

Report Number: 208S-TRC-00-005

634498

V3308

Vehicle Safety Compliance Testing for FMVSS 208
for Occupant Crash Protection
Sled Test

Toyota Motor Corporation
2000 Toyota Tacoma
NHTSA Number: CY5105
TRC Test Number: 000407S

Transportation Research Center Inc.
10820 State Route 347
East Liberty, OH 43319



Test Date: April 7, 2000
Report Date: April 25, 2000

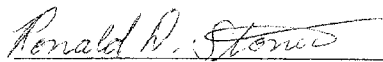
Final Report

Prepared For:
U. S. Department of Transportation
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance (NSA-30)
400 Seventh Street, S.W., Room No. 6115
Washington, DC 20590

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Report Prepared By:

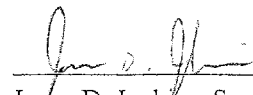


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4/24/00

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Jason D. Jenkins, Senior Project Engineer
Transportation Research Center Inc.

Date

4/24/00

Final Report Accepted By:

Contracting Officer's Technical Representative (COTR),
NHTSA, Office of Vehicle Safety Compliance

Date

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16. Abstract An FMVSS 208 Section 13 compliance sled test was conducted on a 2000 Toyota Tacoma Pickup, NHTSA No. CY5105, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208S-01 for the determination of FMVSS 208 compliance. Possible test failures identified were as follows: Belt contact force for the driver position.			
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Purpose

This Federal Motor Vehicle safety Standard (FMVSS) 208 compliance sled test is part of the FMVSS compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by the Transportation Research Center Inc. (TRC) under Contract No. DTNH22-98-D-01055. The purpose of this test was to determine if the subject vehicle, a 2000 Toyota Tacoma Pickup, NHTSA No. CY5105, meets the performance requirements of FMVSS 208, "Occupant Crash Protection," in the impact simulation sled test mode.

Test Procedure

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208S-01, dated January 15, 1998. Data was obtained relative to FMVSS 208, "Occupant Crash Protection," performance.

The sled test vehicle was instrumented with six (6) accelerometers to measure longitudinal axis accelerations.

The sled test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (dummies). The dummies were positioned in the front outboard designated seating positions according to the dummy placement procedure specified in Appendix B of the Laboratory Test Procedure. The dummies were not restrained by seat belts.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations; chest deflection potentiometers; left and right femur load cells to measure axial forces; and upper neck load cells to measure longitudinal, lateral, and vertical forces and moments.

The forty (40) data channels were digitally sampled at 12,500 samples per second and processed per Sections 11.7 through 11.9 of the Laboratory Test Procedure.

The sled test event was recorded by one (1) real-time motion picture camera and six (6) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.

Test Results Summary

This FMVSS 208 compliance sled test was conducted at TRC on April 7, 2000.

The test vehicle, a 2000 Toyota Tacoma Pickup, NHTSA No. CY5105, does appear to comply with the performance requirements of FMVSS 208 in the impact simulation sled test mode as measured by Hybrid III 50th percentile male dummies.

	FMVSS 208 Max. Allowable Injury Assessment Values	Driver	Passenger
HIC	1000	287	173
Chest g	60 g	41.5	34.2
Chest Displacement	3 inches	2.0	0.3
Left Femur	2250 lb	1219	685
Right Femur	2250 lb	710	1149
Neck Extension	57 Nm	15.6	16.1
Neck Flexion	190 Nm	42.6	63.5
Neck Tension	3300 N	1185	338
Neck Compression	4000 N	1244	1702
Neck Shear	3100 N	755	1185

The subject vehicle, a 2000 Toyota Tacoma, NHTSA No. CY5105, appears to meet the other FMVSS 208 requirements for which it was tested, with the exception of the drivers belt contact force. These results are shown in the data sheets that are included in this report.

The sled test vehicle was equipped with air bags at the driver and passenger seating positions. The dummies were not restrained by seat belts. The sled carriage was accelerated to 17.1 g with an integrated velocity change of 28.8 mph. The air bags were triggered at 20.2 milliseconds after 0.5 g acceleration was measured by the firing circuit. Following subsequent digital data processing and filtering the acceleration signal to Channel Class 60, the air bag event trigger signal was 21.7 ms after the 0.5 g acceleration level was indicated.

Sled Test Summary

NHTSA number: CY5105
Test type: FMVSS 208 Compliance Sled Test
Test date: 04/07/00
Test time: 14:08
Ambient temperature at impact area: 71° F
Vehicle year/make/ model/body style: 2000/Toyota/Tacoma/Pickup

Dummy Info:

Driver #314

Passenger #230

Type:
Location:
Restraint:
Number of data channels:

Part 572 E
Left front
Airbag
15

Part 572 E
Right front
Airbag
15

Number of Cameras:

Real-time:
High-speed:

1
6

Door Opening Data:

Left Front:
Right Front:

Normal
Normal

Front Seat Data:

Seat track failure:
Seat back failure:

No apparent failure
No apparent failure

No apparent failure
No apparent failure

Visible Dummy Contact Points:

Head:
Chest:
Left knee:
Right knee:

Airbag, windshield, sun visor,
rear headliner
Airbag
Knee bolster
Knee bolster

Airbag
Airbag
Knee bolster/Glove box
Knee bolster/Glove box

General Test and Vehicle Parameter Data for the Sled Test Vehicle

Test Vehicle Information:

Vehicle year/make/
model/body style: 2000/Toyota/Tacoma/Pickup
Color: Imperial Jade Mica/Oak
VIN: 4TANL42N2YZ576365
NHTSA number: CY5105
Engine data:
Placement: Inline
Cylinders: 4
Displacement: 2.4 liters
Transmission data: 5 speed, X manual, ___ automatic, X overdrive
Final drive: ___ fwd, X rwd, ___ 4wd
Date vehicle received: 2/16/00
Odometer reading: 74
Dealer's name
and address: Toyota West
1500 Auto Mall Drive
Columbus, OH 43228

Major Options:

Power steering	Yes	Other: Chrome plated rear bumper
Power brakes	Yes	AM/FM/Cassette
Power windows	No	Carpeted floor mats
Air conditioning	Yes	
Power door locks	No	

Remarks: None

General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont'd.

