DOT ϕ 196 TEST

DOT ϕ 197 TEST 8

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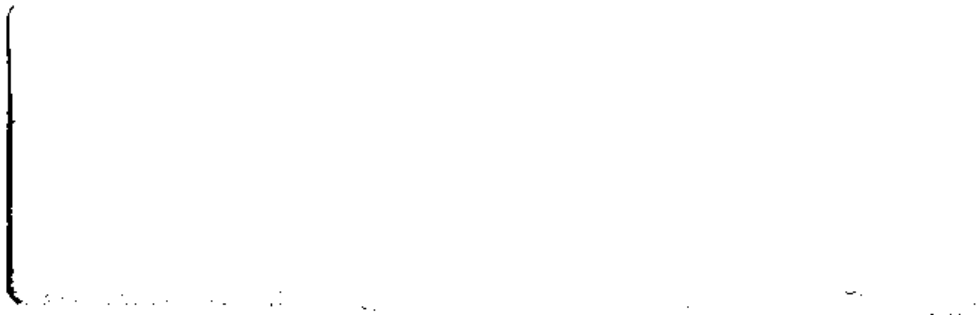

technical report

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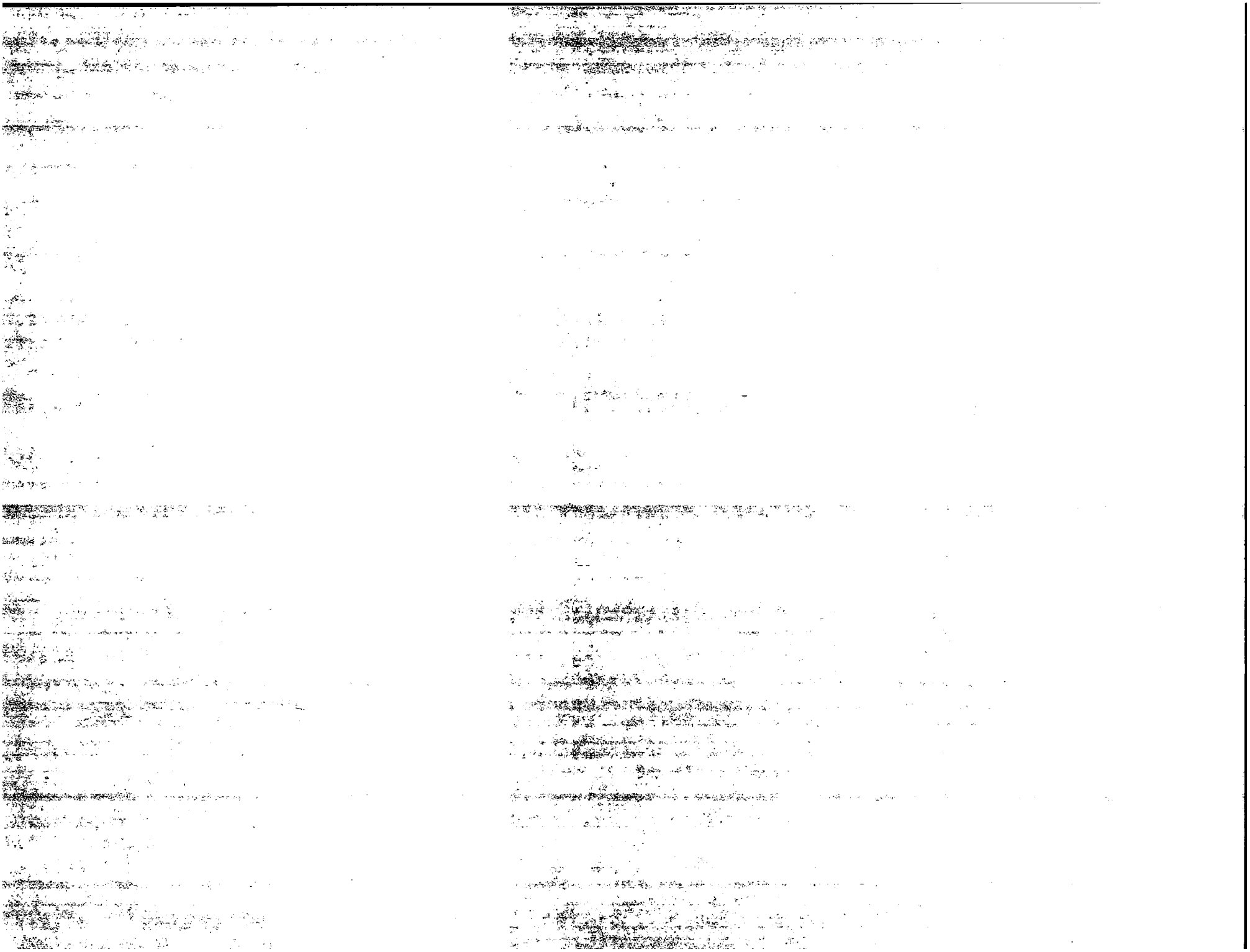

CALSPAN ADVANCED TECHNOLOGY CENTER

MODIFIED COMPACT CAR SIDE
STRUCTURE TESTING

Walter E. Levan

Calspan Report No. 6466-V-5

Prepared for:

DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
WASHINGTON, D.C. 20590

TEST: TEST NOS. 7 AND 8

TYPE OF TEST: CAR-TO-CAR FRONT-TO-SIDE 60° OBLIQUE
1976 PLYMOUTH VOLARE IMPACTED BY
1978 CHEVROLET IMPALA

TEST DATE: MAY 1980

CONTRACT NO. DOT-HS-8-01938

TASK ORDER NO. 1

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TECHNICAL REPORT STANDARD TITLE PAGE

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15. Supplementary Notes
Approved: Donald A Branello Head, Experimental Operations Section
Transportation Research Department

16. Abstract

This report contains the test results of tests 7 and 8 in which the test conditions were as follows: a 30 MPH, car-to-car, front-to-side, 60° oblique impact of a 1978 Chevrolet Impala striking the driver side of a startionay 1976 modified Plymouth Volare. The test objective was to obtain performance data on the modified side structure of a 1976 Plymouth Volarc and also baseline data for the Humanoid 368 modified side impact dummy placed in the driver position of the struck vehicle.

The test was performed at Calspan Corporation, Advanced Technology Center, Transportation Research Department facility for the National Highway Traffic Safety Administration (NHTSA), Contract DOT-HS-8-01938, Task 1, Modified Compact Car Side Structure testing.

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This report has been reviewed and is approved by:

K. C. Hendershot

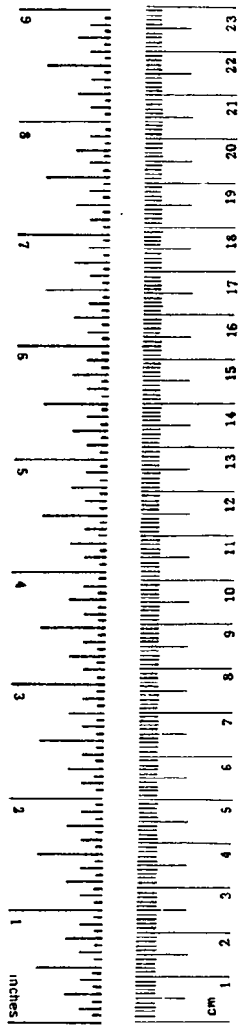
Kenneth C. Hendershot, Head
Transportation Research Department

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	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	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	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.



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	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
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	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F

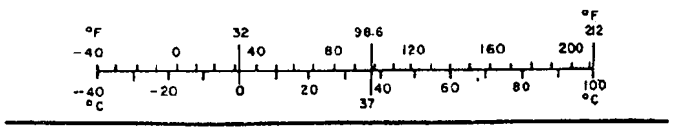


TABLE OF CONTENTS

	Page No.
LIST OF FIGURES	vi
LIST OF TABLES	viii
TEST OBJECTIVE	1
PRESENTATION OF RESULTS	2
TEST NO. 7	
VEHICLE DATA - 1978 CHEVROLET IMPALA	32
VEHICLE DATA - 1976 PLYMOUTH VOLARE	59
DUMMY DATA	95
TEST NO. 8	
VEHICLE DATA - 1978 CHEVROLET IMPALA	29
VEHICLE DATA - 1976 PLYMOUTH VOLARE	56
DUMMY DATA	92

TABLE OF FIGURES

Figure No.	TEST NO. 7	Page No.
1	VEHICLE 1 & 2 - PRE-TEST IMPACT CONFIGURATION	6
2	VEHICLE 1 - PRE- & POST-TEST FRONT	7
3	VEHICLE 1 - PRE- & POST-TEST VIEWS OF LEFT FRONT QUARTER PANEL	8
4	VEHICLE 2 - PRE- & POST-TEST FRONT & REAR VIEWS	9
5	VEHICLE 2 - PRE- & POST-TEST FRONT & REAR THREE-QUARTER VIEWS	10
6	SIDE VIEWS OF IMPACTED AREA	11
7	FRONT VIEWS OF IMPACTED AREA	12
8	VEHICLE 2 - PRE- & POST-TEST VIEWS OF MODIFIED FRONT BENCH SEAT	13
9	VEHICLE 2 - VIEWS OF DOOR SILL INTERLOCKS	13
10	VEHICLE 2 - POST-TEST VIEWS OF "B" PILLAR	14
11	VEHICLE 2 - VIEW OF MODIFIED "B" PILLAR	14
12	VEHICLE 2 - INTERIOR VIEW OF INSTRUMENT PANEL	14
13	VEHICLE 2 - PRE- & POST-TEST VIEWS OF DRIVER POSITIONS	15
14	VEHICLE 2 - PRE- AND POST-TEST VIEWS OF LEFT REAR SEATED PASSENGER	16
15	VEHICLE CRASH ATTITUDE	17
16	OCCUPANT CLEARANCE DIMENSIONS	18
17	SIDE INTRUSION MEASUREMENTS POINTS	19
18	PRE- AND POST-TEST DEFLECTION	22
19	VEHICLE 2 - EXTERIOR DEFORMATION	23
20	VEHICLE 1 - ACCELEROMETER LOCATIONS	25
21	VEHICLE 2 - ACCELEROMETER LOCATIONS	27
22	VEHICLE 2 - DOOR INSTRUMENTATION	28
23	CAMERA LOCATIONS	30

LIST OF FIGURES - (Cont.)

Figure No.	TEST NO. 8	Page No.
1	VEHICLES 1 & 2 - PRE-TEST IMPACT CONFIGURATION	4
2	VEHICLE 1 - PRE- & POST-TEST FRONT & THREE-QUARTER VIEWS	5
3	PRE- & POST-TEST VIEWS OF LEFT FRONT QUARTER PANEL	6
4	PRE- & POST-TEST FRONT AND SIDE VIEWS	7
5	PRE- & POST-TEST FRONT AND REAR THREE-QUARTER VIEWS	8
6	PRE- & POST-TEST VIEWS OF IMPACT AREA	9
7	VEHICLE 2 - POST-TEST VIEWS OF "B" PILLAR	10
8	VEHICLE 2 - VIEWS OF MODIFIED "B" PILLAR & DOOR SILL INTERLOCK	11
9	VEHICLE 2 - POST-TEST VIEW OF "B" PILLAR	11
10	VEHICLE 2 - PRE- & POST-TEST VIEWS OF DRIVE POSITION	12
11	VEHICLE 2 - PRE- & POST-TEST VIEWS OF LEFT REAR SEATED POSITION	13
12	VEHICLE CRASH ATTITUDE	14
13	OCCUPANT CLEARANCE DIMENSIONS	15
14	SIDE INTRUSION MEASUREMENT POINTS	16
15	PRE- & POST-TEST DEFLECTION	19
16	EXTERIOR DEFORMATION	20
17	VEHICLE 1 - ACCELEROMETER LOCATIONS	22
18	VEHICLE 2 - ACCELEROMETER LOCATIONS	24
19	VEHICLE 2 - DOOR INSTRUMENTATION	25
20	CAMERA LOCATIONS	27

LIST OF TABLES

Table No.	TEST NO. 7	Page No.
1	CRASH TEST SUMMARY	3
2	VEHICLE TEST WEIGHTS	5
3	SIDE INTRUSION MEASUREMENTS	20
4	DOOR THICKNESS MEASUREMENTS	21
5	ELECTRONIC INSTRUMENTATION - VEHICLE 1	24
6	ELECTRONIC INSTRUMENTATION - VEHICLE 2	26
7	HIGH SPEED CAMERA INFORMATION	29
8	DUMMY INJURY CRITERIA VALUES	31

TEST NO. 8

1	CRASH TEST SUMMARY	1
2	VEHICLE TEST WEIGHTS	3
3	SIDE INTRUSION MEASUREMENTS	17
4	DOOR THICKNESS MEASUREMENTS	18
5	ELECTRONIC INSTRUMENTATION - VEHICLE 1	21
6	ELECTRONIC INSTRUMENTATION - VEHICLE 2	23
7	HIGH SPEED CAMERA INFORMATION	26
8	DUMMY INJURY CRITERIA VALUES	28

TEST OBJECTIVE

The objective of these two side impact tests (7 and 8) was to obtain performance data on the modified side structure of a 1976 Plymouth Volare.

A secondary test objective was to obtain baseline data on the Humanoid 368 modified side impact dummy placed in the driver position of the struck vehicle.

The tests were a 30 MPH car-to-car, front-to-side, 60° oblique impact, involving an unmodified 1978 Chevrolet Impala striking the driver side of the stationary 1976 modified Plymouth Volare.

The test program is part of the National Highway Traffic Safety Administration (NHTSA) Contract No. DOT-HS-8-01938, Task 1, to improve vehicle side structure and was performed at Calspan Corporation, Advanced Technology Center, in Buffalo, New York.

PRESENTATION OF RESULTS

This report presents all of the test results obtained from Tests 7 and 8 which were a car-to-car, front-to-side, 60° oblique impact. Included in this document are still photographs, all vehicle and dummy response data in plotted form, vehicle interior and exterior damage sketches, figures of pre- and post-test vehicle side intrusion measurements and instrumentation identification. High speed motion pictures of the crash event with pre- and post-test documentation coverage and a digital formatted tape of vehicle and dummy responses have been submitted to the sponsor separately. Also included in the vehicle response data, in plotted form, are dynamic intrusion measurements which were obtained by Calspan-designed linear displacement transducers.

Table 1

CRASH TEST SUMMARY

TEST NO. 7 PROJECT Modified Compact Car Side Structure Testing

DATE 2/28/80 TIME 12:30 TEMP. 20°F

TEST CONDITION Car-to-Car 60° Oblique

VEHICLE NO 1 1978 Chevrolet Impala 4-Door

VEHICLE NO. 2 1976 Plymouth Volare 4-Door

	VEH. NO 1	VEH. NO. 2
TEST WEIGHT (lbs)	3960	4040
IMPACT ANGLE (deg)*	300	0
IMPACT VELOCITY (mph)**	29.42	0
MAX CRUSH (in)	9.5	13.4
MAX INTRUSION (in)	0	10

OCCUPANTS	VEH. NO 1	VEH. NO. 2	
TYPE	Hybrid II, Part 572	Humanoid 368 (Modified)***	Humanoid 319
LOCATION	LF RF	LF(1)	LR(4)
RESTRAINT	Production 3-Point Belt System	Unrestrained	Unrestrained

NUMBER OF DATA CHANNELS 53
NUMBER OF HIGH SPEED CAMERAS 9 + 1 Real Time

Lost Vehicle #2 Acc. Pack SY and 6Y due to a cut wire at 60 milliseconds.

*WITH RESPECT TO TOW TRACK CENTERLINE

**SPEED TRAP MEASUREMENT (±0.5% ACCURACY)

***MODIFIED PART 572 DUMMY FOR SIDE IMPACTS

OBSERVATIONS (VEHICLE NO. 1)

GLAZING Undamaged

DOORS Undamaged

SEAT ANCHORAGES Intact

RESTRAINTS Intact

OBSERVATIONS (VEHICLE NO. 2)

GLAZING Windshield has stress cracks. Driver door window broke. Driver and left rear doors not operable.

DOORS Doors on right side of vehicle were operable.

SEAT ANCHORAGES The front bench seat was modified with two additional rails which were bolted on each side of the tunnel. See Figure (1)

RESTRAINTS Not used

GENERAL COMMENTS Lost one high speed camera (power failure). "B" pillar on right side was pushed out slightly by the front bench seat. Left rear passenger struck left "C" pillar at impact. Roof buckled at left "B" pillar. The left reinforced "B" pillar (Figure 1-11) was intact at the top and bottom.

TABLE 2

VEHICLE TEST WEIGHTS - TEST NO. 7

VOLARE 885-7-487

CAR 1 - 1978 Chevrolet Impala 4-Door

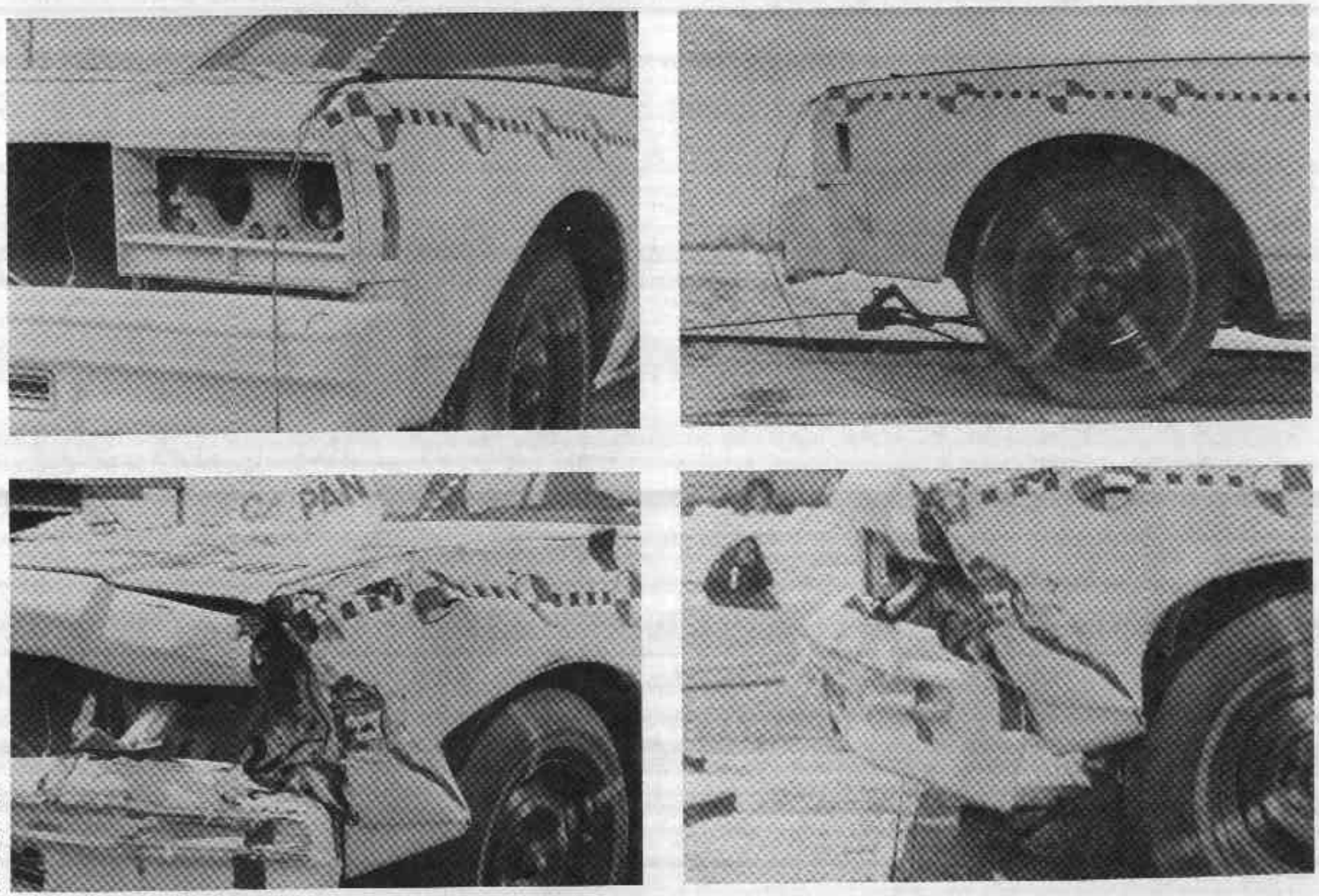
Left Front	1130 lbs.		Left Rear	840 lbs.	
Right Front	1130 lbs.		Right Rear	860 lbs.	
Total Front	2260 lbs.		Total Rear	1700 lbs.	
Total Weight =	2260 lbs.	+	1700 lbs.	=	3960 lbs.
Wheel Base	116.25 in.				
Cg_{FW} =	1700 lbs. / 3960 lbs.	116.25 in.		=	49.90 in.

CAR 2 - 1976 Plymouth Volare 4-Door

Left Front	1150 lbs.		Left Rear	920 lbs.	
Right Front	1100 lbs.		Right Rear	870 lbs.	
Total Front	2250 lbs.		Total Rear	1790 lbs.	
Total Weight =	2250 lbs.	+	1790 lbs.	=	4040 lbs.
Wheel Base	112.5 in.				
Cg_{FW} =	1790 lbs. / 4040 lbs.	112.5 in.		=	49.89 in.

FIGURE 1 VEHICLE 1 AND 2 - TEST 7 - PRE-TEST IMPACT CONFIGURATION

FIGURE 2 VEHICLE 1 - TEST 7 - PRE- AND POST-TEST FRONT AND THREE-QUARTER VIEWS



NS-6646-V-5

FIGURE 3 VEHICLE 1 - TEST 7 - PRE- AND POST-TEST VIEWS OF LEFT FRONT QUARTER PANEL

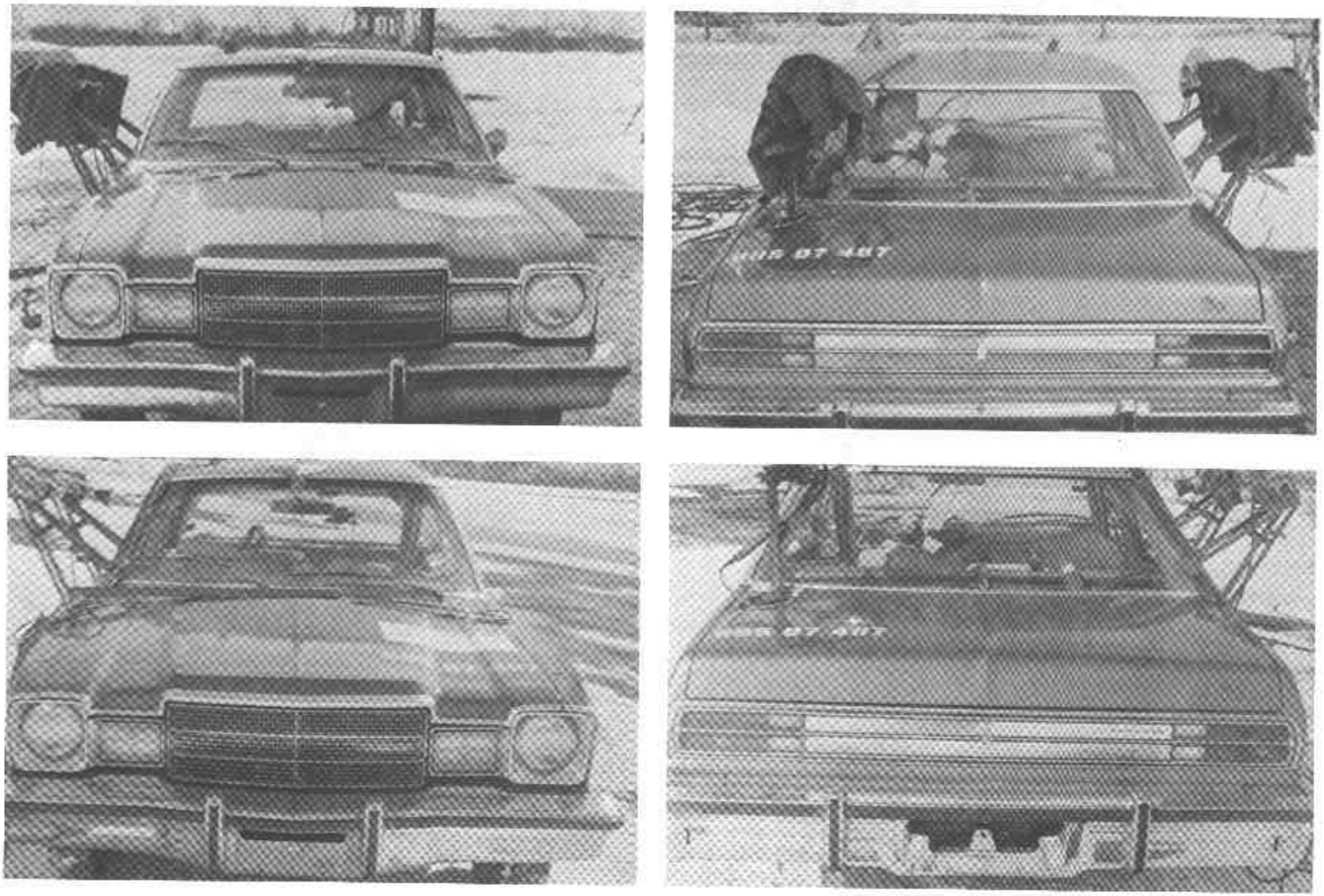


FIGURE 4 VEHICLE 2 - TEST 7 - PRE- AND POST-TEST FRONT AND REAR VIEWS

FIGURE 5 VEHICLE 2 - TEST 7 - PRE-AND POST-TEST FRONT AND REAR THREE-QUARTER VIEWS

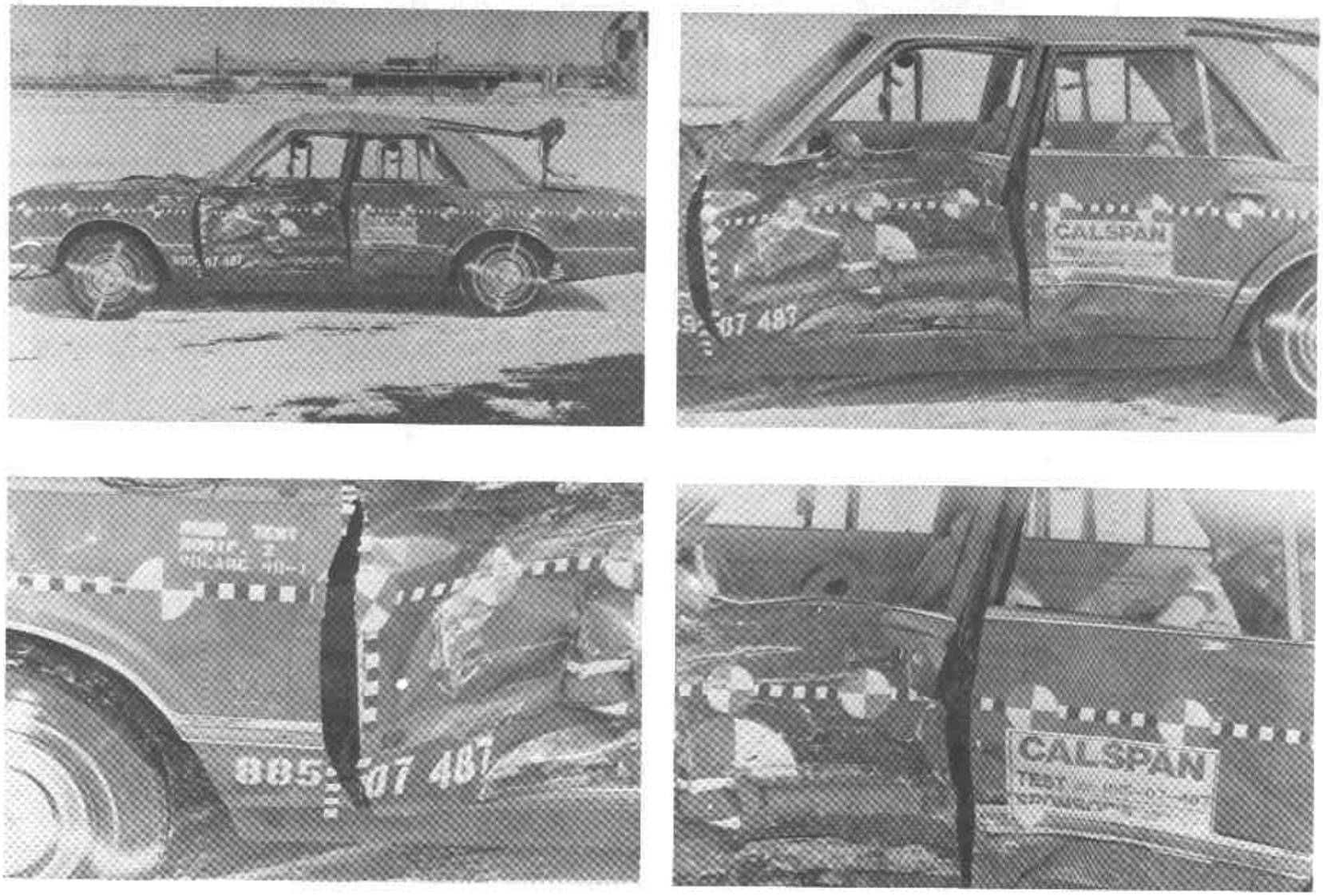


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FIGURE 6 VEHICLE 2 - TEST 7 - SIDE VIEWS OF IMPACTED AREA

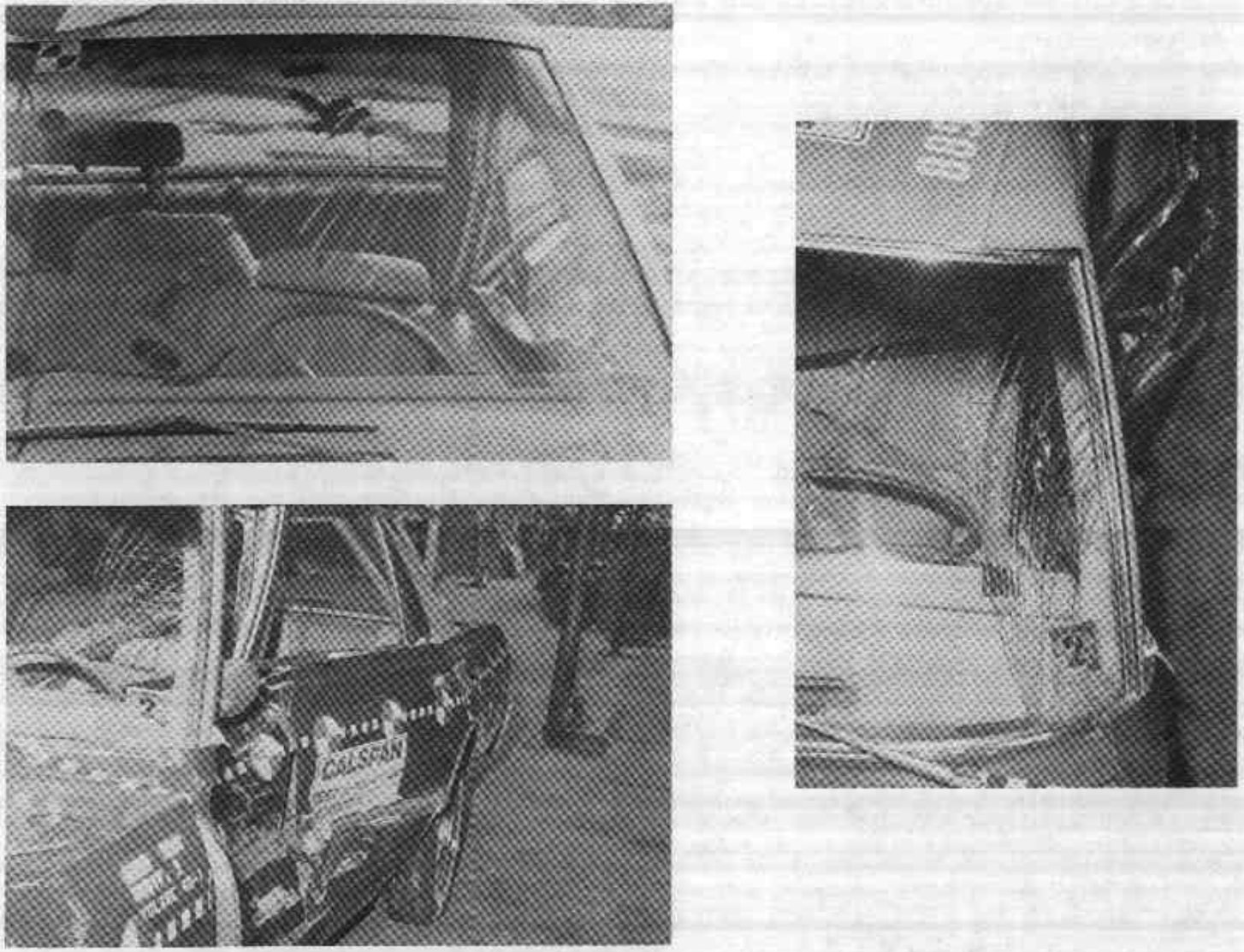


FIGURE 7 VEHICLE 2 - TEST 7 - FRONT VIEWS OF IMPACTED AREA

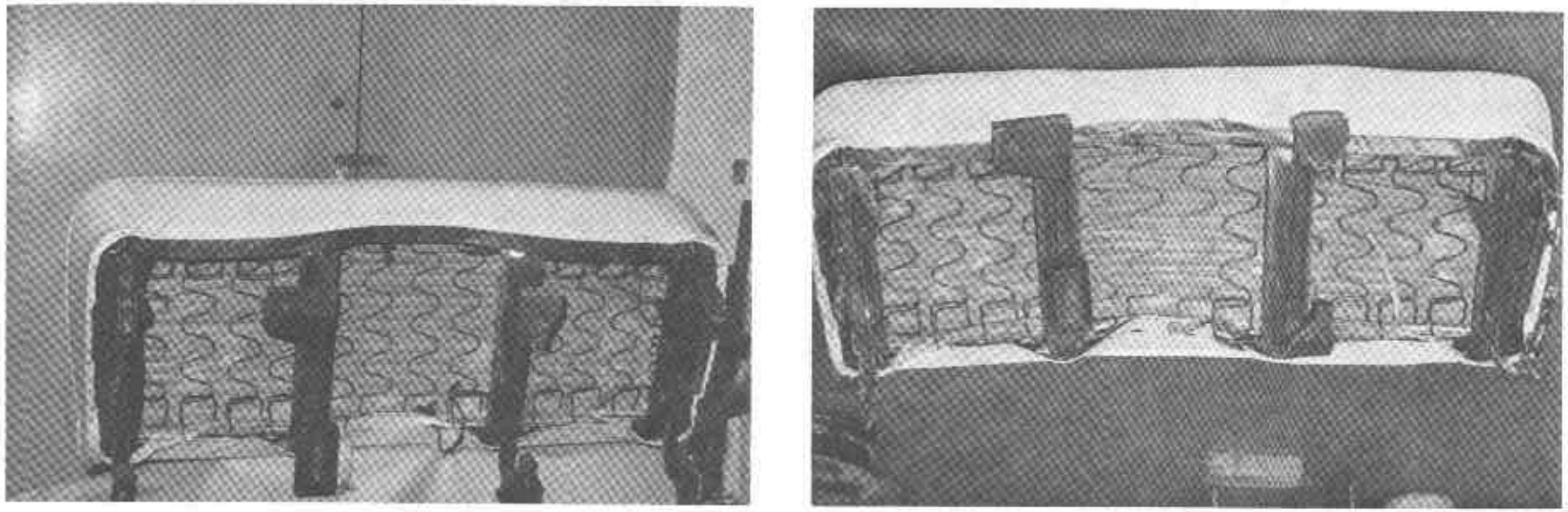


FIGURE 8 VEHICLE 2 - TEST 7 - PRE- AND POST-TEST VIEWS OF MODIFIED FRONT BENCH SEAT

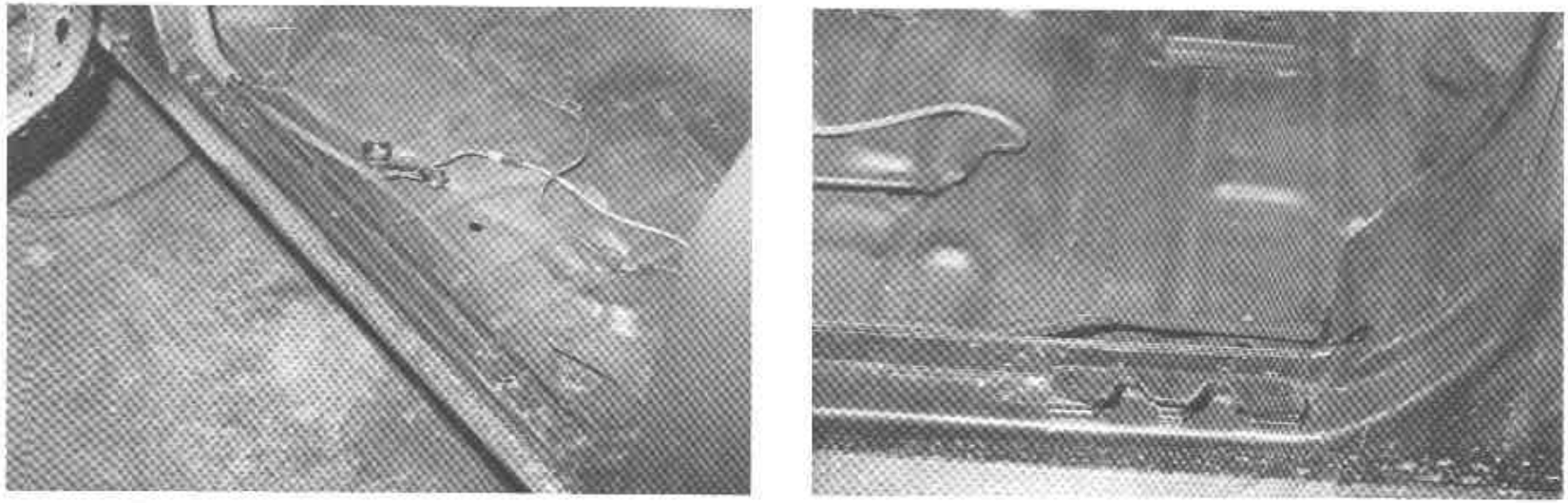


FIGURE 9 VEHICLE 2 - TEST 7 - VIEWS OF DOOR SILL INTERLOCKS

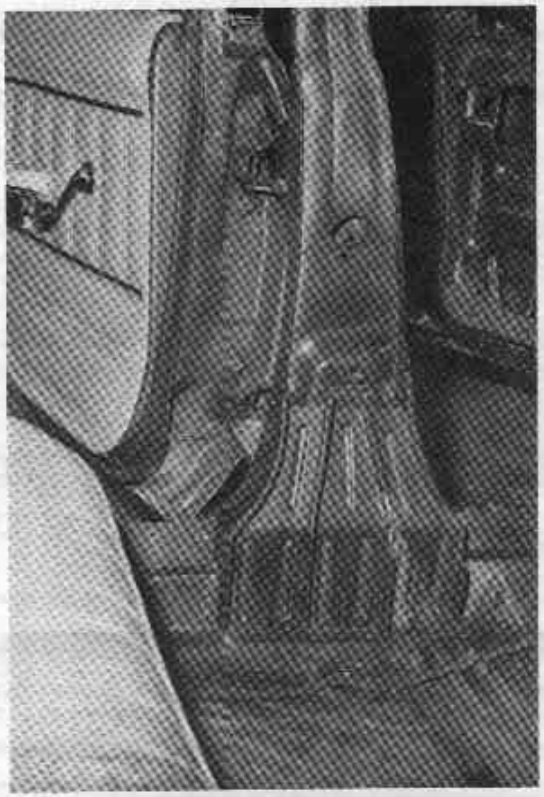


FIGURE 11 VEHICLE 2 - TEST 7 - VIEW OF MODIFIED "B" PILLAR

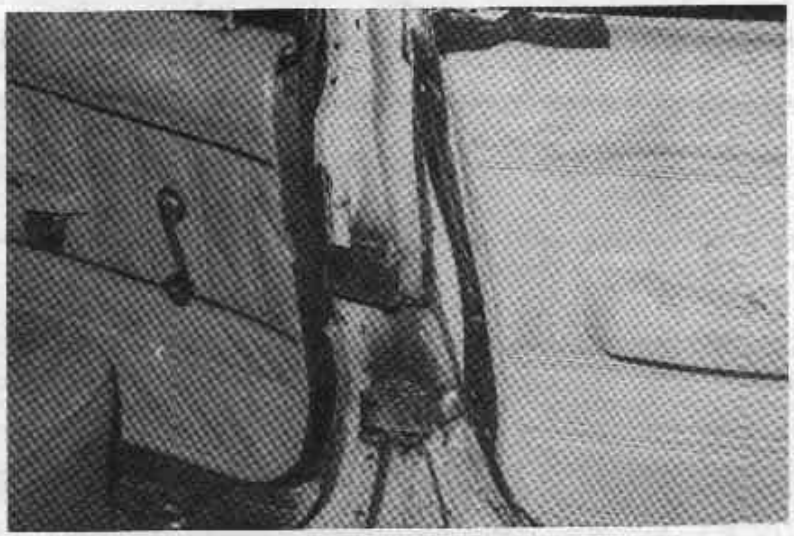


FIGURE 10 VEHICLE 2 - TEST 7 - POST-TEST VIEWS OF "B" PILLAR

FIGURE 12 VEHICLE 2 - TEST 7 - INTERIOR VIEW OF INSTRUMENT PANEL

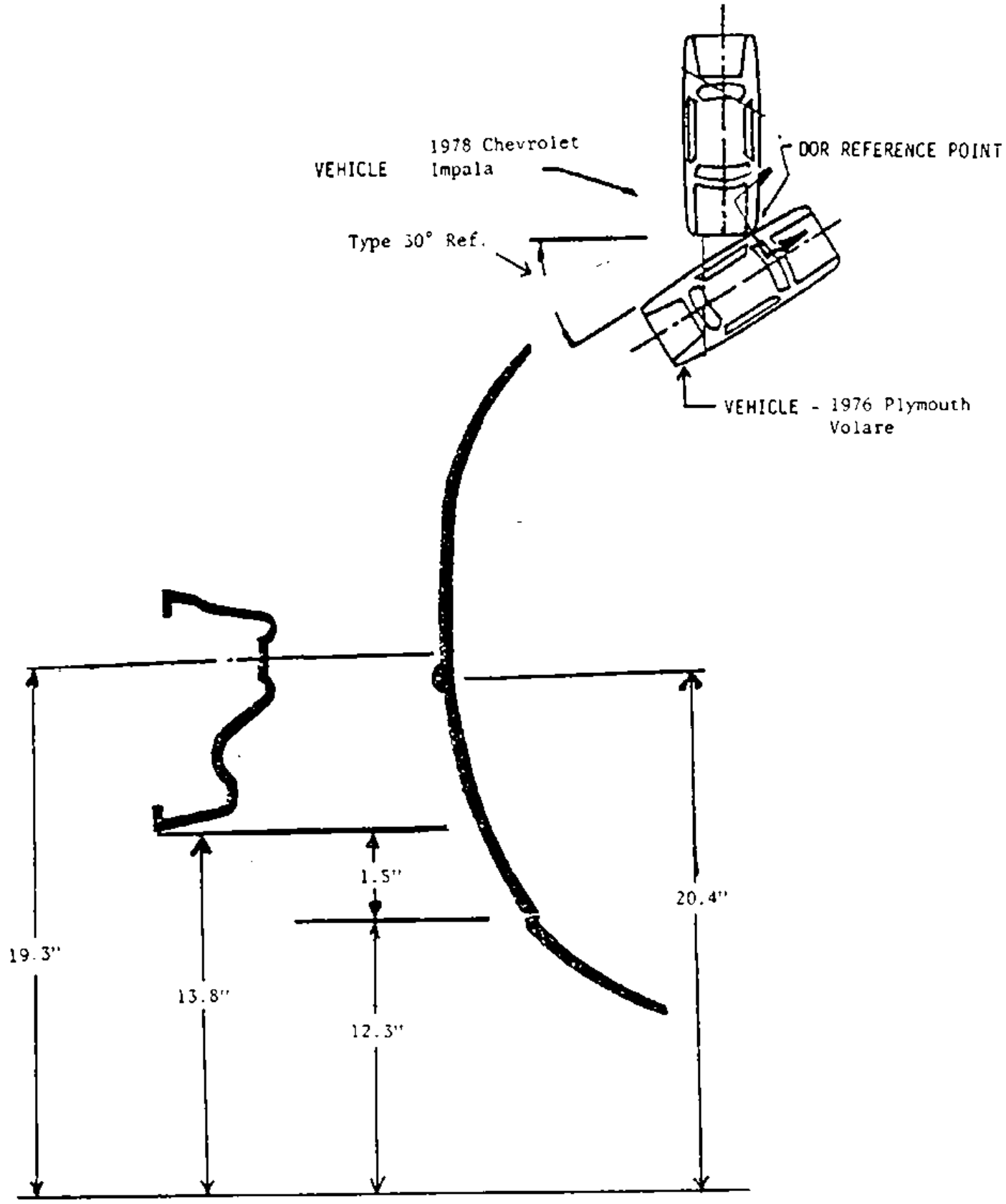
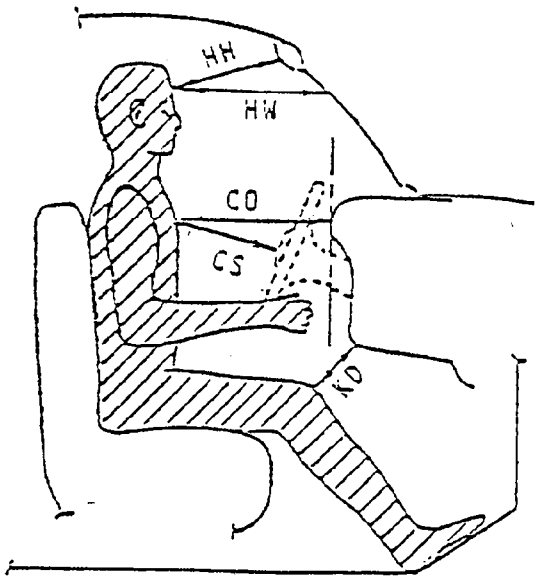


FIGURE 15 VEHICLE CRASH ATTITUDE

	DRIVER	PASS
HH	15,1	-
HW	21 3/4	-
CD	19.25	20.7
CS	13.2	-
KDL	6.5	9,0
KDR	6.5	9,0



HR	8,4	8,2
HS	11,1	7,8
AD	7.3	4.9
HD	8.8	8,4

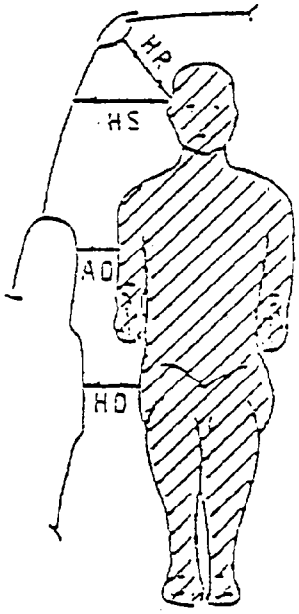


FIGURE 16 OCCUPANT CLEARANCE DIMENSIONS
(VEHICLE 2)

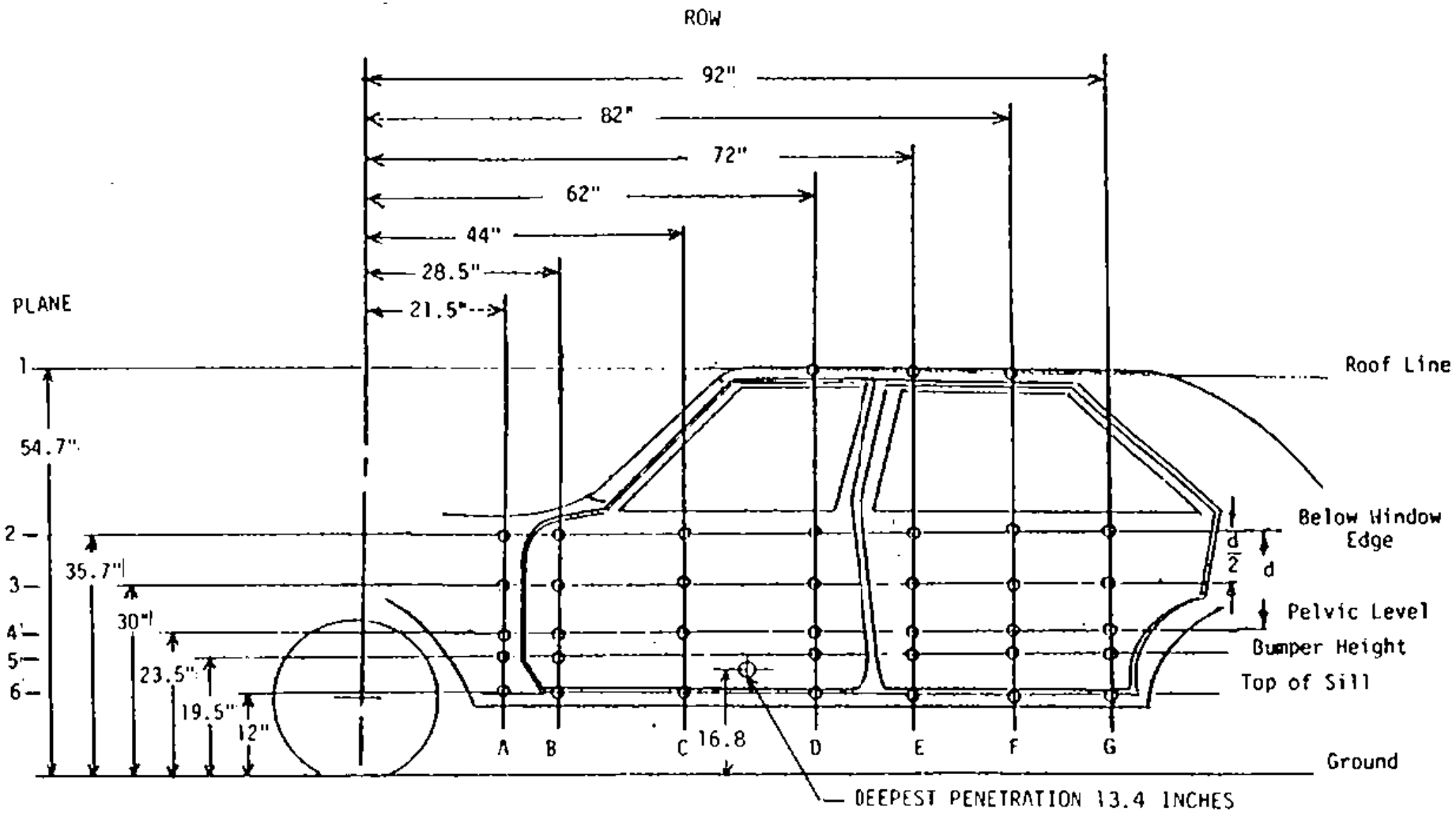


FIGURE 17 SIDE INTRUSION MEASUREMENT POINTS

Table 3

SIDE INTRUSION MEASUREMENTS

DIMENSIONS LISTED BELOW ARE FROM POINTS SHOWN ON FIGURE 17 TO REFERENCE PLANES LOCATED PARALLEL TO AND OUTBOARD FROM ℄ OF VEHICLE (ROWS ARE FROM FRONT TO REAR OF VEHICLE)

PLANE NUMBER		DIMENSIONS (Inches)						
		ROW						
		A	B	C	D	E	F	G
1	PRE				17.2	17.2	17.1	
	POST				21.1	21.7	20.5	
	DIFF.				3.9	4.5	3.4	
2	PRE	8.6	8.6	8.4	8.2	8.3	8.3	8.4
	POST	10.2	11.0	18.3	19.0	16.8	13.4	10.5
	DIFF.	1.8	2.4	9.9	10.8	8.5	5.1	2.1
3	PRE	6.2	6.2	6.0	6.0	6.1	6.2	6.3
	POST	7.8	10.2	18.7	16.6	15.6	12.4	9.4
	DIFF.	1.6	4.0	12.7	10.6	9.5	6.2	3.1
4	PRE	6.3	6.2	6.1	6.0	6.0	6.1	6.3
	POST	7.7	9.1	17.7	18.2	16.0	13.1	9.3
	DIFF.	1.4	2.9	11.6	12.2	10.0	7.0	3.0
5	PRE	6.1	6.1	5.8	5.8	5.9	6.0	6.1
	POST	7.1	9.3	17.8	18.4	15.3	13.1	8.7
	DIFF.	1.0	3.2	12.0	12.6	9.4	7.1	2.6
6	PRE	11.2	11.2	11.3	11.3	11.3	11.3	11.4
	POST	11.7	12.2	13.6	14.8	14.8	13.3	12.2
	DIFF.	0.5	1.0	2.3	3.5	3.5	2.0	0.8

DOOR THICKNESS MEASUREMENTS

DIMENSIONS LISTED WERE MEASURED WITH A ROD THROUGH A 1/8 INCH HOLE AT EACH LOCATION AS SHOWN IN FIGURE 17

PLANE NUMBER	DIMENSIONS (Inches) ROW A	B	C	D	E	F	G
1 PRE							
1 POST							
1 DIFF.							
2 PRE		2.2	4.3	5.6	5.8	2.3	2.2
2 POST		1.3	3.5	3.7	5.8	1.8	2.2
2 DIFF.		-0.9	-0.8	-1.9	-0.0	-0.5	-0.0
3 PRE		5.7	7.5	7.4	1.0	5.6	7.2
3 POST		.2	.8	6.8	2.3	5.6	7.2
3 DIFF.		-5.5	-6.7	-0.6	+1.3	0.0	0.0
4 PRE		6.9	6.9	6.8	1.0	6.9	6.4
4 POST		.3	.7	.3	.5	.2	5.2
4 DIFF.		-6.6	-6.2	-6.5	-0.5	-6.7	-1.2
5 PRE		5.7	6.8	6.6	6.6	7.0	6.5
5 POST		1.5	.4	.2	4.4	3.9	5.6
5 DIFF.		-4.2	-6.4	-6.4	-2.2	-3.1	-0.9
6 PRE							
6 POST							
6 DIFF.							
7 PRE							
7 POST							
7 DIFF.							

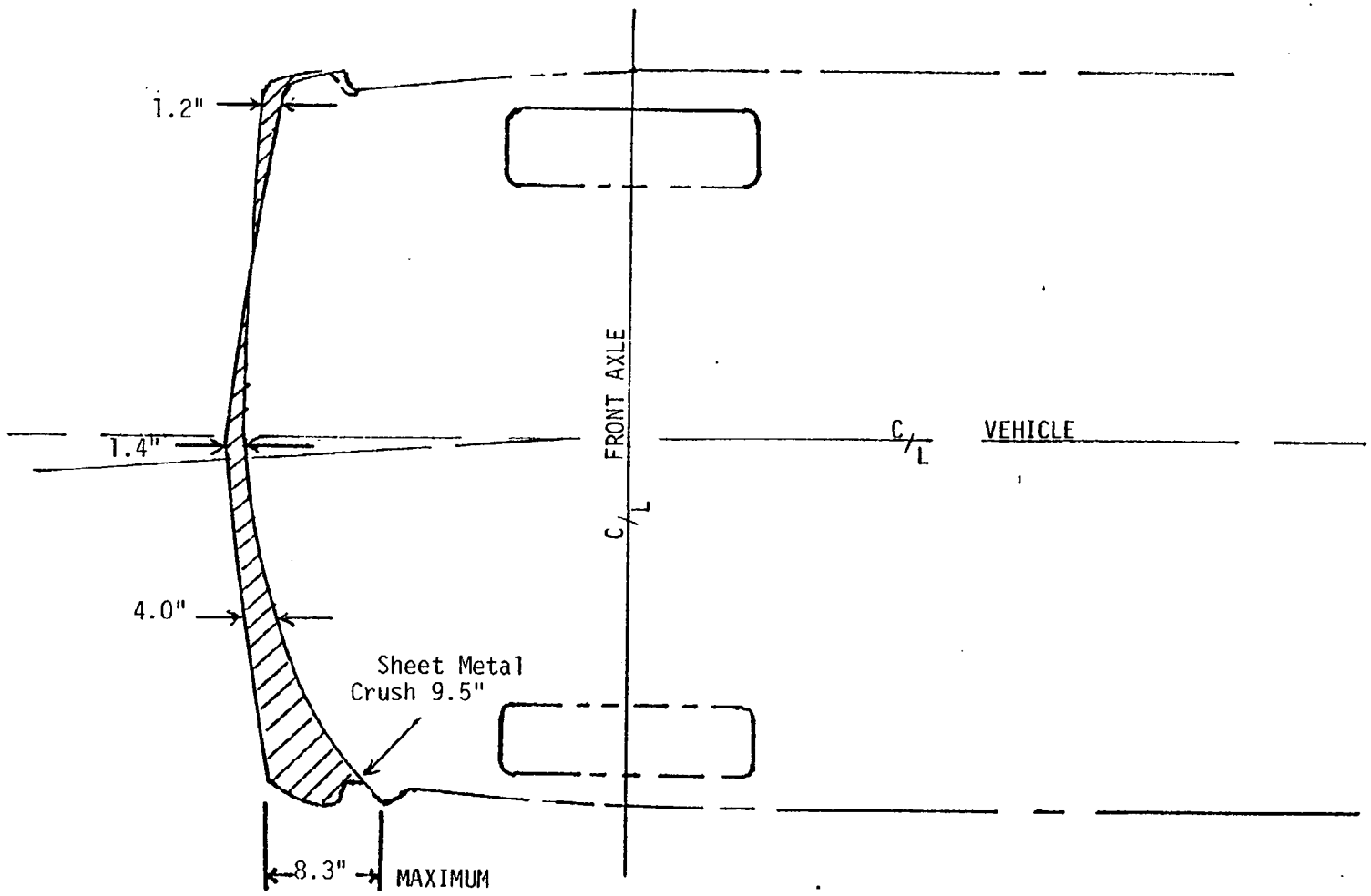
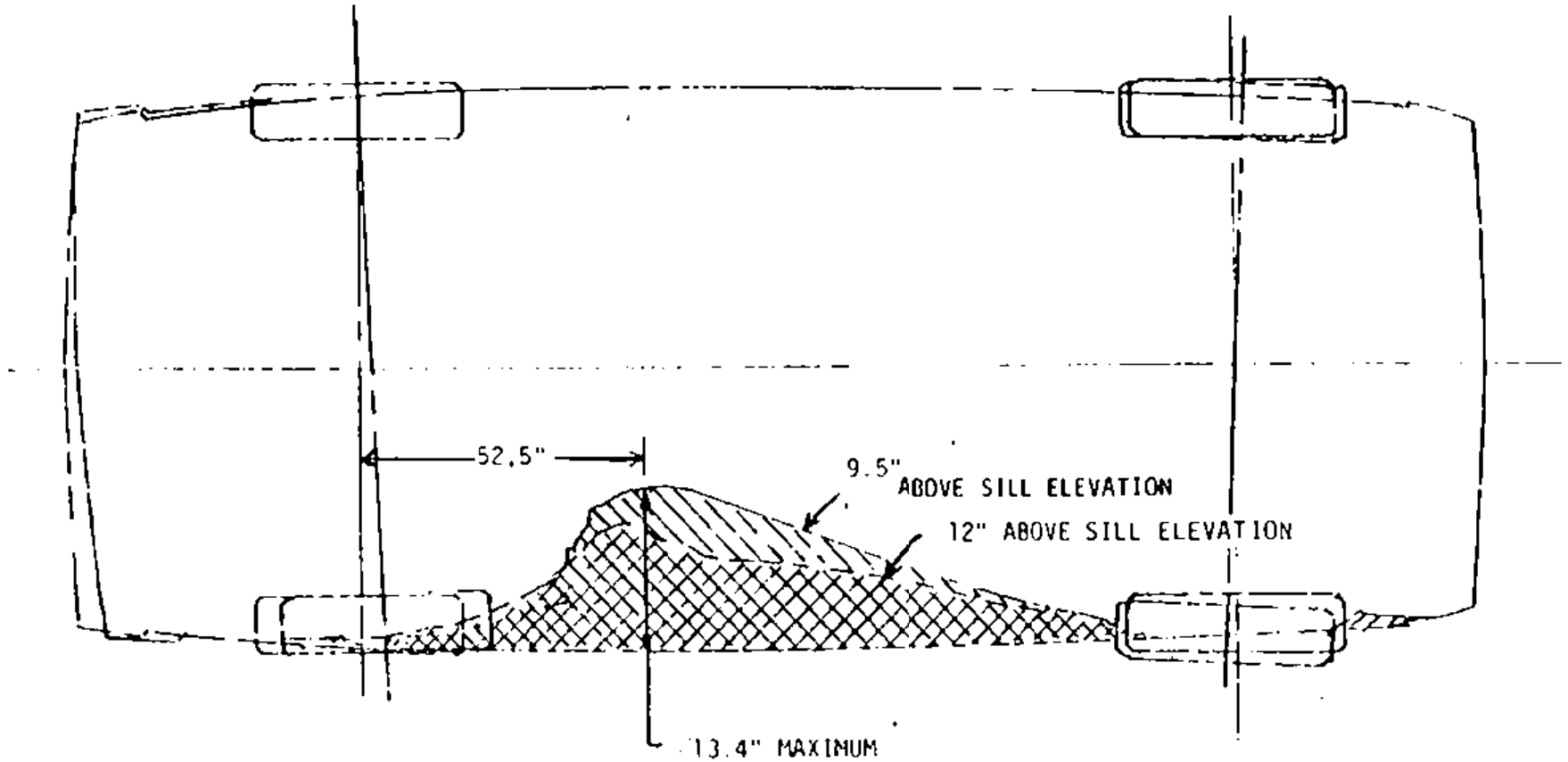


FIGURE 18 PRE- AND POST-TEST DEFLECTION - VEHICLE NO. 1 - 1978 CHEVROLET IMPALA



TEST 7

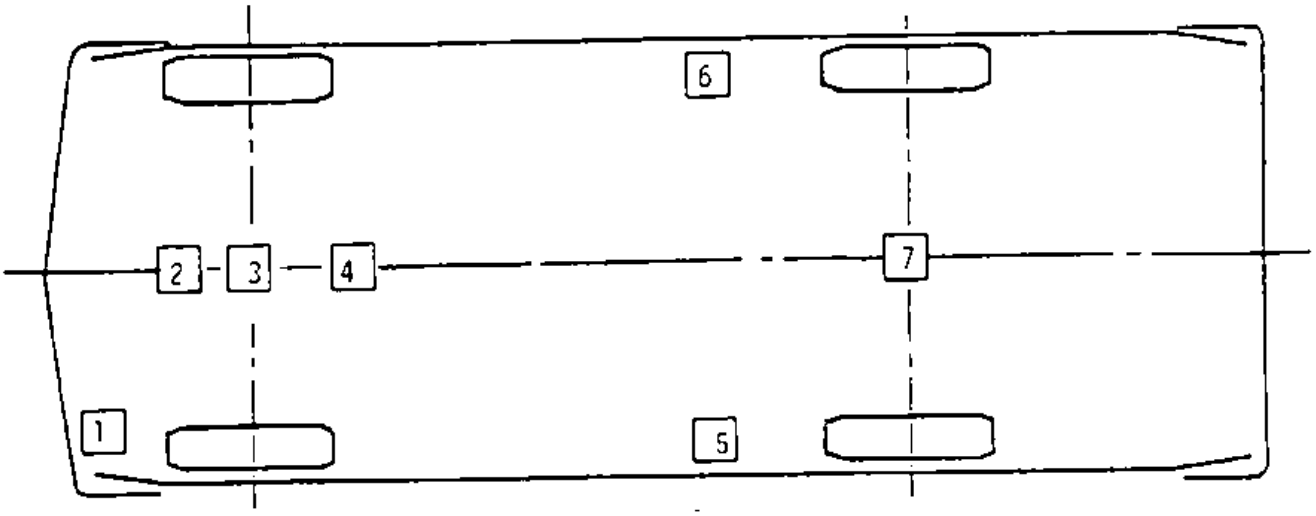
FIGURE 19 VEHICLE 2 - EXTERIOR DEFORMATION - 1976 PLYMOUTH VOLARE

Table 5

ELECTRONIC INSTRUMENTATION TEST NO. 7

VEHICLE 1 - Bullet Vehicle - 1978 Chevrolet Impala

TRANSDUCER DESCRIPTION OR ACCELEROMETER LOCATION	DIRECTION OF PARAMETER BEING MEASURED	LOCATION ON VEHICLE	DESCRIPTION LISTED ON DATA PLOTS
VEHICLE ACCELEROMETER			
1	X-Accel	Bumper (rear face)	Veh. #1 Accel. Pack #1 (X)
2	X, Y, Z	Top of Engine, Carburetor	Veh. #1 Accel. Pack #2
3	X	Front Crossmember	Veh. #1 Accel. Pack #3
4	X, Y, Z	Firewall	Veh. #1 Accel. Pack #4
5	X	Left Sill next to Rear Seat	Veh. #1 Accel. Pack #5
6	X	Right Sill next to Rear Seat	Veh. #1 Accel. Pack #6
7	X, Y	Deck over Rear Axle	Veh. #1 Accel. Pack #7



1978 CHEVROLET IMPALA
STRIKING VEHICLE

ACCELEROMETER NUMBER*	ACCELEROMETER LOCATIONS	DIRECTION		
		X	Y	Z
1	Bumper (Rear Face)	X		
2	Top of Engine	X	X	X
3	Front Crossmember	X		
4	Firewall	X	Y	Z
5	Left Sill	X		
6	Right Sill	X		
7	Rear Deck	X	Y	

*The accelerometer pack number can be correlated with vehicle response data.

FIGURE 20 VEHICLE 1 - ACCELEROMETER LOCATIONS

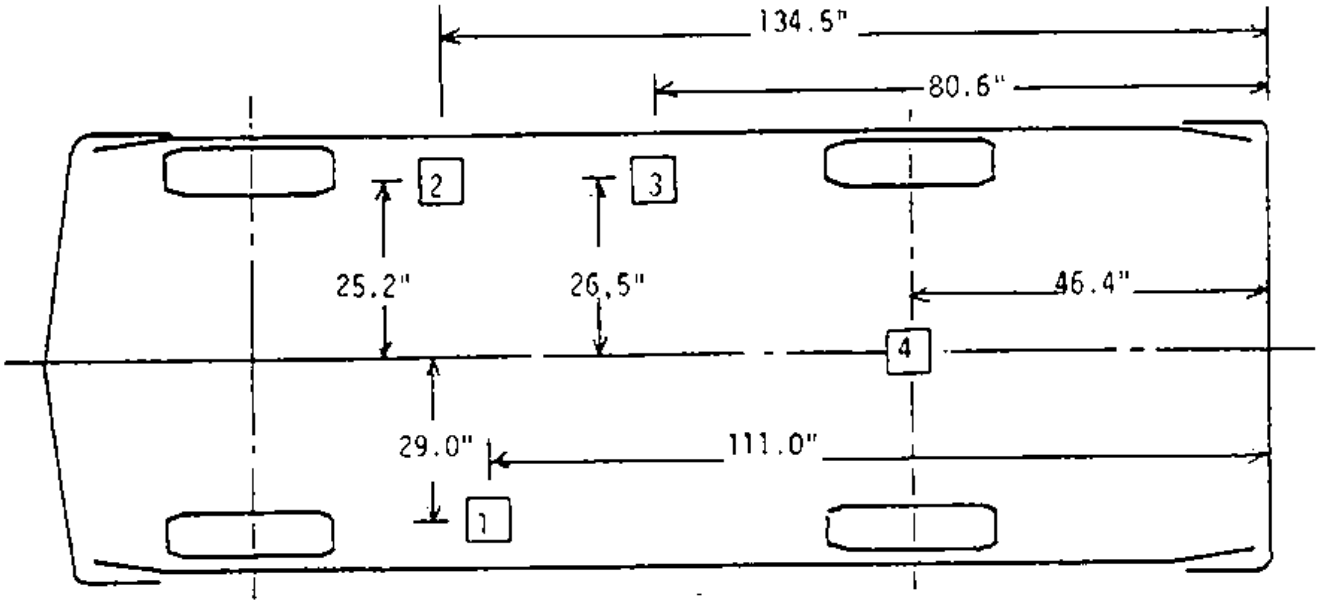
Table 6

ELECTRONIC INSTRUMENTATION TEST 7

VEHICLE 2 - TARGET VEHICLE - 1976 PLYMOUTH VOLARE

TRANSDUCER DESCRIPTION OR ACCELEROMETER LOCATION *	DIRECTION OF PARAMETER BEING MEASURED	LOCATION ON VEHICLE	DESCRIPTION LISTED ON DATA PLOTS
VEHICLE ACCELEROMETER			
1	Y	Left Rocker	Vehicle #2 Accel. Pack #1
2	X, Y, Z	Right Front Rocker	Vehicle #2 Accel. Pack #2
3	Y	Right Rear Rocker	Vehicle #2 Accel. Pack #3
4	X, Y	Rear Deck	Vehicle #2 Accel. Pack #4
5	Y	Driver Door	Vehicle #2 Accel. Pack #5
6	Y	Upper Left B Pillar	Vehicle #2 Accel. Pack #6
7	Y	Driver Door	Vehicle #2 Accel. Pack #7
8	Y	Lower Left B Pillar	Vehicle #2 Accel. Pack #8
DUMMY (1)			
Head	X, Y, Z	Left Front Seat	Veh. #2 Pos. #1 Head
Upper Spine	X, Y, Z	Left Front Seat	Veh. #2 Pos. #1 Upper Spine
Lower Spine	X, Y. Z	Left Front Seat	Veh. #2 Pos. #1 Lower Spine
Pelvic	X, Y	Left Front Seat	Veh. #2 Pos. #1 Pelvic
Upper Left Rib	Y	Left Front Seat	Veh. #2 Pos. #1 Upper LF Rib
Lower Left Rib	X	Left Front Seat	Veh. #2 Pos. #1 Lower LF Rib
Upper Right Rib	Y	Left Front Seat	Veh. #2 Pos. #1 Upper RT Rib
Lower Right Rib	X	Left Front Seat	Veh. #2 Pos. #1 Lower RT Rib
Upper Sternum	X	Left Front Seat	Veh. #2 Pos. #1 Upper Sternum
Lower Sternum	X	Left Front Seat	Veh. #2 Pos. #1 Lower Sternum
Left Rib Deflection	Y	Left Front Seat	Veh. #2 Pos. #1 LF Rib Defl.
DUMMY (4)			
Head	X, Y, Z	Left Rear Seat	Veh. #2 Pos. #4 Head
Chest	X, Y, Z	Left Rear Seat	Veh. #2 Pos. #4 Chest
Pelvic	X, Y	Left Rear Seat	Veh. #2 Pos. #4 Pelvic
VEHICLE INTRUSION POT.			
9	Y	Driver Door	Veh. #2 Intrusion Pot #9
10	Y	Driver Door	Veh. #2 Intrusion Pot #10
11	Y	Driver Door	Veh. #2 Intrusion Pot #11
12	Y	Left B Pillar	Veh. #2 Intrusion Pot #12

*See accelerometer layout, Figure 21 and 22.

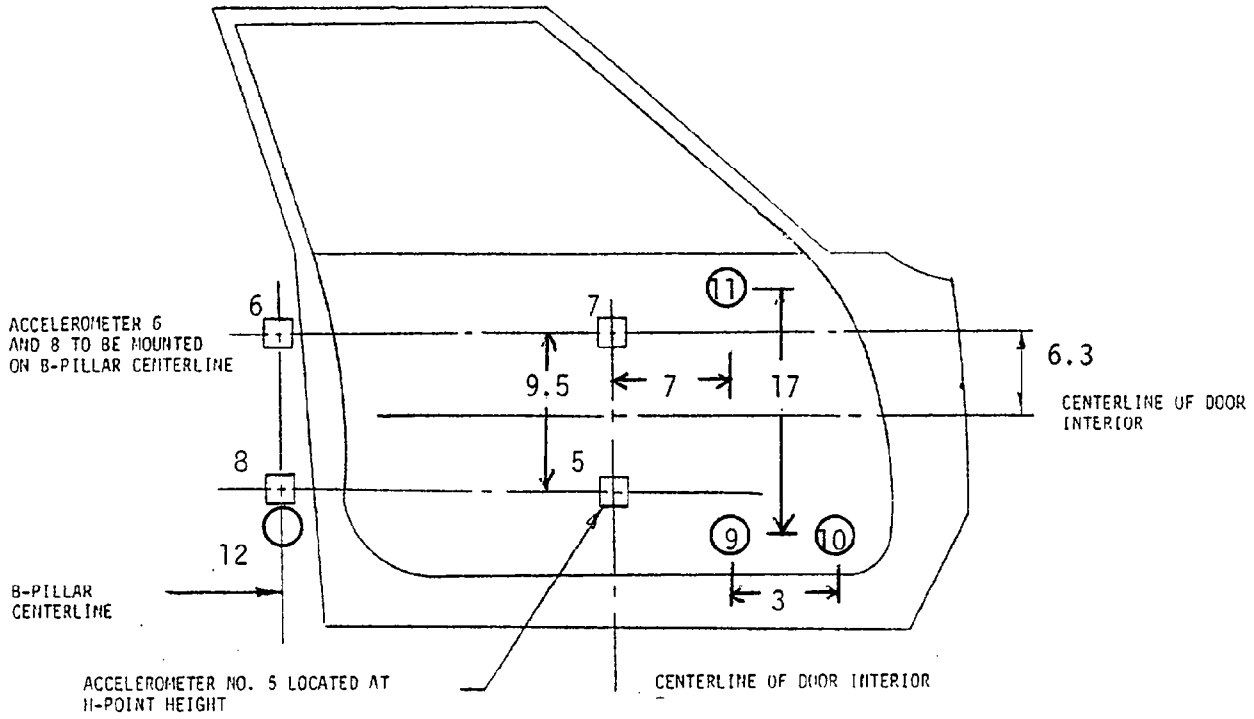


1976 PLYMOUTH VOLARE
STRUCK VEHICLE

ACCELEROMETER NUMBER*	ACCELEROMETER LOCATION	DIRECTION		
		X	Y	Z
1	LEFT ROCKER		X	
2	RIGHT FRONT ROCKER	X	X	X
3	RIGHT REAR ROCKER		X	
4	REAR DECK	X	X	

*THE ACCELEROMETER PACK NUMBER CAN BE CORRELATED WITH VEHICLE RESPONSE DATA.

FIGURE 21 VEHICLE 2 - ACCELEROMETER LOCATIONS



ACCELEROMETER NUMBER	ACCELEROMETER LOCATION	DIRECTION X	DIRECTION Y	DIRECTION Z
5	DRIVER DOOR		X	
6	UPPER LEFT "B" PILLAR		X	
7	DRIVE DOOR		X	
8	LOWER LEFT "B" PILLAR		X	

INTRUSION POT NUMBER	INTRUSION POT LOCATION	DIRECTION X	DIRECTION Y	DIRECTION Z
(9)	DRIVER DOOR		X	
(10)	DRIVER DOOR		X	
(11)	DRIVER DOOR		X	
(12)	LOWER LEFT "B" PILLAR		X	

FIGURE 22 VEHICLE 2 - DOOR INSTRUMENTATION

Table 7

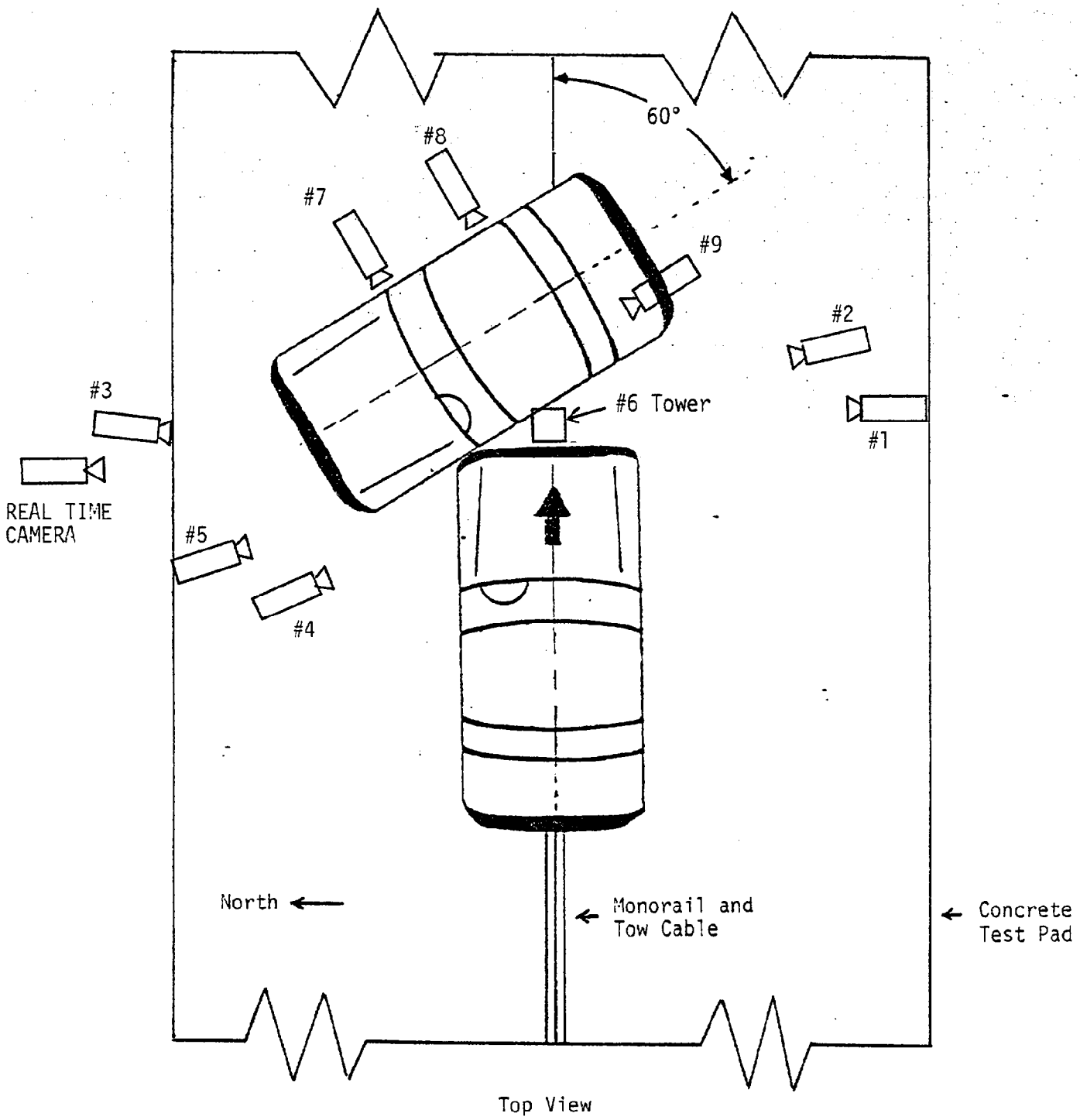
HIGH SPEED CAMERA INFORMATION (TEST 487)

CAMERA NO.	LOCATION	TYPE	LENS (mm)	SPEED (fps)
1	SOUTH WIDE	PHOTOSONIC	13	350
2	SOUTH LOW	PHOTOSONIC	25	700
3	NORTH WIDE	PHOTOSONIC	13	950
4	NORTH CLOSE	PHOTOSONIC	25	NO PULSE
5	NORTH HIGH	PHOTOSONIC	25	950
6	TOWER	PHOTOSONIC	13	550
7	ON-BOARD DRIVER	STALEX	8	NO PULSE
8	REAR PASSENGER	STALEX	8	1450
9	REAR DECK	STALEX	8	1450

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 OF FILM.

Note: Camera Information Shown on Table 7.



Top View

TEST 7

FIGURE 23 CAMERA LOCATIONS

Table 8

DUMMY INJURY CRITERIA VALUES
MAXIMUM ACCELERATION ("G")*
VEHICLE 2 - 1976 PLYMOUTH VOLARE

POSITION #1 DRIVER

	X	Y	Z	RESULTANT		
HEAD	23.5	84.0	29.0	90.3	HIC	353.6
UPPER SPINE	7.2	54.2	20.8	54.9	T1 (sec)	.0705
LOWER SPINE	14.6	49.6	18.4	51.1	T2 (Sec)	.07500
PELVIC	8.0	59.2	-	-	AVE. ACC. (G)	90.8
					HEAD SEVERITY	523.4

UPPER LEFT RIB (Y)	116
LOWER LEFT RIB (X)	22
UPPER RIGHT RIB (Y)	62
LOWER RIGHT RIB (X)	18
UPPER STERNUM (X)	33
LOWER STERNUM (X)	18
LEFT RIB DEFLECTION	1.34 inches

POSITION #4 RIGHT REAR PASSENGER

	X	Y	Z	RESULTANT		
HEAD	6.3	95.9	39.1	97.8	HIC	487
CHEST	4.3	38.2	10	39.4	T1 (Sec)	.08760
PELVIC	12.0	30.1	-	-	T2 (Sec)	.0927
					AVE. ACC. (G)	100.5
					HEAD SEVERITY	685.5

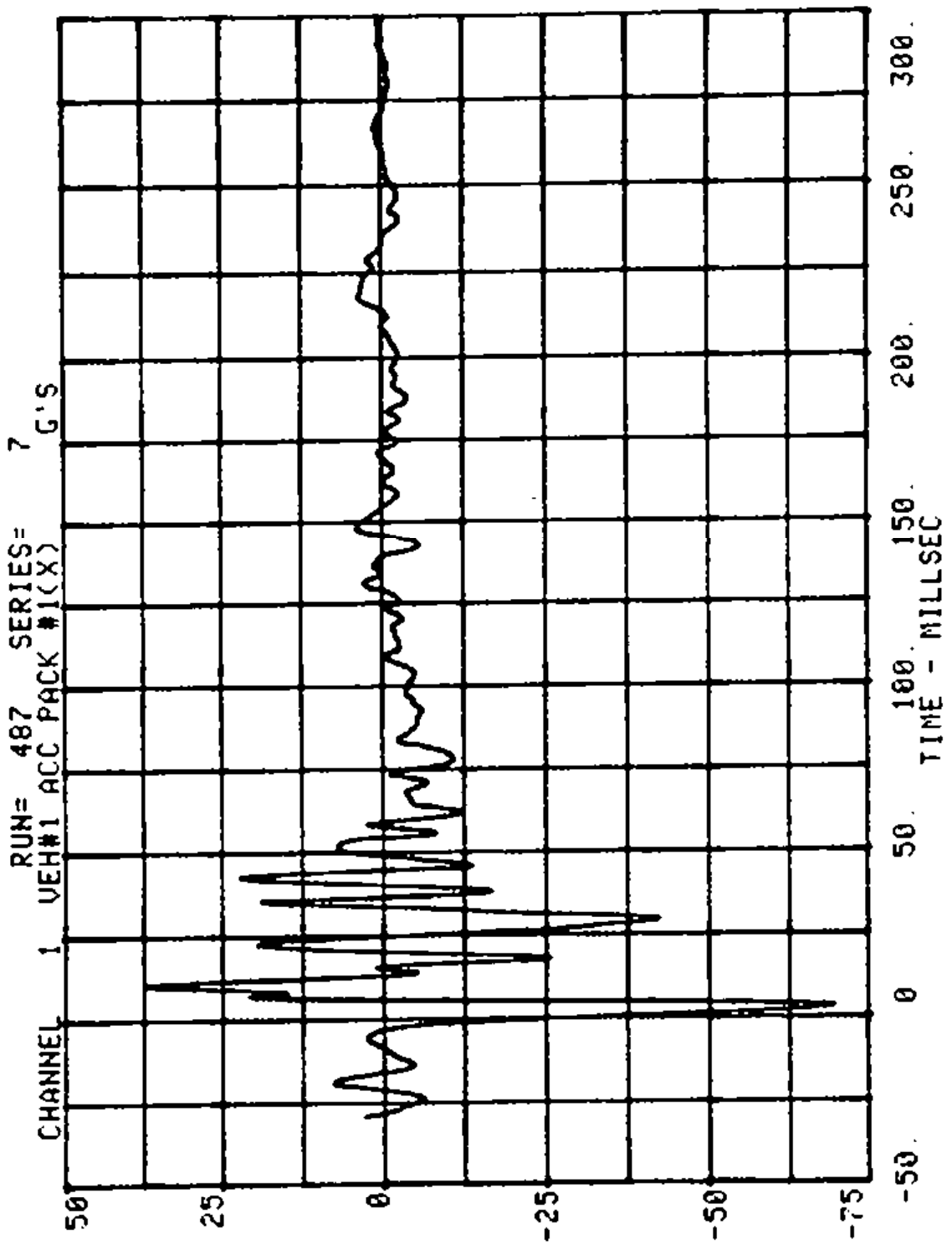
*DEFINED AS EXCEEDING .003 SEC. DURATION

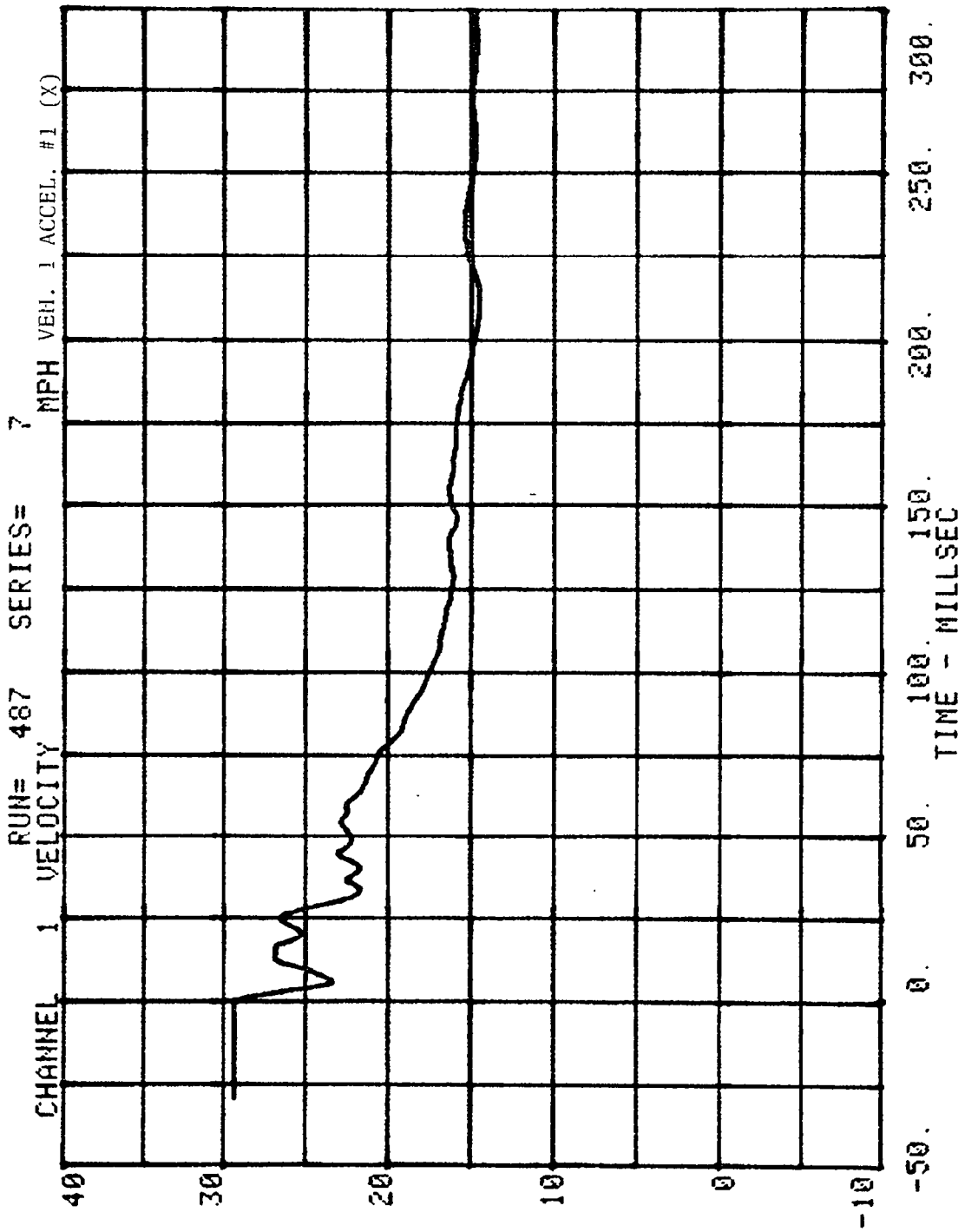
TEST NO. 7

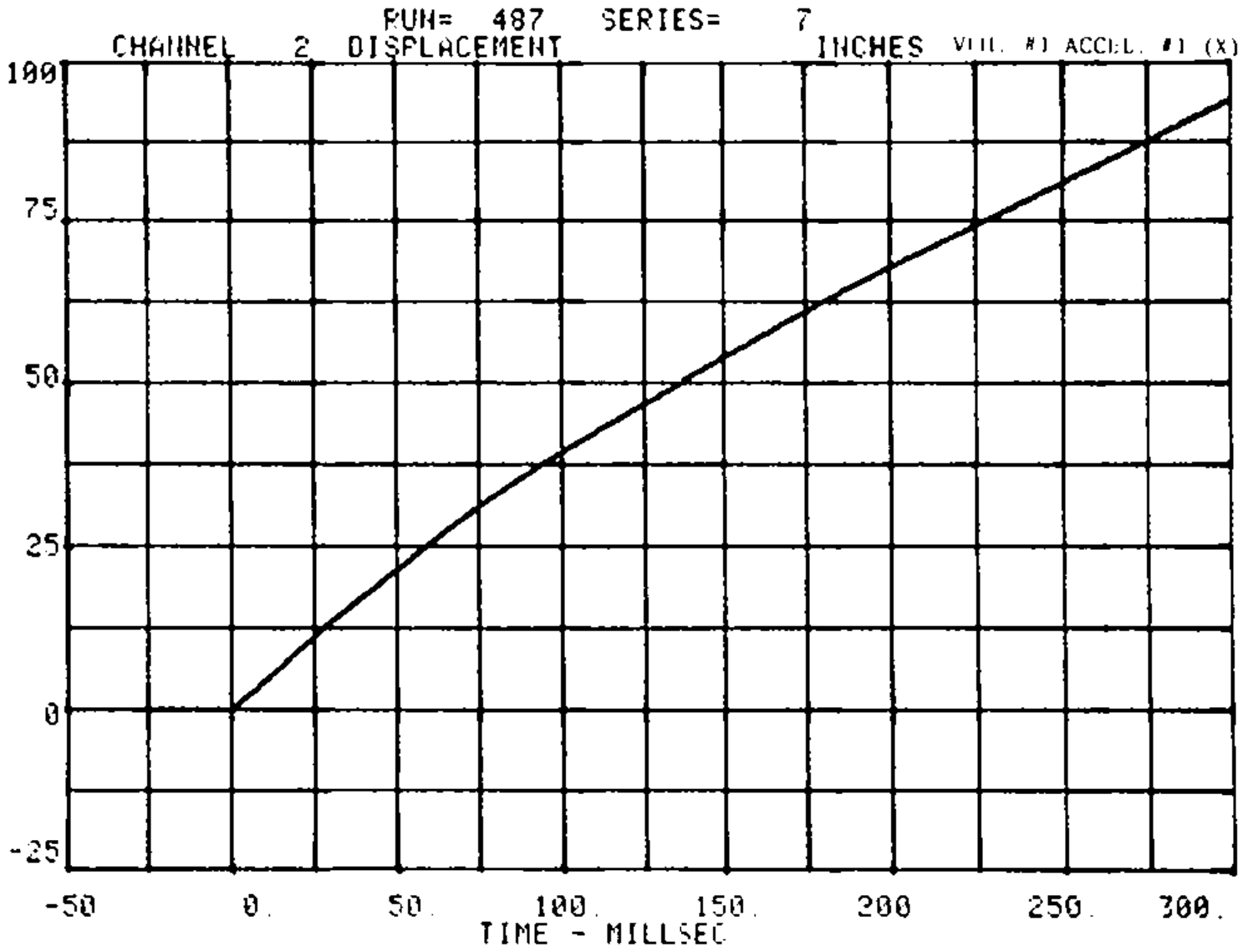
VEHICLE 1 - 1978 CHEVROLET IMPALA

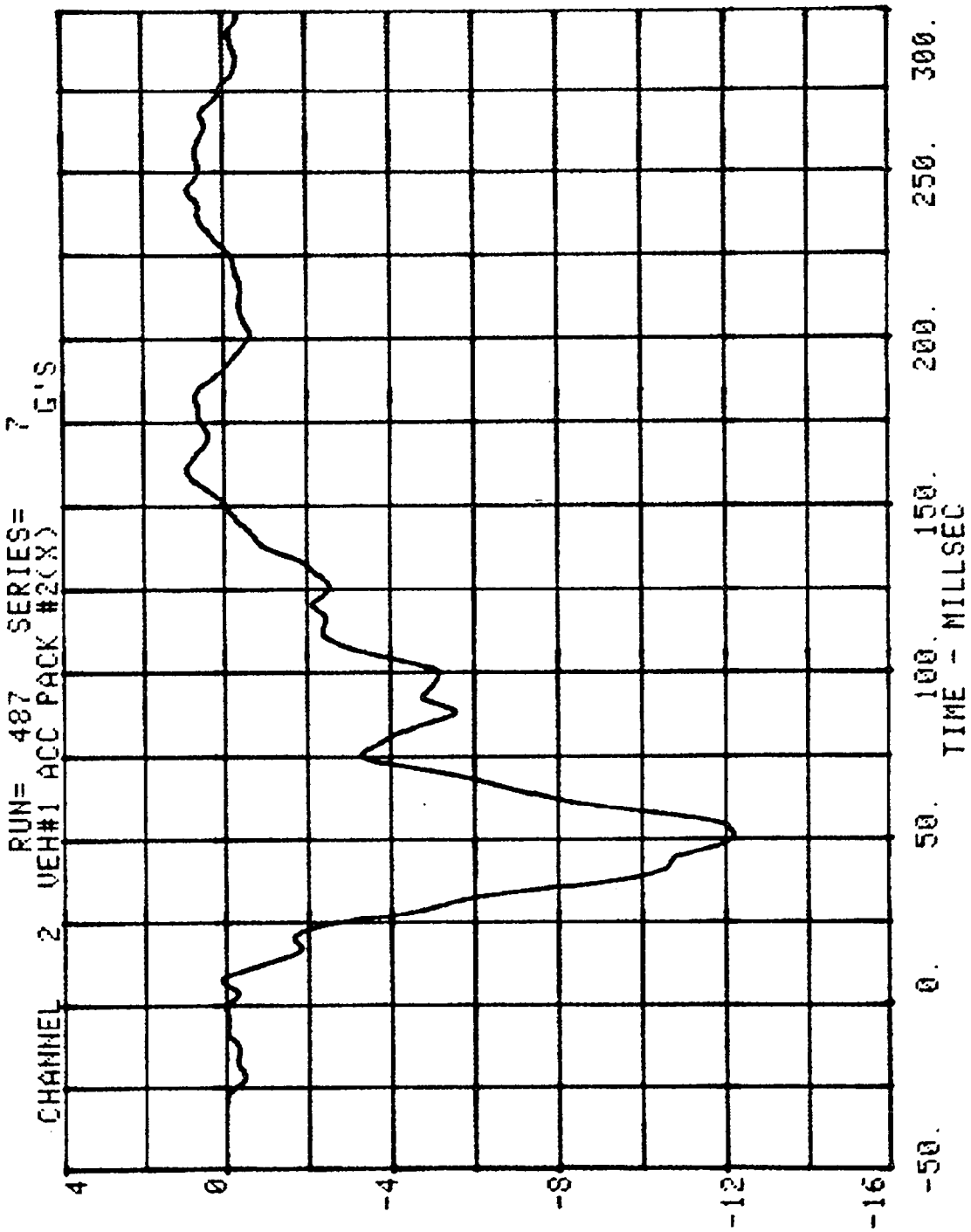
VEHICLE DATA

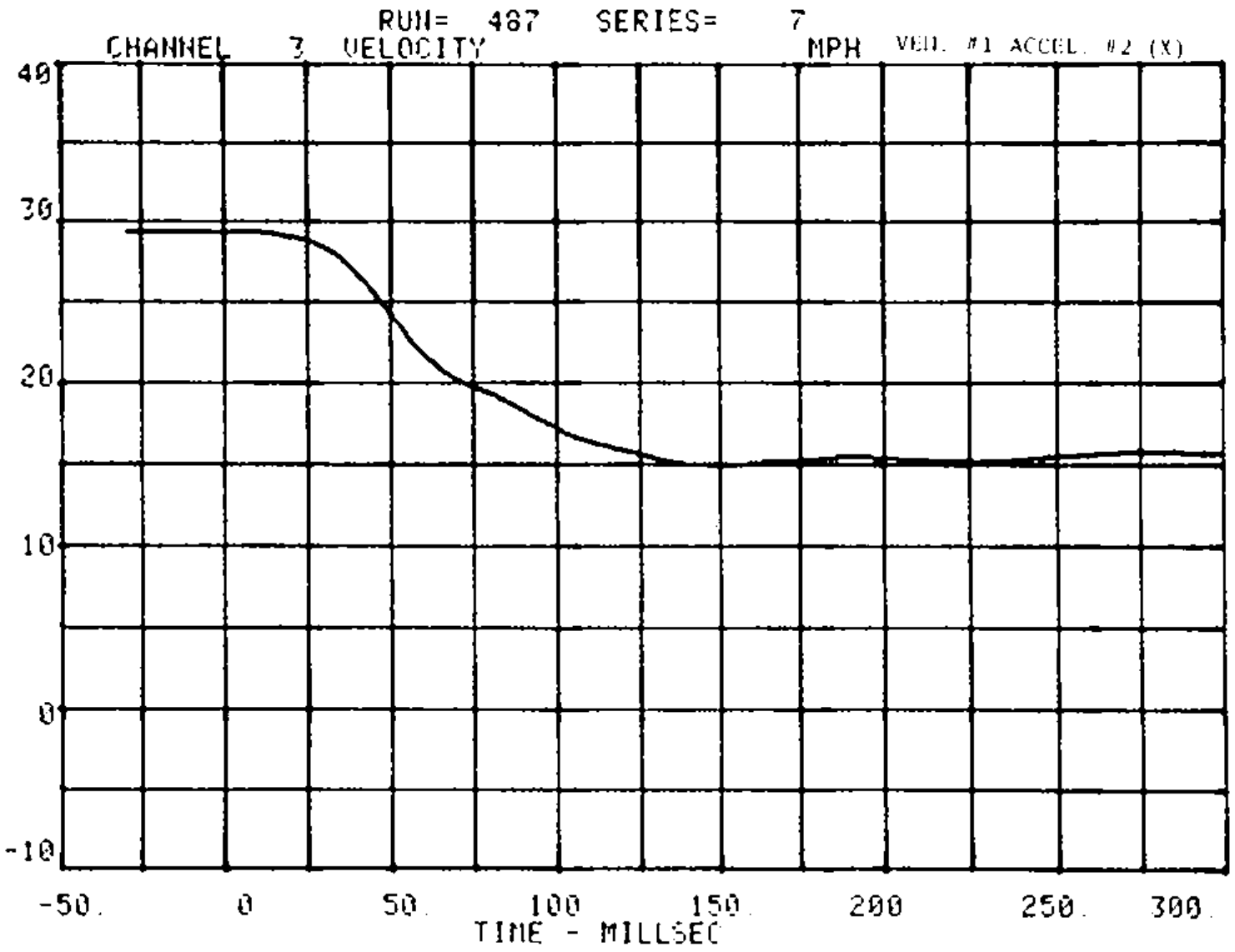
60 Hz CHANNEL CLASS

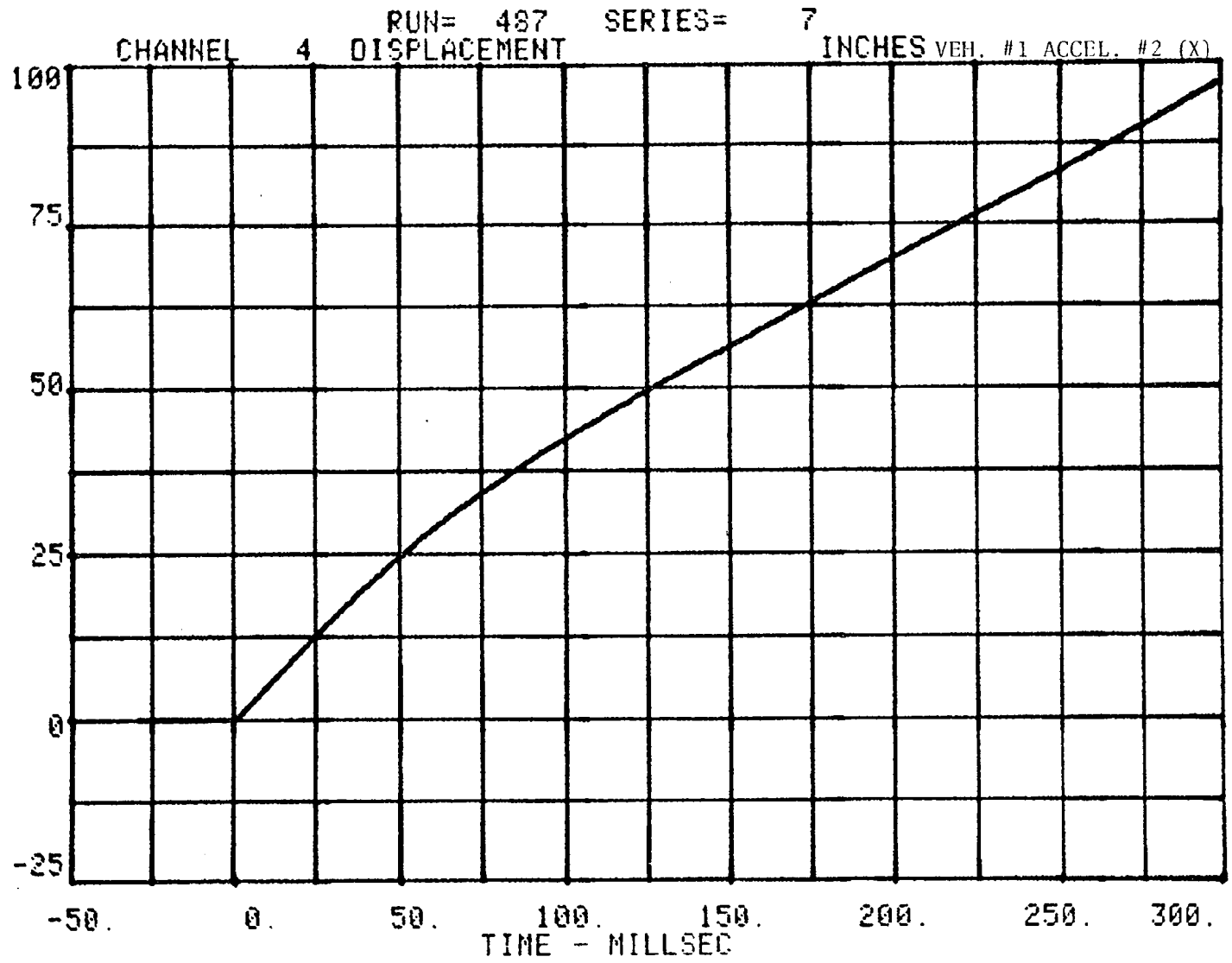

CHANNEL 1 VEH#1 ACC PACK #1(X)
RUN= 487 SERIES= 7
G'S
50
25
0
-25
-50
-75
-50
0
50
100
150
200
250
300
TIME - MILLSEC

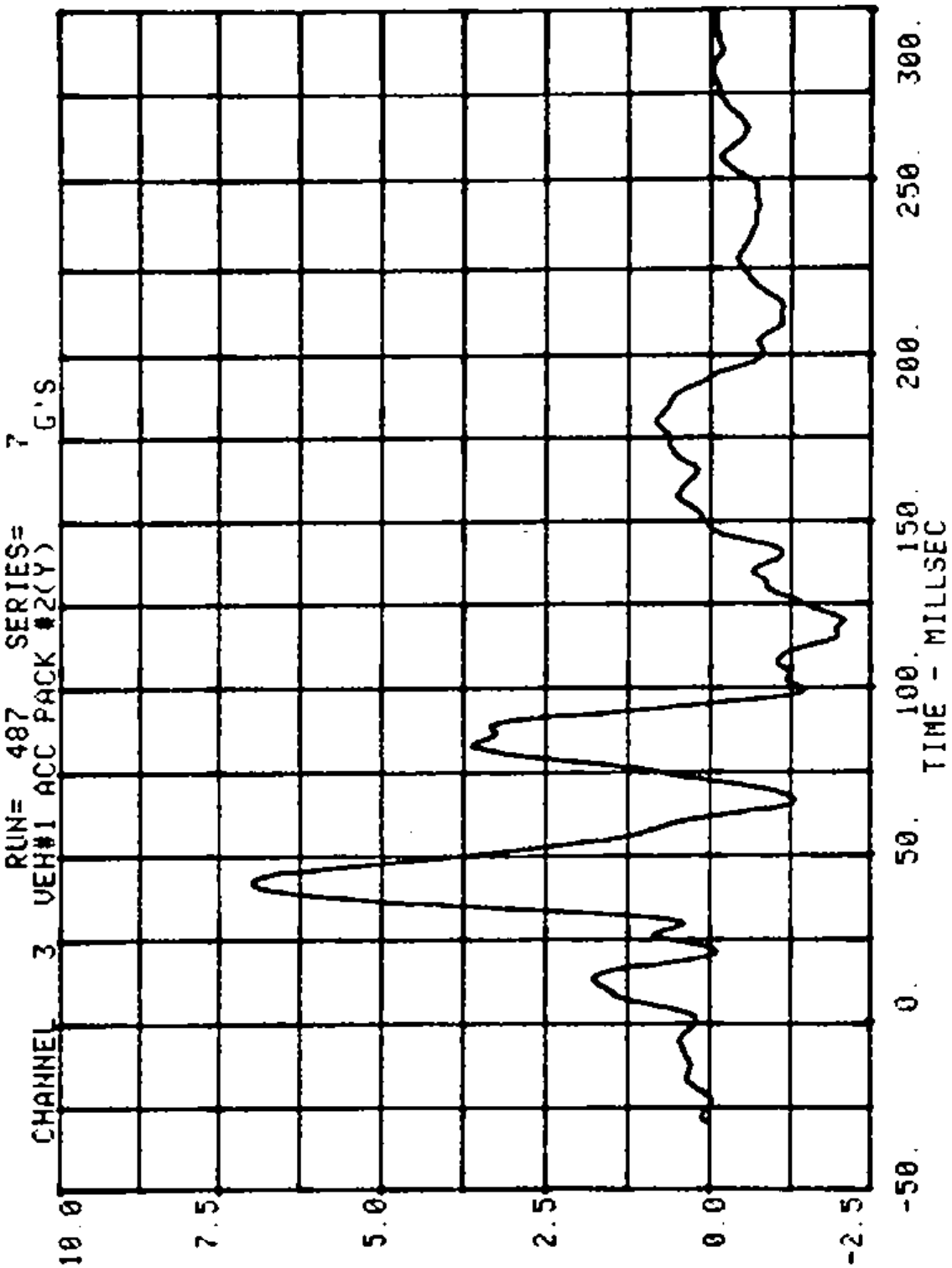

CHANNEL 1 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. 1 ACCEL. #1 (X)
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

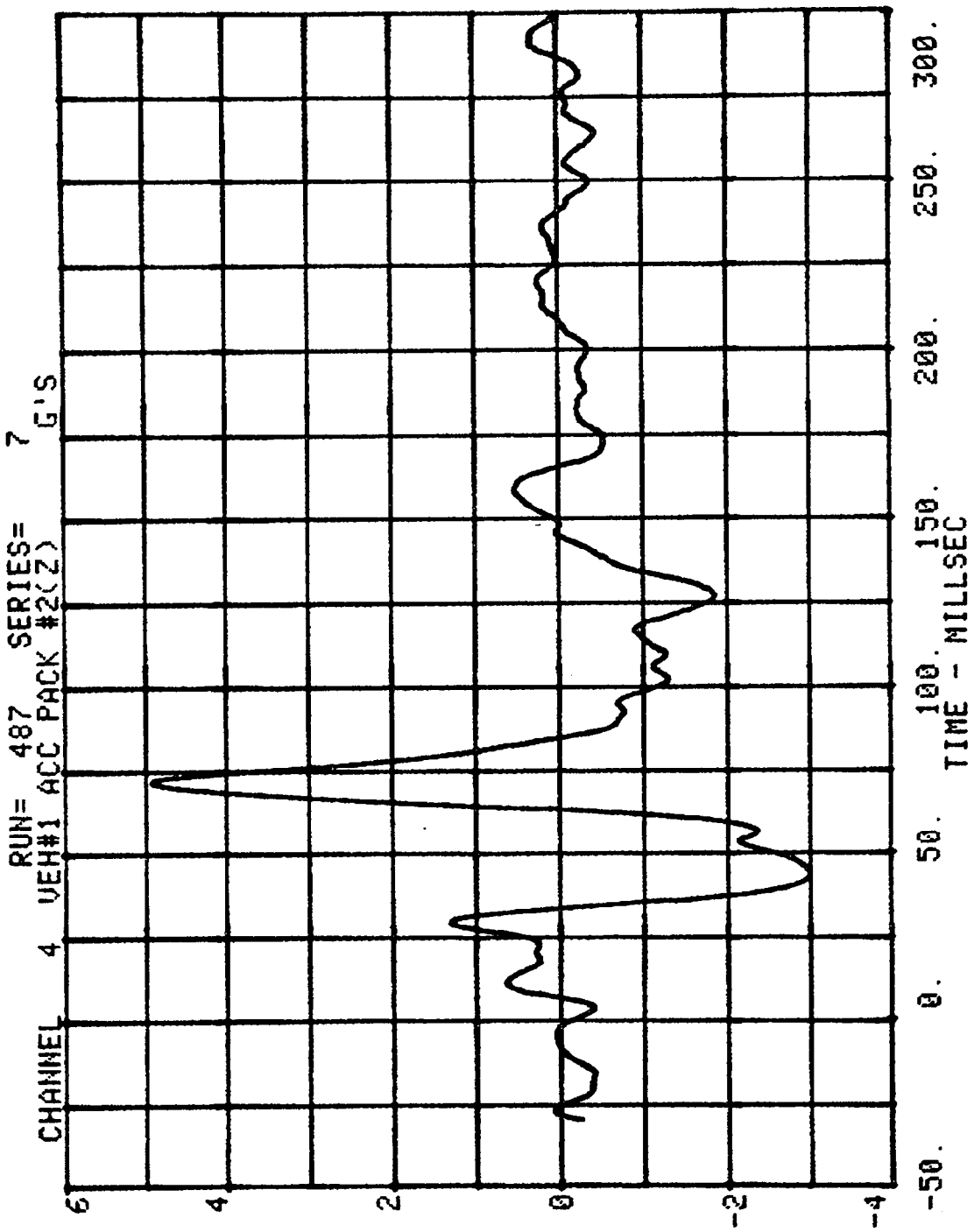

RUN= 487 SERIES= 7
CHANNEL 2 DISPLACEMENT INCHES VIII. #1 ACCEL. #1 (X)
100
75
50
25
0
-25
-50
0.
50.
100.
150.
200
250.
300.
TIME - MILLSEC

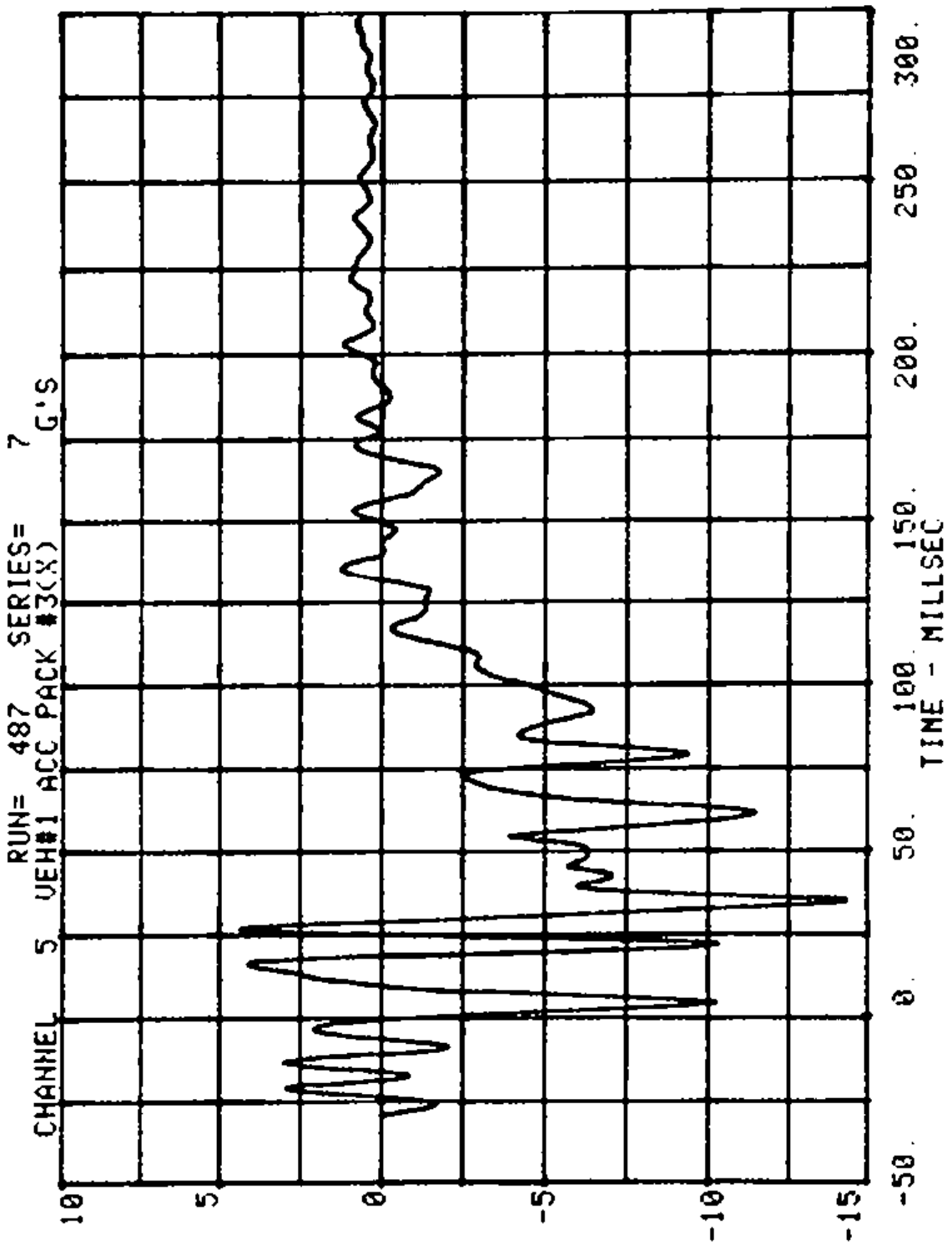

CHANNEL 2 VEH#1 ACC PACK #2(X)
RUN= 487 SERIES= 7
G'S
4
0
-4
-8
-12
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

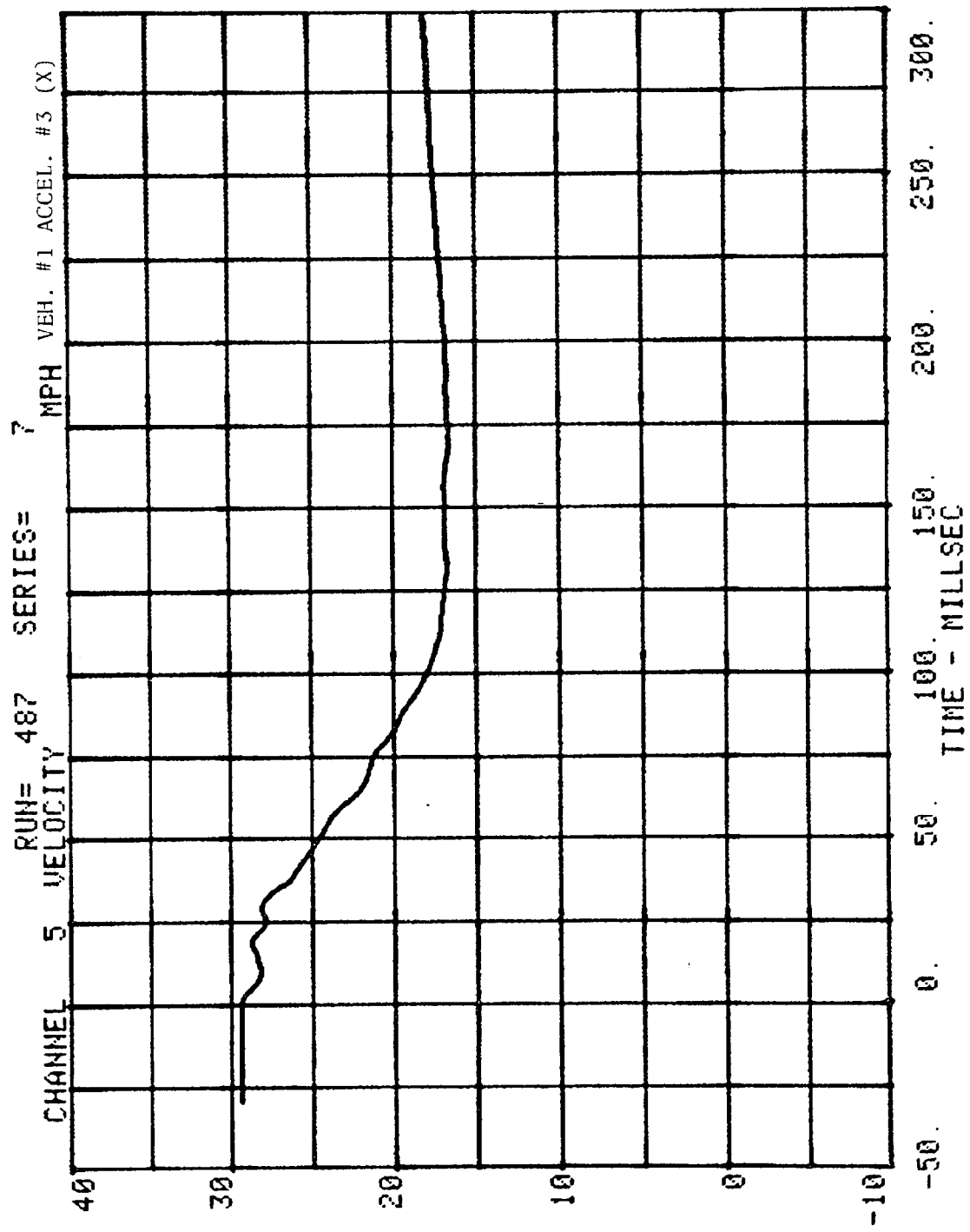

RUN= 487 SERIES= 7
CHANNEL 3 VELOCITY
MPH
VEH. #1 ACCEL. #2 (X)
40
30
20
10
0
-10
-50.
0
50.
100
150.
200
250.
300.
TIME - MILLSEC

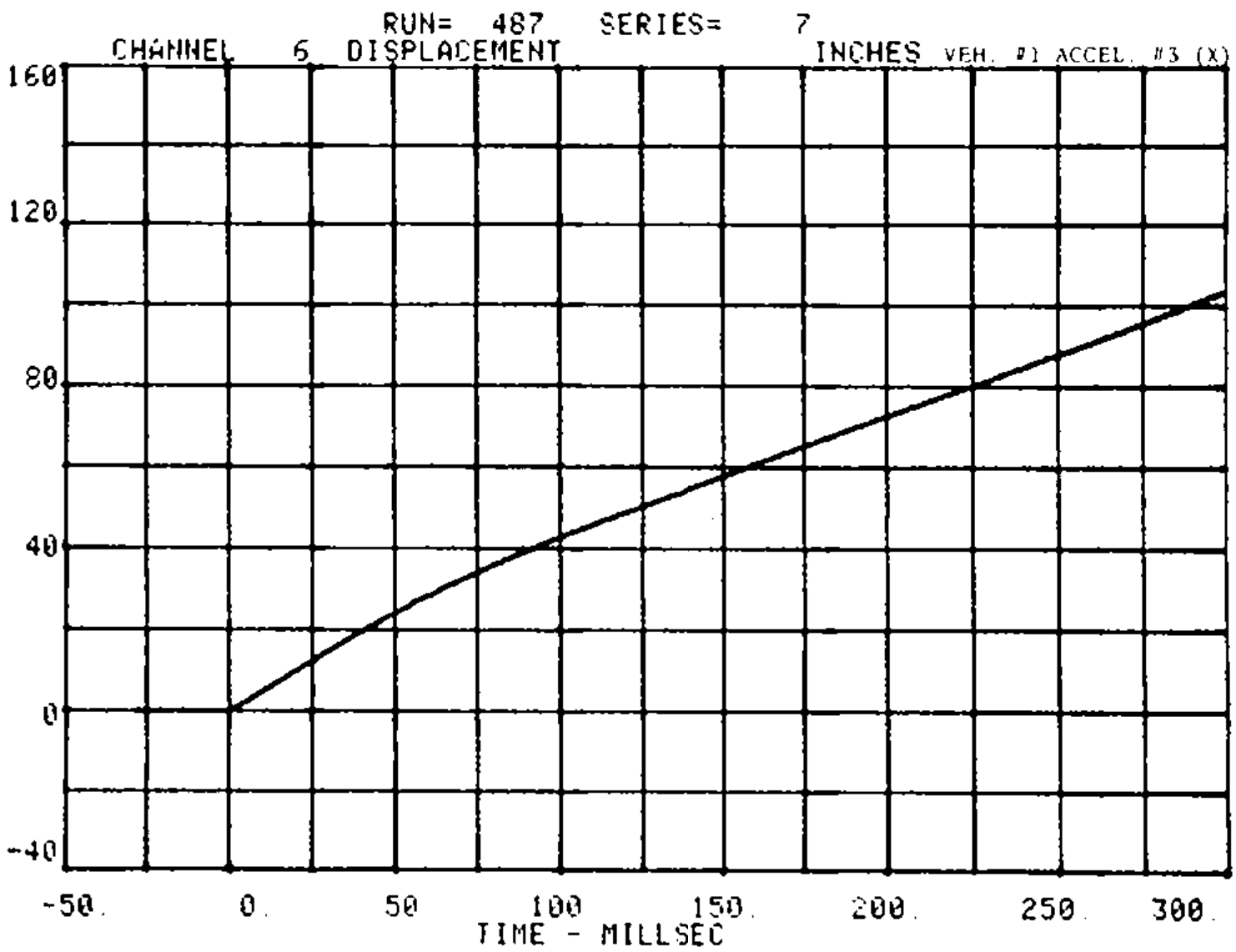

RUN= 487 SERIES= 7
CHANNEL 4 DISPLACEMENT
INCHES
VEH. #1 ACCEL. #2 (X)
100
75
50
25
0
-25
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

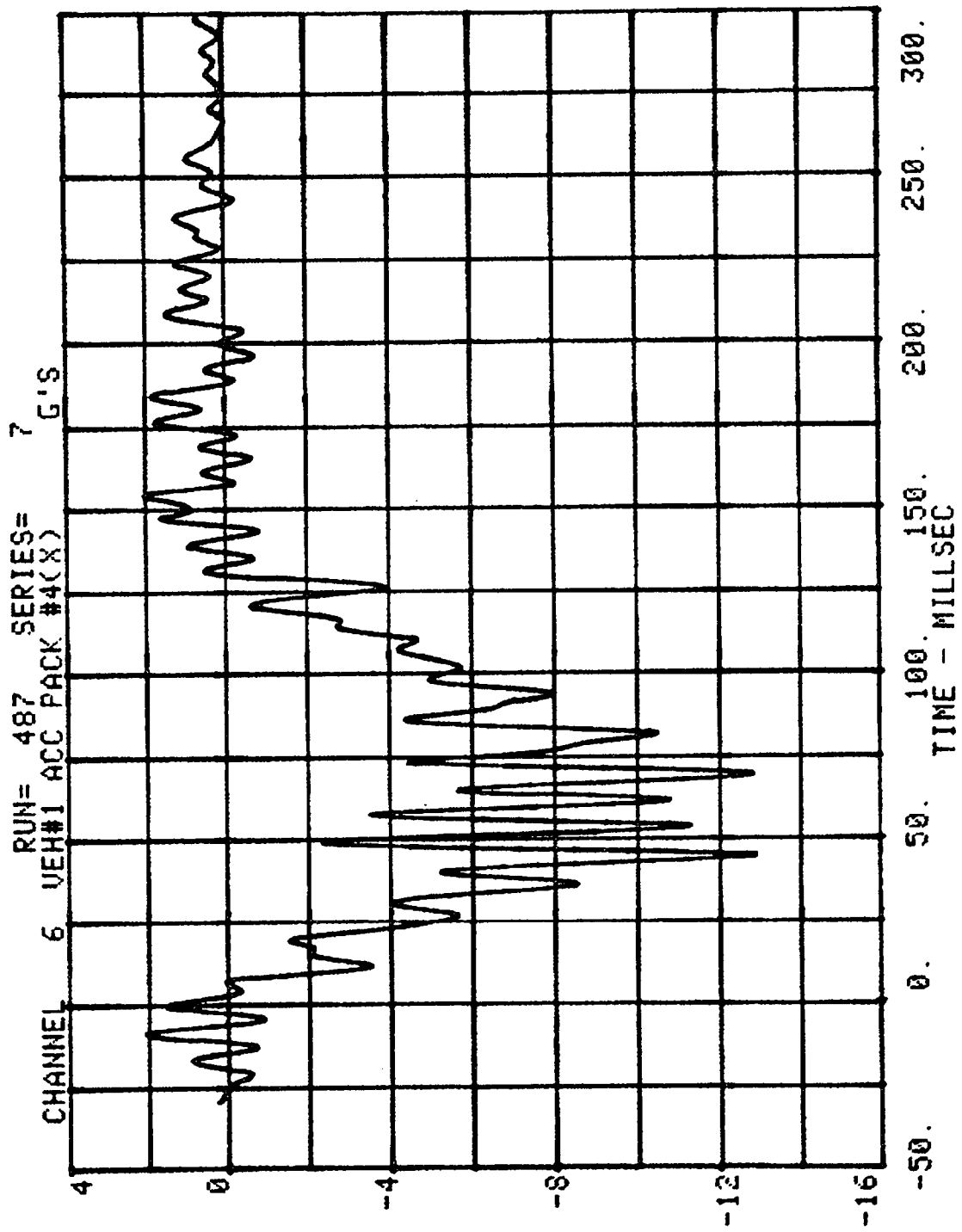

CHANNEL 3 VEH#1 ACC PACK #2(Y)
RUN= 487 SERIES= 7 G'S
10.0
7.5
5.0
2.5
0.0
-2.5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
VEH#1 ACC PACK #2(Z)
CHANNEL 4 G'S
6
4
2
0
-2
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

