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May 1993

Final Report

Final Report of a 1988 Ford Taurus into a 50% Left Offset Barrier in Support of CRASH3 Damage Algorithm Reformulation

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16. Abstract Four (4) 50% left offset barrier impact tests were conducted for research and development in support of the CRASH3 damage algorithm reformulation. These tests were conducted on a 1988 Ford Taurus 4-door sedan, VIN 1FABP52U8JA255451 at Transportation Research Center Inc. on April 13, 1993. The following four tests were conducted on the vehicle: <table border="1"> <thead> <tr> <th>TEST NO.</th> <th>DATE</th> <th>TIME</th> <th>SPEED (MPH)</th> <th>MAXIMUM CUMULATIVE CRUSH (CRUSH IN.)</th> </tr> </thead> <tbody> <tr> <td>930413-1</td> <td>04/13/93</td> <td>0938</td> <td>9.8</td> <td>4.0</td> </tr> <tr> <td>930413-2</td> <td>04/13/93</td> <td>1104</td> <td>19.8</td> <td>14.7</td> </tr> <tr> <td>930413-3</td> <td>04/13/93</td> <td>1302</td> <td>20.0</td> <td>22.7</td> </tr> <tr> <td>930413-4</td> <td>04/13/93</td> <td>1515</td> <td>35.0</td> <td>43.5</td> </tr> </tbody> </table>				TEST NO.	DATE	TIME	SPEED (MPH)	MAXIMUM CUMULATIVE CRUSH (CRUSH IN.)	930413-1	04/13/93	0938	9.8	4.0	930413-2	04/13/93	1104	19.8	14.7	930413-3	04/13/93	1302	20.0	22.7	930413-4	04/13/93	1515	35.0	43.5
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METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (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 72.25, 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

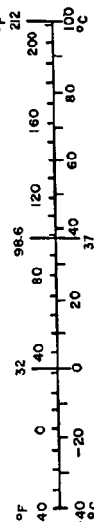


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SECTION 1.0

PURPOSE AND TEST PROCEDURE

PURPOSE AND TEST PROCEDURE

The purpose of the four (4) 50% left offset barrier impact tests was for research and development in support of the CRASH3 damage algorithm reformulation.

The 1988 Ford Taurus was equipped with a 3-liter, 6-cylinder, transverse, gasoline engine with a 3-speed automatic transmission. The test weight of the vehicle was 3296 pounds.

The vehicle was instrumented with six (6) accelerometers to measure vehicel X-axis and Y-axis acceleration.

Each crash test event was recorded by two (2) high-speed motion picture cameras operating at approximately 1000 frames per second.

SECTION 2.0

VEHICLE AND TEST DATA

TABLE 1 TEST VEHICLE INFORMATION

VEHICLE MANUFACTURER: Ford Motor Co., Ltd.

MAKE/MODEL: Ford/Taurus

VIN: 1FABP52U8JA255451

BODY STYLE: 4-door sedan

MODEL YEAR: 1988

COLOR: Red

ENGINE DATA: TYPE: transverse CYLINDERS: .6 DISPLACEMENT: 3-liter

TRANSMISSION DATA: 3 SPEED MANUAL X AUTOMATIC
 X FWD RWD, 4WD

DATE VEHICLE RECEIVED: 04/07/93

ODOMETER READING: 76,926

DEALER'S NAME AND ADDRESS: NA

ACCESSORIES:

POWER STEERING	Yes	AUTOMATIC TRANSMISSION	Yes
POWER BRAKES	Yes	AUTOMATIC SPEED CONTROL	Yes
POWER SEATS	No	TILTING STEERING WHEEL	Yes
POWER WINDOWS	No	TELESCOPING STEERING WHEEL	No
TINTED GLASS	Yes	AIR CONDITIONING	Yes
RADIO	Yes	ANTI-SKID BRAKE	No
CLOCK	Yes	REAR WINDOW DEFROSTER	Yes
OTHER	None		

REMARKS:

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

CERTIFICATION DATA FROM VEHICLE'S LABEL:

VEHICLE MANUFACTURED BY: Ford Motor Co., Ltd.

DATE OF MANUFACTURE: 04/88 VIN: 1FABP52U8JA255451

GVWR: 4615 LBS.

GAWR: FRONT: 2594 LBS., REAR: 2135 LBS.

TABLE 1 TEST VEHICLE INFORMATION, CONT'D.

TIRES ON VEHICLE (MFR., LINE, SIZE): Firestone, Supreme, P205/70R14 M+S

TIRE PRESSURE WITH MAXIMUM CAPACITY VEHICLE LOAD: FRONT: 35 PSI
REAR: 35 PSI

SPARE TIRE (MFR., LINE, SIZE): The vehicle did not contain a spare tire.

TYPE OF SEATS: FRONT: Split bench
REAR: Bench

TYPE OF FRONT SEAT BACKS: Manually-adjustable

MAXIMUM WIDTH: 71.0 IN.

WHEELBASE: 106.0 IN.

LOCATION OF LABEL STATING TIRE DATA:

The label was located on the passenger's side C-pillar.

TIRE & CAPACITY DATA FROM VEHICLE'S LABEL:

RECOMMENDED TIRE SIZE: P205/70R14

RECOMMENDED COLD TIRE PRESSURE: FRONT: 35 PSI; REAR: 35 PSI

DESIGNATED SEATING CAPACITY: 2 FRONT 3 REAR 5 TOTAL

VEHICLE CAPACITY WEIGHT: 900 LBS.

TEST VEHICLE ATTITUDE (ALL MEASUREMENTS ARE IN INCHES):

DELIVERED ATTITUDE: LF 27.5; RF 27.5; LR 25.2; RR 25.6

PRE-TEST ATTITUDE: LF 31.3; RF 31.8; LR 26.6; RR 27.1

TABLE 1 TEST VEHICLE INFORMATION CONT'D

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

RIGHT FRONT	1016 LBS.	RIGHT REAR	517 LBS.
LEFT FRONT	992 LBS.	LEFT REAR	545 LBS.
TOTAL FRONT WEIGHT	2008 LBS.	(65.4% OF TOTAL VEHICLE WEIGHT)	
TOTAL REAR WEIGHT	1062 LBS.	(34.6% OF TOTAL VEHICLE WEIGHT)	
TOTAL DELIVERED WEIGHT	3070 LBS.		

WEIGHT OF TEST VEHICLE:

RIGHT FRONT	1331 LBS. **	RIGHT REAR	272 LBS.
LEFT FRONT	1296 LBS. **	LEFT REAR	397 LBS.
TOTAL FRONT WEIGHT	2627 LBS. *	(79.7% OF TOTAL VEHICLE WEIGHT)	
TOTAL REAR WEIGHT	669 LBS.	(20.3% OF TOTAL VEHICLE WEIGHT)	
TOTAL TEST WEIGHT	3296 LBS. *		

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

COMPONENTS REMOVED TO MEET TARGET TEST WEIGHT: None

CG = 17.7 INCHES REARWARD OF THIRD AXLE CENTERLINE

*Weight of third axle included in total test weight.

**The front wheel weights are for third axle wheels.

TABLE 2 PROFILE MEASUREMENTS AT VEHICLE BUMPER HEIGHT (23 1/2 INCHES)

LOCATION	0	1	2	3	4	5	6	7	8
	X	Y	X	Y	X	Y	X	Y	X
PRE-TEST	124.0	23.9	121.0	23.8	118.0	23.9	109.0	23.6	102.8
POST-TEST 1	124.0	23.9	121.0	23.8	118.0	23.9	109.0	23.6	102.8
POST-TEST 2	124.0	24.0	121.1	23.8	118.1	23.8	109.1	23.7	103.1
POST-TEST 3	123.8	24.7	120.7	24.7	117.6	24.7	108.8	24.9	105.6
POST-TEST 4	125.3	25.1	122.4	24.8	119.4	24.5	116.7	24.3	113.8
LOCATION	9	10	11	12	13	14	15	16	17
	X	Y	X	Y	X	Y	X	Y	X
PRE-TEST	96.8	23.8	93.8	23.9	90.9	23.9	88.0	24.0	85.0
POST-TEST 1	96.8	23.8	93.8	23.9	90.9	23.9	88.0	24.0	85.0
POST-TEST 2	97.1	23.8	94.1	23.8	91.1	23.6	88.1	23.9	85.1
POST-TEST 3	96.6	24.8	93.7	24.8	90.7	24.9	87.7	24.9	84.6
POST-TEST 4	98.8	23.3	95.8	23.2	92.7	22.9	89.9	23.1	86.7

ALL MEASUREMENTS ARE IN INCHES. COLUMN READINGS ARE THREE INCHES APART FROM FRONT TO REAR ON VEHICLE.
 ALL X-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 210 INCHES FROM AND PARALLEL TO THE REAR BUMPER
 ALL Y-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 60 INCHES FROM AND PARALLEL TO THE VEHICLE LONGITUDINAL CENTERLINE.

TABLE 2 PROFILE MEASUREMENTS AT VEHICLE BUMPER HEIGHT (23 1/2 INCHES)

LOCATION	18		19		20		21		22		23		24		25		26	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	70.0	24.2	66.9	24.2	63.9	24.6	60.9	24.4	58.9	25.0	54.9	25.2	51.9	25.6	48.8	25.0	45.8	25.4
POST-TEST 1	70.0	24.2	66.9	24.2	63.9	24.8	60.8	24.8	57.8	25.0	54.9	25.2	51.8	25.4	50.8	24.5	47.9	24.8
POST-TEST 2	70.6	24.4	68.1	24.1	65.9	23.6	63.8	22.6	61.2	22.8	59.9	23.6	56.9	25.2	54.6	25.0	51.8	25.2
POST-TEST 3	70.4	26.4	68.2	26.4	67.5	27.0	67.1	27.2	65.8	26.2	63.8	26.1	62.5	27.9	60.8	26.9	58.3	27.1
POST-TEST 4	77.2	27.6	75.9	27.7	75.9	29.3	75.9	29.3	78.5	30.1	77.7	27.9	74.2	28.2	73.9	28.6	73.2	27.9
LOCATION	27		28		29		30		31		32		33		34		35	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	42.8	25.5	39.8	25.4	36.8	26.2	33.8	27.0	31.0	27.8	28.9	29.8	27.6	32.2	27.0	35.5	26.2	38.0
POST-TEST 1	44.7	25.1	41.8	25.6	38.8	26.4	35.7	26.8	33.2	27.8	31.1	29.8	29.8	32.4	29.2	35.2	28.5	38.2
POST-TEST 2	49.1	25.2	46.3	25.4	43.8	27.9	43.8	27.9	43.5	27.8	43.5	29.0	42.3	32.1	41.0	34.9	40.0	37.9
POST-TEST 3	55.6	26.8	53.3	26.6	51.6	28.0	51.6	28.0	51.6	28.0	51.6	28.0	48.6	32.6	47.6	35.5	46.8	38.5
POST-TEST 4	72.5	27.0	69.3	27.3	69.3	27.3	69.3	27.3	69.3	27.3	69.3	27.3	69.3	27.3	69.3	27.3	69.3	27.3

ALL MEASUREMENTS ARE IN INCHES. COLUMN READINGS ARE THREE INCHES APART FROM FRONT TO REAR ON VEHICLE.

ALL X-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 210 INCHES FROM AND PARALLEL TO THE REAR BUMPER

ALL Y-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 60 INCHES FROM AND PARALLEL TO THE VEHICLE LONGITUDINAL CENTERLINE.

TABLE 2 PROFILE MEASUREMENTS AT VEHICLE BUMPER HEIGHT (23 1/2 INCHES)

LOCATION	36		37		38		39		40		41		42		43		44	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	25.8	41.0	24.9	44.0	24.5	46.9	24.0	49.8	24.0	52.8	23.8	55.5	23.8	59.0	23.8	61.9	23.9	64.9
POST-TEST 1	28.0	41.1	27.9	44.1	27.6	47.1	27.3	50.1	27.0	53.1	27.8	55.1	26.6	58.6	26.2	61.4	26.1	64.5
POST-TEST 2	39.2	40.5	38.4	43.7	38.2	46.6	37.4	49.6	37.6	52.6	38.4	54.9	35.6	55.5	33.2	58.1	31.8	60.8
POST-TEST 3	46.3	41.5	45.5	44.5	44.8	47.2	43.9	50.1	43.6	53.4	43.6	55.4	40.8	54.4	38.5	56.9	36.2	59.5
POST-TEST 4	69.3	27.3	61.9	42.8	61.7	46.6	61.4	49.3	61.0	52.2	61.6	55.1	59.4	56.1	56.1	56.1	53.0	56.8
LOCATION	45		46		47		48		49		50		51		52		53	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	24.1	67.8	24.4	70.8	25.0	74.0	25.4	77.0	26.0	79.8	26.4	82.8	27.5	85.5	28.4	88.5	30.6	89.5
POST-TEST 1	25.9	67.6	25.8	70.6	25.8	73.5	26.1	76.6	26.4	79.6	26.7	82.6	26.9	85.6	28.0	88.2	29.8	90.5
POST-TEST 2	30.8	63.6	29.6	66.5	28.6	69.6	27.6	72.5	27.2	75.6	26.5	78.5	25.9	81.5	25.6	85.0	26.8	87.1
POST-TEST 3	34.5	62.2	32.8	62.9	31.2	66.0	29.3	68.9	28.2	71.5	26.9	74.4	25.9	77.6	25.1	81.2	25.6	84.4
POST-TEST 4	50.2	57.4	47.1	58.4	44.2	59.2	41.6	60.5	38.9	61.8	35.4	62.8	31.0	63.9	31.0	66.1	29.4	68.8

ALL MEASUREMENTS ARE IN INCHES. COLUMN READINGS ARE THREE INCHES APART FROM FRONT TO REAR ON VEHICLE.
 ALL X-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 210 INCHES FROM AND PARALLEL TO THE REAR BUMPER
 ALL Y-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 60 INCHES FROM AND PARALLEL TO THE VEHICLE LONGITUDINAL CENTERLINE.

TABLE 2 PROFILE MEASUREMENTS AT VEHICLE BUMPER HEIGHT (23 1/2 INCHES)

LOCATION	54		55		56		57		58		59		60		61		62	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PRE-TEST	33.1	90.8	36.1	91.9	39.0	92.1	42.0	93.0	44.9	93.8	47.9	94.0	51.0	93.8	54.0	93.6	57.0	93.8
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
POST-TEST 1	31.9	91.8	34.8	92.6	37.4	93.8	40.6	94.6	43.6	95.2	46.2	96.0	51.5	93.6	54.5	93.8	57.5	94.0
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POST-TEST 2	28.5	88.8	31.1	90.8	33.6	92.8	36.0	94.4	38.4	95.8	40.9	97.2	51.5	92.7	54.6	92.9	57.6	93.1
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POST-TEST 3	26.9	86.6	28.8	89.0	31.0	91.4	32.9	93.4	34.9	95.6	36.8	97.5	51.4	93.6	54.2	94.0	57.2	94.0
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POST-TEST 4	29.2	71.5	29.3	74.4	29.6	77.4	29.9	80.1	30.3	83.0	30.9	85.5	51.0	89.4	54.1	90.0	58.1	91.0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LOCATION	63		64		65		66		67		68		69		70		71	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PRE-TEST	60.0	94.0	63.0	93.8	65.9	94.0	69.1	94.1	72.1	93.6	75.1	93.9	78.0	94.4	81.0	94.5	84.0	94.5
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
POST-TEST 1	60.5	94.2	63.6	94.1	65.9	94.0	69.1	94.1	72.1	93.6	75.1	93.9	78.0	94.4	81.0	94.5	84.0	94.5
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
POST-TEST 2	60.6	93.4	63.6	93.5	66.5	93.5	69.6	93.5	72.4	93.8	75.4	93.7	78.5	94.2	81.6	94.5	84.6	94.5
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
POST-TEST 3	60.8	94.1	63.7	94.5	66.6	94.9	69.5	95.0	72.3	95.2	75.1	95.1	78.1	95.6	81.1	96.0	84.6	95.8
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
POST-TEST 4	60.5	91.6	63.1	92.4	65.8	93.2	68.7	93.6	71.3	94.1	74.1	94.4	76.9	95.2	79.8	96.0	84.6	96.1

ALL MEASUREMENTS ARE IN INCHES. COLUMN READINGS ARE THREE INCHES APART FROM FRONT TO REAR ON VEHICLE.

ALL X-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 210 INCHES FROM AND PARALLEL TO THE REAR BUMPER

ALL Y-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 60 INCHES FROM AND PARALLEL TO THE VEHICLE LONGITUDINAL CENTERLINE.

TABLE 2 PROFILE MEASUREMENTS AT VEHICLE BUMPER HEIGHT (23 1/2 INCHES)

LOCATION	72		73		74		75		76		77		78		79		80	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PRE-TEST	87.0	94.4	90.0	94.4	92.9	94.4	96.1	94.5	99.1	94.6	102.1	94.4	105.0	94.7	108.0	94.9	110.9	94.8
POST-TEST 1	87.0	94.4	90.0	94.4	92.9	94.4	96.1	94.5	99.1	94.6	102.1	94.4	105.0	94.7	108.0	94.9	110.9	94.8
POST-TEST 2	87.7	94.5	90.7	94.5	93.6	94.6	96.6	94.6	99.8	94.6	102.7	94.6	105.7	94.6	108.8	94.8	111.6	94.9
POST-TEST 3	87.5	95.9	90.6	95.9	93.6	95.9	96.7	95.5	99.6	95.9	102.6	95.8	105.6	95.9	108.6	96.0	111.6	95.9
POST-TEST 4	87.7	96.1	90.6	96.1	93.6	96.1	96.5	96.2	99.6	96.0	102.6	96.1	105.6	96.1	108.7	96.2	111.6	96.0

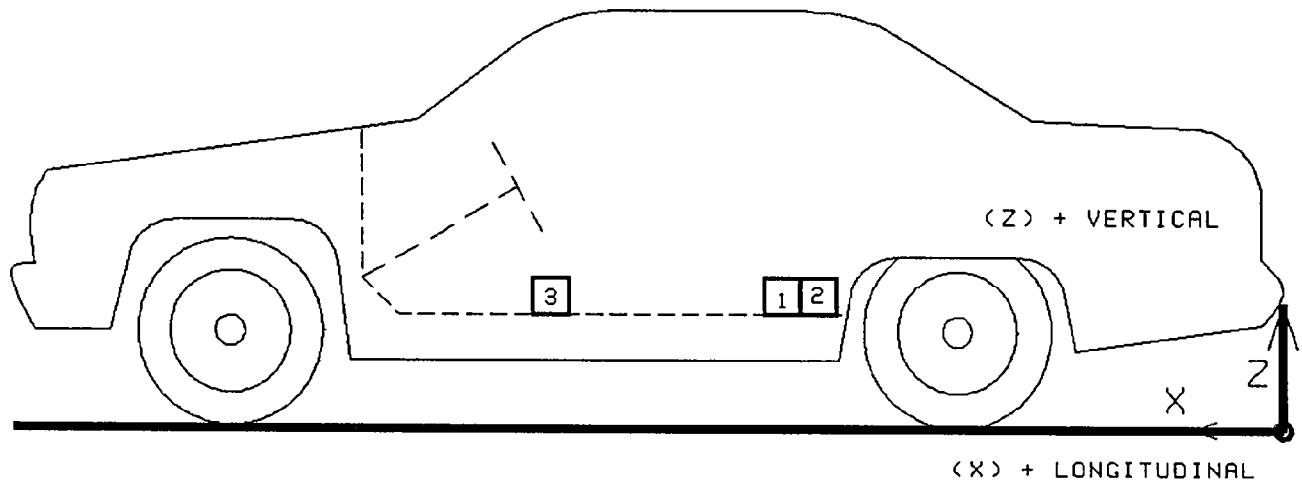
LOCATION	81		82		83		84	
	X	Y	X	Y	X	Y	X	Y
PRE-TEST	114.0	94.7	116.9	94.7	119.9	94.7	122.9	94.8
POST-TEST 1	114.0	94.7	116.9	94.7	119.9	94.7	122.9	94.8
POST-TEST 2	114.7	94.8	117.8	95.1	120.6	95.1	123.6	95.1
POST-TEST 3	114.7	95.9	117.6	95.8	120.5	95.9	123.5	96.0
POST-TEST 4	114.6	96.0	117.5	96.1	120.6	96.0	123.6	95.9

ALL MEASUREMENTS ARE IN INCHES. COLUMN READINGS ARE THREE INCHES APART FROM FRONT TO REAR ON VEHICLE.

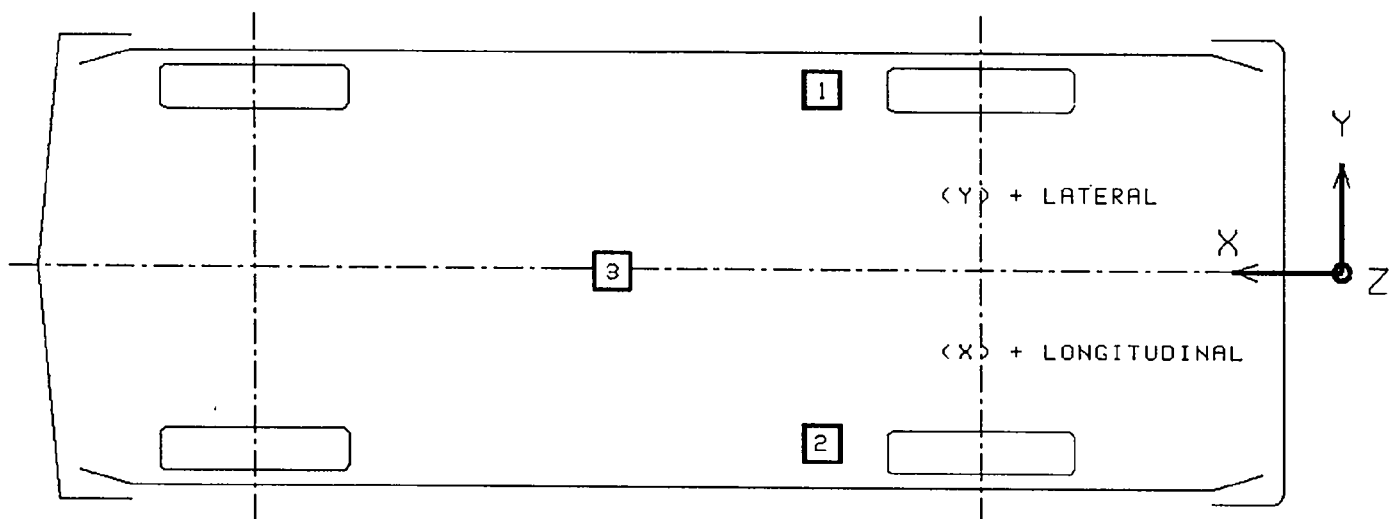
ALL X-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 210 INCHES FROM AND PARALLEL TO THE REAR BUMPER

ALL Y-AXIS MEASUREMENTS TAKEN FROM A REFERENCE PLANE 60 INCHES FROM AND PARALLEL TO THE VEHICLE LONGITUDINAL CENTERLINE.

FIGURE 1
VEHICLE ACCELEROMETER PLACEMENT

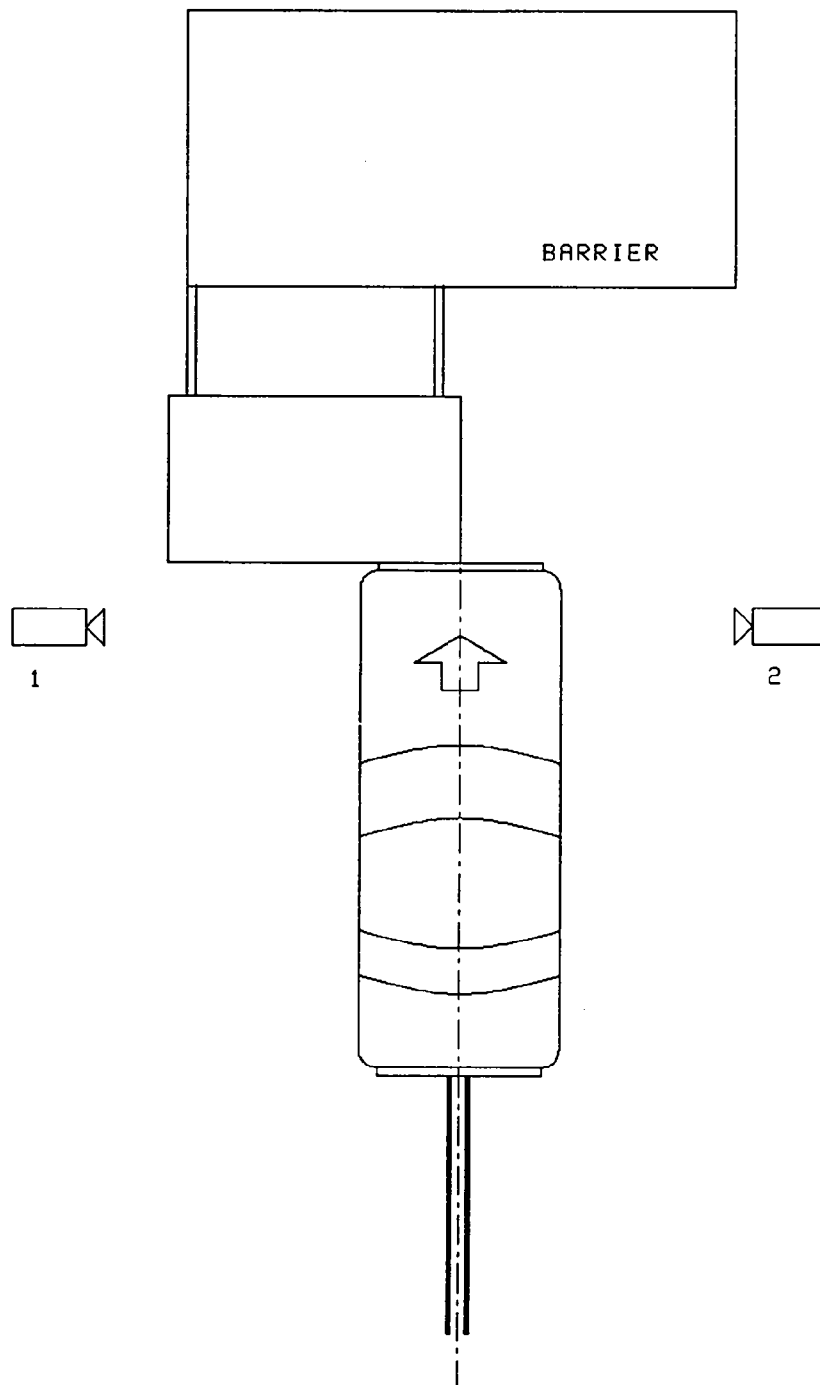


SIDE VIEW



BOTTOM VIEW

FIGURE 2
CAMERA POSITIONS



SECTION 3.0

TEST 930413-1 SUMMARY

TABLE 3
TEST NO. 930413-1 TEST CONDITIONS

DATE OF TEST: 04/13/93

TIME OF TEST: 0938

AMBIENT TEMPERATURE AT IMPACT AREA: 67° F

INTENDED IMPACT VELOCITY: 10.0 MPH

ACTUAL IMPACT VELOCITY: PRIMARY = 9.8 MPH
SECONDARY = 9.9 MPH

SUBJECT VEHICLE DATA

LENGTH OF DIRECT CONTACT DAMAGE: 28.3 IN.

MAXIMUM CUMULATIVE CRUSH
AT VEHICLE BUMPER HEIGHT: 4.0 IN.

VEHICLE ATTITUDES:

POST-TEST: LF: 32.0; RF: 31.6; LR: 26.6; RR: 27.1

All distance measurements are in inches.

TABLE 4
TEST NO. 930413-1 VEHICLE CRUSH AT VEHICLE BUMPER HEIGHT

FL	<u>57.0</u>
C1	<u>2.0</u>
C2	<u>2.2</u>
C3	<u>3.1</u>
C4	<u>2.8</u>
C5	<u>1.4</u>
C6	<u>0.3</u>

NOTE: FL is post-test length of damage surface.

Measurements C1 - C6 were spaced equally apart over the post-impact corner to corner length of the vehicle front. This distance is defined as length "FL" on the vehicle crush profile plot.

*All measurements are in inches.

FIGURE 3

TEST 1 -- VEHICLE CRUSH PROFILE

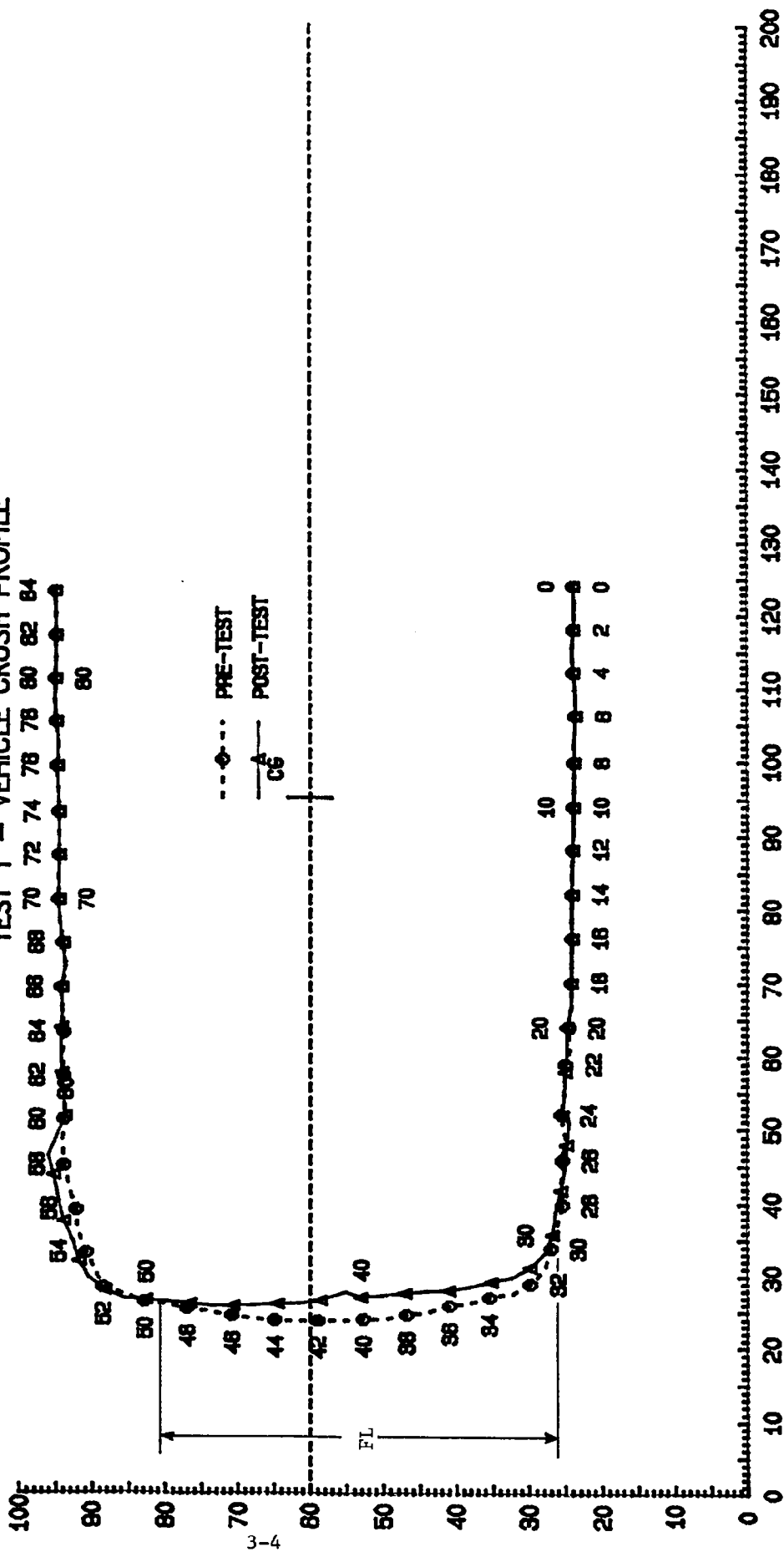


TABLE 5
TEST NO. 930413-1 VEHICLE MEASUREMENTS

VEHICLE MAKE/MODEL: Ford/Taurus

NO.	TYPE OF MEASUREMENT	PRE-TEST	POST-TEST	DIFF.
X1	TOTAL LENGTH OF VEHICLE AT CENTERLINE	186.0	183.2	2.8
X2	REAR SURFACE OF VEHICLE TO FRONT OF ENGINE BLOCK	165.0	NA	NA
X3	REAR SURFACE OF VEHICLE TO FIREWALL	140.2	NA	NA
X4	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF RIGHT DOOR	129.6	129.6	0.0
X5	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF LEFT DOOR	129.5	129.5	0.0
X6	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF RIGHT DOOR	127.6	127.6	0.0
X7	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF LEFT DOOR	127.9	127.7	0.2
X8	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF RIGHT DOOR	87.0	87.1	-0.1
X9	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF LEFT DOOR	86.9	86.9	0.0
X10	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF RIGHT DOOR	87.0	87.2	-0.2
X11	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF LEFT DOOR	86.9	86.7	0.2
X12	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON RIGHT SIDE	125.8	125.9	-0.1
X13	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON LEFT SIDE	125.8	125.8	0.0
X14	REAR SURFACE OF VEHICLE TO FIREWALL - RIGHT SIDE	138.5	NA	NA
X15	REAR SURFACE OF VEHICLE TO FIREWALL - LEFT SIDE	138.5	NA	NA
X16	REAR SURFACE OF VEHICLE TO STEERING WHEEL CENTER	111.0	111.0	0.0
X17	CENTER OF STEERING COLUMN TO "A" POST	11.1	11.1	0.0
X18	CENTER OF STEERING COLUMN TO HEADLINER	16.8	16.7	0.1
X19	REAR SURFACE OF VEHICLE TO RIGHT SIDE OF FRONT BUMPER	182.6	183.0	-0.4
X20	REAR SURFACE OF VEHICLE TO LEFT SIDE OF FRONT BUMPER	181.0	178.8	2.2
X21	LENGTH OF ENGINE BLOCK	15.0	15.0	0.0

All distance measurements are in inches.

TABLE 6

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

TEST NUMBER 930413-1

No. LOCATION	X*	Y*	Z*	POSITIVE		NEGATIVE	
				DIRECTION	MAX G MSEC	DIRECTION	MAX G MSEC
1 LEFT REAR SILL	74.1	22.5	18.1				
LONGITUDINAL				0.8	150.0	8.0	77.1
LATERAL				1.7	188.4	1.9	48.5
2 RIGHT REAR SILL	74.1	-21.0	19.0				
LONGITUDINAL				0.6	266.0	7.6	76.1
LATERAL				2.3	123.5	1.6	89.4
3 VEHICLE CENTER	115.1	-0.8	16.8				
OF GRAVITY							
LONGITUDINAL				0.8	265.8	8.3	74.5
LATERAL				1.5	154.6	2.4	82.9
RESULTANT				8.3	74.4		

* ALL MEASUREMENTS OF ACCELEROMETER LOCATIONS ARE IN INCHES.

REFERENCE: X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

TABLE 7
TEST NO. 930413-1 CAMERA INFORMATION

CAMERA NUMBER	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Left tight	Stalex	25	1010	Impact overall
2	Right wide	Stalex	13	998	Impact overall

SECTION 4.0

TEST 930413-2 SUMMARY

TABLE 8

TEST NO. 930413-2 TEST CONDITIONS

DATE OF TEST: 04/13/93

TIME OF TEST: 1104

AMBIENT TEMPERATURE AT IMPACT AREA: 68° F

INTENDED IMPACT VELOCITY: 20.0 MPH

ACTUAL IMPACT VELOCITY: PRIMARY = 19.8 MPH
SECONDARY = 19.7 MPH

SUBJECT VEHICLE DATA

LENGTH OF DIRECT CONTACT DAMAGE: 29.7 IN.

MAXIMUM CUMULATIVE CRUSH
AT VEHICLE BUMPER HEIGHT: 14.7 IN.

VEHICLE ATTITUDES:

POST-TEST: LF: 34.2; RF: 31.5; LR: 26.4; RR: 27.1

All distance measurements are in inches.

TABLE 9
TEST NO. 930413-2 VEHICLE CRUSH AT VEHICLE BUMPER HEIGHT

FL	<u>53.1</u>
C1	<u>6.5</u>
C2	<u>14.0</u>
C3	<u>13.7</u>
C4	<u>9.4</u>
C5	<u>5.2</u>
C6	<u>0.1</u>

NOTE: FL is post-test length of damage surface.

Measurements C1 - C6 were spaced equally apart over the post-impact corner to corner length of the vehicle front. This distance is defined as length "FL" on the vehicle crush profile plot.

*All measurements are in inches.

FIGURE 4

TEST 2 - VEHICLE CRUSH PROFILE

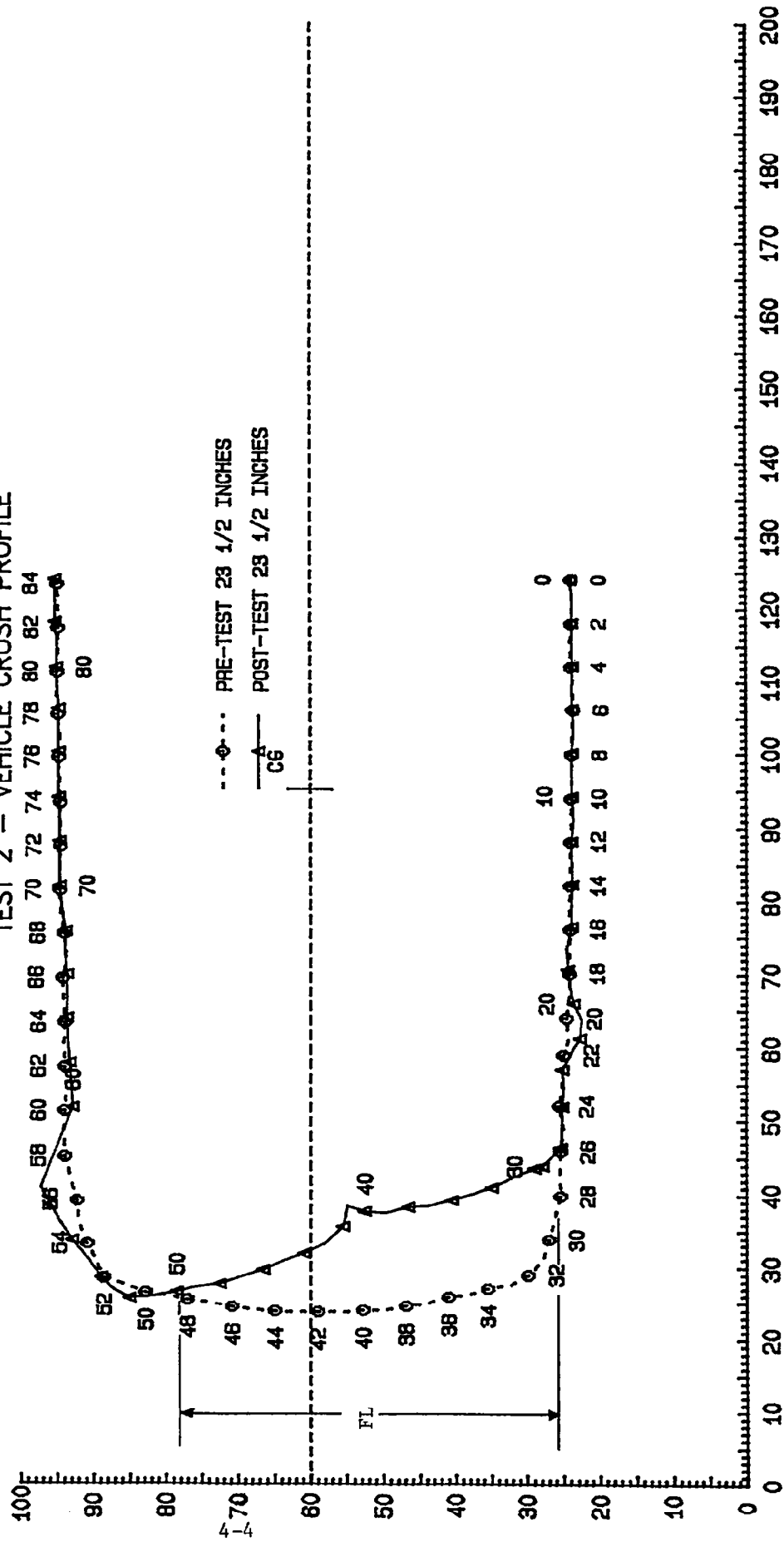


TABLE 10
TEST NO. 930413-2 VEHICLE MEASUREMENTS

VEHICLE MAKE/MODEL: Ford/Taurus

NO.	TYPE OF MEASUREMENT	PRE-TEST	POST-TEST	DIFF.
X1	TOTAL LENGTH OF VEHICLE AT CENTERLINE	183.2	174.2	9.0
X2	REAR SURFACE OF VEHICLE TO FRONT OF ENGINE BLOCK	NA	NA	NA
X3	REAR SURFACE OF VEHICLE TO FIREWALL	NA	NA	NA
X4	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF RIGHT DOOR	129.6	129.6	0.0
X5	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF LEFT DOOR	129.5	129.4	0.1
X6	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF RIGHT DOOR	127.6	127.6	0.0
X7	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF LEFT DOOR	127.7	127.7	0.0
X8	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF RIGHT DOOR	87.1	87.0	0.1
X9	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF LEFT DOOR	86.9	86.9	0.0
X10	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF RIGHT DOOR	87.2	87.0	0.2
X11	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF LEFT DOOR	86.7	86.9	-0.2
X12	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON RIGHT SIDE	125.9	125.9	0.0
X13	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON LEFT SIDE	125.8	NA	NA
X14	REAR SURFACE OF VEHICLE TO FIREWALL - RIGHT SIDE	NA	NA	NA
X15	REAR SURFACE OF VEHICLE TO FIREWALL - LEFT SIDE	NA	NA	NA
X16	REAR SURFACE OF VEHICLE TO STEERING WHEEL CENTER	111.0	109.6	1.4
X17	CENTER OF STEERING COLUMN TO "A" POST	11.1	11.1	0.0
X18	CENTER OF STEERING COLUMN TO HEADLINER	16.7	17.2	-0.5
X19	REAR SURFACE OF VEHICLE TO RIGHT SIDE OF FRONT BUMPER	183.0	185.4	-2.4
X20	REAR SURFACE OF VEHICLE TO LEFT SIDE OF FRONT BUMPER	178.8	166.4	12.4
X21	LENGTH OF ENGINE BLOCK	15.0	15.0	0.0

All distance measurements are in inches.

TABLE 11

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

TEST NUMBER 930414-2

No. LOCATION	X*	Y*	Z*	POSITIVE		NEGATIVE	
				DIRECTION	MAX G MSEC	DIRECTION	MAX G MSEC
1 LEFT REAR SILL	74.1	22.5	18.1				
LONGITUDINAL				2.3	146.8	17.8	71.6
LATERAL				2.6	124.9	5.8	56.3
2 RIGHT REAR SILL	74.1	-21.0	19.0				
LONGITUDINAL				1.4	158.1	19.9	63.6
LATERAL				2.7	122.1	5.2	55.8
3 VEHICLE CENTER	115.1	-0.8	16.8				
OF GRAVITY							
LONGITUDINAL				1.2	143.6	18.2	71.5
LATERAL				3.2	104.3	9.8	52.6
RESULTANT				18.5	66.6		

* ALL MEASUREMENTS OF ACCELEROMETER LOCATIONS ARE IN INCHES.

REFERENCE: X: + FORWARD FROM VEHICLE'S REAR BUMPER

Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE

Z: + UPWARD FROM GROUND LEVEL

TABLE 12
TEST NO. 930413-2 CAMERA INFORMATION

CAMERA NUMBER	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Left tight	Stalex	25	1005	Impact overall
2	Right wide	Stalex	13	995	Impact overall

SECTION 5.0

TEST 930413-3 SUMMARY

TABLE 13

TEST NO. 930413-3 TEST CONDITIONS

DATE OF TEST: 04/13/93

TIME OF TEST: 1302

AMBIENT TEMPERATURE AT IMPACT AREA: 70° F

INTENDED IMPACT VELOCITY: 20.0 MPH

ACTUAL IMPACT VELOCITY: PRIMARY = 20.0 MPH
SECONDARY = 19.9 MPH

SUBJECT VEHICLE DATA

LENGTH OF DIRECT CONTACT DAMAGE: 27.4 IN.

MAXIMUM CUMULATIVE CRUSH
AT VEHICLE BUMPER HEIGHT: 22.7 IN.

VEHICLE ATTITUDES:

POST-TEST: LF: 36.9; RF: 31.2; LR: 26.8; RR: 26.8

All distance measurements are in inches.

TABLE 14
TEST NO. 930413-3 VEHICLE CRUSH AT VEHICLE BUMPER HEIGHT

FL	<u>51.0</u>
C1	<u>13.5</u>
C2	<u>20.6</u>
C3	<u>20.3</u>
C4	<u>14.7</u>
C5	<u>6.2</u>
C6	<u>-1.6</u>

NOTE: FL is post-test length of damage surface.

Measurements C1 - C6 were spaced equally apart over the post-impact corner to corner length of the vehicle front. This distance is defined as length "FL" on the vehicle crush profile plot.

*All measurements are in inches.

FIGURE 5

TEST 3 -- VEHICLE CRUSH PROFILE

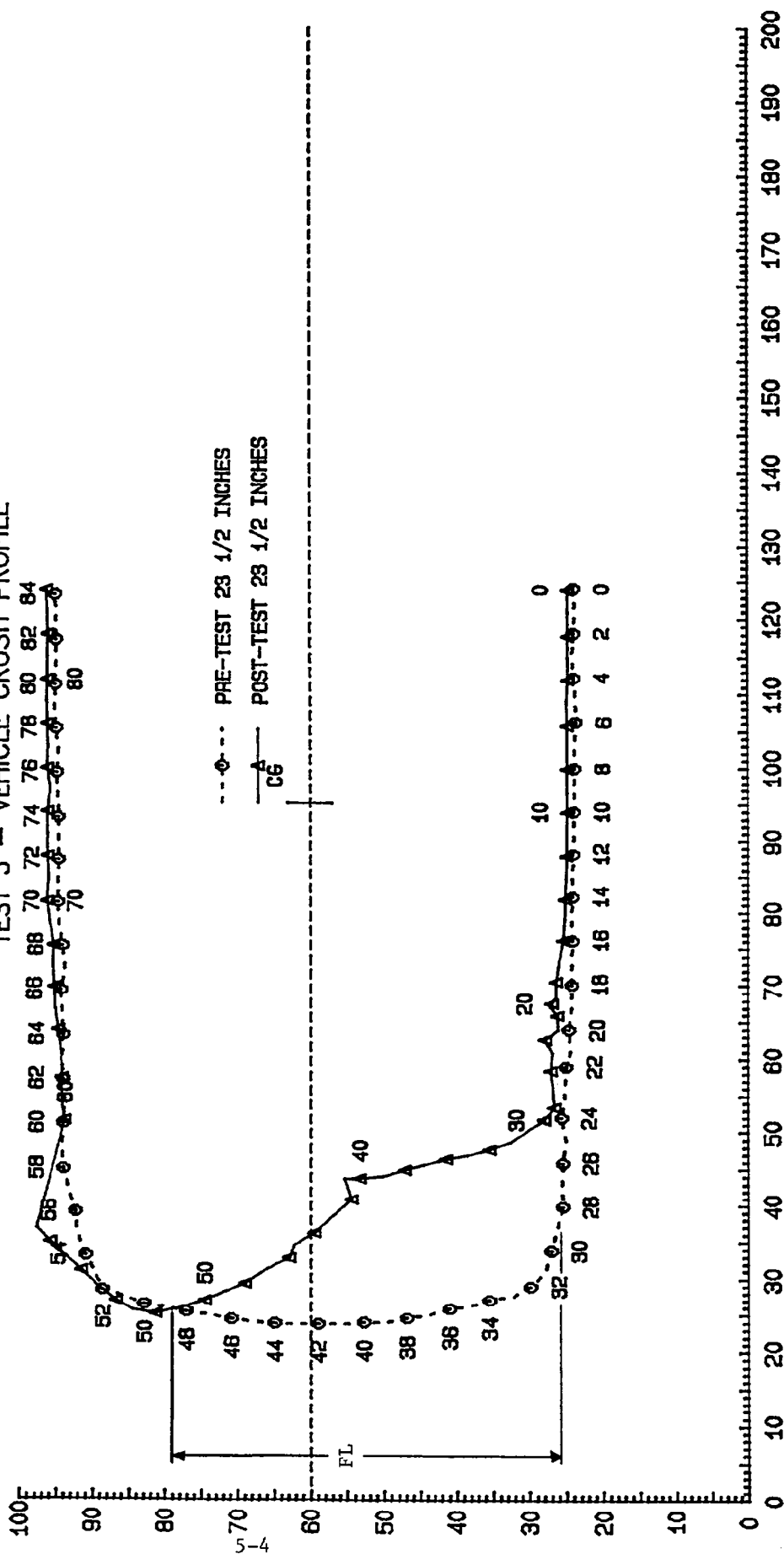


TABLE 15
TEST NO. 930413-3 VEHICLE MEASUREMENTS

VEHICLE MAKE/MODEL: Ford/Taurus

NO.	TYPE OF MEASUREMENT	PRE-TEST	POST-TEST	DIFF.
X1	TOTAL LENGTH OF VEHICLE AT CENTERLINE	174.2	169.0	5.2
X2	REAR SURFACE OF VEHICLE TO FRONT OF ENGINE BLOCK	NA	NA	NA
X3	REAR SURFACE OF VEHICLE TO FIREWALL	NA	NA	NA
X4	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF RIGHT DOOR	129.6	129.8	-0.2
X5	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF LEFT DOOR	129.4	129.8	-0.4
X6	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF RIGHT DOOR	127.6	127.8	-0.2
X7	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF LEFT DOOR	127.7	127.7	0.0
X8	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF RIGHT DOOR	87.0	87.0	0.0
X9	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF LEFT DOOR	86.9	86.7	0.2
X10	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF RIGHT DOOR	87.0	86.9	0.1
X11	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF LEFT DOOR	86.9	86.7	0.2
X12	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON RIGHT SIDE	125.9	126.2	-0.3
X13	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON LEFT SIDE	NA	NA	NA
X14	REAR SURFACE OF VEHICLE TO FIREWALL - RIGHT SIDE	NA	NA	NA
X15	REAR SURFACE OF VEHICLE TO FIREWALL - LEFT SIDE	NA	NA	NA
X16	REAR SURFACE OF VEHICLE TO STEERING WHEEL CENTER	109.6	109.6	0.0
X17	CENTER OF STEERING COLUMN TO "A" POST	11.1	11.1	0.0
X18	CENTER OF STEERING COLUMN TO HEADLINER	16.9	17.2	-0.3
X19	REAR SURFACE OF VEHICLE TO RIGHT SIDE OF FRONT BUMPER	185.4	185.9	-0.5
X20	REAR SURFACE OF VEHICLE TO LEFT SIDE OF FRONT BUMPER	166.4	158.3	8.1
X21	LENGTH OF ENGINE BLOCK	15.0	15.0	0.0

All distance measurements are in inches.

