DOT 178

SIDE IMPACT AGGRESSIVENESS ATTRIBUTES

MDB-TO-CAR SIDE IMPACT TEST OF A 26° CRABBED MOVING DEFORMABLE BARRIER TO A 1982 VOLKSWAGEN RABBIT AT 38.5 MPH

PREPARED BY:
VEHICLE RESEARCH AND TEST CENTER
ST. RT. 33 LOGAN COUNTY
EAST LIBERTY, OHIO 43319

FINAL REPORT
NOVEMBER 1984

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

Prepared By: Laura Bell

L. J. Bell
Project Engineer
Transportation Research Center of Ohio

Approved By: Richard W. Runyon

R. W. Runyon
Project Manager
Transportation Research Center of Ohio

Report Accepted By: M. W. Monk

M. W. Monk
Project Engineer
Vehicle Research & Test Center

Report Accepted By: _____

T. MacLaughlin
Project Manager
Vehicle Research & Test Center

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle	5. Report Date
SIDE IMPACT AGGRESSIVENESS ATTRIBUTES MDB-TO-CAR SIDE IMPACT TEST OF A 26° CRABBED MOVING DEFORMABLE BARRIER TO A 1982 VOLKSWAGEN RABBIT AT 38.5 MPH	NOVEMBER 1984
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
L. Bell, Project Engineer, TRCO	841015
9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
Vehicle Research and Test Center St. Rt. 33, Logan County East Liberty, Ohio 43319	11. Contract or Grant No. DTNH22-82-A-08401
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration 400 Seventh Street, S.W. Washington, DC 20590	FINAL REPORT October-November 1984
	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

This test report documents one of a series of twelve crash tests to evaluate the side impact aggressiveness attributes of various deformable barrier face configurations. The configurations to be used are designated as "Lowered Stiffness", "Altered Profile" and "Lowered Bumper". Testing was conducted on a 1982 Volkswagen Rabbit 2-door hatchback at the TRCO Crash Test Facility, East Liberty, Ohio. The test vehicle was structurally unmodified but contained additional padding on the driver's side door, the left rear quarter panel and the left rear side header. The test vehicle was impacted on the left side by a moving deformable barrier designated as "Altered Profile", crabbed to 26°, at 38.5 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 passenger position. The test date was October 15, 1984 and the ambient temperature was 70° F.

17. Key Words	18. Distribution Statement
Occupant Response Moving Barrier Crash Testing Padding Modifications	Available from: Technical Reference Division, National Highway Traffic Safety Administration Room 5108, Nassif Building 400 Seventh Street, S.W. Washington, DC 20590

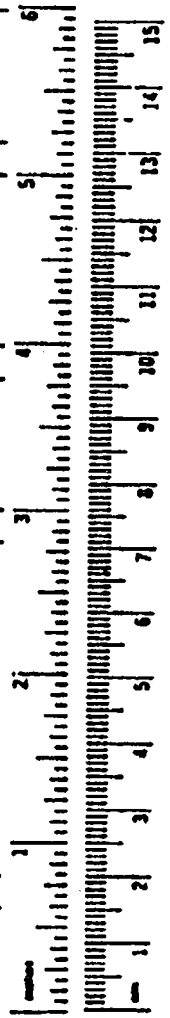
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	160	

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

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 (2000 lb)	0.9	metric ton	t
	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 (10 000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	metric ton (1000 kg)	1.1	short tons	
	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

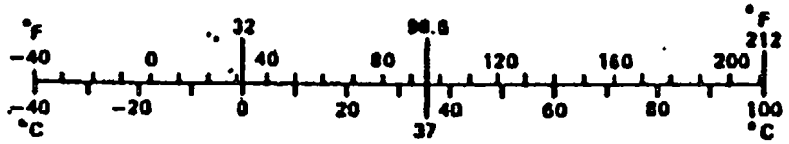


TABLE OF CONTENTS

LIST OF PHOTOGRAPHS

LIST OF PHOTOGRAPHS CONTD

SECTION 1.0
PURPOSE AND INTRODUCTION

PURPOSE

The main purpose of this test was to evaluate the side impact aggressiveness of a deformable barrier face designated as "Altered Profile". In all, there will be twelve crash tests involving deformable barrier faces designated as "Lowered Stiffness", "Altered Profile" and "Lowered Bumper". The vehicle was tested using conditions not currently contained in a Federal Motor Vehicle Safety Standard.

INTRODUCTION

A stationary 1982 Volkswagen Rabbit 2-door hatchback was impacted on the left side by a Moving Deformable Barrier (MDB) on October 15, 1984. The barrier face was designated as "Altered Profile". In order to obtain the desired stiffness of 45 psi, 33 holes with a nominal diameter of 3 inches were drilled into the aluminum honeycomb, equally spaced throughout the back of the barrier face. The test was to simulate an intersection collision with the striking vehicle traveling at 35 mph and the struck vehicle traveling at 17.5 mph. The orientation angle of the striking vehicle was 90° 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 39.1 mph with the MDB's wheels crabbed clockwise to 26°. The actual test speed was 38.5 mph and the actual impact point was 33.5 inches forward of the midpoint of the Volkswagen Rabbit's wheelbase.

The test vehicle was structurally unmodified. Additional padding was added to the vehicle at the driver's door, the rear quarter panel and the rear side header.

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.

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: Volkswagen of America, Inc.

MAKE/MODEL: Volkswagen Rabbit VIN: 1VWBB0175CV037709

BODY STYLE: 2-Door Hatchback MODEL YEAR: 1982

NHTSA NO.: R & D COLOR: Black

ENGINE DATA: TYPE: Inline CYLINDERS: 4 DISPLACEMENT 1600 cc

TRANSMISSION DATA: 4 Speed Manual

DATE VEHICLE RECEIVED: 9/28/84 ODOMETER READING: 25936

DEALER'S NAME AND ADDRESS: NA

ACCESSORIES:

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

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

VEHICLE MANUFACTURED BY:

DATE OF MANUFACTURE:

GVWR: LBS.,

GAWR: FRONT LBS., REAR LBS.

VEHICLE TIRE DATA

RECOMMENDED COLD TIRE PRESSURE: FRONT 27 psi; REAR 31 psi

TIRES ON VEHICLE (MFGR. & LINE, SIZE): Goodyear P155 80 R 13

BIAS PLY, BELTED, OR RADIAL: Radial

PLY RATING: 3

IS SPARE TIRE "SPACE SAVER"? NA

IS SPARE TIRE STANDARD EQUIPMENT? NA

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

RIGHT FRONT	670 LBS.	RIGHT REAR	370	LBS.
LEFT FRONT	680 LBS.	LEFT REAR	330	LBS.
TOTAL FRONT WEIGHT	1350 LBS.	(65.9 % OF TOTAL VEHICLE WEIGHT)		
TOTAL REAR WEIGHT	700 LBS.	(34.1 % OF TOTAL VEHICLE WEIGHT)		
TOTAL DELIVERED WEIGHT	2050 LBS.			

VEHICLE ATTITUDE (ALL DIMENSIONS IN INCHES):

DELIVERED ATTITUDE:	RF 23 15/16	;LF 24	;RR 24 1/2	;LR 24 1/2
PRE-TEST ATTITUDE:	RF 23 1/8	;LF 23 3/8	;RR 21 1/4	;LR 21 5/8
POST-TEST ATTITUDE:	RF 21 3/8	;LF 26 1/4	;RR 20 1/4	;LR 20 1/4

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 135 LBS. CARGO:

RIGHT FRONT	720 LBS.	RIGHT REAR	520	LBS.
LEFT FRONT	760 LBS.	LEFT REAR	535	LBS.
TOTAL FRONT WEIGHT	1480 LBS.	(58.4 % OF TOTAL VEHICLE WEIGHT)		
TOTAL REAR WEIGHT	1055 LBS.	(41.6 % OF TOTAL VEHICLE WEIGHT)		
TOTAL TEST WEIGHT	2535 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: 2.0 GALLONS

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

DETAILS OF FUEL SYSTEM: DNA

ELECTRIC FUEL PUMP: No FUEL INJECTION: Yes

DOES ELECTRIC FUEL PUMP OPERATE WITH IGNITION SWITCH "ON" AND THE ENGINE NOT OPERATING? DNA

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: P 155 80 R 13 LOAD RANGE X B, C,

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

NUMBER OF OCCUPANTS (DESIGNATED SEATING CAPACITY): 2 FRONT
2 REAR
4 TOTAL

CARGO LOAD 135 LBS.

TOTAL 735 LBS.

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

TEST CONDITIONS

TEST NUMBER: 841015

DATE OF TEST: October 15, 1984 TIME OF TEST: 14:15

WIND VELOCITY: 5-10 mph 153° SE HUMIDITY: DNA

AMBIENT TEMPERATURE AT IMPACT AREA: 70° F

TEMPERATURE IN OCCUPANT COMPARTMENT: 70° F

SUBJECT VEHICLE DATA

	ACTUAL	INTENDED
VEHICLE TEST WEIGHT (LBS.)	2535	2533
MDB TEST WEIGHT (LBS.)	2990	3000
MDB VELOCITY (MPH)*	38.5	39.1
IMPACT POINT (INCHES)**	33.5	37.0

DUMMIES

	DRIVER	MIDDLE PASSENGER	RT. FRONT PASSENGER	LEFT REAR PASSENGER	RT. REAR PASSENGER
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 vehicle's wheelbase.

VISIBLE DUMMY CONTACT POINTS:

	DRIVER 06	PASSENGER U02
Head	Barrier Plate, Roof, Passenger Seat Head Rest, Left Inner Panel	Side Header, Roof, Hatchback Frame
Chest	Left Inner Door Panel	Left Rear Quarter Panel
Abdomen	Left Inner Door Panel	Left Rear Quarter Panel
Left Knee	Left Inner Door Panel	Left Rear Quarter Panel
Right Knee	Left Knee	Left Knee

DOOR OPENING:

	LEFT	RIGHT
Front	DNA*	Easy
Rear	DNA	DNA

SEAT MOVEMENT:

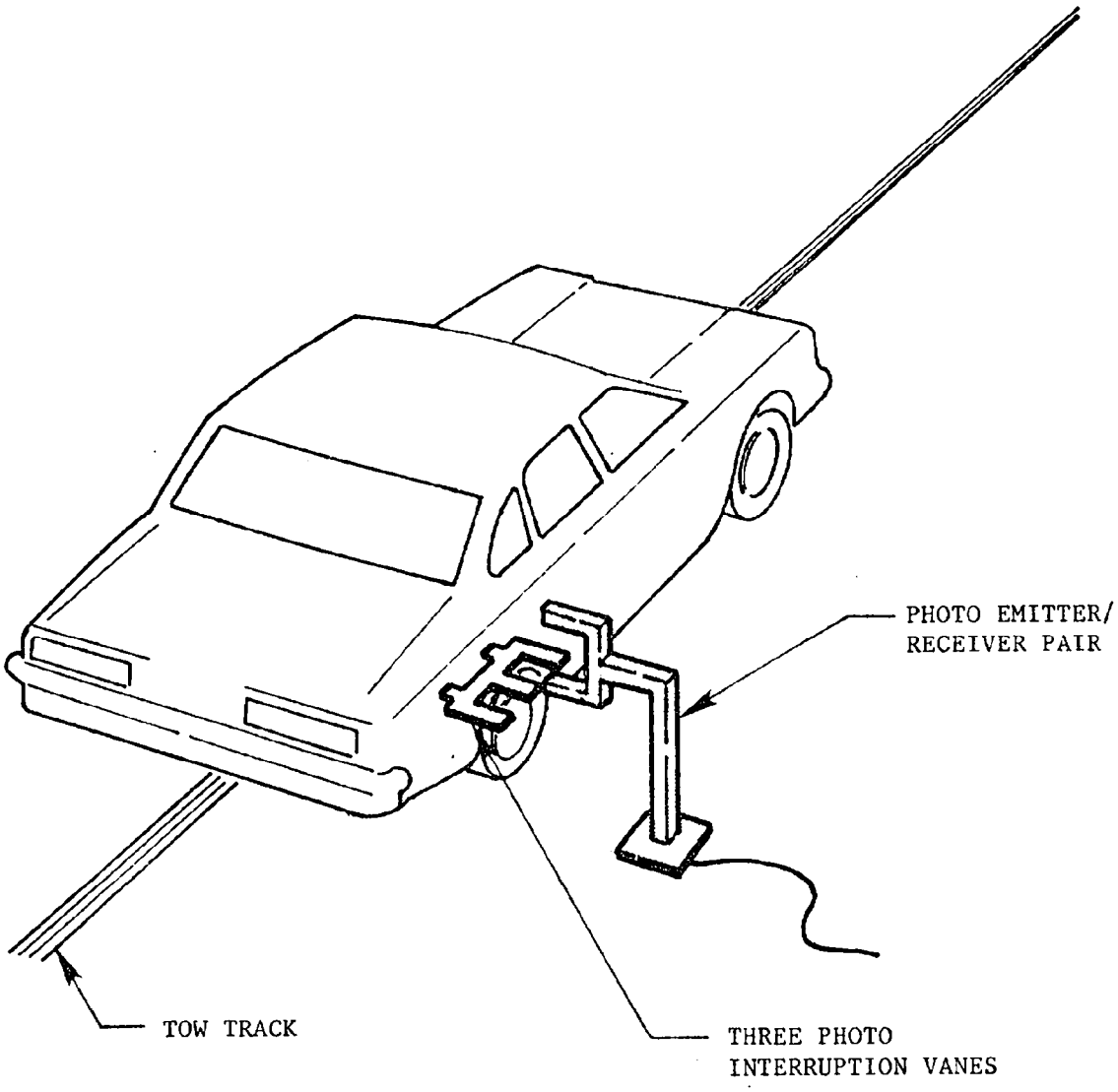
	SEAT BACK FAILURE	SEAT SHIFT
Front	Yes	No
Rear	No	No

GLAZING DAMAGE: Both left side windows shattered; windshield cracked on driver's side only.

OTHER NOTABLE IMPACT EFFECTS:

*Driver's door was to remain closed for subsequent door opening effort studies.

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
= 2050 + 2 X 174 + 135 lbs.
= 2533 lbs.

To achieve test weight, the exhaust system and battery were removed and 2.0 gallons of Stoddard Solvent were added in the fuel tank. The weight of the test vehicle was measured by placing each wheel on a Loadmeter Corporation Hiway Loadometer.

*Unloaded Delivered Weight = Measured Weight + Estimated 10 Gallons Fuel
= 1990 + 60 lbs.
= 2050 lbs.

TEST ANOMALIES

There was a loose connection on the passenger's Left Lower Rib accelerometer, LLRYG3. See the following o'graph.

The cable to the Left Front Door accelerometer in Position 8, LFDYG3, broke during the test.

LLRYG3

SECTION 3.0

DATA REQUIRED BY R & D

The following pages are included in this section:

1. Dummy temperature control and position 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

SIDE IMPACT DUMMY	DRIVER DSP	REAR PASSENGER DSP
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: ___ FIXED
_X_ ADJUSTABLE

TECHNICIANS:
1. R. Benavides
2. J. Clarridge
3. P. Clay

POSITIONING DATE: 10/15/84

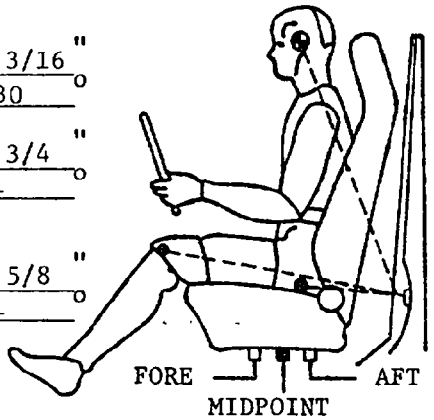
AMBIENT TEMP.: 56° F. TIME: 7:27

DRIVER DUMMY # 06

HEAD 20 3/16 "
TARGET* -30 °

KNEE 31 3/4 "
JOINT 101 °

APPROX.
"H" 18 5/8 "
POINT 121 °

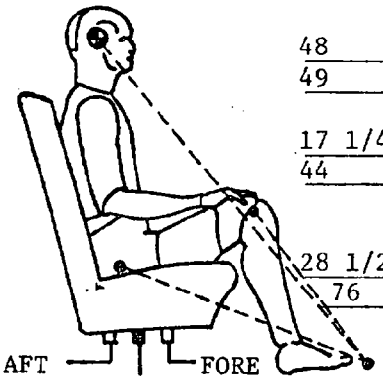


REAR PASSENGER DUMMY # U02

48 "HEAD
49 °TARGET**

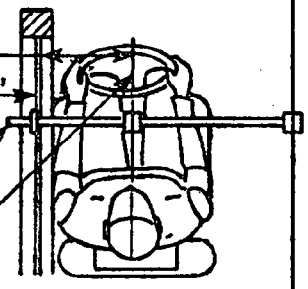
17 1/4 "KNEE
44 °JOINT

APPROX.
28 1/2 " "H"
76 °POINT



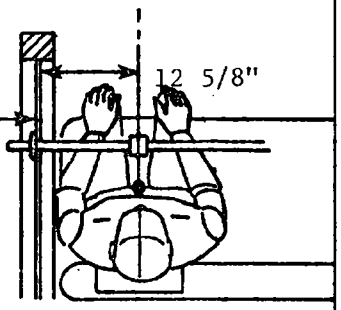
DOOR
GLASS
HEIGHT*** 12 1/2"
9 9/16"

LATERAL BAR
ADJUSTABLE
POINTER



DRIVER
DUMMY #
06

DOOR
GLASS
HEIGHT ___DNA

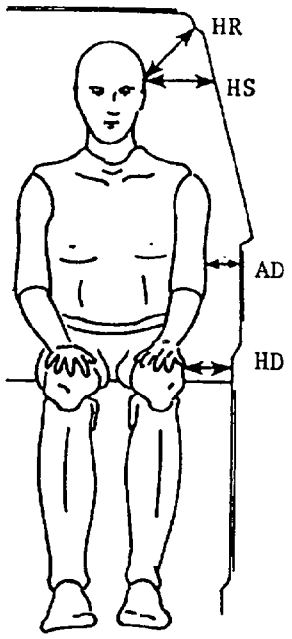


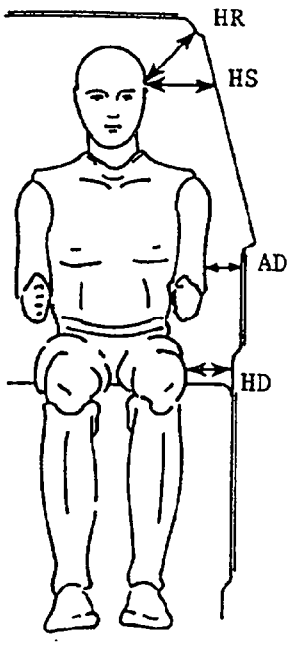
PASSENGER
DUMMY #
U02

*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.



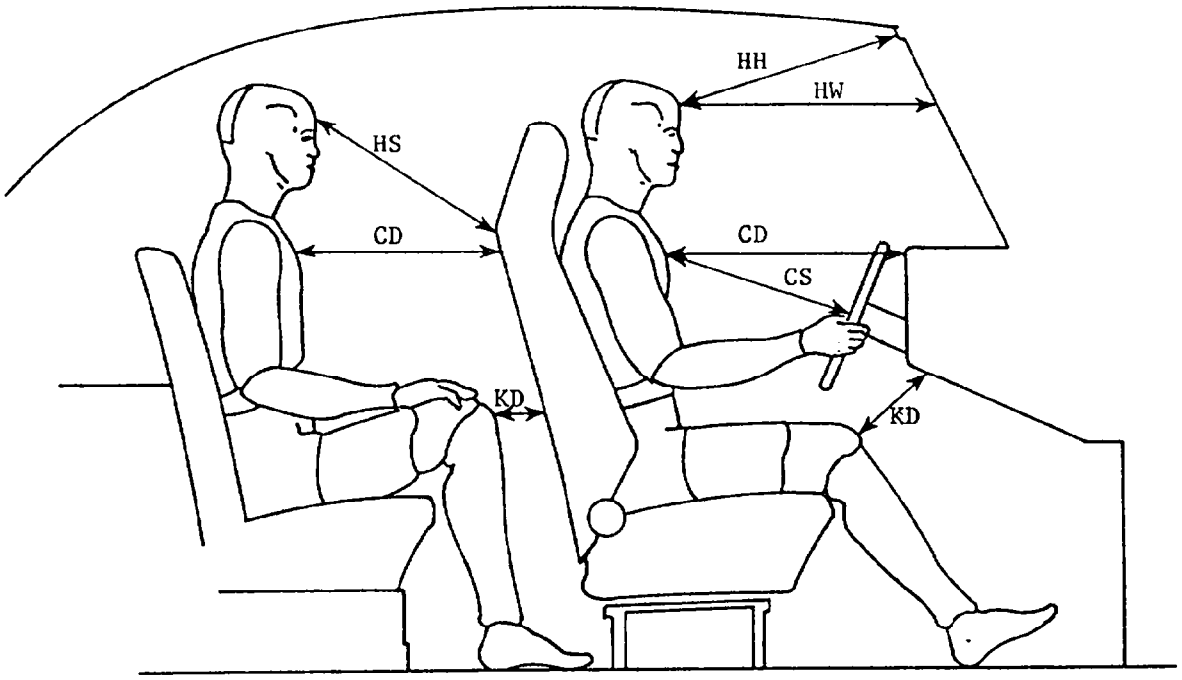


	DRIVER 06	PASSENGER U02
HR	6 3/4	5 9/16*
HS	8 3/4	8 1/4
AD	1 1/4	1 1/2*
HD	2 1/4	3 3/16*

ALL MEASUREMENTS IN INCHES

*Measurements were made from the dummy to the modified padding.

DUMMY LATERAL CLEARANCE DIMENSIONS



	DRIVER 06	PASSENGER U02
HH	16 5/16	DNA
HW	19 11/16	DNA
HS	DNA	24 3/8
CD	20 1/16	18 3/16
CS	13 1/8	DNA
KDL	4 7/16	2 7/8
KDR	5 3/16	2 5/8

ALL MEASUREMENTS IN INCHES

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

DUMMY KINEMATIC SUMMARY

DRIVER

During impact, the dash panel below the steering column burst inward hitting the dummy's knees. The left hip of the dummy contacted the inner panel as the door caved in. As the buttocks swung to the right, the dummy's left shoulder and chest contacted the window sill and door panel. The head went outside the vehicle's boundaries, striking the top of the barrier face plate. The dummy rebounded from the inner door panel, the torso lifting and rotating towards the left. Continuing to rotate, the dummy's head hit the roof. As the driver landed on the far side of the vehicle, the left shoulder contacted the passenger's seat head rest. Sliding down, the head then hit the head rest while the buttocks and lower back skimmed the right inner door panel. The dummy then fell forward, striking his head on the left inner door panel. Final resting position showed the driver sitting upright in the passenger's seat facing left with the legs fully extended across the occupant compartment.

PASSENGER

During impact, the rear quarter panel crushed in, hitting the dummy's left knee and hip. As the dummy rebounded from the door panel towards the right, the dummy's torso leaned left. The passenger's head then hit the side header as the torso continued travelling upward. The head then hit the roof and the hatchback frame. The dummy came to rest in a partially upright position with his upper torso leaning left and his head resting against the left side header.

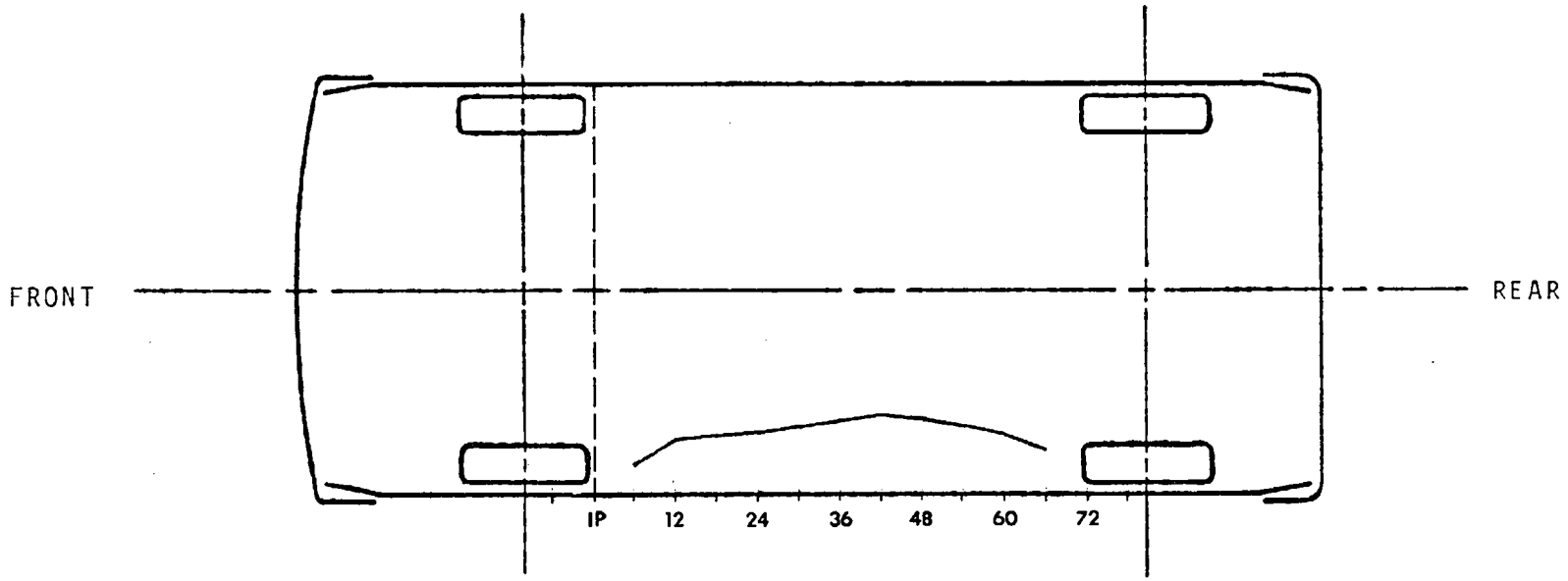
VEHICLE EXTERIOR PROFILES AND STATIC CRUSH

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	11.8	X	X	19.8	19.7	19.7	19.8	19.8	19.8	19.9	19.9	20.1	20.1	20.1	X	X
H-Point	20.5	X	16.9	17.9	19.9	17.9	17.9	17.9	17.9	18.0	18.1	18.3	18.4	18.6	17.4	X
Mid Door	24.8	16.3	17.7	17.6	17.6	17.6	17.6	17.6	17.6	17.7	17.8	17.9	18.1	18.2	18.4	16.6
Window Sill	34.8	20.0	19.6	19.4	19.4	19.3	18.9	19.3	19.4	19.4	19.4	19.5	19.6	19.8	19.9	20.1
Window Top	54.0	X	X	X	X	X	27.3	27.3	27.3	27.3	27.4	27.5	27.6	27.8	28.1	28.2
POST-TEST PROFILE (DISTANCE IN INCHES FROM REFERENCE PLANE**)																
Axle Height	11.8	X	X	24.1	27.8	28.5	29.1	29.9	30.8	31.6	31.3	30.5	28.9	26.6	X	X
H-Point	20.5	X	22.7	26.6	36.6	36.6	36.3	36.1	35.8	35.2	34.8	35.4	34.1	32.3	17.4	X
Mid Door	24.8	20.9	22.9	23.6	33.4	33.4	33.4	33.5	33.2	33.5	33.5	34.2	33.8	32.8	30.7	16.6
Window Sill	34.8	21.1	21.1	21.6	27.0	27.0	24.7	27.0	27.0	27.5	27.8	30.4	30.8	28.4	25.9	23.8
Window Top	54.0	X	X	X	X	X	28.5	28.3	28.1	28.0	28.0	28.0	28.0	28.3	28.1	28.4
STATIC CRUSH (IN)																
Axle Height	11.8	X	X	4.3	8.1	8.8	9.3	10.1	11.0	11.7	11.4	10.4	8.8	6.5	X	X
H-Point	20.5	X	5.8	8.7	16.7	18.7	18.4	18.2	17.9	17.2	16.7	17.1	15.7	13.7	0.0	X
Mid Door	24.8	4.6	5.2	6.0	15.8	15.8	15.8	15.9	15.6	15.8	15.7	16.3	15.7	14.6	12.3	0.0
Window Sill	34.8	1.1	1.5	2.2	7.6	7.7	5.8	7.7	7.6	8.1	8.4	10.9	11.2	8.6	6.0	3.7
Window Top	54.0	X	X	X	X	X	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.5	0.0	0.2

* 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

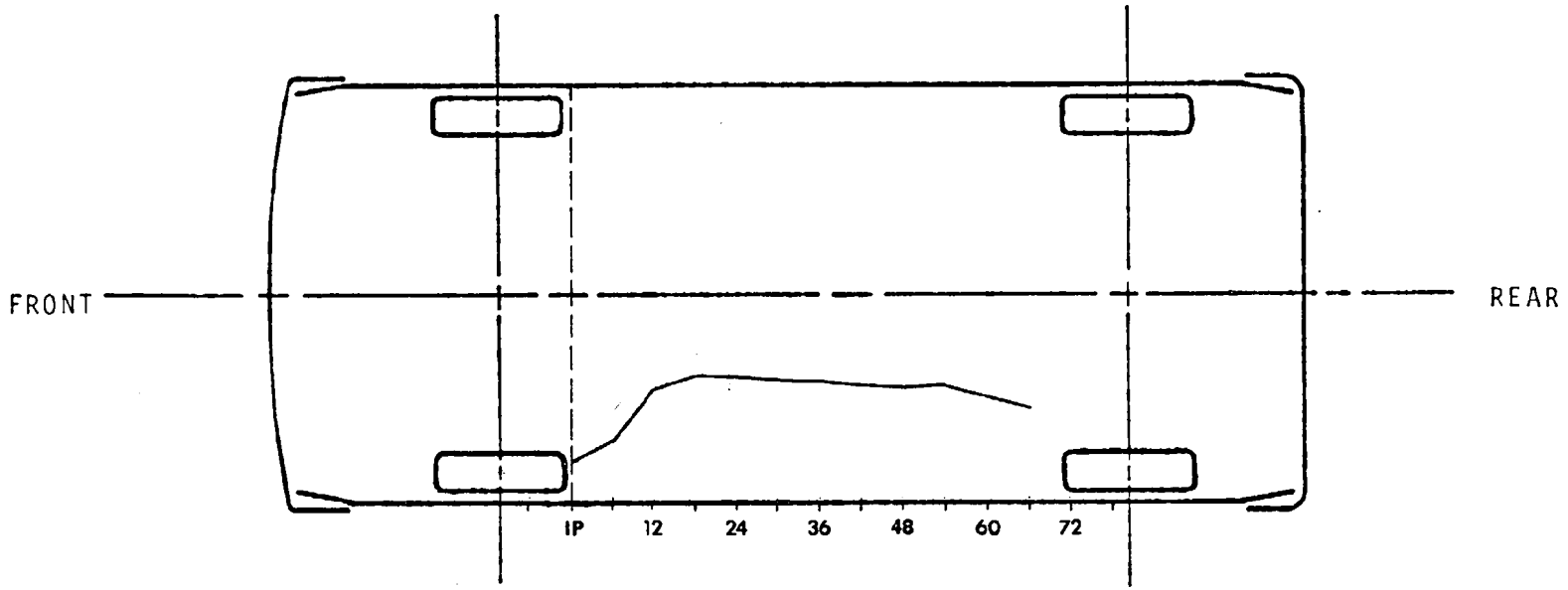


PROFILE LEVEL EQUALS AXLE HEIGHT
IP EQUALS PROJECTED IMPACT POINT

Length of Car = 154.1"
Width of Car = 63.2"

Maximum Crush = 11.7"
Approximate Length of Crush = 60.0"

VEHICLE EXTERIOR STATIC CRUSH PROFILE

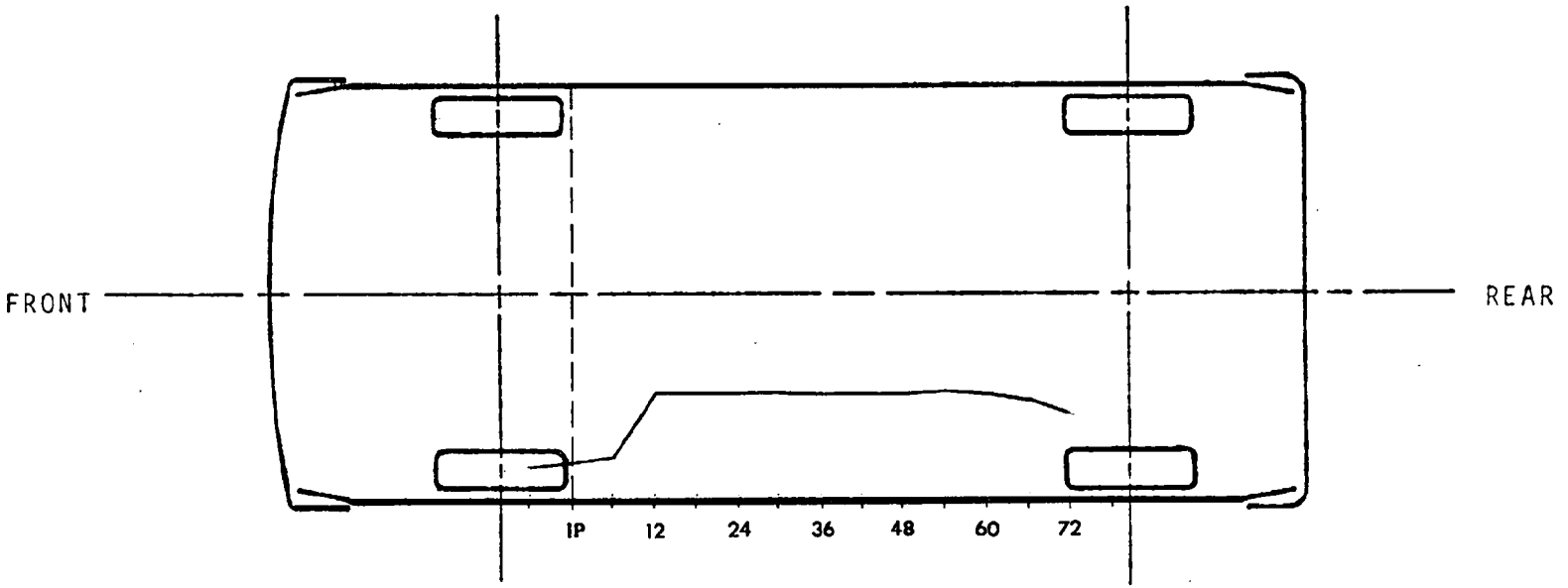


PROFILE LEVEL EQUALS H-POINT HEIGHT
IP EQUALS PROJECTED IMPACT POINT

Length of Car = 154.1"
Width of Car = 63.2"

Maximum Crush = 18.7"
Approximate Length of Crush = 66"

VEHICLE EXTERIOR STATIC CRUSH PROFILE

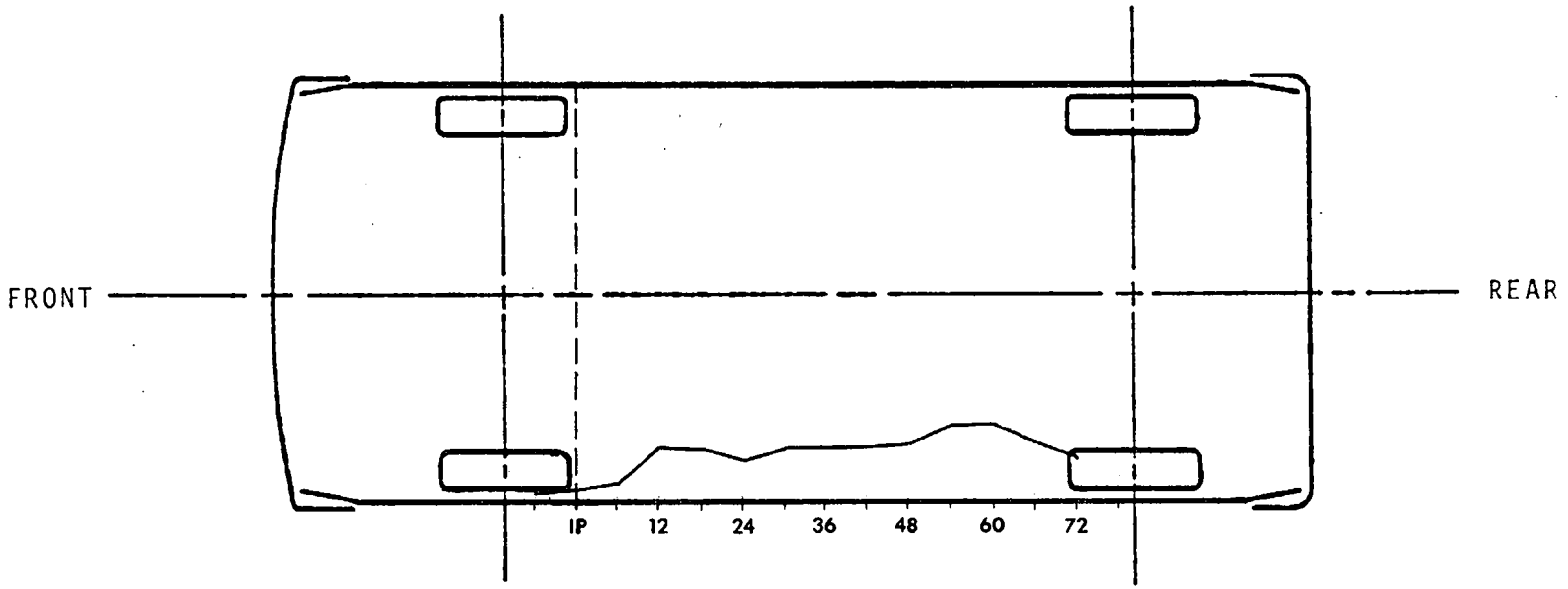


PROFILE LEVEL EQUALS MID-DOOR HEIGHT
IP EQUALS PROJECTED IMPACT POINT

Length of Car = 154.1"
Width of Car = 63.2"

Maximum Crush = 16.3"
Approximate Length of Crush = 78"

VEHICLE EXTERIOR STATIC CRUSH PROFILE

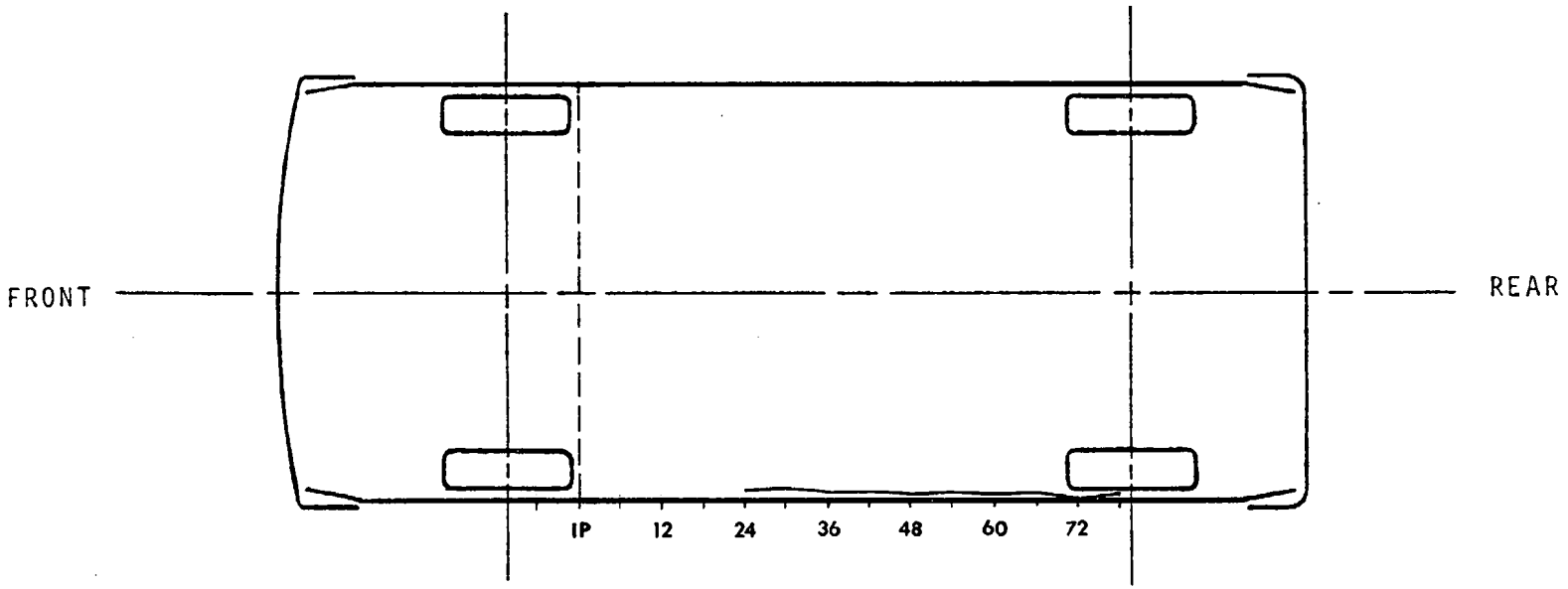


PROFILE LEVEL EQUALS WINDOW SILL HEIGHT
IP EQUALS PROJECTED IMPACT POINT

Length of Car = 154.1"
Width of Car = 63.2"

Maximum Crush = 11.2"
Approximate Length of Crush = 84"

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW TOP HEIGHT
IP EQUALS PROJECTED IMPACT POINT

Length of Car = 154.1"
Width of Car = 63.2"

Maximum Crush = 1.2
Approximate Length of Crush = 54"

SIDE IMPACT DUMMY DATA SUMMARY

	DRIVER DUMMY				PASSENGER DUMMY			
	POSITIVE DIRECTION*		NEGATIVE DIRECTION**		POSITIVE DIRECTION*		NEGATIVE DIRECTION**	
	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
HEAD ACCELERATION								
LONGITUDINAL	42.59	174.63	---	--- δ	23.58	252.63	44.23	57.75
LATERAL	---	--- δ	15.52	27.88	97.03	54.88	14.69	252.63
VERTICAL	---	--- δ	---	--- δ	51.54	62.50	22.73	39.00
RESULTANT		--- @	--- δ			105.00 @	54.88	
HIC	--- from --- to --- δ				854.71 from 50.00 to 65.00			
CHEST ACCELERATION								
UPPER SPINE								
LONGITUDINAL	14.53	65.63	15.48	50.00	---	---×	20.30	68.13
LATERAL (P)***	71.46	31.25	11.77	16.87	52.29	42.50	5.28	23.13
LATERAL (R)***	74.78	31.25	11.01	16.87	54.53	42.50	5.69	23.13
VERTICAL	14.95	55.00	23.84	26.25	6.20	20.00	13.74	61.25
RESULTANT (P)		71.89 @ 31.25				53.66 @ 42.50		
RESULTANT (R)		75.20 @ 31.25				55.84 @ 42.50		
DELTA V (MPH)****		21.8 @ 56.25 (P)				20.1 @ 88.13 (P)		
		23.9 @ 56.88 (R)				21.6 @ 88.13 (R)		
LOWER SPINE								
LONGITUDINAL	51.10	24.38	17.64	29.38	7.18	52.50	14.99	35.63
LATERAL (P)	95.68	26.25	2.76	75.63	64.44	31.88	19.55	66.87
LATERAL (R)	96.91	26.25	0.69	56.88	66.07	31.88	19.25	66.87
VERTICAL	27.34	33.13	10.33	79.38	12.03	47.50	9.19	71.25
RESULTANT (P)		104.73 @ 25.63				65.53 @ 31.88		
RESULTANT (R)		105.54 @ 25.63				67.13 @ 31.88		
DELTA V (MPH)		28.9 @ 97.50 (P)				30.8 @ 60.00 (P)		
		32.1 @ 98.75 (R)				28.8 @ 59.38 (R)		
LEFT UPPER RIB								
LATERAL (P)	54.77	23.13	7.19	73.75	43.97	45.00	1.38	18.13
LATERAL (R)	54.03	23.13	7.04	73.13	43.10	45.00	---	---ε
DELTA V (MPH)		26.2 @ 63.13 (P)				27.6 @ 88.75 (P)		
		25.5 @ 63.13 (R)				28.5 @ 88.13 (R)		
LEFT LOWER RIB								
LATERAL (P)	55.50	35.00	15.48	63.13	47.16	40.00γ	---	---γ
LATERAL (R)	54.60	35.00	14.86	63.13	47.57	40.00	5.94	70.63
DELTA V (MPH)		27.2 @ 58.13 (P)				--- @ --- (P)γ		
		28.2 @ 58.75 (R)				27.4 @ 86.25 (R)		
PELVIS ACCELERATION								
LONGITUDINAL	14.47	98.50	20.05	34.13	9.61	20.63	61.30	29.25
LATERAL	143.09	22.75	47.60	35.00	132.94	30.63	16.64	18.38
VERTICAL	57.15	26.75	6.78	82.13	43.01	32.13	7.16	30.38
RESULTANT		143.96 @ 22.75				137.57 @ 30.63		
DELTA V (MPH)		30.0 @ 33.13				30.9 @ 73.25		

SIDE IMPACT DUMMY DATA SUMMARY CONTD

	DRIVER DUMMY				PASSENGER DUMMY			
	POSITIVE DIRECTION*		NEGATIVE DIRECTION**		POSITIVE DIRECTION*		NEGATIVE DIRECTION**	
	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)
RIB DEFLECTION †	1.07	60.75	---	--- ε	1.42	85.88	---	---ε

* 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

δSee Data Plots

×There were no positive values in the time interval of interest.

εThere were no negative values in the time interval of interest.

γSee TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

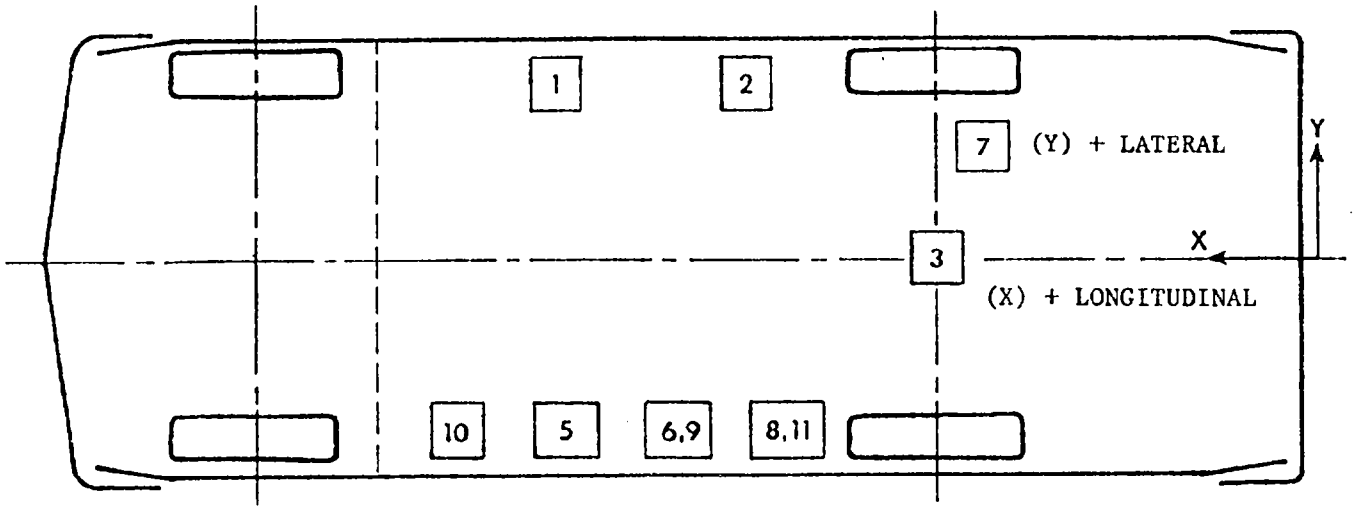
NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION MAX (g)	POSITIVE DIRECTION TIME (msec)	NEGATIVE DIRECTION MAX (g)	NEGATIVE DIRECTION TIME (msec)
1	RIGHT SILL AT FRONT SEAT	83.5	23.5	9.8				
	(LONGITUDINAL)	ΔV = 1.6 mph @ 114.38 msec			7.49	28.25	5.29	19.00
	(LATERAL)	ΔV = 15.6 mph @ 114.38 msec			17.21	24.38	2.86	103.00
	(VERTICAL)				3.24	72.00	6.04	17.25
	(RESULTANT)					17.51 @ 24.38		
2	RIGHT SILL AT REAR SEAT	61.6	23.4	15.8				
	(LONGITUDINAL)	ΔV = 0.6 mph @ 114.38 msec			4.48	71.75	6.06	16.88
	(LATERAL)	ΔV = 20.6 mph @ 114.38 msec			20.97	22.88	1.37	114.38
	(VERTICAL)				11.66	23.75	7.46	29.13
	(RESULTANT)					23.88 @ 23.38		
3	REAR DECK OVER AXLE	32.0	0.0	7.0				
	(LONGITUDINAL)	ΔV = -4.1 mph @ 114.38 msec			2.41	113.75	10.32	39.13
	(LATERAL)	ΔV = 26.3 mph @ 114.38 msec			26.46	30.63	2.42	110.00
	(VERTICAL)				8.06	29.50	9.61	51.50
	(RESULTANT)					27.45 @ 30.25		
4	LEFT SILL AT REAR SEAT	61.2	-23.9	8.0				
	(LATERAL)	ΔV = 19.9 mph @ 46.38 msec			87.13	22.13	15.48	52.63
5	LEFT SILL AT FRONT SEAT	83.2	-23.6	9.8				
	(LATERAL)	ΔV = 8.2 mph @ 68.63 msec			43.90	8.00	35.01	16.50
6	LEFT FRONT DOOR CENTERLINE	80.8	-26.0	22.5				
	(LATERAL)	ΔV = 19.1 mph @ 44.88 msec			133.48	28.50	50.14	21.00
7	RIGHT REAR COMPARTMENT	31.0	15.6	14.0				
	(LONGITUDINAL)				2.02	70.13	7.16	38.50
8	MIDREAR OF LEFT FRONT DOOR	60.6	-26.0	23.0				
	(LATERAL)	ΔV = 24.3 mph @ 8.25 msec			203.86	7.63	71.65	18.00
9	UPPER LEFT FRONT DOOR CENTERLINE	81.8	-25.6	31.8				
	(LATERAL)	ΔV = ---	---	Y	133.29	17.25Y	96.04	11.88Y
10	MIDFRONT OF LEFT FRONT DOOR	99.3	-26.1	21.5				
	(LATERAL)	ΔV = 10.8 mph @ 20.00 msec			65.15	7.38	64.76	25.50
11	UPPER REAR OF LEFT REAR DOOR	70.8	-25.6	31.8				
	(LATERAL)	ΔV = 17.1 mph @ 52.13 msec			82.98	18.50	58.56	14.25

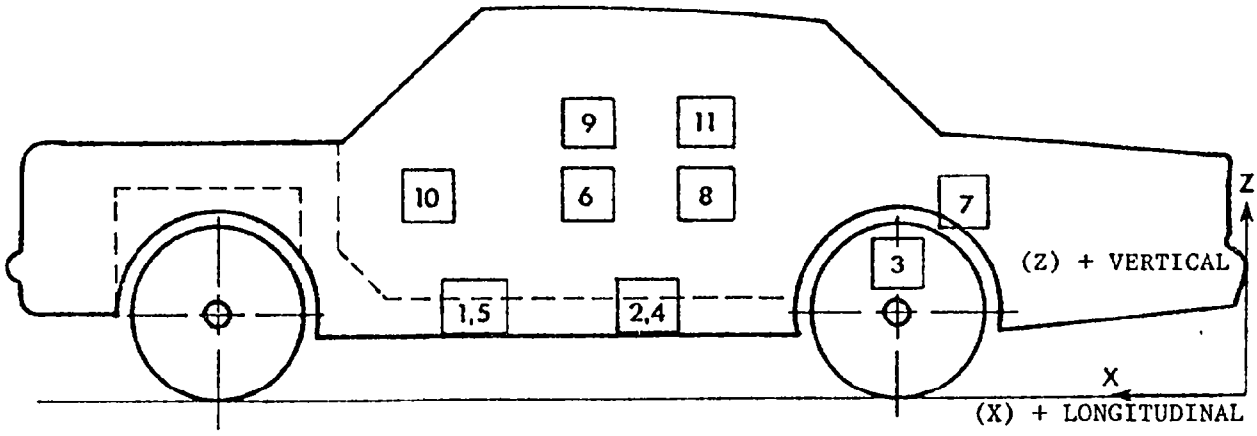
* Reference: X - Rear Bumper (+ Forward), Y - Vehicle Centerline (+ To Right), Z - Ground Level (+ Up)

All measurements of accelerometer locations in inches.

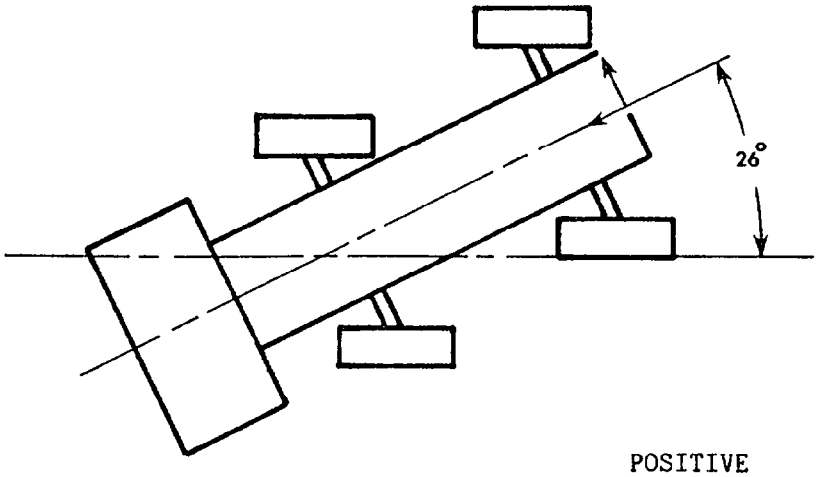
Y See TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS





MOVING BARRIER ACCELEROMETER LOCATIONS AND DATA SUMMARY



NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION MAX (g)	POSITIVE DIRECTION TIME (msec)	NEGATIVE DIRECTION MAX (g)	NEGATIVE DIRECTION TIME (msec)
1	CENTER OF GRAVITY	74.5	0.0	11.5				
	(LONGITUDINAL)	ΔV = -16.4 mph @ 114.38 msec			---	---[x]	13.48	28.25
	(LATERAL)	ΔV = -4.2 mph @ 114.38 msec			1.27	97.38	6.73	40.13
	(VERTICAL)				6.15	53.13	8.69	66.25
	(RESULTANT)					15.18 @ 39.25		
2	FRONT FRAME MEMBER	130.3	0.0	11.3				
	(LONGITUDINAL)	ΔV = -17.6 mph @ 114.38 msec			---	---[x]	13.82	28.50
3	REAR FRAME MEMBER	23.3	0.0	11.5				
	(LONGITUDINAL)	ΔV = -15.7 mph @ 114.38 msec			---	---[x]	13.57	28.13

* 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.

[x] There were no positive values in the time interval of interest.

HIGH SPEED CAMERA INFORMATION

CAMERA NO.	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Overhead	Photosonic 1B	8	437	Vehicle Dynamics
2	Overhead	Photosonic 1B	25	475	Close-up of impact point
3	Onboard MDB	Photosonic 1B	25	503	Close-up of impact point
4	Onboard MDB	Stalex	13	498	Driver kinematics
5	Ground level - right	Photosonic 1B	25	510	Overall view
6	Ground level - left	Photosonic 1B	17	503	Overall view
7	Onboard vehicle	Photosonic 1B	8	795	Driver kinematics - front view
8	Onboard vehicle	Photosonic 1B	8	800	Driver kinematics
9	Onboard vehicle	Photosonic 1B	8	803	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	24'10"	58'8"	45"
6	-20'11"	-11'	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	MFGR.	DATE OF LAST CALIBRATION	SENSITIVITY	DESIRED FULL SCALE (ENGR. UNITS)
BCGXG	Accel	4-202-0001	18845	Bell Howell	5/2/84	0.237 MV/G	50 G
BCGYG	Accel	4-202-0001	18858	Bell Howell	5/2/84	0.236 MV/G	50 G
BCGZG	Accel	4-202-0001	18857	Bell Howell	5/2/84	0.239 MV/G	50 G
BFCXG	Accel	4-202-0001	18240	Bell Howell	5/2/84	0.239 MV/G	50 G
BRCXG	Accel	4-202-0001	19022	Bell Howell	5/2/84	0.220 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