Data from Vehicle's Certification Label:

Vehicle manufactured by:	TABC Inc.
Date of manufacture:	09/99
VIN:	4TANL42N2YZ576365
GVWR:	4250 lbs
GAWR: Front:	2200 lbs
Rear:	2500 lbs

Data from Vehicle's Tire Placard:

Tire pressure with maximum capacity vehicle load:

Front:	35 psi
--------	--------

Rear:	35 psi
-------	--------

Recommended tire size:	P195/75R14
------------------------	------------

Load range:	1400 lbs
-------------	----------

Recommended cold tire pressure:

Front:	29 psi
--------	--------

Rear:	35 psi
-------	--------

Size of tires on vehicle:	P195/75R14
---------------------------	------------

Spare tire:	P195/75R14
-------------	------------

Vehicle capacity data:

Type of front seats:	Bench
----------------------	-------

Number of occupants:

Front	3
-------	---

Rear	0
------	---

Total	3
-------	---

Remarks: No tire load label.

General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont'd.

Weight of test vehicle as received (with maximum fluids):

Right front	770	lbs	Right rear	570	lbs
Left front	800	lbs	Left rear	590	lbs
Total front weight	1570	lbs	(58% of total vehicle weight)		
Total rear weight	1160	lbs	(42% of total vehicle weight)		
Total delivered weight	2730	lbs			

Calculation of test vehicle's target test weight:

RCLW = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (2730 lbs)

DSC = Designated Seating Capacity (3)

RCLW = 1070 lbs

Target test weight = UDW + RCLW + (Number of Hybrid III dummies x 167 lbs per dummy)

Target test weight = 2730 + 300 + 334 = 3364 lbs

Weight of test vehicle with two dummies and 300 lbs of cargo weight:

Right front	852	lbs	Right rear	800	lbs
Left front	880	lbs	Left rear	832	lbs
Total front weight	1732	lbs	(51% of total vehicle weight)		
Total rear weight	1632	lbs	(49% of total vehicle weight)		
Total test weight	3364	lbs			

Remarks:

Weight of ballast secured in vehicle cargo area: None

Components removed to meet target test weight: None

General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont'd.

Test Vehicle Attitude:

As delivered door sill angle: 1.0° Nose down

As tested door sill angle: 1.0° Nose down

Fully loaded door sill angle: 0.5° Nose down

Vehicle Wheelbase: 103.3 inches

Fuel System Data:

Fuel system capacity from owner's manual: 15.1 gallons

Useable capacity figure furnished by COTR: 15.0 gallons

Remarks: The roll angle measurement was within 1 inch. The left and right side measurements were 29.9 inches.

Post-Impact Data

Test number: 000407S
NHTSA number: CY5105
Test date: 04/07/00
Test time: 14:08
Test type: FMVSS 208 Compliance Sled Test
Impact angle: 0°
Ambient temperature
at impact area: 71° F
Temperature in
occupant compartment: 71° F

Sled carriage velocity:

Integrated velocity from the integration of the entire sled acceleration: 28.9 mph
Measured velocity from the light trap device attached to the sled (backup): 28.7 mph
Specified integrated velocity range: 28 to 30 mph

Sled carriage acceleration:

Acceleration: 17.1 g
Specified acceleration range: 16.0 g - 18.2 g

Sled carriage acceleration duration:

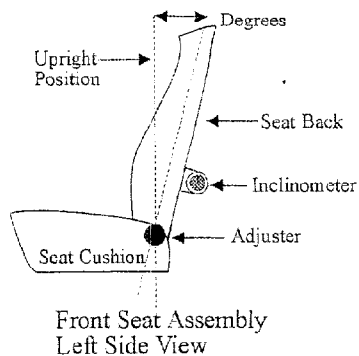
Time from T-0(-0.5 g) to 0.0 g: 125.3 msec
Specified acceleration duration: 120.0 - 130.0 msec

The sled acceleration curve was within the specified corridor.

Seat and Steering Column Positioning Data

Vehicle: 2000/Toyota/Tacoma/Pickup

NHTSA No.: CY5105



Nominal Design Riding Position:

Driver Seat: Seat Back Angle = 17.1° Fixed

Passenger Seat: Seat Back Angle = 17.1° Fixed

Seat Fore and Aft Positions:

Driver Seat: The seat track was positioned 7 notches rearward from the forwardmost position with the forwardmost position as one.

Passenger: The seat track was positioned 7 notches rearward from the forwardmost position with forwardmost position as one.

Steering Column Adjustments:

The steering column was not adjustable.

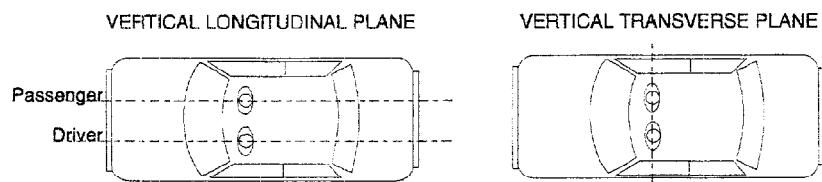
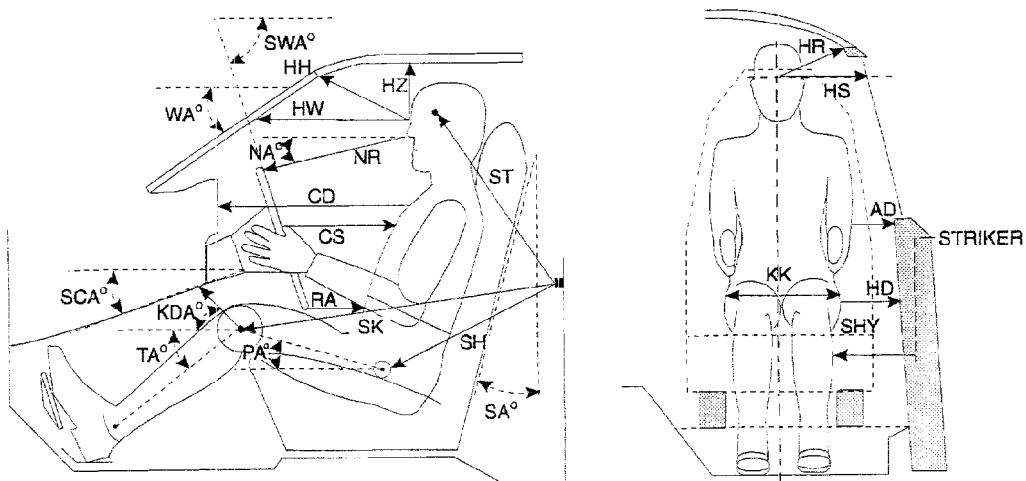
Dummy Measurement Data for Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #314)	Passenger (Serial #230)
WA	Windshield angle	39.0°	N/A
SWA	Steering wheel angle	25.9°	N/A
SCA	Steering column angle	24.0°	N/A
SA	Seat back angle (Fixed)	17.1°	17.1°
HZ	Head to roof	7.8 in	7.5 in
HH	Head to header	15.7 in	15.4 in
HW	Head to windshield	21.2 in	20.5 in
HR	Head to side header	9.2 in	9.2 in
NR	Nose to rim	16.2 in	N/A
NA	Nose to rim angle	12.0°	N/A
CD	Chest to dash	22.3 in	21.2 in
CS	Steering wheel to chest	12.4 in	N/A
RA	Rim to abdomen	5.3 in	N/A
KDL	Left knee to dash	8.0 in	6.2 in
KDR	Right knee to dash	8.0 in	6.2 in
KDA	Outboard knee to dash angle	12.0°	22.0°
PA	Pelvic angle	22.9°	23.5°
TA	Tibial angle	37.2°	41.5°
KK	Knee to knee	13.6 in	10.9 in
ST ¹	Striker to head	21.6 in	21.8 in
	Striker to head angle	68.4°	64.6°
SK ¹	Striker to knee	27.5 in	29.9 in
	Striker to knee angle	0.2°	2.0°
SH ¹	Striker to H-point	14.5 in	14.2 in
	Striker to H-point angle	21.1°	25.6°
SHY	Striker to H-point (Y dir.)	9.8 in	7.7 in
HS	Head to side window	12.4 in	12.8 in
HD	H-point to door	7.2 in	6.2 in
AD	Arm to door	4.8 in	4.9 in

