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SIDE IMPACT PROTECTION
IN PRODUCTION VEHICLES

MDB-TO-CAR SIDE IMPACT TEST OF
A 26° CRABBED MOVING DEFORMABLE BARRIER
TO A 1983 MAZDA 626
AT 33.4 MPH

PREPARED BY:
VEHICLE RESEARCH AND TEST CENTER
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EAST LIBERTY, OHIO 43319



TEST REPORT
AUGUST 1985

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
400 SEVENTH STREET, S.W.
WASHINGTON, D.C. 20590

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16. Abstract This test report documents one of a series of ten crash tests to evaluate side impact protection in various vehicle models. Testing was conducted on a 1983 Mazda 626 4-door Sedan at the TRCO Crash Test Facility, East Liberty, Ohio. The test vehicle was impacted on the left side by a moving deformable barrier, crabbed to 26°, at 33.4 mph. The test was a simulation of a 90° intersection collision with the striking vehicle travelling at 30 mph and the struck vehicle travelling at 15 mph. Occupant responses of two side impact dummies were measured. One dummy was located in the driver's designated seating position and one was located in the left rear seating position. The test date was July 10, 1985 and the ambient temperature was 80 F.					
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METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol When You Know Multiply by To Find Symbol

LENGTH

in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km

AREA

in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
acres	acres	0.4	hectares	ha

MASS (weight)

oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons	0.9	metric ton	t
	(2000 lb)			

VOLUME

tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
in ³	cubic inches	16	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	L
pt	pints	0.47	liters	L
qt	quarts	0.95	liters	L
gal	gallons	3.8	liters	L
ft ³	cubic feet	0.03	cubic meters	m ³
yd ³	cubic yards	0.76	cubic meters	m ³

TEMPERATURE (exact)

°F	degrees Fahrenheit	5/9 (after subtracting 32)	degrees Celsius	°C
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Approximate Conversions from Metric Measures

Symbol When You Know Multiply by To Find Symbol

LENGTH

mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi

AREA

cm ²	square centimeters	0.16	square inches	in ²
m ²	square meters	1.2	square yards	yd ²
km ²	square kilometers	0.4	square miles	mi ²
ha	hectares	2.5	acres	
	(10 000 m ²)			

MASS (weight)

g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	metric ton	1.1	short tons	
	(1000 kg)			

VOLUME

ml	milliliters	0.03	fluid ounces	fl oz
ml	milliliters	0.06	cubic inches	in ³
L	liters	2.1	pints	pt
L	liters	1.06	quarts	qt
L	liters	0.26	gallons	gal
m ³	cubic meters	35	cubic feet	ft ³
m ³	cubic meters	1.3	cubic yards	yd ³

TEMPERATURE (exact)

°C	degrees Celsius	9/5 (then add 32)	degrees Fahrenheit	°F
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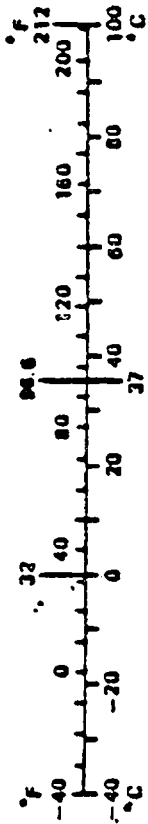
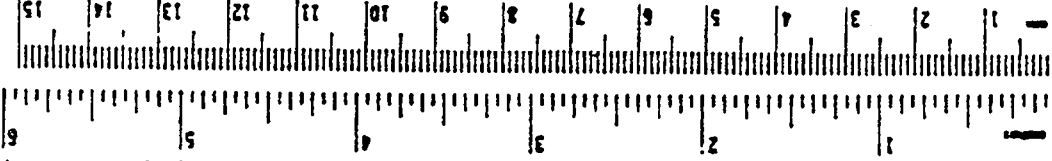


TABLE OF CONTENTS

	<u>Page</u>
1.0 PURPOSE AND INTRODUCTION	1-1
2.0 GENERAL TEST AND VEHICLE PARAMETER DATA	2-1
3.0 DATA REQUIRED BY R&D	3-1
APPENDIX A PHOTOGRAPHS	A-1
APPENDIX B DATA PLOT PRESENTATION	B-1
APPENDIX C DUMMY CERTIFICATION	C-1

LIST OF PHOTOGRAPHS

<u>Figure</u>	<u>Page</u>
A-1. PRE-TEST OVERALL - VIEW 1	A-2
A-2. PRE-TEST OVERALL - VIEW 2	A-2
A-3. PRE-TEST OVERALL - VIEW 3	A-3
A-4. PRE-TEST OVERALL - VIEW 4	A-3
A-5. PRE-TEST CLOSEUP - VIEW 1	A-4
A-6. PRE-TEST CLOSEUP - VIEW 2	A-4
A-7. PRE-TEST DRIVER DUMMY VIEW	A-5
A-8. PRE-TEST PASSENGER DUMMY VIEW	A-5
A-9. POST-TEST OVERALL - VIEW 1	A-6
A-10. POST-TEST OVERALL - VIEW 2	A-6
A-11. POST-TEST OVERALL - VIEW 3	A-7
A-12. POST-TEST OVERALL - VIEW 4	A-7
A-13. POST-TEST CLOSEUP VIEW	A-8
A-14. POST-TEST DRIVER DUMMY VIEW	A-8
A-15. POST-TEST PASSENGER DUMMY VIEW	A-9
A-16. POST-TEST VEHICLE DAMAGE - VIEW 1	A-9
A-17. POST-TEST VEHICLE DAMAGE - VIEW 2	A-10
A-18. POST-TEST VEHICLE DAMAGE - VIEW 3	A-10
A-19. POST-TEST VEHICLE DAMAGE - VIEW 4	A-11
A-20. POST-TEST OVERHEAD VIEW	A-11
A-21. PRE-TEST MDB FACE - VIEW 1	A-12
A-22. PRE-TEST MDB FACE - VIEW 2	A-12
A-23. POST-TEST MDB FACE - VIEW 1	A-13
A-24. POST-TEST MDB FACE - VIEW 2	A-13

SECTION 1.0
PURPOSE AND INTRODUCTION

PURPOSE

The main purpose of this test was to evaluate side impact protection in one of a fleet of 2-door and 4-door vehicles. The vehicle was tested using conditions not currently contained in a Federal Motor Vehicle Safety Standard.

INTRODUCTION

A stationary 1983 Mazda 626 4-door sedan was impacted on the left side by a Moving Deformable Barrier (MDB) on July 10, 1985. The test was to simulate an intersection collision with the striking vehicle travelling at 30 mph and the struck vehicle travelling at 15 mph. The orientation angle of the striking vehicle was 90° counterclockwise with respect to the longitudinal axis of the struck vehicle. The leading edge of contact was to be 37 inches forward of the vehicle center of gravity which is defined by accident investigation to be the midpoint of the wheelbase.

To simulate this collision, the MDB was to be towed into the stationary Mazda 626 at 33.5 mph with the MDB's wheels crabbed clockwise to 26°. The actual test speed was 33.4 mph and the actual leading edge of contact was 35.5 inches forward of the midpoint of the Mazda 626 wheelbase.

The vehicle was a baseline model with no structural modification. The driver door and left rear door were unpadded.

Section 2 contains General Test and Vehicle Parameter Data. Section 3 contains data required by R & D. Appendix A contains pre-test and post-test vehicle and dummy photographs. Appendix B contains Data Plots. Appendix C contains Dummy Certification Data.

SECTION 2.0
GENERAL TEST AND VEHICLE PARAMETER DATA

The following data sheets describe the General Test and Vehicle Parameter Data.

TEST VEHICLE INFORMATION

VEHICLE MANUFACTURER: Toyo Kogyo Company Ltd.

MAKE/MODEL: Mazda 626

VIN: JM1GC2213D1506896

BODY STYLE: 4-Door Sedan

MODEL YEAR: 1983

NHTSA NO.: R & D

COLOR: Maroon

ENGINE DATA: TYPE: Transverse CYLINDERS: 4 DISPLACEMENT 2000 cc

TRANSMISSION DATA: 5 Speed Manual

DATE VEHICLE RECEIVED: 5/9/85

ODOMETER READING: 306

DEALER'S NAME AND ADDRESS: NA

ACCESSORIES:

POWER STEERING	No	AUTOMATIC TRANSMISSION	No
POWER BRAKES	Yes	AUTOMATIC SPEED CONTROL	No
POWER SEATS	No	TILTING STEERING WHEEL	Yes
POWER WINDOWS	No	TELESCOPING STEERING WHEEL	No
TINTED GLASS	No	AIR CONDITIONING	No
RADIO	No	ANTI-SKID BRAKE	No
CLOCK	Yes	REAR WINDOW DEFROSTER	Yes
OTHER			

REMARKS:

1. IS THE VEHICLE STOCK THROUGHOUT? Yes
2. DOES VEHICLE SHOW EVIDENCE OF PRIOR ACCIDENT HISTORY? Yes*
3. DOES VEHICLE SHOW ANY SIGNIFICANT CORROSION? No
4. CONDITION OF THE FRONT/REAR BUMPER AND FRAME: Good

DATA FROM CERTIFICATION LABEL ON LEFT DOOR FACE OR "B" POST:

VEHICLE MANUFACTURED BY: Toyo Kogyo Company Ltd.

DATE OF MANUFACTURE: 11/82

GVWR: 3535 LBS.,

GAWR: FRONT 1960 LBS., REAR 1610 LBS.

*Driver's side windshield cracked.

VEHICLE TIRE DATA

RECOMMENDED COLD TIRE PRESSURE: FRONT 28 psi; REAR 26 psi

TIRES ON VEHICLE (MFG. & LINE, SIZE): BF Goodrich 165 SR 14

BIAS PLY, BELTED, OR RADIAL: Steel Belted Radial

PLY RATING: 3

IS SPARE TIRE "SPACE SAVER"? Yes

IS SPARE TIRE STANDARD EQUIPMENT? Yes

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (WITH MAXIMUM FLUIDS):

RIGHT FRONT	717	LBS.	RIGHT REAR	487	LBS.
LEFT FRONT	716	LBS.	LEFT REAR	475	LBS.
TOTAL FRONT WEIGHT	1433		LBS. (59.8 % OF TOTAL VEHICLE WEIGHT)		
TOTAL REAR WEIGHT	962		LBS. (40.2 % OF TOTAL VEHICLE WEIGHT)		
TOTAL DELIVERED WEIGHT	2395		LBS.		

VEHICLE ATTITUDE (ALL DIMENSIONS IN INCHES):

DELIVERED ATTITUDE:	RF 26.1	;LF 26.1	;RR 25.6	;LR 25.6
PRE-TEST ATTITUDE:	RF 25.3	;LF 25.3	;RR 23.8	;LR 23.8
POST-TEST ATTITUDE:	RF 23.9	;LF 24.4	;RR 22.3	;LR 22.6

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 84 LBS. CARGO:

RIGHT FRONT	748	LBS.	RIGHT REAR	639	LBS.
LEFT FRONT	790	LBS.	LEFT REAR	650	LBS.
TOTAL FRONT WEIGHT	1538		LBS. (54.4 % OF TOTAL VEHICLE WEIGHT)		
TOTAL REAR WEIGHT	1289		LBS. (45.6 % OF TOTAL VEHICLE WEIGHT)		
TOTAL TEST WEIGHT	2827		LBS.		

WEIGHT OF BALLAST SECURED IN VEHICLE TRUNK AREA: 0 LBS.

TEST FLUID DATA

TEST FLUID TYPE: PURPLE STODDARD SOLVENT 2; SPEC. GRAVITY: 0.764
KINEMATIC VISCOSITY: 0.99 CENTISTOKES
"USEABLE" CAPACITY*: NA GALLONS ACTUAL
TEST VOLUME: 1.0 GALLONS
FUEL SYSTEM CAPACITY (DATA FROM OWNERS MANUAL): 16 GALLONS
DETAILS OF FUEL SYSTEM: DNA

ELECTRIC FUEL PUMP: Yes FUEL INJECTION: No
DOES ELECTRIC FUEL PUMP OPERATE WITH IGNITION SWITCH "ON" AND THE ENGINE NOT OPERATING? Yes

DATA FROM "RECOMMENDED TIRE PRESSURE" LABEL ON DOOR, POST, GLOVEBOX, ETC.

VEHICLE LOAD (UP TO CAPACITY): FRONT 28 psi; REAR 26 psi
RECOMMENDED TIRE SIZE: 165 SR 14 LOAD RANGE X B, C,
VEHICLE CAPACITY: TYPES OF SEATS: Front - Bucket
Rear - Bench
NUMBER OF OCCUPANTS (DESIGNATED SEATING CAPACITY): 2 FRONT
3 REAR
CARGO LOAD 100 LBS. 5 TOTAL
TOTAL 850 LBS.

*WITH ENTIRE FUEL SYSTEM FILLED WITH FUEL TANK THROUGH CARBURETOR BOWL.

TEST CONDITIONS

TEST NUMBER: 850710

DATE OF TEST: July 10, 1985

TIME OF TEST: 13:23

WIND VELOCITY: Calm

HUMIDITY: NA

AMBIENT TEMPERATURE AT IMPACT AREA: 80° F

TEMPERATURE IN OCCUPANT COMPARTMENT: 78° F

SUBJECT VEHICLE DATA

	<u>ACTUAL</u>	<u>INTENDED</u>
VEHICLE TEST WEIGHT (LBS.)	2827	2843
MDB TEST WEIGHT (LBS.)	2984	3000
MDB VELOCITY (MPH)*	33.4	33.5
IMPACT POINT (INCHES)**	35.5	37

DUMMIES

	<u>DRIVER</u>	<u>MIDDLE PASSENGER</u>	<u>RT. FRONT PASSENGER</u>	<u>LEFT REAR PASSENGER</u>	<u>RT. REAR PASSENGER</u>
TYPE:	SID			SID	
SERIAL NO.:	123			U02	
INSTRUMENTATION:					
HEAD ACCEL.:	Yes			Yes	
CHEST ACCEL.:	Yes (Upper/Lower)			Yes (Upper/Lower)	
FEMUR L.C.'S:	No			No	
OTHER:	Pelvis/Ribs			Pelvis/Ribs	

RESTRAINT SYSTEM: Both dummies were unrestrained

* As measured over final one foot of travel.

** As measured forward of the midpoint of the test vehicle's wheelbase.

VISIBLE DUMMY CONTACT POINTS:

	DRIVER 123	PASSENGER U02
Head	<u>Top of MDB Face, Window Sill, Roof</u>	<u>Left C-Pillar</u>
Chest	<u>Driver's Door Panel</u>	<u>Left Rear Door Panel</u>
Abdomen	<u>Driver's Door Panel</u>	<u>Left Rear Door Panel</u>
Left Knee	<u>Driver's Door Panel</u>	<u>Left Rear Door Panel</u>
Right Knee	<u>Left Knee</u>	<u>Left Knee</u>

DOOR OPENING:

	LEFT	RIGHT
Front	<u>NA*</u>	<u>Easy</u>
Rear	<u>NA*</u>	<u>Easy</u>

SEAT MOVEMENT:

	SEAT BACK FAILURE	SEAT SHIFT
Front	<u>Yes, Driver</u>	<u>Yes, Driver - 6 Inches</u>
Rear	<u>No</u>	<u>No</u>

GLAZING DAMAGE:

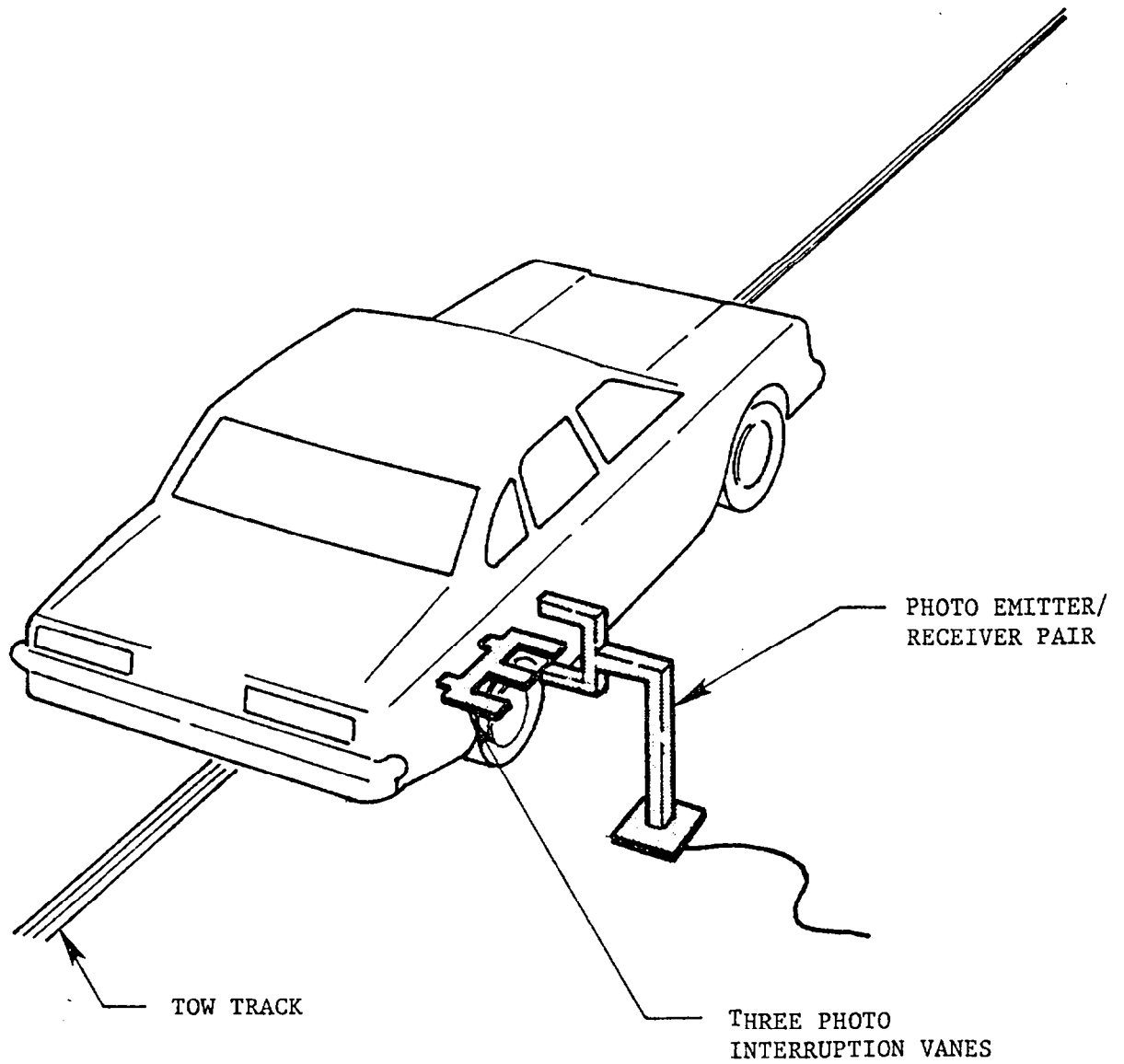
Left side of windshield cracked; all left side windows
shattered; no backlight damage.

OTHER NOTABLE IMPACT EFFECTS:

Both left side door latches separated, both left side
door hinges remained intact.

*CTM to open left side doors at a later date.

IMPACT VELOCITY MEASUREMENT SYSTEM



The final vane clears emitter/receiver two inches before impact.

The vanes have one foot spacing.

VEHICLE TEST WEIGHT CALCULATION

$$\begin{aligned} \text{Test Weight} &= \text{Unloaded Delivered Weight} + \\ &\quad (\text{Number of Dummies} \times 174 \text{ lbs.}) + \\ &\quad \text{Cargo Weight} \\ &= 2395 + (2 \times 174) + 100 \text{ lbs.} \\ &= 2843 \text{ lbs.} \end{aligned}$$

To achieve test weight, 1.0 gallon of Stoddard Solvent was added in the fuel tank. The weight of the test vehicle was measured by placing each wheel on a KJ Law Force Plate.

TEST ANOMALIES

1. Anomalous spikes occurred in the following data channels:
 - a. HEDXG1 - Driver Head Acceleration X-axis from 66 to 91 msec. No peak resultant or HIC is reported. No resultant plot is included.
 - b. T01YG1 - Driver Upper Spine Acceleration Y-axis from 315 to 337 msec.
 - c. T12YG1 - Driver Lower Spine Acceleration Y-axis (Primary) from 73 to 88 msec, from 119 to 134 msec, from 179 to 201 msec and from 293 to 340 msec. No negative peak level is reported.
 - d. LURYG1 - Driver Left Upper Rib Acceleration Y-axis from 270 to 300 msec.

The exact cause of these spikes is unknown but may be due to momentary pin separation.

2. Cable separation occurred in the following data channels:

LFSYG - Vehicle Left Front Sill Acceleration Y-axis

LFDYG1 - Vehicle Left Front Door (Position 6) Acceleration Y-axis

LFDYG2 - Vehicle Left Front Door (Position 8) Acceleration Y-axis

No peak levels or delta velocities are reported. No delta velocity plots are included.

3. Data channel T12ZG1 - Driver Lower Spine Acceleration Z-axis failed at approximately 20 msec. No peak levels or lower spine resultant accelerations are reported. No resultant acceleration plots are included.

4. A data shift occurred in data channel RRSXG - Vehicle Right Rear Sill Acceleration X-axis after approximately 160 msec. This problem has been traced to the signal conditioning card and has been repaired.

SECTION 3.0
DATA REQUIRED BY R&D

The following pages are included in this section:

1. Dummy temperature control and positioning data
2. Dummy kinematic summary
3. Vehicle crush data
4. Dummy and vehicle accelerometer location and data summary
5. High speed camera information
6. Transducer information

DUMMY TEMPERATURE CONTROL AND POSITIONING

The vehicle was kept inside the temperature controlled crash test building until approximately 2 hours prior to the test. Temperature inside the vehicle and ambient temperature at the crash area were recorded. Dummy temperature while outside the crash test building was maintained portably until approximately 1 minute prior to the test.

The following Side Impact Dummy Seating Procedure summarize the steps taken to position the instrumented, calibrated dummies in the test vehicle.

SIDE IMPACT DUMMY SEATING PROCEDURE

1. Seat Positioning

A. Place seat at the longitudinal midpoint of fore to aft adjustment (forward most locking position to rear most locking position). If no locking position is available at mid-travel, use the position immediately rearward of mid-travel.

B. If the seat back angle is adjustable, place it in the manufacturer's stated nominal design location. If not specified, set it at the first detent rearward of 25°.

C. Adjustable head restraints are set such that the top surface of the restraint is level with the cg of the dummy's head.

D. If the seat is equipped with adjustable side or lumbar supports, they are set in their "released" or full back positions.

E. All other seat adjustments are positioned to their mid-travel locations. If locking positions are not available at these mid-points, use the position immediately rearward, down, left or clockwise of mid-travel. Clockwise is defined looking rear to front or left to right relative to the vehicle. This also applies to adjustable steering columns.

2. H-point Determination

A. The SAE three-dimensional H-point machine (SAE J826 APR80 - 50th percentile male configuration) is used to locate the H-point for each surrogate.

B. The H-point machine is positioned on the seat as follows:

1. Bucket or Contoured Seats - The H-point machine is centered on the bucket or contour such that its midsagittal plane is vertical and longitudinal.

2. Bench Seats

a. driver position - The H-point machine is positioned such that its midsagittal plane is vertical, longitudinal, and contains the steering wheel center point.

b. outboard passenger positions - The H-point machine is positioned such that its midsagittal plane is vertical, longitudinal, and the same distance from the longitudinal vehicle centerline as that for the driver position.

c. Center passenger positions - The H-point machine is positioned such that its midsagittal plane is vertical and contains the longitudinal vehicle centerline.

C. Locate the H-point position using the steps outlined in sections 4 through 6 of SAE Standard J826 APR80, unless otherwise specified in section 1 or 2 of this document. Record the coordinates of this point, relative to the vehicle, for use in section 4 of this document.

3. Test Dummies

A. All NHTSA side impact crash tests use the NHTSA Side Impact Dummy (SID) as the surrogate(s), unless otherwise specified by the CTM.

B. All dummy joints are inspected for mobility prior to each test usage and reset to hold between 1 and 2 g's. This amount just barely restrains the weight of the individual limb when it is extended horizontally.

C. Each test dummy is clothed in form-fitting cotton stretch underwear with short sleeves and mid-calf length pants. Each foot of the dummy is equipped with a size 11EE shoe which meets the configuration, size, sole, and heel thickness specifications of MIL-S-13192 and weighs 1.25 ± 0.2 pounds. All the above items are supplied by the contractor.

4. Initial Dummy Placement

The SID dummy(s) is placed in the vehicle seat with its pelvis

positioned such that a lateral line passing through the dummy H-point is perpendicular to the longitudinal centerplane of the vehicle.

A. Bucket or Contoured Seats. The dummy is centered on the bucket or contoured seat such that its midsagittal plane is vertical and longitudinal. The legs are positioned as follows, keeping the femur and tibia centerlines in a plane that is as near to vertical as possible.

1. driver position placement - The right foot of the dummy is placed on the undepressed accelerator pedal, with the heel resting on the floorpan as far forward as possible. The left knee is positioned such that the distance from the outer surface of the knee pivot bolt to the dummy's midsagittal plane is 6 inches.

2. passenger position placement - The knees of the dummy are initially set 11 1/2" apart, measured between the outer surfaces of the knee pivot bolt heads. If a center tunnel prevents this, place the feet on either side of the tunnel.

B. Bench seats.

1. driver position placement - The dummy is placed in the seat as outlined in section 4.A.1 except that its midsagittal plane is vertical, longitudinal and contains the steering wheel center point.

2. outboard passenger positions - The dummy is placed in the seat as outlined in section 4.A.2 except that its midsagittal plane is vertical, longitudinal, and the same distance from the vehicle centerline as that for the driver position.

3. center passenger positions - The dummy is positioned in the seat as outlined in section 4.A.2 except that its midsagittal plane is vertical and contains the vehicle centerline.

5. Initial Dummy Positioning

A. H-Point Positioning

1. With the dummy laterally positioned as in section 4, insert the pelvis angle indicator bar in the hole provided above, and to the rear of the dummy H-point. Position the longitudinal pelvis angle between 23° and 25° to the horizontal. This may be accomplished by raising the legs or flexing the upper torso forward and allowing the

pelvis to rotate. The lateral pelvis angle is to be horizontal.

2. Apply sufficient force on the lower torso in a horizontal and vertical direction to place the dummy H-point at the coordinates obtained in section 2.

3. If the H-point cannot be placed at the desired coordinates, adjust the pelvis angle within the 2° band and reposition to the coordinates. After repositioning the H-point, any deviation from the desired coordinates is recorded and used to indicate actual H-point locations. This deviation is not to exceed 1/2".

B. Upper Torso Positioning. The dummy's upper torso should rest against the seat back. If not, adjust the upper torso, maintaining the H-point location and pelvis angle, so that the dummy's back rests against the seat back. If this cannot be done, modify the H-point location and/or pelvis angle within the allowable bands until the back rests against the seat.

6. Final Dummy Positioning

A. Driver Position. Without inducing pelvis or torso movement, the dummy's right foot is placed on the undepressed accelerator pedal with the heel resting as far forward as possible on the floorpan. The left foot is set perpendicular to the lower leg with the heel resting on the floorpan in the same lateral line as the right heel. If possible within these constraints, the dummy's thighs should be in contact with the seatpan.

B. Front Passenger Positions. Without inducing pelvis or torso movement, place the dummy's feet on the vehicle's toeboard with the heel resting on the floorpan as close as possible to the intersection of the toeboard and floorpan. If the feet cannot be placed on the toeboard, they are set perpendicular to the lower legs and placed as far forward as possible such that the heels rest on the floorpan.

C. Rear Passenger Positions. Without inducing pelvis or torso movement, the feet are placed flat on the floorpan and beneath the front

seat as far forward as possible without front seat interference. If necessary, change the distance between the knees as required to place the feet beneath the seat. Record the new distance.

D. Vehicles with wheelhouse projections in the passenger compartment. The foot (feet) in question is placed in the wheel of the floorpan/toeboard and not in the wheelhouse projection. This is done by twisting the foot at the ankle, maintaining the upper and lower leg positions outlined in section 4. If this does not resolve the situation, move the leg of the foot in question just enough to achieve the correct position, keeping the femur and tibia centerlines in a plane that is as near to vertical as possible. Record the new distance between the knees.

E. The knee positions are to be as outlined in section 4, unless modified as in section 6. The plane containing the femur and tibia centerlines for each leg is to be as near to vertical as possible without inducing pelvis or torso movement. Record the distance between the knees for each dummy.

F. Prior to conducting the test, the dummy position is visually checked. The dummy is to be properly positioned laterally with its midsagittal plane vertical and longitudinal, and the upper torso resting against the seat back. The H-point and pelvis angle are to be within the specified ranges and the foot, knee, and leg placements are to be as outlined. The CTM is to be satisfied with the final dummy position and any deviations from this procedure are to be approved by the CTM.

G. The final dummy position is recorded. These measurements are to include, but not be limited to, pelvis and head angles as well as actual H-point and head cg locations relative to the vehicle. The straight-line distance from the H-point to the center of the outer ankle bolt is also recorded for one of the legs (eg. left H-point to left ankle bolt).

VEHICLE NHTSA NO. R & D

MFR./MAKE/MODEL: Mazda 626

FRONT SEAT TYPE: BENCH
 X BUCKET
 SPLIT BENCH

ADJUSTER TYPE: X MANUAL
 POWER

BUCKET SEAT BACK TYPE: FIXED
 X ADJUSTABLE

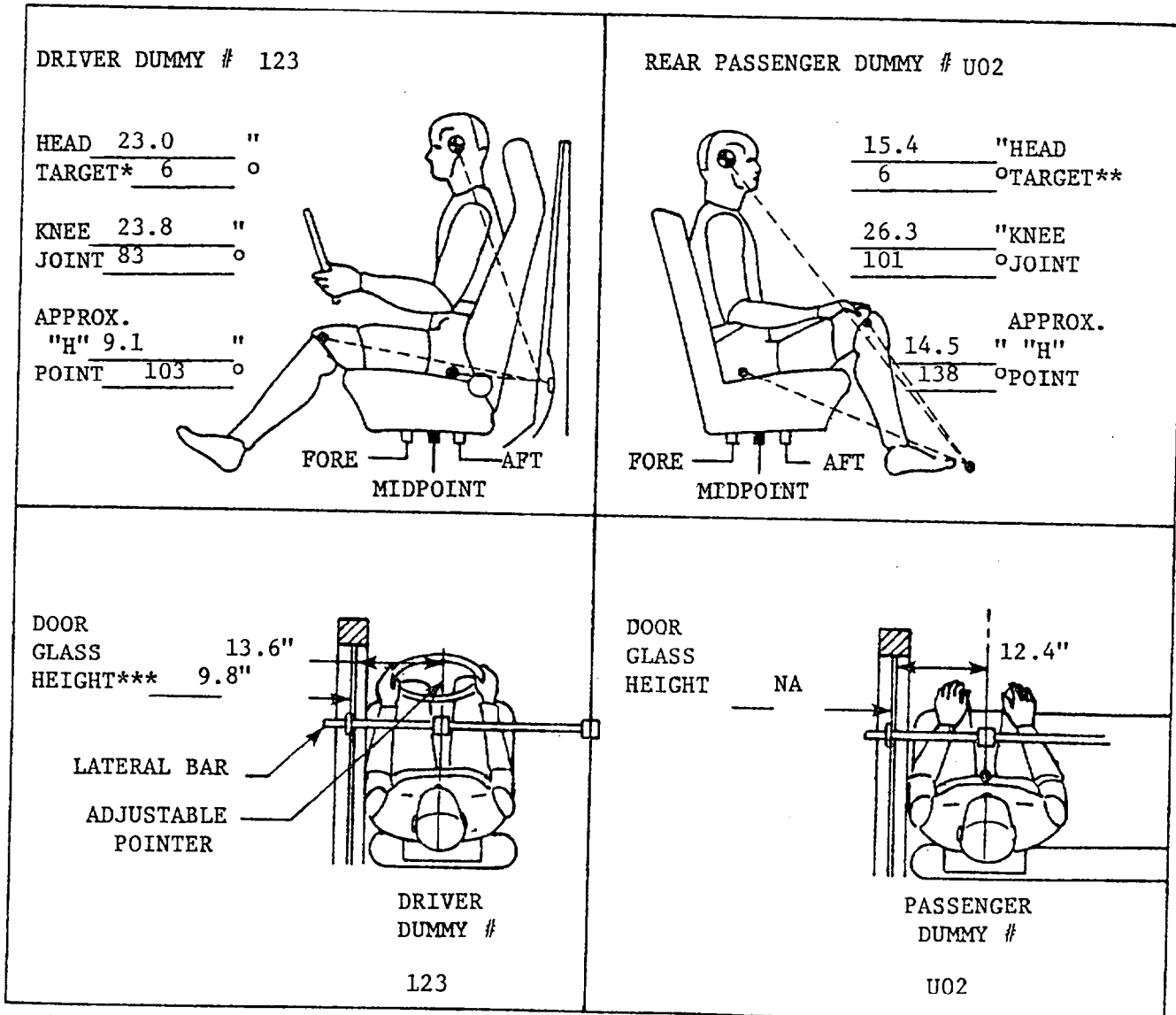
TECHNICIANS:
 1. B. Miller

POSITIONING DATE: July 10, 1985

2. D. Carpenter

AMBIENT TEMP: 68 °F TIME: 9:07

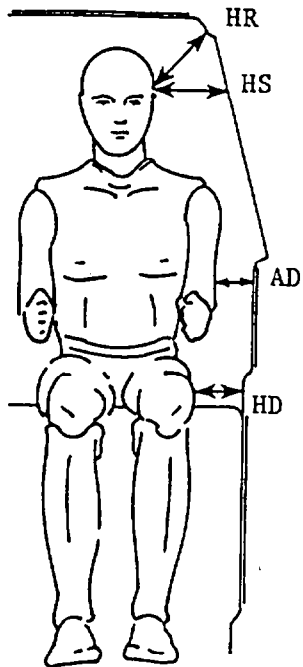
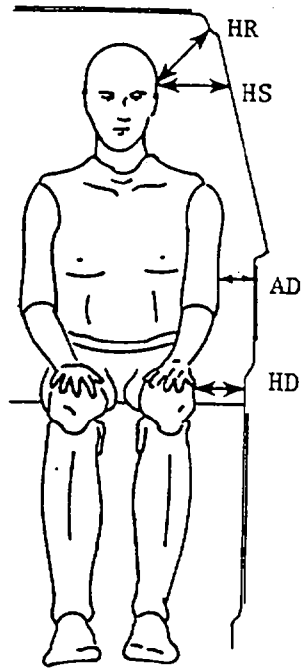
3.



*All driver dummy dimensions referenced to top of front door striker bolt and all angles referenced to vertical.

**All passenger dummy dimensions referenced to top of rear door striker bolt and all angles referenced to vertical.

***Door glass height is equal on the right and left side of vehicle at dummy nose level.



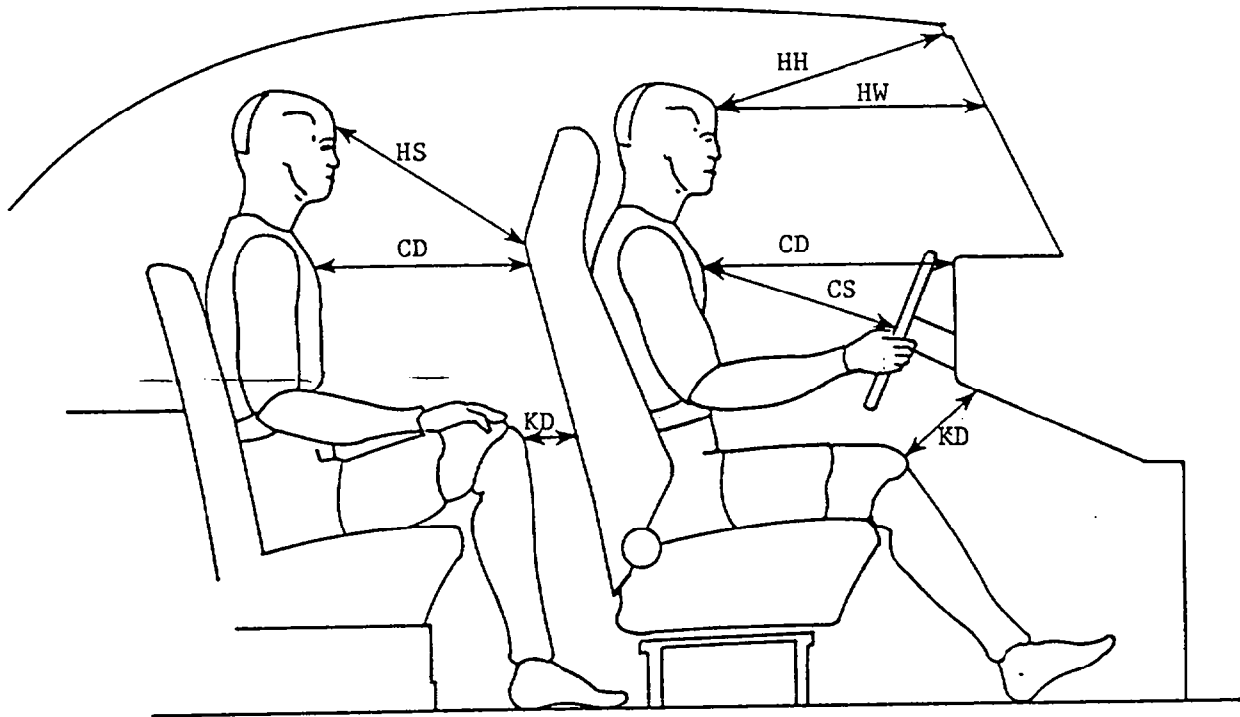
DRIVER
123

PASSENGER
U02

HR	7.6	7.6
HS	9.9	6.7
AD	5.2	4.8
HD	7.3	6.5

ALL MEASUREMENTS IN INCHES

DUMMY LATERAL CLEARANCE DIMENSIONS



DRIVER

PASSENGER

123

U02

HH	10.6	DNA
HW	17.4	DNA
HS	DNA	27.4
CD	20.3	20.8
CS	12.9	DNA
KDL	3.1	5.9
KDR	3.5	6.0

ALL MEASUREMENTS IN INCHES

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

SAE 3D H-POINT MACHINE LOCATION AND DUMMY LOCATION DATA

	DRIVER #123*	PASSENGER #U02**
SAE 3D H-POINT MACHINE LOCATION:	X = -9.91 Z = 7.13	R = 14.44 $\theta = -42^\circ$
DUMMY H-POINT LOCATION:	X = -9.44 Z = 6.81	R = 14.31 $\theta = -42^\circ$
DUMMY HEAD LOCATION:	X = -17.22 Z = 33.00	R = 15.38 $\theta = 84^\circ$
DUMMY HEAD ANGLE:	-1°	8°
DUMMY PELVIC ANGLE:	25°	23°
DUMMY H-POINT TO LEFT ANKLE BOLT DISTANCE:	27.3	26.5

*All location measurements referenced to left most front seat track bolt in two-dimensional rectangular coordinates: +X = forward, +Z = upward.

**All location measurements referenced to top of left rear door striker bolt in two-dimensional cylindrical coordinates: R = straight line distance parallel to vehicle longitudinal centerline (always positive), θ = pitch angle (positive is upward with respect to horizontal).

All dimensions in inches except as noted.

All angles referenced to horizontal, positive is upward.

DUMMY KINEMATIC SUMMARY

DRIVER

During impact, the dummy's torso contacted the driver's inner door panel and the head contacted the window sill and the top of the moving deformable barrier face. The dummy rebounded laterally across the front occupant compartment. The rear of the dummy's head struck the roof near the right front door and the buttocks struck the right front inner door panel. The buttocks slid down into the passenger's seat and the rear of the upper torso contacted the right front inner door panel. The dummy came to rest lying on its left side in the front passenger's seat facing the driver's side.

PASSENGER

During impact, the dummy's torso contacted the left rear door and the head contacted the left C-pillar. The dummy rebounded laterally across the rear occupant compartment in an upright position until the torso contacted the right rear inner door panel. The dummy rebounded off of the door panel and fell over onto its left side where it came to rest.

VEHICLE EXTERIOR PROFILES AND STATIC CRUSH

ZERO DISTANCE AT PROJECTED IMPACT POINT*

LOCATION	HEIGHT (in)	6	0	6	12	18	24	30	36	42	48	54	60	66	72	78	
		PRE-TEST PROFILE (DISTANCE IN INCHES FROM REFERENCE PLANE**)															
Axle Height	11.4	X	X	18.0	18.0	17.9	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.7	X
H-Point	18.7	X	15.4	15.6	15.5	15.4	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	X
Mid Door	22.8	X	15.8	15.7	15.5	15.4	15.3	15.3	15.3	15.3	15.3	15.2	15.2	15.3	15.3	15.3	X
Window Sill	33.9	17.9	17.8	17.6	17.5	17.4	17.3	17.3	17.2	17.2	17.2	17.2	17.1	17.2	17.2	17.2	17.
Window Top	55.3	X	X	X	X	X	X	26.6	26.6	26.8	25.9	25.8	25.6	25.7	25.7	26.	

POST-TEST PROFILE (DISTANCE IN INCHES FROM REFERENCE PLANE**)

Axle Height	11.4	X	X	21.9	29.8	30.3	30.1	30.1	30.1	30.1	30.1	30.1	26.8	23.1	21.3	20.5	X
H-Point	18.7	X	17.3	21.3	33.3	34.0	34.4	34.9	35.4	35.8	36.8	37.6	37.1	36.9	35.7	35.7	X
Mid Door	22.8	X	18.1	21.3	31.9	32.8	33.2	33.6	34.2	34.9	37.3	37.2	36.2	36.8	35.9	35.9	X
Window Sill	33.9	20.4	20.8	21.4	27.3	29.3	30.0	30.5	31.1	31.7	33.8	33.9	33.9	34.3	33.3	28.	
Window Top	55.3	X	X	X	X	X	X	31.1	31.1	31.3	30.8	30.3	29.6	29.3	28.9	29.	

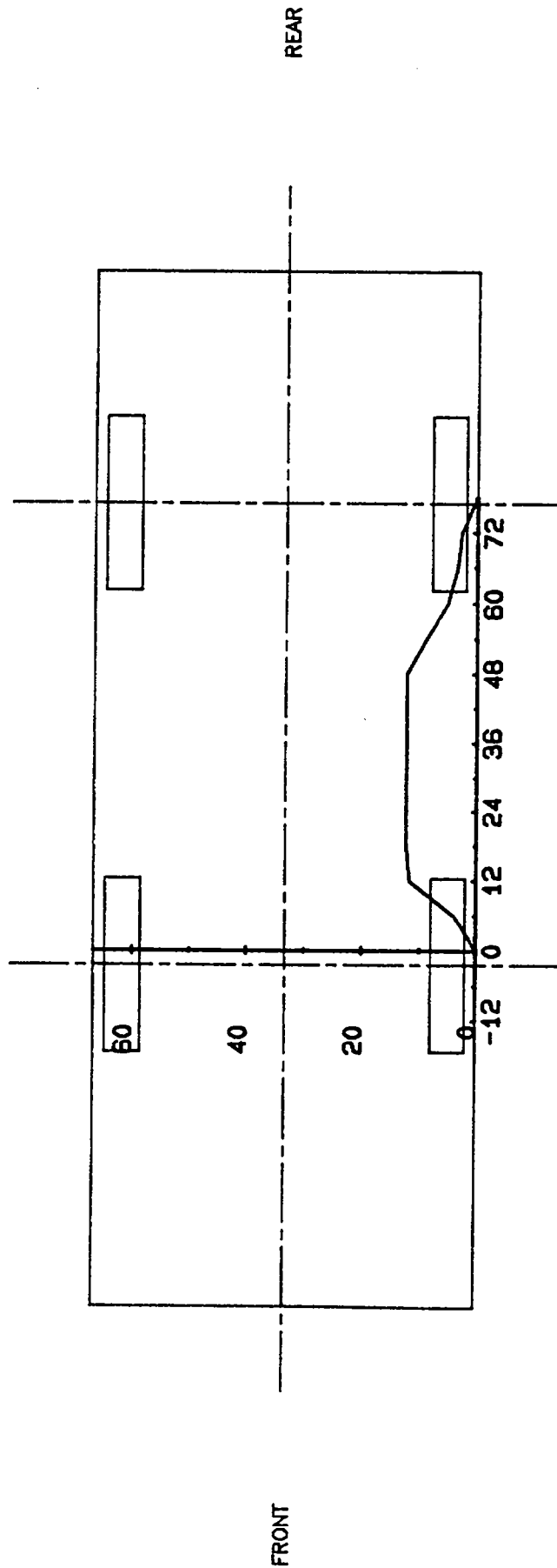
STATIC CRUSH (IN)

Axle Height	11.4	X	X	3.9	11.8	12.4	12.3	12.3	12.3	12.3	12.3	9.0	5.3	3.5	2.8	X
H-Point	18.7	X	1.9	5.7	17.8	18.6	19.1	19.6	20.1	20.5	21.5	22.3	21.8	21.6	20.4	X
Mid Door	22.8	X	2.3	5.6	16.4	17.4	17.9	18.3	18.9	19.6	22.0	22.0	21.0	21.5	20.6	X
Window Sill	33.9	2.5	3.0	3.8	9.8	11.9	12.7	13.2	13.9	14.5	16.6	16.7	16.8	17.1	16.1	10.
Window Top	55.3	X	X	X	X	X	X	4.5	4.5	4.5	4.9	4.5	4.0	3.6	3.2	2.

* Projected impact point is 37 inches forward of driver's side wheelbase midpoint. Column readings are front to rear from left to right.

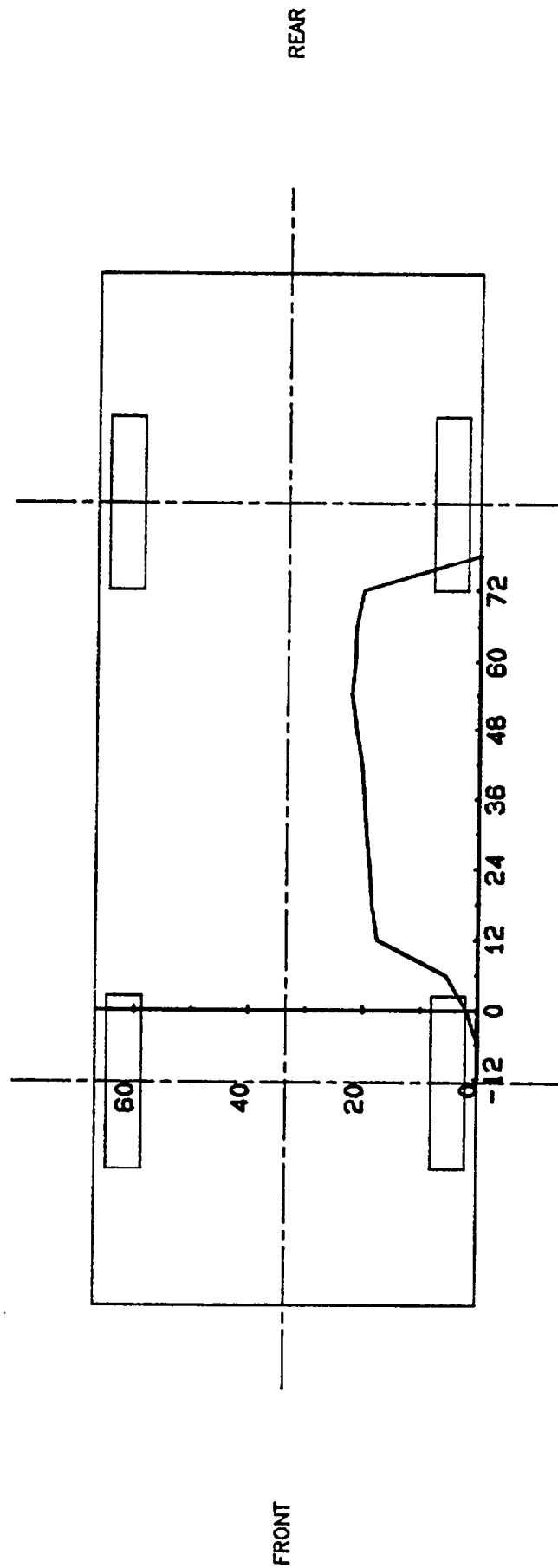
** Reference plane is parallel to and 48 inches from the vehicle longitudinal centerline.

VEHICLE EXTERIOR STATIC CRUSH PROFILE



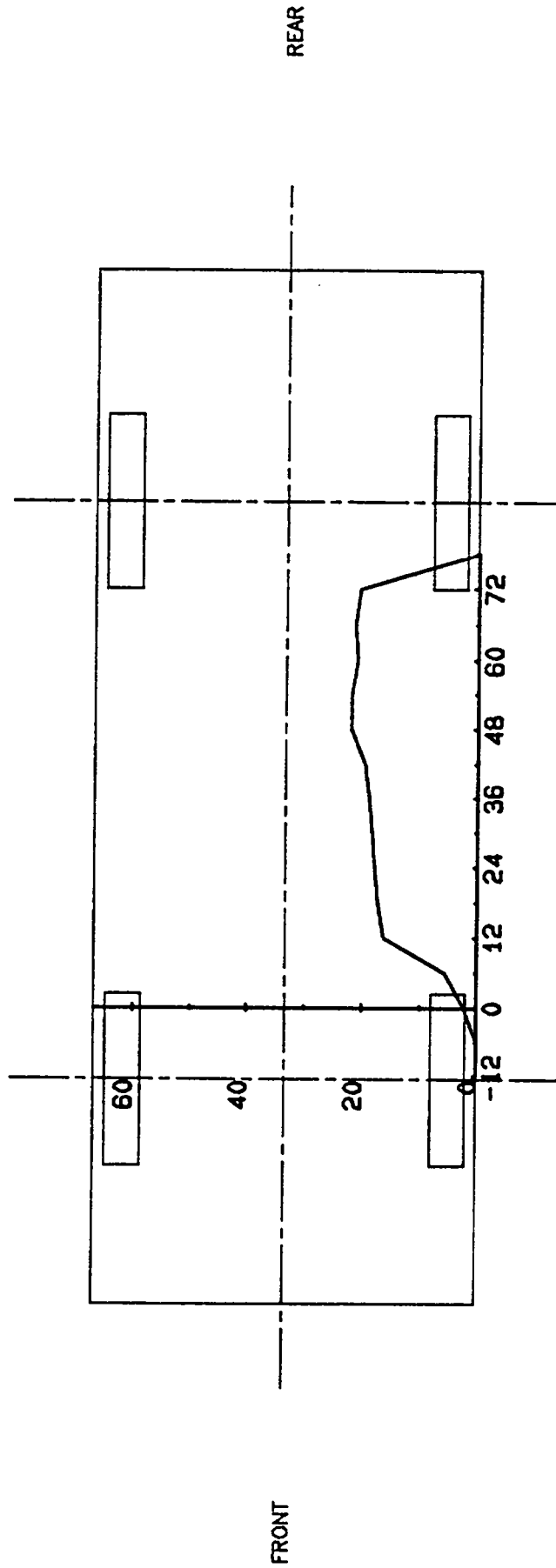
PROFILE LEVEL EQUALS AXLE HEIGHT WHICH IS 11.4" ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.035

VEHICLE EXTERIOR STATIC CRUSH PROFILE



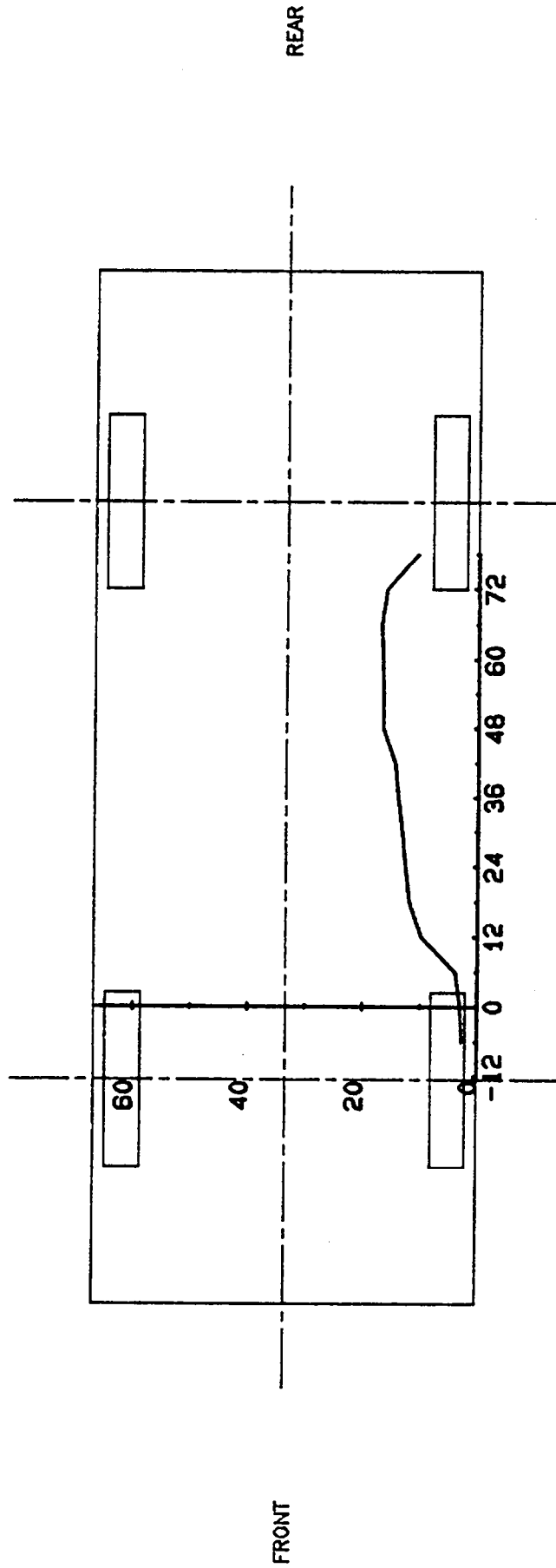
PROFILE LEVEL EQUALS H-POINT HEIGHT WHICH IS 18.7" ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.035

VEHICLE EXTERIOR STATIC CRUSH PROFILE



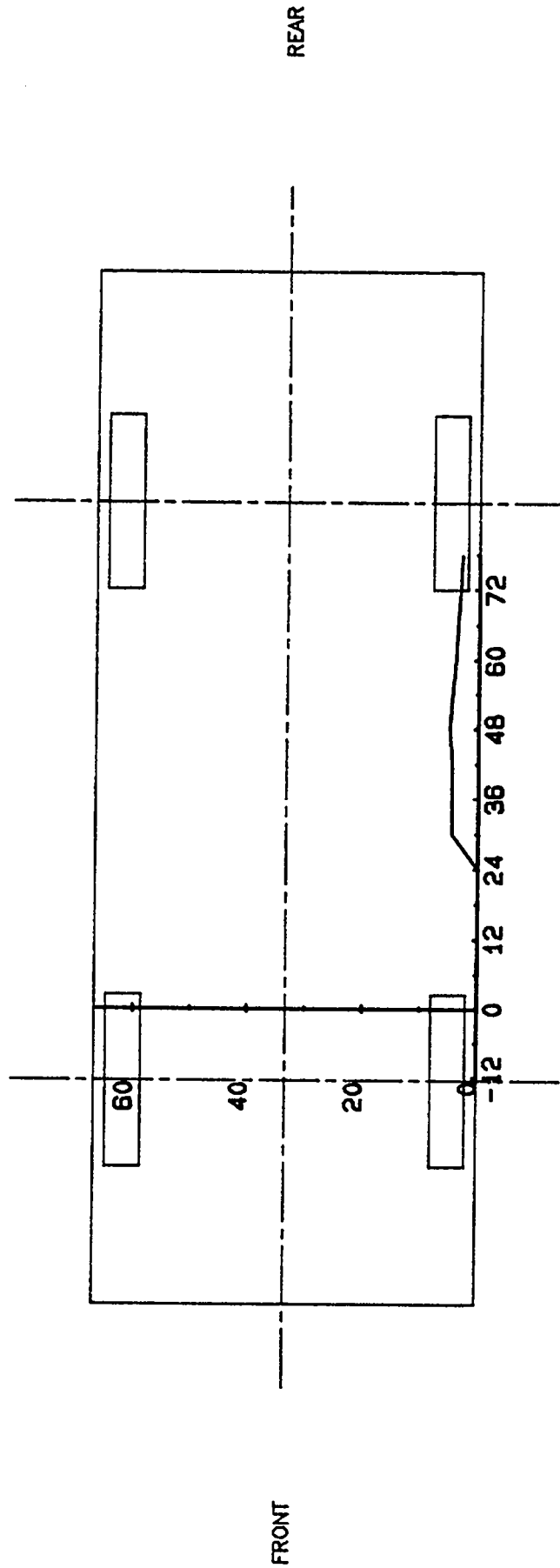
PROFILE LEVEL EQUALS MID DOOR HEIGHT WHICH IS 22.8" ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.035

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW SILL HEIGHT WHICH IS 33.9" ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.035

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW TOP HEIGHT WHICH IS 55.3" ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.035

SIDE IMPACT DUMMY DATA SUMMARY

	<u>DRIVER DUMMY</u>				<u>PASSENGER DUMMY</u>						
	<u>POSITIVE</u>		<u>NEGATIVE</u>		<u>POSITIVE</u>		<u>NEGATIVE</u>				
	<u>DIRECTION*</u>		<u>DIRECTION**</u>		<u>DIRECTION*</u>		<u>DIRECTION**</u>				
	<u>MAX</u>	<u>TIME</u>	<u>MAX</u>	<u>TIME</u>	<u>MAX</u>	<u>TIME</u>	<u>MAX</u>	<u>TIME</u>			
	<u>(g)</u>	<u>(msec)</u>	<u>(g)</u>	<u>(msec)</u>	<u>(g)</u>	<u>(msec)</u>	<u>(g)</u>	<u>(msec)</u>			
HEAD ACCELERATION											
LONGITUDINAL	---	---	Y	---	---	Y	11.60	38.75	18.87	50.88	
LATERAL	58.00	86.00	22.83	34.63	92.35	58.25	22.32	38.63			
VERTICAL	26.55	50.00	57.43	62.50	34.12	50.00	57.00	58.38			
RESULTANT		---	@	---	Y	108.14	@	58.25			
HIC	---	from	---	to	---	Y	543.20	from	48.50	to	63.13 msec
CHEST ACCELERATION											
UPPER SPINE											
LONGITUDINAL	14.83	34.38	22.70	40.63	19.94	53.12	26.50	41.25			
LATERAL (P)***	124.93	40.00	Y	32.93	67.50	124.38	42.50	33.05	65.00		
LATERAL (R)***	129.61	40.00	32.91	67.50	127.15	42.50	39.06	65.00			
VERTICAL	7.19	59.38	15.08	31.88	9.51	29.38	19.85	40.00			
RESULTANT (P)		127.41	@	40.00		127.42	@	41.87			
RESULTANT (R)		132.00	@	40.00		130.30	@	41.87			
DELTA V (MPH)****		25.0	@	60.63 (P)		26.0	@	61.87 (P)			
		26.7	@	61.25 (R)		27.4	@	61.87 (R)			
LOWER SPINE											
LONGITUDINAL	26.86	54.38	24.26	36.88	24.03	53.12	13.91	28.75			
LATERAL (P)	113.73	30.50	Y	---	---	Y	91.02	36.25	15.84	56.87	
LATERAL (R)	112.33	32.50	11.31	56.87	95.57	36.25	14.82	56.87			
VERTICAL	---	---	Y	---	---	Y	23.90	37.50	7.32	51.25	
RESULTANT (P)		---	@	---	Y	93.77	@	36.88			
RESULTANT (R)		---	@	---	Y	98.18	@	36.25			
DELTA V (MPH)		28.7	@	54.38 (P)		26.6	@	49.37 (P)			
		28.7	@	54.38 (R)		28.0	@	49.37 (R)			
LEFT UPPER RIB											
LATERAL (P)	100.39	35.63	8.87	88.13	Y	126.52	37.50	10.55	50.00		
LATERAL (R)	107.12	35.63	9.44	151.87	122.15	37.50	11.46	49.37			
DELTA V (MPH)		25.1	@	81.88 (P)		25.5	@	85.00 (P)			
		25.0	@	81.88 (R)		25.7	@	85.00 (R)			
LEFT LOWER RIB											
LATERAL (P)	97.84	36.25	36.99	70.63	90.80	35.63	39.32	70.00			
LATERAL (R)	96.39	36.25	13.68	71.25	92.88	35.00	38.95	70.00			
DELTA V (MPH)		25.6	@	59.38 (P)		29.2	@	59.38 (P)			
		26.1	@	60.00 (R)		29.0	@	59.38 (R)			
PELVIS ACCELERATION											
LONGITUDINAL	10.84	29.50	39.01	37.25	9.47	73.50	41.06	29.63			
LATERAL	177.83	31.38	13.38	58.13	224.33	30.38	8.54	74.75			
VERTICAL	40.48	34.25	5.32	79.00	49.58	34.88	4.64	79.63			
RESULTANT		179.36	@	31.38		227.83	@	30.38			
DELTA V (MPH)		27.1	@	42.75		28.5	@	39.63			

SIDE IMPACT DUMMY DATA SUMMARY CONTD

	<u>DRIVER DUMMY</u>				<u>PASSENGER DUMMY</u>			
	<u>POSITIVE</u>		<u>NEGATIVE</u>		<u>POSITIVE</u>		<u>NEGATIVE</u>	
	<u>DIRECTION*</u>		<u>DIRECTION**</u>		<u>DIRECTION*</u>		<u>DIRECTION**</u>	
	<u>MAX</u>	<u>TIME</u>	<u>MAX</u>	<u>TIME</u>	<u>MAX</u>	<u>TIME</u>	<u>MAX</u>	<u>TIME</u>
	<u>(in)</u>	<u>(msec)</u>	<u>(in)</u>	<u>(msec)</u>	<u>(in)</u>	<u>(msec)</u>	<u>(in)</u>	<u>(msec)</u>
RIB DEFLECTION †	1.44	64.00	0.08	213.13	1.67	65.25	0.06	31.08

* LONGITUDINAL: FORWARD
 LATERAL: RIGHTWARD
 VERTICAL: UPWARD

**LONGITUDINAL: REARWARD
 LATERAL: LEFTWARD
 VERTICAL: DOWNWARD

*** (P) = Primary Sensor, (R) = Redundant Sensor

**** For dummy channels, Delta V is the velocity change at the approximate time of separation from the contact area.

† Compression: Positive

‡ See TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

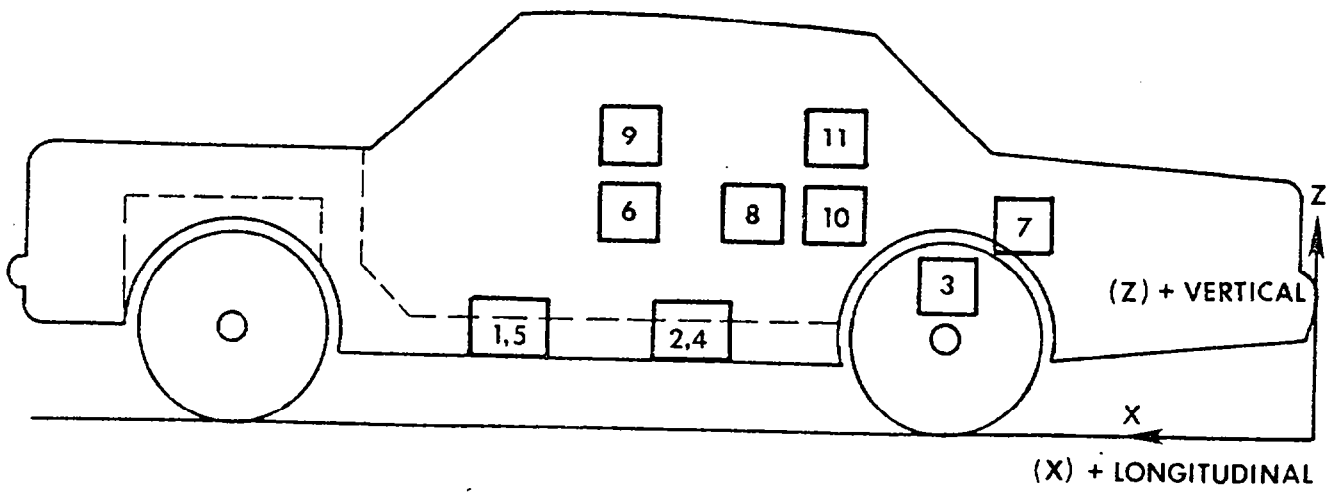
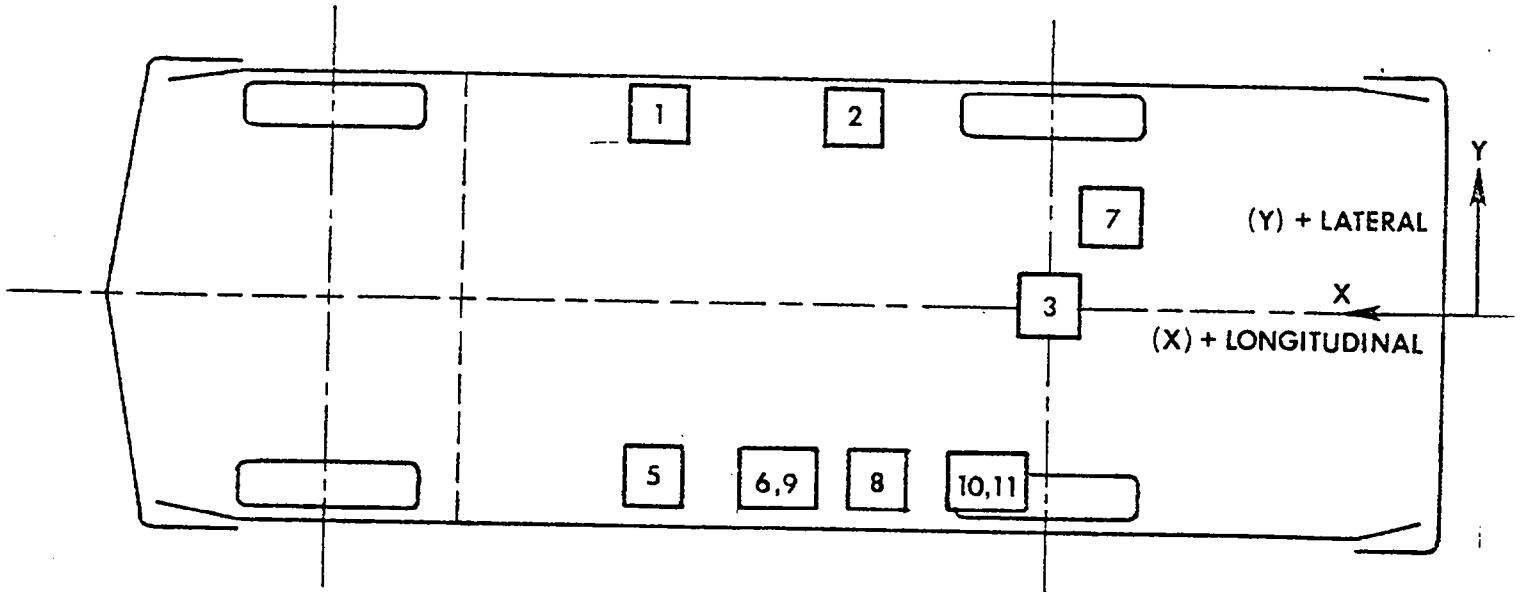
NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION		NEGATIVE DIRECTION	
					MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
1	RIGHT SILL AT FRONT SEAT (LONGITUDINAL)	104.6	26.8	8.3				
	(LATERAL)				1.76	38.00	5.54	22.75
	(VERTICAL)				14.41	11.75	1.94	156.38
	(RESULTANT)				2.46	14.25	2.80	65.25
						14.75 @	11.75	
2	RIGHT SILL AT REAR SEAT (LONGITUDINAL)	72.9	26.3	9.5				
	(LATERAL)				8.24	115.88	6.05	29.75
	(VERTICAL)				12.88	14.63	2.35	152.25
	(RESULTANT)				3.86	28.38	3.65	49.00
						13.42 @	14.75	
3	REAR DECK OVER AXLE (LONGITUDINAL)	37.8	0.0	18.0				
	(LATERAL)				6.59	32.88	6.86	20.63
	(VERTICAL)				13.84	37.00	2.81	160.00
	(RESULTANT)				11.18	70.38	12.75	64.88
						16.73 @	64.50	
4	LEFT SILL AT REAR SEAT (LATERAL)	72.0	-26.5	8.0				
					36.56	26.50	24.15	50.13
5	LEFT SILL AT FRONT SEAT (LATERAL)	103.5	-26.0	8.3				
					---	---	---	---
6	LEFT FRONT DOOR CENTERLINE (LATERAL)	100.8	-28.1	19.5				
					---	---	---	---
7	RIGHT REAR COMPARTMENT (LONGITUDINAL)	33.6	16.9	18.8				
					4.17	84.75	6.79	24.00
8	MIDREAR OF LEFT FRONT DOOR (LATERAL)	92.4	-28.1	22.0				
					---	---	---	---
9	UPPER LEFT FRONT DOOR CENTERLINE (LATERAL)	100.6	-28.3	27.5				
					87.34	15.13	20.69	33.63
10	MIDREAR OF LEFT REAR DOOR (LATERAL)	61.8	-29.5	19.3				
					194.92	11.13	112.38	26.25
11	UPPER REAR OF LEFT REAR DOOR (LATERAL)	61.8	-29.1	26.5				
					133.78	12.00	106.16	27.13

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

All measurements of accelerometer locations in inches.

