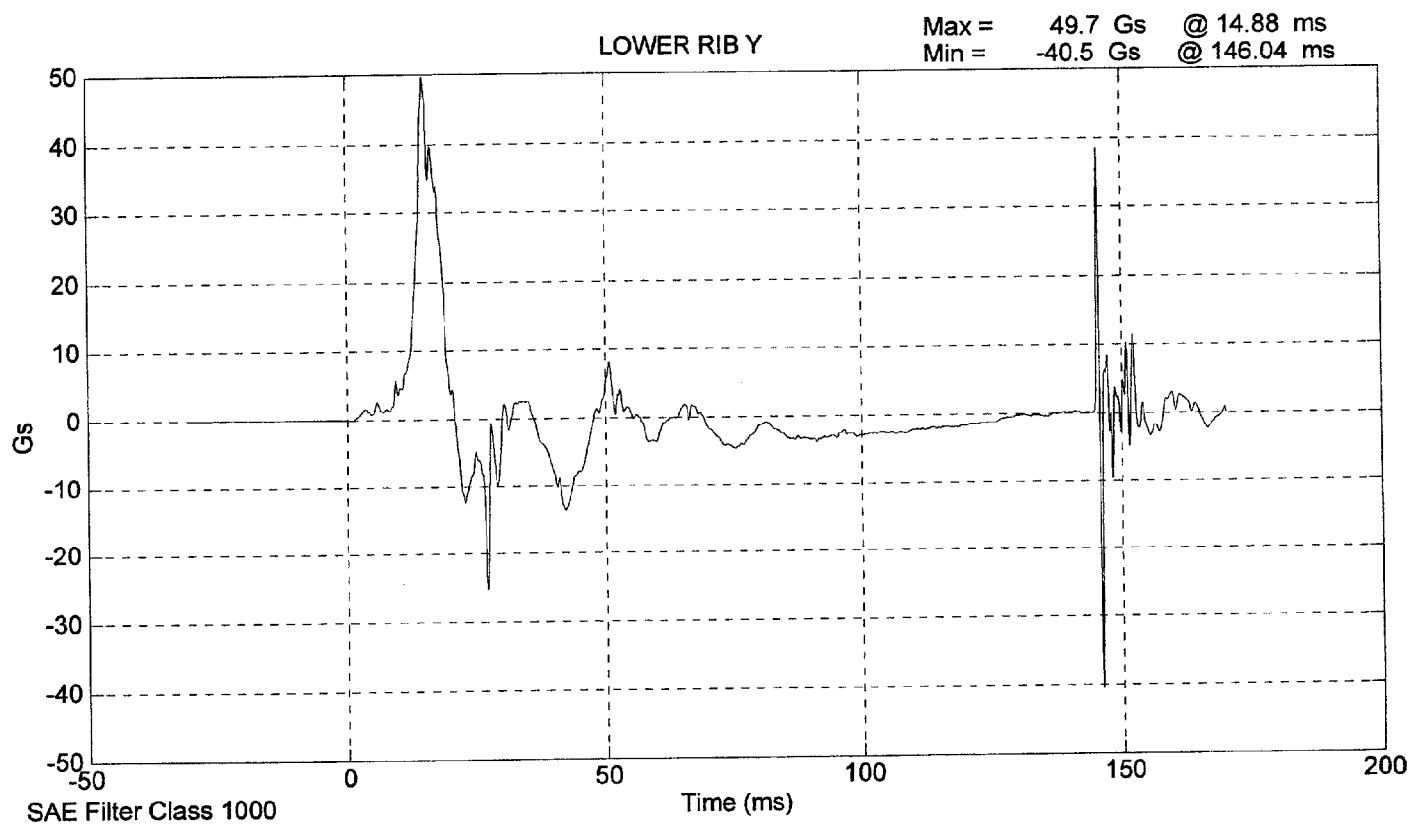
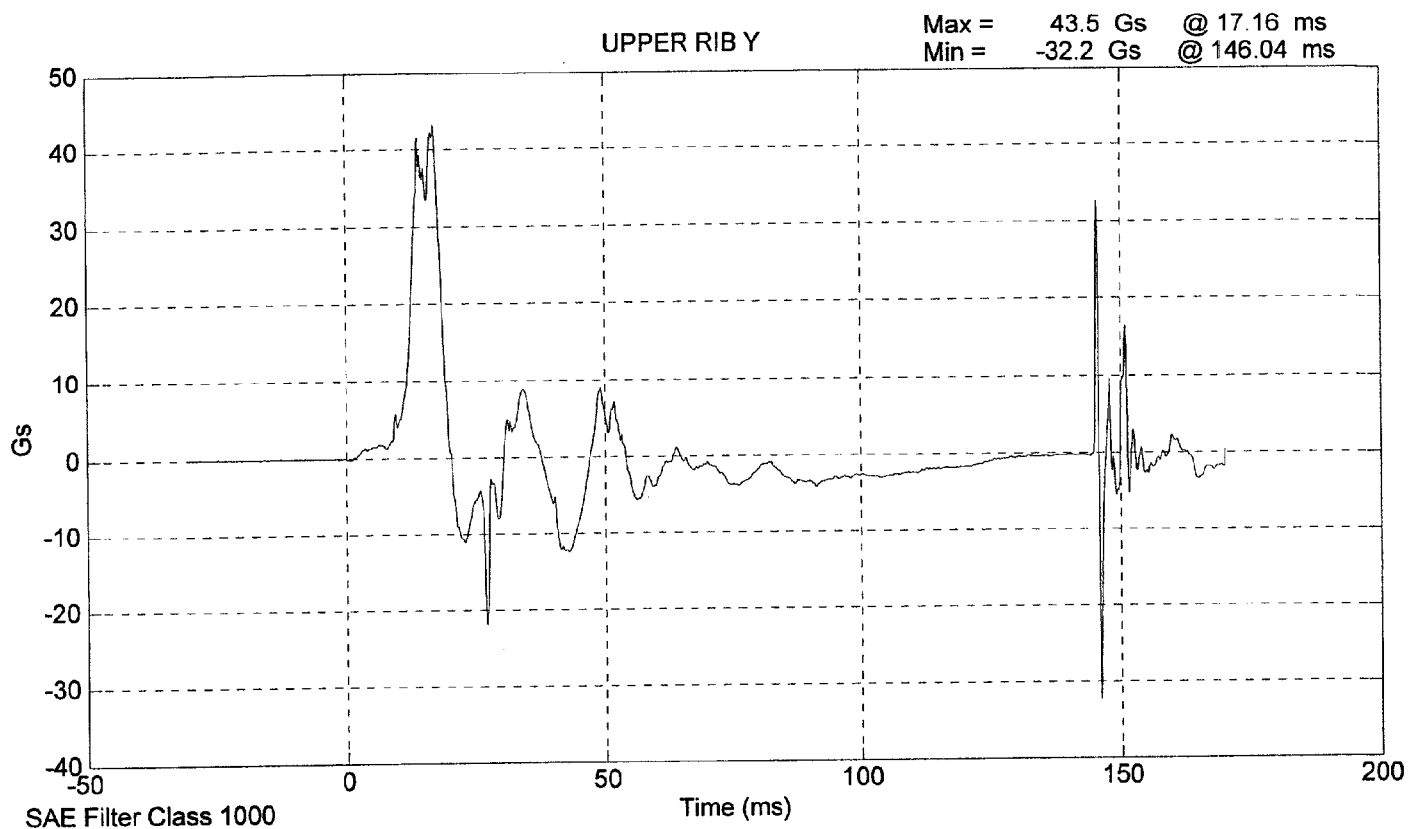
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Calspan Sequential Test Number: 2
Date: 9-24-98 Laboratory Technician: B. Swiecicki, G. Serbinowski

