

EVALUATION OF NHTSA MODIFIED
VOLKSWAGEN RABBITS

DOT 668

MOB-TO-CAR SIDE IMPACT TEST OF
A 19⁰ CRABBED MOVING DEFORMABLE BARRIER
TO A 1981 VOLKSWAGEN RABBIT
AT 34.4 MPH

PREPARED BY:
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FINAL REPORT
NOVEMBER 1983

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NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
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16. Abstract This test report documents one of a series of twelve crash tests to evaluate the NHTSA's Modified Volkswagen Rabbits. Testing was conducted on a baseline 1981 Volkswagen Rabbit 2-door hatchback at the TRCO Crash Test Facility, East Liberty, Ohio. The test vehicle was impacted on the left side by a moving deformable barrier, crabbled to 19 ⁰ , at 34.4 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 October 6, 1983 and the ambient temperature was 60 ⁰ 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	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

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

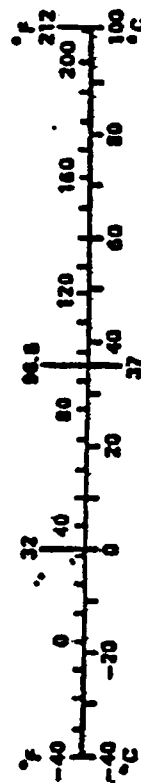


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SECTION 1.0
PURPOSE AND INTRODUCTION

PURPOSE

The main purpose of this test was to evaluate the NHTSA fleet of modified Volkswagen Rabbits with and without padding. The vehicle was tested using conditions not currently contained in a Federal Motor Vehicle Safety Standard.

INTRODUCTION

A stationary 1981 Volkswagen Rabbit 2-door hatchback was impacted on the left side by a Moving Deformable Barrier (MDB) on October 6, 1983. The test was to simulate an intersection collision with the striking vehicle traveling at 26 mph and the struck vehicle traveling at 13 mph. The orientation angle of the striking vehicle was 60° counterclockwise with respect to the longitudinal axis of the struck vehicle. The impact point 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 Volkswagen Rabbit at 34.4 mph with the MDB's wheels crabbed clockwise to 19°. The actual test speed was 34.4 mph and the actual impact point was 38.5 inches forward of the midpoint of the Volkswagen Rabbit's wheelbase.

The vehicle was a baseline model with no structural modification. The driver door and left rear occupant wall contained three inches of padding.

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 and photographs describe the General Test and Vehicle Parameter Data.

TEST VEHICLE INFORMATION

VEHICLE MANUFACTURER: Volkswagen of America

MAKE/MODEL: Volkswagen Rabbit

VIN: 1VWAB0171BV064206

BODY STYLE: 2-Door Hatchback

MODEL YEAR: 1981

NHTSA NO.: R & D

COLOR: White

ENGINE DATA: TYPE: Transverse

CYLINDERS: 4

DISPLACEMENT 105 CID

TRANSMISSION DATA: 4 Speed Manual

DATE VEHICLE RECEIVED: 9/20/83

ODOMETER READING: 000021

DEALER'S NAME AND ADDRESS: Volkswagen North
6500 N. High Street
Worthington, Oh 43085

ACCESSORIES:

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

REMARKS:

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

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

VEHICLE MANUFACTURED BY: Volkswagen of America

DATE OF MANUFACTURE: 1/81

GVWR: 2822 LBS.,

CAWR: FRONT 1609 LBS., REAR 1278 LBS.

VEHICLE TIRE DATA

RECOMMENDED COLD TIRE PRESSURE: FRONT 27 psi; REAR 27 psi

TIRES ON VEHICLE (MFG. & LINE, SIZE): Goodyear/Mini Custom P155/80D13

BIAS PLY, BELTED, OR RADIAL: Bias Ply

PLY RATING: 2

IS SPARE TIRE "SPACE SAVER"? No

IS SPARE TIRE STANDARD EQUIPMENT? Yes

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

RIGHT FRONT 610 LBS. RIGHT REAR 340 LBS.

LEFT FRONT 660 LBS. LEFT REAR 350 LBS.

TOTAL FRONT WEIGHT 1270 LBS. (64.8 % OF TOTAL VEHICLE WEIGHT)

TOTAL REAR WEIGHT 690 LBS. (35.2 % OF TOTAL VEHICLE WEIGHT)

TOTAL DELIVERED WEIGHT 1960 LBS.

VEHICLE ATTITUDE (ALL DIMENSIONS IN INCHES):

DELIVERED ATTITUDE: RF 25 9/16 ;LF 25 1/4 ;RR 25 5/16 ;LR 25 1/8

PRE-TEST ATTITUDE: RF 24 7/16 ;LF 24 ;RR 22 3/4 ;LR 22 7/16

POST-TEST ATTITUDE: RF 23 9/16 ;LF 24 11/16 ;RR 22 3/8 ;LR 23 5/16

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 187 LBS. CARGO:

RIGHT FRONT 670 LBS. RIGHT REAR 552 LBS.

LEFT FRONT 700 LBS. LEFT REAR 573 LBS.

TOTAL FRONT WEIGHT 1370 LBS. (54.9 % OF TOTAL VEHICLE WEIGHT)

TOTAL REAR WEIGHT 1125 LBS. (45.1 % OF TOTAL VEHICLE WEIGHT)

TOTAL TEST WEIGHT 2495 LBS.

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

TEST FLUID DATA

TEST FLUID TYPE: RED STODDARD SOLVENT # 2; SPEC. GRAVITY: 0.764

KINEMATIC VISCOSITY: 0.99 CENTISTOKES

"USEABLE" CAPACITY*: NA GALLONS

TEST VOLUME: 4.0 GALLONS

FUEL SYSTEM CAPACITY (DATA FROM OWNERS MANUAL): 10.0 GALLONS

DETAILS OF FUEL SYSTEM: DNA

ELECTRIC FUEL PUMP: Yes

FUEL INJECTION: Yes

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

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

VEHICLE LOAD (UP TO CAPACITY): FRONT 27 psi; REAR 27 psi

RECOMMENDED TIRE SIZE: P155/80D13 LOAD RANGE X B, C,

VEHICLE CAPACITY: TYPES OF SEATS: Front - Bucket
Rear - Bench

NUMBER OF OCCUPANTS (DESIGNATED SEATING CAPACITY): 2 FRONT

CARGO LOAD 185 LBS.

2 REAR
4 TOTAL

TOTAL 785 LBS.

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

TEST CONDITIONS

TEST NUMBER: 831006

DATE OF TEST: October 6, 1983

TIME OF TEST: 12:15

WIND VELOCITY: 10-18 mph 207° SW

HUMIDITY: NA

AMBIENT TEMPERATURE AT IMPACT AREA: 60° F

TEMPERATURE IN OCCUPANT COMPARTMENT: 74° F

SUBJECT VEHICLE DATA

	<u>ACTUAL</u>	<u>INTENDED</u>
VEHICLE TEST WEIGHT (LBS.)	2495	2493
MDB TEST WEIGHT (LBS.)	2990	3000
MDB VELOCITY (MPH)*	34.4	34.4
IMPACT POINT (INCHES)**	38.5	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.:	06			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 Volkswagen's wheelbase.

GENERAL TEST AND VEHICLE PARAMETER DATA

VISIBLE DUMMY CONTACT POINTS:

	DRIVER # 06	PASSENGER # U02
Head	<u>Left Side Window & Sill, B-Pillar</u>	<u>Left Side Window, Header Padding</u>
Chest	<u>Padding</u>	<u>Padding</u>
Abdomen	<u>Padding</u>	<u>Padding</u>
Left Knee	<u>Padding</u>	<u>Left Quarter Panel</u>
Right Knee	<u>Left Knee</u>	<u>Left Knee</u>

DOOR OPENING:

	LEFT	RIGHT
Front	<u>Separated From Hinges</u>	<u>Easy</u>
Rear	<u>DNA</u>	<u>DNA</u>

SEAT MOVEMENT:

	SEAT BACK FAILURE	SEAT SHIFT
Front	<u>Yes</u>	<u>Yes, Approx. 8 Inches</u>
Rear	<u>No</u>	<u>No</u>

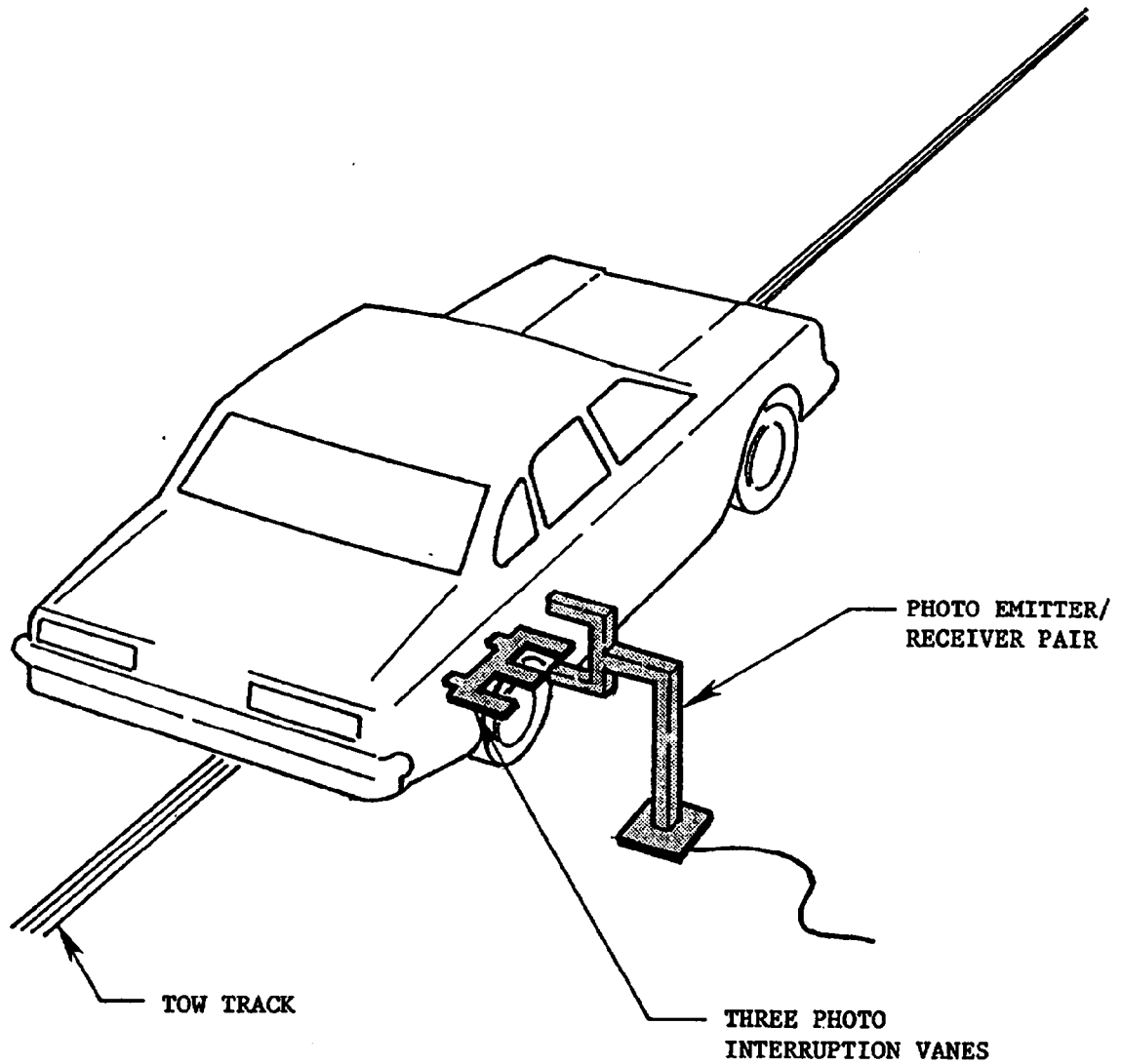
GLAZING DAMAGE:

Windshield and backlight undamaged, both left side windows shattered.

OTHER NOTABLE IMPACT EFFECTS:

Driver's door separated at hinges, B-pillar intruded approximately 13 inches.

IMPACT VELOCITY MEASUREMENT SYSTEM



The final vane is located two inches before impact.
The vanes have one foot spacing.

VEHICLE TEST WEIGHT CALCULATION

Test Weight = Unloaded Delivered Weight +
 Number of Dummies X 174 lbs. +
 Cargo Weight
 = 1960 + 2 X 174 + 185 lbs.
 = 2493 lbs.

To achieve test weight, 4 gallons of Stoddard Solvent was added in the fuel tank. The weight of the test vehicle was measured by placing each wheel on a Loadmeter Corporation Hiway Loadometer.

TEST ANOMALIES

1) Post-test examination conducted on September 26, 1983 of the driver dummy skull revealed unwelded joints that allowed the head to ring. All driver head data channel peak values, the resultants and HIC's are, therefore, unrealistic.

2) Cable separation occurred in data channel PEVXG1 (Driver Pelvis Acceleration X Axis) at approximately 65 msec. The separation occurred late enough into the crash event, that the peak pelvis resultant is felt to be a true resultant.

3) An anomalous spike occurred in data channel T01YG3 (Passenger Upper Spine Acceleration Y Axis) with a peak at 132.5 msec. This peak is not correlatable with the redundant Upper Spine Y data channel and the remaining pulse shape is sufficiently different from the redundant channel that no peak resultant is reported.

4) Cable separation occurred in the following data channels:

LFDYG1 Vehicle Left Front Door (Position 6) Acceleration Y Axis

LFDYG2 Vehicle Left Front Door (Position 8) Acceleration Y Axis

LFDYG3 Vehicle Left Front Door (Position 9) Acceleration Y Axis

No peak levels or Delta Velocities are reported.

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 table summarizes the steps taken to position the instrumented, calibrated dummies in the test vehicle.

DUMMY PLACEMENT AND POSITIONING

<u>SIDE IMPACT DUMMY*</u>	<u>DRIVER DSP</u>	<u>REAR PASSENGER DSP</u>
HEAD	Surface of transverse instrument mounting platform is as horizontal as possible without inducing torso movement & midsagittal plane falls in longitudinal plane.	Surface of transverse instrument mounting platform is as horizontal as possible without inducing torso movement & midsagittal plane falls in longitudinal plane.
UPPER TORSO	Placed against seat back. Midsagittal plane is vertical and centered on bucket seat.	Placed against seat back. Midsagittal plane is vertical and contained in the same longitudinal plane as the driver's midsagittal plane.
LOWER TORSO	Midsagittal plane is vertical and centered on bucket seat.	Midsagittal plane is vertical and contained in the same longitudinal plane as the driver's midsagittal plane.
UPPER LEGS (thighs or femurs)	Placed against seat cushion. Planes defined by femur and tibia centerlines are as close as possible to vertical.	Placed against seat cushion. Planes defined by femur and tibia centerlines are as close as possible to vertical.
KNEES	Knees set 14.5" apart between pivot bolt head outer surfaces. Outer surface of right knee pivot bolt is 8.6" from midsagittal plane of dummy. Outer surface of left knee pivot bolt is 5.9" from midsagittal plane of dummy.	Located so that planes defined by femur and tibia centerlines are as close as possible to vertical.
LOWER LEGS	Plane defined by femur and tibia centerlines are as close as possible to vertical longitudinal plane.	Plane defined by femur and tibia centerlines are as close as possible to vertical longitudinal plane.
RIGHT FOOT	Placed on undepressed accelerator pedal -- rearmost point of heel on floorplan in plane of pedal.	Centerline falls in vertical longitudinal plane. Placed on floor as far forward as possible without front seat interference.
LEFT FOOT	Placed on toeboard -- rearmost point of heel on floorpan as close as possible to intersection of toeboard and floorpan. Centerline falls in vertical longitudinal plane.	Centerline falls in vertical longitudinal plane. Placed on floor as far forward as possible without front seat interference.

*NOTE: THE SIDE IMPACT DUMMY DOES NOT INCLUDE ARMS.

DUMMY IN-VEHICLE POSITION RECORDING SHEET

VEHICLE NHTSA NO. R&D

MFR./MAKE/MODEL: Volkswagen Rabbit

FRONT SEAT TYPE: BENCH
X BUCKET
 SPLIT BENCH

ADJUSTER TYPE: X MANUAL
 POWER

BUCKET SEAT BACK TYPE: X FIXED
 ADJUSTABLE

TECHNICIANS:

1. E. Grumbling

2. J. Kokoruda

3. N. Echeverria

POSITIONING DATE: 10/6/83

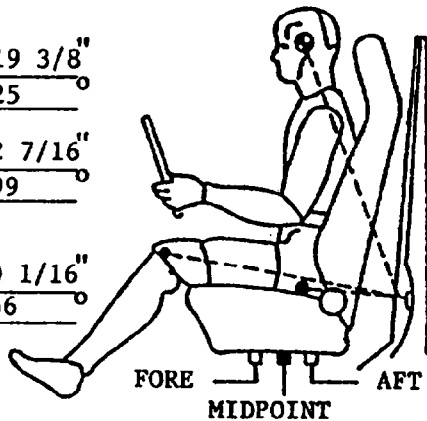
AMBIENT TEMP.: 68° F. TIME: 5:30

DRIVER DUMMY # 06

HEAD 19 3/8"
 TARGET* 25°

KNEE 32 7/16"
 JOINT 99°

APPROX.
 "H" 20 1/16"
 POINT 56°

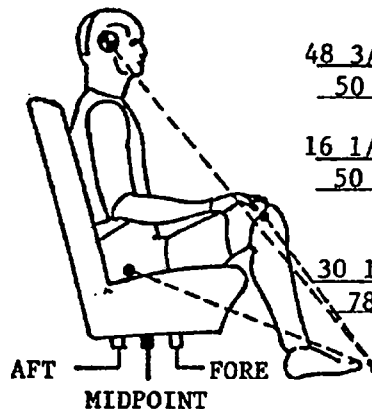


REAR PASSENGER DUMMY # U02

48 3/8" HEAD
50° TARGET**

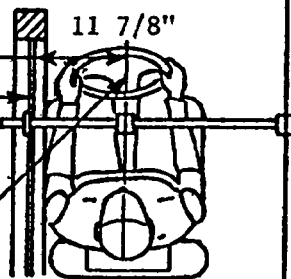
16 1/4" KNEE
50° JOINT

APPROX.
30 1/2" "H"
78° POINT



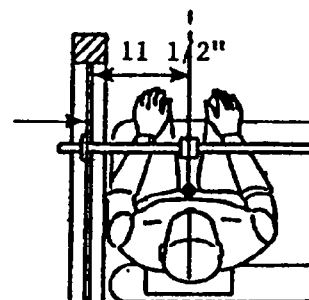
DOOR
 GLASS
 HEIGHT*** 9 1/2"

LATERAL BAR
 ADJUSTABLE
 POINTER



DRIVER
 DUMMY # 06

DOOR
 GLASS
 HEIGHT DNA

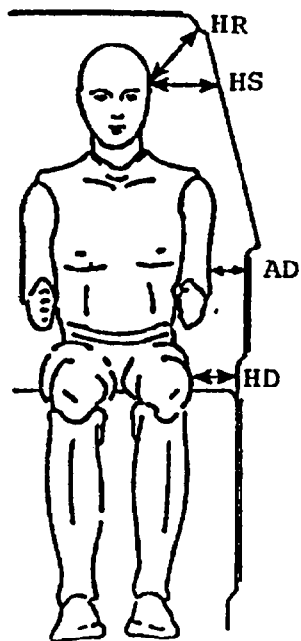
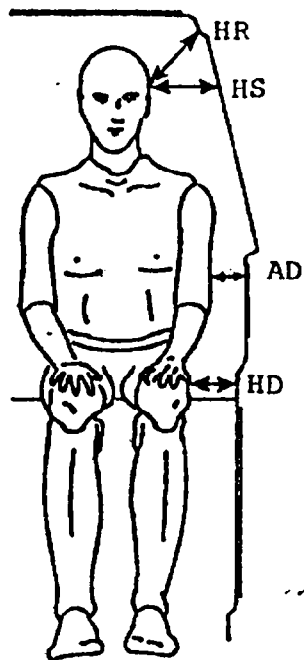


PASSENGER
 DUMMY # U02

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

**All passenger dummy dimensions referenced to front seat back latch bolt with front seat in mid-position and all angles referenced to vertical.

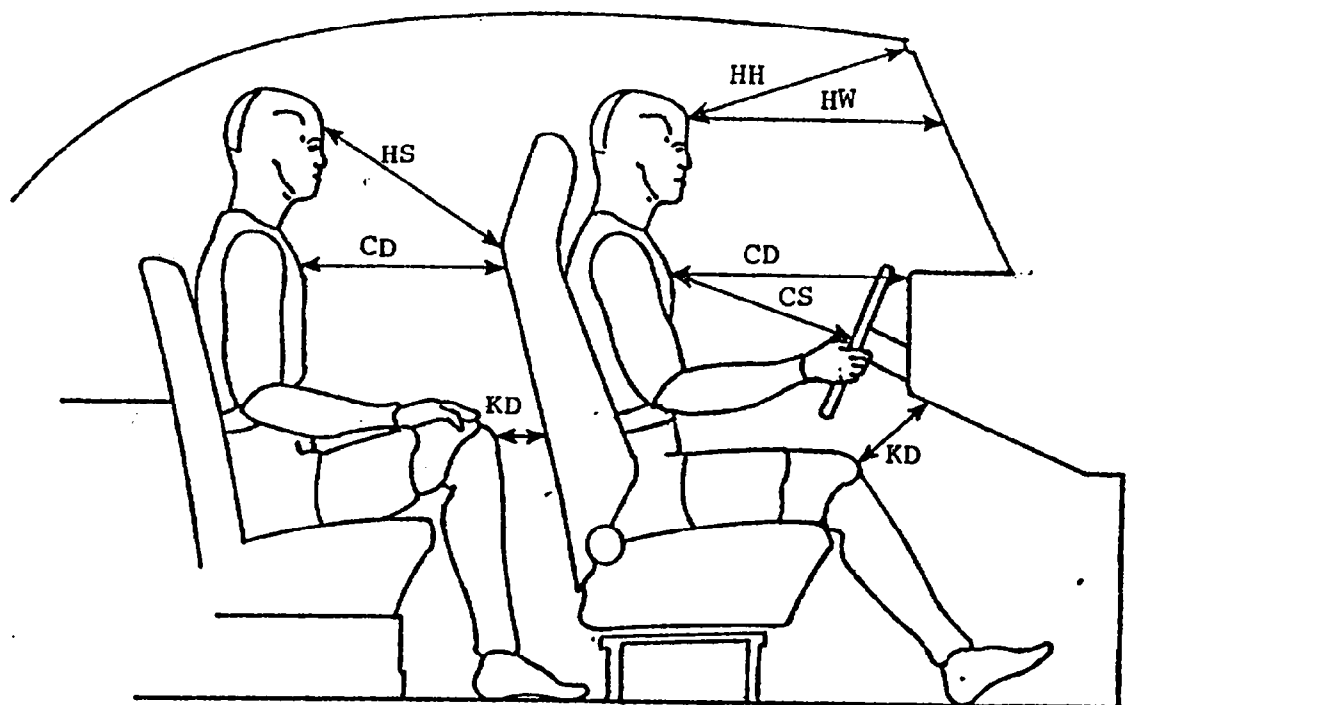
***Door glass height is equal on the right and left side of vehicle at dummy nose level.



	06 DRIVER	U02 PASSENGER
HR	6 11/16	5 1/2
HS	7 5/8	8 3/8
AD	0	1/2
HD	2 3/8	2 1/4

NOTE: ALL MEASUREMENTS IN INCHES

DUMMY LATERAL CLEARANCE DIMENSIONS



	06 DRIVER	U02 PASSENGER
HH	14 13/16	DNA
HW	21 7/16	DNA
HS	DNA	24 1/4
CD	20 7/8	18 1/4
CS	11 7/8	DNA
KDL	3 15/16	3 1/2
KDR	5 3/16	3 3/4

NOTE: ALL MEASUREMENTS IN INCHES

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

DUMMY KINEMATIC SUMMARY

DRIVER

During impact, the dummy's torso contacted the padded driver's door and the head contacted the driver's window sill. The crush of the driver's door trapped the dummy's feet so that the dummy could not fully rebound laterally across the vehicle. The dummy's head and right shoulder contacted the roof approximately at the vehicle centerline. The dummy rebounded toward the driver's door and the head struck the B-Pillar. The dummy came to rest facing forward and sitting on the driver's seat which had displaced laterally inboard approximately eight inches.

PASSENGER

During impact, the dummy's torso contacted the padded left rear occupant side wall and the head contacted the padded side header. The dummy rebounded laterally in an upright position with the feet trapped in the left rear foot well. The dummy came to rest in an upright position facing forward.

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	8.6	X	X	20.3	20.3	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.5	20.6	X	X
H-Point	16.3	X	X	18.0	18.0	17.9	17.9	17.9	17.9	17.9	17.9	18.1	18.2	18.3	17.2	X
Mid Door	22.5	16.2	17.7	17.6	17.6	17.6	17.5	17.5	17.5	17.5	17.6	17.6	17.7	17.8	17.9	16.6
Window Sill	33.1	X	19.3	19.2	19.1	18.9	18.9	18.9	18.9	18.9	19.0	19.1	19.3	19.3	19.4	19.6
Window Top	53.5	X	X	X	X	X	28.4	26.3	26.2	26.1	26.1	26.2	26.3	26.3	26.8	27.4

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

Axle Height	8.6	X	X	23.1	25.8	27.7	27.3	26.0	25.0	24.5	24.3	23.8	21.8	20.8	X	X
H-Point	16.3	X	X	25.0	40.6	39.9	38.3	35.8	33.1	30.3	27.6	29.1	26.4	23.8	21.5	X
Mid Door	22.5	22.0	23.1	22.6	36.9	35.8	34.1	31.8	29.6	27.5	25.3	31.1	27.6	24.9	22.3	19.3
Window Sill	33.1	X	21.2	21.4	31.2	31.3	30.1	28.6	26.4	24.0	21.4	29.8	27.6	23.8	21.4	20.1
Window Top	53.5	X	X	X	X	X	30.8	28.5	28.9	28.9	28.7	28.8	28.6	28.3	28.1	28.6

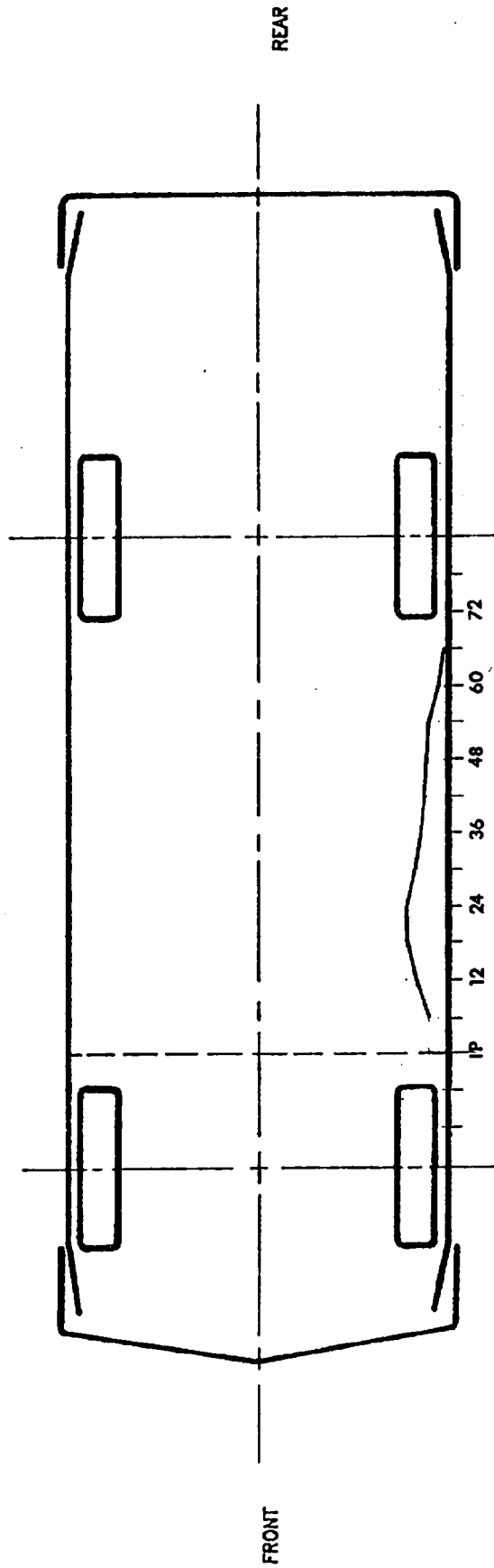
STATIC CRUSH (IN)

Axle Height	8.6	X	X	2.8	5.5	7.3	6.9	5.6	4.6	4.1	3.9	3.4	1.3	0.2	X	X
H-Point	16.3	X	X	7.0	22.6	22.0	20.4	17.9	15.2	12.4	9.7	11.0	8.2	5.5	4.3	X
Mid Door	22.5	5.8	5.4	5.0	19.3	18.2	16.6	14.3	12.1	10.0	7.7	13.5	9.9	7.1	4.4	2.7
Window Sill	33.1	X	1.9	2.2	12.1	12.4	11.2	9.7	7.5	5.1	2.4	10.7	8.3	4.5	2.0	0.5
Window Top	53.5	X	X	X	X	X	2.4	2.2	2.7	2.8	2.6	2.6	2.3	2.0	1.3	1.2

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

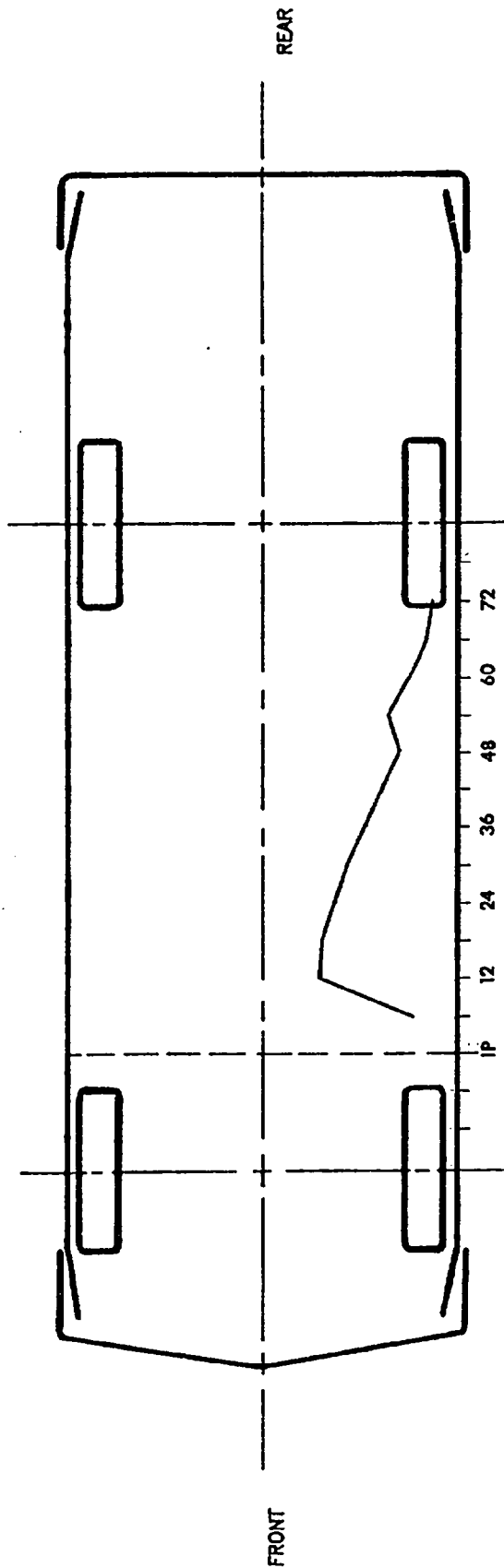
** Reference plane is parallel to and 48 inches from the vehicle longitudinal centerline.

VEHICLE EXTERIOR STATIC CRUSH PROFILE



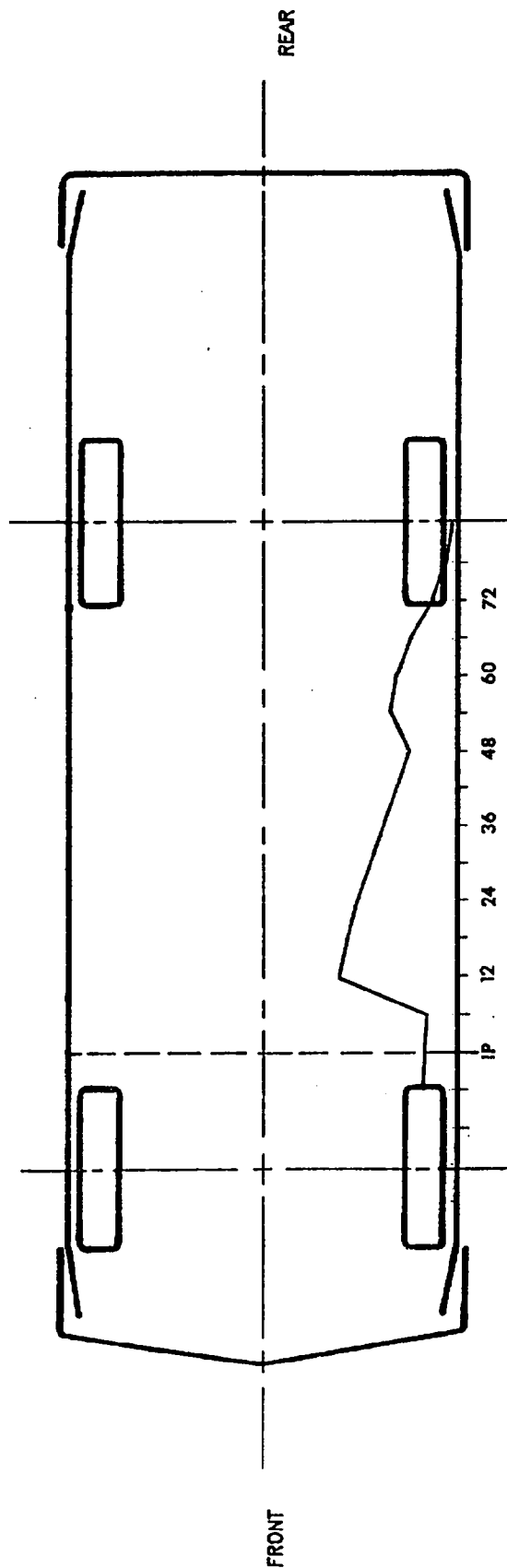
PROFILE LEVEL EQUALS AXLE HEIGHT
IP EQUALS PROJECTED IMPACT POINT

VEHICLE EXTERIOR STATIC CRUSH PROFILE



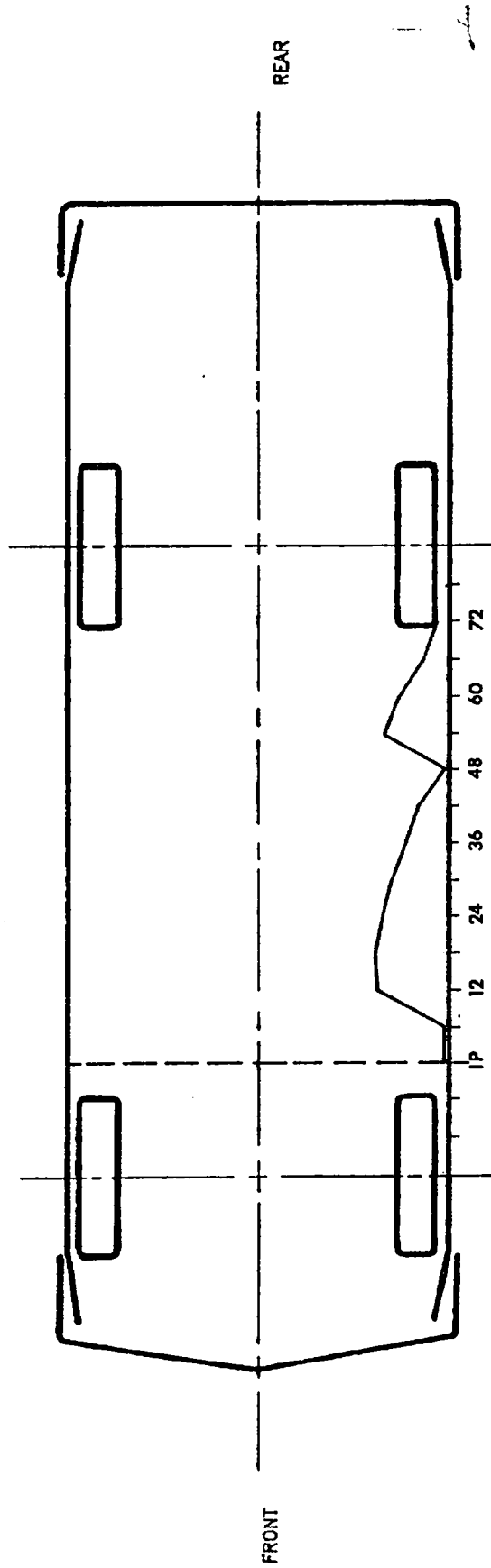
PROFILE LEVEL EQUALS H-POINT HEIGHT
IP EQUALS PROJECTED IMPACT POINT

VEHICLE EXTERIOR STATIC CRUSH PROFILE



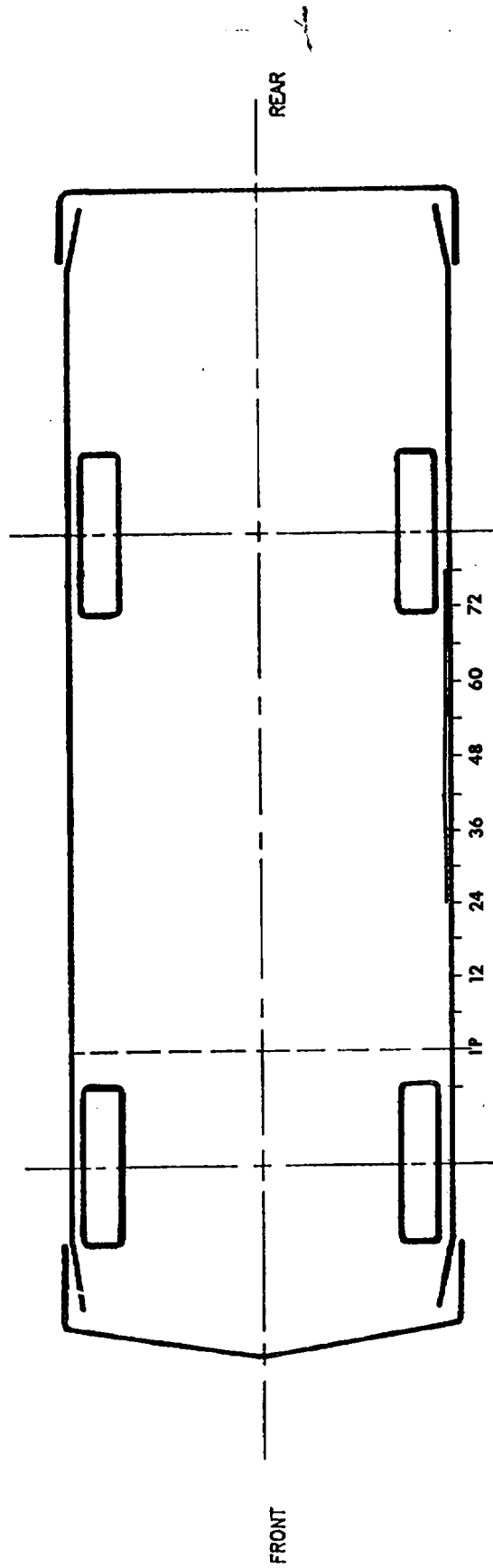
PROFILE LEVEL EQUALS MID-DOOR HEIGHT
IP EQUALS PROJECTED IMPACT POINT

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW SILL HEIGHT
IP EQUALS PROJECTED IMPACT POINT

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW TOP HEIGHT
 IP EQUALS PROJECTED IMPACT POINT

SIDE IMPACT DUMMY DATA SUMMARY

	DRIVER DUMMY				PASSENGER DUMMY				
	POSITIVE		NEGATIVE		POSITIVE		NEGATIVE		
	DIRECTION*		DIRECTION**		DIRECTION*		DIRECTION**		
	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	
HEAD ACCELERATION									
LONGITUDINAL	250.82	79.13	123.00	100.63 γ	45.95	214.25	20.00	98.50	
LATERAL	154.82	78.50	236.65	79.88 γ	35.55	83.00	19.93	217.50	
VERTICAL	247.89	78.75	102.94	79.38 γ	31.39	113.88	24.25	80.25	
RESULTANT		297.37	à 79.38 γ			51.18	à 214.25		
HIC	1528.65	from 70.63 to 105.88 γ				196.72	from 78.50 to 128.38		
CHEST ACCELERATION									
UPPER SPINE									
LONGITUDINAL	13.76	72.50	33.46	64.38	10.88	203.13	26.16	98.75	
LATERAL (P)***	129.12	63.75	34.28	84.38	---	--- γ	---	--- γ	
LATERAL (R)***	132.13	63.75	33.68	84.38	19.50	112.50	7.33	201.88	
VERTICAL	17.45	52.50	11.87	98.75	14.11	80.00	10.56	122.50	
RESULTANT (P)		133.39	à 63.75			---	--- γ		
RESULTANT (R)		136.30	à 63.75			31.48	à 111.88		
DELTA V (MPH)****		30.9	à 80.00 (P)			---	---	(P) γ	
		32.7	à 80.00 (R)			16.5	à 175.00 (R)		
LOWER SPINE									
LONGITUDINAL	31.84	75.00	41.89	61.25	5.53	207.50	33.21	78.13	
LATERAL (P)	141.48	57.50	40.97	83.12	26.45	86.88	3.11	221.25	
LATERAL (R)	135.12	57.50	39.94	83.12	26.31	86.25	3.74	303.13	
VERTICAL	40.86	61.25	8.57	98.75	16.31	80.63	8.36	130.63	
RESULTANT (P)		142.98	à 57.50			41.18	à 78.75		
RESULTANT (R)		136.69	à 57.50			40.52	à 78.75		
DELTA V (MPH)		38.4	à 76.25 (P)			18.2	à 126.13 (P)		
		39.1	à 76.88 (R)			17.9	à 124.38 (R)		
LEFT UPPER RIB									
LATERAL (P)	81.86	55.63	7.34	181.87	23.86	108.75	8.09	174.38	
LATERAL (R)	80.92	55.00	8.70	182.50	22.82	169.38	10.46	174.38	
DELTA V (MPH)		30.5	à 90.75 (P)			26.4	à 193.13 (P)		
		30.6	à 90.75 (R)			24.1	à 192.50 (R)		
LEFT LOWER RIB									
LATERAL (P)	75.06	58.13	19.94	88.13	28.78	91.25	14.68	174.38	
LATERAL (R)	72.37	58.13	21.49	88.13	25.71	81.25	13.71	174.38	
DELTA V (MPH)		32.9	à 106.25 (P)			27.1	à 198.75 (P)		
		33.6	à 106.00 (R)			22.2	à 195.00 (R)		
PELVIS ACCELERATION									
LONGITUDINAL	---	---	γ	53.68	56.75	13.06	116.50	40.22	81.75
LATERAL	201.23	53.63	22.50	80.50	55.28	84.75	7.89	116.88	
VERTICAL	64.25	58.38	11.98	60.50	24.19	94.38	7.51	133.88	
RESULTANT		205.16	à 53.63 γ			65.06	à 84.75		
DELTA V (MPH)		32.3	à 62.38			20.0	à 103.38		

SIDE IMPACT DUMMY DATA SUMMARY CONTD

	DRIVER DUMMY				PASSENGER DUMMY			
	POSITIVE		NEGATIVE		POSITIVE		NEGATIVE	
	DIRECTION*		DIRECTION**		DIRECTION*		DIRECTION**	
	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)
RIB DEFLECTION †	0.04	8.38	1.58	78.88	0.06	170.50	1.29	121.50

* 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: Negative

YSee TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

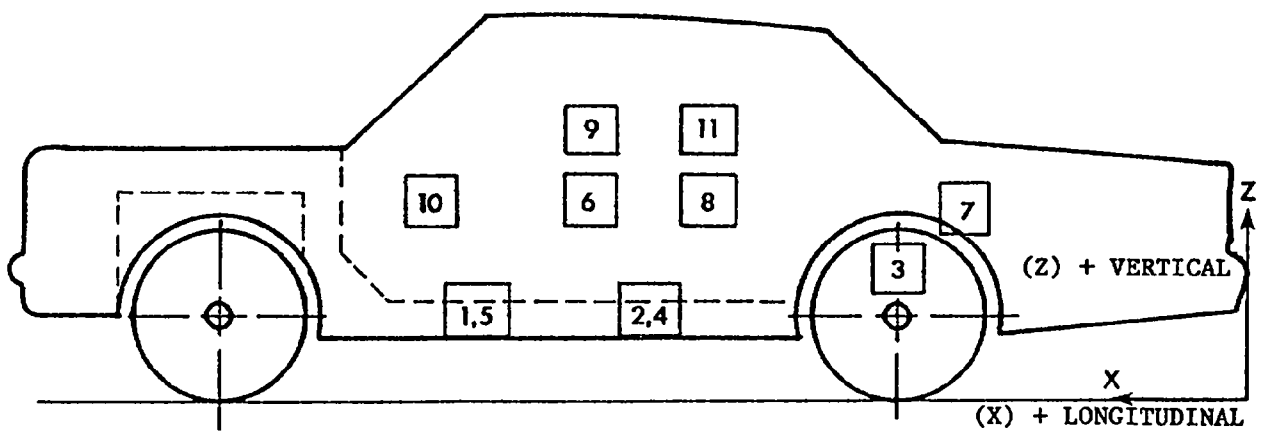
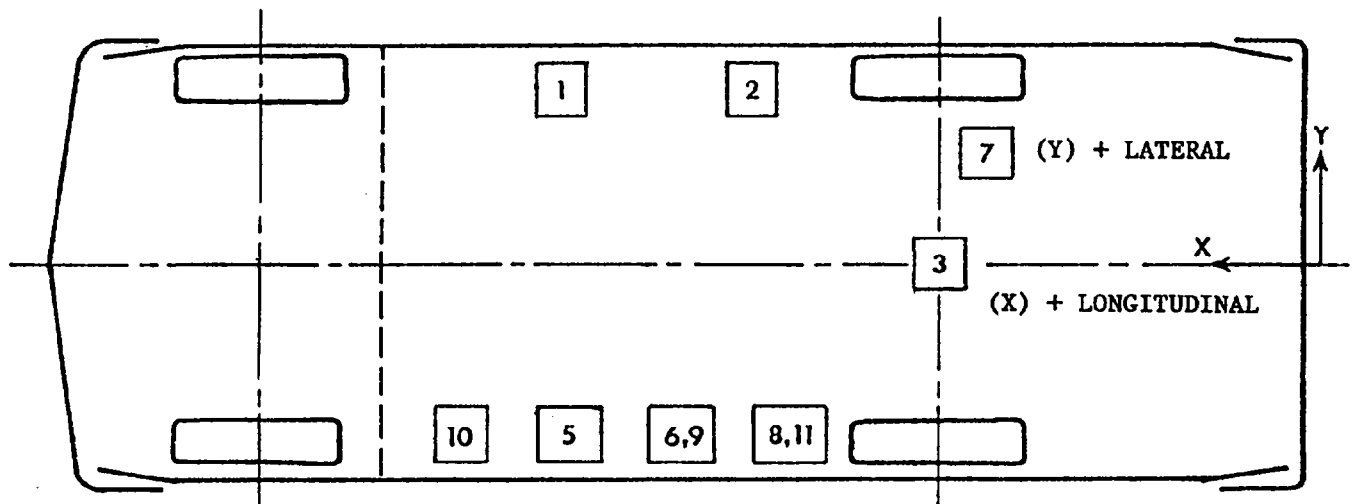
NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION		NEGATIVE DIRECTION	
					MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
1	RIGHT SILL AT FRONT SEAT (LONGITUDINAL)	83.3	23.8	9.5				
	(LATERAL)				1.74	183.25	6.66	84.25
	(VERTICAL)				13.20	85.38	3.90	38.75
	(RESULTANT)				5.96	76.50	5.46	90.00
						14.69	85.25	
2	RIGHT SILL AT REAR SEAT (LONGITUDINAL)	61.3	24.6	8.0				
	(LATERAL)				2.09	183.63	6.37	84.00
	(VERTICAL)				15.89	85.13	3.41	154.13
	(RESULTANT)				4.95	96.75	4.64	40.25
						17.13	85.00	
3	REAR DECK OVER AXLE (LONGITUDINAL)	32.0	0.0	6.0				
	(LATERAL)				4.04	186.50	6.11	79.63
	(VERTICAL)				20.60	86.50	2.17	168.75
	(RESULTANT)				12.35	112.13	11.68	74.88
						21.92	86.50	
4	LEFT SILL AT REAR SEAT (LATERAL)	61.0	-24.6	8.5				
					28.82	80.63	8.38	86.38
5	LEFT SILL AT FRONT SEAT (LATERAL)	83.6	-24.6	9.8				
					40.02	22.38	31.05	87.63
6	LEFT FRONT DOOR CENTERLINE (LATERAL)	82.0	-27.0	22.5	---	---	---	---
						Y		Y
7	RIGHT REAR COMPARTMENT (LONGITUDINAL)	31.0	15.4	13.5				
					3.49	183.63	7.68	85.75
8	MIDREAR OF LEFT FRONT DOOR (LATERAL)	60.5	-26.3	23.4	---	---	---	---
						Y		Y
9	UPPER LEFT FRONT DOOR CENTERLINE (LATERAL)	82.0	-23.0	31.4	---	---	---	---
						Y		Y
10	MIDFRONT OF LEFT FRONT DOOR (LATERAL)	99.5	-26.3	20.6				
					138.58	14.00	39.21	61.63
11	UPPER REAR OF LEFT FRONT DOOR (LATERAL)	70.8	-26.0	31.8				
					147.74	55.88	34.43	111.38

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

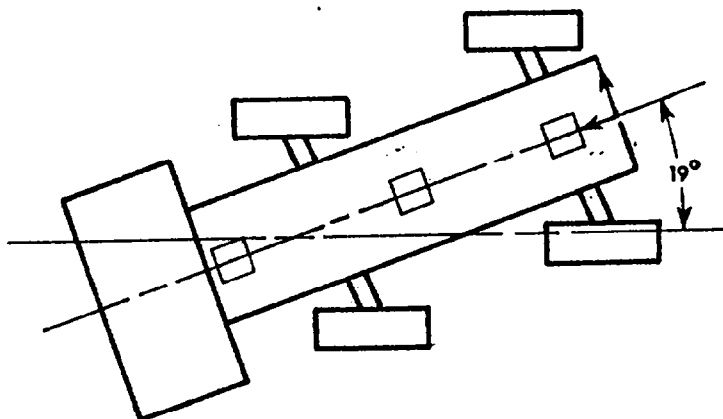
All measurements of accelerometer locations in inches.

Y See TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS



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	74.5	0.0	11.5				
	(LONGITUDINAL)	$\Delta V = -14.4 \text{ mph } \hat{a} \text{ } 140.00 \text{ msec}$			0.99	162.25	9.30	98.75
	(LATERAL)	$\Delta V = -3.0 \text{ mph } \hat{a} \text{ } 140.00 \text{ msec}$			1.52	121.63	4.43	93.00
	(VERTICAL)				13.42	125.75	9.51	135.00
	(RESULTANT)				13.92 $\hat{a}$ 125.75			
2	FRONT FRAME MEMBER	130.3	0.0	11.3				
	(LONGITUDINAL)	$\Delta V = -12.7 \text{ mph } \hat{a} \text{ } 140.00 \text{ msec}$			3.46	5.88	9.61	91.00
3	REAR FRAME MEMBER	23.3	0.0	11.5				
	(LONGITUDINAL)	$\Delta V = -13.6 \text{ mph } \hat{a} \text{ } 140.00 \text{ msec}$			0.95	225.88	8.77	97.38

* 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.

HIGH SPEED CAMERA INFORMATION

CAMERA NO.	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Overhead	Photosonics 1B	8	762	Vehicle dynamics
2	Overhead	Photosonics 1B	25	775	Close-up of impact point
3	Onboard MDB	Stalex	25	1000	Close-up of impact point
4	Onboard MDB	Photosonics 1B	13	1000	Driver kinematics
5	Ground level - right	Hycam	25	450	Overall view
6	Ground level - left	Photosonics 1B	17	795	Overall view
7	Onboard vehicle	Photosonics 1B	8	812	Driver kinematics - front view
8	Onboard vehicle	Photosonics 1B	8	805	Driver kinematics
9	Onboard vehicle	Photosonics 1B	8	797	Passenger kinematics

NOTE: CAMERAS ARE NUMBERED ACCORDING TO SPLICING SEQUENCE OF FILM.
 (24 fps) REAL TIME MOVIE FILM COVERAGE OF PRE-CRASH, POST-CRASH
 AND CRASH EVENT SPLICED AT START AND END OF FILM.

LOCATIONS OF OFFBOARD HIGH SPEED CAMERAS

CAMERA NO.	X	Y	Z
1	0	0	25'
2	0	0	25'
5	26'4"	60'	45"
6	-19'7"	-11'3"	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	18845	Bell Howell	8/9/83	.236 MV/G	50 G
BOGYG	Accel	4-202-0001	18858	Bell Howell	8/9/83	.2385 MV/G	50 G
BOGZG	Accel	4-202-0001	18857	Bell Howell	8/9/83	.2385 MV/G	50 G
BFCXG	Accel	4-202-0001	18240	Bell Howell	8/9/83	.2385 MV/G	50 G
BRCXG	Accel	4-202-0001	19022	Bell Howell	8/9/83	.221 MV/G	50 G