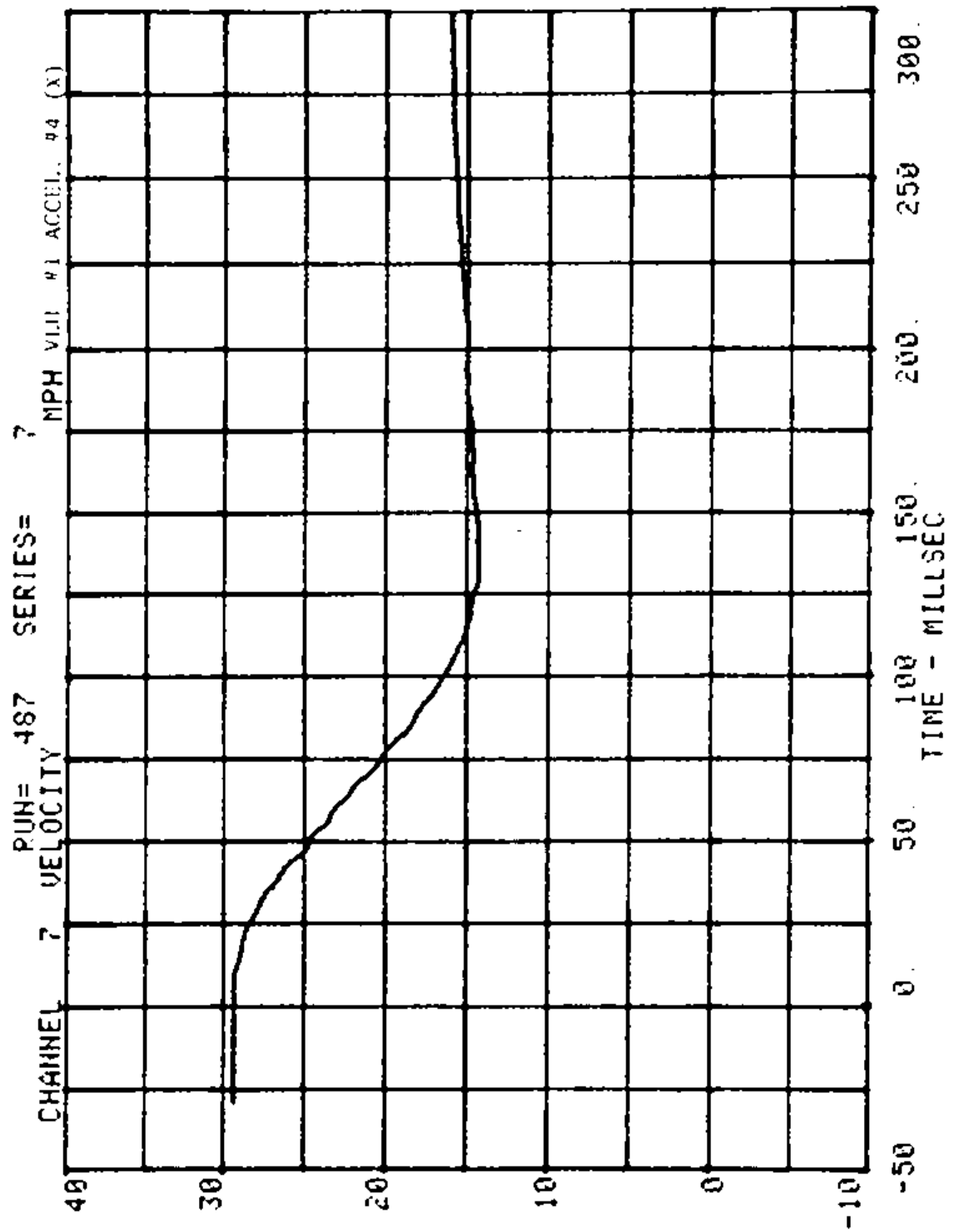

CHANNEL 5 VEH#1 ACC PACK #3(X)
RUN= 487 SERIES= 7
G'S
10
5
0
-5
-10
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

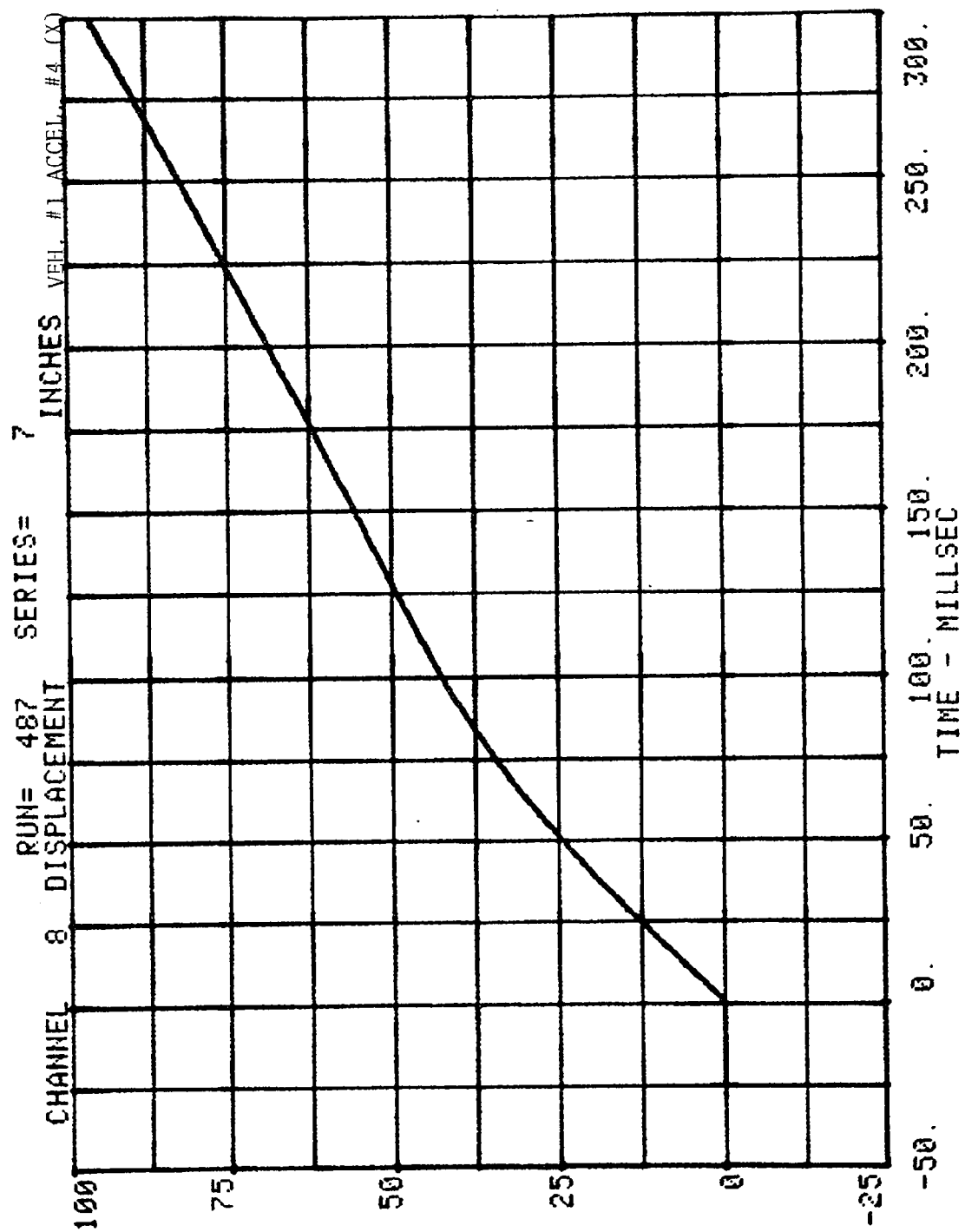

CHANNEL 5 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #1 ACCEL. #3 (X)
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

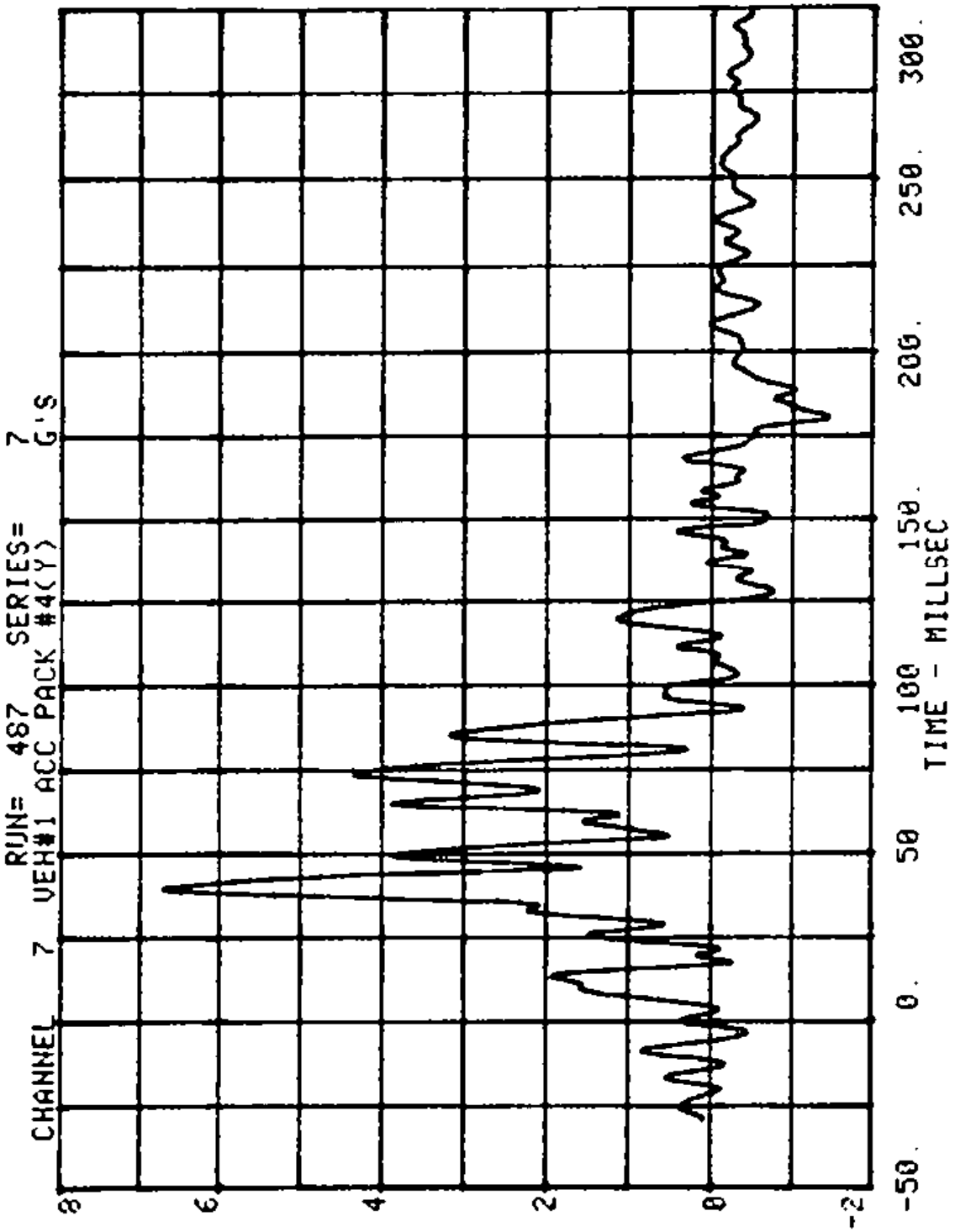

RUN= 487 SERIES= 7
CHANNEL 6 DISPLACEMENT INCHES VEH. #1 ACCEL. #3 (X)
160
120
80
40
0
-40
-50.
0.
50
100
150.
200.
250
300.
TIME - MILLSEC

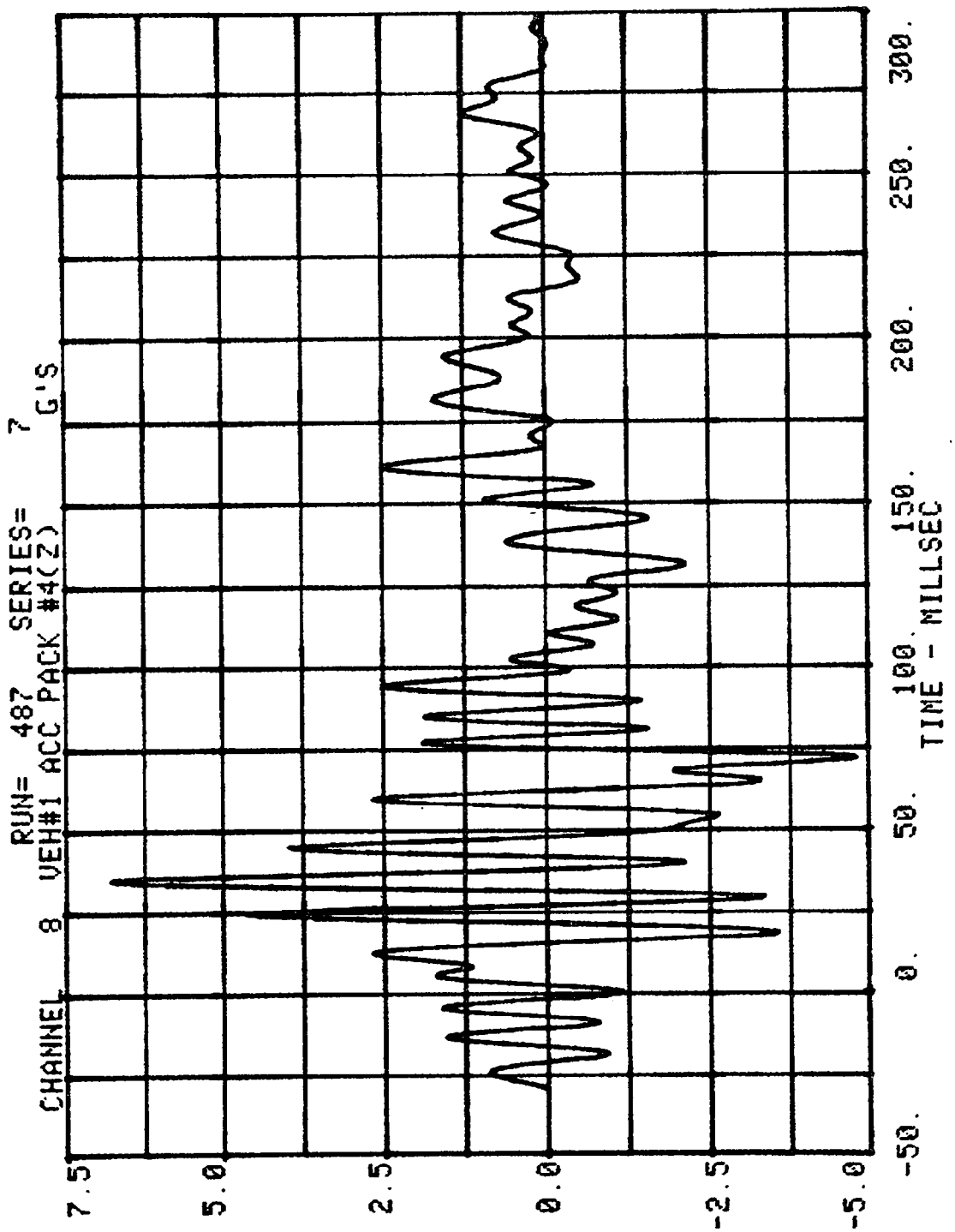

CHANNEL 6 VEH#1 ACC PACK #4(X)
RUN= 487 SERIES= 7
G'S
4
0
-4
-8
-12
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

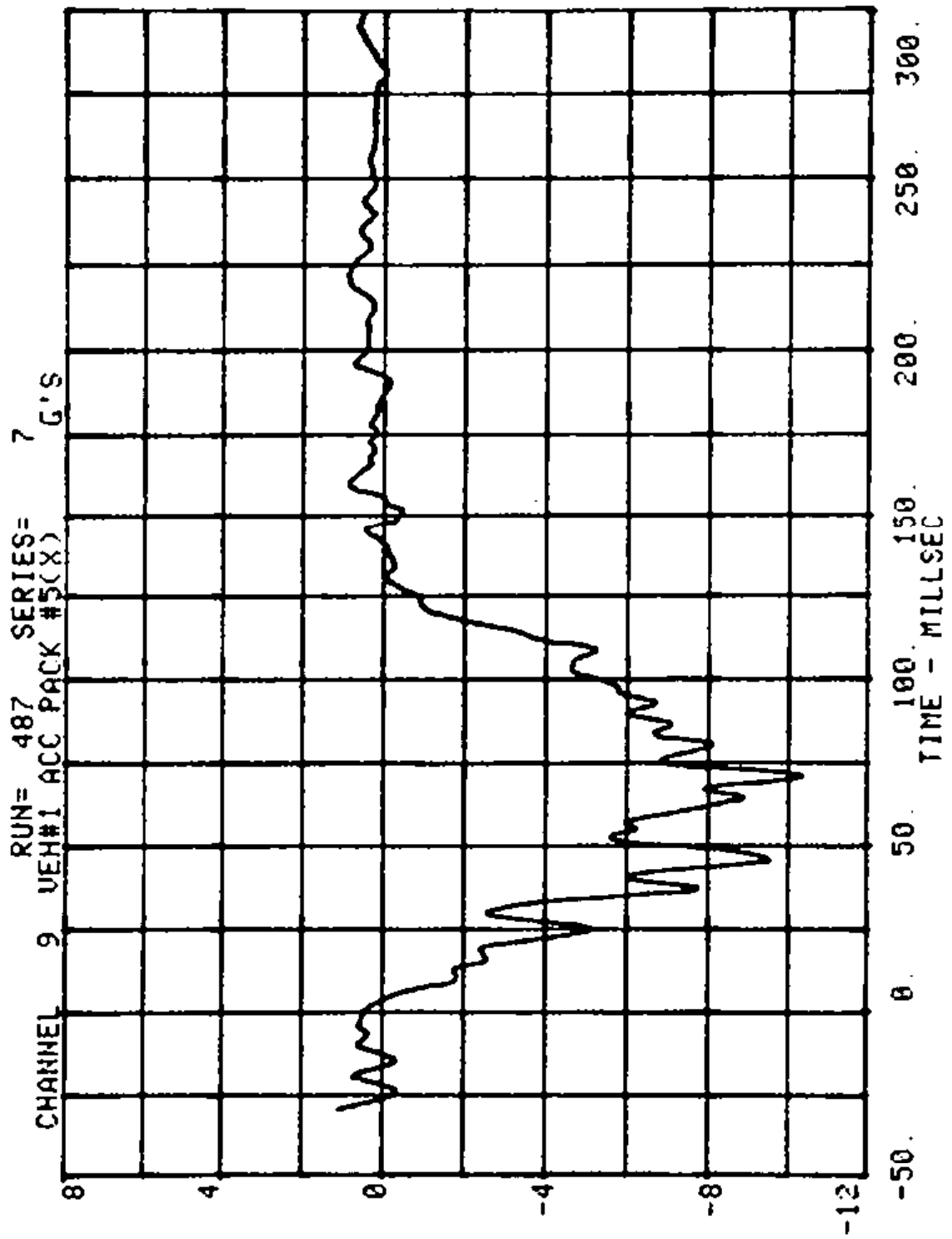
6466-V-5

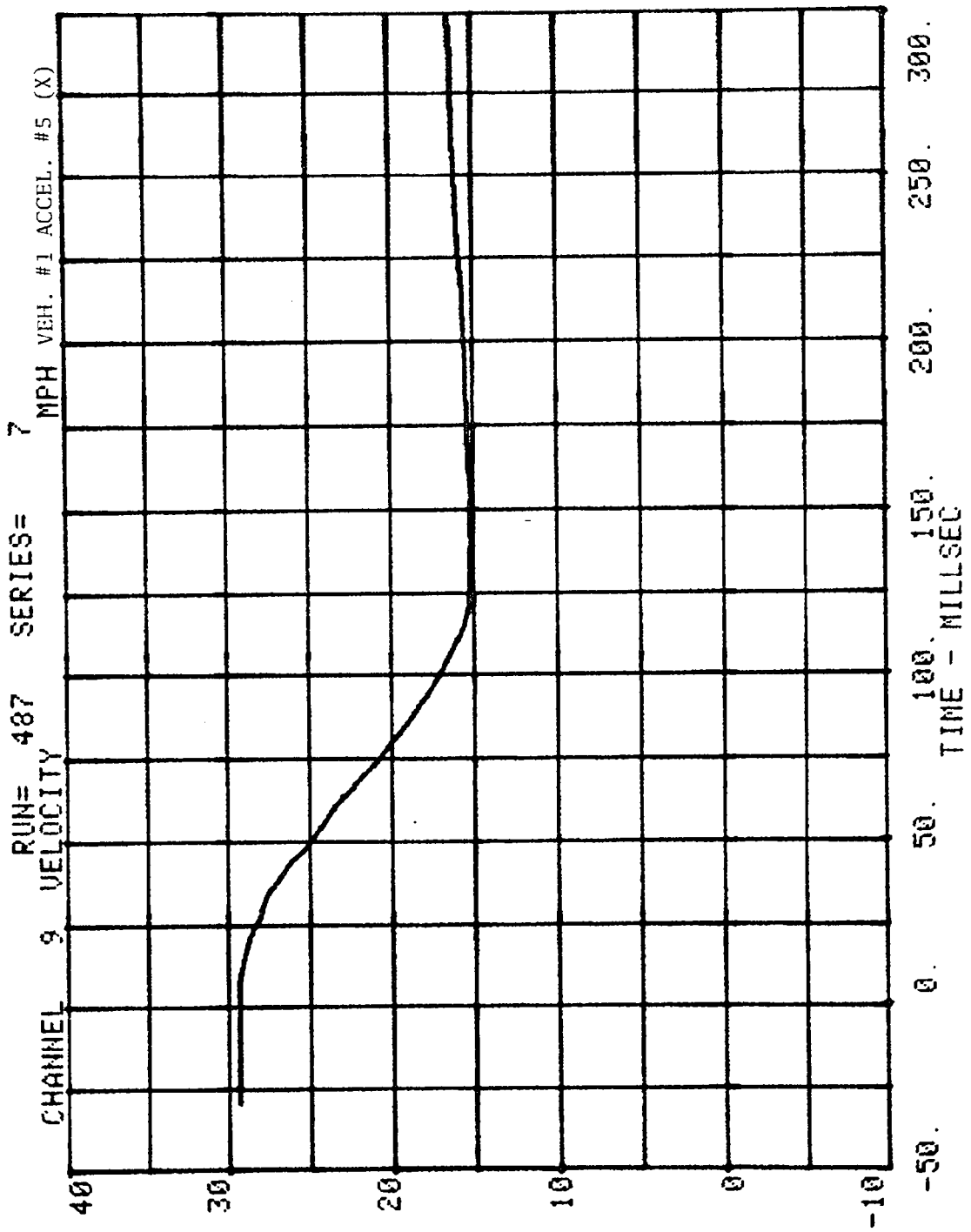

CHANNEL 7 VELOCITY
RUN= 487 SERIES= 7
MPH VLH #1 ACCEL. #4 (X)
40
30
20
10
0
-10
-50
0
50
100
150
200
250
300
TIME - MILLSEC

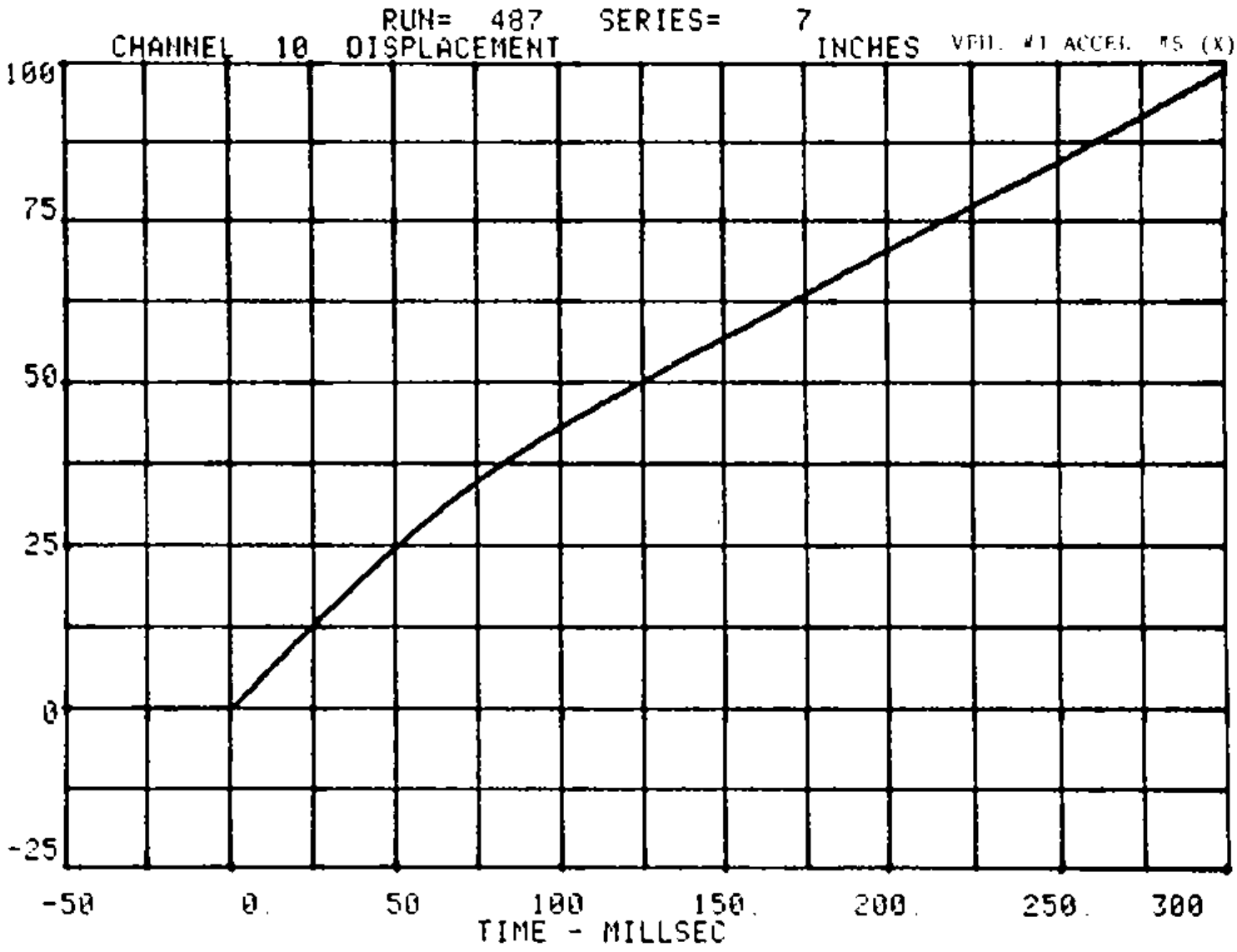

CHANNEL 8 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES VEH. #1 ACCEL. #4 (X)
100
75
50
25
0
-25
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

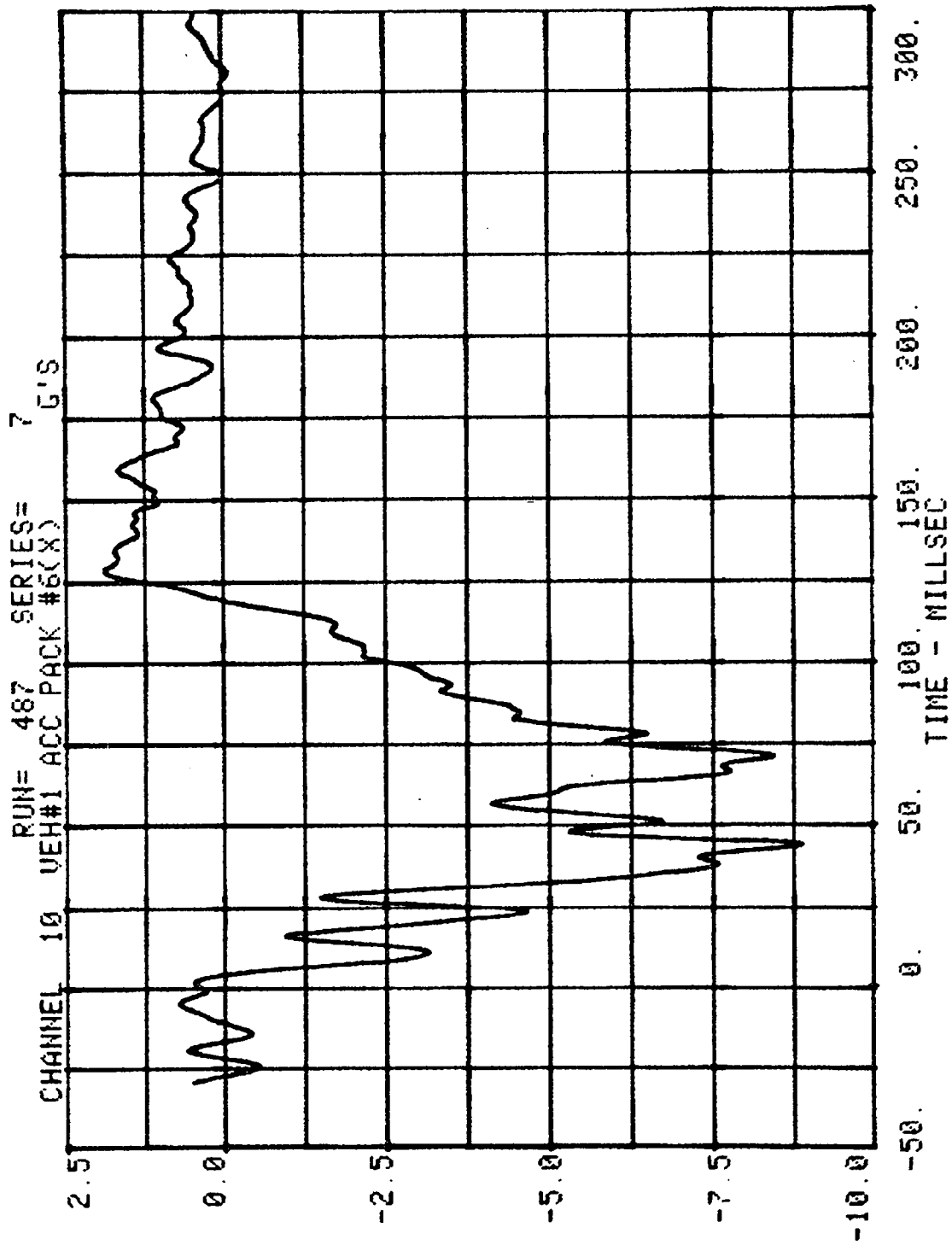

CHANNEL 7 VEH#1 ACC PACK #4(Y)
RUN= 487 SERIES= 7
G'S
8
6
4
2
0
-2
-50.
0.
50
100
150.
200.
250.
300.
TIME - MILLSEC

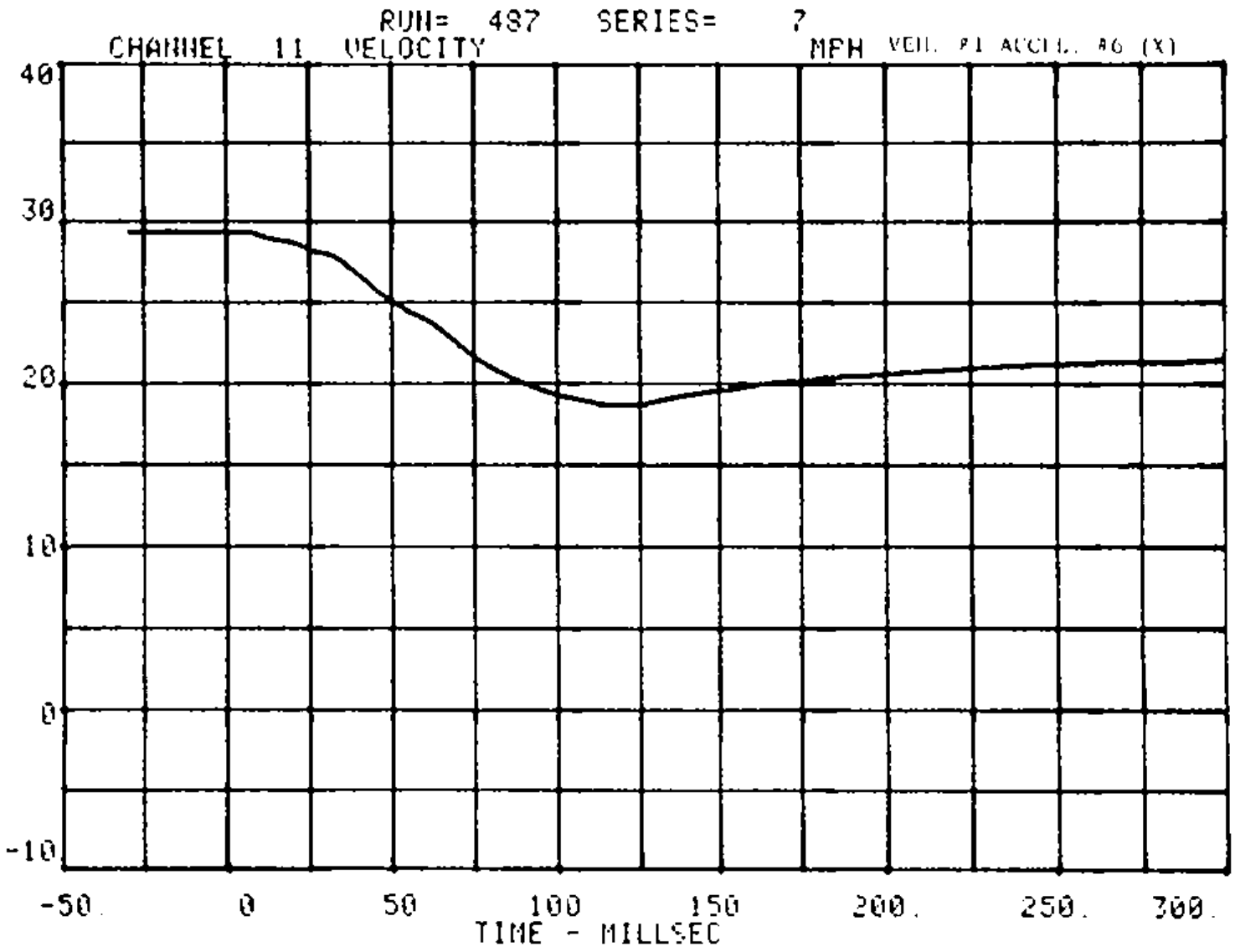

CHANNEL 8 VEH#1 ACC PACK #4(Z)
RUN= 487 SERIES= 7
G'S
7.5
5.0
2.5
0.0
-2.5
-5.0
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

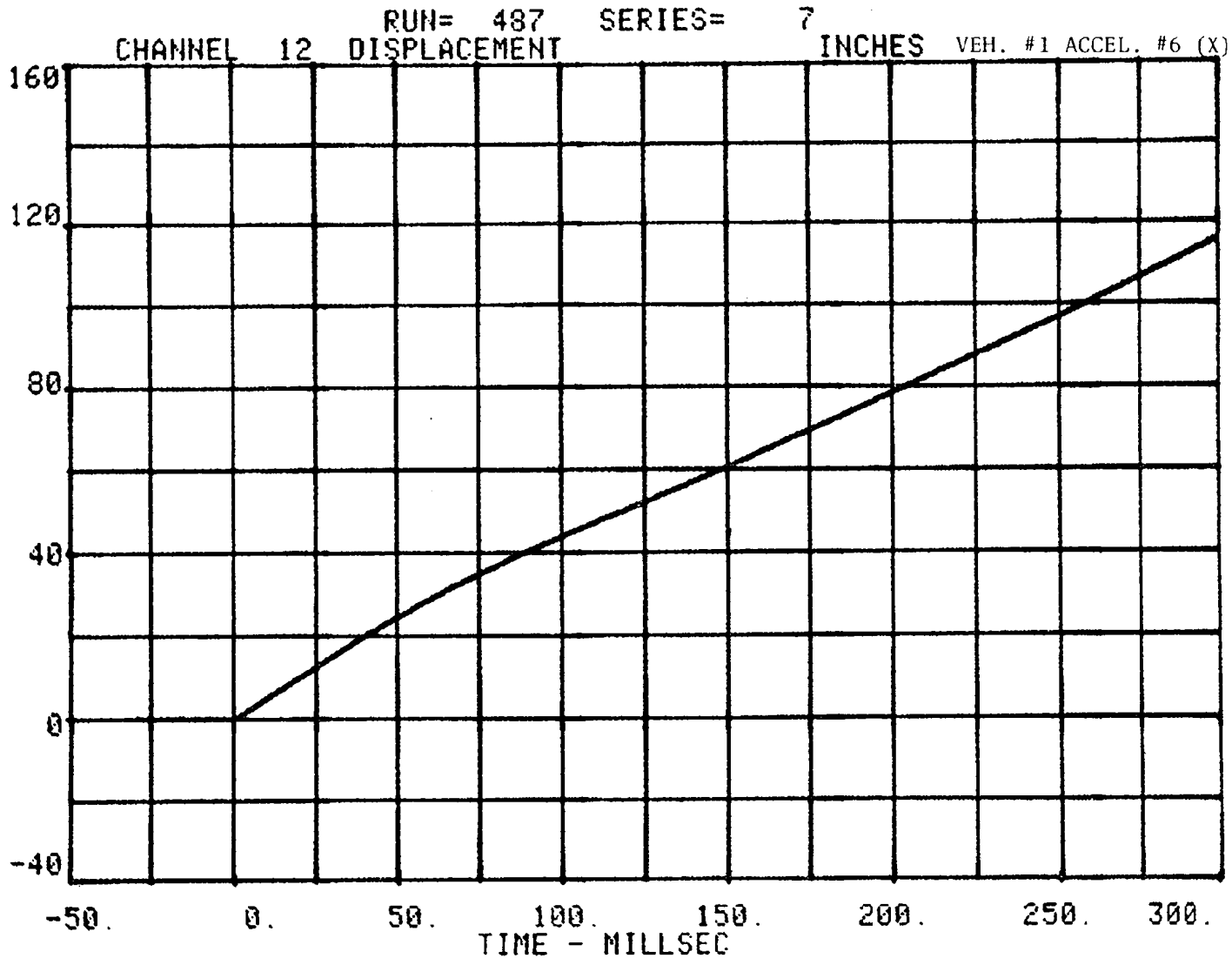

CHANNEL 9 VEH#1 ACC PACK #5(X)
RUN= 487 SERIES= 7
G'S
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

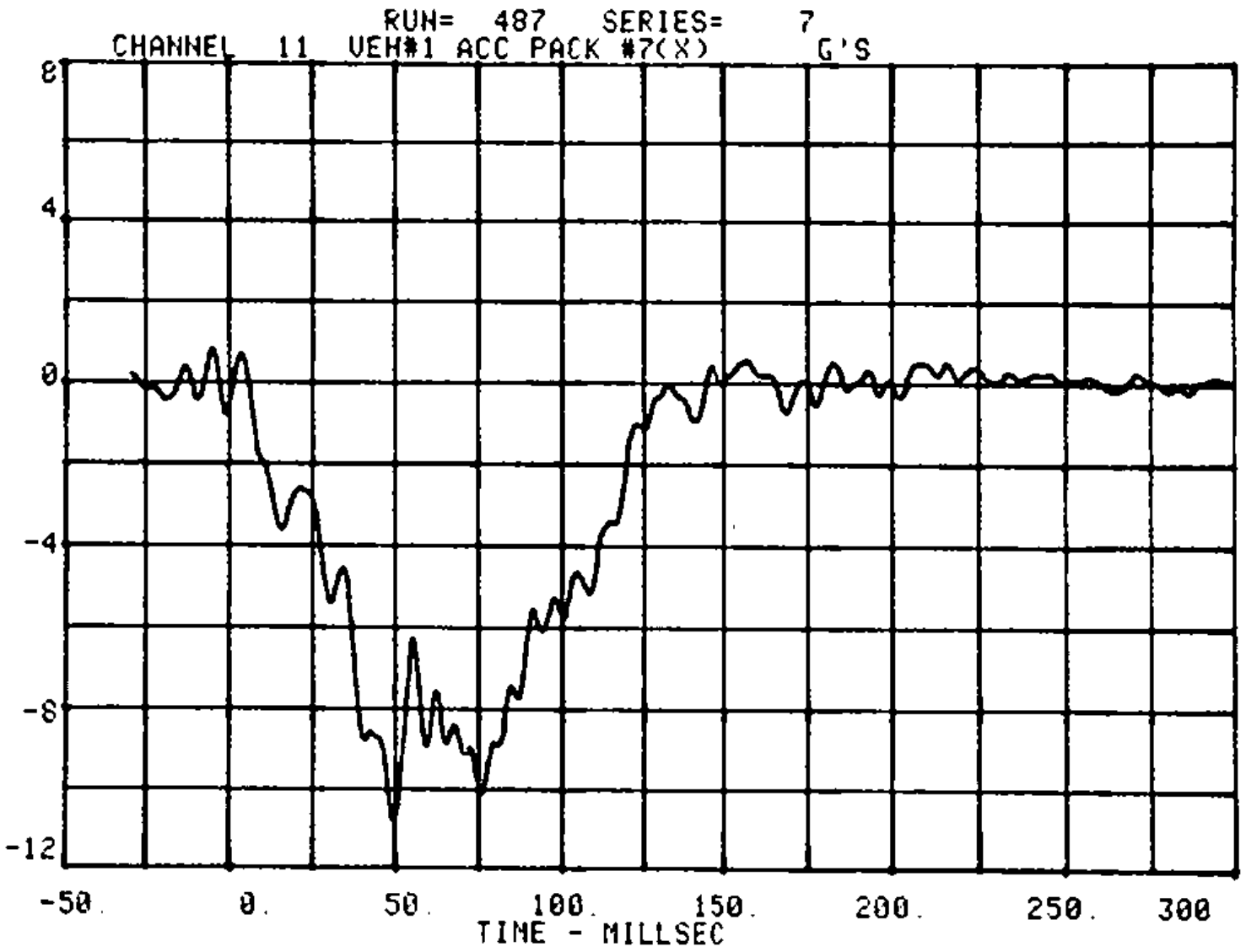

CHANNEL 9 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #1 ACCEL. #5 (X)
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

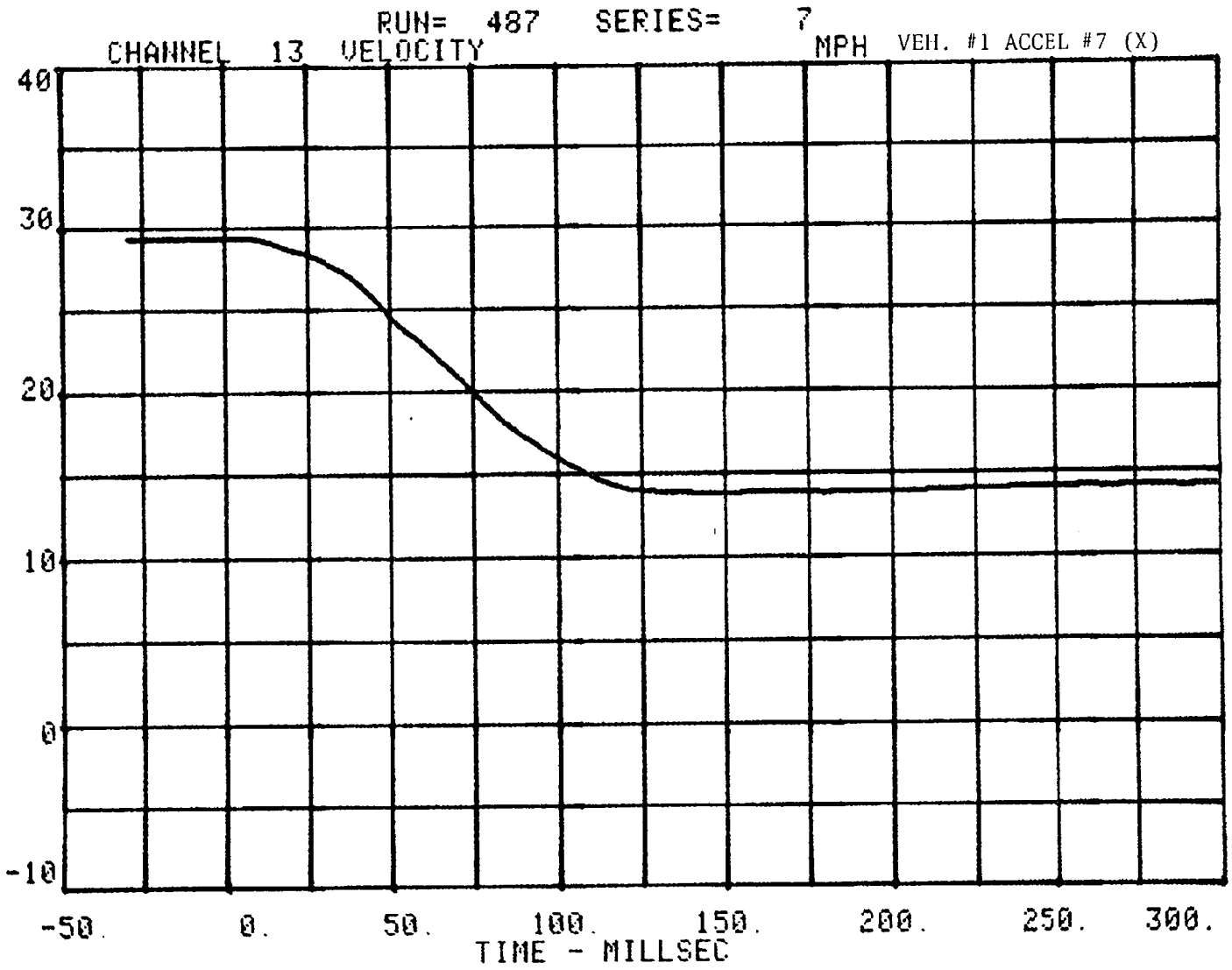

RUN= 487 SERIES= 7
CHANNEL 10 DISPLACEMENT INCHES VBU. #1 ACCEL. #5 (X)
100
75
50
25
0
-25
-50
0.
50
100
150.
200.
250.
300
TIME - MILLSEC

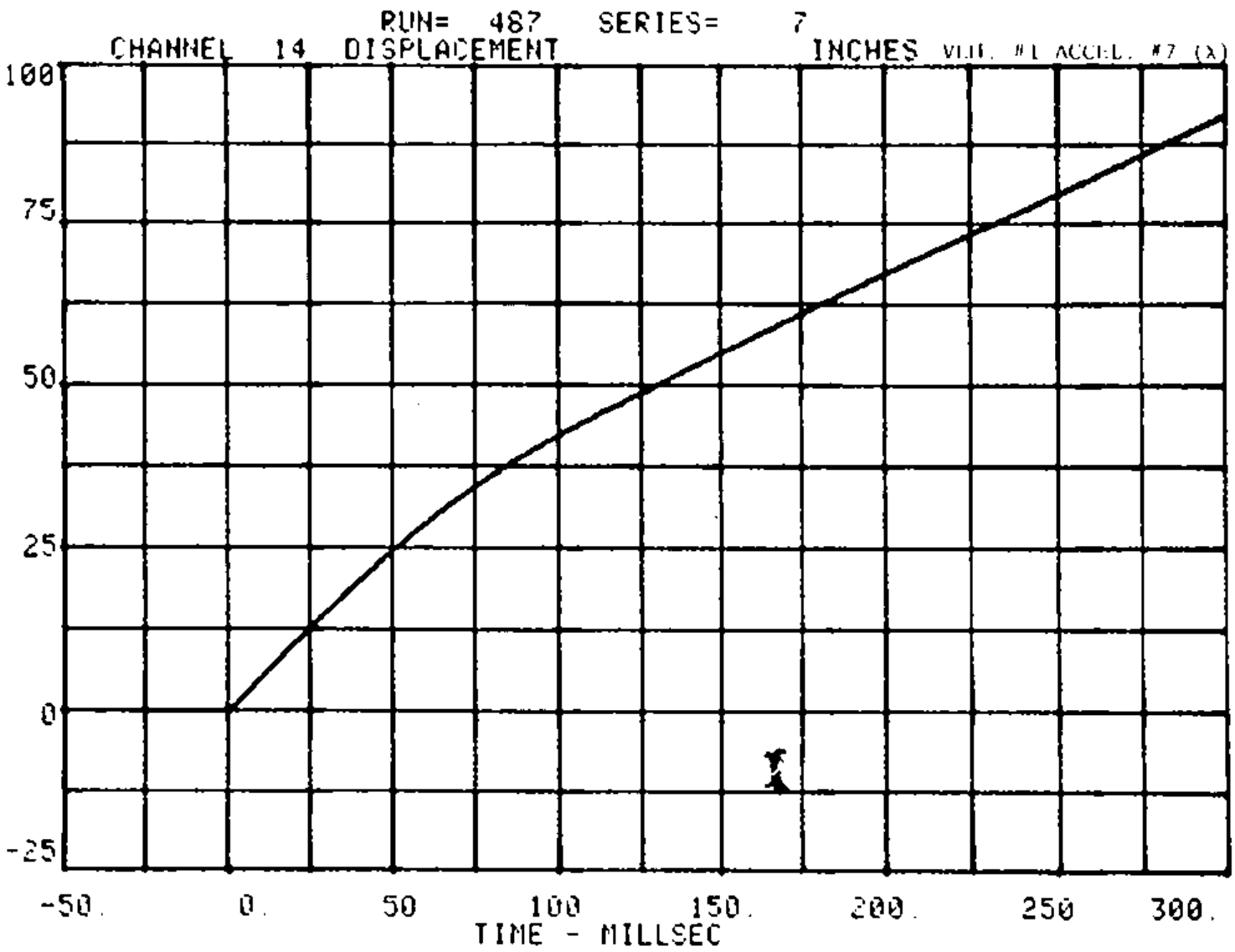

CHANNEL 10 VEH#1 ACC PACK #6(X)
RUN= 487 SERIES= 7
G'S
2.5
0.0
-2.5
-5.0
-7.5
-10.0
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

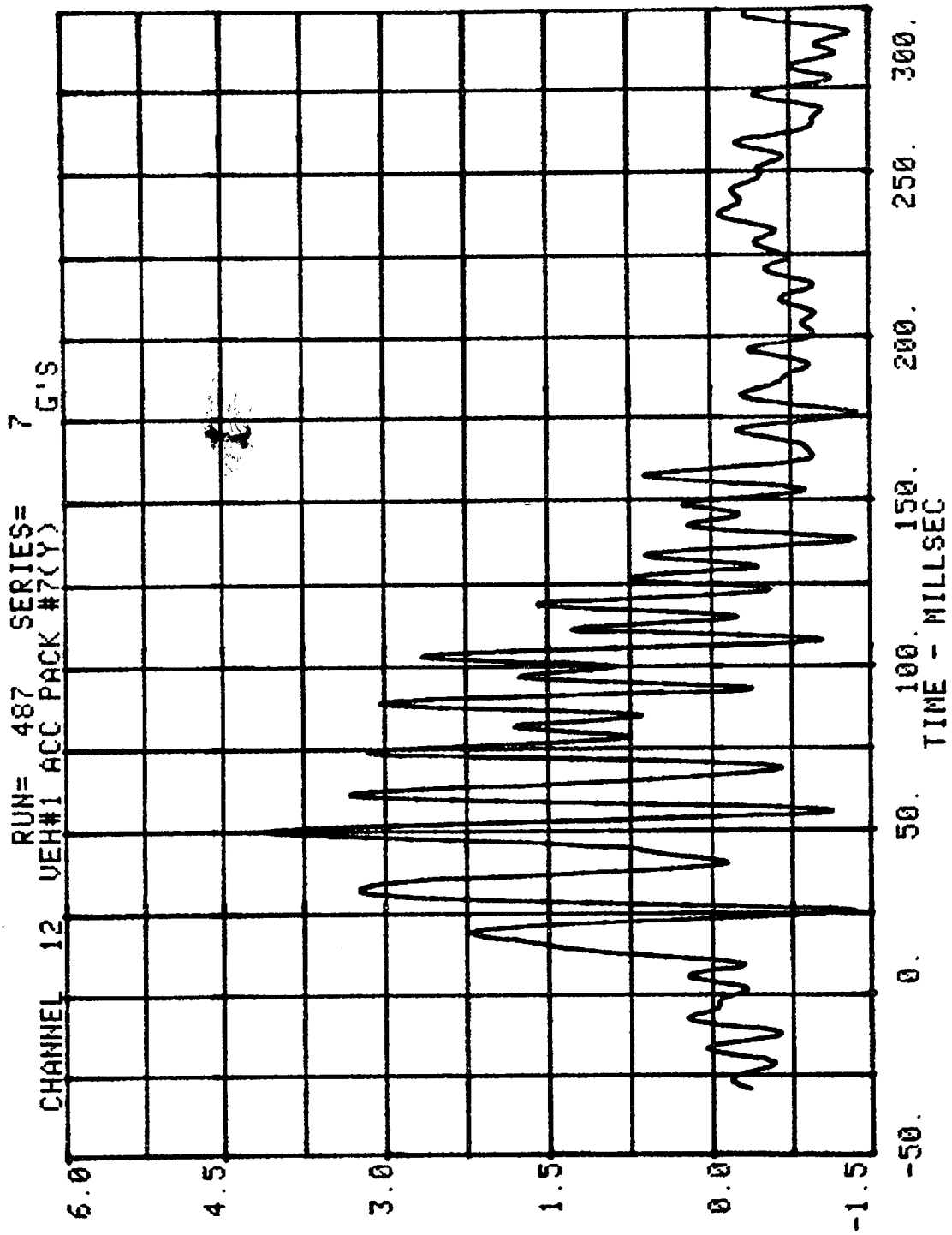

RUN= 487 SERIES= 7
CHANNEL 11 VELOCITY
MPH
VEH. #1 ACCEL. #6 (X)
40
30
20
10
0
-10
-50.
0
50
100
150
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 12 DISPLACEMENT
INCHES
VEH. #1 ACCEL. #6 (X)
160
120
80
40
0
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 11 VEH#1 ACC PACK #7(X) G'S
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 13 VELOCITY
MPH
VEH. #1 ACCEL #7 (X)
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 14 DISPLACEMENT INCHES
100
75
50
25
0
-25
-50.
0.
50
100
150.
200.
250
300.
TIME - MILLSEC

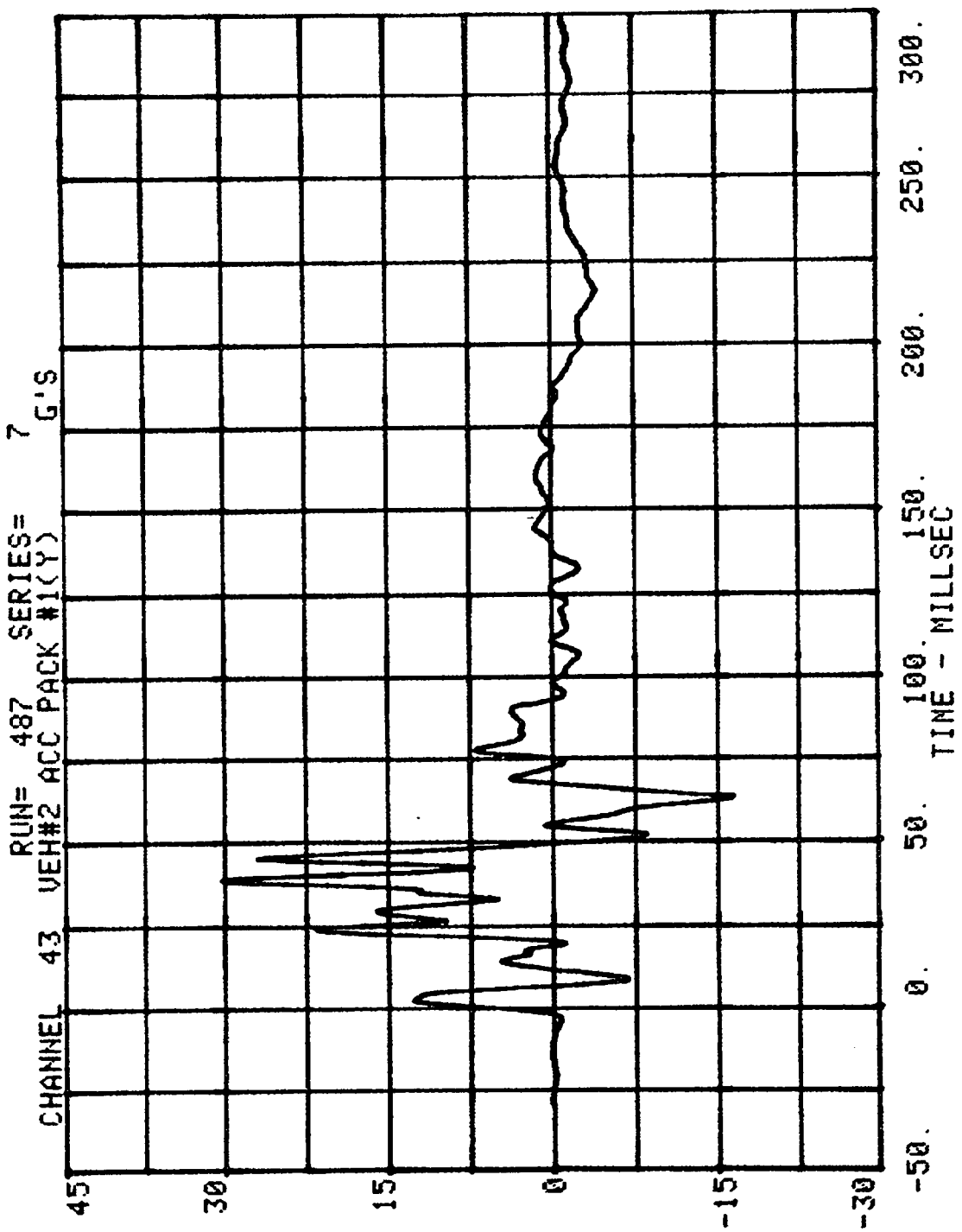

CHANNEL 12 VEH#1 ACC PACK #7(Y)
RUN= 487 SERIES= 7
G'S
6.0
4.5
3.0
1.5
0.0
-1.5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

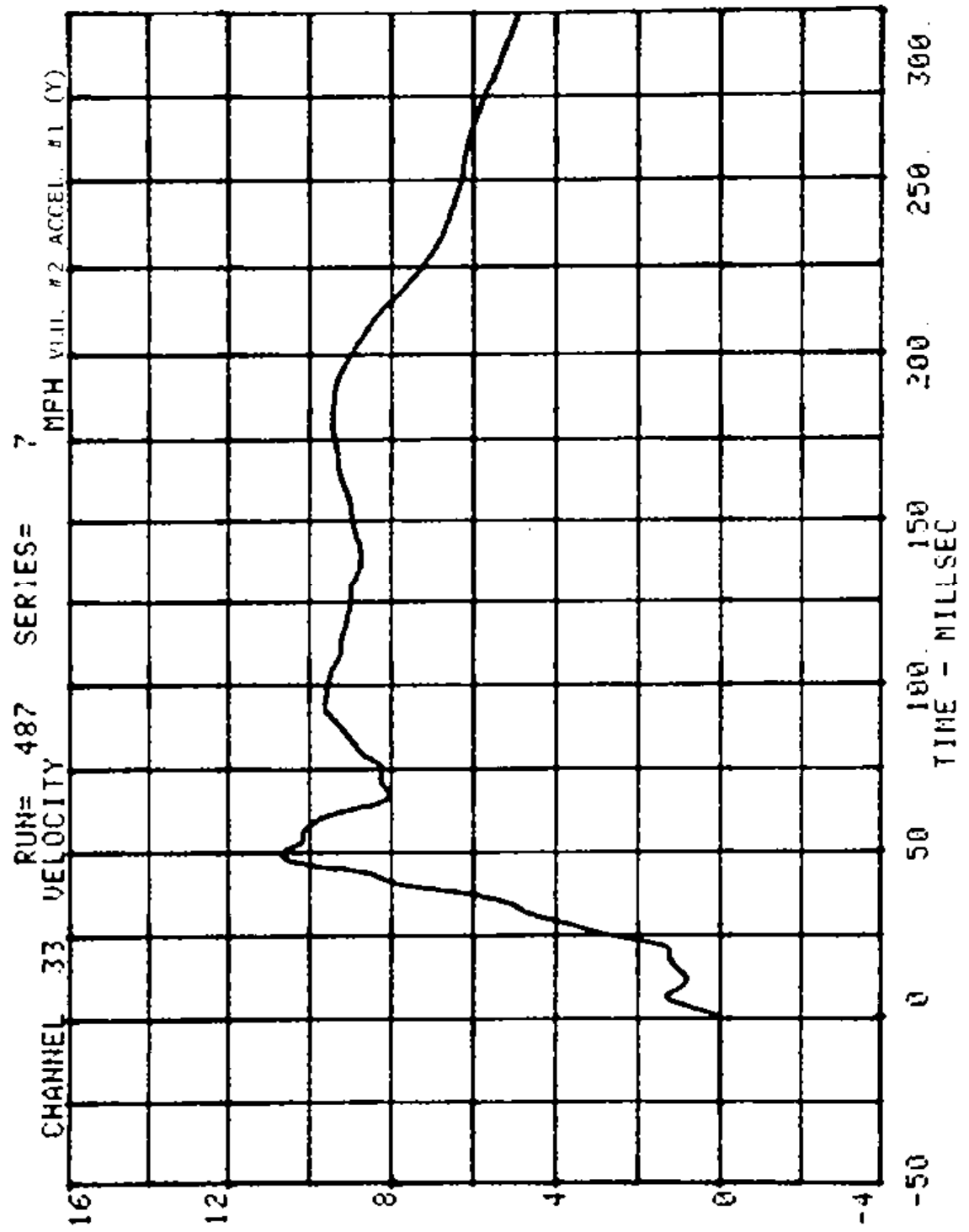
TEST NO. 7

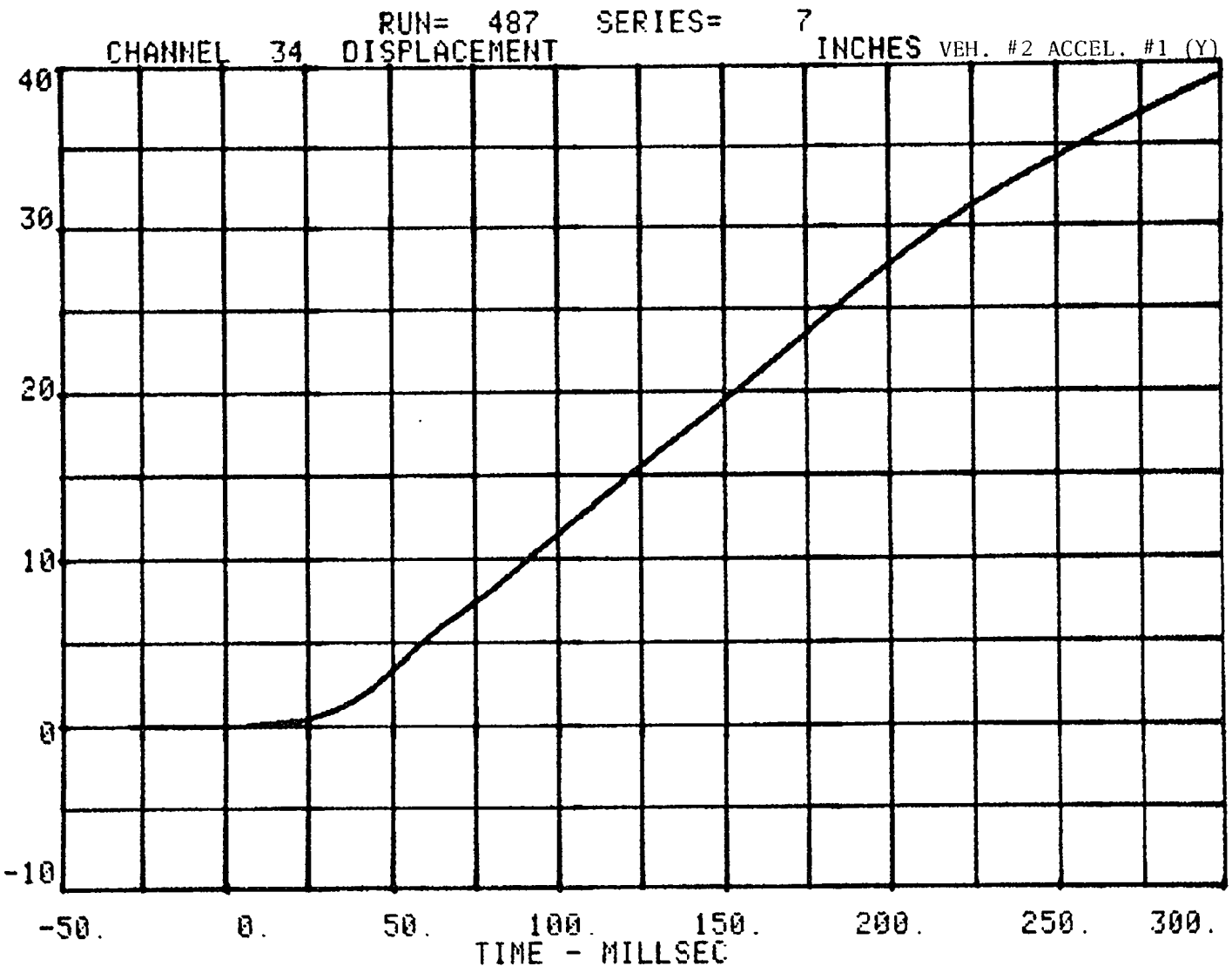
VEHICLE 2 - 1976 PLYMOUTH VOLARE

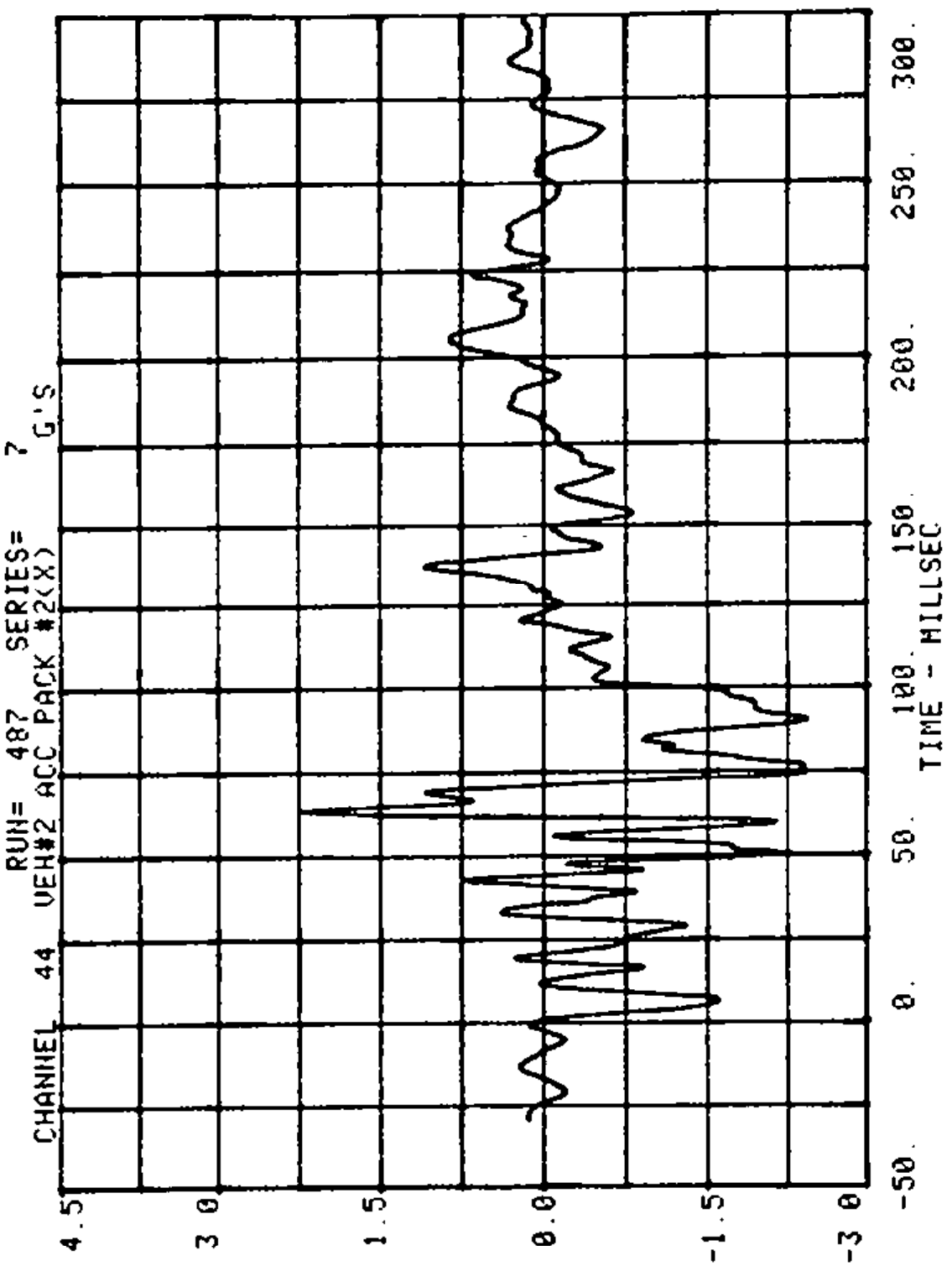
VEHICLE DATA

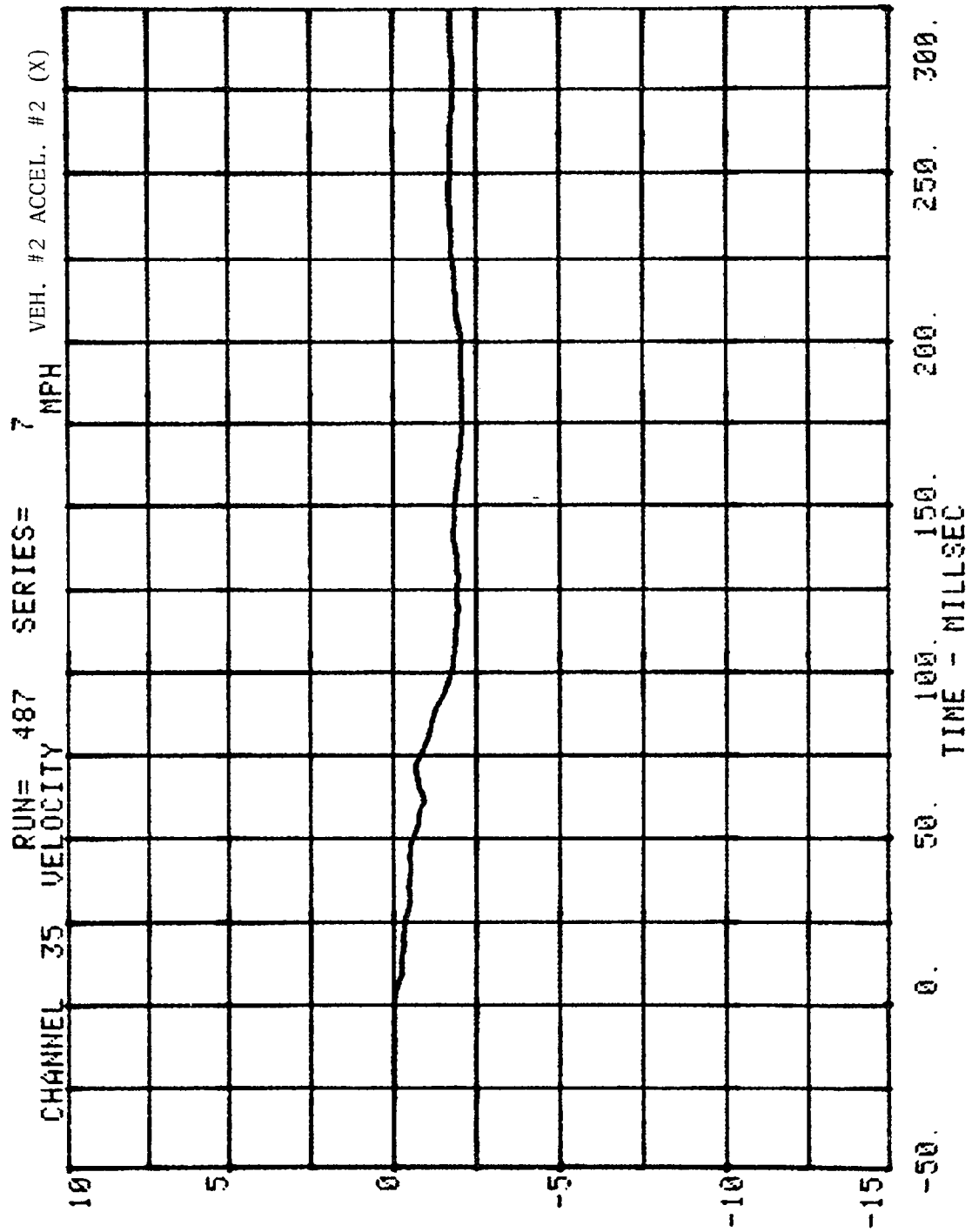
60 Hz CHANNEL CLASS

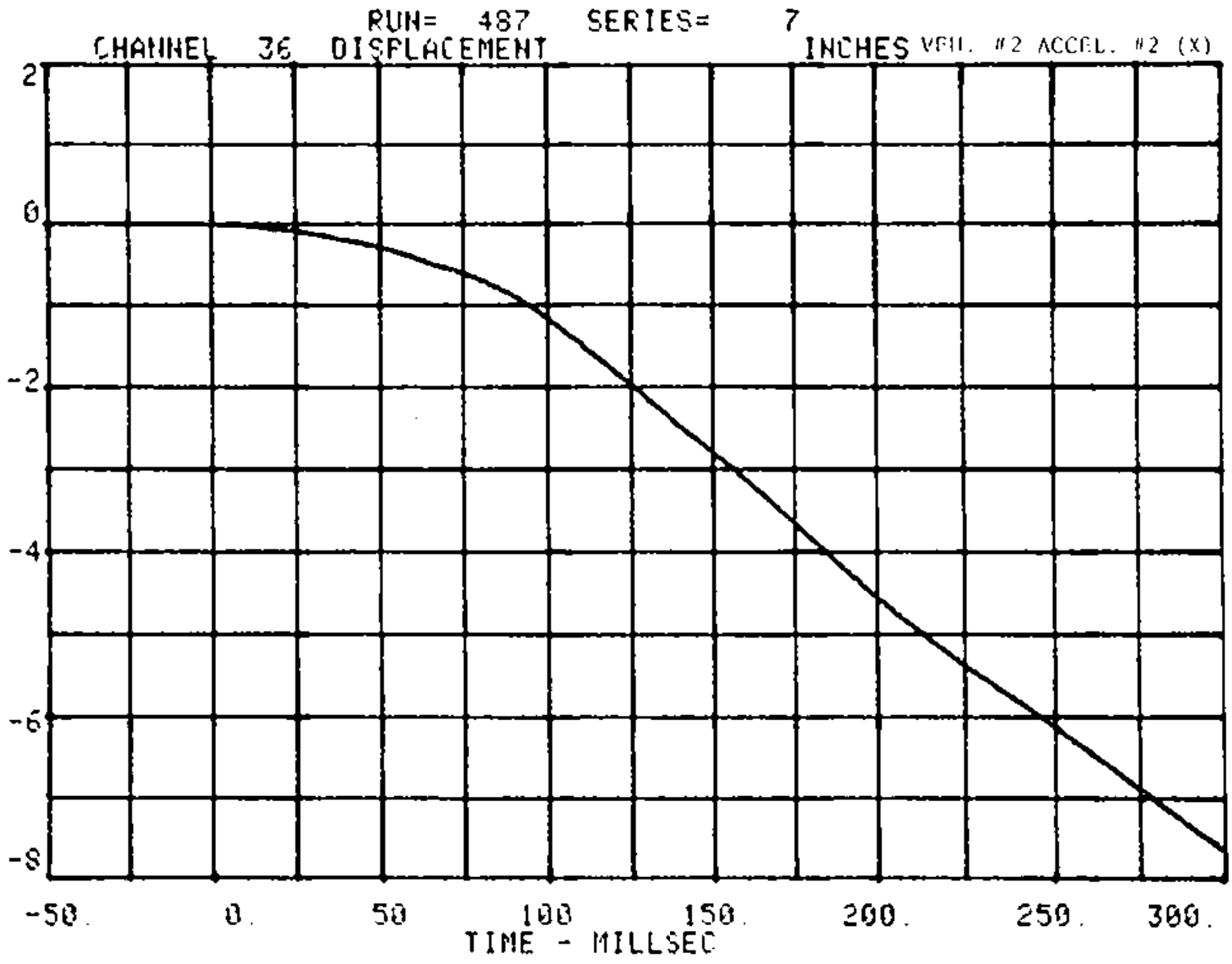

CHANNEL 43 VEH#2 ACC PACK #1(Y)
RUN= 487 SERIES= 7
G'S
45
30
15
0
-15
-30
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

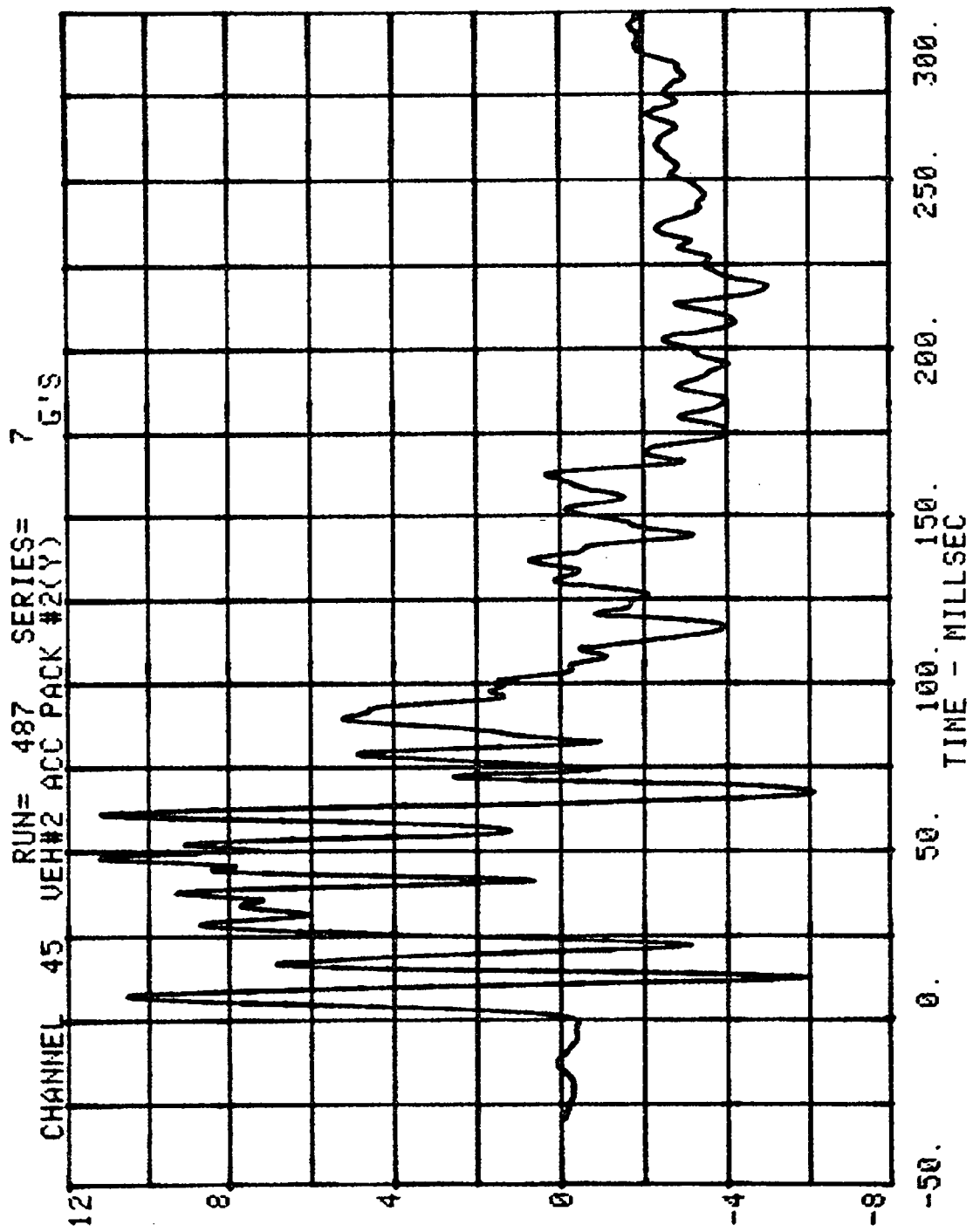

CHANNEL 33
VELOCITY
RUN= 487
SERIES= 7
MPH VEH. #2 ACCEL. #1 (Y)
16
12
8
4
0
-4
-50
0
50
100
150
200
250
300
TIME - MILLSEC

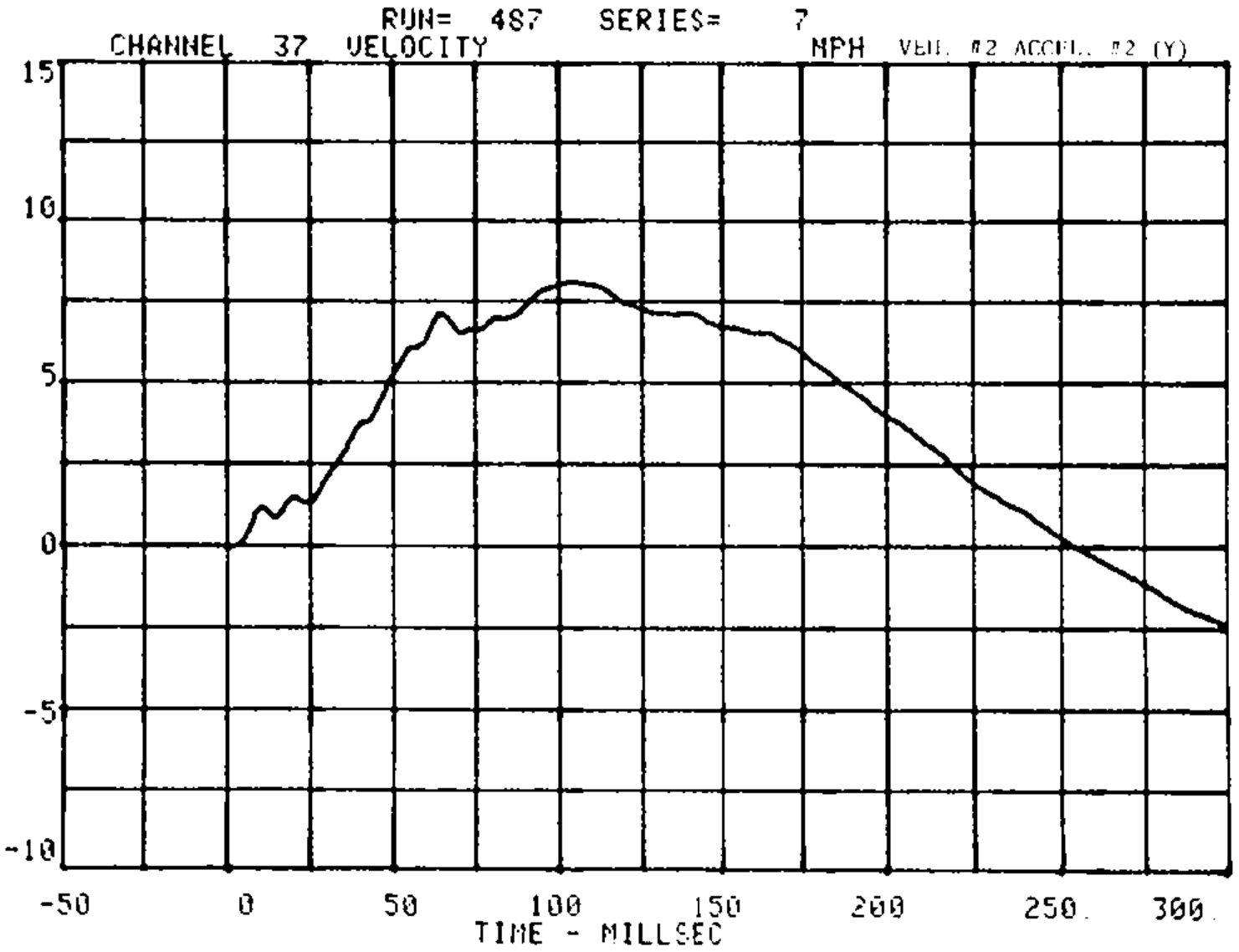

RUN= 487 SERIES= 7
CHANNEL 34 DISPLACEMENT
INCHES VEH. #2 ACCEL. #1 (Y)
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

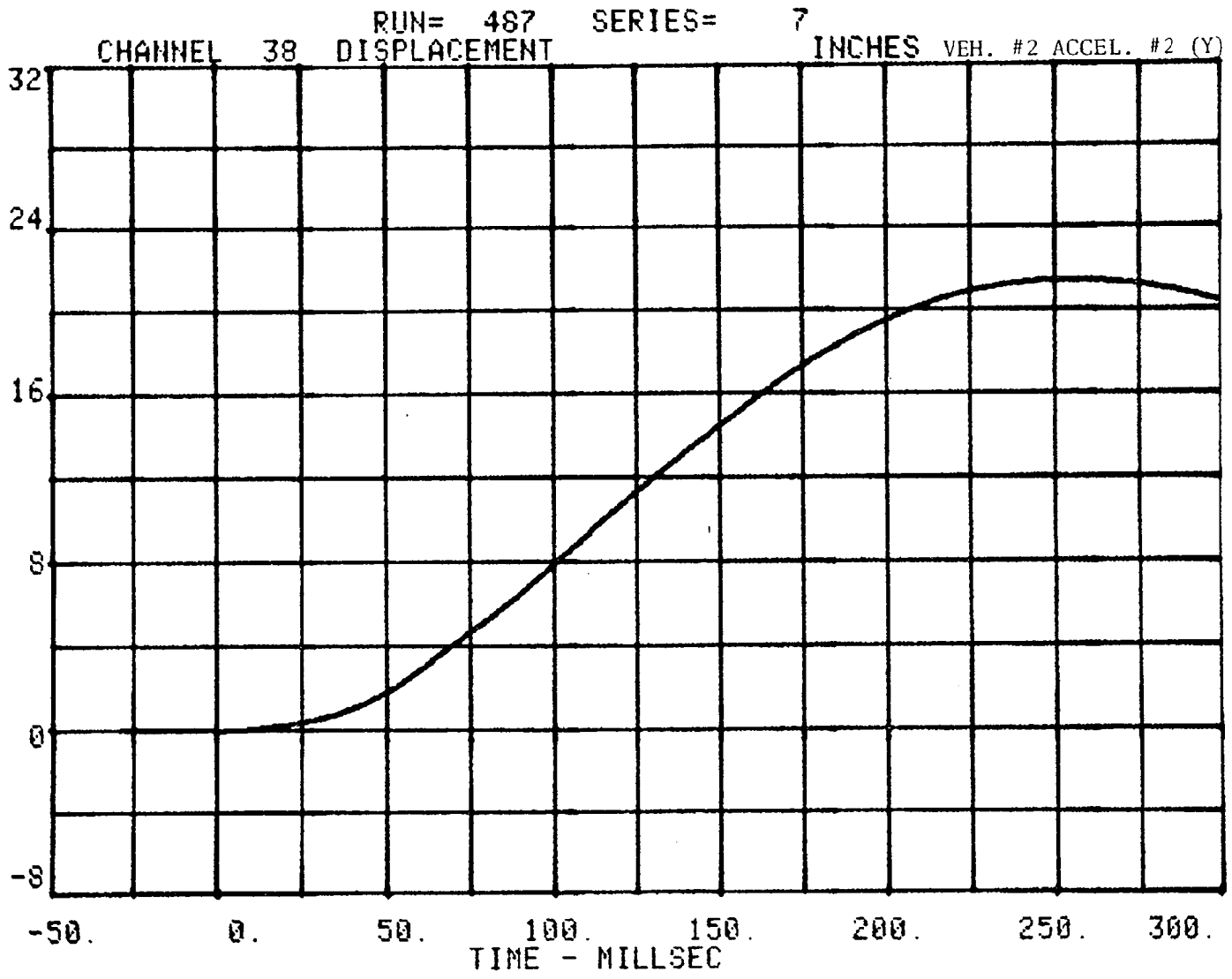

CHANNEL 44
RUN= 487 SERIES= 7
VEH#2 ACC PACK #2(X)
G'S
4.5
3.0
1.5
0.0
-1.5
-3.0
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

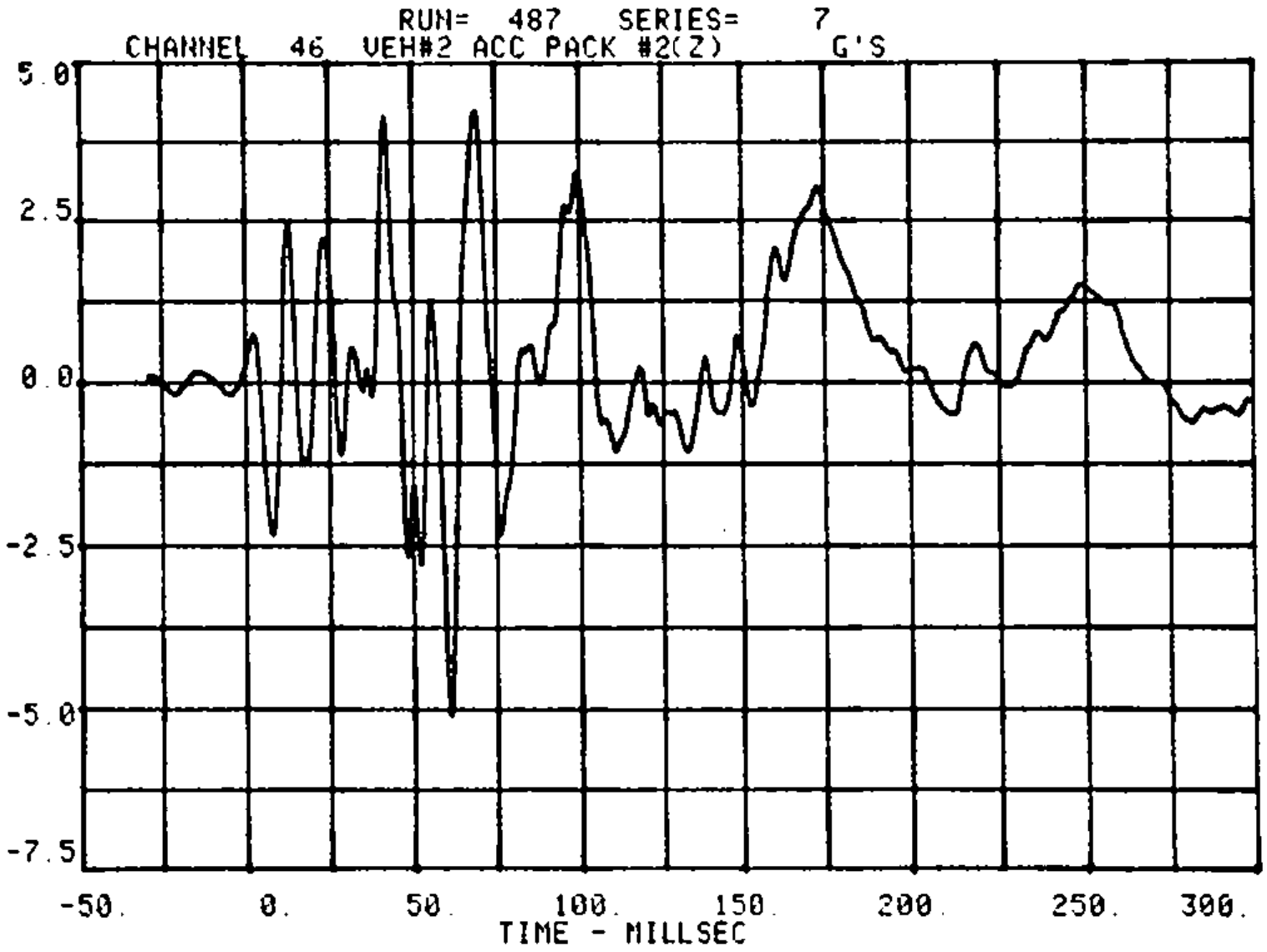

CHANNEL 35 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #2 ACCEL. #2 (X)
10
5
0
-5
-10
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

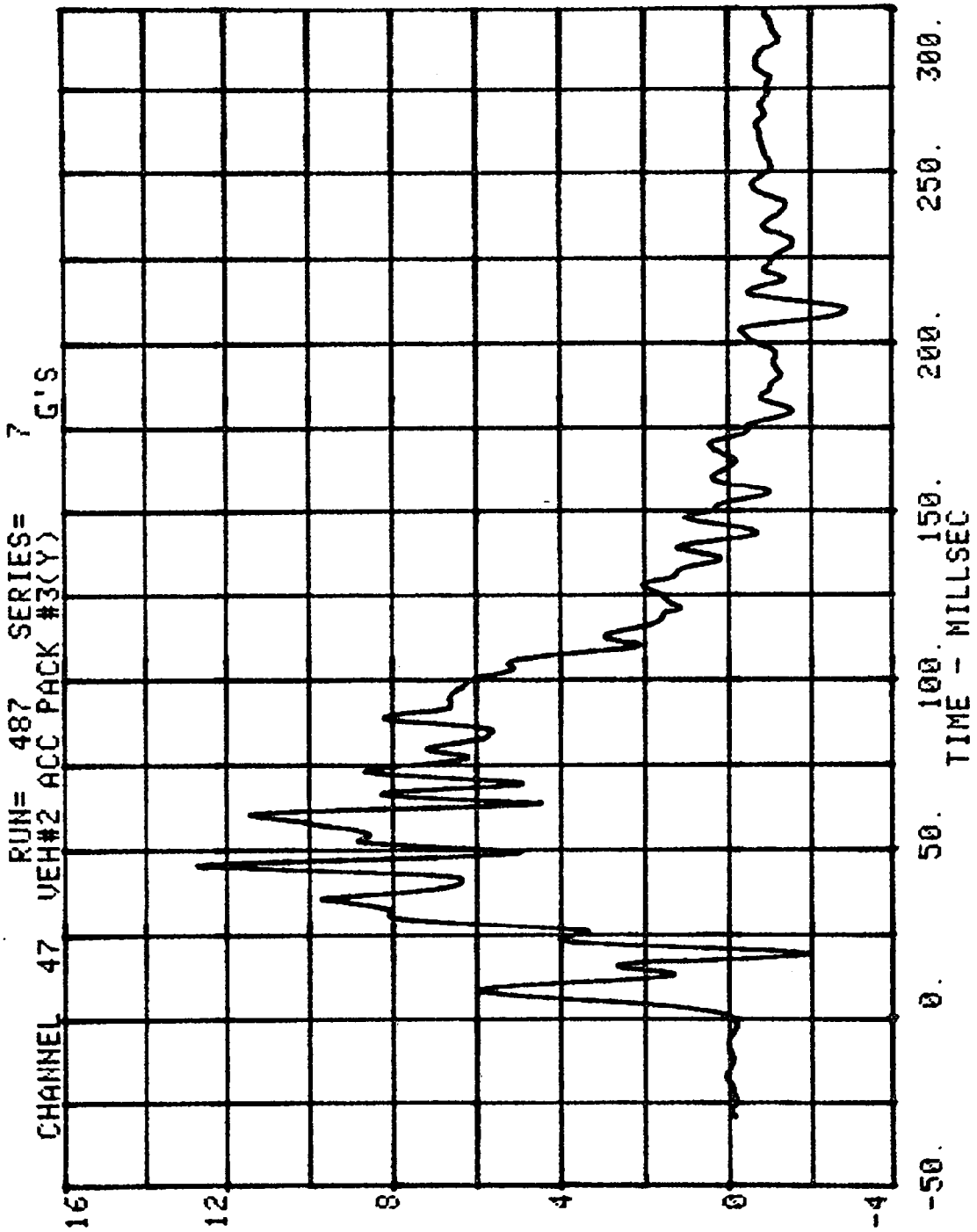

RUN= 487 SERIES= 7
CHANNEL 36 DISPLACEMENT INCHES VEH. #2 ACCEL. #2 (X)
2
0
-2
-4
-6
-8
-50.
0.
50
100
150.
200.
250.
300.
TIME - MILLSEC

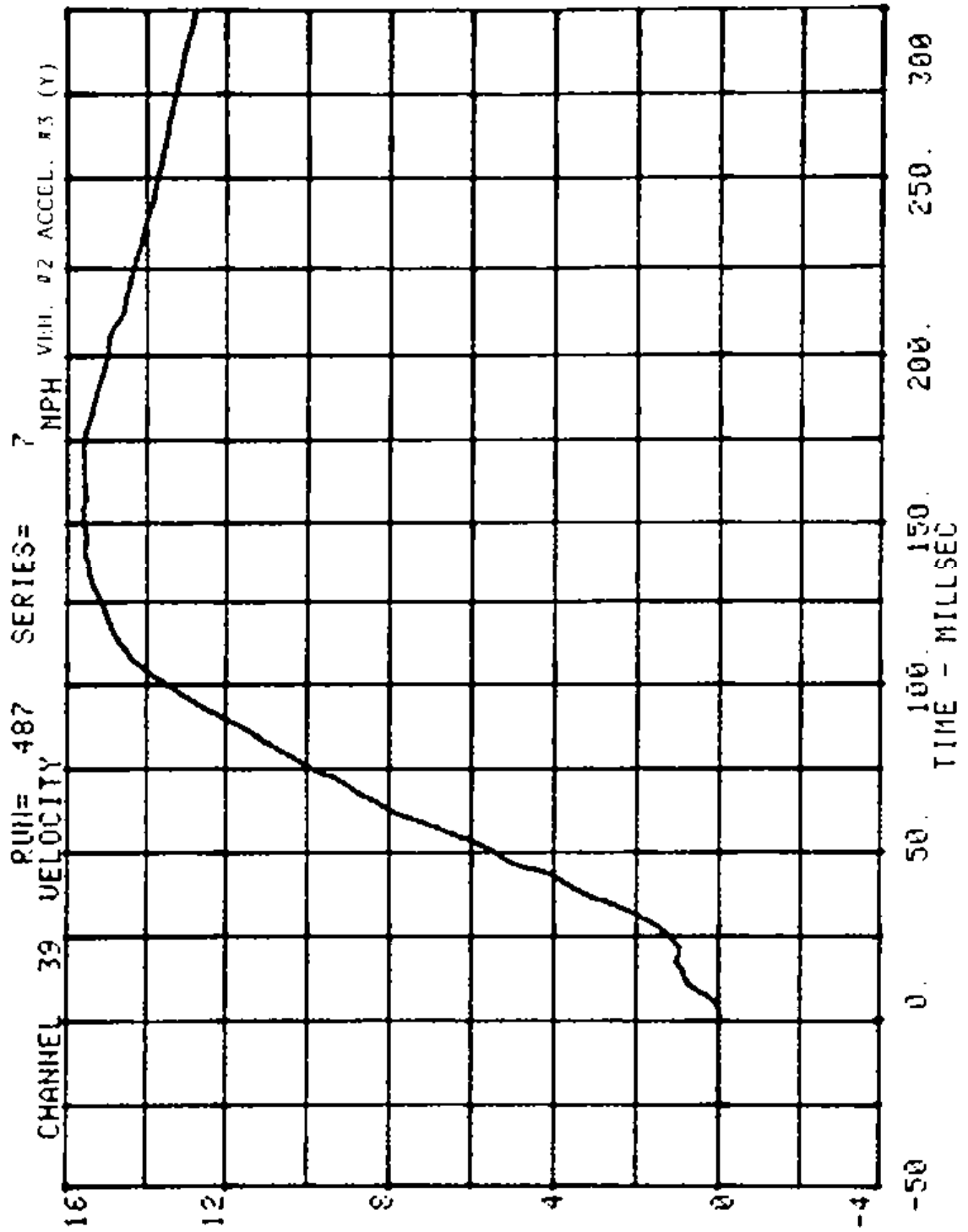

CHANNEL 45 VEH#2 ACC PACK #2(Y)
RUN= 487 SERIES= 7
G'S
12
8
4
0
-4
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

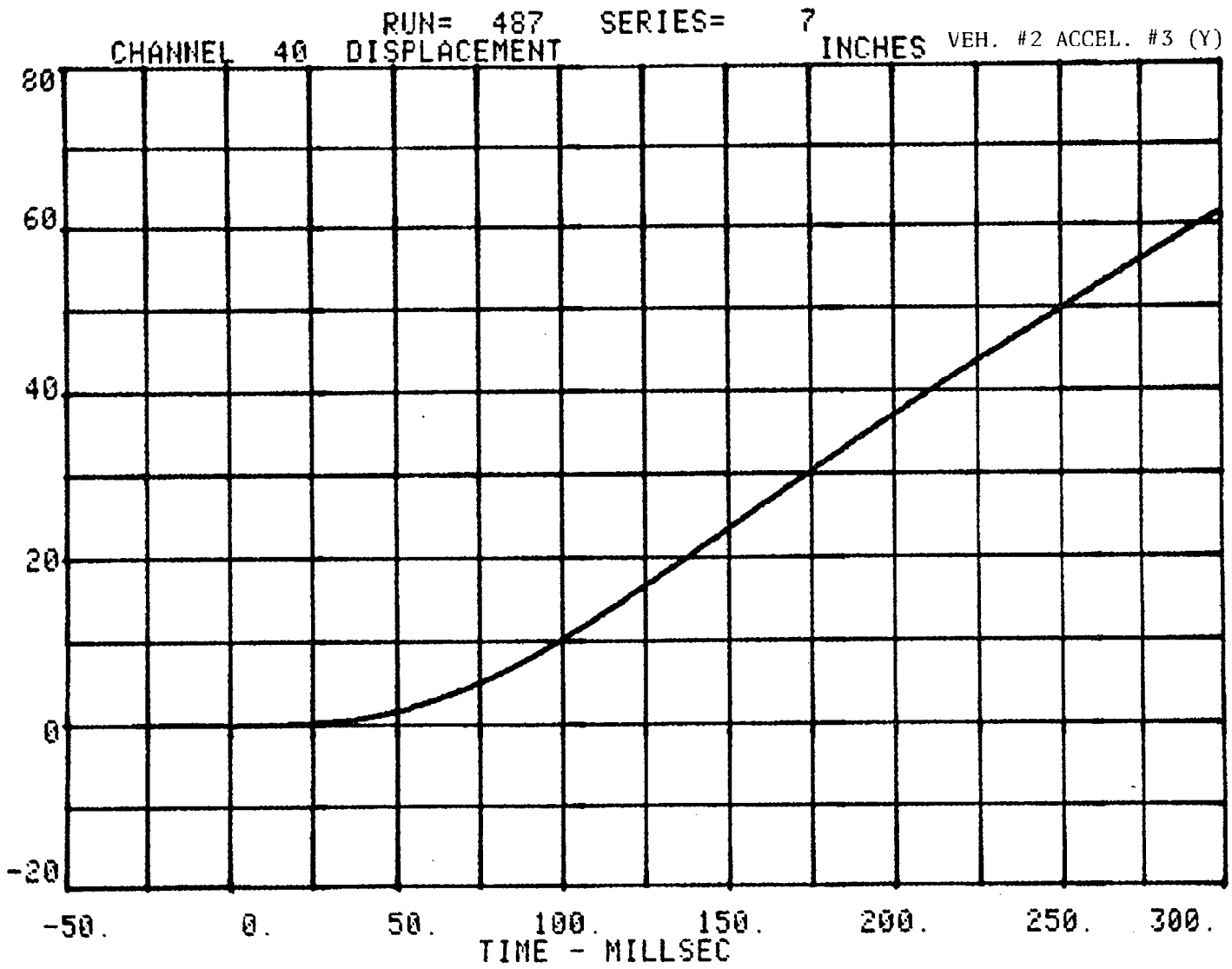

RUN= 487 SERIES= 7
CHANNEL 37 VELOCITY
MPH
VEH. #2 ACCEL. #2 (Y)
15
10
5
0
-5
-10
-50
0
50
100
150
200
250
300
TIME - MILLSEC

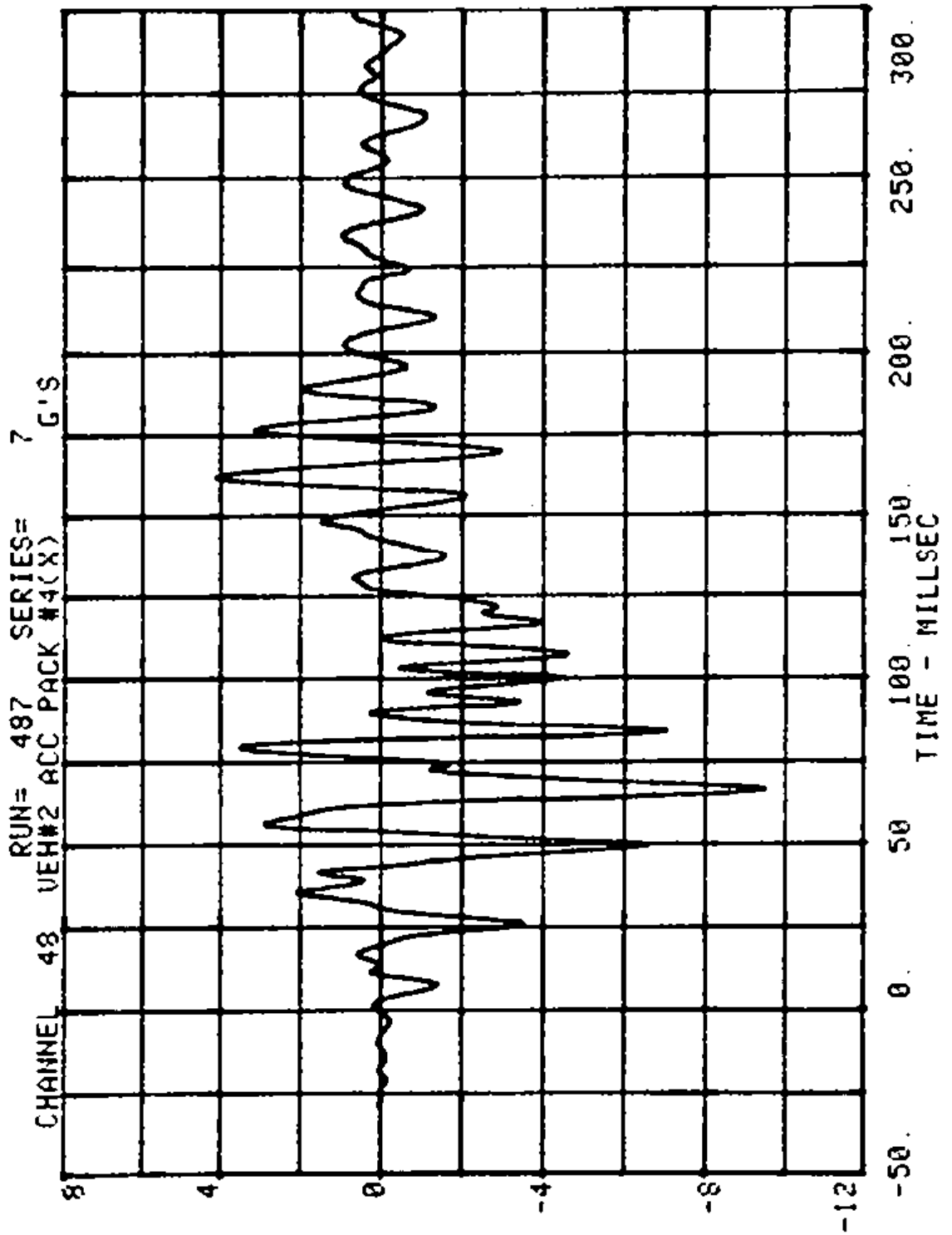

RUN= 487 SERIES= 7
CHANNEL 38 DISPLACEMENT
INCHES
VEH. #2 ACCEL. #2 (Y)
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

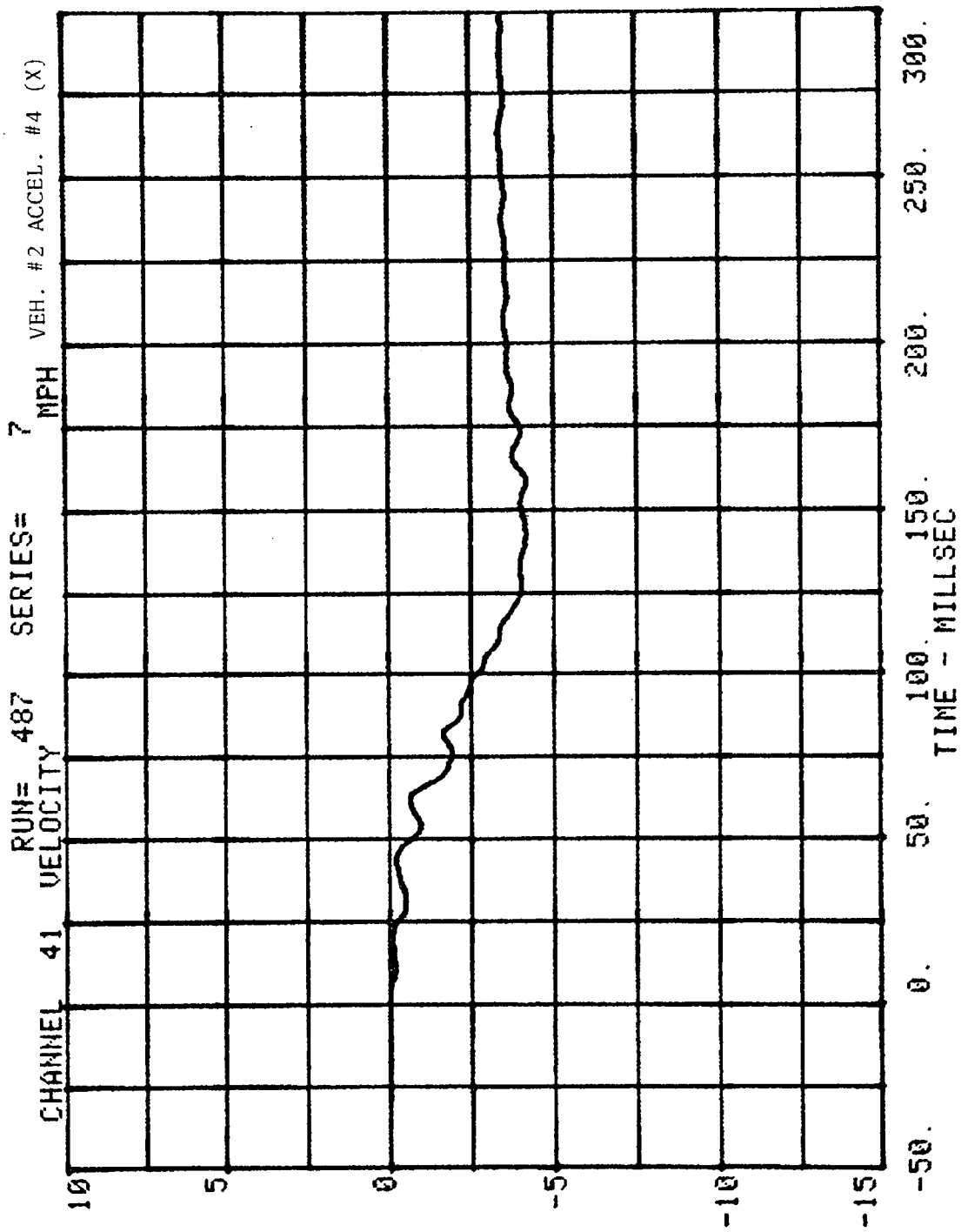

RUN= 487 SERIES= 7
CHANNEL 46 VEH#2 ACC PACK #2(Z) G'S
5.0
2.5
0.0
-2.5
-5.0
-7.5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

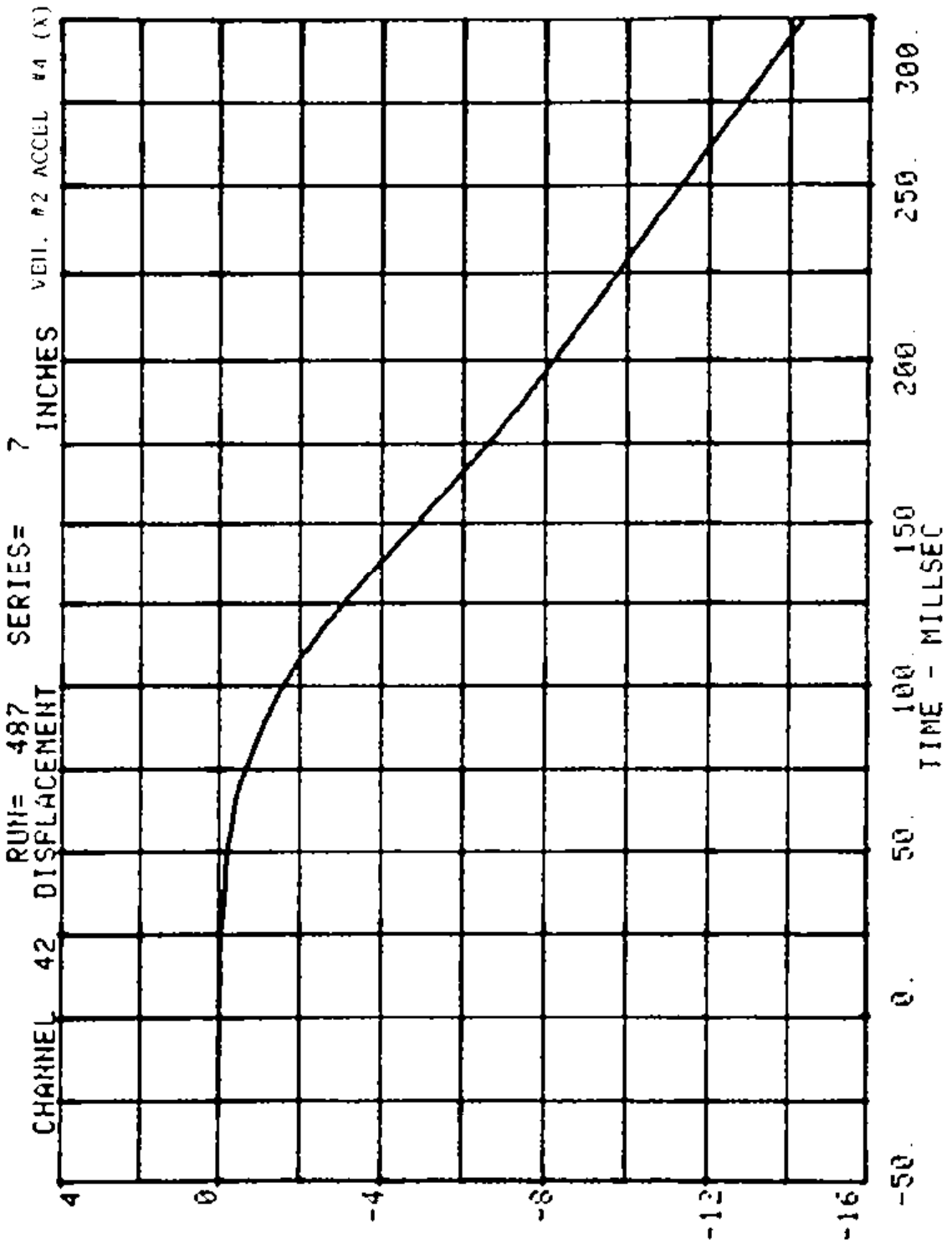

CHANNEL 47 VEH#2 ACC PACK #3(Y)
RUN= 487 SERIES= 7
G'S
16
12
8
4
0
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

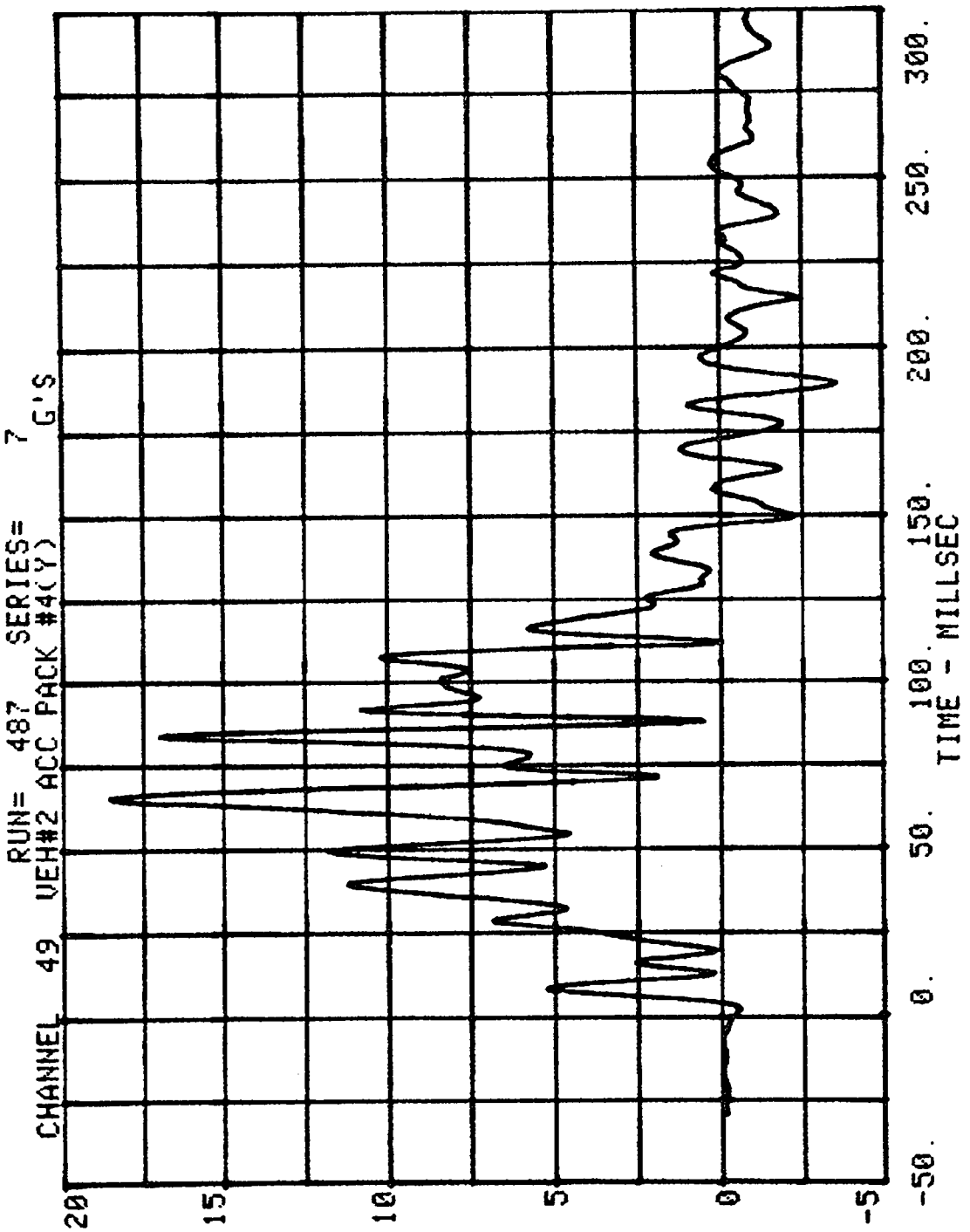

CHANNEL 39 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #2 ACCEL. #3 (Y)
16
12
8
4
0
-4
-50
0.
50.
100.
150.
200.
250.
300
TIME - MILLSEC

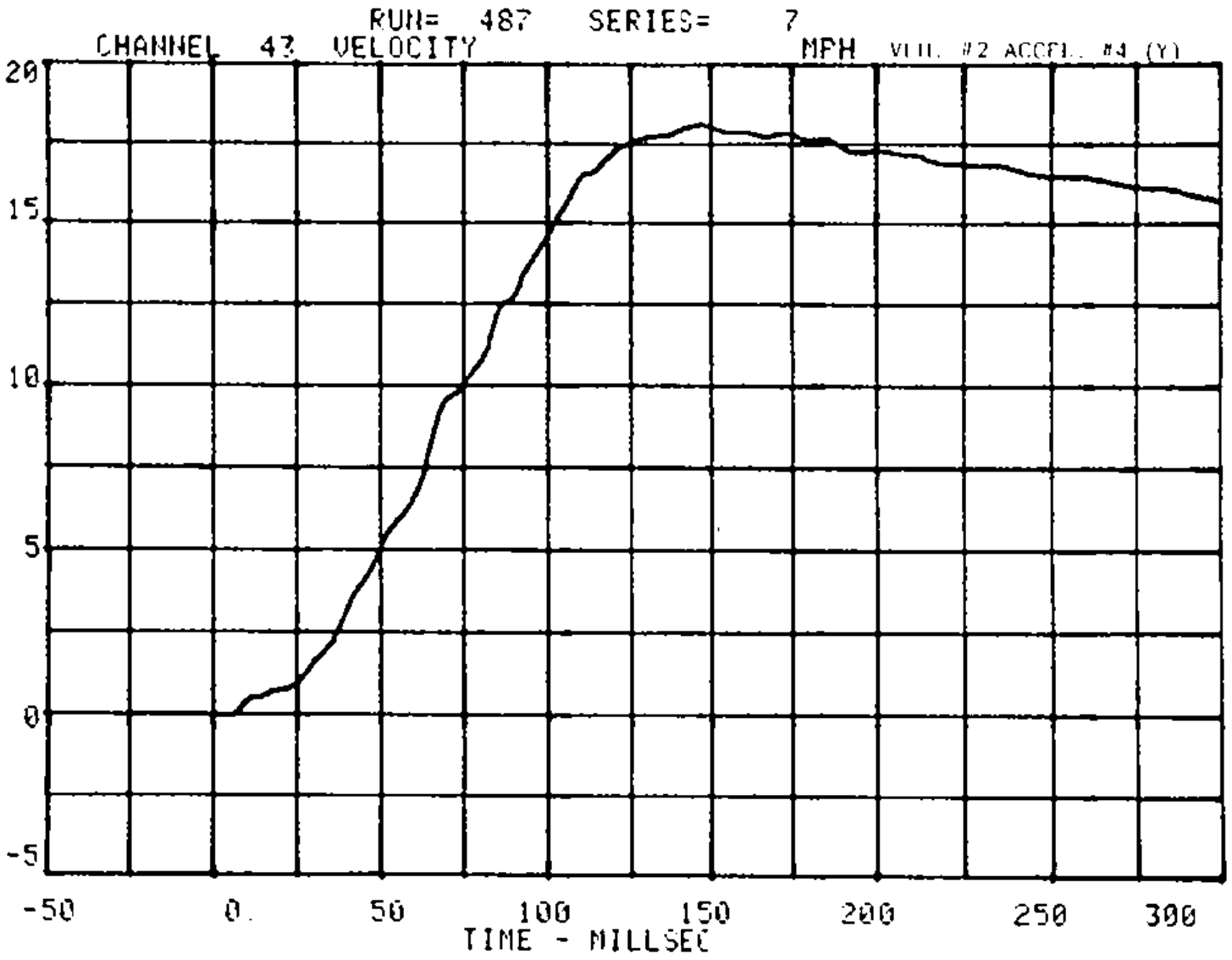

RUN= 487 SERIES= 7
CHANNEL 40 DISPLACEMENT
INCHES
VEH. #2 ACCEL. #3 (Y)
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