TABLE 16

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

TEST NUMBER 930413-3

No. LOCATION	X*	Y*	Z*	POSITIVE		NEGATIVE	
				DIRECTION	MAX G MSEC	DIRECTION	MAX G MSEC
1 LEFT REAR SILL LONGITUDINAL LATERAL	74.1	22.5	18.1				
				4.2	118.8	28.3	61.6
				3.7	79.5	7.6	46.6
2 RIGHT REAR SILL LONGITUDINAL LATERAL	74.1	-21.0	19.0				
				2.5	308.0	32.1	43.9
				2.5	107.5	5.6	50.0
3 VEHICLE CENTER OF GRAVITY LONGITUDINAL LATERAL RESULTANT	115.1	-0.8	16.8				
				2.4	132.6	42.0	62.9
				6.9	39.0	24.2	45.1
				42.8	63.0		

* ALL MEASUREMENTS OF ACCELEROMETER LOCATIONS ARE IN INCHES.

REFERENCE: X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL.

TABLE 17
TEST NO. 930413-3 CAMERA INFORMATION

CAMERA NUMBER	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Left tight	Stalex	25	993	Impact overall
2	Right wide	Stalex	13	1010	Impact overall

SECTION 6.0

TEST 930413-4 SUMMARY

TABLE 18

TEST NO. 930413-4 TEST CONDITIONS

DATE OF TEST: 04/13/93

TIME OF TEST: 1515

AMBIENT TEMPERATURE AT IMPACT AREA: 70° F

INTENDED IMPACT VELOCITY: 35.0 MPH

ACTUAL IMPACT VELOCITY: PRIMARY = 35.0 MPH
SECONDARY = 35.0 MPH

SUBJECT VEHICLE DATA

LENGTH OF DIRECT CONTACT DAMAGE: 27.8 IN.

MAXIMUM CUMULATIVE CRUSH
AT VEHICLE BUMPER HEIGHT: 43.5 IN.

VEHICLE ATTITUDES:

POST-TEST: LF: 38.6; RF: 32.2; LR: 25.8; RR: 27.7

All distance measurements are in inches.

TABLE 19
TEST NO. 930413-4 VEHICLE CRUSH AT VEHICLE BUMPER HEIGHT

FL	<u>64.7</u>
C1	<u>9.0</u>
C2	<u>37.0</u>
C3	<u>37.4</u>
C4	<u>9.0</u>
C5	<u>-6.8</u>
C6	<u>-0.1</u>

NOTE: FL is post-test length of damage surface.

Measurements C1 - C6 were spaced equally apart over the post-impact corner to corner length of the vehicle front. This distance is defined as length "FL" on the vehicle crush profile plot.

*All measurements are in inches.

FIGURE 6

TEST 4 - VEHICLE CRUSH PROFILE

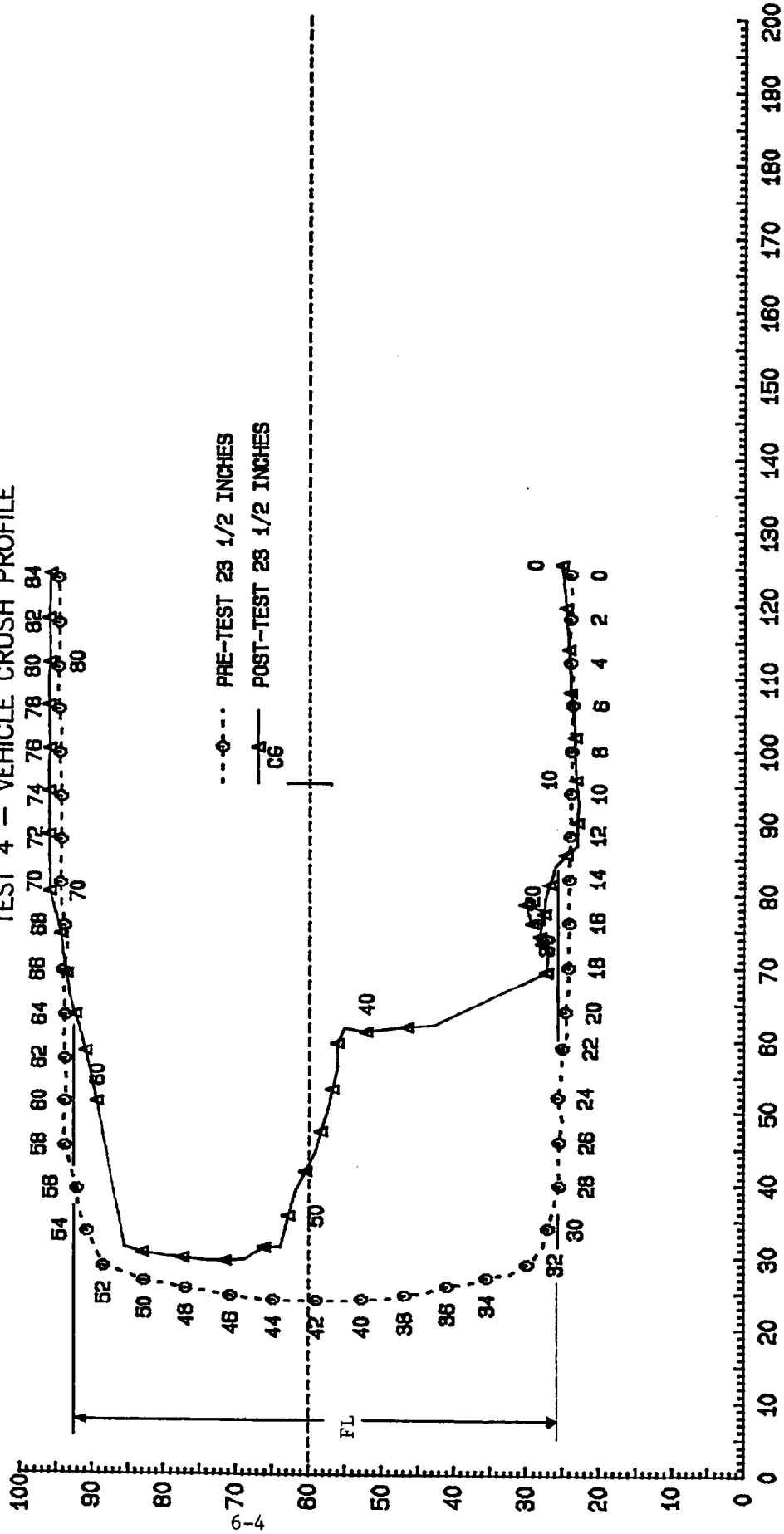


TABLE 20
TEST NO. 930413-4 VEHICLE MEASUREMENTS

VEHICLE MAKE/MODEL: Ford/Taurus

NO.	TYPE OF MEASUREMENT	PRE-TEST	POST-TEST	DIFF.
X1	TOTAL LENGTH OF VEHICLE AT CENTERLINE	169.0	150.4	18.6
X2	REAR SURFACE OF VEHICLE TO FRONT OF ENGINE BLOCK	NA	149.8	NA
X3	REAR SURFACE OF VEHICLE TO FIREWALL	NA	130.2	NA
X4	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF RIGHT DOOR	129.8	129.0	0.8
X5	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF LEFT DOOR	129.8	127.8	2.0
X6	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF RIGHT DOOR	127.8	126.6	1.2
X7	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF LEFT DOOR	127.7	124.8	2.9
X8	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF RIGHT DOOR	87.0	86.2	0.8
X9	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF LEFT DOOR	86.7	85.9	0.8
X10	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF RIGHT DOOR	86.9	85.8	1.1
X11	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF LEFT DOOR	86.7	84.8	1.9
X12	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON RIGHT SIDE	126.2	124.9	1.3
X13	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON LEFT SIDE	NA	NA	NA
X14	REAR SURFACE OF VEHICLE TO FIREWALL - RIGHT SIDE	NA	135.1	NA
X15	REAR SURFACE OF VEHICLE TO FIREWALL - LEFT SIDE	NA	127.3	NA
X16	REAR SURFACE OF VEHICLE TO STEERING WHEEL CENTER	109.6	110.1	-0.5
X17	CENTER OF STEERING COLUMN TO "A" POST	11.1	16.0	-4.9
X18	CENTER OF STEERING COLUMN TO HEADLINER	17.2	26.5	-9.3
X19	REAR SURFACE OF VEHICLE TO RIGHT SIDE OF FRONT BUMPER	185.9	180.0	5.9
X20	REAR SURFACE OF VEHICLE TO LEFT SIDE OF FRONT BUMPER	158.3	140.6	17.7
X21	LENGTH OF ENGINE BLOCK	15.0	15.0	0.0

All distance measurements are in inches.

TABLE 21

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

TEST NUMBER 930413-4

No. LOCATION	X*	Y*	Z*	POSITIVE		NEGATIVE	
				DIRECTION		DIRECTION	
				MAX G	MSEC	MAX G	MSEC
1 LEFT REAR SILL	74.1	22.5	18.1				
LONGITUDINAL				4.1	204.4	40.7	43.6
LATERAL				6.6	69.9	14.6	40.8
2 RIGHT REAR SILL	74.1	-21.0	19.0				
LONGITUDINAL				4.1	204.1	54.5	40.6
LATERAL				5.3	80.1	12.9	42.5
3 VEHICLE CENTER	115.1	-0.8	16.8				
OF GRAVITY							
LONGITUDINAL				4.9	125.4	57.4	38.1
LATERAL				17.9	72.9	34.3	38.5
RESULTANT				66.7	38.3		

* ALL MEASUREMENTS OF ACCELEROMETER LOCATIONS ARE IN INCHES.

REFERENCE: X: + FORWARD FROM VEHICLE'S REAR BUMPER
Y: + LEFTWARD FROM VEHICLE'S LONGITUDINAL CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

TABLE 22
TEST NO. 930413-4 CAMERA INFORMATION

CAMERA NUMBER	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Left tight	Stalex	25	1005	Impact overall
2	Right wide	Stalex	13	995	Impact overall

PHOTOGRAPHS

LIST OF PHOTOGRAPHS

TEST NO. 930413-1

- A-1. PRE-TEST RIGHT SIDE VIEW
- A-2. POST-TEST RIGHT SIDE VIEW
- A-3. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-4. POST-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-5. PRE-TEST FRONT VIEW
- A-6. POST-TEST FRONT VIEW
- A-7. PRE-TEST LEFT FRONT THREE-QUARTER VIEW
- A-8. POST-TEST LEFT FRONT THREE-QUARTER VIEW
- A-9. PRE-TEST LEFT SIDE VIEW
- A-10. POST-TEST LEFT SIDE VIEW



Figure A-1. PRE-TEST RIGHT SIDE VIEW



Figure A-2. POST-TEST RIGHT SIDE VIEW



Figure A-3. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-4. POST-TEST RIGHT FRONT THREE-QUARTER VIEW

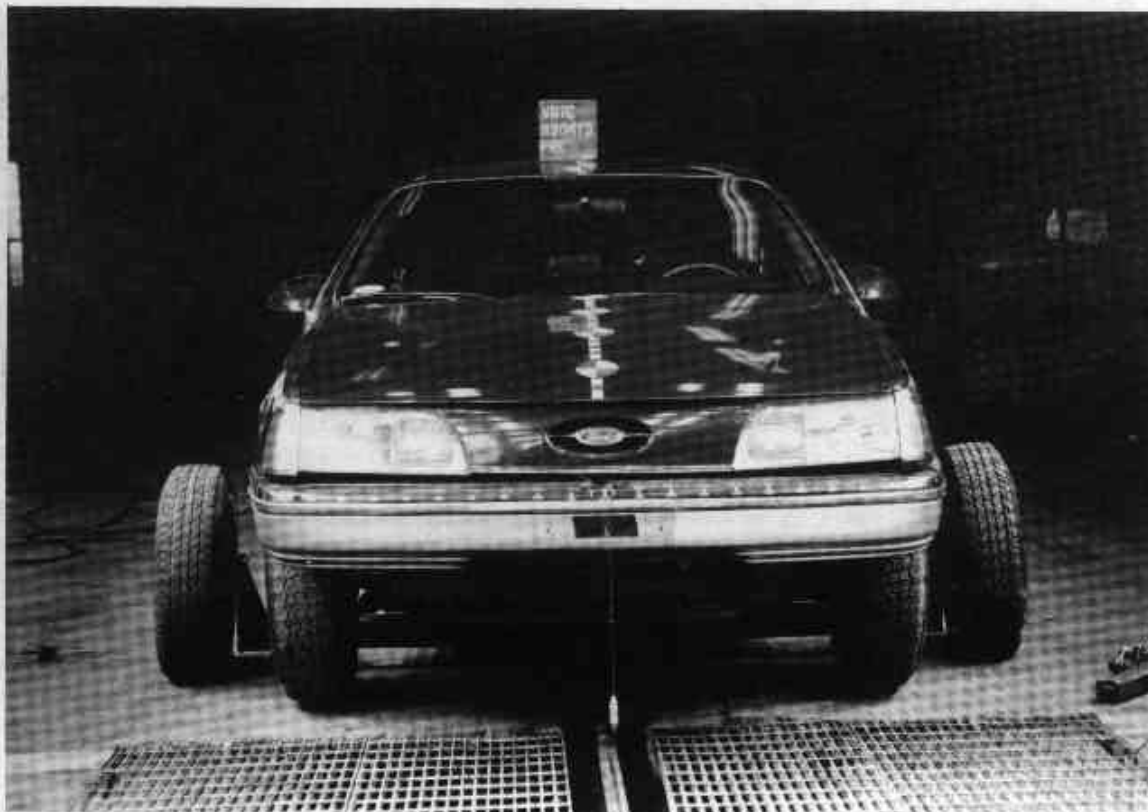


Figure A-5. PRE-TEST FRONT VIEW



Figure A-6. POST-TEST FRONT VIEW



Figure A-7. PRE-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-8. POST-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-9. PRE-TEST LEFT SIDE VIEW



Figure A-40. POST-TEST LEFT SIDE VIEW

LIST OF PHOTOGRAPHS

TEST NO. 930413-2

- A-11. PRE-TEST RIGHT SIDE VIEW
- A-12. POST-TEST RIGHT SIDE VIEW
- A-13. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-14. POST-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-15. PRE-TEST FRONT VIEW
- A-16. POST-TEST FRONT VIEW
- A-17. PRE-TEST LEFT FRONT THREE-QUARTER VIEW
- A-18. POST-TEST LEFT FRONT THREE-QUARTER VIEW
- A-19. PRE-TEST LEFT SIDE VIEW
- A-20. POST-TEST LEFT SIDE VIEW



Figure A-11. PRE-TEST RIGHT SIDE VIEW



Figure A-12. POST-TEST RIGHT SIDE VIEW



Figure A-13. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-14. POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-15. PRE-TEST FRONT VIEW



Figure A-16. POST-TEST FRONT VIEW



Figure A-17. PRE-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-18. POST-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-19. PRE-TEST LEFT SIDE VIEW



Figure A-40. POST-TEST LEFT SIDE VIEW

LIST OF PHOTOGRAPHS

TEST NO. 930413-3

- A-21. PRE-TEST RIGHT SIDE VIEW
- A-22. POST-TEST RIGHT SIDE VIEW
- A-23. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-24. POST-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-25. PRE-TEST FRONT VIEW
- A-26. POST-TEST FRONT VIEW
- A-27. PRE-TEST LEFT FRONT THREE-QUARTER VIEW
- A-28. POST-TEST LEFT FRONT THREE-QUARTER VIEW
- A-29. PRE-TEST LEFT SIDE VIEW
- A-30. POST-TEST LEFT SIDE VIEW



Figure A-21. PRE-TEST RIGHT SIDE VIEW



Figure A-22. POST-TEST RIGHT SIDE VIEW



Figure A-23. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-24. POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-25. PRE-TEST FRONT VIEW

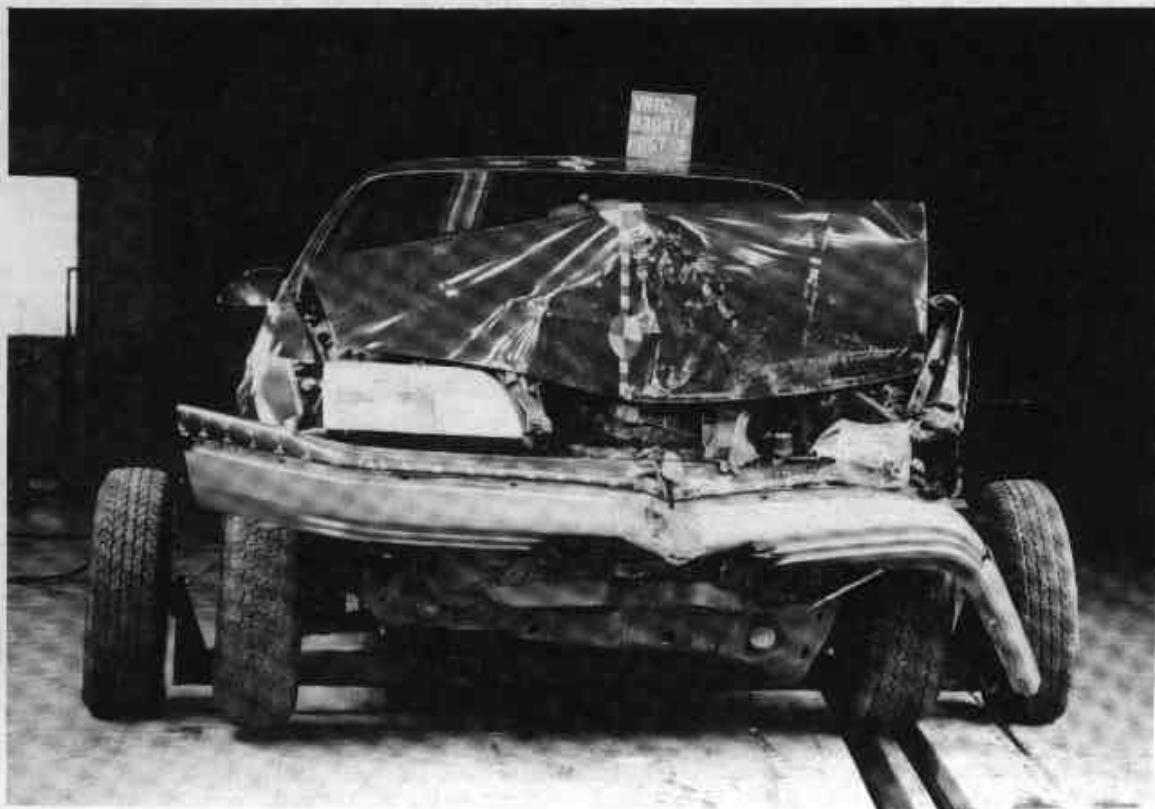


Figure A-26. POST-TEST FRONT VIEW



Figure A-27. PRE-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-28. POST-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-29. PRE-TEST LEFT SIDE VIEW



Figure A-40. POST-TEST LEFT SIDE VIEW

LIST OF PHOTOGRAPHS

TEST NO. 930413-4

- A-31. PRE-TEST RIGHT SIDE VIEW
- A-32. POST-TEST RIGHT SIDE VIEW
- A-33. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-34. POST-TEST RIGHT FRONT THREE-QUARTER VIEW
- A-35. PRE-TEST FRONT VIEW
- A-36. POST-TEST FRONT VIEW
- A-37. PRE-TEST LEFT FRONT THREE-QUARTER VIEW
- A-38. POST-TEST LEFT FRONT THREE-QUARTER VIEW
- A-39. PRE-TEST LEFT SIDE VIEW
- A-40. POST-TEST LEFT SIDE VIEW



Figure A-31. PRE-TEST RIGHT SIDE VIEW



Figure A-32. POST-TEST RIGHT SIDE VIEW



Figure A-33. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-34. POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-35. PRE-TEST FRONT VIEW



Figure A-36. POST-TEST FRONT VIEW



Figure A-37. PRE-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-38. POST-TEST LEFT FRONT THREE-QUARTER VIEW



Figure A-39. PRE-TEST LEFT SIDE VIEW



Figure A-40. POST-TEST LEFT SIDE VIEW

APPENDIX B

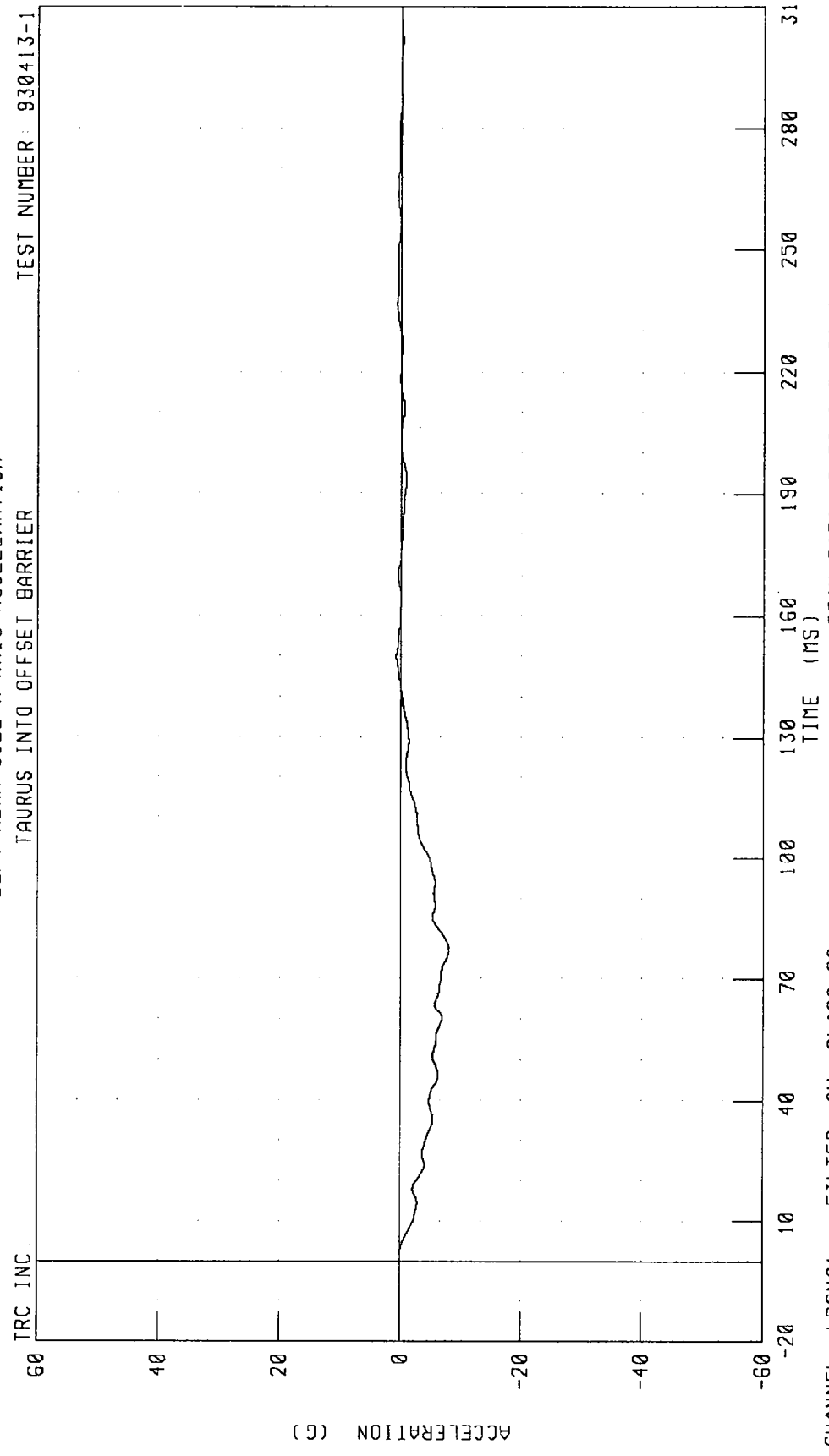
DATA PLOTS

DATA PLOTS

TEST NO. 930413-1

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1
LEFT REAR SILL X-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-1



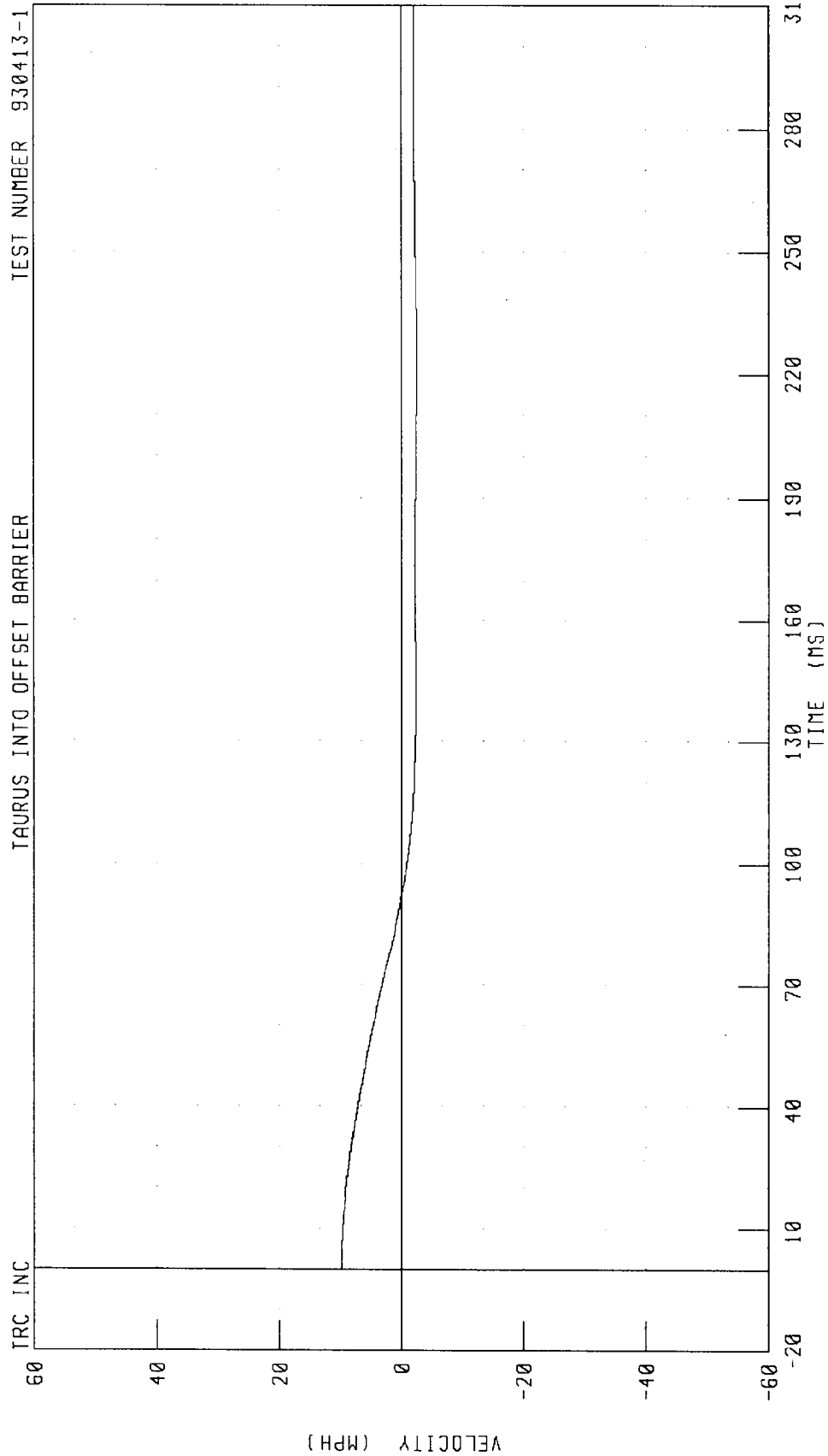
CHANNEL: LRSXG1 FILTER: CH. CLASS 60 PEAK DATA: 0.79 G @ 150.00 MS, -7.96 G @ 77.13 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1

LEFT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-1



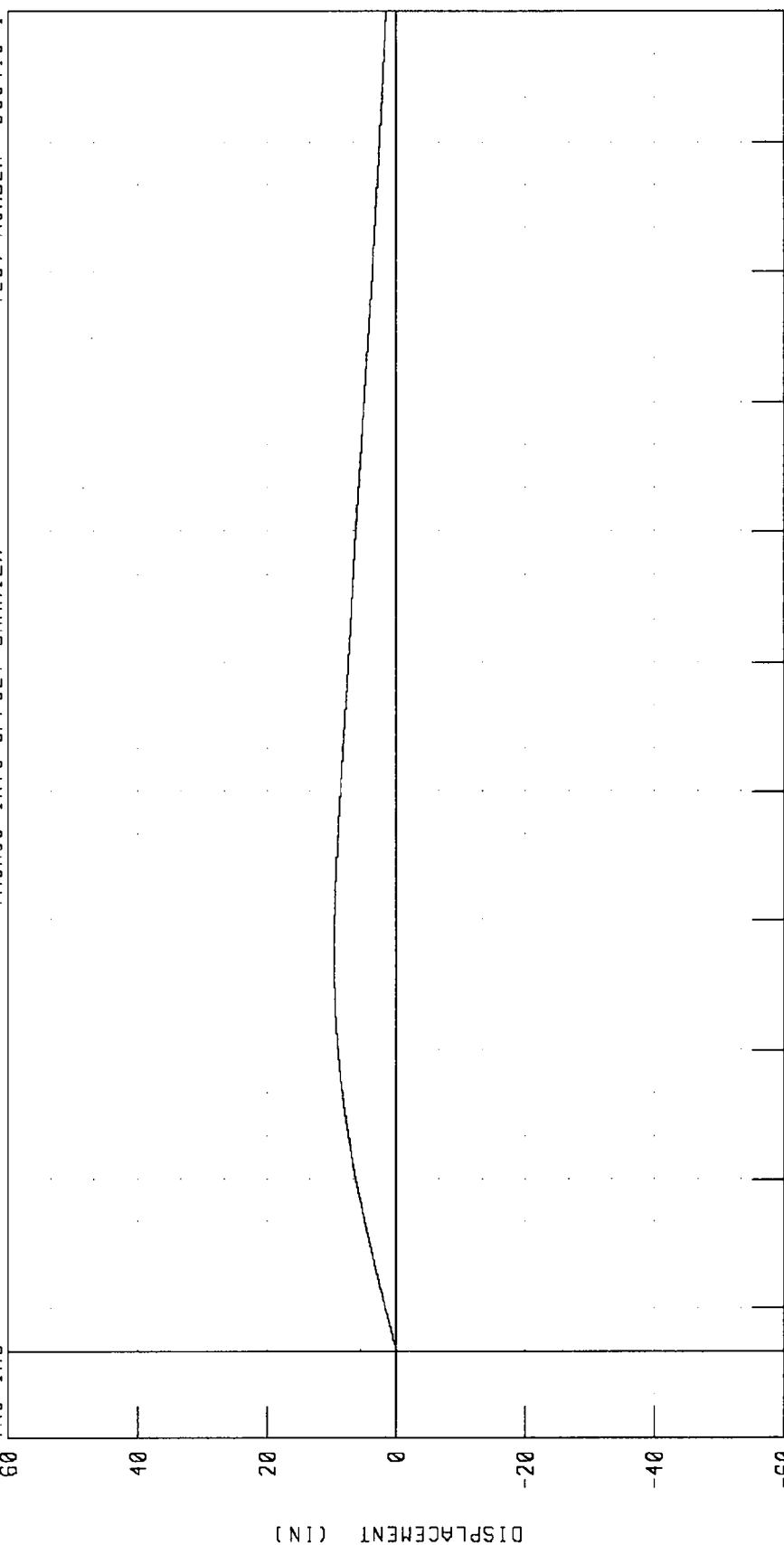
CHANNEL: LRSXV1 FILTER: CH CLASS 180 PEAK DATA: 9.80 MPH @ 0.63 MS, -2.50 MPH @ 229.75 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
LEFT REAR SILL X-AXIS DISPLACEMENT

TEST NUMBER: 930413-1

TAURUS INTO OFFSET BARRIER

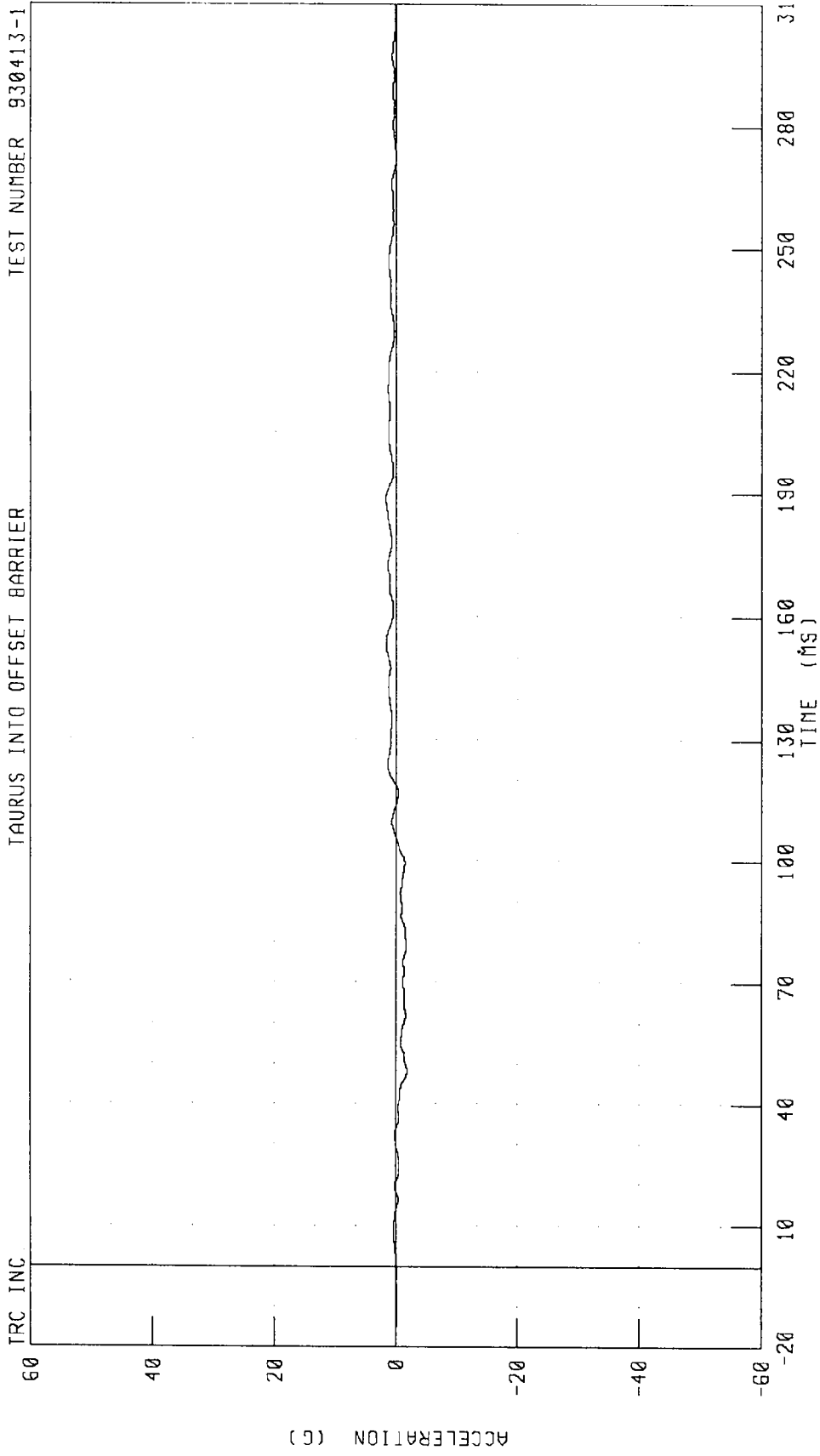
TRC INC



CHANNEL: LRSXD1 FILTER: CH. CLASS 180 PEAK DATA: 9.65 IN @ 92.75 MS, 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1
LEFT REAR SILL Y-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-1

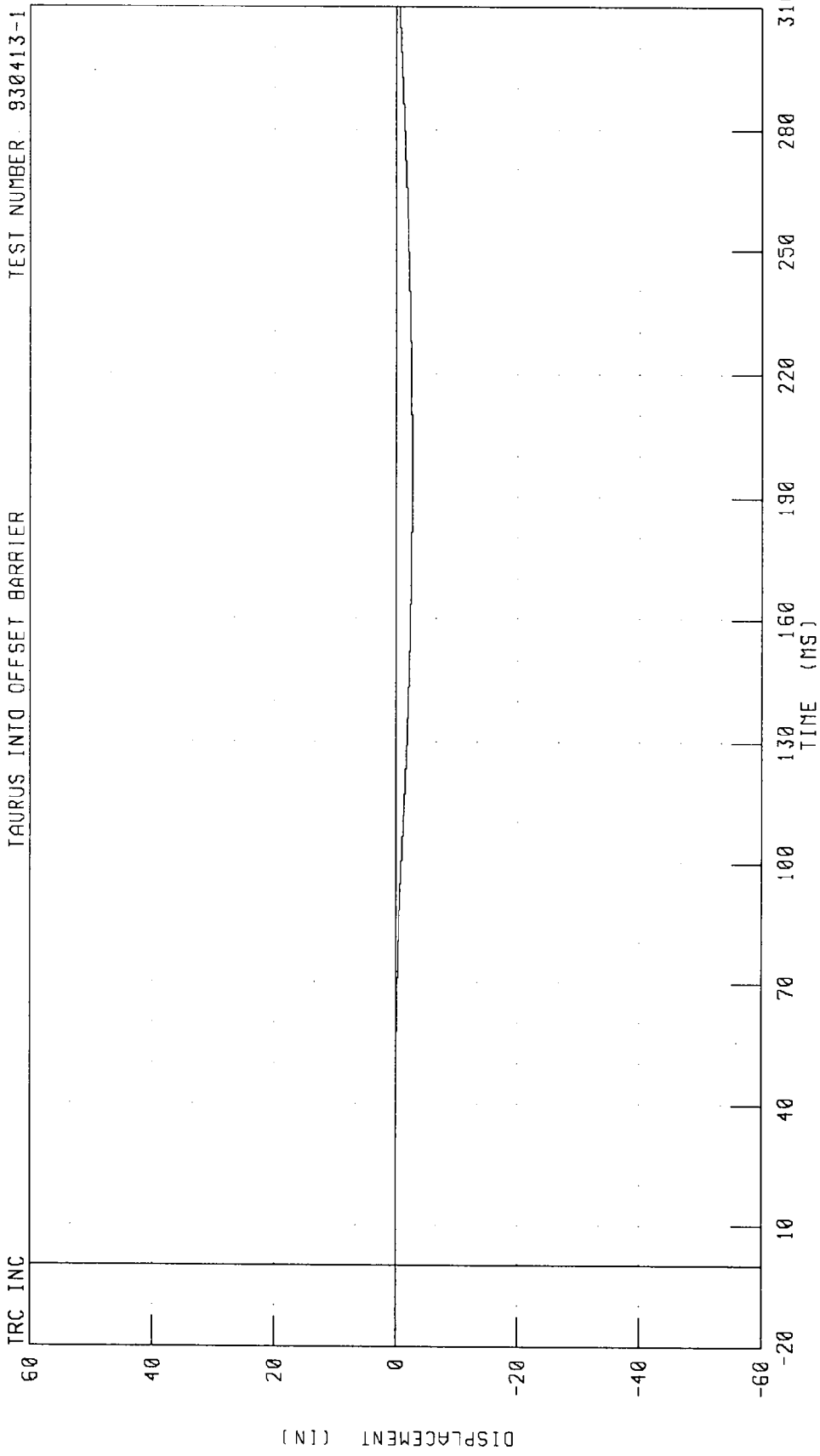


CHANNEL: LRSYG1 FILTER: CH CLASS 60

PEAK DATA 1 60 G @ 100 38 MS, -1 87 G @ 48 50 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1
LEFT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-1



CHANNEL: LRSYD1 FILTER: CH. CLASS 180 PEAK DATA: 0.01 IN @ 26.25 MS, -2.65 IN @ 194.63 MS

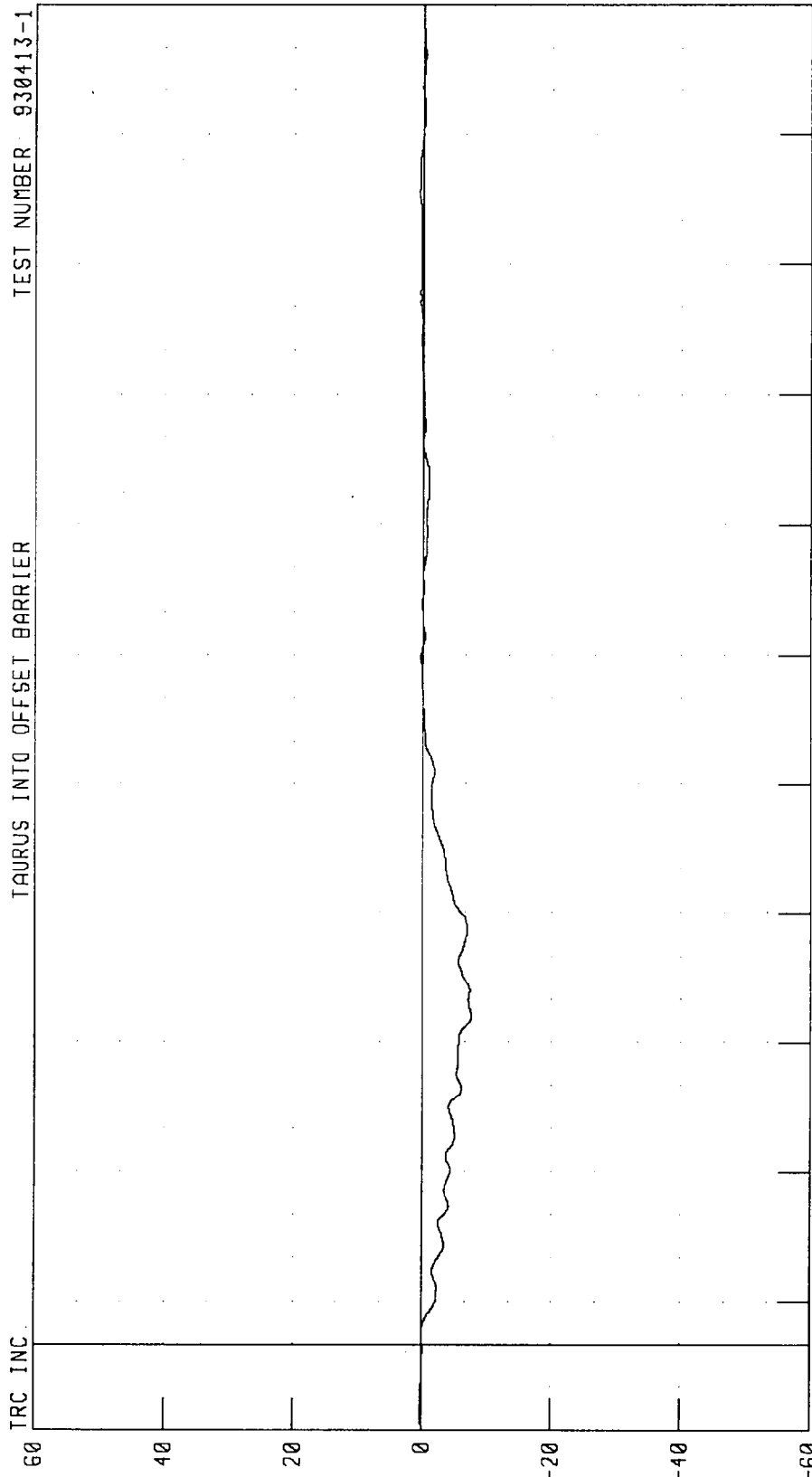
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1

RIGHT REAR SILL X-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER

TRC INC.

TEST NUMBER 930413-1



CHANNEL: ARSXG1 FILTER: CH CLASS 60

TIME (MS)

PEAK DATA 0.64 G @ 266.00 MS, -7.63 G @ 76.13 MS

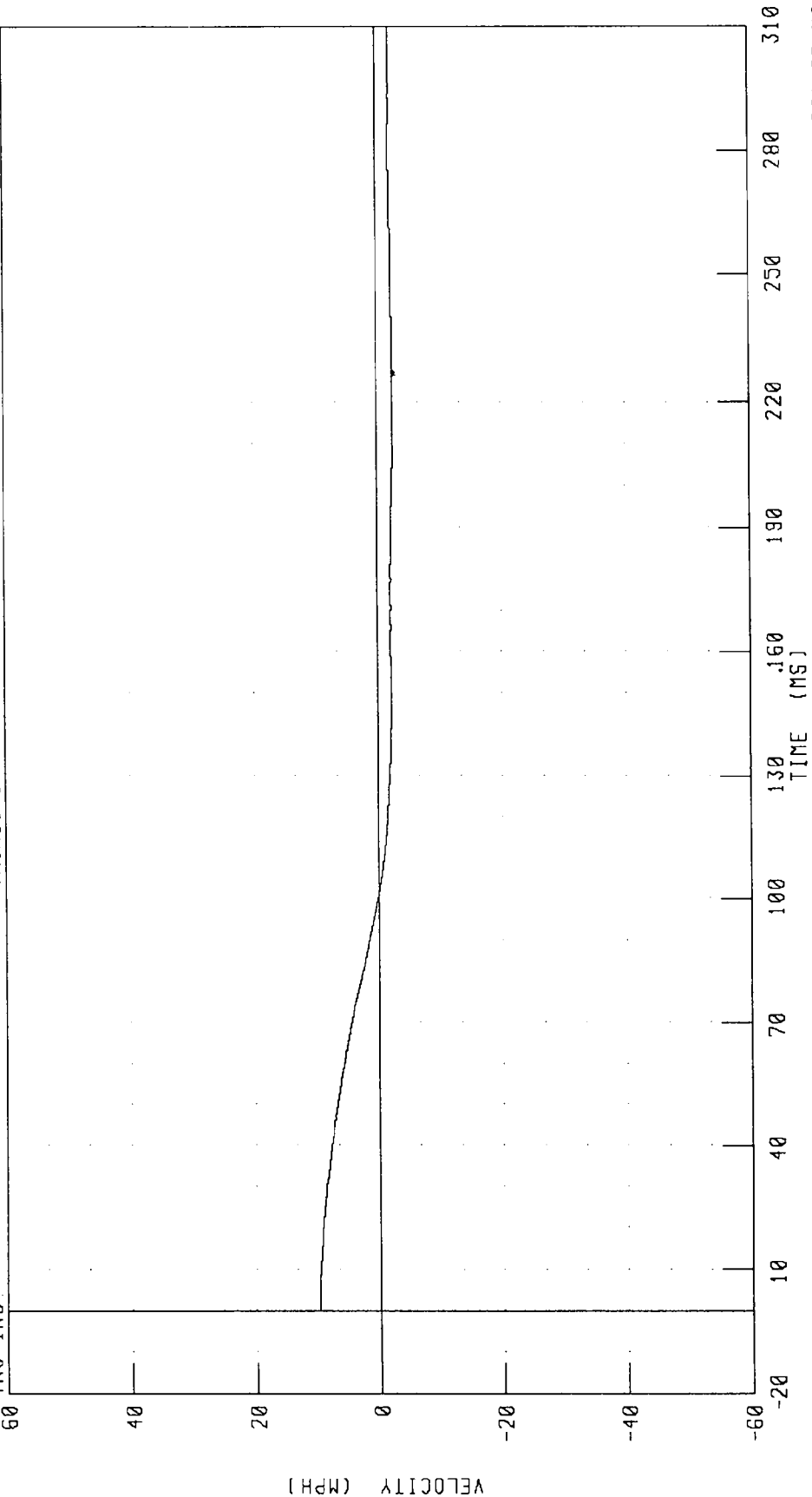
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1

RIGHT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-1

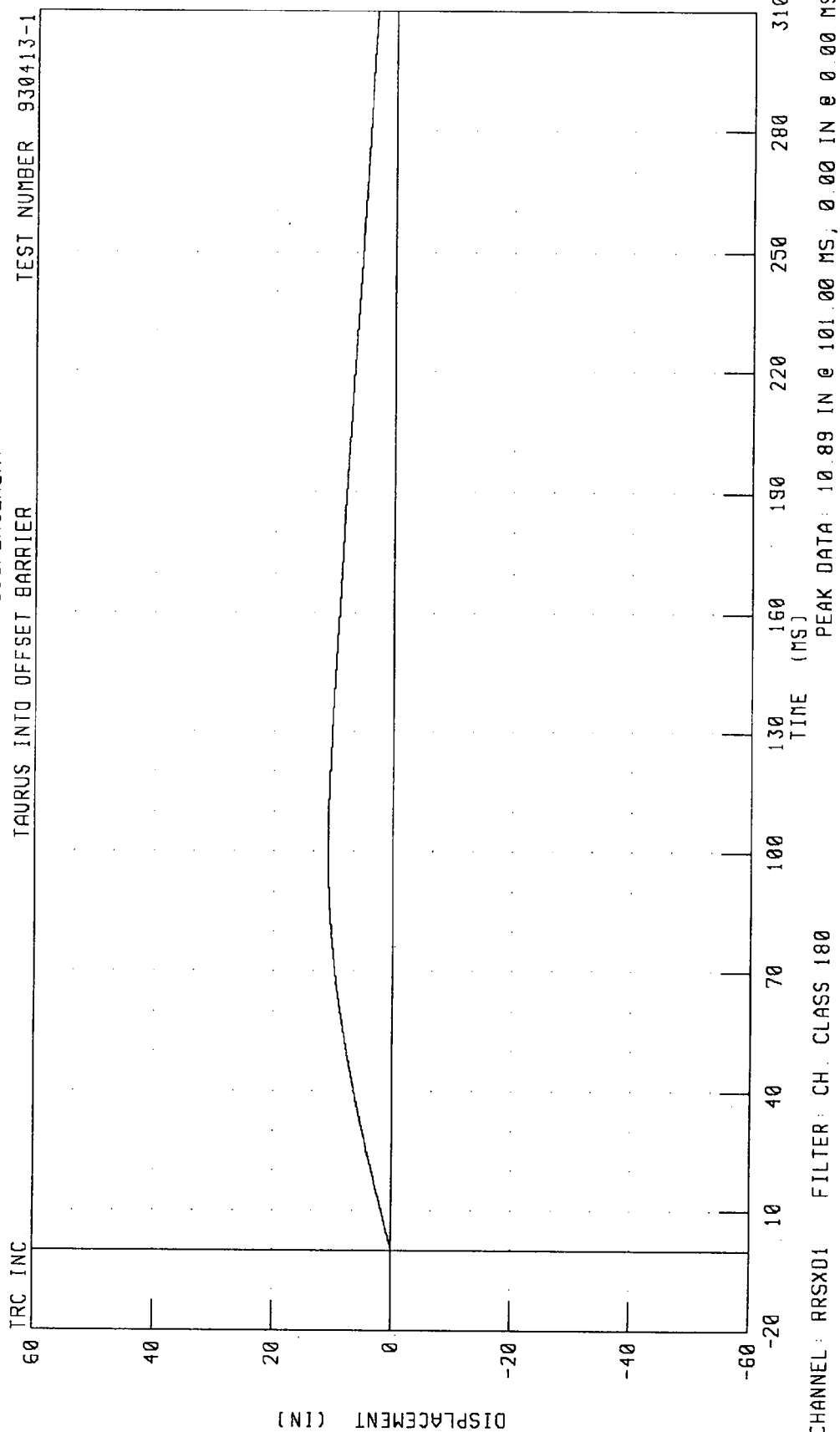
TRC INC.