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

APPENDIX A
PHOTOGRAPHS

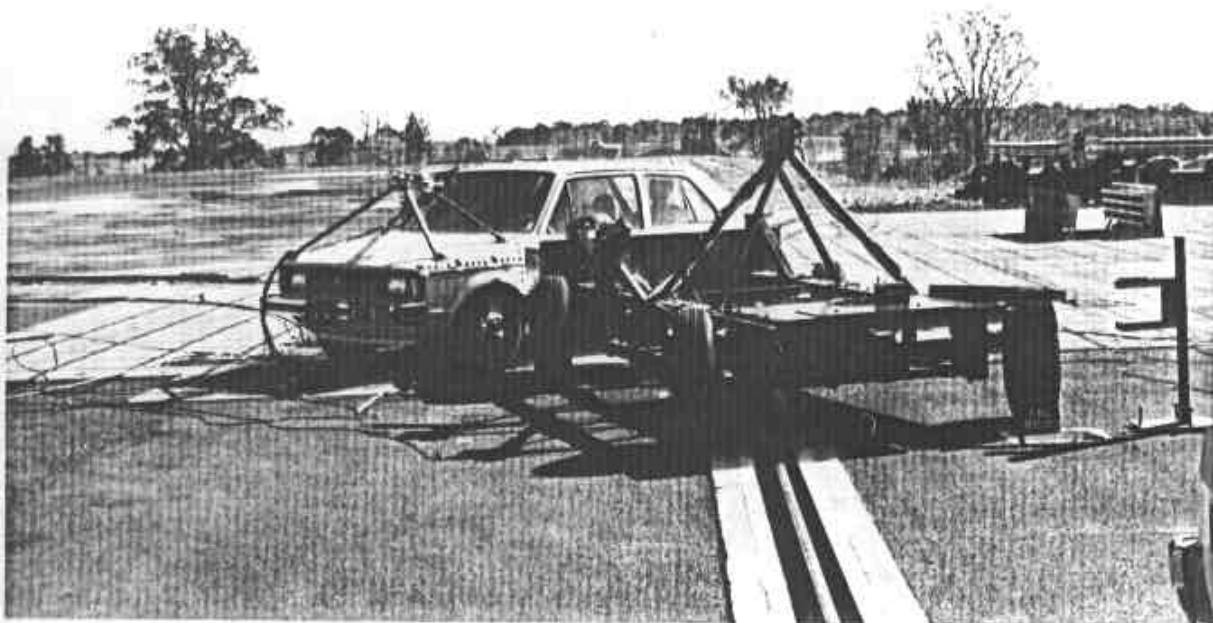


Figure A-1. PRE-TEST OVERALL - VIEW 1

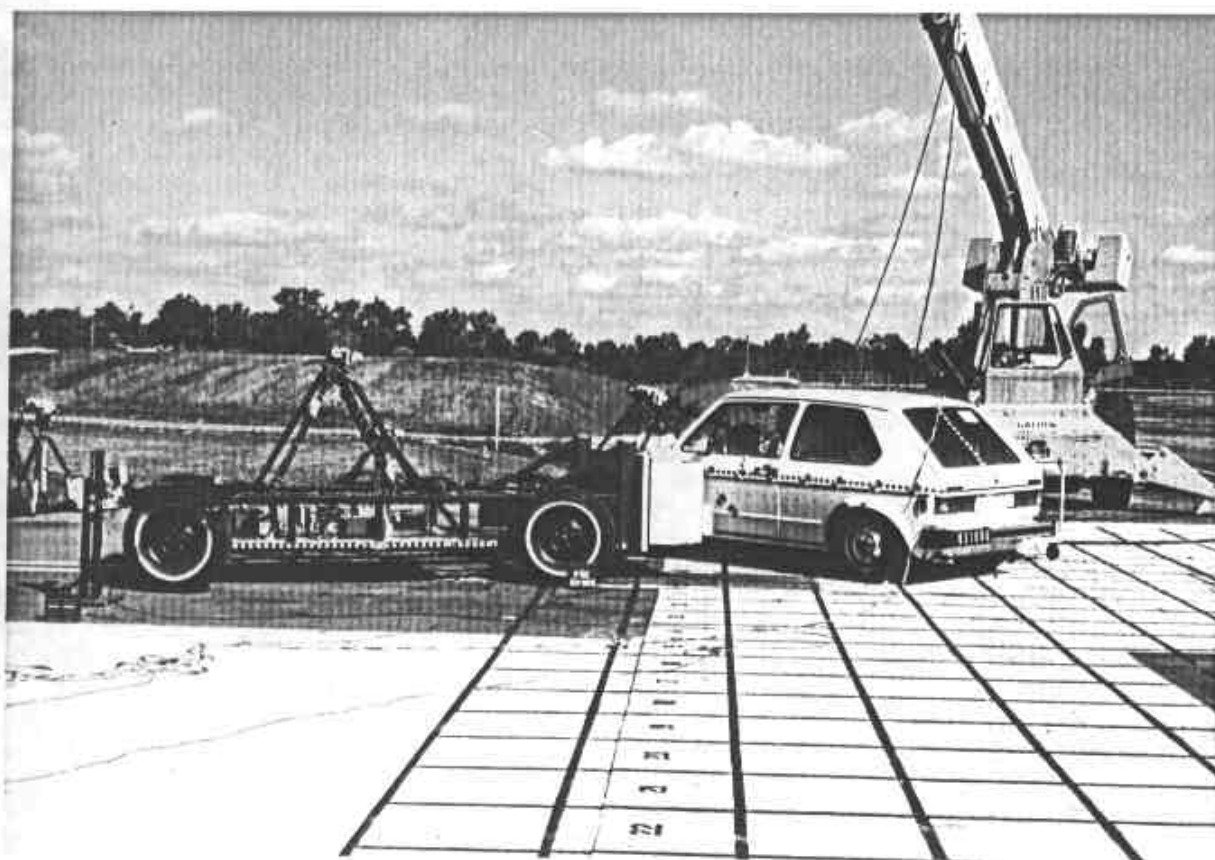


Figure A-2. PRE-TEST OVERALL - VIEW 2

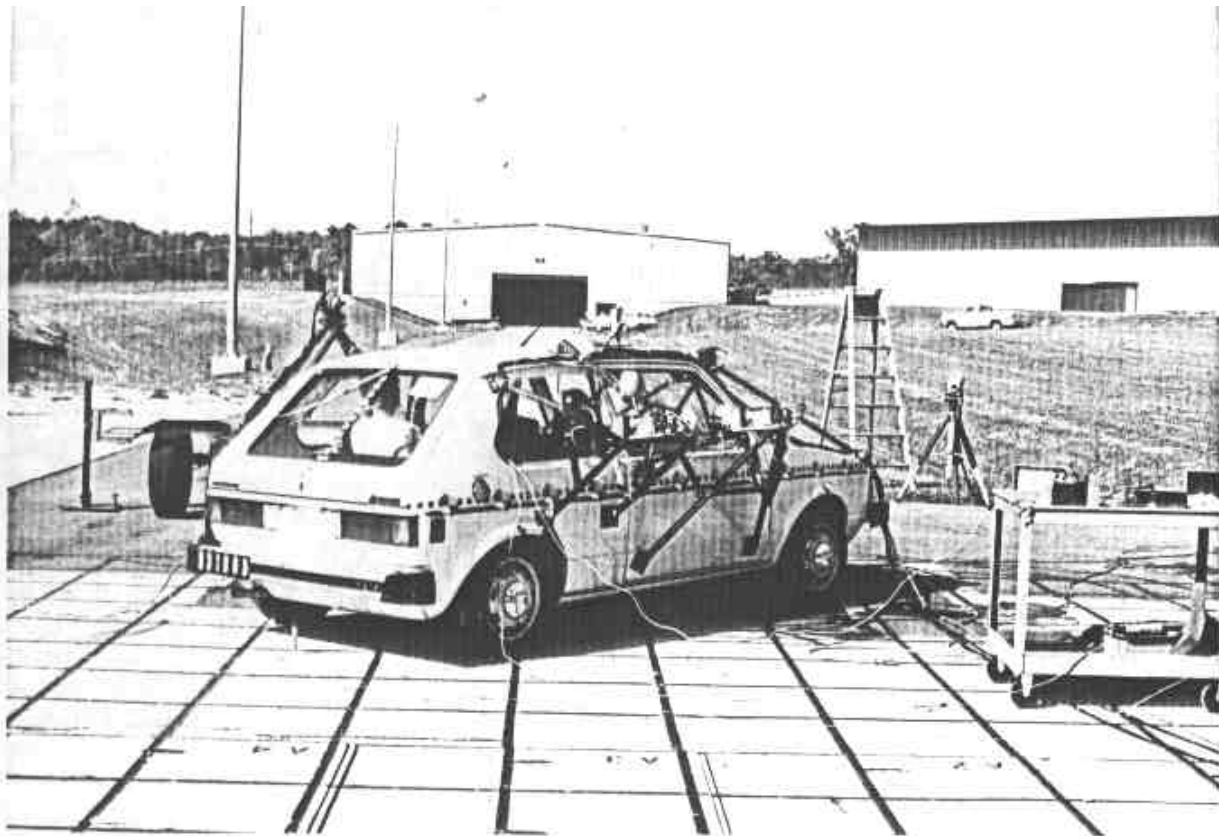


Figure A-3. PRE-TEST OVERALL - VIEW 3



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

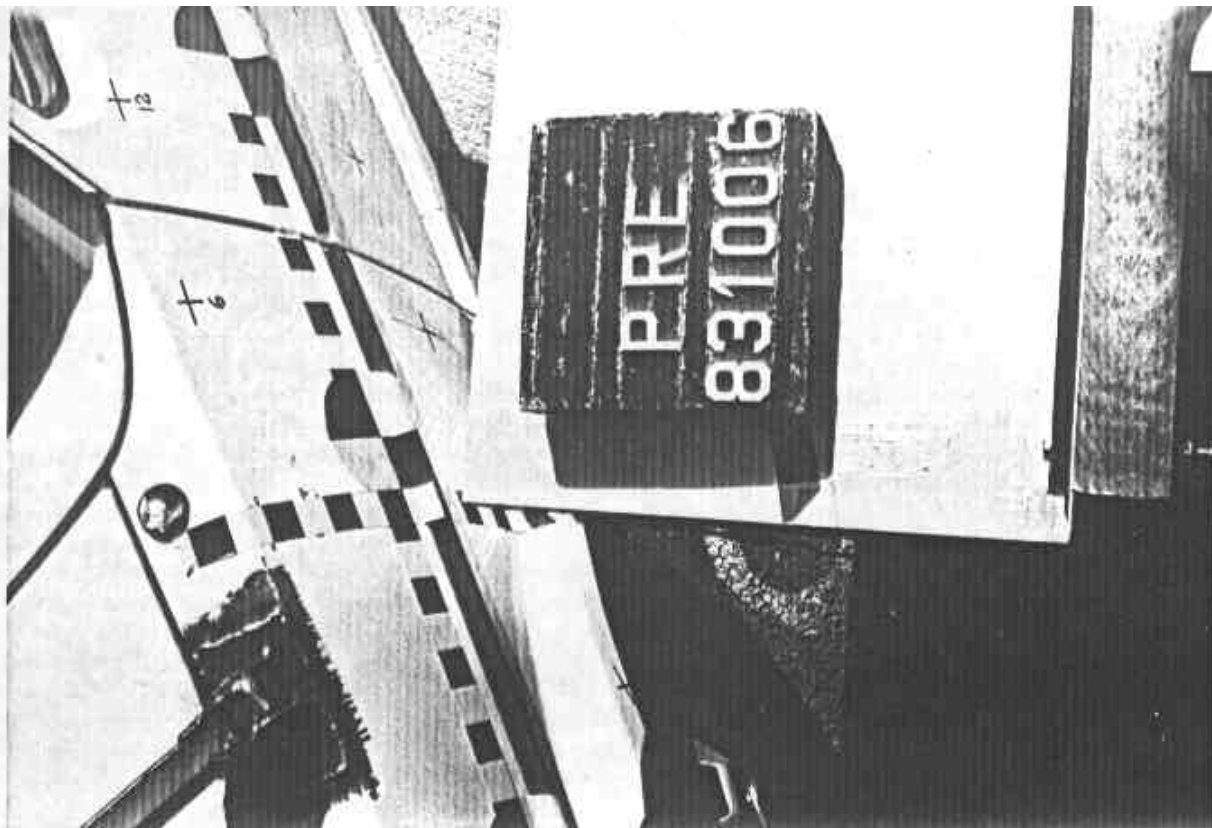


Figure A-5. PRE-TEST CLOSEUP - VIEW 1



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



Figure A-7. PRE-TEST DRIVER DUMMY - VIEW 1

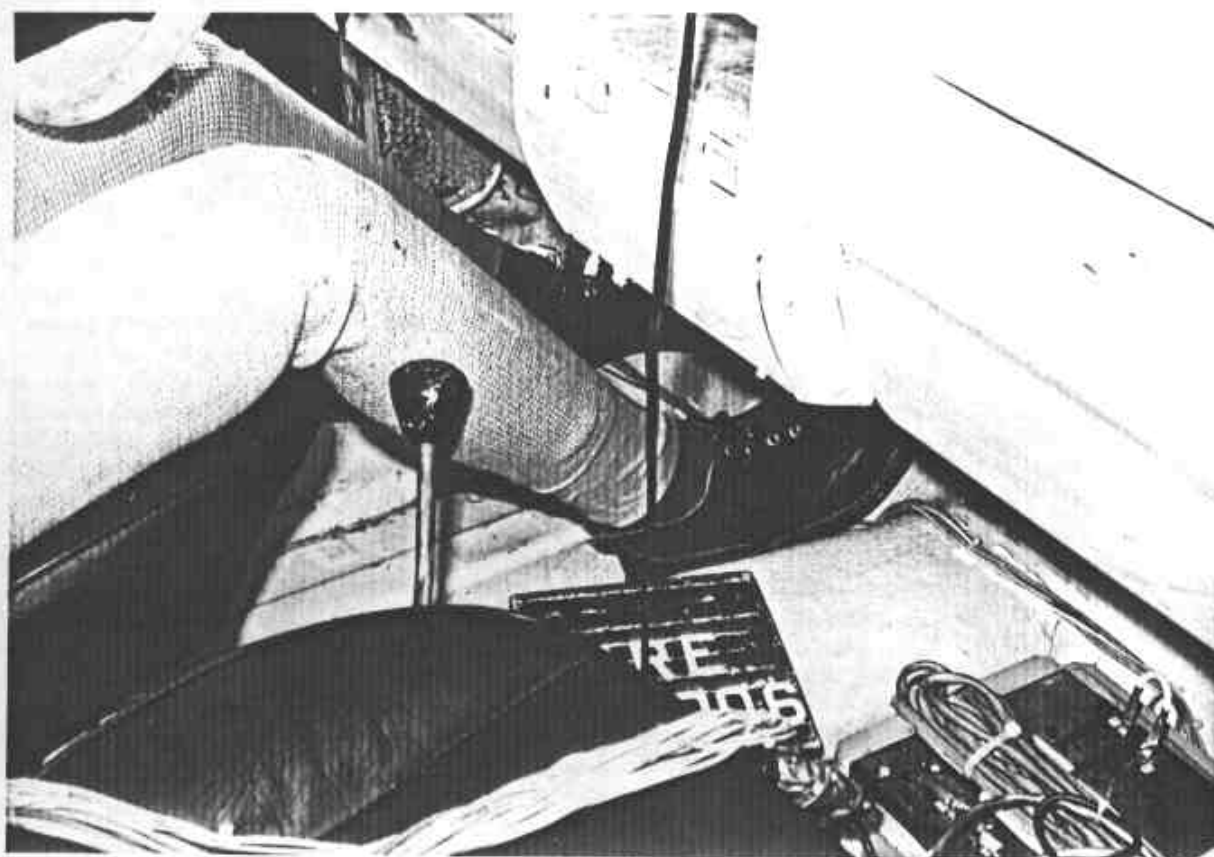


Figure A-8. PRE-TEST DRIVER DUMMY - VIEW 2

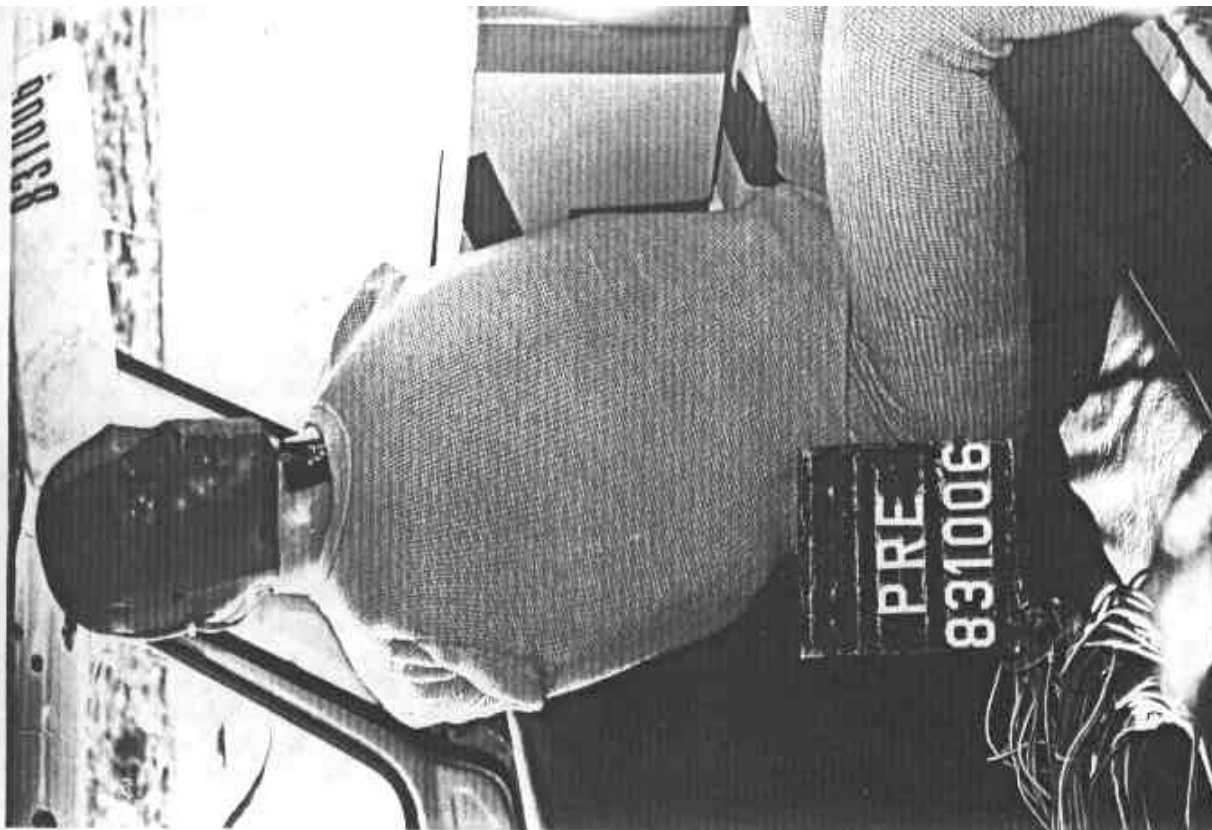


Figure A-9. PRE-TEST PASSENGER DUMMY - VIEW 1

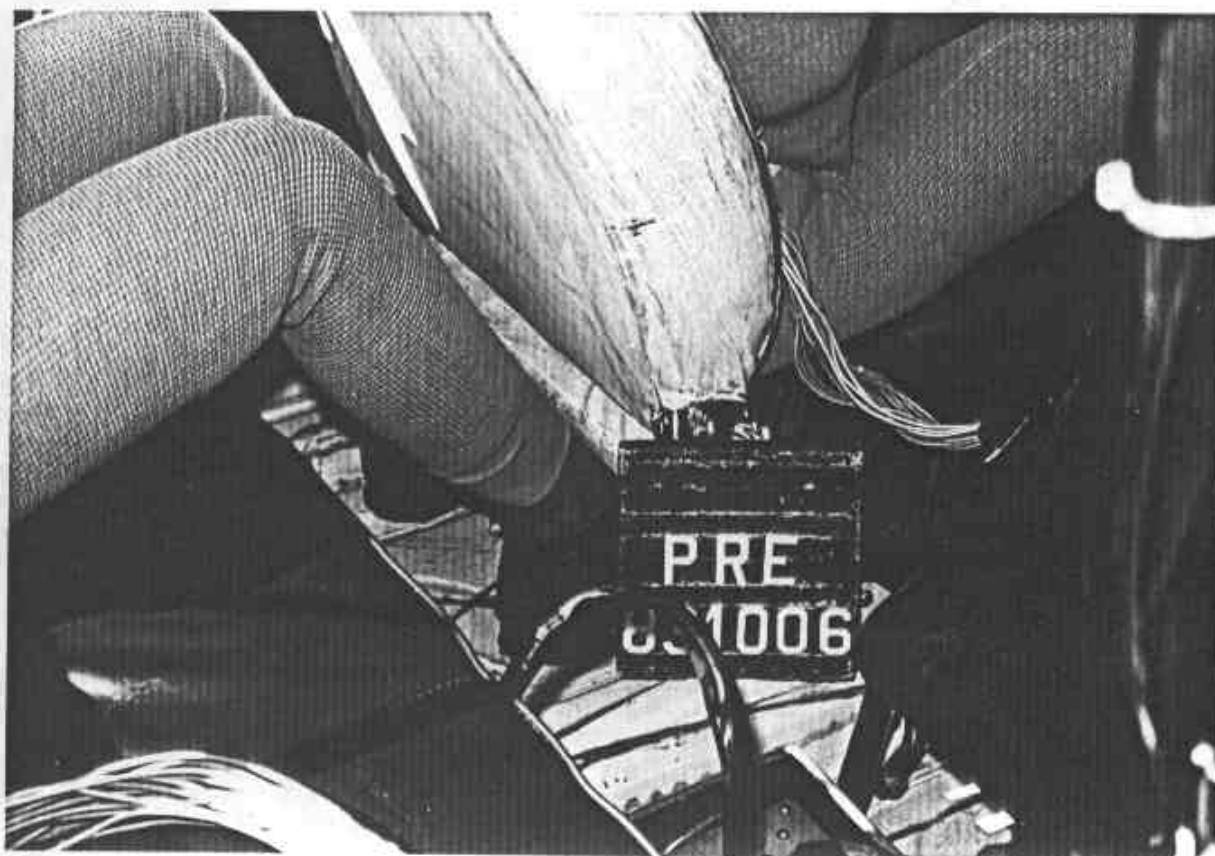


Figure A-10. PRE-TEST PASSENGER DUMMY - VIEW 2

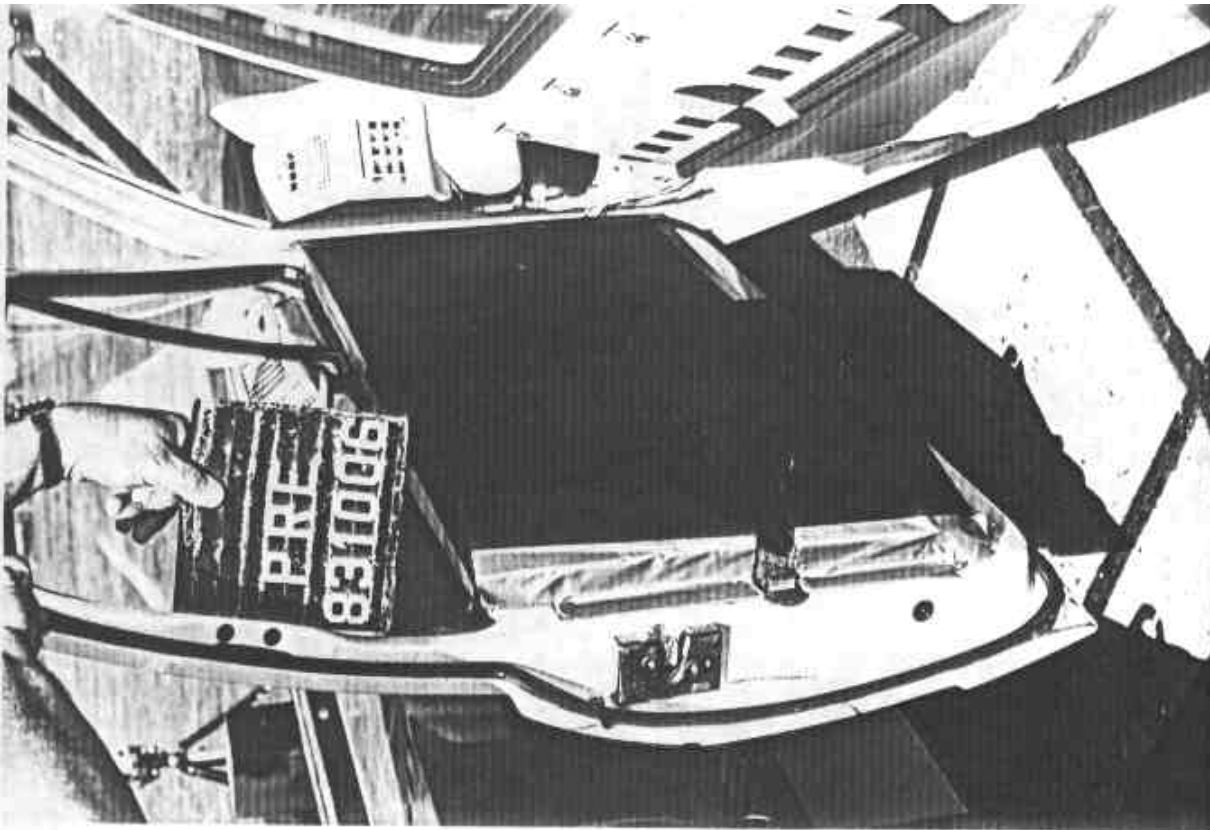


Figure A-11. PRE-TEST DRIVER'S PADDING



Figure A-12. CRASH EVENT PHOTOGRAPH

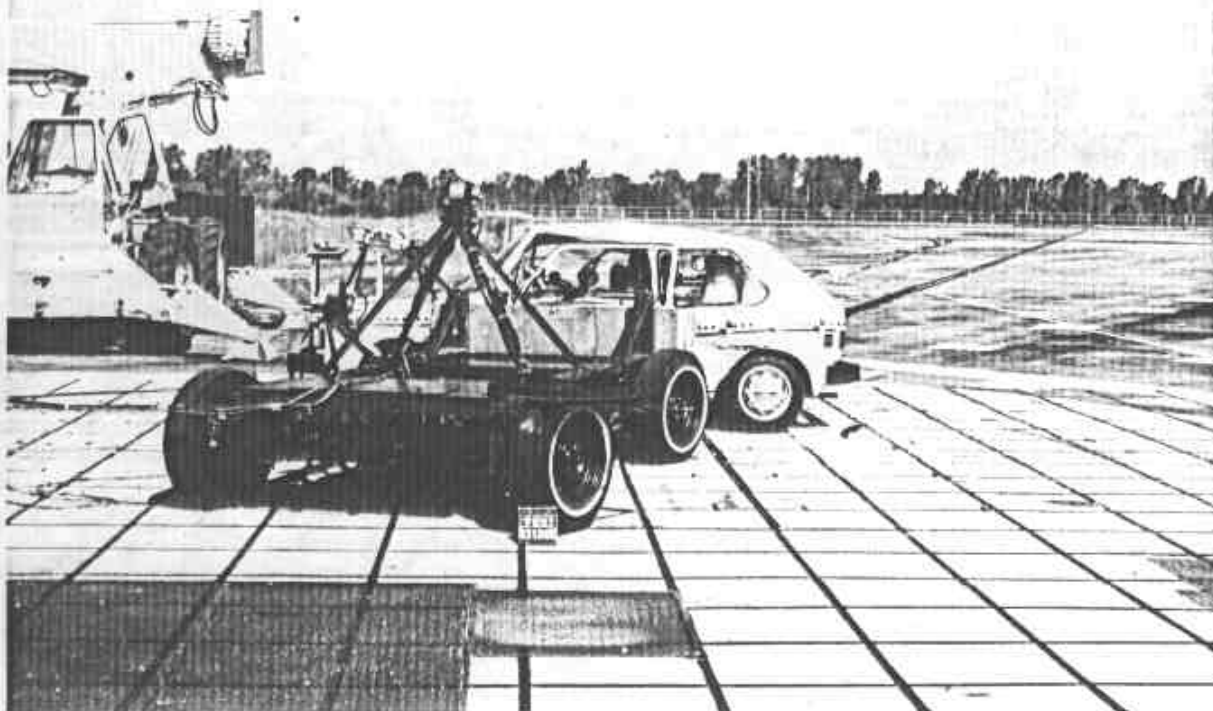


Figure A-13. POST-TEST OVERALL - VIEW 1

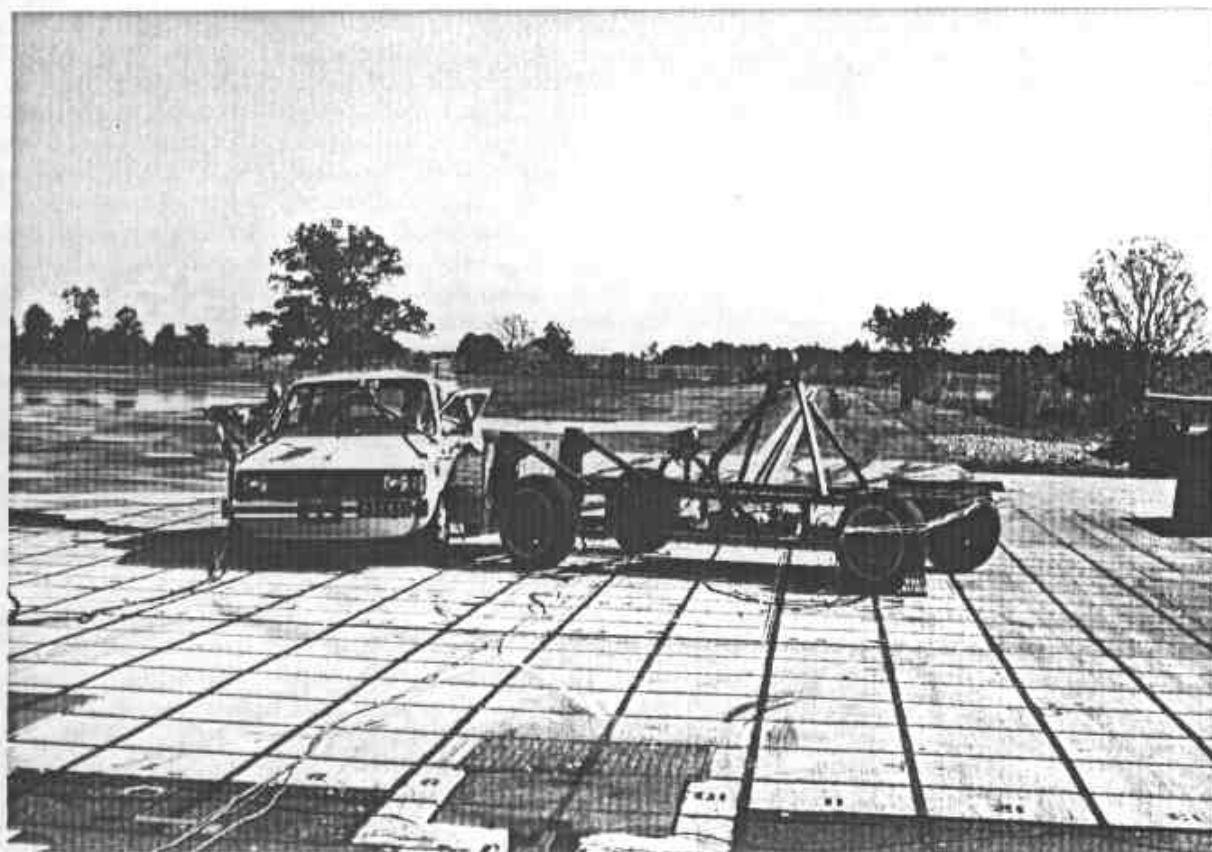


Figure A-14. POST-TEST OVERALL - VIEW 2



Figure A-15. POST-TEST OVERALL - VIEW 3

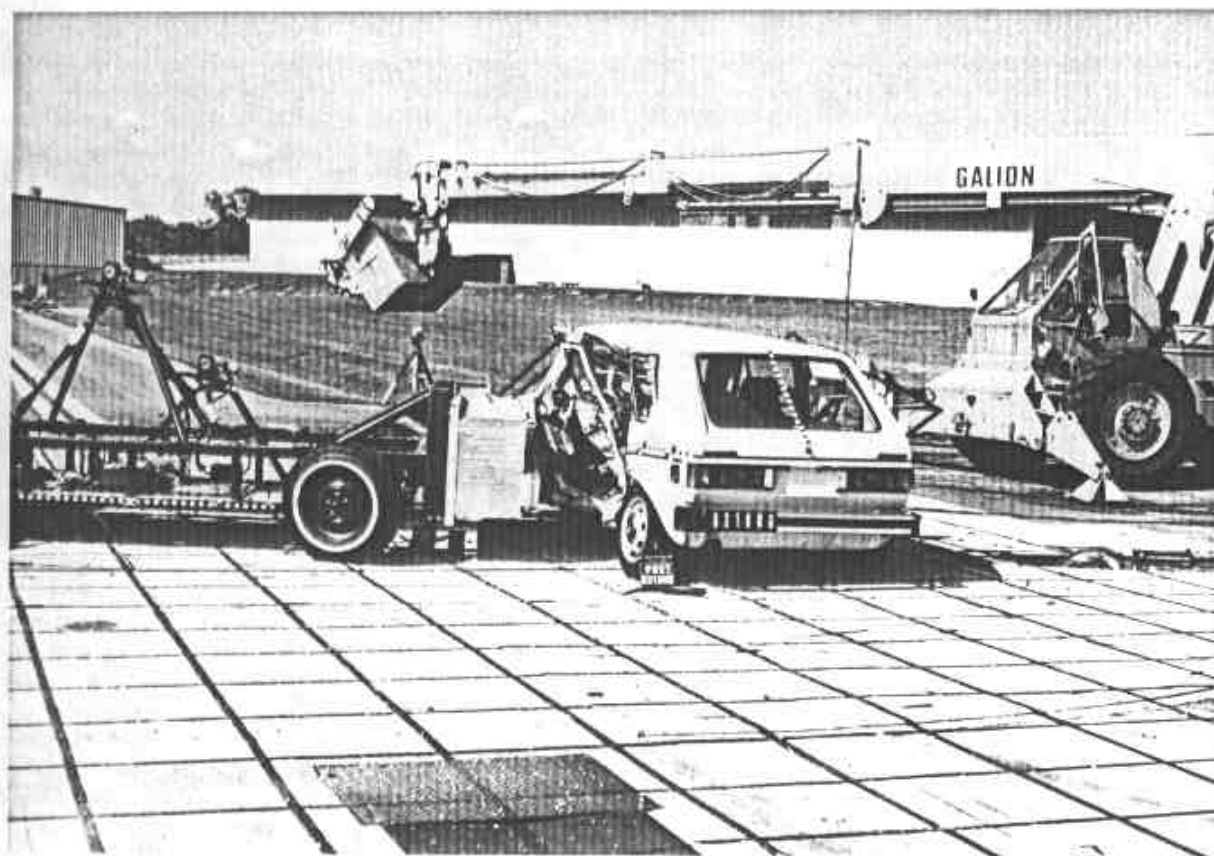


Figure A-16. POST-TEST OVERALL - VIEW 4

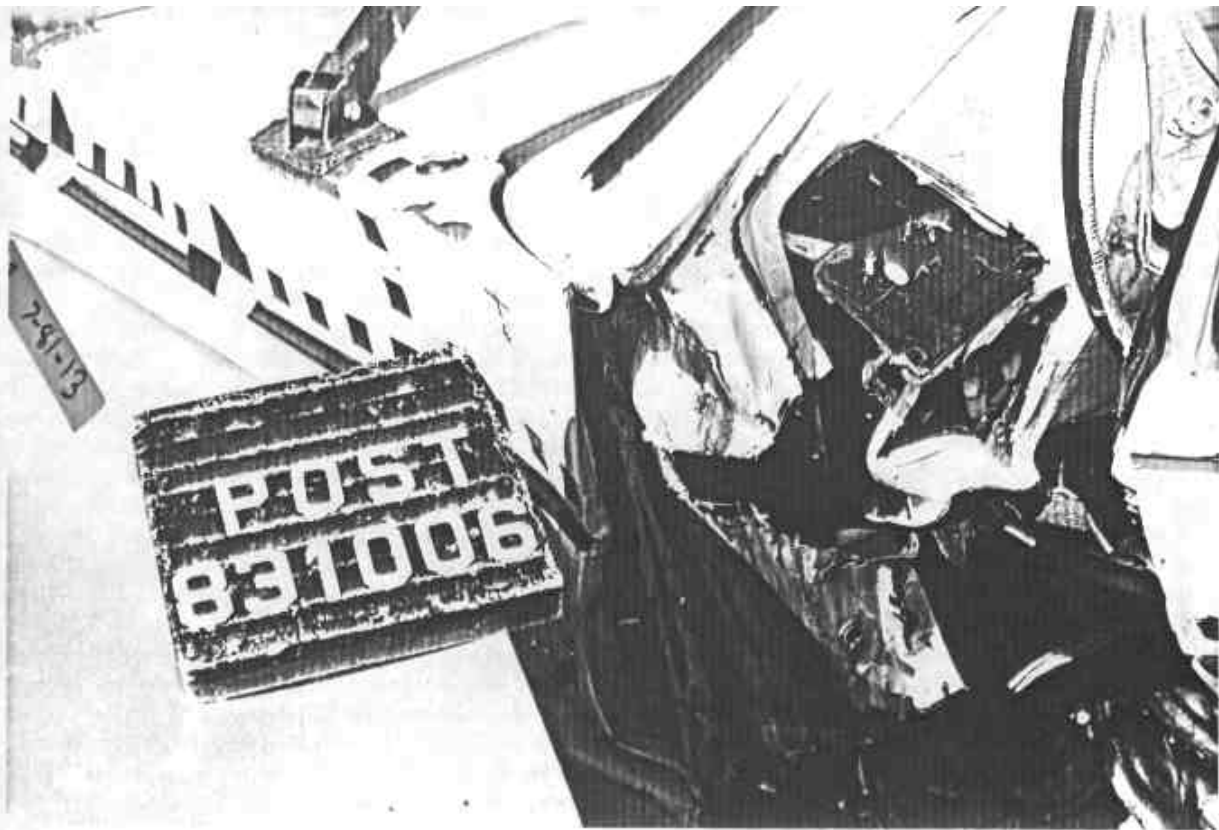


Figure A-17. POST-TEST CLOSEUP - VIEW 1

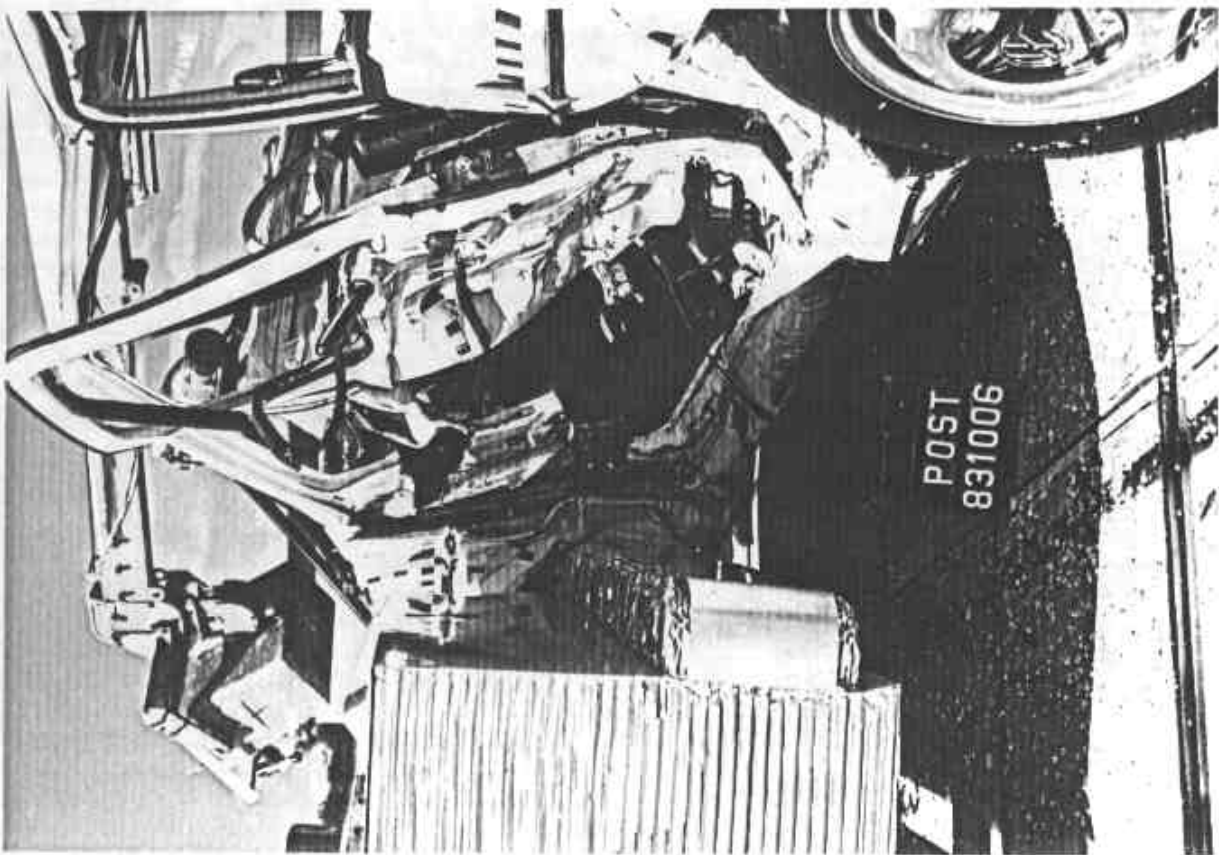


Figure A-18. POST-TEST CLOSEUP - VIEW 2

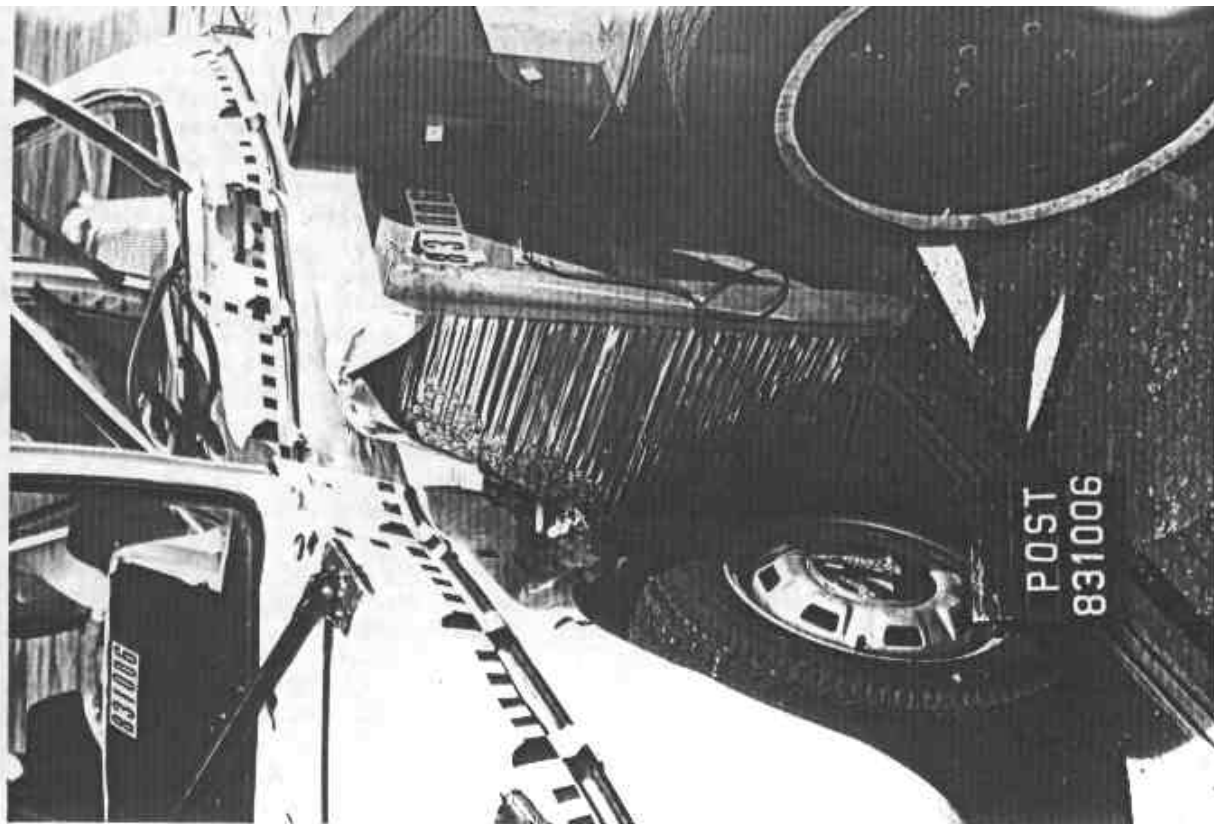


Figure A-19. POST-TEST CLOSEUP - VIEW 3

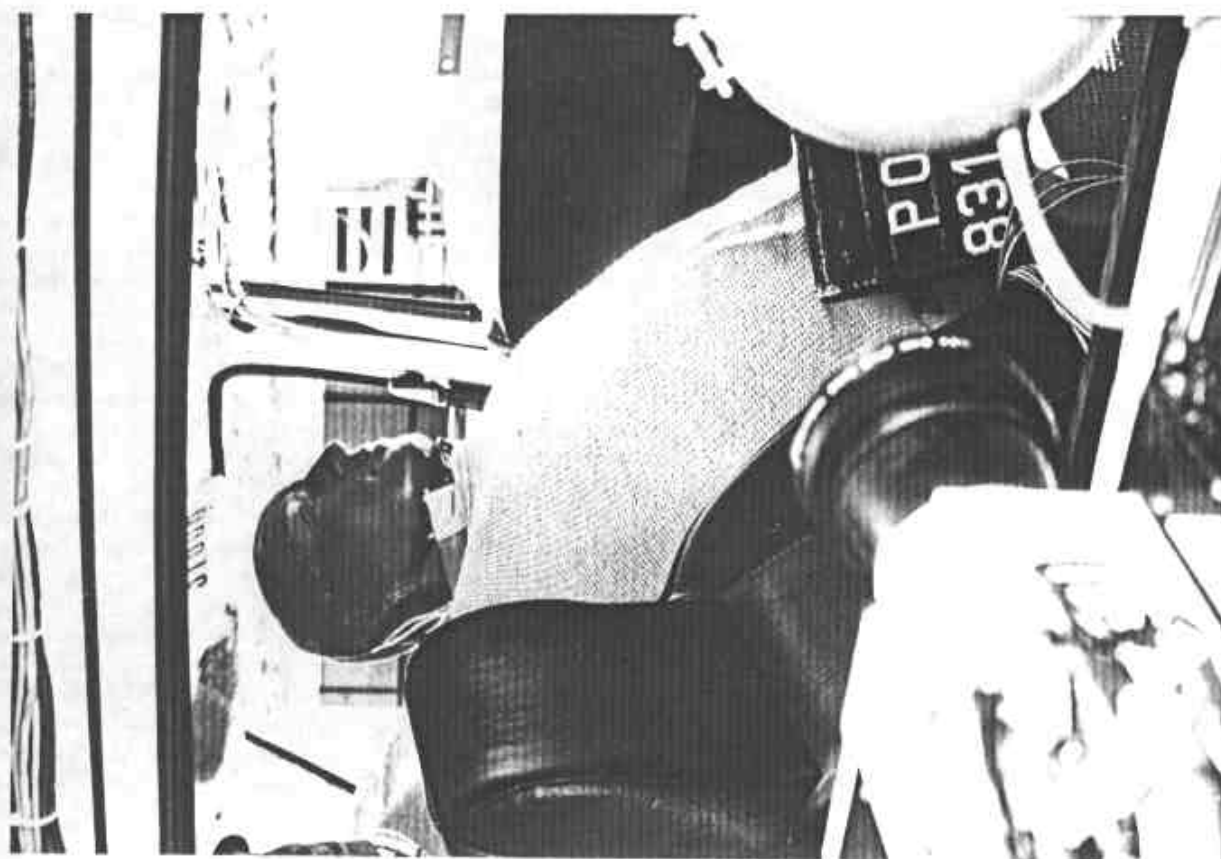


Figure A-20. POST-TEST DRIVER DUMMY - VIEW 1

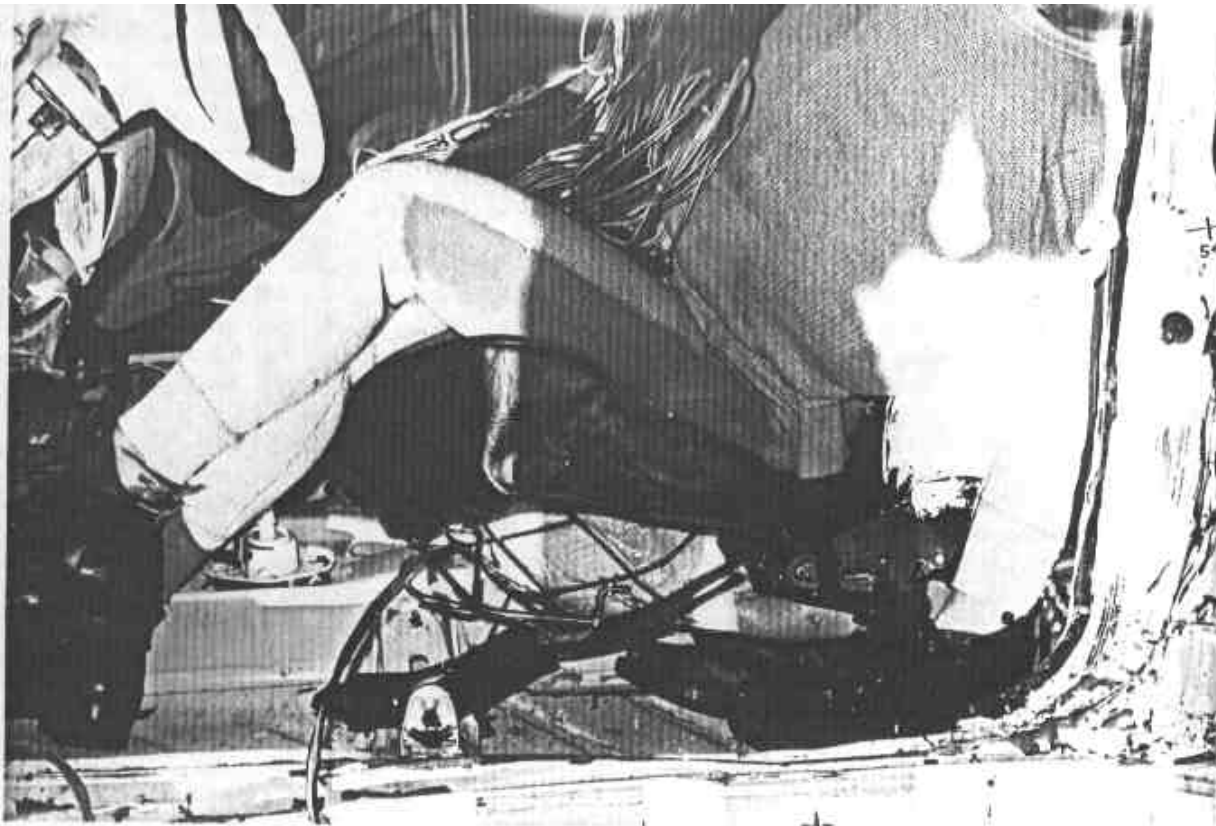


Figure A-21. POST-TEST DRIVER DUMMY - VIEW 2



Figure A-22. POST-TEST DRIVER DUMMY - VIEW 3

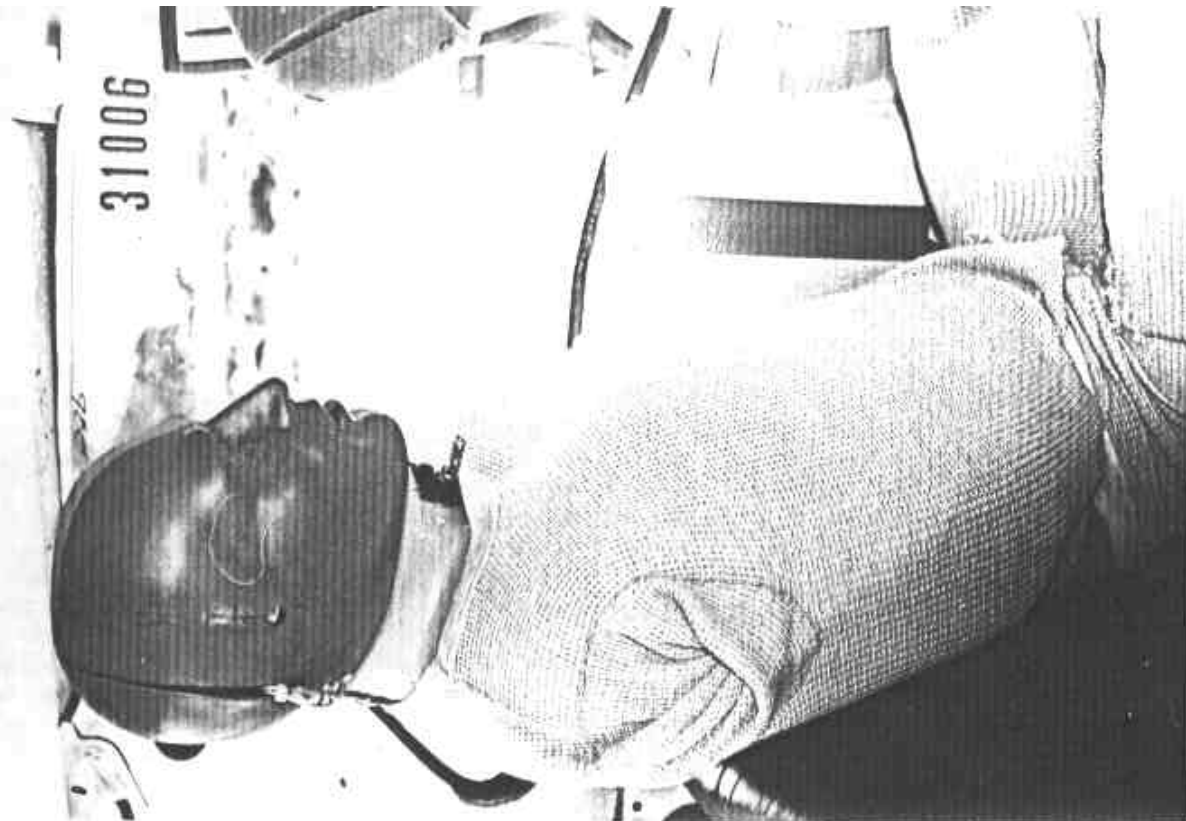


Figure A-23. POST-TEST PASSENGER DUMMY - VIEW 1



Figure A-24. POST-TEST PASSENGER DUMMY - VIEW 2

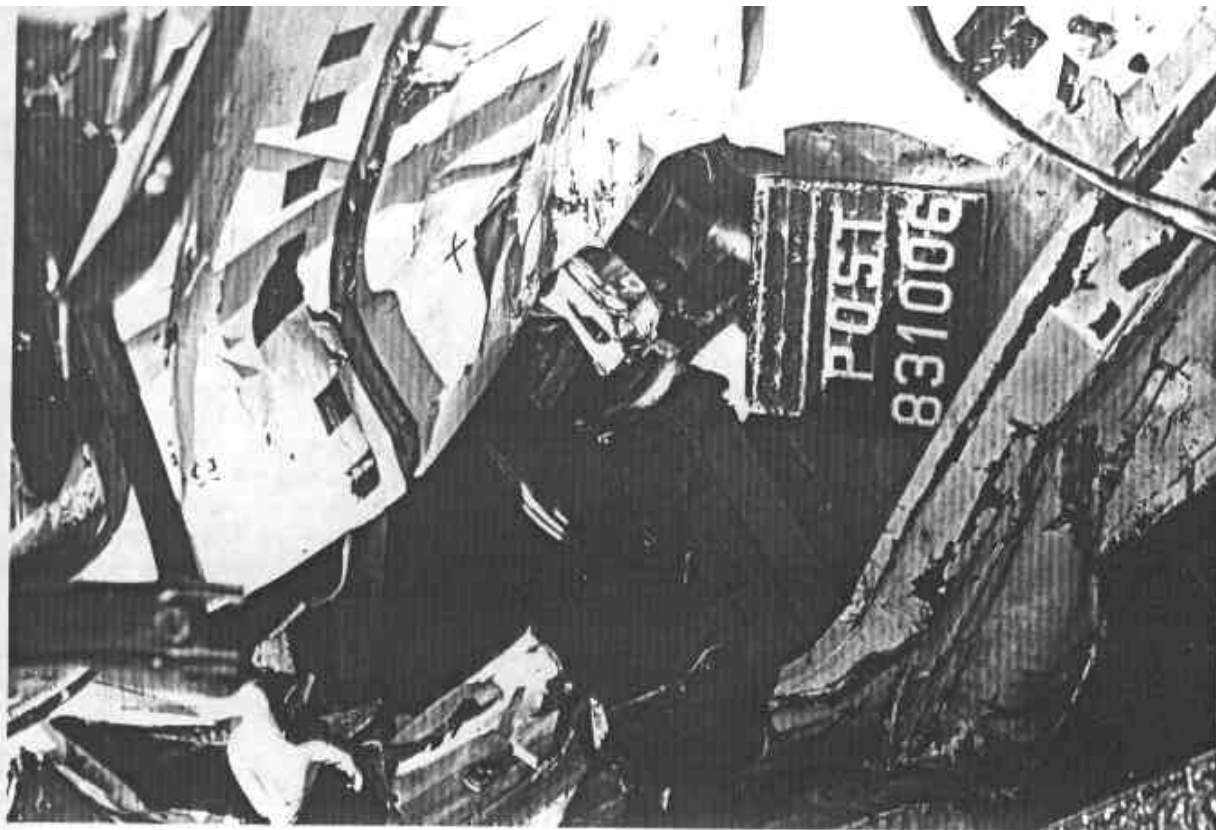


Figure A-25. POST-TEST VEHICLE DAMAGE - VIEW 1

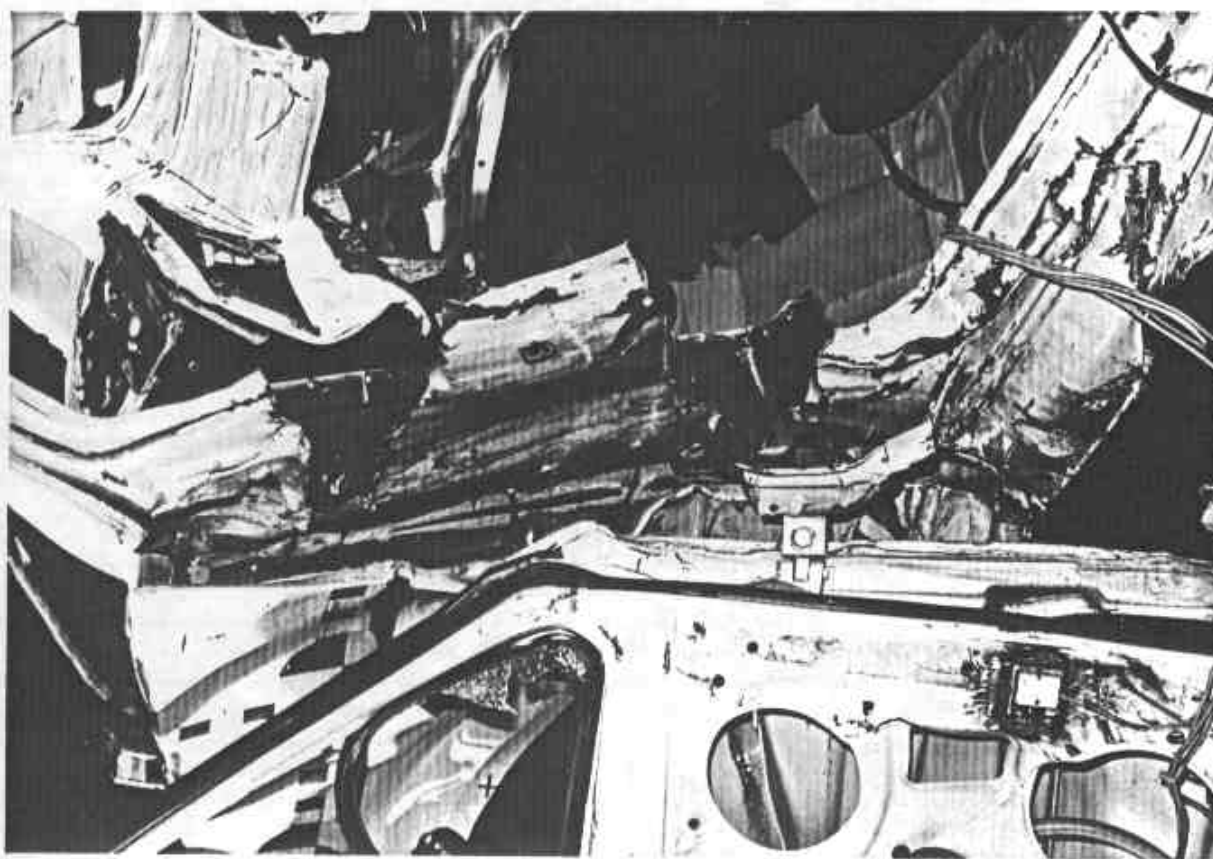


Figure A-26. POST-TEST VEHICLE DAMAGE - VIEW 2



Figure A-27. POST-TEST VEHICLE DAMAGE - VIEW 3

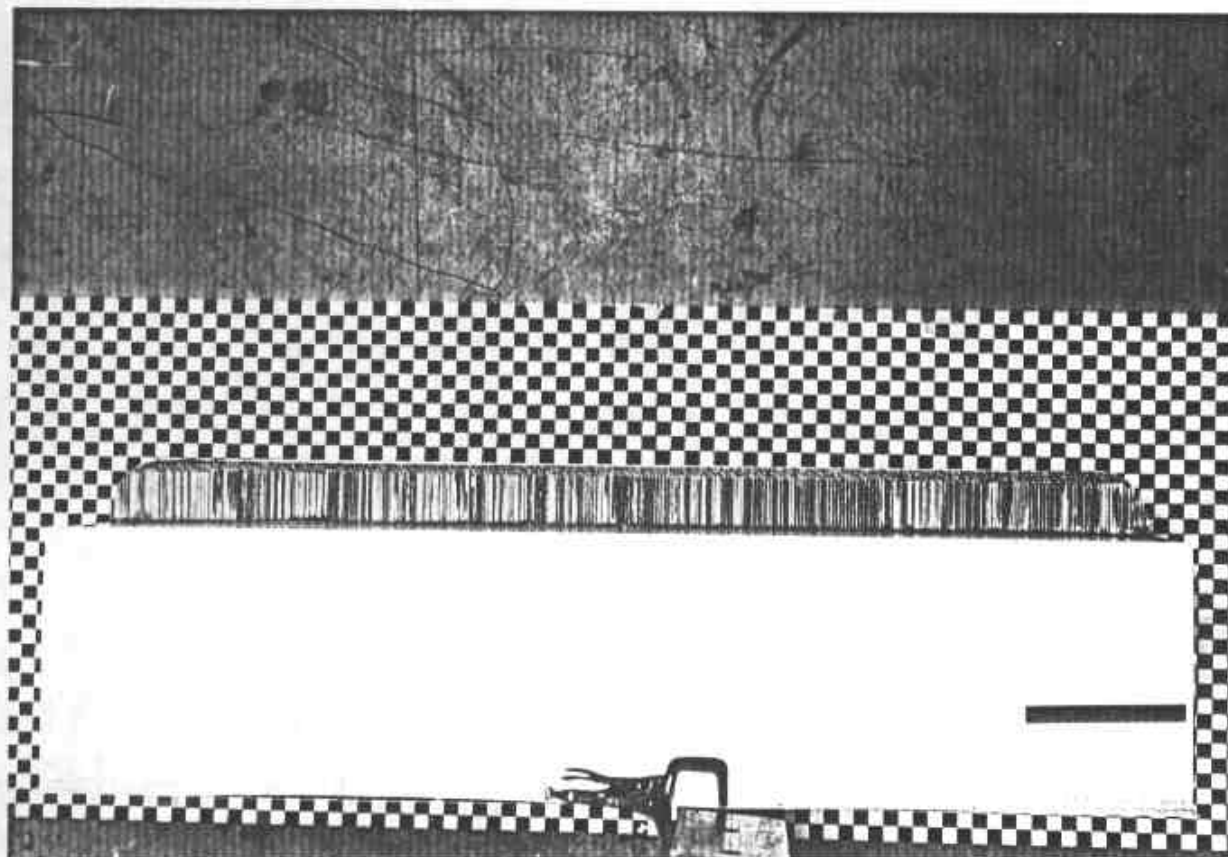


Figure A-28. PRE-TEST HODS FACE - VIEW 1

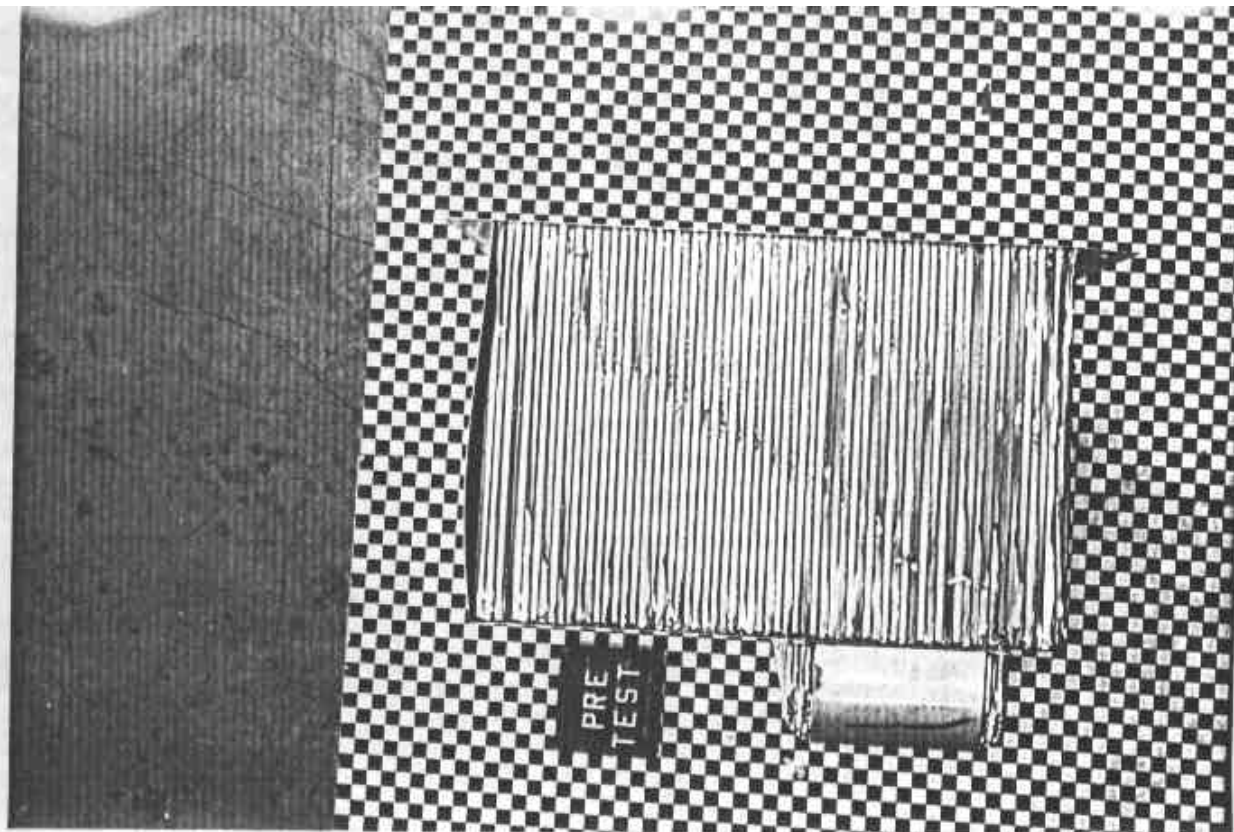


Figure A-29. PRE-TEST MDB FACE - VIEW 2

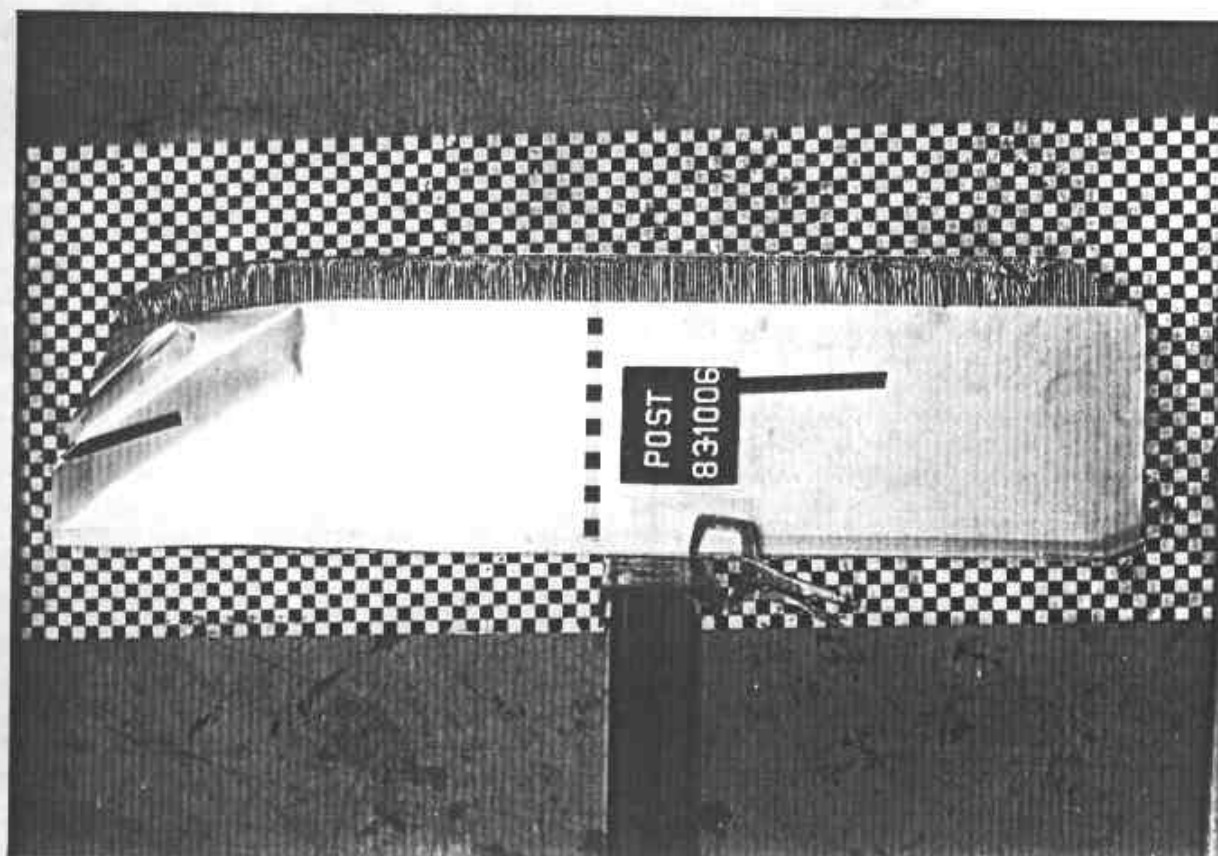


Figure A-30. POST-TEST MDB FACE - VIEW 1

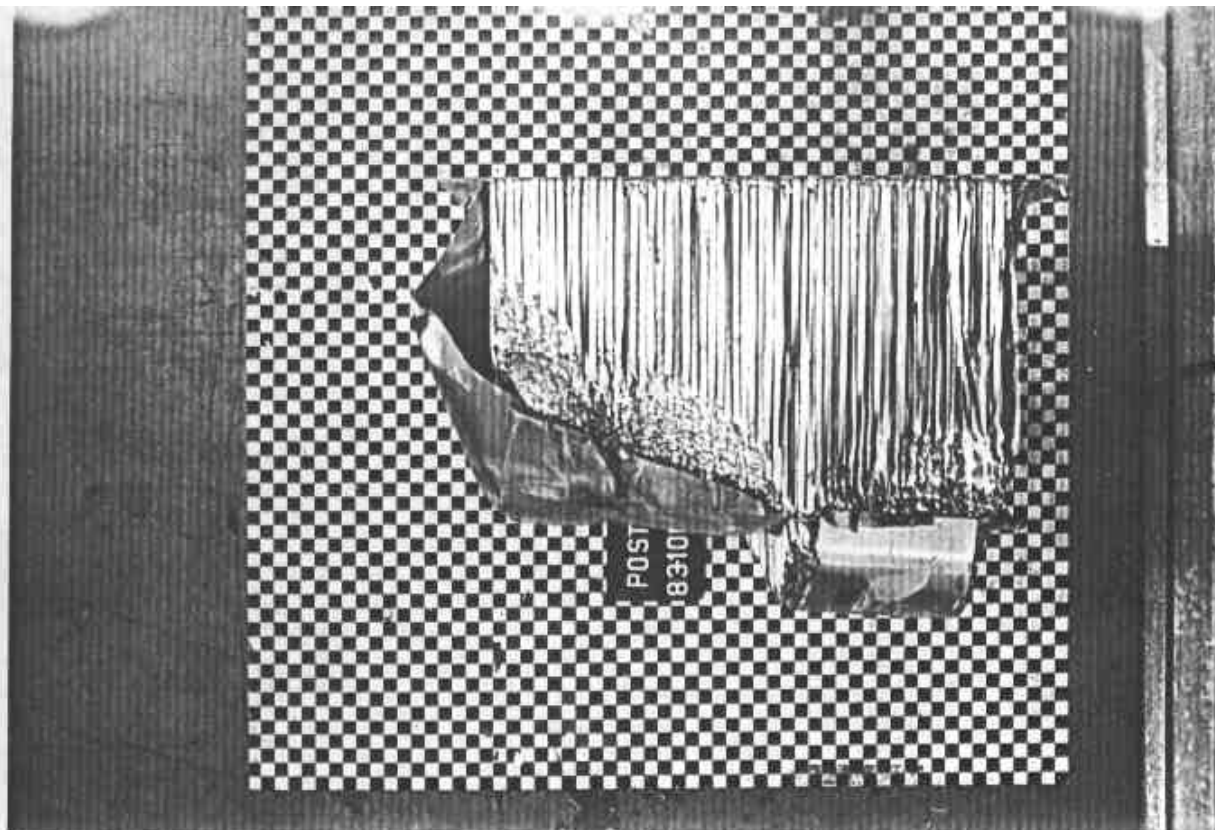


Figure A-31. POST-TEST HDB FACE - VIEW 2

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.

TRC 831006

EVALUATION OF MOD YW FLEET

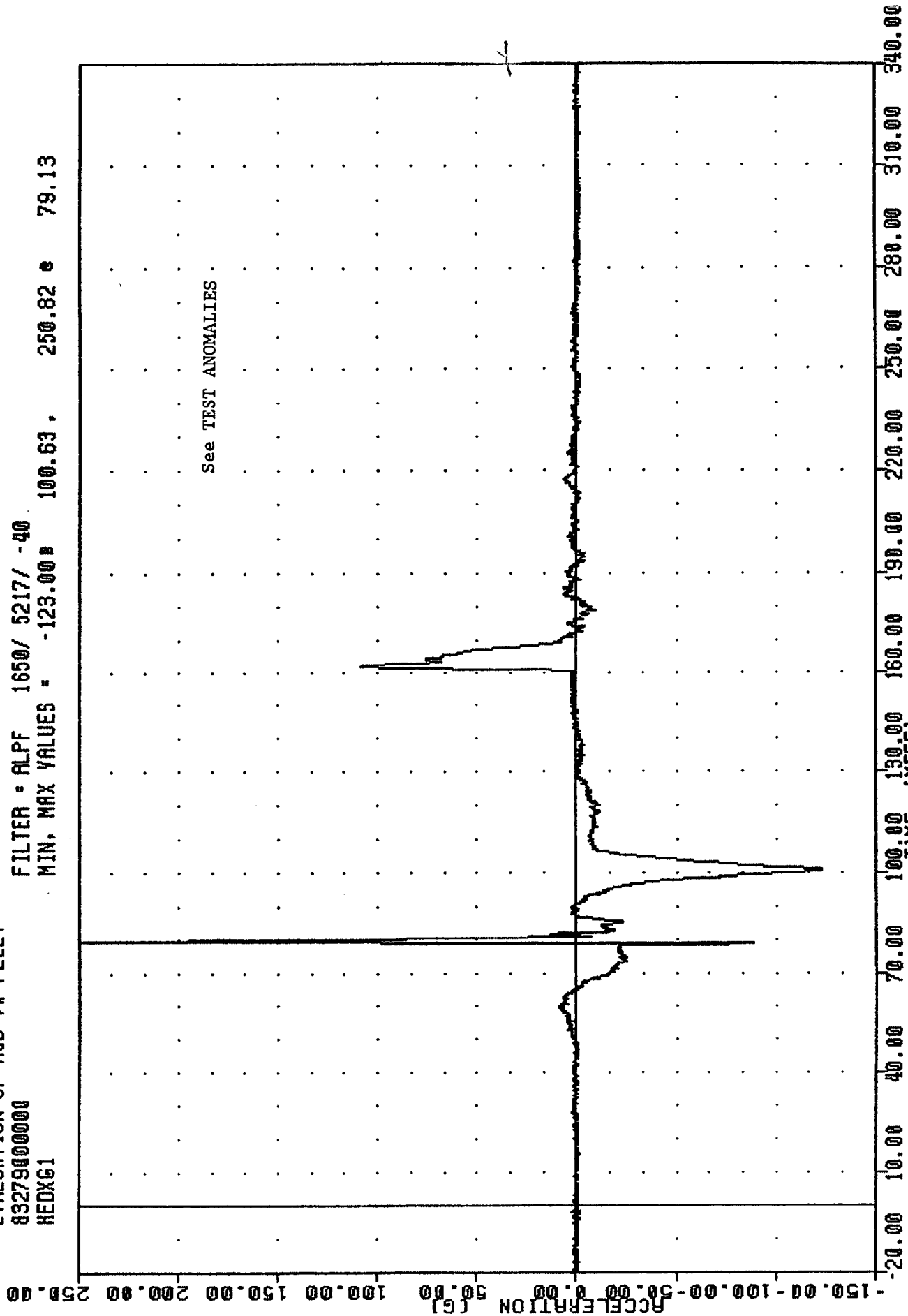
83279000000

HEDXG1

PLOT DATE 18-OCT-83 14:48:08

FILTER = ALPF 1650/ 5217/ -40

MIN. MAX VALUES = -123.00 100.63, 250.82 79.13



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD ACCELERATION X AXIS

TRC 831006 PLOT DATE 18-OCT-83 14:48:08

EVALUATION OF MOD VW FLEET

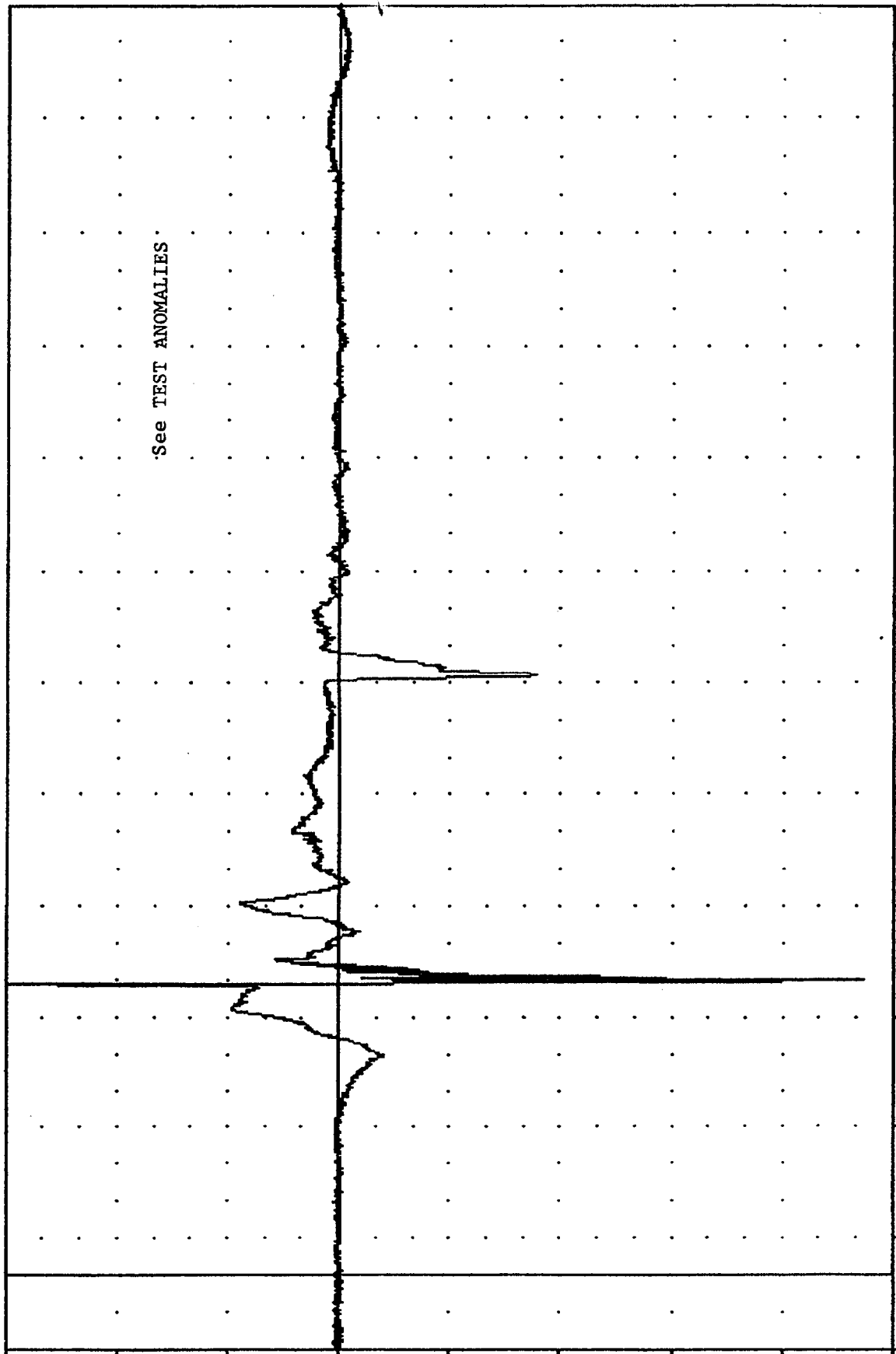
83279000000

HEADY61

FILTER = ALPF 1650/ 5217/ -40

MIN, MAX VALUES = -236.65e 79.88, 154.82 e 78.50

ACCELERATION (G)



TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD ACCELERATION Y AXIS

TAC 831006

EVALUATION OF MOD VW FLEET

83279000000

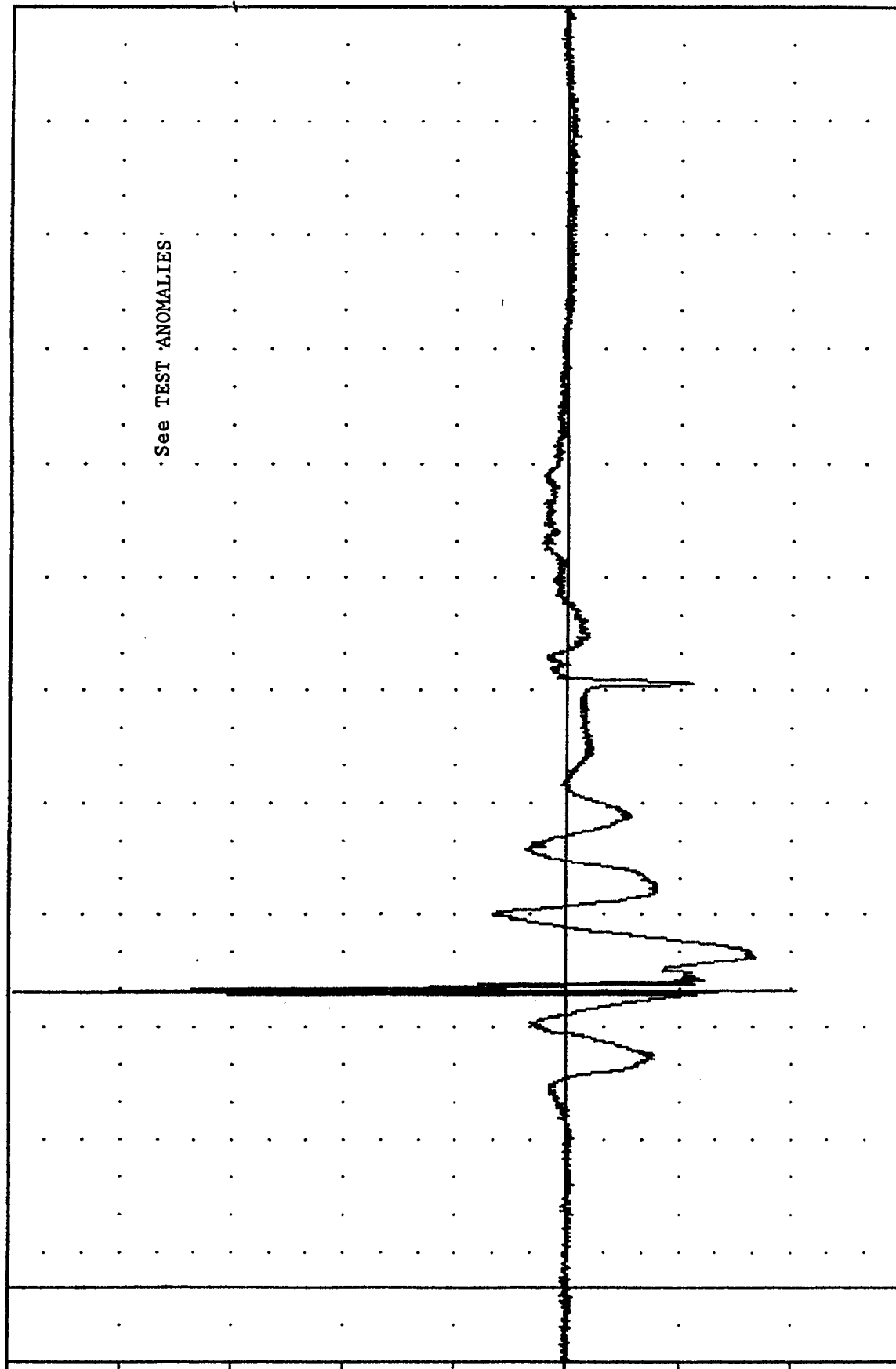
HEDZ61

PLOT DATE 18-OCT-83 14:48:08

FILTER = ALPF 1650/ 5217/ -40

MIN. MAX VALUES = -102.94 79.38, 247.89 78.75

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 VOLKSWAGEN RABBIT
DRIVER HEAD ACCELERATION Z AXIS

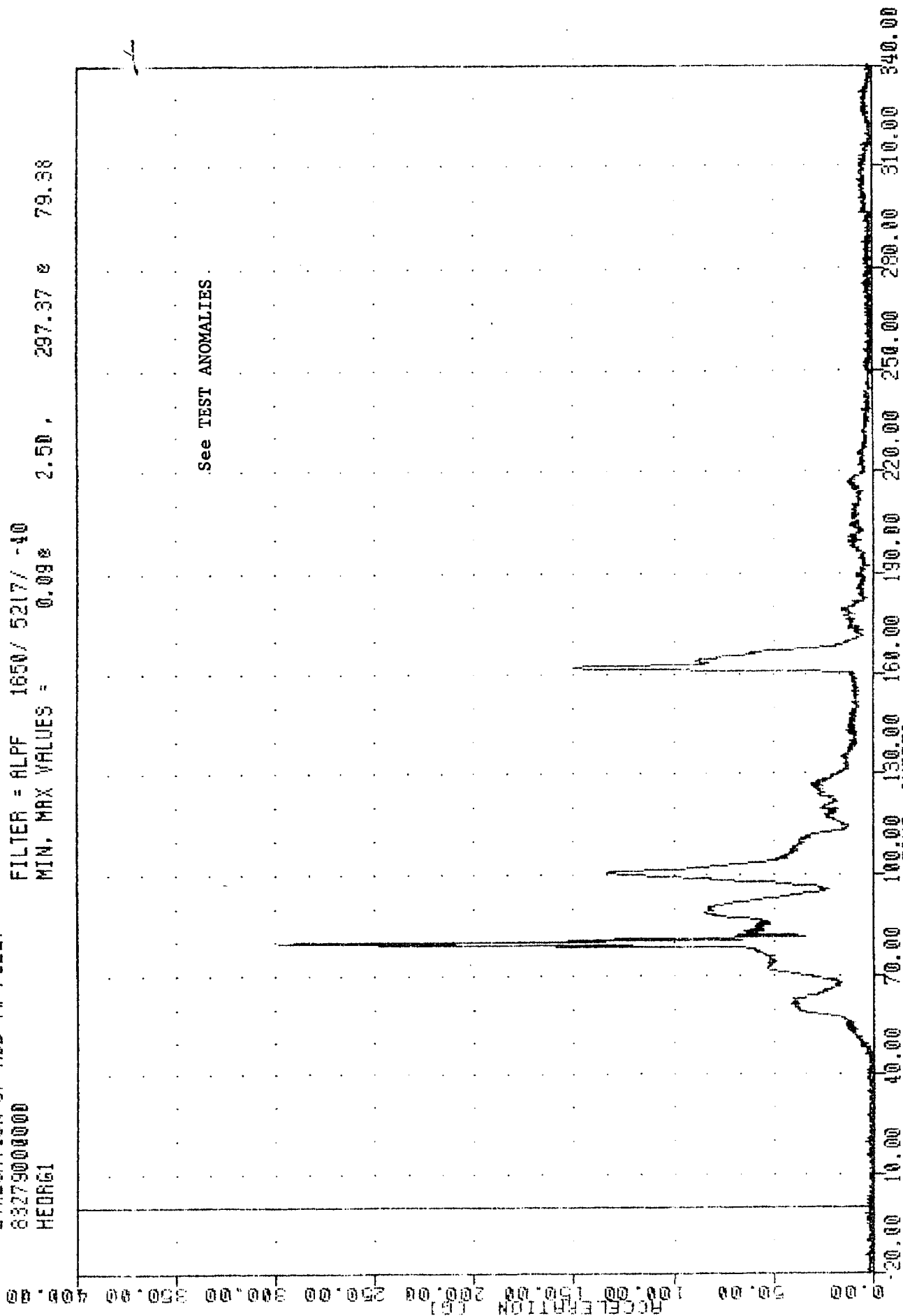
TRC , 831006
EVALUATION OF MOD VW FLEET
83279000000
HEADG1

PLOT DATE 7-OCT-83 10:33:32

FILTER = ALPF 1650/ 5217/ -40

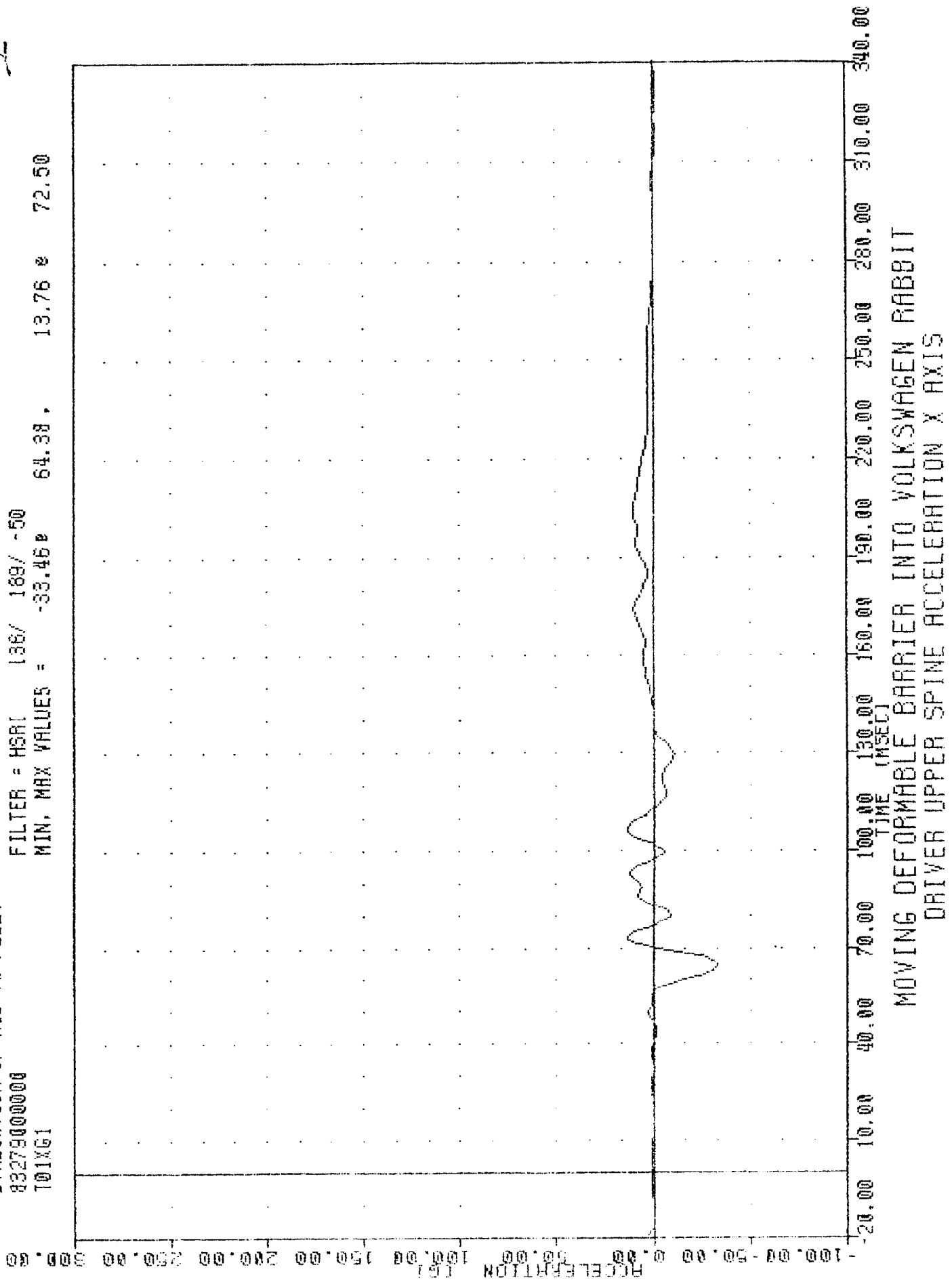
MIN. MAX VALUES = 0.098

2.50, 297.37 e 79.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD RESISTANT

TRC 631006 PLOT DATE 7 OCT 83 10:34:21
 EVALUATION OF MOD YN FLEET
 83279000000
 701XG1
 FILTER = HSR1 136/ 189/ -50
 MIN. MAX VALUES = -33.45 64.38, 13.76 72.50



TRC [REDACTED], 631006 [REDACTED] PLOT DATE [REDACTED] 7-DEC-83 [REDACTED] 10-34-21 [REDACTED]

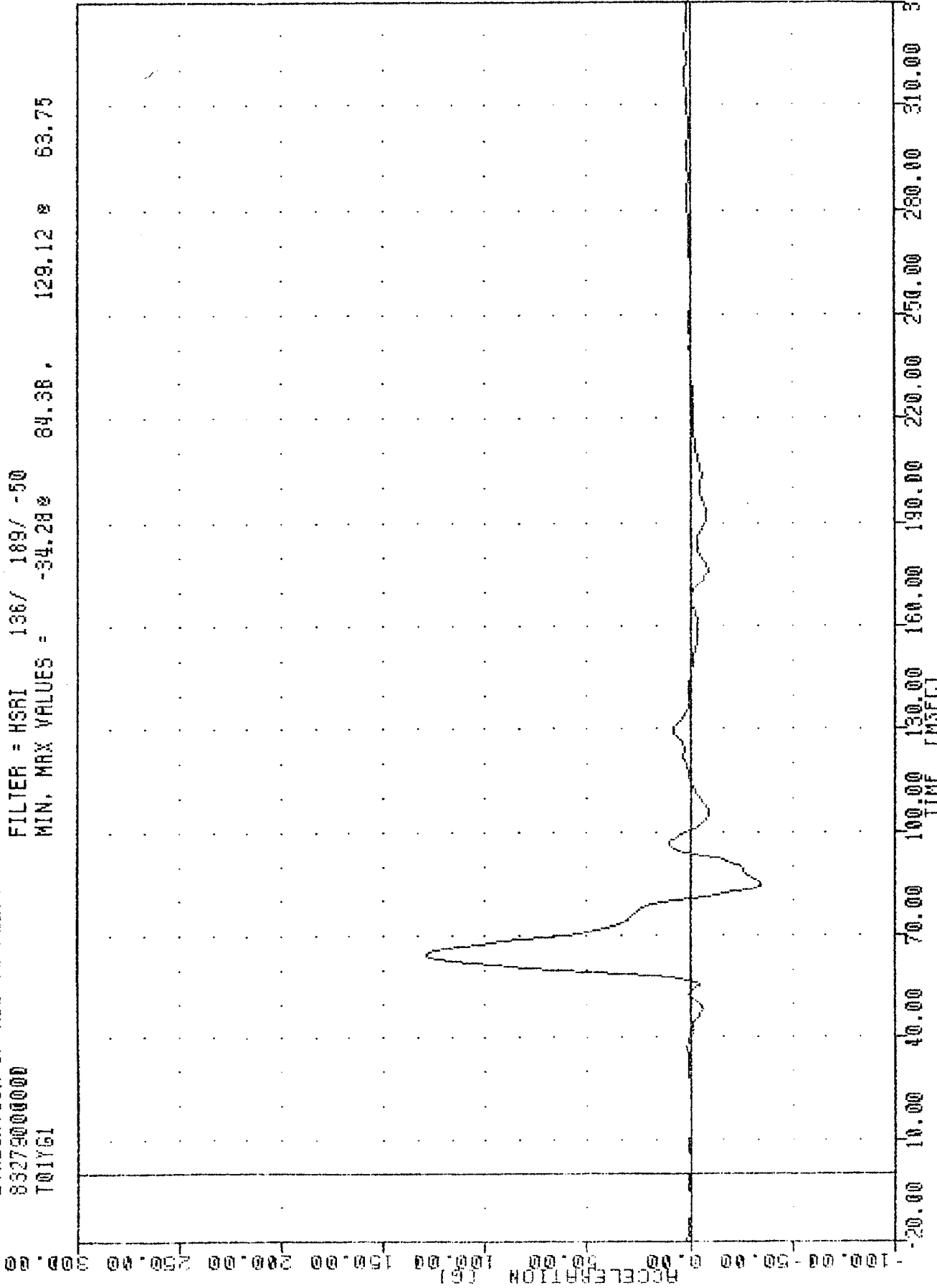
EVALUATION OF MDD YW FLEET

832790000000

T01Y61

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -34.28% 64.38, 129.12% 63.75



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT

DRIVER UPPER SPINE ACCELERATION Y AXIS

TAC 83J006 7-OCT-83 10:34:21

EVALUATION OF MOD VN FLEET

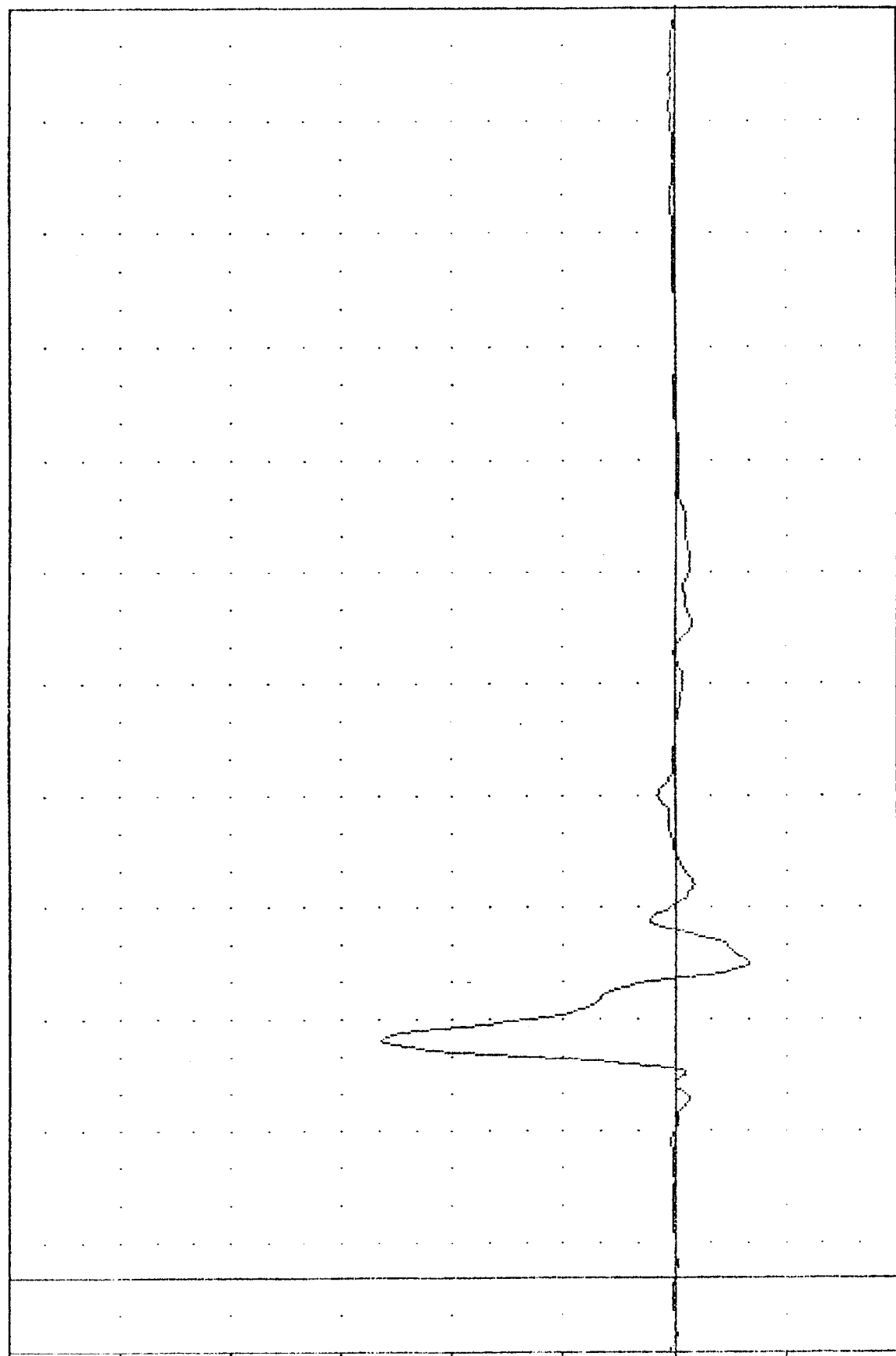
83279000000

T0176R

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -33.68e 84.38 132.13 e 63.75

ACCELERATION (G)