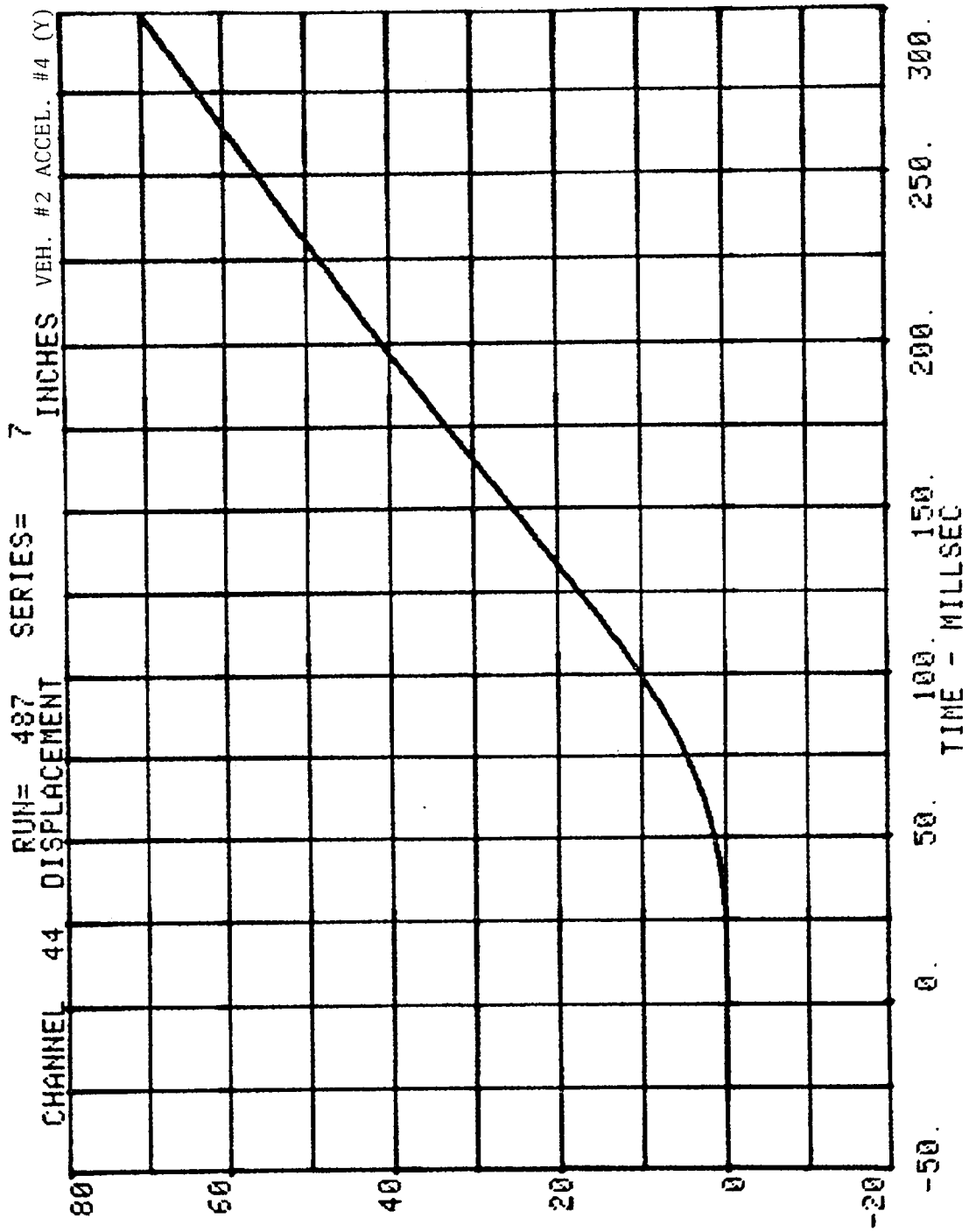

CHANNEL 48
RUN= 487 SERIES= 7
VEH#2 ACC PACK #4(X)
G'S
8
4
0
-4
-8
-12
-50.
0.
50
100
150
200.
250.
300.
TIME - MILLSEC

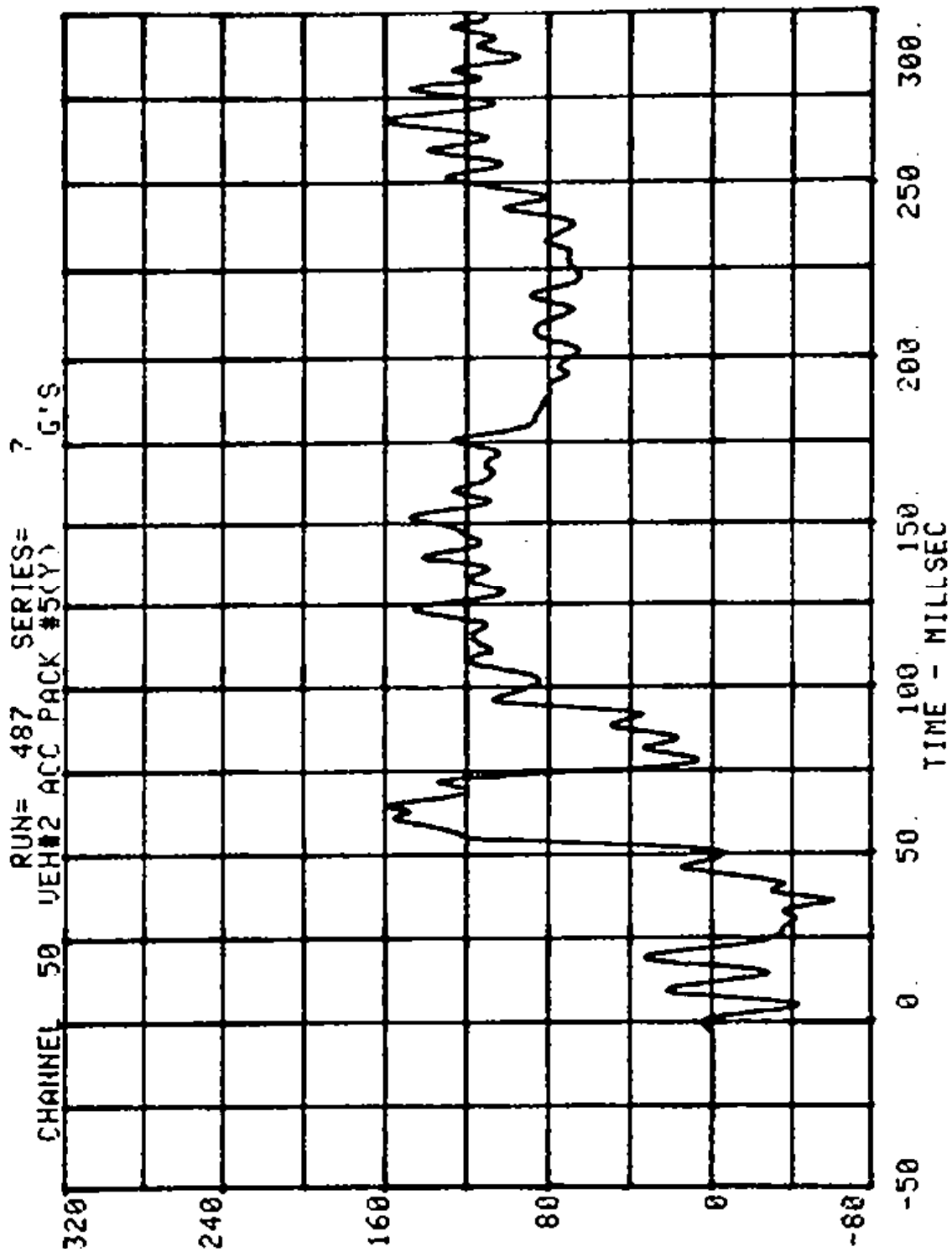

CHANNEL 41 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #2 ACCEL. #4 (X)
10
5
0
-5
-10
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

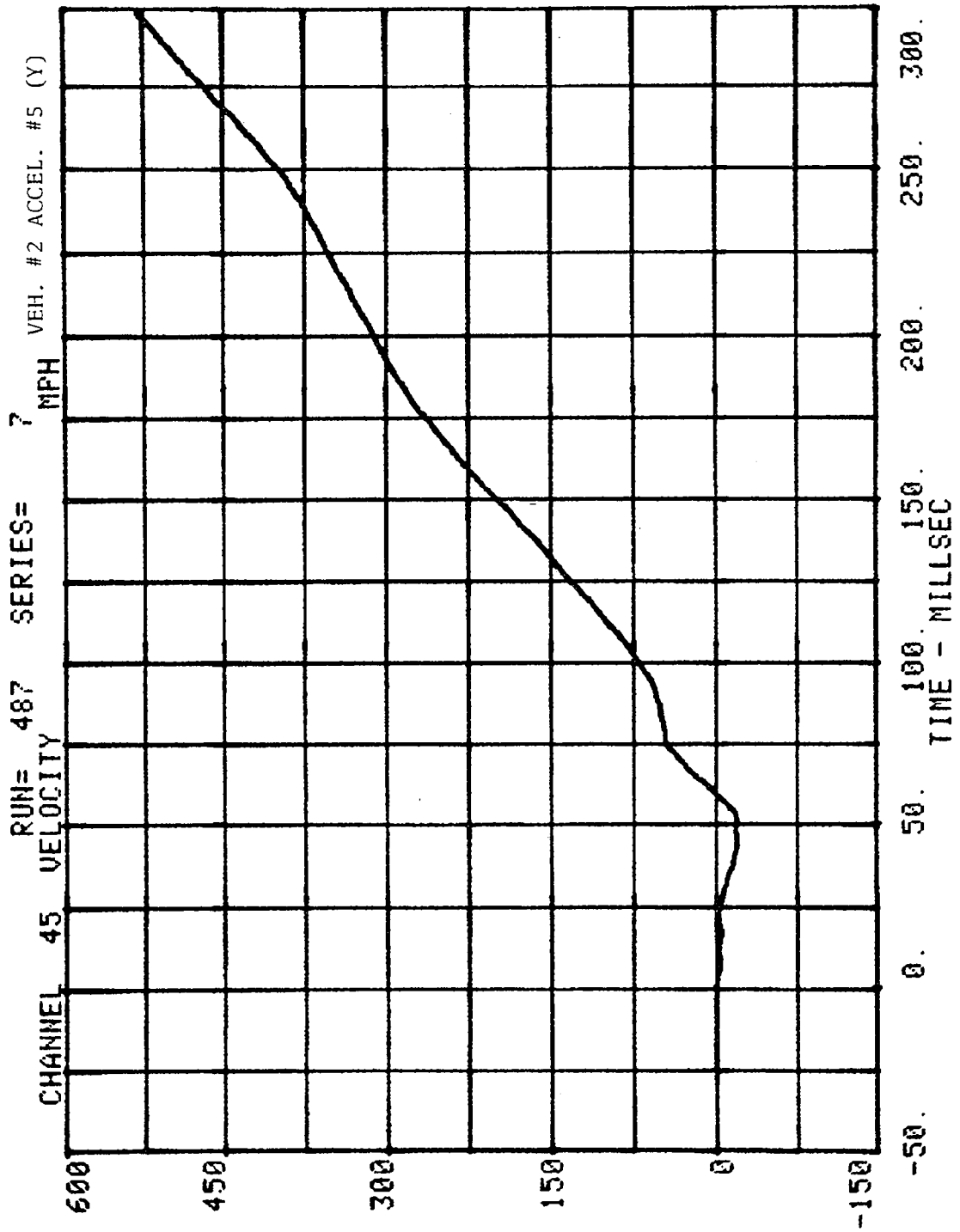

CHANNEL 42 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES VEH. #2 ACCEL #4 (X)
4
0
-4
-8
-12
-16
-50
0.
50
100
150
200
250
300
TIME - MILLSEC

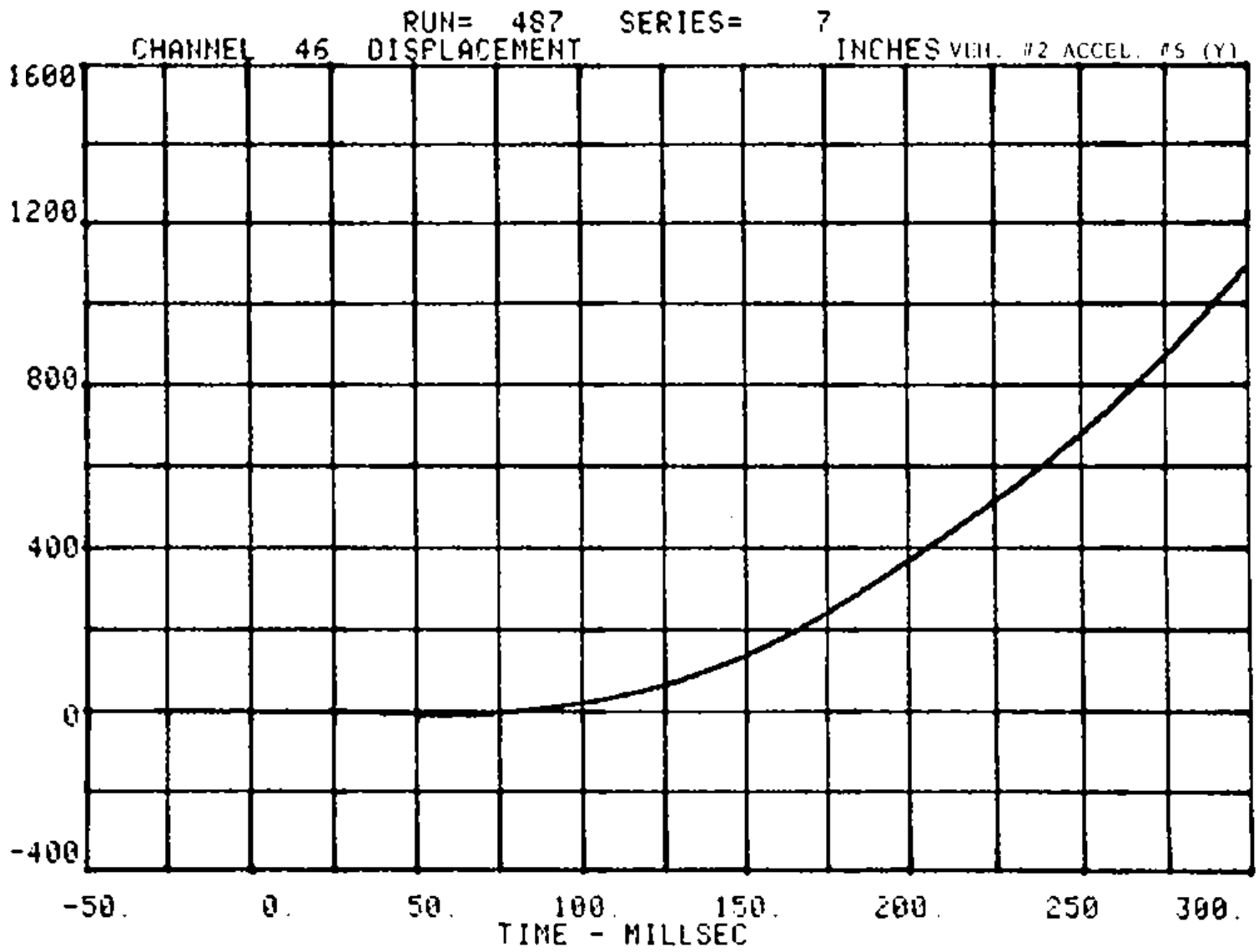

CHANNEL 49 VEH#2 ACC PACK #4(Y)
RUN= 487 SERIES= 7
G'S
20
15
10
5
0
-5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

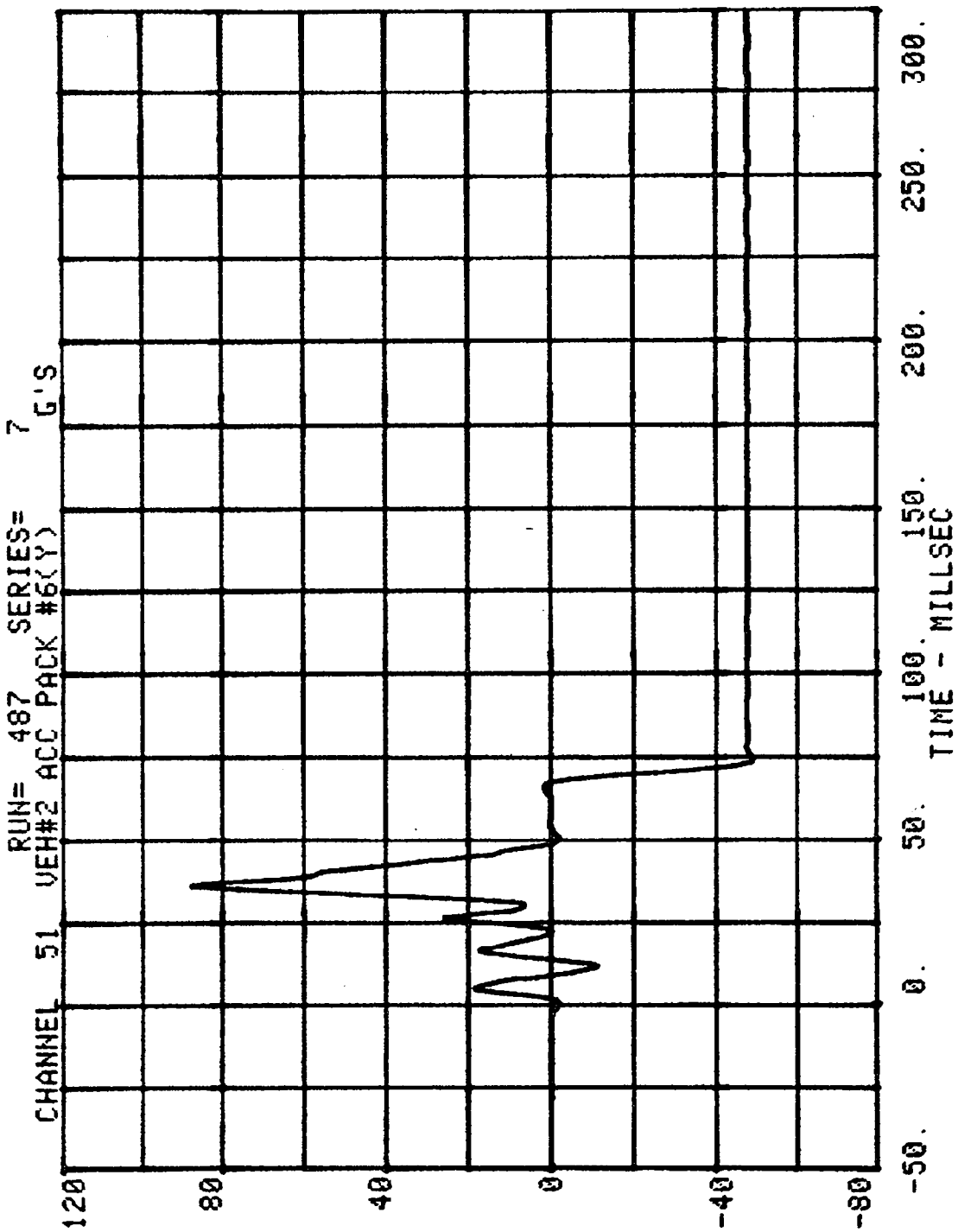

RUN= 487 SERIES= 7
CHANNEL 43 VELOCITY
MPH
VEH. #2 ACCEL. #4 (Y)
20
15
10
5
0
-5
-50
0
50
100
150
200
250
300
TIME - MILLSEC

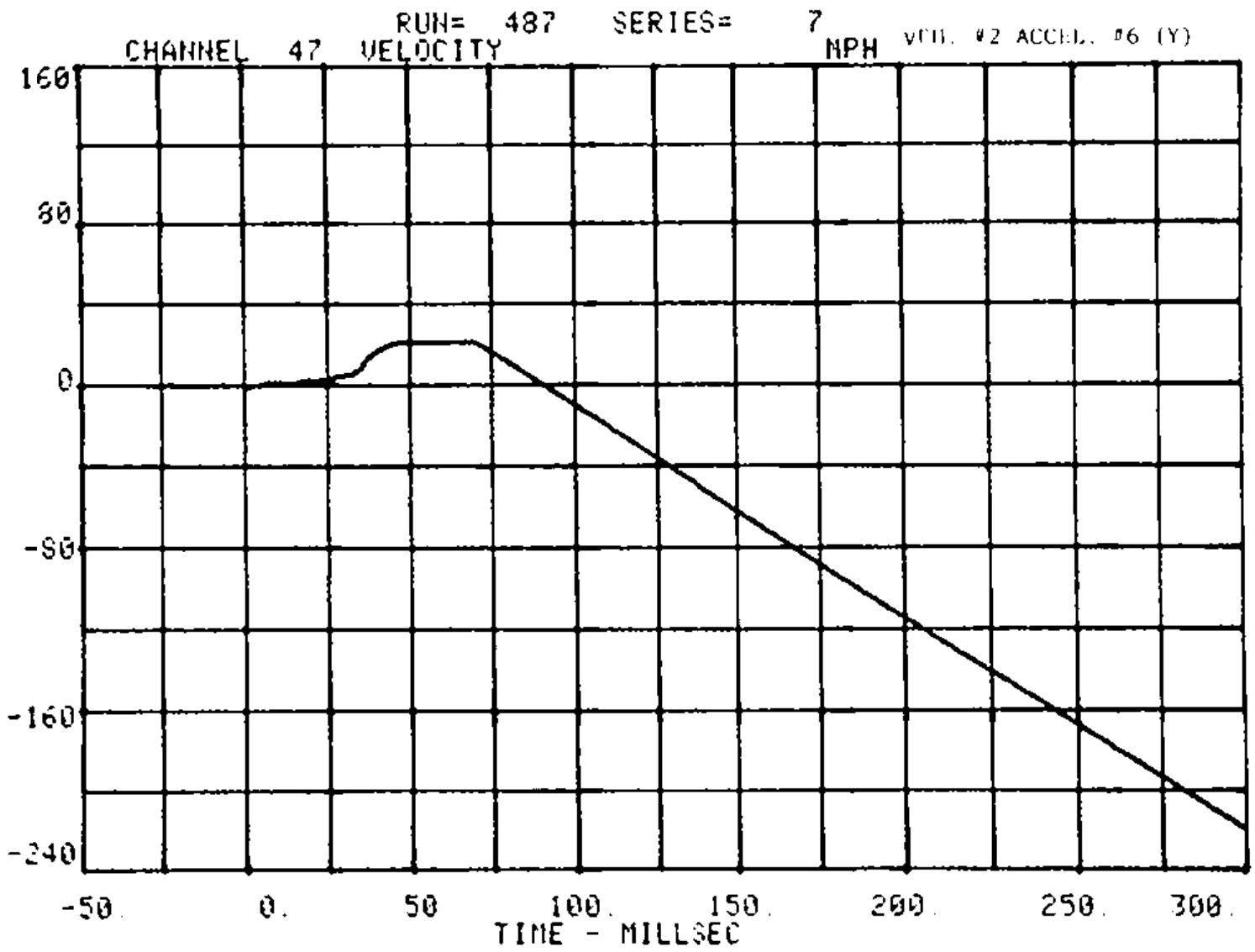

CHANNEL 44 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES VEH. #2 ACCEL. #4 (Y)
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

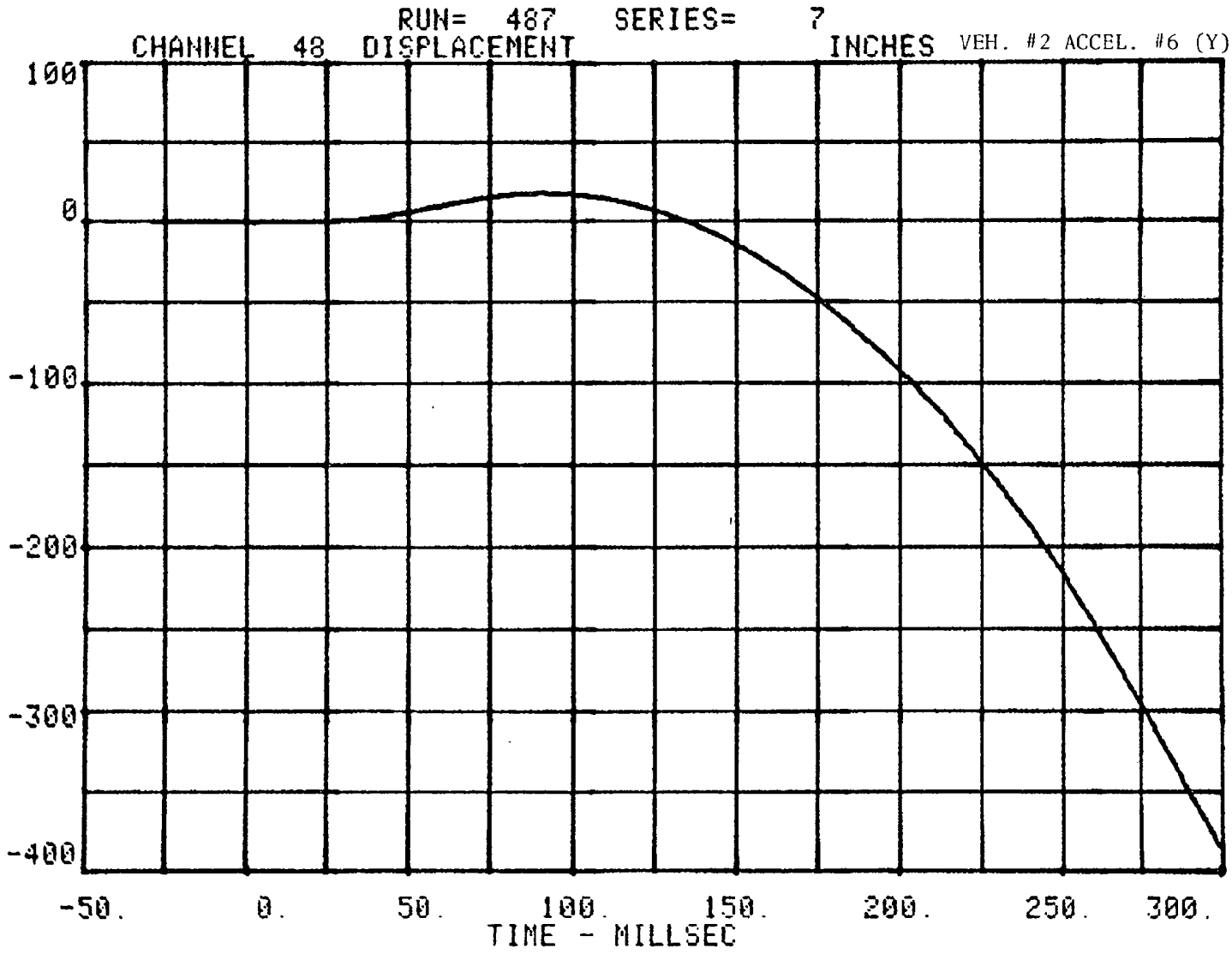

CHANNEL 50 VEH#2 ACC PACK #5(Y)
RUN= 487 SERIES= 7
G'S
320
240
160
80
0
-80
-50
0
50
100
150
200
250
300.
TIME - MILLSEC

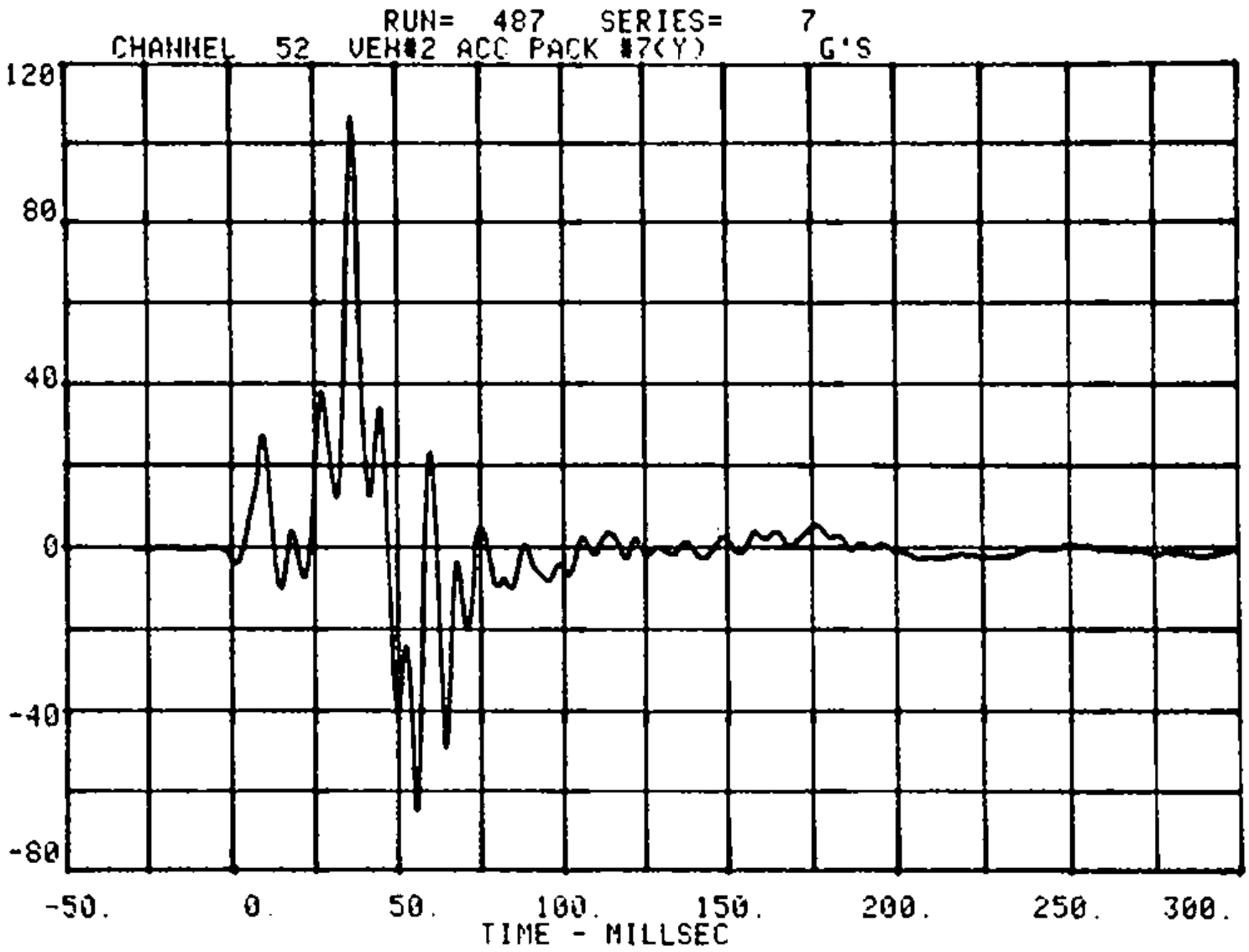

CHANNEL 45 VELOCITY
RUN= 487 SERIES= 7
VEH. #2 ACCEL. #5 (Y)
MPH
600
450
300
150
0
-150
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

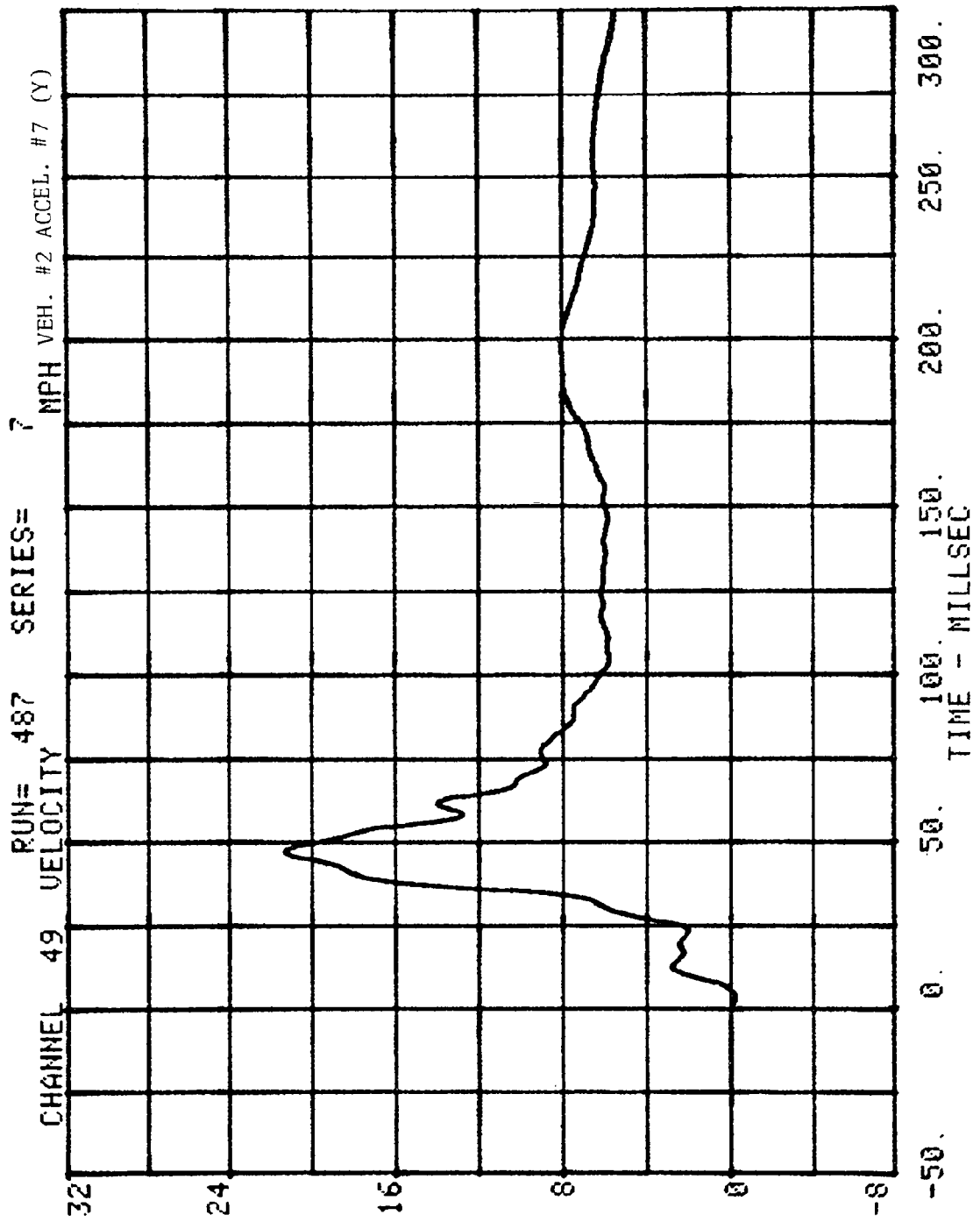

RUN= 487 SERIES= 7
CHANNEL 46 DISPLACEMENT INCHES VEH. #2 ACCEL. #5 (Y)
1600
1200
800
400
0
-400
-50.
0.
50.
100.
150.
200.
250
300.
TIME - MILLSEC

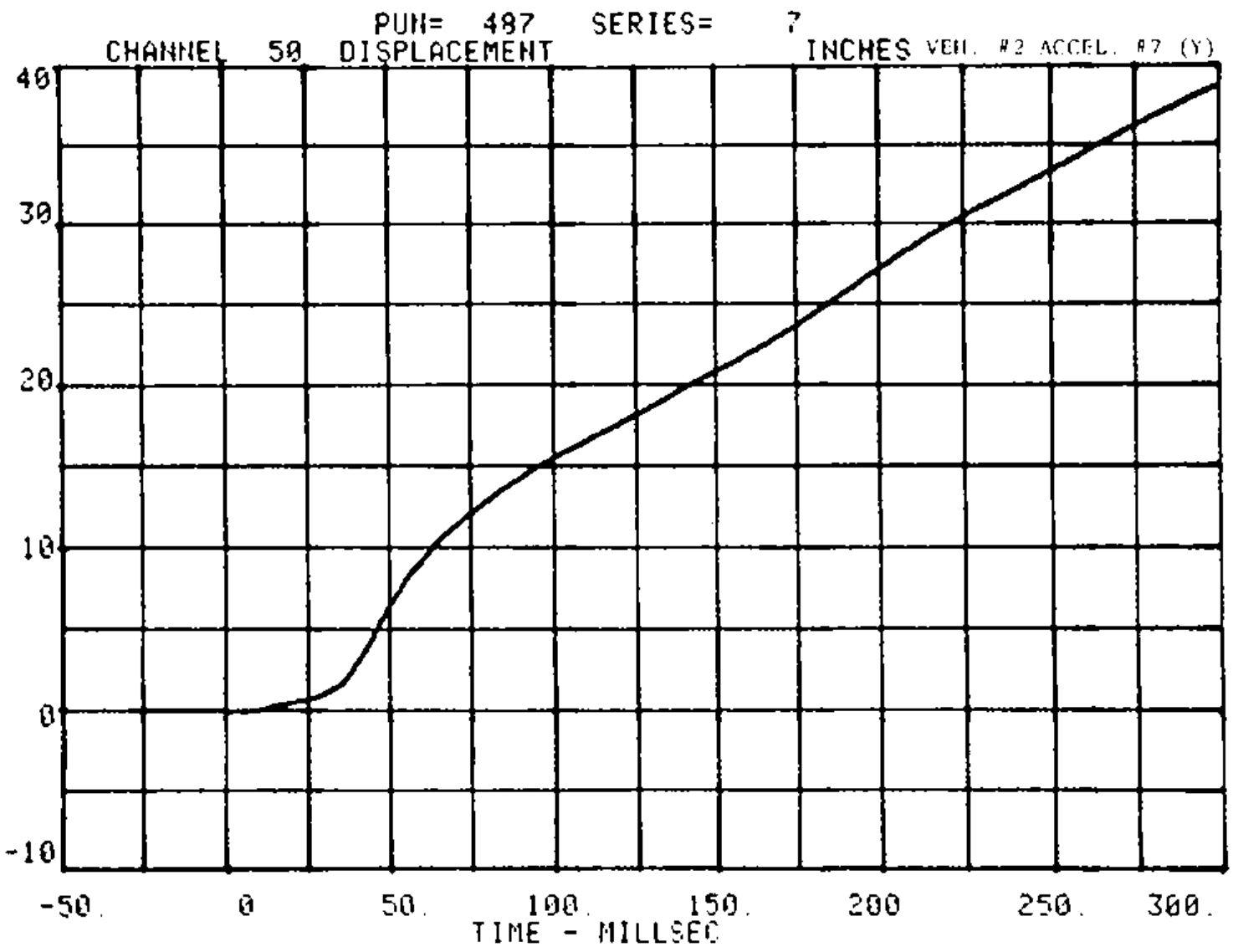

CHANNEL 51 VEH#2 ACC PACK #6(Y)
RUN= 487 SERIES= 7
G'S
120
80
40
0
-40
-80
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

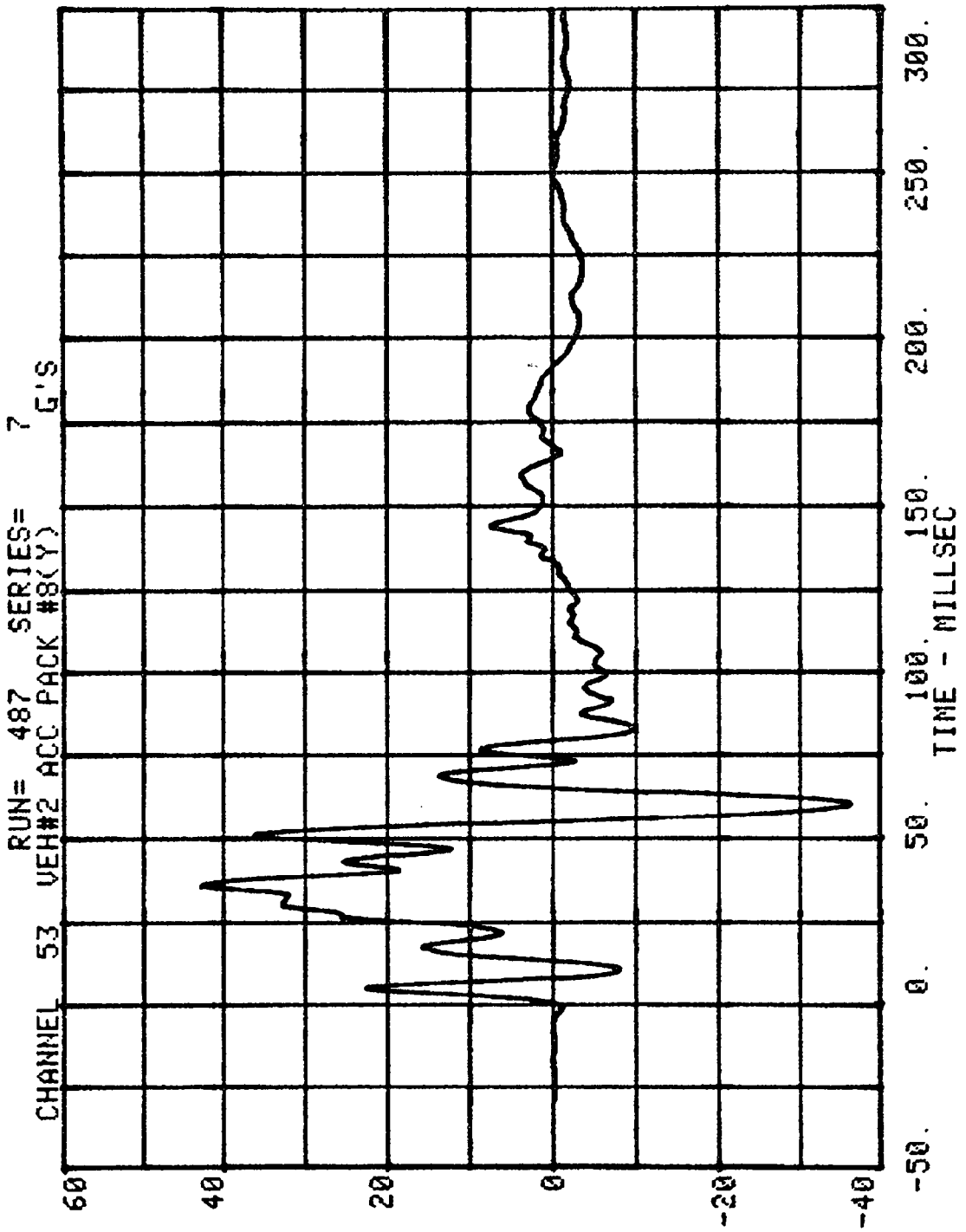

RUN= 487 SERIES= 7
CHANNEL 47 VELOCITY
NPH
VEH. #2 ACCEL. #6 (Y)
160
80
0
-80
-160
-240
-50.
0.
50
100.
150.
200.
250.
300.
TIME - MILLSEC

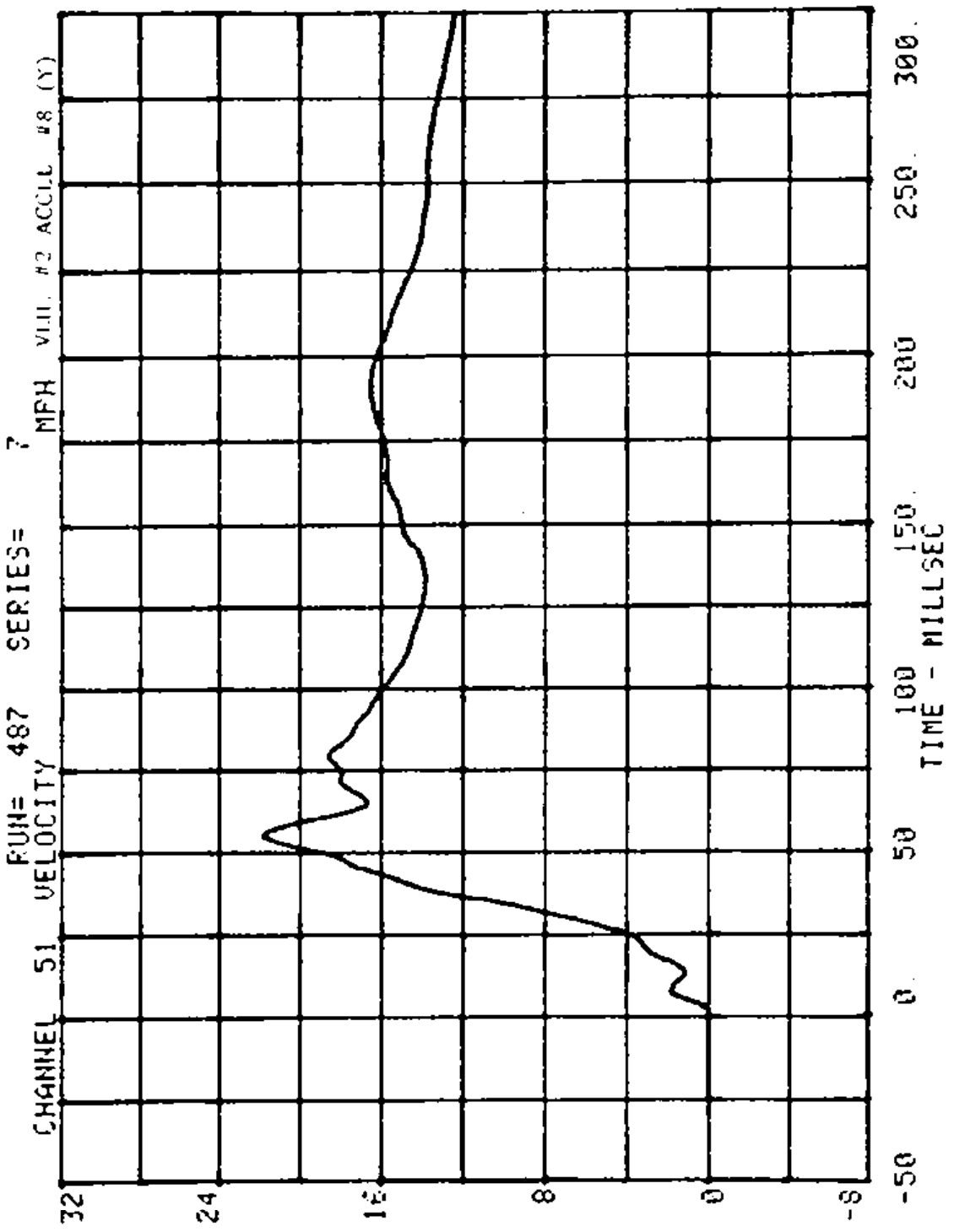

RUN= 487 SERIES= 7
CHANNEL 48 DISPLACEMENT INCHES
VEH. #2 ACCEL. #6 (Y)
100
0
-100
-200
-300
-400
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

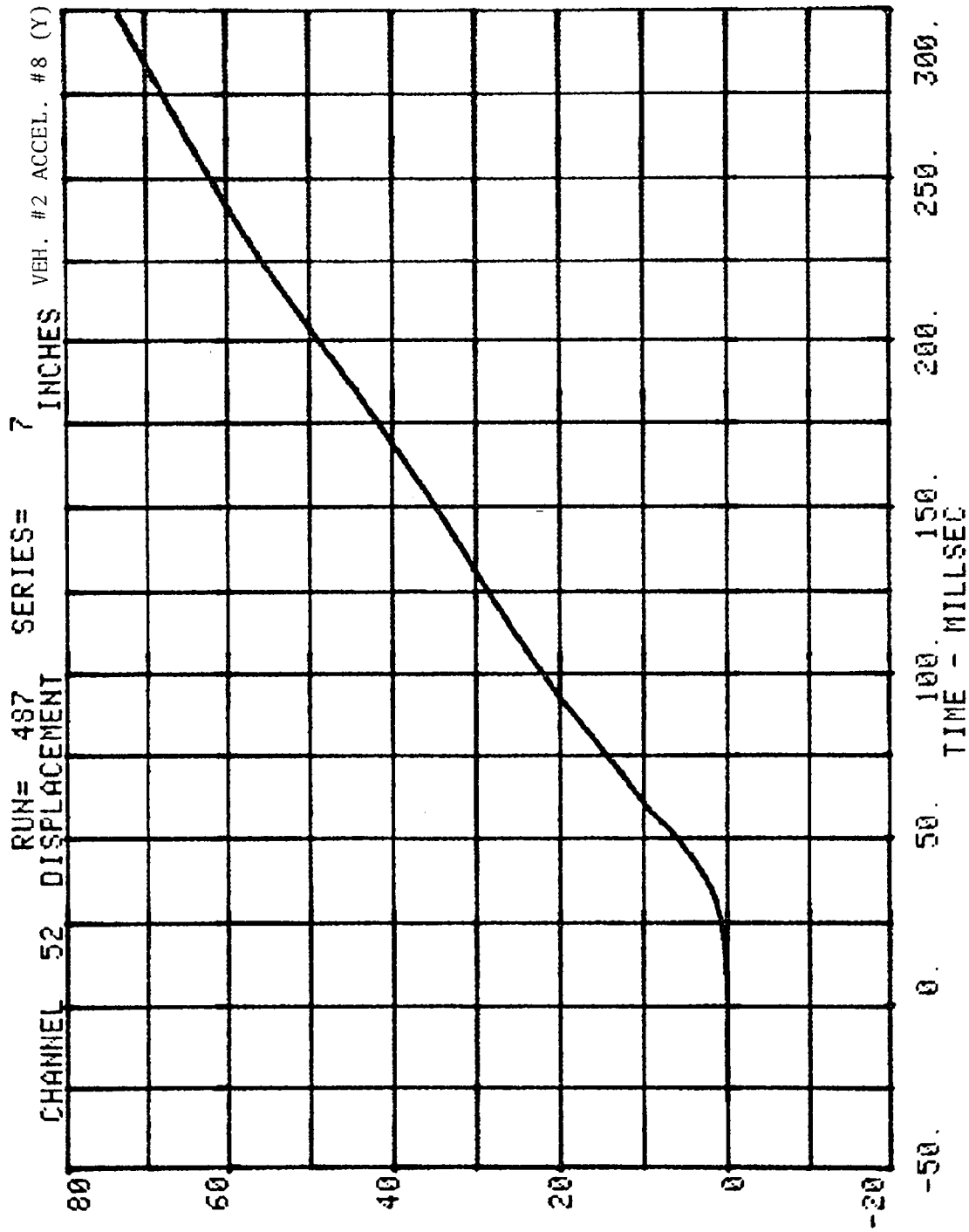

RUN= 487 SERIES= 7
CHANNEL 52 VEH#2 ACC PACK #7(Y) G'S
120
80
40
0
-40
-80
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

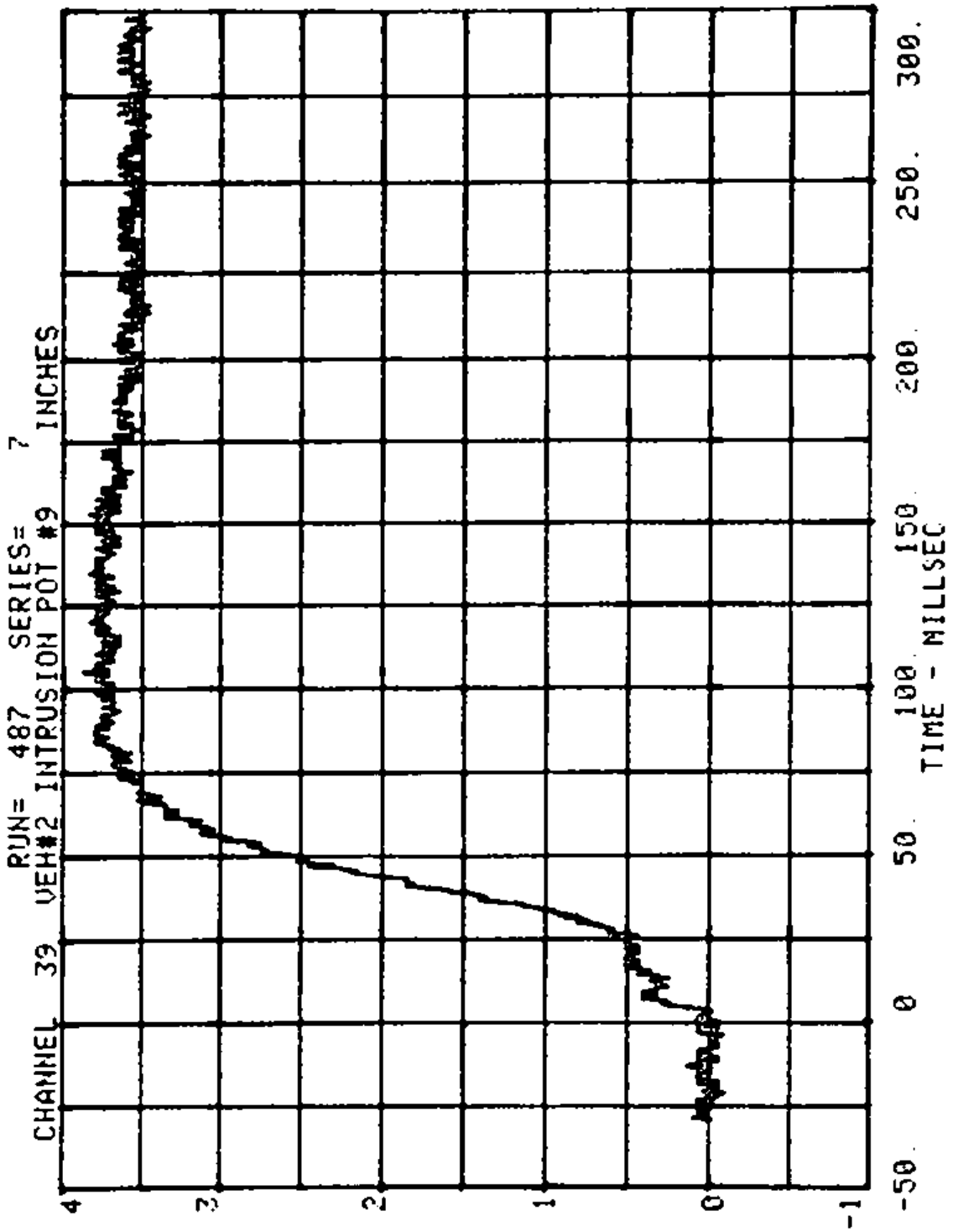

CHANNEL 49 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #2 ACCEL. #7 (Y)
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

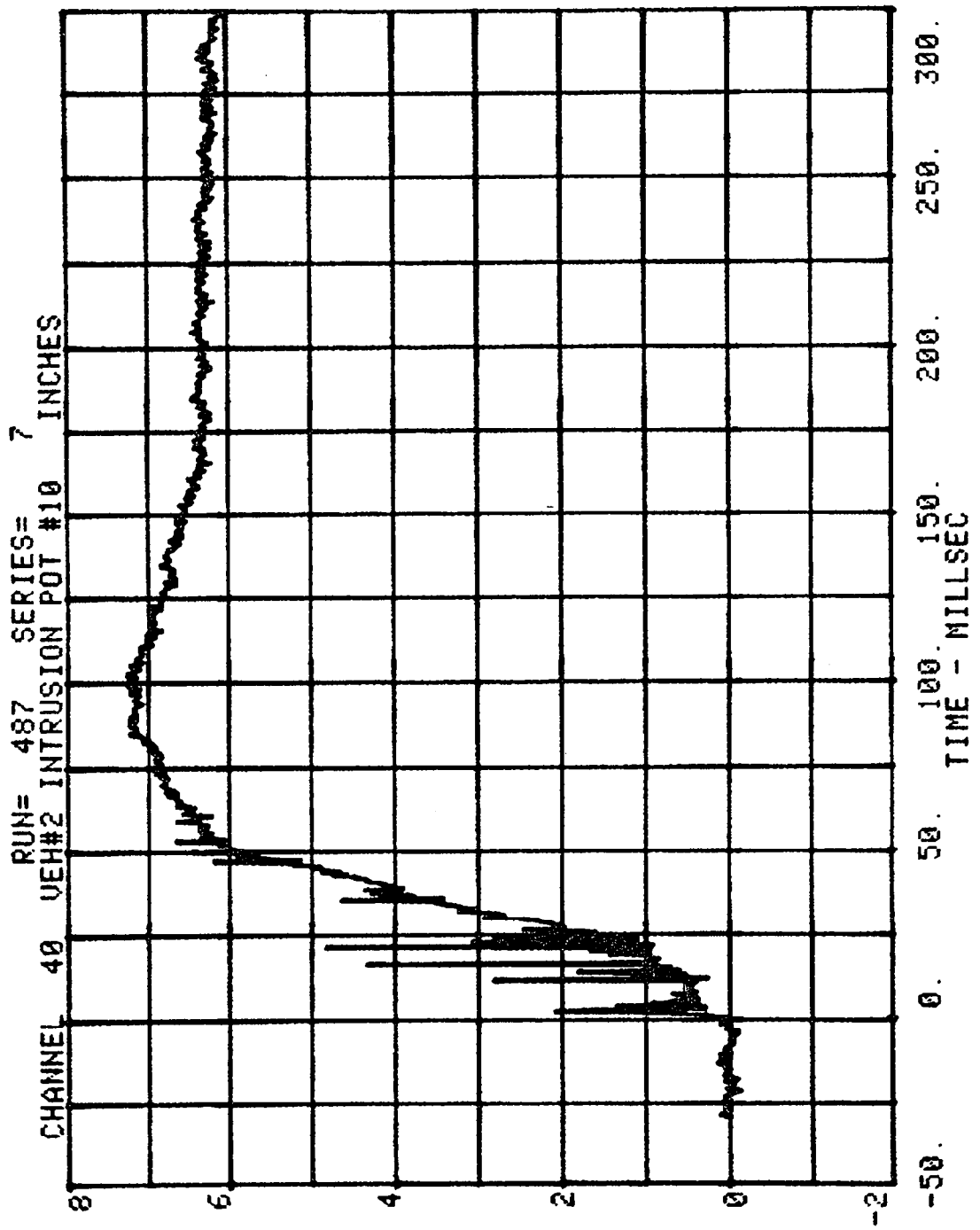

PUN= 487 SERIES= 7
CHANNEL 50 DISPLACEMENT INCHES VEH. #2 ACCEL. #7 (Y)
40
30
20
10
0
-10
-50.
0
50.
100.
150.
200
250.
300.
TIME - MILLSEC

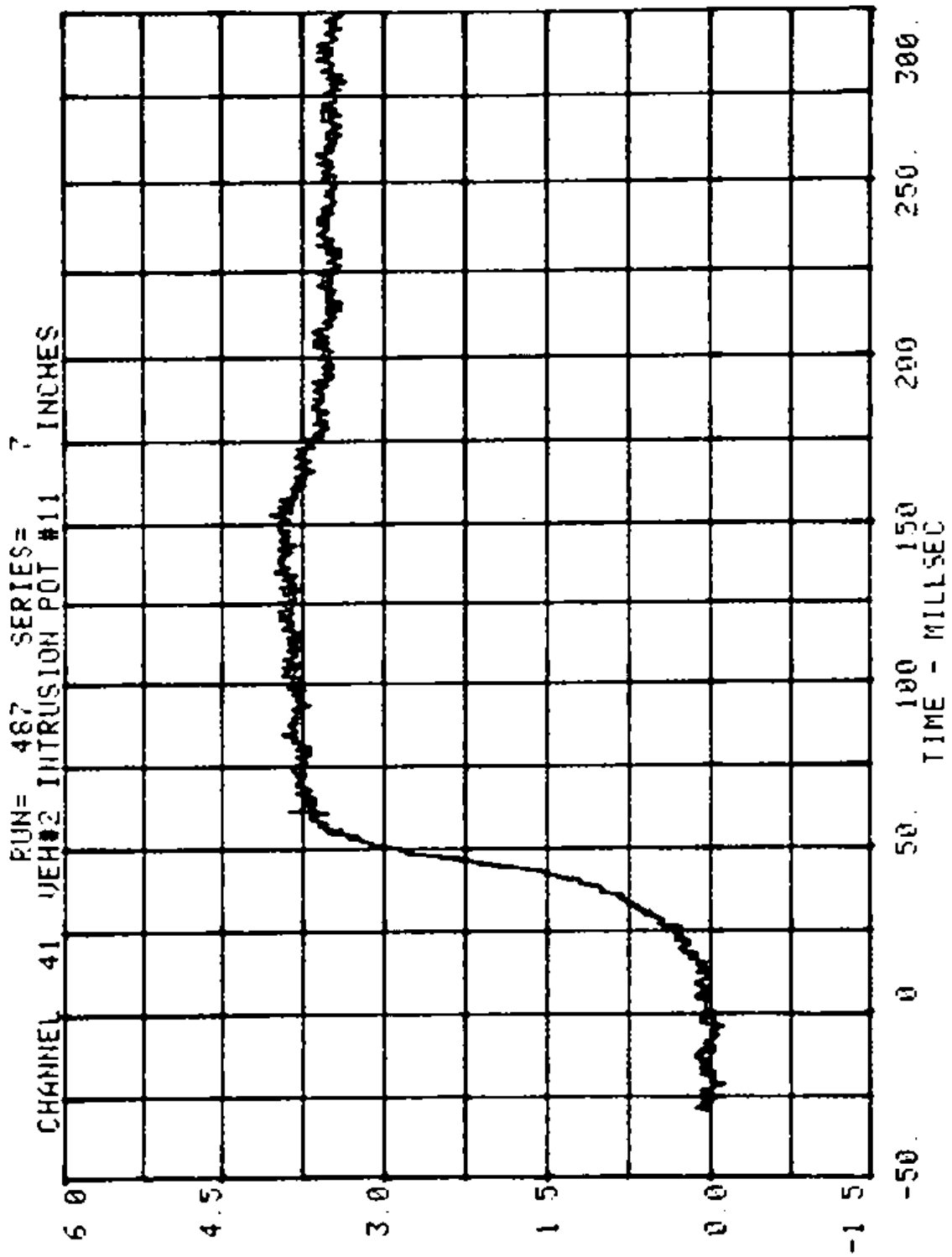

CHANNEL 53 VEH#2 ACC PACK #8(Y)
RUN= 487 SERIES= 7
G'S
60
40
20
0
-20
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

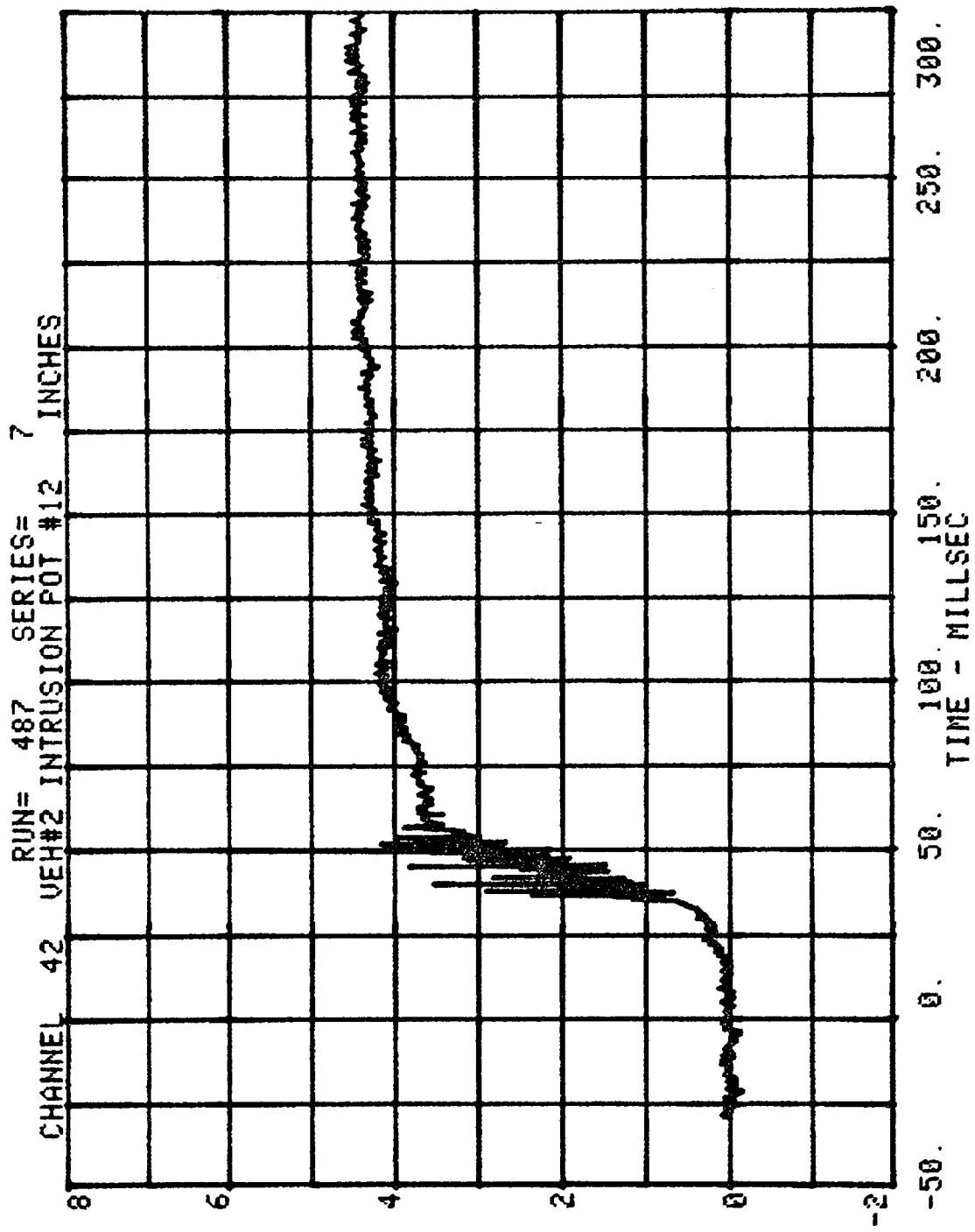

CHANNEL 51 VELOCITY
RUN= 487 SERIES= 7
MPH VEH. #2 ACCEL #8 (Y)
32
24
16
8
0
-8
-50
0
50
100
150
200
250
300
TIME - MILLSEC


CHANNEL 52 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES VEH. #2 ACCEL. #8 (Y)
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 39 RUN= 487 SERIES= 7
VEH#2 INTRUSION POT #9 INCHES
4
3
2
1
0
-1
-50.
0
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 40 VEH#2 INTRUSION POT #10
RUN= 487 SERIES= 7 INCHES
8
6
4
2
0
-2
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 41 VEH#2 INTRUSION POT #11 INCHES
RUN= 487 SERIES= 7
6.0
4.5
3.0
1.5
0.0
-1.5
-50
0
50
100
150
200
250
300
TIME - MILLSEC


CHANNEL 42 VEH#2 INTRUSION POT #12
RUN= 487 SERIES= 7
INCHES
8
6
4
2
0
-2
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

TEST NO. 7

VEHICLE 2 - 1976 PLYMOUTH VOLARE

DUMMY DATA

	FILTER CHANNEL CLASS
HEAD ACCELERATIONS	1000
CHEST ACCELERATIONS	180
PELVIC ACCELERATIONS	180

HEAD INJURY CRITERION
HEAD SEVERITY INDEX

BOA #7 SIDE IMPACT TEST

RUN= 487

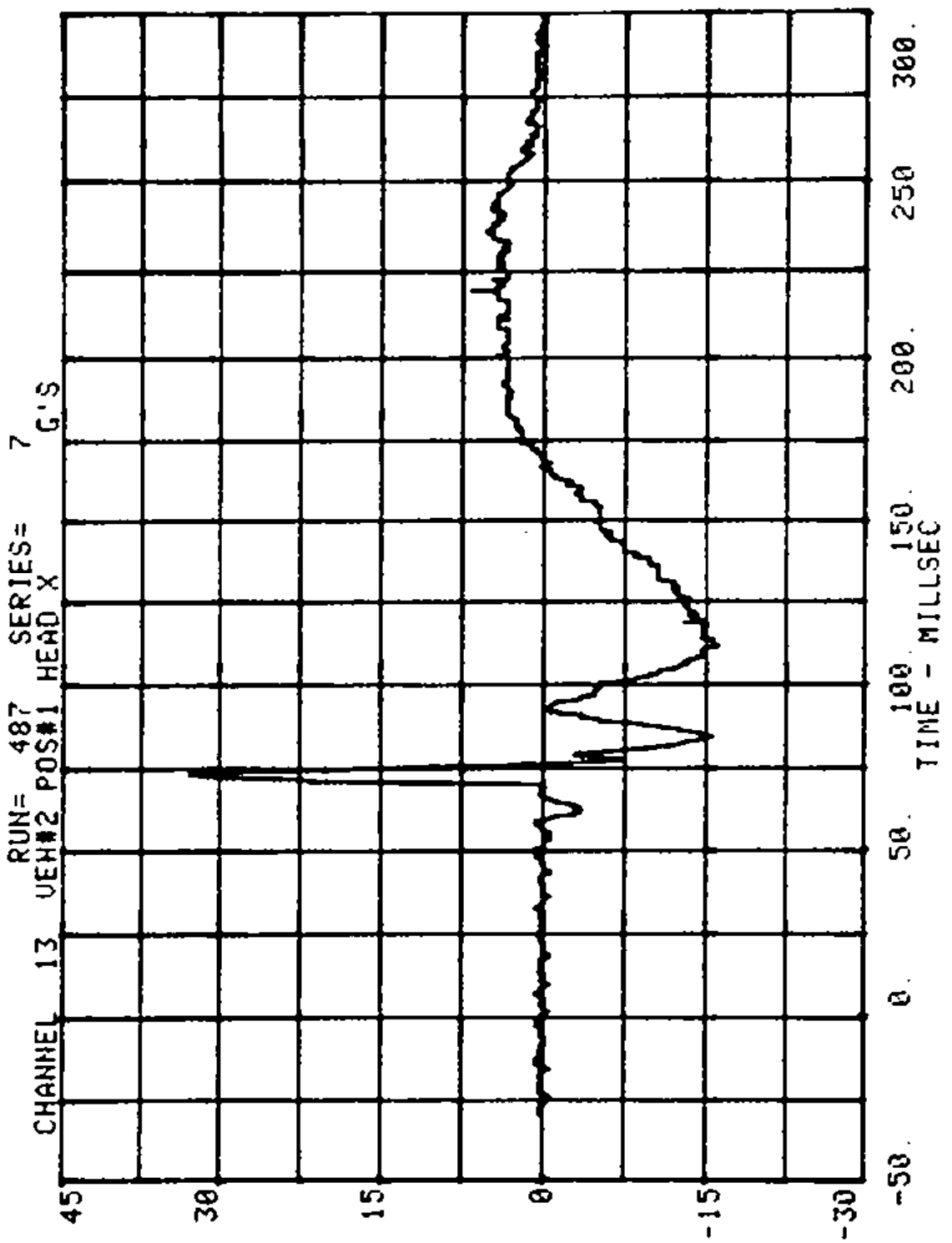
VEH#2 POS#1 HEAD R

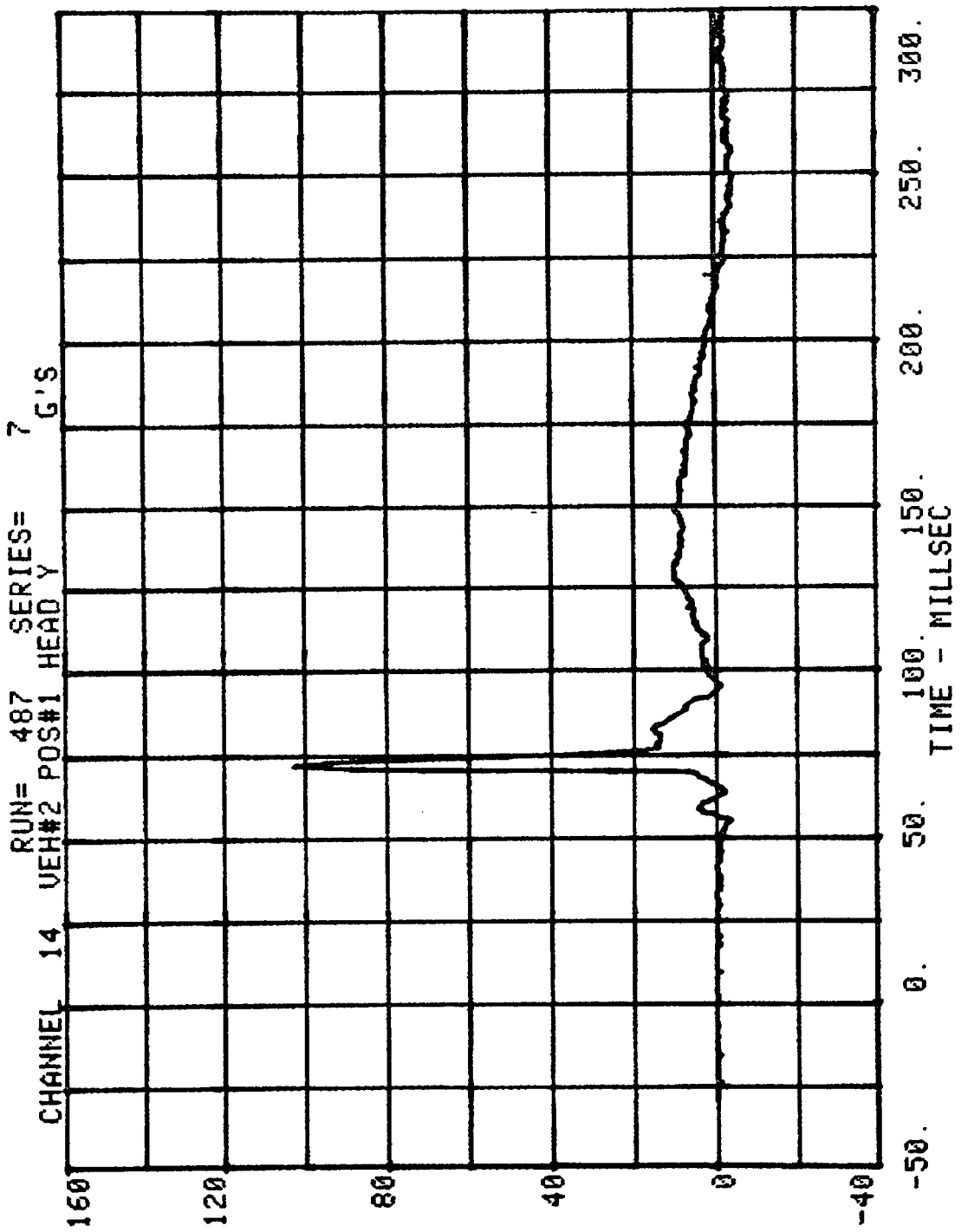
HIC= 353.6 FROM T1= .07050 TO T2= .07500

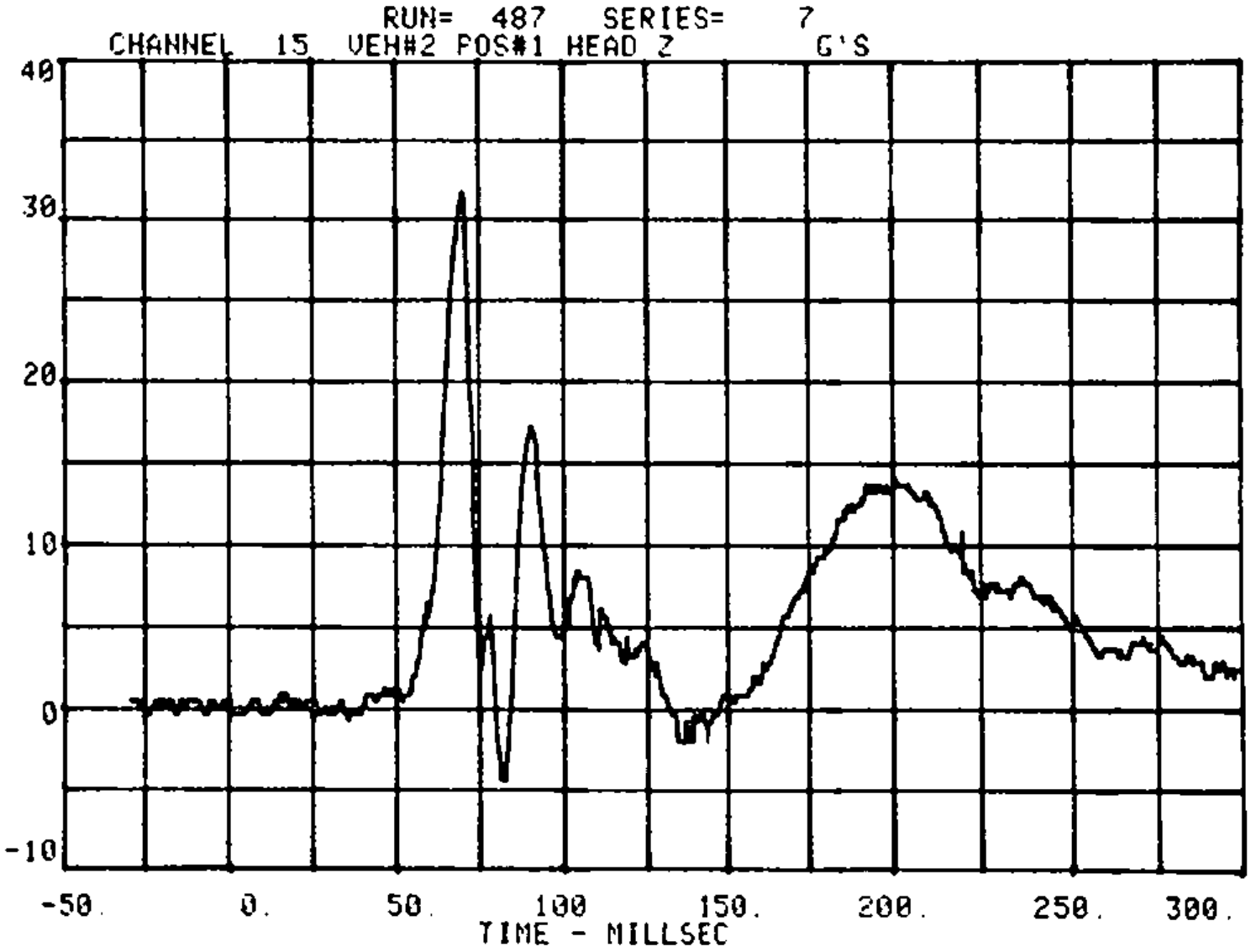
AVERAGE ACCELERATION BETWEEN T1 AND T2= 90.8G'S

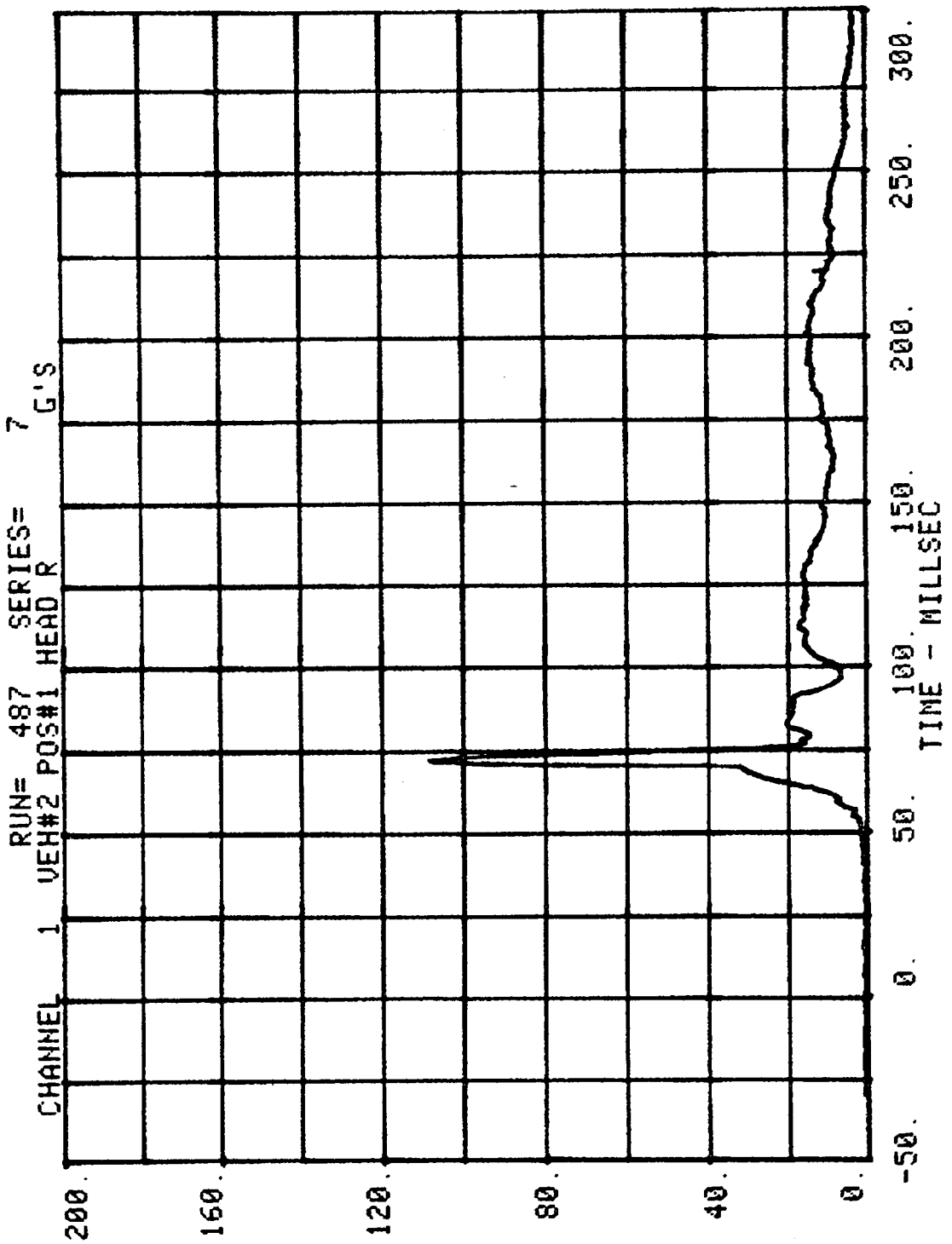
EVENT TIME= 300.0 MSEC

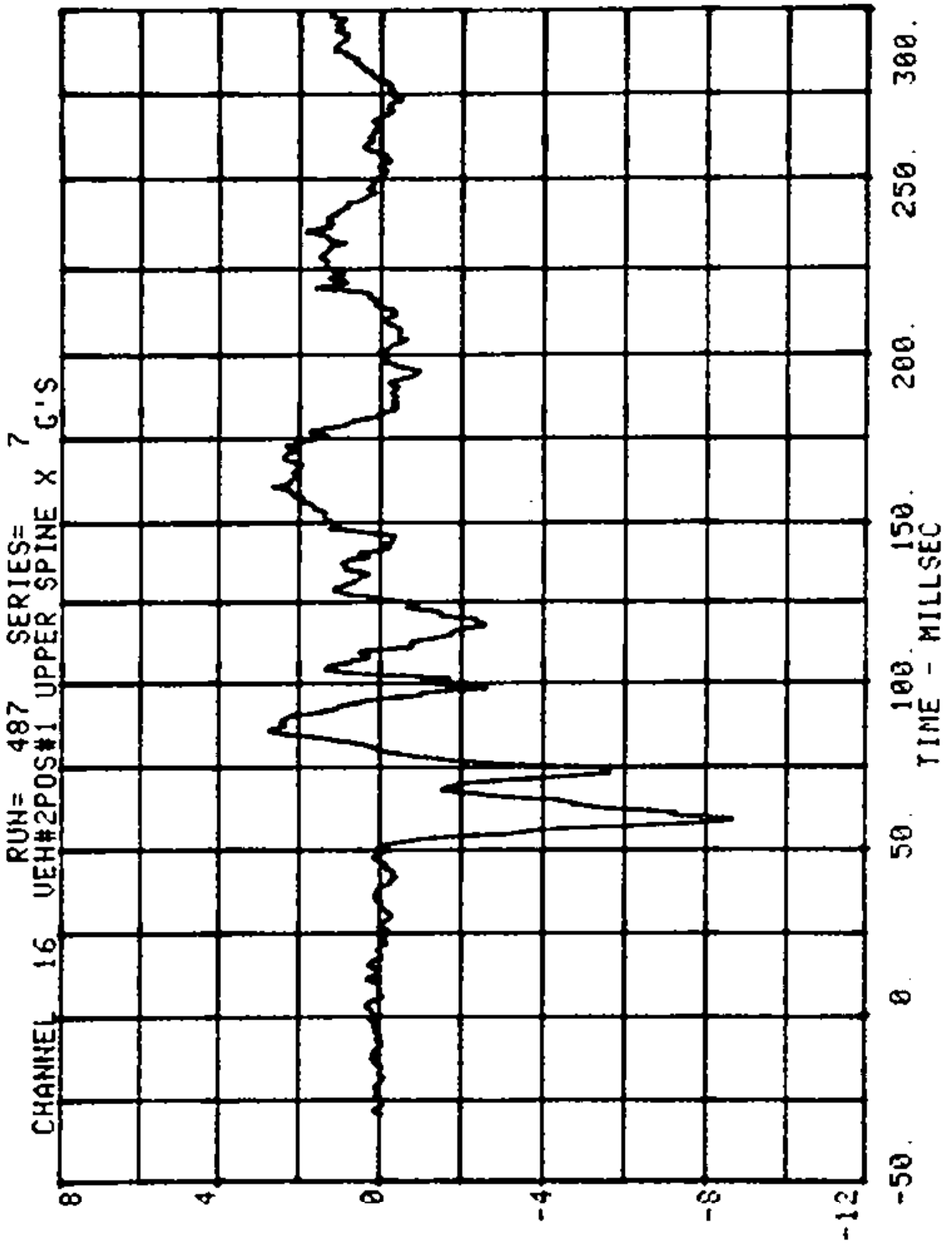
SEVERITY INDEX= 523.4

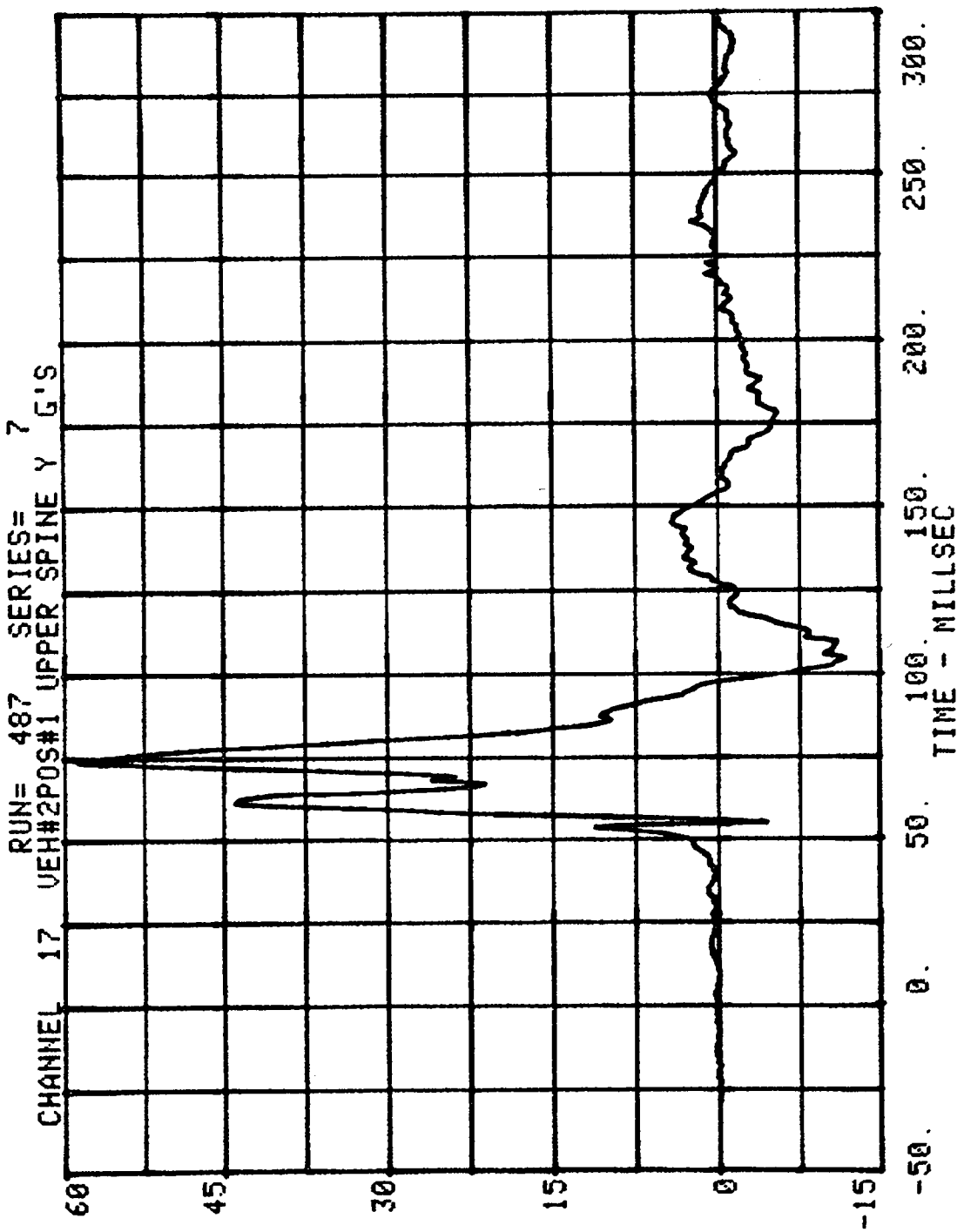

CHANNEL 13 VEH#2 POS#1 HEAD X
RUN= 487 SERIES= 7
G'S
45
30
15
0
-15
-30
-50.
0.
50.
100.
150.
200.
250
300.
TIME - MILLSEC

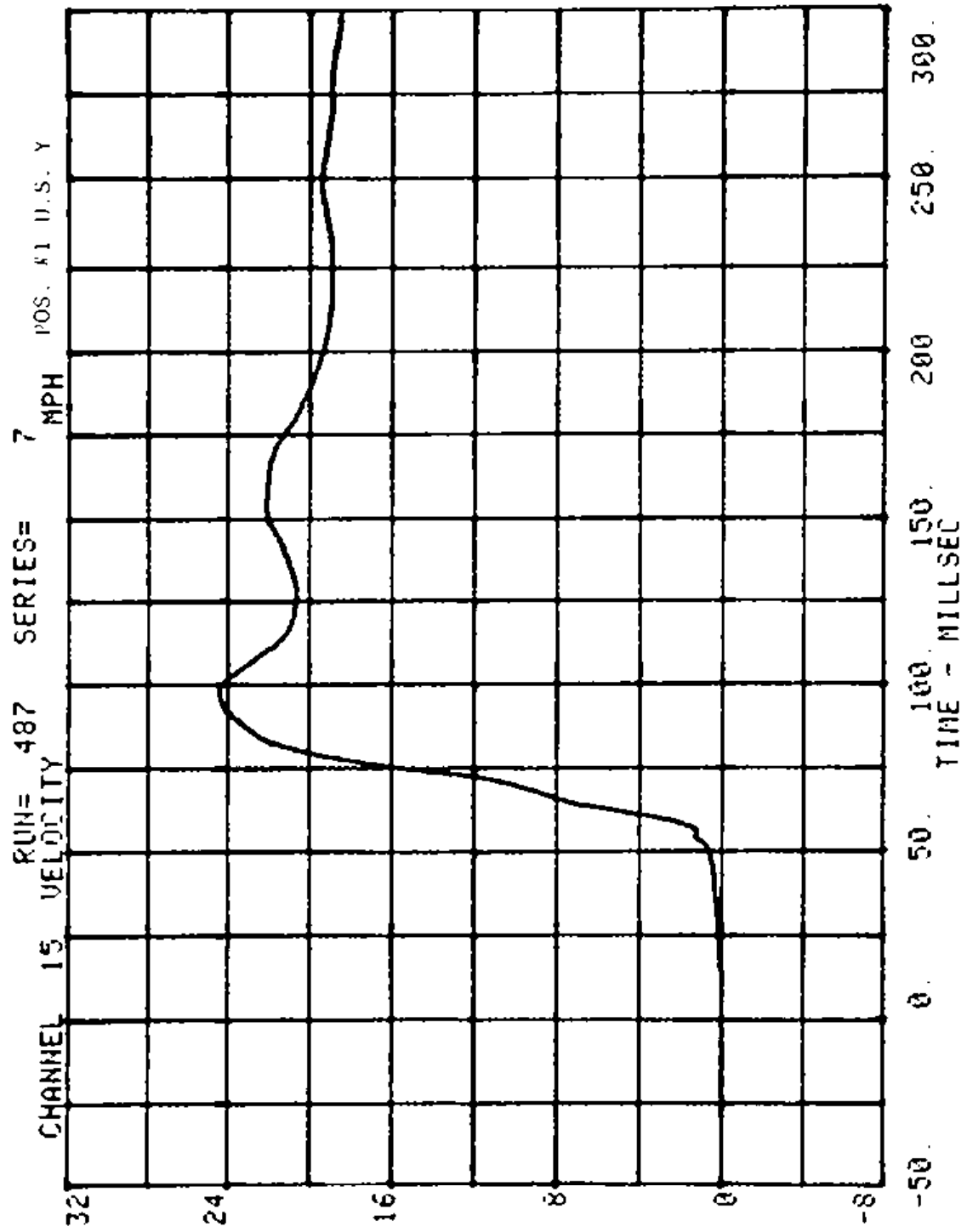

CHANNEL 14
VEH#2 POS#1 HEAD Y
RUN= 487 SERIES= 7
G'S
160
120
80
40
0
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

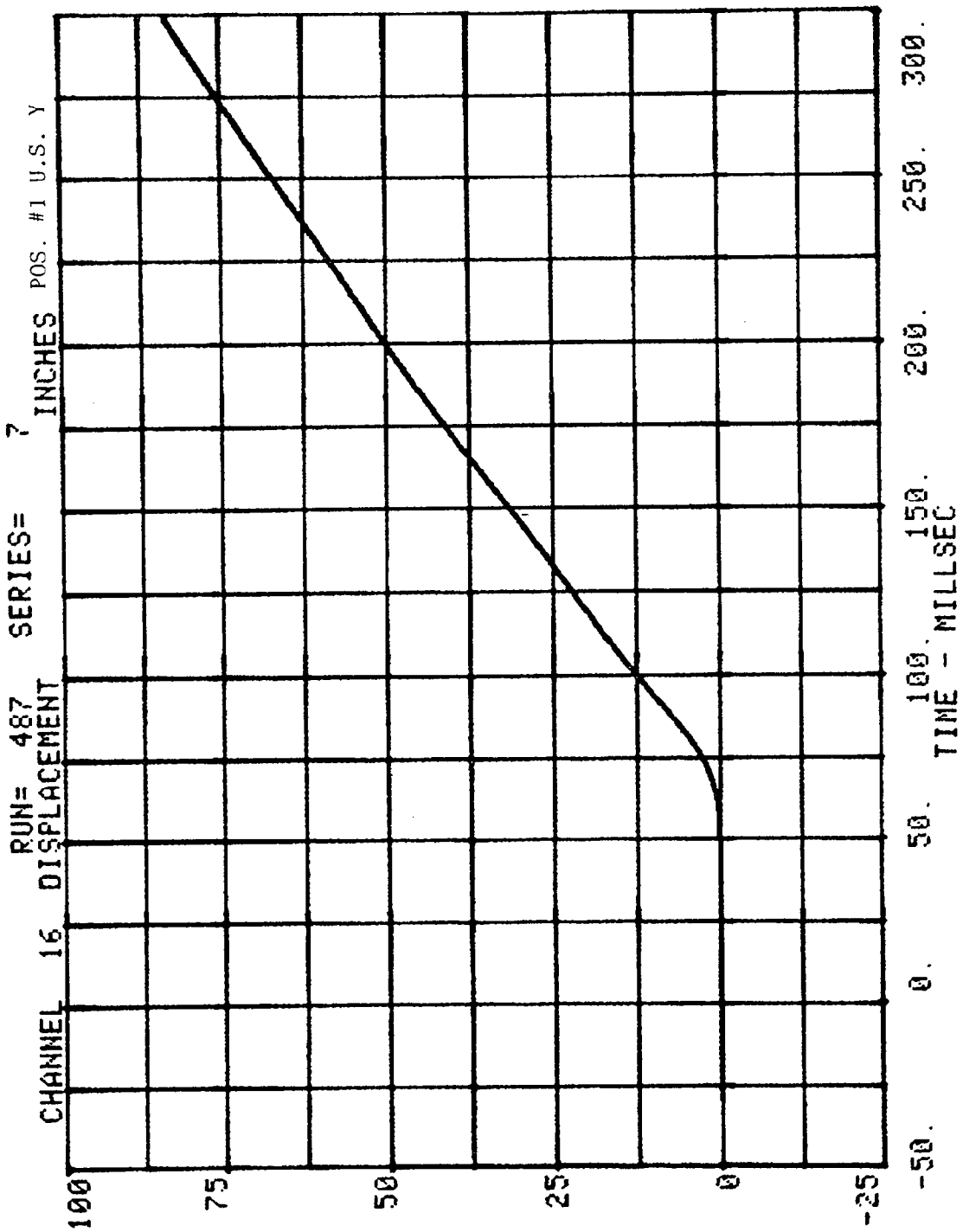

RUN= 487 SERIES= 7
CHANNEL 15 VEH#2 POS#1 HEAD Z G'S
40
30
20
10
0
-10
-50.
0.
50.
100
150.
200.
250.
300.
TIME - MILLSEC

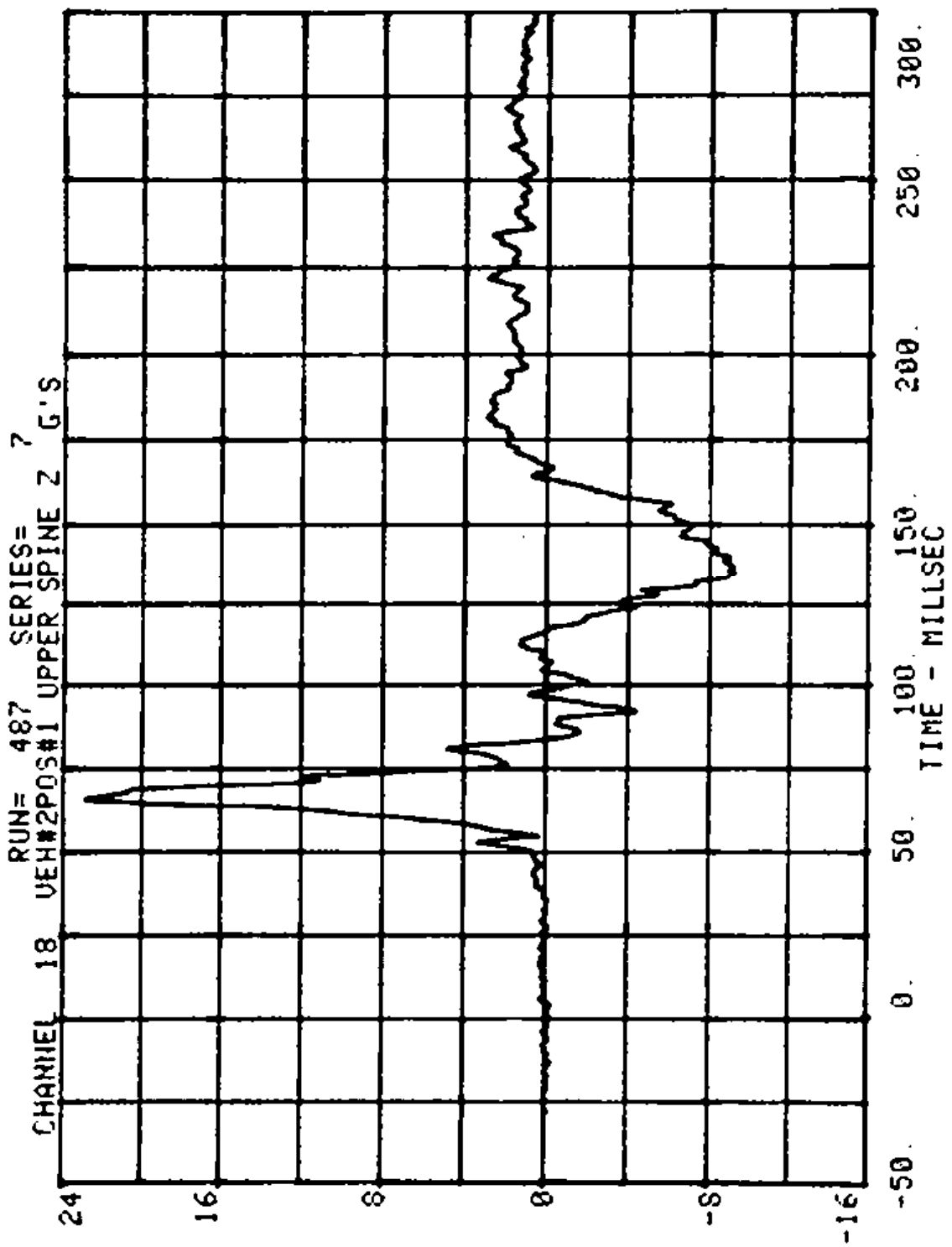

CHANNEL 1 VEH#2 POS#1 HEAD R
RUN= 487 SERIES= 7
G'S
200.
160.
120.
80.
40.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

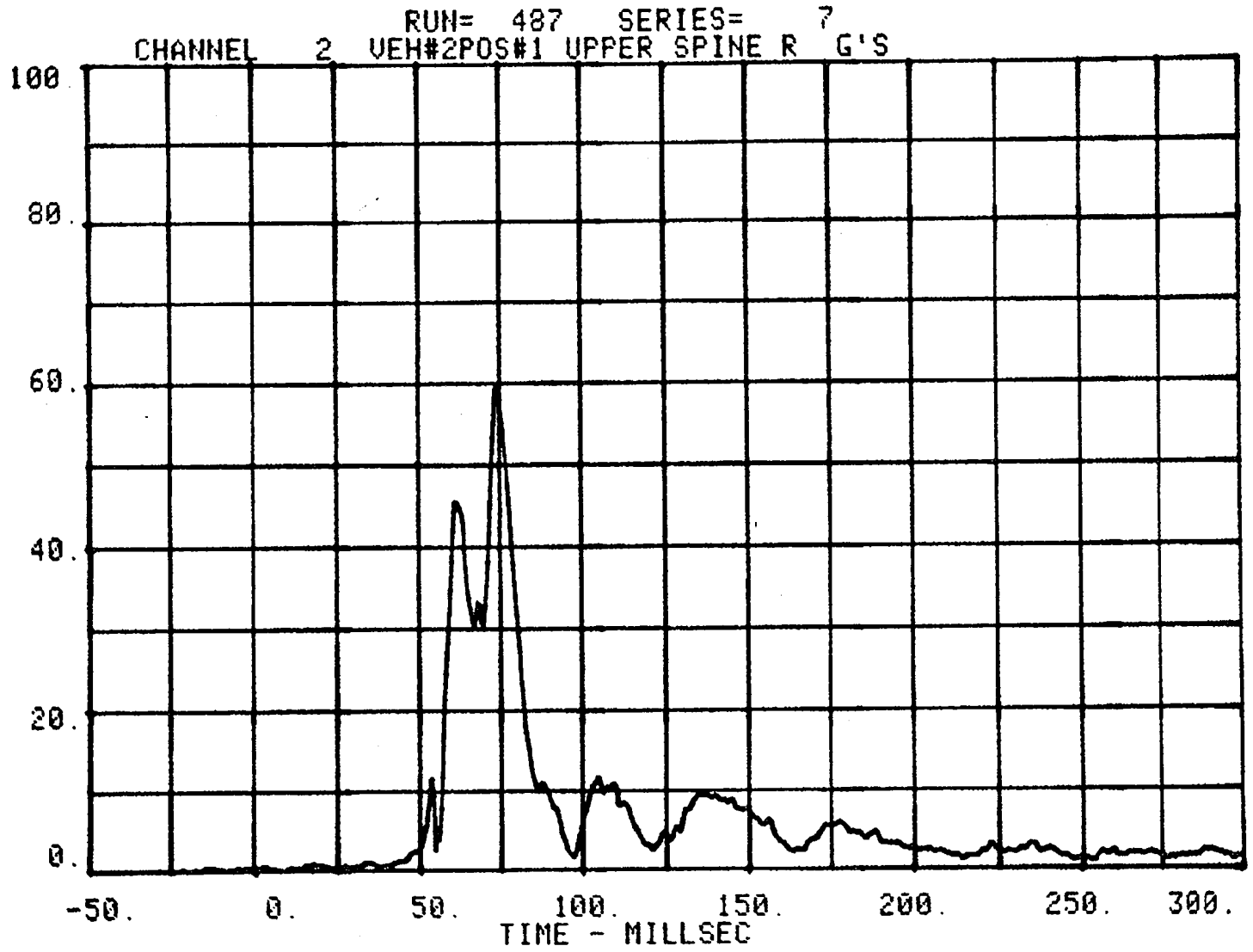

CHANNEL 16 VEH#2POS#1 UPPER SPINE X G'S
RUN= 487 SERIES= 7
8
4
0
-4
-8
-12
-50
0
50
100
150
200
250
300
TIME - MILLSEC

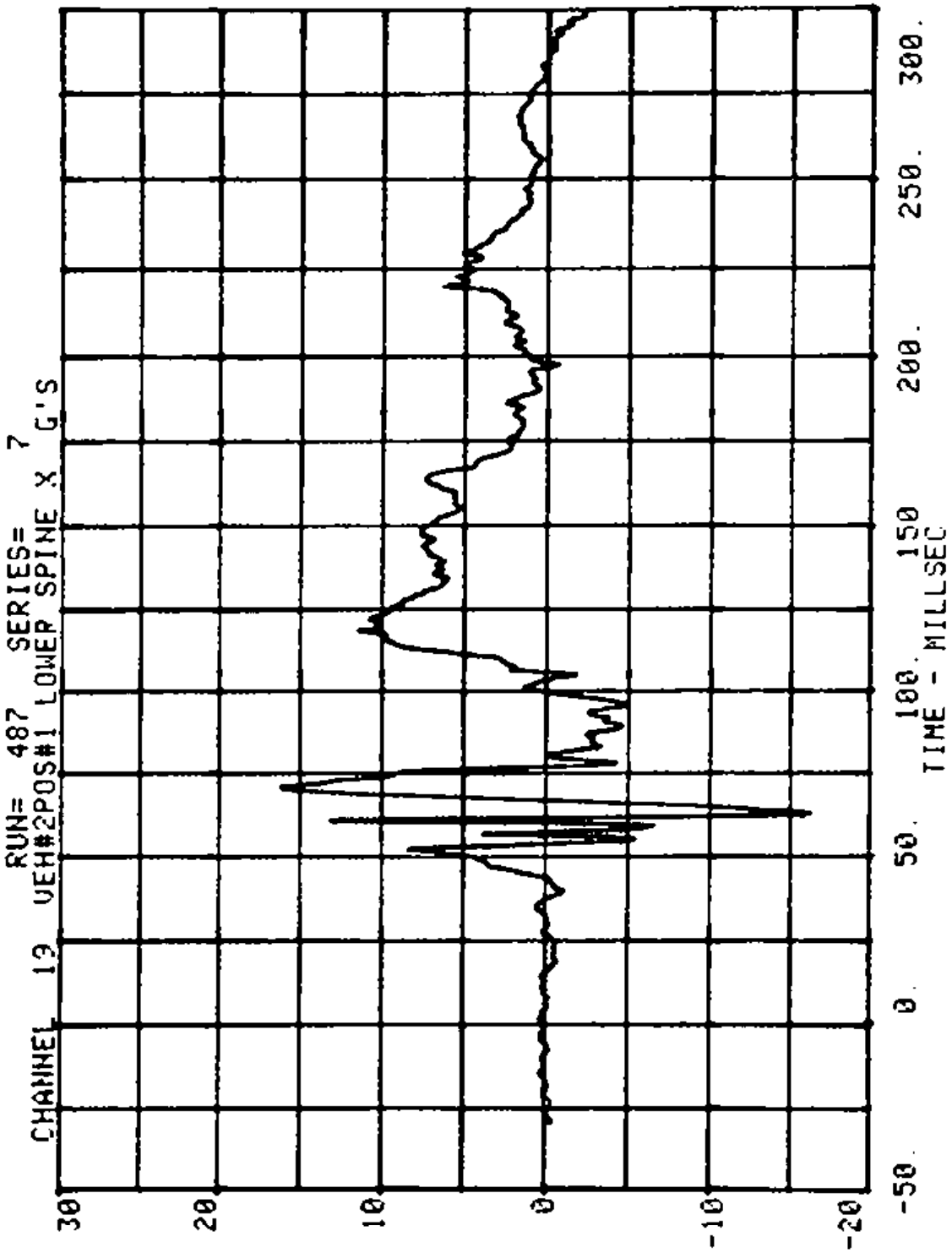

CHANNEL 17 VEH#2POS#1 UPPER SPINE Y
RUN= 487 SERIES= 7
G'S
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

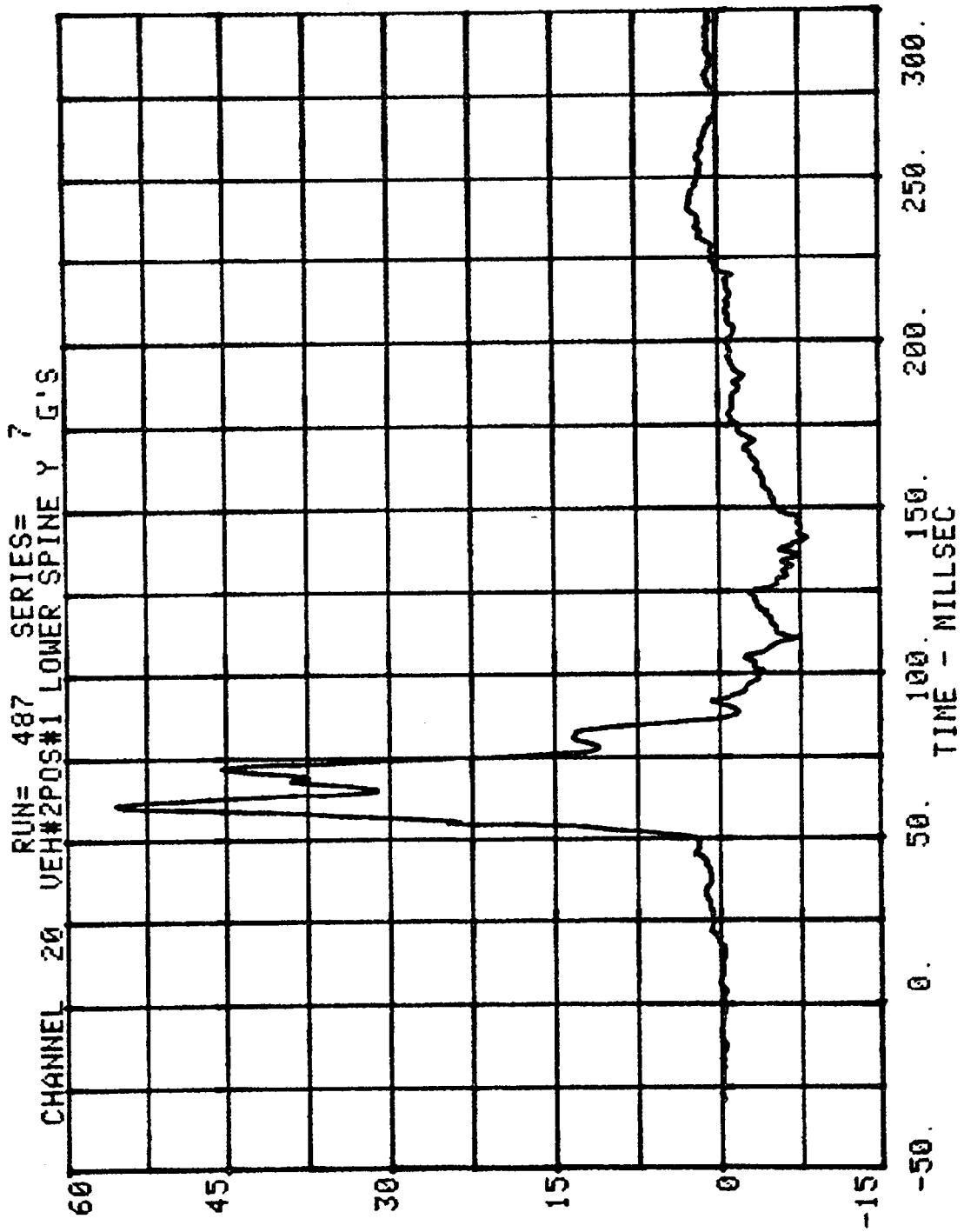

CHANNEL 15 VELOCITY
RUN= 487 SERIES= 7
MPH
POS. X1 U.S. Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200
250.
300.
TIME - MILLSEC

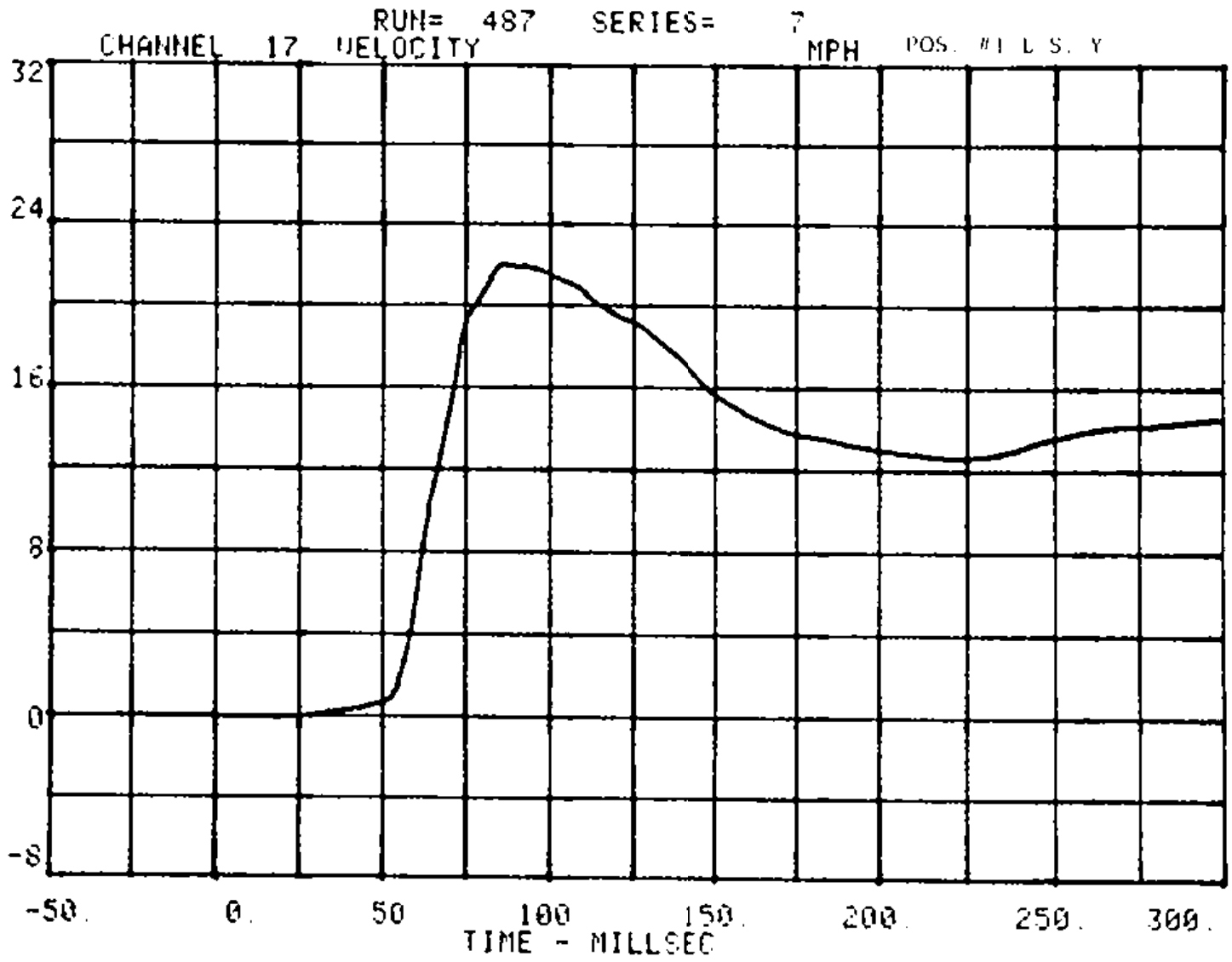

CHANNEL 16 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #1 U.S. Y
100
75
50
25
0
-25
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

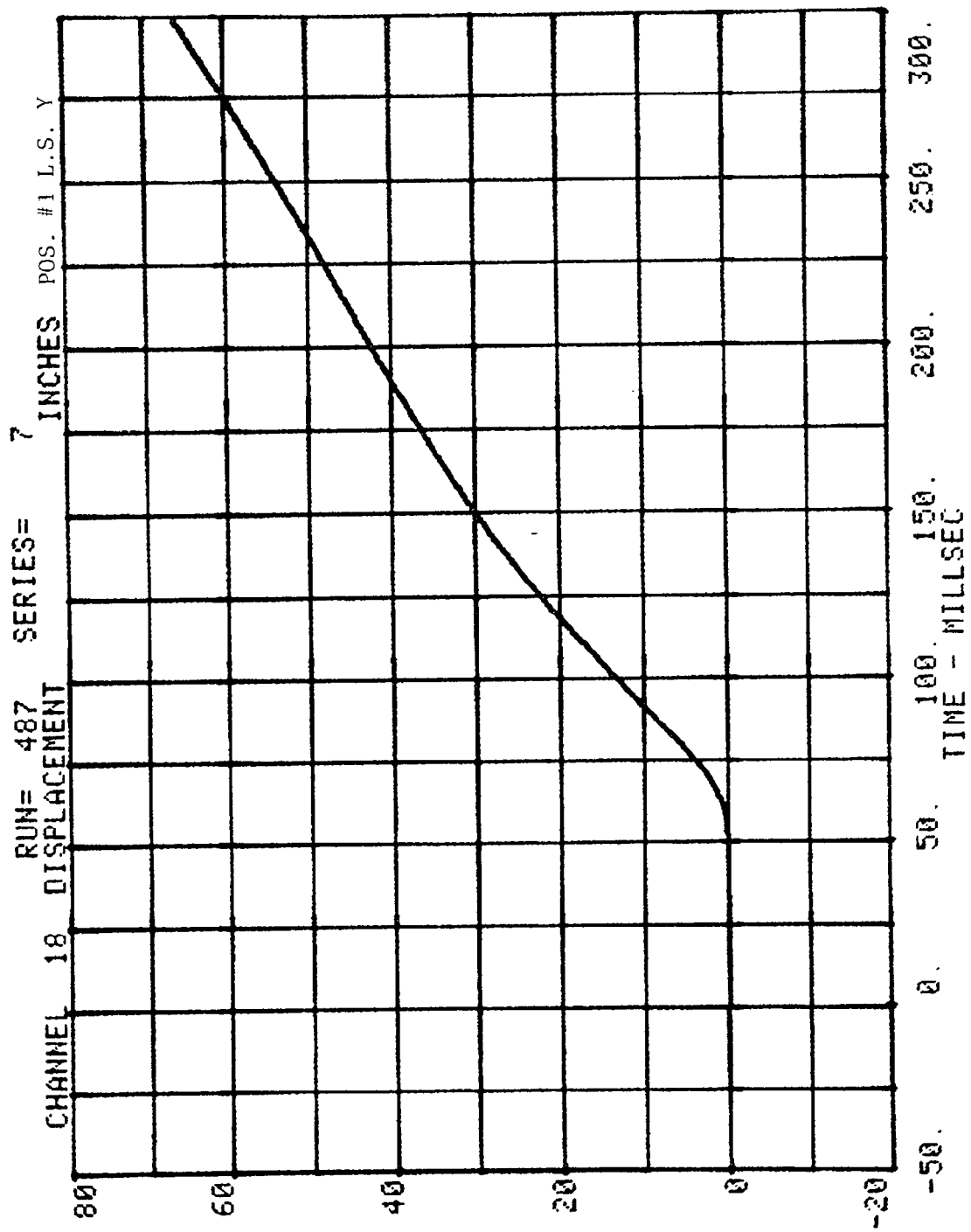

CHANNEL 18 VEH#2POS#1 UPPER SPINE Z G'S
RUN= 487 SERIES= 7
24
16
8
0
-8
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

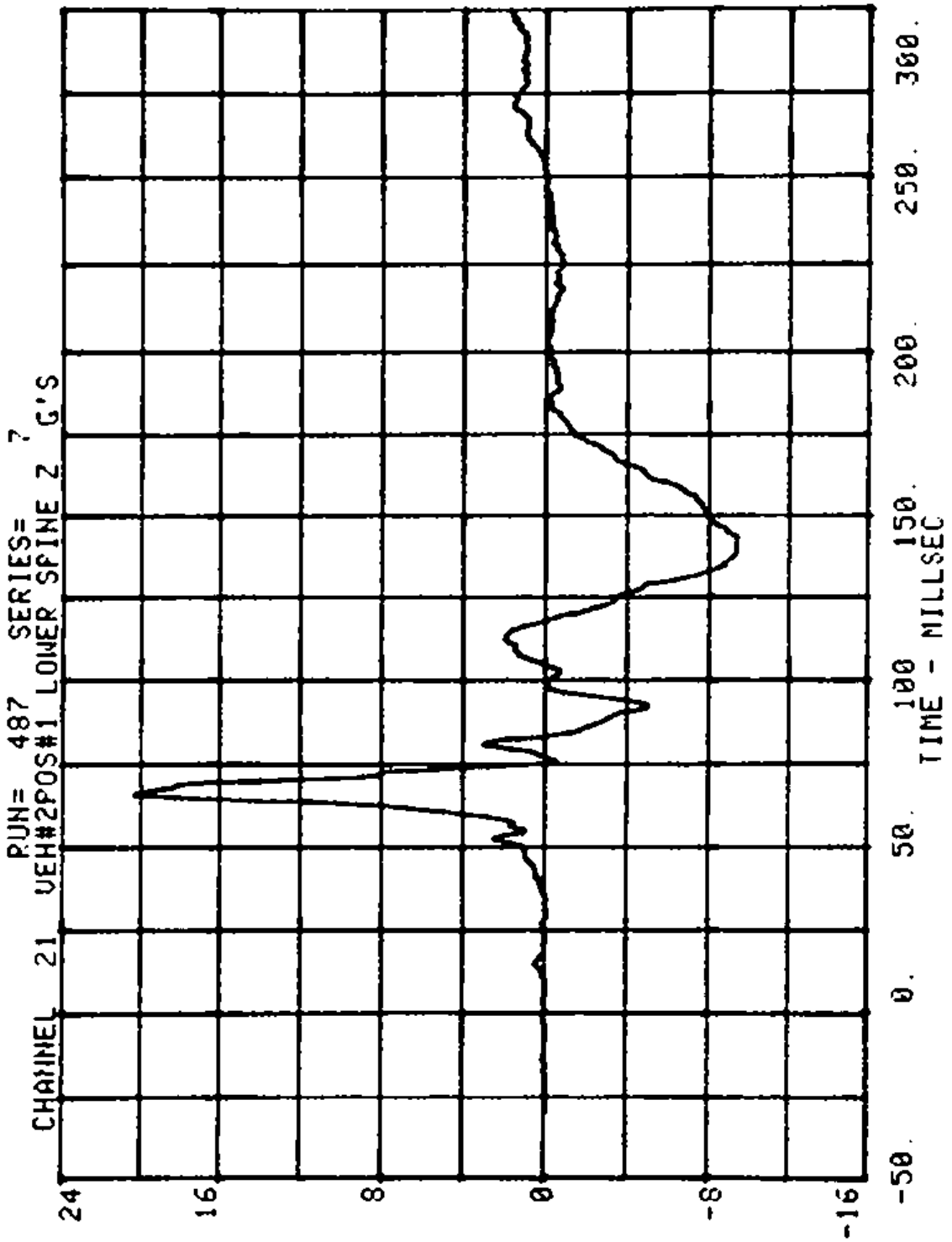

RUN= 487 SERIES= 7
CHANNEL 2 VEH#2POS#1 UPPER SPINE R G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

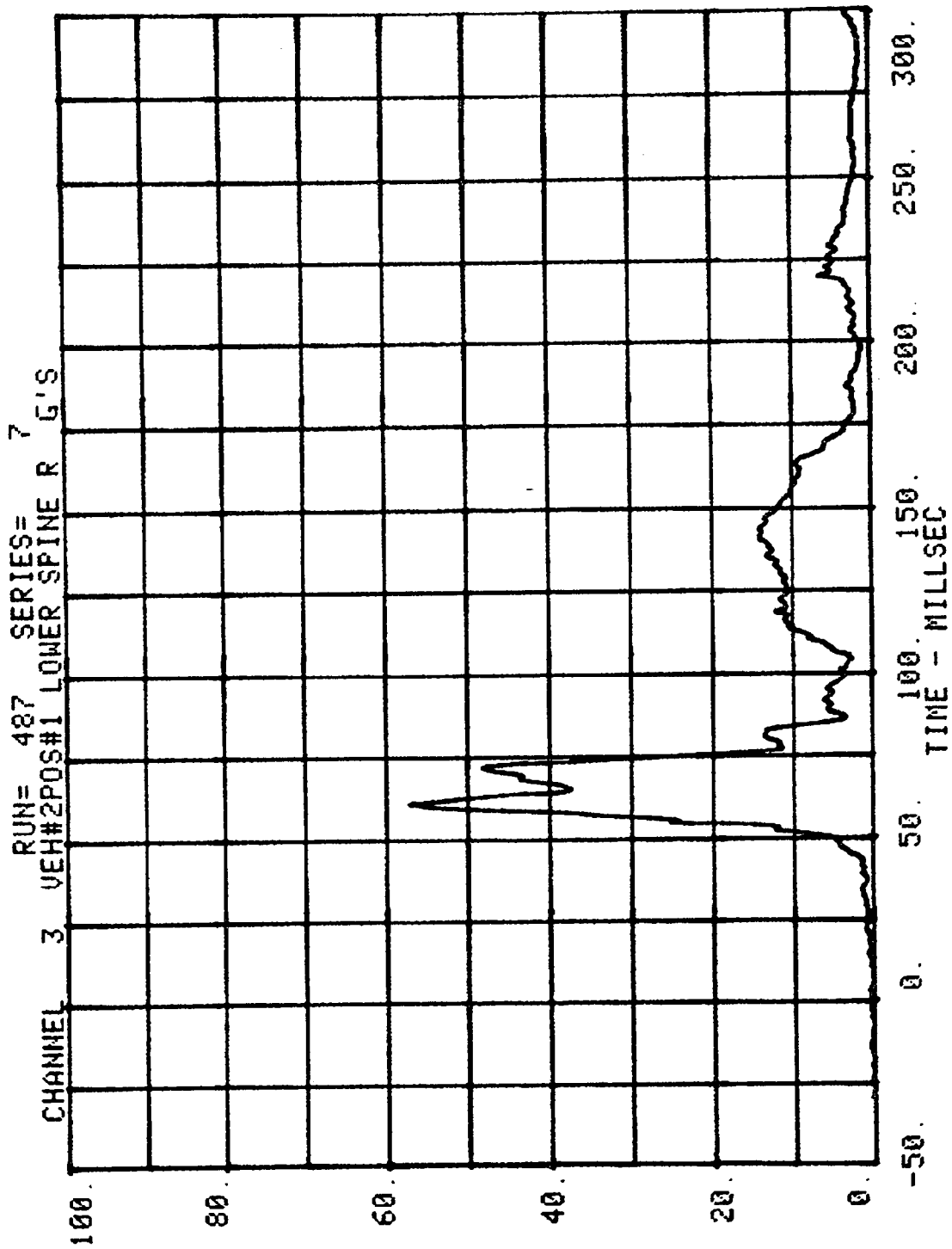

CHANNEL 19 VEH#2POS#1 LOWER SPINE X G'S
RUN= 487 SERIES= 7
30
20
10
0
-10
-20
-50.
0.
50.
100.
150
200.
250.
300.
TIME - MILLSEC