YSee TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS



YAW RATE GYRO LOCATION AND DATA SUMMARY

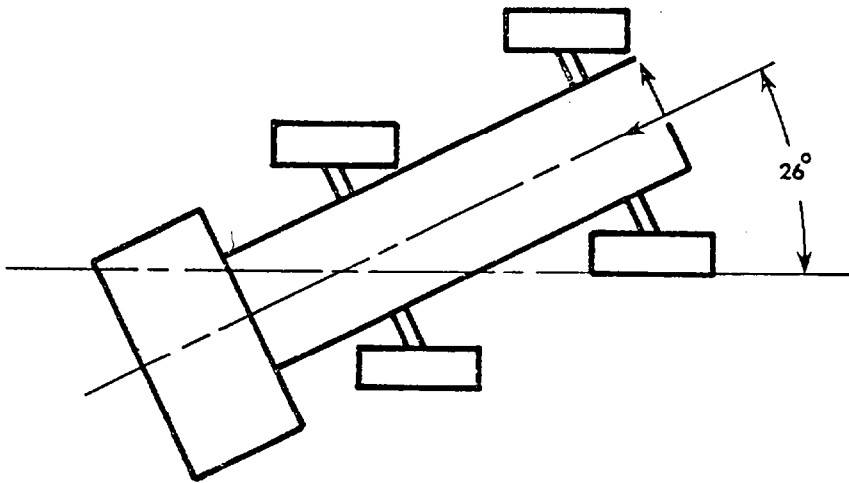
LOCATION	X*	Y*	Z*	POSITIVE DIRECTION		NEGATIVE DIRECTION	
				MAX (deg/sec)	TIME (msec)	MAX (deg/sec)	TIME (msec)
YAW RATE GYRO	102.5	0.0	16.1	142.62	26.63	213.27	50.88

*Reference: X - Rear Bumper (+ forward), Y - Vehicle Centerline (+ to right),
Z - Ground Level (+ up)

All measurements of rate gyro in inches.

Yaw rotation is positive when measured counterclockwise as viewed from above.

MOVING BARRIER ACCELEROMETER LOCATIONS AND DATA SUMMARY



NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION		NEGATIVE DIRECTION	
					MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
1	CENTER OF GRAVITY (LONGITUDINAL)	73.5	0.0	12.8	0.82	164.25	14.30	36.13
	(LATERAL)				1.58	76.75	5.08	38.13
	(VERTICAL)				4.92	73.00	4.54	68.25
	(RESULTANT)					15.35 @ 36.50		
2	REAR FRAME MEMBER (LONGITUDINAL)	19.4	-18.5	12.7	1.80	158.25	15.77	35.25
	(LATERAL)				4.66	30.38	2.67	134.25

* Reference: X - Rear Most Point of Frame (+ To Forward), Y - Barrier Centerline (+ To Right), Z - Ground Level (+ To Up)

All measurements of accelerometer locations in inches.

CAMERA INFORMATION

CAMERA NO.	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Onboard MDB - Tight	Photosonic 1B	25	975	Closeup of impact point
2	Onboard MDB - Tight	Photosonic 1B	13	988	Dummy Kinematics
3	Overhead - Tight	Photosonic 1B	25	1022	Closeup of impact point
4	Overhead - Wide	Photosonic 1B	8	930	Vehicle Dynamics
5	Ground Level - Right	Photosonic 1B	25	770	Overall View
6	Ground Level - Left	Photosonic 1B	17	1095	Overall View
7	Onboard Windshield	Photosonic 1B	8	997	Driver Kinematics - front vie
8	Onboard Roof	Photosonic 1B	8	980	Door/Driver contact velocity
9	Onboard Driver	Photosonic 1B	8	1005	Driver Kinematics
10	Onboard Passenger	Photosonic 1B	8	995	Passenger Kinematics

LOCATIONS OF OFFBOARD HIGH SPEED CAMERAS

<u>CAMERA NO.</u>	<u>X</u>	<u>Y</u>	<u>Z</u>
1	0	0	25'
2	0	0	25'
5	24'10"	58'8"	45"
6	-20'11"	-13'	45"

Origin of Coordinate System is Point of Impact

- +X = Forward with Respect to Striking Vehicle's Velocity Vector
- +Y = Rightward with Respect to Striking Vehicle's Velocity Vector
- +Z = Upward with Respect to Striking Vehicle's Velocity Vector

NON-GOVERNMENT FURNISHED TRANSDUCER INFORMATION

PARAMETER BEING MEASURED	TYPE OF TRANSDUCER	MODEL NUMBER	SERIAL NUMBER	MFR.	DATE OF LAST CALIBRATION	SENSITIVITY	DESIRED FULL SCALE (ENGR. UNITS)
BOGXG	Accel	4-202-0001	18851	Bell Howell	6/17/85	.241 MV/G	50 G
BOGYG	Accel	4-202-0001	18859	Bell Howell	6/17/85	.238 MV/G	50 G
BOGZG	Accel	4-202-0001	18847	Bell Howell	6/17/85	.246 MV/G	50 G
BFCXG	Accel	4-202-0001	18240	Bell Howell	6/12/85	.240 MV/G	50 G
BRCXG	Accel	4-202-0001	19022	Bell Howell	6/12/85	.222 MV/G	50 G

All dummy and struck vehicle accelerometers were Government Furnished Equipment and were Endevco 2264 Accelerometers.

APPENDIX A
PHOTOGRAPHS

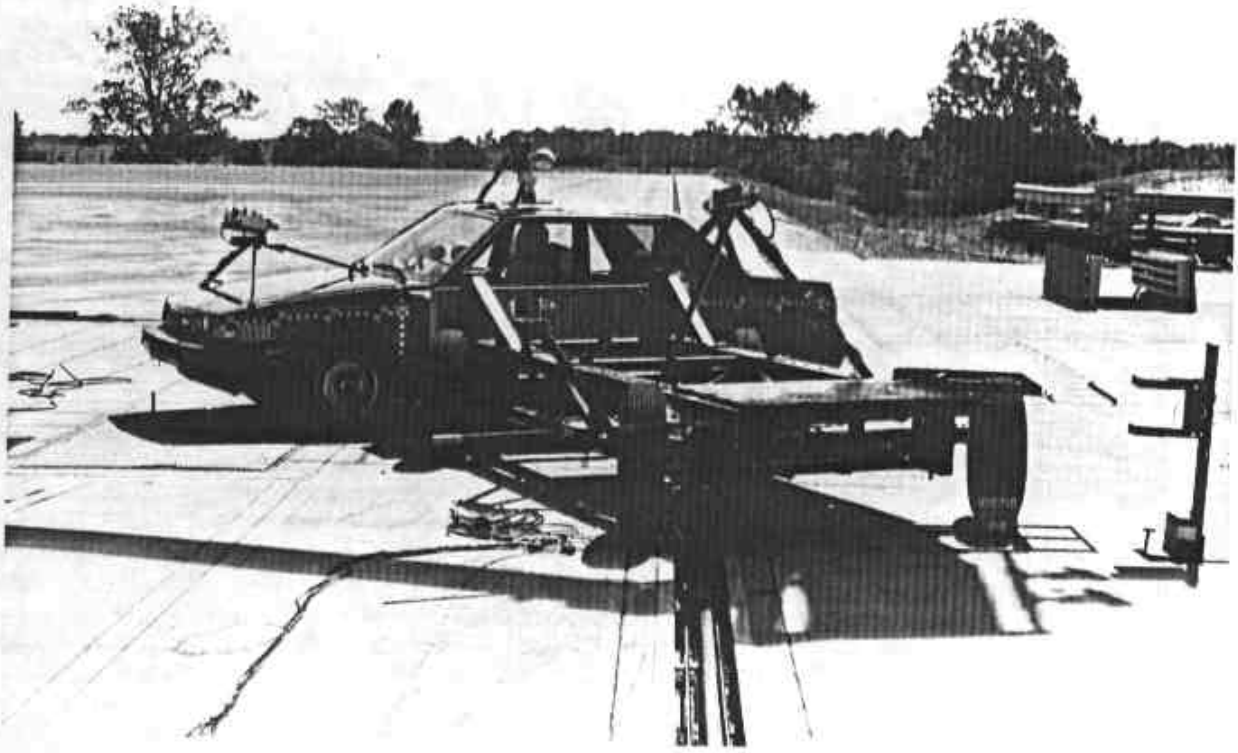


Figure A-1. PRE-TEST OVERALL - VIEW 1

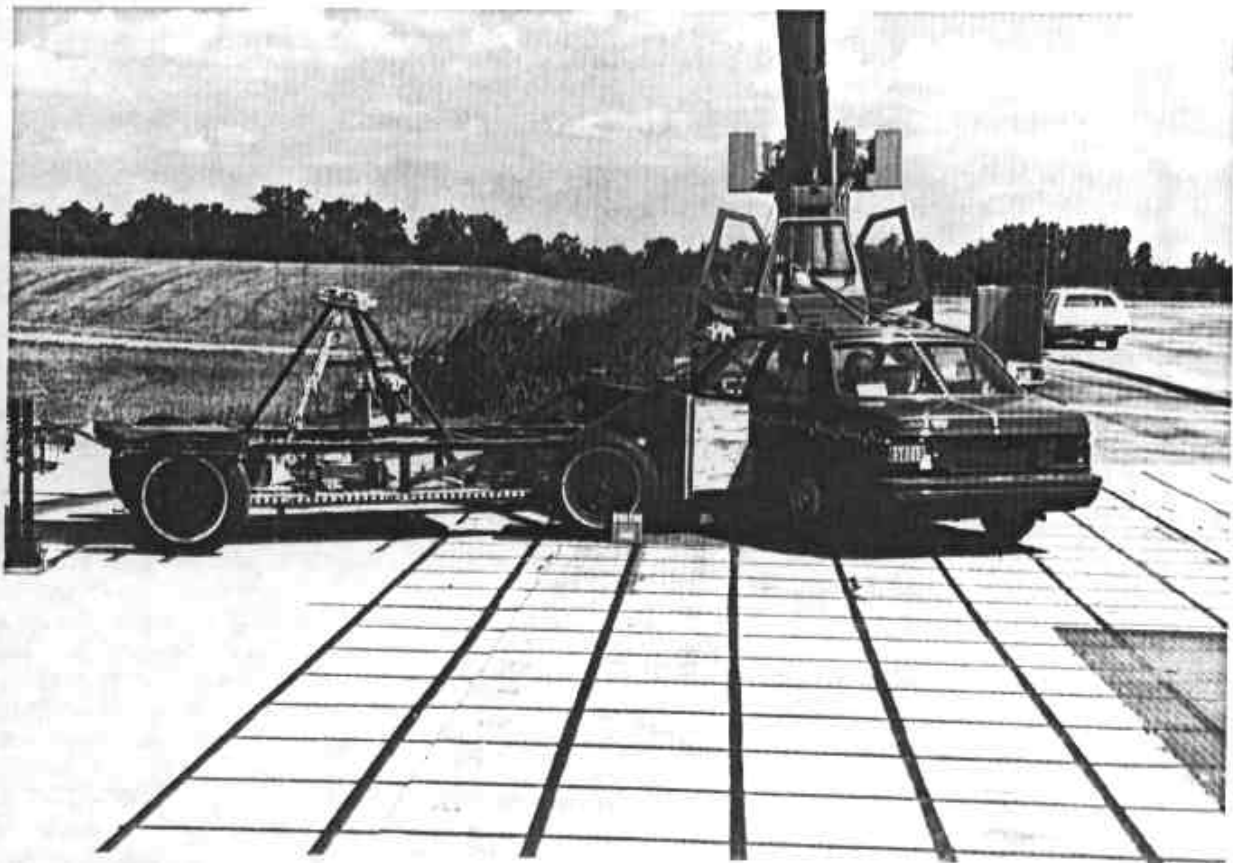


Figure A-2. PRE-TEST OVERALL - VIEW 2
A-2

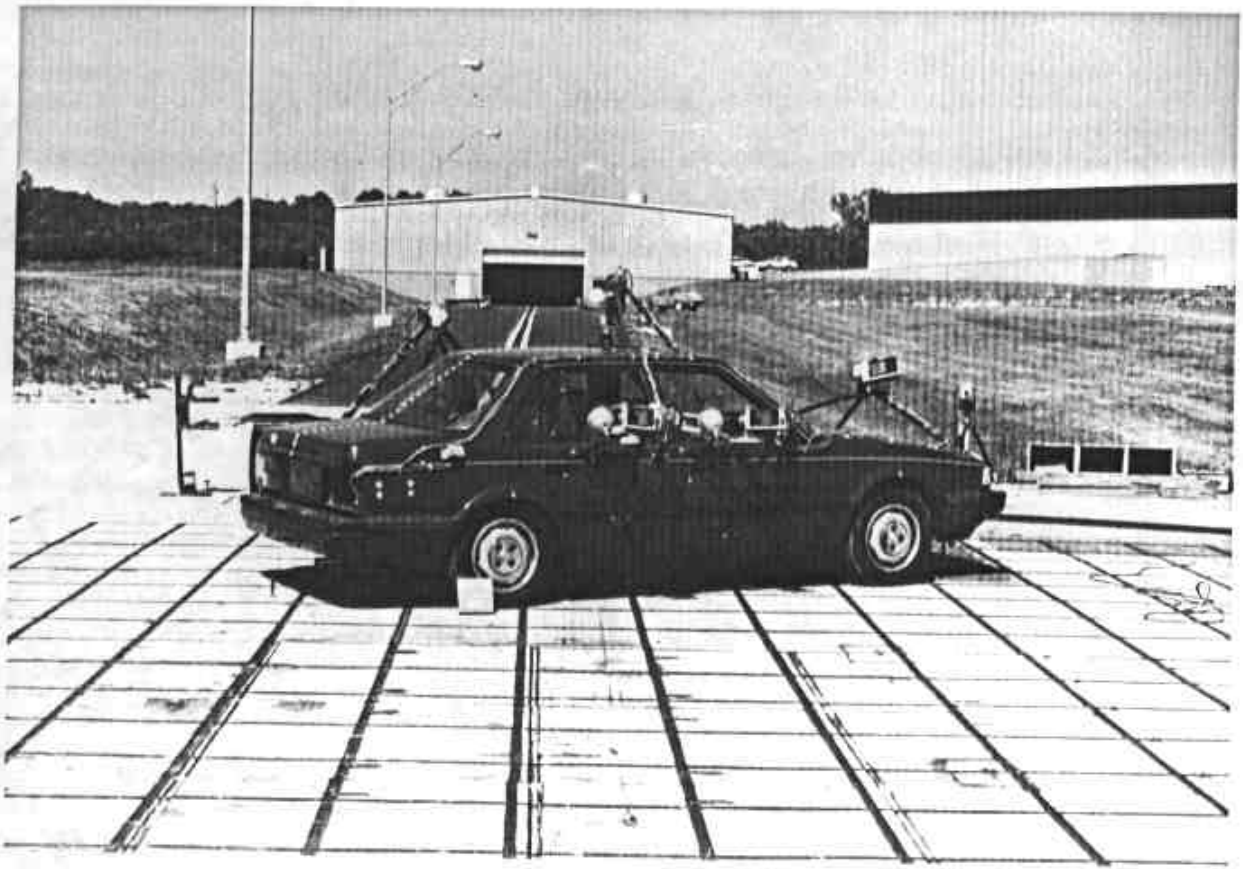


Figure A-3. PRE-TEST OVERALL - VIEW 3

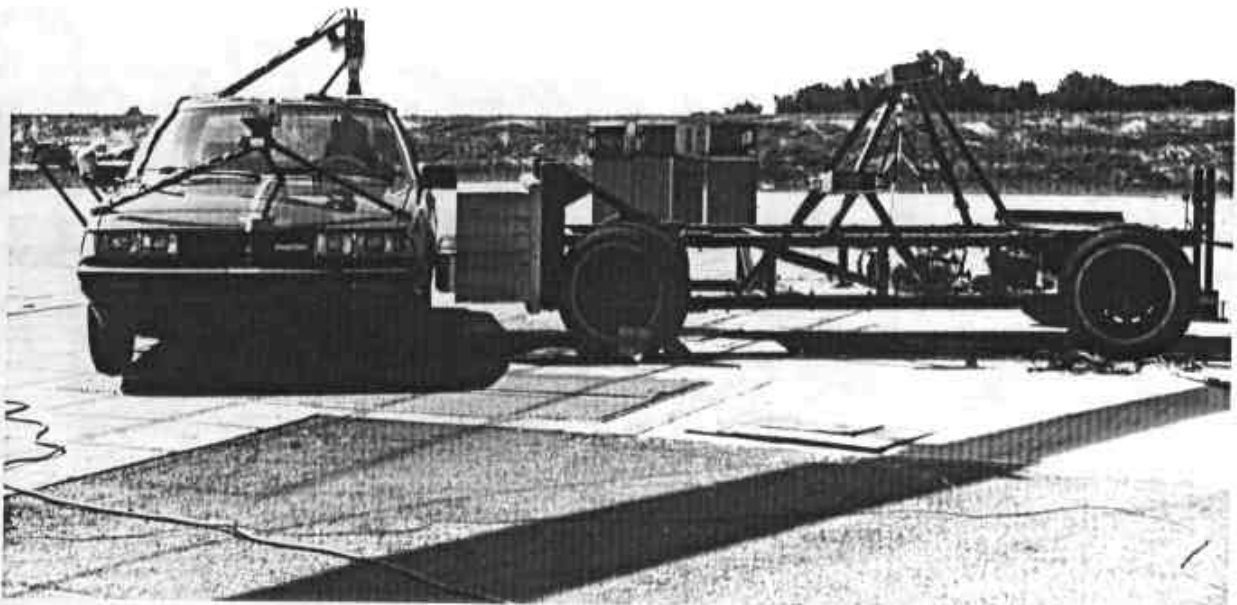


Figure A-4. PRE-TEST OVERALL - VIEW 4
A-3



Figure A-5. PRE-TEST CLOSEUP - VIEW 1



Figure A-6. PRE-TEST CLOSEUP - VIEW 2
A-4



Figure A-7. PRE-TEST DRIVER DUMMY VIEW



Figure A-8. PRE-TEST PASSENGER DUMMY VIEW
A-5

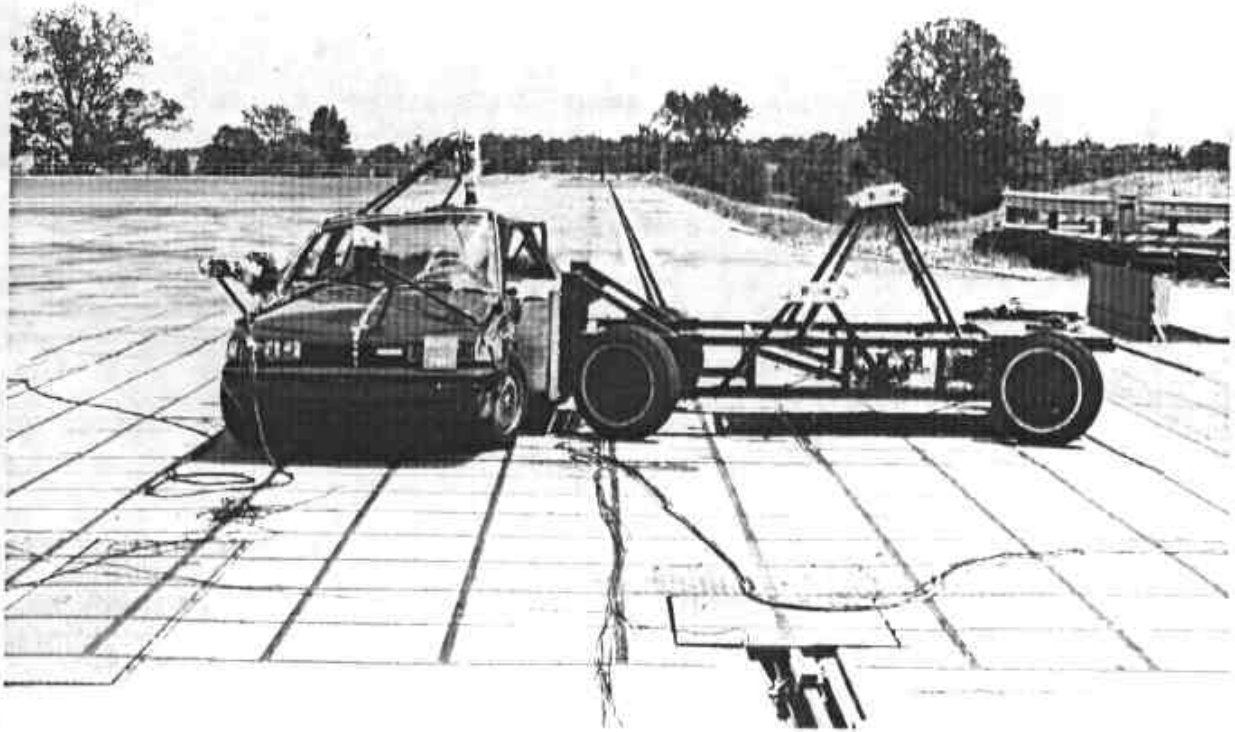


Figure A-9. POST-TEST OVERALL - VIEW 1



Figure A-10. POST-TEST OVERALL - VIEW 2

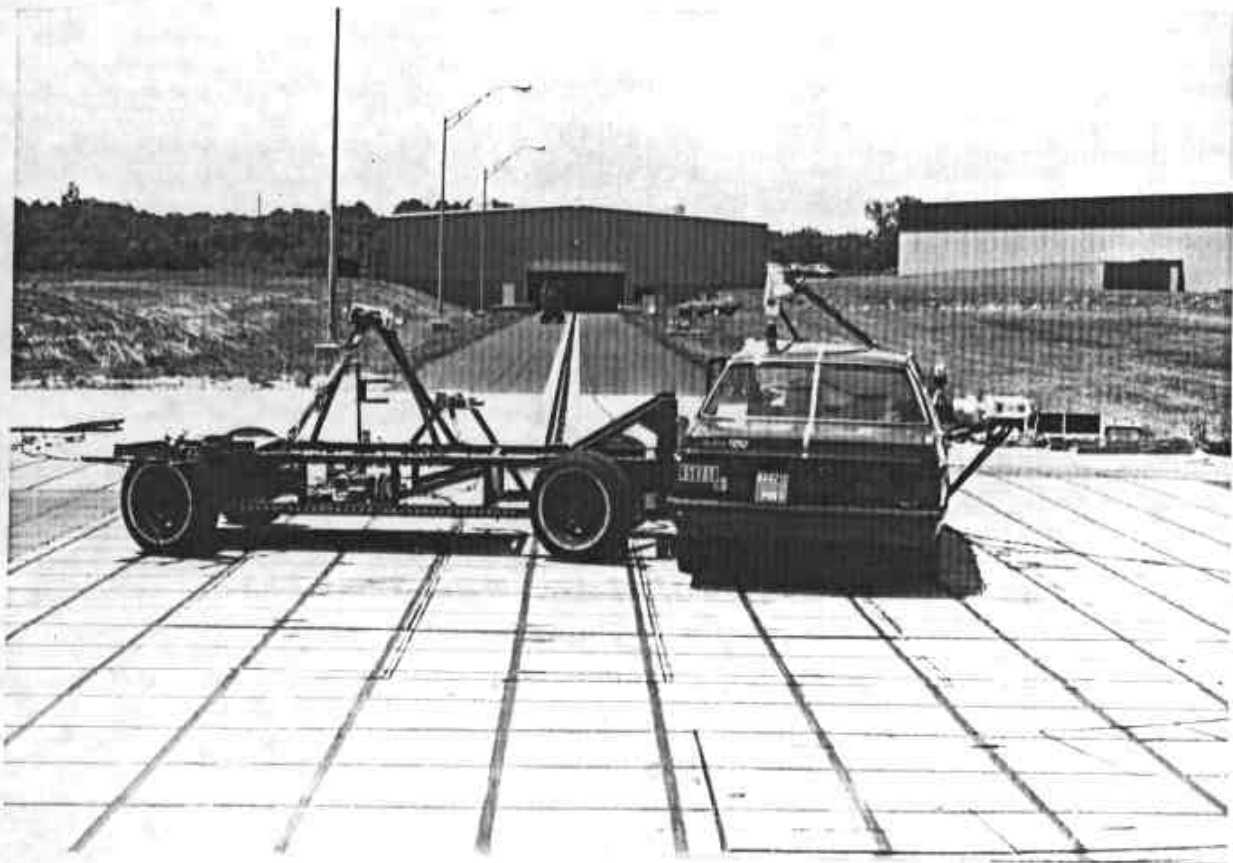


Figure A-11. POST-TEST OVERALL - VIEW 3



Figure A-12. POST-TEST OVERALL - VIEW 4

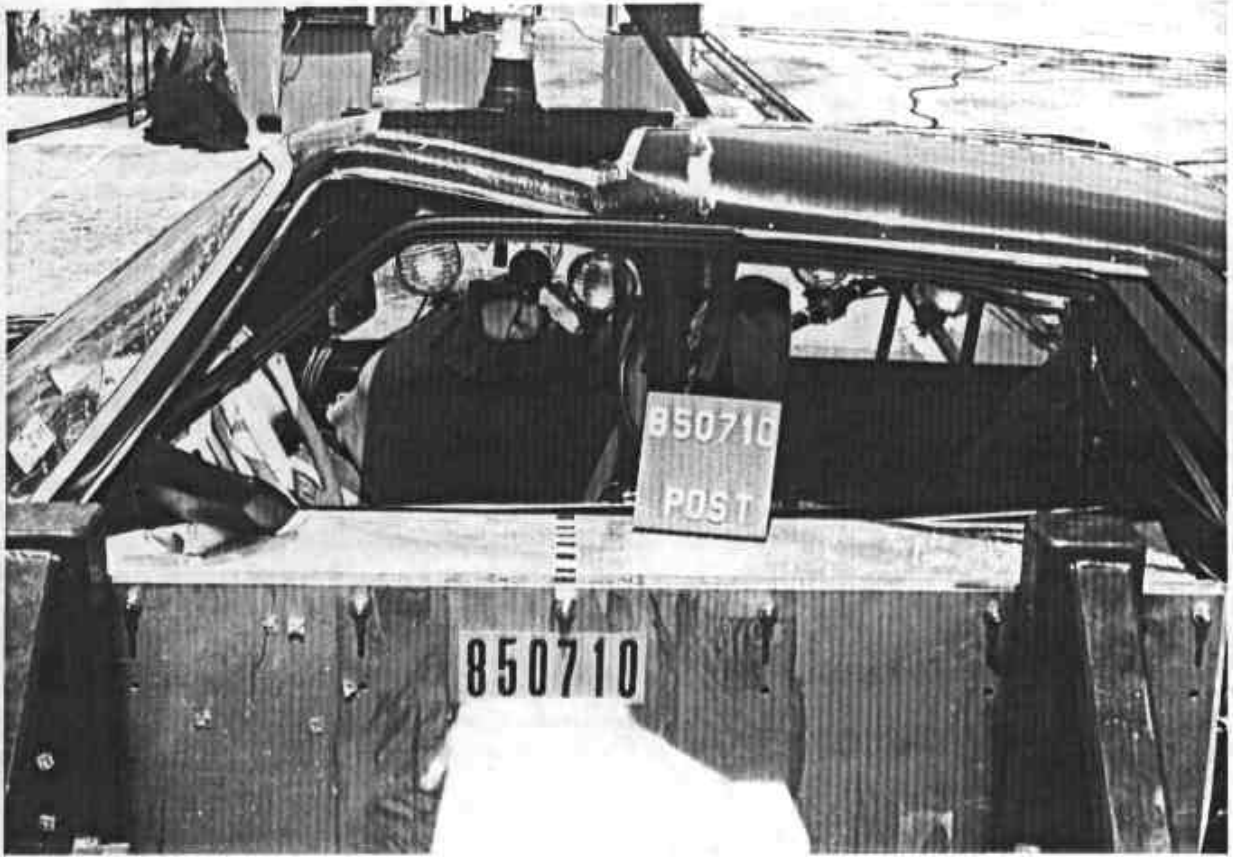


Figure A-13. POST-TEST CLOSEUP VIEW

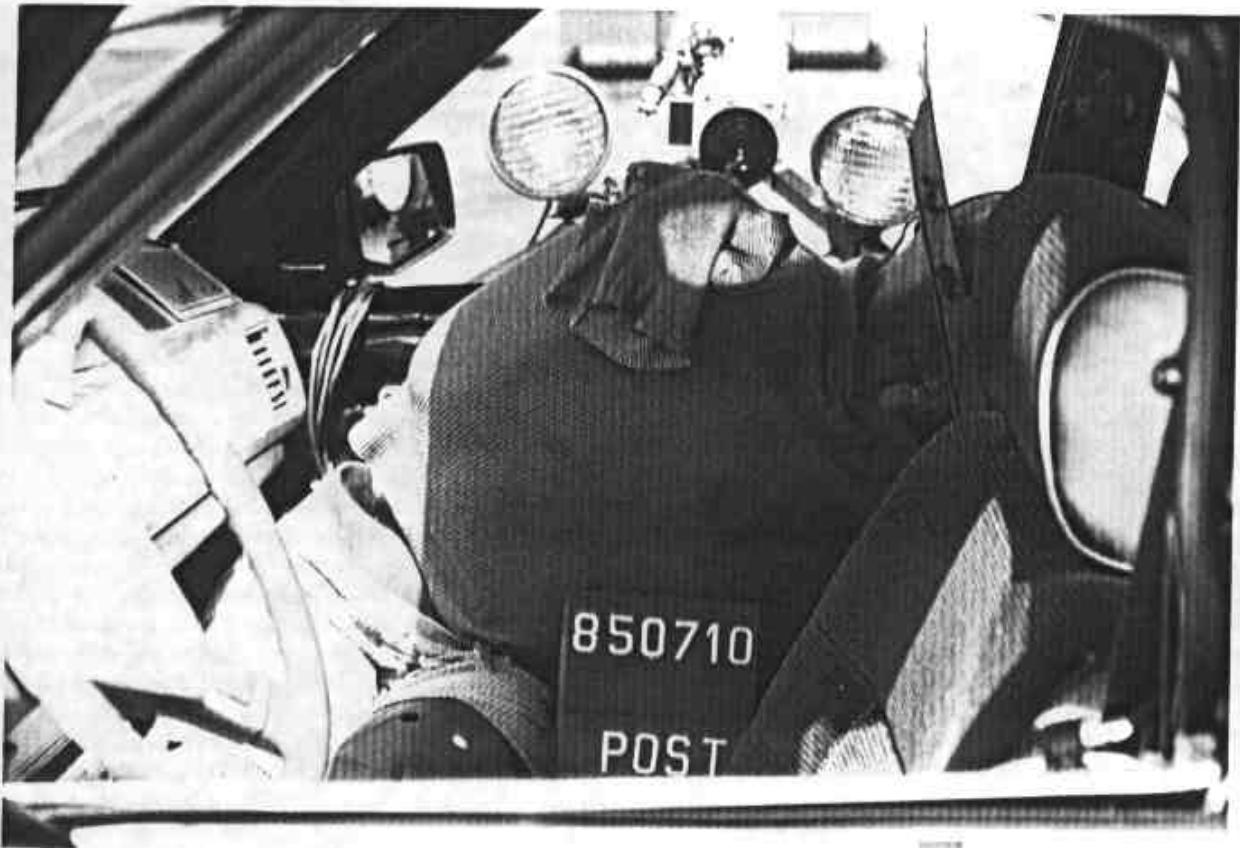


Figure A-14. POST-TEST DRIVER DUMMY VIEW
A-8



Figure A-15. POST-TEST PASSENGER DUMMY VIEW

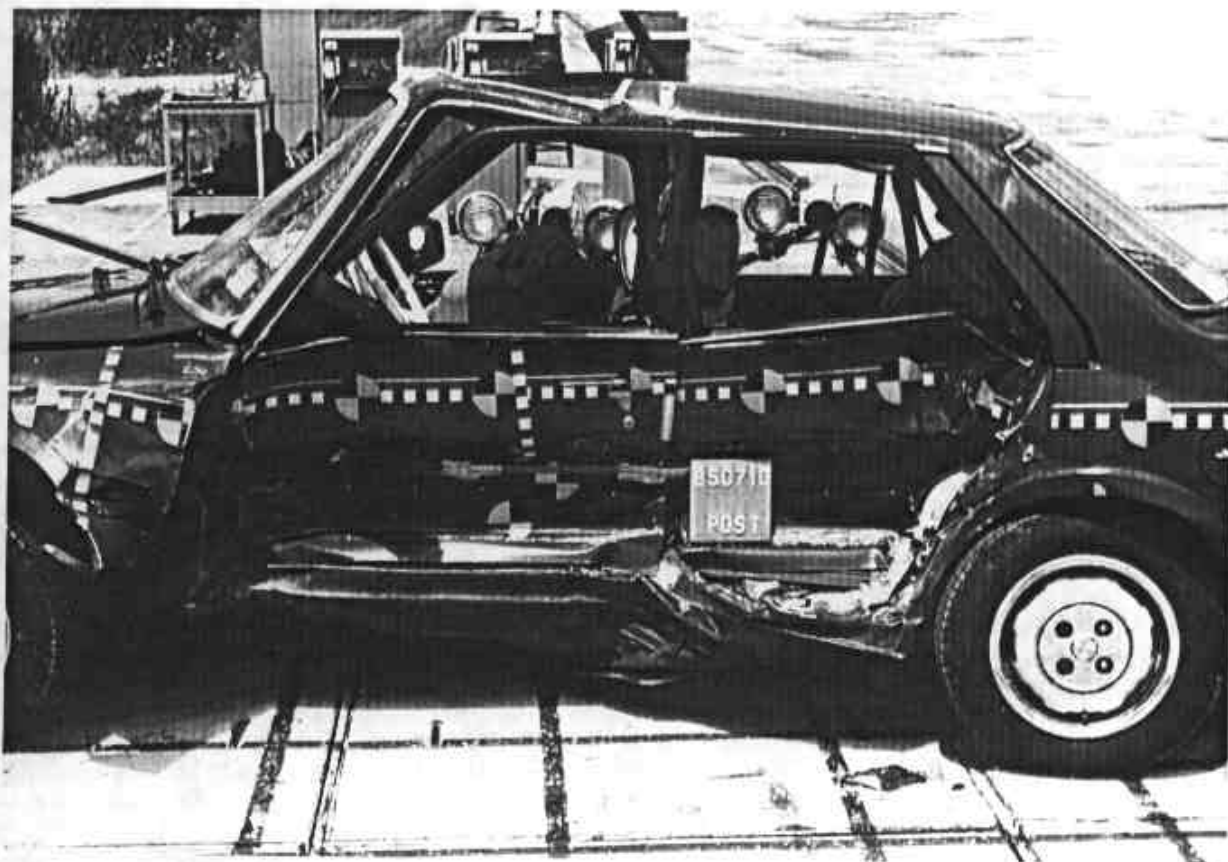


Figure A-16. POST-TEST VEHICLE DAMAGE - VIEW 1
A-9

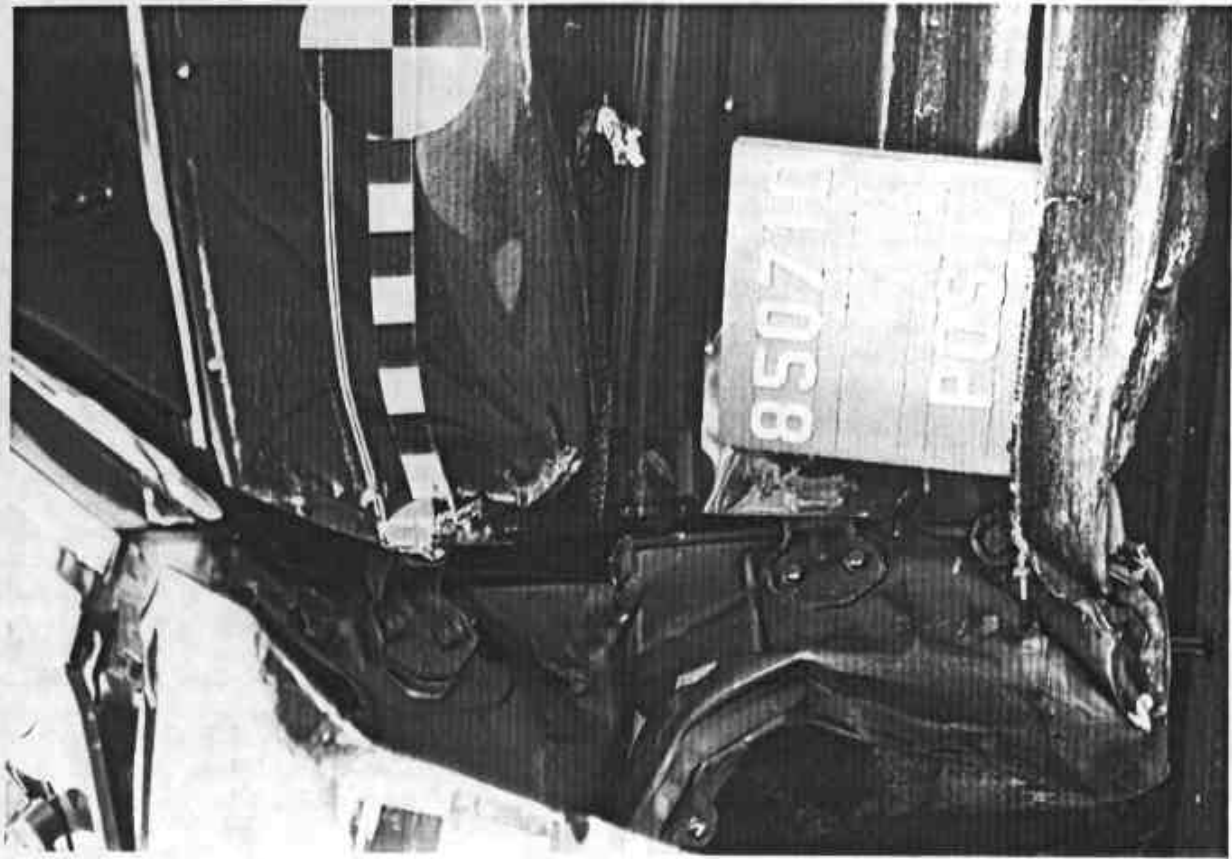


Figure A-17. POST-TEST VEHICLE DAMAGE - VIEW 2

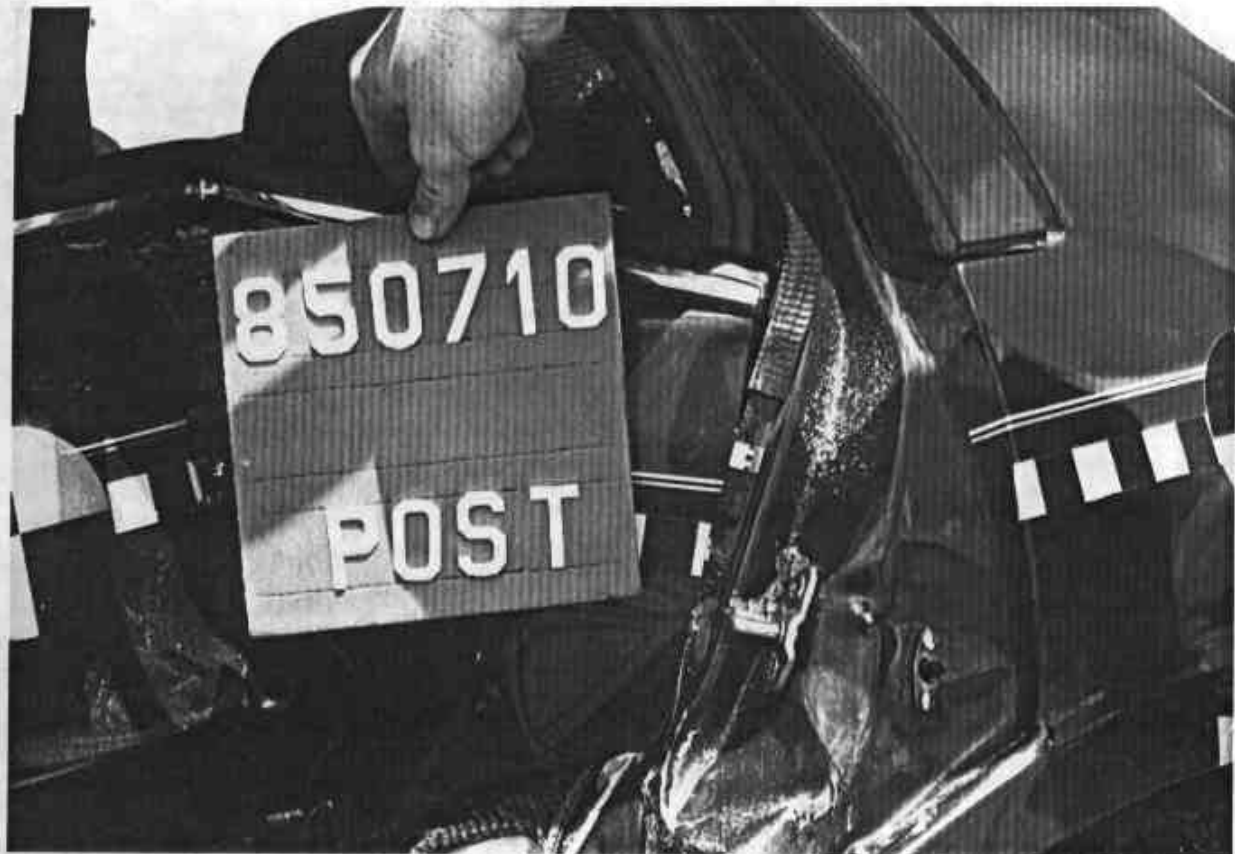


Figure A-18. POST-TEST VEHICLE DAMAGE - VIEW 3
A-10

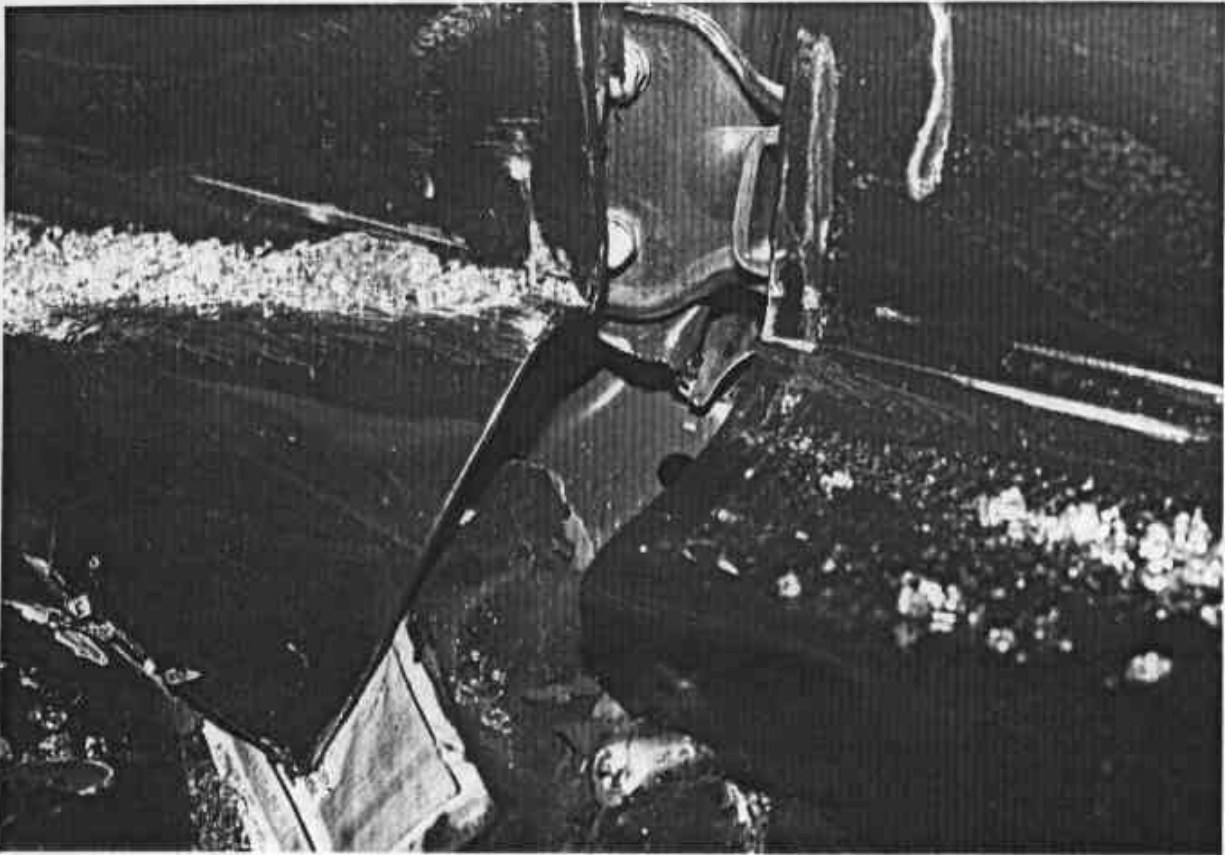


Figure A-19. POST-TEST VEHICLE DAMAGE - VIEW 4

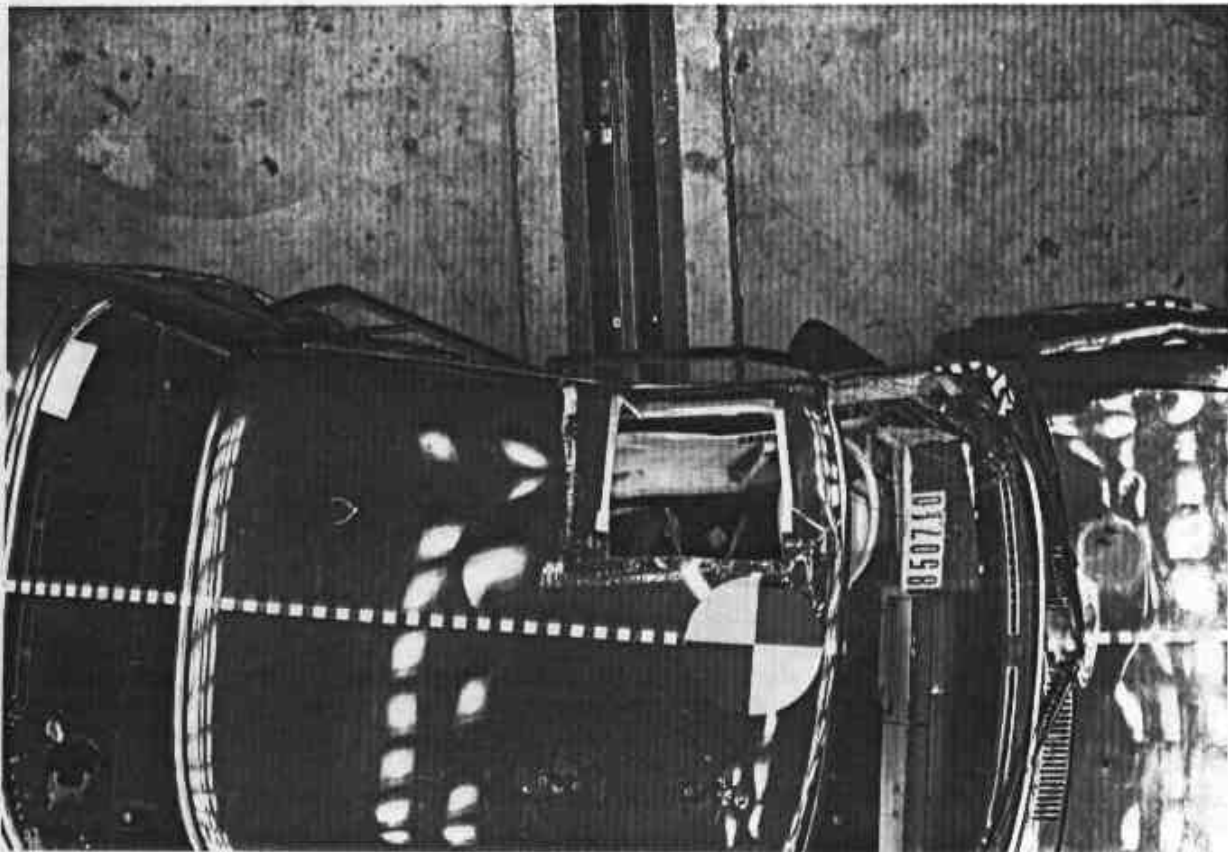


Figure A-20. POST-TEST OVERHEAD VIEW
A-11

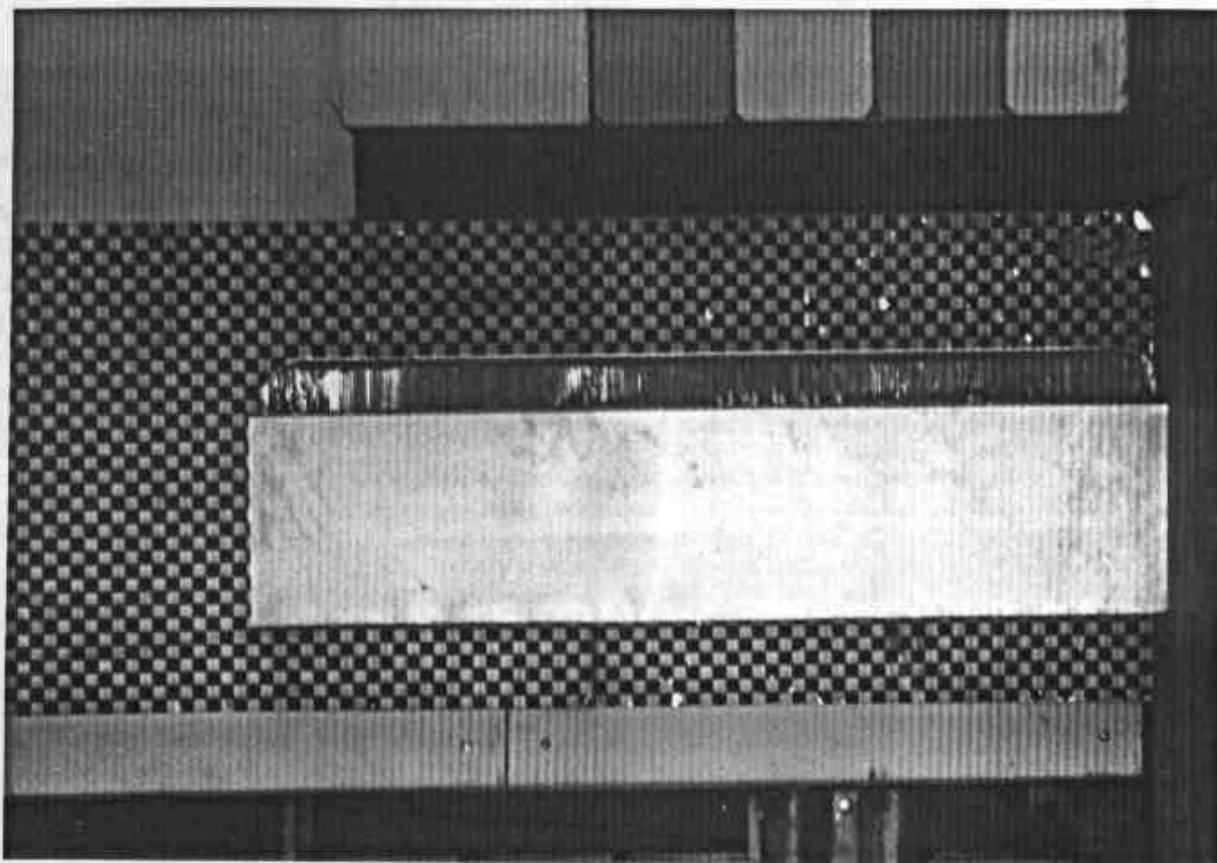


Figure A-21. PRE-TEST MDB FACE - VIEW 1

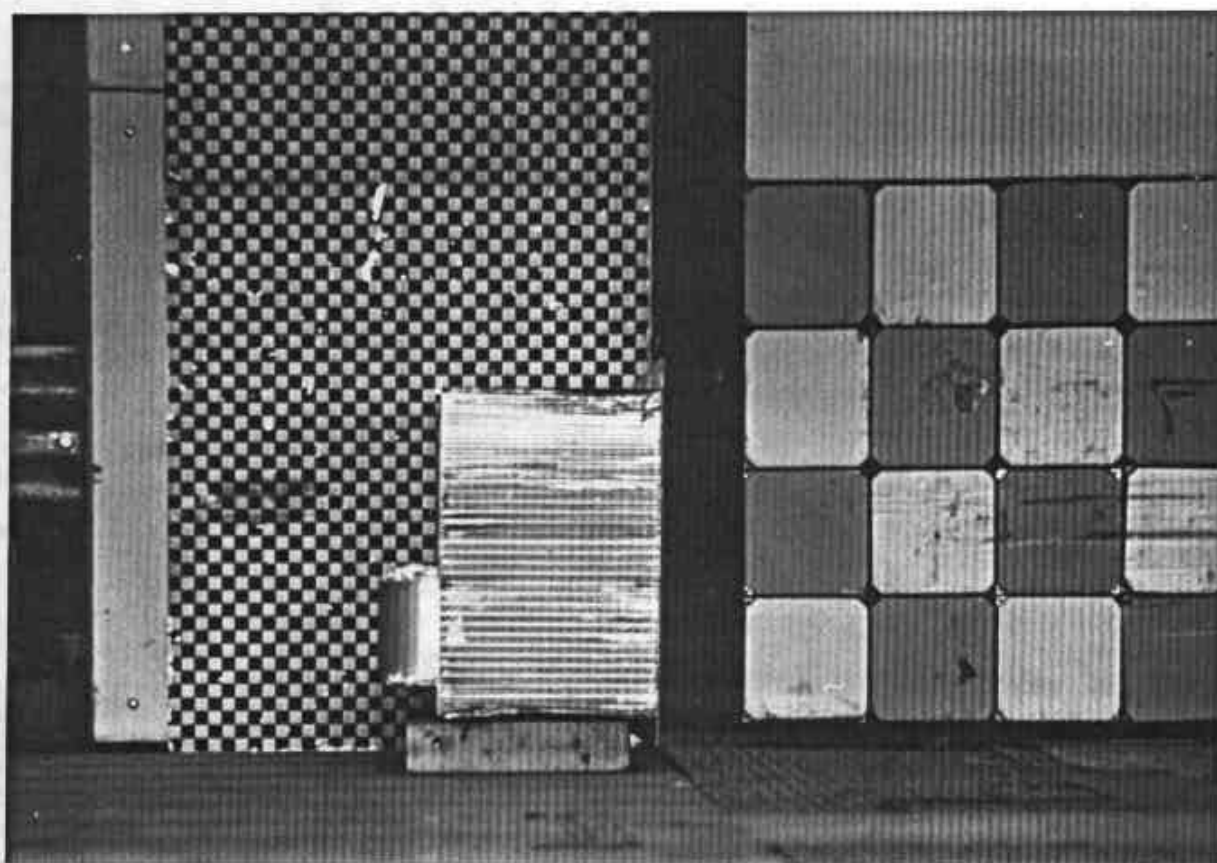


Figure A-22. PRE-TEST MDB FACE - VIEW 2
A-12

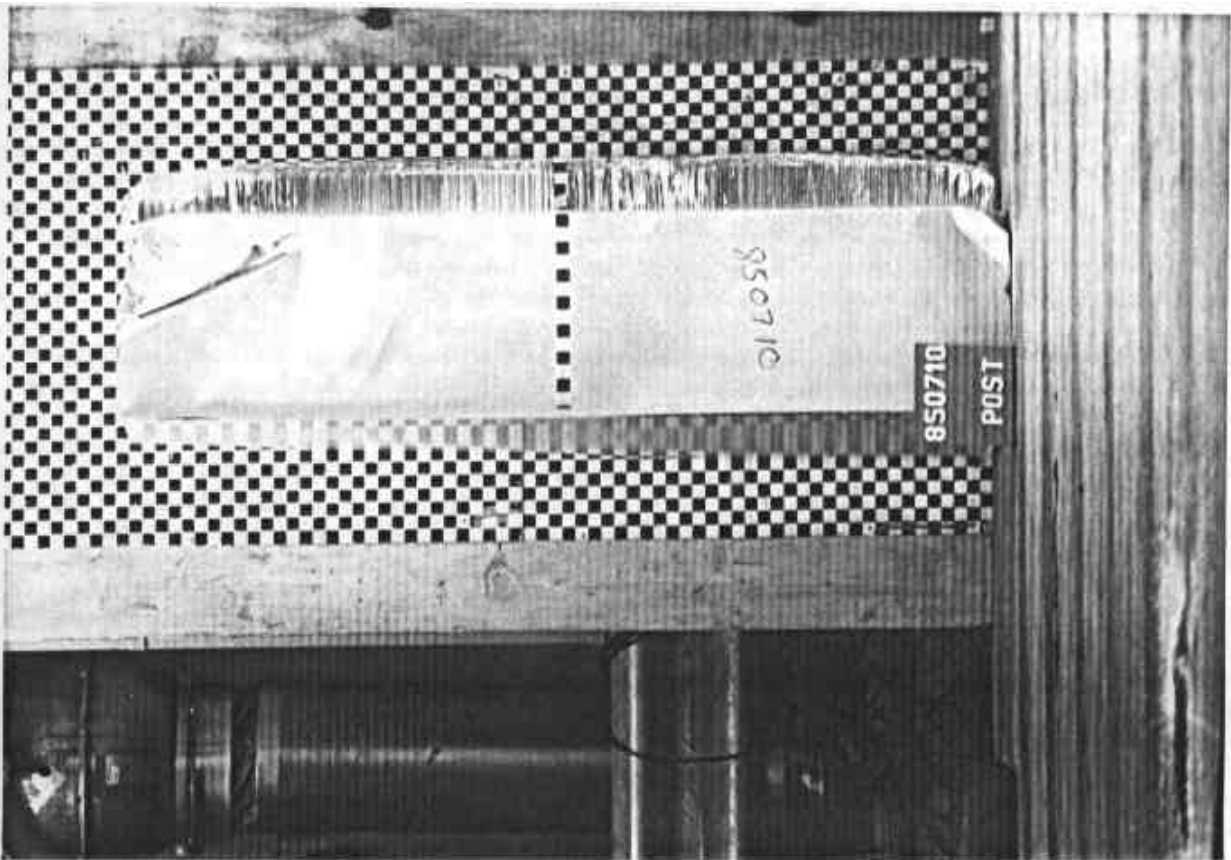


Figure A-23. POST-TEST MDB FACE - VIEW 1

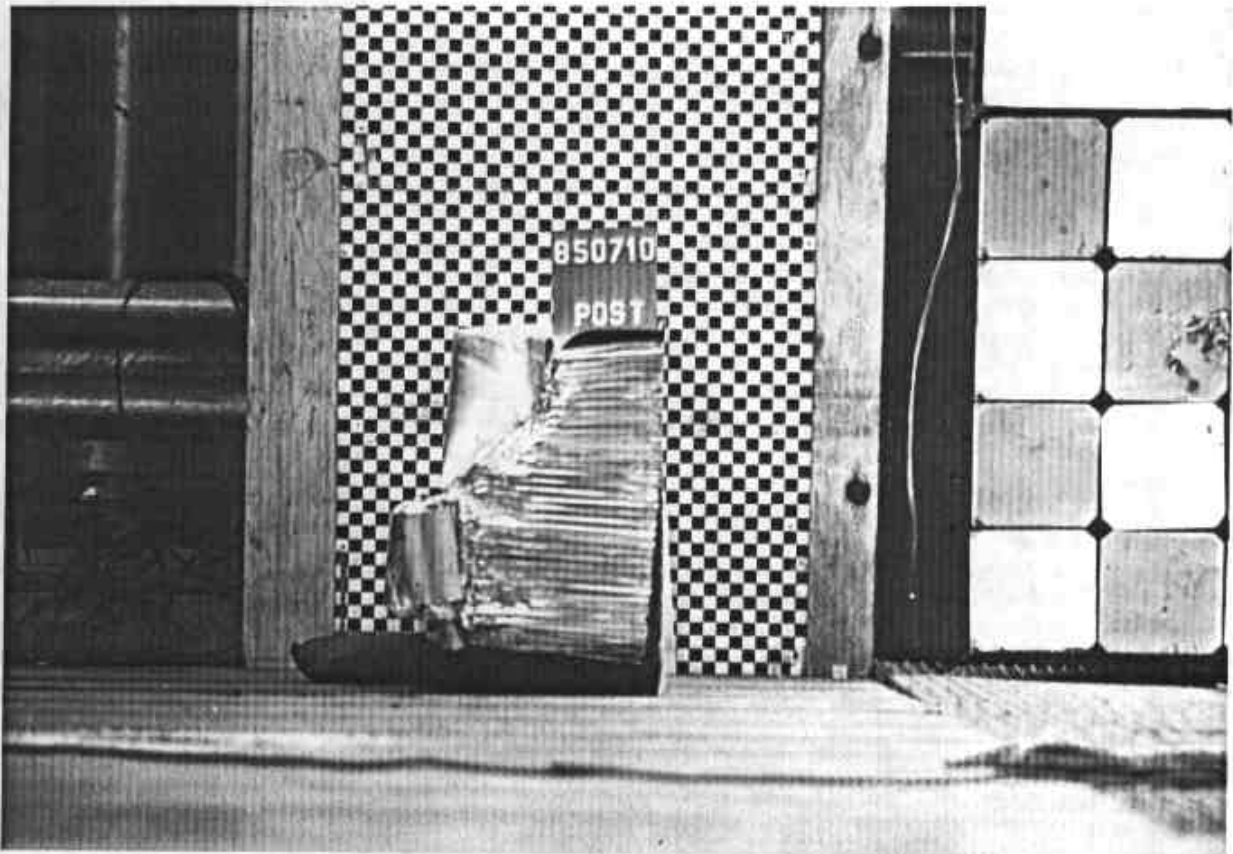


Figure A-24. POST-TEST MDB FACE - VIEW 2

APPENDIX B
DATA PLOT PRESENTATION

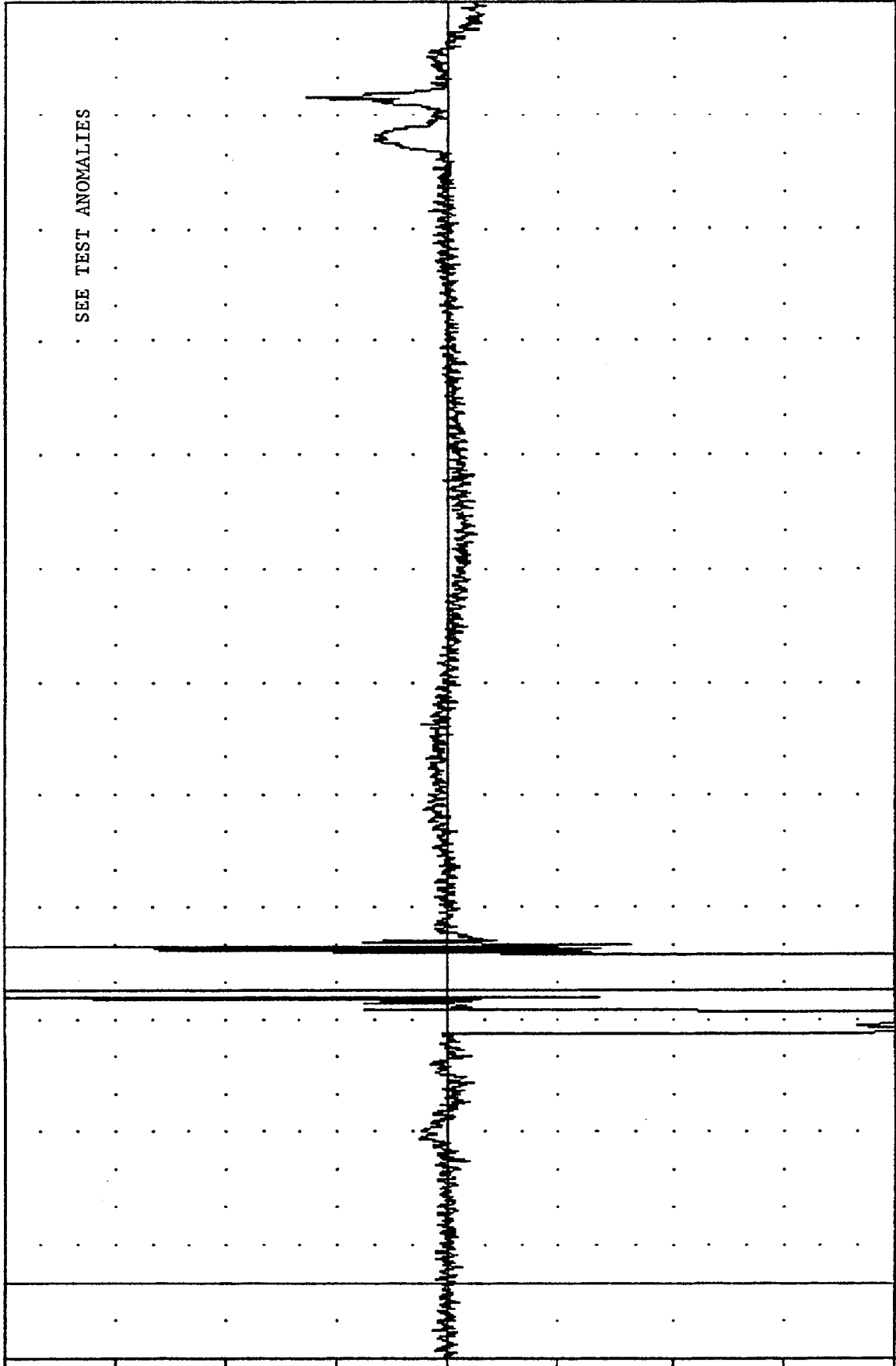
Data plots generated from the crash test data are presented on the following pages. All data are recorded on magnetic tape for inclusion in the NHTSA crash test data base system. All data were filtered according to SAE J211, except that dummy thorax data were filtered using the HSRI filter.