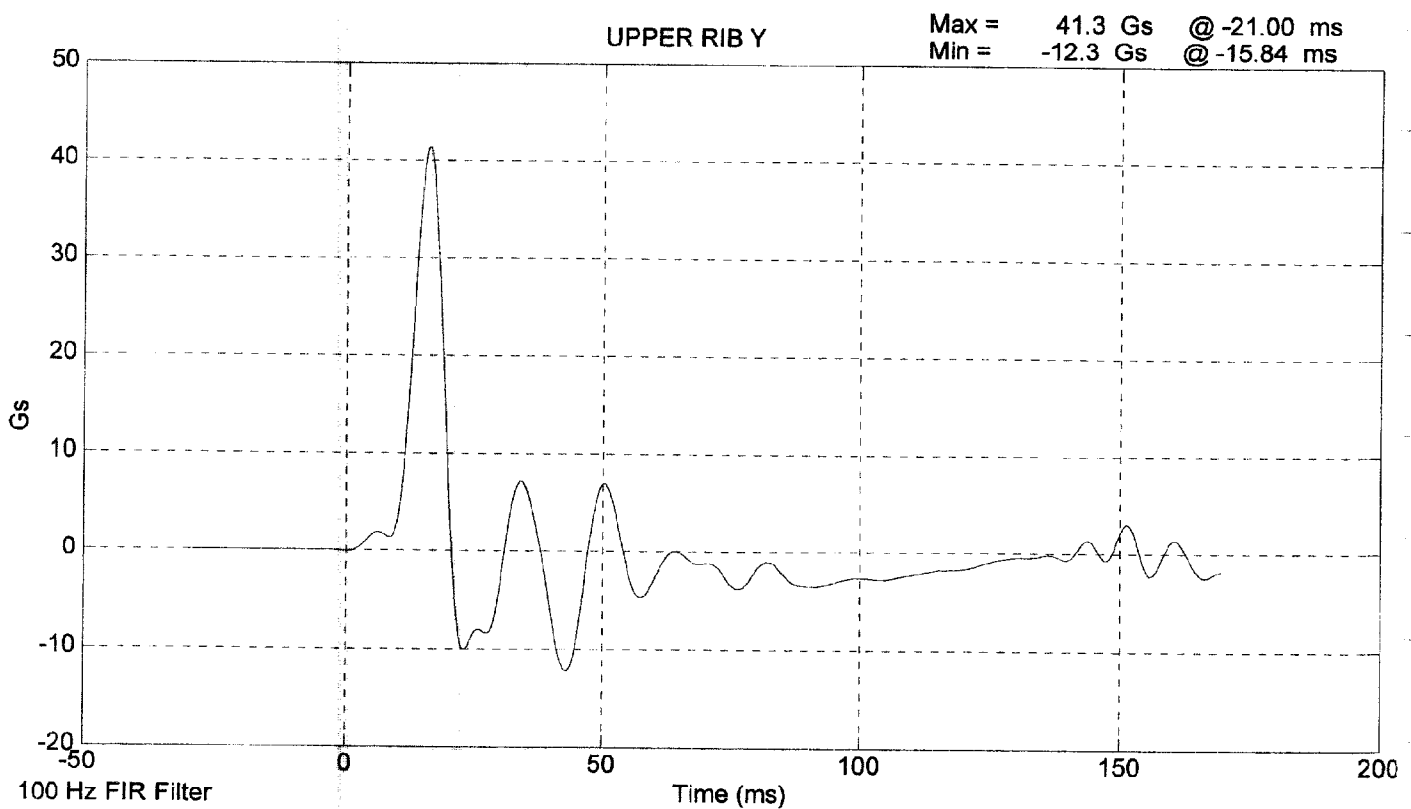
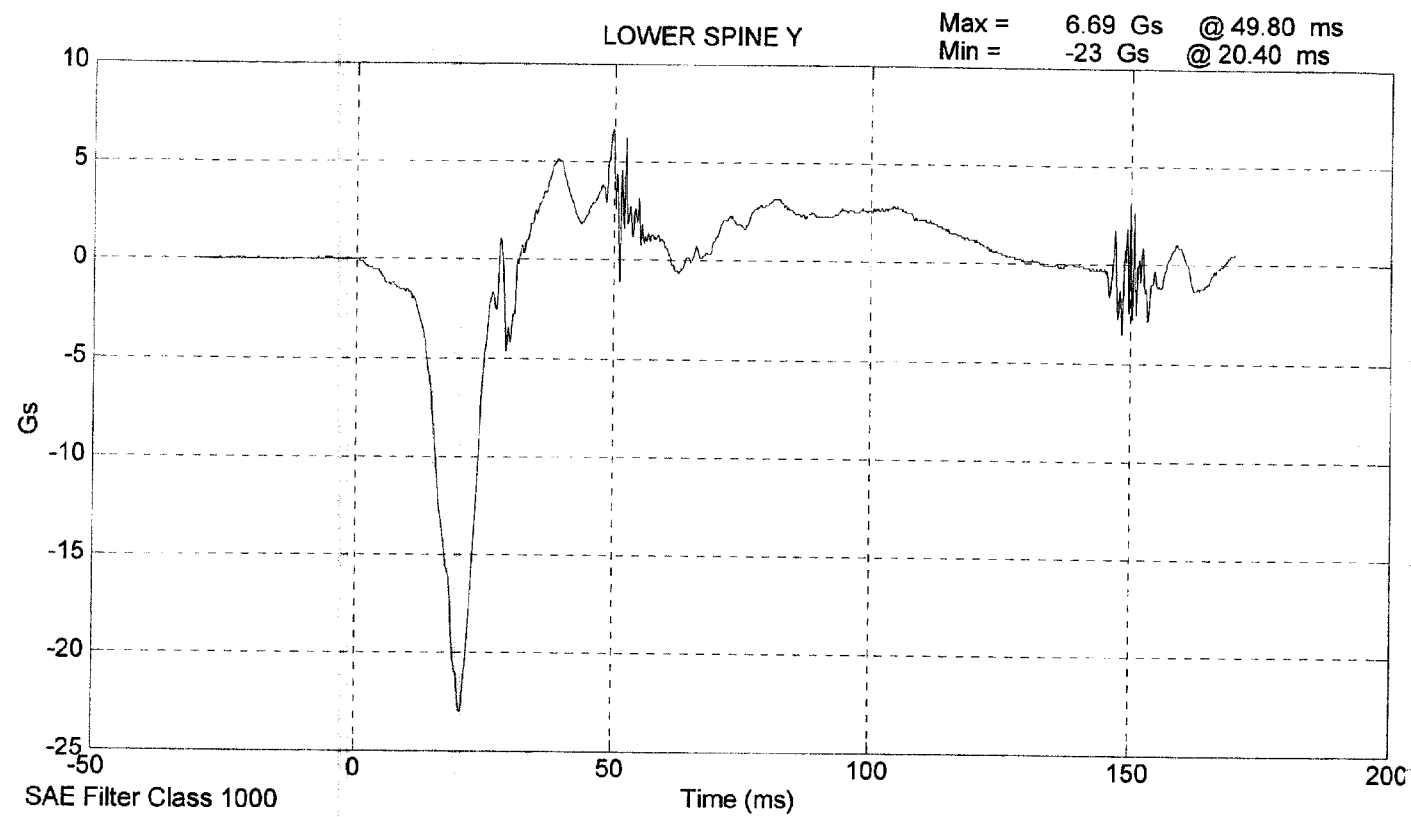
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
PROBE SPEED (m/s)	4.27 - 4.33	4.29
UPPER RIB (g's)	37 - 46	41.3
LOWER RIB (g's)	37 - 46	41.3
LOWER SPINE (g's)	15 - 22	21.7

