

REPORT NOS. 208-TRC-87-005
212-TRC-87-005
301-TRC-87-005

10

VEHICLE SAFETY COMPLIANCE TESTING
FOR OCCUPANT CRASH PROTECTION,
WINDSHIELD MOUNTING, WINDSHIELD ZONE
INTRUSION, AND FUEL SYSTEM INTEGRITY

MAZDA MOTOR CORPORATION

1987 MAZDA 626

4-DOOR SEDAN

NHTSA NO. CH5401

TRC TEST NO. 870727

THE TRANSPORTATION RESEARCH CENTER OF OHIO
U.S. RT. 33, LOGAN COUNTY
EAST LIBERTY, OHIO 43319



AUGUST 17, 1987

FINAL REPORT

PREPARED FOR:
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OFFICE OF VEHICLE SAFETY COMPLIANCE
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16. Abstract A 30 mph flat frontal barrier impact compliance test was conducted on a 1987 Mazda 626 4-door sedan, VIN JM1GC22A9H1105939, NHTSA No. CH5401, at the Transportation Research Center of Ohio on July 27, 1987 to determine compliance with Federal Motor Vehicle Safety Standards: FMVSS No. 208, "Occupant Crash Protection" FMVSS No. 212, "Windshield Mounting" FMVSS No. 219, (Partial), "Windshield Zone Intrusion" FMVSS No. 301, "Fuel System Integrity" The barrier impact velocity was 29.5 mph. The ambient temperature was 86° F. The vehicle appears to comply with the applicable requirements of FMVSS Nos. 208, 212, 219 (partial), and 301.					
30. Non-Vehicle Vehicle Safety Compliance Testing: FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219, "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity" Frontal Impact				18. Available from: Technical Reference Division National Highway Traffic Safety Admin. Nassif Building, Room 5108 400 Seventh Street, SW Washington, DC 20590	
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METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				

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

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

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

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

TEMPERATURE (exact)				
°F	degrees Fahrenheit	5/9 (after subtracting 32)	degrees Celsius	°C

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				

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

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

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

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

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

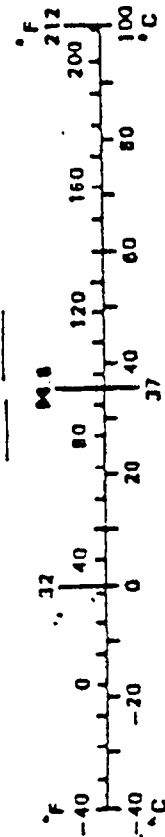
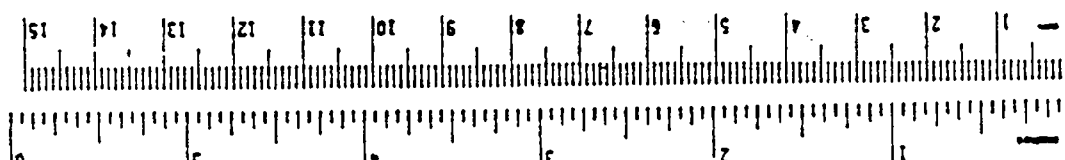


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SECTION 1.0

PURPOSE AND TEST SUMMARY

PURPOSE

This 30 mph frontal barrier impact test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 208, 212, 219 (Partial), and 301 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by the Transportation Research Center of Ohio (TRC) under Contract No. DTNH22-87-C-01024. The purpose of this test was to determine if the subject vehicle, a 1987 Mazda 626 4-door sedan, NHTSA No. CH5401, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219 (partial), "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity." The test was conducted in accordance with the Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208-06 dated May 15, 1987.

TEST SUMMARY

The 1987 Mazda 626 4-door sedan, NHTSA No. CH5401, was equipped with a 2.0 liter, transverse engine, 5-speed manual transmission, air conditioning, and power brakes. The test weight of the vehicle was 2977 pounds. The test vehicle appeared to comply with the performance requirements of FMVSS test Nos. 208, 212, 219 (partial), and 301. The Head Injury Criteria (HIC) calculations were less than 1000, the resultant accelerations of the thorax did not exceed 60 g's and the compressive forces transmitted through the upper legs did not exceed 2,250 pounds as measured by Part 572 B dummies seated in the driver's and right front passenger's seats. There was 100 percent windshield retention. There was no intrusion into the windshield. There was no fluid leakage from the fuel system in excess of the maximum leakage requirements of 301 following the impact or during the static rollover test.

Two Part 572 B, 50th percentile, adult male anthropomorphic test devices (ATDs) were seated in the front outboard designated seating positions. The dummies were positioned according to the dummy placement procedures specified in Appendices B and C of the Laboratory Test Procedure No. TP-208-06 dated May 15, 1987.

Both ATDs were instrumented with head and chest accelerometers oriented to measure accelerations in the longitudinal, lateral and vertical directions and with right and left femur load cells.

The vehicle was instrumented with seven accelerometers oriented to measure longitudinal axis acceleration.

The crash event was recorded by one (1) real time panning camera and fourteen (14) high speed motion picture cameras operating at approximately 500 frames per second.

The twenty-three (23) channels of data were multiplexed and recorded on a 14-track tape drive. The data was digitally sampled at 8000 samples per second and digitally processed per sections 12.8 and 12.9 of the laboratory procedure.

The vehicle was impacted into the rigid, flat frontal barrier at the Transportation Research Center of Ohio on July 27, 1987. The test vehicle's impact speed was 29.5 mph. The vehicle sustained 21.4 inches of static crush.

The FMVSS 208, 212, 219 (partial) and 301 compliance data is presented in Section 2.0. The camera information is presented in Section 3.0. Appendix A contains the still photographic prints. Appendix B contains the vehicle and dummy data plots.

TABLE 1

CRASH TEST SUMMARY

NHTSA NO.	CH5401	PROJECT:	30 MPH FRONTAL BARRIER IMPACT TEST
DATE:	July 27, 1987	TIME:	1304 TEMP: 86°F
VEHICLE:	1987 Mazda 626 4-door sedan		
TEST WEIGHT (LBS):	2977		
IMPACT ANGLE (DEG)*:	0		
IMPACT VELOCITY (MPH)**:	PRIMARY = 29.5	SECONDARY = 29.5	
MAX CRUSH (IN) STATIC:	21.4		
VEHICLE REBOUND (IN):	24.4		
DUMMIES:	Driver	Passenger	
TYPE:	Part 572 B	Part 572 B	
LOCATION:	Front Left	Front Right	
RESTRAINT:	Two-point passive seat belt	Two-point passive seat belt	
NUMBER OF DATA CHANNELS:	23		
NUMBER OF HIGH SPEED CAMERAS:	14 and 1 real-time camera		

*With respect to tow track centerline.

**Speed trap measurement (± .05% accuracy).

TABLE 2

TEST VEHICLE INFORMATION

VEHICLE MANUFACTURER: Mazda Motor Corporation

MAKE/MODEL: Mazda 626

VIN: JM1GC22A9H1105939

BODY STYLE: 4-door

MODEL YEAR: 1987

NHTSA NO.: CH5401

COLOR: Silver metallic

ENGINE DATA: TYPE: Transverse CYLINDERS: 4 DISPLACEMENT: 2.0 liter

 X GAS, DIESEL, TURBOCHARGE

TRANSMISSION DATA: 5 SPEED, X MANUAL, AUTOMATIC, X FWD RWD

DATE VEHICLE RECEIVED: 7/10/87

ODOMETER READING: 69

ACCESSORIES:

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

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

VEHICLE MANUFACTURED BY: Mazda Motor Corporation

CERTIFICATION DATE: 1/87

GWR: 3535 LBS.,

GAWR: FRONT 1960 LBS., REAR 1610 LBS.

TABLE 2, CONT'D.

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

VEHICLE LOAD (UP TO CAPACITY): FRONT 28 psi cold ; REAR 26 psi cold

RECOMMENDED TIRE SIZE: 185/70SR14 LOAD RANGE X B, C, D

TIRES ON VEHICLE (MFR., LINE, SIZE): BF Goodrich 185/70SR14 Radial

IS SPARE TIRE A "SPACE SAVER": Yes

IS SPARE TIRE STANDARD EQUIPMENT: Yes

VEHICLE CAPACITY: TYPES OF SEATS Front - Buckets

TYPE OF FRONT SEAT BACKS - Manual adjustable

NUMBER OF OCCUPANTS 2 FRONT 3 REAR 5 TOTAL

CARGO LOAD 100 LBS. TOTAL 850 LBS.

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

RIGHT FRONT 769 LBS. RIGHT REAR 486 LBS.

LEFT FRONT 789 LBS. LEFT REAR 522 LBS.

TOTAL FRONT WEIGHT 1558 LBS. (60.7% OF TOTAL VEHICLE WEIGHT)

TOTAL REAR WEIGHT 1008 LBS. (39.3% OF TOTAL VEHICLE WEIGHT)

TOTAL DELIVERED WEIGHT 2566 LBS.

CALCULATION FOR TARGET TEST WEIGHT:

RCLW = RATED CARGO AND LUGGAGE WEIGHT

UDW = UNLOADED DELIVERED WEIGHT (2566 LBS)

VCW = VEHICLE CAPACITY WEIGHT (850 LBS)

DSC = DESIGNATED SEATING CAPACITY (5)

RCLW = VCW - 150 (DCS) = (100 LBS)

TARGET TEST WEIGHT = UDW + RCLW + (2 DUMMIES X 164 LBS/DUMMY)

= 2566 + 100 + 328 LBS

TARGET TEST WEIGHT = 2994 LBS

TABLE 2, CONT'D.

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 83 LBS. CARGO:

RIGHT FRONT	815 LBS.	RIGHT REAR	620 LBS.
LEFT FRONT	857 LBS.	LEFT REAR	685 LBS.
TOTAL FRONT WEIGHT	1672 LBS.	(56.2 % OF TOTAL VEHICLE WEIGHT)	
TOTAL REAR WEIGHT	1305 LBS.	(43.8 % OF TOTAL VEHICLE WEIGHT)	
TOTAL TEST WEIGHT	2977 LBS.	(0.6 % UNDER TARGET WEIGHT)	

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

COMPONENTS REMOVED TO MEET TARGET WEIGHT: None

VEHICLE ATTITUDE (ALL DIMENSIONS IN INCHES):

DELIVERED ATTITUDE:	LF 26.2	;RF 26.4	;LR 25.8	;RR 25.8
PRE-TEST ATTITUDE:	LF 25.8	;RF 25.8	;LR 23.6	;RR 24.3
POST-TEST ATTITUDE:	LF 31.4	;RF 33.8	;LR 24.0	;RR 23.8

WHEELBASE: 99.2 INCHES

MAX, WIDTH: 66.2 INCHES

CG = 43.5 INCHES REARWARD OF FRONT WHEEL CENTERLINE

TABLE 3
TEST CONDITIONS

TEST NUMBER: 870727

DATE OF TEST: 7/27/87

TIME OF TEST: 1304

TYPE OF TEST: Frontal Barrier

IMPACT ANGLE: 0°

AMBIENT TEMPERATURE AT IMPACT AREA:

86°F

TEMPERATURE IN OCCUPANT COMPARTMENT

70°F

IMPACT VELOCITY: PRIMARY = 29.5 MPH

SECONDARY = 29.5 MPH

(SPECIFIED RANGE = 28.9 TO 29.9 MPH)

DISTANCE FROM VEHICLE TO BARRIER: ENTERING TRAP = 26.0 IN.

EXITING TRAP = 2.0 IN.

VEHICLE REBOUND AND CRUSH (ALL DIMENSIONS IN INCHES)

OVERALL LENGTH OF TEST VEHICLE: PRE-TEST: L 174.2 ;C 177.8 ;R 175.6

POST-TEST: L 154.9 ;C 156.4 ;R 155.3

TOTAL CRUSH: L 19.3 ;C 21.4 ;R 20.3

FOR FRONTAL IMPACTS, DISTANCE FROM FRONT OF TEST VEHICLE TO BARRIER AFTER
IMPACT: L: 24.3; C: 23.5; R: 25.3; AVG: 24.4

DATA ACQUISITION EXPLANATIONS

The engine upper block X axis acceleration, ENGXG1, data was lost after 15 milliseconds due to the vehicle's crush cutting the accelerometer cable.

FIGURE 1
VEHICLE ACCELEROMETER LOCATIONS

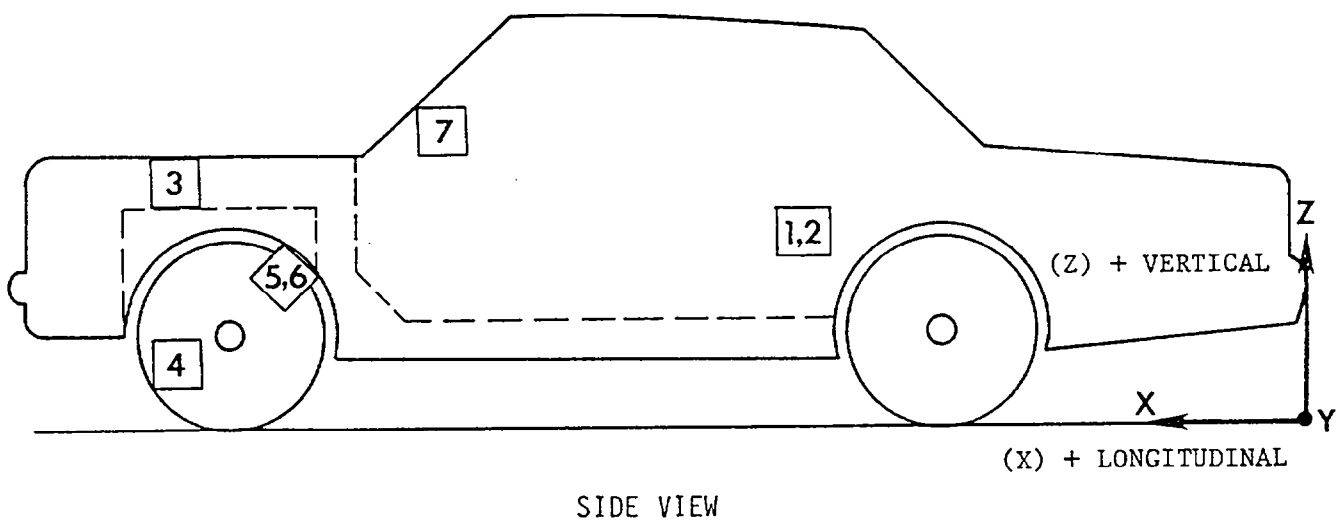
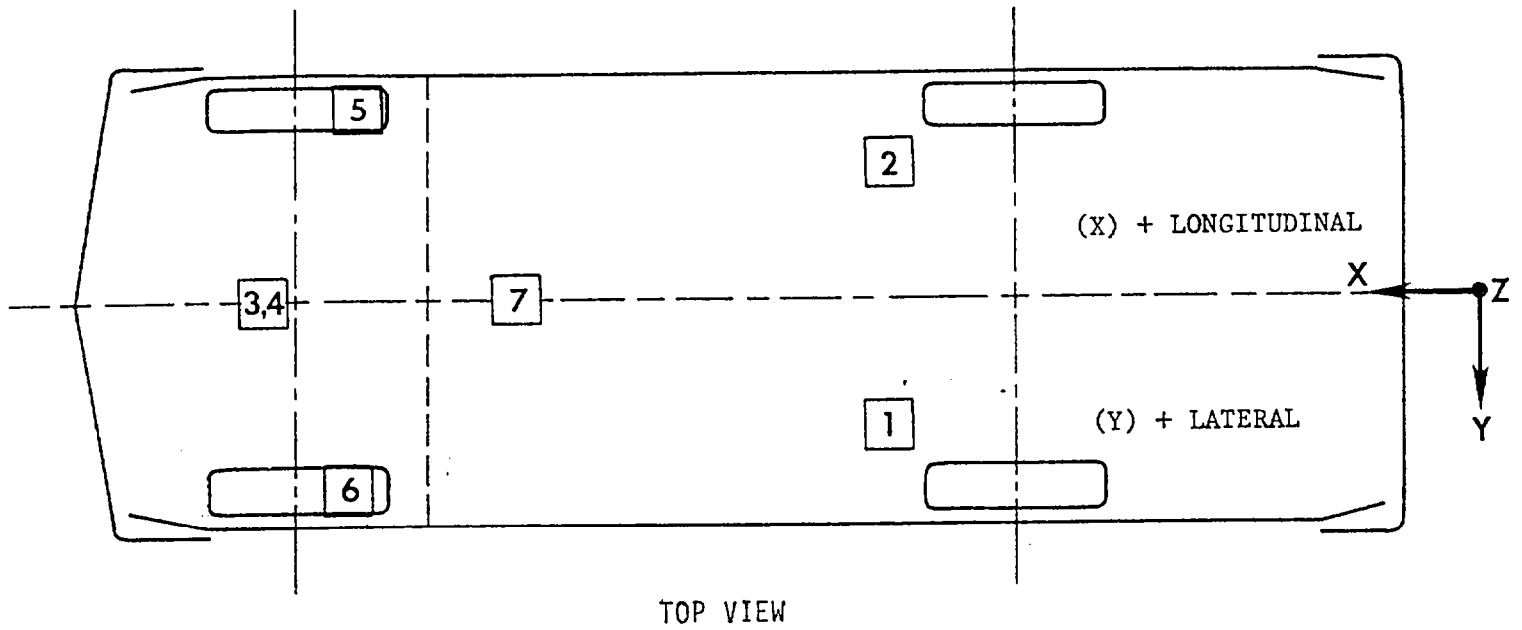


TABLE 4

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION**		NEGATIVE DIRECTION**	
					MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
1	REAR SEAT X-MEMBER AT LEFT SIDE	PRE: 67.9	15.2	14.2				
	LONGITUDINAL	POST: 66.8	15.2	14.3	2.5	196.0	27.3	83.5
2	REAR SEAT X-MEMBER AT RIGHT SIDE	PRE: 67.9	-15.0	14.8				
	LONGITUDINAL	POST: 67.2	-14.6	14.9	2.5	167.0	25.2	90.5
3	TOP OF ENGINE BLOCK	PRE: 144.4	3.2	23.1				
	LONGITUDINAL	POST: 135.0	3.4	22.8	---	--- Y	---	--- Y
4	BOTTOM OF ENGINE BLOCK	PRE: 147.9	6.2	7.2				
	LONGITUDINAL	POST: 141.0	5.4	6.3	12.0	59.6	76.6	38.8
5	BRAKE CALIPER AT RIGHT SIDE	PRE: 144.9	-24.2	12.4				
	LONGITUDINAL	POST: 140.2	-23.8	11.6	12.3	66.1	49.0	47.1
6	BRAKE CALIPER AT LEFT SIDE	PRE: 145.5	25.8	11.6				
	LONGITUDINAL	POST: 141.9	28.0	12.3	17.9	71.4	35.3	52.9
7	DASH PANEL	PRE: 116.4	0.0	35.0				
	LONGITUDINAL	POST: 114.9	0.0	37.2	29.6	39.3	42.1	67.1

	**	<u>POSITIVE</u>	<u>NEGATIVE</u>
*X + Forward from rear bumper	LONGITUDINAL:	FORWARD	REARWARD
Y + Left from vehicle centerline	LATERAL:	LEFTWARD	RIGHTWARD
Z + Up from ground	VERTICAL:	UPWARD	DOWNWARD

DISTANCE MEASUREMENTS IN INCHES

Y See DATA ACQUISITION EXPLANATIONS 1-12

870727

FIGURE 2
ACCIDENT INVESTIGATION DIVISION DATA
FOR 30 MPH FRONTAL BARRIER IMPACT

VEHICLE MAKE/MODEL/BODY STYLE: Mazda 626 4-door Sedan
VEH. NHTSA NO.: CH5401; VIN: JM1GC22A9H1105939
MODEL YEAR: 1987; BUILD DATE: 1/87; TEST DATE 7/27/87
VEH. SIZE CATEGORY: Compact; TEST WEIGHT: 2977
VEH. WHEELBASE: 99.2 FRONT OVERHANG: 38.0 OVERALL WIDTH: 66.2

COLLISION DEFORMATION CLASSIFICATION (CDC) CODE: 12FDEW2

F (Frontal)

CRUSH DEPTH
DIMENSIONS:

C1 = 19.3 inches

C2 = 20.0 inches

C3 = 21.0 inches

C4 = 20.7 inches

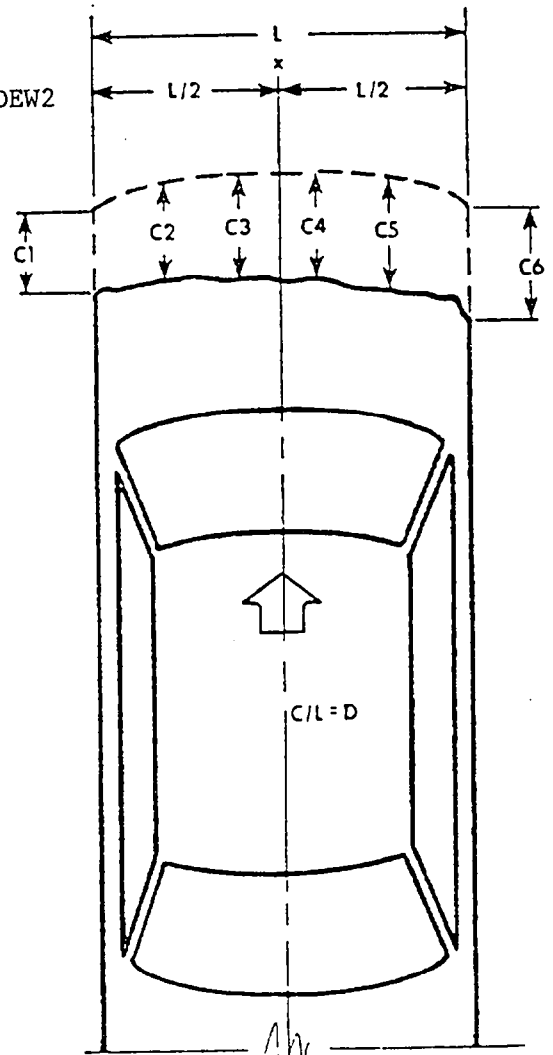
C5 = 20.2 inches

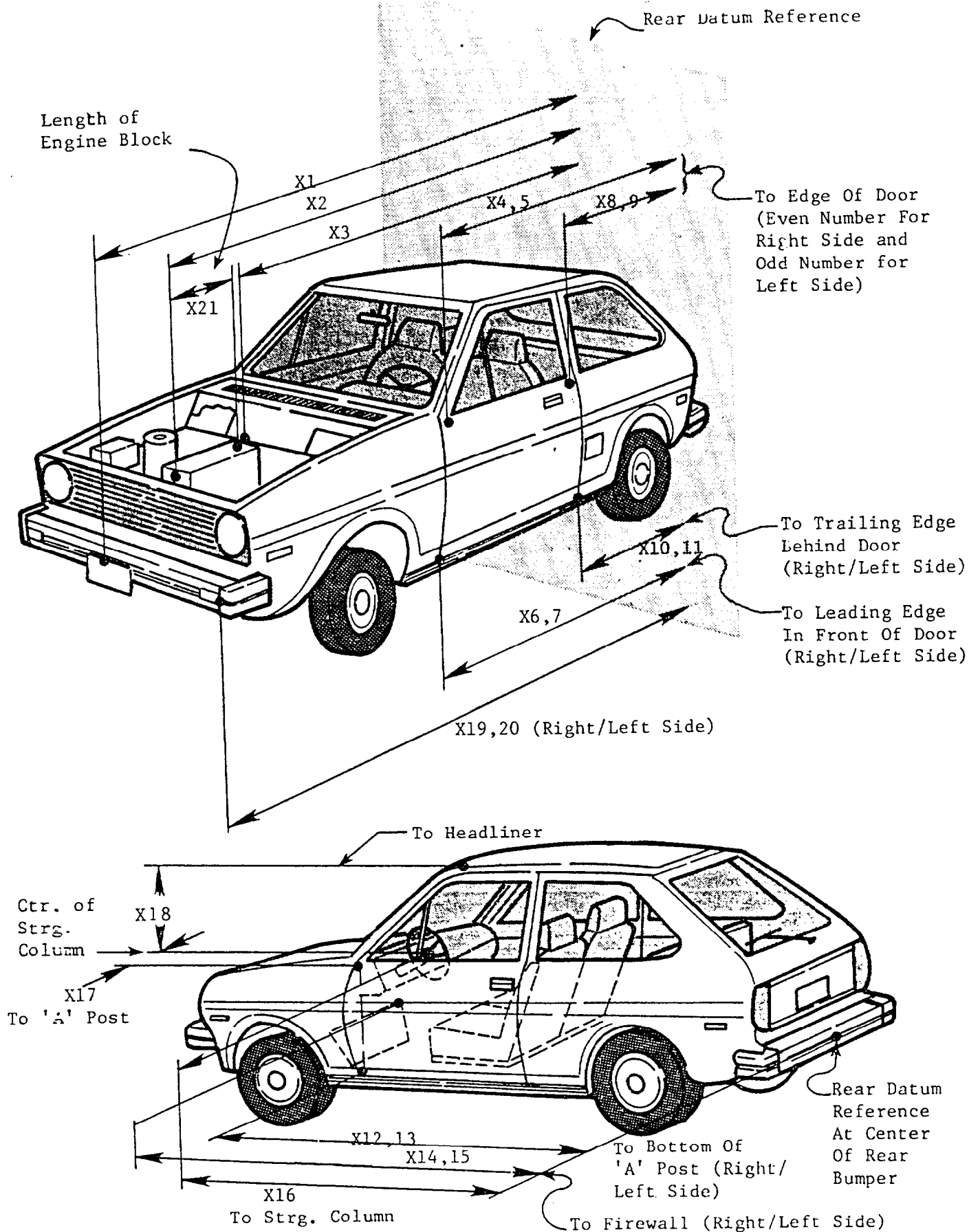
C6 = 20.3 inches

MIDPOINT OF DAMAGE: D = Vehicle Centerline
(Longitudinal)

LENGTH OF DAMAGED
REGION:

L = 57.5 inches





IMPACTED VEHICLE MEASUREMENTS

VEHICLE MAKE/MODEL Mazda 626

TEST NUMBER 870727

		DIMENSIONS IN INCHES		
NO.	TYPE OF MEASUREMENT	PRE-TEST	POST-TEST	DIFF.
X 1	TOTAL LENGTH OF VEHICLE AT CENTERLINE	177.8	156.4	21.4
X 2	REAR SURFACE OF VEHICLE TO FRONT OF ENGINE BLOCK	150.5	142.7	7.8
X 3	REAR SURFACE OF VEHICLE TO FIREWALL	128.4	128.1	0.3
X 4	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF RIGHT DOOR	116.5	116.9	-0.4
X 5	REAR SURFACE OF VEHICLE TO UPPER LEADING EDGE OF LEFT DOOR	116.9	116.9	0.0
X 6	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF RIGHT DOOR	118.2	118.6	-0.4
X 7	REAR SURFACE OF VEHICLE TO LOWER LEADING EDGE OF LEFT DOOR	118.4	118.6	-0.2
X 8	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF RIGHT DOOR	79.1	79.4	-0.3
X 9	REAR SURFACE OF VEHICLE TO UPPER TRAILING EDGE OF LEFT DOOR	79.4	79.5	-0.1
X10	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE OF RIGHT DOOR	80.1	80.1	0.0
X11	REAR SURFACE OF VEHICLE TO LOWER TRAILING EDGE ON LEFT DOOR	79.9	80.2	-0.3
X12	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON RIGHT SIDE	117.6	117.8	-0.2
X13	REAR SURFACE OF VEHICLE TO BOTTOM OF "A" POST ON LEFT SIDE	117.6	117.8	-0.2
X14	REAR SURFACE OF VEHICLE TO FIREWALL - RIGHT SIDE	126.9	126.7	0.2
X15	REAR SURFACE OF VEHICLE TO FIREWALL - LEFT SIDE	126.6	126.8	-0.2
X16	REAR SURFACE OF VEHICLE TO STEERING WHEEL CENTER	102.4	101.5	0.9
X17	CENTER OF STEERING COLUMN TO "A" POST	14.2	14.6	-0.4

IMPACTED VEHICLE MEASUREMENTS CONTD

VEHICLE MAKE/MODEL Mazda 626

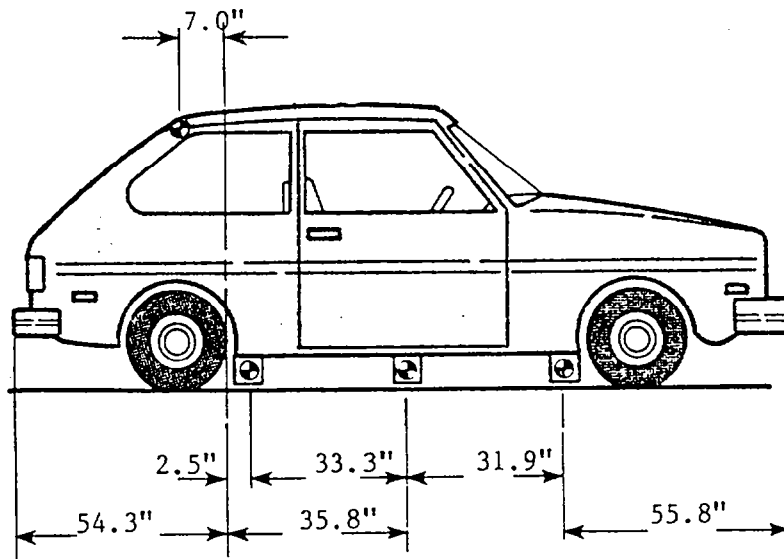
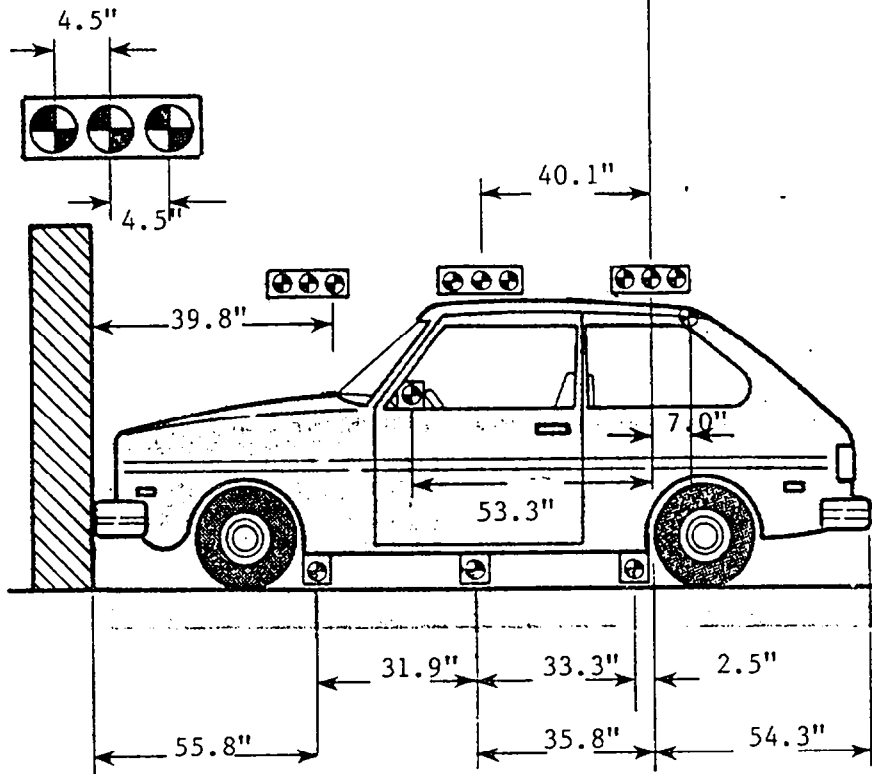
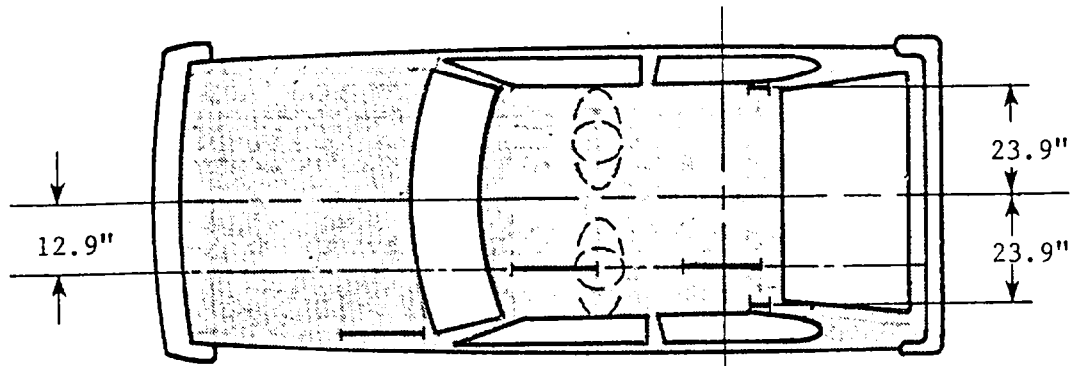
TEST NUMBER 870727

DIMENSIONS IN INCHES

NO.	TYPE OF MEASUREMENT	PRE-TEST	POST-TEST	DIFF.
X18	CENTER OF STEERING COLUMN TO HEADLINING	16.6	16.4	0.2
X19	REAR SURFACE OF VEHICLE TO RIGHT SIDE OF FRONT BUMPER	175.6	155.3	20.3
X20	REAR SURFACE OF VEHICLE TO LEFT SIDE OF FRONT BUMPER	174.2	154.9	19.3
X21	LENGTH OF ENGINE BLOCK	21.5	21.5	0.0

TABLE 5, CONT'D.

VEHICLE TARGET LOCATIONS



SECTION 2.0

SUMMARY OF RESULTS FOR - - -

FMVSS 208, "Occupant Crash Protection"

FMVSS 212, "Windshield Mounting"

FMVSS 219, (Partial), "Windshield Zone Intrusion"

FMVSS 301, "Fuel System Integrity"

COMPLIANCE DATA SUMMARY

The test vehicle, a 1987 Mazda 626 4-door sedan, NHTSA No. CH5401, appeared to comply with the requirements of FMVSS Nos. 208, 212, 219 (partial), and 301.