T 850710
SI PROTECTION PROD VEH
85191000000
HEDXG1

PLOT DATE 16-85 12:17:53

FILTER = ALPF 1650/ 5217/ -40
MIN. MAX VALUES = -330.63B 66.38B 327.18 e 75.75

200.00



B-2

-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

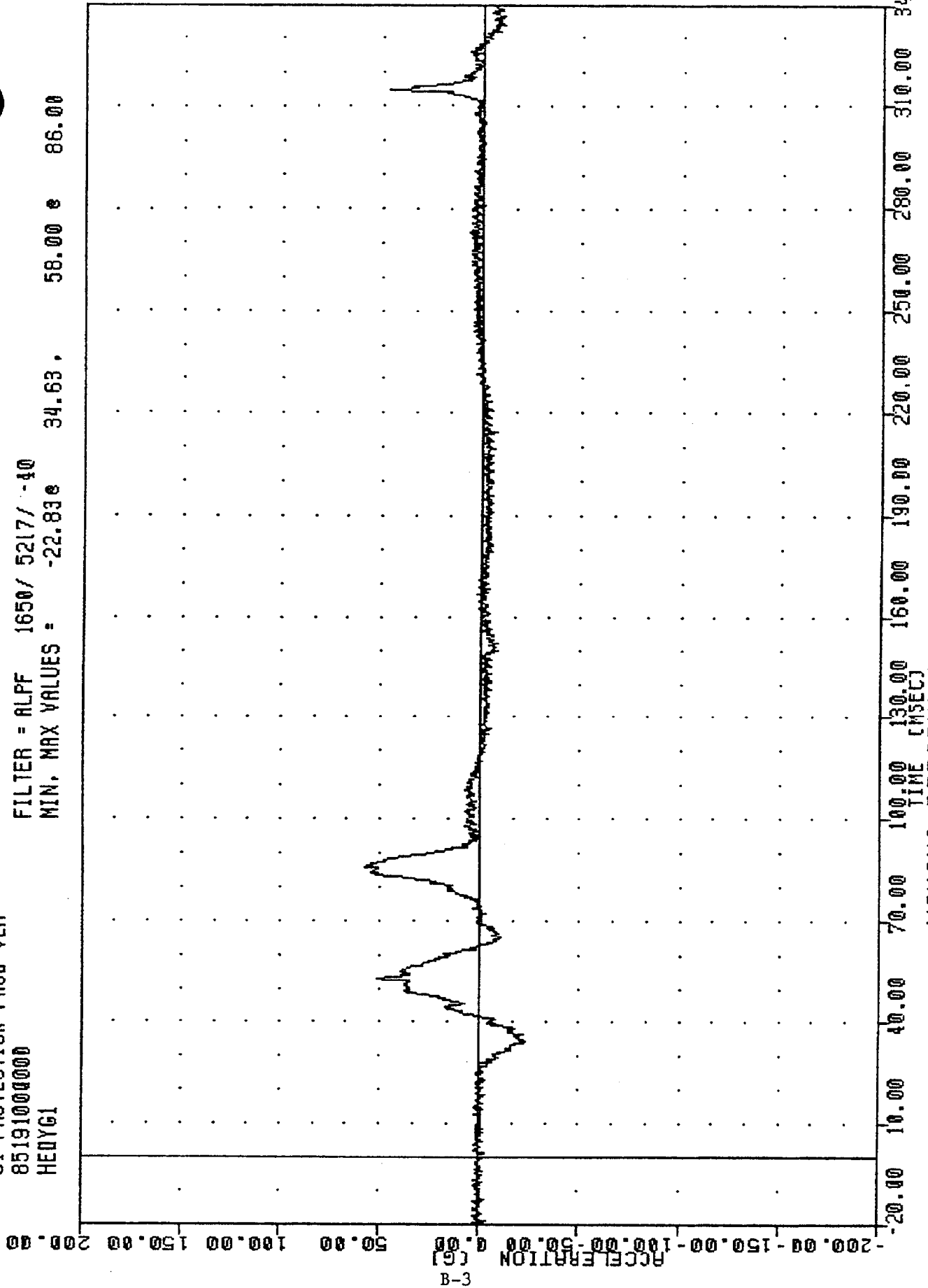
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER HEAD ACCELERATION Y AXIS

850710
SI PROTECTION PROD VEH
8519100000
HEDYGI

PLOT DATE 16-85 12:17:53

FILTER = ALPF 1650/ 5217/ -40

MIN. MAX VALUES = -22.83 34.63, 58.00 86.00



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER HEAD ACCELERATION Y AXIS

850710
PROTECTION PROD YEH
85191000000
HEDZ61

PLOT DATE 16-85 12:17:53

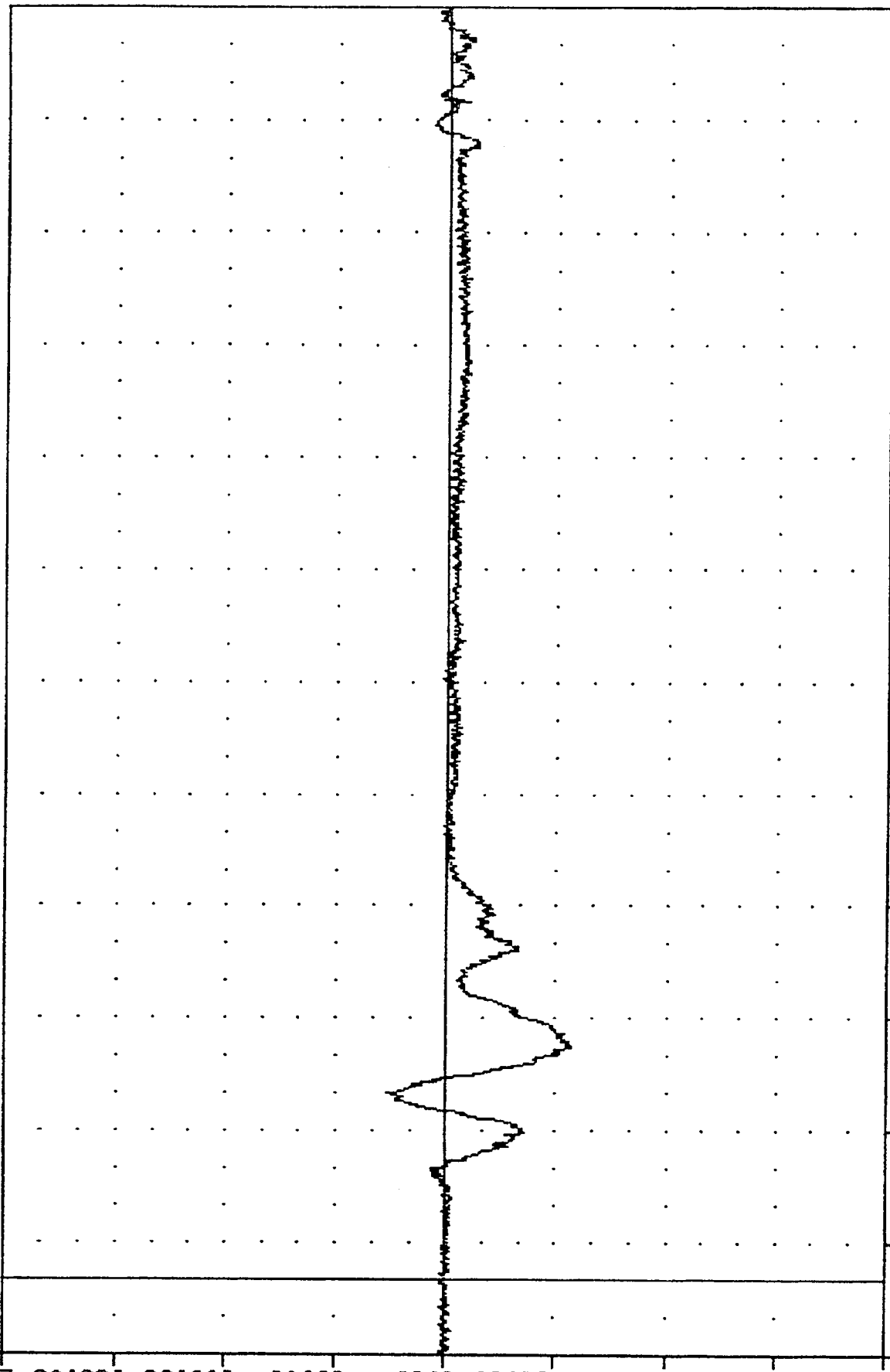
FILTER = ALPF 1650/ 5217/ -40

MIN, MAX VALUES = -57.43e 62.50, 26.55 e 50.00

200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00
-200.00

B-4

ACCELERATION (G)



20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER HEAD ACCELERATION Z AXIS

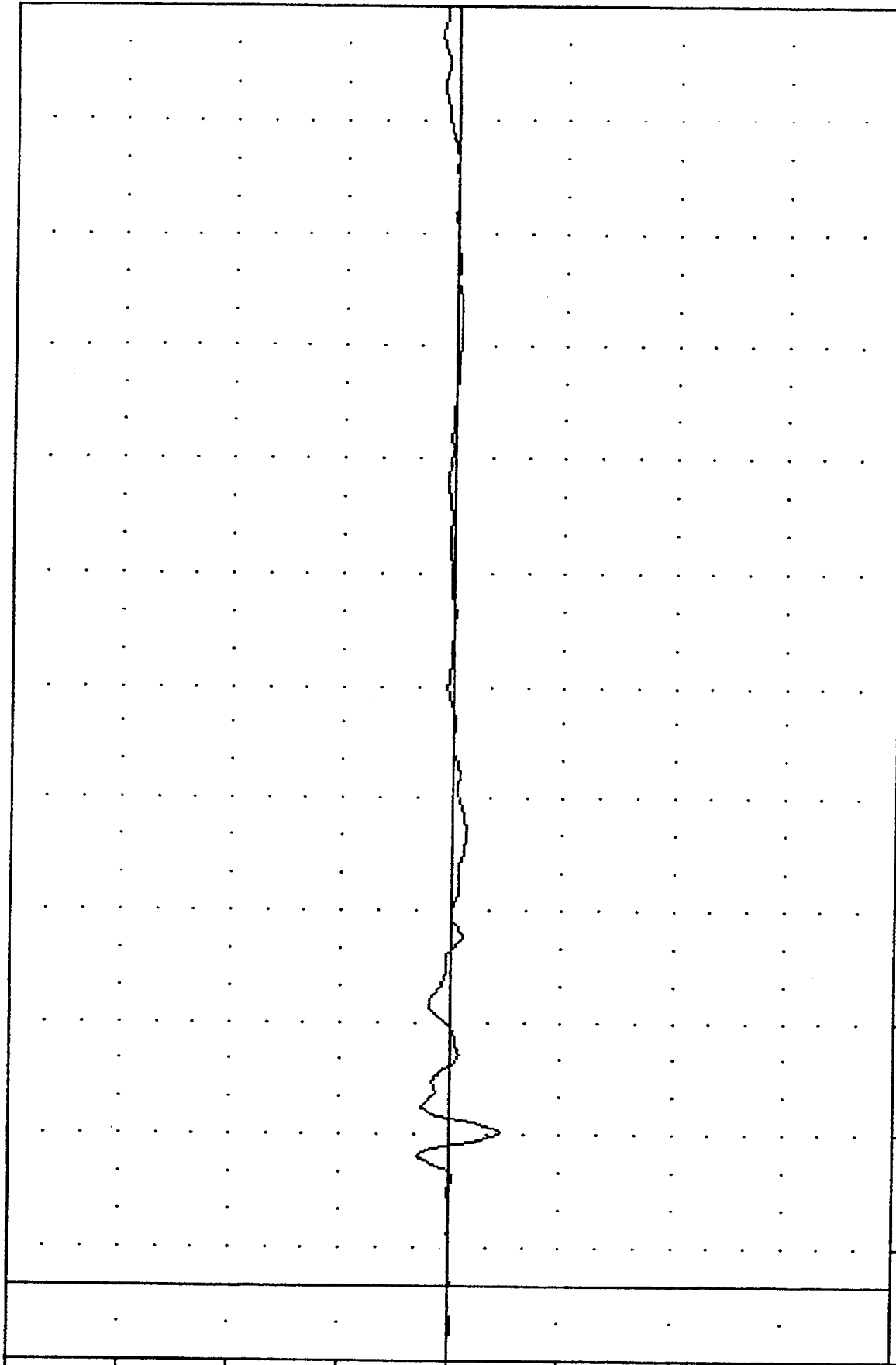
T 850710
SI PROTECTION PROD VEH
85191000000
T01XG1

PLOT DATE 1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -22.70 e 40.63, 14.83 e 34.38

200.00



B-5

ACCELERATION (G)

-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

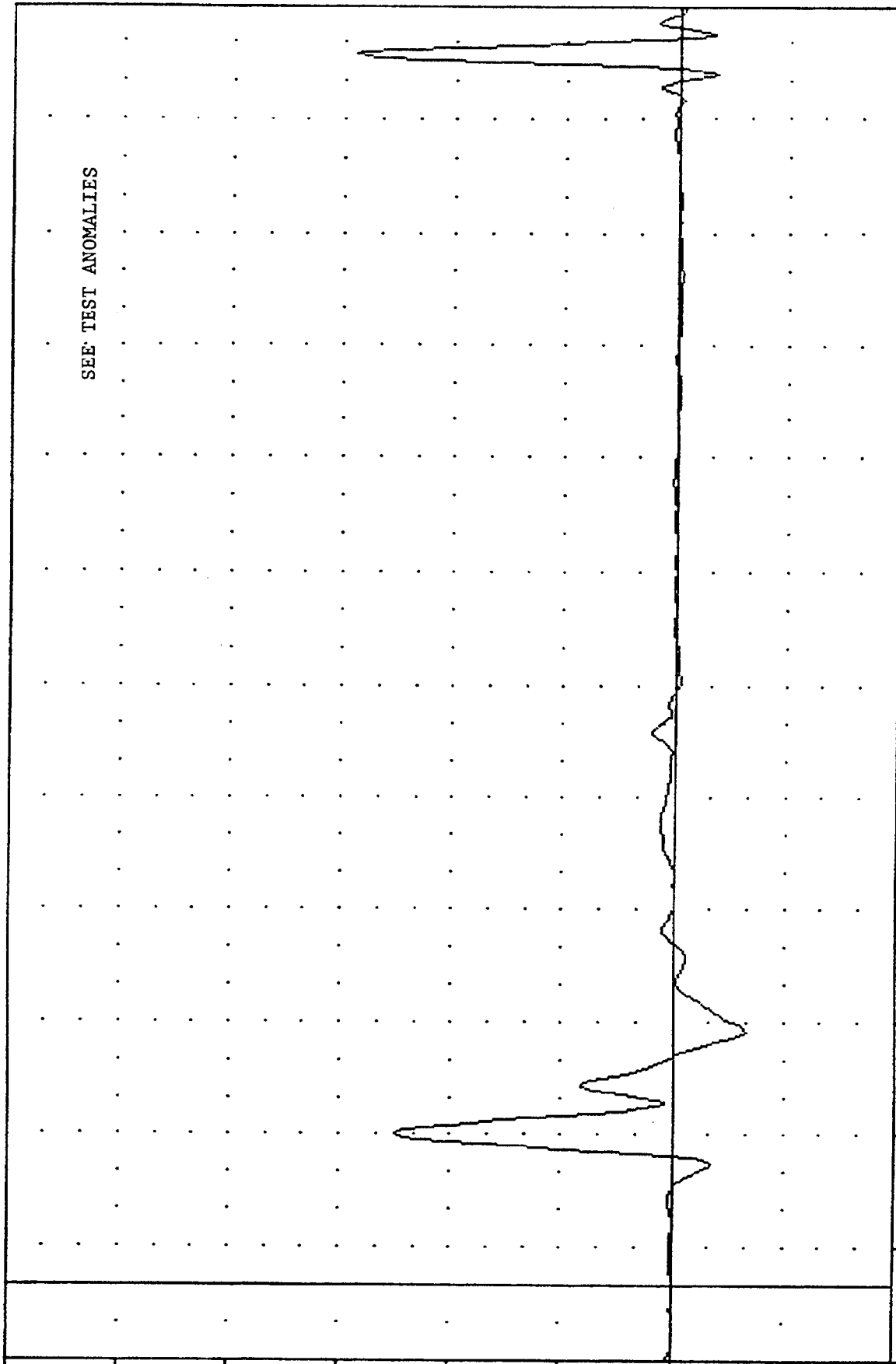
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER UPPER SPINE ACCELERATION X AXIS

850710
PROTECTION PROD VEH
85191000000
T01Y61

PLOT DATE 1-85 12:18:58

FILTER = HSRI 136/ 189/ -50
MIN. MAX VALUES = -32.93e 67.50 , 145.30 e 326.88

ACCELERATION (G)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER UPPER SPINE ACCFIFRATION Y AXIS

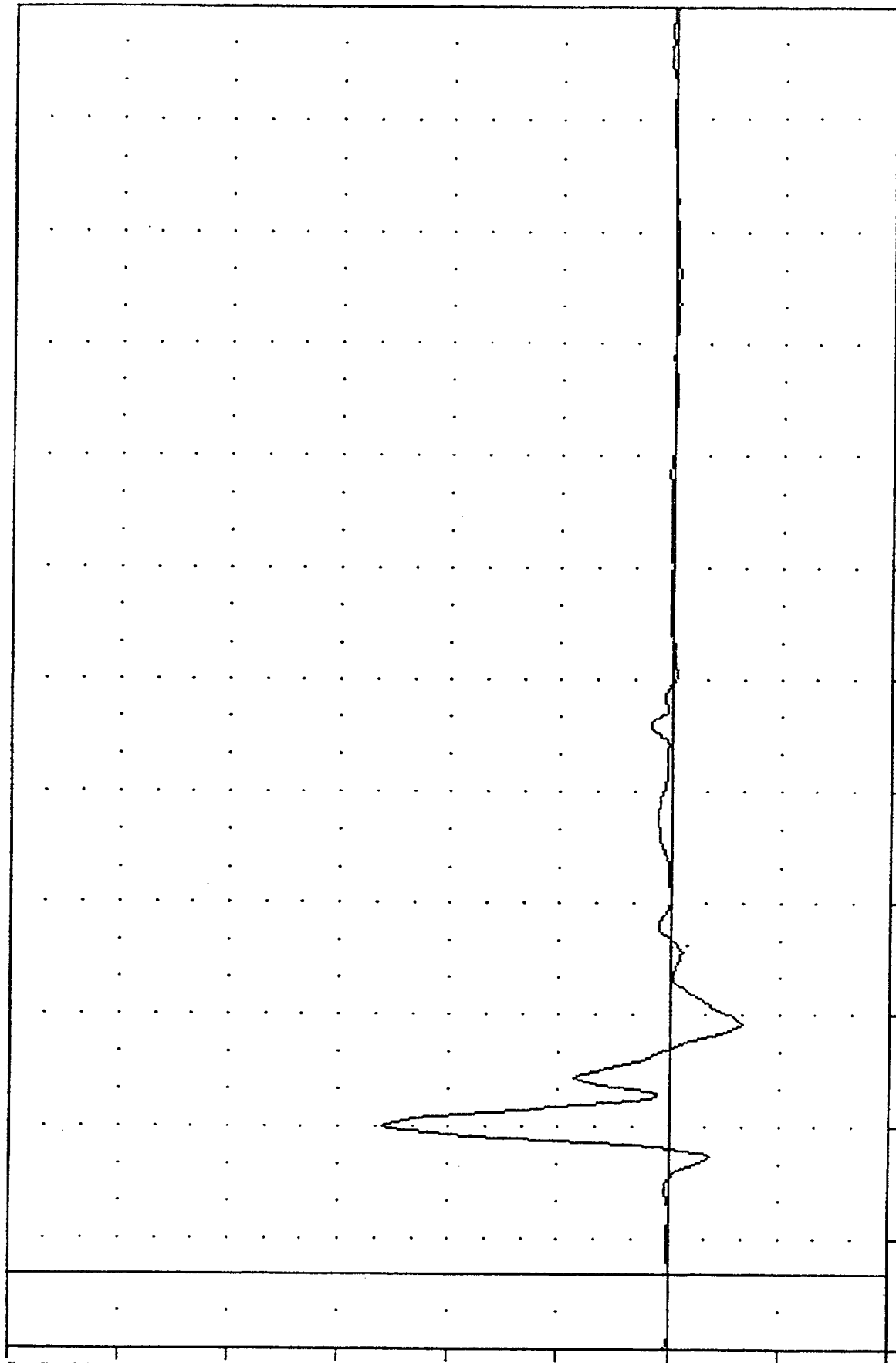
T 850710
PROTECTION PROD VEH
85191000000
T01Y6A

PLOT DATE 10-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -32.91 e 87.50 , 129.61 e 40.00

ACCELERATION (G)



TIME (MSEC)

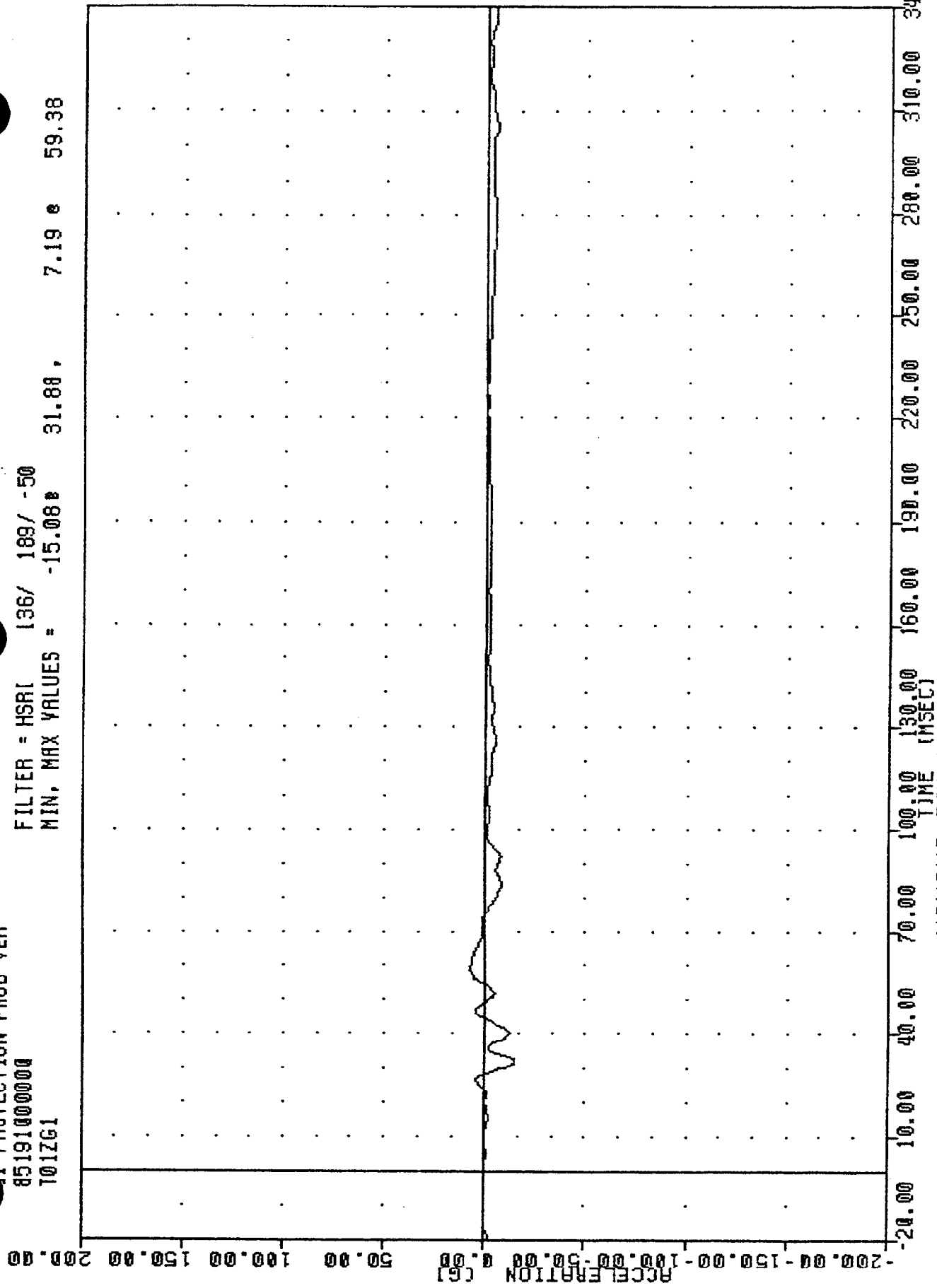
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER UPPER SPINE ACCELERATION -2 Y AXIS

850710
PROTECTION PROD VEH
85191000000
T01ZG1

PLOT DATE 1-85 12:18:58

FILTER = HSR1 136/ 189/ -50

MIN, MAX VALUES = -15.08 31.88, 7.19 e 59.38



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER UPPER SPINE ACCELERATION Z AXIS

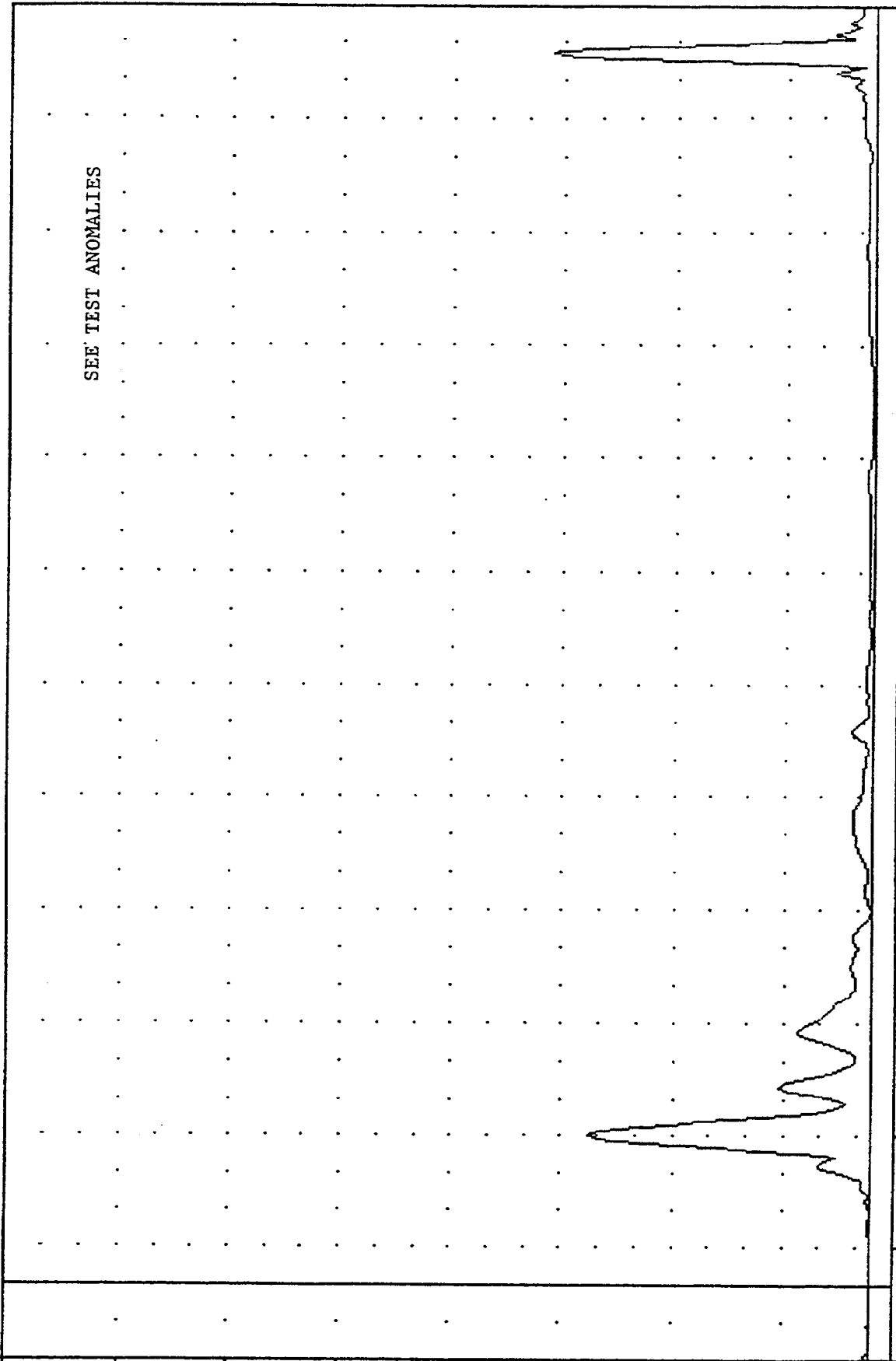
850710
PROTECTION PROD VEH
85191000000
TOIRG1

PLOT DATE 1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = 0.06e -6.88, 145.40 e 326.88

ACCELERATION (G)
-10.00 40.00 90.00 140.00 190.00 240.00 290.00 340.00 390.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME CMSEC

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER UPPER SPINE RFSUIT ANT

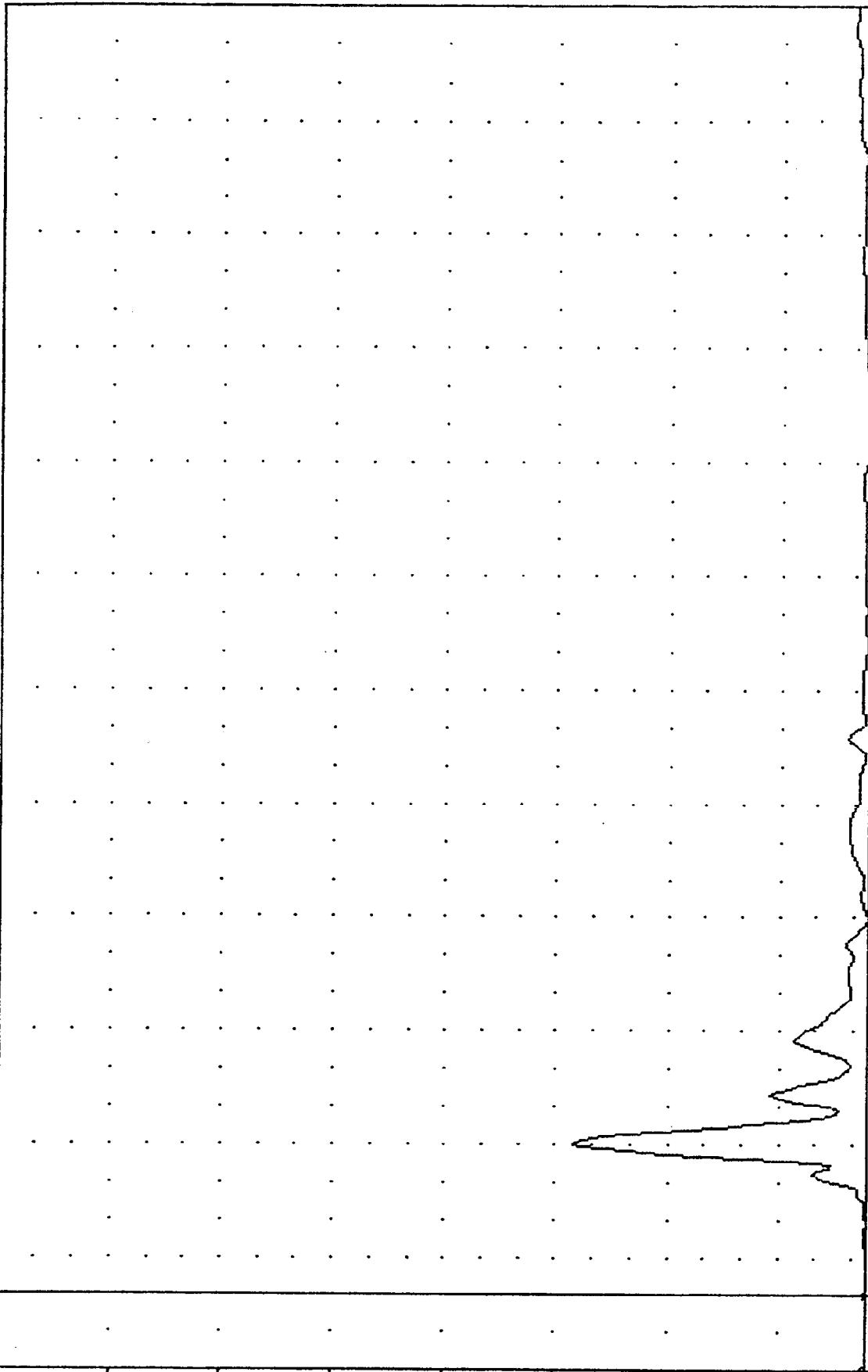
850710
PROTECTION PROD VEH
85191000000
T01R6A

PLOT DATE 10-85 12:18:58

FILTER = HSRI 136/ 189/ .50

MIN, MAX VALUES = 0.068 -6.88 192.00 40.00

ACCELERATION (G)
-10.00
-5.00
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
45.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

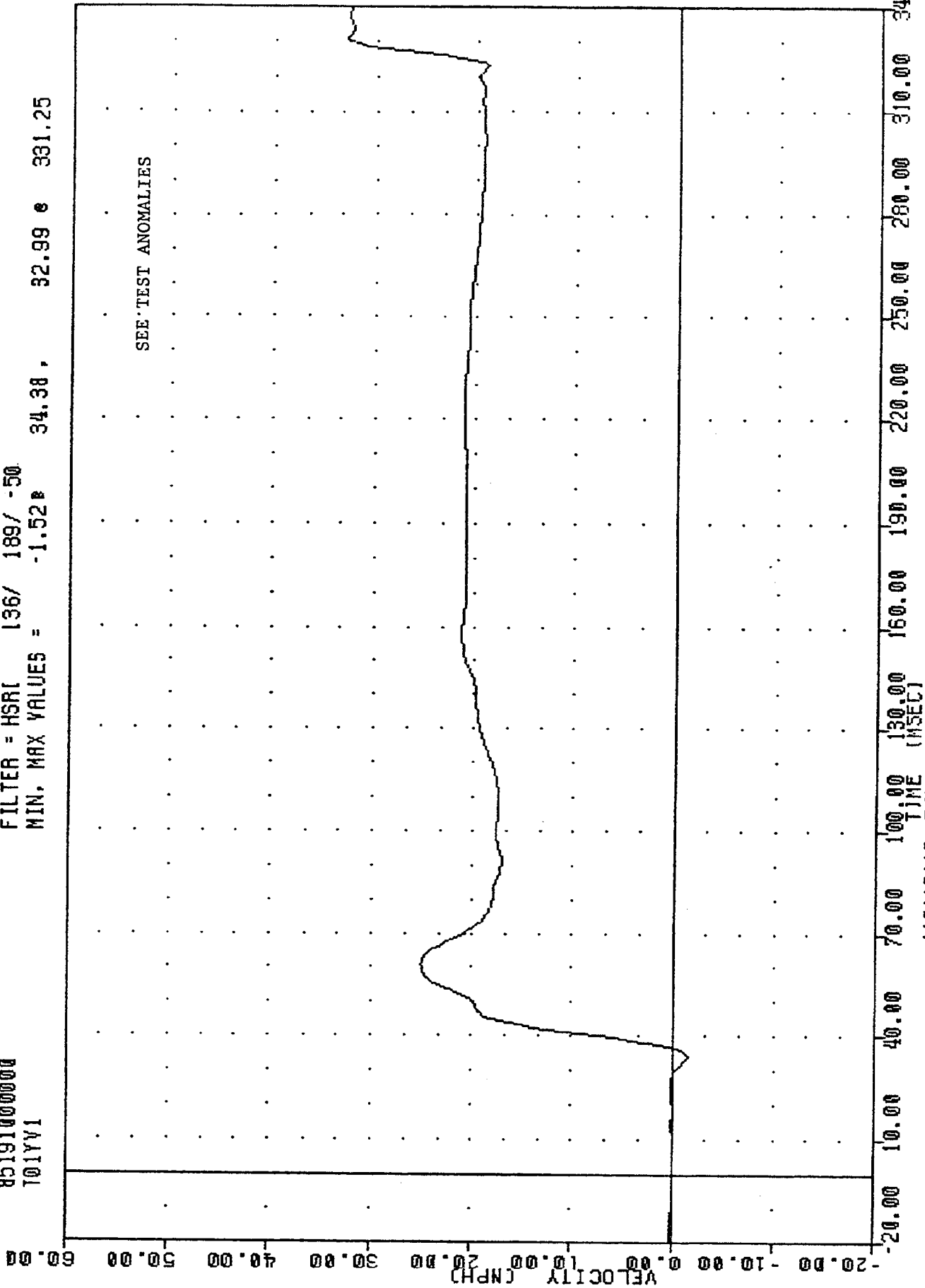
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER UPPER SPINE RESULTANT USING T01YGA

T 850710
PROTECTION PROD VEH
8519100000
T01YV1

PLOT DATE 1 -85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -1.52 34.38 32.99 331.25



11-B

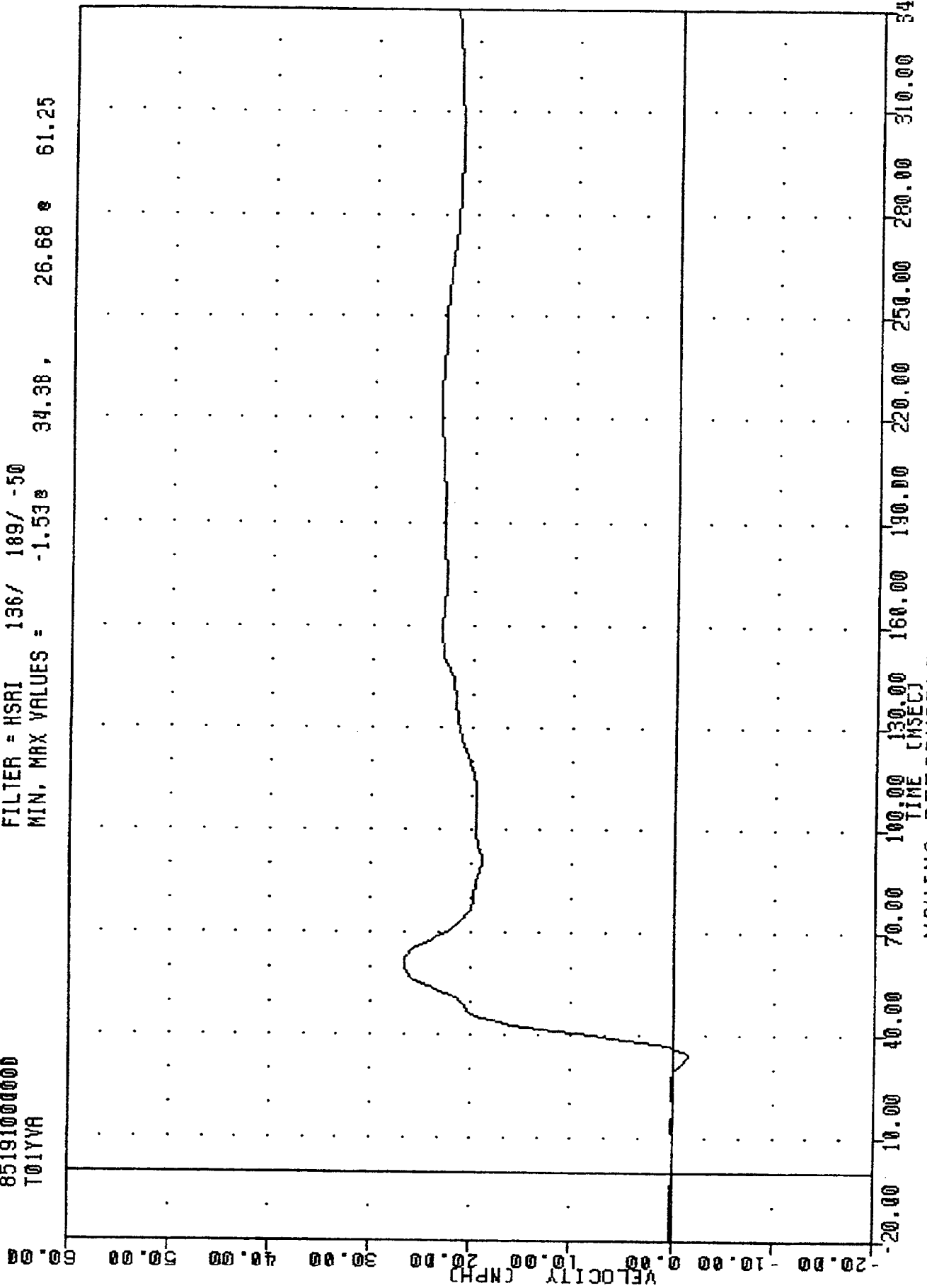
MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFITA Y IISING T01YV1

850710
PROTECTION PROD VEH
85191000000
T01YVA

PLOT DATE 1-85 12:20:12

FILTER = HSRI 186/ 189/ -50

MIN, MAX VALUES = -1.53e 34.38 , 26.68 e 61.25



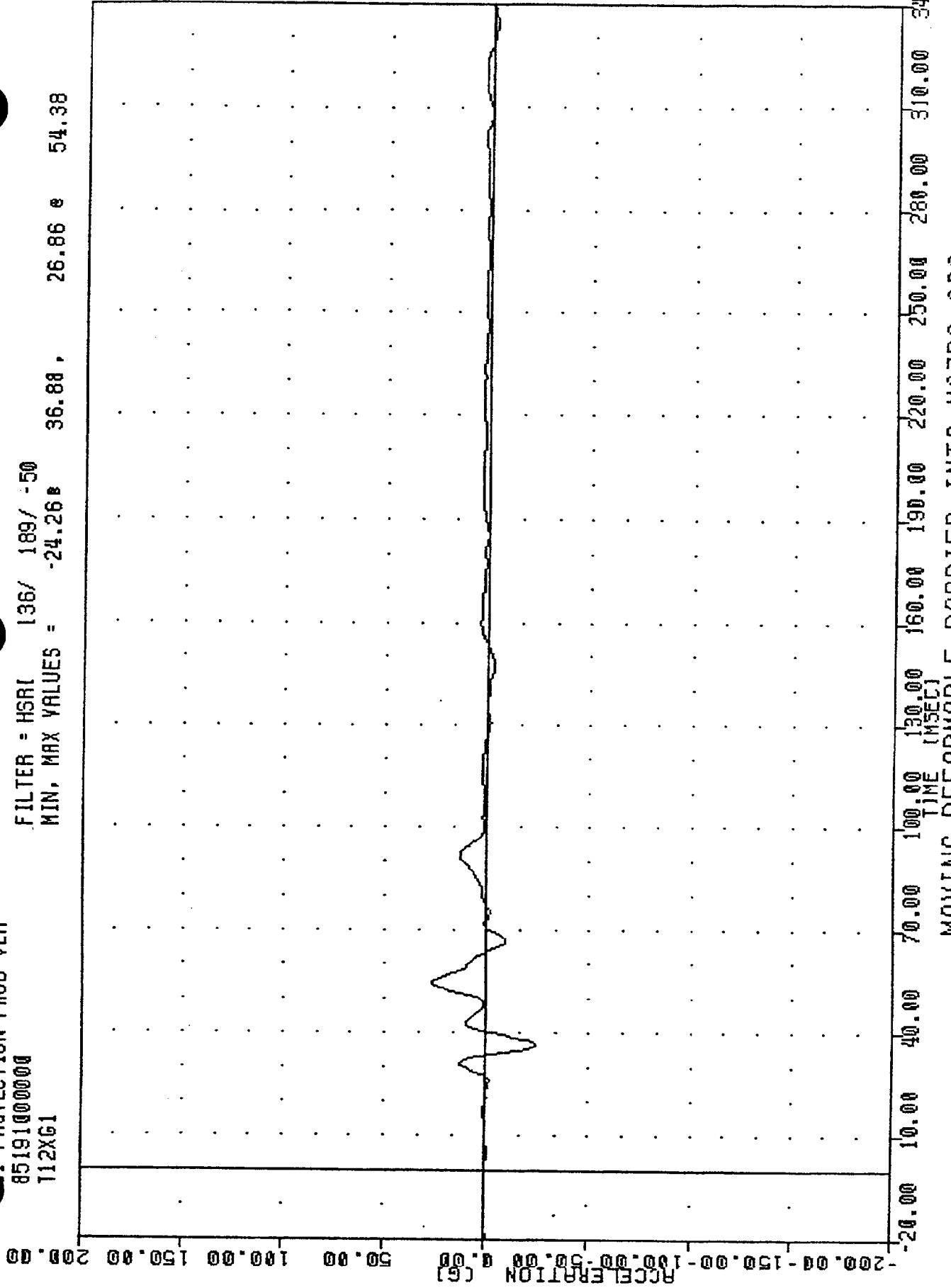
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V USING T01Y6A

PT 850710
PROTECTION PROD VEH
85191000000
T12XG1

PLOT DATE 1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -24.26 36.88 26.86 e 54.38



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LOWER SPINE ACCELERATION Y AXIS

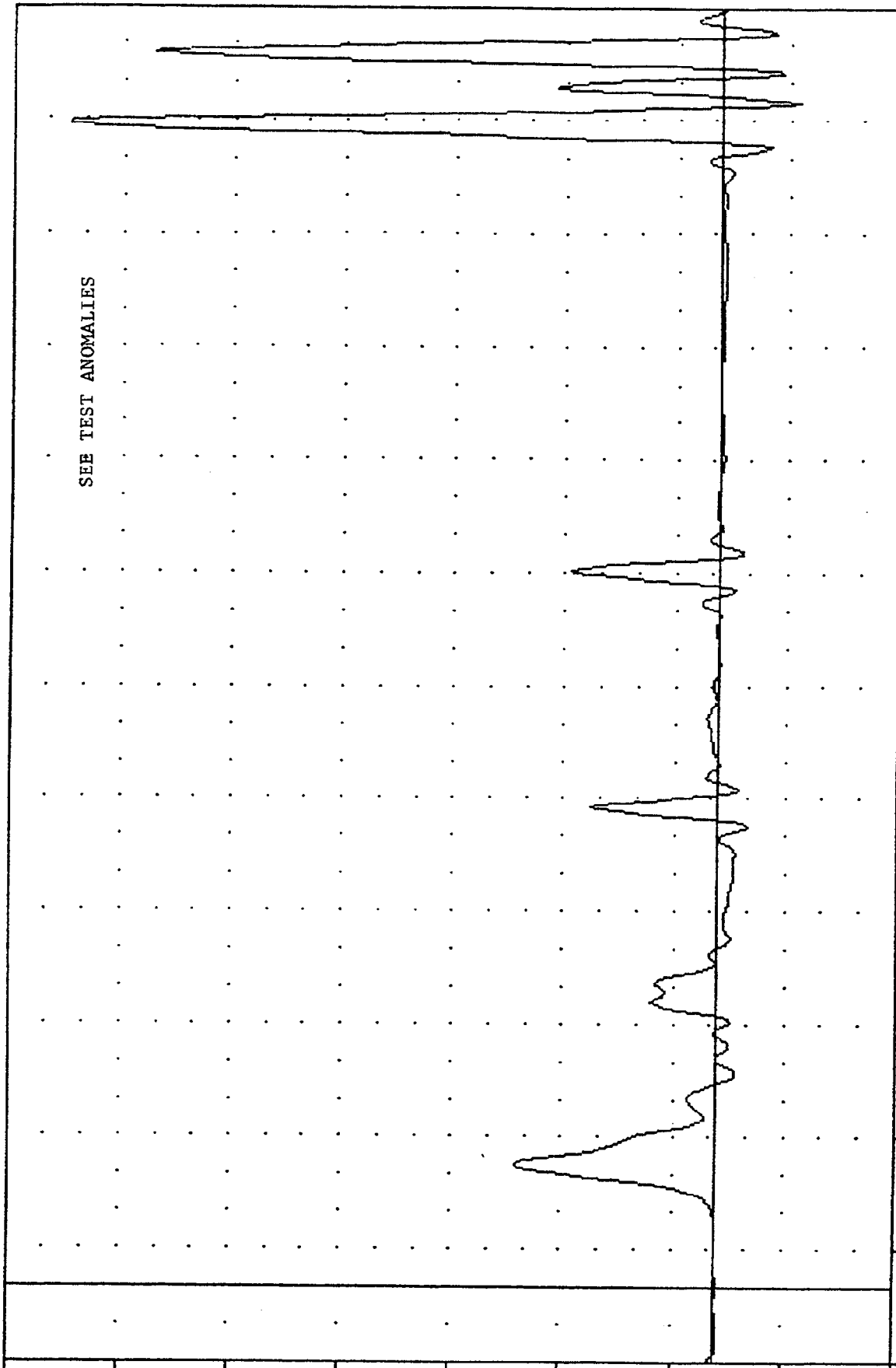
850710
PROTECTION PROD YEH
8519100000
T12YG1

PLOT DATE 10-1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -42.98e 315.00, 367.36 e 308.75

ACCELERATION (G)
-100.00 -37.50 25.00 87.50
150.00 212.50 275.00 337.50 400.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LOWER SPINE ACCELERATION Y AXIS

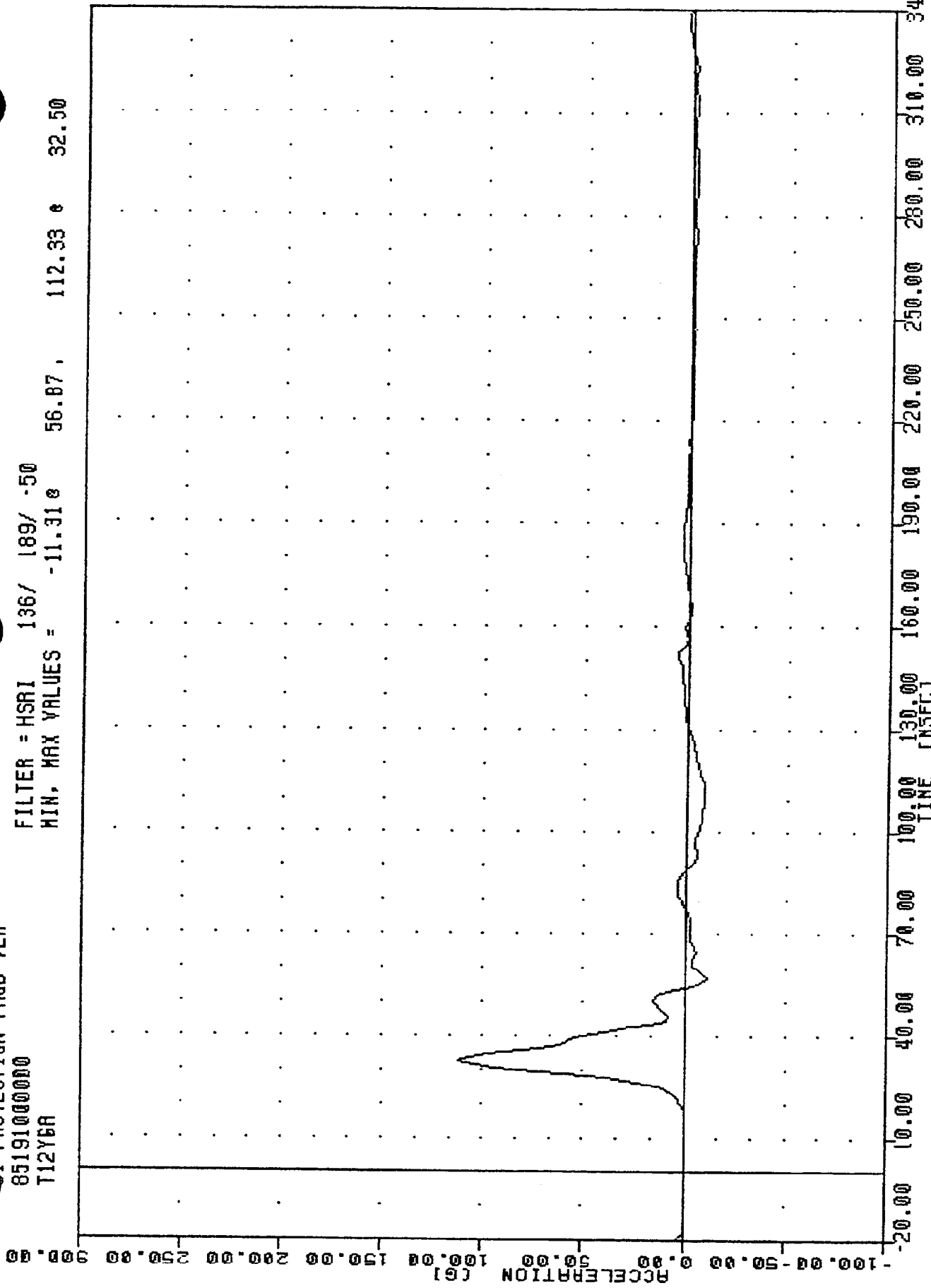
850710
PROTECTION PROD YEH

8519100000
T12Y6A

PLOT DATE 10-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -11.318 56.87, 112.33 e 32.50



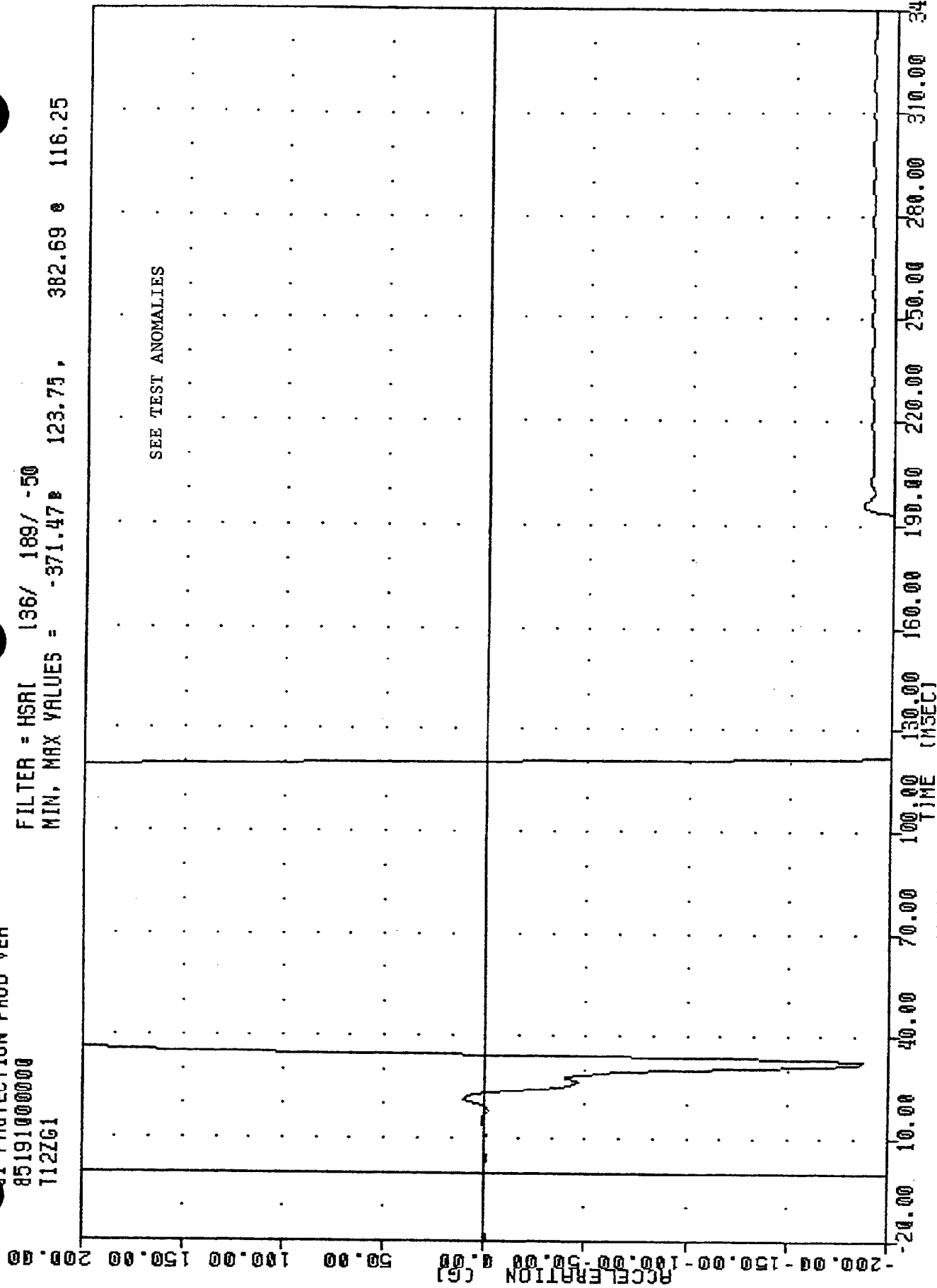
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LOWER SPINE ACCELERATION 23 Y BYTC

RT 850710
PROTECTION PROD VEH
85191000000
112ZG1

PLOT DATE 10-1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -371.47 123.75, 382.69 116.25



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LOWER SPINE ACCELERATION 7 AXIS

850710
PROTECTION PROD YEH
85191000000
T12YV1

PLOT DATE 16-85 12:20:12

FILTER = HSRI 136/ 189/ .50

MIN, MAX VALUES = -0.09e 2.50, 121.01 e 331.88

00.00

10.00

20.00

30.00

40.00

50.00

60.00

70.00

80.00

90.00

100.00

110.00

120.00

130.00

140.00

150.00

160.00

170.00

180.00

190.00

200.00

210.00

220.00

230.00

240.00

250.00

260.00

270.00

280.00

290.00

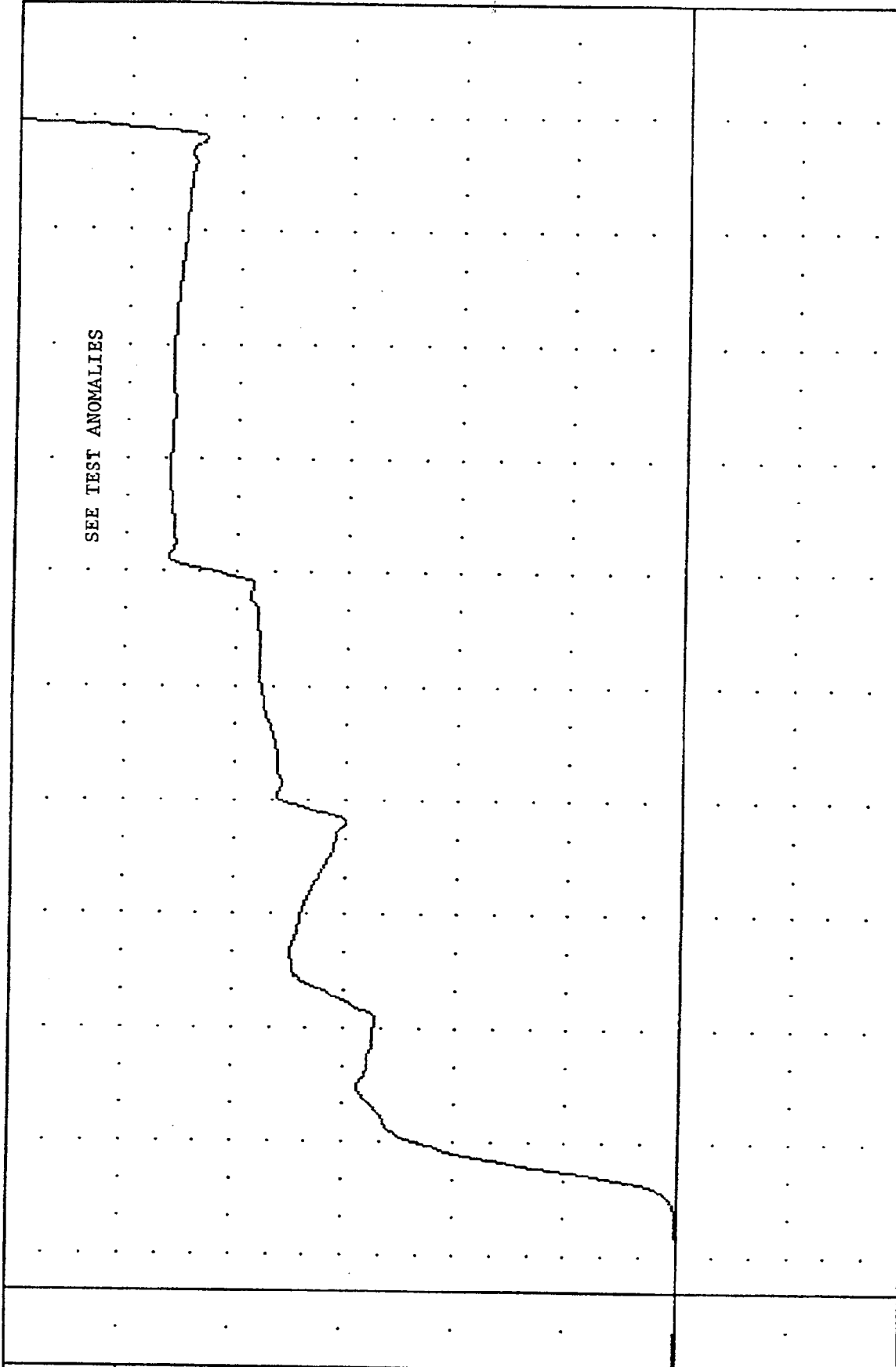
300.00

310.00

320.00

330.00

340.00



00.00 10.00 20.00 30.00 40.00 50.00 60.00
-20.00 -10.00 0.00 10.00 20.00 30.00 40.00
0.00 10.00 20.00 30.00 40.00 50.00 60.00
70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00
TIME (NSEC)

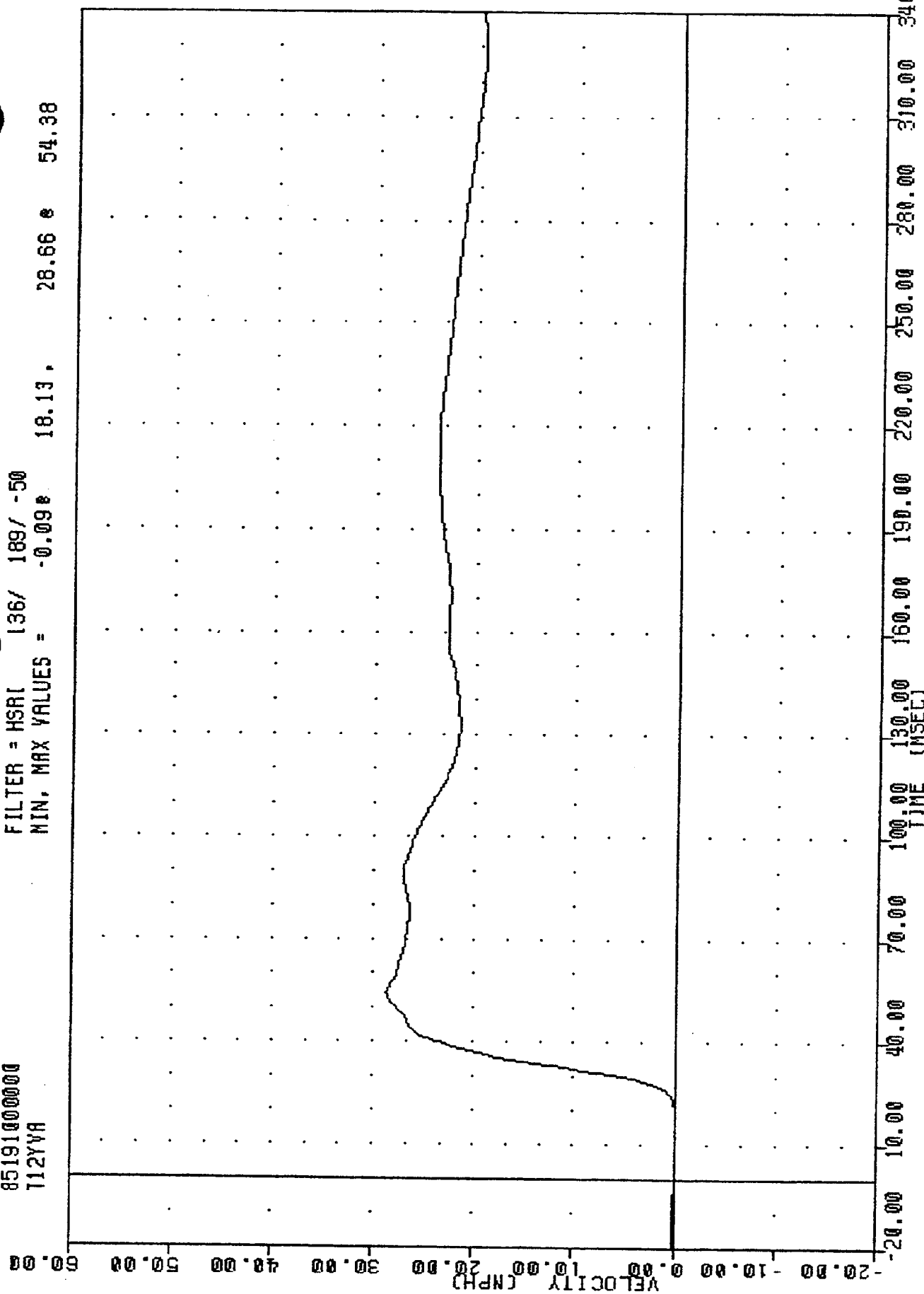
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V USING T12YGI

850710
PROTECTION PROD VEH
85191000000
T12YVA

PLOT DATE 1-1-85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.09 18.13 28.66 e 54.38



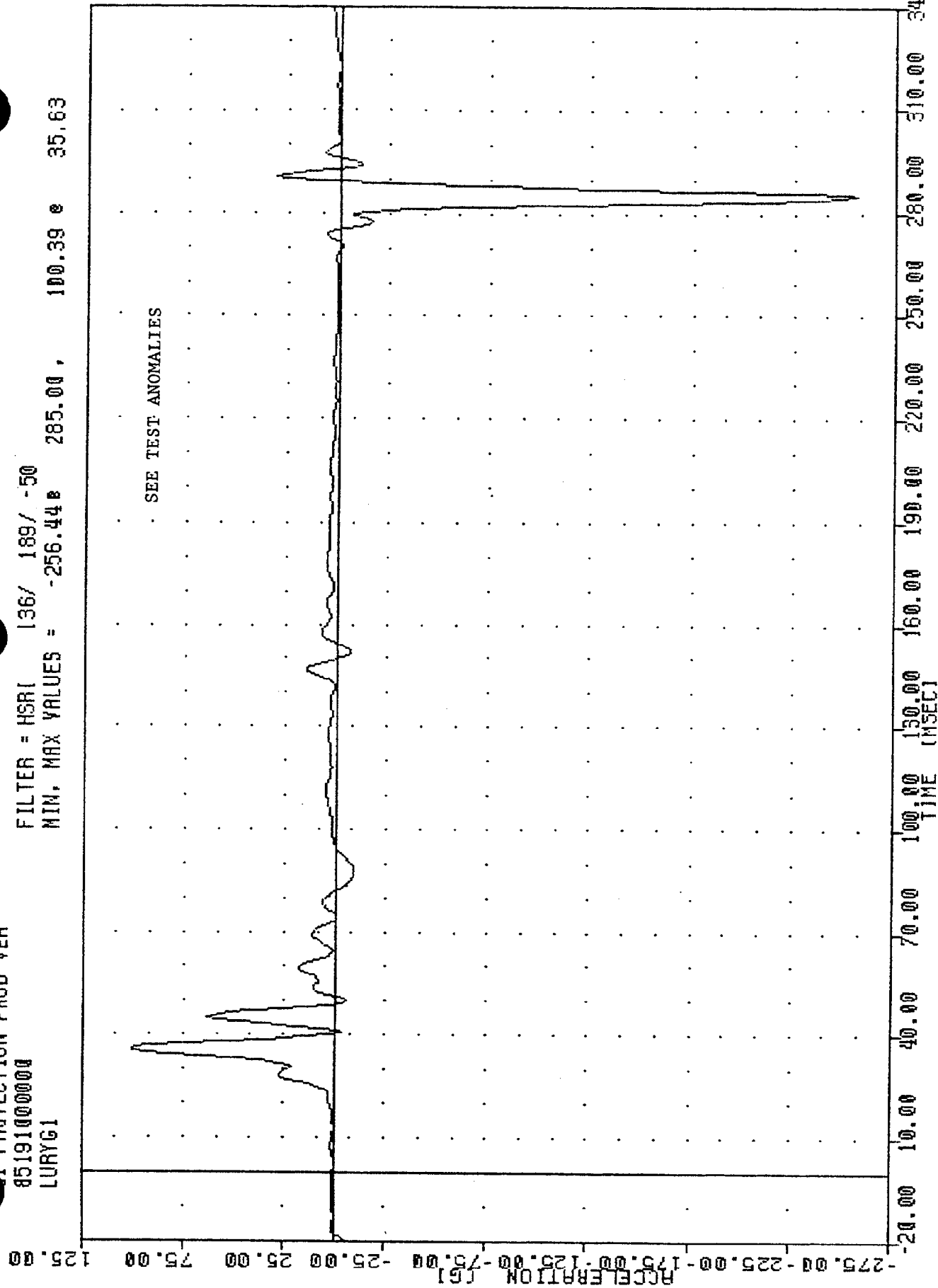
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V USING T12YGA

T 850710
PROTECTION PROD VEH
85191000000
LURYGI

PLOT DATE 1-85 13:51:10

FILTER = HSR1 136/ 189/ -50

MIN. MAX VALUES = -256.44 285.00 , 100.39 35.63



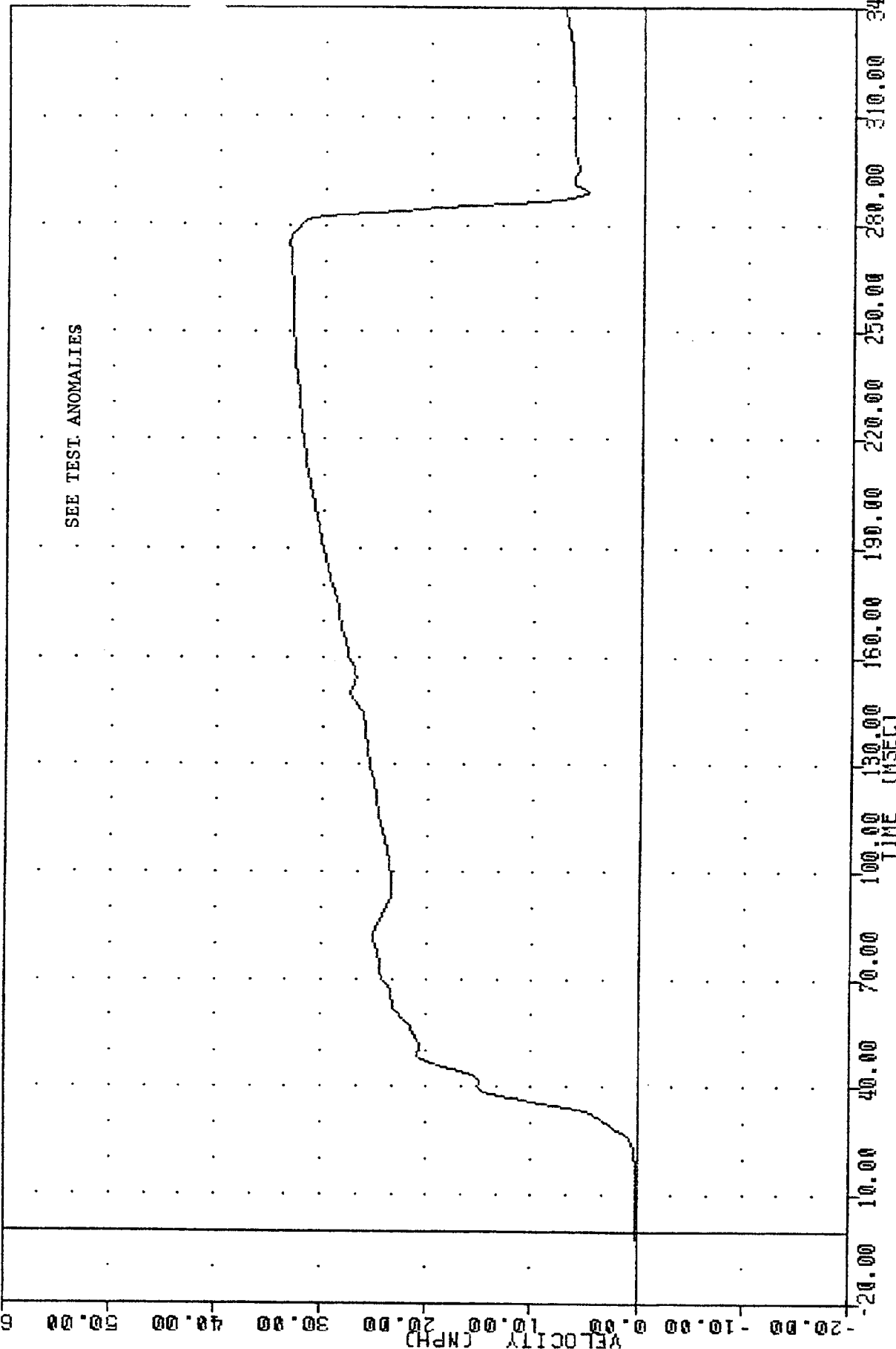
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LEFT UPPER RIB ACCELERATION Y AXIS