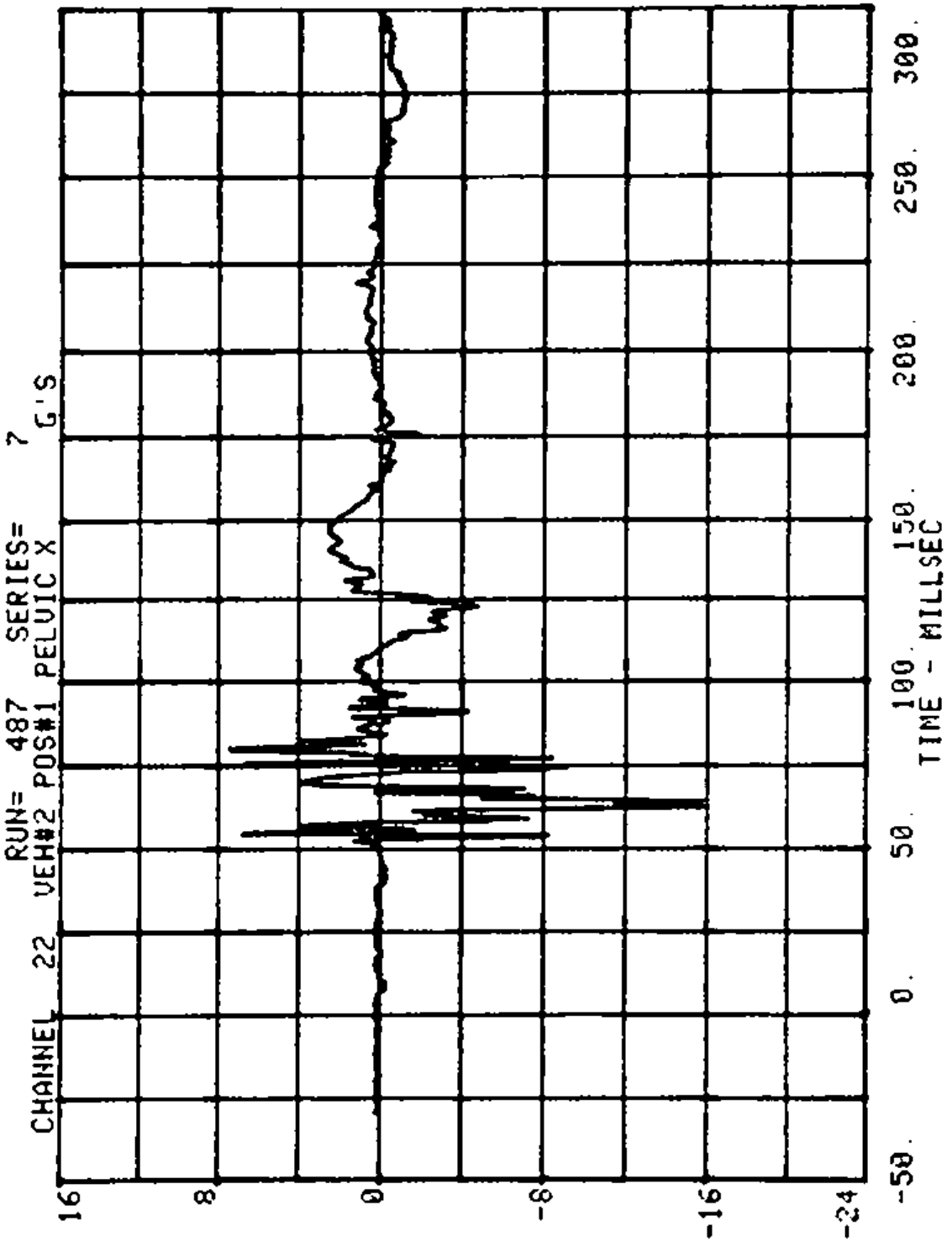

CHANNEL 20 VEH#2POS#1 LOWER SPINE Y
RUN= 487 SERIES= 7
G'S
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

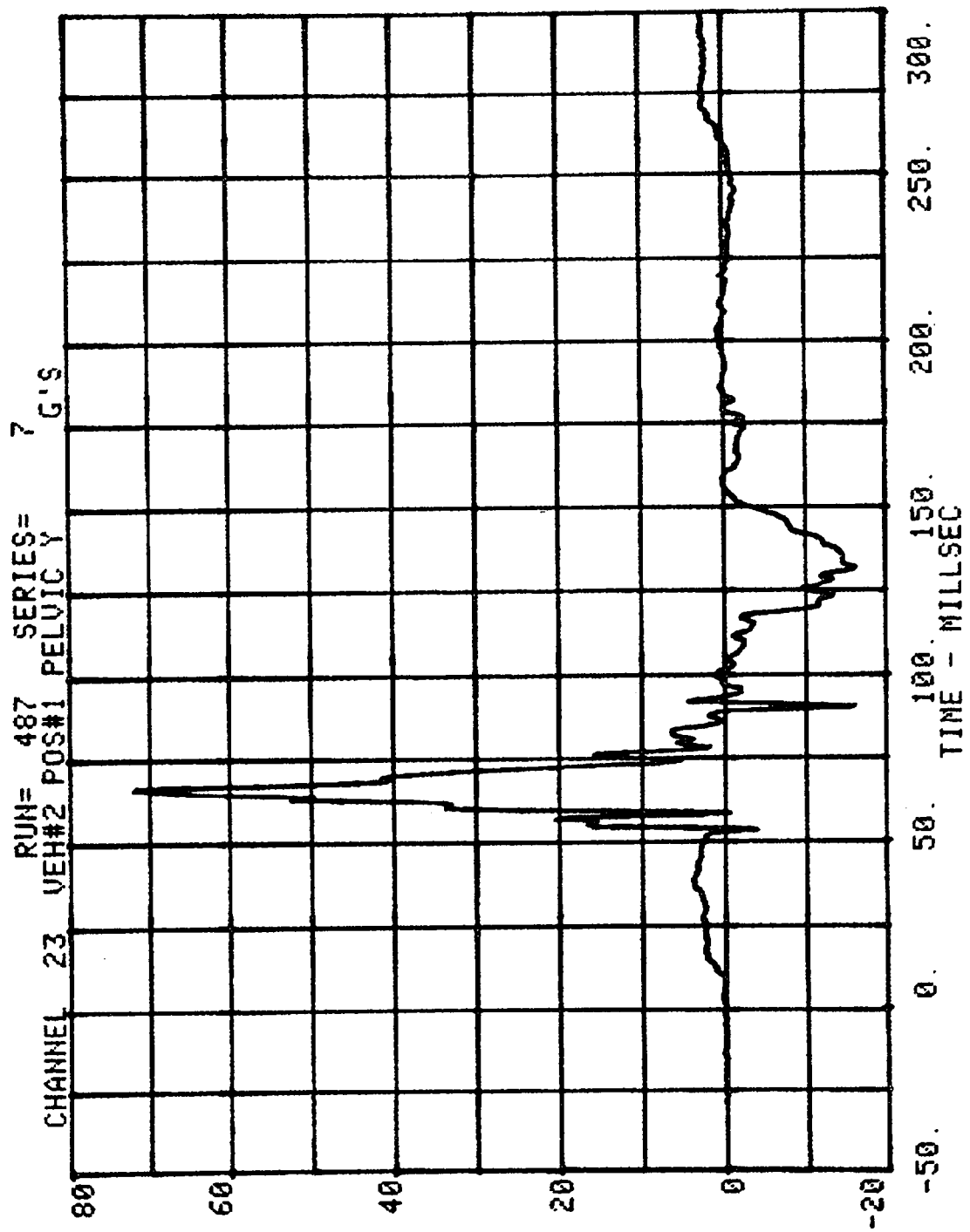

RUN= 487 SERIES= 7
CHANNEL 17 VELOCITY
MPH
POS. #1 D.S. Y
32
24
16
8
0
-8
-50.
0.
50
100
150.
200.
250.
300.
TIME - MILLSEC

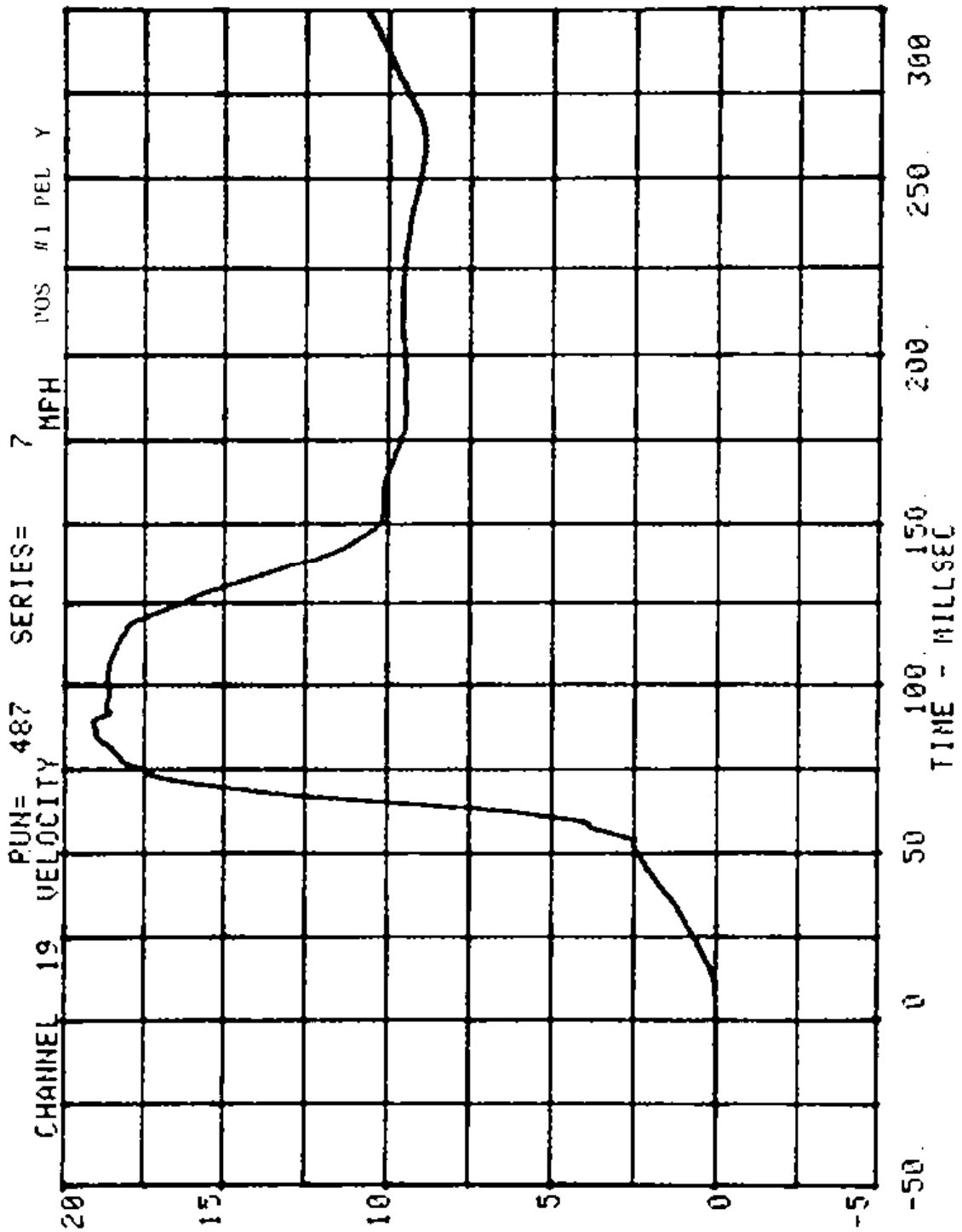

CHANNEL 18 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #1 L.S. Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

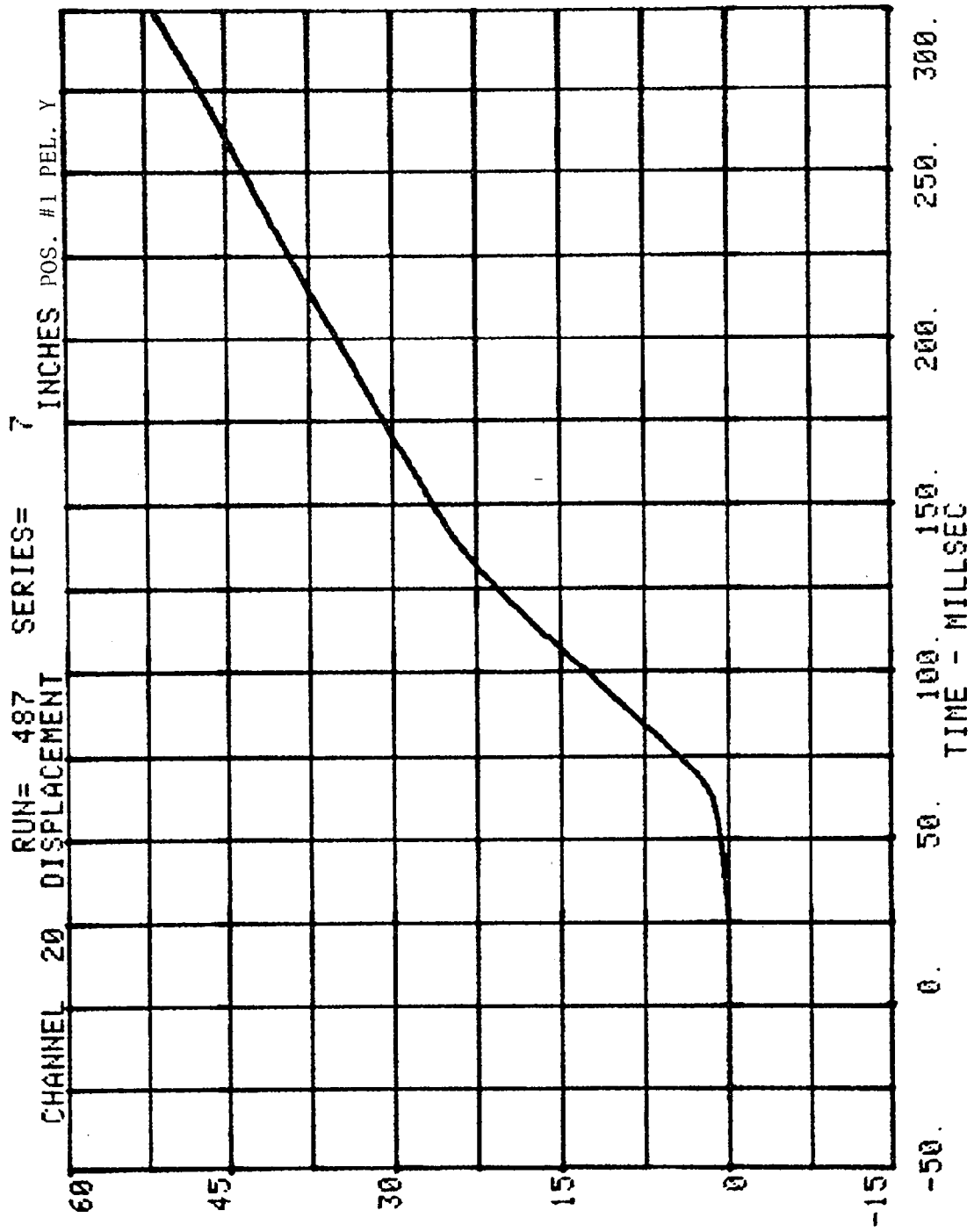

CHANNEL 21 VEH#2POS#1 LOWER SPINE Z
RUN= 487 SERIES= 7
G'S
24
16
8
0
-8
-16
-50.
0.
50.
100
150.
200.
250.
300.
TIME - MILLSEC

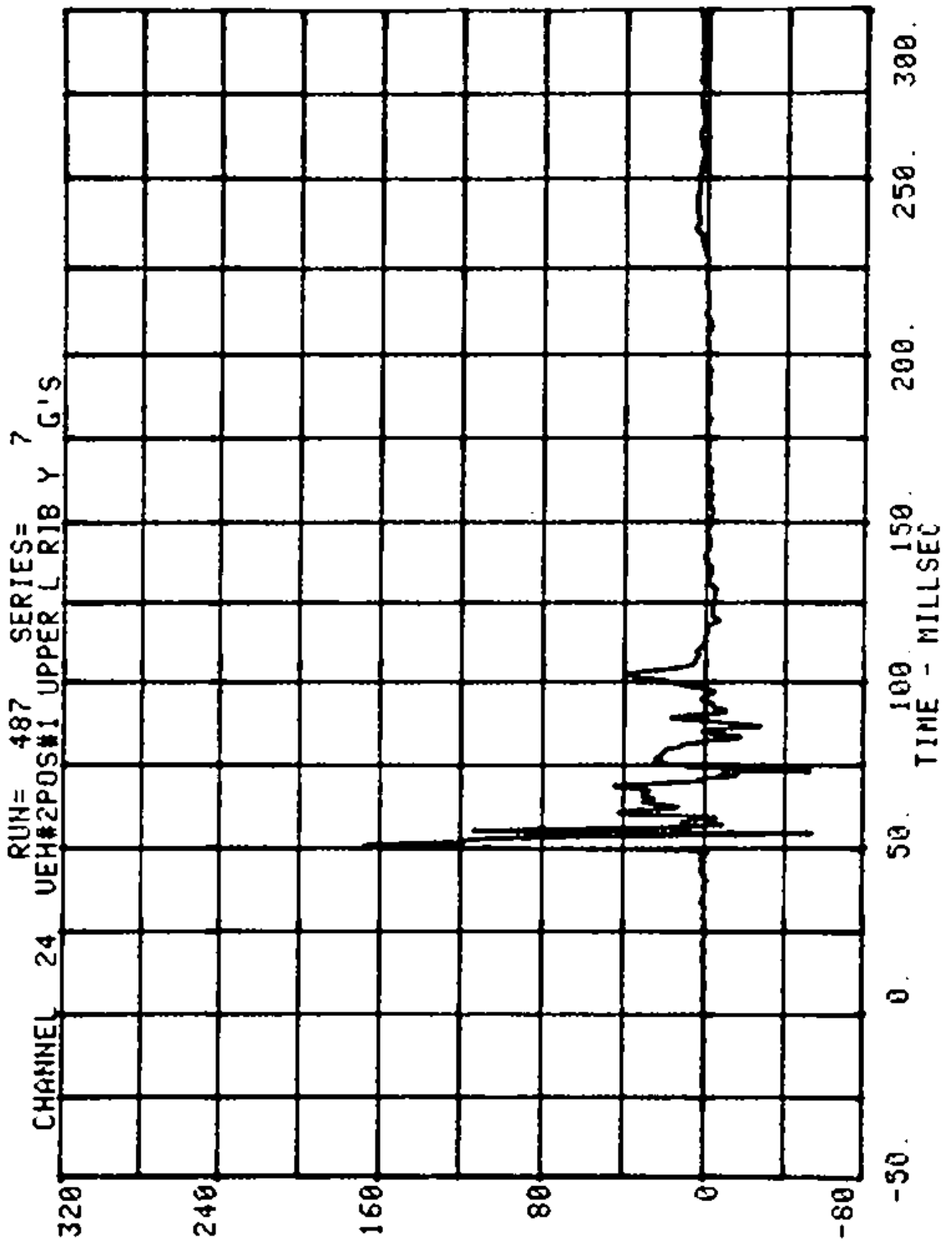

CHANNEL 3 RUN= 487 SERIES= 7
VEH#2POS#1 LOWER SPINE R G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

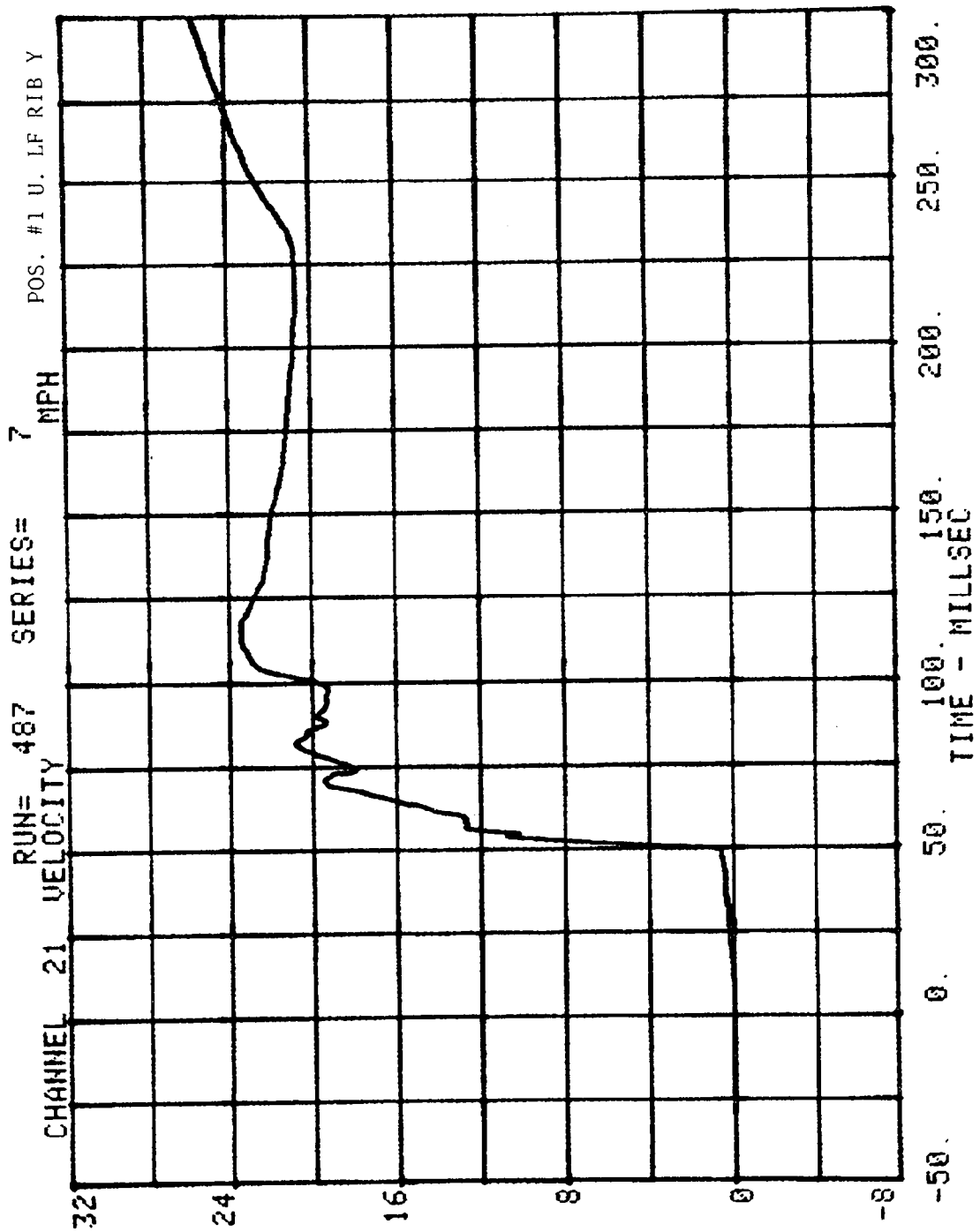

CHANNEL 22 VEH#2 POS#1 PELVIC X
RUN= 487 SERIES= 7
G'S
16
8
0
-8
-16
-24
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

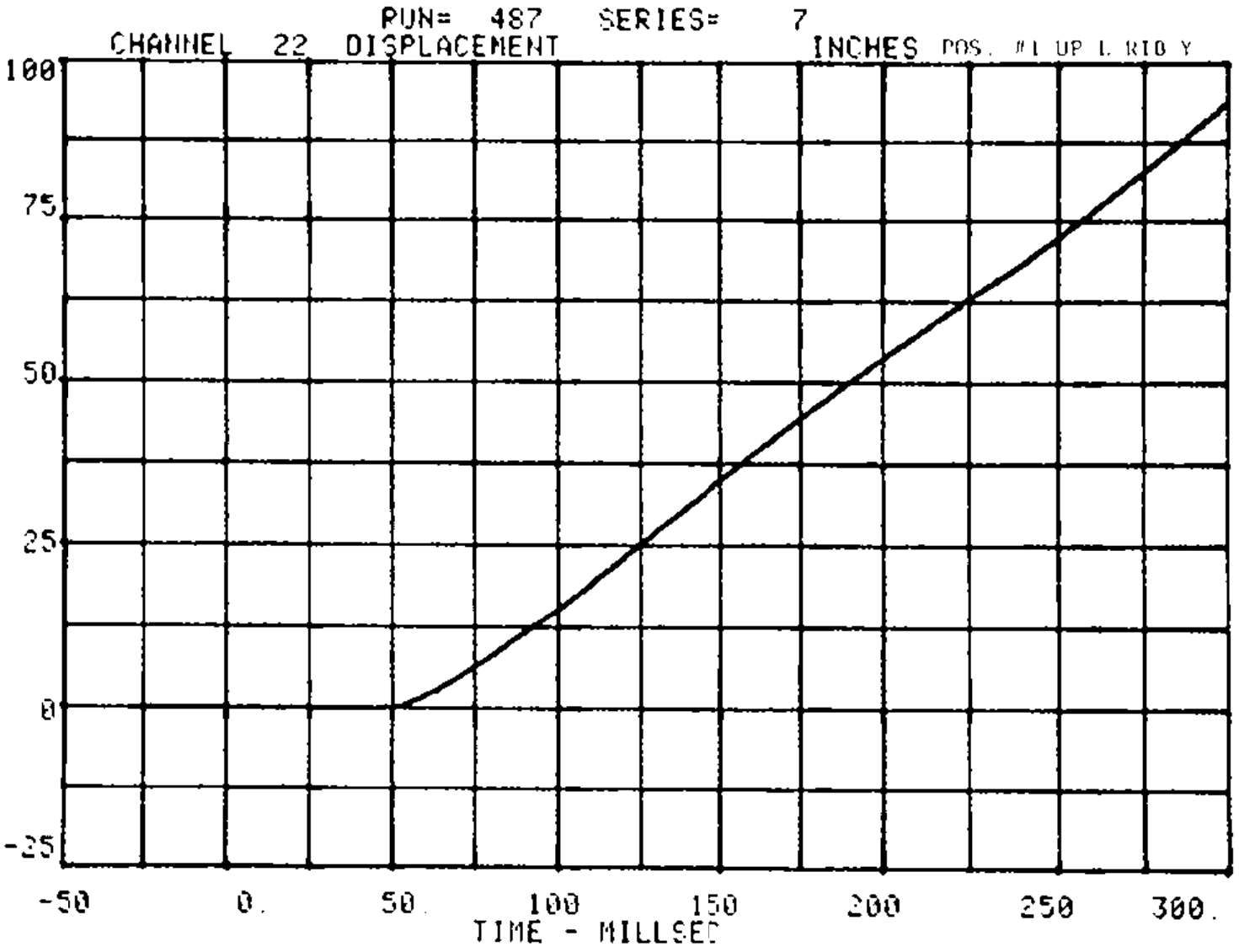

CHANNEL 23 VEH#2 POS#1 PELVIC Y
RUN= 487 SERIES= 7
G'S
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

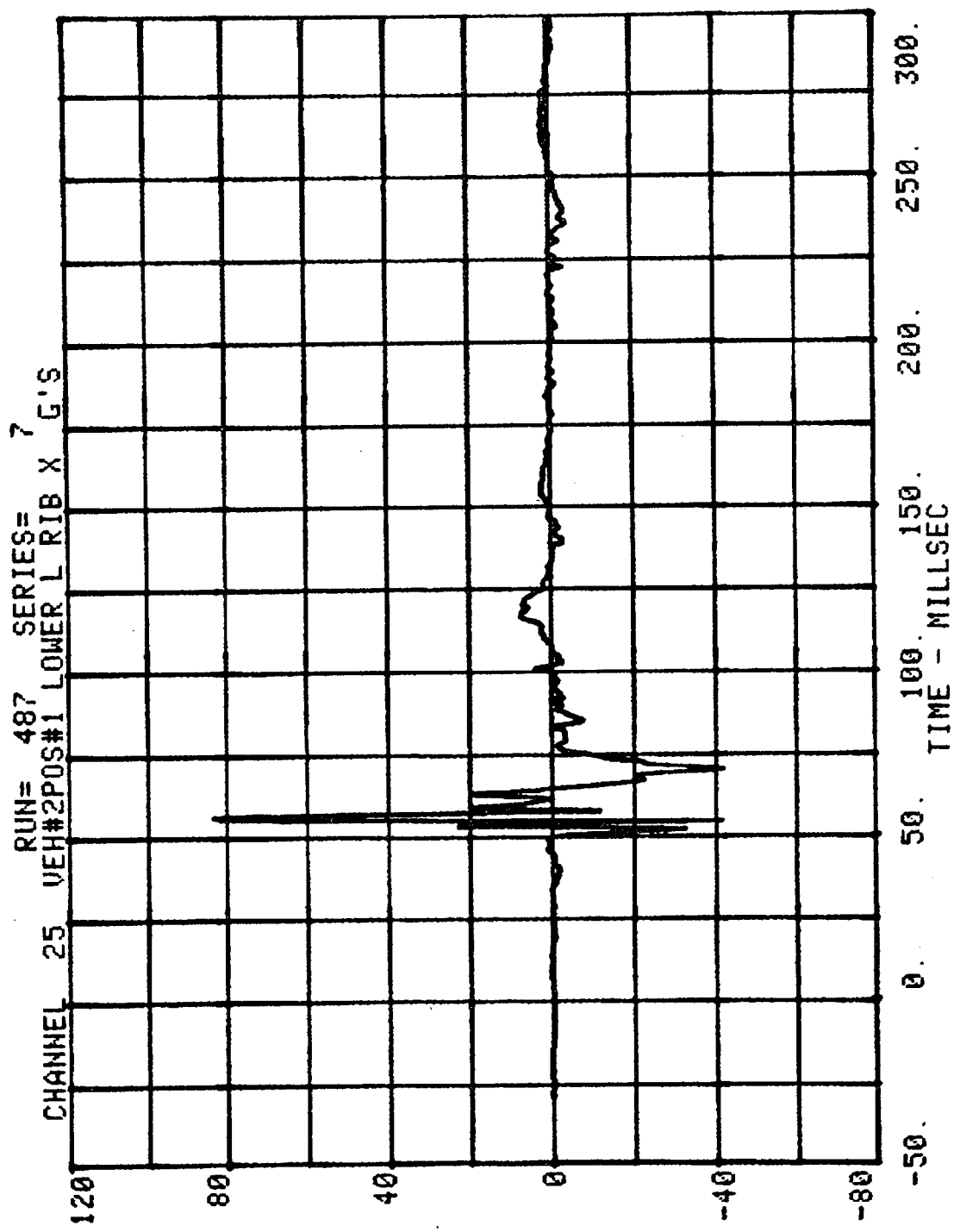

CHANNEL 19 VELOCITY
RUN= 487 SERIES= 7
MPH
POS #1 REL Y
20
15
10
5
0
-5
-50
0
50
100
150
200
250
300
TIME - MILLSEC

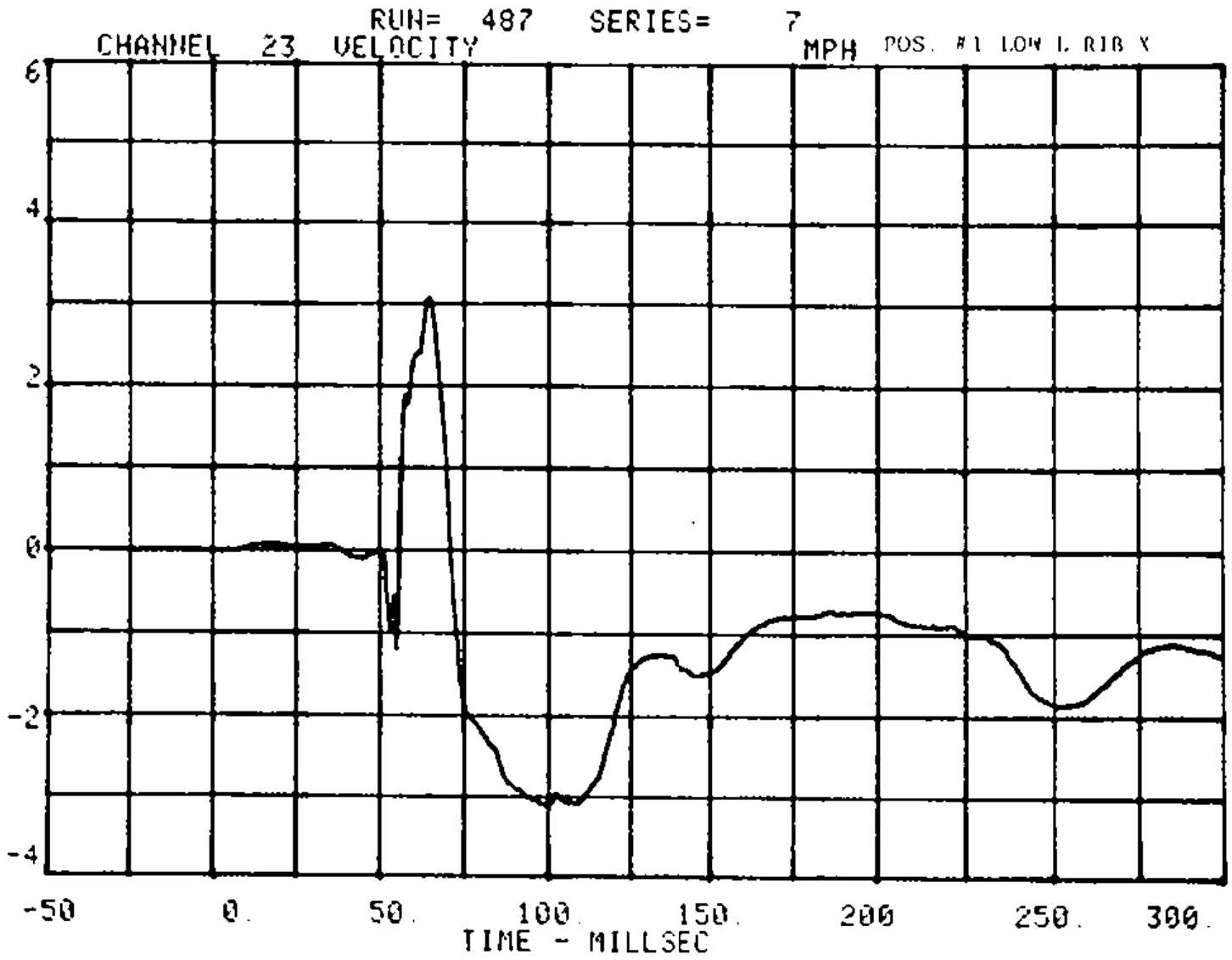

CHANNEL 20 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #1 PEL. Y
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

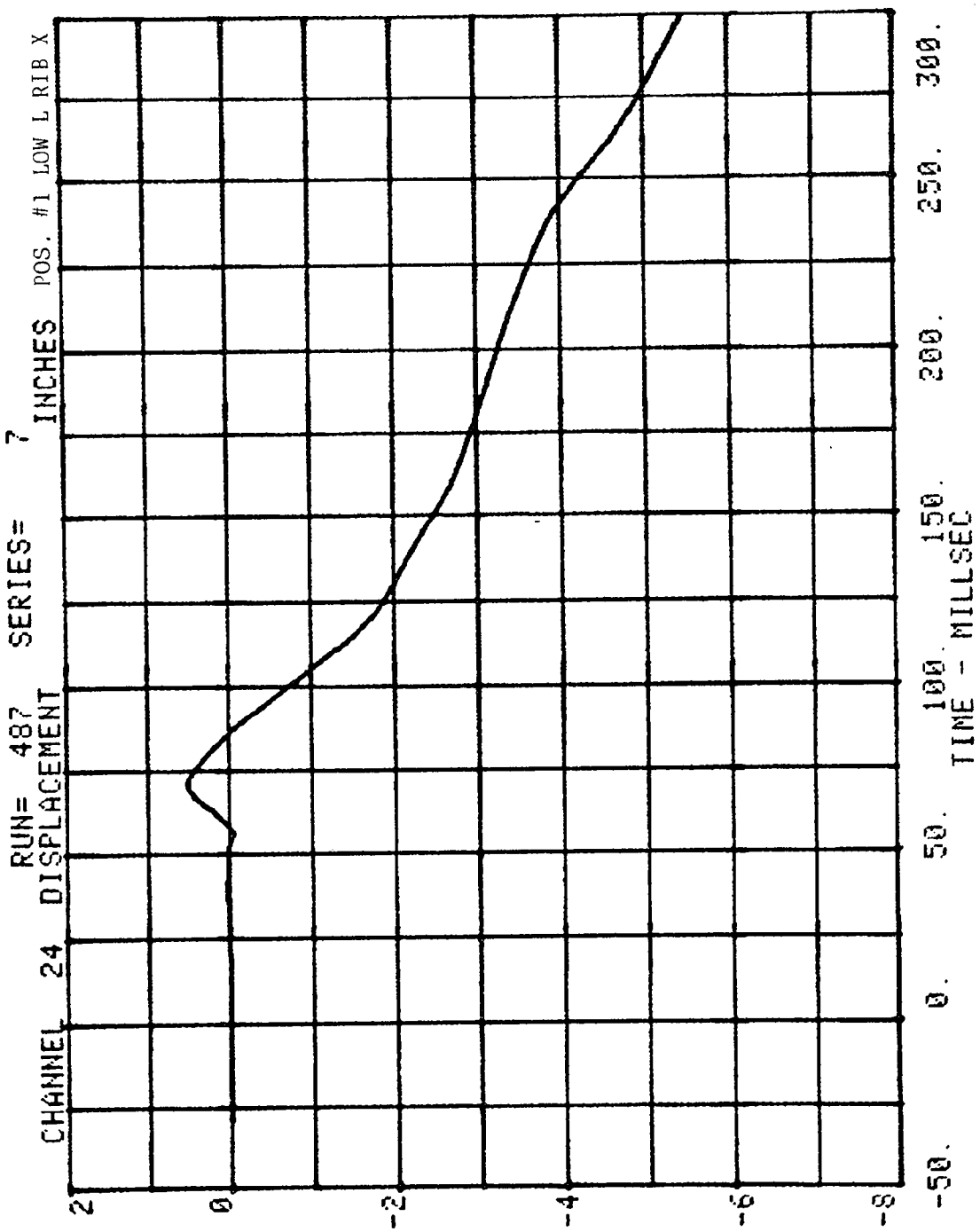

RUN= 487 SERIES= 7
CHANNEL 24 VEH#2POS#1 UPPER L RIB Y G'S
320
240
160
80
0
-80
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

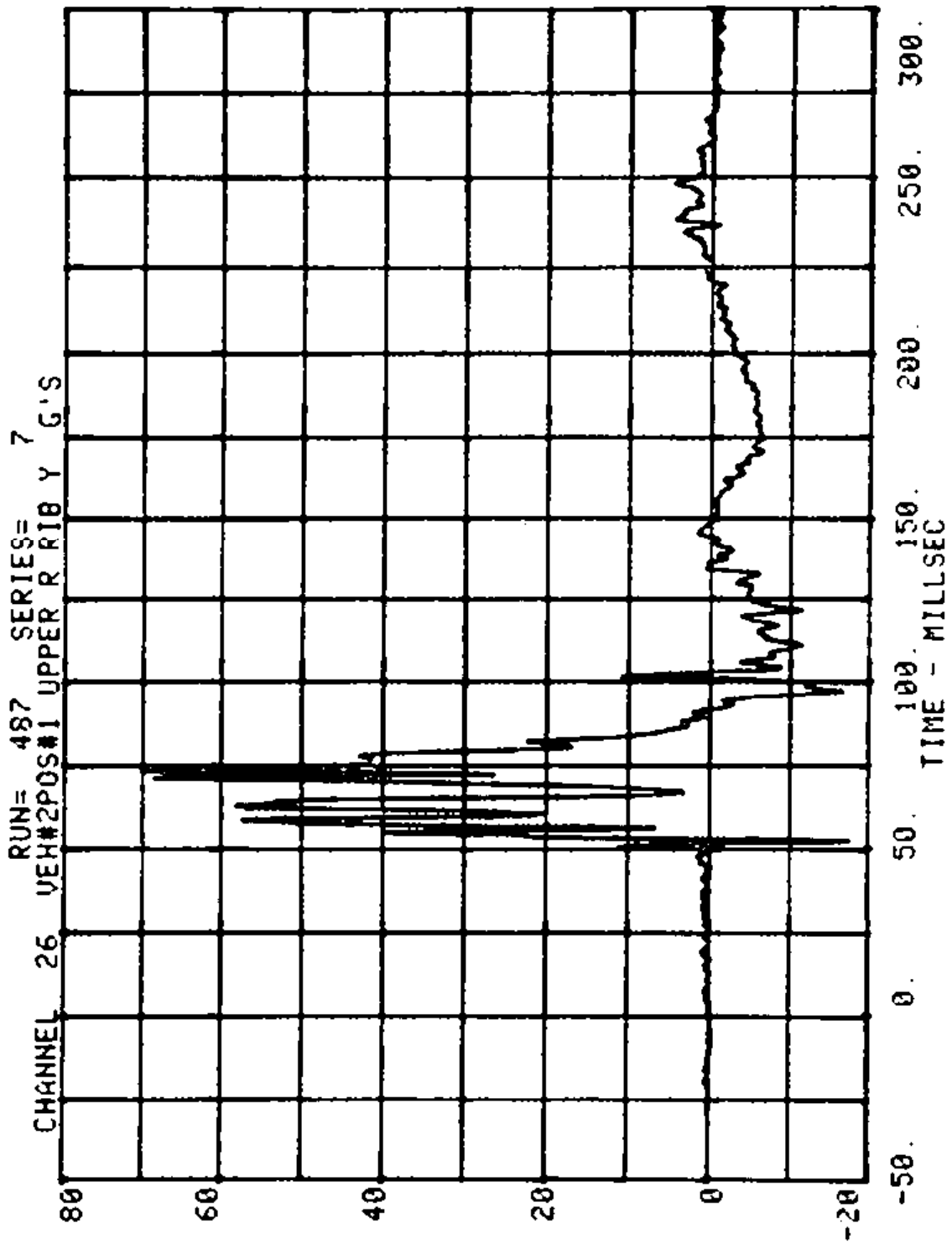

CHANNEL 21 VELOCITY
RUN= 487 SERIES= 7
MPH
POS. #1 U. LF RIB Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

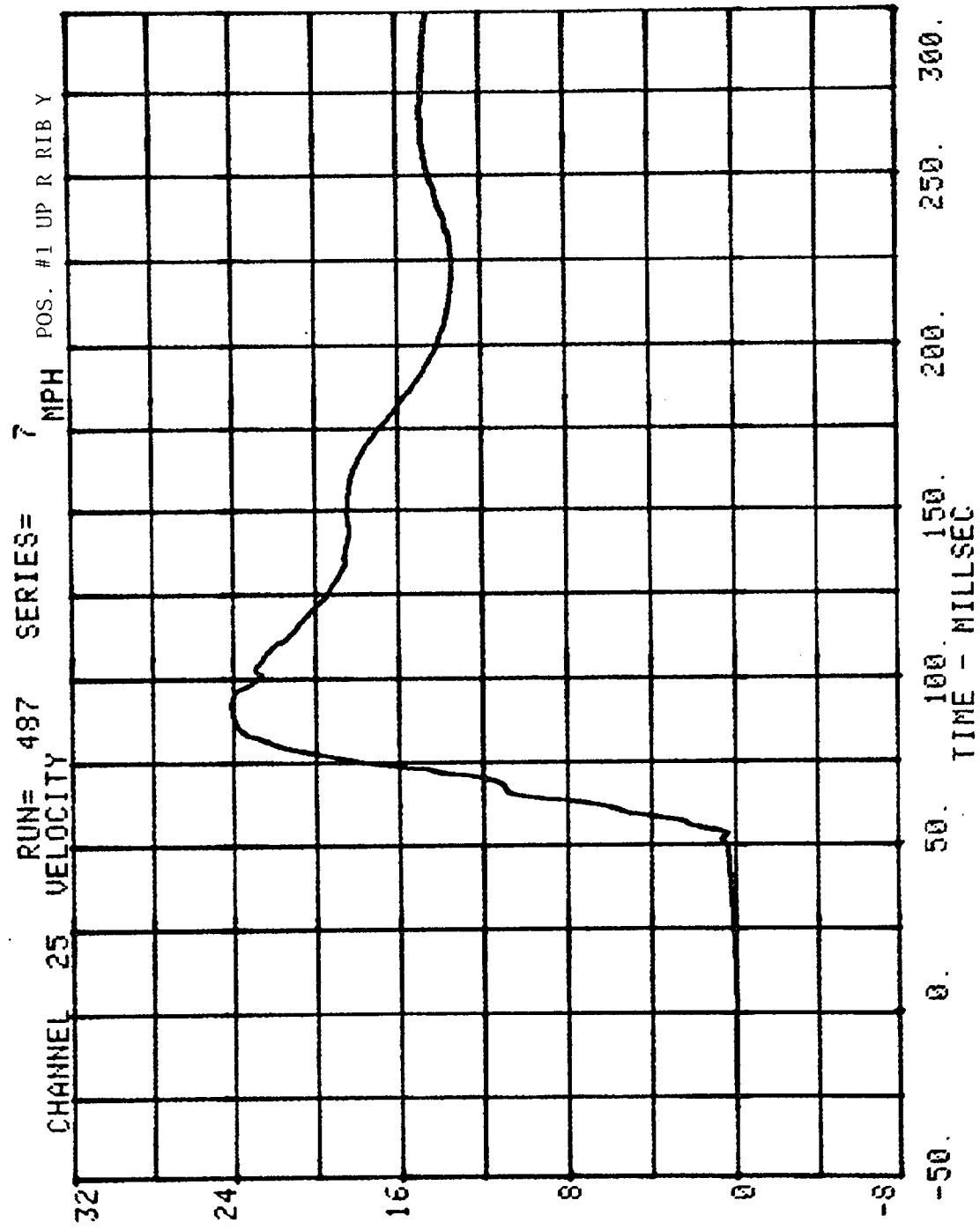

RUN= 487 SERIES= 7
CHANNEL 22 DISPLACEMENT INCHES POS. #1 UP L RIB Y
100
75
50
25
0
-25
-50
0.
50
100
150
200
250
300.
TIME - MILLSEC

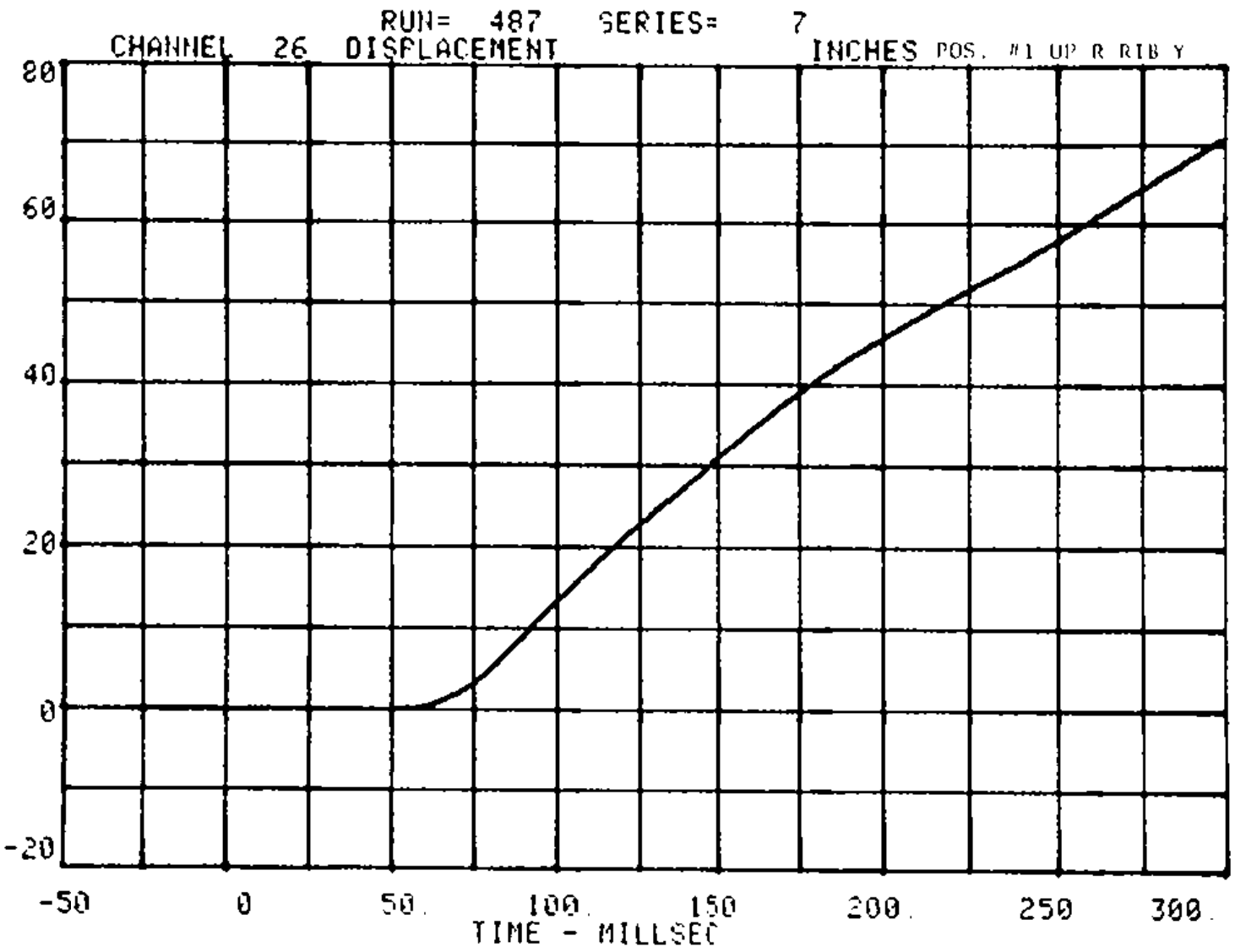

CHANNEL 25 VEH#2POS#1 LOWER L RIB X G'S
RUN= 487 SERIES= 7
120
80
40
0
-40
-80
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

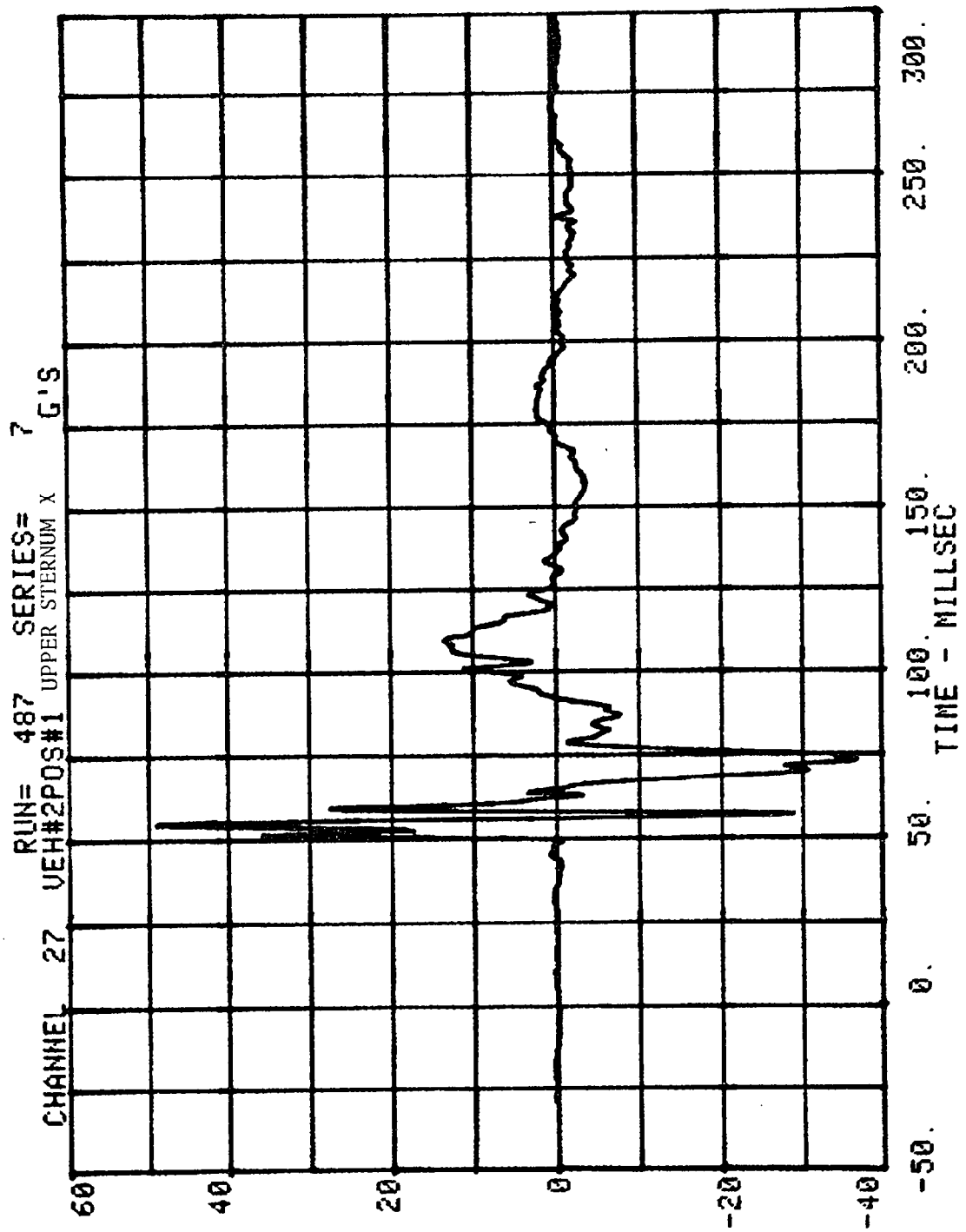

RUN= 487 SERIES= 7
CHANNEL 23 VELOCITY
MPH
POS. #1 LOW L RIB X
6
4
2
0
-2
-4
-50
0.
50.
100.
150.
200
250.
300.
TIME - MILLSEC

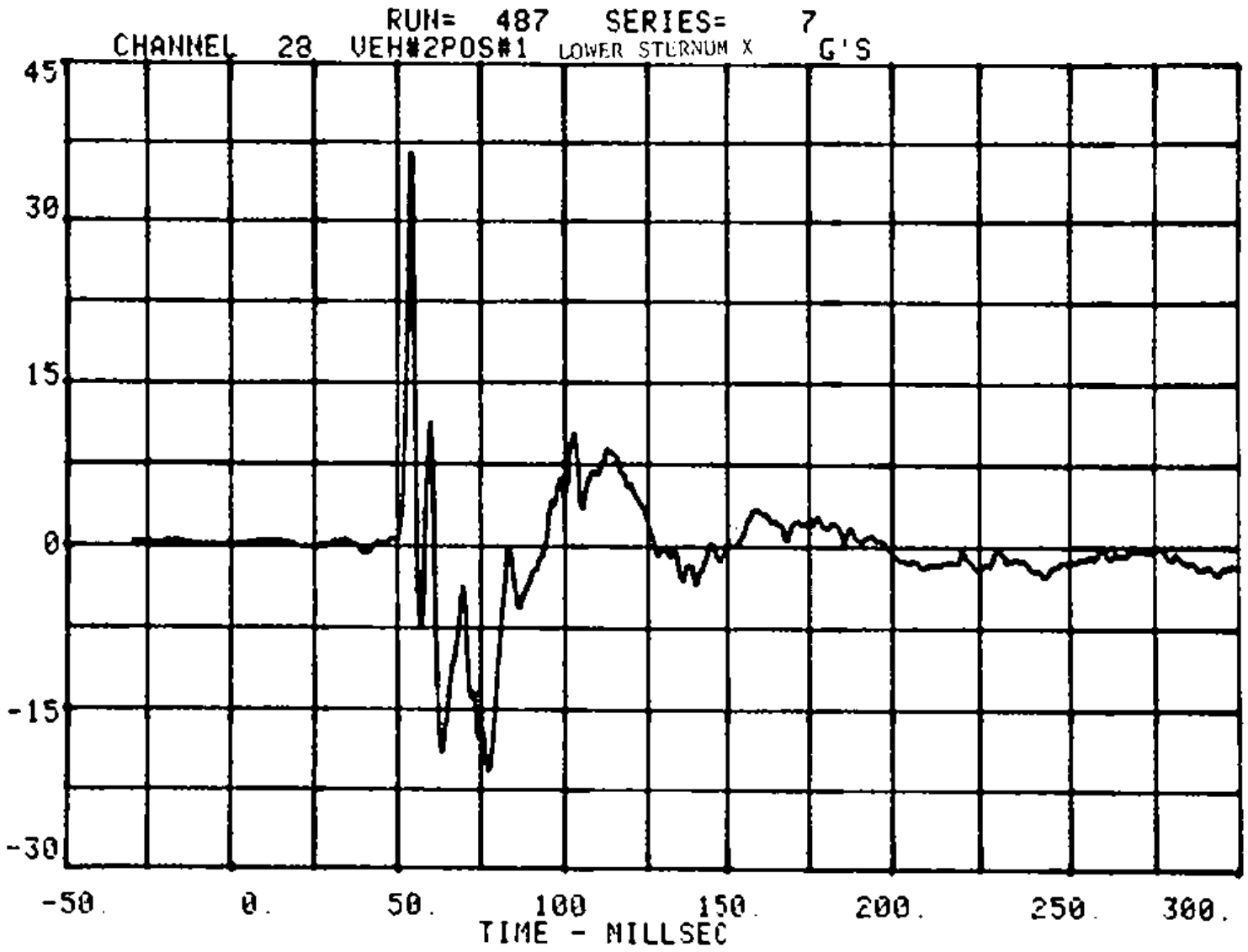

CHANNEL 24 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #1 LOW L RIB X
2
0
-2
-4
-6
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

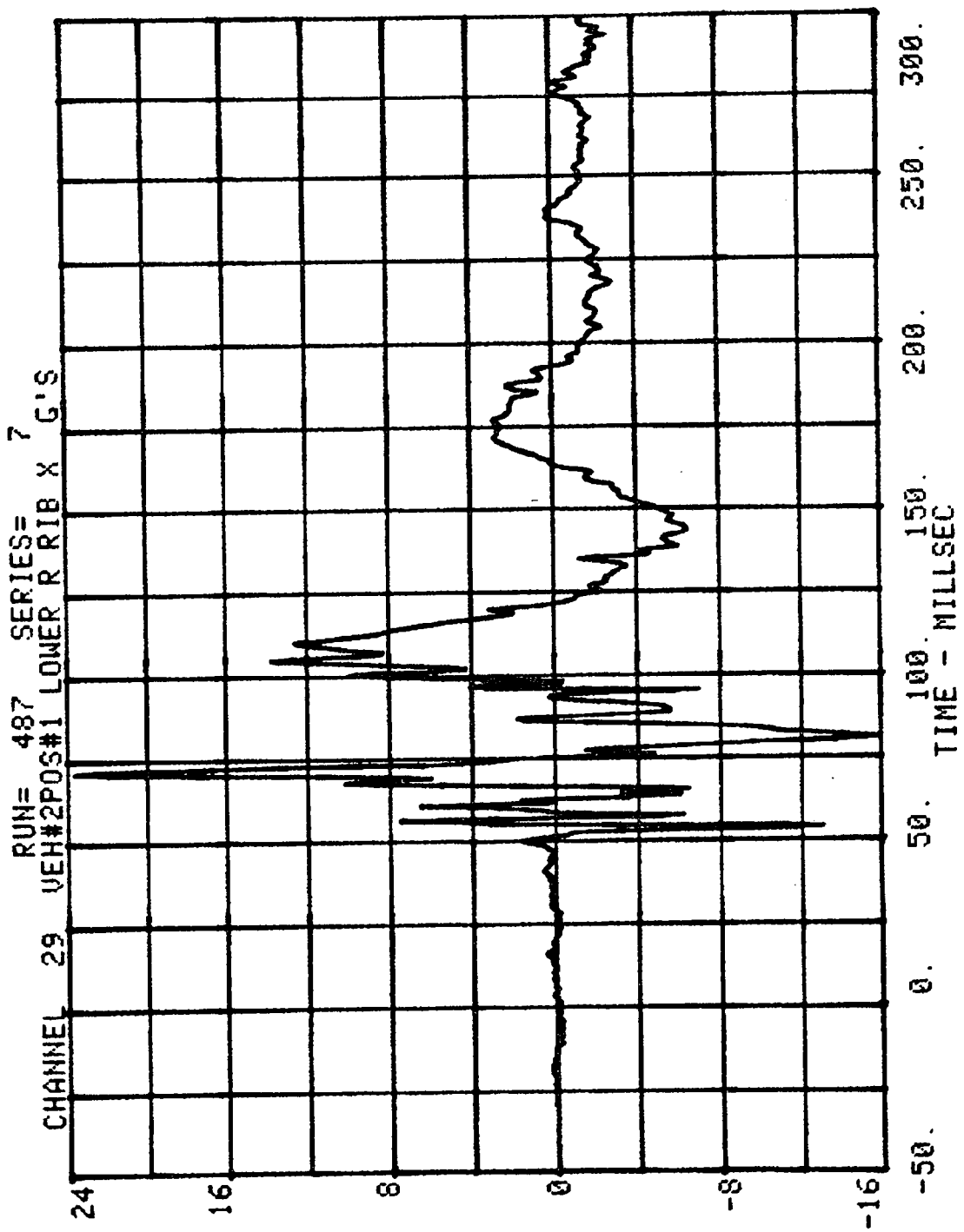

CHANNEL 26 VEH#2POS#1 UPPER R R18 Y G'S
RUN= 487 SERIES= 7
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

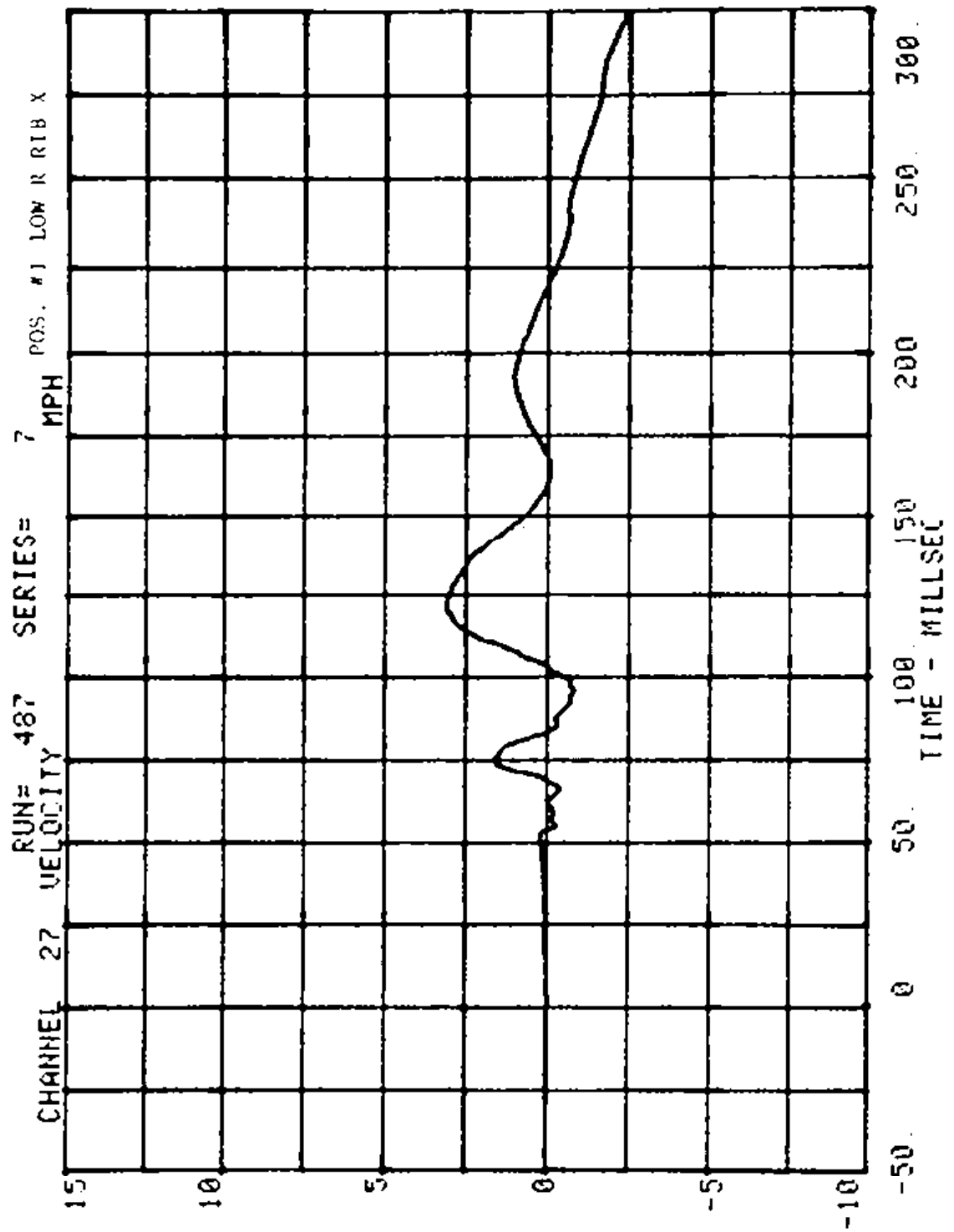

CHANNEL 25 VELOCITY
RUN= 497 SERIES= 7
MPH POS. #1 UP R RIB Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

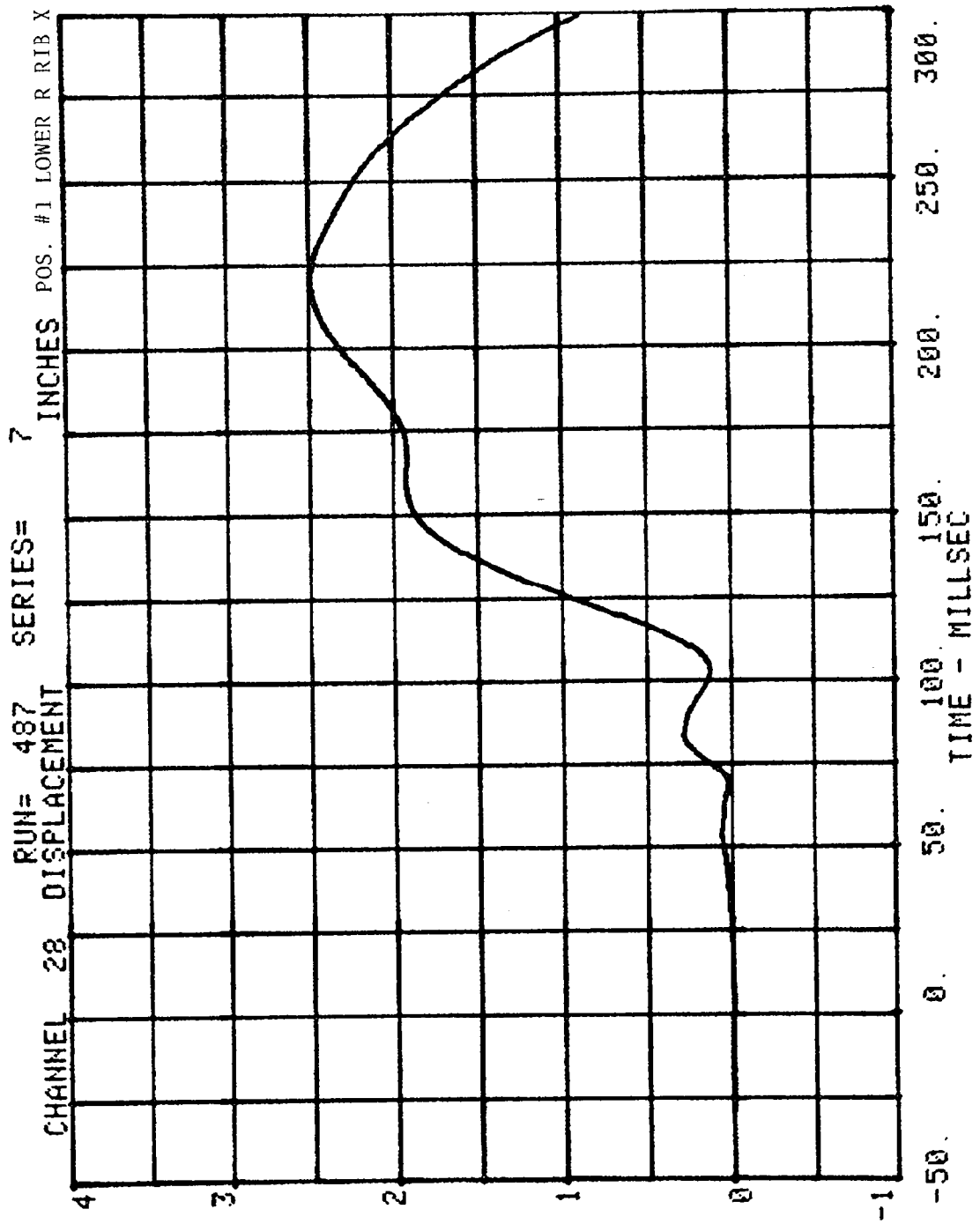

RUN= 487 SERIES= 7
CHANNEL 26 DISPLACEMENT INCHES POS. #1 UP R RIB Y
80
60
40
20
0
-20
-50
0
50.
100.
150
200.
250
300.
TIME - MILLSEC

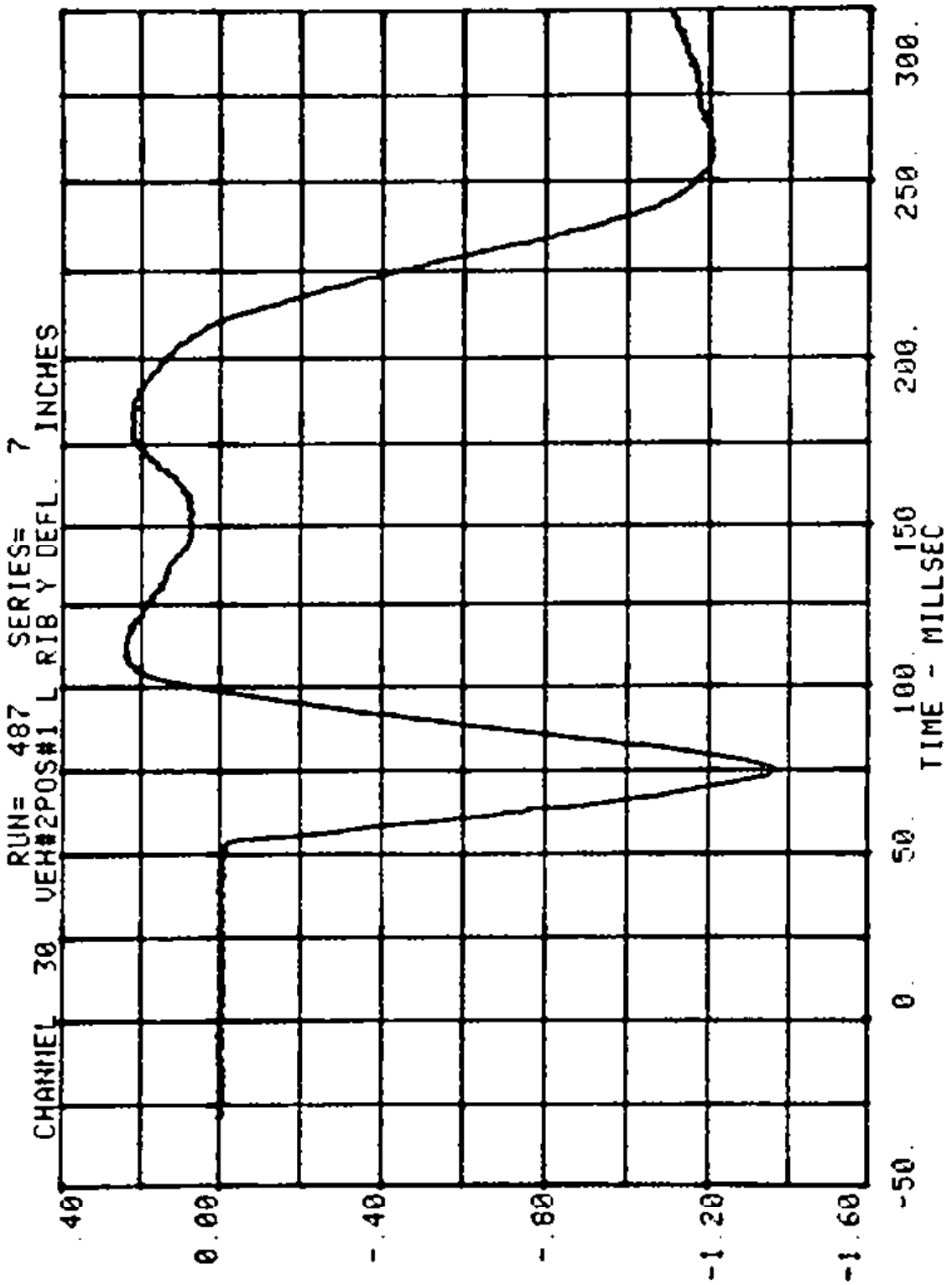

CHANNEL 27 VEH#2POS#1 UPPER STERNUM X
RUN= 487 SERIES= 7
G'S
60
40
20
0
-20
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 28 VEH#2POS#1 LOWER STERNUM X G'S
45
30
15
0
-15
-30
-50.
0.
50.
100
150.
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 29 VEH#2POS#1 LOWER R RIB X G'S
24
16
8
0
-8
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 27 VELOCITY
RUN= 487 SERIES= 7
MPH
POS. #1 LOW R RIB X
15
10
5
0
-5
-10
-50
0
50
100
150
200
250
300
TIME - MILLSEC


CHANNEL 28 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #1 LOWER R RIB X
4
3
2
1
0
-1
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 30 VEH#2POS#1 L RIB Y DEFL.
RUN= 487 SERIES= 7
INCHES
.40
0.00
-.40
-.80
-1.20
-1.60
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

HEAD INJURY CRITERION
HEAD SEVERITY INDEX

BOA #7 SIDE IMPACT TEST

RUN= 487

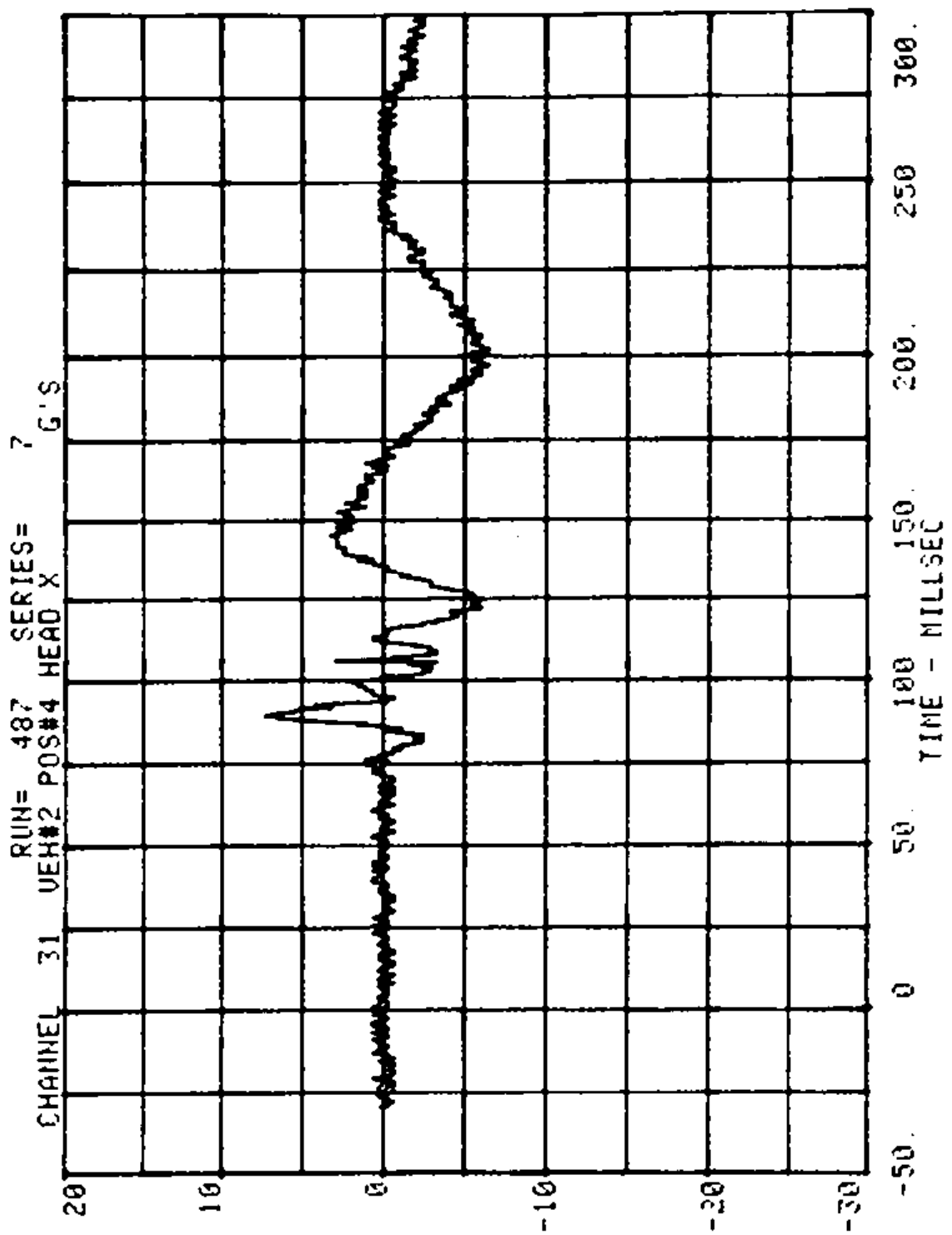
VEH#2 POS#4 HEAD R

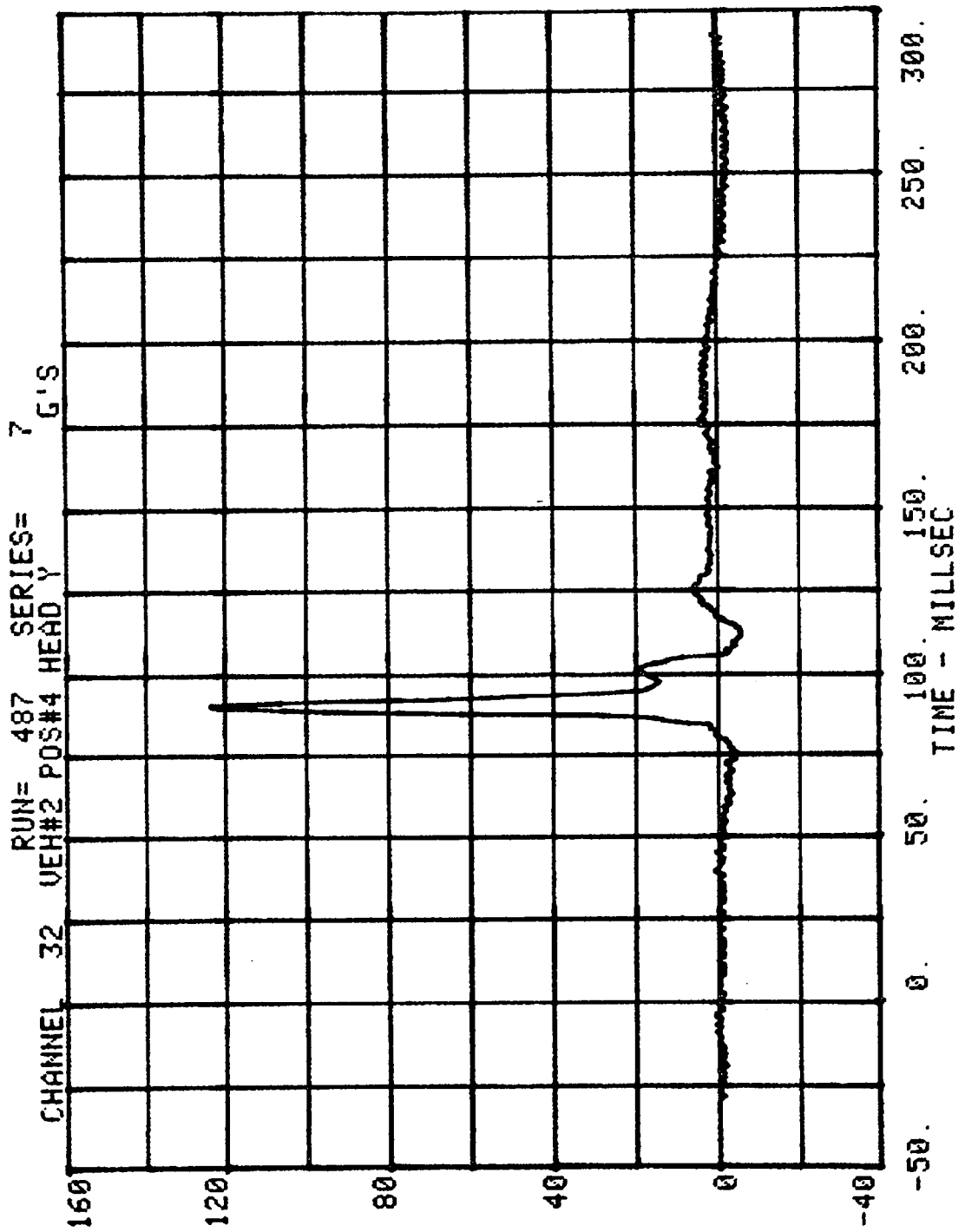
HIC= 516.4 FROM T1= .08760 TO T2= .09270

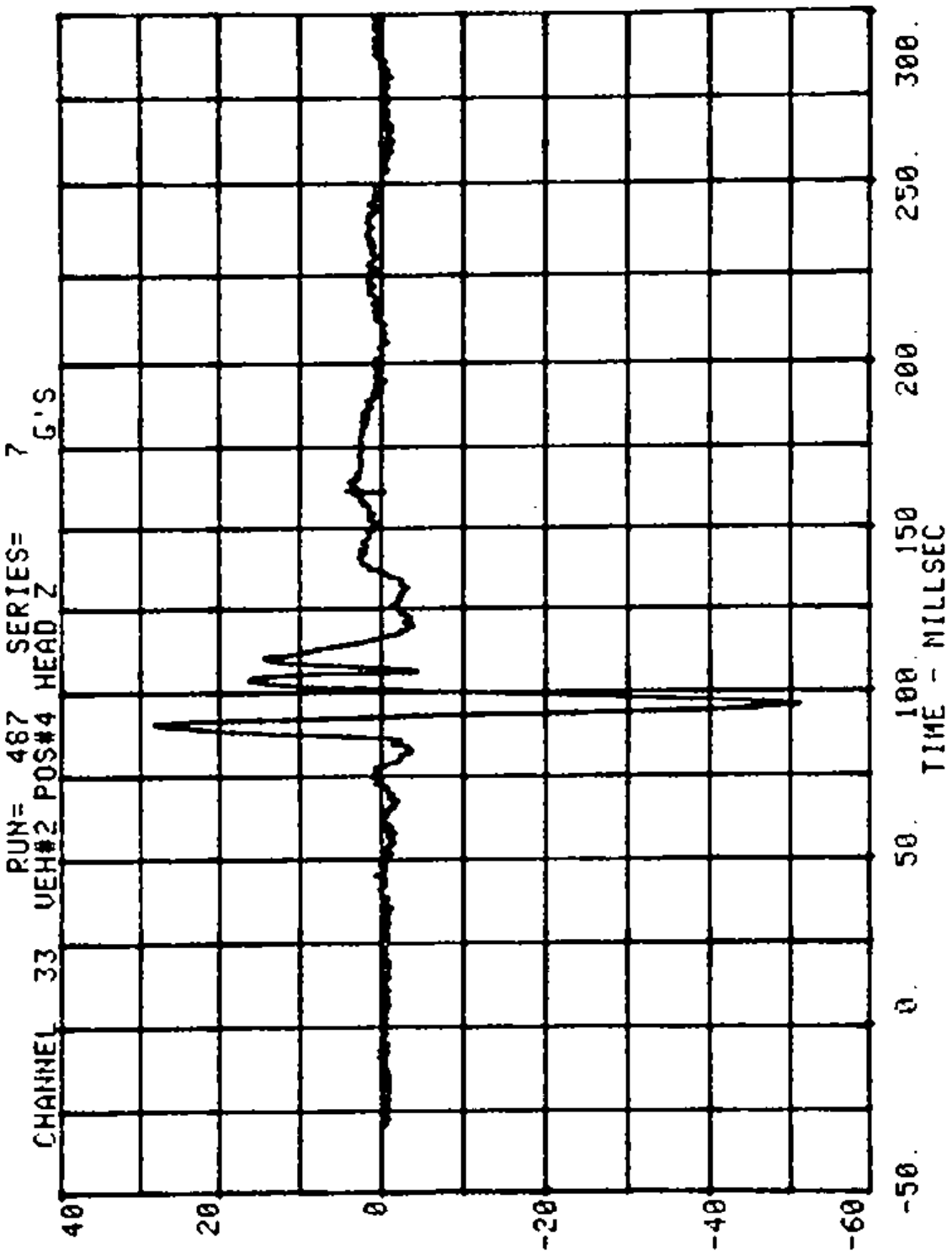
AVERAGE ACCELERATION BETWEEN T1 AND T2= 100.5G'S

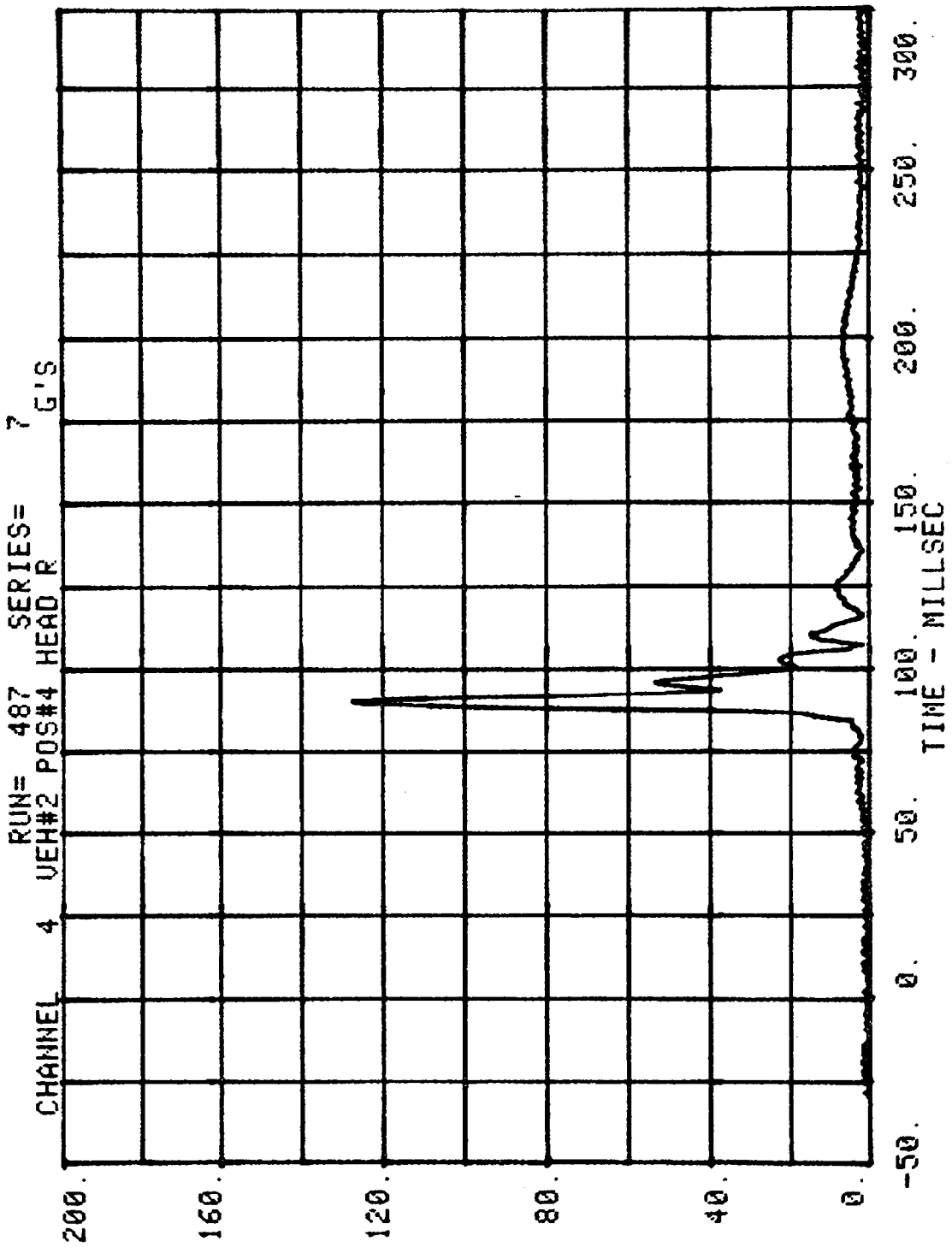
EVENT TIME= 300.0 MSEC

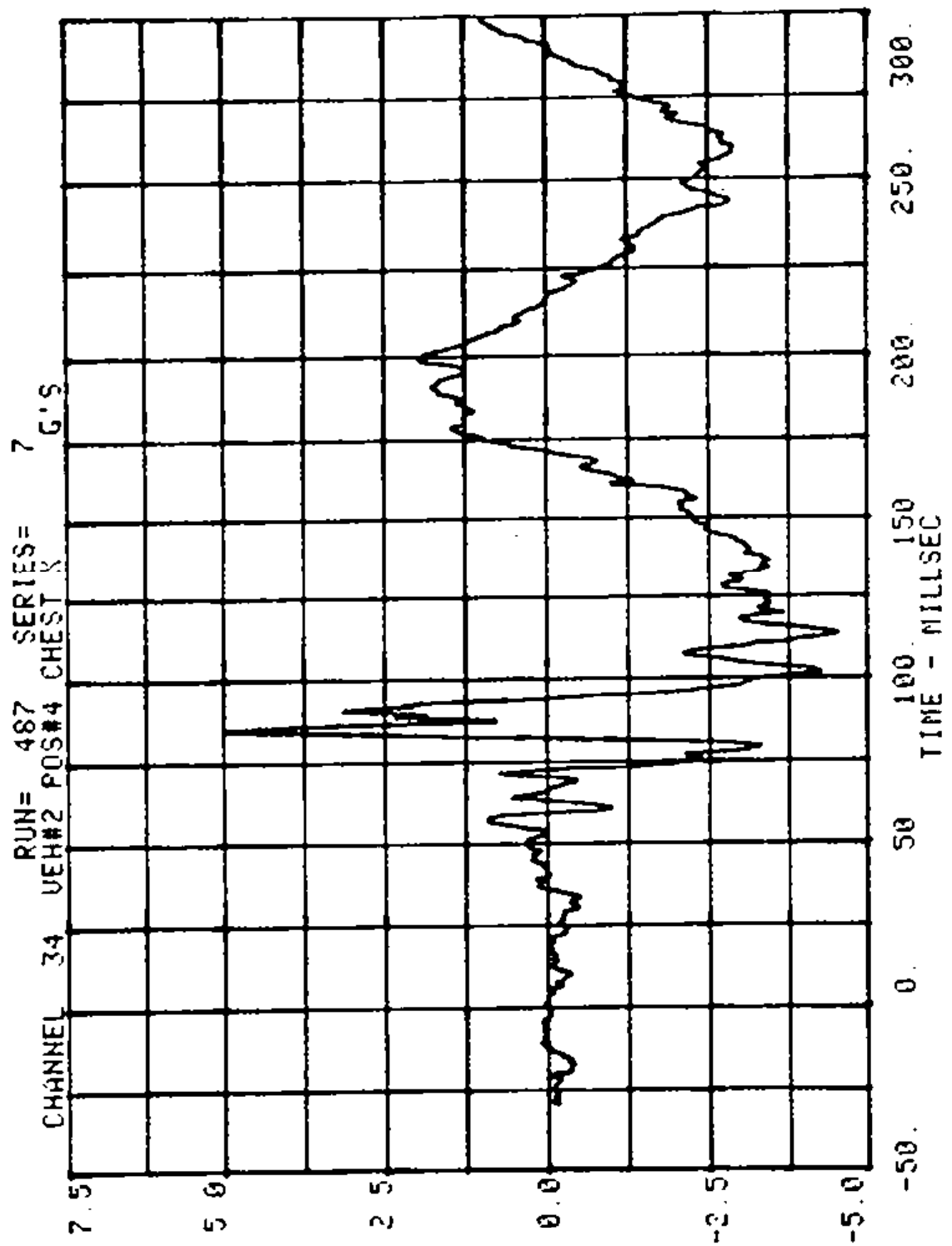
SEVERITY INDEX= 685.5

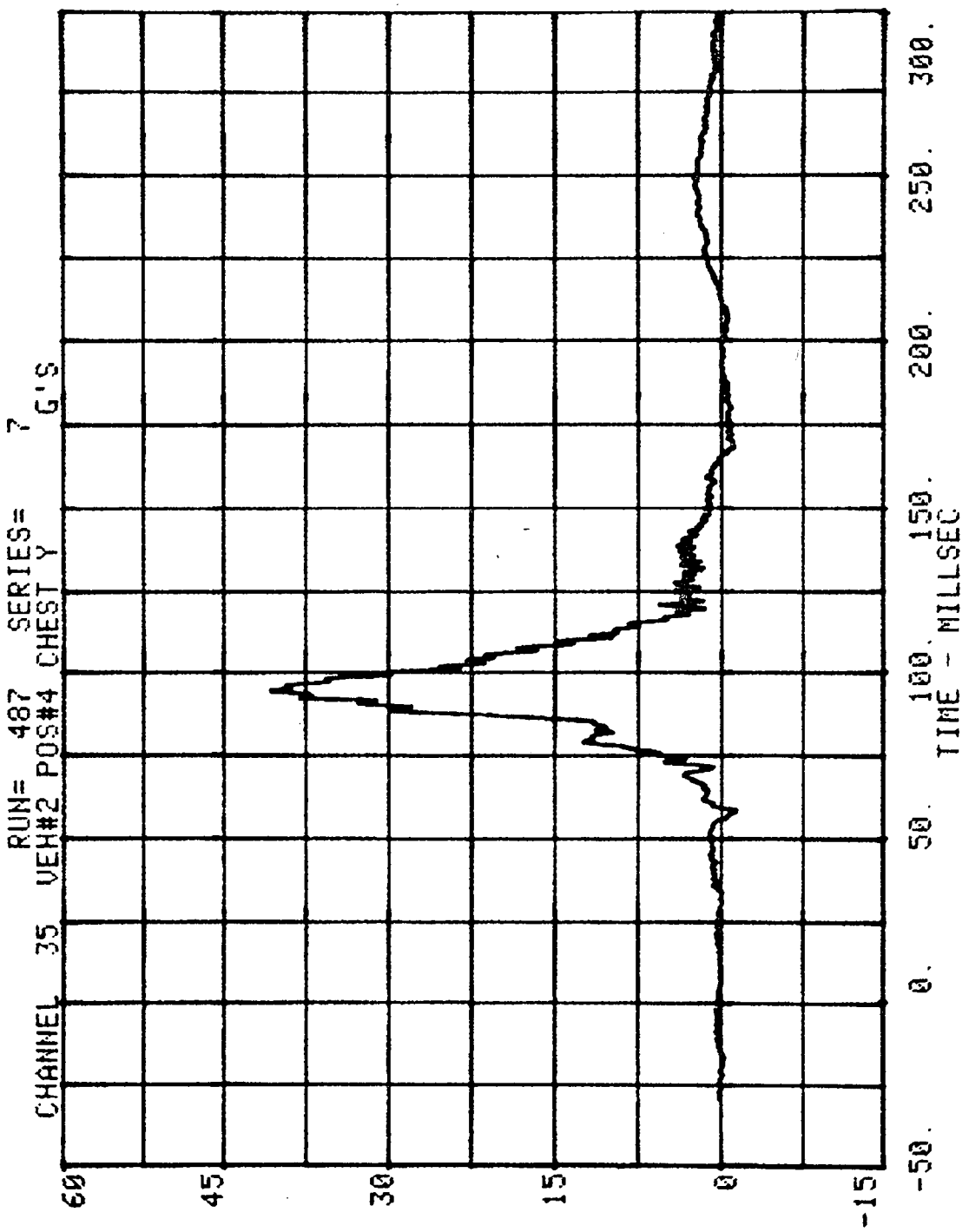

CHANNEL 31 VEH#2 POS#4 HEAD X
RUN= 487 SERIES= 7
G'S
20
10
0
-10
-20
-30
-50.
0
50
100
150
200.
250
300.
TIME - MILLSEC

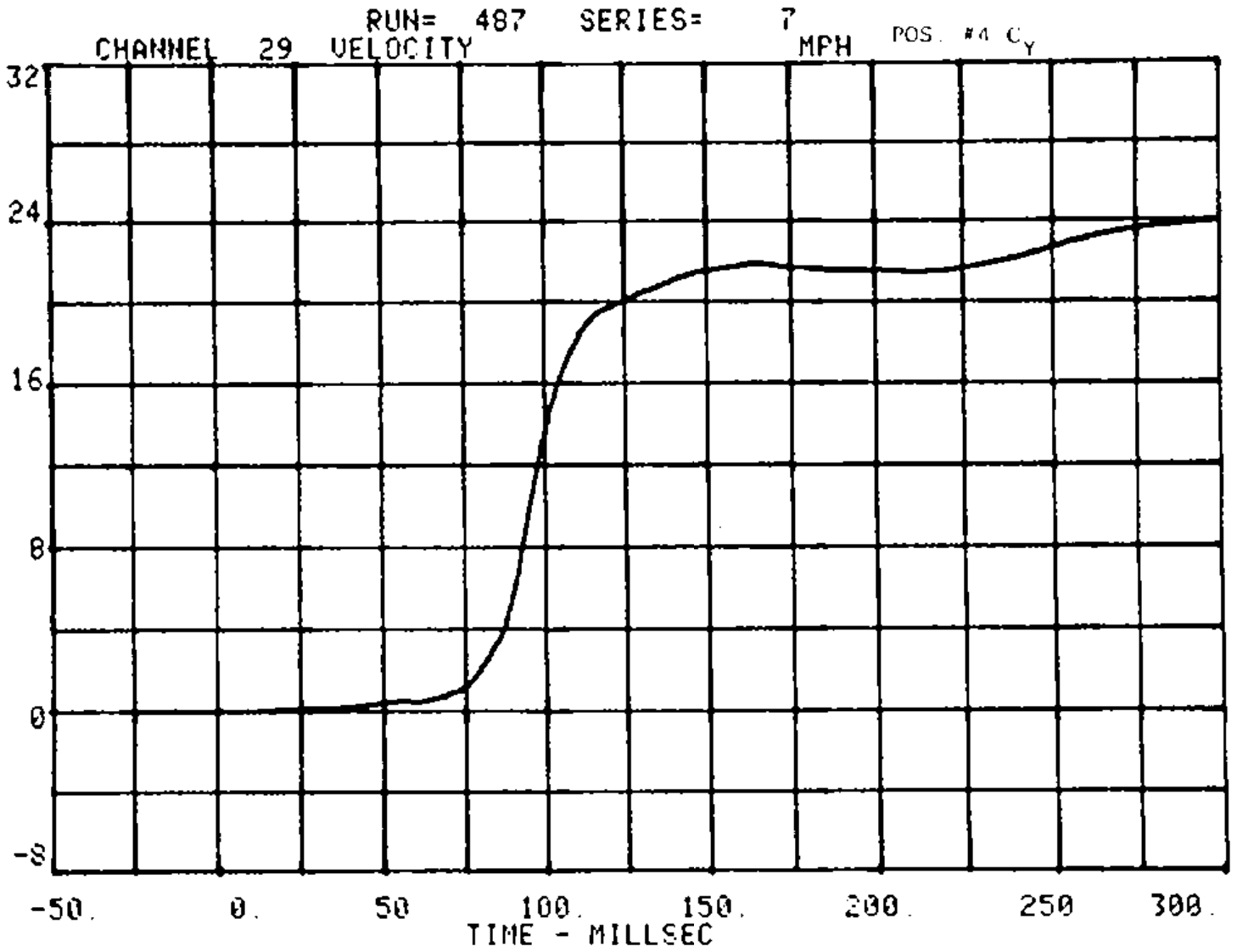

CHANNEL 32 VEH#2 POS#4 HEAD Y
RUN= 487 SERIES= 7
G'S
160
120
80
40
0
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

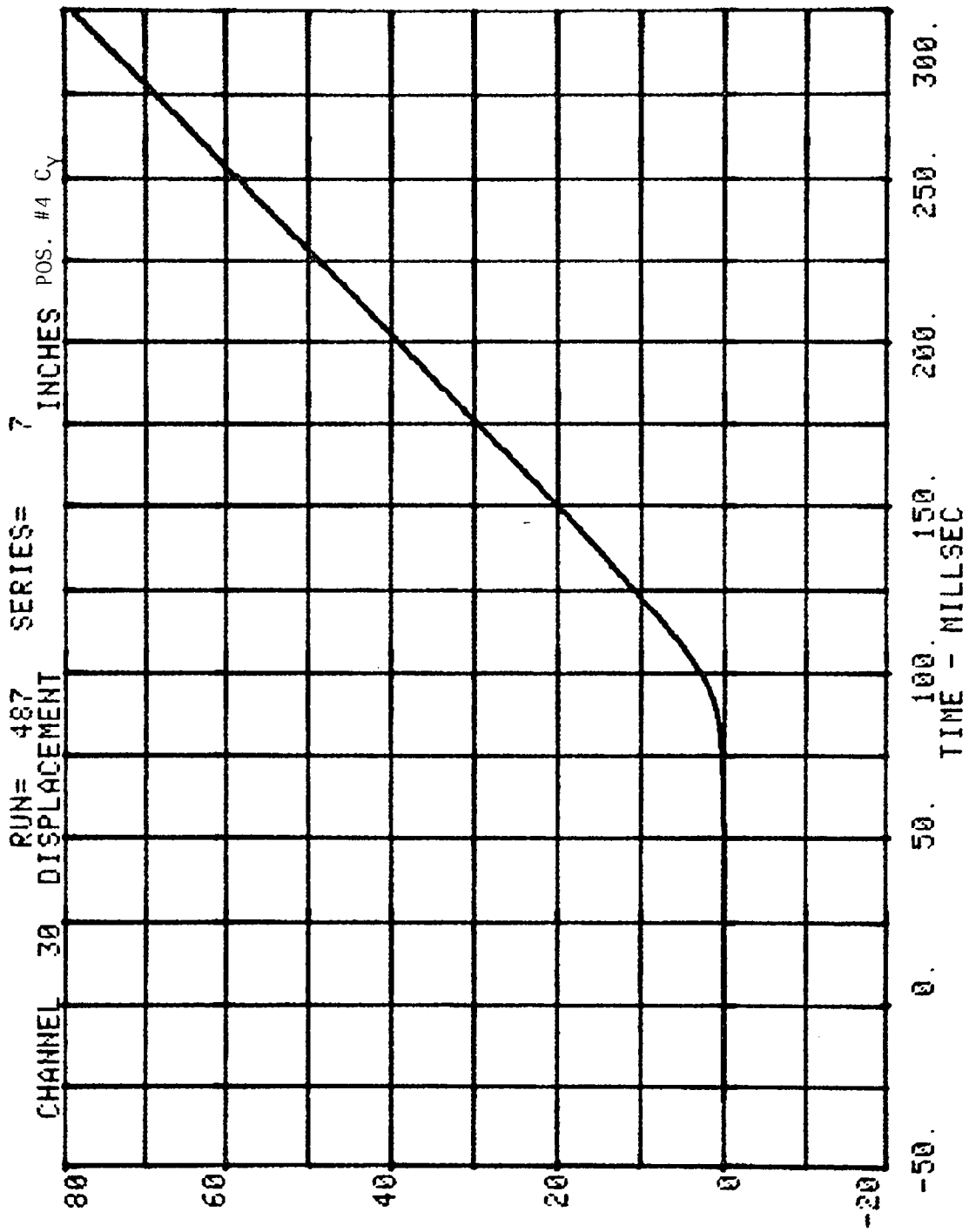

CHANNEL 33 VEH#2 POS#4 HEAD Z
RUN= 487 SERIES= 7
G'S
40
20
0
-20
-40
-60
-50.
0.
50.
100.
150
200.
250.
300.
TIME - MILLSEC

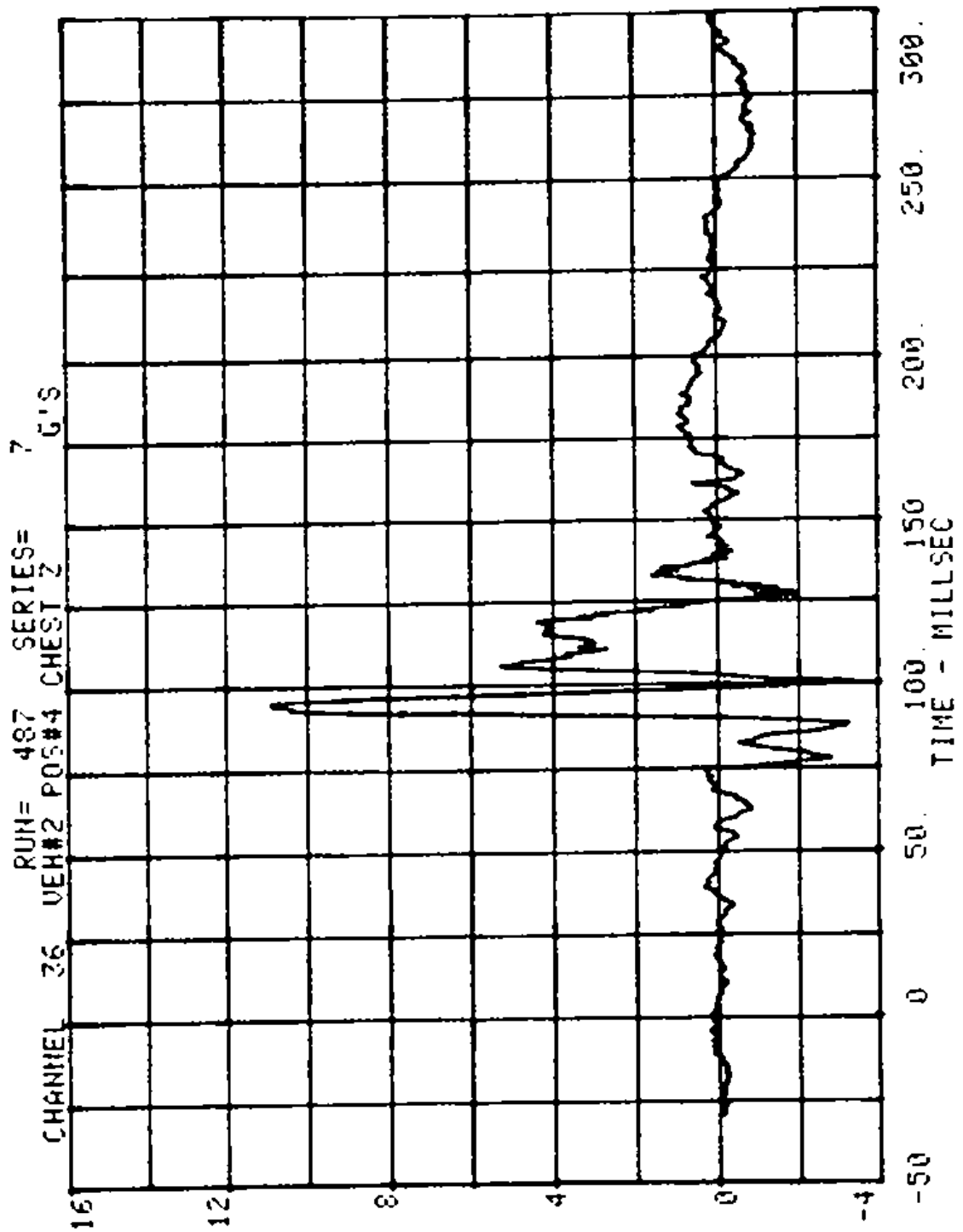

CHANNEL 4 RUN= 487 SERIES= 7
VEH#2 POS#4 HEAD R
G'S
200.
160.
120.
80.
40.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

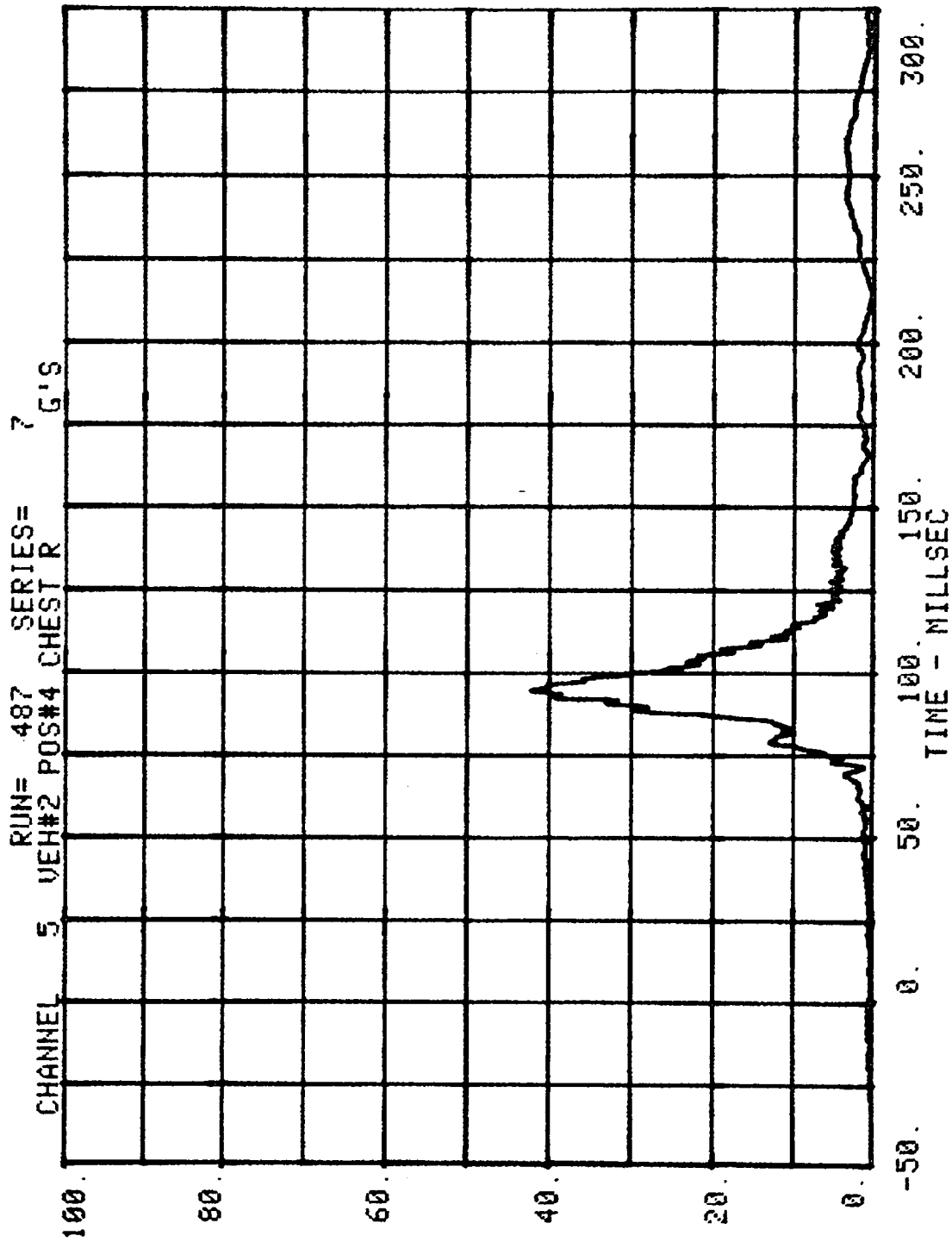

CHANNEL 34 VEH#2 POS#4 CHEST X
RUN= 487 SERIES= 7
G'S
7.5
5.0
2.5
0.0
-2.5
-5.0
-50.
0.
50
100
150
200
250.
300
TIME - MILLSEC

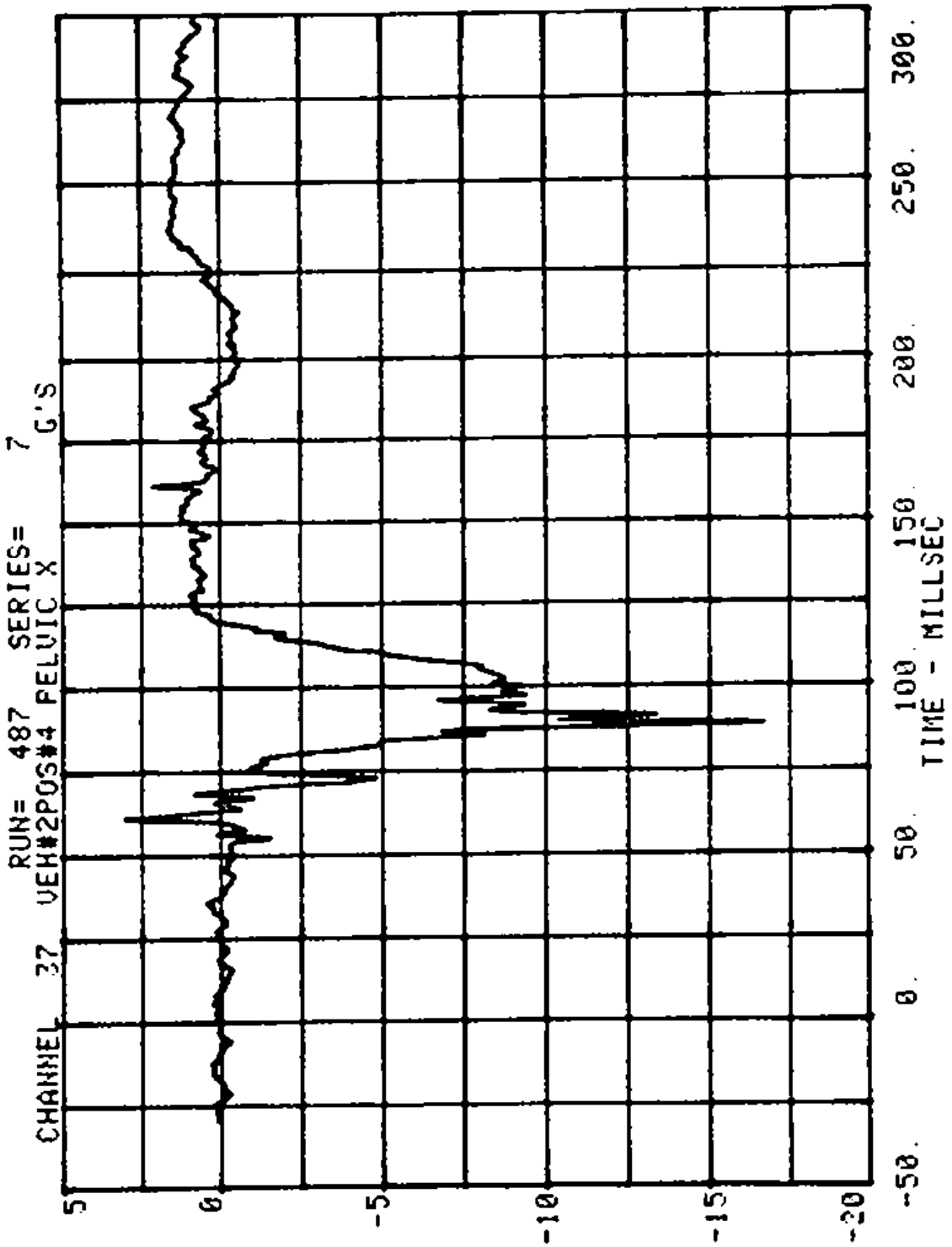

CHANNEL 35 VEH#2 POS#4 CHEST Y
RUN= 487 SERIES= 7
G'S
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

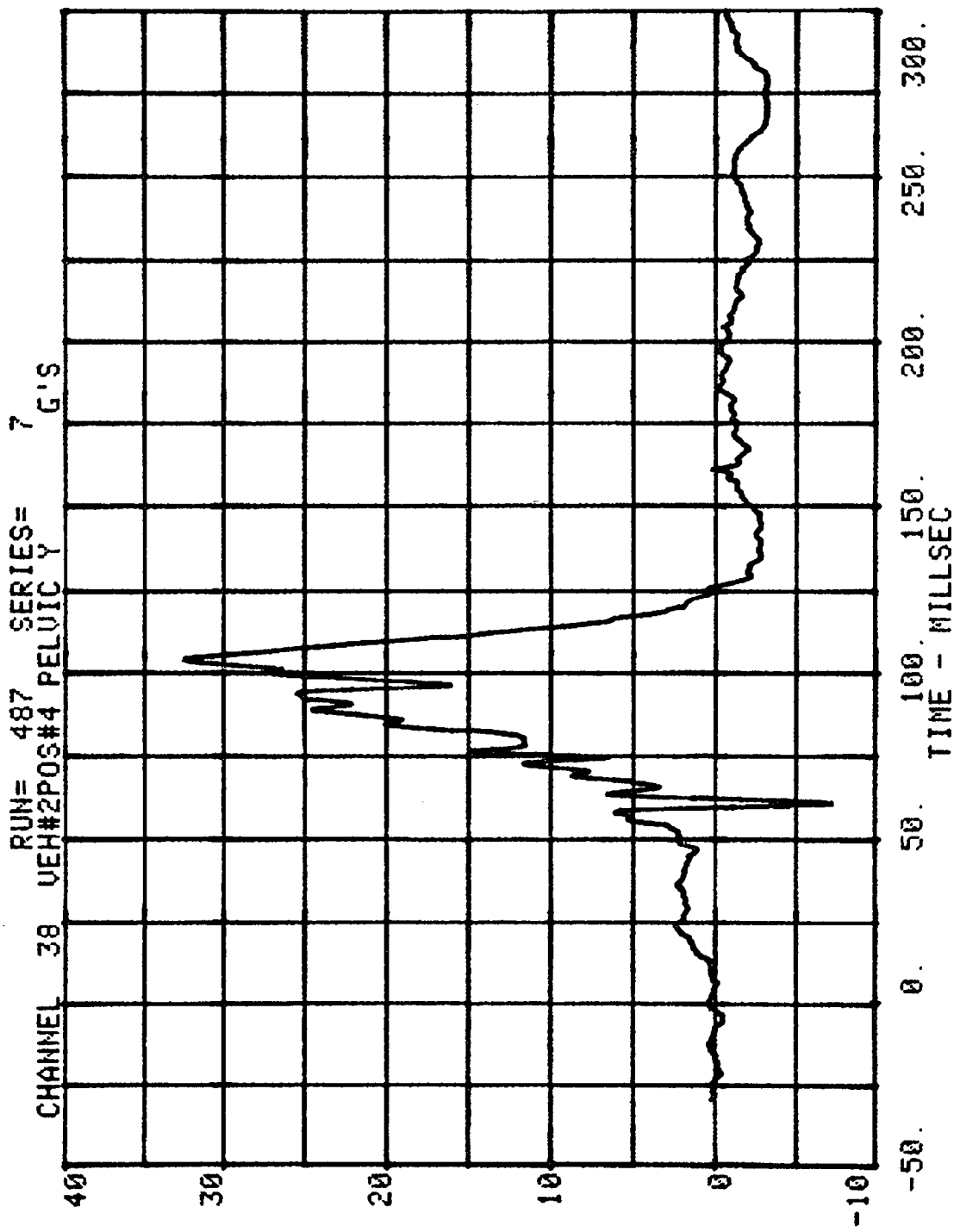

RUN= 487 SERIES= 7
CHANNEL 29 VELOCITY
MPH
POS. #4 C_Y
32
24
16
8
0
-8
-50.
0.
50
100.
150.
200.
250
300.
TIME - MILLSEC

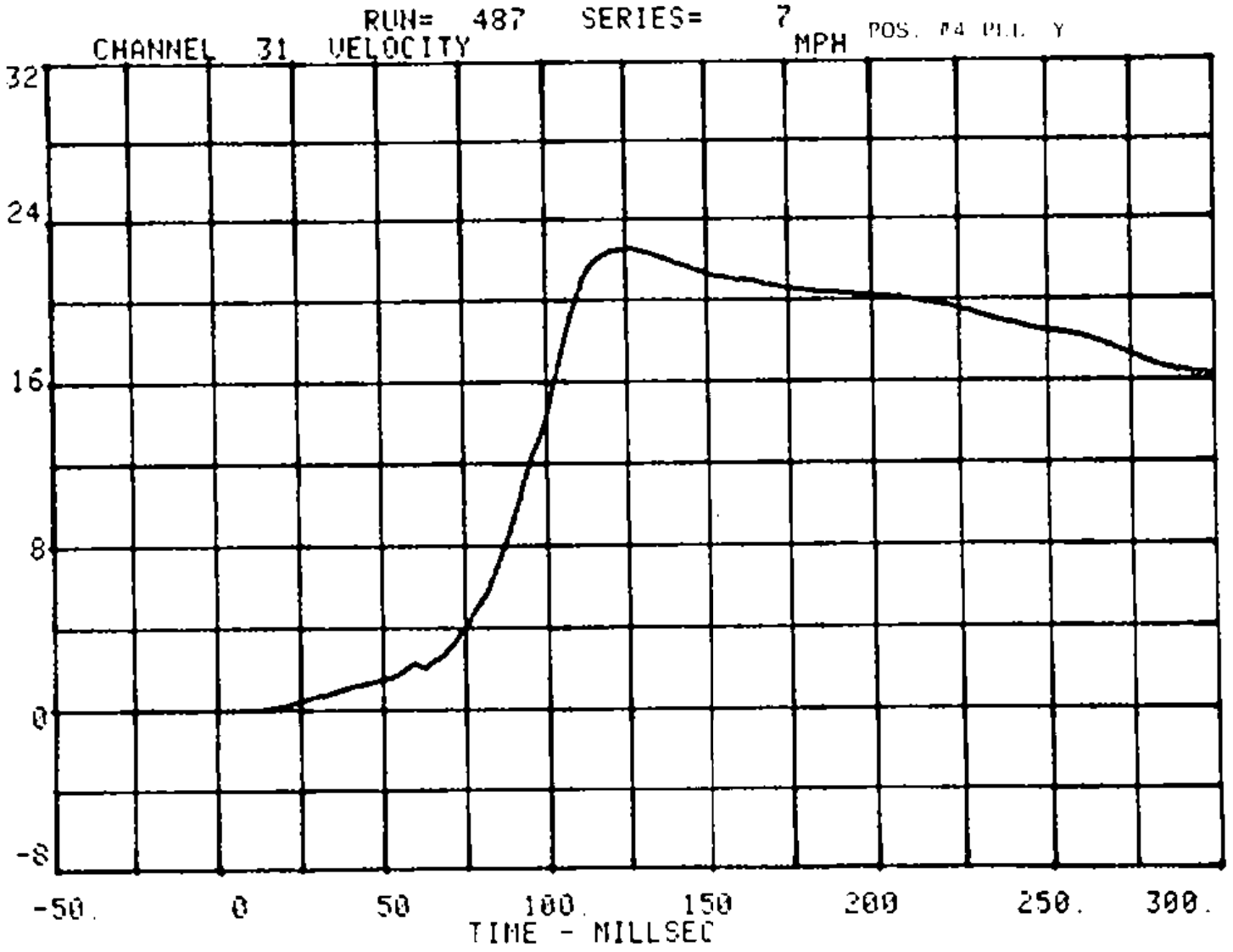

CHANNEL 30 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #4 C_y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 36 VEH#2 POS#4 CHEST 2
RUN= 487 SERIES= 7
G'S
16
12
8
4
0
-4
-50
0
50
100
150
200
250
300
TIME - MILLSEC


CHANNEL 5 VEH#2 POS#4 CHEST R
RUN= 487 SERIES= 7
G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 27
RUN= 487 SERIES= 7
VEH#2POS#4 PELVIC X
G'S
5
0
-5
-10
-15
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 38 VEH#2POS#4 PELVIC Y
RUN= 487 SERIES= 7
G'S
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 487 SERIES= 7
CHANNEL 31 VELOCITY
MPH
POS. P4 PLT. Y
32
24
16
8
0
-8
-50.
0
50
100.
150
200
250.
300.
TIME - MILLSEC

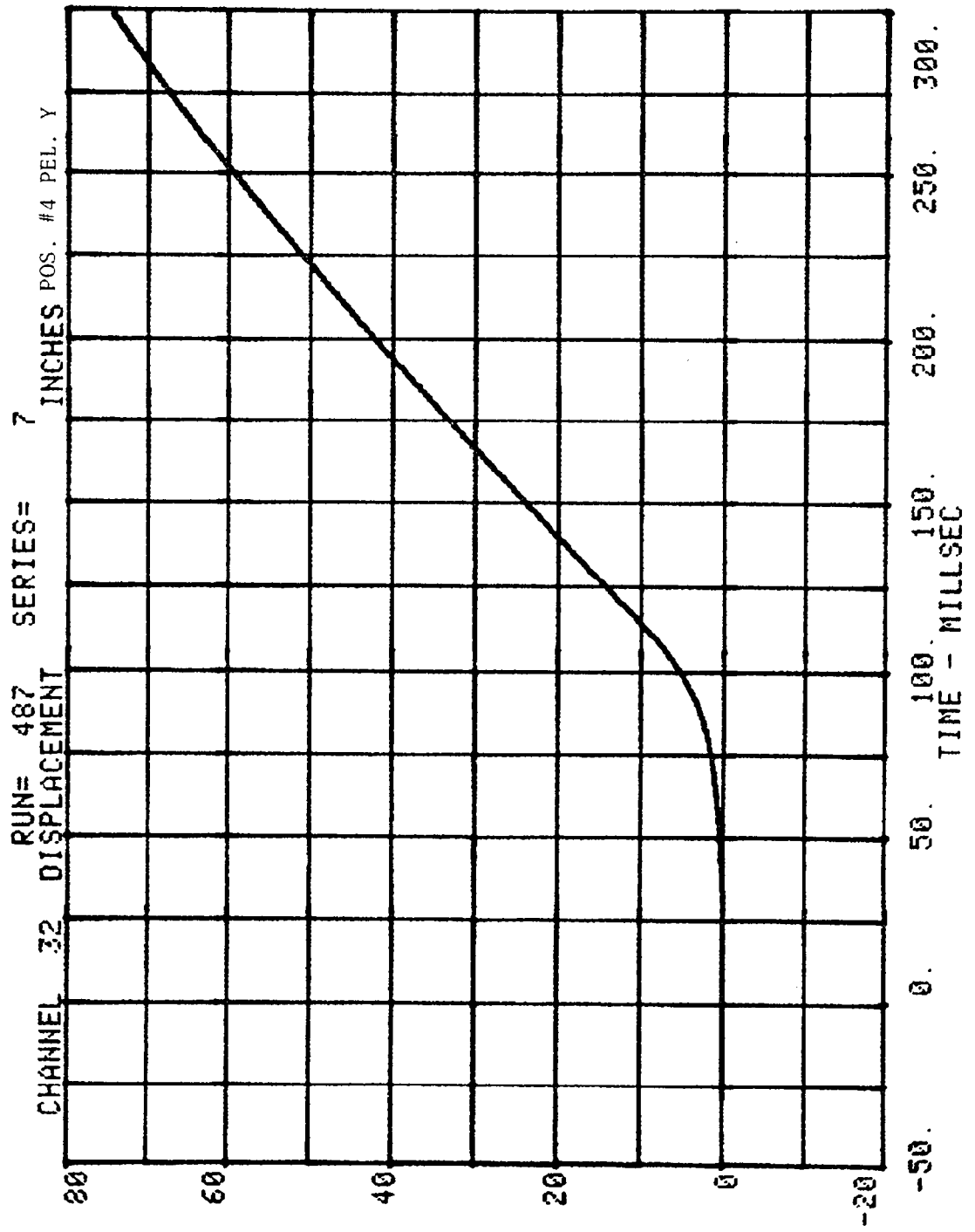

CHANNEL 32 DISPLACEMENT
RUN= 487 SERIES= 7
INCHES POS. #4 PEL. Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

Table 1

CRASH TEST SUMMARY

TEST NO. 8 PROJECT Modified Compact Car - Side Structure Testing

DATE 4-2-80 TIME 1:40 TEMP. 45°

TEST CONDITION Car-to-Car 60° Side Oblique

VEHICLE NO. 1 1978 Chevrolet Impala 4-Door

VEHICLE NO. 2 1976 Plymouth Volare 4-Door

	VEH. NO. 1	VEH. NO. 2
TEST WEIGHT (lbs)	3870	4120
IMPACT ANGLE (deg)*	300	0
IMPACT VELOCITY (mph)**	29.77	0
MAX. CRUSH (in)	5.0	15.3
MAX. INTRUSION (in)	0	11.9

DUMMIES	VEH. NO. 1	VEH. NO. 2	
TYPE	-	Humanoid 368 Modified***	Humanoid 320
LOCATION	-	LF (1)	LR (4)
RESTRAINT	-	Unrestrained	Unrestrained

NUMBER OF DATA CHANNELS 53
NUMBER OF HIGH SPEED CAMERAS 10 • 1 Real Time

*WITH RESPECT TO TOW TRACK CENTERLINE

**SPEED TRAP MEASUREMENT (±0.5% ACCURACY)

***Modified Part 572 Dummy for Side Impacts

OBSERVATIONS (VEHICLE NO. 1)

GLAZING Undamaged

DOORS Undamaged

SEAT ANCHORAGES Intact

RESTRAINTS Intact

OBSERVATIONS (VEHICLE NO. 2)

GLAZING Windshield has stress cracks (driver side).
Both driver and left rear door windows broke.