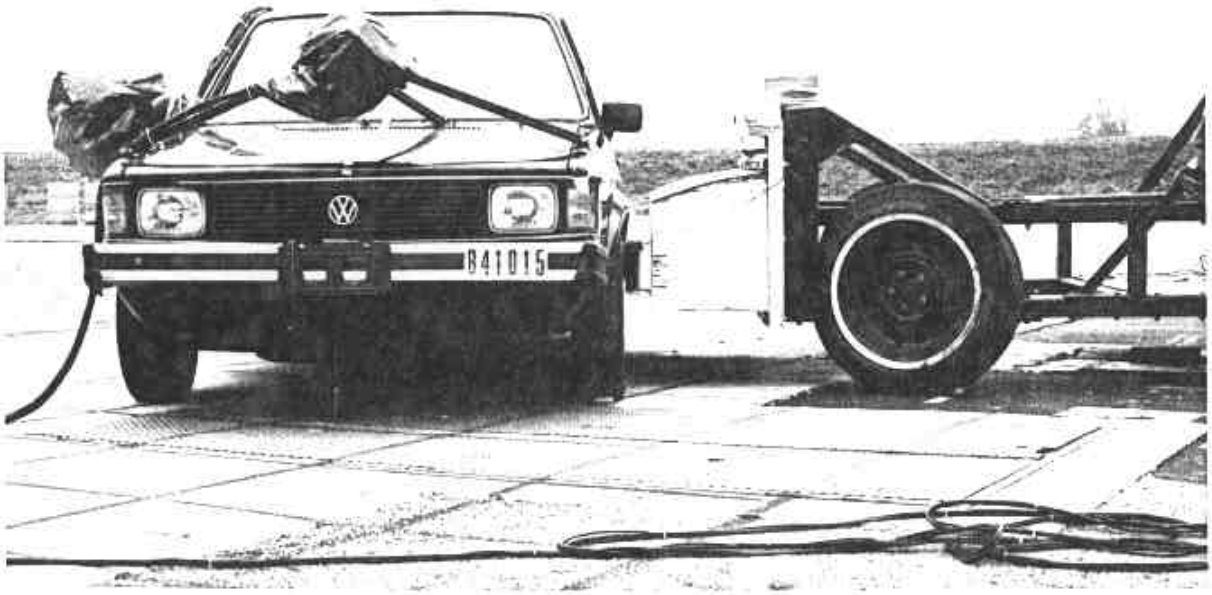


Figure A-4. PRE-TEST OVERALL - VIEW 4

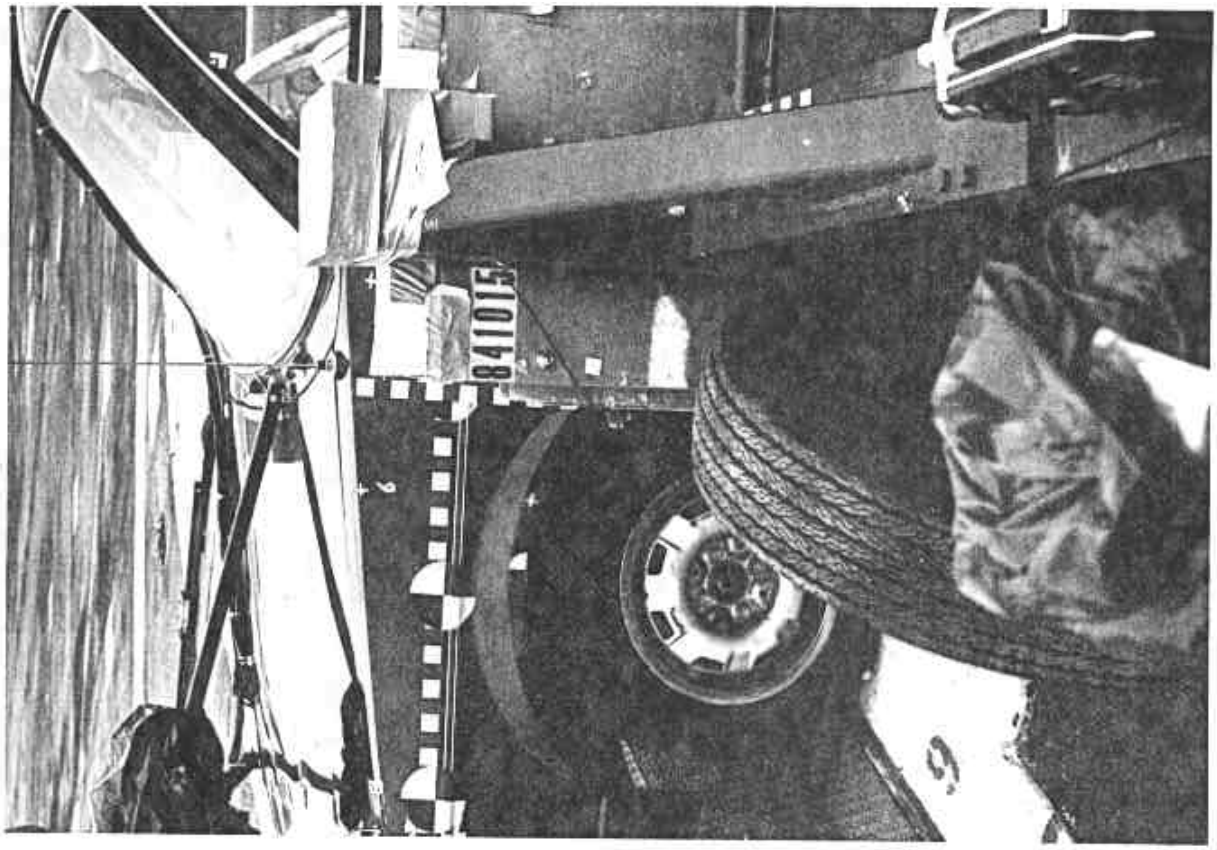


Figure A-5. PRE-TEST CLOSEUP - VIEW 1

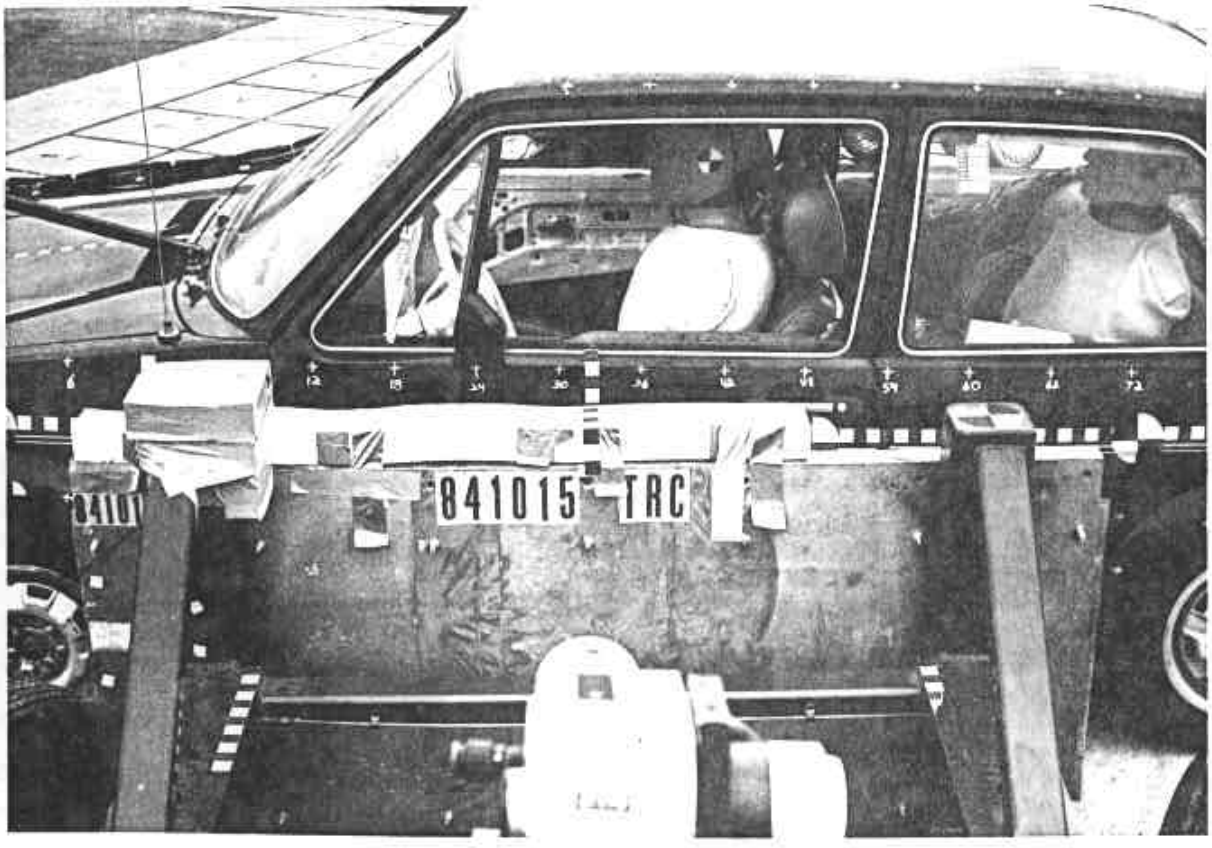


Figure A-6. PRE-TEST CLOSEUP - VIEW 2

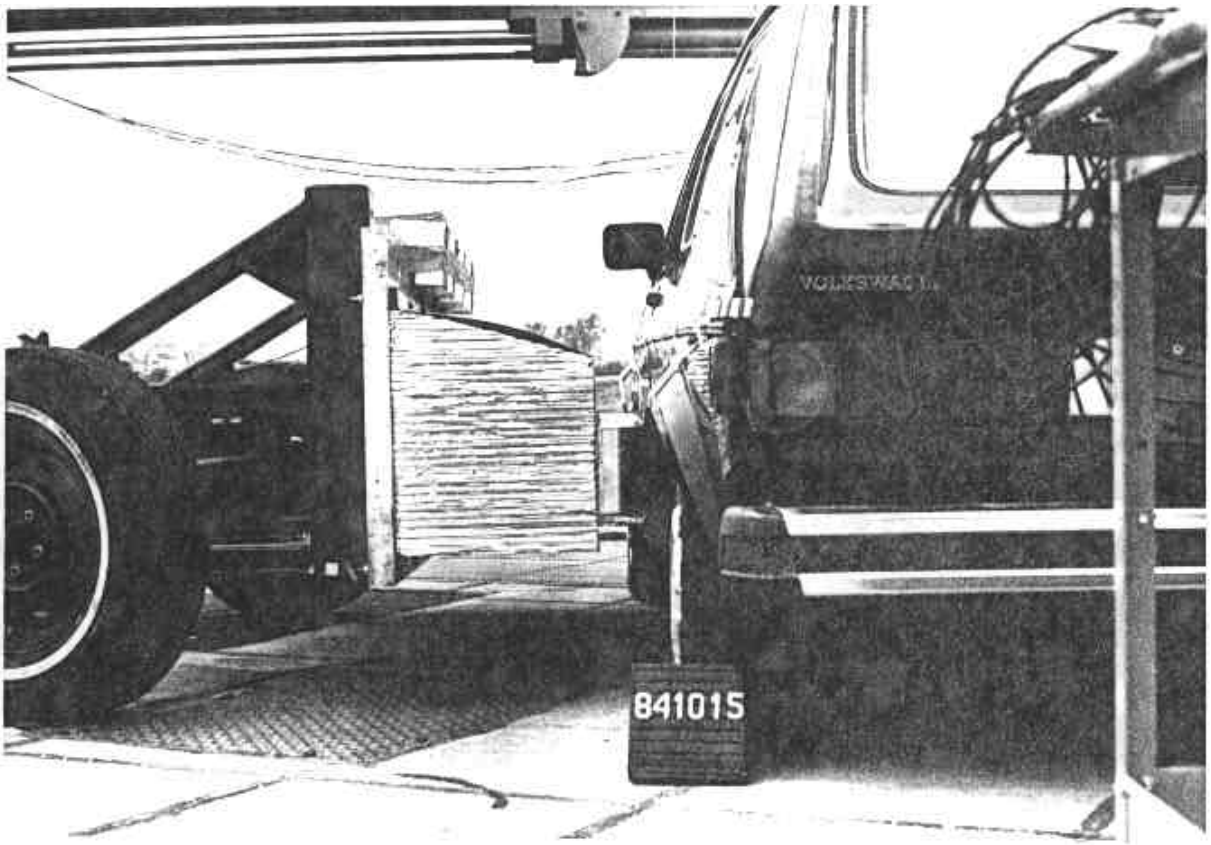


Figure A-7. PRE-TEST CLOSEUP - VIEW 3

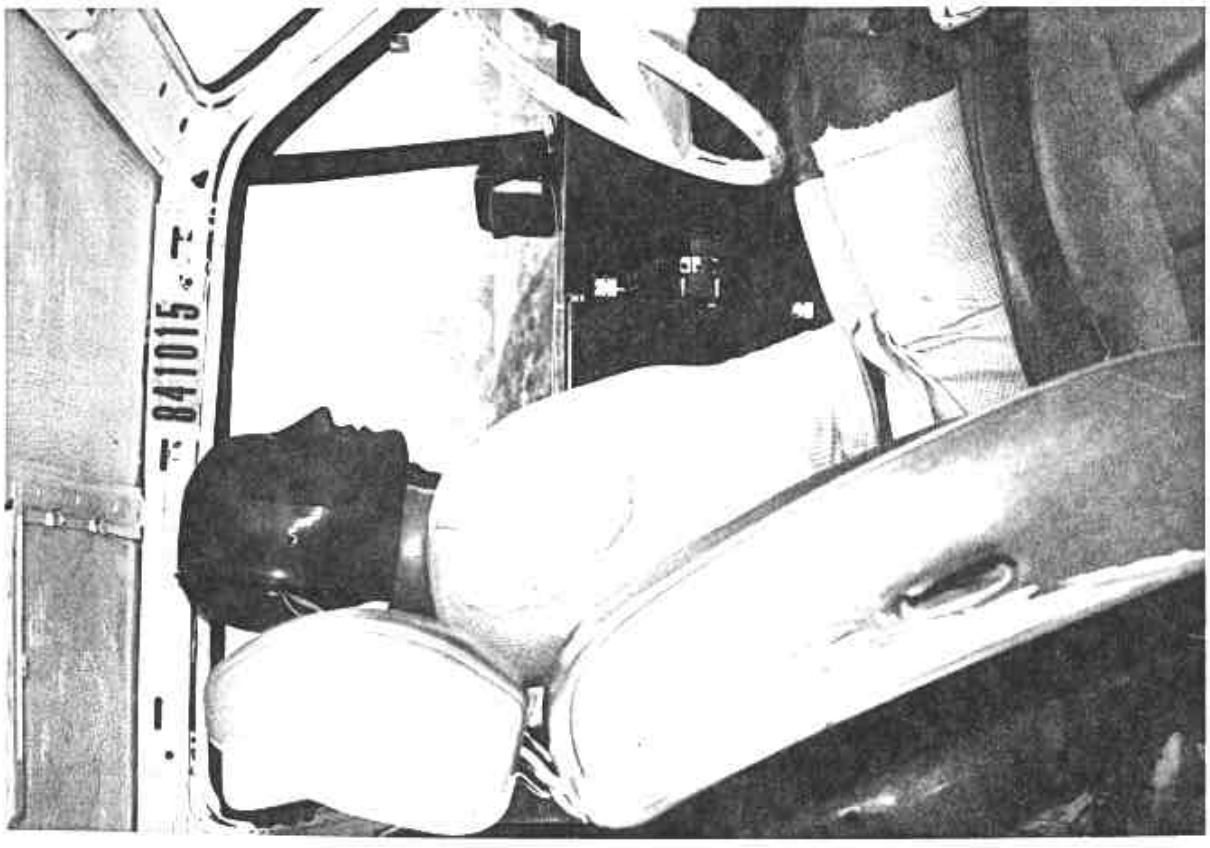


Figure A-8. PRE-TEST DRIVER DUMMY - VIEW 1

Figure A-9. PRE-TEST DRIVER DUMMY - VIEW 2

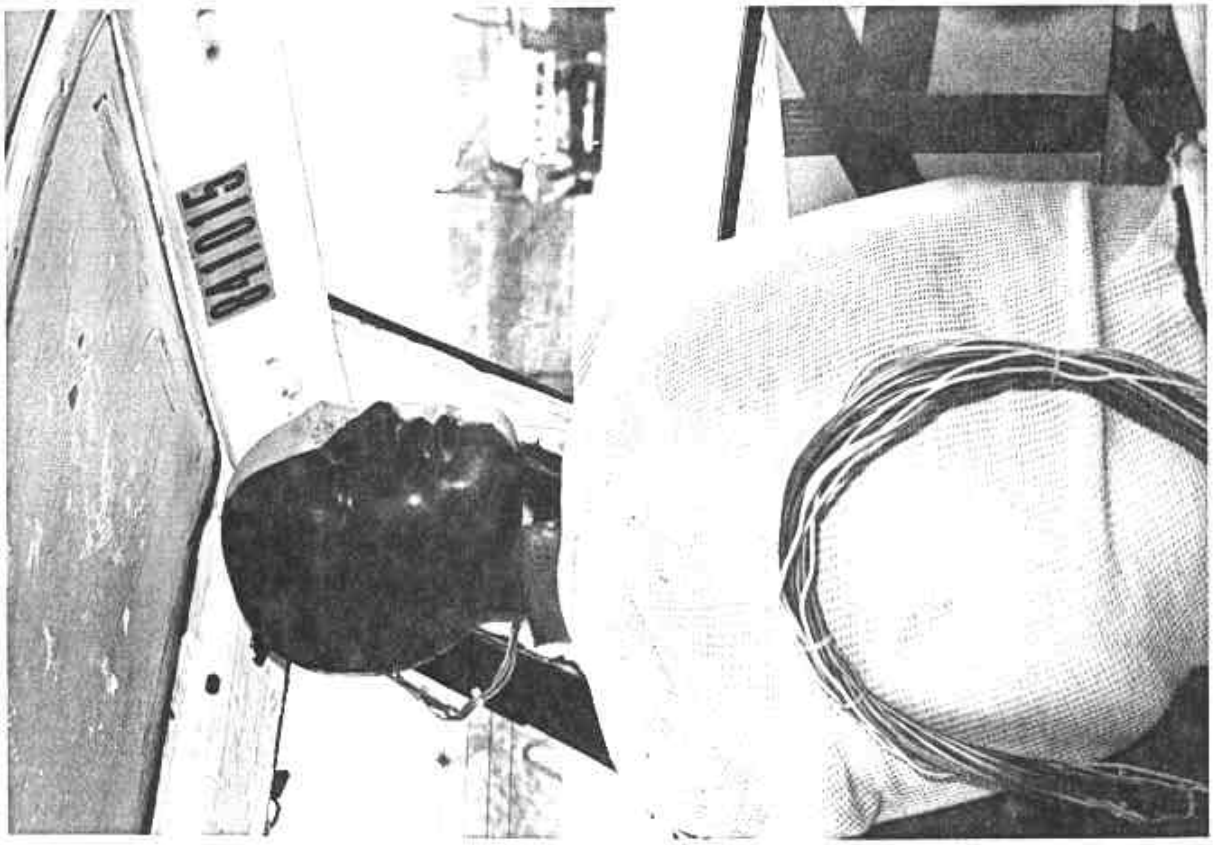


Figure A-10. PRE-TEST PASSENGER DUMMY - VIEW 1

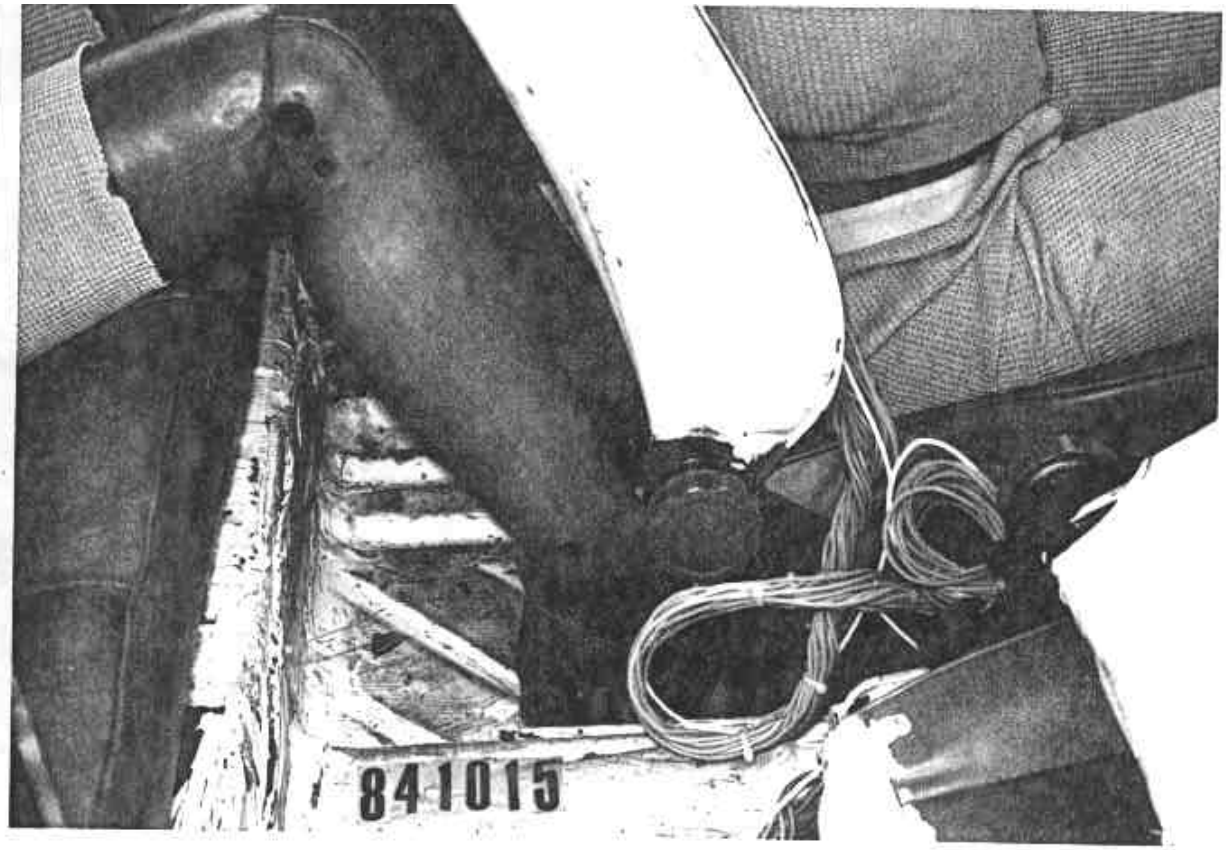


Figure A-11. PRE-TEST PASSENGER DUMMY - VIEW 2

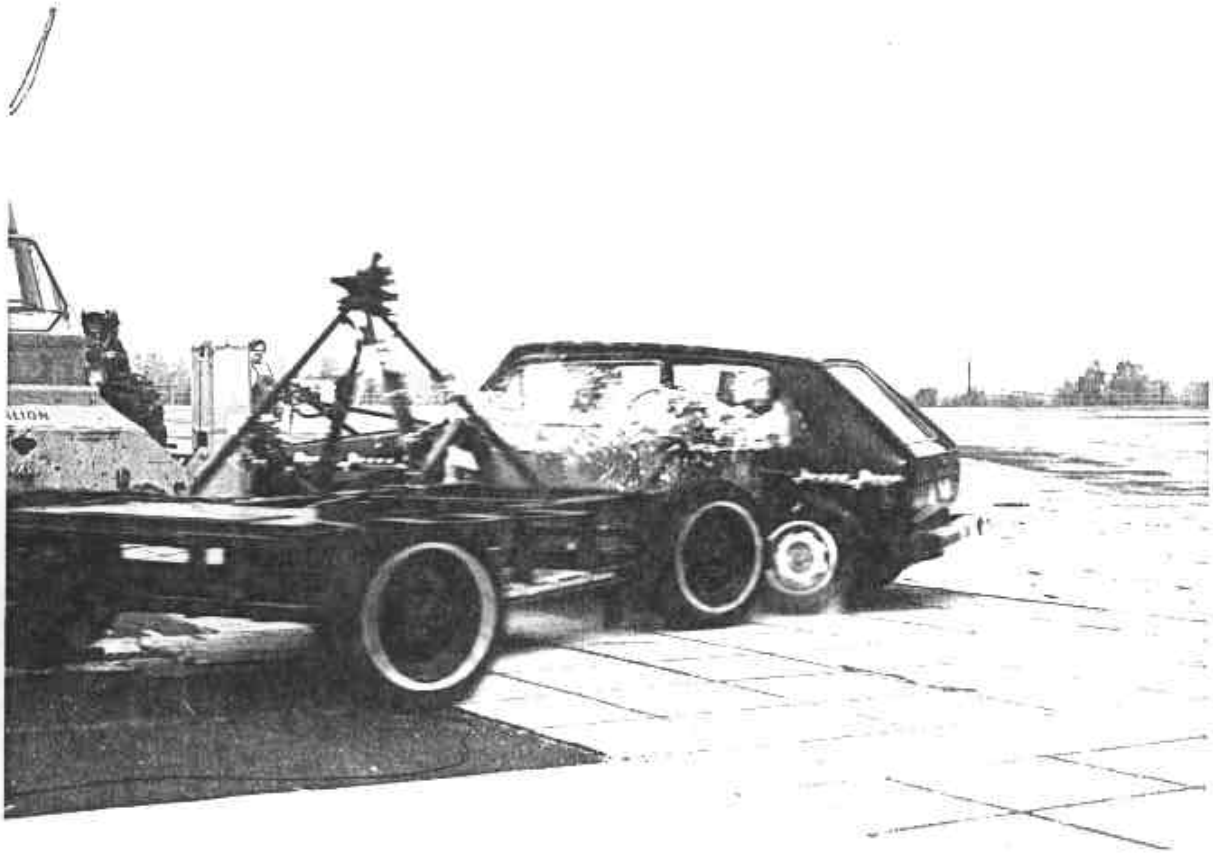


Figure A-12. CRASH EVENT PHOTOGRAPH

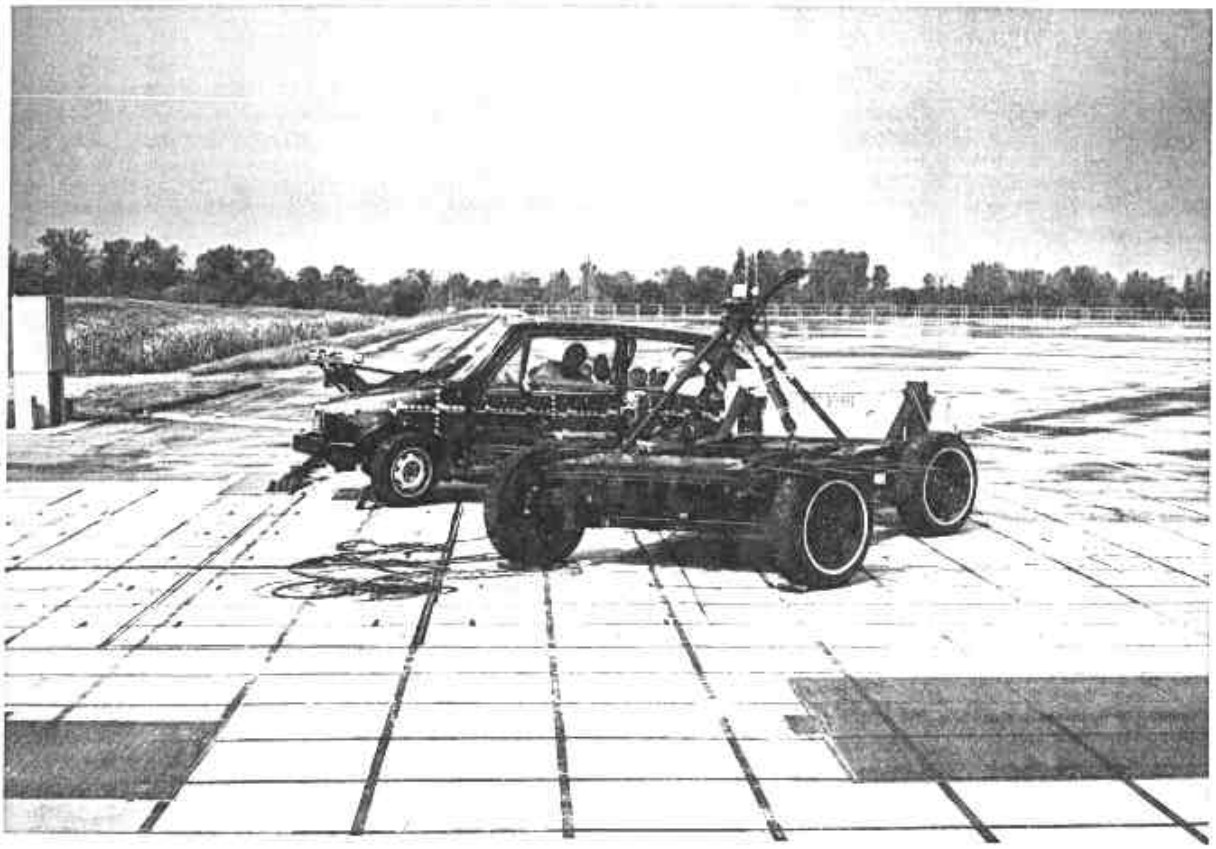


Figure A-13. POST-TEST OVERALL - VIEW 1

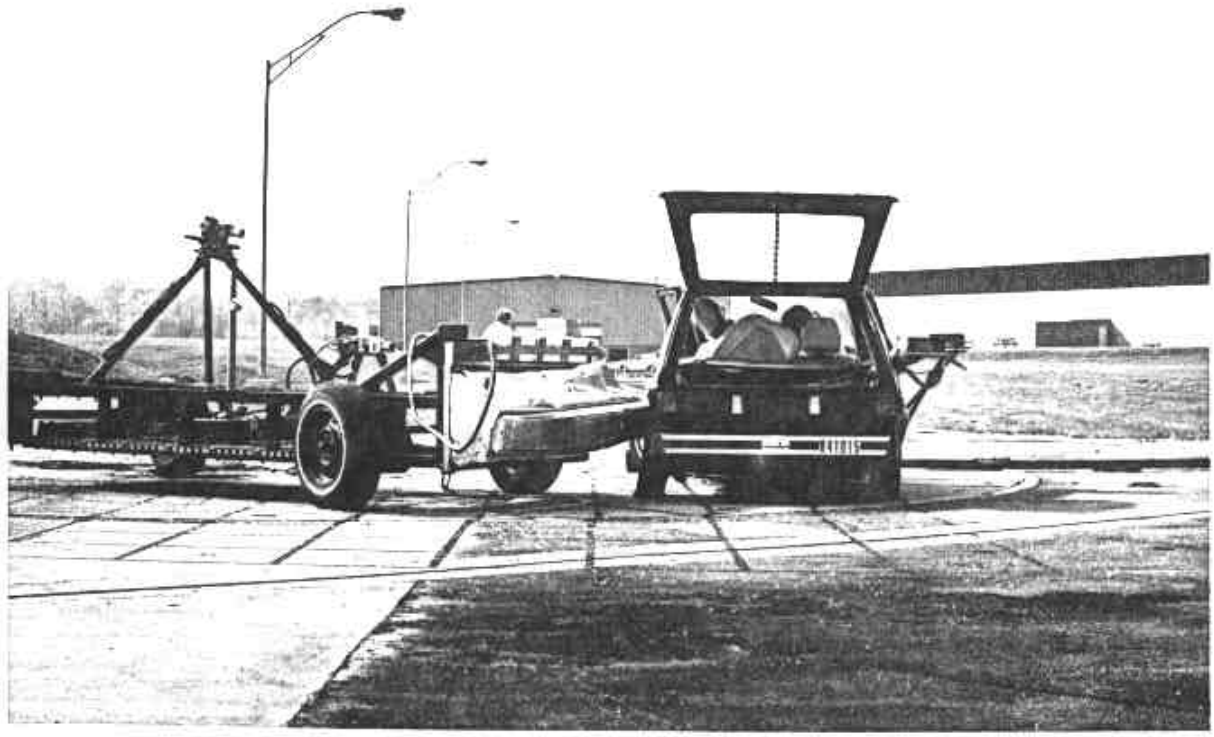


Figure A-14. POST-TEST OVERALL - VIEW 2

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

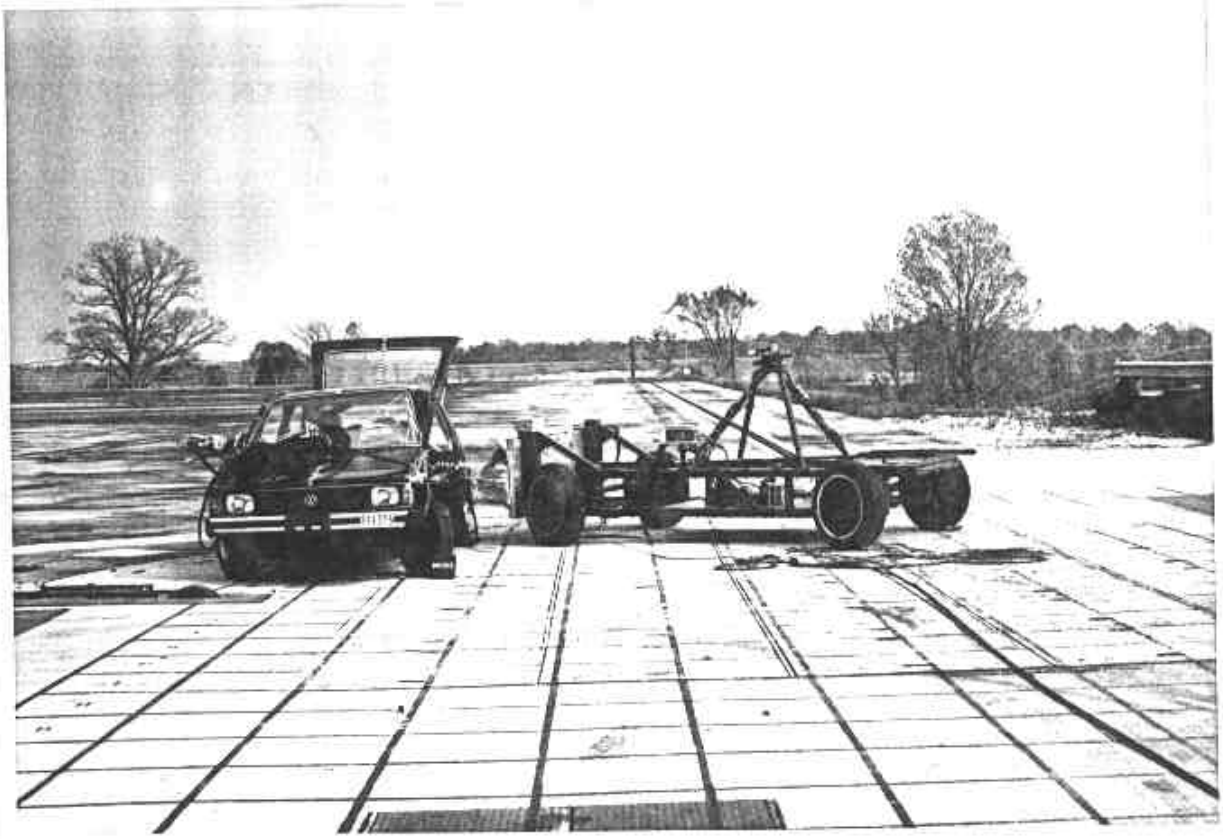


Figure A-16. POST-TEST OVERALL - VIEW 4

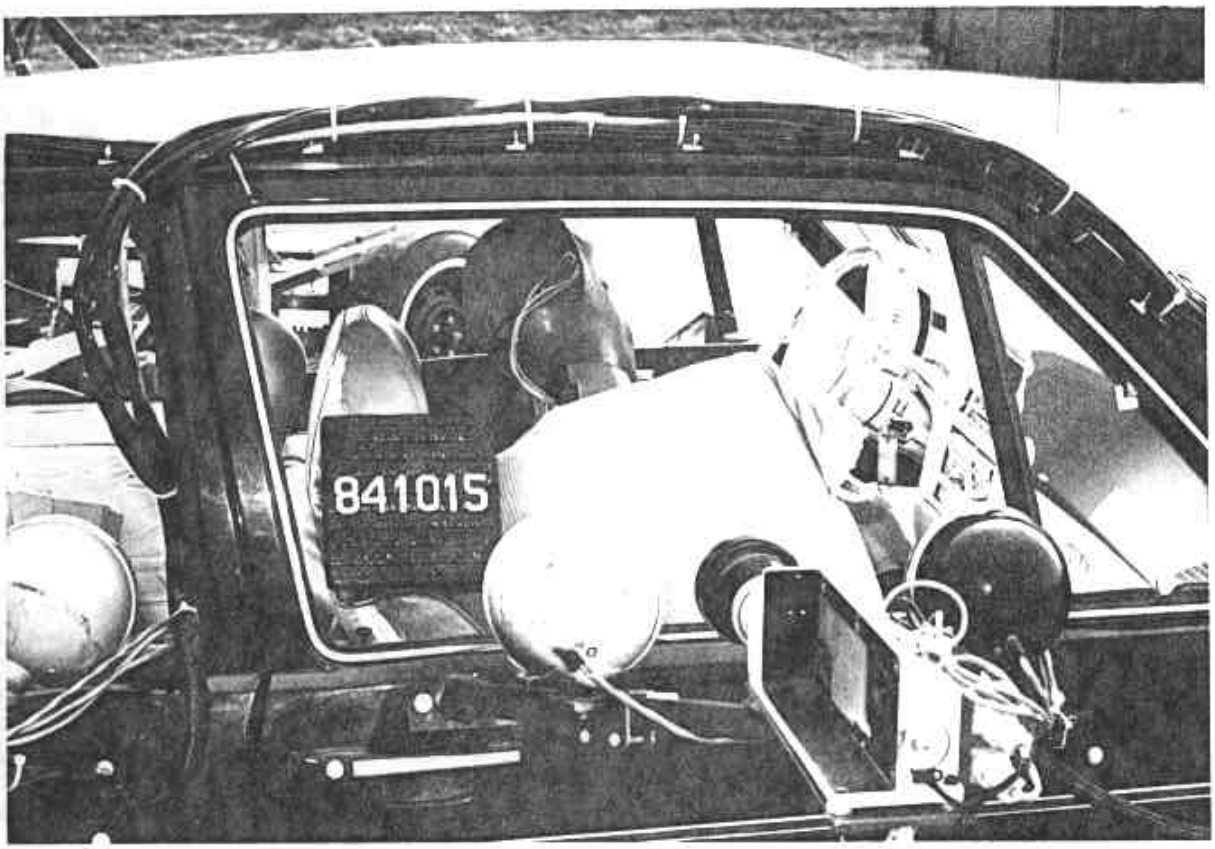


Figure A-17. POST-TEST DRIVER DUMMY - VIEW 1

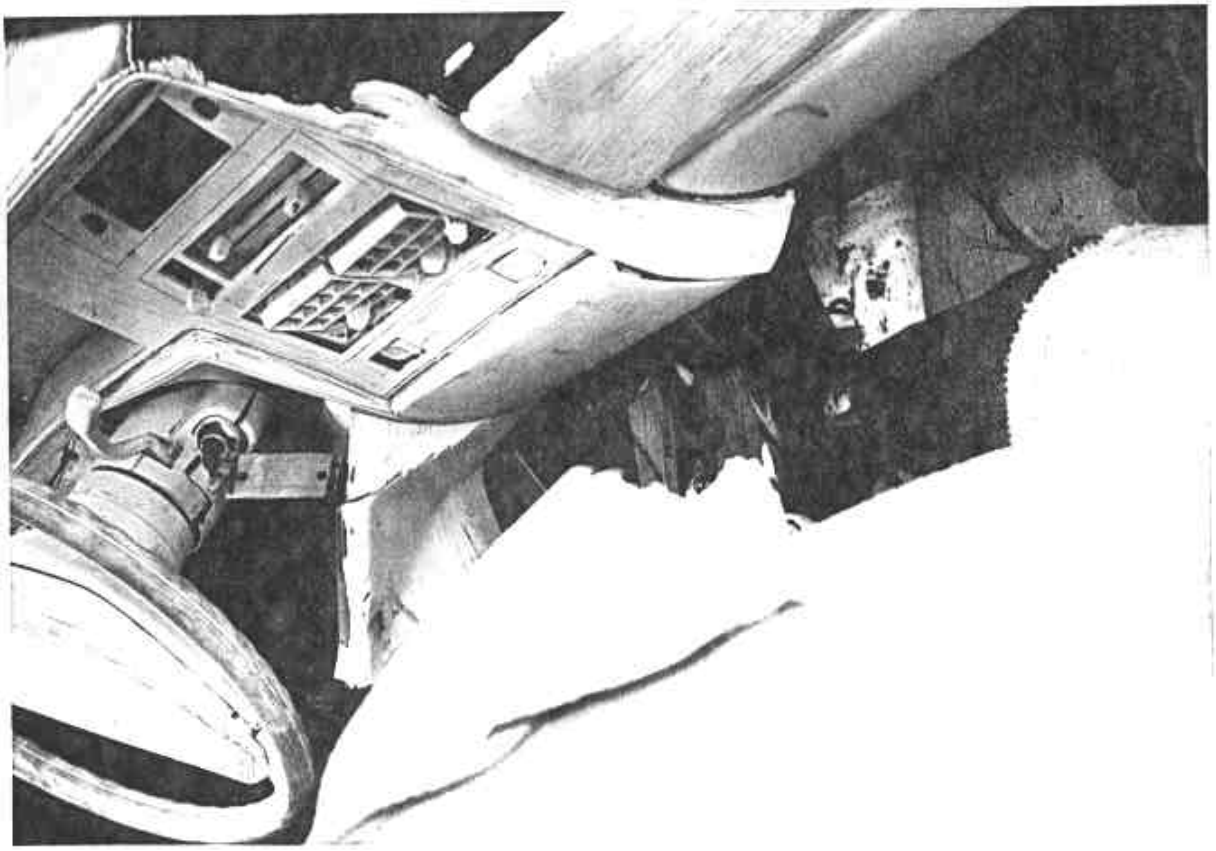


Figure A-18. POST-TEST DRIVER DUMMY - VIEW 2

Figure A-19. POST-TEST DRIVER DUMMY - VIEW 3

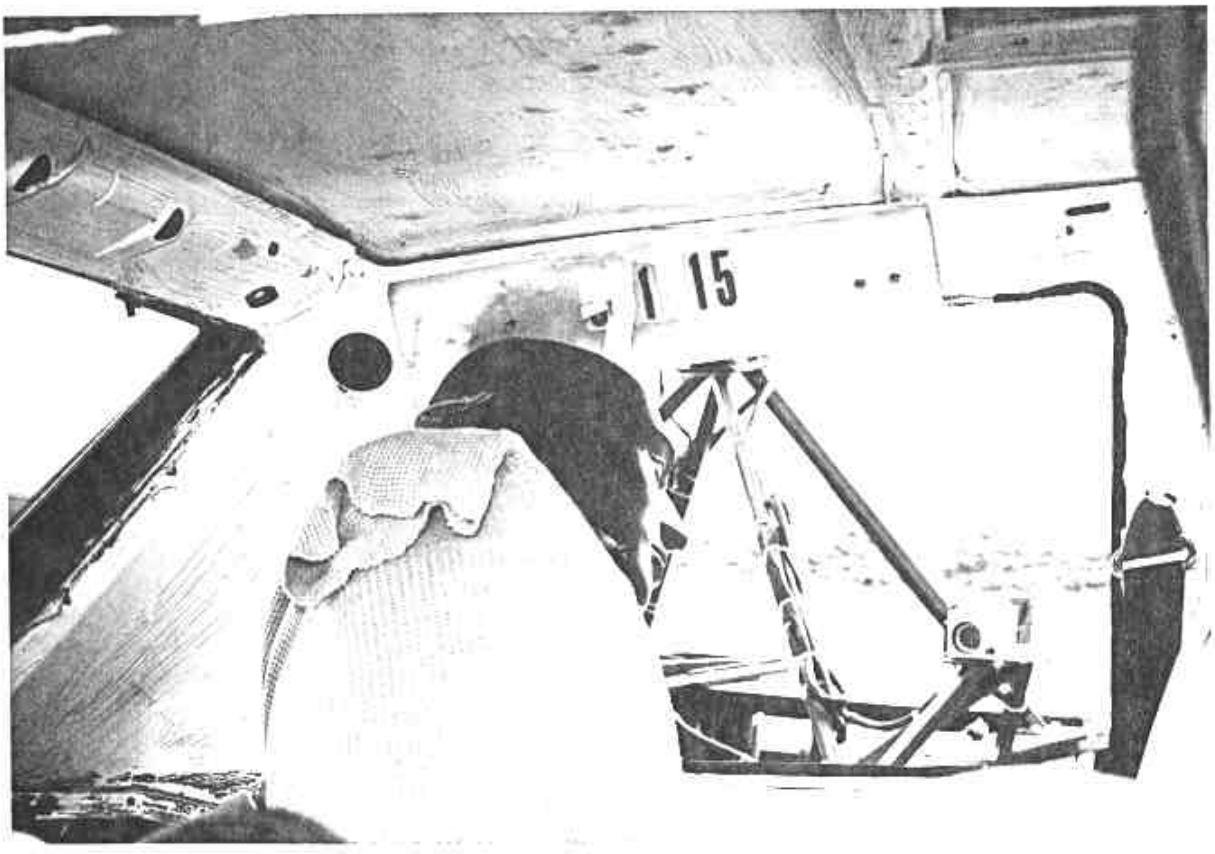


Figure A-20. POST-TEST PASSENGER DUMMY - VIEW 1

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

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

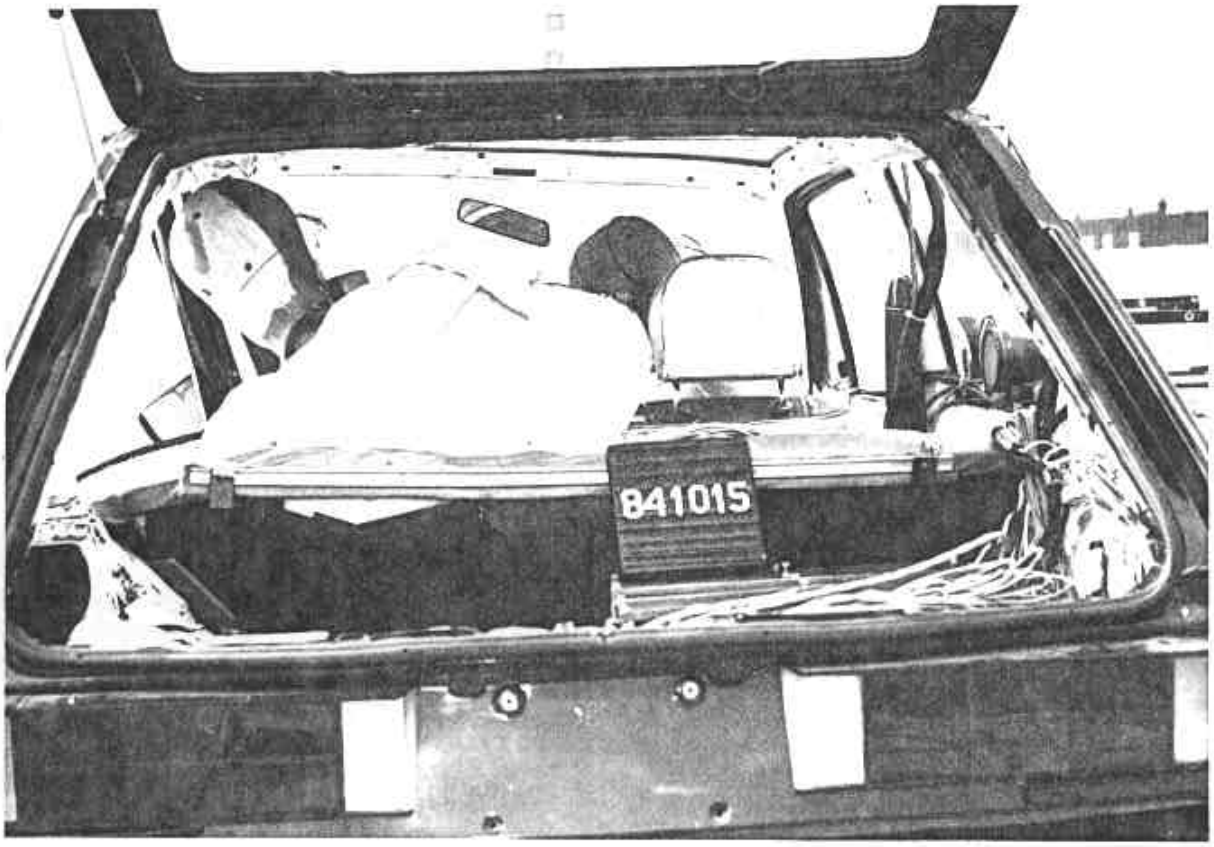


Figure A-23. POST-TEST DUMMIES OVERALL

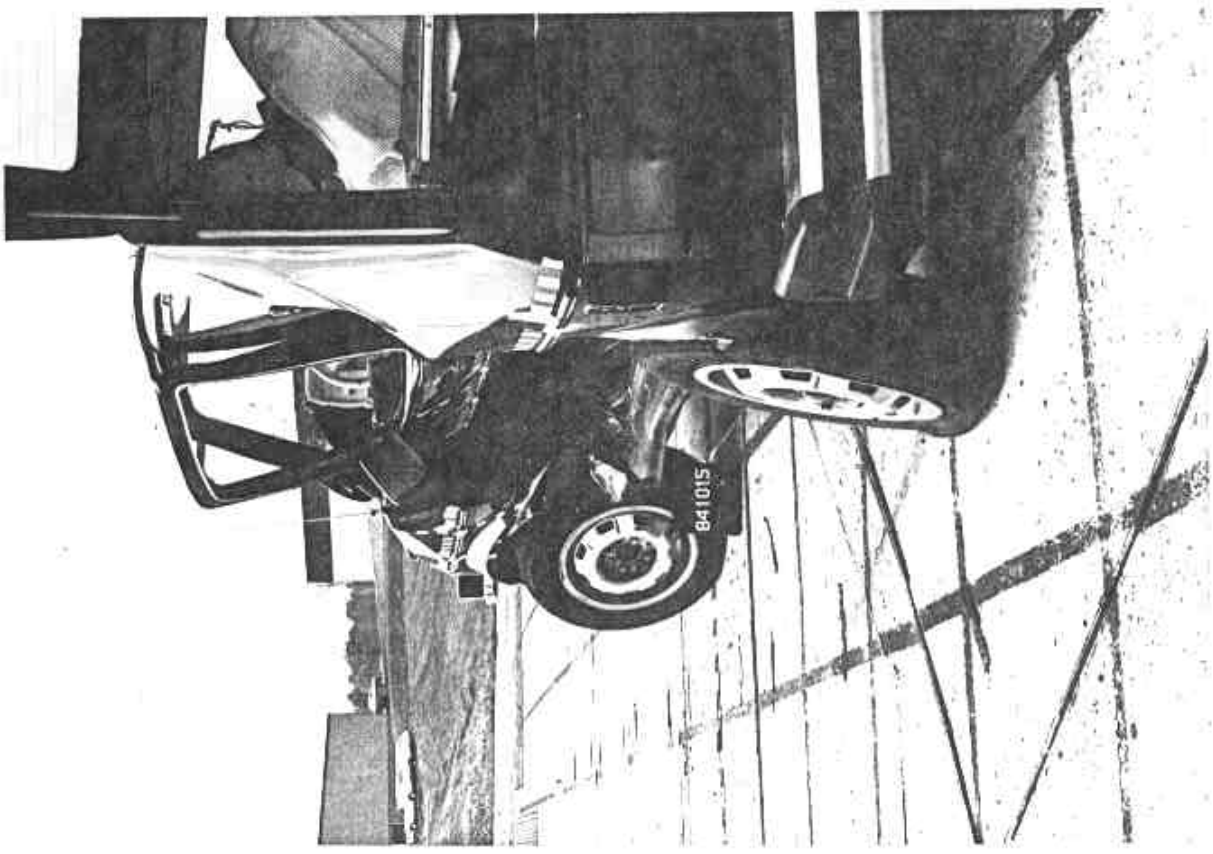


Figure A-24. POST-TEST VEHICLE DAMAGE – VIEW 1

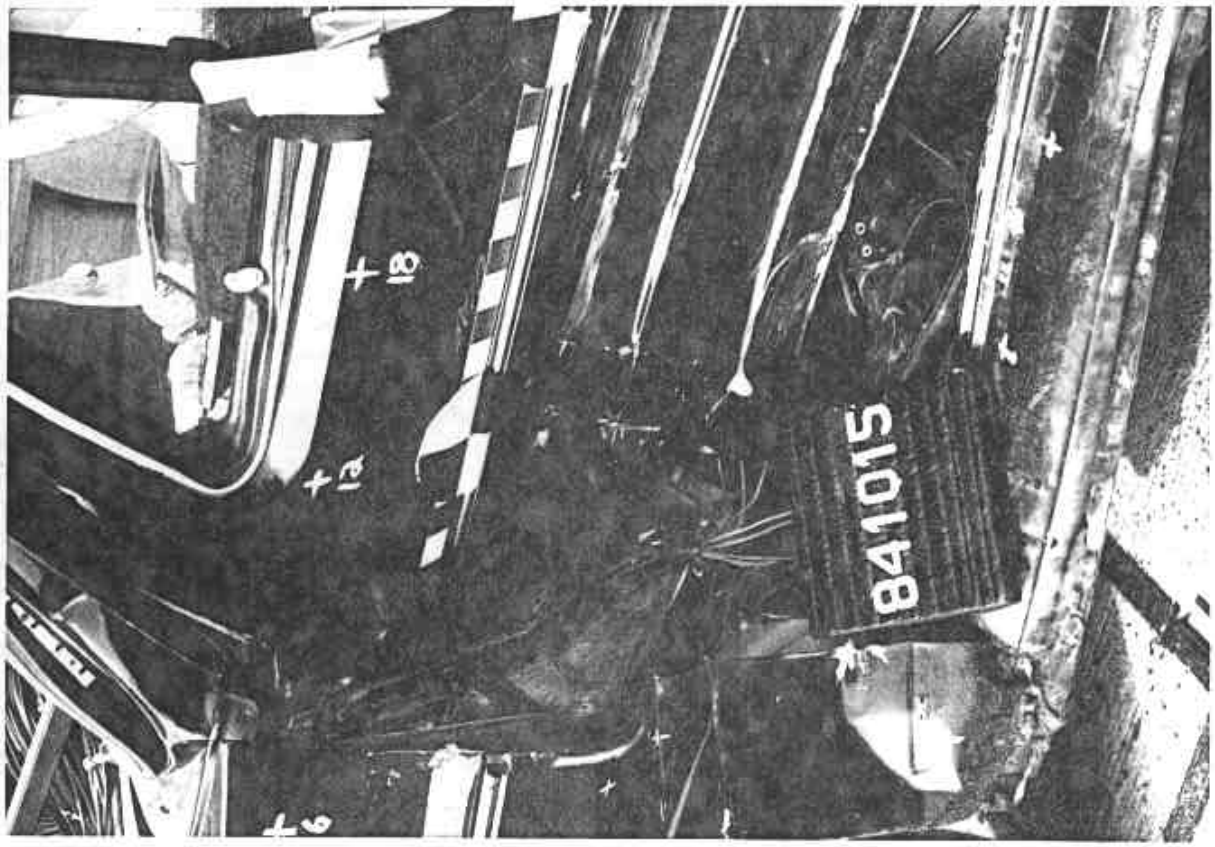


Figure A-25. POST-TEST VEHICLE DAMAGE - VIEW 2

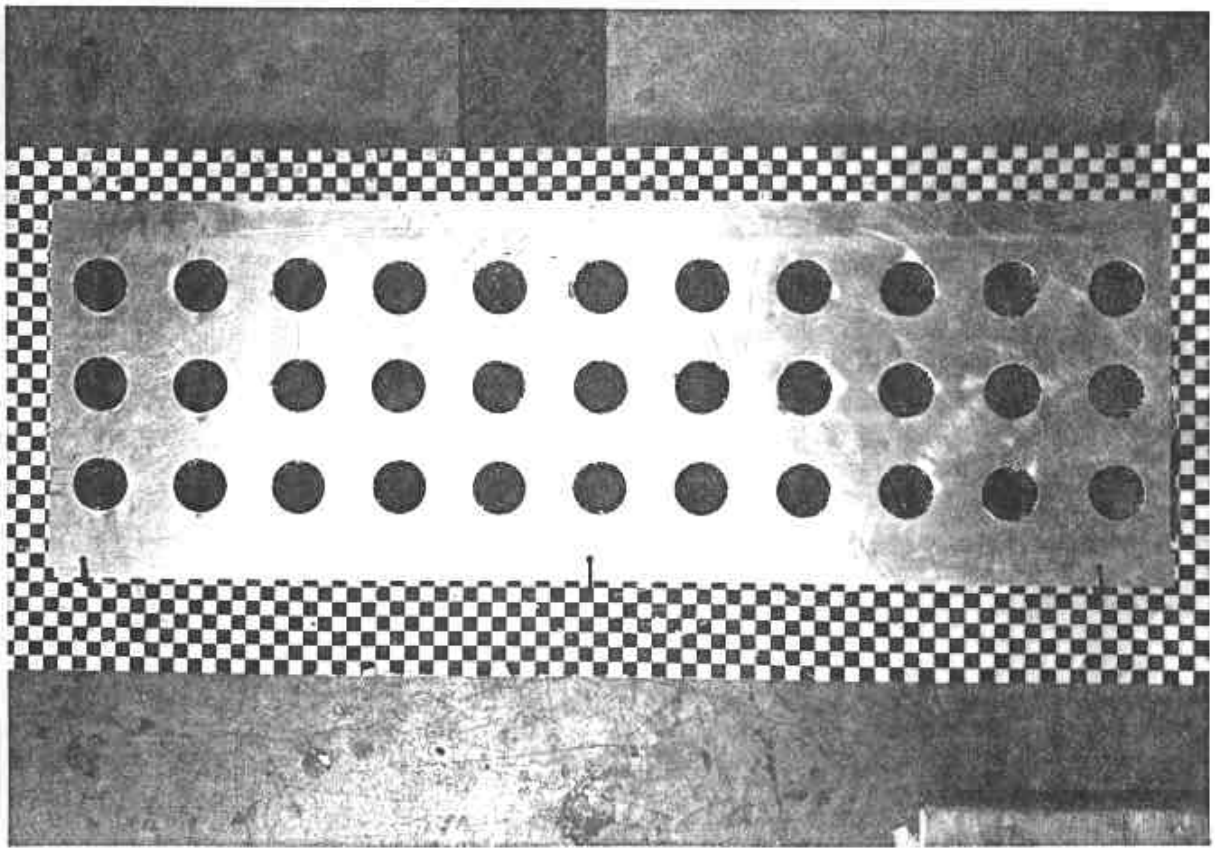


Figure A-26. PRE-TEST MDB FACE - VIEW 1

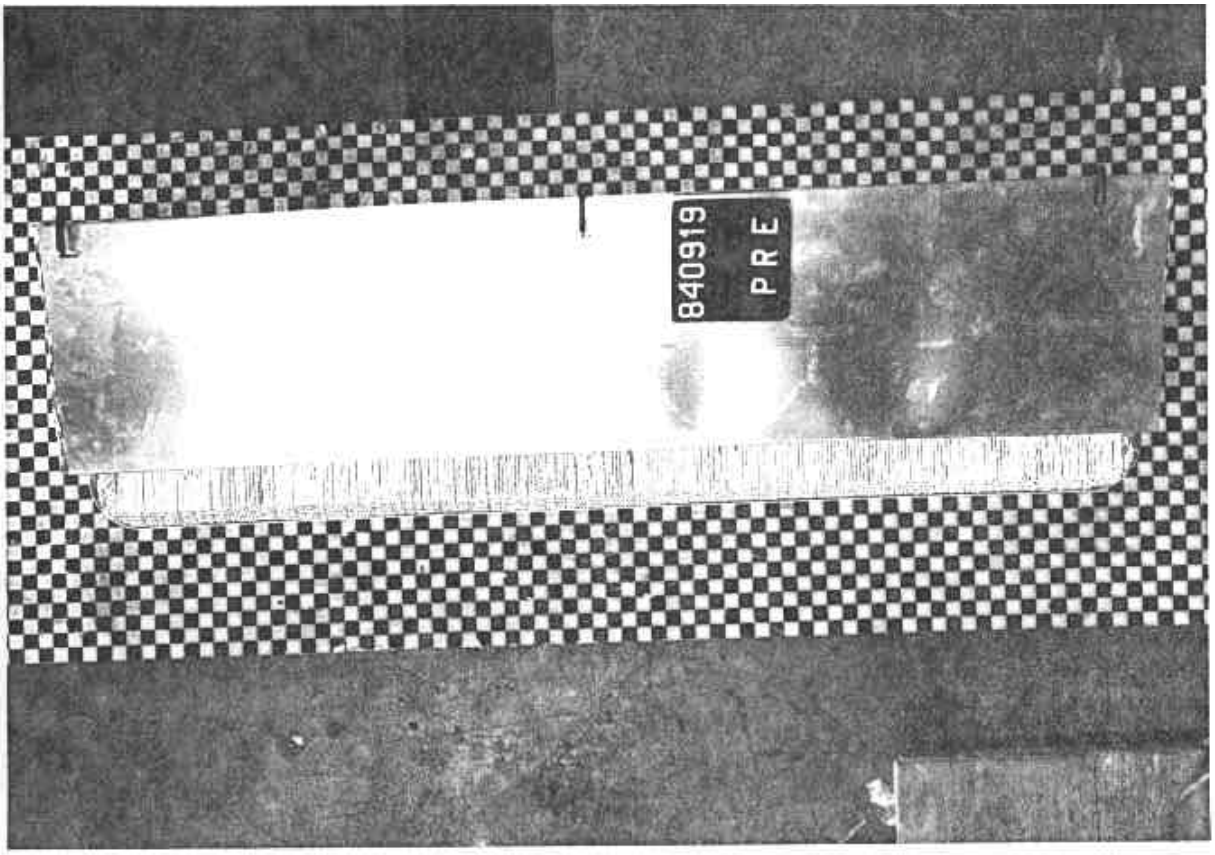


Figure A-27. PRE-TEST MDB FACE - VIEW 2

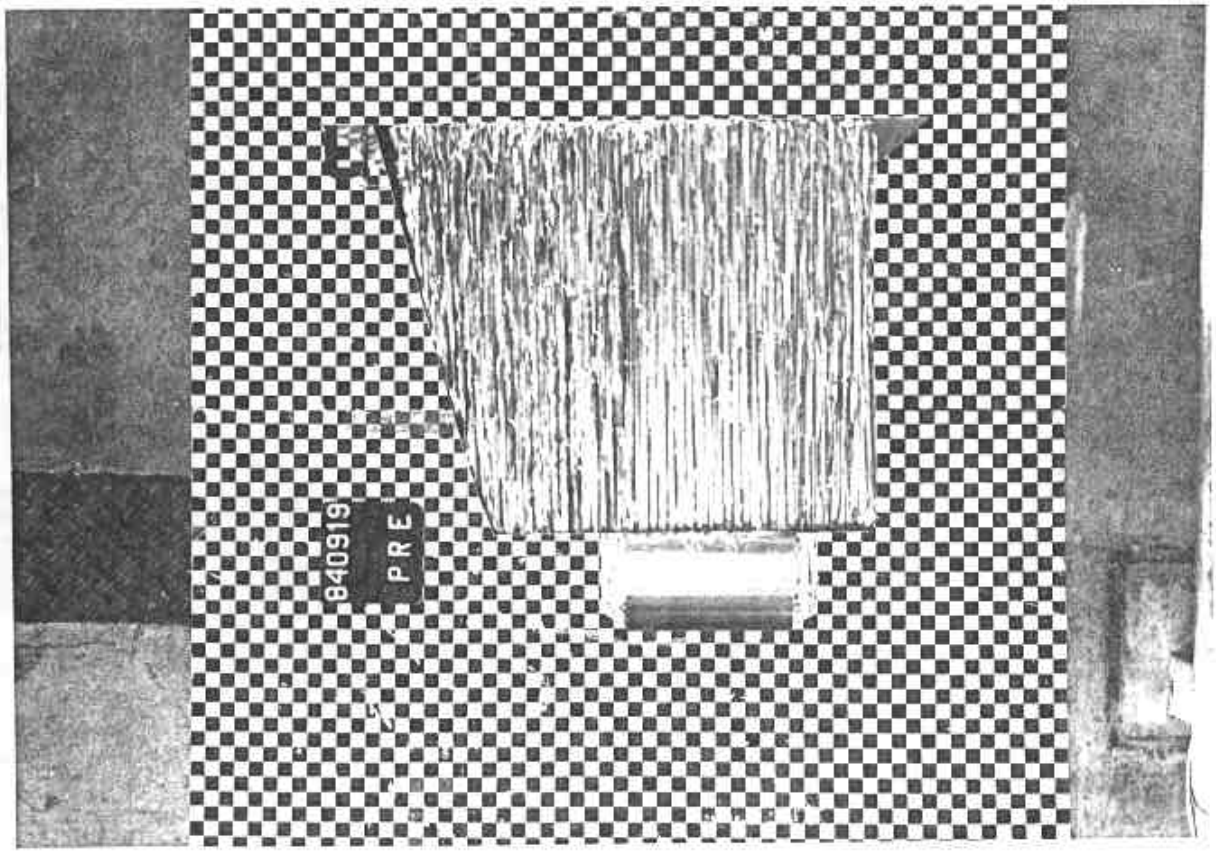


Figure A-28. PRE-TEST MDB FACE - VIEW 3

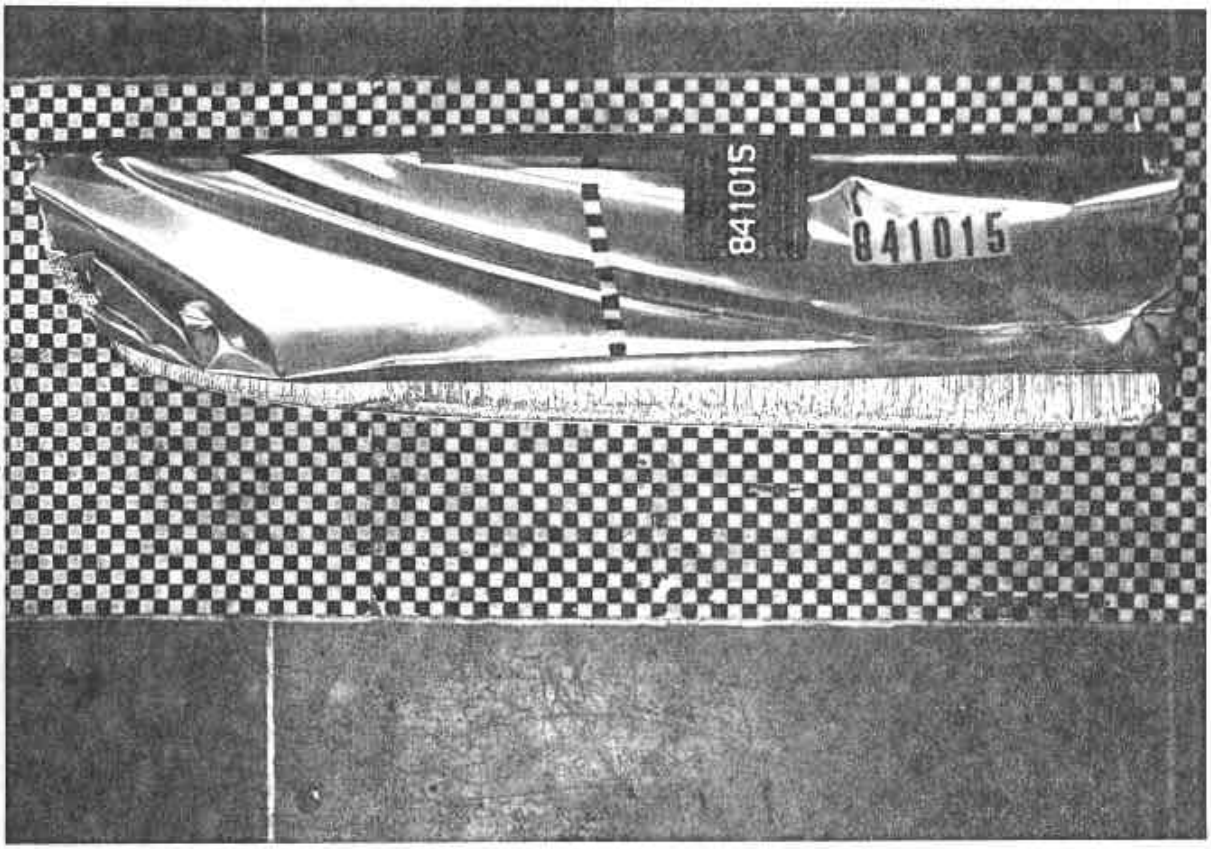


Figure A-29. POST-TEST MDB FACE - VIEW 1

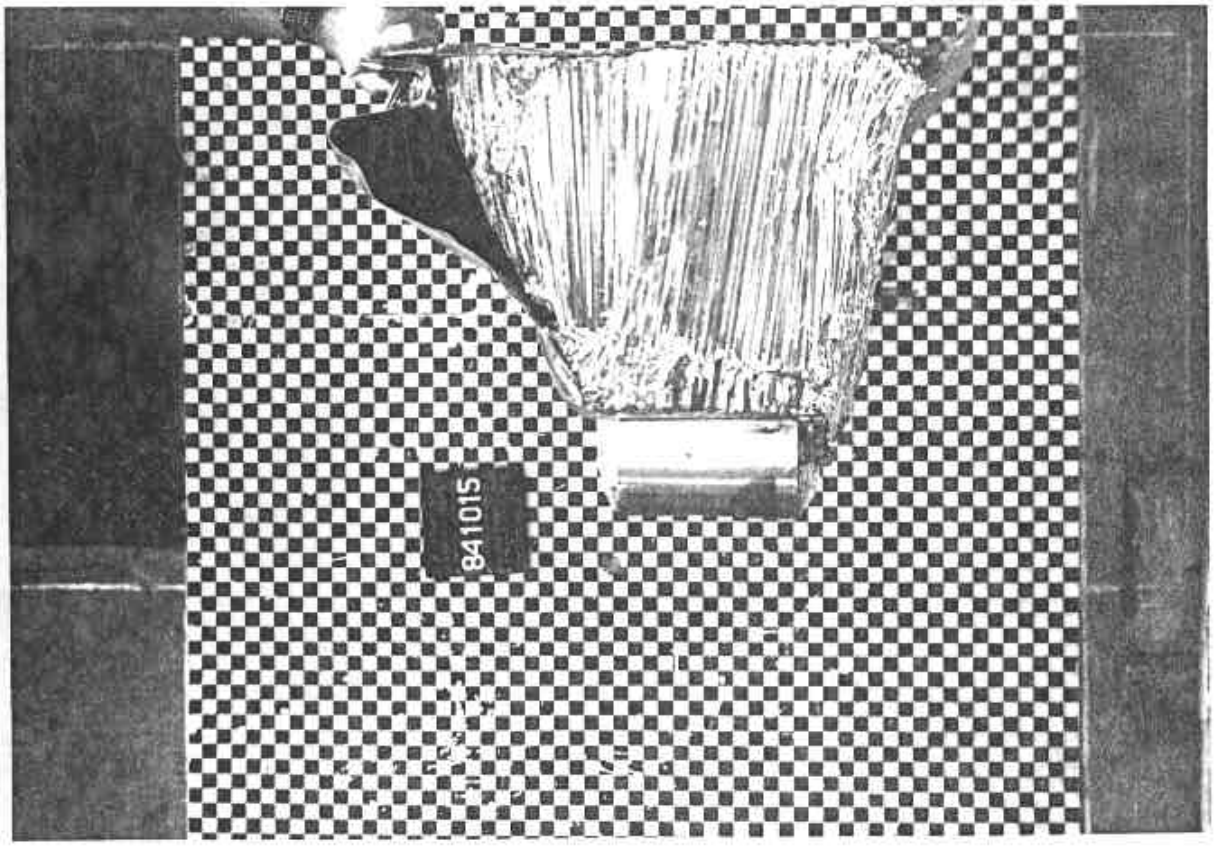
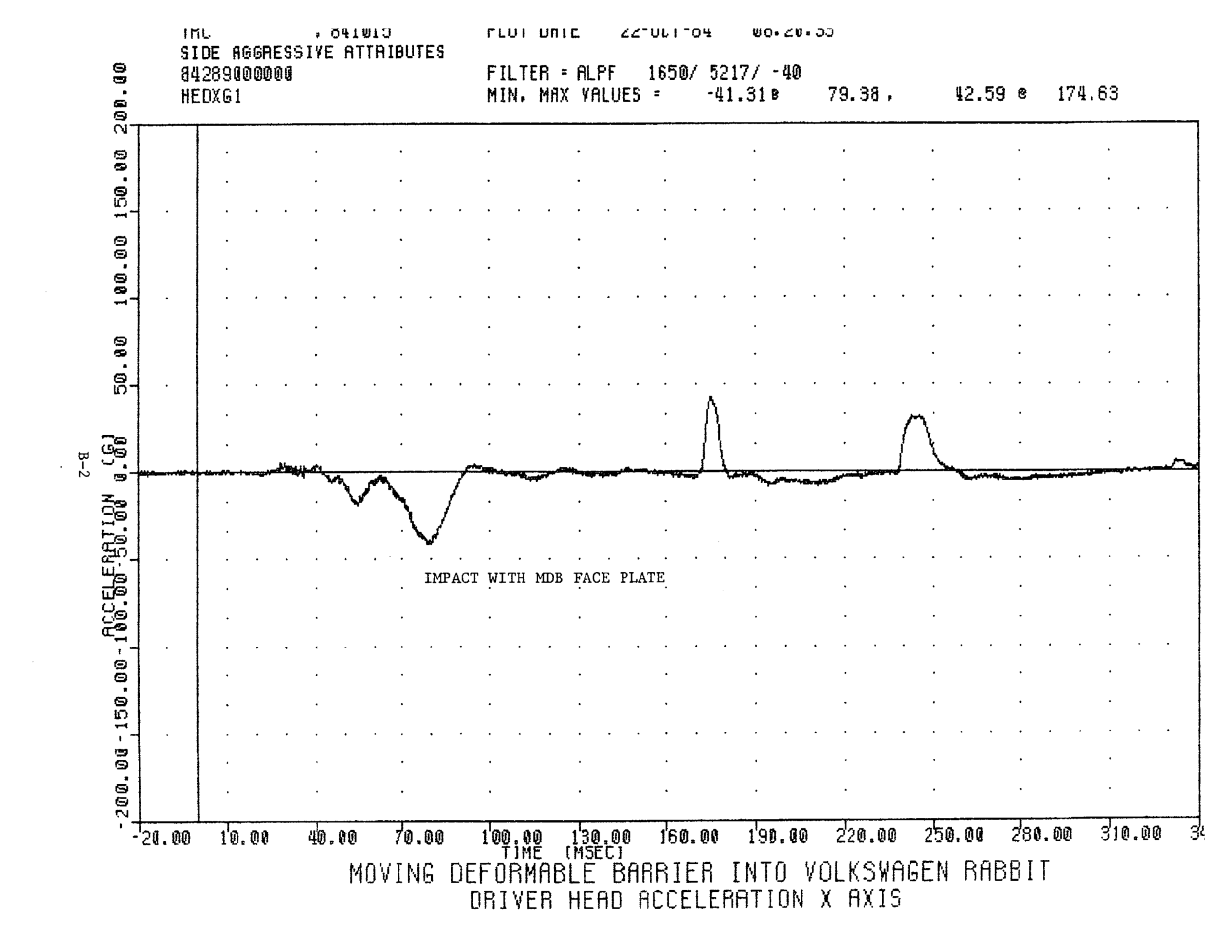


Figure A-30. POST-TEST MDB FACE - VIEW 2

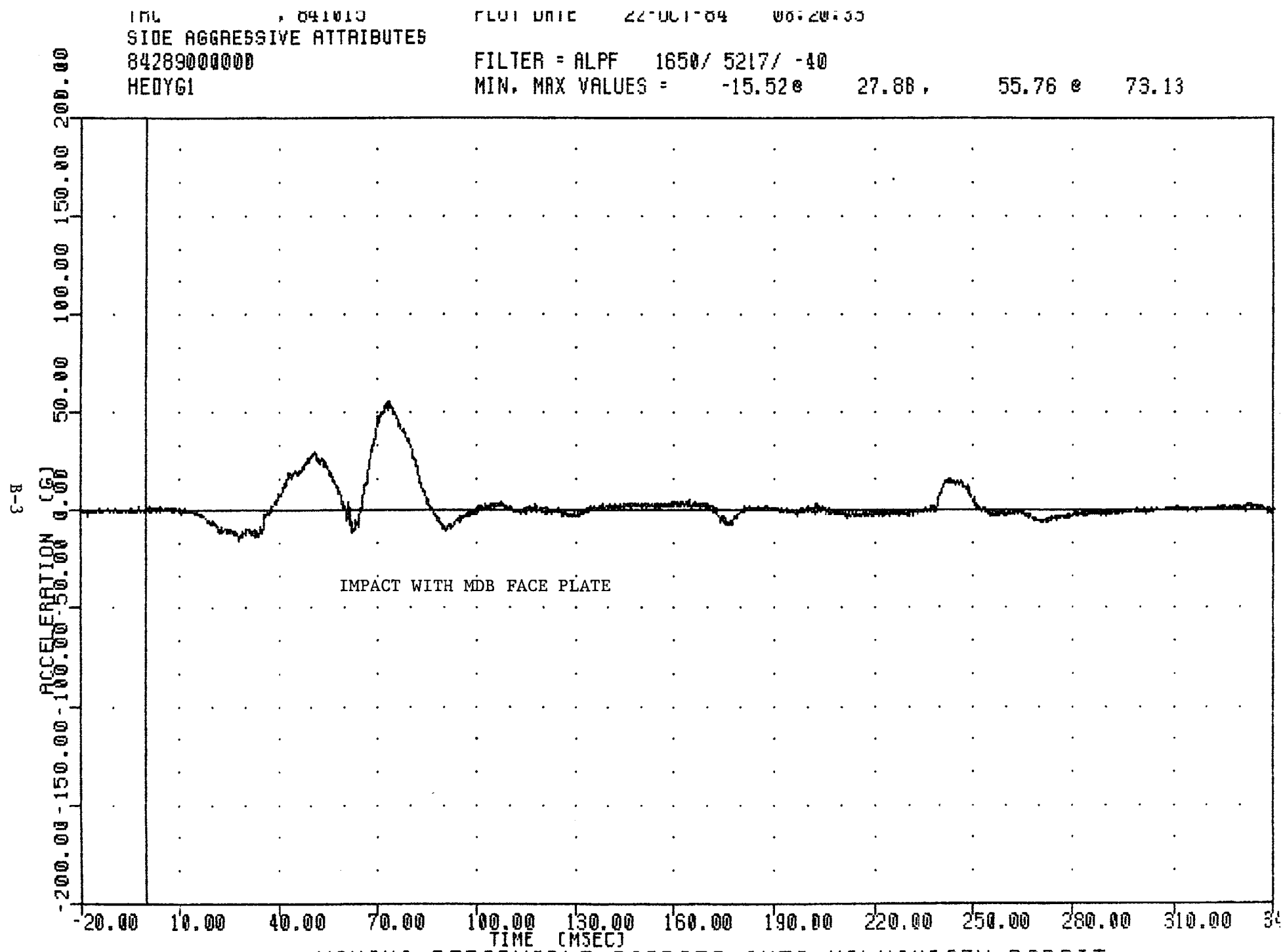
APPENDIX B

DATA PLOT PRESENTATION

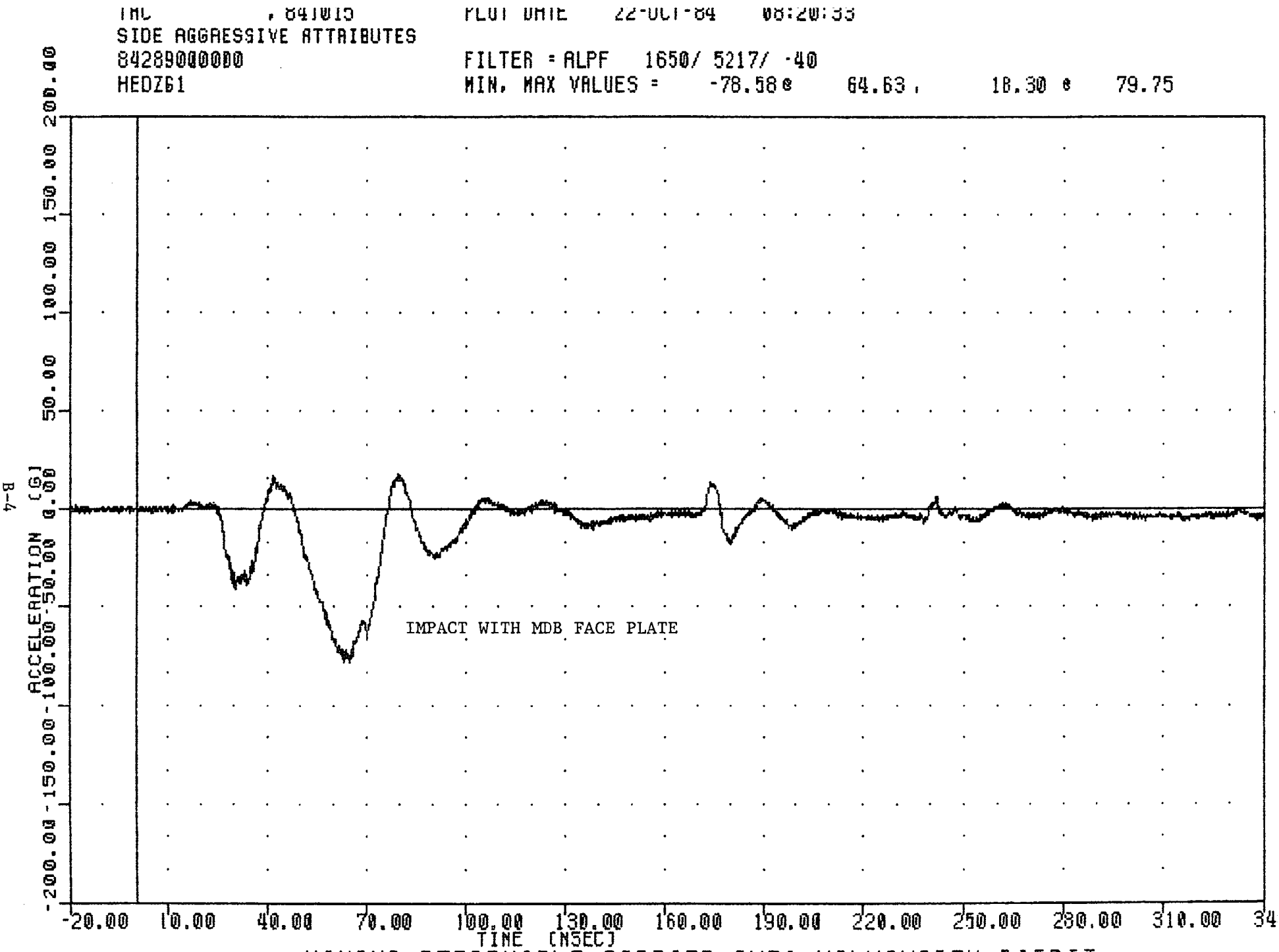
Data plots generated from the crash test data are presented on the following pages. All data are recorded on magnetic tape for inclusion in the NHTSA crash test data base system. The data was filtered according to SAE J211, except dummy thorax data which was filtered using the HSRI filter.