CHANNEL: RRSXV1 FILTER: CH CLASS 180

PEAK DATA 9.80 MPH @ 13 MS, -2.51 MPH @ 221.25 MS

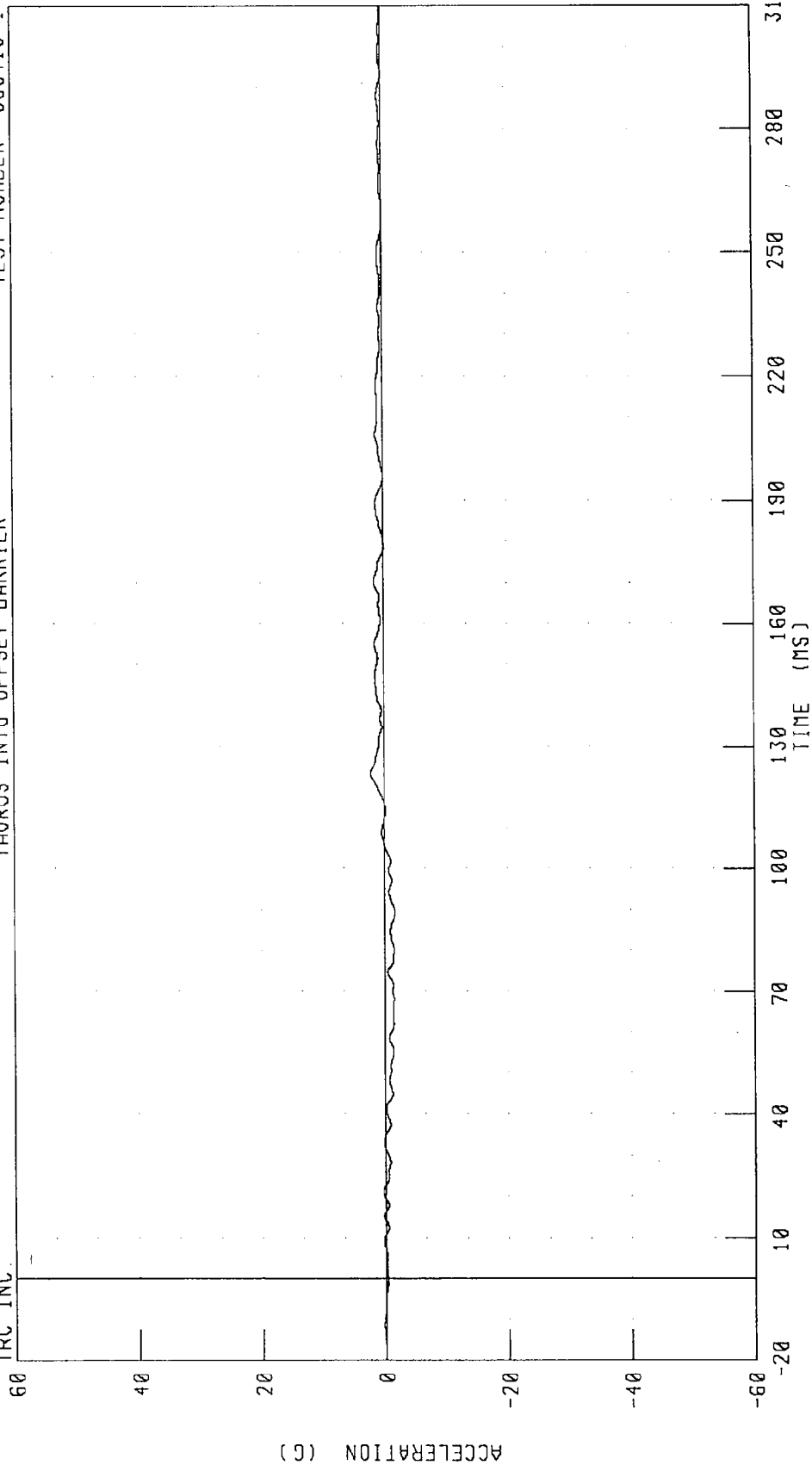
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
RIGHT REAR SILL X-AXIS DISPLACEMENT



1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
RIGHT REAR SILL Y-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-1

IRC INC.



PEAK DATA: 2.25 G @ 123.50 MS, -1.64 G @ 89.38 MS

CHANNEL: RRSYG1 FILTER: CH CLASS 60

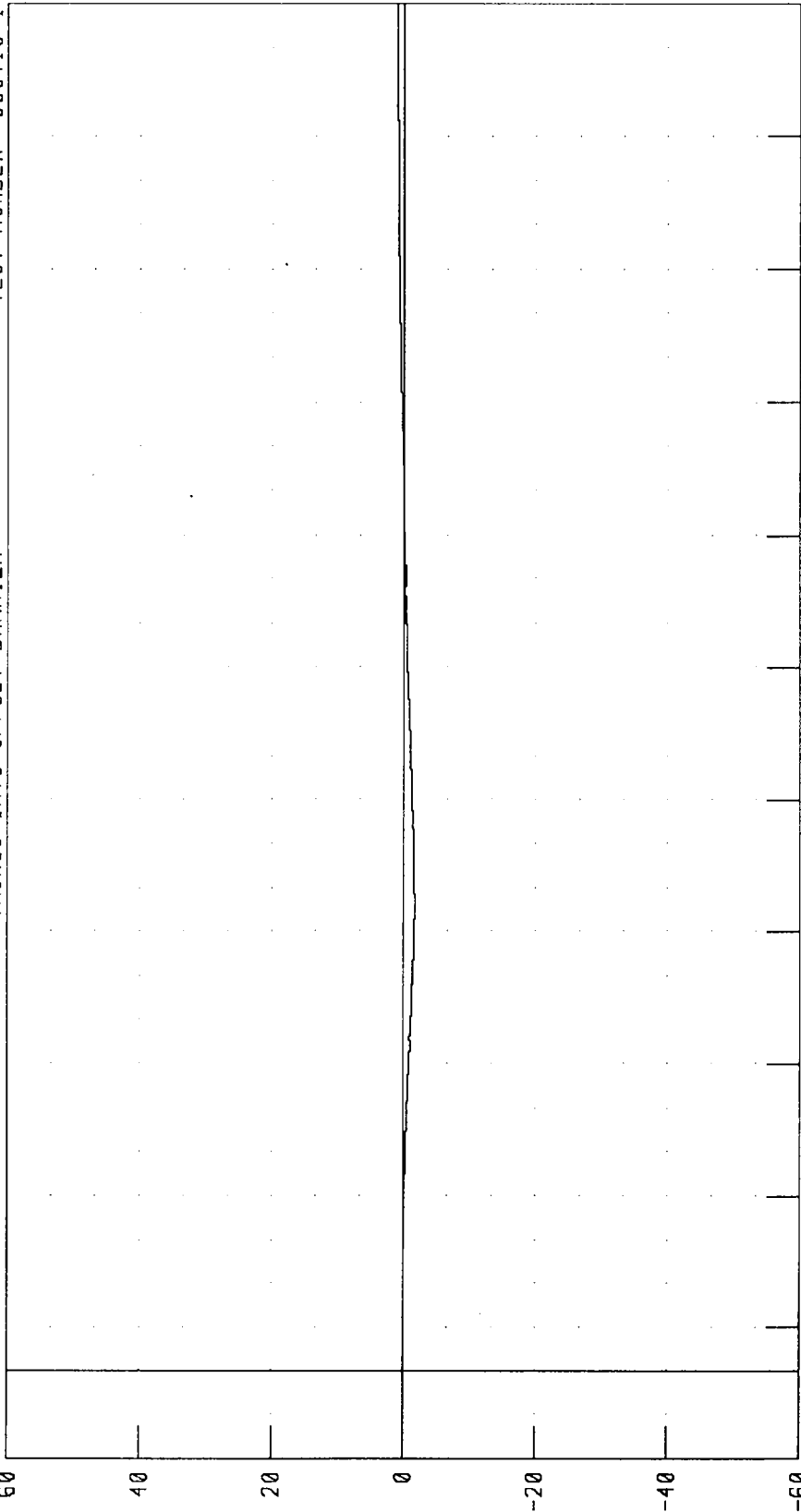
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1

RIGHT REAR SILL Y-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

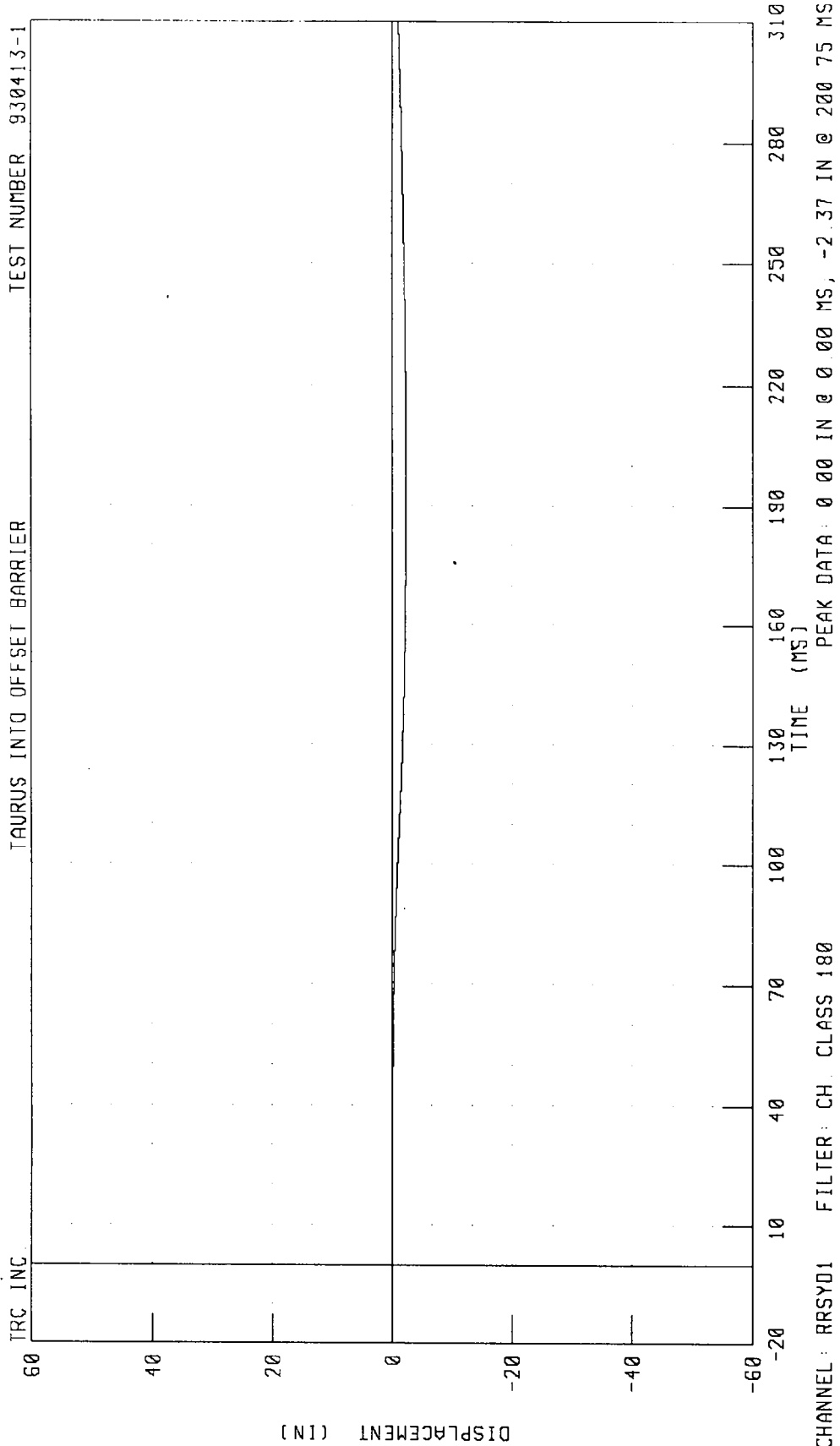
TRC INC.

TEST NUMBER: 930413-1

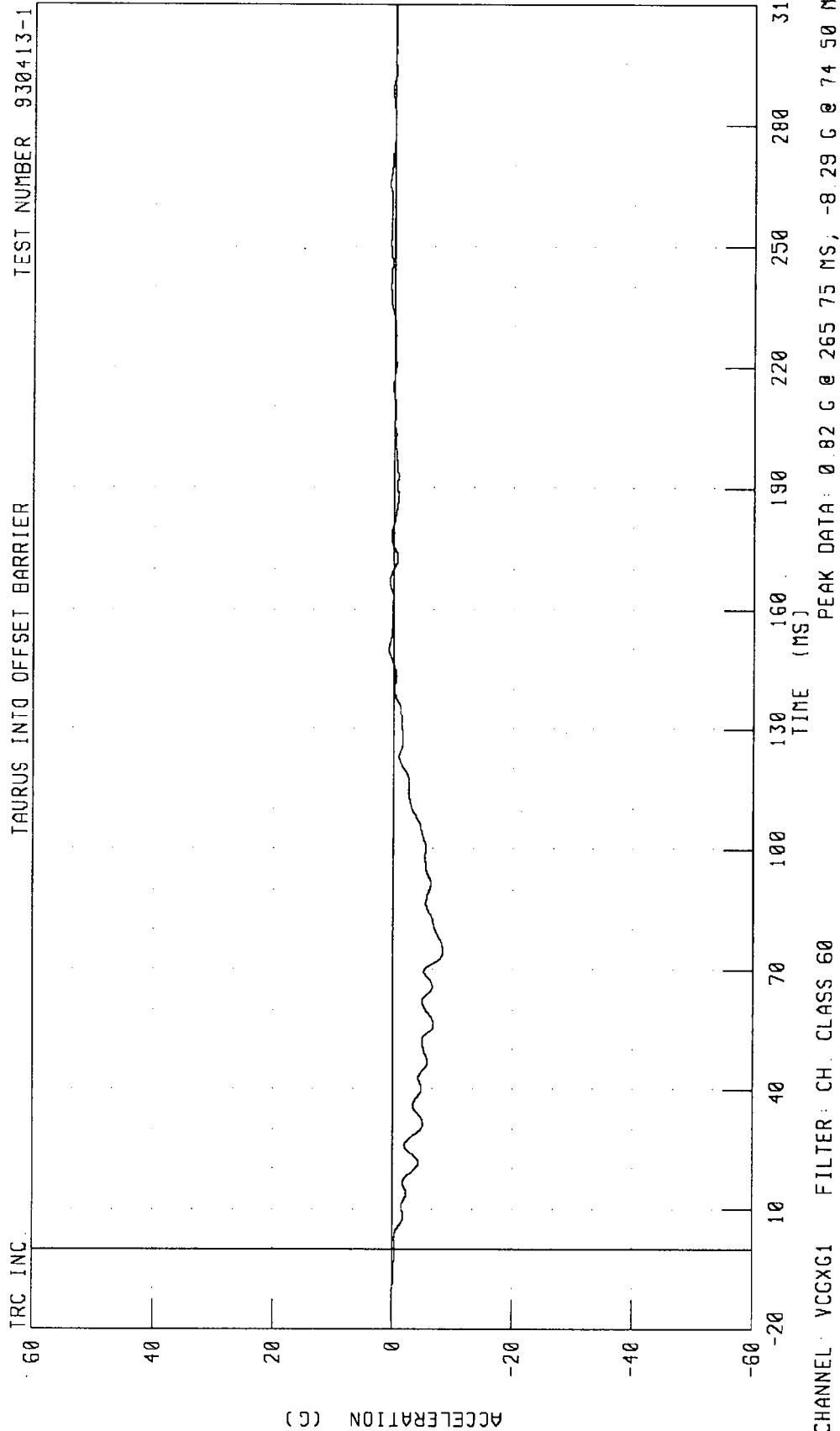


CHANNEL: RRSYV1 FILTER: CH. CLASS 180
TIME (MS) PEAK DATA: 1.11 MPH @ 309.00 MS, -1.63 MPH @ 104.38 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1
RIGHT REAR SILL Y-AXIS DISPLACEMENT

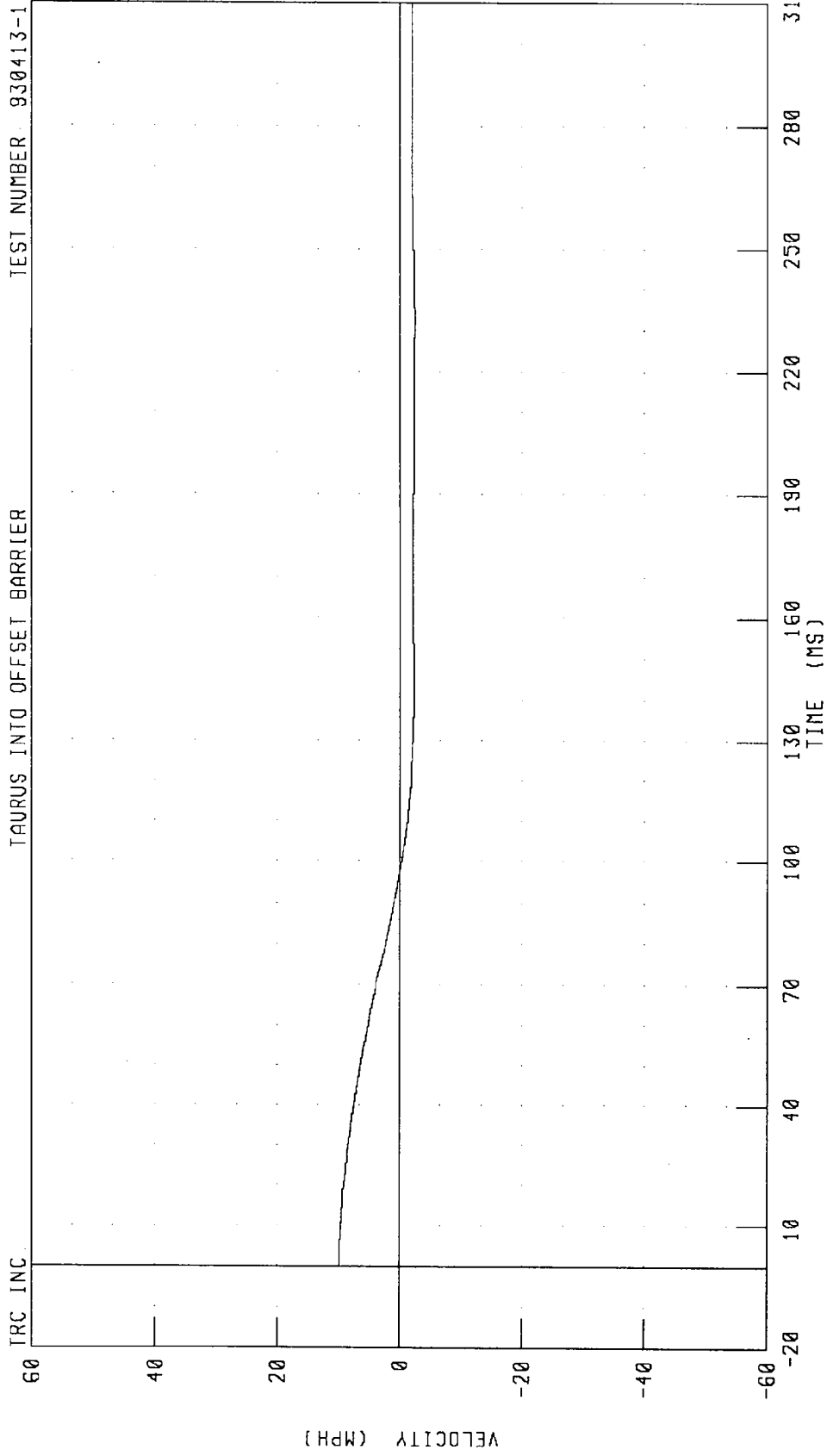


1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION



1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
 VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-1



CHANNEL: VCGXV1 FILTER: CH. CLASS 180

PEAK DATA: 9.80 MPH @ 0.00 MS, -2.46 MPH @ 231.50 MS

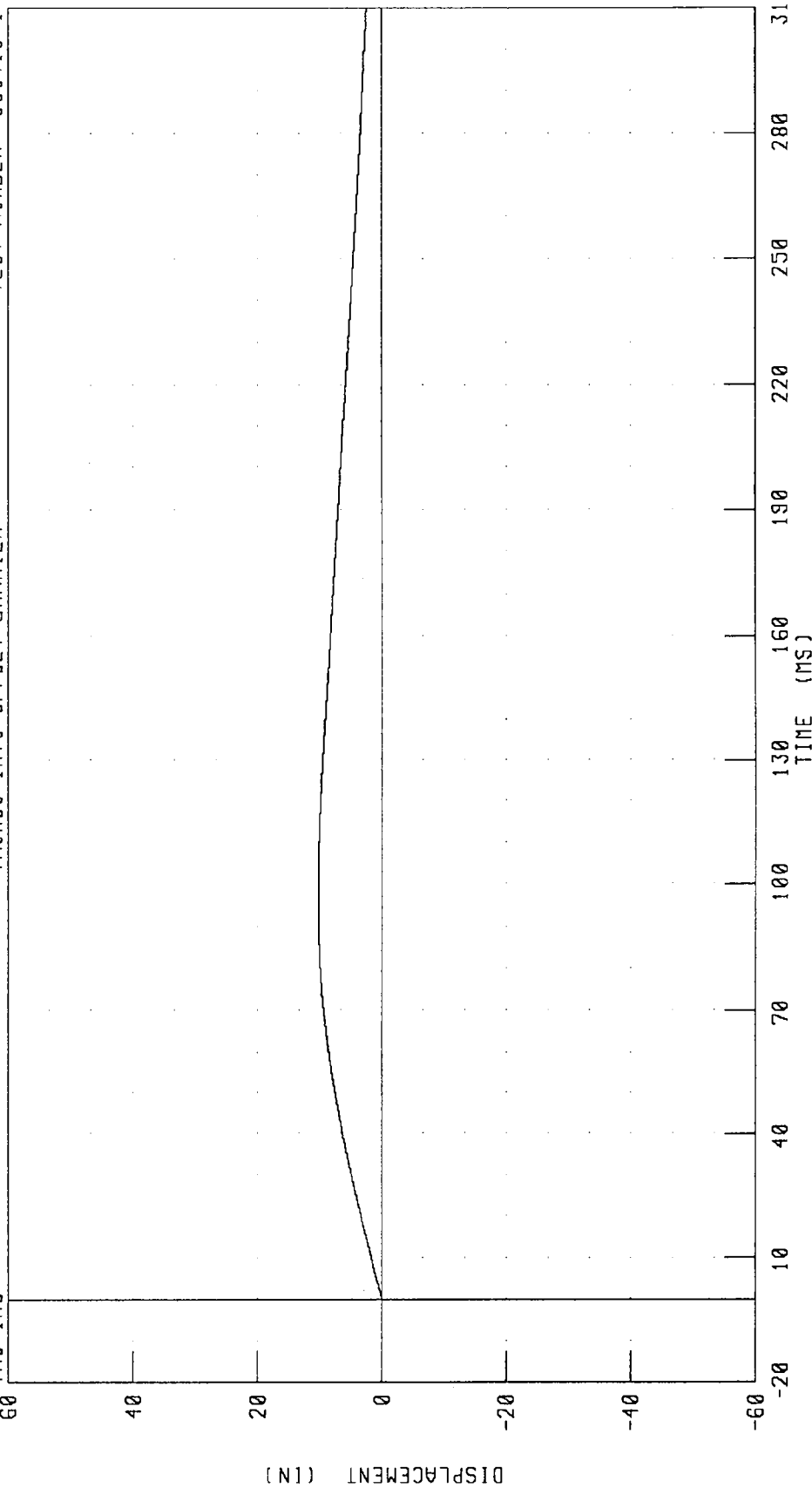
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1

VEHICLE CENTER OF GRAVITY X-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-1

TRC INC

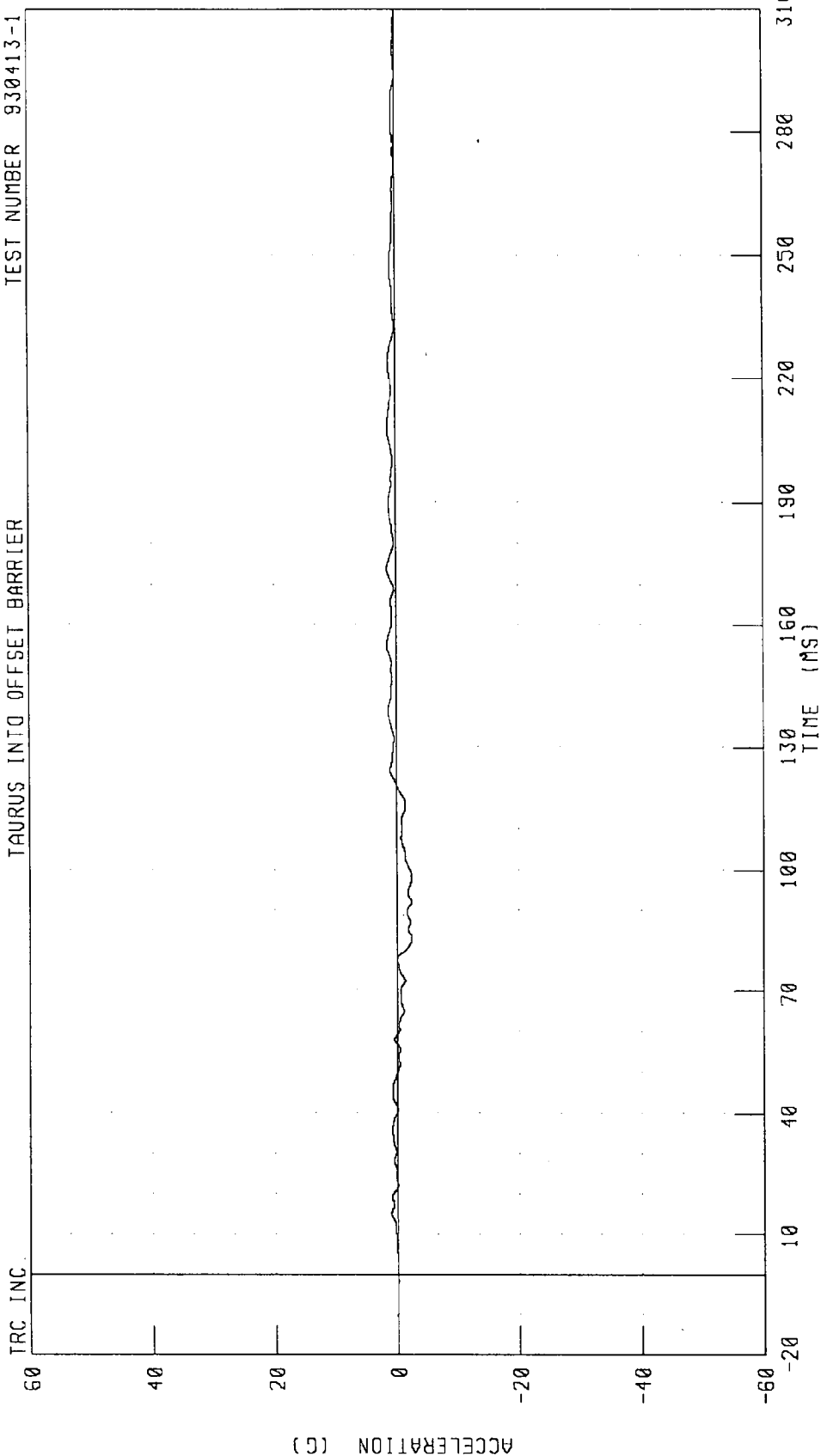


PEAK DATA: 10.24 IN @ 97.38 MS, 0.00 IN @ 0.00 MS

CHANNEL: VCGXD1 FILTER: CH. CLASS 180

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9 8 MPH TEST NO 1
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-1



CHANNEL: VCGY61 FILTER: CH CLASS 60

PEAK DATA: 1 52 G @ 154 63 MS, -2 44 G @ 82 88 MS

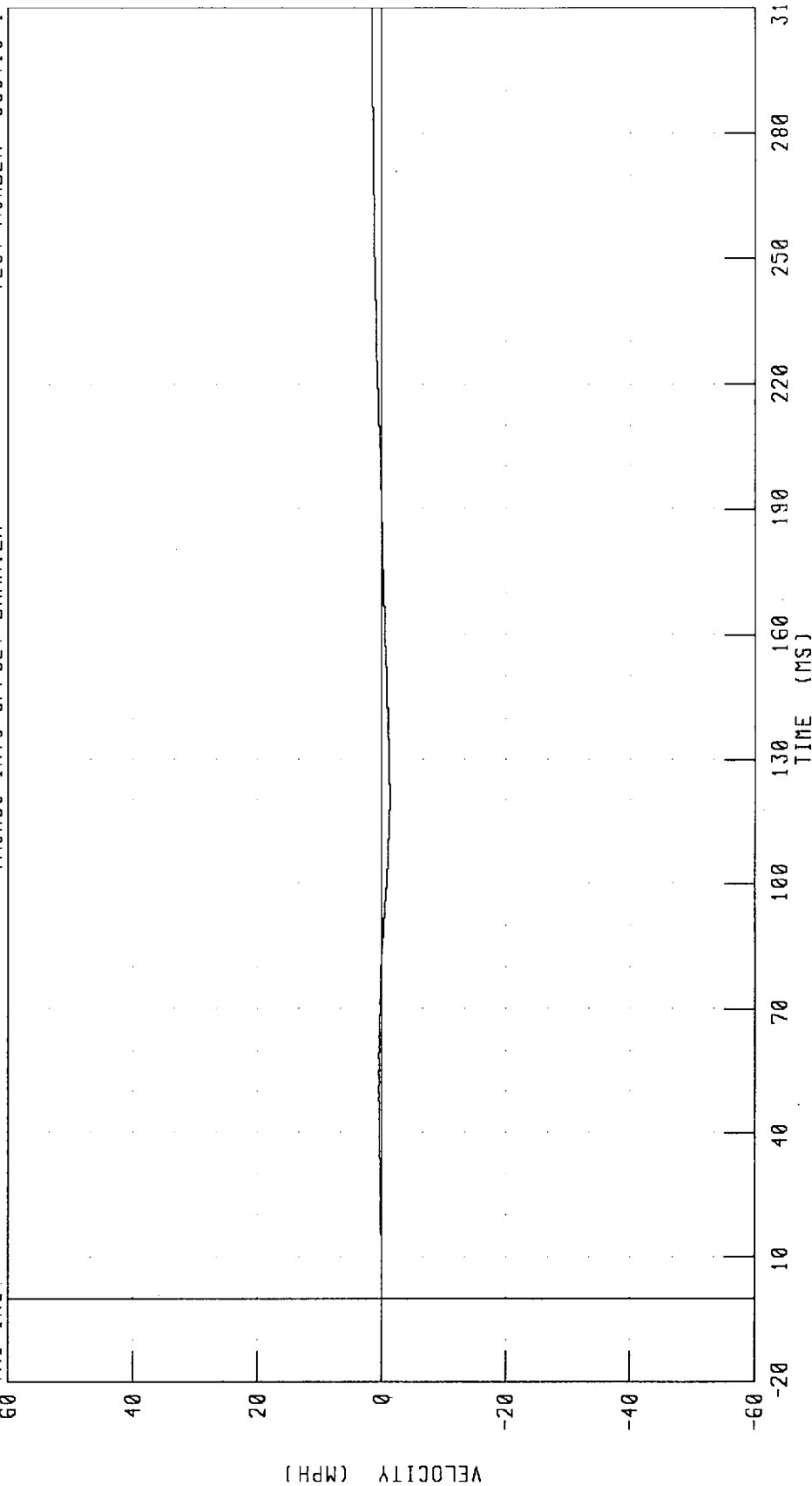
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1

VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-1

TRC INC.

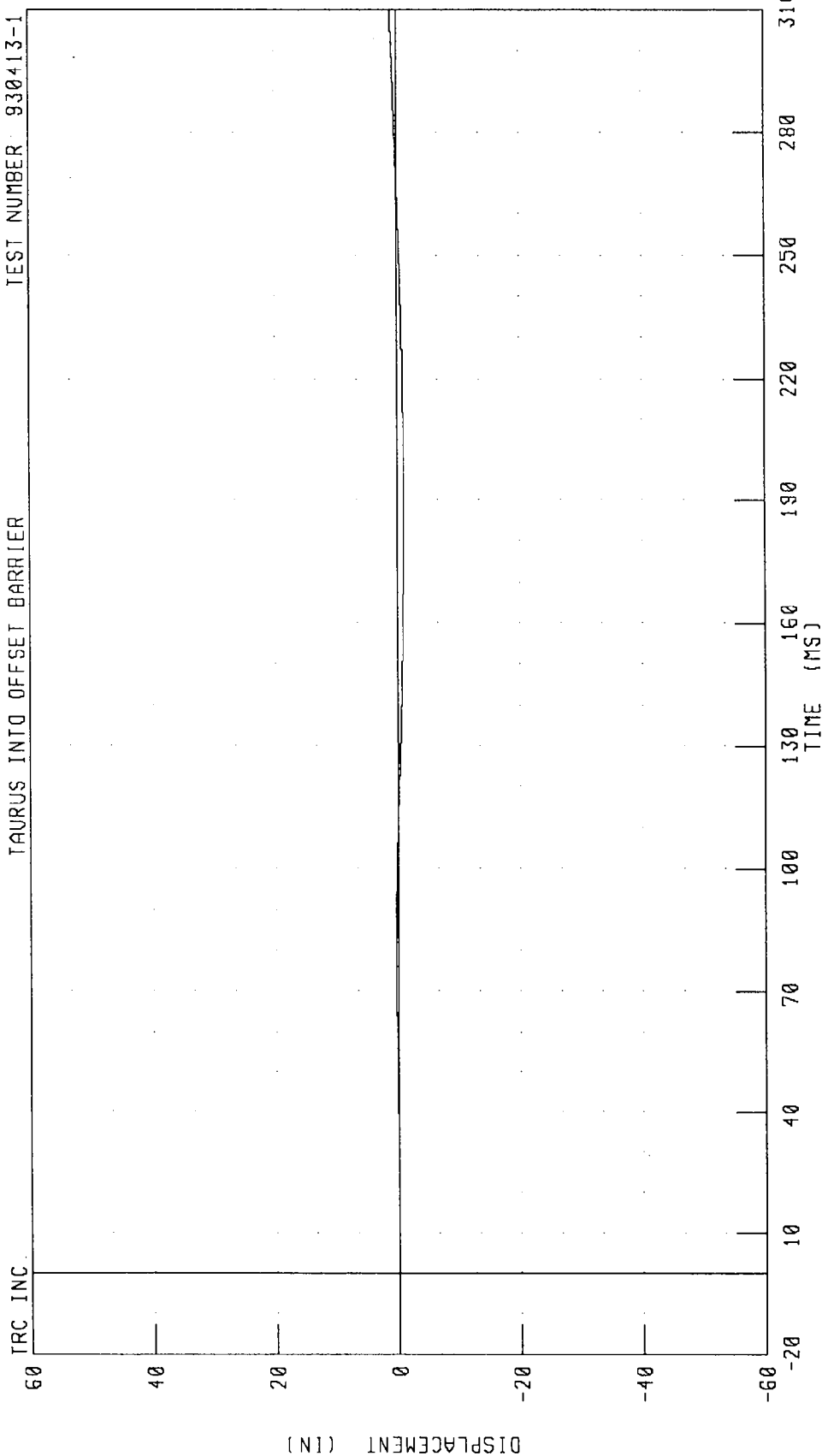


CHANNEL: VCGYV1 FILTER: CH. CLASS 180

PEAK DATA: 157 MPH @ 308.00 MS, -130 MPH @ 118.88 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
VEHICLE CENTER OF GRAVITY Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER TEST NUMBER: 930413-1

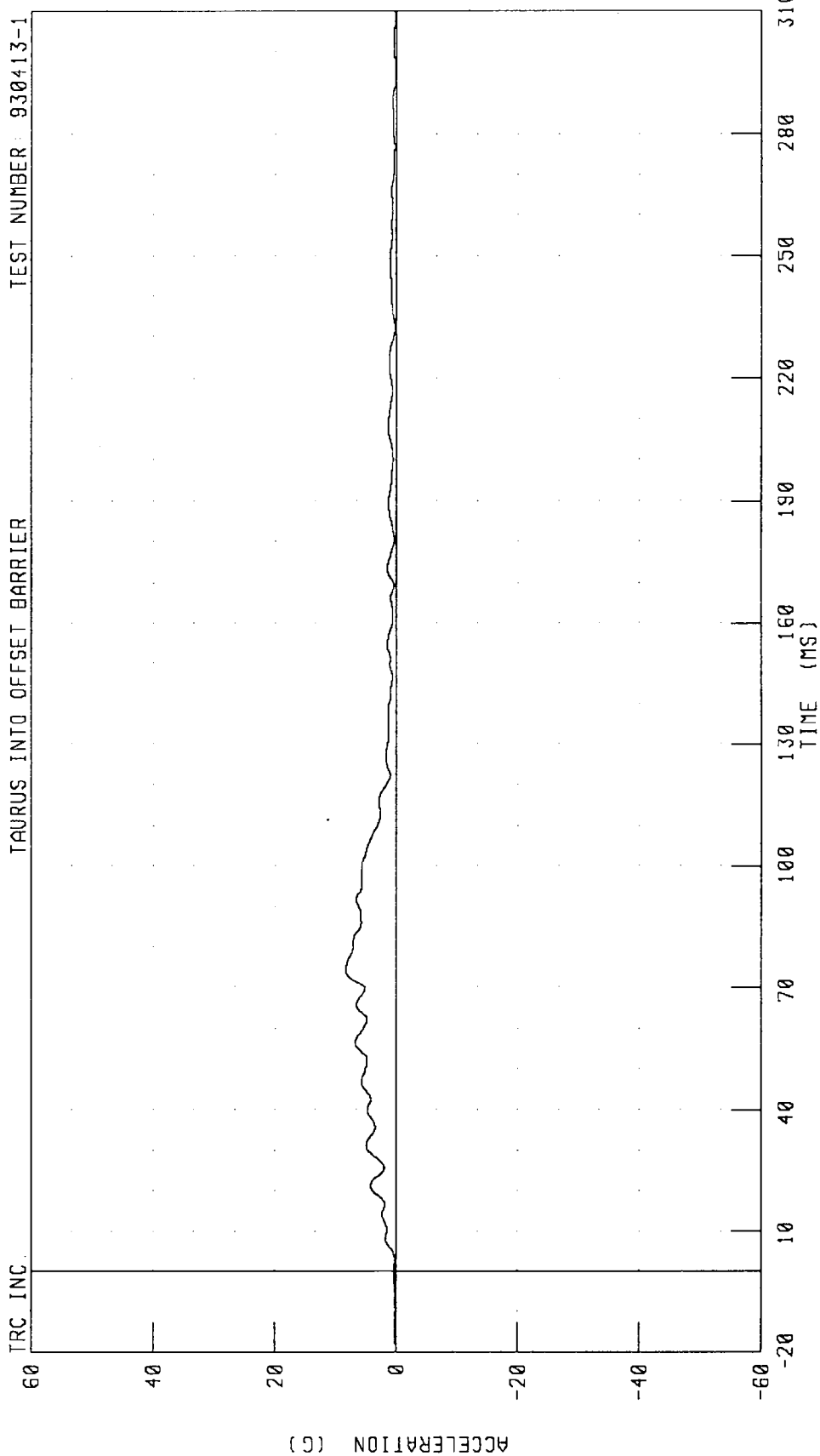


CHANNEL: VCGYD1 FILTER: CH. CLASS 180 PEAK DATA: 1.09 IN @ 310.00 MS; -1.00 IN @ 189.88 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-1



CHANNEL: VCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 8.32 G @ 74.38 MS, 0.06 G @ -19.13 MS

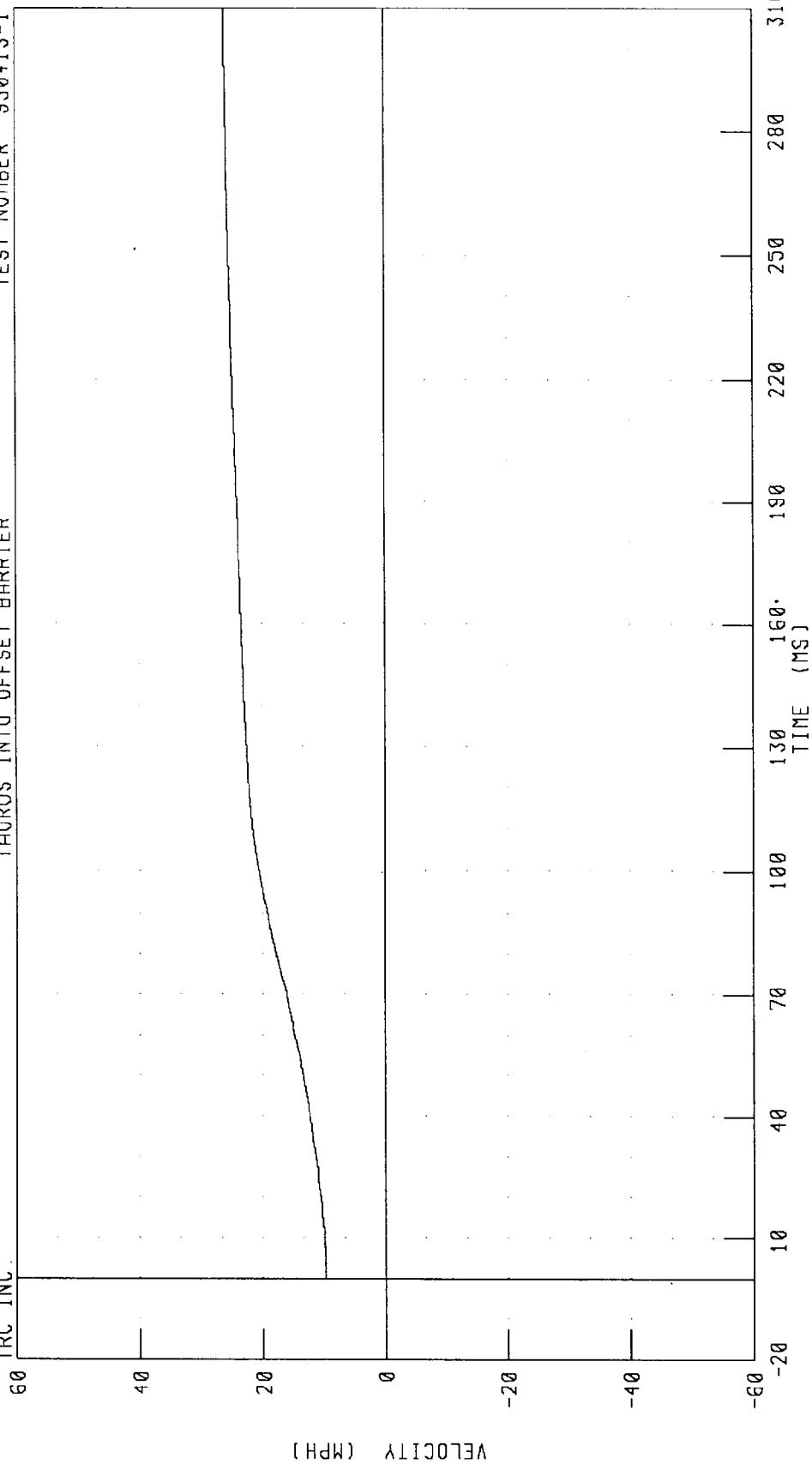
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO 1

VEHICLE CENTER OF GRAVITY RESULTANT VELOCITY

TEST NUMBER 930413-1

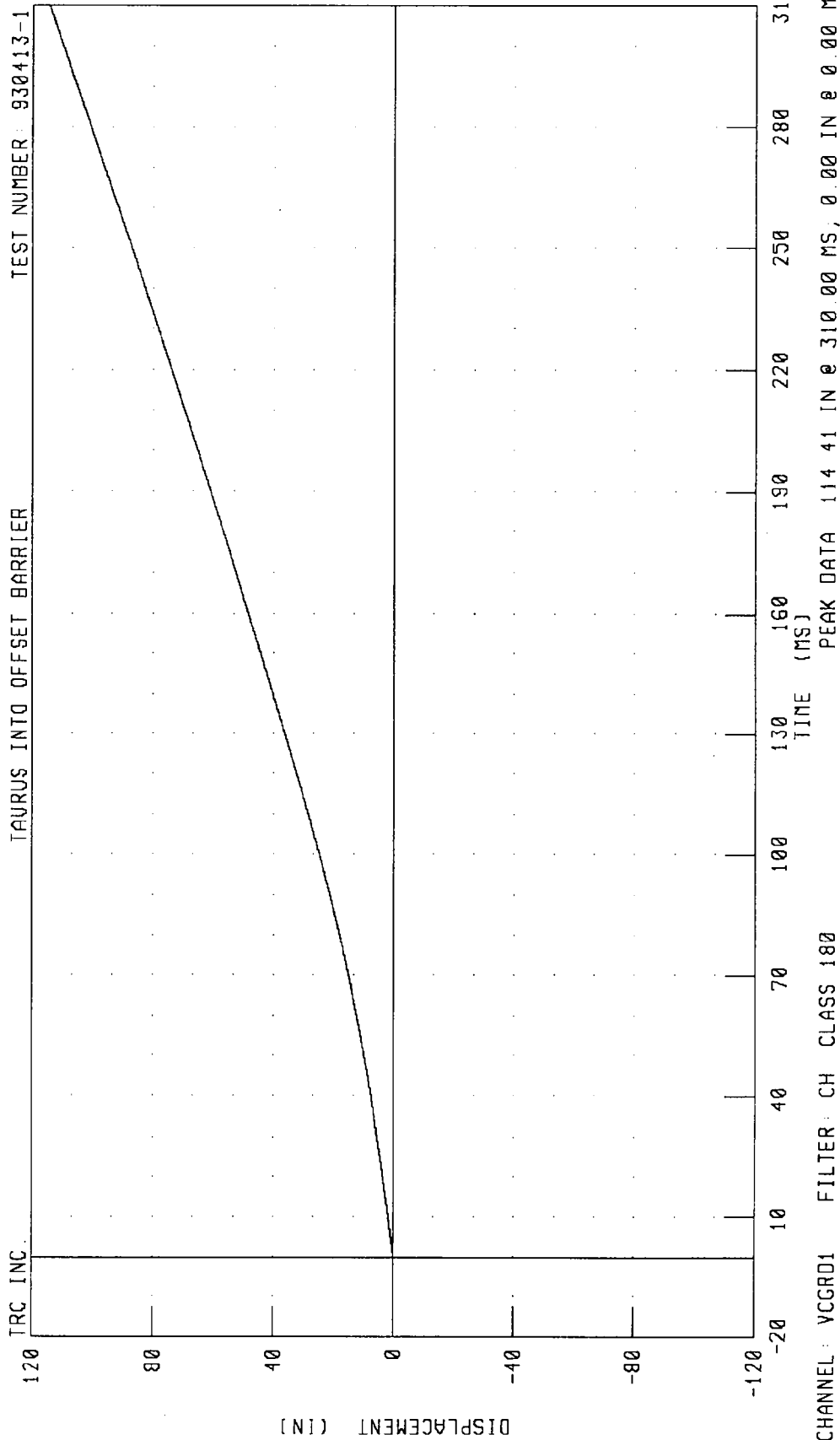
TAURUS INTO OFFSET BARRIER

TRC INC.