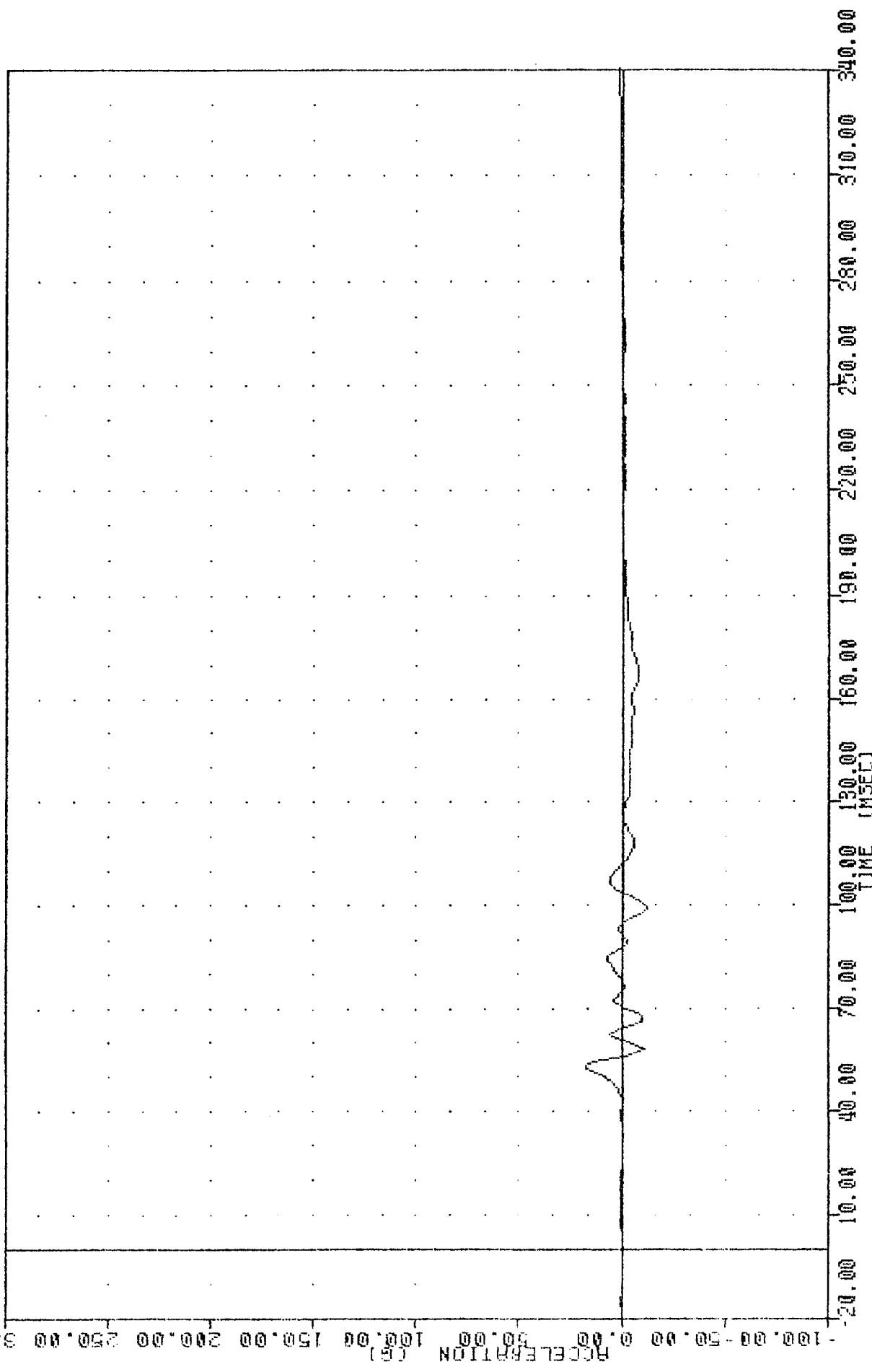


-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE ACCELERATION -2 Y AXIS

TRC [REDACTED], 031006 [REDACTED] PLOT DATE [REDACTED] 7 OCT 83 [REDACTED] 10.34.21
 EVALUATION OF MOD YW FLEET
 83279000000
 101ZG1

FILTER = HSRC 136/ 189/ -50
 MIN. MAX VALUES = -11.87 98.75, 17.45 52.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER UPPER SPINE ACCELERATION Z AXIS

TRC 000008 PLOT DATE 7 OCT 83 10:34:21

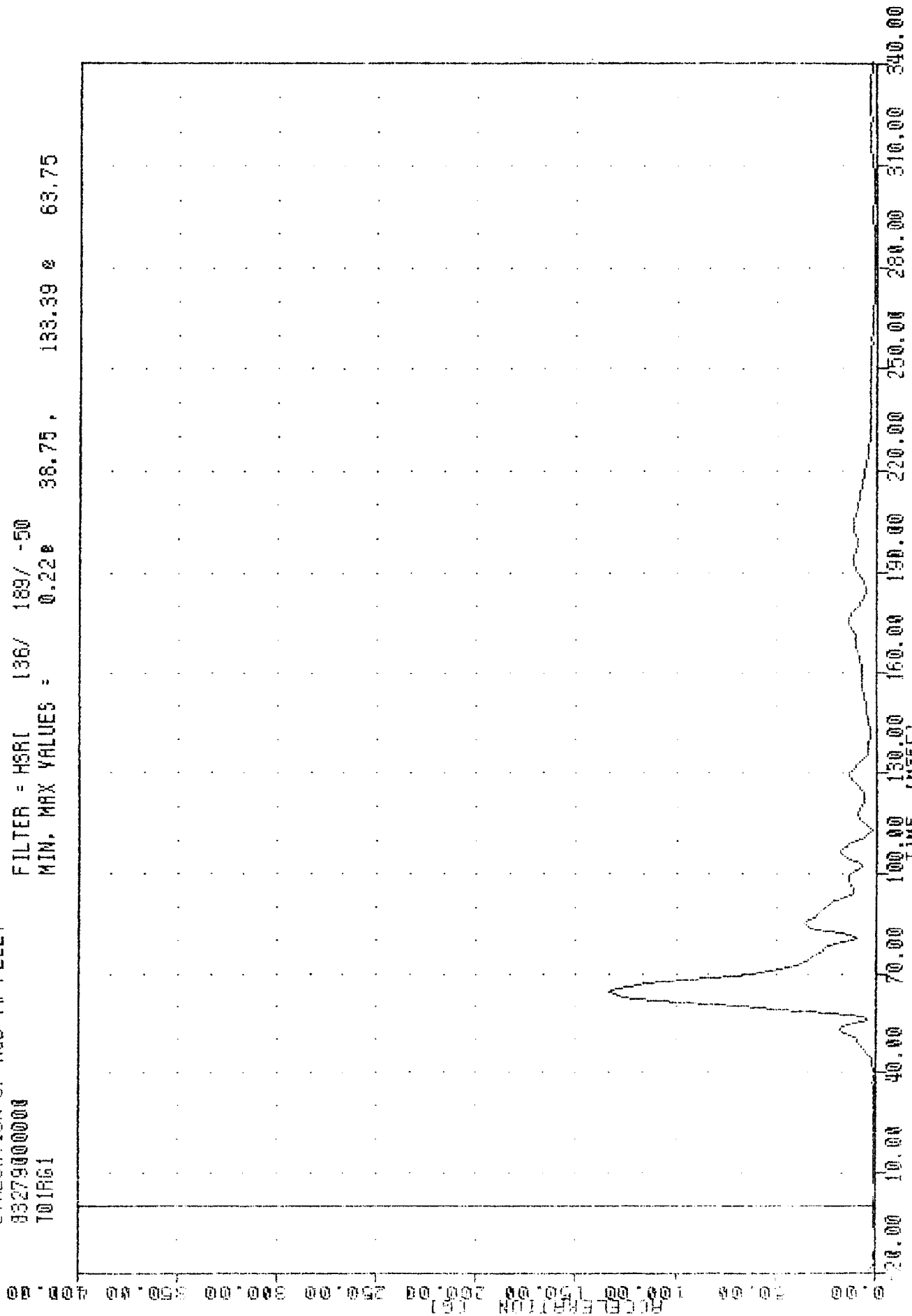
EVALUATION OF M00 VW FLEET

83279000000

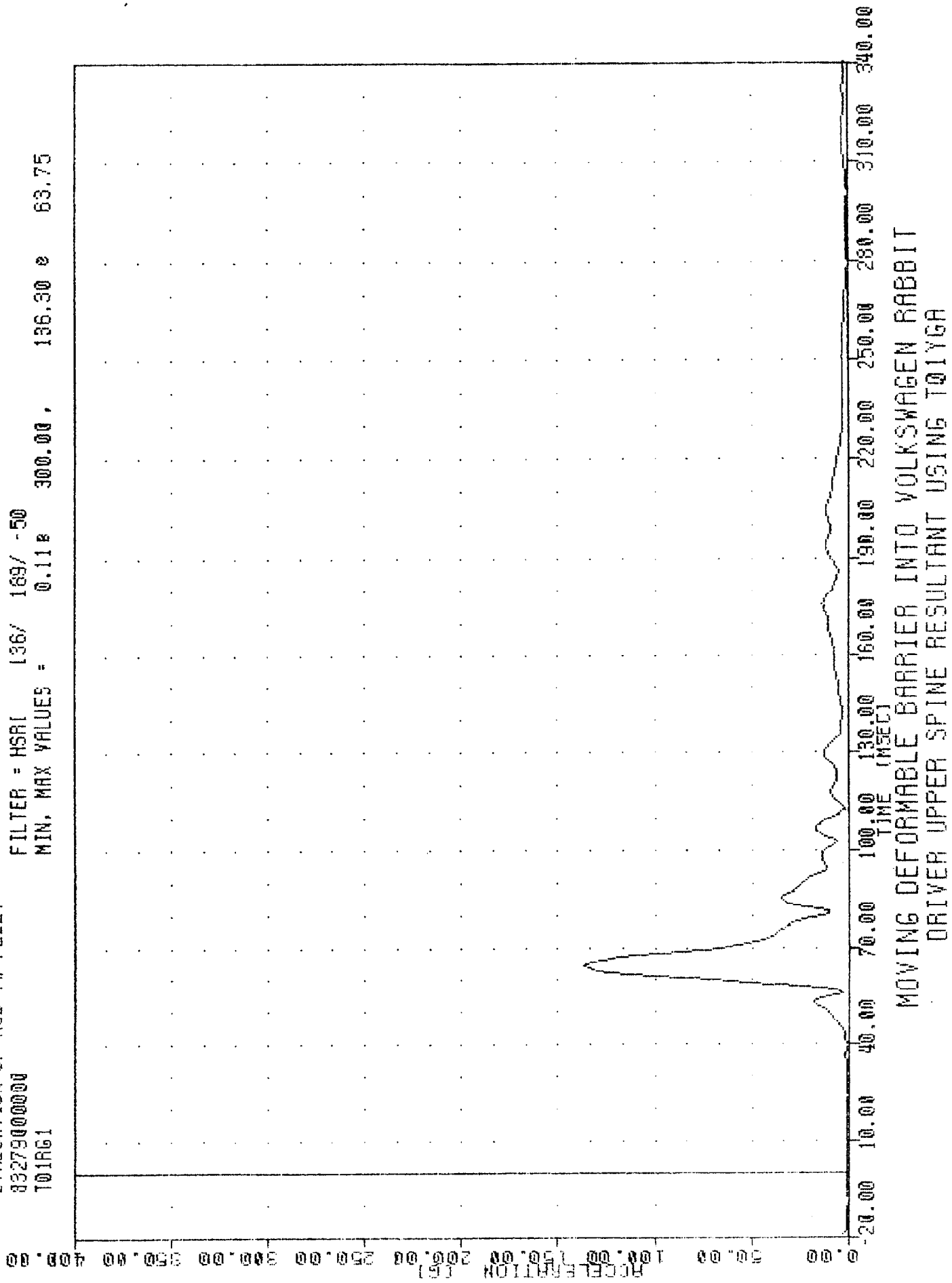
T01RG1

FILTER = HSRI 136/ 189/ -50

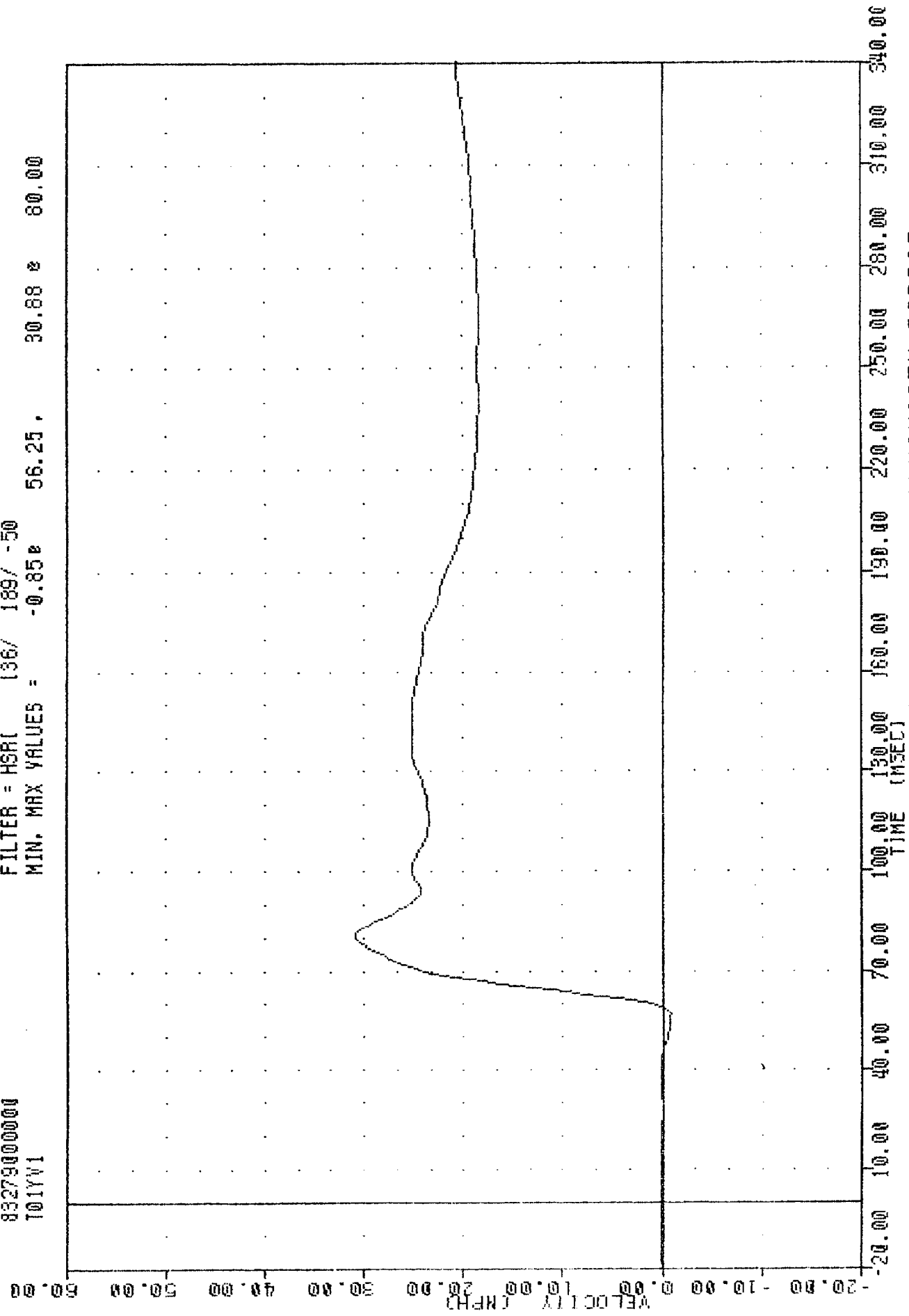
MIN. MAX VALUES = 0.22e 38.75, 133.39 e 63.75



TRC [REDACTED], 031006 [REDACTED] PLOT DATE 7-24-83 10:38:38
 EVALUATION OF MOD YW FLEET
 83279000000
 T01RG1
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = 0.118 300.00, 136.30 e 63.75

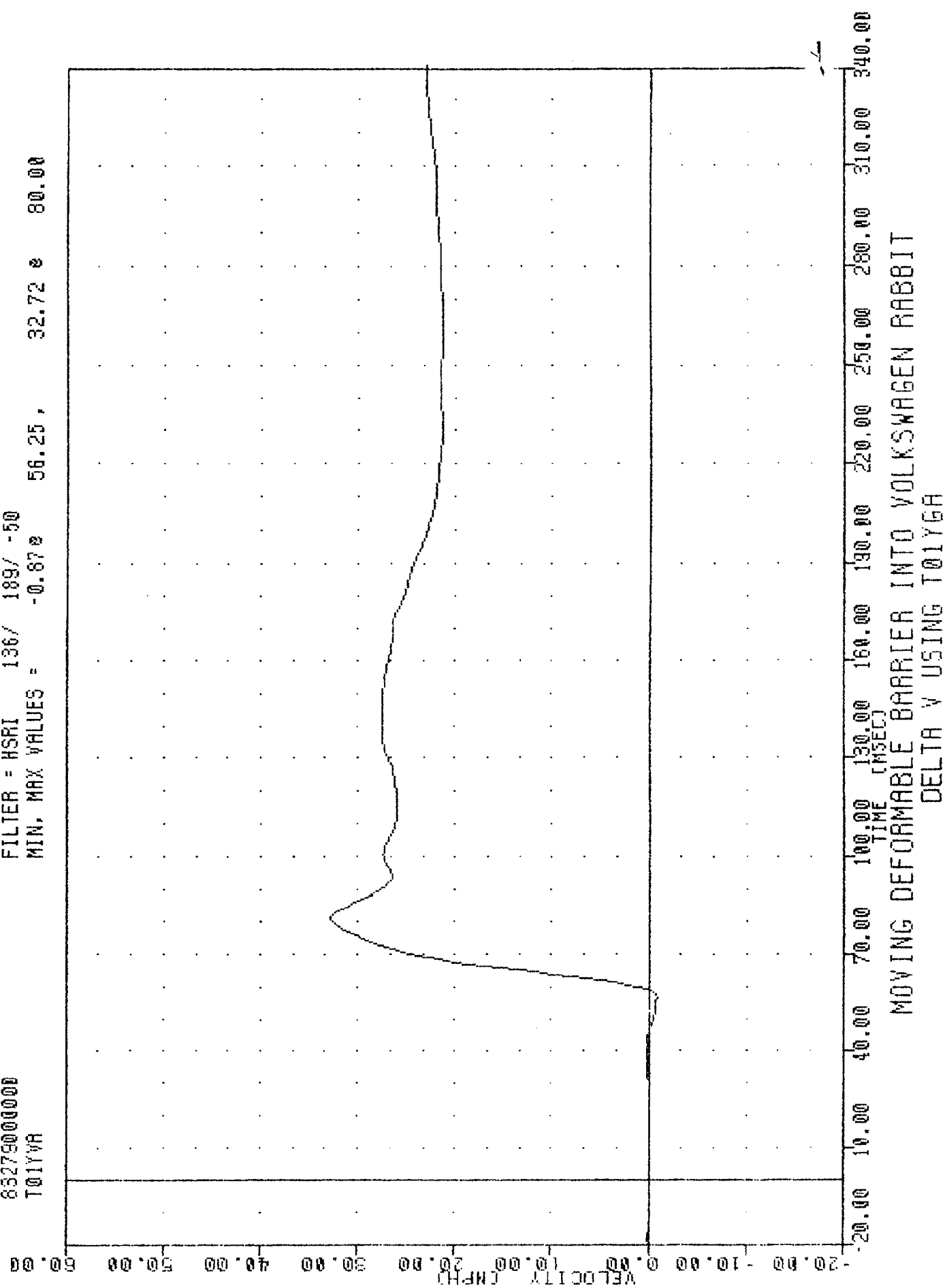


TRC 831006
 EVALUATION OF MOD YW FLEET
 83279000000
 T01YV1
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -0.850 56.25 , 30.88 80.00
 PLOT DATE 7-27-83 10:38:02



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING T01Y61

TRC [REDACTED], [REDACTED] 06 [REDACTED] [REDACTED] [REDACTED]
EVALUATION OF MOD V# FLEET
83279000000
T01Y#A
PLOT DATE [REDACTED] 7 [REDACTED] -83 [REDACTED] 10 [REDACTED] 02 [REDACTED]
FILTER = HSRI 136/ 189/ -50
MIN. MAX VALUES = -0.872 56.25 , 32.72 8 80.00

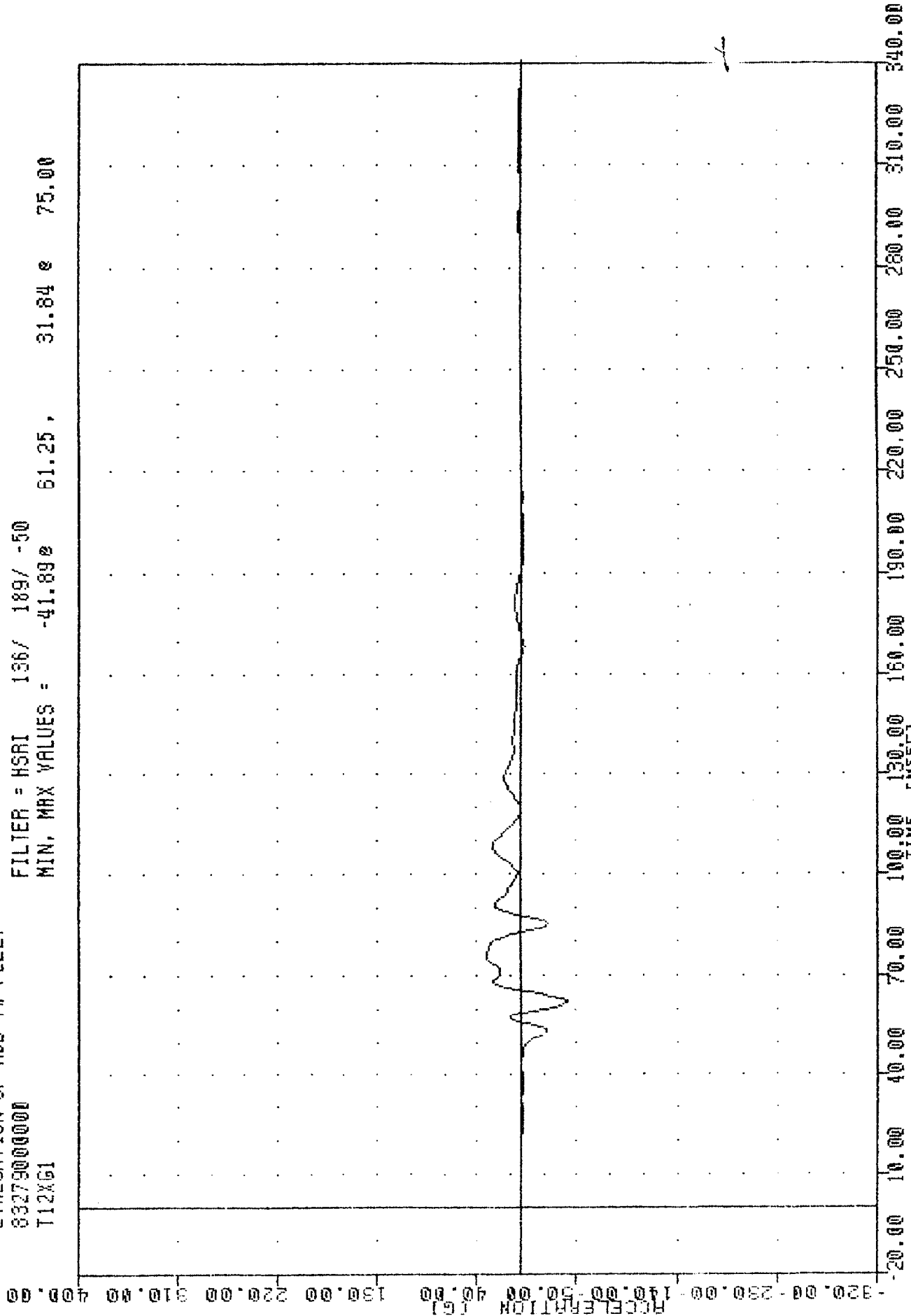


TRC 831006
EVALUATION OF MOD VW FLEET
83279000000
T12XG1

PLOT DATE 7-OCT-83 10:34:21

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -41.892 61.25, 31.84 & 75.00



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE ACCELERATION X AXIS

TAC 831006

EVALUATION OF MOD VW FLEET

83279000000

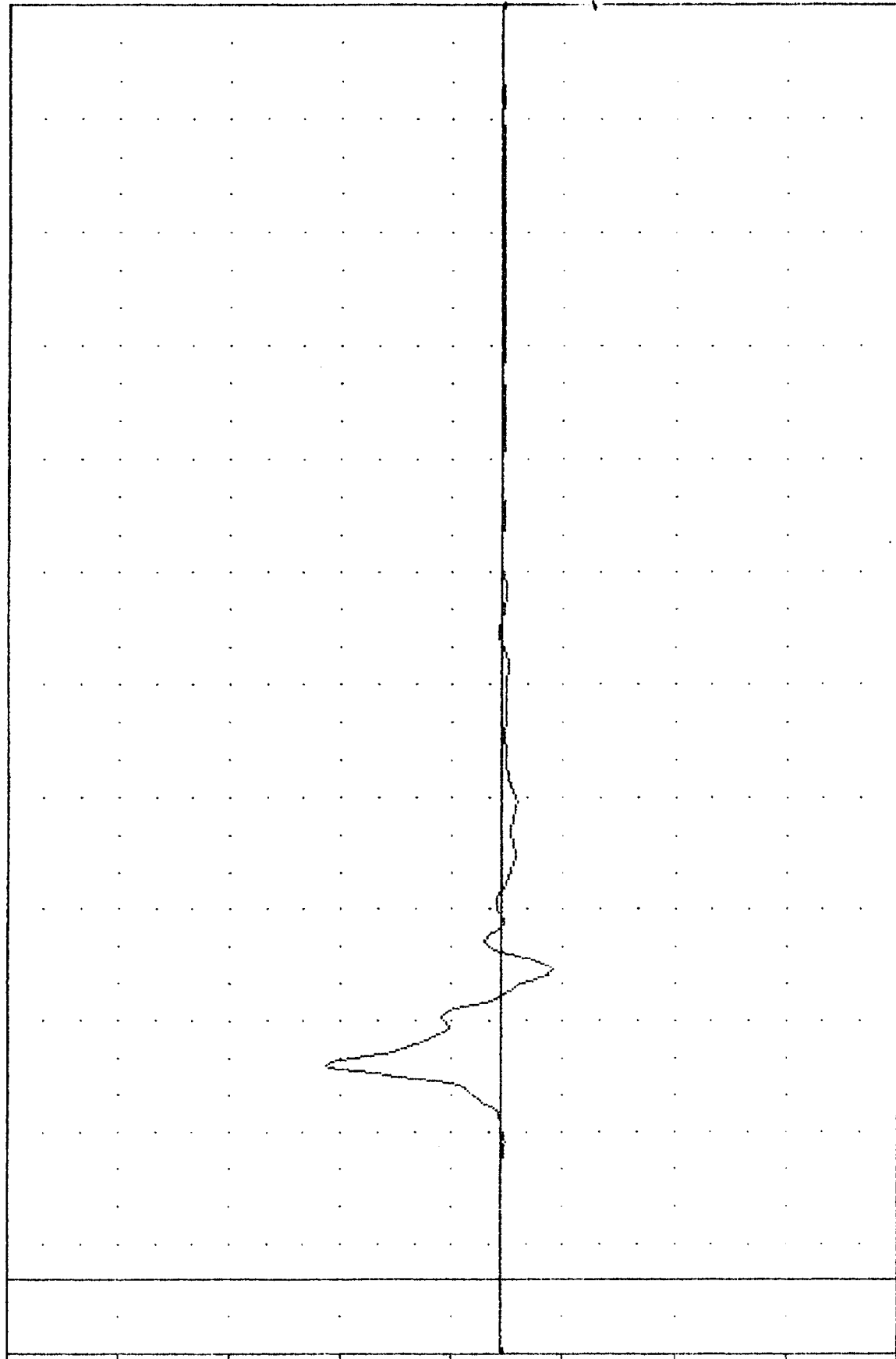
T12Y61

PLOT DATE 7-OCT-83 10:34:21

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -40.97 83.12 141.48 57.50

ACCELERATION (G)



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE ACCELERATION Y AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:31:21

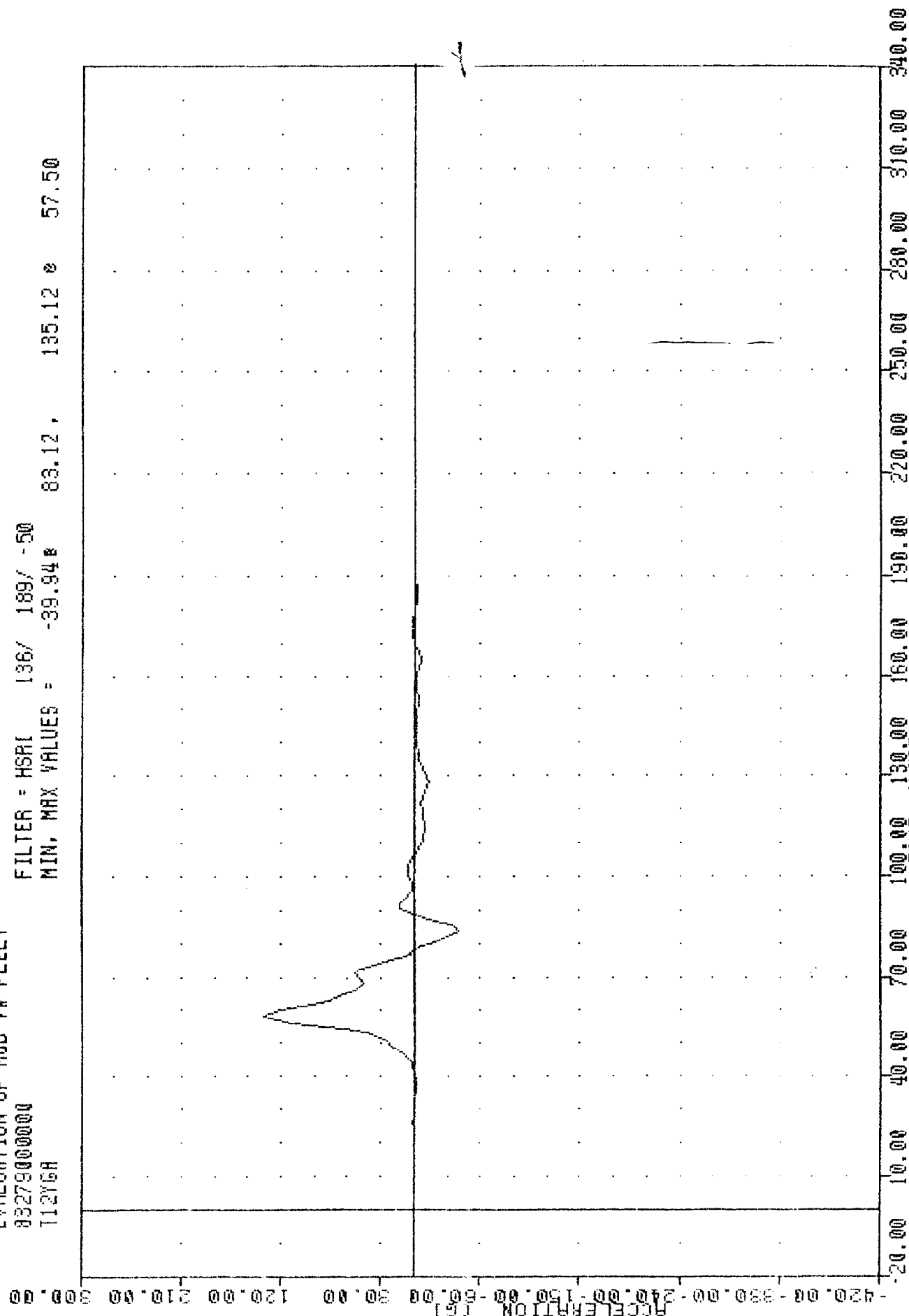
EVALUATION OF MOD VW FLEET

83279000000

T12Y6H

FILTER = HSRL 136/ 189/ -50

MIN, MAX VALUES = -39.94 83.12, 135.12 57.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE ACCELERATION -2 Y AXIS

TRC 831006

EVALUATION OF MOD VV FLEET

83279000000

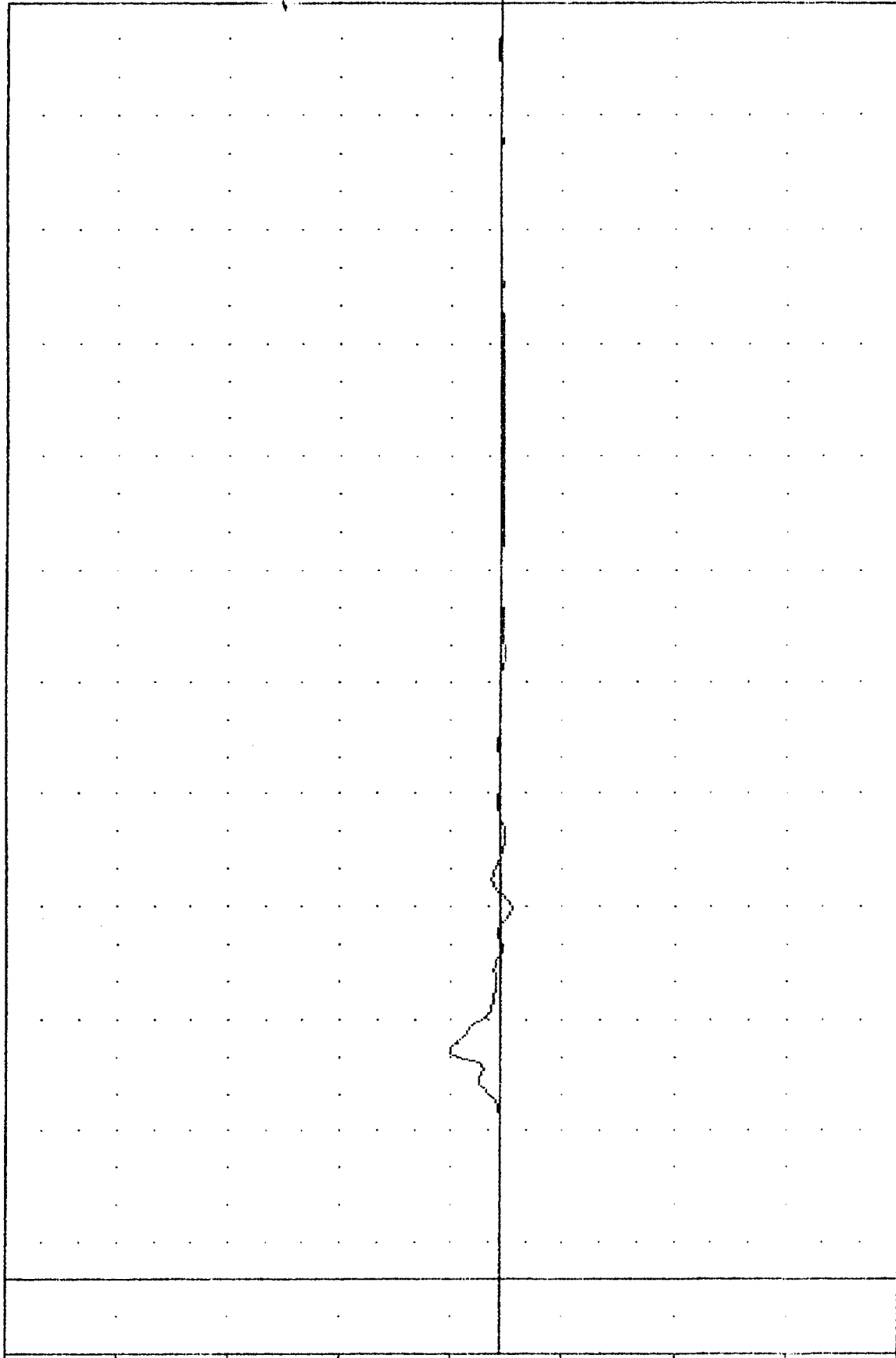
T12761

PLOT DATE 7-OCT-83 10:34:21

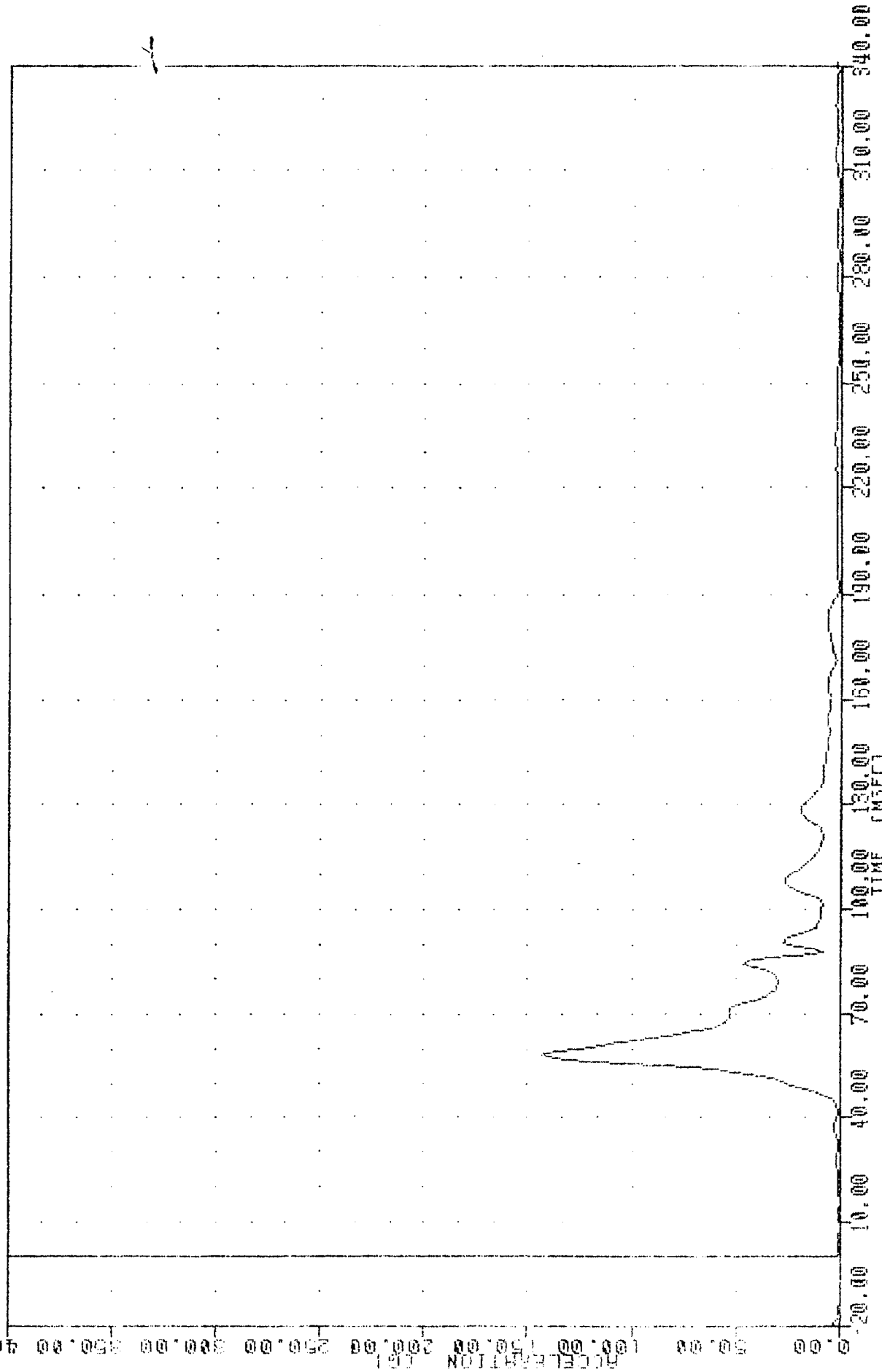
FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -8.57e 98.75, 40.86 e 61.25

ACCELERATION (G)

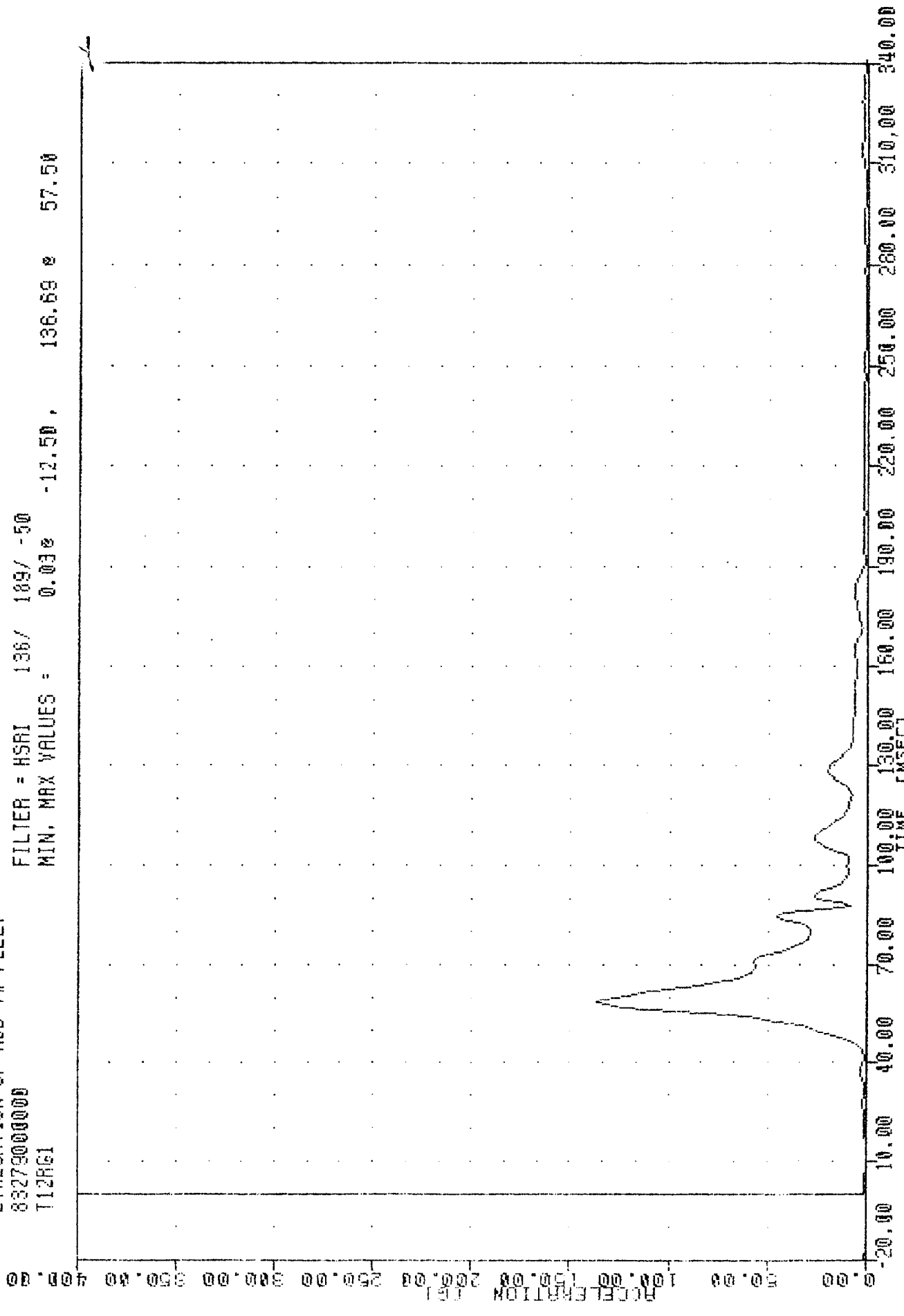


TRC [REDACTED], 831006 [REDACTED] PLOT DATE 7-OCT-83 10:34:21
 EVALUATION OF MOD VW FLEET
 832720000000
 T12R61
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = 0.03% -12.50. 142.98 % 57.50



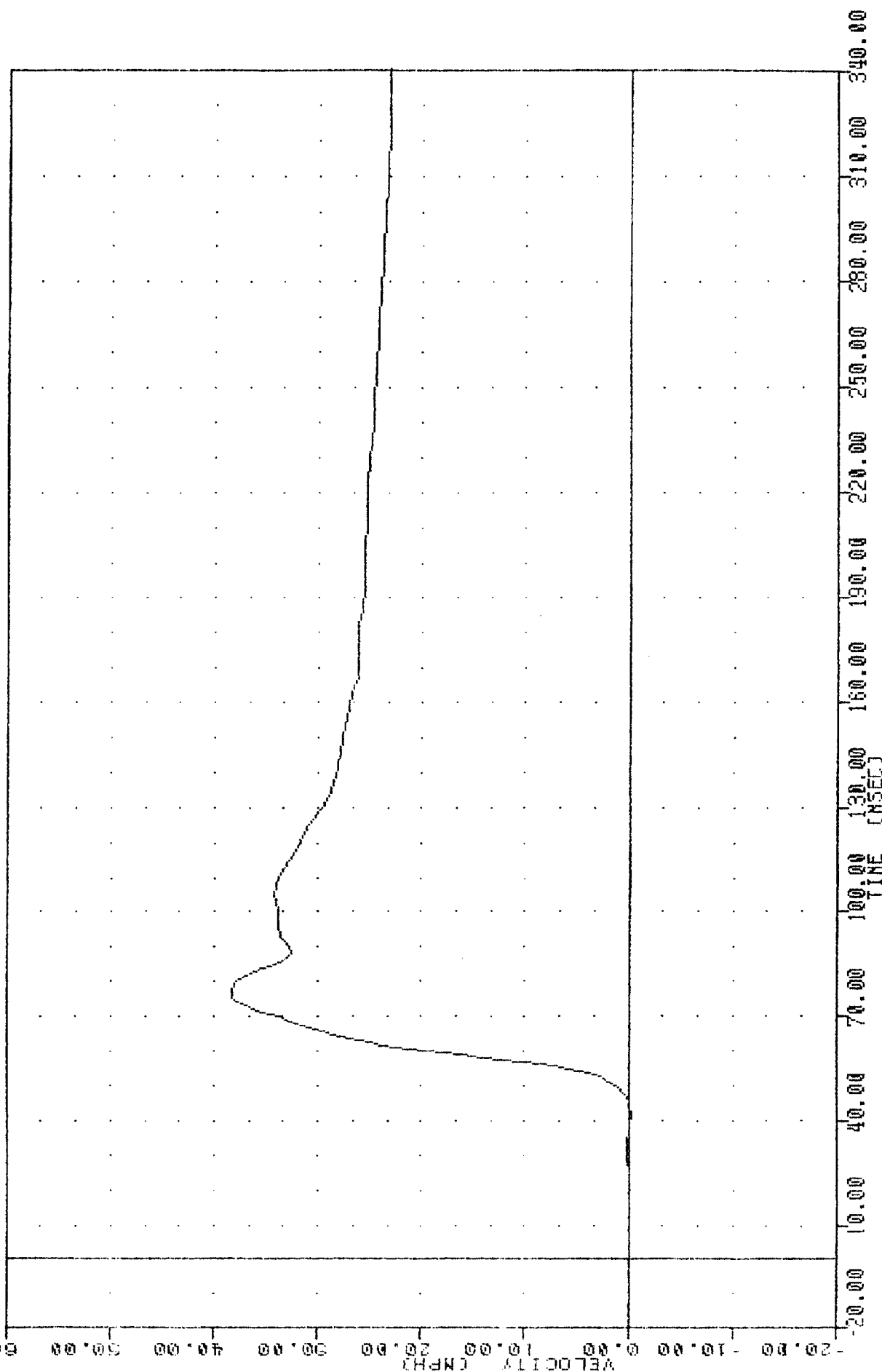
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER LOWER SPINE RESULTANT

TRC [REDACTED], 831006 [REDACTED] PLOT DATE 7-OCT-83 10:35:38
 EVALUATION OF MOD VN FLEET
 832790000000
 T12RG1
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = 0.03g -12.50, 136.69 g 57.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER LOWER SPINE RESULTANT USING T12YGA

TAC [REDACTED], 831008 [REDACTED] PLOT DATE [REDACTED] 7-OCT-83 [REDACTED] 10:56:02 [REDACTED]
 EVALUATION OF MOD VN FLEET
 83279000000
 T12YV1
 FILTER = HSRI 136/ 189/ 50
 MIN, MAX VALUES = -0.22e 40.63, 38.39 e 76.25



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING T12YGI

TRC 831006 PLOT DATE 7-OCT-83 10:38:02

EVALUATION OF MOD VV FLEET

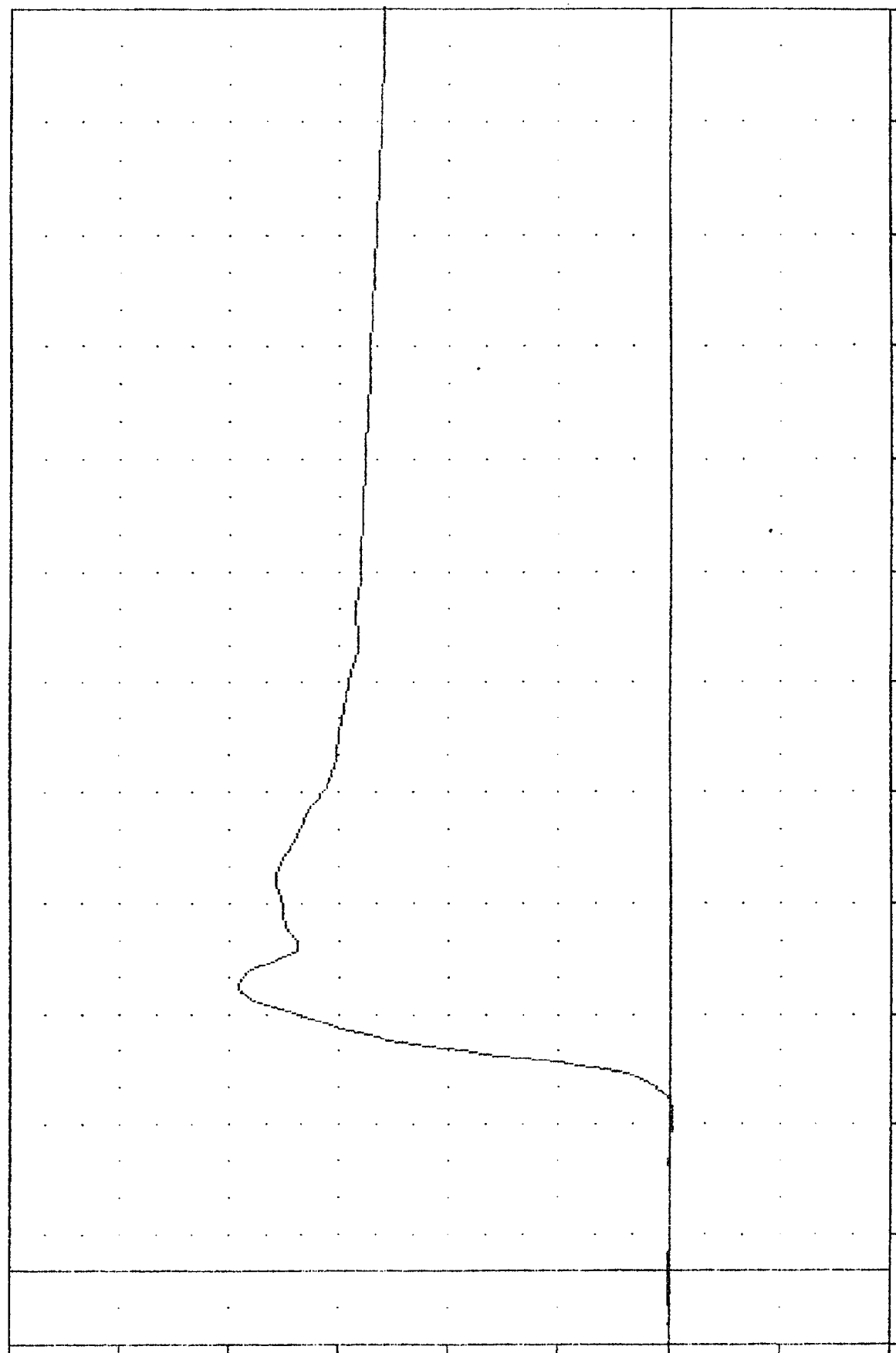
83279000000

T12YVR

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.338 40.63, 39.09 76.88

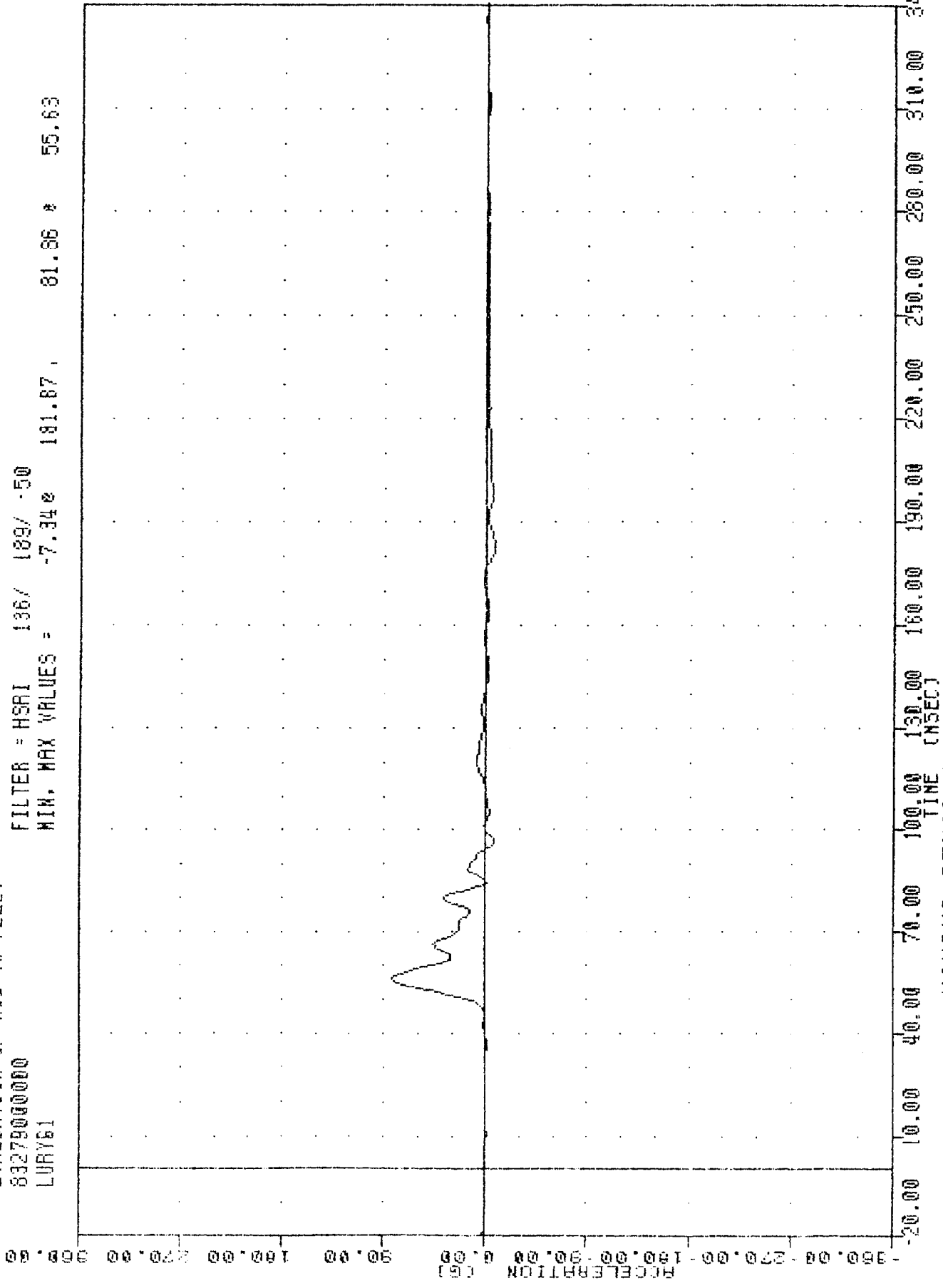
VELOCITY (MPH)



-20.00 10.00 20.00 30.00 40.00 50.00 60.00

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T12Y6R

TRC [REDACTED], 831006 [REDACTED] LOT DATE [REDACTED] 7-OCT-83 [REDACTED] 10.34.21
 EVALUATION OF MOD VN FLEET
 832780000000
 LURV61
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -7.34e 181.87, 81.86 * 55.63



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER LEFT UPPER RIB ACCELERATION Y AXIS

TRC 831006

EVALUATION OF MOD VW FLEET

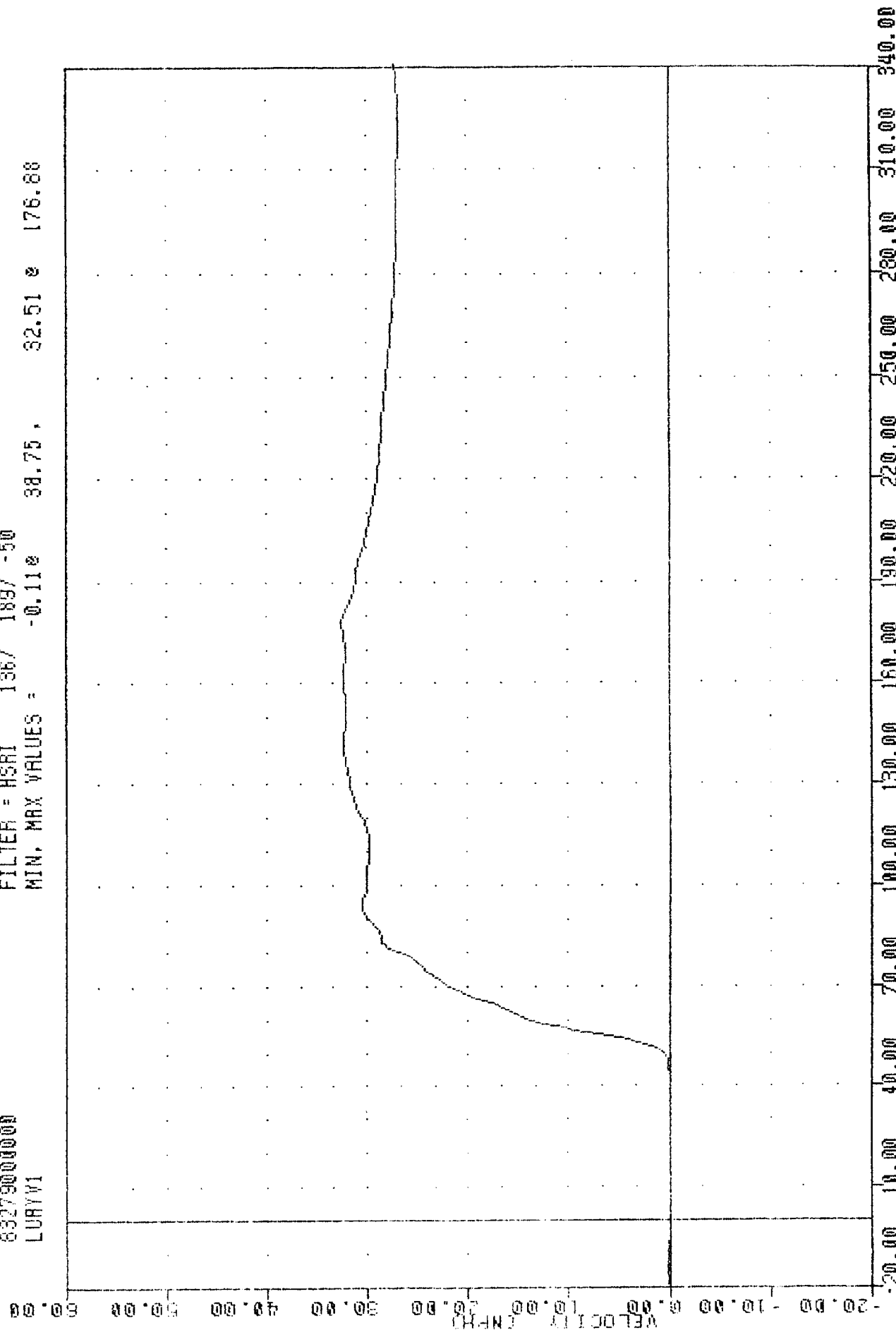
832790000000

LURYV1

PLOT DATE 7-OCT-83 10:36:02

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -0.110 38.75, 32.51 176.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LURYG1

TRC 831006 PLOT DATE 7-OCT-83 10:34:21

EVALUATION OF MOD VW FLEET

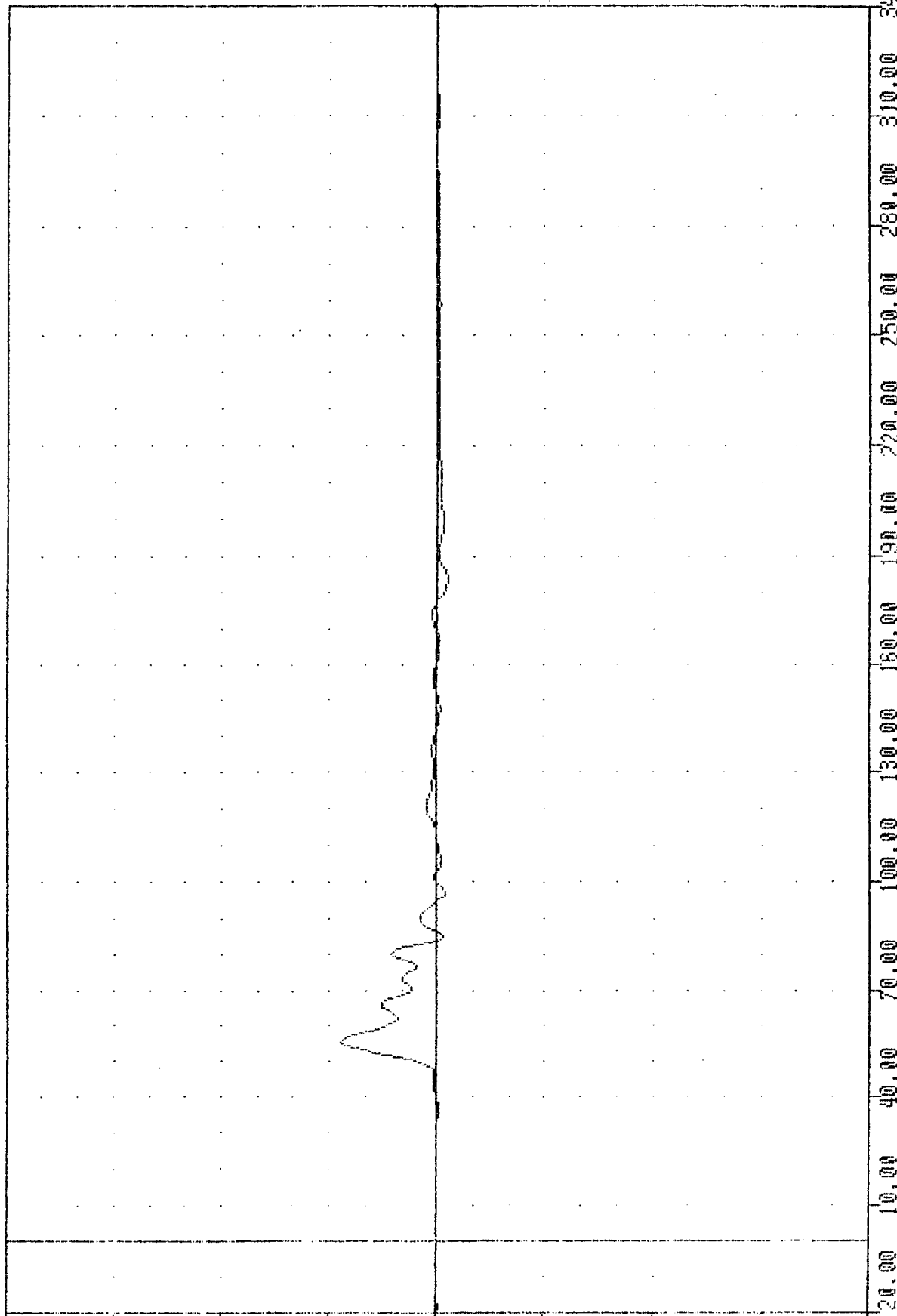
83279000000

LURYCH

FILTER = HSR 136/ 189/ -50

MIN. MAX VALUES = -8.70% 182.50, 80.92 % 55.00

ACCELERATION (G)

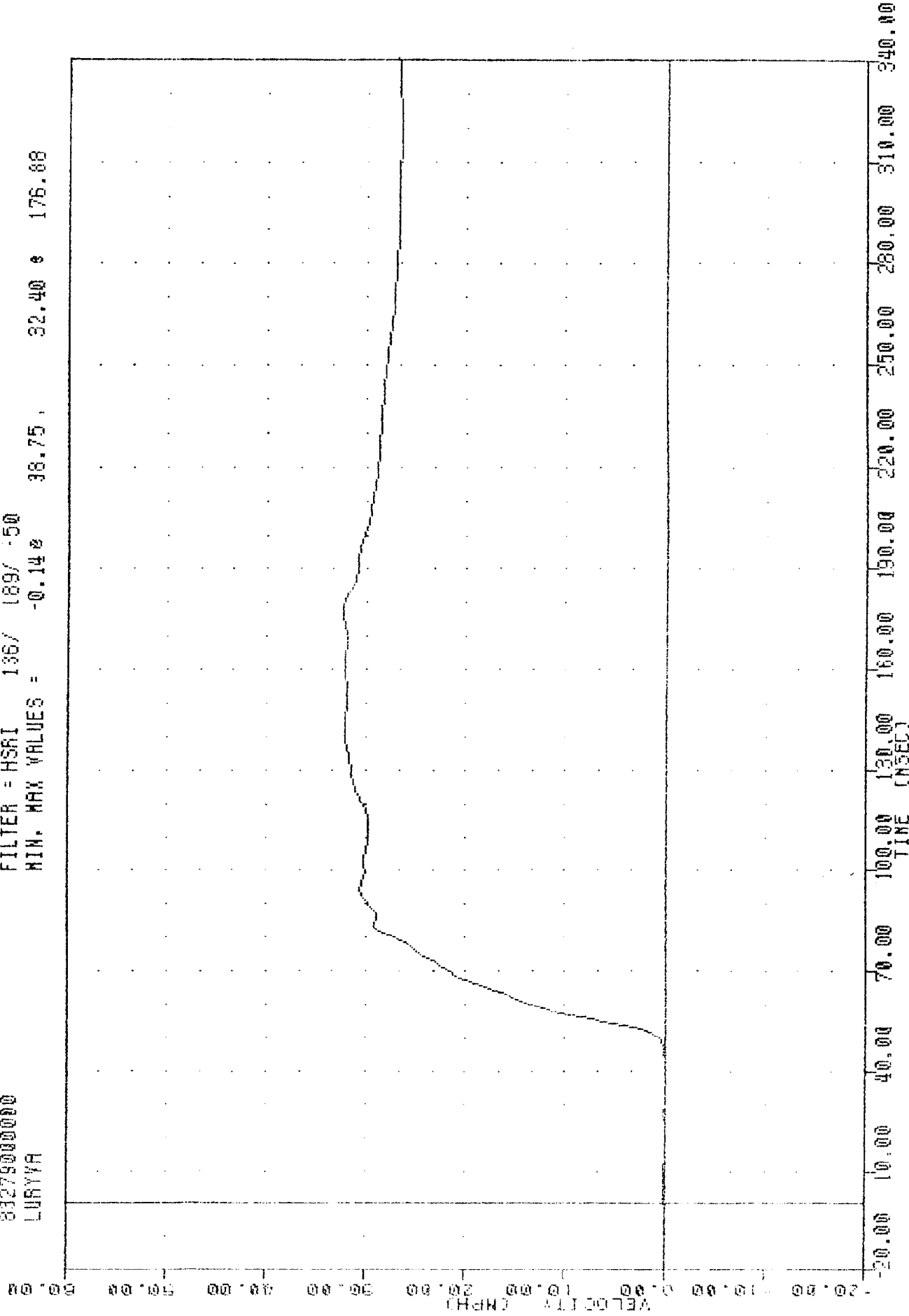


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LEFT UPPER RIB ACCELERATION -2 Y AXIS

TRC
 EVALUATION OF MOD VW FLEET
 83279000000
 LURYVA

PLOT DATE 7-OCT-83 10:36:02

FILTER = HSRI 136/ 189/ .50
 MIN. MAX VALUES = -0.140 38.75 , 32.40 * 176.88

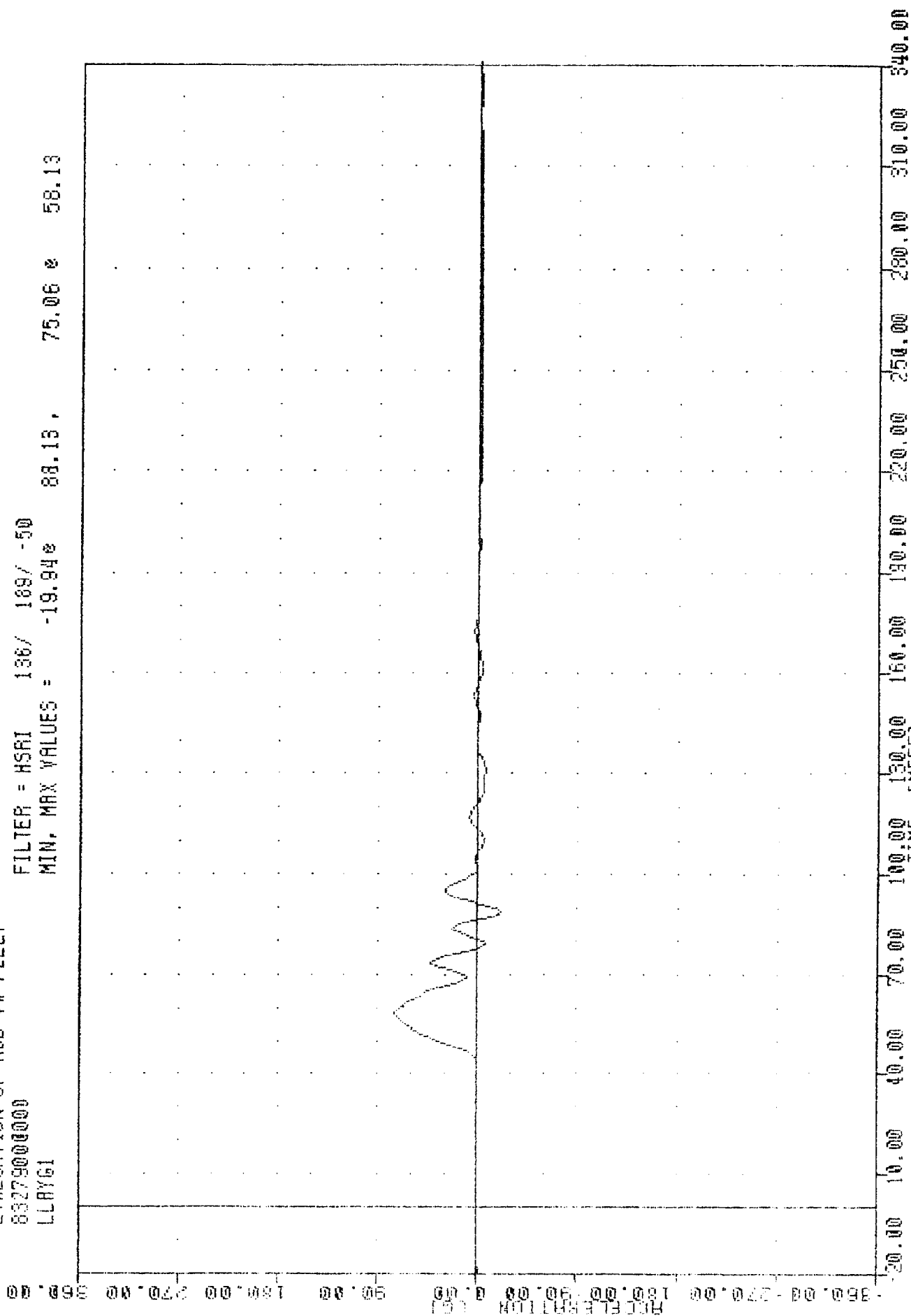


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING LURYGA

TRC 831006
 EVALUATION OF MOD VW FLEET
 83279000000
 LLY61

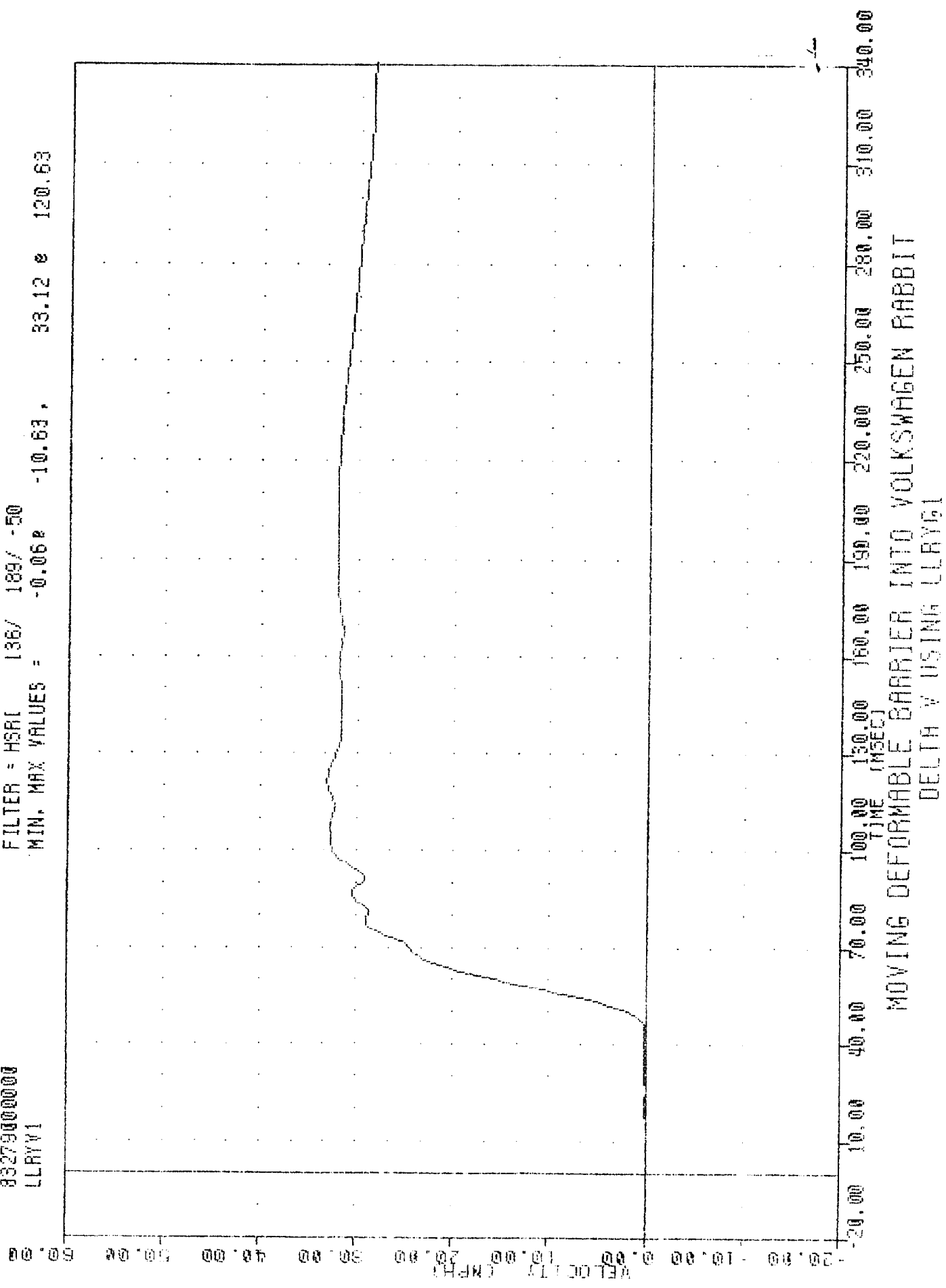
PLOT DATE 7-OCT-83 10:34:21

FILTER = HSRI 136/ 169/ -50
 MIN, MAX VALUES = -19.94e 88.13, 75.06 e 58.13



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER LEFT LOWER RIB ACCELERATION Y AXIS

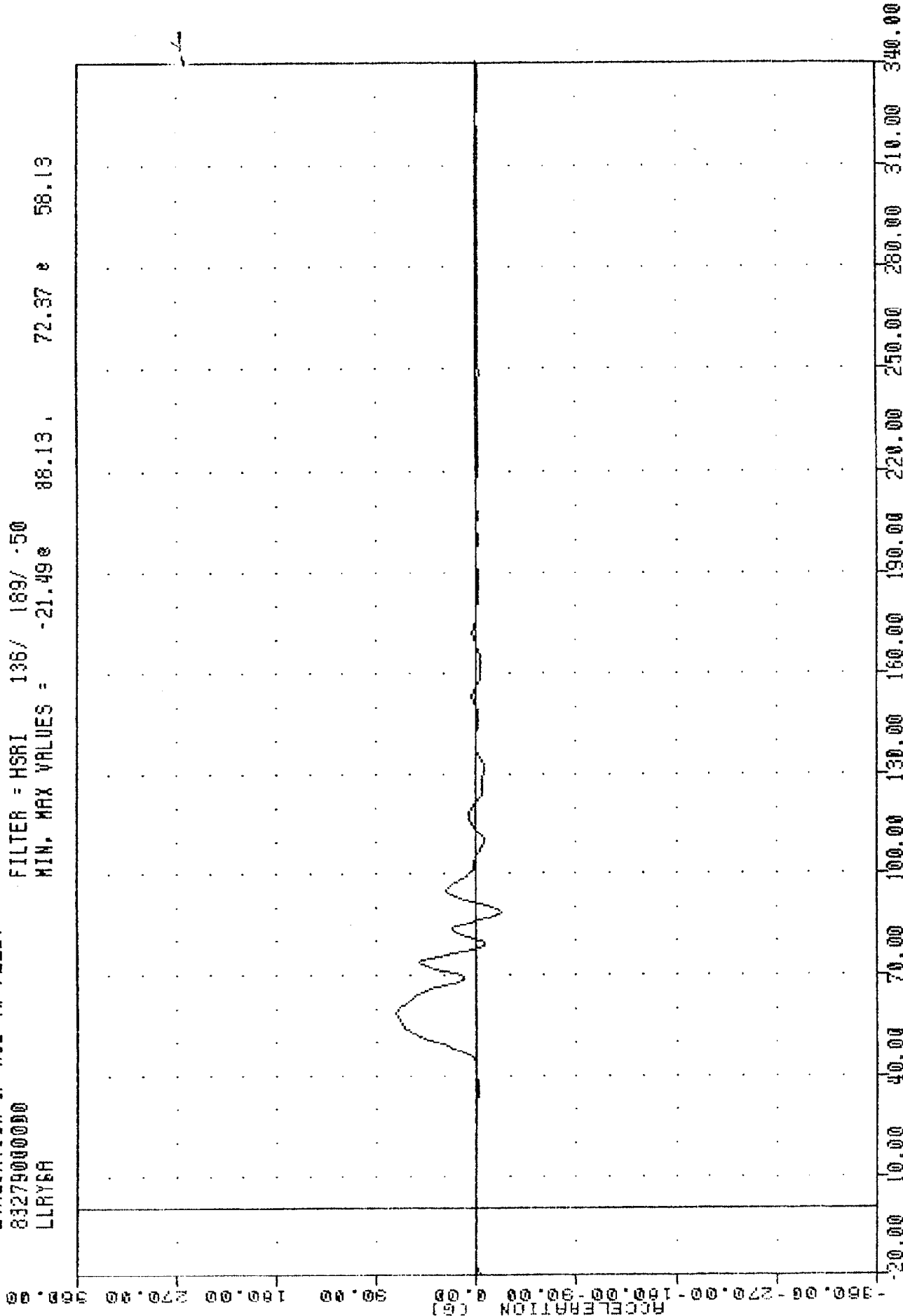
TRC 831006 PLOT DATE 7-OCT-83 10:36:02
 EVALUATION OF M00 VW FLEET
 83279000000
 LLRYV1
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -0.062 -10.63, 33.12 e 120.63