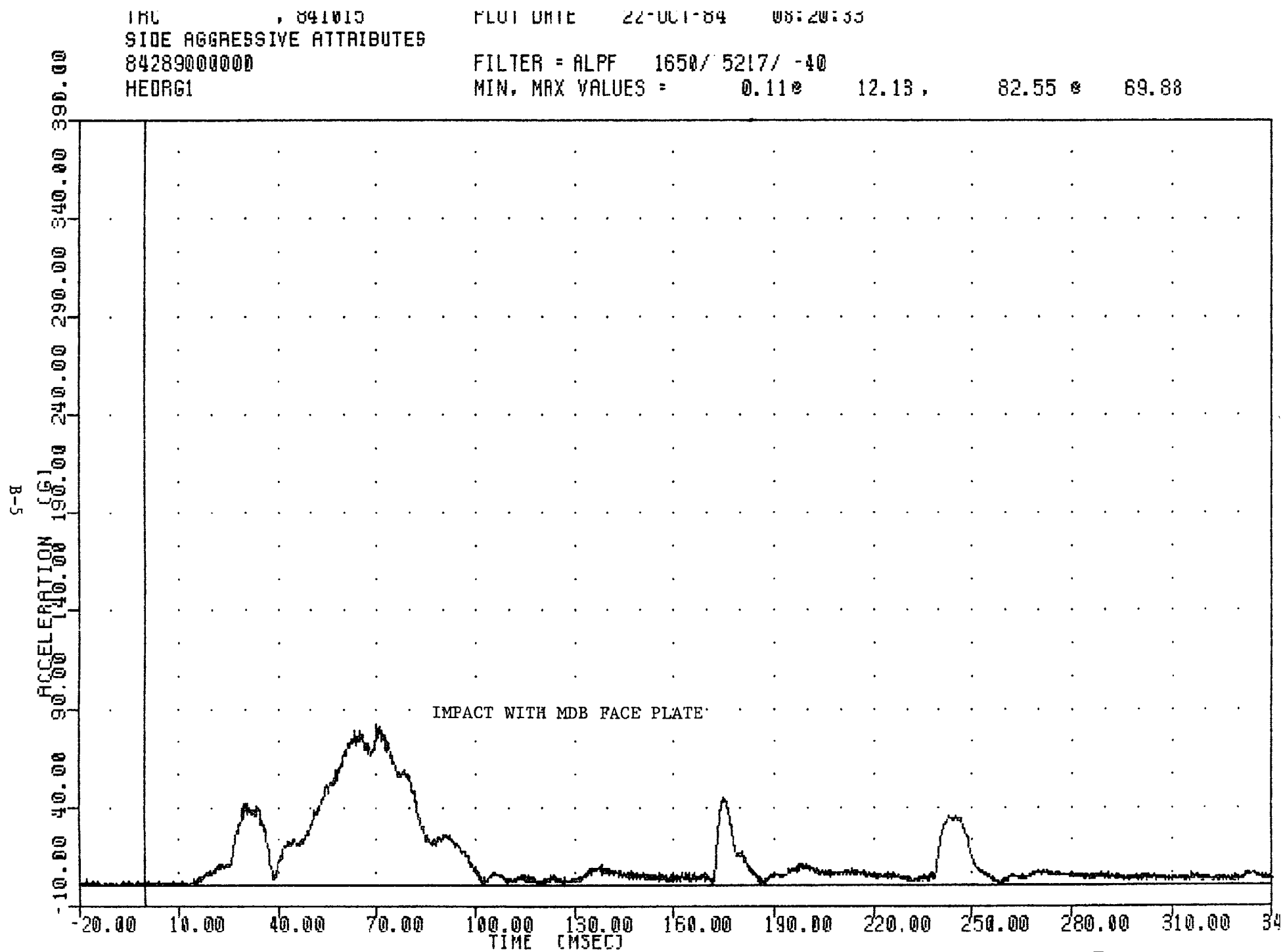
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD ACCELERATION X AXIS



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD ACCELERATION Y AXIS



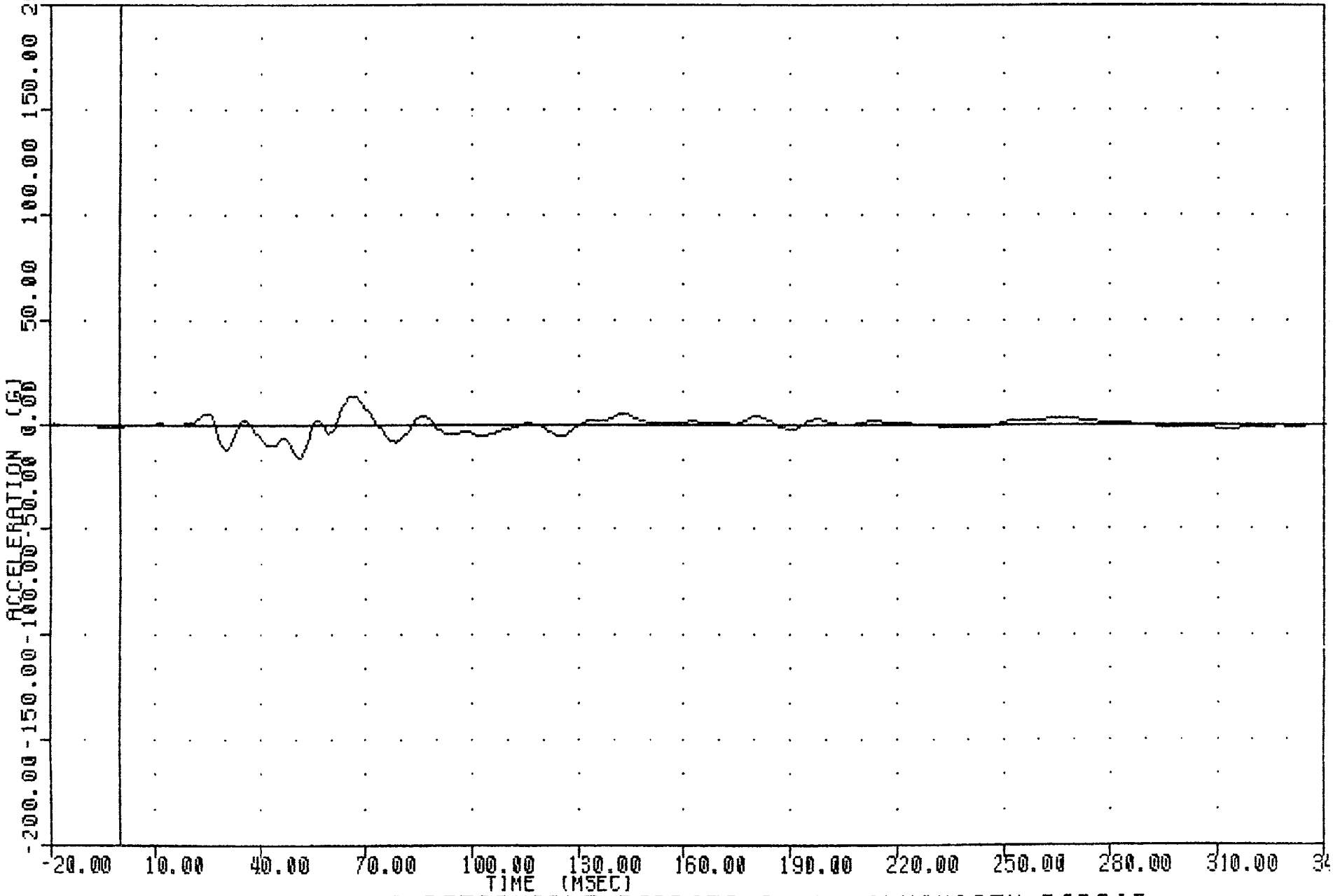
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD ACCELERATION Z AXIS



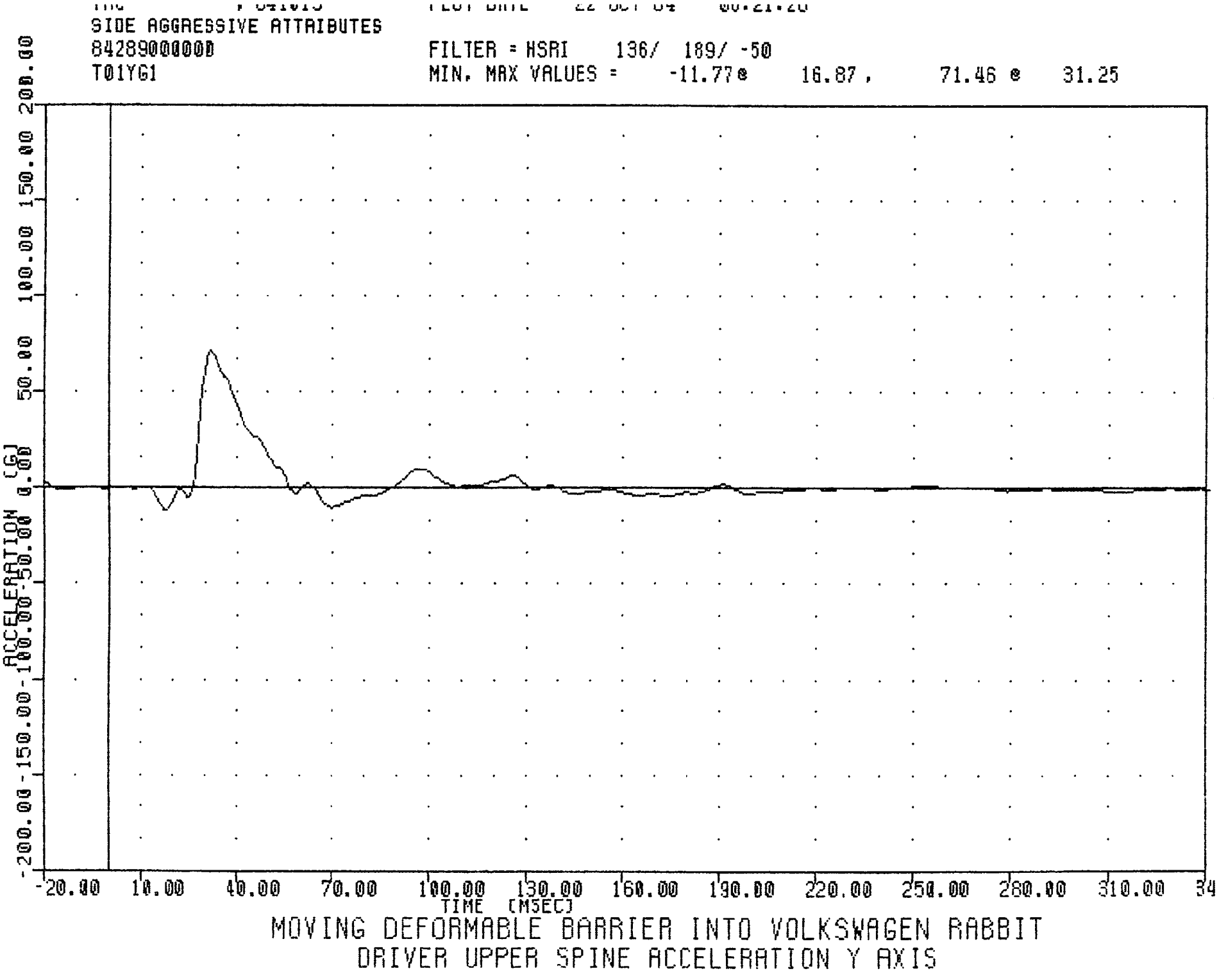
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER HEAD RESULTANT

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T01XG1

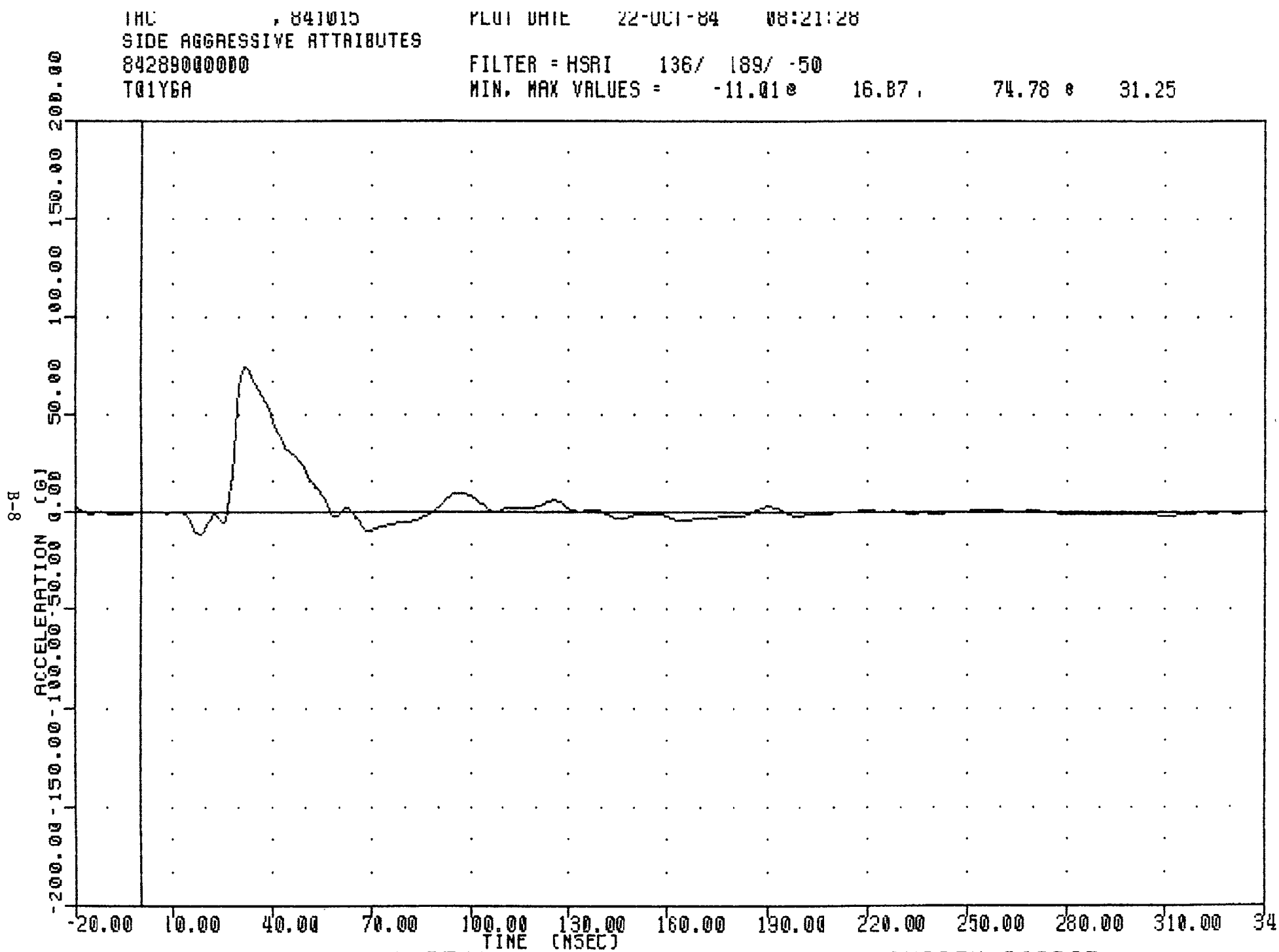
FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -15.48 @ 50.00 , 14.53 @ 65.63



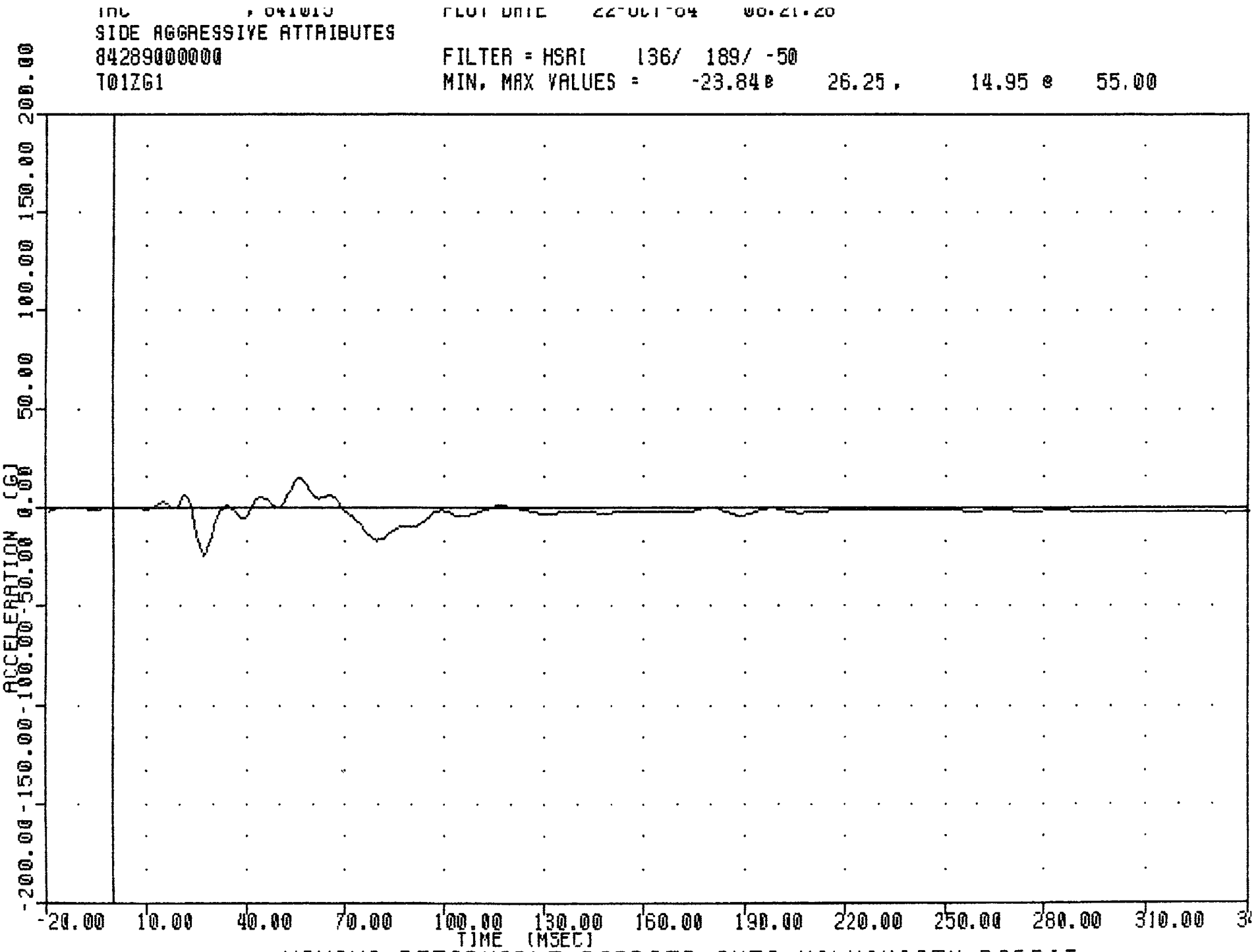
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE ACCELERATION X AXIS



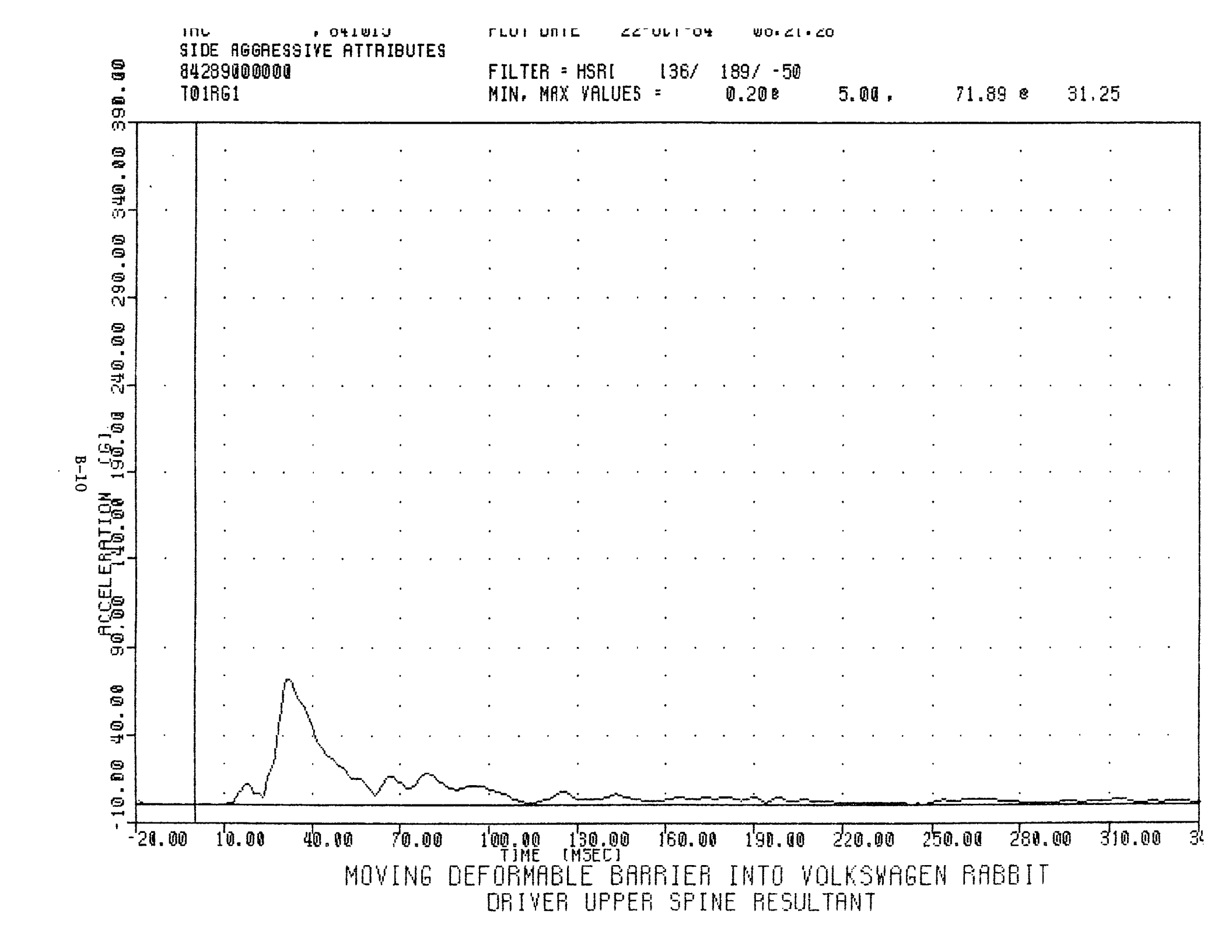
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE ACCELERATION Y AXIS



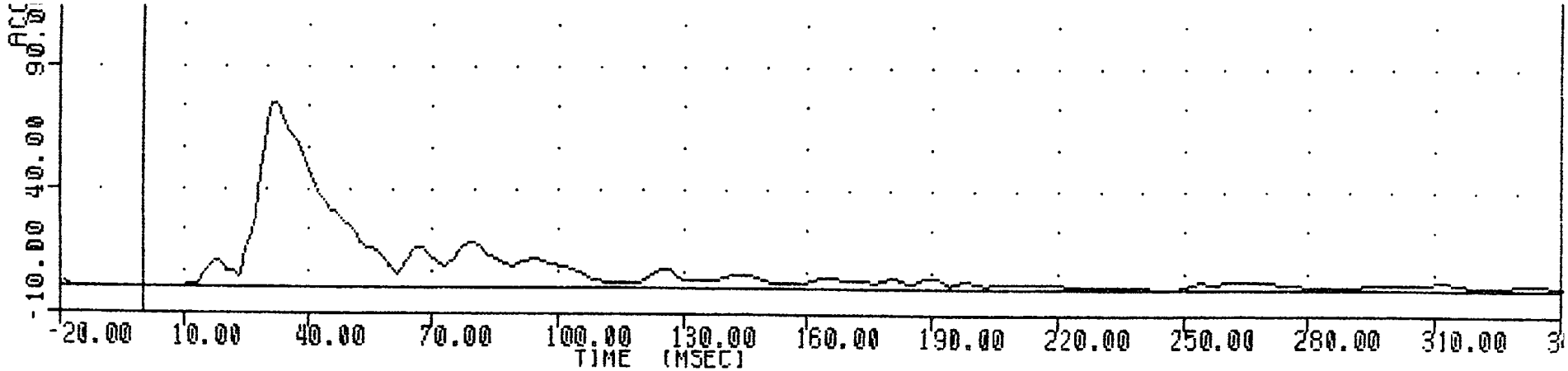
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE ACCELERATION -2 Y AXIS



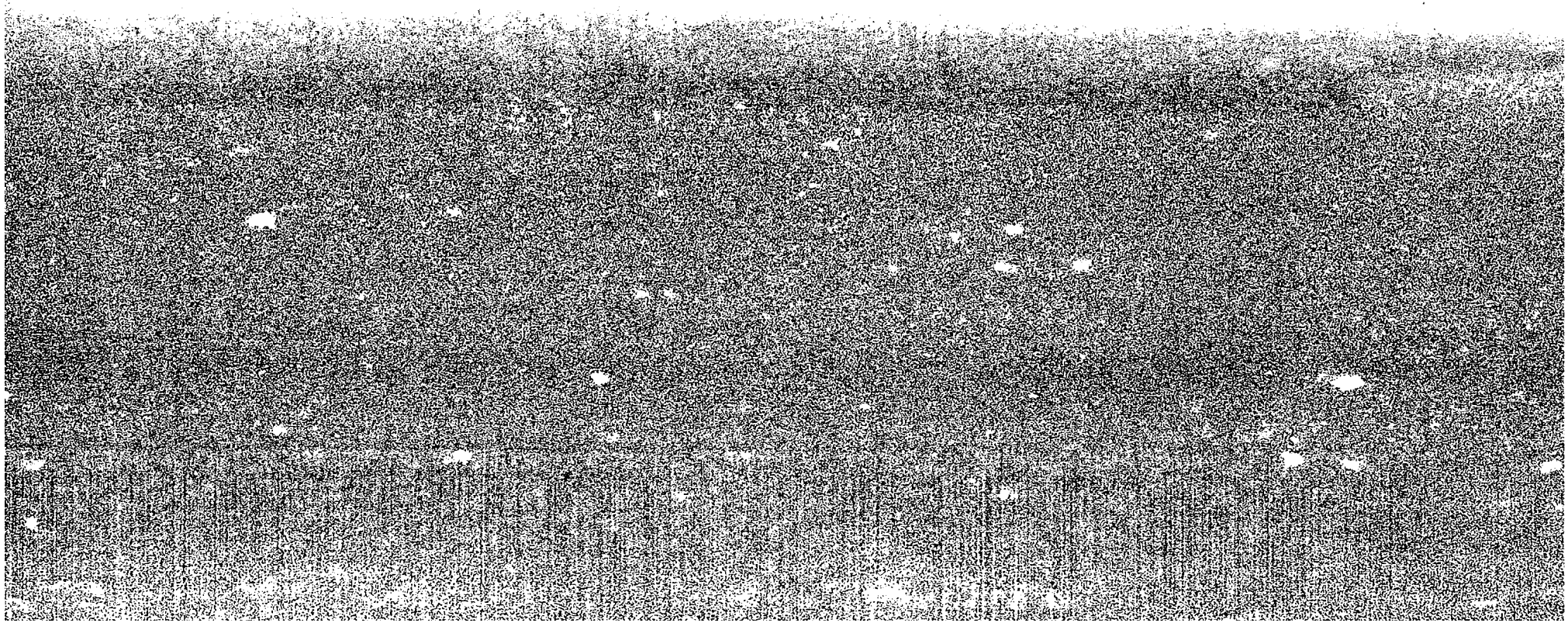
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE ACCELERATION Z AXIS



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE RESULTANT

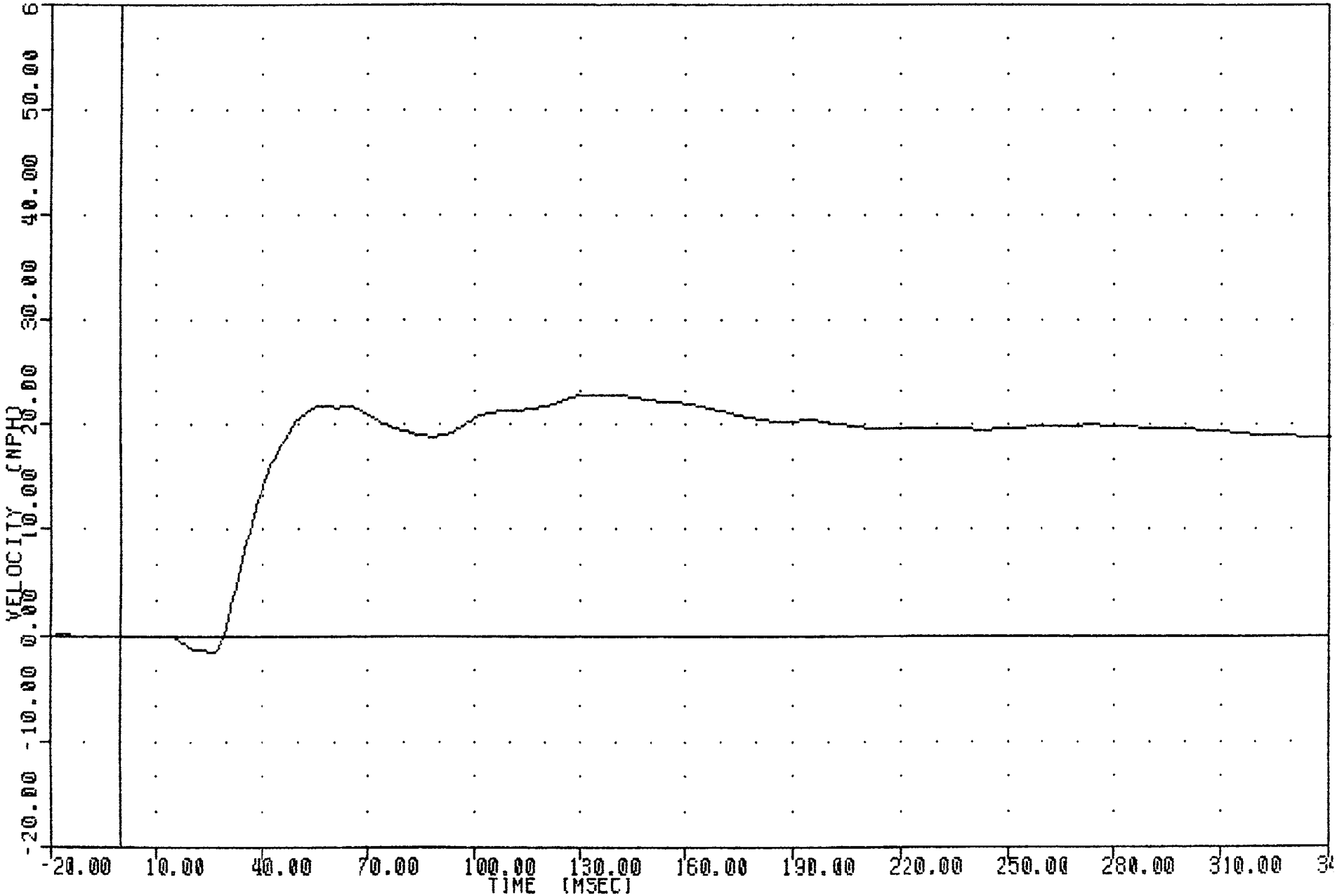


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER UPPER SPINE RESULTANT USING T01YGA



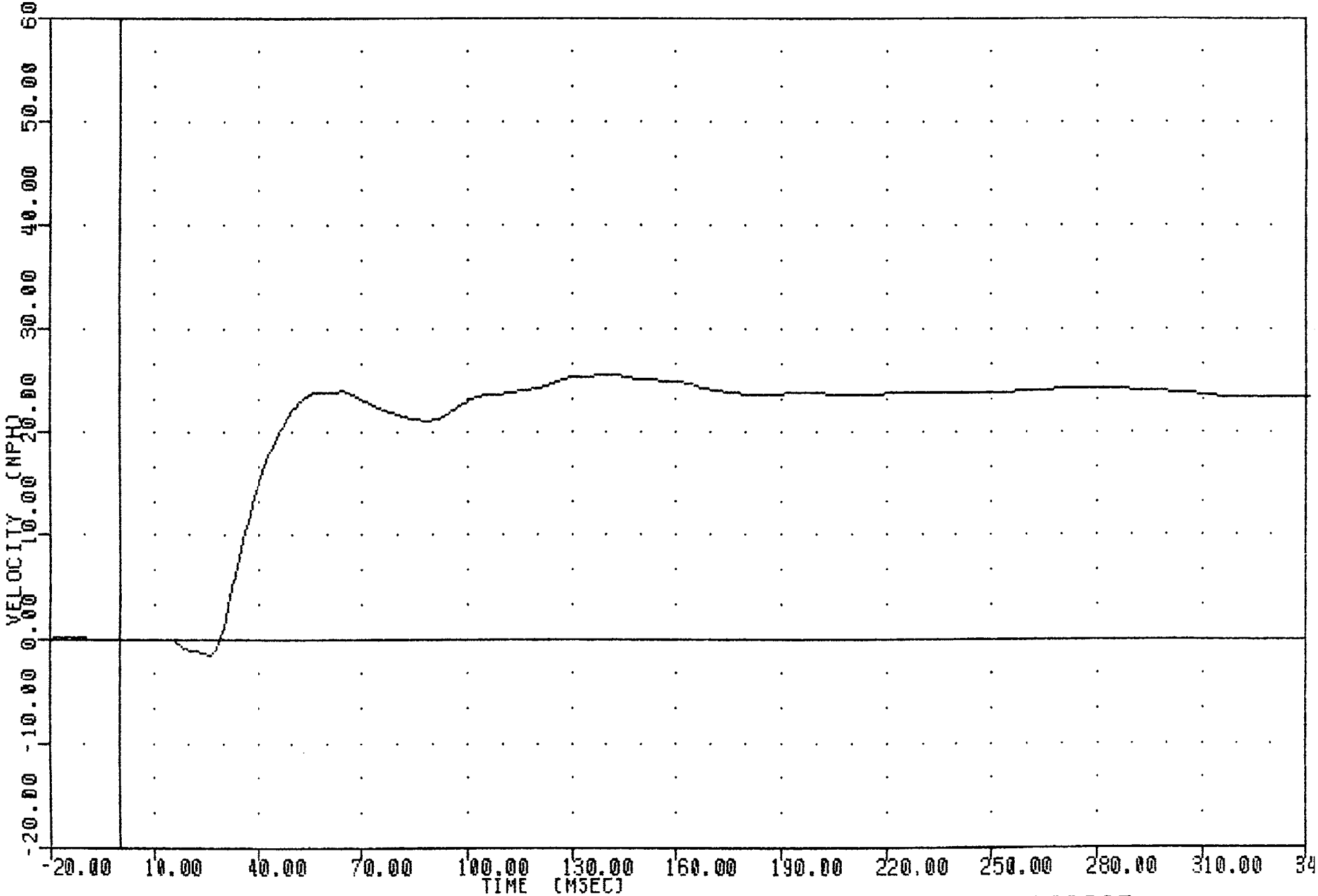
SIDE AGGRESSIVE ATTRIBUTES
84289000000
T01YV1

FILTER = HSRI [136/ 189/ -50
MIN, MAX VALUES = -1.60 @ 25.63 , 22.82 @ 138.75

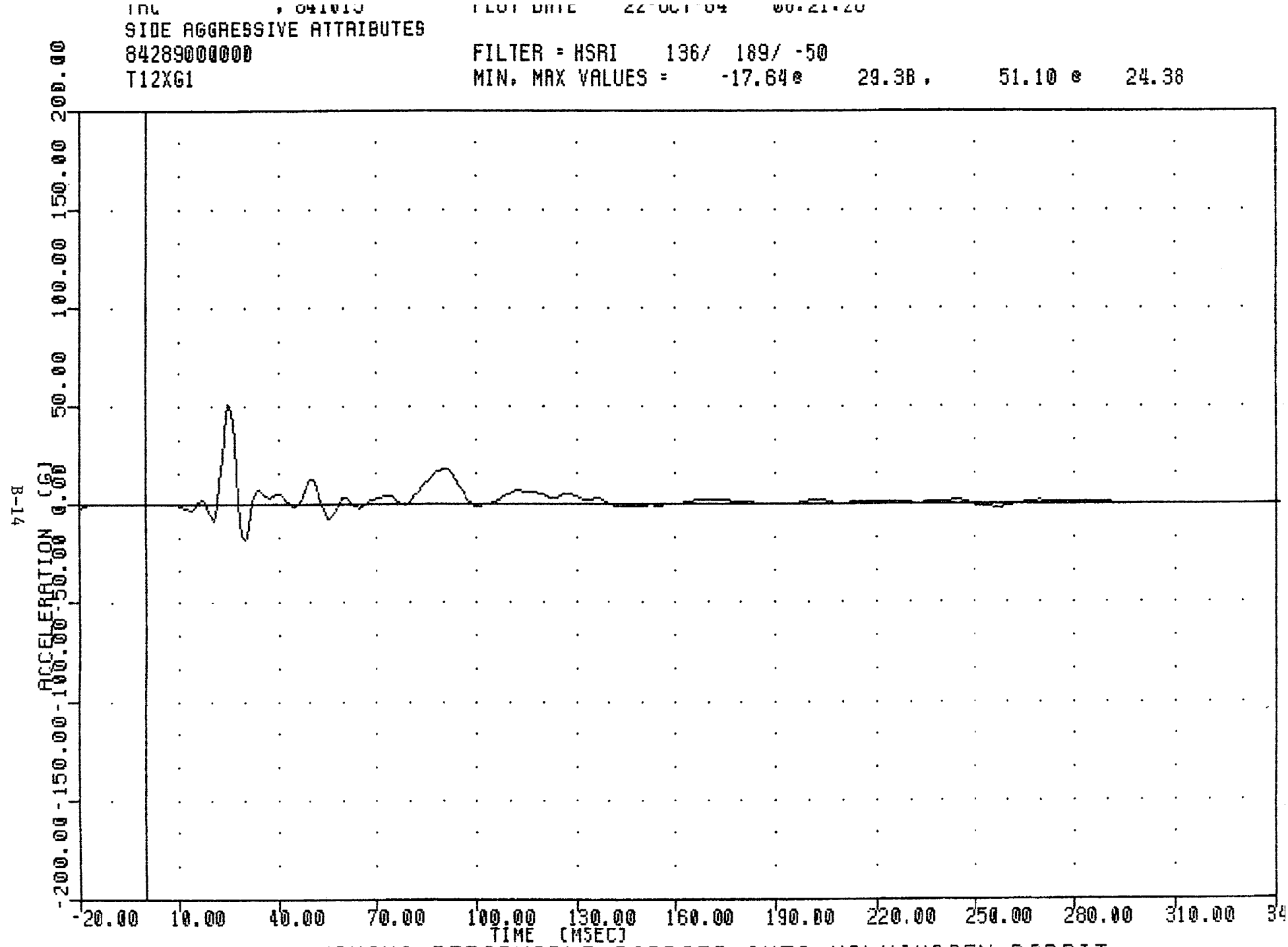


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T01YG1

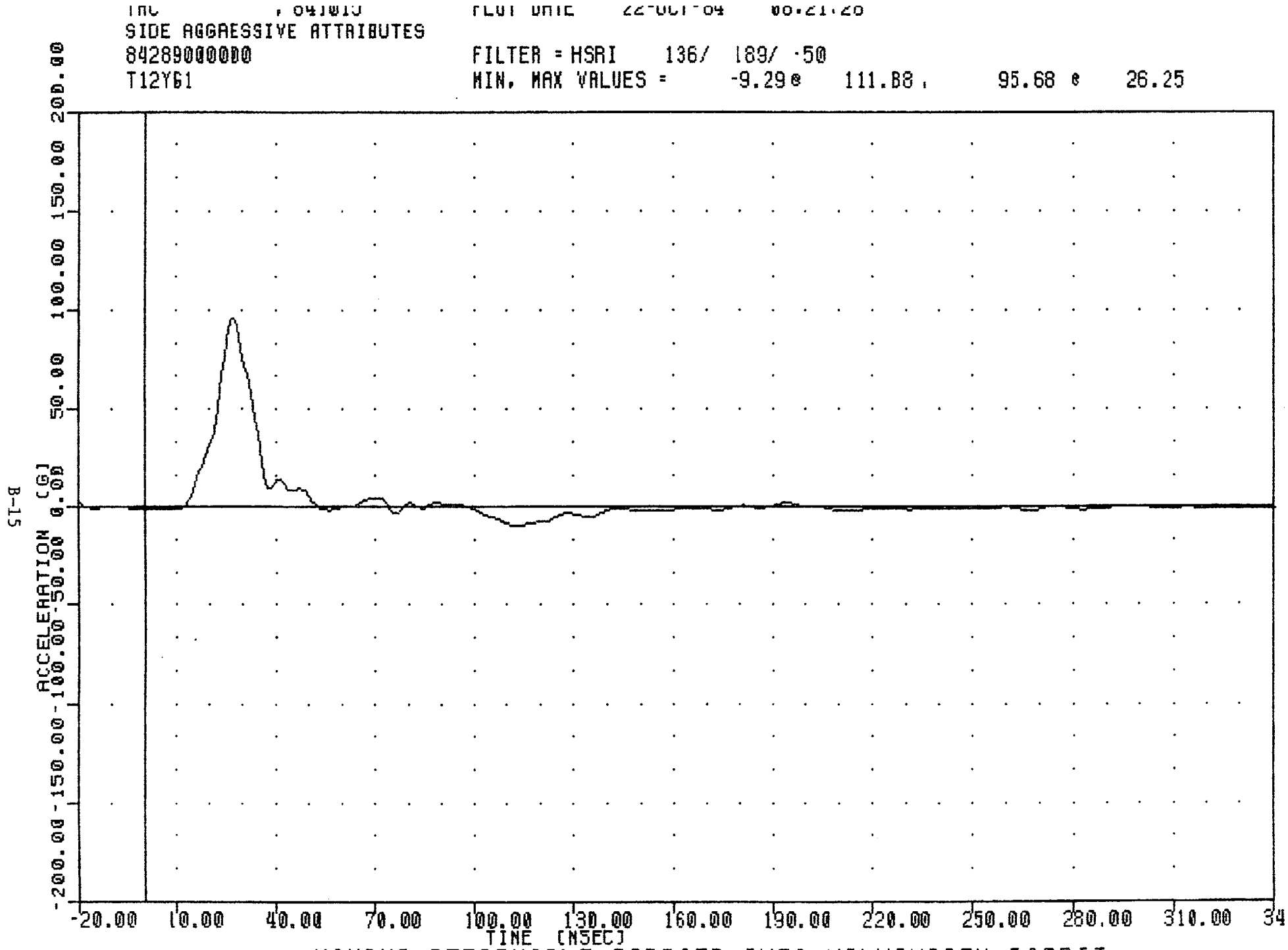
TRC , 041013 PLOT DATE 22 OCT 04 08:22:32
SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
T01YVA MIN, MAX VALUES = -1.49 @ 25.63 , 25.56 @ 140.00



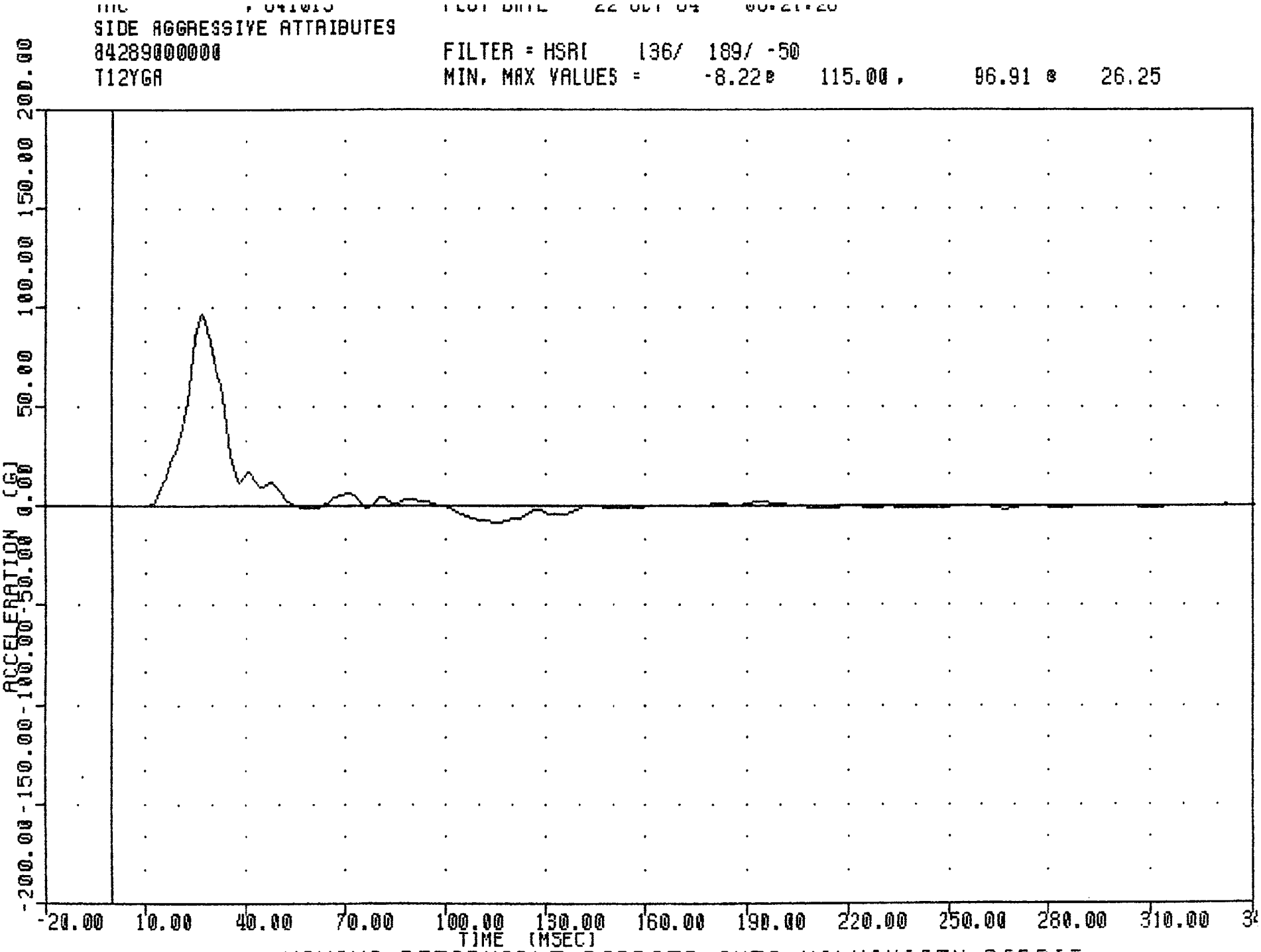
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T01YGA



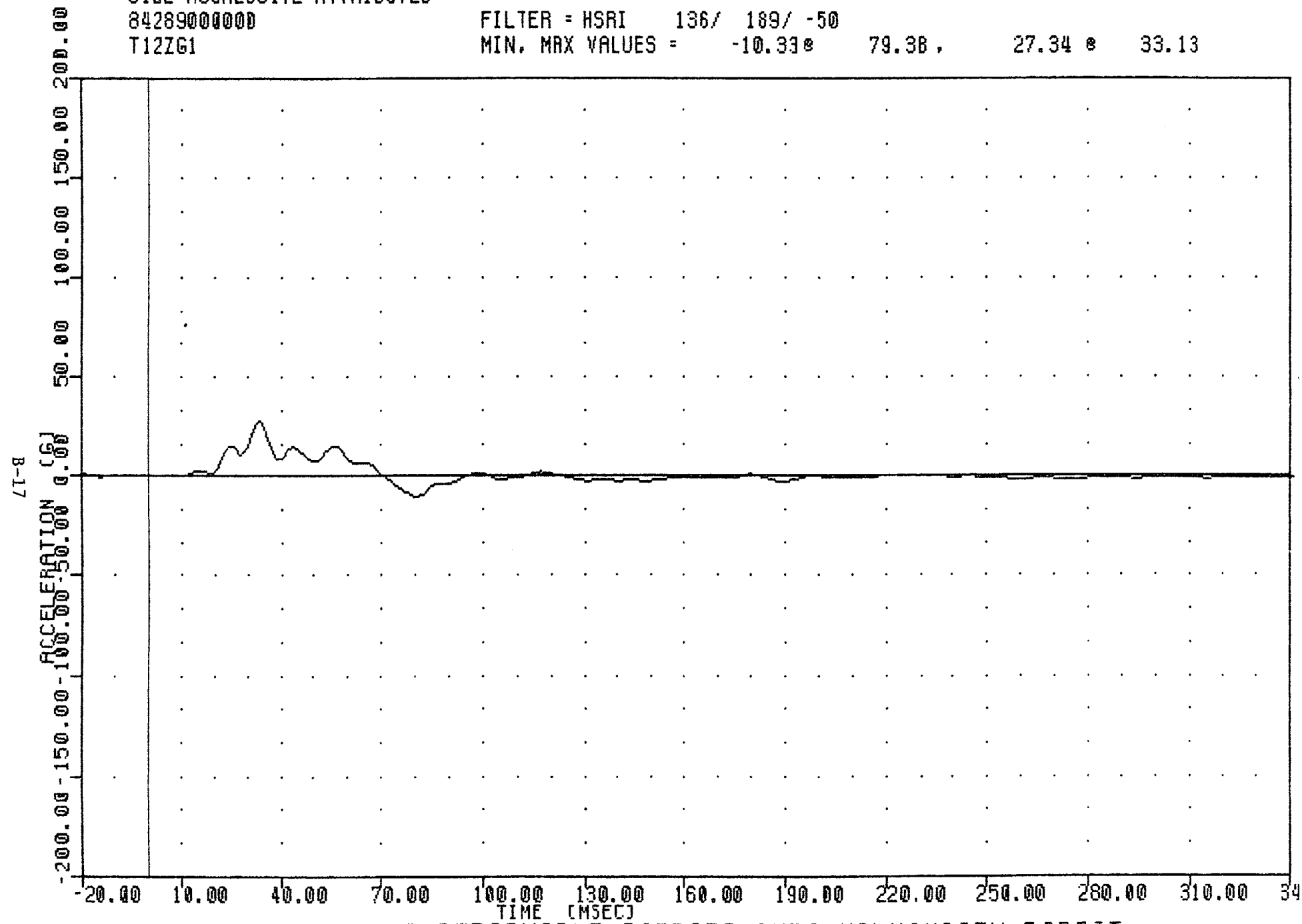
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE ACCELERATION X AXIS



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



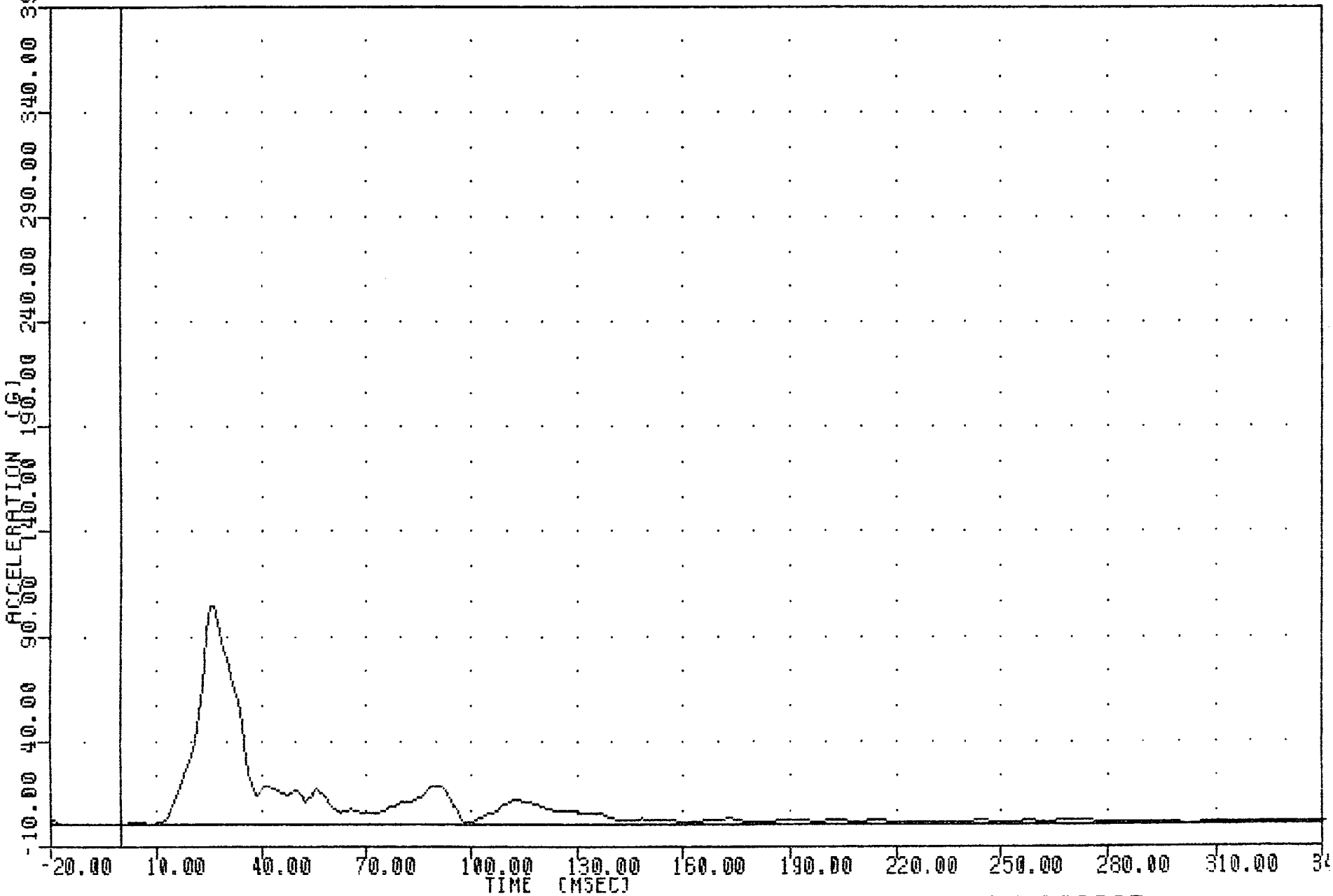
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE ACCELERATION #2 Y AXIS



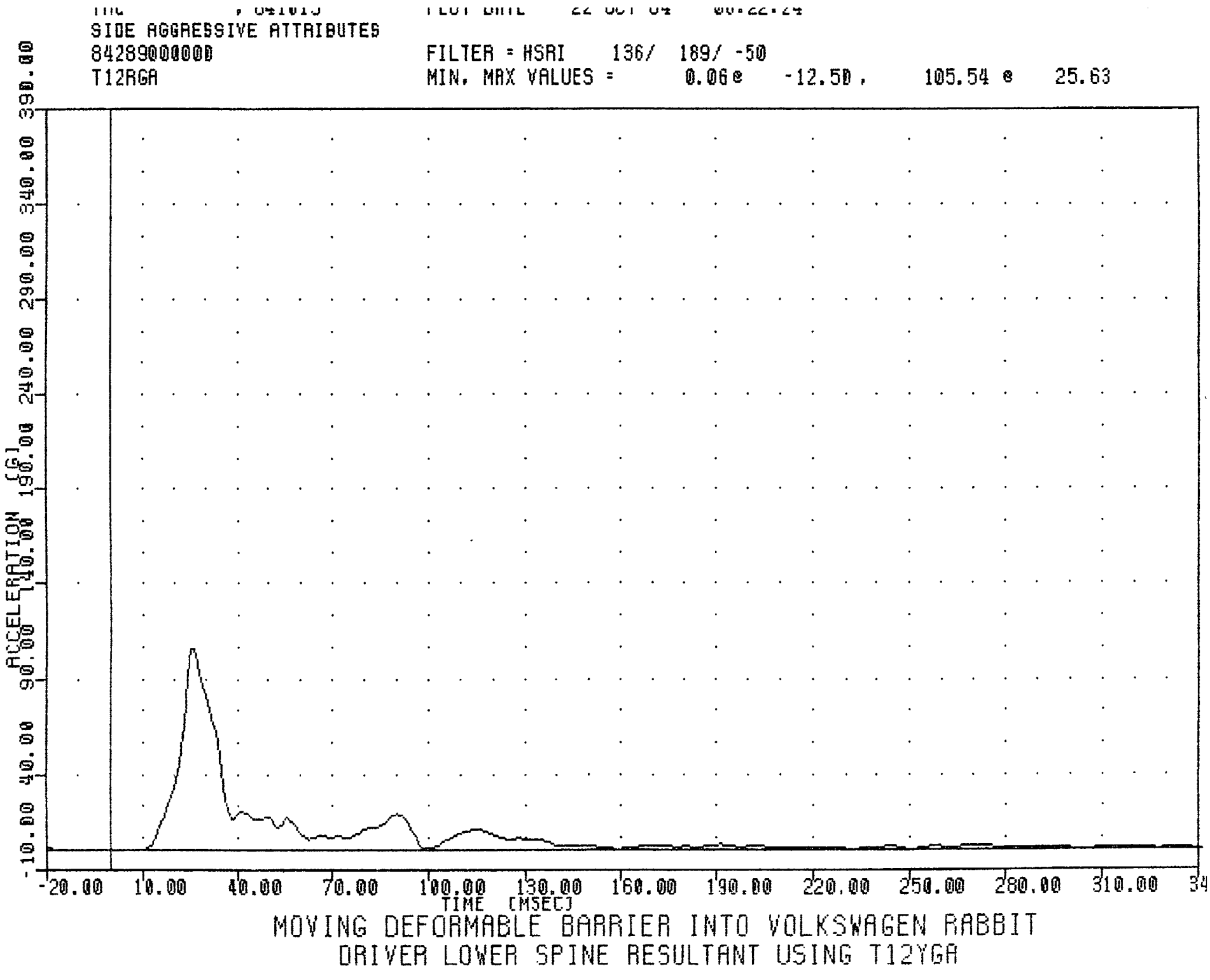
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE ACCELERATION Z AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T12RG1

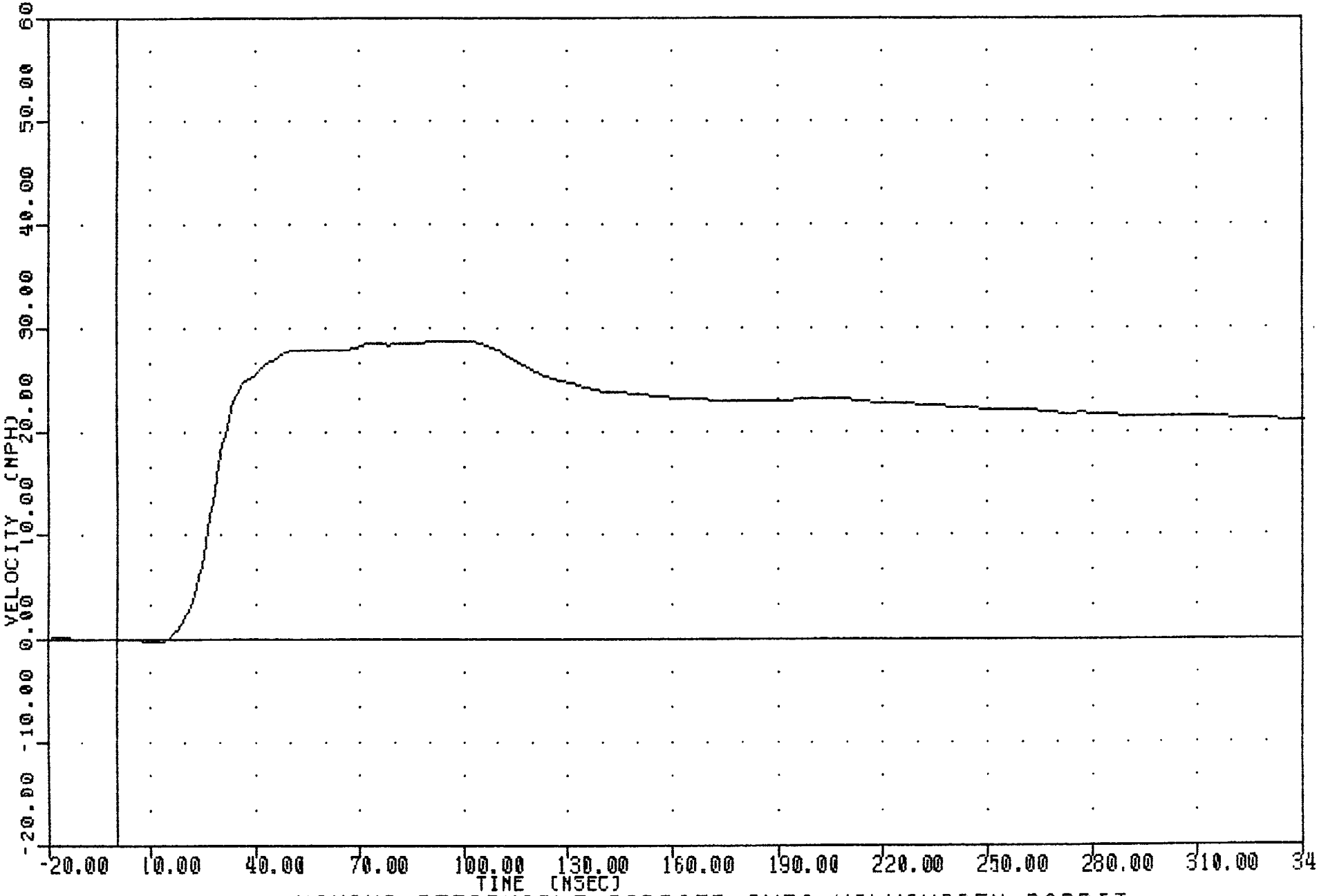
FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = 0.06 @ -12.50 , 104.73 @ 25.63



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE RESULTANT

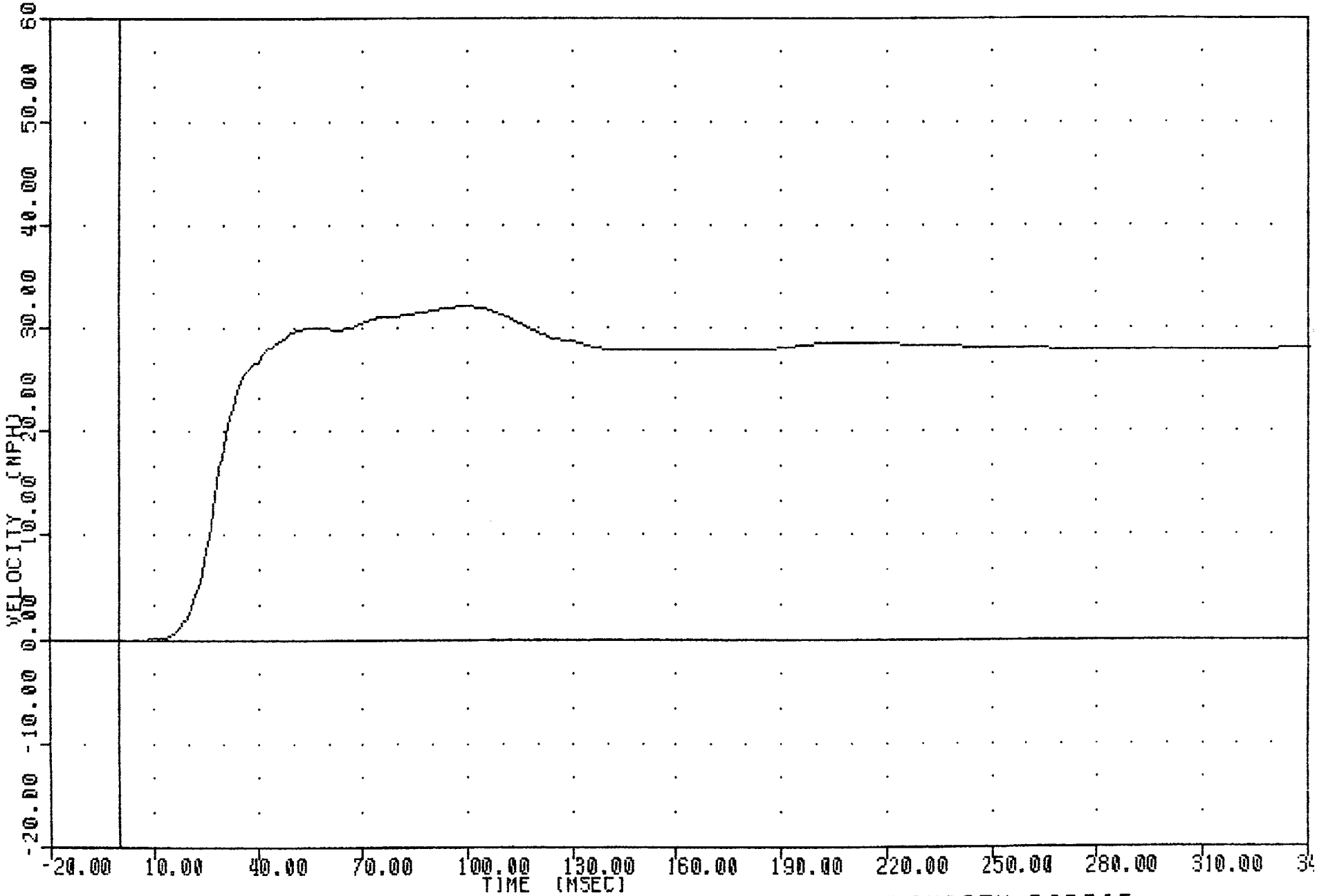

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T12RGA
FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = 0.06 @ -12.50 , 105.54 @ 25.63
ACCELERATION [G]
-10.00
40.00
90.00
140.00
190.00
240.00
290.00
340.00
390.00
-20.00
10.00
40.00
70.00
100.00
130.00
160.00
190.00
220.00
250.00
280.00
310.00
TIME [MSEC]
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LOWER SPINE RESULTANT USING T12YGA

SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
T12YV1 MIN, MAX VALUES = -0.28 @ 11.25 , 28.85 @ 97.50