CHANNEL: VCGRV1 FILTER: CH. CLASS 180 PEAK DATA: 26.14 MPH @ 310.00 MS, 9.80 MPH @ 0.00 MS

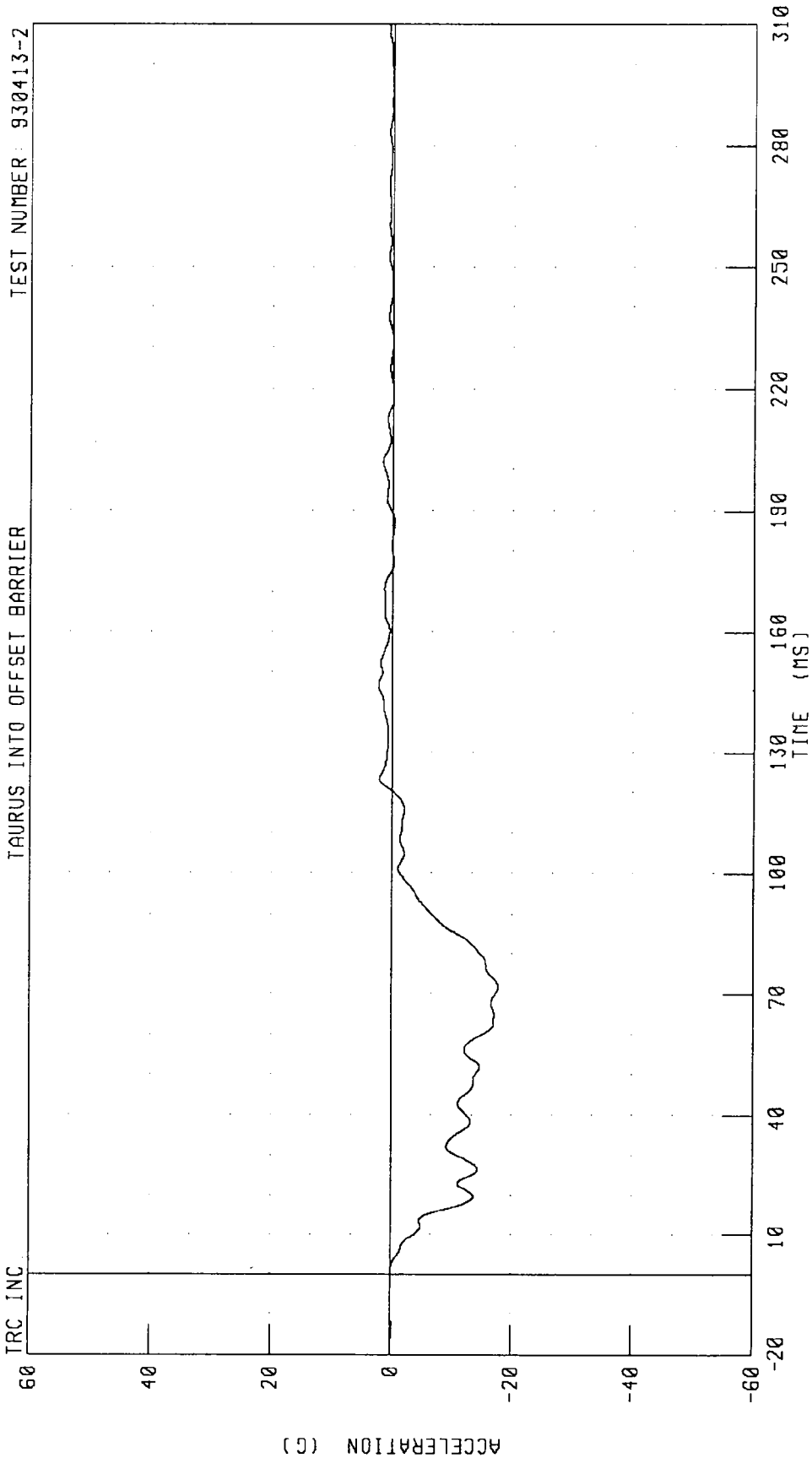
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 9.8 MPH TEST NO. 1
VEHICLE CENTER OF GRAVITY RESULTANT DISPLACEMENT



DATA PLOTS

TEST NO. 930413-2

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
LEFT REAR SILL X-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER



CHANNEL: LRSXG1 FILTER: CH. CLASS 60

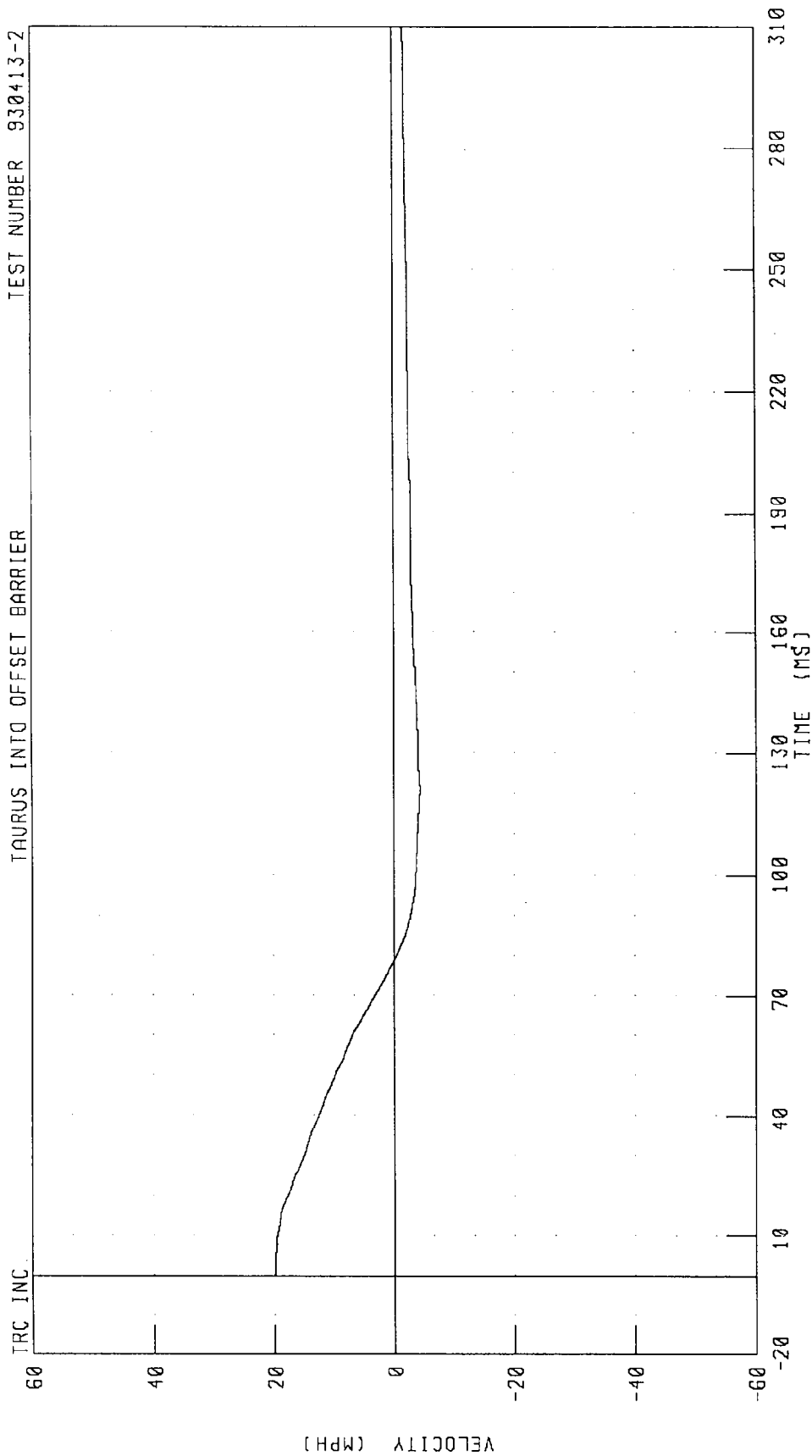
PEAK DATA: 2.29 G @ 146.75 MS; -17.81 G @ 71.63 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2

LEFT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-2



CHANNEL: LRSXV1 FILTER: CH. CLASS 180

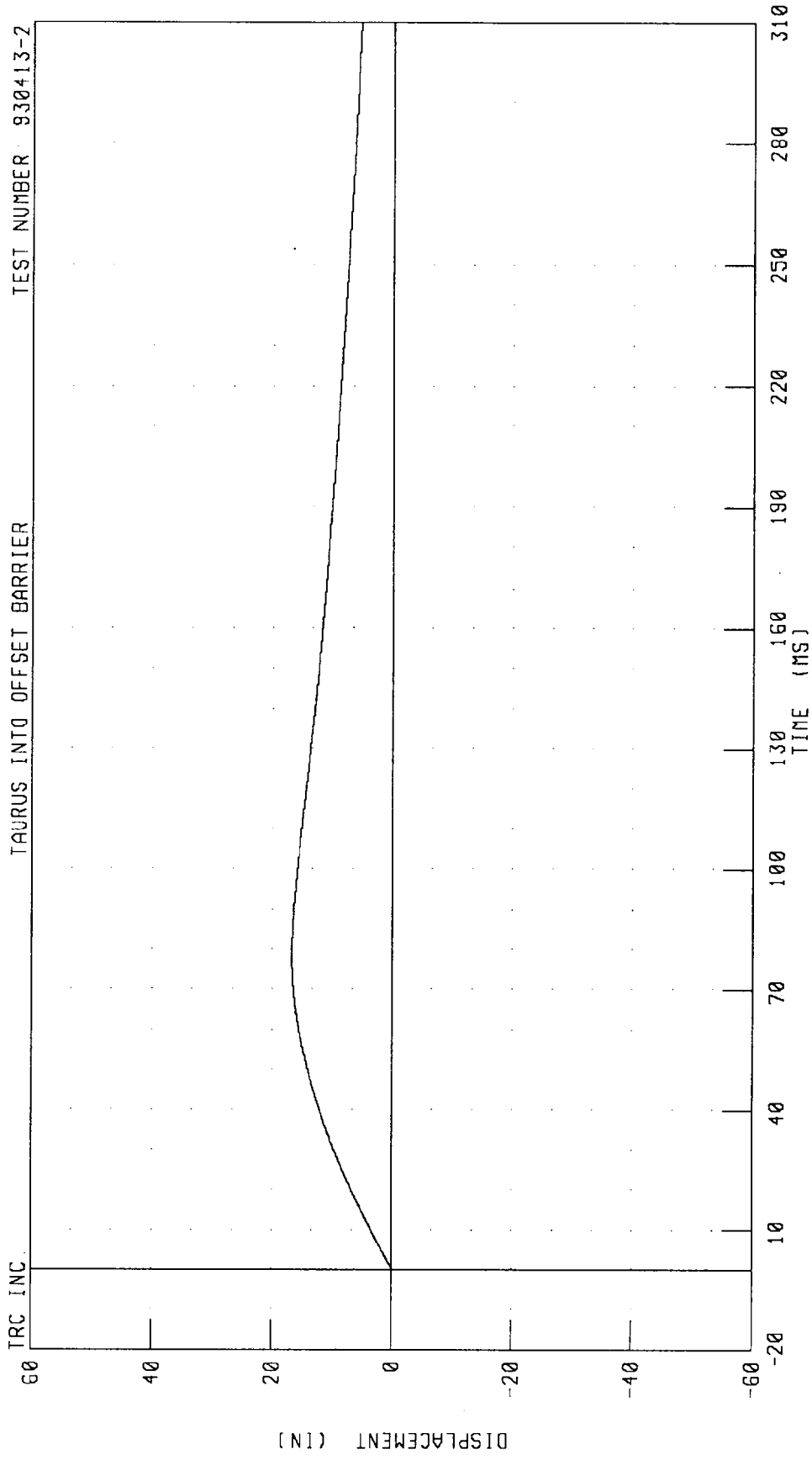
PEAK DATA: 19.80 MPH @ 2.75 MS; -4.34 MPH @ 121.13 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

LEFT REAR SILL X-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-2

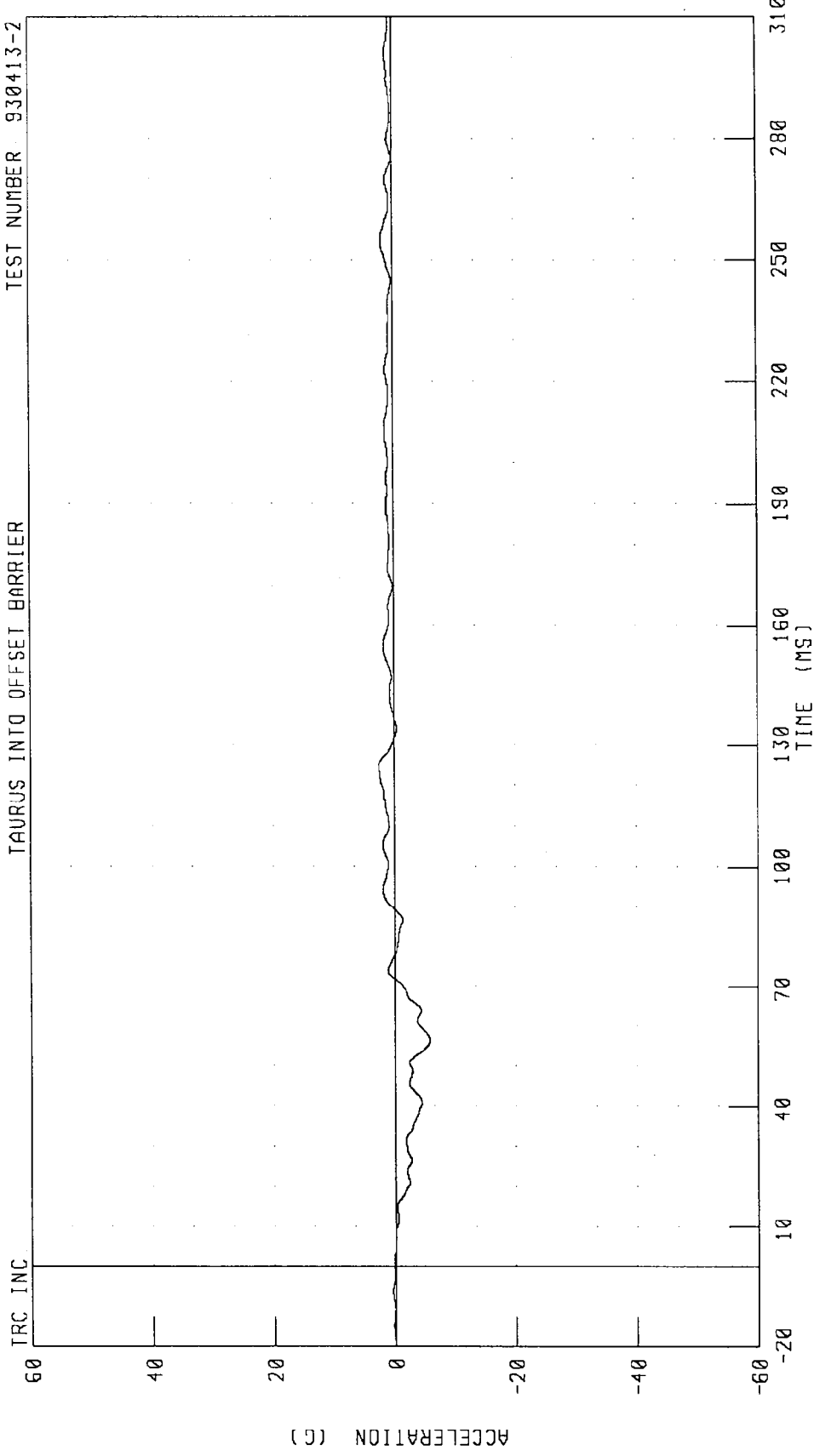


CHANNEL: LRSXD1 FILTER: CH CLASS 180

PEAK DATA 16 73 IN @ 78.88 MS, 0 00 IN @ 0 00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2
LEFT REAR SILL Y-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2



CHANNEL: LRSYGI FILTER: CH. CLASS 60 PEAK DATA: 2.58 G @ 124.88 MS, -5.80 G @ 56.25 MS

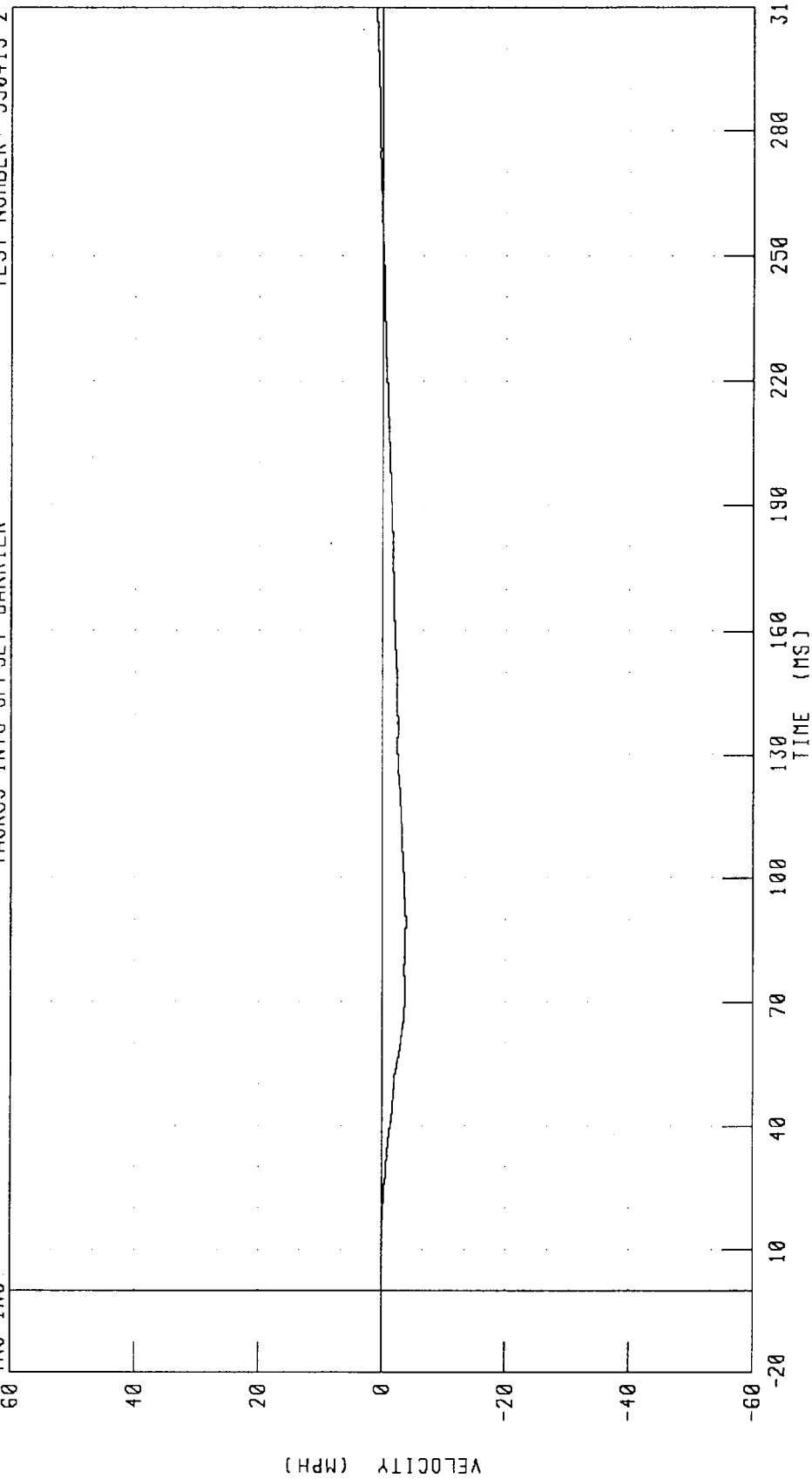
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

LEFT REAR SILL Y-AXIS VELOCITY

TEST NUMBER: 930413-2

TAURUS INTO OFFSET BARRIER

TRC INC.



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 0.99 MPH @ 310.00 MS; -3.82 MPH @ 89.38 MS

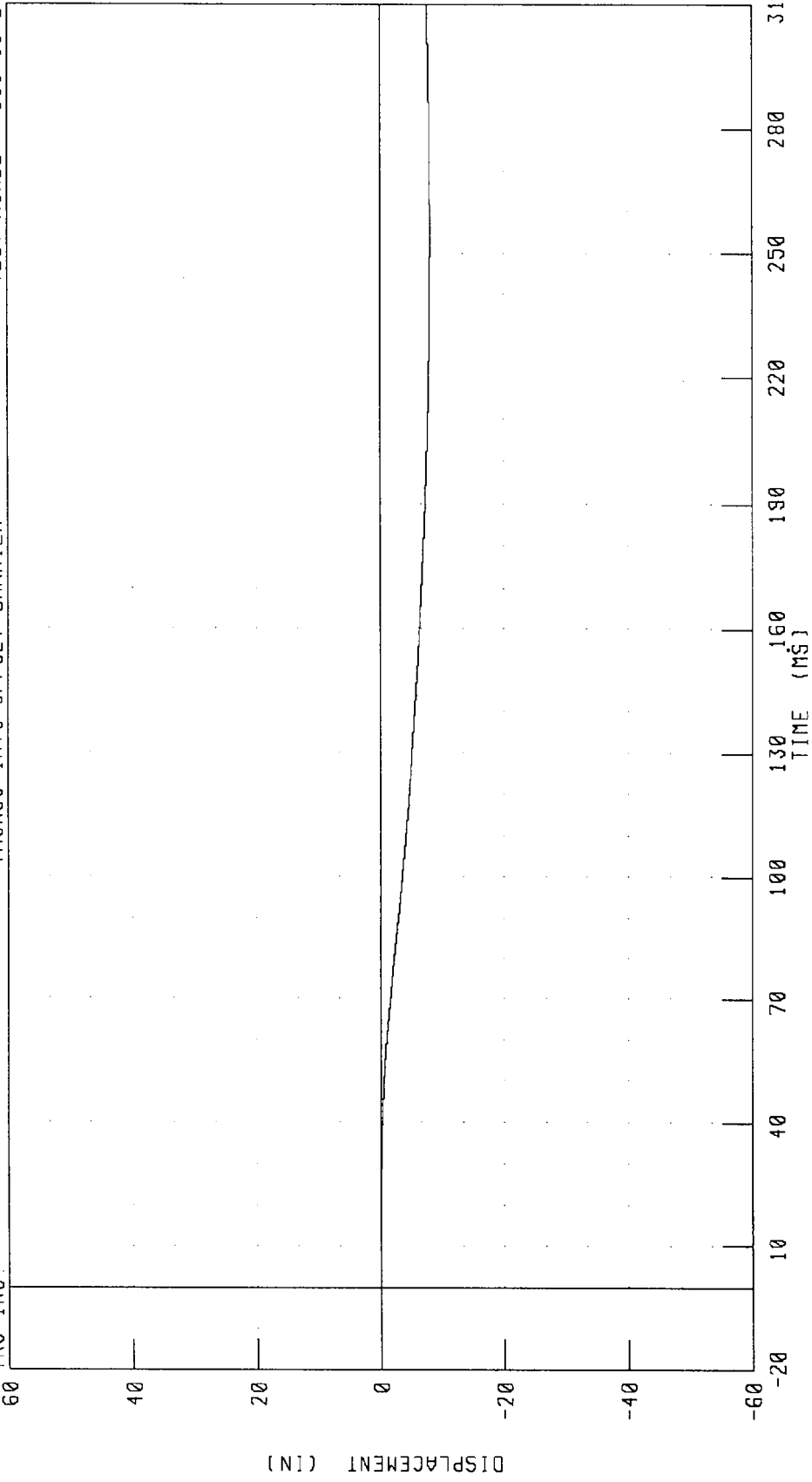
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2

LEFT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-2

TRC INC.



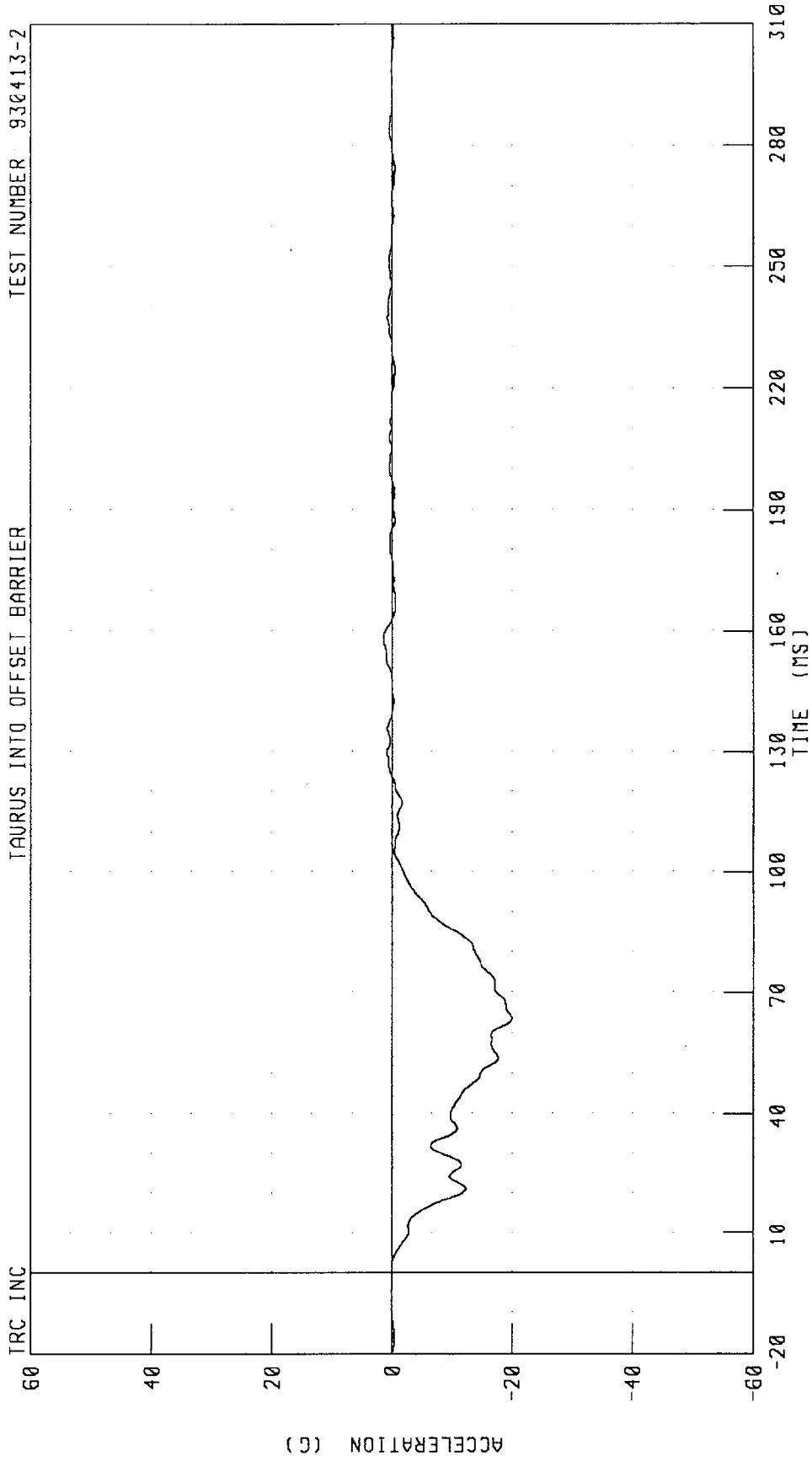
CHANNEL: LRSYD1 FILTER: CH CLASS 180

PEAK DATA: 0.00 IN @ 6.63 MS, -8.05 IN @ 255.25 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

RIGHT REAR SILL X-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2



CHANNEL: RRSXG1 FILTER: CH. CLASS 60

PEAK DATA: 1.44 G @ 158.13 MS, -19.92 G @ 63.63 MS

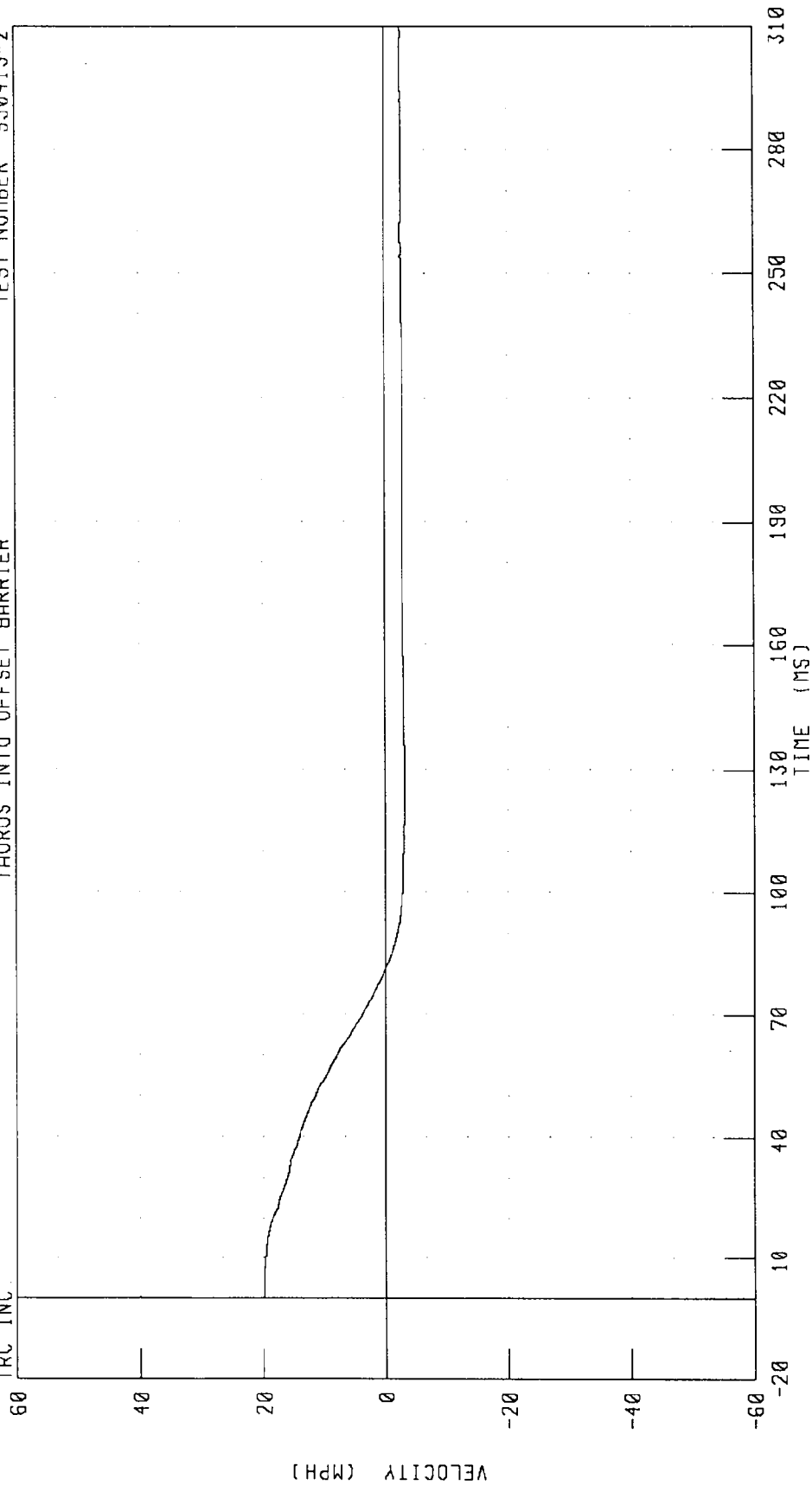
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

RIGHT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-2

TRC INC.

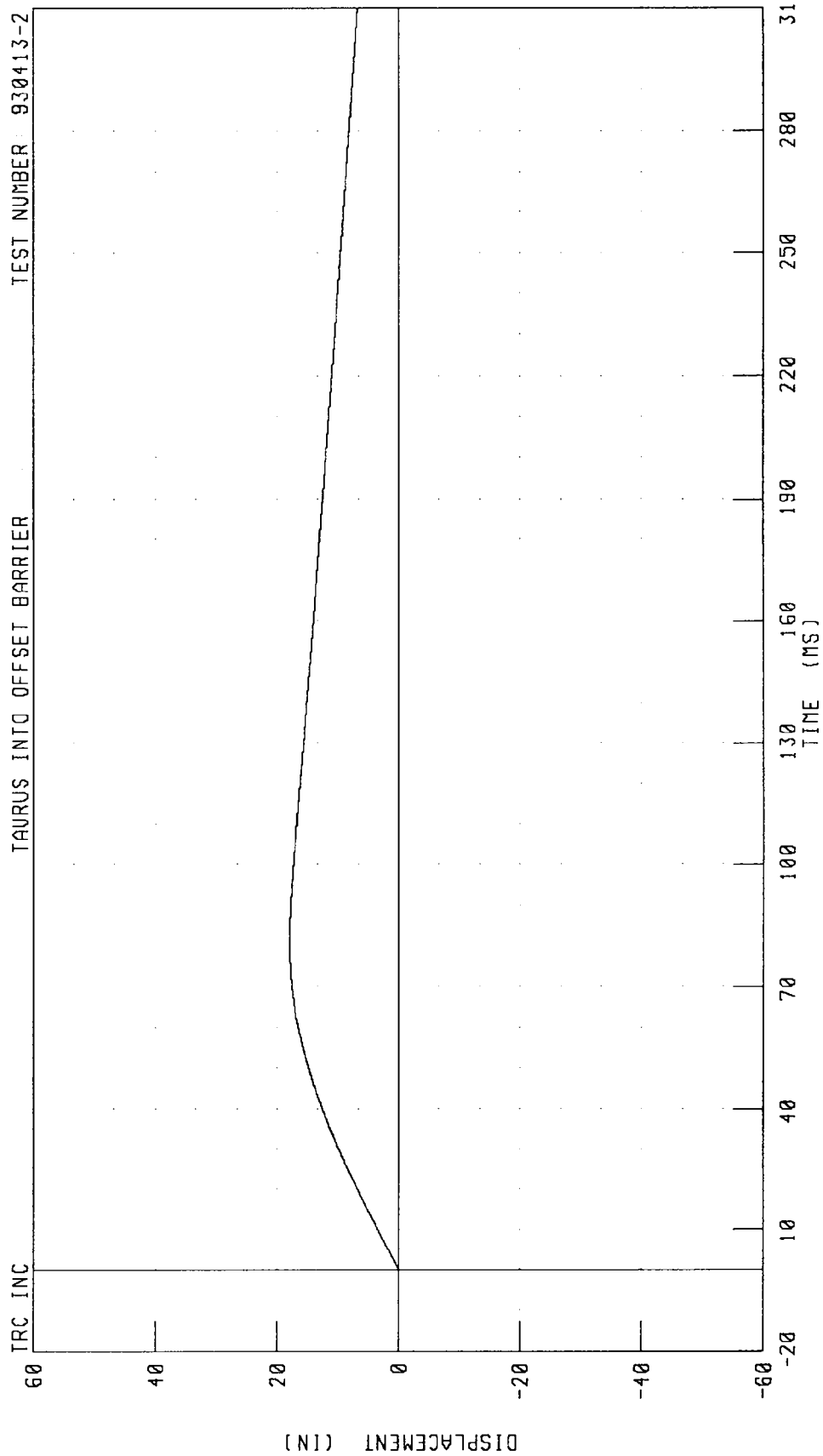


CHANNEL: RRSXV1 FILTER: CH CLASS 180

PEAK DATA: 19.81 MPH @ 3.25 MS; -3.28 MPH @ 123.63 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
RIGHT REAR SILL X-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2

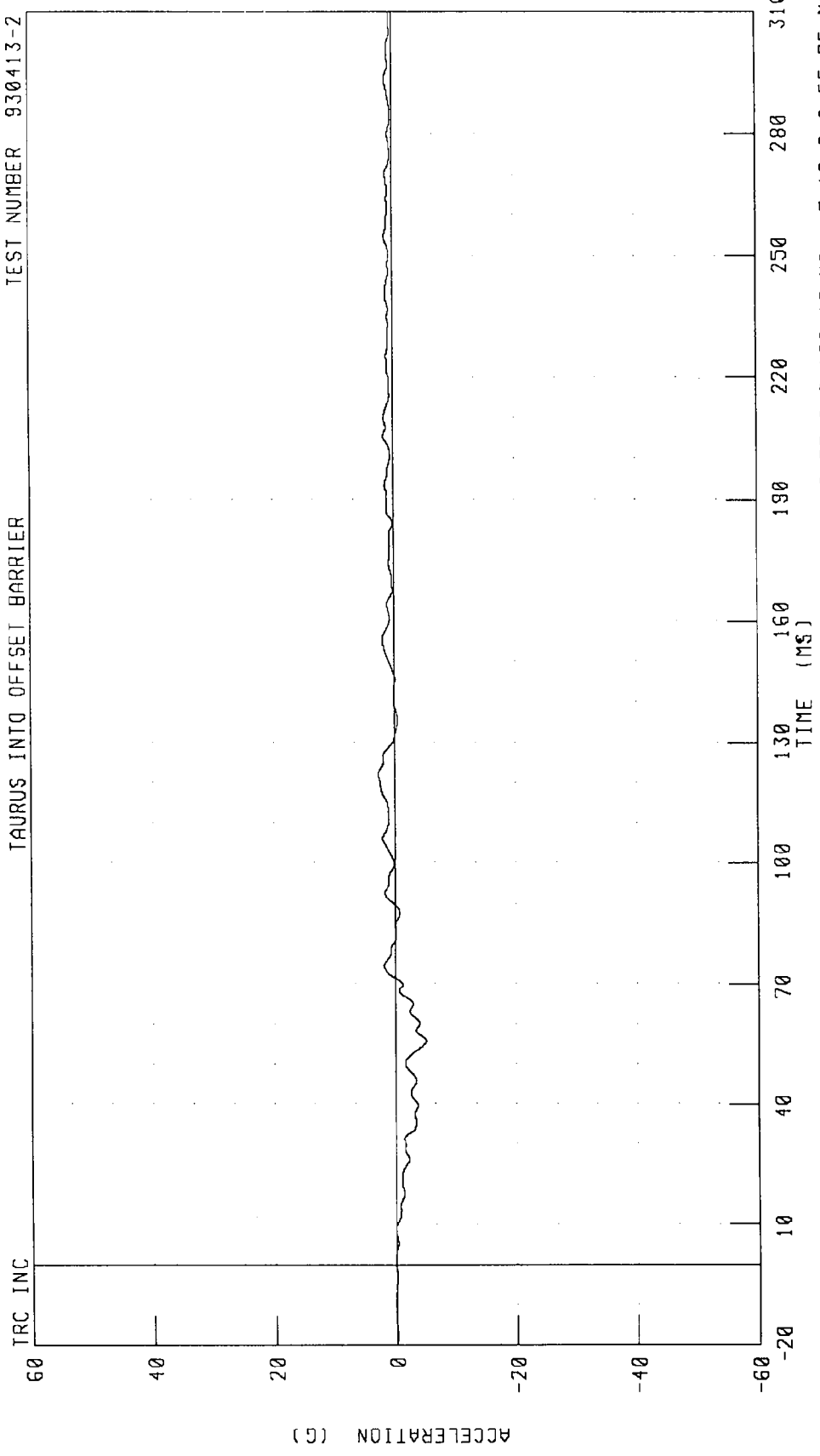


CHANNEL: RRSX01 FILTER: CH. CLASS 180

PEAK DATA 17.95 IN @ 81.25 MS; 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2
RIGHT REAR SILL Y-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2



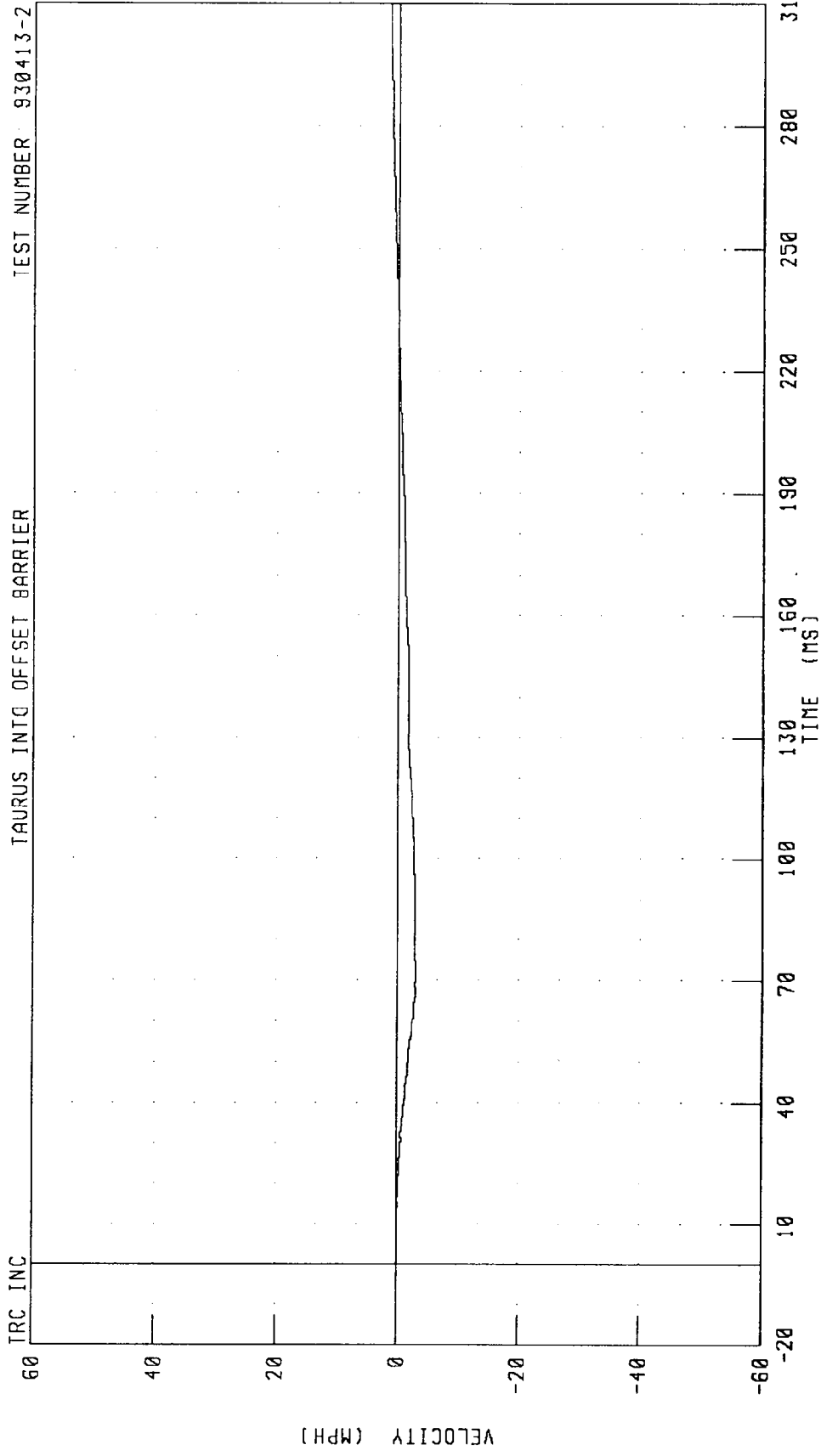
CHANNEL: RRSYG1 FILTER: CH. CLASS 60 PEAK DATA: 2.75 G @ 122 13 MS, -5.16 G @ 55.75 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

RIGHT REAR SILL Y-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-2



CHANNEL: RRSYY1 FILTER: CH. CLASS 180

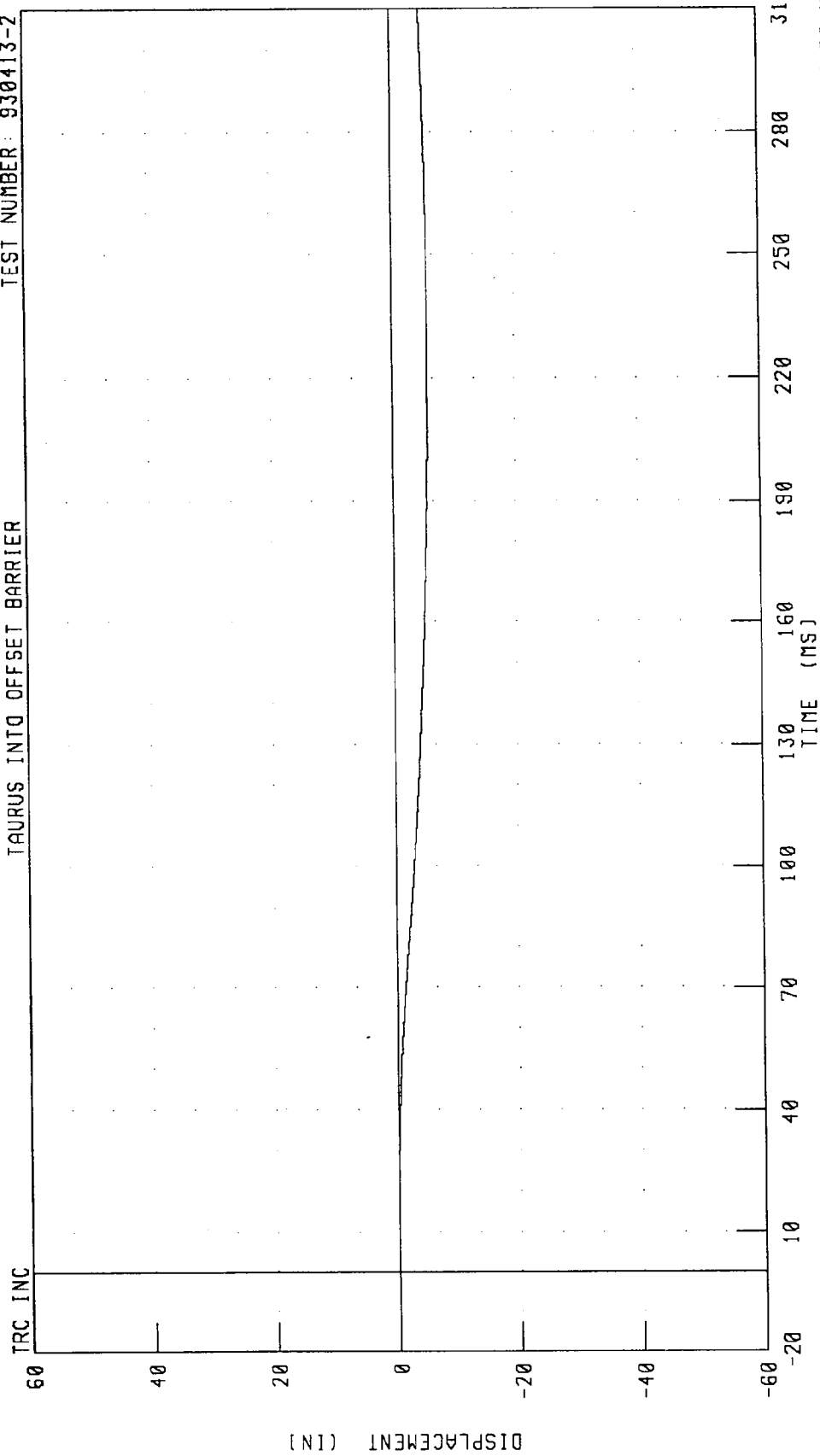
PEAK DATA: 1.44 MPH @ 310.00 MS, -3.12 MPH @ 71.13 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