The seat back angle (SA°) is measured relative to vertical, all other angles are measured relative to horizontal.

¹ A negative angle indicates the measurement point was located below the striker.

Dummy Measurement Locations for Front Seat Occupants



Descriptions of Dummy Measurements

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

The following measurements are to be made within a vertical longitudinal plane.

- * HH Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header.
- * HW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level.
- HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.
- * CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level.
- * CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest. Then measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See diagram.
- RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.
- NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).
- *¹ KDL, Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See diagram.
- KDR

* Measurement used in Data Tape Reference Guide

¹ Only outboard measurement is referenced in Data Tape Reference Guide

Descriptions of Dummy Measurements, Cont'd.

SH, Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z
SK, plane measured from the forward most center point on the striker to the center of
ST the H-point, outer knee bolt, and head target. When taking this measurement a
firm device that can be rigidly connected to the striker should be used. Use a
level. The angles of these measurements with respect to the horizontal should
also be recorded. The measurement in the Y (transverse) direction from the
striker to the H-point should also be taken (SHY). See diagram.

The following measurements are to be made within a vertical transverse plane.

- HS Head to Side Window, taken from the point where the dummy's nose meets his
forehead (between his eyes) to the outside of the side window. In order to make
this measurement, roll the window down to the exact height which allows a level
measurement. Use a level. See diagram.
- * AD Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II
dummy to the first point it hits on the door. In the case of a Hybrid III dummy,
measure from the bolt on the outer biceps. When a SID is used make the
measurement from the center of the bottom of the arm segment where it meets the
dummy's torso.
- * HD H-point to Door, taken from the H-point on the dummy to the closest point on the
door. Use a level.
- * HR Head to Side Header, measure the shortest distance from the point where the
dummy's nose meets his forehead (between his eyes) to the side edge of the
header just above the window frame, directly adjacent to the dummy.
- SHY Striker to H-point, taken from a rod rigidly connected to the forward most center
point on the striker to the H-point. Use a level. See diagram.
- KK Knee to Knee, for Hybrid II dummies measure the distance between knee pivot
bolt head outer surfaces. For Hybrid III dummies measure the distance between
the outboard knee clevis flange surfaces. (This measurement may not be exactly
transverse.)

Angles

- SA Seat Back Angle, find this angle using the instructions provided by the
manufacturer. If the manufacturer doesn't provide clear instructions contact the
COTR.

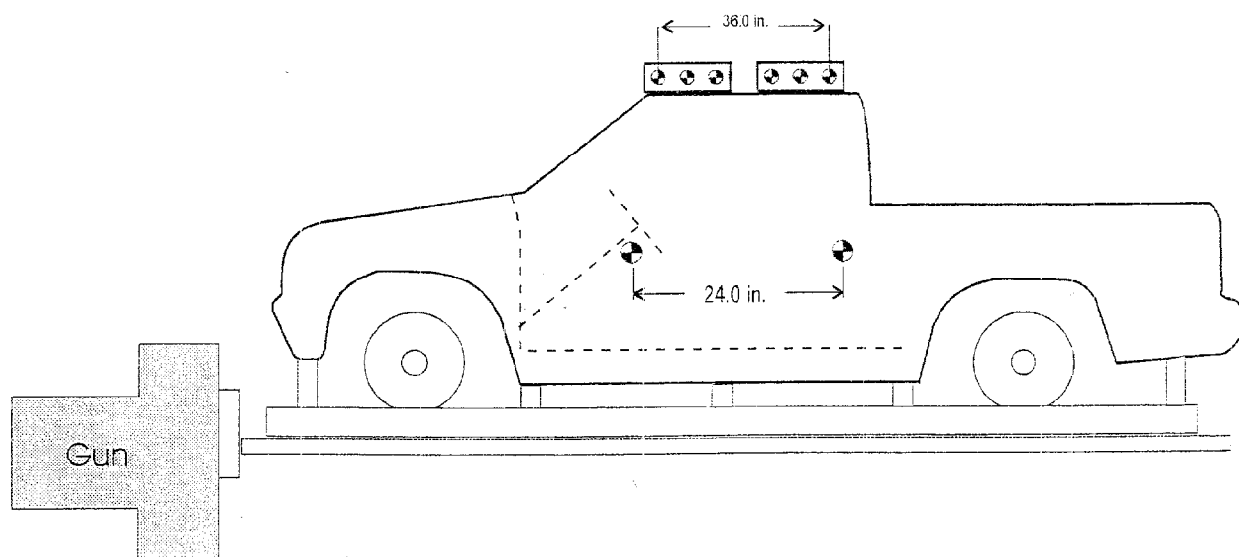
* Measurement used in Data Tape Reference Guide

Descriptions of Dummy Measurements, Cont'd.

- PA Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle.
- SWA Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.
- SCA Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.
- NA Measure the angle made when taking the measurement NR with respect to the horizontal.
- KDA Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See diagram.
- WA Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).
- TA Tibial Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.