The driver's Head Injury Criteria (HIC) was 702. The driver's maximum chest deceleration over three milliseconds was 39.3 g. The driver's right and left compressive femur loads were 1379 and 667 pounds, respectively.

The right front passenger's Head Injury Criteria (HIC) was 459. The right front passenger's maximum chest deceleration over three milliseconds was 37.4 g. The right front passenger's right and left compressive femur loads were 1284 pounds and 1581 pounds, respectively.

The vehicle's restraint system met the comfort and convenience requirements of FMVSS 208.

The windshield retention was 100 percent.

There was no intrusion into the inner surface of the windshield below the protected zone.

There was no Stoddard fluid leakage following the crash test event or during any phase of the static rollover test.

TABLE 6

DUMMY INJURY CRITERIA

MAXIMUM ACCELERATION ('G')

	<u>HEAD</u>				<u>CHEST</u>			R*
	X	Y	Z	R	X	Y	Z	
DRIVER	-103.0	12.3	-69.0	122.0	-40.9	-5.0	7.8	39.3
PASSENGER	-27.2	6.6	-53.1	54.1	-37.2	15.6	-13.9	37.4

MAXIMUM FORCE-FEMUR LOAD (LBS)

	<u>RIGHT FEMUR</u>	<u>LEFT FEMUR</u>
DRIVER	1379	667
PASSENGER	1284	1581

HEAD INJURY CRITERIA**

	HIC	TIME t_1 (MSEC)	TIME t_2 (MSEC)
DRIVER	702	79.0	105.8
PASSENGER	459	77.9	113.9

*Defined as exceeding 0.003 sec. duration

**As defined in FMVSS No. 208

DUMMY KINEMATIC SUMMARY

DRIVER DUMMY

Upon impact, the driver dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's head rotated forward impacting the steering wheel as the dummy's chest was restrained by the two-point passive belt. The dummy rebounded into the seatback and the dummy's head rotated rearward into the head restraint. The dummy came to rest seated in the driver's seat, leaning slightly to the right, restrained by the two-point passive belt.

RIGHT FRONT PASSENGER DUMMY

Upon impact, the right front passenger dummy translated forward on the seat impacting both knees into the instrument panel. The passenger's head rotated forward as the passenger's chest was restrained by the two-point passive belt. The dummy rebounded into the seatback and the dummy's head rotated rearward into the head restraint. The dummy came to rest seated upright in the passenger's seat restrained by the two-point passive belt.

VISIBLE DUMMY CONTACT POINTS:

	DRIVER	PASSENGER
Head	<u>Steering wheel rim and hub</u>	<u>None</u>
Chest	<u>None</u>	<u>None</u>
Abdomen	<u>None</u>	<u>None</u>
Left Knee	<u>Instrument panel</u>	<u>Instrument panel</u>
Right knee	<u>Instrument panel</u>	<u>Instrument panel</u>

DOOR OPENING:

	LEFT	RIGHT
Front	<u>Easy</u>	<u>Difficult, tools required</u>
Rear	<u>Easy</u>	<u>Easy</u>

SEAT MOVEMENT:

	SEAT BACK FAILURE	SEAT SHIFT
Front	<u>None</u>	<u>None</u>
Rear	<u>NA</u>	<u>NA</u>

GLAZING DAMAGE:

None

OTHER NOTABLE IMPACT EFFECTS:

None

30 MPH FRONTAL BARRIER IMPACT TEST

PRE-IMPACT DATA:

Make/Model: Mazda 626
Body Style: 4-door Sedan Model Year: 1987
NHTSA No.: CH5401 Color: Silver

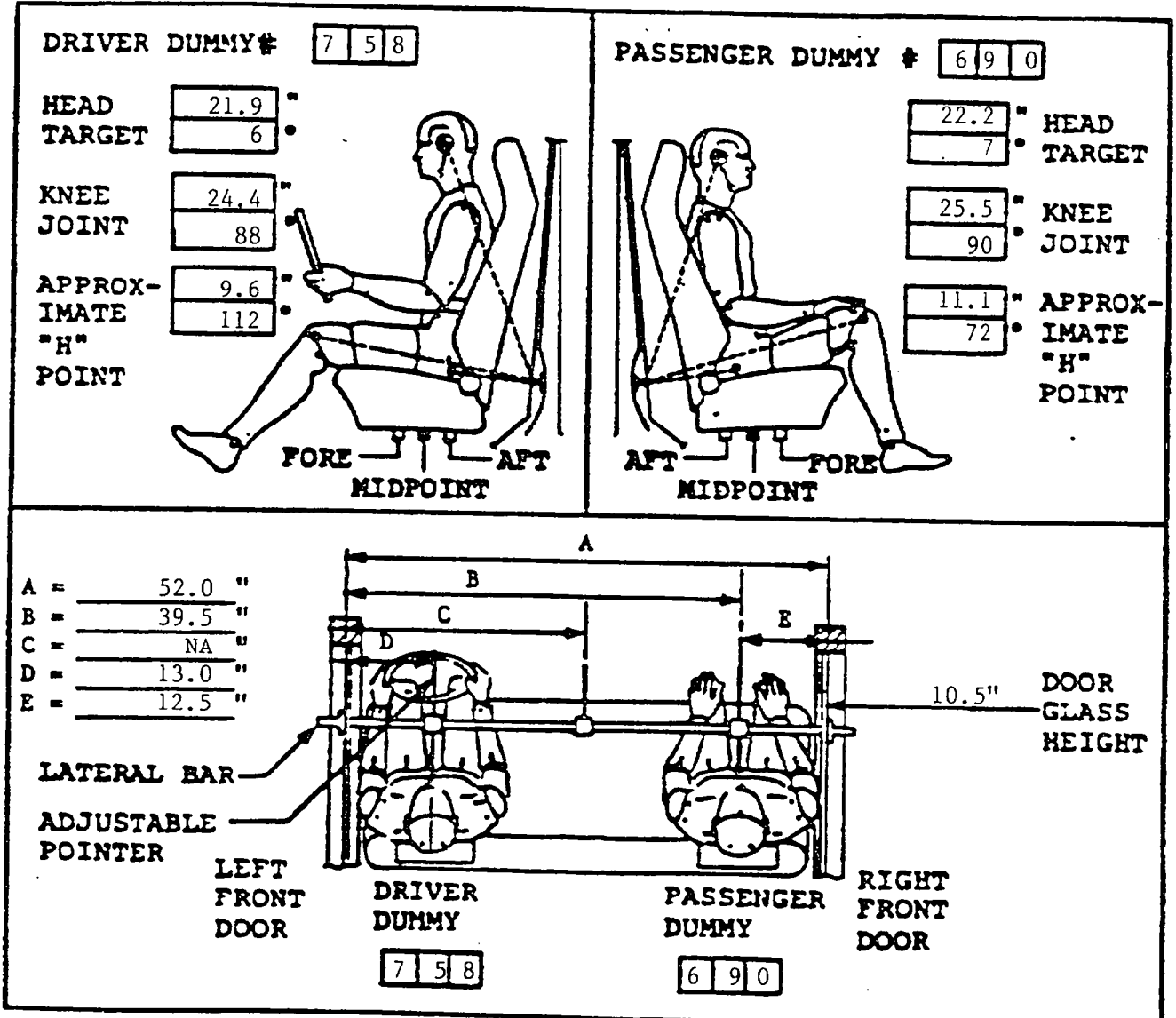
DATA FROM CERTIFICATION LABEL:

Vehicle Manufacturer: Mazda Motor Corporation
Date of Manufacture: 1/87; VIN: JM1GC22A9H1105939
GVWR: 3535 lb; GAWR: Front = 1960 lb; Rear = 1610 lb

POST-IMPACT DATA:

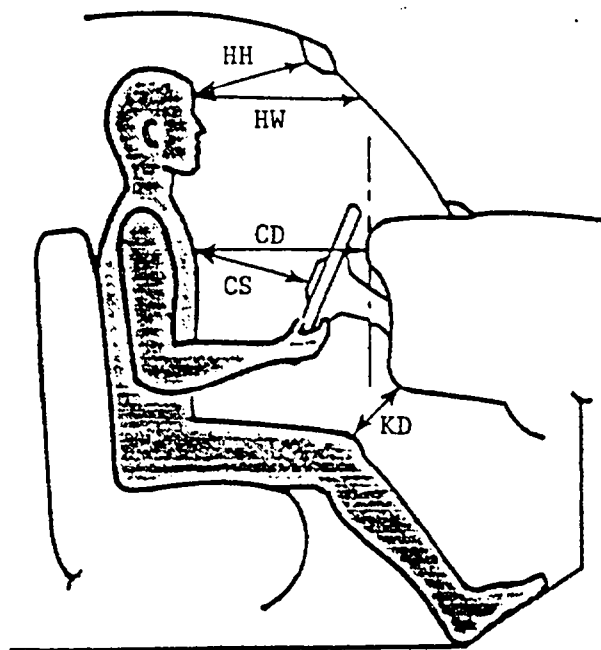
Date of Test: 7/27/87 Time: 1304 Temperature 86 °F
Required Impact Velocity Range: 28.9 to 29.9 mph
Impact Velocity: Primary = 29.5 mph Secondary = 29.5 mph
Seat Type: Bucket Adjuster Type: Manual
Bucket Seat Back Type: Manual adjustable

Technicians:



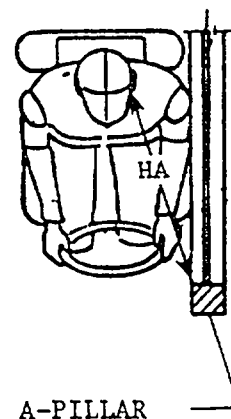
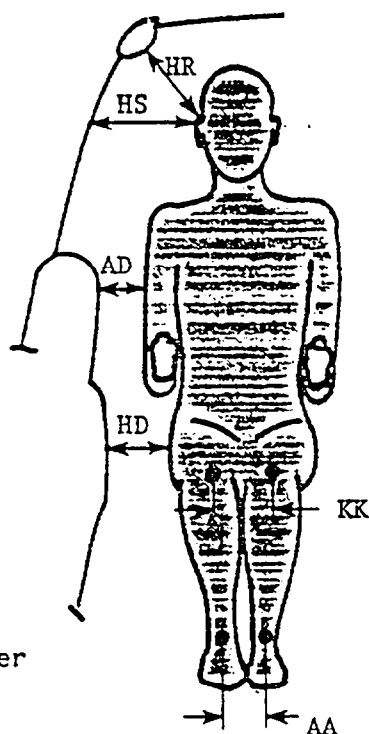
DRIVER PASSENGER
758 690

HH	13.9	12.8
HW	18.9	19.0
CD	20.0	21.8
CS	13.4	---
KDL	4.2	3.6
KDR	3.6	3.6
TA	24°	20°
SA	19°	19°
HA	14.4	13.6



DRIVER PASSENGER
758 690

HR	7.1	6.2
HS	9.9	9.0
AD	4.8	4.8
HD	5.2	5.3
KK	10.9	10.0
AA	12.1	8.5



Knee outer bolt head to outer bolt head spacing:

Driver = 14.4

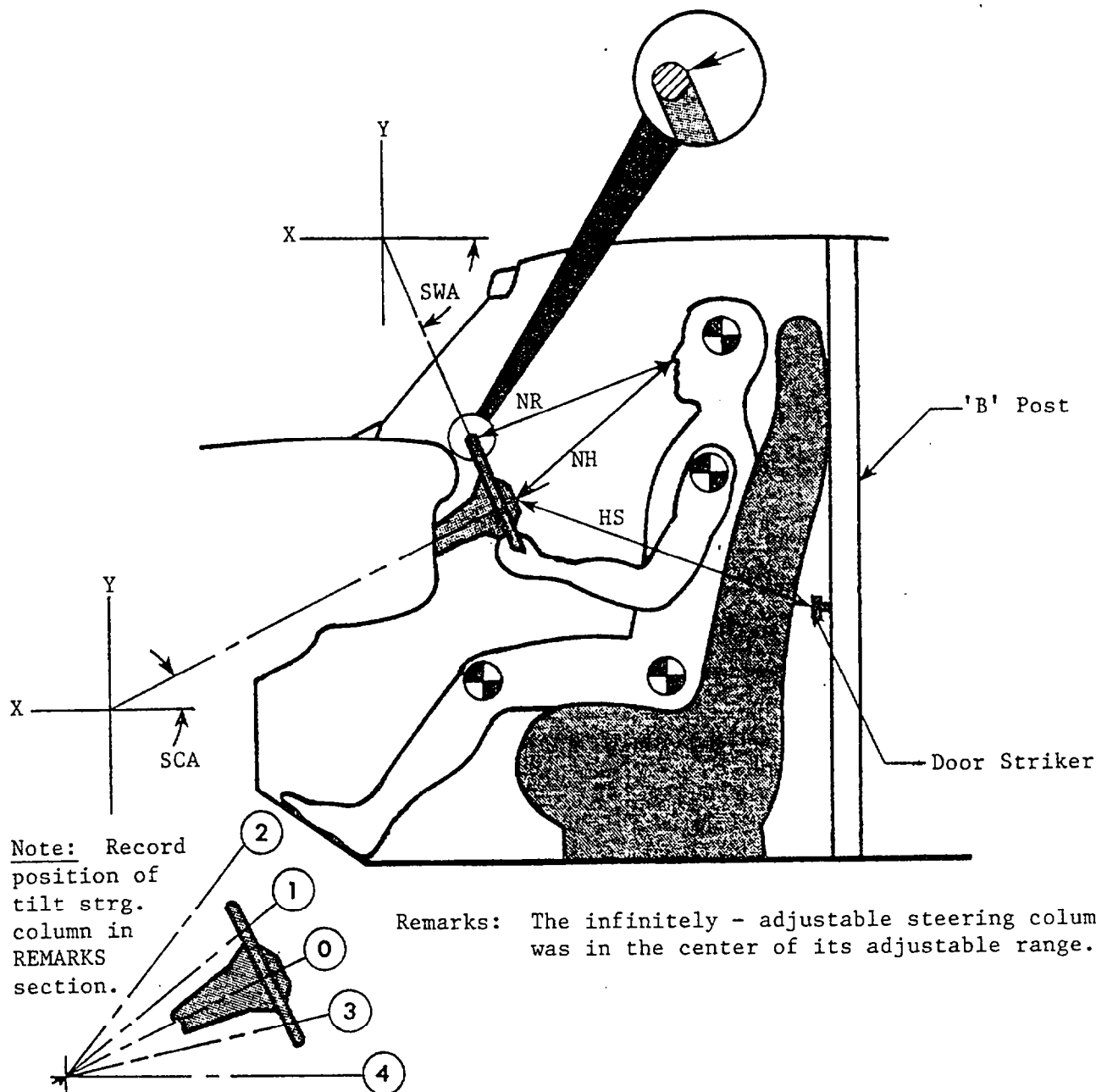
Passenger = 13.5

HH = Head to Windshield Header
HW = Head to Windshield
CD = Chest to Dash
CS = Chest to Steering Wheel
KD = Knee to Dash
TA = Torso Angle
SA = Seat Back Angle

HR = Head to Side Roof
HS = Head to Side Window
AD = Arm to Door
HD = Hip to Door
KK = Knee to Knee
AA = Ankle to Ankle
HA = Head to A Pillar

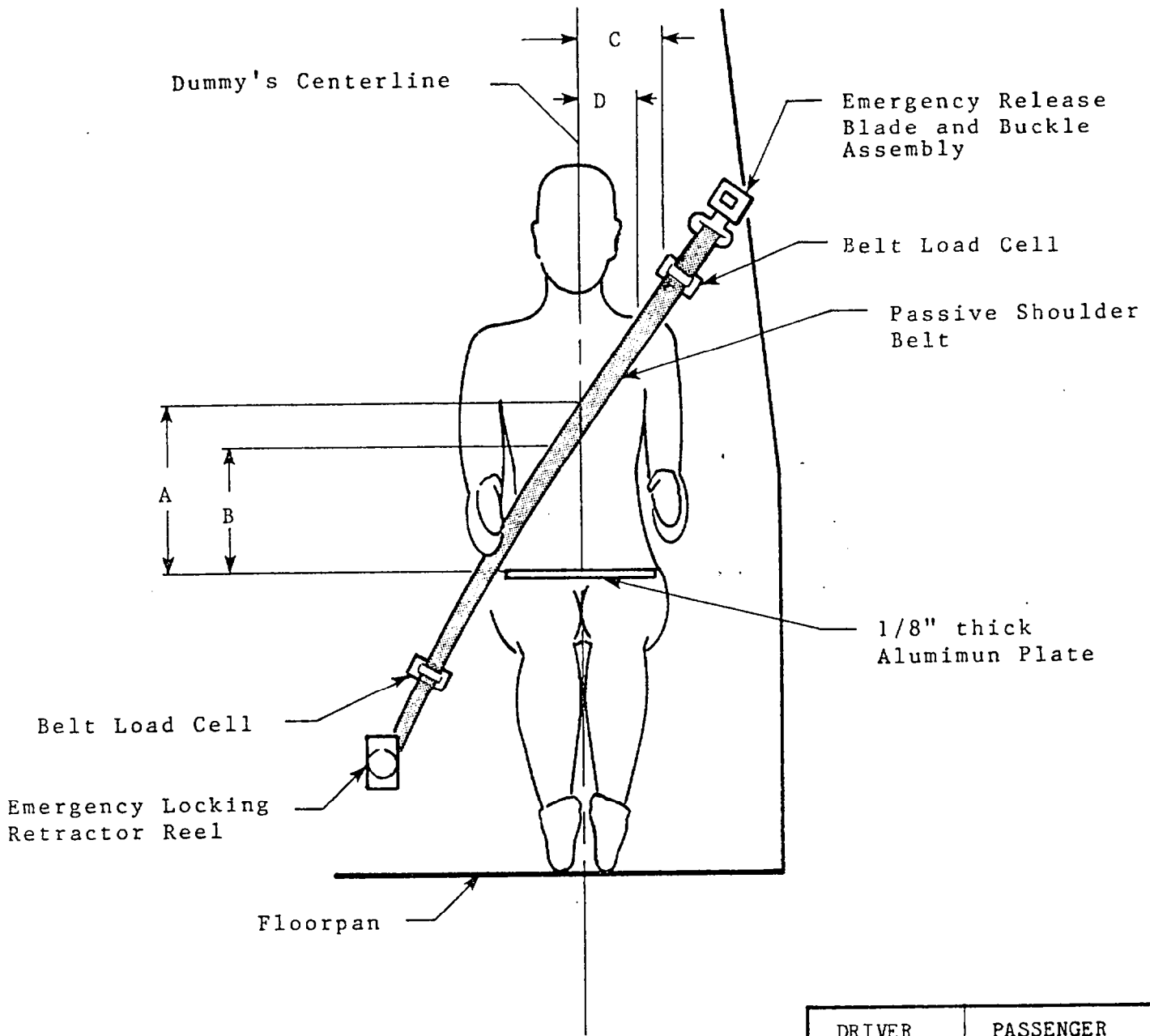
Torso and seat back angles are relative to vertical.

ALL DISTANCE MEASUREMENTS IN INCHES



MEASUREMENTS	
NR - Distance from tip of dummy's nose to top rear surface of steering wheel rim.	16.2
NH - Distance from tip of dummy's nose to center of steering column hub.	17.2
HS - Distance from center of steering column hub to the forward surface of the door lock striker pin.	23.5
SCA - Angle of steering column relative to the horizontal X axis.	68°
SWA - Angle of steering wheel relative to the horizontal X axis.	22°

SEAT BELT POSITIONING DATA



	DRIVER DUMMY	PASSENGER DUMMY
A - Top surface of alum. plate to belt upper edge (in)	14.6	14.1
B - Top surface of alum. plate to belt lower edge (in)	11.6	11.1
C - Dummy centerline to outer edge of belt at chest flesh top (in)	3.8	4.0
D - Dummy centerline to inner edge of belt at chest flesh top (in)	1.5	1.2

TABLE 7

FMVSS 208 COMFORT AND CONVENIENCE DATA

VEHICLE VIN NO: JM1GC22A9H1105939 NHTSA NO: CH5401
MAKE: MAZDA MODEL: 626
VEHICLE CERTIFICATION DATE: 1/87 VEHICLE TYPE: 4-door Sedan
FRONT OUTBOARD SEATING POSITIONS SEAT BELT TYPE:
(check one): X Automatic belts
 Type 2 lap/shoulder belts
 Other

CONVENIENCE HOOKS: Vehicle's restraint system does not include convenience hooks.

WEBBING TENSION - RELIEVING DEVICE:

DO OUTBOARD SEATING POSITION BELTS HAVE TENSION - RELIEVING DEVICES?

No

MAXIMUM SLACK RECOMMENDED IN OWNERS MANUAL: NA INCHES

DOES OWNER'S MANUAL WARN THAT INTRODUCING SLACK BEYOND THE AMOUNT SPECIFIED CAN SIGNIFICANTLY REDUCE THE EFFECTIVENESS OF THE SHOULDER BELT? NA

IF NO, EXPLAIN:

AUTOMATIC BELTS: IS TENSION - RELIEVING DEVICE CANCELLED EACH TIME THE ADJACENT DOOR IS OPENED? NA

IF NO, EXPLAIN:

BELT CONTACT FORCE:

FOR BELTS WITHOUT TENSION-RELIEVING DEVICES: BELT CONTACT FORCE:

0.4 POUNDS

LATCHPLATE ACCESS: NA

RETRACTION: NA

ACCESSIBILITY: NA

LATCH MECHANISM: NA

TABLE 8

FMVSS NO. 208 - SEAT BELT WARNING SYSTEM DATA

WITH OCCUPANT IN DRIVER'S POSITION AND LAP BELT IN STOWED POSITION AND
IGNITION SWITCH PLACED IN "START/ON" POSITION:

Duration of audible warning signal = 6 sec.

Duration of reminder light operation = 7 sec.

WITH OCCUPANT IN DRIVER'S POSITION AND LAP BELT IN USE AND THE IGNITION
SWITCH PLACED IN "START/ON" POSITION:

Duration of audible warning signal = 0 sec.

(NOTE: audible warning should not operate)

Duration of reminder light operation = 7 sec.

Wording of visual warning:

Fasten Seat Belt

Fasten Belt

Symbol 101-80 X

TABLE 9

FMVSS NO. 208 - LABELING AND DRIVER'S MANUAL DATA

DESCRIBE LOCATION OF LABEL WHICH DESCRIBES MANUFACTURER'S MAINTENANCE OR REPLACEMENT SCHEDULE FOR CRASH-DEPLOYED OCCUPANT PROTECTION SYSTEM: NA, vehicle did not contain a crash-deployed occupant protection system.

TABLE 10

FMVSS NO. 208 - READINESS INDICATOR DATA

AN OCCUPANT RESTRAINT SYSTEM THAT DEPLOYS IN THE EVENT OF A CRASH SHALL HAVE A MONITORING SYSTEM WITH A READINESS INDICATOR. A TOTALLY MECHANICAL SYSTEM IS EXEMPT FROM THIS REQUIREMENT. NA, vehicle did not contain a crash-deployed occupant protection system.

TABLE 11

SUMMARY OF FMVSS 212 AND 301 DATA

PRE-IMPACT DATA

MAKE/MODEL: Mazda 626

BODY STYLE: 4-door sedan

MODEL YEAR: 1987

NHTSA NO.: CH5401

COLOR: Silver metallic

DATA FROM CERTIFICATION LABEL

VEHICLE MANUFACTURER: Mazda Motor Corporation

CERTIFICATION DATE: 1/87

VIN: JM1GC22A9H1105939

GVWR: 3535 LBS., GAWR: FRONT 1960 LBS., REAR 1610 LBS.

POST-IMPACT DATA

TYPE OF TEST: Front Barrier Impact

DATE OF TEST: 7/27/87

TIME: 1304

TEMP: 86°F

REQUIRED IMPACT VELOCITY RANGE: 28.9 MPH TO 29.9 MPH

IMPACT VELOCITY: PRIMARY = 29.5 MPH

SECONDARY = 29.5 MPH

TEST WEIGHT = 2977 LBS., STATIC CRUSH MAX. = 21.4 IN., REBOUND = 23.5 IN.

FUEL SYSTEM DATA

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

KINEMATIC VISCOSITY: 0.99 CENTISTOKES

"USEABLE" CAPACITY*: 15.85 GALLONS (FURNISHED BY CTM)

TEST VOLUME: 14.8 GALLONS (92-94% OF USEABLE)

FUEL SYSTEM CAPACITY (DATA FROM OWNERS MANUAL): 15.9 GALLONS

DETAILS OF FUEL SYSTEM: Fuel tank is located under rear seat in front of rear axle. Fuel filler neck is on left side, enters tank at left rear. Fuel lines run on left side of vehicle.

ELECTRIC FUEL PUMP: Yes

FUEL INJECTION: Yes

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

*WITH ENTIRE FUEL SYSTEM FILLED.

FIGURE 9

FMVSS NO. 212, "WINDSHIELD MOUNTING", DATA SHEET

Details of windshield mounting such as retention method, trim type, etc.:

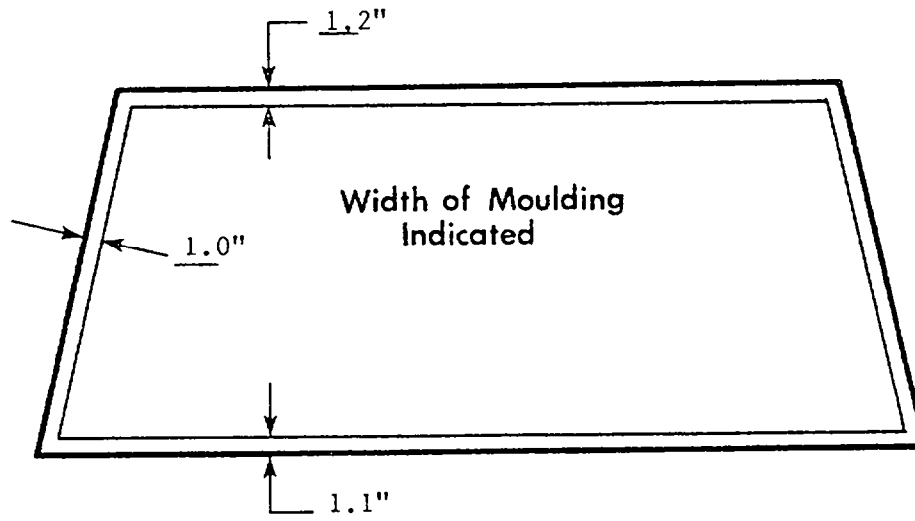
FMVSS 212 REQUIREMENTS: The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

FMVSS 212 TEST DATA:

WINDSHIELD PERIPHERY

	PRE-TEST (in.)	POST-TEST (in.)	PERCENT RETENTION
RIGHT SIDE	74.6	74.6	100%
LEFT SIDE	74.6	74.6	100%
TOTAL	149.2	149.2	100%

AREA OF RETENTION FAILURE:

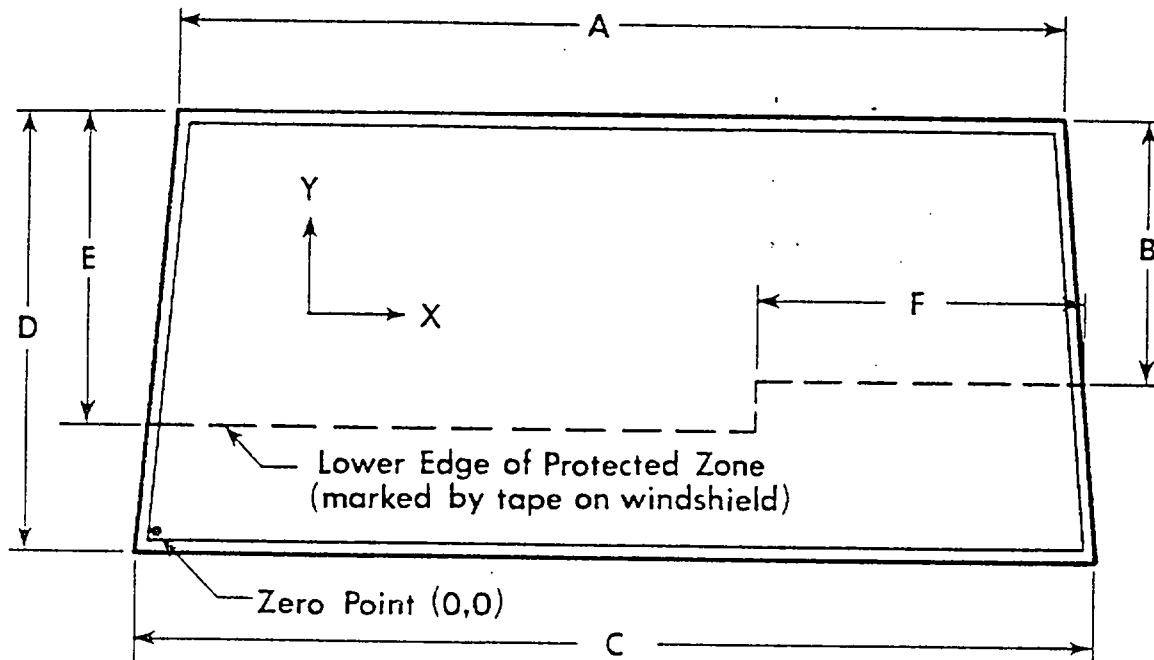


VEHICLE TEST TEMPERATURE: 69° F

FAILURE DETAILS: None

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 6.5" dia. rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 1/2" distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection onto the outer surface of the windshield of this line.

FMVSS 219 TEST DATA:

FRONT VIEW

A = 46.9C = 59.9E = 18.2B = 16.6D = 25.0F = 18.7

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4":
 (Show location of penetration on above sketch)

None

COORDINATES
 X Y

- 1.
- 2.
- 3.
- 4.

TABLE 12

"FUEL SYSTEM INTEGRITY" POST-IMPACT

TEST DATA, FMVSS NO. 301

TEST VEHICLE NHTSA NO.: CH5401; TEST DATE: 7/27/87

VEH. MFR./MAKE/MODEL: Mazda Motor Corporation/Mazda/626

Test vehicle fuel tank filled to 92 to 94% of manufacturer's "useable" capacity and with electric fuel pump operating (if it will operate without engine operation). Part 572 test dummies located at each front designated seating position.

.....

TEST VEHICLE IMPACT TYPE:

- X Frontal (30 mph)
- Oblique (30 mph) with ^o barrier face
first contacting (driver/pass.) side.
- Rear Moving Barrier (30 mph)
- Lateral Moving Barrier (20 mph)

FUEL SPILLAGE MEASUREMENT:

	<u>ACTUAL</u>	<u>MAX. ALLOW.</u>
1. From impact until vehicle motion ceases - -	0	1 oz.
2. For 5 min. period after veh. motion ceases-	0	5 oz.
3. For next 25 minutes - - - - -	0	1 oz./1 min.

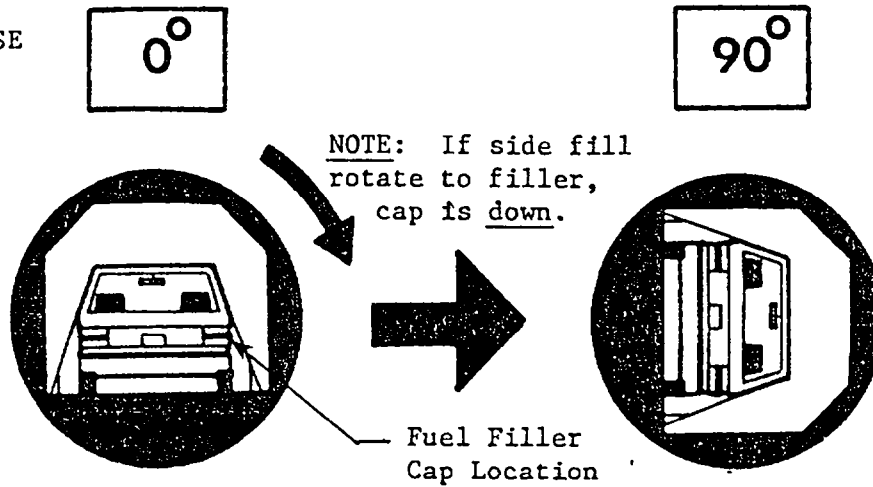
SOLVENT SPILLAGE DETAILS:

No spillage during post-impact time intervals.

FIGURE 11

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE



STATIC ROLLOVER MACHINE ROTATION TIME INFORMATION: (Spec. Range = 1 to 3 min.)

Time req. for machine to rotate 90° = 2 minutes, 00 seconds

FMVSS 301 Position Hold Time = 5 minutes, 00 seconds

TOTAL - - - - - = 7 minutes, 00 seconds

Next Whole Minute Interval - - - - = 7 minutes

FMVSS 301 REQUIREMENTS

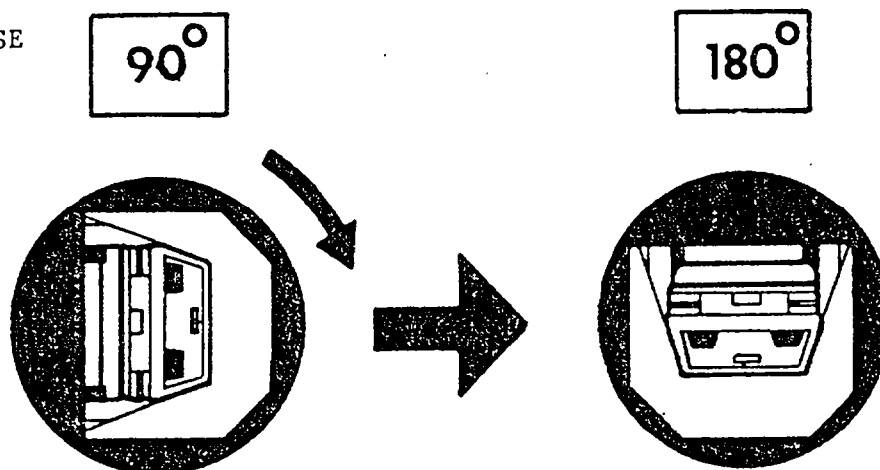
	First 5 Minutes FROM ONSET OF ROTATION	6th Minute	7th Minute
Maximum Allowable Solvent Spillage - -	5 oz.	1 oz.	1 oz.
0 to 90° (filler cap down) - - - - -	0 oz.	0 oz.	0 oz.