RIGHT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-2

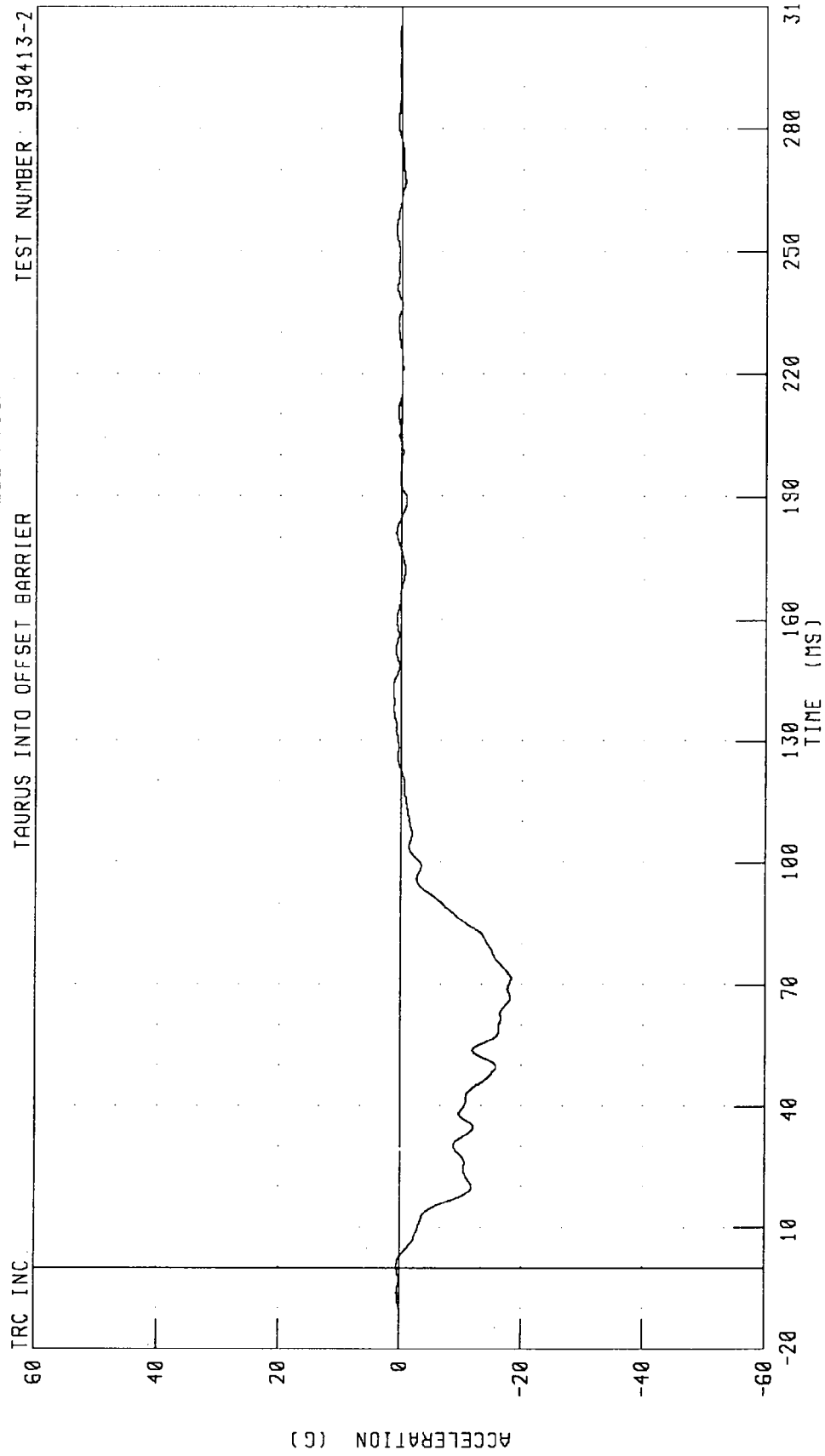


PEAK DATA: 0.00 IN @ 5.13 MS; -5.82 IN @ 229.38 MS

CHANNEL: RRSYD1 FILTER: CH CLASS 180

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2



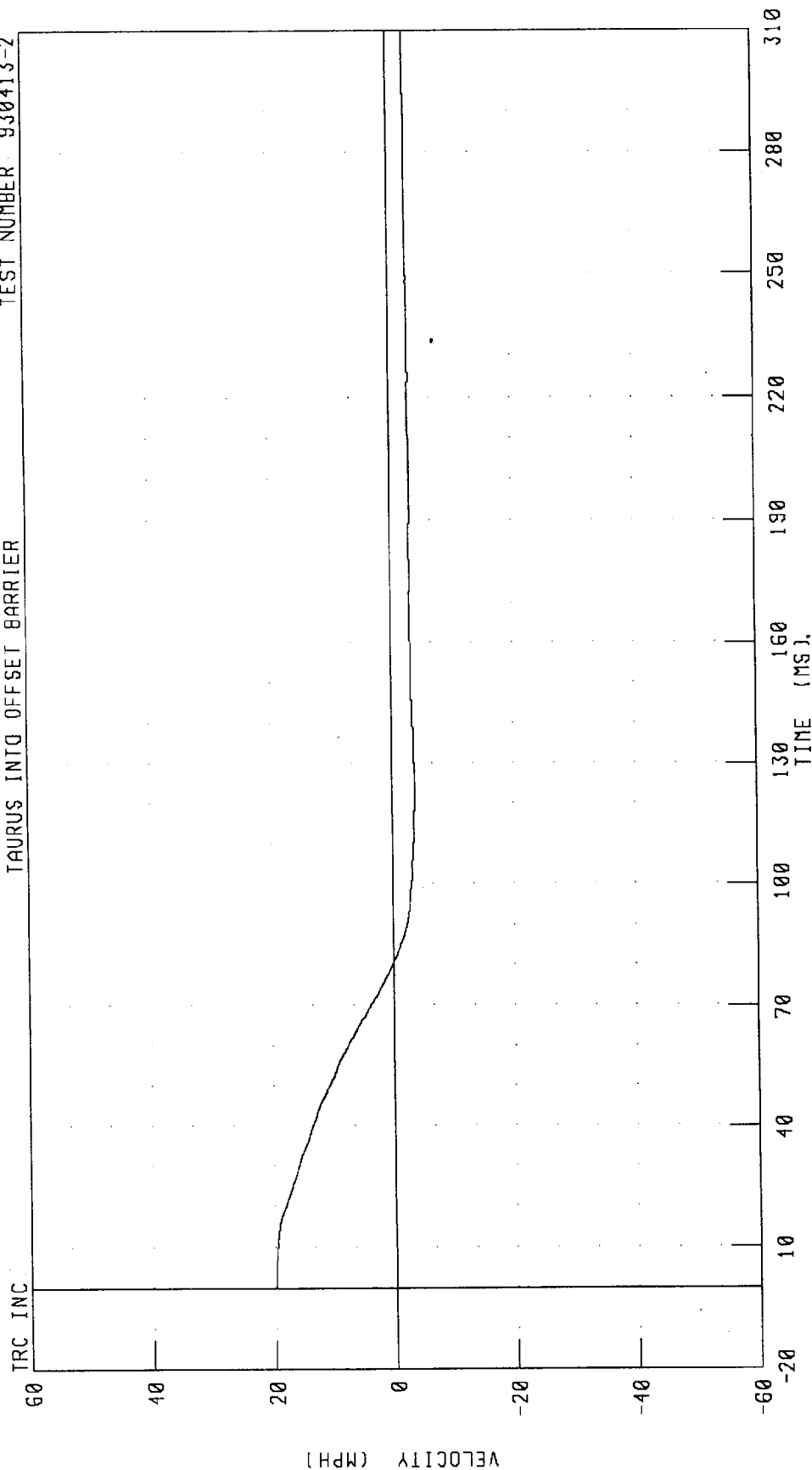
CHANNEL: VCGXG1 FILTER: CH. CLASS 60 PEAK DATA 1 20 G @ 143.63 MS, -18.22 G @ 71.50 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2

VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-2

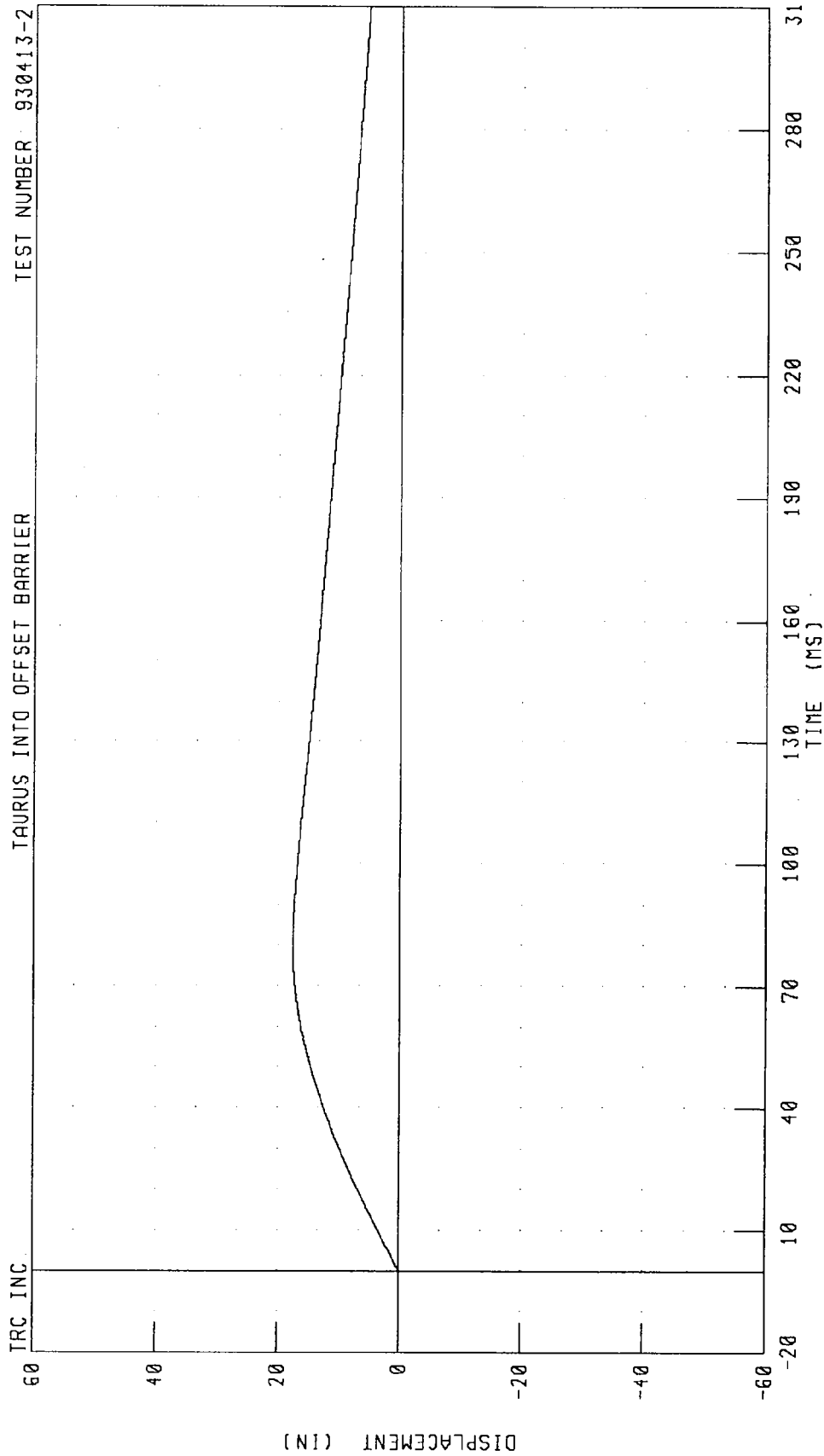


PEAK DATA: 19.83 MPH @ 3.63 MS, -3.69 MPH @ 121.75 MS

CHANNEL: VCGXV1 FILTER: CH. CLASS 180

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
VEHICLE CENTER OF GRAVITY X-AXIS DISPLACEMENT

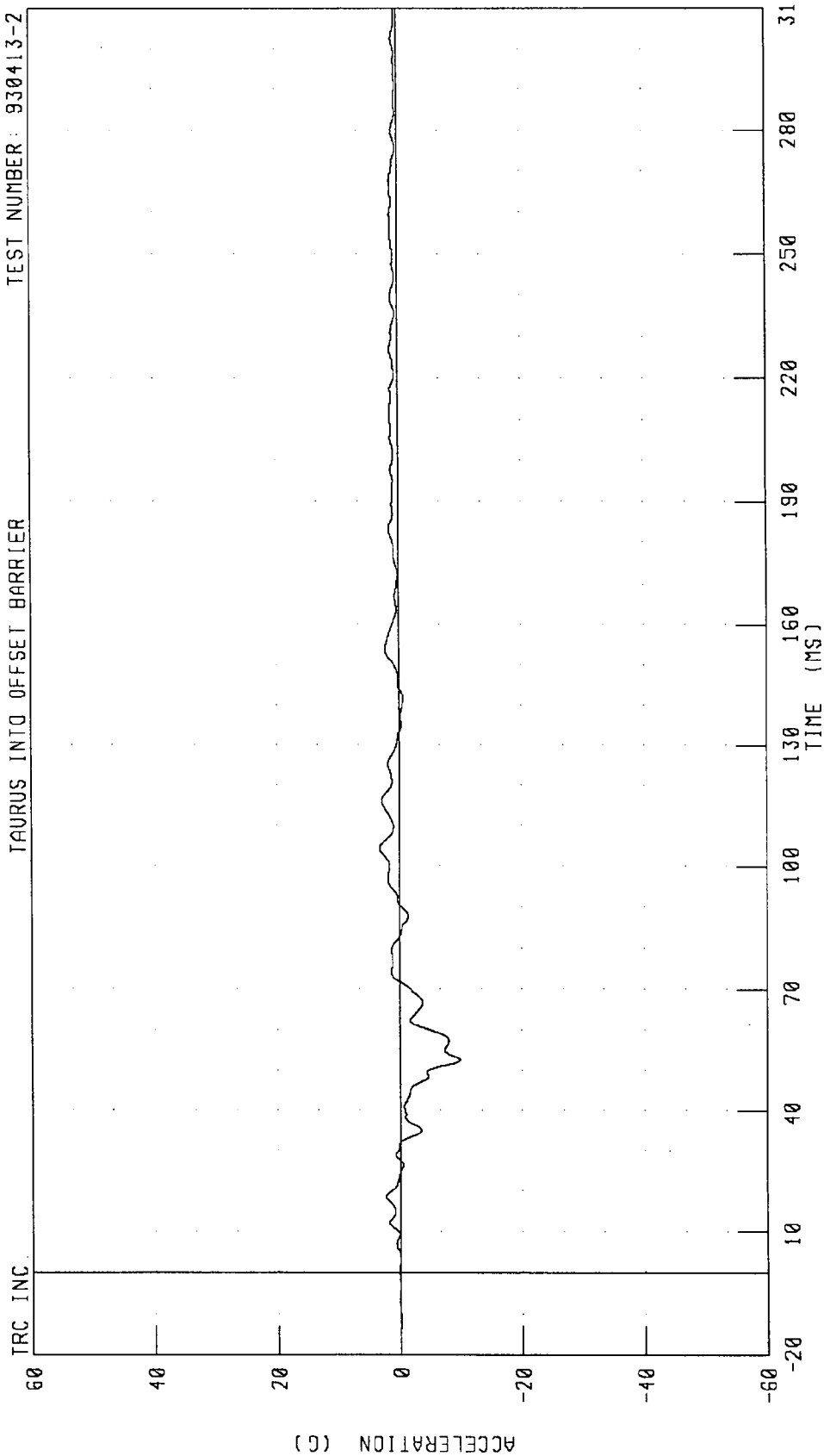
TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2



CHANNEL: VCGX01 FILTER: CH. CLASS 180 PEAK DATA: 17.51 IN @ 80.50 MS, 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO 2
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-2



CHANNEL: VCGYG1 FILTER: CH. CLASS 60

PEAK DATA: 3.24 G @ 104.25 MS, -9.81 G @ 52.63 MS

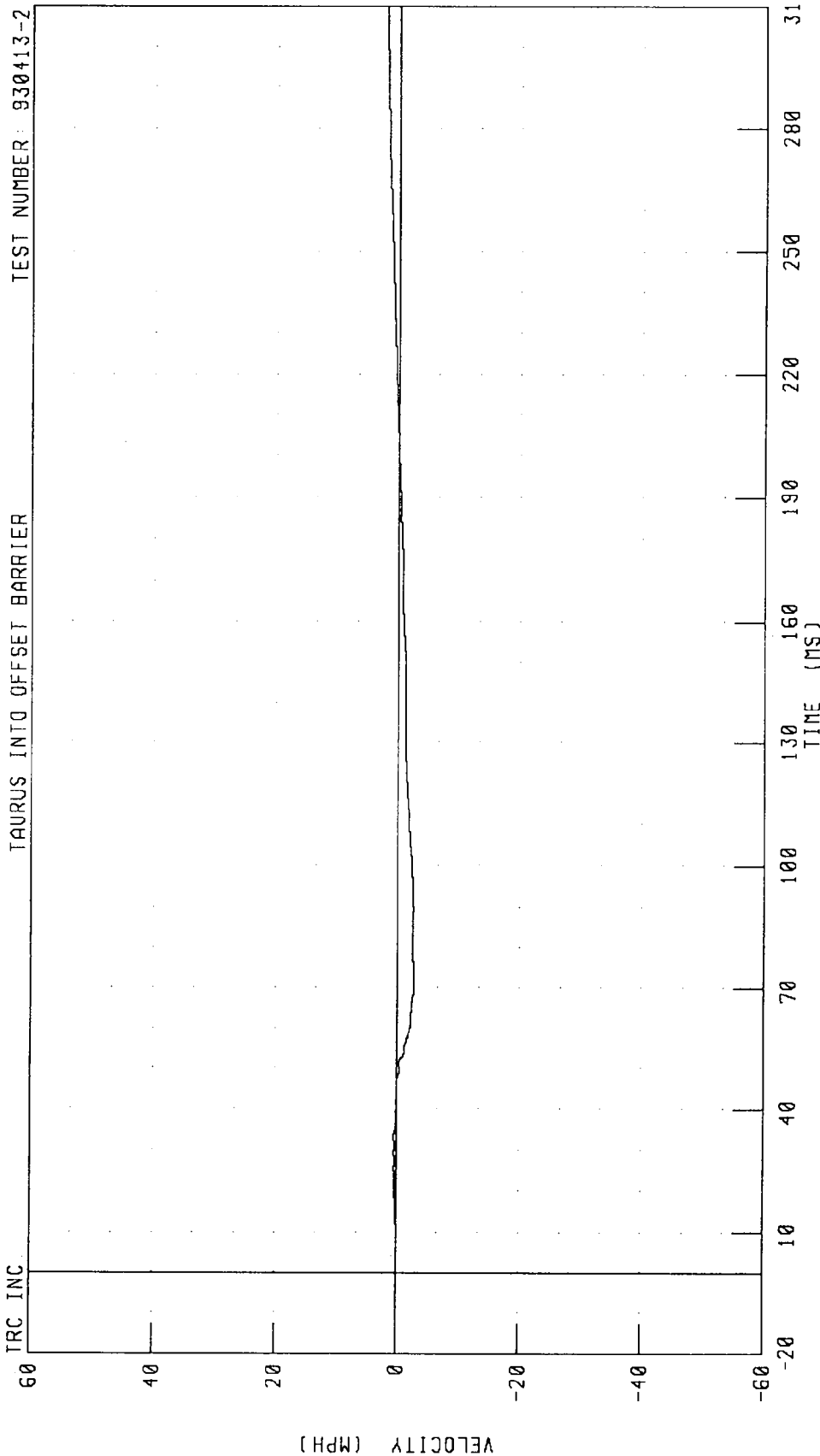
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2

VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

TEST NUMBER: 930413-2

TAURUS INTO OFFSET BARRIER

TRC INC

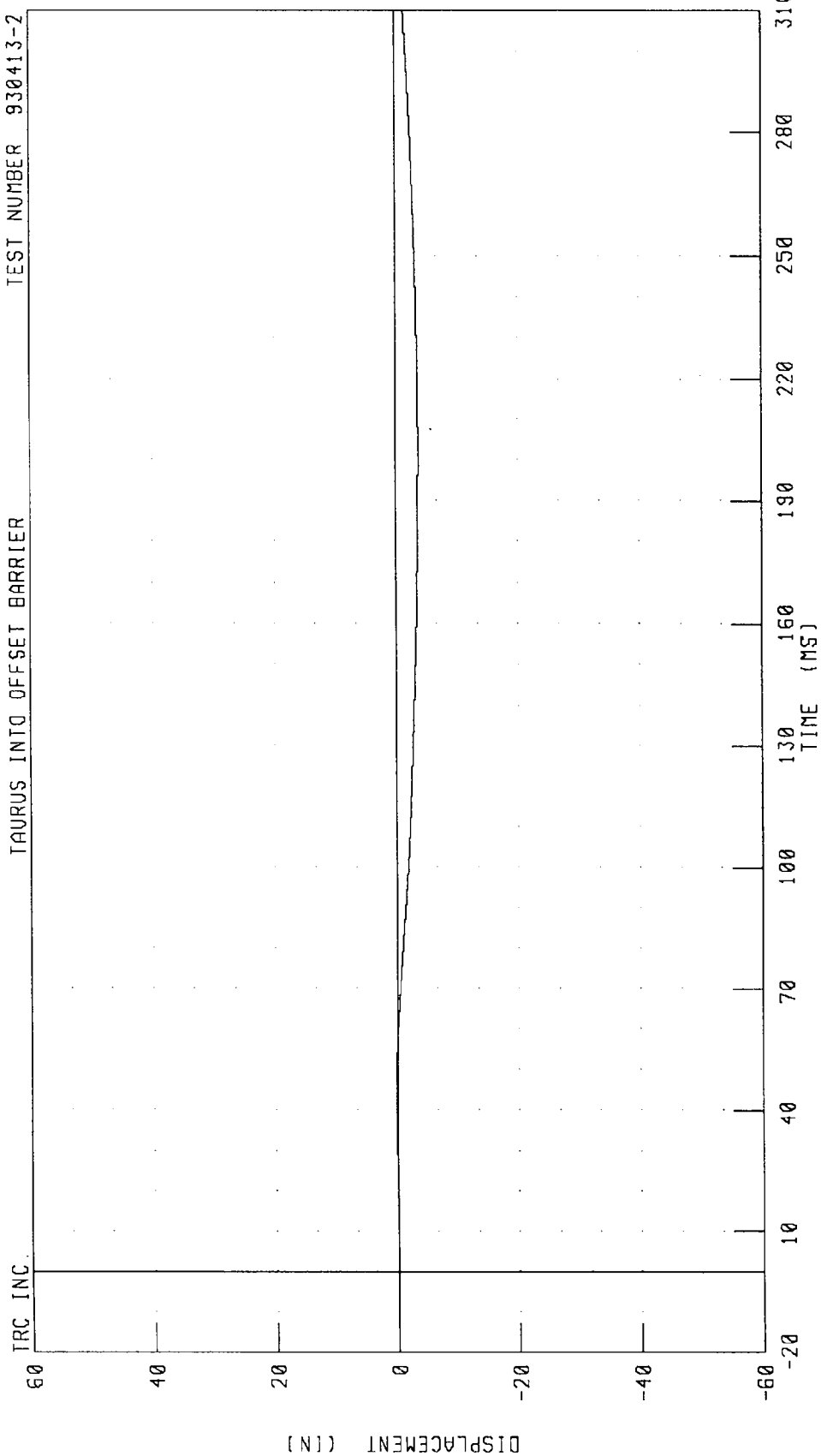


CHANNEL: VCGYV1 FILTER: CH CLASS 180

PEAK DATA: 2.11 MPH @ 310.00 MS; -2.77 MPH @ 71.88 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
VEHICLE CENTER OF GRAVITY Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2

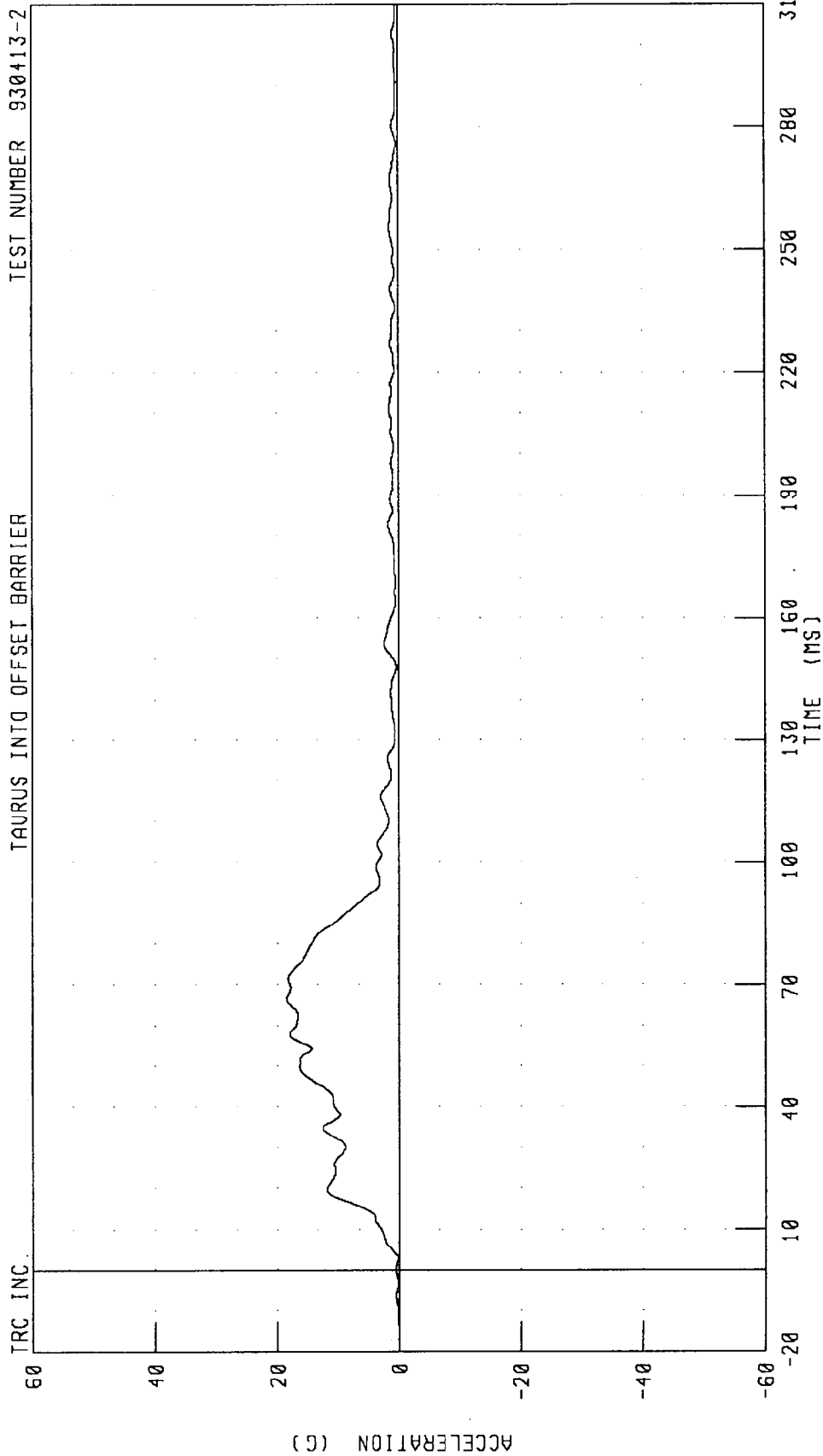


CHANNEL VCCYD1 FILTER: CH. CLASS 180 PEAK DATA: 0.16 IN @ 44.50 MS, -3.64 IN @ 202.13 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

TEST NUMBER 930413-2

TAURUS INTO OFFSET BARRIER

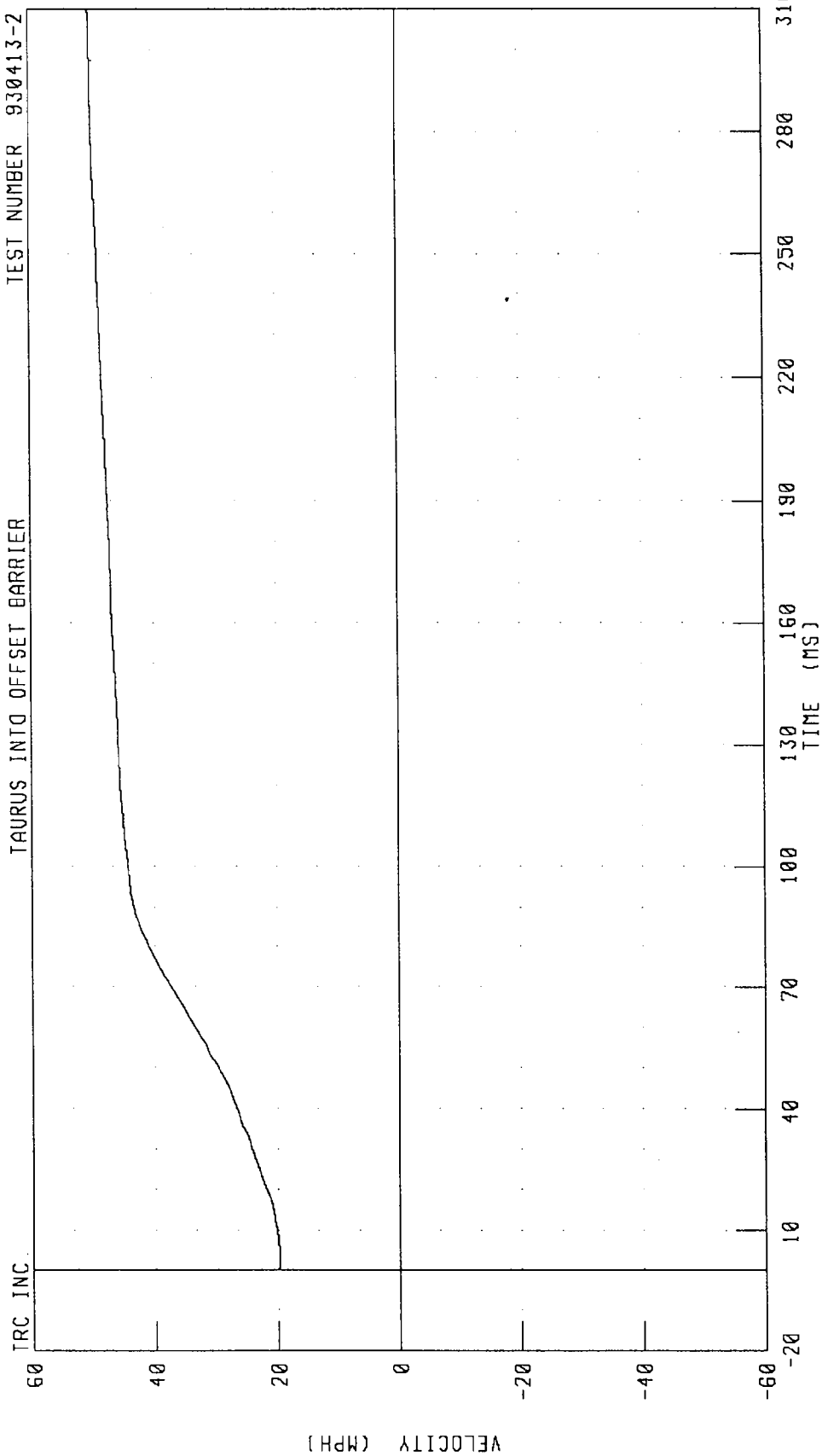


CHANNEL: VCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 18.49 G @ 66.63 MS, 0.01 G @ -19.63 MS

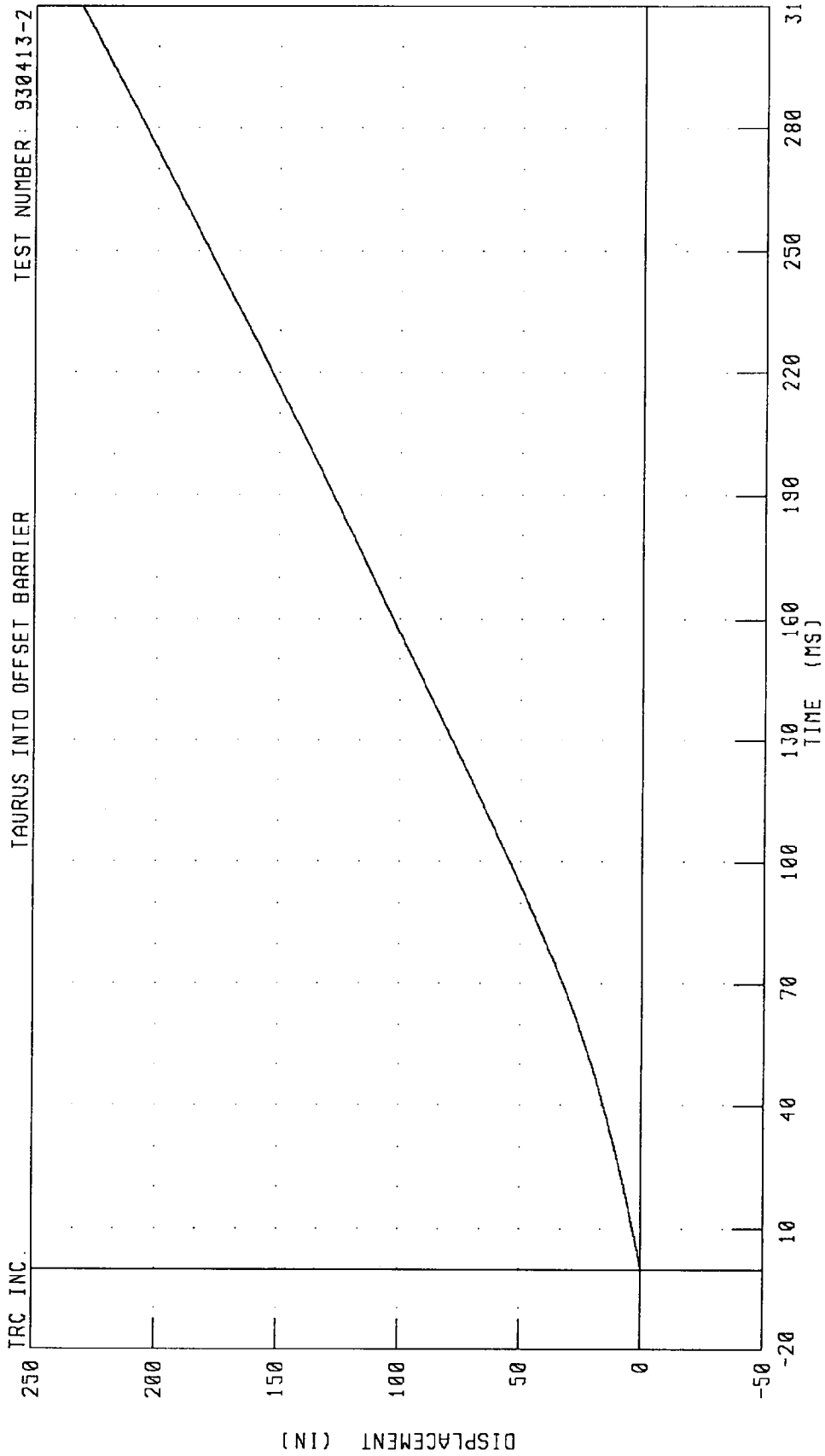
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
VEHICLE CENTER OF GRAVITY RESULTANT VELOCITY

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-2



CHANNEL: VCGRV1 FILTER: CH. CLASS 180 PEAK DATA: 50.23 MPH @ 310.00 MS; 19.80 MPH @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 19.8 MPH TEST NO. 2
VEHICLE CENTER OF GRAVITY RESULTANT DISPLACEMENT



CHANNEL: VCGRD1 FILTER: CH CLASS 180

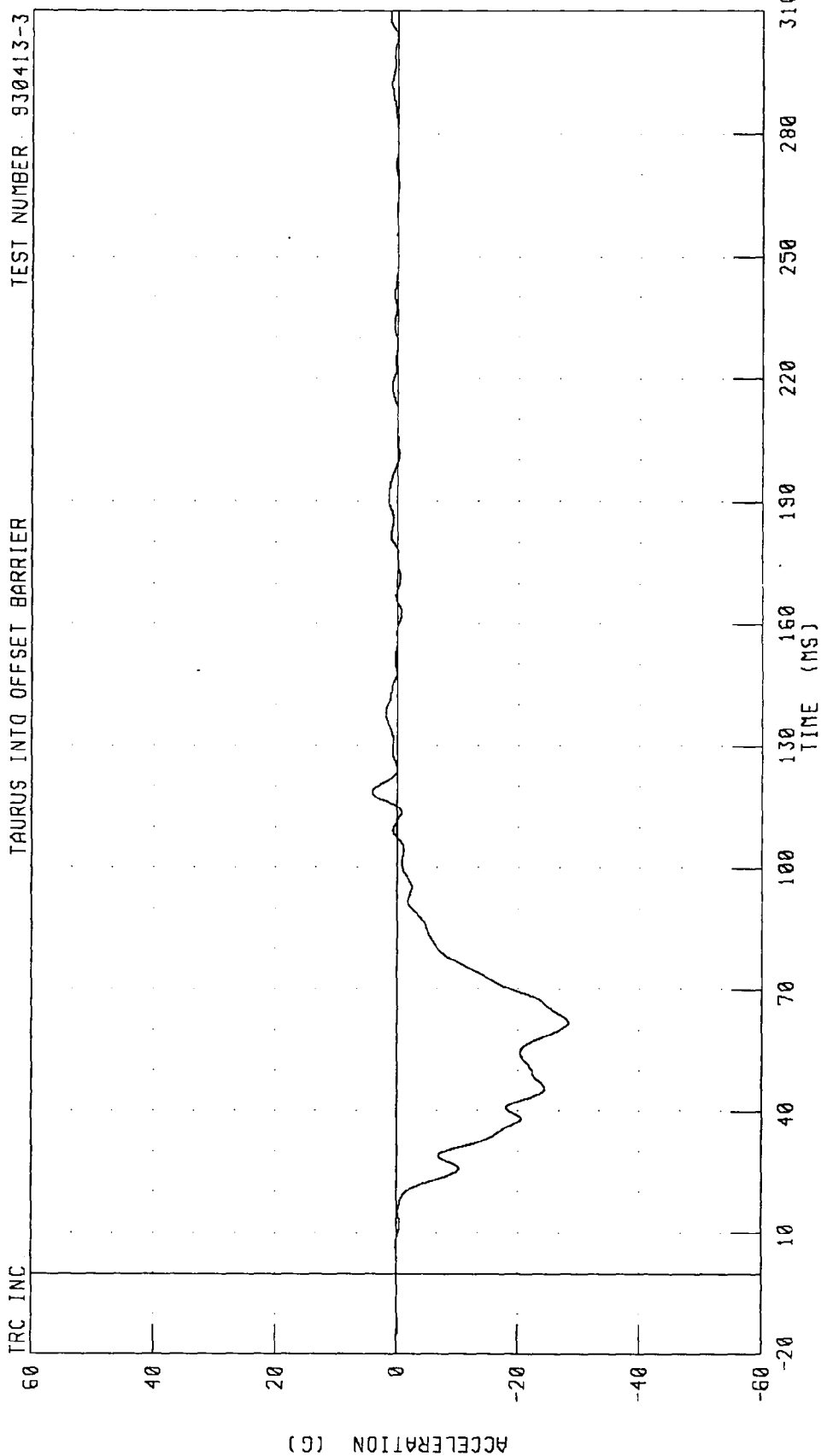
PEAK DATA: 231.05 IN @ 310.00 MS, 0.00 IN @ 0.00 MS

DATA PLOTS

TEST NO. 930413-3

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO. 3
LEFT REAR SILL X-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3



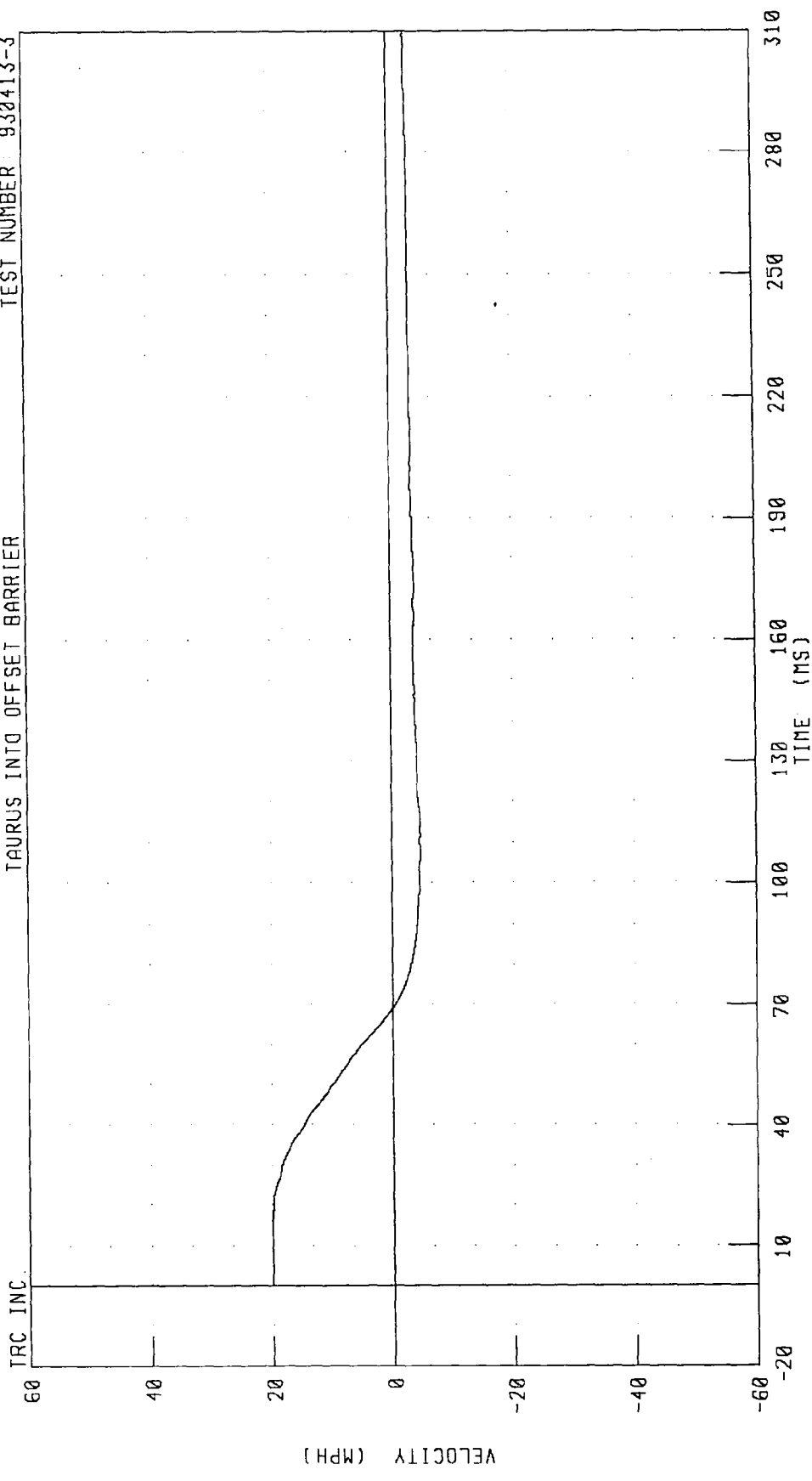
CHANNEL: LRSXG1 FILTER: CH CLASS 60 PEAK DATA: 4.15 G @ 118.75 MS, -28.27 G @ 61.63 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3

LEFT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3



PEAK DATA: 20.01 MPH @ 9.13 MS; -4.71 MPH @ 116.38 MS

CHANNEL: LRSXV1 FILTER: CH. CLASS 180

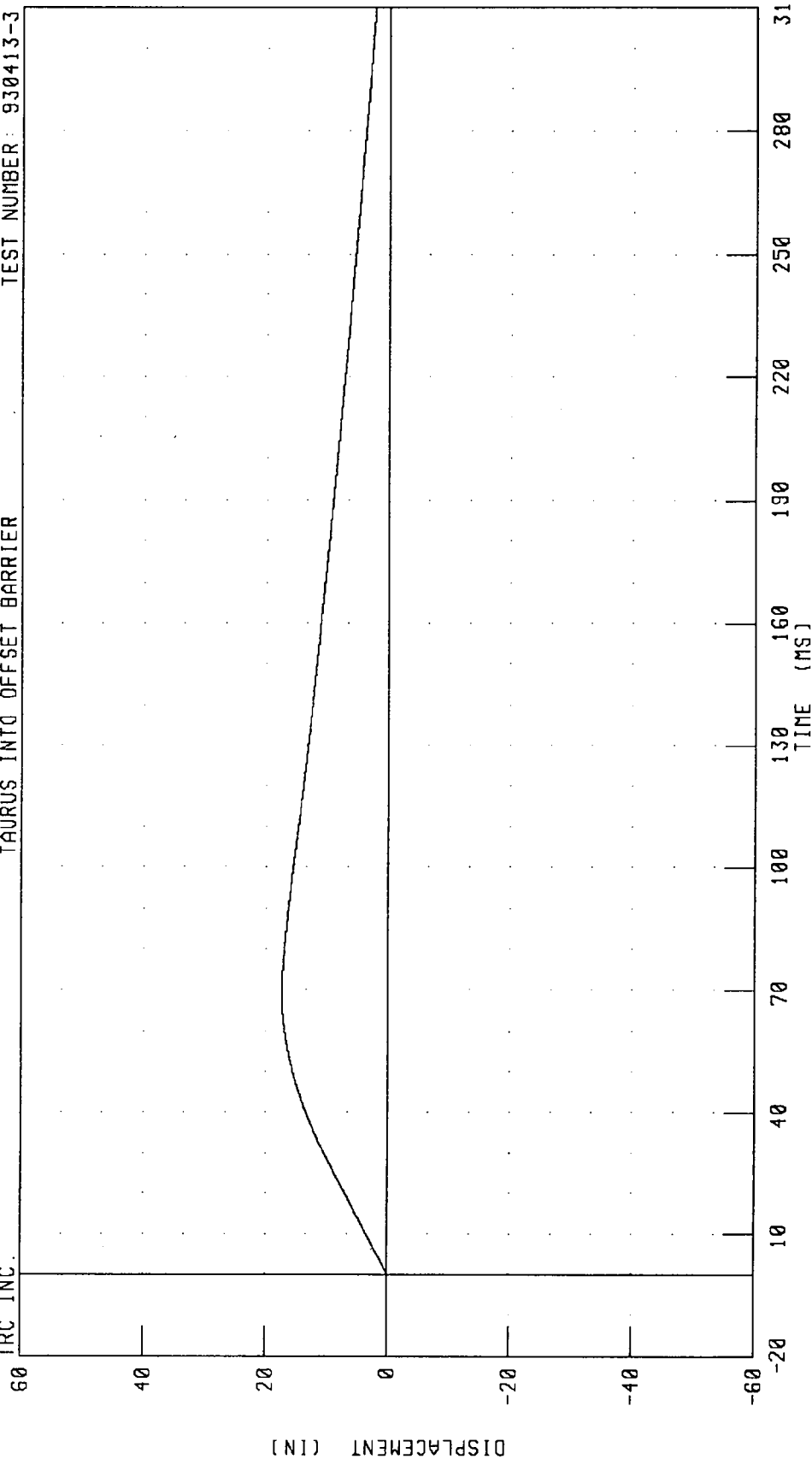
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO. 3

LEFT REAR SILL X-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-3

TRC INC.



CHANNEL: LRSXD1 FILTER: CH. CLASS 180

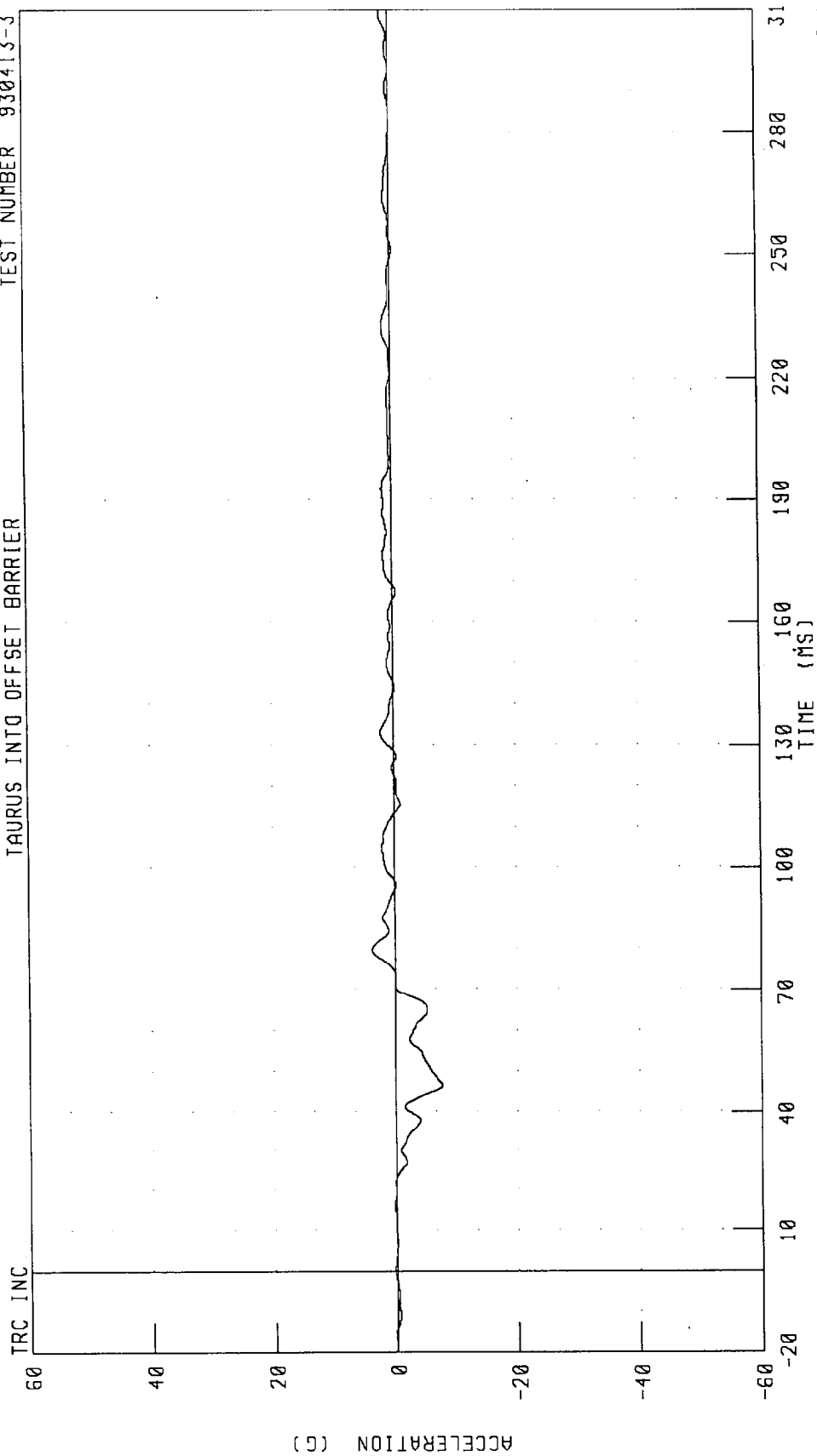
PEAK DATA: 17.30 IN @ 69.00 MS; 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO 3

LEFT REAR SILL Y-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3



PEAK DATA: 3 73 G @ 79 50 MS, -7 64 G @ 46 63 MS

CHANNEL LRSYG1 FILTER CH CLASS 60

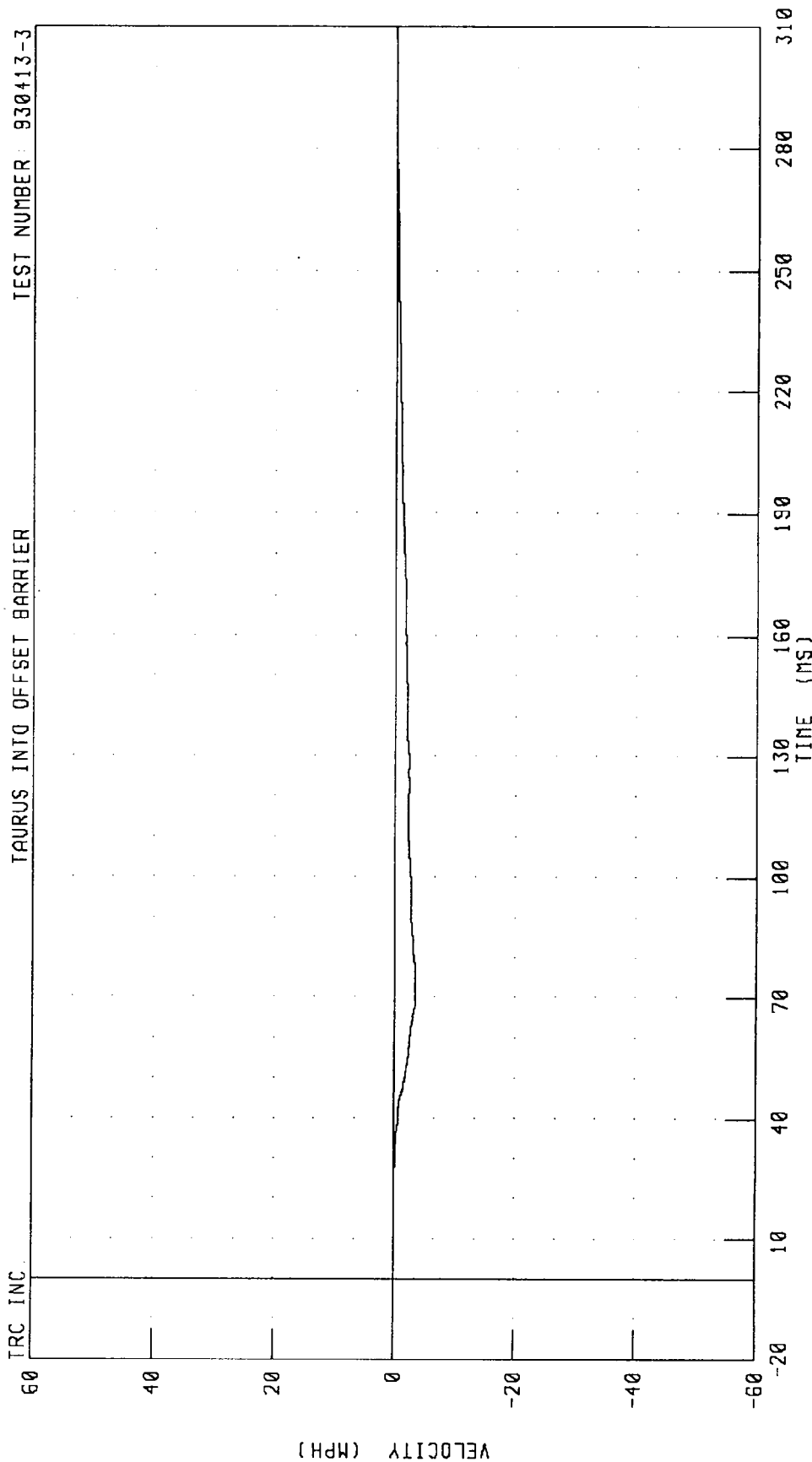
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3

LEFT REAR SILL Y-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-3

TRC INC.