DOORS Driver and left rear doors not operable.
Doors on right side of vehicle were operable.

SEAT ANCHORAGES The split front bench seat rails were modified and reinforced. The anchor point remained intact after impact.

RESTRAINTS Not used.

GENERAL COMMENTS All cameras operated properly.
Driver head struck the lower right front door window frame (Fig. 10).
Driver seat deformed.
Rear seated dummy struck left "C" pillar.
The left reinforced "B" pillar was intact at the top and bottom.
Roof buckled at left "B" pillar.
The right side of vehicle was pushed outboard 1.6 inches. See Table 3.

Table 2

VEHICLE TEST WEIGHTS
TEST NO. 8

CAR 1 - 1978 Chevrolet Impala

Left Front	1130	lbs.	Left Rear	820	lbs.
Right Front	1110	lbs.	Right Rear	810	lbs.
Total Front	2240	lbs.	Total Rear	1630	lbs.

Total Weight = 2240 lbs. + 1630 lbs. = 3870 lbs.

Wheel Base 116.25 inches

Cg_{FW} = $\frac{1630 \text{ lbs.} \quad 116.25 \text{ inches}}{3870 \text{ lbs.}}$ - 48.96 inches

CAR 2 - 1976 Plymouth Volare

Left Front	1200	lbs.	Left Rear	920	lbs.
Right Front	1100	lbs.	Right Rear	900	lbs.
Total Front	2300	lbs.	Total Rear	1820	lbs.

Total Weight = 2300 lbs. + 1820 lbs. = 4120 lbs.

Wheel Base 112.5 inches

Cg_{FW} = $\frac{1820 \text{ lbs.} \quad 112.5 \text{ inches}}{4120 \text{ lbs.}}$ - 49.70 inches

FIGURE 1 VEHICLES 1 AND 2 - TEST 8 - PRE-TEST IMPACT CONFIGURATION

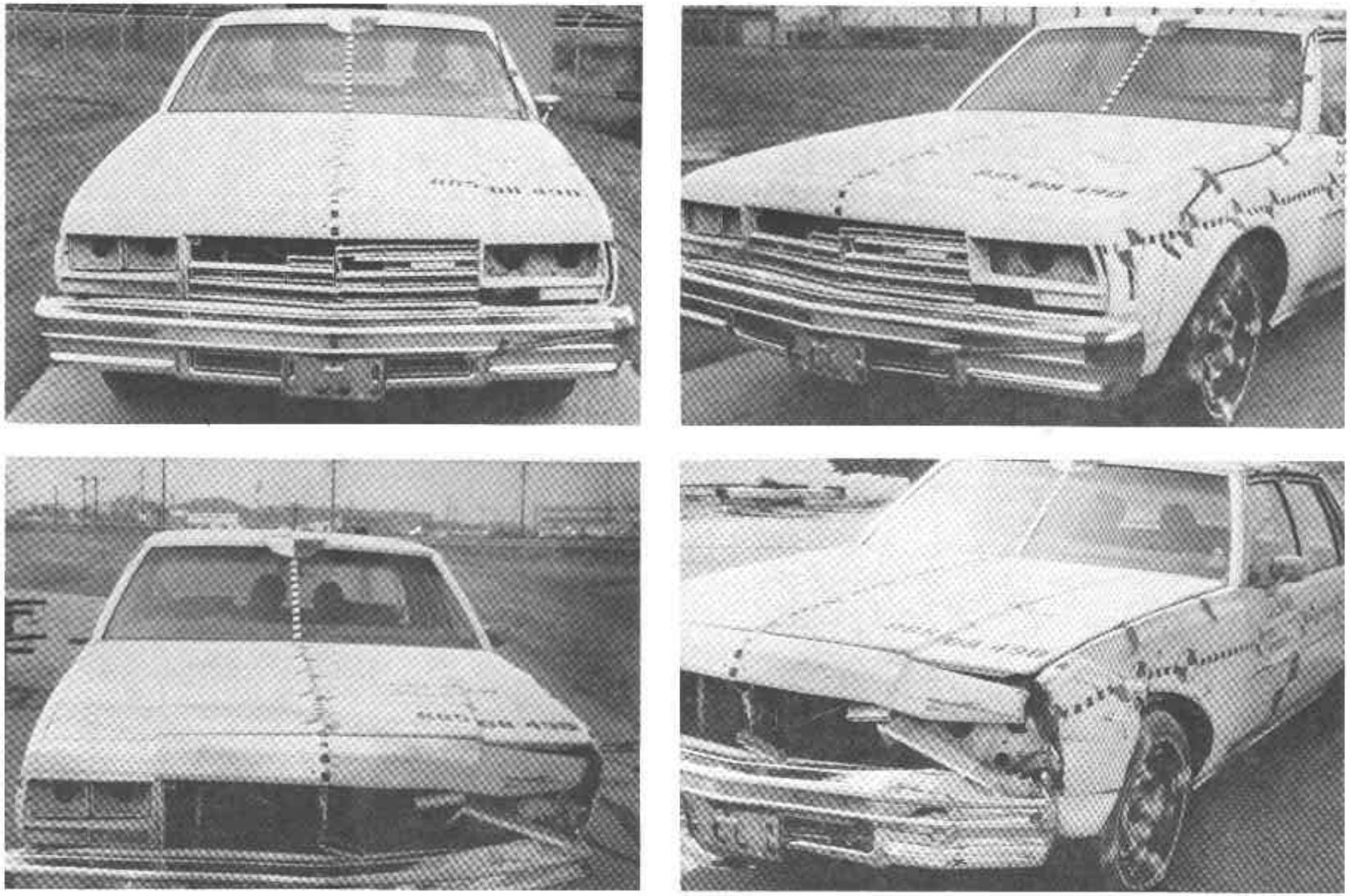


FIGURE 2 VEHICLE 1 - TEST 8 - PRE- AND POST-TEST FRONT AND THREE-QUARTER VIEWS

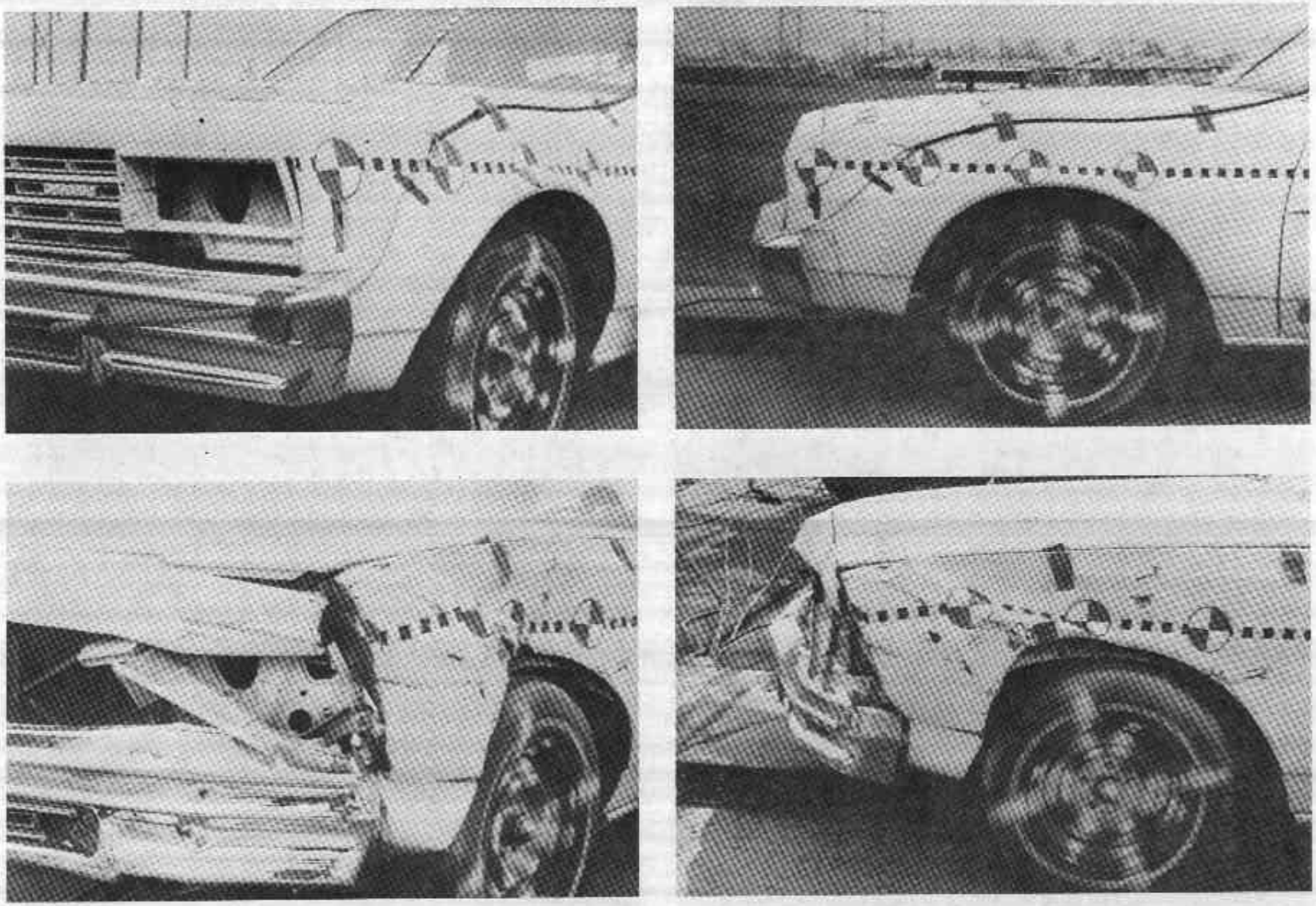


FIGURE 3 TEST 8 - PRE- AND POST-TEST VIEWS OF LEFT FRONT QUARTER PANEL

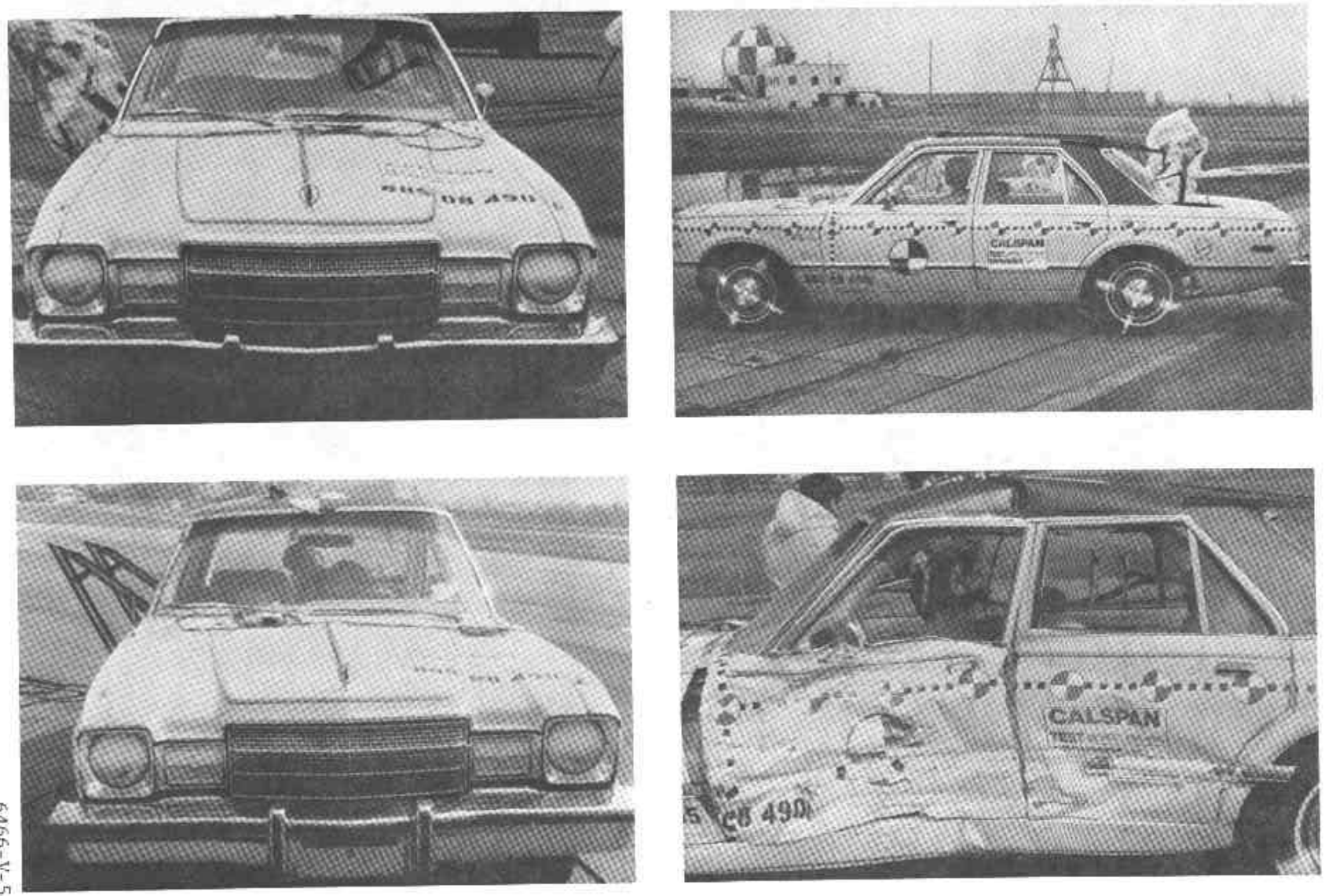
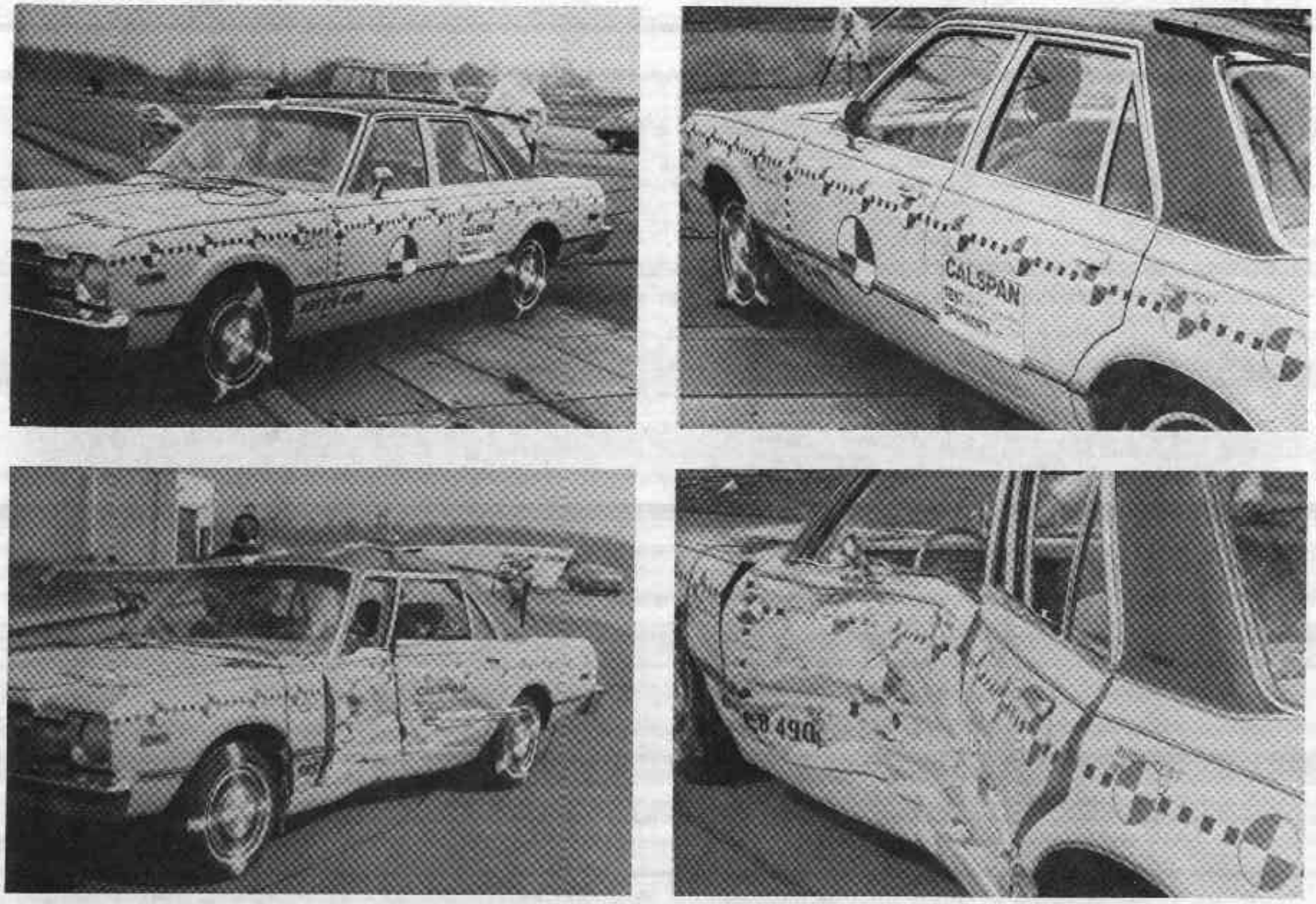


FIGURE 4 VEHICLE 2 - TEST 8 - PRE- AND POST-TEST FRONT AND SIDE VIEWS



6466-V-5

FIGURE 5 VEHICLE 2 - TEST 8 - PRE- AND POST-TEST FRONT AND REAR THREE-QUARTER VIEWS

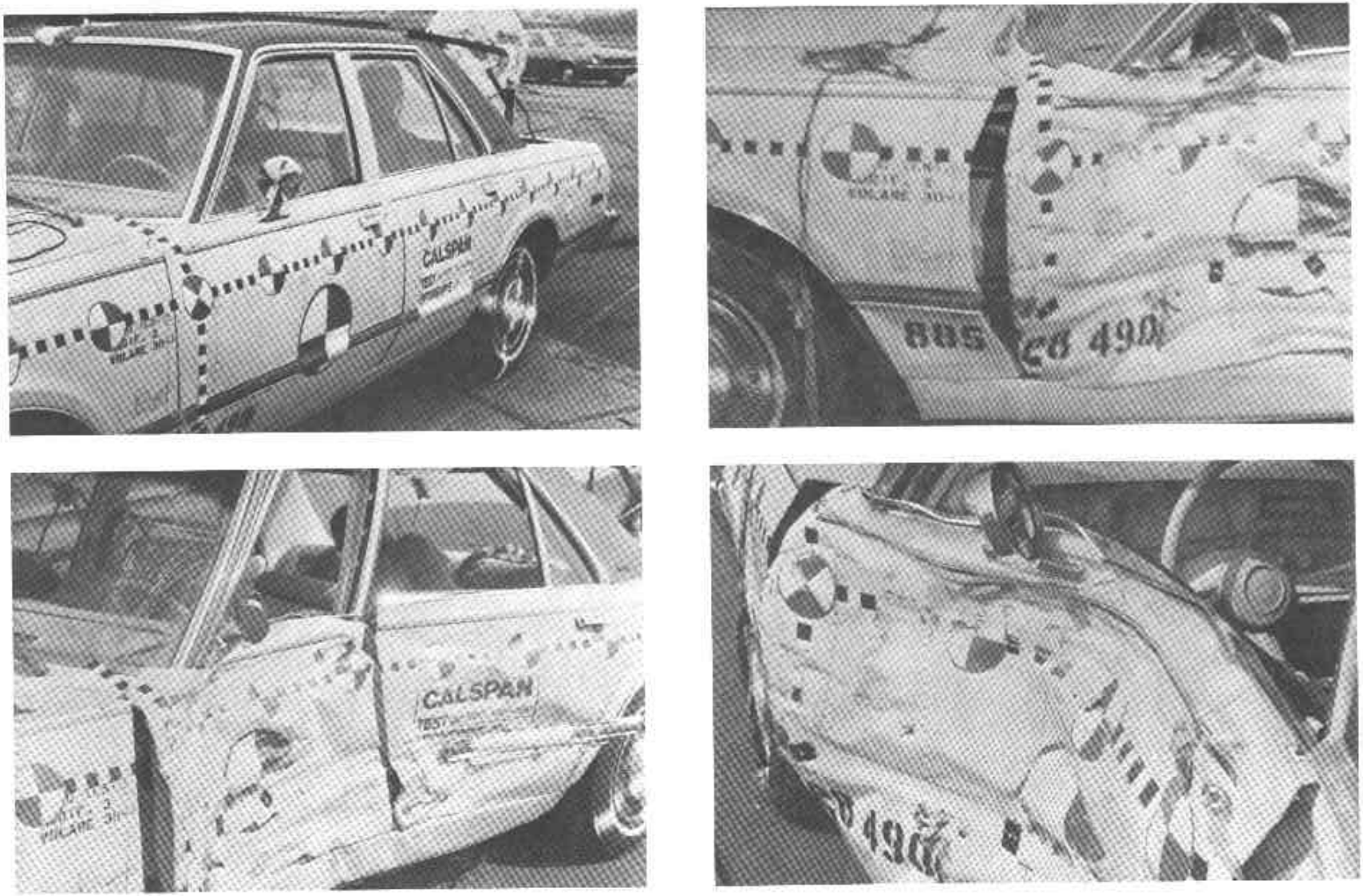
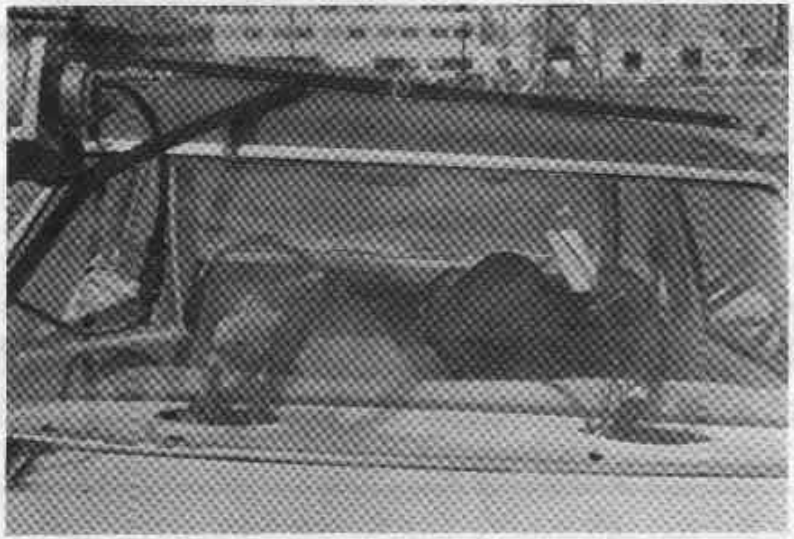


FIGURE 6 VEHICLE 2 - TEST 8 - PRE- AND POST-TEST VIEWS OF IMPACT AREA



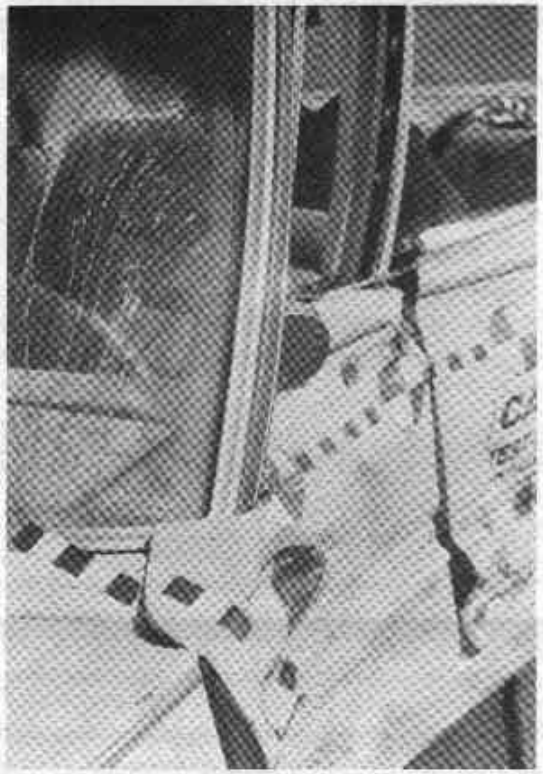


FIGURE 7 VEHICLE 2 - TEST 8 - POST-TEST VIEWS OF "B" PILLAR

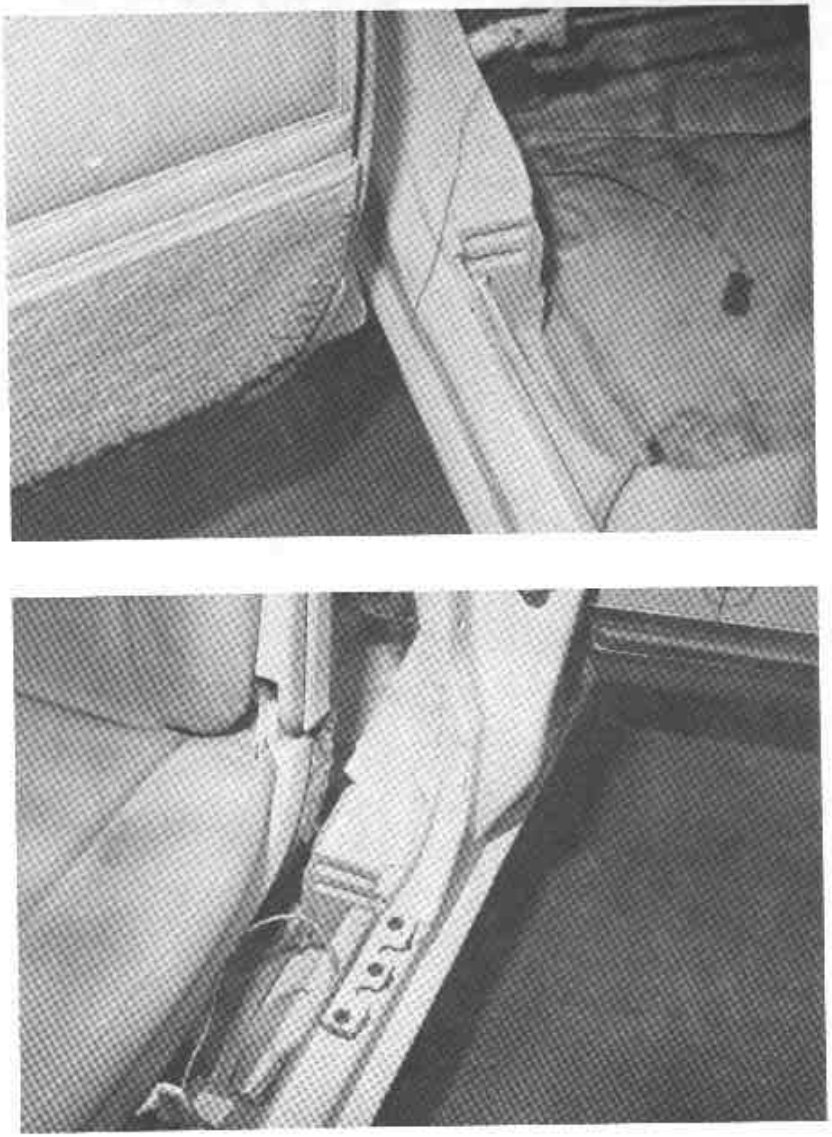


FIGURE 8 VEHICLE 2 - TEST 8 - VIEWS OF MODIFIED "B" PILLAR AND DOOR SILL INTERLOCK

FIGURE 9 VEHICLE 2 - TEST 8 - POST-TEST VIEW OF "B" PILLAR

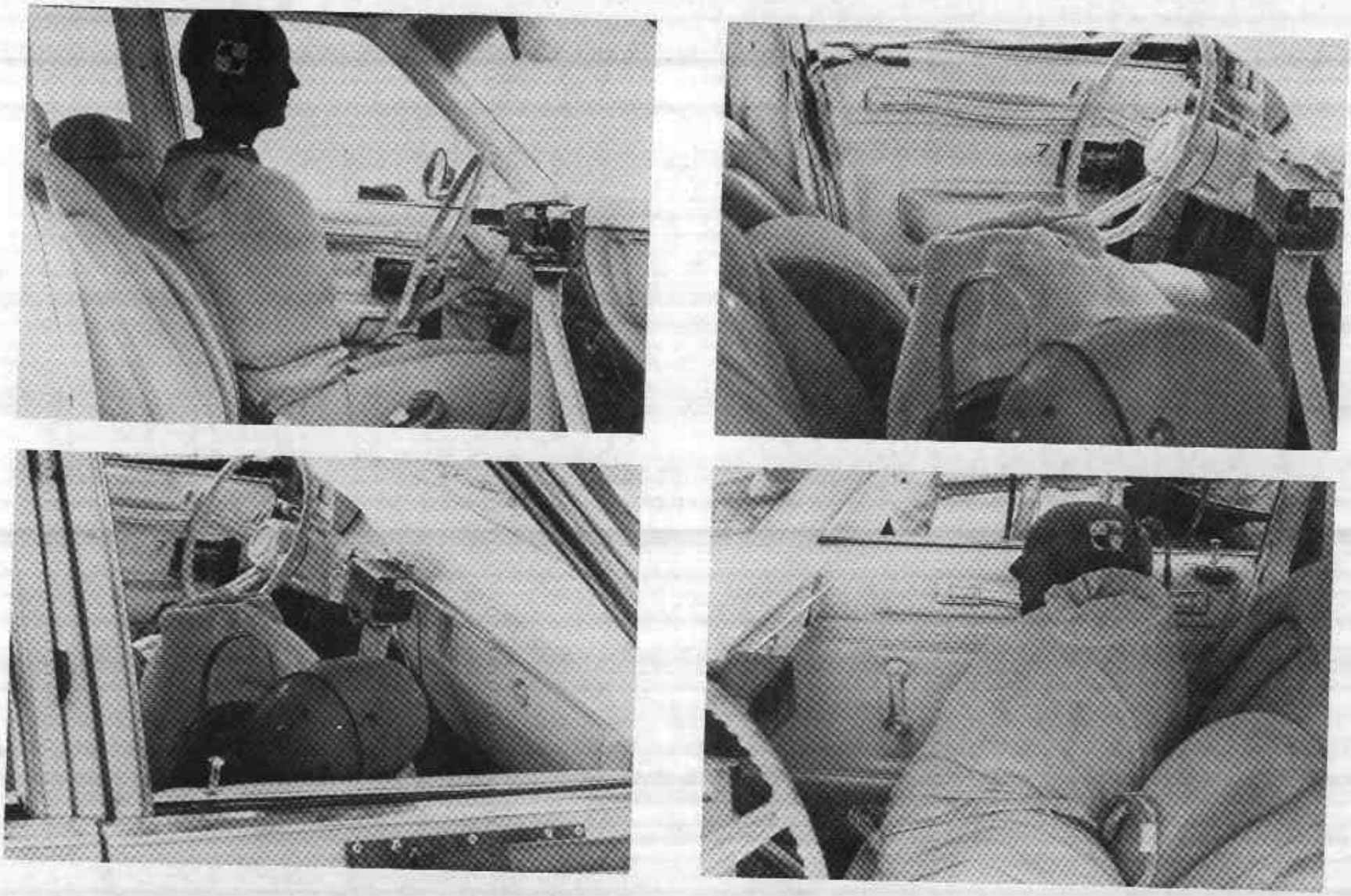


FIGURE 10 VEHICLE 2 - TEST 8 - PRE- AND POST-TEST VIEWS OF DRIVE POSITION

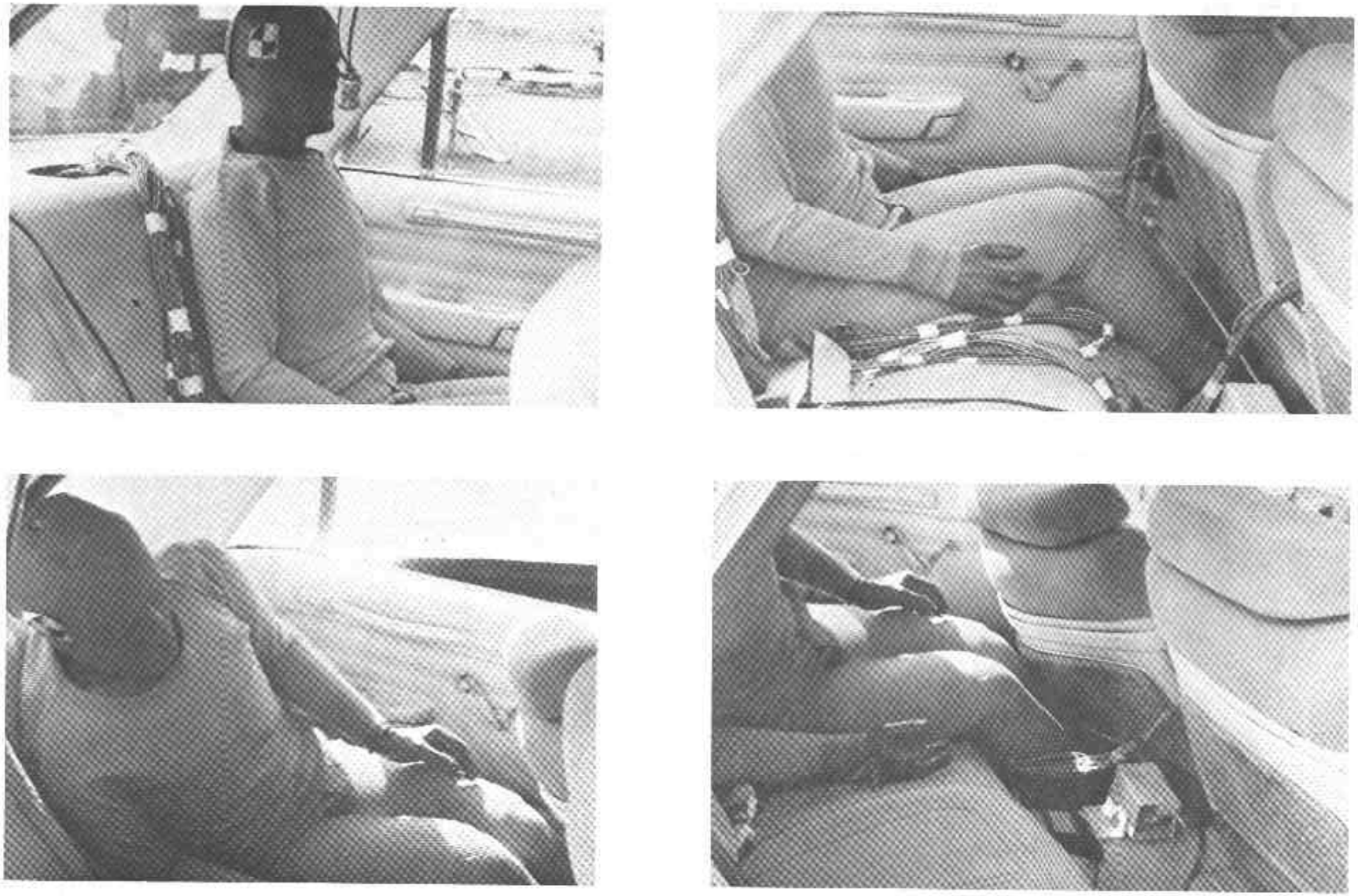


FIGURE 11 VEHICLE 2 - TEST 8 - PRE- AND POST-TEST VIEWS OF LEFT REAR SEATED POSITION

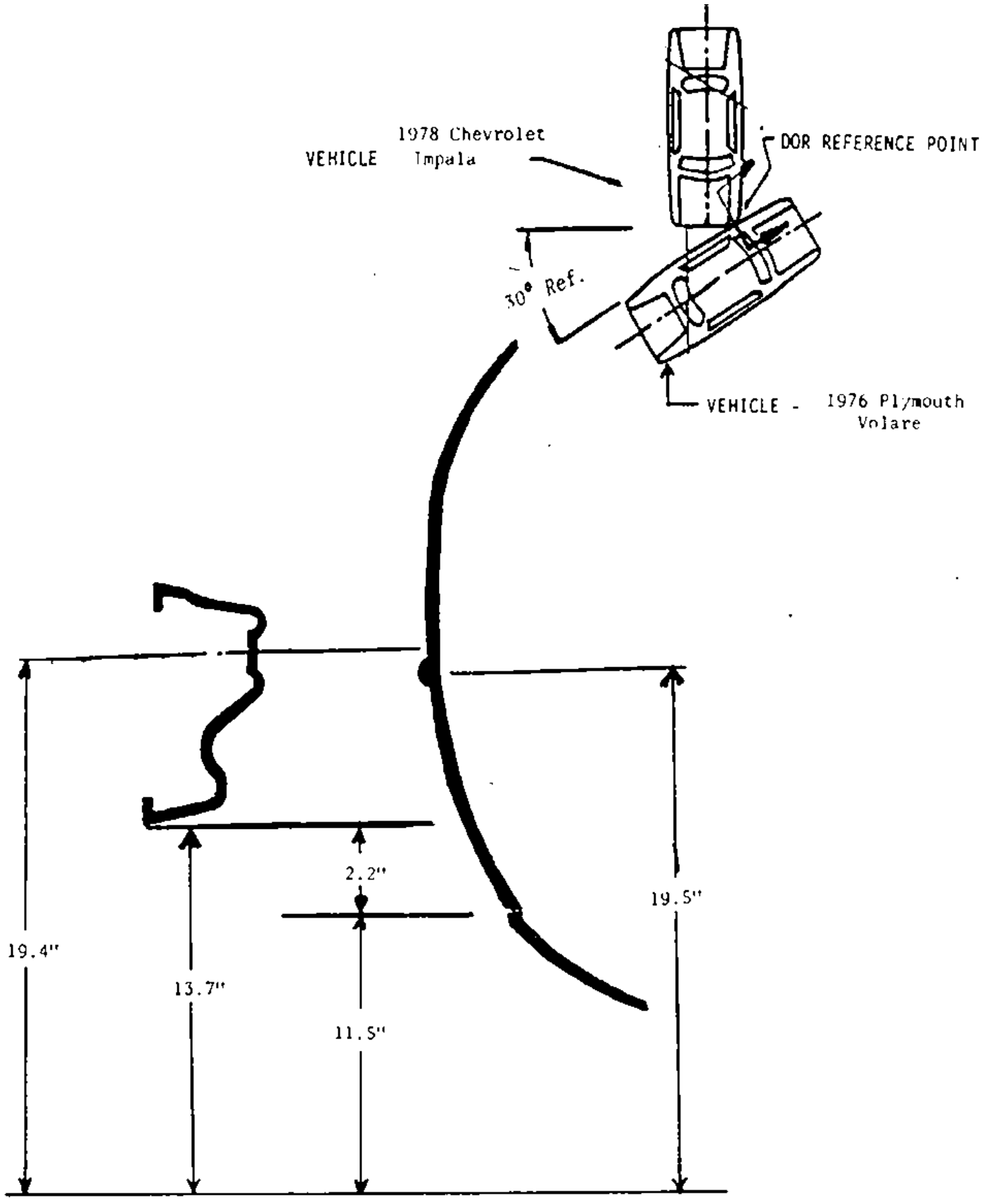
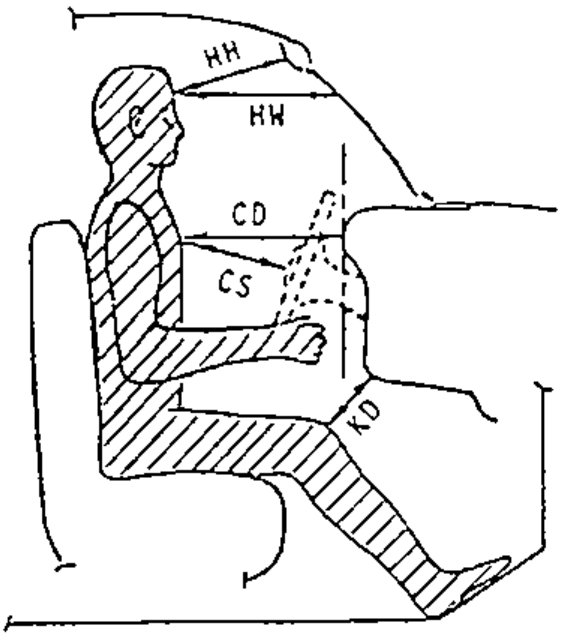


FIGURE 12 VEHICLE CRASH ATTITUDE

	DRIVER	PASS.
HH	12.0	-
HW	17.8	-
CD	18.4	-
CS	12.6	-
KDL	6.5	6.8
KDR	6.4	7.7



HR	6.5	7.5
HS	9.5	8.2
AD	7.6	4.3
HD	9.0	8.7

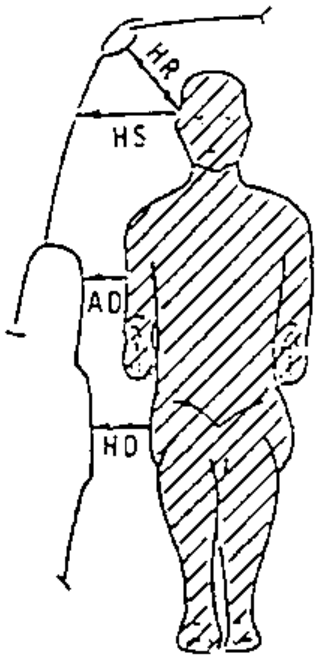


FIGURE 13 OCCUPANT CLEARANCE DIMENSIONS
(VEHICLE 2)

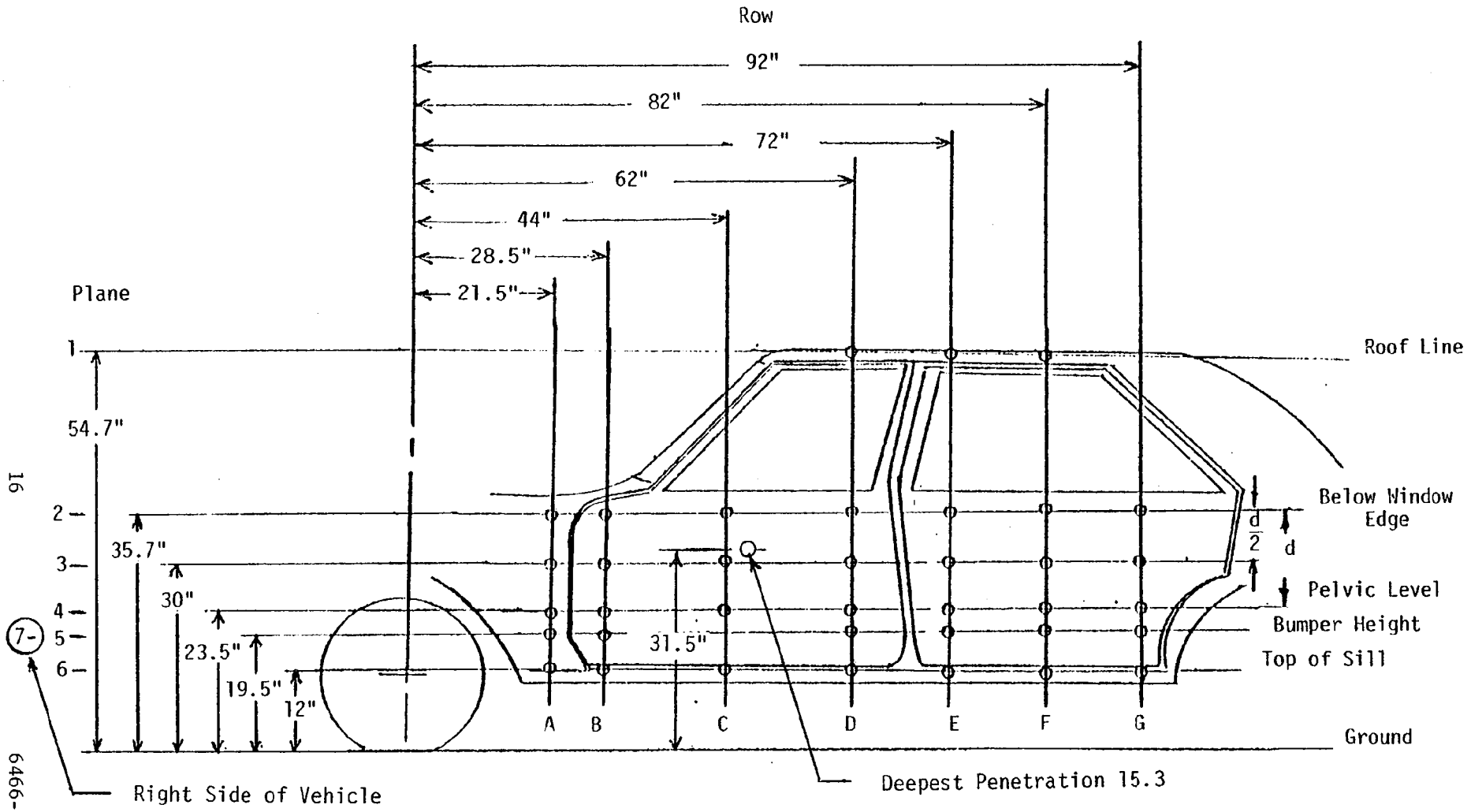


FIGURE 14 SIDE INTRUSION MEASUREMENT POINTS

Table 3

SIDE INTRUSION MEASUREMENTS

DIMENSIONS LISTED BELOW ARE FROM POINTS SHOWN ON FIGURE 14 TO REFERENCE PLANES

LOCATED PARALLEL TO AND OUTBOARD FROM ℄ OF VEHICLE
(ROWS ARE FROM FRONT TO REAR OF VEHICLE)

PLANE NUMBER		DIMENSIONS (Inches) ROW A	B	C	D	E	F	G
1	PRE				17.7	17.7	17.7	
	POST				23.1	23.8	21.7	
	DIFF.				5.4	6.1	4.0	
2	PRE	8.8	8.7	8.4	8.2	8.1	8.0	8.0
	POST	11.0	12.3	21.3	20.7	19.8	15.8	13.3
	DIFF.	2.2	3.6	12.9	12.5	11.7	7.8	5.3
3	PRE	6.2	6.2	6.2	6.2	6.2	6.2	6.3
	POST	8.6	12.1	20.7	19.3	18.0	14.4	10.2
	DIFF.	2.4	6.9	14.5	13.1	11.8	8.2	3.9
4	PRE	6.3	6.2	6.2	6.2	6.2	6.3	6.4
	POST	8.4	11.0	20.0	20.5	18.6	15.4	11.3
	DIFF.	2.1	4.8	13.8	14.3	12.4	9.1	4.9
5	PRE	7.1	7.1	6.9	7.0	6.9	7.1	7.2
	POST	9.0	11.2	19.8	20.2	17.3	16.2	11.3
	DIFF.	1.9	4.1	12.9	13.2	10.4	9.1	4.1
6	PRE	10.9	10.9	11.0	11.3	11.5	11.5	11.7
	POST	11.8	13.0	16.4	19.7	17.5	15.2	13.0
	DIFF.	0.9	2.1	5.4	8.4	6.0	3.7	1.3
7	PRE	7.1	7.0	6.9	7.0	7.1	7.2	7.2
	POST	5.3	5.3	5.3	5.4	5.8	6.3	6.5
	DIFF.	+1.8	+1.7	+1.6	+1.6	+1.3	+ .9	+ .7

RIGHT SIDE

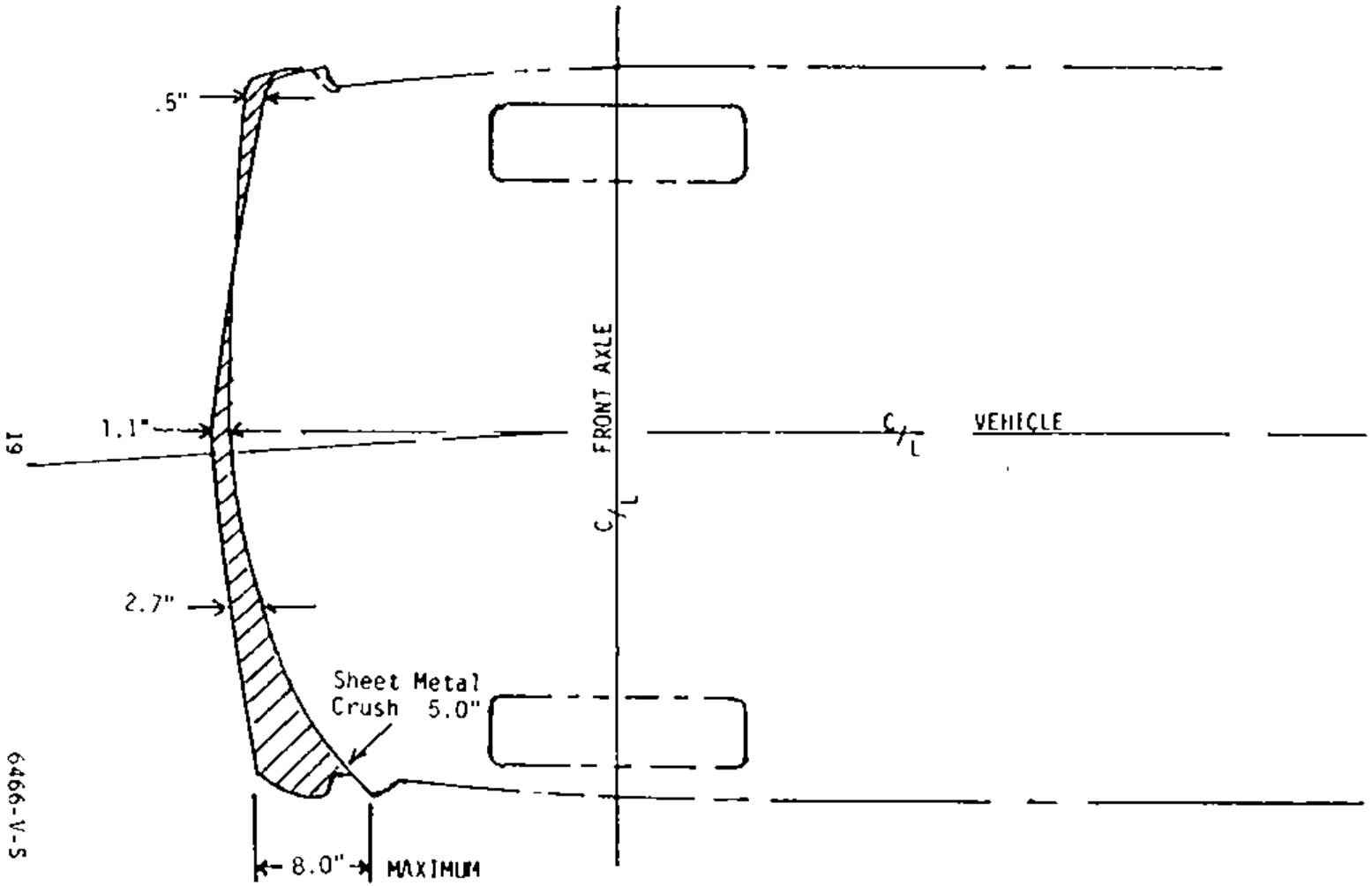
DEEPEST PENETRATION 4.0" AFT OF "C" 31.5" HIGH 21.5 - 6.2 = 15.3"

Table 4

DOOR THICKNESS MEASUREMENTS

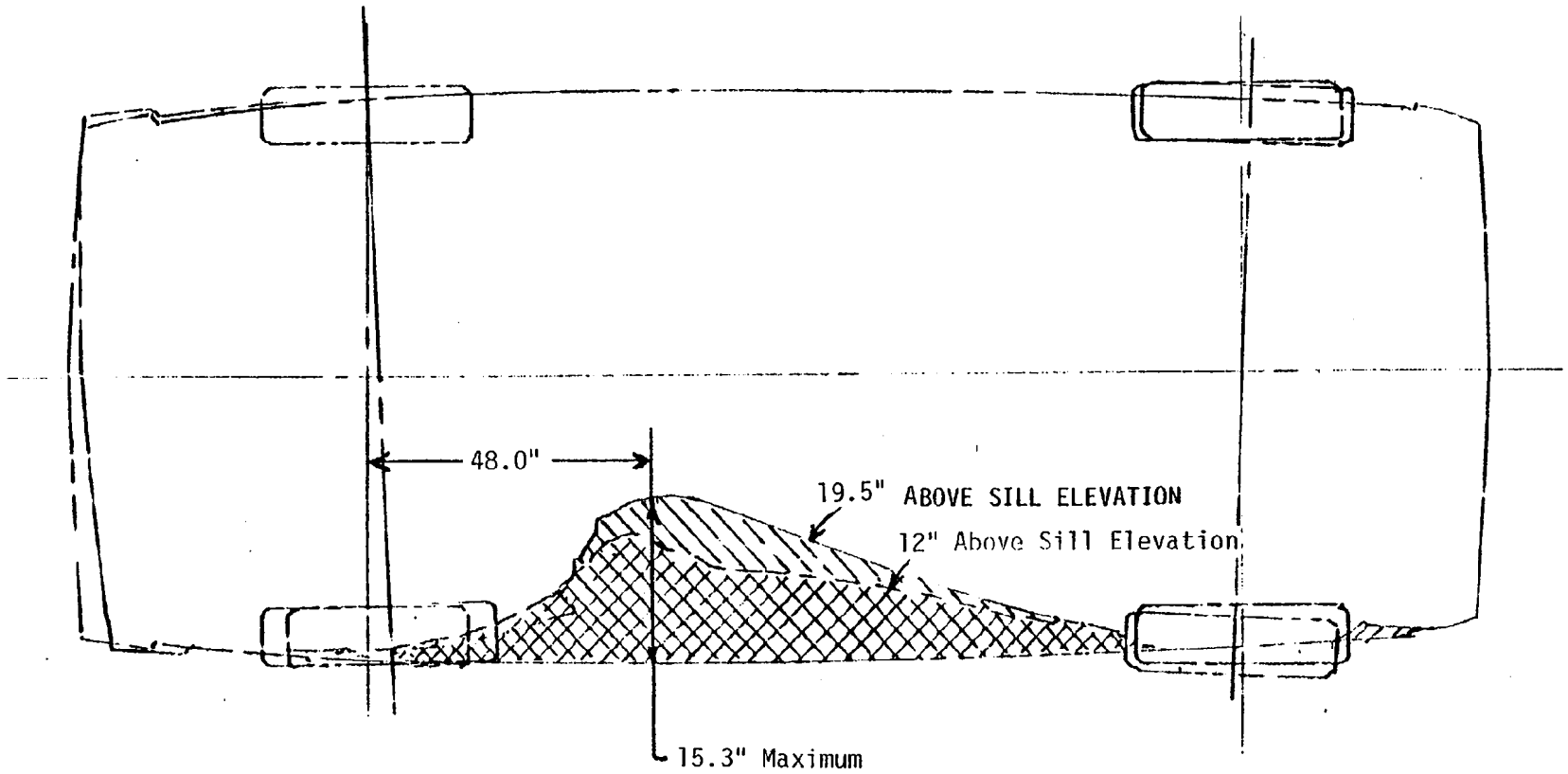
DIMENSIONS LISTED WERE MEASURED WITH A ROD THROUGH A 1/8 INCH HOLE AT EACH LOCATION AS SHOWN IN FIGURE 14

PLANE NUMBER		DIMENSIONS (Inches) ROW A	B	C	D	E	F	G
1	PRE							
	POST							
	DIFF.							
2	PRE		3.2	2.4	5.7	6.1	6.3	5.8
	POST		1.1	2.0	4.4	6.0	5.5	4.4
	DIFF.		2.1	.4	1.3	.1	.8	1.4
3	PRE		3.2	7.3	7.3	7.3	5.6	7.2
	POST		.2	3.3	5.3	6.1	4.6	6.1
	DIFF.		3.0	4.0	2.0	1.2	1.0	1.1
4	PRE		5.7	6.8	6.1	6.6	6.3	6.3
	POST		2.0	3.3	3.8	4.8	2.8	3.3
	DIFF.		3.7	3.5	2.4	1.8	3.5	3.0
5	PRE		5.5	6.1	5.6	5.8	6.1	5.5
	POST		4.1	1.8	3.9	5.4	2.6	4.1
	DIFF.		1.4	4.3	1.7	0.4	3.5	2.4
6	PRE							
	POST							
	DIFF.							
7	PRE							
	POST							
	DIFF.							



Test 8

FIGURE 15 PRE- AND POST-TEST DEFLECTION - VEHICLE NO. 1 - 1978 CHEVROLET IMPALA



Test 8

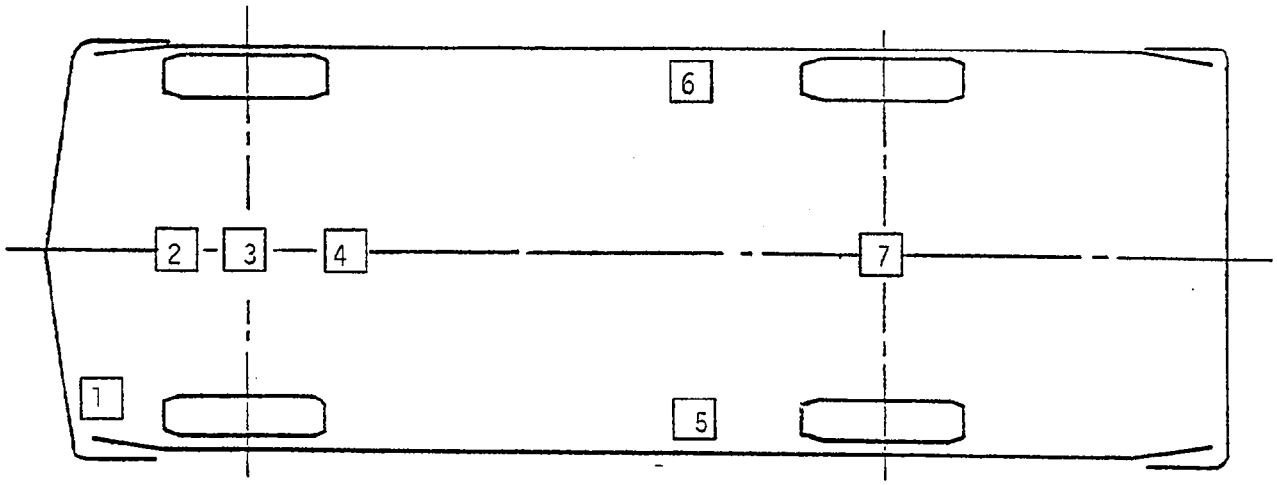
FIGURE 16 EXTERIOR DEFORMATION - VEHICLE 2 - 1976 PLYMOUTH VOLARE

Table 5

ELECTRONIC INSTRUMENTATION TEST NO. 8

VEHICLE 1 - Bullet Vehicle - 1978 Chevrolet Impala

TRANSDUCER DESCRIPTION OR ACCELEROMETER LOCATION	DIRECTION OF PARAMETER BEING MEASURED	LOCATION ON VEHICLE	DESCRIPTION LISTED ON DATA PLOTS
VEHICLE ACCELEROMETER			
1	X-Accel	Bumper (rear face)	Veh. #1 Accel. Pack #1 (X)
2	X, Y, Z	Top of Engine, Carburetor	Veh. #1 Accel. Pack #2
3	X	Front Crossmember	Veh. #1 Accel. Pack #3
4	X, Y, Z	Firewall	Veh. #1 Accel. Pack #4
5	X	Left Sill next to Rear Seat	Veh. #1 Accel. Pack #5
6	X	Right Sill next to Rear Seat	Veh. #1 Accel. Pack #6
7	X, Y	Deck over Rear Axle	Veh. #1 Accel. Pack #7



1978 CHEVROLET IMPALA
STRIKING VEHICLE

ACCELEROMETER NUMBER*	ACCELEROMETER LOCATIONS	DIRECTION		
		X	Y	Z
1	Bumper (Rear Face)	X		
2	Top of Engine	X	X	X
3	Front Crossmember	X		
4	Firewall	X	Y	Z
5	Left Sill	X		
6	Right Sill	X		
7	Rear Deck	X	Y	

*The accelerometer pack number can be correlated with vehicle response data.

FIGURE 17 VEHICLE 1 - ACCELEROMETER LOCATIONS

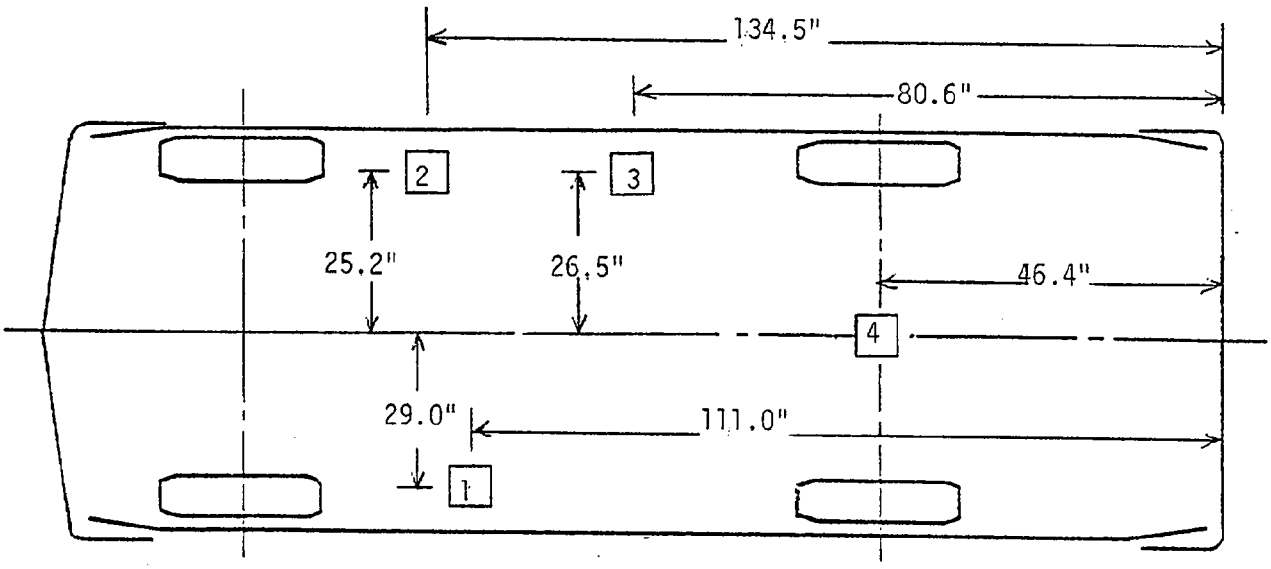
Table 6

ELECTRONIC INSTRUMENTATION TEST 7

VEHICLE 2 - TARGET VEHICLE - 1976 PLYMOUTH VOLARE

TRANSDUCER DESCRIPTION OR ACCELEROMETER LOCATION *1	DIRECTION OF PARAMETER BEING MEASURED	LOCATION ON VEHICLE	DESCRIPTION LISTED ON DATA PLOTS
VEHICLE ACCELEROMETER			
1	Y	Left Rocker	Vehicle #2 Accel. Pack #1
2	X, Y, Z	Right Front Rocker	Vehicle #2 Accel. Pack #2
3	Y	Right Rear Rocker	Vehicle #2 Accel. Pack #3
4	X, Y	Rear Deck	Vehicle #2 Accel. Pack #4
5	Y	Driver Door	Vehicle #2 Accel. Pack #5
6	Y	Upper Left B Pillar	Vehicle #2 Accel. Pack #6
7	Y	Driver Door	Vehicle #2 Accel. Pack #7
8	Y	Lower Left B Pillar	Vehicle #2 Accel. Pack #8
DUMMY (1)			
Head	X, Y, Z	Left Front Seat	Veh. #2 Pos. #1 Head
Upper Spine	X, Y, Z	Left Front Seat	Veh. #2 Pos. #1 Upper Spine
Lower Spine	X, Y, Z	Left Front Seat	Veh. #2 Pos. #1 Lower Spine
Pelvic	X, Y	Left Front Seat	Veh. #2 Pos. #1 Pelvic
Upper Left Rib	Y	Left Front Seat	Veh. #2 Pos. #1 Upper LF Rib
Lower Left Rib	X	Left Front Seat	Veh. #2 Pos. #1 Lower LF Rib
Upper Right Rib	Y	Left Front Seat	Veh. #2 Pos. #1 Upper RT Rib
Lower Right Rib	X	Left Front Seat	Veh. #2 Pos. #1 Lower RT Rib
Upper Sternum	X	Left Front Seat	Veh. #2 Pos. #1 Upper Sternum
Lower Sternum	X	Left Front Seat	Veh. #2 Pos. #1 Lower Sternum
Left Rib Deflection	Y	Left Front Seat	Veh. #2 Pos. #1 LF Rib Defl.
DUMMY (4)			
Head	X, Y, Z	Left Rear Seat	Veh. #2 Pos. #4 Head
Chest	X, Y, Z	Left Rear Seat	Veh. #2 Pos. #4 Chest
Pelvic	X, Y	Left Rear Seat	Veh. #2 Pos. #4 Pelvic
VEHICLE INTRUSION POT.			
9	Y	Driver Door	Veh. #2 Intrusion Pot #9
10	Y	Driver Door	Veh. #2 Intrusion Pot #10
11	Y	Driver Door	Veh. #2 Intrusion Pot #11
12	Y	Left B Pillar	Veh. #2 Intrusion Pot #12

*See accelerometer layout, Figure 18.

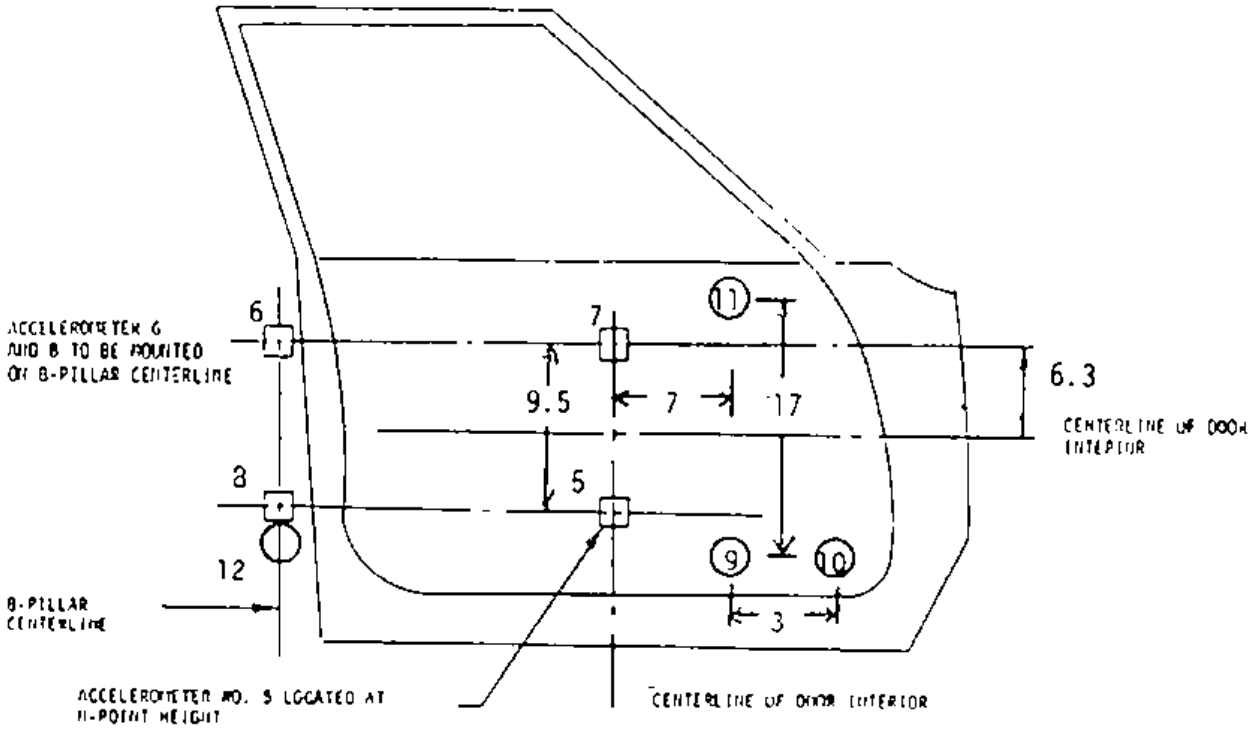


1976 PLYMOUTH VOLARE
STRUCK VEHICLE

ACCELEROMETER NUMBER*	ACCELEROMETER LOCATION	DIRECTION		
		X	Y	Z
1	LEFT ROCKER		X	
2	RIGHT FRONT ROCKER	X	X	X
3	RIGHT REAR ROCKER		X	
4	REAR DECK	X	X	

*THE ACCELEROMETER PACK NUMBER CAN BE CORRELATED WITH VEHICLE RESPONSE DATA.

FIGURE 18 VEHICLE 2 - ACCELEROMETER LOCATIONS



ACCELEROMETER NUMBER	ACCELEROMETER LOCATION	DIRECTION		
		X	Y	Z
5	DRIVER DOOR		X	
6	UPPER LEFT "B" PILLAR		X	
7	DRIVE DOOR		X	
8	LOWER LEFT "B" PILLAR		X	

INTRUSION POT NUMBER	INTRUSION POT LOCATION	DIRECTION		
		X	Y	Z
9	DRIVER DOOR		X	
10	DRIVER DOOR		X	
11	DRIVER DOOR		X	
12	LOWER LEFT "B" PILLAR		X	

FIGURE 19 VEHICLE 2 - DOOR INSTRUMENTATION

Table 7

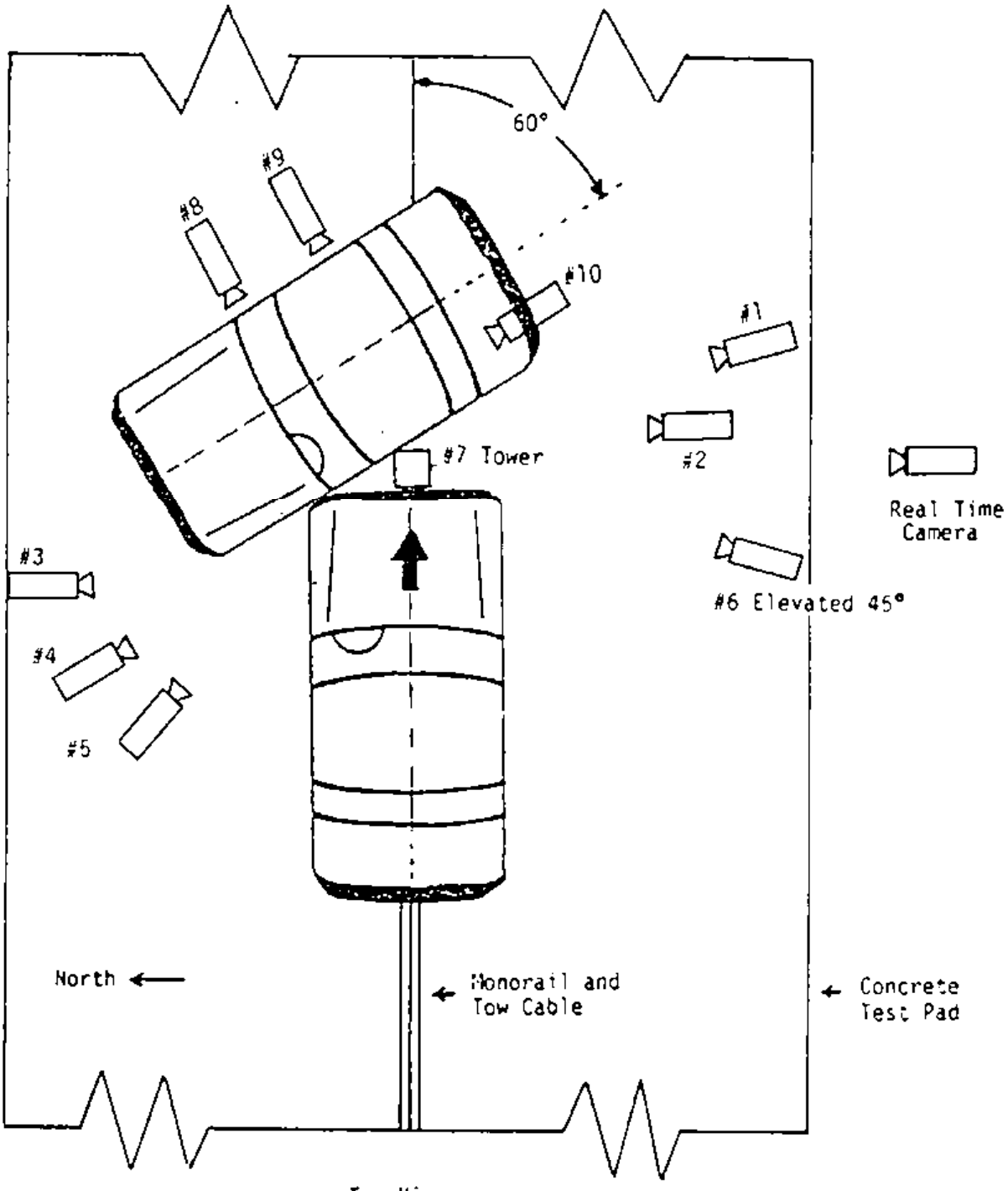
HIGH SPEED CAMERA INFORMATION (TEST 490)

CAMERA NO.	LOCATION	TYPE	LENS (mm)	SPEED (fps)
1	SOUTH WIDE	PHOTOSONIC	13	850
2	SOUTH LOW	PHOTOSONIC	25	850
3	NORTH WIDE	PHOTOSONIC	13	900
4	NORTH CLOSE	PHOTOSONIC	25	900
5	NORTH HIGH	PHOTOSONIC	25	850
6	TOWER 45°	PHOTOSONIC	13	900
7	TOWER	PHOTOSONIC	13	900
8	ON-BOARD DRIVER	STALEX	8	
9	ON-BOARD REAR PASS.	STALEX	8	NO PULSE
10	ON-BOARD REAR DECK	STALEX	8	NO PULSE

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 OF FILM.

Note: Camera Information Shown on Table 7.



Top View

Test 8

FIGURE 20 CAMERA LOCATIONS

Table 8

DUMMY INJURY CRITERIA VALUES
MAXIMUM ACCELERATION ("G")*
VEHICLE 2 - 1976 PLYMOUTH VOLARE

POSITION #1 DRIVER

	X	Y	Z	RESULTANT
HEAD	-47.4	45.7	45.3	66.1
UPPER SPINE	-10.4	57.9	18.7	58.7
LOWER SPINE	14.2	62.0	13.9	66.2
PELVIC	-18.0	62.0	-	-

UPPER LEFT RIB (Y)	75.0
LOWER LEFT RIB (X)	-30.3
UPPER RIGHT RIB (Y)	51.5
LOWER RIGHT RIB (X)	12.0
UPPER STERNUM (X)	27.5
LOWER STERNUN (X)	25.0
LEFT RIB DEFLECTION	.58 inches

HIC		469.8
T1 (sec)	.0705	.0705
T2 (Sec)	.119	.1191
AVE. ACC. (G)		39.3
HEAD SEVERITY		642.7

POSITION #4 RIGHT REAR PASSENGER

	X	Y	Z	RESULTANT
HEAD	7.8	84.0	24.0	88.0
CHEST	-4.4	26.8	7.7	26.9
PELVIC	-9.1	32.0	-	-

HIC	426.6
T1 (Sec)	.0861
T2 (Sec)	.0906
AVE. ACC. (G)	97.8
HEAD SEVERITY	530.9

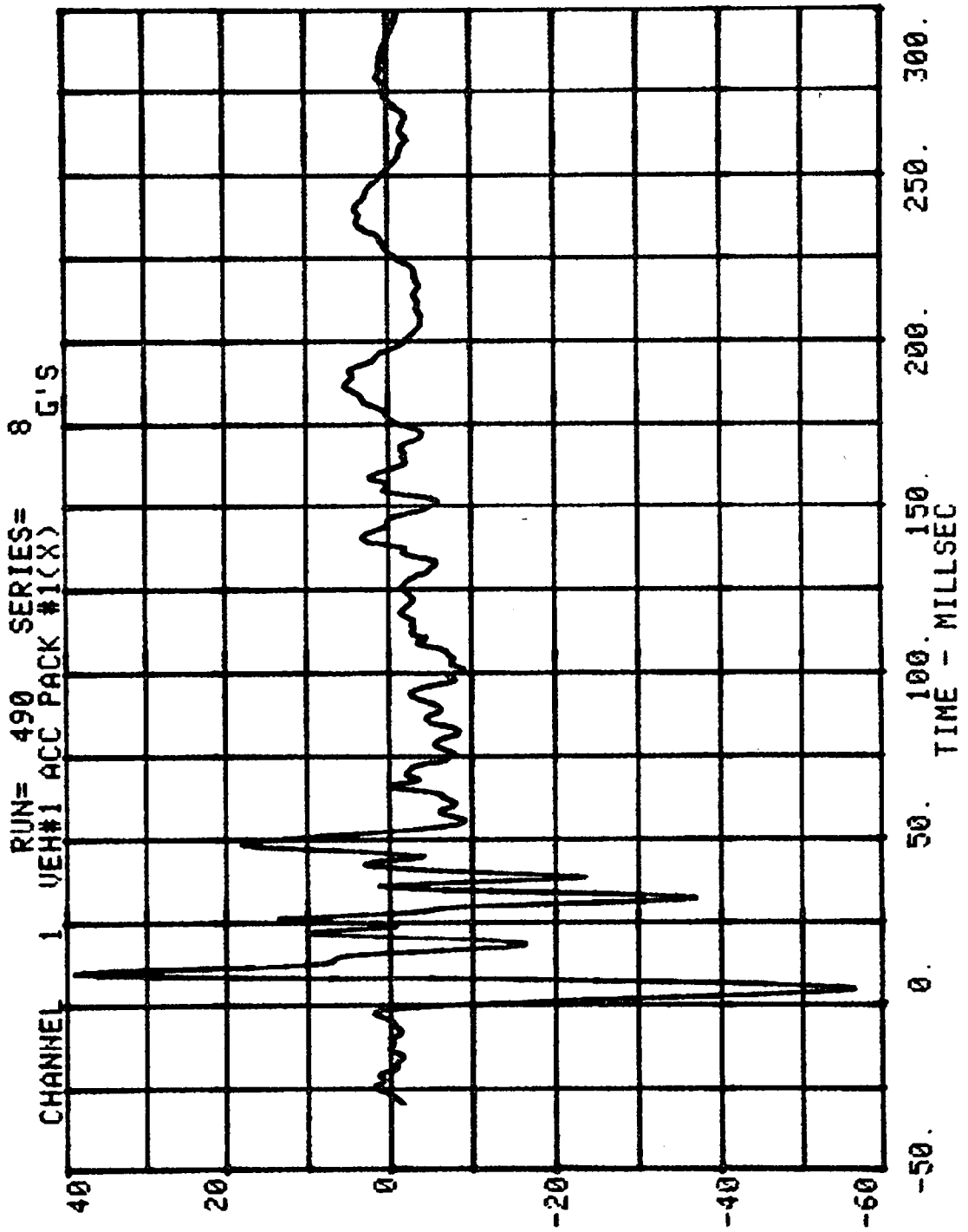
*DEFINED AS EXCEEDING .003 SEC. DURATION

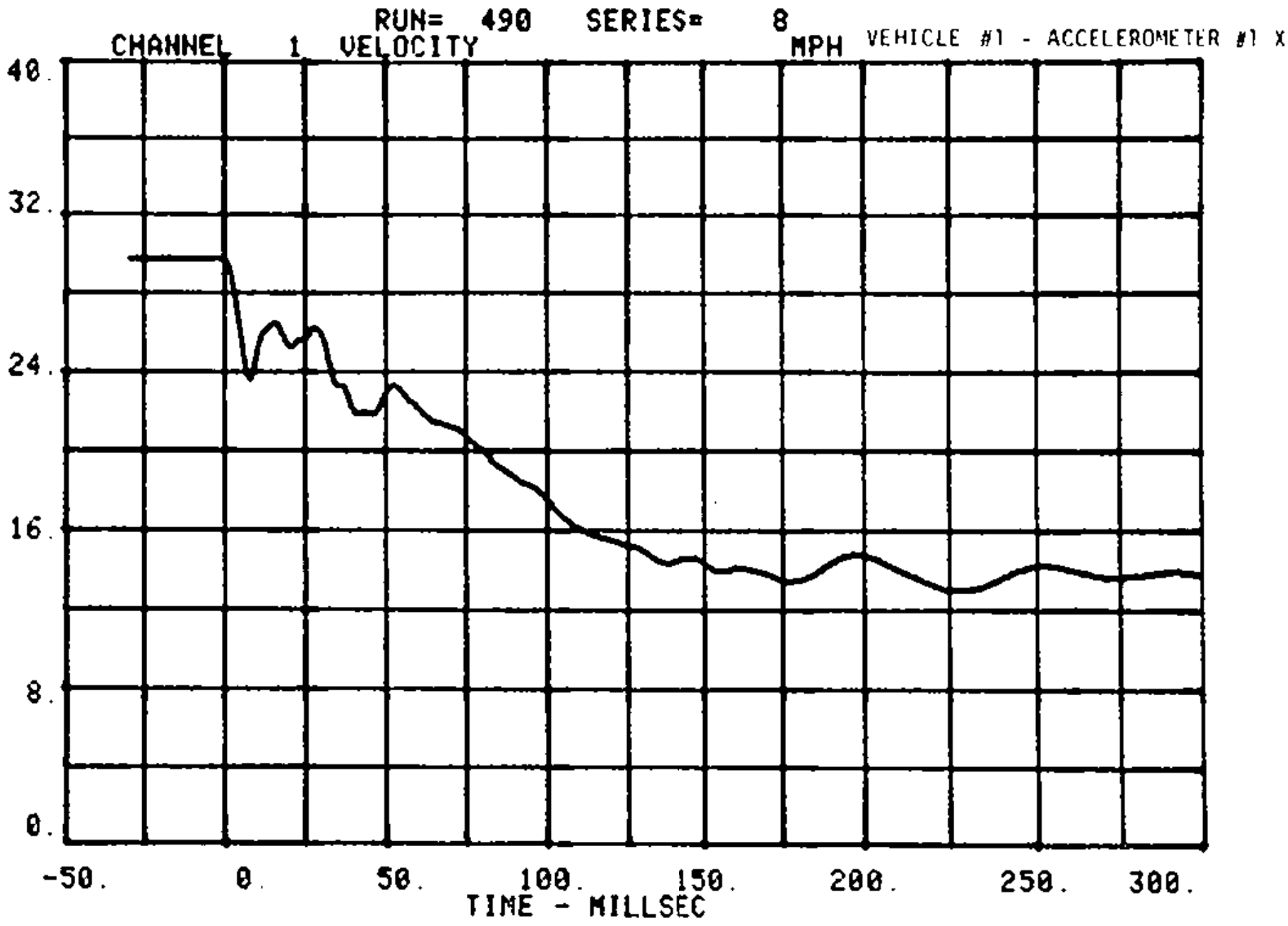
TEST NO. 8

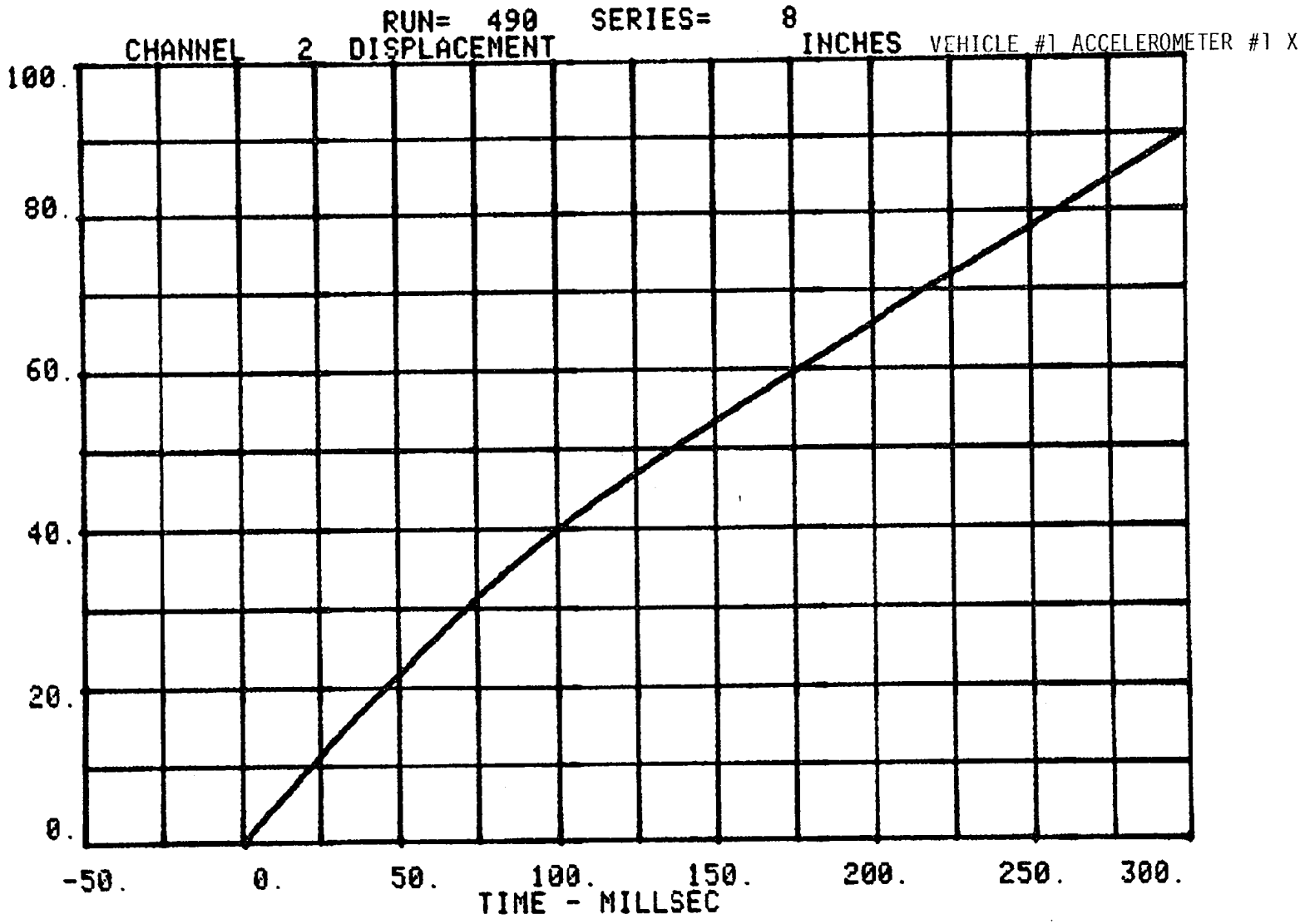
VEHICLE 1 - 1978 CHEVROLET IMPALA

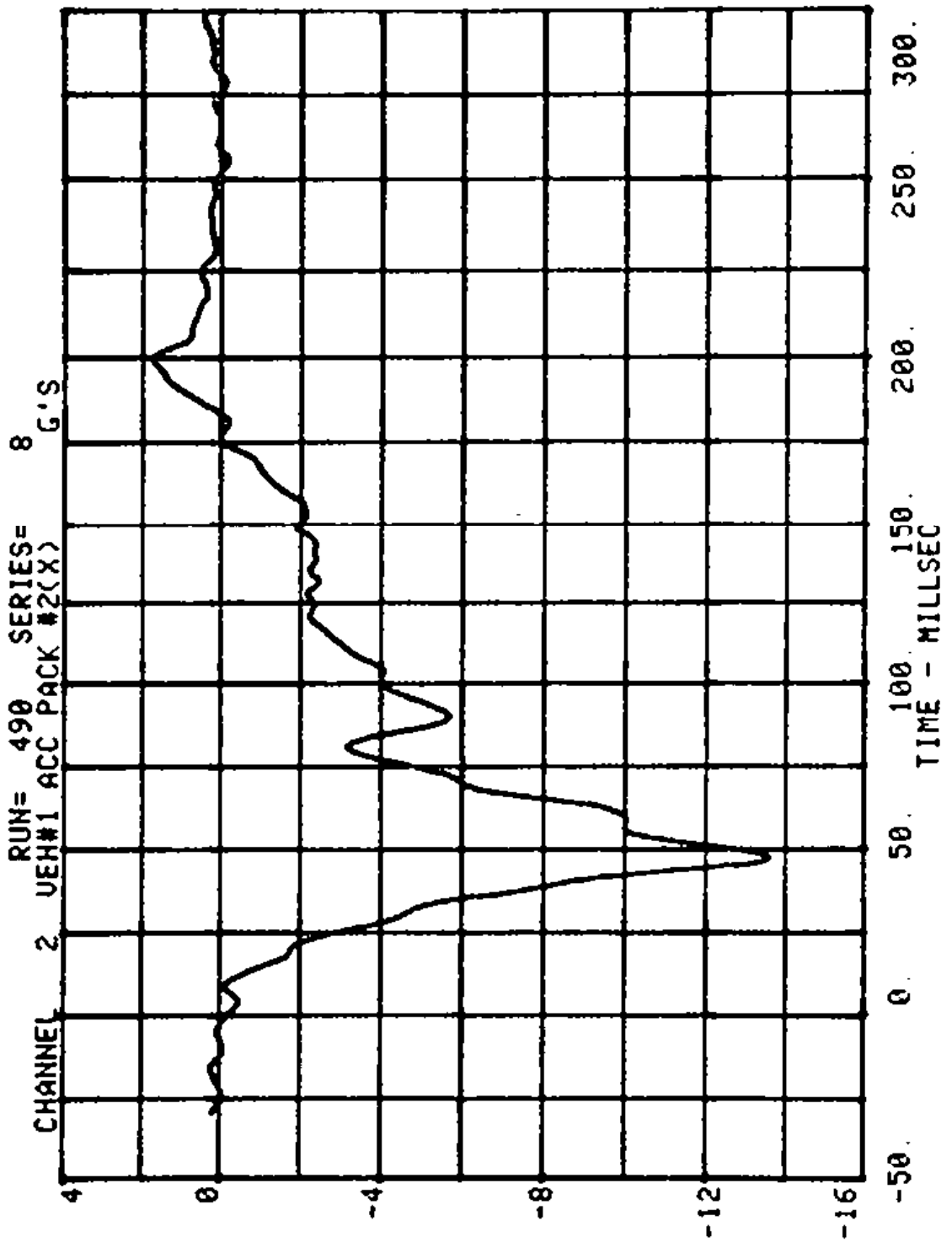
VEHICLE DATA

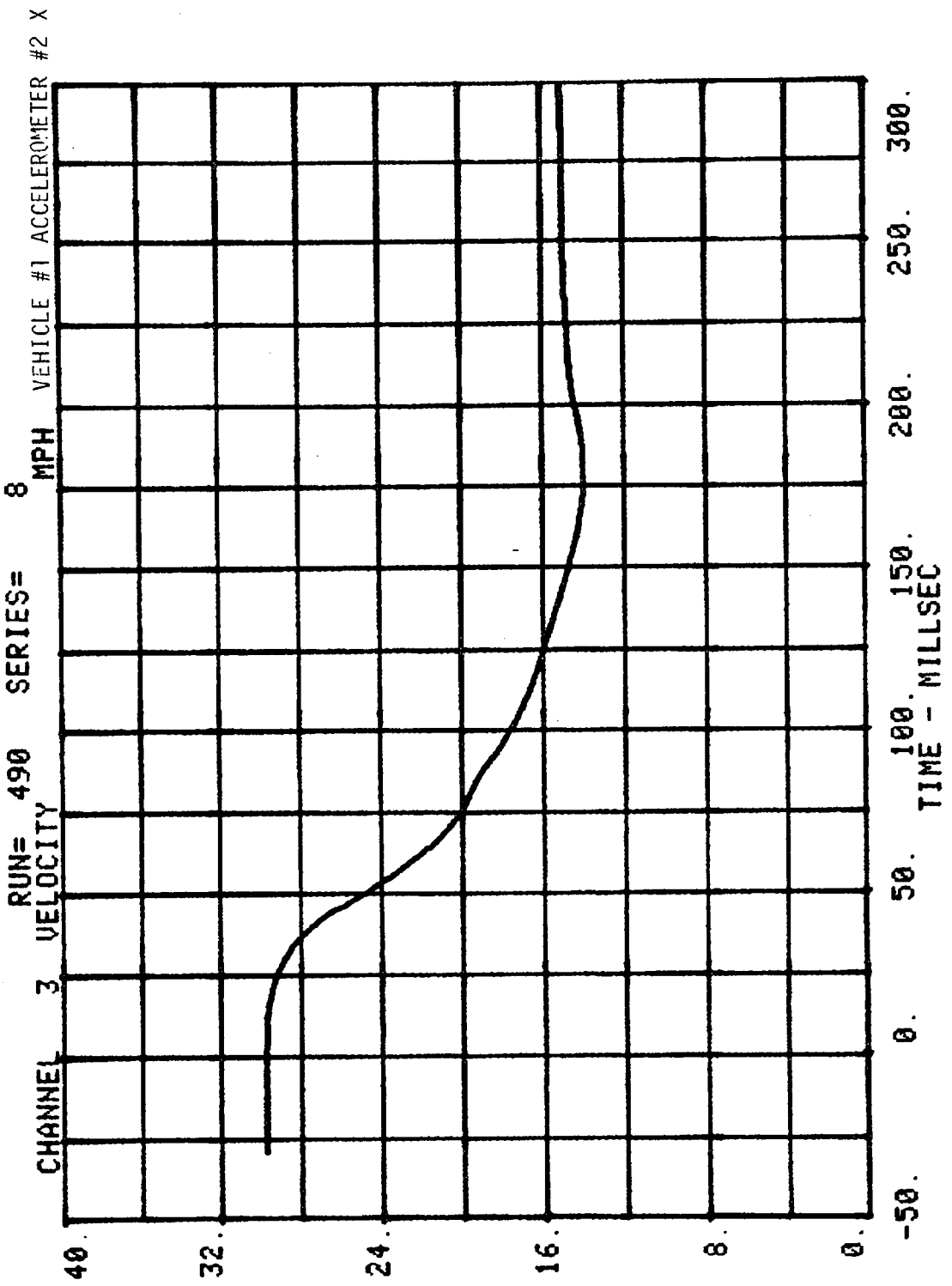
60 Hz CHANNEL CLASS

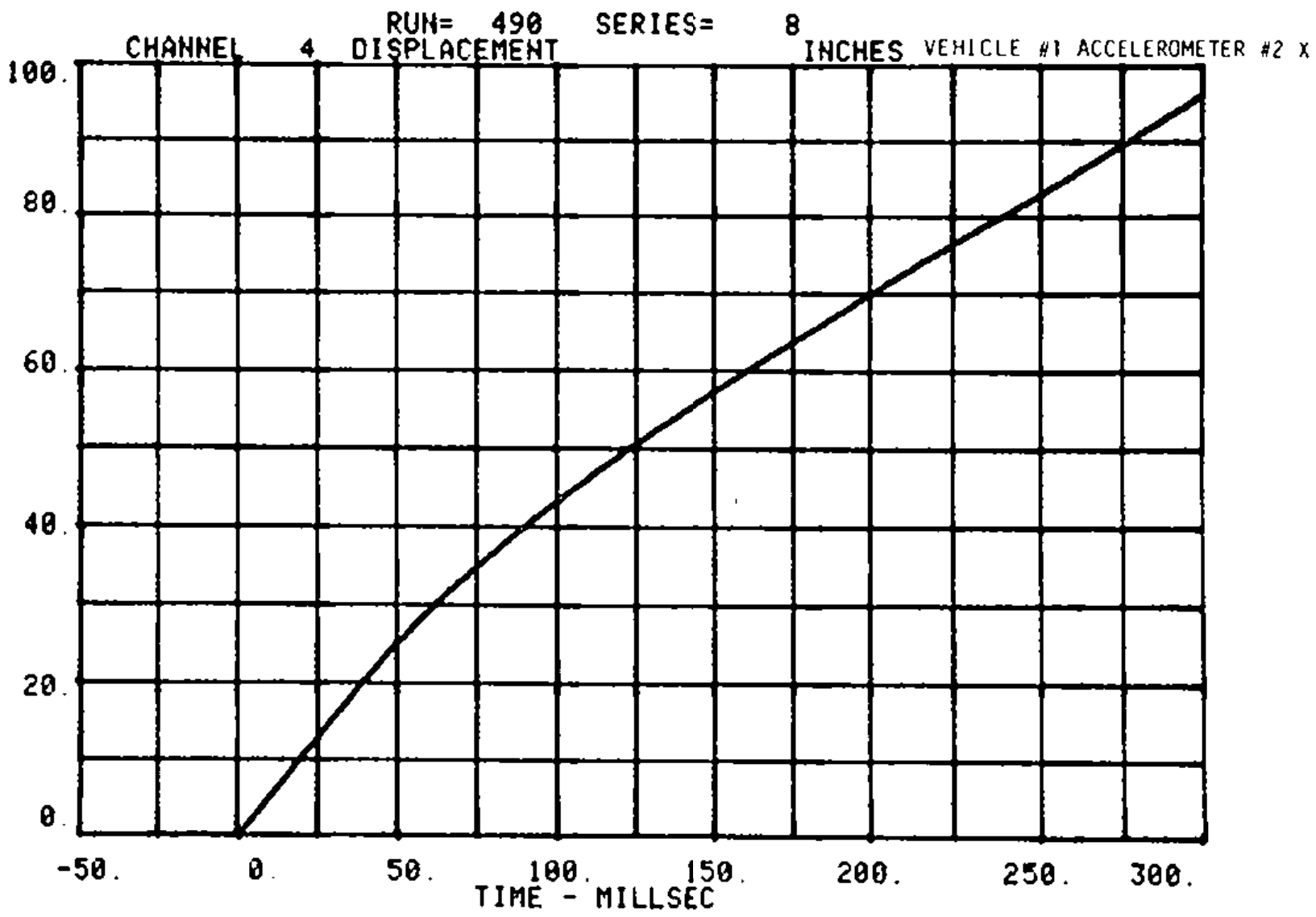

CHANNEL 1 VEH#1 ACC PACK #1(X)
RUN= 490 SERIES= 8
G'S
40
20
0
-20
-40
-60
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

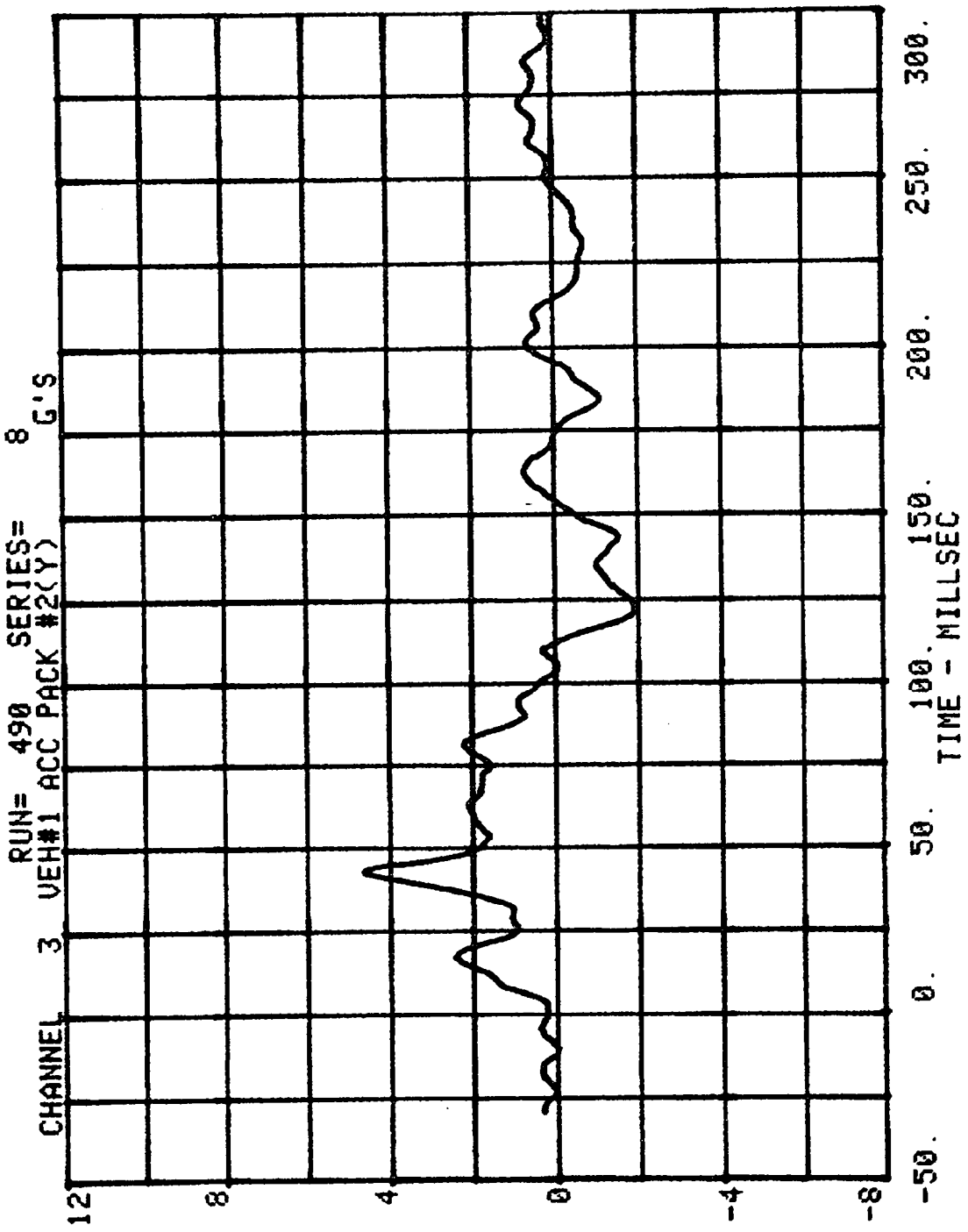

RUN= 490 SERIES= 8
CHANNEL 1 VELOCITY MPH
VEHICLE #1 - ACCELEROMETER #1 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

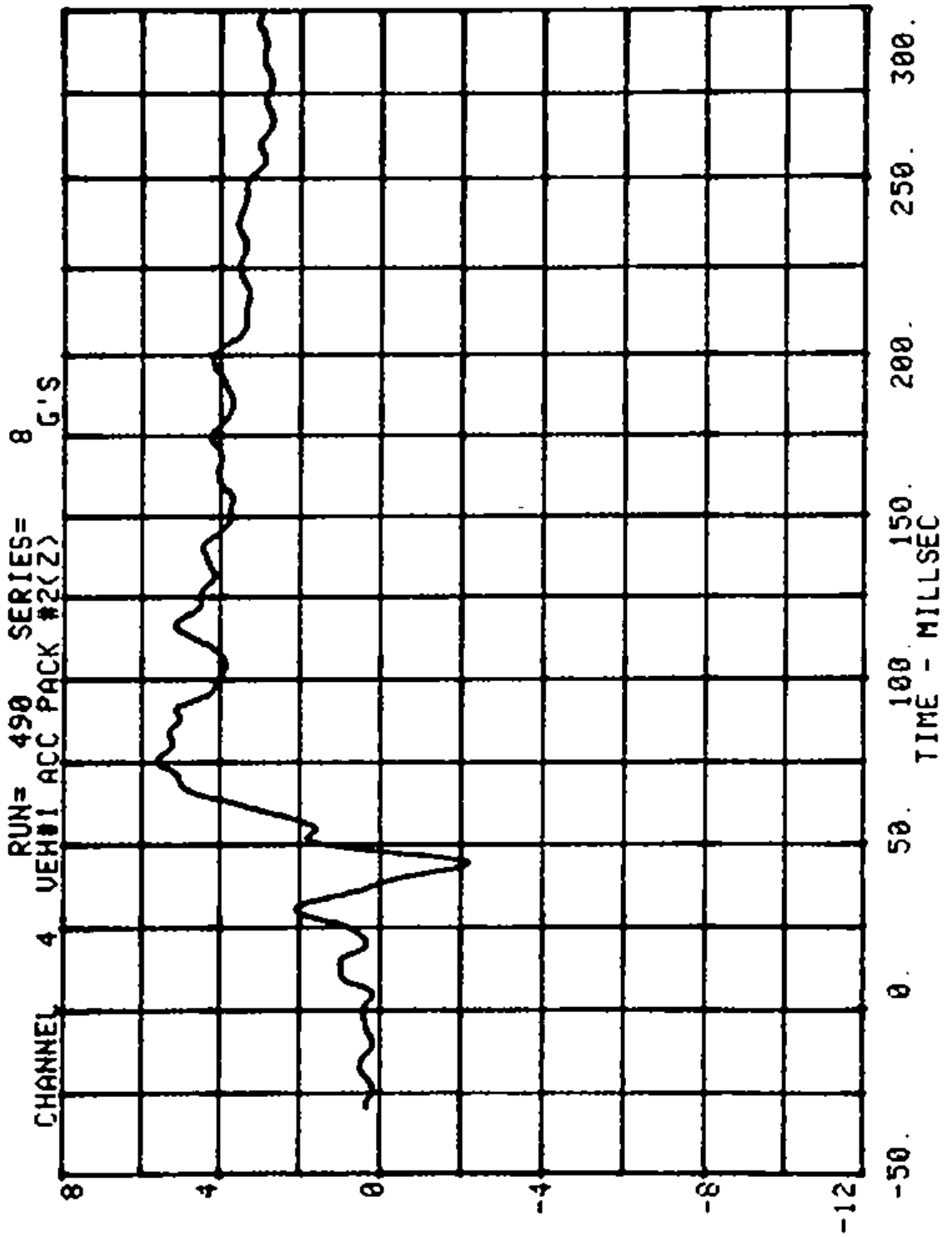

RUN= 490 SERIES= 8
CHANNEL 2 DISPLACEMENT
INCHES
VEHICLE #1 ACCELEROMETER #1 X
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

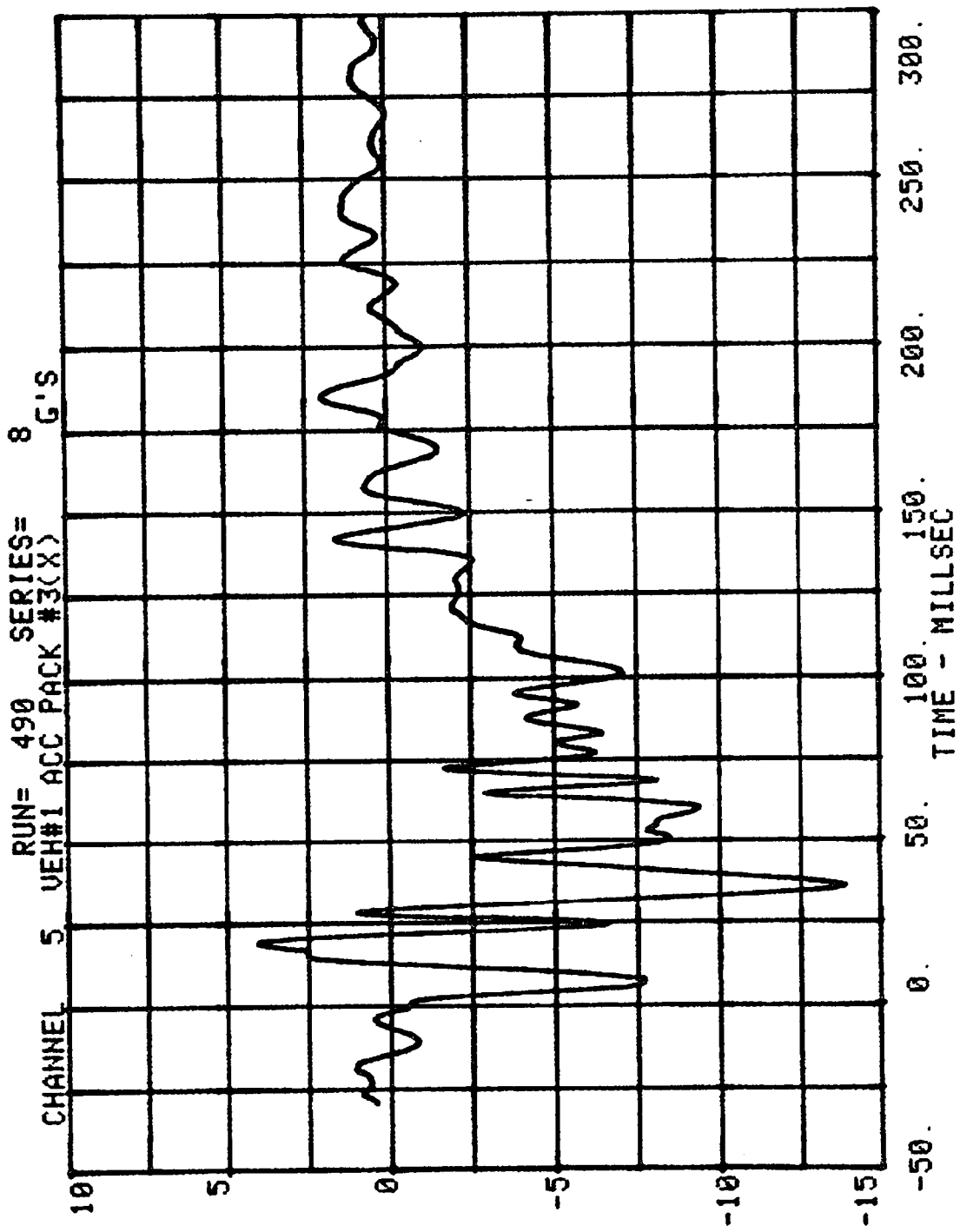

CHANNEL 2
RUN= 490 SERIES= 8
VEH#1 ACC PACK #2(X)
G'S
4
0
-4
-8
-12
-16
-50
0
50
100
150
200
250
300
TIME - MILLSEC

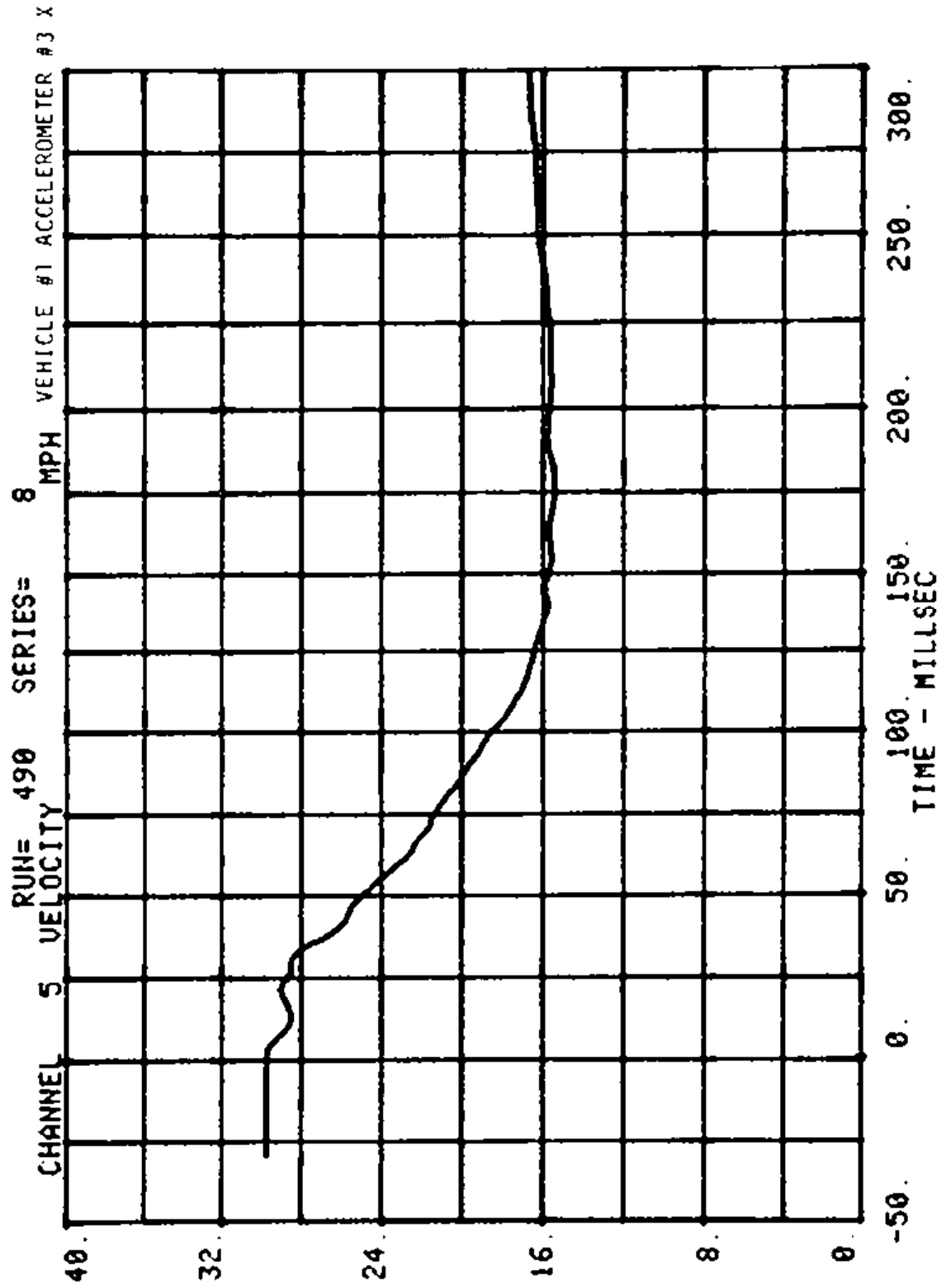

CHANNEL 3 VELOCITY
RUN= 490 SERIES= 8 MPH VEHICLE #1 ACCELEROMETER #2 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

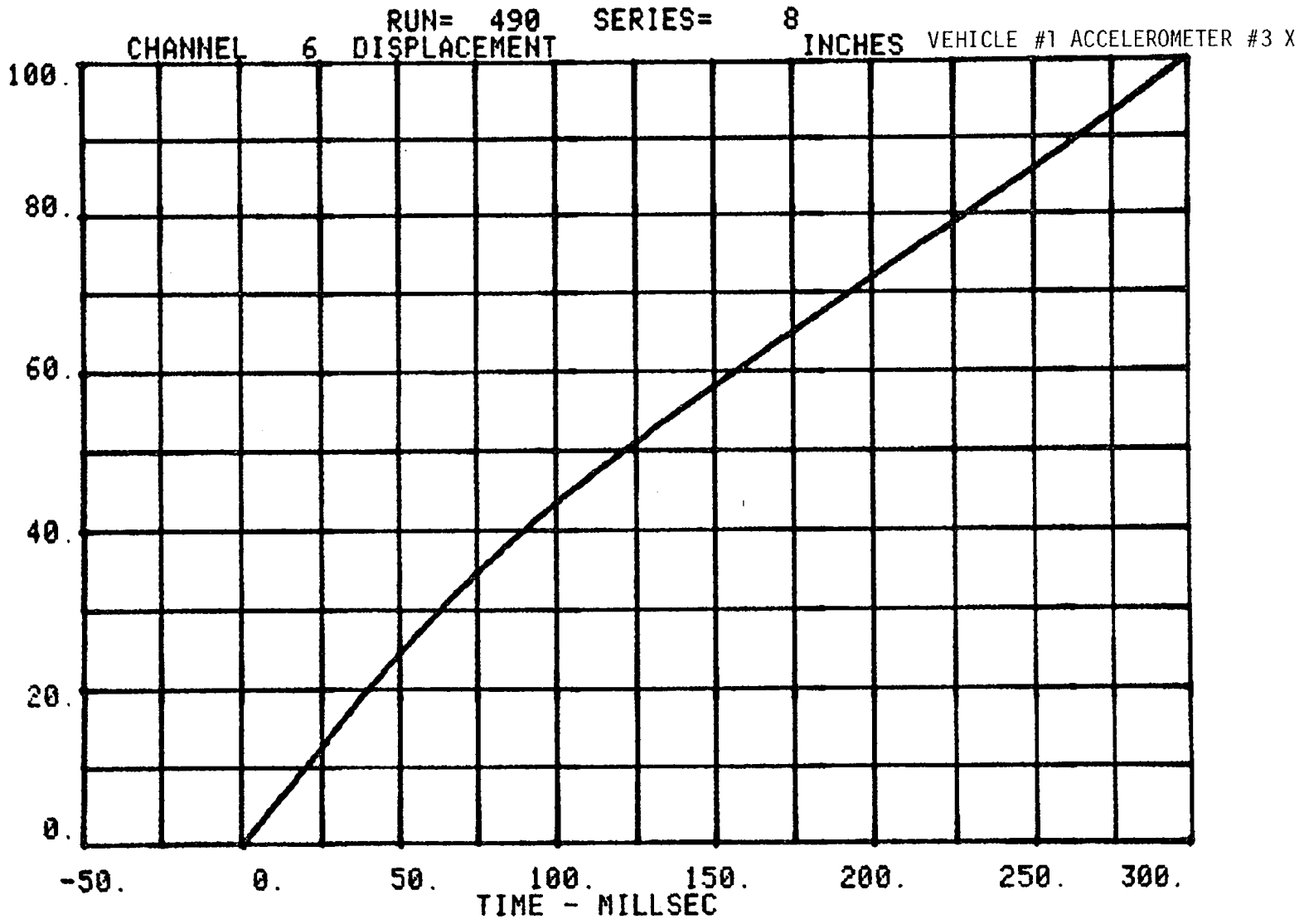

RUN= 490 SERIES= 8
CHANNEL 4 DISPLACEMENT
INCHES
VEHICLE #1 ACCELEROMETER #2 X
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

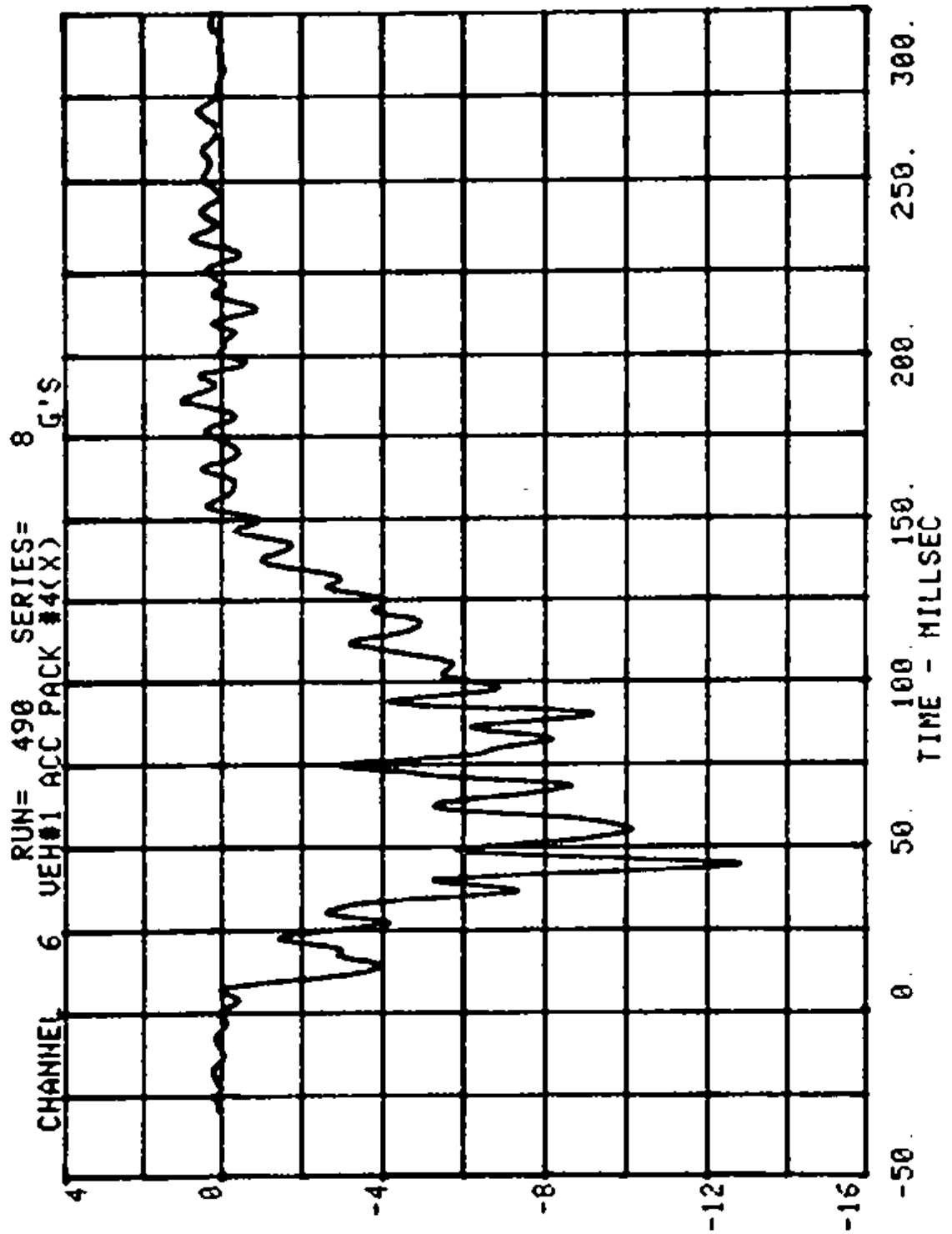

CHANNEL 3 VEH#1 ACC PACK #2(Y)
RUN= 490 SERIES= 8
G'S
12
8
4
0
-4
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