TAC 831006
 EVALUATION OF MOD VN FLEET
 8327900000
 LLYR6A

PLOT DATE 7-OCT-83 10:34:21

FILTER = HSRI 136/ 189/ .50
 MIN. MAX VALUES = -21.49e 88.13 72.37 e 58.13



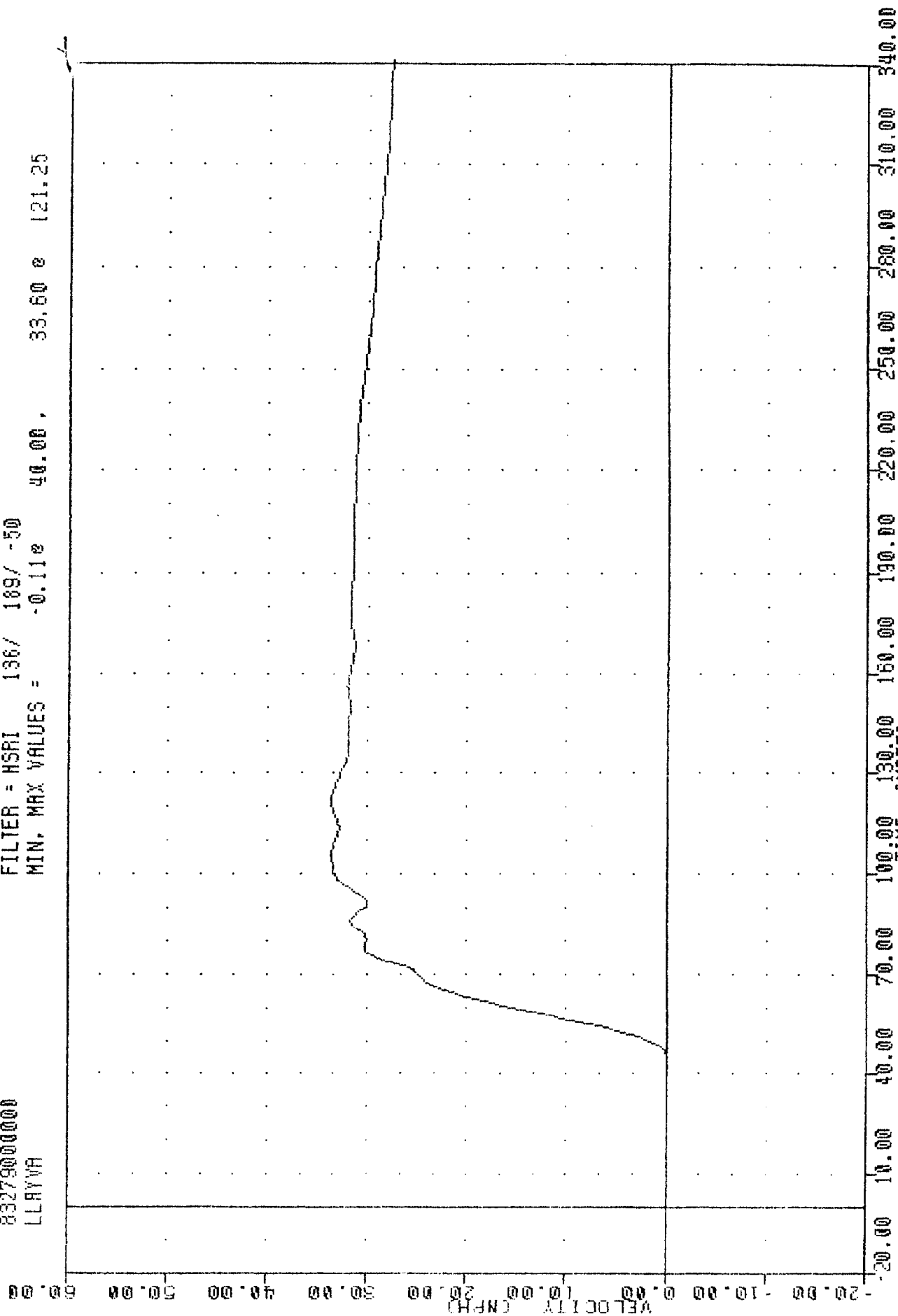
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER LEFT LOWER AIR ACCELERATION -2 Y AXIS

TRC
EVALUATION OF MOD VW FLEET
83279000000
LLAYVR

PLOT DATE 7-OCT-83 10:36:02

FILTER = HSRI 136/ 109/ -50

MIN. MAX VALUES = -0.11e 40.00, 33.60 e 121.25



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V LISTING 11 RYAR

TRC 831006

EVALUATION OF MDD YW FLEET

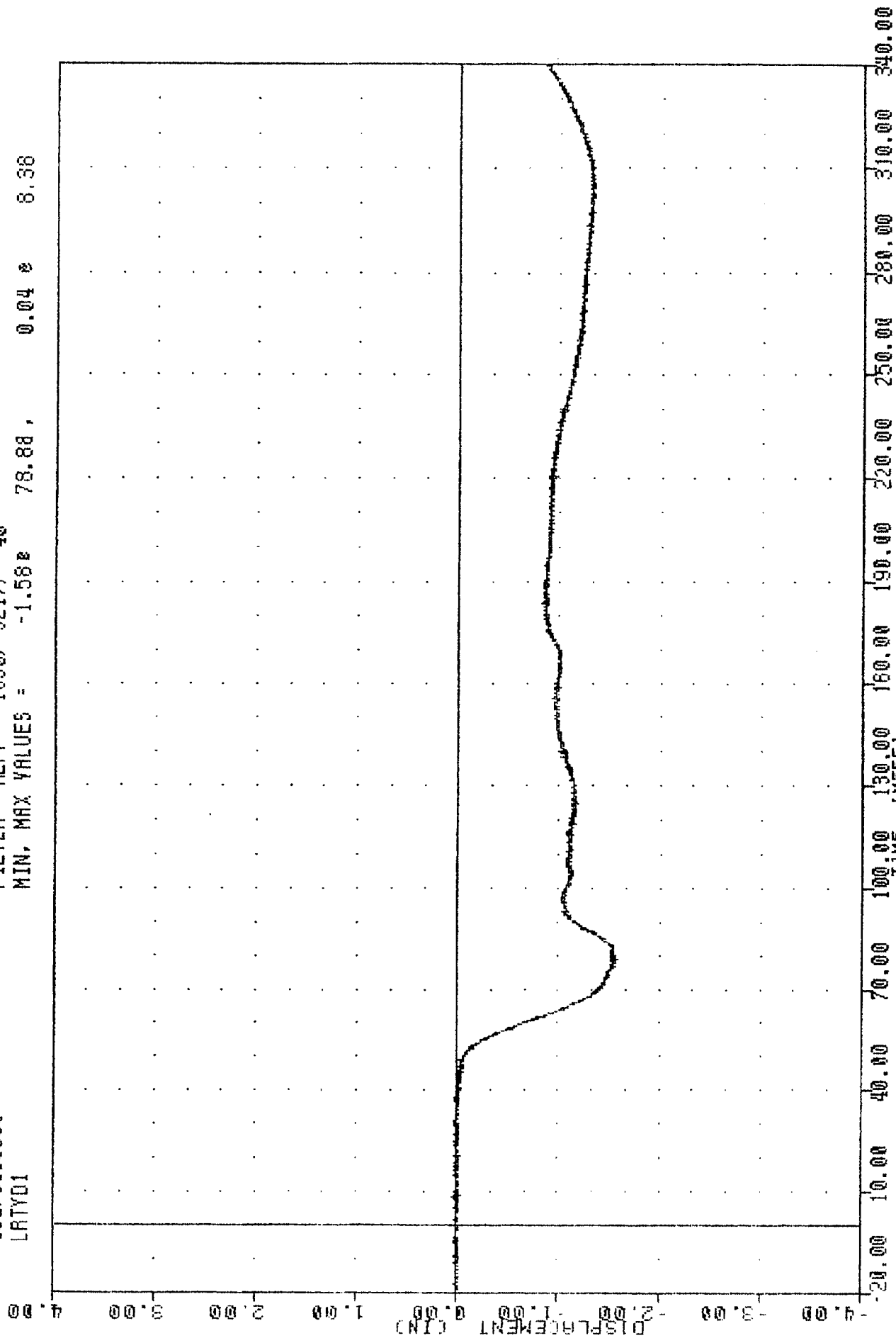
83279000000

LATYD1

PLOT DATE 7-OCT-83 10:33:32

FILTER = ALPF 1650/ 5217/ -40

MIN, MAX VALUES = -1.58 78.88, 0.04 8.38

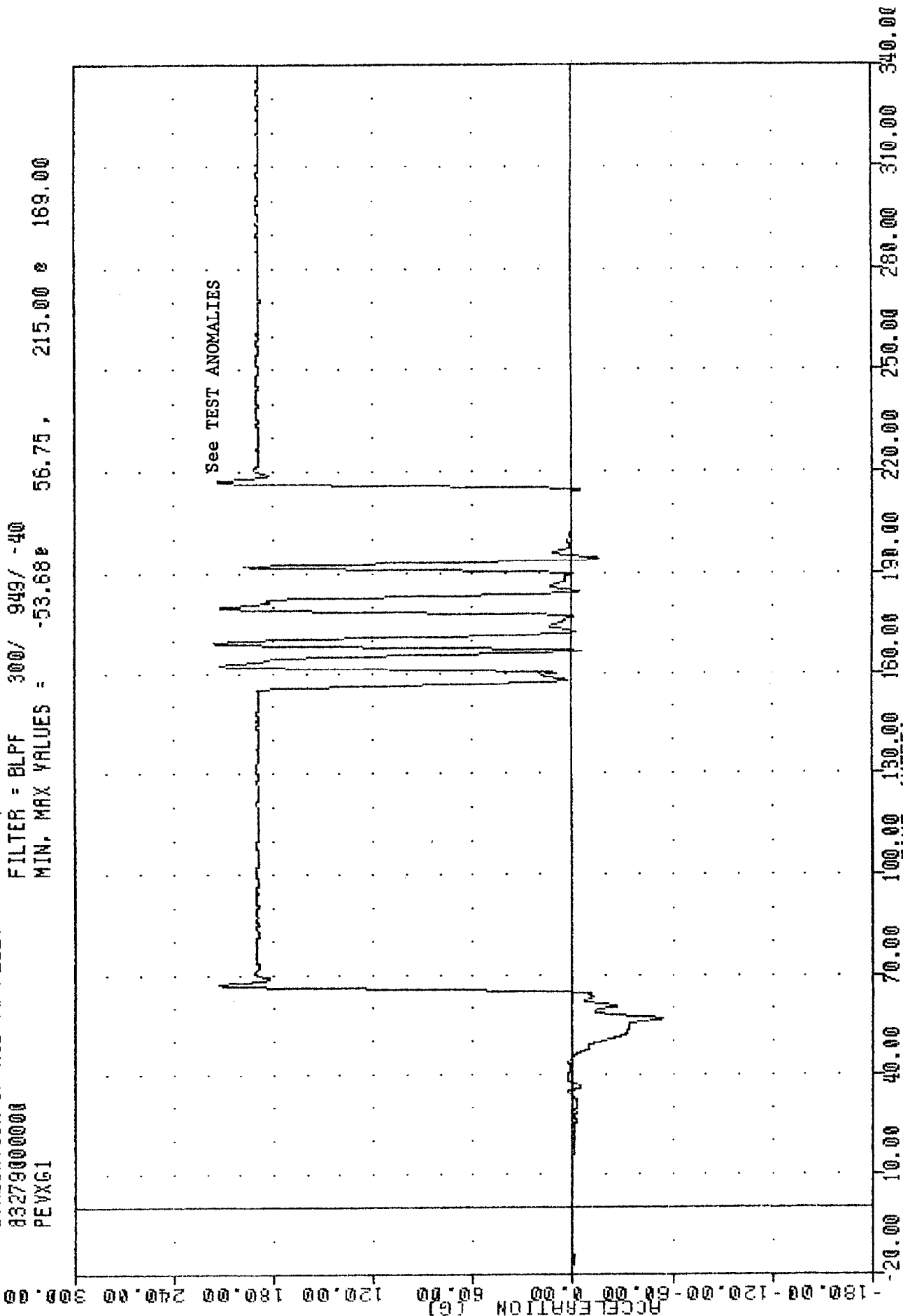


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LEFT AIR TO SPINE DISPLACEMENT INCHES

TRC , 831006
 EVALUATION OF MOD VV FLEET
 83279000000
 PEVXG1

PLOT DATE 7-OCT-83 10:33:32

FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -53.68 56.75, 215.00 169.00



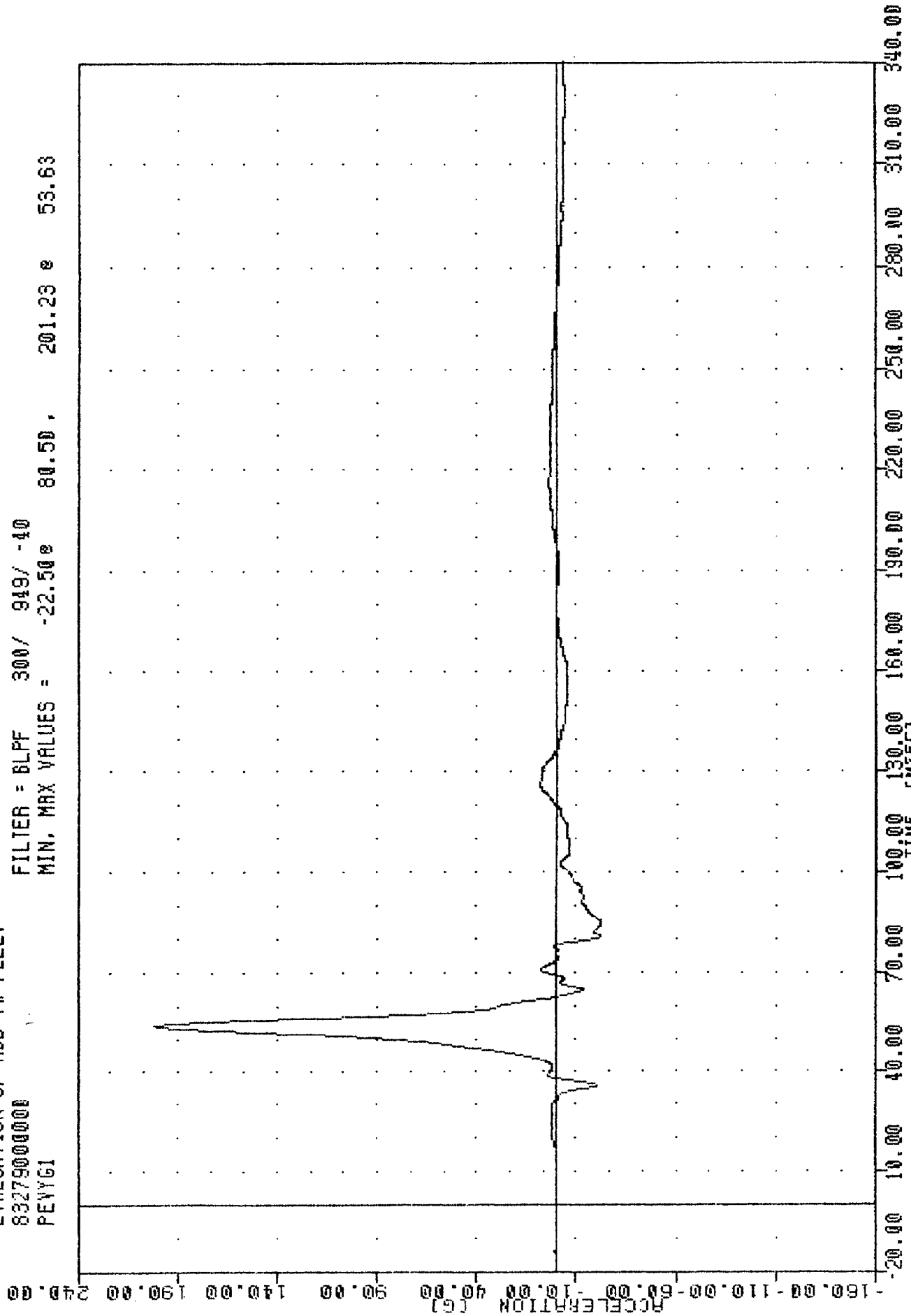
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER PELVIS ACCELERATION X AXIS

TRC , 831006
 EVALUATION OF MDD YW FLEET
 832790000000
 PEVY61

PLOT DATE 7-OCT-83 10:33:32

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = -22.50 80.50, 201.23 53.63

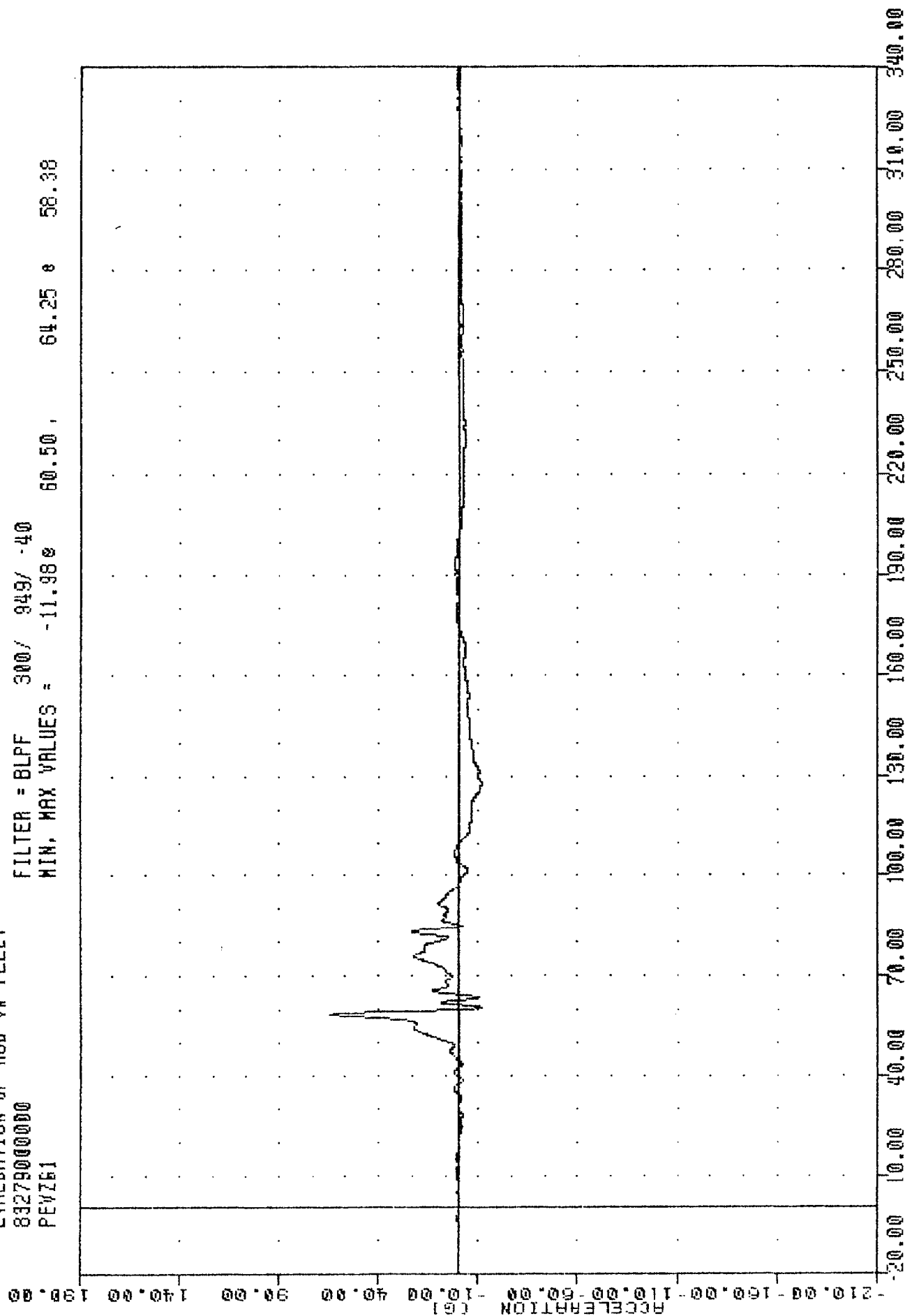


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER PELVIS ACCELERATION Y AXIS

TRC
 EVALUATION OF MOD VN FLEET
 832790000000
 PEVZE1

PLOT DATE 7-OCT-83 10:33:32

FILTER = BLPF 300/ 949/ -40
 MIN, MAX VALUES = -11.98g 60.50, 64.25 g 58.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DRIVER PELVIS ACCELERATION Z AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:33:32

EVALUATION OF MOD VW FLEET

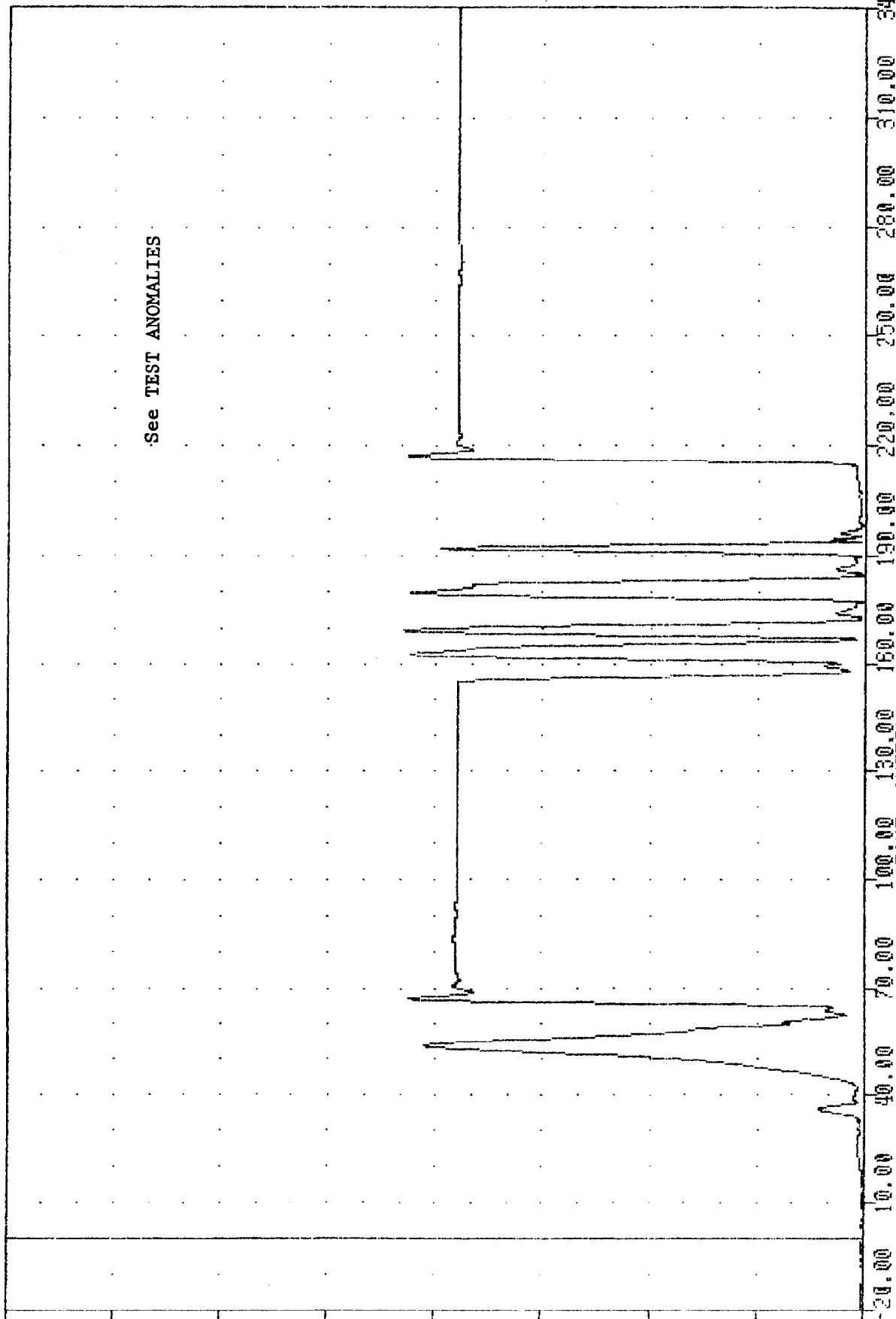
83279000000

PEVRG1

FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 0.05 1.50 215.03 169.00

ACCELERATION (G)



TIME (msec)

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER PELVIS RESULTANT

TRC 831006 PLOT DATE 7-OCT-83 10:36:44

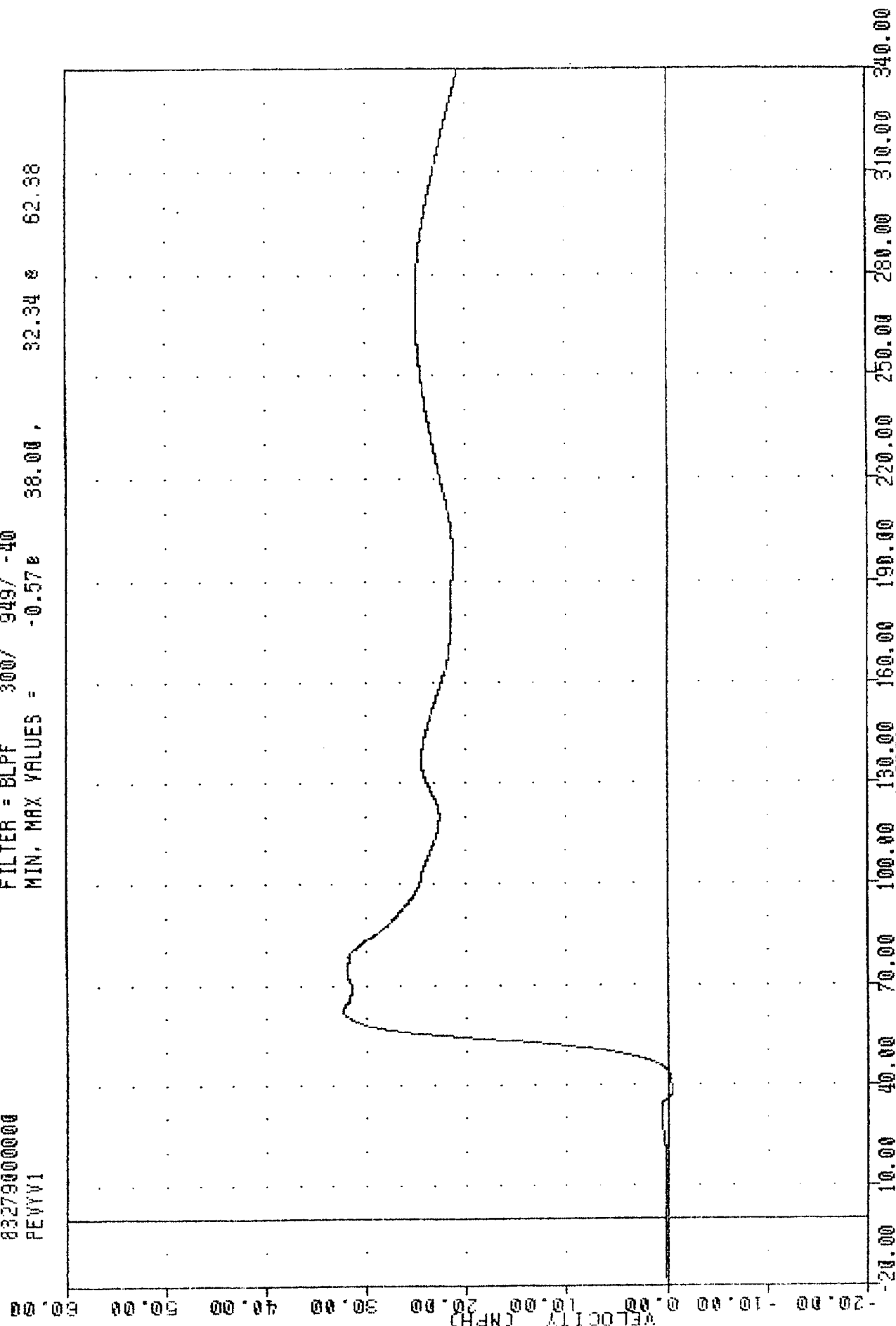
EVALUATION OF MOD YW FLEET

832790000000

PEVYV1

FILTER = BLPF 300/ 949/ -40

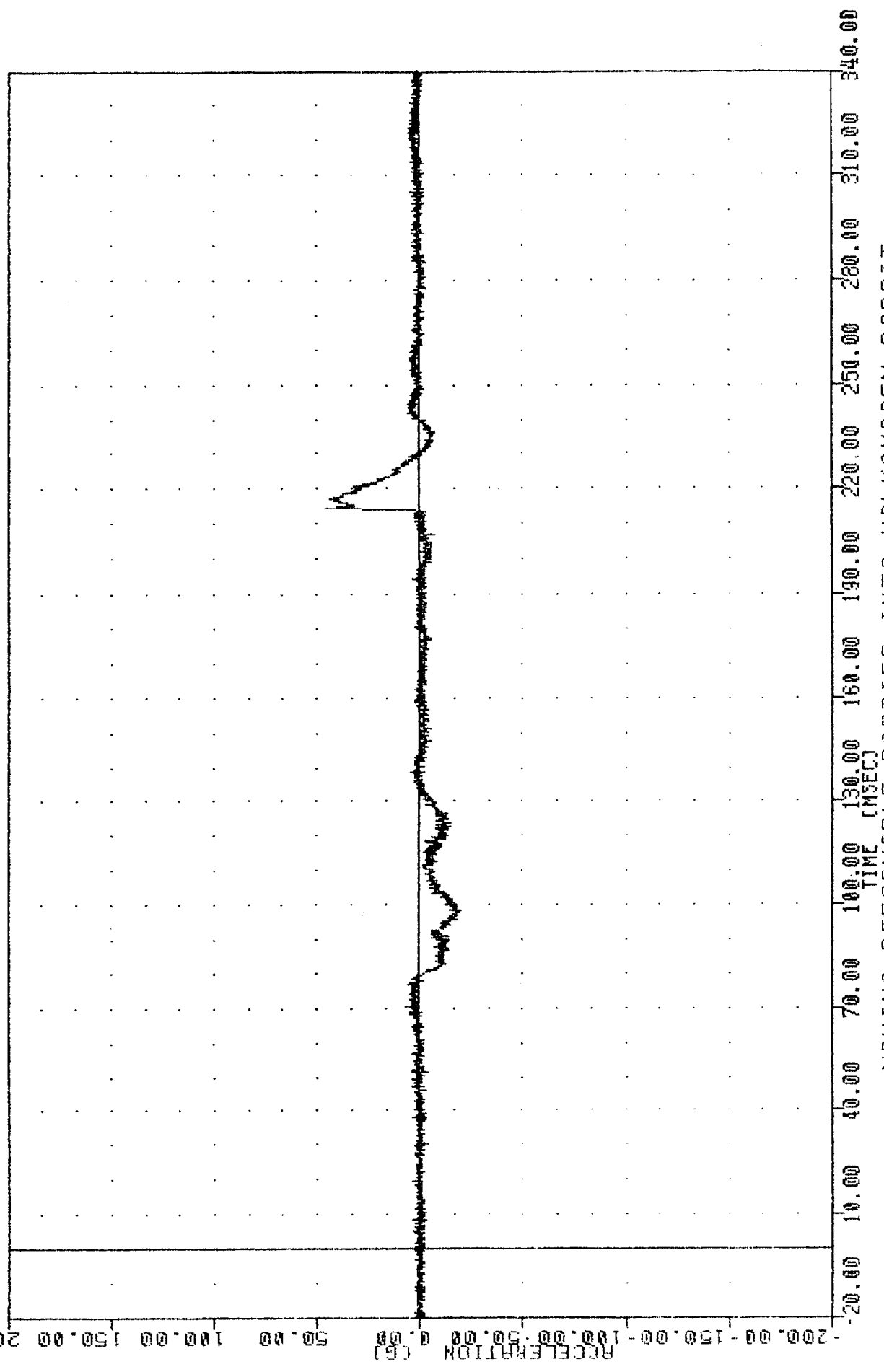
MIN. MAX VALUES = -0.57e 38.00, 32.34 e 62.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT

DELTA V USING PEVYGI

TRC
 EVALUATION OF MDD VW FLEET
 83279000000
 HEDX63
 PLOT DATE 7-OCT-83 10:33:32
 FILTER = ALPF 1650/ 5217/ -40
 MIN. MAX VALUES = -20.00e 98.50, 45.95 e 214.25

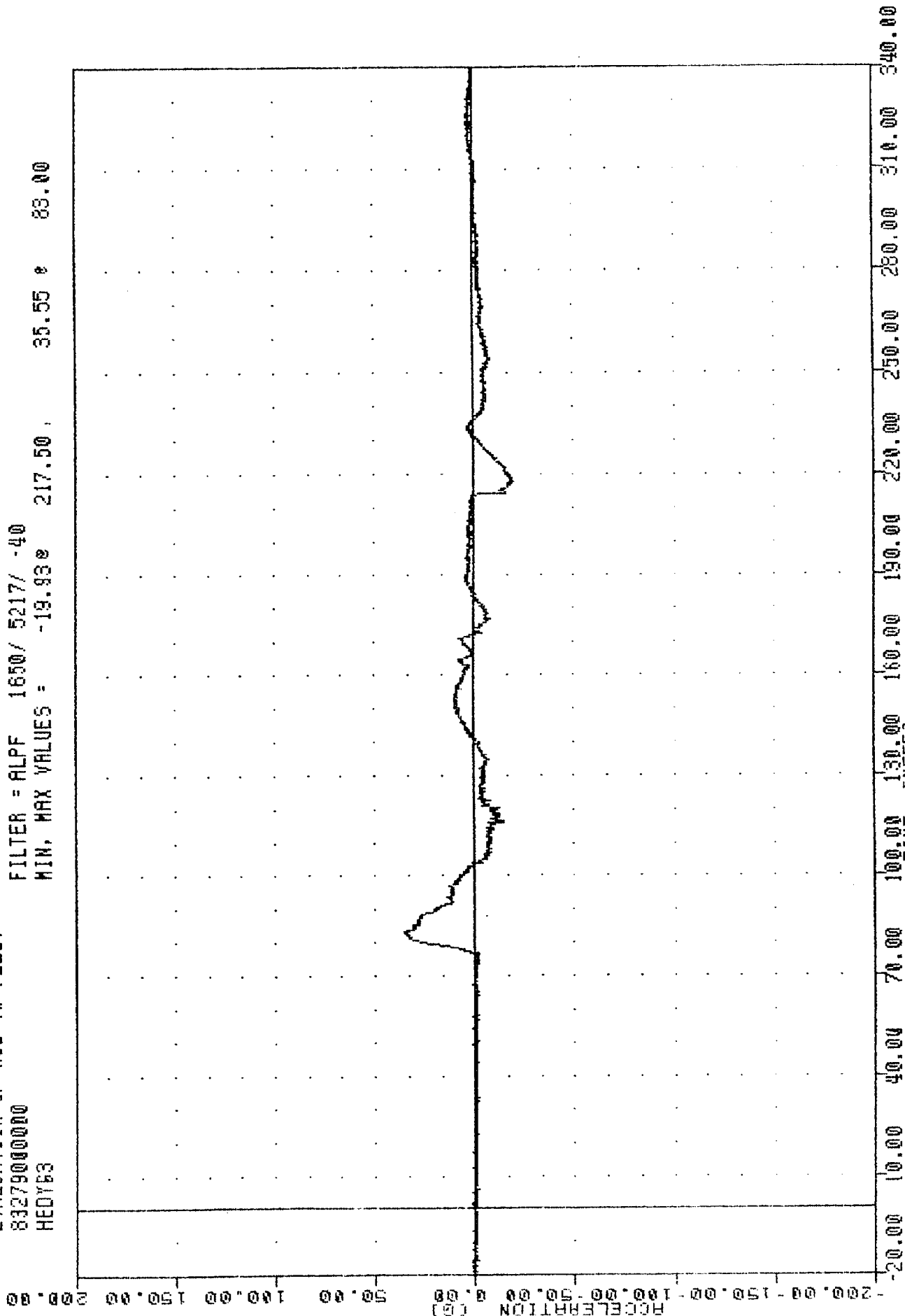


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER HEAD ACCELERATION X AXIS

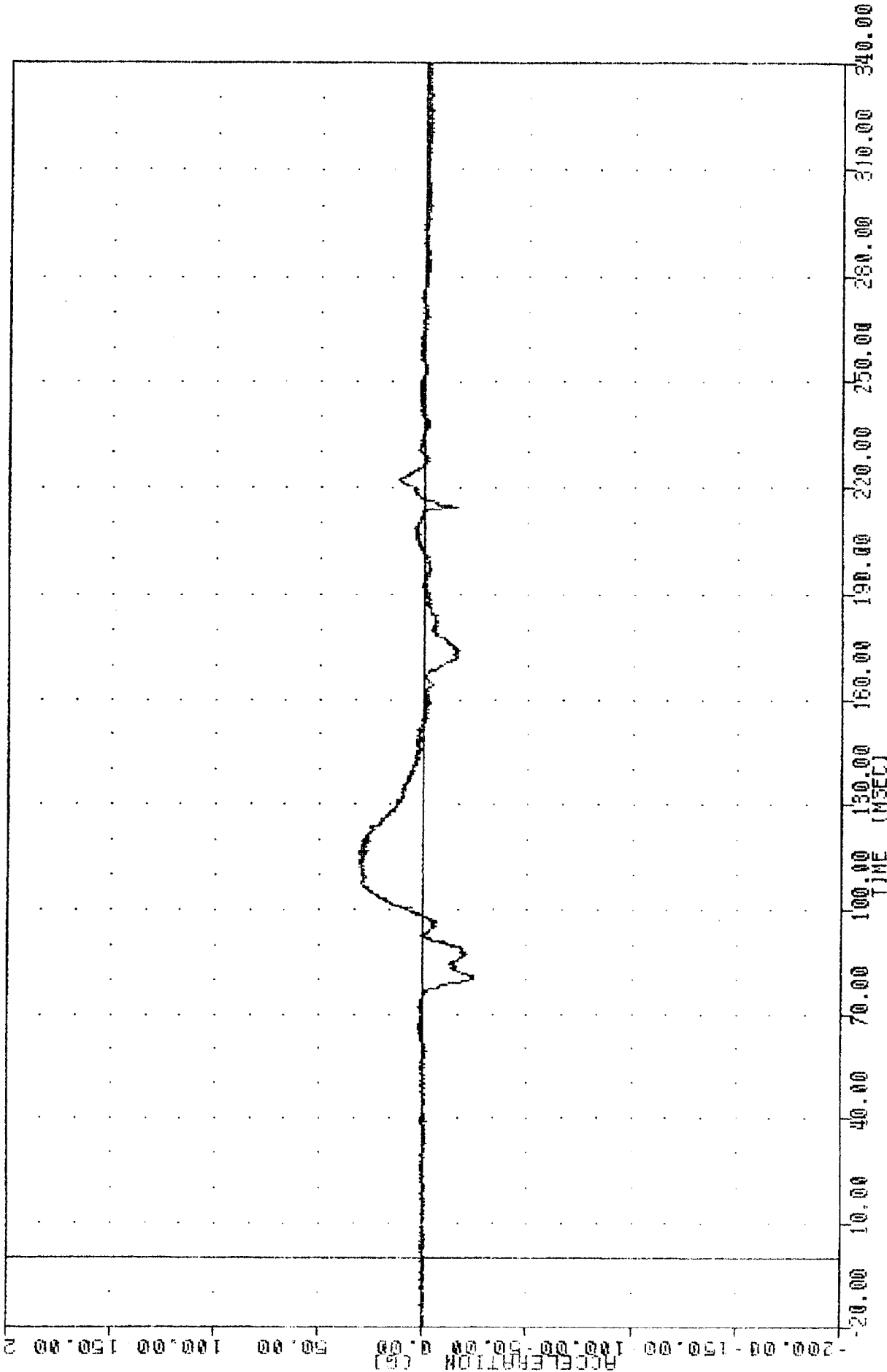
TAC
EVALUATION OF MOD VEHICLE FLEET
832790000000
HEDY63

PLOT DATE 7-OCT-83 10:33:32

FILTER = ALPF 1650/ 5217/ -40
MIN, MAX VALUES = -19.93 217.50 35.55 83.00



1RC 831006 PLOT DATE 7-OCT-83 10:33:32
 EVALUATION OF MOD VW FLEET
 83279000000
 HEDZ63
 FILTER = ALPF 1650/ 5217/ -40
 MIN. MAX VALUES = -24.25e 80.25, 31.39 e 113.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER HEAD ACCELERATION Z AXIS

TAC 831006 PLOT DATE 7-OCT-83 10:33:32

EVALUATION OF MOD VN FLEET

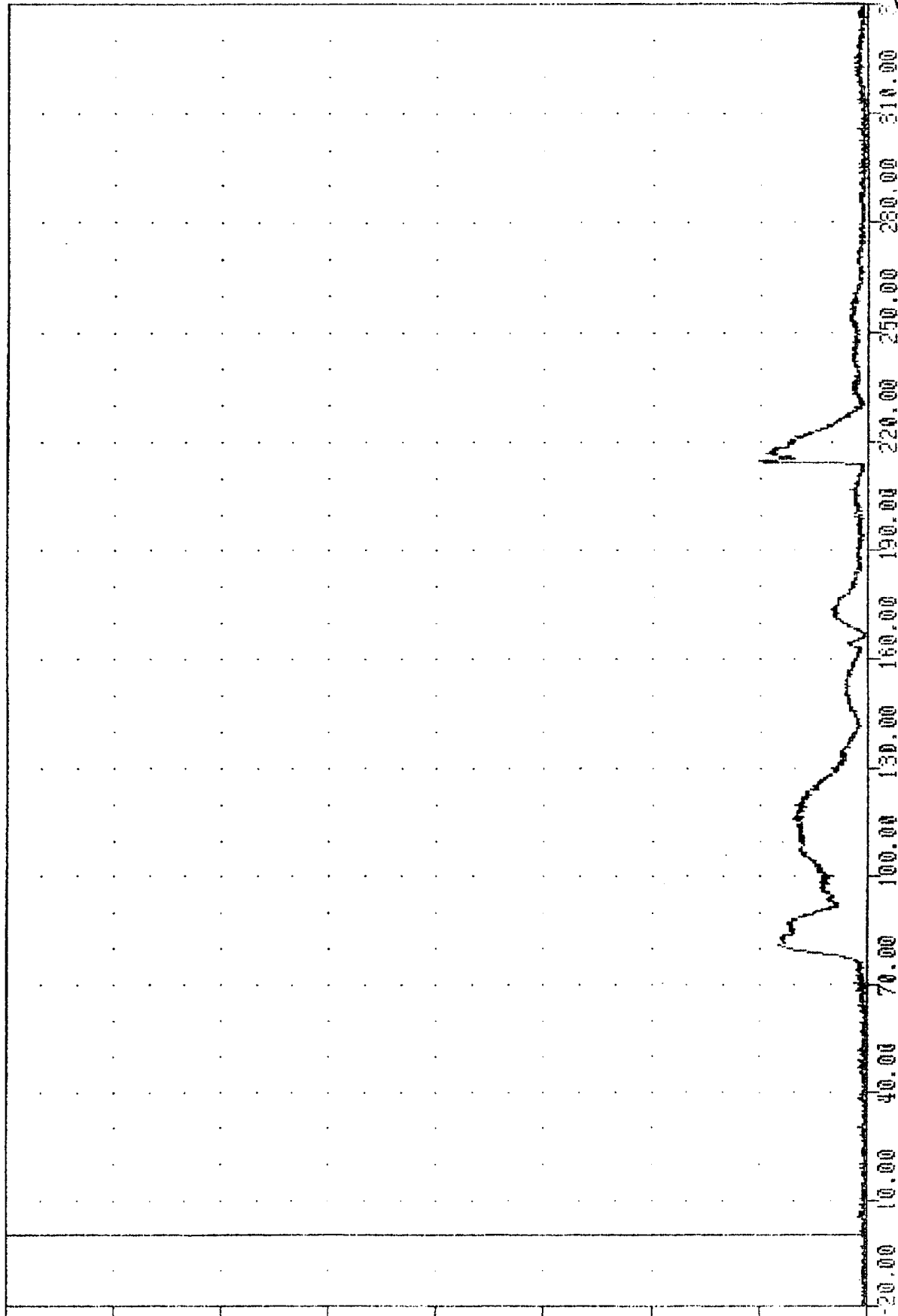
83279000000

HEDR63

FILTER = ALPF 1650/ 5217/ -40

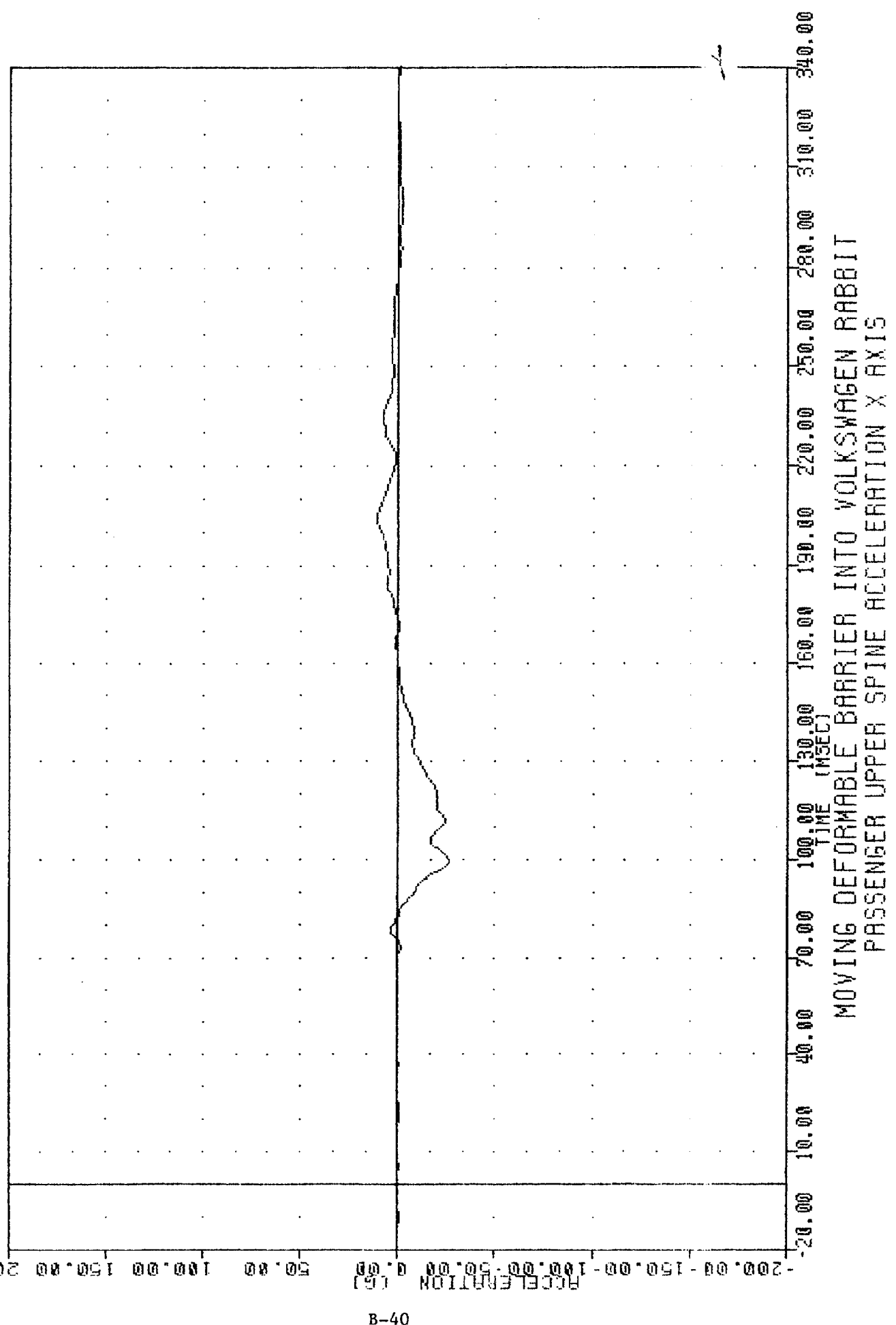
MIN, MAX VALUES = 0.14e 42.00 , 51.18 e 214.25

ACCELERATION (G)



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER HEAD RESULTANT

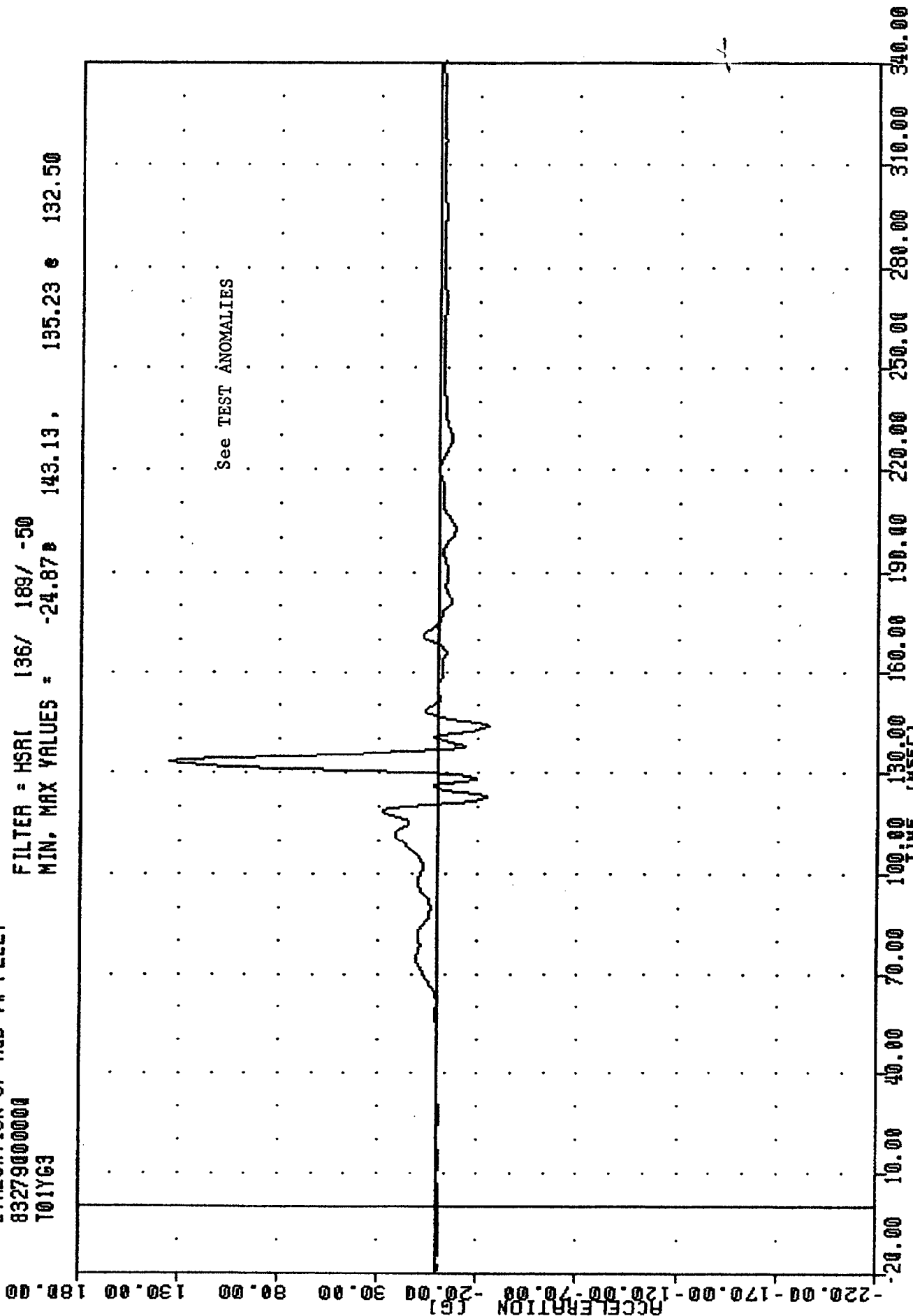
TRC 831006 PLOT DATE 7 OCT 83 10:34:21
 EVALUATION OF MOD YW FLEET
 83279000000
 101XG3
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -26.16 98.75, 10.88 203.13



TRC
EVALUATION OF MOD VV FLEET
83279000000
T01YG3

PLOT DATE 18-OCT-83 14:48:29

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -24.87 143.13, 135.23 132.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE ACCELERATION Y AXIS

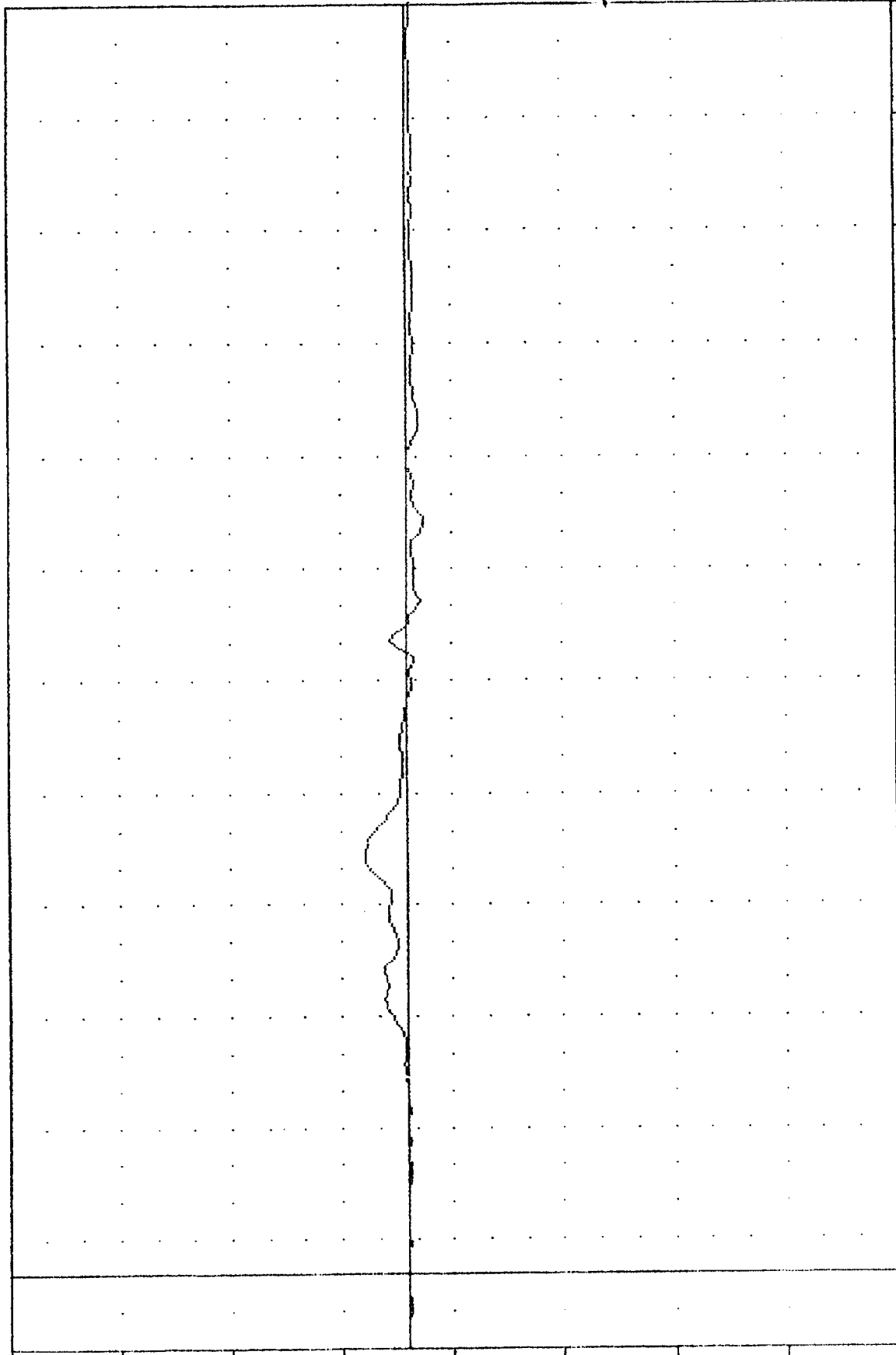
TRC 831006
 EVALUATION OF MOD VW FLEET
 83279000000
 T01Y6C

PLOT DATE 7-OCT-83 10:34:21

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = -7.33e 201.88, 19.50 e 112.50

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 VOLKSWAGEN RABBIT
 PASSENGER UPPER SPINE ACCELERATION -2 Y AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:34:21

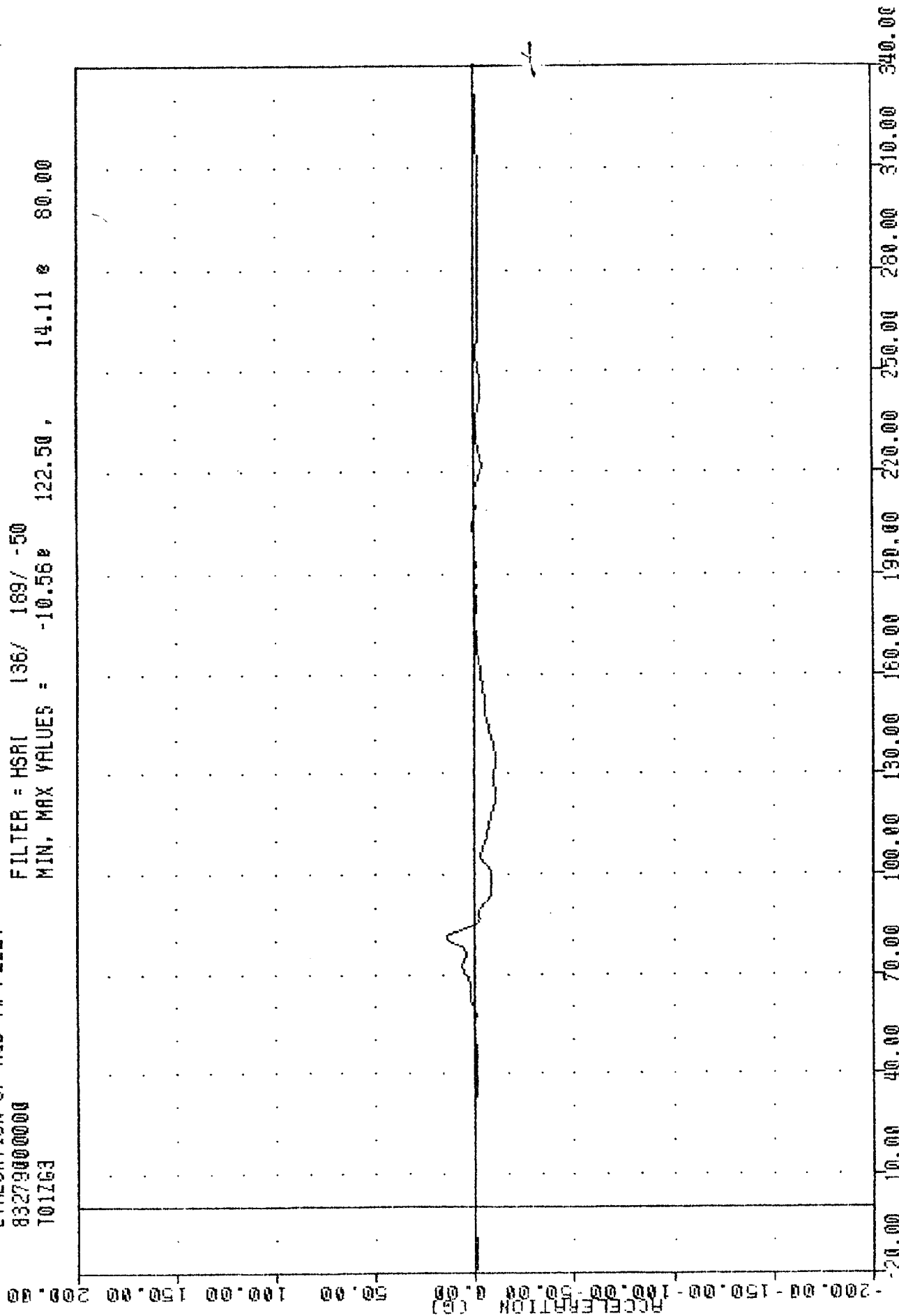
EVALUATION OF MOD YW FLEET

83279000000

101763

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -10.56 122.50 14.11 80.00



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE ACCELERATION Z AXIS

TAC

831006

EVALUATION OF MOD VW FLEET

83279000000

T01R63

PLOT DATE

7-OCT-83

10:34:21

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = 0.07e

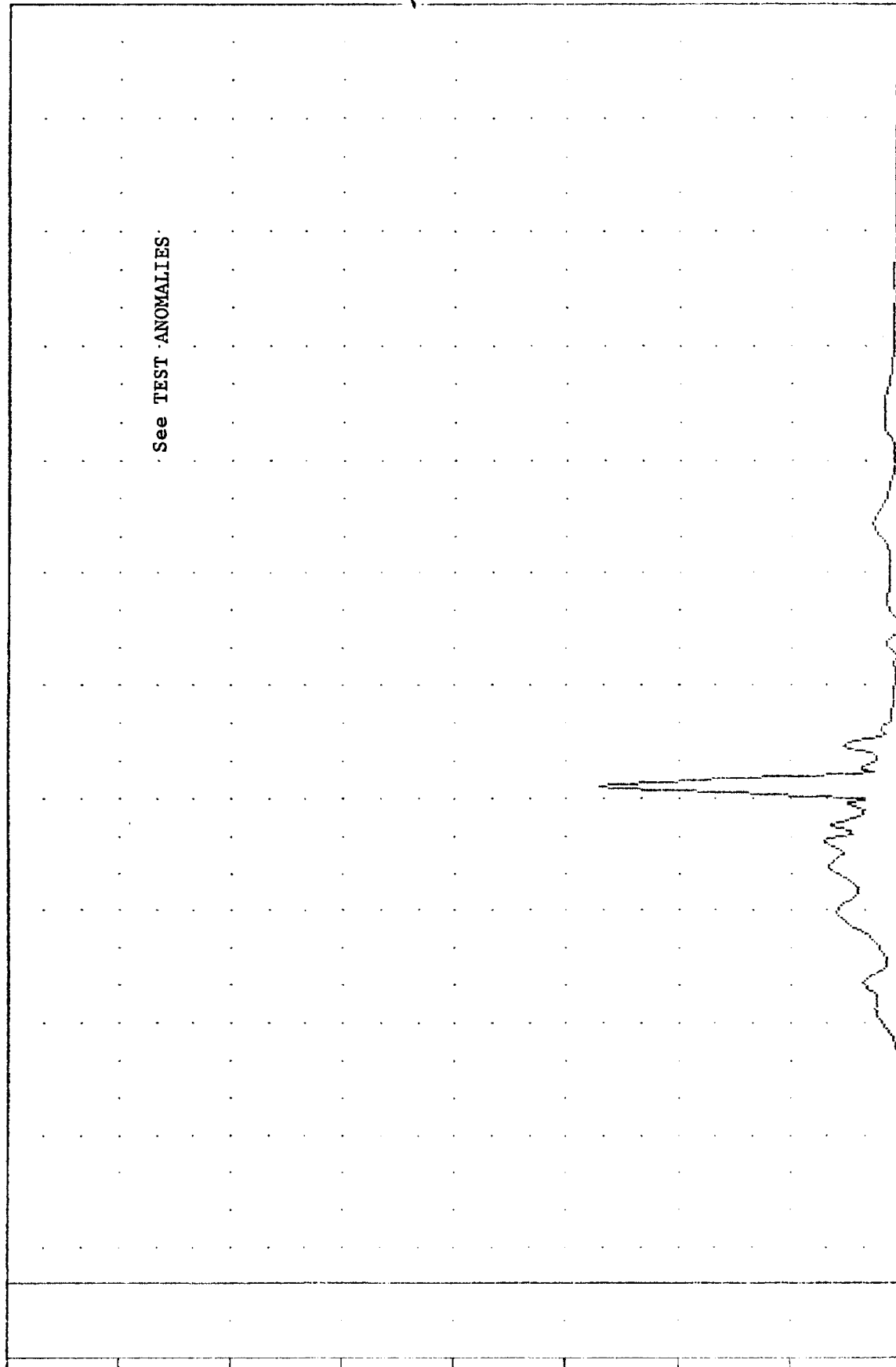
8.75,

135.87 e

132.50

See TEST ANOMALIES

ACCELERATION
G
100.00
150.00
200.00
250.00
300.00
350.00
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 VOLKSWAGEN RABBIT

PASSENGER UPPER SPINE RESULTANT

TAC 831006 7-ULF-83 10:35:38

EVALUATION OF MOD VN FLEET

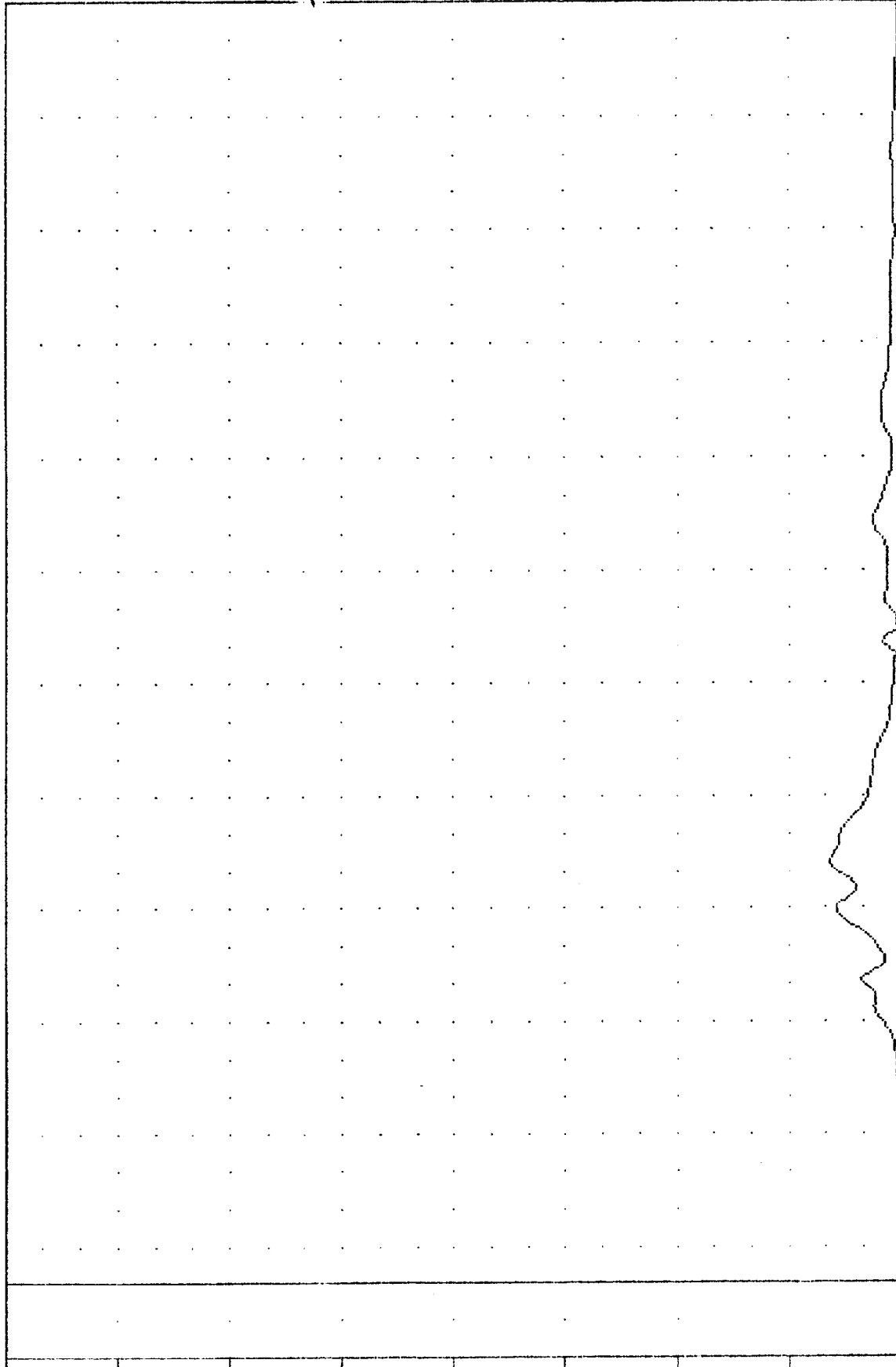
83279000000

T01R63

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = 0.09g -2.50 , 31.48 g 111.88

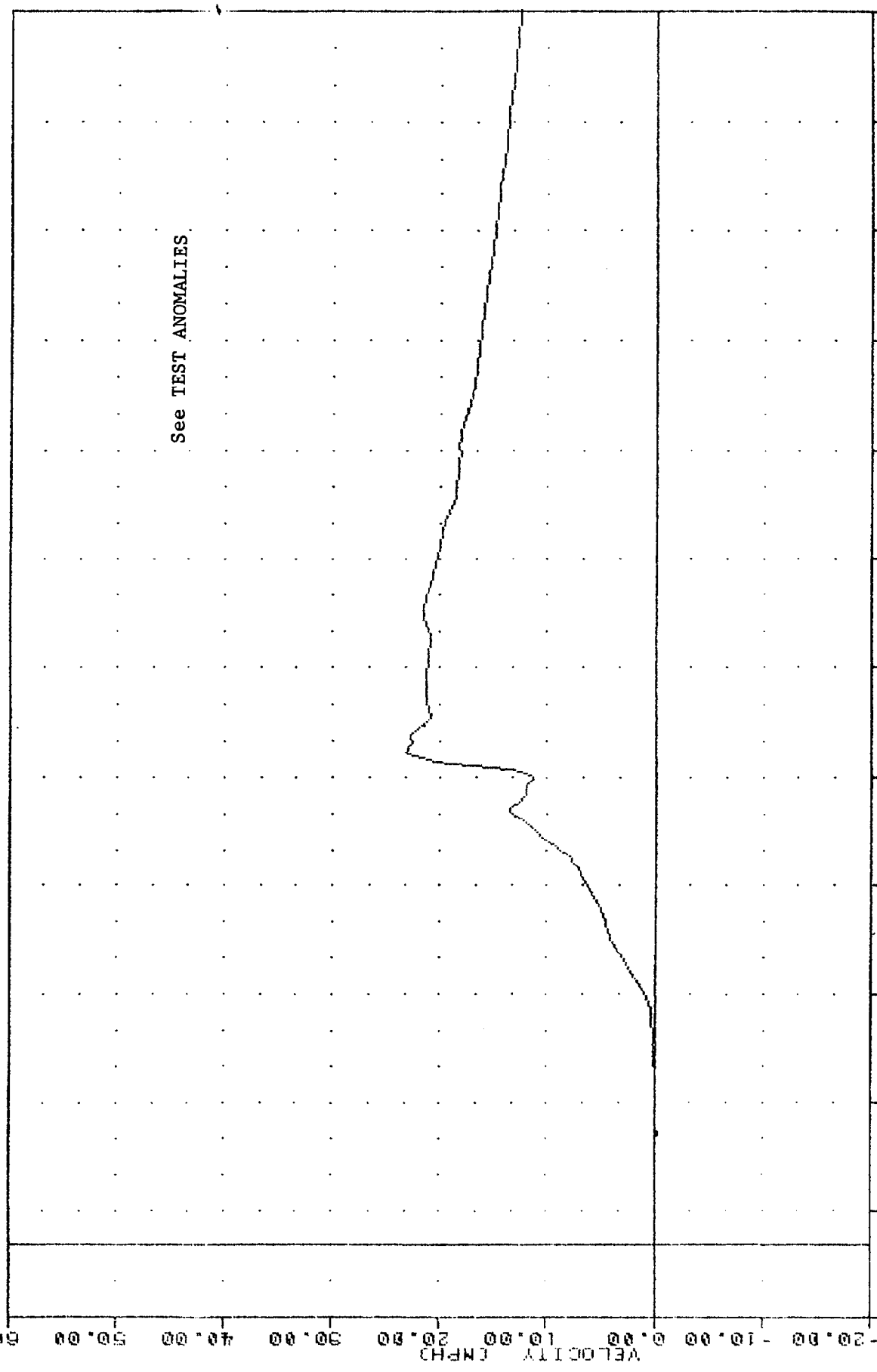
ACCELERATION (G)



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 (INSEC)

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE RESULTANT USING T01YGC

TAC 831006 PLOT DATE 7-OCT-83 10:36:02
 EVALUATION OF MOD VN FLEET
 832790000000
 T01YV3
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = -0.20e 30.62, 23.19 e 136.25



-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)
 VELOCITY (CM/SEC)
 MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING T01YV3

TRC 831006 PLOT DATE 7-OCT-83 10:36:02

EVALUATION OF MOD VV FLEET

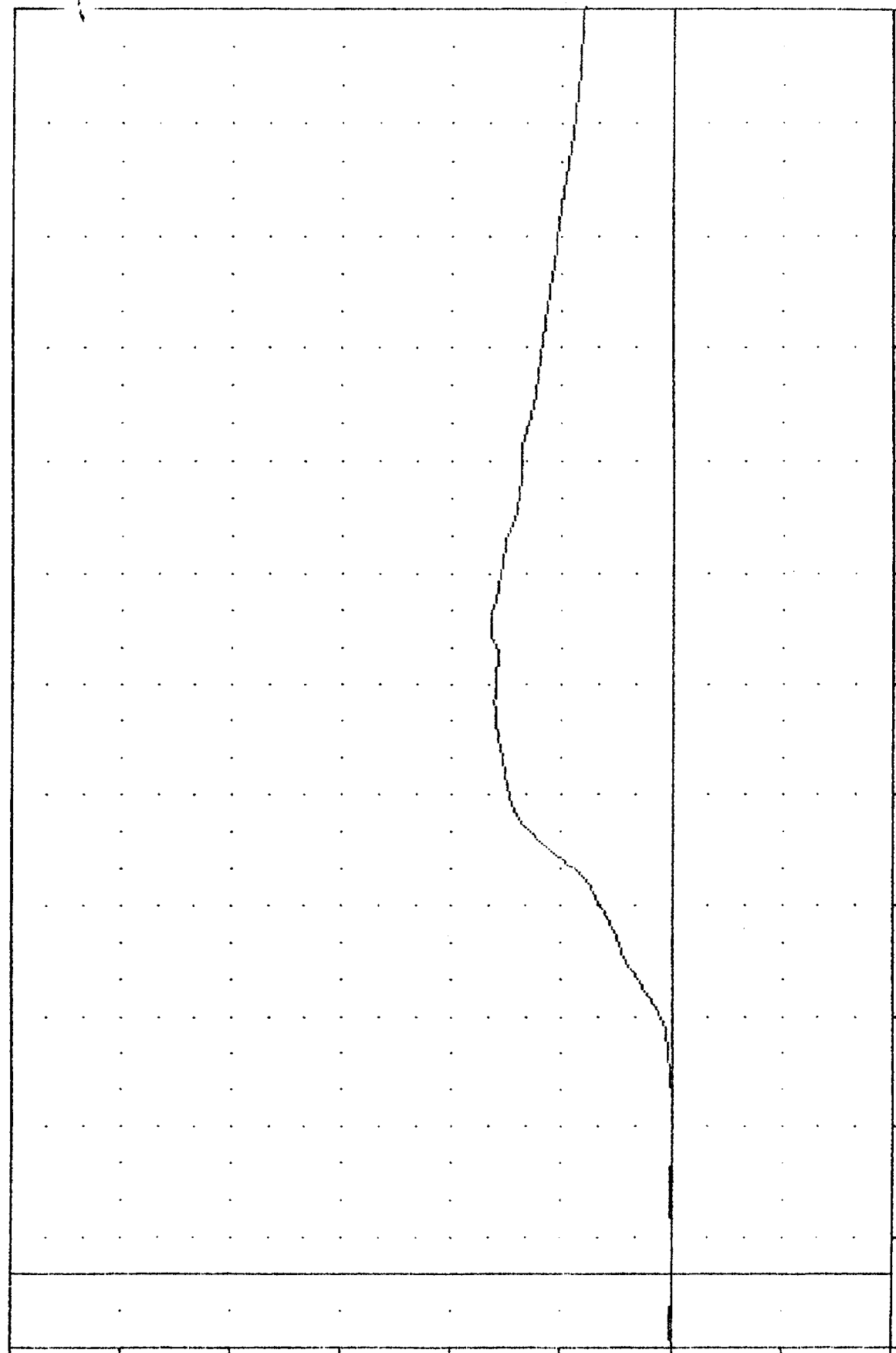
832730000000

T01YVC

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -0.028 45.62, 16.50 e 175.00

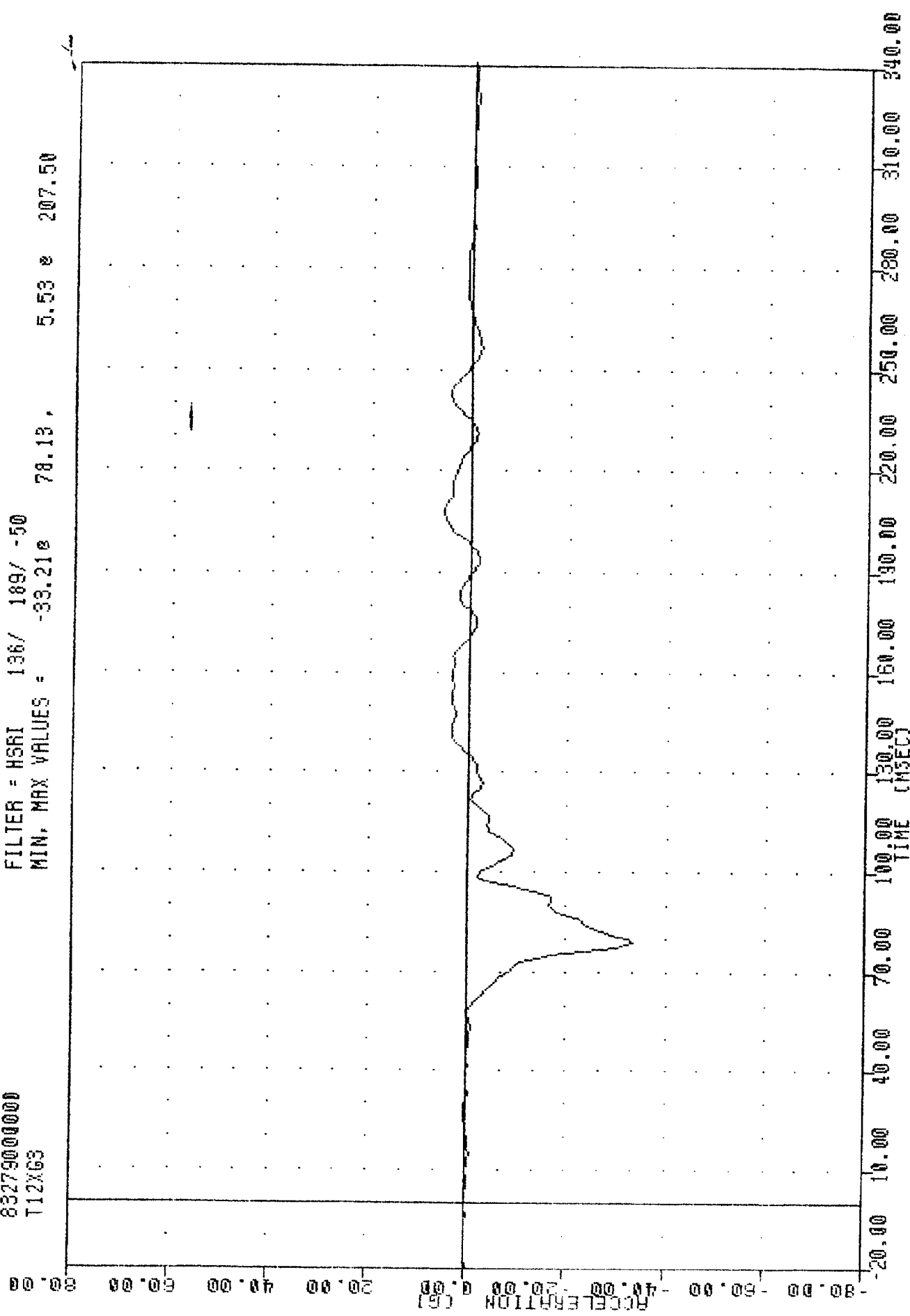
VELOCITY (MPH)