SOLVENT SPILLAGE LOCATION(S)

FIGURE 11, CONT'D.

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE



STATIC ROLLOVER MACHINE ROTATION TIME INFORMATION: (Spec. Range = 1 to 3 min.)

Time req. for machine to rotate 90° = 2 minutes, 00 seconds

FMVSS 301 Position Hold Time = 5 minutes, 00 seconds

TOTAL - - - - - = 7 minutes, 00 seconds

Next Whole Minute Interval - - - - = 14 minutes

FMVSS 301 REQUIREMENTS

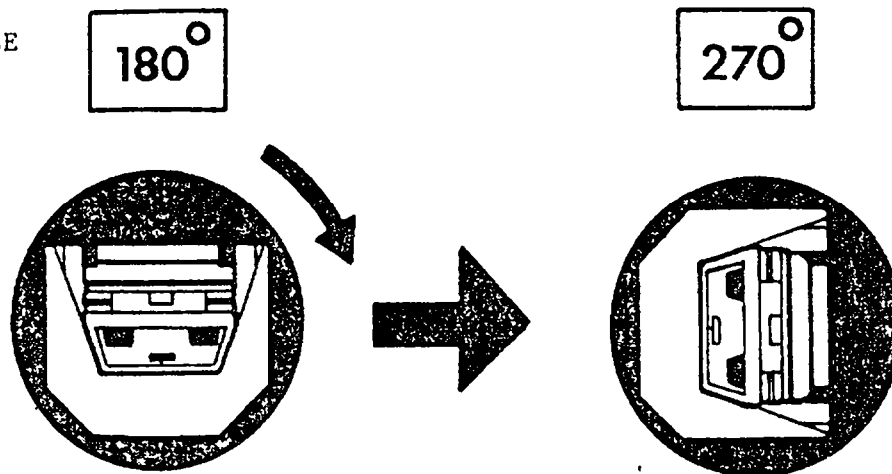
	First 5 Minutes FROM ONSET OF ROTATION	6th Minute	7th Minute
Maximum Allowable Solvent Spillage - -	5 oz.	1 oz.	1 oz.
90° to 180° - - - - -	0 oz.	0 oz.	0 oz.

SOLVENT SPILLAGE LOCATION(S)

FIGURE 11, CONT'D.

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE



STATIC ROLLOVER MACHINE ROTATION TIME INFORMATION: (Spec. Range = 1 to 3 min.)

Time req. for machine to rotate 90° = 2 minutes, 00 seconds

FMVSS 301 Position Hold Time = 5 minutes, 00 seconds

TOTAL - - - - - = 7 minutes, 00 seconds

Next Whole Minute Interval - - - - = 21 minutes

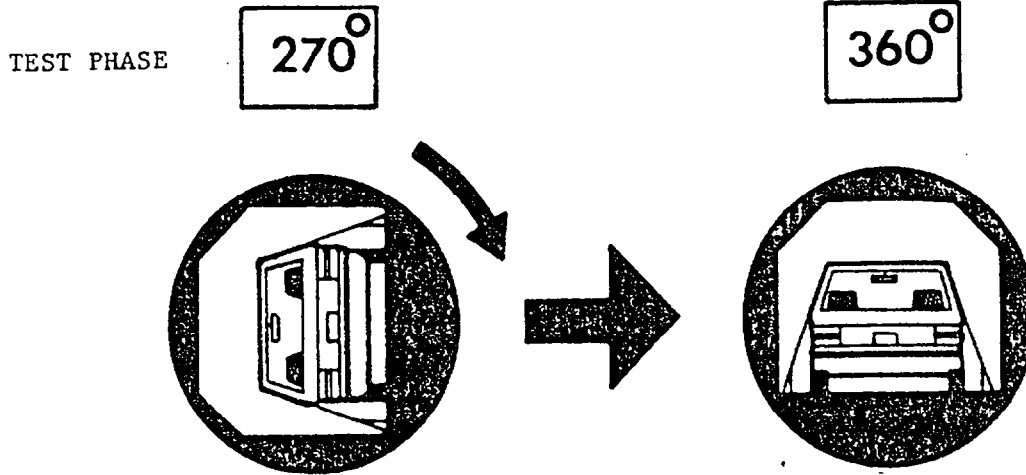
FMVSS 301 REQUIREMENTS

	First 5 Minutes FROM ONSET OF ROTATION	6th Minute	7th Minute
Maximum Allowable Solvent Spillage - -	5 oz.	1 oz.	1 oz.
180° to 270° - - - - -	0 oz.	0 oz.	0 oz.

SOLVENT SPILLAGE LOCATION(S)

FIGURE 11, CONT'D.

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET



STATIC ROLLOVER MACHINE ROTATION TIME INFORMATION: (Spec. Range = 1 to 3 min.)

Time req. for machine to rotate 90° = 2 minutes, 00 seconds

FMVSS 301 Position Hold Time = 5 minutes, 00 seconds

TOTAL - - - - - = 7 minutes, 00 seconds

Next Whole Minute Interval - - - - = 28 minutes

FMVSS 301 REQUIREMENTS

	First 5 Minutes FROM ONSET OF ROTATION	6th Minute	7th Minute
Maximum Allowable Solvent Spillage - -	5 oz.	1 oz.	1 oz.
270° to 360° - - - - -	0 oz.	0 oz.	0 oz.

SOLVENT SPILLAGE LOCATION(S)

SECTION 3.0

CAMERA INFORMATION

FIGURE 12
CAMERA POSITIONS

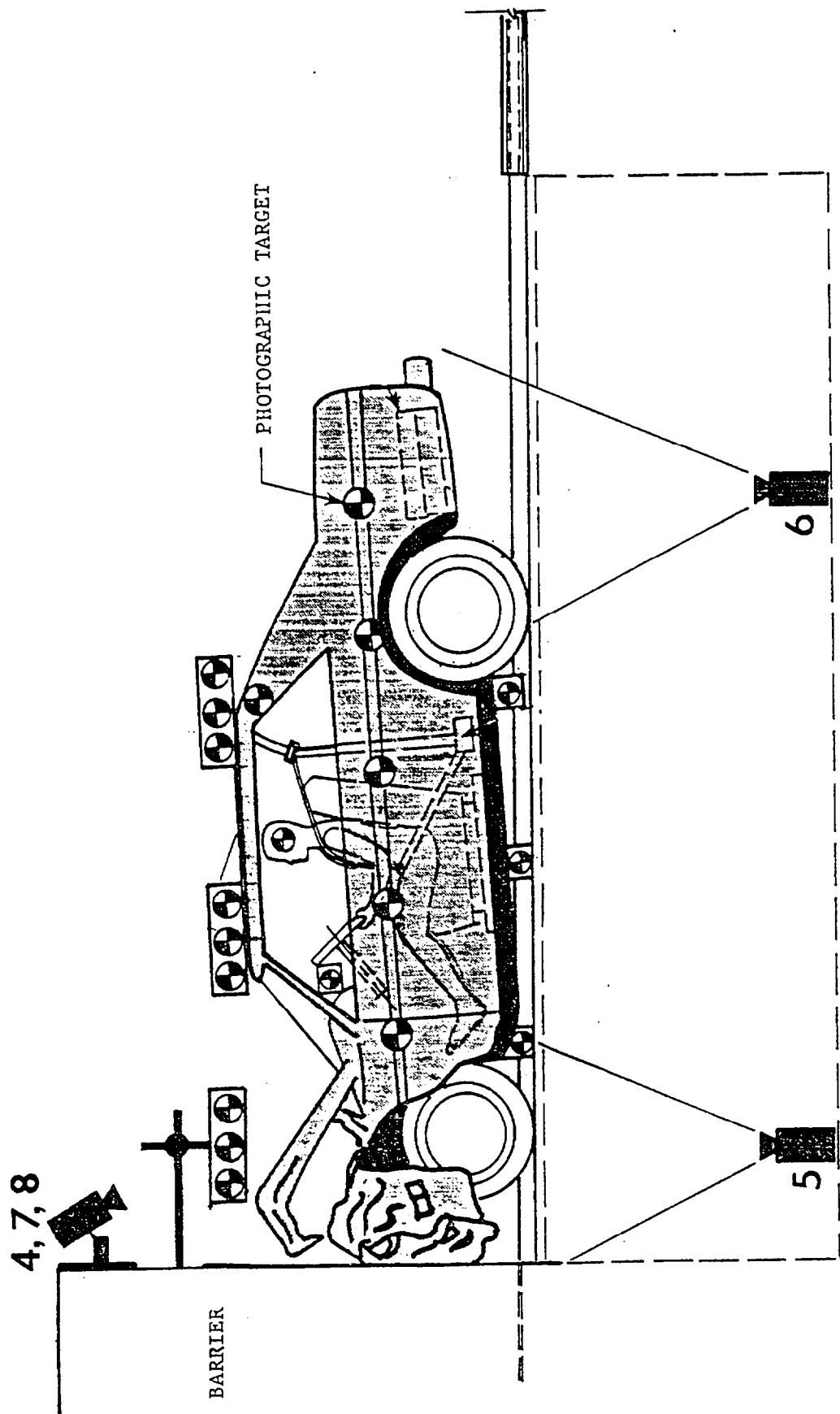
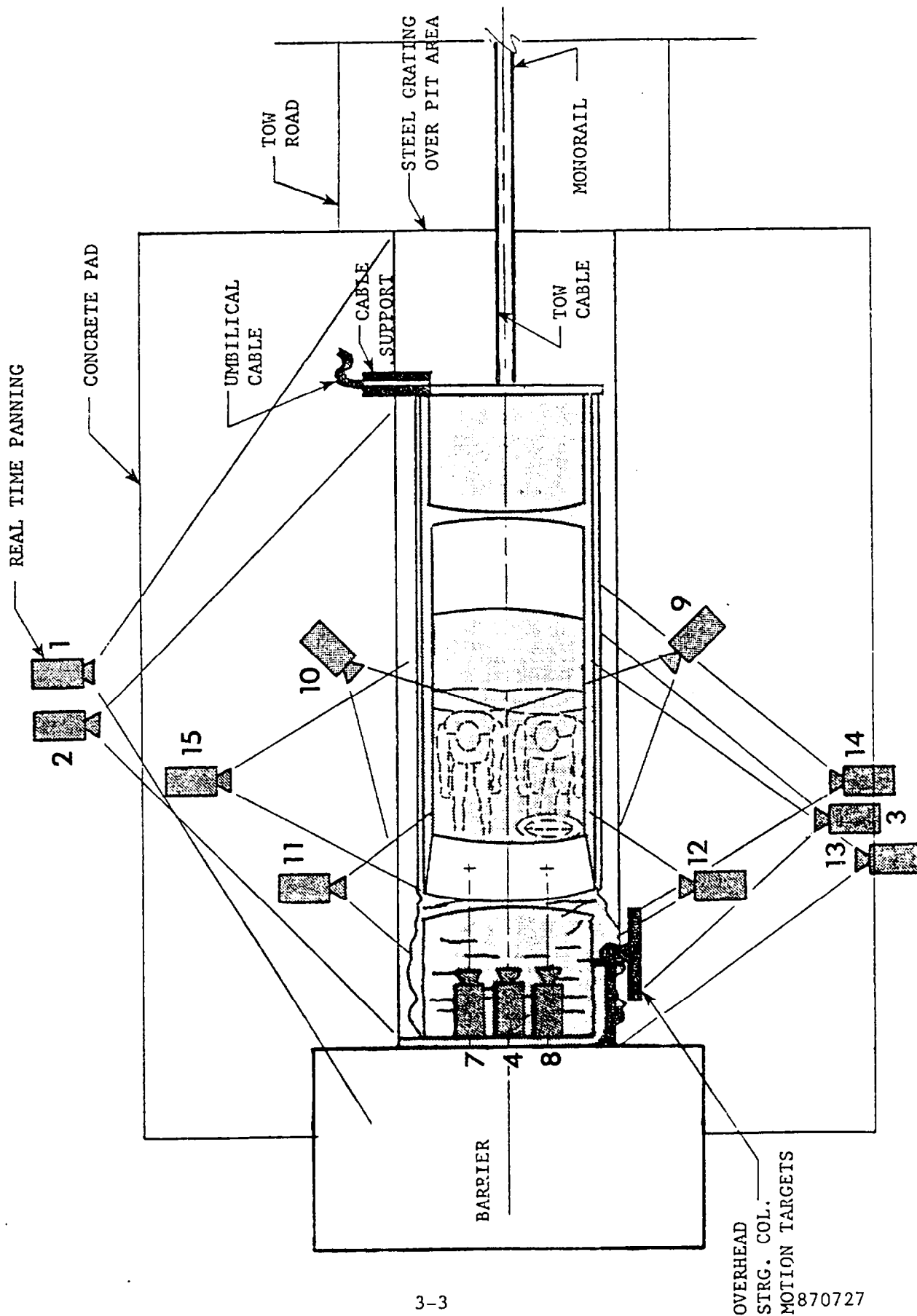


FIGURE 12 CONT'D

CAMERA POSITIONS



HIGH SPEED CAMERA LOCATIONS

TEST NO.: 870727 VEHICLE: Mazda 626 4-door sedan

CAMERA NO.	VIEW	CAMERA POSITIONS (IN)*			ANGLE ** (DEG)	FILM PLANE TO HEAD TARGET	LENS (MM)	SPEED (FPS)
		X	Y	Z				
1	Real time panning	-142.0	504.0	61.0	NA	NA	16	24
2	Vehicle crush	-81.3	266.4	37.1	-2	NA	13	500
3	Dummy kinematics	-41.5	-295.0	44.0	-4	244.5	25	515
4	Windshield damage	-6.0	0.0	88.0	-45	NA	13	498
5	Crush & fluid spillage	-50.5	0.0	-92.4	90	NA	13	1000
6	Fluid spillage	-99.3	0.0	-99.0	90	NA	13	1000
7	Passenger kinematics	-4.5	13.8	93.0	-50	NA	17	499
8	Driver kinematics	-6.8	-14.5	93.0	-50	NA	17	495
9	Driver kinematics	-157.3	-116.0	87.0	-27	128.0	25	500
10	Passenger kinematics	-152.1	116.0	87.0	-26	118.5	25	499
11	Windshield intrusion	-38.1	306.1	44.0	0	NA	50	500
12	Windshield intrusion	-53.0	-309.4	42.3	0	NA	50	500
13	Column movement	-118.0	-286.0	103.0	-14	NA	25	499
14	Column movement	-118.0	-286.0	75.1	-9	NA	25	499
15	Passenger kinematics	-38.8	293.0	45.3	-4	238.5	25	525

* X = Film plane to plane of barrier face

Y = Film plane to monorail centerline

Z = Film plane to ground

** Referenced to horizontal plane

APPENDIX A

PHOTOGRAPHS

1. PRE-TEST FRONT VIEW
2. POST-TEST FRONT VIEW
3. PRE-TEST LEFT SIDE VIEW
4. POST-TEST LEFT SIDE VIEW
5. PRE-TEST RIGHT SIDE VIEW
6. POST-TEST RIGHT SIDE VIEW
7. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW
8. POST-TEST RIGHT FRONT THREE-QUARTER VIEW
9. PRE-TEST LEFT REAR THREE-QUARTER VIEW
10. POST-TEST LEFT REAR THREE-QUARTER VIEW
11. PRE-TEST REAR VIEW
12. POST-TEST REAR VIEW
13. PRE-TEST WINDSHIELD VIEW
14. POST-TEST WINDSHIELD VIEW
15. PRE-TEST ENGINE COMPARTMENT VIEW
16. POST-TEST ENGINE COMPARTMENT VIEW
17. PRE-TEST FUEL FILLER CAP VIEW
18. POST-TEST FUEL FILLER CAP VIEW
19. PRE-TEST FRONT UNDERBODY VIEW
20. POST-TEST FRONT UNDERBODY VIEW
21. PRE-TEST REAR UNDERBODY VIEW
22. POST-TEST REAR UNDERBODY VIEW
23. PRE-TEST FUEL LINES - VIEW 1
24. PRE-TEST FUEL LINES - VIEW 2
25. PRE-TEST DRIVER DUMMY POSITION VIEW
26. POST-TEST DRIVER DUMMY POSITION VIEW
27. PRE-TEST PASSENGER DUMMY POSITION VIEW
28. POST-TEST PASSENGER DUMMY POSITION VIEW
29. PRE-TEST DRIVER DUMMY & VEHICLE INTERIOR VIEW
30. POST-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 1
31. POST-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 2
32. PRE-TEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW

PHOTOGRAPHS CONTINUED

- 33. POST-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 1
- 34. POST-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 2
- 35. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 1
- 36. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 2
- 37. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 3
- 38. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 4
- 39. POST-TEST PASSENGER DUMMY HEAD/KNEE CONTACT - VIEW 1
- 40. POST-TEST PASSENGER DUMMY HEAD/KNEE CONTACT - VIEW 2
- 41. PRE-TEST VEHICLE CERTIFICATION LABEL VIEW
- 42. PRE-TEST VEHICLE TIRE LOAD LABEL VIEW
- 43. POST-TEST VEHICLE ON STATIC ROLLOVER MACHINE VIEW



Figure 1. PRE-TEST FRONT VIEW



Figure 2. POST-TEST FRONT VIEW
A-3

870727



Figure 3. PRE-TEST LEFT SIDE VIEW

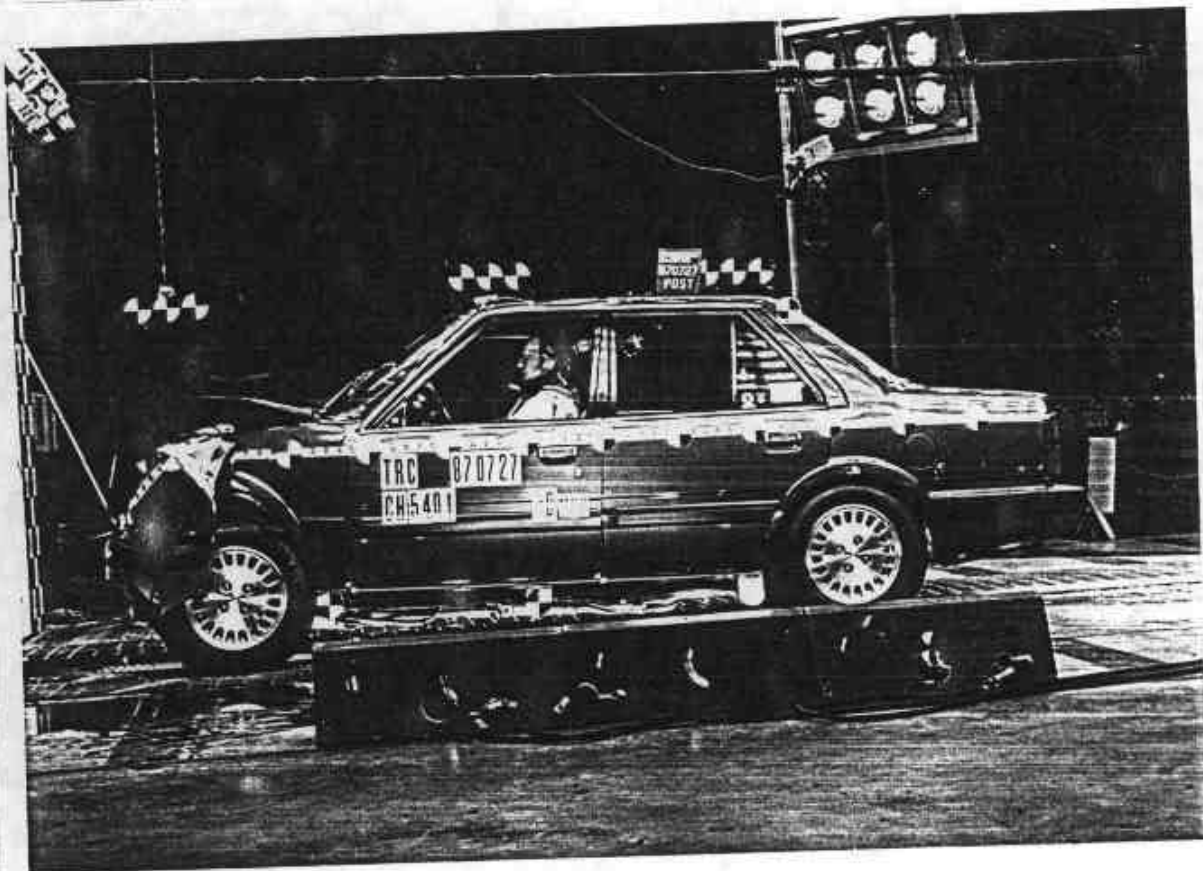


Figure 4. POST-TEST LEFT SIDE VIEW
A-4

870727

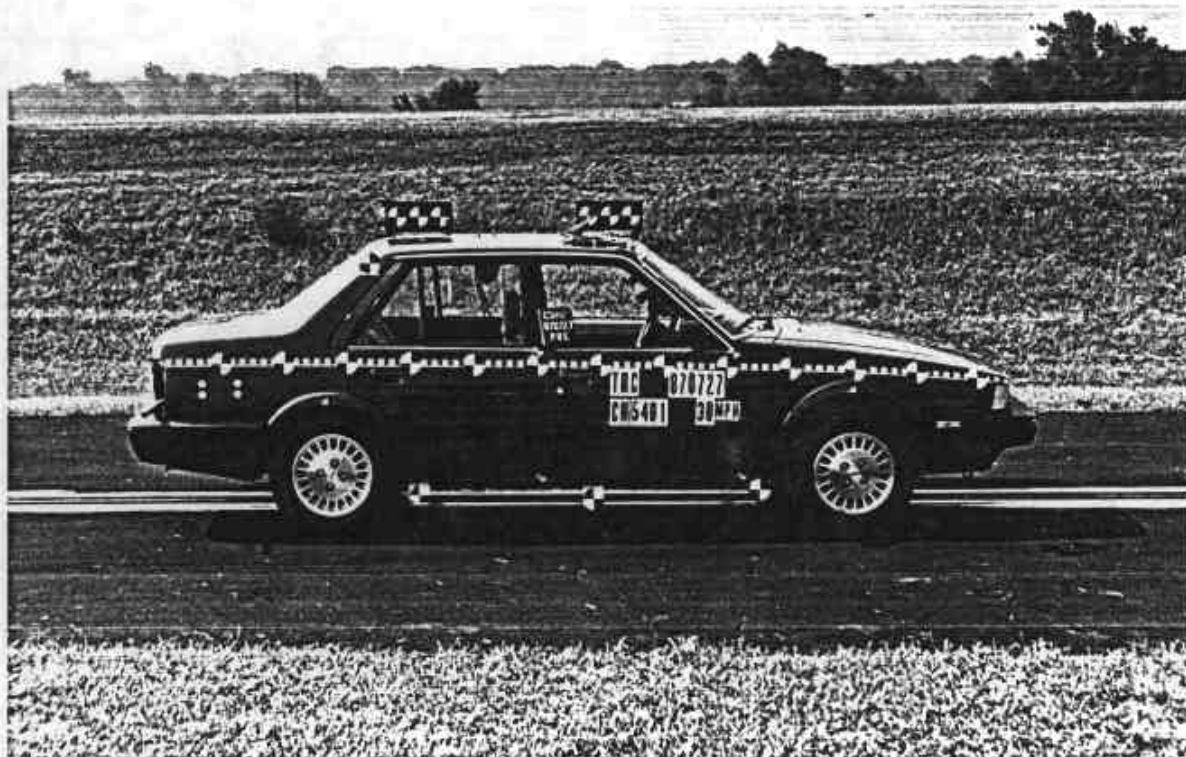


Figure 5. PRE-TEST RIGHT SIDE VIEW



Figure 6. POST-TEST RIGHT SIDE VIEW
A-5

870727



Figure 7. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure 8. POST-TEST RIGHT FRONT THREE-QUARTER VIEW