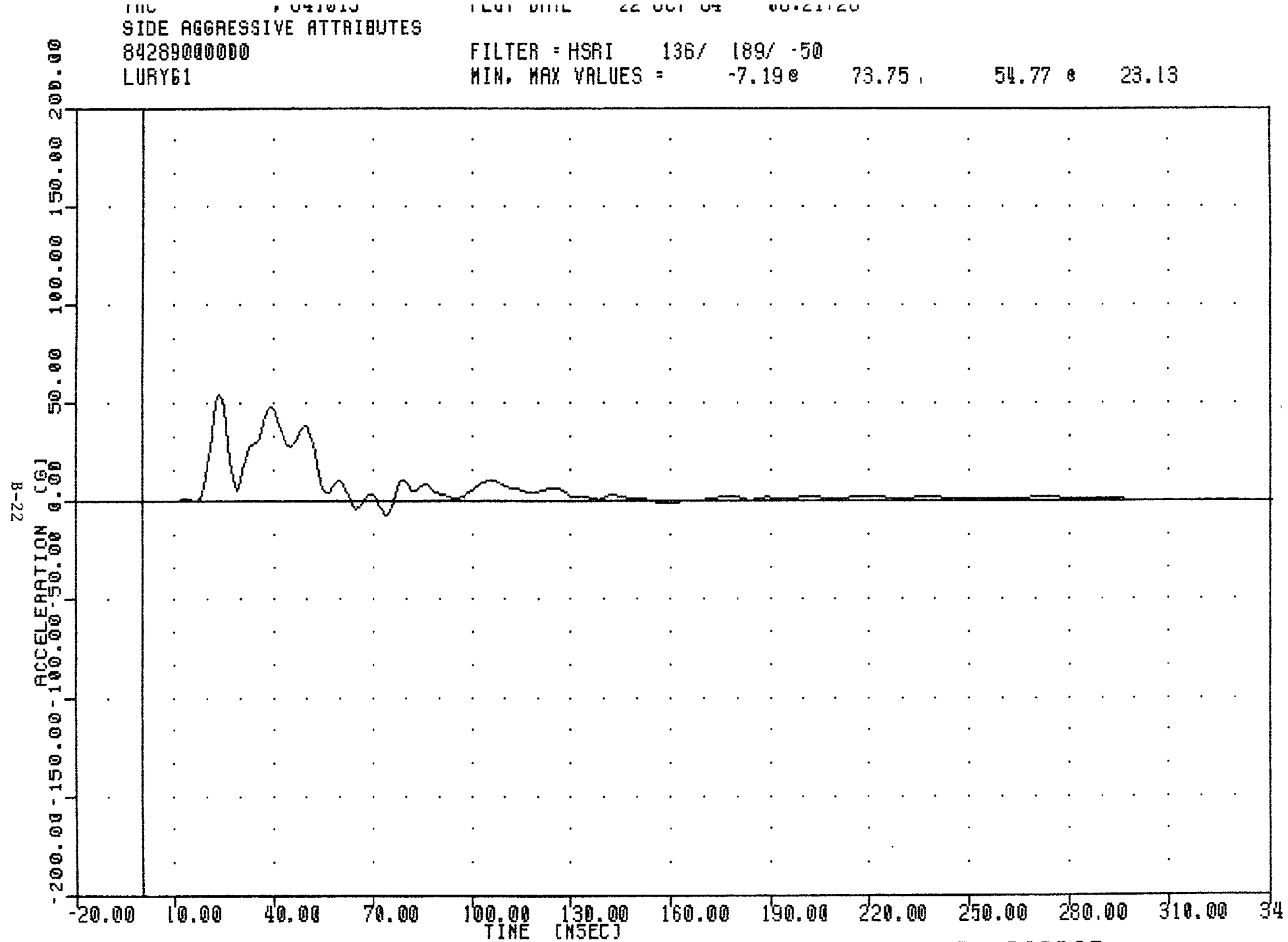


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T12YG1

INC , 041013 PLOT DATE 22 OCT 04 08:22:32
SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
T12YVA MIN, MAX VALUES = -0.02 @ 4.38 , 32.07 @ 98.75



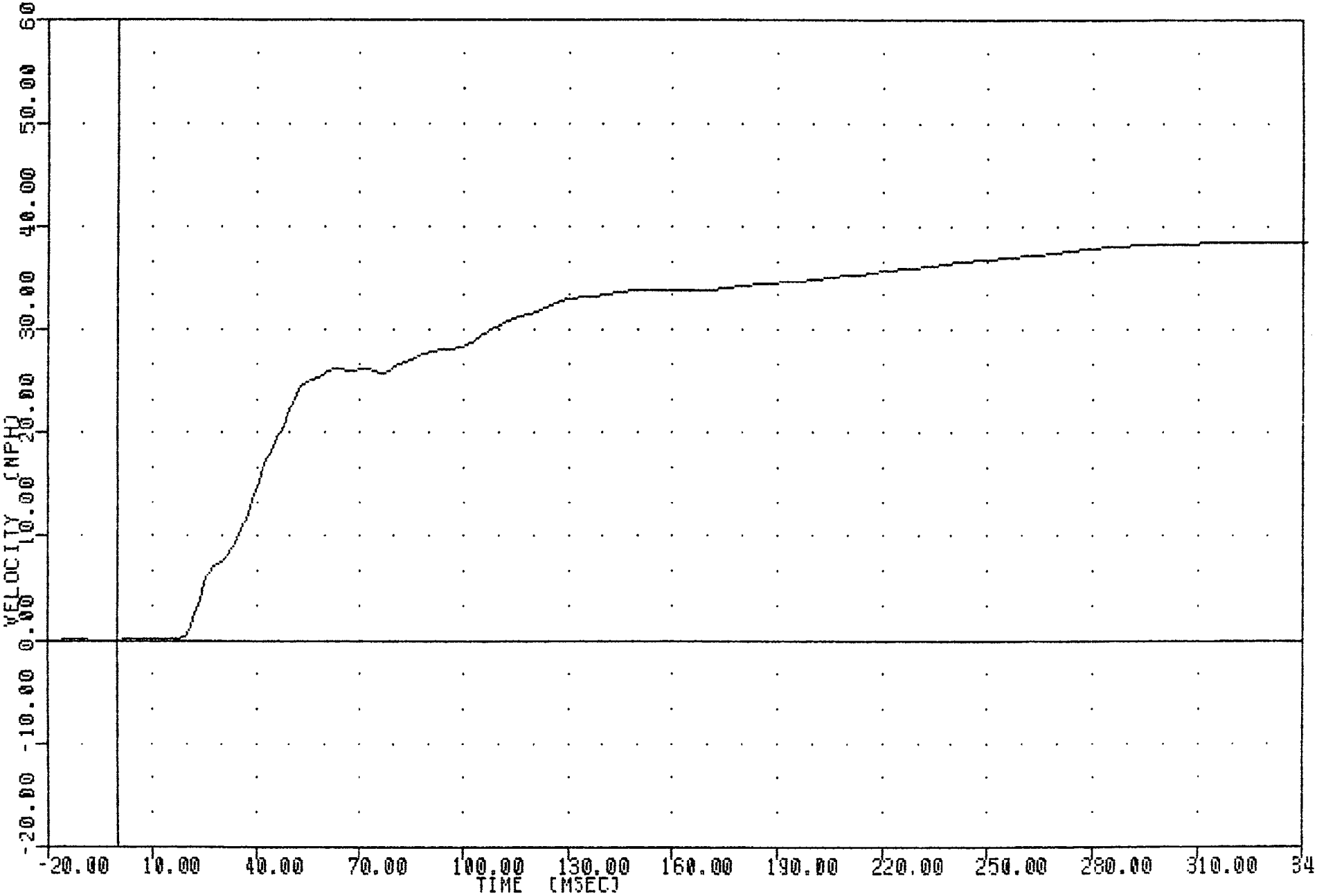
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T12YGA



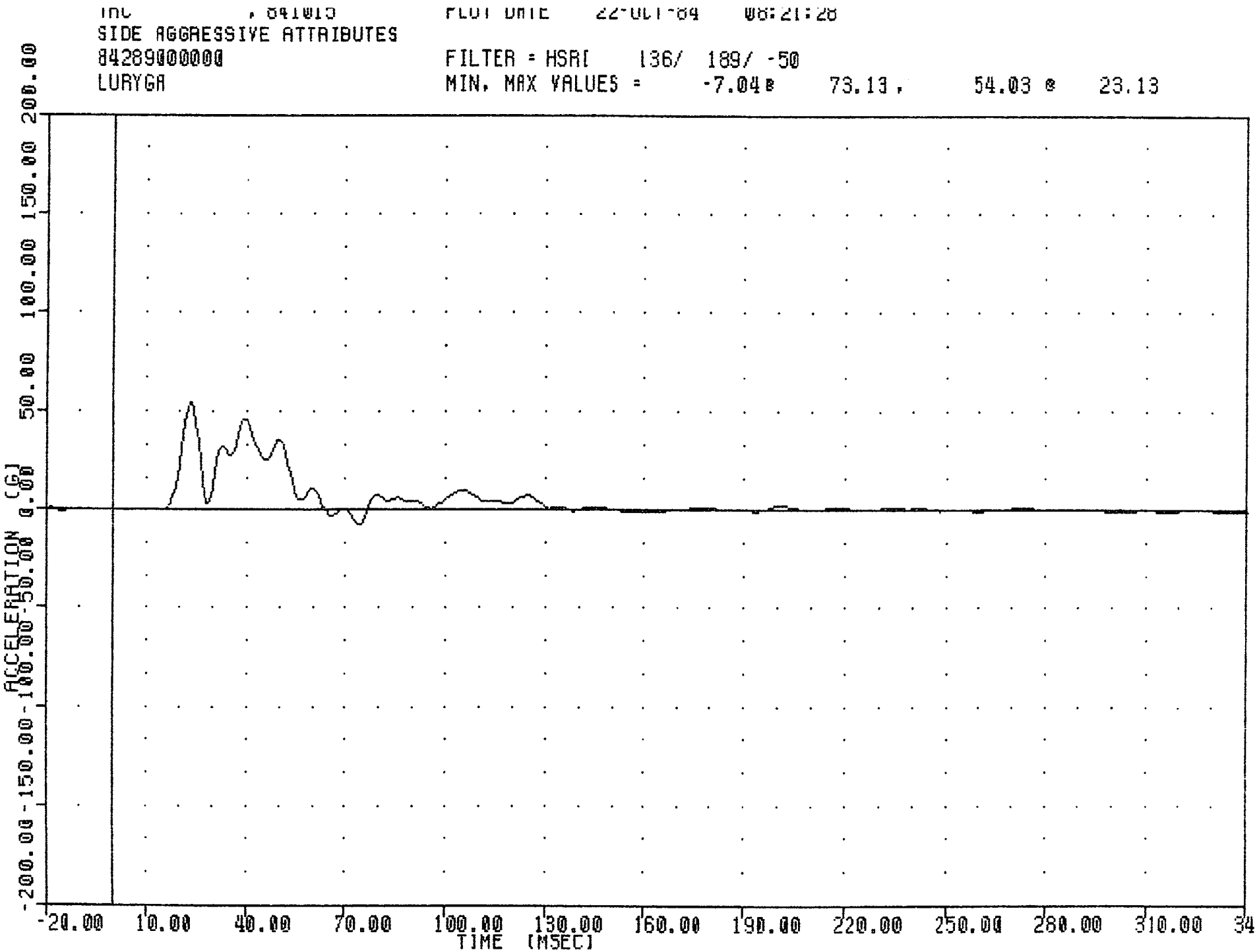
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LEFT UPPER RIB ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LURYV1

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -0.01@ -4.38, 38.56 @ 340.00



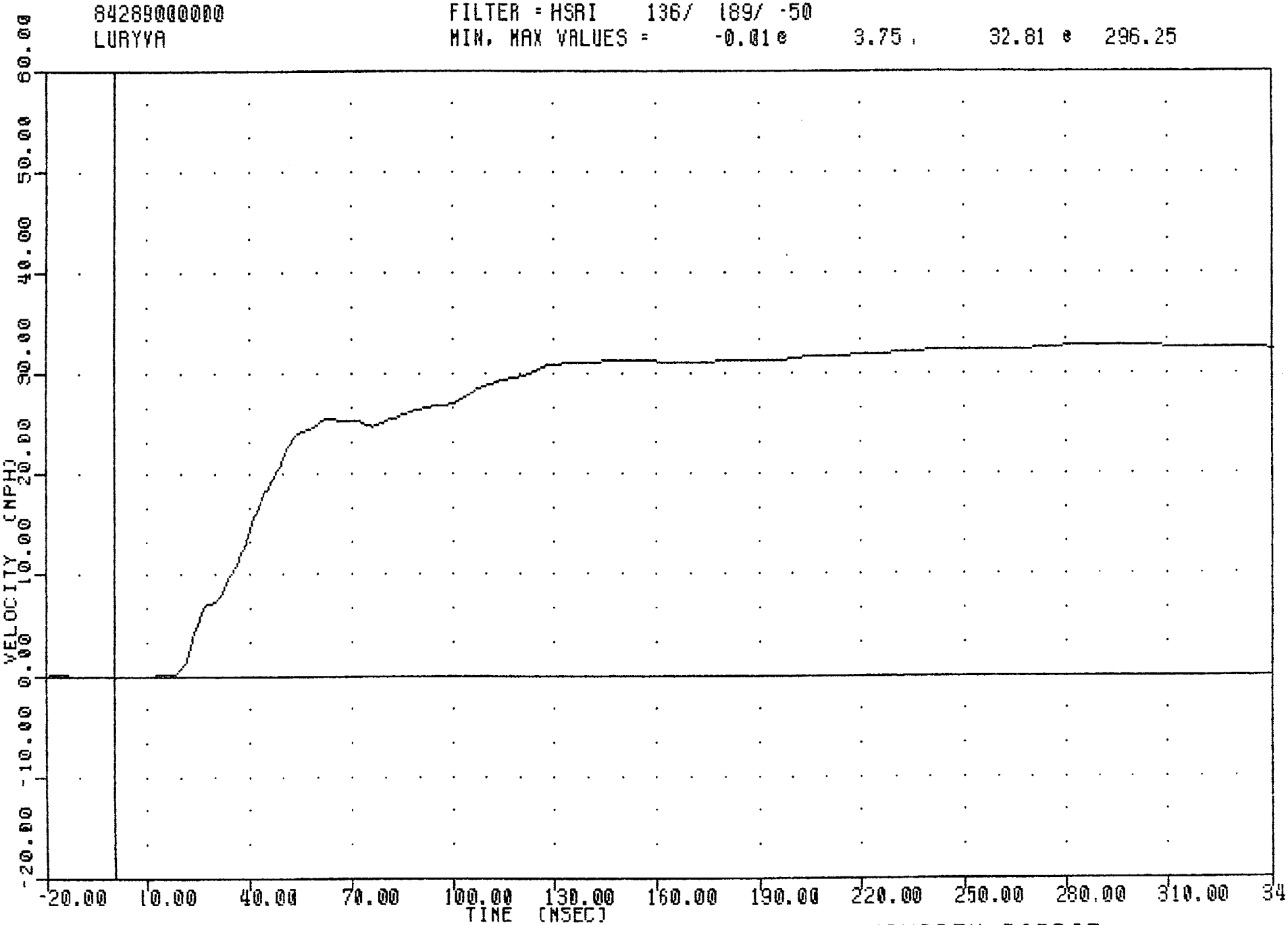
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LURYG1



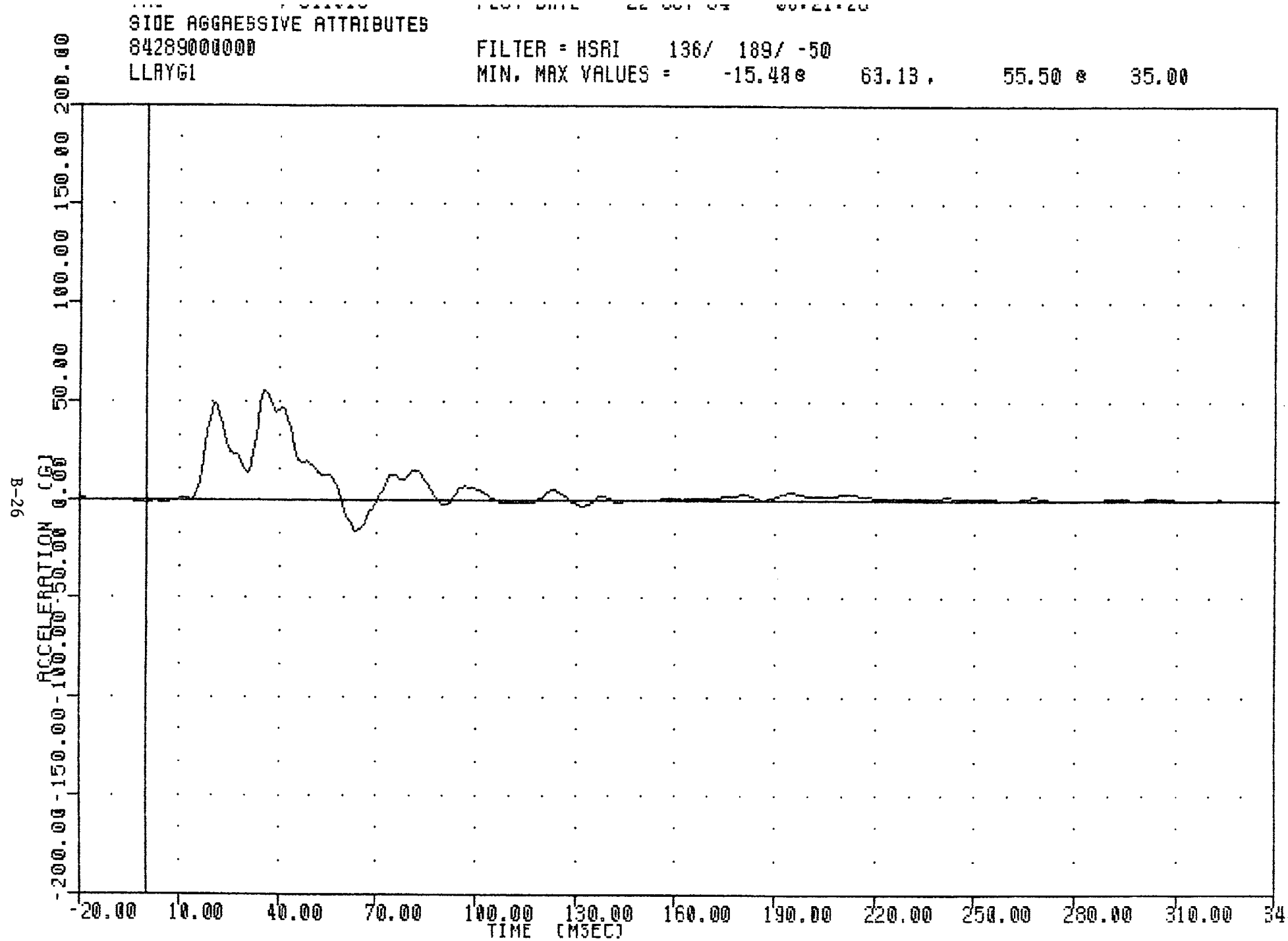
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LEFT UPPER RIB ACCELERATION -2 Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LURYYA

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -0.01 @ 3.75 , 32.81 @ 296.25



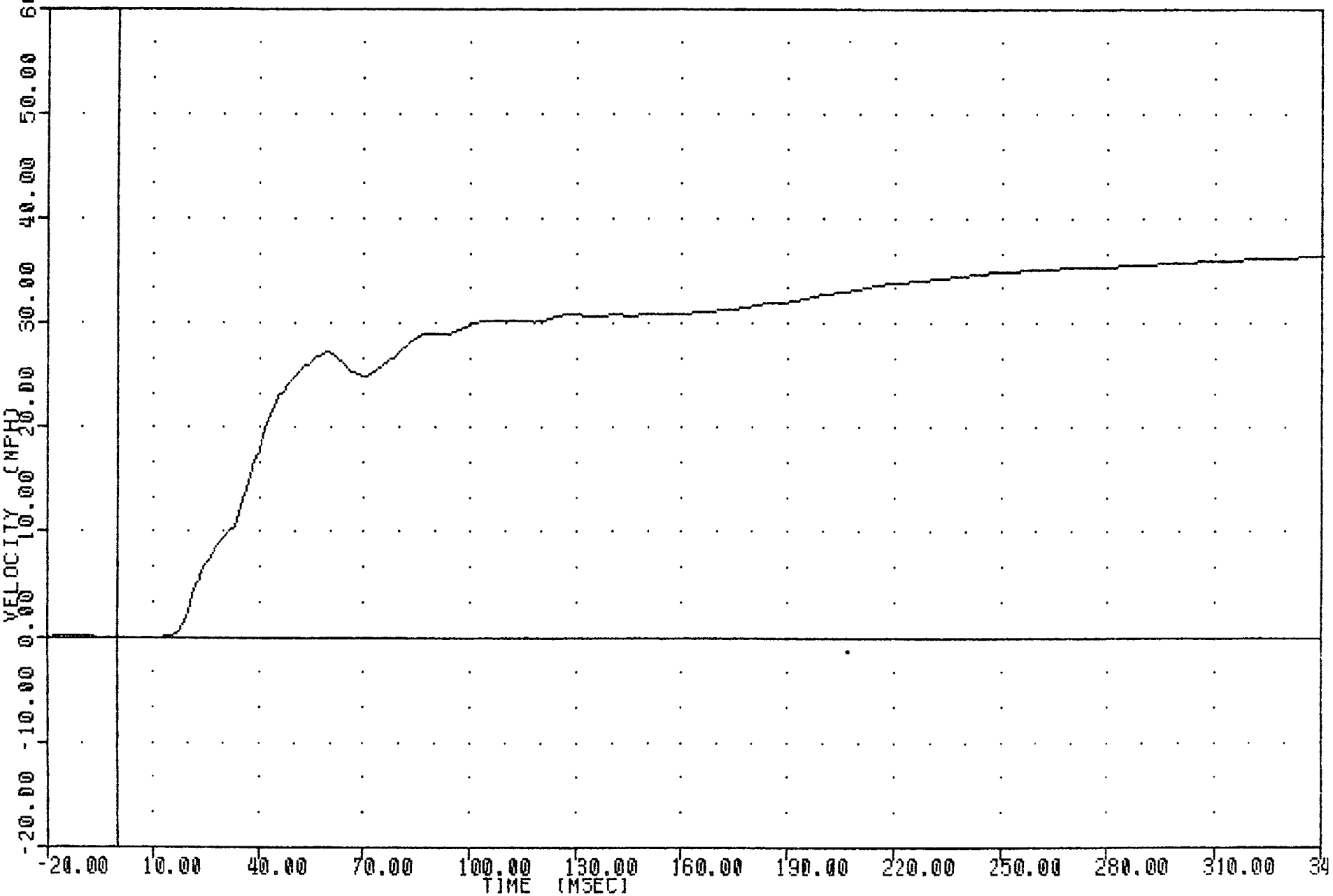
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LURYGA



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

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LLRYV1

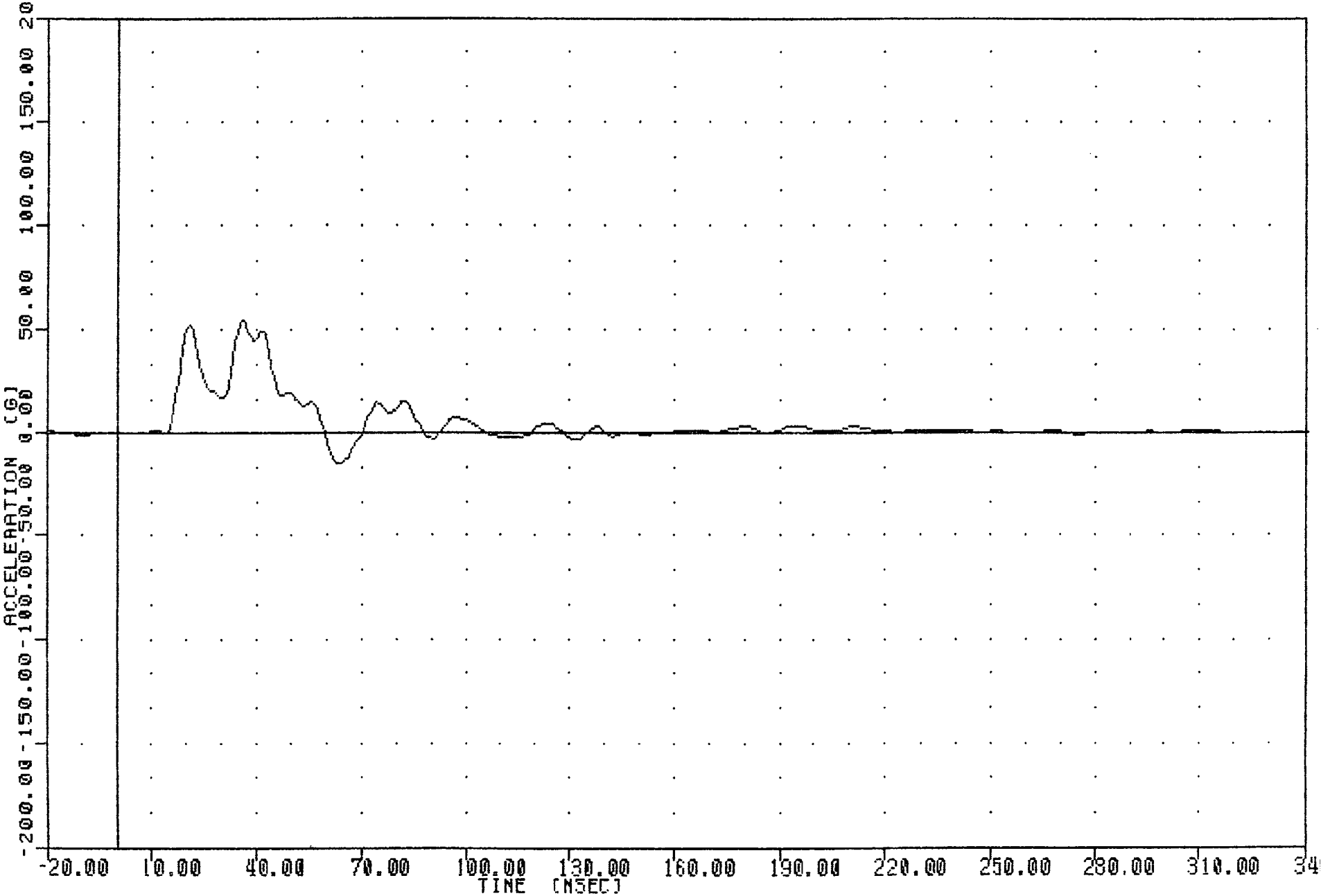
FILTER = HSRI [36/ 189/ -50
MIN, MAX VALUES = -0.08 @ 7.50 , 36.38 @ 340.00



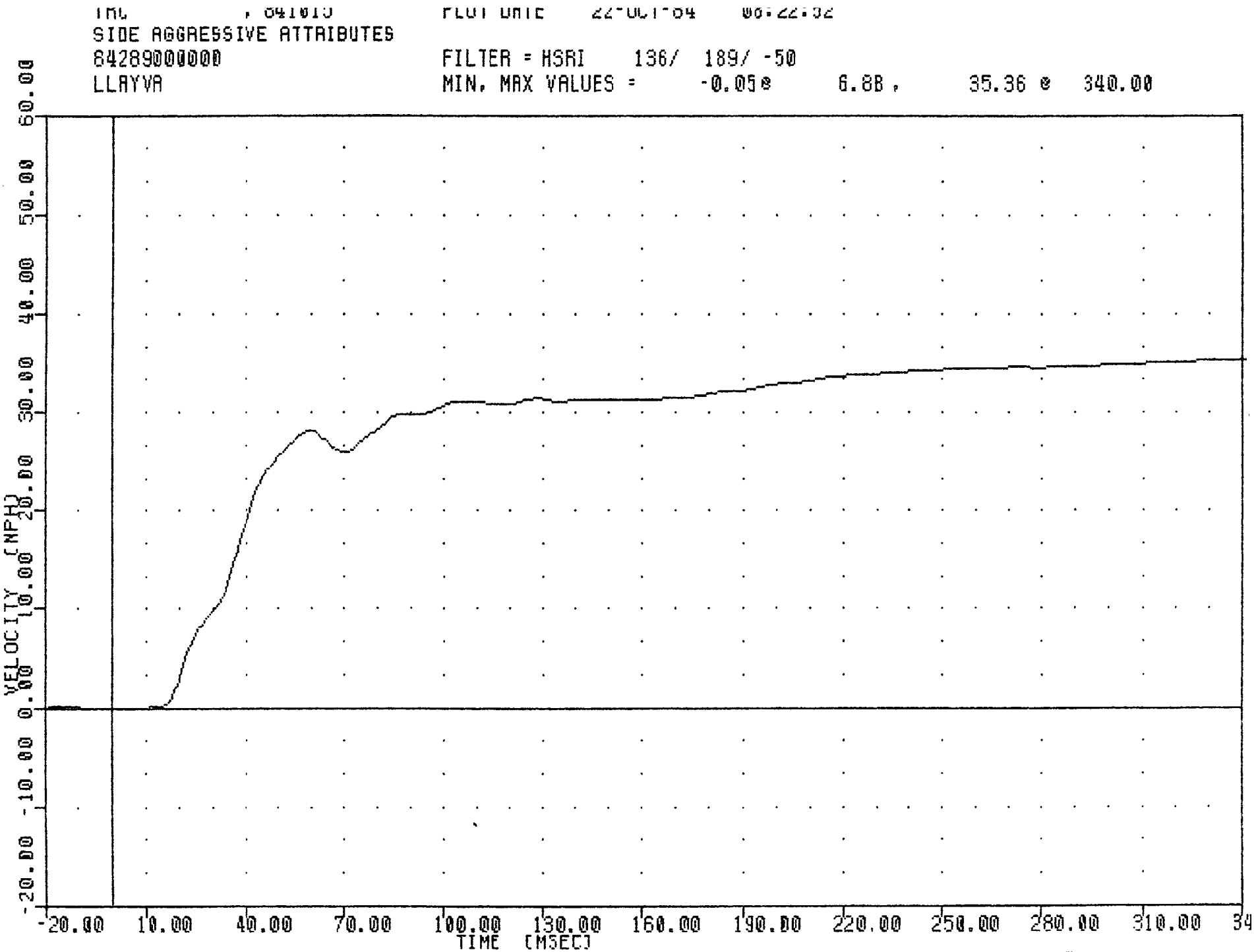
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LLRYG1

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LLRY6A

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -14.86 @ 63.13 , 54.60 @ 35.00



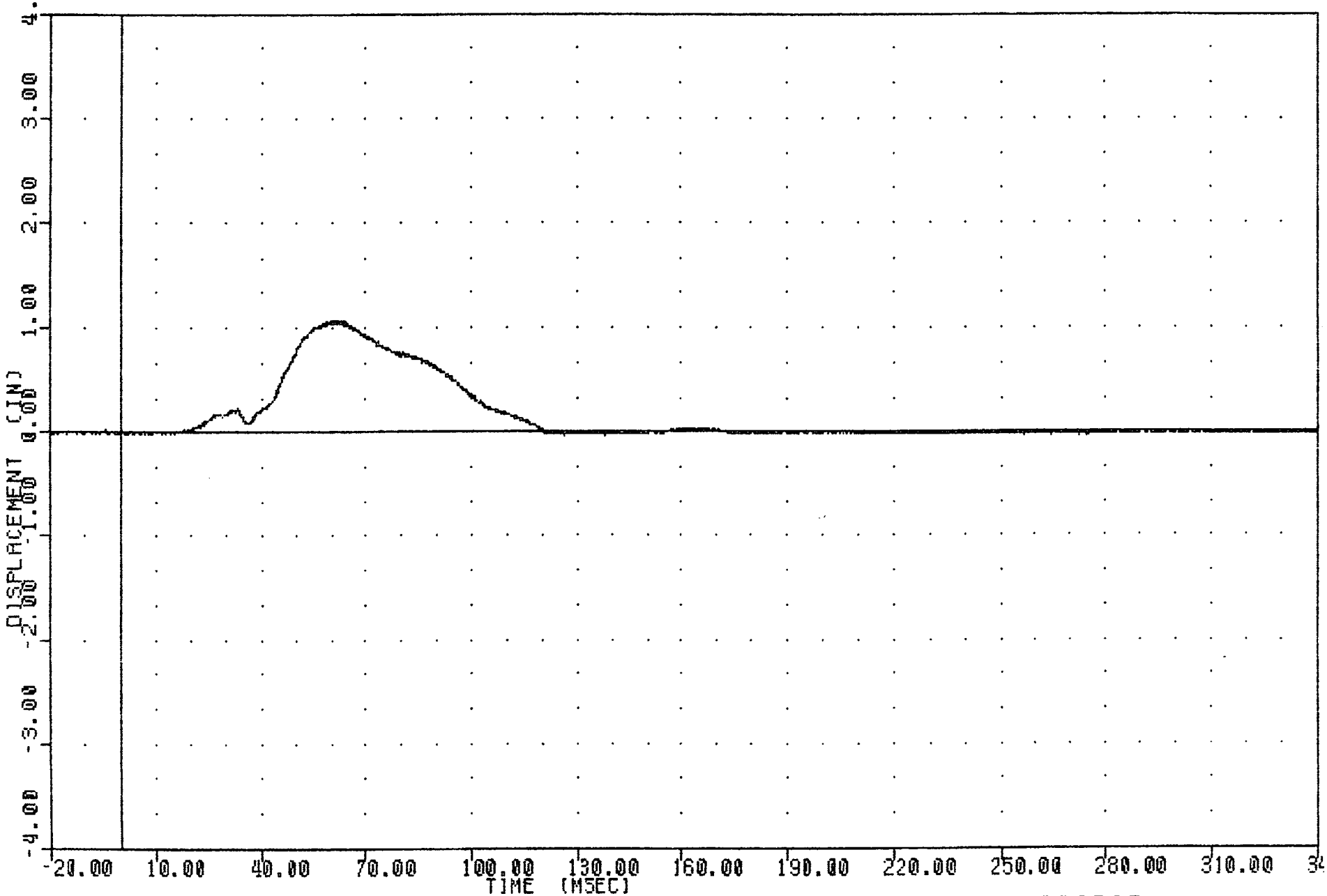
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LEFT LOWER RIB ACCELERATION -2 Y AXIS



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LLAYGA

SIDE AGGRESSIVE ATTRIBUTES
84289@@@@@@
LRTYD1

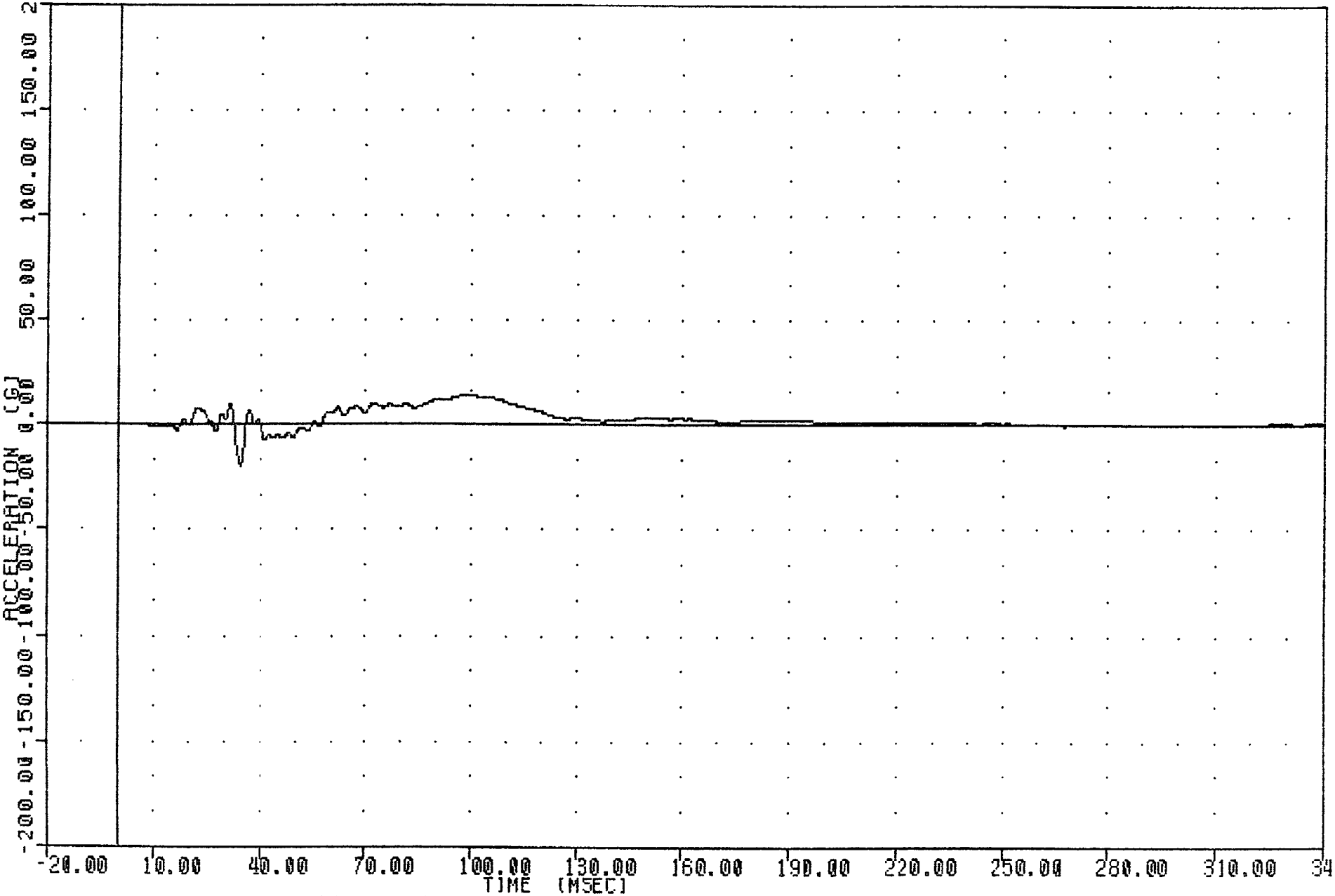
FILTER = ALPF 1650/ 5217/ -40
MIN, MAX VALUES = -0.03@ 274.75 , 1.07 @ 60.75



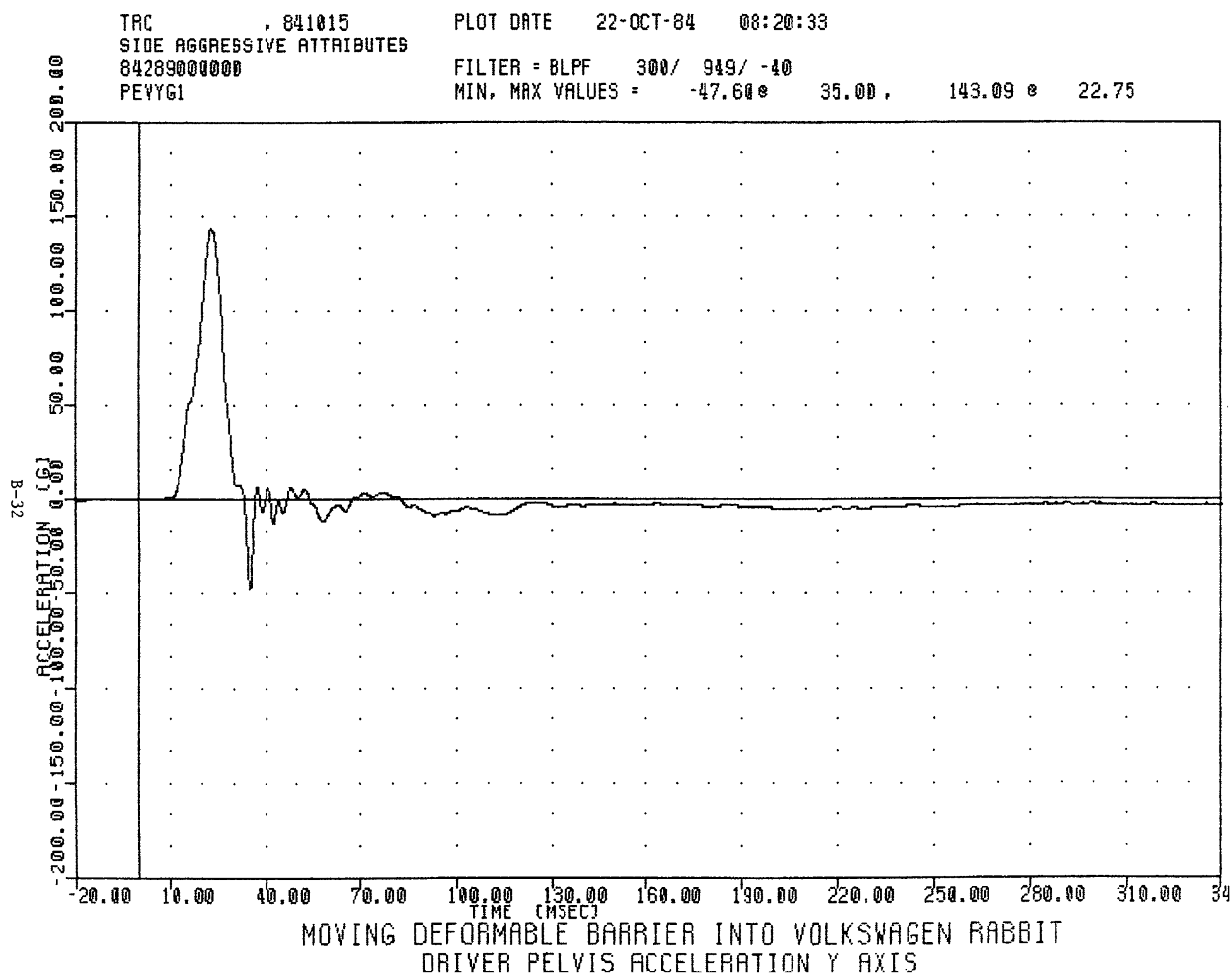
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER LEFT RIB TO SPINE DISPLACEMENT INCHES

SIDE AGGRESSIVE ATTRIBUTES
84289000000
PEVXG1

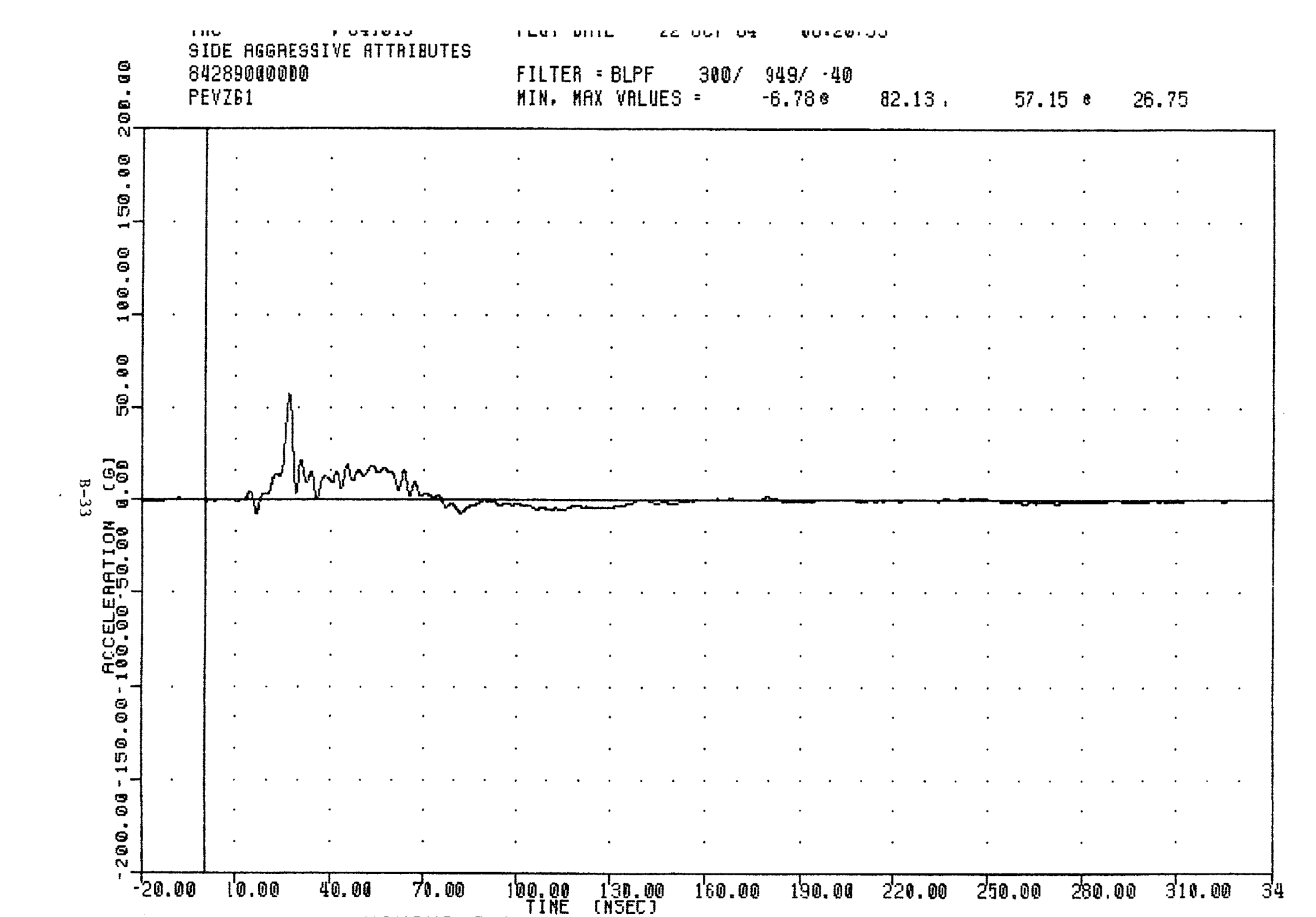
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -20.05 @ 34.13 , 14.47 @ 98.50



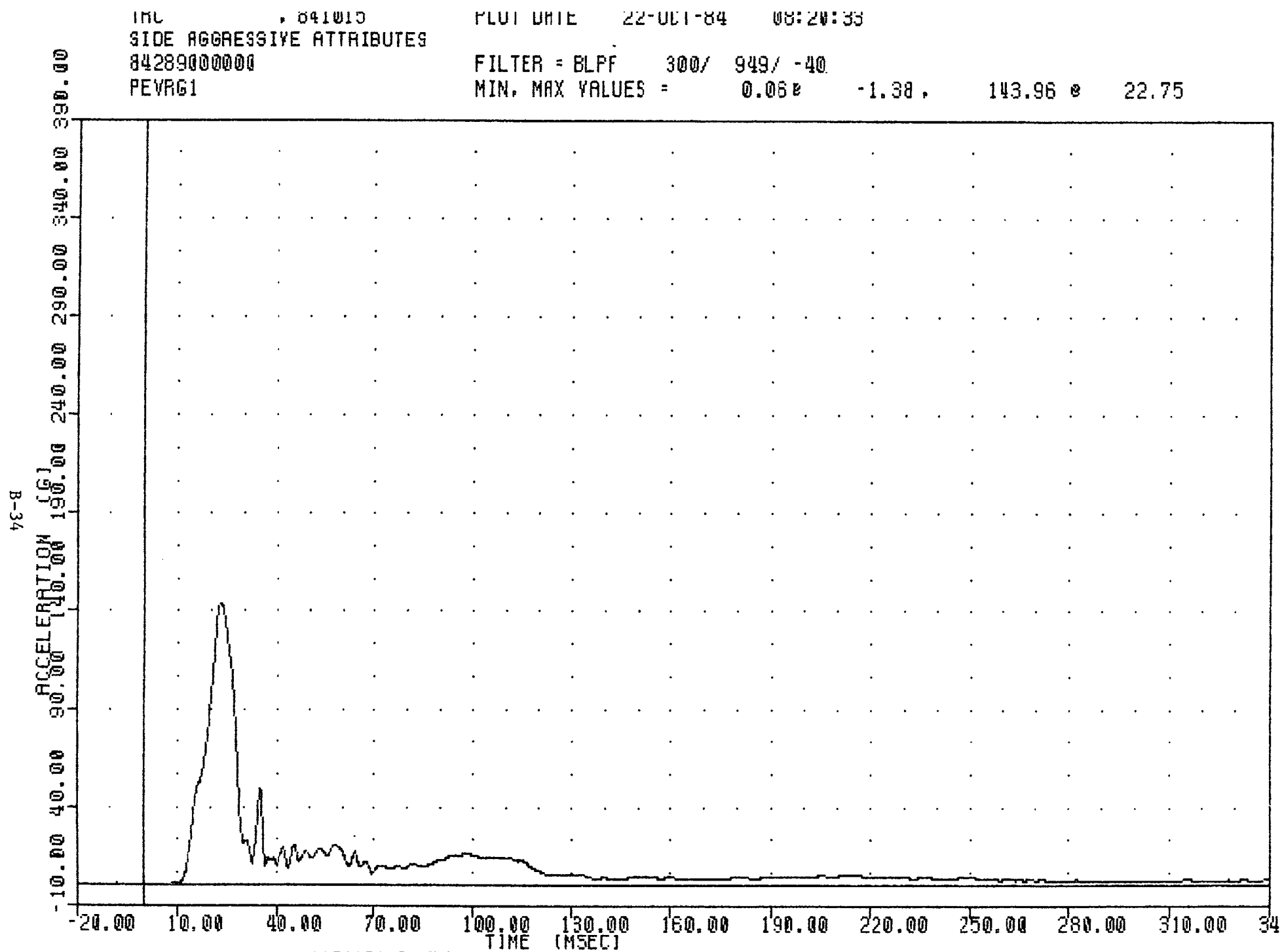
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER PELVIS ACCELERATION X AXIS



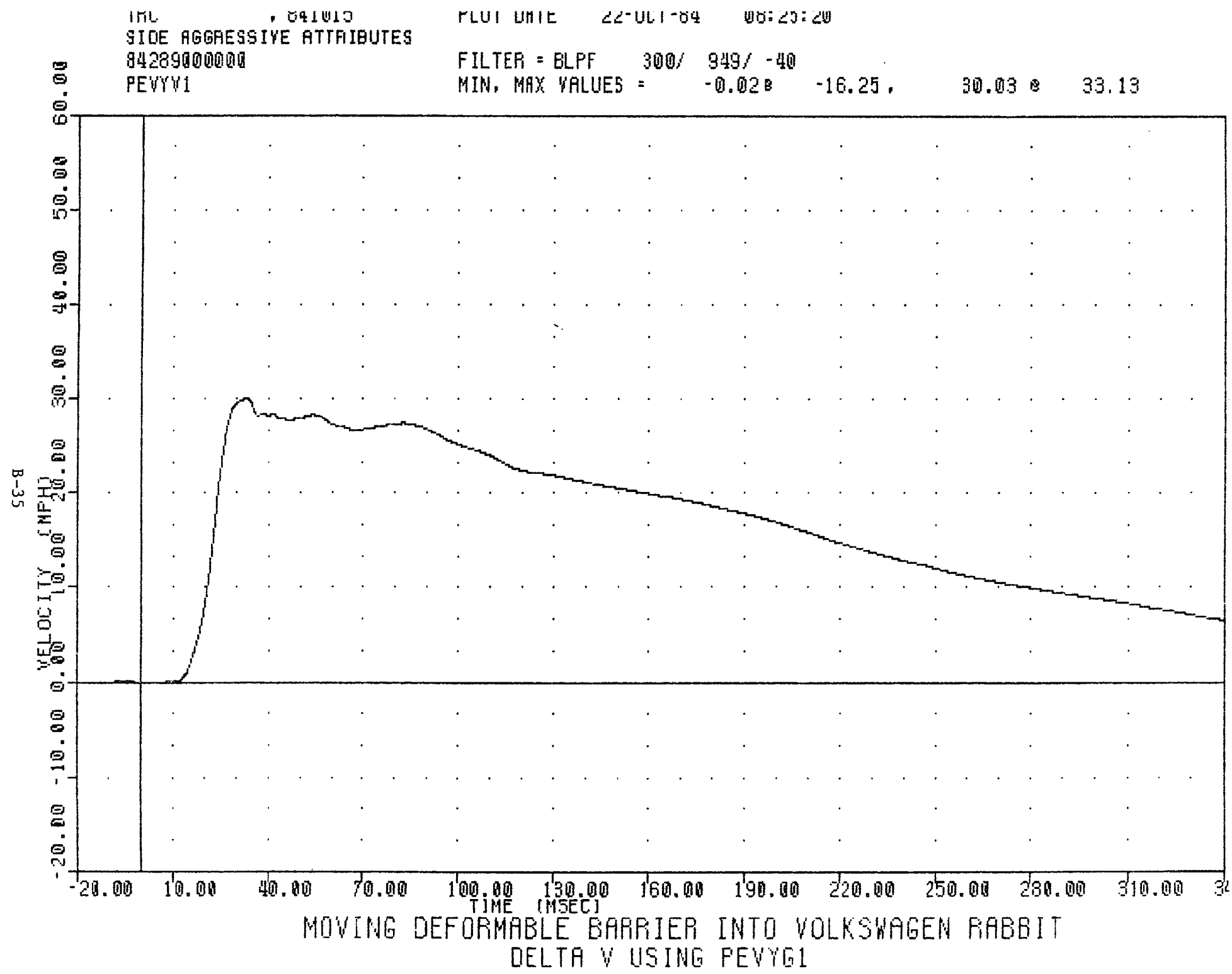
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER PELVIS ACCELERATION Y AXIS



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER PELVIS ACCELERATION Z AXIS



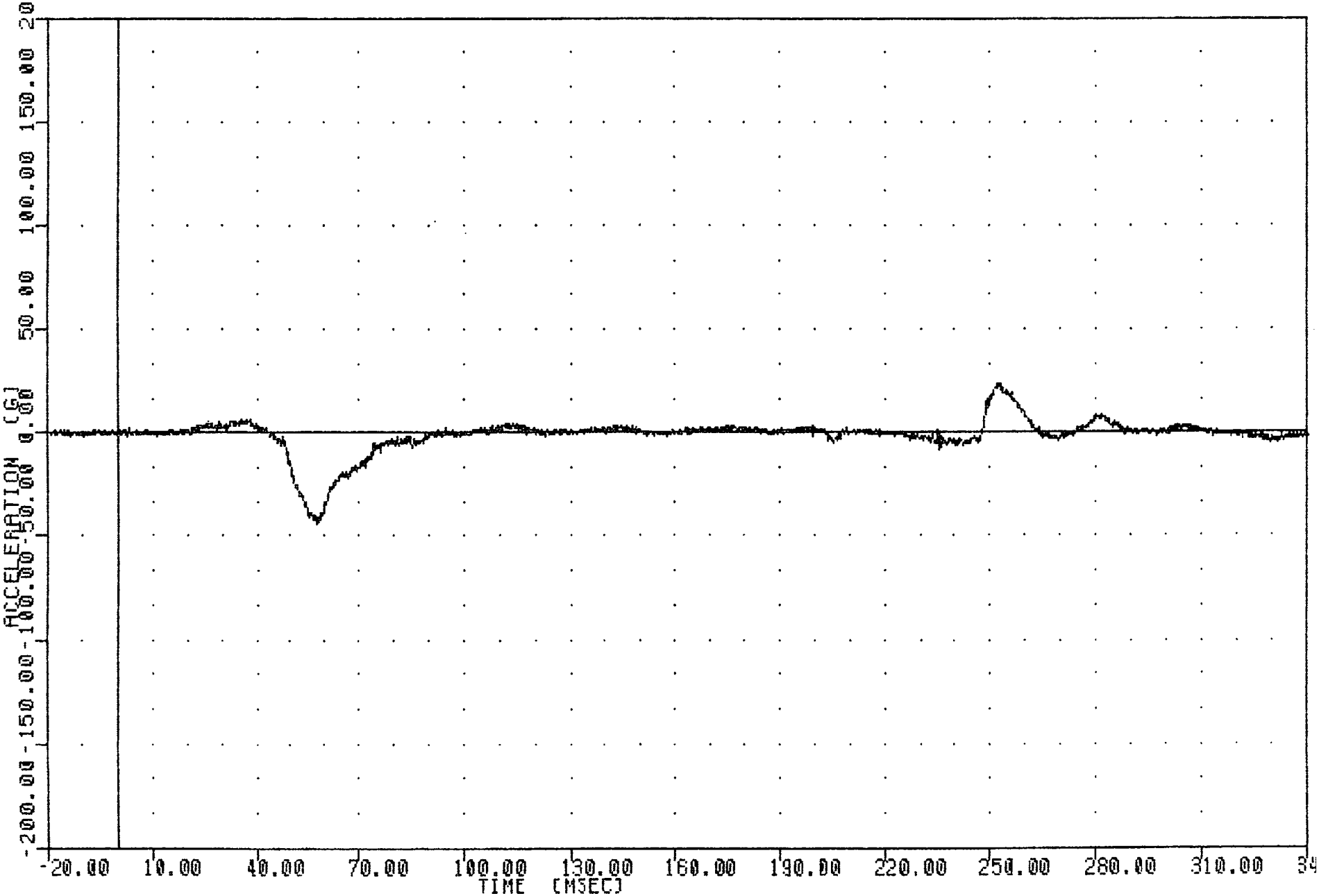
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DRIVER PELVIS RESULTANT



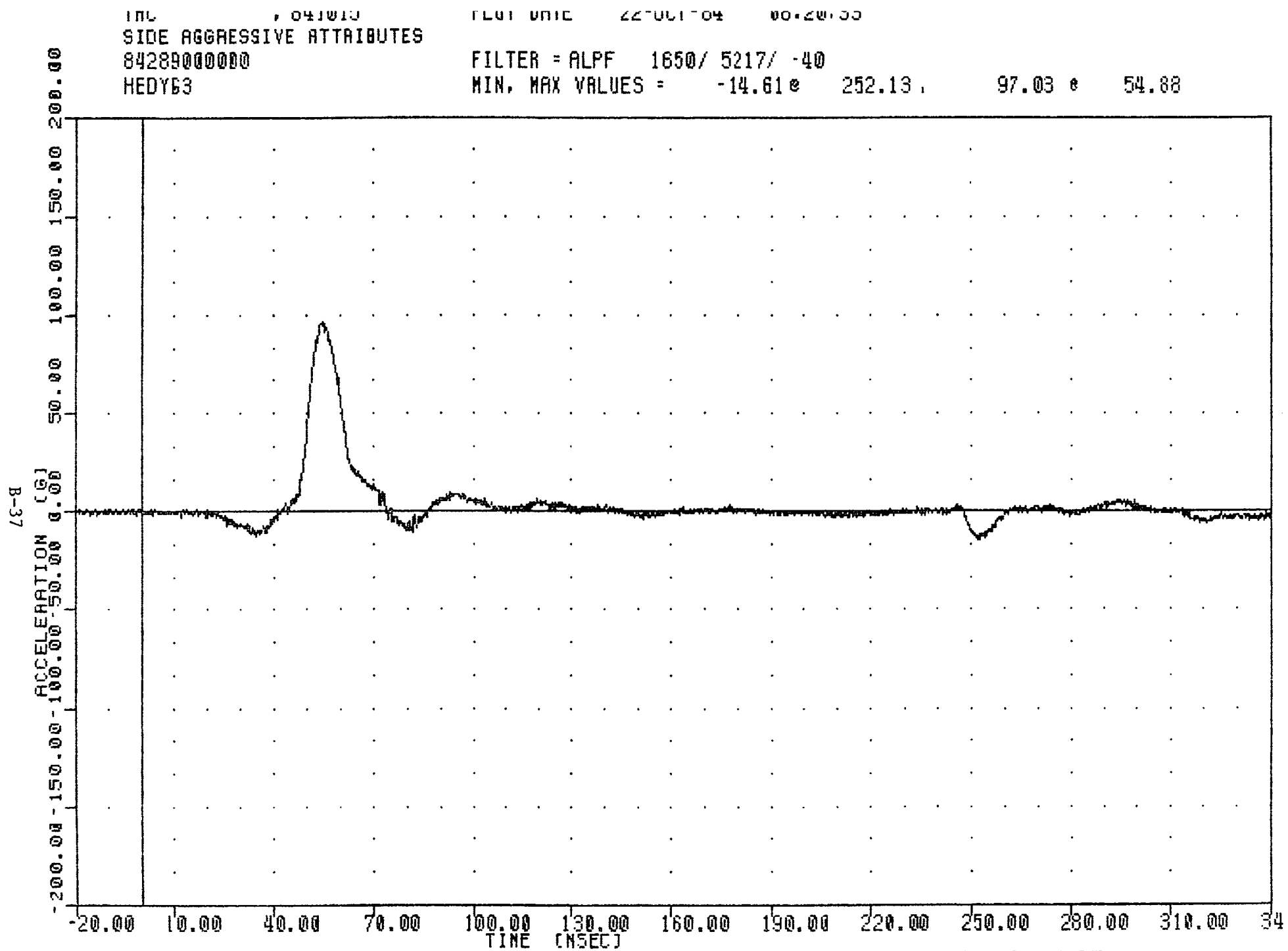
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING PEVYG1

SIDE AGGRESSIVE ATTRIBUTES
84289000000
HEDXG3

FILTER = ALPF 1650/ 5217/ -40
MIN, MAX VALUES = -44.23 @ 57.75 , 23.55 @ 252.63



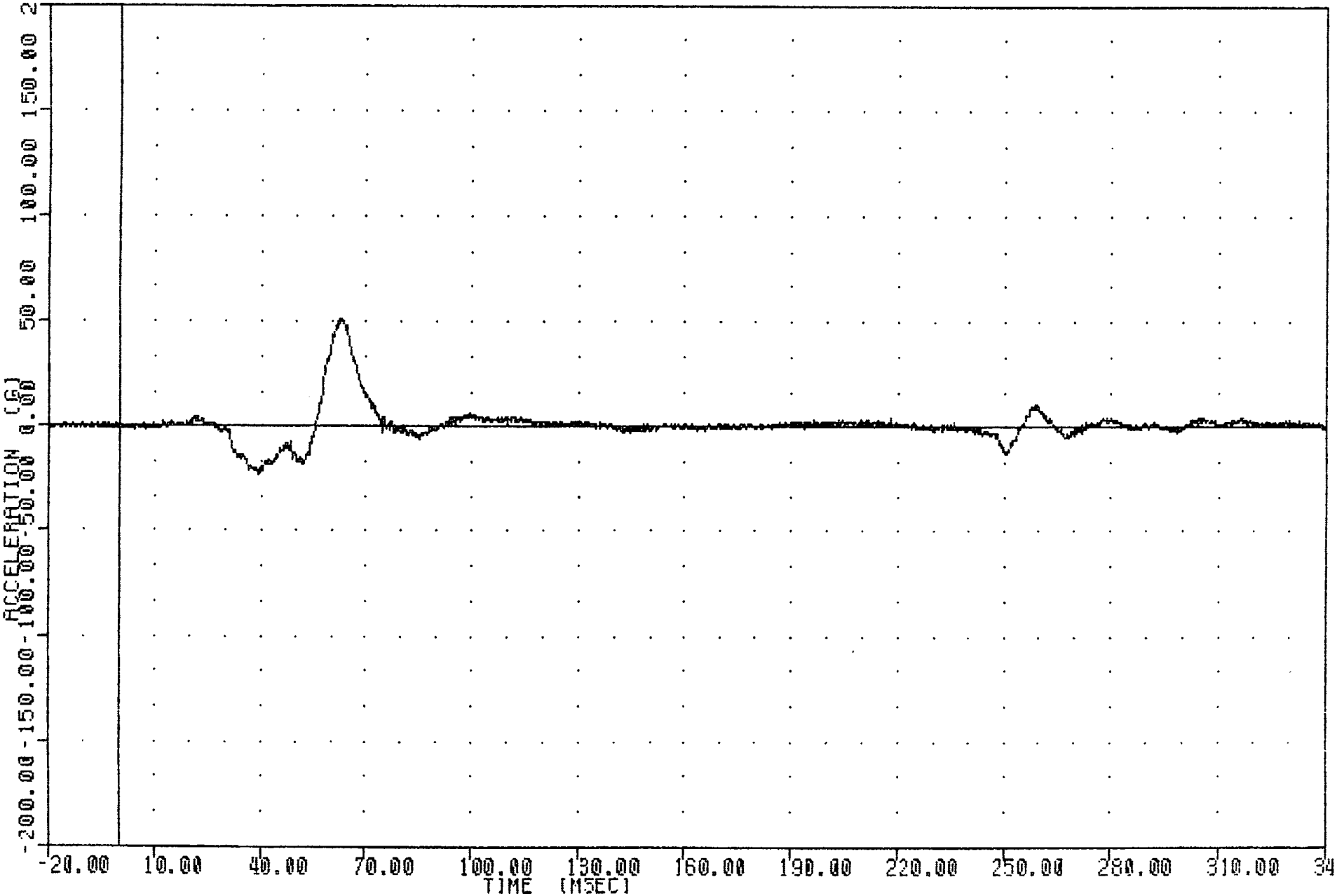
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER HEAD ACCELERATION X AXIS



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER HEAD ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
HEDZG3

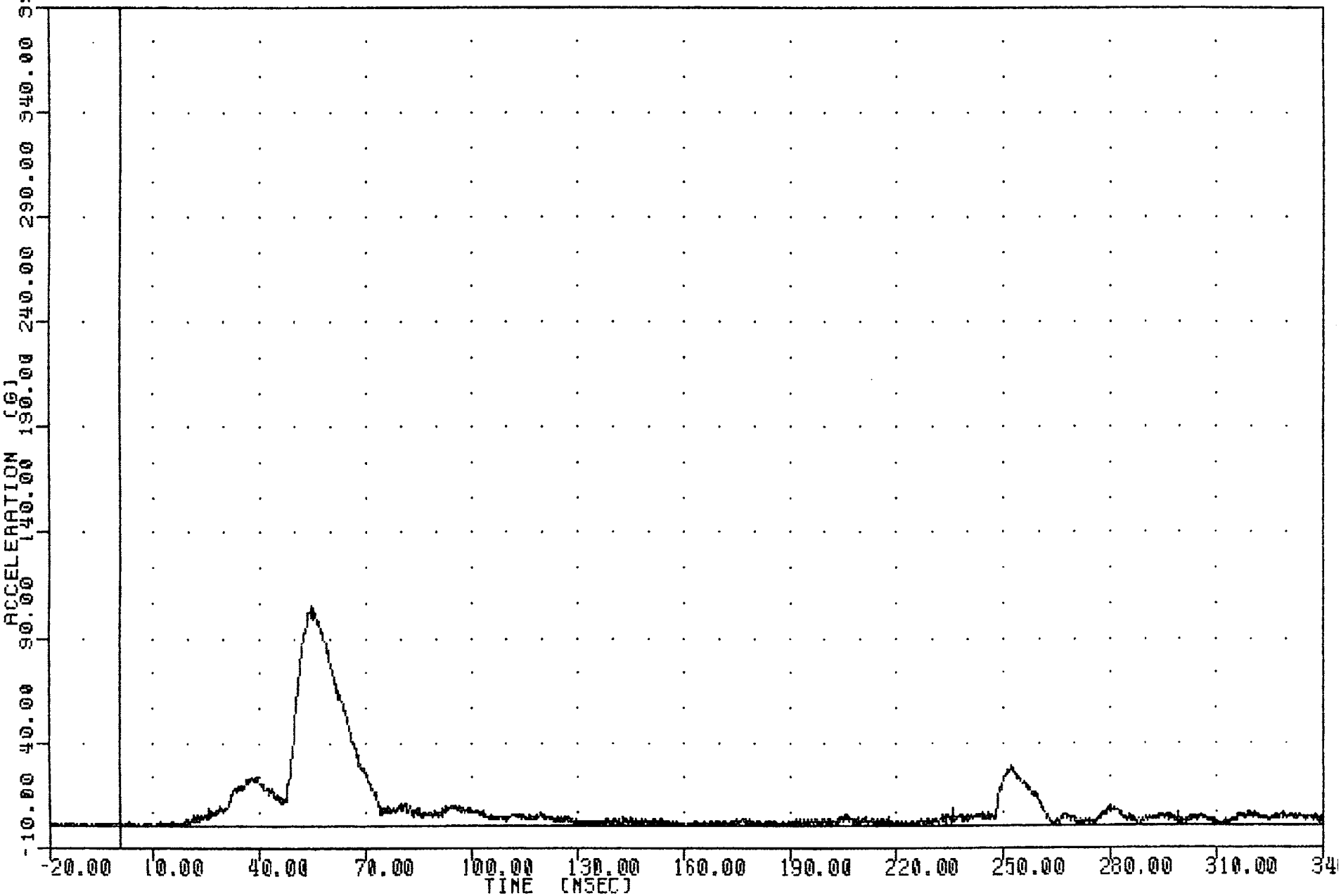
FILTER = ALPF 1650/ 5217/ -40
MIN, MAX VALUES = -22.73 @ 39.00 , 51.54 @ 62.50



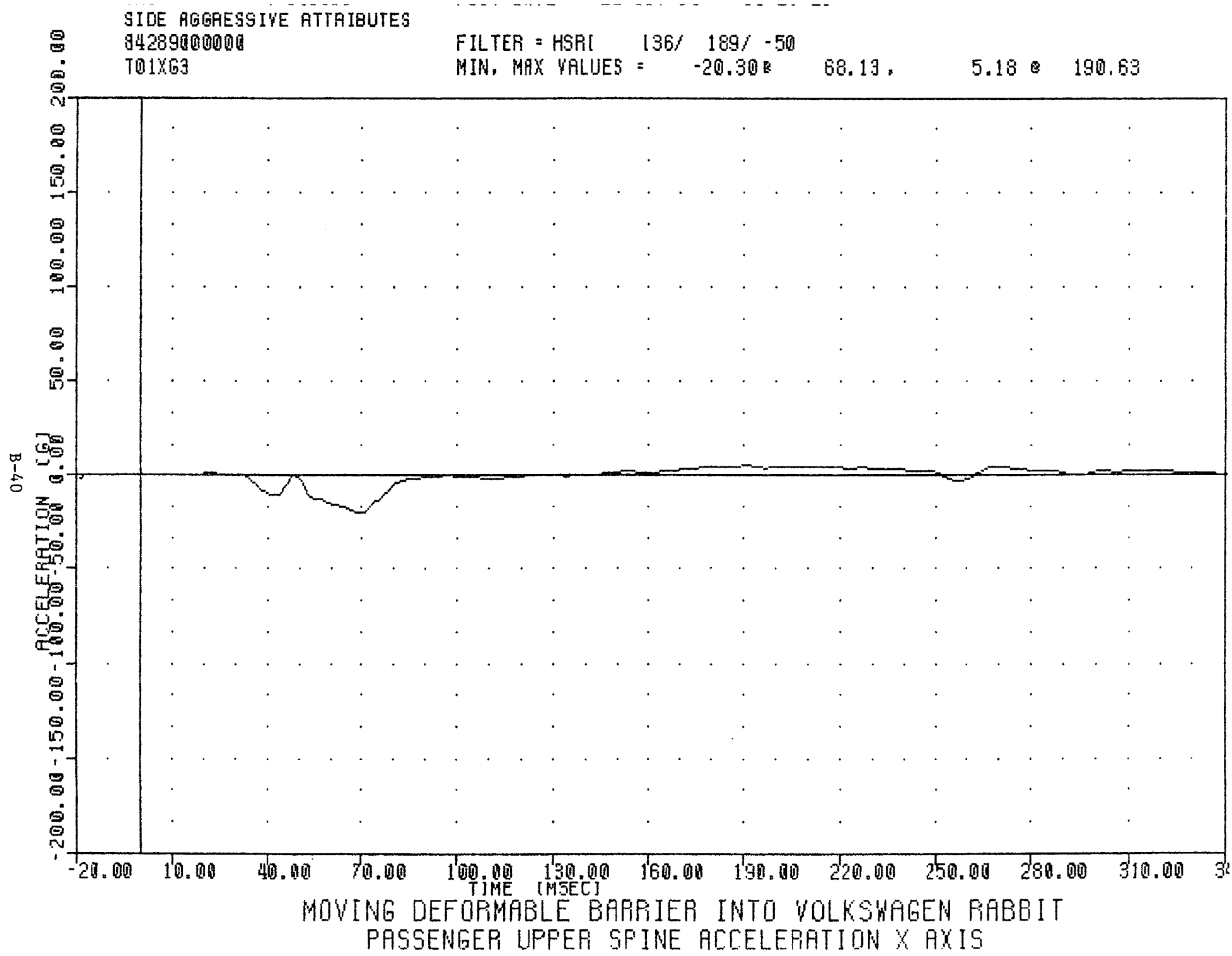
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER HEAD ACCELERATION Z AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
HEDR63