-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

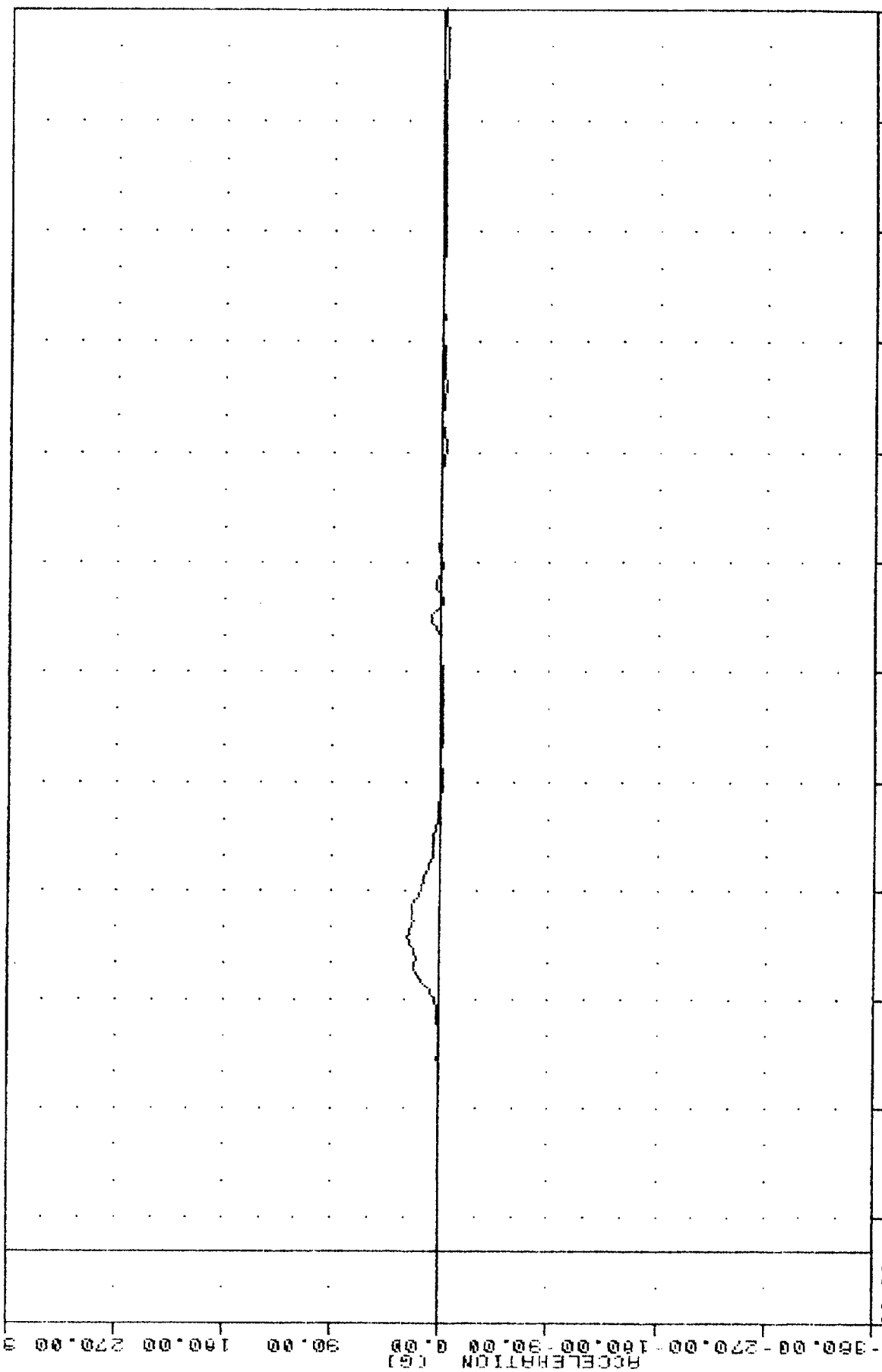
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T01YGC

TRC
 EVALUATION OF MDD VW FLEET
 83279000000
 T12X63
 PLOT DATE 7-OCT-83 10:34:21
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = -33.218 78.13, 5.53 e 207.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LOWER SPINE ACCELERATION X AXIS

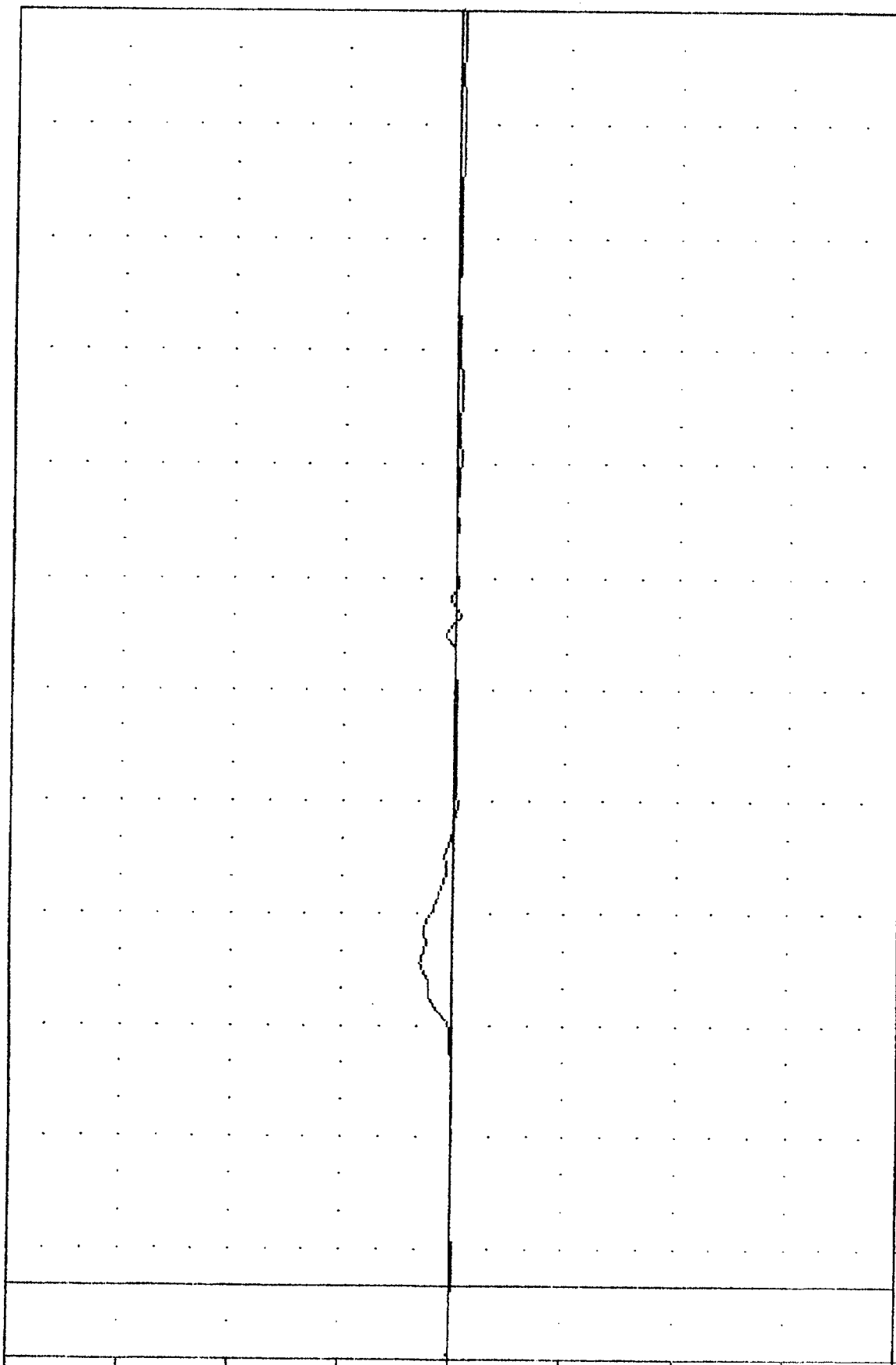
TRC 831006
 EVALUATION OF MOD VW FLEET
 83279000000
 T12Y63
 PLOT DATE 7-OCT-83 10:34:21
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -3.11g 221.25 , 26.45 g 86.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LOWER SPINE ACCELERATION Y AXIS

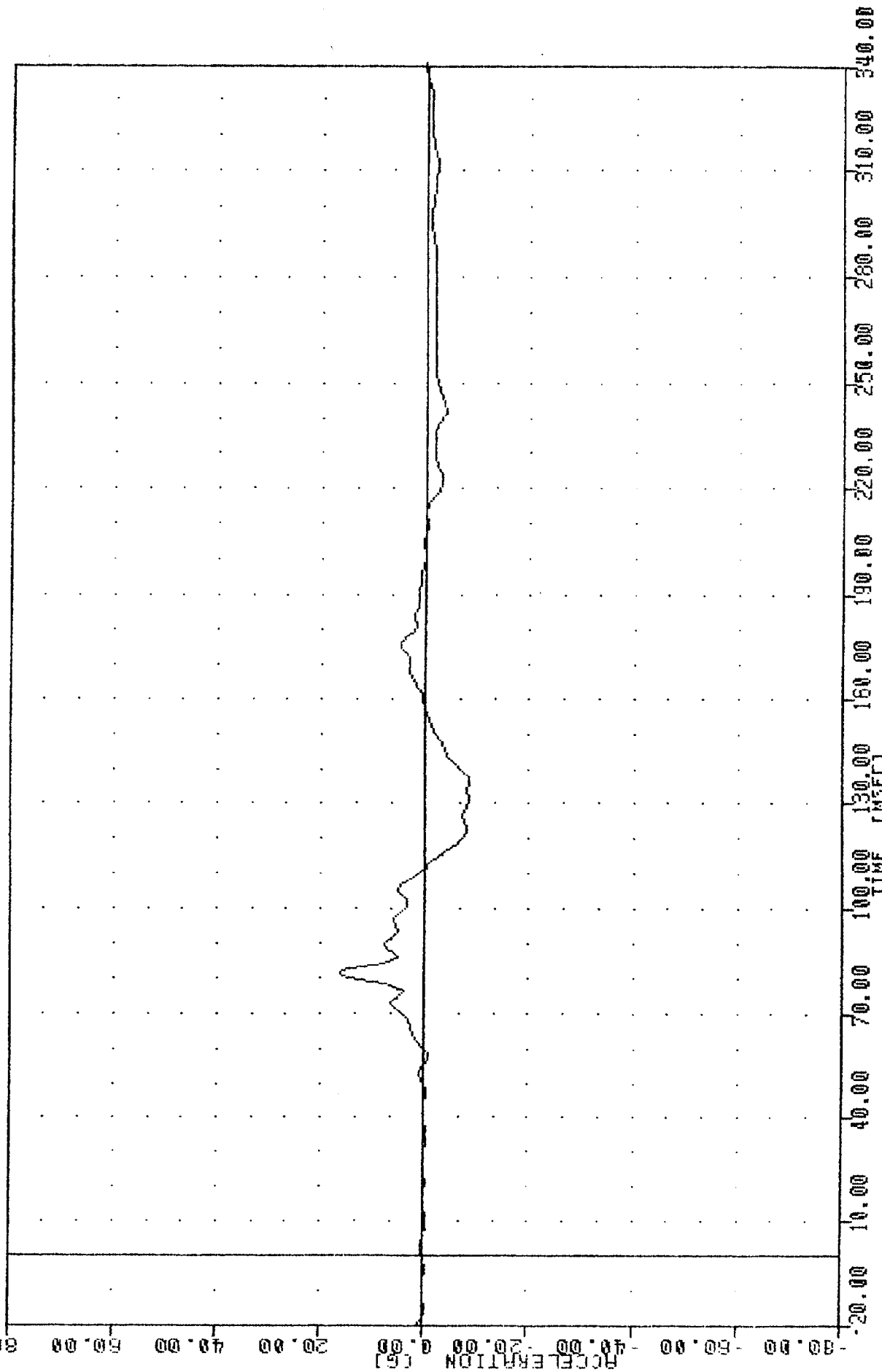
TRC
 EVALUATION OF MOD YW FLEET
 83279000000
 T12YGC
 PLOT DATE 7-OCT-83 10:34:21
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = -3.74* 303.13, 26.31 * 86.25

ACCELERATION [G]
 -350.00 -270.00 -180.00 -90.00 0.00 90.00 180.00 270.00 350.00



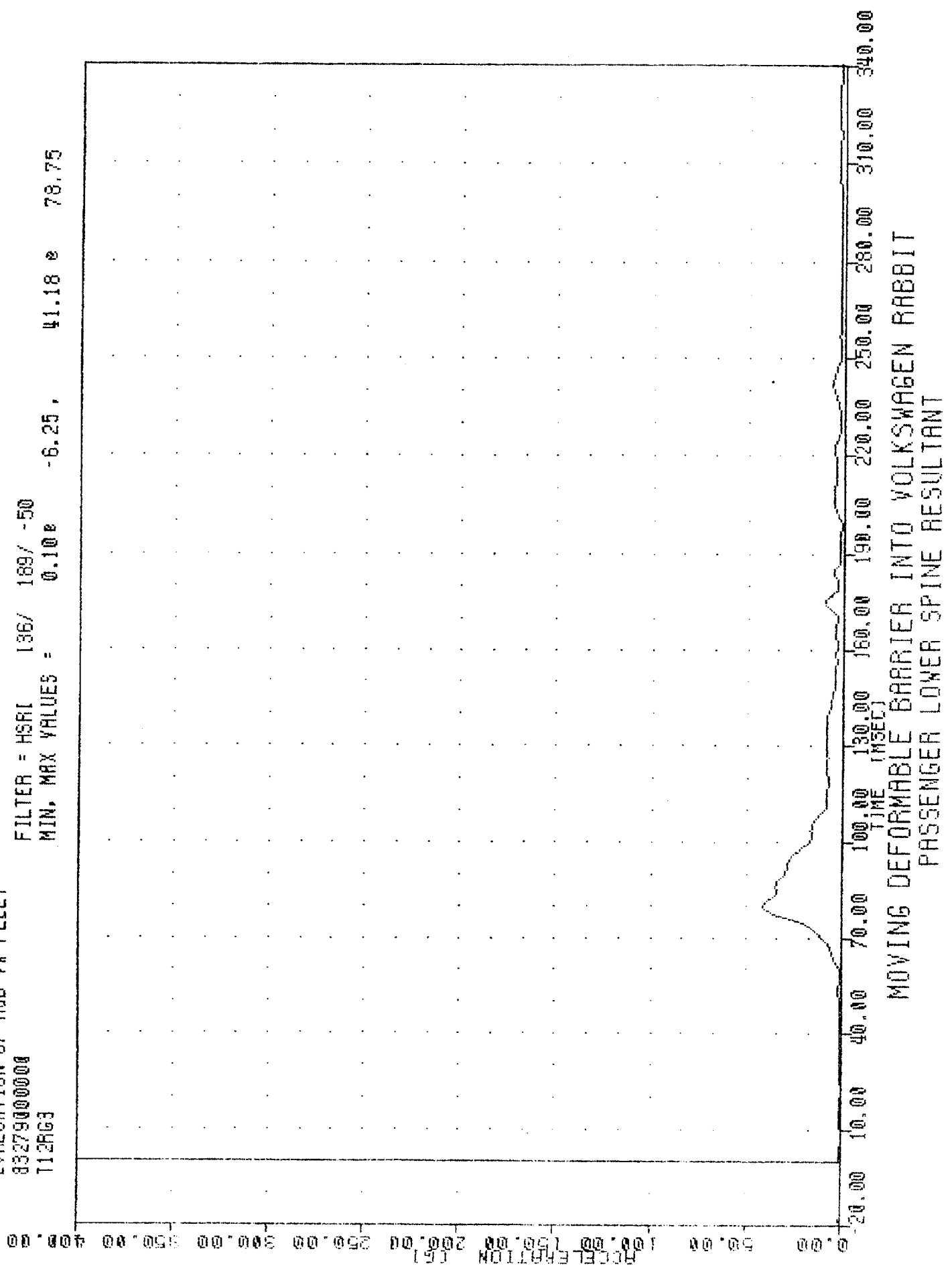
-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
 TIME (MSEC)
 MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LOWER SPINE ACCELERATION -2 Y AXIS

TRC [REDACTED], 831006 [REDACTED] PLOT DATE 7-OCT-83 10:34:21
 EVALUATION OF MOD VV FLEET
 83279000000
 T12263
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = -8.36e 130.63, 16.31e 80.63



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LOWER SPINE ACCELERATION Z AXIS

186
 EVALUATION OF MOD YW FLEET
 83279000000
 T12RG3
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = 0.10e -6.25, 41.18 e 78.75
 PLOT DATE 7 OCT 83 10:34:21



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LOWER SPINE RESULTANT

TRC 831006 7-ULY-83 10:35:38

EVALUATION OF MOD YW FLEET

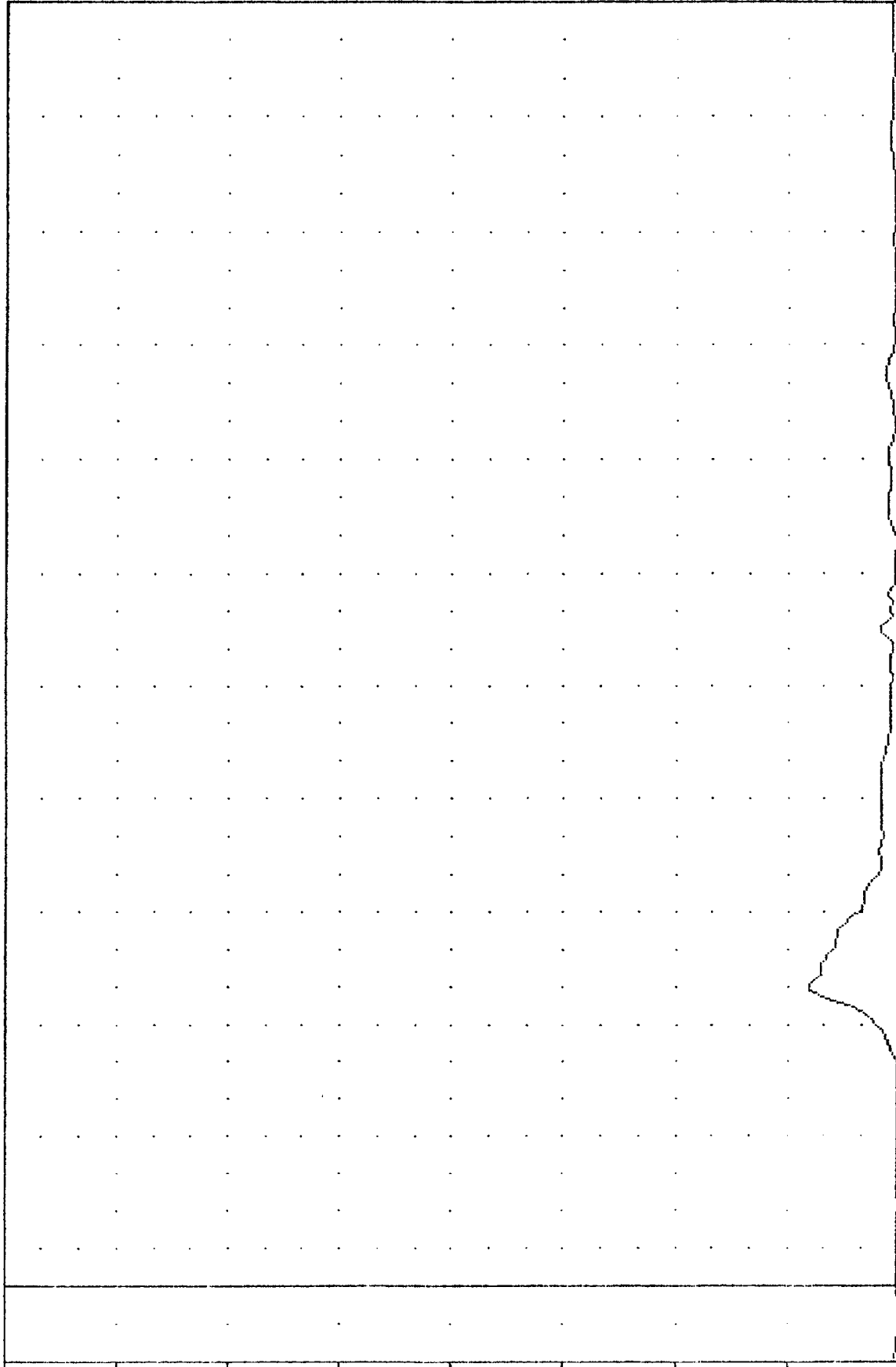
83279000000

T12RG3

FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = 0.11B -6.25, 40.52 e 78.75

ACCELERATION (G)



0.00 50.00 100.00 150.00 200.00 250.00 300.00 350.00 400.00

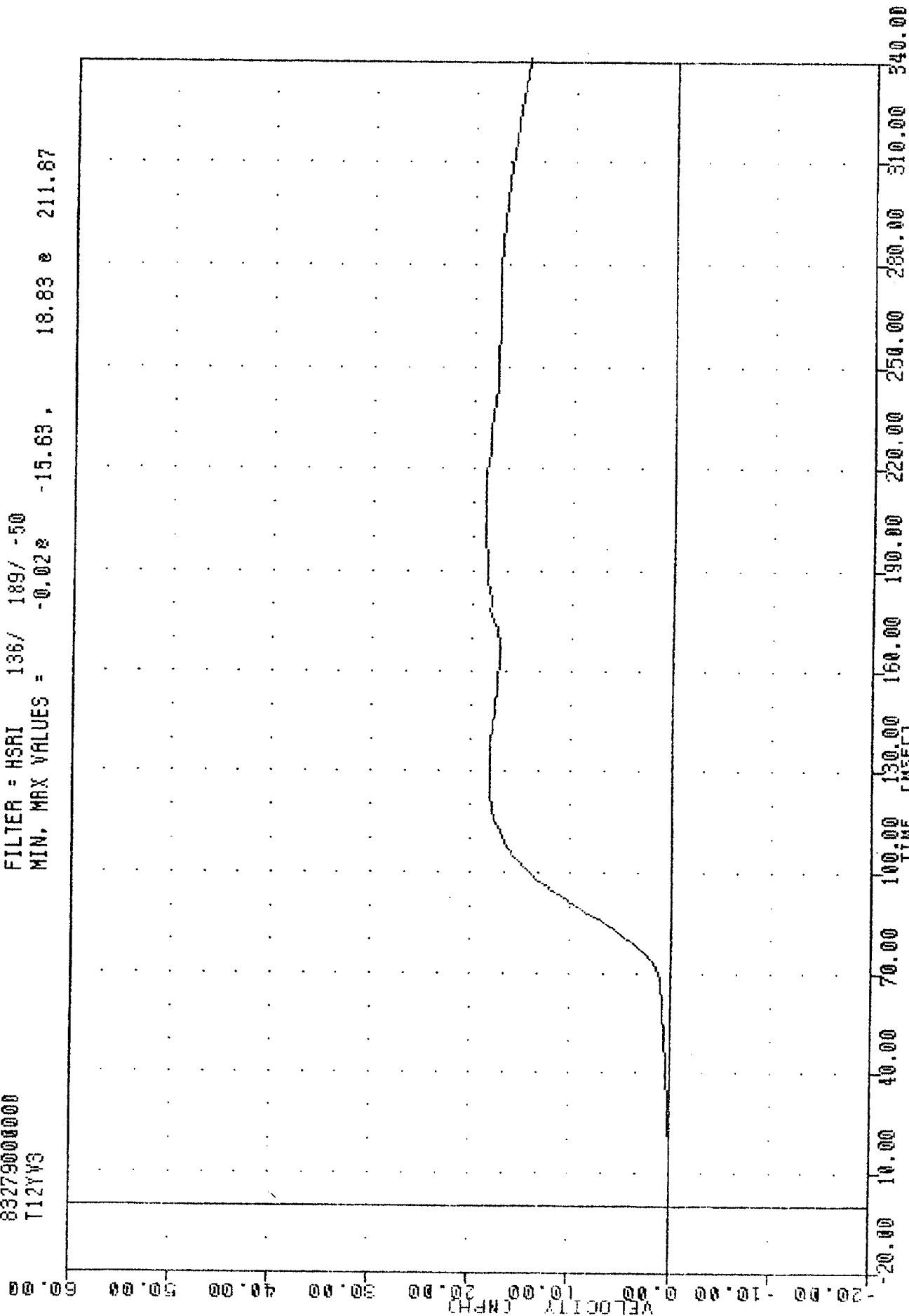
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LOWER SPINE RESULTANT USING T12YGC

TRC 831006
 EVALUATION OF MDD VW FLEET
 832790000000
 T12YV3

PLOT DATE 7-OCT-83 10:36:02

FILTER = HSRI 136/ 189/ -50

MIN, MAX VALUES = -0.028 -15.63, 18.83 e 211.87

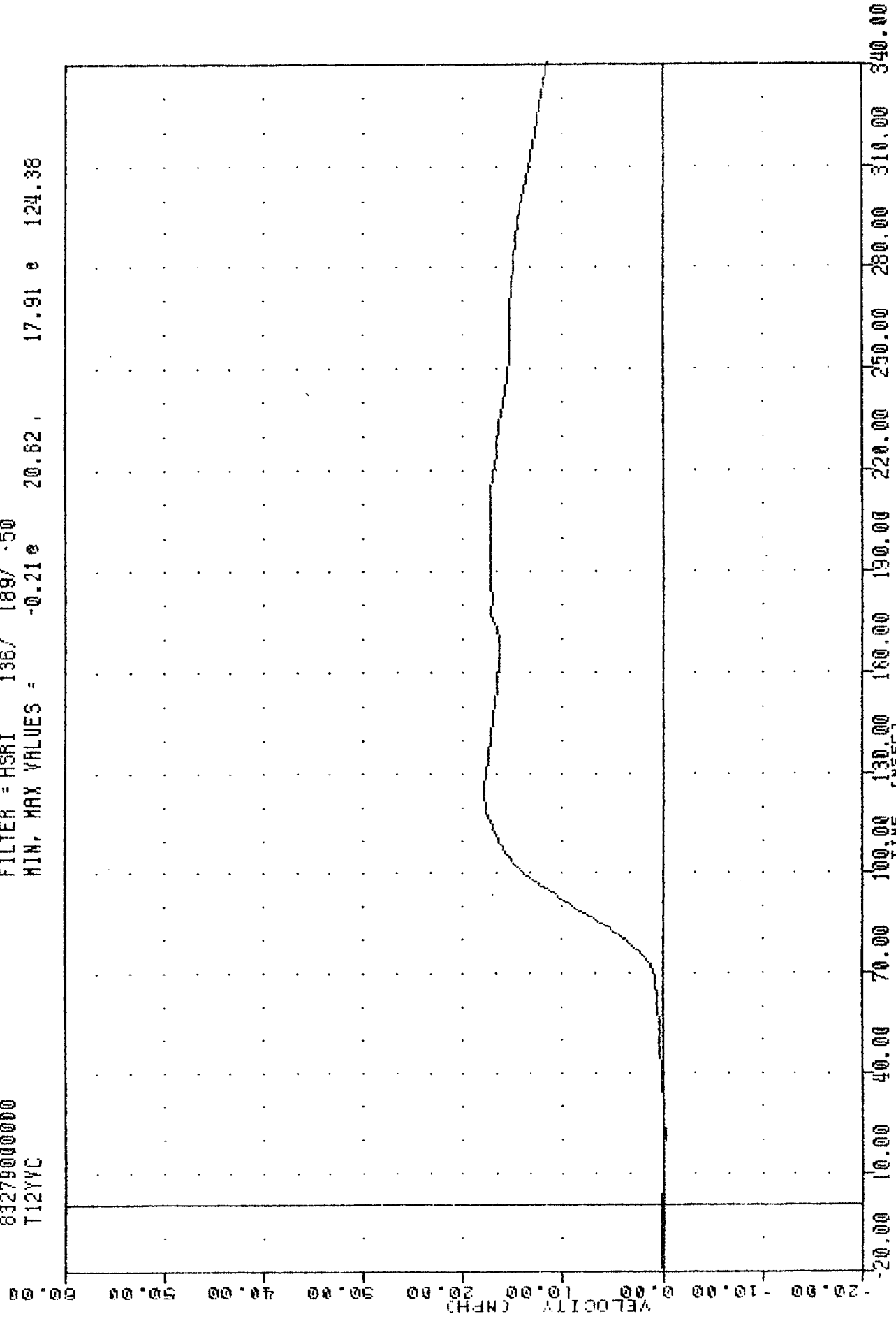


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING T12Y63

TRC
 EVALUATION OF MOD VN FLEET
 83279000000
 T12VVC

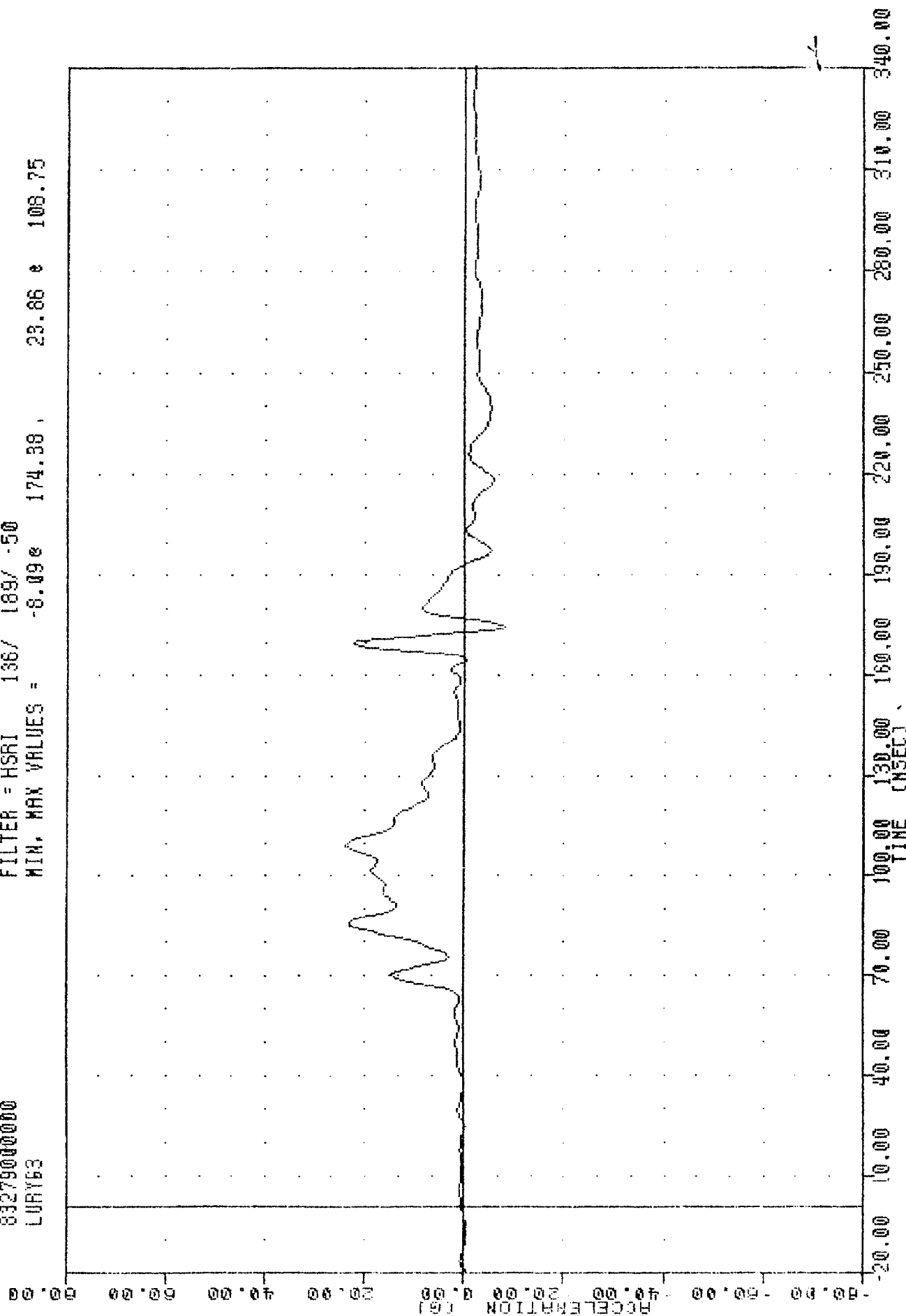
PLOT DATE 7-OCT-83 10:36:02

FILTER = HSRI 138/ 189/ -50
 MIN, MAX VALUES = -0.21e 20.62, 17.91 e 124.38



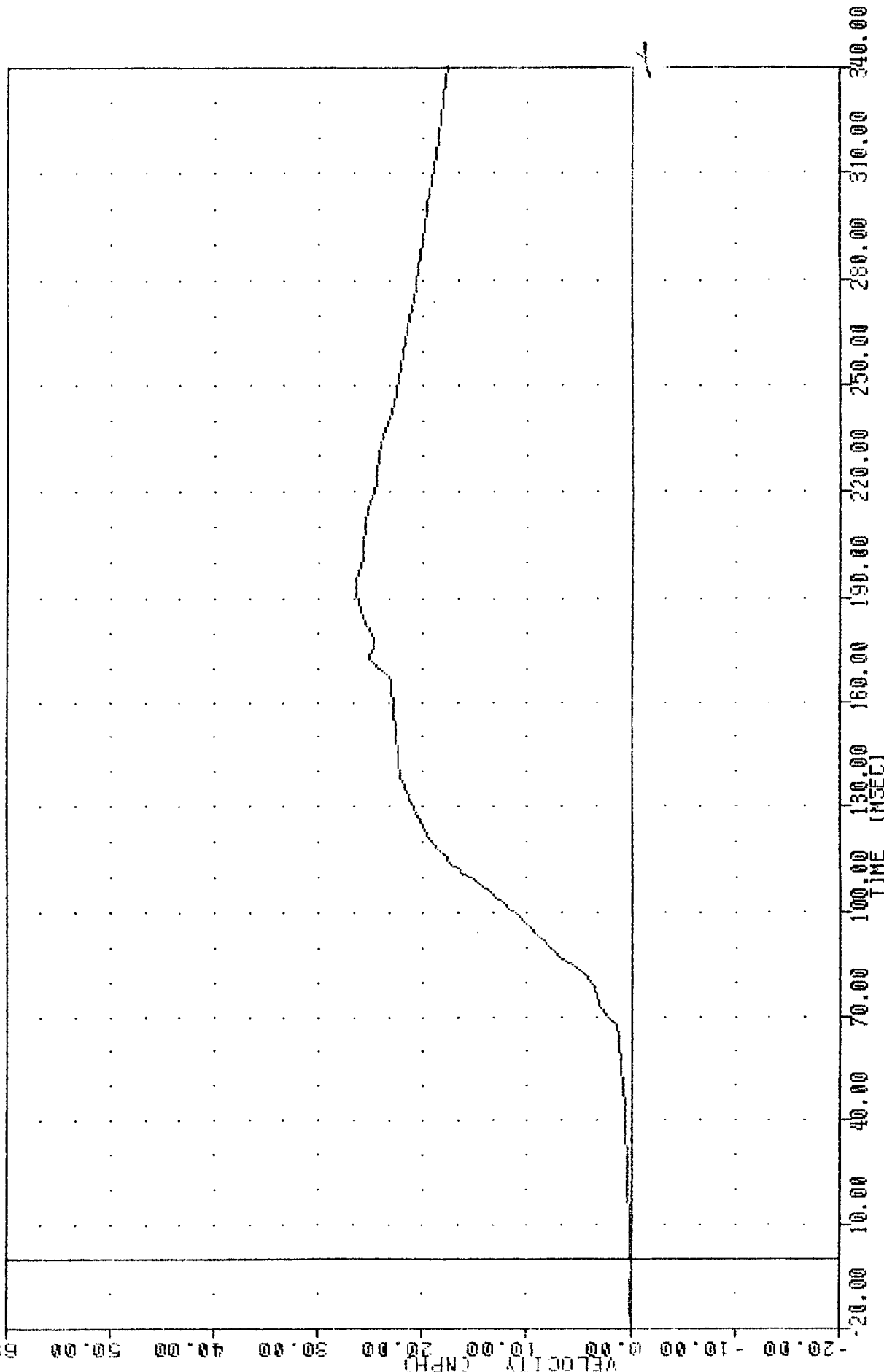
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING T12VVC

TAC [REDACTED], 831005 [REDACTED] 7-OCT-83 10:34:21
 EVALUATION OF MOD VW FLEET
 83279000000
 LURY63
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -8.09e 174.38, 23.86 e 108.75



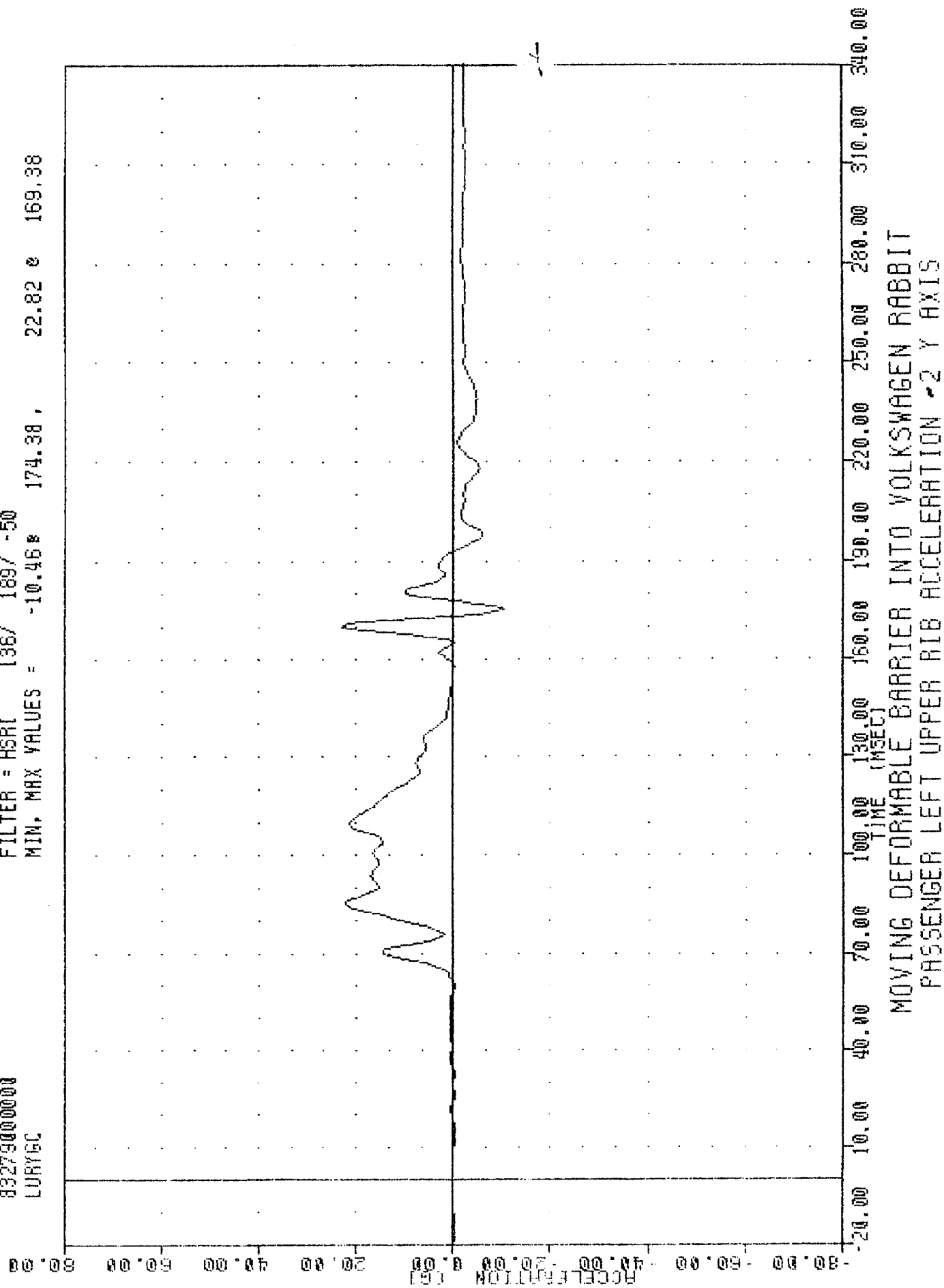
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LEFT UPPER RIB ACCELERATION Y AXIS

TRC 831006 PLOT DATE 7-ULY-83 10:36:02
 EVALUATION OF MOD YW FLEET
 83279000000
 LURYV3
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = 0.00 26.43 193.13



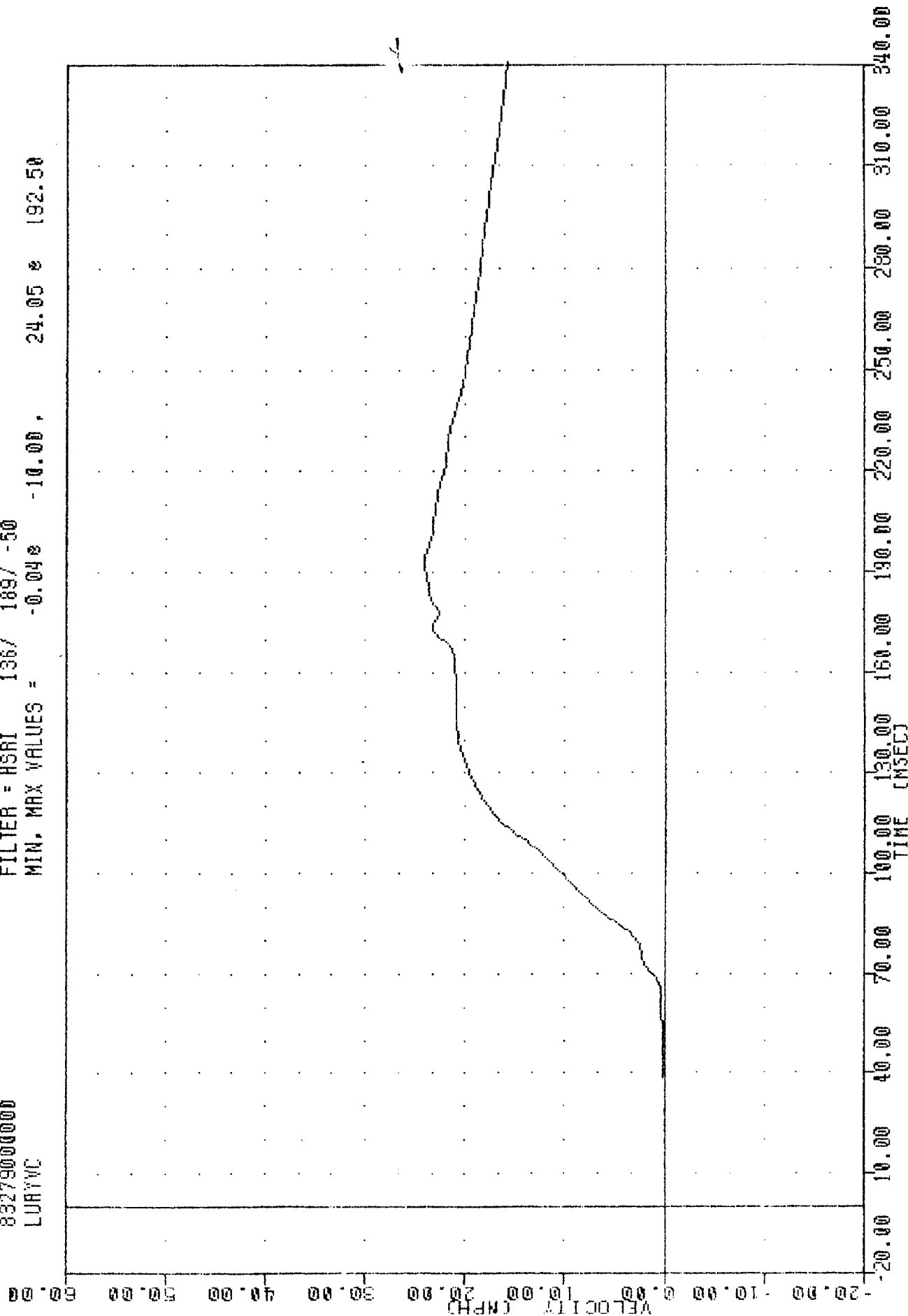
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING LURYG3

TRC 831006 PLOT DATE 7 OCT 83 10:34:21
 EVALUATION OF MOD YW FLEET.
 83279000000
 LURYGC
 FILTER = HSRI 136/ 189/ -50
 MIN, MAX VALUES = -10.46 174.38, 22.82 169.38



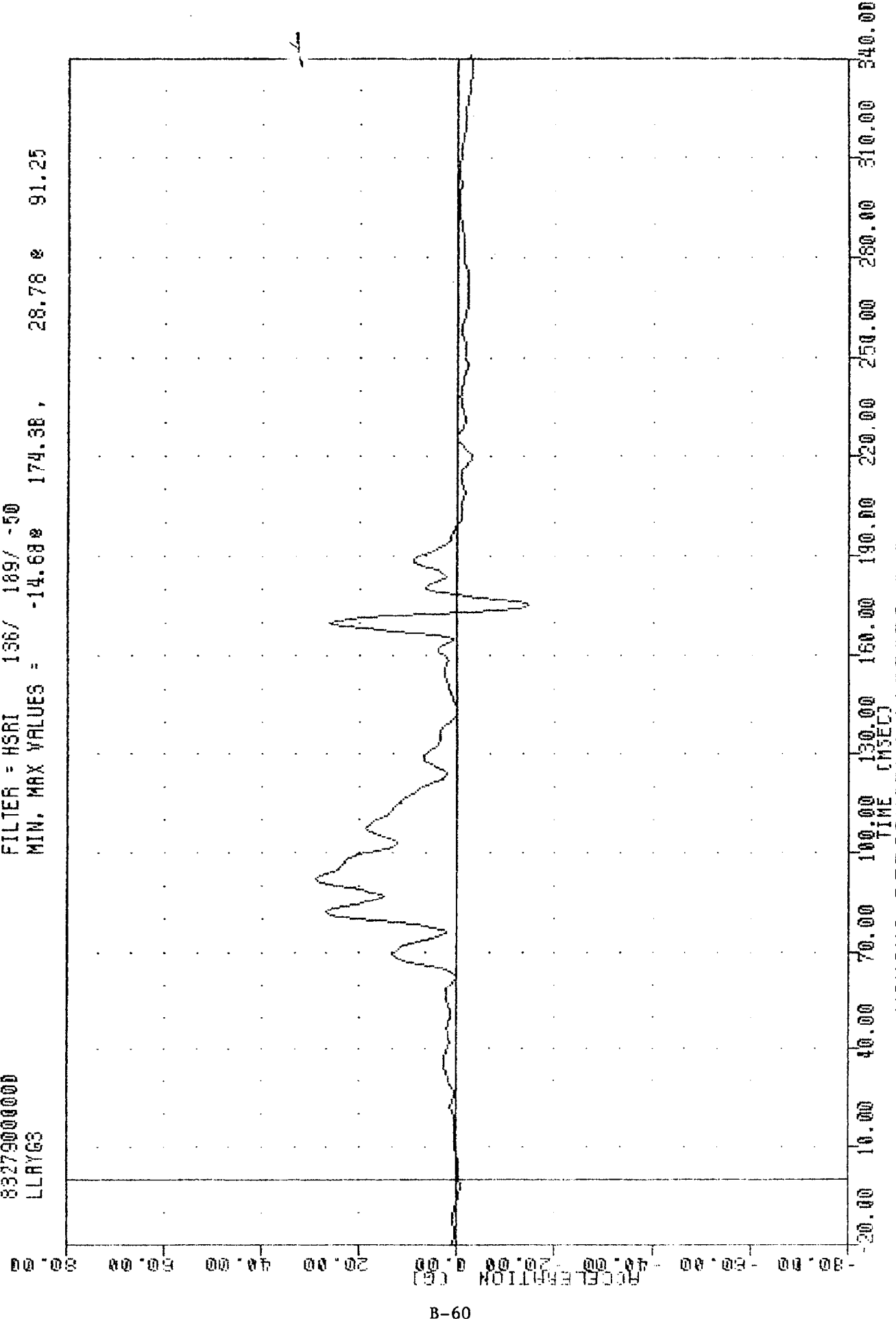
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LEFT UPPER RIB ACCELERATION -2 Y AXIS

TAC 831006 PLOT DATE 7-OCT-83 10:36:02
 EVALUATION OF MDD VW FLEET
 83279000000
 LURYVC
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -0.048 -10.00 24.05 192.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN-RABBIT
 DELTA V USING LURY6C

TRC [REDACTED], 031006 [REDACTED] PLOT DATE [REDACTED] 7 OCT-83 [REDACTED] 10:34:21
 EVALUATION OF MOD VV FLEET
 83279000000
 LRAYG3
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -14.688 174.38, 28.78 & 91.25



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER LEFT LOWER RIB ACCELERATION Y AXIS

TAC [REDACTED], 83J006 [REDACTED] PLOT DATE 7-OCT-83 10:36:02 [REDACTED]

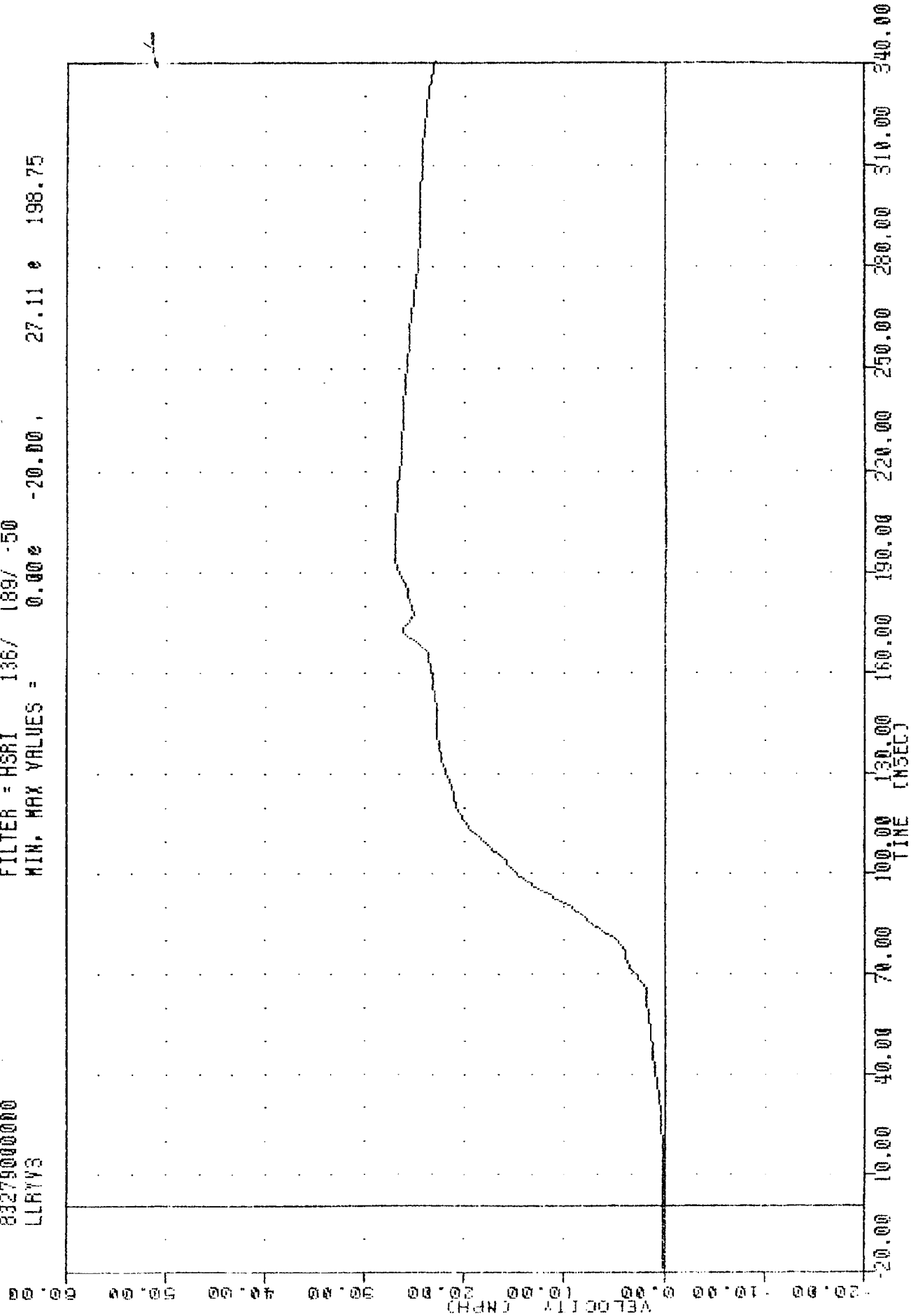
EVALUATION OF MOD VN FLEET

83279000000

LLRYV3

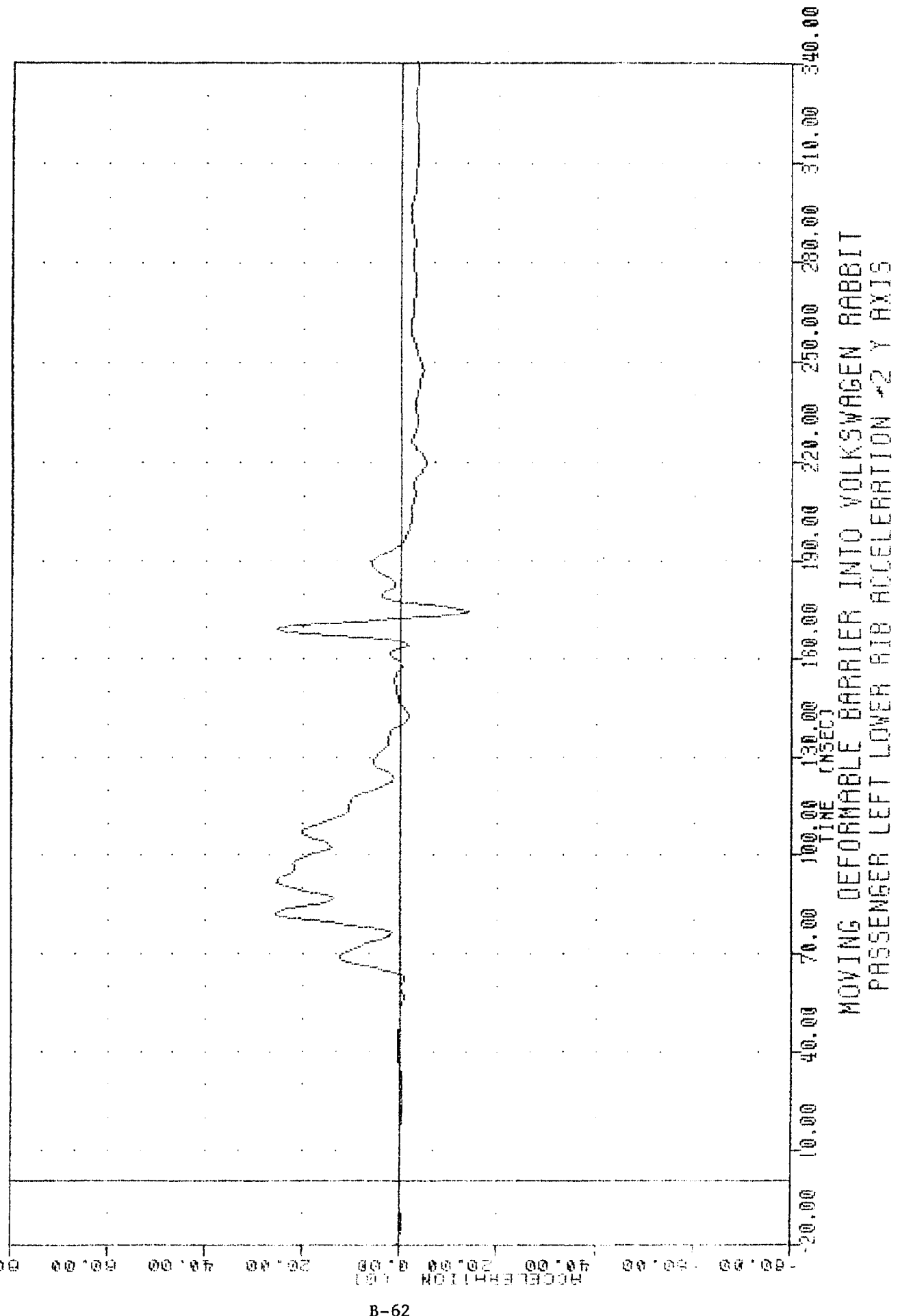
FILTER = HSRI 136/ 189/ -50

MIN. MAX VALUES = 0.000 -20.00, 27.11 0 198.75



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LLRYG3

TAC 831006 7-OCT-83 10:34:21
 EVALUATION OF MOD VN FLEET
 83279000000
 LLRT6C
 FILTER = HSRI 136/ 189/ -50
 MIN. MAX VALUES = -13.71g 174.58g 25.71g 81.25g



TRC 831008 7-OCT-83 10:36:02

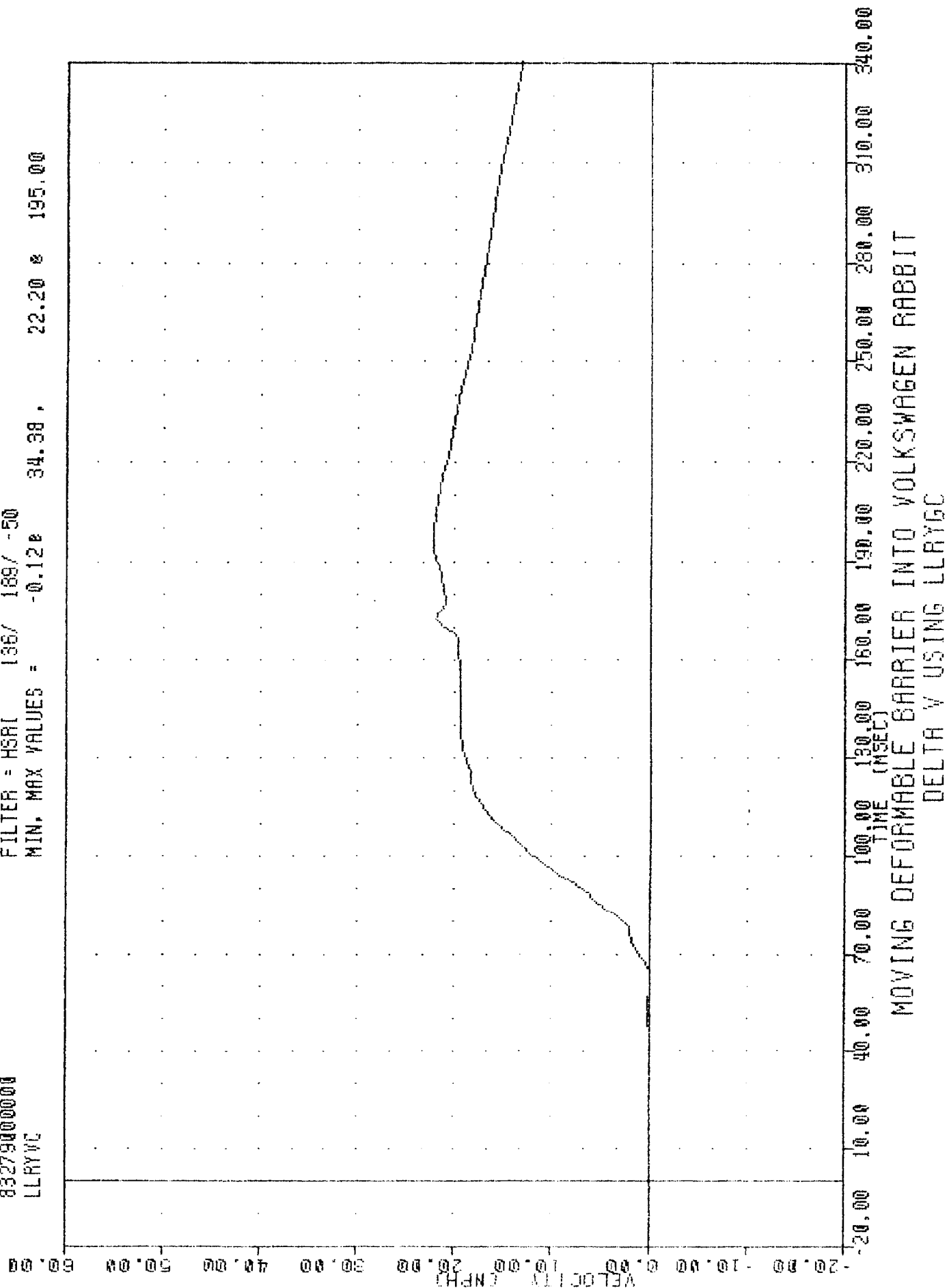
EVALUATION OF MOD YW FLEET

83279000000

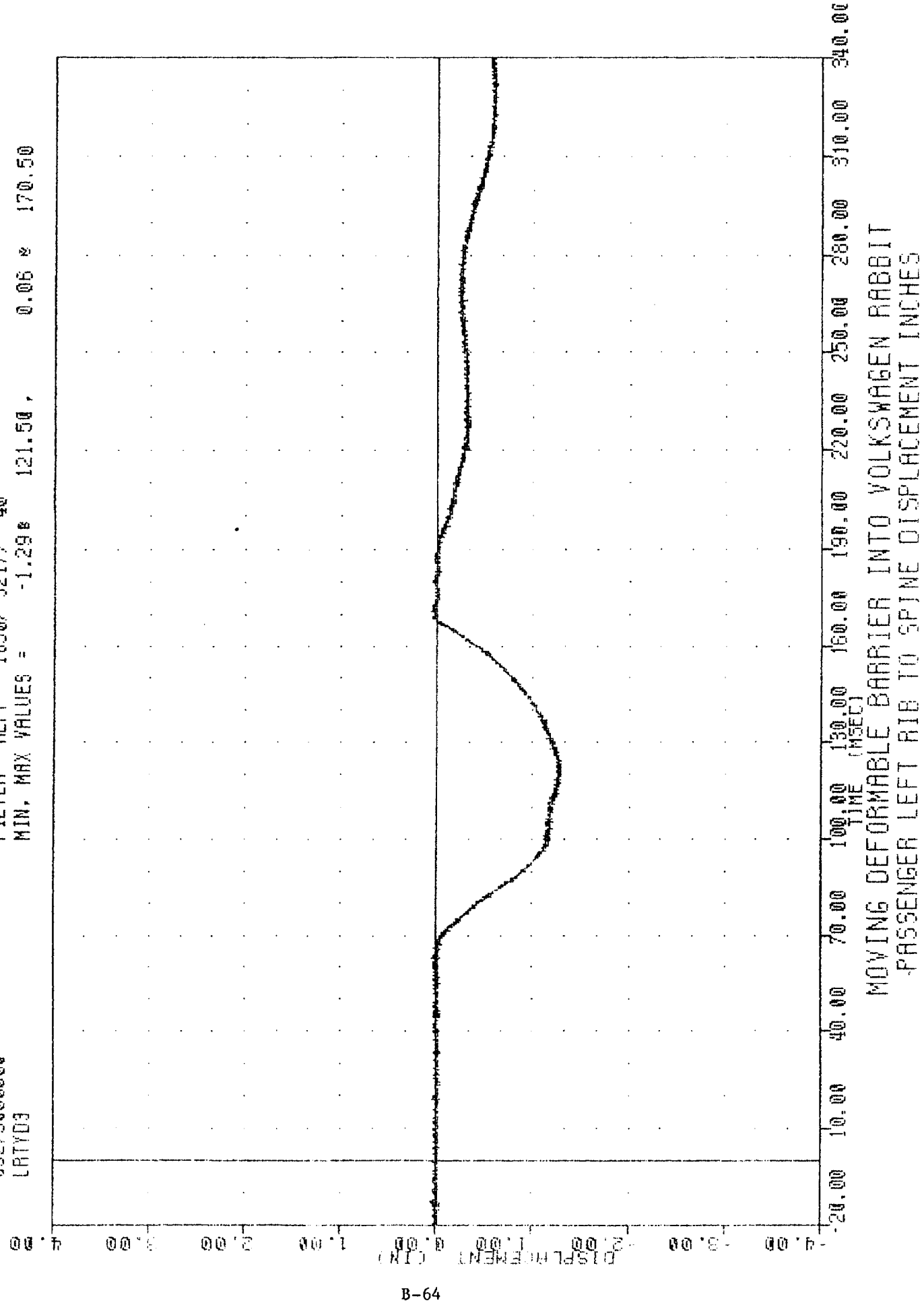
LLRYVC

FILTER = HSR1 136/ 189/ -50

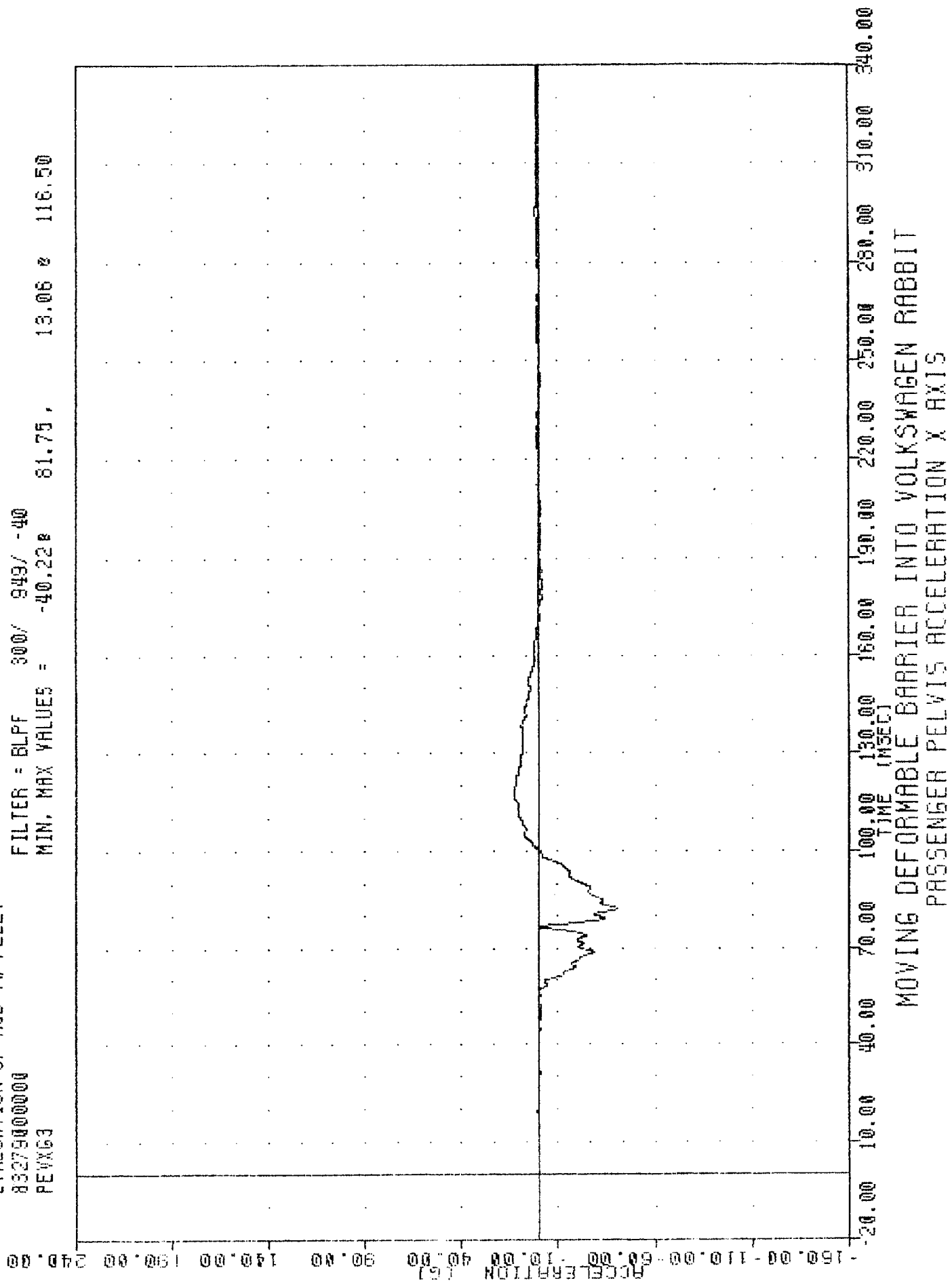
MIN. MAX VALUES = -0.128 34.38 22.20 & 195.00



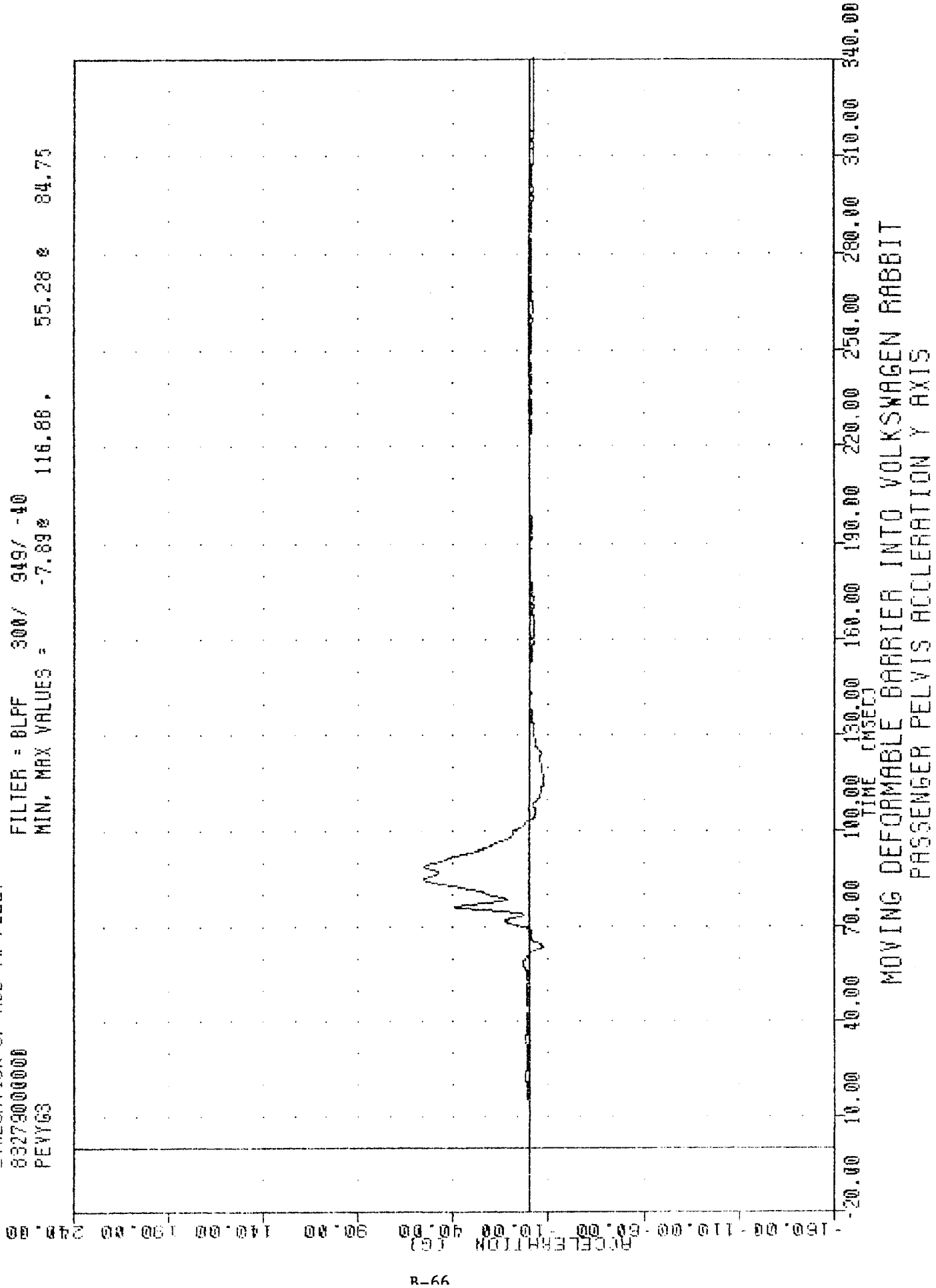
TRC
 EVALUATION OF MOD VN FLEET
 83279000000
 LRTYD3
 FILTER = ALPF 1650/ 5217/ -40
 MIN. MAX VALUES = -1.298 121.50, 0.06 170.50
 PLOT DATE 11 OCT-83 10:48:03



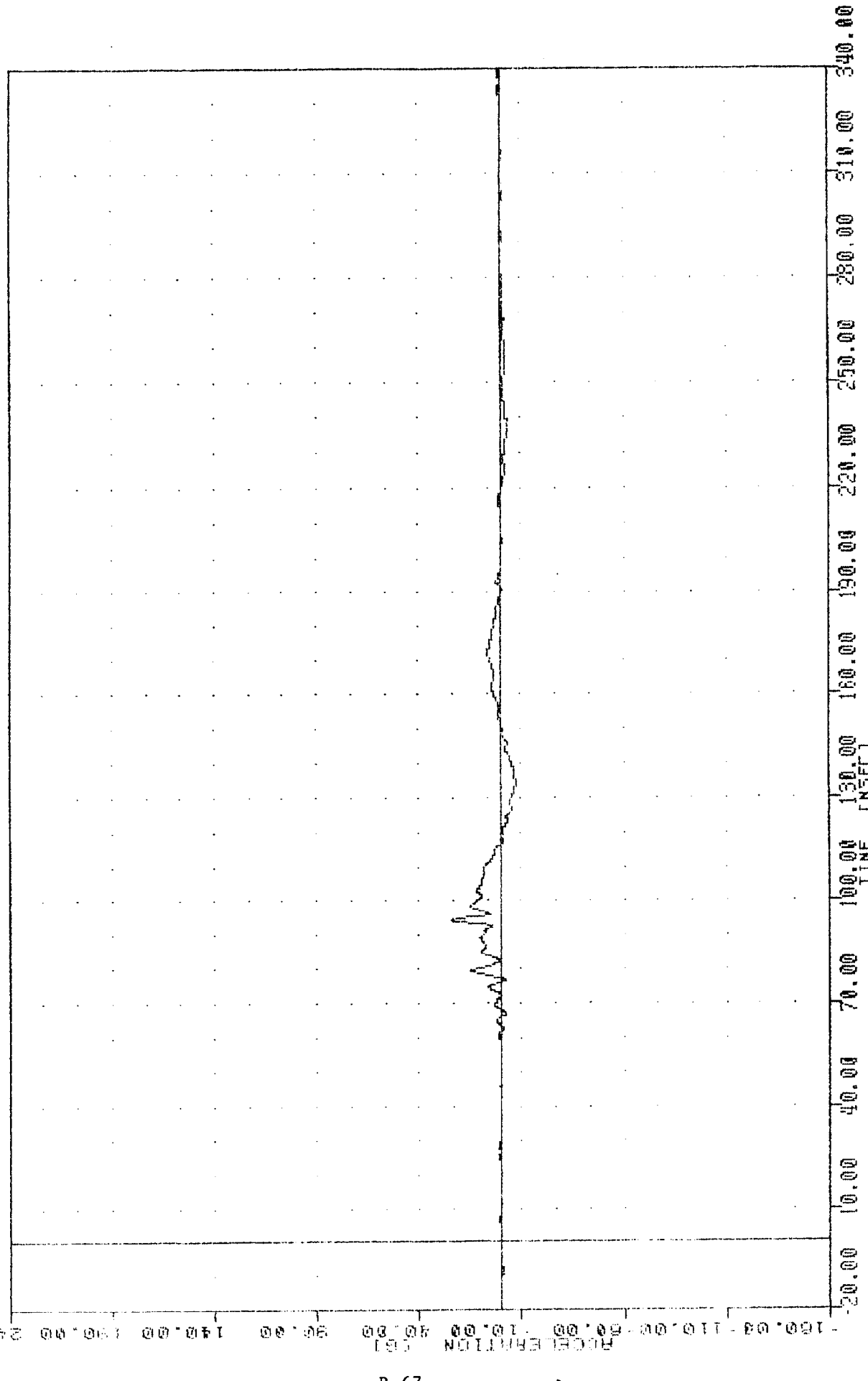
TRC 000006, 000006 PLOT DATE 11-20-80 10:19:03
 EVALUATION OF MOD YW FLEET
 832790000000
 PEVXG3
 FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -40.22 81.75, 13.06 116.50



TRC [REDACTED], 03/008 [REDACTED] PLOT DATE 11 OCT 83 10:03:03
 EVALUATION OF MOD VW FLEET
 83279000000
 PEY63
 FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -7.89% 116.86, 55.28 % 84.75



TRAC [REDACTED], 800006 [REDACTED] 1-83 10-03 [REDACTED]
 EVALUATION OF MOD VN FLEET
 83279000000
 PEVZB3
 FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -7.51e 133.88, 24.19 e 94.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 PASSENGER PELVIS ACCELERATION Z AXIS