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 0.18 MPH @ 309.38 MS, -3.48 MPH @ 68.88 MS

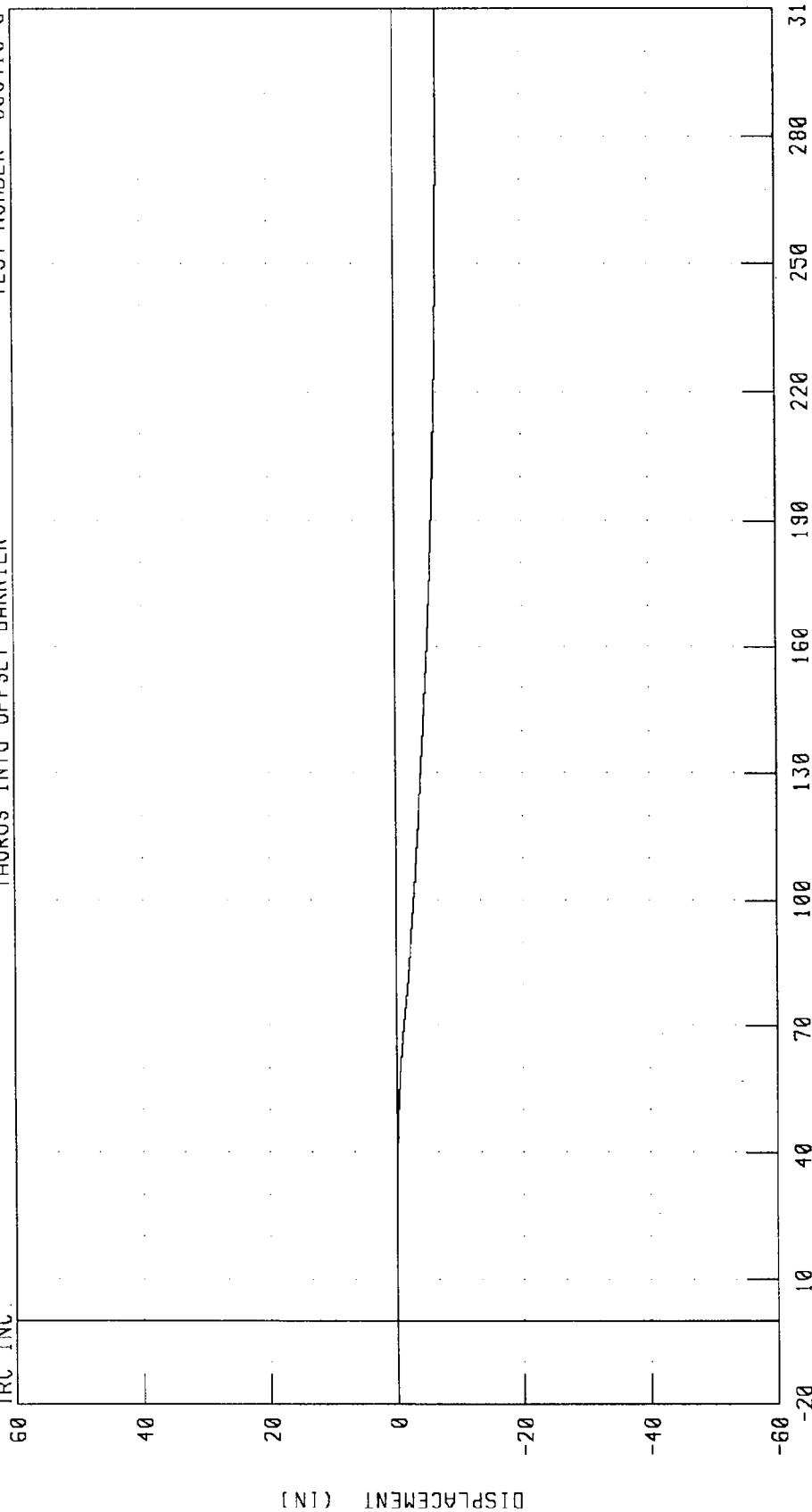
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO 3

LEFT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3

IRC INC.



CHANNEL: LRSYD1 FILTER: CH. CLASS 180

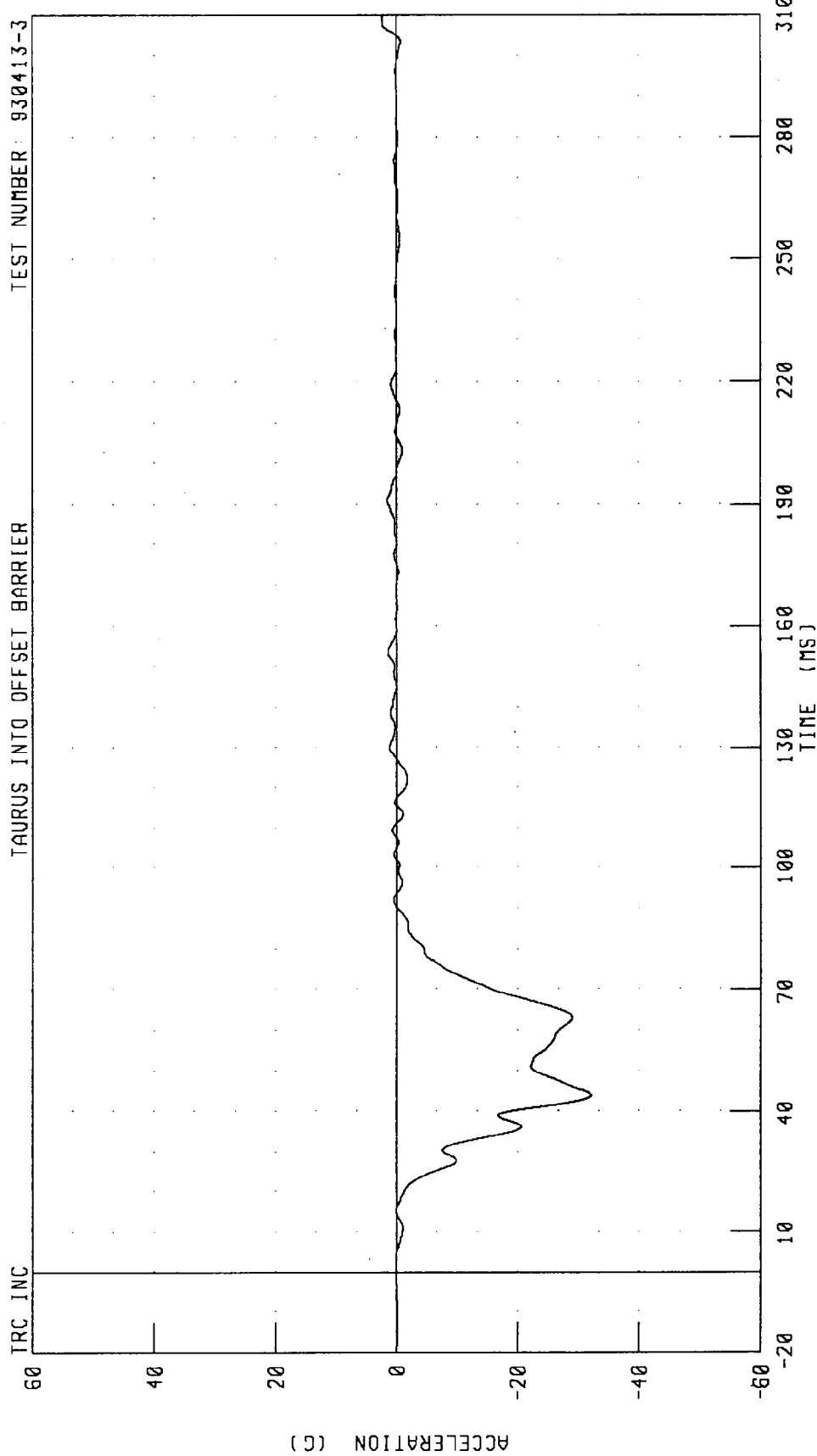
PEAK DATA: 0.01 IN @ 26.63 MS, -6.71 IN @ 292.63 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3

RIGHT REAR SILL X-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-3



CHANNEL: RRSXG1 FILTER: CH. CLASS 60

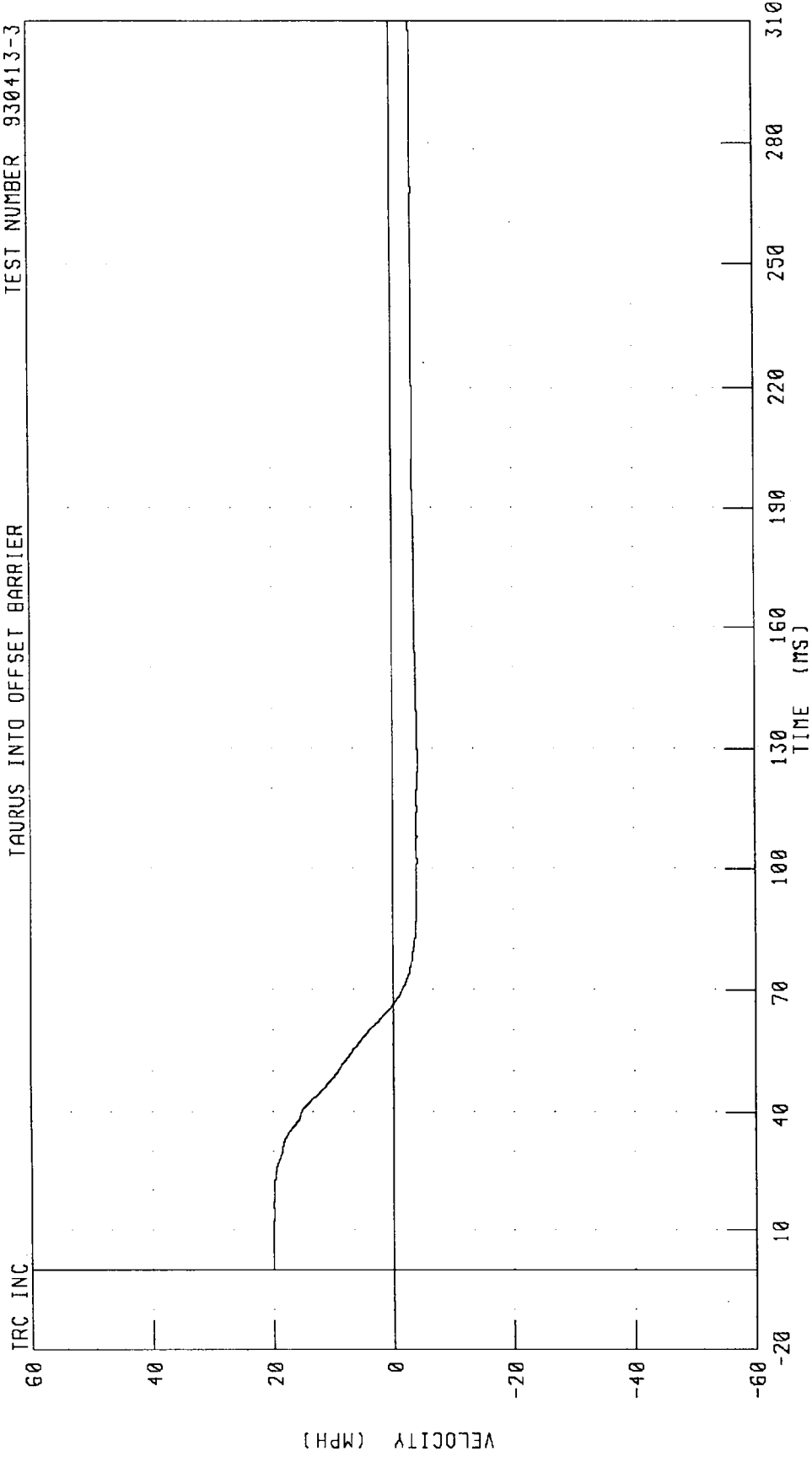
PEAK DATA: 2.46 G @ 308 00 MS, -32.11 G @ 43.88 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO 3

RIGHT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3



PEAK DATA: 20.02 MPH @ 5.38 MS, -4.18 MPH @ 128.25 MS

CHANNEL: RRSXVI FILTER: CH. CLASS 180

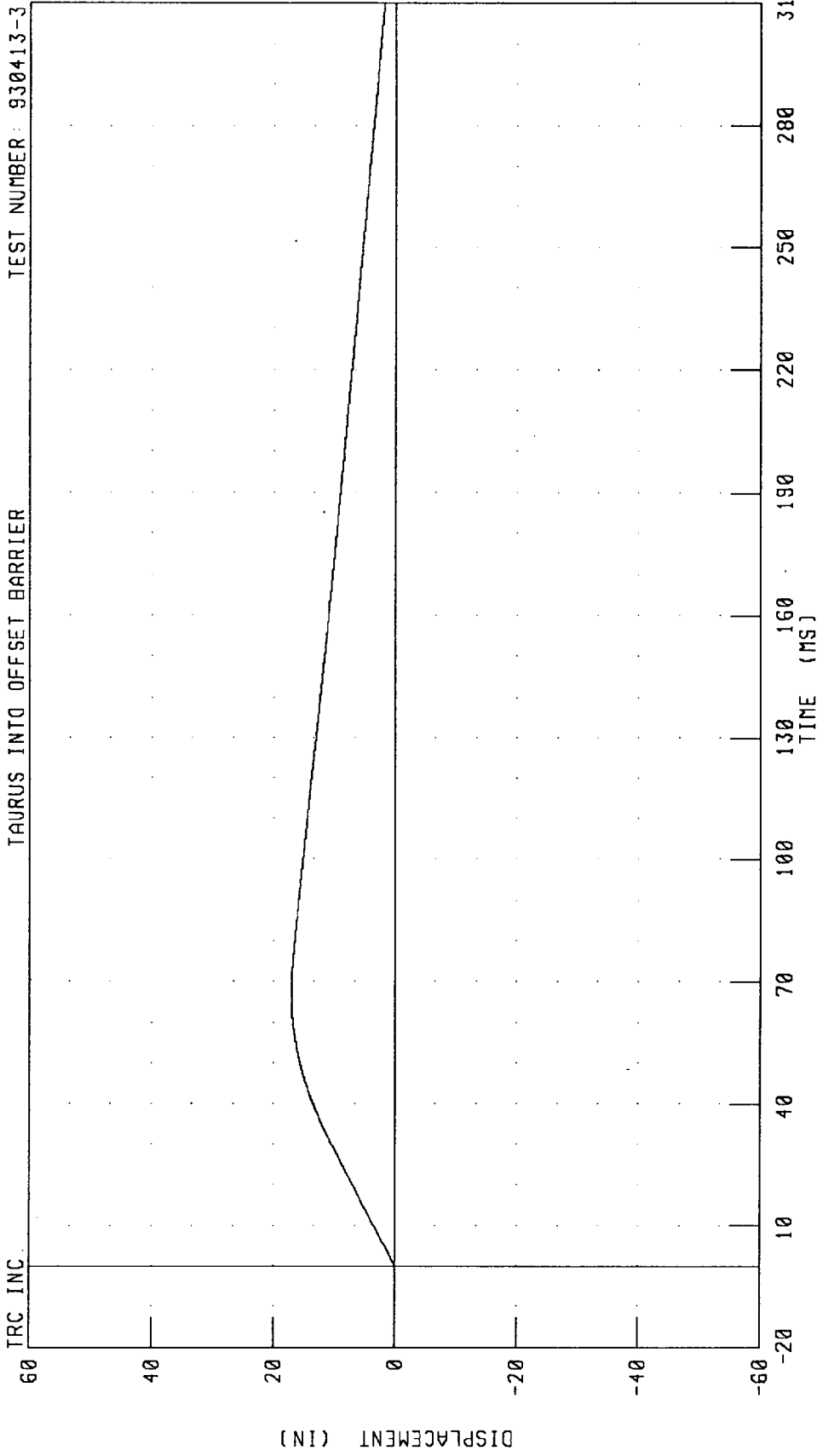
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO. 3

RIGHT REAR SILL X-AXIS DISPLACEMENT

TEST NUMBER: 930413-3

TAURUS INTO OFFSET BARRIER

TRC INC.



CHANNEL: RRSX01 FILTER: CH. CLASS 180

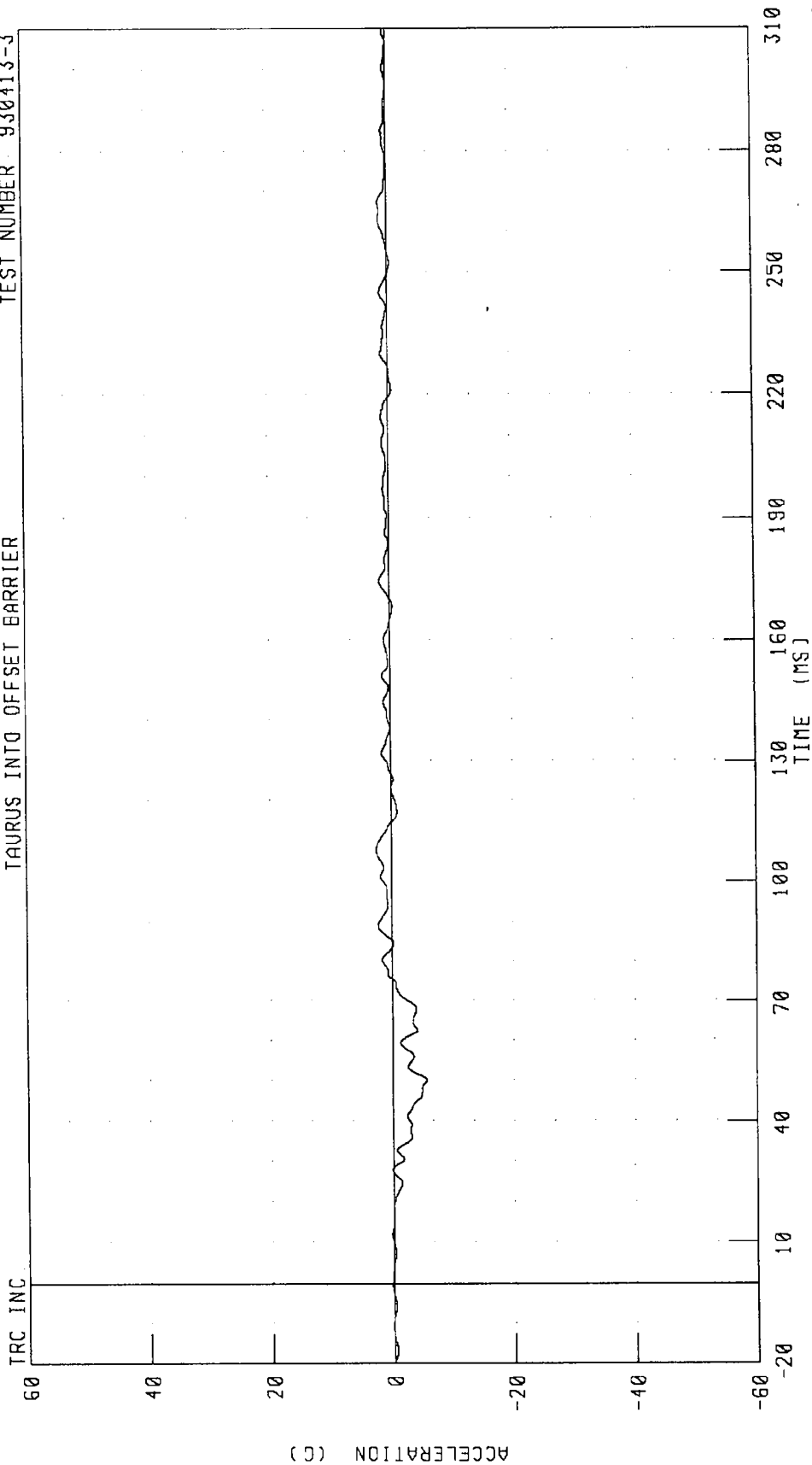
PEAK DATA: 17.02 IN @ 66.50 MS, 0 00 IN @ 0 00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3

RIGHT REAR SILL Y-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3



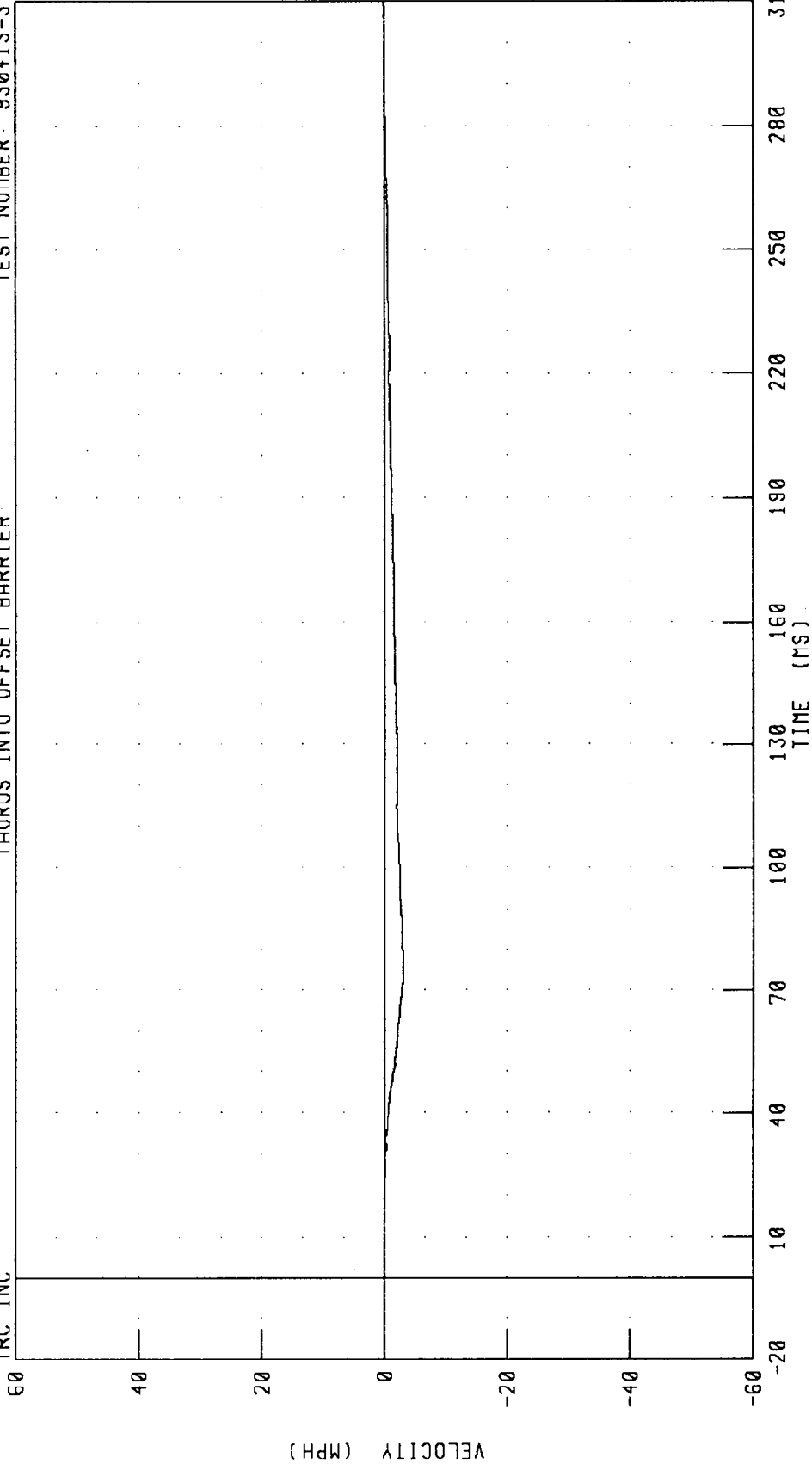
CHANNEL: RRSYG1 FILTER: CH. CLASS 60

PEAK DATA: 2.53 G @ 107.50 MS, -5.57 G @ 50.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3

RIGHT REAR SILL Y-AXIS VELOCITY

TRC INC. Taurus into Offset Barrier TEST NUMBER: 930413-3



CHANNEL: RRSYV1 FILTER: CH. CLASS 180

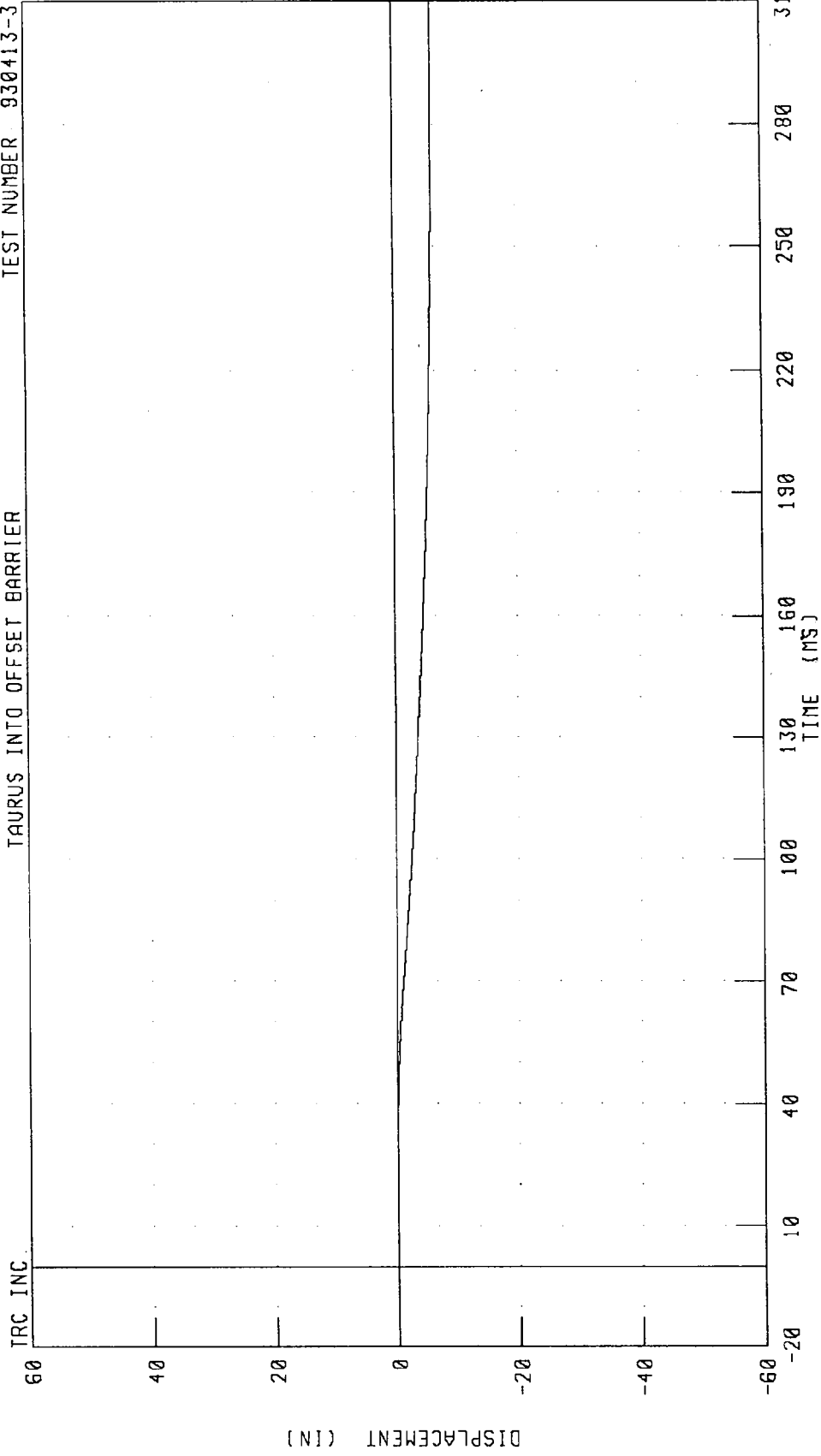
PEAK DATA: 0.23 MPH @ 310.00 MS, -3.08 MPH @ 75.50 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO 3

RIGHT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-3

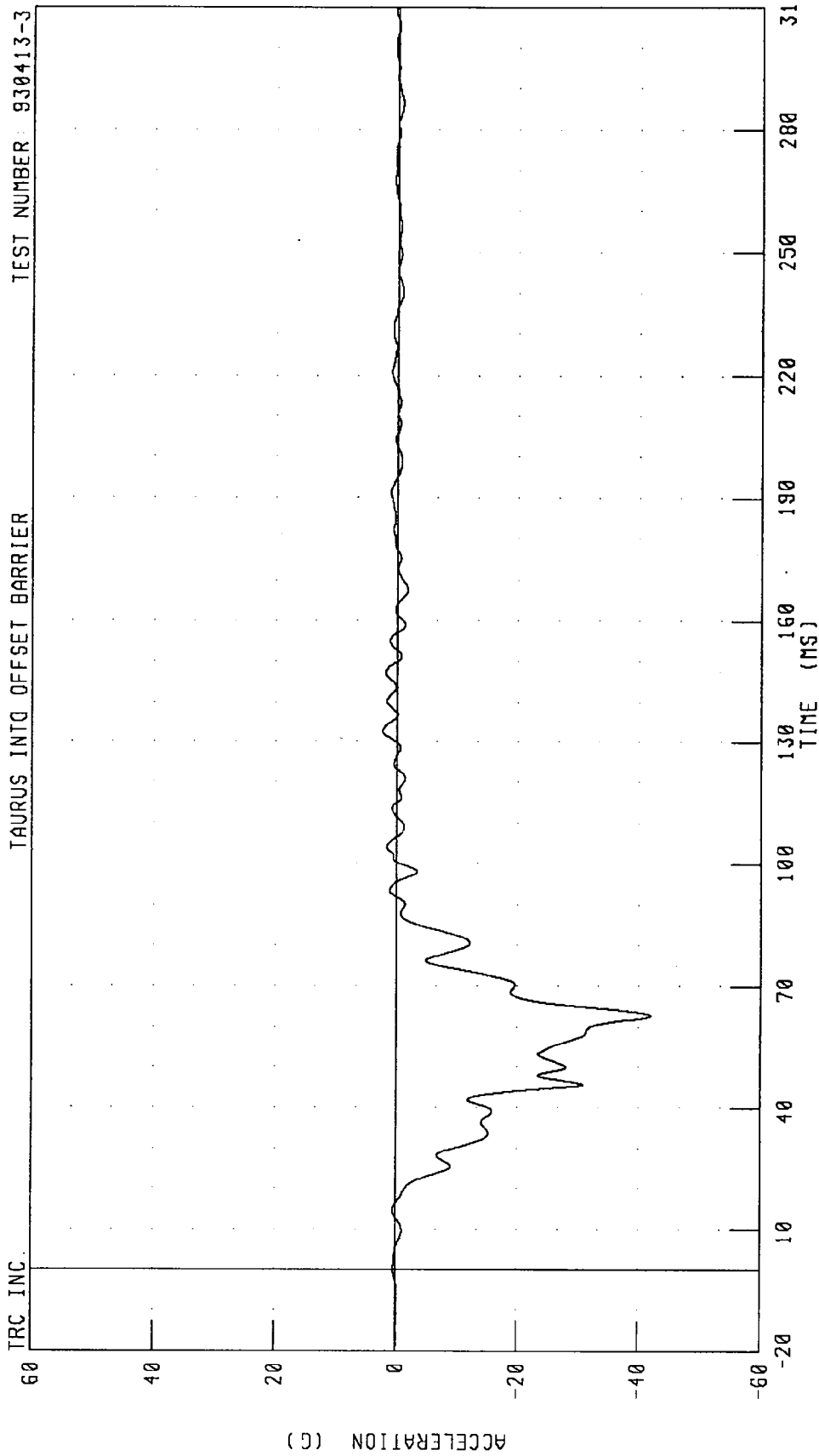


CHANNEL: RRSYD1 FILTER: CH CLASS 180 PEAK DATA: 0.00 IN @ 6.75 MS, -6.30 IN @ 289.38 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

TEST NUMBER: 930413-3

TAURUS INTO OFFSET BARRIER

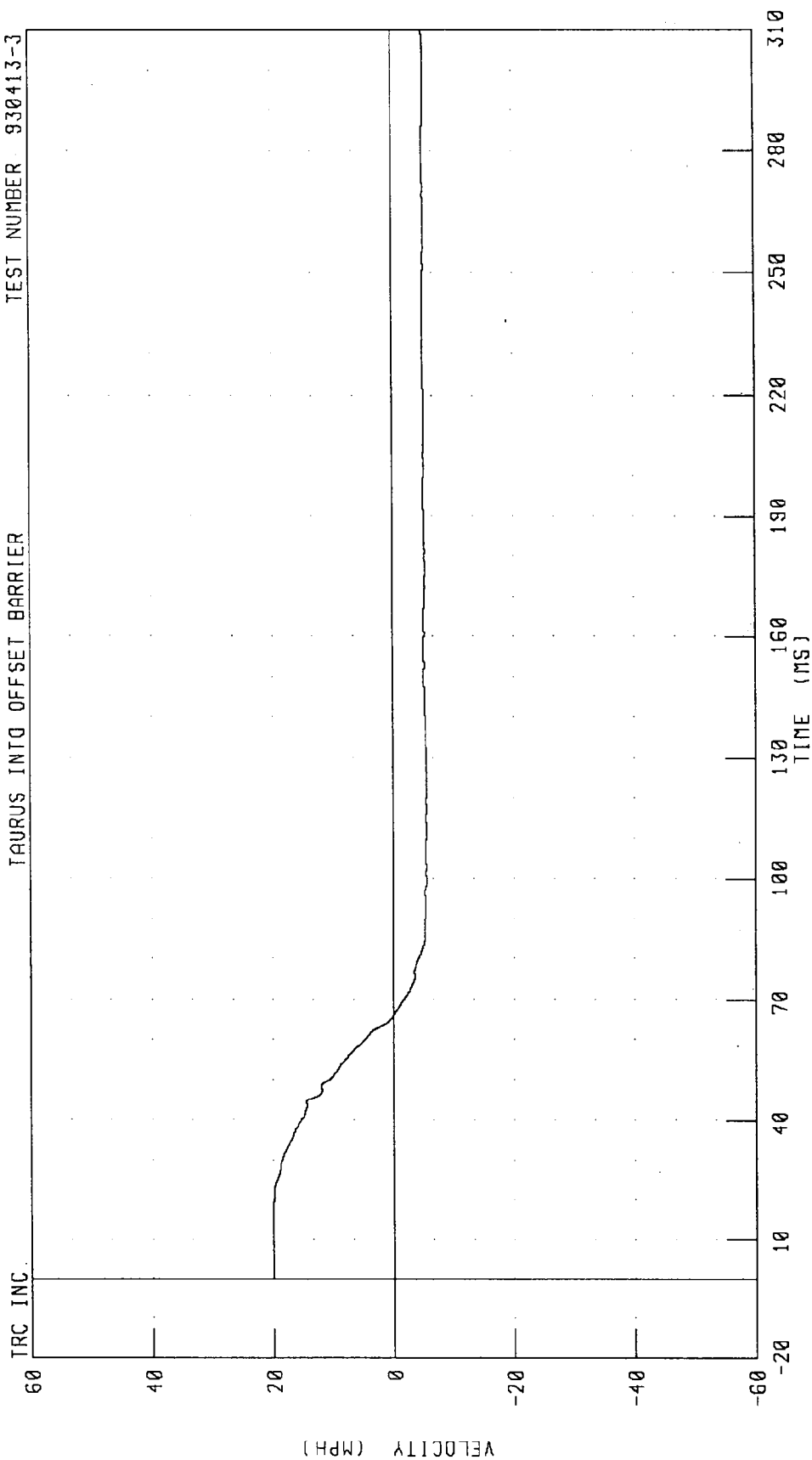


CHANNEL: VCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 2.42 G @ 132.63 MS, -41.98 G @ 62.88 MS

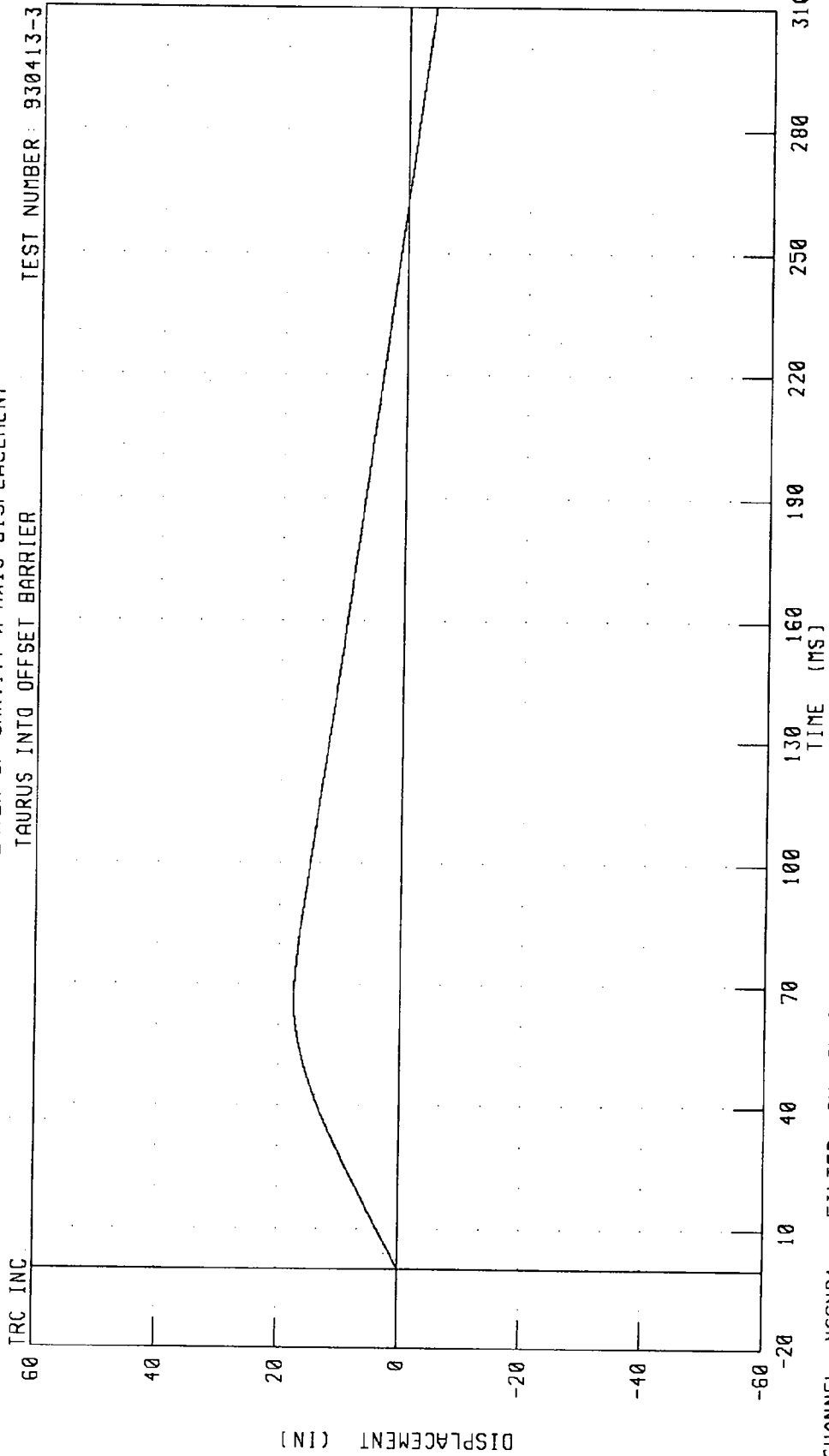
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-3



CHANNEL: VCGXV1 FILTER: CH. CLASS 180 PEAK DATA: 20.04 MPH @ 5.63 MS, -5.65 MPH @ 122.75 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY X-AXIS DISPLACEMENT

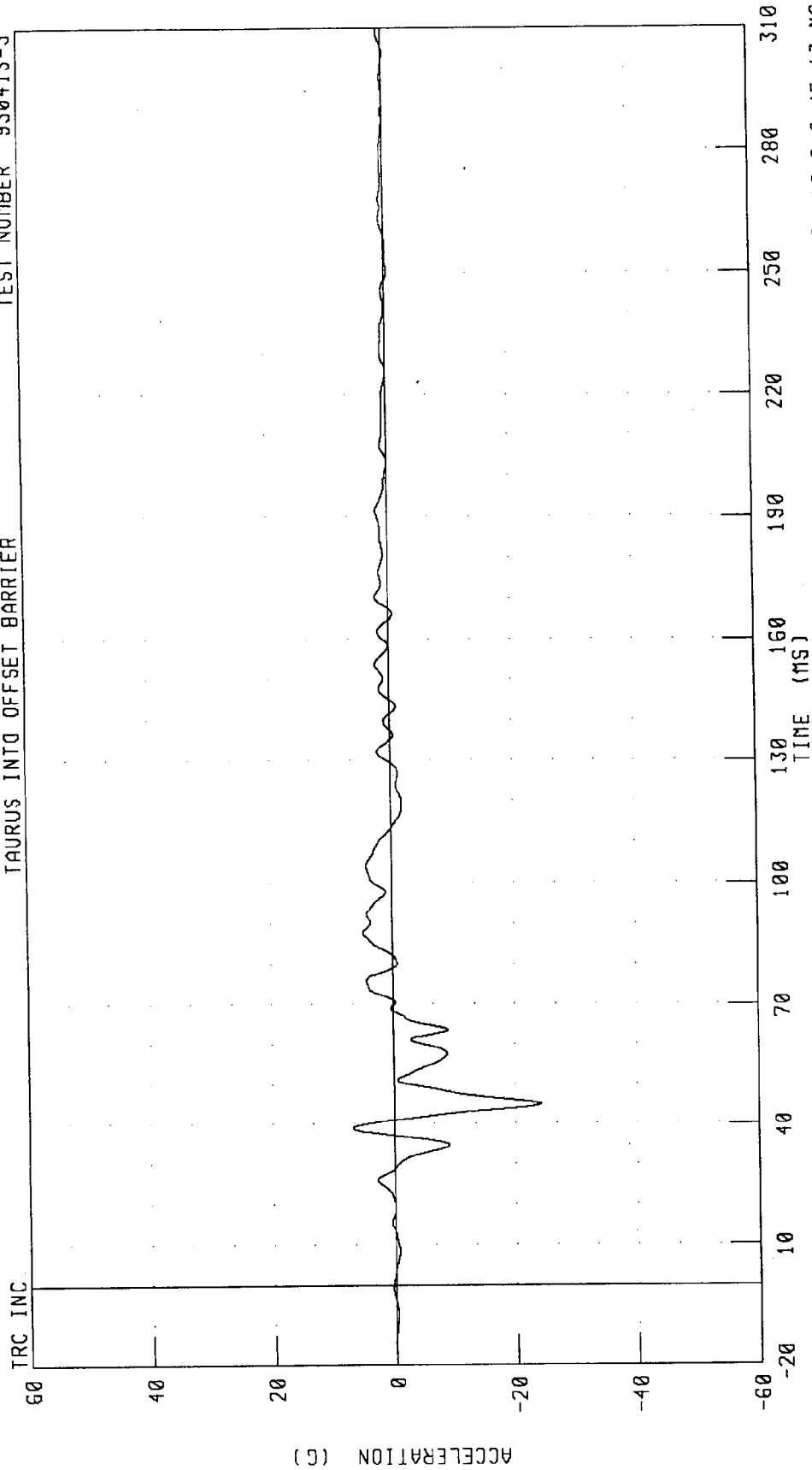


CHANNEL: VCCXD1 FILTER: CH. CLASS 180 PEAK DATA: 17.46 IN @ 66.13 MS, -4.34 IN @ 310.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO 3
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

TEST NUMBER 930413-3

TAURUS INTO OFFSET BARRIER

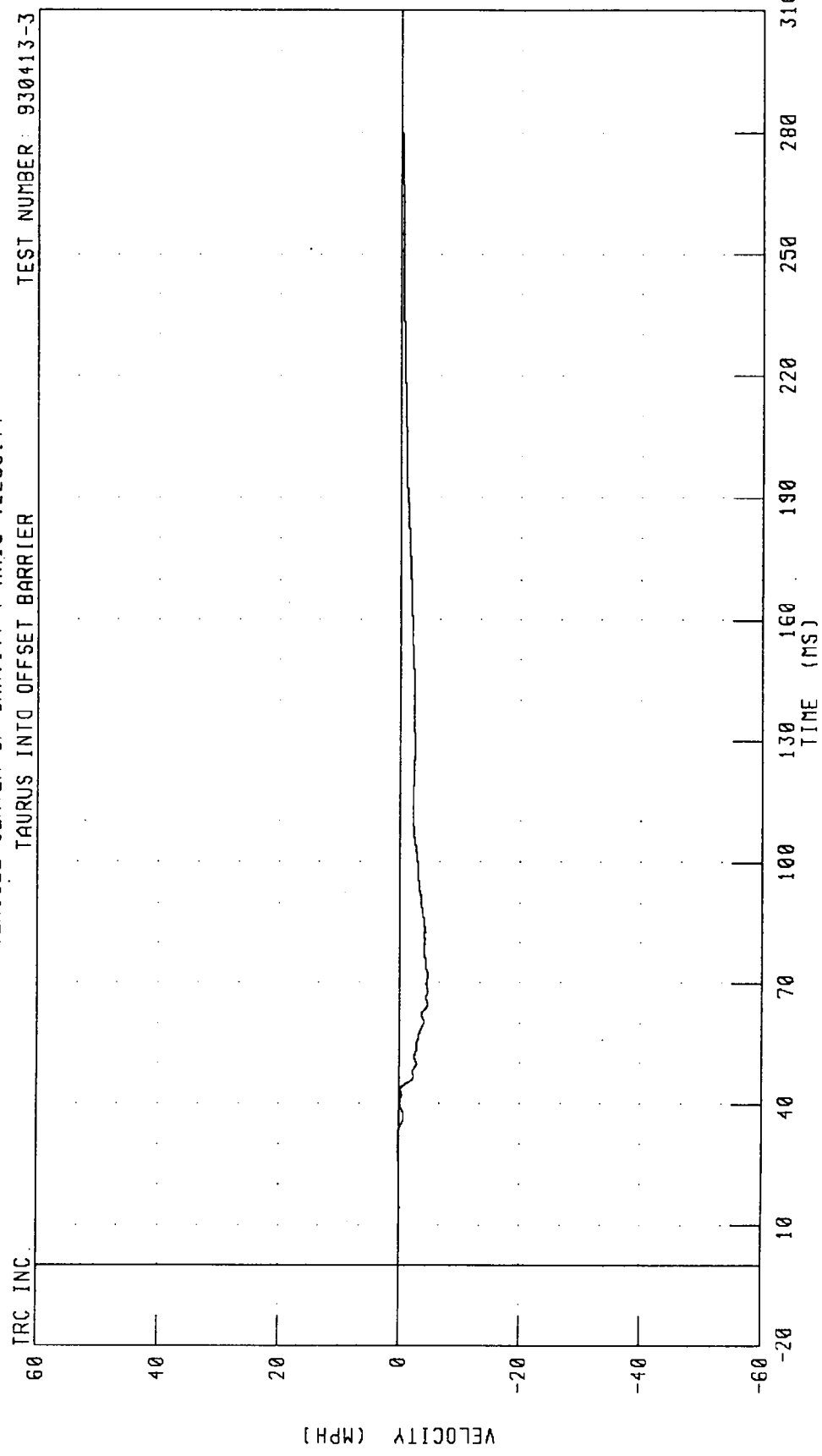


CHANNEL: VCCY01 FILTER: CH. CLASS 60

PEAK DATA: 6.86 G @ 39.00 MS, -24.19 G @ 45.13 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