A-6

870727



Figure 9. PRE-TEST LEFT REAR THREE-QUARTER VIEW



Figure 10. POST-TEST LEFT REAR THREE-QUARTER VIEW
A-6

870727



Figure 11. PRE-TEST REAR VIEW



Figure 12. POST-TEST REAR VIEW
A-7

870727



Figure 13. PRE-TEST WINDSHIELD VIEW

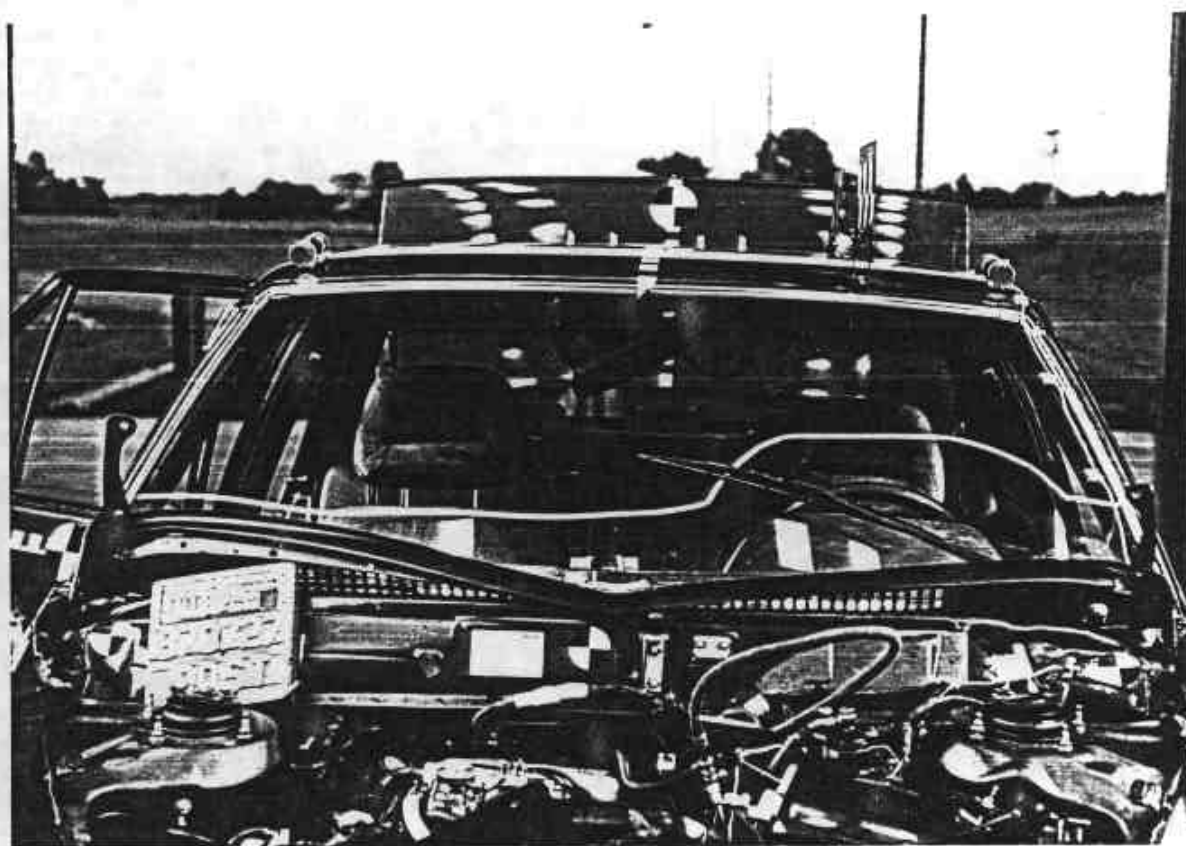


Figure 14. POST-TEST WINDSHIELD VIEW
A-8

870727

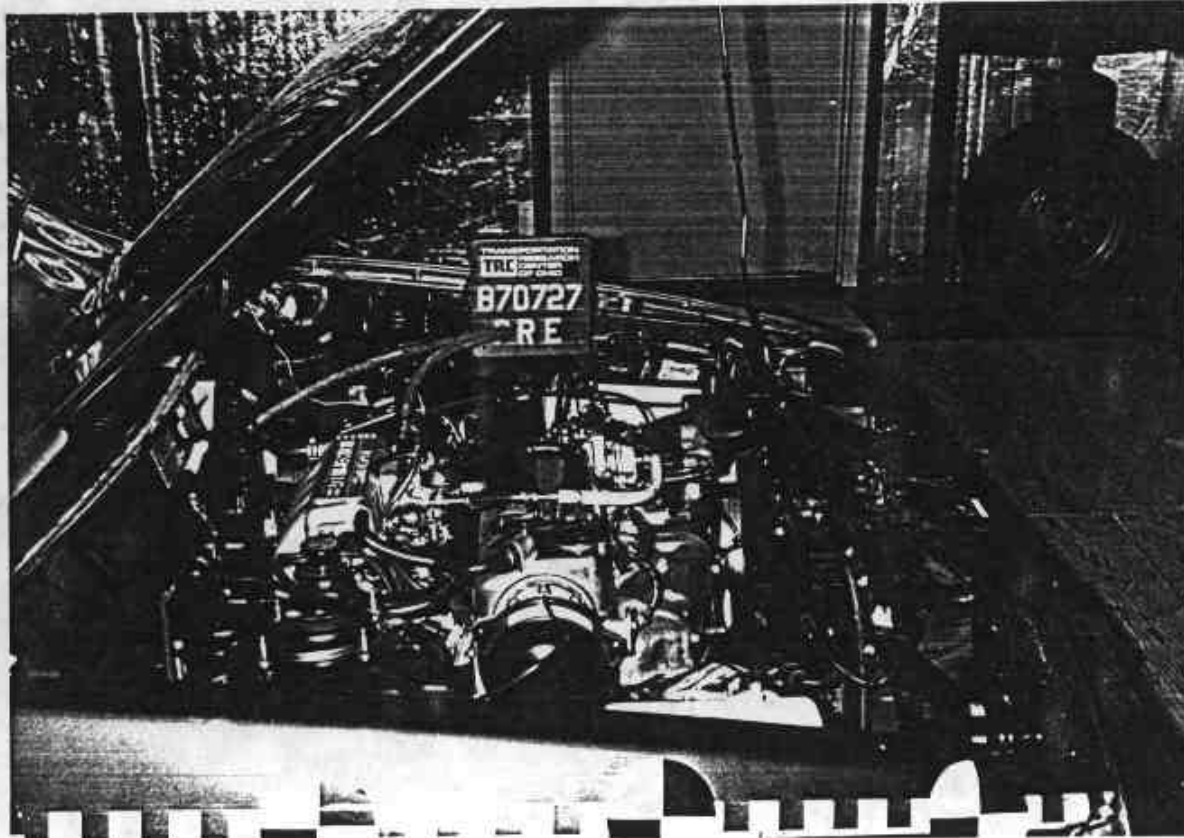


Figure 15. PRE-TEST ENGINE COMPARTMENT VIEW

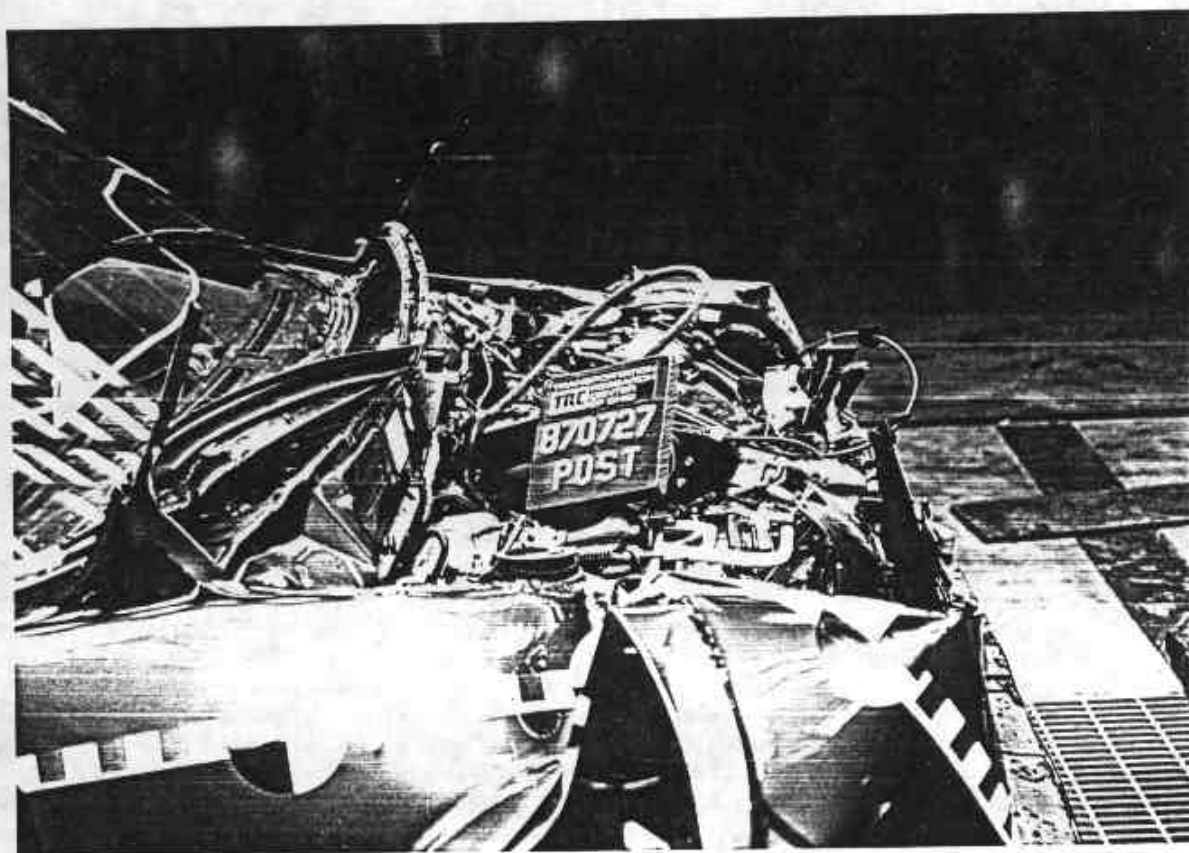


Figure 16. POST-TEST ENGINE COMPARTMENT VIEW
A-9

870727

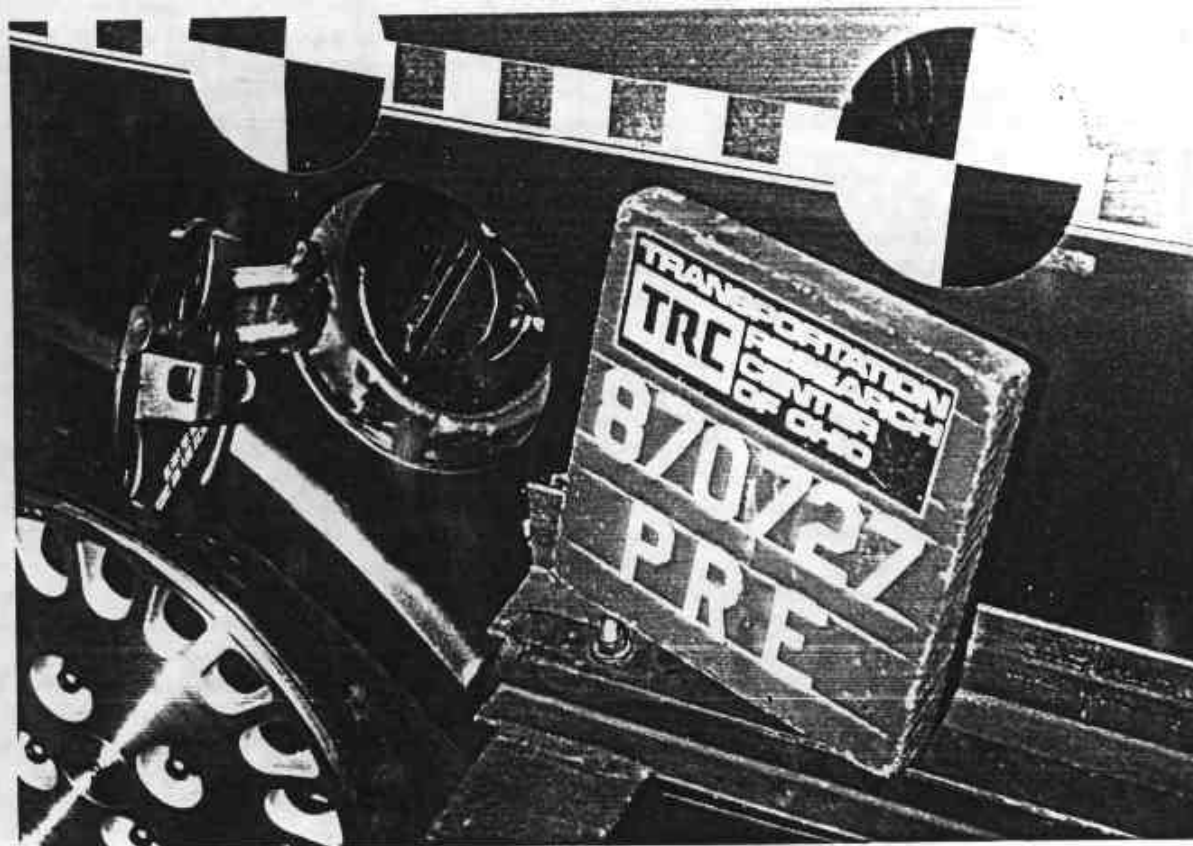


Figure 17. PRE-TEST FUEL FILLER CAP VIEW



Figure 18. POST-TEST FUEL FILLER CAP VIEW
A-10

870727

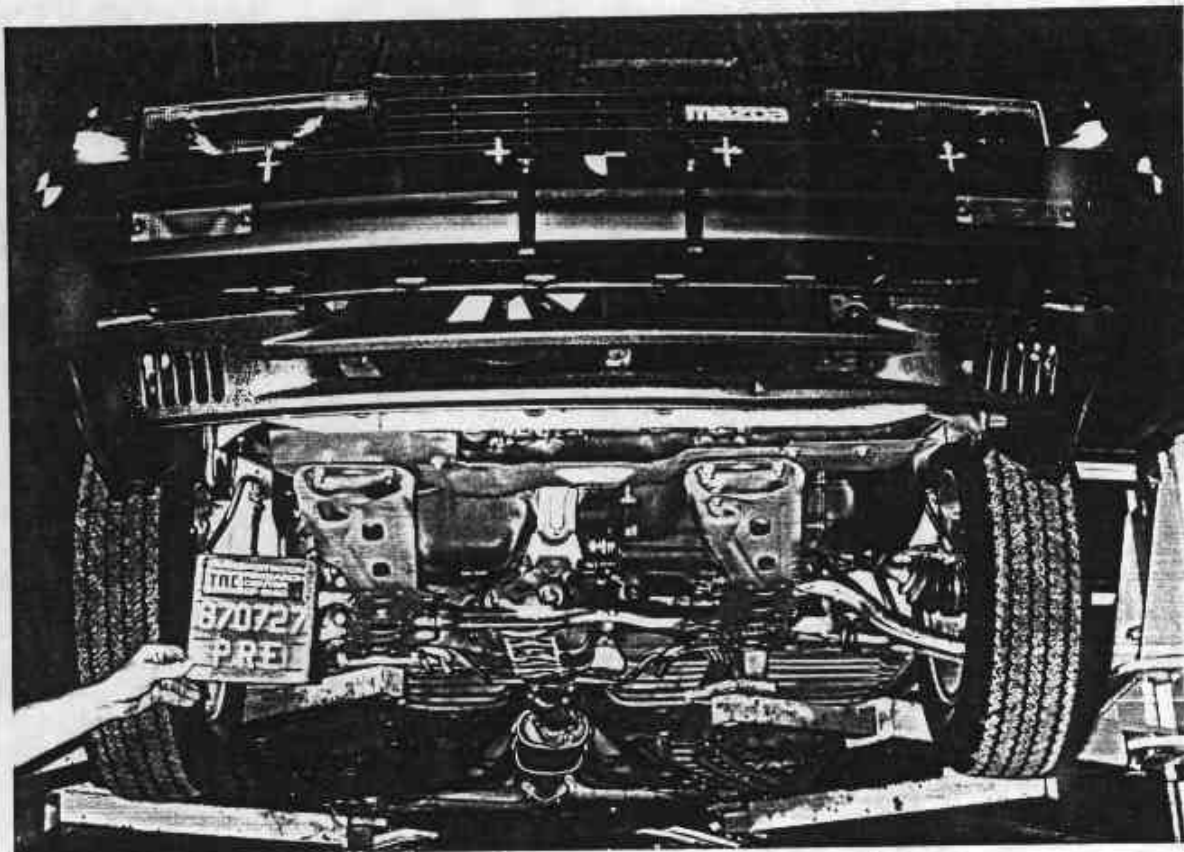


Figure 19. PRE-TEST FRONT UNDERBODY VIEW

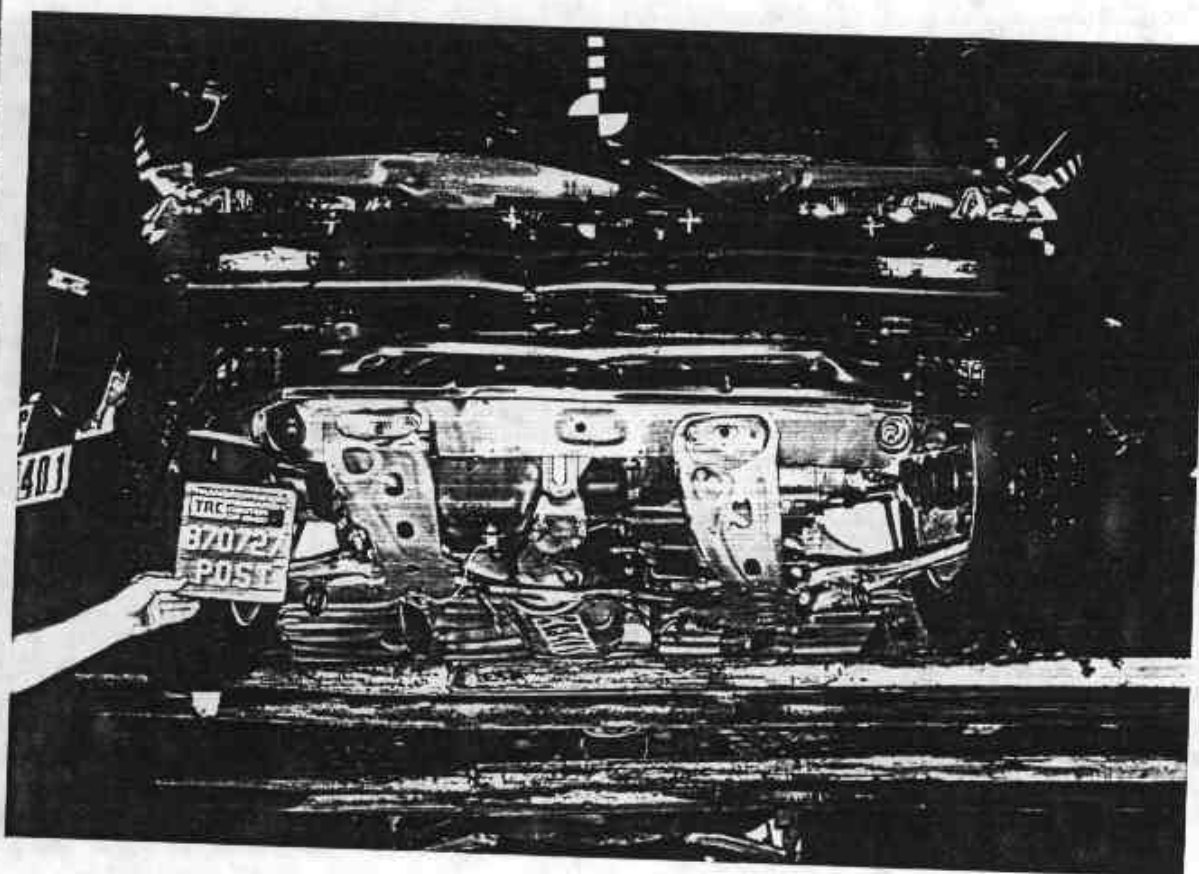


Figure 20. POST-TEST FRONT UNDERBODY VIEW
A-11

870727

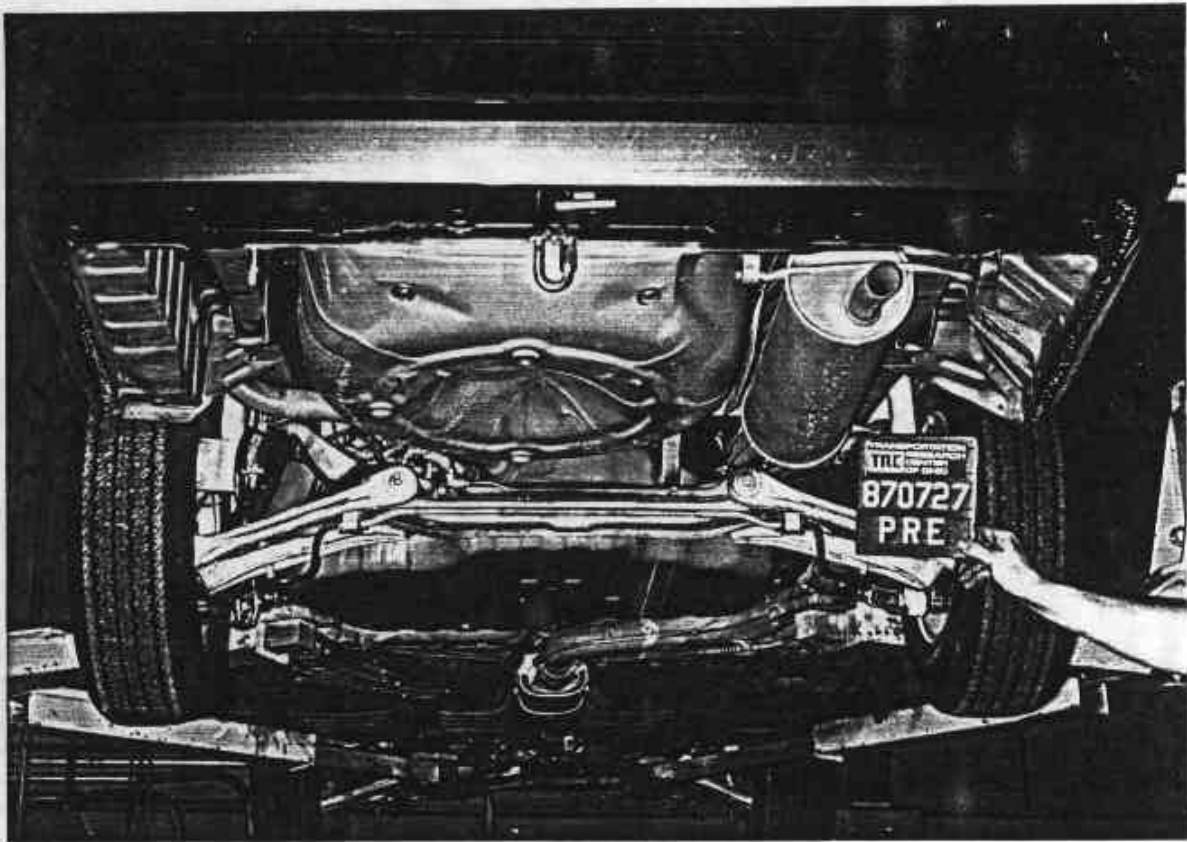


Figure 21. PRE-TEST REAR UNDERBODY VIEW

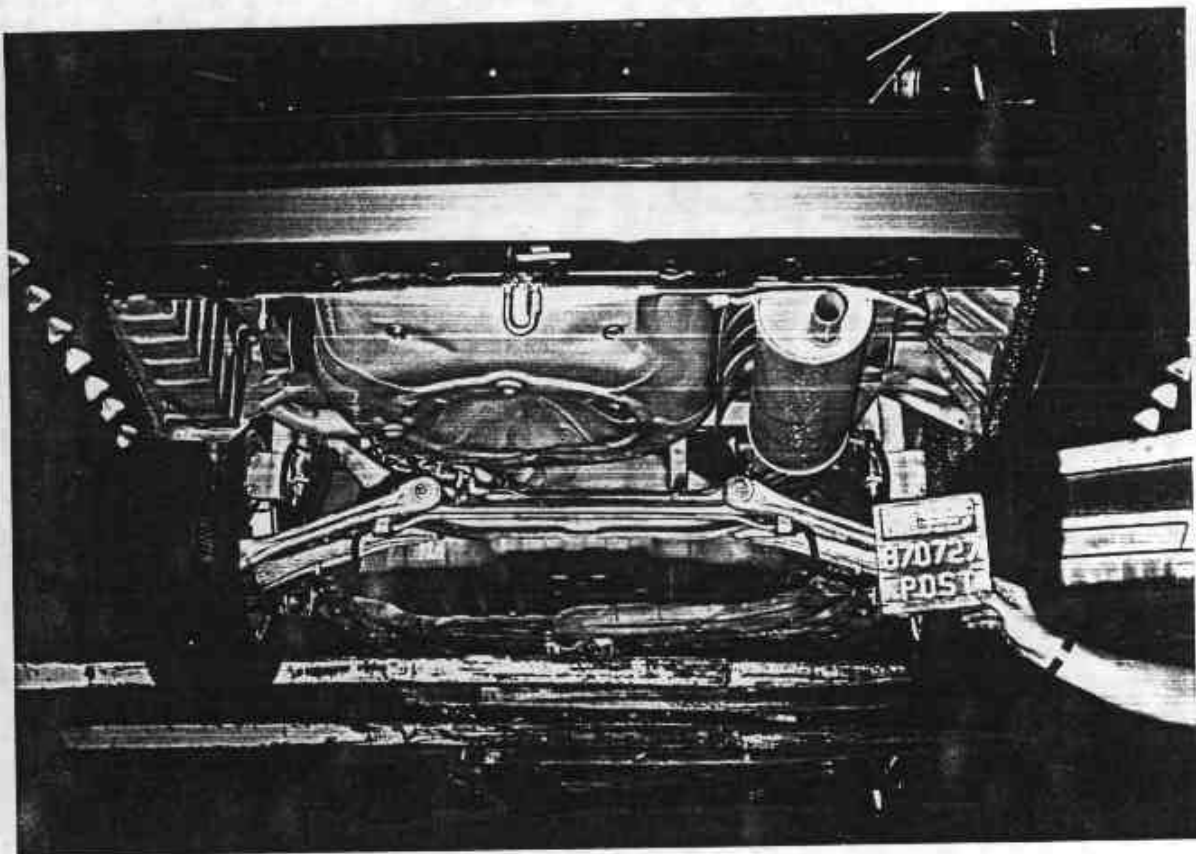


Figure 22. POST-TEST REAR UNDERBODY VIEW
A-12

870727



Figure 23. PRE-TEST FUEL LINES - VIEW 1

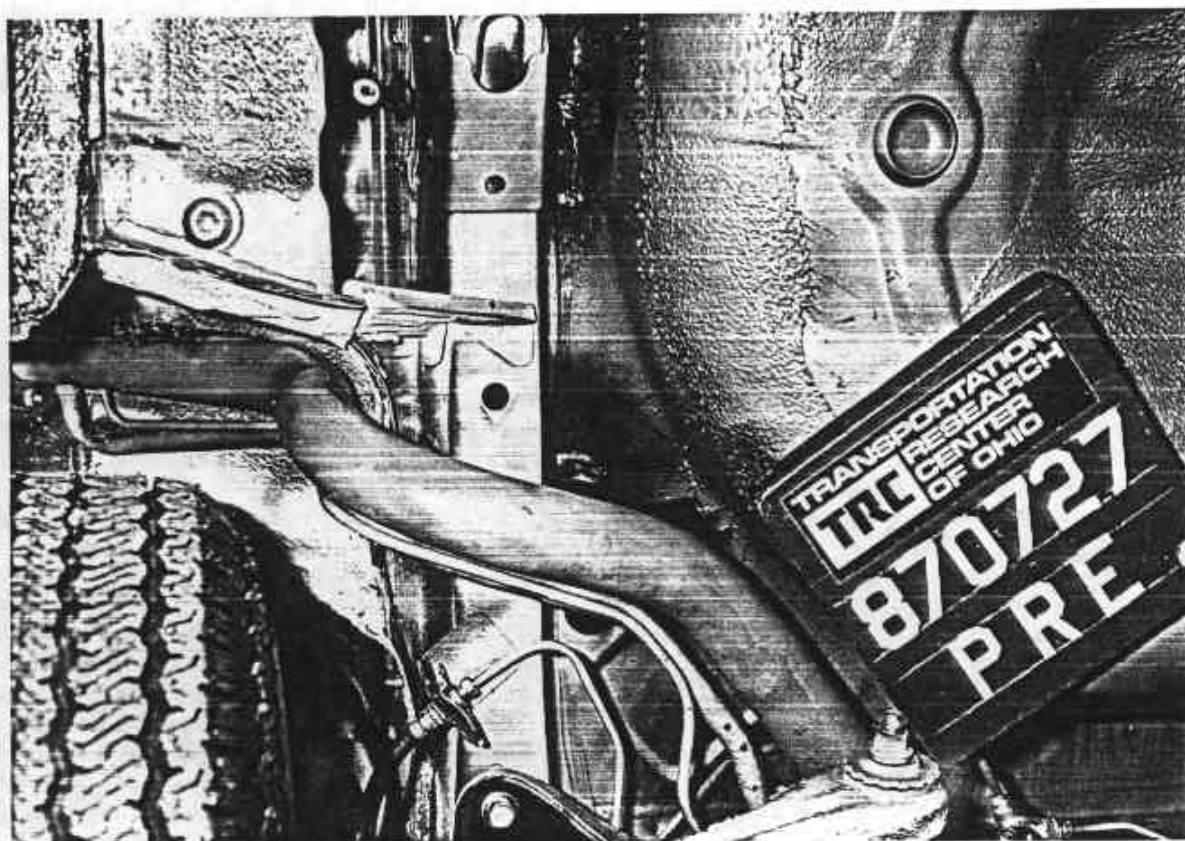


Figure 24. PRE-TEST FUEL LINES - VIEW 2



Figure 25. PRE-TEST DRIVER DUMMY POSITION VIEW



Figure 26. POST-TEST DRIVER DUMMY POSITION VIEW

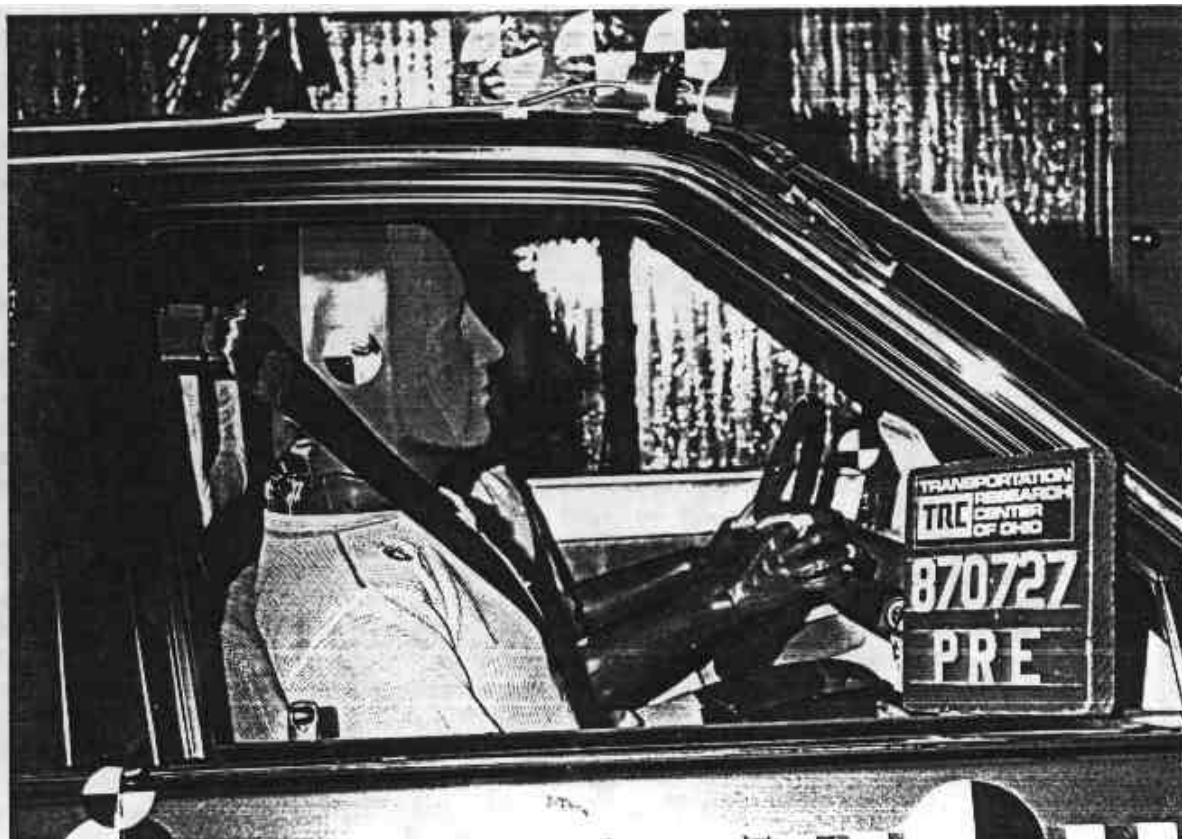


Figure 27. PRE-TEST PASSENGER DUMMY POSITION VIEW

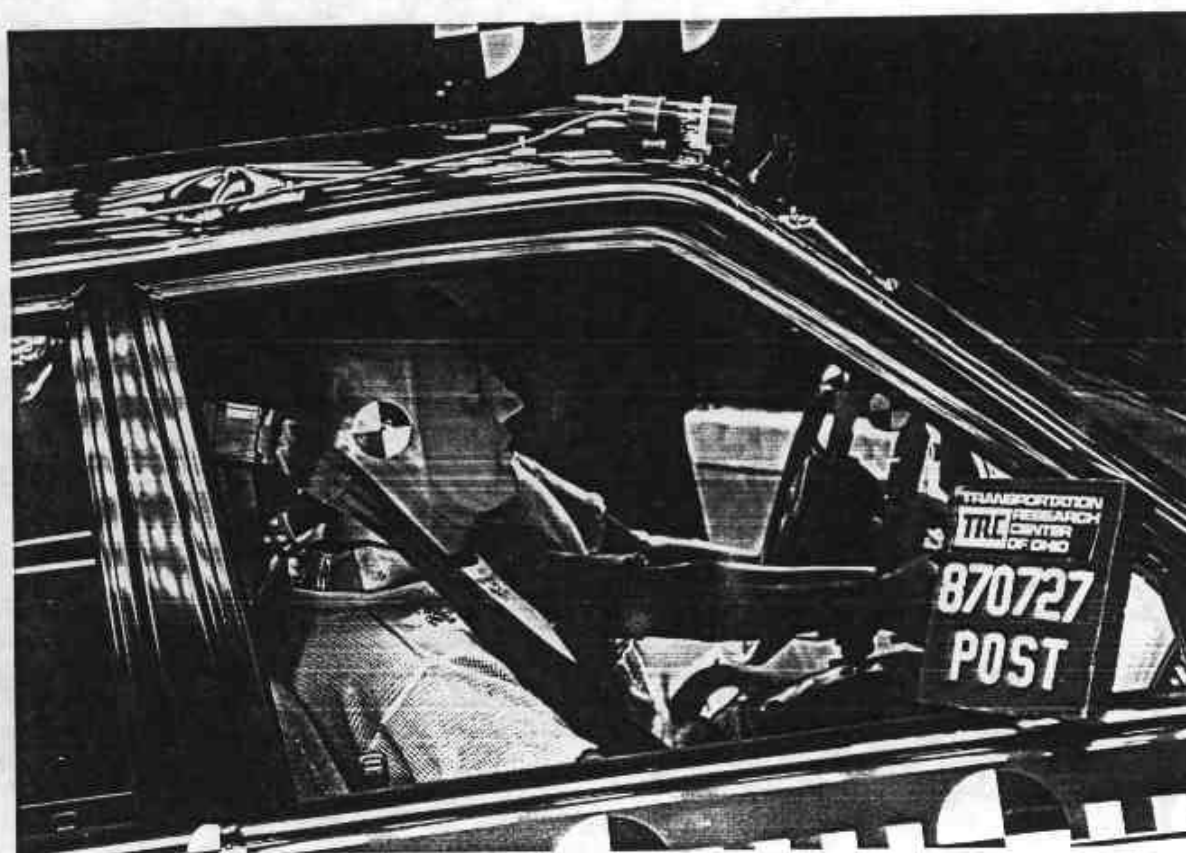


Figure 28. POST-TEST PASSENGER DUMMY POSITION VIEW

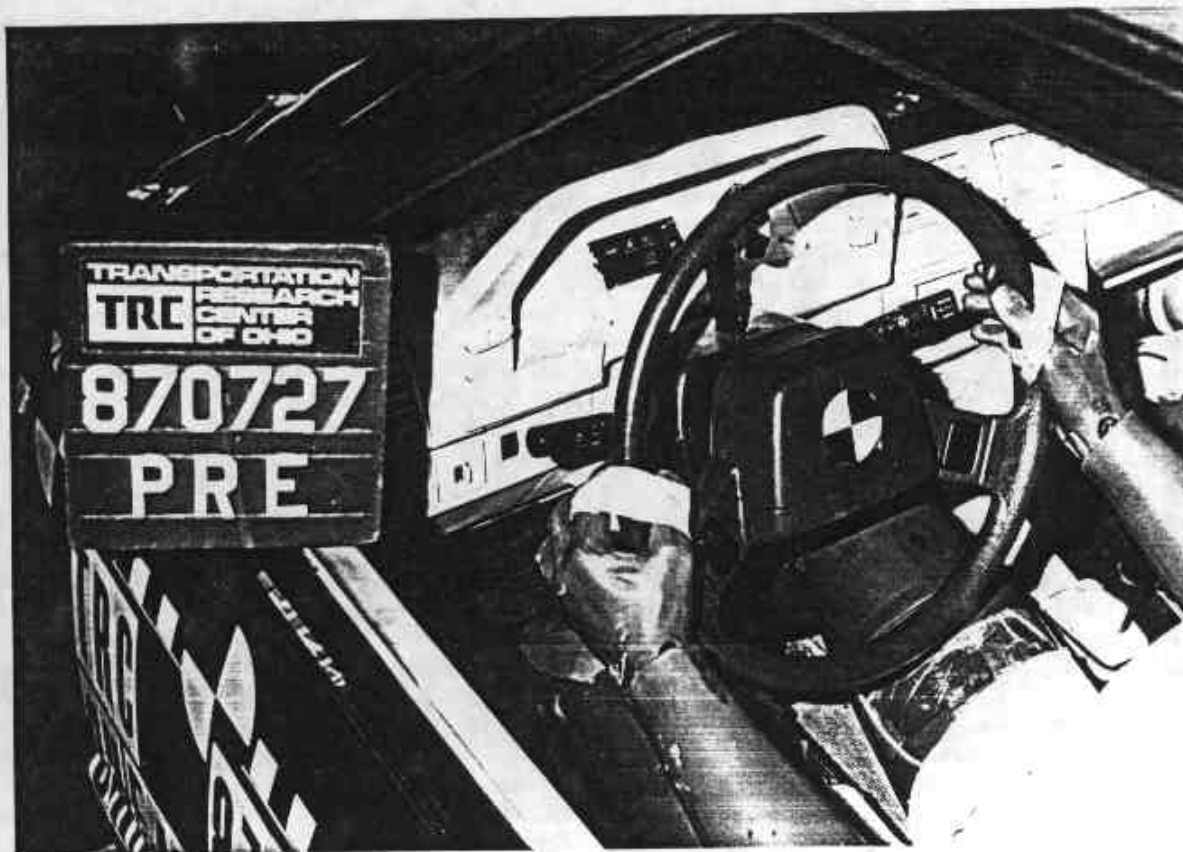


Figure 29. PRE-TEST DRIVER DUMMY & VEHICLE INTERIOR VIEW

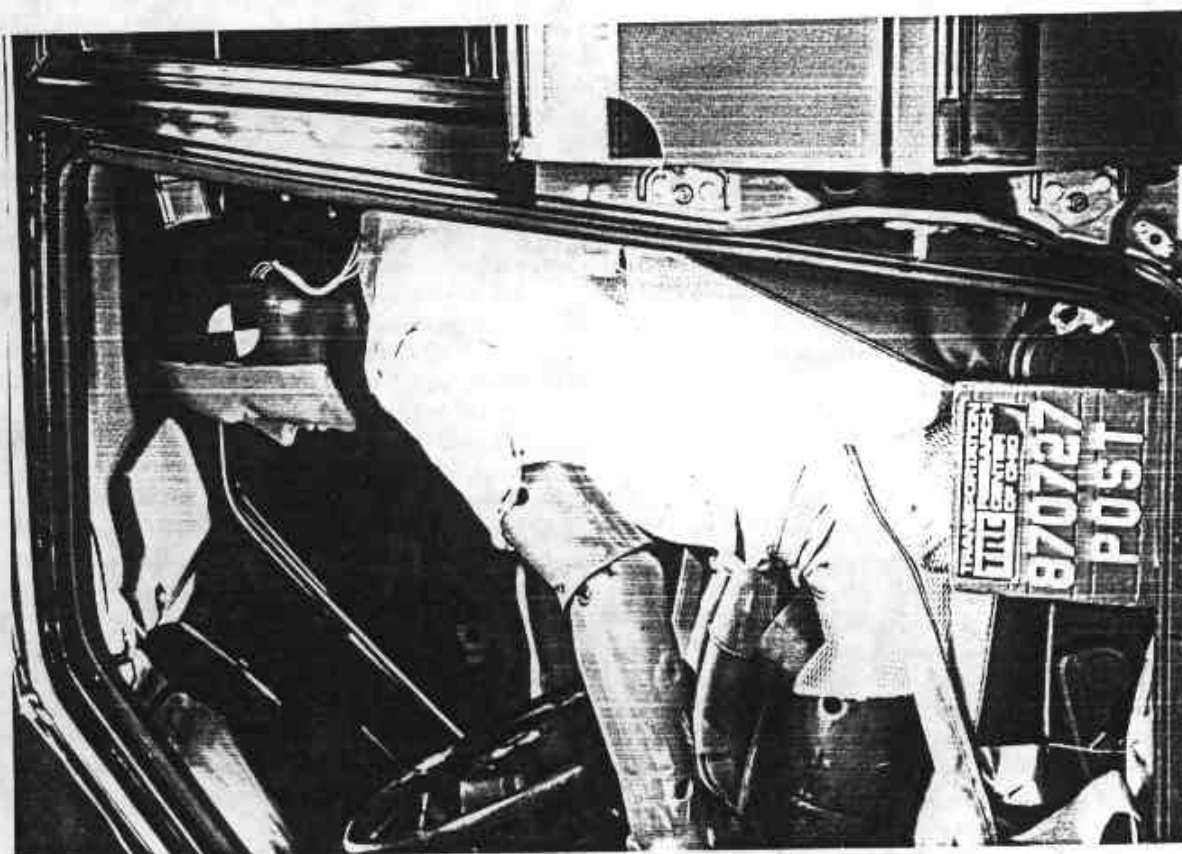


Figure 30. POST-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 1
A-16 870727