TRC 831006 7-OCT-83 10:58:23

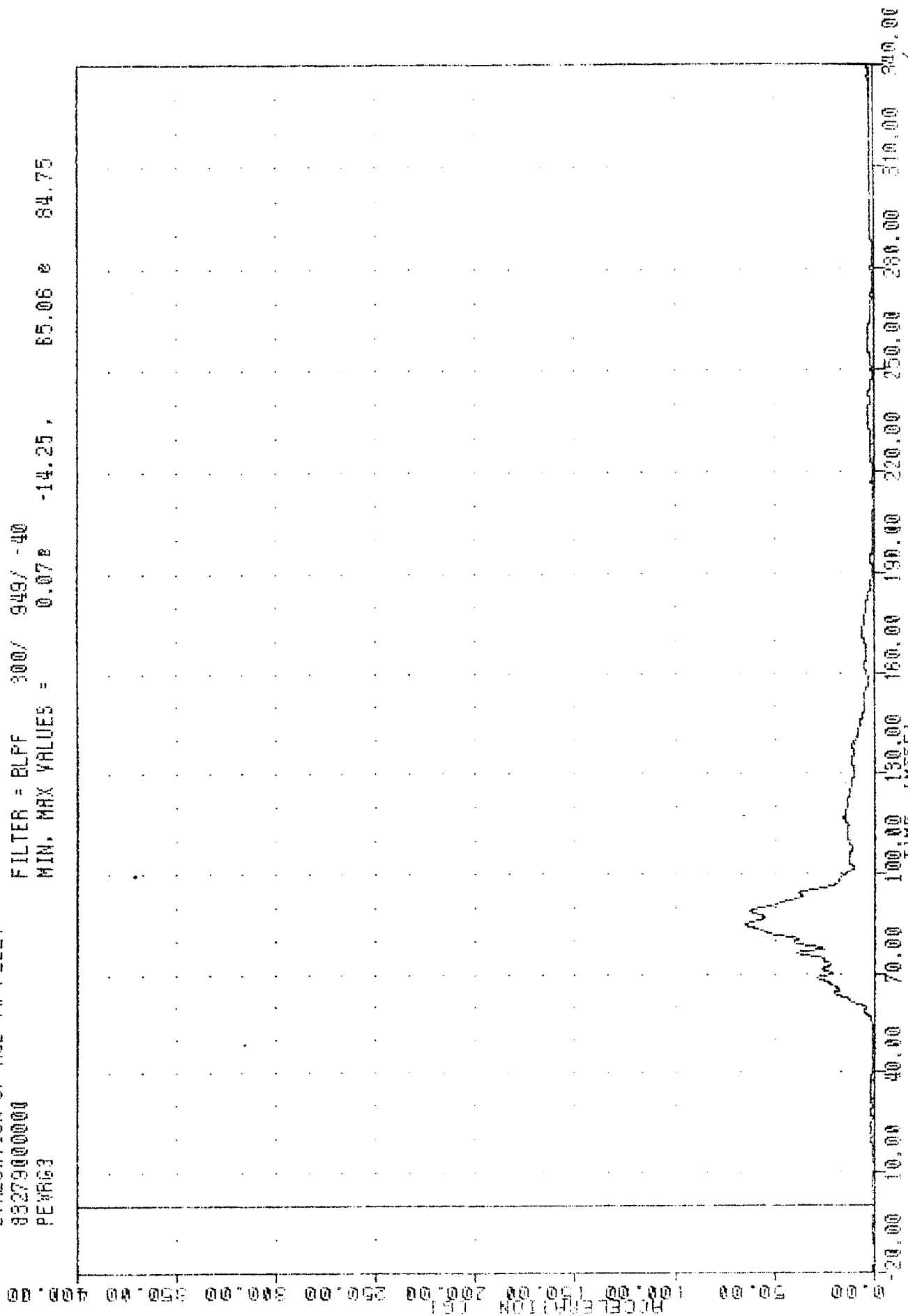
EVALUATION OF MOD VW FLEET

832790000000

PEW63

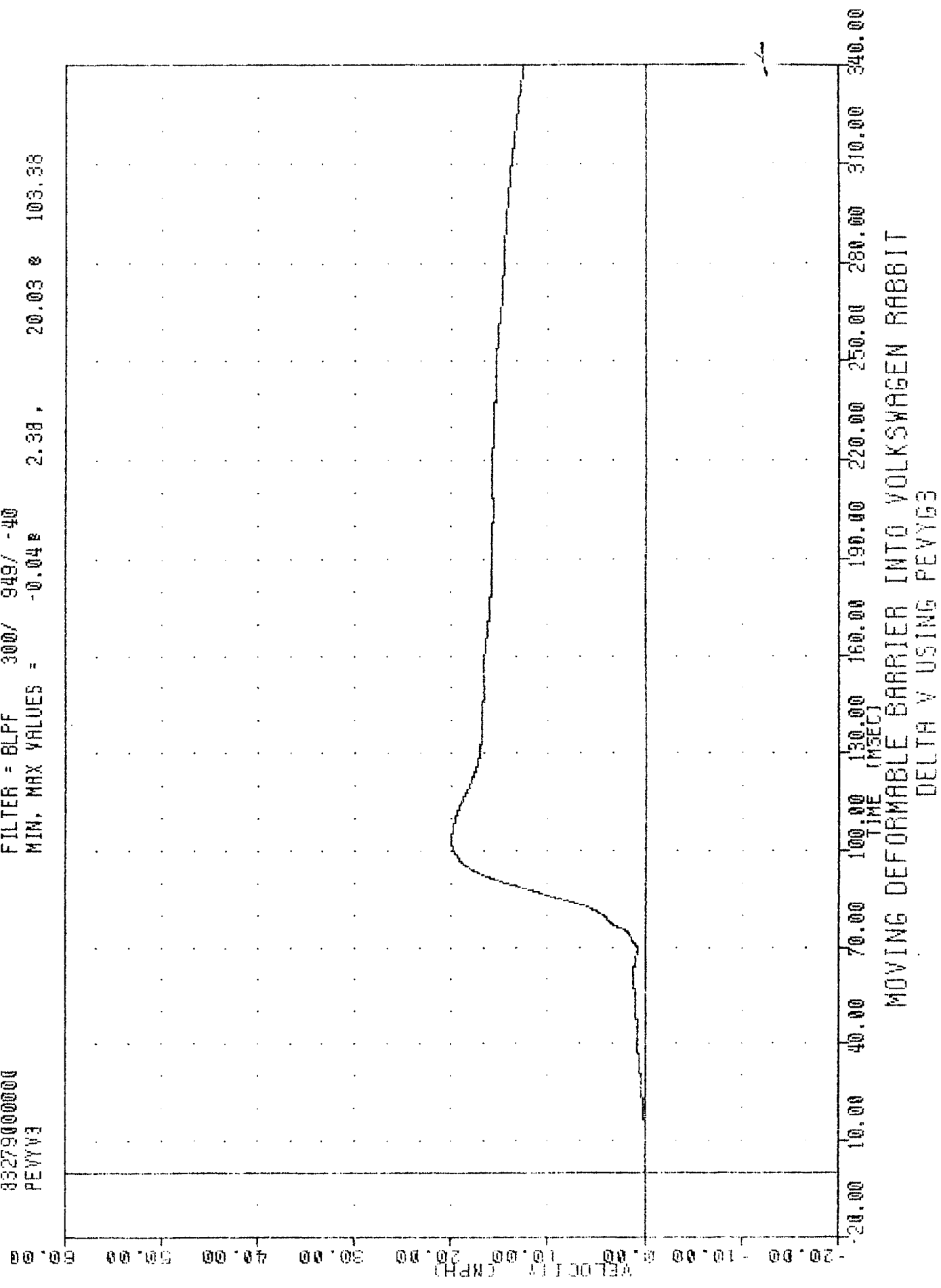
FILTER = BLPF 300/ 949/ -40

MIN. MAX VALUES = 0.07E -14.25, 65.06E 84.75



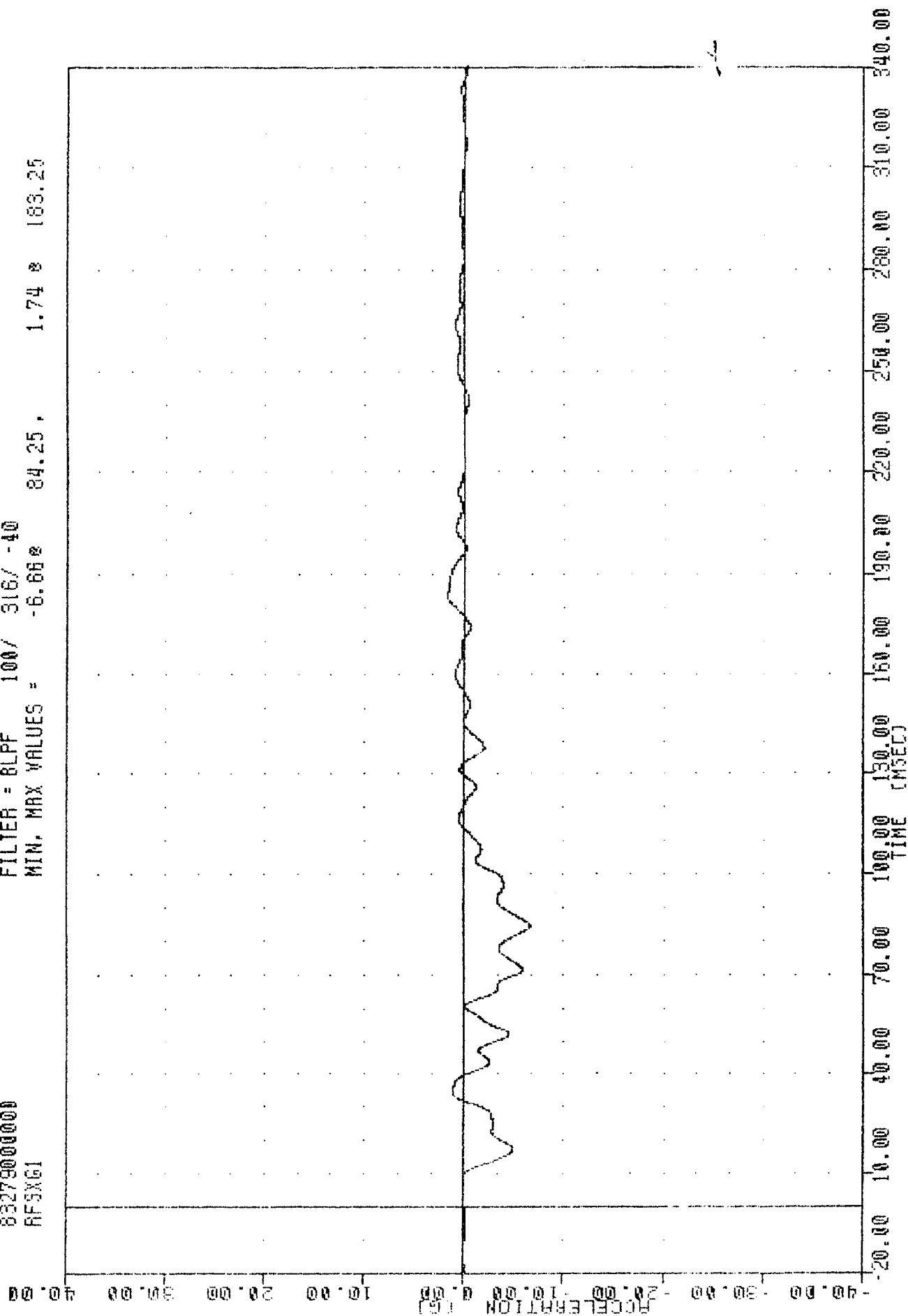
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER PELVIS RESULTANT

TRC [REDACTED], 831006 [REDACTED] PLOT DATE [REDACTED] 7-OCT-83 [REDACTED] 10:30:28 [REDACTED]
 EVALUATION OF MOD VW FLEET
 83279000000
 PEVYV3
 FILTER = BLPF 300/ 949/ -40
 MIN, MAX VALUES = -0.04 2.38, 20.03 103.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING PEVY63

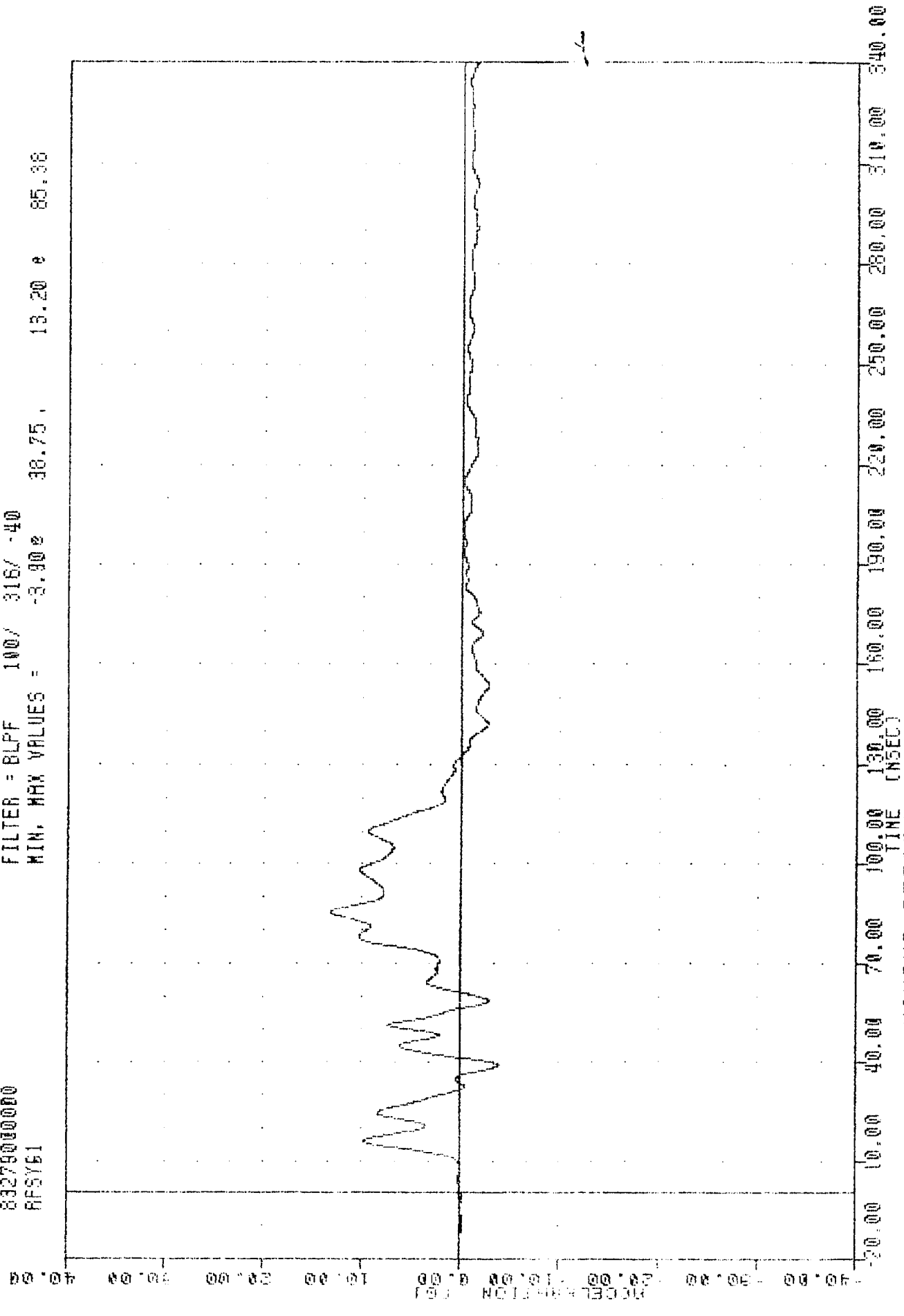
TRG [REDACTED], 837006 [REDACTED] PLOT DATE 11-22-83 10:23:03
 EVALUATION OF MOD VW FLEET
 832790000000
 RFSX61
 FILTER = 8LPF 100/ 316/ -40
 MIN. MAX VALUES = -6.66% 84.25, 1.74% 183.25



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT FRONT STILL ACCELERATION X AXIS

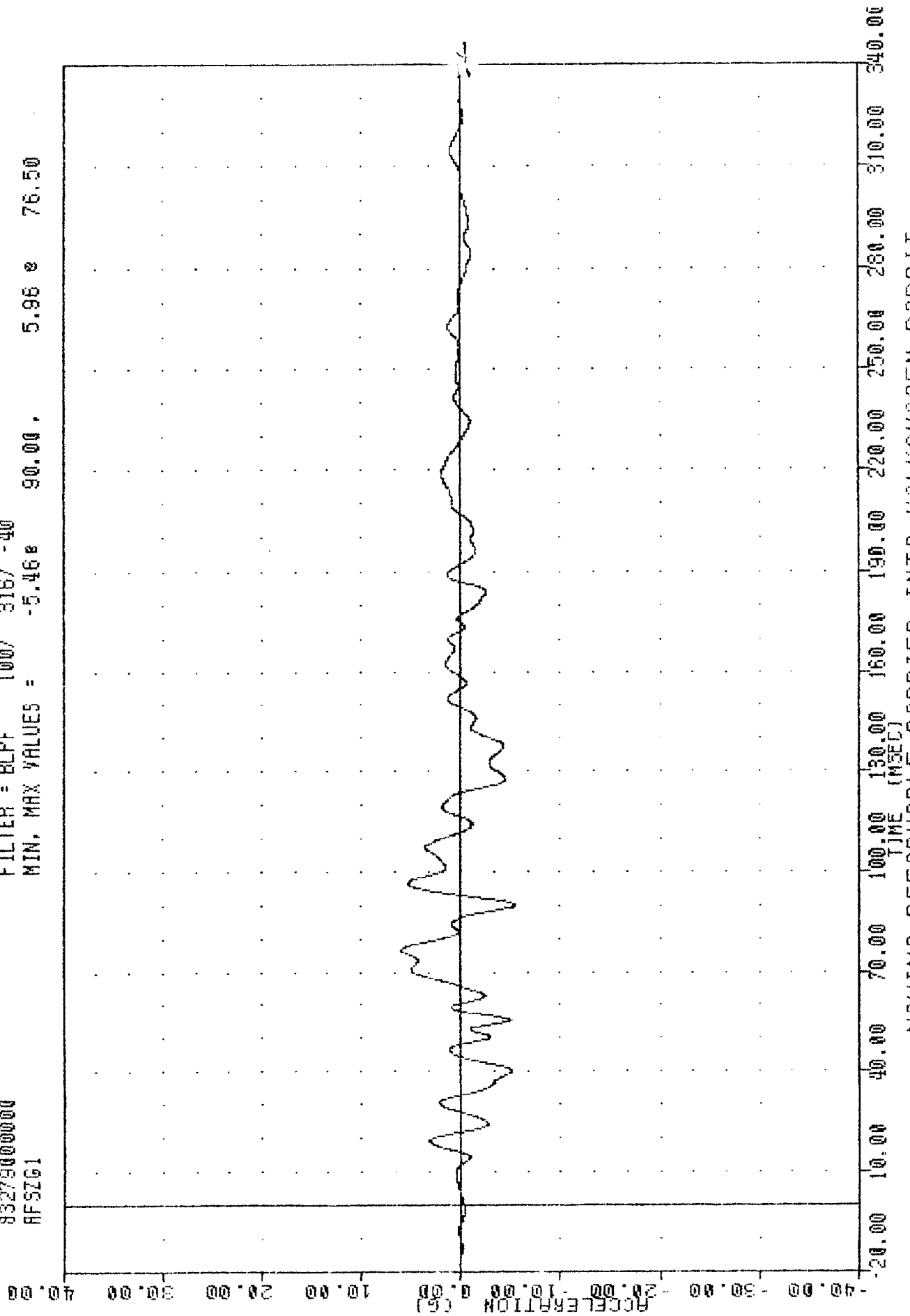
TRU [REDACTED], [REDACTED] 11-88 10:10:03
 EVALUATION OF MOD VN FLEET
 83279000000
 RFSY61

FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -3.90e 38.75, 13.20 e 85.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT FRONT SILL ACCELERATION Y AXIS

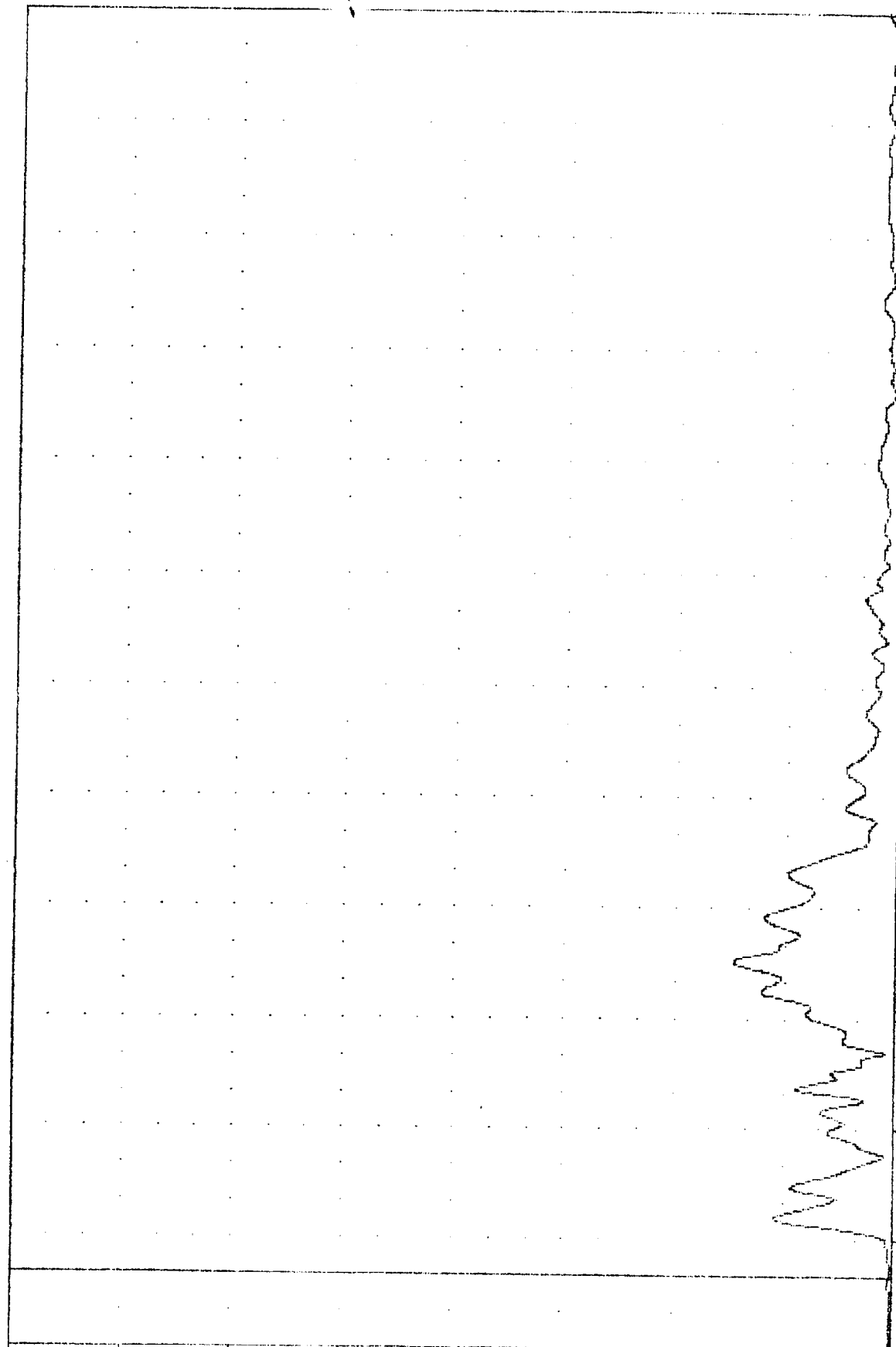
TRC [REDACTED], 831006 [REDACTED] PLOT DATE [REDACTED] 7 OCT 83 [REDACTED] 10:30:58
 EVALUATION OF MOD YW FLEET
 83279000000
 RFSZG1
 FILTER = BLPF 100/ 318/ -40
 MIN. MAX VALUES = -5.46e 90.00, 5.96e 76.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT FRONT SILL ACCELERATION Z AXIS

TRC 831006
 EVALUATION OF MOD VW FLEET
 83279000000
 RFSRG1
 PLOT DATE 7-OCT-83 10:58:23
 FILTER = BLFF .100/ 316/ -40
 MIN. MAX VALUES = 0.098 -11.63, 14.69 85.25

ACCELERATION (G)



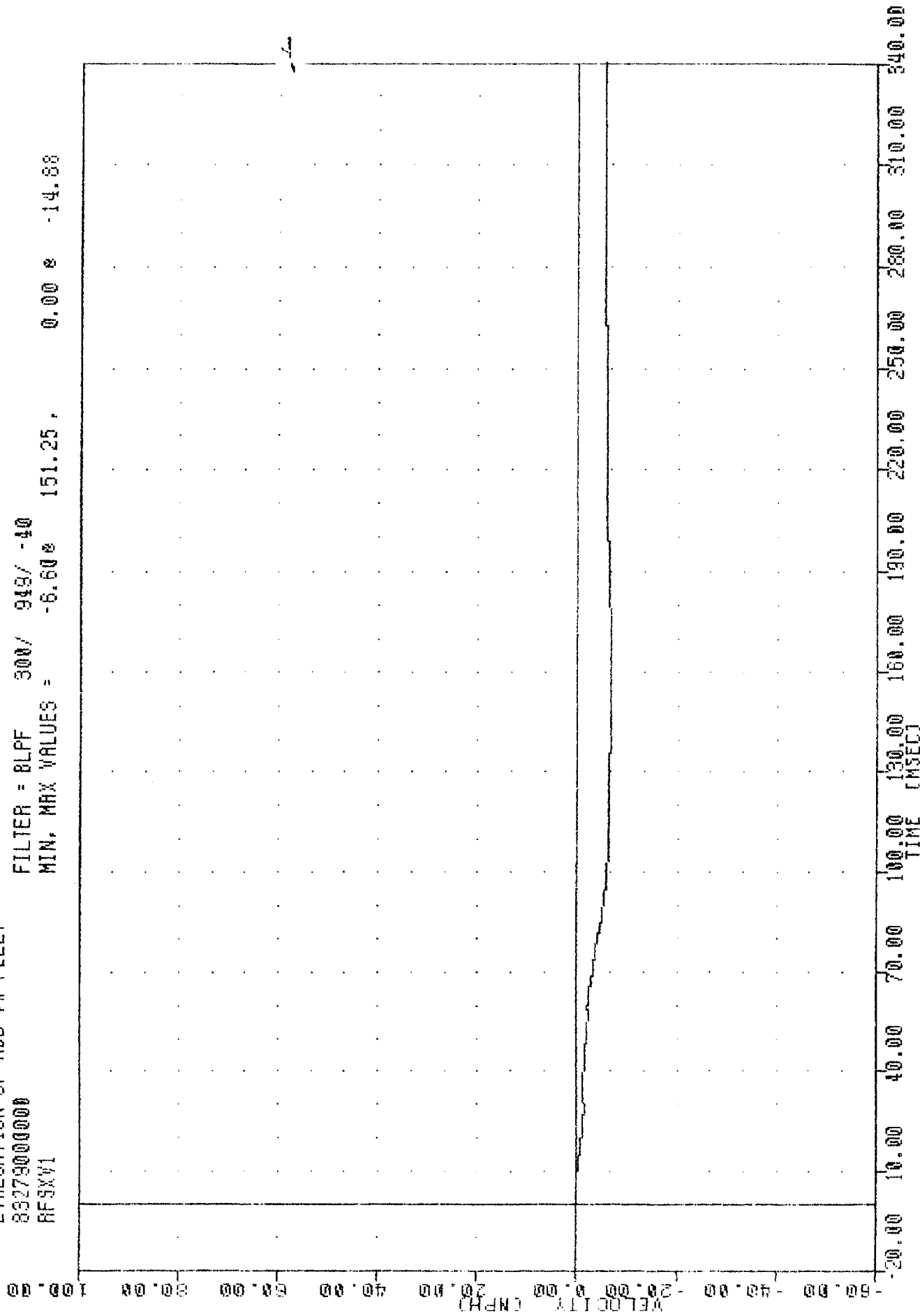
-20.00 0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00
 0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT FRONT SILL RESULTANT

TRC 831006
 EVALUATION OF MOD VN FLEET
 832790000000
 RFSXV1

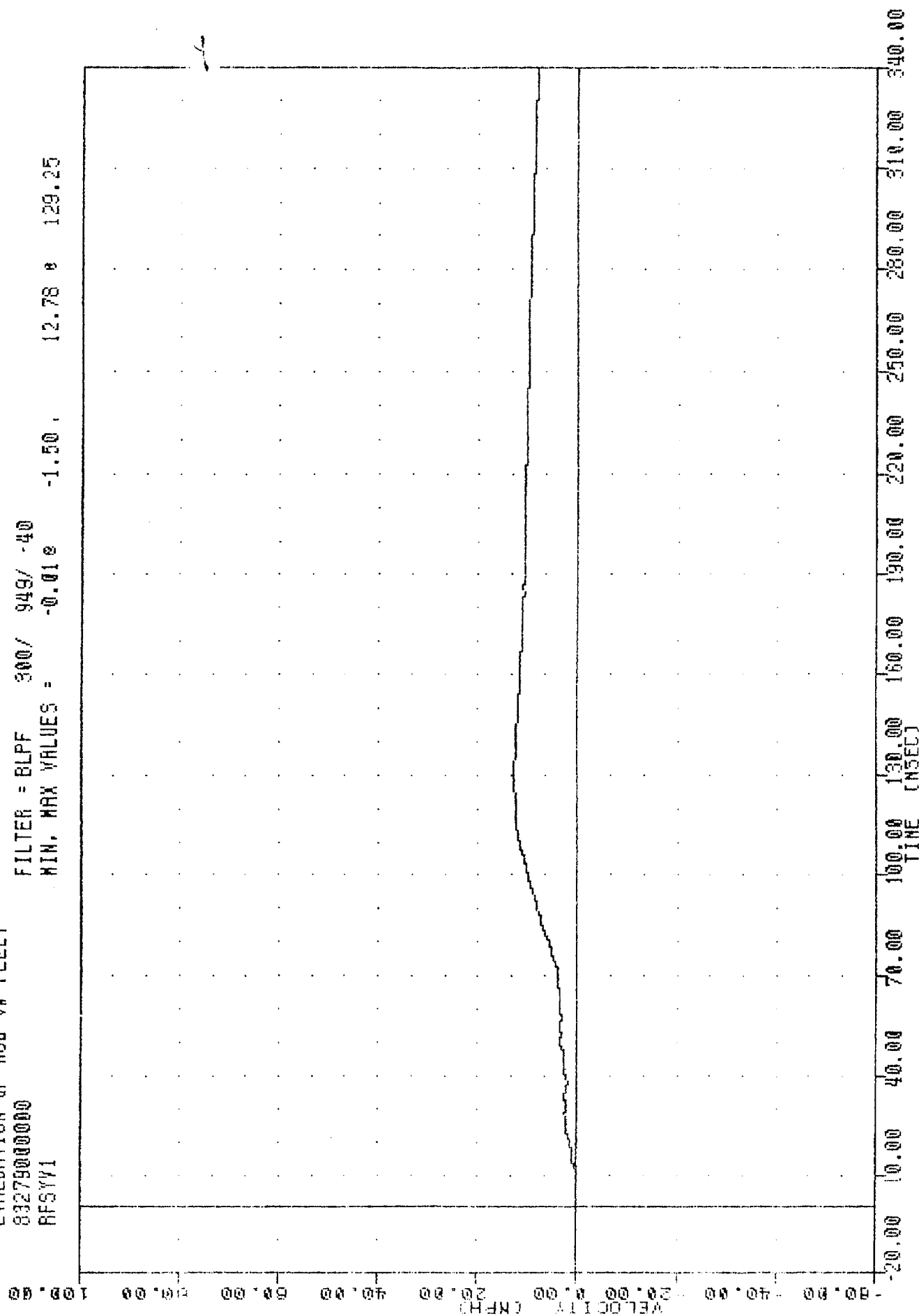
PLOT DATE 7-OCT-83 10:38:28

FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -8.60e 151.25, 0.00 e -14.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING RFSXG1

TAC 831006 PLOT DATE 7-OCT-83 10:38:28
 EVALUATION OF MOD VN FLEET
 83279000000
 RFSYY1
 FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -0.018 -1.50 12.78 129.25



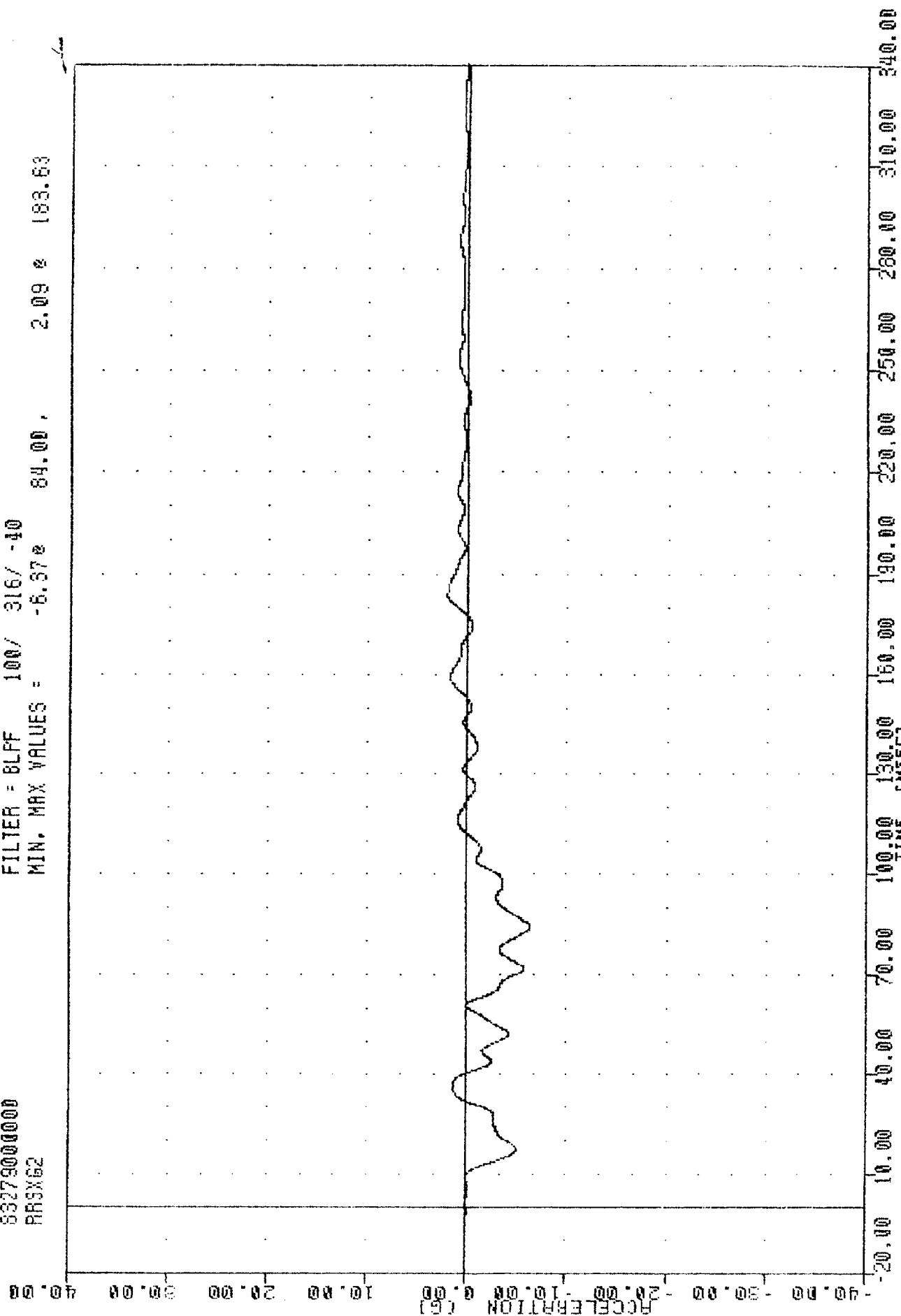
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA Y USING RFSYGI

TRC 831006
EVALUATION OF MOD VW FLEET
53279000000
RRSXG2

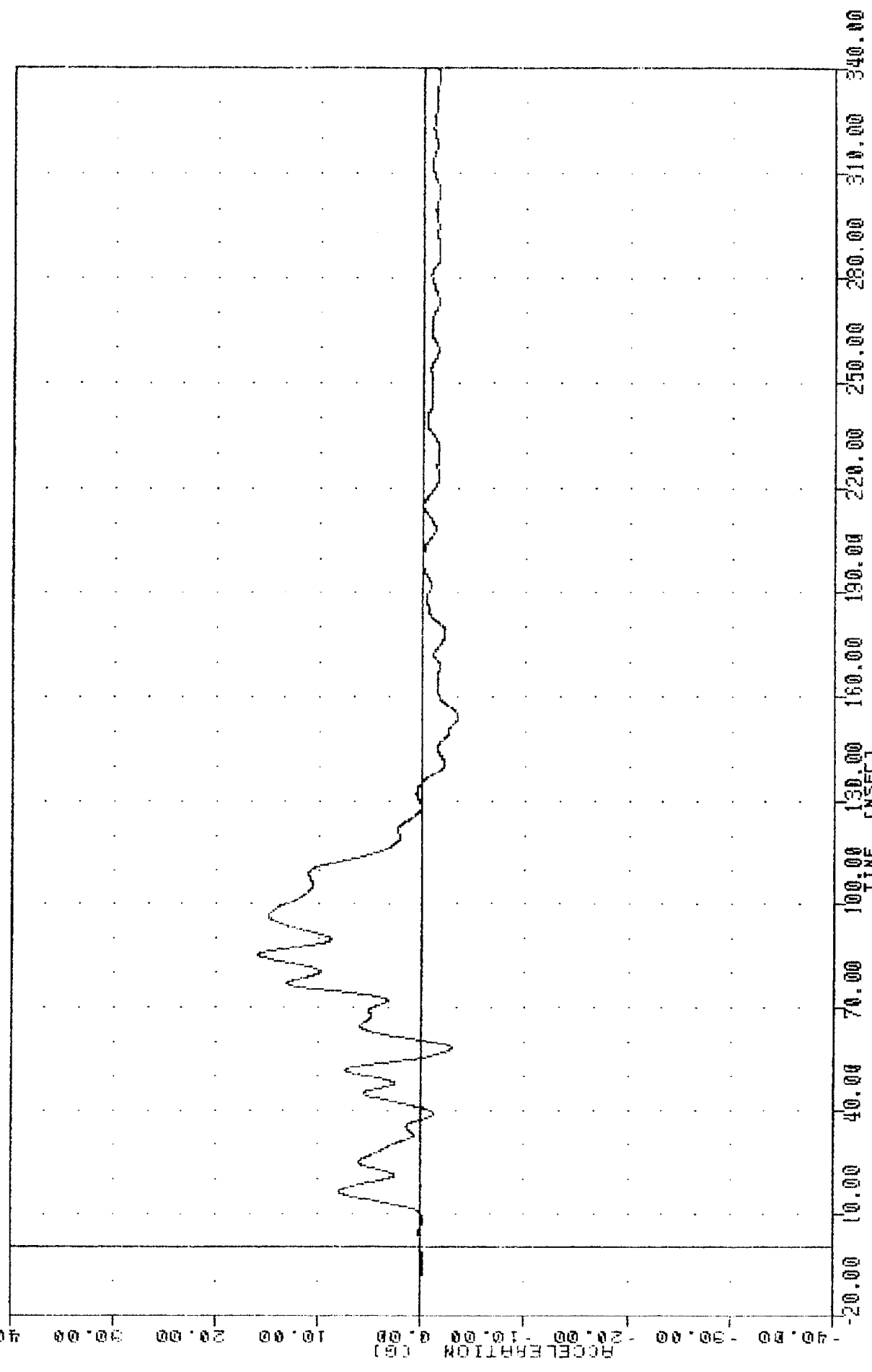
PLOT DATE 7-OCT-83 10:36:58

FILTER = 8LFF 100/ 316/ -40

MIN. MAX VALUES = -8.37 84.00, 2.09 183.63

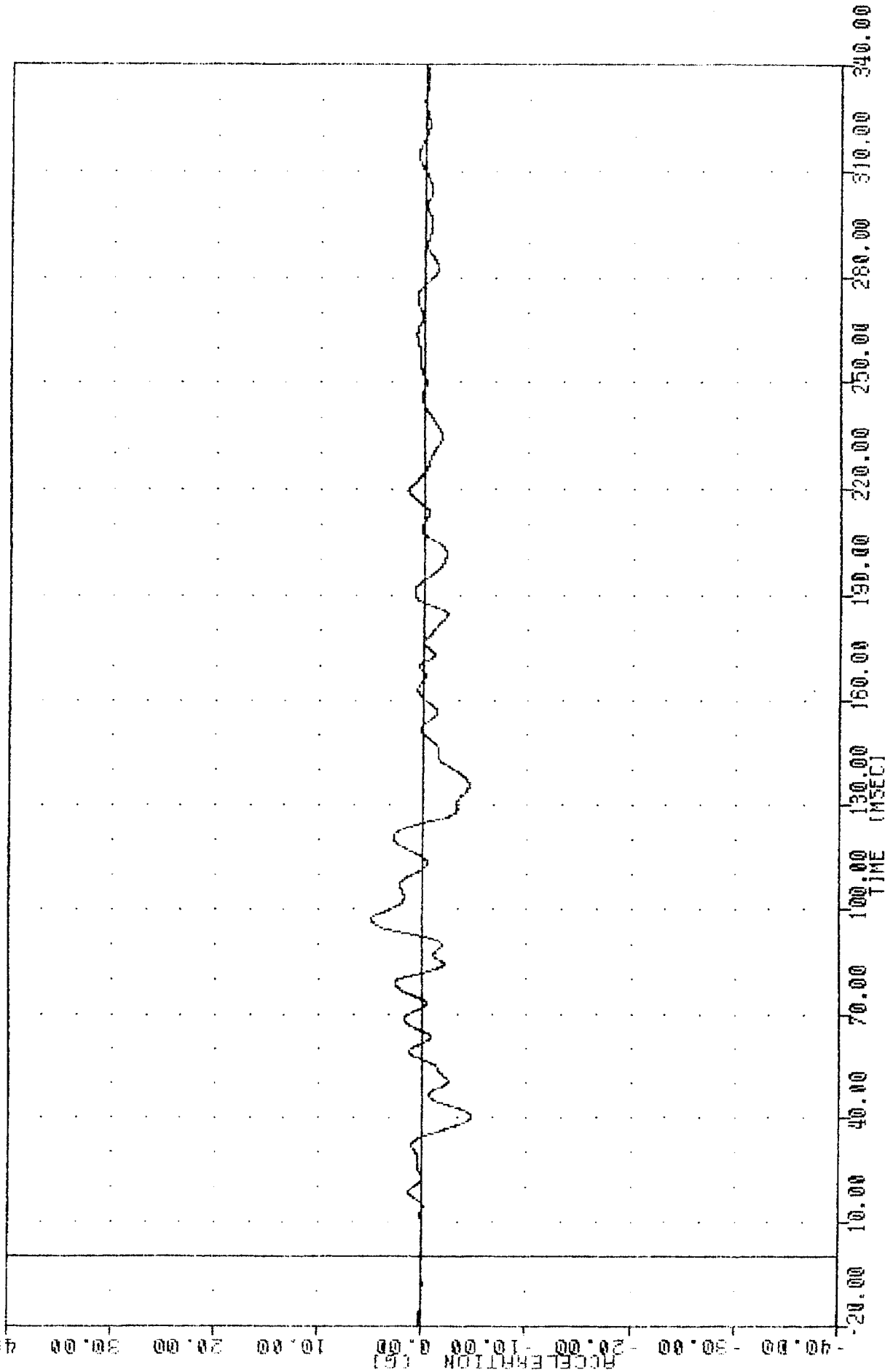


TAC [REDACTED], 831006 [REDACTED] PLOT DATE 7-OCT-83 10:35:58
 EVALUATION OF MOD VN FLEET
 83279000000
 RASY62
 FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -3.41 154.13 15.89 85.13



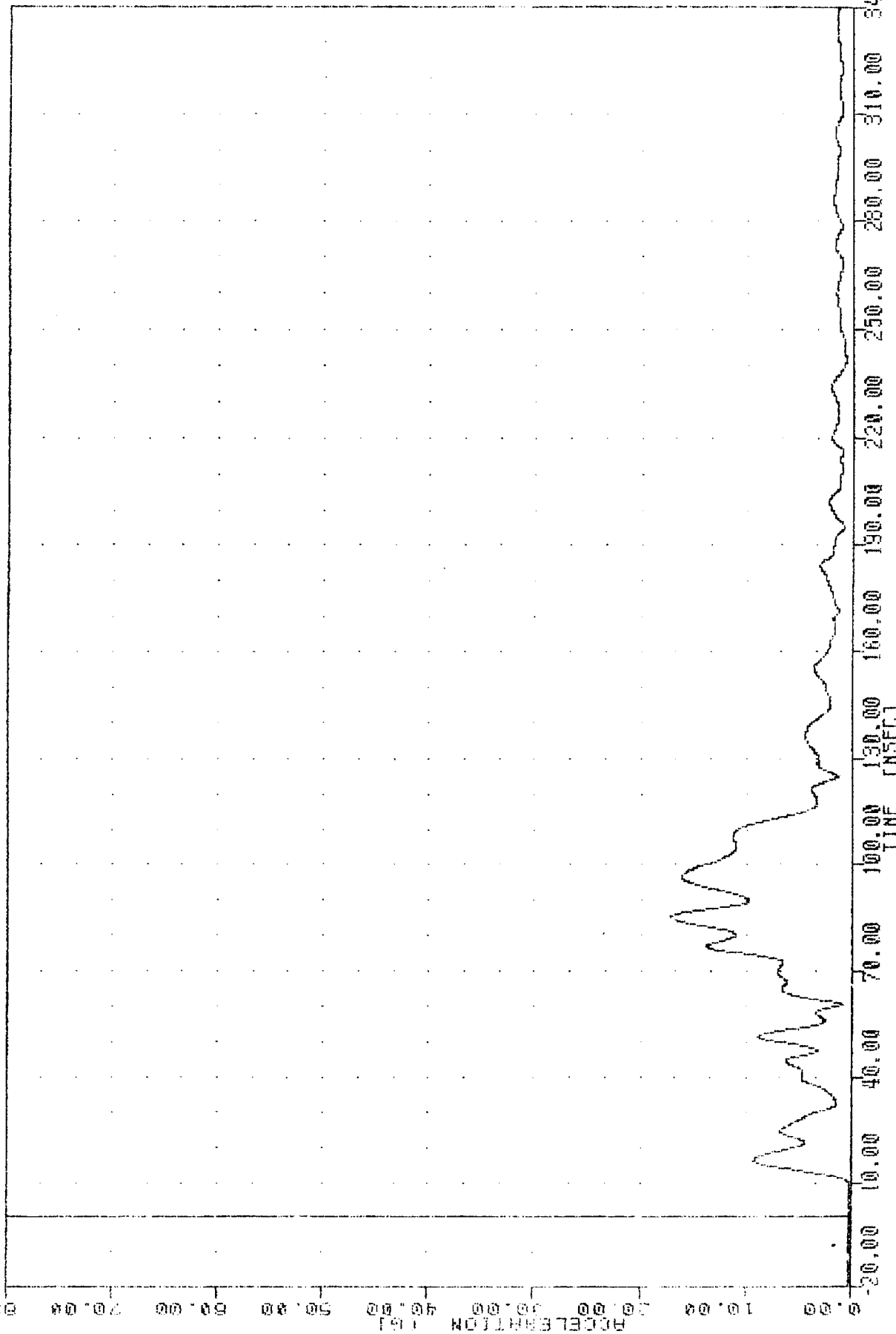
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT REAR SILL ACCELERATION Y AXIS

TRC
 EVALUATION OF MOD VW FLEET
 83279000000
 RRSZGZ
 FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -4.64g 40.25, 4.95 g 96.75
 PLOT DATE 7-OCT-83 10:36:58



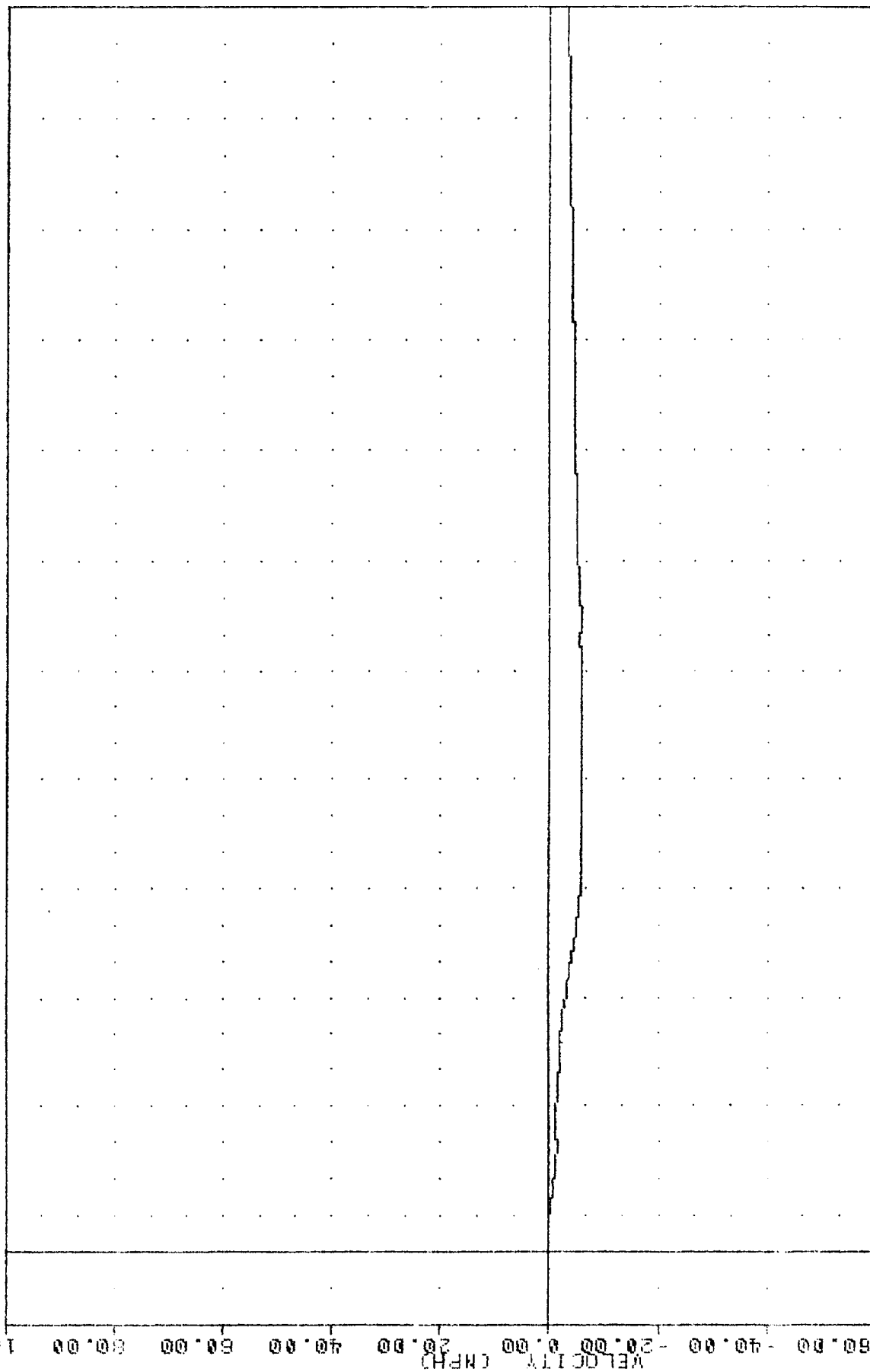
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT REAR SILL ACCELERATION Z AXIS

TAC 831005 7-OCT-83 10:58:23
 EVALUATION OF MOD VN FLEET
 83279000000
 RASR62
 FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = 0.04e 1.75, 17.13 e 65.00



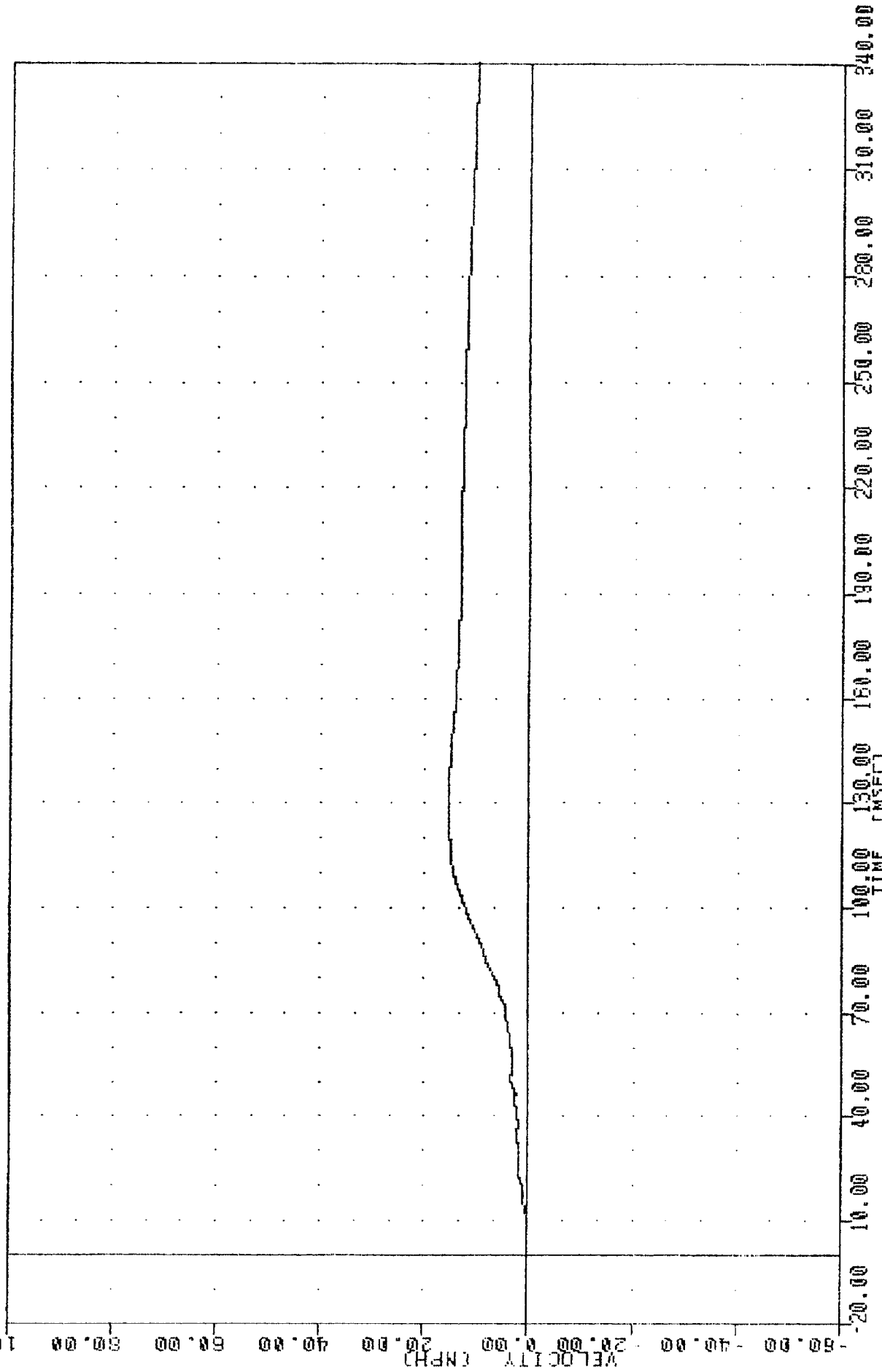
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE RIGHT REAR SILL RESULTANT

TRC 831006 PLOT DATE 7-OCT-83 10:38:28
 EVALUATION OF MOD YH FLEET
 83279000000
 RRSXV2
 FILTER = BLPF 300/ 943/ -40
 MIN. MAX VALUES = -5.96 148.13 0.02 -7.00



-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 VOLKSWAGEN RABBIT
 DELTA V USING RRSXG2

TRC [REDACTED], 831006 [REDACTED] PLOT DATE 7-OCT-83 10:38:28
 EVALUATION OF MDD VW FLEET
 832790000000
 RRSYV2
 FILTER = BLPF 300/ 949/ -40
 MIN, MAX VALUES = -0.020 5.63, 15.47 @ 130.25

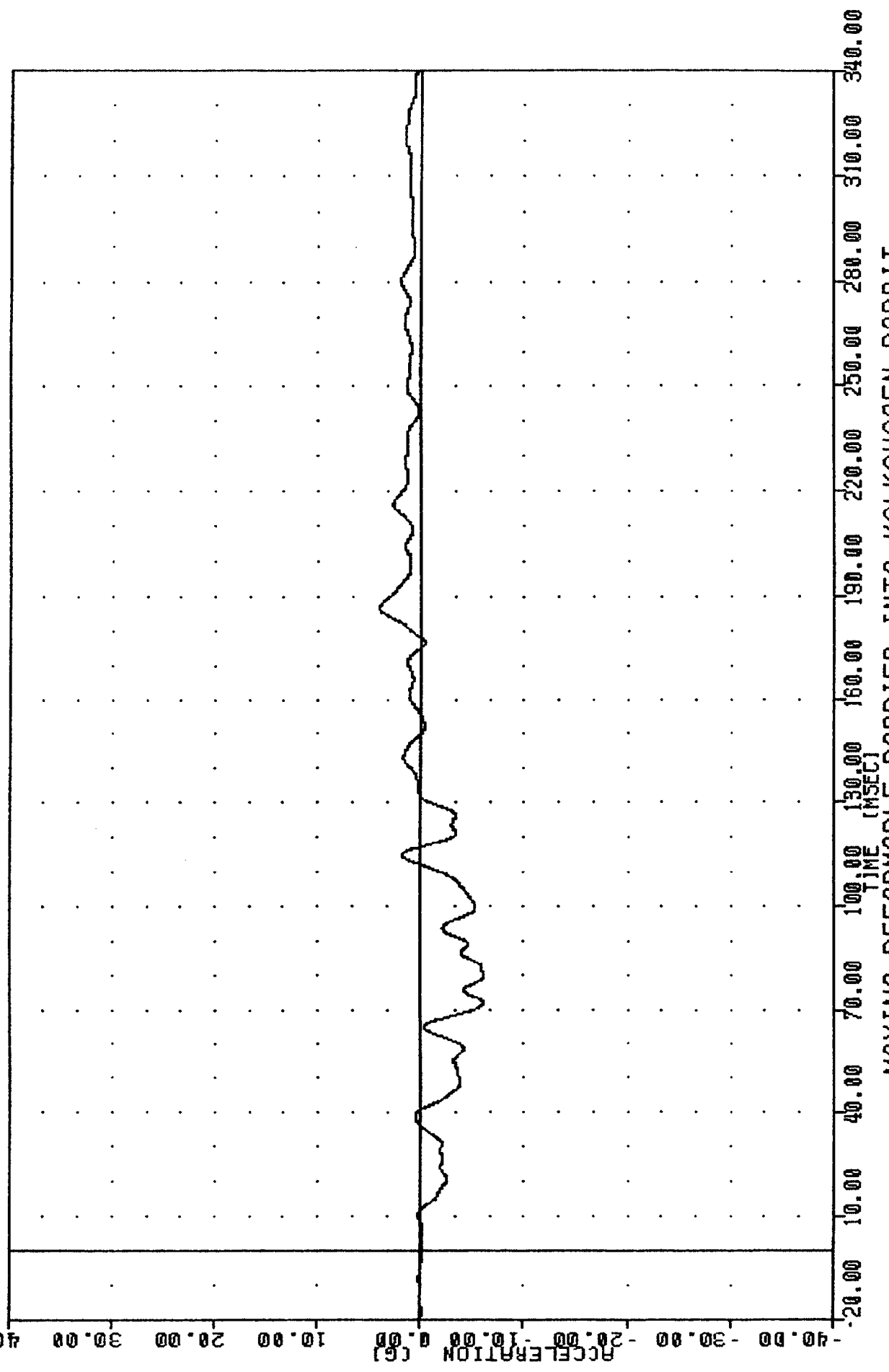


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING RRSYG2

SRC26
 NOV BAR INTO VOLKS RABBIT
 83279
 RDKXG3

PLOT DATE 25-OCT-83 14:17:53

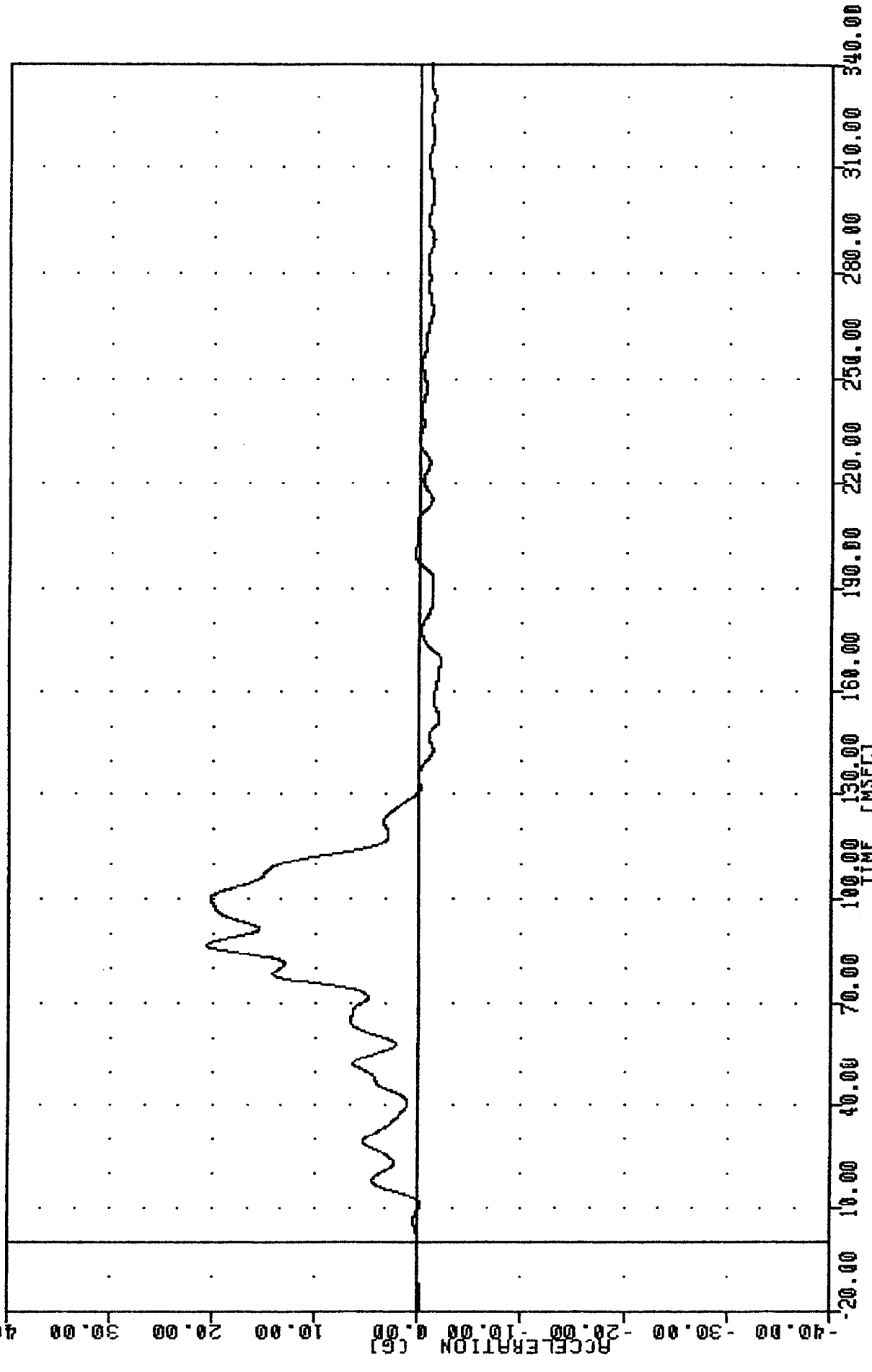
FILTER = BLPF 100/ 316/ -40
 MIN, MAX VALUES = -6.118 79.63, 4.04 e 186.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE REAR DECK ACCELERATION X AXIS

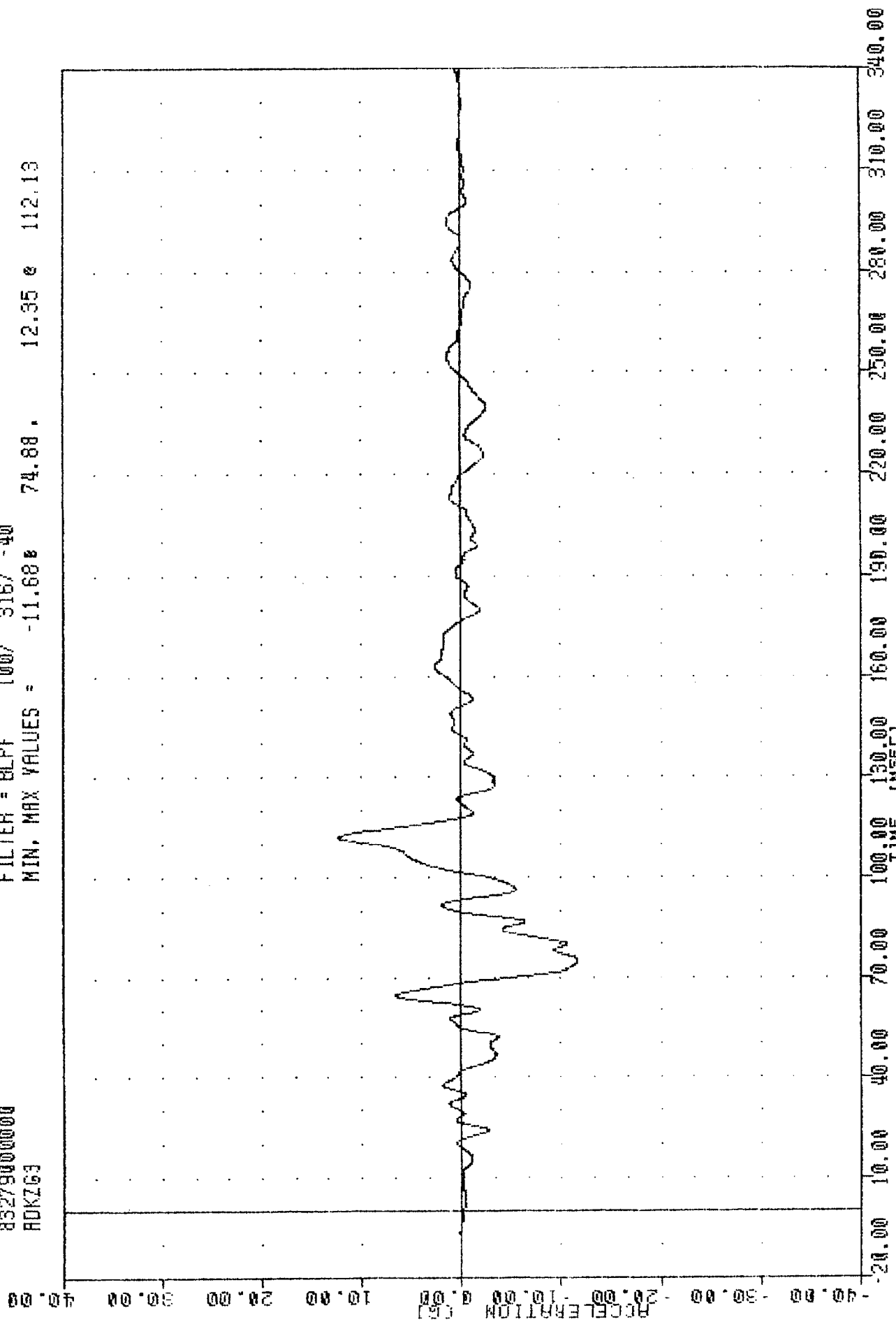
SRC20 , 831006 PLOT DATE 25 OCT 83 14:17:53
 MOV BAR INTO VOLKS RABBIT
 83279
 RDKY63

FILTER = BLPF 100/ 316/ -40
 MIN, MAX VALUES = -2.17e 168.75, 20.60 e 86.50



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE REAR DECK ACCELERATION Y AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:36:58
 EVALUATION OF MOD YW FLEET
 83279000000
 ADKZ63
 FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -11.68 74.88 12.35 112.13



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE REAR DECK ACCELERATION Z AXIS

TRC

831006

EVALUATION OF MOD YW FLEET

832790000000

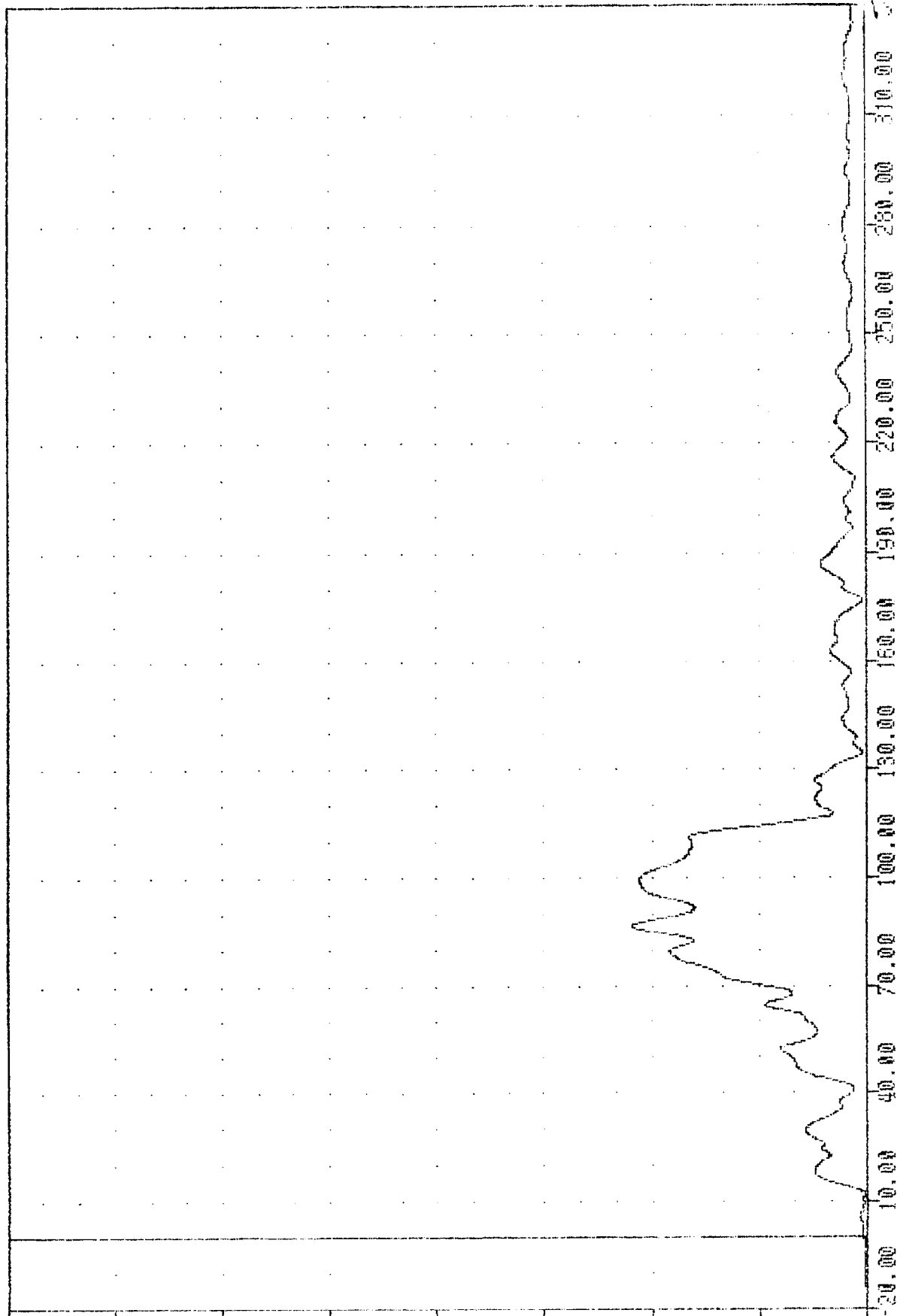
ADKRG3

PLOT DATE 7-OCT-83 10:58:23

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = 0.032 -20.00, 21.92 & 86.50

ACCELERATION (G)