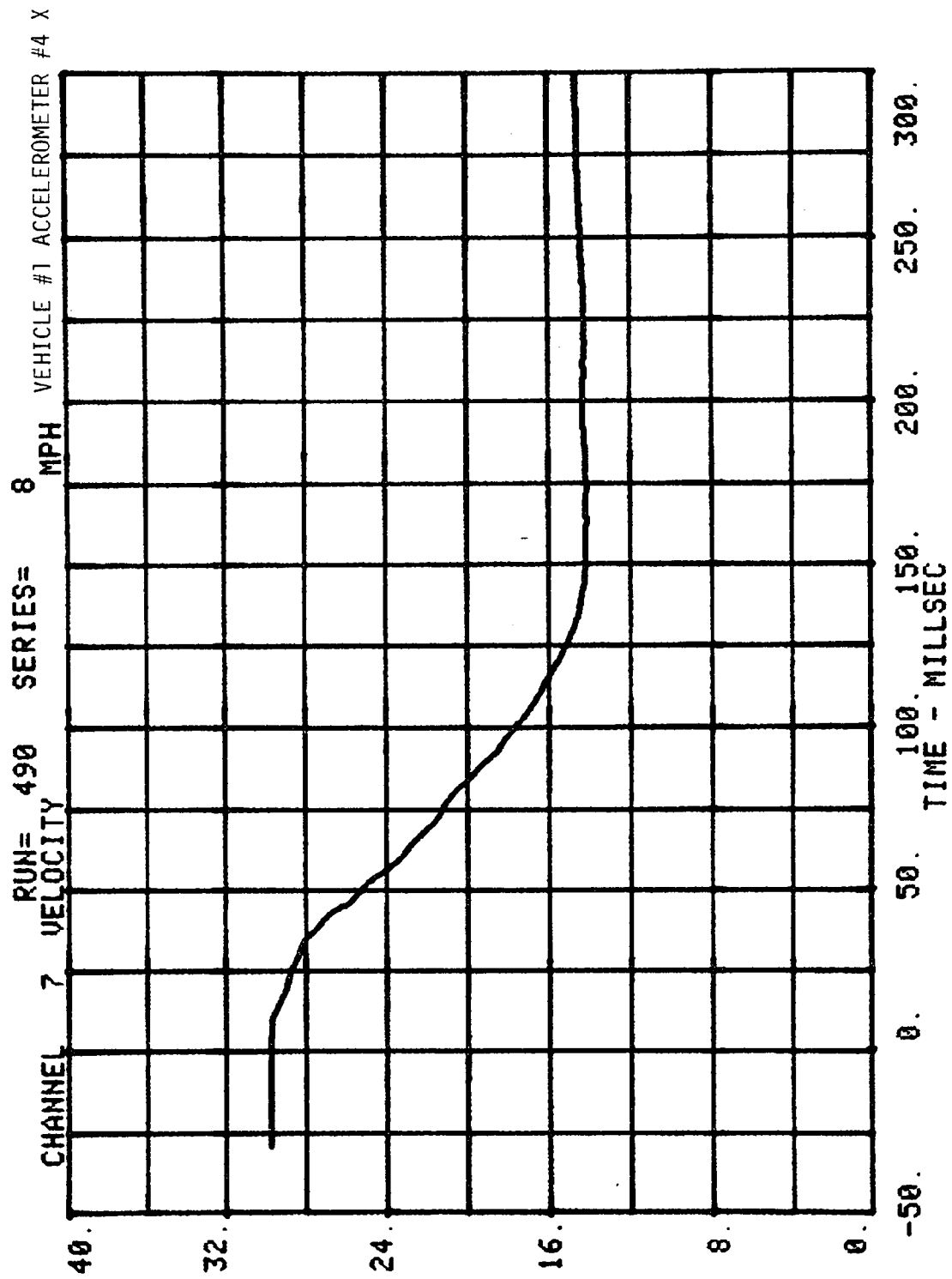

CHANNEL 4 VEH#1 ACC PACK #2(Z)
RUN= 490 SERIES= 8
G'S
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

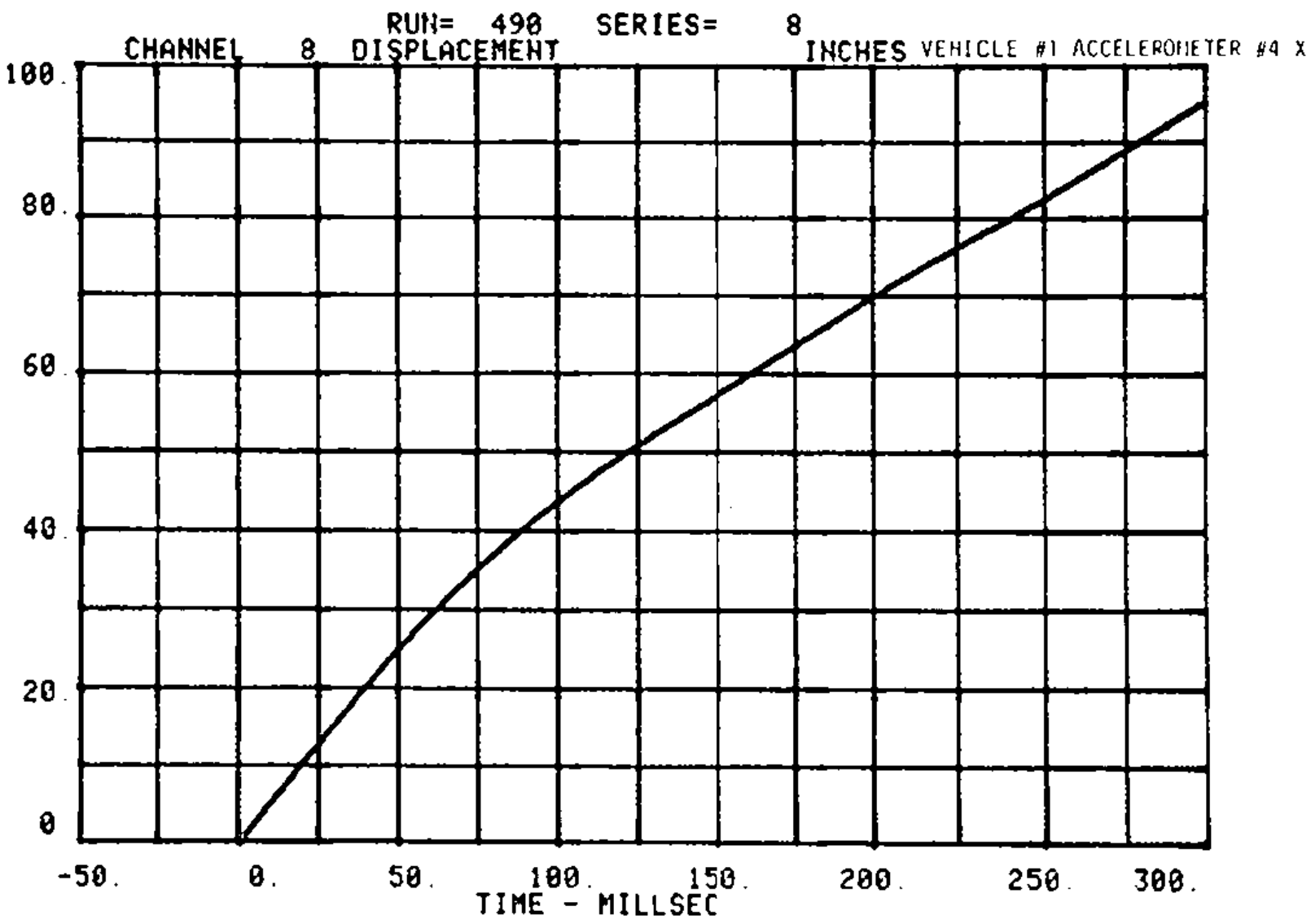

CHANNEL 5 VEH#1 ACC PACK #3(X)
RUN= 490 SERIES= 8
G'S
10
5
0
-5
-10
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

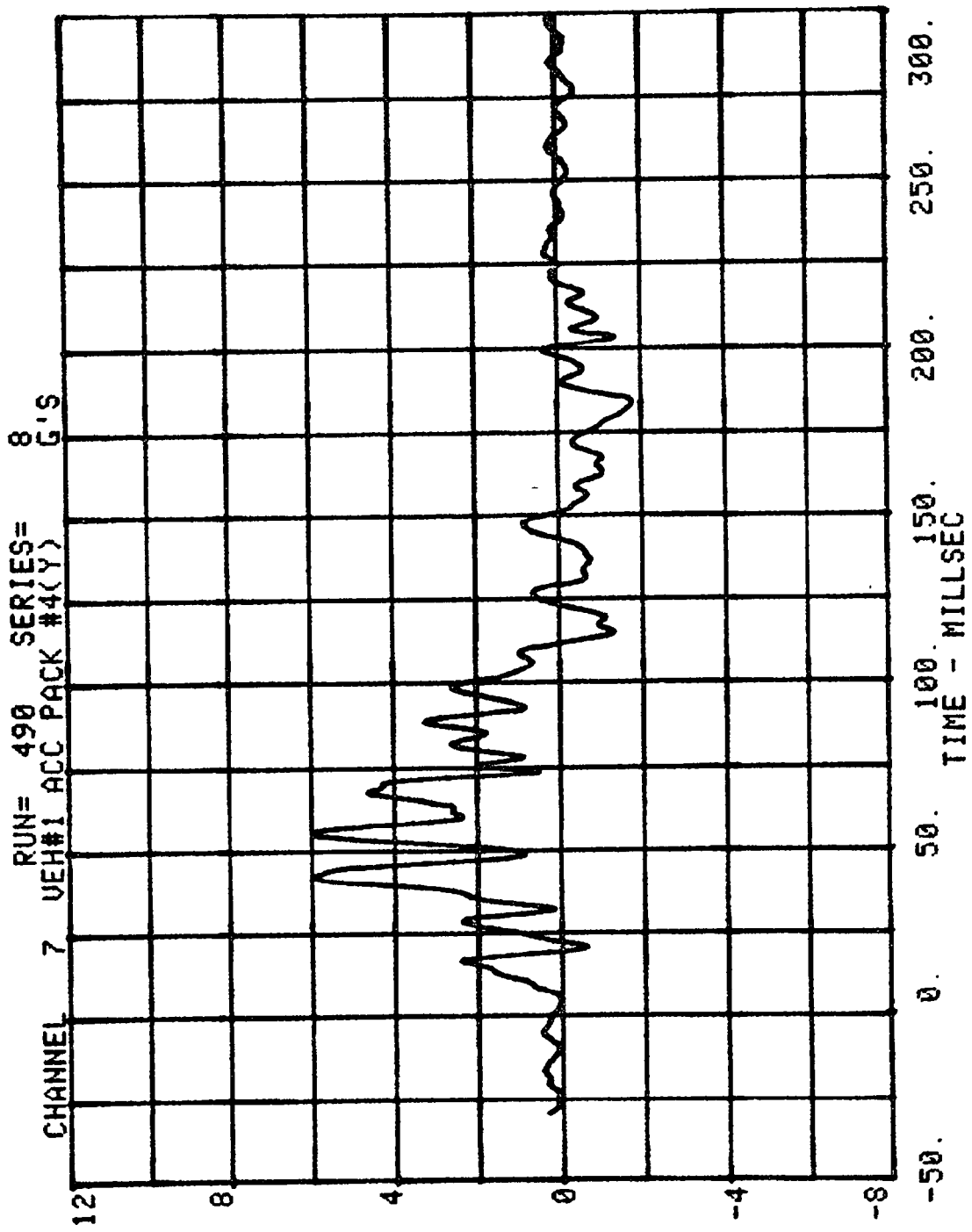

CHANNEL 5 VELOCITY
RUN= 490 SERIES= 8
MPH
VEHICLE #1 ACCELEROMETER #3 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

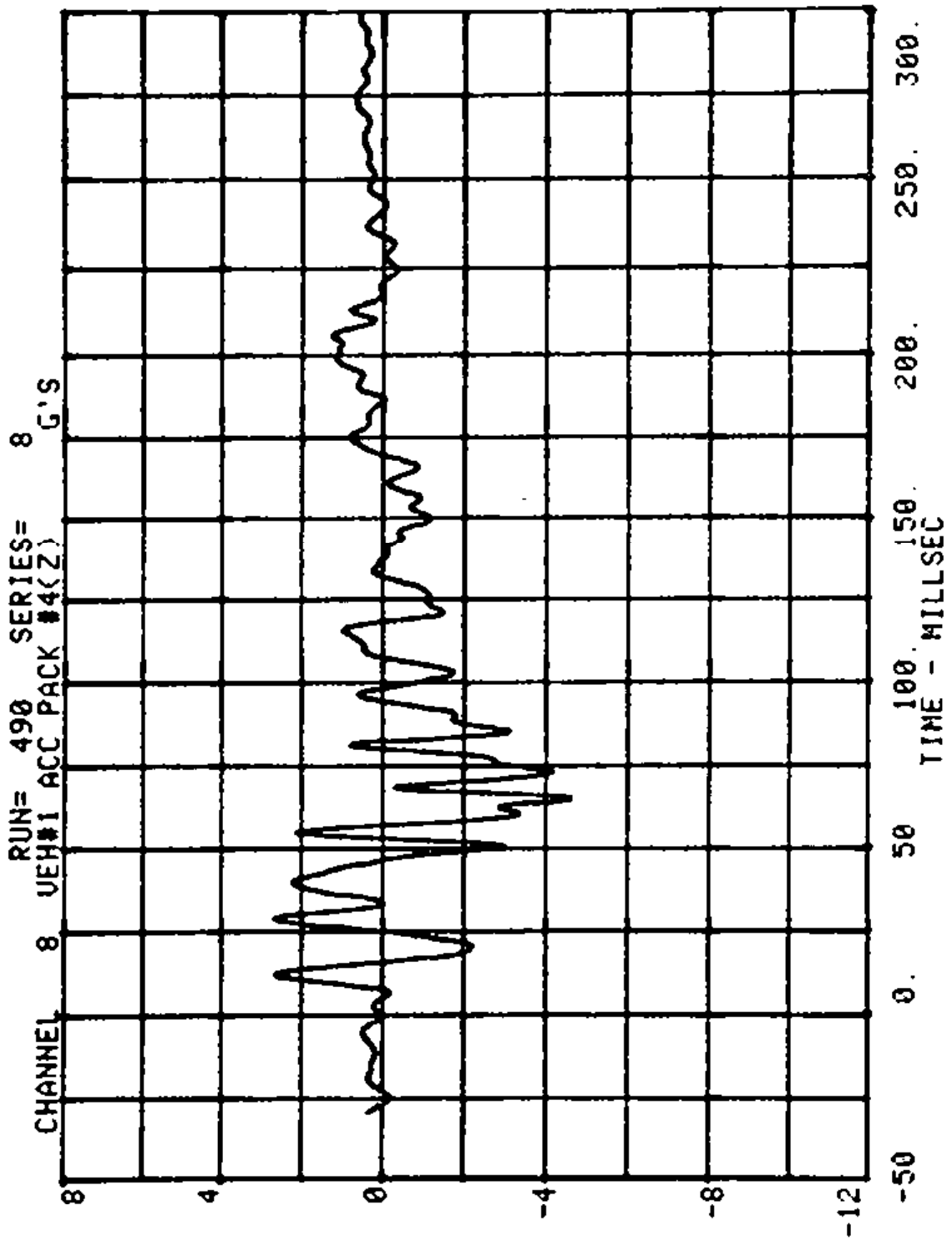

RUN= 490 SERIES= 8
CHANNEL 6 DISPLACEMENT INCHES
VEHICLE #1 ACCELEROMETER #3 X
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

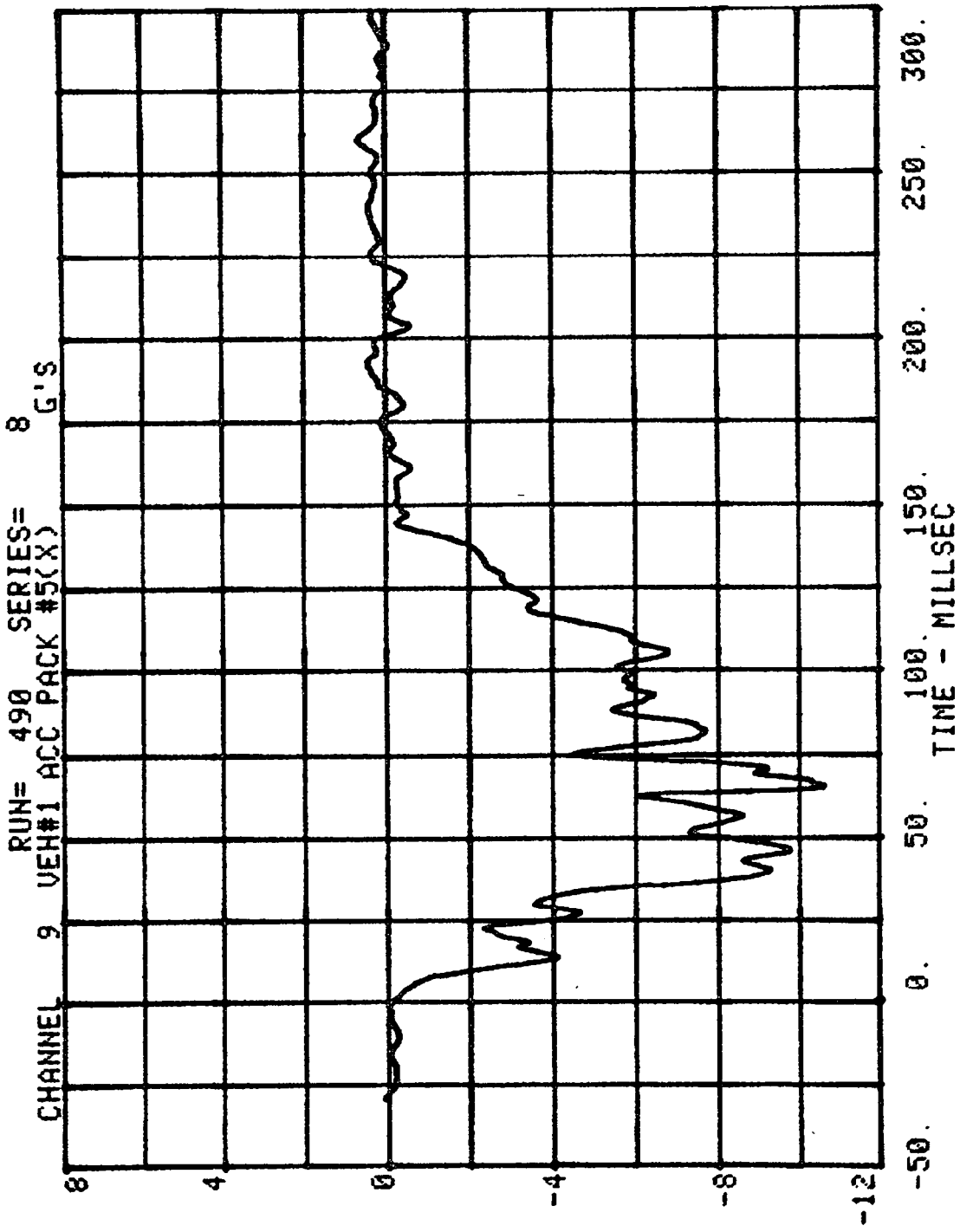

CHANNEL 6 VEH#1 ACC PACK #4(X)
RUN= 490 SERIES= 8
G'S
4
0
-4
-8
-12
-16
-50
0
50
100
150
200
250.
300.
TIME - MILLSEC


CHANNEL 7 VELOCITY
RUN= 490 SERIES= 8 MPH
VEHICLE #1 ACCELEROMETER #4 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

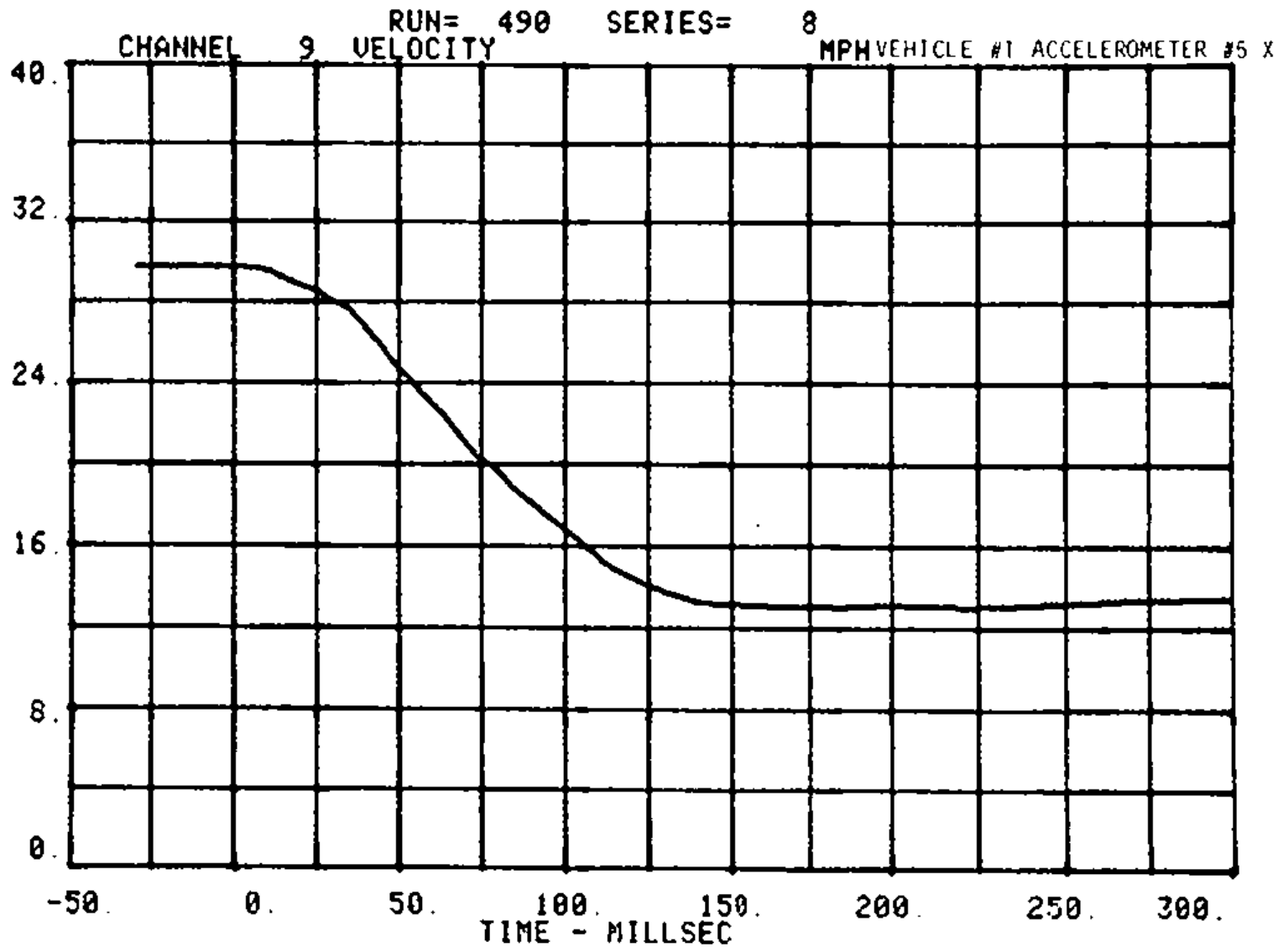

RUN= 490 SERIES= 8
CHANNEL 8 DISPLACEMENT INCHES VEHICLE #1 ACCELEROMETER #4 X
100.
80.
60.
40.
20.
0
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

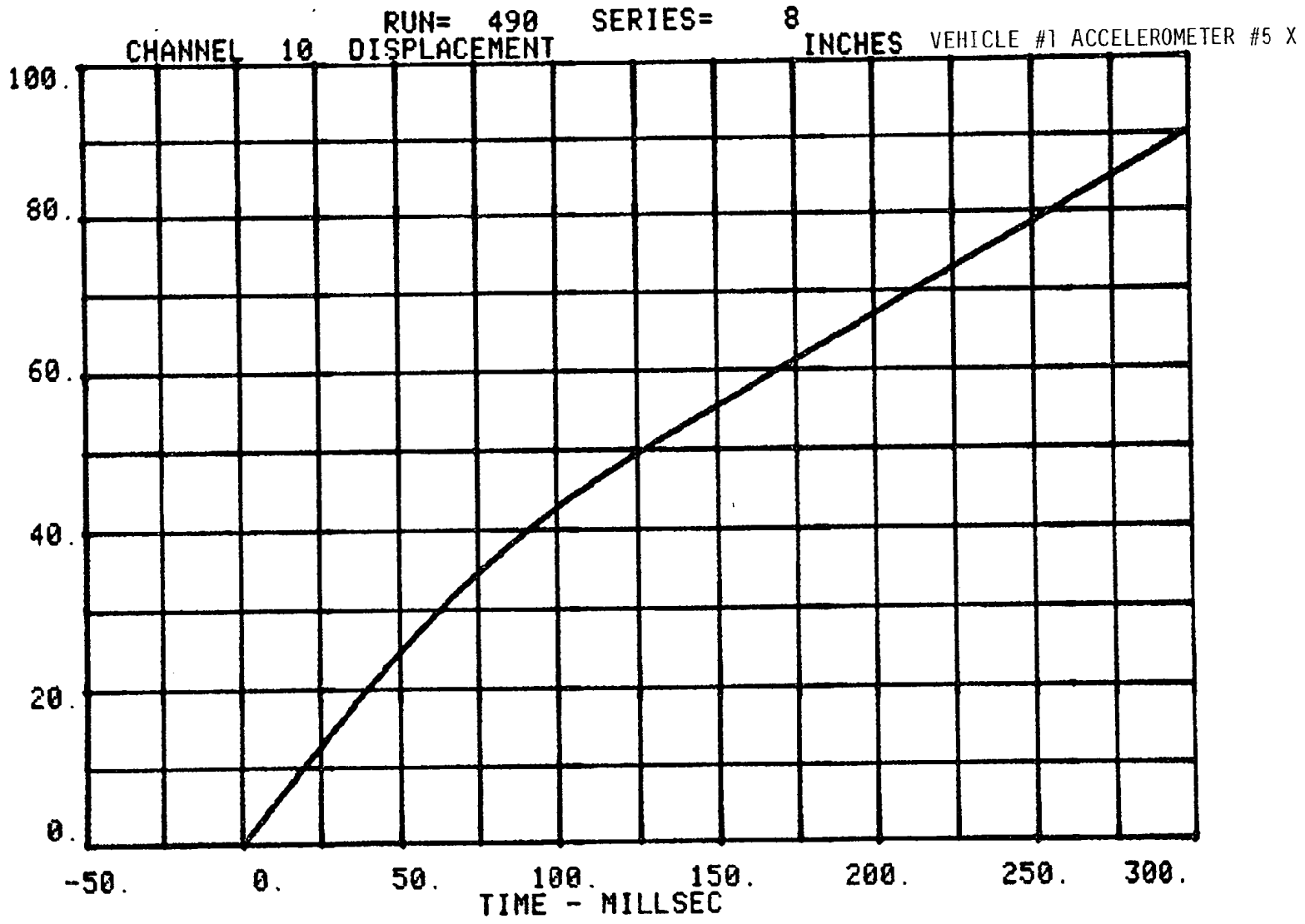

CHANNEL 7 VEH#1 ACC PACK #4(Y)
RUN= 490 SERIES= 8
G'S
12
8
4
0
-4
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

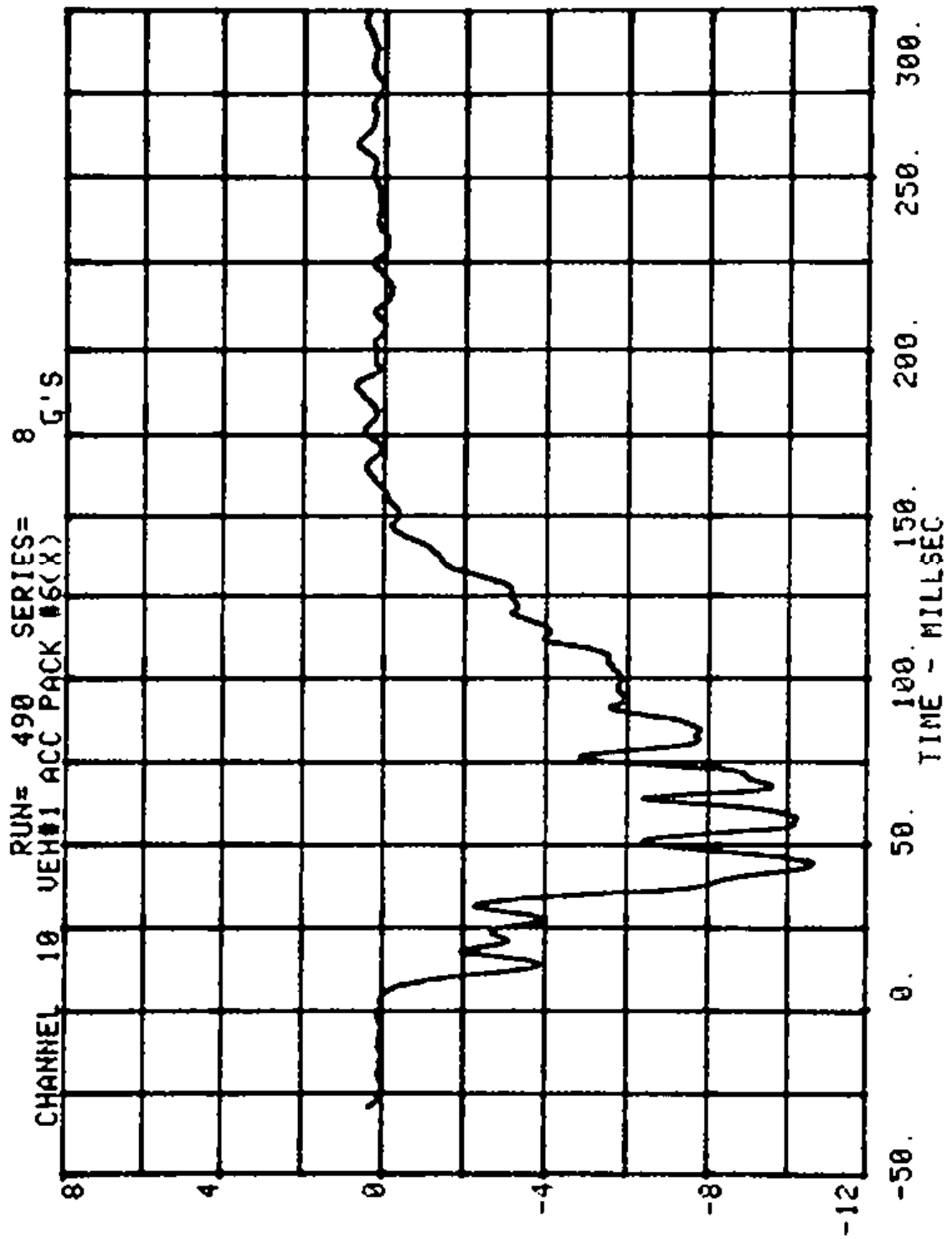

CHANNEL 8
RUN= 490 SERIES= 8
VEH#1 ACC PACK #4(Z)
G'S
8
4
0
-4
-8
-12
-50
0.
50
100.
150.
200.
250.
300.
TIME - MILLSEC

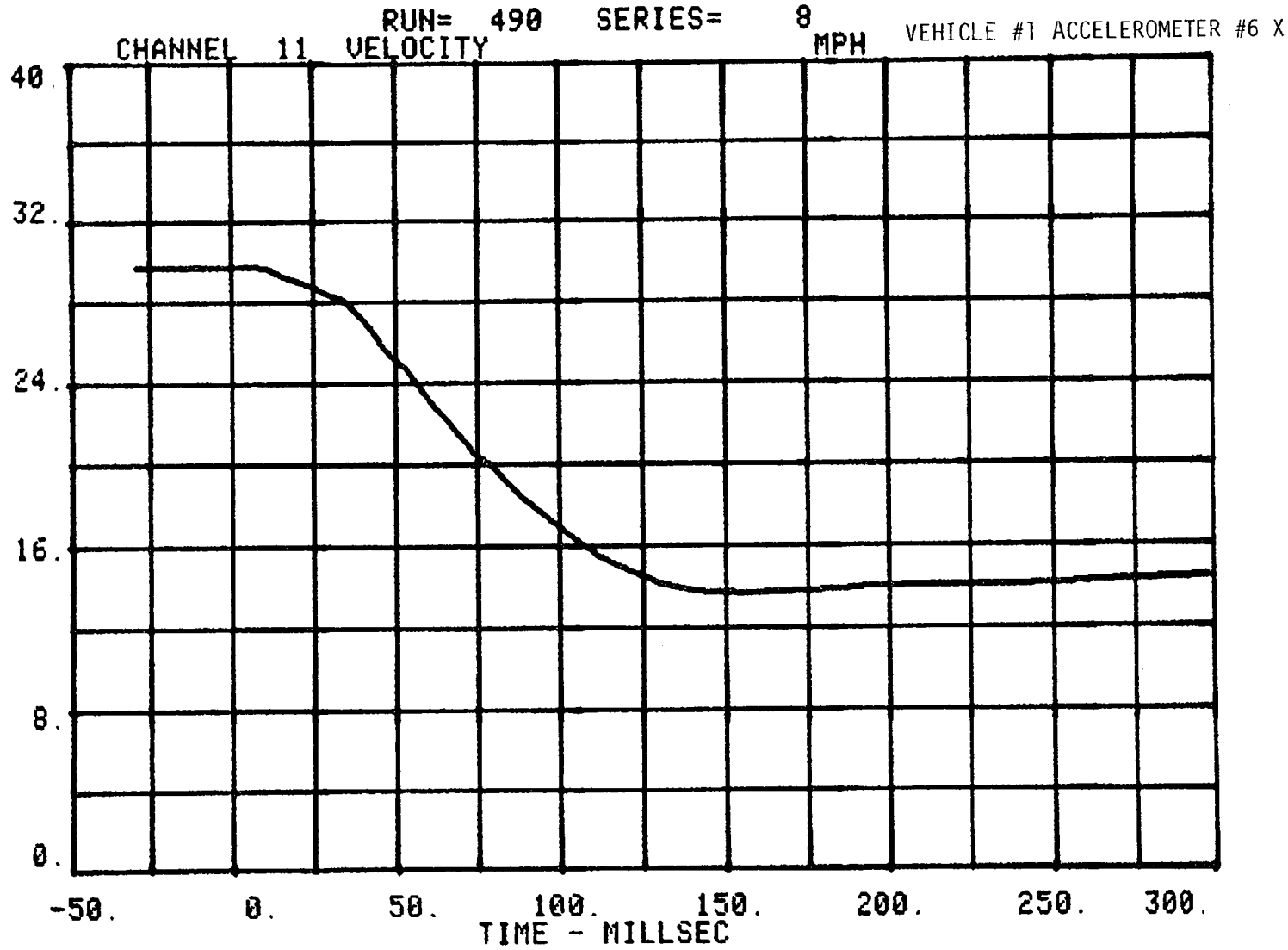

CHANNEL 9 VEH#1 ACC PACK #5(X)
RUN= 490 SERIES= 8 G'S
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

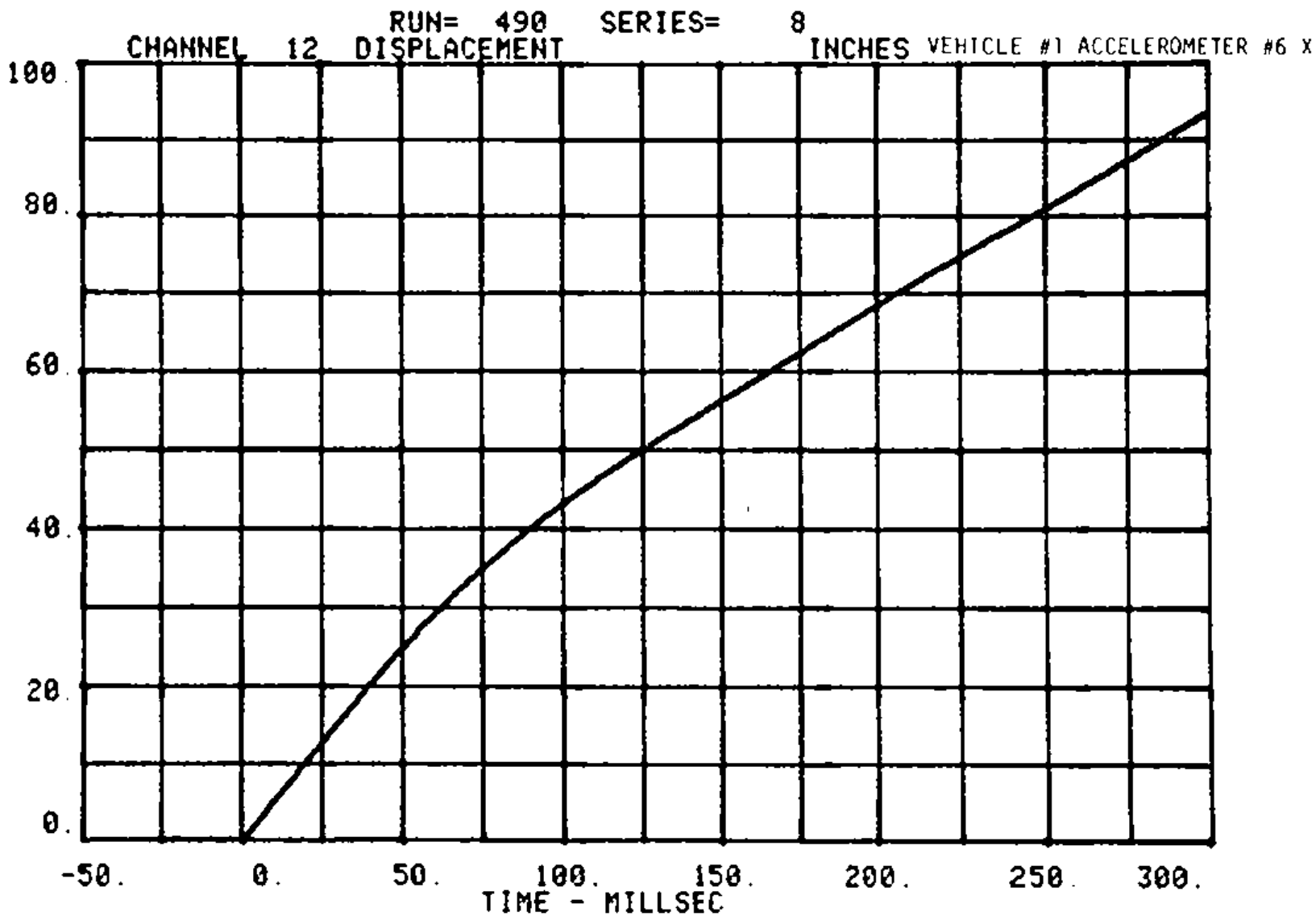
6466-V-5


RUN= 490 SERIES= 8
CHANNEL 9 VELOCITY
MPH VEHICLE #1 ACCELEROMETER #5 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 10 DISPLACEMENT
INCHES
VEHICLE #1 ACCELEROMETER #5 X
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

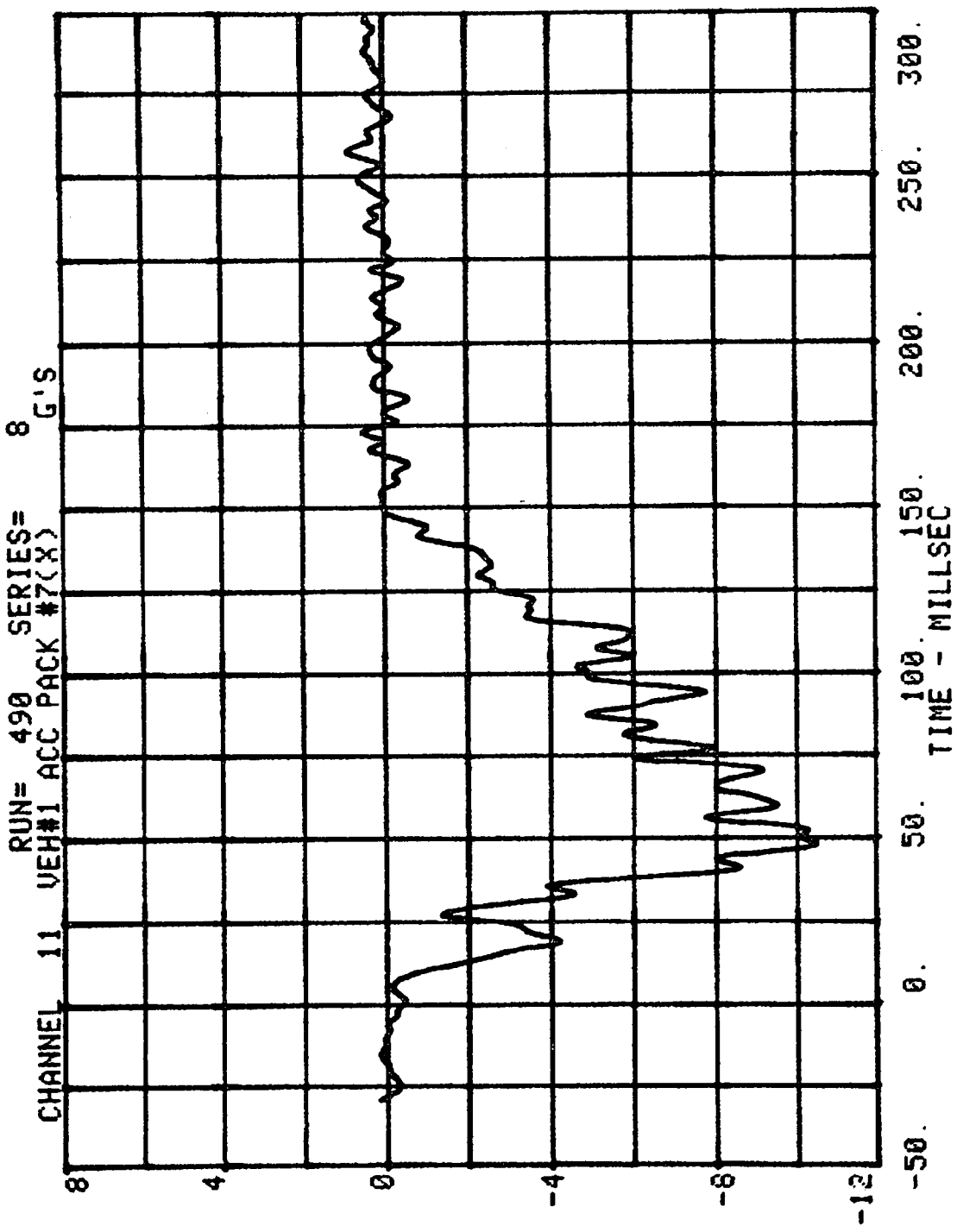

CHANNEL 10 VEH#1 ACC PACK #6(X)
RUN= 490 SERIES= 8
G'S
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

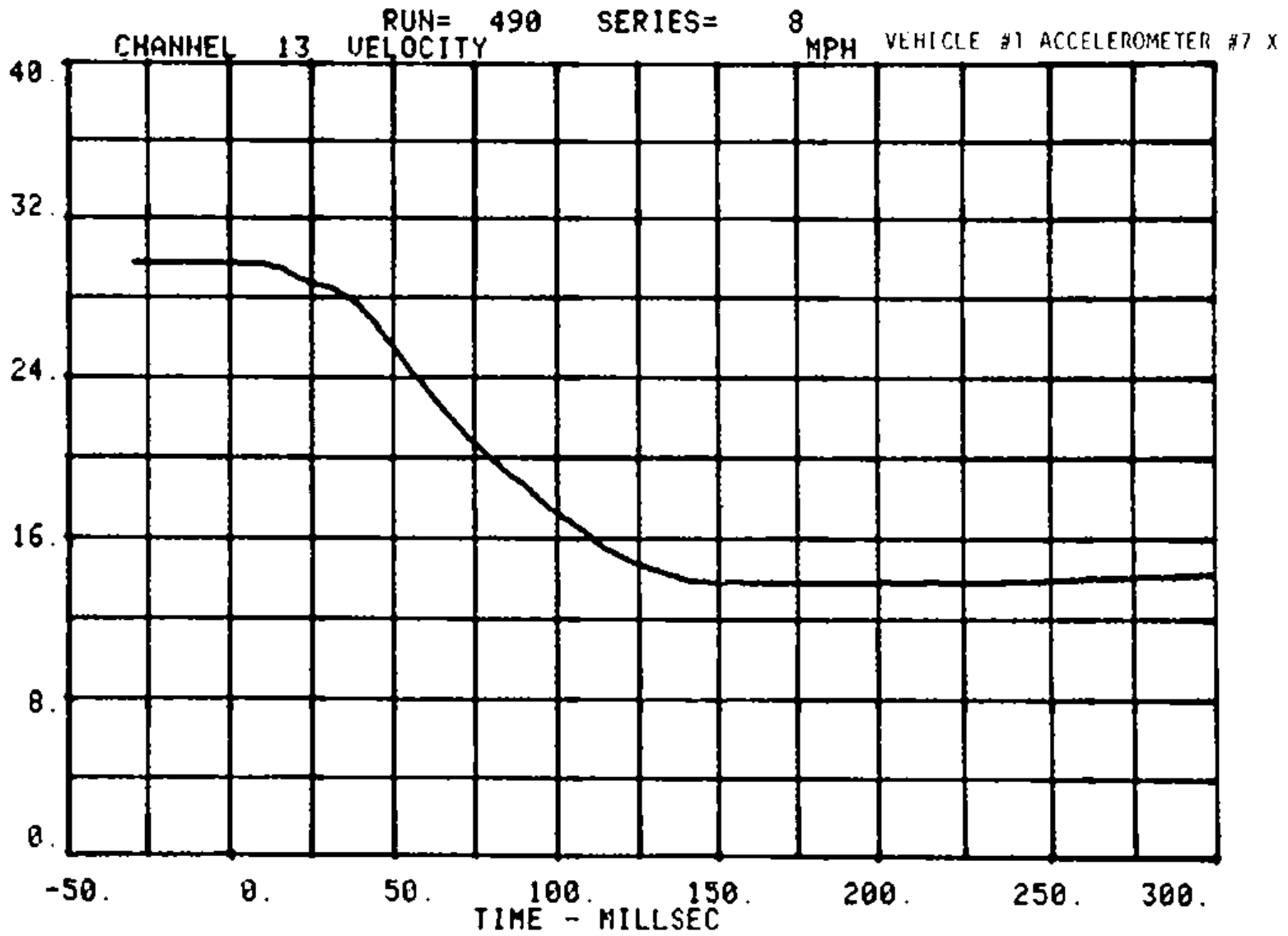

RUN= 490 SERIES= 8
CHANNEL 11 VELOCITY
MPH
VEHICLE #1 ACCELEROMETER #6 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

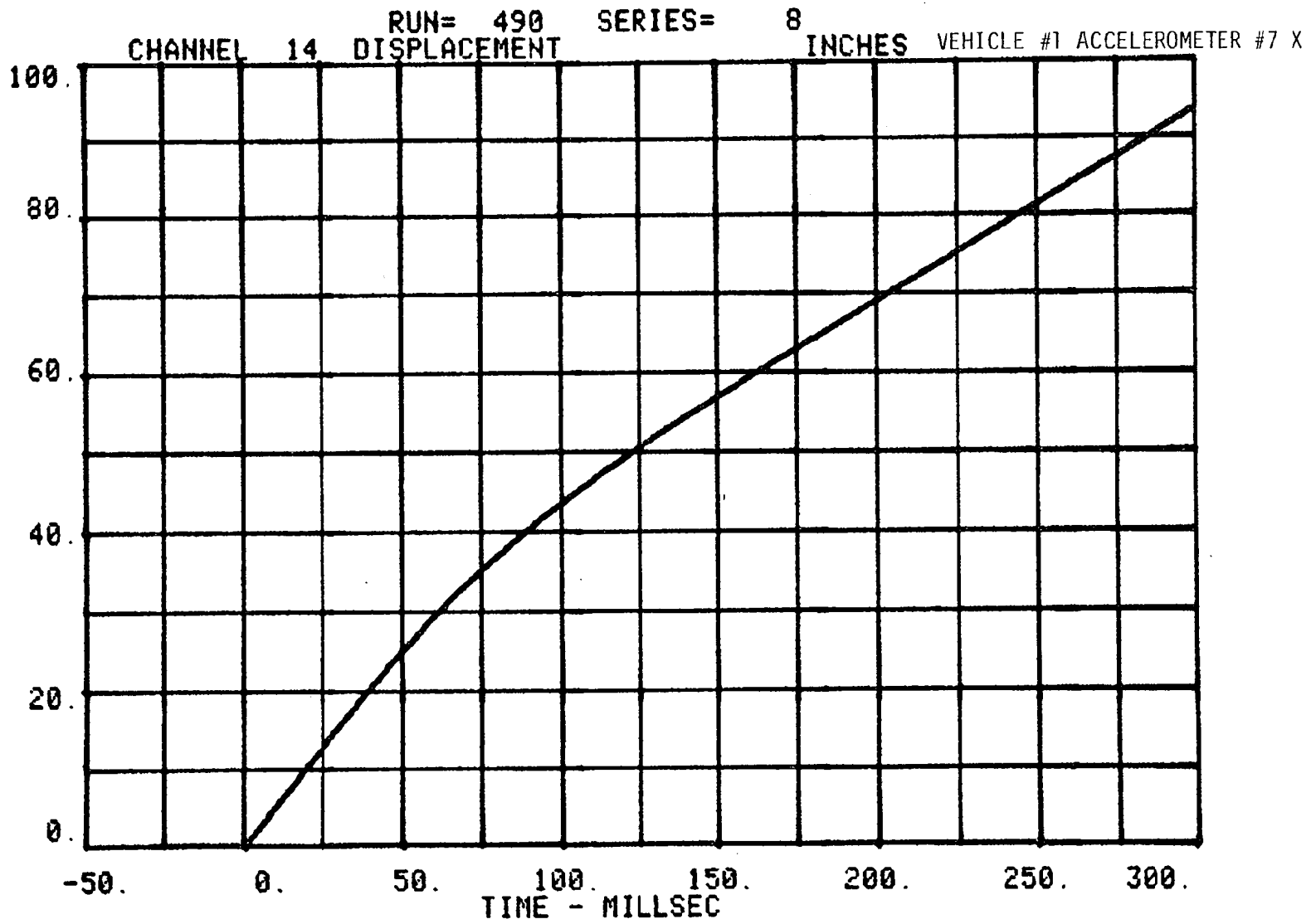

RUN= 490 SERIES= 8
CHANNEL 12 DISPLACEMENT INCHES VEHICLE #1 ACCELEROMETER #6 X
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

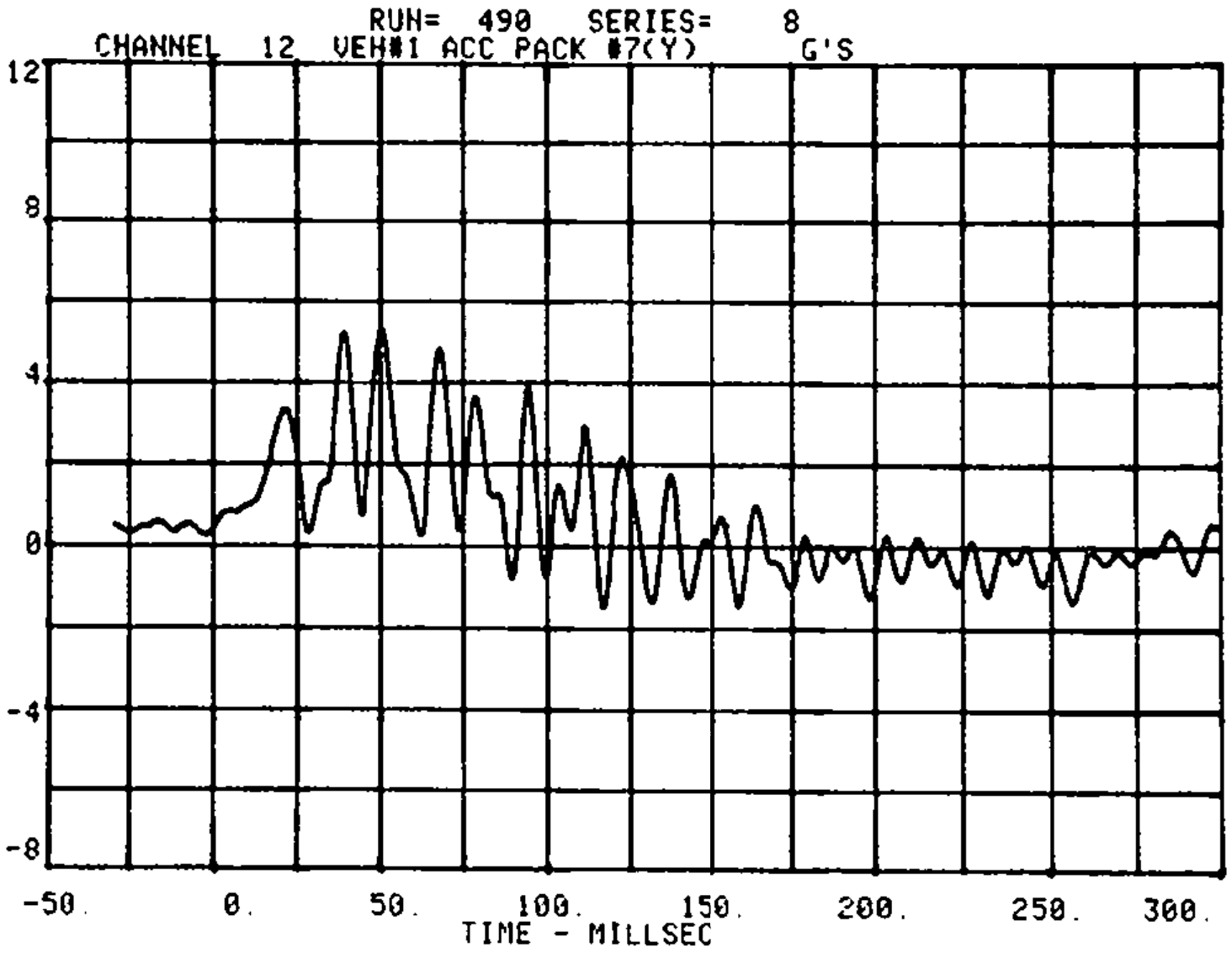
SI

6406-V-S


CHANNEL 11 VEH#1 ACC PACK #7(X)
RUN= 490 SERIES= 8
G'S
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 13 VELOCITY
MPH
VEHICLE #1 ACCELEROMETER #7 X
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 14 DISPLACEMENT
INCHES
VEHICLE #1 ACCELEROMETER #7 X
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

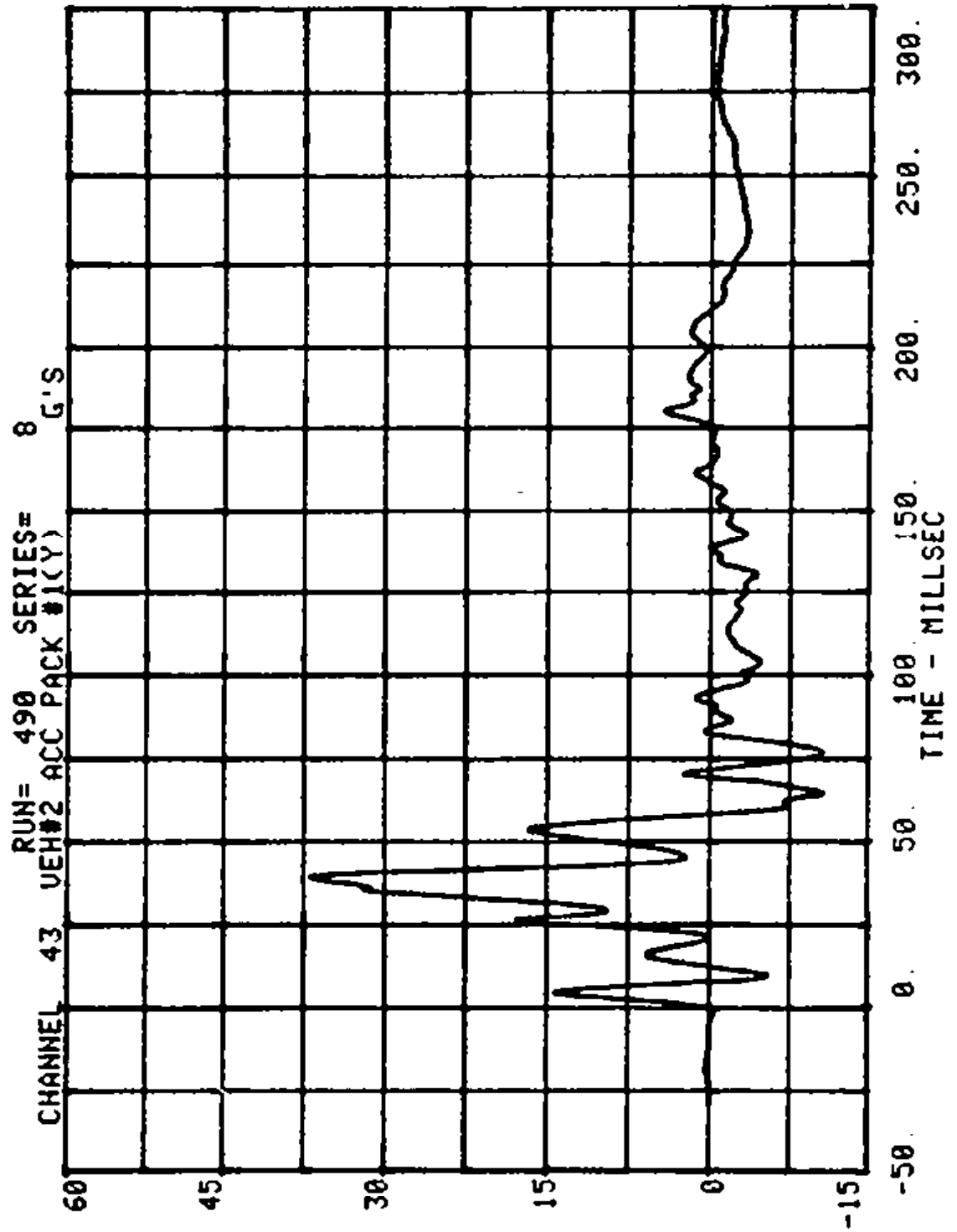

RUN= 490 SERIES= 8
CHANNEL 12 VEH#1 ACC PACK #7(Y) G'S
12
8
4
0
-4
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

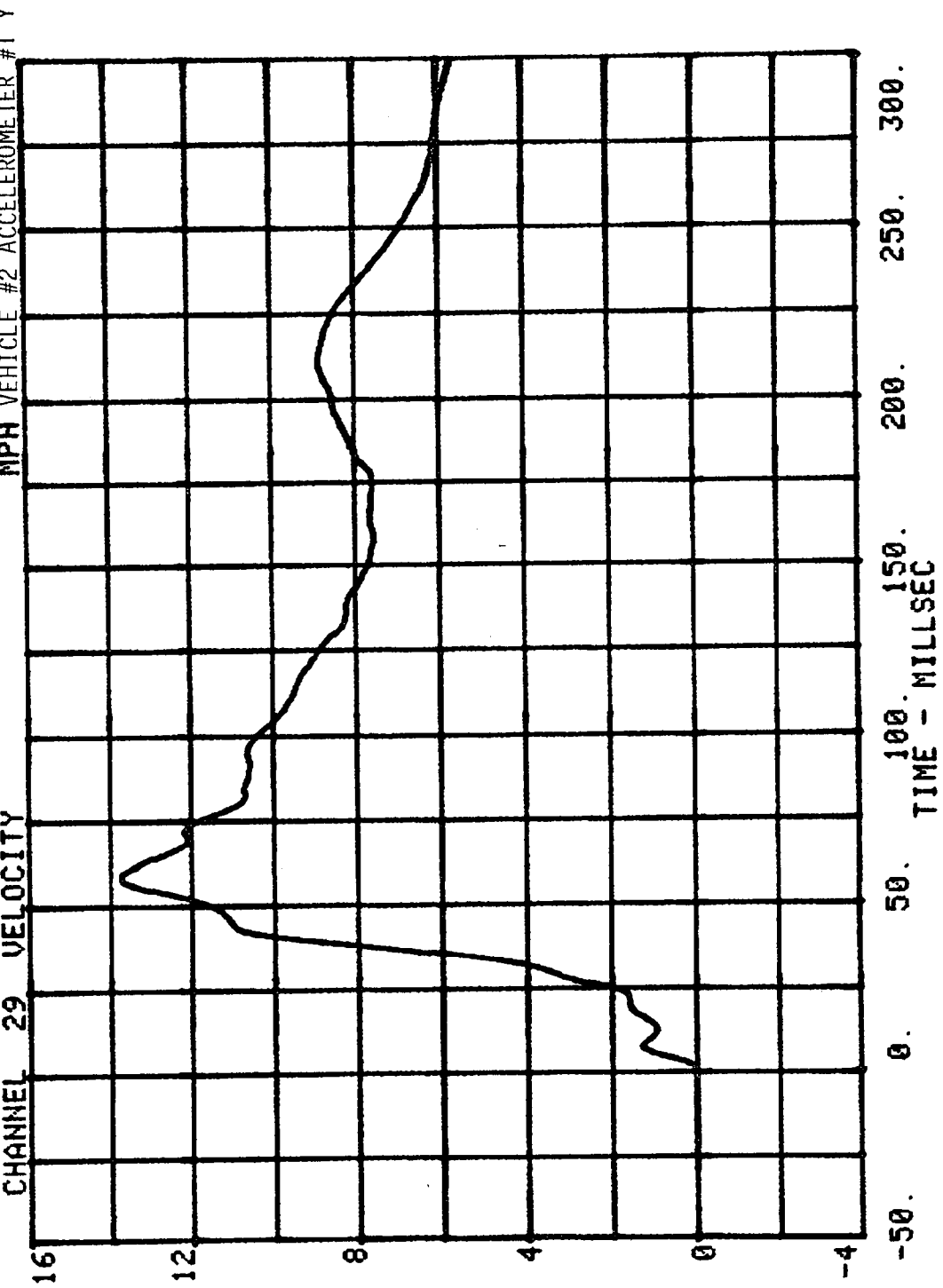
TEST NO. 8

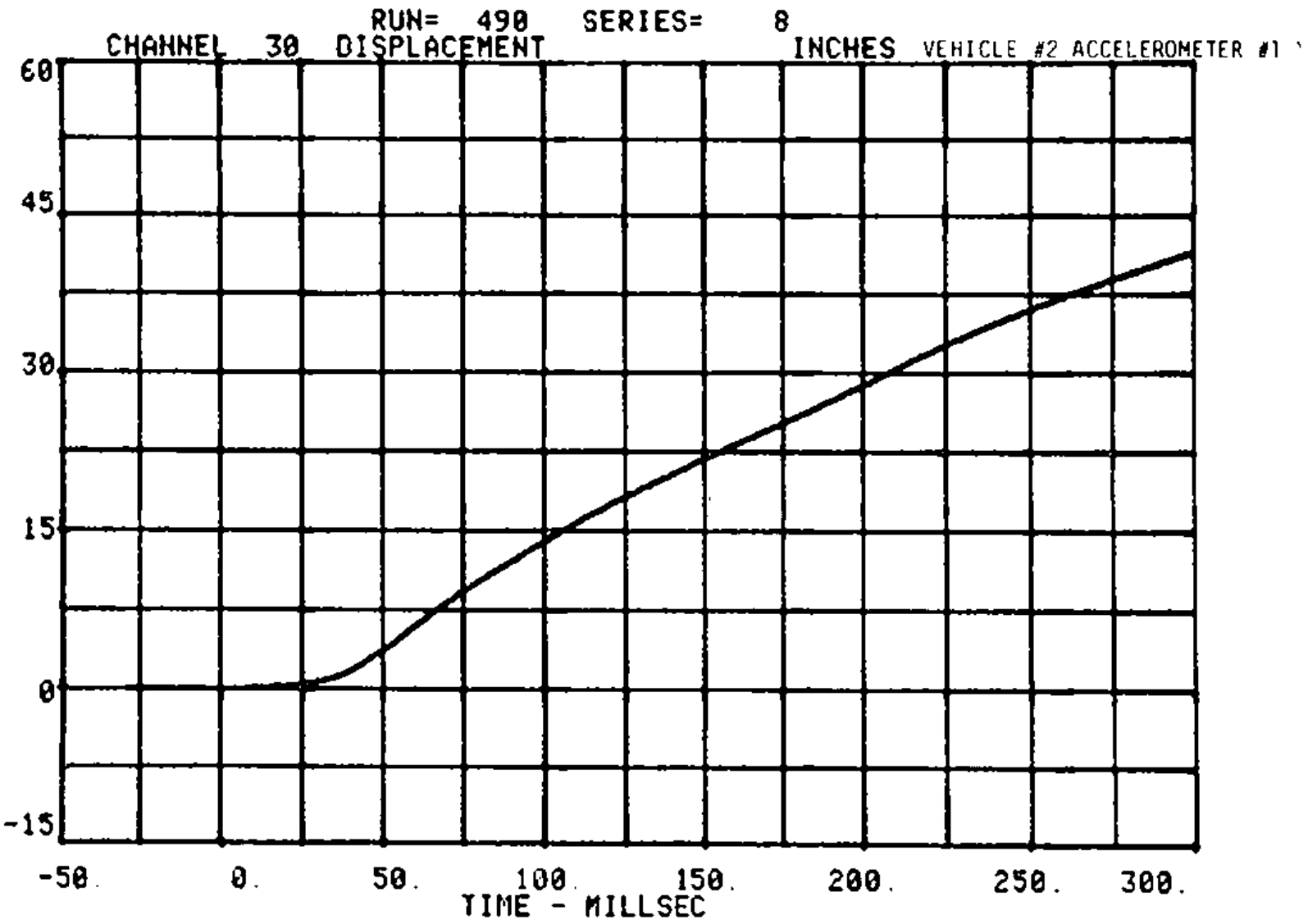
VEHICLE 2 - 1976 PLYMOUTH VOLARE

VEHICLE DATA

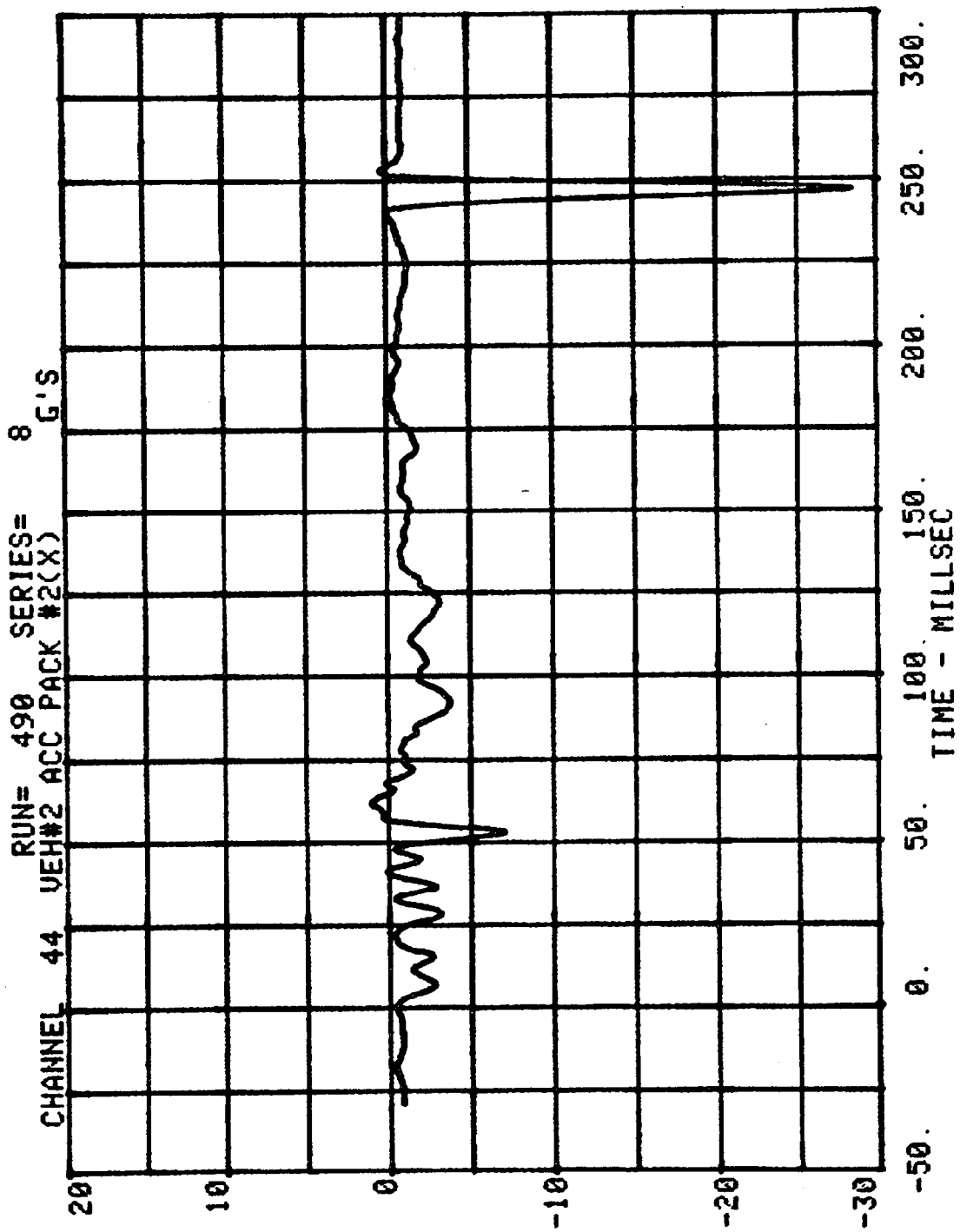
60 Hz CHANNEL CLASS

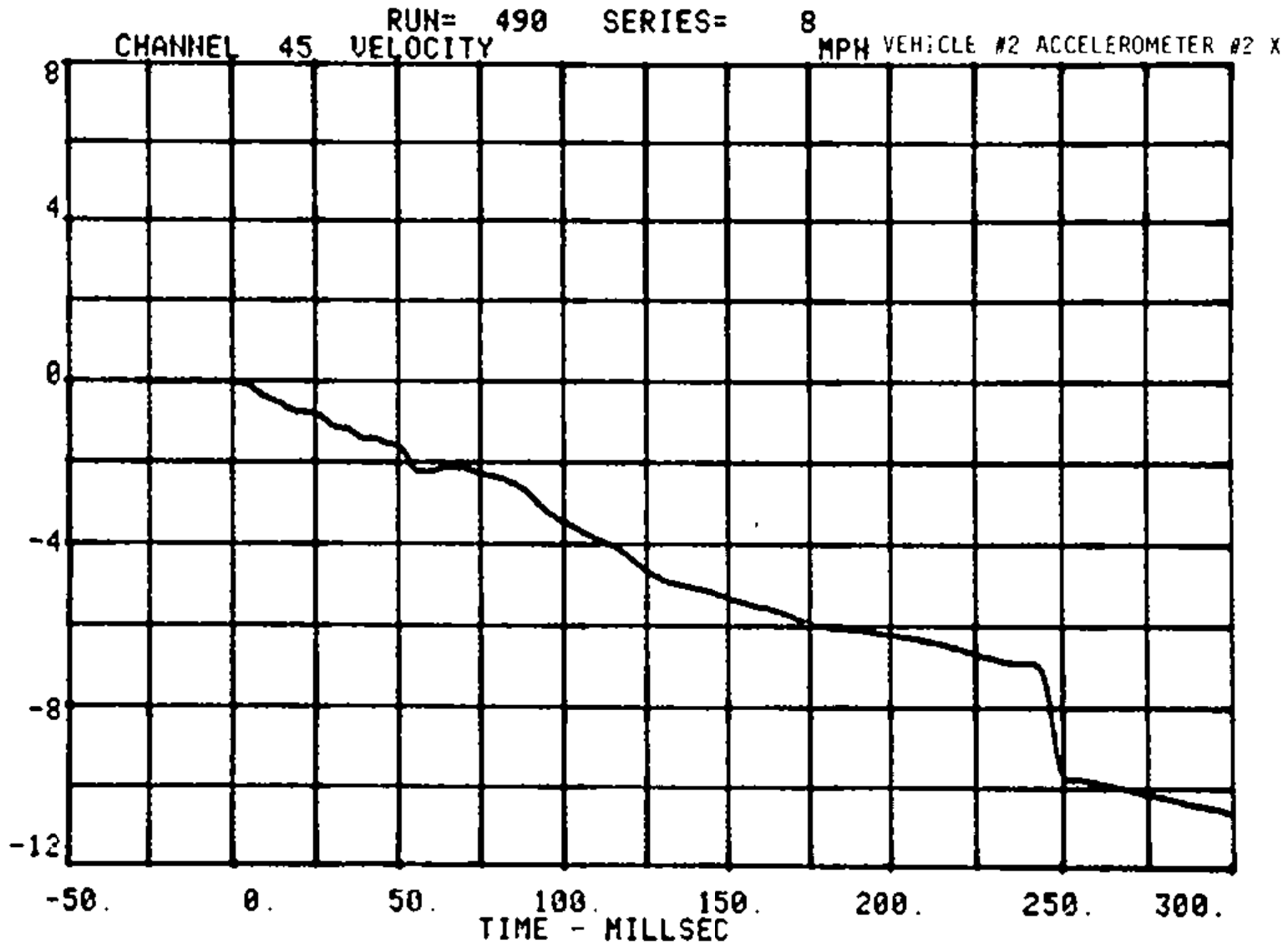

CHANNEL 43 VEH#2 ACC PACK #1(Y)
RUN= 490 SERIES= 8
G'S
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

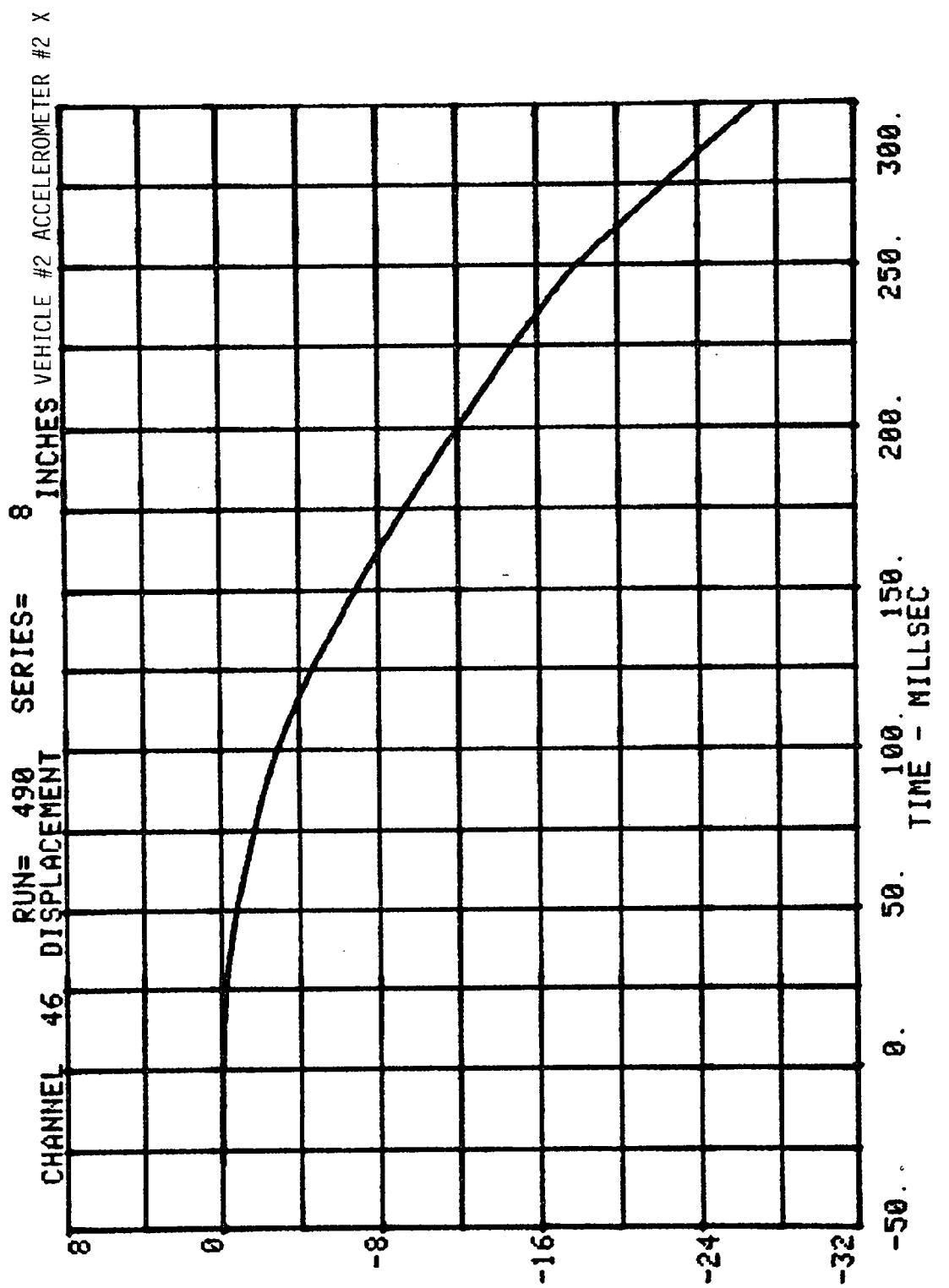

CHANNEL 29 VELOCITY
RUN= 490 SERIES= 8
MPH VEHICLE #2 ACCELEROMETER #1 Y
16
12
8
4
0
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

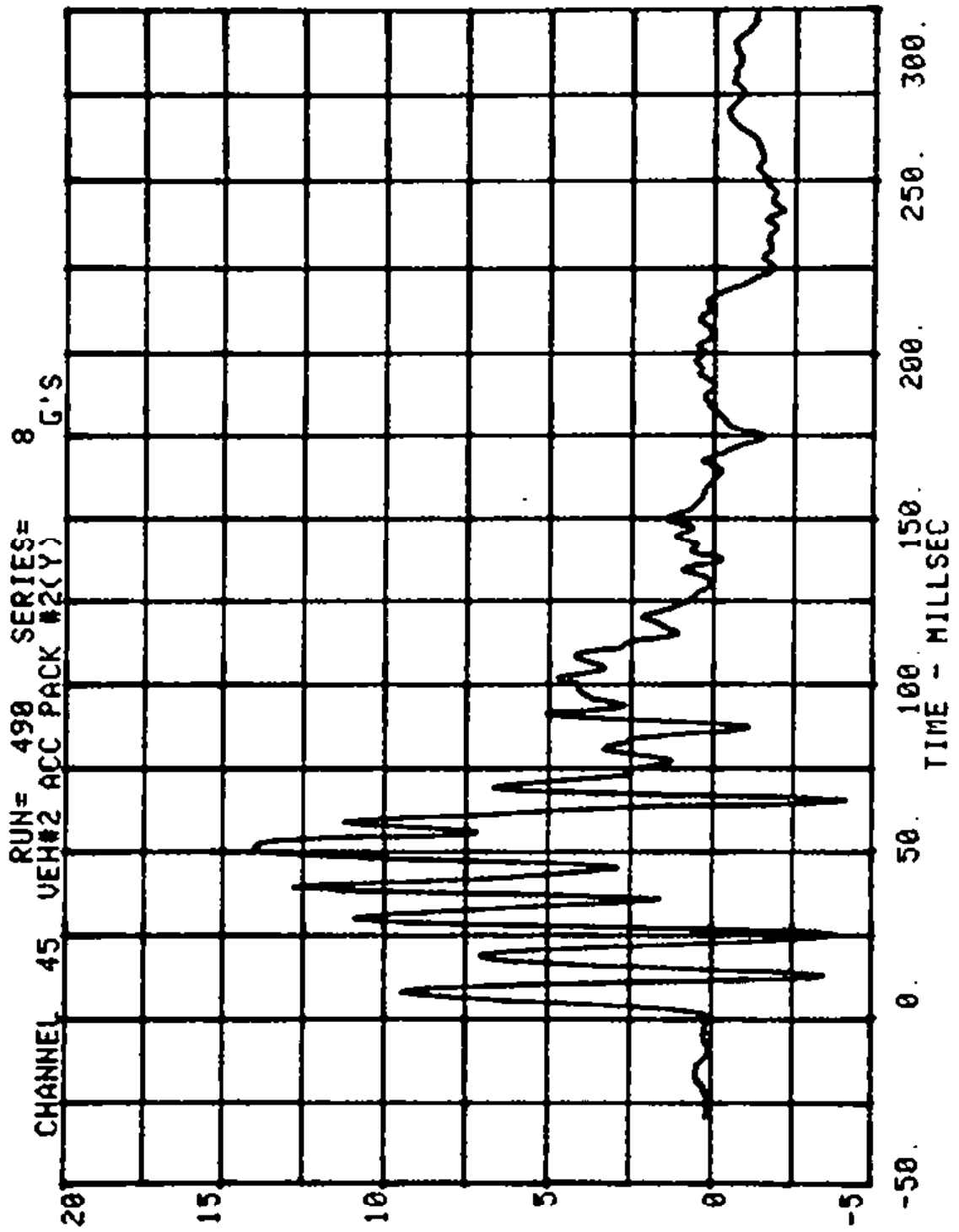

RUN= 490 SERIES= 8
CHANNEL 30 DISPLACEMENT INCHES VEHICLE #2 ACCELEROMETER #1
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

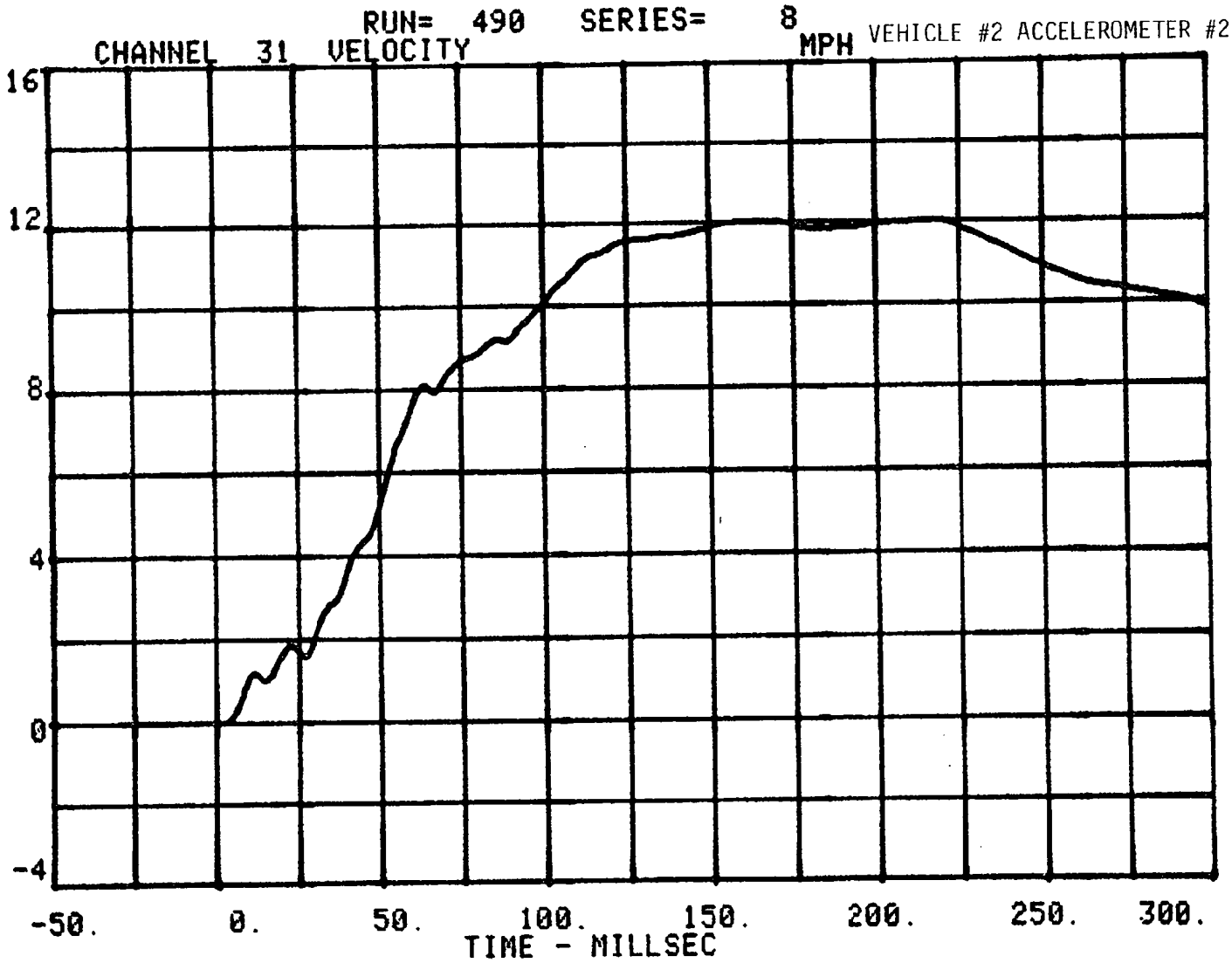
6466-V-3

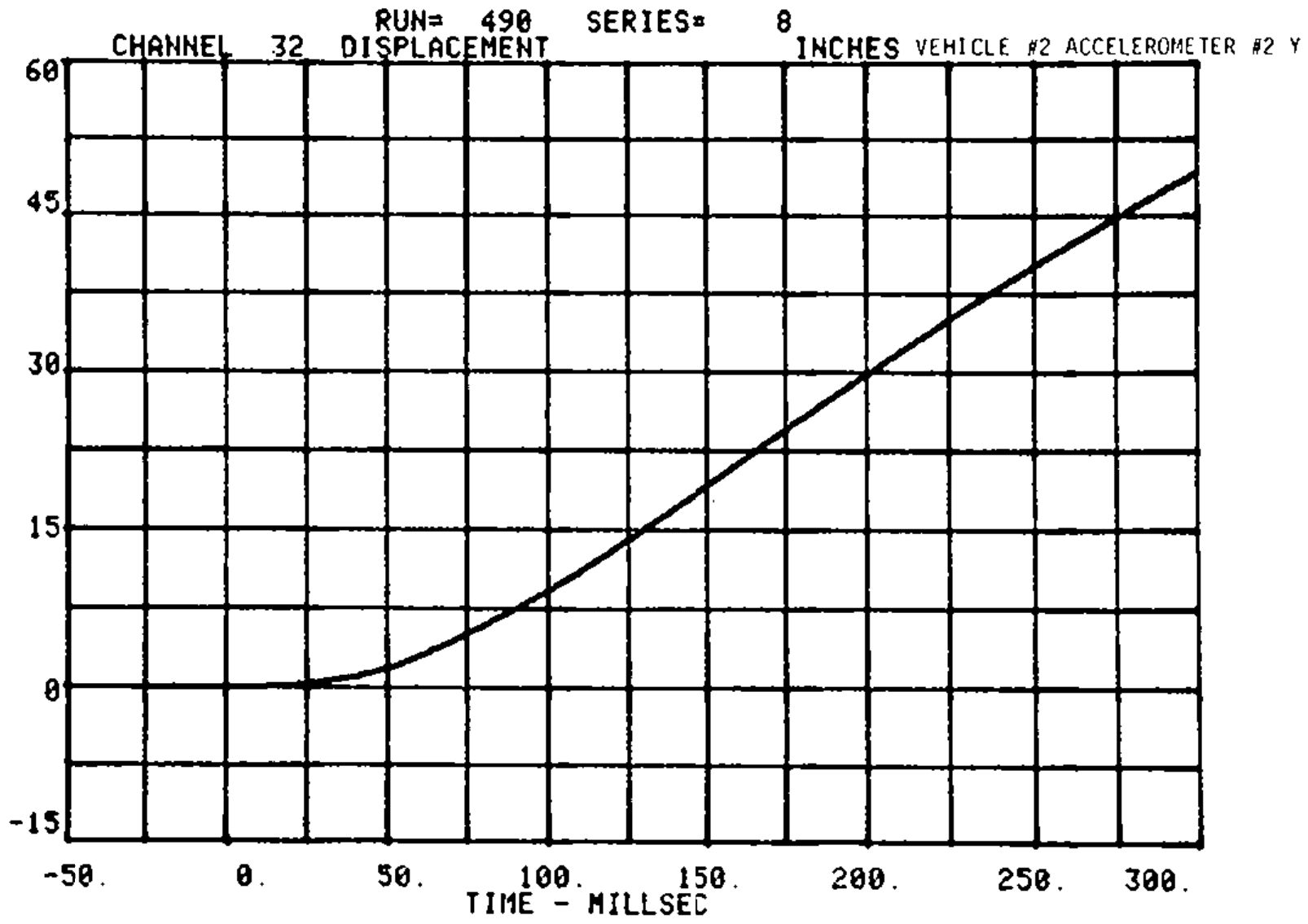

CHANNEL 44 VEH#2 ACC PACK #2(X)
RUN= 490 SERIES= 8
G'S
20
10
0
-10
-20
-30
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

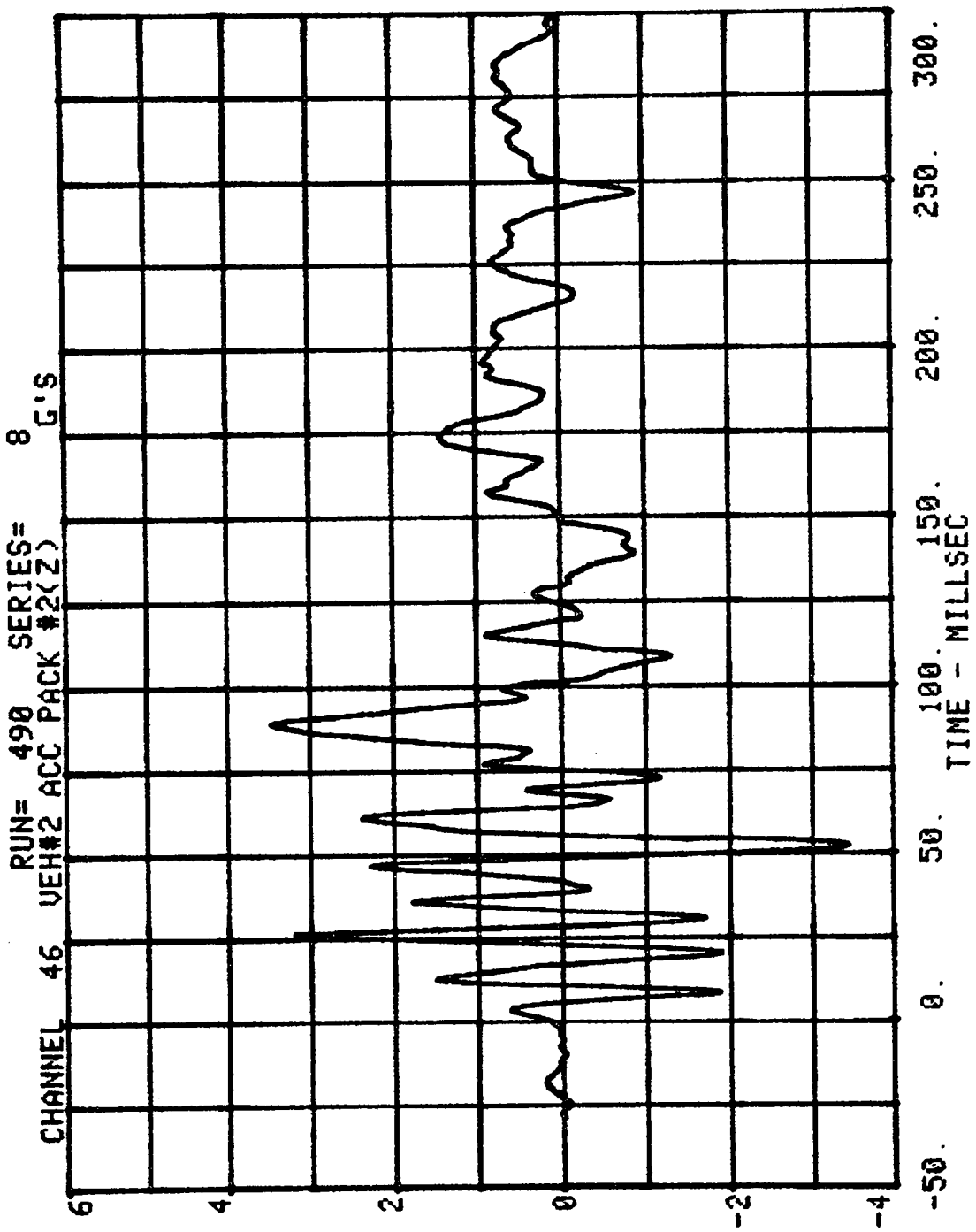

RUN= 490 SERIES= 8
CHANNEL 45 VELOCITY
MPH VEHICLE #2 ACCELEROMETER #2 X
8
4
0
-4
-8
-12
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

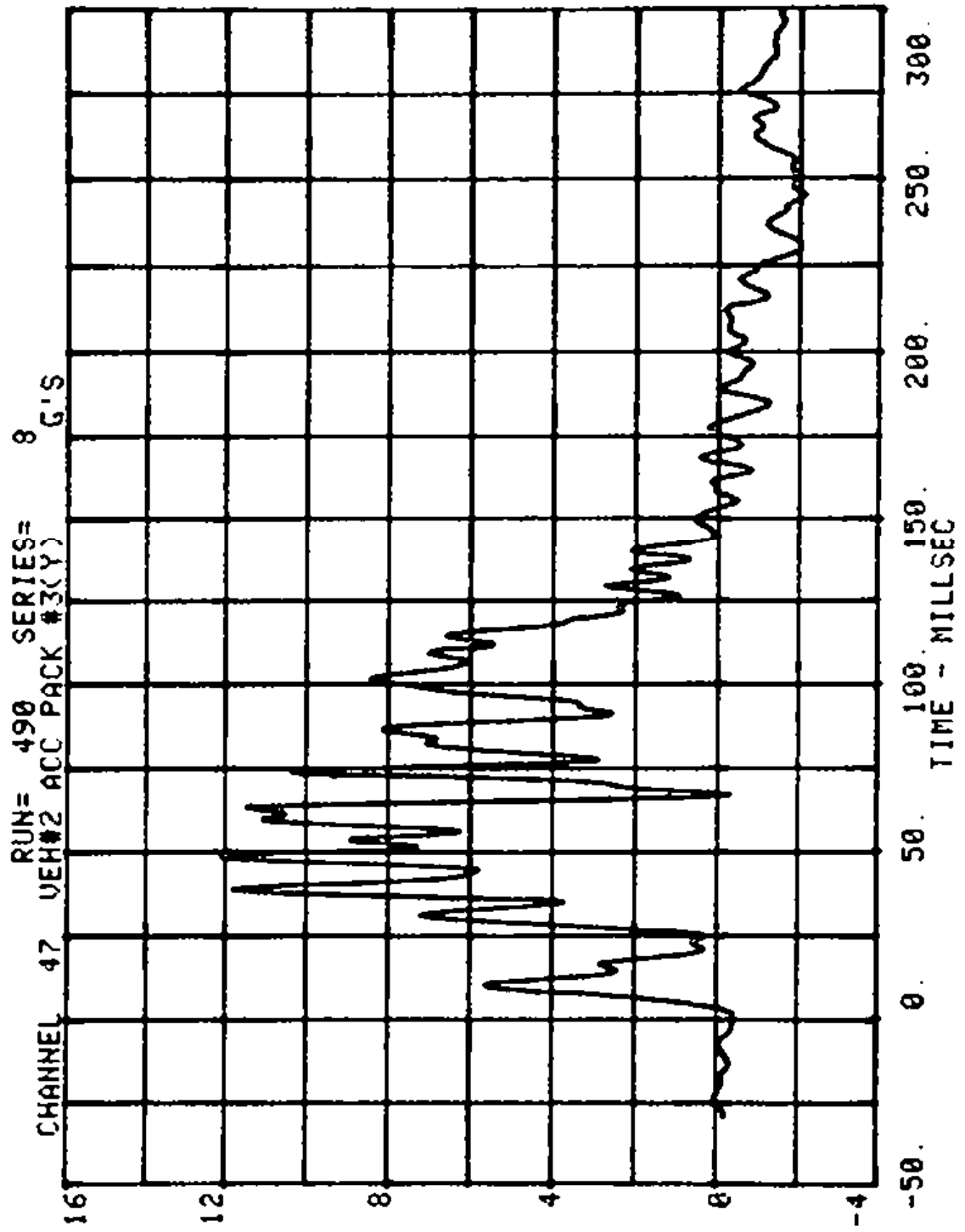

CHANNEL 46 DISPLACEMENT
RUN= 490 SERIES= 8
INCHES VEHICLE #2 ACCELEROMETER #2 X
8
0
-8
-16
-24
-32
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

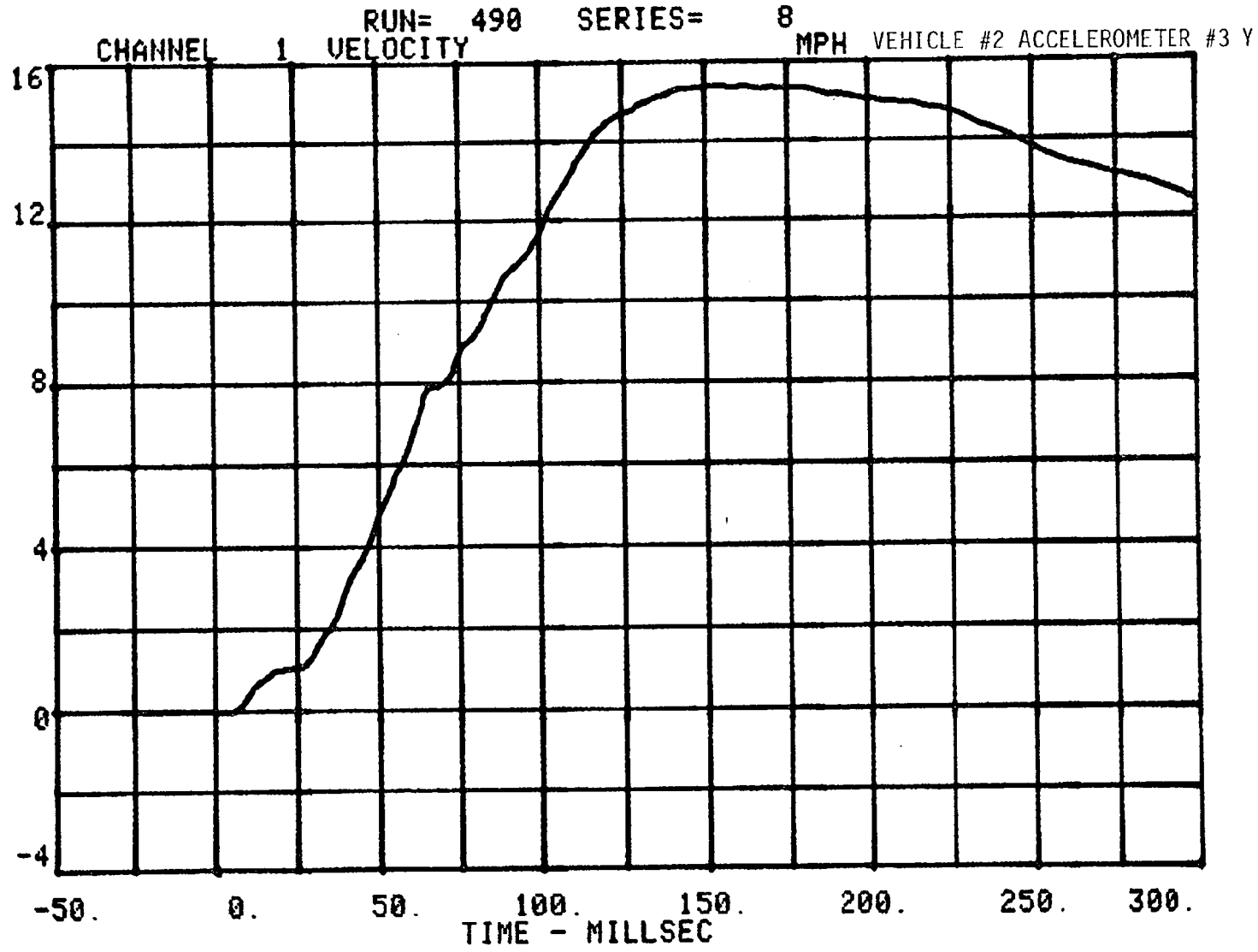

CHANNEL 45 VEH#2 ACC PACK #2(Y)
RUN= 490 SERIES= 8
G'S
20
15
10
5
0
-5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

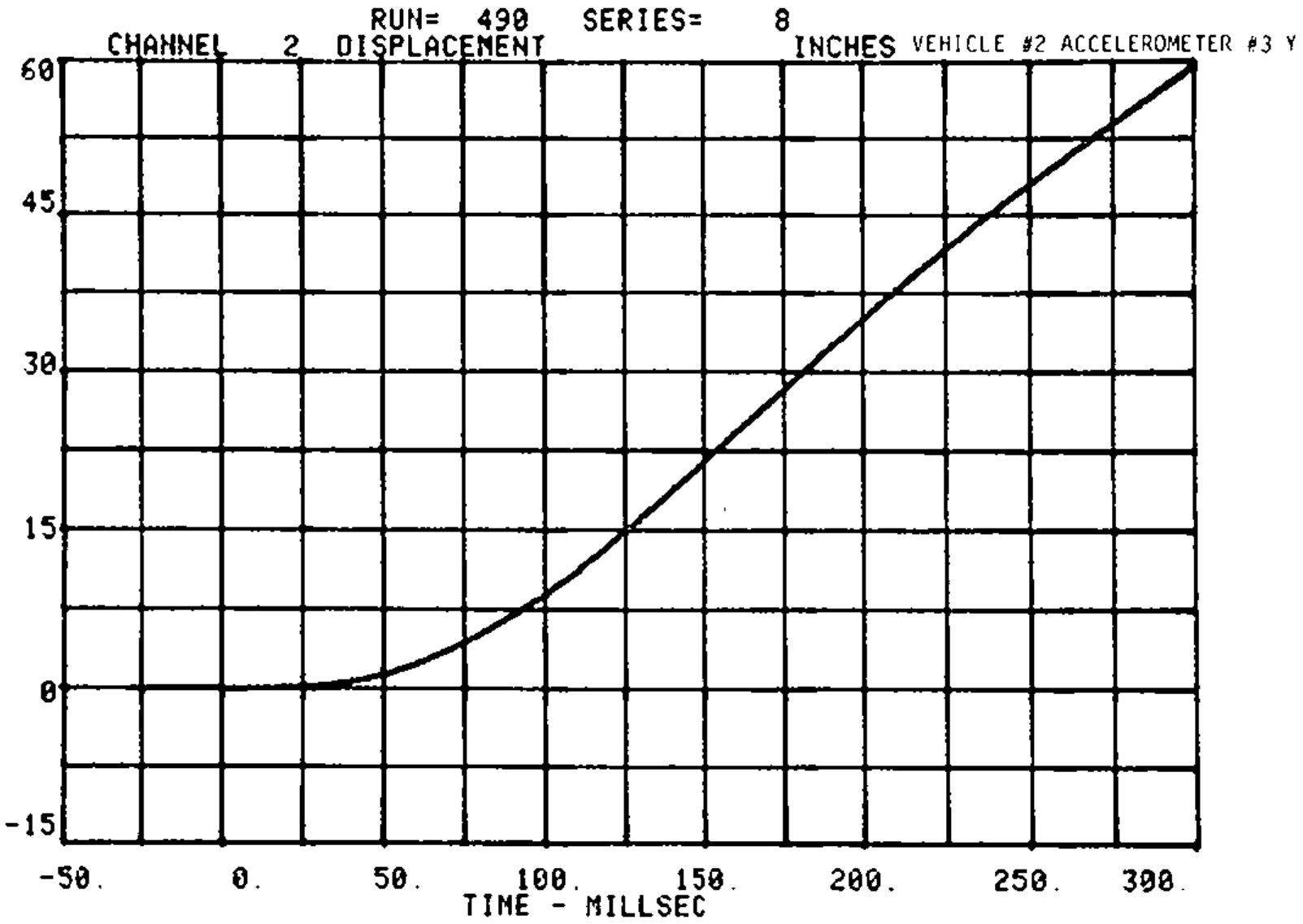

RUN= 490 SERIES= 8
CHANNEL 31 VELOCITY
MPH
VEHICLE #2 ACCELEROMETER #2 Y
16
12
8
4
0
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

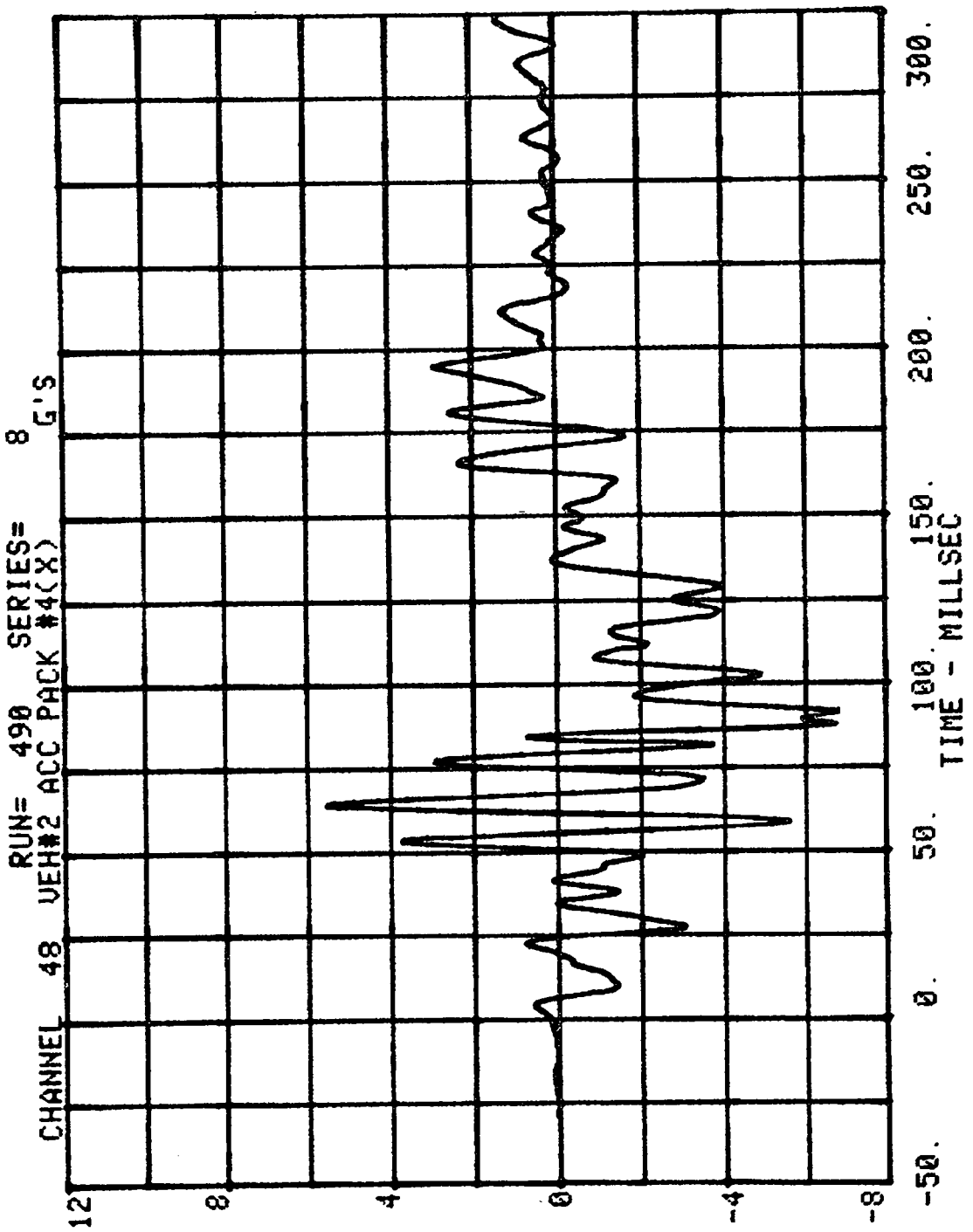

RUN= 490 SERIES= 8
CHANNEL 32 DISPLACEMENT INCHES VEHICLE #2 ACCELEROMETER #2 Y
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

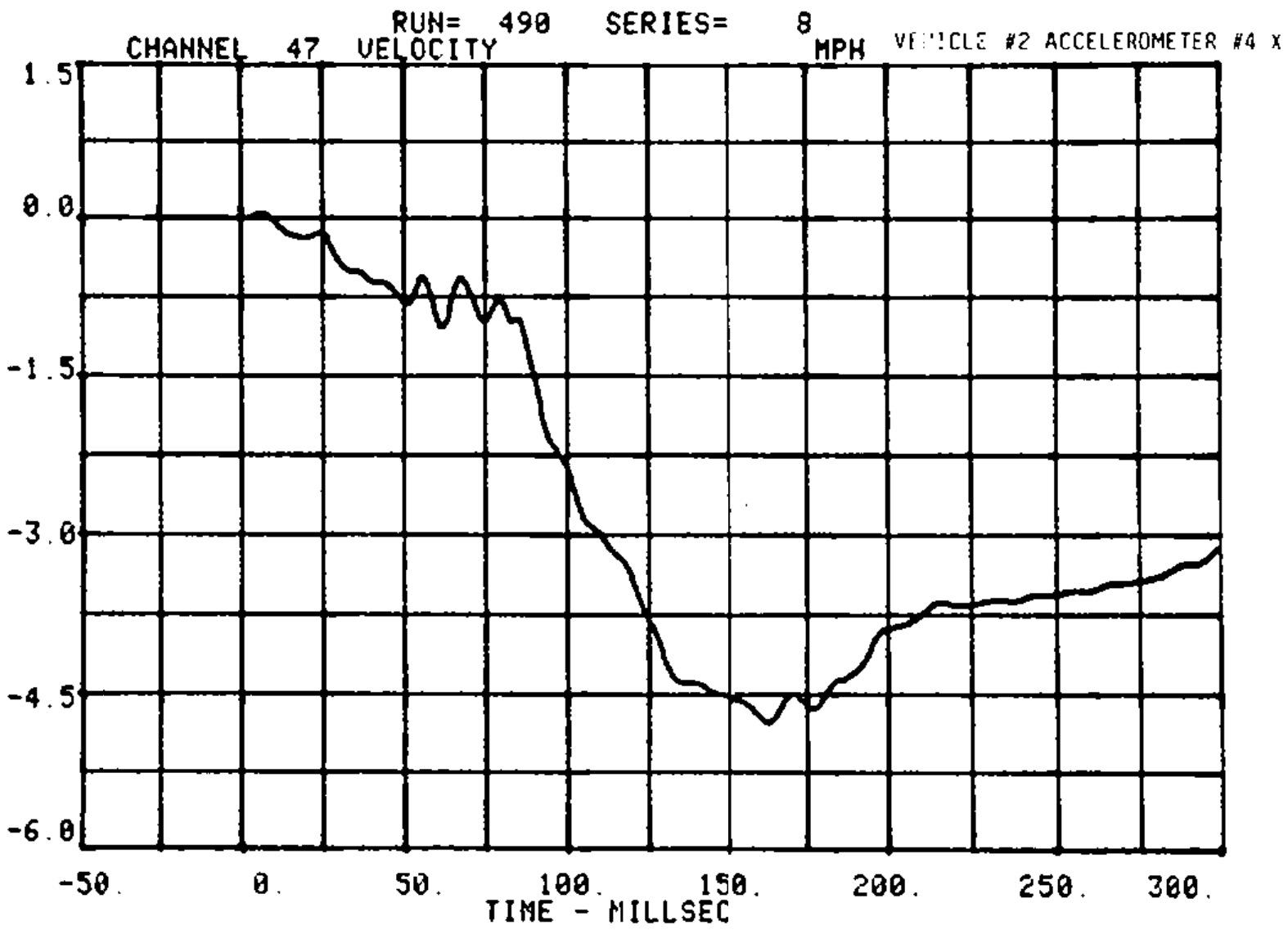

CHANNEL 46 VEH#2 ACC PACK #2(Z)
RUN= 490 SERIES= 8
G'S
6
4
2
0
-2
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

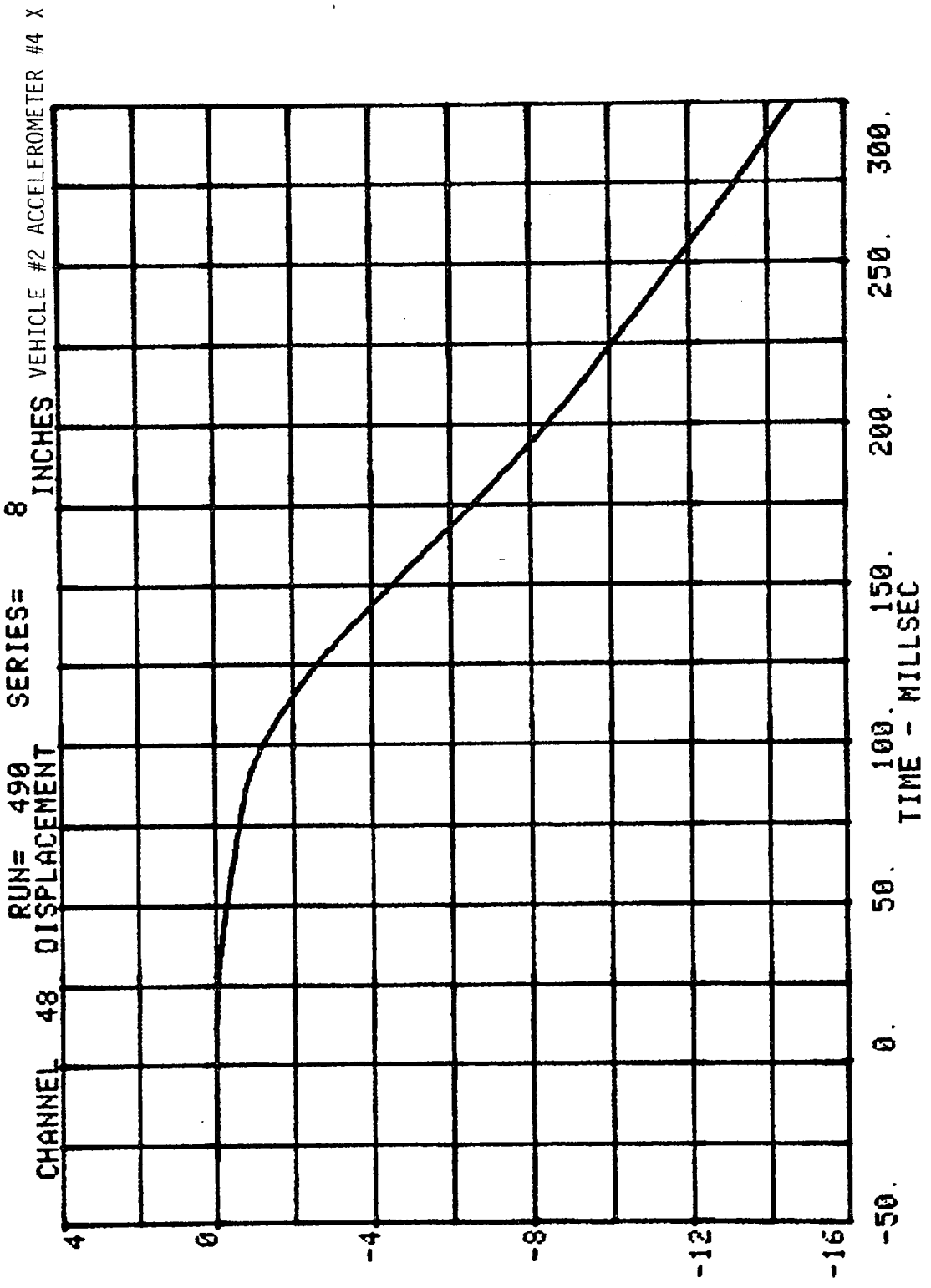

CHANNEL 47 VEH#2 ACC PACK #3(Y)
RUN= 490 SERIES= 8
G'S
16
12
8
4
0
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

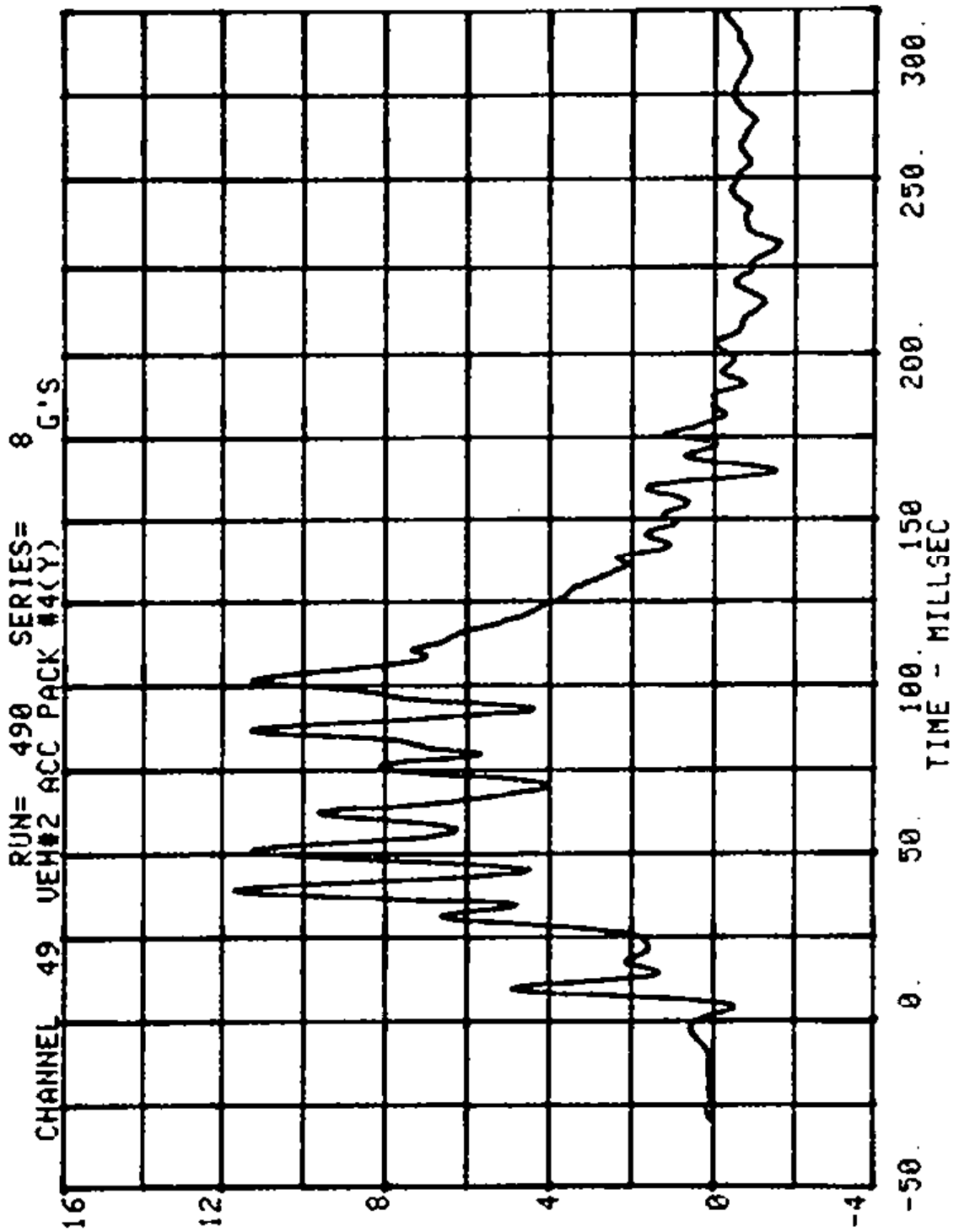

RUN= 490 SERIES= 8
CHANNEL 1 VELOCITY
MPH
VEHICLE #2 ACCELEROMETER #3 Y
16
12
8
4
0
-4
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

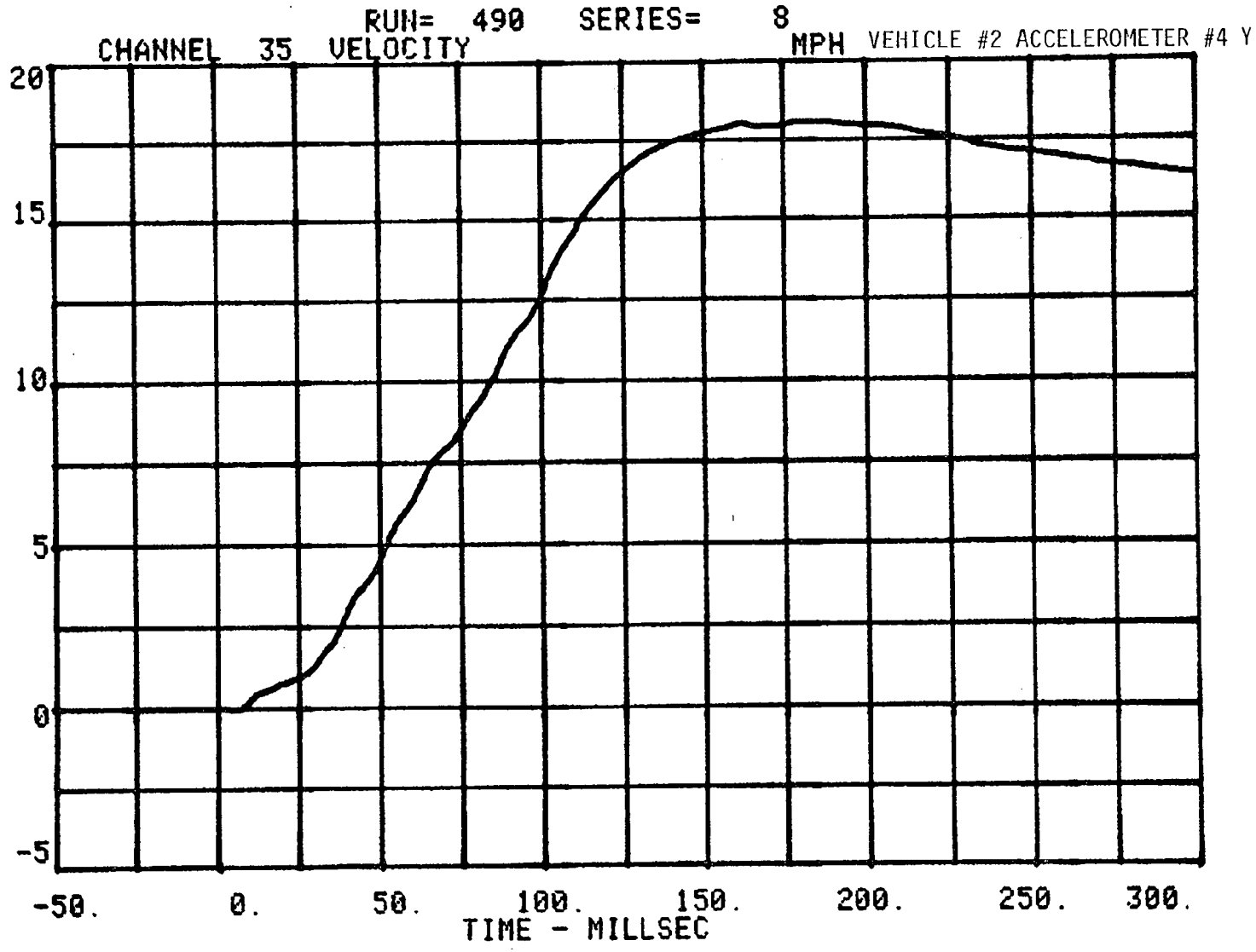

RUN= 490 SERIES= 8
CHANNEL 2 DISPLACEMENT
INCHES
VEHICLE #2 ACCELEROMETER #3 Y
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

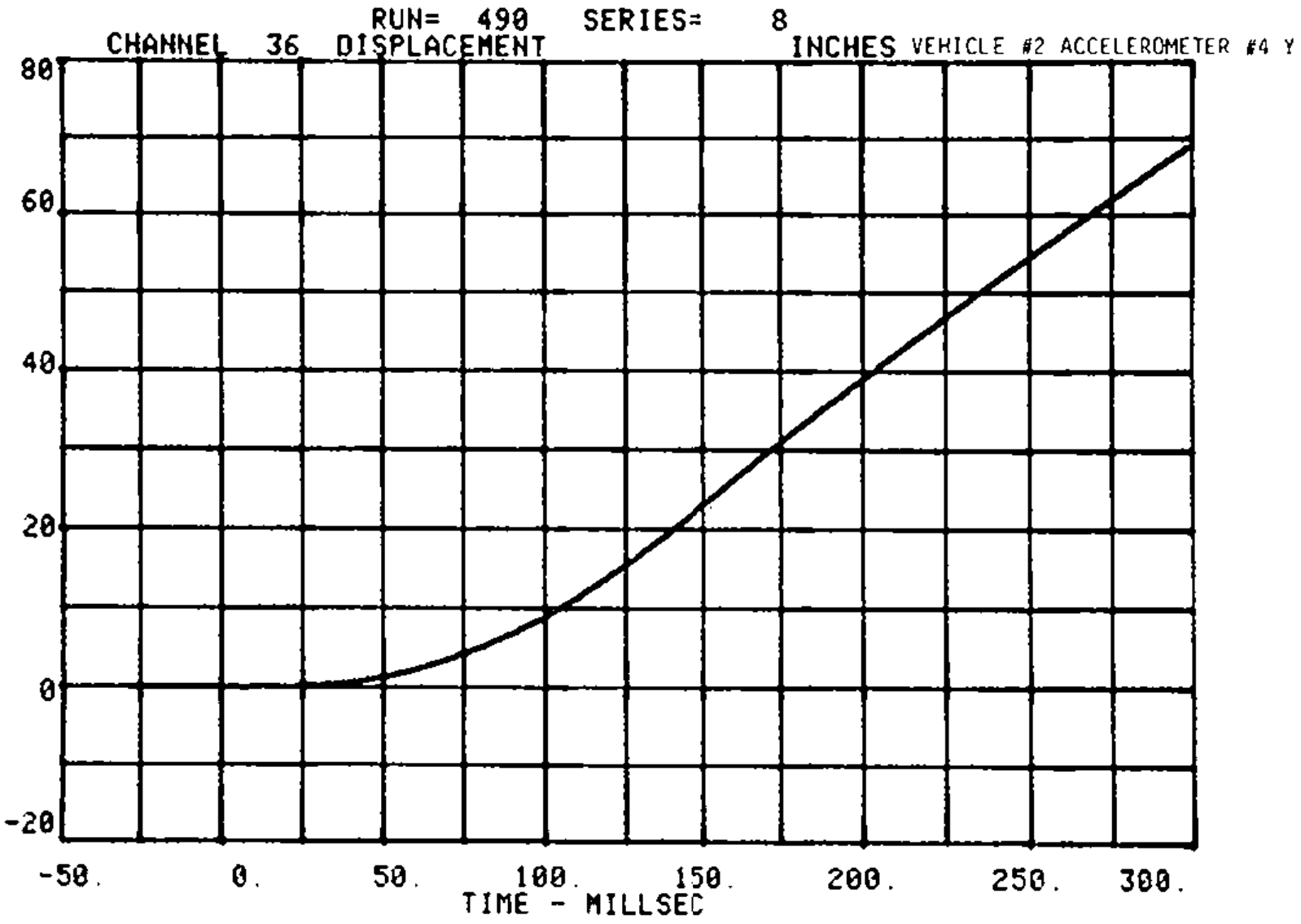

CHANNEL 48
RUN= 490 SERIES= 8
VEH#2 ACC PACK #4(X)
G'S
12
8
4
0
-4
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