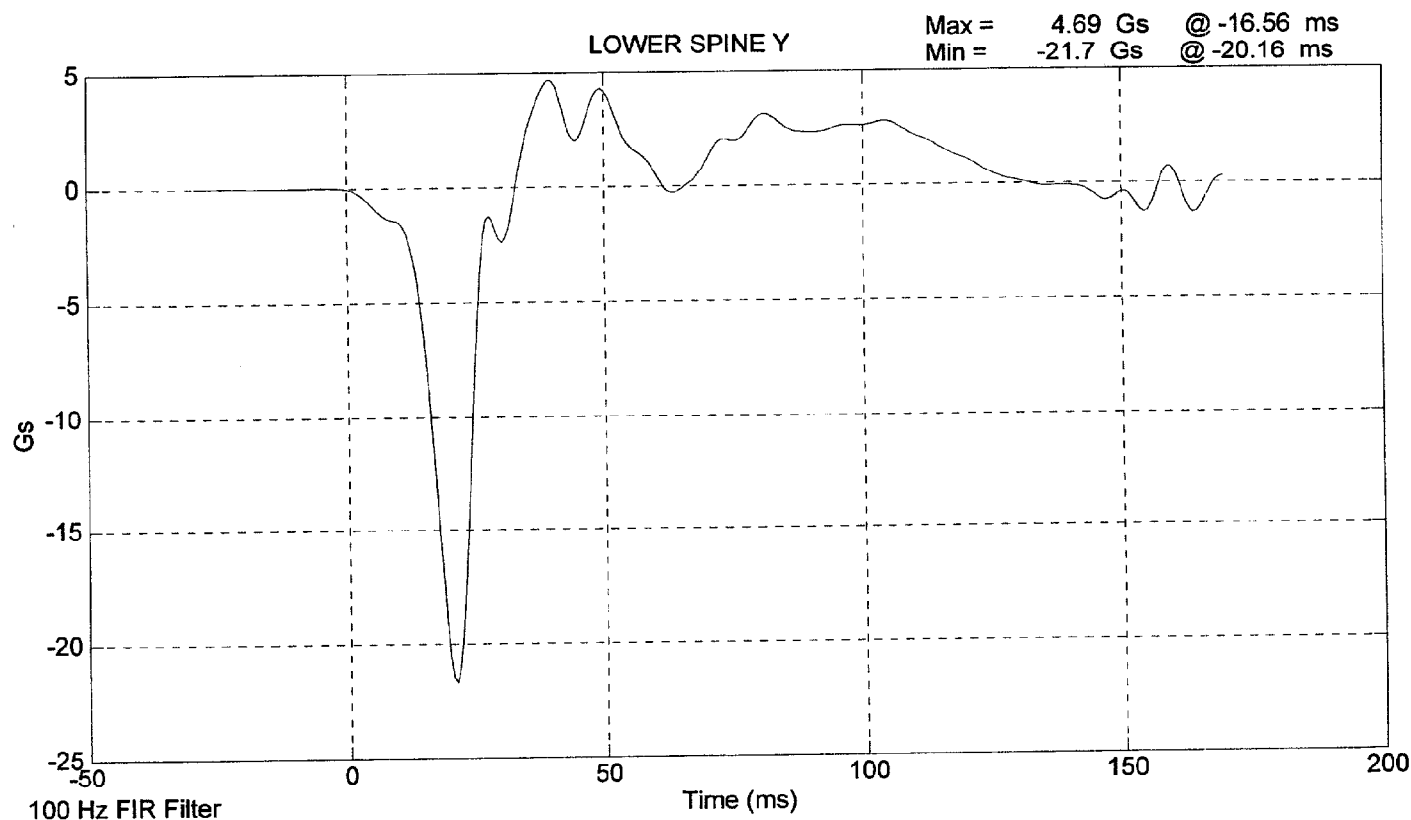
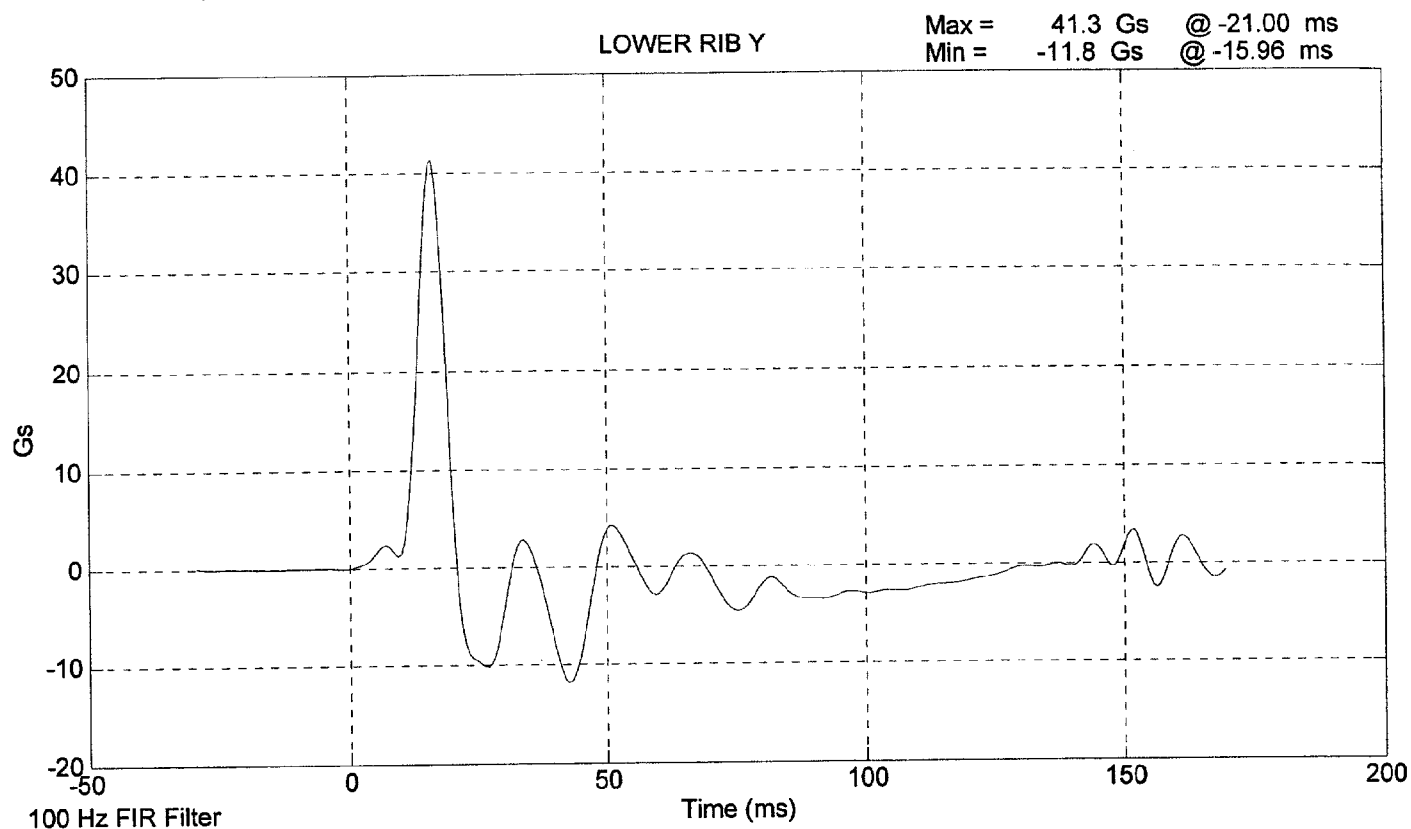
REMARKS: None