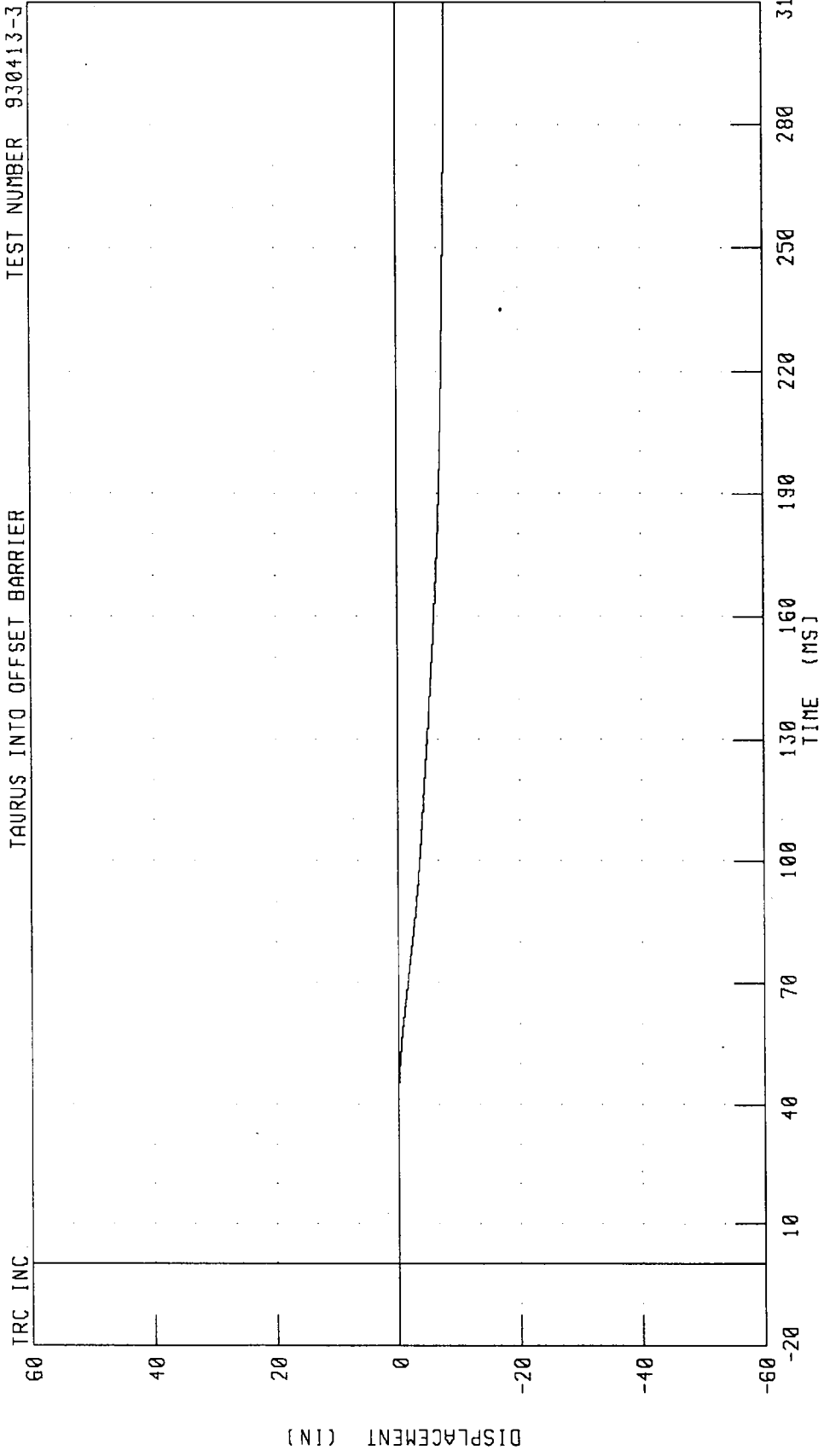
TAURUS INTO OFFSET BARRIER TEST NUMBER: 930413-3



CHANNEL: VCGYV1 FILTER: CH. CLASS 180 PEAK DATA: 0.26 MPH @ 27.50 MS, -4.72 MPH @ 68.00 MS

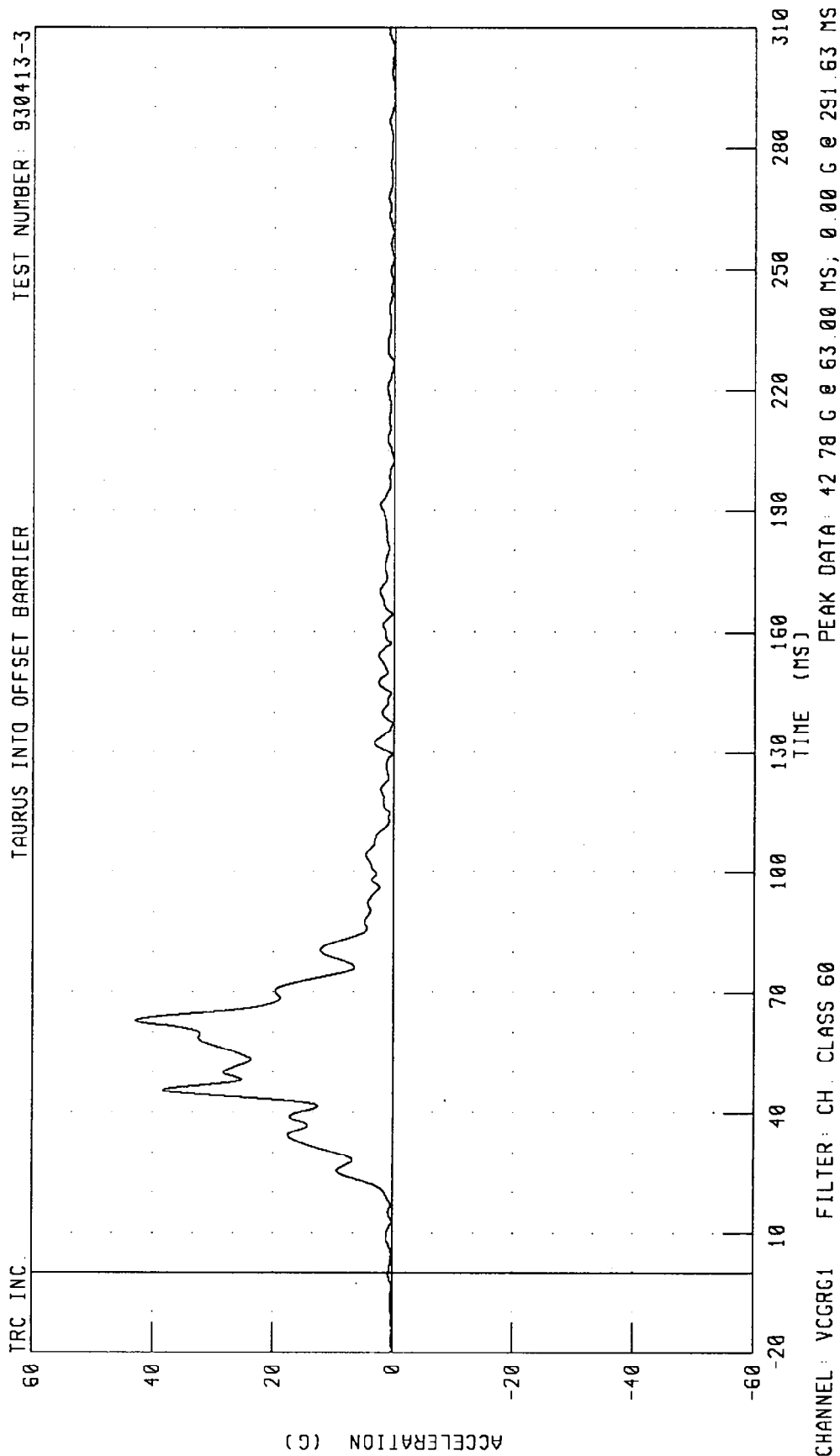
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20 0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-3



CHANNEL: VCGYD1 FILTER: CH. CLASS 180 PEAK DATA: 0.01 IN @ 34.00 MS; -8.02 IN @ 310.00 MS

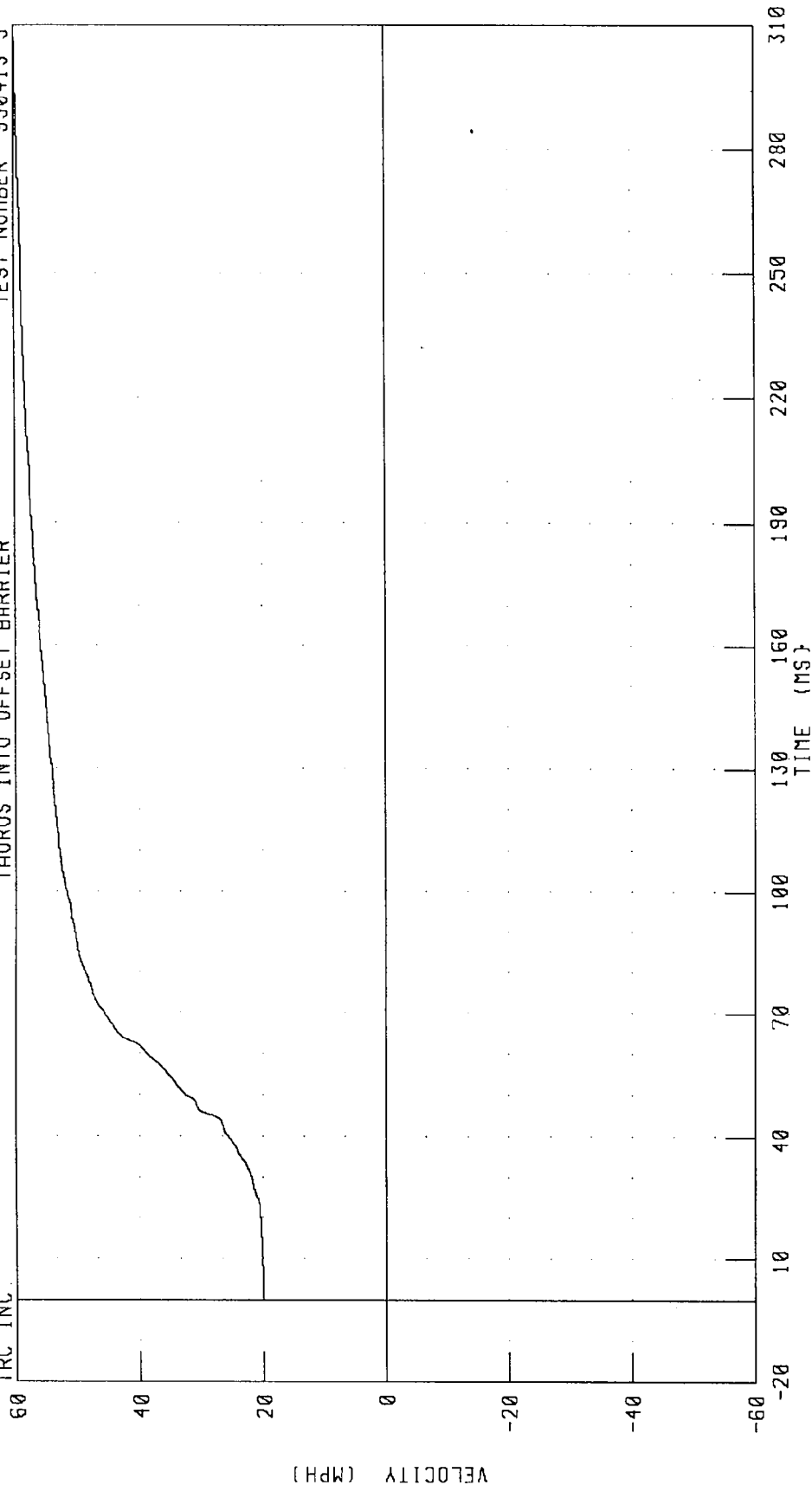
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION



1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO 3
VEHICLE CENTER OF GRAVITY RESULTANT VELOCITY

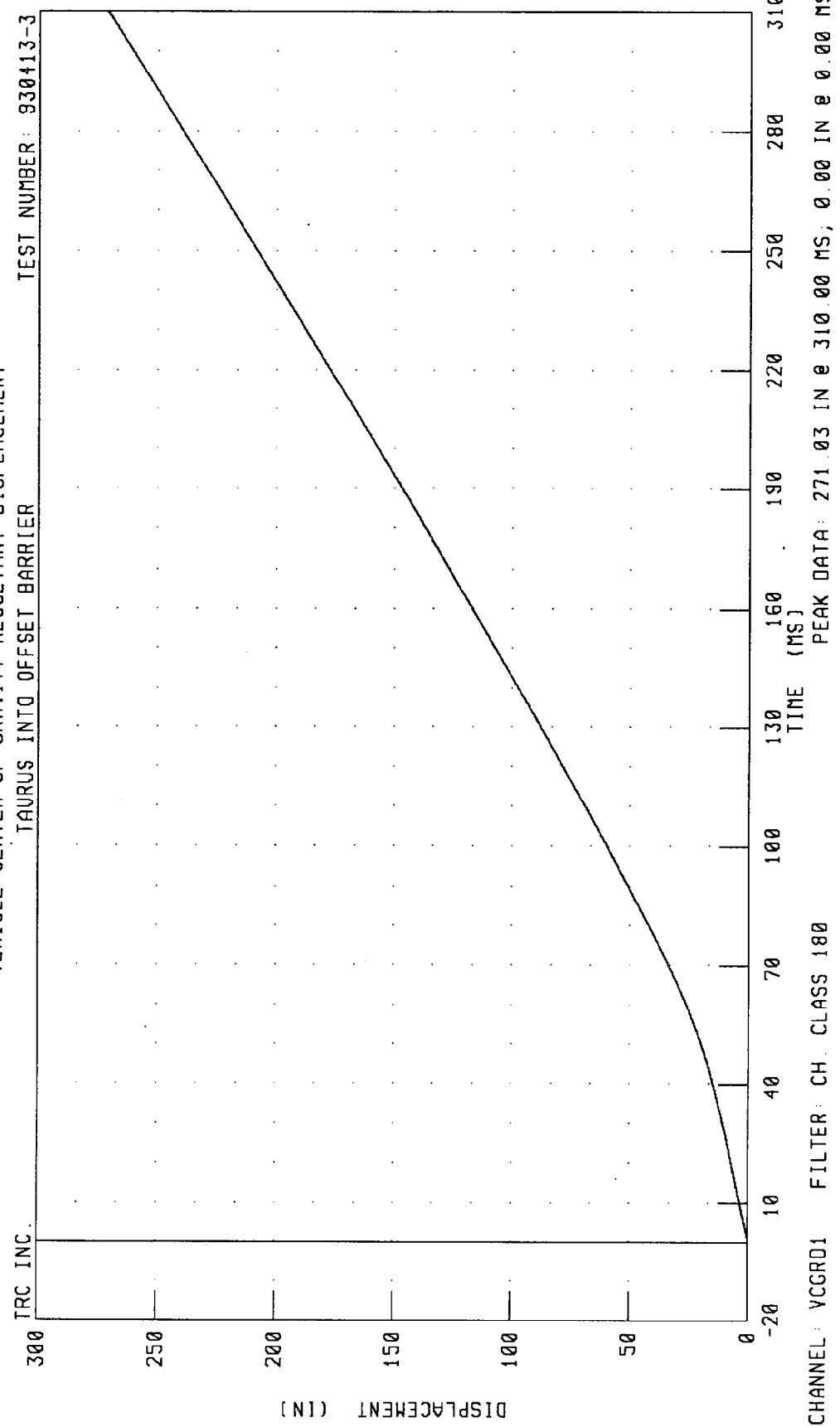
TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-3

TRC INC.



CHANNEL: VCGRV1 FILTER: CH. CLASS 180 PEAK DATA: 60.01 MPH @ 310.00 MS, 20.00 MPH @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 20.0 MPH TEST NO. 3
VEHICLE CENTER OF GRAVITY RESULTANT DISPLACEMENT

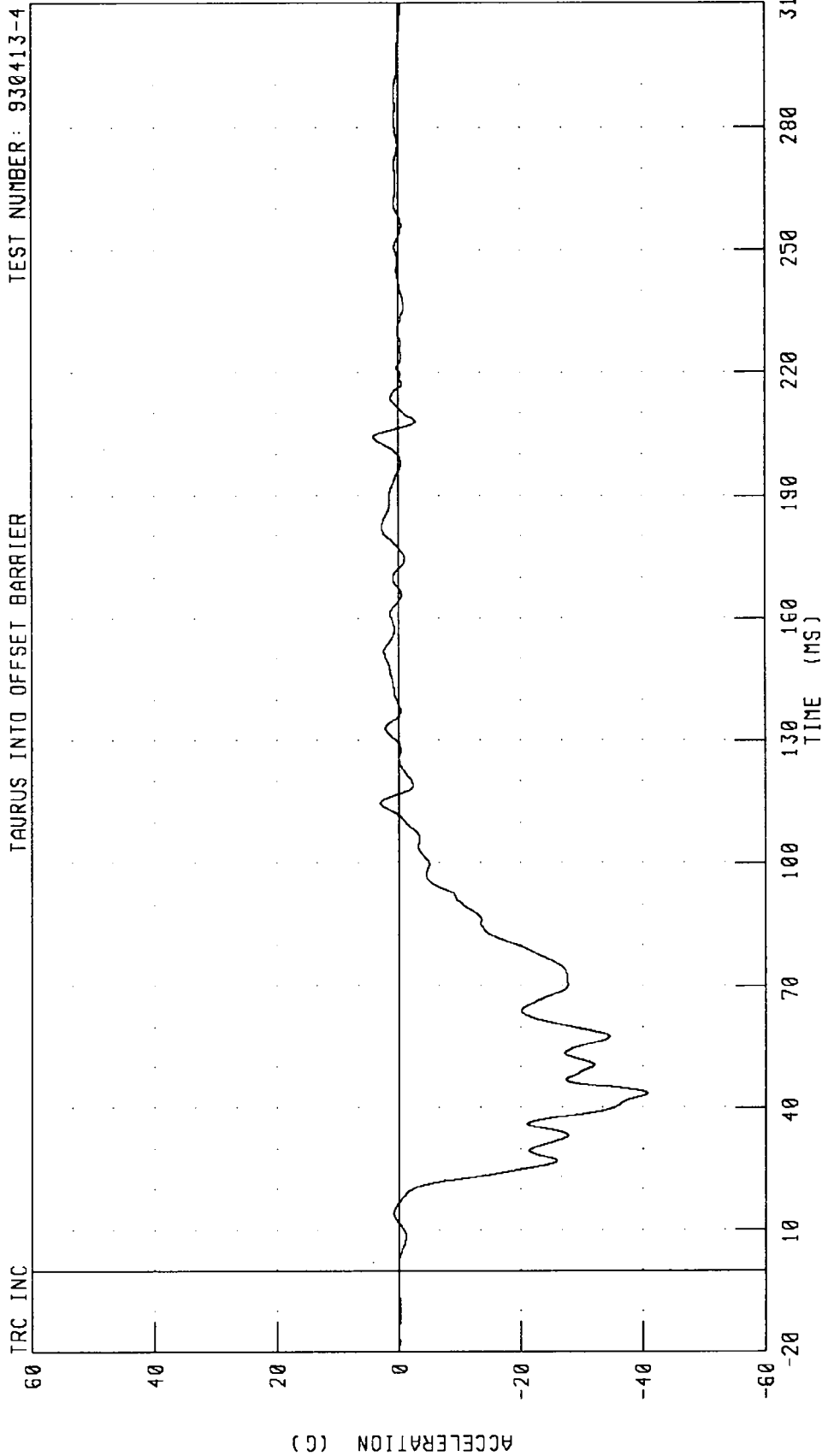


DATA PLOTS

TEST NO. 930413-4

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4
LEFT REAR SILL X-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER TEST NUMBER: 930413-4

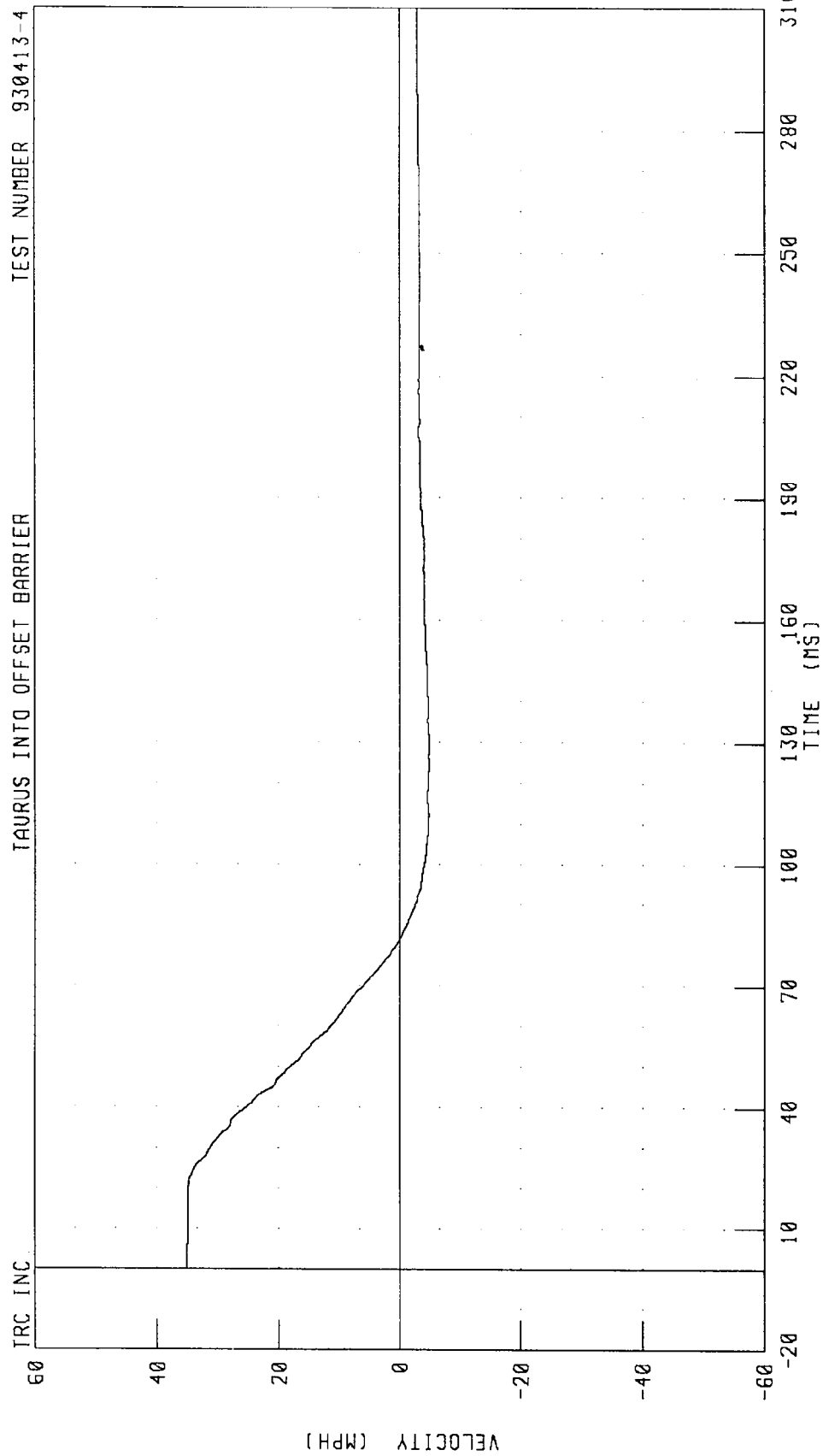


CHANNEL: LRSXG1 FILTER: CH. CLASS 60

PEAK DATA: 4.13 G @ 204.38 MS, -40.73 G @ 43.63 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35 0 MPH TEST NO 4
LEFT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-4



CHANNEL LRSXV1 FILTER CH. CLASS 180

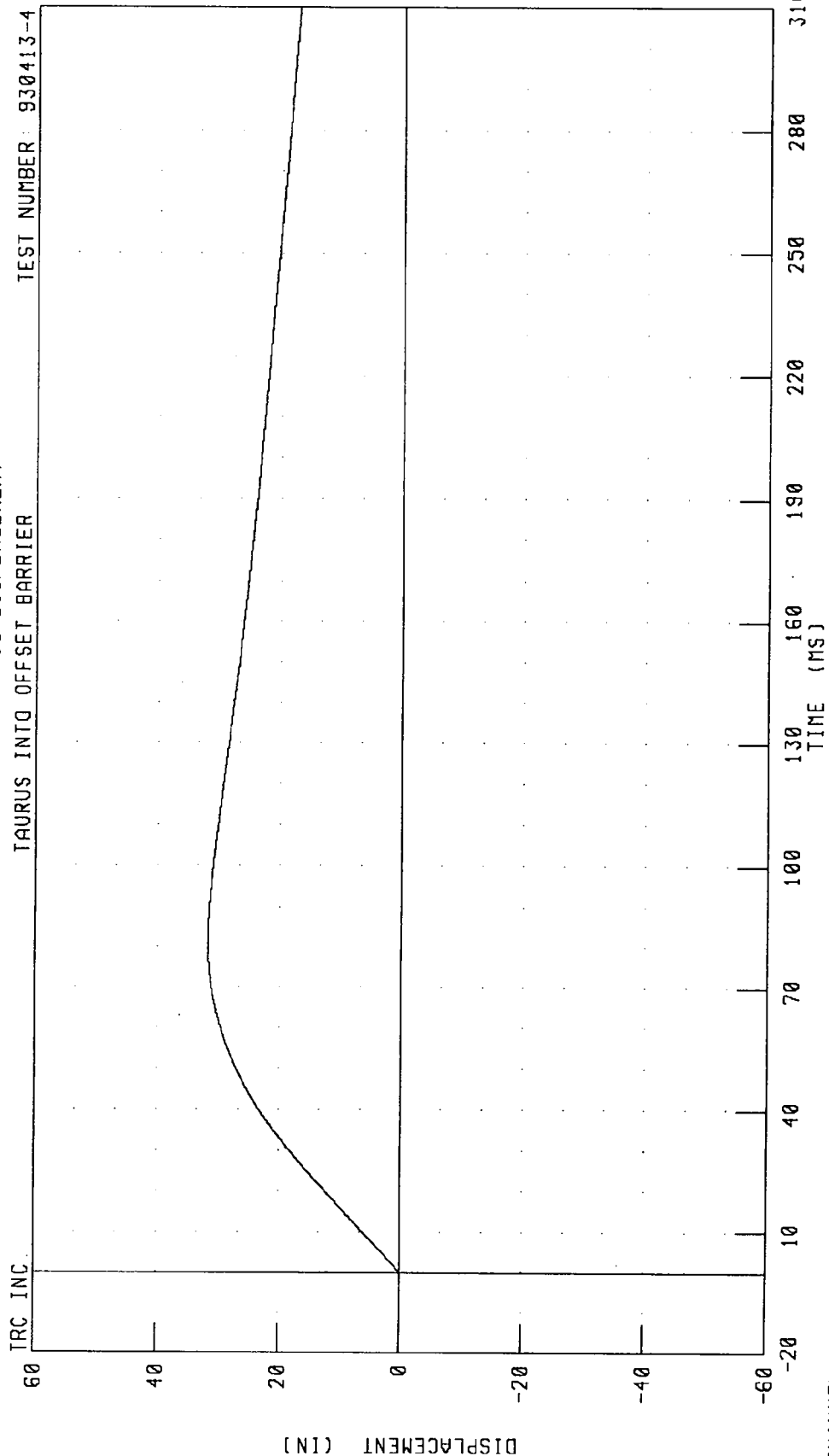
PEAK DATA: 35 00 MPH @ 0 13 MS, -4 86 MPH @ 130 25 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO 4

LEFT REAR SILL X-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-4



CHANNEL: LRSXD1 FILTER: CH. CLASS 180

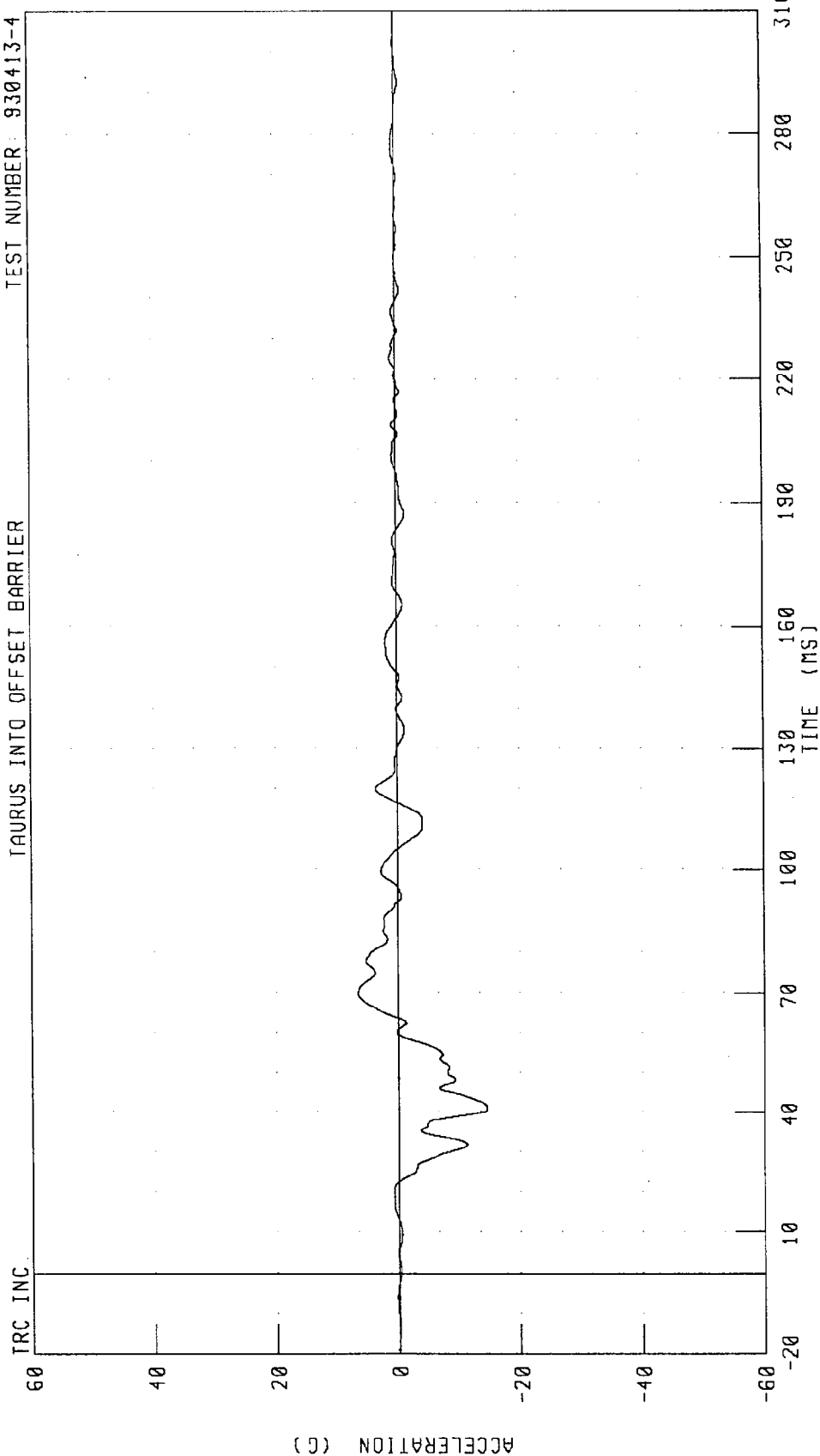
PEAK DATA: 31 69 IN @ 81.38 MS, 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4

LEFT REAR SILL Y-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-4



PEAK DATA 6.58 G @ 69.88 MS, -14.63 G @ 40.75 MS

CHANNEL: LRSYG1 FILTER: CH. CLASS 60

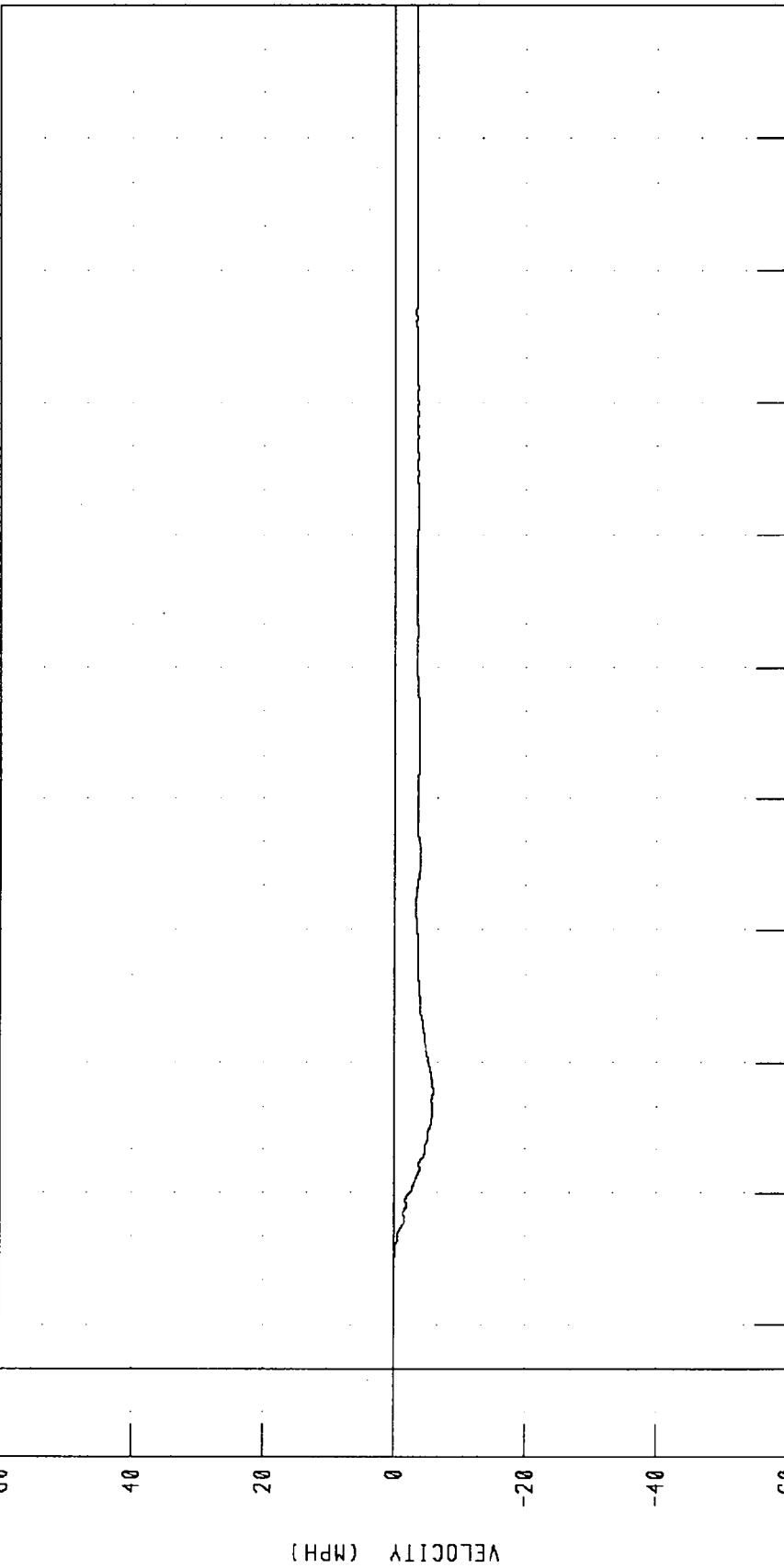
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4

LEFT REAR SILL Y-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TRC INC.

TEST NUMBER: 930413-4



CHANNEL: LRSYV1 FILTER: CH. CLASS 180 PEAK DATA: 0.10 MPH @ 23.63 MS, -5.90 MPH @ 63.63 MS

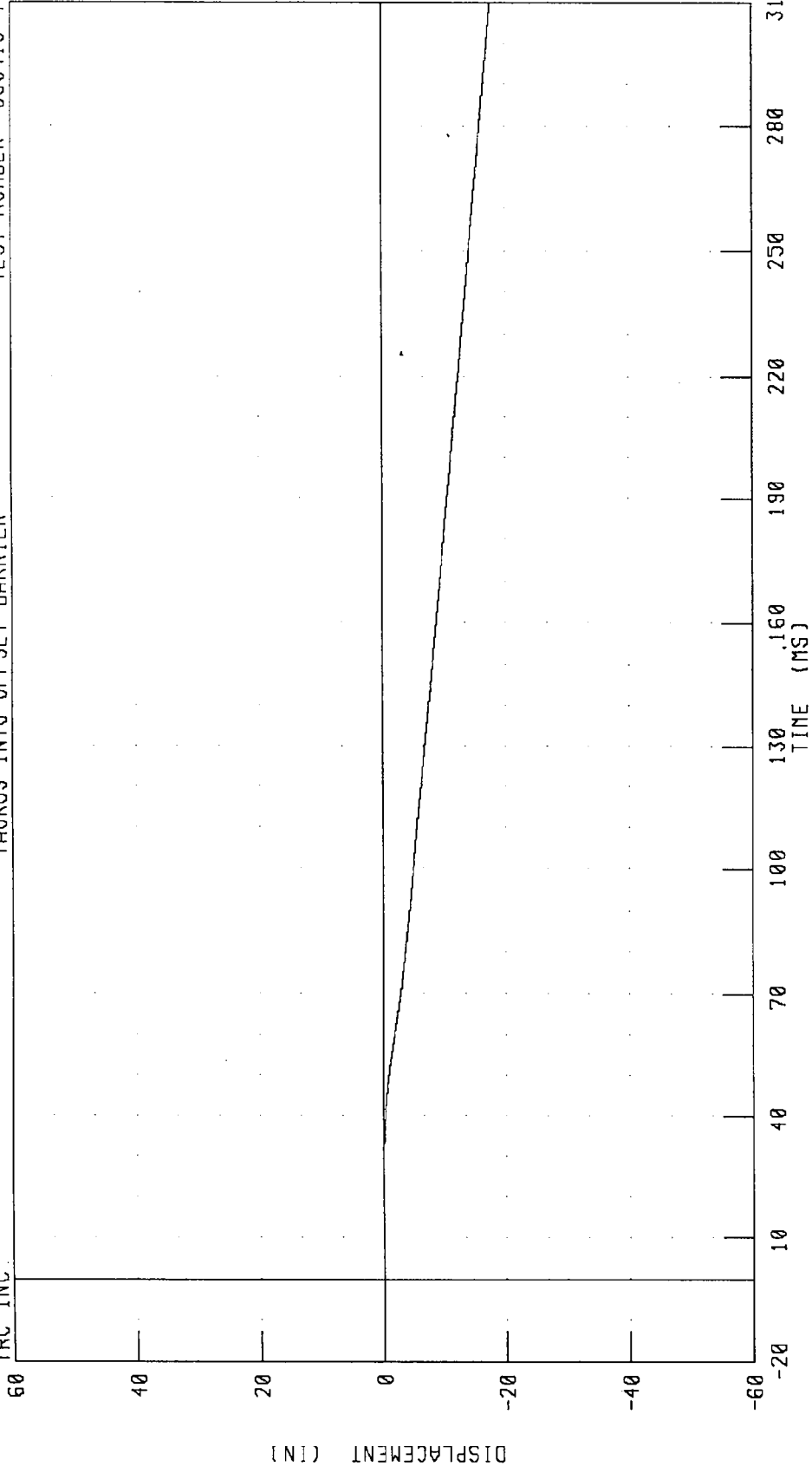
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35 0 MPH TEST NO 4

LEFT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-4

TRC INC



CHANNEL: LRSYDI FILTER: CH CLASS 180

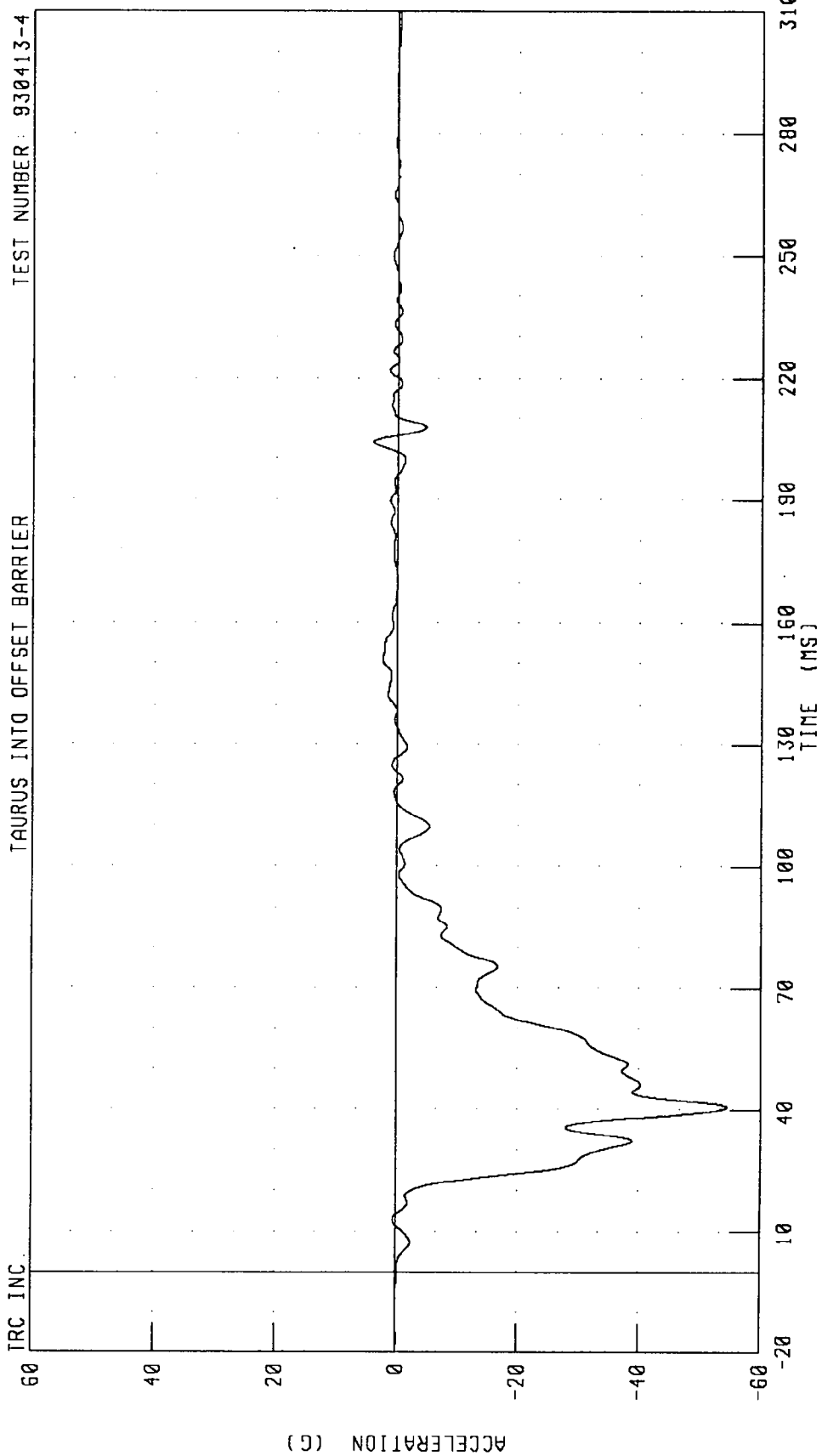
PEAK DATA: 0.00 IN @ 0.00 MS, -17.68 IN @ 310.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4

RIGHT REAR SILL X-AXIS ACCELERATION

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-4



CHANNEL: RRSXG1 FILTER: CH. CLASS 60

PEAK DATA: 4.05 G @ 204.13 MS, -54.49 G @ 40.63 MS

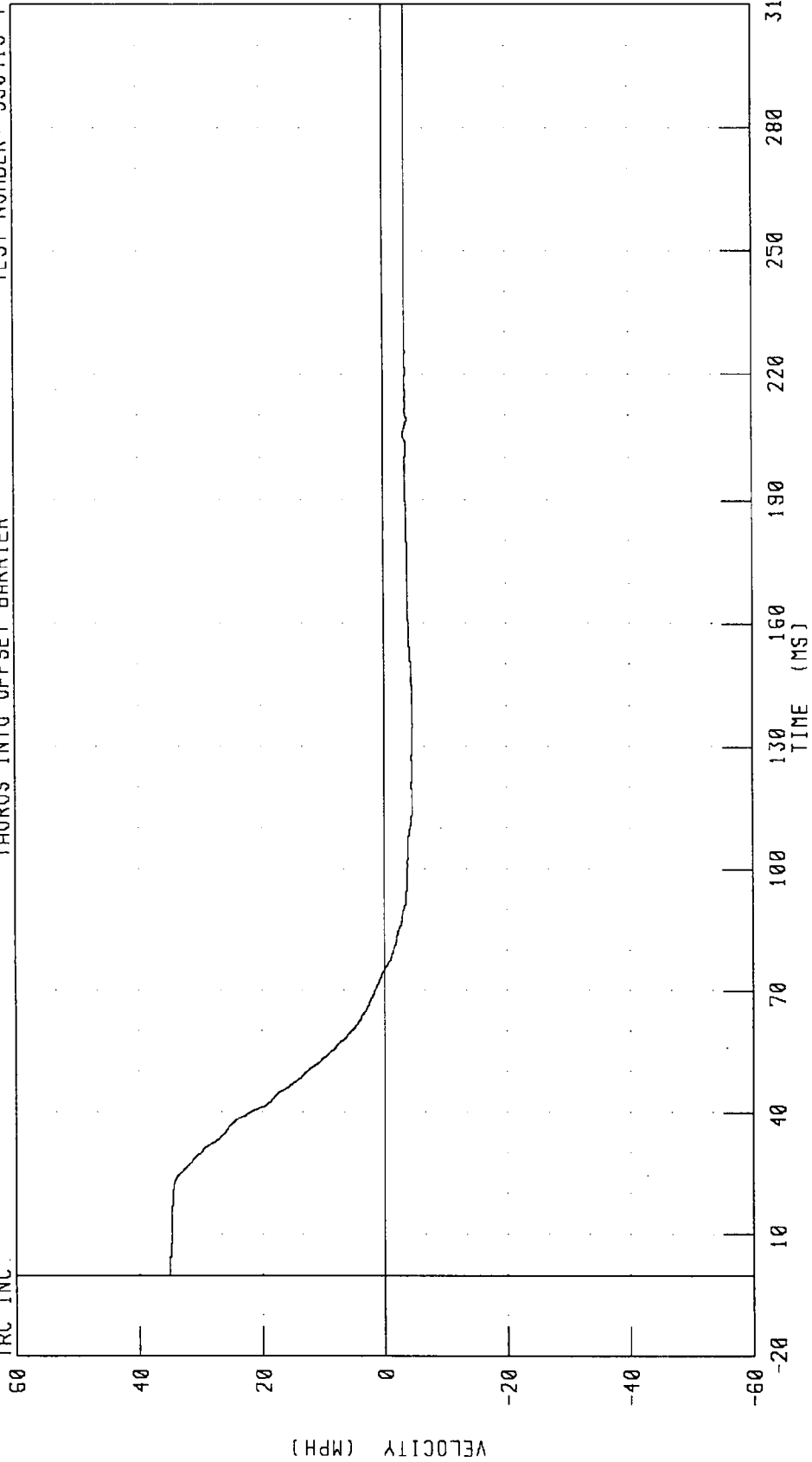
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO 4

RIGHT REAR SILL X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-4

TRC INC.