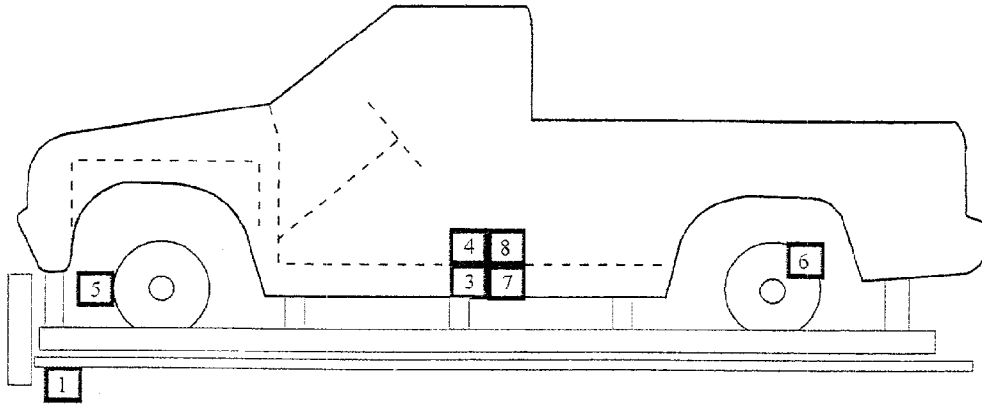
Vehicle Targeting Measurements

REFERENCE PHOTO TARGETS

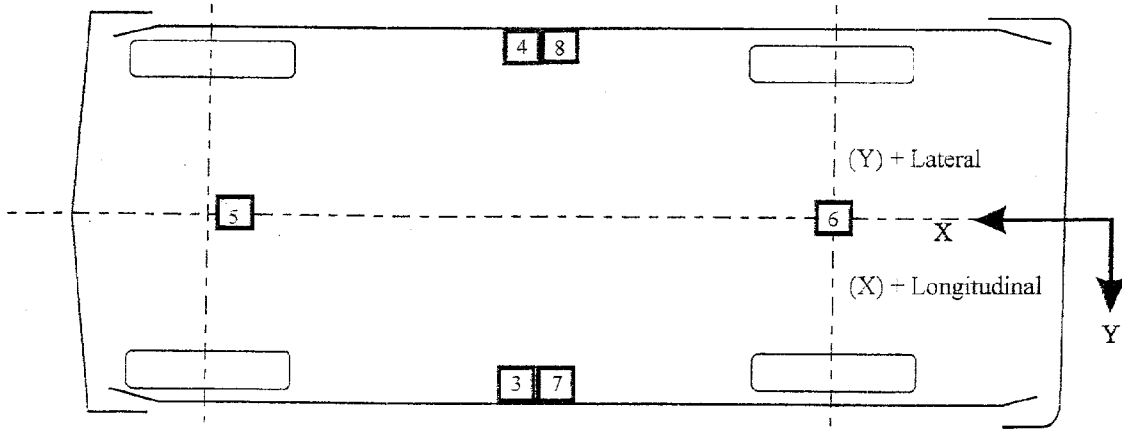


LEFT SIDE VIEW

Vehicle Accelerometer Placement



Side View



Bottom View

Vehicle Data Summary and Accelerometer Locations

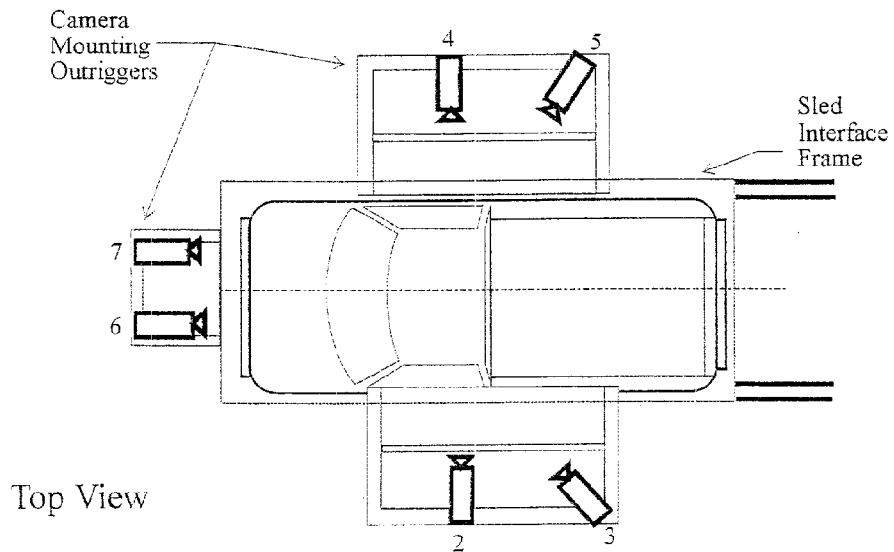
TEST NUMBER: 000407S							
No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION		
1 SLED ACCELERATION	167.5 in	-1.0 in					
PRIMARY	1.1 g			@ 130.6 ms	17.1 g	@	55.8 ms
REDUNDANT	1.9 g			@ 134.6 ms	18.2 g	@	55.6 ms
2 SLED VELOCITY							
MEASURED				0.1 mph	@ 7.9 ms	28.7 mph	@ 126.9 ms
INTEGRATED				-0.1 mph	@ 7.9 ms	28.9 mph	@ 125.0 ms
3 LEFT REAR SEAT	94.3 in	-15.6 in					
CROSSMEMBER				2.0 g	@ 130.9 ms	18.6 g	@ 48.0 ms
LONGITUDINAL							
4 RIGHT REAR SEAT	92.8 in	16.3 in					
CROSSMEMBER				1.9 g	@ 134.3 ms	17.8 g	@ 61.6 ms
LONGITUDINAL							
5 BOTTOM ENGINE	159.5 in	0.0 in					
LONGITUDINAL				2.3 g	@ 131.0 ms	17.8 g	@ 64.2 ms
6 REAR AXLE	52.1 in	0.0 in					
LONGITUDINAL				2.1 g	@ 131.2 ms	17.7 g	@ 52.9 ms
7 LEFT VEHICLE FRAME	92.8 in	-20.9 in					
LONGITUDINAL				1.7 g	@ 131.7 ms	17.4 g	@ 62.6 ms

Vehicle Data Summary and Accelerometer Locations, Cont'd.