850710
PROTECTION PROD VEH
8519100000
LURYV1

PLOT DATE 10-1-85 09:27:32

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.12 33.42 275.00



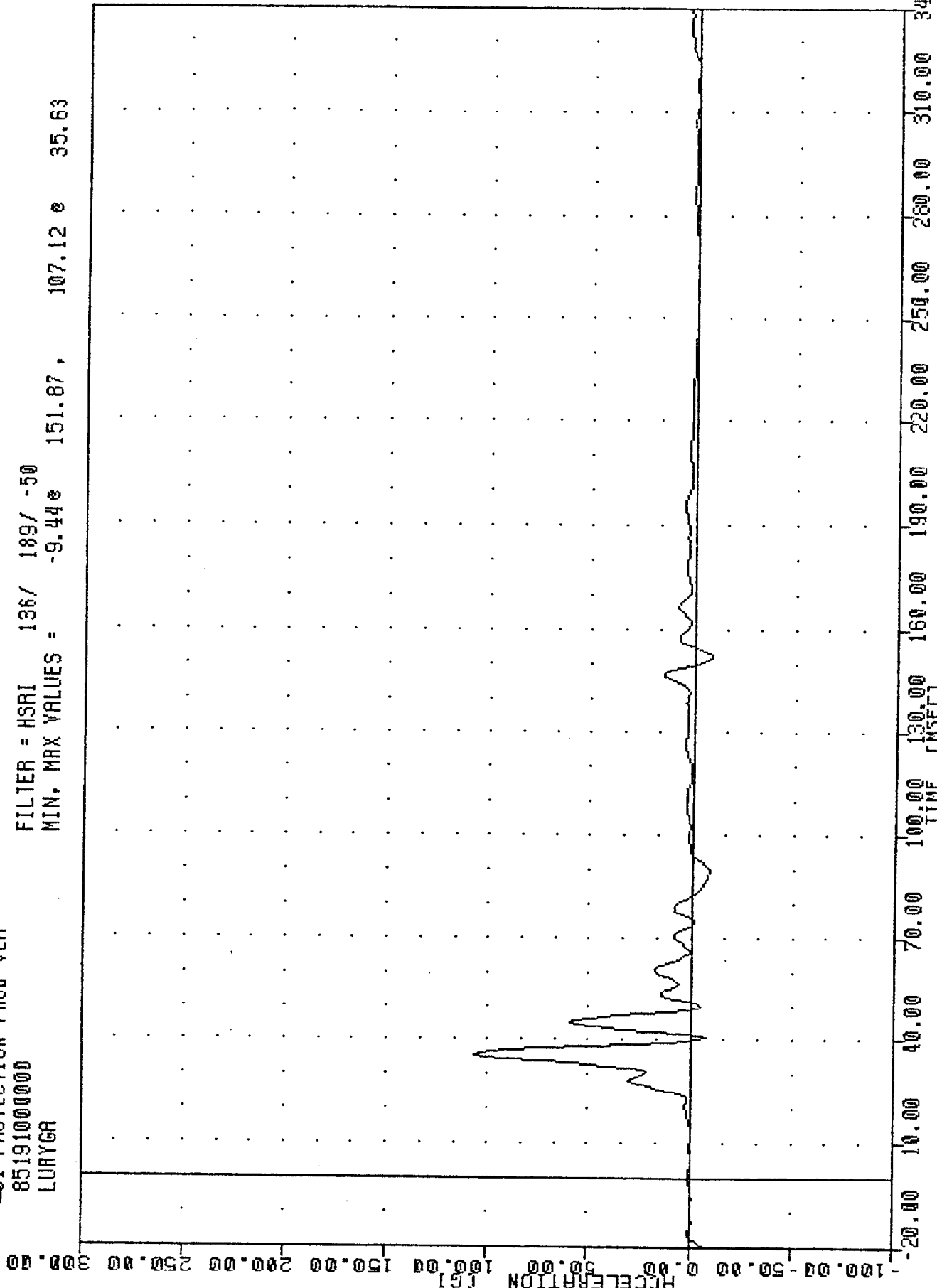
SEE TEST ANOMALIES

MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFITA V HSTNG IIRYGI

850710
PROTECTION PROD VEH
85191000000
LURYGR

PLOT DATE 10-21-85 13:51:10

FILTER = HSRI 136/ 189/ -50
MIN. MAX VALUES = -9.44e 151.87, 107.12 e 35.63



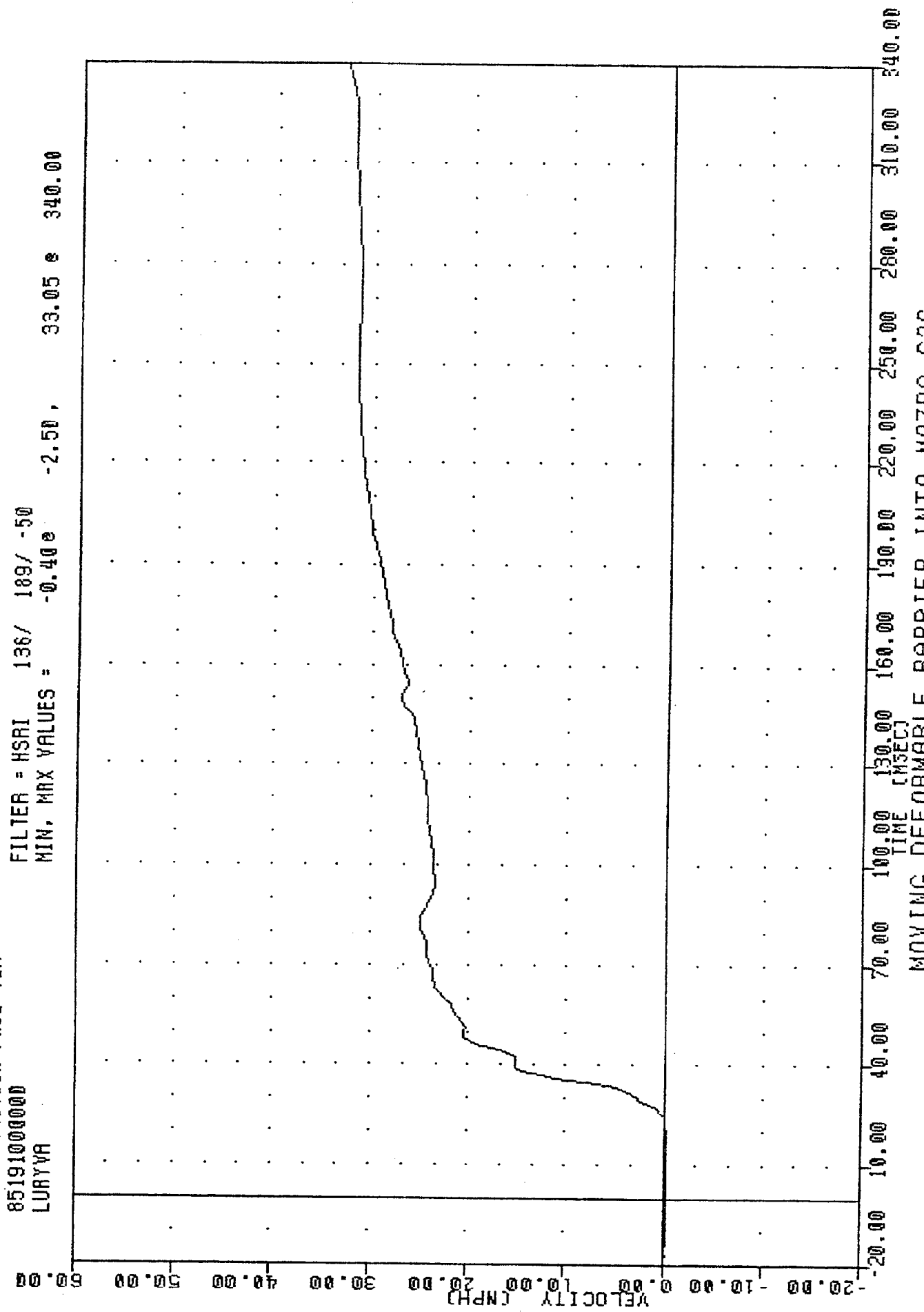
B-21

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LEFT UPPER AIR ACCELERATION

850710
PROTECTION PROD VEH
85191000000
LURYVA

PLOT DATE 10-1-85 09:27:32

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -0.40e -2.50, 33.05 e 340.00

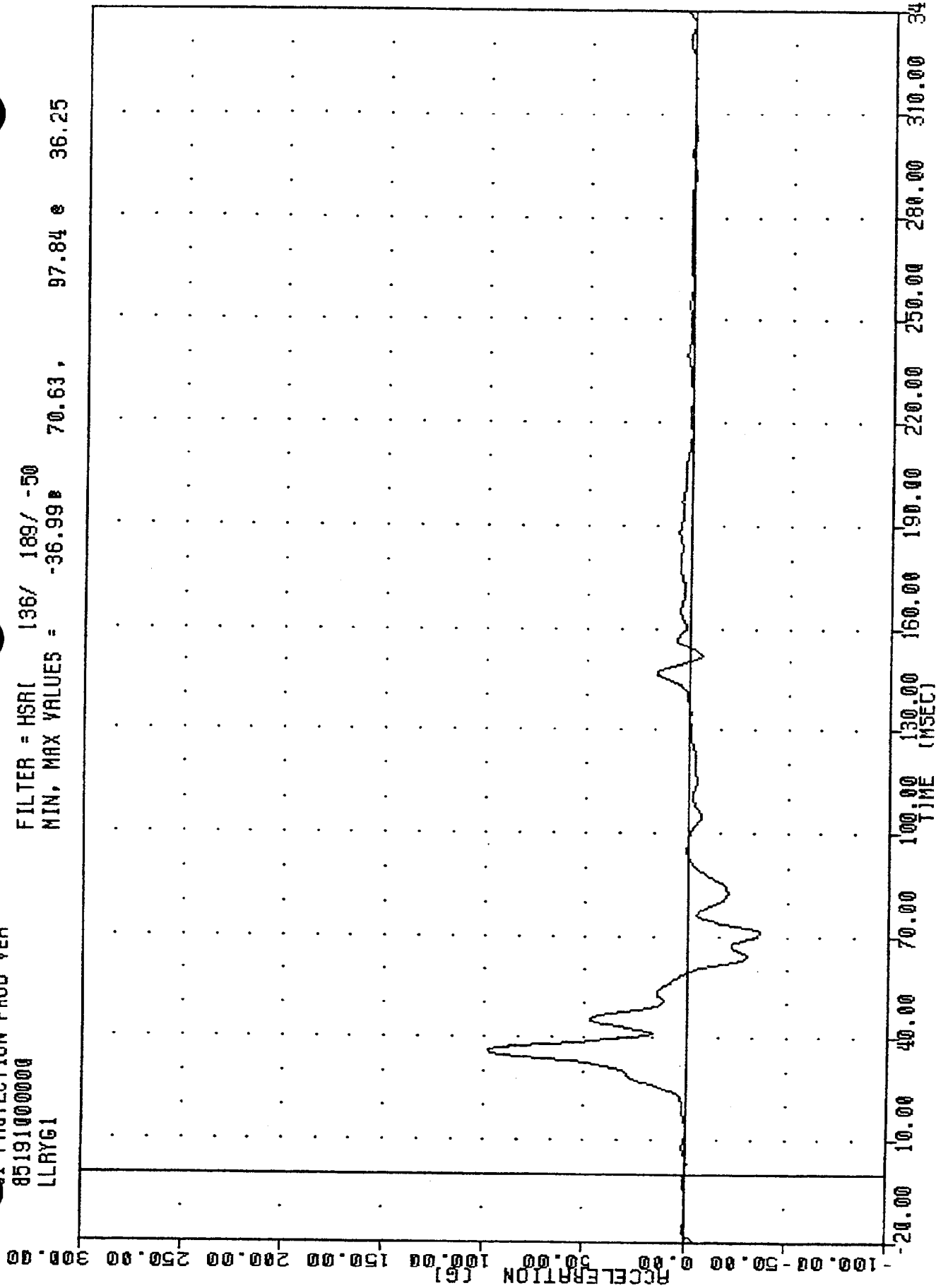


MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V LISTING IIRYGA

850710
PROTECTION PROD VEH
85191000000
LLRYG1

PLOT DATE 1 L-85 12:18:58

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -36.99 70.63, 97.84 36.25

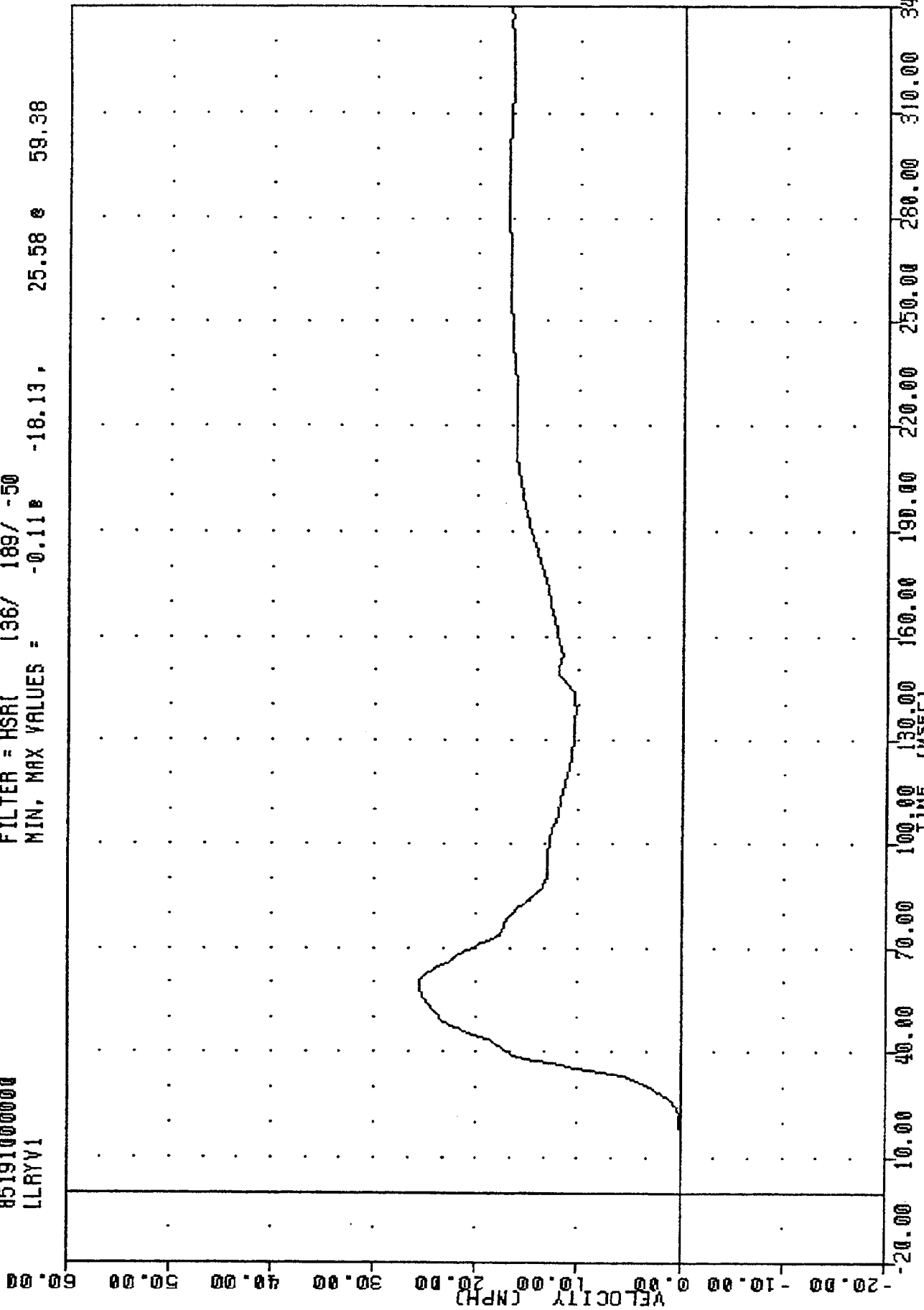


MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LEFT LOWER AIR ACCIFFRATION Y AXYS

850710
PROTECTION PROD VEH
85191000000
LLRYV1

PLOT DATE 10-1-85 12:20:12

FILTER = HSR(136/ 189/ -50
MIN, MAX VALUES = -0.118 -18.13, 25.58 e 58.38



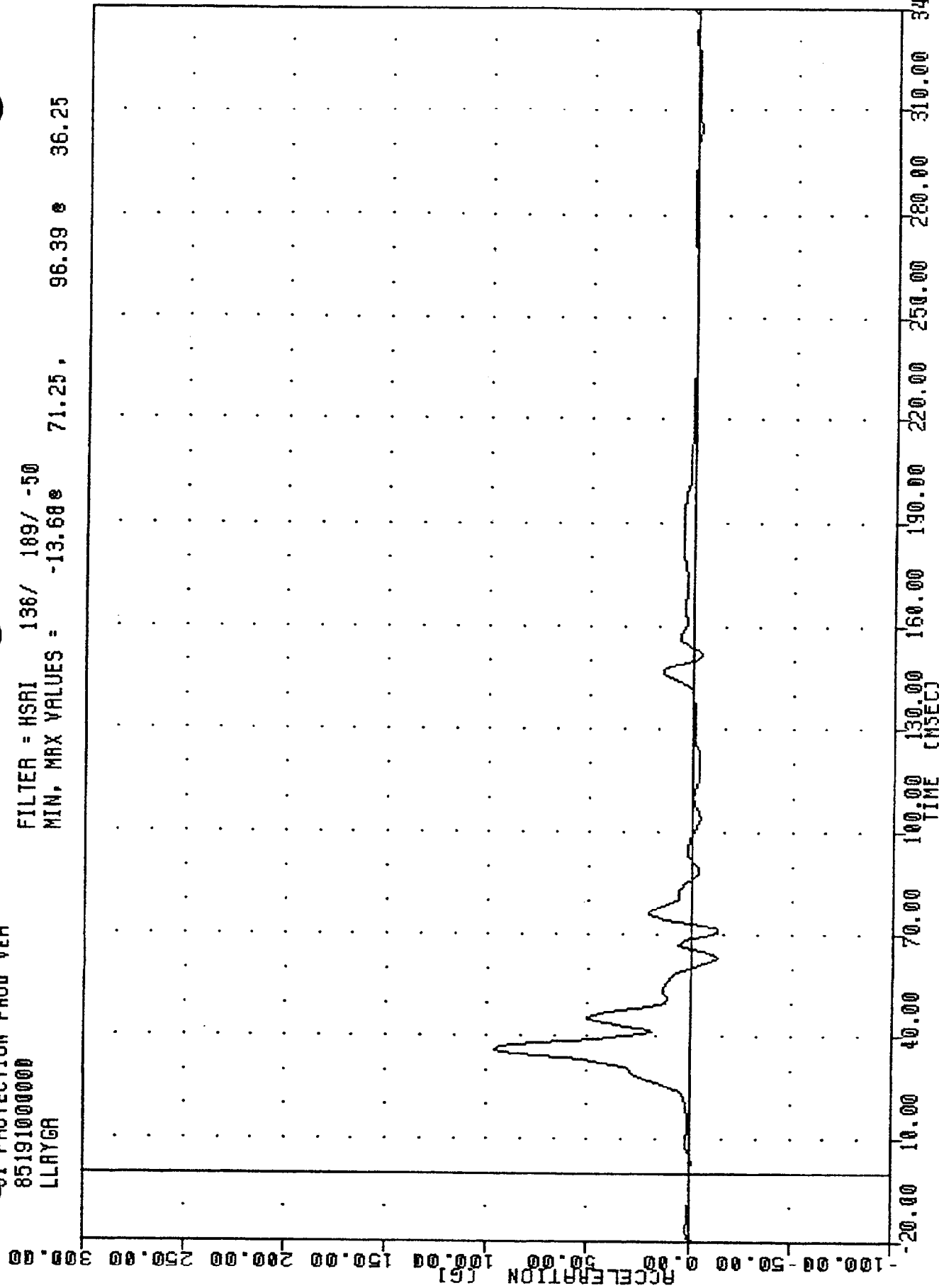
MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFITA V IISING IIRYGI

850710
PROTECTION PROD VEH
85191000000
LLAYGA

PLOT DATE 1-2-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -13.68e 71.25, 96.39e 36.25



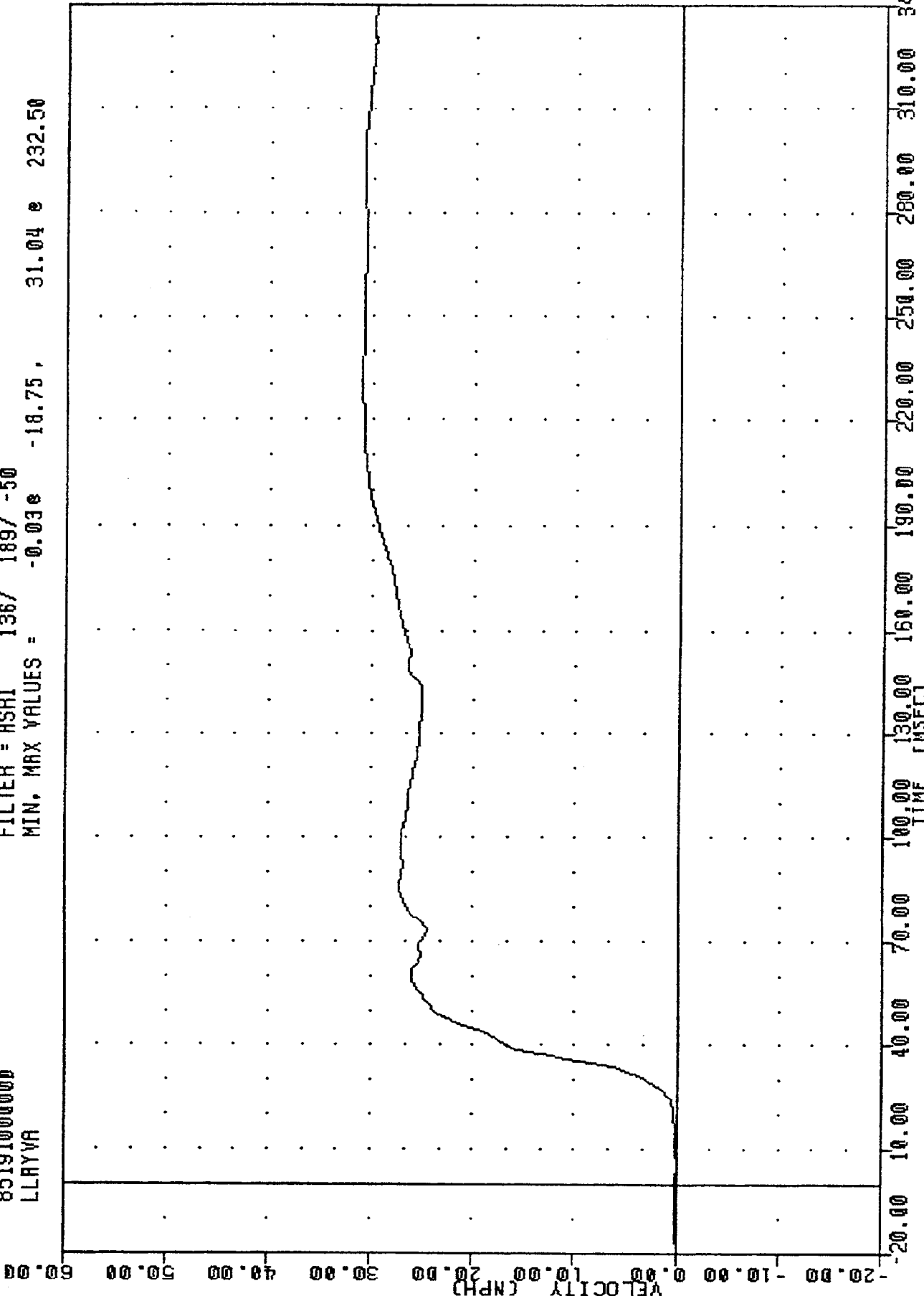
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LEFT LOWER AIR ACCFIRATION 2 Y AYTS

850710
PROTECTION PROD VEH
85191000000
LLRYVA

PLOT DATE 1-85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.03e -18.75, 31.04 e 232.50



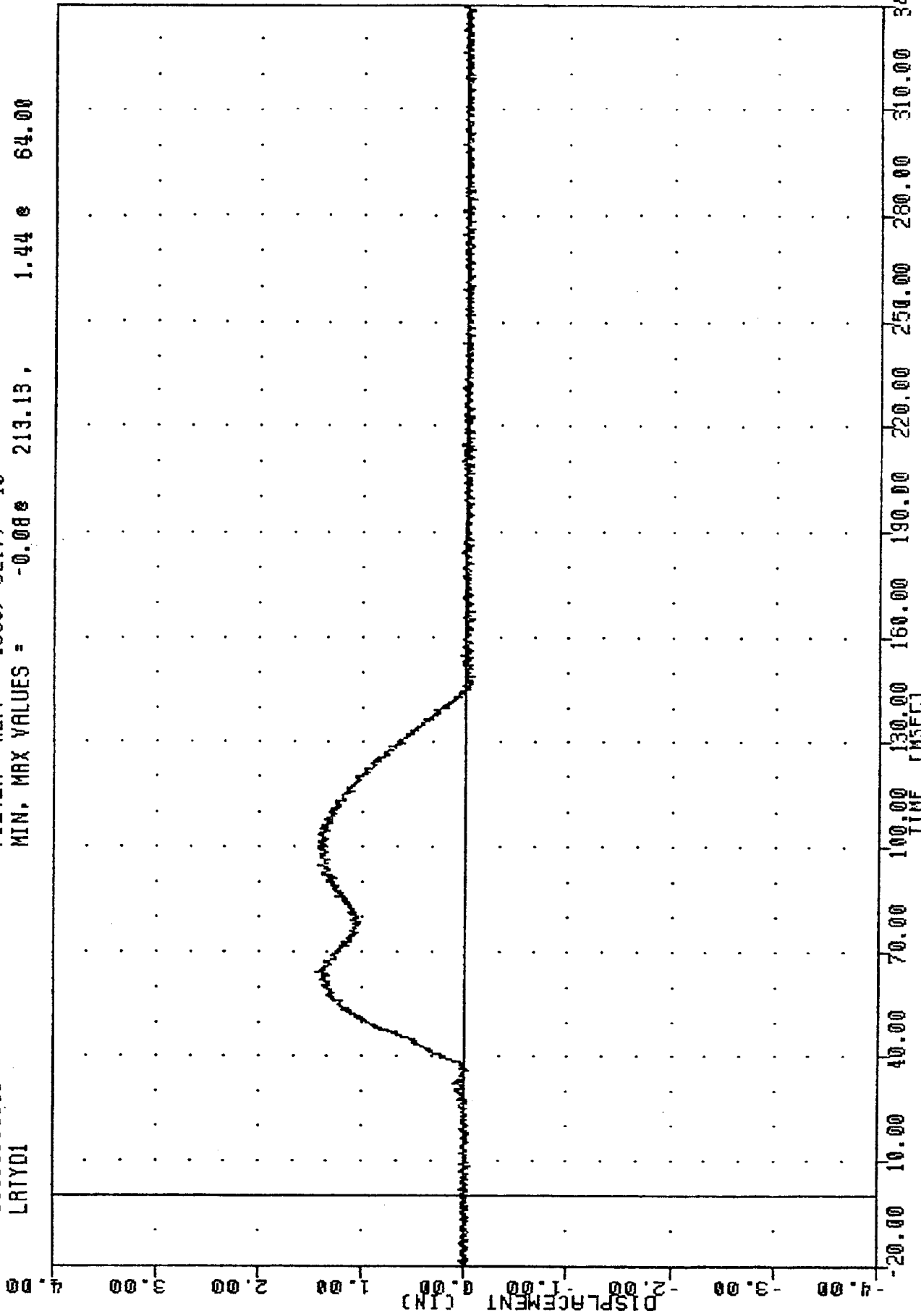
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PIFITA V IISTING IIRYCA

850710
PROTECTION PROD VEH
85191000000
LRTY01

PLOT DATE 10-85 12:17:53

FILTER = ALPF 1650/ 5217/ -40

MIN, MAX VALUES = -0.08e 213.13, 1.44 e 64.00



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER LEFT RIB TO SPINE DISPLACEMENT INCHES

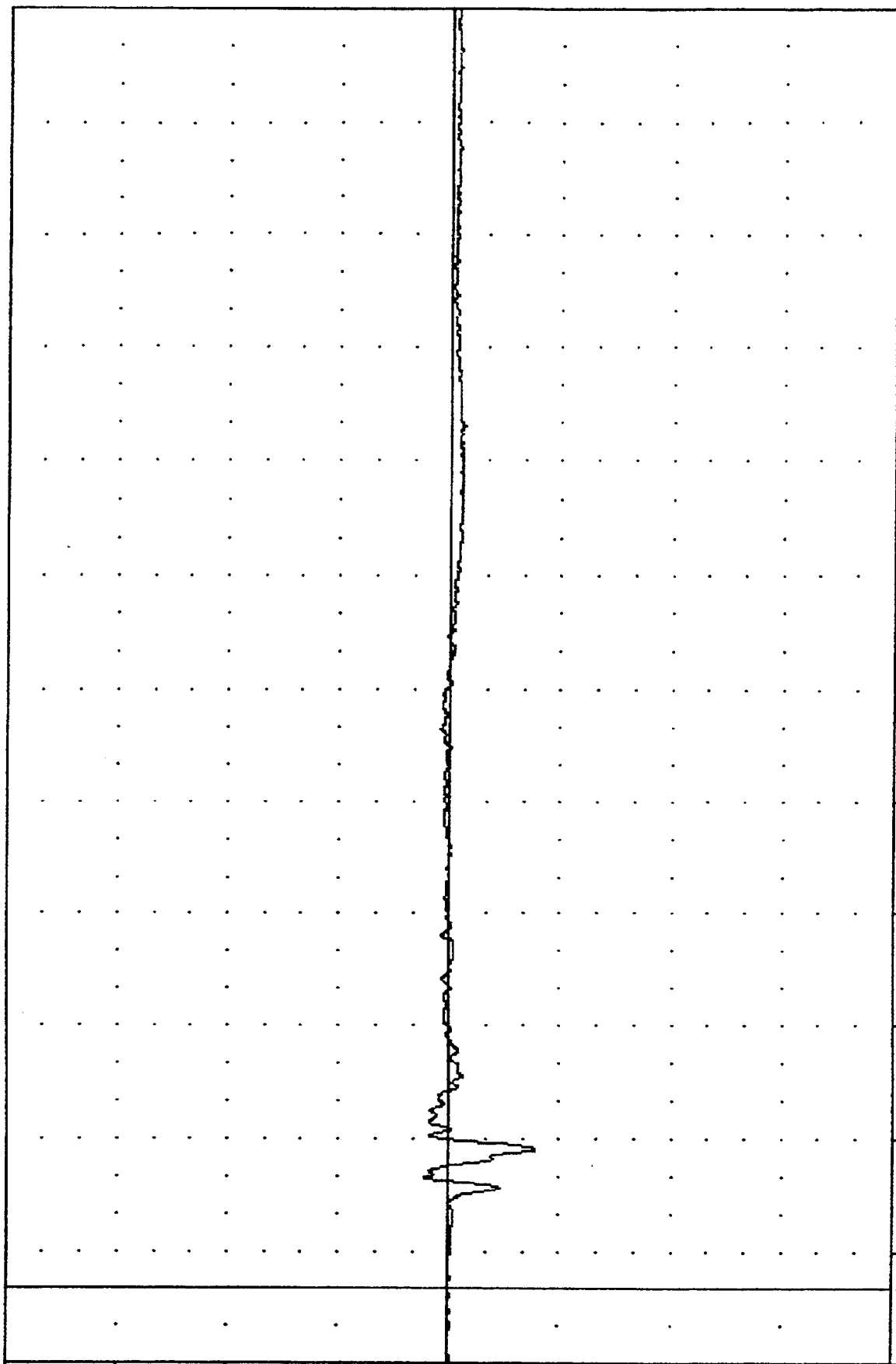
T 850710
PROTECTION PROD VEH
85191000000
PEYX61

PLOT DATE 1-85 12:17:53

FILTER = BLPF 300/ 949/ -40

MIN, MAX VALUES = -39.01e 37.25, 10.84 e 29.50

ACCELERATION (G)
-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

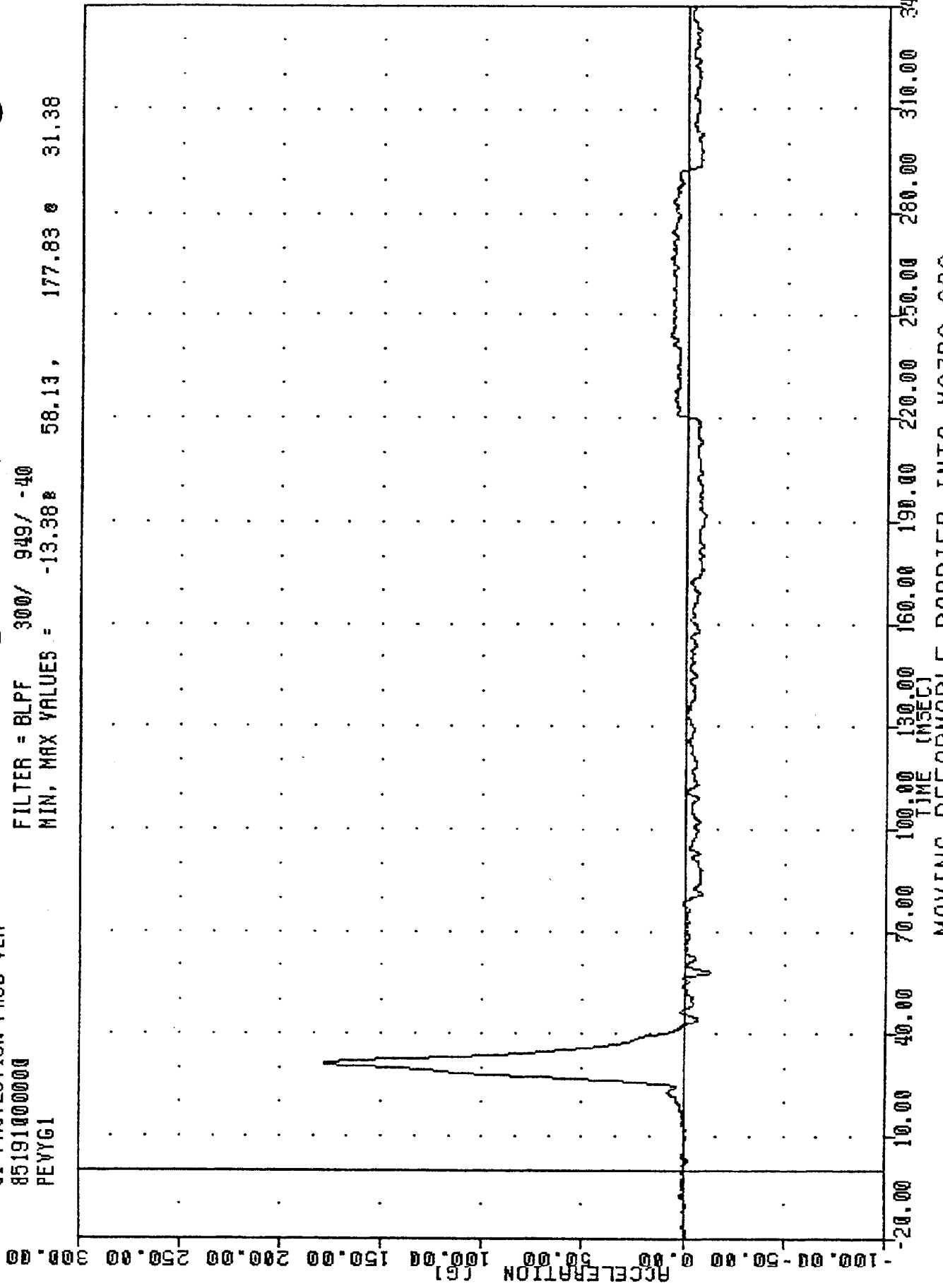
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER PELVIS ACCELERATION X AXIS

850710
PROTECTION PROD VEH
8519100000
PEYVG1

PLOT DATE 1-85 12:17:53

FILTER = BLPF 300/ 949/ -40

MIN, MAX VALUES = -13.38 58.13, 177.83 31.38



B-29

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER PELVETS ACCELERATION Y AXTS

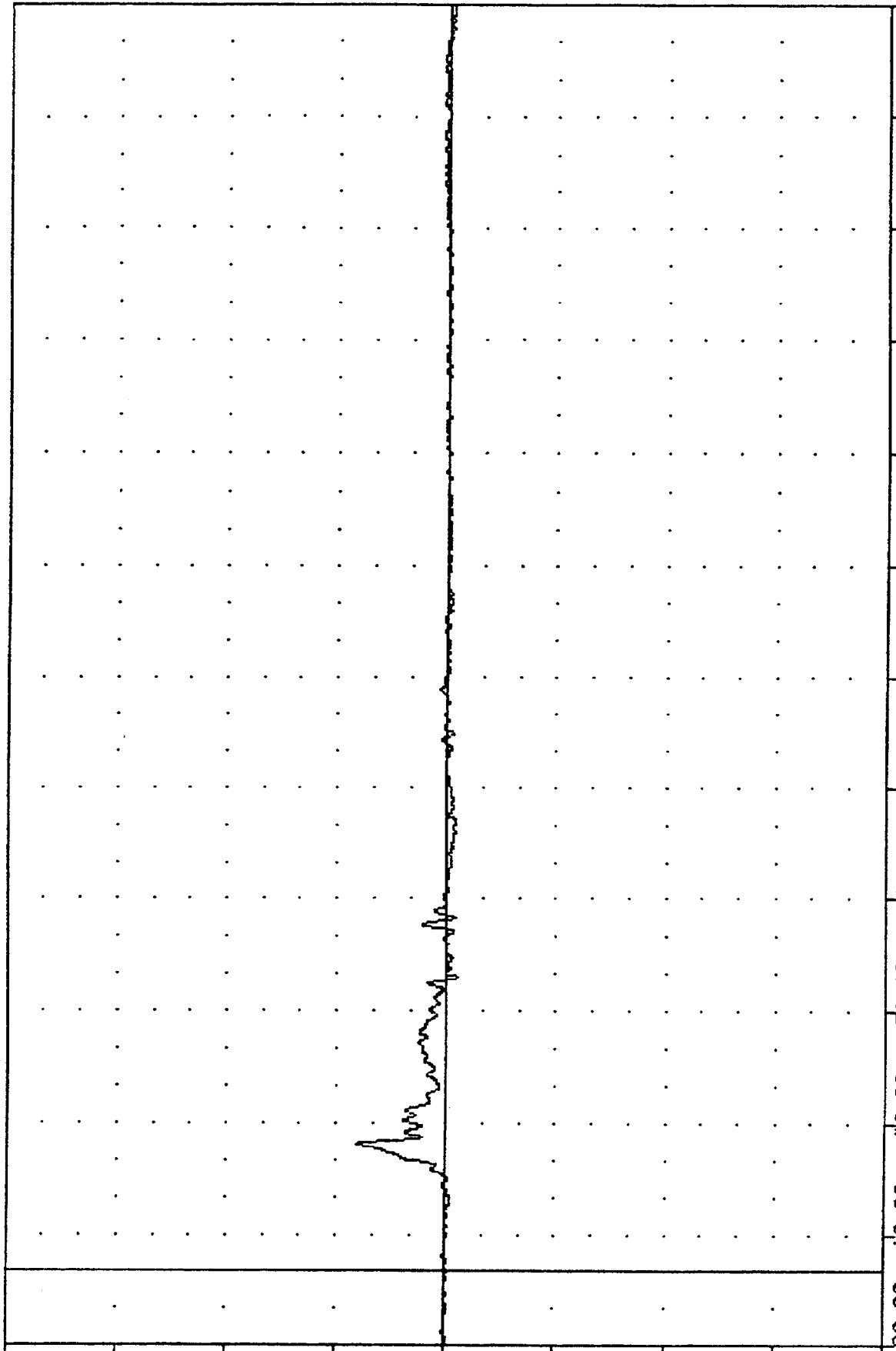
850710
PROTECTION PROD YEH
85191000000
PEVZ61

PLOT DATE 16-85 12:17:53

FILTER = BLPF 300/ 949/ -40
MIN. MAX VALUES = -5.32e 40.48 e

34.25

ACCELERATION (G)



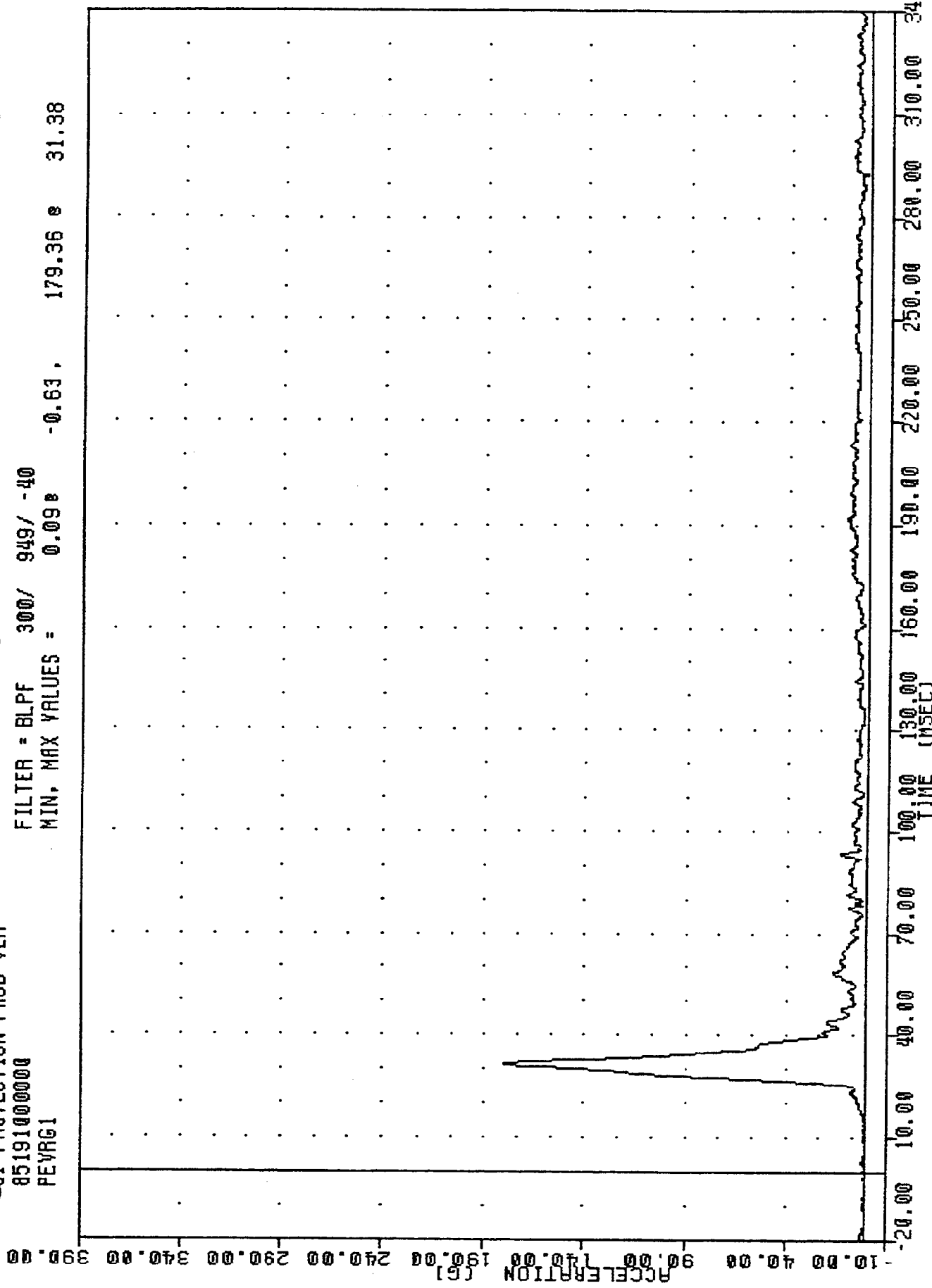
B-30

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER PFI VTS ACCELERATION 7 AYTS

850710
PROTECTION PROD VEH
85191000000
PEVRG1

PLOT DATE 1-85 12:17:53

FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = 0.09e -0.63, 179.36 e 31.38



B-31

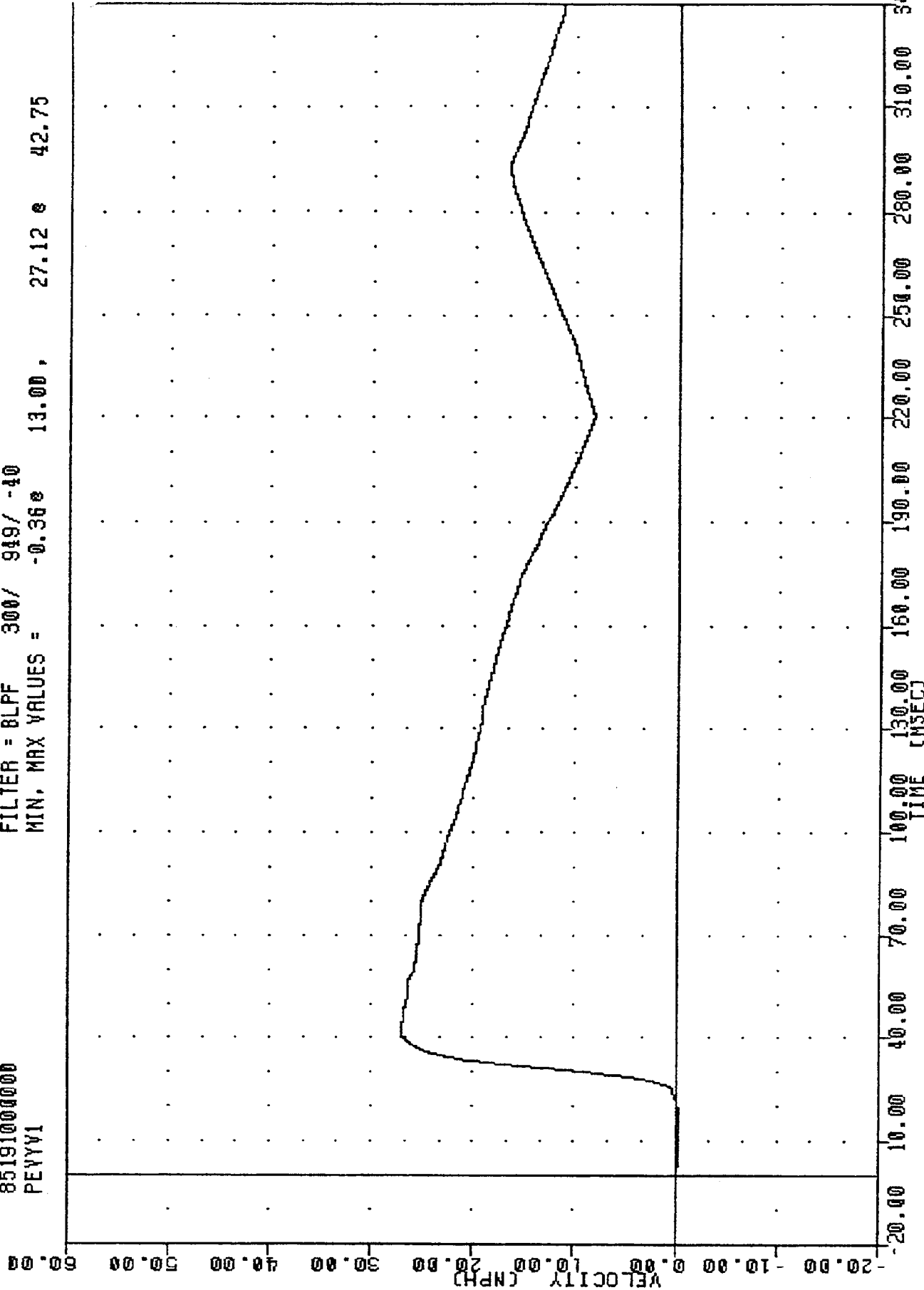
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DRIVER PFI VTS REFSIII TANT

T , 850710
SI PROTECTION PROD VEH
85191000000
PEYV1

PLOT DATE 11-85 12:17:53

FILTER = 8LPF 300/ 949/ -40

MIN. MAX VALUES = -0.36e 13.00, 27.12 e 42.75



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DATA V LISTING PFVY61

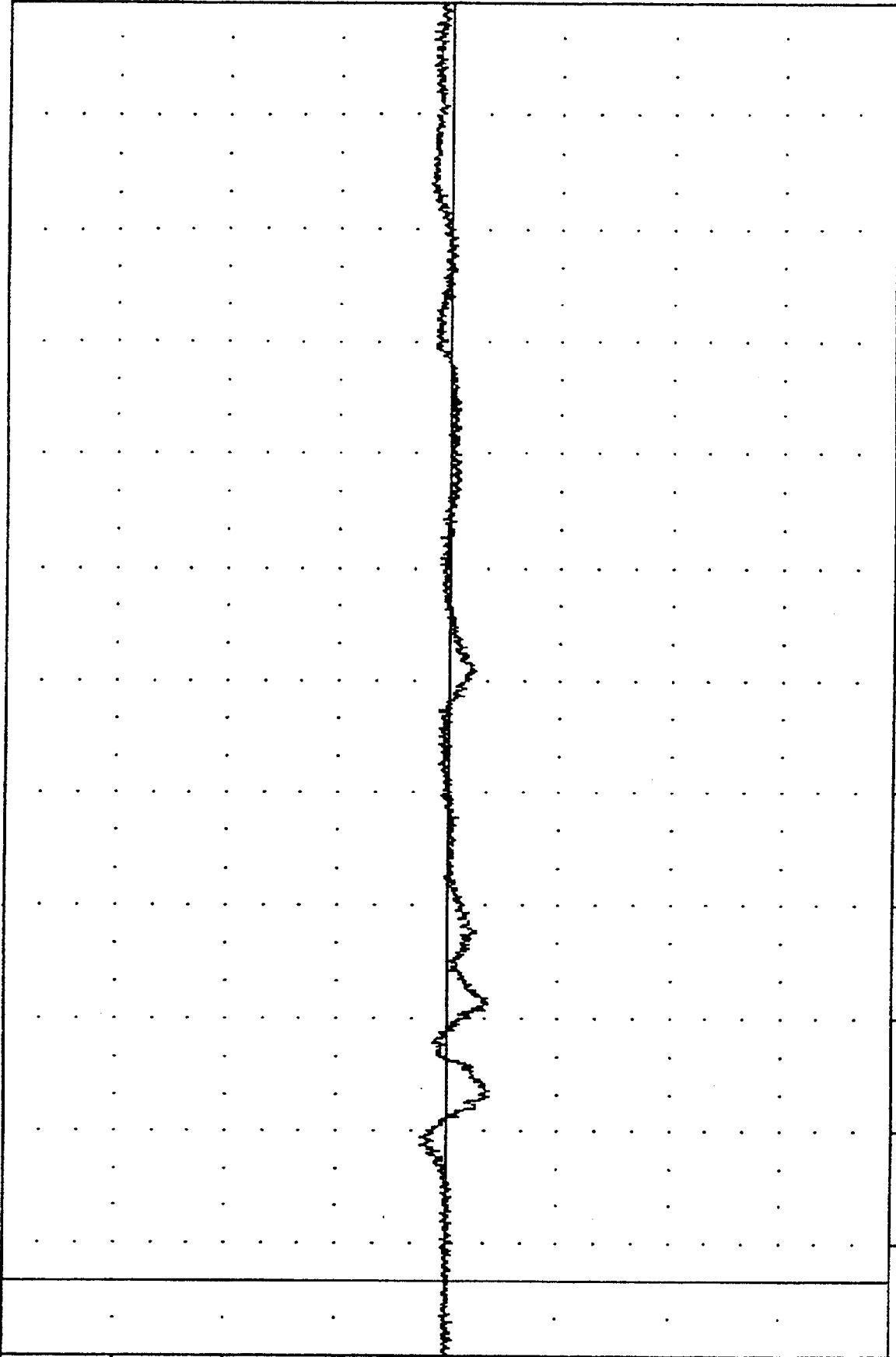
T 850710
PROTECTION PROD VEH
85191000000
HEDX64

PLOT DATE 1-85 12:17:53

FILTER = ALPF 1650/ 5217/ -40

MIN. MAX VALUES = -18.87e 50.88, 11.60 e 38.75

ACCELERATION (G)



-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00
TIME (MSEC) 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

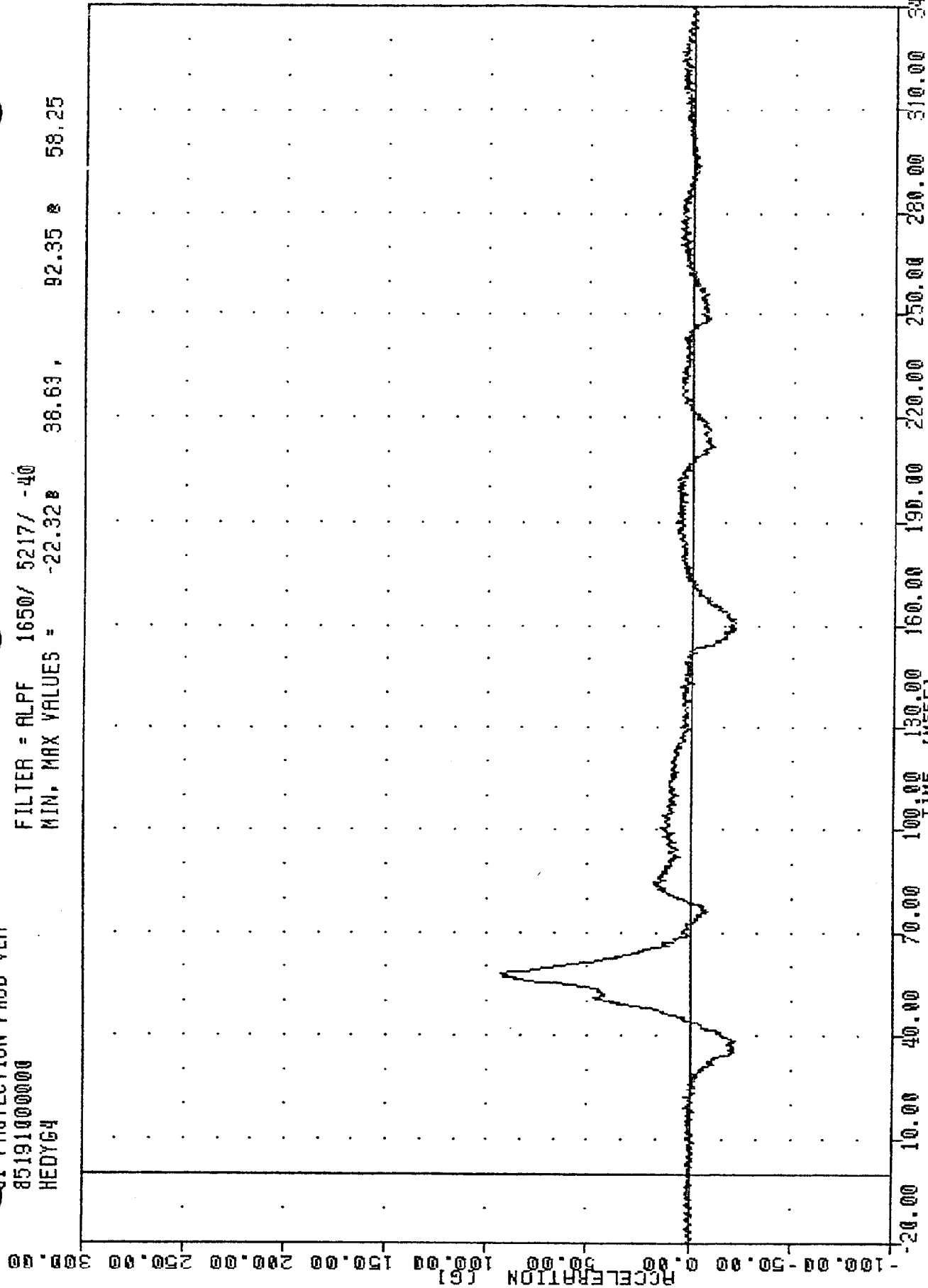
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER HEAD ACCELERATION X AXIS

BT
850710
PROTECTION PROD VEH
8519100000
HEDY64

PLOT DATE 1-85 15:10:43

FILTER = ALPF 1650/ 5217/ -40

MIN. MAX VALUES = -22.32 38.63 , 92.35 58.25



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER HEAD ACCELERATION Y AXIS

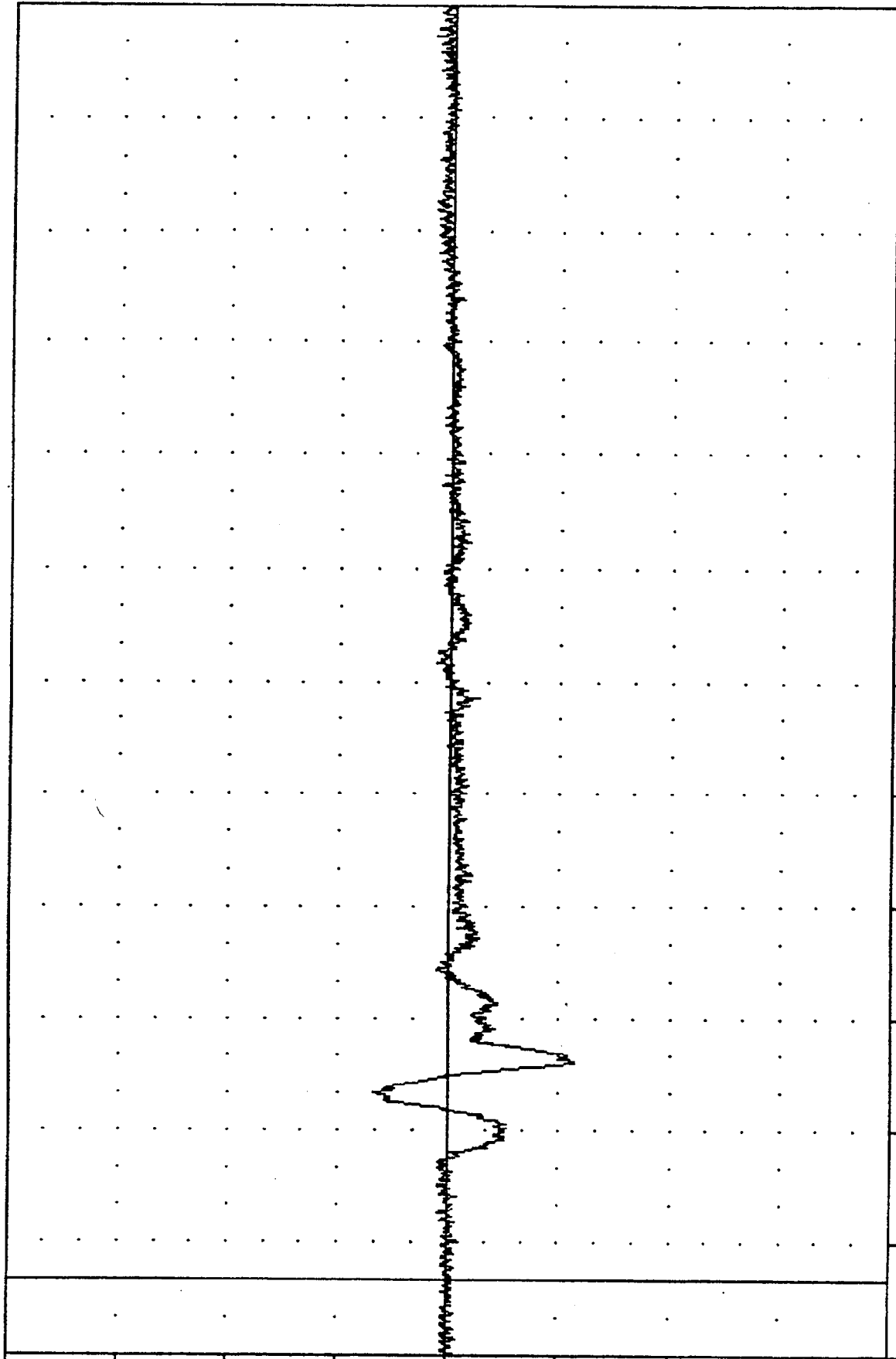
T 850710
PROTECTION PROD VEH
85191000000
HEDZG4

PLOT DATE 10-85 12:17:53

FILTER = ALPF 1650/ 5217/ -40

MIN, MAX VALUES = -57.00 58.38, 34.12 e 50.00

ACCELERATION (G)



200.00 150.00 100.00 50.00 0.00 -50.00 -100.00 -150.00 -200.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER HEAD ACCELERATION Z AXIS

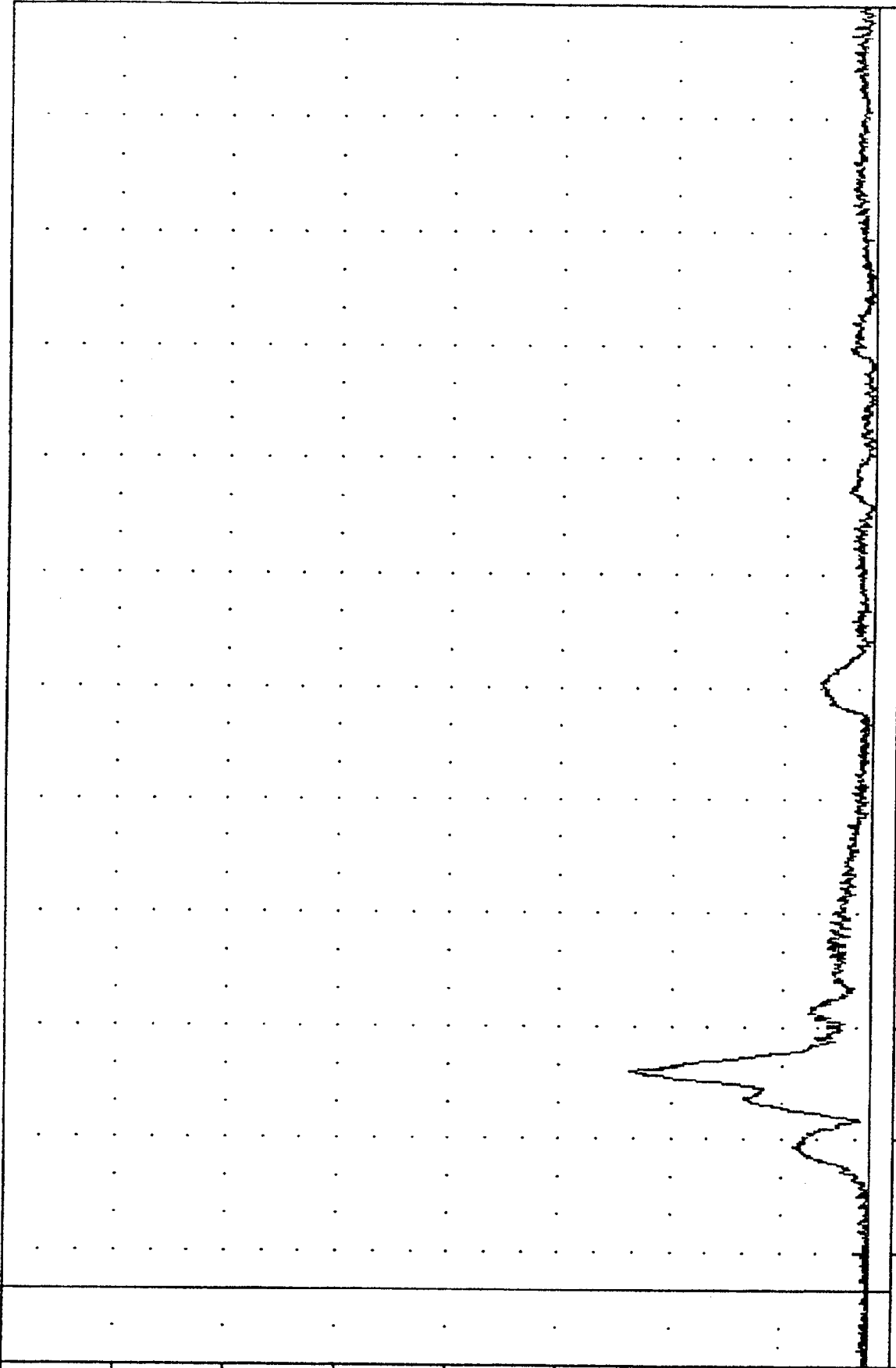
850710
SI PROTECTION PROD VEH
85191000000
HEDRG4

PLOT DATE 11-1-85 10:00:43

FILTER = ALFF 1650/ 5217/ -40
MIN. MAX VALUES = 0.17e -3.75e

108.14 s 58.25

ACCELERATION (G)
390.00
340.00
290.00
240.00
190.00
90.00
00.00
-10.00



-20.00 10.00 40.00 70.00 100.00 150.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 628
PASSENGER HEAD AFSIII TANT

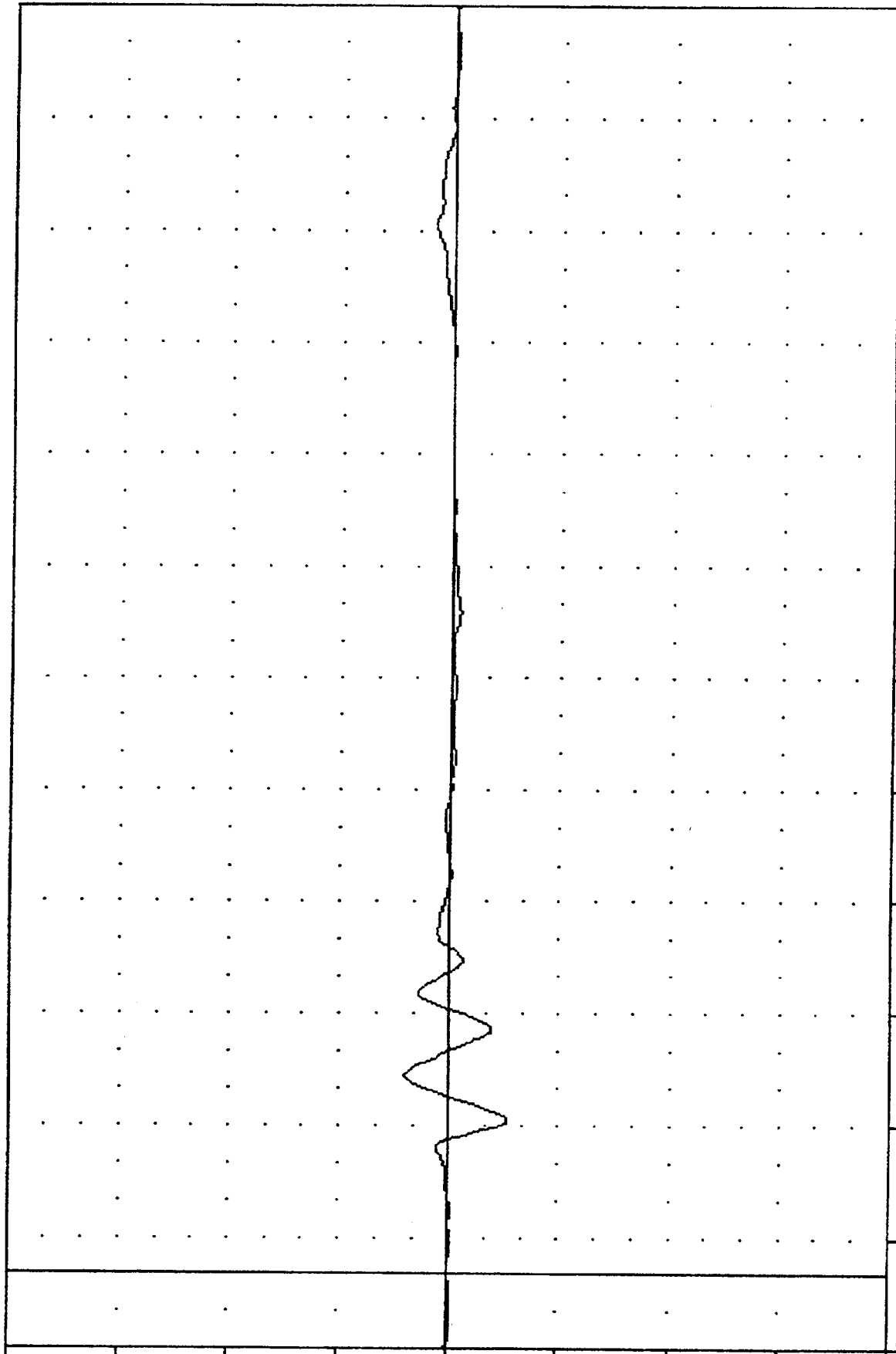
850710
PROTECTION PROD VEH
85191000000
T01X64

PLOT DATE 16-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -26.50e 41.25, 19.94 e 53.12

ACCELERATION (G)
-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00



TIME (MSEC)
-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER UPPER SPINE ACCELERATION X AXIS

T 850710
SI PROTECTION PROD VEH
85191000000
T01YG4

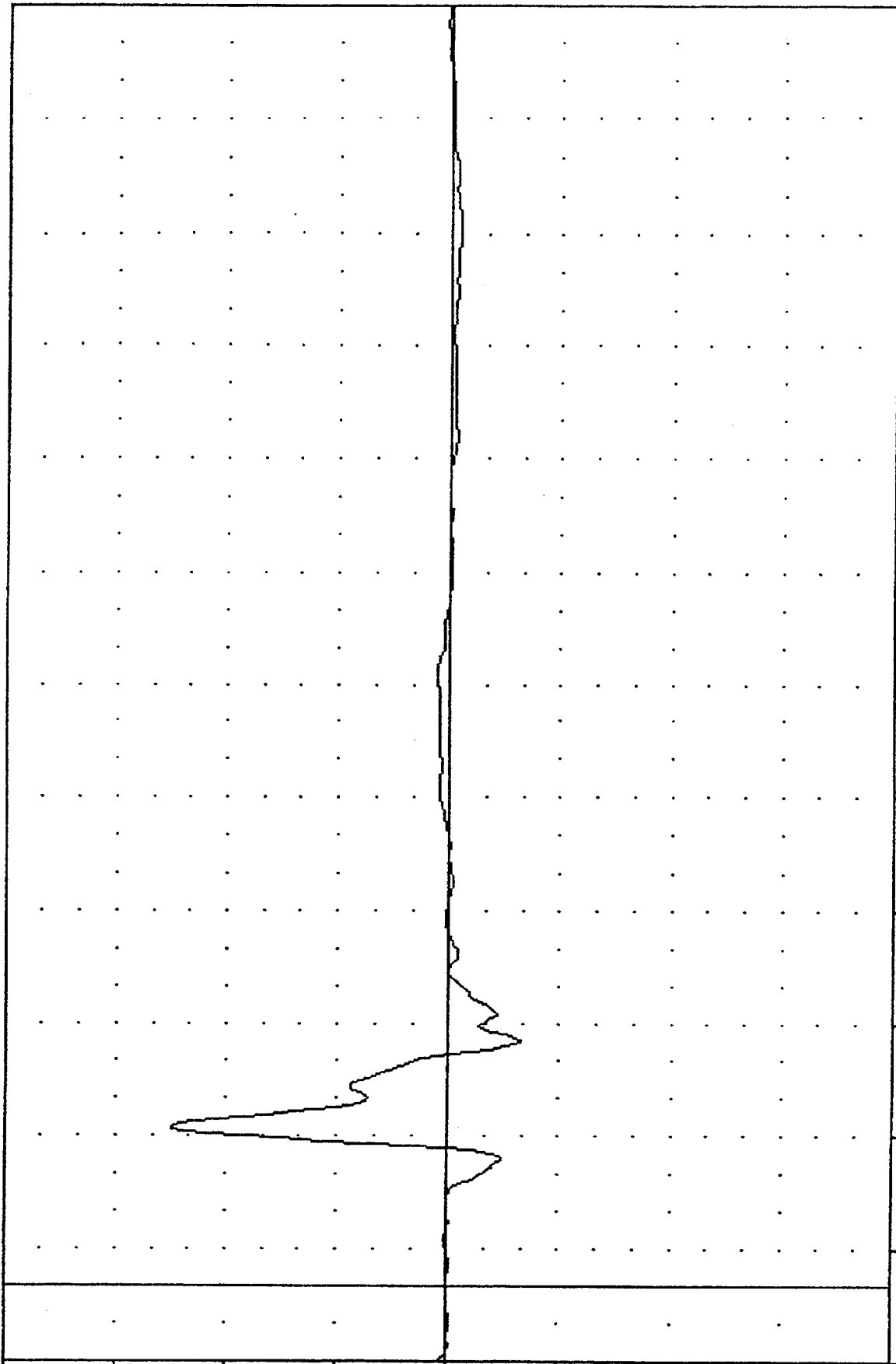
PLOT DATE 1 -85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -33.058 65.00, 124.38 e 42.50