SID 027 Thorax Impact Test @ 4.2946 m/s



SID 027 Thorax Impact Test @ 4.2946 m/s





**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

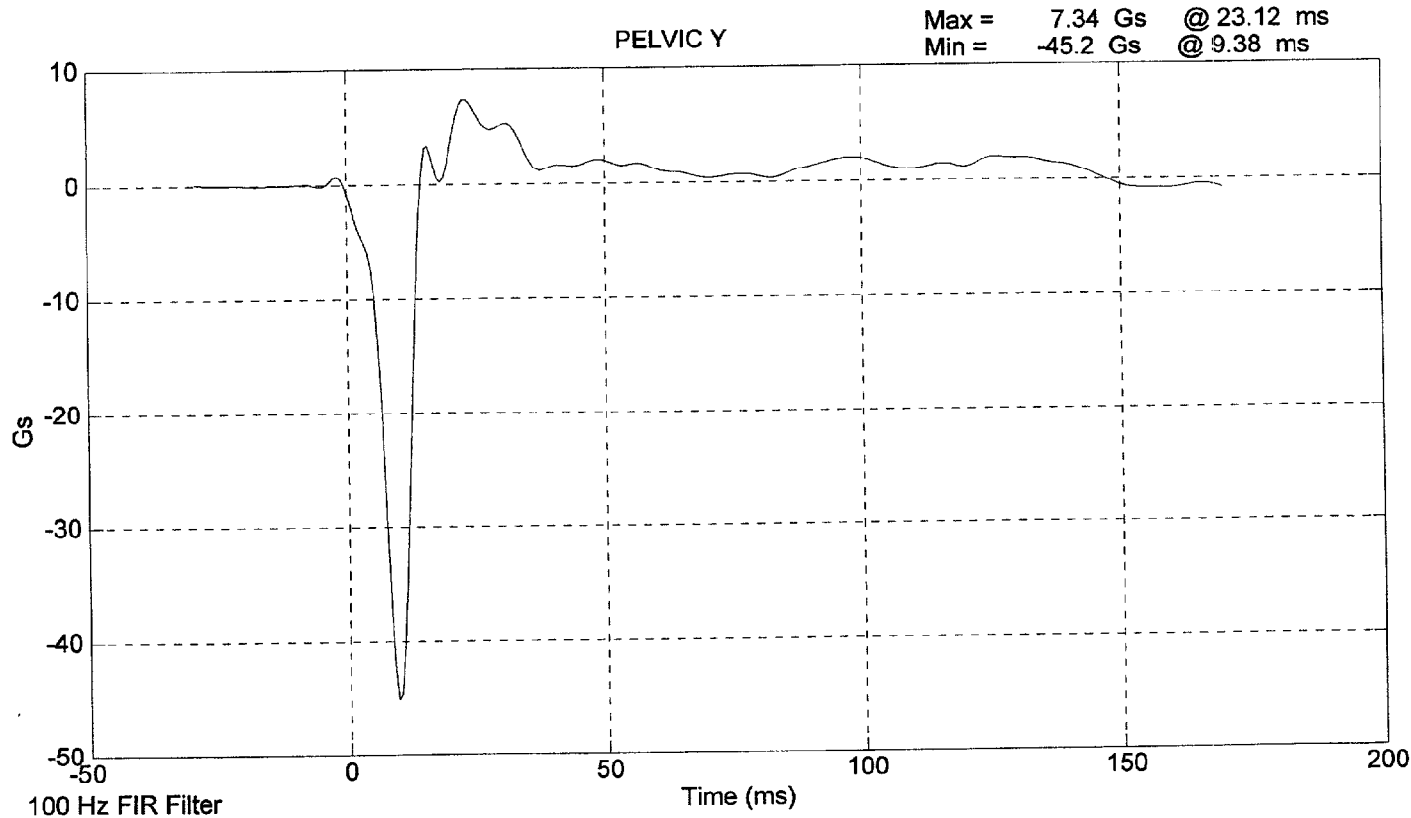