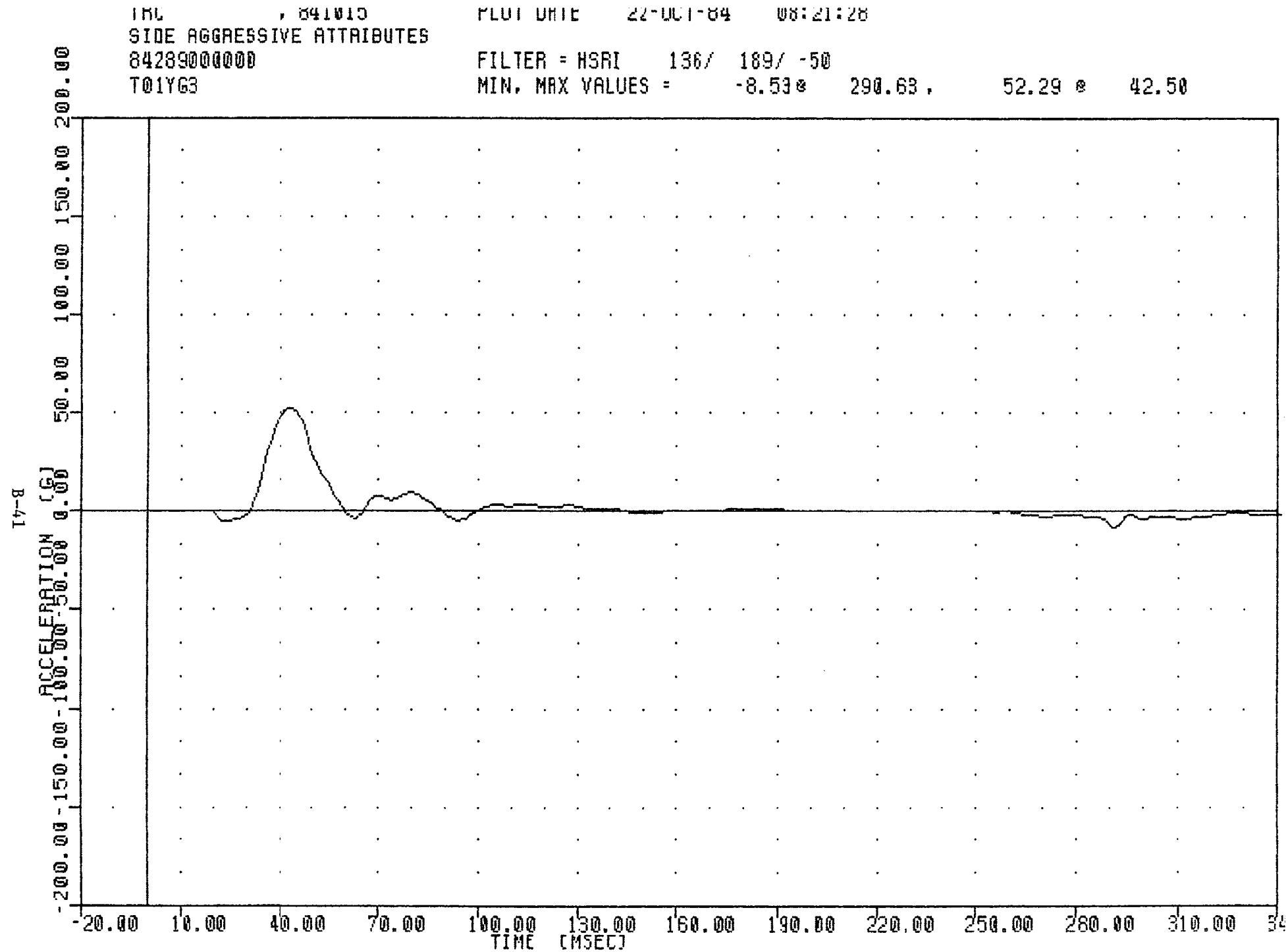
FILTER = ALPF 1650/ 5217/ -40
MIN, MAX VALUES = 0.09 @ -17.50 , 105.00 @ 54.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER HEAD RESULTANT



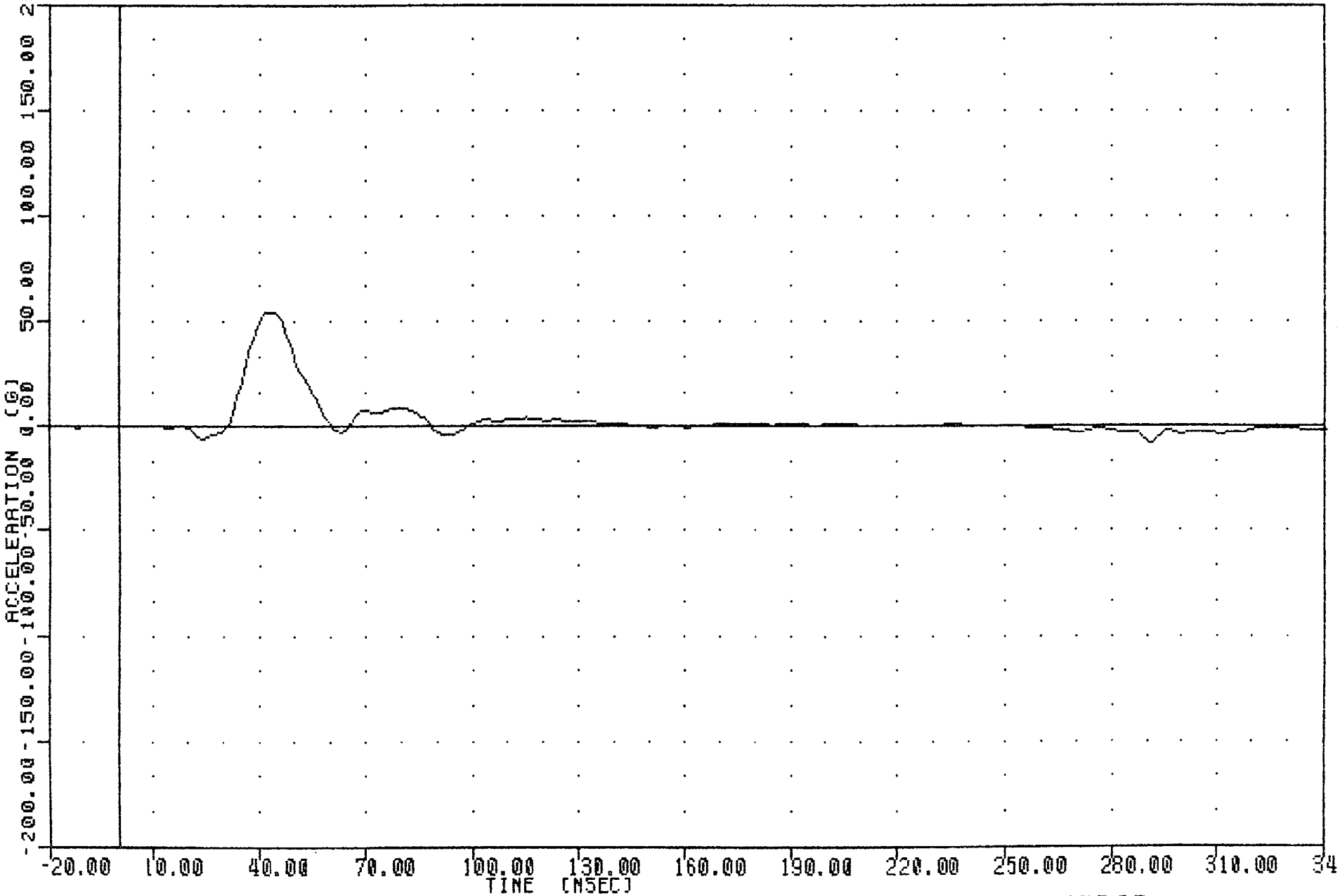
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE ACCELERATION X AXIS



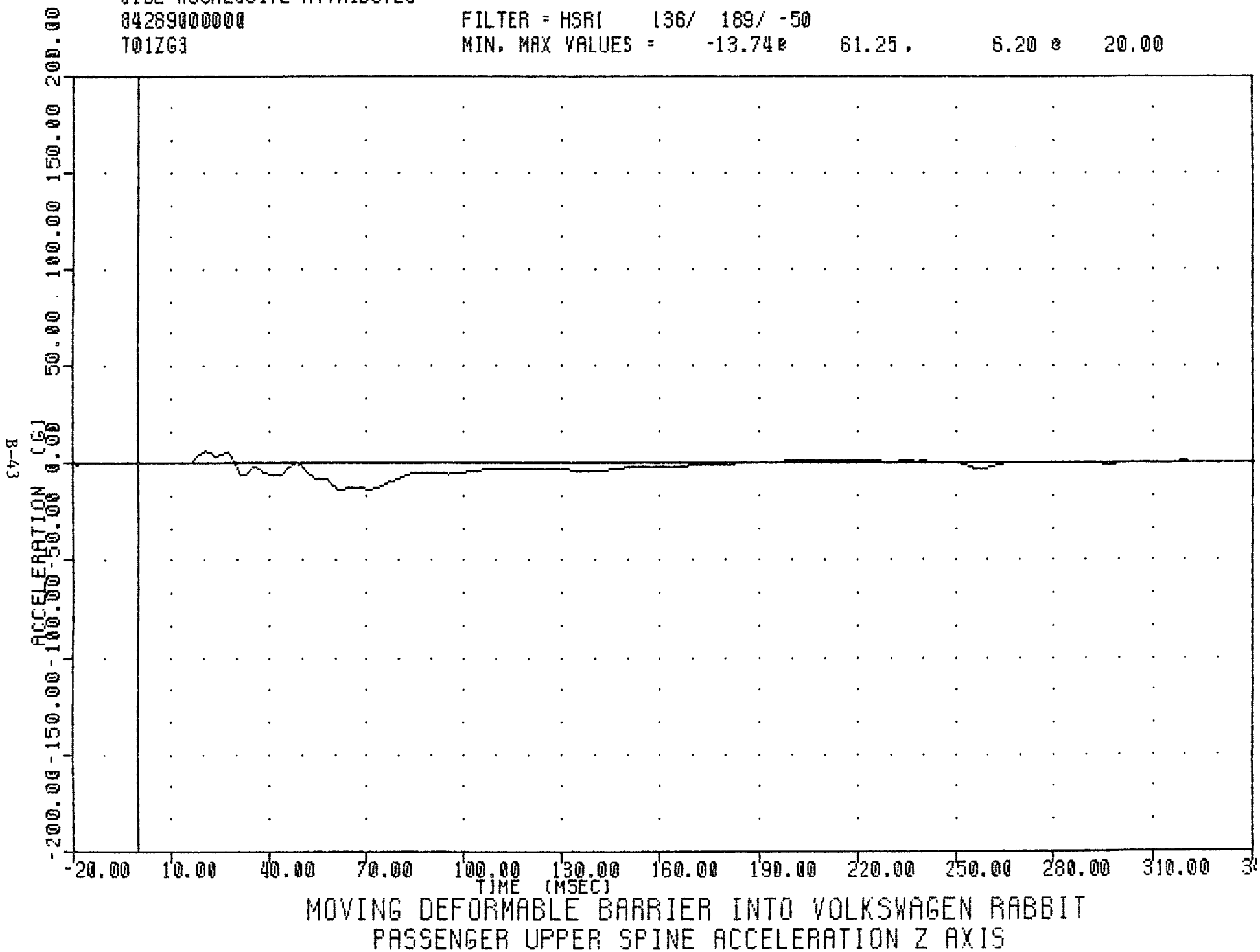
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T01Y6C

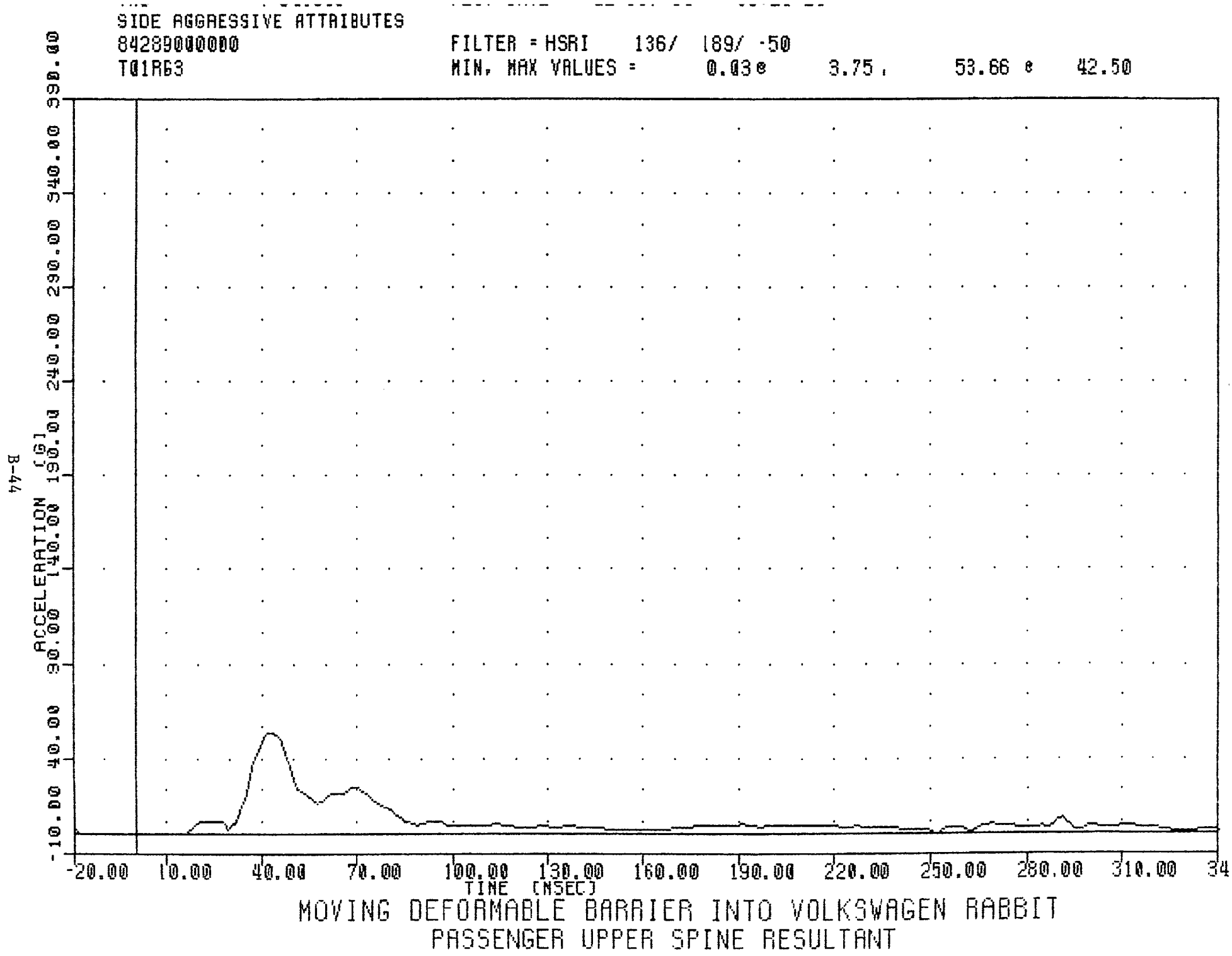
FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -8.56 @ 290.63 , 54.53 @ 42.50



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

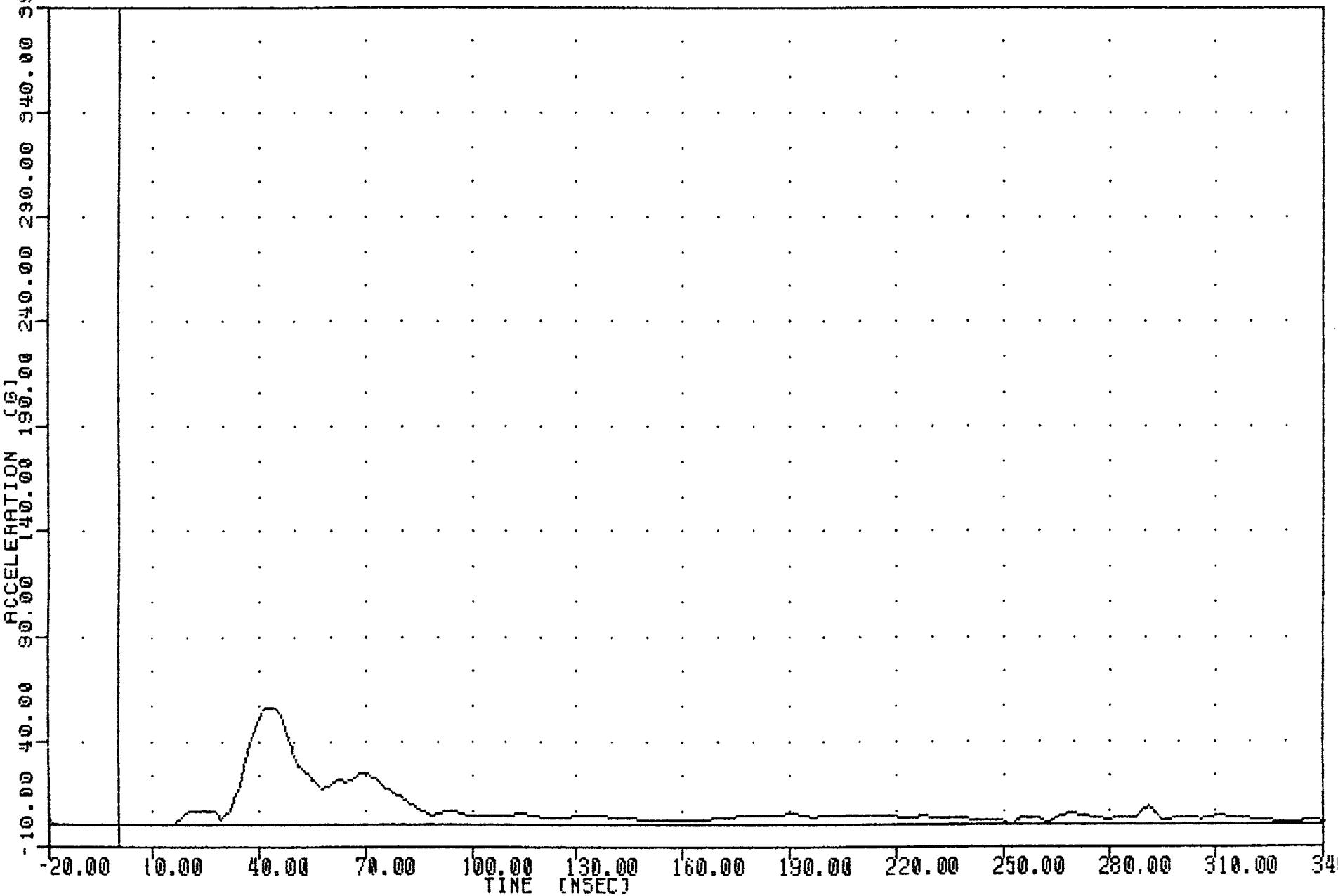


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE ACCELERATION Z AXIS

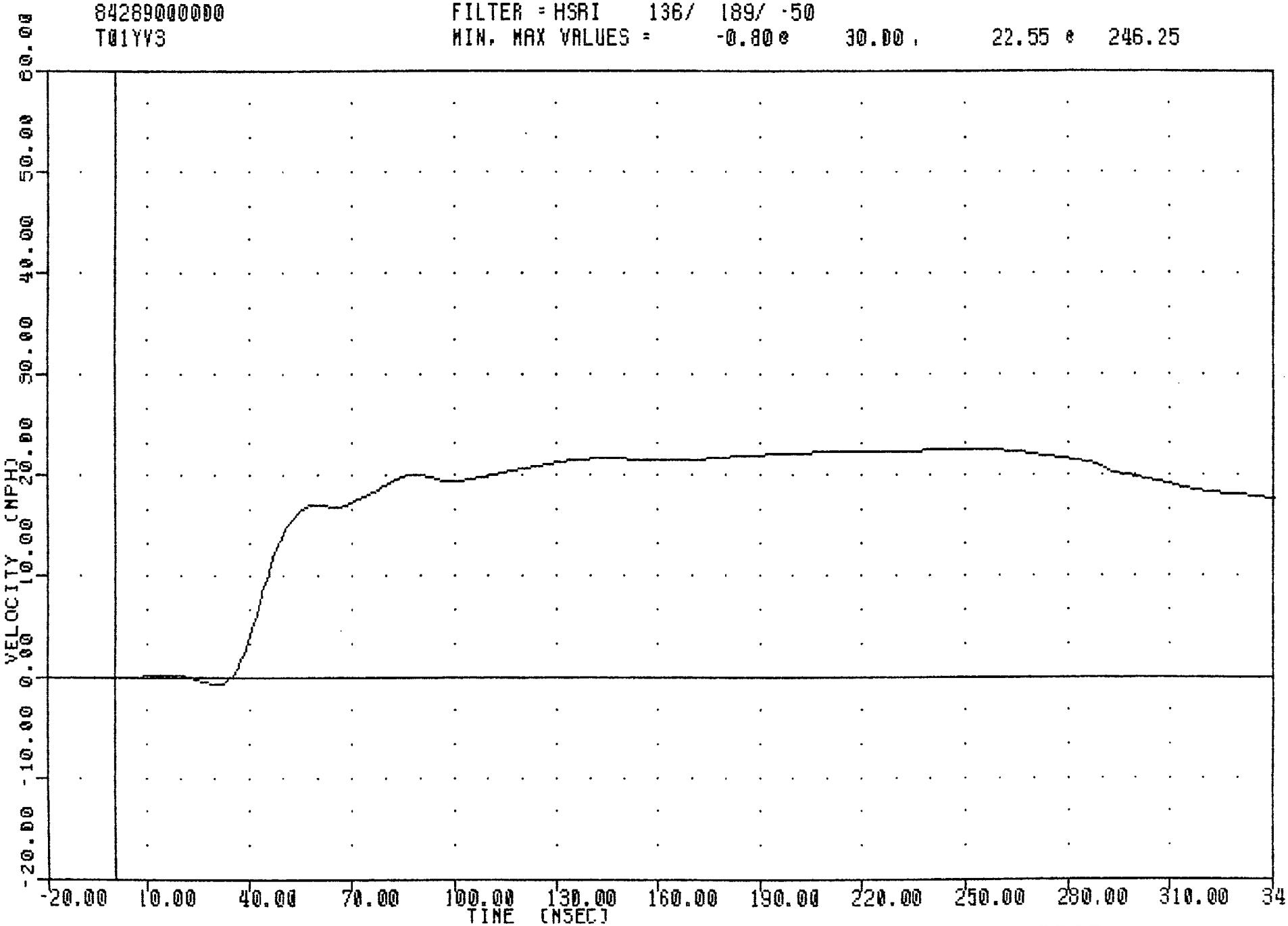


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE RESULTANT

SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
T01R6C MIN, MAX VALUES = 0.03 @ 3.75 , 55.84 @ 42.50



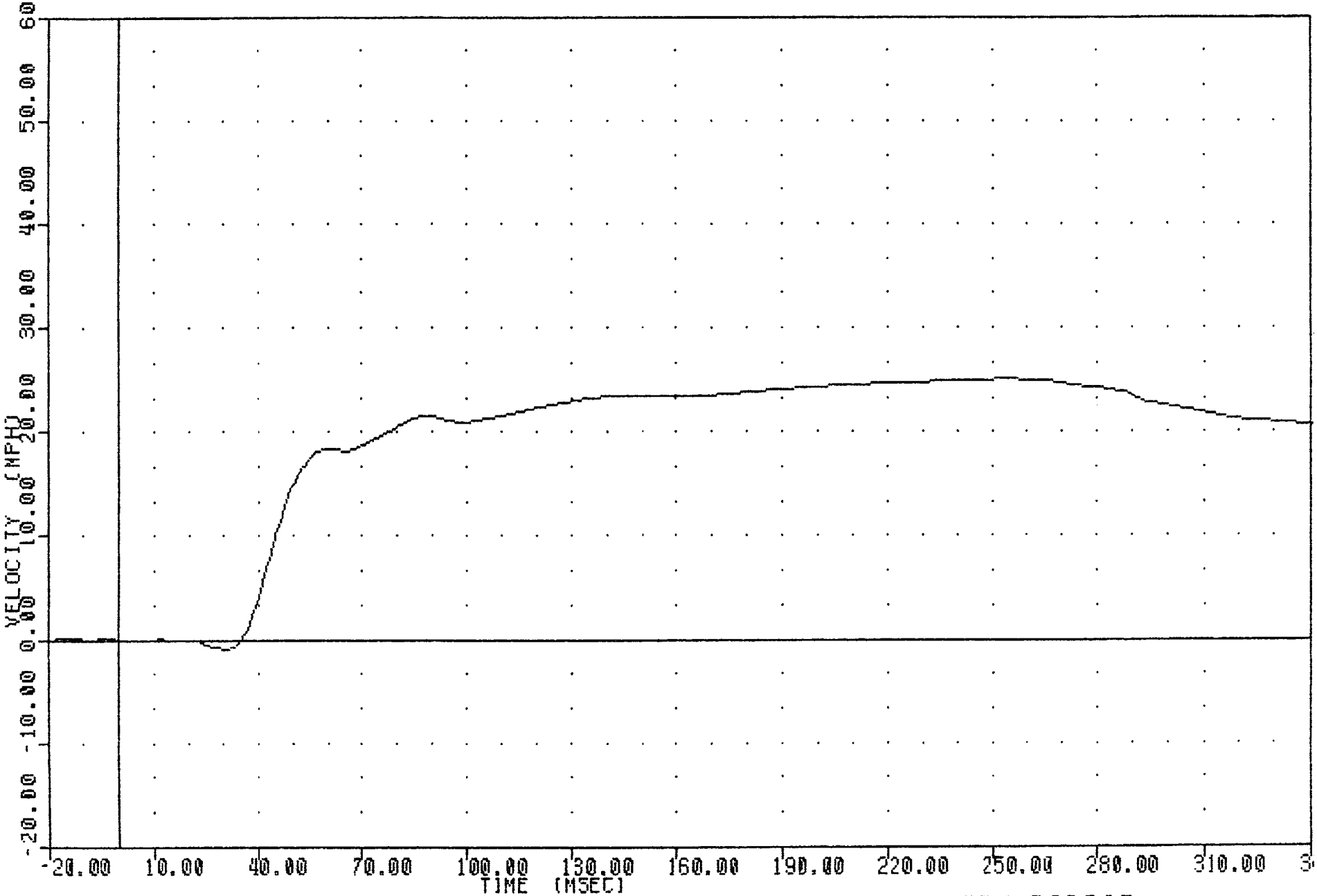
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER UPPER SPINE RESULTANT USING T01YGC



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T01YG3

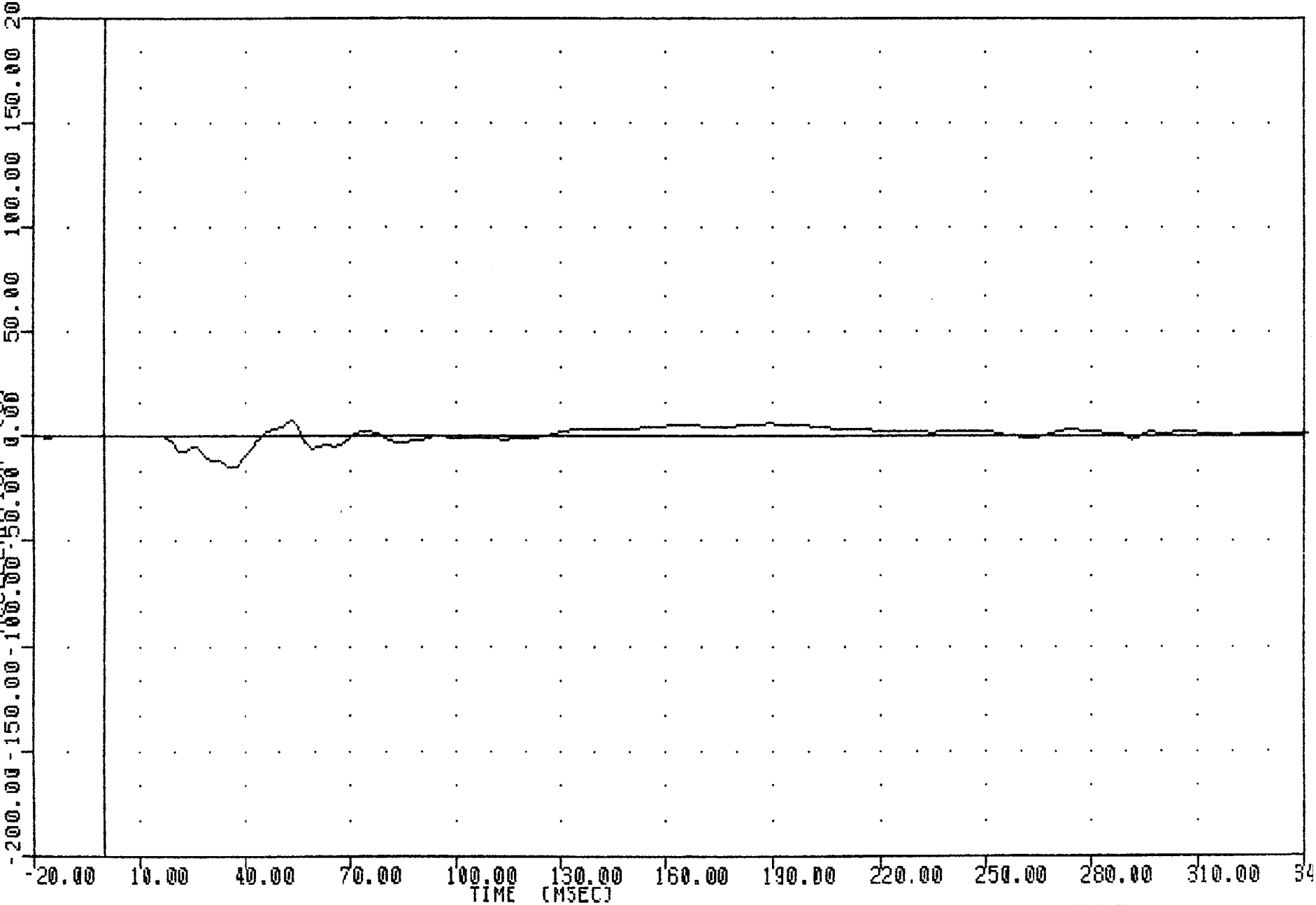
SIDE AGGRESSIVE ATTRIBUTES
84289000000
T01YVC

FILTER = HSRI [36/ 189/ -50
MIN, MAX VALUES = -0.91 @ 30.00 , 25.05 @ 253.12

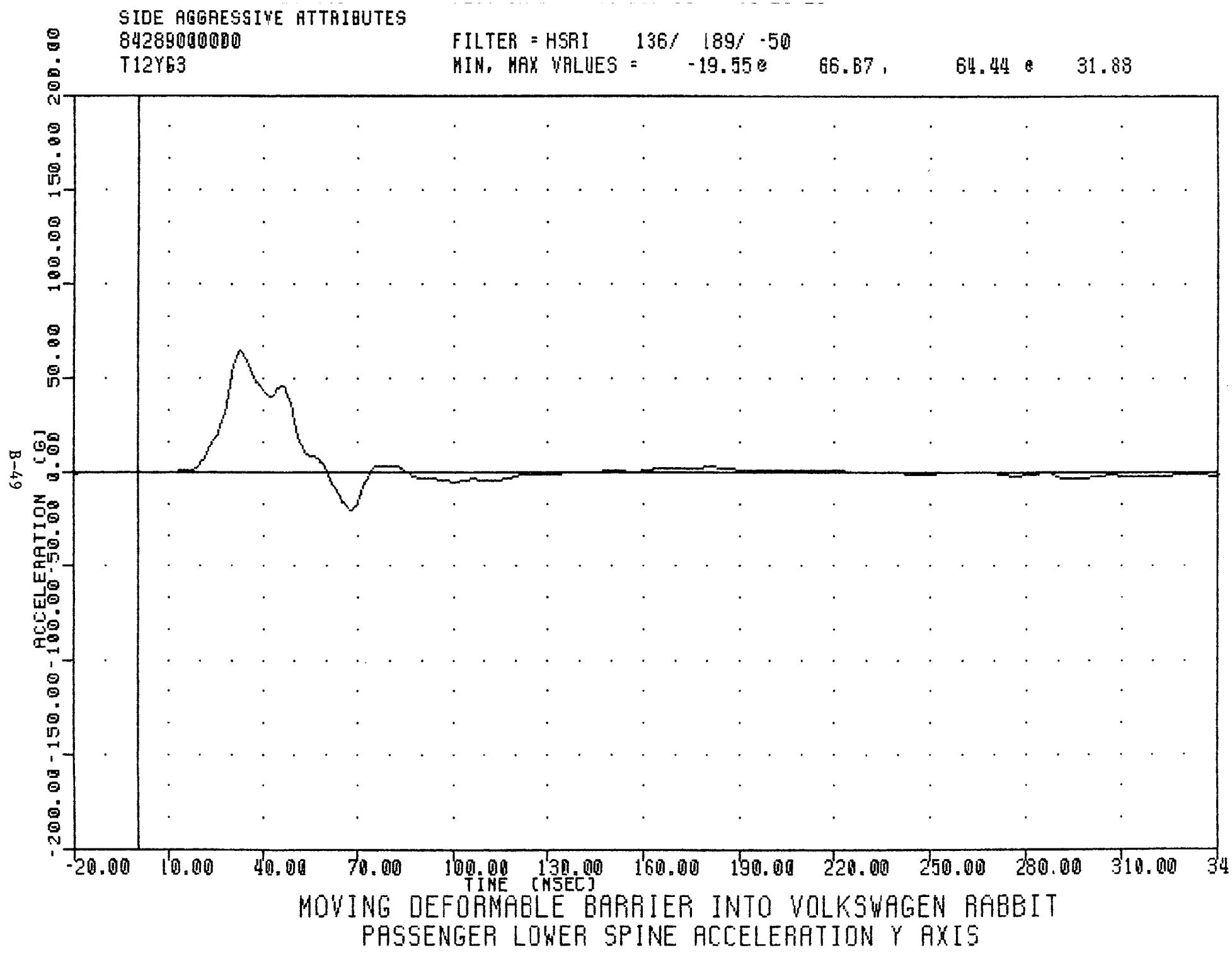


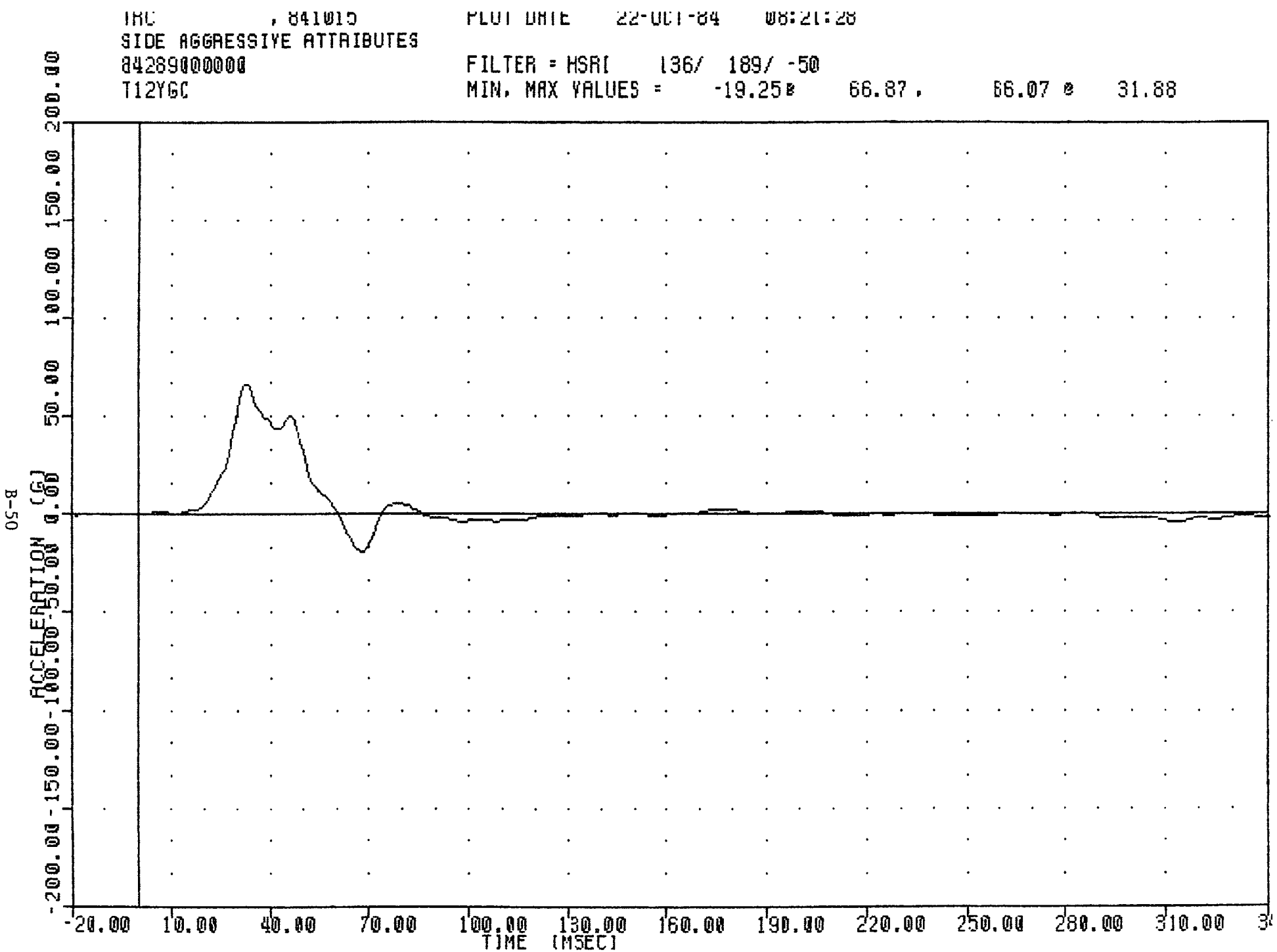
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T01YGC

TRL , 041013 PLOT DATE 22-OCT-04 08:21:28
SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
T12XG3 MIN, MAX VALUES = -14.99 @ 35.63 , 7.18 @ 52.50

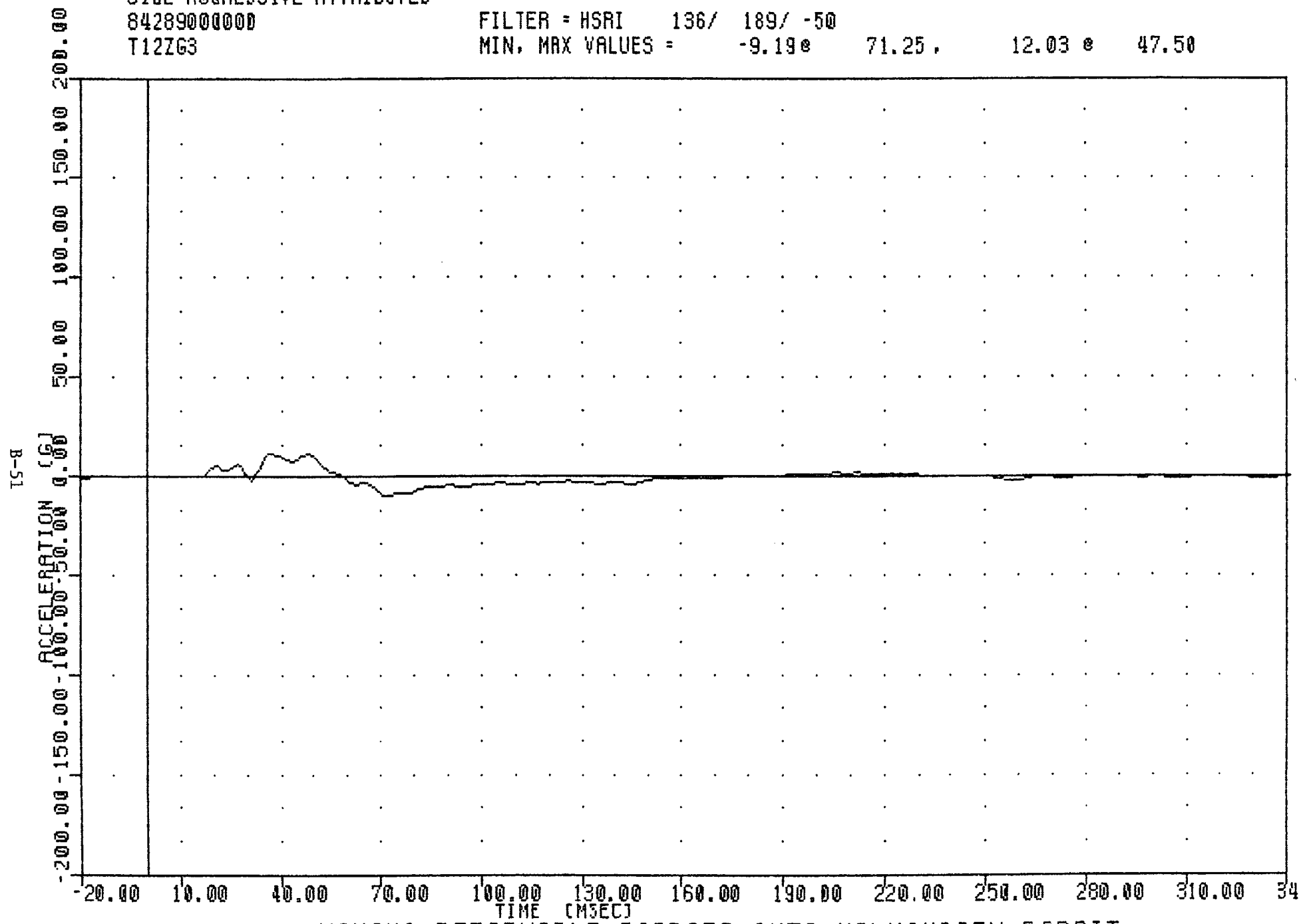


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LOWER SPINE ACCELERATION X AXIS

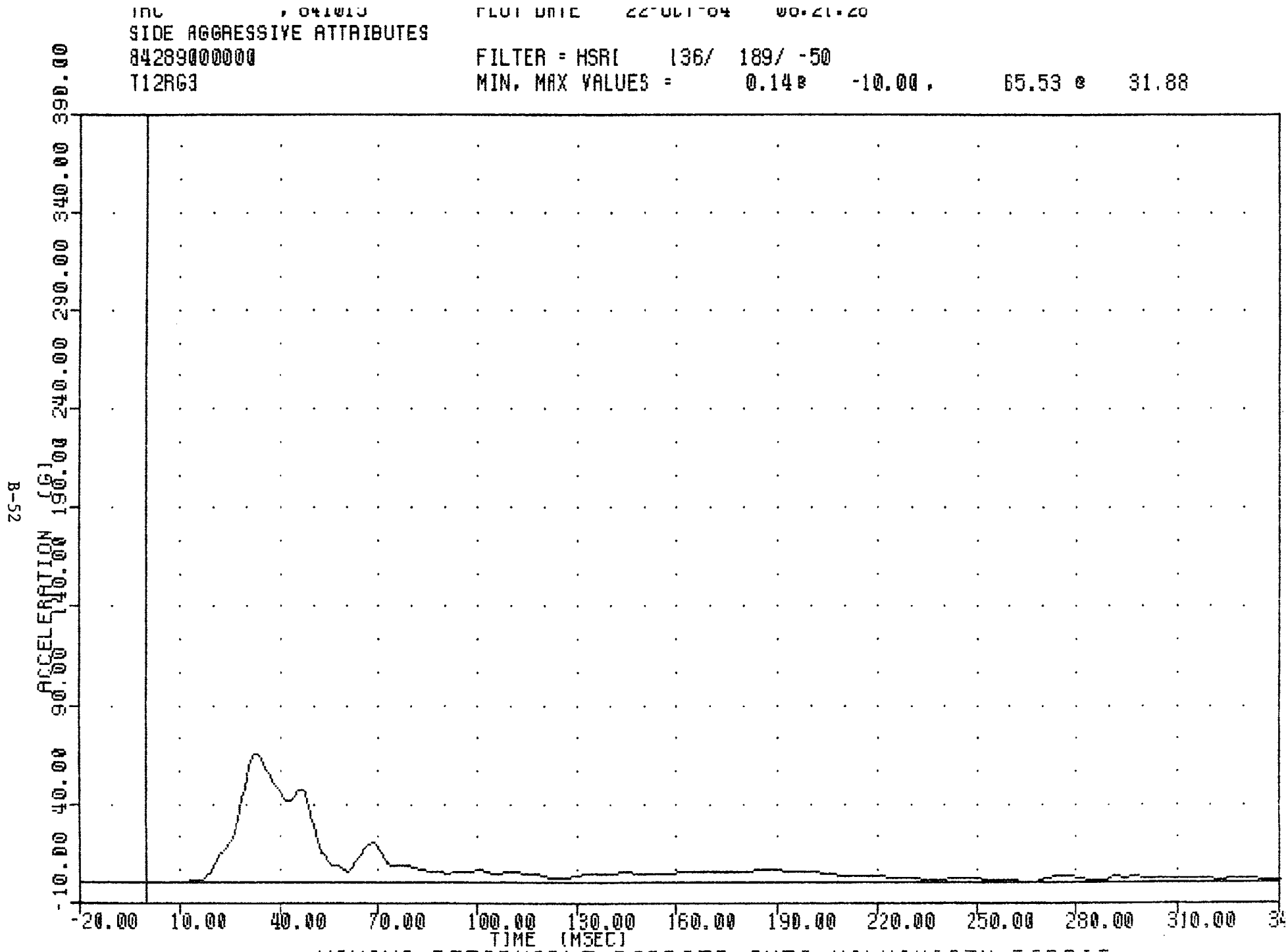

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T12Y63
FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -19.55 @ 66.87 , 64.44 @ 31.88
ACCELERATION (G)
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00
-200.00
-20.00
10.00
40.00
70.00
100.00
130.00
160.00
190.00
220.00
250.00
280.00
310.00
TIME (MSEC)
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LOWER SPINE ACCELERATION Y AXIS



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



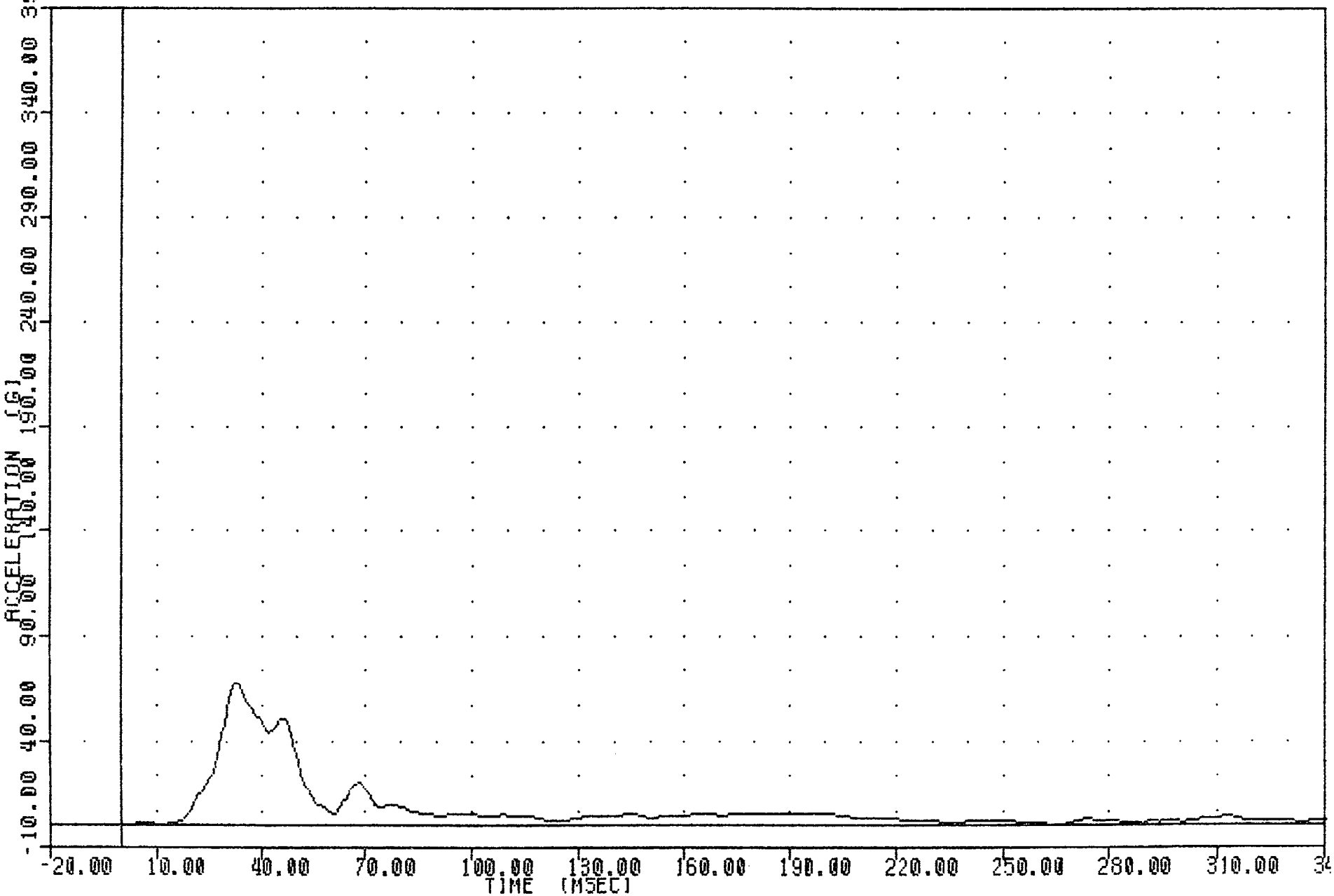
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LOWER SPINE ACCELERATION Z AXIS



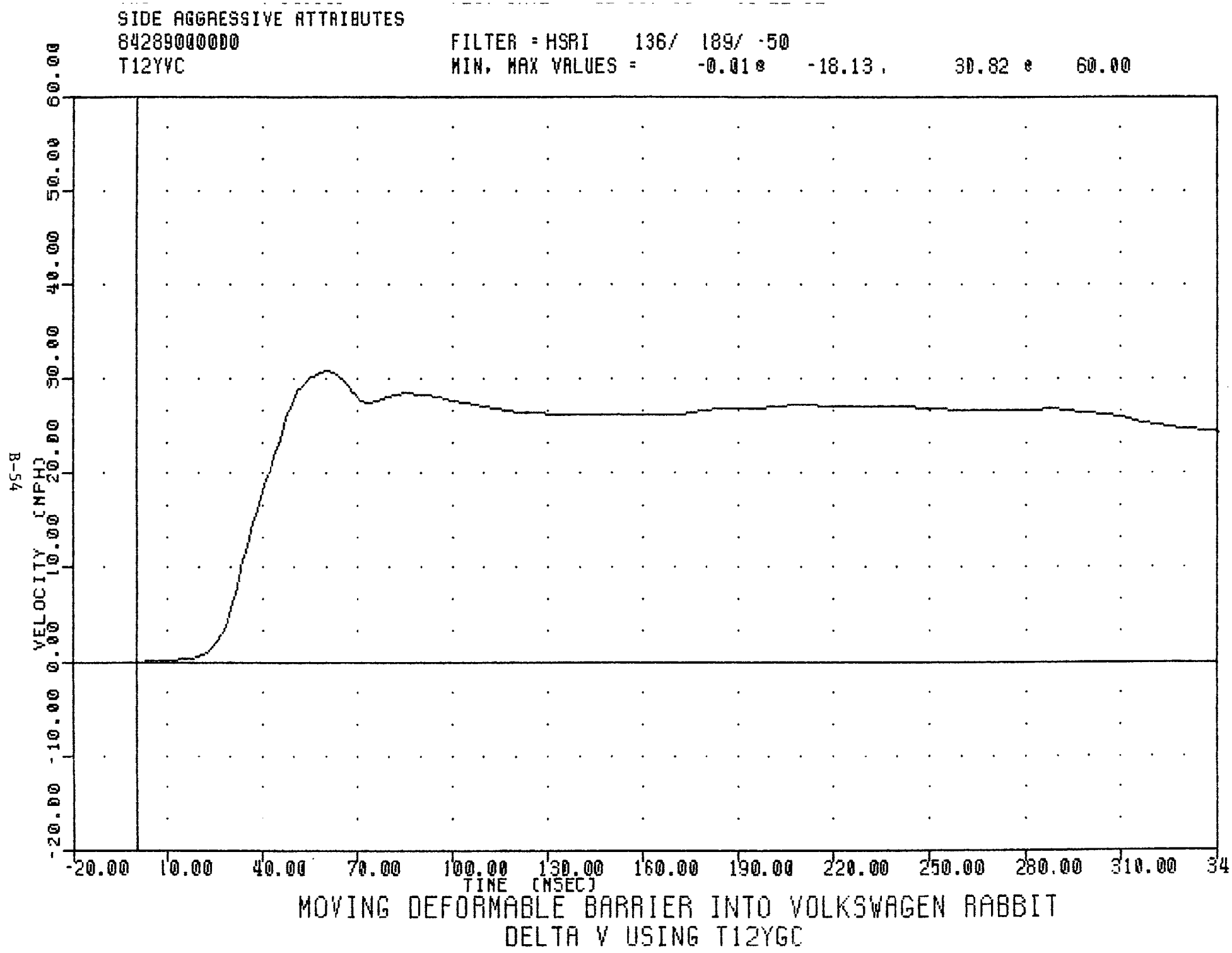
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LOWER SPINE RESULTANT

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T12RGC

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = 0.13 @ -1.88 , 67.13 @ 31.88



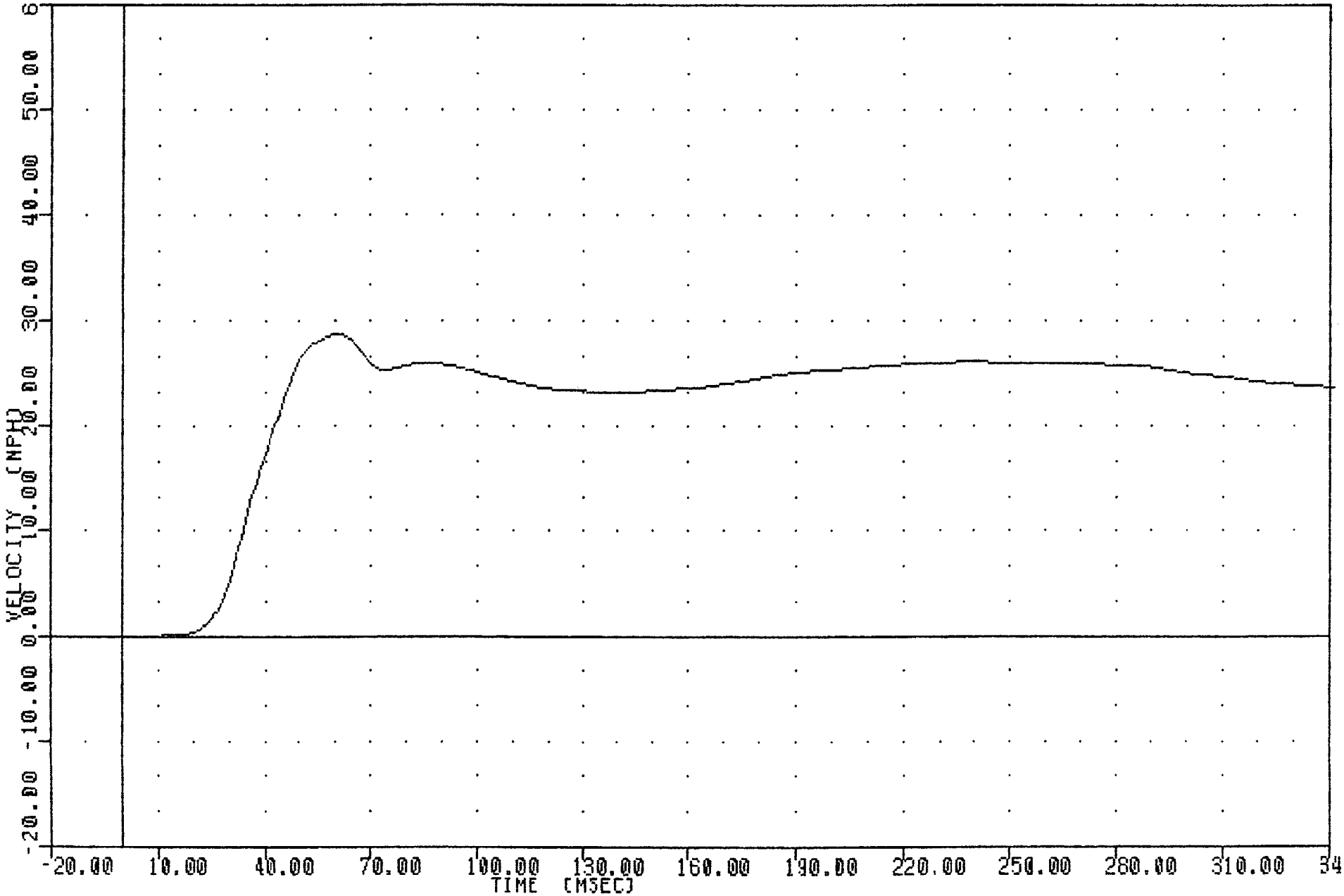
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LOWER SPINE RESULTANT USING T12YGC



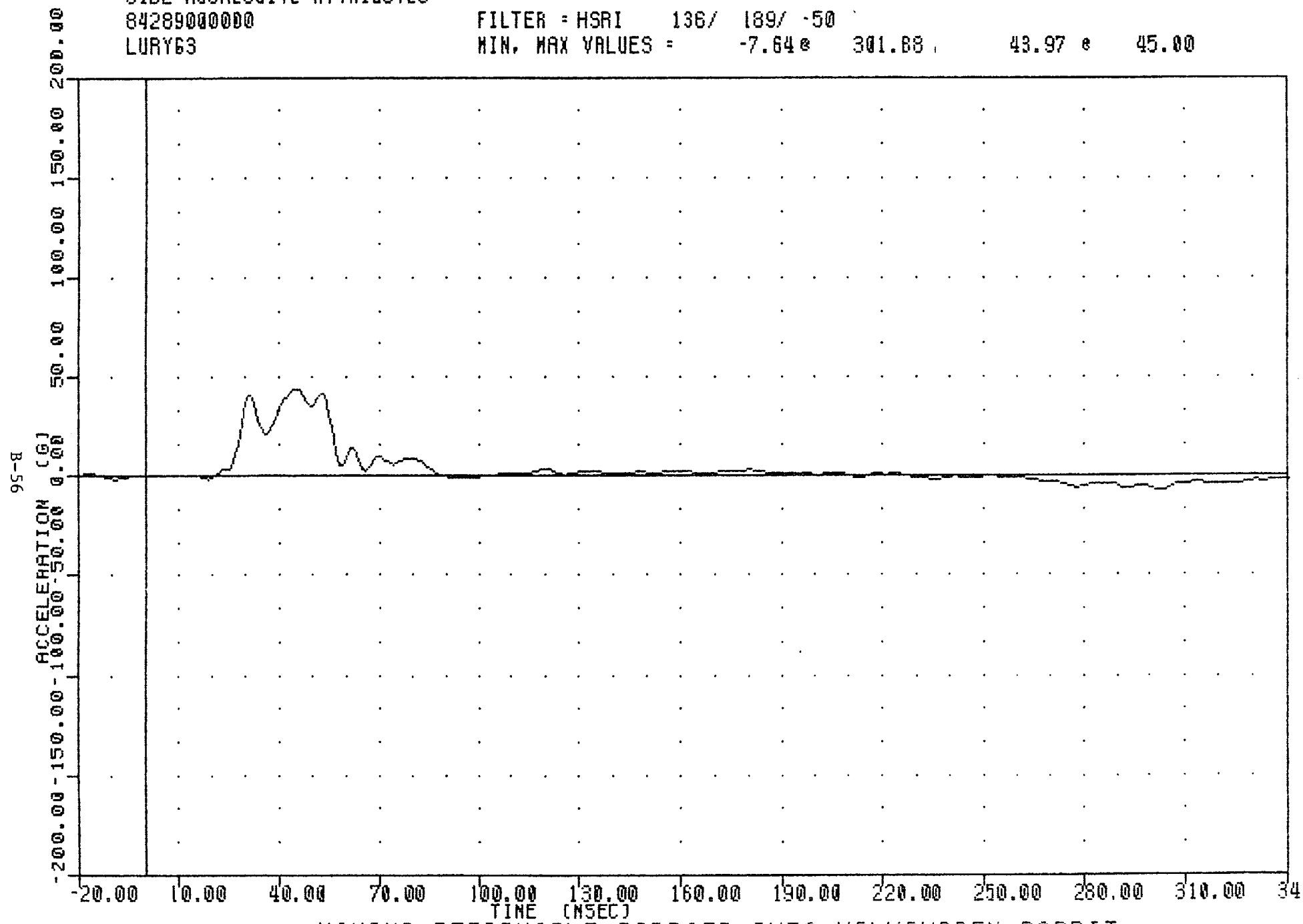
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T12YGC

SIDE AGGRESSIVE ATTRIBUTES
84289000000
T12YV3

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -0.02 @ -10.63 , 26.77 @ 59.38

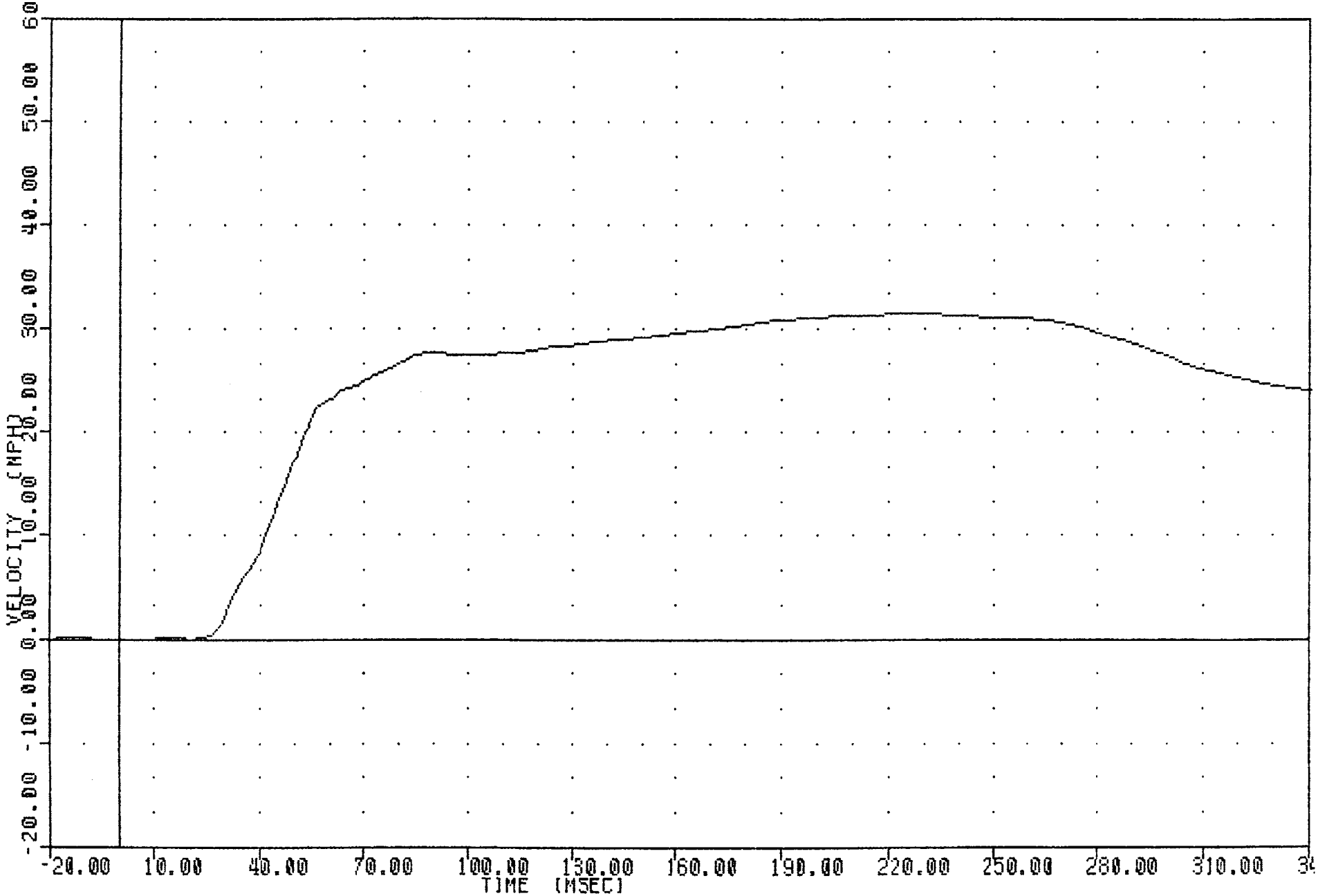


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING T12YG3

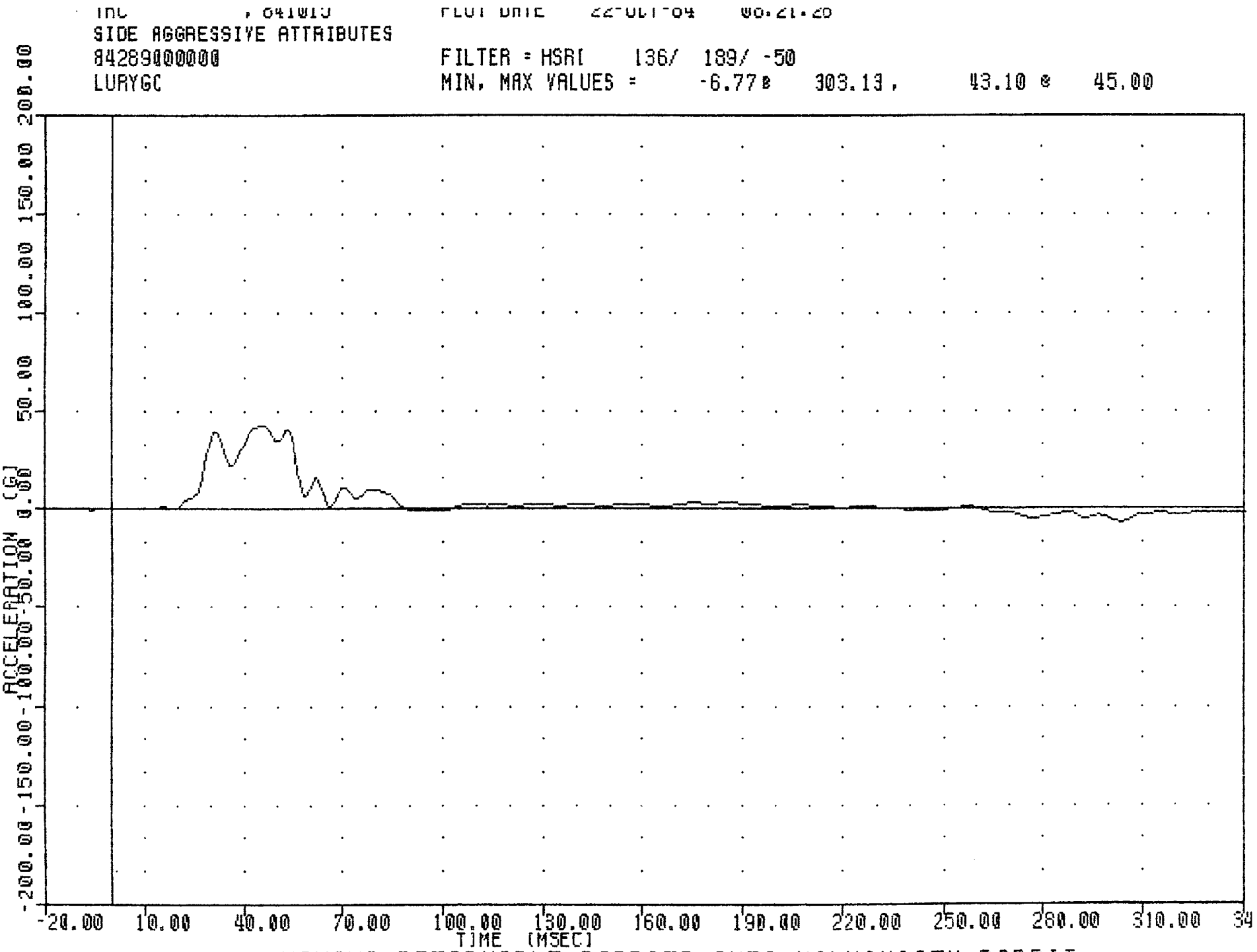


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LEFT UPPER RIB ACCELERATION Y AXIS