ACCELERATION (G)

200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00
-200.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER UPPER SPINE ACCELERATION Y AXIS

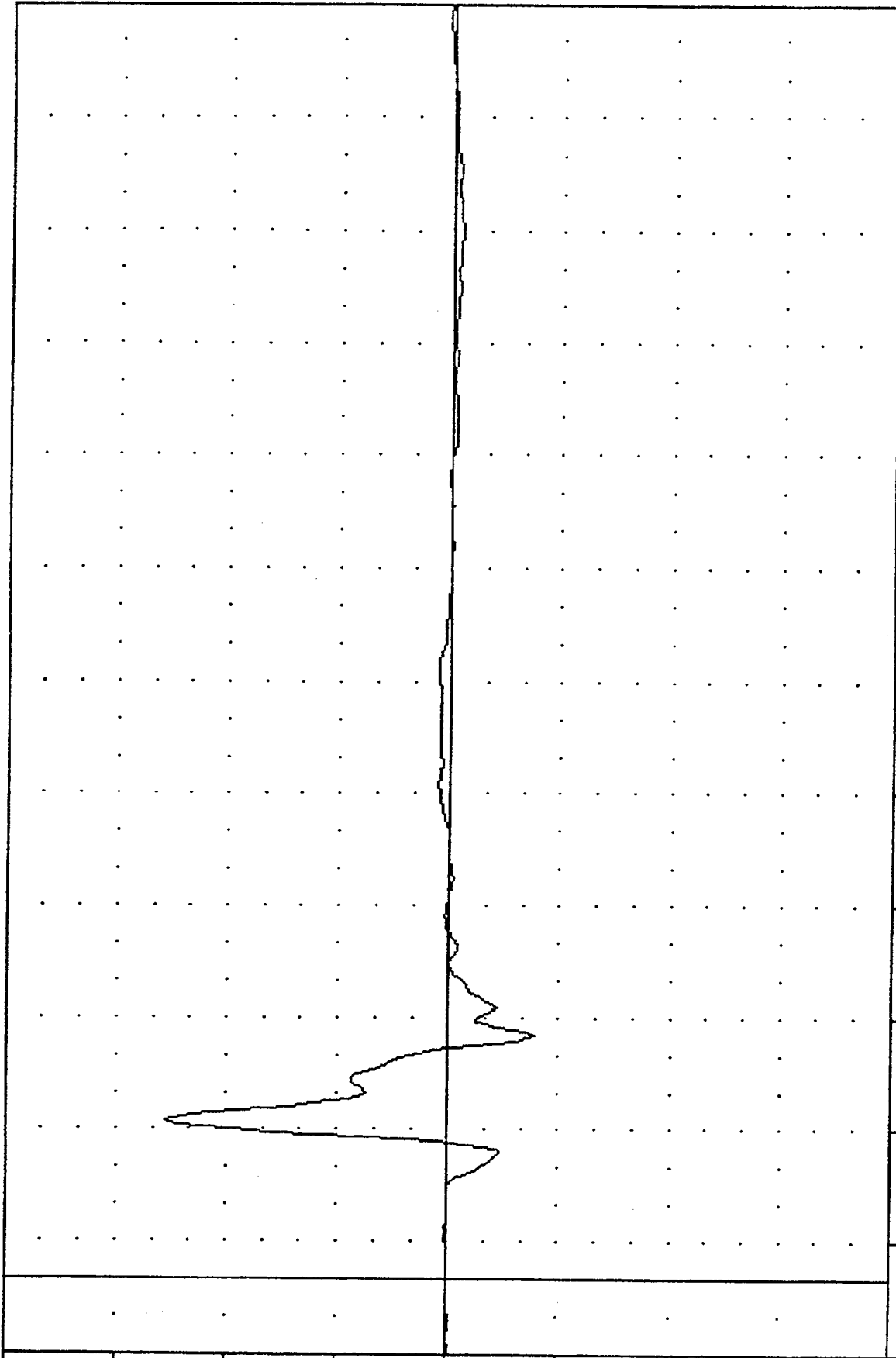
850710
PROTECTION PROD VEH
85191000000
T01Y6D

PLOT DATE 10-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -39.06 e 65.00 , 127.15 e 42.50

ACCELERATION (G)



-200.00
-150.00
-100.00
-50.00
0.00
50.00
100.00
150.00
200.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
260.00
280.00
300.00
320.00
340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER UPPER SPINE ACCELERATION -2 Y AXIS

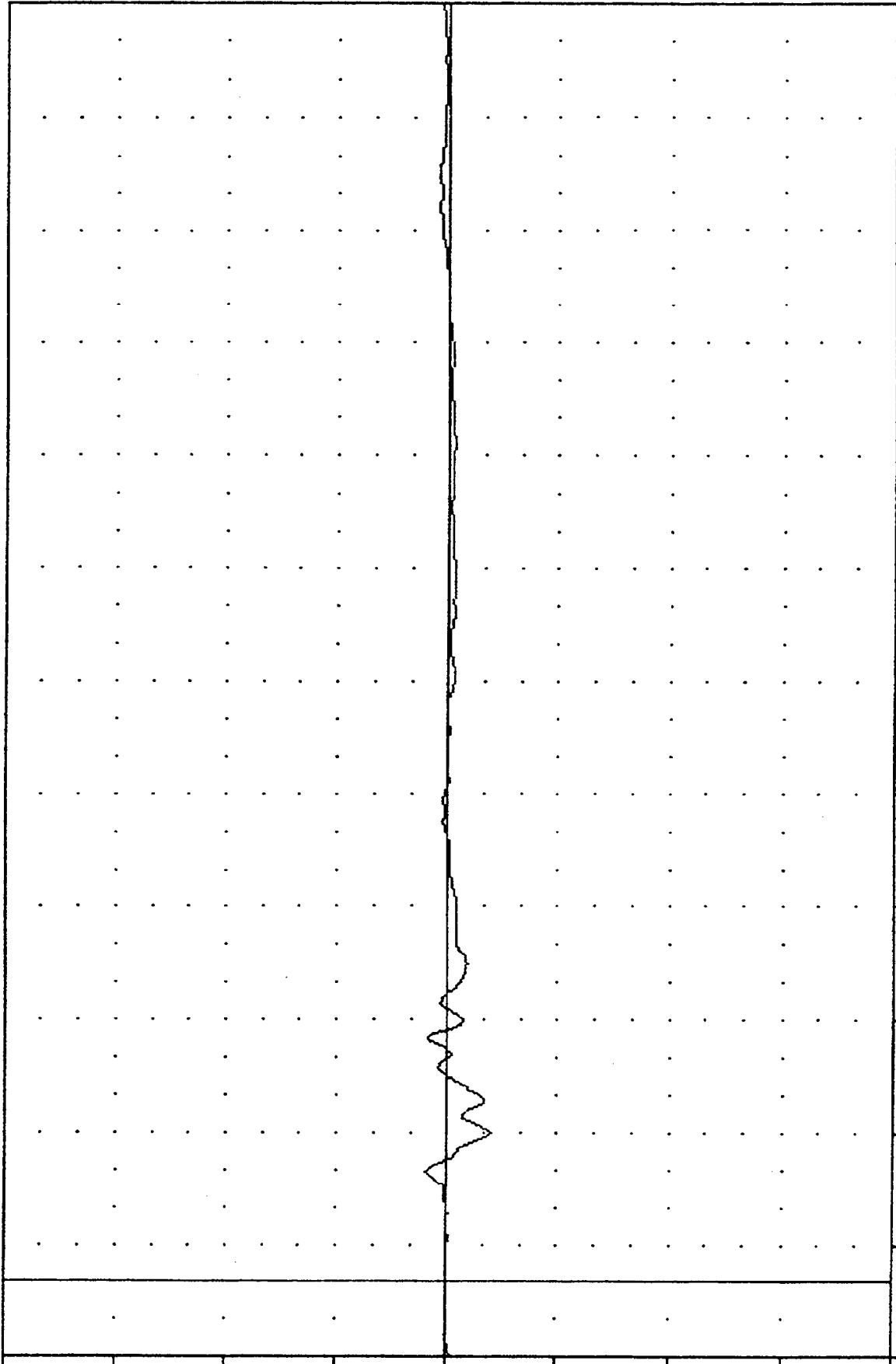
850710
SI PROTECTION PROD YEH
85191000000
T01Z64

PLOT DATE 16-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -19.85 40.00 9.51 29.38

ACCELERATION (G)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER UPPER SPINE ACCELERATION 7 AYTS

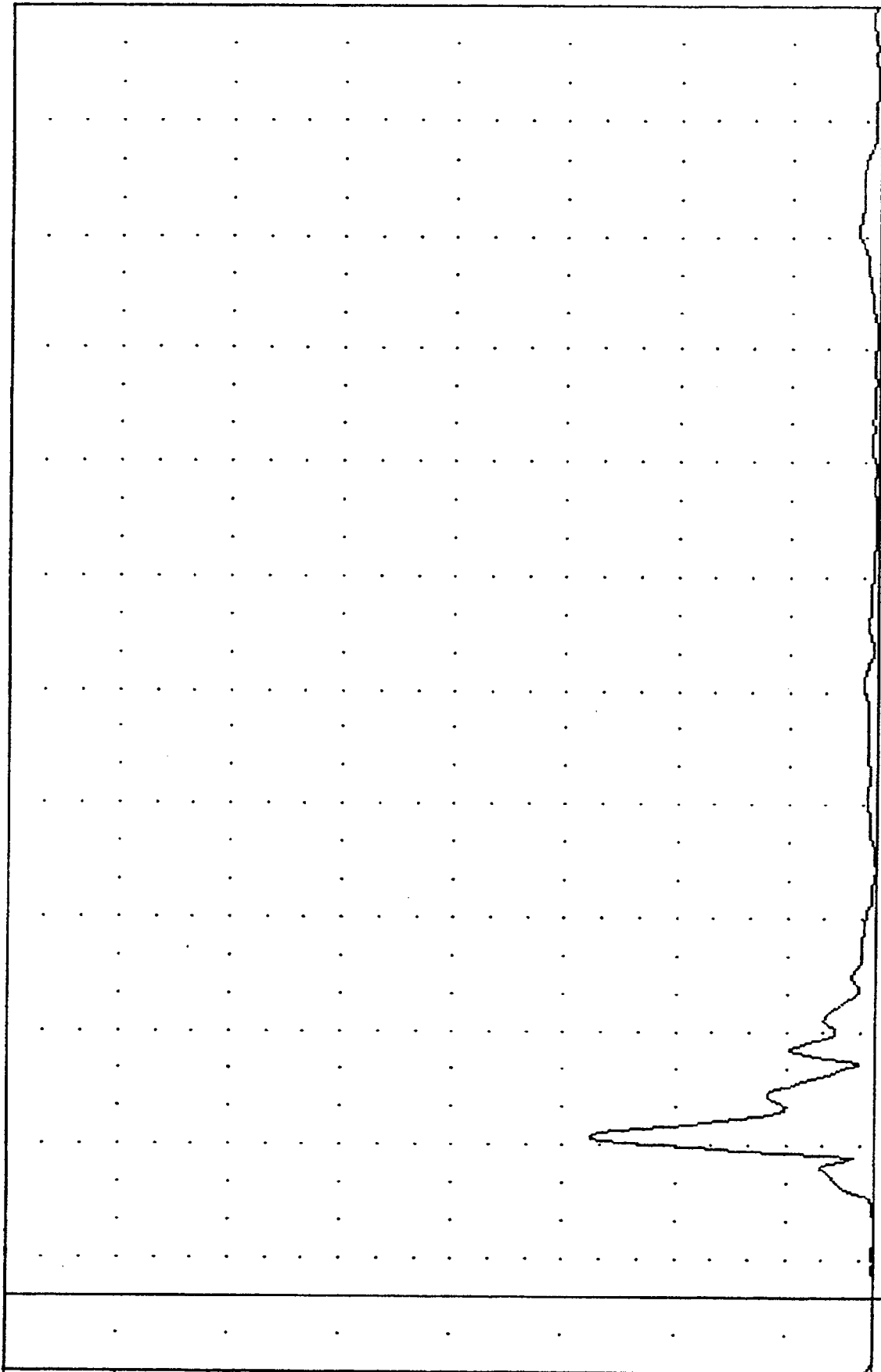
T 850710
SI PROTECTION PROD VEH
85191000000
701RG4

PLOT DATE 1 -85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = 0.27 B 3.13, 127.42 e 41.87

ACCELERATION (G)
-10.00 0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00



MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER UPPER SPINE RESULTANT

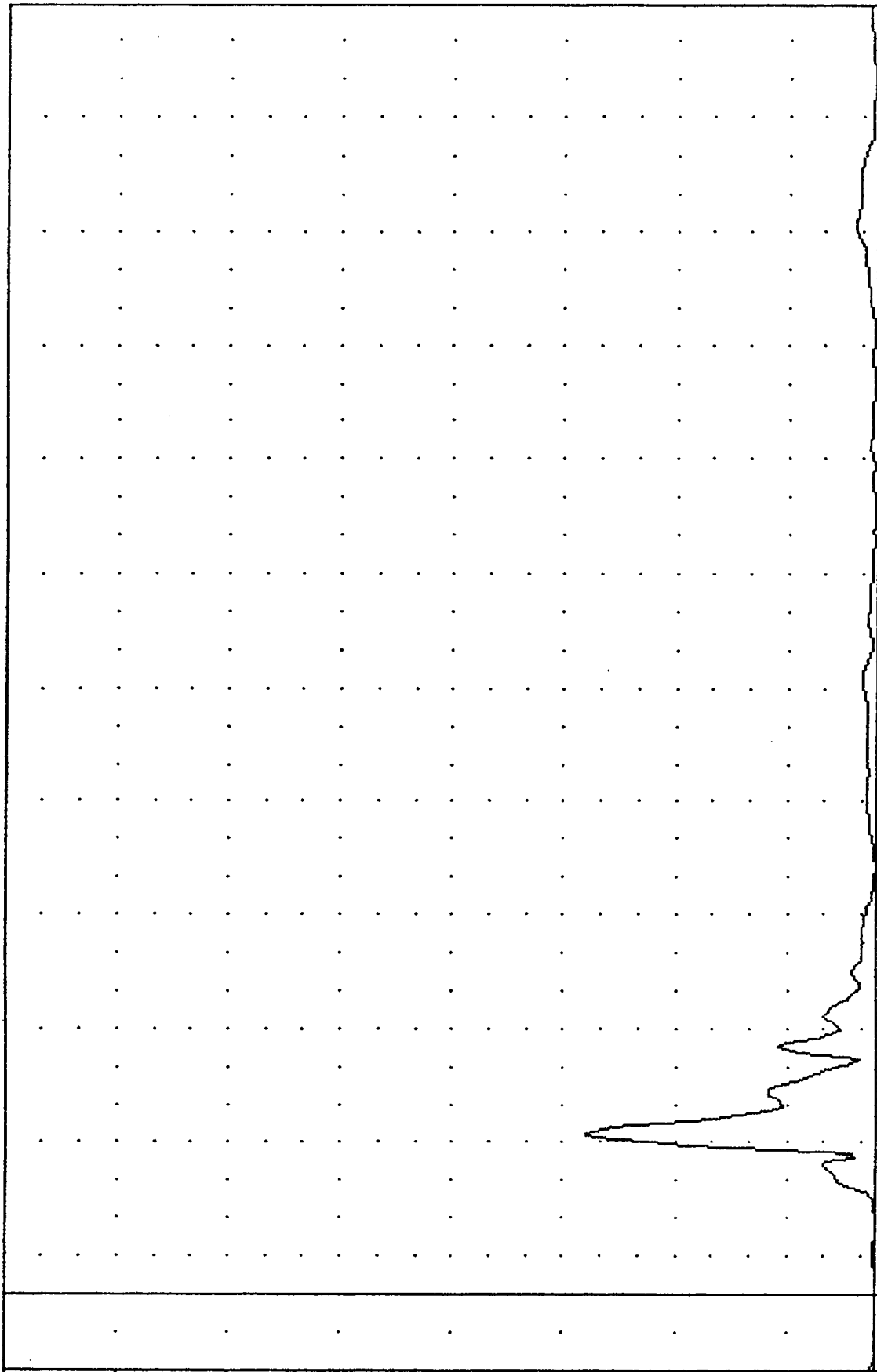
T 850710
SI PROTECTION PROD VEH
85191000000
T01RGD

PLOT DATE 10-1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = 0.16e 4.38e 130.30e 41.87

ACCELERATION (G)
-10.00 40.00 90.00 140.00 190.00 240.00 290.00 340.00 390.00



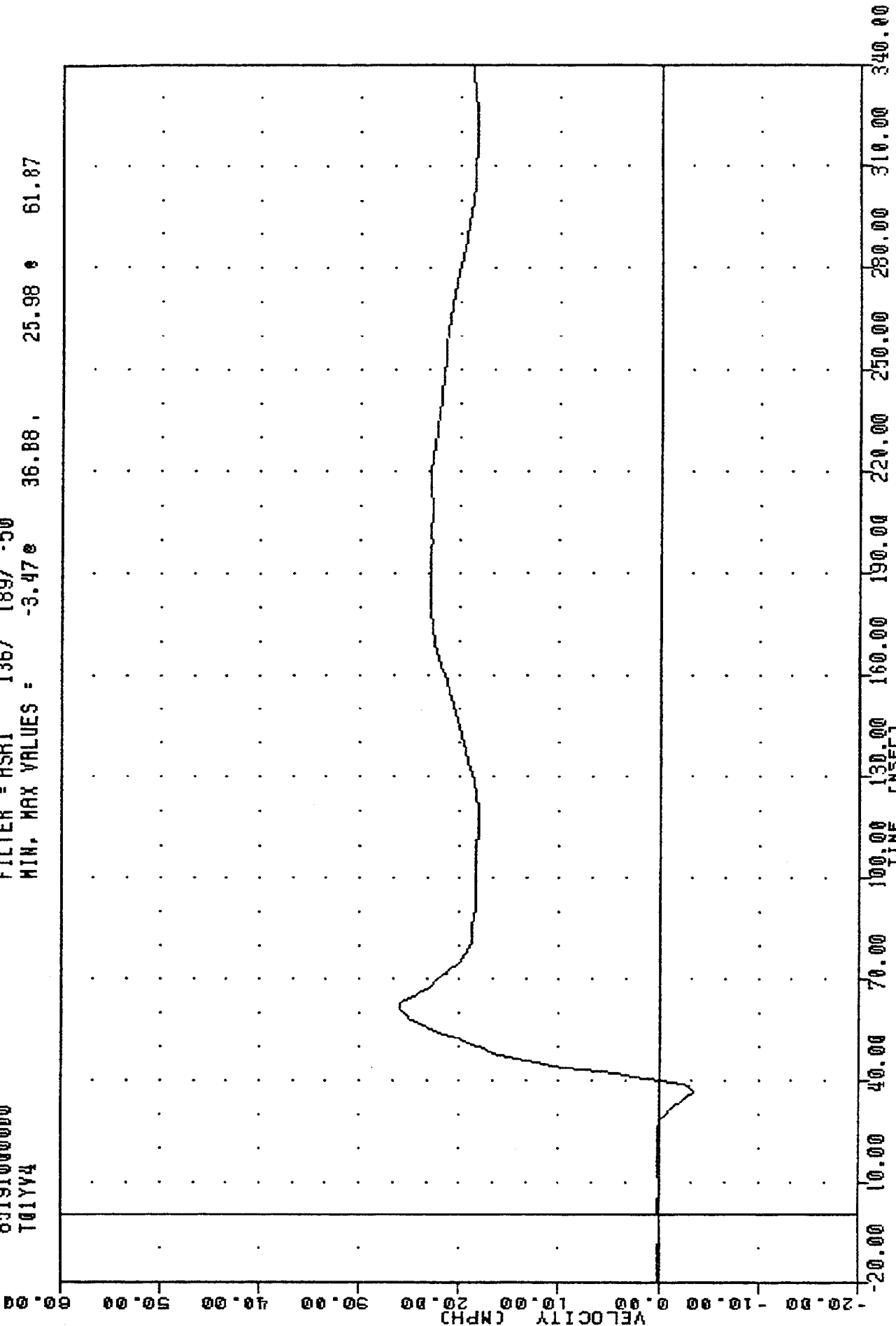
-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER UPPER SPINE REFRUITANT LISTING TAIYAN

850710
PROTECTION PROD YEH
8519100000
T01YV4

PLOT DATE 16-85 12:20:12

FILTER = HSRI 136/ 189/ -50
MIN. MAX VALUES = -3.47 36.88 25.98 61.87



MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFI TA V IISING T01YV4

T 850710
SI PROTECTION PROD VEH
85191000000
T01Y0

PLOT DATE 10-85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -3.12 36.88 27.42 61.87

60.00

50.00

40.00

30.00

20.00

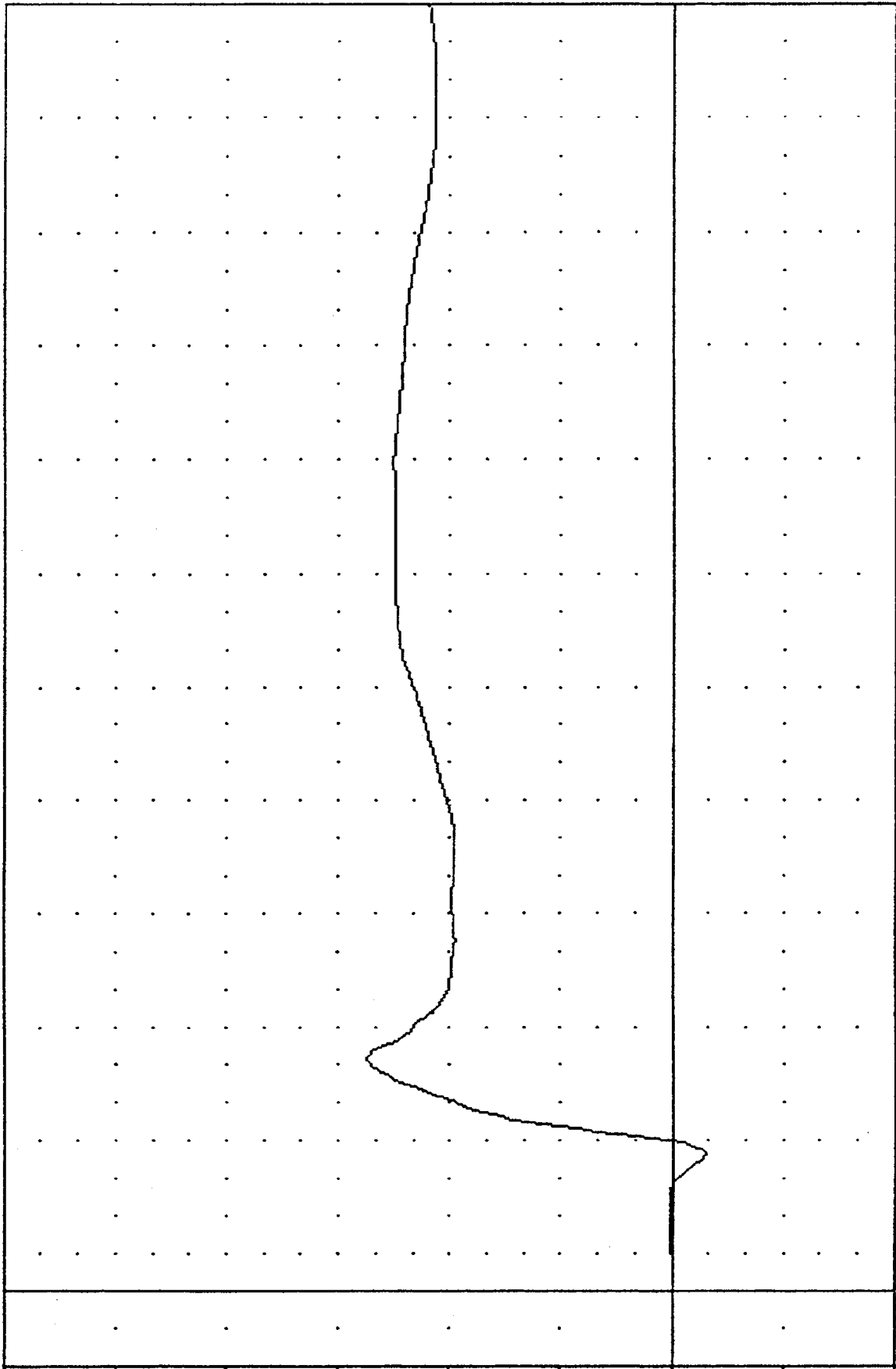
10.00

0.00

-10.00

-20.00

B-44



-20.00 10.00 20.00 30.00 40.00 50.00 60.00

100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

TIME (MSEC)

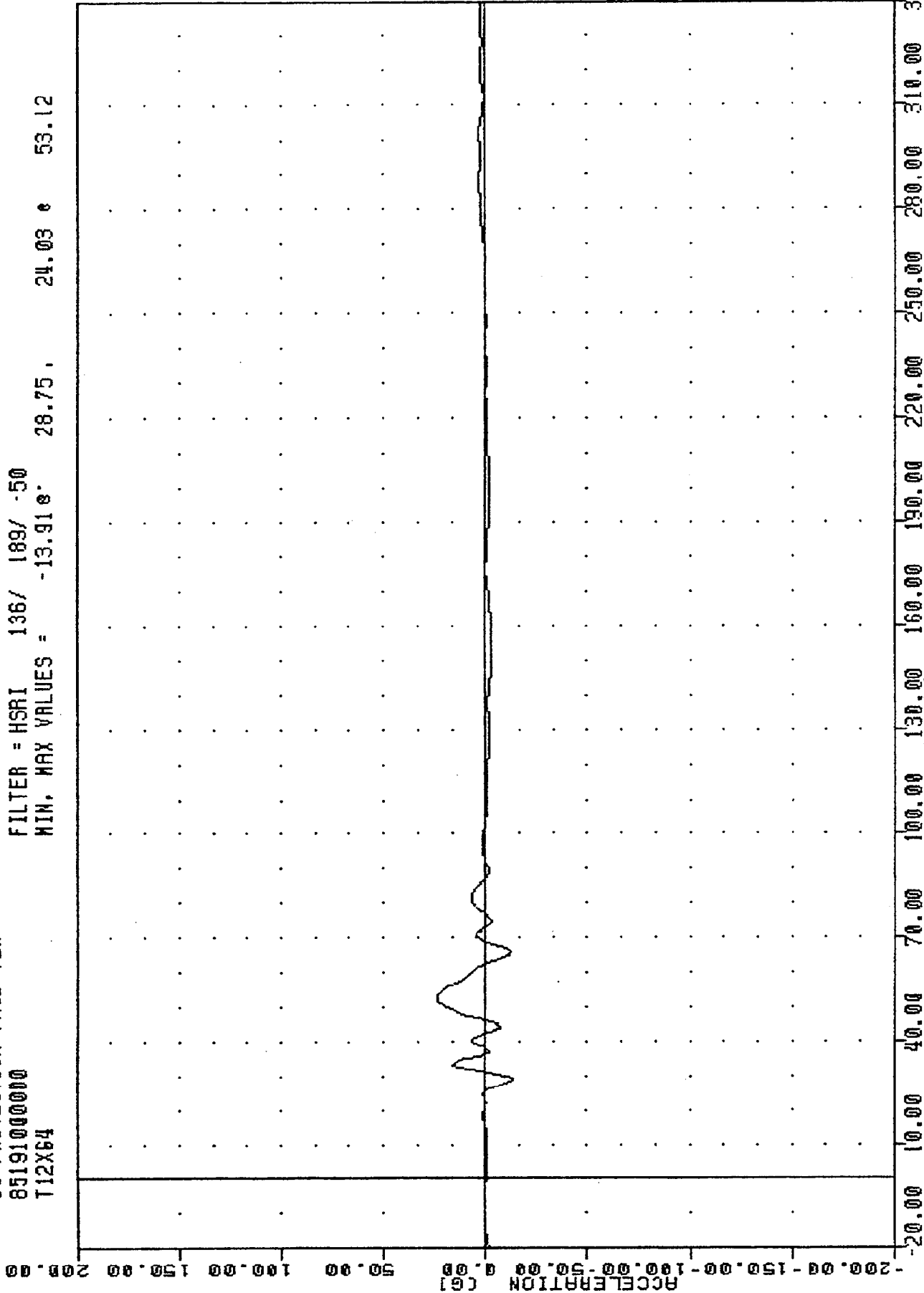
MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFI TA V IISING T01Y0

850710
SI PROTECTION PROD YEH
8519100000
T12X64

PLOT DATE 16-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -13.91 e 28.75 , 24.03 e 53.12



MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LOWER SPINE ACCELERATION Y AXIS

T 850710
PROTECTION PROD VEH

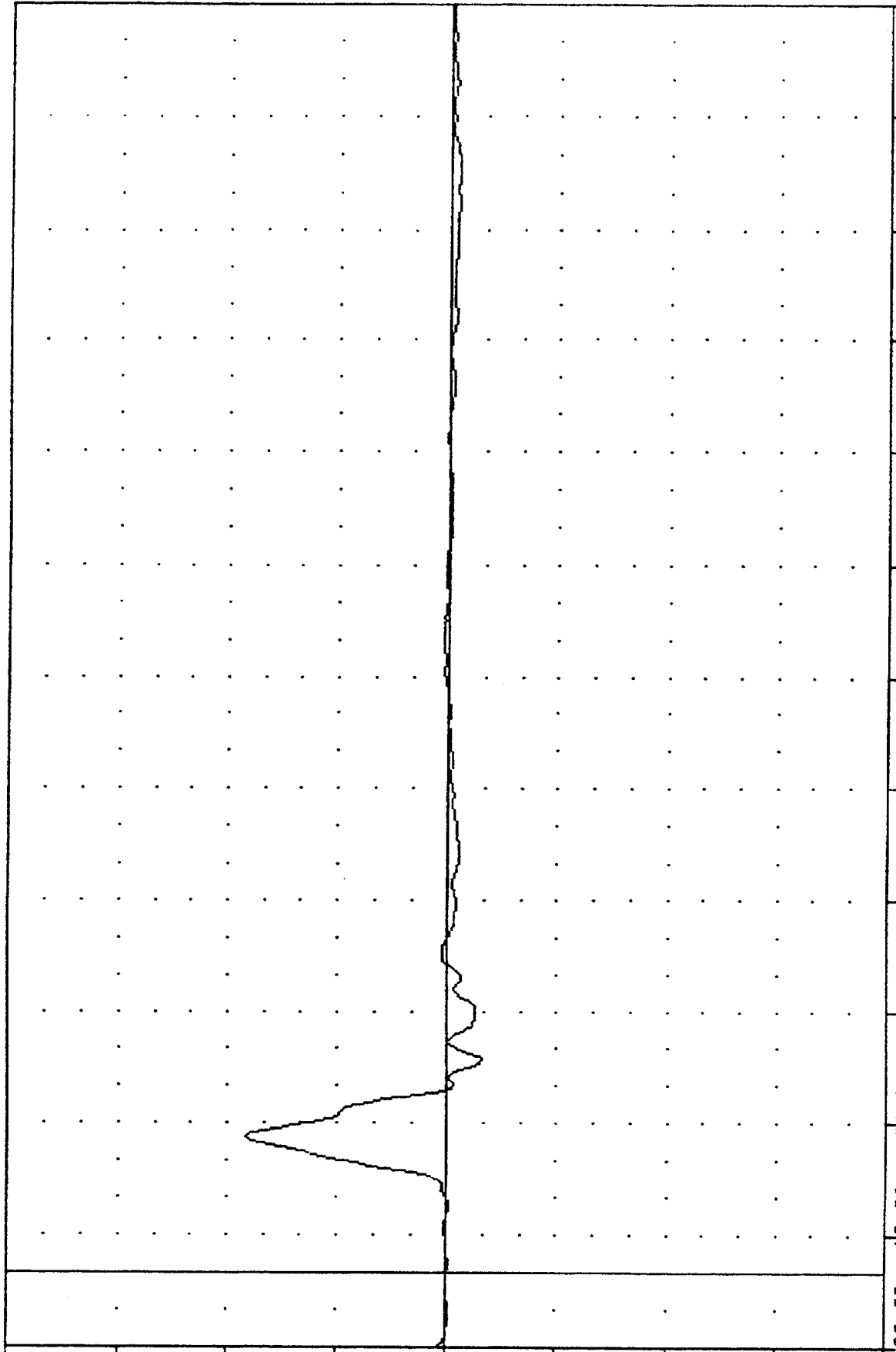
8519100000
T12Y64

PLOT DATE 1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -15.84B 56.87, 91.02 e 36.25

ACCELERATION (G)



MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LOWER SPINE ACCELERATION Y AXIS

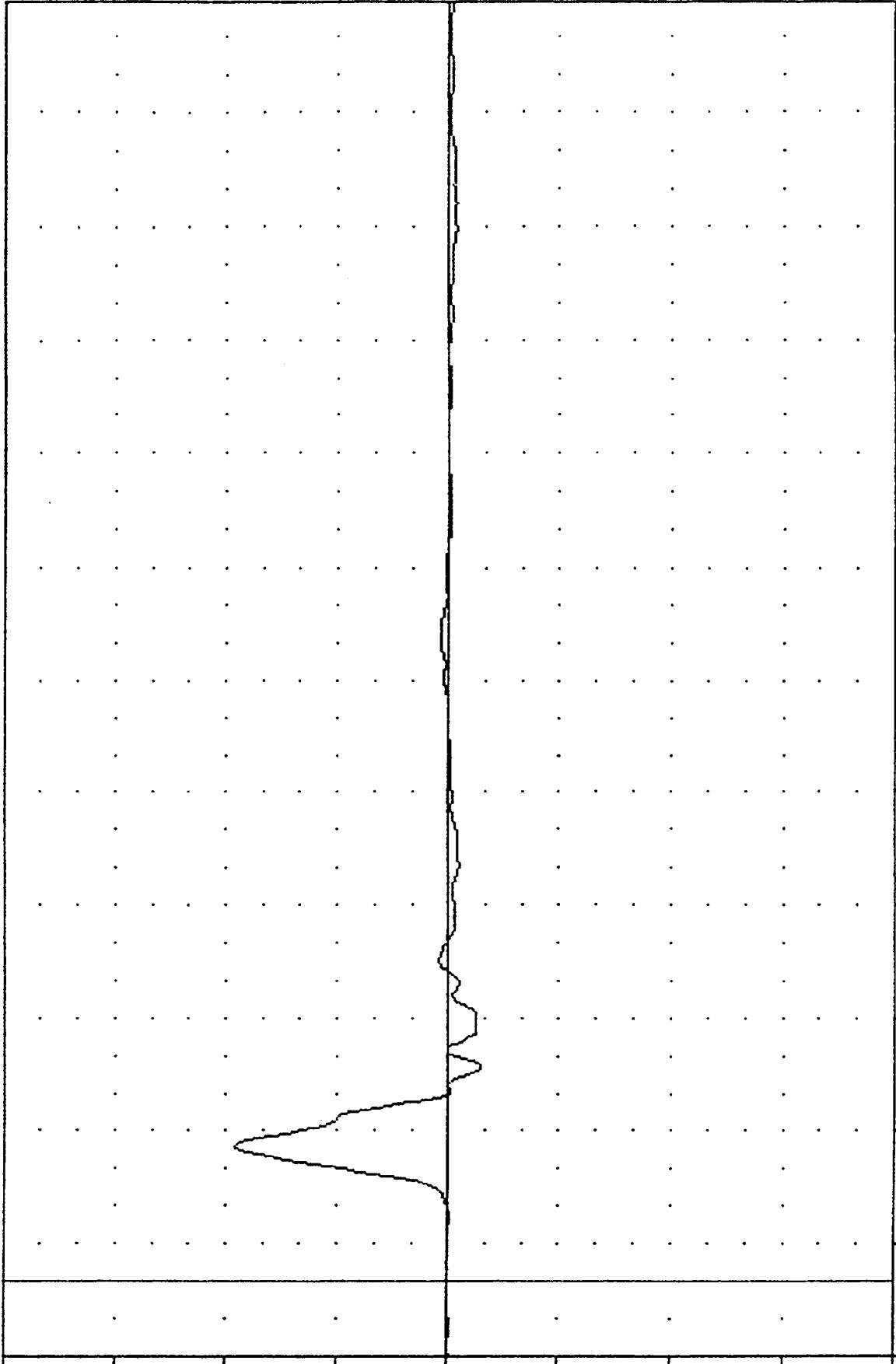
850710
ST PROTECTION PROD VEH
8519100000
T12YGD

PLOT DATE 10-1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -14.82 56.87, 95.57 36.25

200.00



B-47

-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00
ACCELERATION (G)

70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
POSSESSOR: I N U E D C O T N E A C C E L E R O M I T I O N . 3 7 V O Y T C

850710
PROTECTION PROD YEH

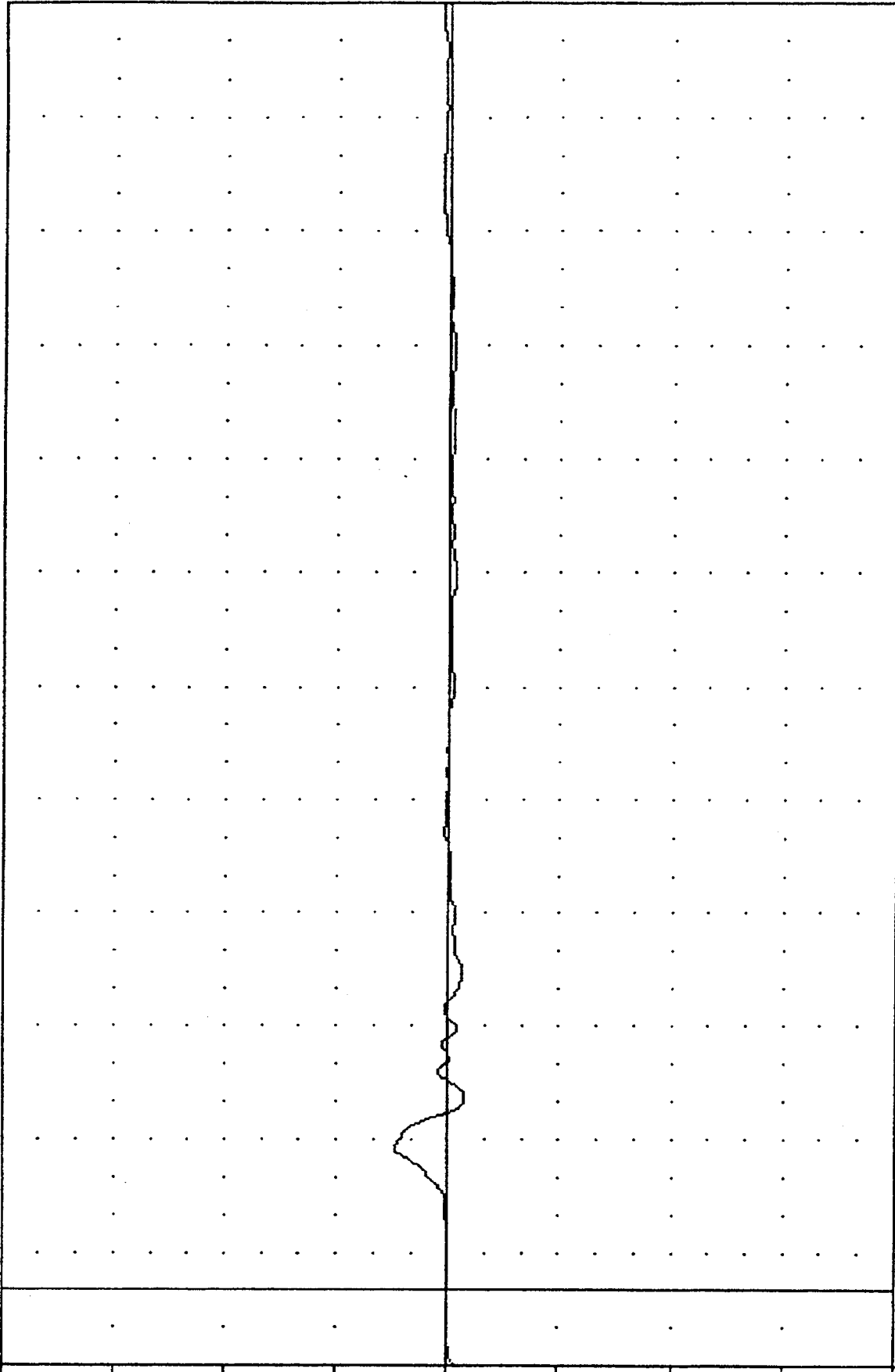
85191000000
T12Z64

PLOT DATE 16-85 12:18:58

FILTER = HSRI 136/ 189/ .50

MIN. MAX VALUES = -7.32e 51.25, 23.90 e 37.50

ACCELERATION (G)
-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (INSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 826
PASSENGER LOWER SPINE ACCFIFRATION 7 AXYS

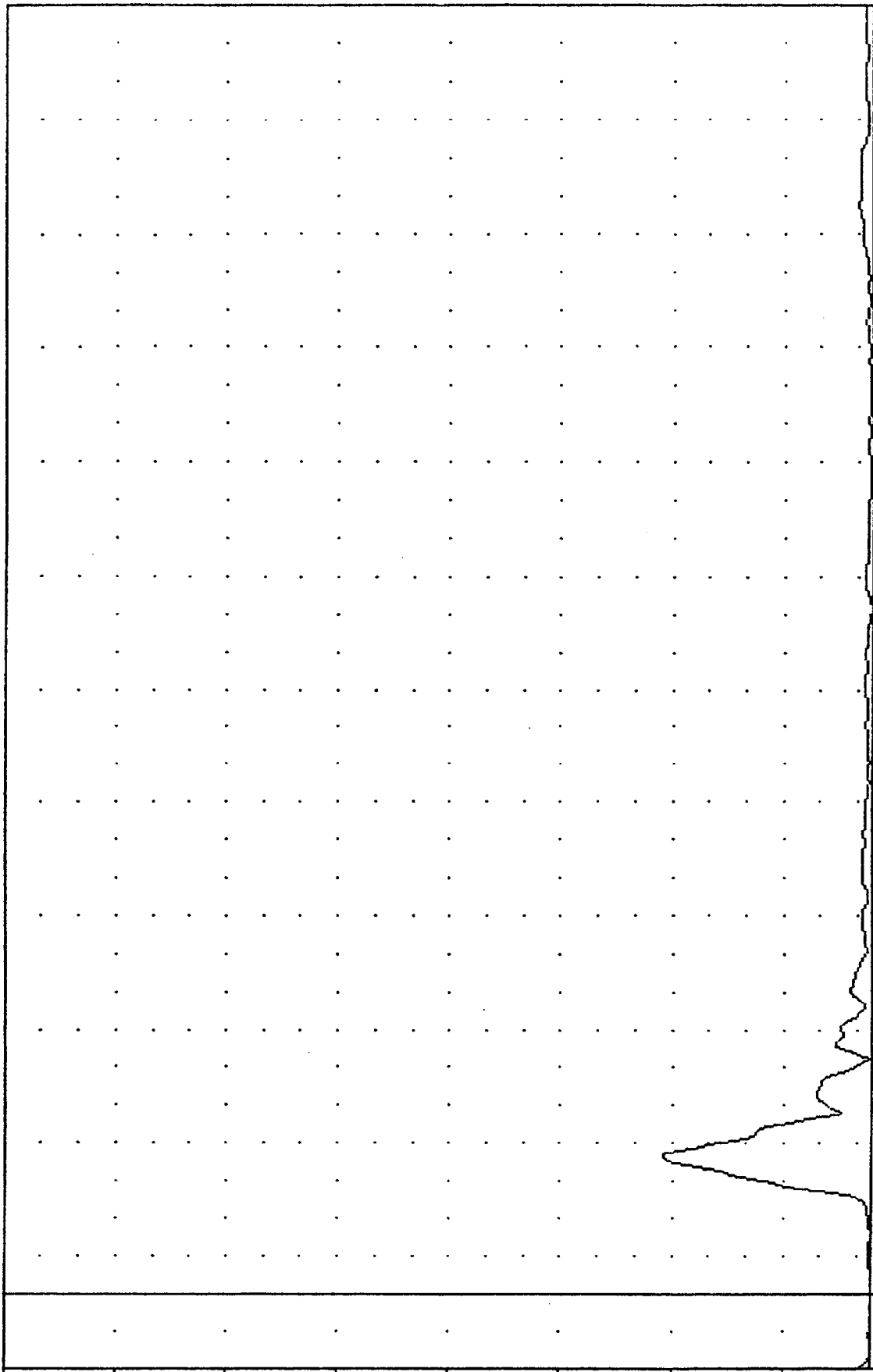
T 850710
SI PROTECTION PROD VEH
85191000000
T12RG4

PLOT DATE 1 -85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = 0.218 -6.25, 93.77 e 36.88

ACCELERATION (G)
-10.00 40.00 90.00 140.00 190.00 240.00 290.00 340.00 390.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

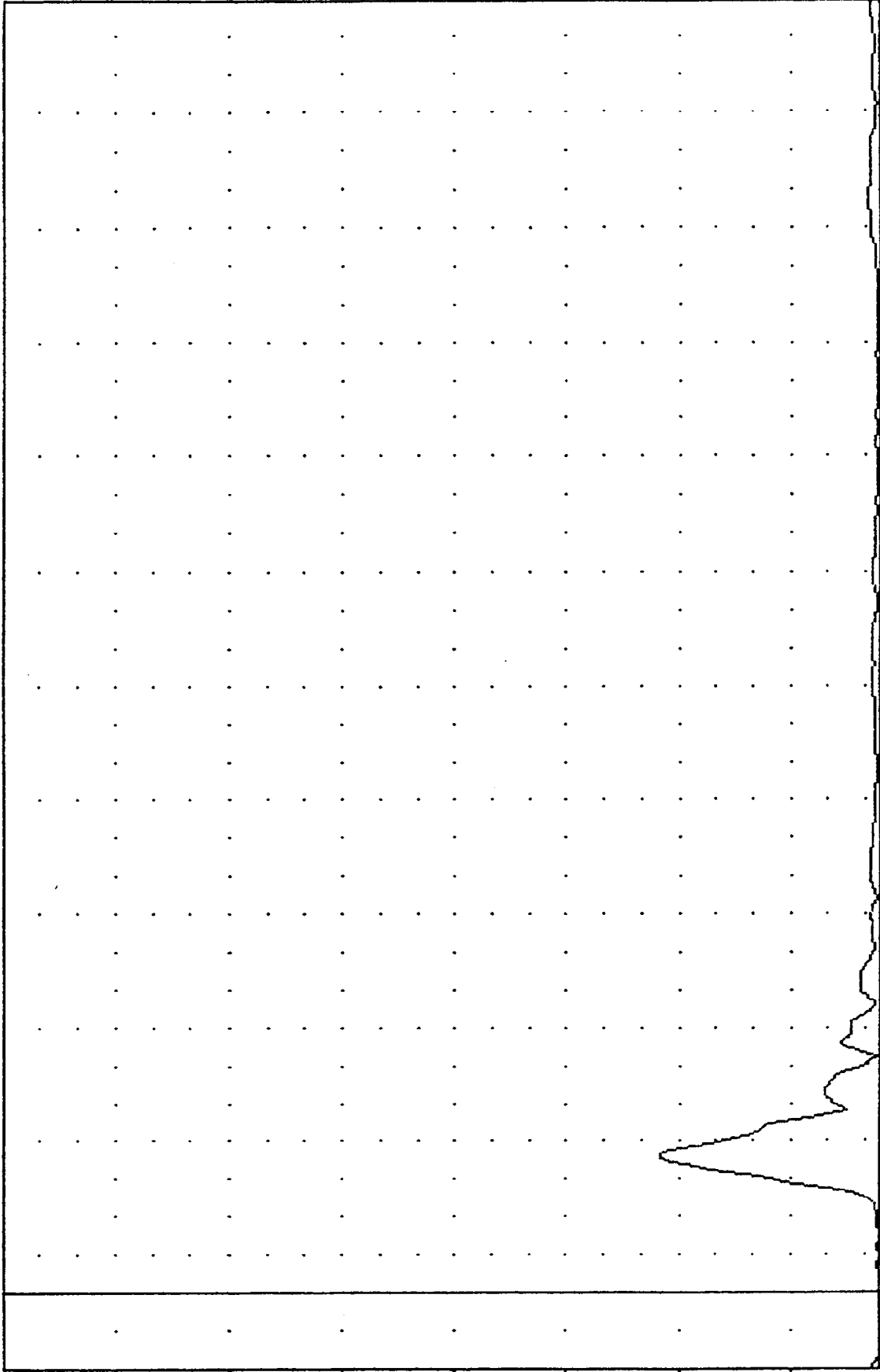
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LOWER SPINE RFSIII TANT

T 850710
SI PROTECTION PROD VEH
85191000000
T12R6D

PLOT DATE 1 -85 12:18:58

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = 0.19e -8.75, 98.18 e 36.25

ACCELERATION (G)
-10.00
-4.00
0.00
4.00
8.00
12.00
16.00
19.00
23.00
27.00
29.00
31.00
33.00
35.00
37.00



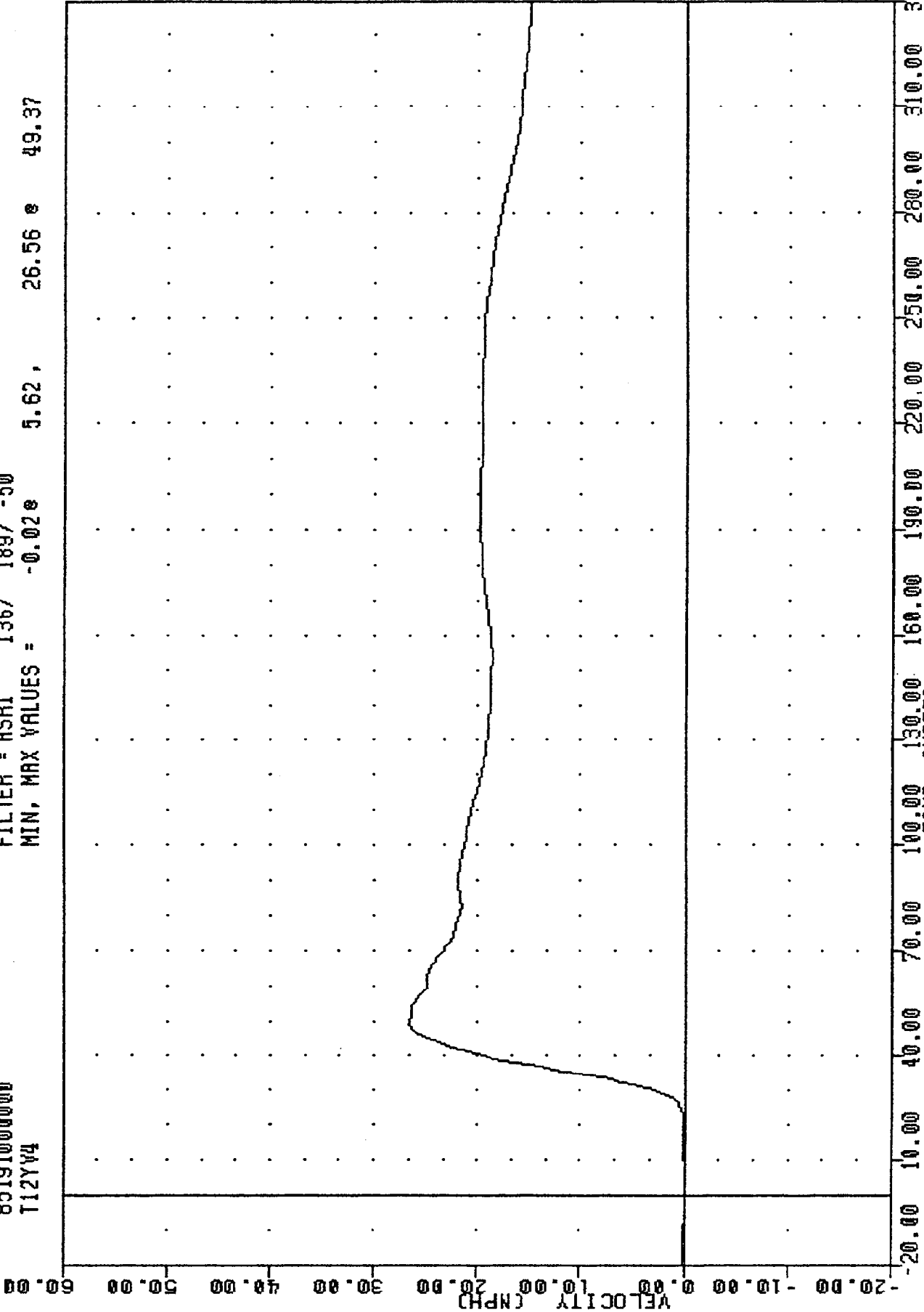
-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LOWER SPINE RESISTANT LISTING T12Y6D

850710
SI PROTECTION PROD VEH
85191000000
T12YV4

PLOT DATE 1 -85 12:20:12

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -0.02e 5.62, 26.56 e 49.37

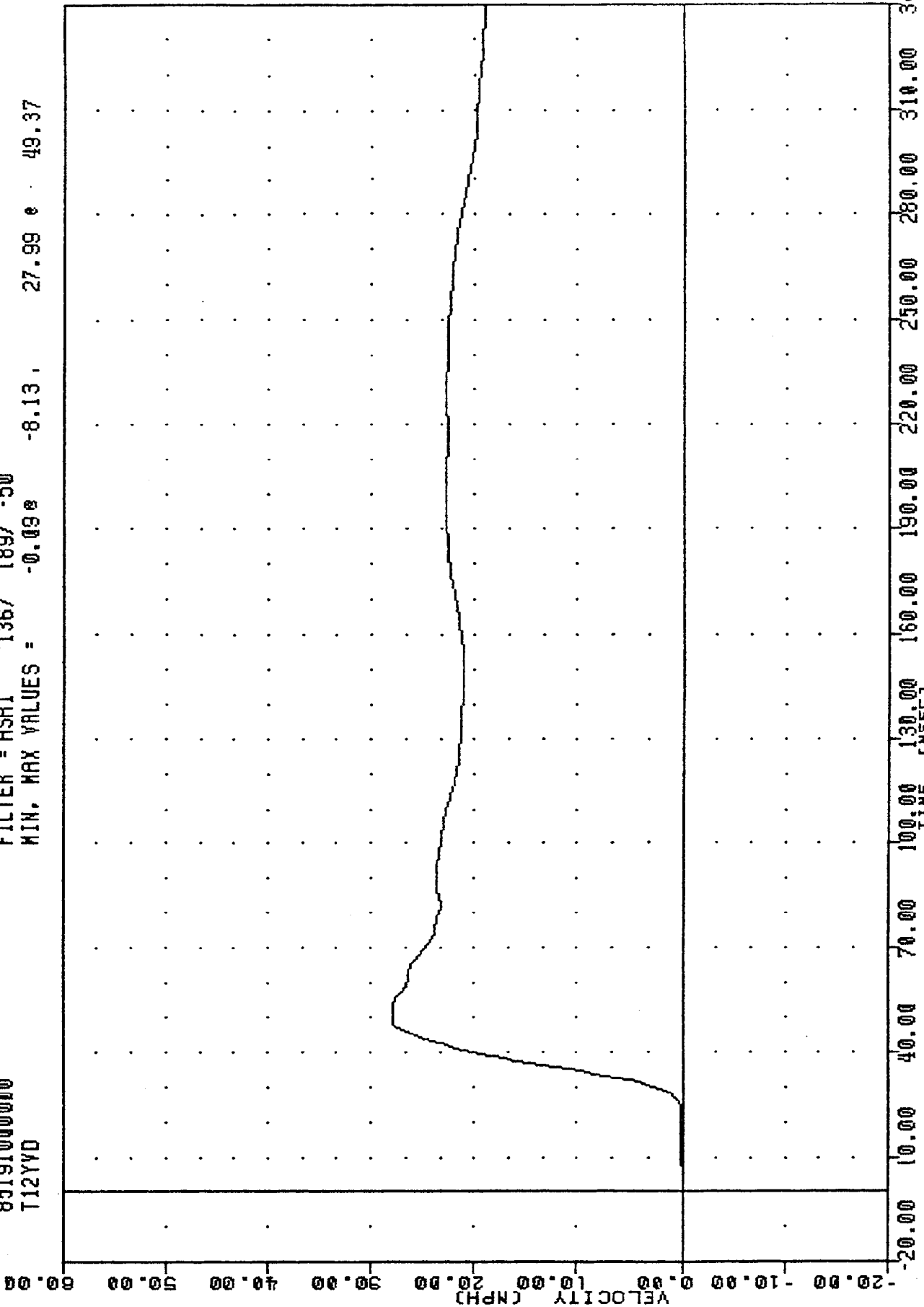


MOVING DEFORMABLE BARRIER INTO MAZDA 626
DIFITA V HISTING T12YV4

850710
SI PROTECTION PROD YEH
85191000000
T12YYD

PLOT DATE 16 85 12:20:12

FILTER = HSRI 136/ 189/ -50
MIN. MAX VALUES = -0.09e -8.13, 27.99 e 49.37



MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFITA Y IISTNG T12YGN

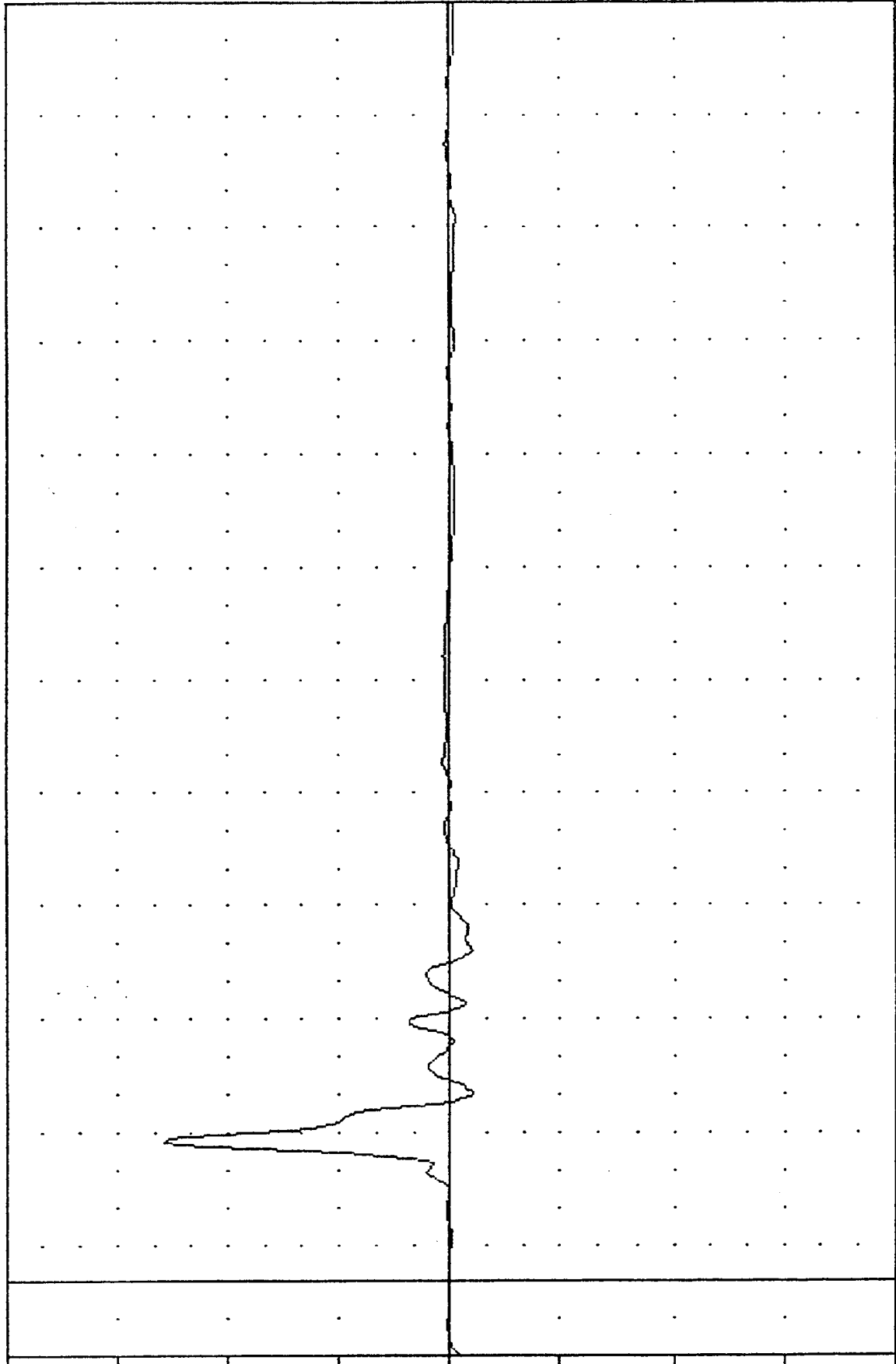
850710
SI PROTECTION PROD VEH
85191000000
LURY64

PLOT DATE 1985 09:25:58

FILTER = HSRI 136/ 189/ -50
MIN. MAX VALUES = -10.55 50.00

128.52 37.50

ACCELERATION (G)



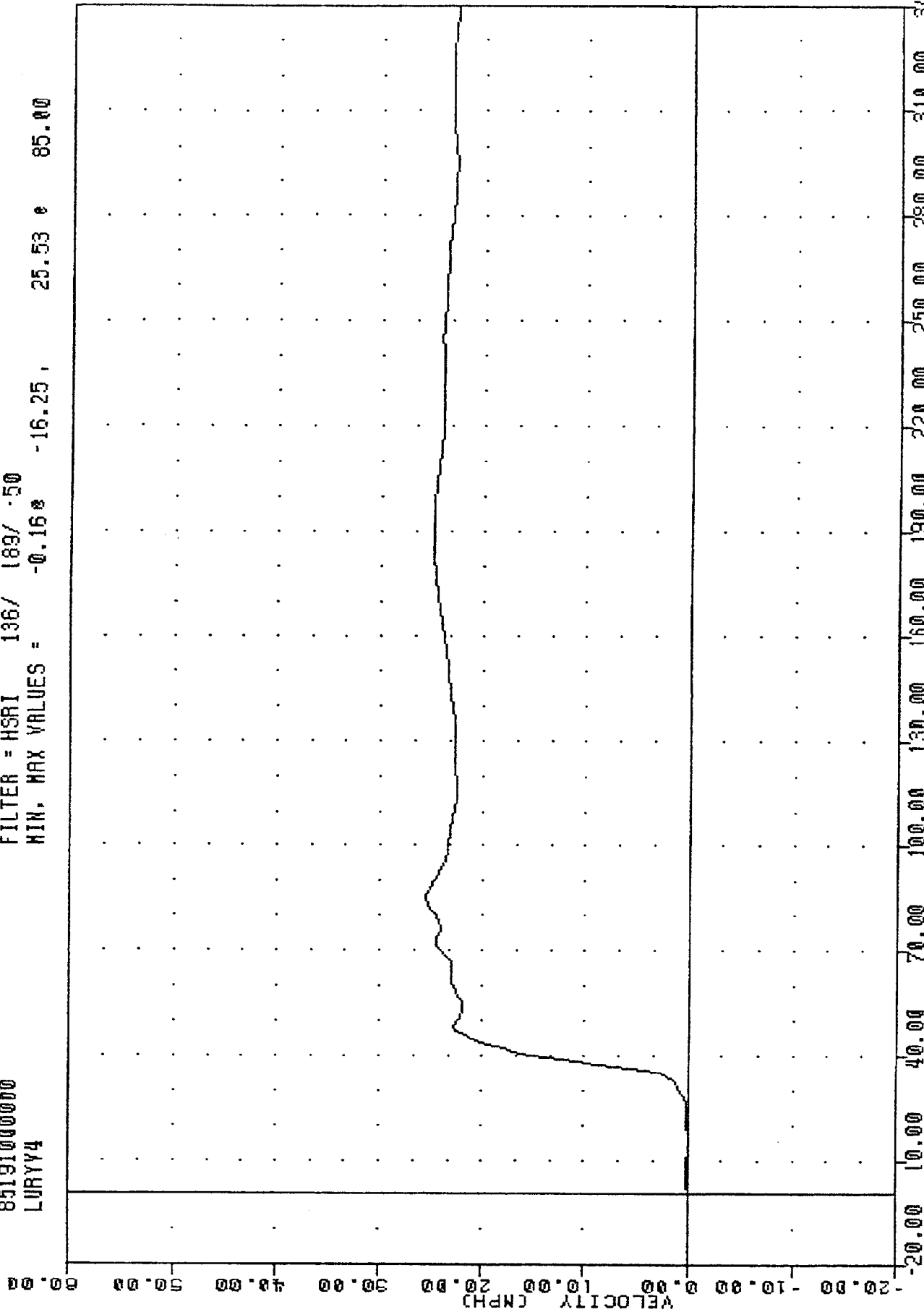
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LEFT UPPER AIR ACCELERATION Y AXIS

* 850710
SA PROTECTION PROD VEH
85191000000
LURYV4

PLOT DATE 1985 09:27:32

FILTER = HSRI 136/ 189/ .50

MIN. MAX VALUES = -0.168 -16.25 , 25.53 e 85.00



MOVING DEFORMABLE BARRIER INTO MAZDA 626
PIFITA V HISING IIRYGA

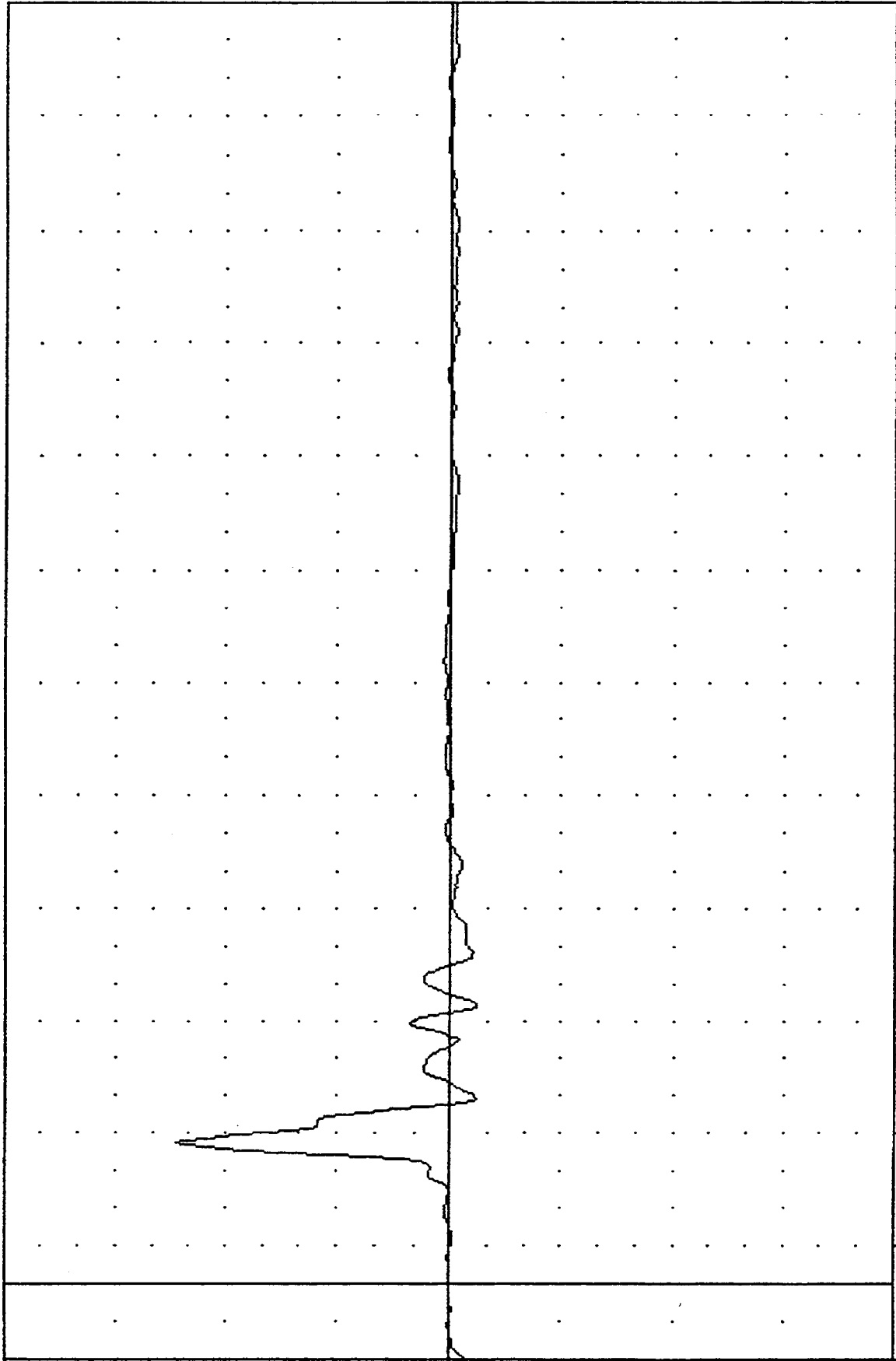
850710
PROTECTION PROD VEH
85191000000
LURYGD

PLOT DATE 1 -85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -11.46 49.37, 122.15 e 37.50

200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00
-200.00



B-55

340.00
310.00
280.00
250.00
220.00
190.00
160.00
130.00
100.00
70.00
40.00
10.00
-20.00