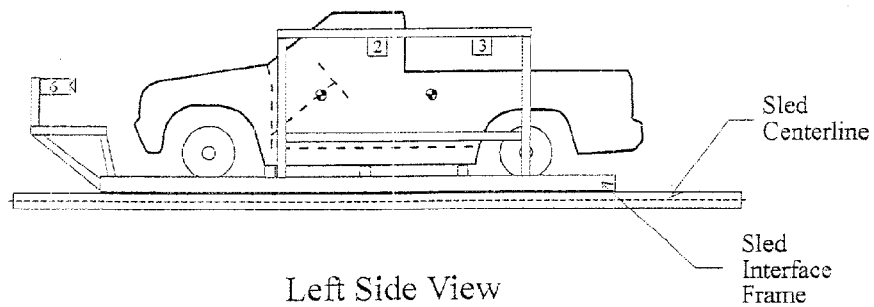
TEST NUMBER: 000407S					
No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
8 RIGHT VEHICLE FRAME LONGITUDINAL	92.1 in	21.0 in		1.9 g @ 131.4 ms	17.4 g @ 54.2 ms
9 DRIVER AIRBAG EVENT				1.0 volt @ 21.7 ms	---
10 PASSENGER AIRBAG EVENT				1.0 volt @ 21.7 ms	---

REFERENCE: X: + FORWARD FROM VEHICLE REAR SURFACE
Y: + RIGHTWARD FROM SLED CARRIAGE CENTERLINE

Camera Positions



Camera Frame Rates:
 #1 = 24 fps
 All Others = 1,000 fps



Motion Picture Camera Locations

Vehicle year/make/model/body style: 2000/Toyota/Tacoma/Pickup NHTSA No. CY5105 Test Number: 000407S

Camera Number	View	Camera Positions ¹			Camera Angle ²	Film Plane to Head Target	Camera Lens	Film Speed
		X	Y	Z				
1	Left side view offboard	93.0 in	314.9 in	56.4 in	0°	295.3 in	10 mm	24 frames/s
2	Left side view wide	69.5 in	72.9 in	50.7 in	3.5°	58.2 in	8 mm	975 frames/s
3	Left side view over shoulder	98.4 in	49.1 in	60.3 in	14.2°	38.1 in	8 mm	990 frames/s
4	Right side view wide	70.9 in	91.7 in	50.5 in	4.1°	76.0 in	13 mm	975 frames/s
5	Right side view over shoulder	99.6 in	49.9 in	57.0 in	11.1°	38.4 in	8 mm	1002.5 frames/s
6	Front view - driver	27.5 in	13.1 in	56.2 in	7.6°	51.5 in	8 mm	862.5 frames/s
7	Front view - passenger	27.2 in	15.9 in	55.6 in	8.2°	52.8 in	8 mm	987.5 frames/s

¹ X: Film plane to front of sled

Y: Film plane to sled centerline

Z: Film plane to top of sled

² Angle: Film plane of camera downward from horizontal plane

FMVSS 208 Occupant Injury Data

Vehicle: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Date: 04/07/00

Maximum Acceleration Values: (g's)	Driver Dummy #314	Passenger Dummy #230
Head Channel X	-151.2	-62.7
Head Channel Y	19.7	-17.0
Head Channel Z	41.7	34.7
HEAD RESULTANT	156.0	73.2
Chest Channel X	-40.8	-31.6
Chest Channel Y	-4.1	-2.4
Chest Channel Z	20.5	17.8
CHEST RESULTANT	43.5	34.6

Head Injury Criteria (HIC) Values:

HIC	287	173
t_1 = (msec)	102.080	94.800
t_2 = (msec)	138.080	130.480

[The maximum time interval from t_1 to t_2 is 36 milliseconds.]

Chest Injury Criteria (Clip) Values: (g's)

CLIP	41.5	34.2
t^1 = (msec)	102.480	108.880
t^2 = (msec)	105.520	111.920
Chest Deflection (in)	2.0	0.3

FMVSS 208 Occupant Injury Data, Cont'd.

Vehicle: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105 Date: 04/07/00

Units (lbs)		
Max. Compressive Femur Forces:	Driver Dummy #314	Passenger Dummy #230
Left Side (lbs)	1219	685
Right Side (lbs)	710	1149

Neck Injury Criteria:	Driver Dummy #314	Passenger Dummy #230
Peak Flexion Bending Moment (N-m)	42.6	63.5
Peak Extension Bending Moment (N-m)	15.6	16.1
Peak Axial Tension (N)	1185	338
Peak Axial Compression (N)	1244	1702
Peak Fore Shear (N)	755	1185
Peak Aft Shear (N)	260	287

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Technician: R. Stoner

Date: 04/05/00

Complete the following to determine which seat belt warning system option (S7.3(a)(1)) or (S7.3(a)(2)) is used. (Manufacturers may use either option.)

- A. With occupant in driver's position and lap belt in stowed position and ignition switch placed in "Start/On" position:

A.1 S7.3(a)(1)

Time duration of audible warning signal = 5 seconds
(4 to 8 seconds)

Time duration of reminder light operation = stays on
(no less than 60 seconds)

A.2 S7.3(a)(2)

Time duration of audible warning signal = seconds
(4 to 8 seconds) (see 49 USCS @ 30124)

Time duration of reminder light operation = seconds
(4 to 8 seconds)

- B. With occupant in driver's position and lap belt in use and the ignition switch placed in "Start/On" position:

B.1 S7.3(a)(1)

Time duration of audible warning signal = 0 seconds
(audible warning should not operate)

Time duration of reminder light operation = 0 seconds
(reminder light does not operate)

B.2 S7.3(a)(2)

Time duration of audible warning signal = seconds
(audible warning should not operate)

Time duration of reminder light operation = seconds
(4 to 8 seconds)

- C. Note wording of visual warning:

Fasten Seat Belt _____

Fasten Belt _____

Symbol 101 ☒

FMVSS 208 READINESS INDICATOR

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Technician: R. Stoner

Date: 04/05/00

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.

(11/8/94 legal interpretation)

Is the system totally mechanical?

Yes-☐; No-☒

Describe the location of the readiness indicator: Lower left of instrument cluster.

Is the readiness indicator clearly visible to the driver?

Yes-☒; No-☐

Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?

Yes-☒; No-☐

FMVSS 208 Air Bag Labels

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Technician: R. Stoner

Date: 04/05/00

1. Air Bag Maintenance Label and Owner's Manual Instructions:

- 1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
☐ Yes (Go to 1.2)
☒ No (Go to 2)
- 1.2 Does the Vehicle have a maintenance or replacement label?
☐ Yes-Pass ☐ No-Fail
- 1.3 Does the label contain one of the following? ☐ Yes-Pass ☐ No-Fail
☐ Schedule on label specifies month and year
☐ Schedule on label specifies vehicle mileage
☐ Schedule on label specifies interval measured from date on certification label
- 1.4 Is the label permanently affixed within the passenger compartment?
☐ Yes-Pass ☐ No-Fail
- 1.5 Is the label lettered in English?
☐ Yes-Pass ☐ No-Fail
- 1.6 Is the label in block capitals and numerals?
☐ Yes-Pass ☐ No-Fail
- 1.7 Are the letters and numerals at least 3/32 inch high?
☐ Yes-Pass ☐ No-Fail
- 1.8 Does the owner's manual set forth the recommended schedule for maintenance or replacement?
☐ Yes-Pass ☐ No-Fail

2. Does the owner's manual: (S4.5.1 (f))

- 2.1 Include a description of the vehicle's air bag system in an easily understandable format?
☒ Yes ☐ No
- 2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating positions?
☒ Yes ☐ No

Air Bag Labels, Cont'd.