PEAK DATA: 35.00 MPH @ 0.00 MS, -4.65 MPH @ 135.13 MS

CHANNEL: RRSXV1 FILTER: CH. CLASS 180

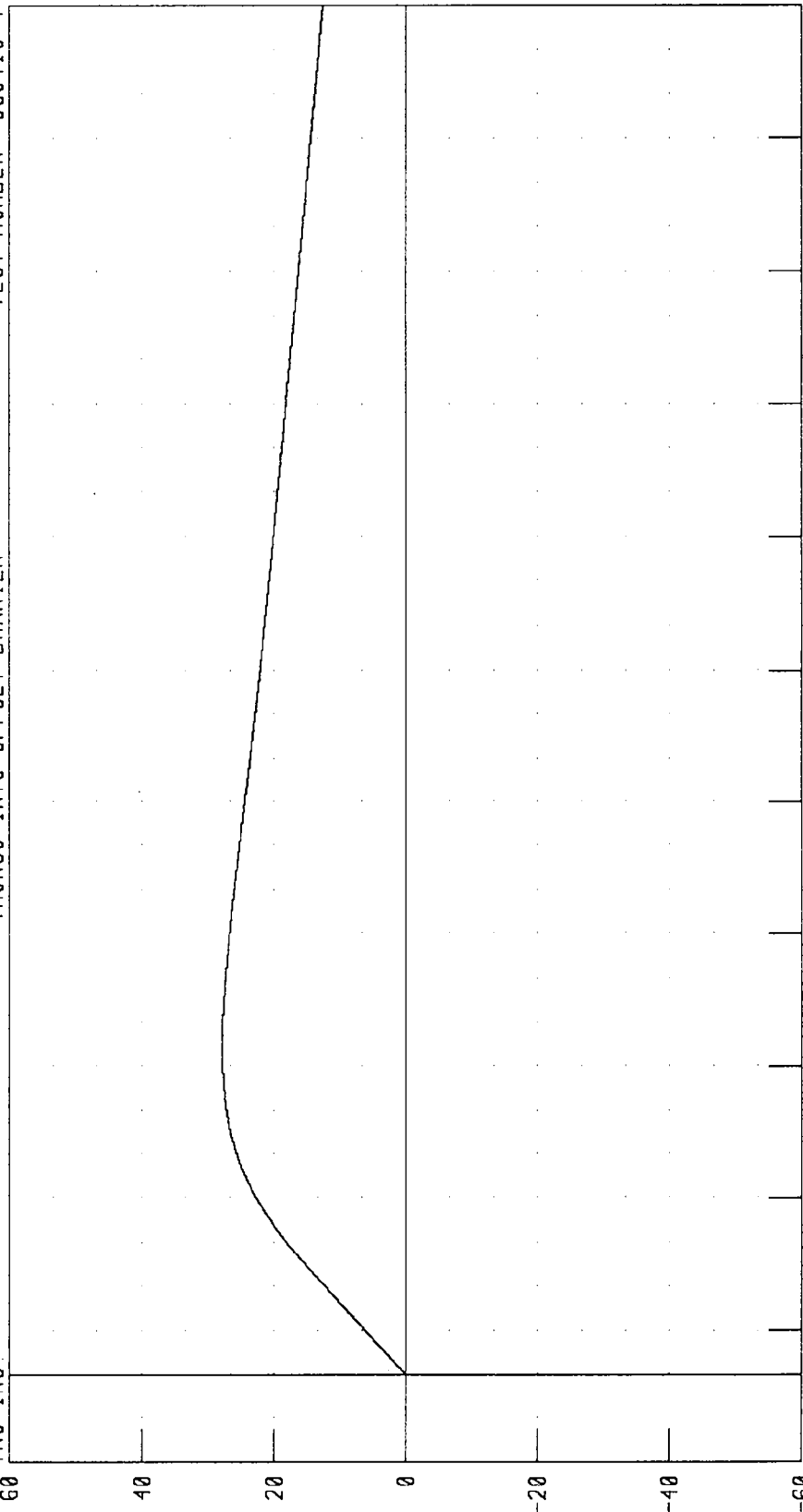
1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4

RIGHT REAR SILL X-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-4

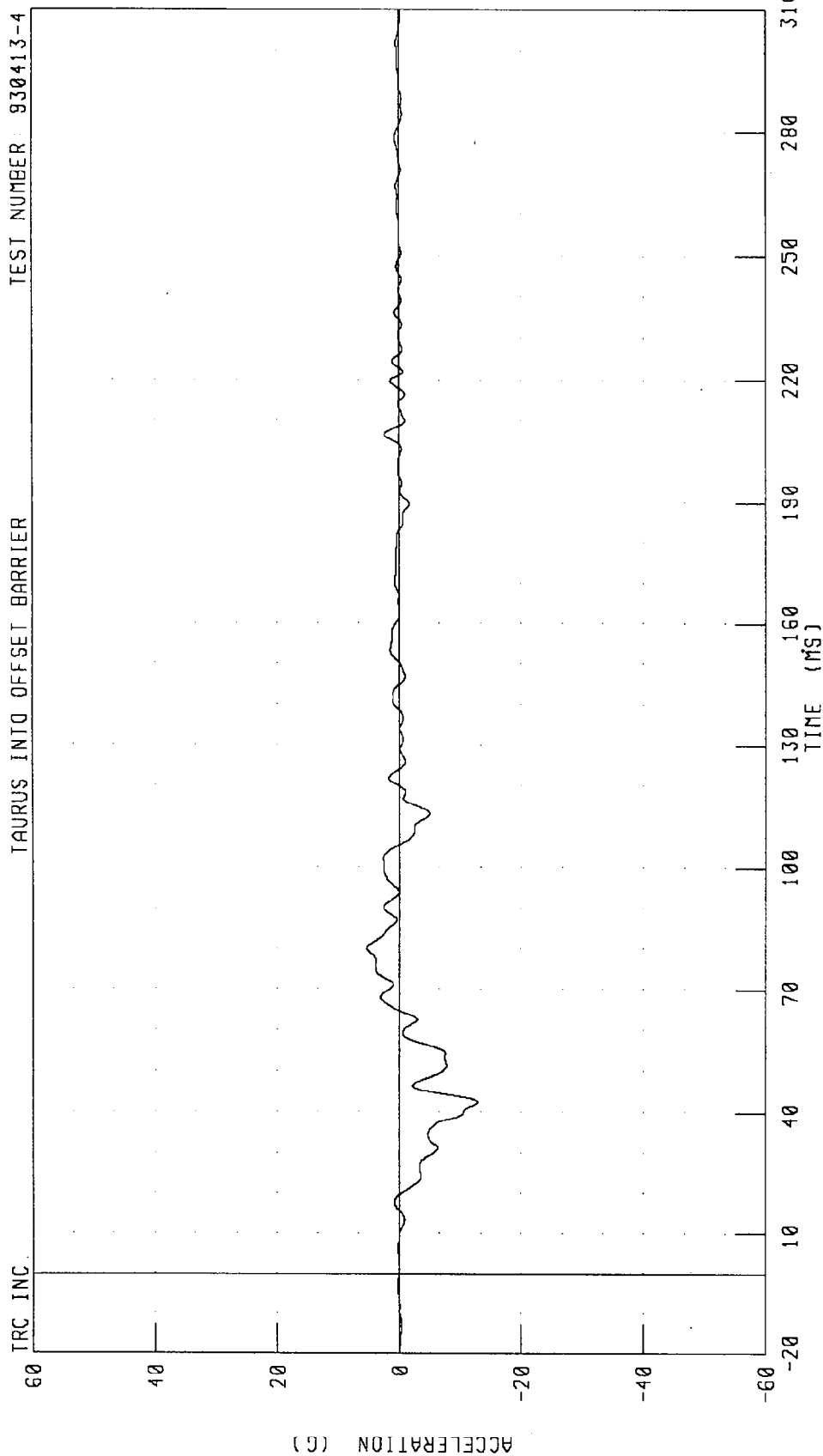
TRC INC.



CHANNEL: RRSXD1 FILTER: CH. CLASS 180 PEAK DATA: 27.82 IN @ 75.00 MS; 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35 0 MPH TEST NO 4
RIGHT REAR SILL Y-AXIS ACCELERATION
TAURUS INTO OFFSET BARRIER

TEST NUMBER: 930413-4



CHANNEL: RRSYG1 FILTER: CH CLASS 60

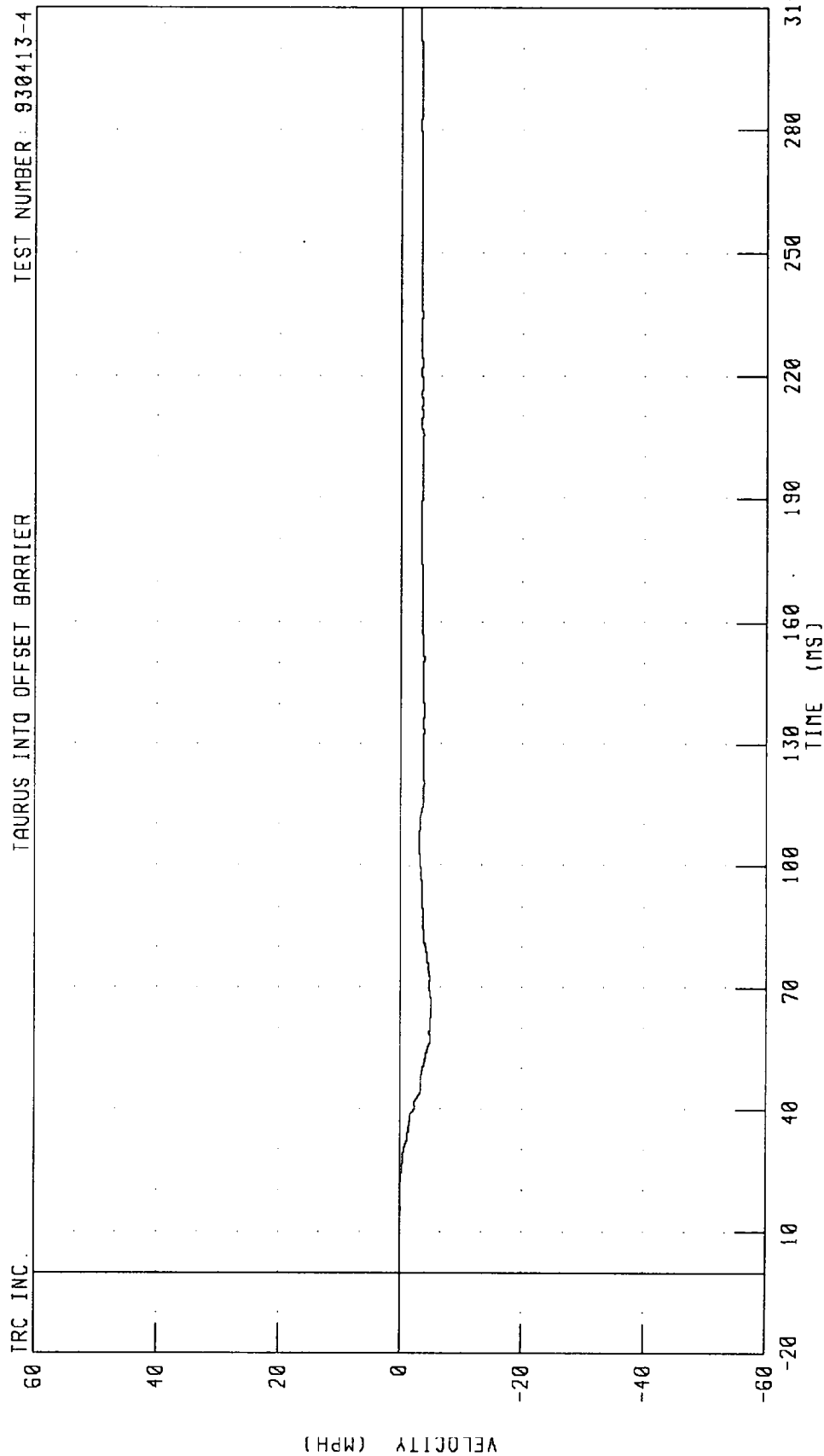
PEAK DATA: 5 30 G @ 80.13 MS, -12.94 G @ 42 50 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4

RIGHT REAR SILL Y-AXIS VELOCITY

TEST NUMBER: 930413-4

TAURUS INTO OFFSET BARRIER



CHANNEL: RRSYV1 FILTER: CH CLASS 180

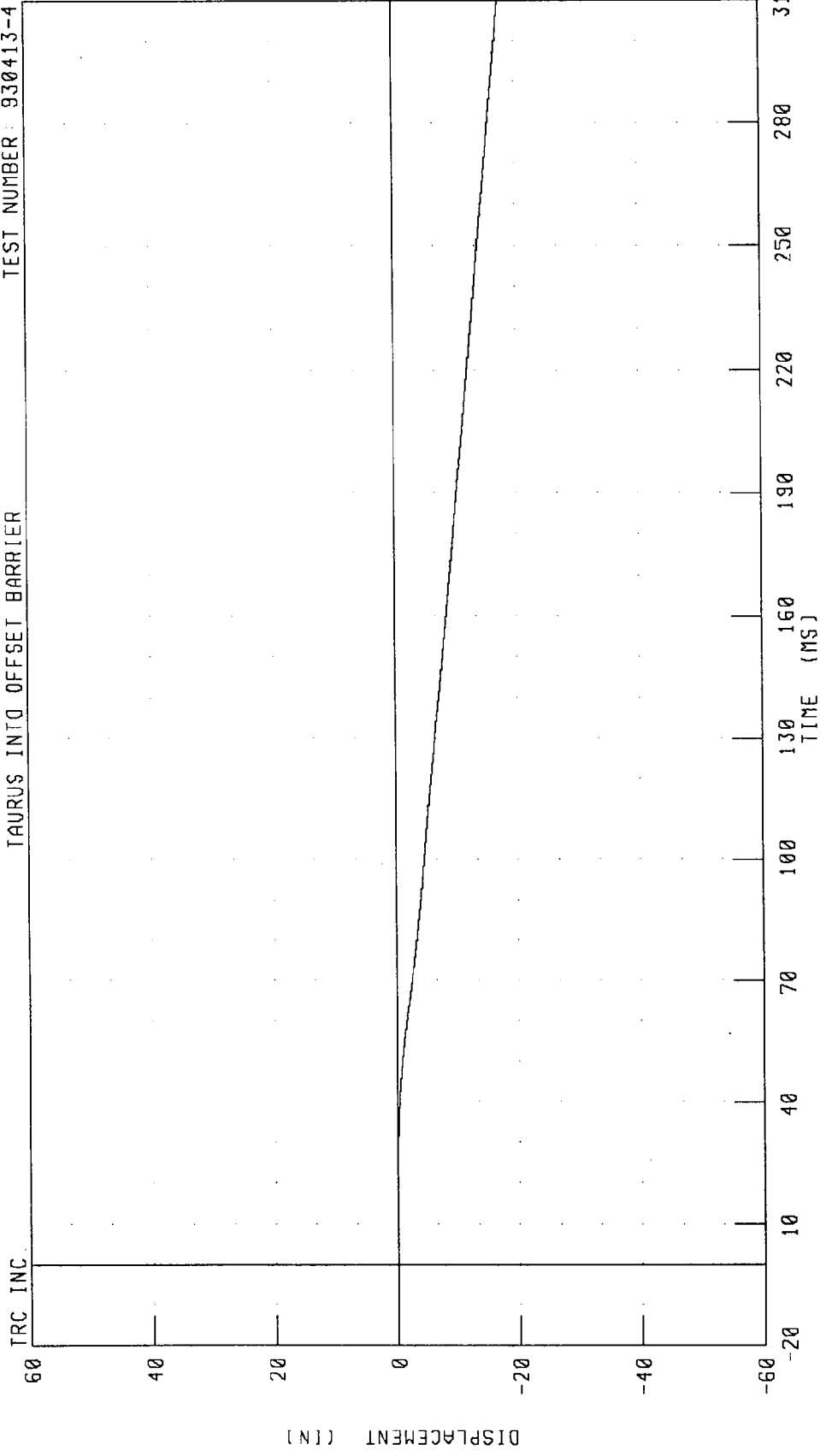
PEAK DATA: 0.02 MPH @ 10.75 MS, -5.14 MPH @ 63.88 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4

RIGHT REAR SILL Y-AXIS DISPLACEMENT

TAURUS INTO OFFSET BARRIER

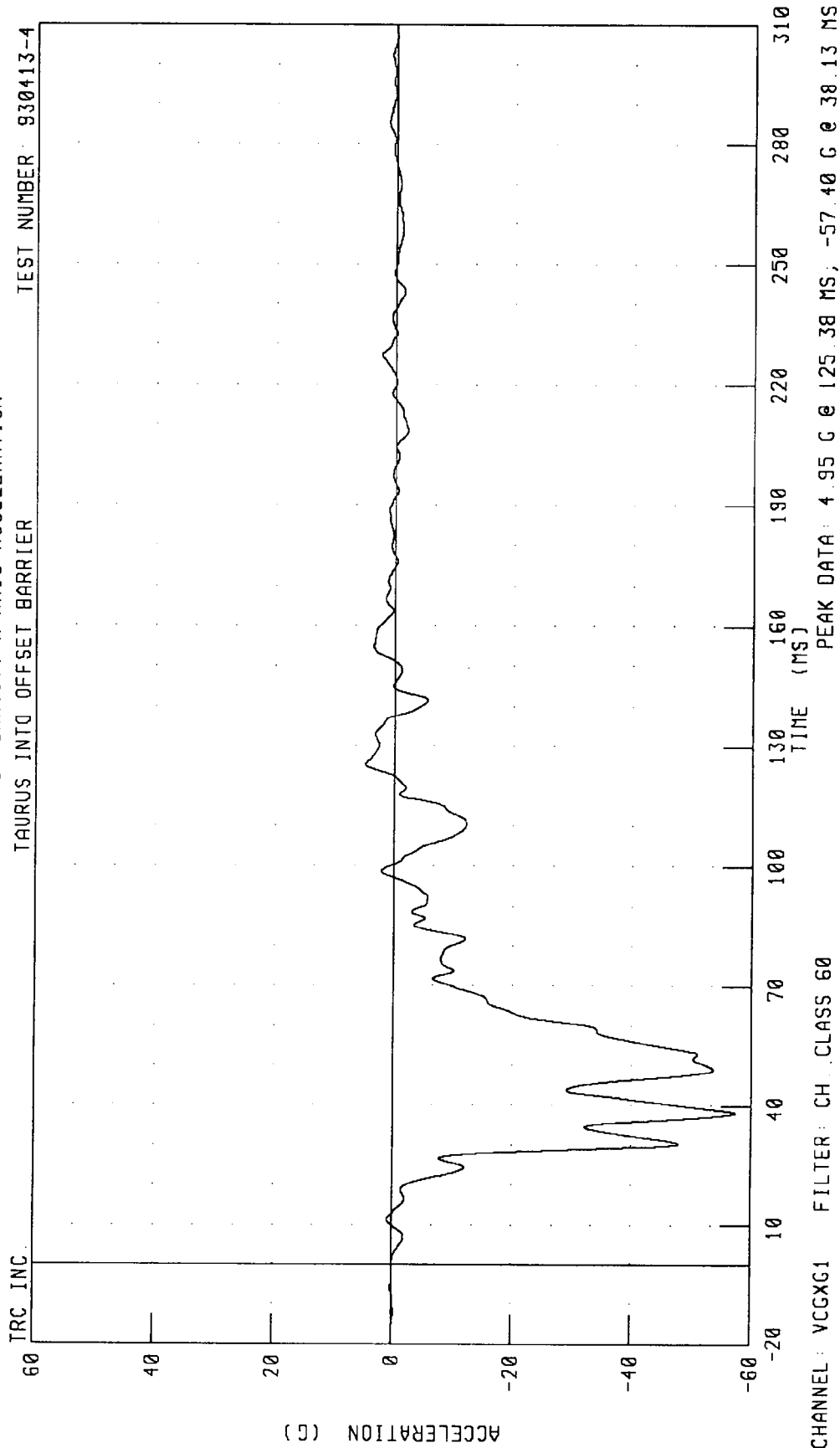
TEST NUMBER: 930413-4



CHANNEL: RRSYD1 FILTER: CH. CLASS 180

PEAK DATA: 0 00 IN @ 12.00 MS; -17.40 IN @ 310 00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35 0 MPH TEST NO. 4
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

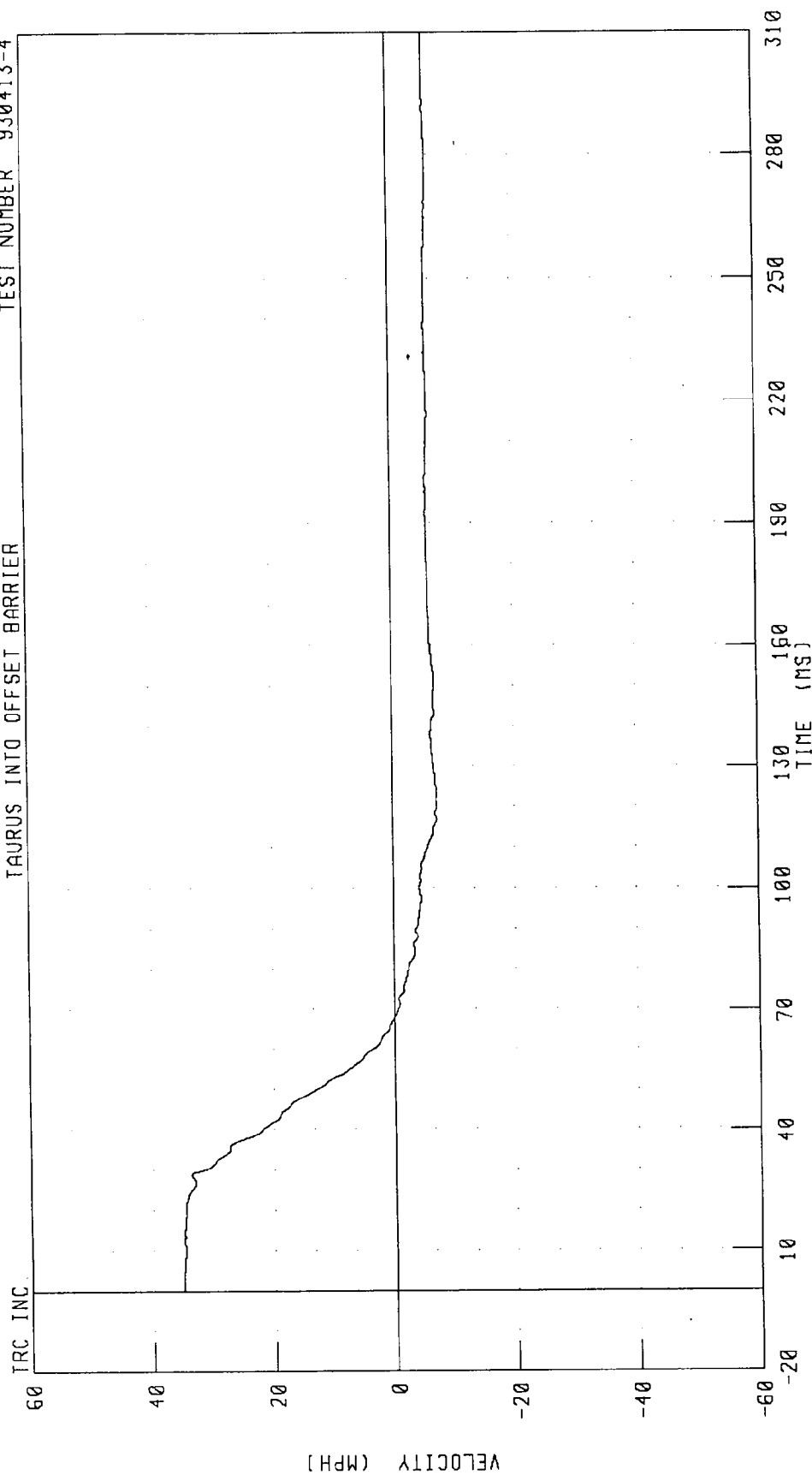


1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO 4

VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

TAURUS INTO OFFSET BARRIER

TEST NUMBER 930413-4



PEAK DATA: 35.00 MPH @ 3.25 MS; -7.34 MPH @ 123.75 MS

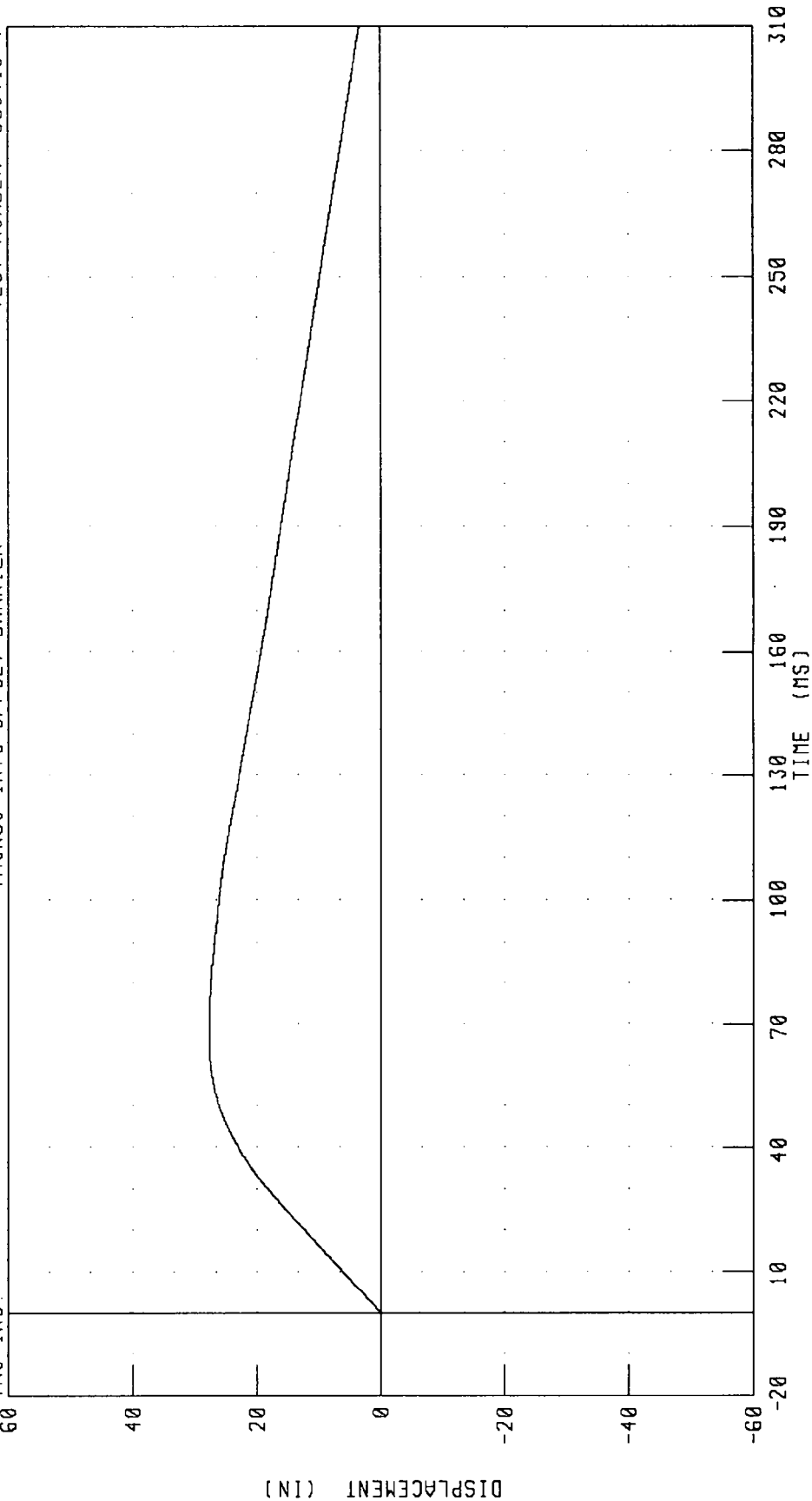
CHANNEL: VCGXV1 FILTER: CH. CLASS 180

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO 4
VEHICLE CENTER OF GRAVITY X-AXIS DISPLACEMENT

TEST NUMBER: 930413-4

TAURUS INTO OFFSET BARRIER

TRC INC.



CHANNEL: VCGXD1 FILTER: CH CLASS 180

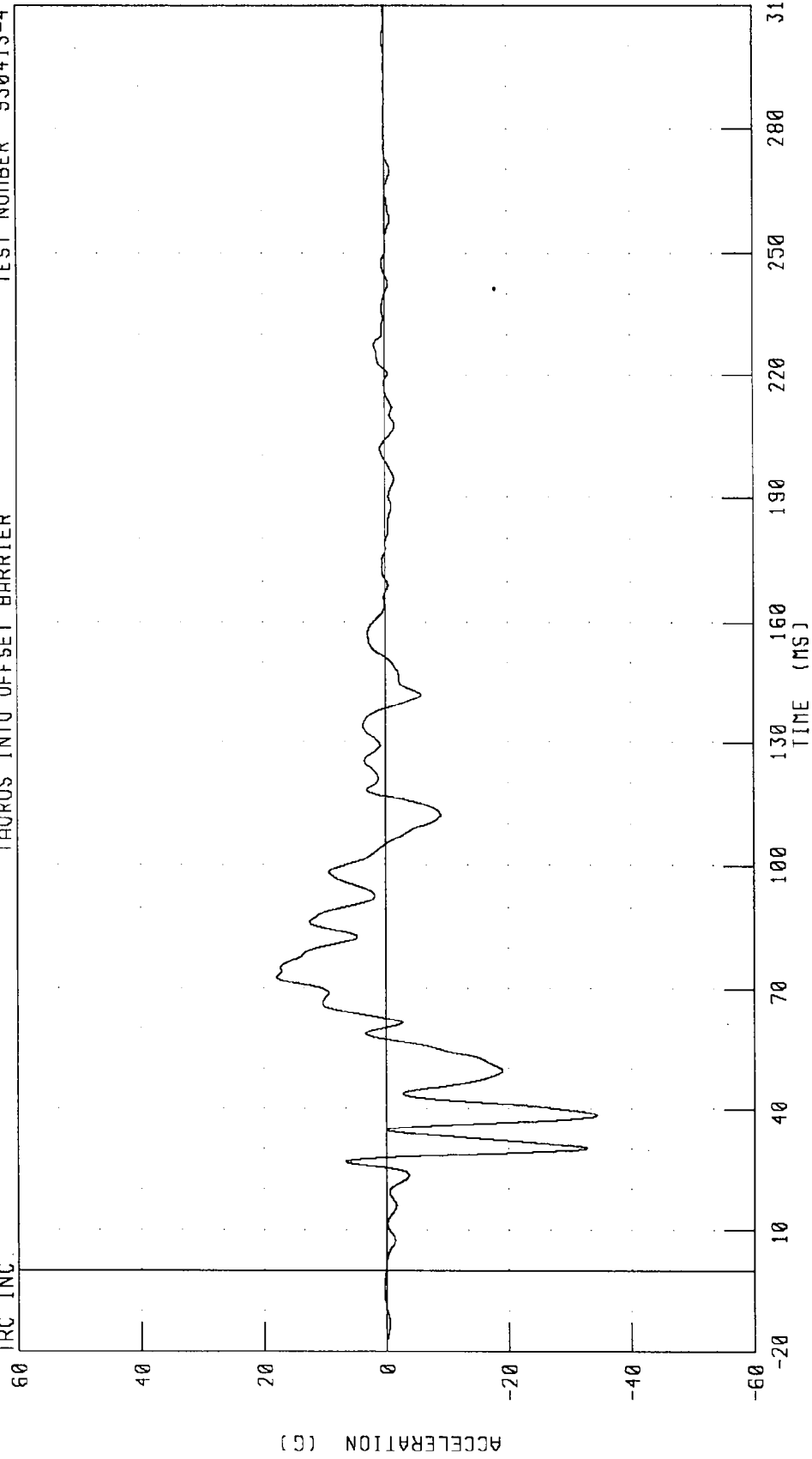
PEAK DATA: 27.68 IN @ 67.88 MS, 0.00 IN @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35 0 MPH TEST NO. 4
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

TEST NUMBER 930413-4

TAURUS INTO OFFSET BARRIER

TRC INC.



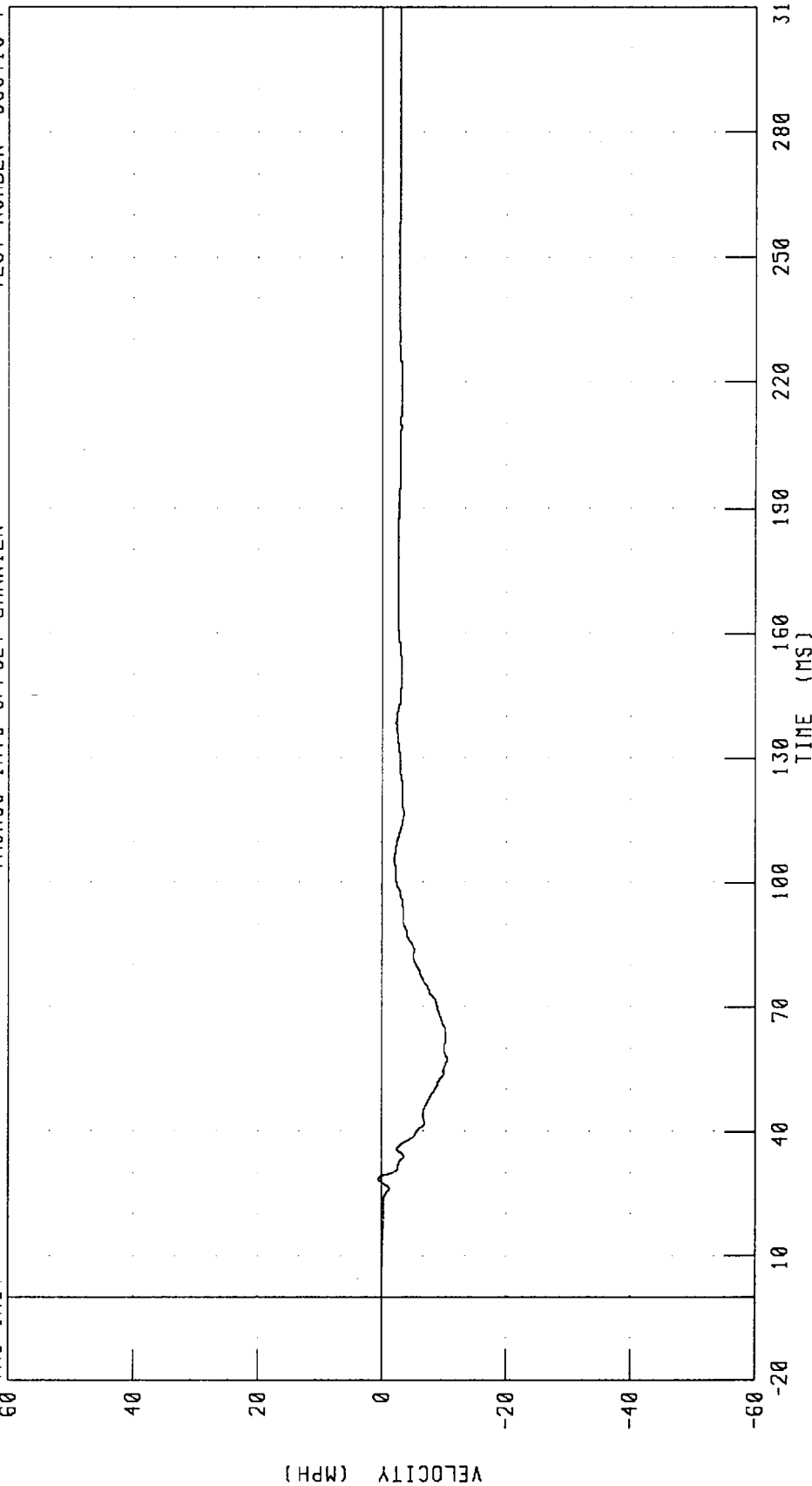
CHANNEL: VCGYG1 FILTER: CH. CLASS 60 PEAK DATA: 17.90 G @ 72.88 MS, -34.33 G @ 38.50 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4
VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

TEST NUMBER: 930413-4

TAURUS INTO OFFSET BARRIER

TRC INC.

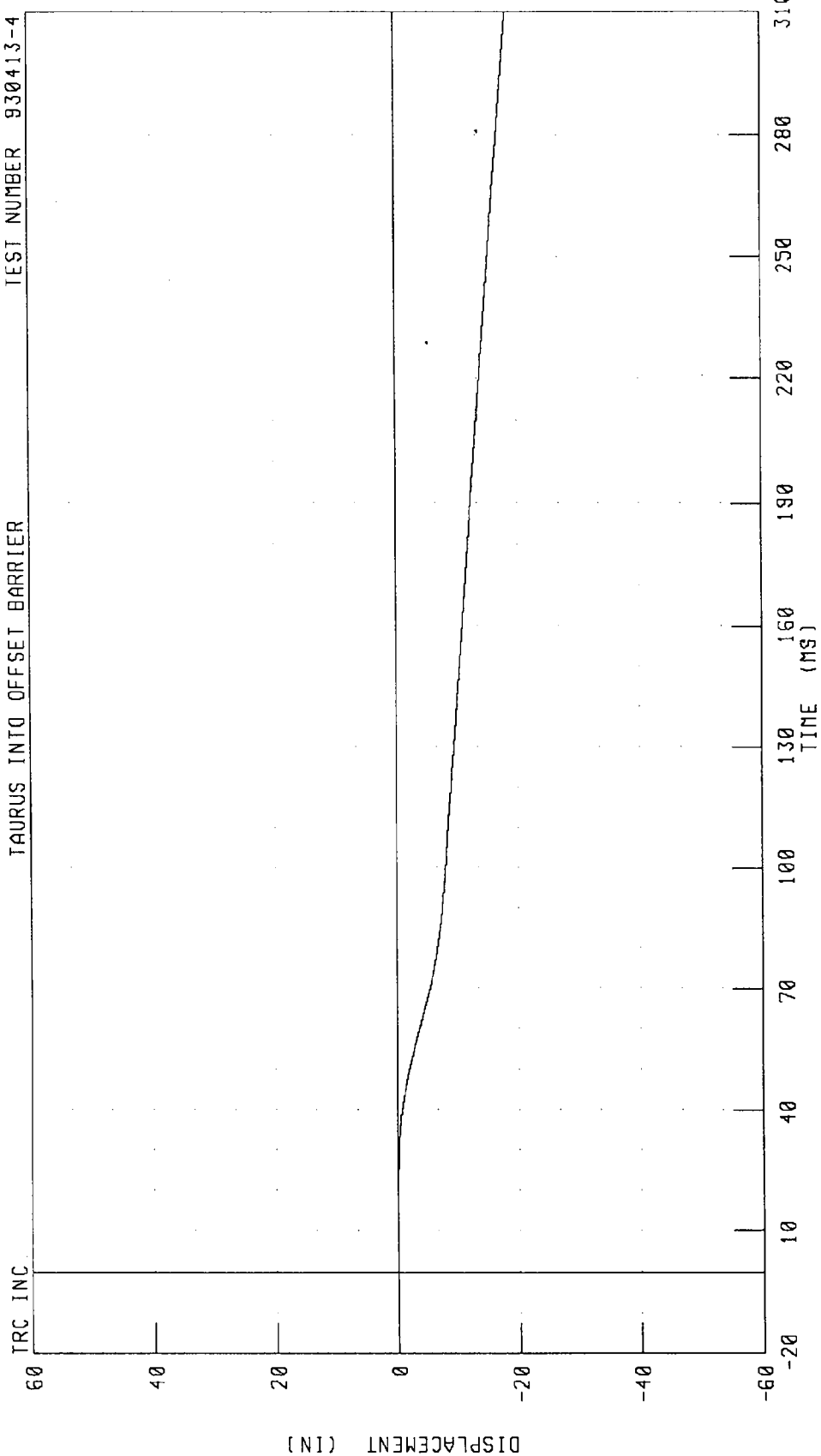


CHANNEL: VCGYV1 FILTER: CH. CLASS 180

PEAK DATA: 0.59 MPH @ 28.50 MS, -10.45 MPH @ 57.38 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35 0 MPH TEST NO 4
VEHICLE CENTER OF GRAVITY Y-AXIS DISPLACEMENT

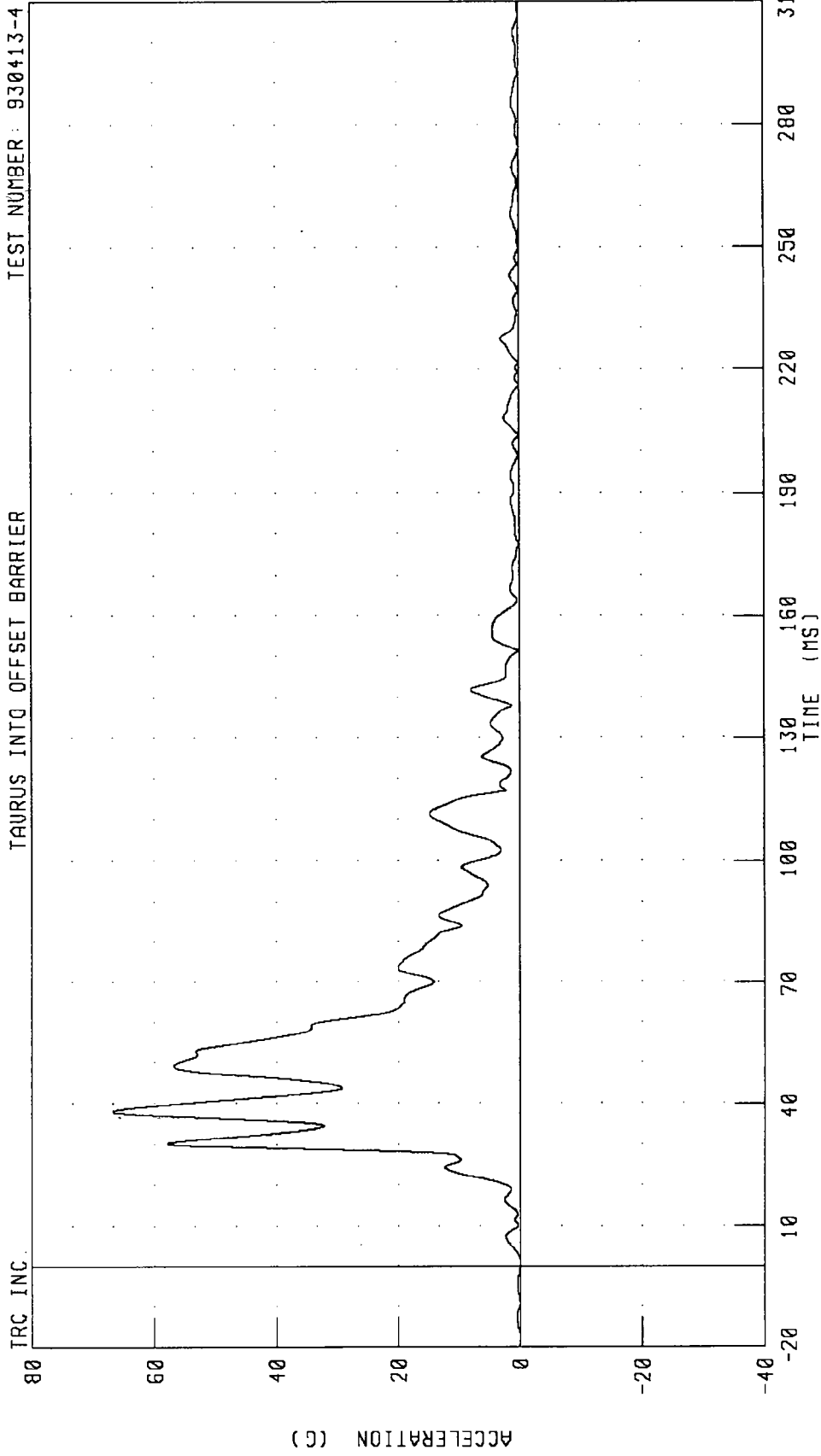
TAURUS INTO OFFSET BARRIER TEST NUMBER 930413-4



CHANNEL: VCGYD1 FILTER: CH. CLASS 180 PEAK DATA: 0 00 IN @ 3.75 MS, -18 30 IN @ 310 00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

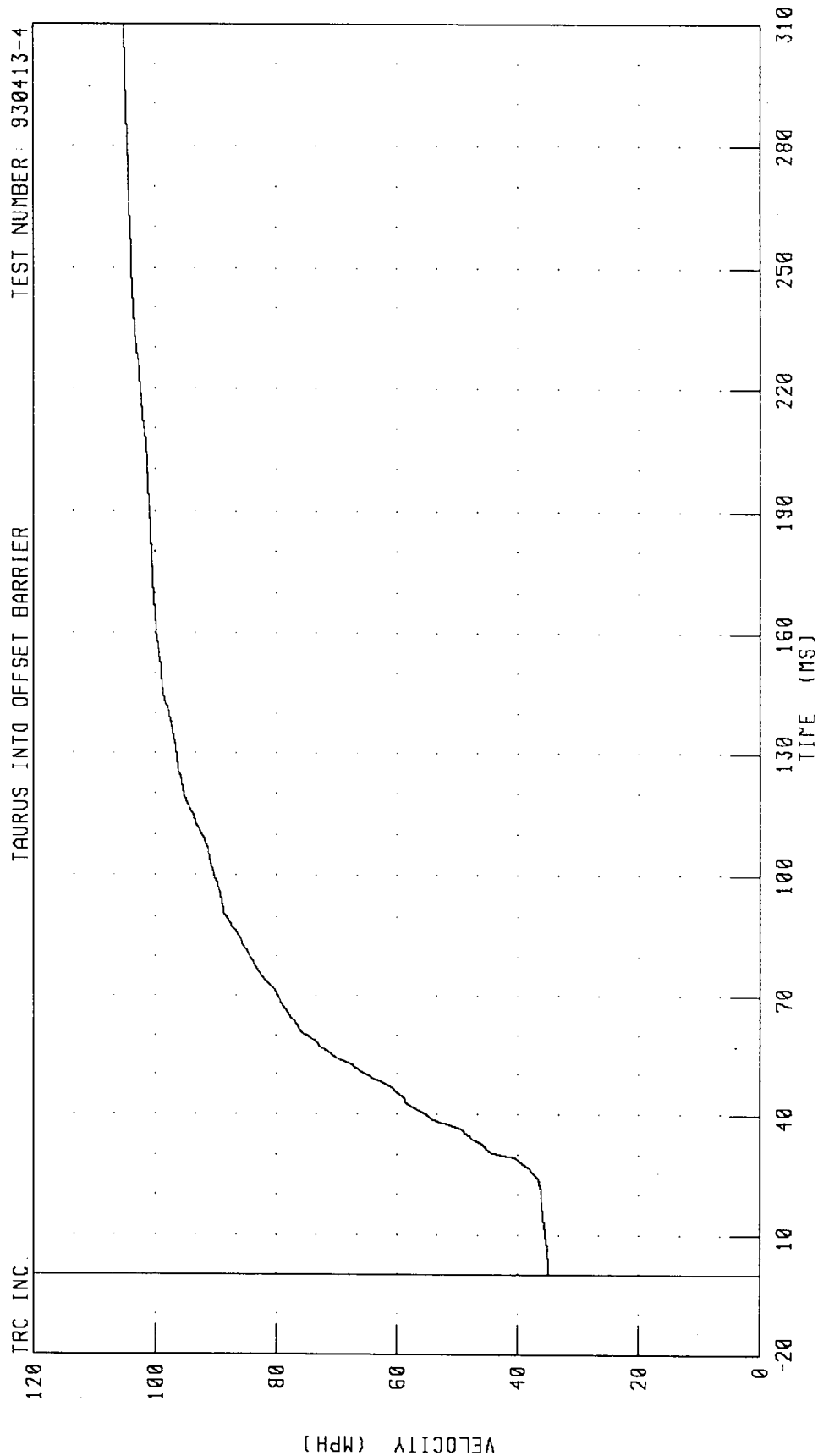
TAURUS INTO OFFSET BARRIER TEST NUMBER: 930413-4



CHANNEL: VCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 66.71 G @ 38.25 MS; 0.02 G @ 216.25 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4
VEHICLE CENTER OF GRAVITY RESULTANT VELOCITY

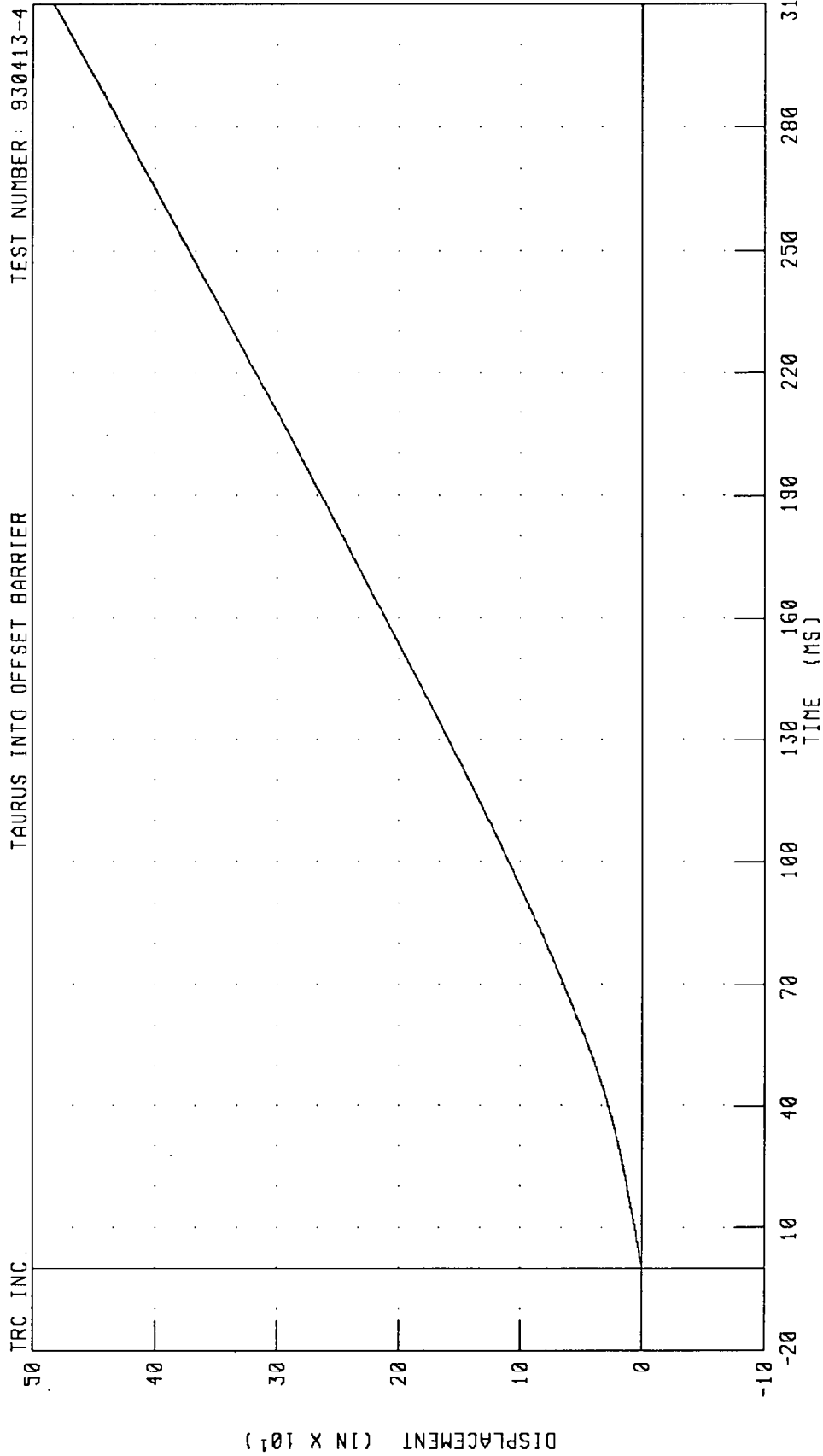


CHANNEL: VCCRV1 FILTER: CH. CLASS 180

PEAK DATA: 105.03 MPH @ 180.00 MS, 35.00 MPH @ 0.00 MS

1988 FORD TAURUS INTO 50% OFFSET BARRIER AT 35.0 MPH TEST NO. 4
VEHICLE CENTER OF GRAVITY RESULTANT DISPLACEMENT

TAURUS INTO OFFSET BARRIER TEST NUMBER: 930413-4



CHANNEL: VCCR01 FILTER: CH CLASS 180

PEAK DATA: 482.33 IN @ 310.00 MS, 0.00 IN @ 0.00 MS

APPENDIX C

MISCELLANEOUS TEST INFORMATION

VEHICLE ACCELEROMETER INFORMATION

NO.	LOCATION	AXIS	MFR	MODEL	S/N	ORIENTATION (+ SENSING)
1	LEFT REAR SILL	X	ENDEVCO	7264	DA06	REAR
	LEFT REAR SILL	Y	ENDEVCO	7264	BW77J	RIGHT
2	RIGHT REAR SILL	X	ENDEVCO	7264	CE16H	REAR
	RIGHT REAR SILL	Y	ENDEVCO	7264	CH46H	RIGHT
3	VEHICLE CENTER OF GRAVITY	X	ENDEVCO	7264	DG40J	REAR
	VEHICLE CENTER OF GRAVITY	Y	ENDEVCO	7264	BY03H	RIGHT

SIGN CONVENTION

ALL DUMMY, BARRIER AND VEHICLE CHANNELS:

+X: FORWARD

+Y: LEFTWARD

+Z: UPWARD

+FORCE: TENSION