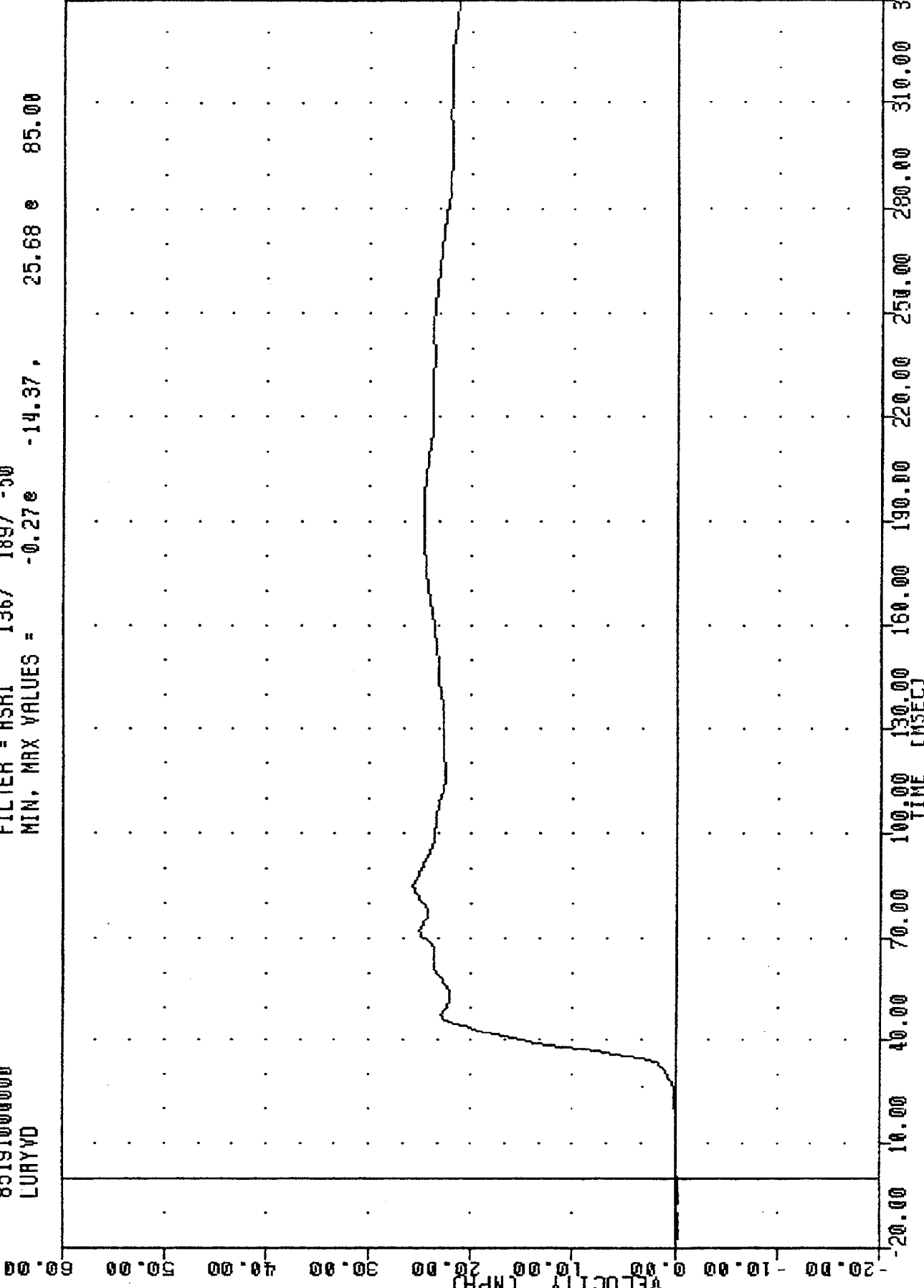
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LEFT UPPER RTR ACCELERATION #2 Y AYTS

7 , 850710
SI PROTECTION PROD VEH
85191000000
LURYVD

PLOT DATE 10-1-85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.27e -14.37, 25.68 e 85.00



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DIFITA V IISTING IIRYGN

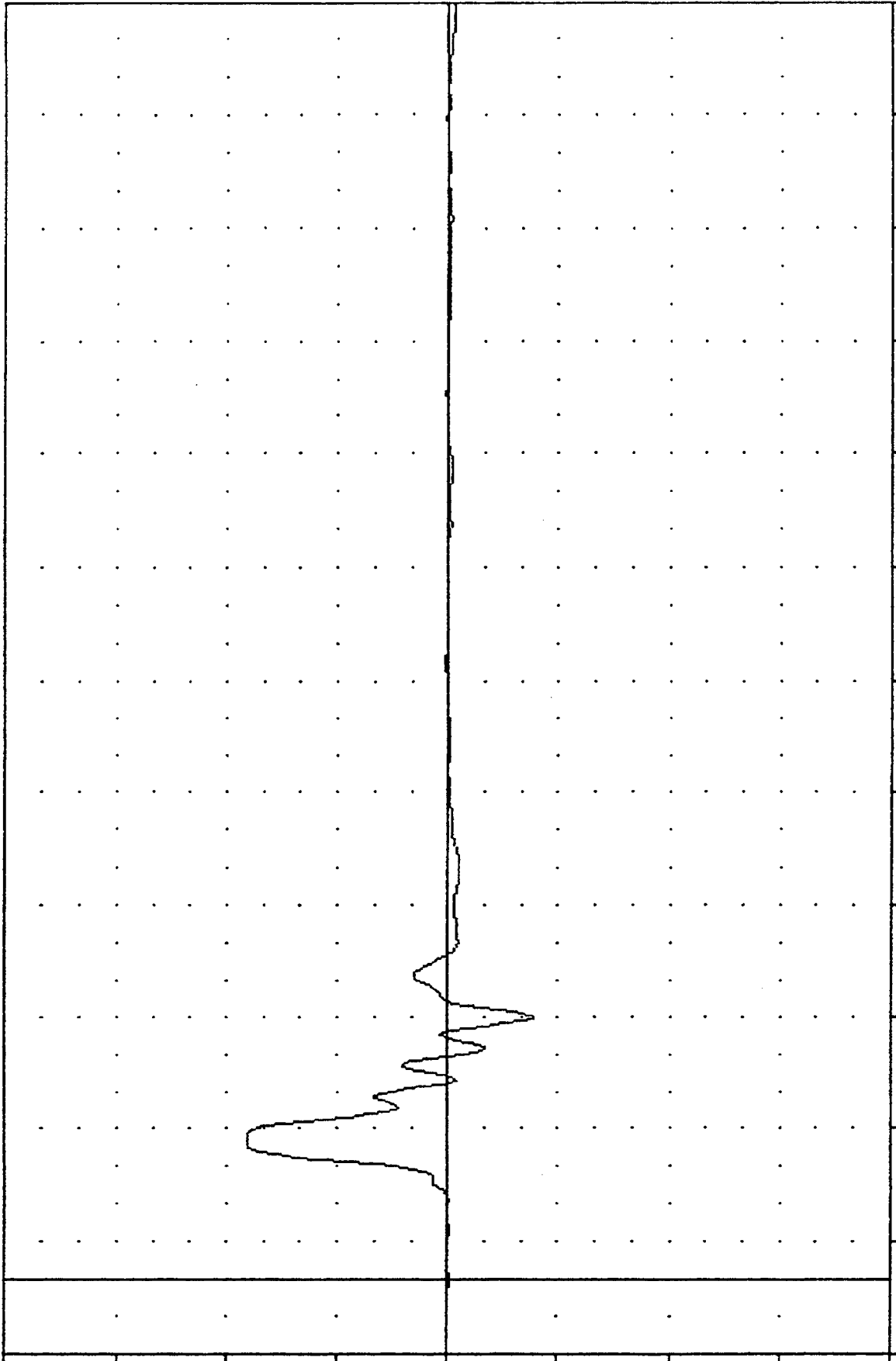
850710
SI PROTECTION PROD VEH
85191000000
LLRYG4

PLOT DATE 10-1-85 12:18:58

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -39.32 70.00 90.80 35.63

ACCELERATION (G)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

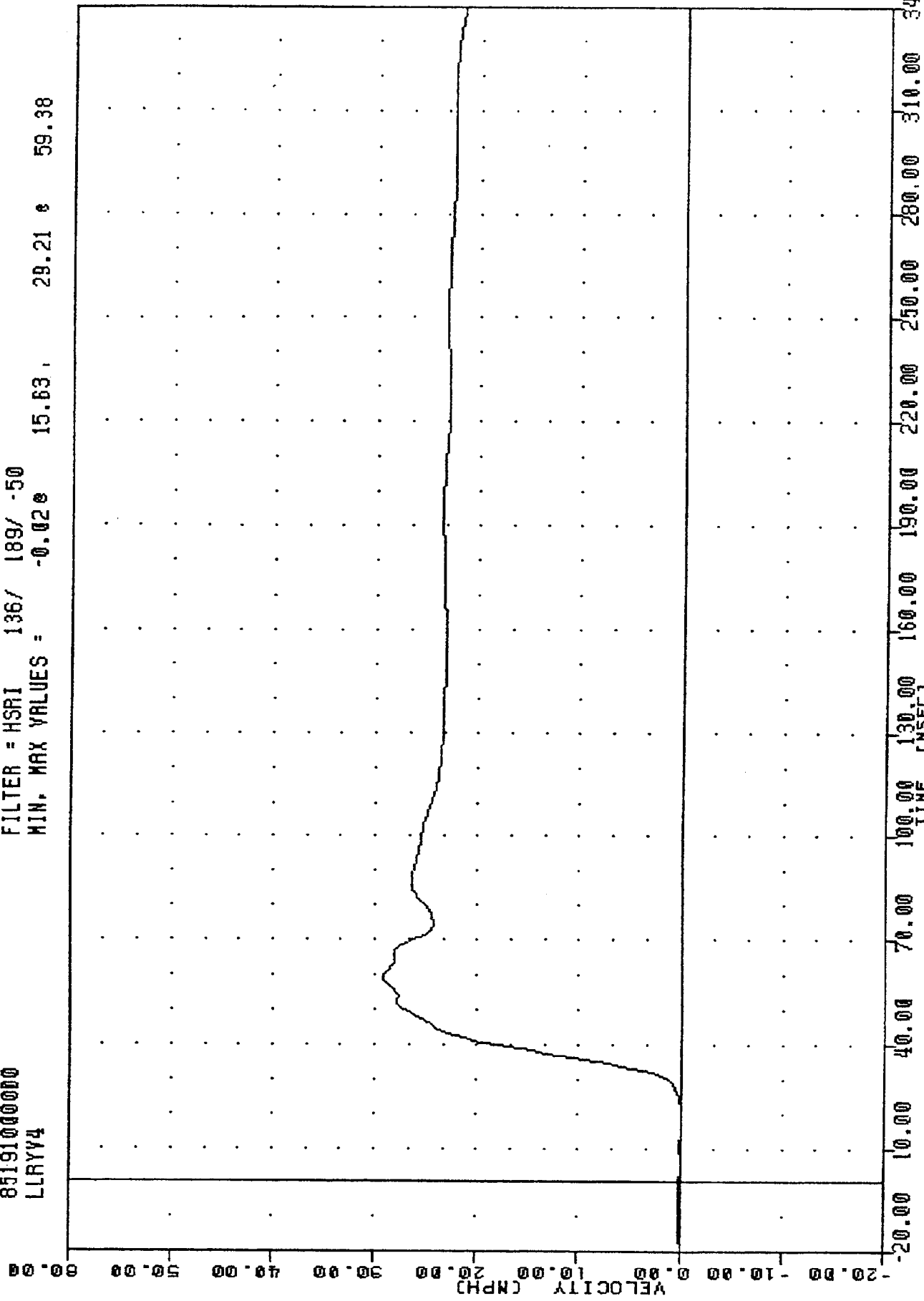
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LEFT INNER AIR ACCELERATION Y AXIS

850710
PROTECTION PROD YEH
8519100000
LLRYV4

PLOT DATE 16-08-85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.020 15.63 29.21 59.38



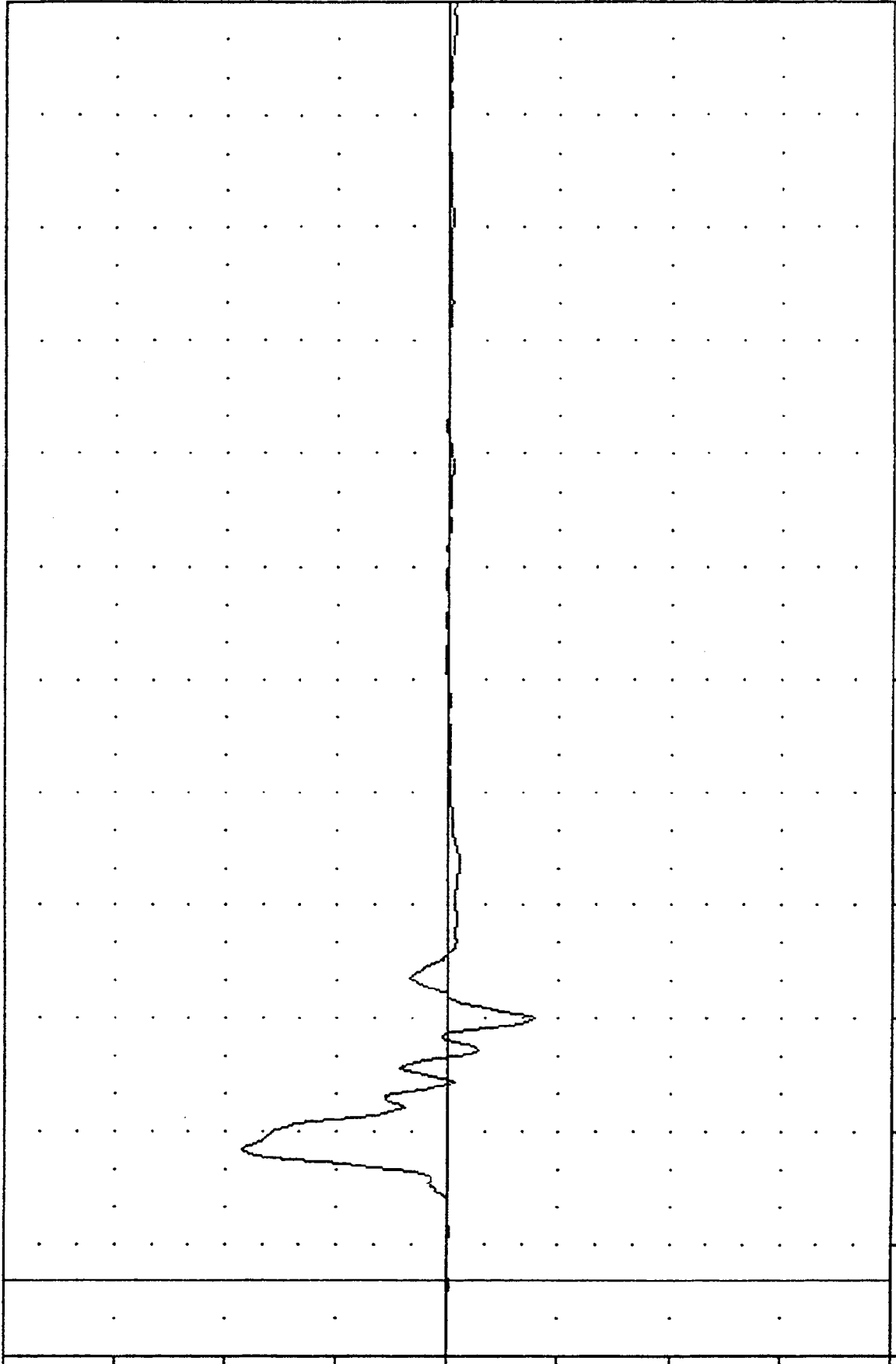
MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFI TA V IISTNG IIRYGA

850710
SI PROTECTION PROD YEH
85191000000
LLRYED

PLOT DATE 16-85 12:18:58

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -38.95e 70.00, 92.88 e 35.00

ACCELERATION (G)
-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

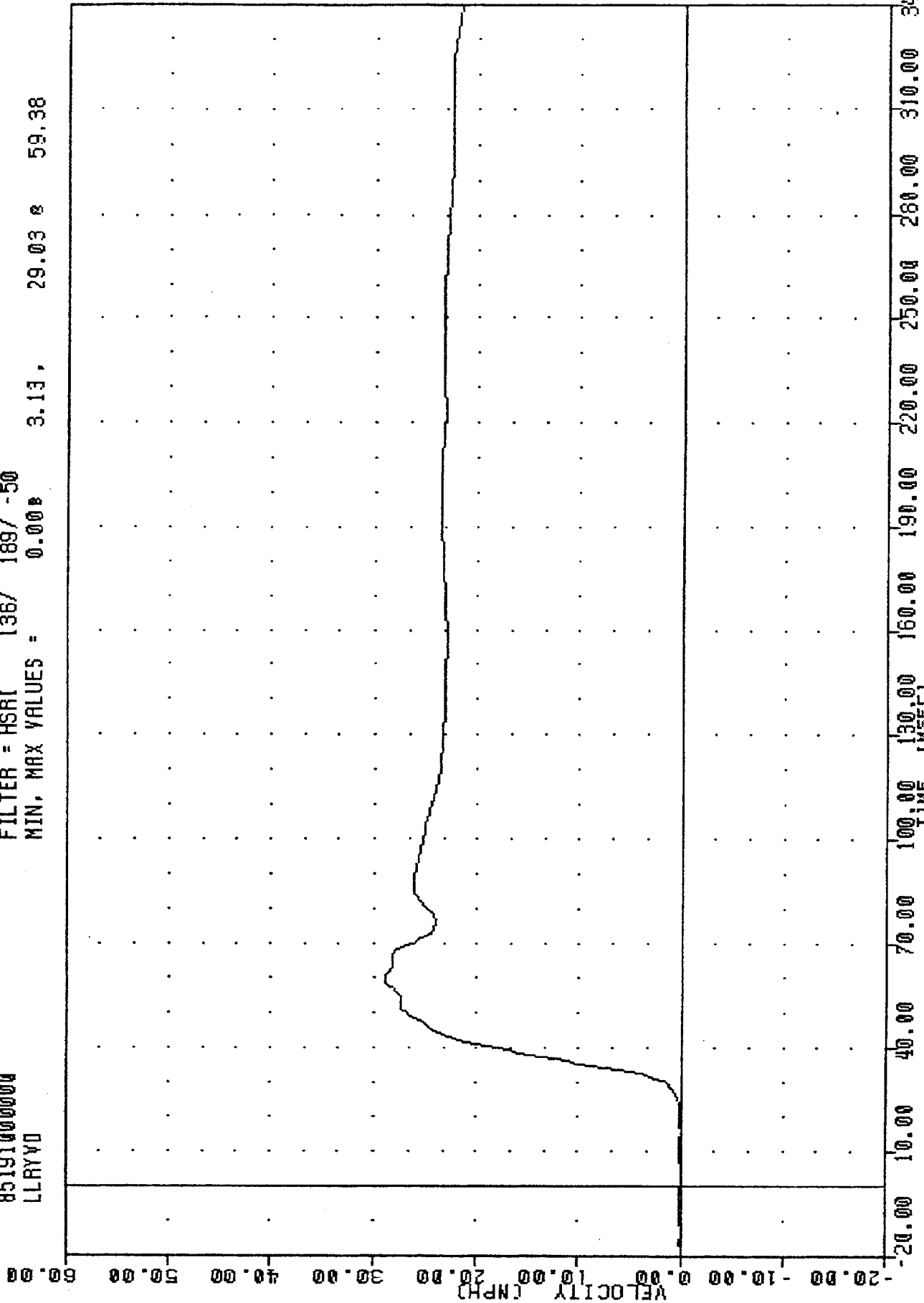
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LEFT LOWER RTR ACCELERATION 3 Y QVTC

850710
SI PROTECTION PROD VEH
85191000000
LLRYVD

PLOT DATE 1-85 12:20:12

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = 0.00 3.13, 29.03 59.38



B-60

MOVING DEFORMABLE BARRIER INTO MAZDA 626

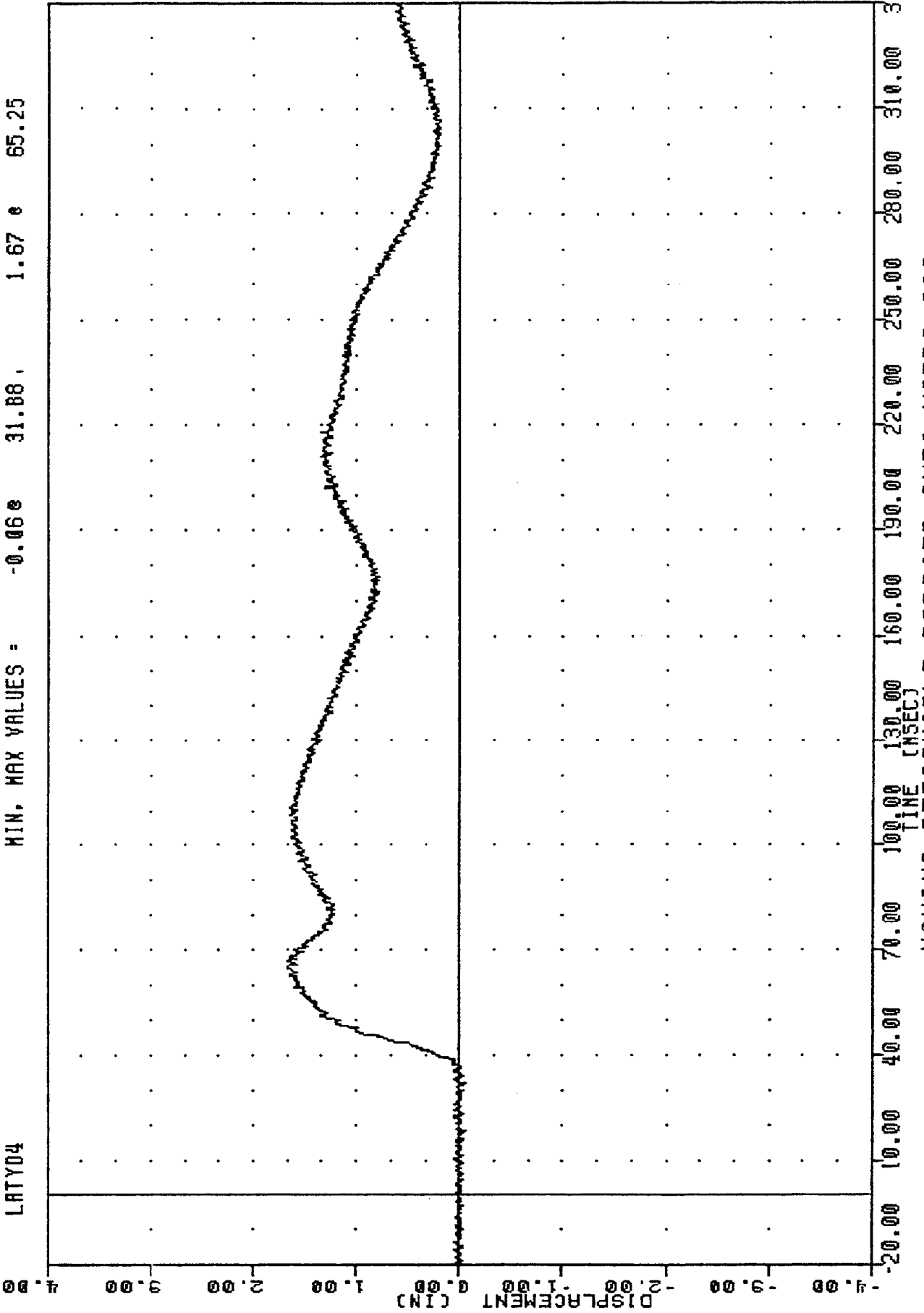
NET TO VHS INC 11 DVCD

850710
SI PROTECTION PROD YEH
85191000000
LATY04

PLOT DATE 16-85 12:17:53

FILTER = ALPF 1650/ 5217/ -40

MIN, MAX VALUES = -0.06 31.88, 1.67 65.25



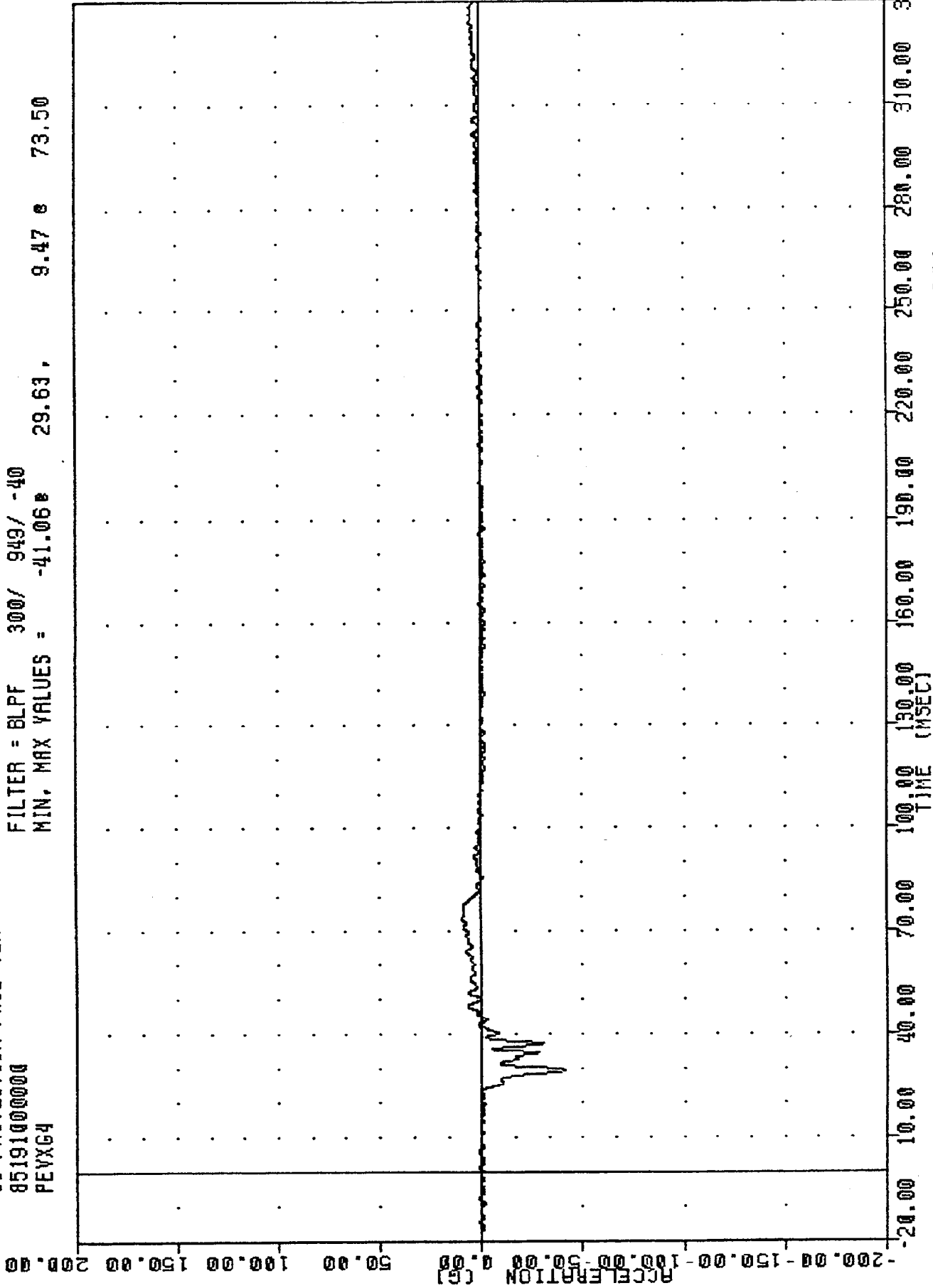
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER LEFT RIR TO SPINE DISPLACEMENT INCHES

850710
SI PROTECTION PROD VEH
8519100000
PEVXG4

PLOT DATE 16-1-85 12:17:53

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -41.06e 29.63, 9.47 e 73.50



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DOCCENICED DELVTC ORCELEDDOTMM Y QVTC

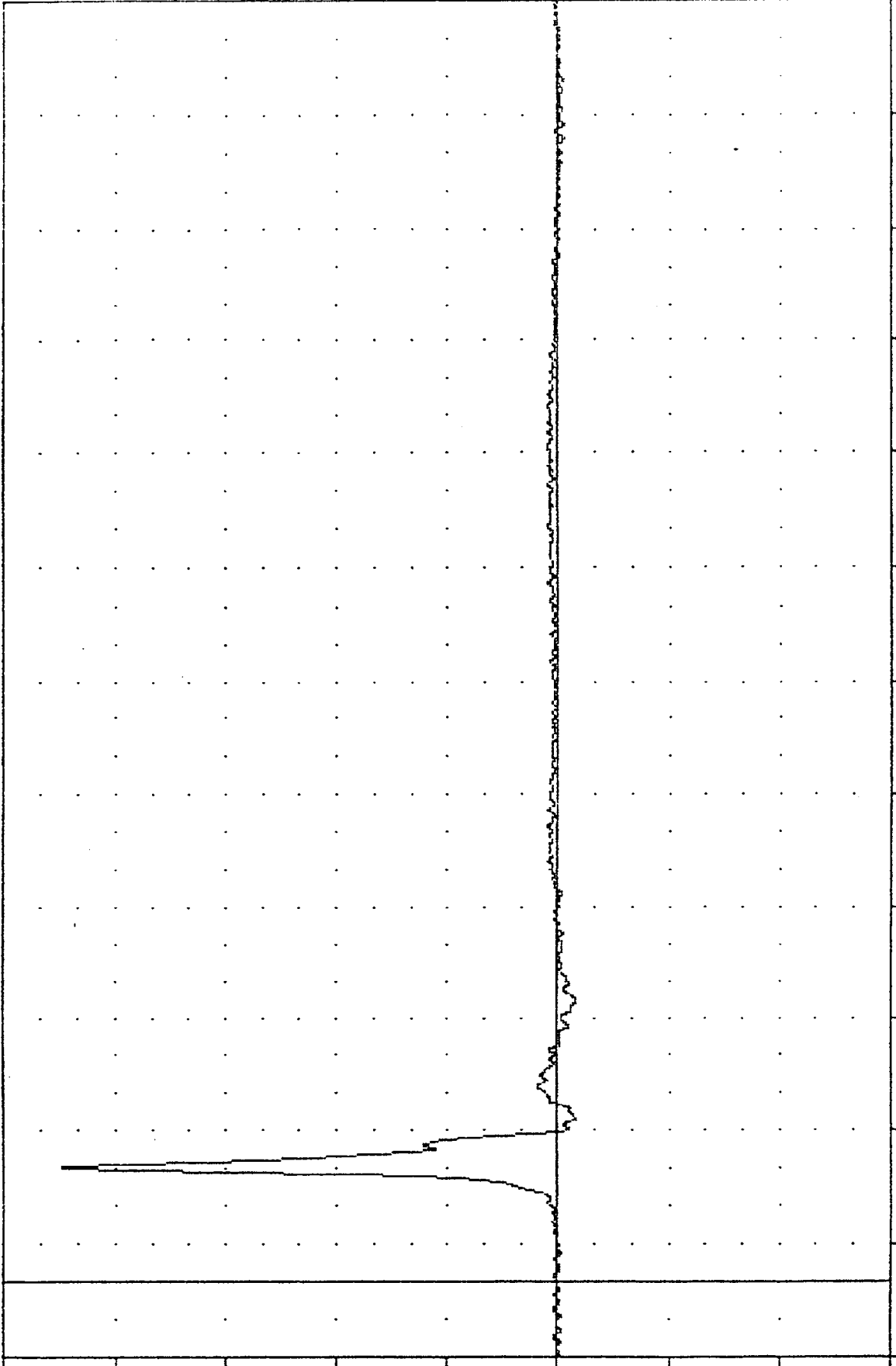
ART , 850710
SI PROTECTION PROD VEH
85191000000
PEVY64

PLOT DATE JUL-85 13:09:16

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -8.54e 74.75 , 224.33 e 30.38

ACCELERATION (G)



B-63

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER SEAT ACCELERATION Y AXIS

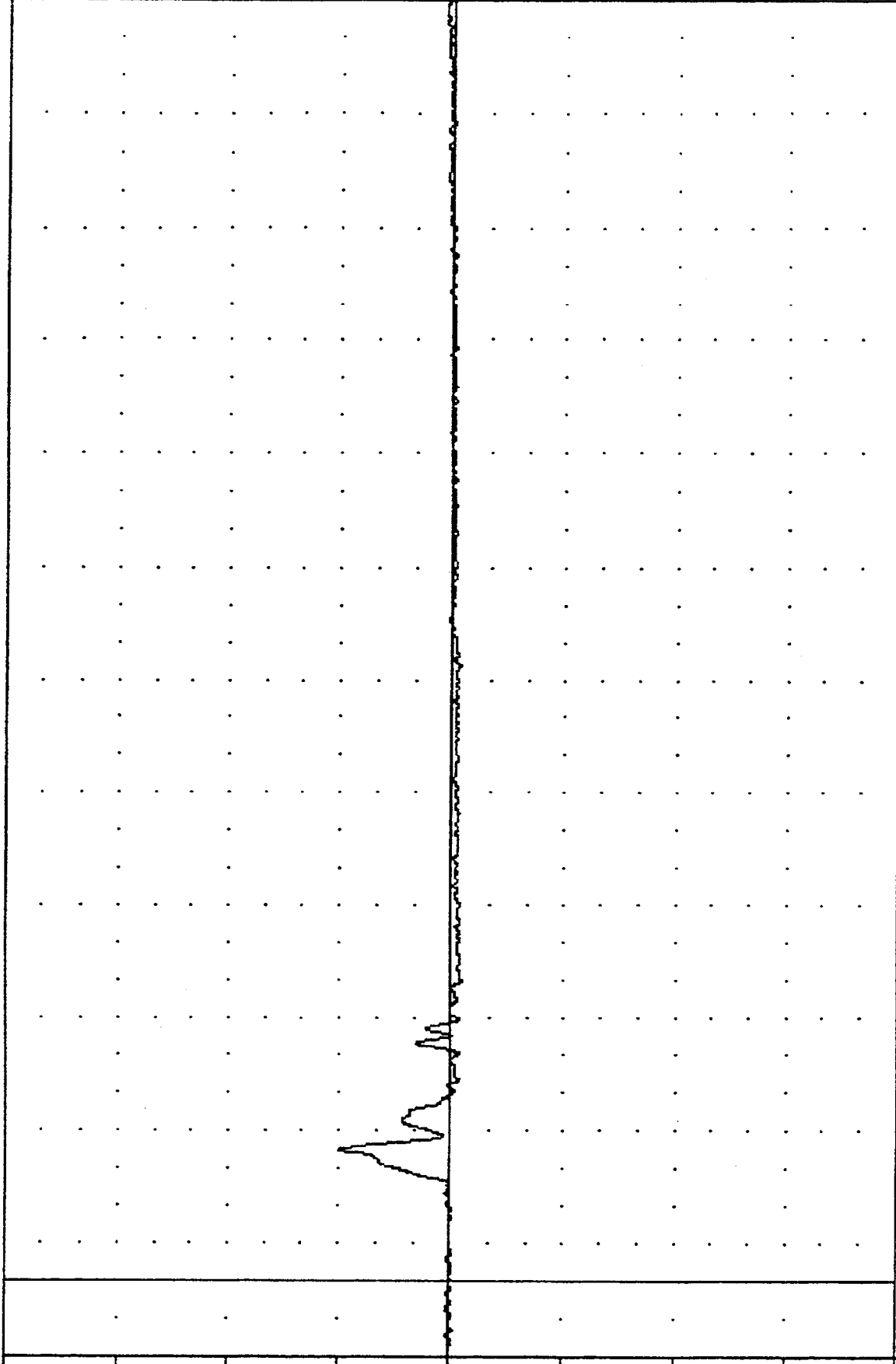
T 850710
SI PROTECTION PROD VEH
85191000000
PEVZG4

PLOT DATE 10-2-85 12:17:53

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -4.64 e 79.63, 19.58 e 34.88

ACCELERATION (G)
-200.00 -150.00 -100.00 -50.00 0.00 50.00 100.00 150.00 200.00



-20.00 10.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

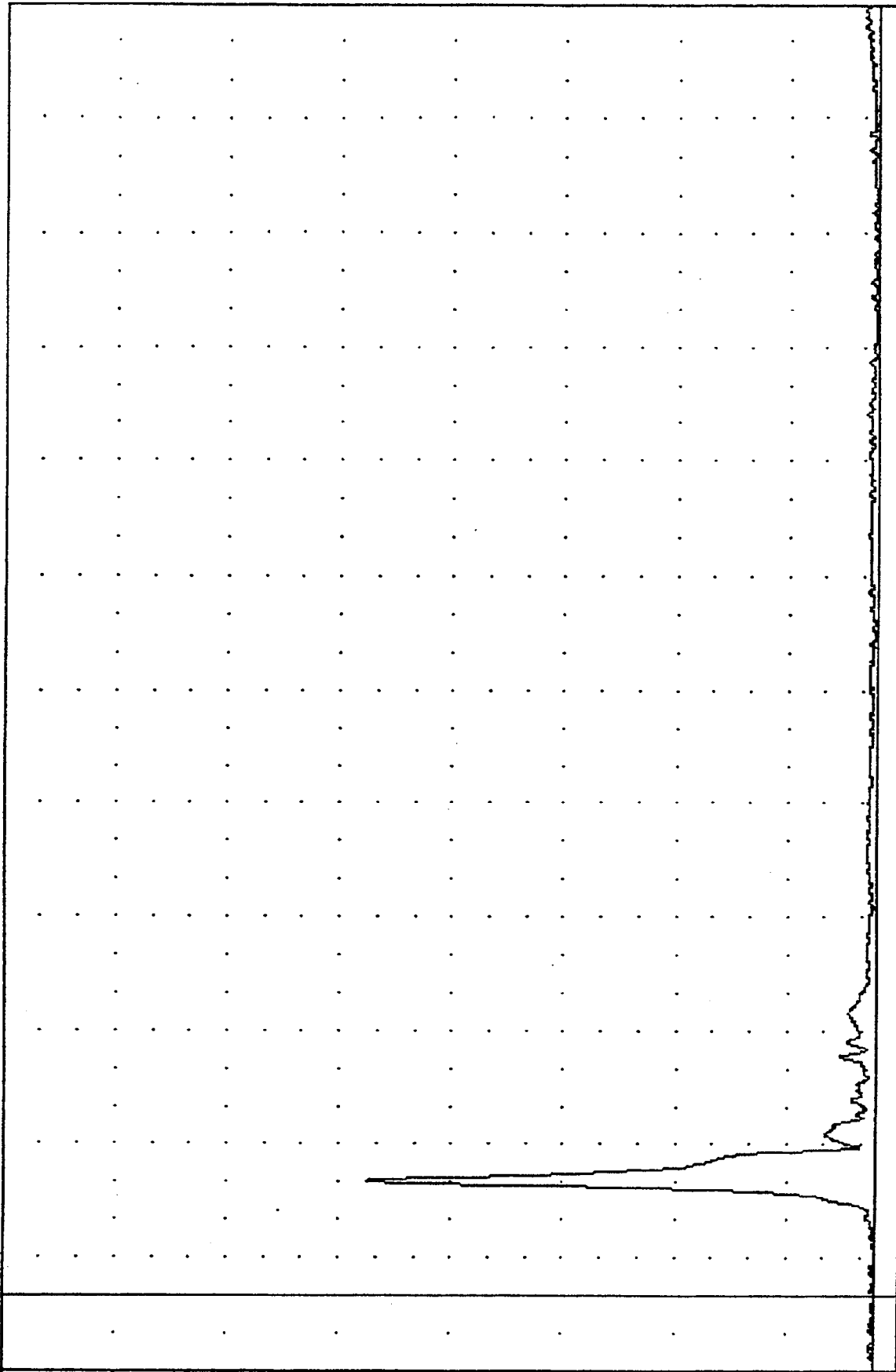
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DOCUMENTED DELTA ACCIDENT PROTECTION SYSTEM

850710
SI PROTECTION PROD VEH
85191000000
PEVRG4

PLOT DATE 10-1-85 12:17:53

FILTER = 8LPF 300/ 949/ -40
MIN, MAX VALUES = 0.08e 8.3B, 227.83 e 30.38

ACCELERATION (G)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
PASSENGER PFI VTS RFSIII TANT

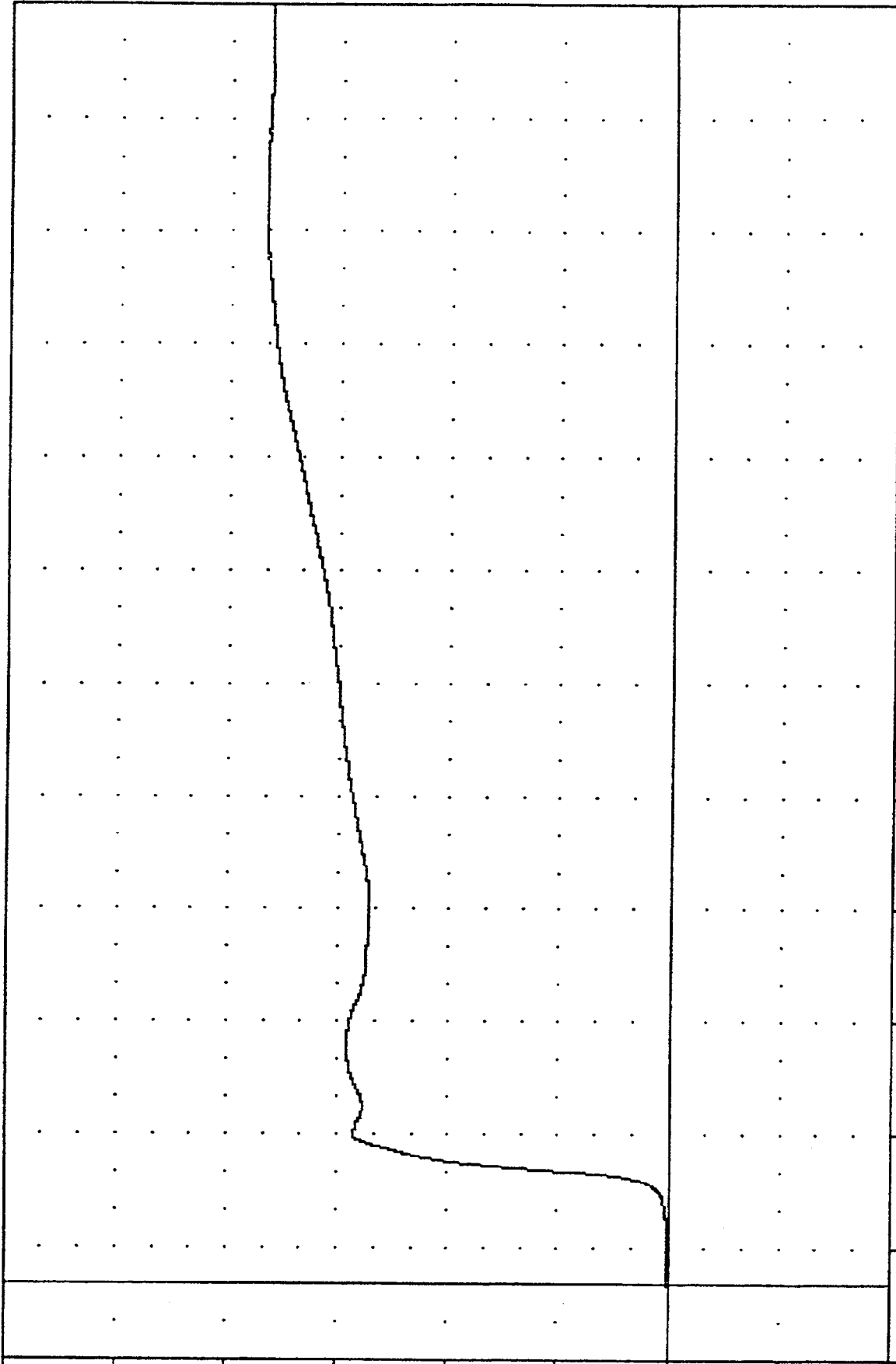
850710
PROTECTION PROD YEH
85191000000
PEVYV4

PLOT DATE 10-85 12:17:53

FILTER = 8LPF 300/ 949/ -40

MIN. MAX VALUES = -0.050 36.87 e 286.00

VELOCITY (MPH)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

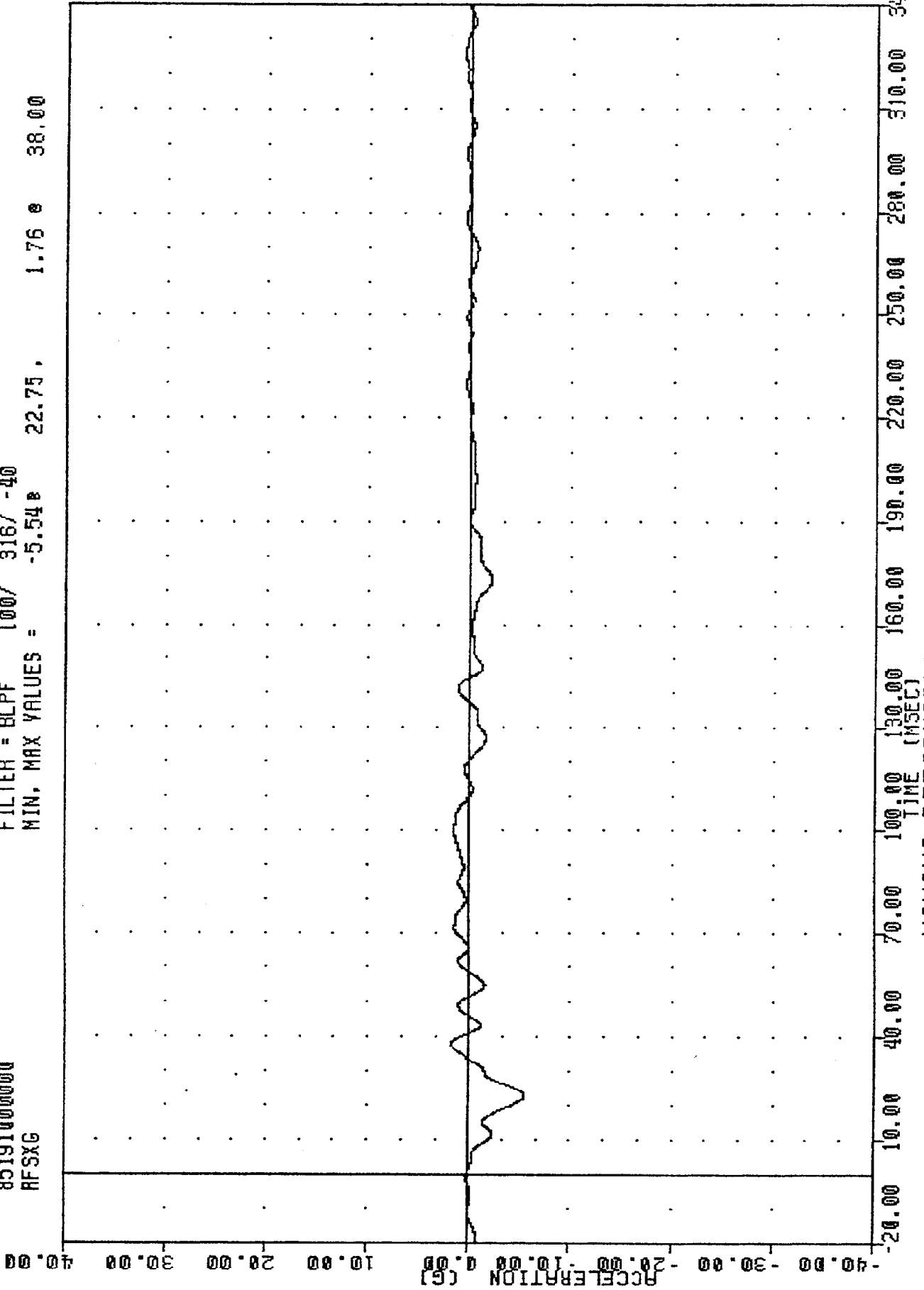
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PIFITA V IISTNG PEVYV4

850710
SI PROTECTION PROD VEH
85191000000
RFSXG

PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -5.54 22.75 1.76 38.00



B-67

MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE FRONT CRUI ACCCELERATION Y DUTC

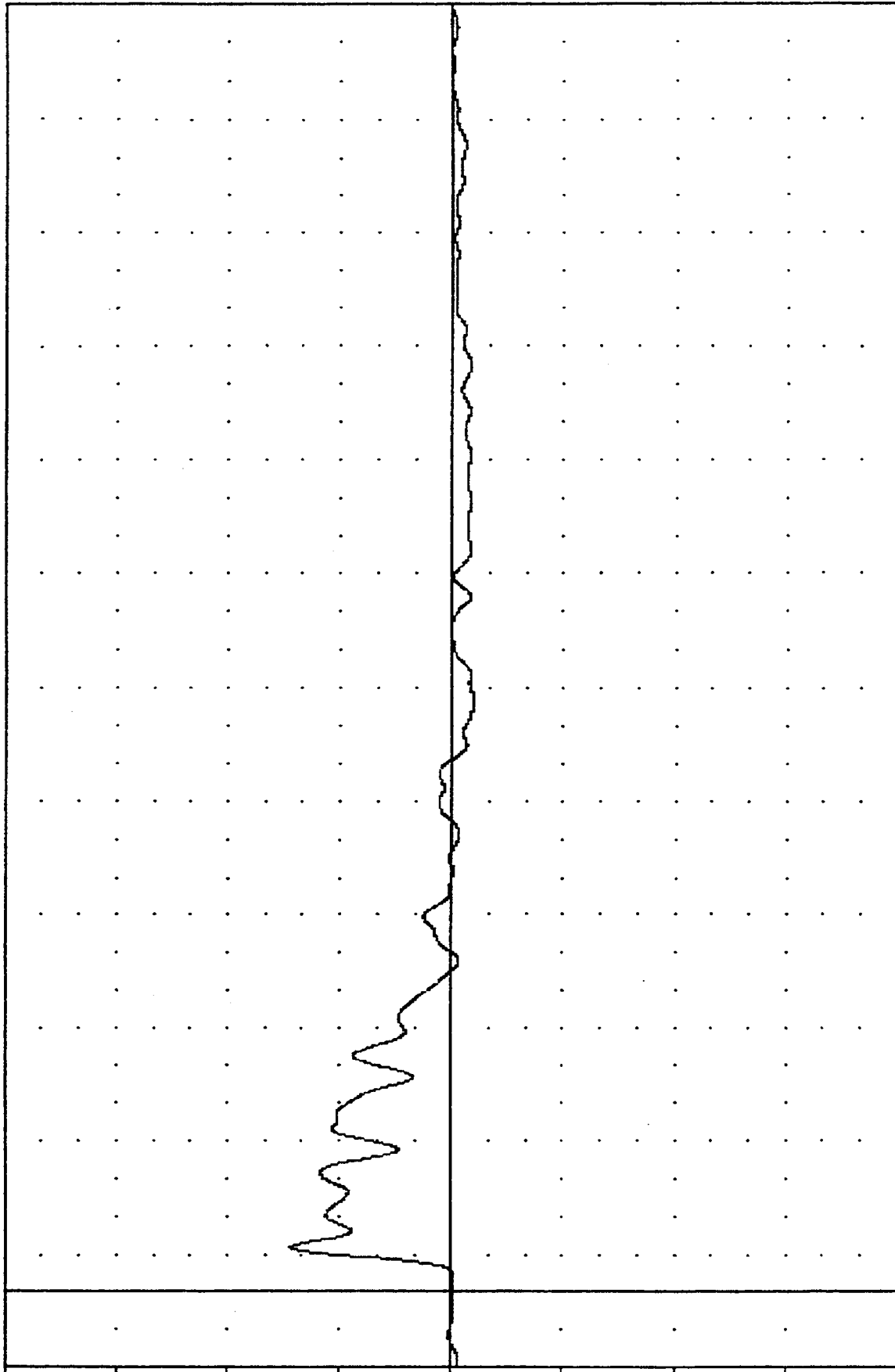
850710
SI PROTECTION PRD VEH
85191000000
RFSYS

PLOT DATE 16-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -1.94e 156.38 14.41 e 11.75

ACCELERATION (G)
-40.00
-30.00
-20.00
-10.00
0.00
10.00
20.00
30.00
40.00



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

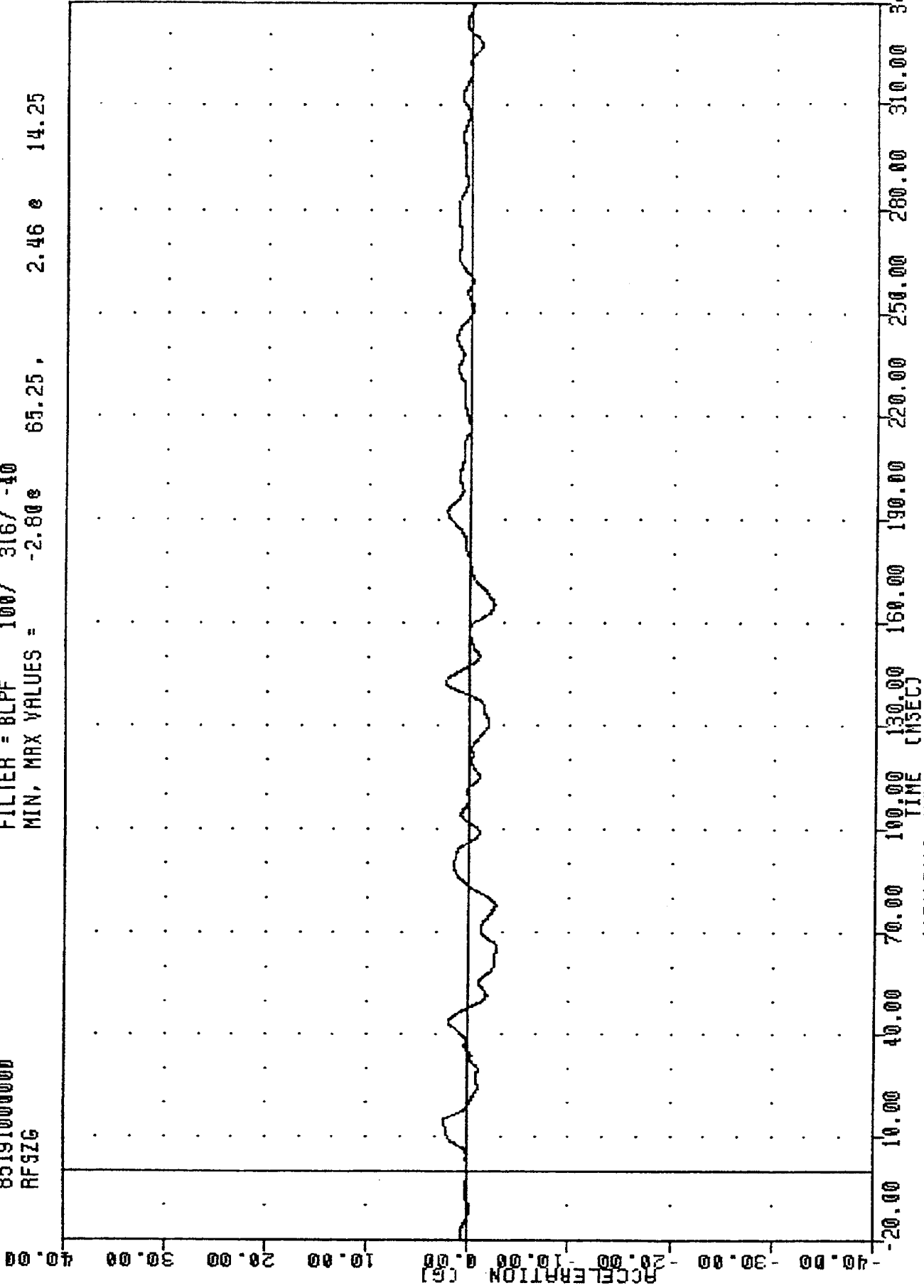
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE FRONT STIFFENING Y AXIS

850710
PROTECTION PROD VEH
85191000000
RF5ZG

PLOT DATE 10-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN, MAX VALUES = -2.80e 65.25, 2.46 e 14.25



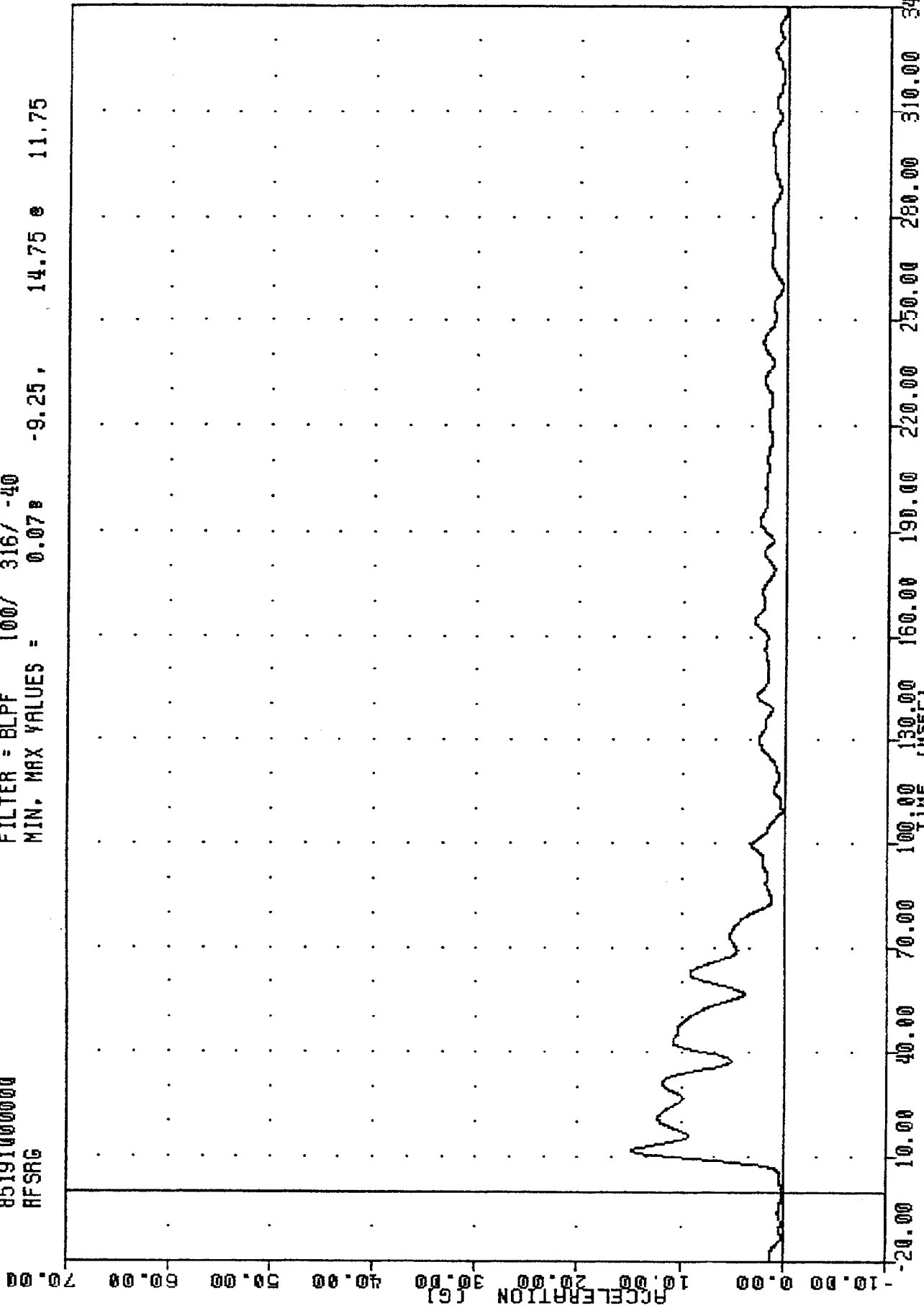
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE RIGHT FRONT SILL ACCELERATION Z AXIS

T 850710
SI PROTECTION PROD VEH
85191000000
RFSRG

PLOT DATE 1-85 12:22:38

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = 0.078 -9.25, 14.75 11.75

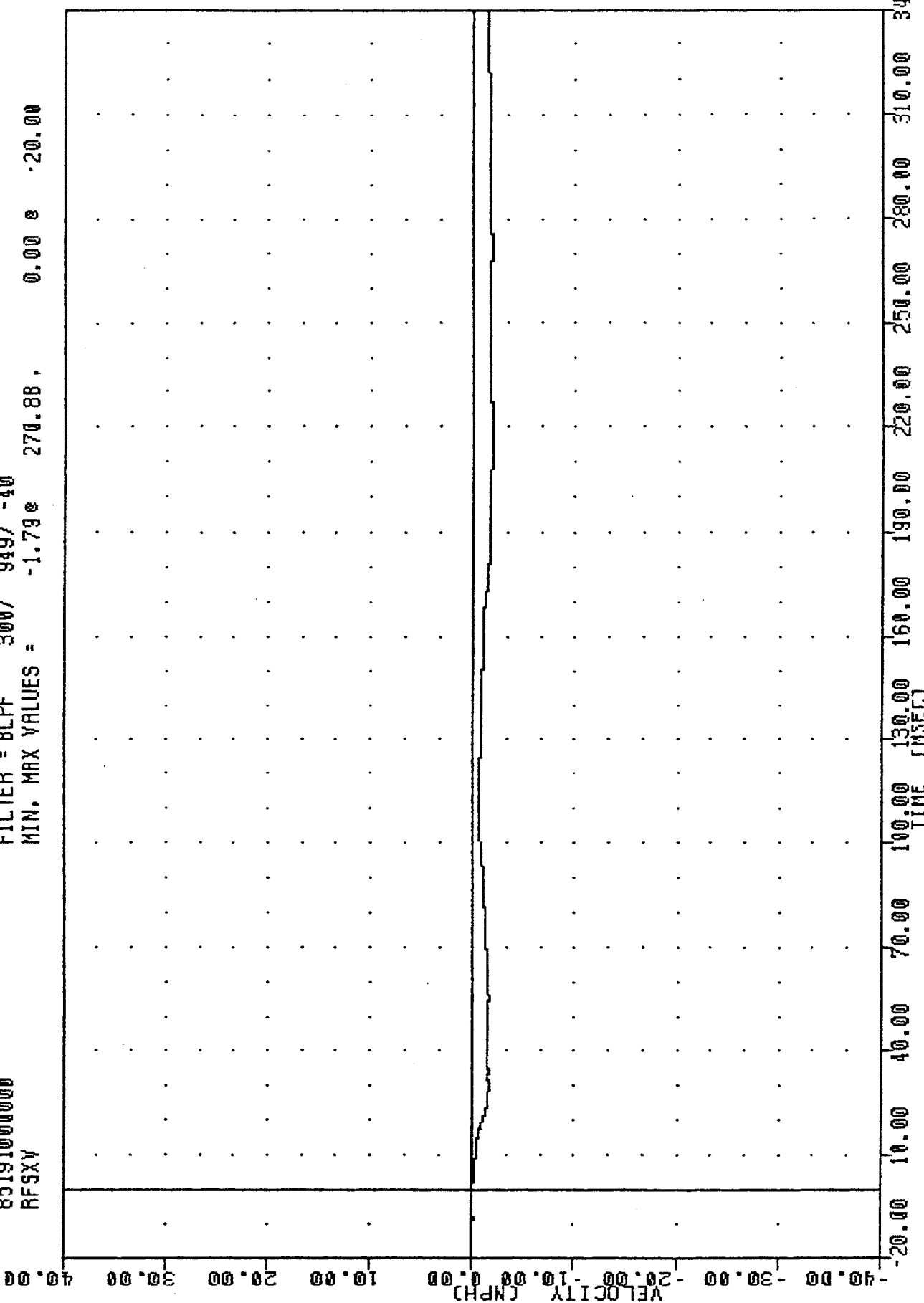


MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE RIGHT FRONT S11 RFSIII TANT

850710
 SI PROTECTION PROD VEH
 85191000000
 RFSXY

PLOT DATE 1 -85 12:20:56

FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -1.79e 270.88 0.00 e -20.00



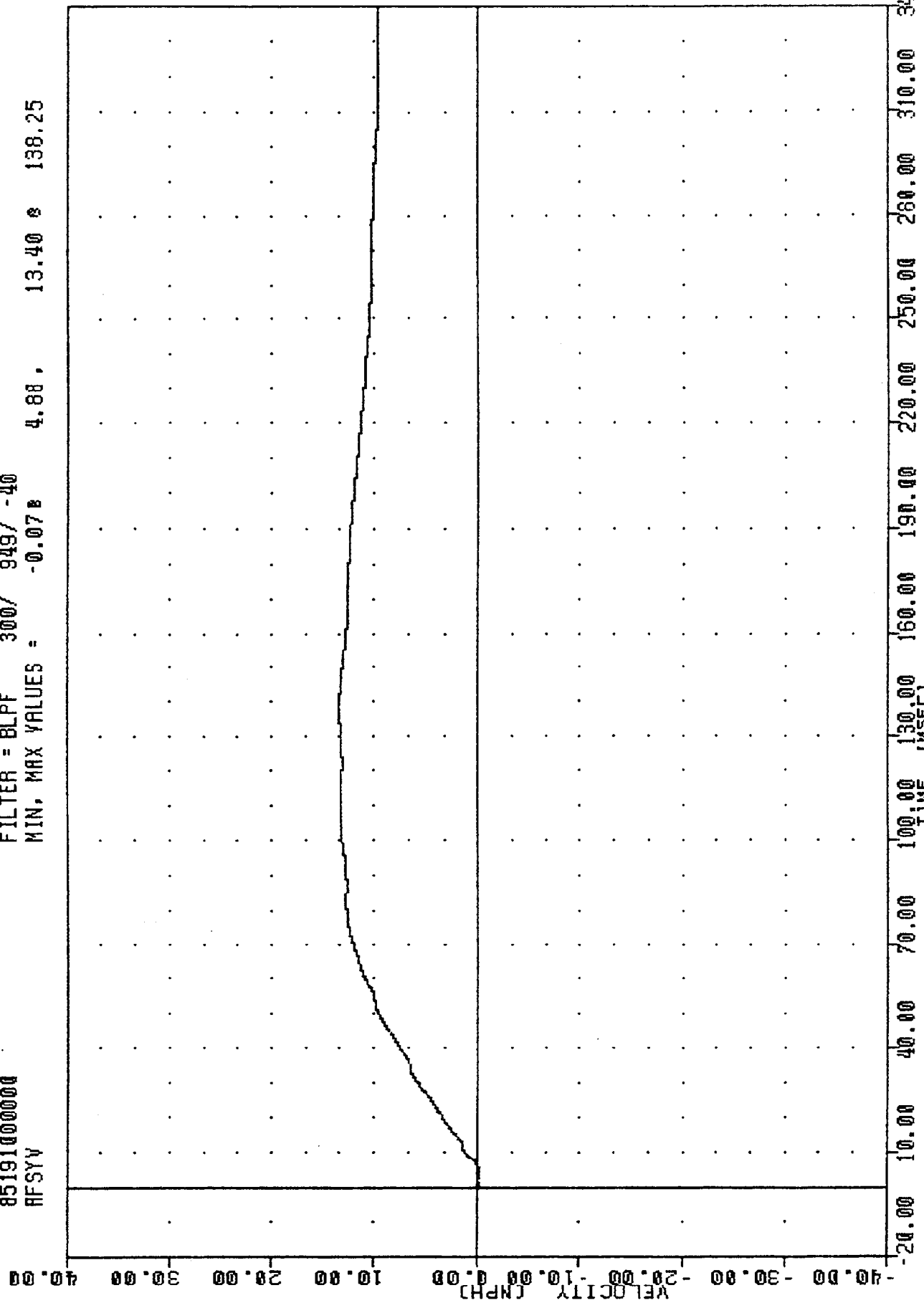
MOVING DEFORMABLE BARRIER INTO MAZDA 626
 NFI TR V IISTNG RFSYG

ST 850710
SI PROTECTION PROD VEH
85191000000
RFSYV

PLOT DATE 10-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN, MAX VALUES = -0.078 4.88, 13.40 138.25



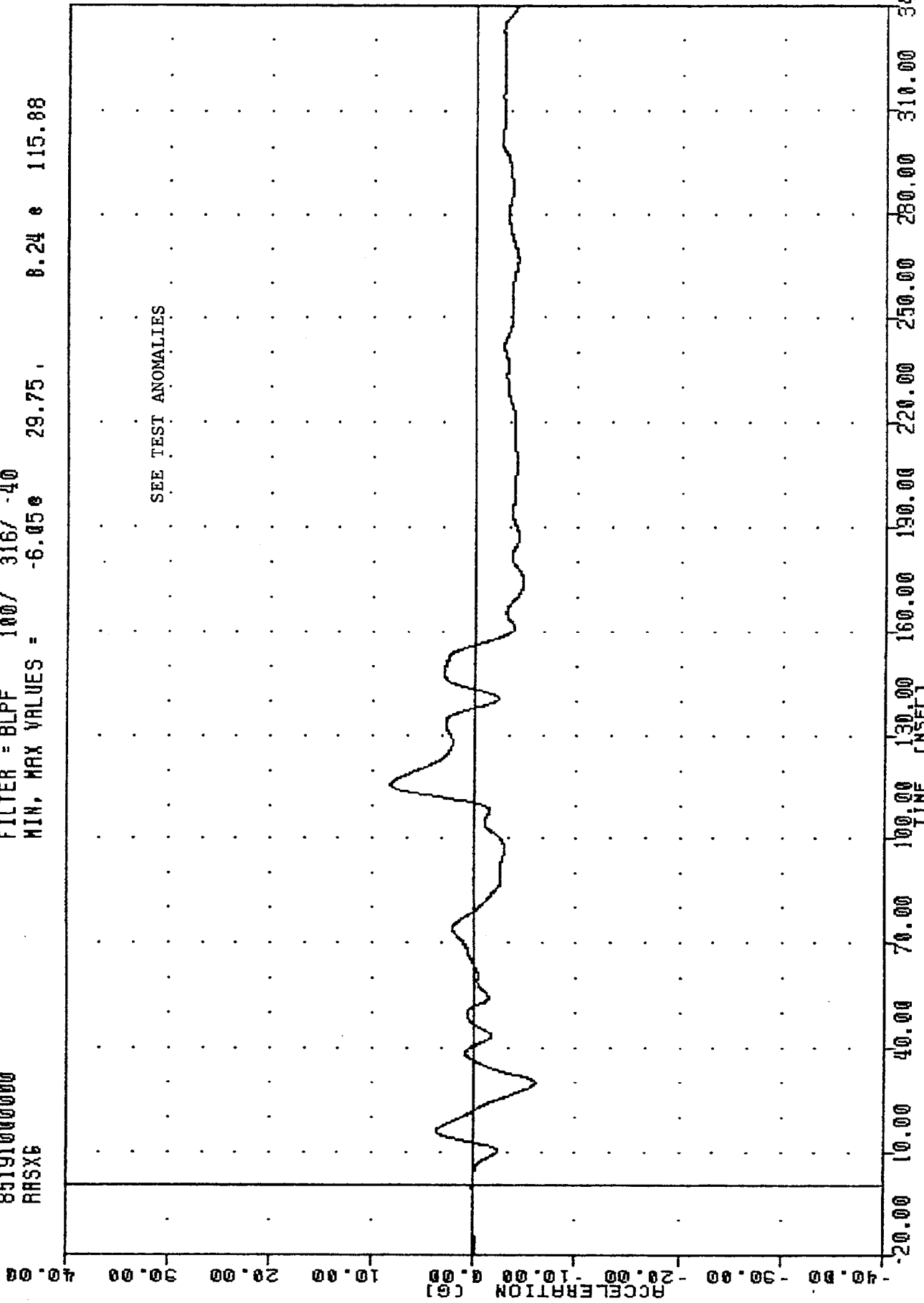
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V USING DECVF