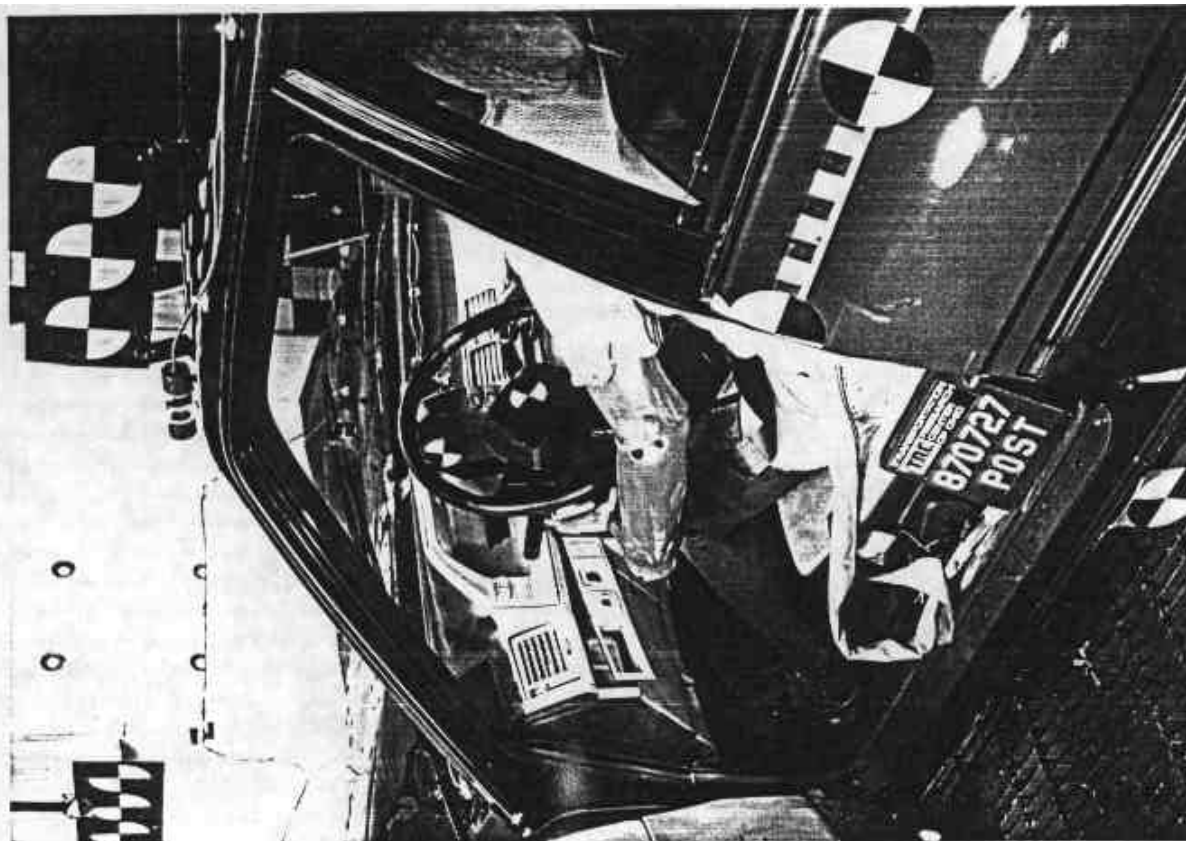


Figure 31. POST-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 2

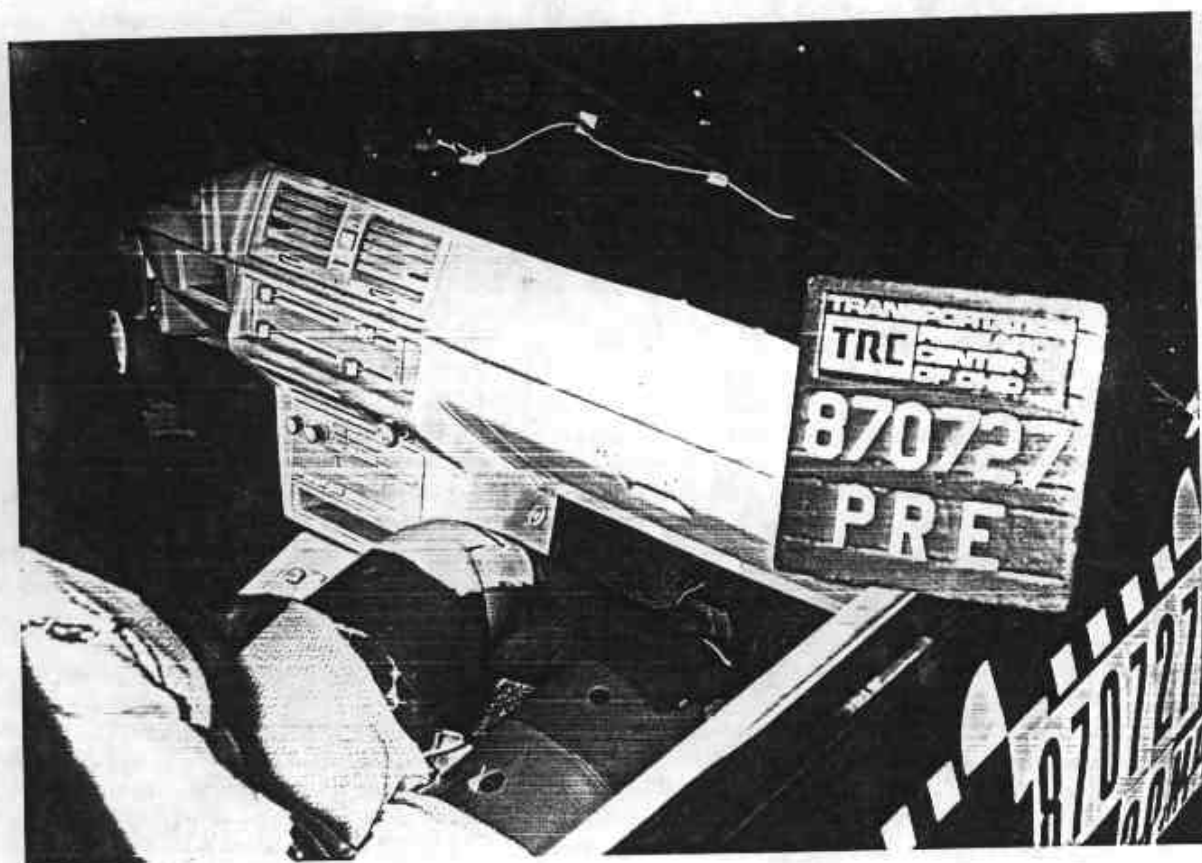


Figure 32. PRE-TEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW

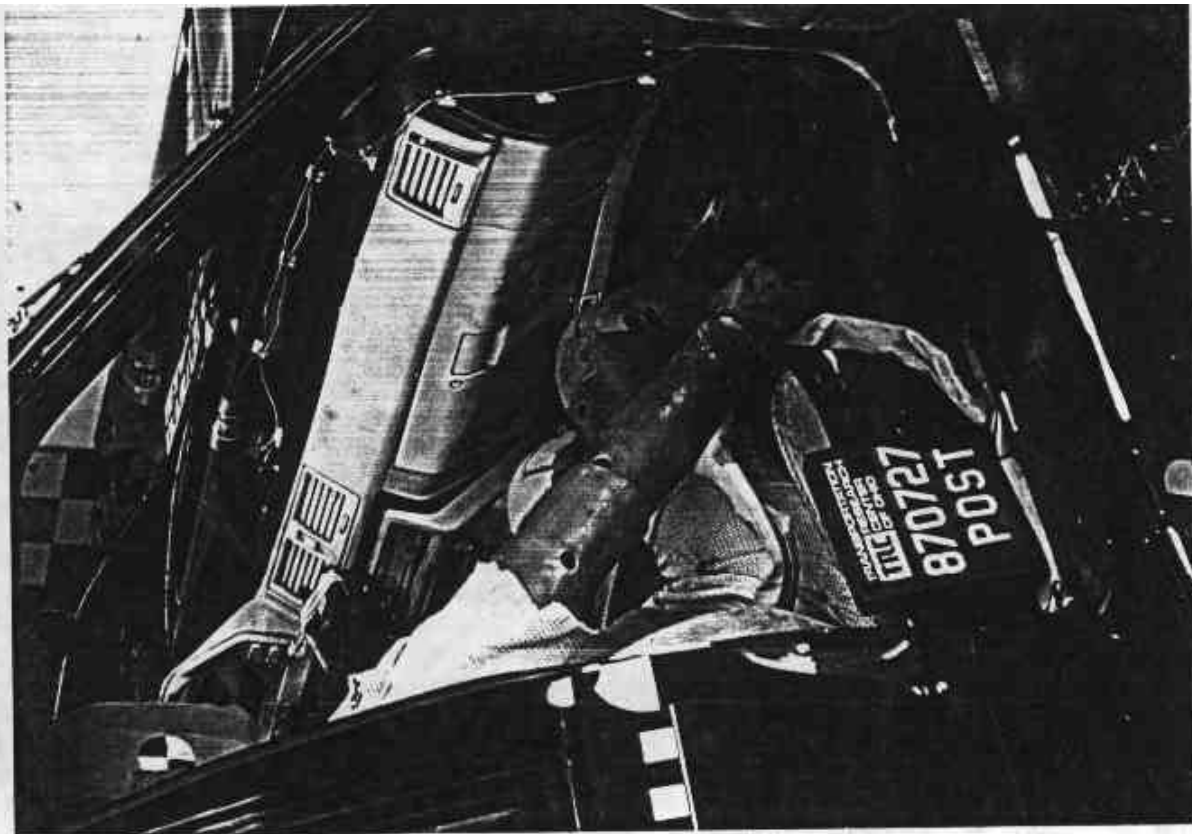


Figure 33. POST-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 1



Figure 34. POST-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 2

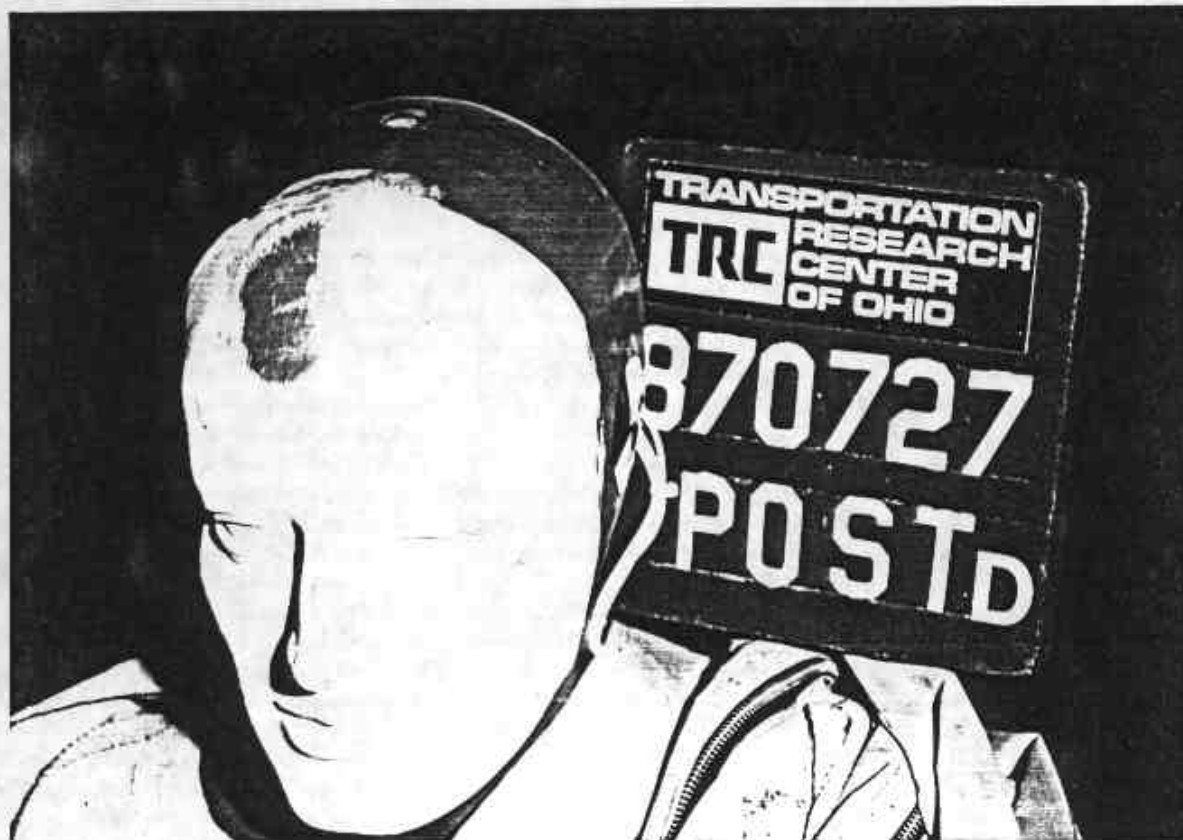


Figure 35. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 1



Figure 36. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 2

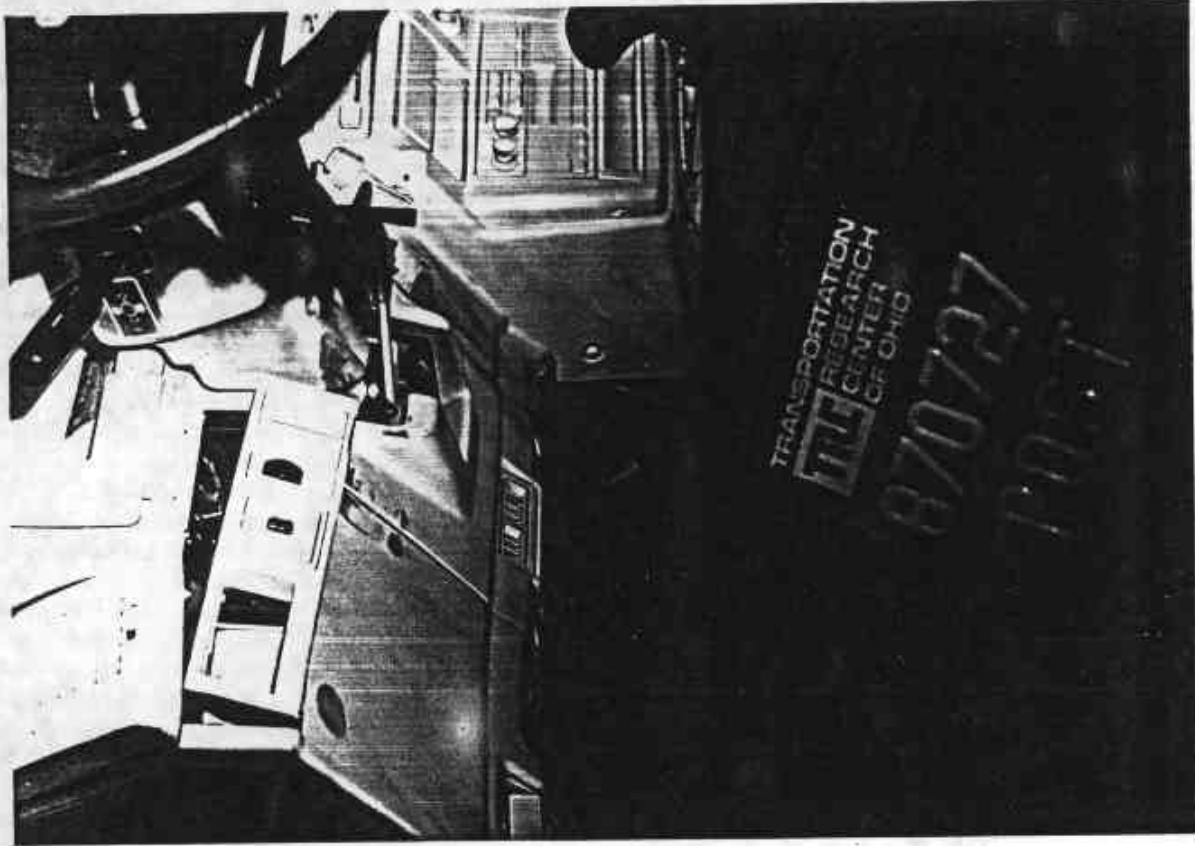


Figure 37. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 3



Figure 38. POST-TEST DRIVER DUMMY HEAD/KNEE CONTACT - VIEW 4



Figure 39. POST-TEST PASSENGER DUMMY HEAD/KNEE CONTACT - VIEW 1

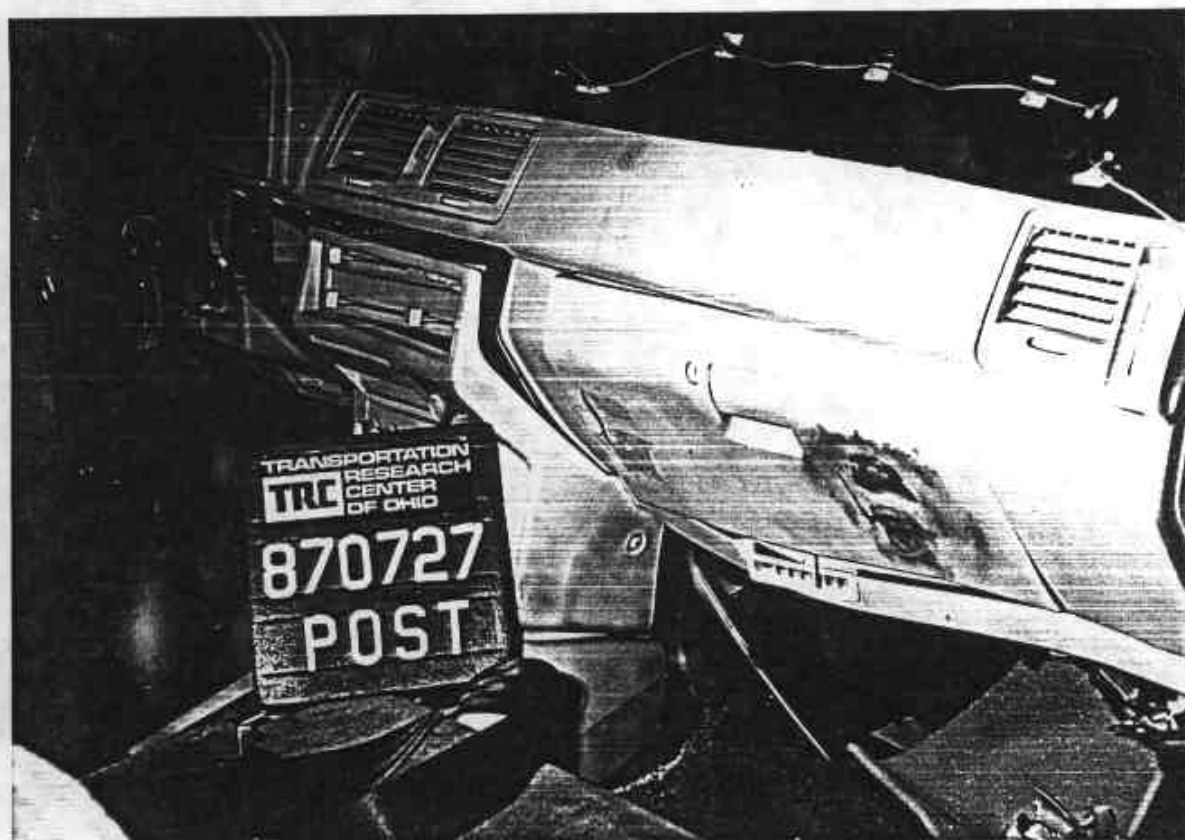


Figure 40. POST-TEST PASSENGER DUMMY HEAD/KNEE CONTACT - VIEW 2
A-21 870727

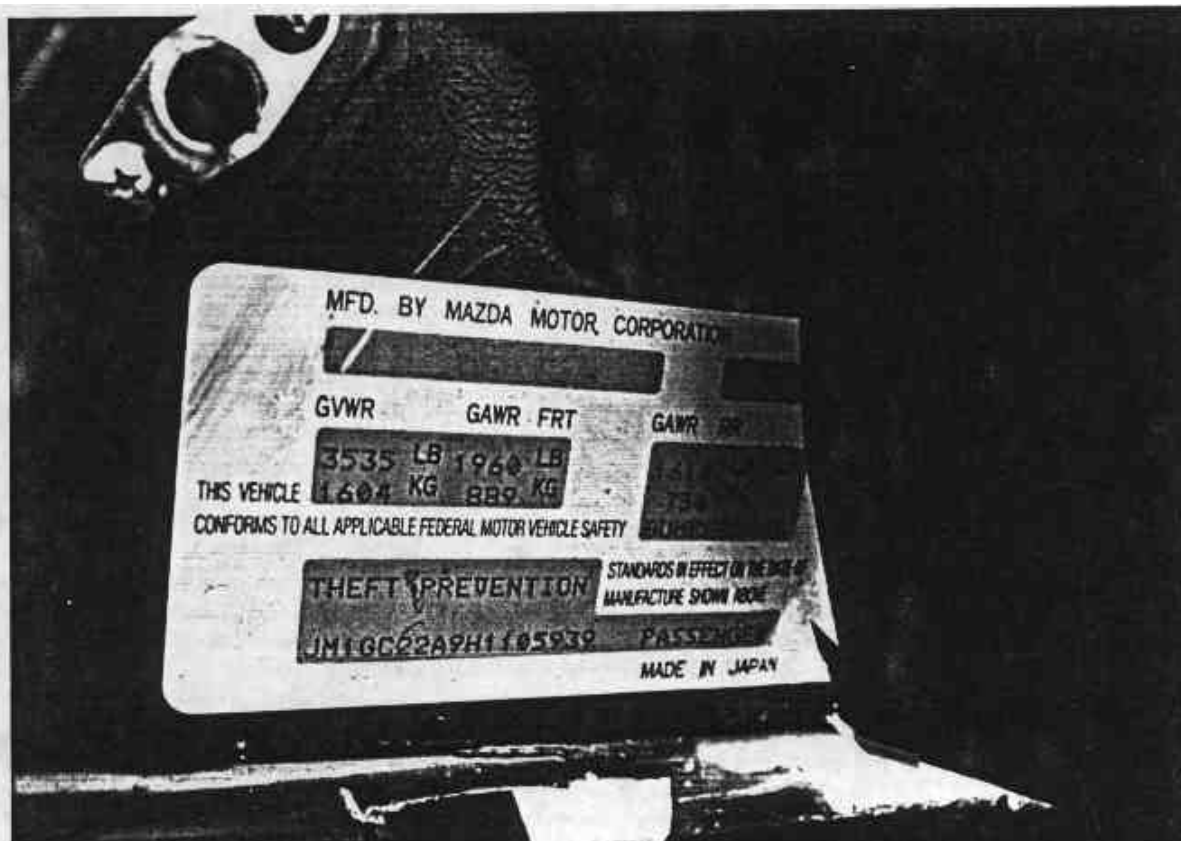


Figure 41. PRE-TEST VEHICLE CERTIFICATION LABEL VIEW

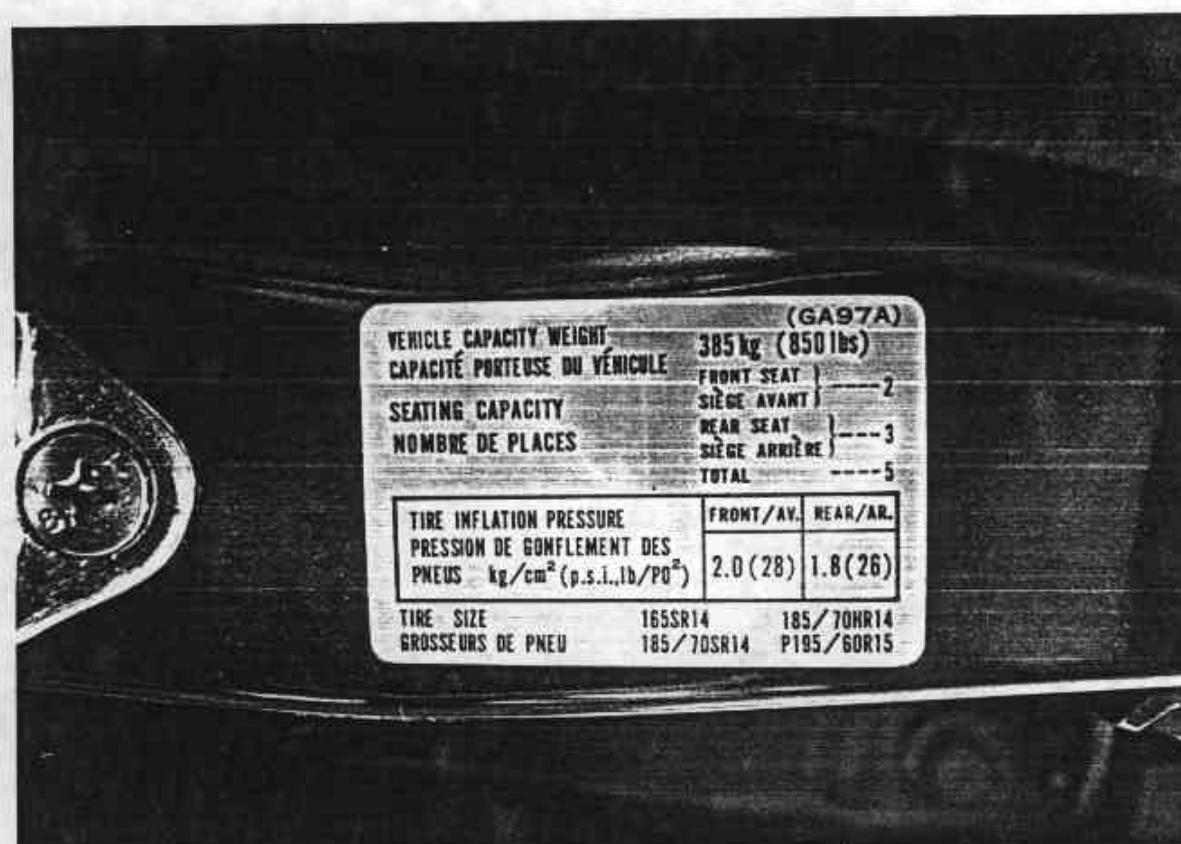


Figure 42. PRE-TEST VEHICLE TIRE LOAD LABEL VIEW

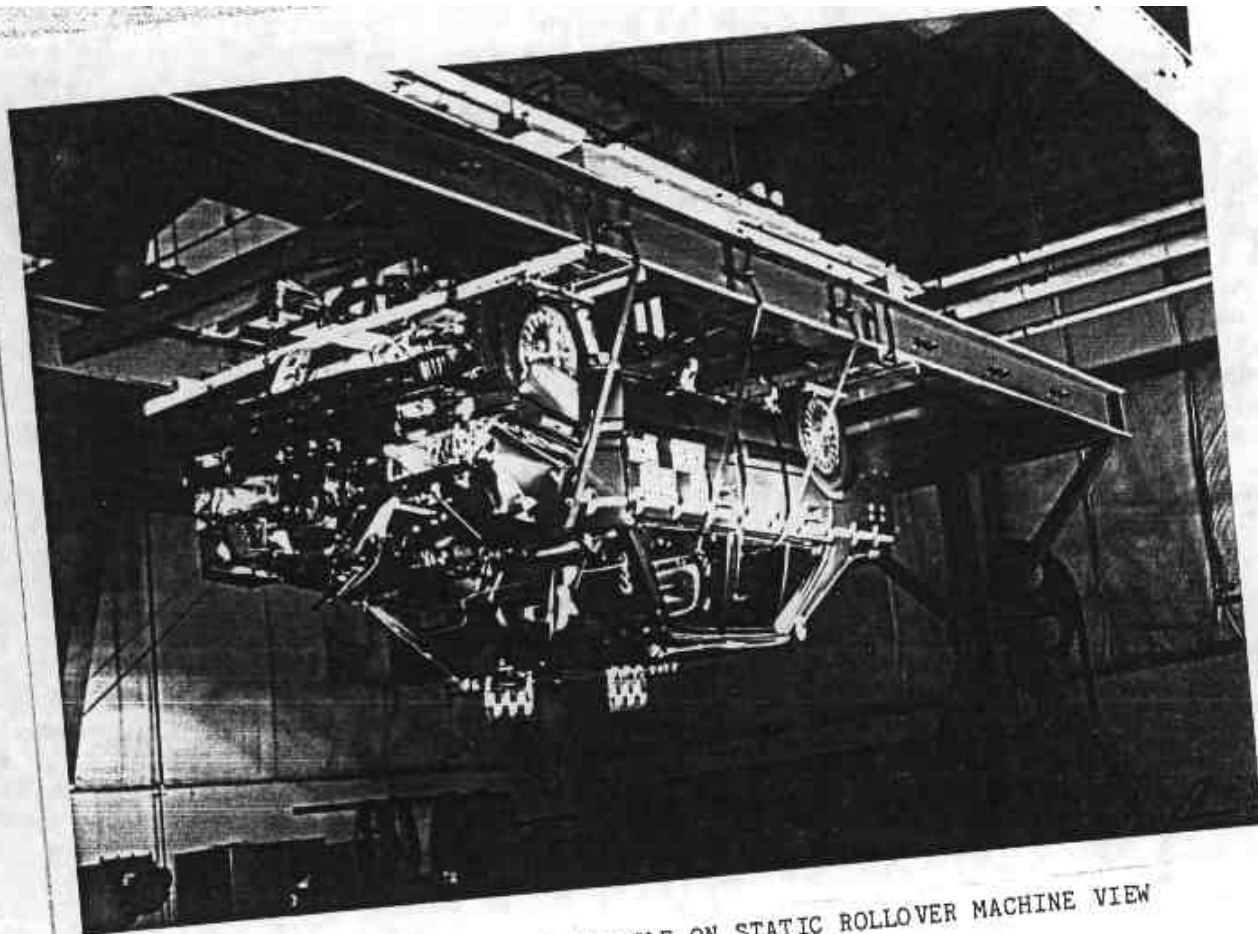


Figure 43. POST-TEST VEHICLE ON STATIC ROLLOVER MACHINE VIEW

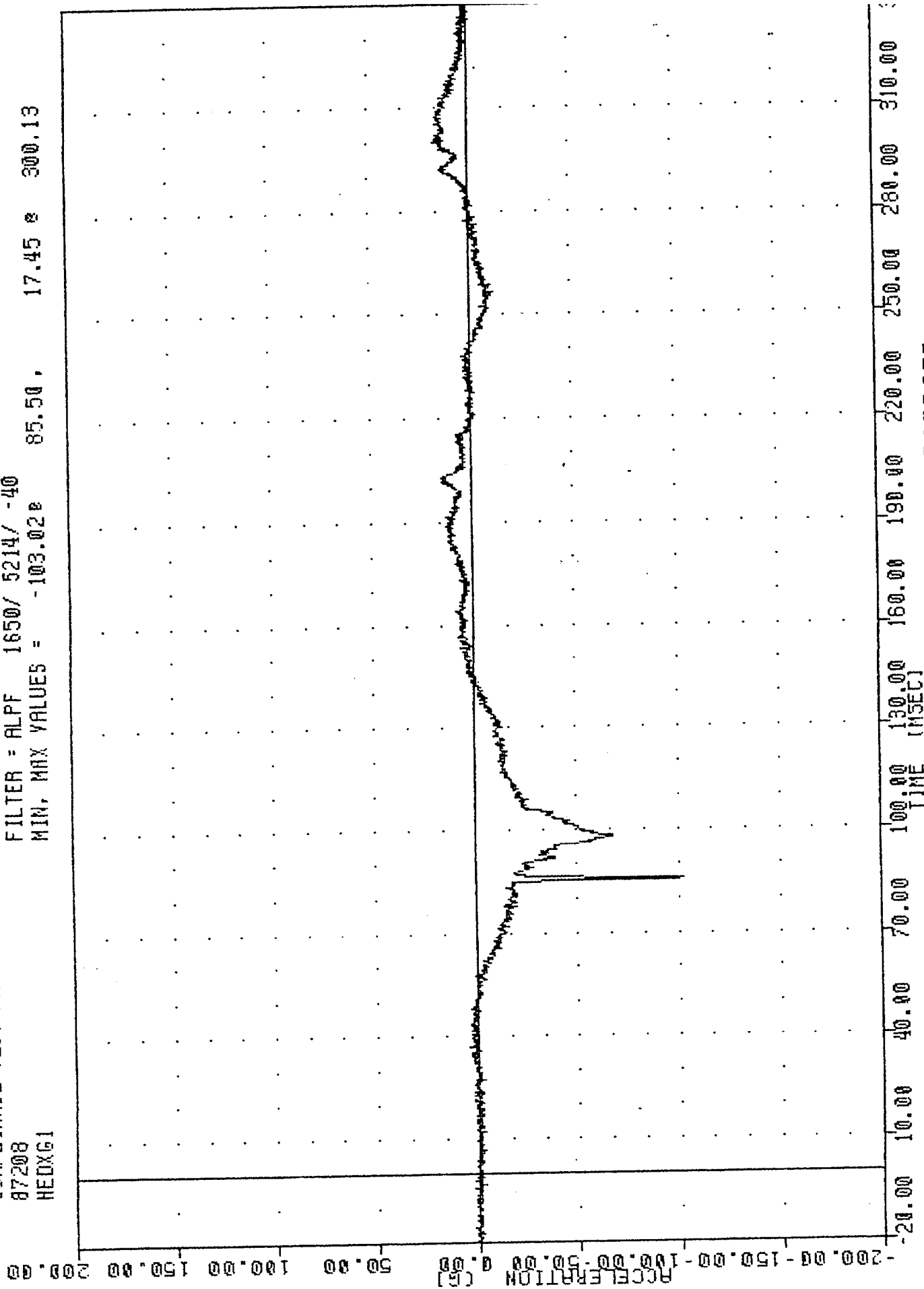
APPENDIX B

DATA PLOTS

DUMMY AND VEHICLE AXES: X: FRONT/REAR
Y: LEFT/RIGHT
Z: UP/DOWN

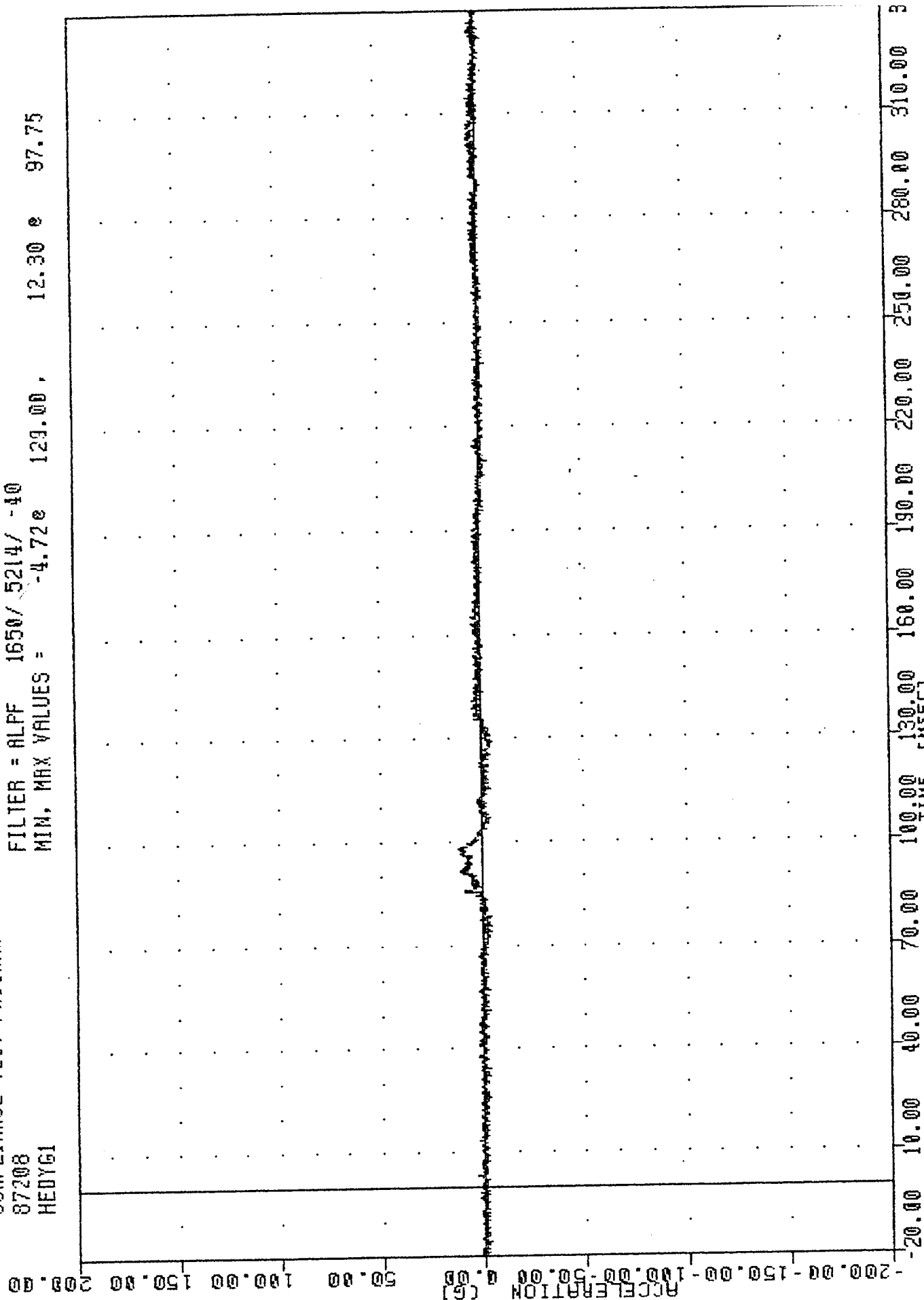
TRC
COMPLIANCE TEST PROGRAM
87208
HEDXG1