- 2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions? ☒ Yes ☐ No
- 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash? ☒ Yes ☐ No
- 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants? ☒ Yes ☐ No
- 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate? ☒ Yes ☐ No
3. Does the Vehicle:
- 3.1 Provide an automatic means to ensure that the air bag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard seat? ☐ Yes ☒ No
- 3.2 Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which it might have an adverse effect on infants in rear-facing child seat, and unbelted or improperly belted children? ☐ Yes ☒ No
- 3.3 Have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ☐ Yes ☒ No

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a Sun Visor Warning Label (S4.5.1(b)), an air bag alert label (S4.5.1(c)) or a label on the dash (S4.5.1(e)) and this check sheet is complete. (S4.5.1) If no to 3.1, 3.2, and 3.3, go to 4.

Air Bag Labels, Cont'd.

4. Sun Visor Warning Label

- 4.1 Is the label permanently affixed (may be permanent marking or molding) to either side of the sun visor at each front outboard seating position with an air bag?

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☒ Yes-Pass ☐ No-Fail

- 4.2 Does the label conform in content (vehicles without back seats may omit the statement: **"The BACK SEAT is the SAFEST place for children."**) (S4.5.1(b)(2)(v)) to the label shown in either Figure 6a or 6b as appropriate at each front outboard seating position with an air bag? (S4.5.1(b)(2))

4.2.1 Dual air bags

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☒ Yes-Pass ☐ No-Fail

- 4.2.2 Vehicles with driver air bag ONLY - either 4.2.1 or 4.2.2 is applicable, not both. (S4.5.1(b)(2)(iv))

- 4.2.2.1 Does the label conform on content to the label shown in either Figure 6a or 6b as appropriate?

Driver side ☐ Yes-Pass ☒ N/A ☐ No-Fail

- 4.2.2.2 Does the label conform in content to the label shown in Figure 6a where the label can be modified to omit the pictogram and the message may read:

DEATH or SERIOUS INJURY can occur.

- Sit as far back as possible from the air bag.
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS.
- The BACK SEAT is the SAFEST place for children.

Driver side ☐ Yes-Pass ☒ N/A ☐ No-Fail

Air Bag Labels. Cont'd.

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

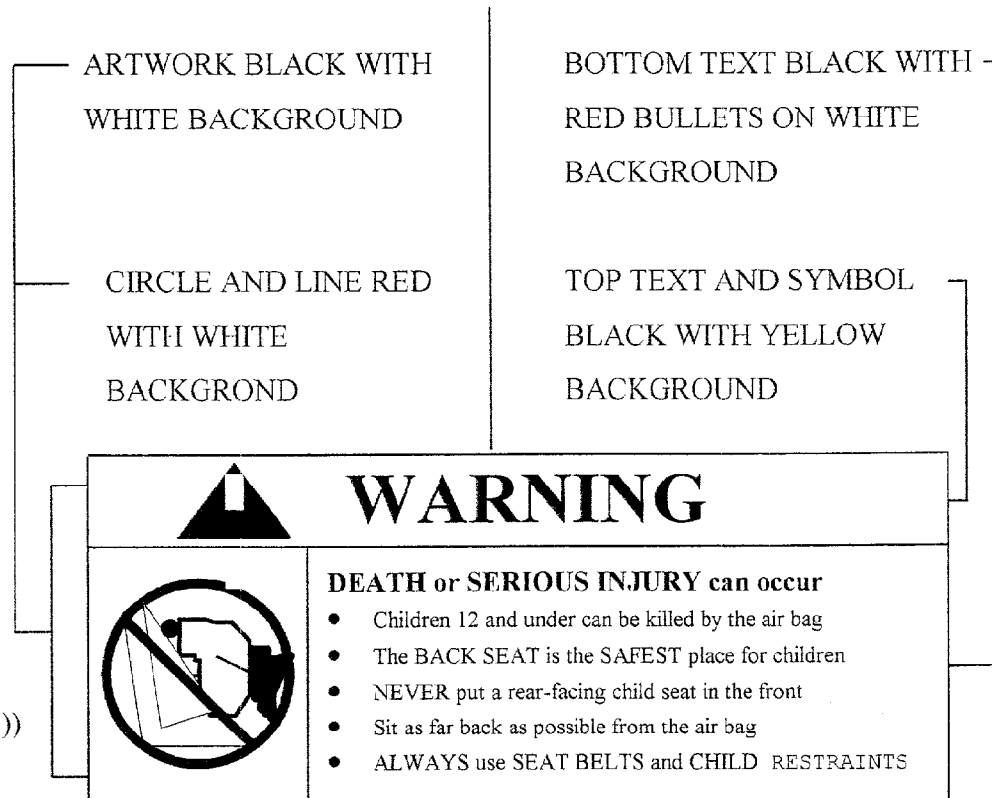
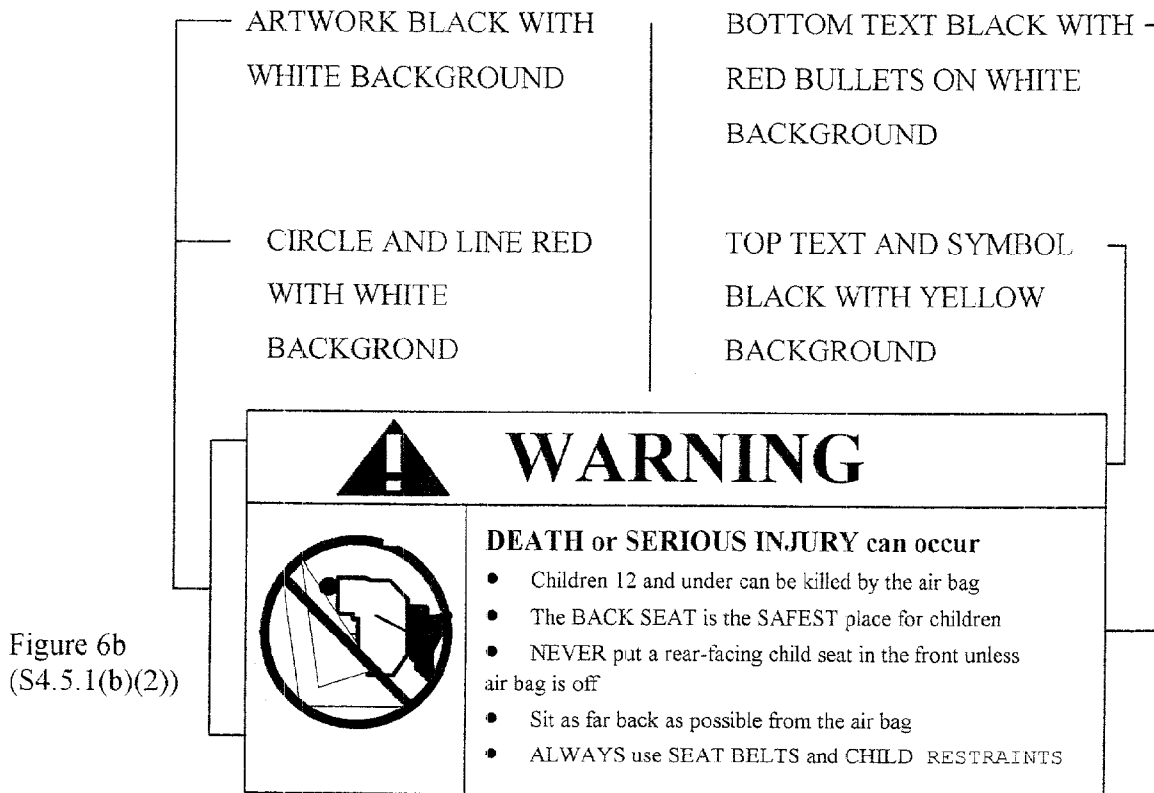