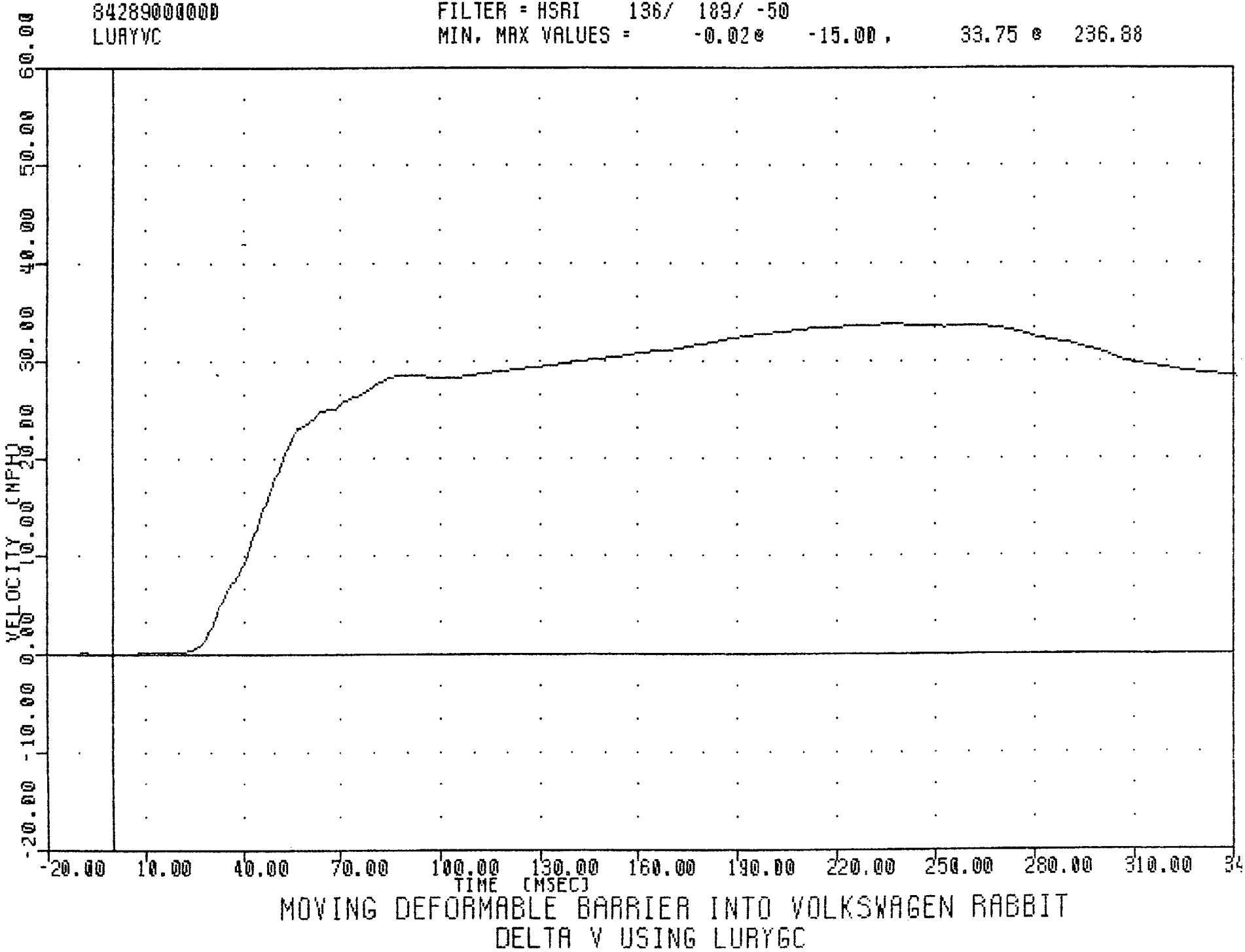
TRC , 841015 PLOT DATE 22-OCT-84 08:22:52
SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
LURYV3 MIN, MAX VALUES = -0.05 @ -4.38 , 31.54 @ 226.87



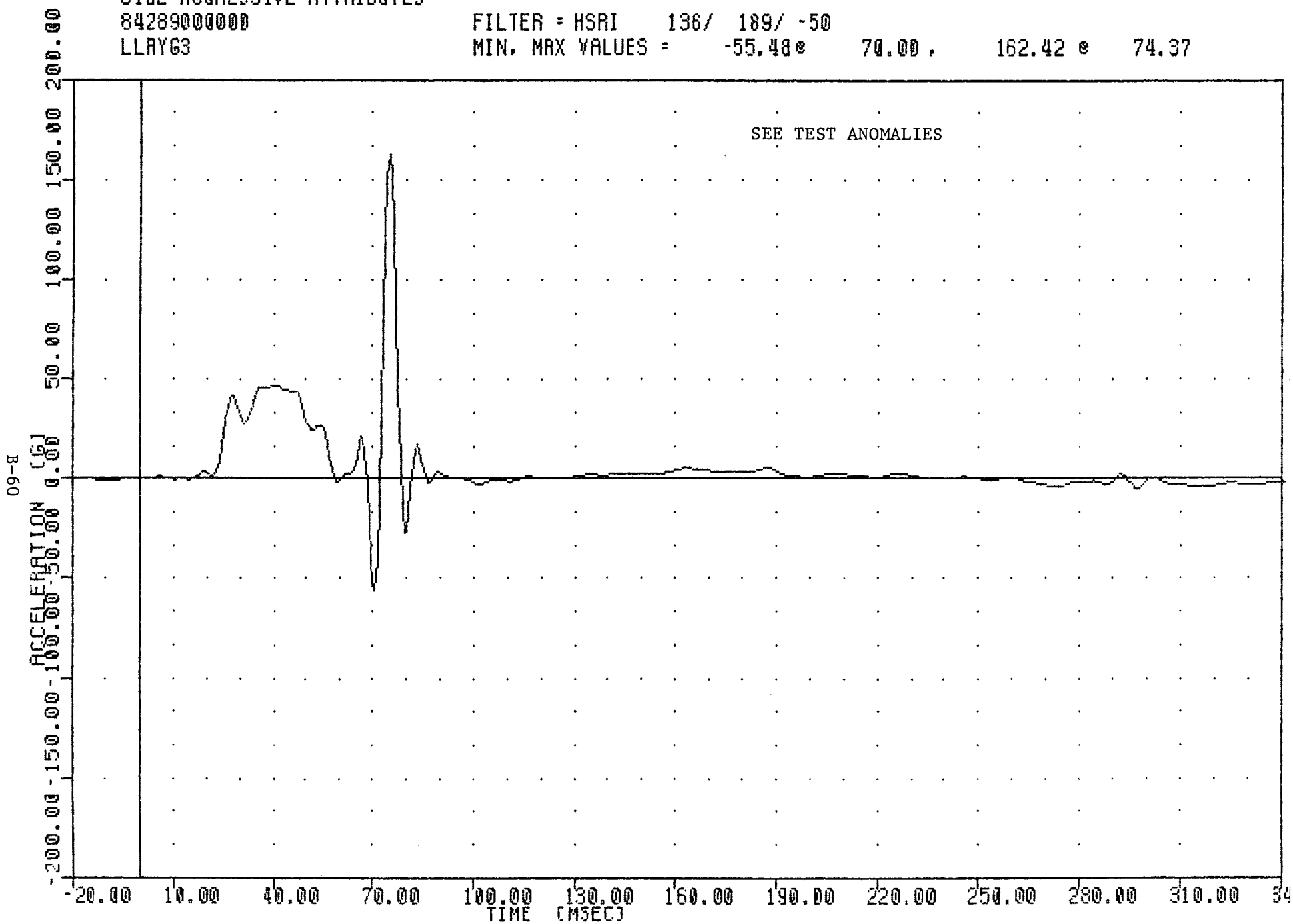
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LURYG3



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



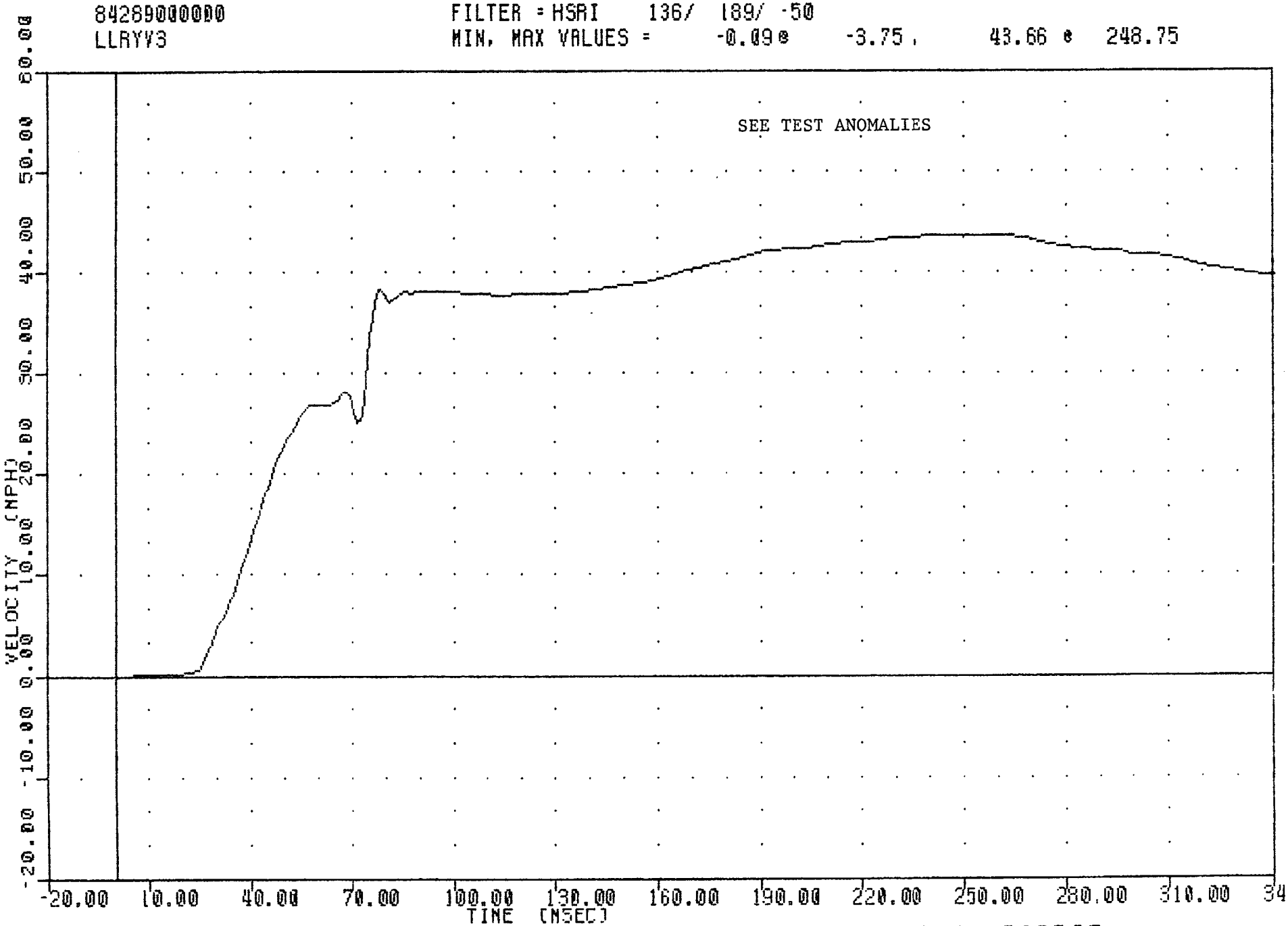
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LURYGC



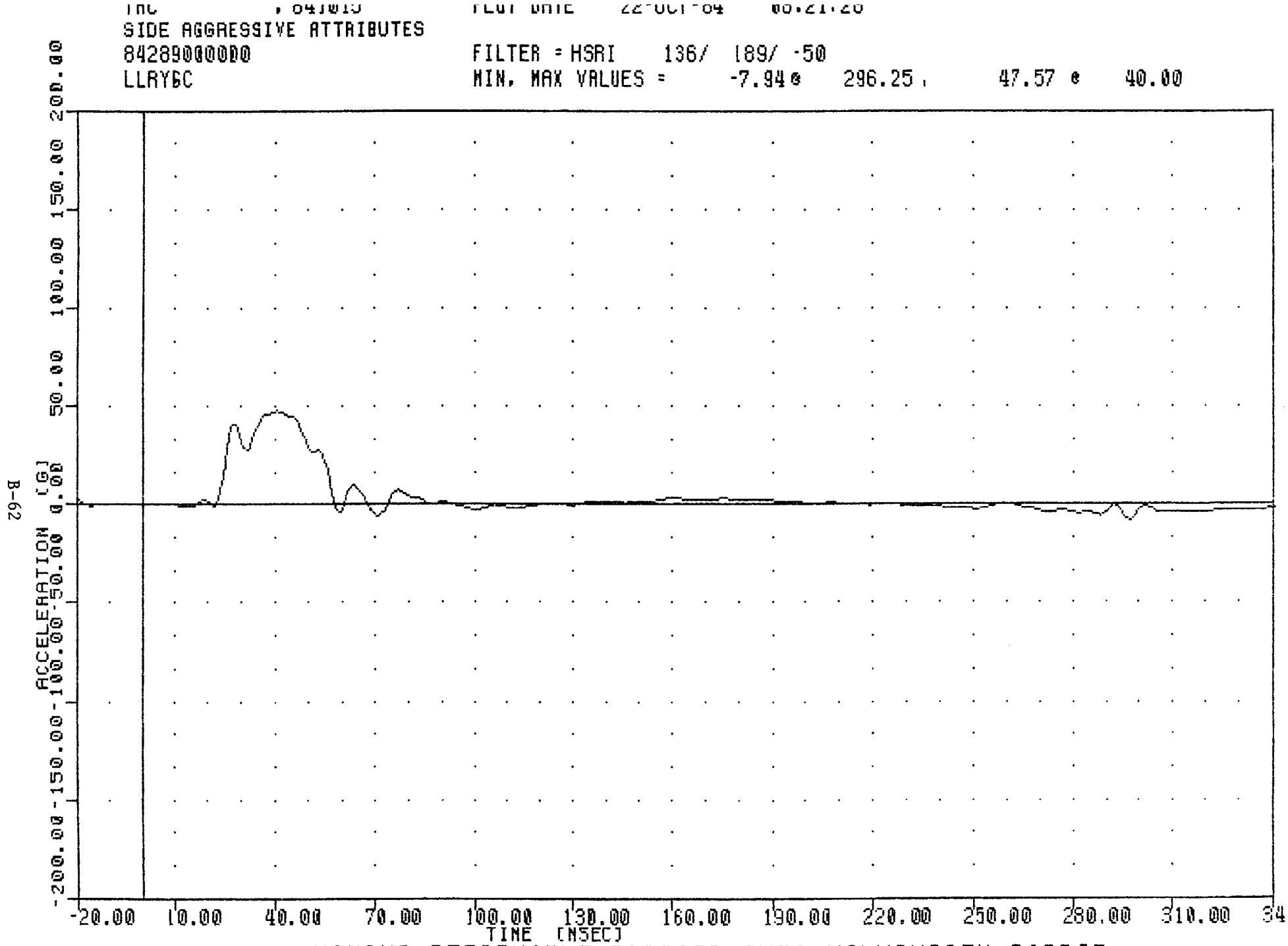
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LEFT LOWER RIB ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LLRYV3

FILTER = HSRI 136/ 189/ -50
MIN, MAX VALUES = -0.09 @ -3.75 , 43.66 @ 248.75

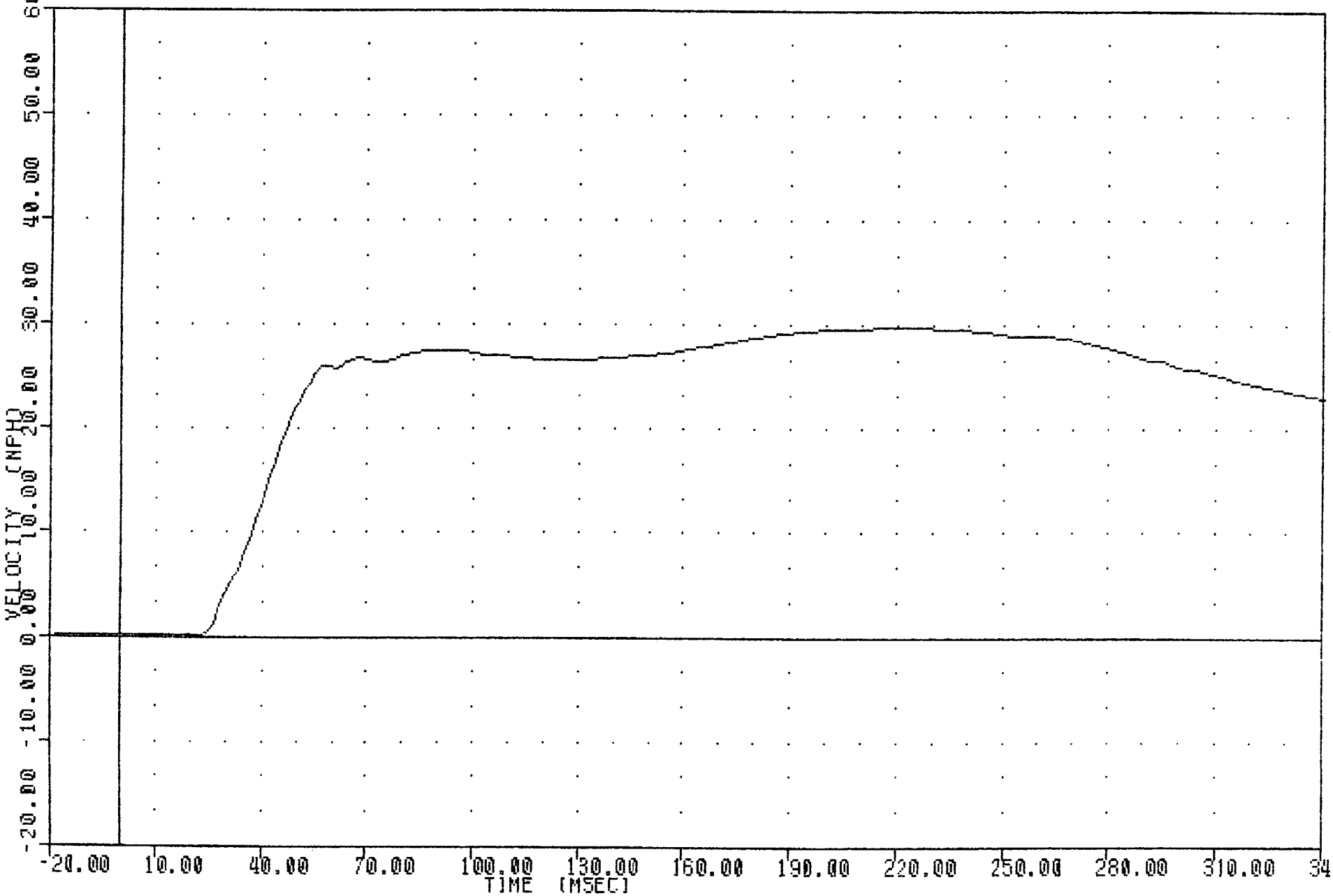


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LLRYG3

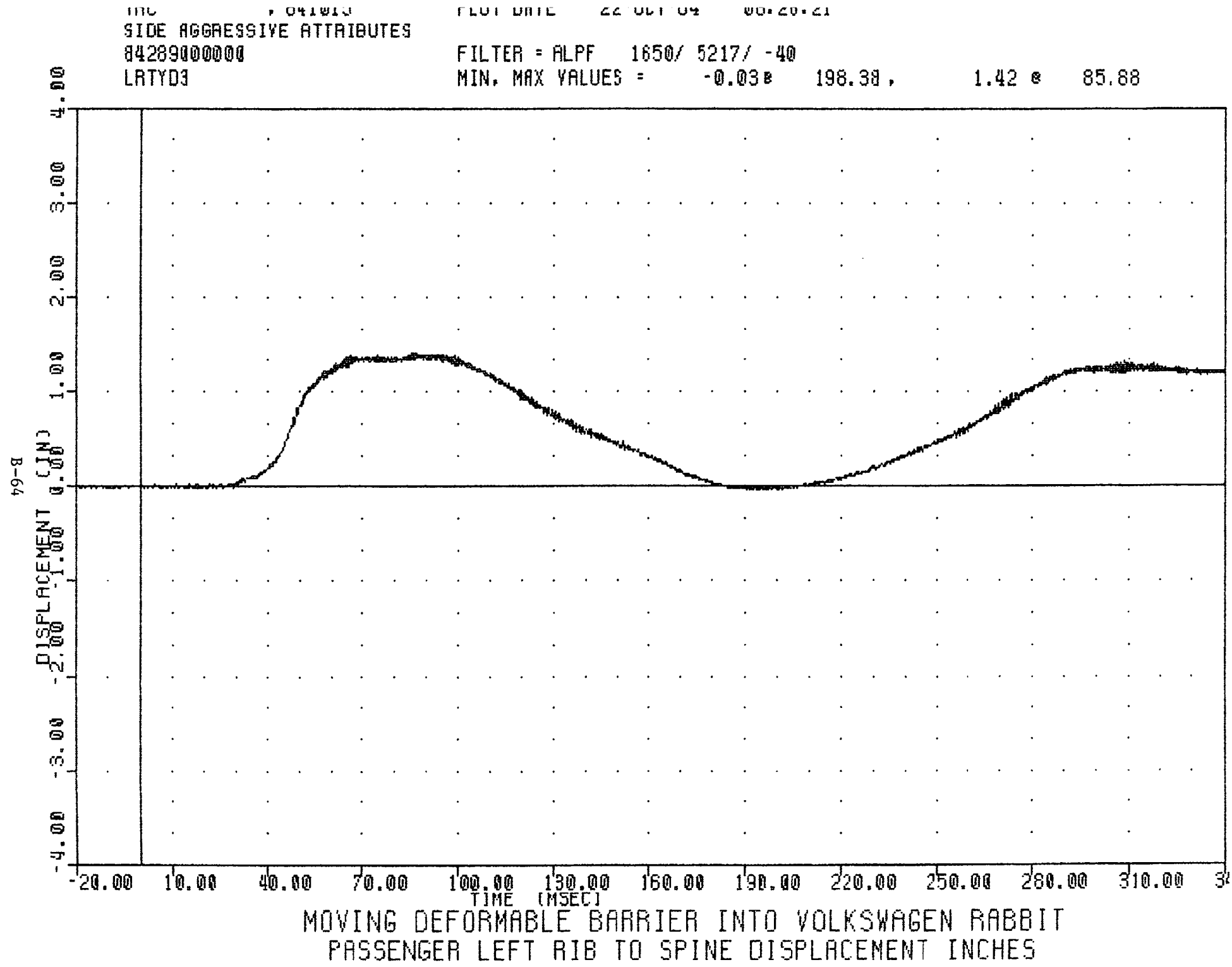


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LEFT LOWER RIB ACCELERATION #2 Y AXIS

INC , 041013 PLOT DATE 22-OCT-84 08:22:52
SIDE AGGRESSIVE ATTRIBUTES
84289000000 FILTER = HSRI 136/ 189/ -50
LLRYVC MIN, MAX VALUES = 0.00@ -20.00, 29.74 @ 216.25



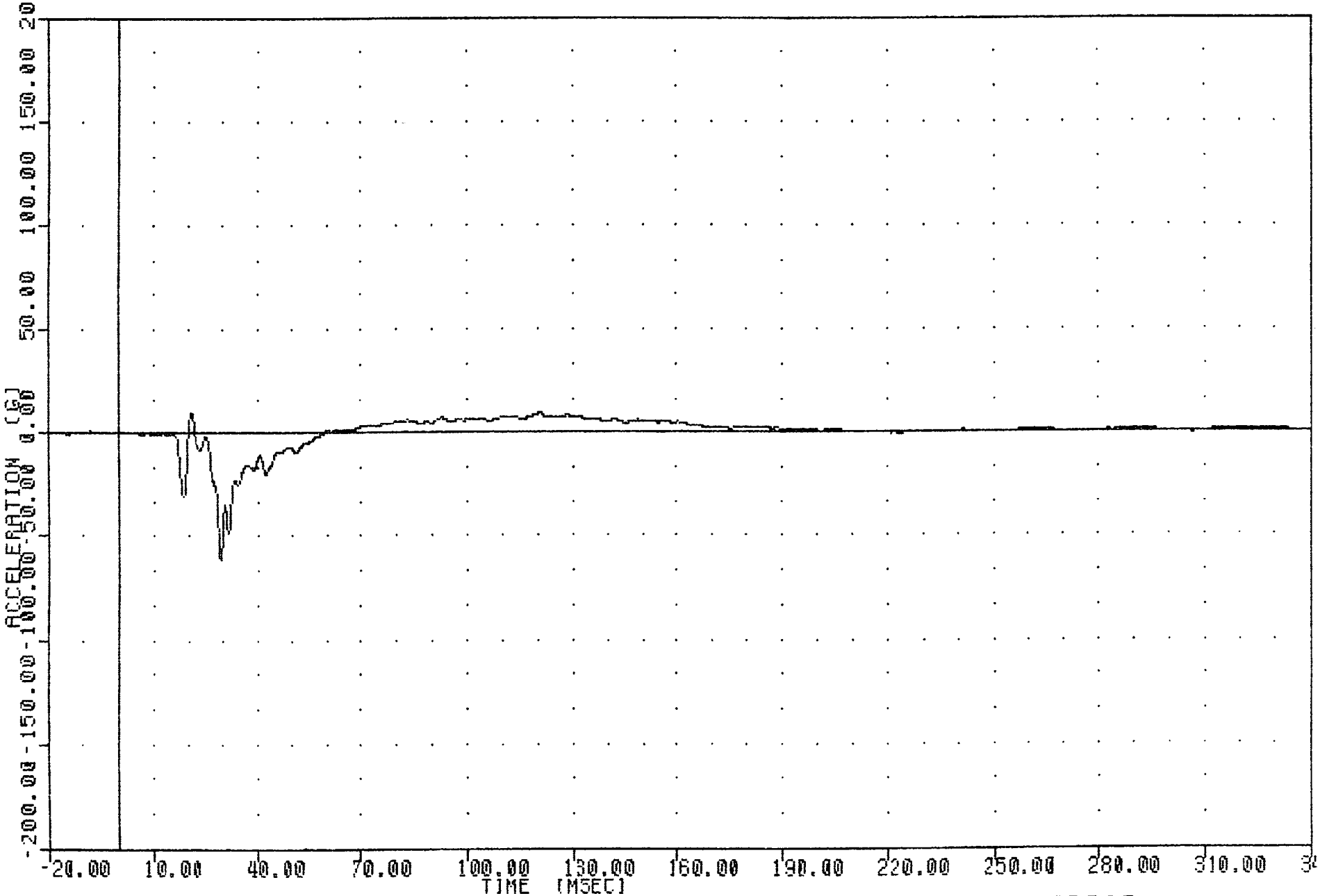
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LLRYGC



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER LEFT RIB TO SPINE DISPLACEMENT INCHES

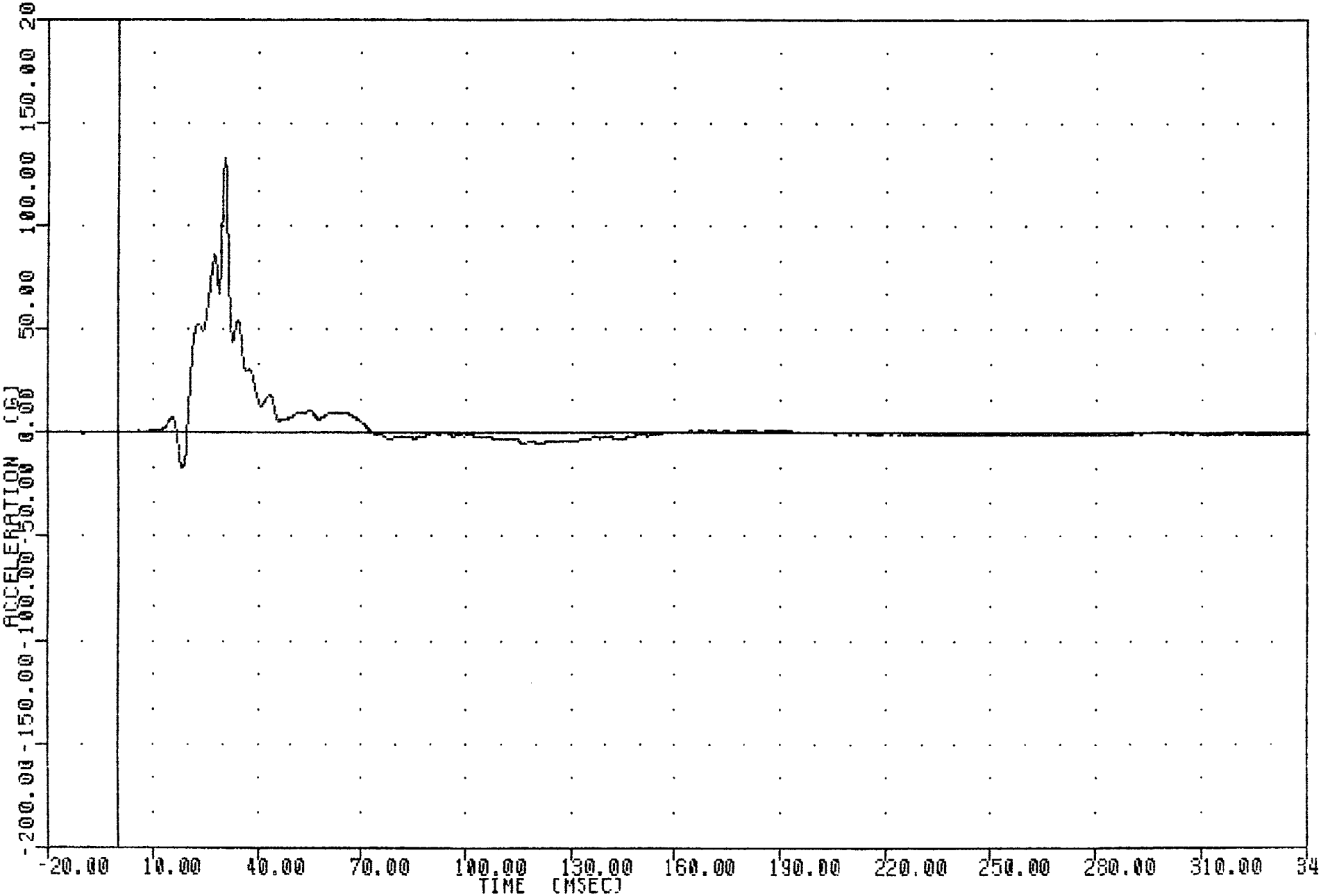
SIDE AGGRESSIVE ATTRIBUTES
84289000000
PEVXG3

FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -61.30 @ 29.25 , 9.61 @ 20.63

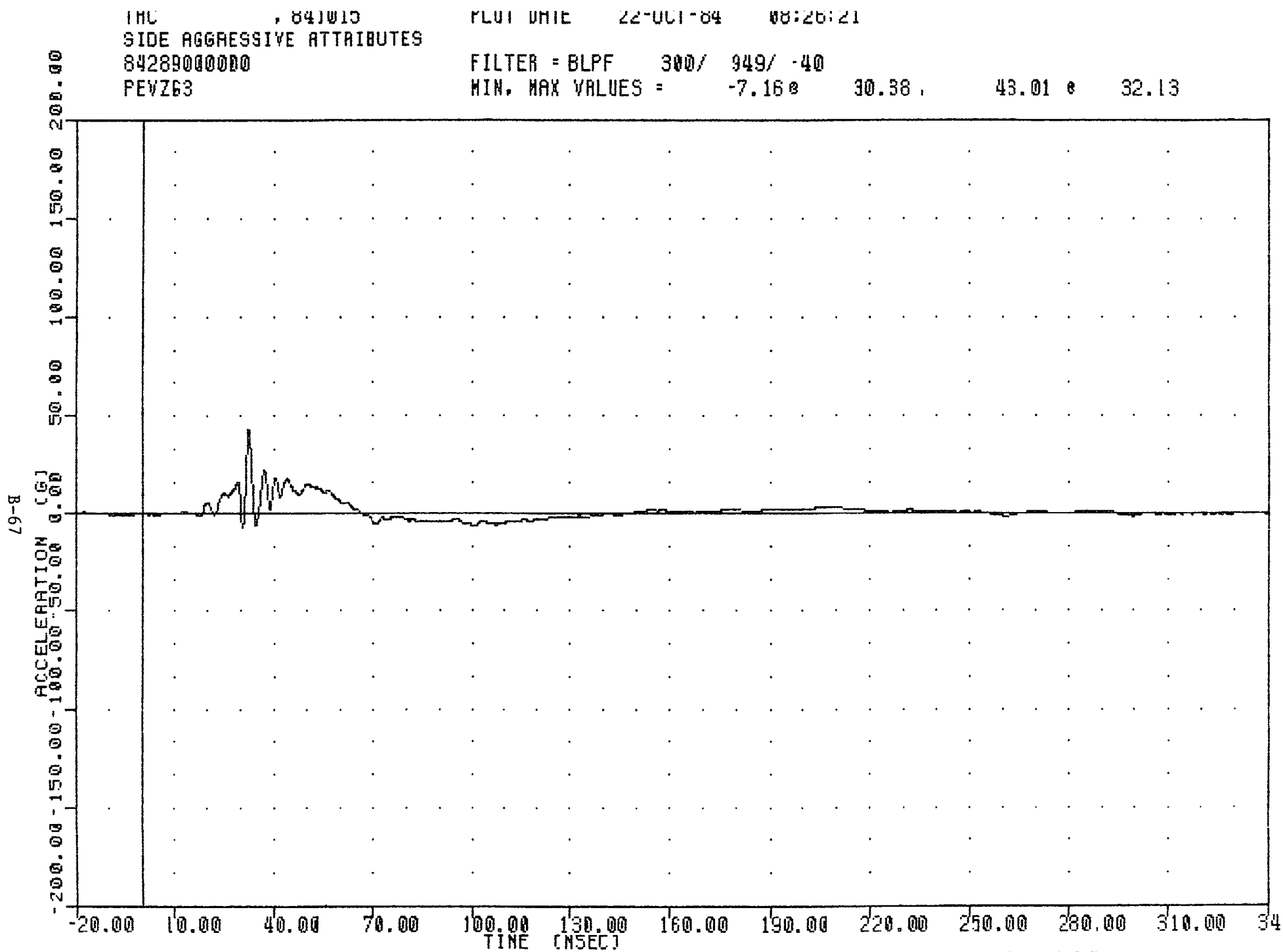


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER PELVIS ACCELERATION X AXIS

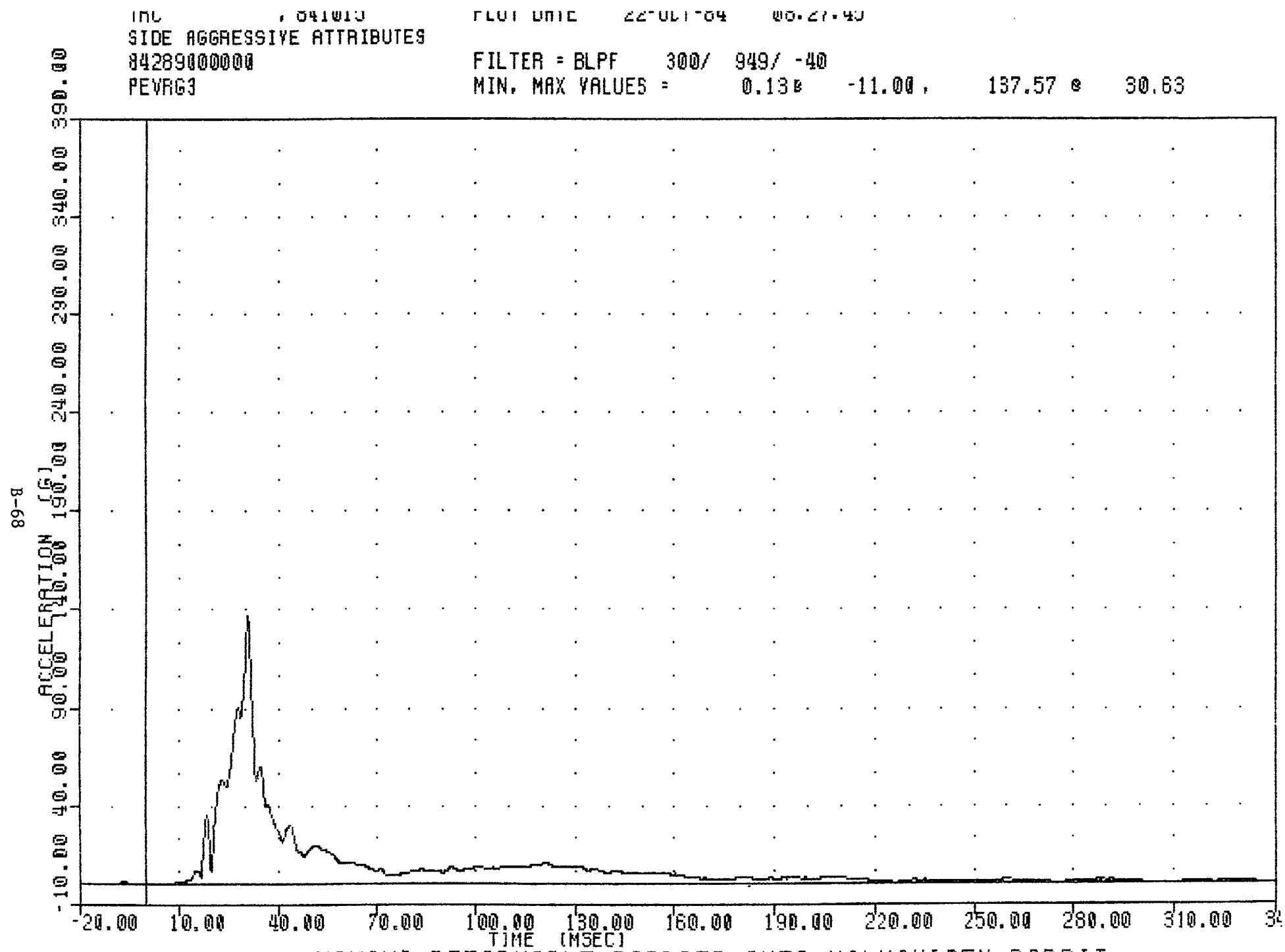
TRC , 041013 PLOT DATE 22-OCT-04 08:20:21
SIDE AGGRESSIVE ATTRIBUTES
84289000000
PEYYG3
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -16.64 @ 18.38 , 132.94 @ 30.63



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER PELVIS ACCELERATION Y AXIS



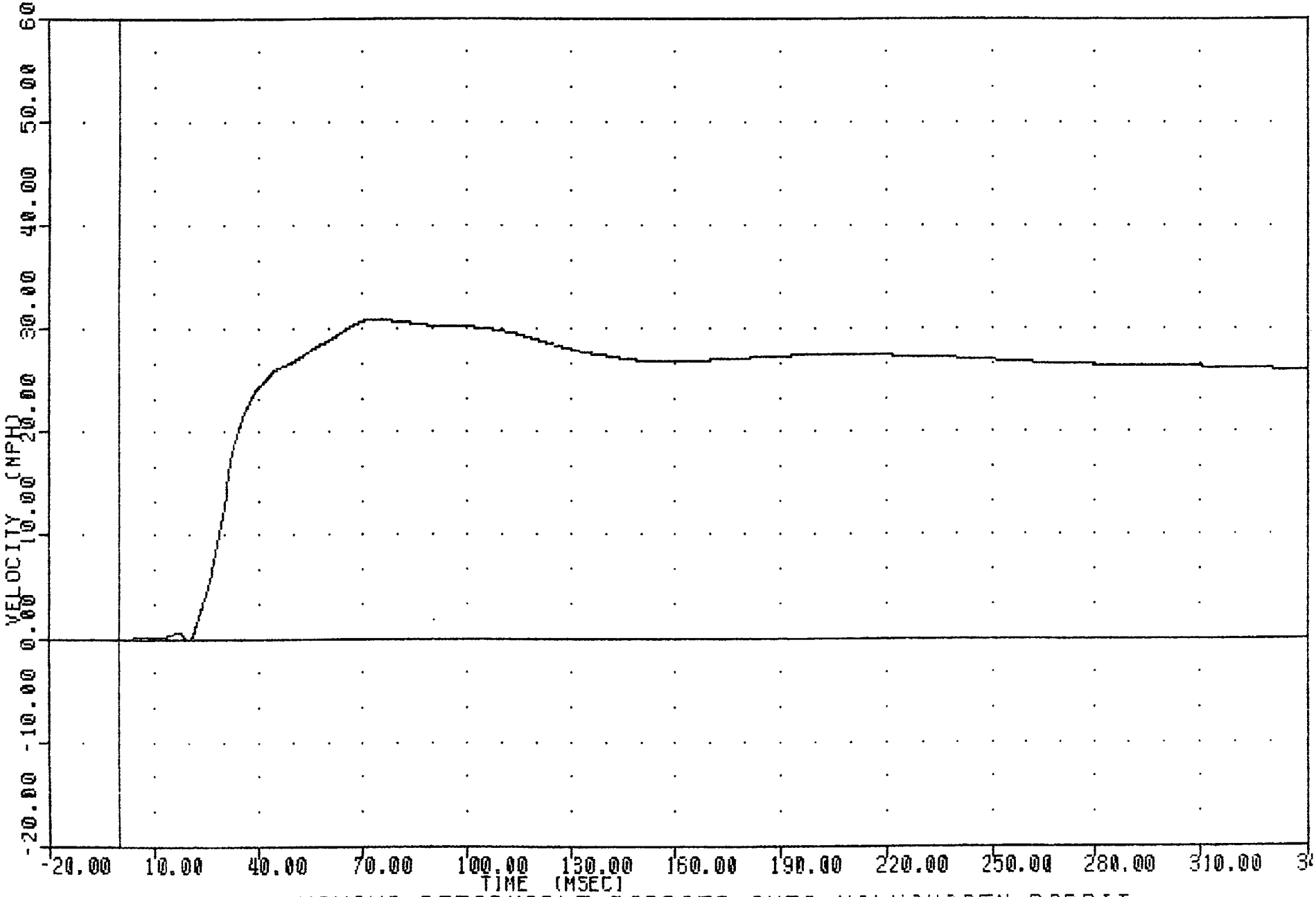
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER PELVIS ACCELERATION Z AXIS



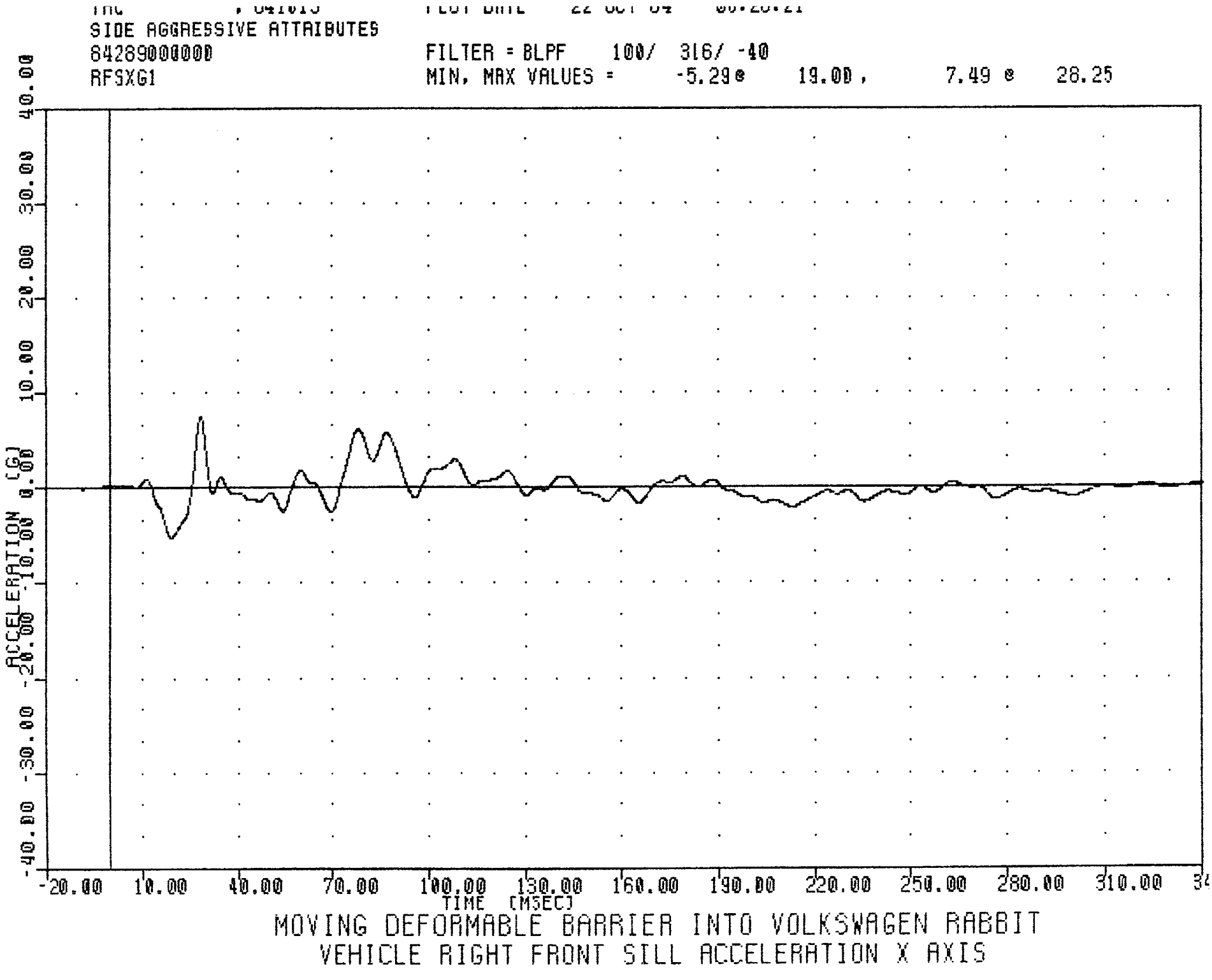
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
PASSENGER PELVIS RESULTANT

SIDE AGGRESSIVE ATTRIBUTES
84289000000
PEVYV3

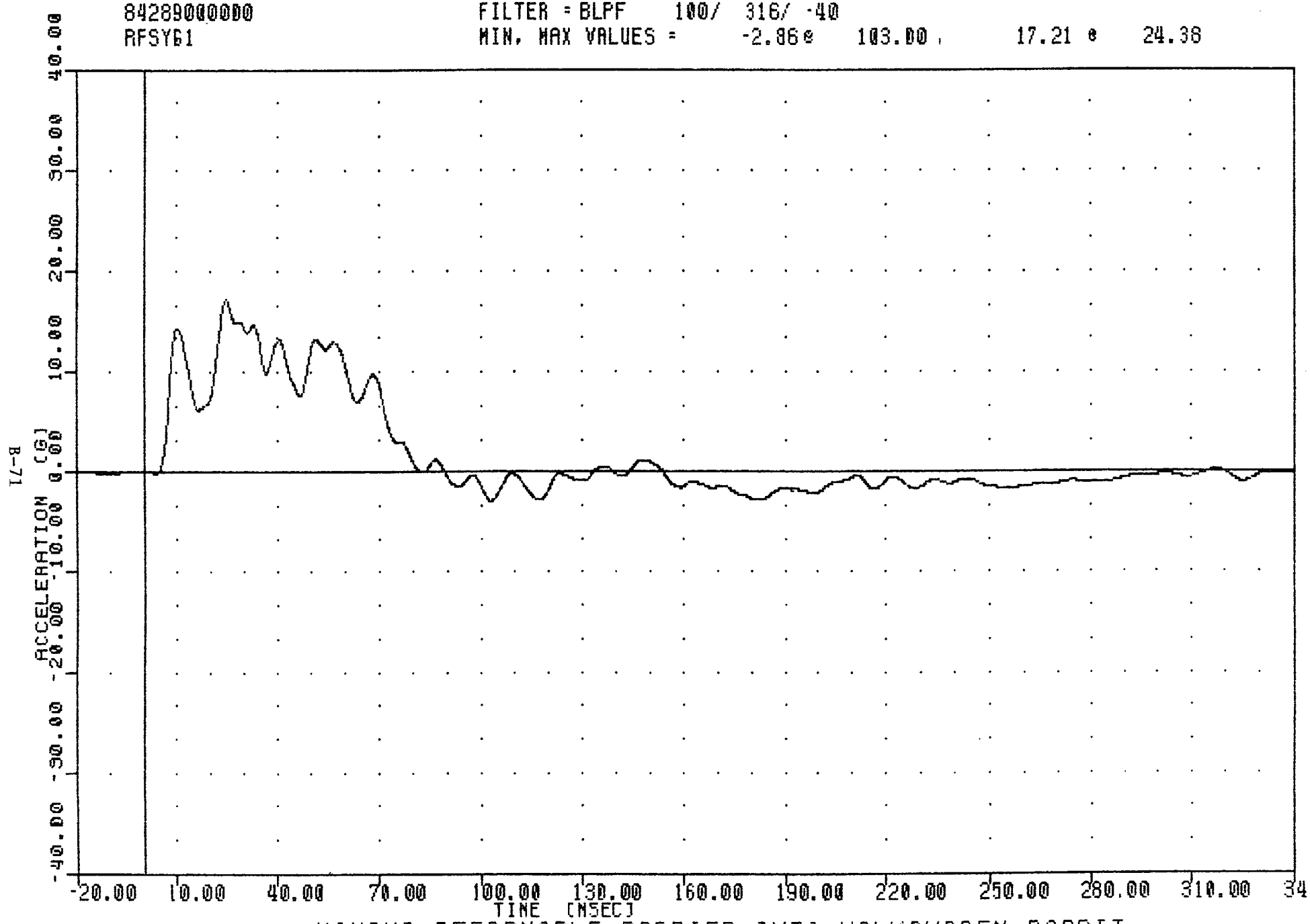
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -0.13 @ 19.63 , 30.93 @ 73.25



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING PEVYG3



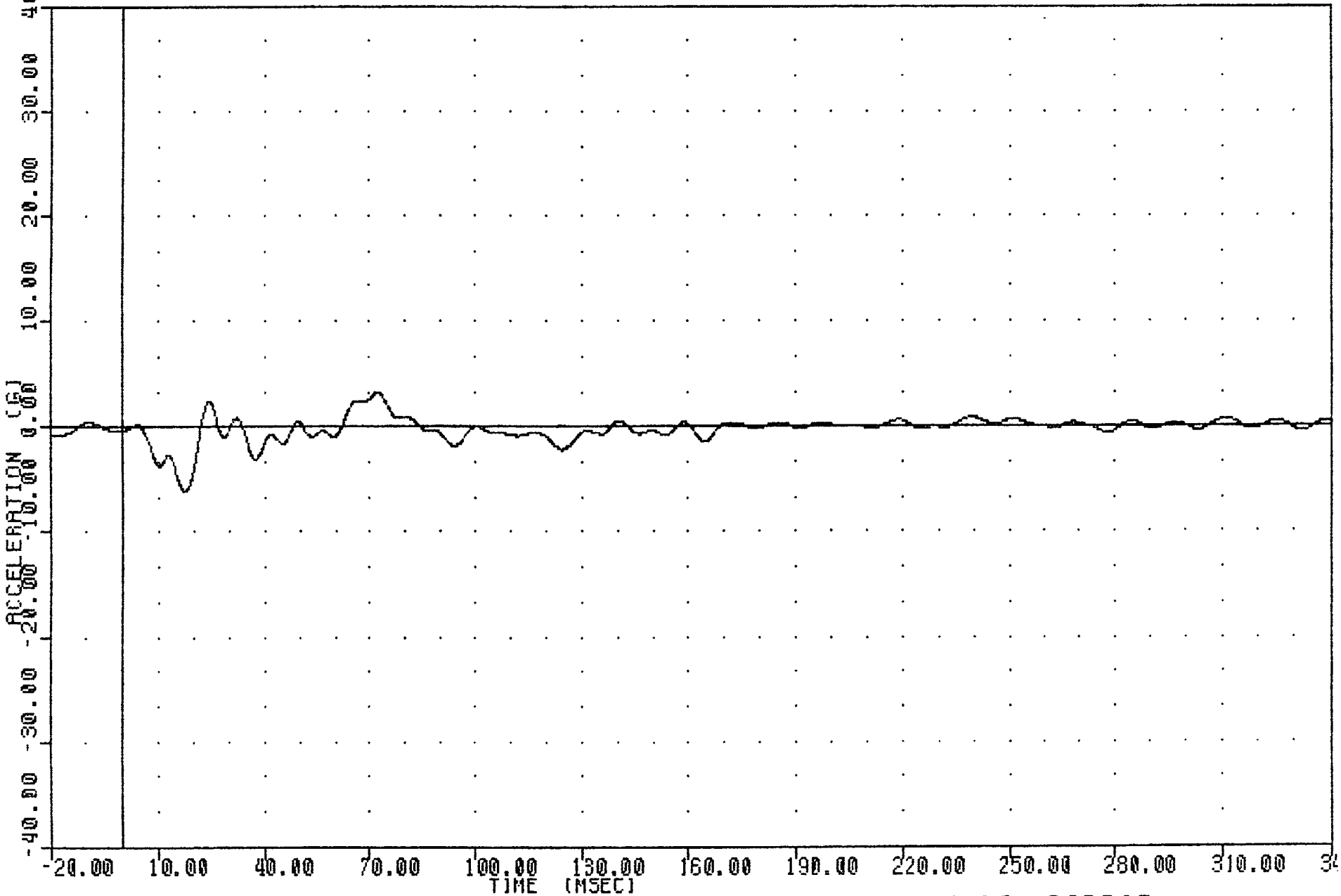
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE RIGHT FRONT SILL ACCELERATION X AXIS



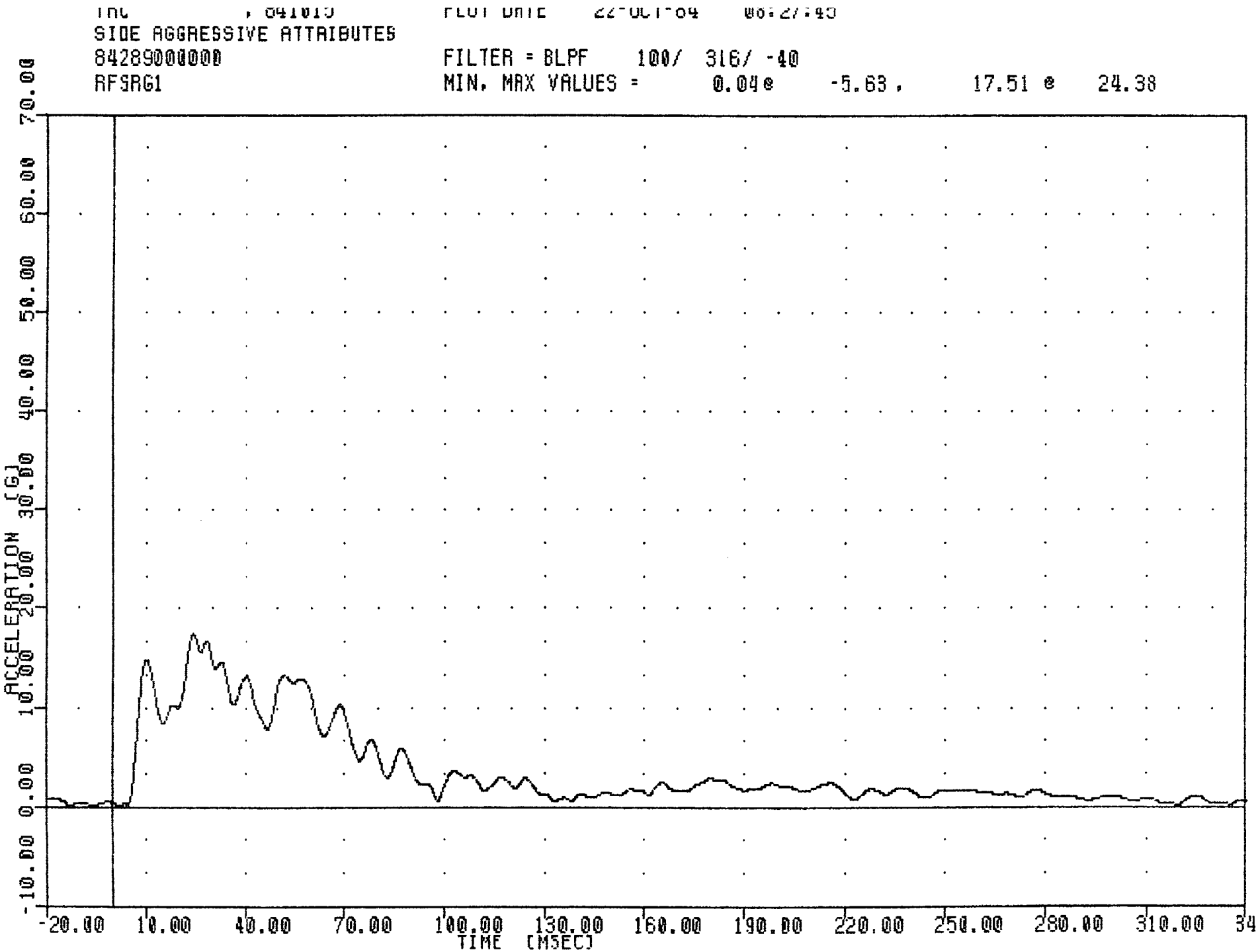
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE RIGHT FRONT SILL ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
RFSZG1

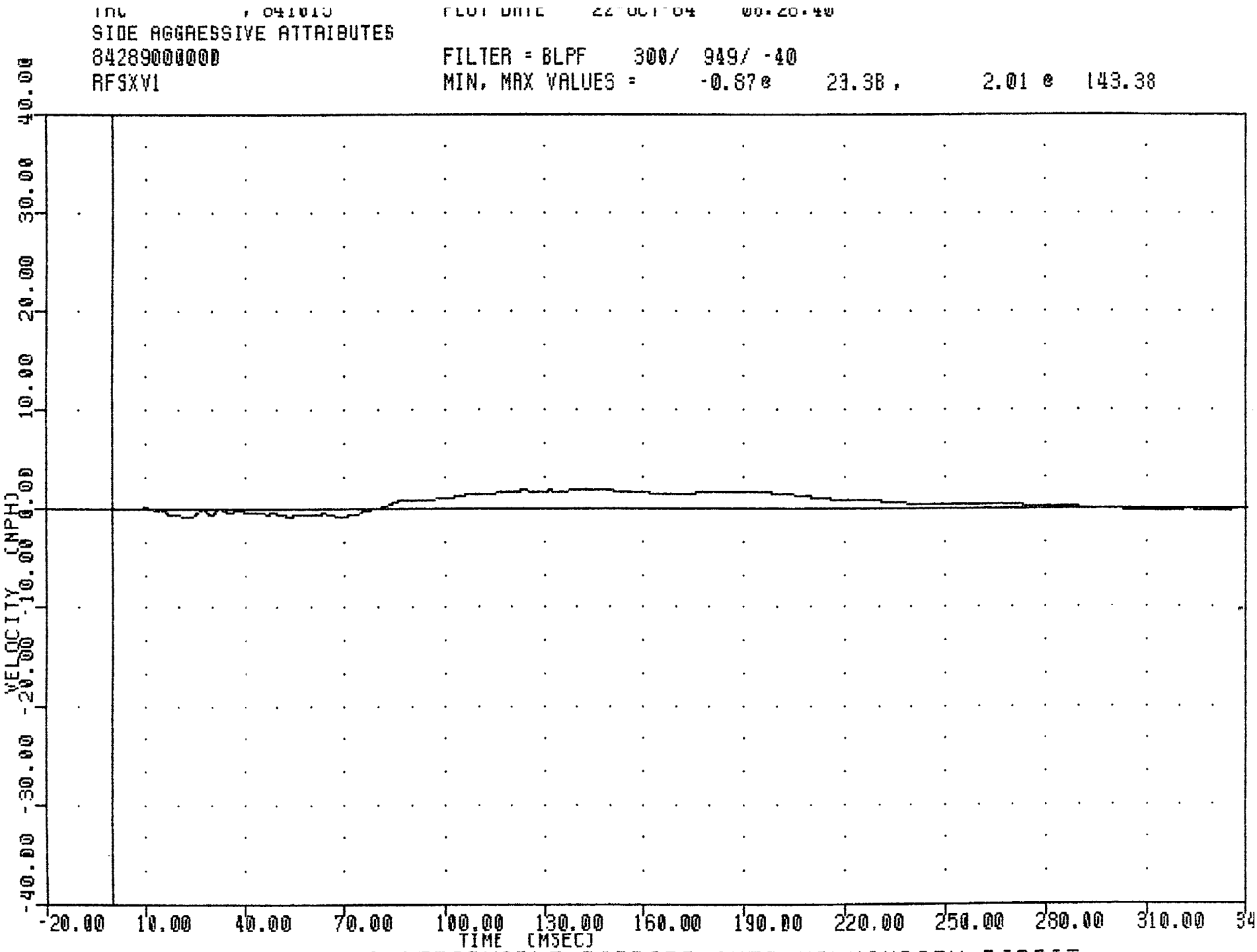
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -6.04 @ 17.25 , 3.24 @ 72.00



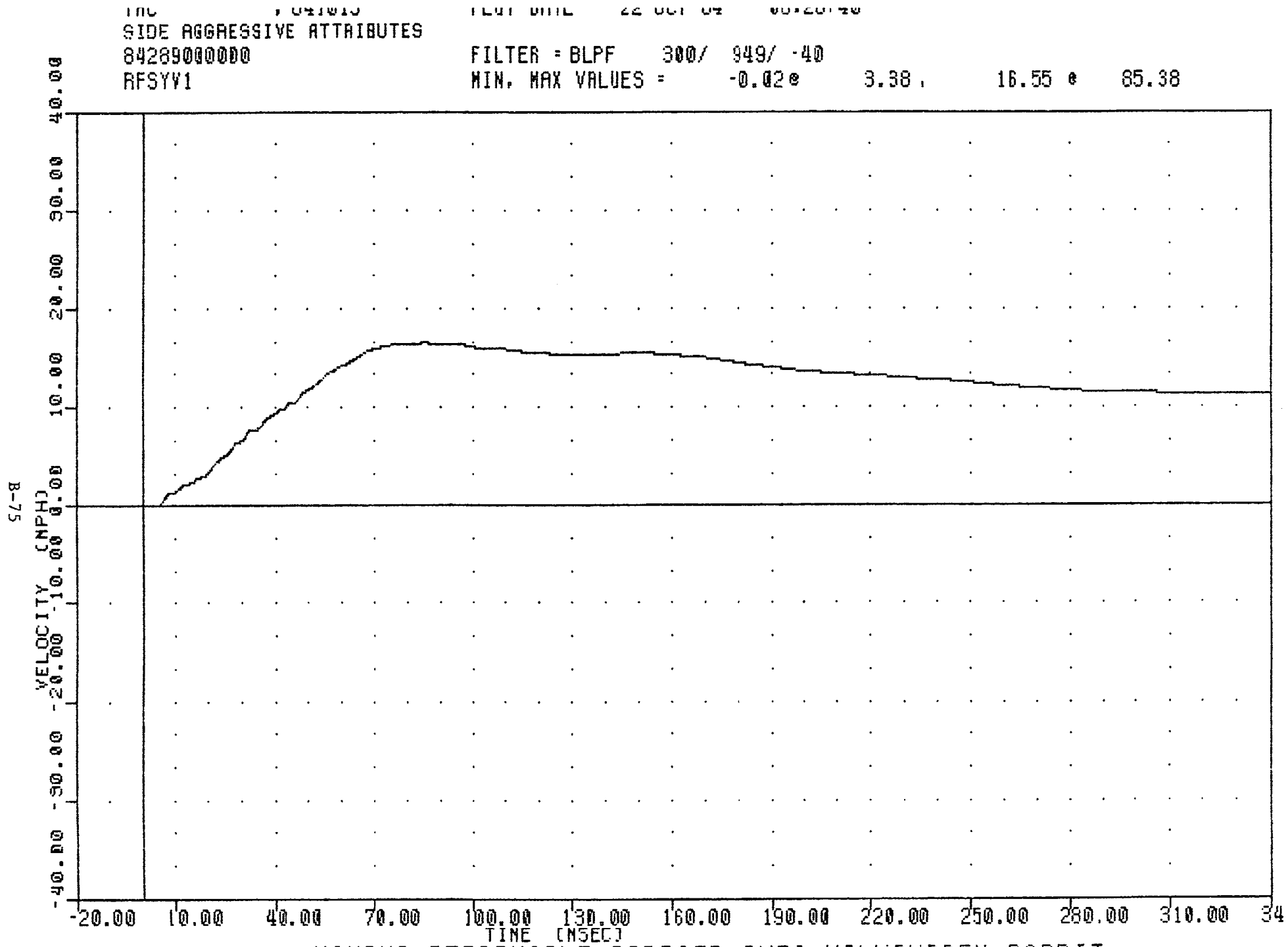
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE RIGHT FRONT SILL ACCELERATION Z AXIS



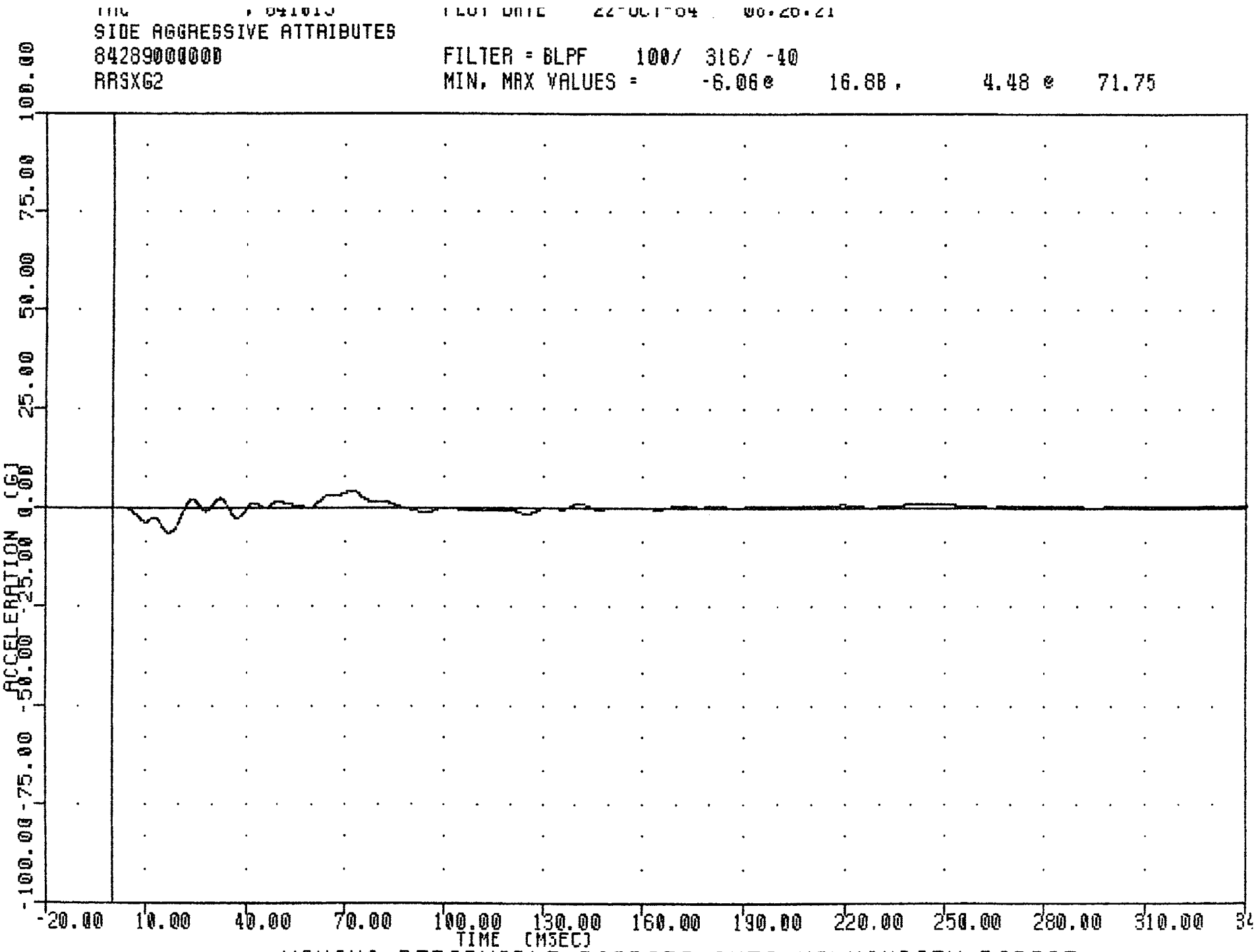
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE RIGHT FRONT SILL RESULTANT