850710
SI PROTECTION PROD YEH
85191000000
RMSX6

PLOT DATE 16-085 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -6.05e 29.75, 8.24 e 115.88



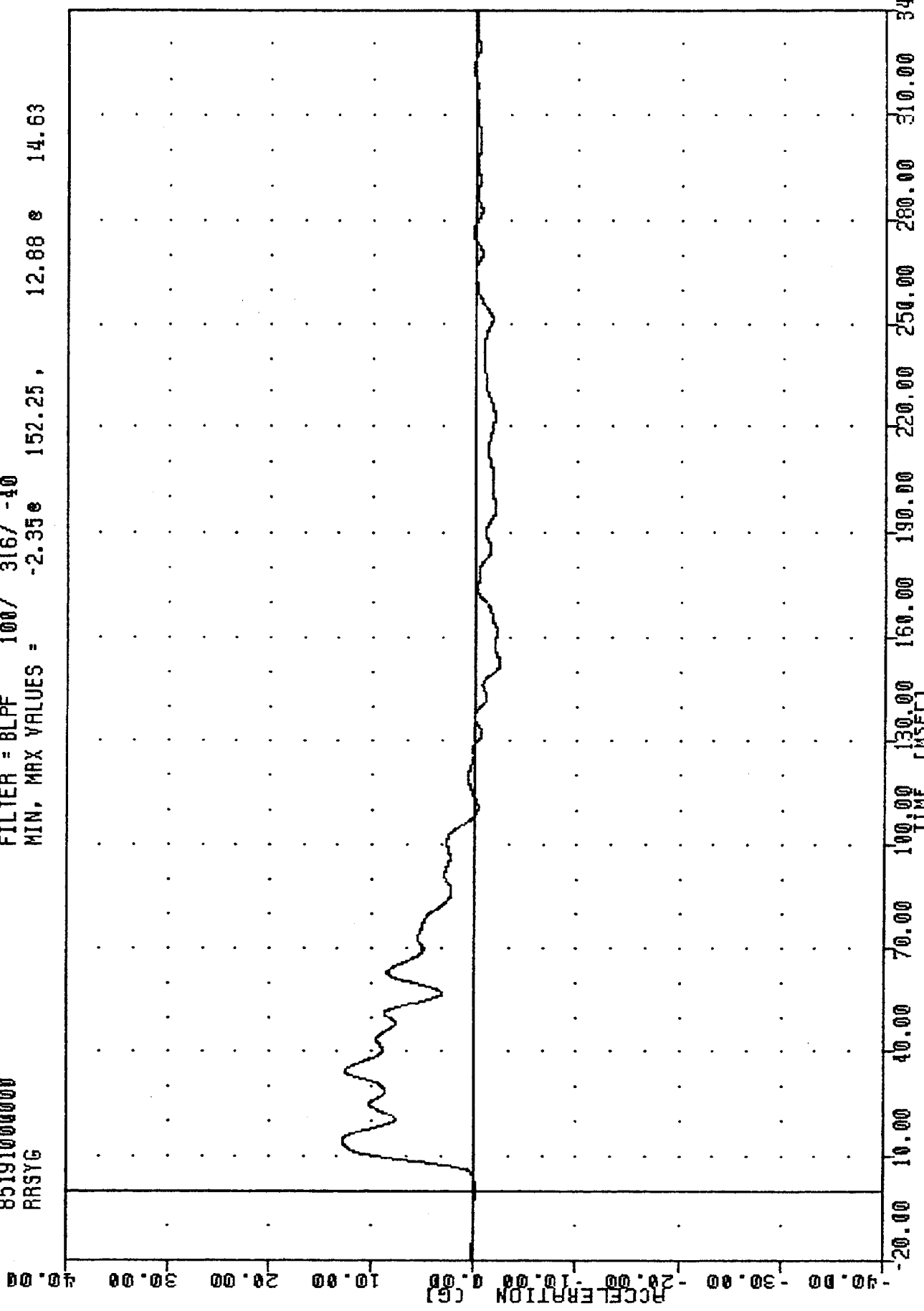
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE RIGHT REAR STILL ACCELERATION Y AXIS

850710
SI PROTECTION PROD VEH
85191000000
RRSYG

PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN, MAX VALUES = -2.35e 152.25, 12.88 e 14.63



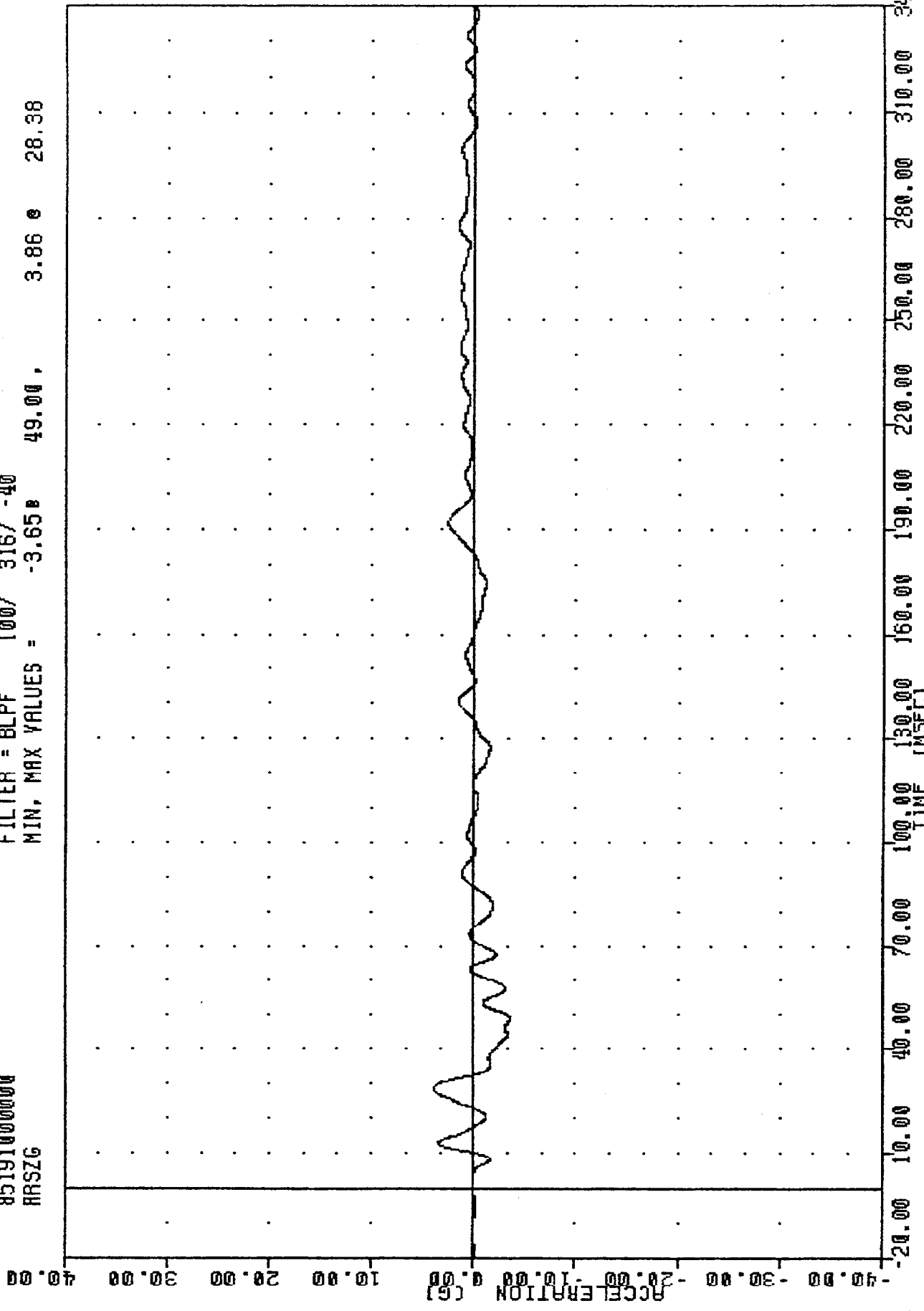
B-74

MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE RIGHT REAR STILL ACCELERATION Y AXIS

ST 850710
SI PROTECTION PROD VEH
85191000000
RRSZG

PLOT DATE 11-85 12:20:56

FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -3.65 49.00, 3.86 28.38



MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE RIGHT REAR STIFFENING 7 BYTS

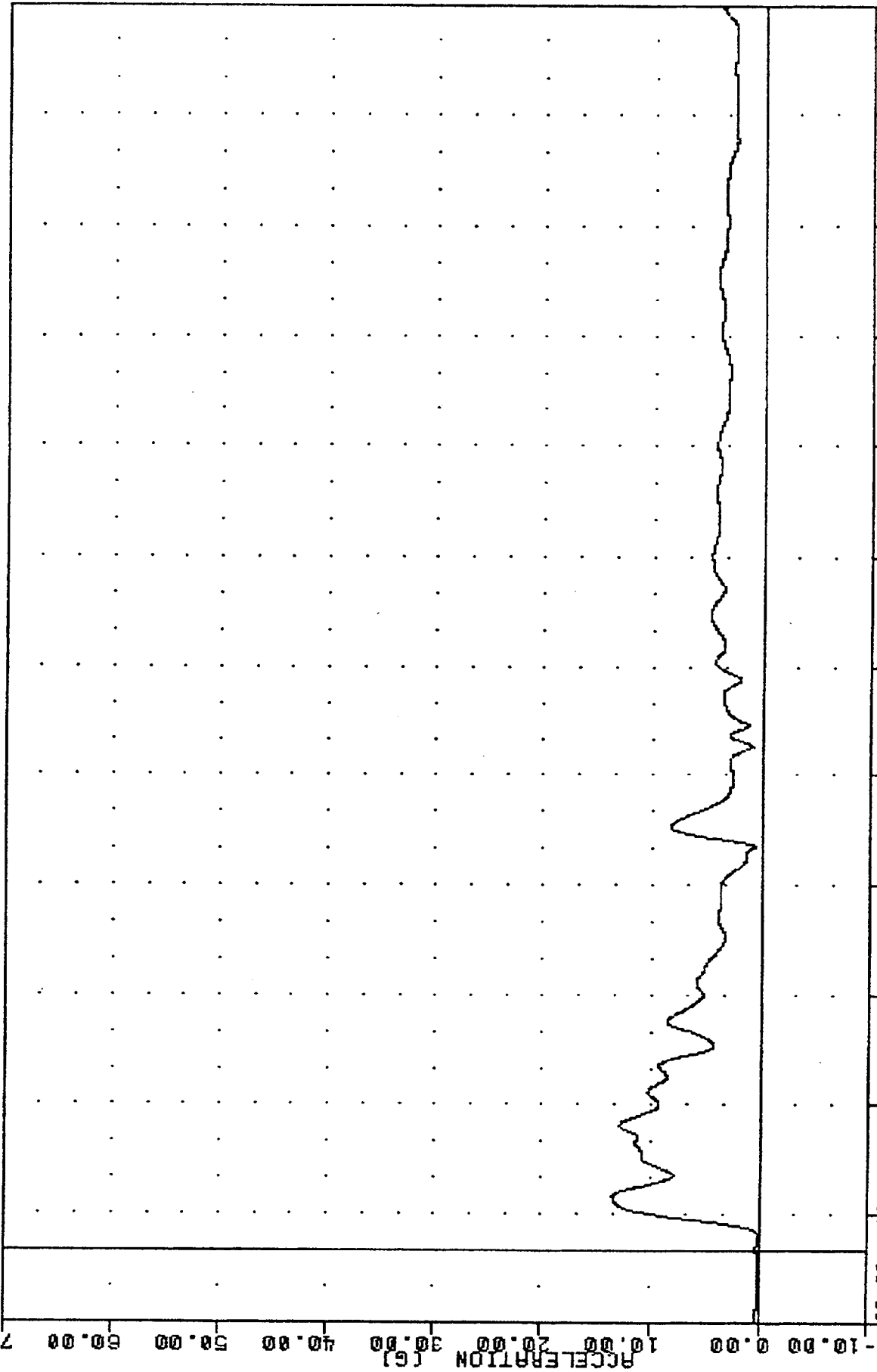
850710
SI PROTECTION PROD VEH
85191000000
RRSRG

PLOT DATE 10-1-85 12:22:38

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = 0.04g 3.75, 13.42 g 14.75

70.00



B-76

-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

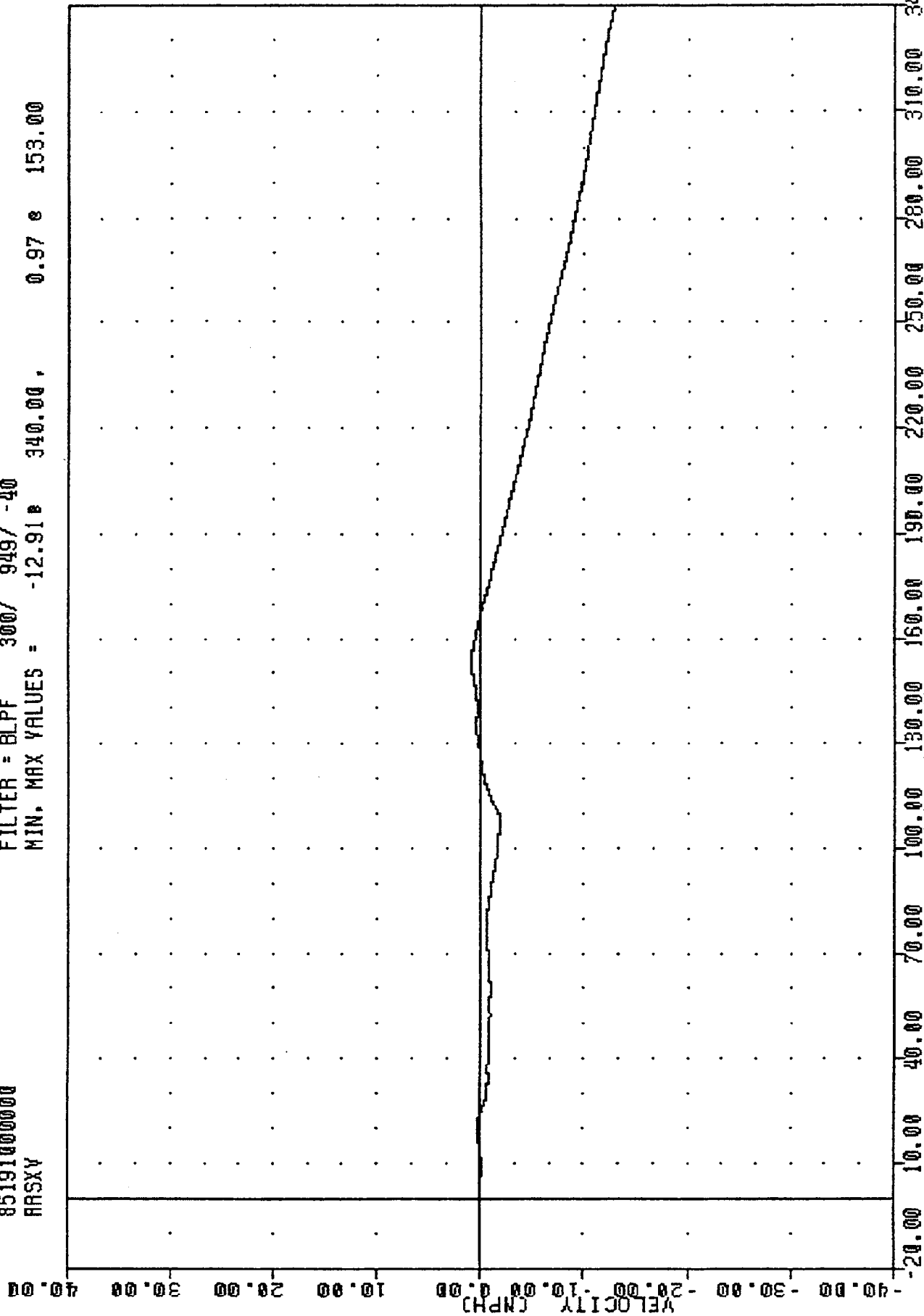
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE RIGHT REAR STILL RESISTANT

T , 850710
SI PROTECTION PROD VEH
8519100000
RRSXY

PLOT DATE 1 -85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -12.91e 340.00, 0.97 e 153.00



B-77

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA Y USING ARSXC

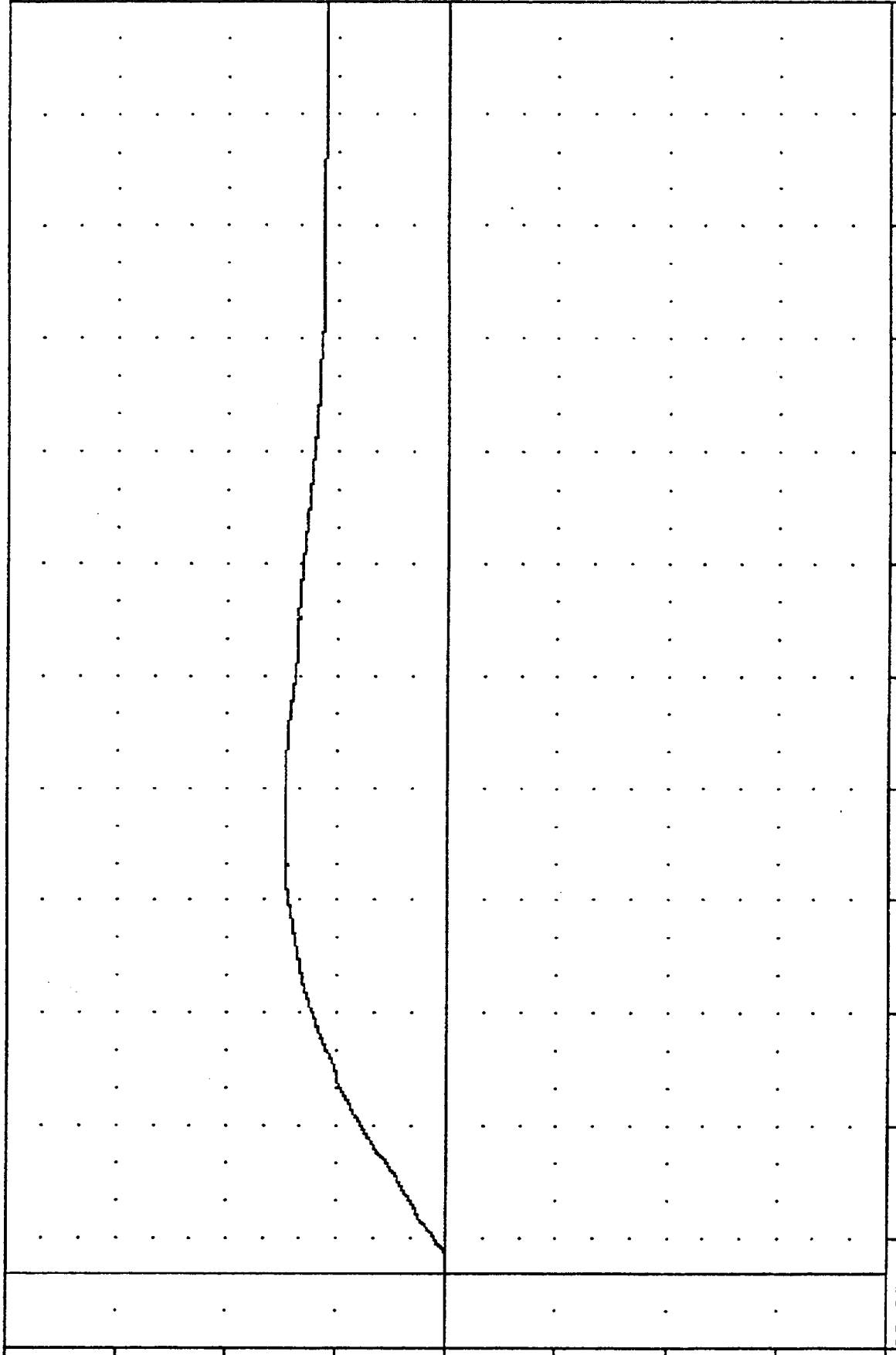
850710
SI PROTECTION PROD YEH
85191000000
RMSYY

PLOT DATE 16-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 0.00e -20.00, 14.73 e 127.13

VELOCITY (MPH)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

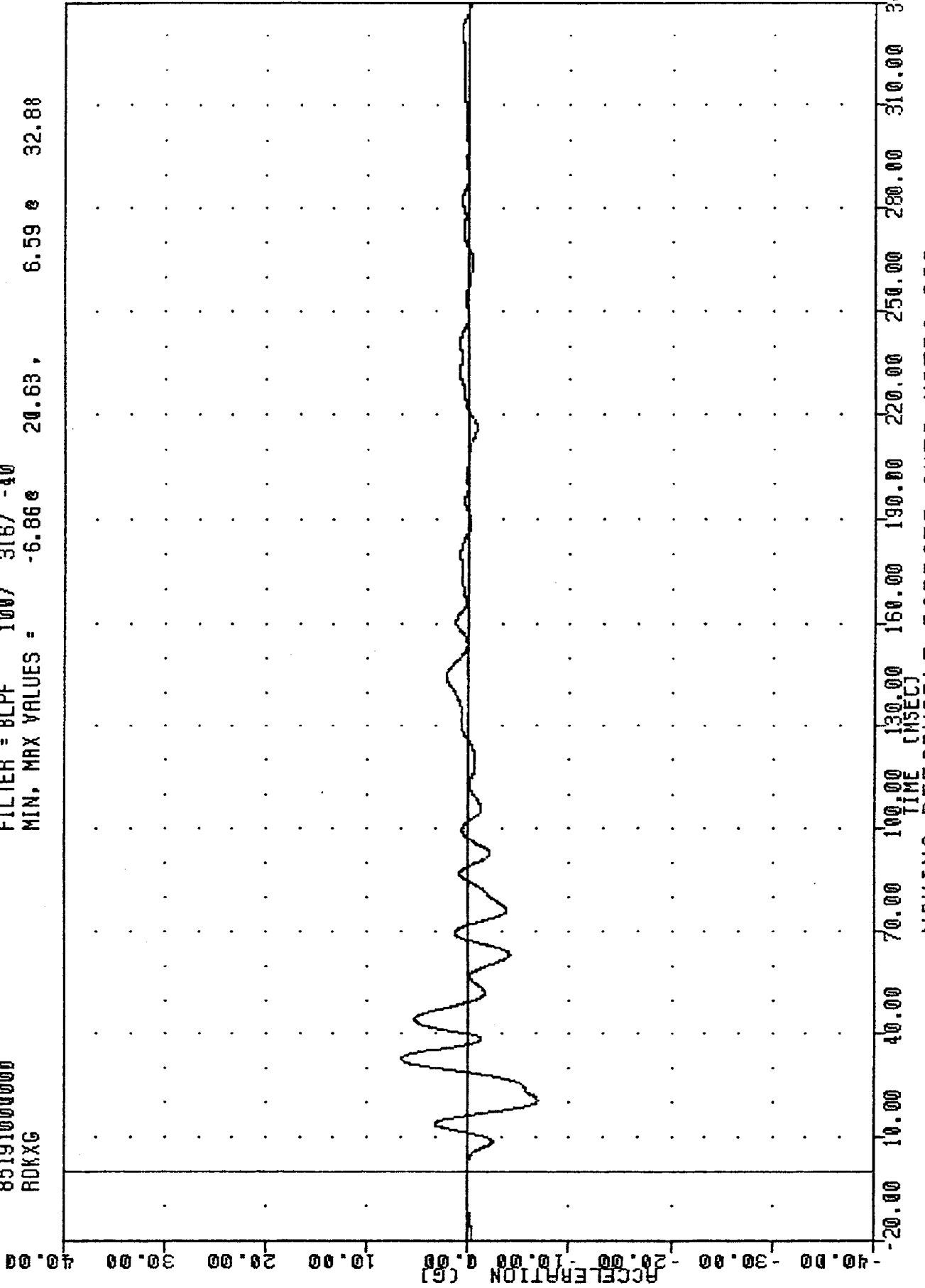
MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V LISTING RMSYY

T 850710
SI PROTECTION PROD VEH
85191000000
RDKXG

PLOT DATE 10-1-85 12:20:56

FILTER = 8LPF 100/ 316/ -40

MIN. MAX VALUES = -6.86e 20.63, 6.59e 32.88



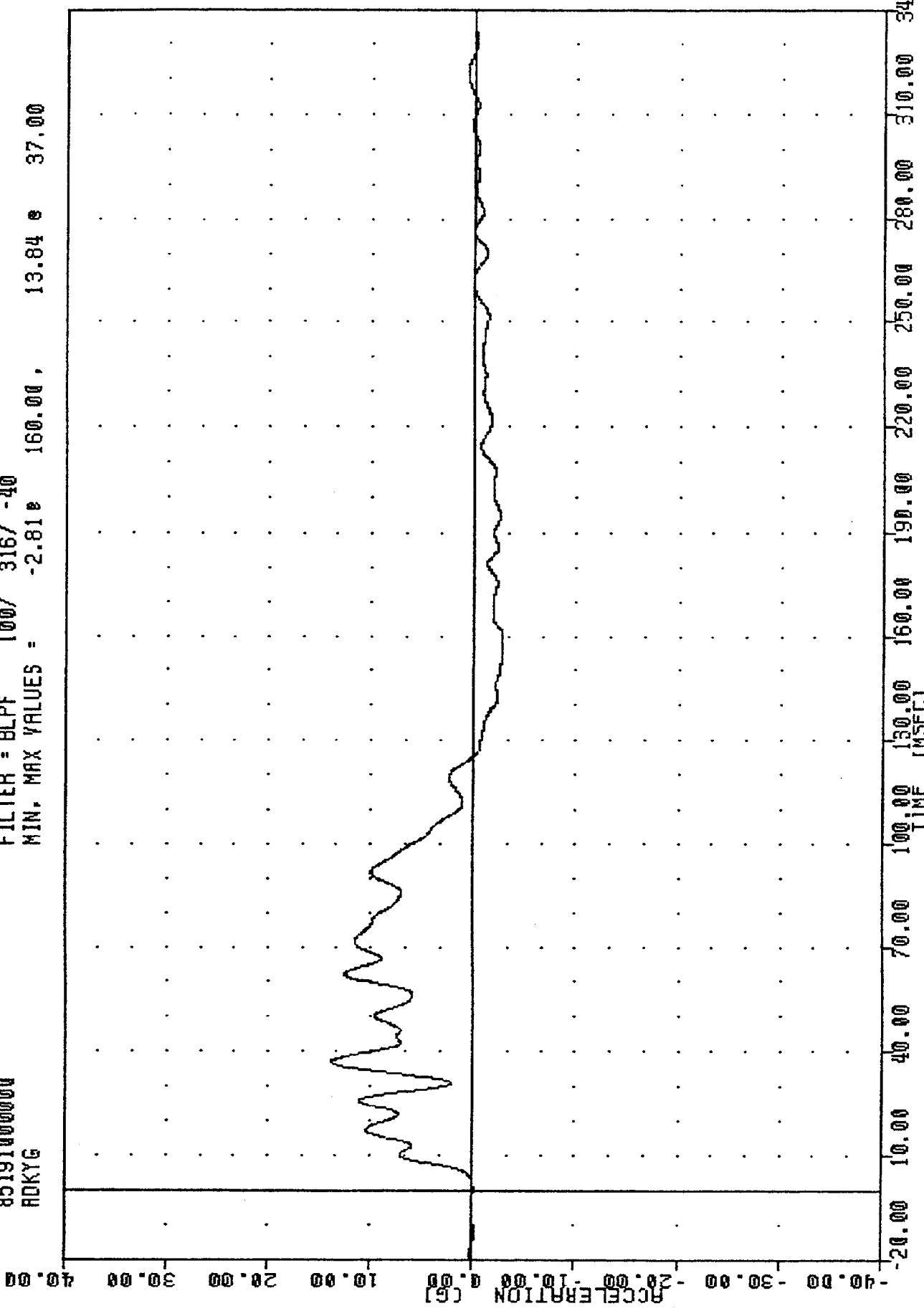
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE REAR NECK ACCELERATION Y AXIS

TEST , 850710
SI PROTECTION PROD VEH
85191000000
ADKYG

PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -2.81e 160.00, 13.84 e 37.00



B-80

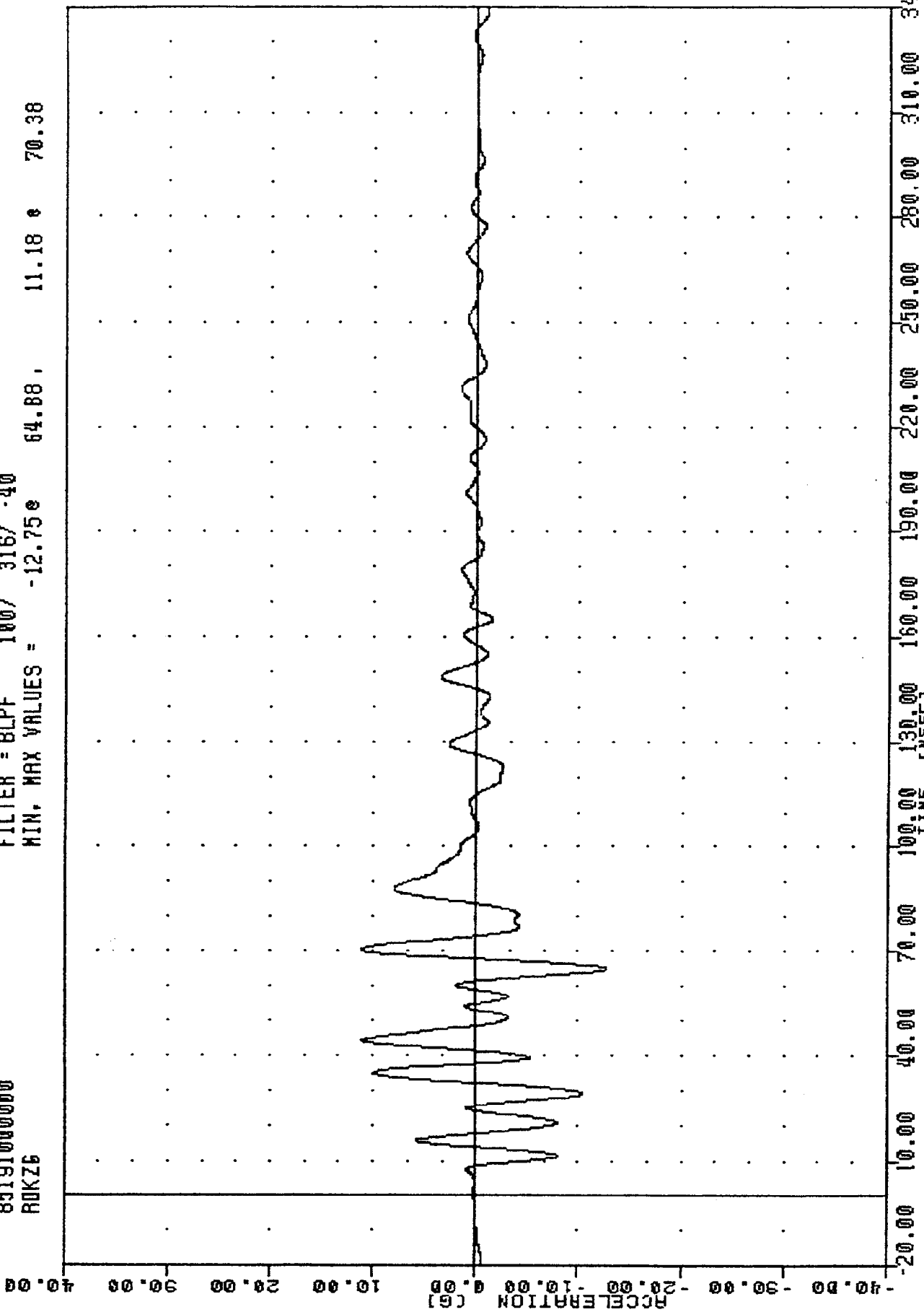
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE REAR DECK ACCELERATION Y AXIS

T 850710
SI PROTECTION PROD YEH
85191000000
RUKZ6

PLOT DATE 10-2-85 12:20:56

FILTER = 8LPF 100/ 316/ -40

MIN. MAX VALUES = -12.75e 64.88, 11.18 e 70.38



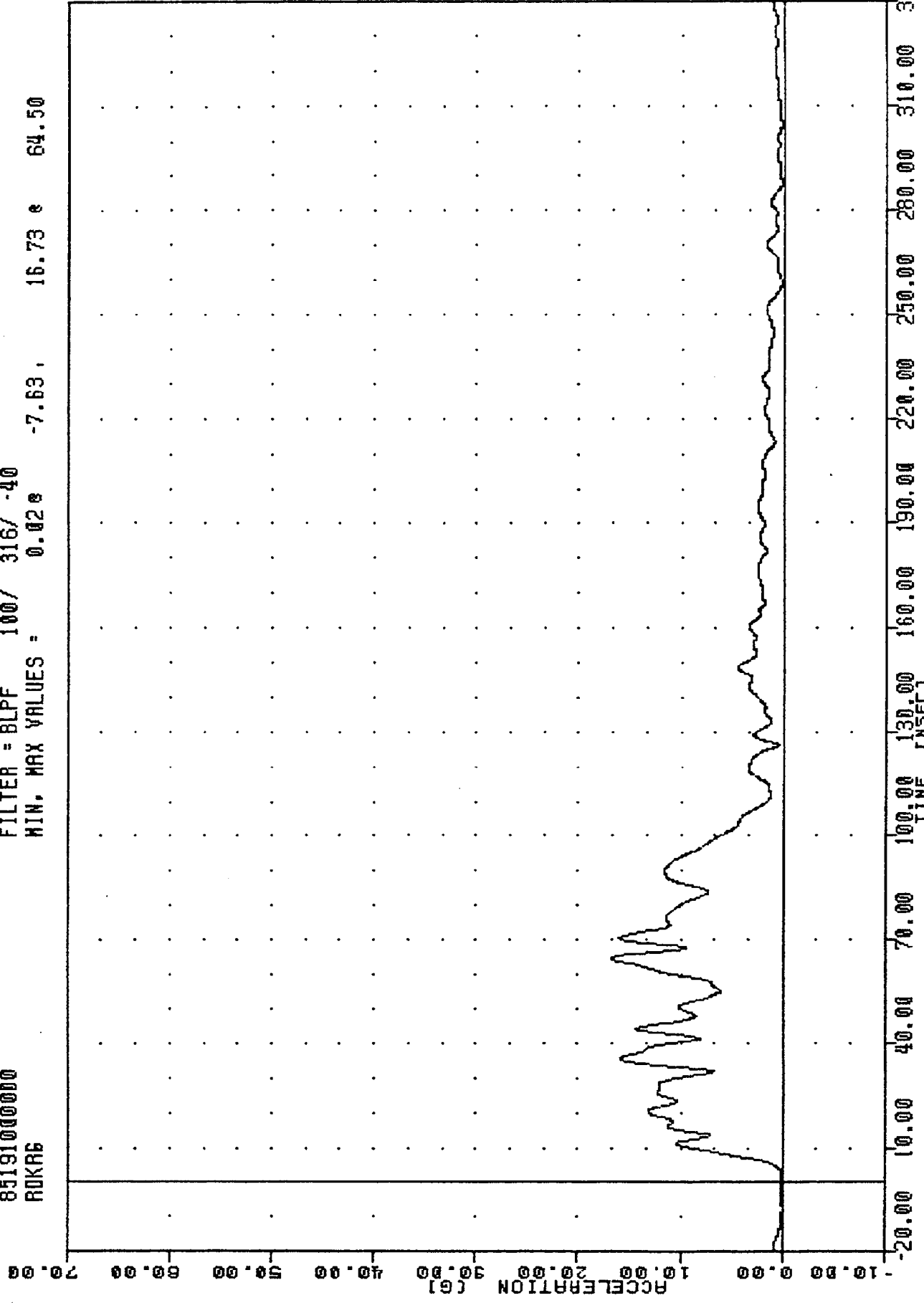
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VFHTCIF REAR DECK ACCELERATION 7 AYTS

850710
SI PROTECTION PROD VEH
85191000000
RDKRB

PLOT DATE 16-1-85 12:22:38

FILTER = BLPF 100/ 316/ -40

MIN, MAX VALUES = 0.028 -7.63, 16.73 e 64.50



MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE REAR NECK OCCUPANT

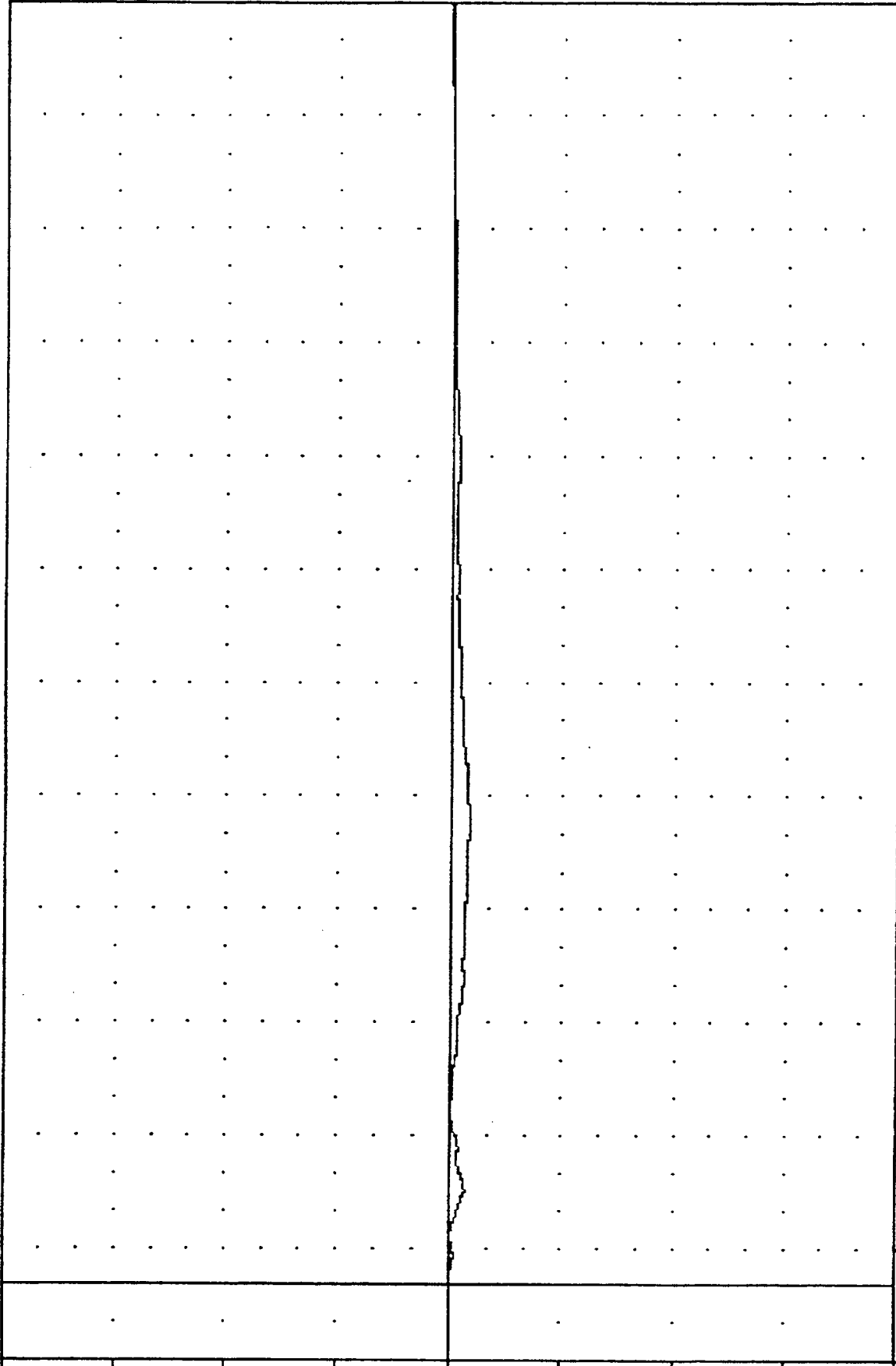
850710
SI PROTECTION PROD YEH
85191000000
RDKXY

PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES : -1.59 123.25, 0.35 338.75

40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00



20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
RFLTA W IISTMC RDKYC

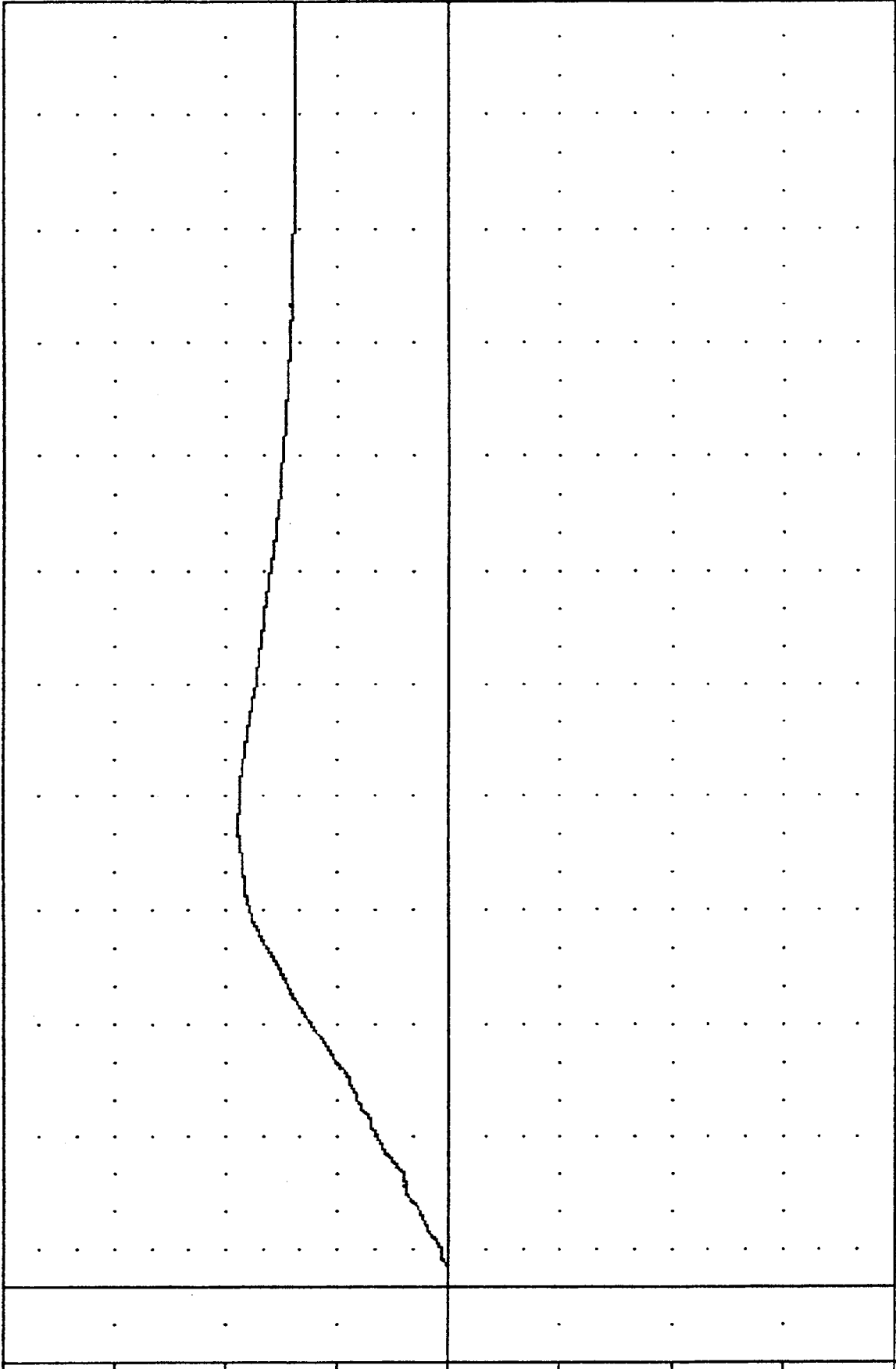
850710
SI PROTECTION PROD VEH
85191000000
RDKYY

PLOT DATE 18-02-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -0.02e -0.75, 18.85 e 120.75

40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00



B-84

340.00
310.00
280.00
250.00
220.00
190.00
160.00
130.00
100.00
70.00
40.00
10.00

TIME (MSEC)

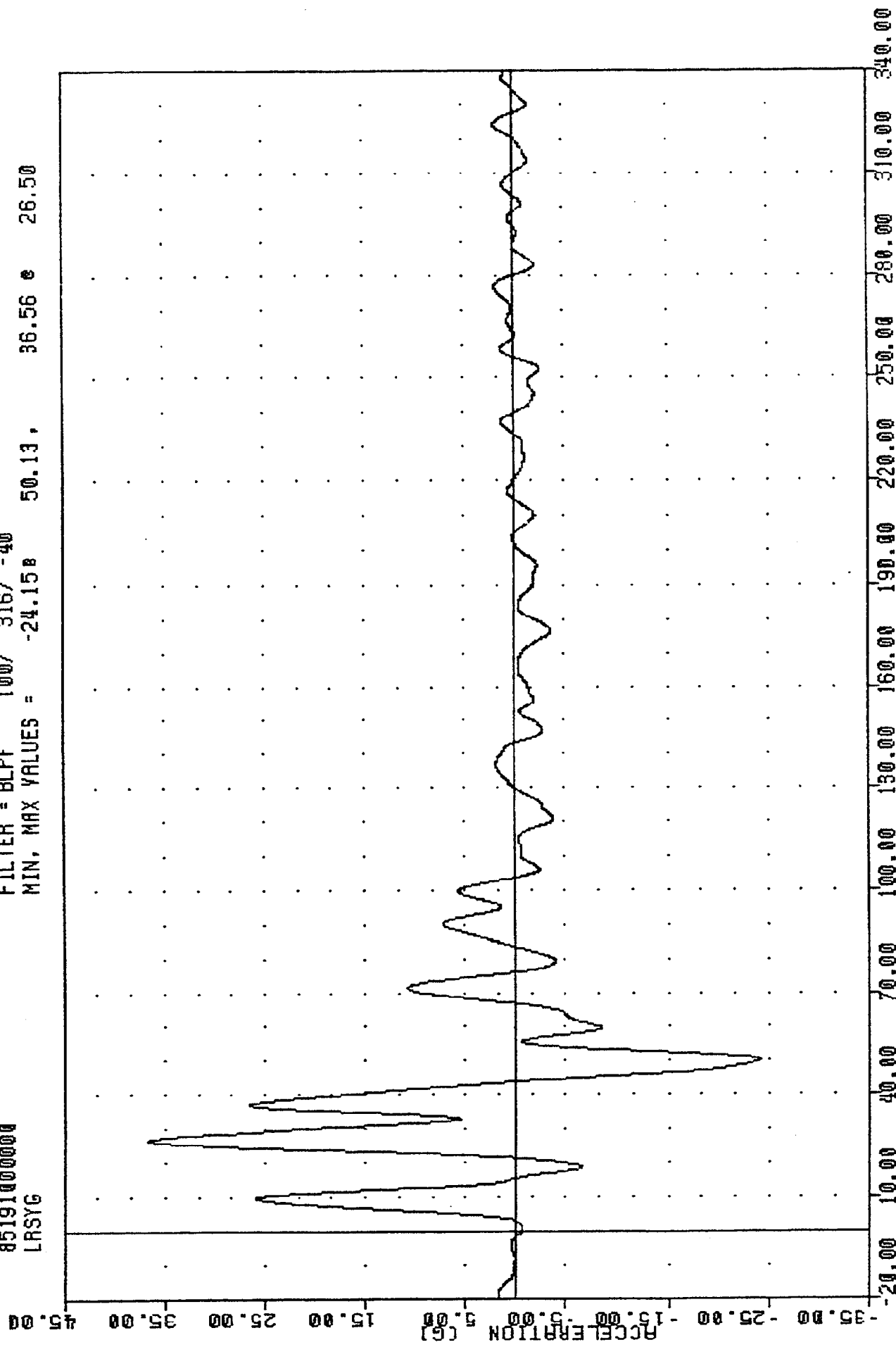
MOVING DEFORMABLE BARRIER INTO MAZDA 626

NET TO V IETMC DRVVC

ST 850710
SI PROTECTION PROD VEH
8519100000
LRSYG

PLOT DATE 10-2-85 12:20:56

FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -24.158 50.13, 36.56 e 26.50



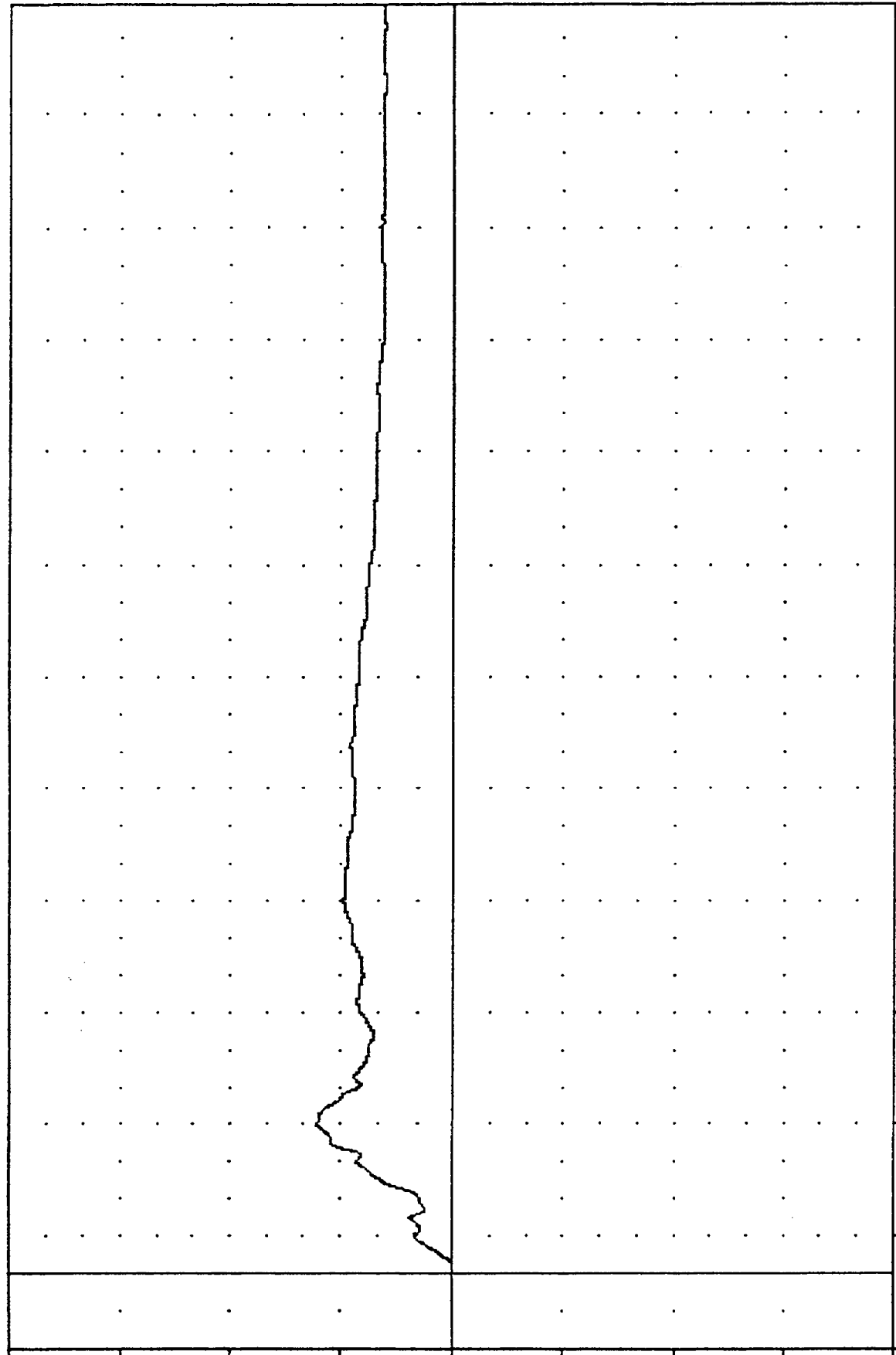
850710
SI PROTECTION PROD VEH
85191000000
LRSYV

PLOT DATE 10-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 0.00e -20.00, 12.05e 40.13

98-B
VELOCITY (MPH)



-40.00
-30.00
-20.00
-10.00
0.00
10.00
20.00
30.00
40.00

0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

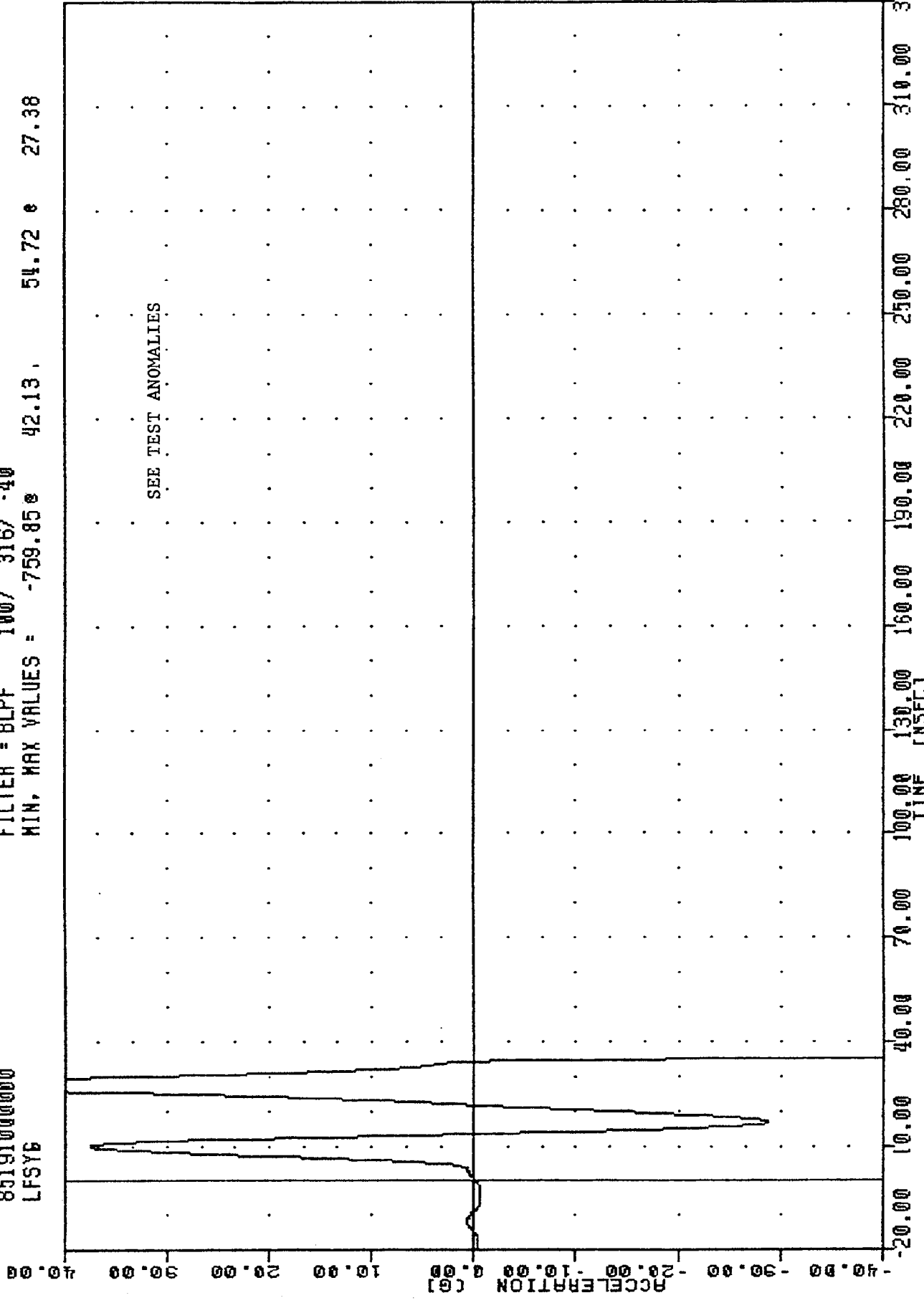
MOVING DEFORMABLE BARRIER INTO MAZDA 626
NET TO V HISTMC 1 DCVF

850710
SI PROTECTION PROD VEH
85191000000
LFSYB

PLOT DATE 16-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -759.85 42.13 54.72 e 27.38



MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE LEFT FRONT STILL ACCELERATION Y AXIS

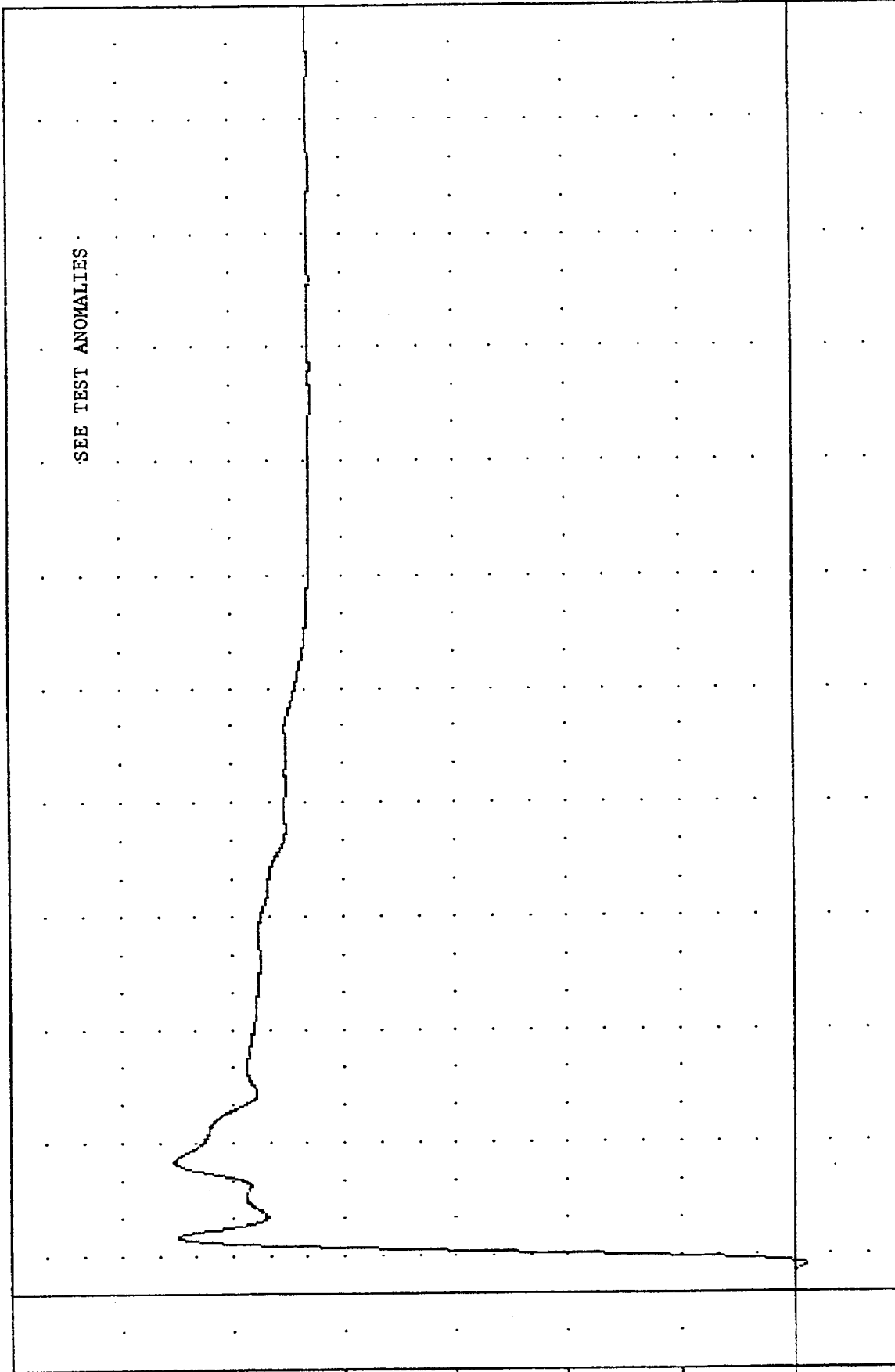
850710
SI PROTECTION PROD VEH
8519100000
LFDY61

PLOT DATE 19-08-85 14:06:34

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -11.81e 7.25, 552.20 e 35.25

ACCELERATION (G) (X10⁻²)



10.00 0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626

UNITED STATES FRONT ENDOR PROTECTION OF ACCELERATION V DV1C

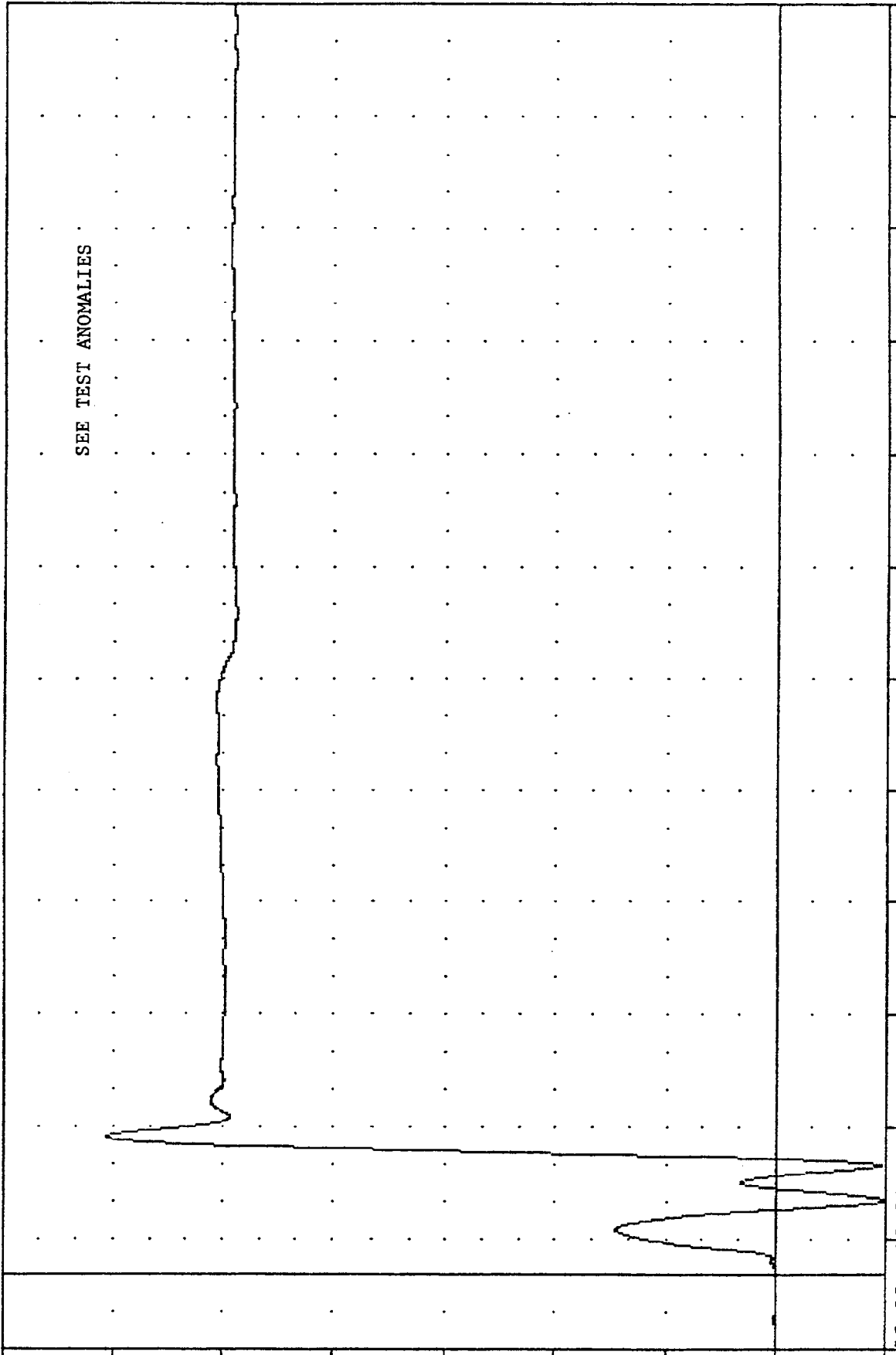
850710
SI PROTECTION PROD VEH
85191000000
LFDY62

PLOT DATE 1985-08-14 14:06:34

FILTER = BLPF 100/ 316/ -40

MIN, MAX VALUES = 20.13, 606.77 e 37.00

ACCELERATION (G) (X10⁻³)



-20.00 0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE LEFT FRONT CORNER POSITION 81 ACCELERATION Y AXIS

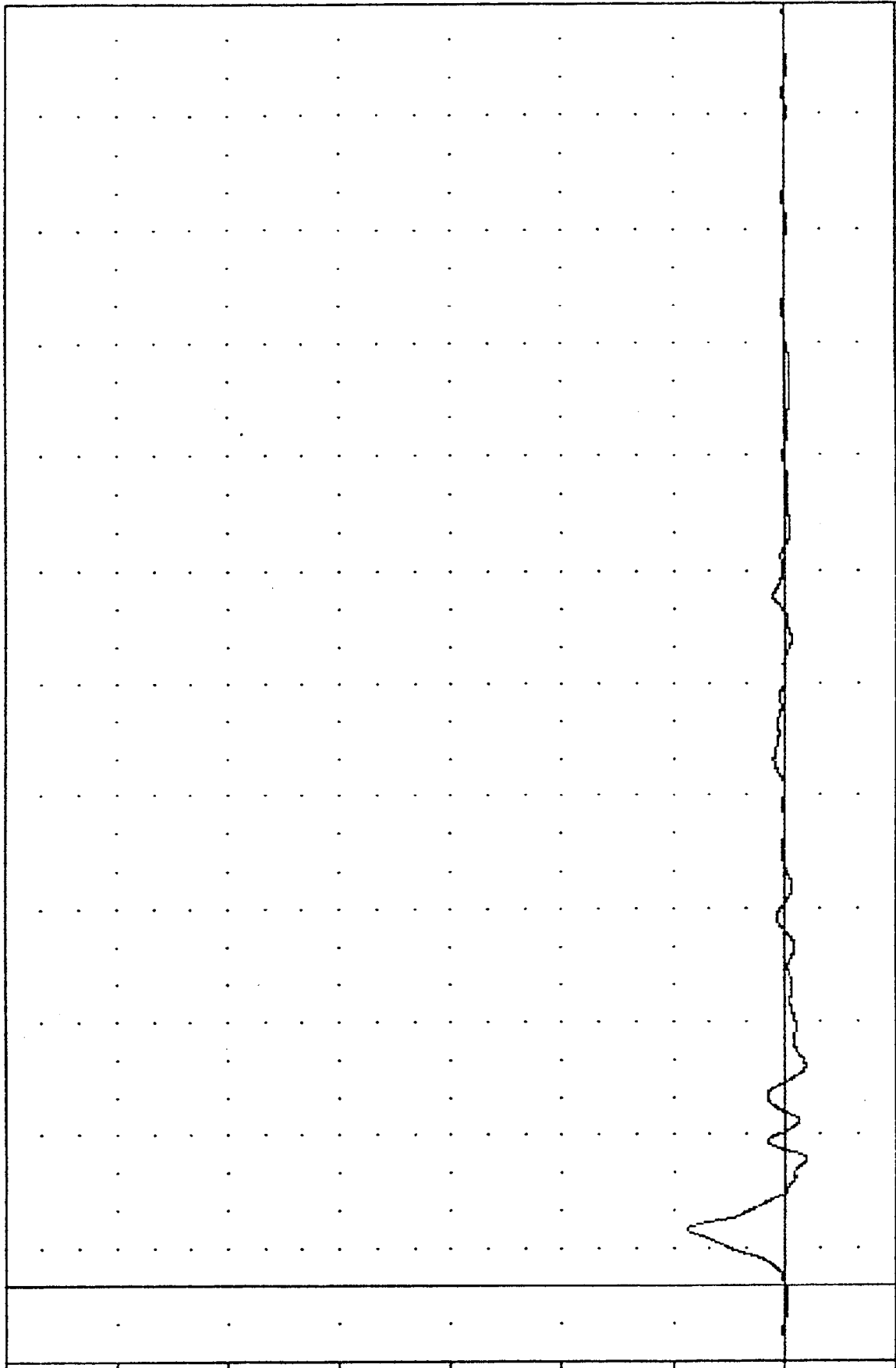
850710
SI PROTECTION PROD VEH
85191000000
LFDY63

PLOT DATE 1985-05-14 14:06:34

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -20.692 33.63 87.34 15.13

ACCELERATION (G)
[X10⁻¹]