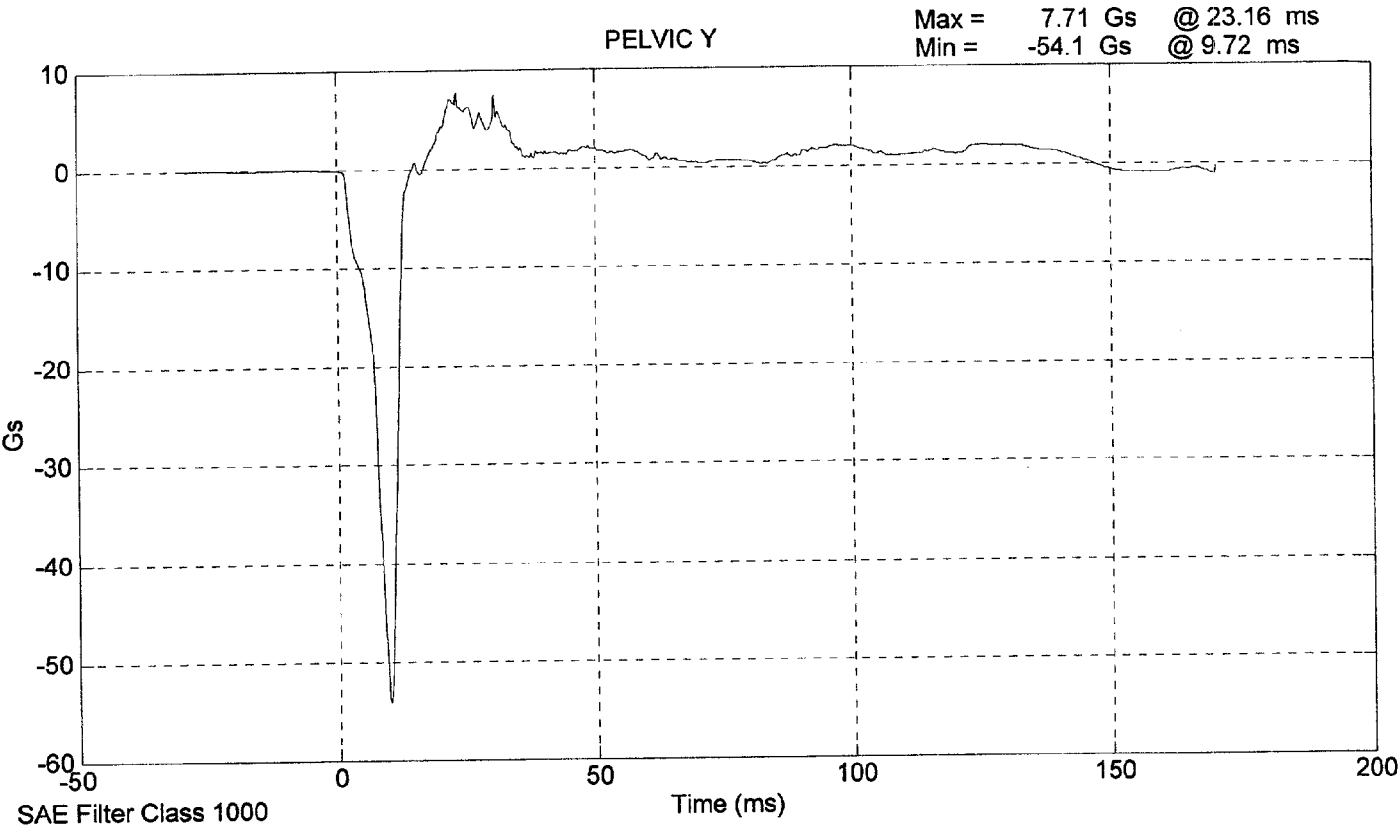
Calspan Sequential Test Number: 2

Date: 9-25-98

Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
PROBE SPEED (m/s)	4.27 - 4.33	4.30
PELVIS ACCELERATION (g's)	40 - 60	45.2