FILTER = ALPF 1650/ 5214/ -40
MIN, MAX VALUES = -103.02e 85.50, 17.45 e 300.13



TRC
COMPLIANCE TEST PROGRAM
87208
HEDY61

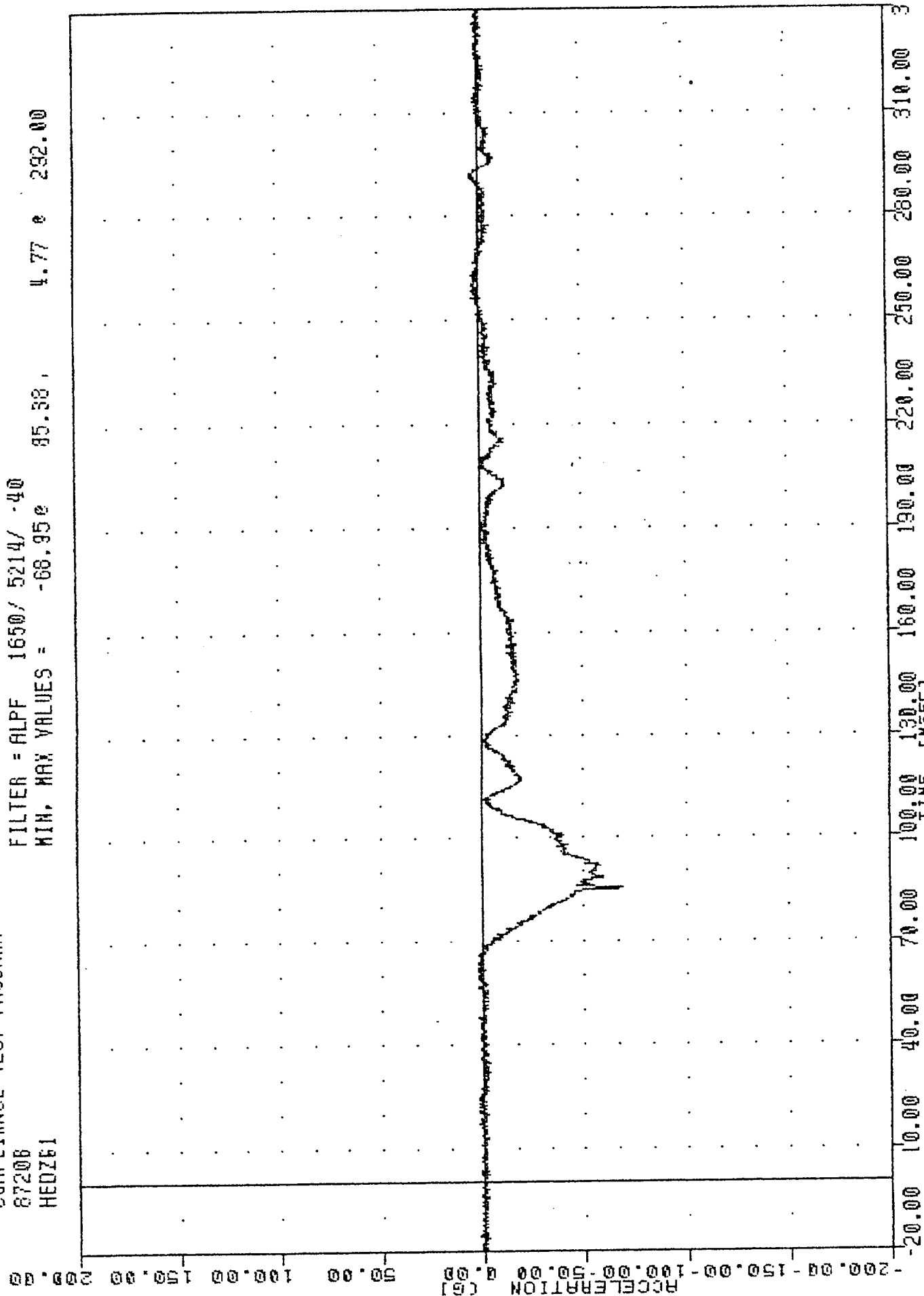
FILTER = ALPF 1650/ 5214/ -40
MIN, MAX VALUES = -4.72e 123.00, 12.30 e 97.75



MAZDA 626 INTO FRONTAL BARRIER
DRIVER HEAD Y AXIS ACCELERATION

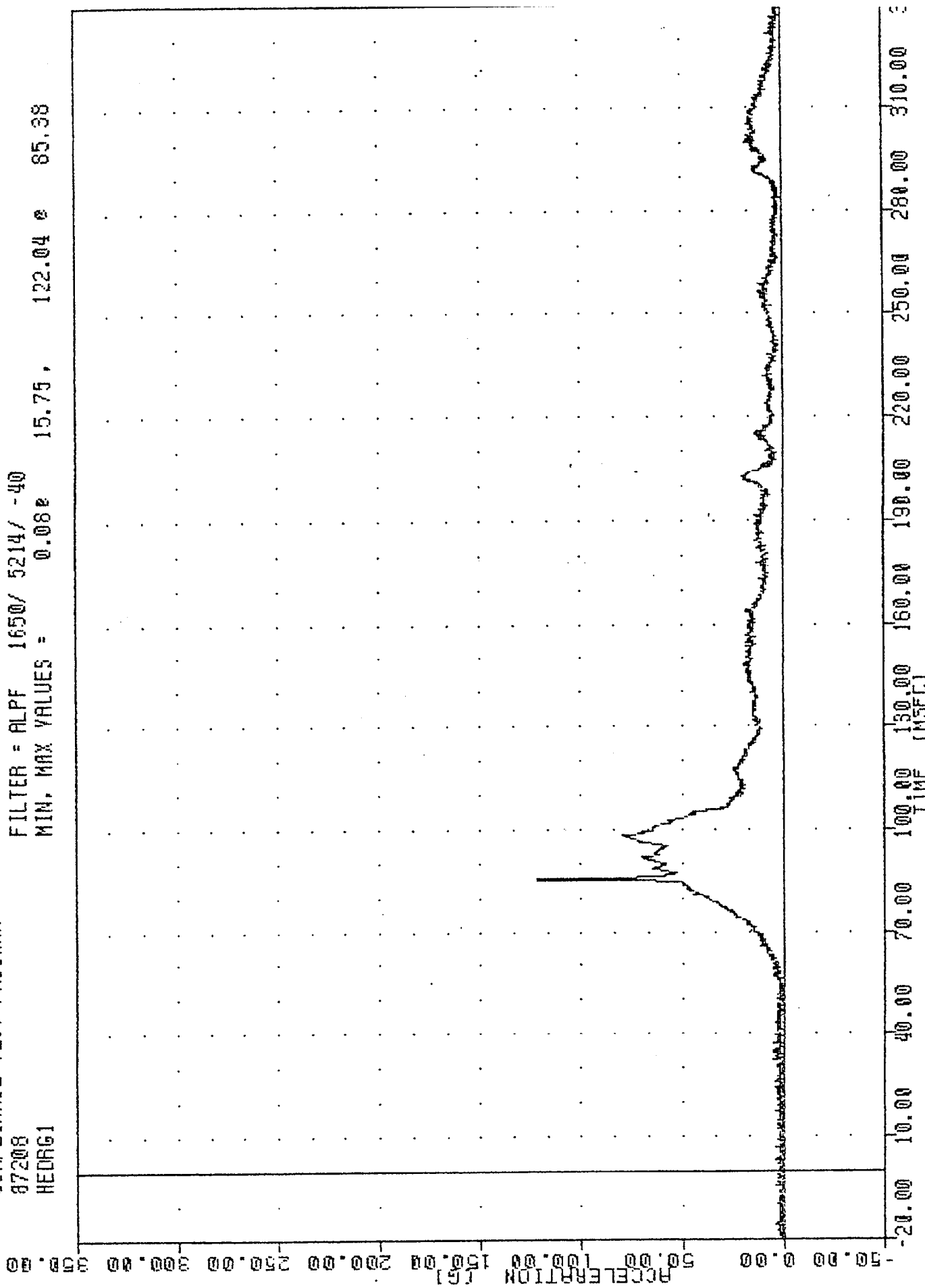
IHC
COMPLIANCE TEST PROGRAM
87208
HEDZ61

FILTER = ALPF 1650/ 5214/ -40
MIN, MAX VALUES = -68.95e 95.38, 4.77 e 292.00



IRL
 COMPLIANCE TEST PROGRAM
 87208
 HEDRG1

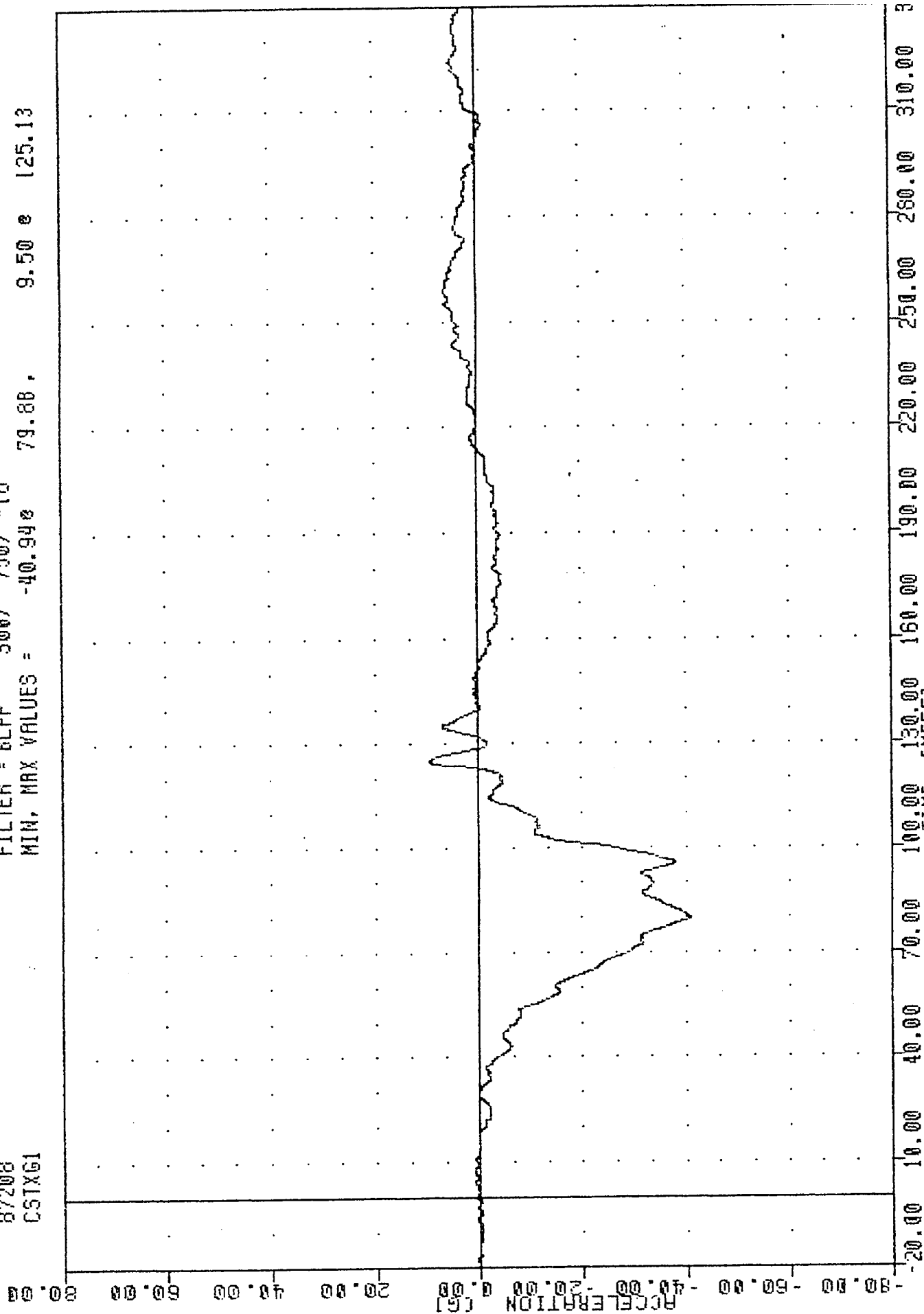
FILTER = ALPF 1650/ 5214/ -40
 MIN. MAX VALUES = 0.082 15.75, 122.04 2 85.38



NAZDA 826 INTO FRONTAL BARRIER
 DRIVER HEAD RESULTANT ACCELERATION

IRL
 COMPLIANCE TEST PROGRAM
 87208
 CSTX61

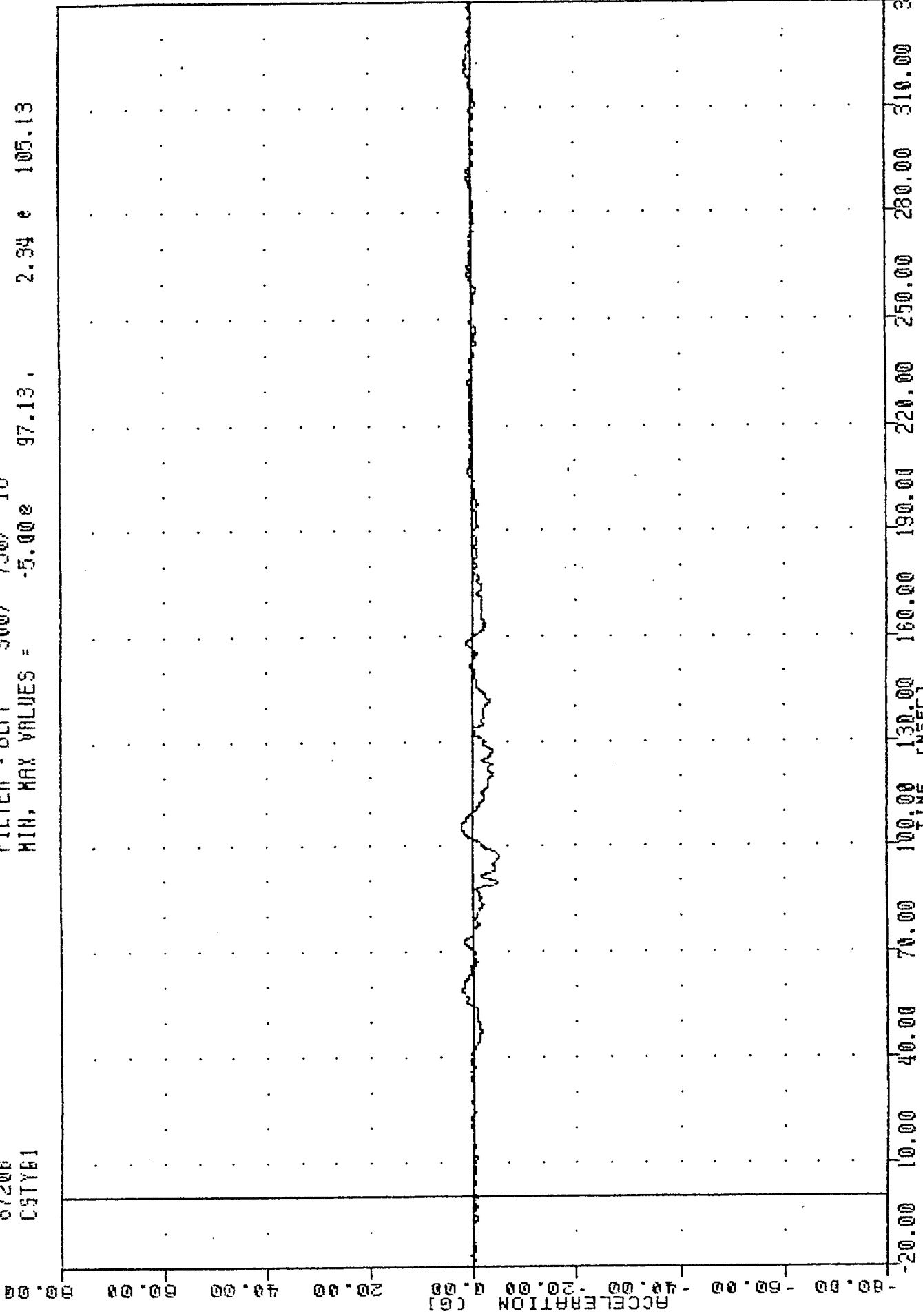
FILTER = 8LPP 300/ 750/ -16
 MIN, MAX VALUES = -40.940 79.88, 9.50 e 125.13



MAZDA 626 INTO FRONTAL BARRIER
 DRIVER CHEST X AXIS ACCELERATION

INL
COMPLIANCE TEST PROGRAM
87200
C9TY61

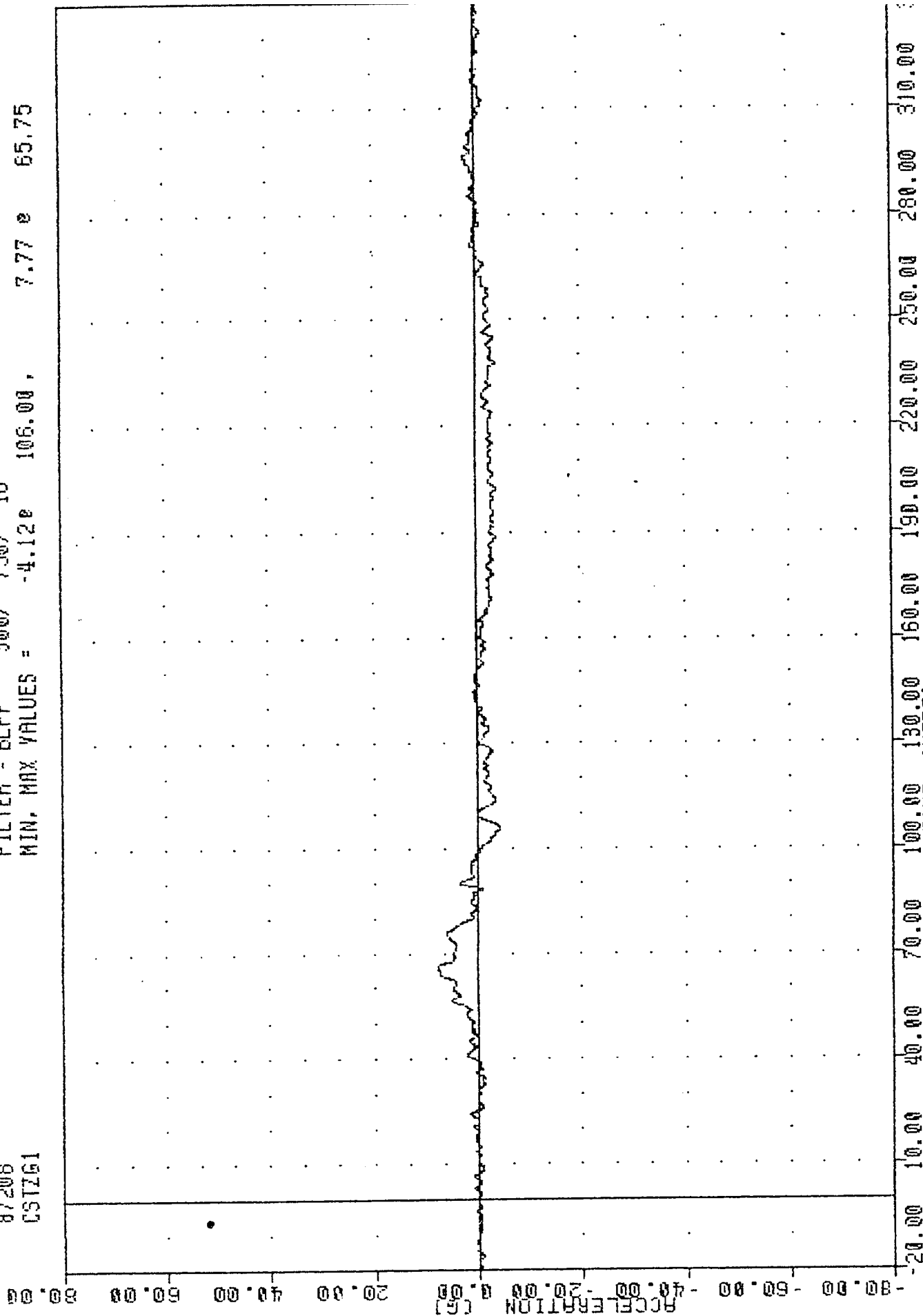
FILTER = BLPP 300/ 750/ -16
MIN, MAX VALUES = -5.00e 97.13, 2.34 e 105.13



MAZDA 626 INTO FRONTAL BARRIER
DRIVER CHEST Y AXIS ACCELERATION

TRC
COMPLIANCE TEST PROGRAM
87208
CSTZ61

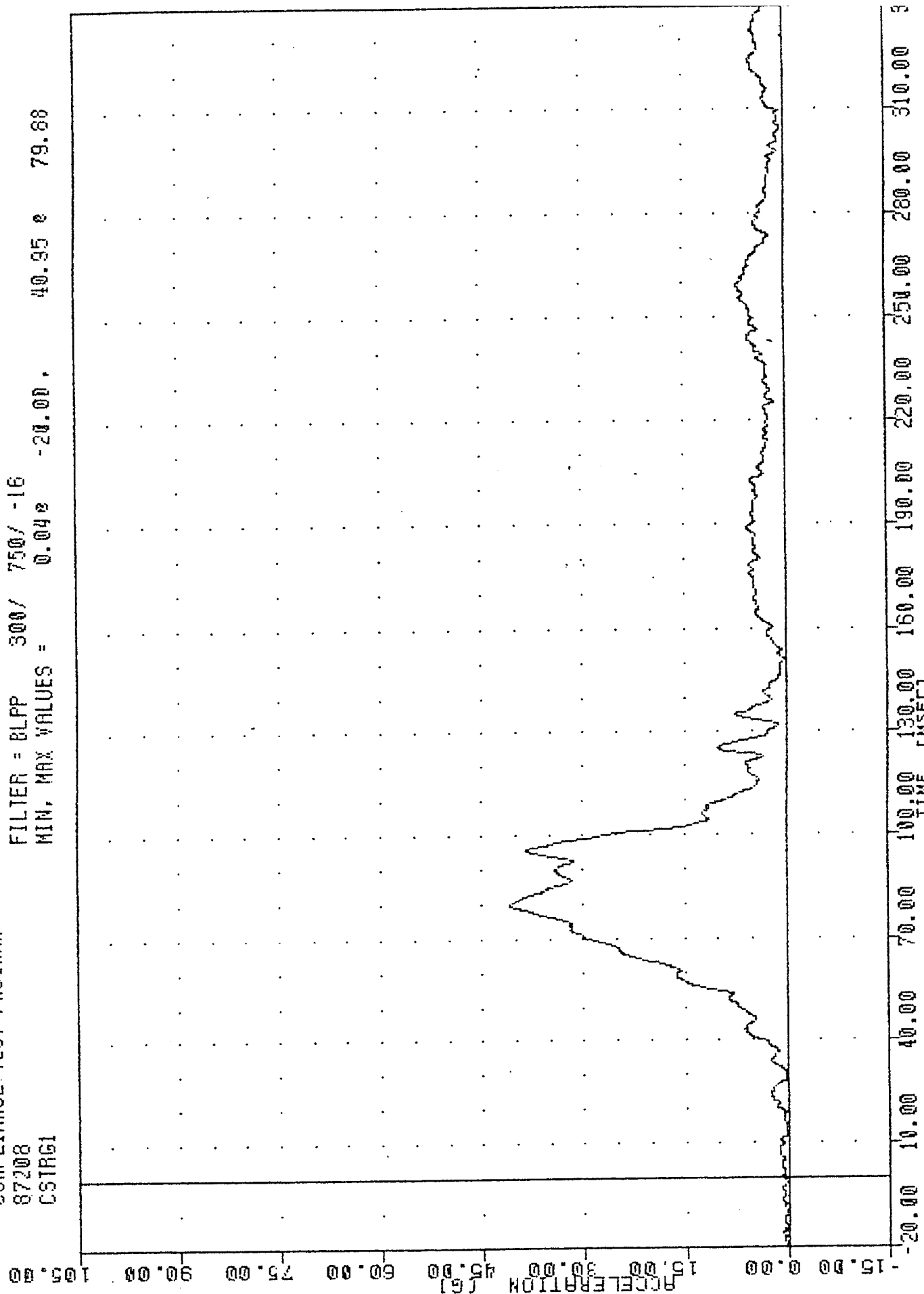
FILTER = BLPP 300/ 750/ -16
MIN. MAX VALUES = -4.12e 106.00, 7.77 e 65.75



MAZDA 626 INTO FRONTAL BARRIER
DRIVER CHEST Z AXIS ACCELERATION

TRC , 870727
 COMPLIANCE TEST PROGRAM
 87208
 CSTRG1

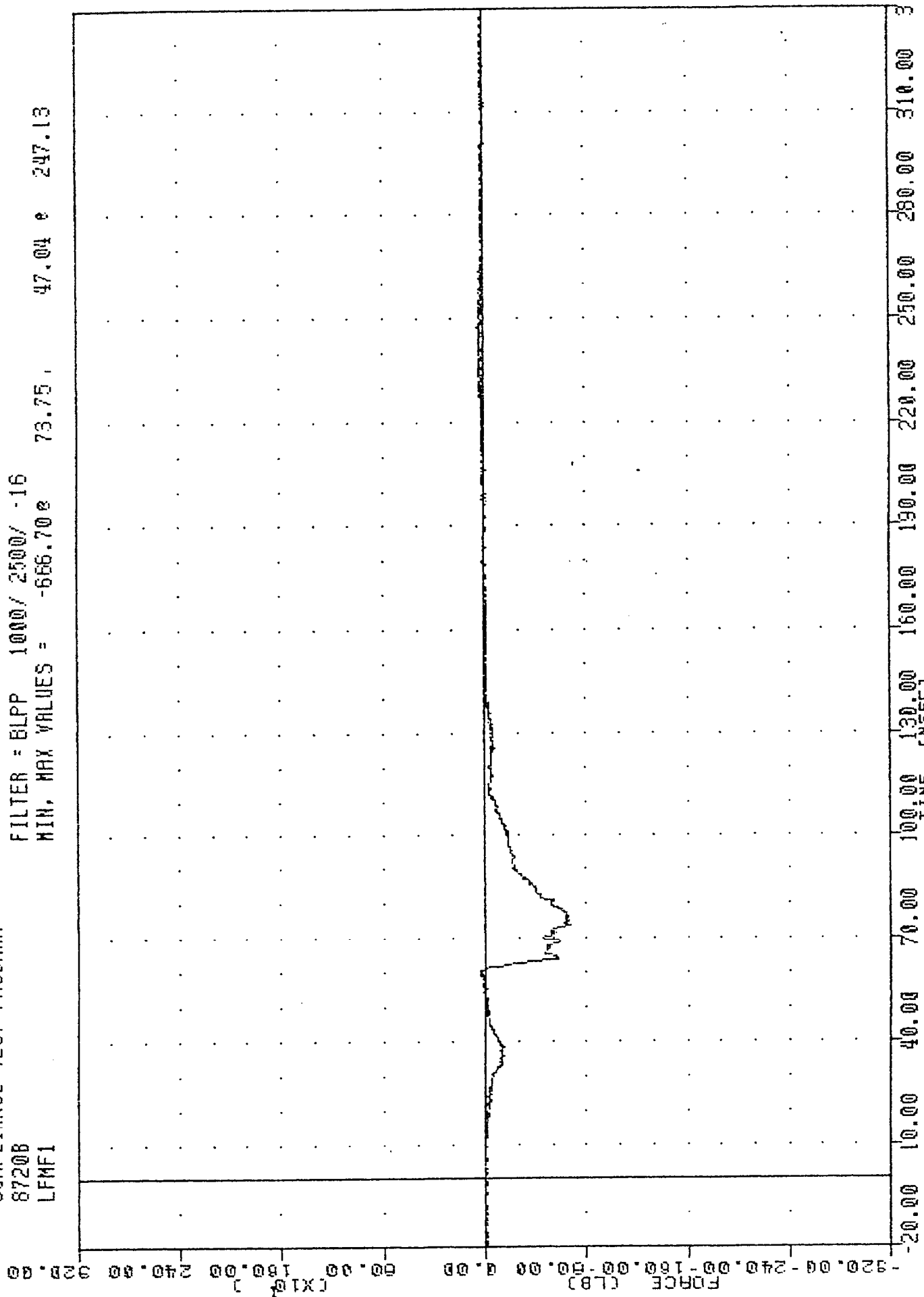
FILTER = BLPP 300/ 750/ -16
 MIN, MAX VALUES = 0.04e -20.00 , 40.95 e 79.68