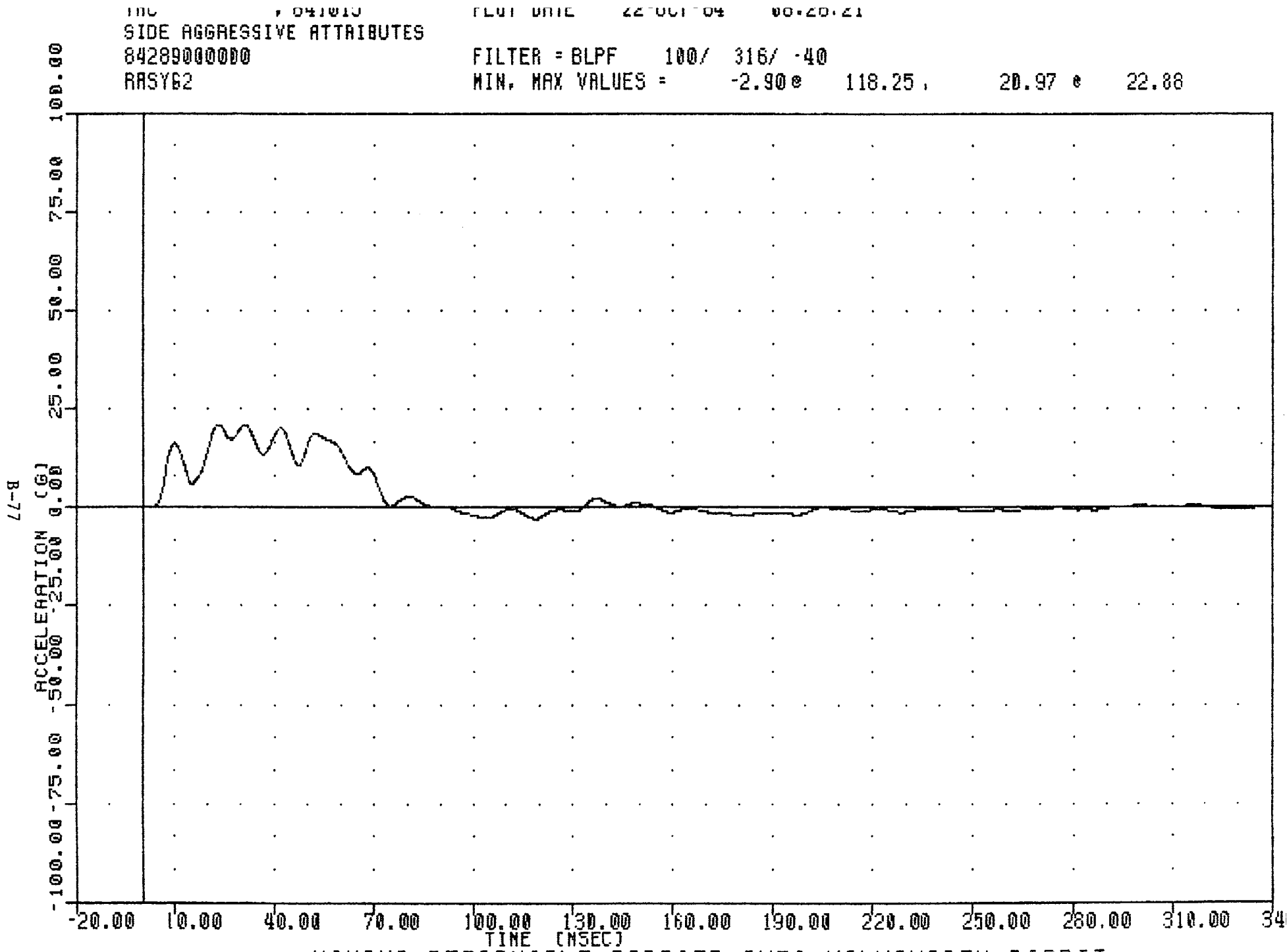
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING RFSXG1



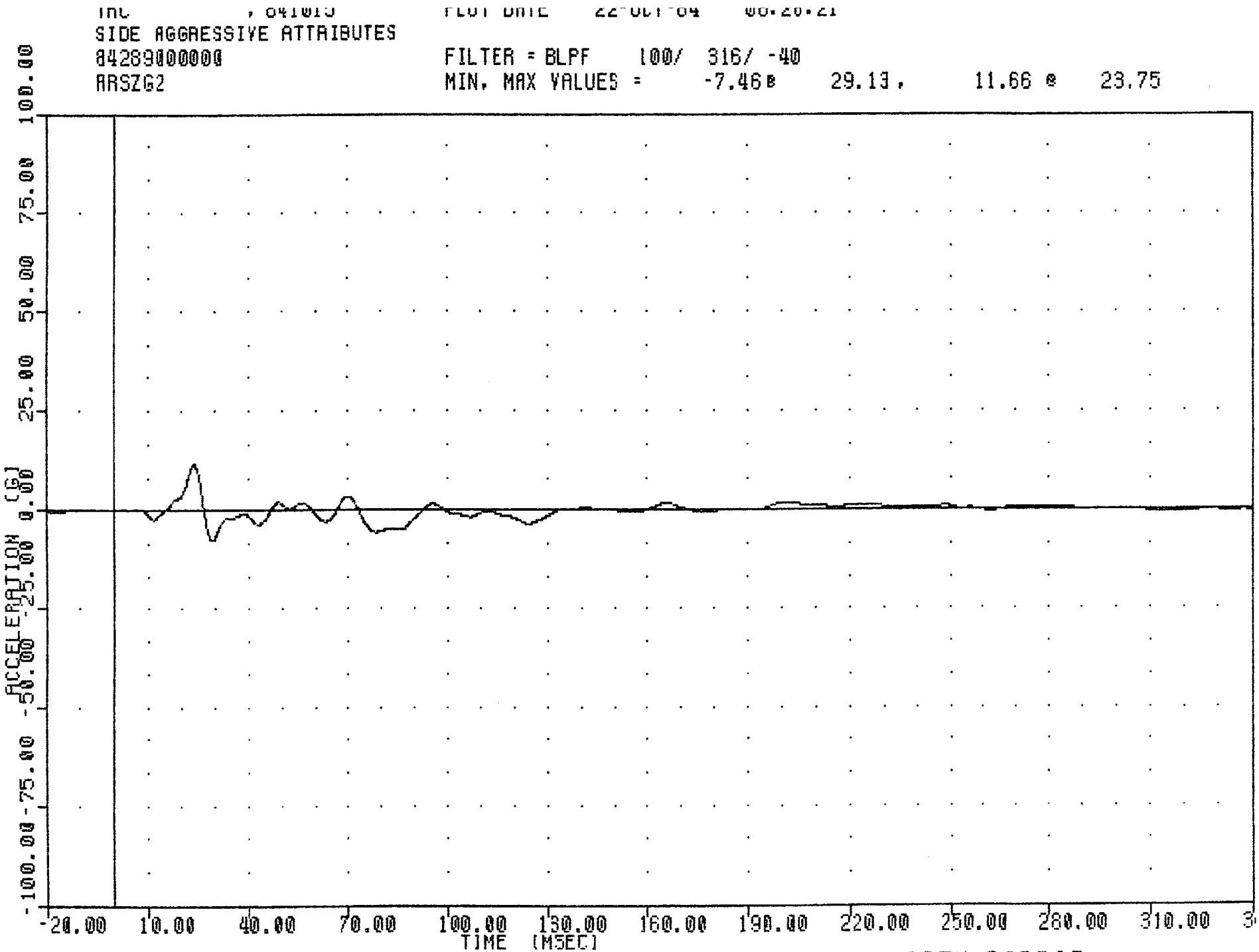
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING RFSYG1



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

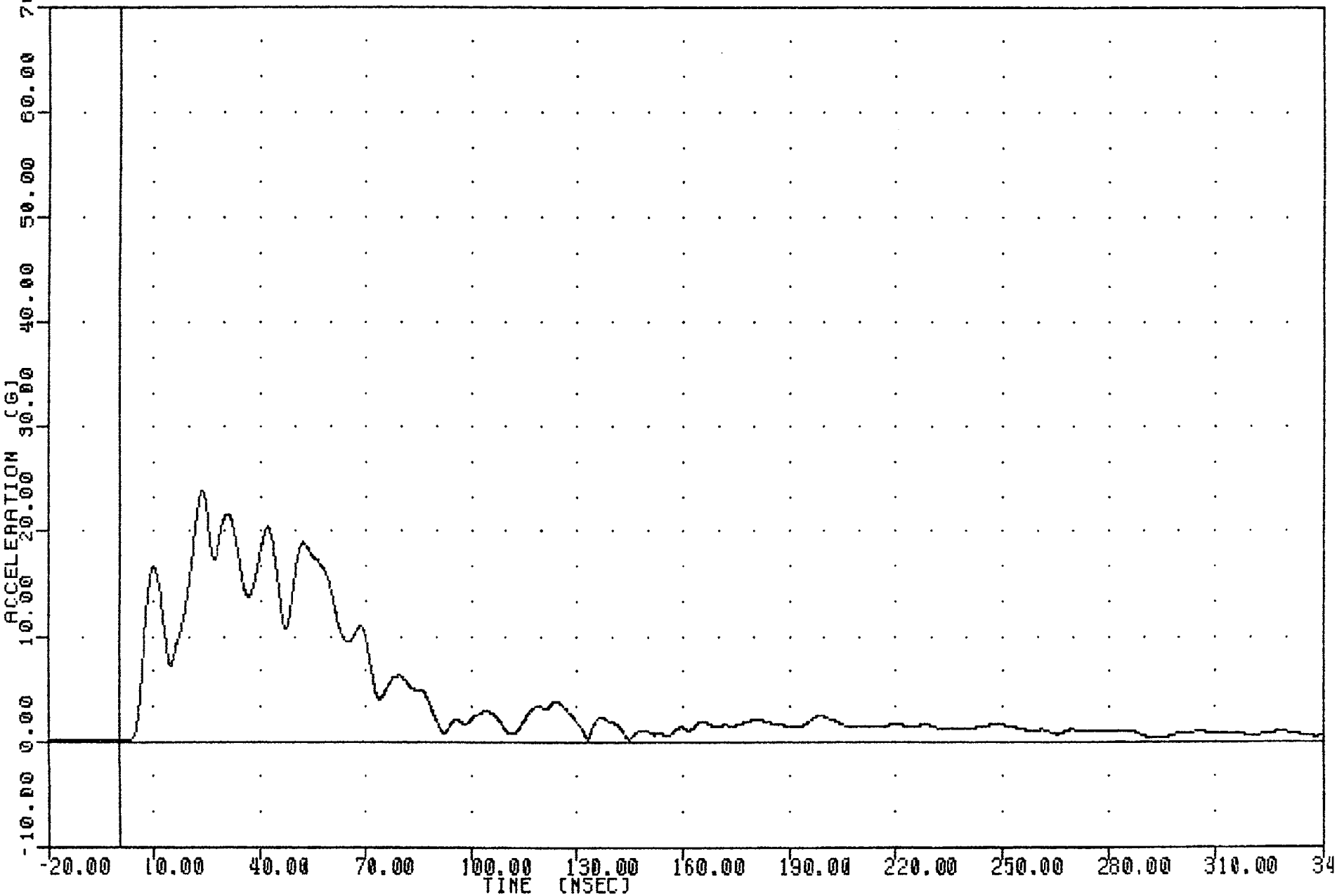


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE RIGHT REAR SILL ACCELERATION Y AXIS



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

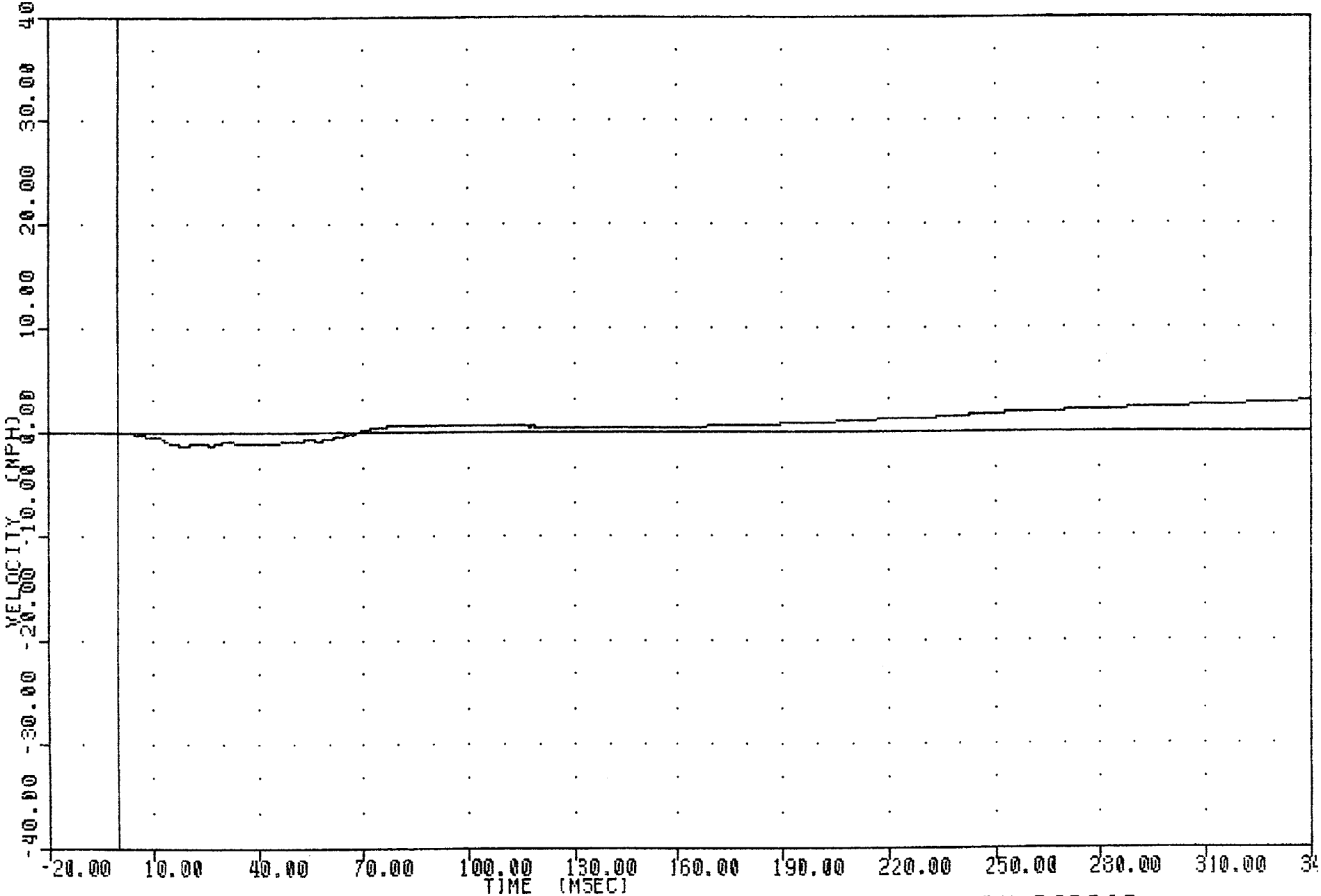
SIDE AGGRESSIVE ATTAIBUTES
842890@@@@@@
RASR62
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = 0.08 @ -0.88 , 23.88 @ 23.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE RIGHT REAR SILL RESULTANT

SIDE AGGRESSIVE ATTRIBUTES
84289000000
RRSXV2

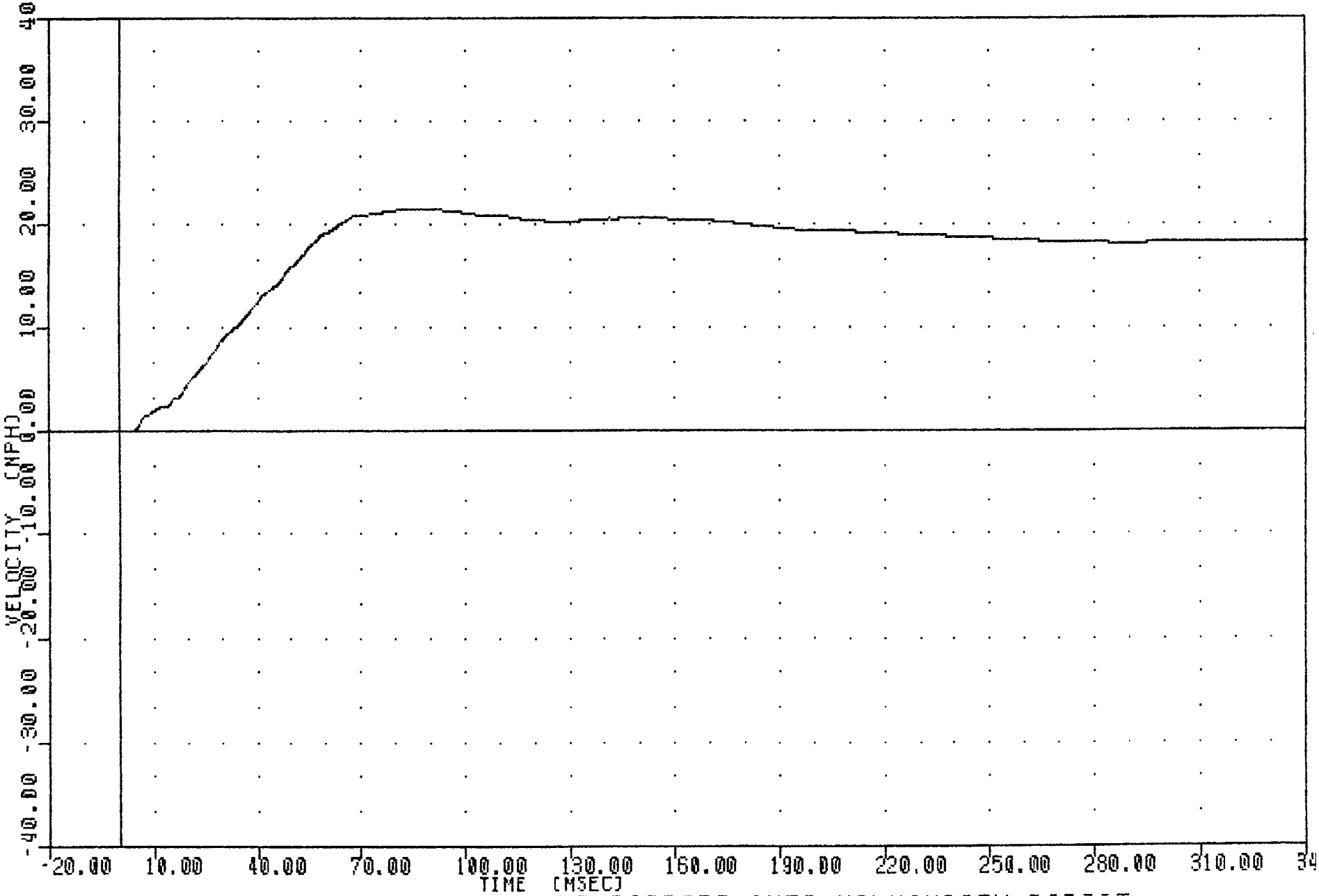
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -1.21 @ 18.75 , 2.95 @ 340.00



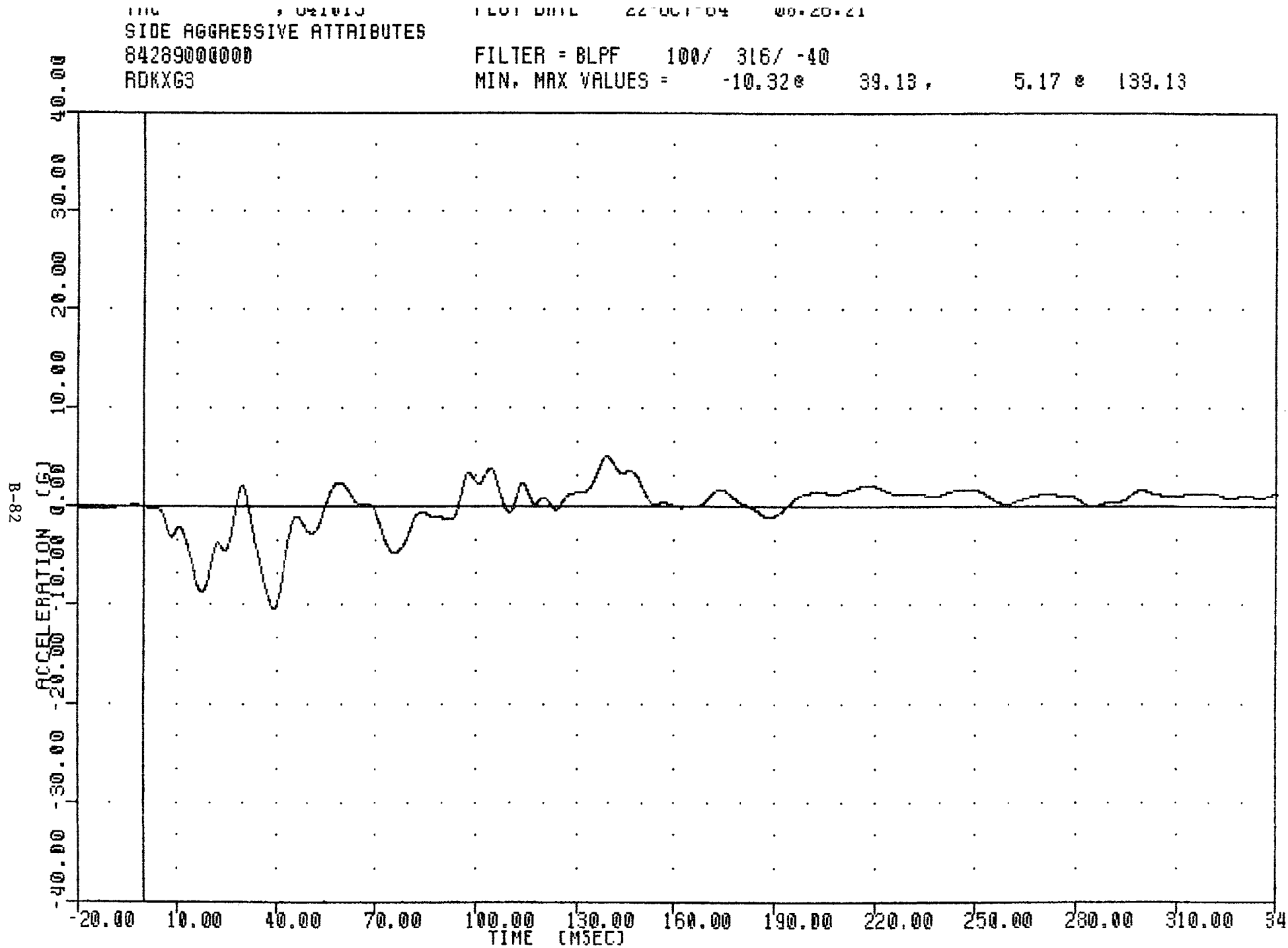
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING RRSXG2

SIDE AGGRESSIVE ATTRIBUTES
84289000000
RRSYV2

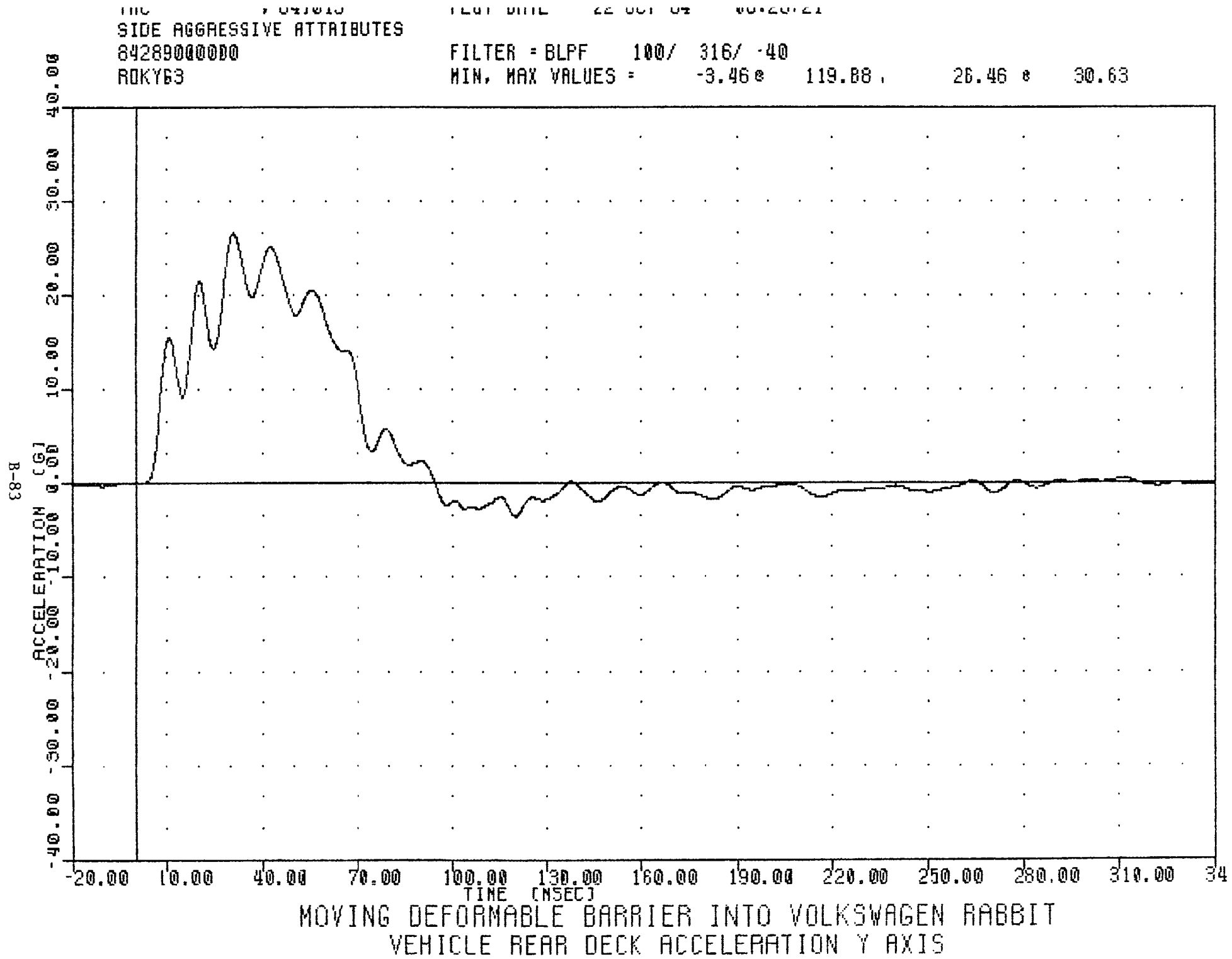
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = 0.00@ -18.00, 21.46 @ 89.63



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING RRSYG2



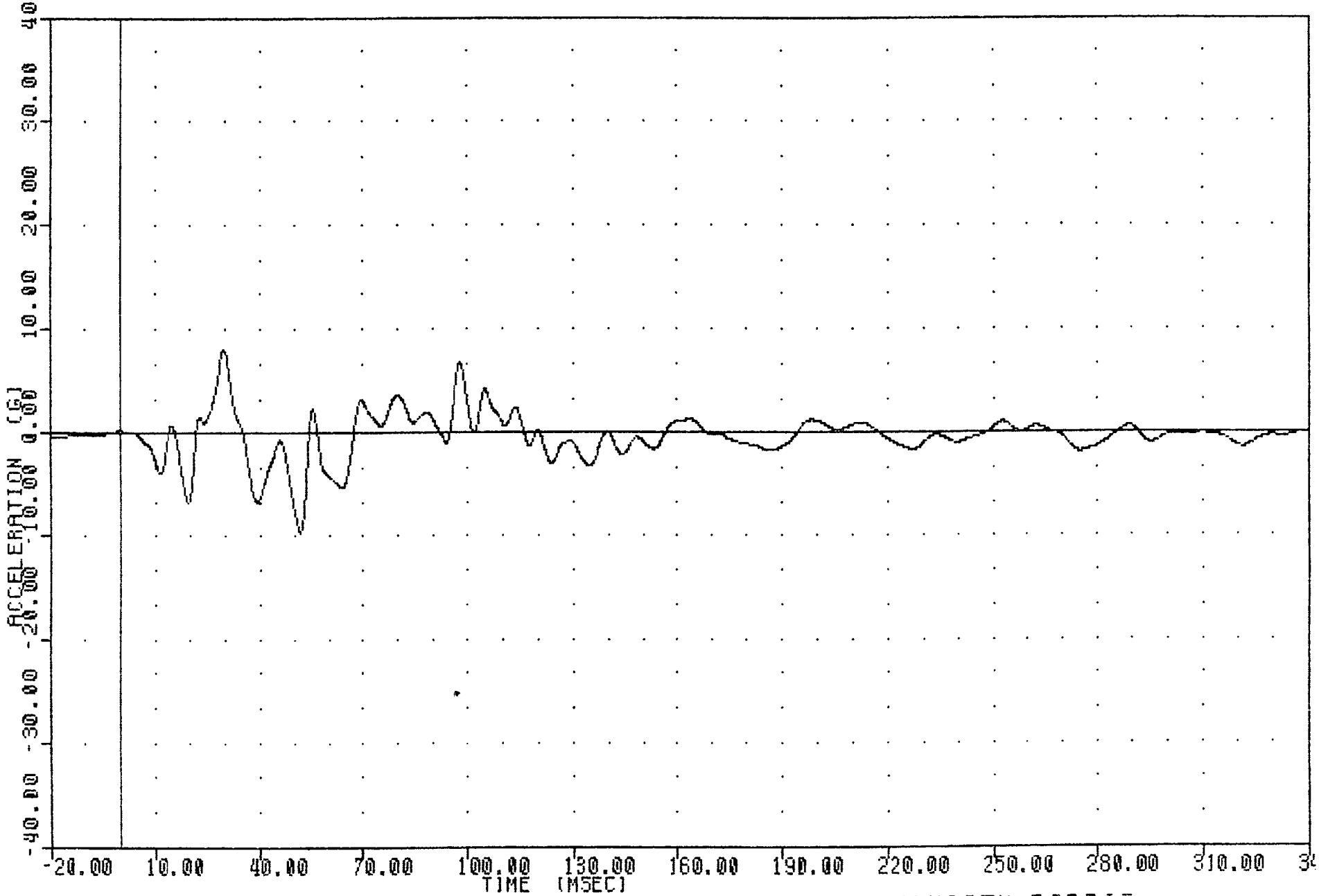
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE REAR DECK ACCELERATION X AXIS



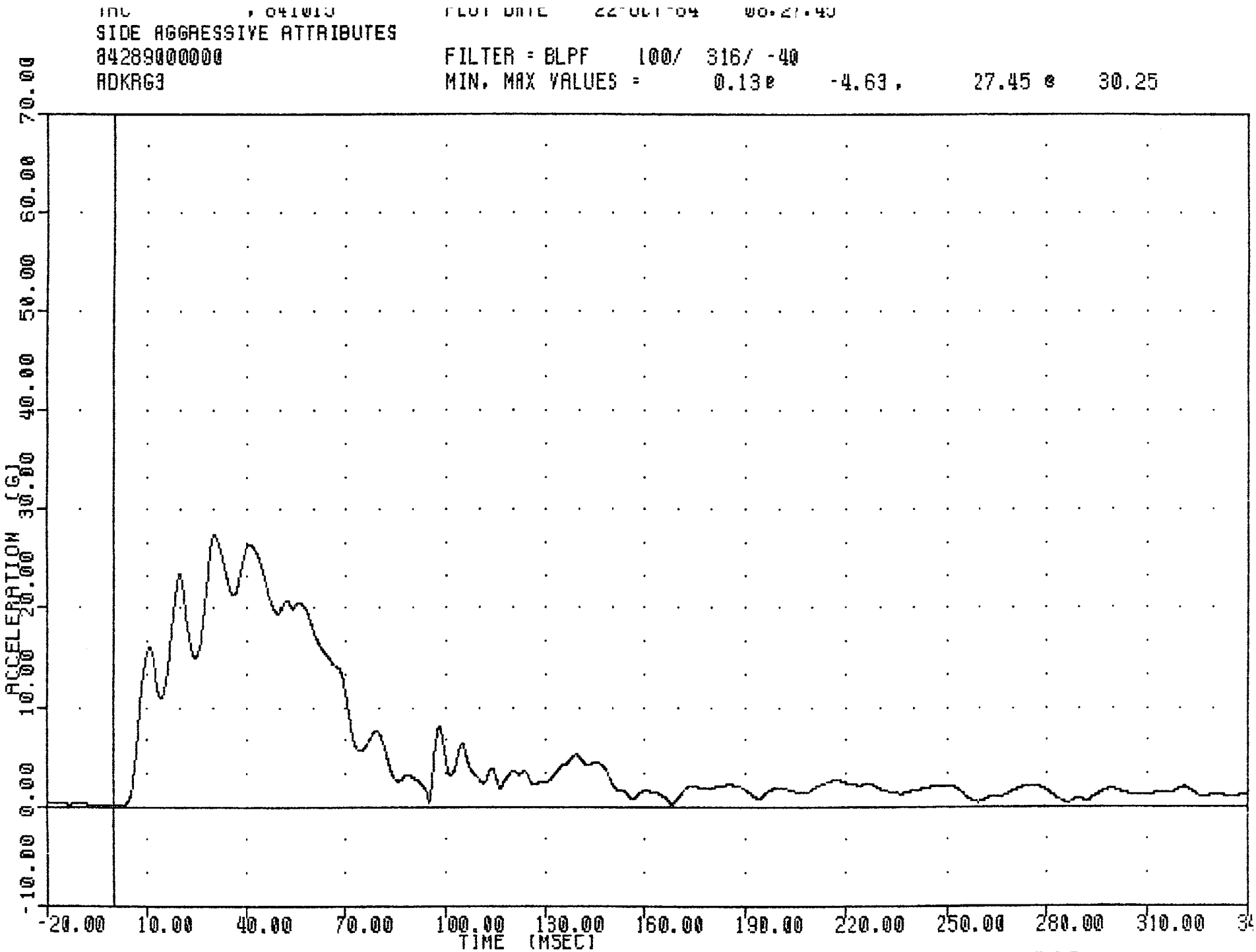
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE REAR DECK ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
RDKZG3

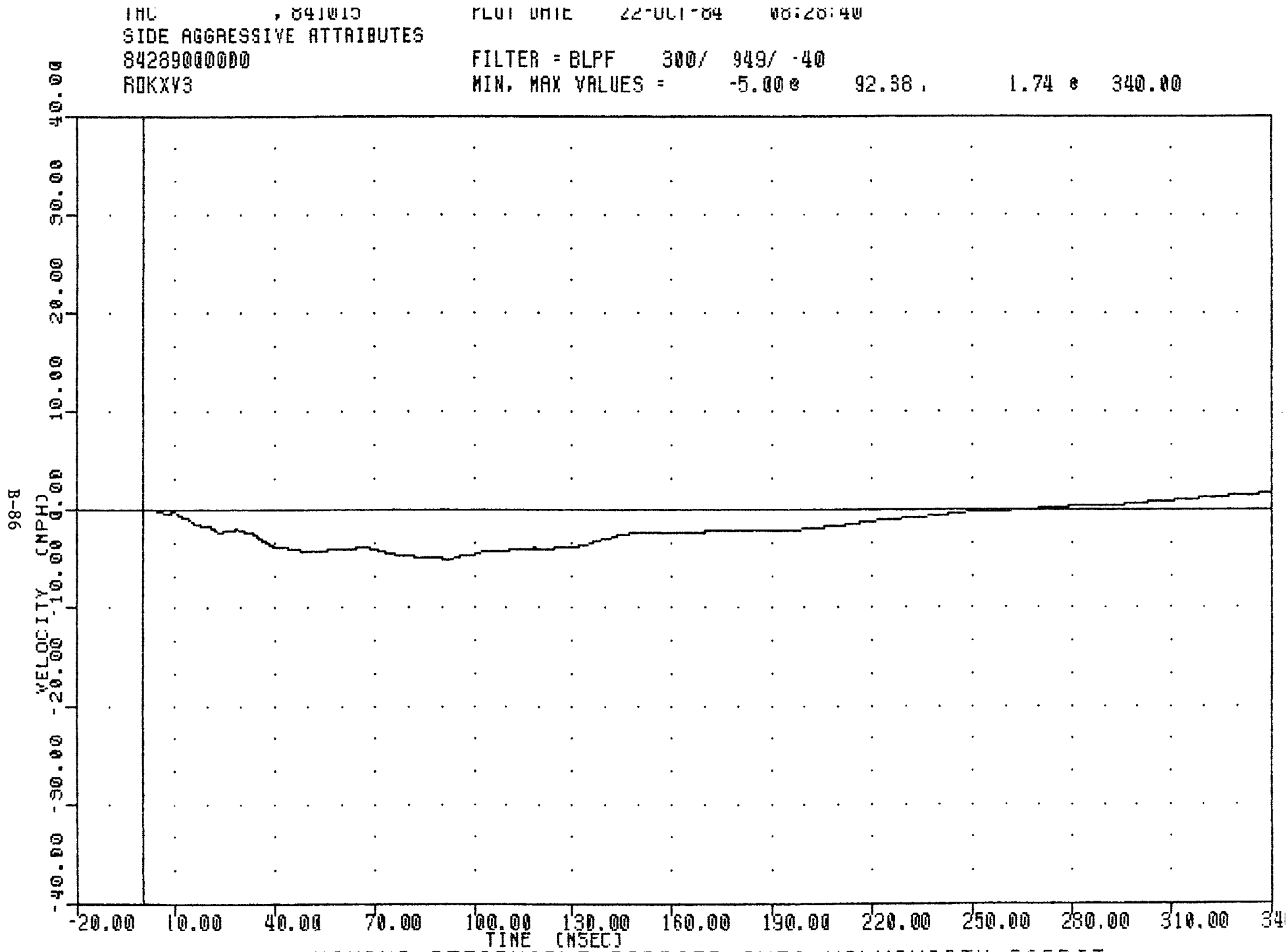
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -9.61 @ 51.50 , 8.06 @ 29.50



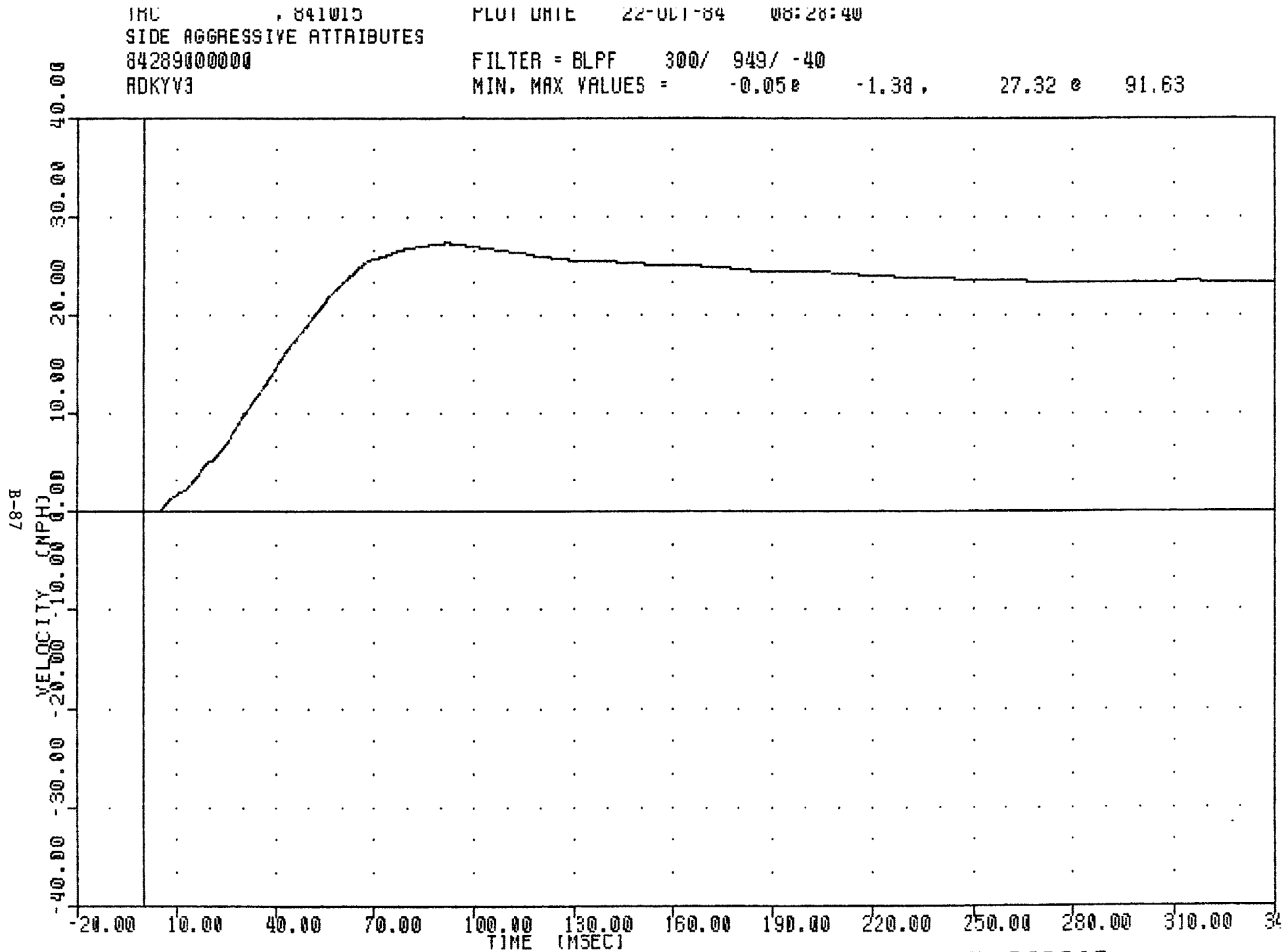
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE REAR DECK ACCELERATION Z AXIS



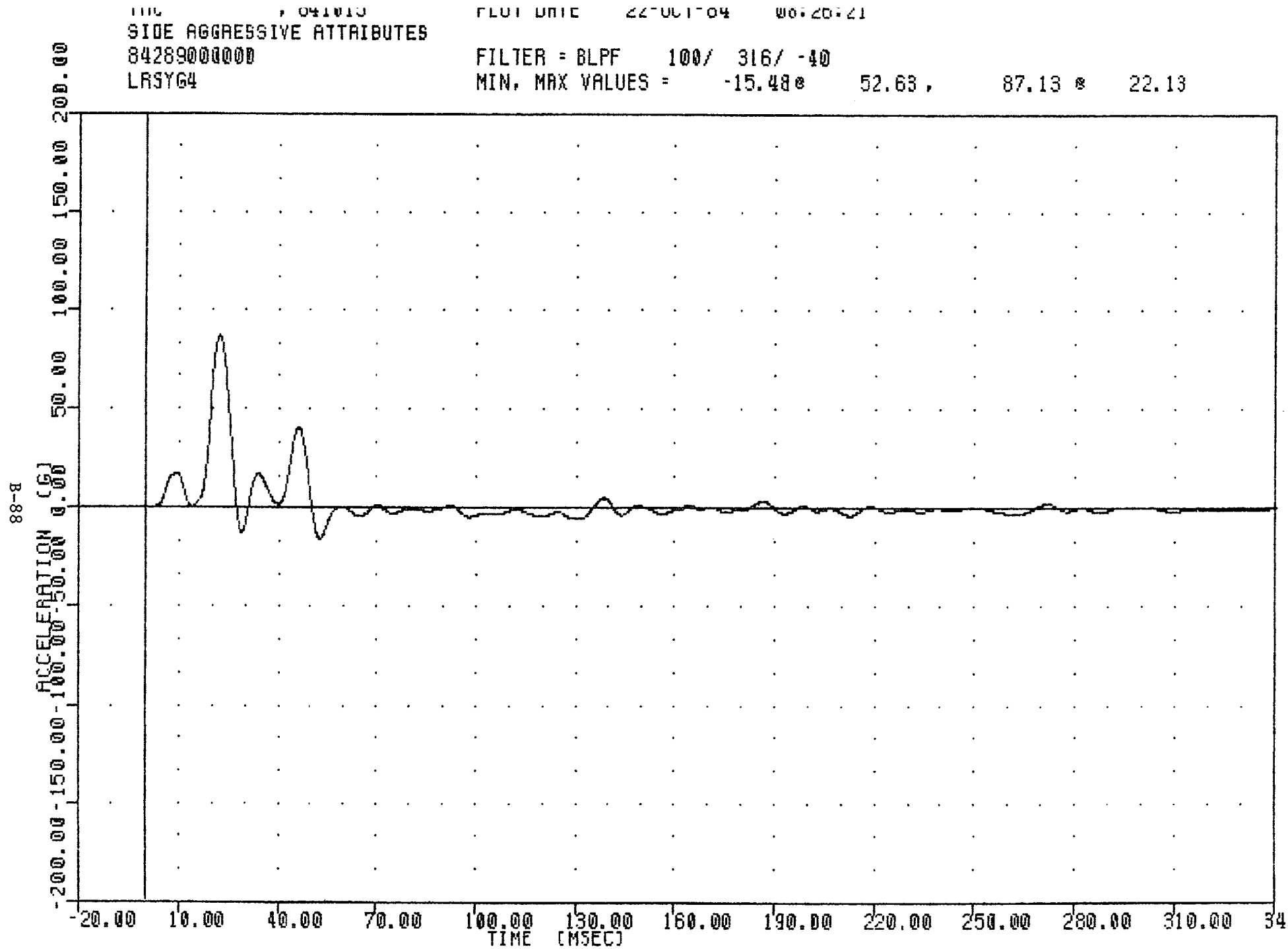
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE REAR DECK RESULTANT



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING RDKXG3

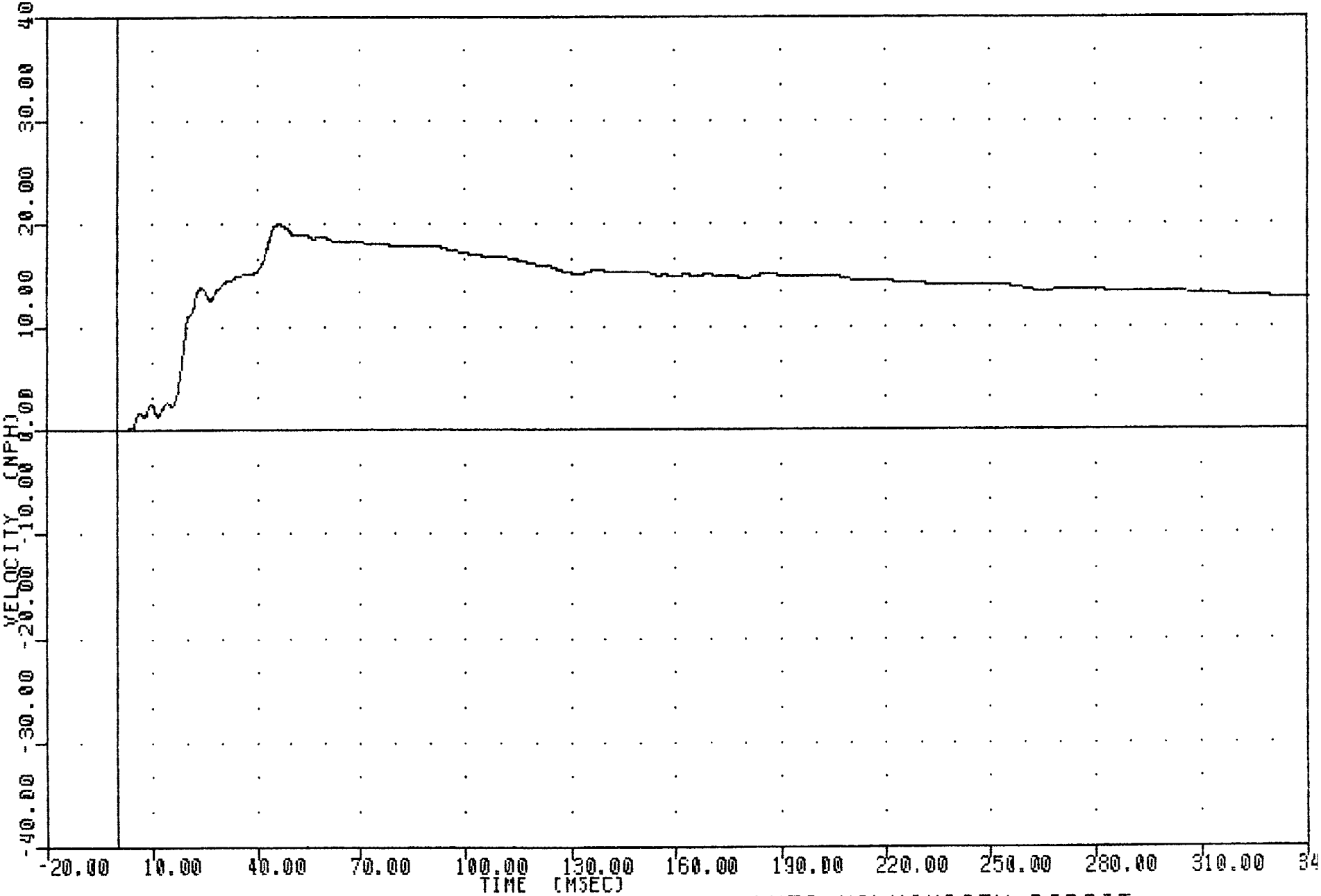


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING RDKYG3

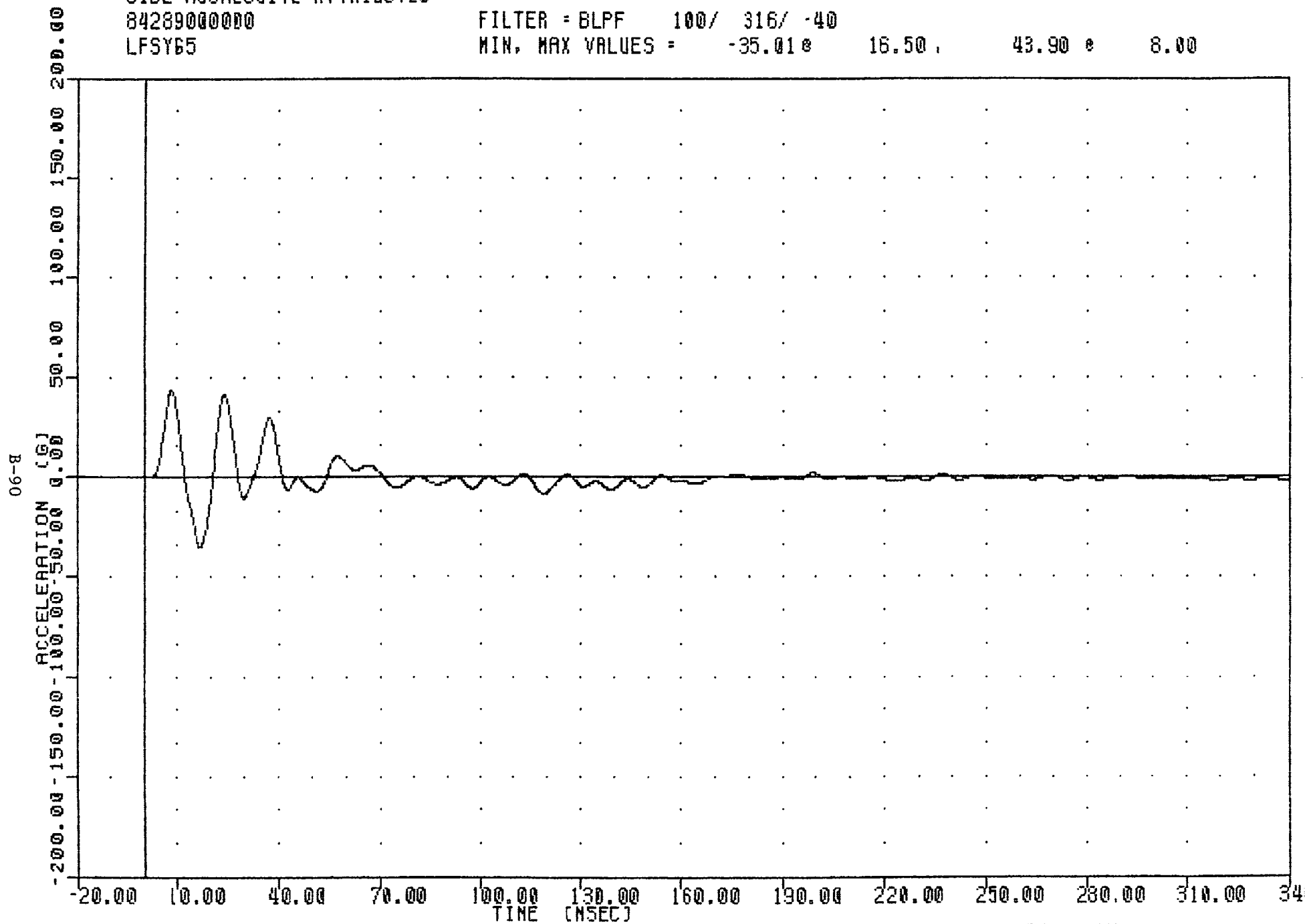


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT REAR SILL ACCELERATION Y AXIS

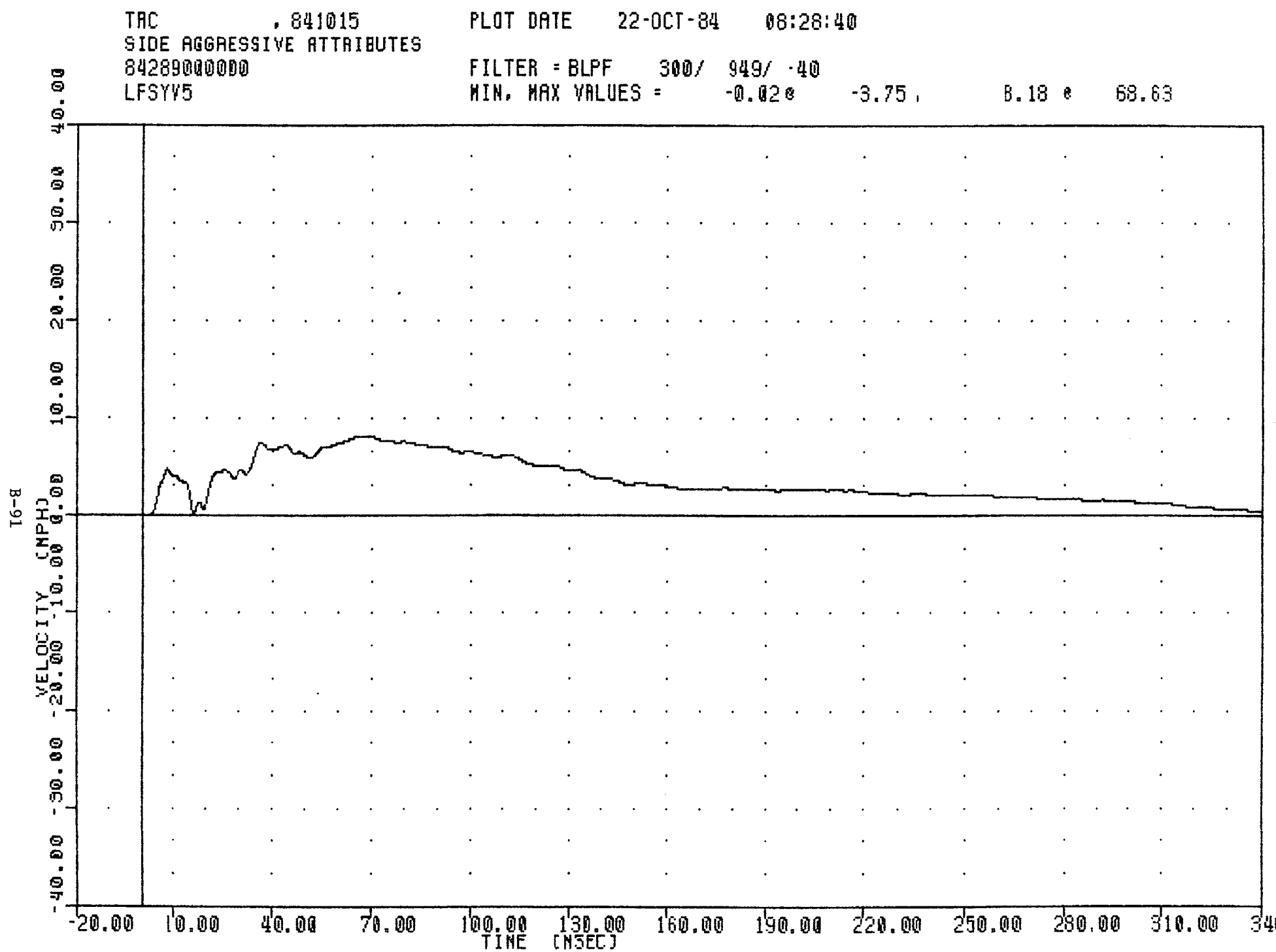
TRC , 041013 PLOT DATE 22-OCT-04 08:20:40
SIDE AGGRESSIVE ATTRIBUTES
84289000000
LRSYV4
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = -0.02@ -9.13 , 19.90 @ 46.38



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LRSYG4



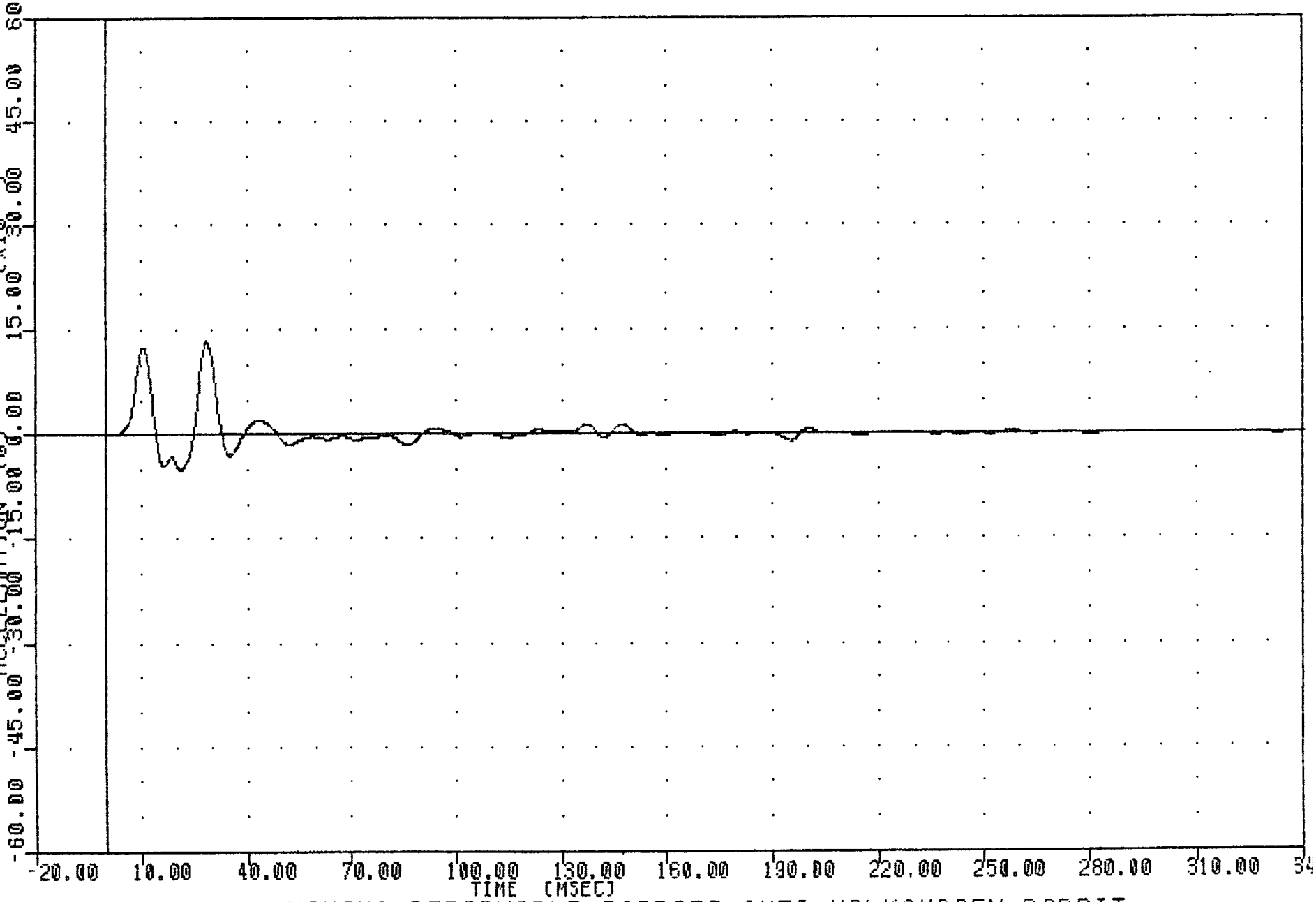
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT SILL ACCELERATION Y AXIS



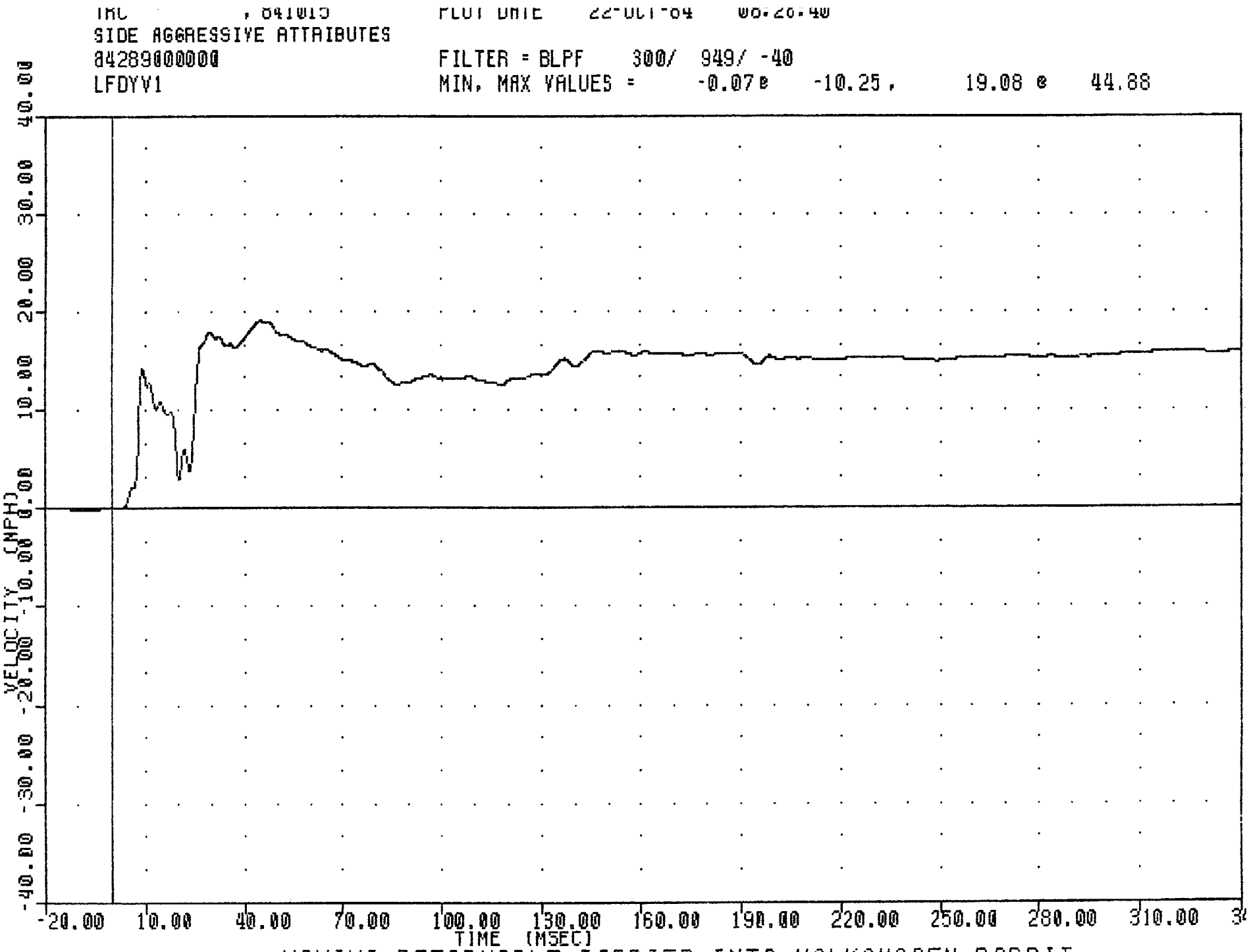
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFSYG5

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LFOYG1

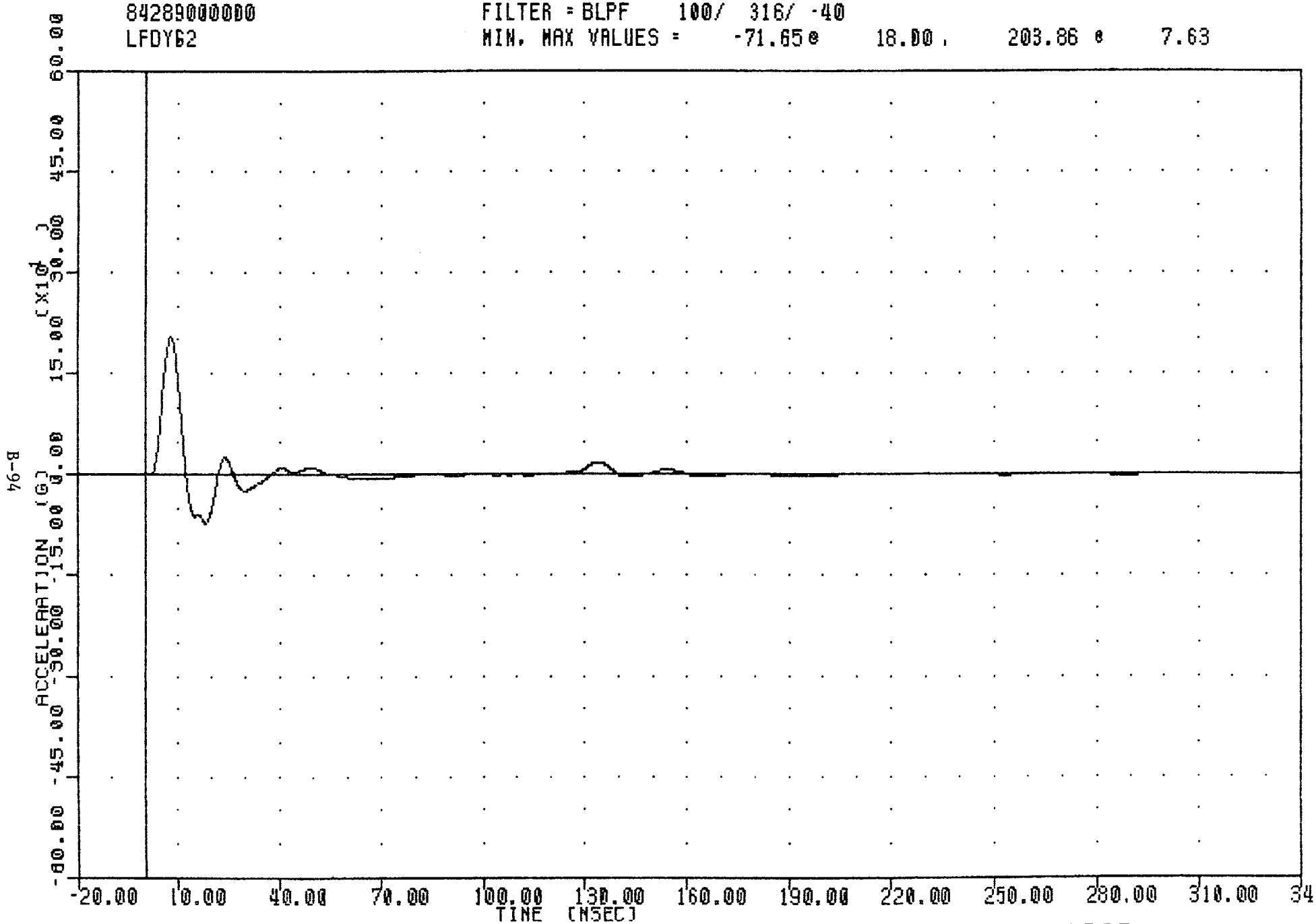
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -50.14 @ 21.00 , 133.48 @ 28.50