REMARKS: None



**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

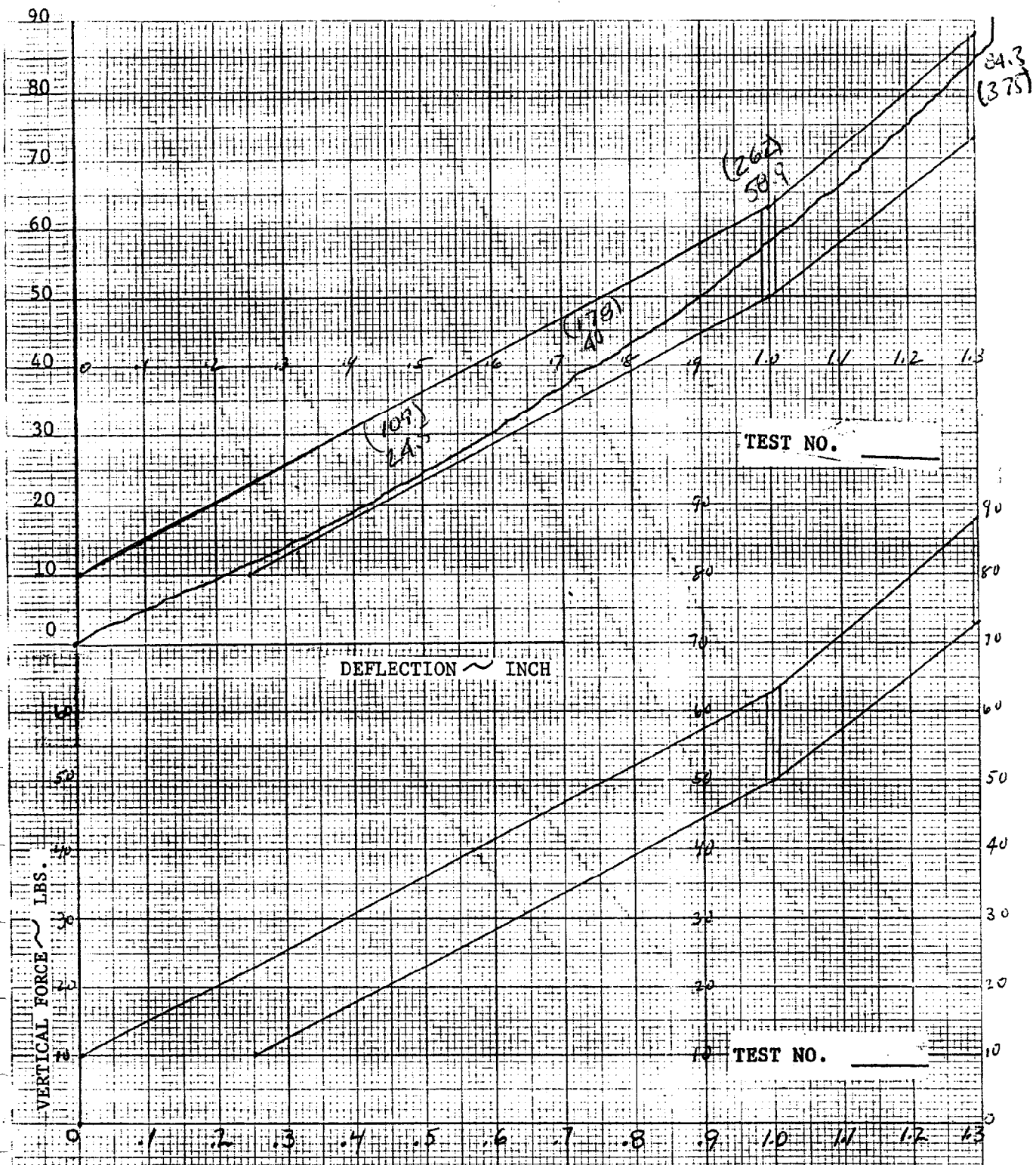
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027
Date: 9-23-98

Calspan Sequential Test Number: 2
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 13 mm (N)	104 - 162	109
FORCE @ 19 mm (N)	163 - 221	178
FORCE @ 25 mm (N)	222 - 280	262
FORCE @ 33 mm (N)	325 - 391	375

REMARKS: None



DUMMY S/N 027
DATE 9-23-98
CONTRACT AUTHORIZATION _____
TEMP. 70 HUMIDITY 35%
PERFORMED BY [Signature]

PART 572
ABDOMEN STATIC PRESS
DOT - 13 DEC. '77

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

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027
Date: 9-23-98

Calspan Sequential Test Number: 2
Laboratory Technician: B. Swiecicki, G. Serbinowski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	121
FORCE @ 30° (N)	151.2 - 204.6	171
FORCE @ 40° (N)	204.6 - 258	222
RETURN ANGLE	12° max.	10