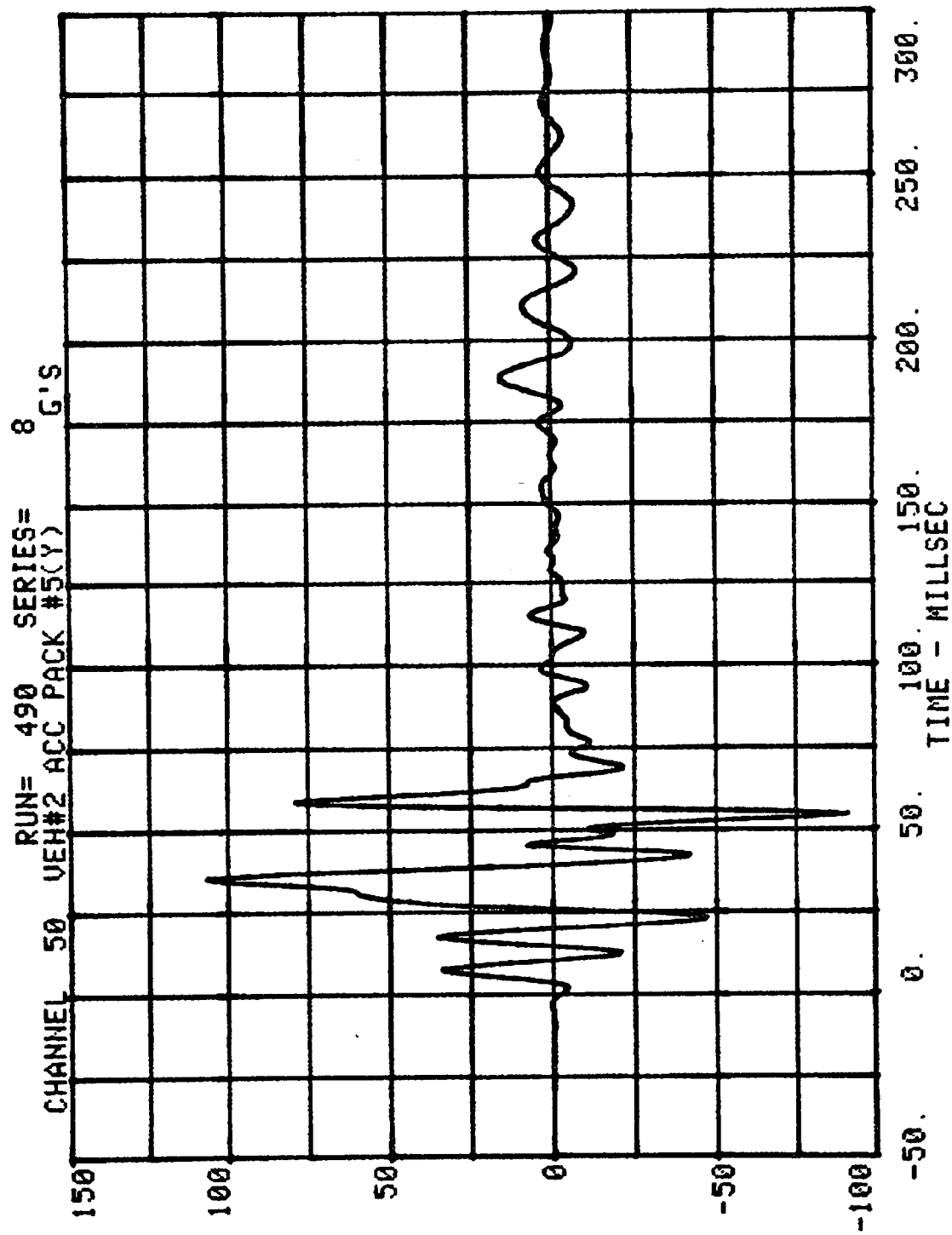

RUN= 490 SERIES= 8
CHANNEL 47 VELOCITY MPH
VEHICLE #2 ACCELEROMETER #4 X
1.5
0.0
-1.5
-3.0
-4.5
-6.0
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

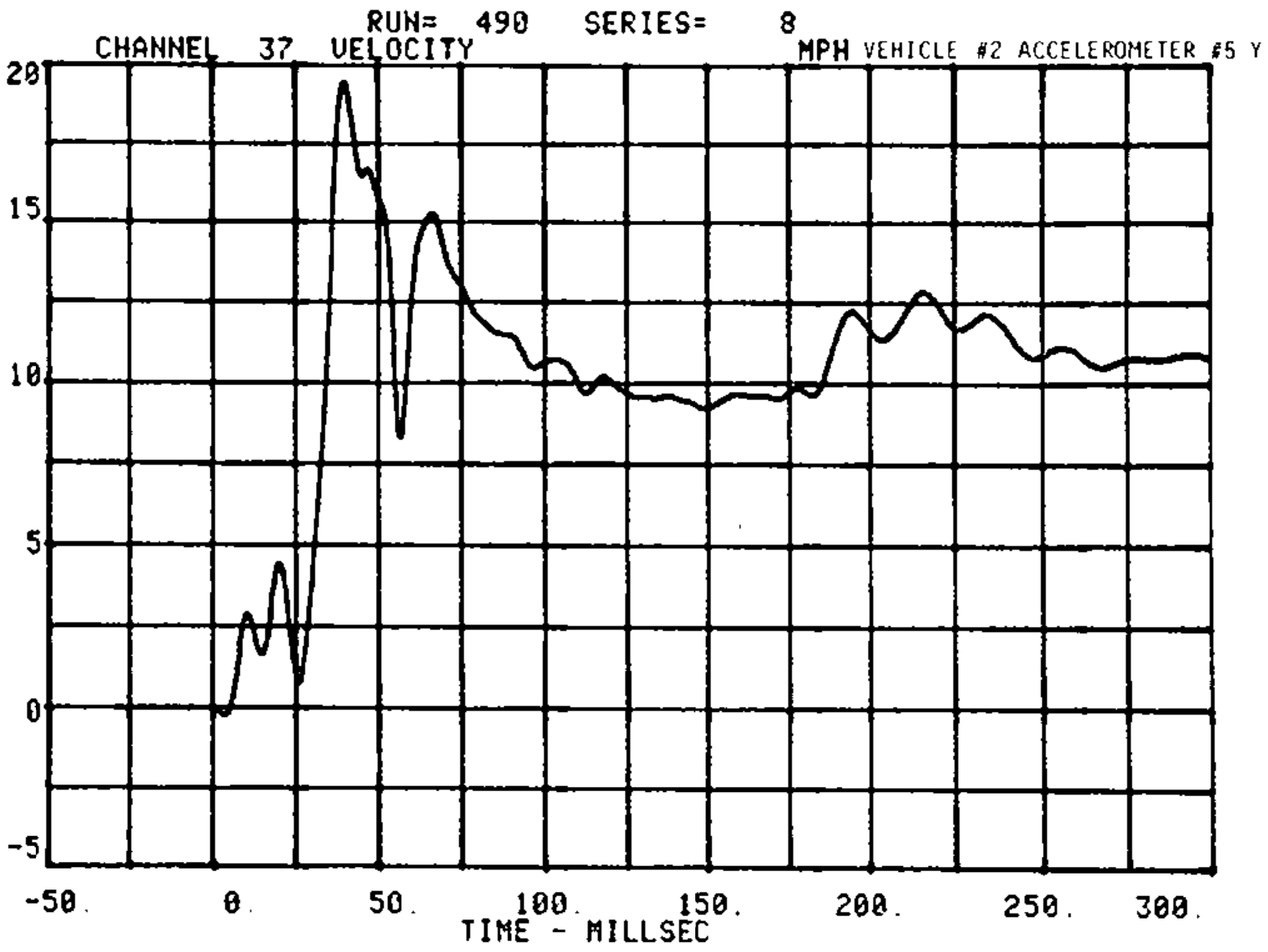

CHANNEL 48 DISPLACEMENT
RUN= 490 SERIES= 8
INCHES VEHICLE #2 ACCELEROMETER #4 X
4
0
-4
-8
-12
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

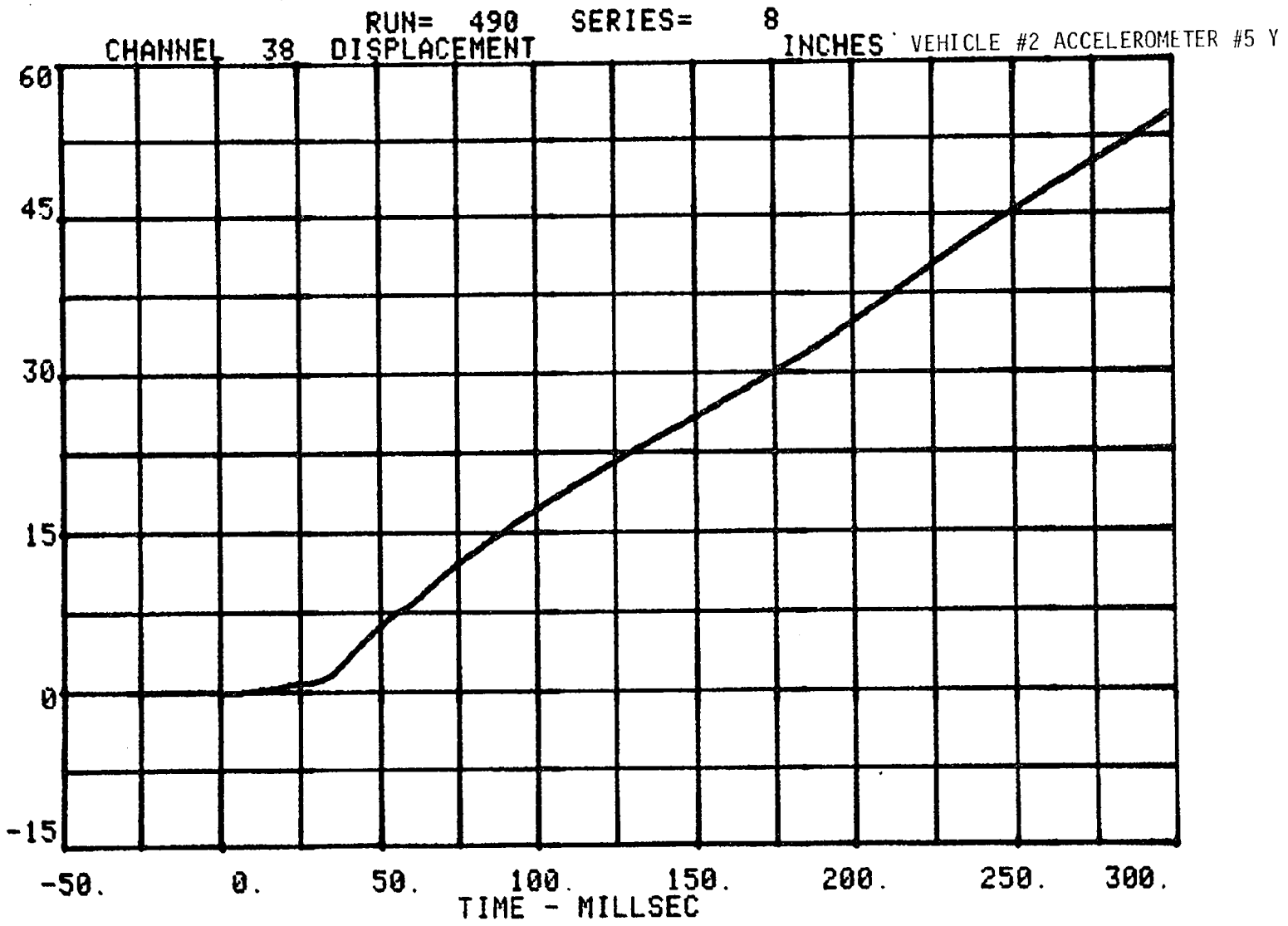

CHANNEL 49
RUN= 490
VEH#2 ACC PACK #4(Y)
SERIES= 8
G'S
16
12
8
4
0
-4
-50.
0.
50.
100.
150
200.
250.
300.
TIME - MILLSEC

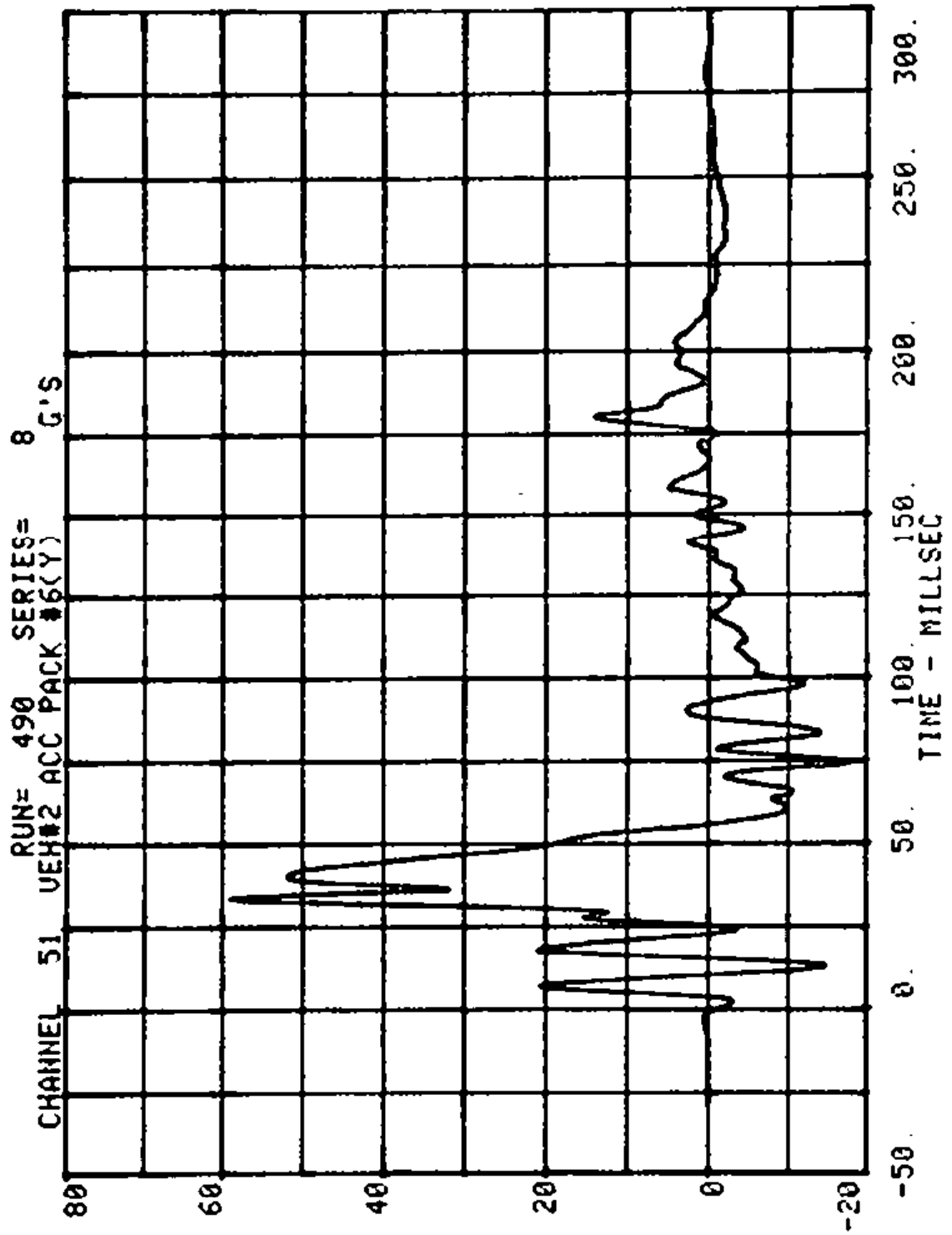

RUN= 490 SERIES= 8
CHANNEL 35 VELOCITY
MPH
VEHICLE #2 ACCELEROMETER #4 Y
20
15
10
5
0
-5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

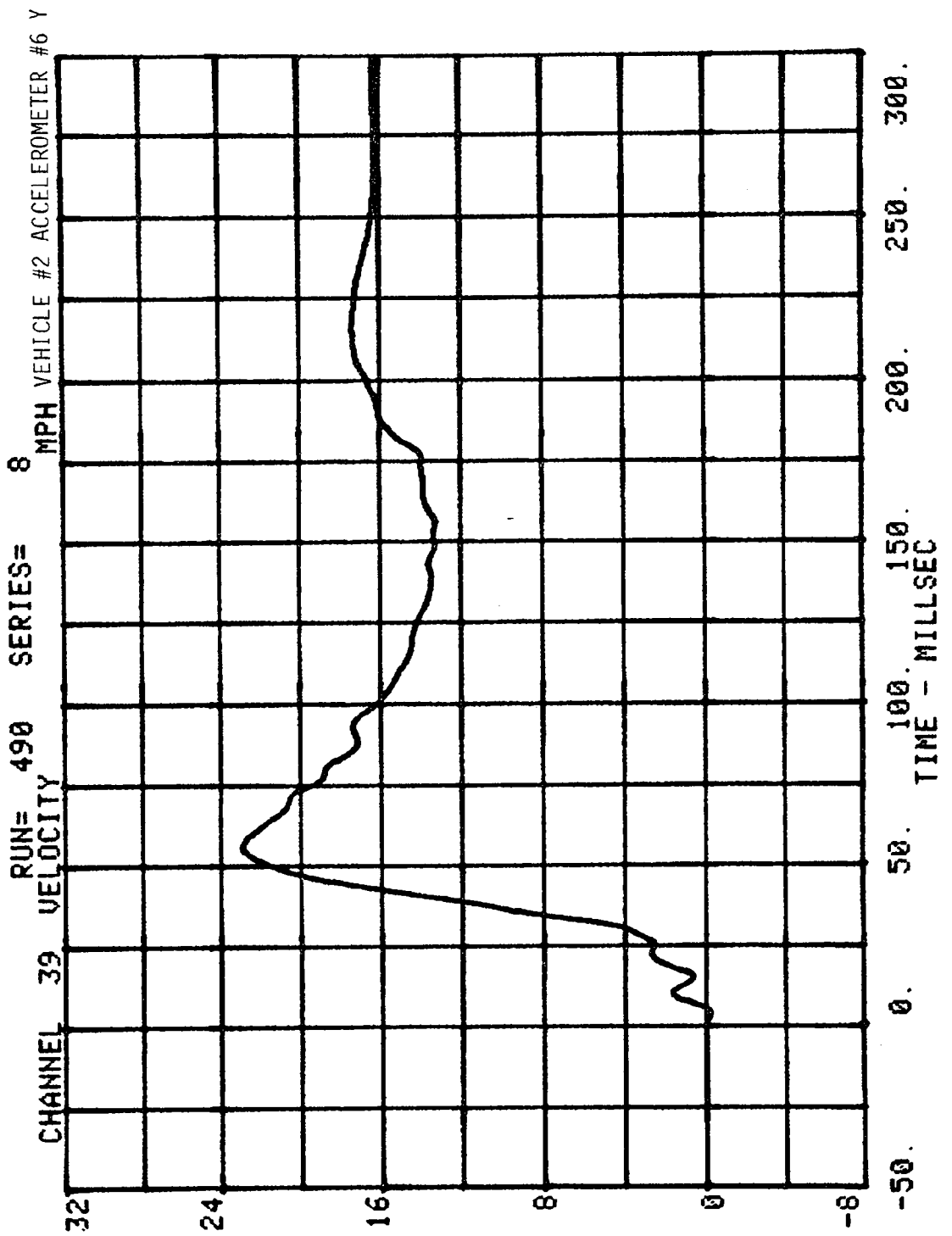

RUN= 490 SERIES= 8
CHANNEL 36 DISPLACEMENT INCHES VEHICLE #2 ACCELEROMETER #4 Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 50 VEH#2 ACC PACK #5(Y)
RUN= 490 SERIES= 8
G'S
150
100
50
0
-50
-100
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

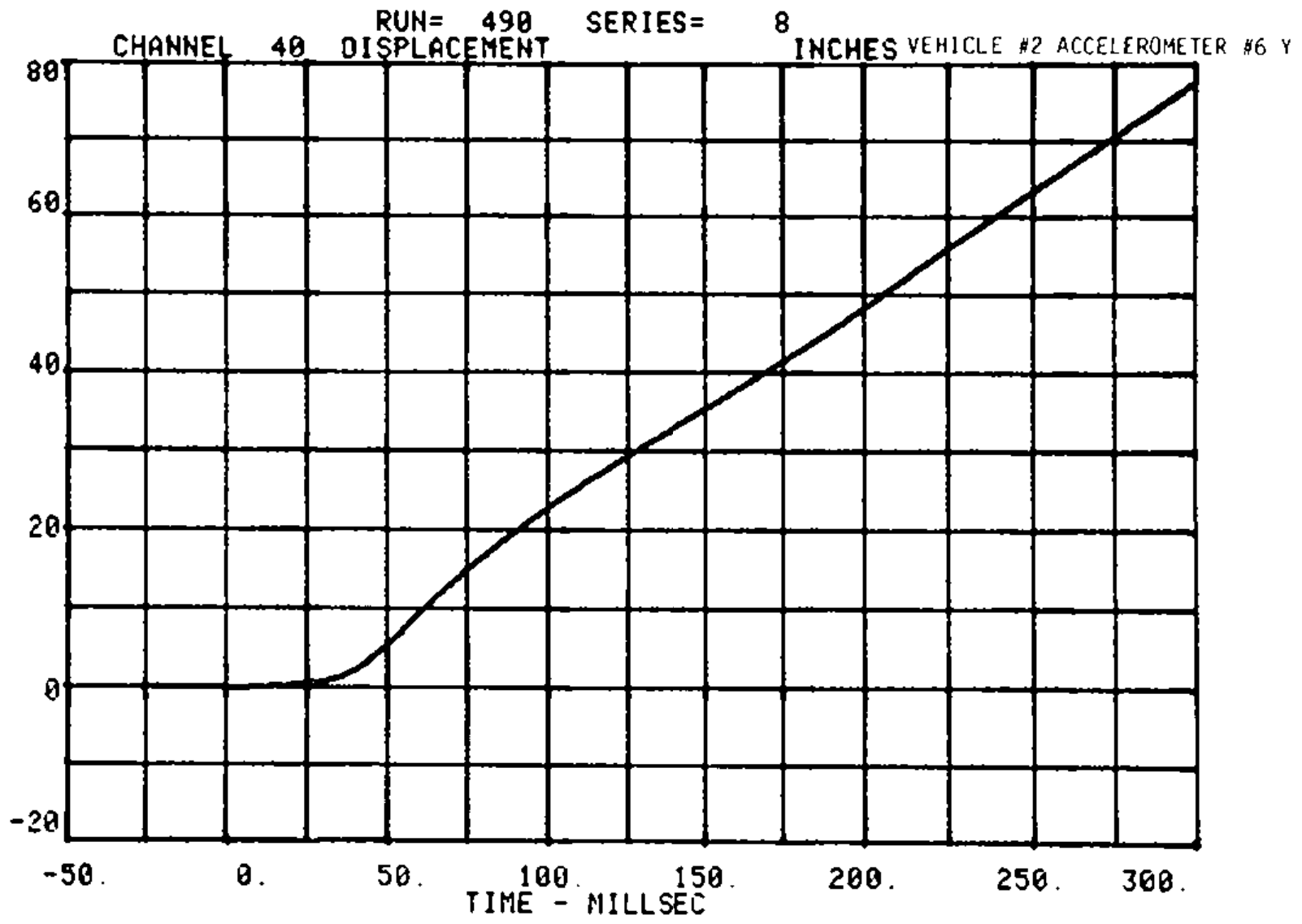

RUN= 490 SERIES= 8
CHANNEL 37 VELOCITY
MPH VEHICLE #2 ACCELEROMETER #5 Y
20
15
10
5
0
-5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

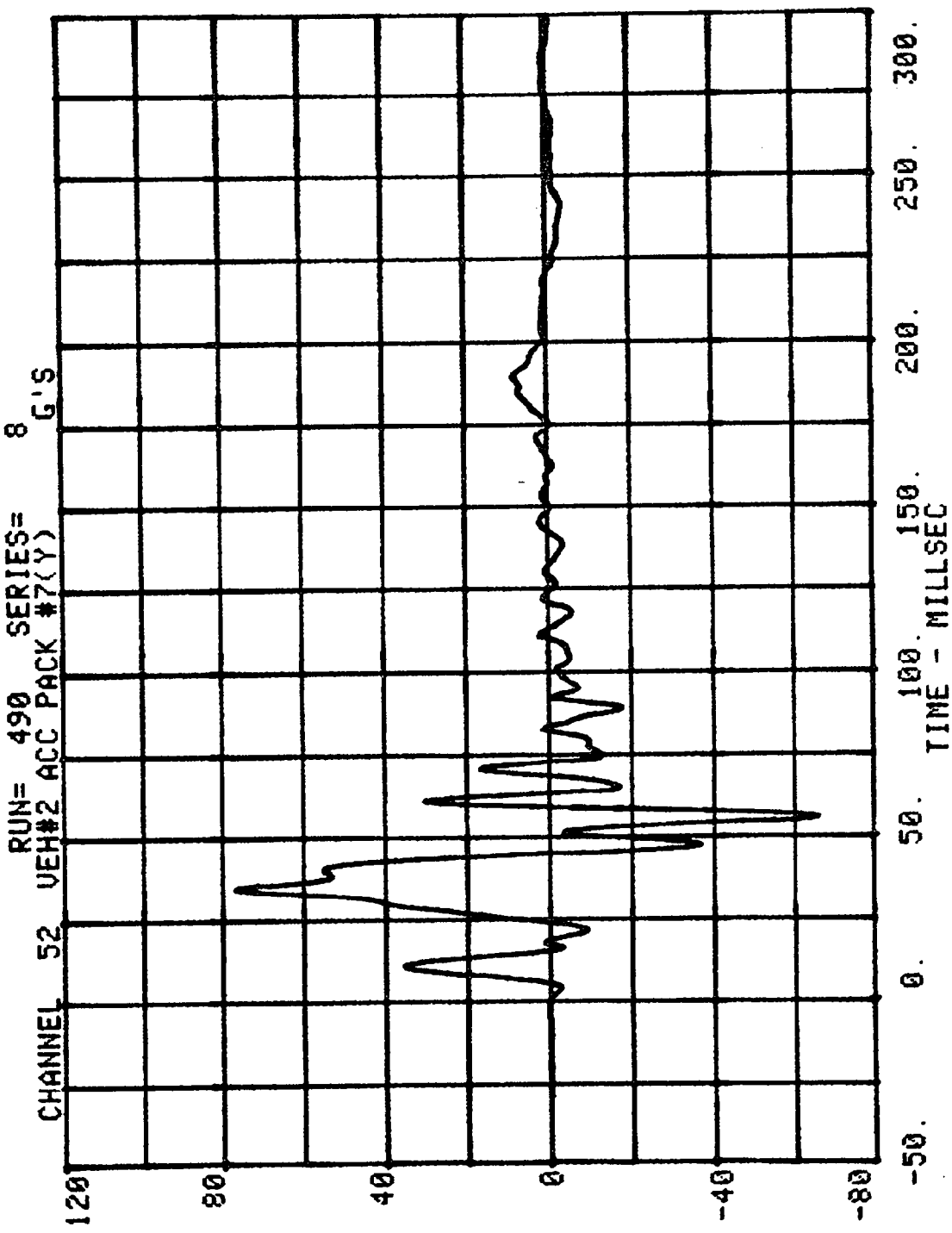

RUN= 490 SERIES= 8
CHANNEL 38 DISPLACEMENT INCHES
VEHICLE #2 ACCELEROMETER #5 Y
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

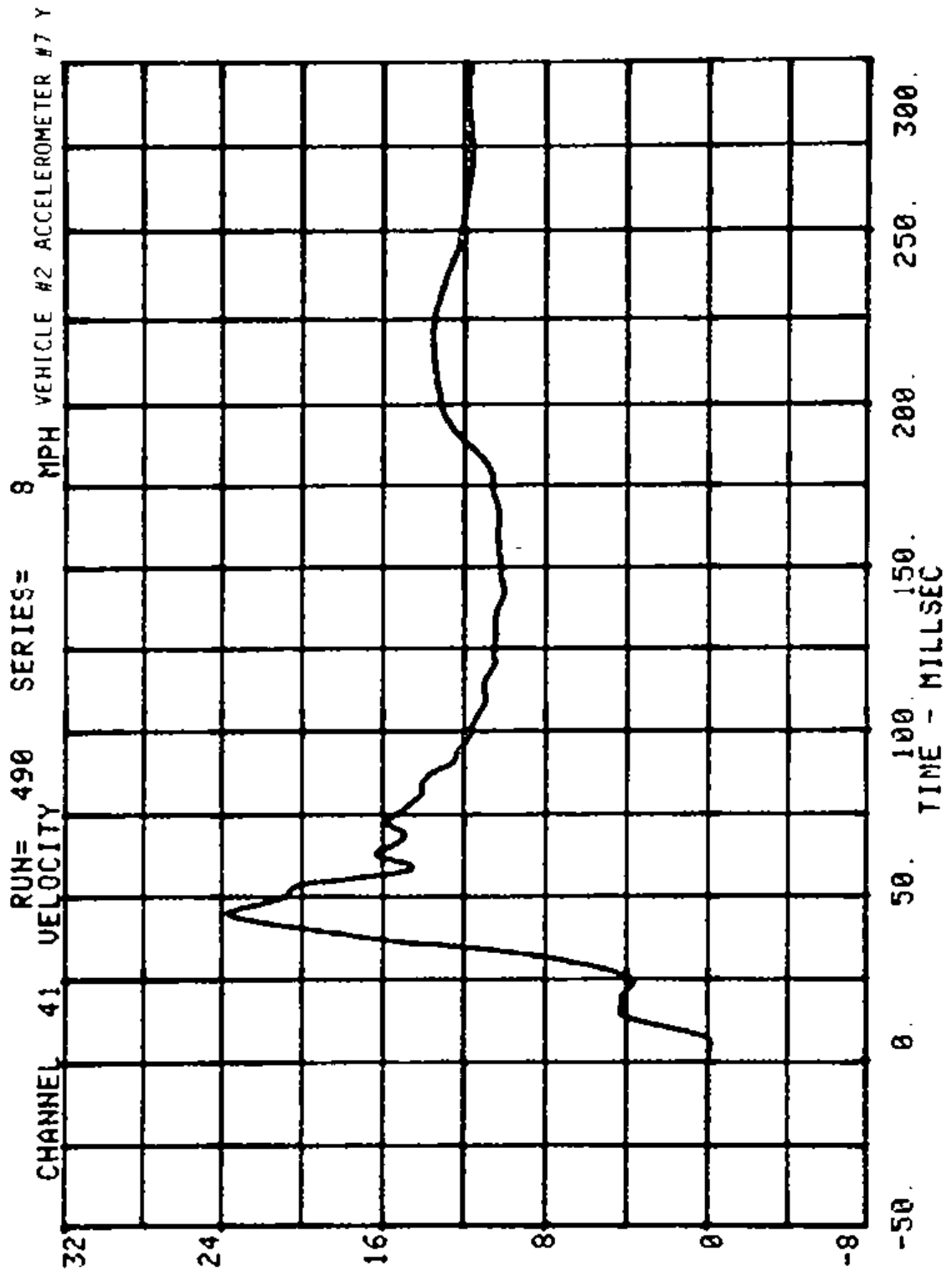

CHANNEL 51 VEH#2 ACC PACK #6(Y)
RUN= 490 SERIES= 8
G'S
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

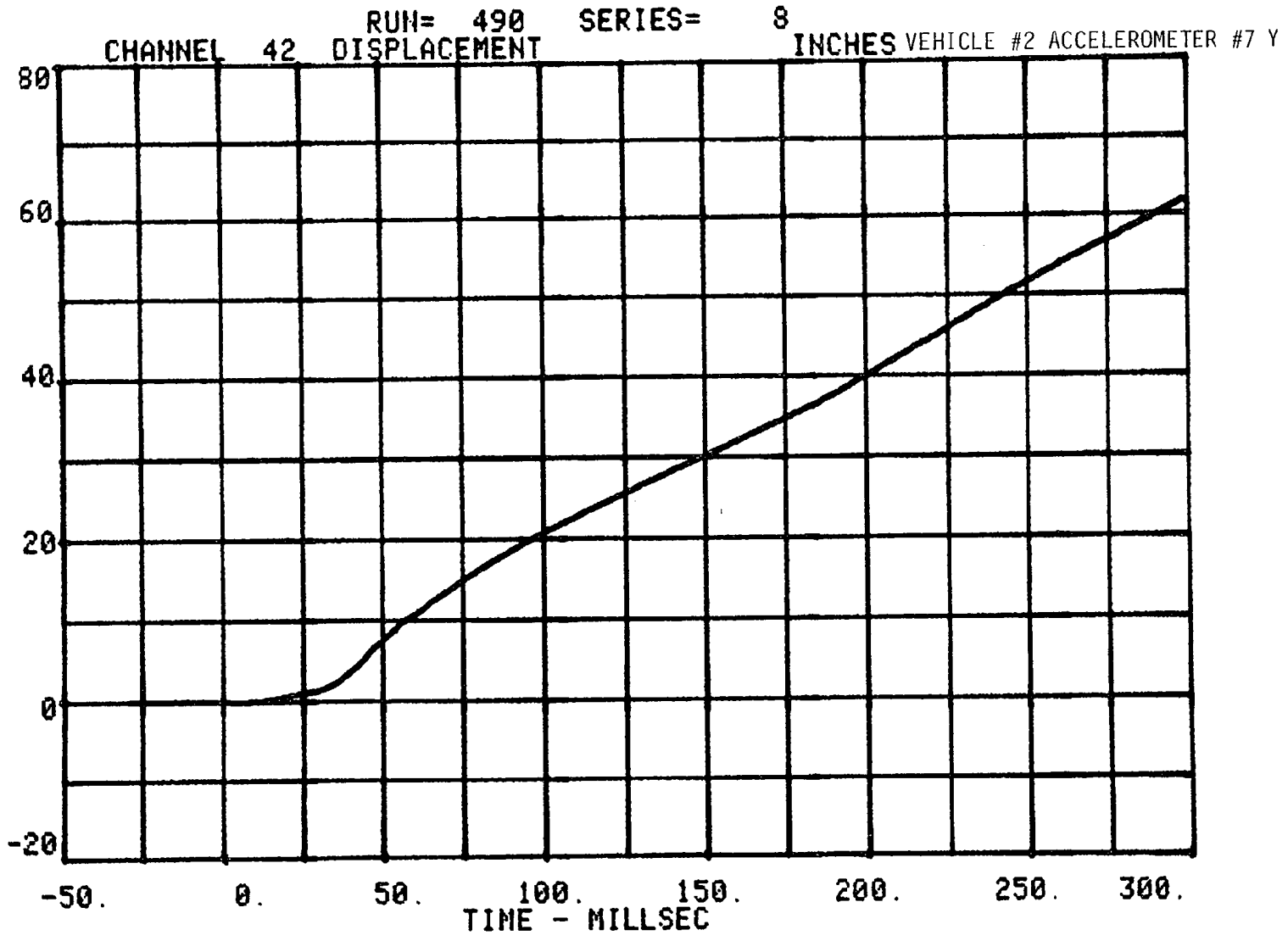

CHANNEL 39 VELOCITY
RUN= 490 SERIES= 8
MPH VEHICLE #2 ACCELEROMETER #6 Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

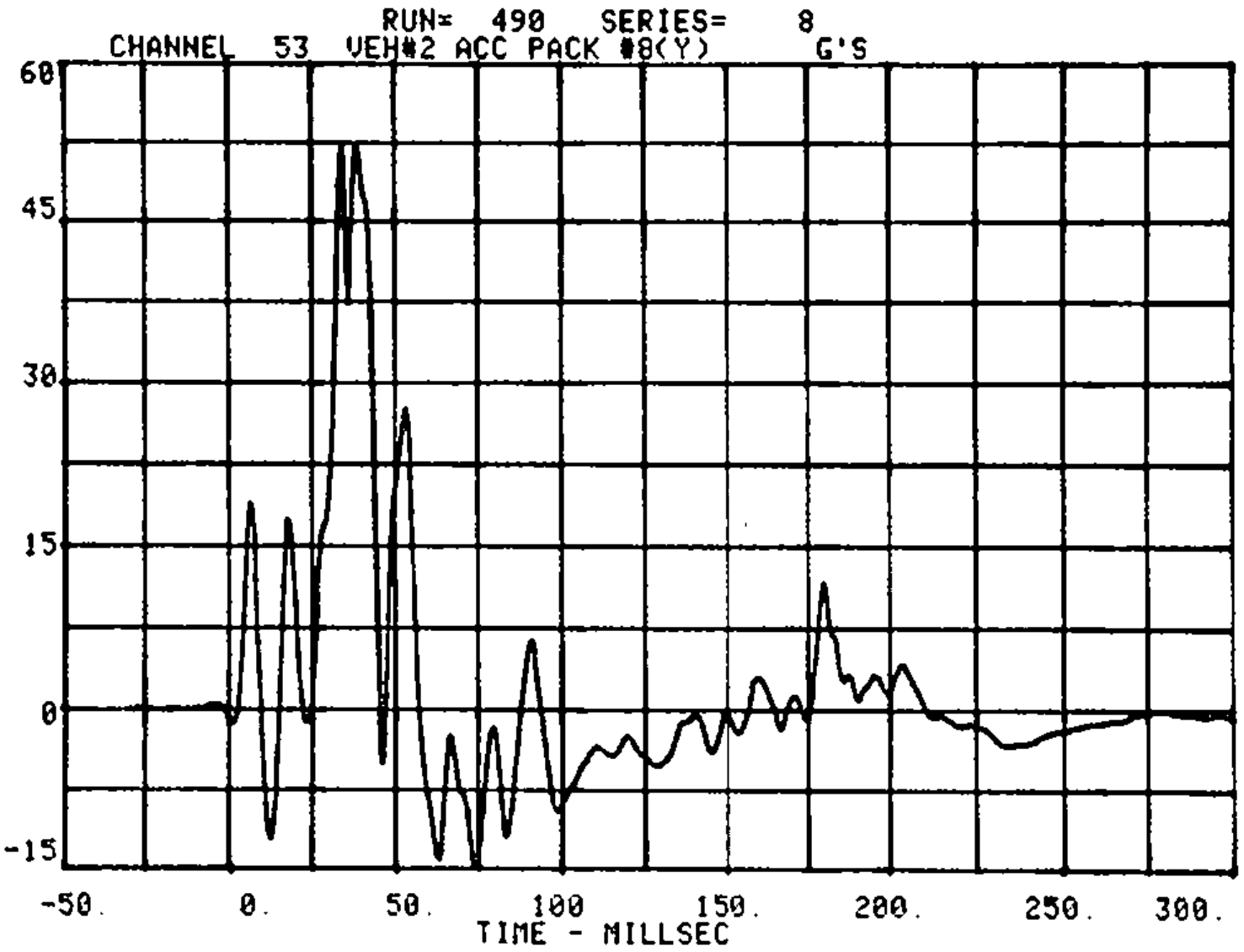
6466-V-5

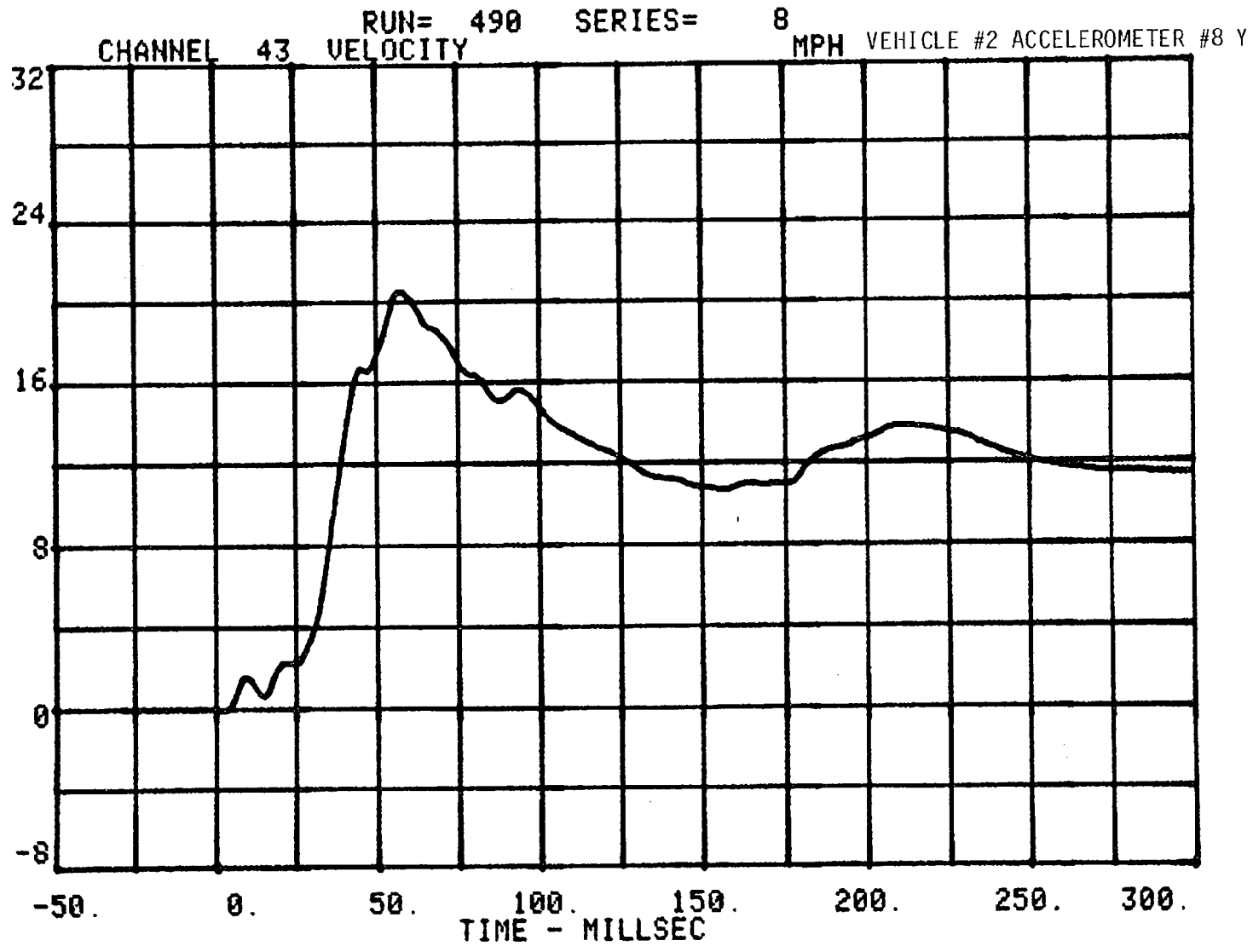

RUN= 490 SERIES= 8
CHANNEL 40 DISPLACEMENT INCHES VEHICLE #2 ACCELEROMETER #6 Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

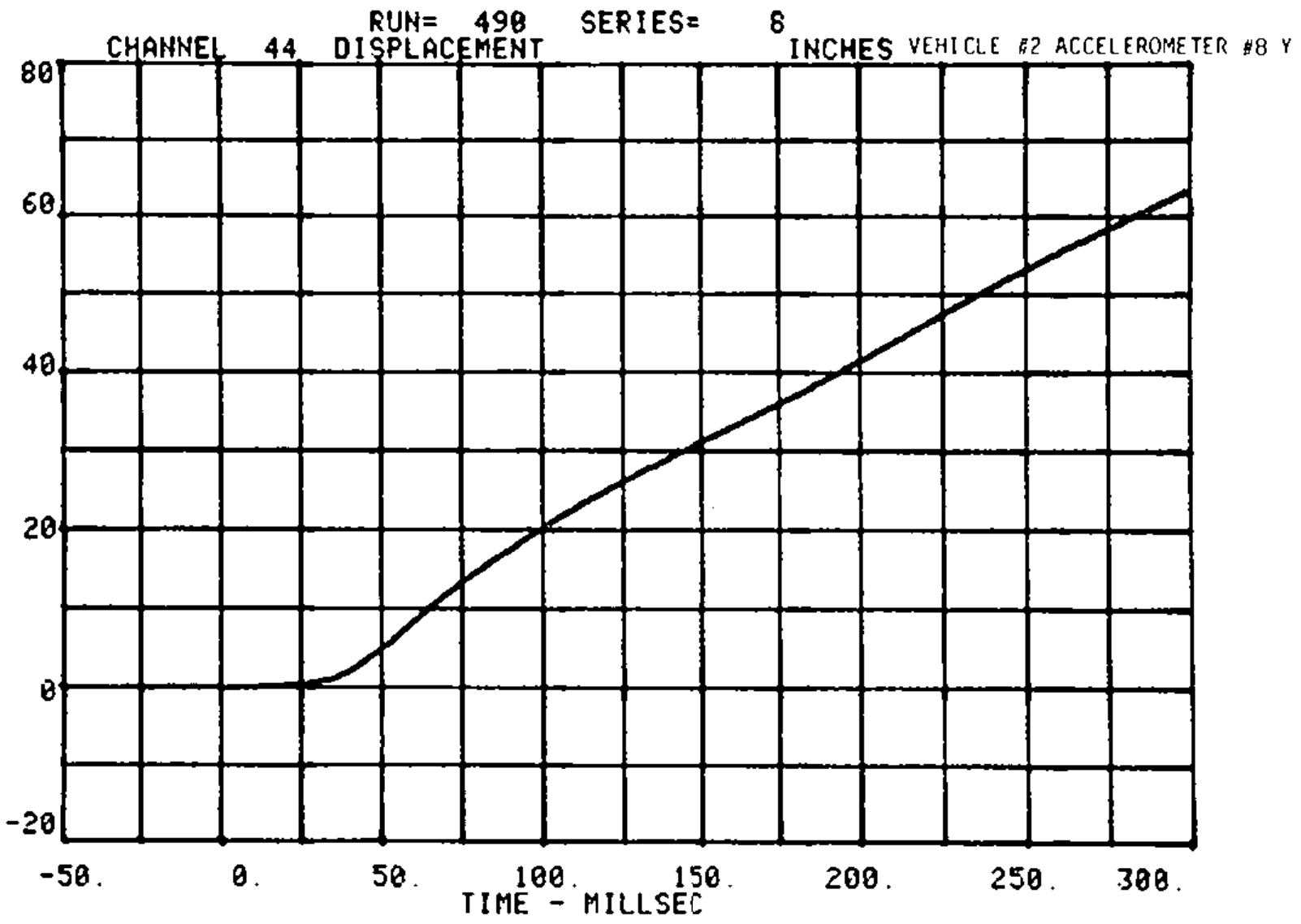

CHANNEL 52 VEH#2 ACC PACK #7(Y)
RUN= 490 SERIES= 8
G'S
120
80
40
0
-40
-80
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

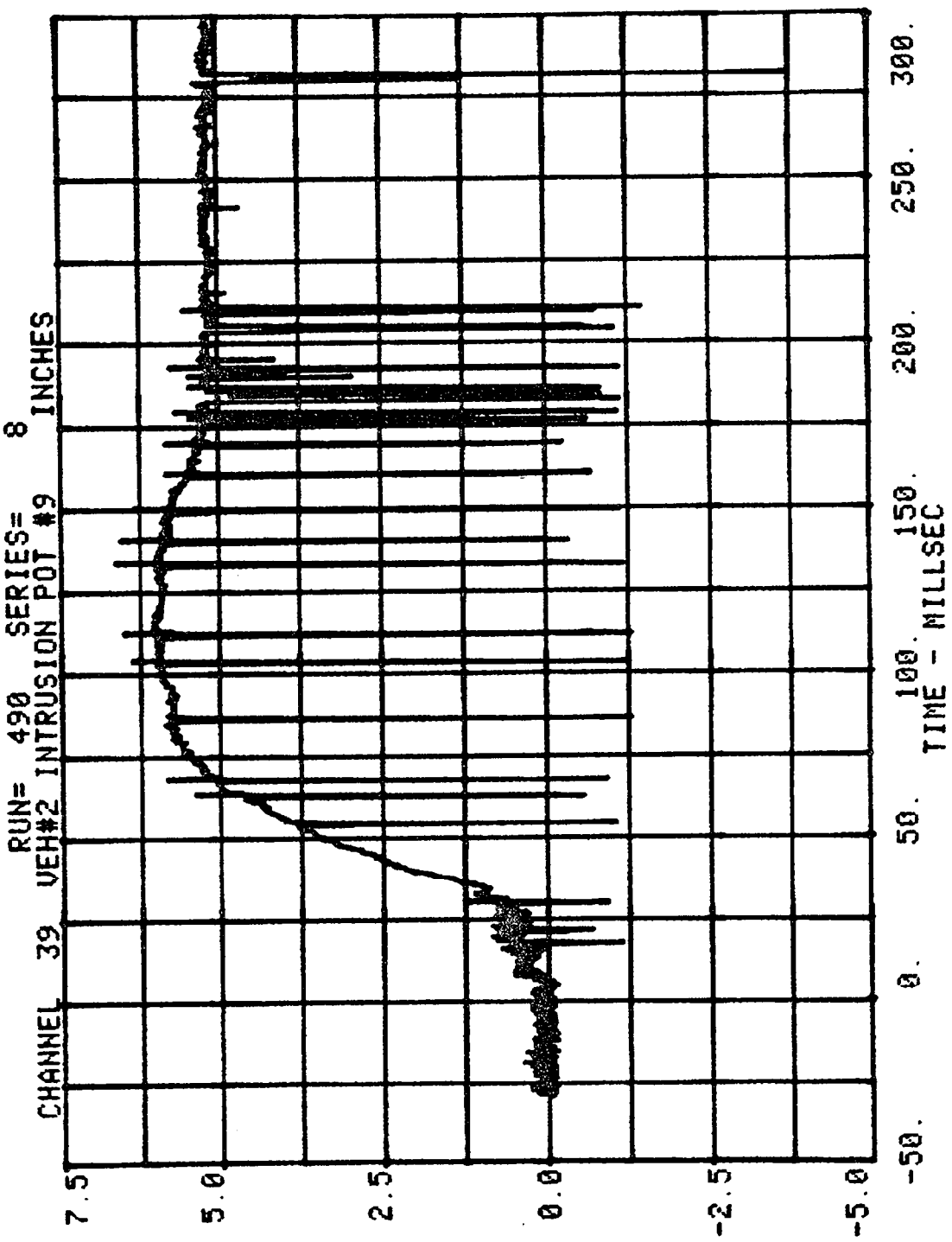

CHANNEL 41 VELOCITY
RUN= 490 SERIES= 8
MPH VEHICLE #2 ACCELEROMETER #7 Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

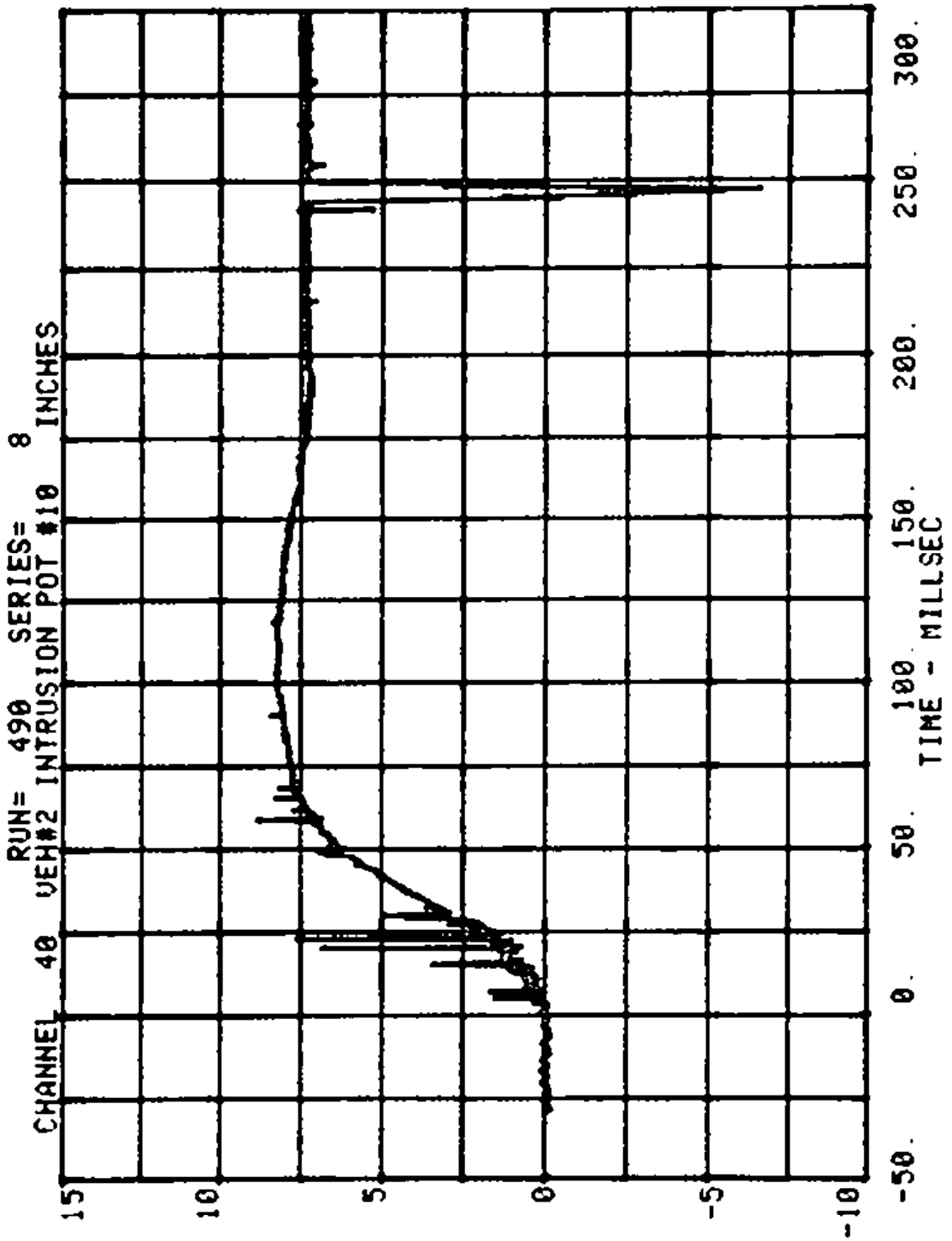

RUN= 490 SERIES= 8
CHANNEL 42 DISPLACEMENT
INCHES VEHICLE #2 ACCELEROMETER #7 Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

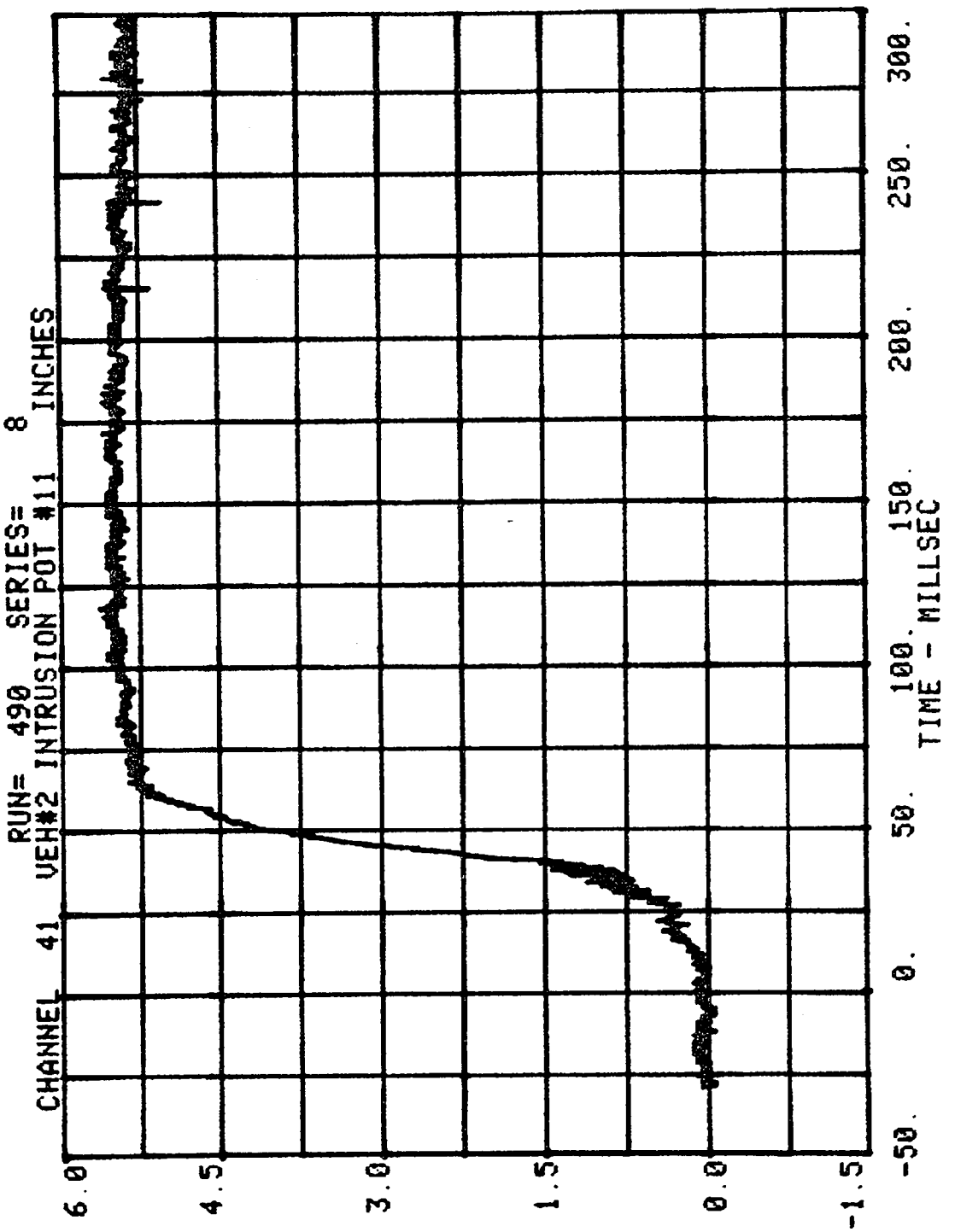

RUN= 490 SERIES= 8
CHANNEL 53 VEH#2 ACC PACK #8(Y) G'S
60
45
30
15
0
-15
-50.
0.
50.
100
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 43 VELOCITY
MPH
VEHICLE #2 ACCELEROMETER #8 Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

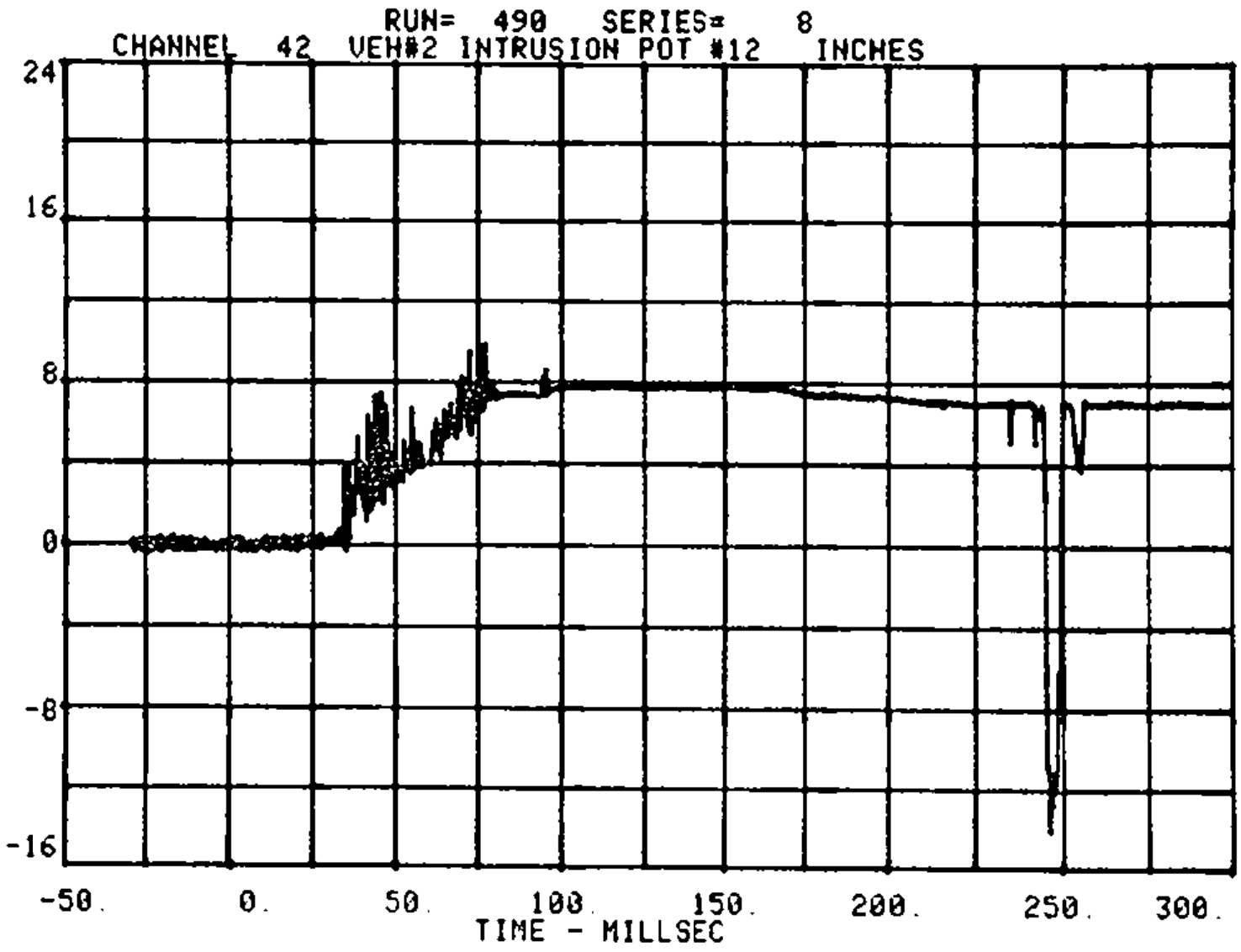

RUN= 490 SERIES= 8
CHANNEL 44 DISPLACEMENT INCHES VEHICLE #2 ACCELEROMETER #8 Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 39 RUN= 490 SERIES= 8
VEH#2 INTRUSION POT #9 INCHES
7.5
5.0
2.5
0.0
-2.5
-5.0
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 40 VEH#2 INTRUSION POT #10
RUN= 490 SERIES= 8 INCHES
15
10
5
0
-5
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 41 VEH#2 INTRUSION POT #11
RUN= 490 SERIES= 8 INCHES
6.0
4.5
3.0
1.5
0.0
-1.5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

6466-V-5


RUN= 490 SERIES= 8
CHANNEL 42 VEH#2 INTRUSION POT #12 INCHES
24
16
8
0
-8
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

TEST NO. 8

VEHICLE 2 - 1976 PLYMOUTH VOLARE

DUMMY DATA

	FILTER CHANNEL CLASS
HEAD ACCELERATIONS	1000
CHEST ACCELERATIONS	180
PELVIC ACCELERATIONS	180

HEAD INJURY CRITERION
HEAD SEVERITY INDEX

BOA #8 SIDE IMPACT TEST

RUN= 490

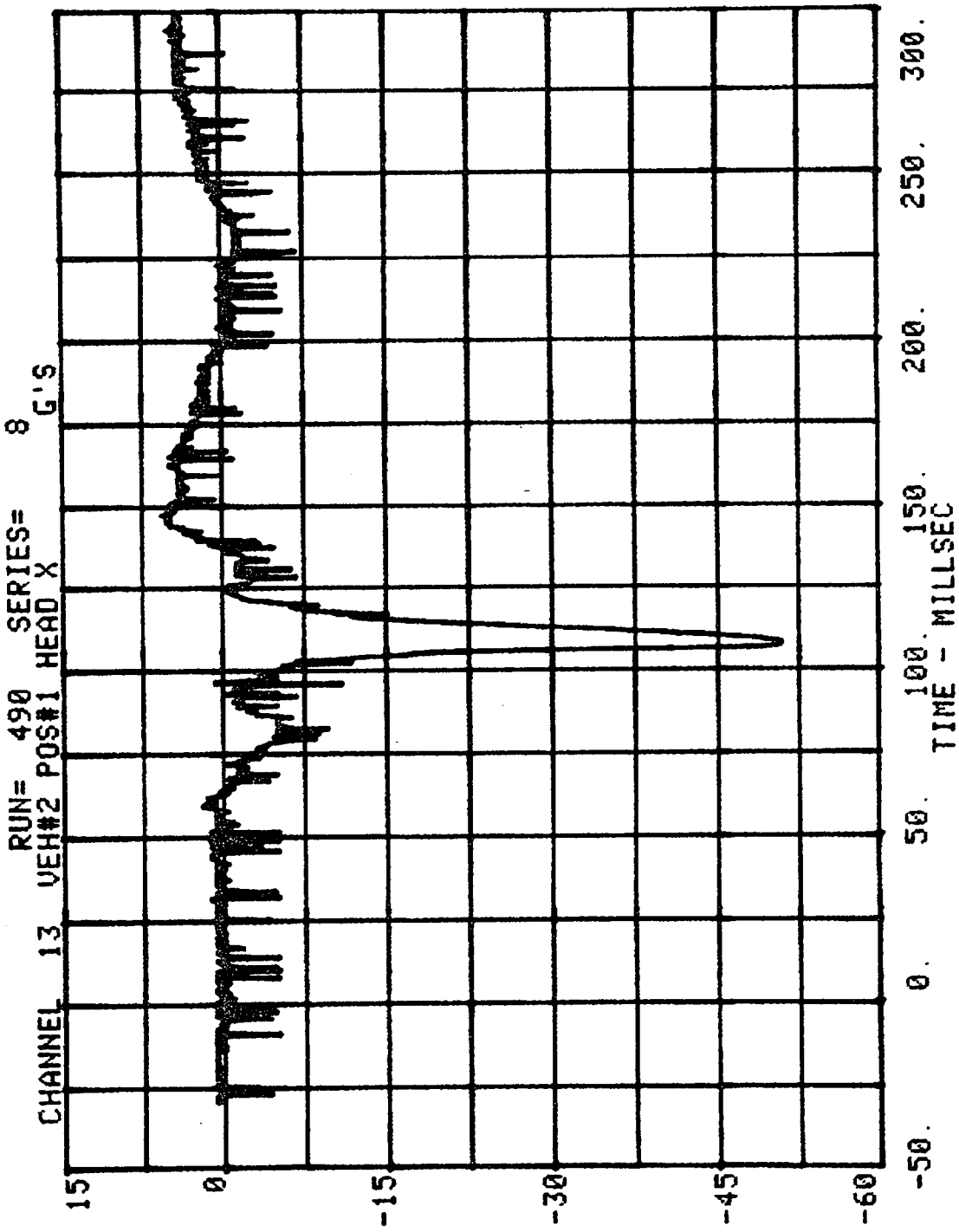
VEH#2 POS#1 HEAD R

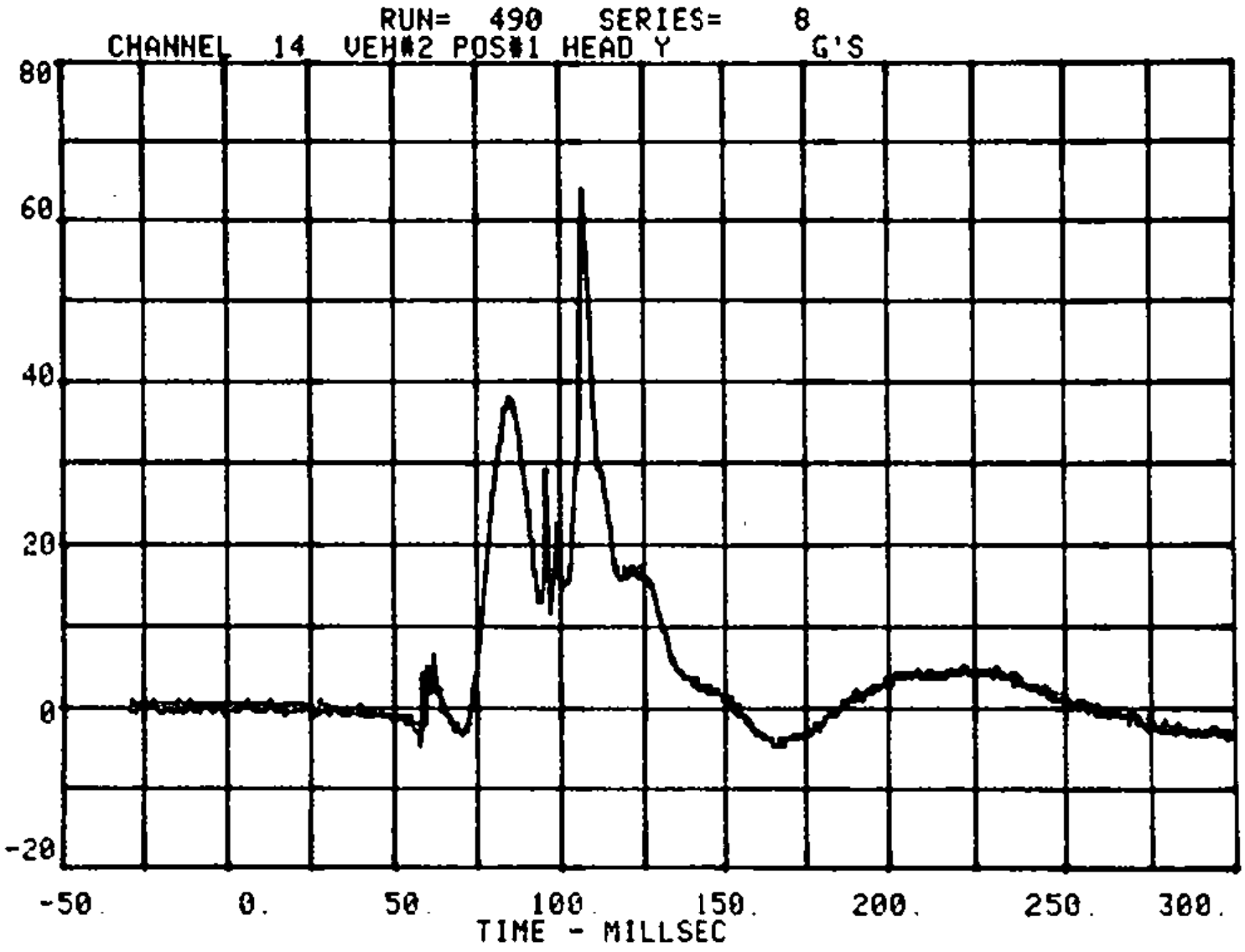
HIC= 469.8 FROM T1= .07050 TO T2= .11910

AVERAGE ACCELERATION BETWEEN T1 AND T2= 39.3G'S

EVENT TIME= 300.0 MSEC

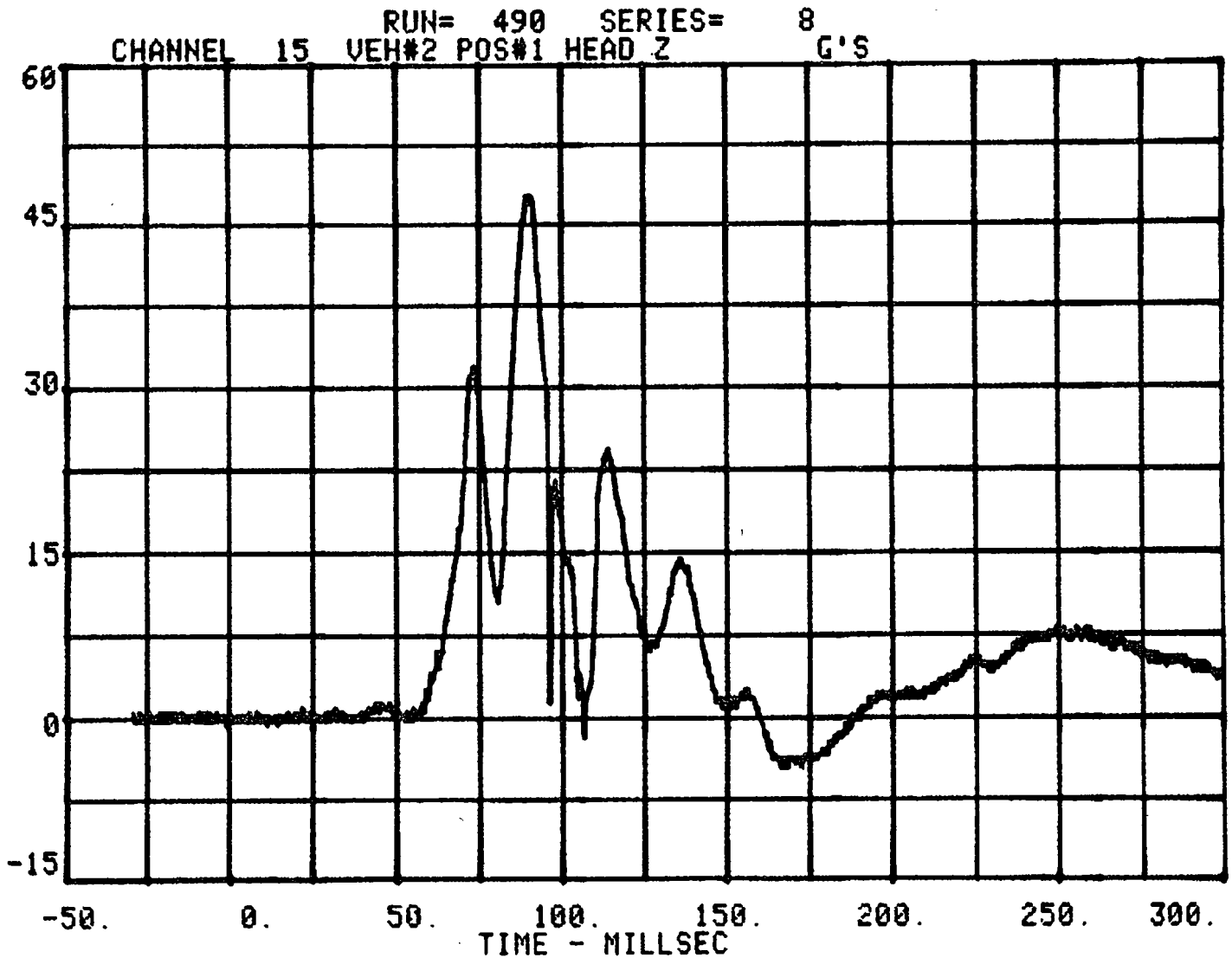
SEVERITY INDEX= 642.7

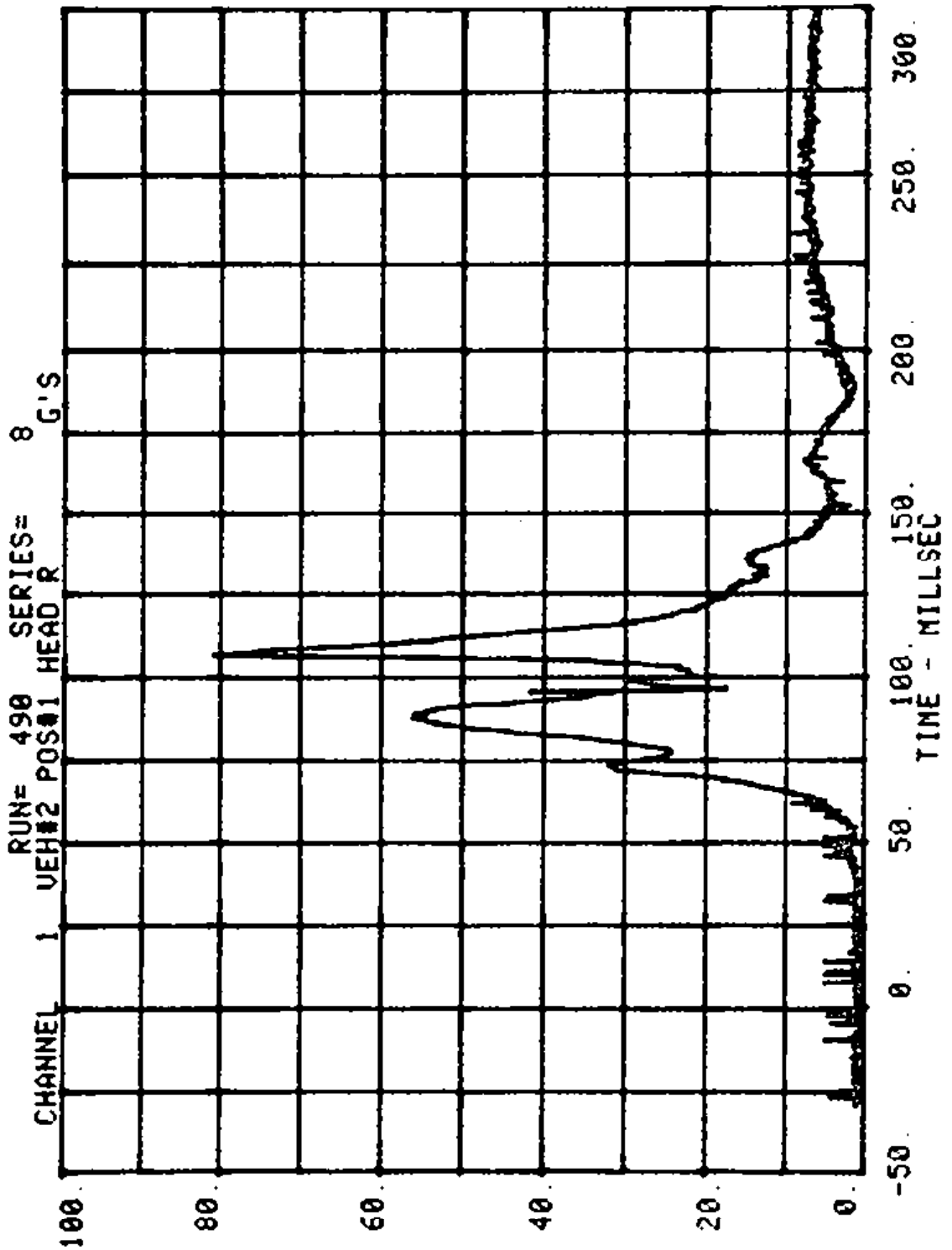

CHANNEL 13 VEH#2 POS#1 HEAD X
RUN= 490 SERIES= 8 G'S
15
0
-15
-30
-45
-60
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

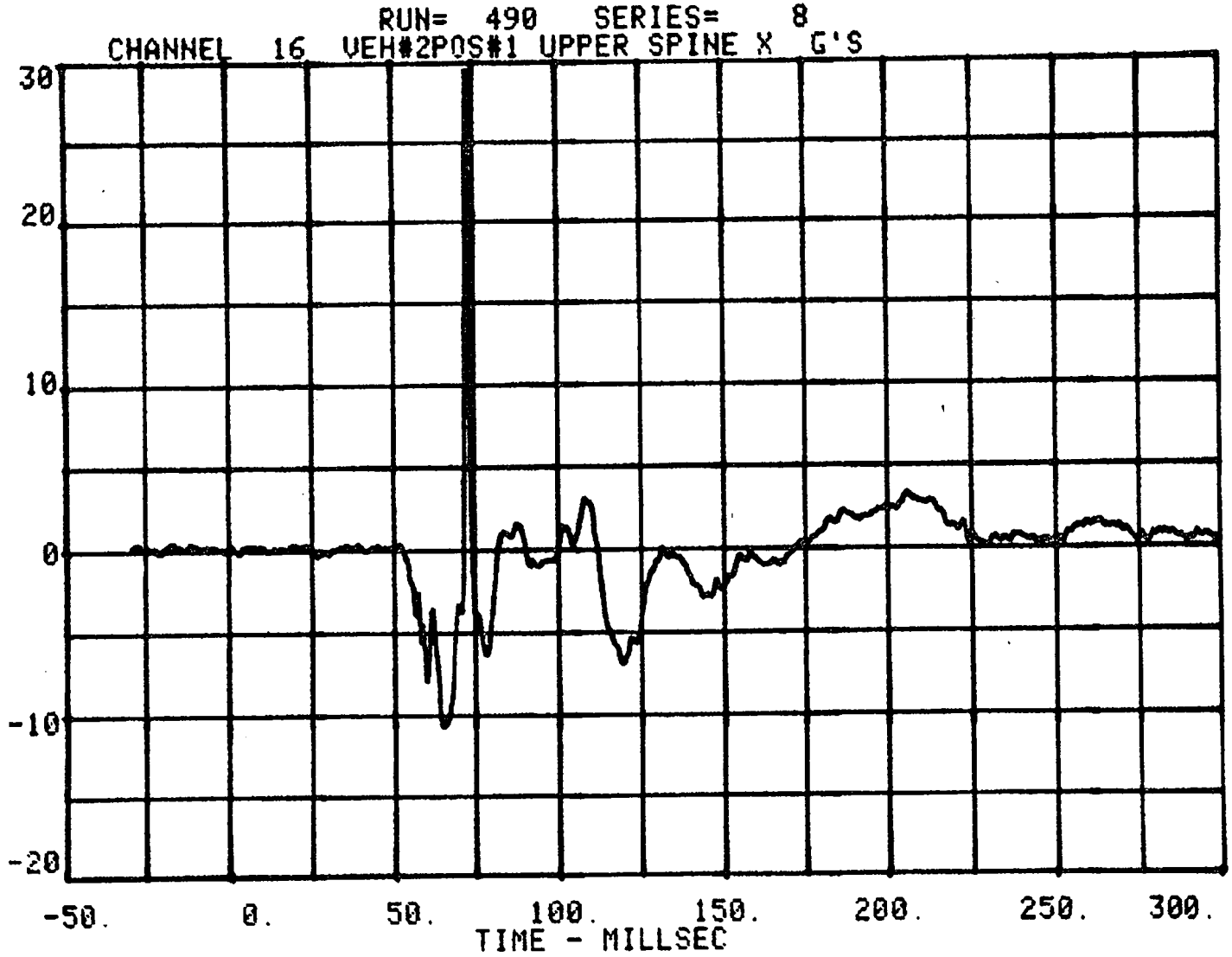

RUN= 490 SERIES= 8
CHANNEL 14 VEH#2 POS#1 HEAD Y G'S
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

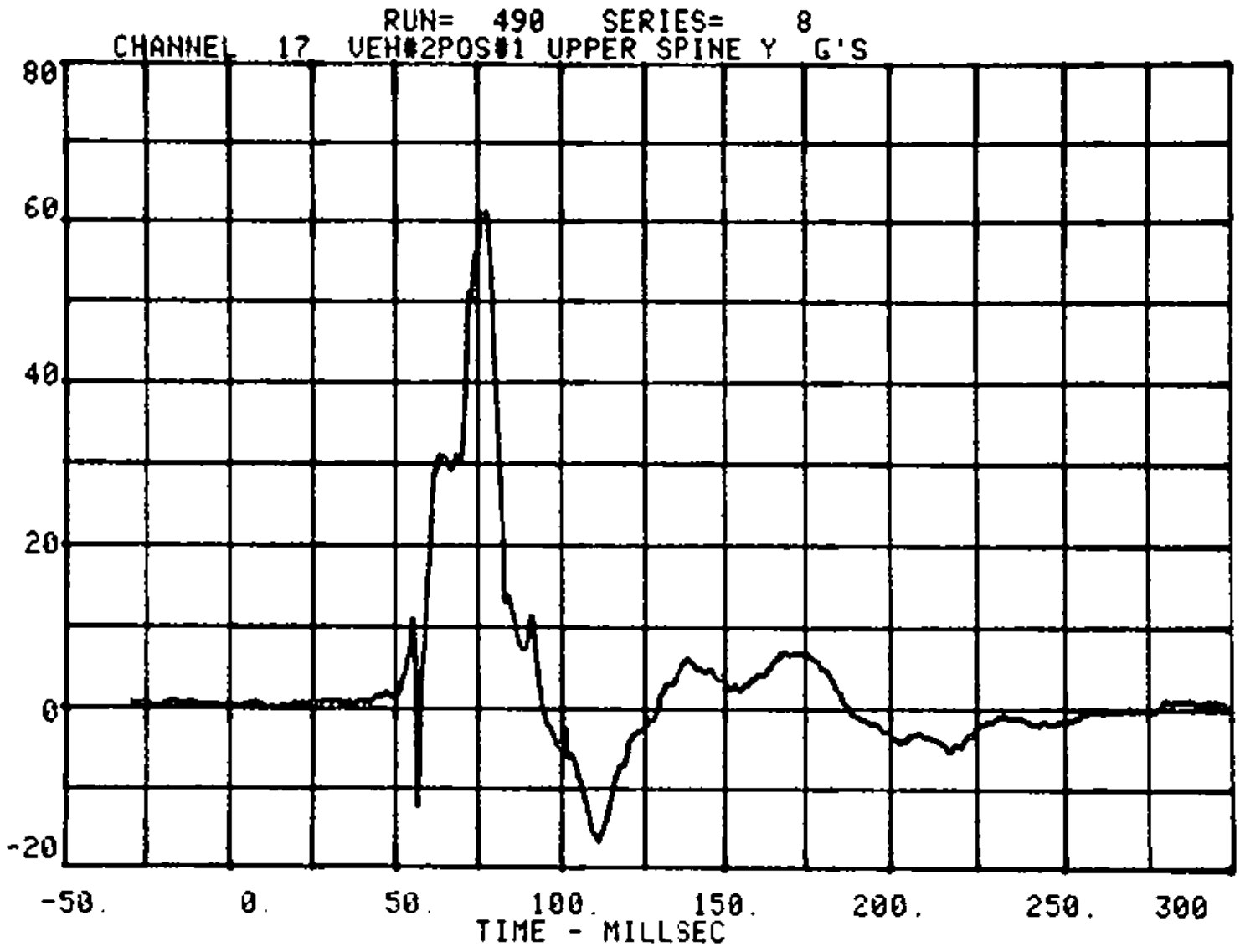
55

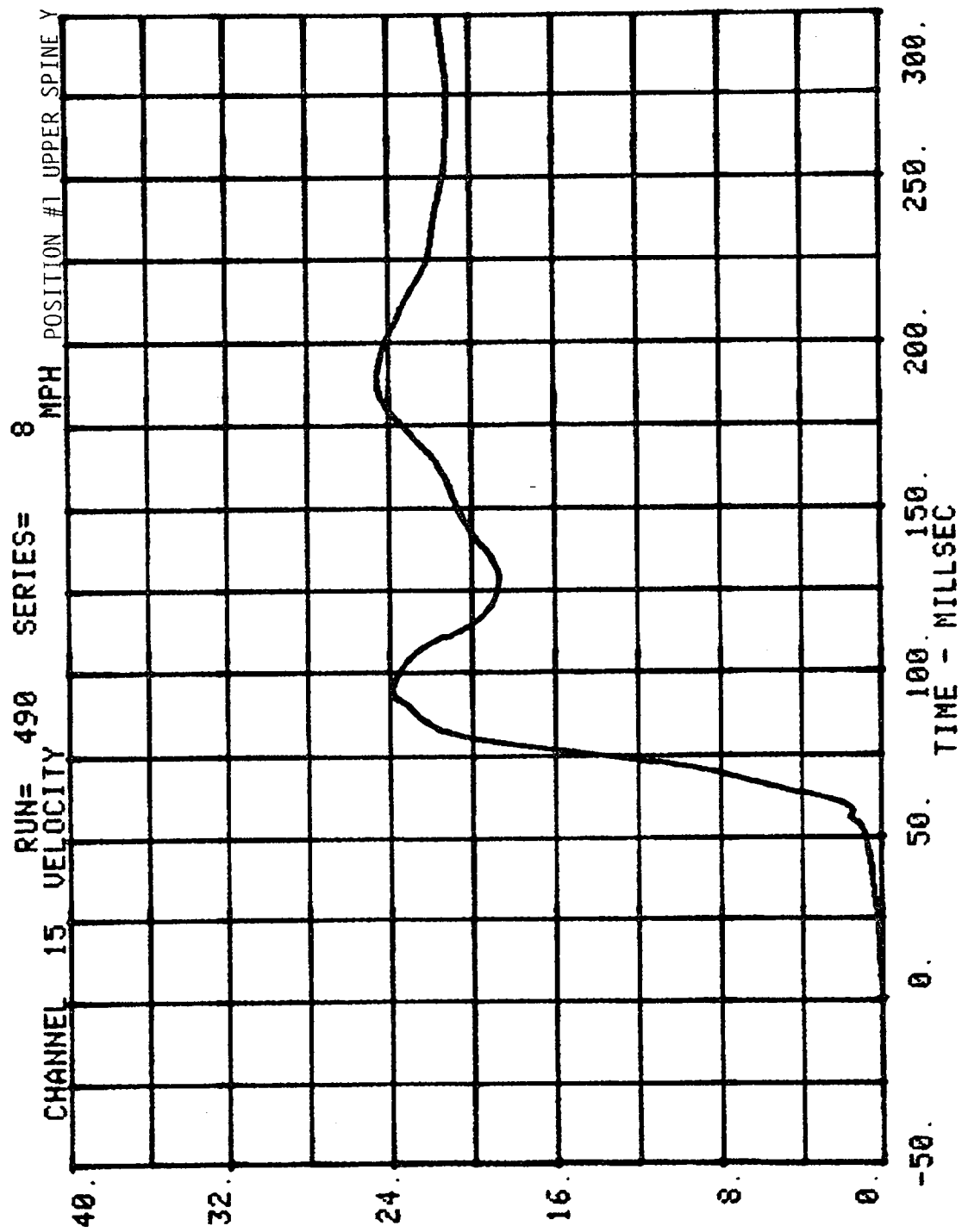
S-A-9949

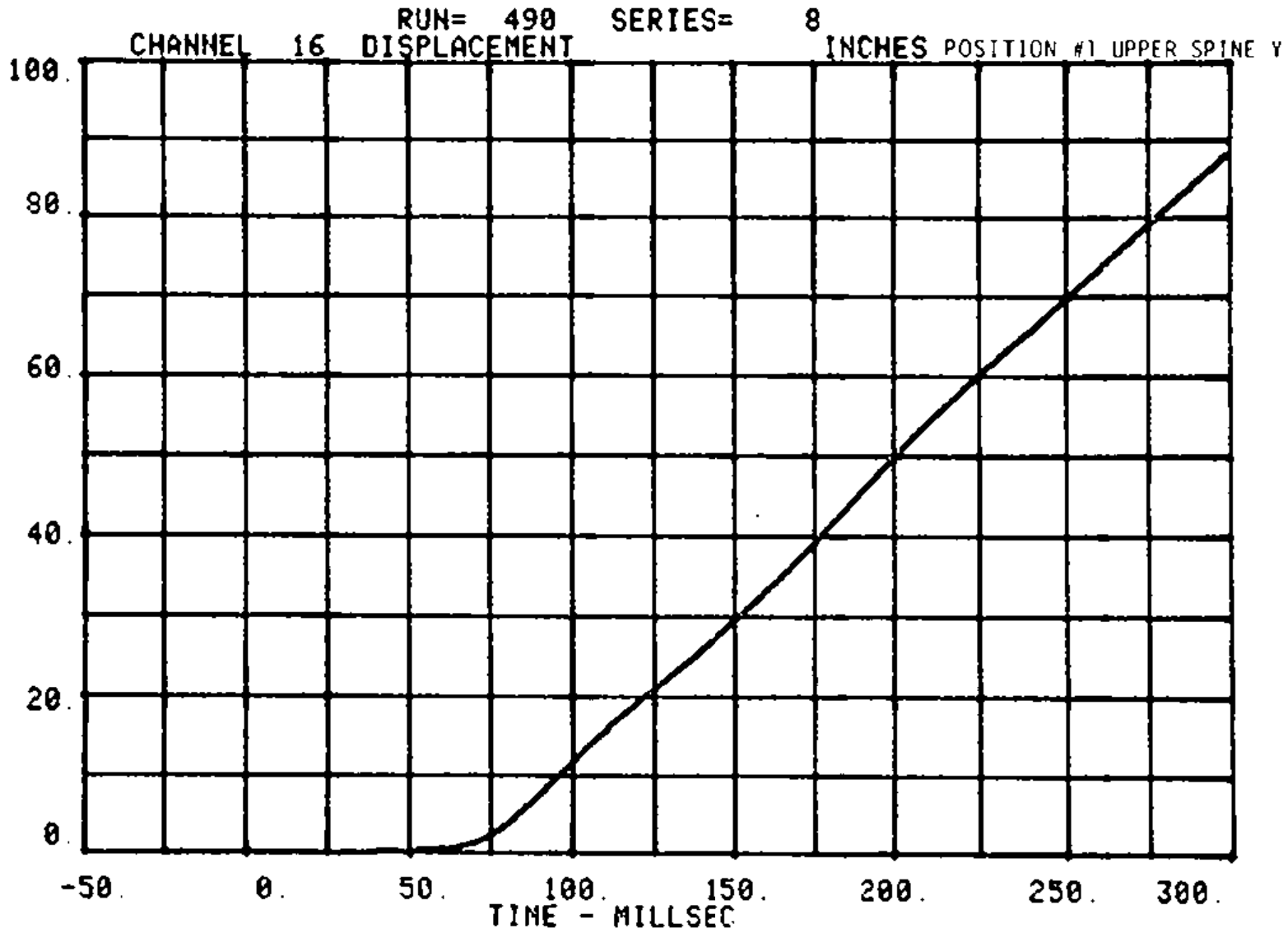

RUN= 490 SERIES= 8
CHANNEL 15 VEH#2 POS#1 HEAD Z G'S
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

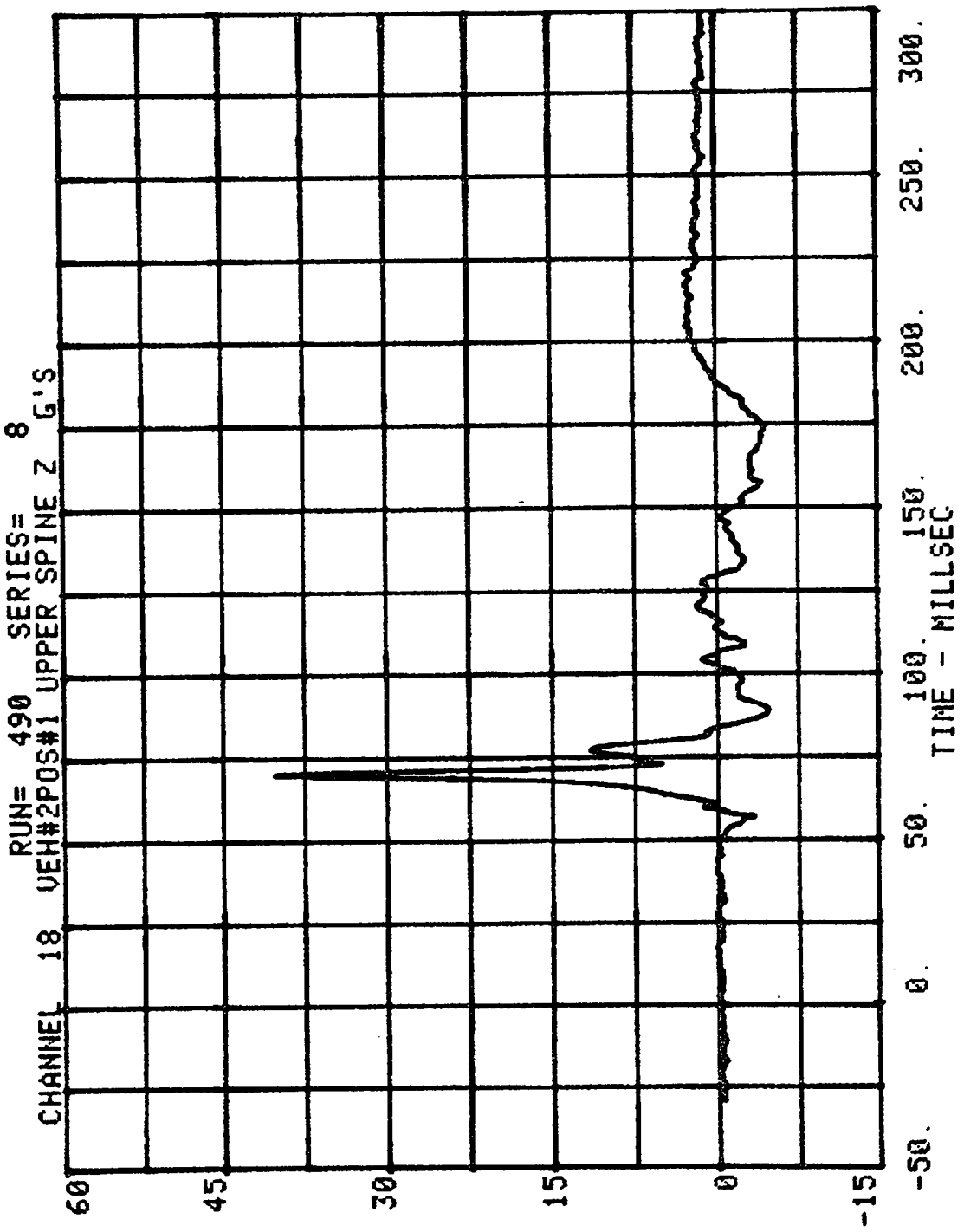

CHANNEL 1 VEH#2 POS#1 HEAD R
RUN= 490 SERIES= 8
G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

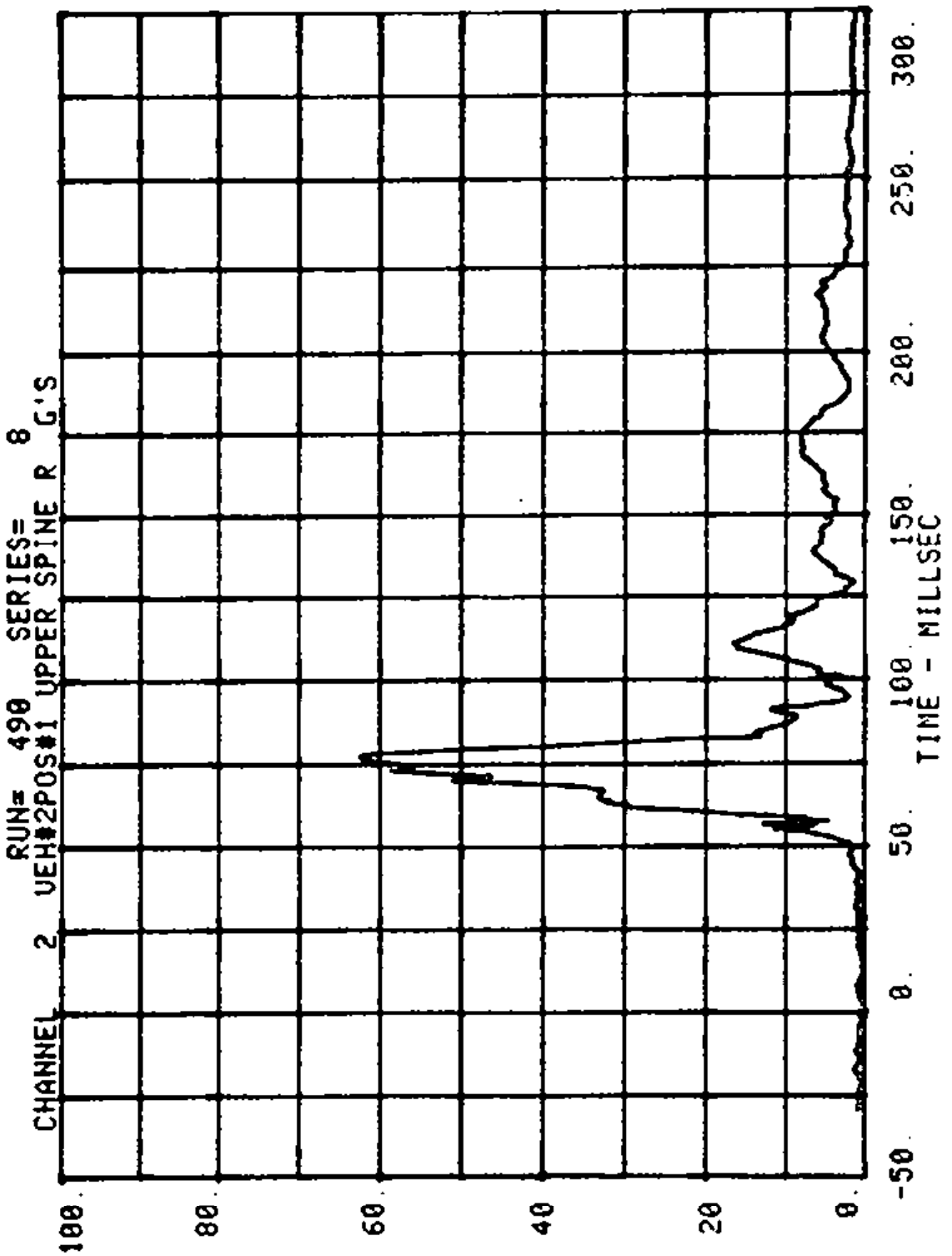

RUN= 490 SERIES= 8
CHANNEL 16 VEH#2POS#1 UPPER SPINE X G'S
30
20
10
0
-10
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

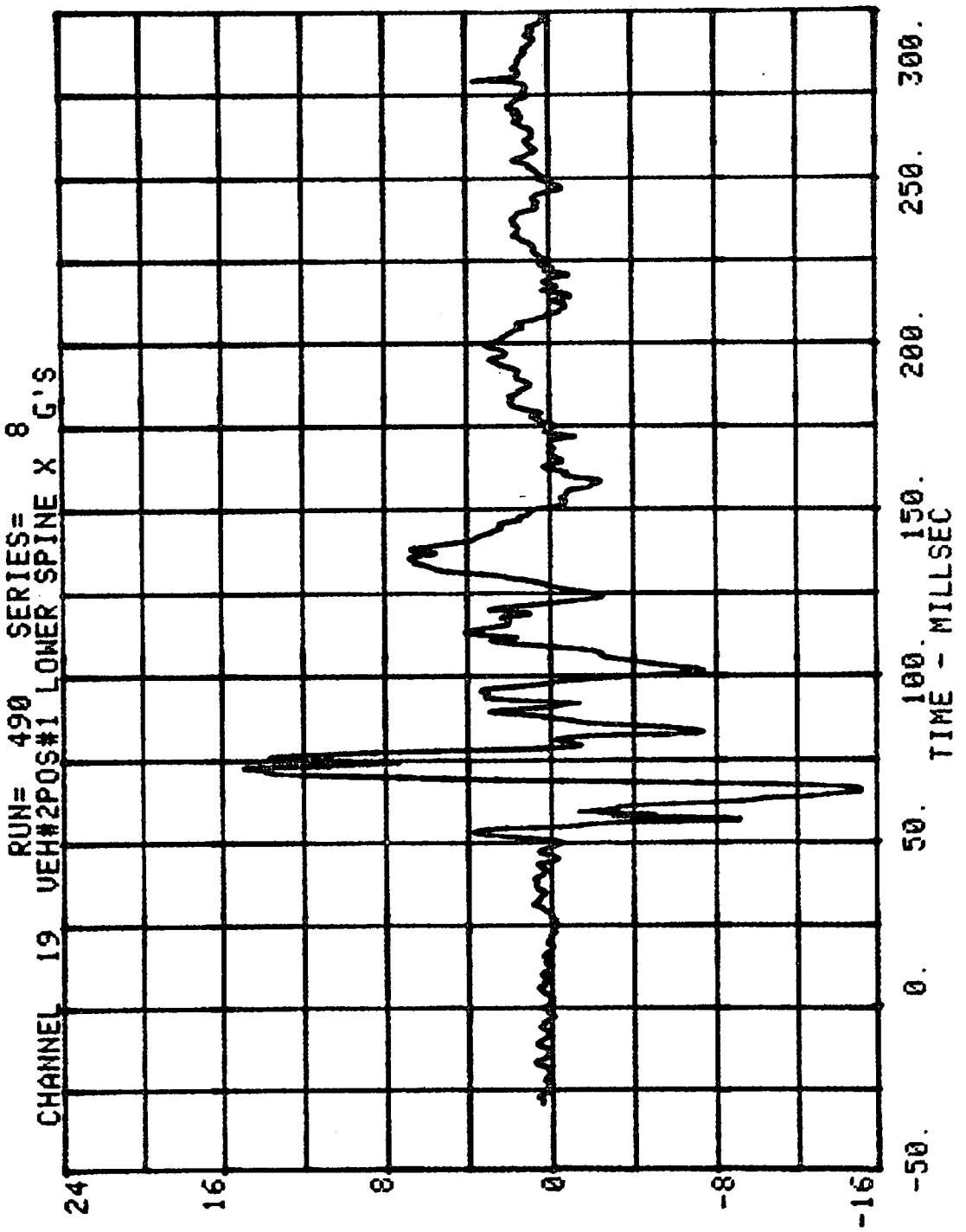

RUN= 490 SERIES= 8
CHANNEL 17 VEH#2POS#1 UPPER SPINE Y G'S
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300
TIME - MILLSEC

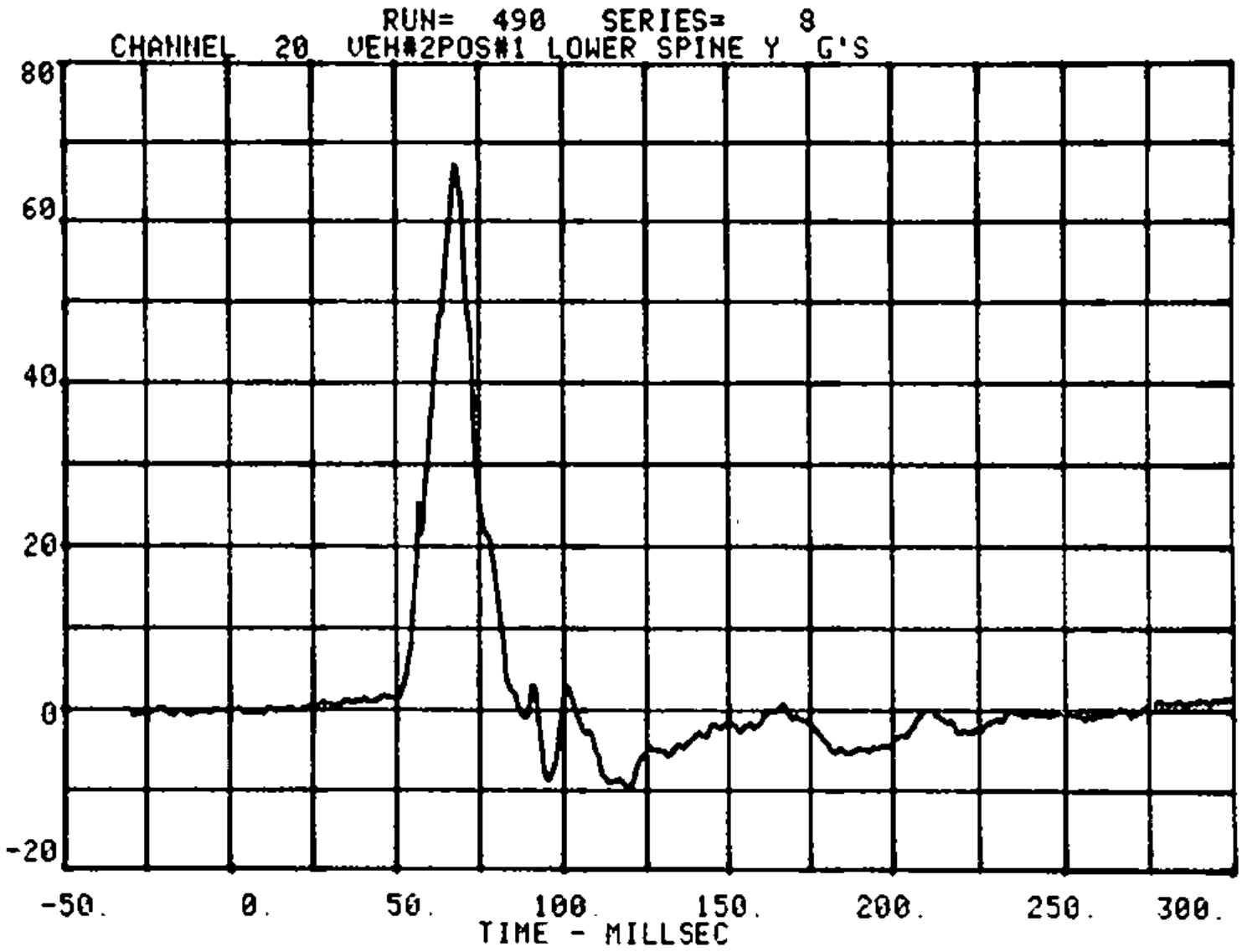

CHANNEL 15 VELOCITY
RUN= 490 SERIES= 8
MPH POSITION #1 UPPER SPINE Y
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

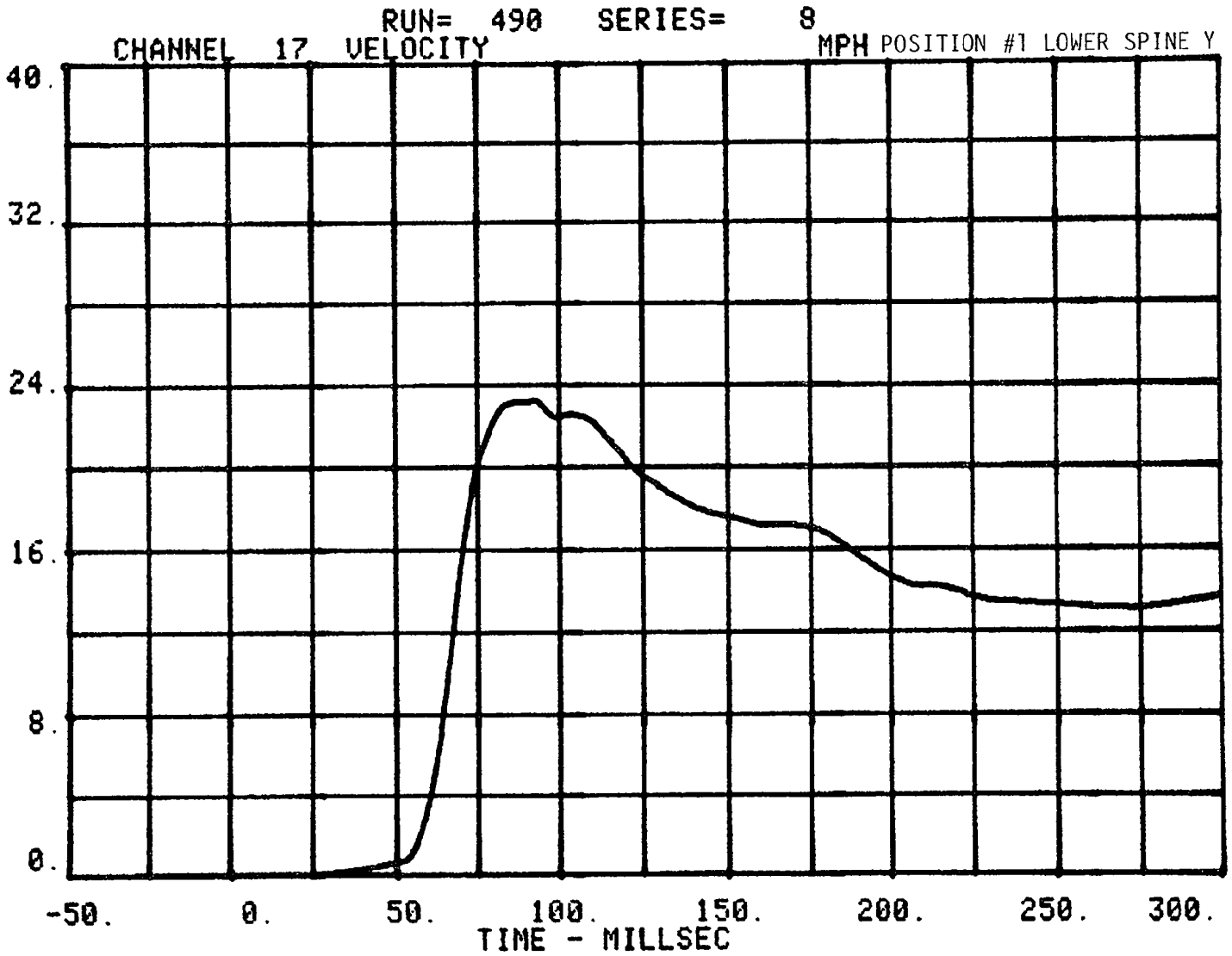

RUN= 490 SERIES= 8
CHANNEL 16 DISPLACEMENT INCHES POSITION #1 UPPER SPINE Y
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

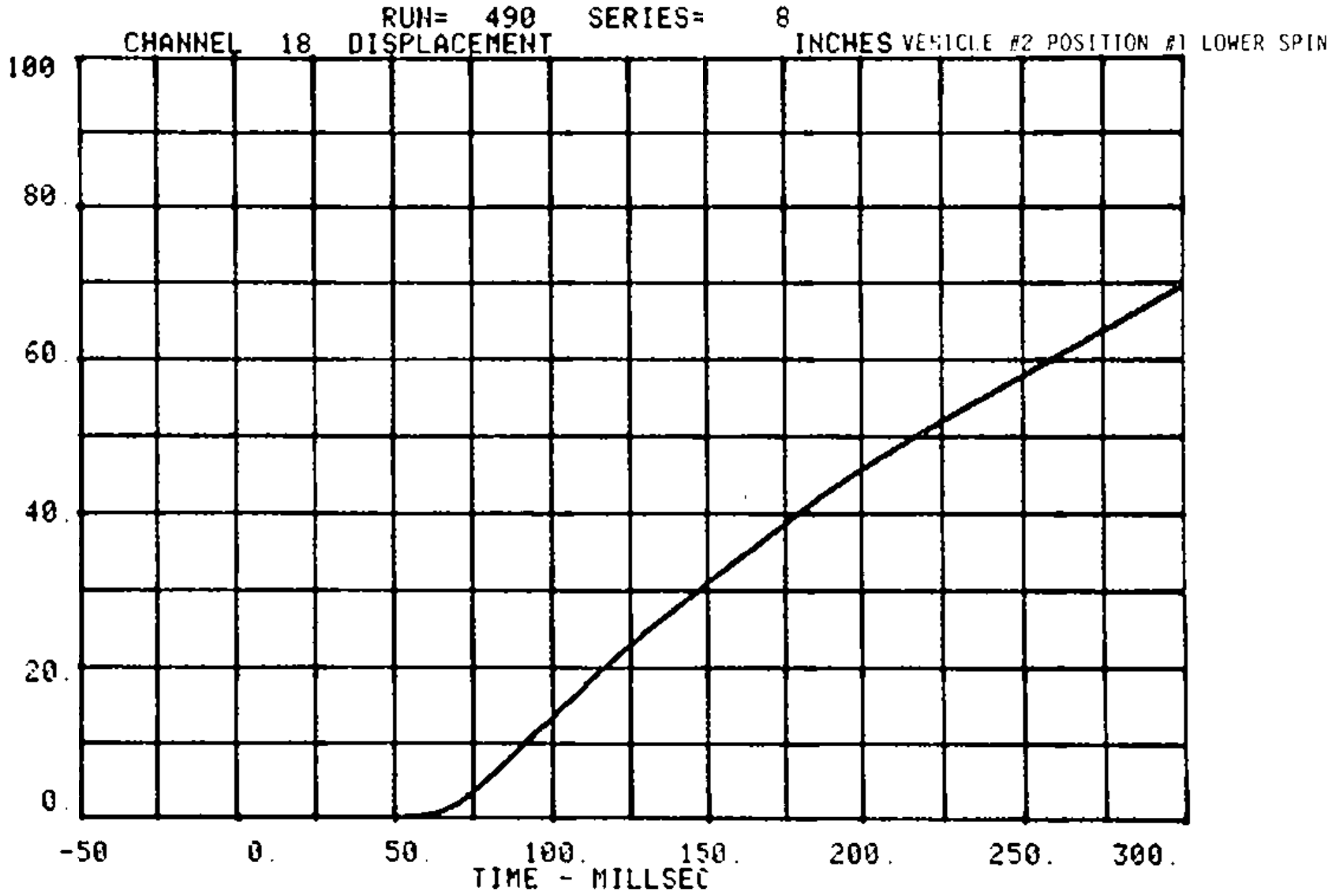

CHANNEL 18 VEH#2POS#1 UPPER SPINE Z
RUN= 490 SERIES= 8
G'S
60
45
30
15
0
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

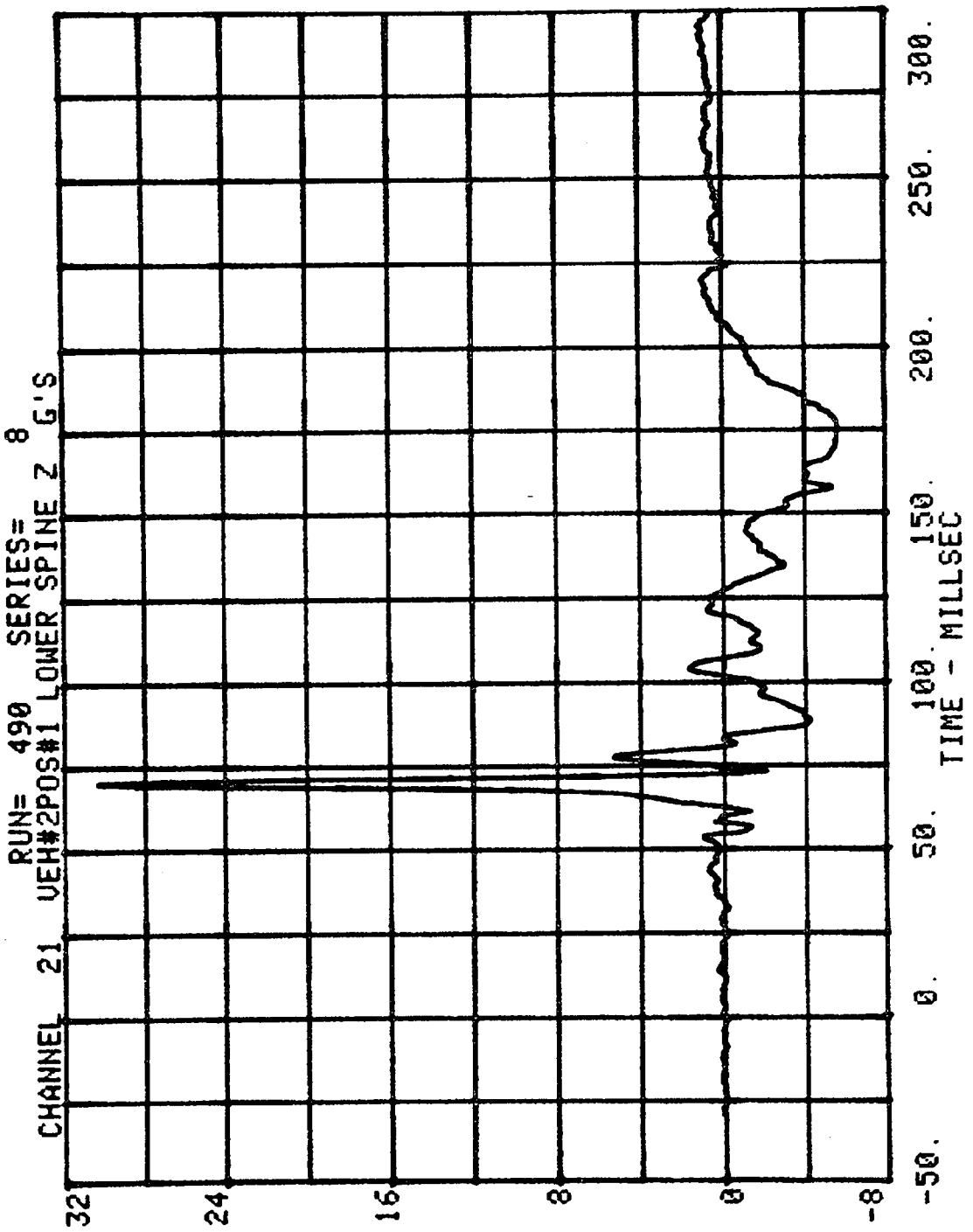

RUN= 490 SERIES= 8
CHANNEL 2 VEH#2POS#1 UPPER SPINE R G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

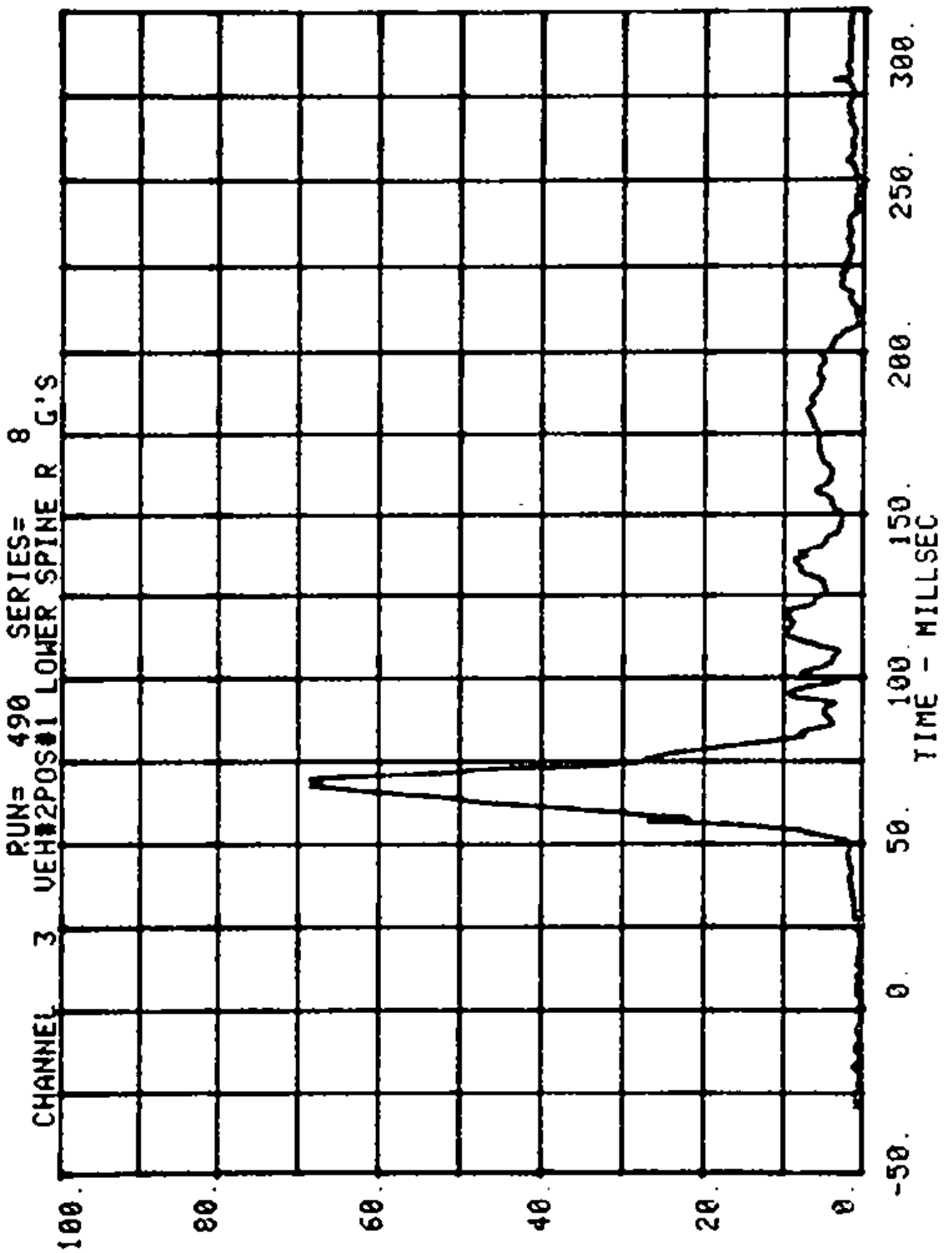

CHANNEL 19 VEH#2POS#1 LOWER SPINE X G'S
RUN= 490 SERIES= 8
24
16
8
0
-8
-16
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

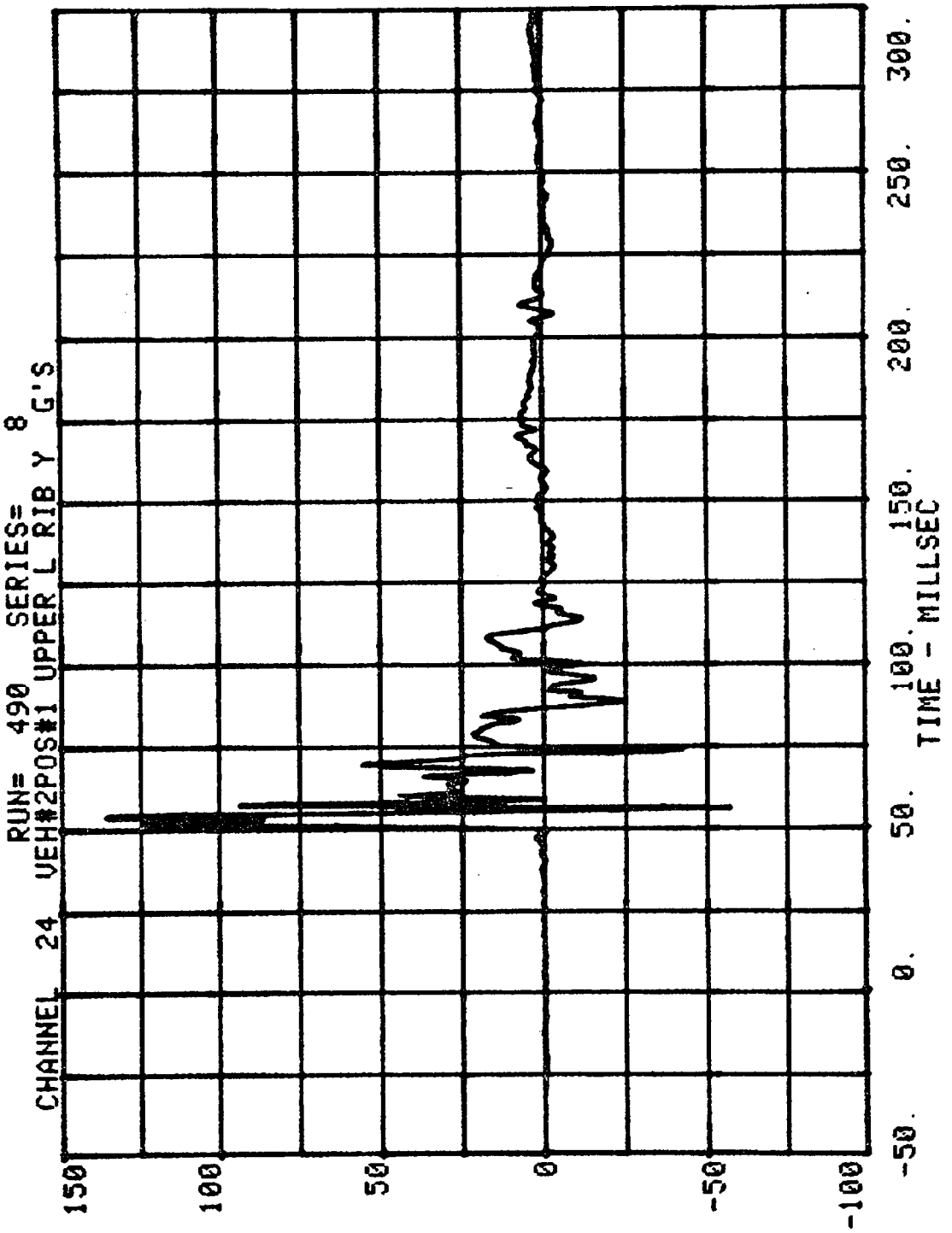

RUN= 490 SERIES= 8
CHANNEL 20 VEH#2POS#1 LOWER SPINE Y G'S
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