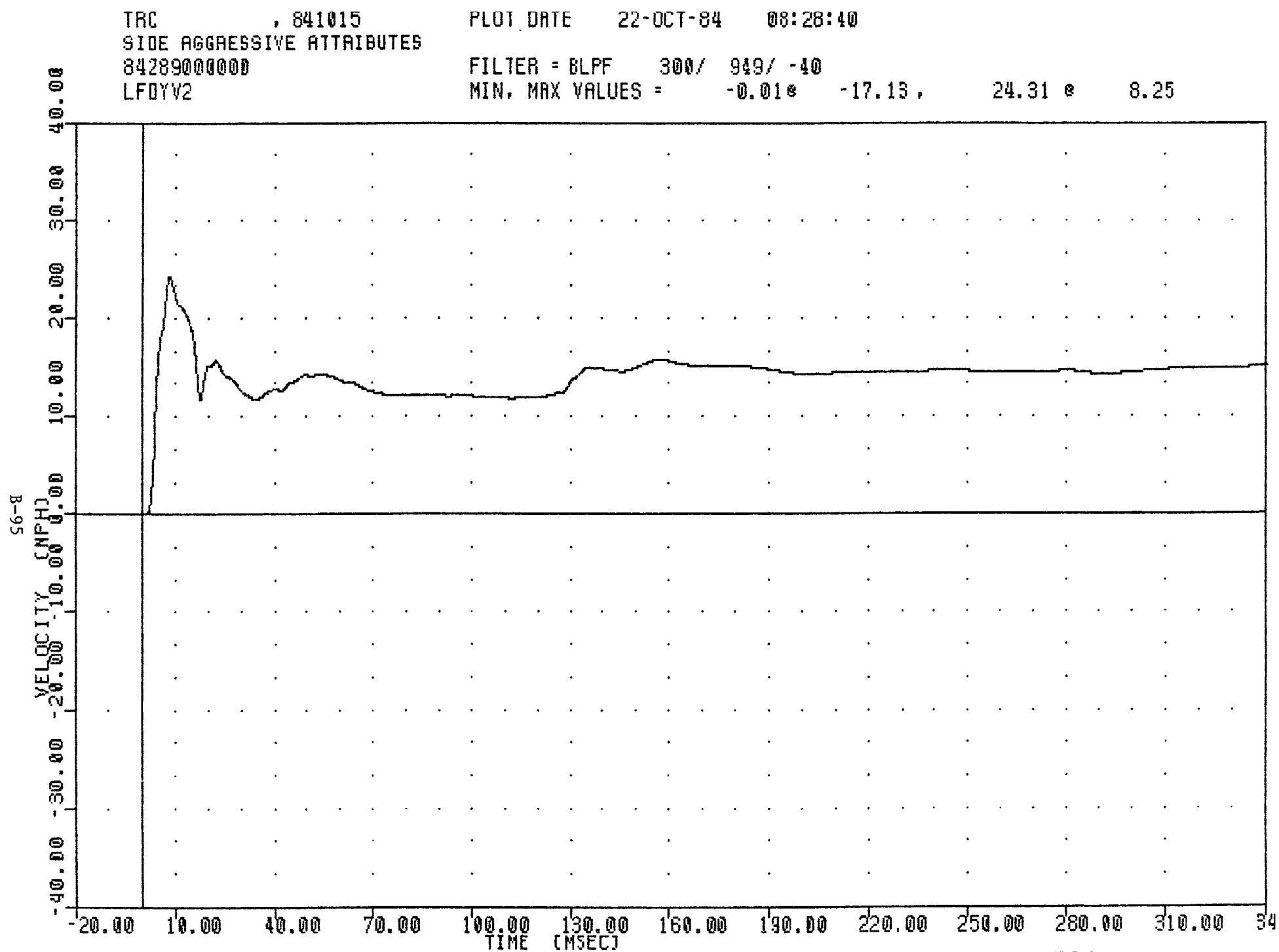
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 6) ACCELERATION Y AXIS



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFDYG1

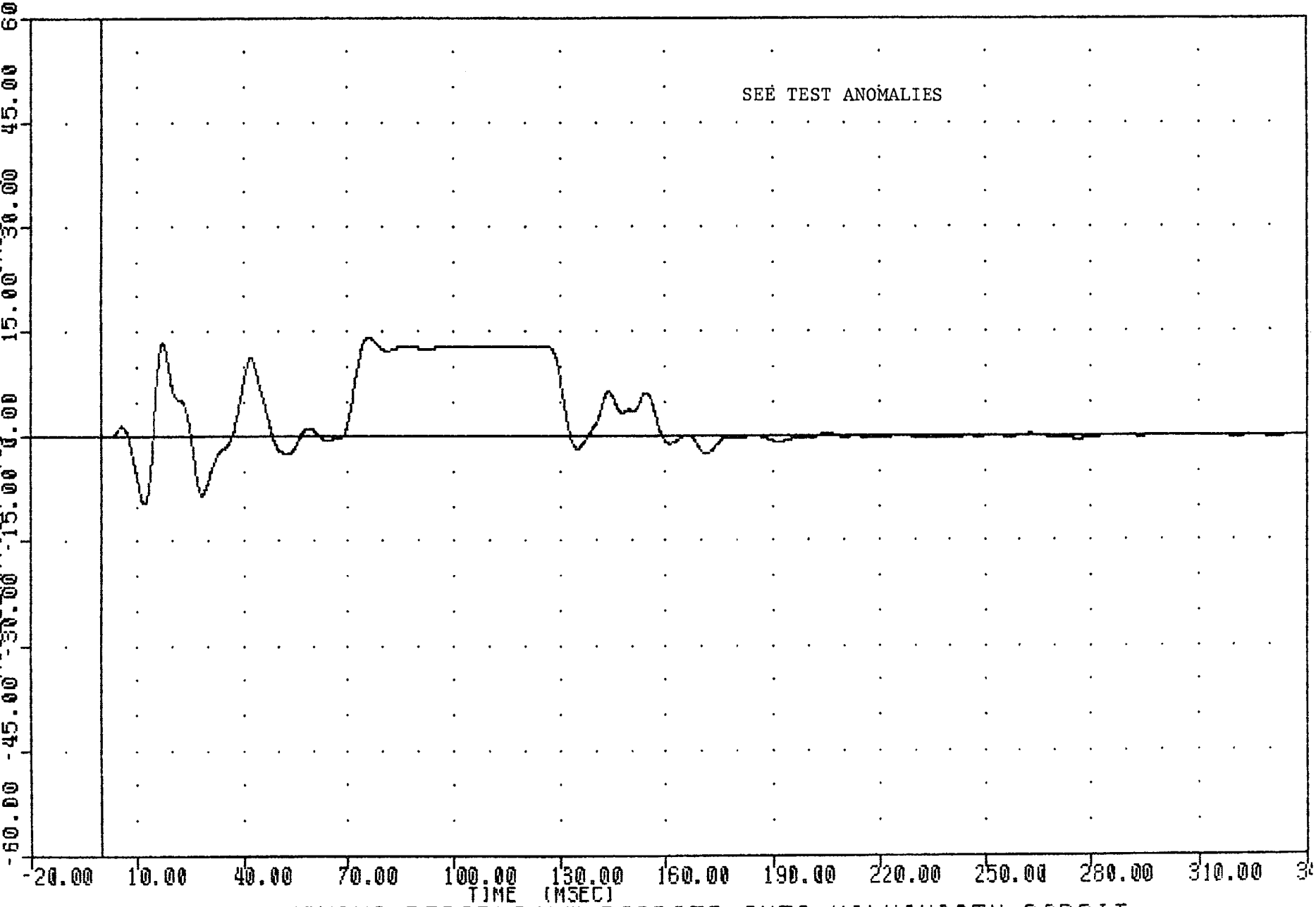


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 8) ACCELERATION Y AXIS

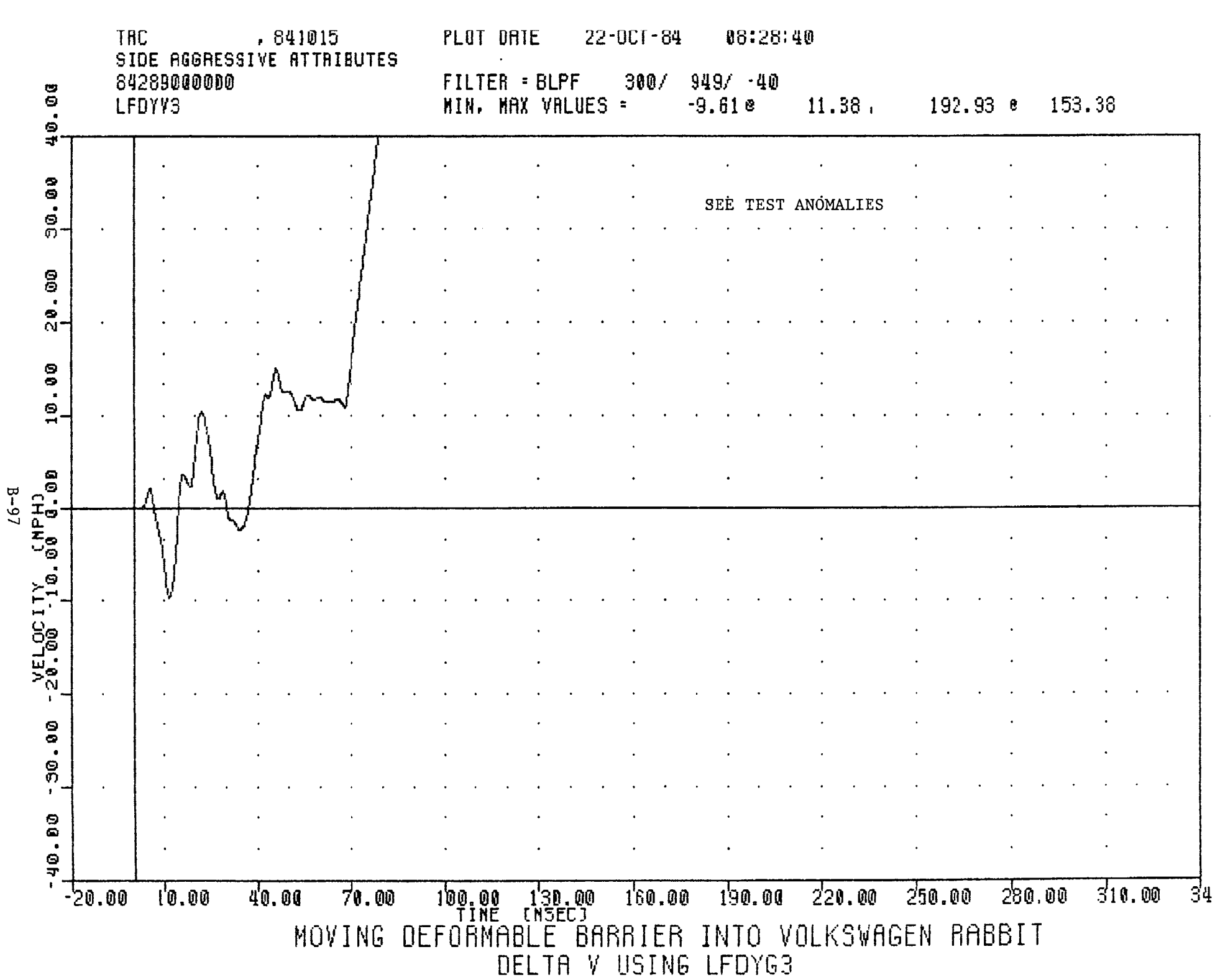


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFDYG2

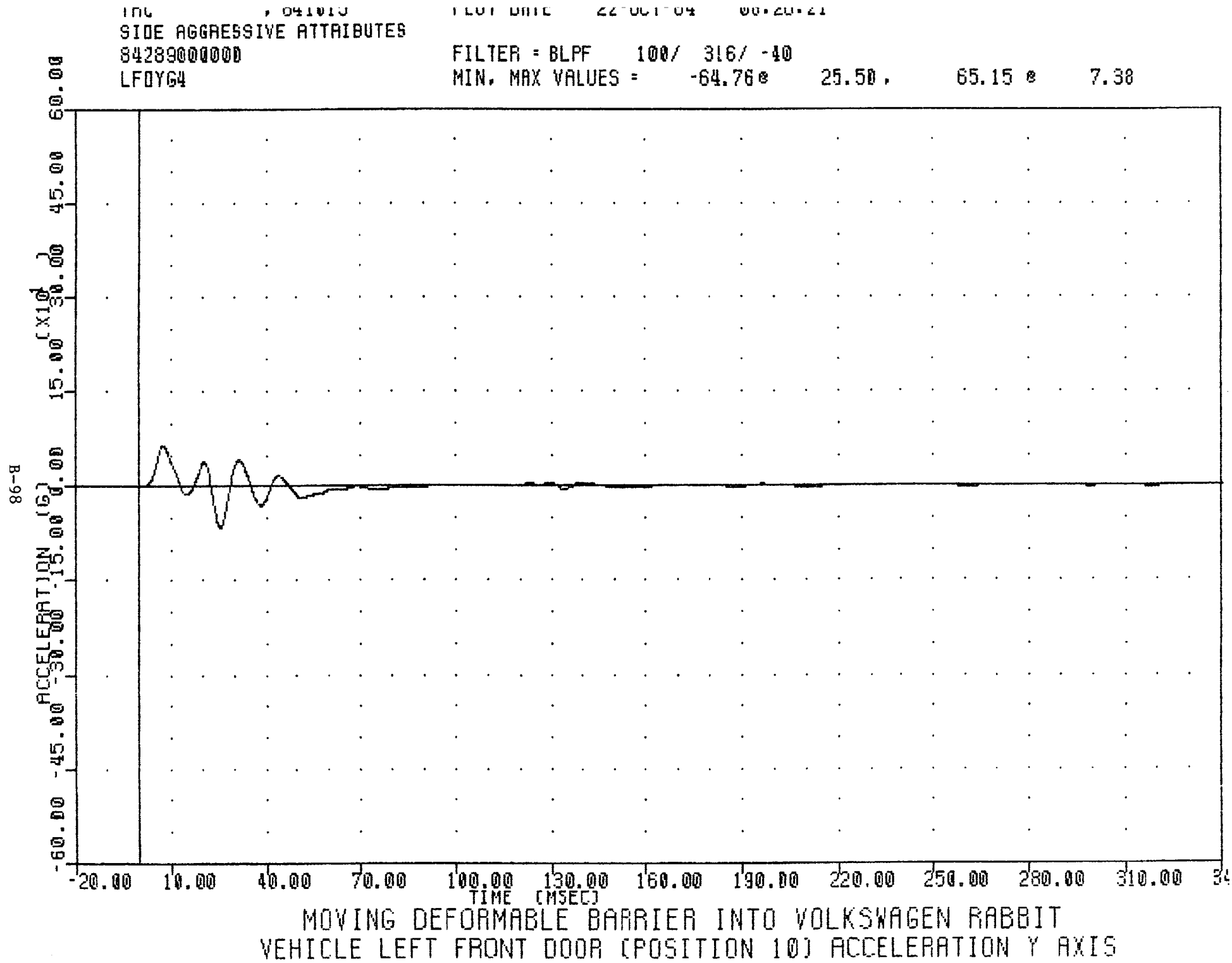
INC , 041013 PLOT DATE 22 OCT 04 08:20:21
SIDE AGGRESSIVE ATTRIBUTES
84289000000
LFDYG3
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -96.04 @ 11.88 , 141.83 @ 75.75



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 9) ACCELERATION Y AXIS



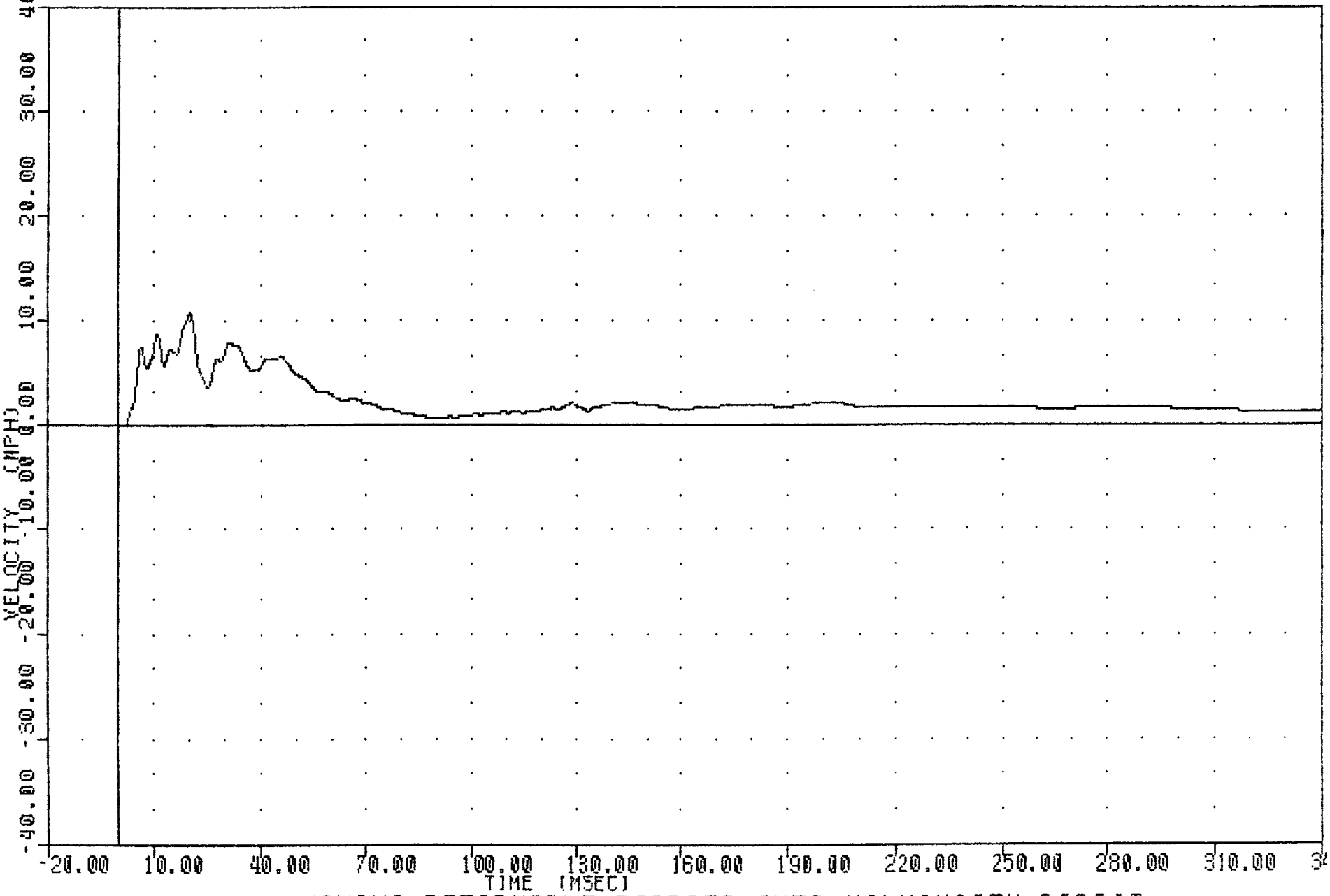
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFDYG3



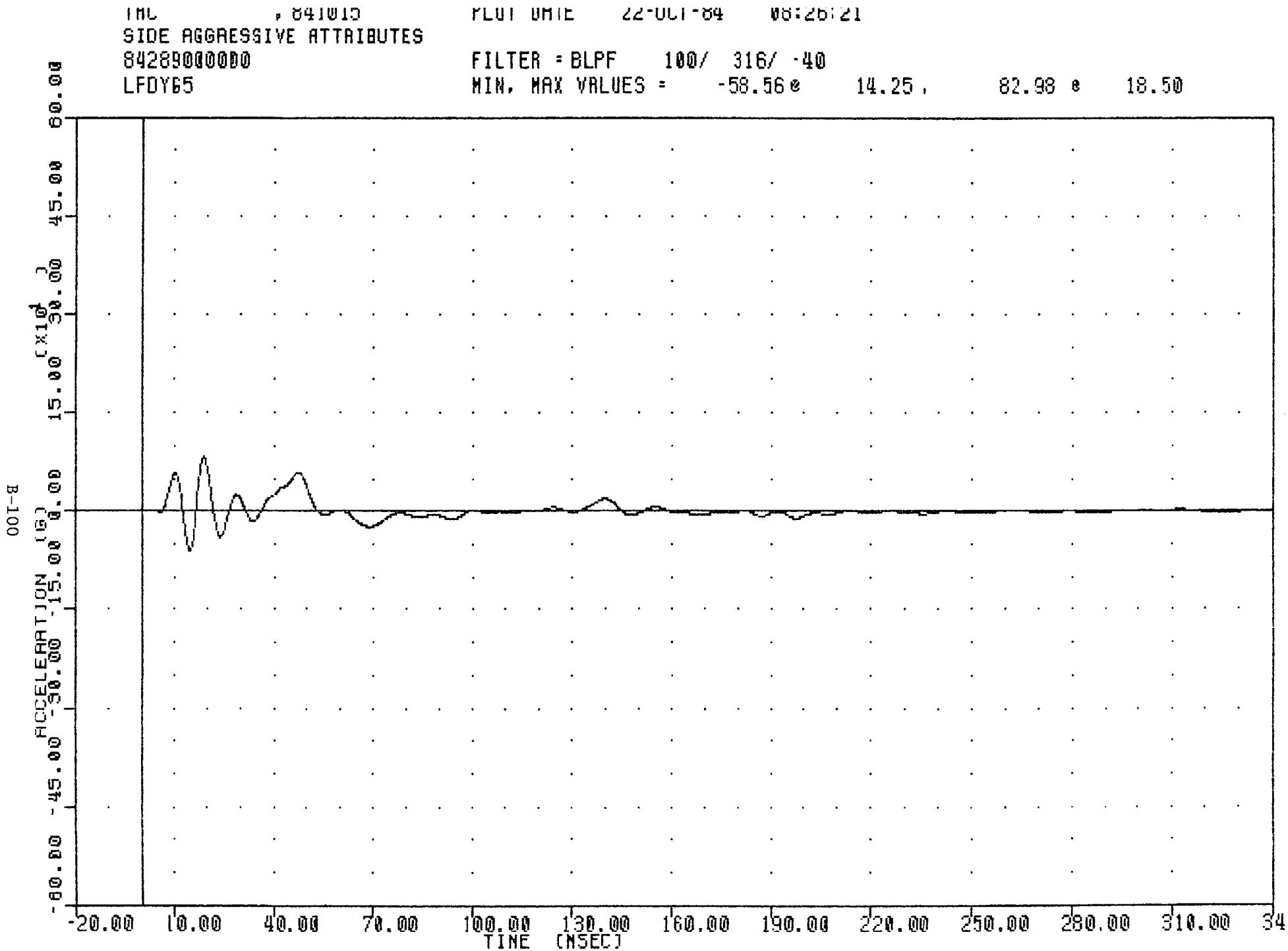
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 10) ACCELERATION Y AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
LFDYV4

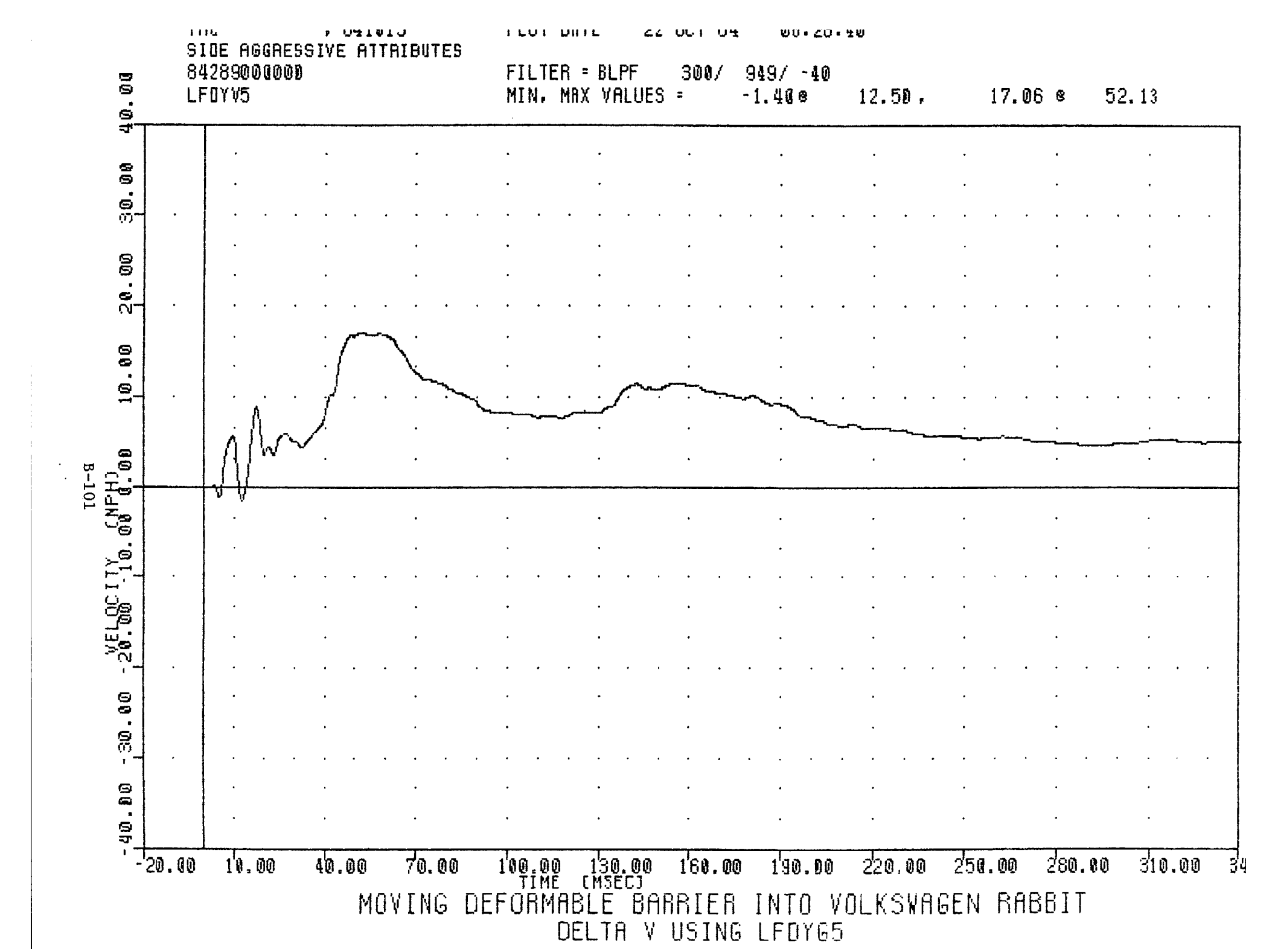
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = 0.00 @ -17.00 , 10.81 @ 20.00



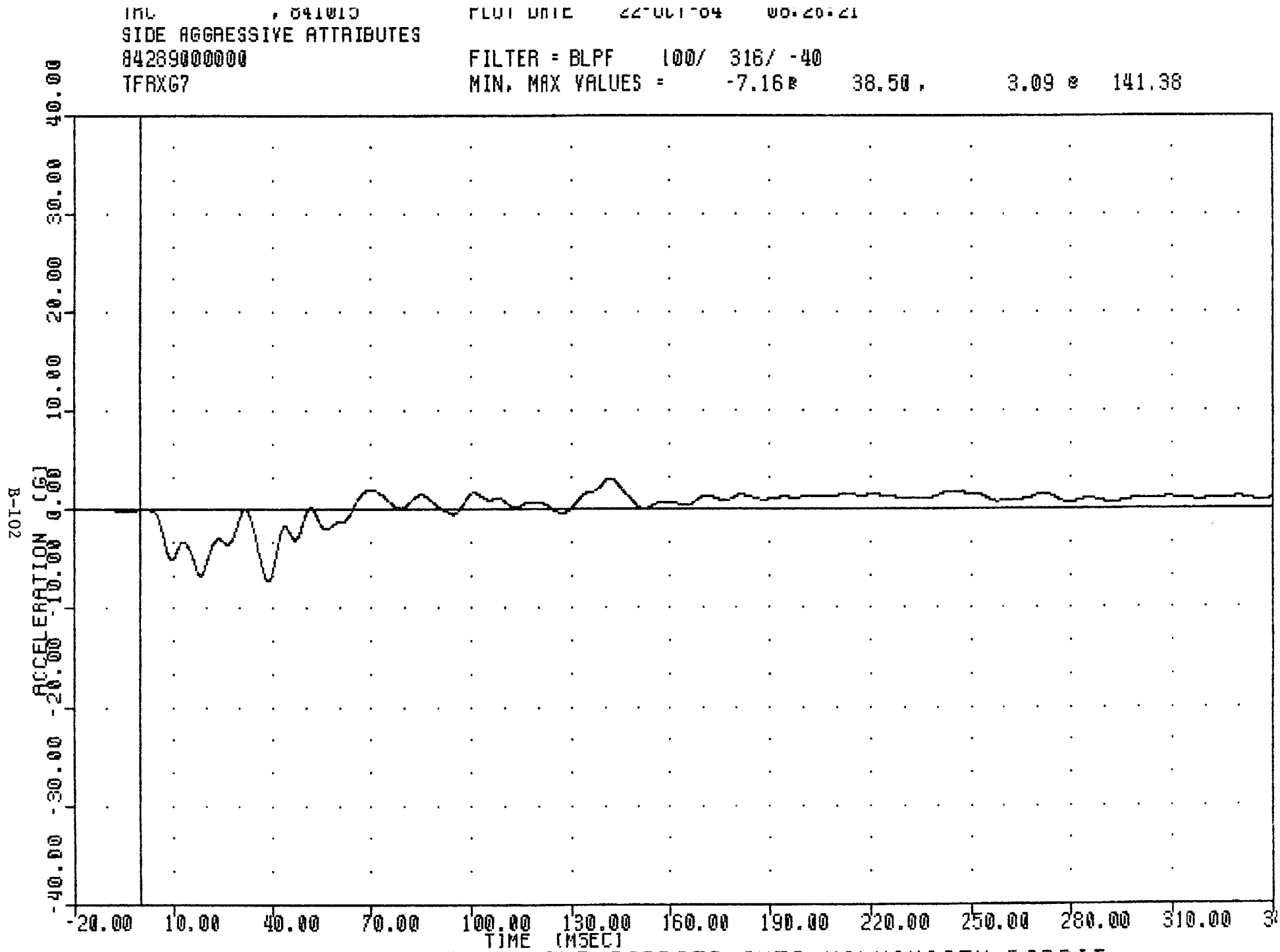
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFDYG4



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE LEFT FRONT DOOR (POSITION 11) ACCELERATION Y AXIS

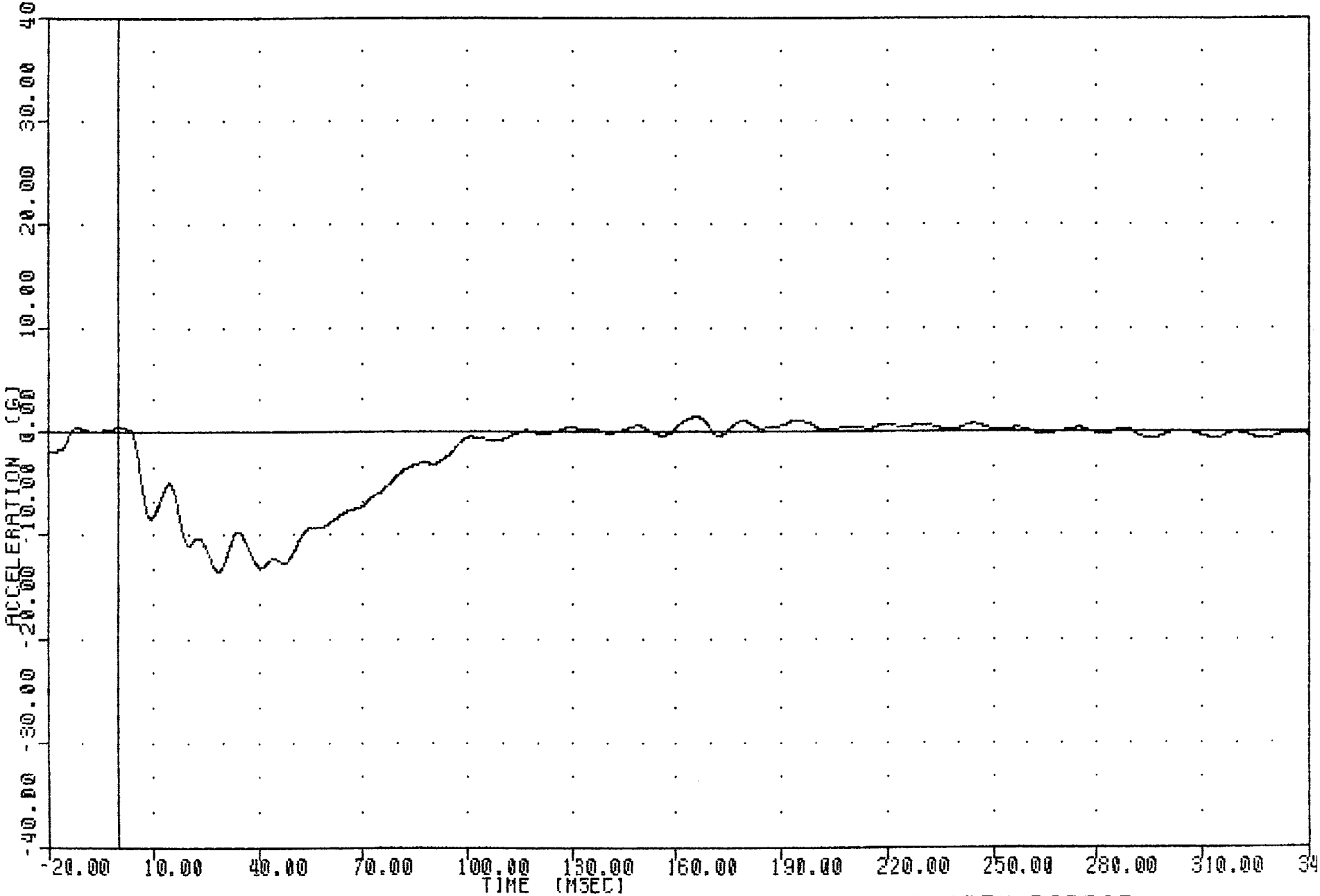


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING LFDYG5



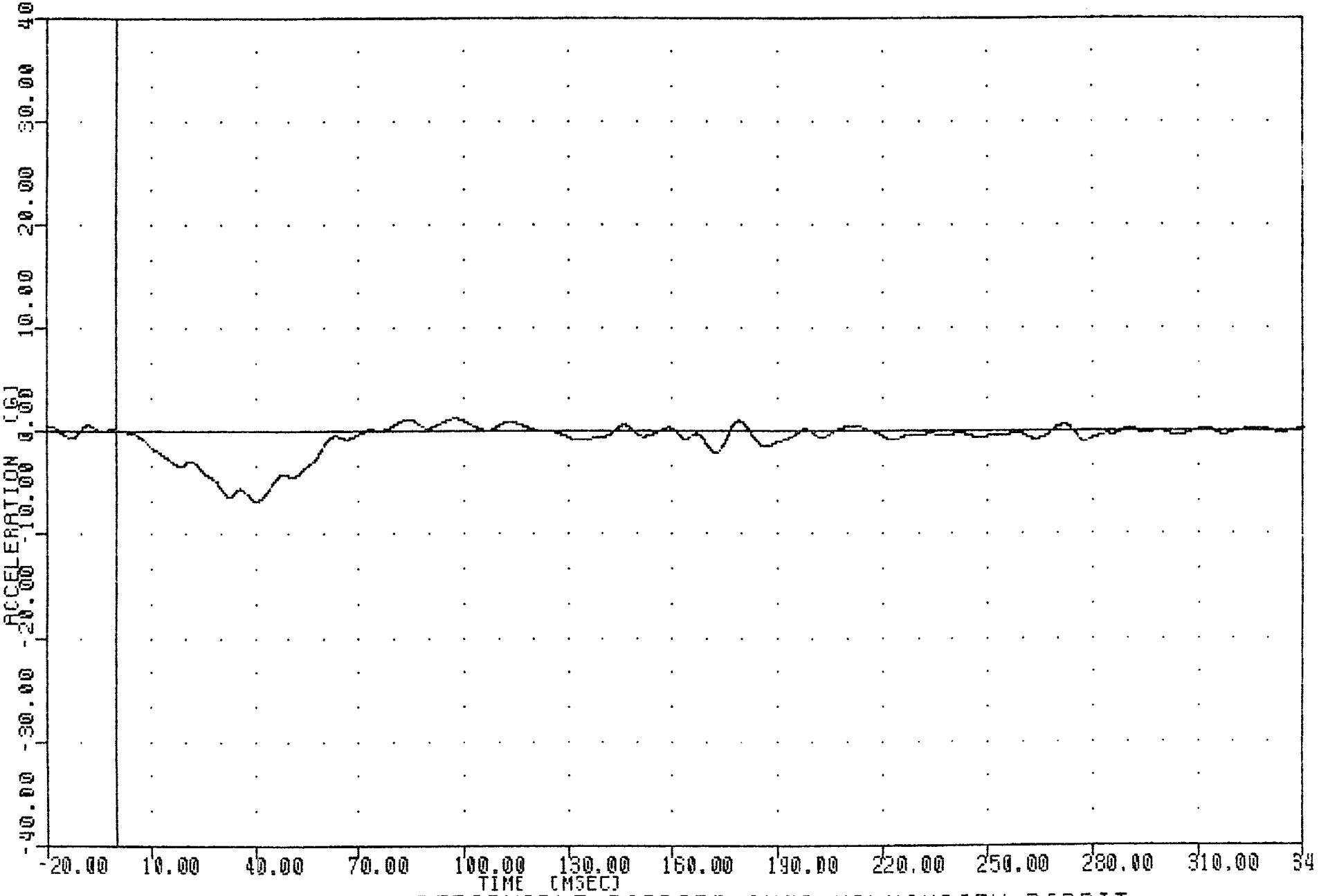
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
VEHICLE TRUNK FLOOR RIGHT ACCELERATION X AXIS

INC , 041013 PLOT DATE 22-OCT-04 08:20:21
SIDE AGGRESSIVE ATTRIBUTES
84289000000
BCGXG
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -13.48 @ 28.25 , 1.47 @ 165.75

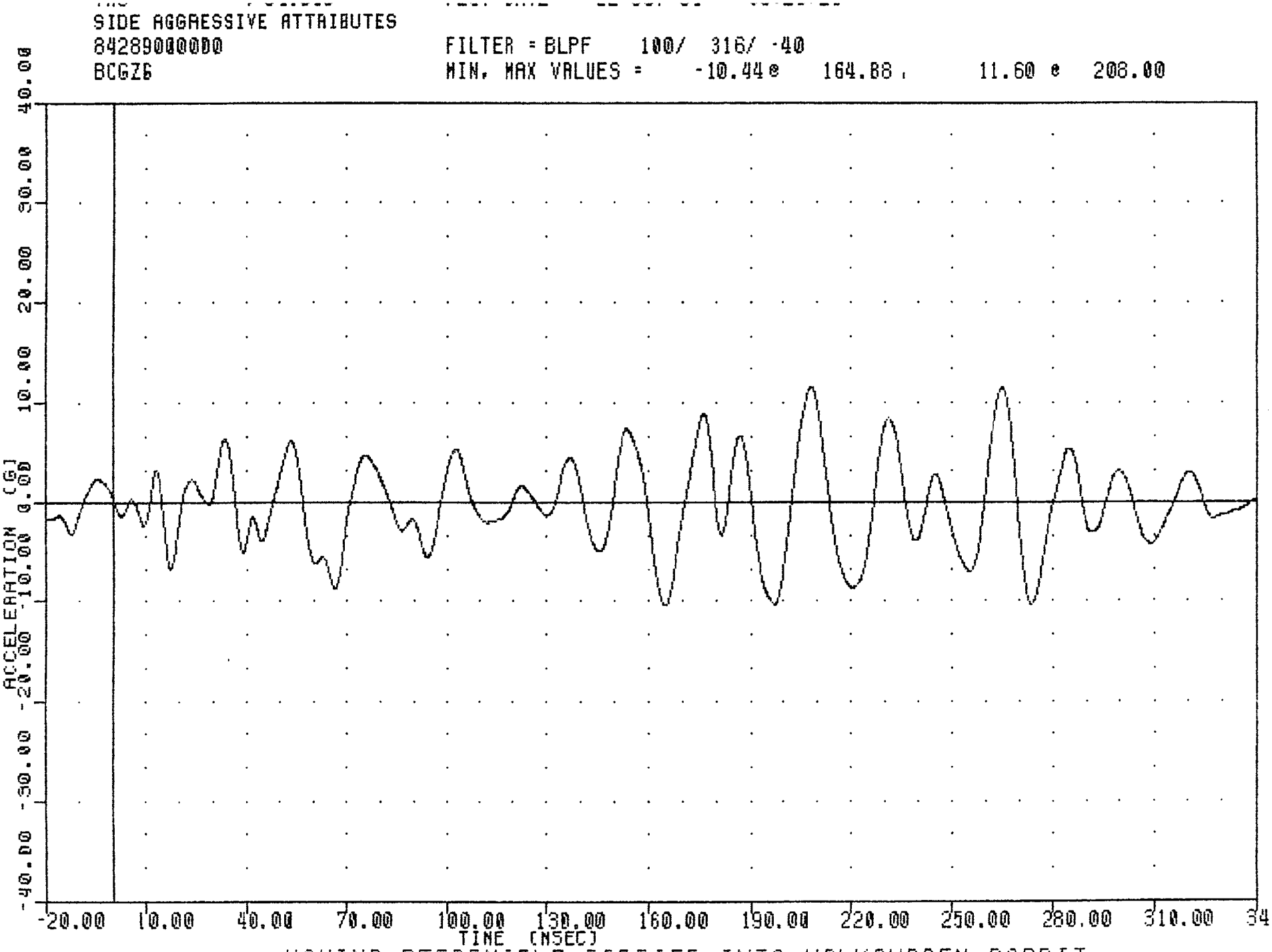


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
BARRIER CENTER OF GRAVITY X AXIS

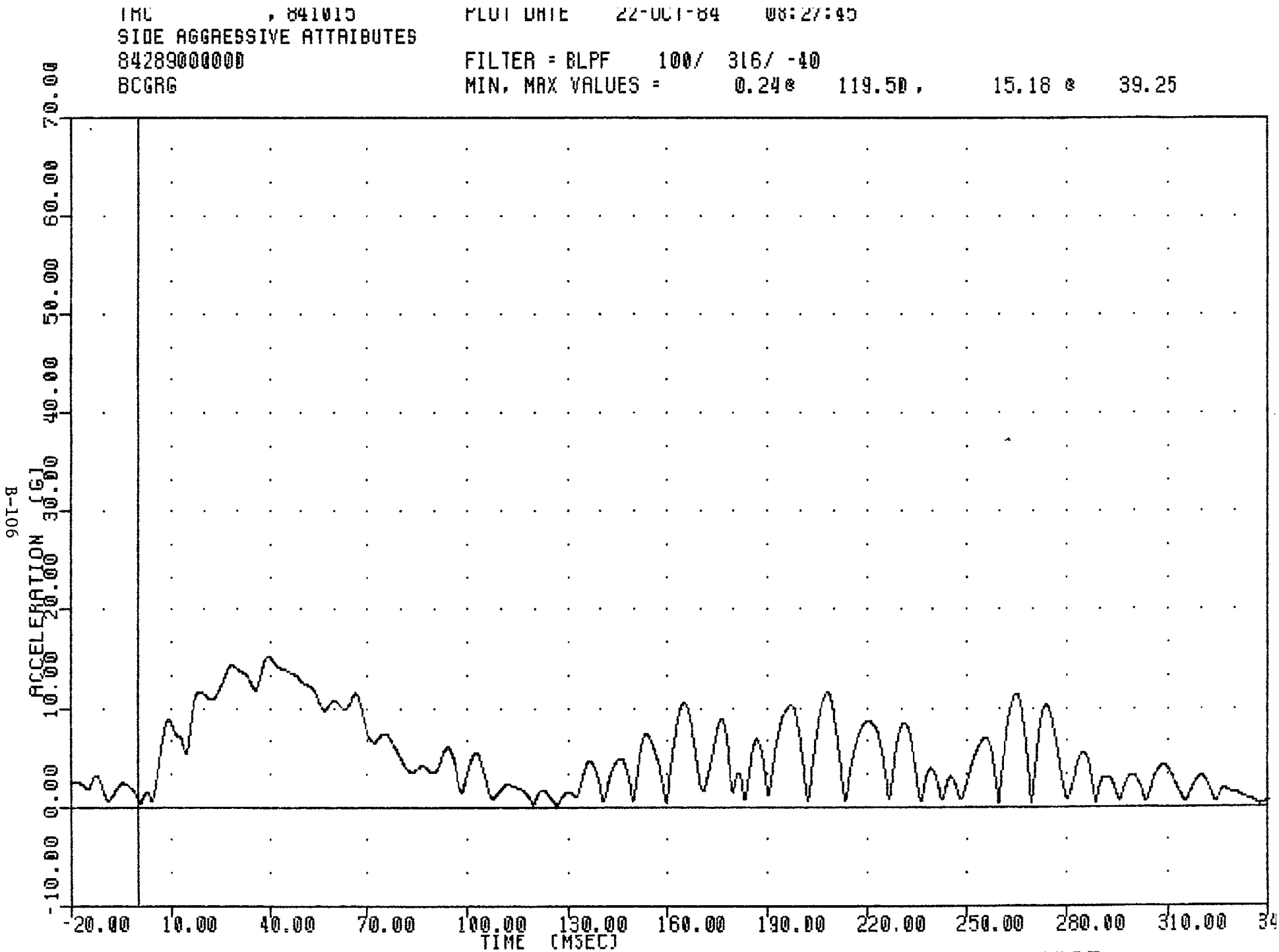
SIDE AGGRESSIVE ATTRIBUTES
84289000000
BCGYG
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -6.73@ 40.13, 1.27 @ 97.38



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



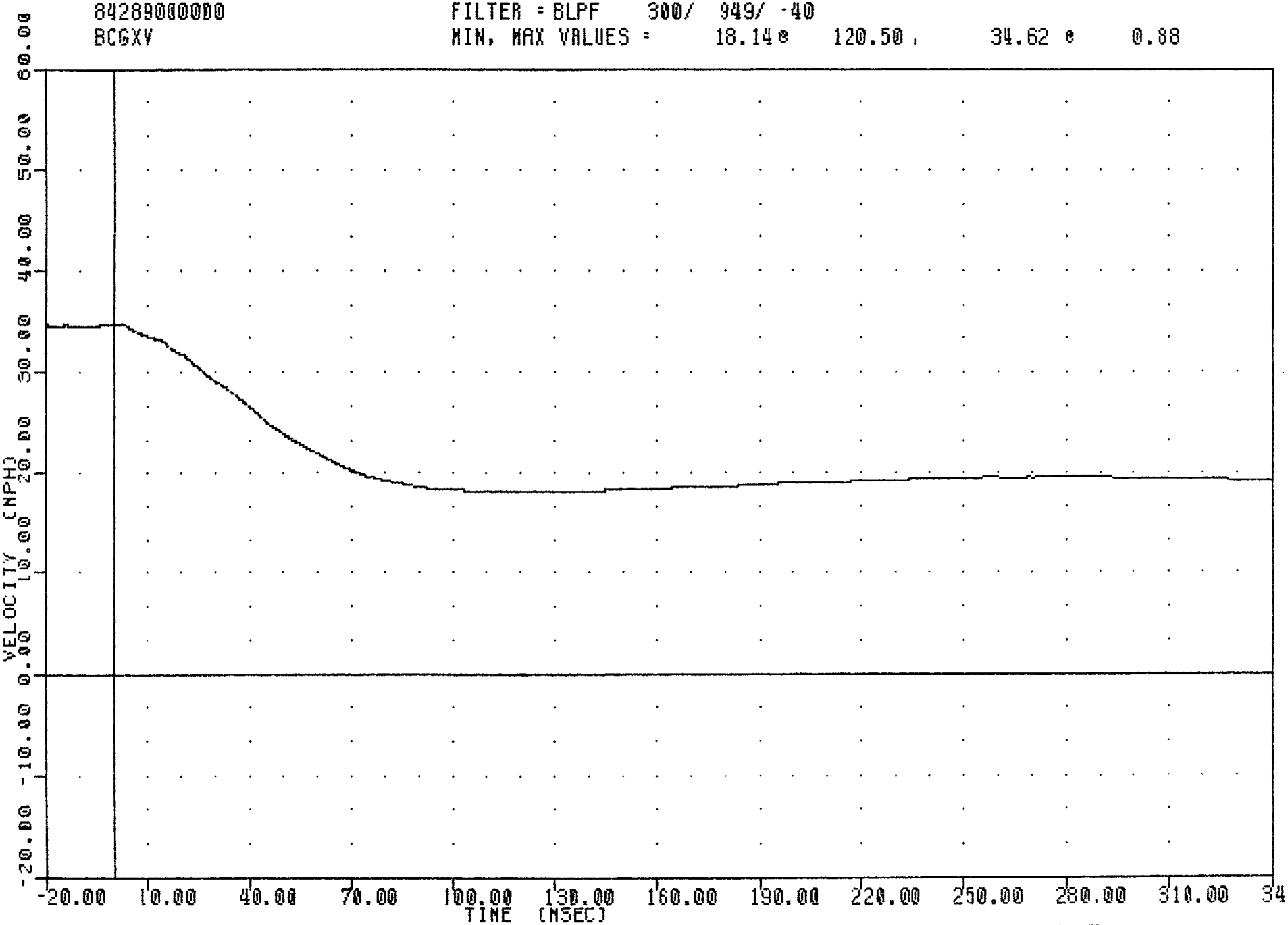
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
BARRIER CENTER OF GRAVITY Z AXIS



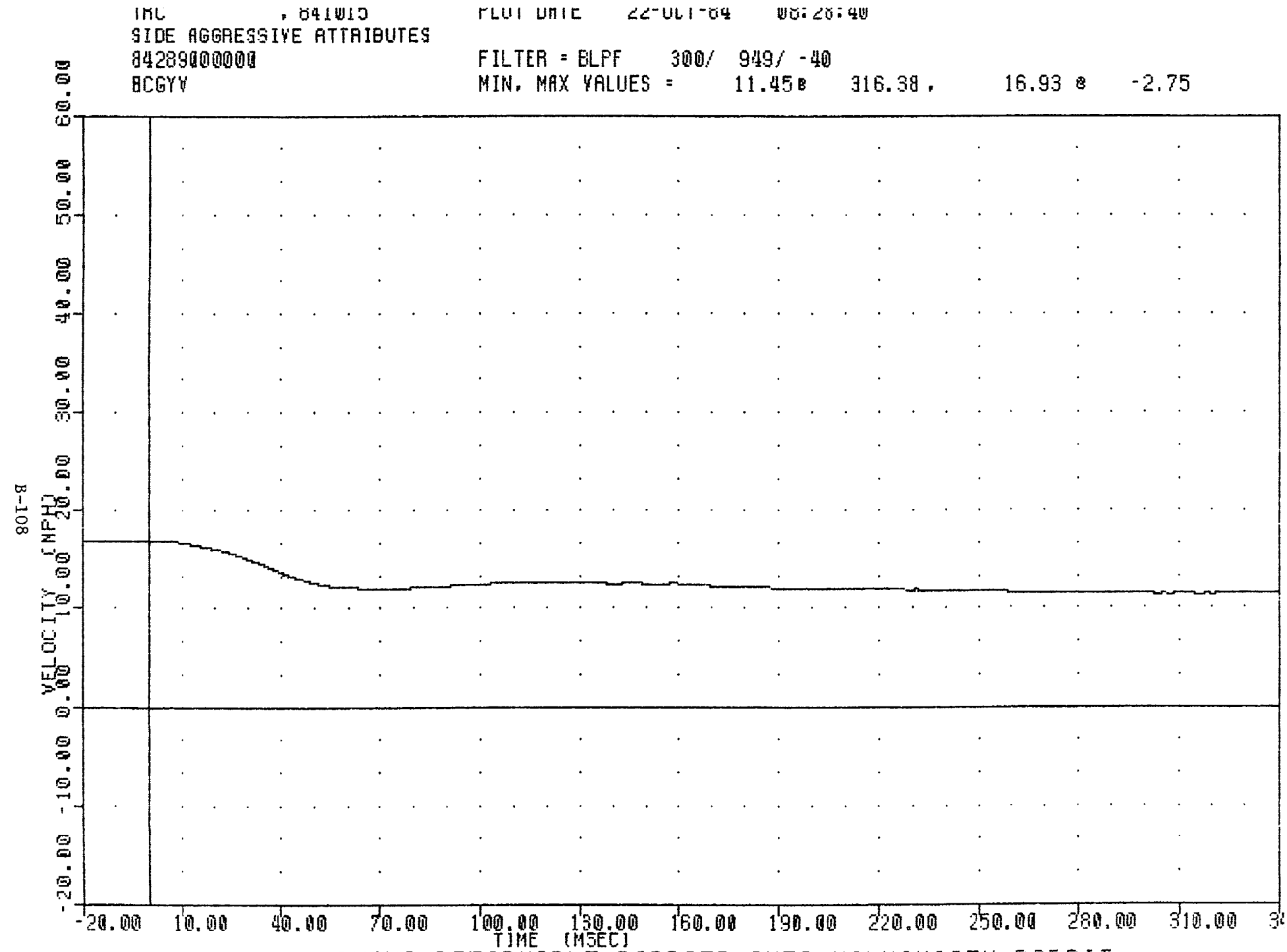
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
BARRIER CG RESULTANT

SIDE AGGRESSIVE ATTRIBUTES
84289000000
BCGXV

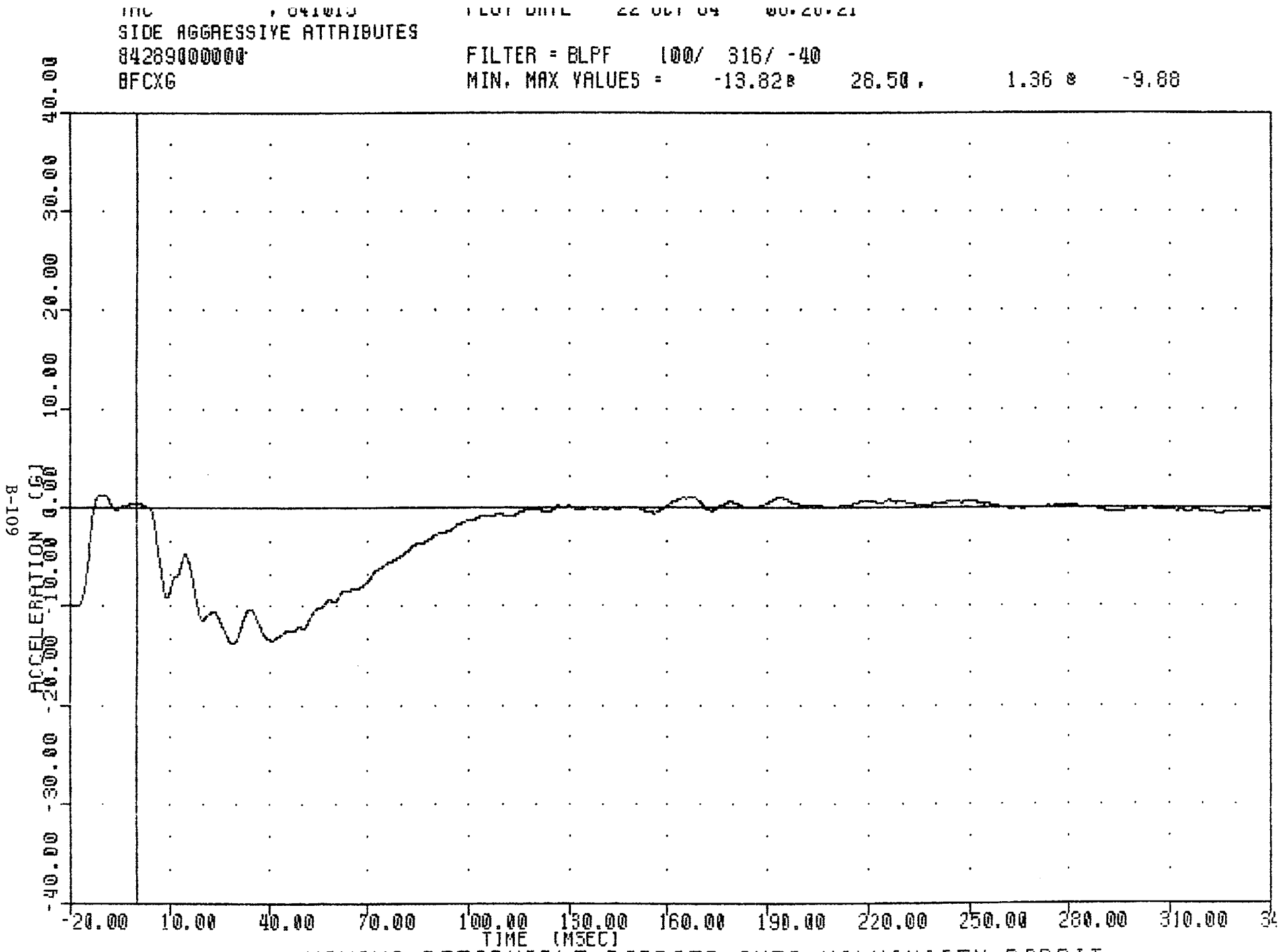
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = 18.14 @ 120.50 , 34.62 @ 0.88



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING BCGXG

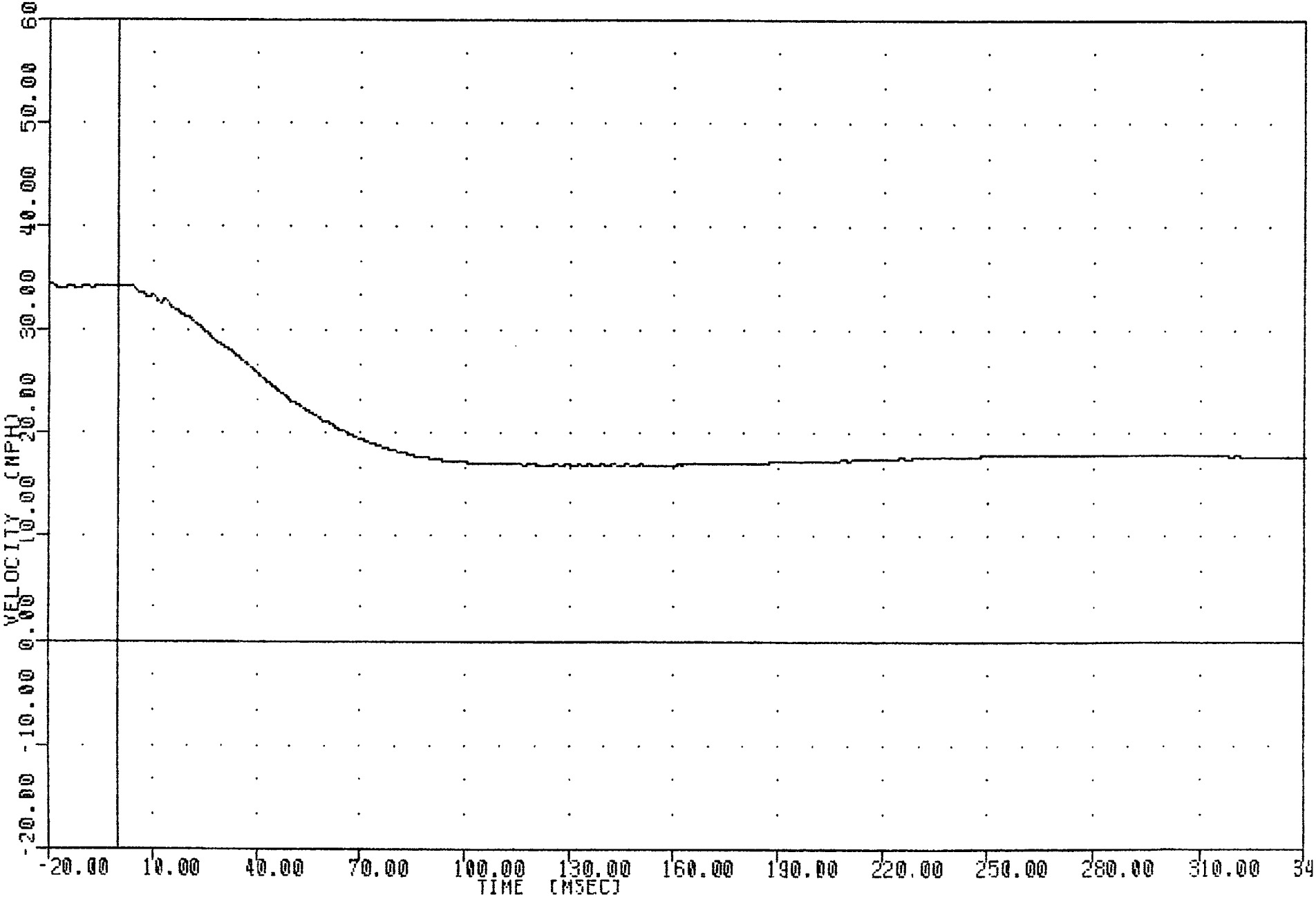


MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING BCGYG


SIDE AGGRESSIVE ATTRIBUTES
FILTER = BLPF
MIN, MAX VALUES =
-13.82
28.50
1.36
-9.88
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
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
TIME (MSEC)
MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
BARRIER FRONT CROSSMEMBER ACCELERATION X AXIS

SIDE AGGRESSIVE ATTRIBUTES
84289000000
BFCXV

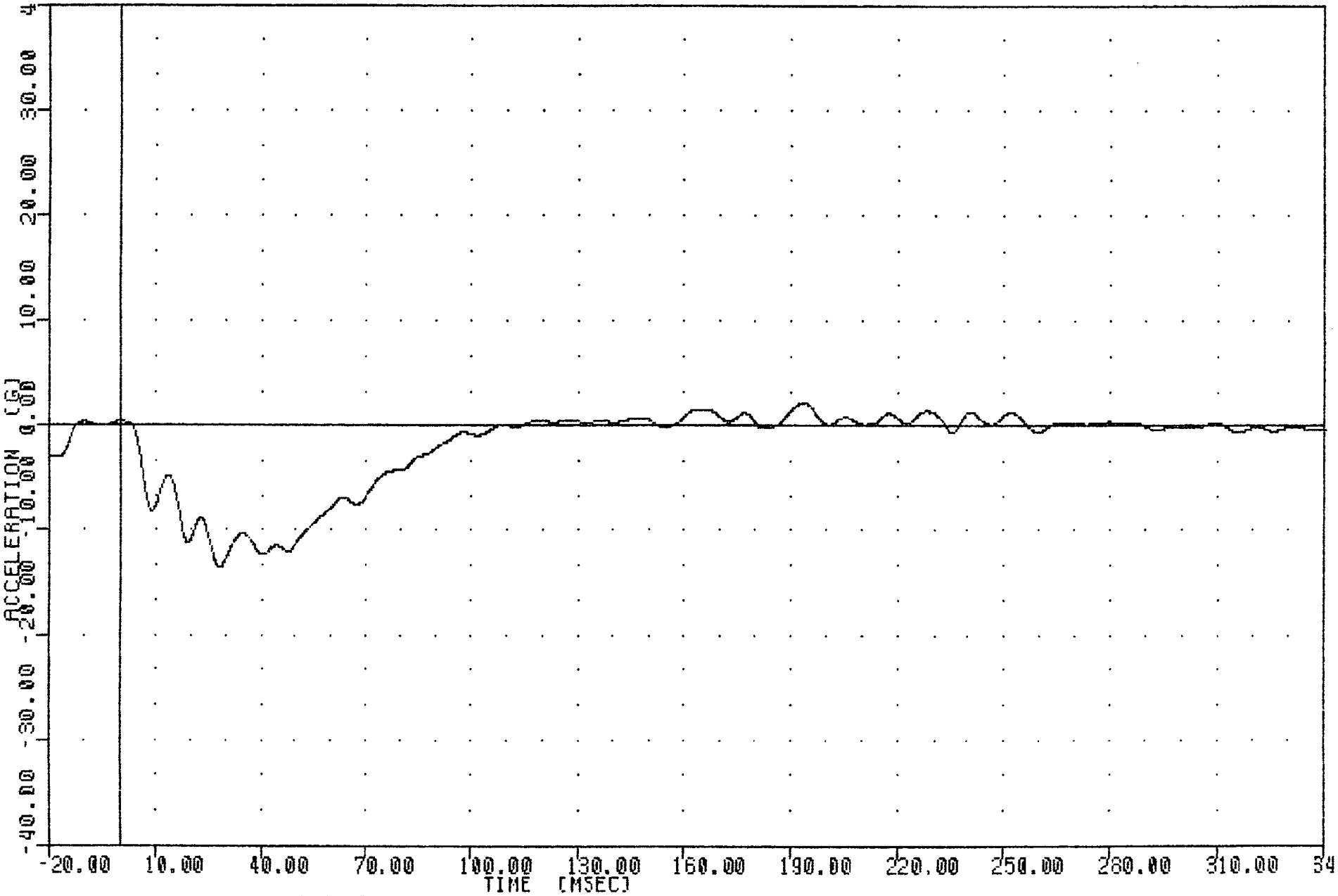
FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = 16.89 @ 155.88 , 34.60 @ -20.00



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING BFCXG

SIDE AGGRESSIVE ATTRIBUTES
84289000000
BRCXG

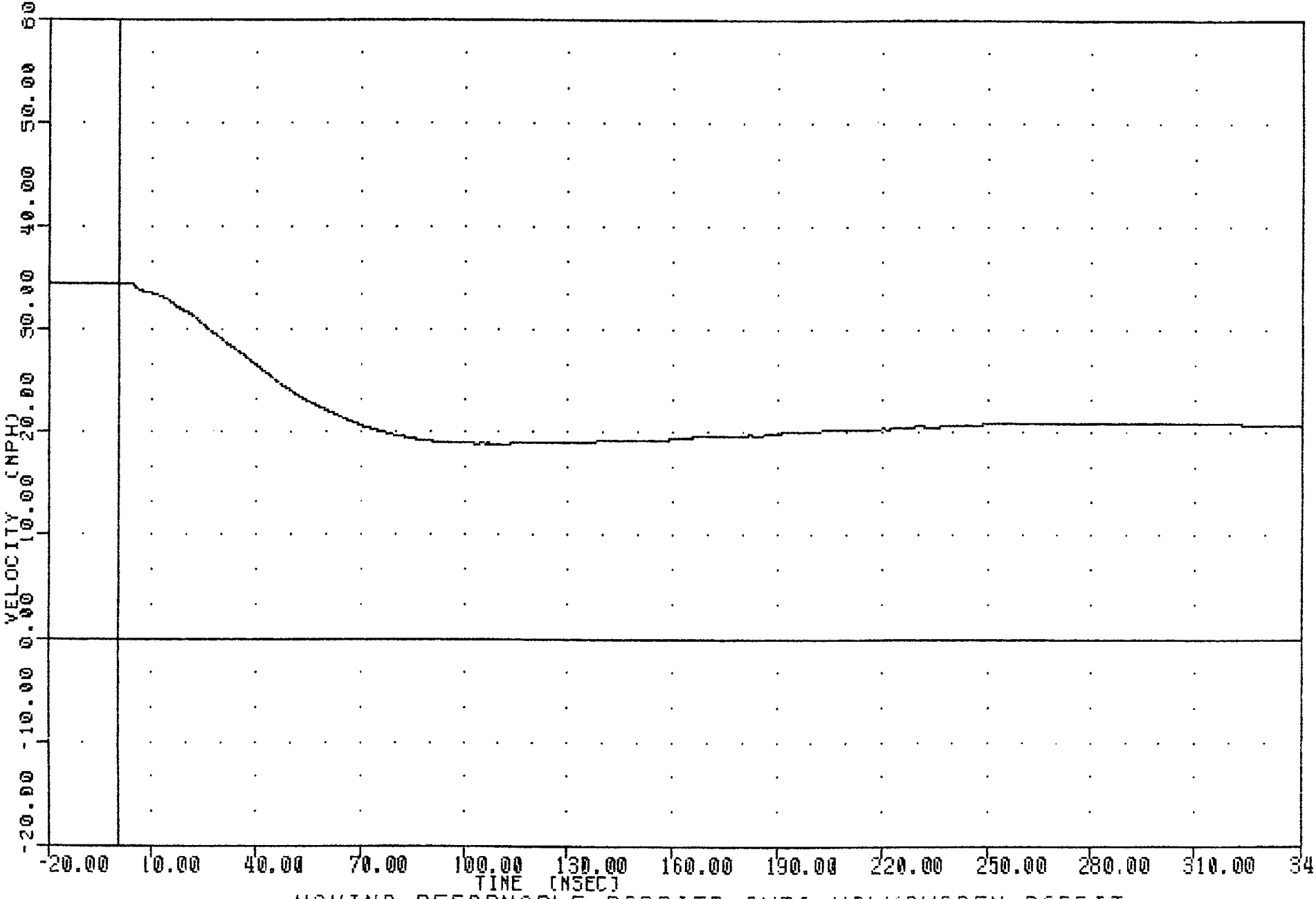
FILTER = BLPF 100/ 316/ -40
MIN, MAX VALUES = -13.57@ 28.15, 2.18 @ 193.50



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

SIDE AGGRESSIVE ATTRIBUTES
84289000000
BRCXV

FILTER = BLPF 300/ 949/ -40
MIN, MAX VALUES = 18.87 @ 110.75 , 34.60 @ -20.00



MOVING DEFORMABLE BARRIER INTO VOLKSWAGEN RABBIT
DELTA V USING BRCXG