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT

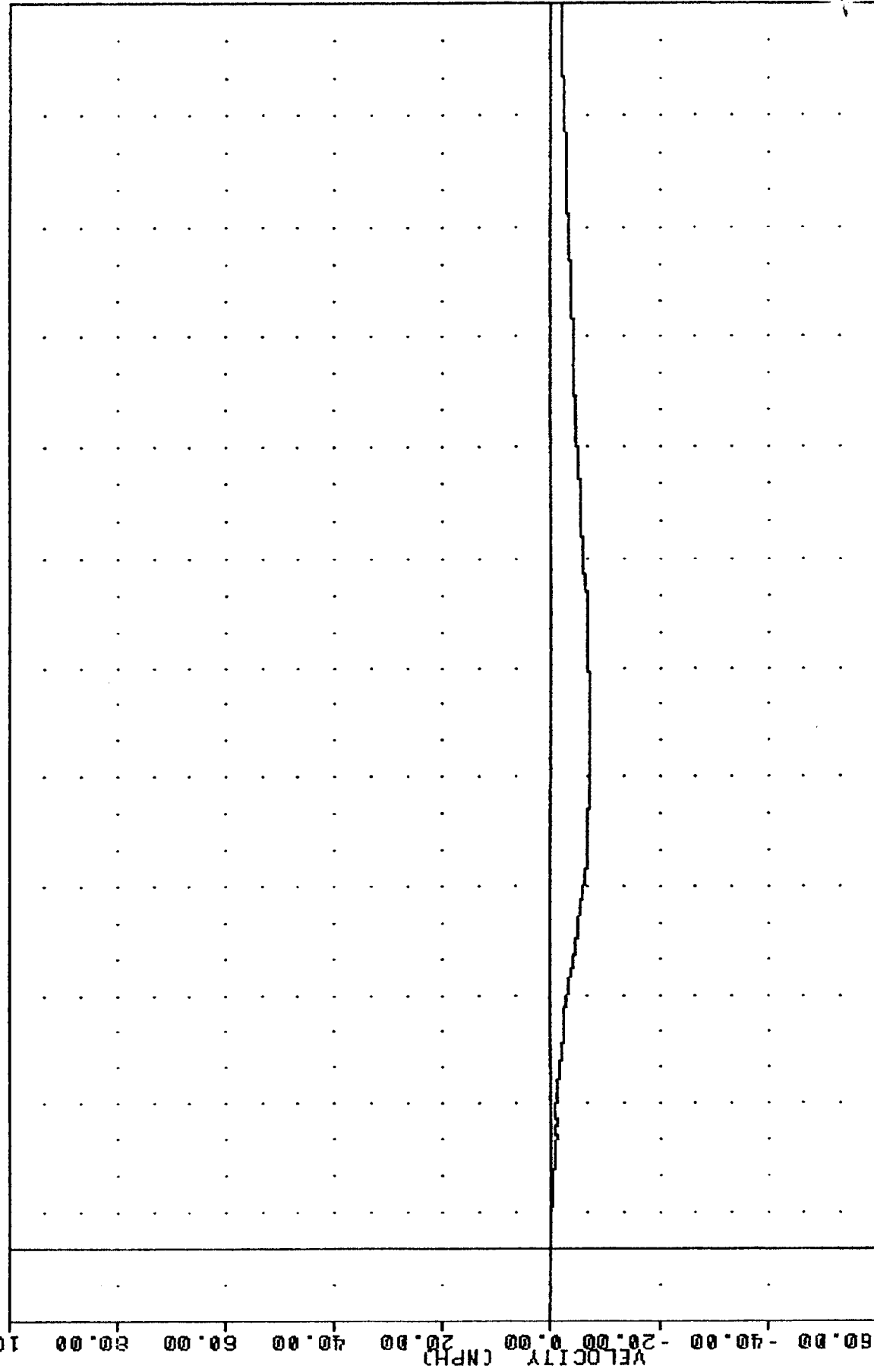
VEHICLE REAR DECK RESULTANT

5RL26
 831006
 NOV BAR INTO VOLKS RABBIT
 83279
 RDKXV3

PLOT DATE 25-UCT-83 14:23:29

FILTER = BLPF 300/ 949/ -40
 MIN, MAX VALUES = -7.248 132.38, 0.00 s -9.13

100.00

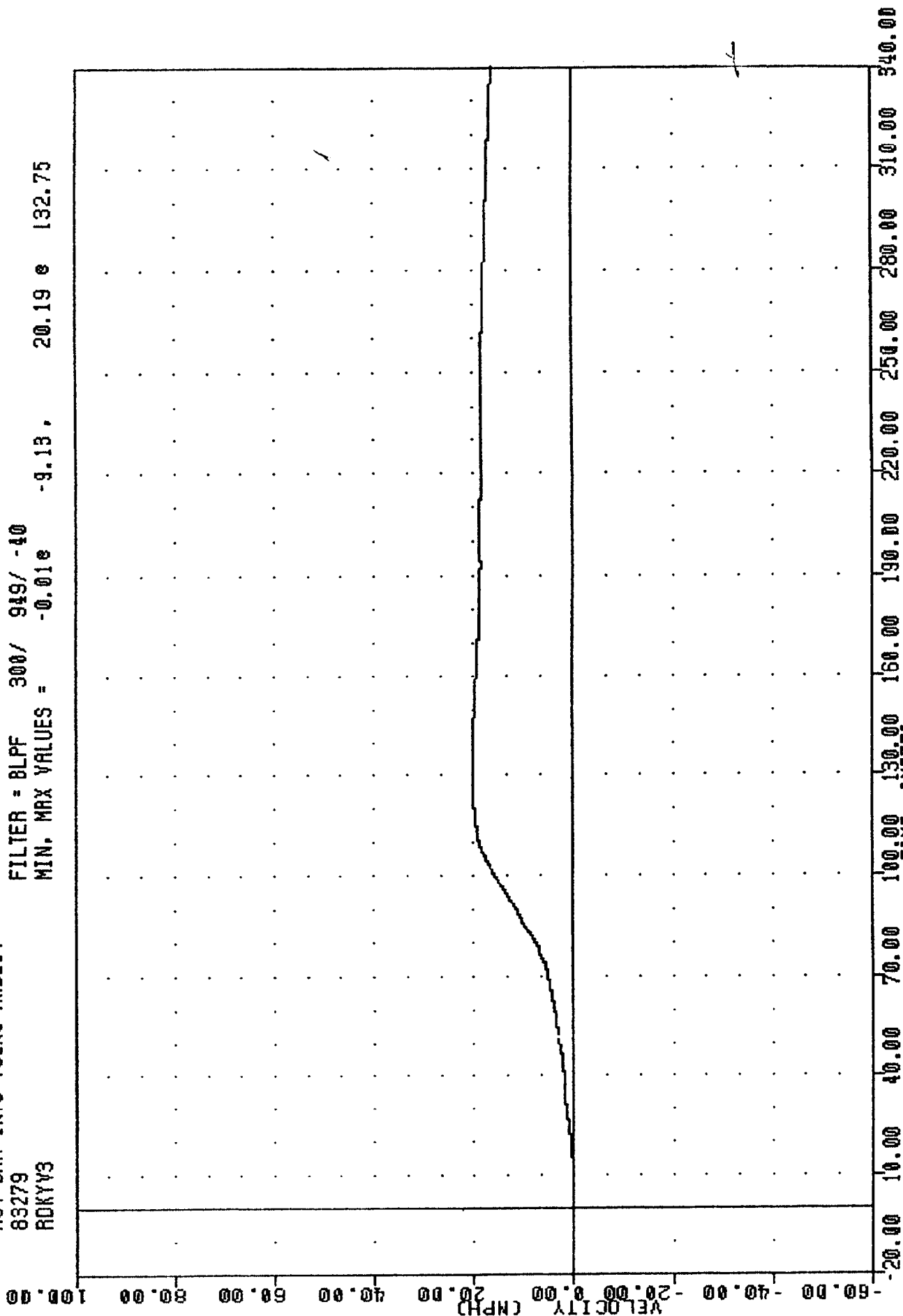


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING RDKXG3

SR[28] 831006
 MOV BAR INTO VOLKS RABBIT
 83279
 RDKYV3

PLOT DATE 25-OCT-83 14:23:29

FILTER = 8LPF 300/ 949/ -40
 MIN. MAX VALUES = -0.01e -9.13, 20.19 e 132.75

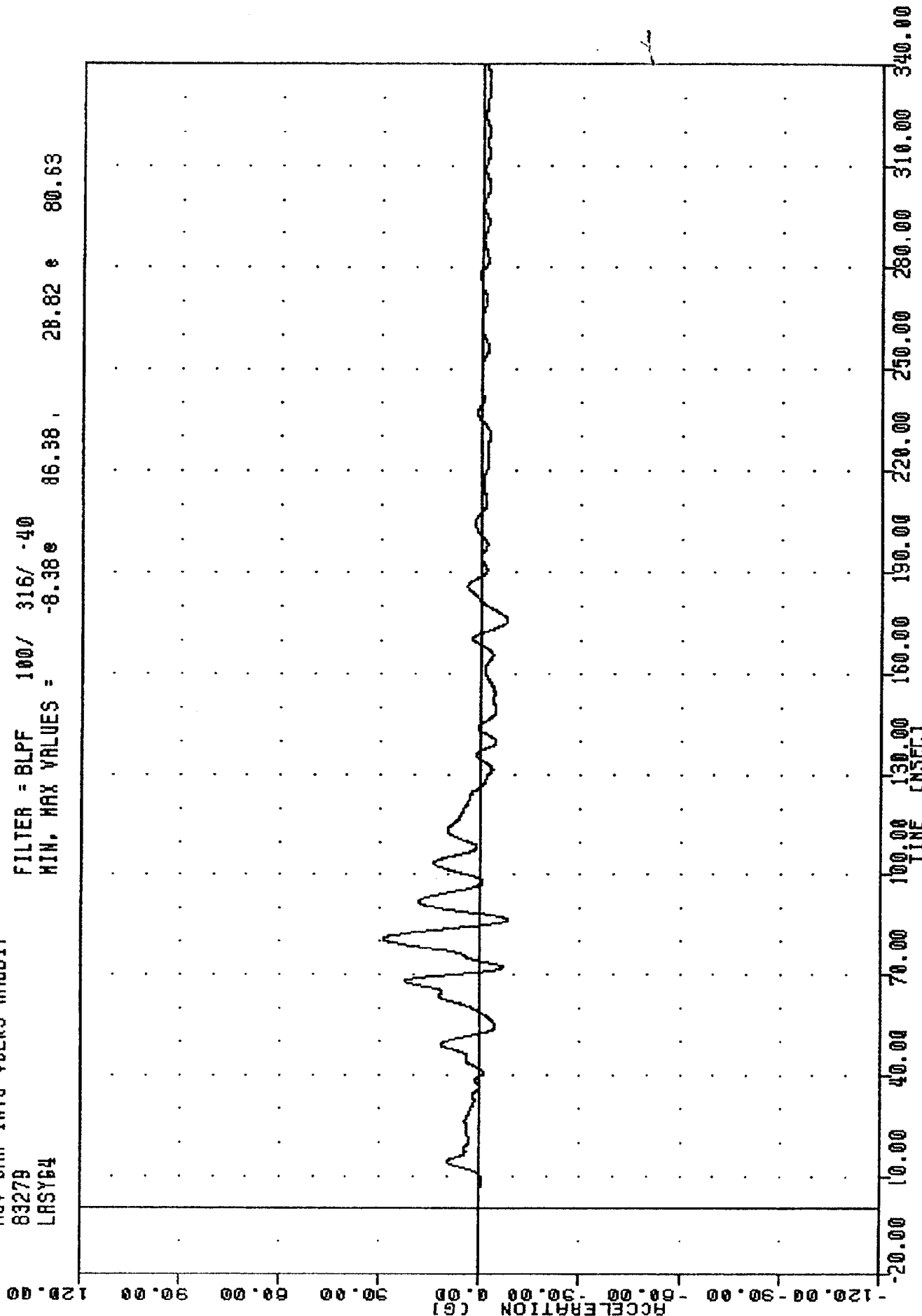


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING RDKY63

SALZB, 837006
 MOV BAR INTO VOLKS RABBIT
 83279
 LASY64

PLOT DATE 25-OCT-83 14.17.53

FILTER = BLPF 100/ 316/ -40
 MIN, MAX VALUES = -8.38e 86.38 , 28.82 e 80.63

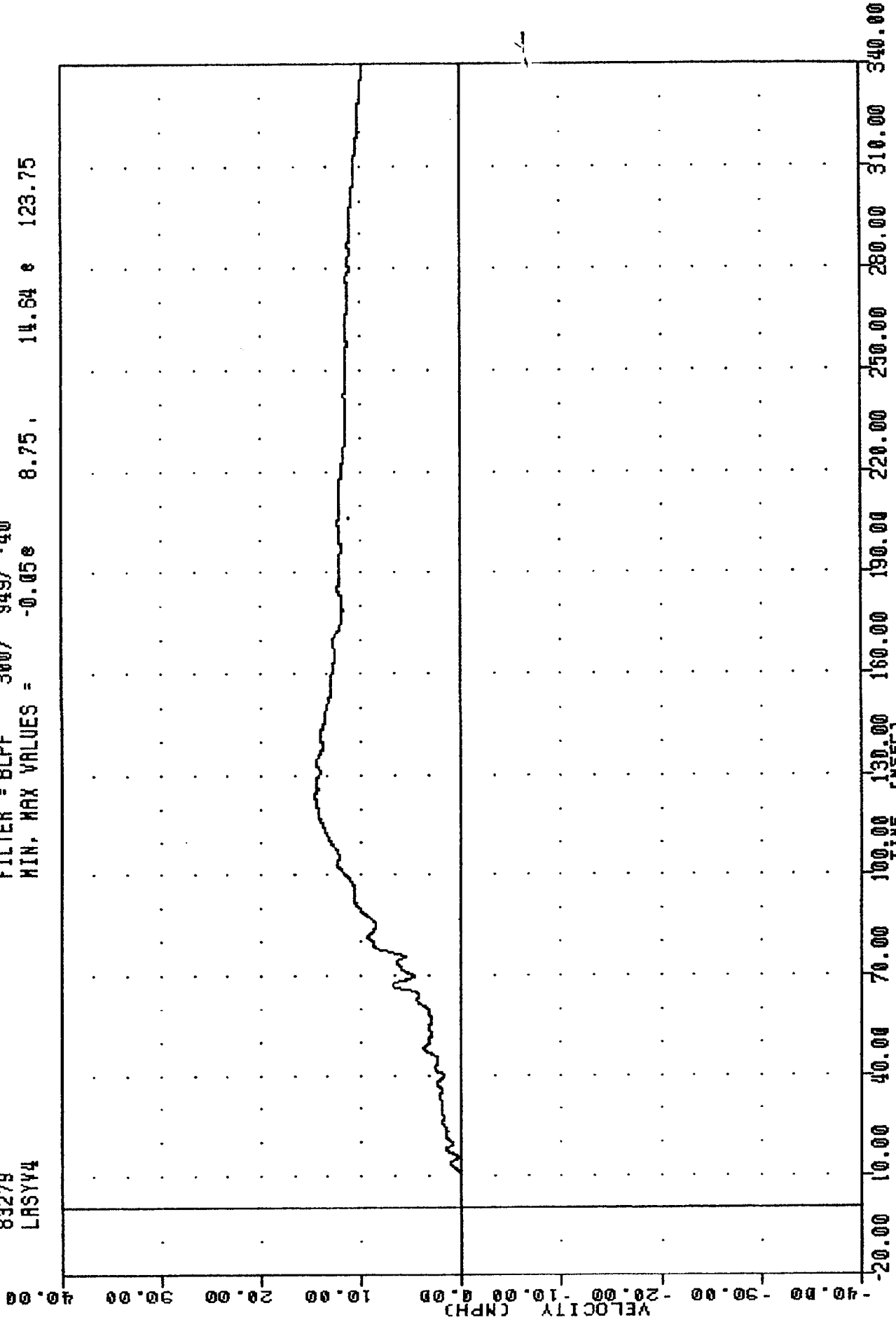


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE LEFT REAR SILL ACCELERATION Y AXIS

SAL26 , 831006
MOV BAR INTO VOLKS RABBIT
83278
LRSYV4

PLOT DATE 25-OCT-83 14:23:29

FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -0.05e 8.75 , 14.84 e 123.75

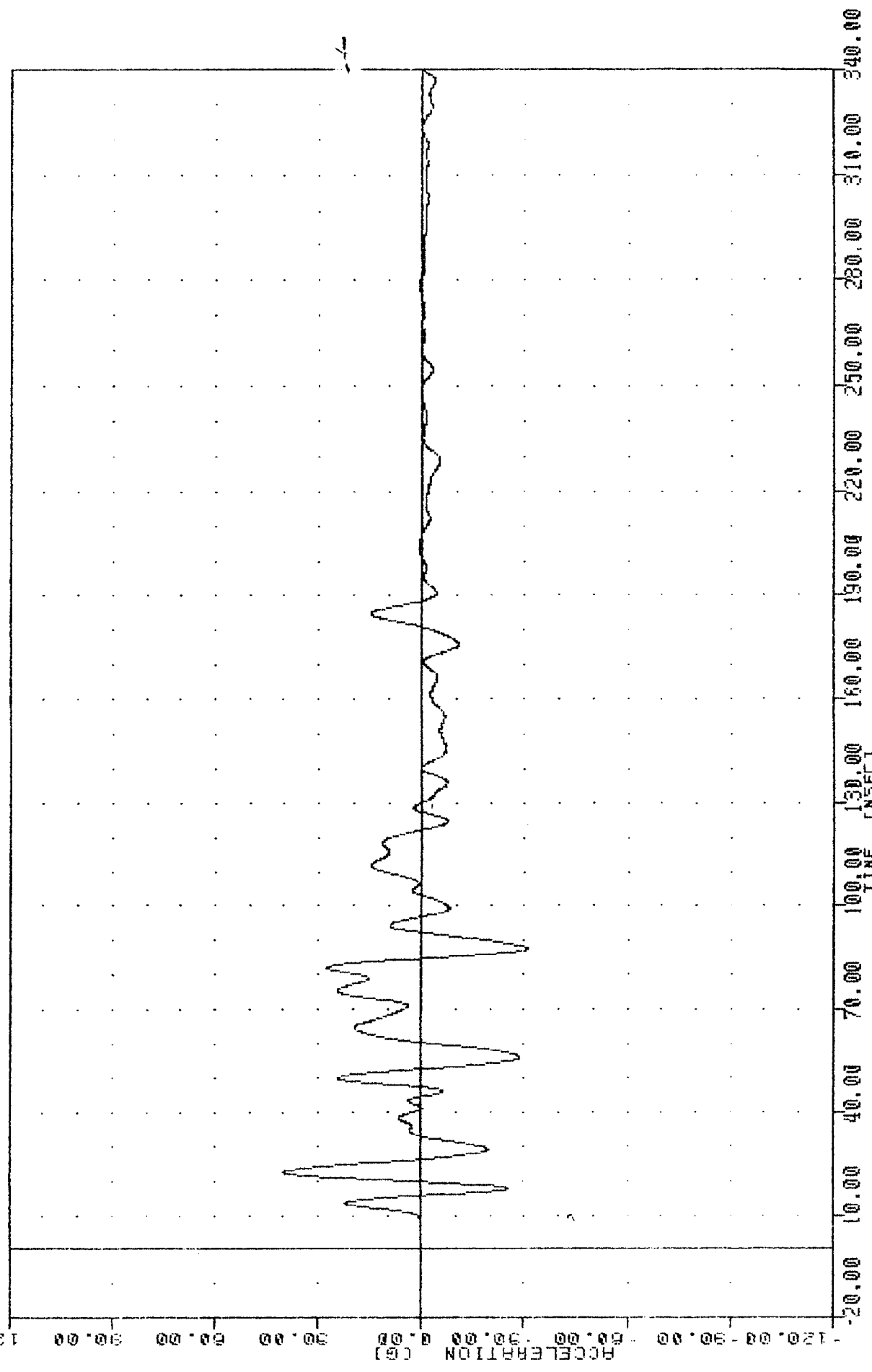


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LRSYG4

TAC 831006
 EVALUATION OF MOD VW FLEET
 83279000000
 LFSY65

PLOT DATE 7-OCT-83 10:36:58

FILTER = BLPF 100/ 316/ -40
 MIN, MAX VALUES = -31.050 87.83, 40.02 & 22.38



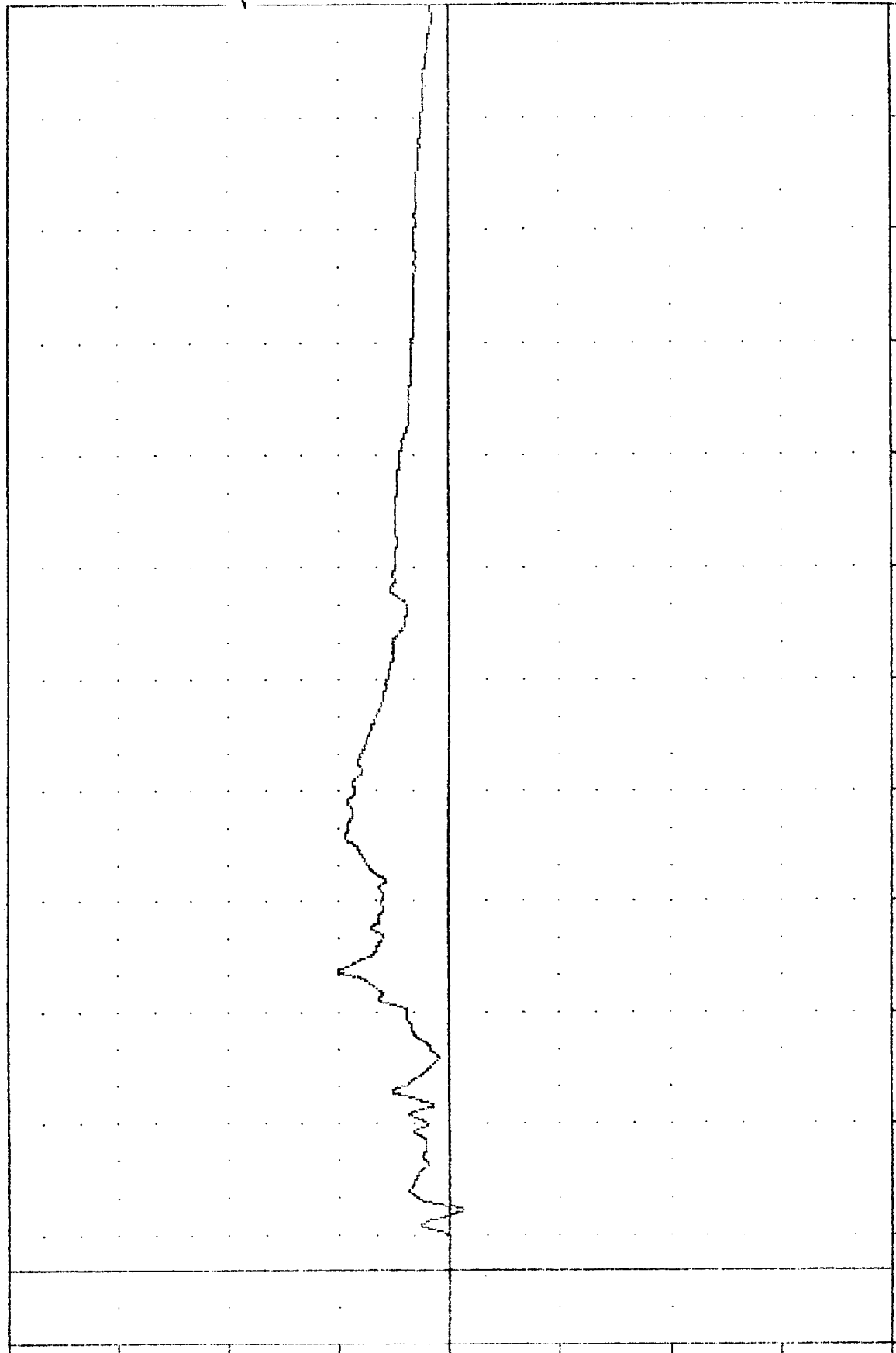
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE LEFT FRONT SILL ACCELERATION Y AXIS

TAC
EVALUATION OF MOD VW FLEET
83278000000
LFSYV5

PLOT DATE 7-OCT-83 10:38:28

FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -1.17e 16.63, 10.08 e 81.00

VELOCITY (MPH)



TIME (MSEC)

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFSYV5

TRC 831006

EVALUATION OF MDD VW FLEET

83279000000

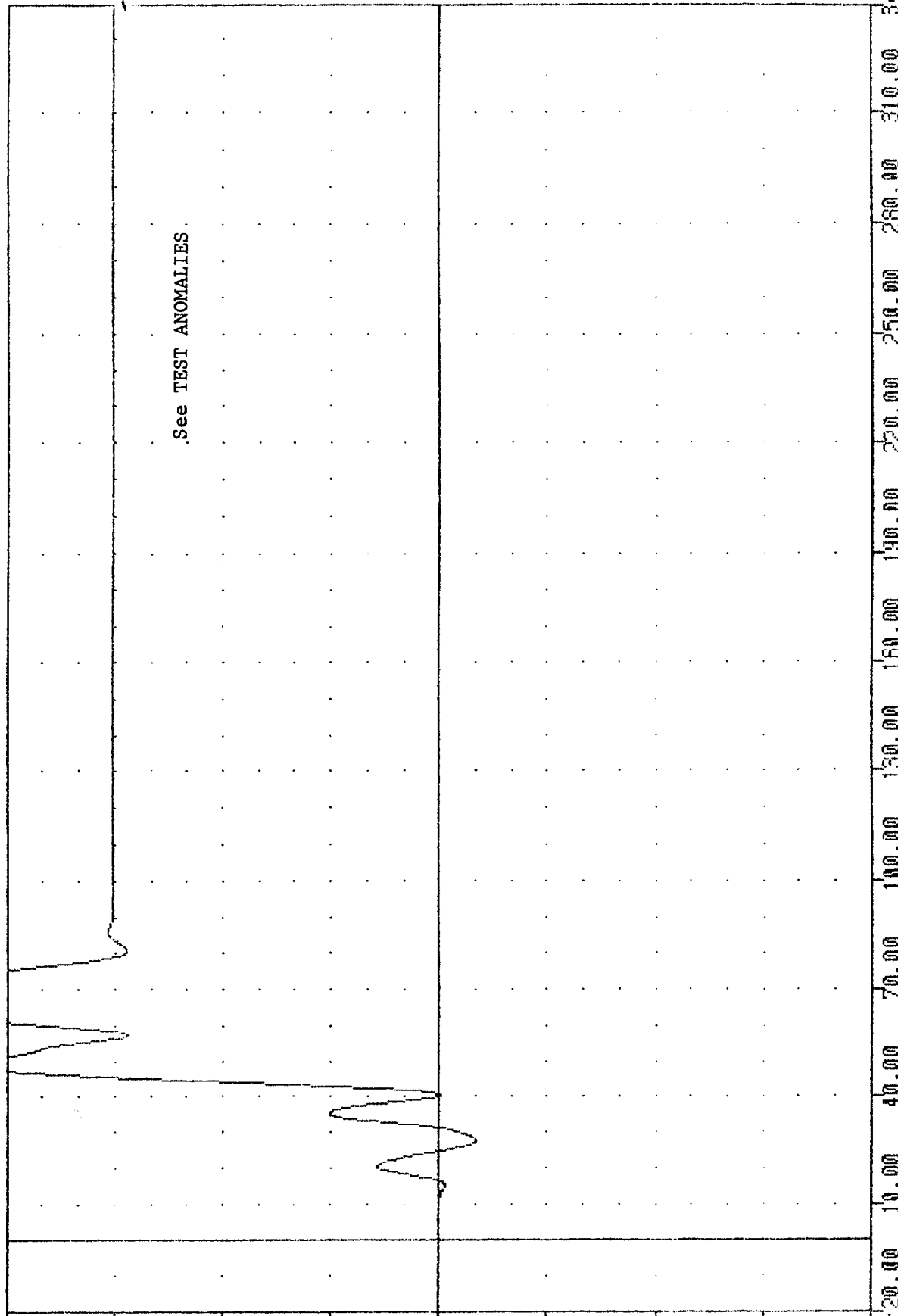
LFOY61

PLOT DATE 7-OCT-83 10:36:58

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -33.40 27.63, 450.40 63.50

ACCELERATION (G) (X10⁴)



R-02

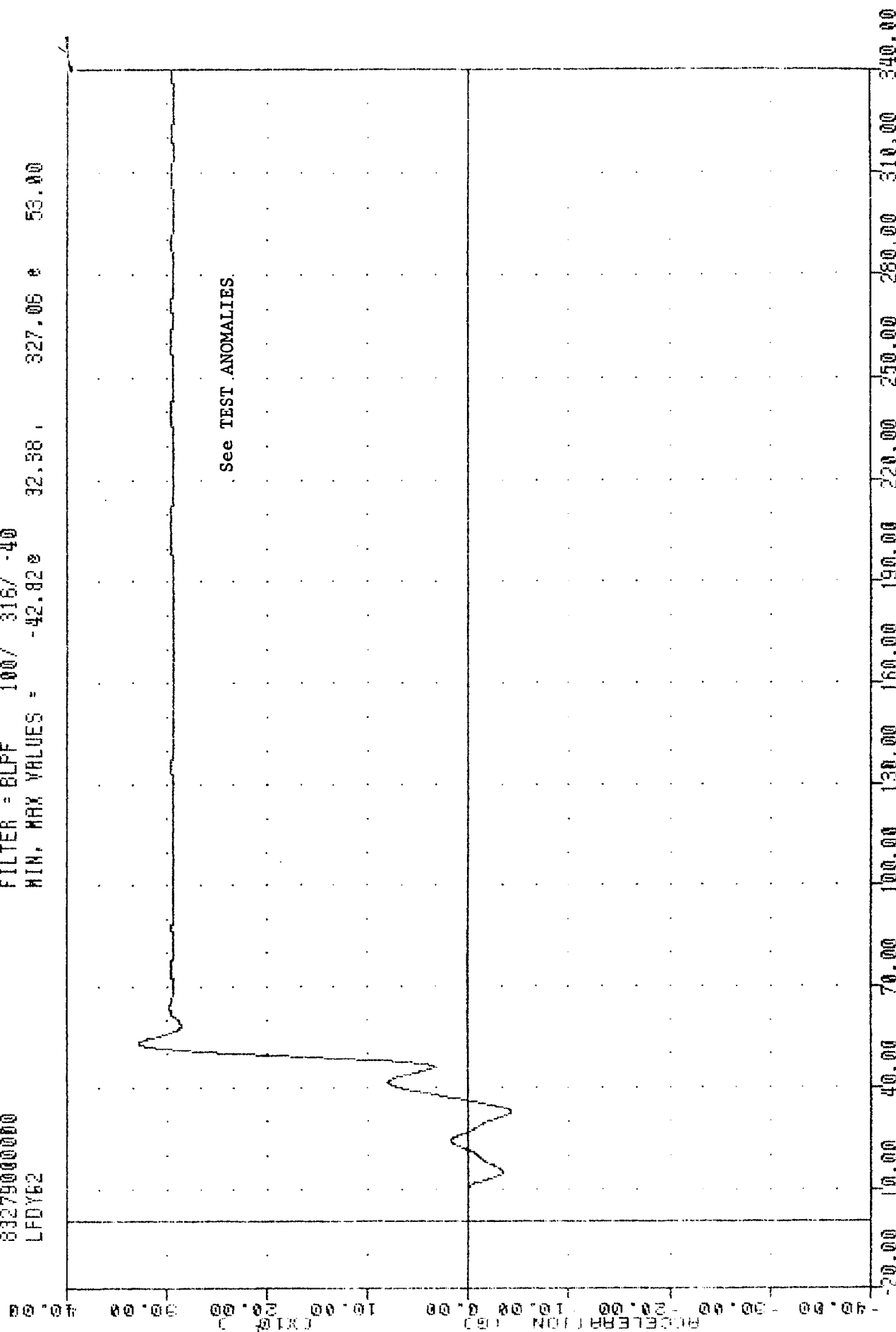
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 6) ACCELERATION Y AXIS

TAC
EVALUATION OF MOD VW FLEET
83279000000
LFDY62

PLOT DATE 7-OCT-83 10:36:58

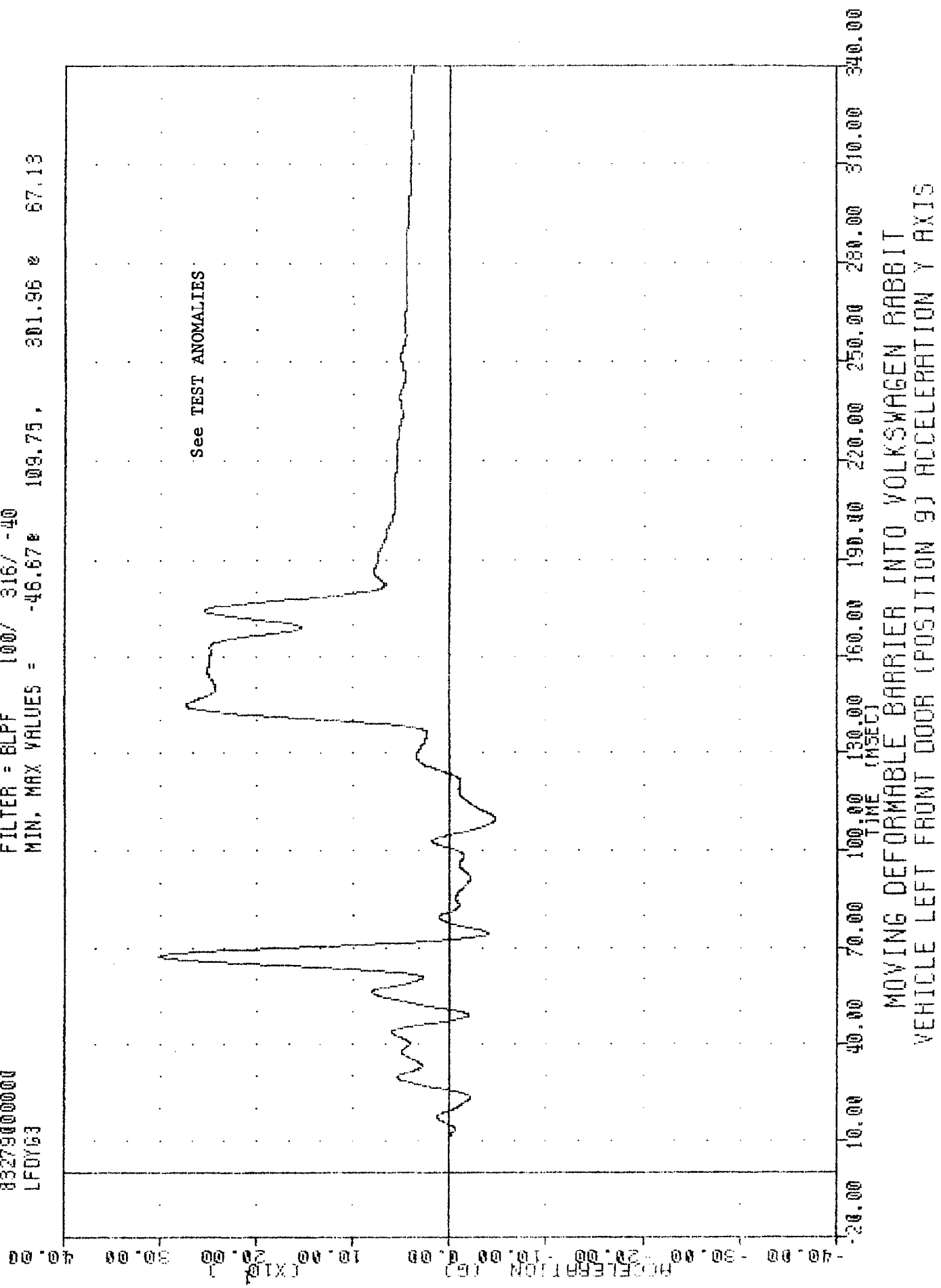
FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -42.82 32.58 327.05 53.00



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 8) ACCELERATION Y AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:36:58
 EVALUATION OF MOD YW FLEET
 83279000000
 LFOY63
 FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -46.67e 109.75, 301.96 e 67.13

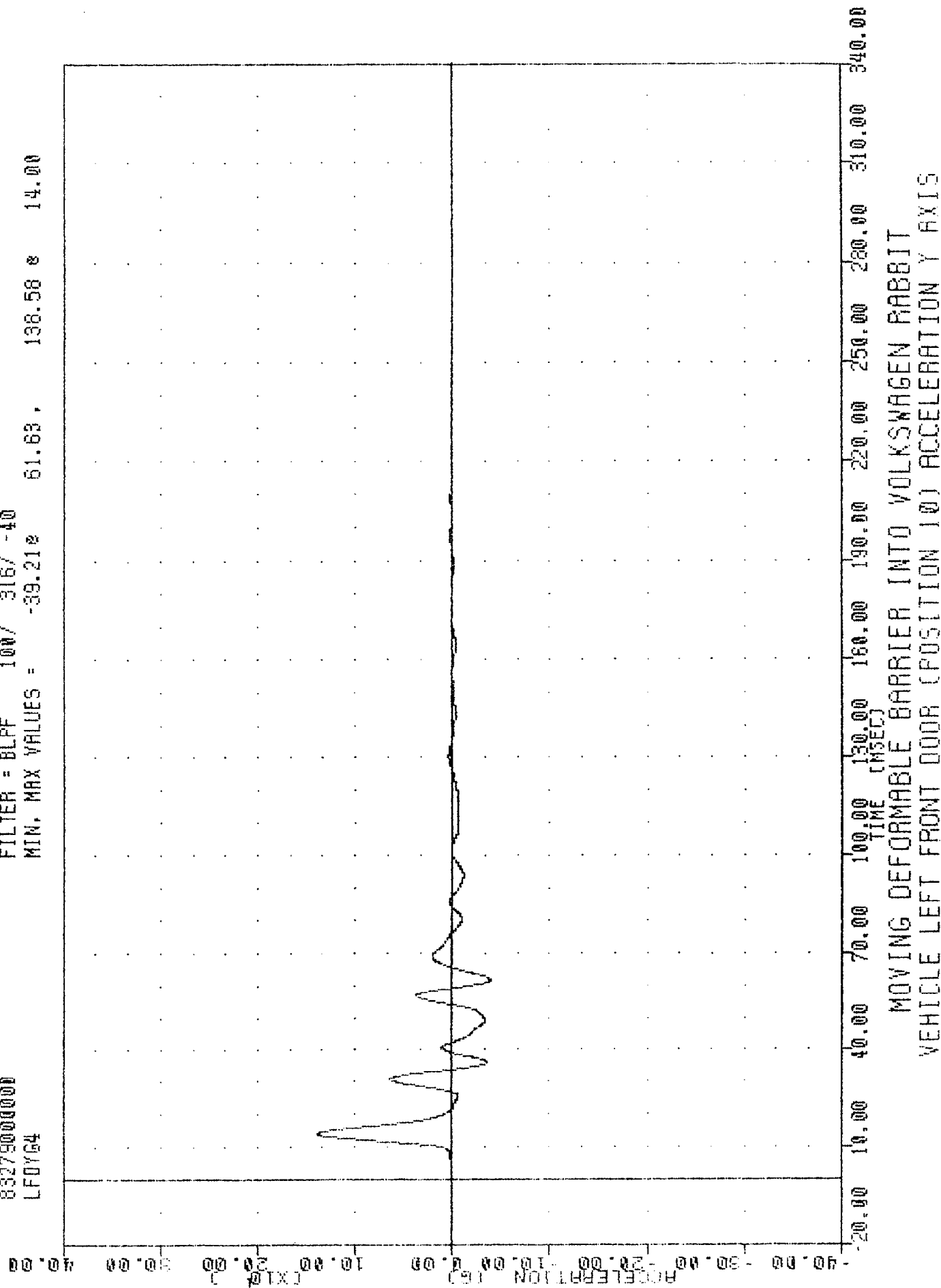


TRC
EVALUATION OF MDD VW FLEET
832790000000
LF0Y64

PLOT DATE 7-OCT-83 10:36:58

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -39.212 61.63, 138.58 14.00



TRC 831008 PLOT DATE 7-OCT-83 10:38:28

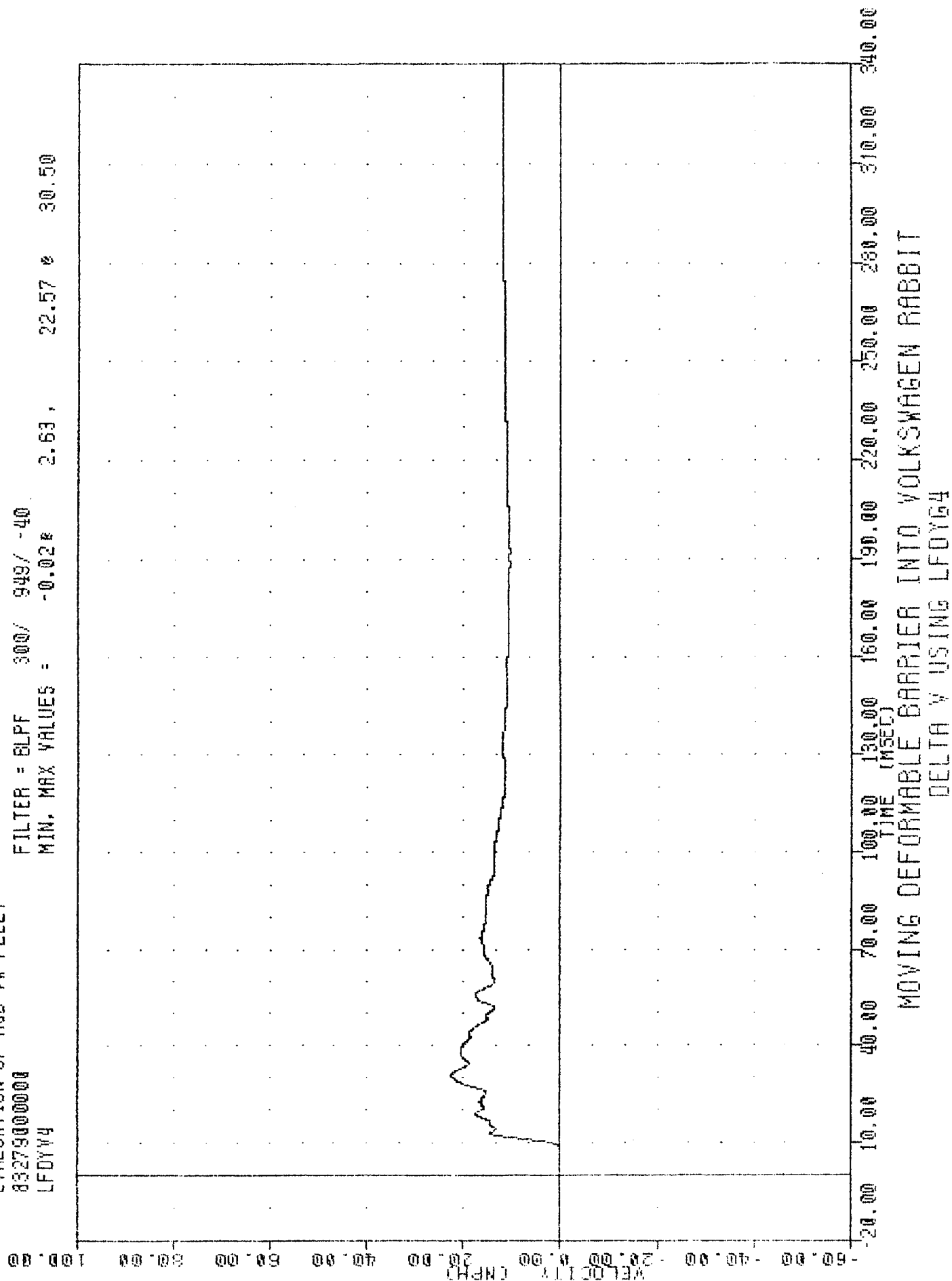
EVALUATION OF MOD VW FLEET

83279000000

LFDVY4

FILTER = BLPF 300/ 949/ -40

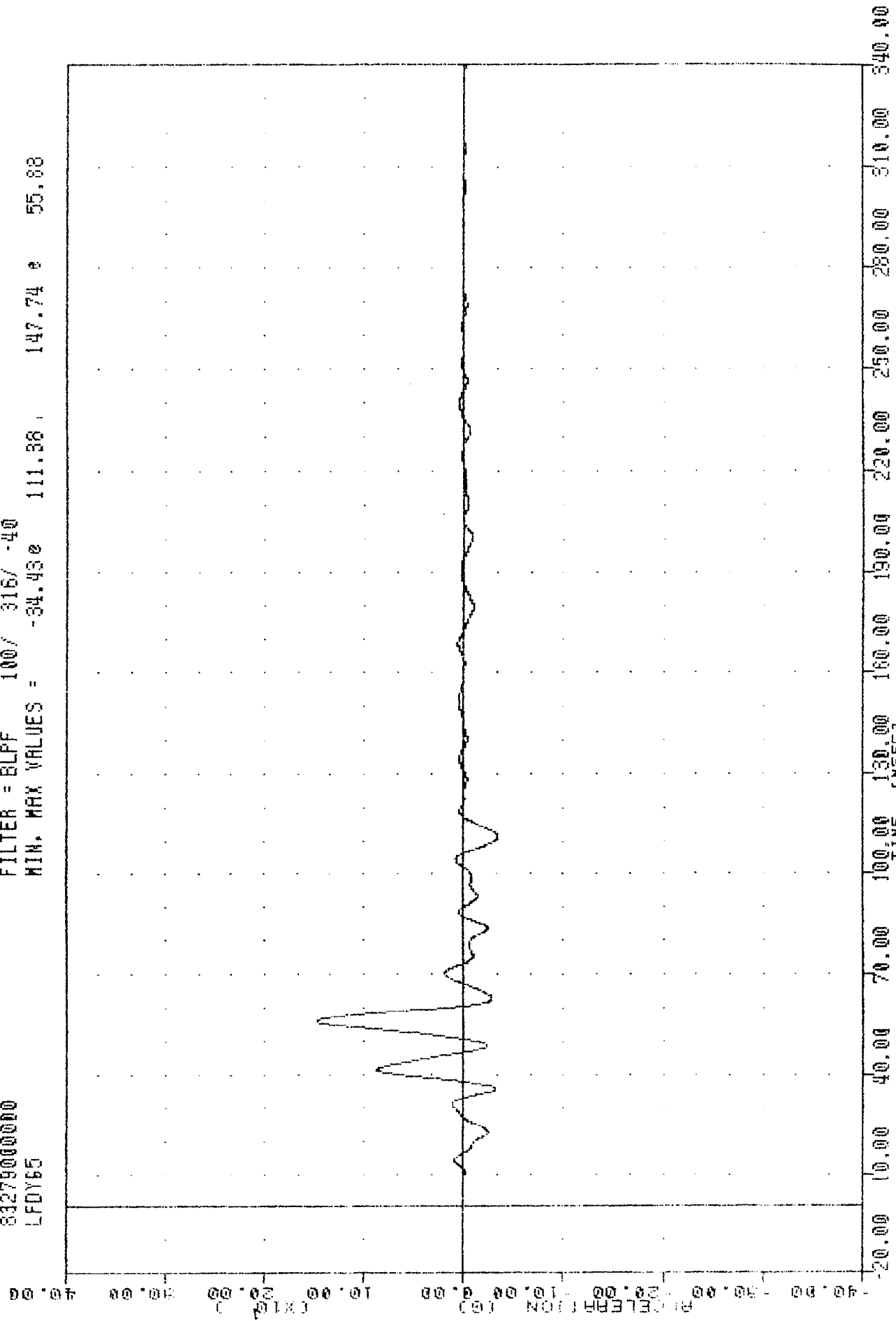
MIN. MAX VALUES = -0.028 2.63, 22.57 30.50



TAC
 EVALUATION OF MOD VW FLEET
 832790000000
 LFDY65

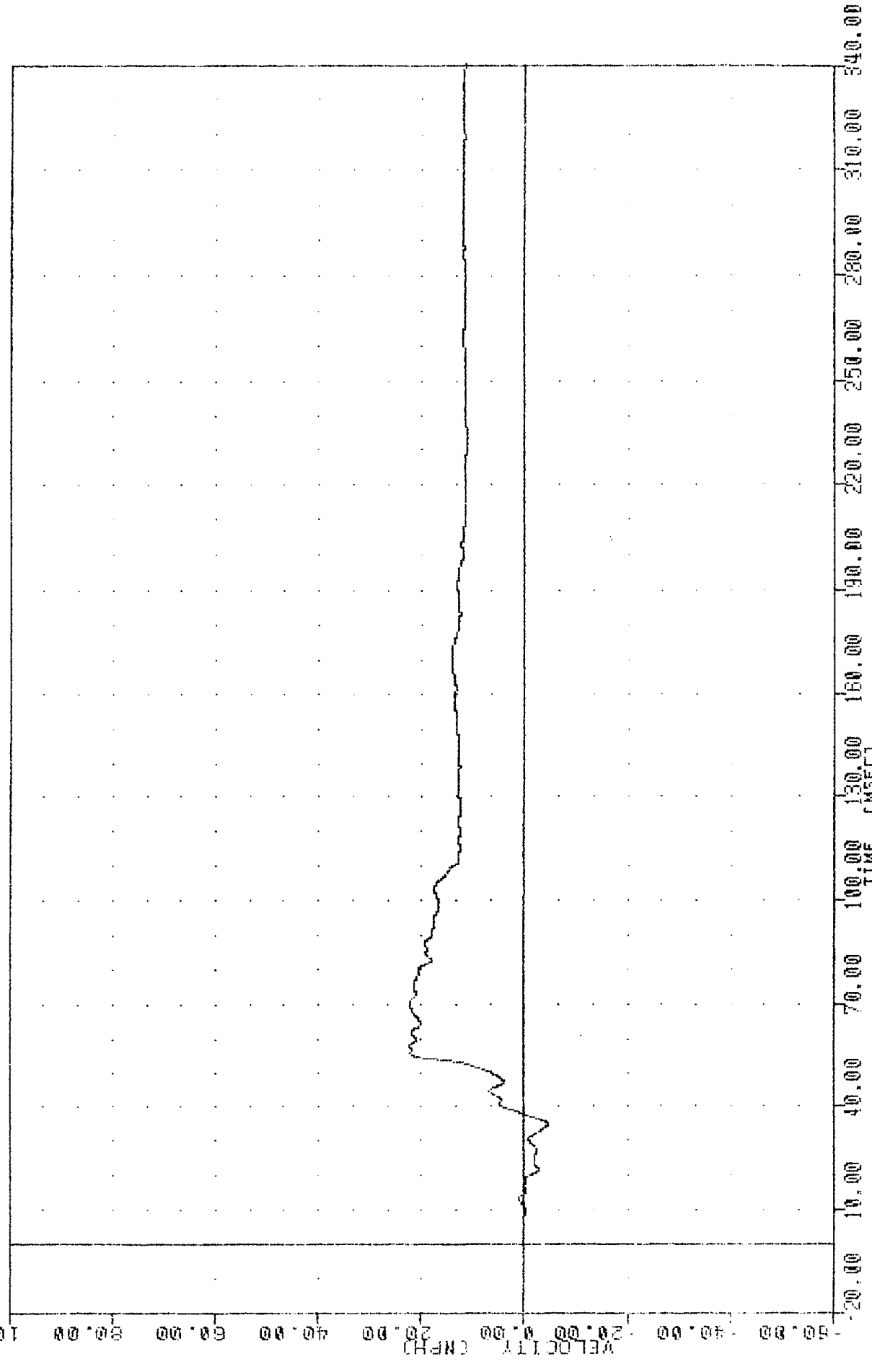
PLOT DATE 7-OCT-83 10:36:58

FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -34.430 111.38 147.74 55.88



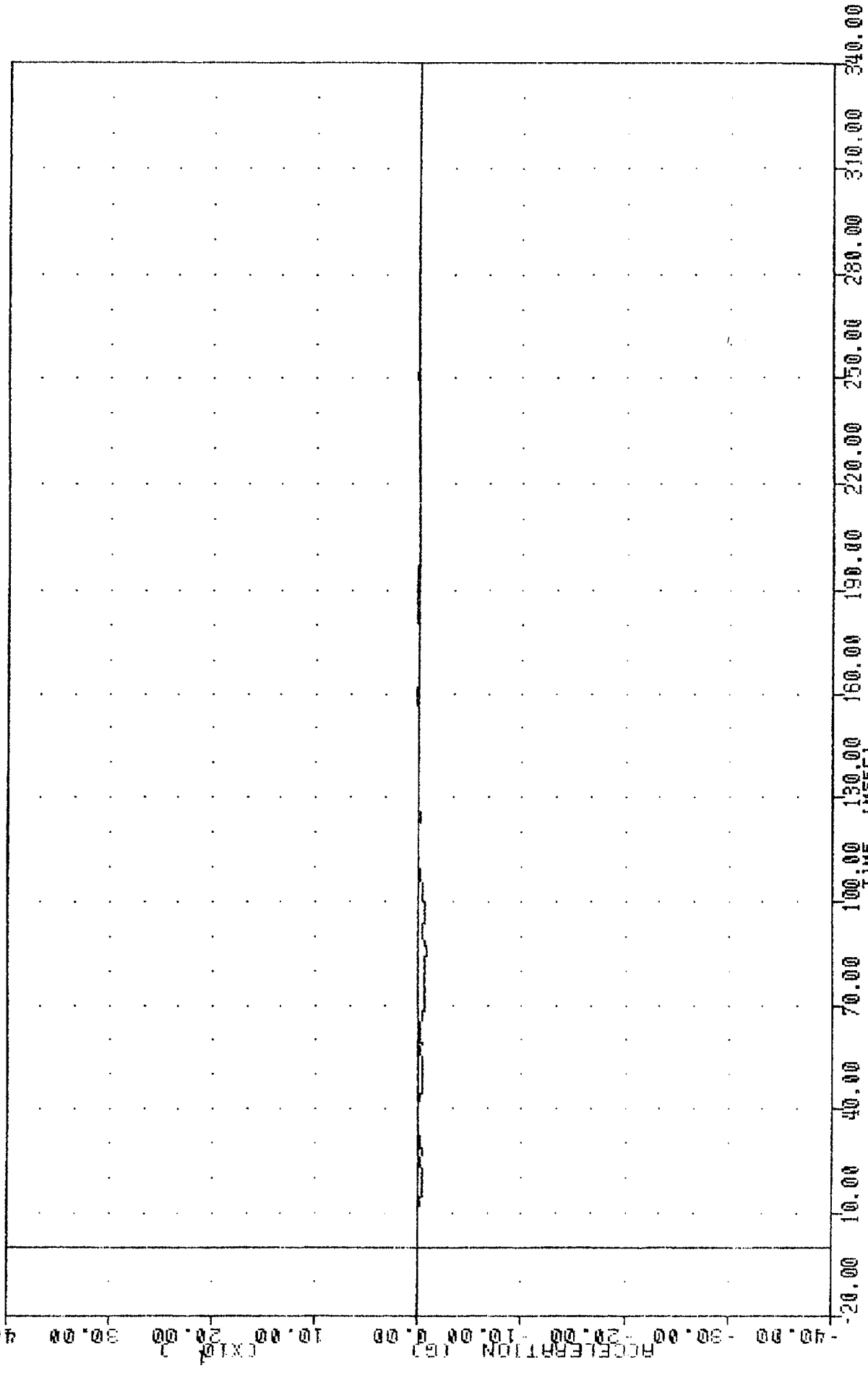
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE LEFT FRONT DOOR (POSITION 1) ACCELERATION Y AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:38:28
 EVALUATION OF MOD VW FLEET
 83279000000
 LFDYV5
 FILTER = BLPF 300/ 949/ -40
 MIN. MAX VALUES = -4.65e 34.88, 22.33 e 57.75



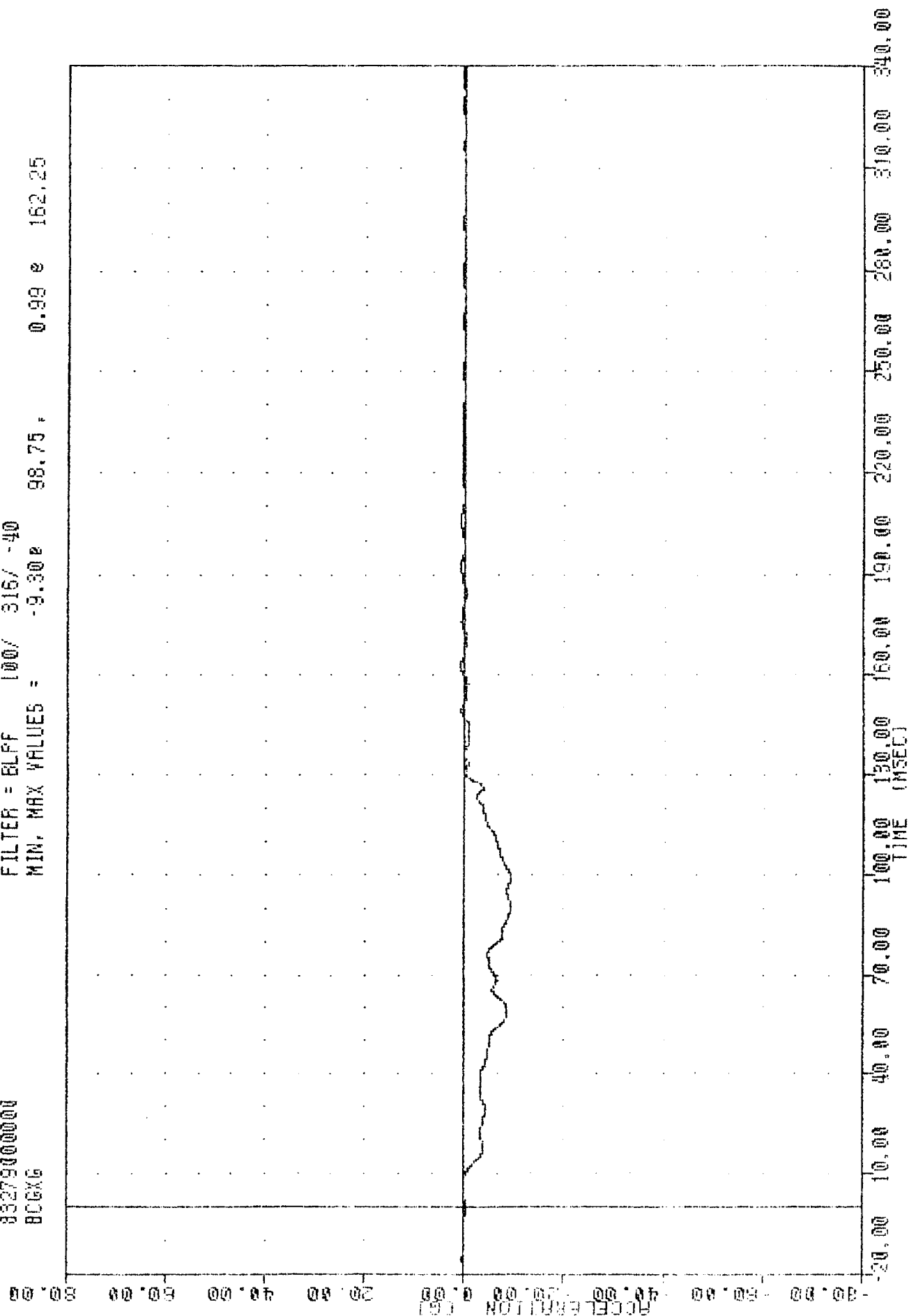
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING LFDY65

TRC
 EVALUATION OF MOD YW FLEET
 832790000000
 TFRXG7
 PLOT DATE 7-OCT-83 10:36:58
 FILTER = BLPF 100/ 316/ -40
 MIN. MAX VALUES = -7.62% 85.75% 3.49% 183.63



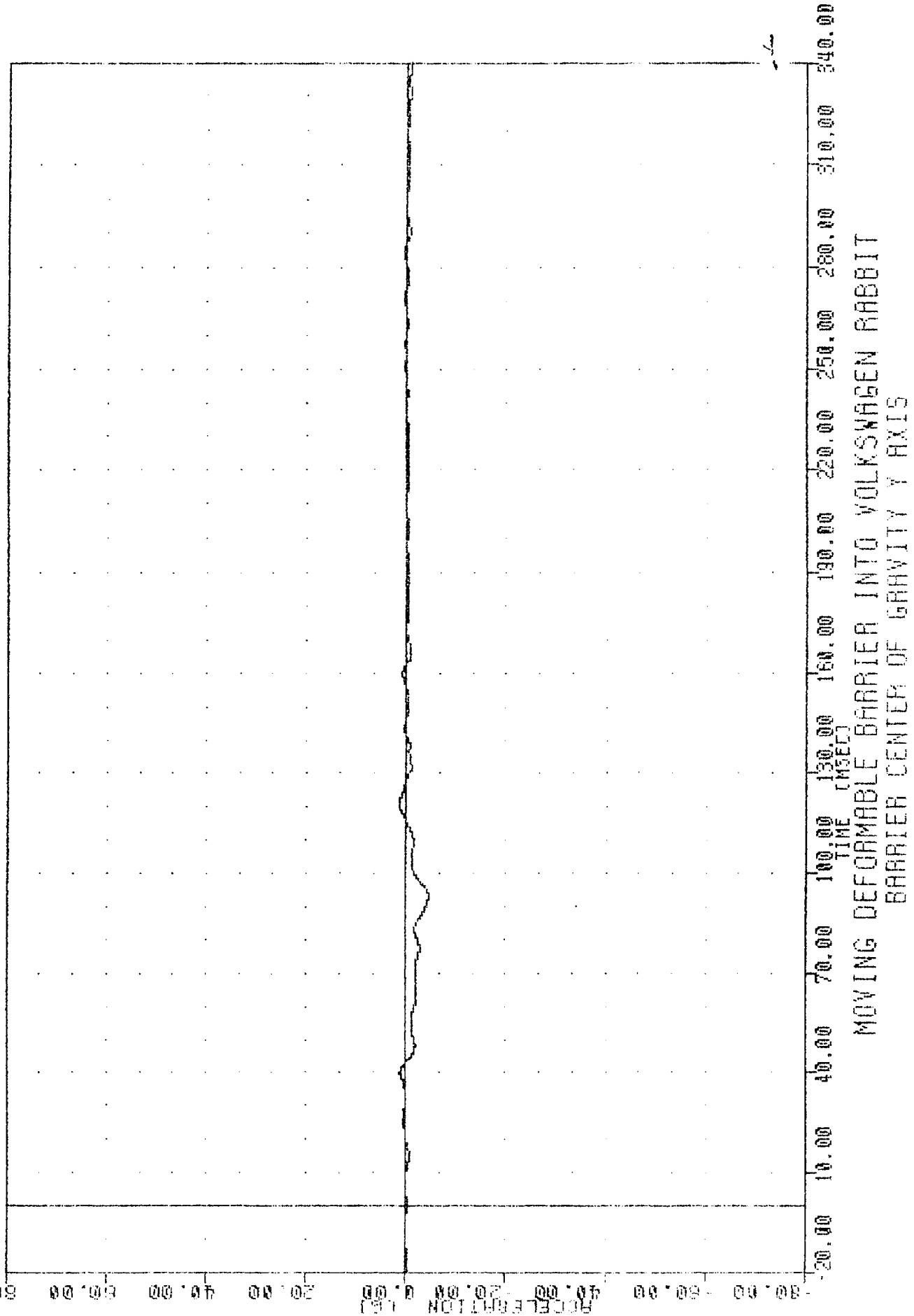
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 VEHICLE TRUNK FLOOR RIGHT ACCELERATION X AXIS

TRC [REDACTED], 031006 [REDACTED] PLOT DATE 7 OCT 83 10:50:58
 EVALUATION OF MOD VW FLEET
 83279000000
 BCGXG
 FILTER = ELFF 100/ 316/ -40
 MIN. MAX VALUES = -9.30e 98.75, 0.99 e 162.25

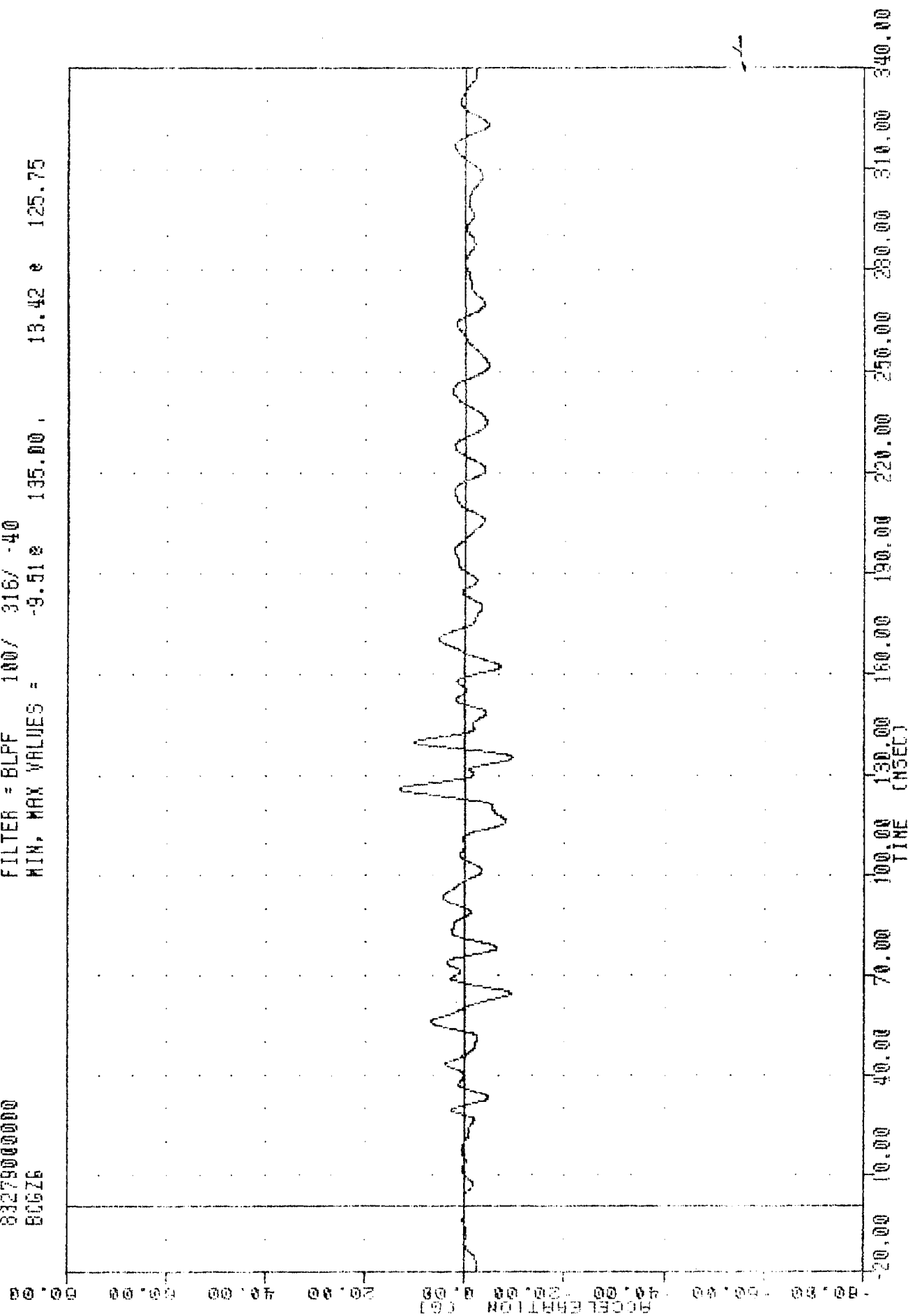


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 BARRIER CENTER OF GRAVITY X AXIS

TRC
 EVALUATION OF MDD VW FLEET
 832790000000
 BCGYG
 FILTER = 8LFF 100/ 316/ -40
 MIN. MAX VALUES = -4.438 93.00, 1.52 8 121.63
 PLOT DATE 7-OCT-83 10:36:58

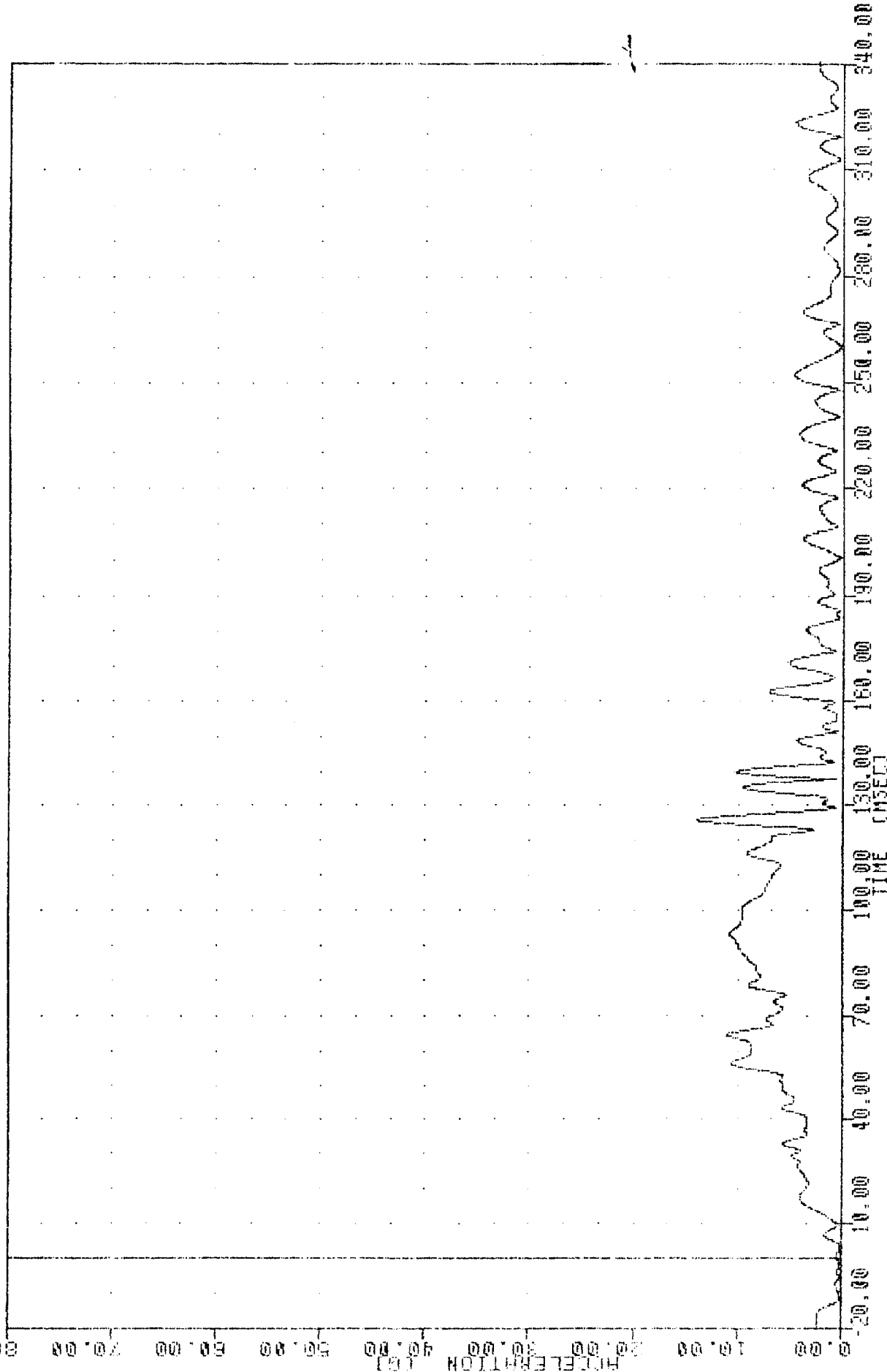


TAC 831006 7-OCT-83 10:36:58
 EVALUATION OF MOD VN FLEET
 83279000000
 BCGZ6
 FILTER = BLPF 100/ 316/ -40
 MIN, MAX VALUES = -9.51e 135.00, 13.42 e 125.75



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 BARRIER CENTER OF GRAVITY Z AXIS

TRC 831006 PLOT DATE 7-OCT-83 10:58:23
 EVALUATION OF MDD VW FLEET
 83275000000
 BCGRG
 FILTER = 8LFF 100/ 316/ -40
 MIN. MAX VALUES = 0.032 -11.88 13.92 125.75



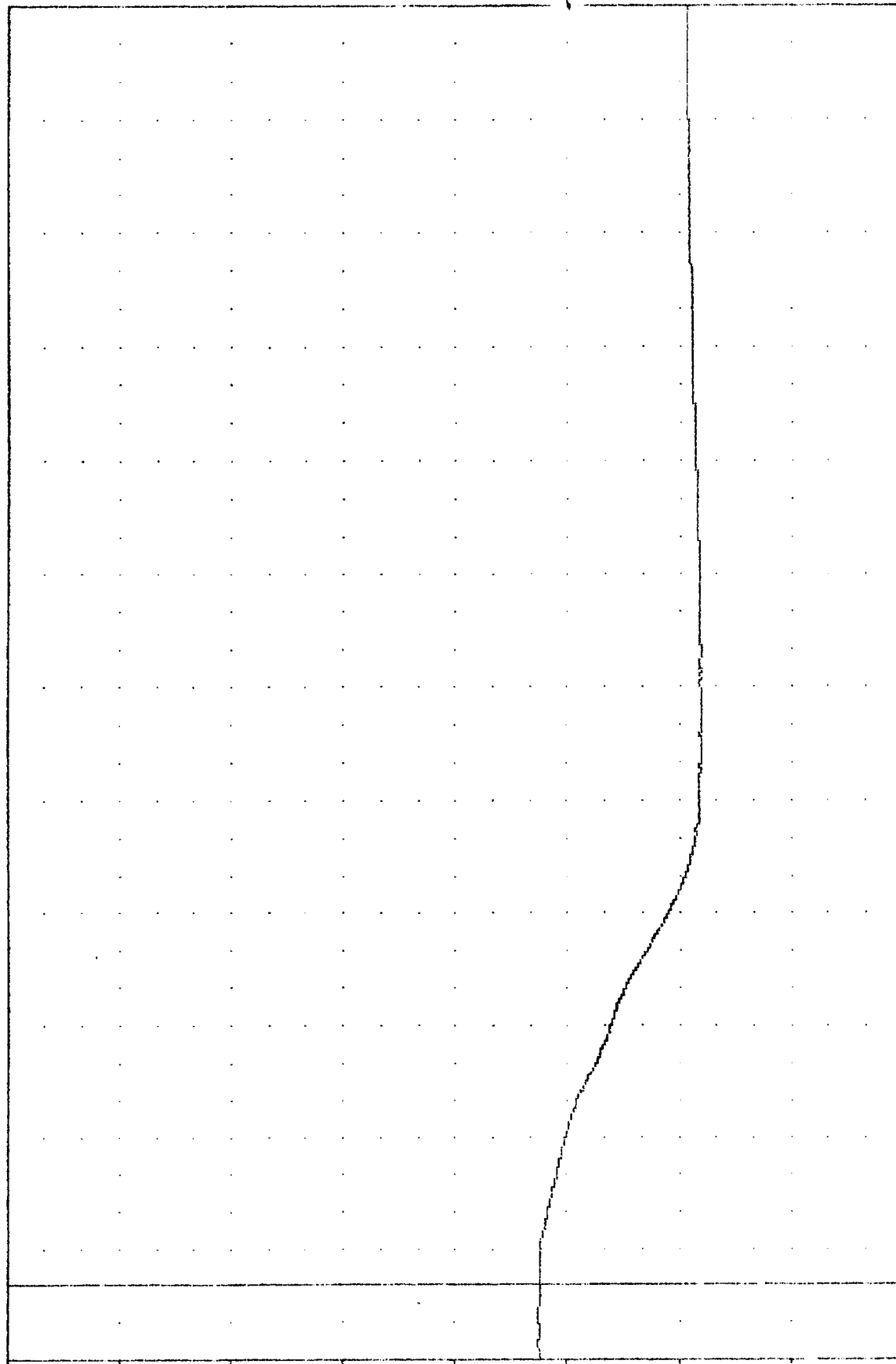
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 BARRIER CG RESULTANT

TRC
EVALUATION OF MOD VW FLEET
83279000000
BCGXV

PLOT DATE 7-OCT-83 10:38:28

FILTER = BLPF 300/ 949/ -40
MIN. MAX VALUES = 16.00 144.25 32.54 -9.25

VELOCITY (MPH)



TRC

, 831006

EVALUATION OF MOD YW FLEET

83279000000

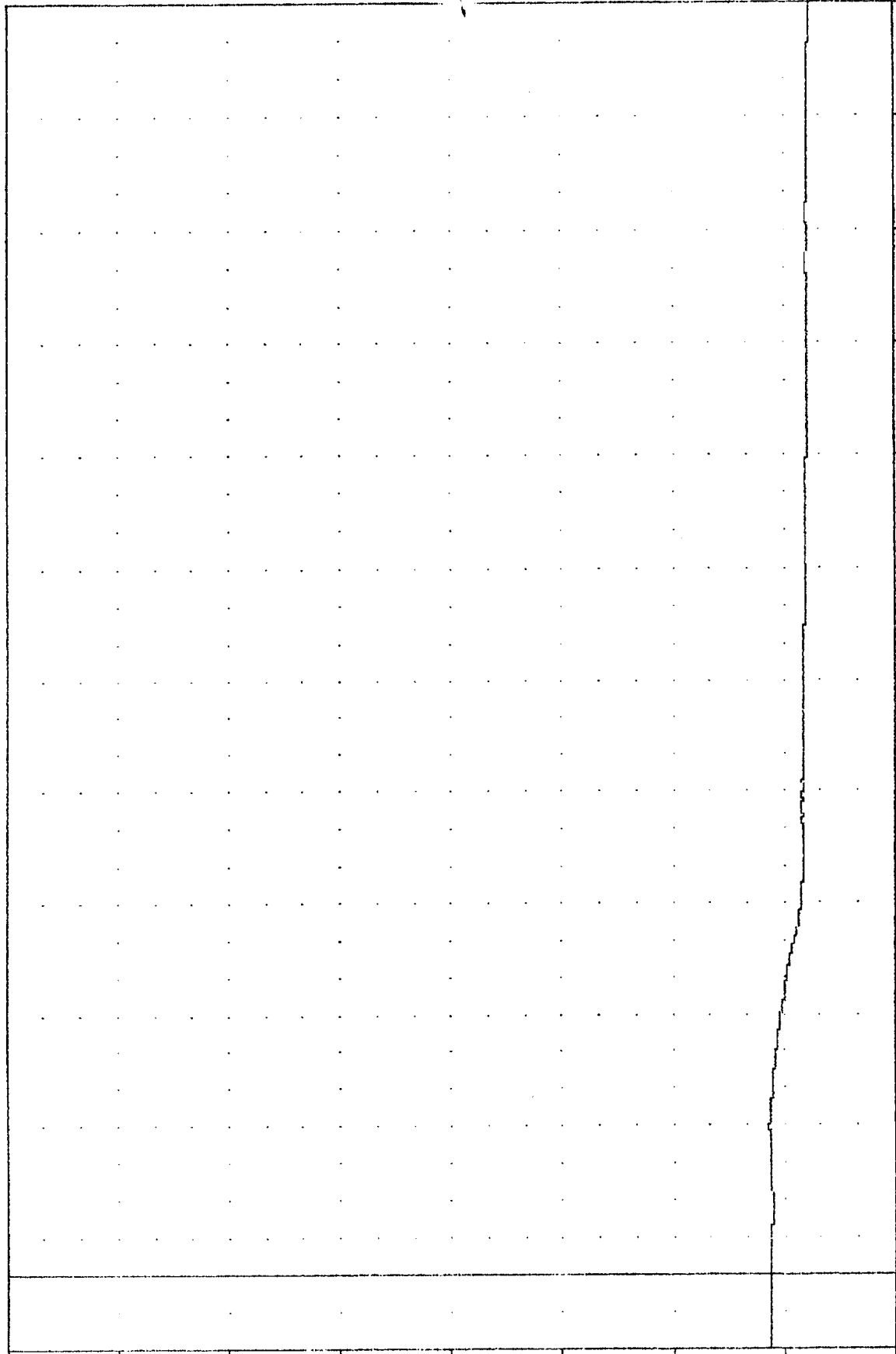
BCGYV

PLOT DATE 7-OCT-83 10:38:28

FILTER = BLPF 300/ 949/ -40

MIN, MAX VALUES = 7.54 340.00, 11.33 39.25

VELOCITY (MPH)