REMARKS: None

LUMBAR SPINE FLEXION TEST

DUMMY S/N 027 TEST NO. 2

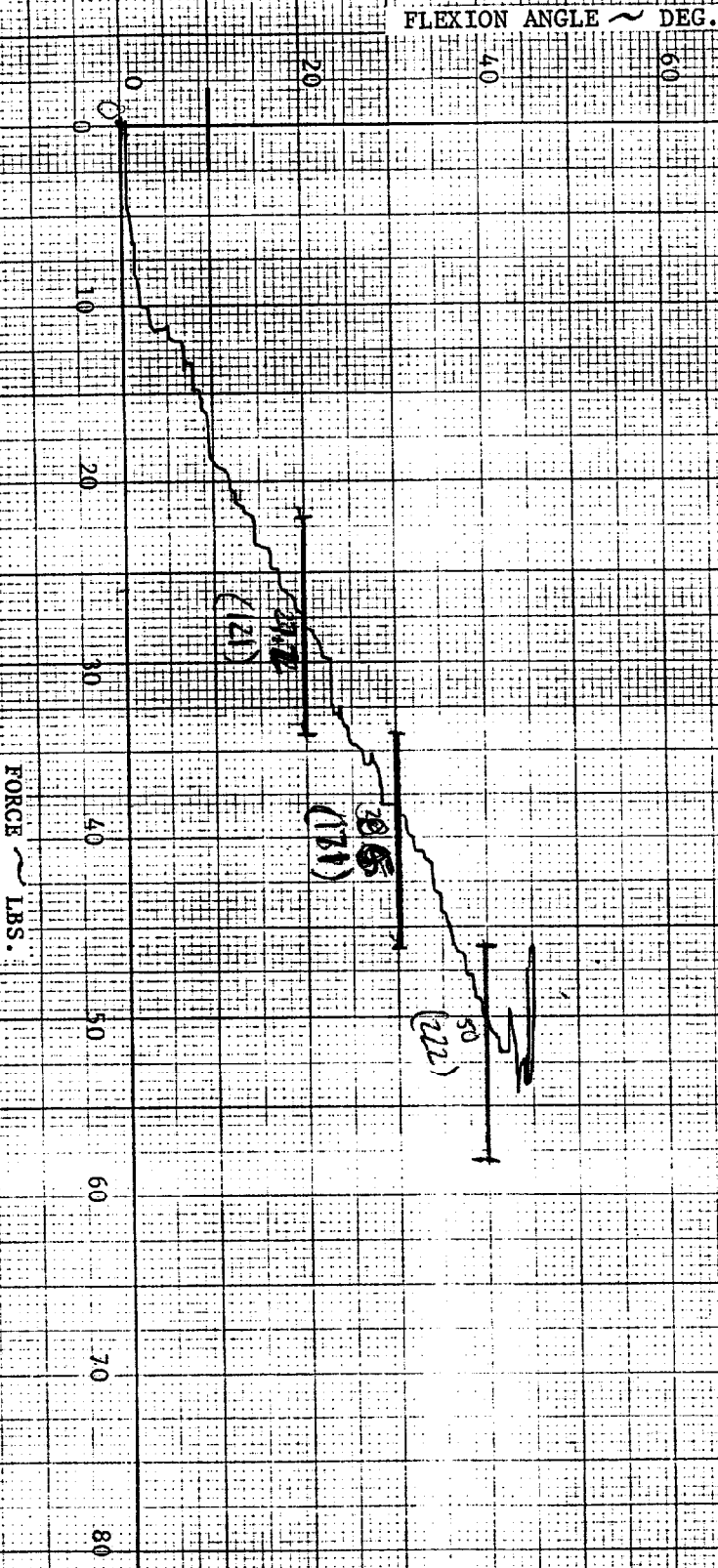
W/A _____

DATE 9-23-98

PERFORMED BY [Signature]

TEMP. 70°

HUMIDITY 35%



POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027
Date: 9-25-98

Calspan Sequential Test Number: 2
Laboratory Technician: B. Swiecicki, G. Serbinowski

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

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**SID INSTRUMENTATION**

	FRONT SID NO.: 268		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
UPPER RIB	A13546	ENDEVCO	7/98
LOWER RIB	A12607	ENDEVCO	6/98
LOWER SPINE	A13941	ENDEVCO	4/98
PELVIS	J18570	ENDEVCO	6/98
UPPER RIB REDUNDANT	A13012	ENDEVCO	7/98
LOWER RIB REDUNDANT	A13926	ENDEVCO	8/98
LOWER SPINE REDUNDANT	A13937	ENDEVCO	4/98
PELVIS REDUNDANT	A13924	ENDEVCO	5/98

	REAR SID NO.: 027		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
UPPER RIB	B10827	ENDEVCO	8/98
LOWER RIB	B11408	ENDEVCO	7/98
LOWER SPINE	A13938	ENDEVCO	5/98
PELVIS	AC8F6	ENDEVCO	4/98
UPPER RIB REDUNDANT	B11073	ENDEVCO	7/98
LOWER RIB REDUNDANT	B11407	ENDEVCO	7/98
LOWER SPINE REDUNDANT	A13811	ENDEVCO	4/98
PELVIS REDUNDANT	A13883	ENDEVCO	4/98

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)	APBD9	ENDEVCO	4/98
RIGHT FRONT SILL (Y)	AP064	ENDEVCO	4/98
RIGHT FRONT SILL (Z)	APBB6	ENDEVCO	4/98
RIGHT REAR SILL (X)	A13942	ENDEVCO	9/98
RIGHT REAR SILL (Y)	J18400	ENDEVCO	9/98
RIGHT REAR SILL (Z)	J18649	ENDEVCO	9/98
REAR FLOORPAN ABOVE AXLE (X)	J18515	ENDEVCO	8/98
REAR FLOORPAN ABOVE AXLE (Y)	J18650	ENDEVCO	8/98
REAR FLOORPAN ABOVE AXLE (Z)	AN943	ENDEVCO	8/98
LEFT REAR SILL (Y)	J18622	ENDEVCO	6/98
LEFT FRONT SILL (Y)	AP1A2	ENDEVCO	6/98
RIGHT REAR SEAT OCCUPANT COMP. (Y)	Y05	ICS	4/98
LOWER LEFT B- PILLAR (Y)	AN967	ENDEVCO	9/98
MIDDLE LEFT B-PILLAR (Y)	APBF4	ENDEVCO	9/98
LOWER LEFT A-PILLAR (Y)	Z08	ENTRAN	4/98
UPPER LEFT A-PILLAR (Y)	AP1B6	ENDEVCO	5/98
FRONT SEAT TRACK (Y)	BA98	ENDEVCO	4/98
REAR SEAT TRACK (Y)	-	-	-
VEHICLE CG (X)	J18408	ENDEVCO	8/98
VEHICLE CG (Y)	J18624	ENDEVCO	8/98
VEHICLE CG (Z)	J18555	ENDEVCO	8/98
MDB CG (X)	CL60	ENDEVCO	9/98
MDB CG (Y)	CJ54	ENDEVCO	9/98
MDB CG (Z)	CH35	ENDEVCO	9/98
MDB REAR FRAME MEMBER (X)	FL04	ENDEVCO	9/98
MDB REAR FRAME MEMBER (Y)	GL77	ENDEVCO	9/98

REMARKS: None