-10.00 0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

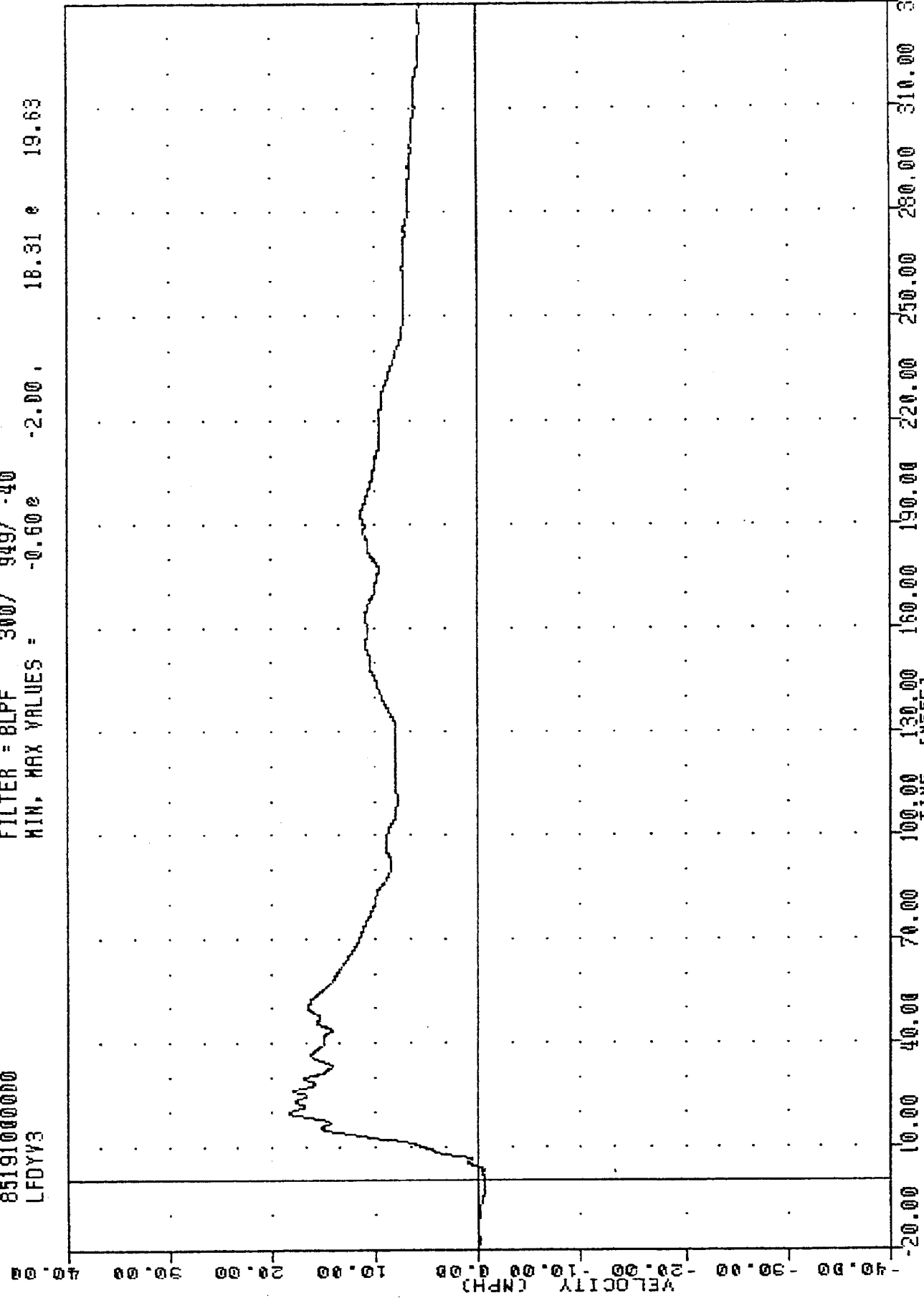
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE LEFT FRONT RORR POSITION Q1 ACCELERATION Y AXIS

850710
SI PROTECTION PROD VEH
85191000000
LFDYV3

PLOT DATE 1985 14:06:34

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -0.60e -2.00, 18.31 e 19.63



MOVING DEFORMABLE BARRIER INTO MAZDA 626
REF TO VICTIM LOGS

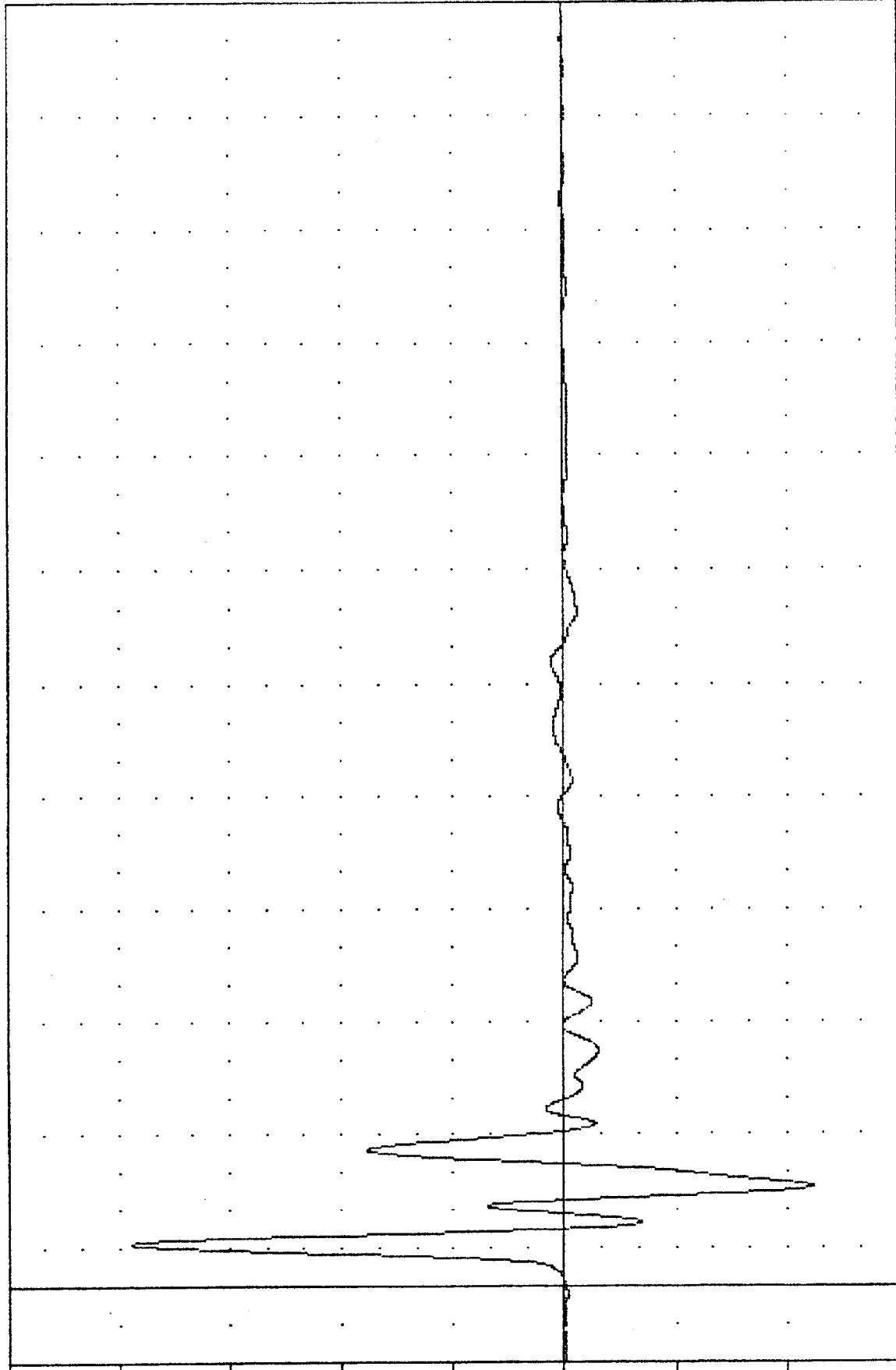
ART , 850710
SI PROTECTION PROD VEH
85191000000
LRDY62

PLOT DATE 01L-85 13:02:19

FILTER = BLFF 100/ 316/ -40

MIN. MAX VALUES = -112.38e 26.25, 194.92 e 11.13

ACCELERATION (G)



TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626

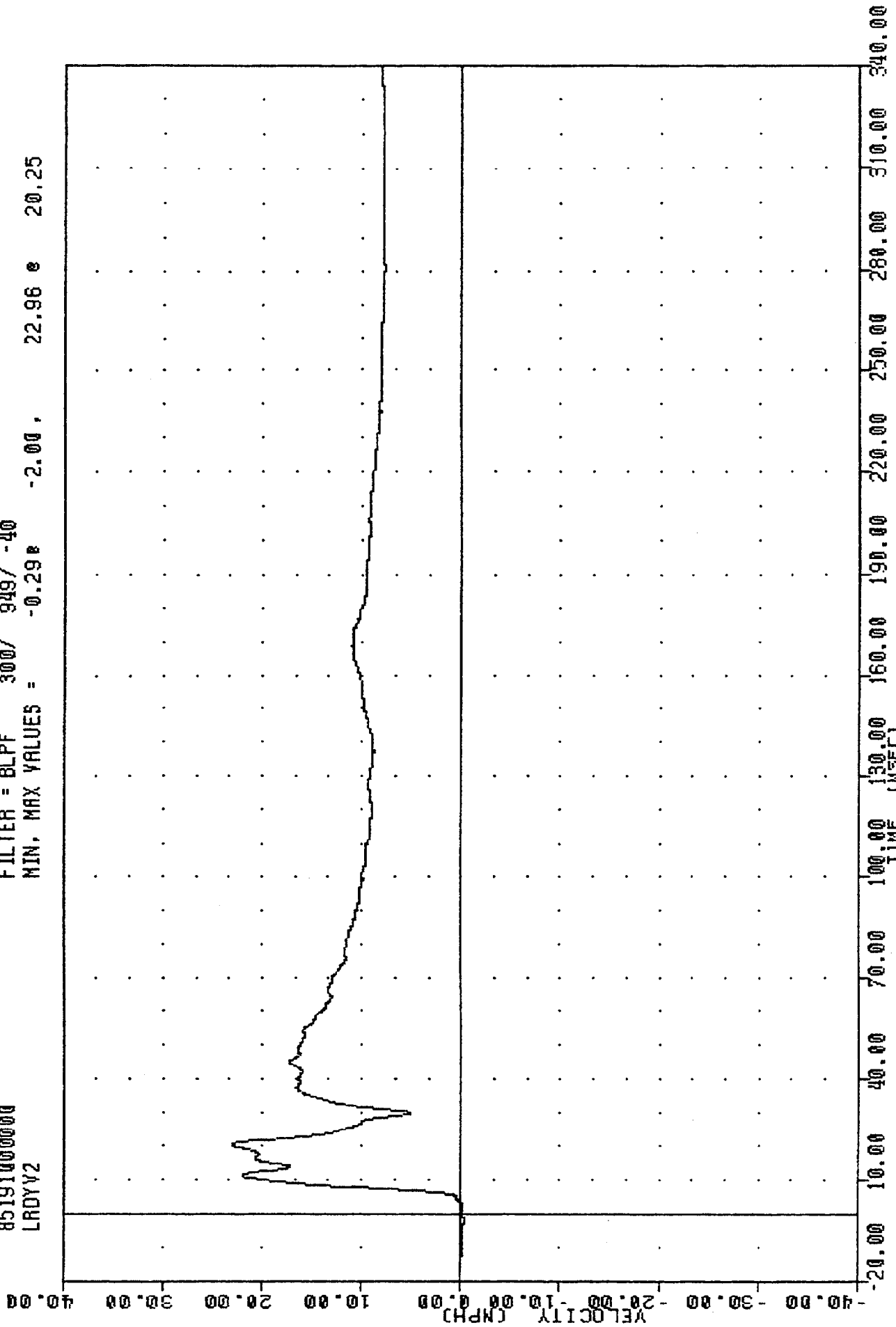
VEHICLE LEFT REAR DOOR (POSITION 10) ACCELERATION Y AXIS

T 850710
SI PROTECTION PROD VEH
85191000000
LRDYV2

PLOT DATE 1-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN, MAX VALUES = -0.298 -2.00 22.96 e 20.25



MOVING DEFORMABLE BARRIER INTO MAZDA 626
DFITA V USING IRNYG2

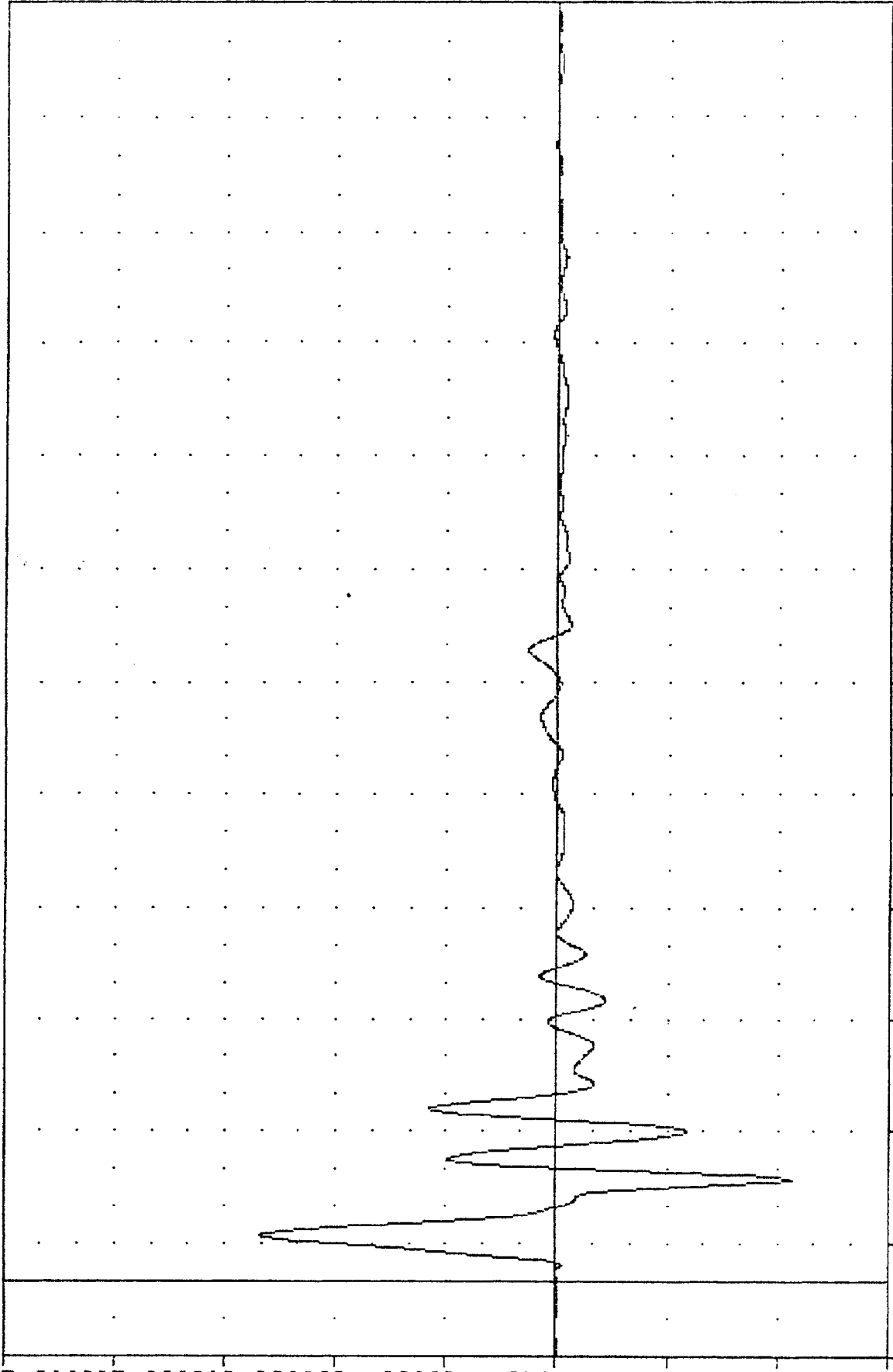
ART , 850710
SI PROTECTION PROD VEH
85191000000
LADY61

PLOT DATE 13:02:19

UL-85

FILTER = BLPF 100/ 316/ -40
MIN. MAX VALUES = -106.16% 27.13, 133.78 % 12.00

ACCELERATION (G)



B-94

TIME (MSEC) 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

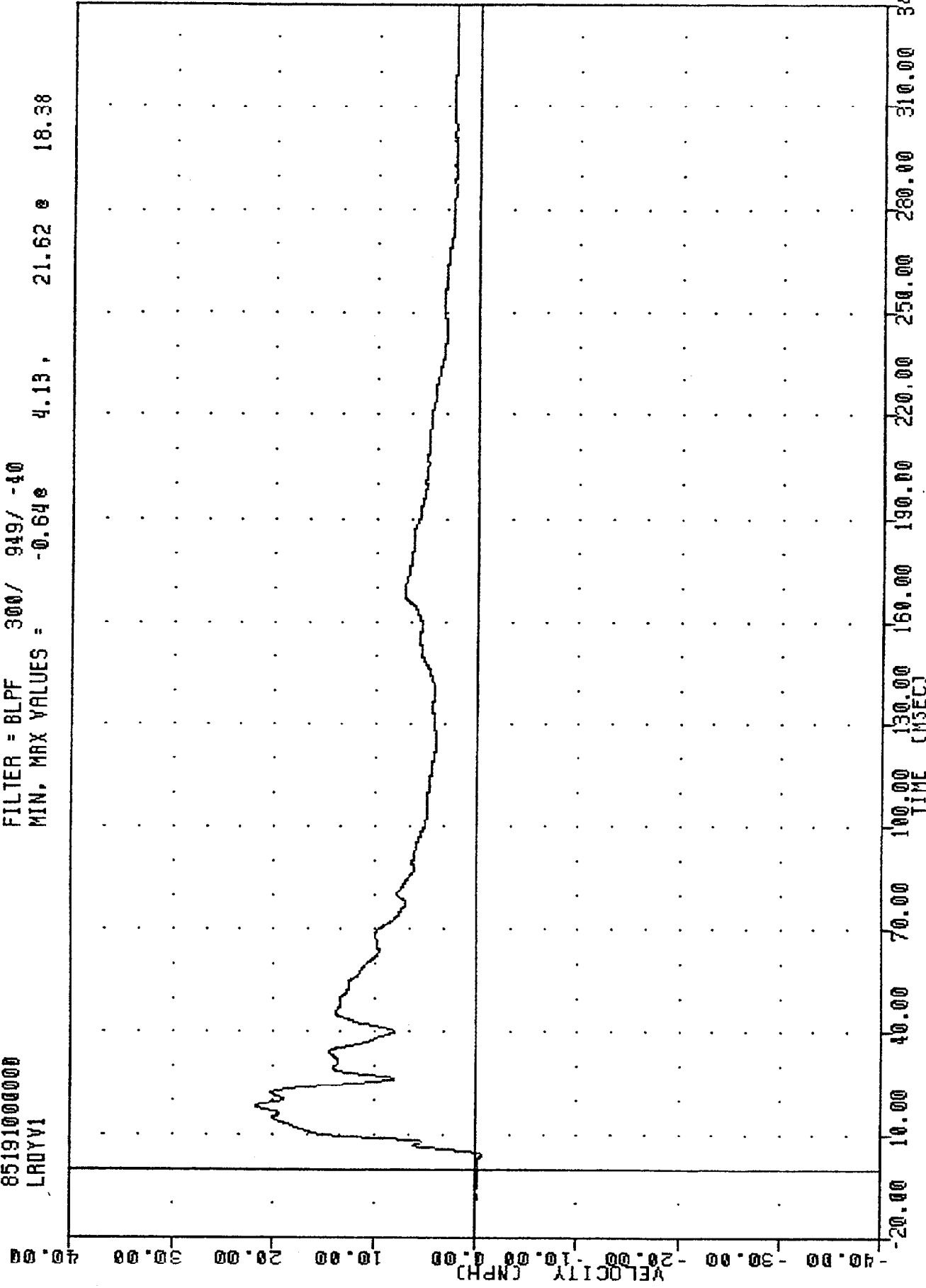
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE LEFT REAR DOOR POSITION 117 ACCELERATION Y AXIS

850710
PROTECTION PROD VEH
85191000000
LRQYV1

PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN, MAX VALUES = -0.64e 4.13, 21.62 e 18.38

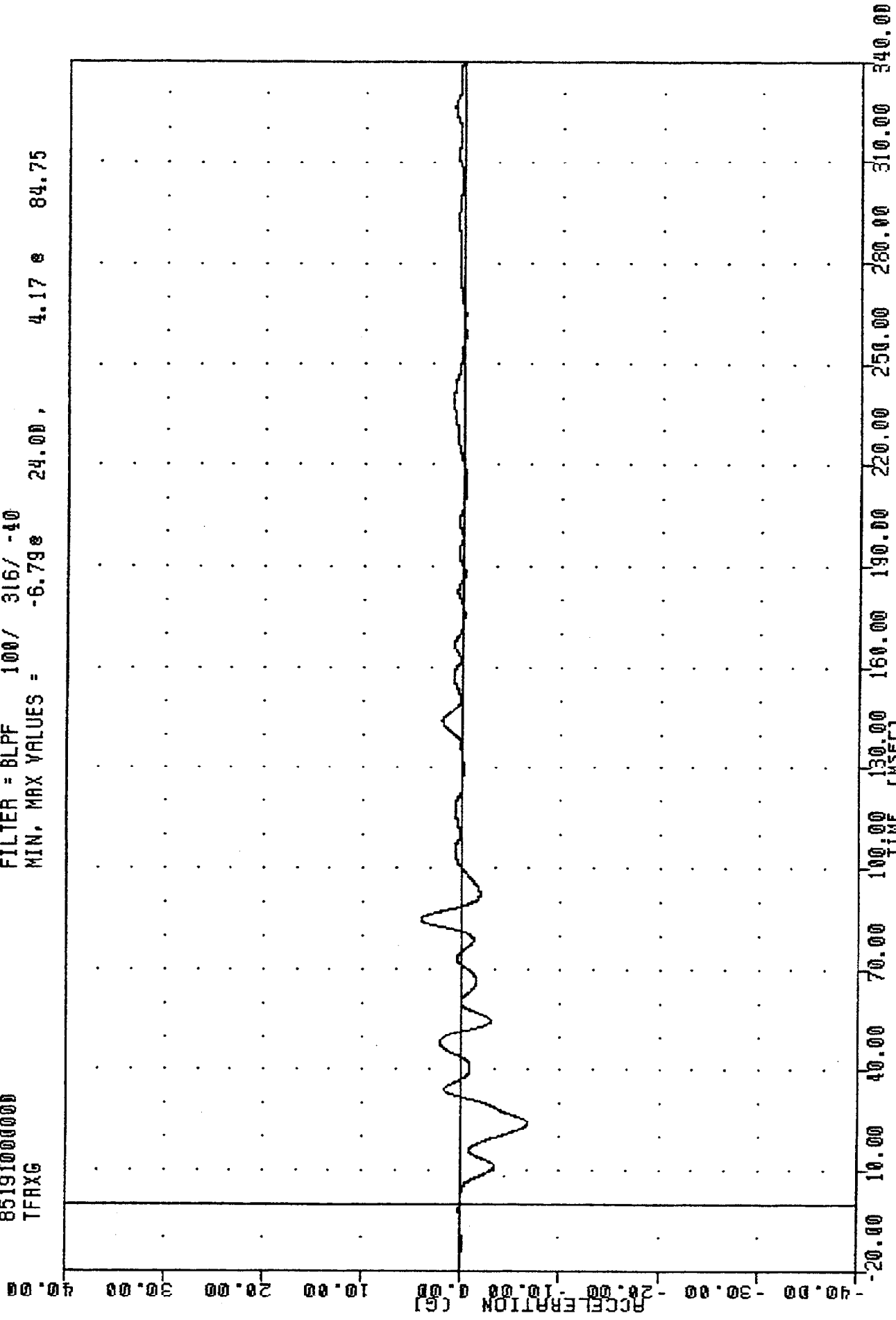


MOVING DEFORMABLE BARRIER INTO MAZDA 626
DIFITA V LISTING I RNYG1

T 850710
SI PROTECTION PROD VEH
8519100000
TRXG

PLOT DATE 1 -85 12:20:56

FILTER = BLPF 100/ 316/ -40
MIN. MAX VALUES = -6.79e 24.00, 4.17 e 84.75



B-96

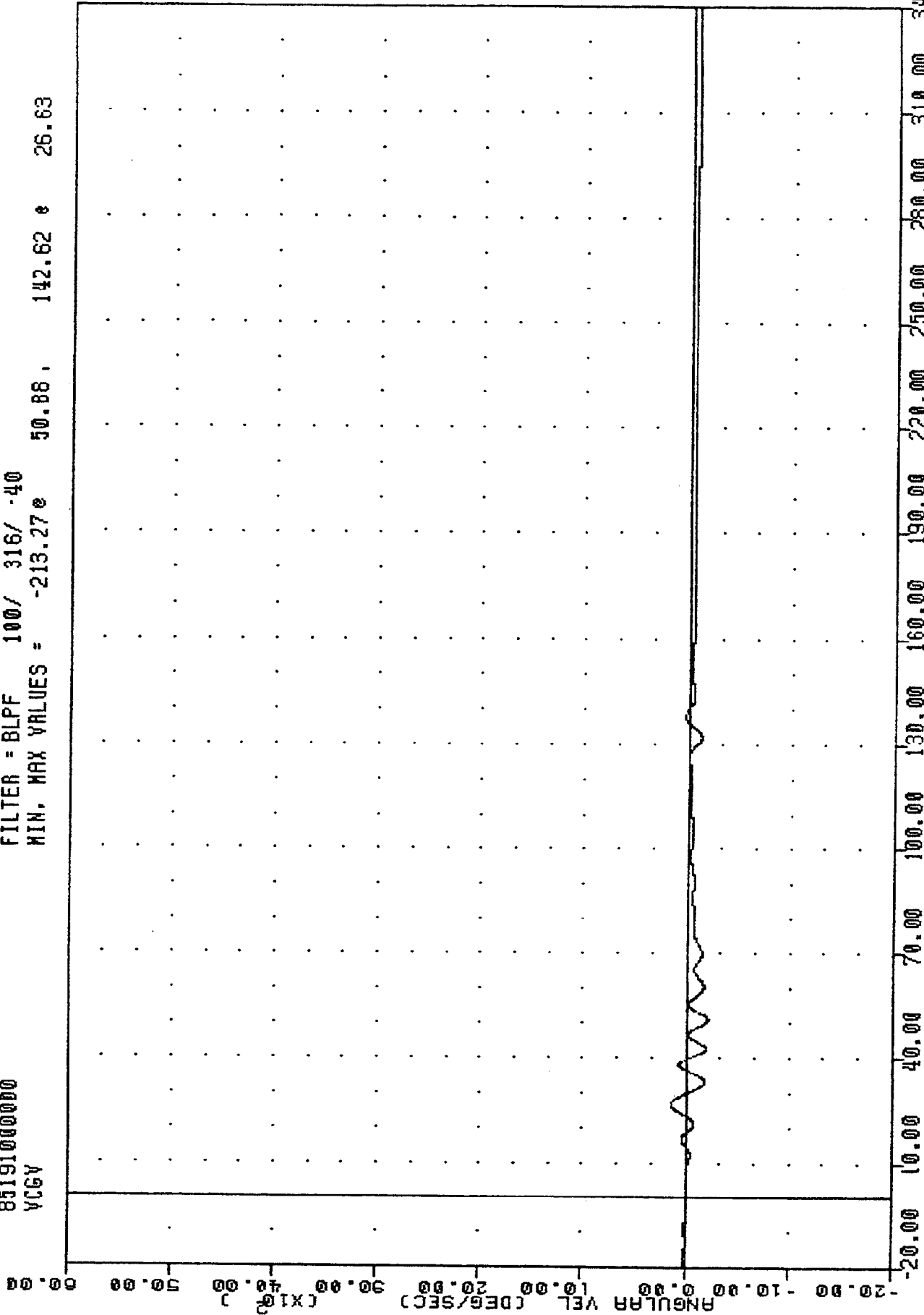
MOVING DEFORMABLE BARRIER INTO MAZDA 626
VEHICLE TRUNK FLOOR RIGHT ACCELERATION Y AXIS

850710
 SI PROTECTION PROD YEH
 85191000000
 YCGY

PLOT DATE 10-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -213.27e 50.88, 142.62 e 26.63

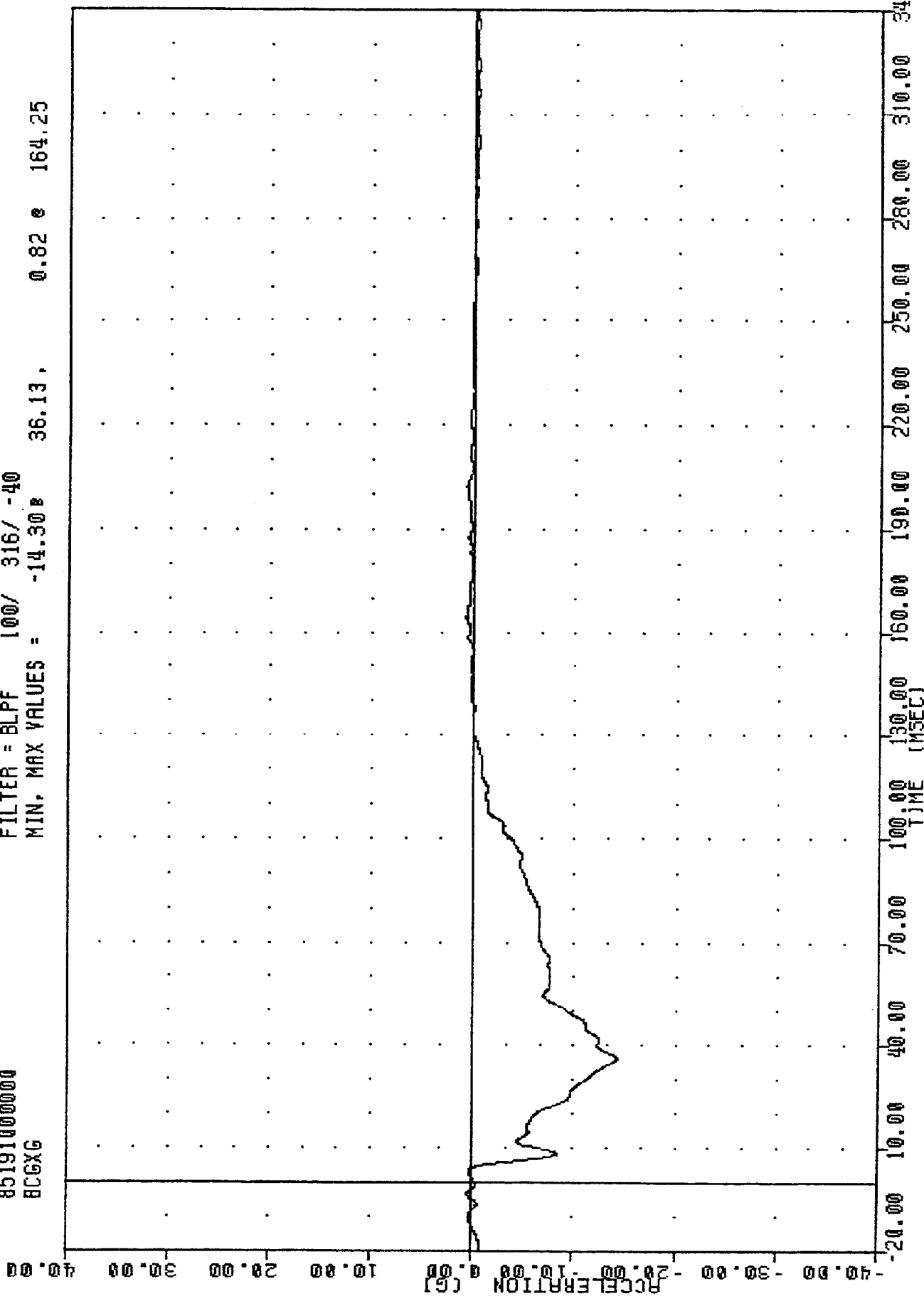


MOVING DEFORMABLE BARRIER INTO MAZDA 626
 VEHICLE YAW RATE DEGRFFS/SFC

T 850710
SI PROTECTION PROD VEH
85191000000
BCGXG

PLOT DATE 1-85 12:20:56

FILTER = BLPF 100/ 316/ -40
MIN. MAX VALUES = -14.30 36.13 0.82 164.25



B-98

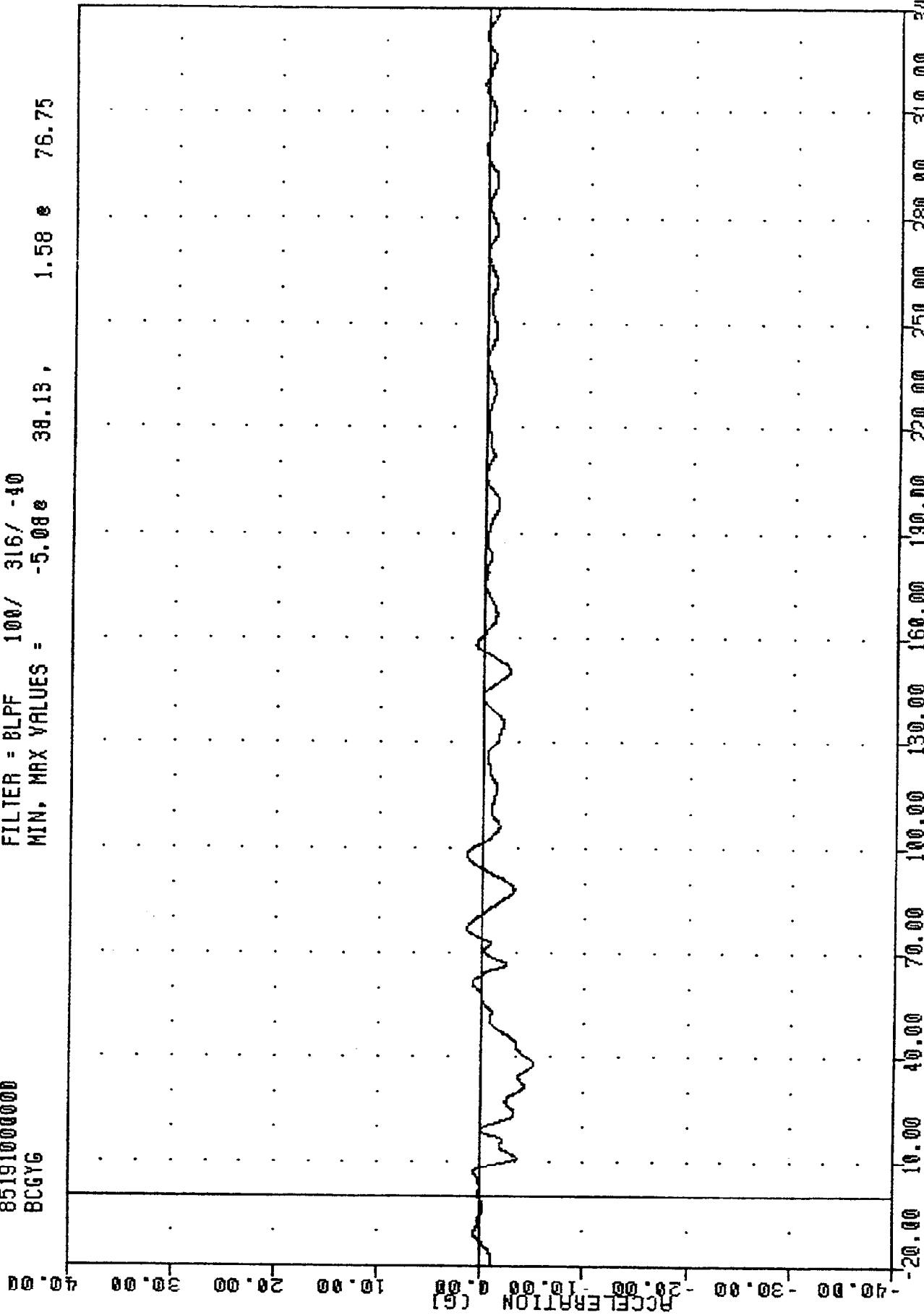
MOVING DEFORMABLE BARRIER INTO MAZDA 626
BARRIER CENTER OF GRAVITY X AXIS

850710
PROTECTION PROD VEH
85191000000
BCGYG

PLOT DATE 1-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -5.08e 38.13, 1.58 e 76.75



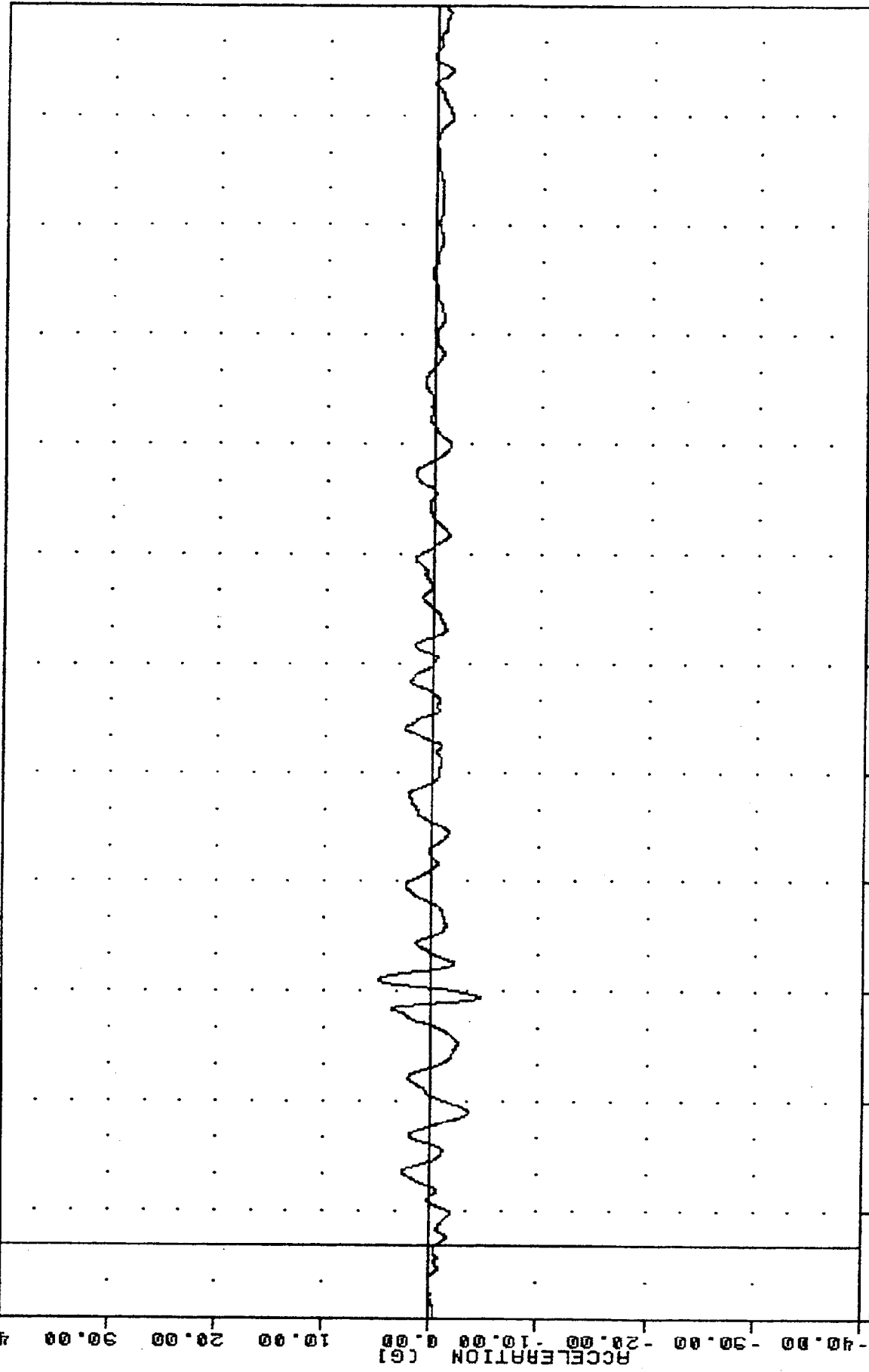
MOVING DEFORMABLE BARRIER INTO MAZDA 626
BARRIER CENTER OF GRAVITY Y AYTS

850710
PROTECTION PROJ YEH
8519100000
BCGZB

PLOT DATE 10-85 12:20:56

FILTER = 8LFF 100/ 316/ -40
MIN. MAX VALUES = -4.54e 68.25, 4.92 e 73.00

40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00



B-100

-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

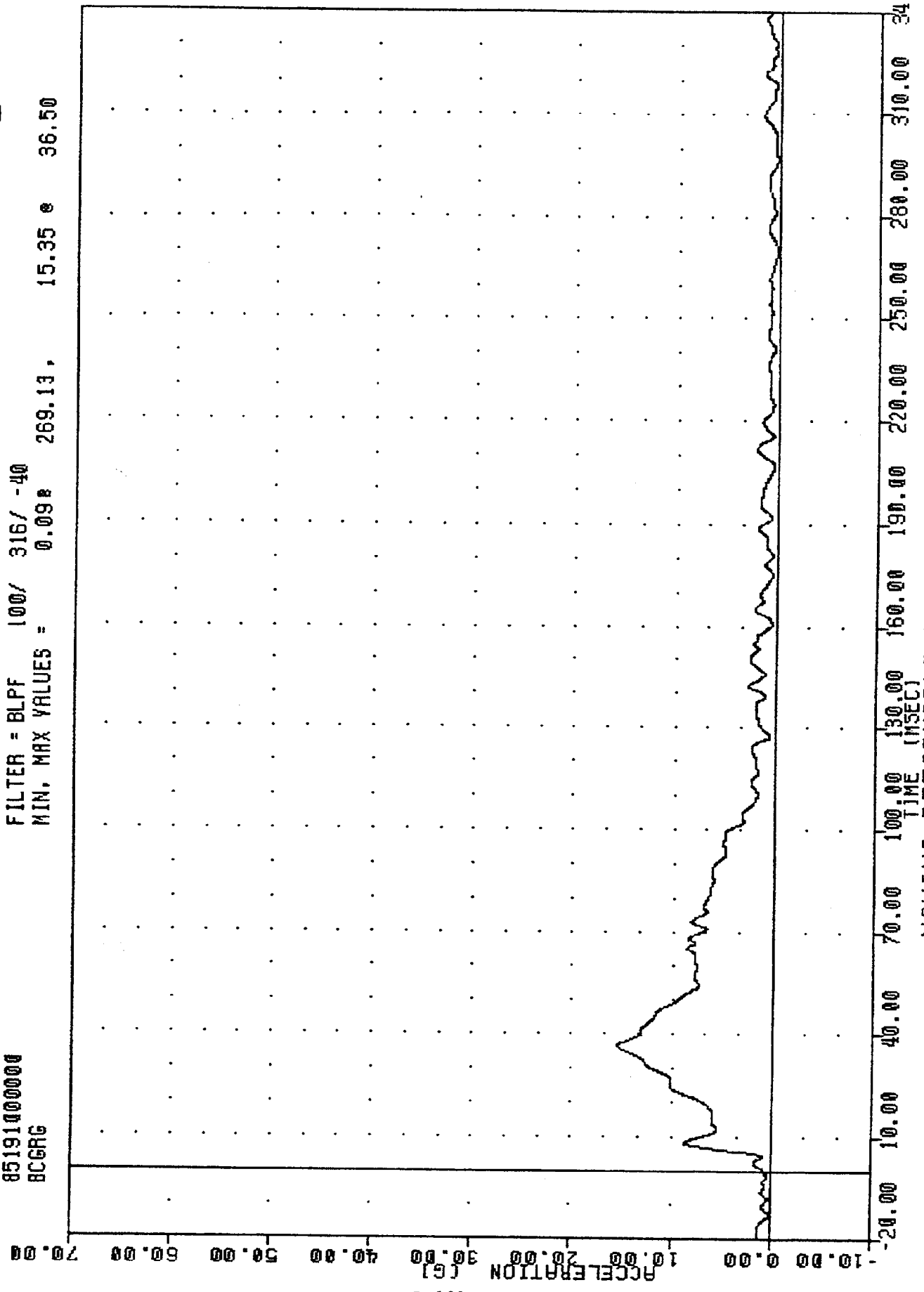
MOVING DEFORMABLE BARRIER INTO MAZDA 626
BARRIER CENTER OF GRAVITY 7 AXIS

ST , 850710
PROTECTION PROD VEH
85191000000
BCGRG

PLOT DATE 1-85 12:22:38

FILTER = BLPF 100/ 316/ -40

MIN, MAX VALUES = 0.09e 269.13, 15.35e 36.50



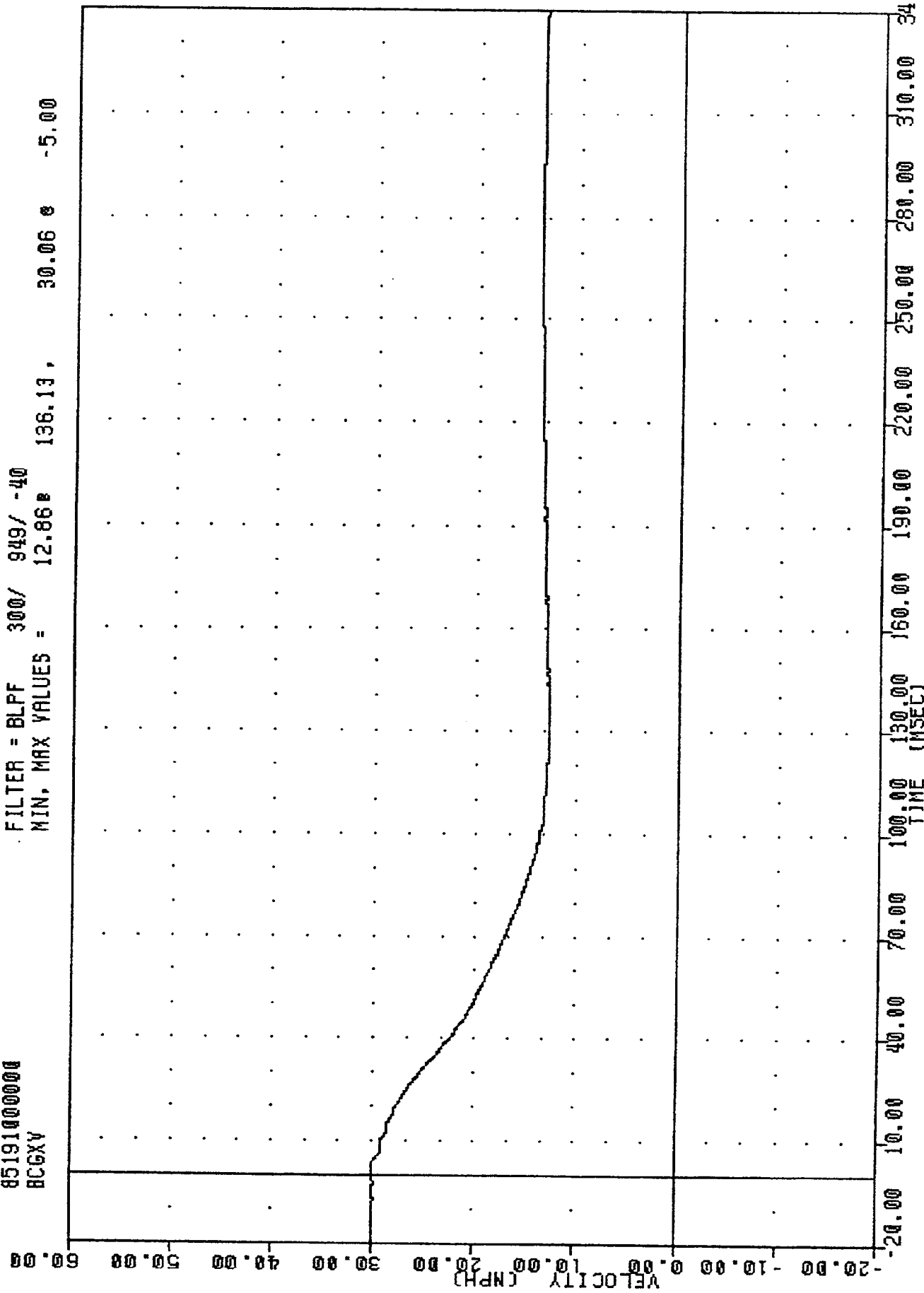
101-B

MOVING DEFORMABLE BARRIER INTO MAZDA 626
BARRIER CG RESULTANT

850710
PROTECTION PROD VEH
8519100000
BCGXV

PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 300/ 949/ -40
MIN. MAX VALUES = 12.86 136.13, 30.06 -5.00



MOVING DEFORMABLE BARRIER INTO MAZDA 626
NFITA V USING RCGYG

850710
PROTECTION PROD VEH

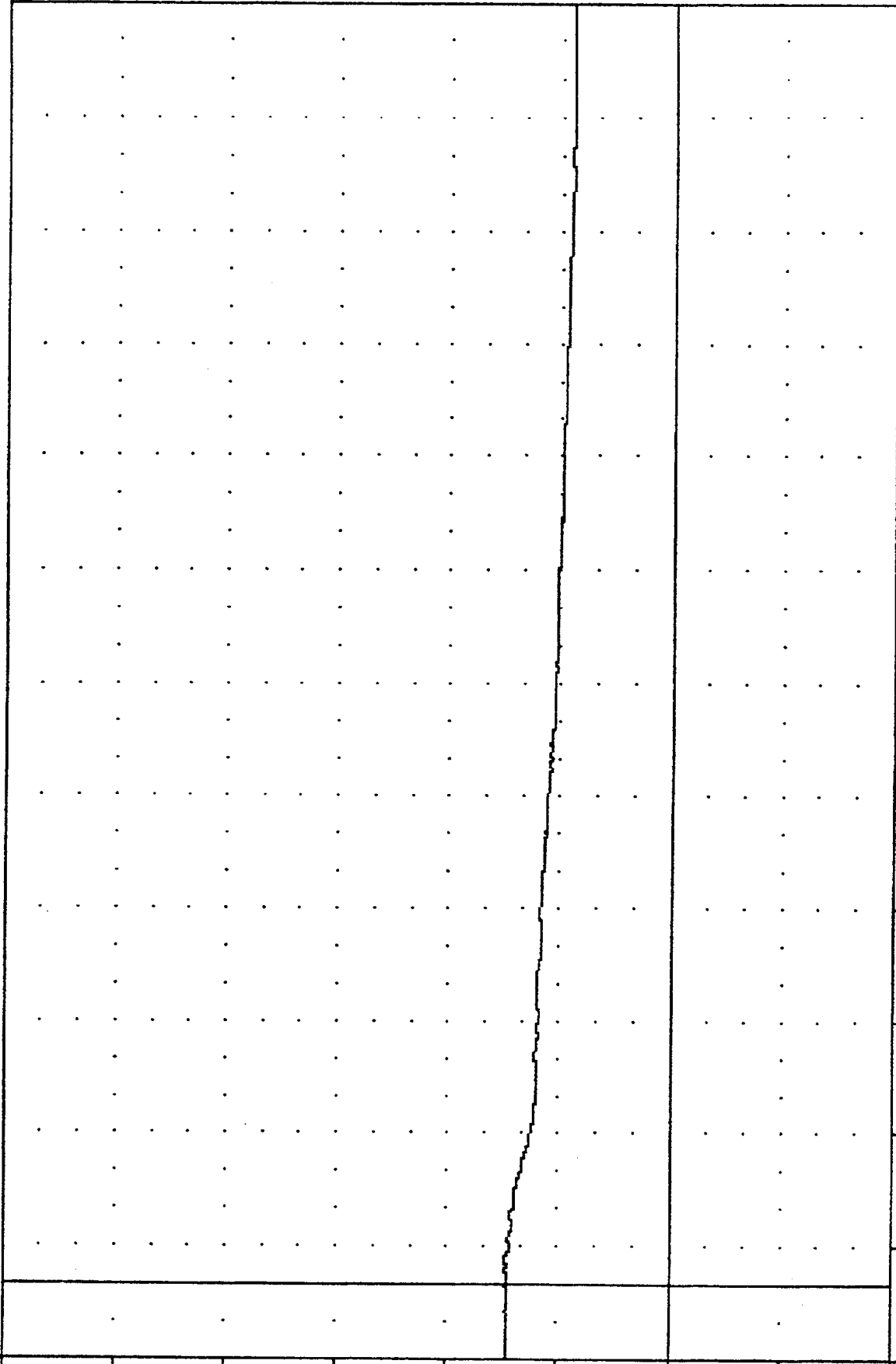
85191000000
BCGYV

PLOT DATE 1-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 8.93e 340.00, 14.72 e 6.50

VELOCITY (MPH)



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

MOVING DEFORMABLE BARRIER INTO MAZDA 626
DELTA V LISTING RCGYC

BT
PROTECTION PROD VEH
85191000000
BRCXG

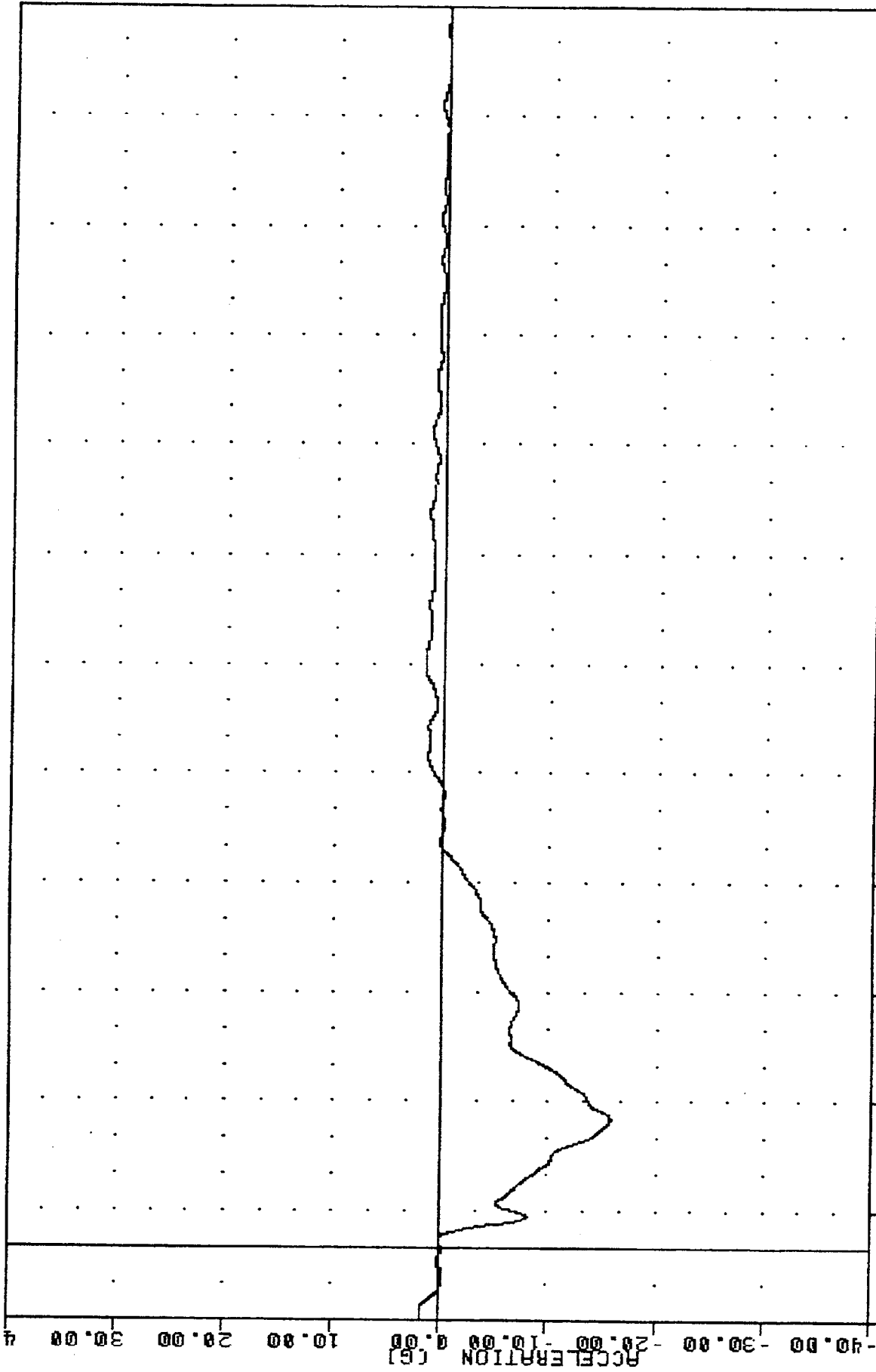
PLOT DATE 10-1-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN, MAX VALUES = -15.77e 35.25, 1.84e -17.63

40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00

B-104



40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00

TIME (MSEC)

20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

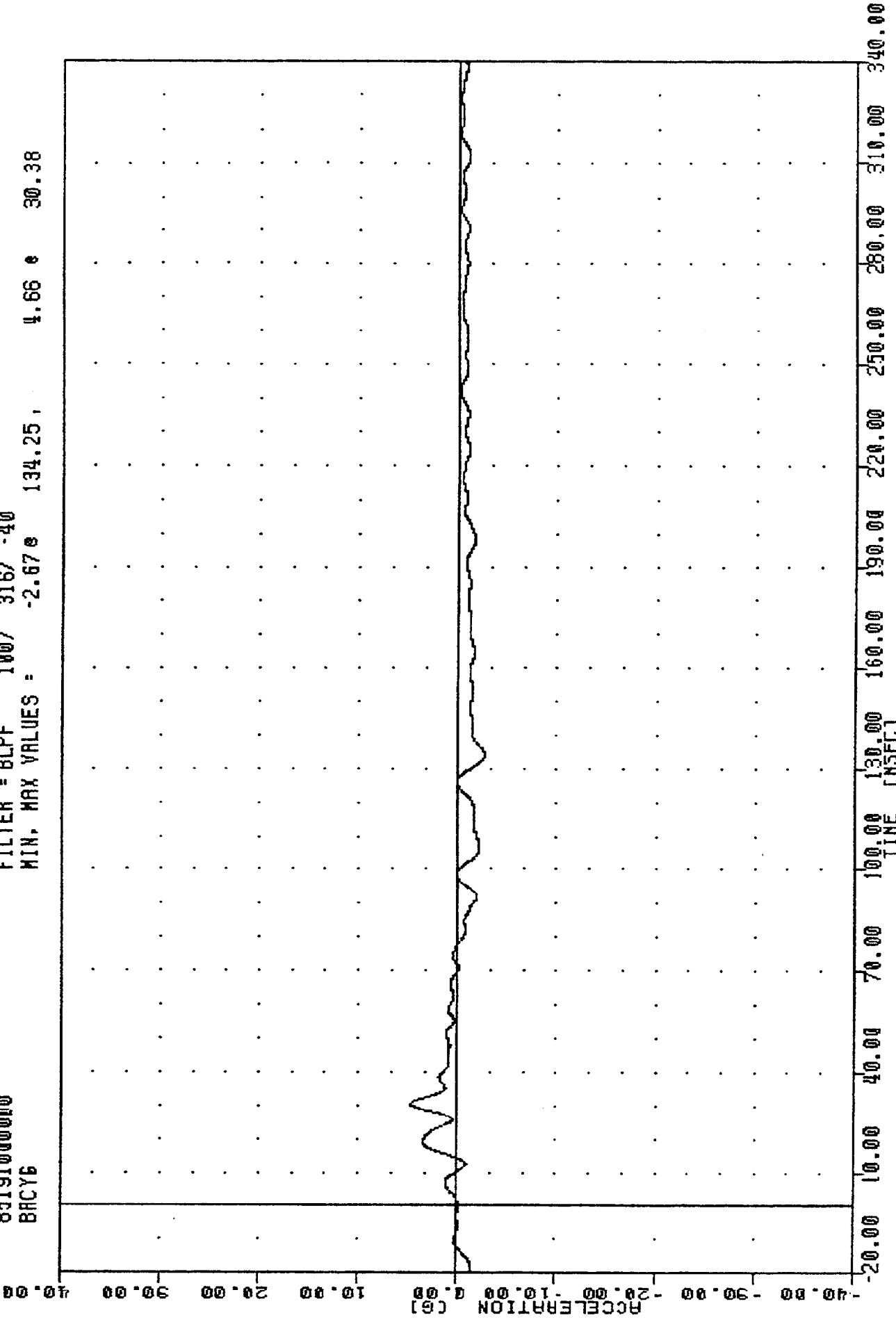
MOVING DEFORMABLE BARRIER INTO MAZDA 626
BARRIER REAR CROSSMEMBER ACCELERATION X AXIS

850710
SI PROTECTION PROD YEH
85191000000
BACYG

PLOT DATE 16-85 12:20:56

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -2.67e 134.25, 4.66e 30.38



MOVING DEFORMABLE BARRIER INTO MAZDA 626
BARRIER REAR CROSSMEMBER ACCELERATION Y AXIS

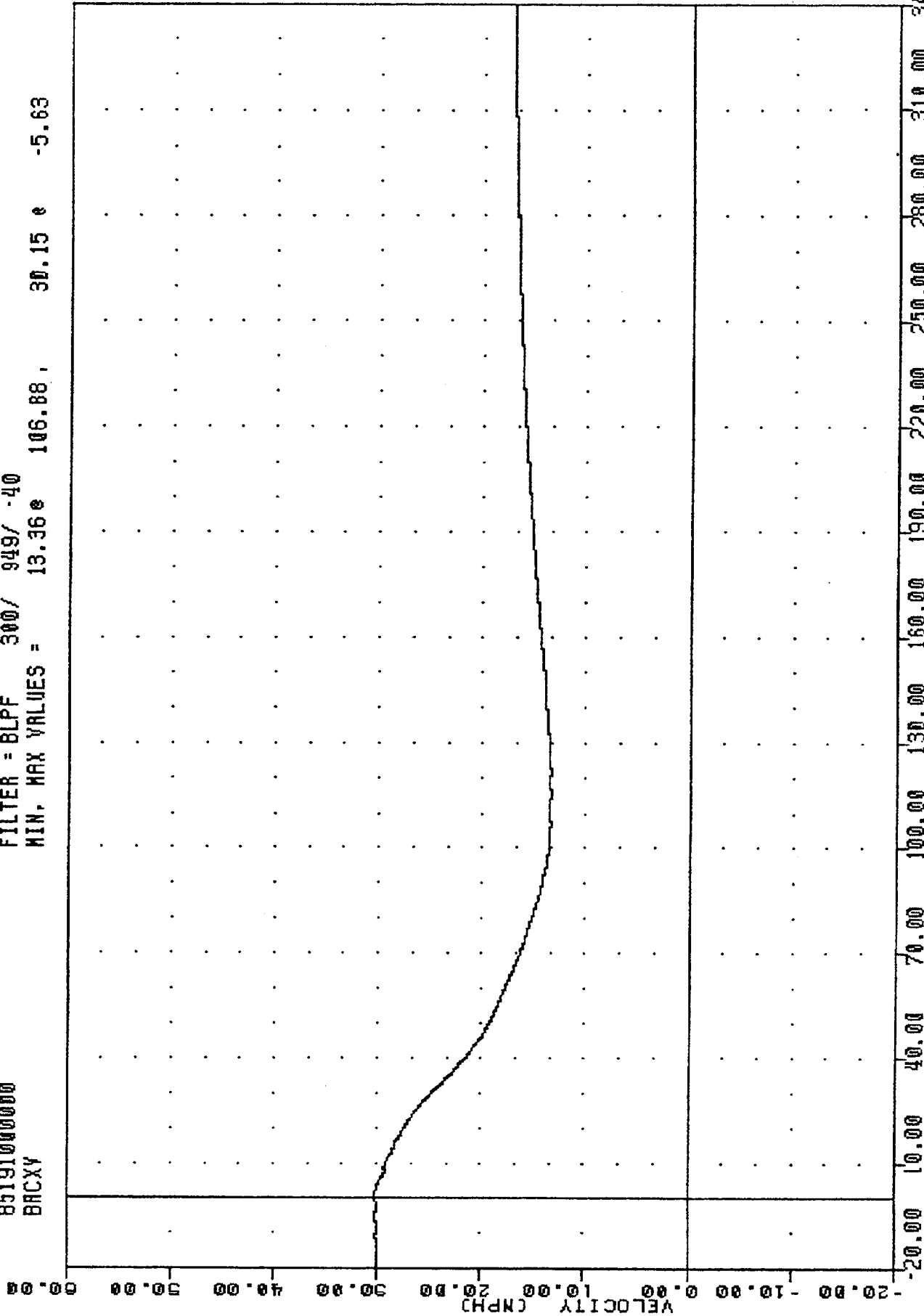
850710
PROTECTION PROD YEH

8519100000
BRXY

PLOT DATE 1-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 13.36 106.88 30.15 -5.63



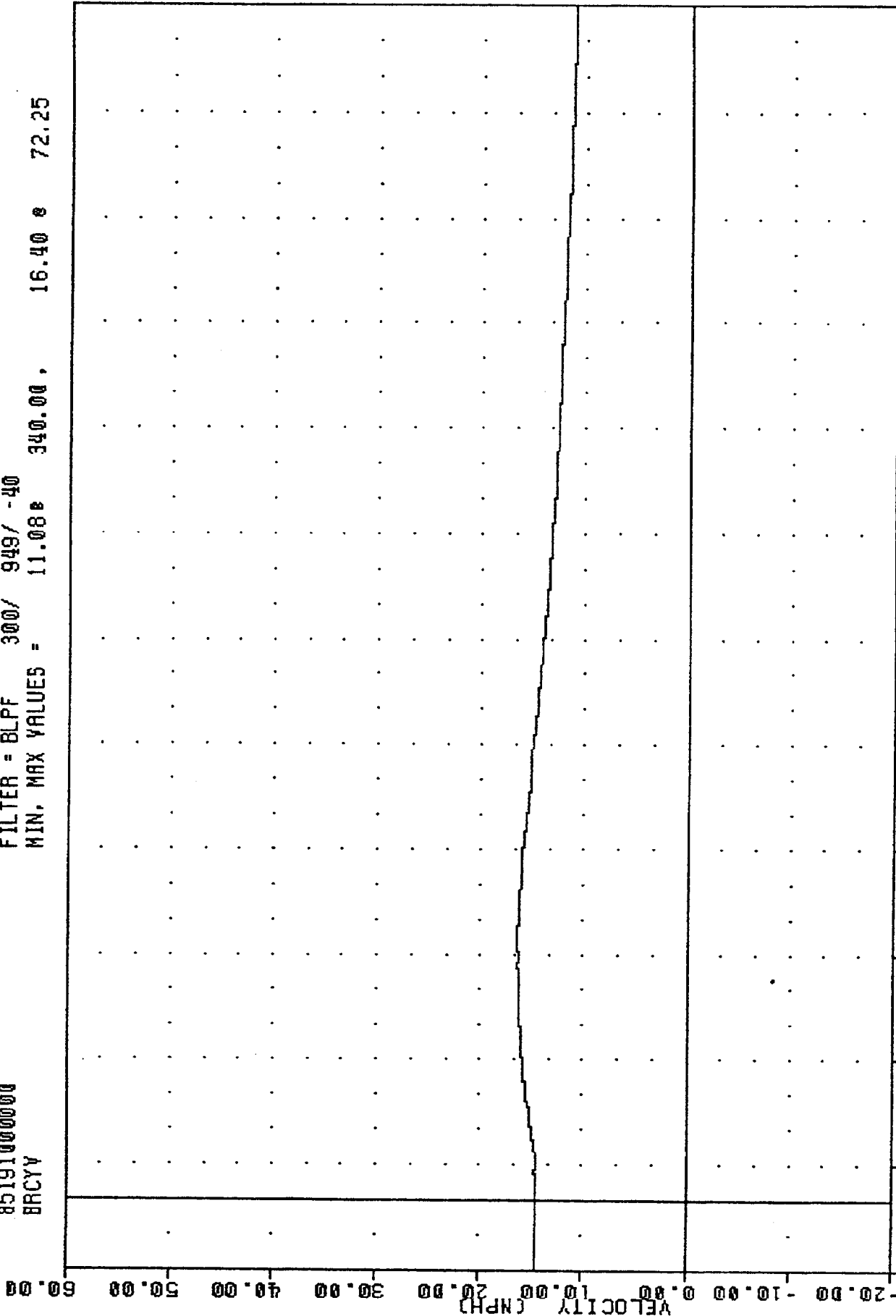
MOVING DEFORMABLE BARRIER INTO MAZDA 626
PIFI TA Y IISTNG BRXYG

ST 850710
 PROTECTION PROD VEH
 85191000000
 BRCY

PLOT DATE 1-85 12:20:56

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 11.08e 340.00. 16.40 e 72.25



-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
 TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO MAZDA 626
 DELTA Y USING BRCYG

APPENDIX C
DUMMY CERTIFICATION

SIDE IMPACT DUMMY CALIBRATION
DUMMY SERIAL NUMBER 123

TEST/ DATE	CHANNEL	FILTER CLASS	PEAK ACCELERATION (g)	
			SPECIFICATION	TEST RESULT
HEAD 5/1/85	HEAD Y-AXIS	1000	150-175	154.51
THORAX 5/1/85	LEFT UPPER RIB Y-AXIS			
	PRIMARY	180	36-50	38.18
	REDUNDANT	180	36-50	41.19
	UPPER SPINE Y-AXIS			
	PRIMARY	180	16-24.6	25.33*
	REDUNDANT	180	16-24.6	25.29*
	LOWER SPINE Y-AXIS			
	PRIMARY	180	17.6-26.4	28.30*
REDUNDANT	180	17.6-26.4	27.68*	
PELVIS 5/1/85	PELVIS Y-AXIS	180	50-65	73.36*

*DUMMY DID NOT MEET SPECIFICATION.

SIDE IMPACT DUMMY CALIBRATION
DUMMY SERIAL NUMBER U02

TEST/ DATE	CHANNEL	FILTER CLASS	PEAK ACCELERATION (g)	
			SPECIFICATION	TEST RESULT
HEAD 5/1/85	HEAD Y-AXIS	1000	150-175	171.05
THORAX 5/1/85	LEFT UPPER RIB Y-AXIS			
	PRIMARY	180	36-50	38.47
	REDUNDANT	180	36-50	41.03
	UPPER SPINE Y-AXIS			
	PRIMARY	180	16-24.6	25.00*
	REDUNDANT	180	16-24.6	25.27*
PELVIS 5/1/85	LOWER SPINE Y-AXIS			
	PRIMARY	180	17.6-26.4	22.16
	REDUNDANT	180	17.6-26.4	22.09
	PELVIS Y-AXIS	180	50-65	72.88*

*DUMMY DID NOT MEET SPECIFICATION.