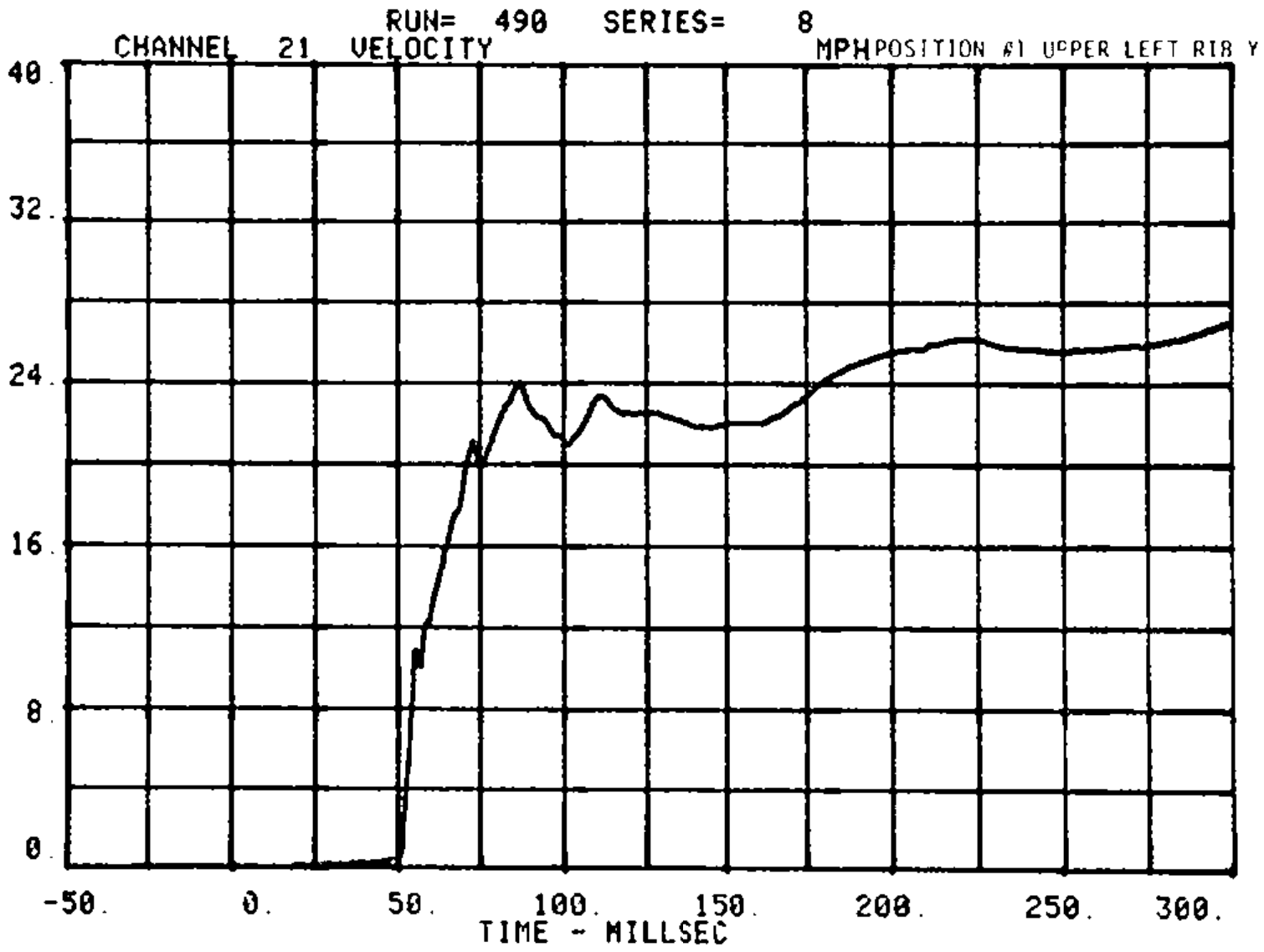

RUN= 490 SERIES= 8
CHANNEL 17 VELOCITY
MPH POSITION #1 LOWER SPINE Y
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

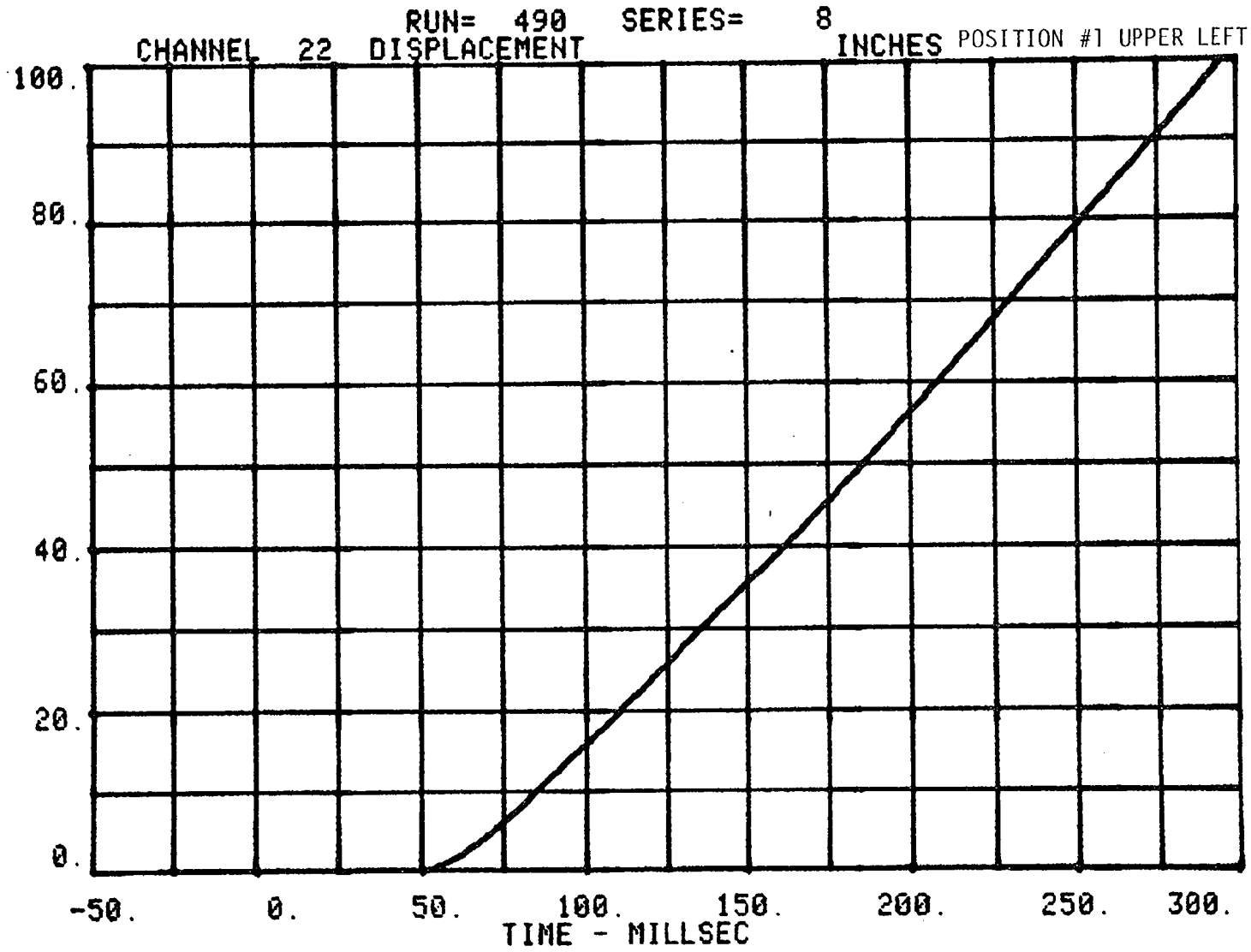

RUN= 490 SERIES= 8
CHANNEL 18 DISPLACEMENT
INCHES VEHICLE #2 POSITION #1 LOWER SPIN
100
80.
60.
40.
20.
0.
-50
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

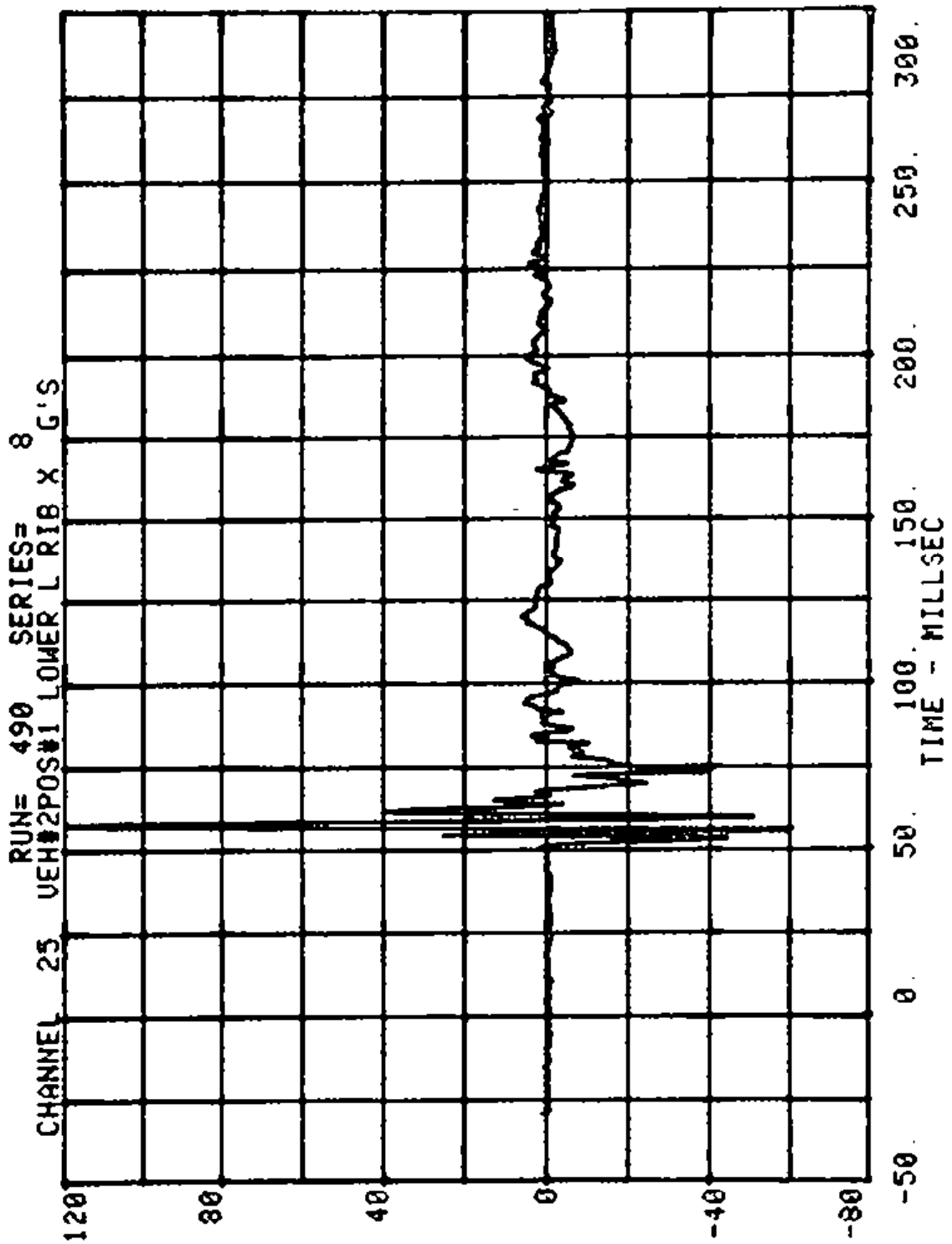

CHANNEL 21 VEH#2POS#1 LOWER SPINE Z G'S
RUN= 490 SERIES= 8
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

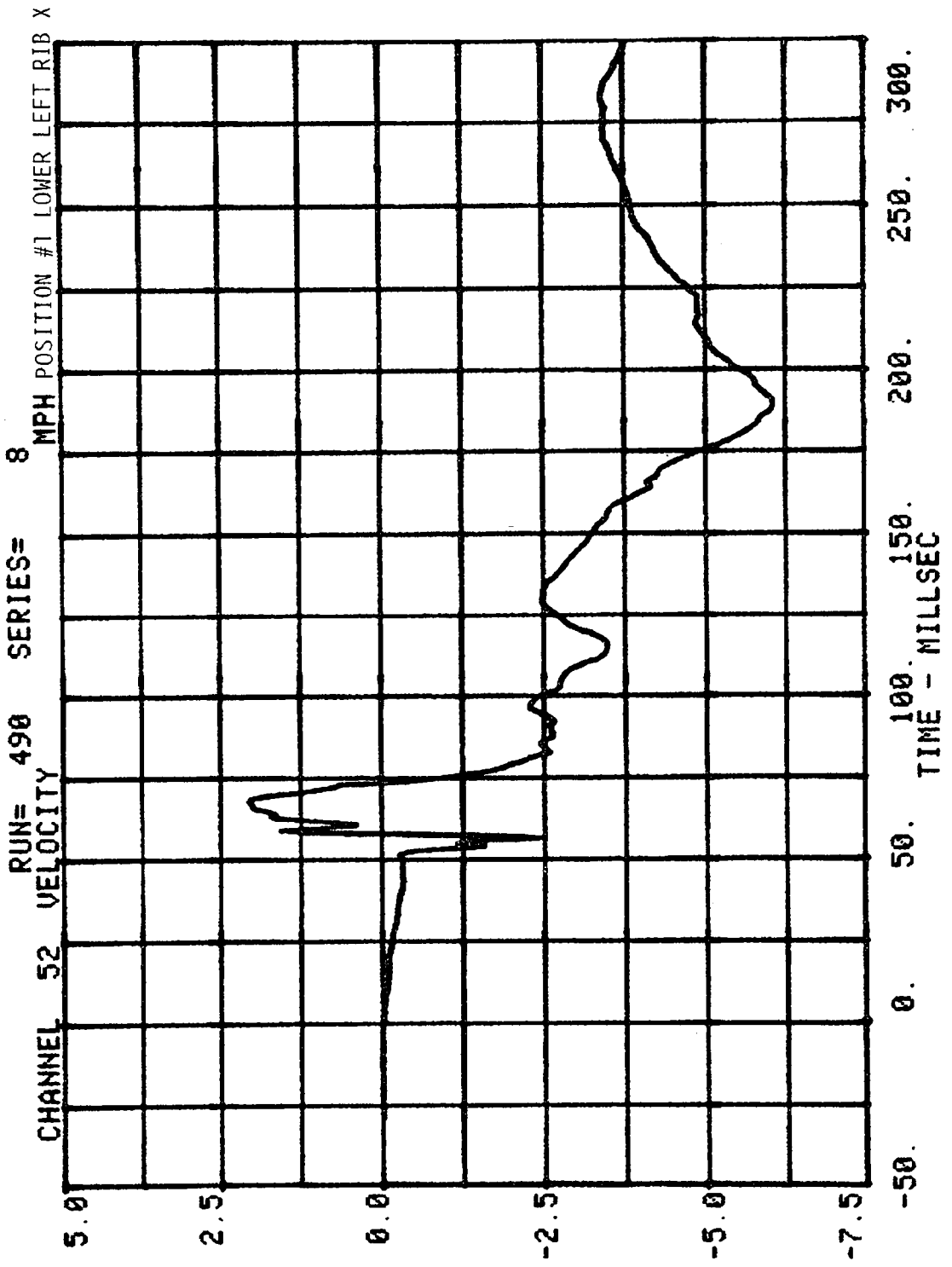

CHANNEL 3 RUN= 490 SERIES= 8
VEH#2POS#1 LOWER SPINE R G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

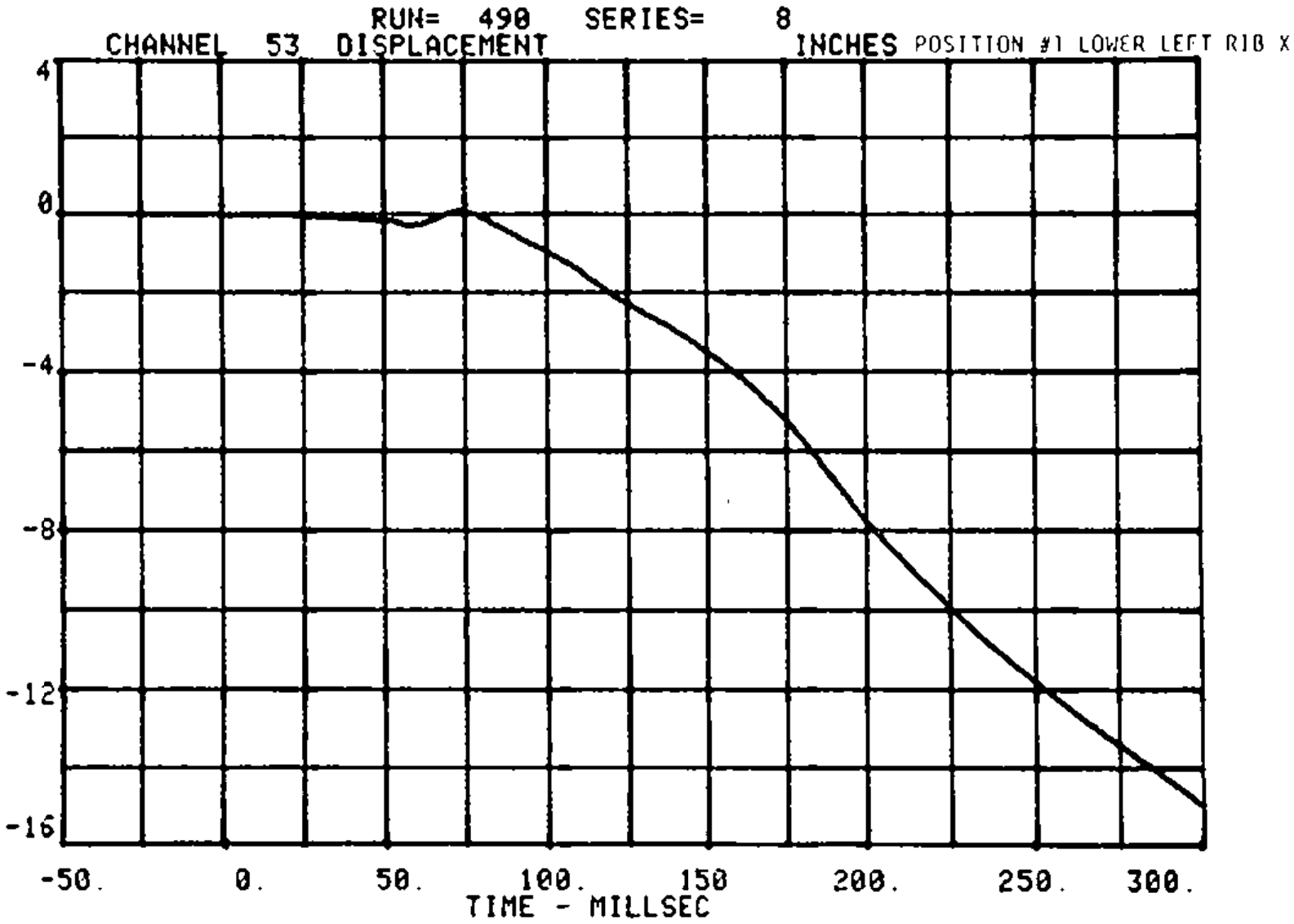

CHANNEL 24 VEH#2POS#1 UPPER L RIB Y G'S
RUN= 490 SERIES= 8
150
100
50
0
-50
-100
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 21 VELOCITY
MPH POSITION #1 UPPER LEFT RIB Y
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 22 DISPLACEMENT INCHES POSITION #1 UPPER LEFT RIB Y
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

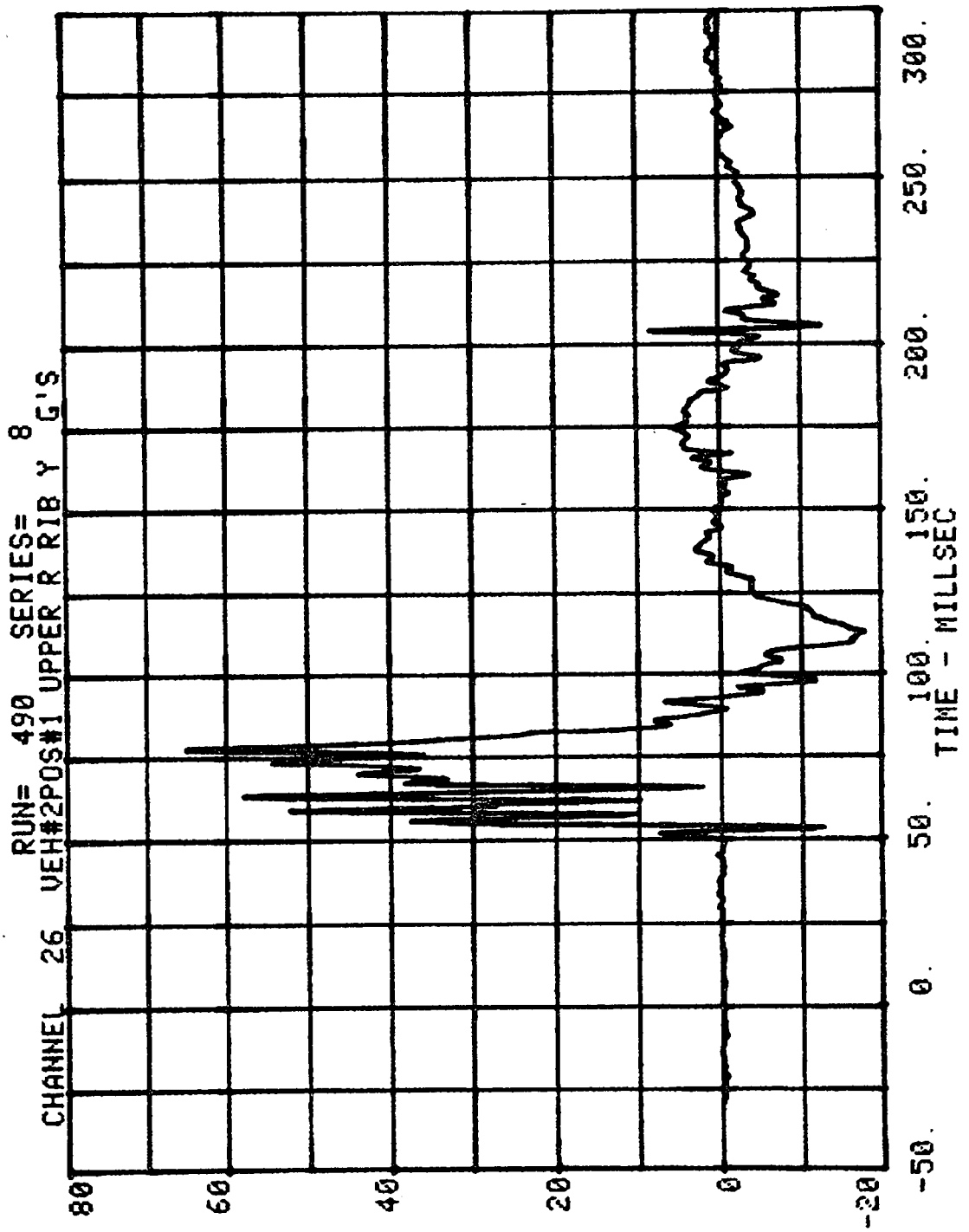

CHANNEL 25 VEH#2POS#1 LOWER L RIB X G'S
RUN= 490 SERIES= 8
120
80
40
0
-40
-80
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

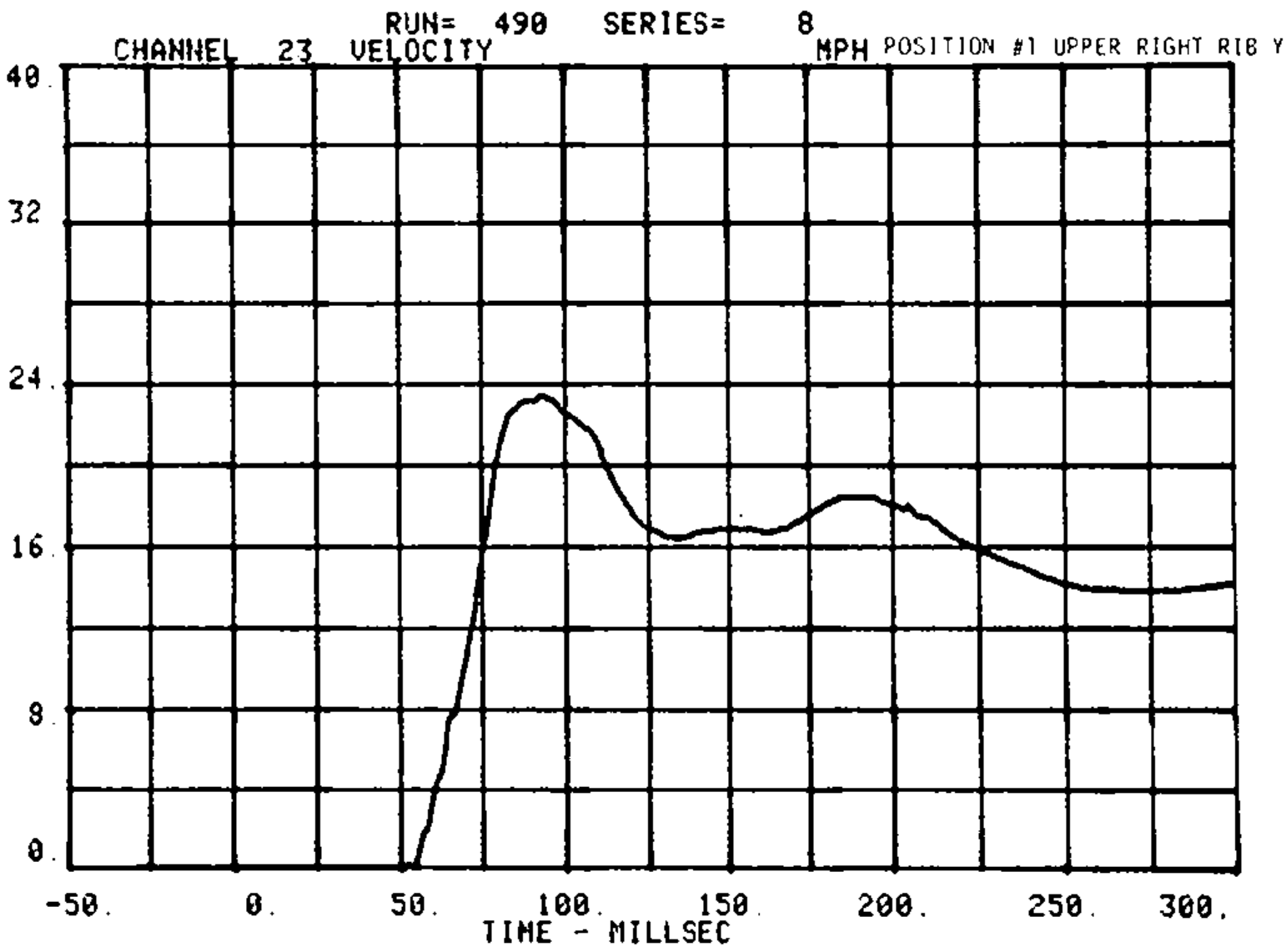

CHANNEL 52 VELOCITY
RUN= 490 SERIES= 8
MPH POSITION #1 LOWER LEFT RIB X
5.0
2.5
0.0
-2.5
-5.0
-7.5
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

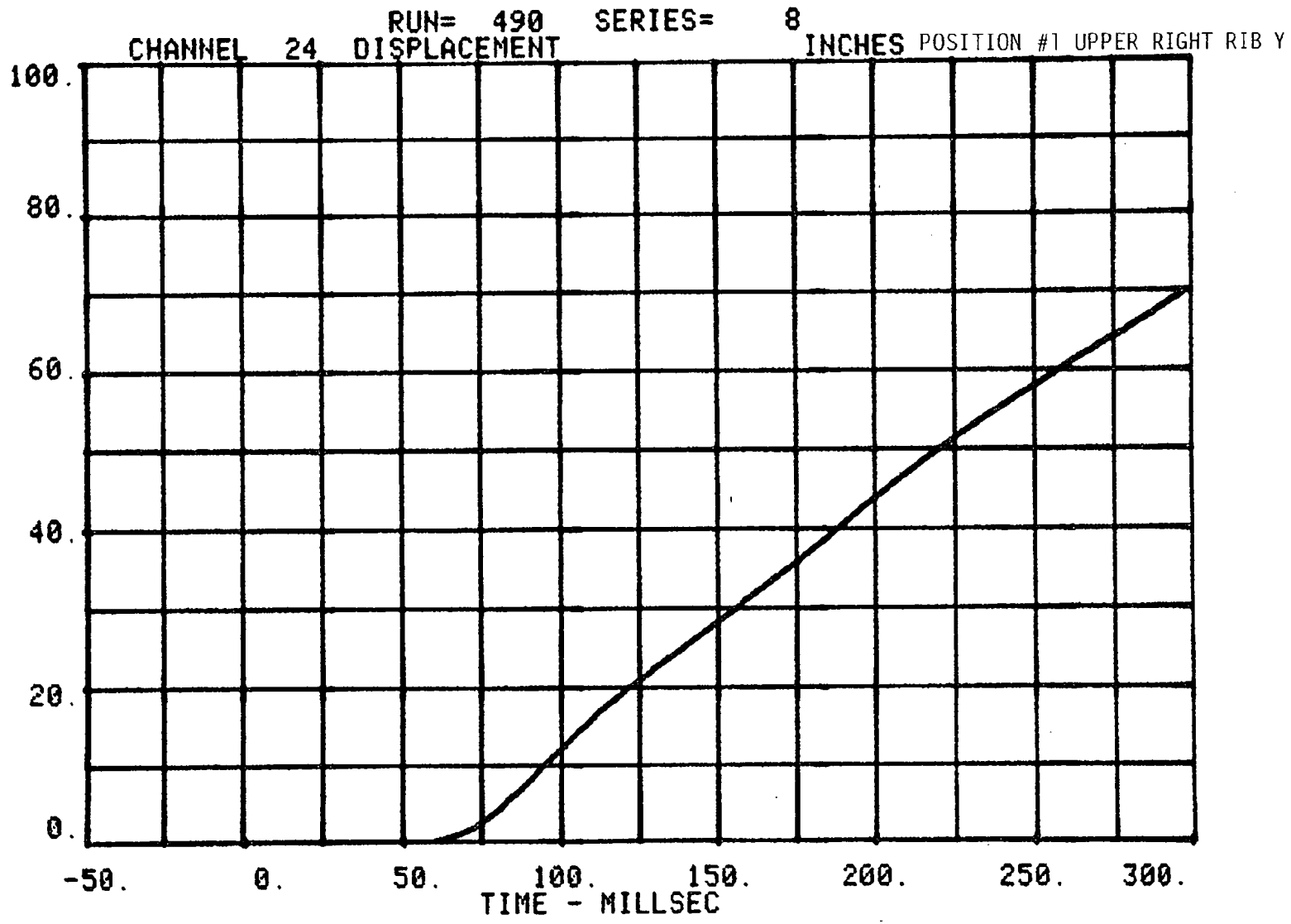

RUN= 490 SERIES= 8
CHANNEL 53 DISPLACEMENT INCHES POSITION #1 LOWER LEFT RIB X
4
0
-4
-8
-12
-16
-50.
0.
50.
100.
150
200.
250.
300.
TIME - MILLSEC

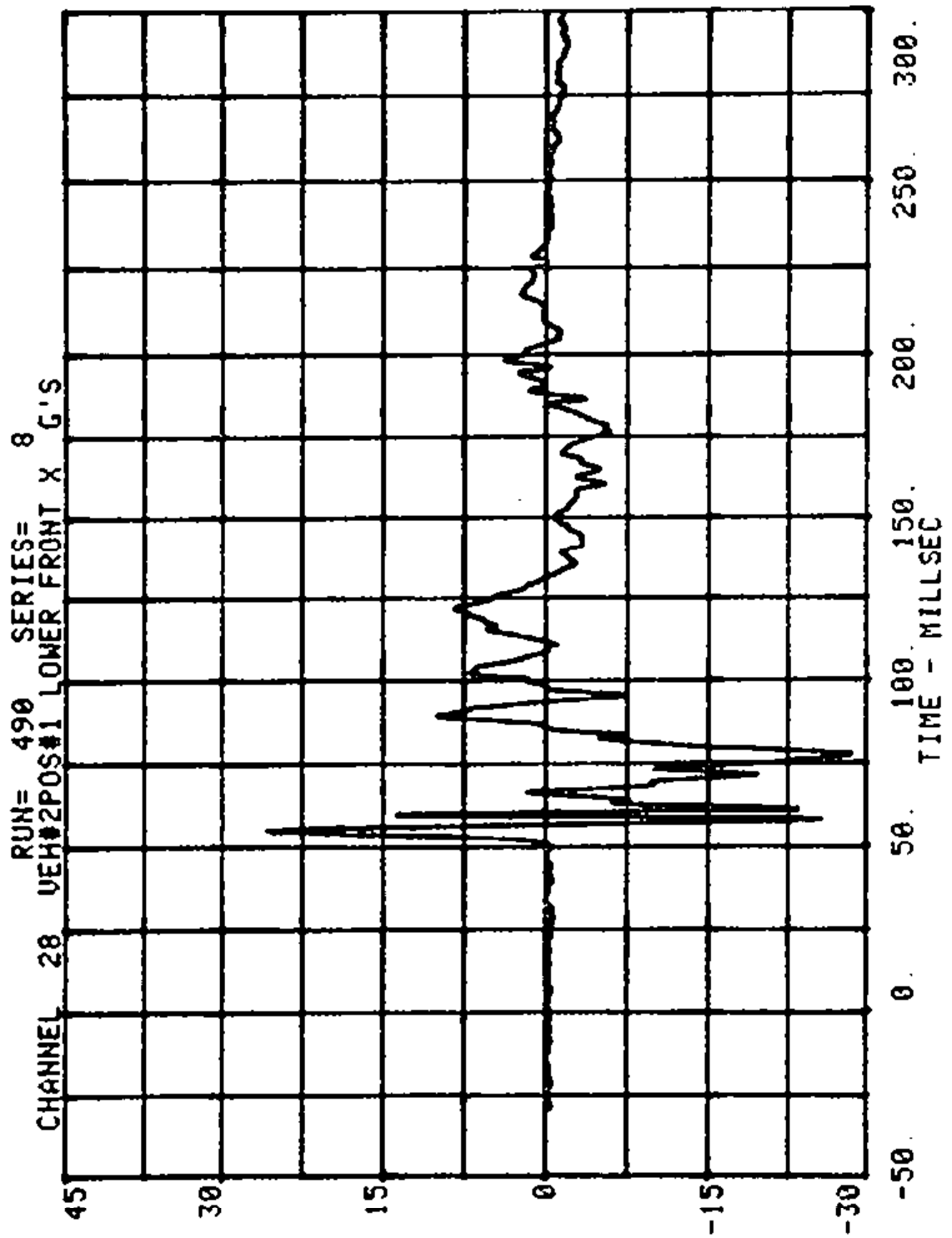
1:5

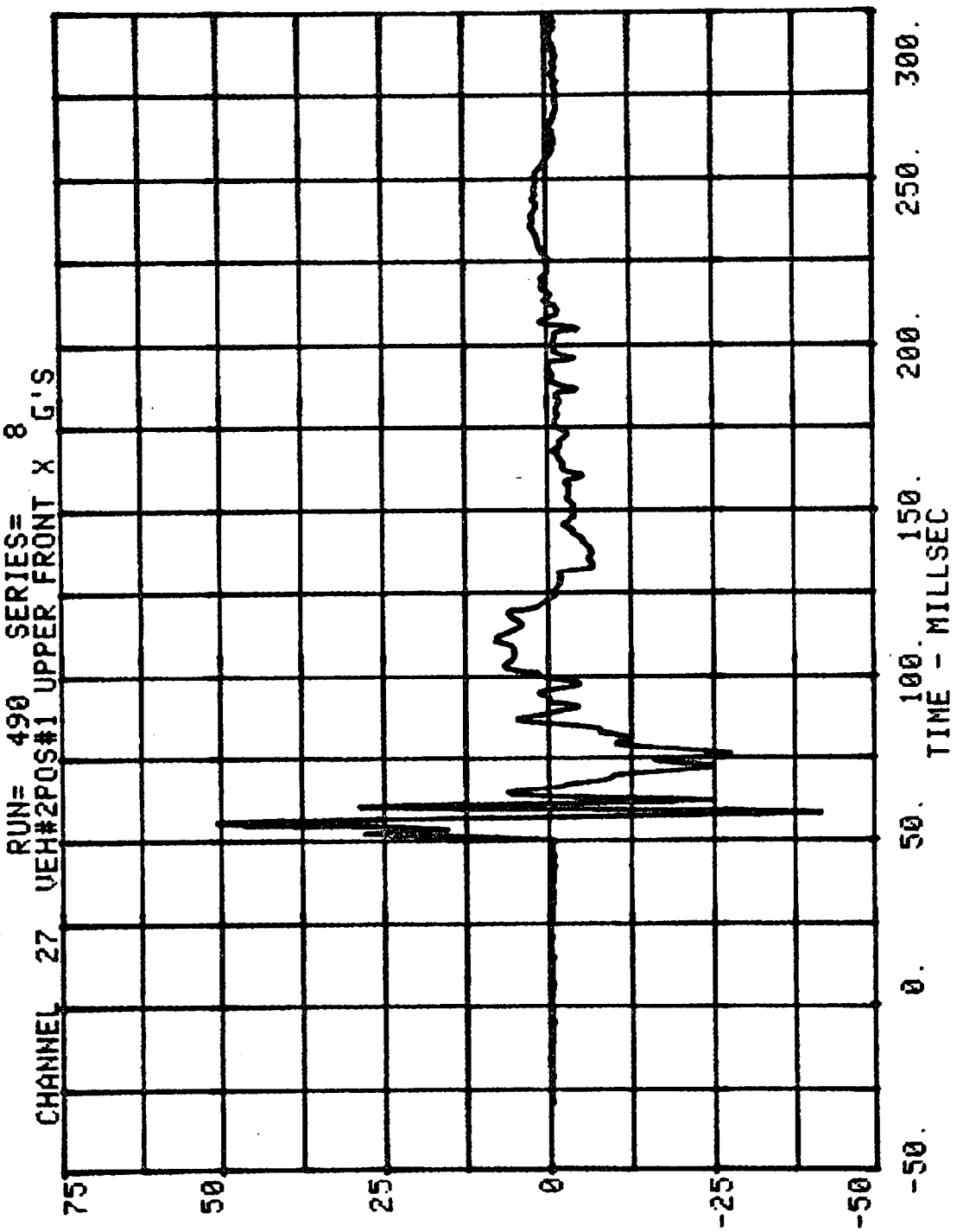
6466-1-S

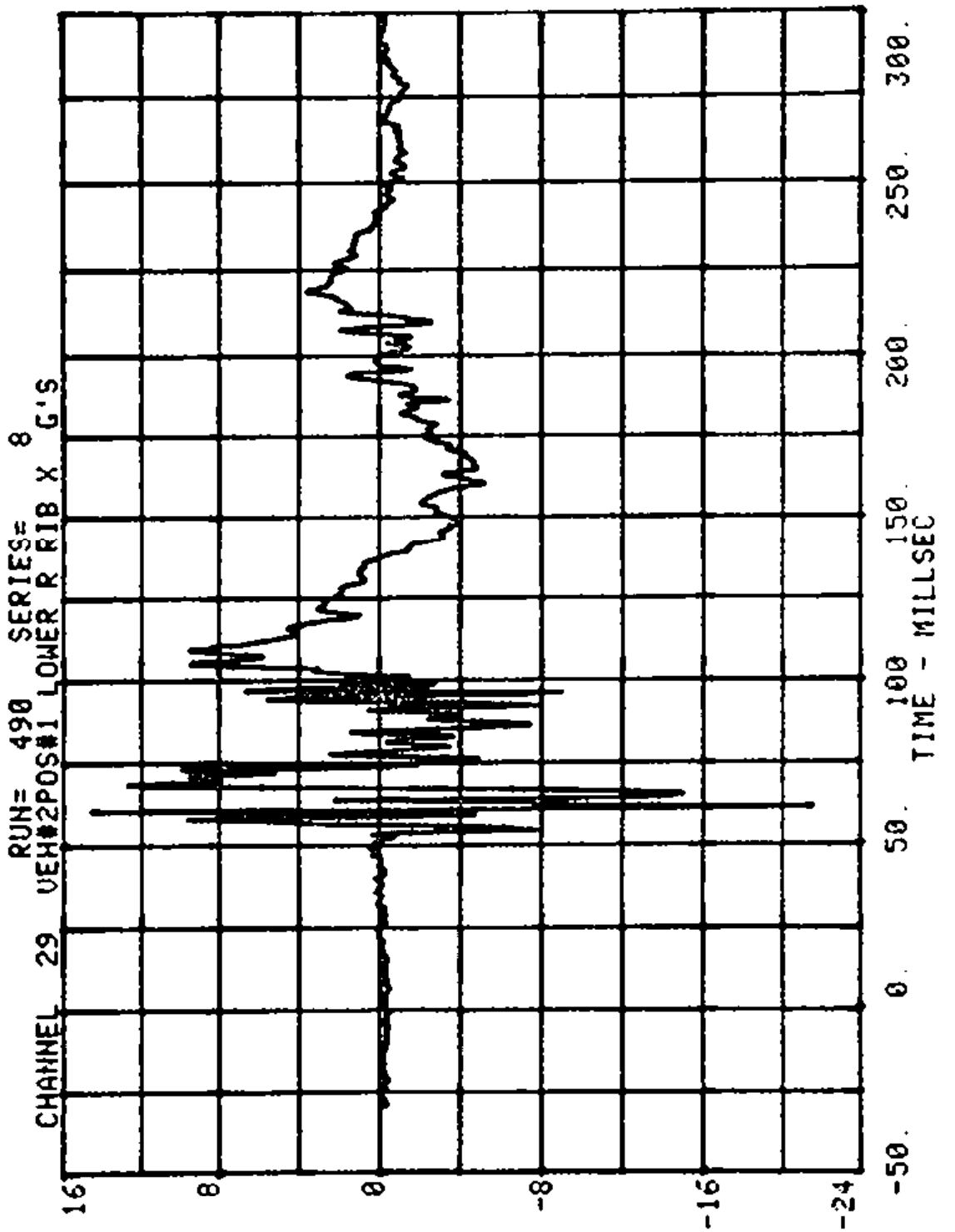

CHANNEL 26 VEH#2POS#1 UPPER R RIB Y G'S
RUN= 490 SERIES= 8
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

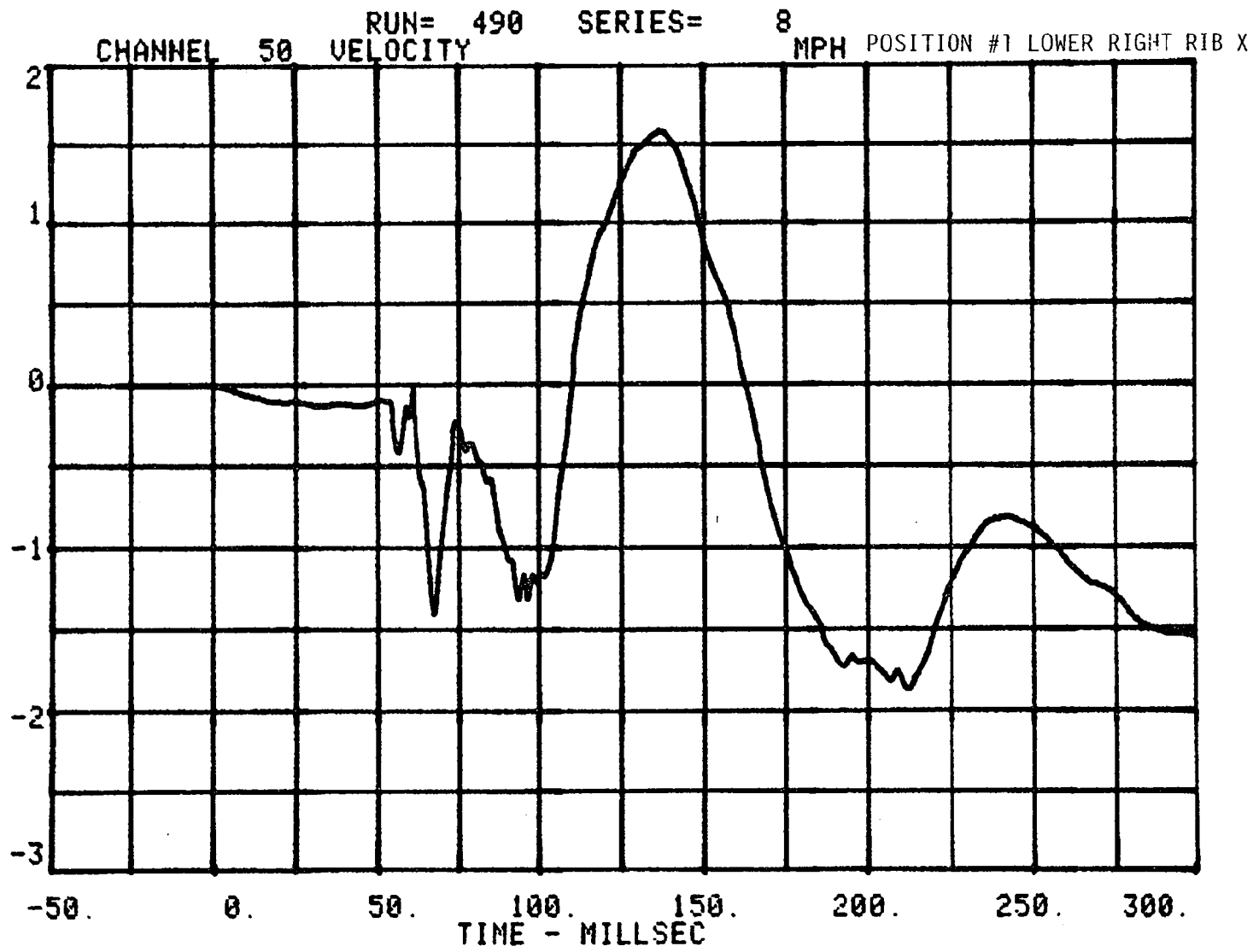

RUN= 490 SERIES= 8
CHANNEL 23 VELOCITY MPH POSITION #1 UPPER RIGHT RIB Y
40.
32
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

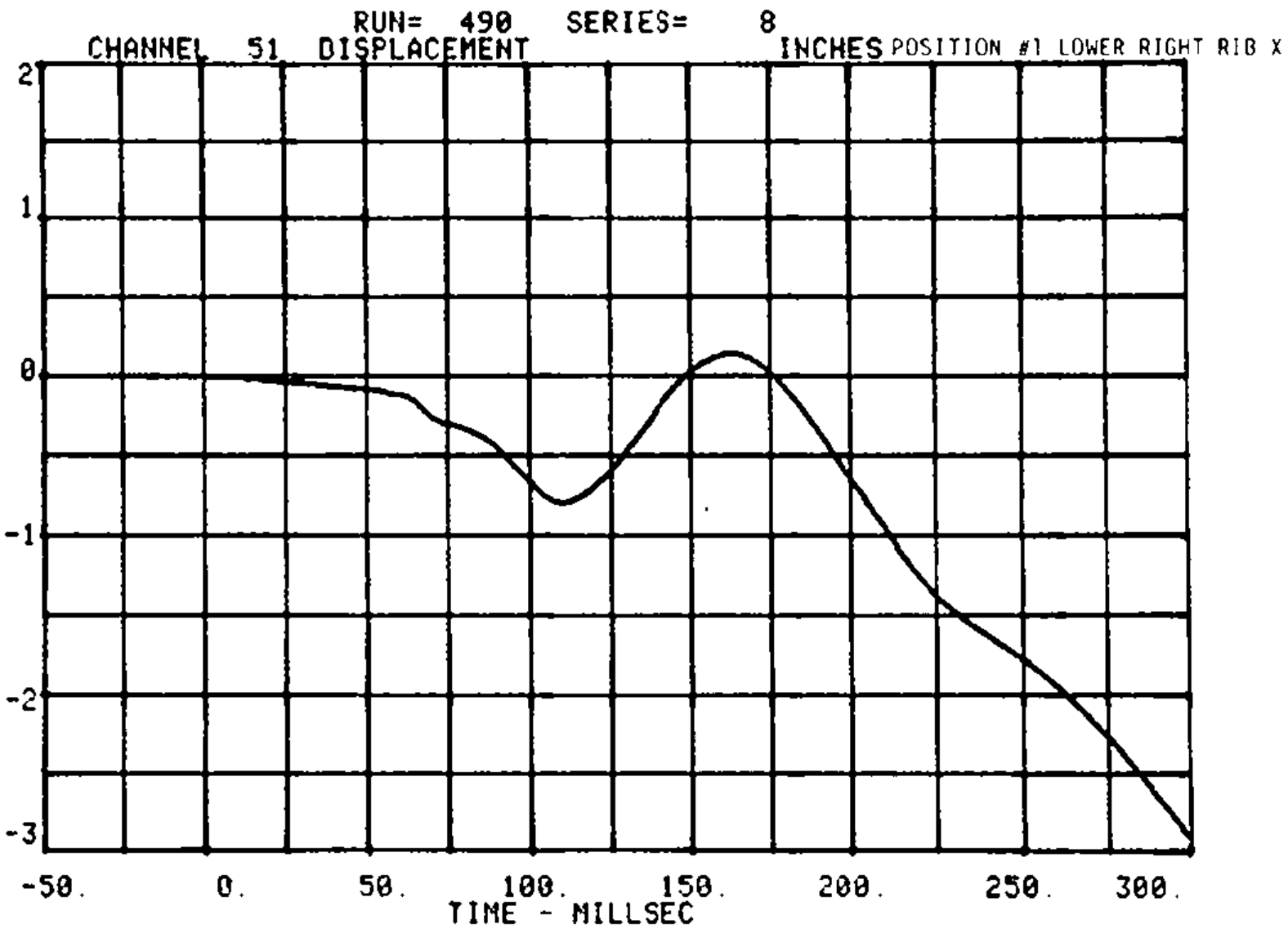

RUN= 490 SERIES= 8
CHANNEL 24 DISPLACEMENT INCHES POSITION #1 UPPER RIGHT RIB Y
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

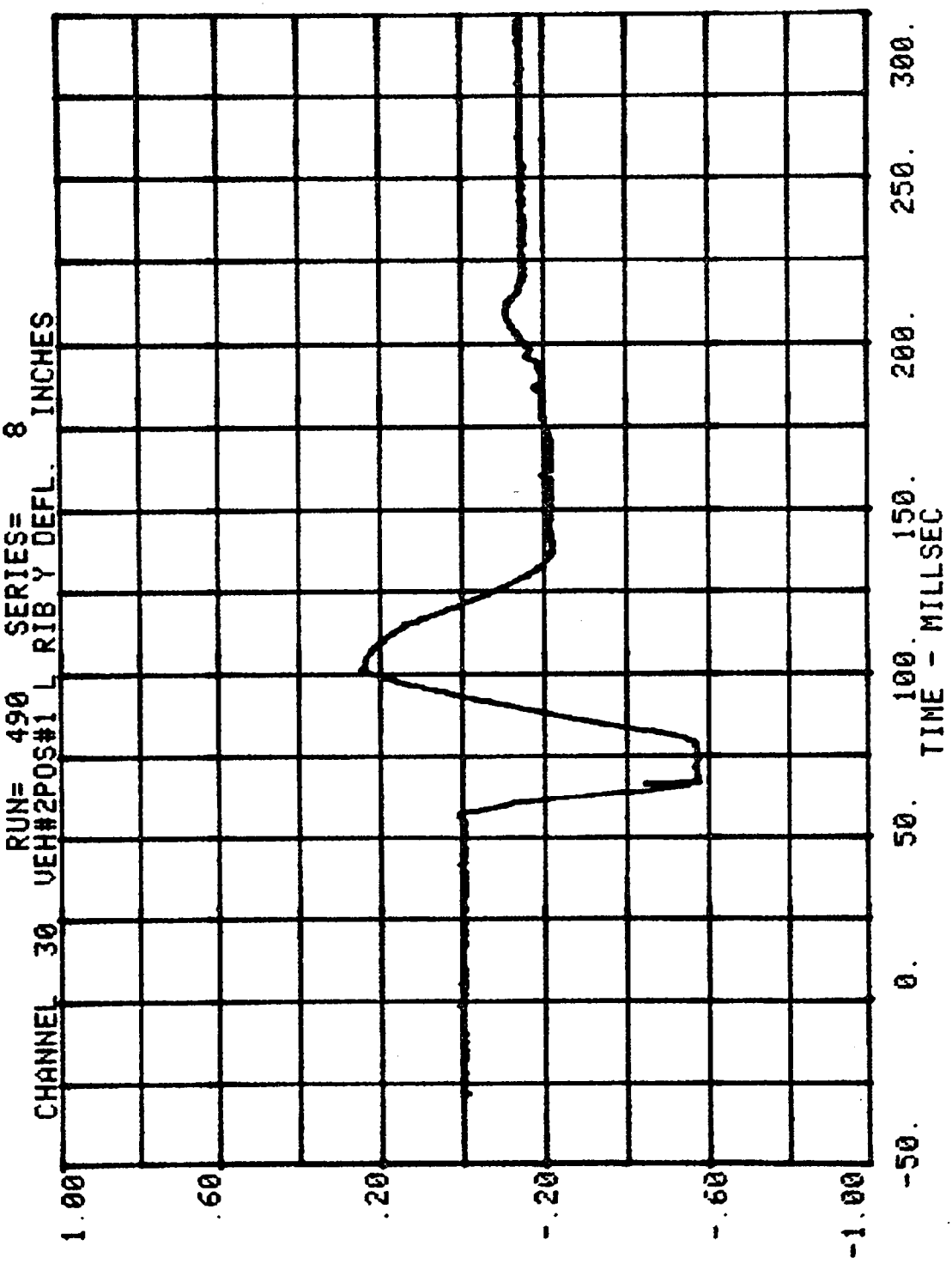

CHANNEL 28 VEH#2POS#1 LOWER FRONT X G'S
RUN= 490 SERIES= 8
45
30
15
0
-15
-30
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

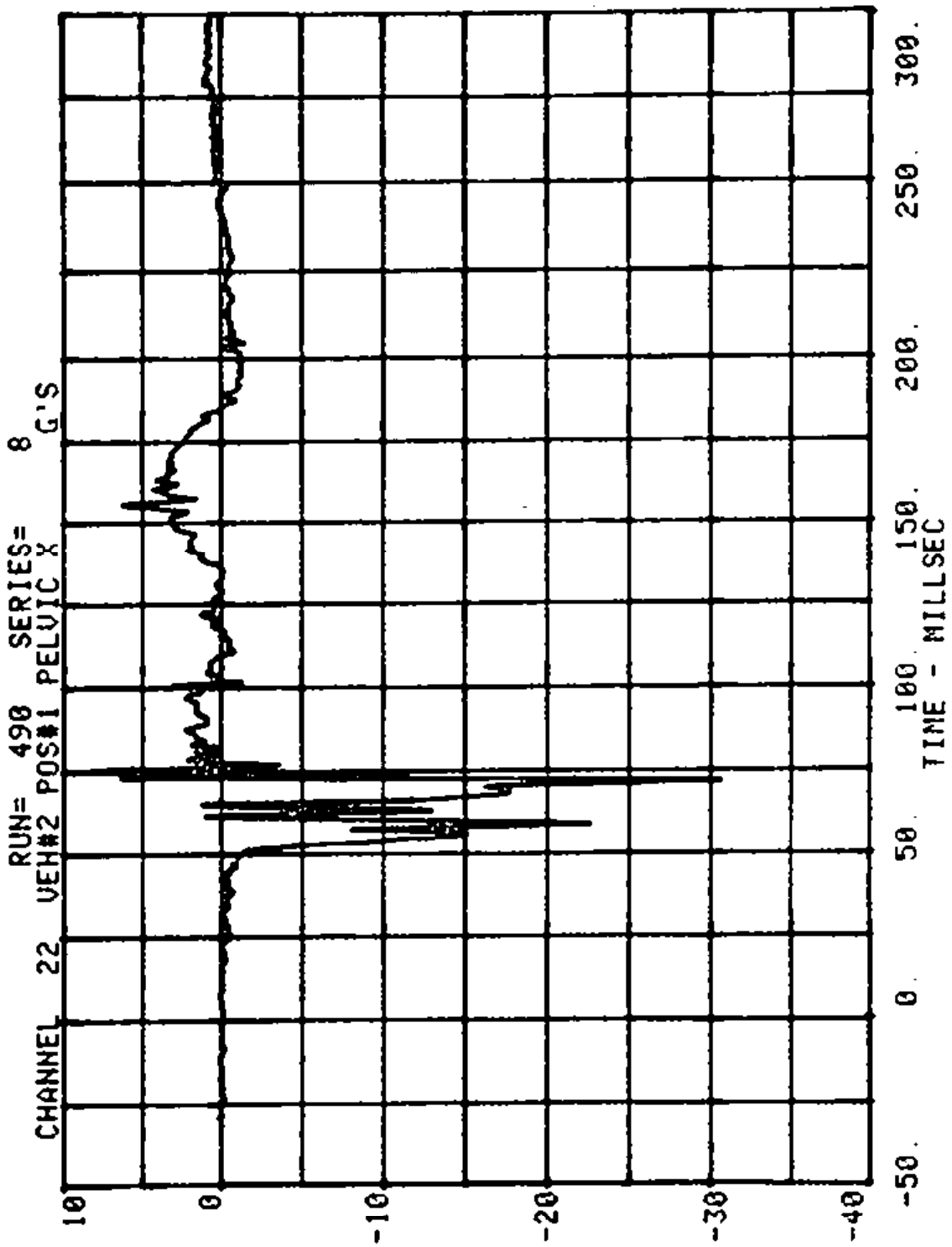

CHANNEL 27 VEH#2POS#1 UPPER FRONT X G'S
RUN= 490 SERIES= 8
75
50
25
0
-25
-50
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

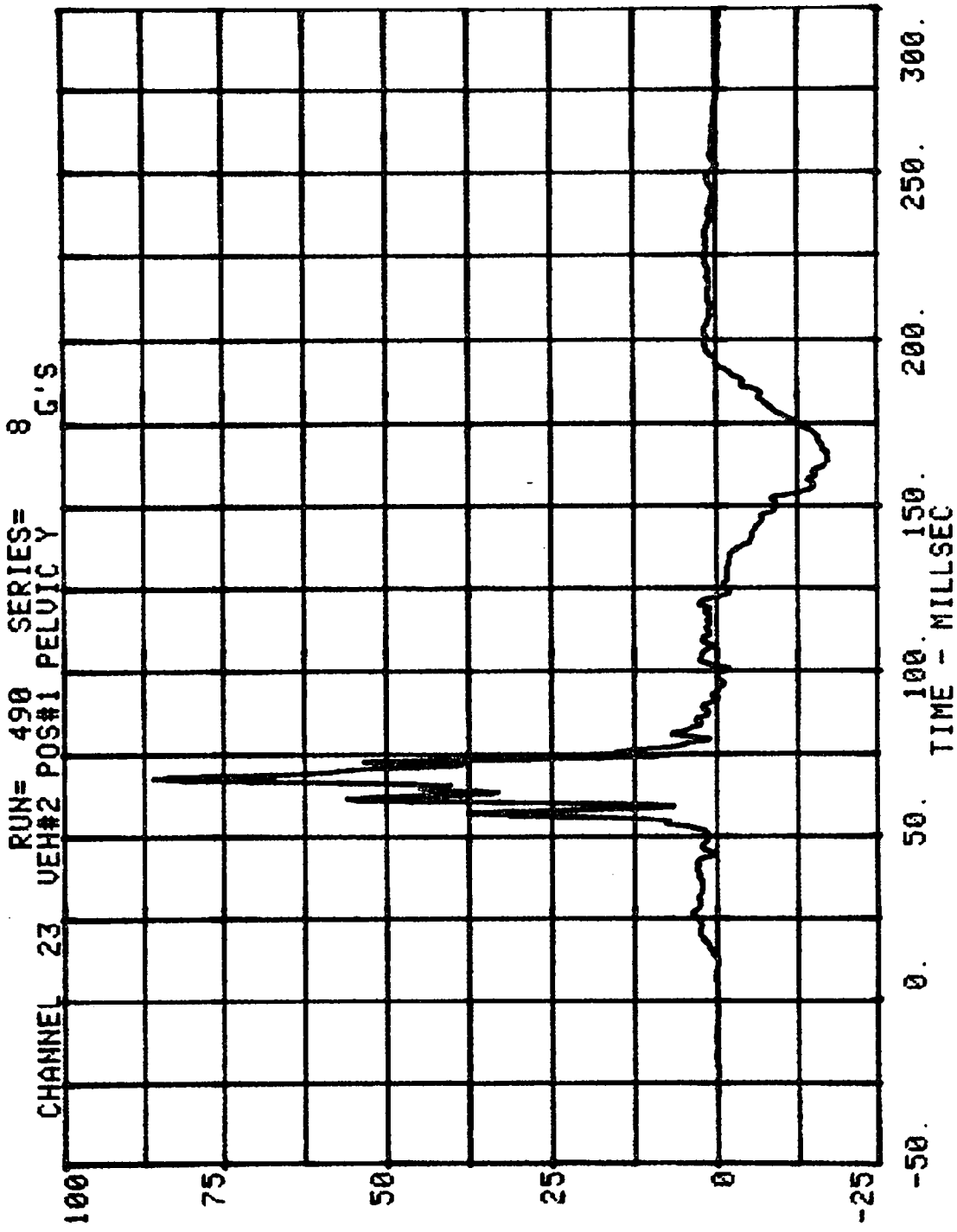

CHANNEL 29 RUN= 490 SERIES= 8
VEH#2POS#1 LOWER R RIB X G'S
16
8
0
-8
-16
-24
-50.
0.
50.
100
150
200
250.
300.
TIME - MILLSEC

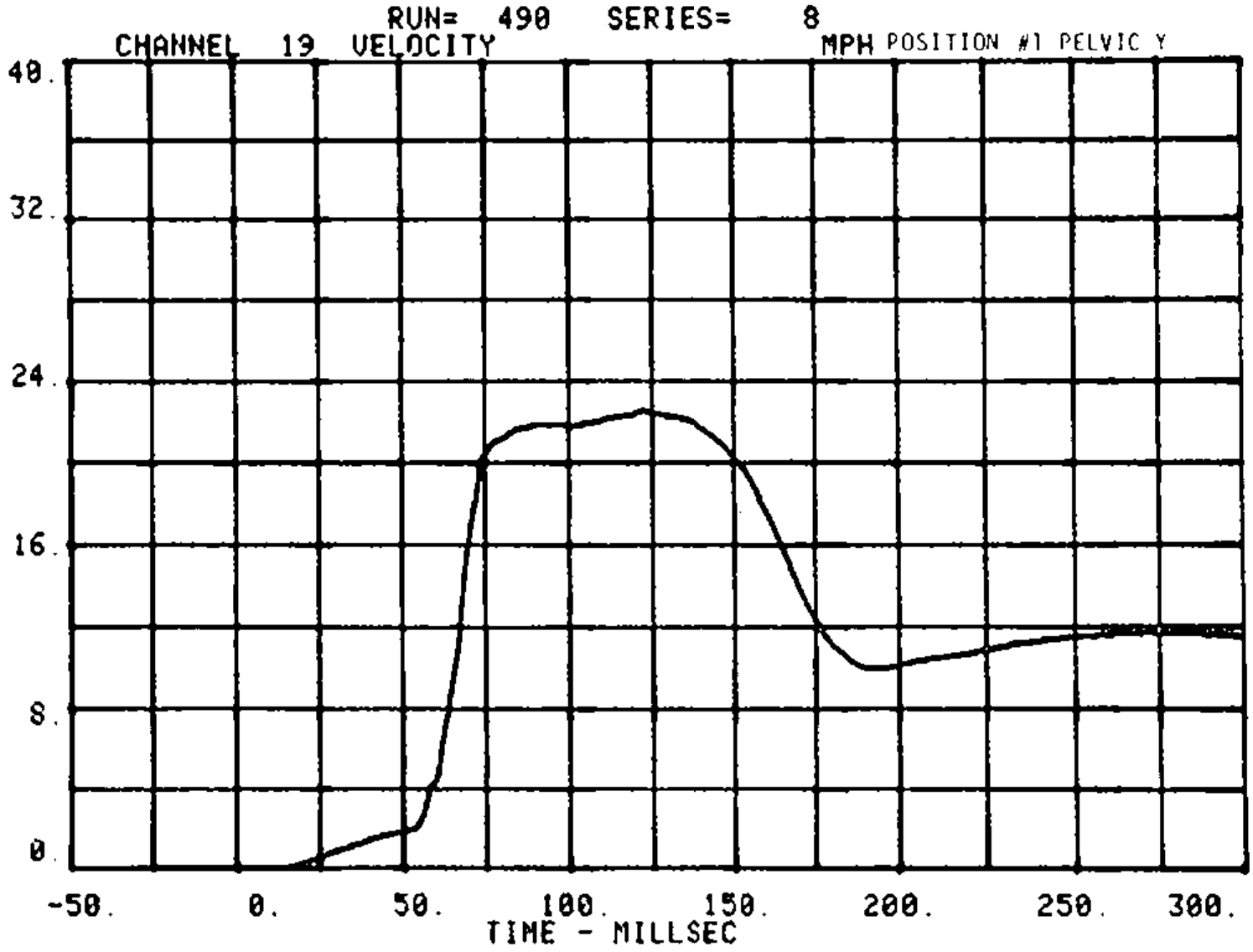

RUN= 490 SERIES= 8
CHANNEL 50 VELOCITY
MPH
POSITION #1 LOWER RIGHT RIB X
2
1
0
-1
-2
-3
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

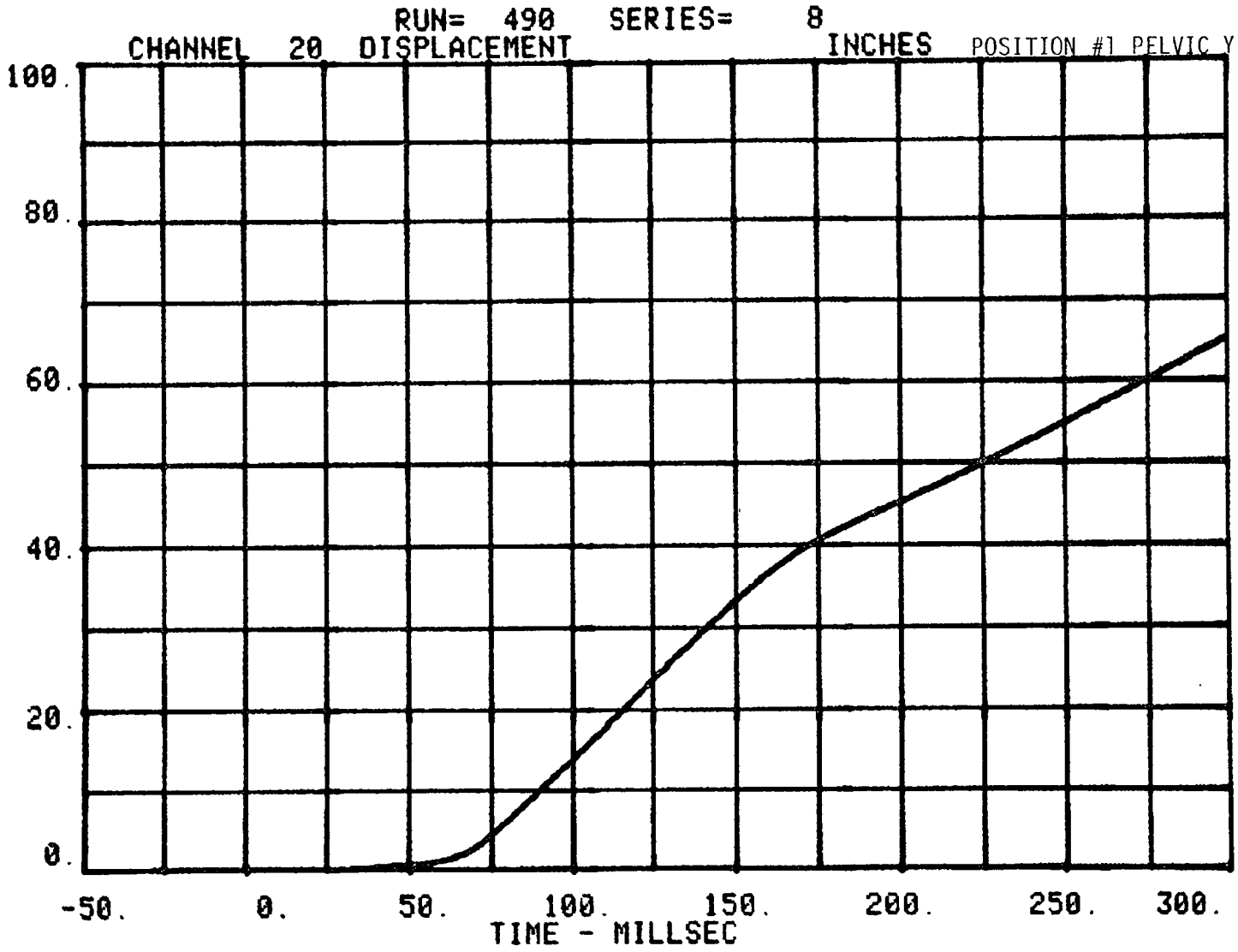

RUN= 490 SERIES= 8
CHANNEL 51 DISPLACEMENT INCHES POSITION #1 LOWER RIGHT RIB X
2
1
0
-1
-2
-3
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 30 VEH#2POS#1 L RIB Y DEFL.
RUN= 490 SERIES= 8
INCHES
1.00
.60
.20
-.20
-.60
-1.00
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 22 VEH#2 POS#1 PELVIC X
RUN= 490 SERIES= 8
G'S
10
0
-10
-20
-30
-40
-50.
0
50
100
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 23 VEH#2 POS#1 PELVIC Y
RUN= 490 SERIES= 8
G'S
100
75
50
25
0
-25
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 19 VELOCITY
MPH POSITION #1 PELVIC Y
40.
32.
24.
16.
8.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 20 DISPLACEMENT INCHES
POSITION #1 PELVIC Y
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

6466-V-5

HEAD INJURY CRITERION
HEAD SEVERITY INDEX

BOA #8 SIDE IMPACT TEST

RUN= 490

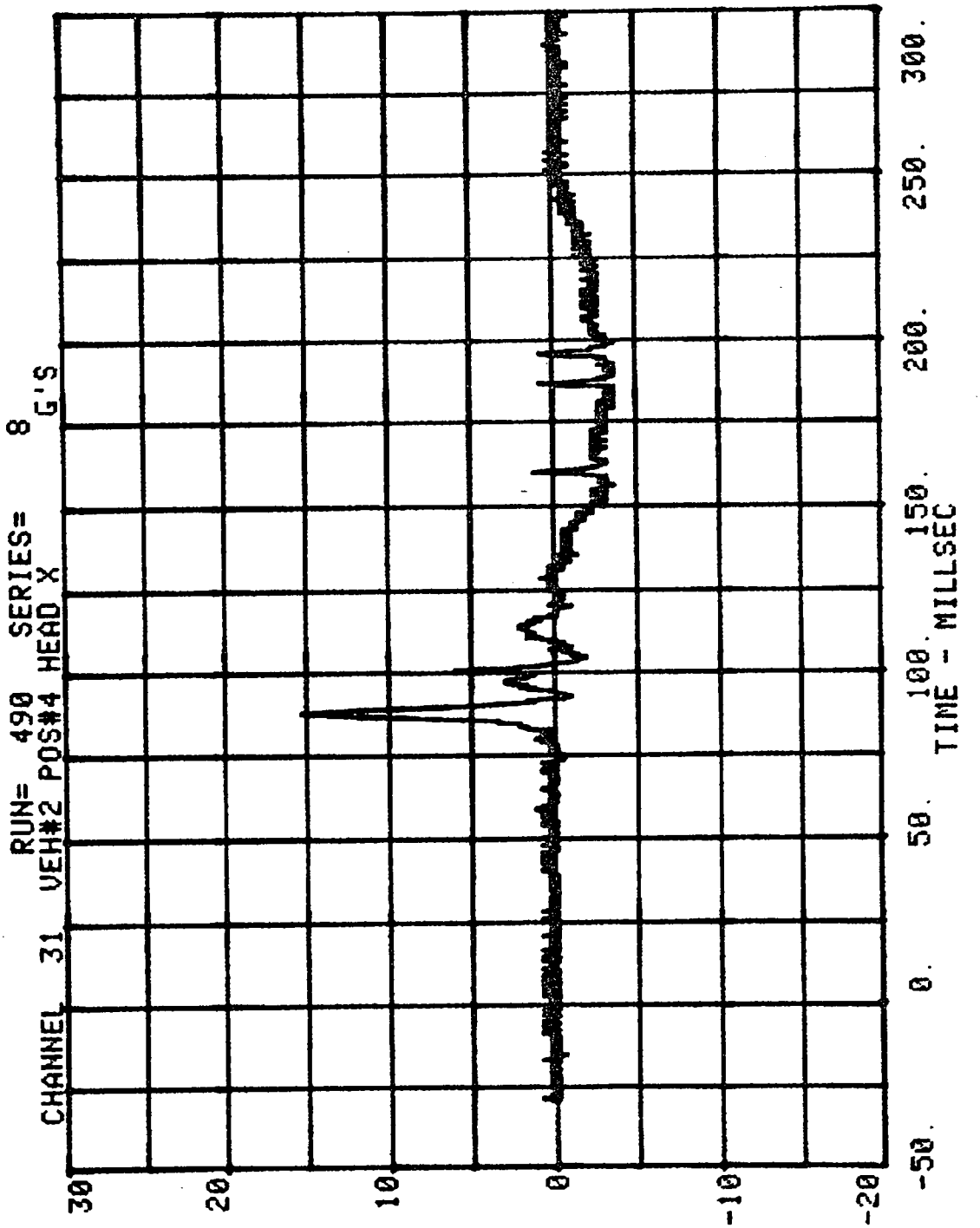
VEH#2 POS#4 HEAD R

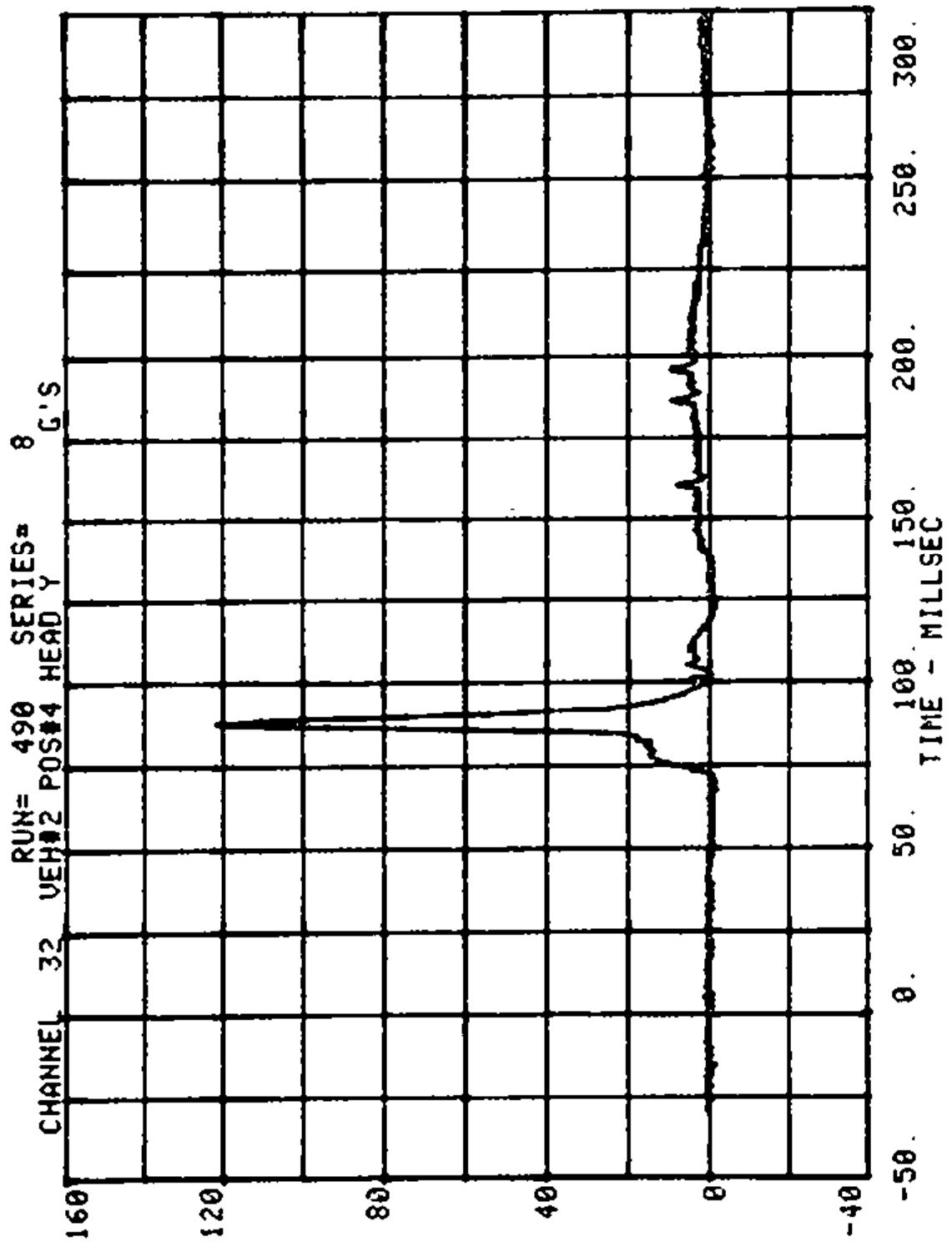
HIC= 426.6 FROM T1= .05610 TO T2= .09060

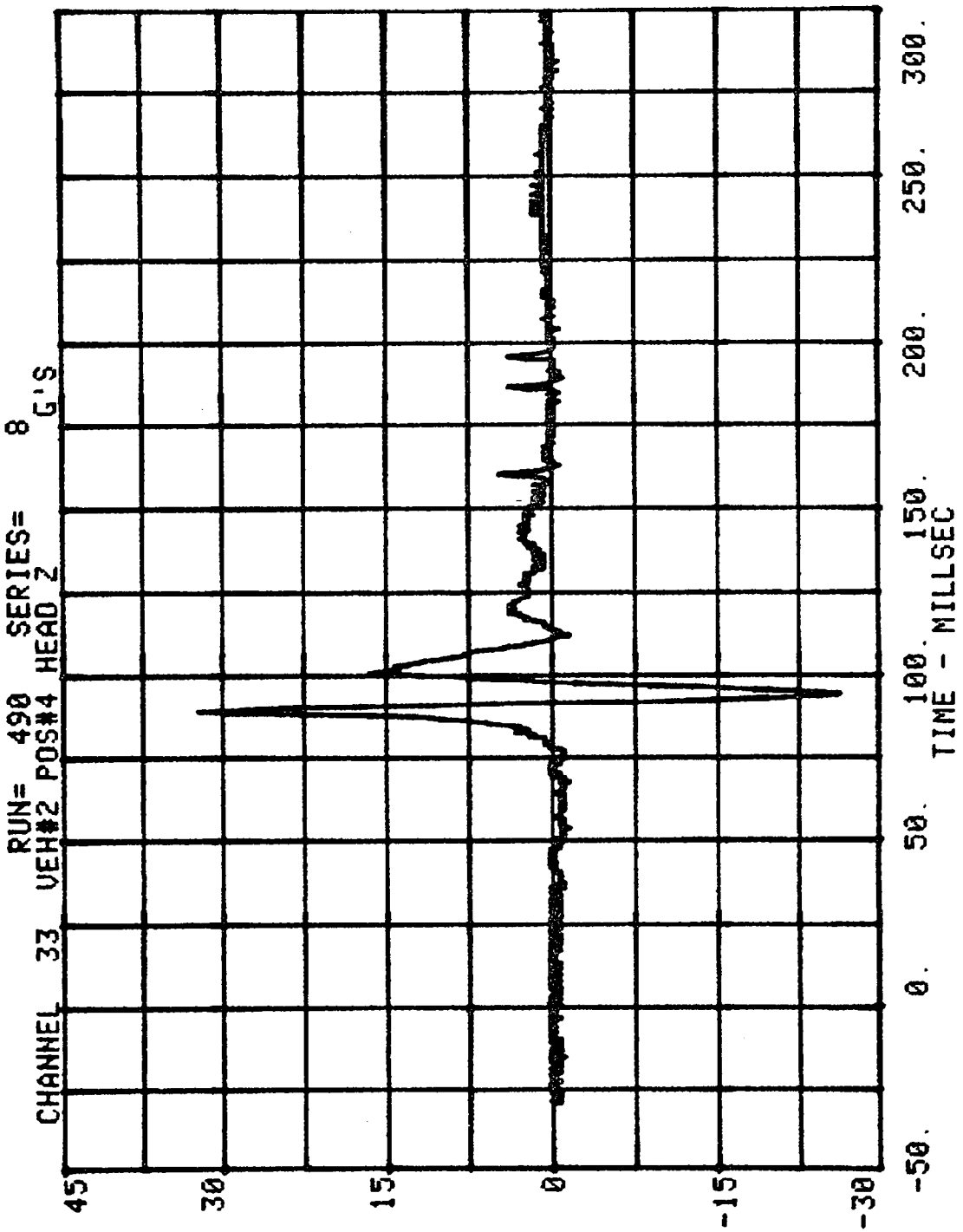
AVERAGE ACCELERATION BETWEEN T1 AND T2= 97.9G'S

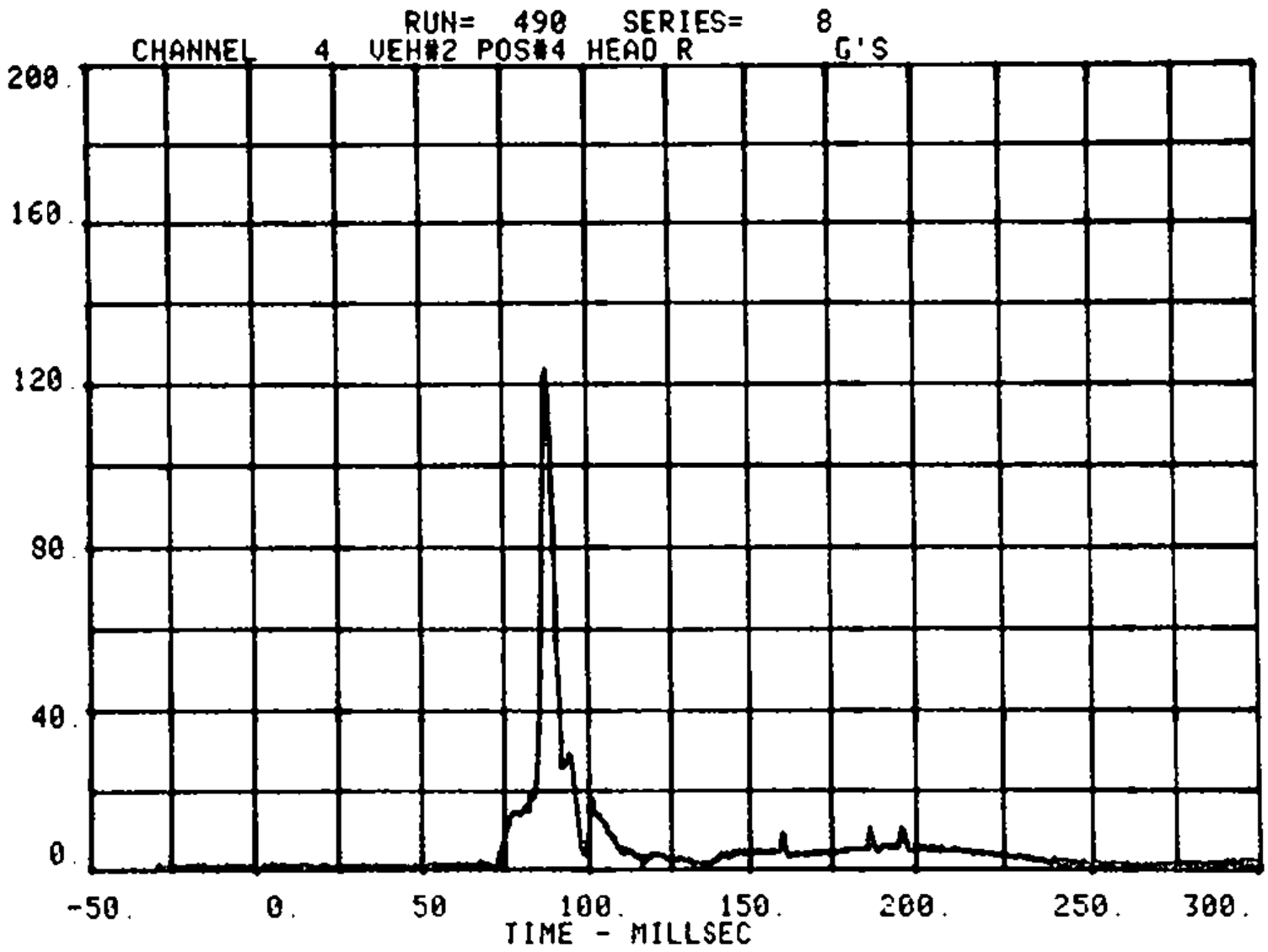
EVENT TIME= 300.0 MSEC

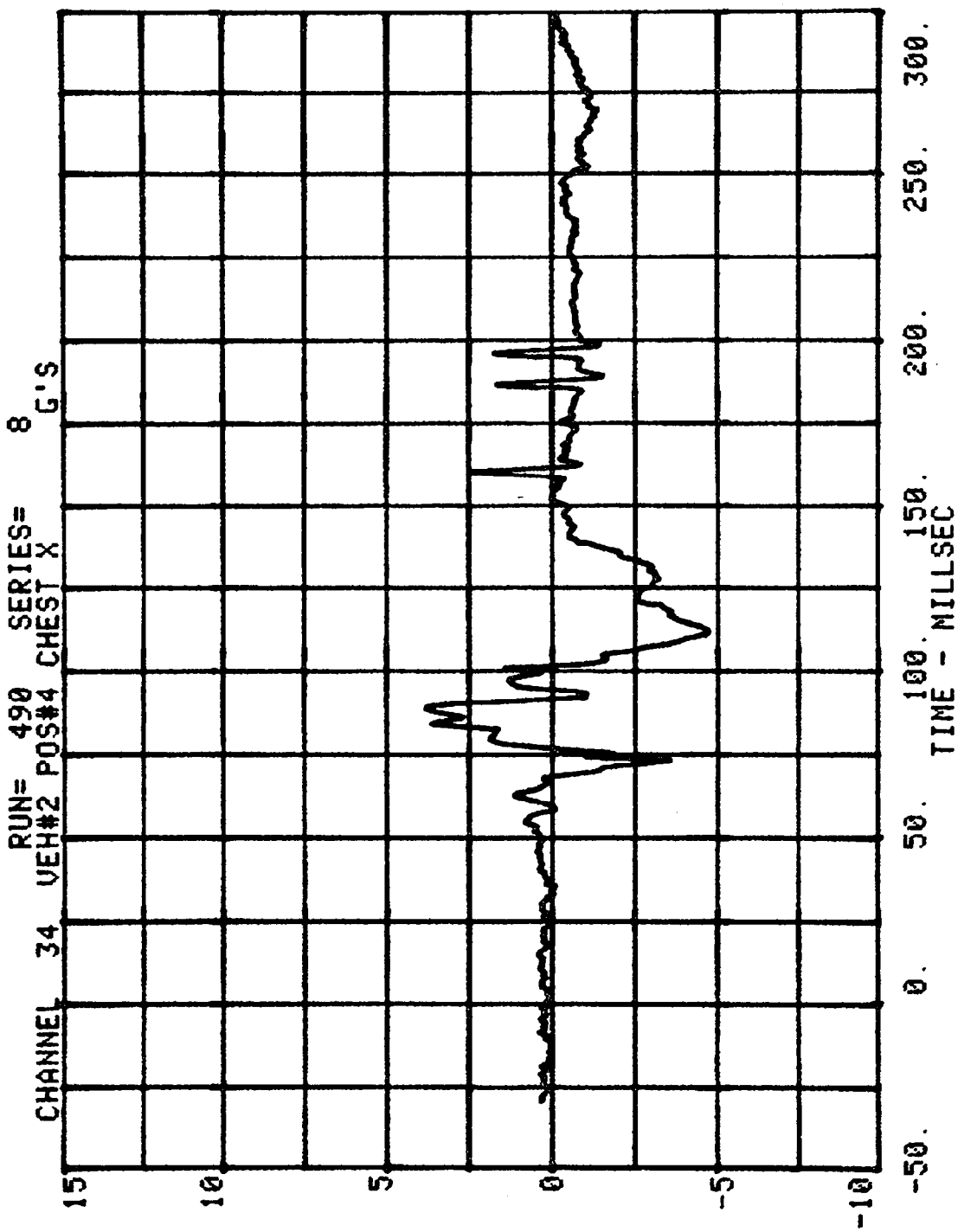
SEVERITY INDEX= 530.9

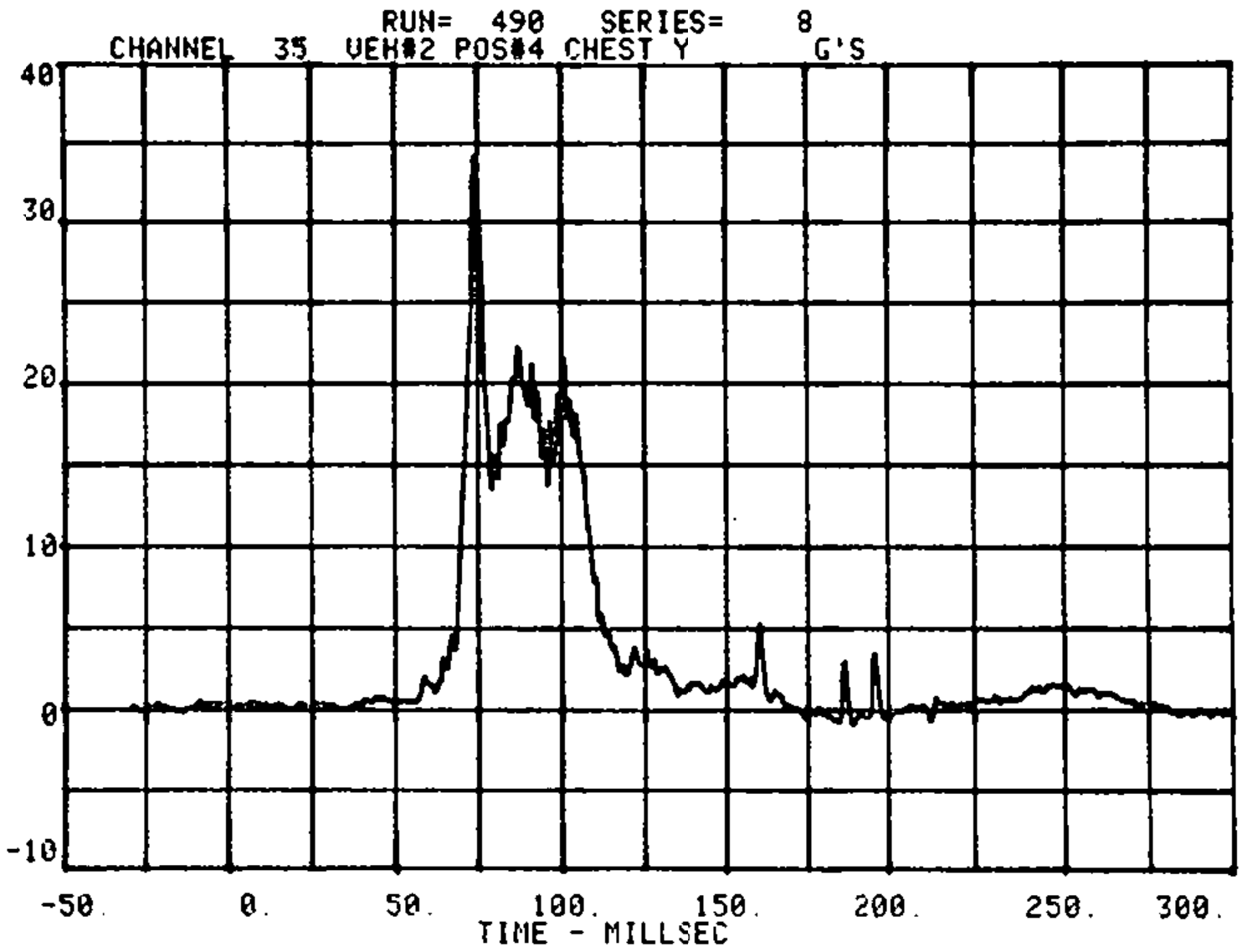

CHANNEL 31 VEH#2 POS#4 HEAD X
RUN= 490 SERIES= 8
G'S
30
20
10
0
-10
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

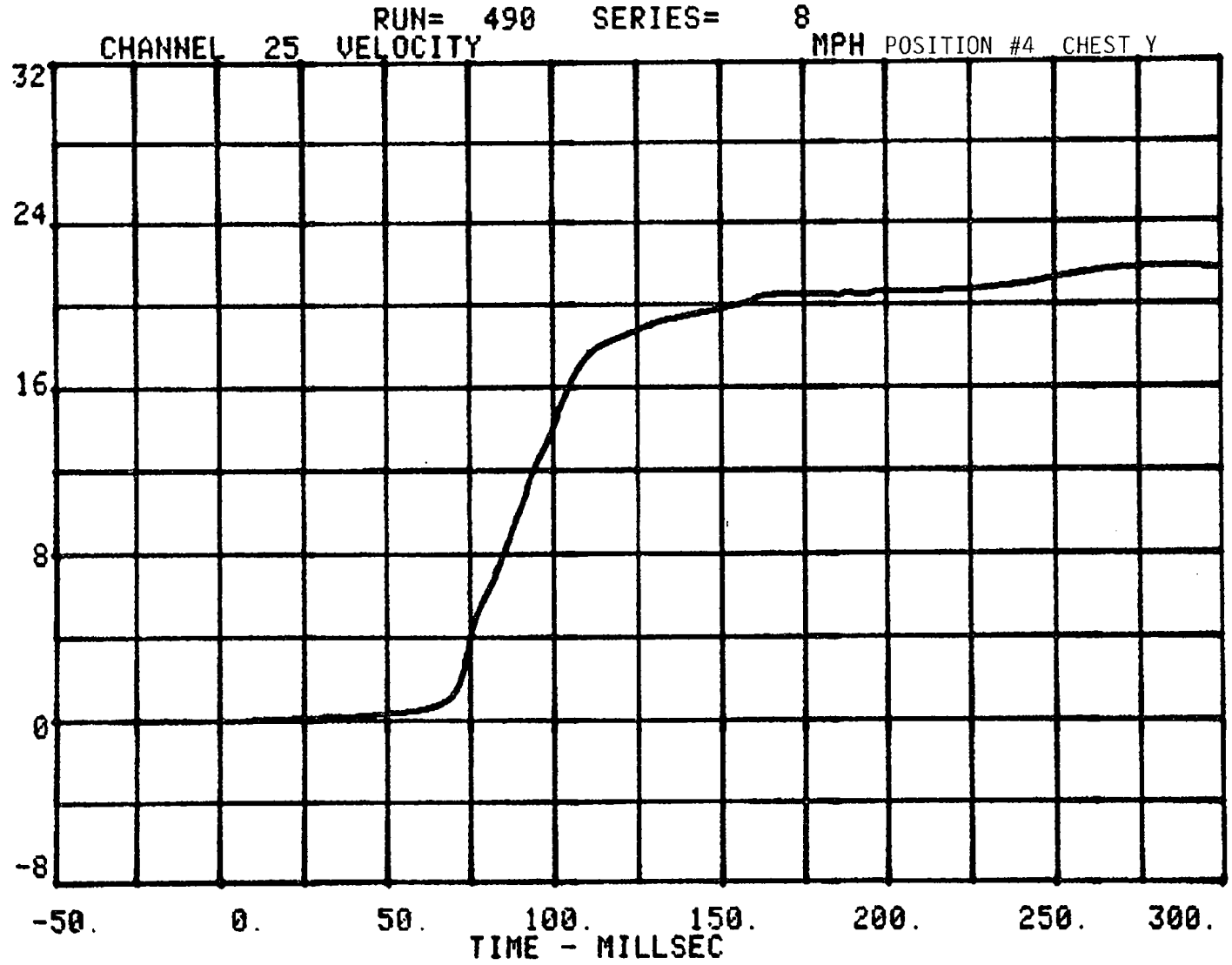

CHANNEL 32 VEH#2 POS#4 HEAD Y
RUN= 490 SERIES= 8 G'S
160
120
80
40
0
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

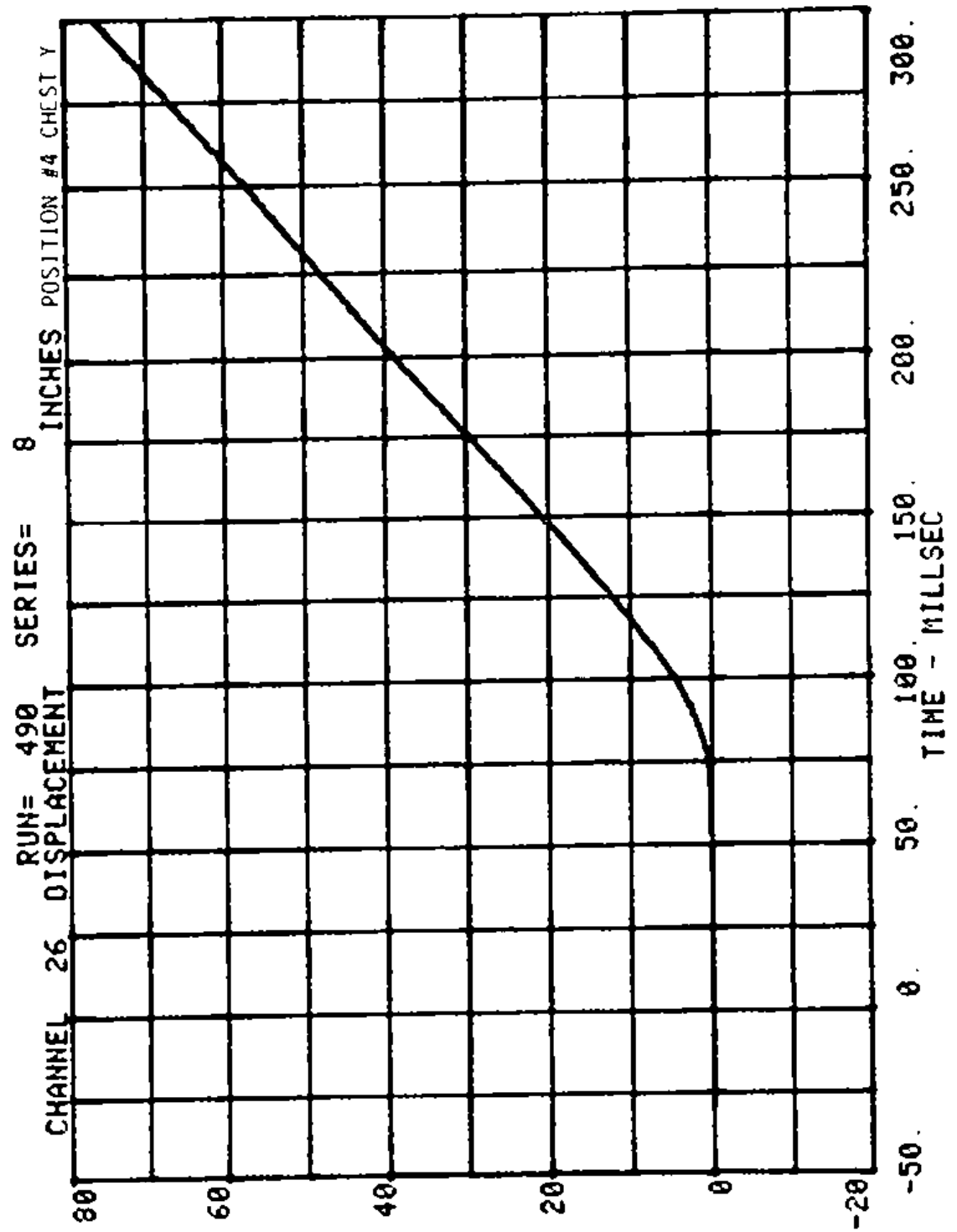

CHANNEL 33 VEH#2 POS#4 HEAD 2
RUN= 490 SERIES= 8
G'S
45
30
15
0
-15
-30
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

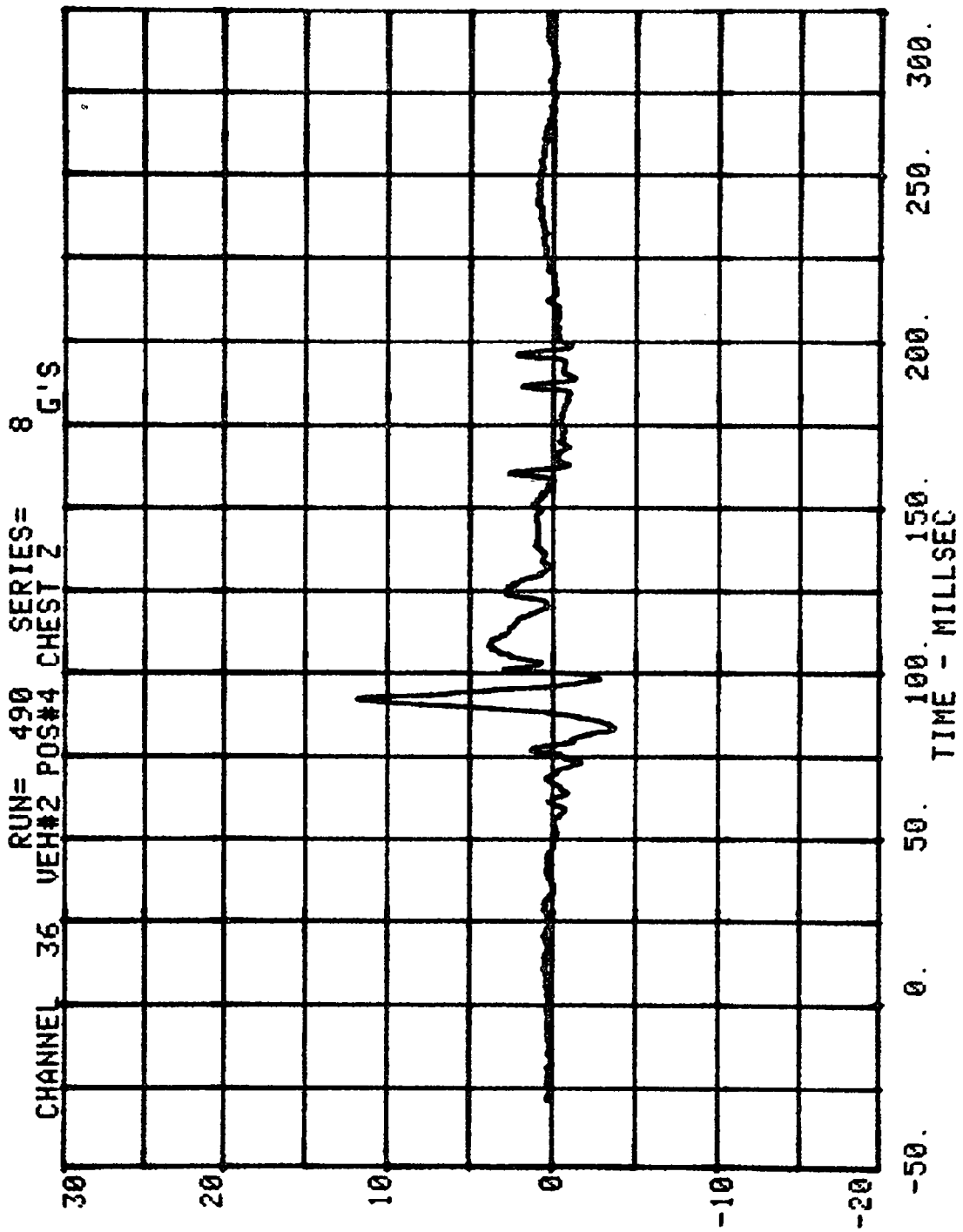

RUN= 490 SERIES= 8
CHANNEL 4 VEH#2 POS#4 HEAD R G'S
200.
160.
120.
80.
40.
0.
-50.
0.
50
100.
150.
200.
250.
300.
TIME - MILLSEC

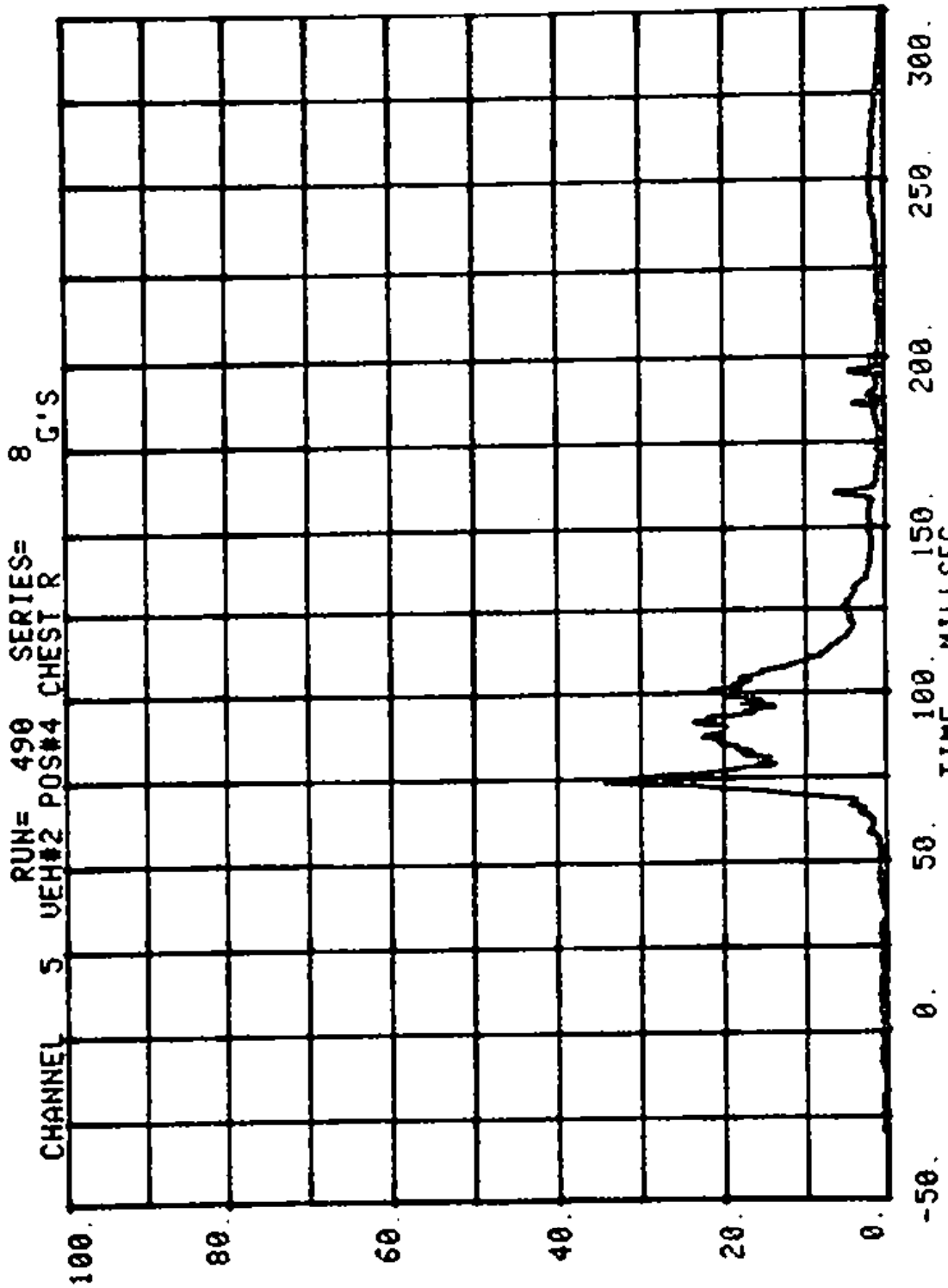

CHANNEL 34
RUN= 490
VEH#2 POS#4
SERIES=
CHEST X
8 G'S
15
10
5
0
-5
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

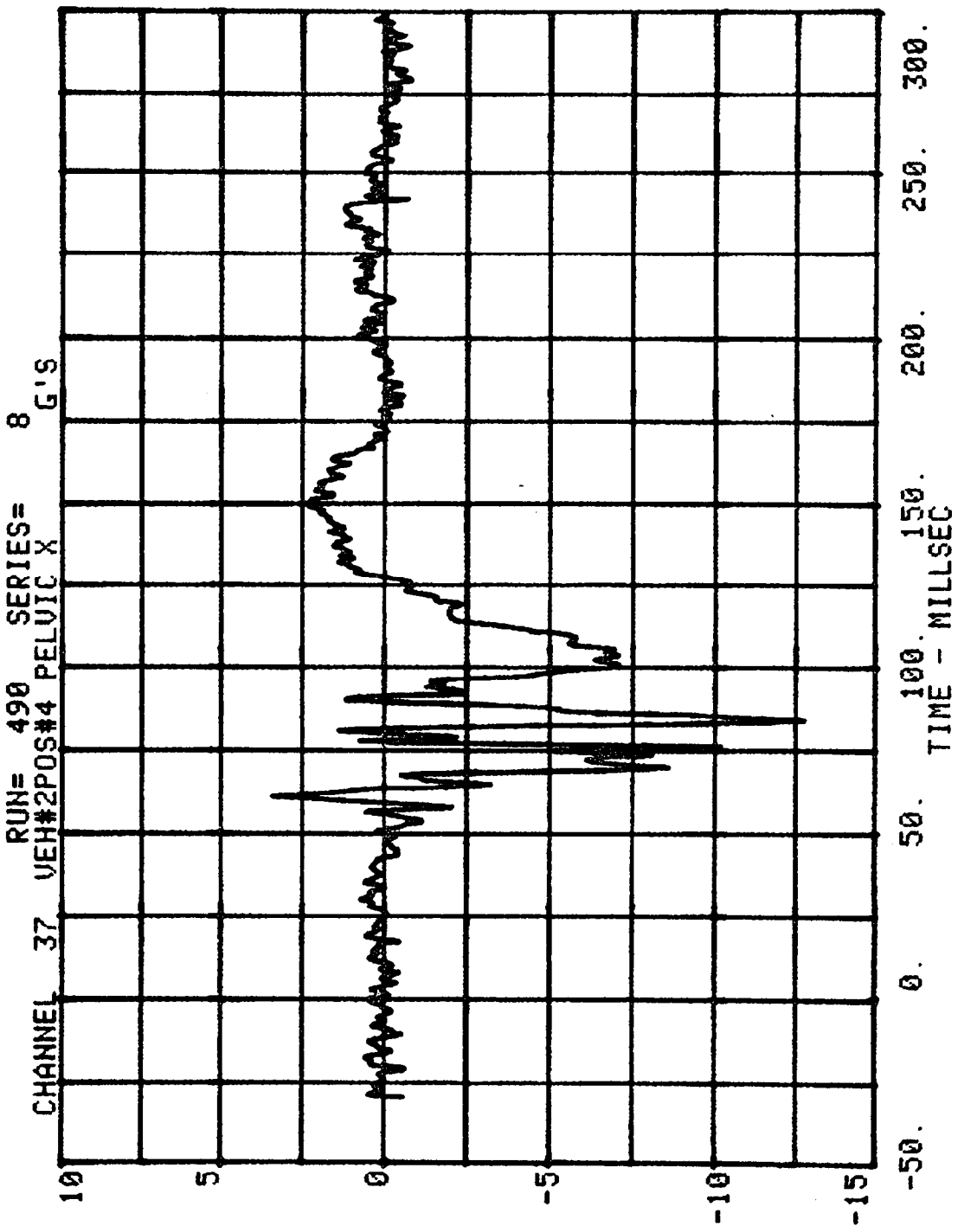

RUN= 490 SERIES= 8
CHANNEL 35 VEH#2 POS#4 CHEST Y G'S
40
30
20
10
0
-10
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

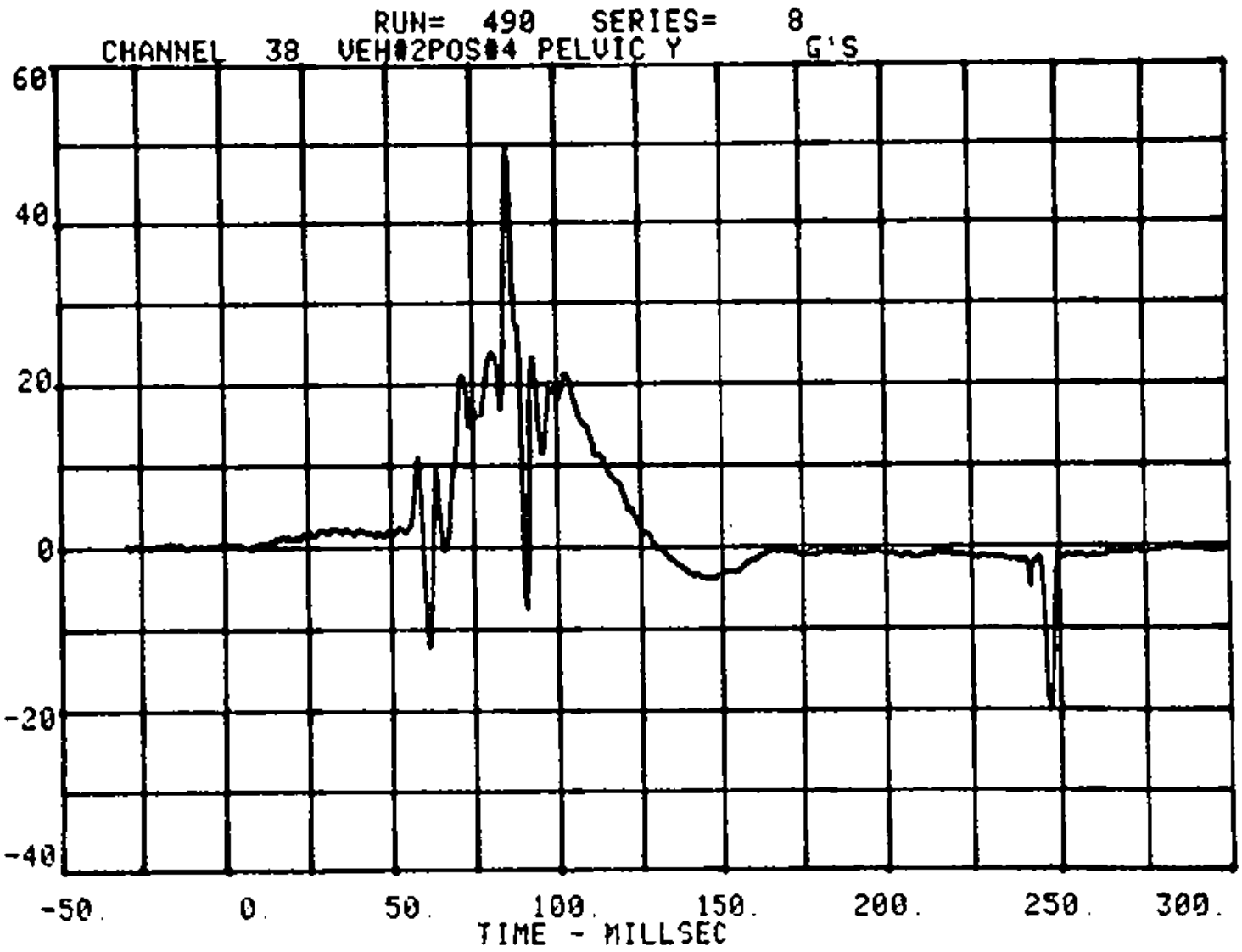

RUN= 490 SERIES= 8
CHANNEL 25 VELOCITY
MPH POSITION #4 CHEST Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

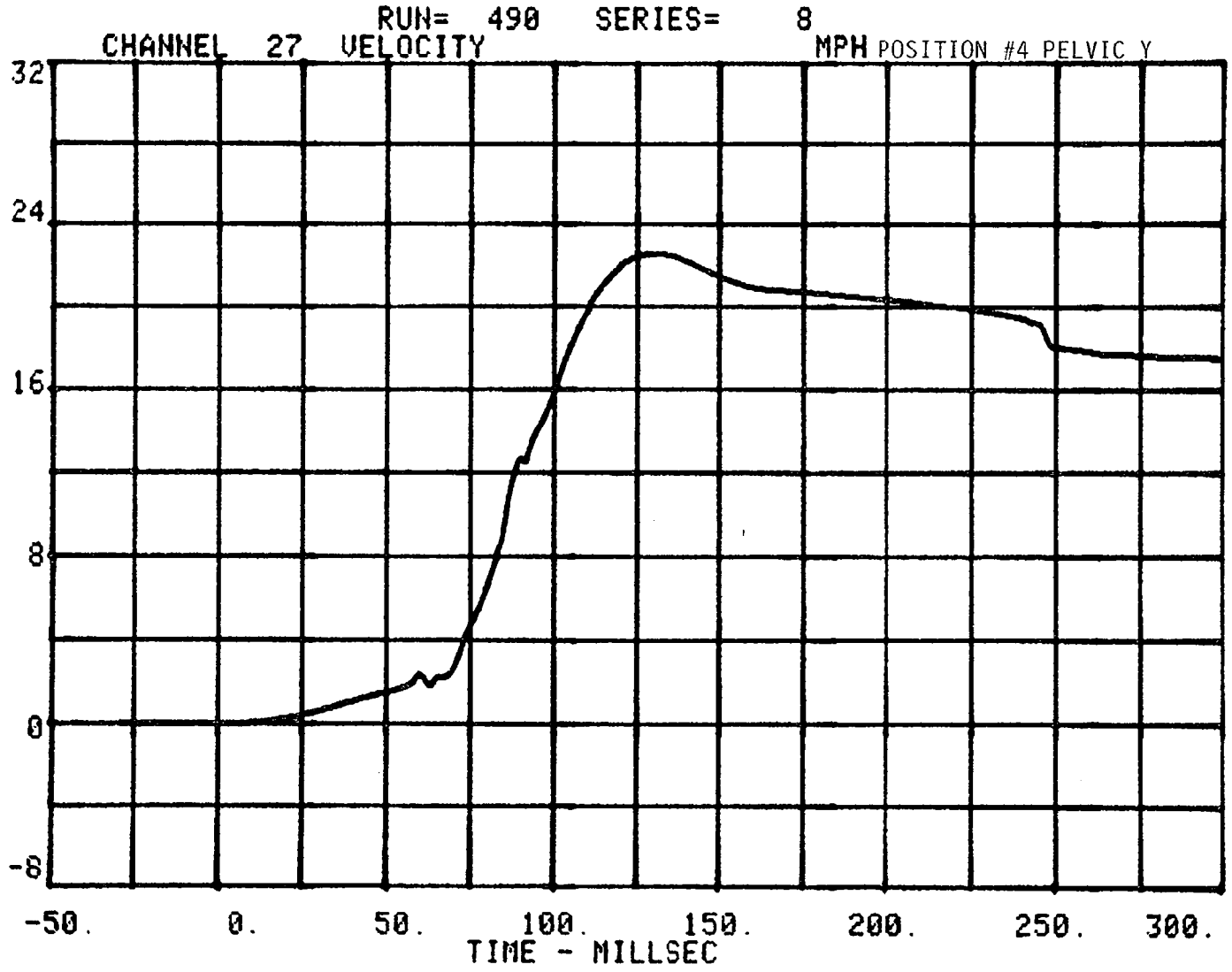

CHANNEL 26 DISPLACEMENT
RUN= 490 SERIES= 8
INCHES POSITION #4 CHEST Y
80
60
40
20
0
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC

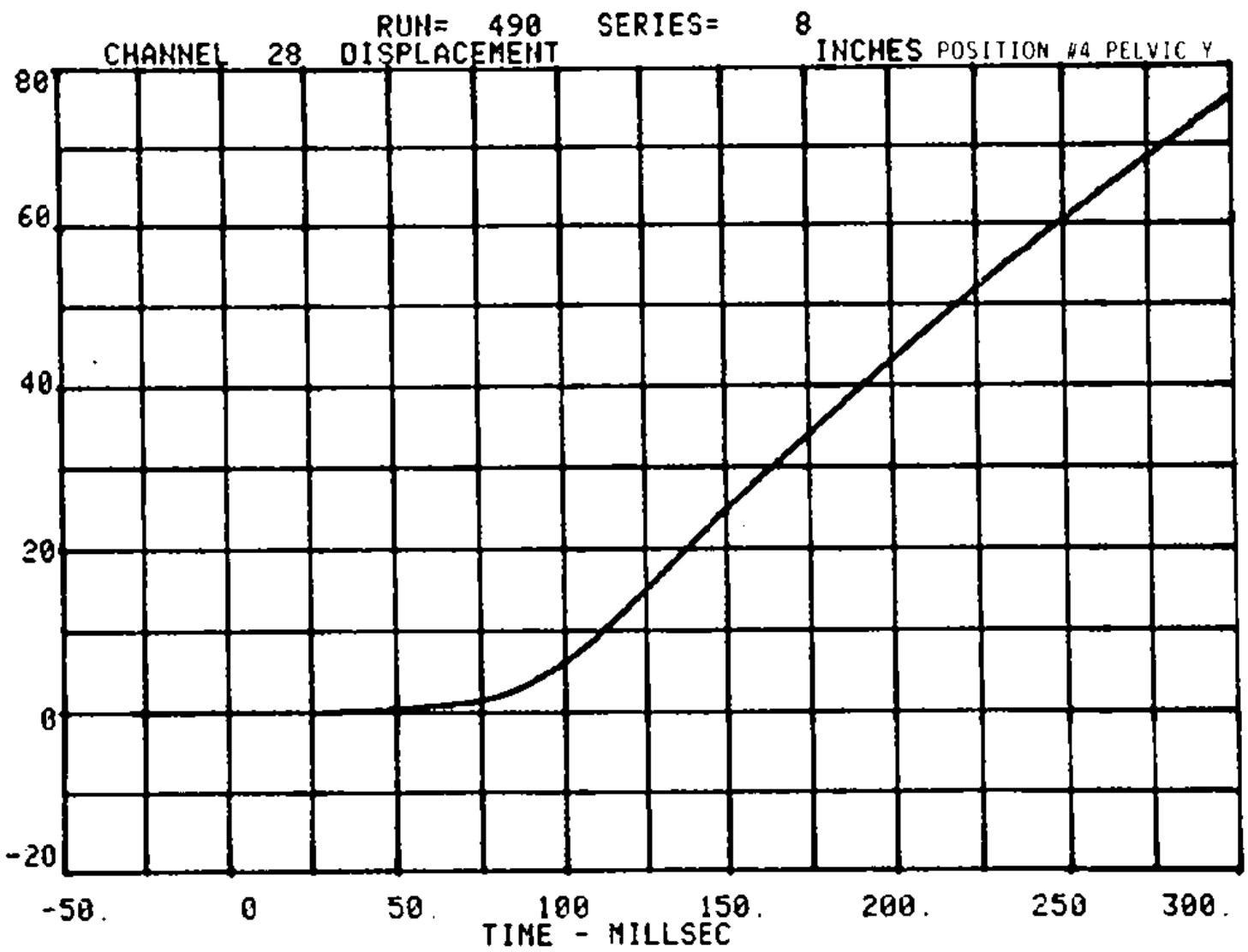

CHANNEL 36 RUN= 490 SERIES= 8
VEH#2 POS#4 CHEST Z G'S
30
20
10
0
-10
-20
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 5 RUN= 490 SERIES= 8
VEH#2 POS#4 CHEST R
G'S
100.
80.
60.
40.
20.
0.
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


CHANNEL 37 VEH#2POS#4 PELVIC X
RUN= 490 SERIES= 8 G'S
10
5
0
-5
-10
-15
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 38 VEH#2POS#4 PELVIC Y G'S
60
40
20
0
-20
-40
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 27 VELOCITY
MPH POSITION #4 PELVIC Y
32
24
16
8
0
-8
-50.
0.
50.
100.
150.
200.
250.
300.
TIME - MILLSEC


RUN= 490 SERIES= 8
CHANNEL 28 DISPLACEMENT INCHES POSITION #4 PELVIC Y
80
60
40
20
0
-20
-50.
0
50.
100
150.
200.
250
300.
TIME - MILLSEC