Figure 6a
(S4.5.1(b)(2))

Air Bag Labels, Cont'd.

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK



- 4.3 Is the driver side label heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1.(b)(2)(i))

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☒ Yes-Pass ☐ No-Fail

- 4.4 Is the message white with black text? (S4.5.1 (b)(2)(ii))

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☐ No air bag ☒ Yes-Pass ☐ No-Fail

- 4.5 Is the message area at least 30 cm²? (S4.5.1(b)(2)(ii))

Actual message area 57.5 cm²

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☐ No air bag ☒ Yes-Pass ☐ No-Fail

Air Bag Labels, Cont'd.

- 4.6 Is the pictogram black with a red circle and slash on a white background?

(S4.5.1(b)(2)(iii)) & (S4.5.1(b)(2)(iv))

For vehicles with driver side air bag ONLY ☐ N/A

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☐ No air bag ☒ Yes-Pass ☐ No-Fail

- 4.7 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))

Actual diameter 30.0 mm

For vehicles with driver side air bag ONLY ☐ N/A

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☐ No air bag ☒ Yes-Pass ☐ No-Fail

- 4.8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label?
(S4.5.1(b)(3))

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☐ No air bag ☒ Yes-Pass ☐ No-Fail

- 4.9 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label or the utility vehicle label?

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☐ No air bag ☒ Yes-Pass ☐ No-Fail

5. Air Bag Alert Label

- 5.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?

Driver ☒ Yes ☐ No

Passenger ☒ Yes ☐ No

If yes, go to 6

- 5.2 Does the label conform in content to the label shown in Figure 6c?

(S4.5.1(c)(2))

☐ Yes-Pass ☐ No-Fail

Circle and Line Red
with White
Background

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION

Artwork Black with
White Background

Text Yellow with
Black Background

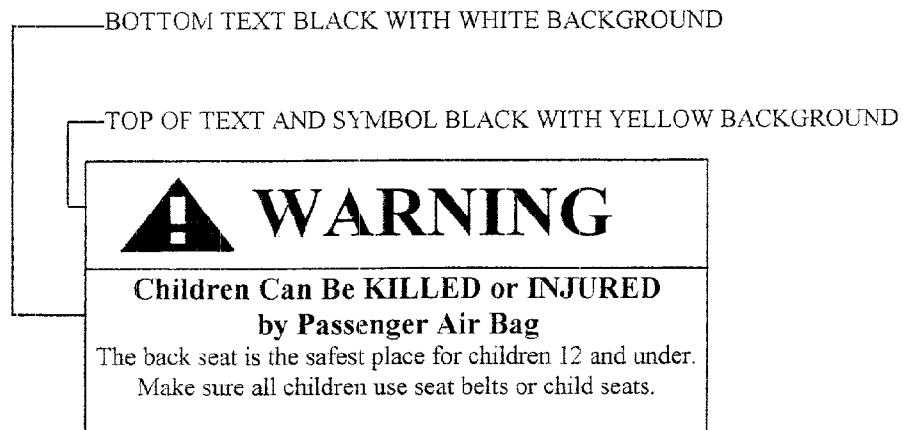
Figure 6c
(S4.5.1(c)(2))



Air Bag Labels, Cont'd.

- 5.3 Is the message area black with yellow text? (S4.5.1(c)(2)(i))
☐ Yes-Pass ☐ No-Fail
- 5.4 Is the message area at least 20 cm²? (S4.5.1(c)(2)(i))
Actual message area ____ cm² ☐ Yes-Pass ☐ No-Fail
- 5.5 Is the pictogram black with a red circle and slash on a white background?
(S4.5.1(c)(2)(ii))
For vehicles with driver side air bag ONLY ☐ N/A
☐ Yes-Pass ☐ No-Fail
- 5.6 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2)(ii))
Actual diameter is ____ mm
For vehicles with driver side air bag ONLY ☐ N/A
☐ Yes-Pass ☐ No-Fail
6. Label On the Dash
- 6.1 Does the vehicle have a passenger air bag?
☒ Yes ☐ No
- If no, this check list is complete.**
- 6.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e))
☒ Yes-Pass ☐ No-Fail
- 6.3 Does the label conform in content (vehicles without back seats may omit the statement: **"The back seat is the safest place for children 12 and under."** (S4.5.1(e)(iii)) to the label shown in Figure 7? (S4.5.1(e))
☒ Yes-Pass ☐ No-Fail

Figure 7
(S4.5.1(e))



Air Bag Labels, Cont'd.