MAZDA 626 INTO FRONTAL BARRIER
 DRIVER CHEST RESULTANT ACCELERATION

IHL
COMPLIANCE TEST PROGRAM
8720B
LFMF1

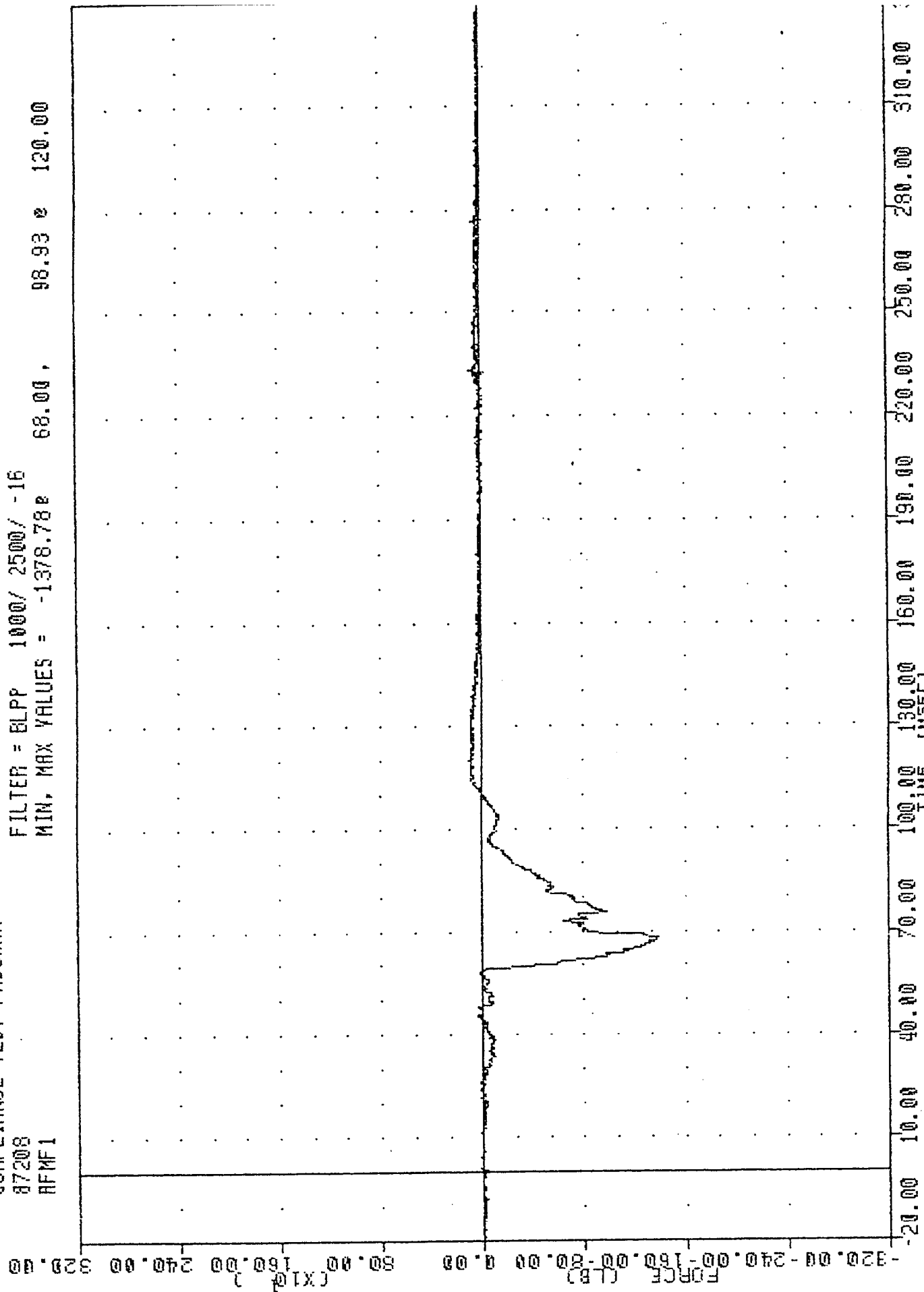
FILTER = BLPP 1000/ 2500/ -16
MIN. MAX VALUES = -666.70e 73.75 , 47.04 e 247.13



MAZDA 626 INTO FRONTAL BARRIER
DRIVER LEFT FEMUR FORCE

ILC , 8/10/21
 COMPLIANCE TEST PROGRAM
 87208
 AFMF1

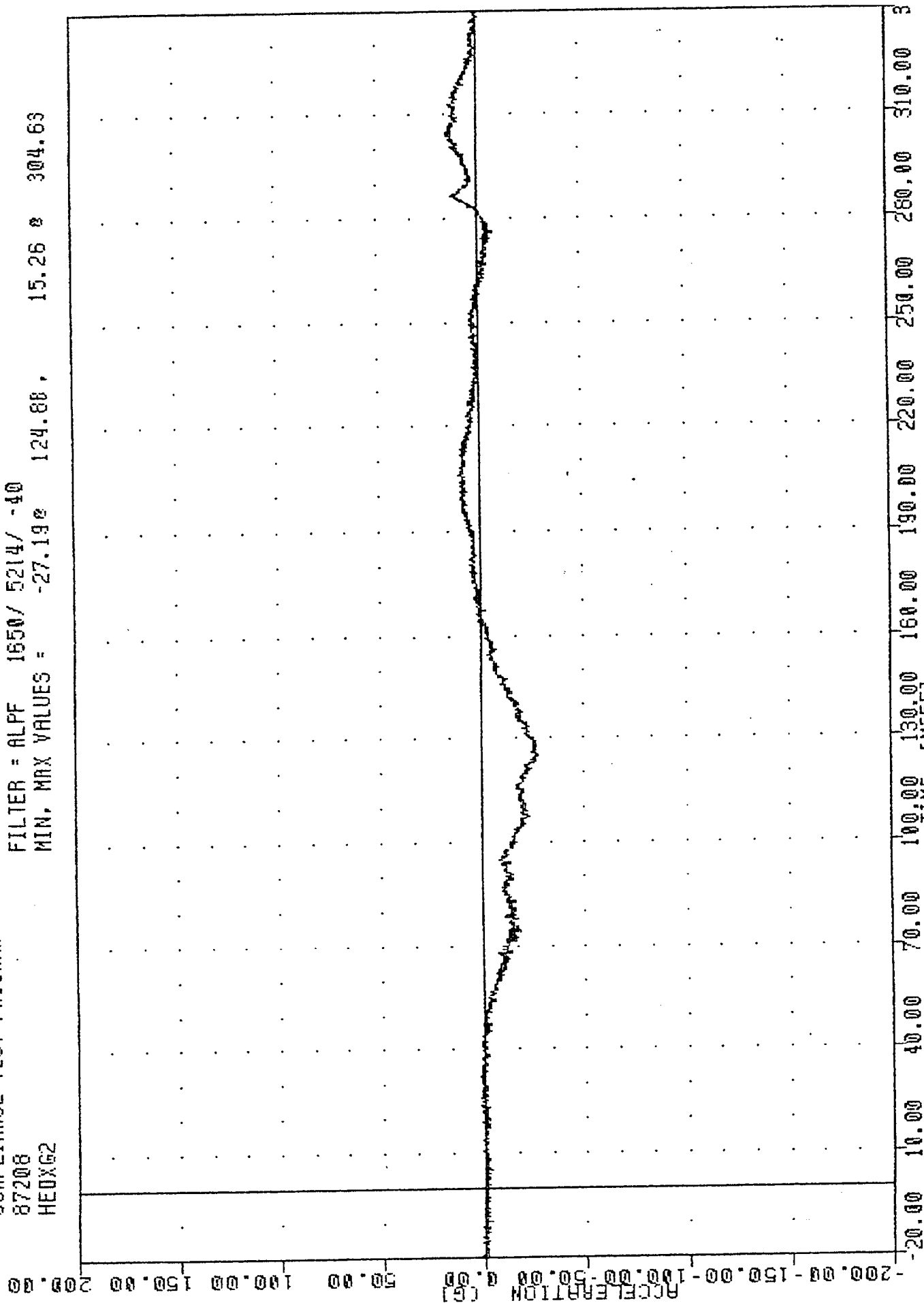
FILTER = BLPP 1000/ 2500/ -16
 MIN, MAX VALUES = -1378.78e 68.00, 98.93 e 120.00



MAZDA 626 INTO FRONTAL BARRIER
 DRIVER RIGHT FEMUR FORCE

TRC
COMPLIANCE TEST PROGRAM
87208
HE0XG2

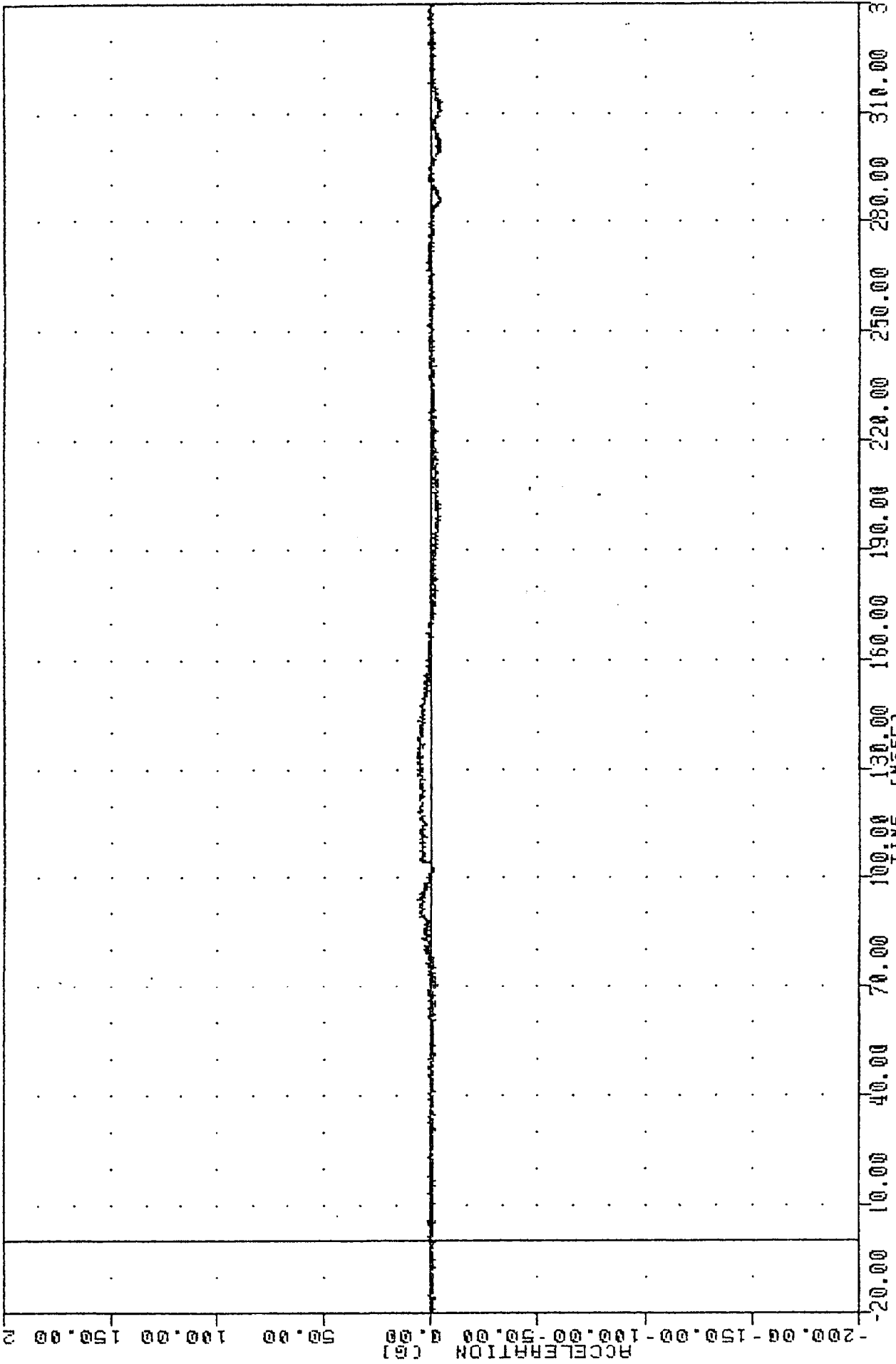
FILTER = ALPF 1650/ 5214/ -40
MIN. MAX VALUES = -27.19 124.88 15.26 304.63



MAZDA 626 INTO FRONTAL BARRIER
PASSENGER HEAD X AXIS ACCELERATION

INL
COMPLIANCE TEST PROGRAM
8720B
HEDY62

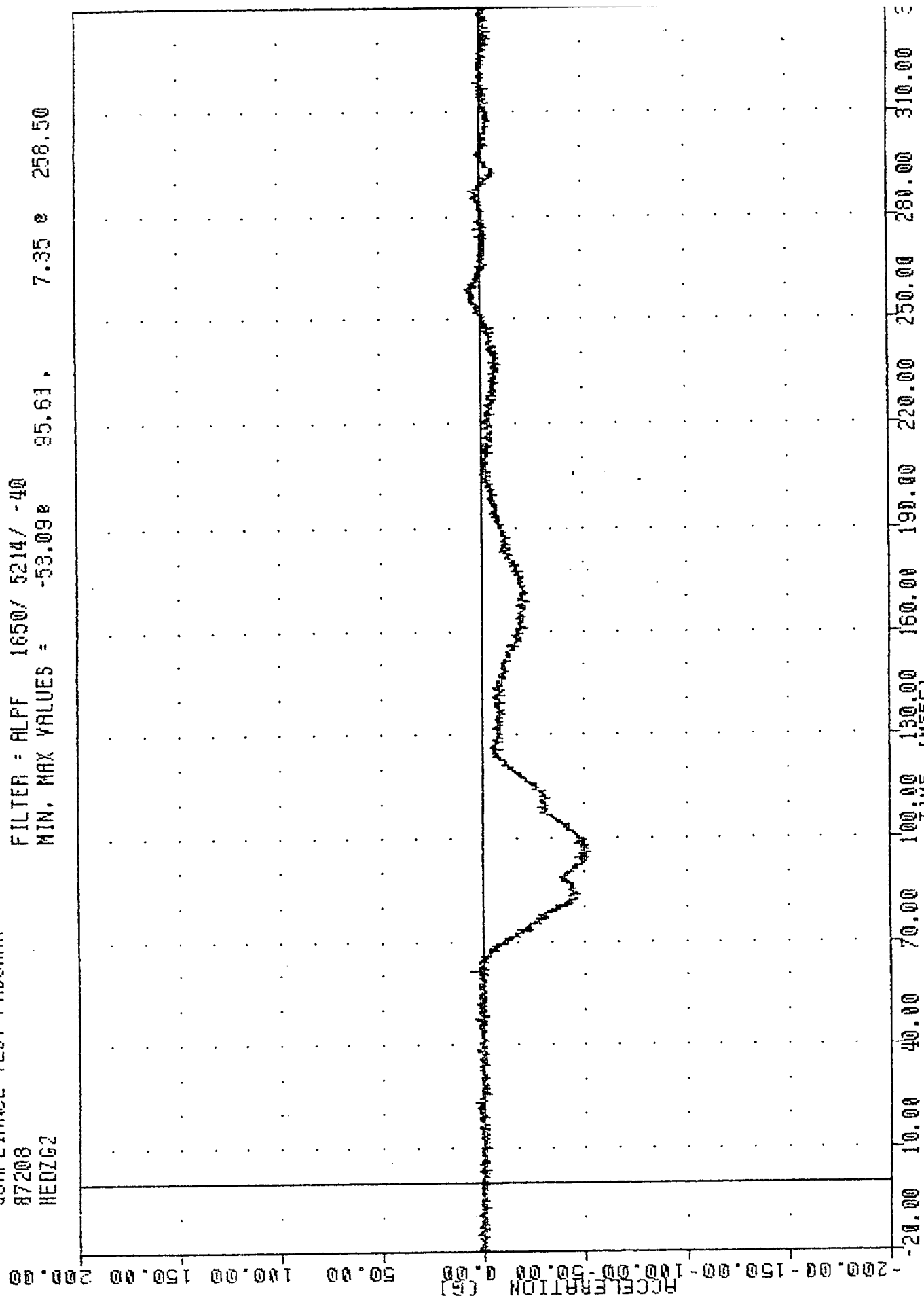
FILTER = ALPF 1650/ 5214/ -40
MIN, MAX VALUES = -4.60e 310.88 , 6.56 e 128.50



MAZDA 626 INTO FRONTAL BARRIER
PASSENGER HEAD Y AXIS ACCELERATION

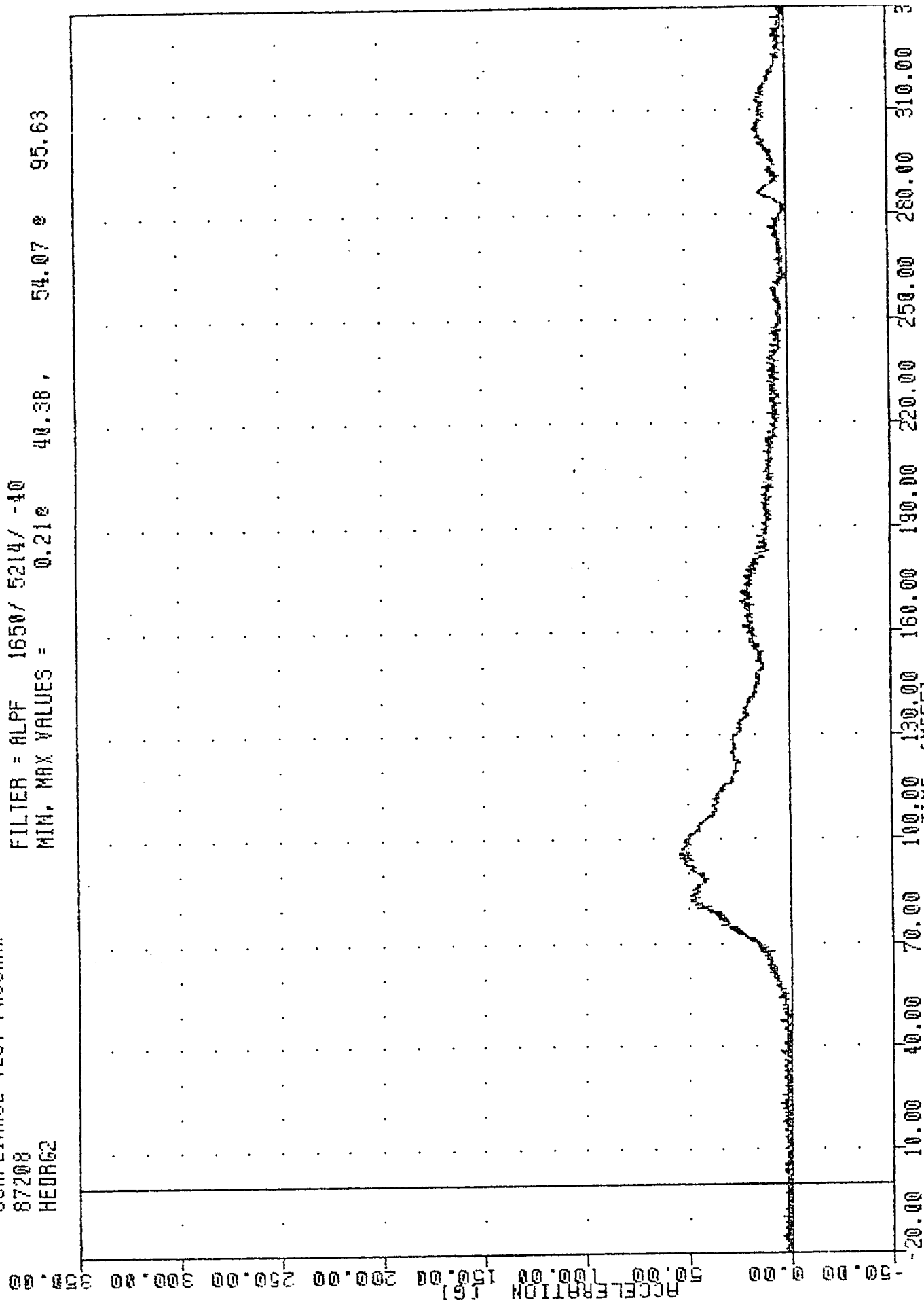
TRC
COMPLIANCE TEST PROGRAM
87208
HE0262

FILTER = ALPF 1650/ 5214/ -40
MIN. MAX VALUES = -53.09e 95.61. 7.35 e 258.50



TRC , 870727
 COMPLIANCE TEST PROGRAM
 87208
 HEAD62

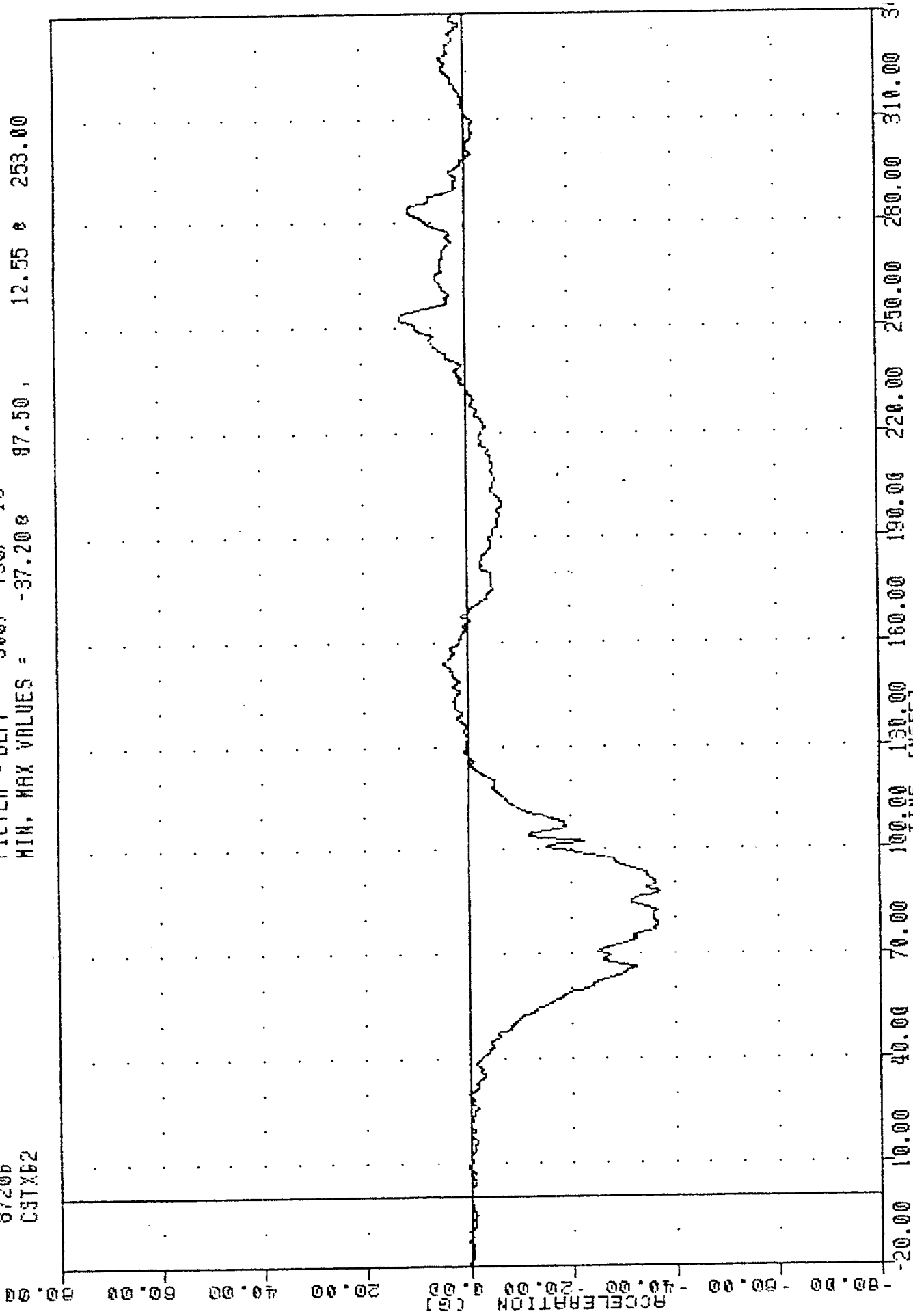
FILTER = ALPF 1650/ 5214/ -40
 MIN. MAX VALUES = 0.21e 40.38 , 54.07 e 95.63



MAZDA 626 INTO FRONTAL BARRIER
 PASSENGER HEAD RESULTANT ACCELERATION

TAC
COMPLIANCE TEST PROGRAM
87206
CSTX62

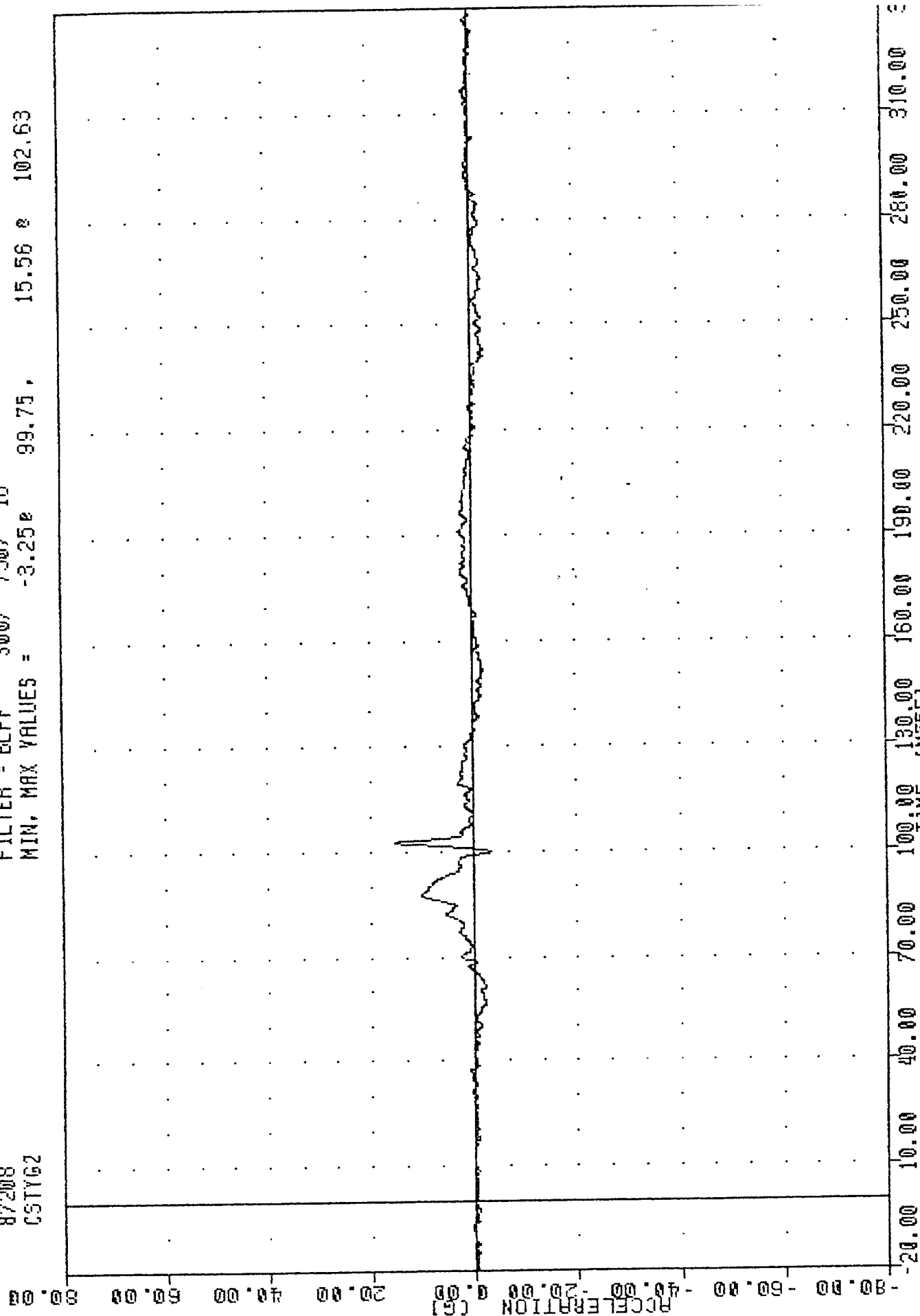
FILTER = BLPP 300/ 750/ -16
MIN. MAX VALUES = -37.20 97.50 12.55 253.00



MAZDA 626 INTO FRONTAL BARRIER
PASSENGER CHEST X AXIS ACCELERATION

TRC
COMPLIANCE TEST PROGRAM
87208
CSTYG2

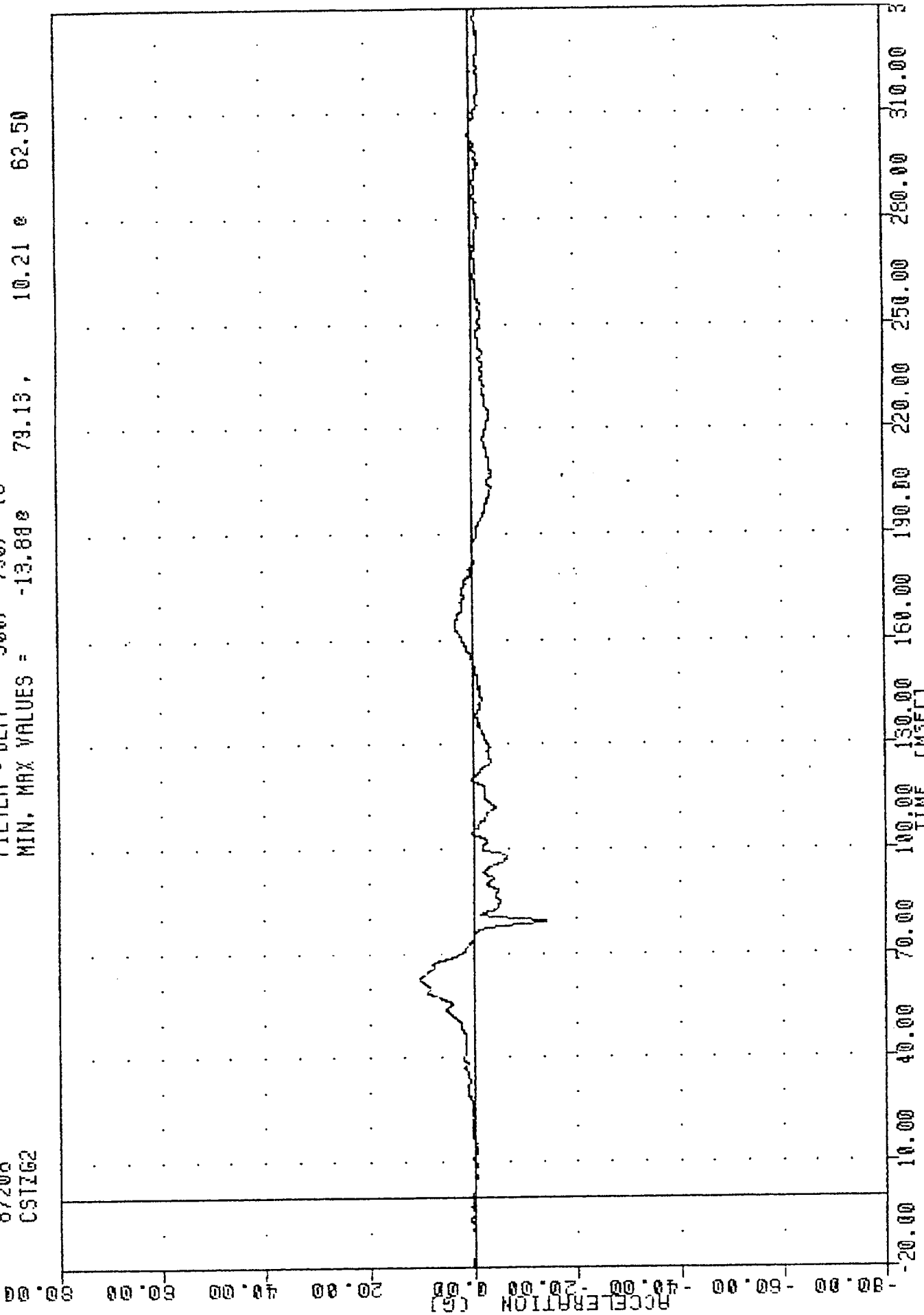
FILTER = BLPP 300/ 750/ -16
MIN, MAX VALUES = -3.25e 99.75, 15.56 e 102.63



MAZDA 626 INTO FRONTAL BARRIER
PASSENGER CHEST Y AXIS ACCELERATION

TRC , 870727
 COMPLIANCE TEST PROGRAM
 87208
 CSTIG2

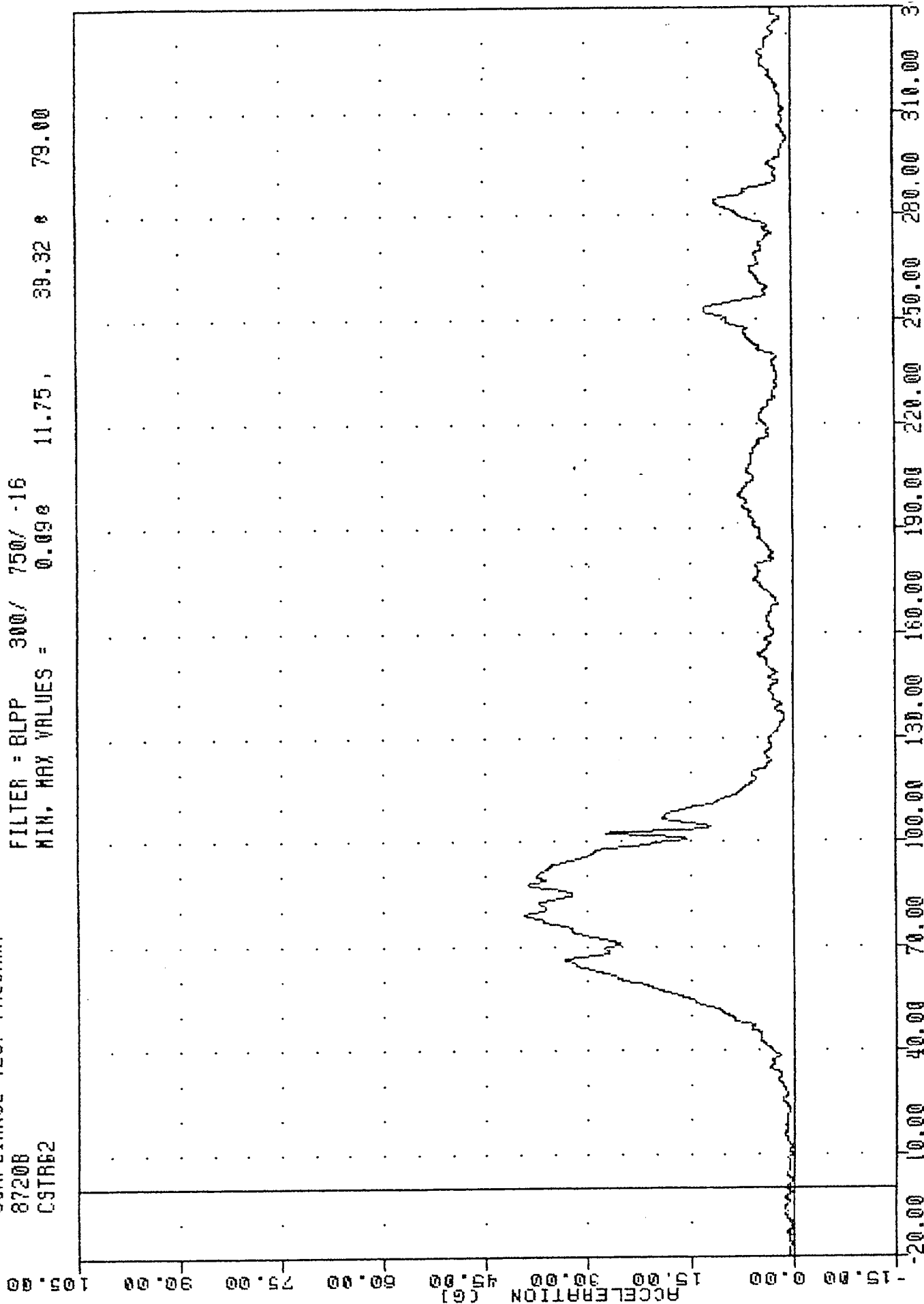
FILTER = BLPP 300/ 750/ -16
 MIN. MAX VALUES = -13.893 73.13 , 10.21 e 62.50