0.00 10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00

MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT

DELTA V USING BCGYG

TRC 831006 PLOT DATE 7-OCT-83 10:36:58

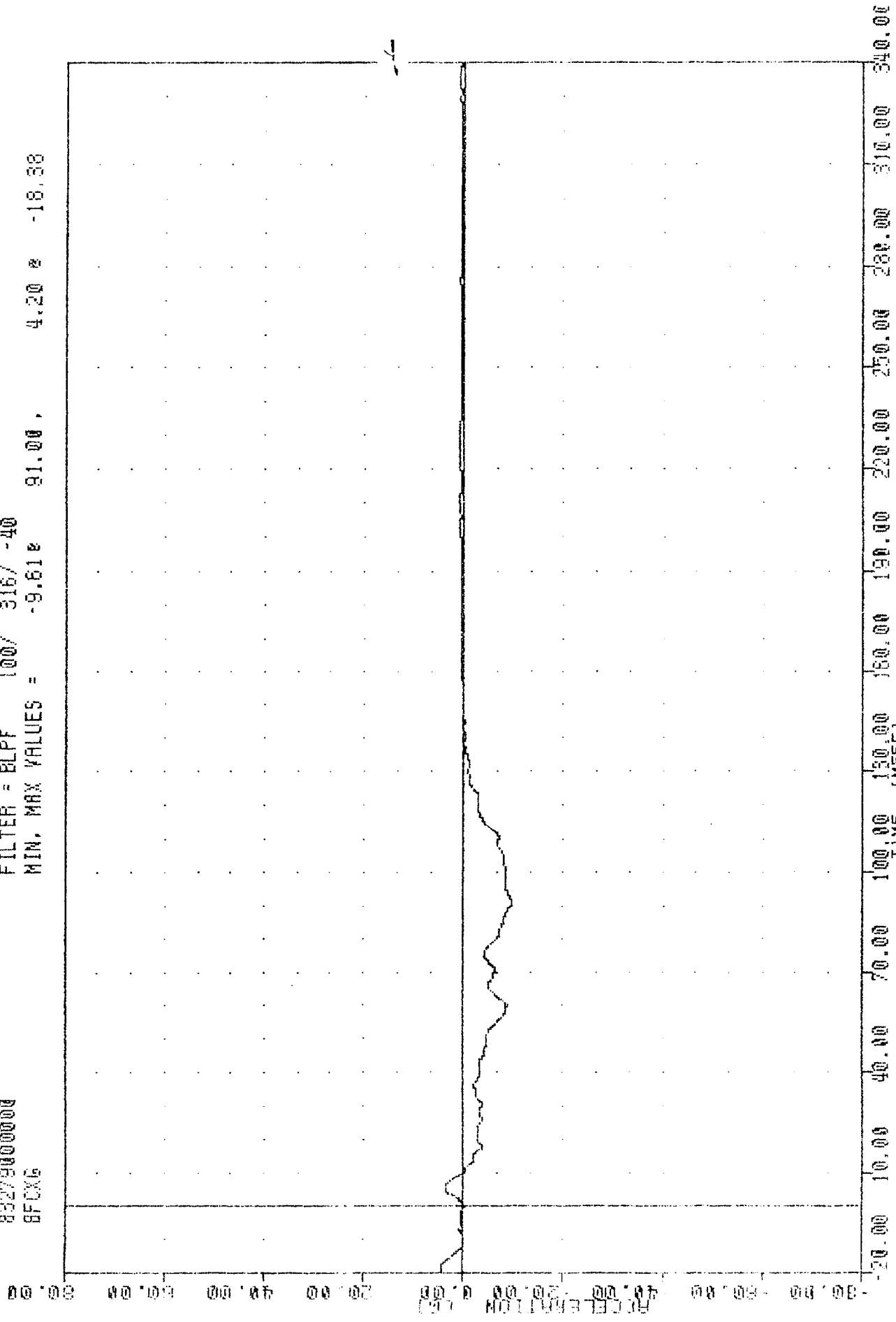
EVALUATION OF MOD YW FLEET

83279000000

BFEX6

FILTER = BLPF 100/ 316/ -40

MIN. MAX VALUES = -9.61e 91.00, 4.20 e -18.58

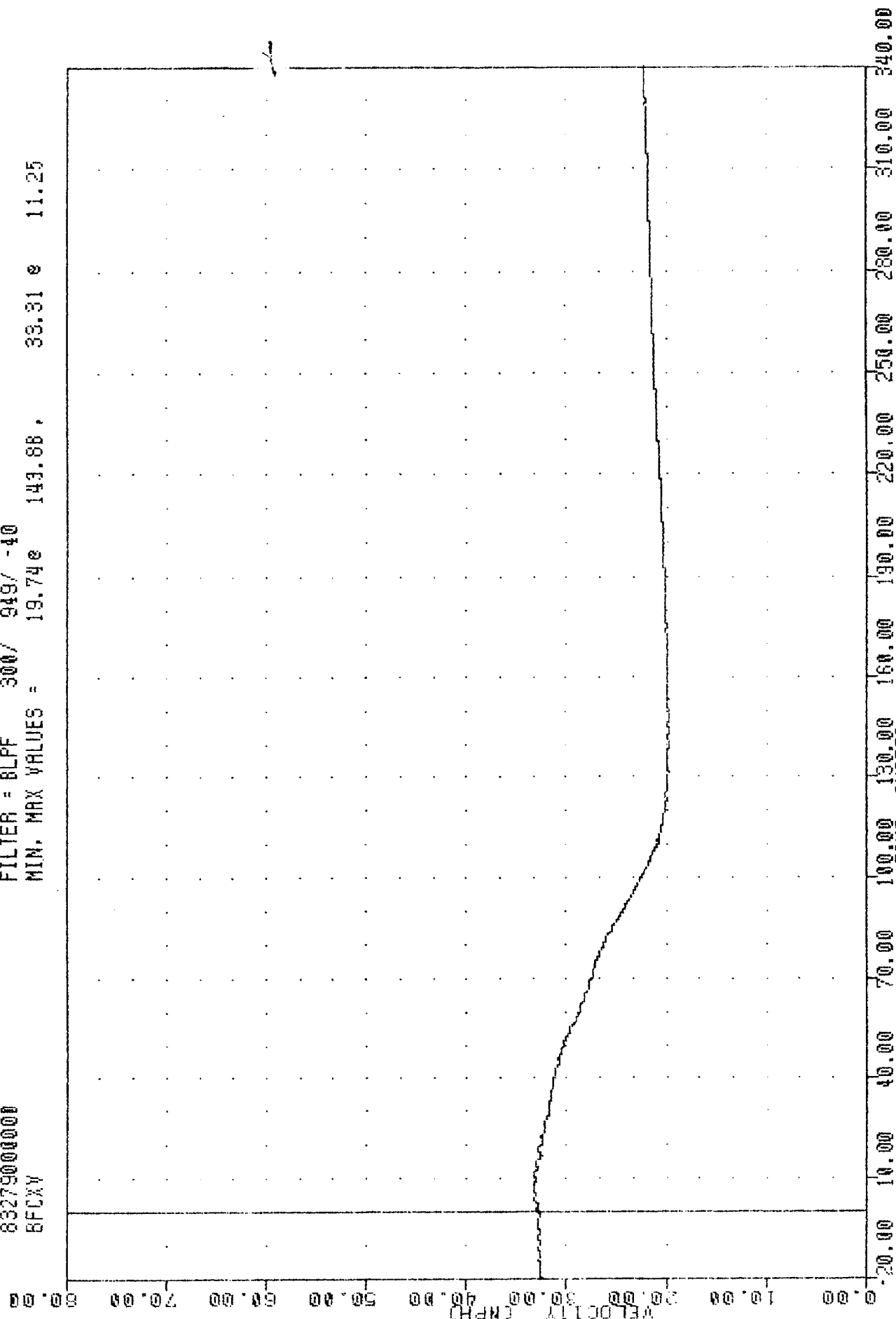


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
BARRIER FRONT CROSSMEMBER ACCELERATION X AXIS

TRC
EVALUATION OF MDD YW FLEET
83279000000
BFCXY

PLOT DATE 7-OCT-83 10:38:28

FILTER = BLPF 300/ 949/ -40
MIN. MAX VALUES = 19.74e 143.88, 33.31 e 11.25



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING BFCXG

TRC 831006 PLOT DATE 7-OCT-83 10:36:58

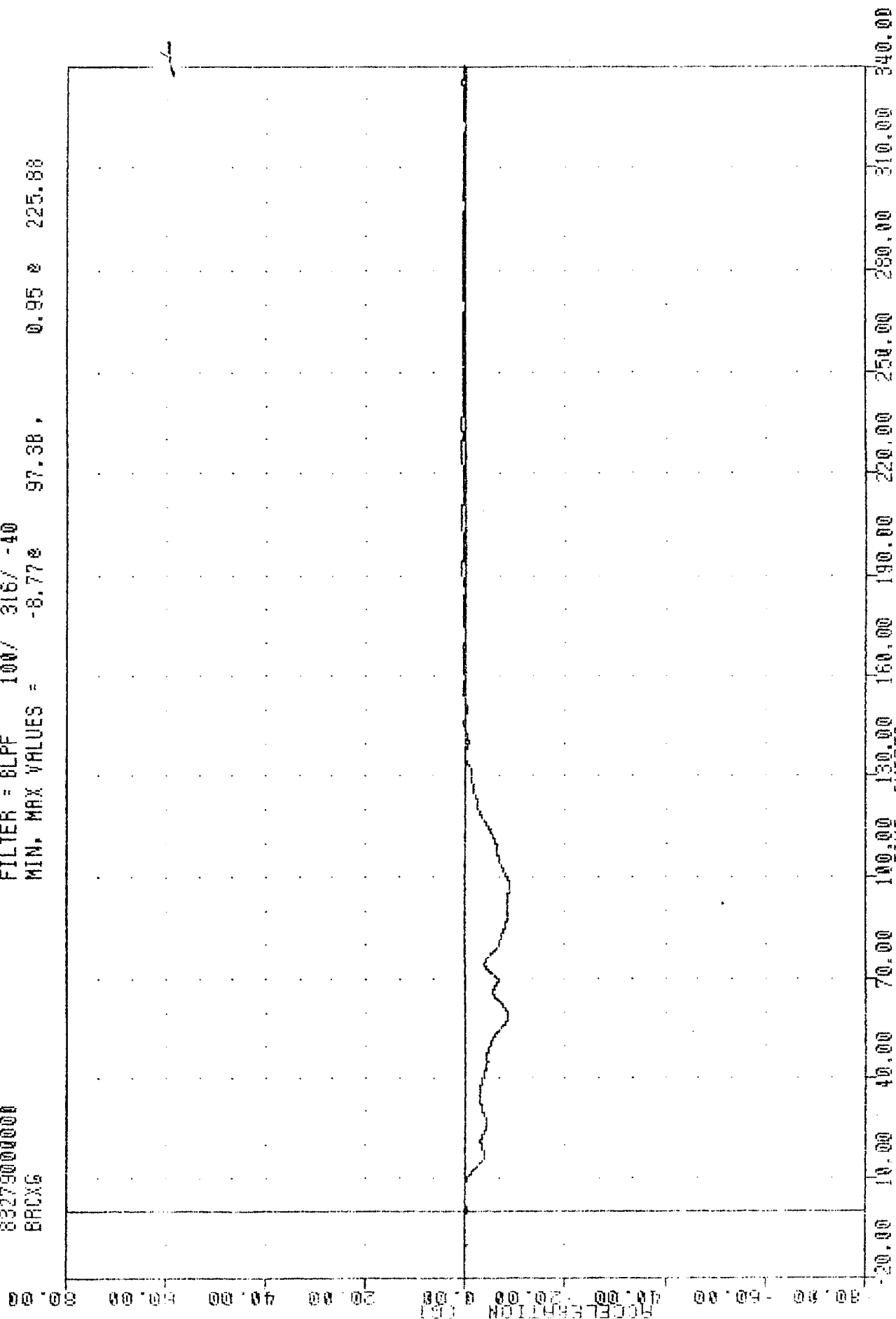
EVALUATION OF MOD VW FLEET

832790000000

BRXG

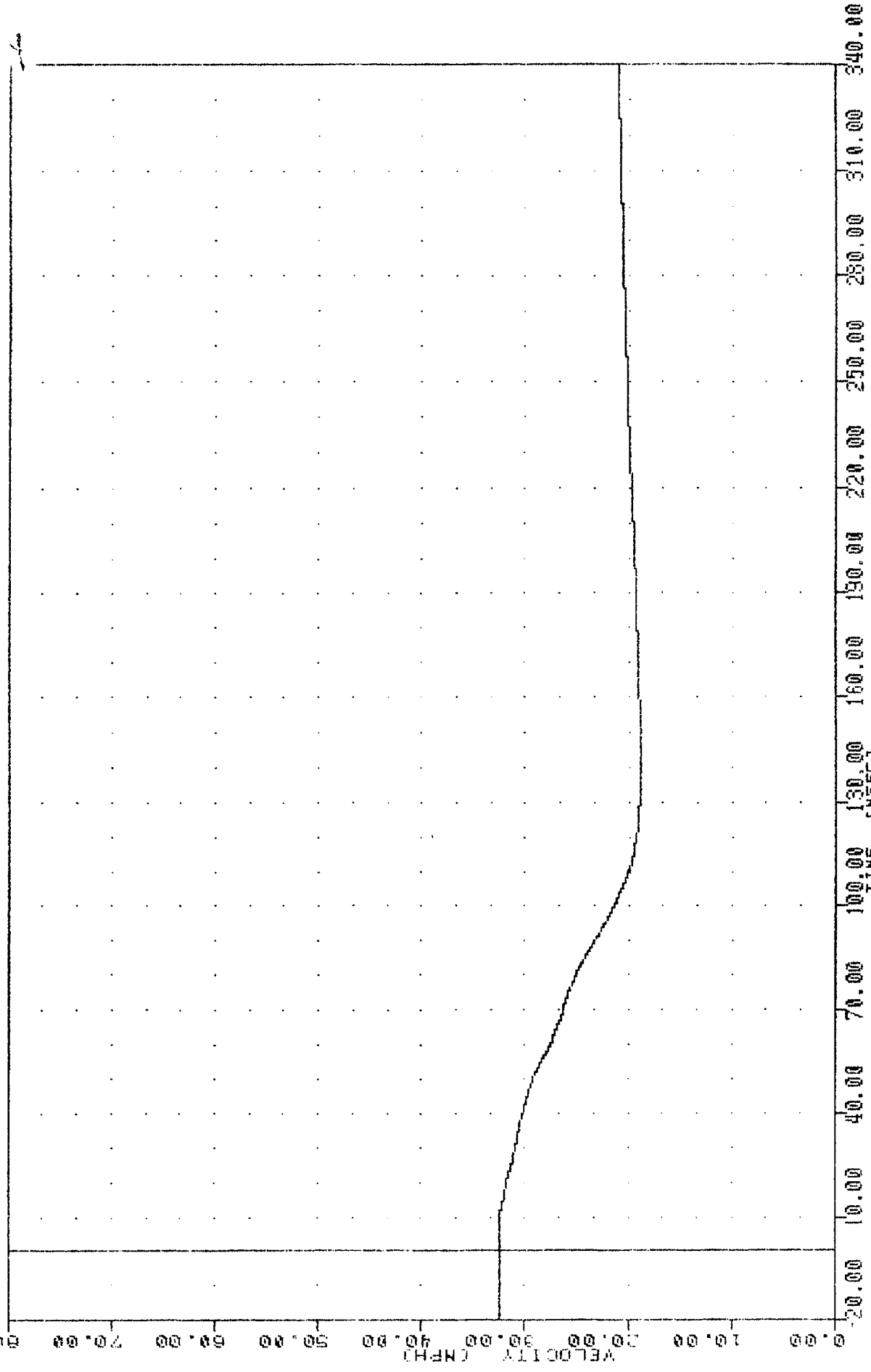
FILTER = 6LPF 100/ 316/ -40

MIN. MAX VALUES = -8.77% 97.38, 0.95 @ 225.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
BARRIER REAR CROSSMEMBER ACCELERATION X AXIS

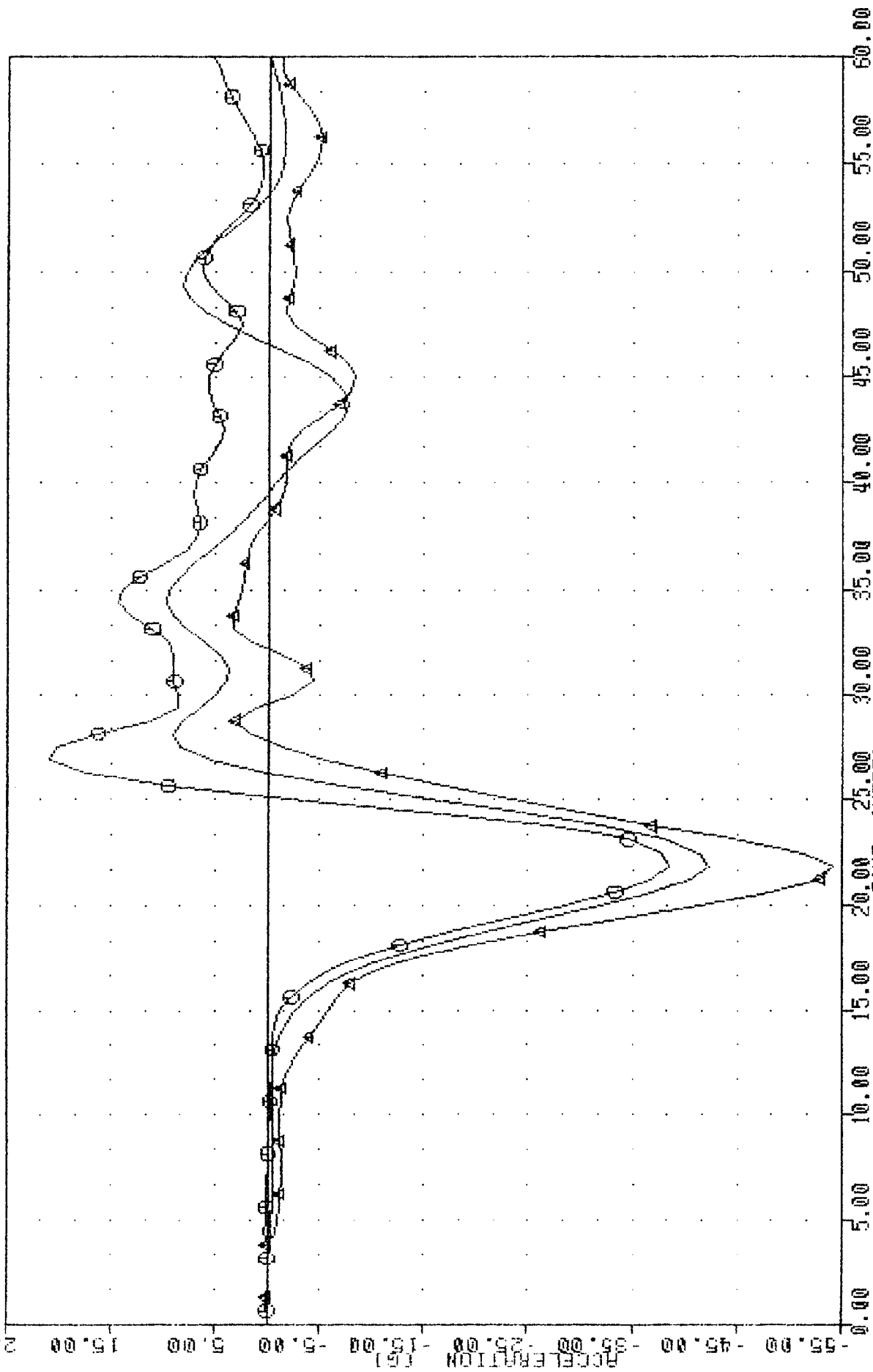
TAC 831006
 EVALUATION OF M00 VN FLEET
 83279000000
 BACXY
 FILTER = BLFF 300/ 949/ -40
 MIN, MAX VALUES = 18.85% 138.38, 32.51 * -8.75
 PLOT DATE 7-OCT-83 10:38:28



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
 DELTA V USING BRCXG

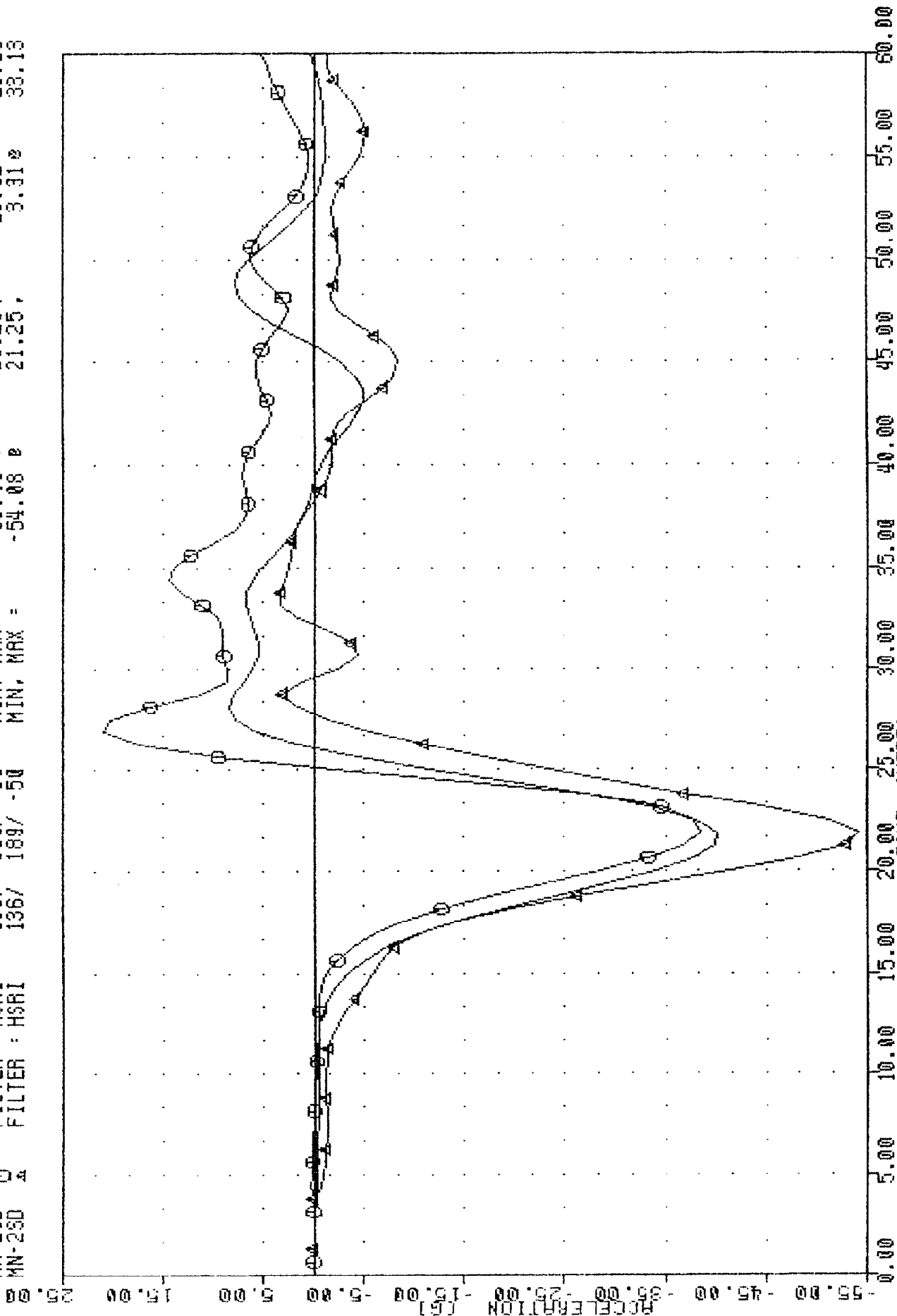
APPENDIX C
DUMMY CERTIFICATION

VRIC SRL26 , ARL6C85 310 THORAX 6 BODY 318 CAL 65 83277 4-OCT-83 14:32:22
 LURYGR FILTER : HSRI 136/ 189/ -50 MIN, MAX = -42.24 9.65 33.75
 MN-250 0 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -38.44 20.92 26.25
 MN-250 4 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -54.08 21.25 33.13



SIDE IMPACT TEST (ARL006)
 LEFT UPPER RIB ACCELERATION Y AXIS -A

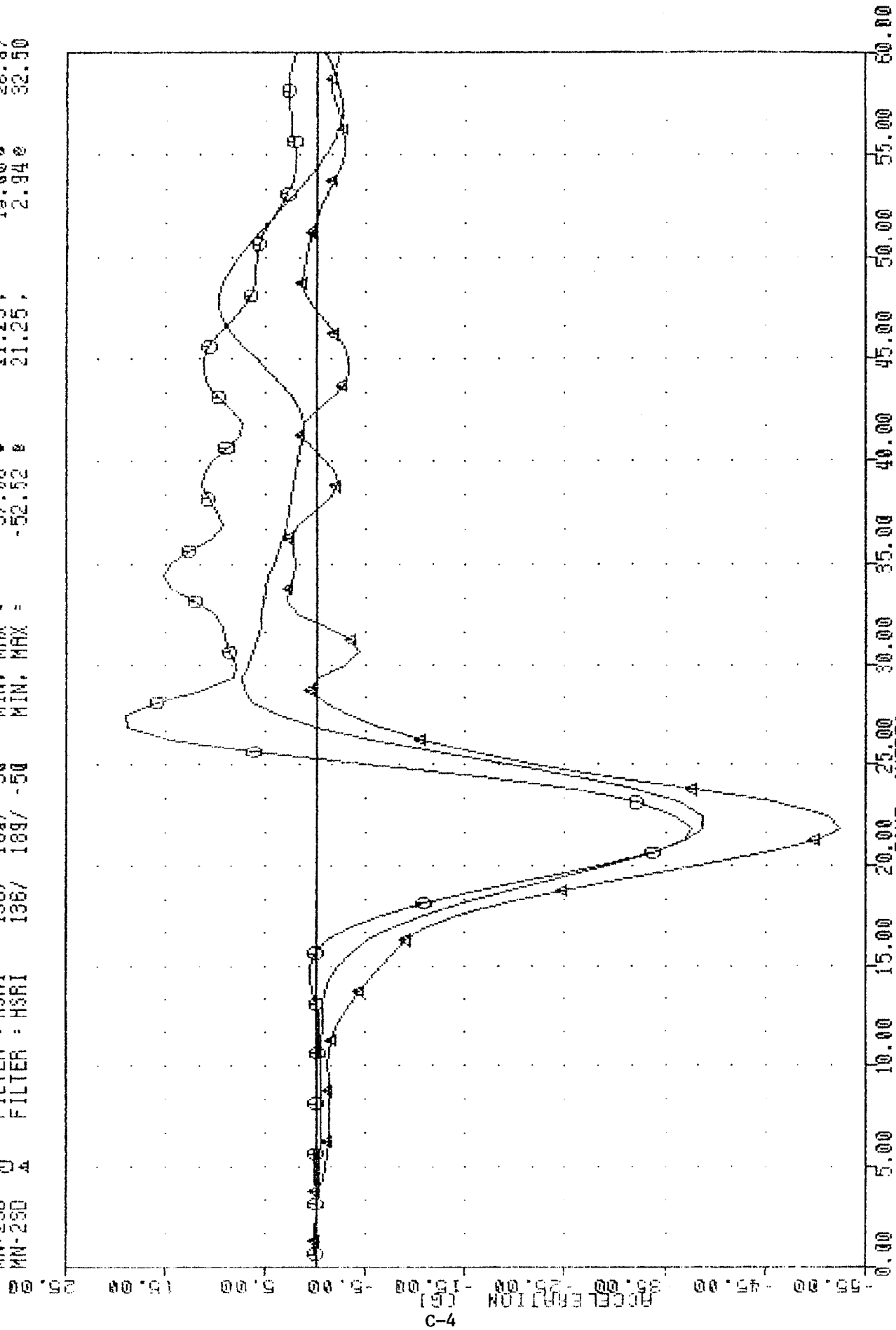
VRIC SRI26 - AR15CR65 S10 THORAX 6 BODY 318 CAL 65 83277 4-OCT-83 14:33:29
 LURY61 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -40.21 8 21.25, 8.452 27.50
 MN-2SD 0 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -58.44 2 21.25, 20.922 26.25
 MN-2SD 4 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -54.08 2 21.25, 3.312 33.13



SIDE IMPACT TEST (ARL006)

LEFT UPPER AIR ACCELERATION Y AXIS - 1

VRIC SRL26 , ARLECH65 S10 THORAX 6 BODY 318 CAL 65 83277 4-OCT-83 14:29:49
 LLRYGI FILTER : HSRI 136/ 189/ -50 MIN. MAX = -38.79 9.65 46.88
 MN-280 0 FILTER : HSRI 136/ 189/ -50 MIN. MAX = -37.66 19.00 28.87
 MN-280 4 FILTER : HSRI 136/ 189/ -50 MIN. MAX = -52.52 21.25 32.50



SIDE IMPACT TEST (ARL0006)

LEFT LOWER RIR ACCELERATION Y AXIS -1

WRIC SRL26
 LLRYGA
 MN-250
 MN-250

ARLB08E5
 FILTER : HSRI
 FILTER : HSRI

SID THORAX 6 BODY 318 CAL 85
 136/ 189/ -50
 136/ 189/ -50
 136/ 189/ -50

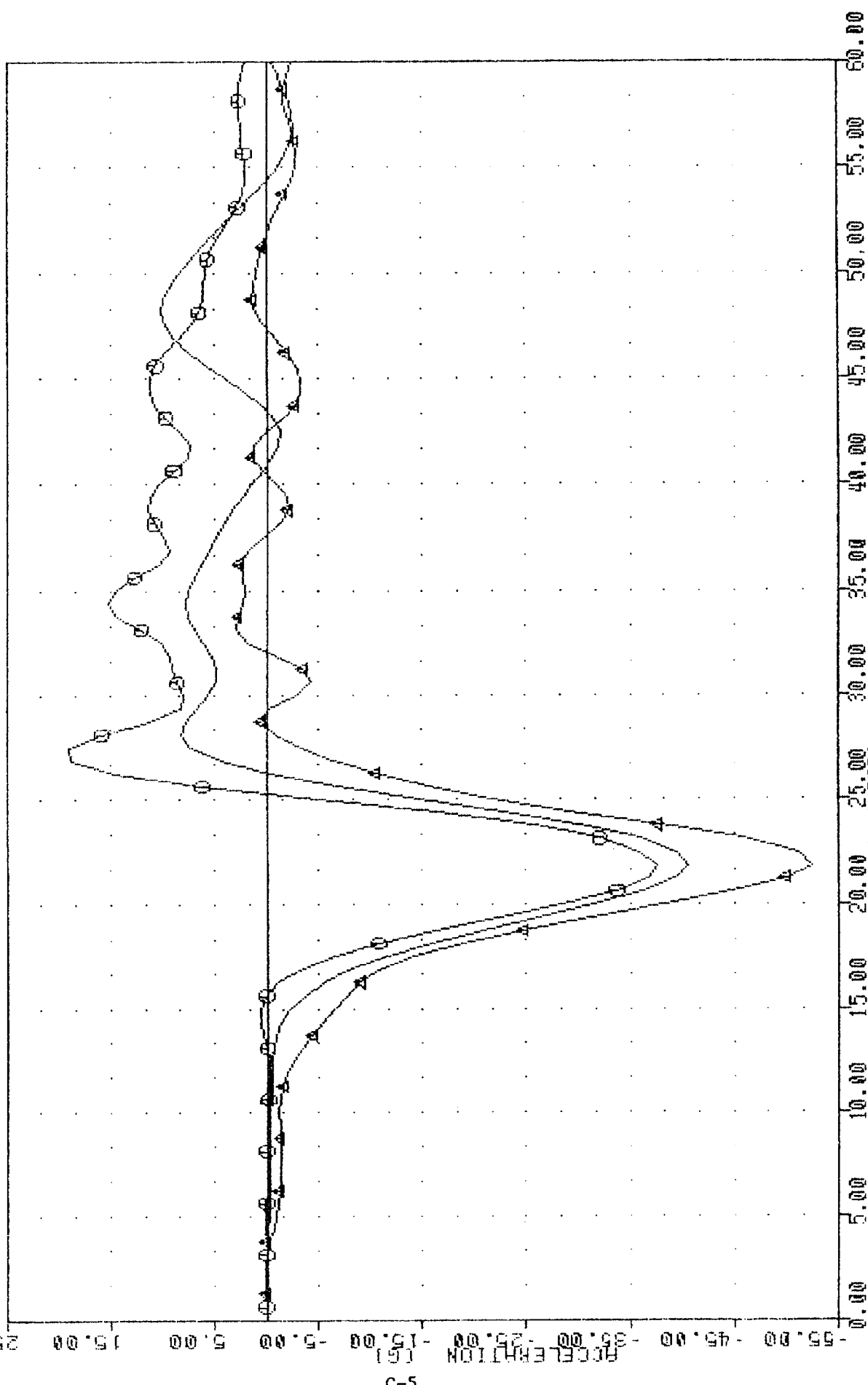
83277
 -40.58
 -37.66
 -52.52

MIN, MAX :
 MIN, MAX :
 MIN, MAX :

PLOT DATE 4-OCT-83
 21.25
 21.25
 21.25

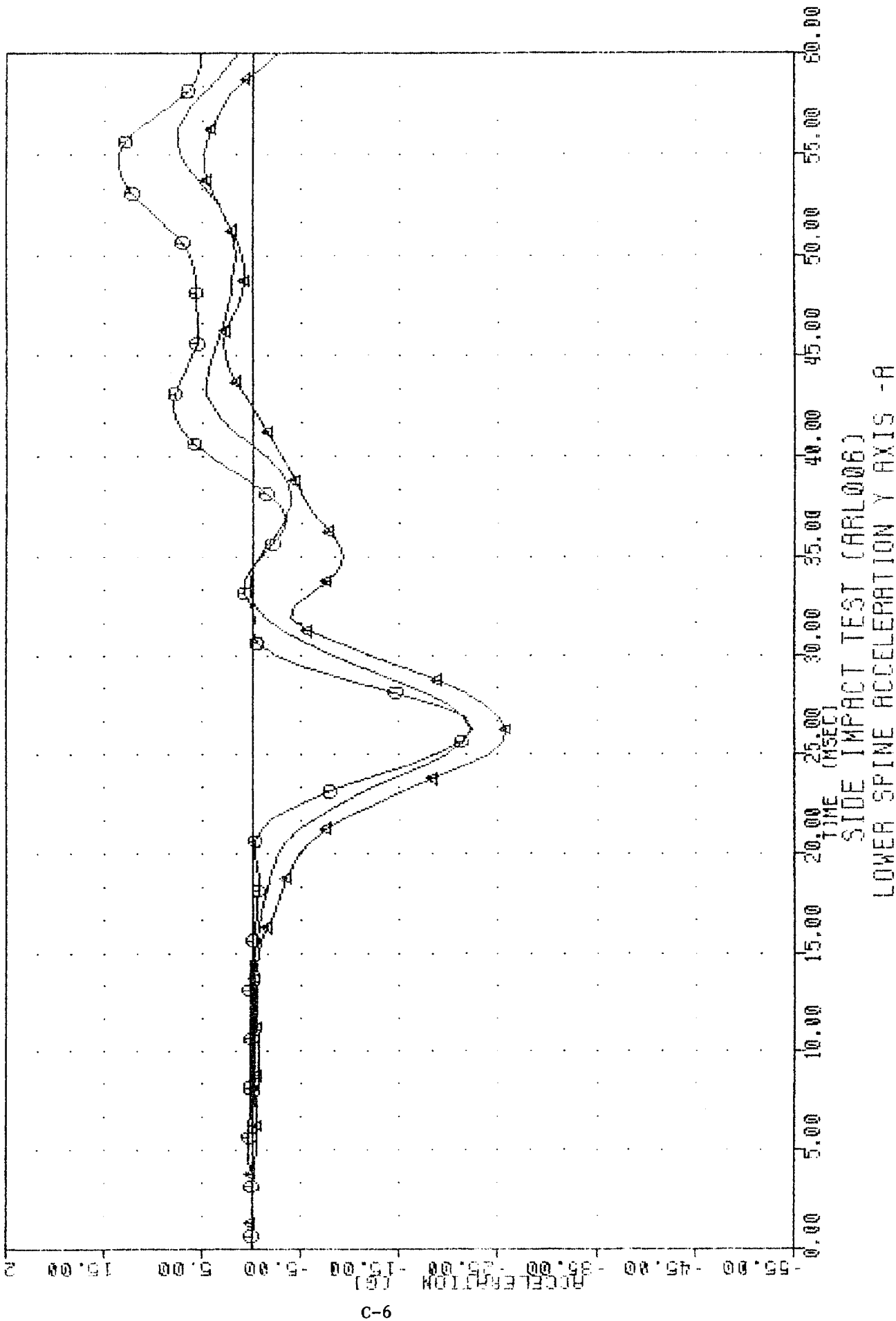
14:31:04
 10.000
 19.000
 2.940

47.50
 26.87
 32.50

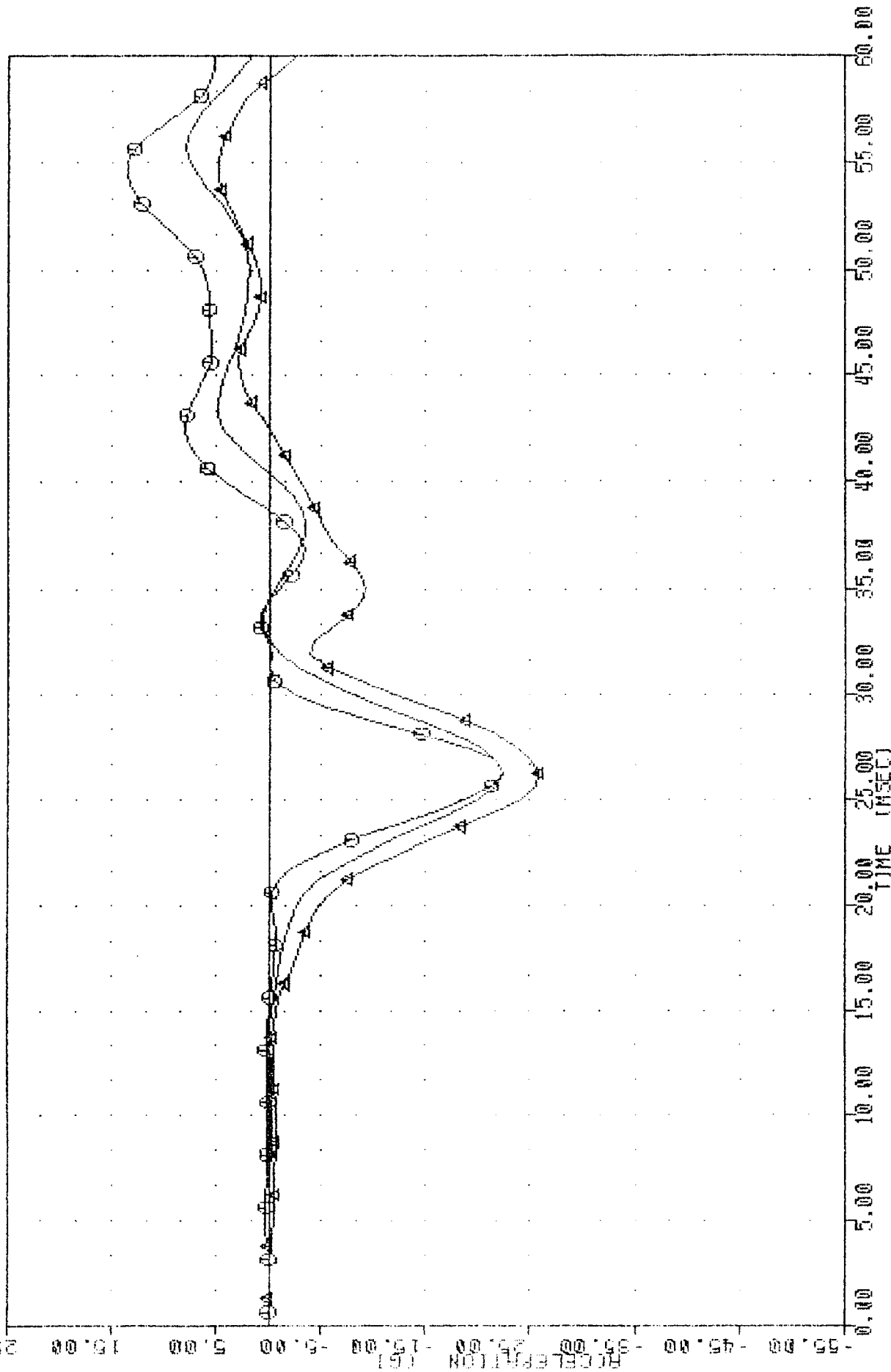


SIDE IMPACT TEST (CARL006)
 LEFT LOWER RIB ACCELERATION Y AXIS -A

VRTD SRL26 , ARL6CA65 SID THORAX 6 BODY 318 CAL 65 83277 4-OCT-83 14:28:51
 T12YGA FILTER : HSRI 136/ 189/ -50 MIN, MAX = -22.11 8 25.63 7.57 55.00
 MN-290 MN-290 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -22.37 8 25.63 13.54 53.75
 MN-290 MN-290 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -25.84 8 25.63 4.85 53.75

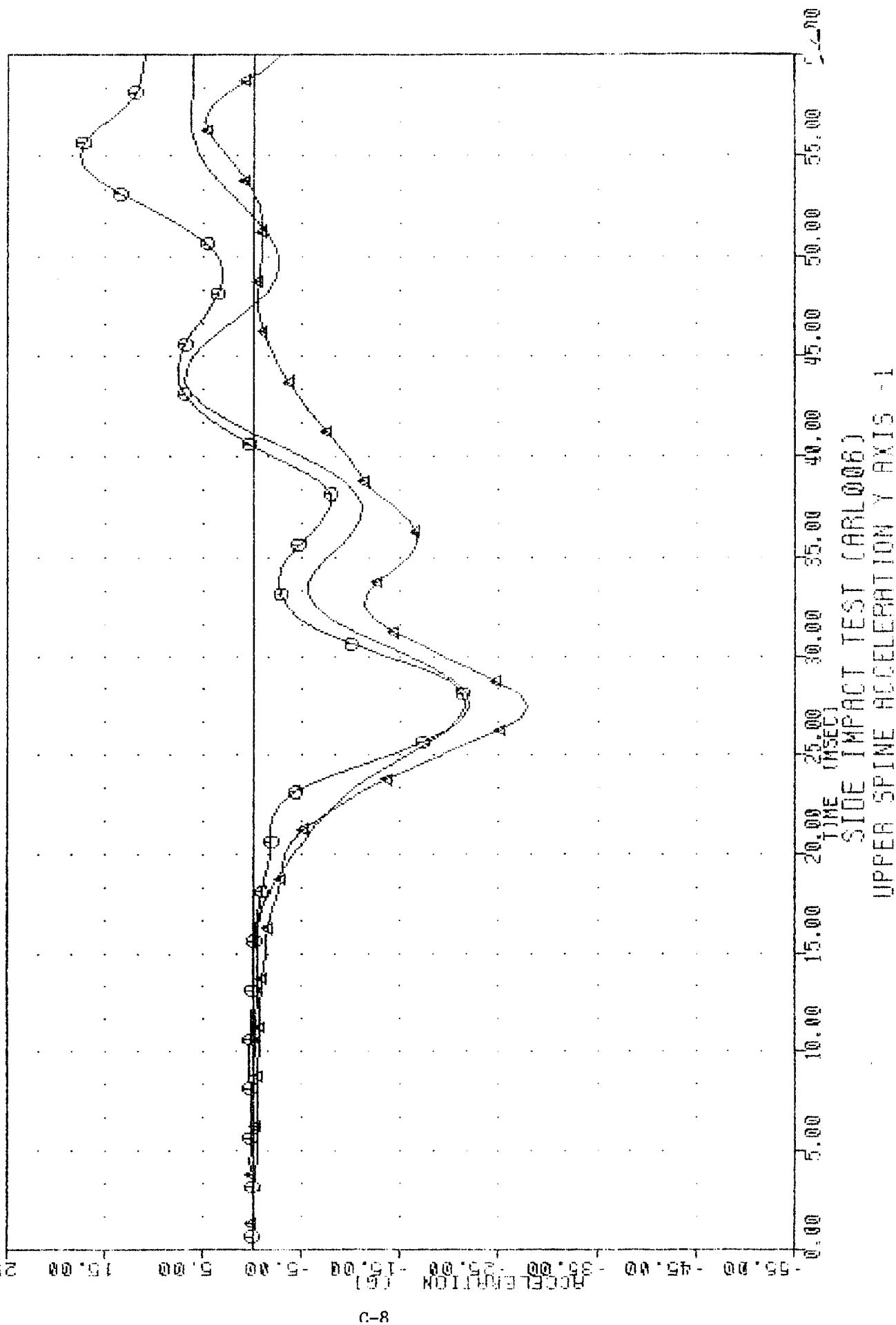


VATIC SRL26
 T12Y61
 MN-250
 MN-250
 SID THORAX 6 BODY 318 CAL 65
 136/ 189/ -50
 136/ 189/ -50
 136/ 189/ -50
 FILTER : HSRI
 FILTER : HSRI
 FILTER : HSRI
 83277
 -22.30 e
 -22.37 e
 -25.84 e
 25.63,
 25.63,
 25.63,
 4-OCT-83
 14:27:52
 7.87 e
 13.54 e
 4.05 e
 55.00
 53.75
 53.75

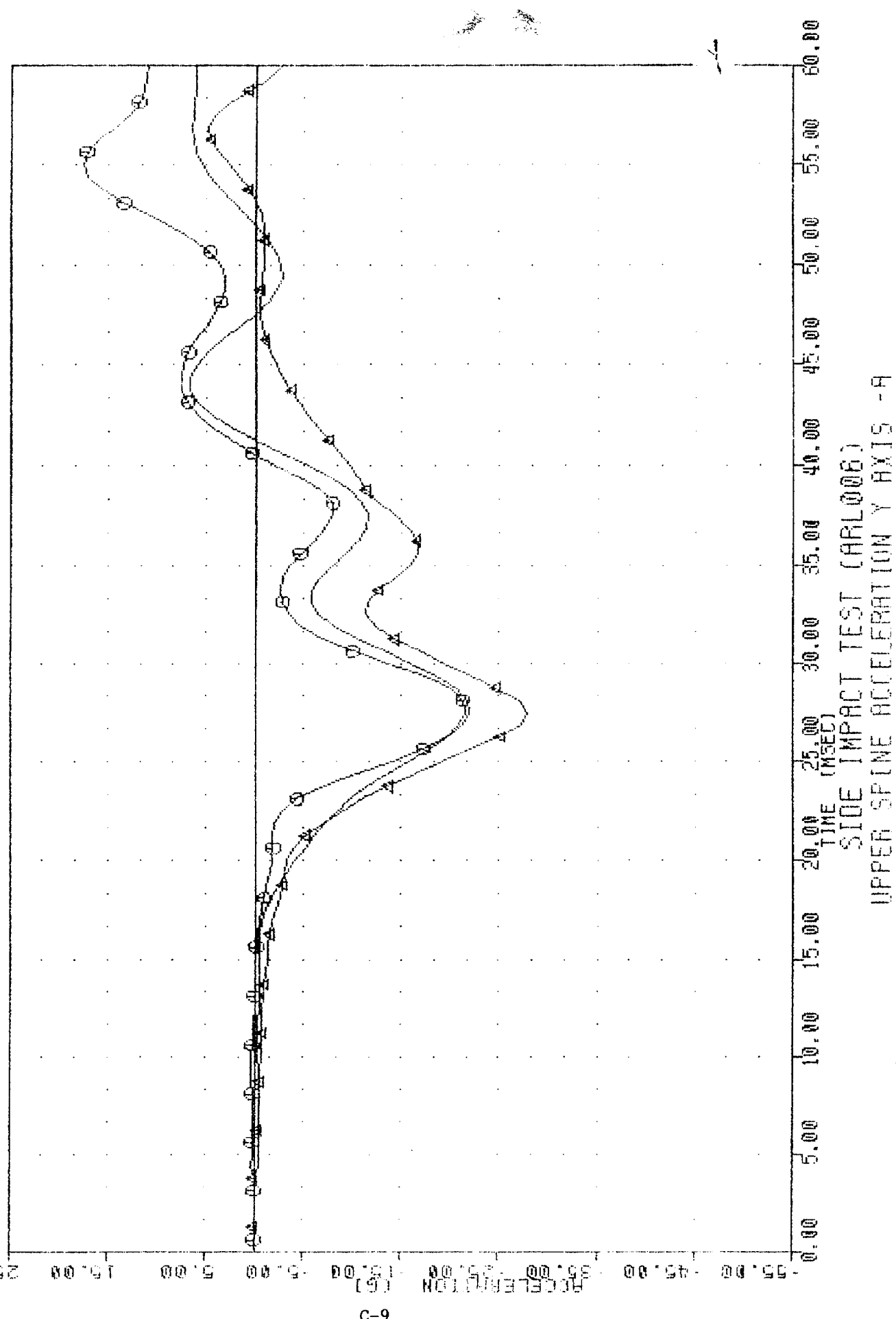


SIDE IMPACT TEST (CARL0006)
 LOWER SPINE ACCELERATION Y AXIS -1

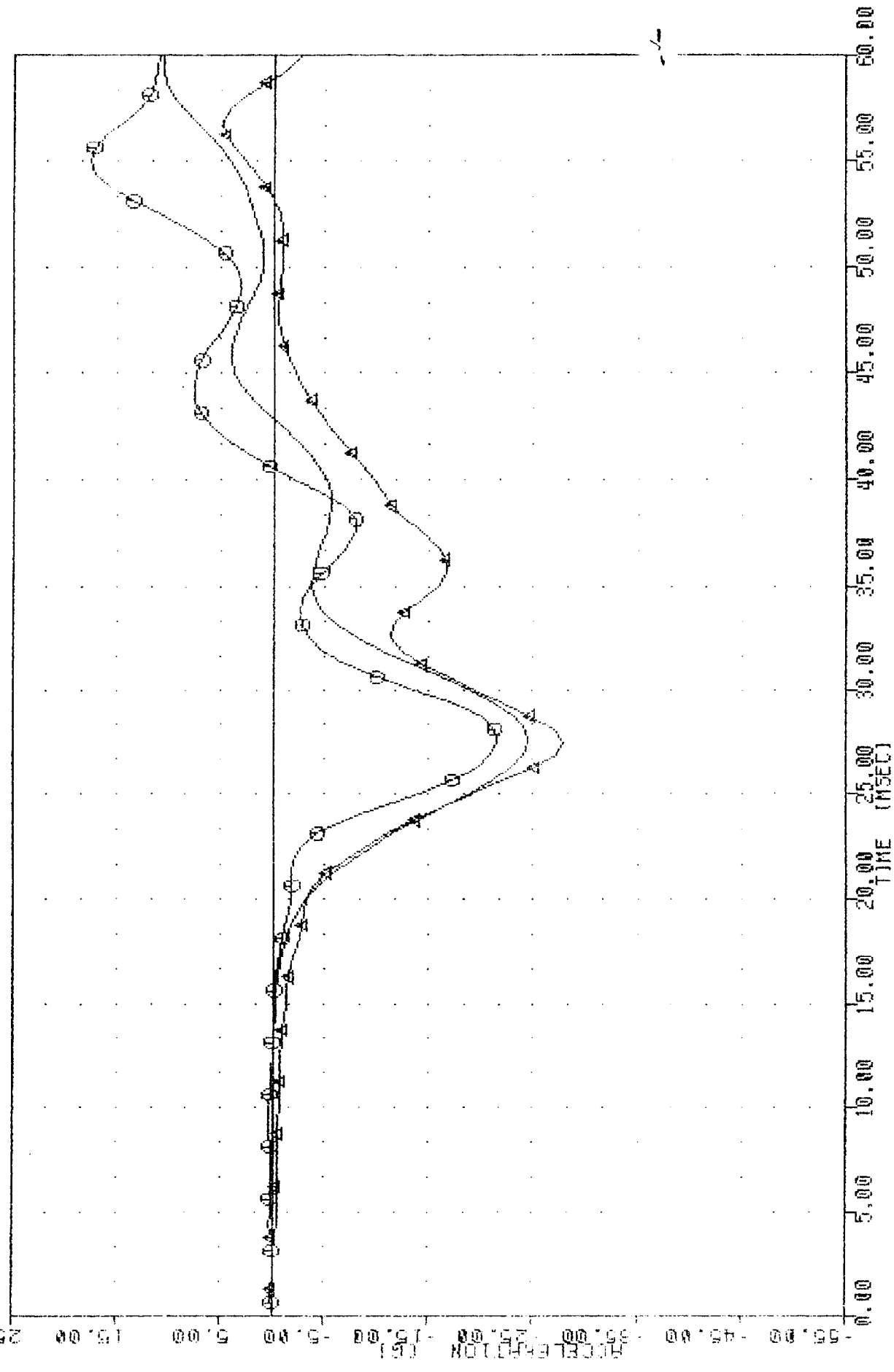
VRIC SRL26
 TQ1Y61
 MN-250
 MN-250
 SID THORAX 6 BODY 318
 136/ 189/ -50
 136/ 189/ -50
 136/ 189/ -50
 CAL 65
 MIN, MAX =
 MIN, MAX =
 MIN, MAX =
 83277
 -21.96 e
 -21.58 e
 -27.91 e
 PLOT DATE 4-OCT-83
 26.87
 26.87
 26.87
 14:24:44
 43.13
 54.38
 56.25



VITE S4L25
 T01YGA
 MN-250
 MN-250
 FILTER : HSRI
 FILTER : HSRI
 FILTER : HSRI
 S10 THURMAX 6 BODY 318 CAL 65
 136/ 189/ -50 MIN, MAX =
 136/ 189/ -50 MIN, MAX =
 136/ 189/ -50 MIN, MAX =
 83277
 -22.00
 -21.58
 -27.91
 PLOT DATE 4-OCT-83
 26.87
 26.87
 26.87
 14:28:35
 6.582
 17.542
 4.782
 43.13
 54.38
 56.25

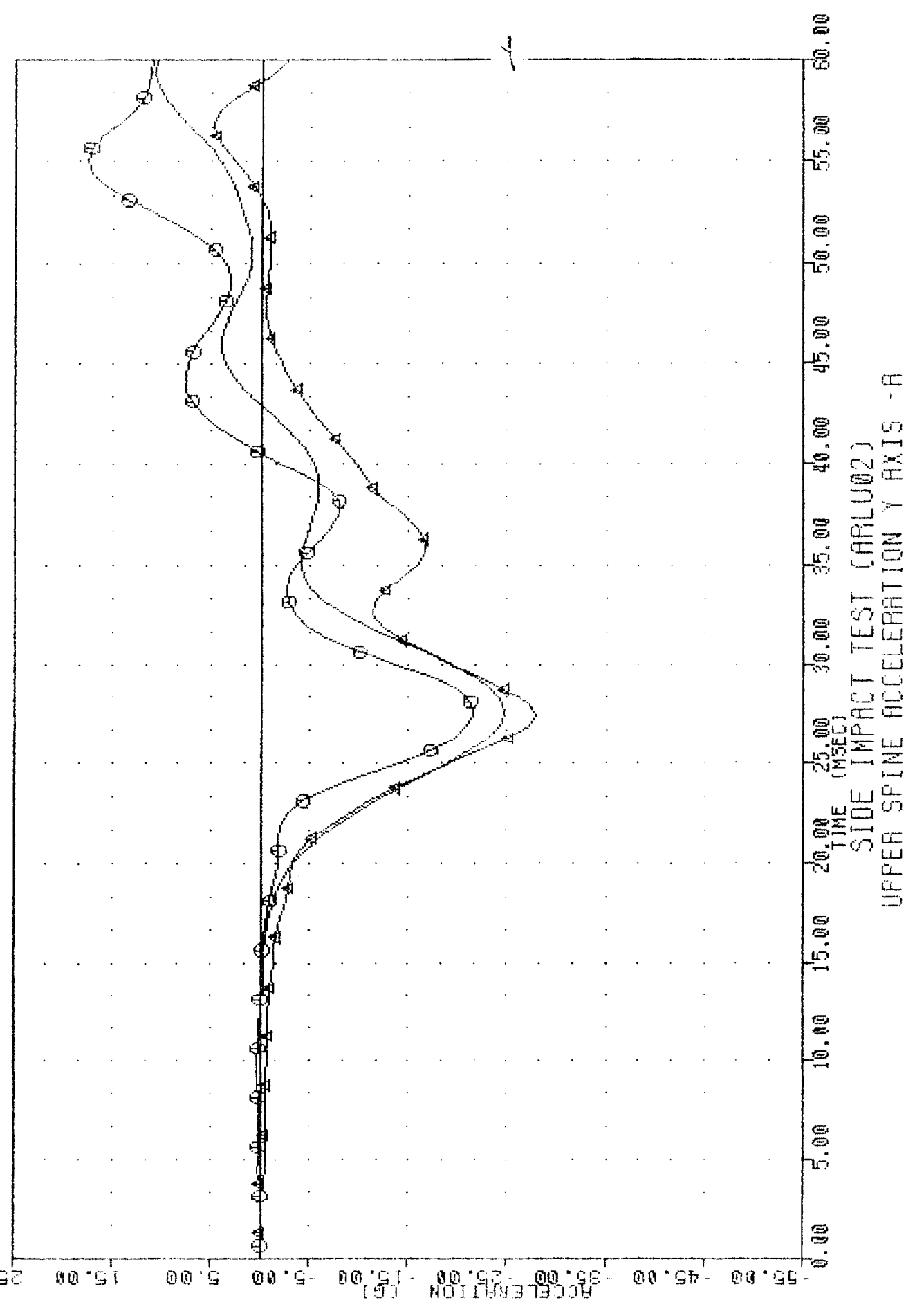


VRIC SRL26
 T01Y6I
 MN-2SD
 MN-2SD
 SIO THORAX U02 BODY 830 CAL 66 83277
 136/ 189/ -50
 136/ 189/ -50
 136/ 189/ -50
 FILTER : HSRI
 FILTER : HSRI
 FILTER : HSRI
 MIN, MAX =
 MIN, MAX =
 MIN, MAX =
 -24.60 e
 -21.58 e
 -27.91 e
 5-OCT-83
 26.87,
 26.87,
 26.87,
 10.56 e
 17.54 e
 4.78 e
 15:15:07
 56.75
 54.38
 56.25

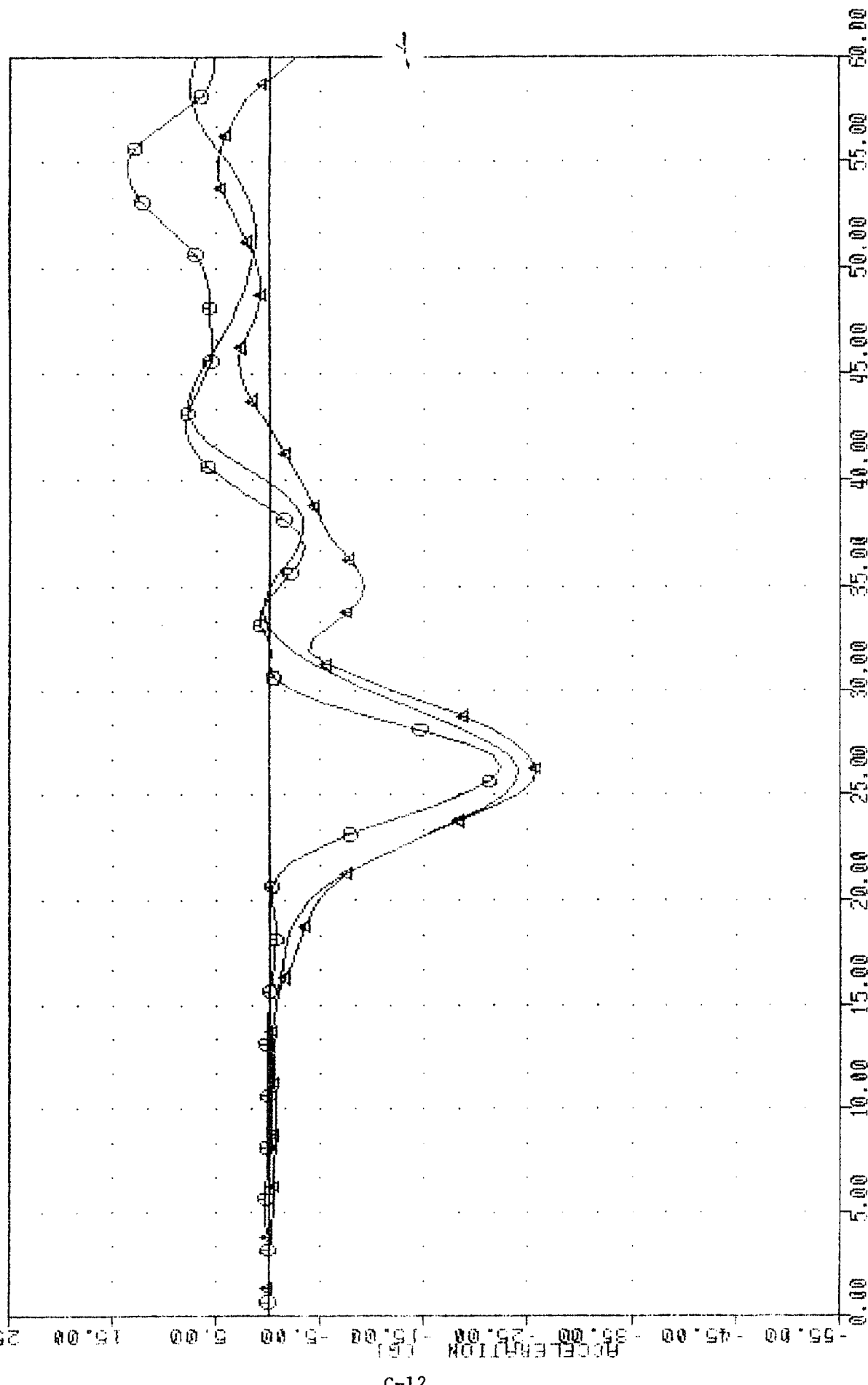


SIDE IMPACT TEST (ARLU02)
 UPPER SPINE ACCELERATION Y AXIS -1

VRIC SRL26 U02CHAL66 STD THORAX U02 BODY 830 CHL 66 83277 PLOT DATE 5-OCT-83 15:17:02
 TO1VGH FILTER = H3RI 136/ 189/ -50 MIN, MAX = -24.76 26.87 10.65 58.75
 MN-250 0 FILTER = H3RI 136/ 189/ -50 MIN, MAX = -21.68 26.87 17.54 54.38
 MN-250 A FILTER = H3RI 136/ 189/ -50 MIN, MAX = -27.91 26.87 4.76 56.25

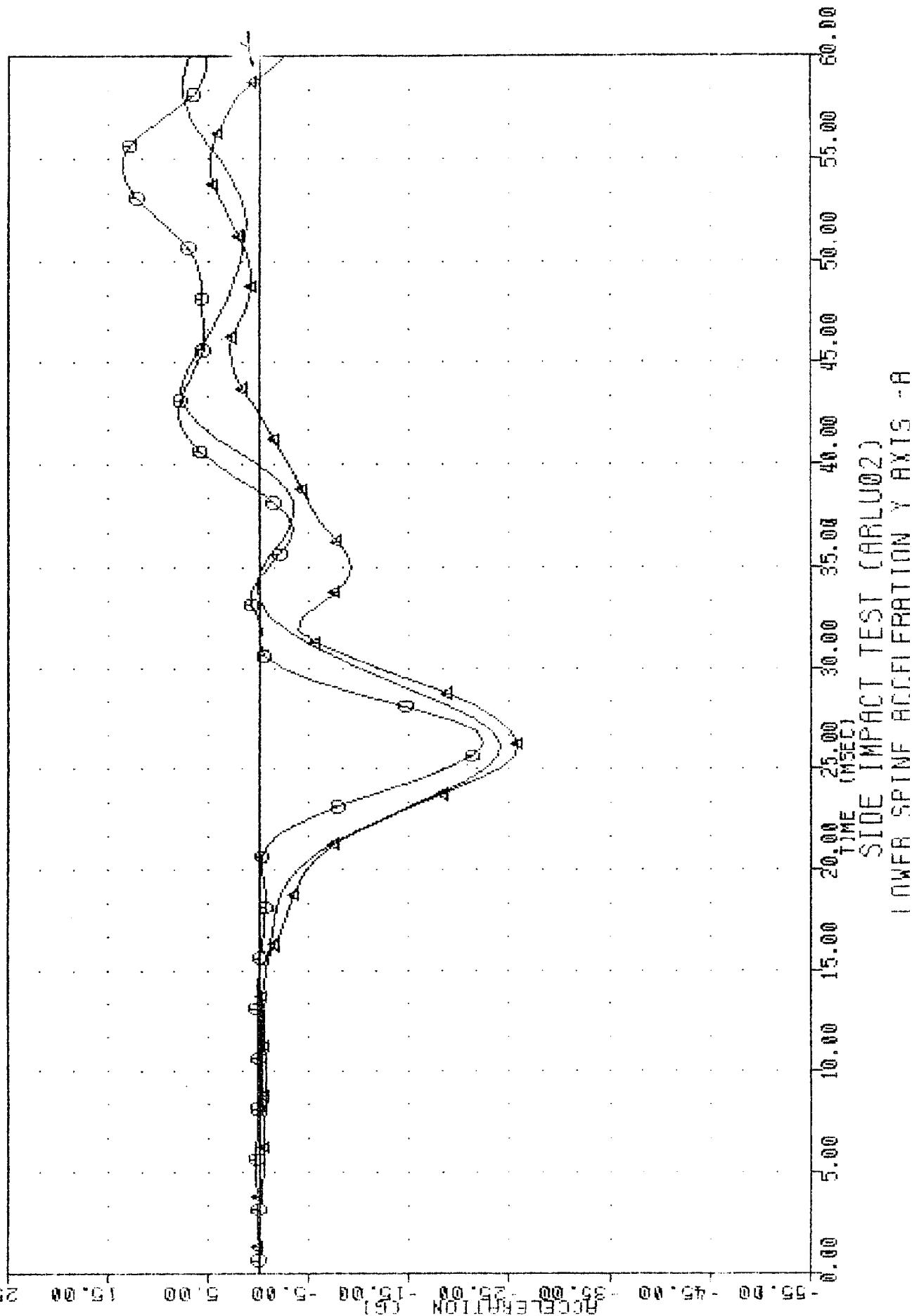


VRIC SPL26 , U02CHL66 SID THORAX U02 BODY 830 CHL 66 83277 5-OCT-83 15:18:51
 T12Y61 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -24.01 25.63 43.13
 MN-250 0 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -22.37 25.63 53.75
 MN-250 4 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -25.84 25.63 53.75

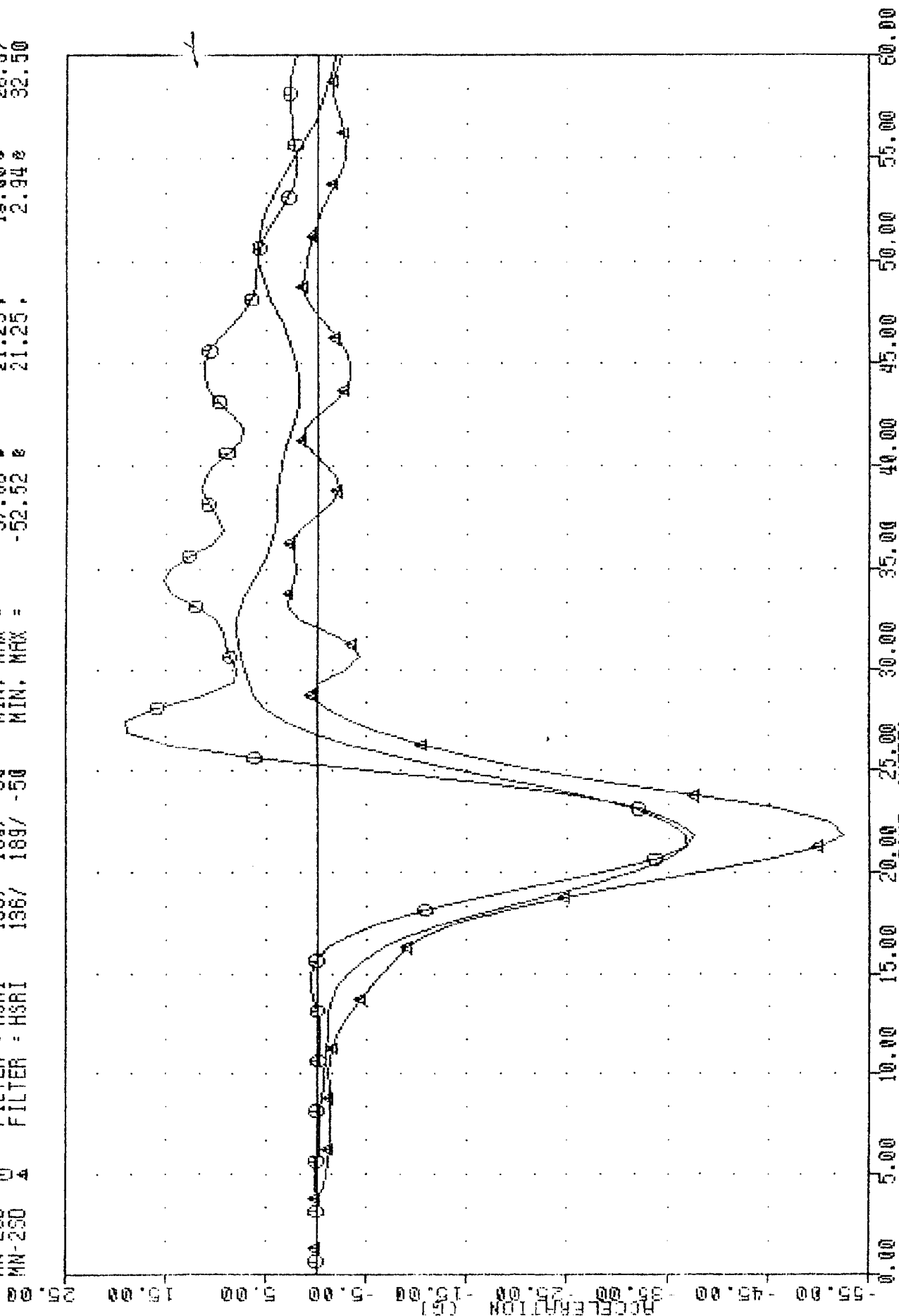


SIDE IMPACT TEST (ARLU02)
 LOWER SPINE ACCELERATION Y AXIS -1

VRIC SRL26 , U02CAL66 SID THORAX U02 BODY 830 CAL 66 83277 PLOT DATE 5-OCT-83 15:19:40
 T12YGA FILTER : HSRI 136/ 189/ -50 MIN, MAX = -23.98 7.652 43.13
 MN-250 0 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -22.37 13.542 53.75
 MN-250 4 FILTER : HSRI 136/ 189/ -50 MIN, MAX = -25.84 4.852 53.75

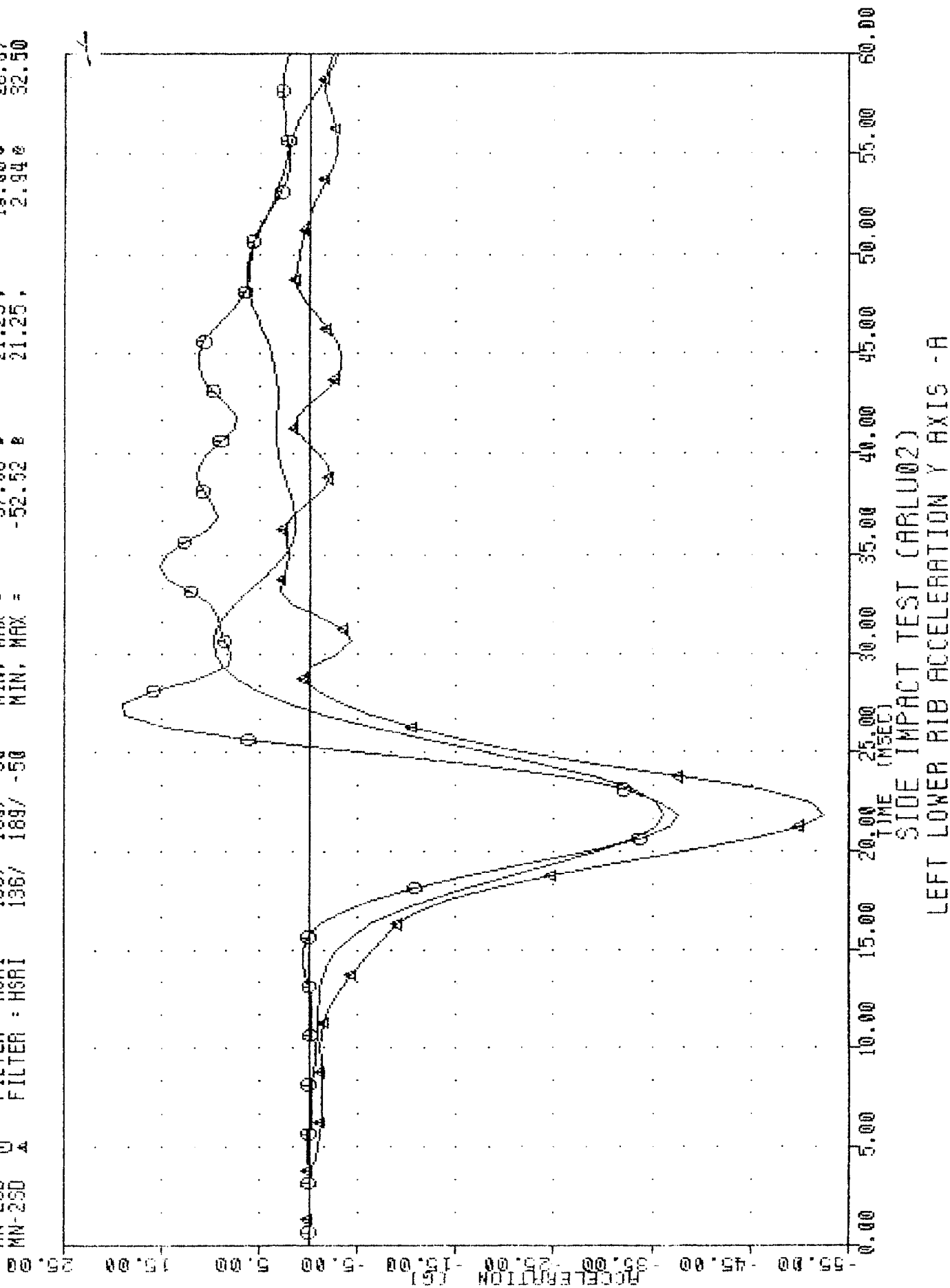


VRTC SRL26 SID THORAX U02 BODY 830 CAL 66 83277 PLOT DATE 5-OCT-83 15:20:44
 LLRYG1 FILTER = HSRI 136/ 189/ -50 MIN, MAX = -36.85 7.91 31.25
 MN-250 0 FILTER = HSRI 136/ 189/ -50 MIN, MAX = -37.68 19.00 26.97
 MN-250 A FILTER = HSRI 136/ 189/ -50 MIN, MAX = -52.52 2.94 32.50

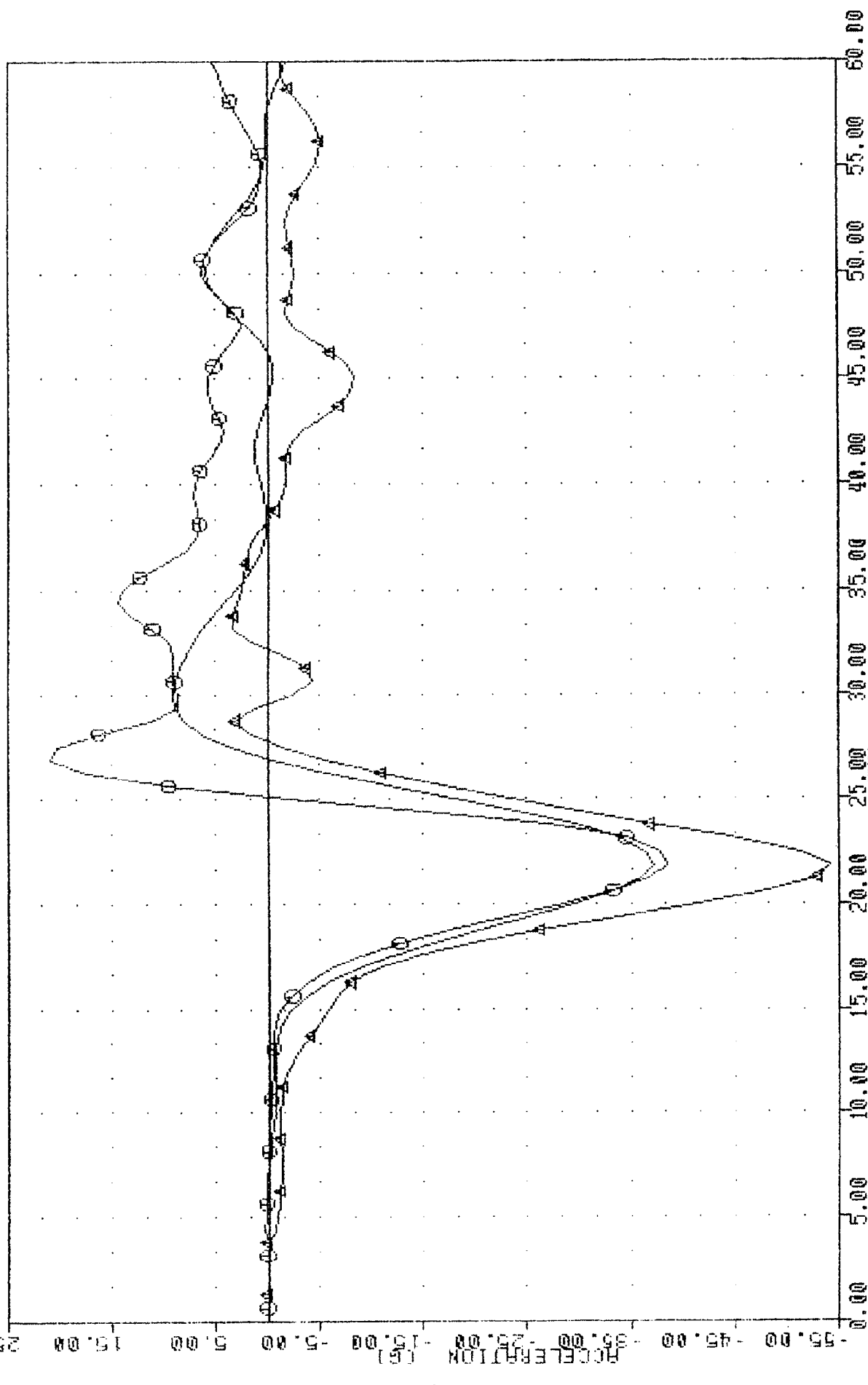


SIDE IMPACT TEST (CARLU02)
 LEFT LOWER RIB ACCELERATION Y AXIS -1

VRIC SRL26 . U02CAL66 SID THORAX U02 BODY 830 CAL 66 83277 5-OCT-83 15:21:39
 LLRYGR FILTER : HSRI 136/ 189/ -50 MIN. MAX = -36.23 21.25 30.00
 MN-250 0 FILTER : HSRI 136/ 189/ -50 MIN. MAX = -37.66 21.25 26.87
 MN-250 A FILTER : HSRI 136/ 189/ -50 MIN. MAX = -52.52 21.25 32.50

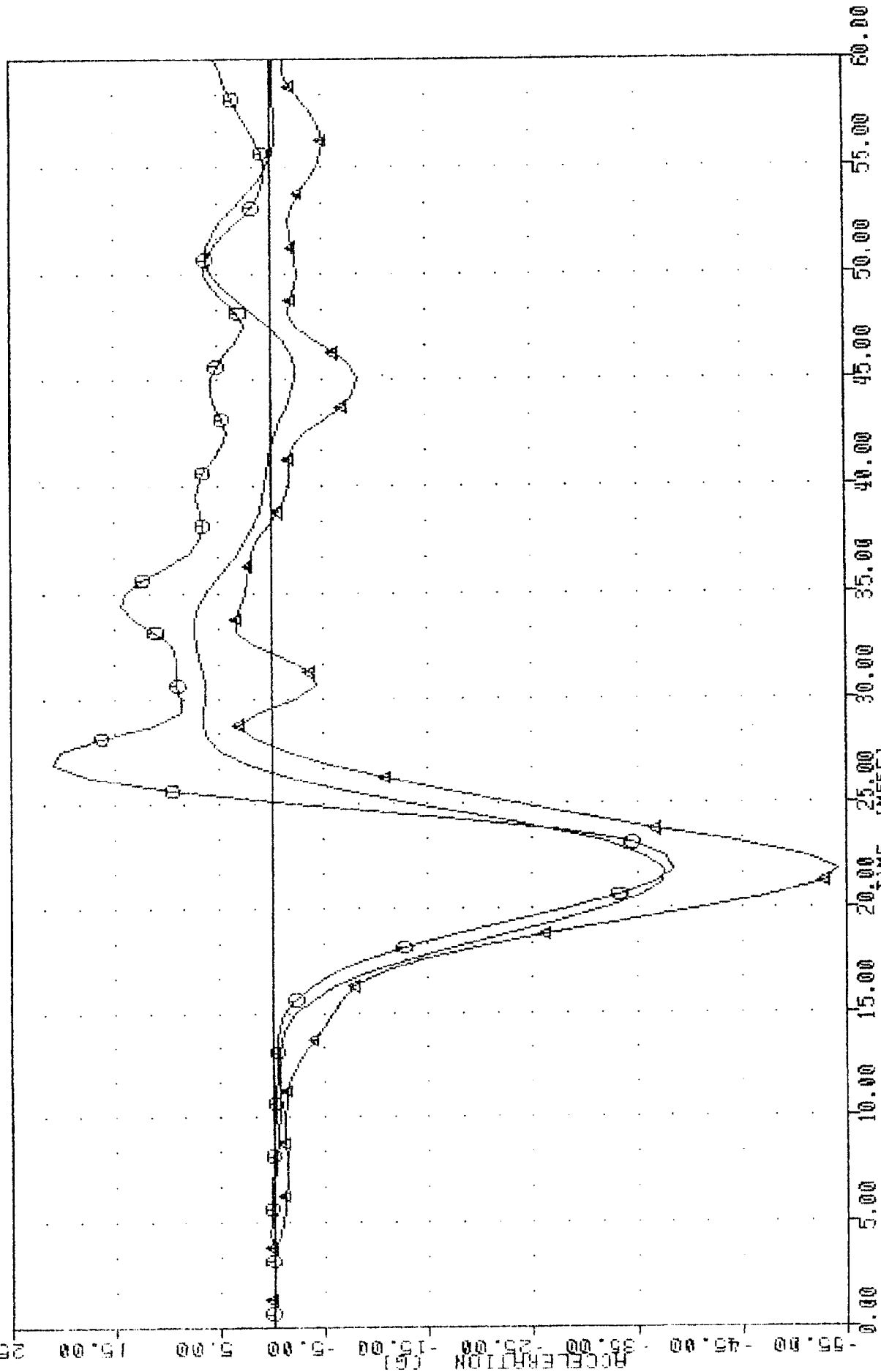


WRIC SRL26 SID THORAX U02 BODY 830 CAL 66 83277 PLOT DATE 5-OCT-83 15:22:34
 LURYG1 FILTER : HSRI 136/ 189/ -50 MIN, MAX : -37.12 8 21.25 8 8.958 29.38
 MN-250 0 FILTER : HSRI 136/ 189/ -50 MIN, MAX : -38.44 8 21.25 8 20.929 26.25
 MN-250 A FILTER : HSRI 136/ 189/ -50 MIN, MAX : -54.08 8 21.25 8 3.318 33.22



SIDE IMPACT TEST (CARLU02)
 LEFT UPPER RIB ACCELERATION Y AXIS -1

VPTC 3RL26
 LURYGA
 MN-250
 MN-250
 SID THORAX U02 BODY 830 CAL 66 83277
 136/ 189/ -50
 136/ 189/ -50
 136/ 189/ -50
 FILTER = HSRI
 FILTER = HSRI
 FILTER = HSRI
 MIN, MAX =
 MIN, MAX =
 MIN, MAX =
 -37.72
 -38.44
 -54.08
 PLOT DATE 5-OCT-83
 7.40
 20.92
 3.31
 15:23:50
 32.50
 26.25
 33.13



SIDE IMPACT TEST (CARLU02)
 LEFT UPPER RIB ACCELERATION Y AXIS -A