MAZDA 626 INTO FRONTAL BARRIER
 PASSENGER CHEST Z AXIS ACCELERATION

TAC , 870727
 COMPLIANCE TEST PROGRAM
 8720B
 CSTR62

FILTER = BLPP 300/ 750/ -16
 MIN. MAX VALUES = 0.090 11.75, 39.32 79.00

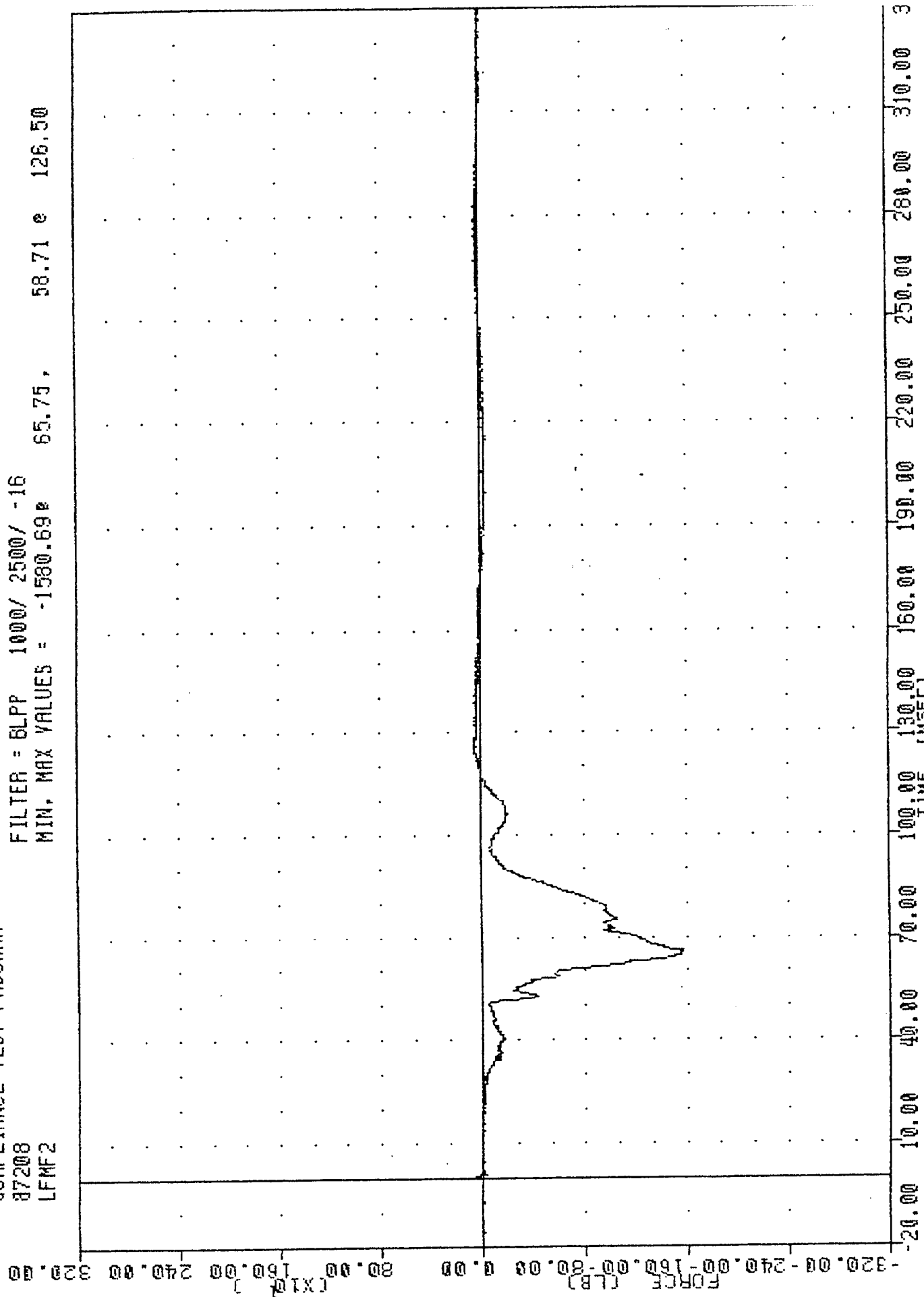


MAZDA 626 INTO FRONTAL BARRIER
 PASSENGER CHEST RESULTANT ACCELERATION

ILC
COMPLIANCE TEST PROGRAM
87208
LFMF2

, 870727

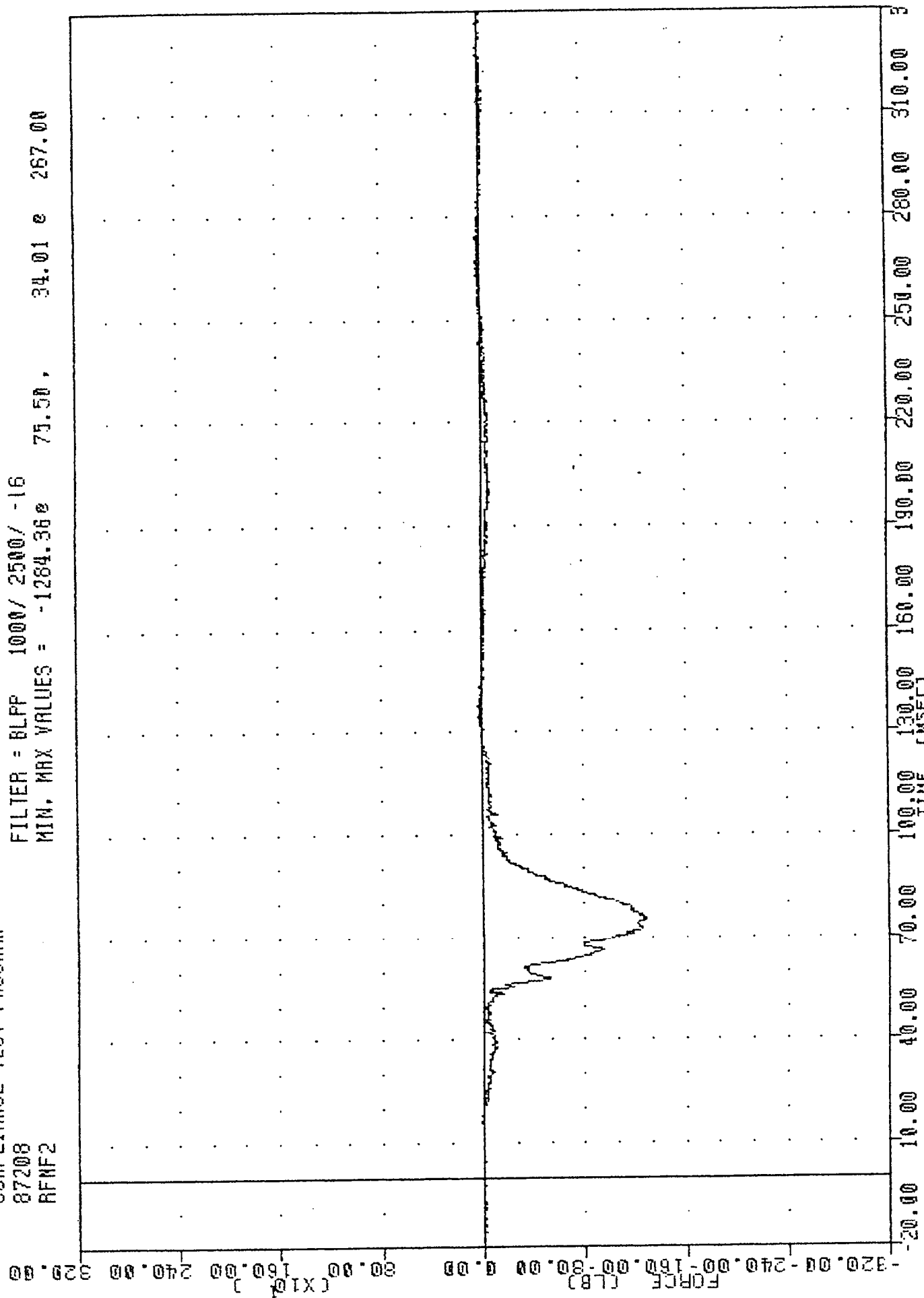
FILTER = BLPP 1000/ 2500/ -16
MIN. MAX VALUES = -1580.69 65.75, 58.71 e 126.50



MAZDA 626 INTO FRONTAL BARRIER
PASSENGER LEFT FEMUR FORCE

IRL
COMPLIANCE TEST PROGRAM
87208
RFNF2

FILTER = BLPP 1000/ 2500/ -16
MIN. MAX VALUES = -1284.360 75.50, 34.01 0 267.00

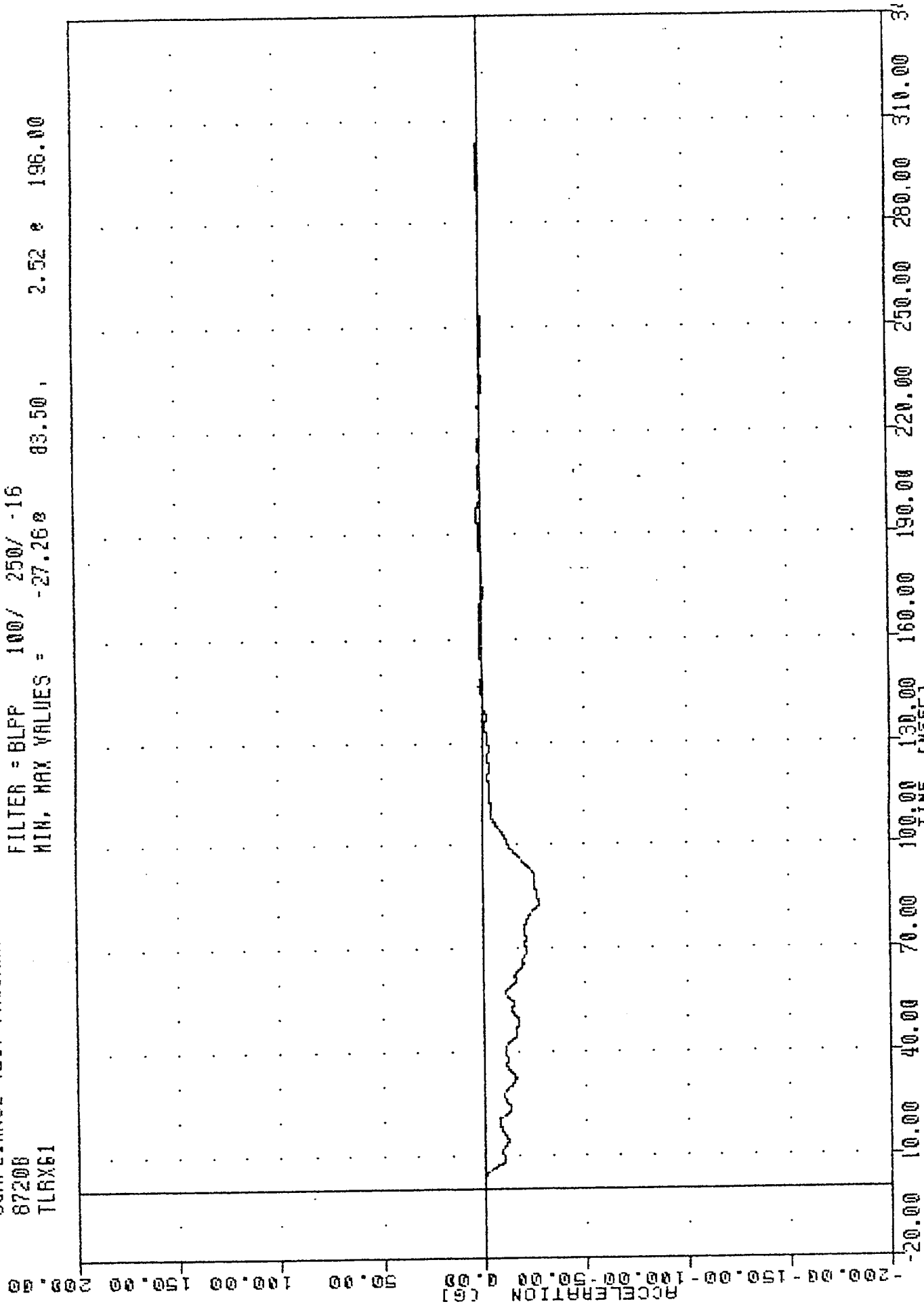


MAZDA 626 INTO FRONTAL BARRIER
PASSENGER RIGHT FEMUR FORCE

TAC
COMPLIANCE TEST PROGRAM
87208
TLRX61

, 870727

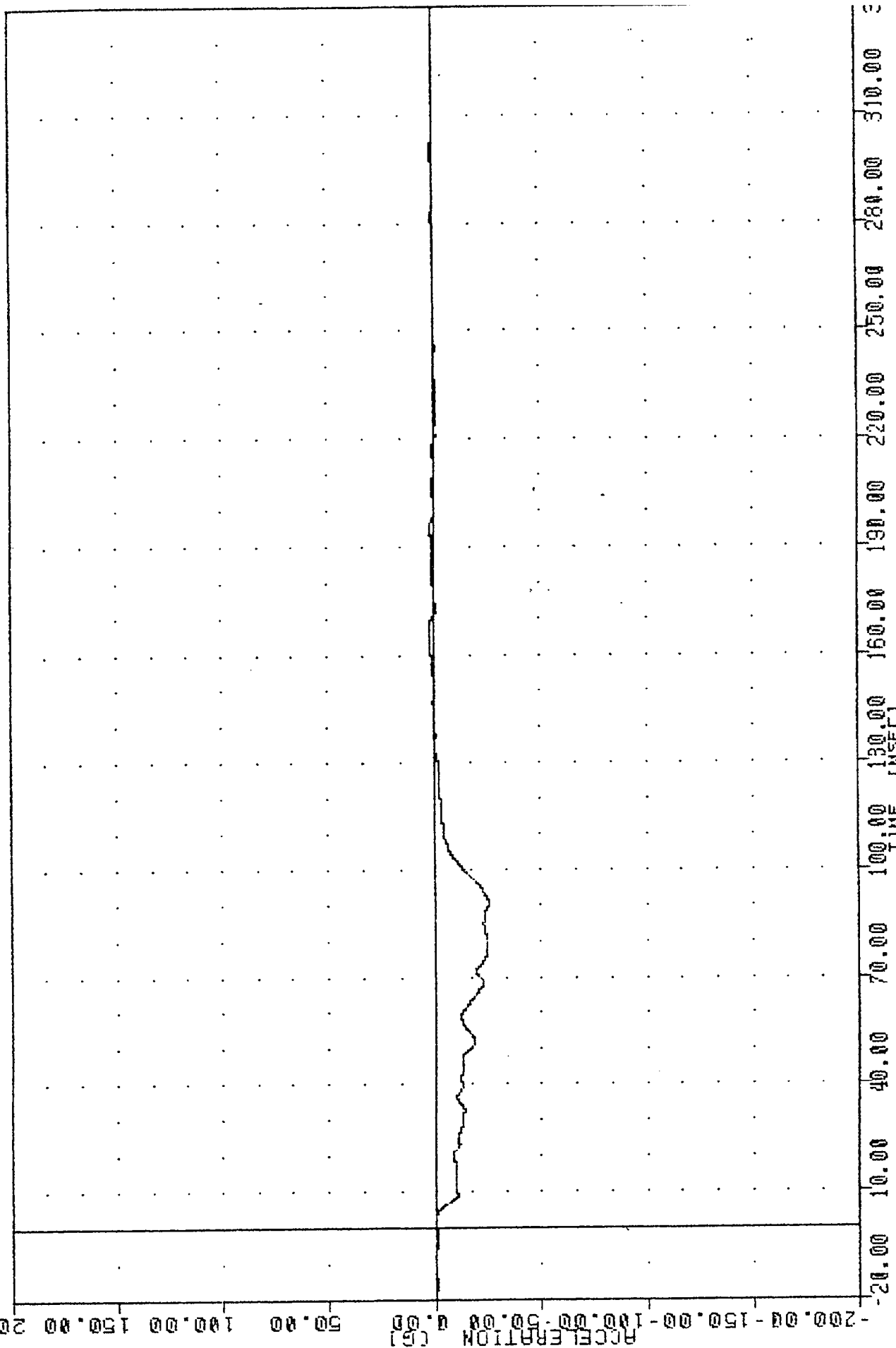
FILTER = BLPP 100/ 250/ -16
MIN, MAX VALUES = -27.268 83.50 , 2.52 * 196.00



MAZDA 626 INTO FRONTAL BARRIER
LEFT REAR SEAT X AXIS ACCELERATION

INL
COMPLIANCE TEST PROGRAM
87208
TRRXG1

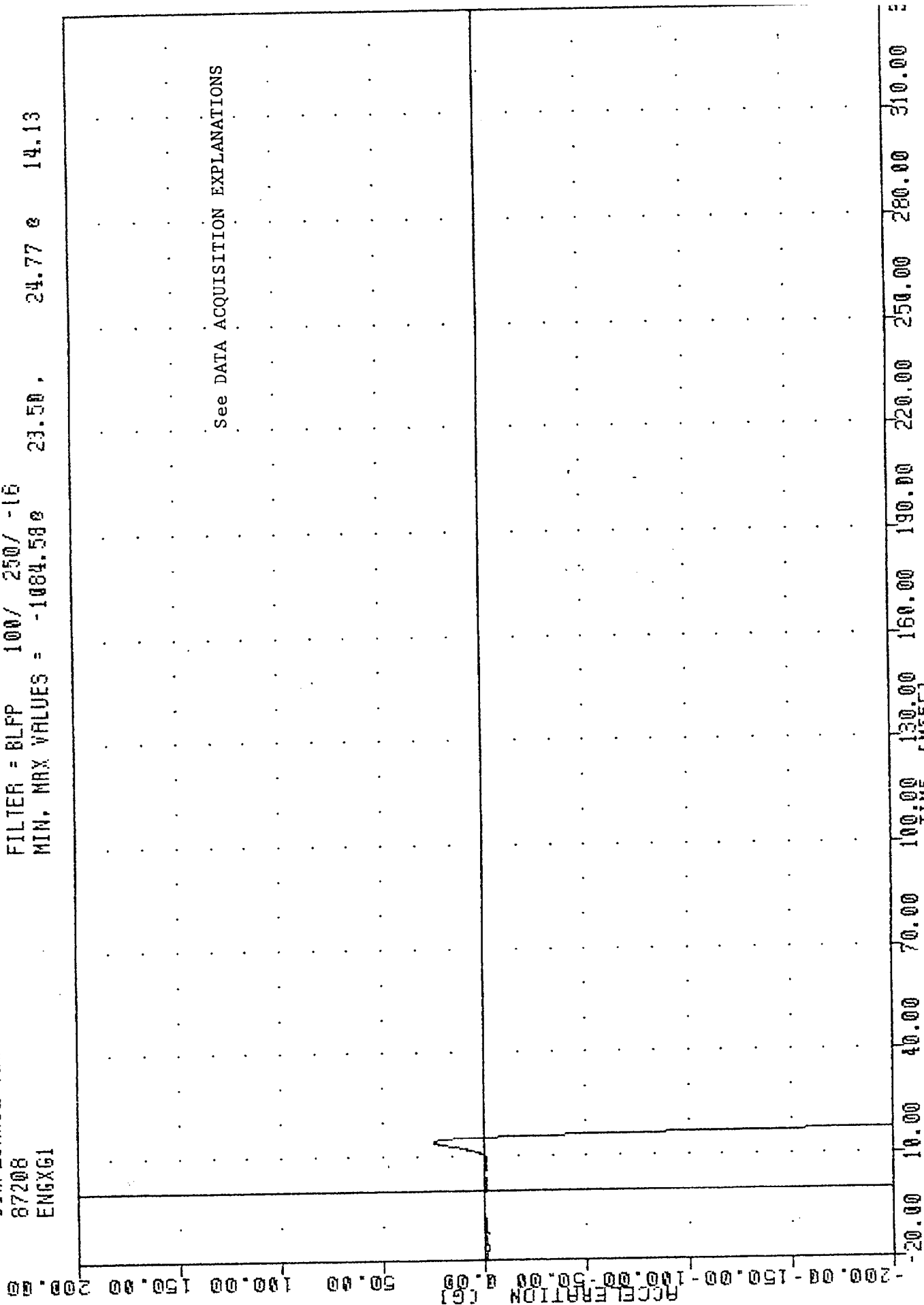
FILTER = BLPP 100/ 250/ -16
MIN, MAX VALUES = -25.20e 90.50, 2.51 e 167.00



MAZDA 626 INTO FRONTAL BARRIER
RIGHT REAR SEAT X AXIS ACCELERATION

TRC , 870727
 COMPLIANCE TEST PROGRAM
 87208
 ENGCG1

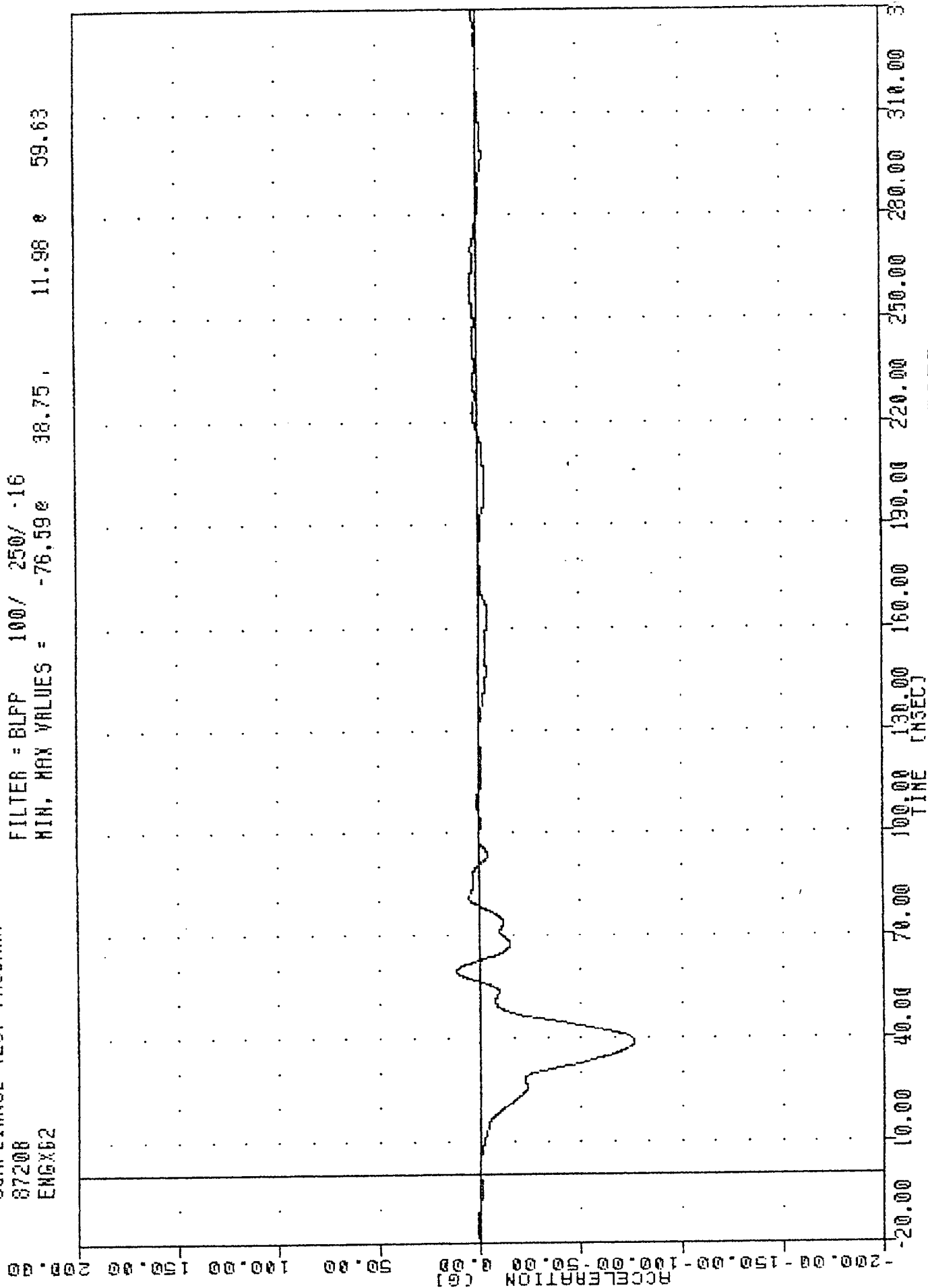
FILTER = BLFP 100/ 250/ -16
 MIN. MAX VALUES = -1084.580 23.50 . 24.77 0 14.13



MAZDA 626 INTO FRONTAL BARRIER
 ENGINE UPPER BLOCK X AXIS ACCELERATION

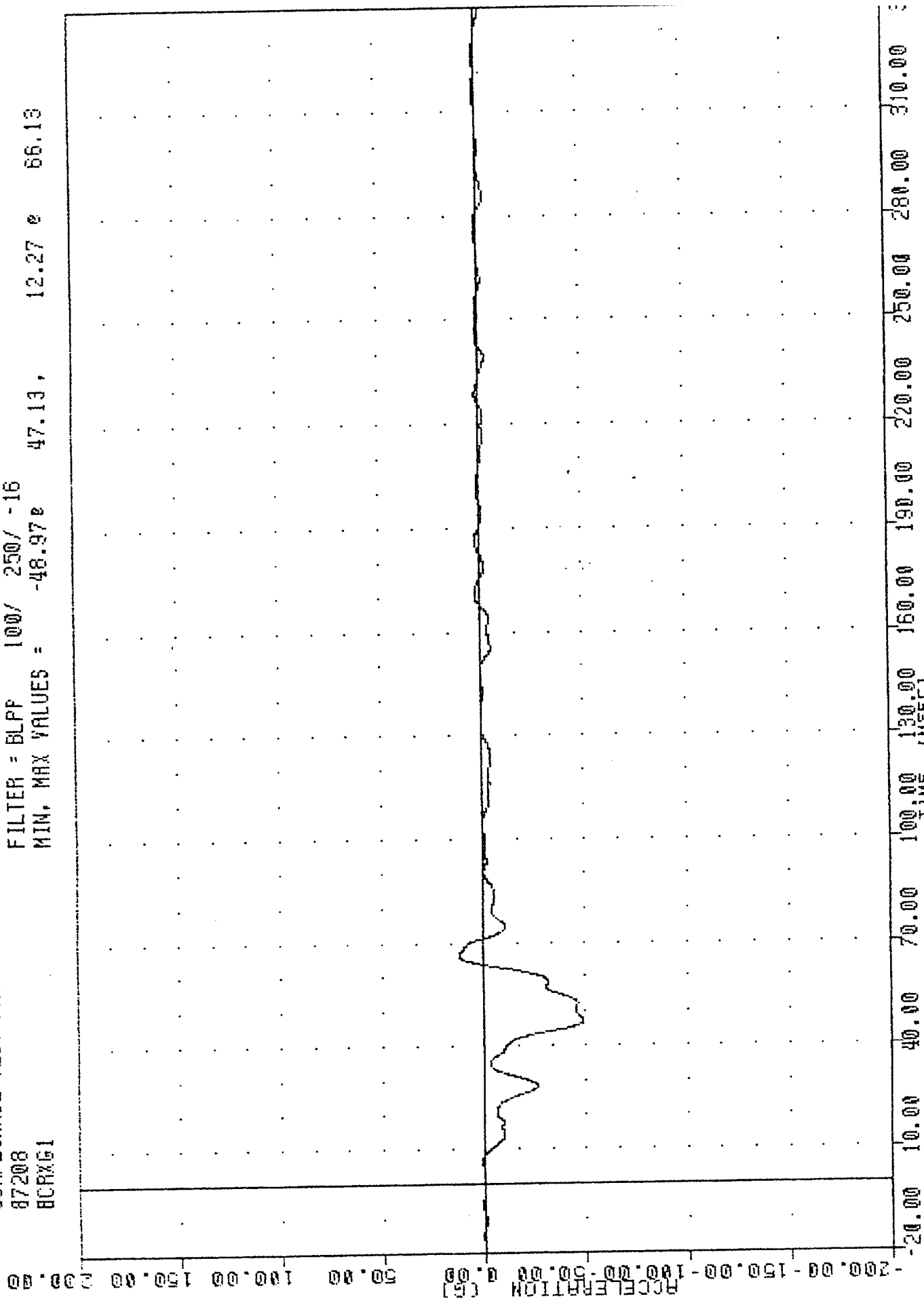
TAC
COMPLIANCE TEST PROGRAM
87208
ENGX62

FILTER = BLPP 100/ 250/ -16
MIN. MAX VALUES = -76.59e 38.75, 11.98 e 59.63



TRC , 870727
 COMPLIANCE TEST PROGRAM
 872008
 BCRXG1

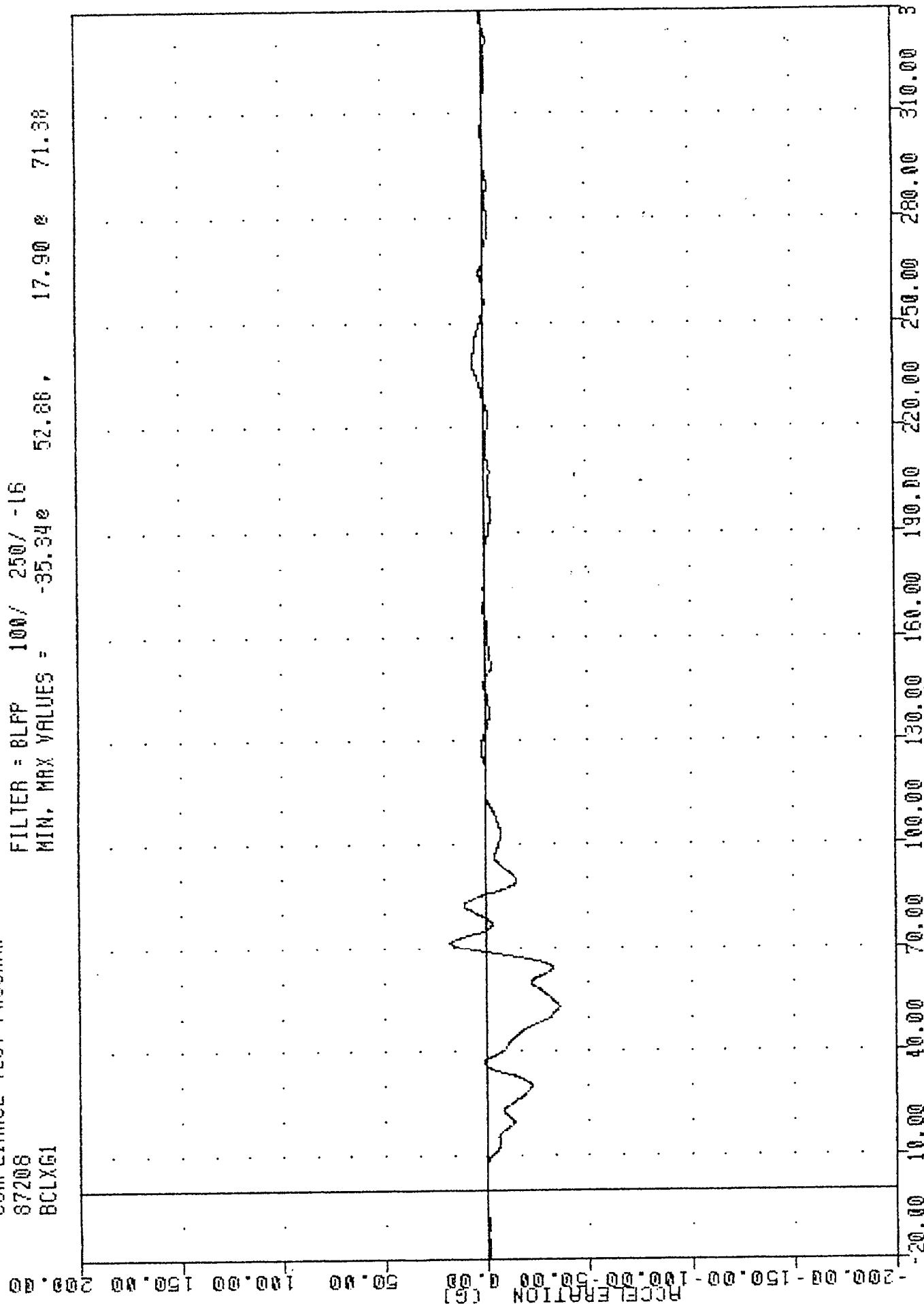
FILTER = BLPP 100/ 250/ -16
 MIN. MAX VALUES = -48.97e 47.13, 12.27 e 66.13



MAZDA 626 INTO FRONTAL BARRIER
 RIGHT BRAKE CALIPER X AXIS ACCELERATION

TAC , 870727
 COMPLIANCE TEST PROGRAM
 87208
 BCLX61

FILTER = 8LFP 100/ 250/ -16
 MIN. MAX VALUES = -35.34e 52.88, 17.90 e 71.38



MAZDA 626 INTO FRONTAL BARRIER
 LEFT BRAKE CALIPER X AXIS ACCELERATION

IHC
COMPLIANCE TEST PROGRAM
872008
DPCX61

87M/27

FILTER = BLPP 100/ 250/ -16
MIN. MAX VALUES = -42.07 67.13 29.65 39.25