- 6.4 Is the heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1(e)(i)) ☒ Yes-Pass ☐ **No-Fail**
- 6.5 Is the message white with black text? (S4.5.1(e)(ii)) ☒ Yes-Pass ☐ **No-Fail**
- 6.6 Is the message area at least 30 cm²? (S4.5.1(e)(ii))
Actual message area 36 cm² ☒ Yes-Pass ☐ **No-Fail**

FMVSS 208 REAR OUTBOARD SEATING POSITION SEAT BELTS

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Technician: R. Stoner

Date: 04/05/00

Do all rear outboard seating positions have type 2 seat belts?

Yes-☐;

No-☐;

N/A ☒ (No Back Seat)

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 belt was not installed.

FMVSS 208 Lap Belt Lockability

Passenger cars, trucks, buses, and multipurpose passenger
vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position with forward-facing seats,
other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt
retractors that are not automatic retractors. (S7.1.1.5(c))

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105 Technician: R. Stoner

Date: 04/05/00

DESIGNATED SEATING POSITION: Front right passenger

- ☒ 1. Record test seat position. Mid
(S7.1.1.5(c)(1)) (Any position is acceptable.)
- ☒ 2. Buckle the seat belt. (S7.1.1.5(c)(1))
- ☒ 3. Complete any procedures recommended in the vehicle owner's manual to activate any
locking feature. (S7.1.1.5(c)(1))
- ☒ 4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT have to be attached
by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle?
(S7.1.1.5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒ 5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT require inverting,
twisting or deforming of the belt webbing? (S7.1.1.5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒ 6. Does the vehicle user need to take some action to activate the locking feature on the lap
belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to
forward-facing?
If yes, go to 6.1. If no, go to 7. ☒ Yes ☐ No
- 6.1 Does the vehicle owner's manual include a description in words and/or diagrams
describing how to activate the locking feature so that the seat belt assembly can
tightly secure a child restraint system and how to deactivate the locking feature to
remove the child restraint system. (S7.1.1.5(b)) ☒ Yes-Pass ☐ No-Fail

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Technician: R. Stoner

Date: 04/05/00

DESIGNATED SEATING POSITION: Front right passenger

- ☒ 7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
- ☒ 8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))
- ☒ 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) Measured distance between A and B 68.7 inches.
- ☒ 11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4)) Measured force application angle 10 degrees. (Spec. 5~15 degrees)
- ☒ 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4)) Measured distance between A and B 31.2 inches.

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

NHTSA NO.: CY5105

Technician: R. Stoner

Date: 04/05/00

DESIGNATED SEATING POSITION: Front right passenger

- ☒ 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 25 lbs/sec (spec. 10 ~50 lb/sec)

The measured distance between A and B is 31.3 inches (S7.1.1.5(c)(6))

- ☒ 15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7.1.1.5 (c)(7))

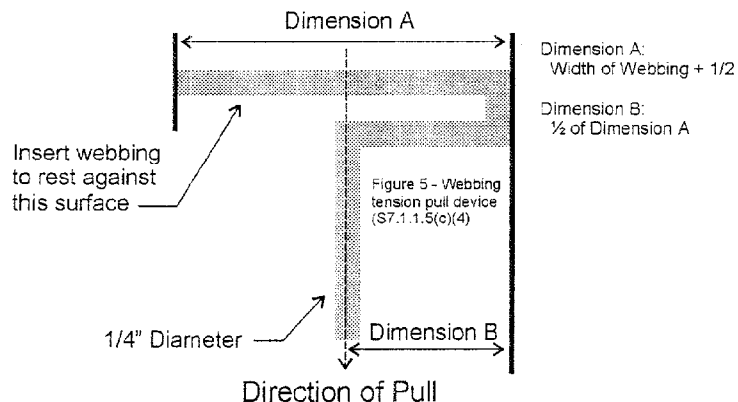
14-13= 0.1 inches

☒ Yes-Pass ☐ No-Fail

- ☒ 16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more? (S7.1.1.5(c)(8))

10-14= 37.4 inches.

☒ Yes-Pass ☐ No-Fail



FMVSS 208 Seat Belt Comfort And Convenience Test
Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Driver

Date of Comfort and Convenience Check: 04/06/00

Technician Performing Check: M. Tonneman, J. Stricklin, S. Phillips

GVWR: 4250 pounds

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Does the vehicle incorporate a webbing tension-relieving device?

☐ Yes-go to latchplate access
☒ No-continue with this check sheet

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)

☒ Check
☐ N/A

3. If separately adjustable in a vertical direction, the seats are at the lowest position.

☐ Check
☒ N/A

4. Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

☐ Check
☒ N/A

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

☒ Check
☐ N/A

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Belt Contact Force (S7.4.3)

6. Place each adjustable head restraint in its highest adjustment position.

☐ Check
☒ N/A

7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

☐ Check
☒ N/A

8. Position the test dummies according to dummy position placement instructions in Appendix B.

☒ Check

9. Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.866 pounds.

☐ 0.0 to 0.7 pounds - Pass
☒ **greater than 0.7 pounds - FAIL***

FMVSS 208 Seat Belt Comfort And Convenience Test
Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Front right passenger

Date of Comfort and Convenience Check: 04/06/00

Technician Performing Check: M. Tonneman, J. Stricklin, S. Phillips, D. Money

GVWR: 4250 pounds

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Does the vehicle incorporate a webbing tension-relieving device?

☐ Yes-go to latchplate access
☒ No-continue with this check sheet

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)

☒ Check
☐ N/A

3. If separately adjustable in a vertical direction, the seats are at the lowest position.

☐ Check
☒ N/A

4. Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

☐ Check
☒ N/A

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

☒ Check
☐ N/A

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Belt Contact Force (S7.4.3)

6. Place each adjustable head restraint in its highest adjustment position.

☐ Check
☒ N/A

7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

☐ Check
☒ N/A

8. Position the test dummies according to dummy position placement instructions in Appendix B.

☒ Check

9. Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.689 pounds.

☒ 0.0 to 0.7 pounds - Pass
☐ greater than 0.7 pounds - **FAIL***

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Latchplate Access (S7.4.4)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Driver

Date of Comfort and Convenience Check: 04/05/00

Technician Performing Check: R. Stoner

GVWR: 4250 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Position the seat in its forward most adjustment position. ☒ Check
2. Position the test dummy using the procedures in Appendix B. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.) ☒ Check
3. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant. ☒ Check
4. Attach the inboard and outboard reach string following the instructions on Figure 1C. ☒ Check
5. Place the latch plate in the stowed position. ☒ Check
6. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. Is the latchplate within the reach envelope?
Yes- ☒ Pass; No- ☐ Fail
7. Using the clearance test block, specified in Figure 2C of the test procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle.
Yes- ☒ Pass; No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Latchplate Access (S7.4.4)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Front right passenger

Date of Comfort and Convenience Check: 04/05/00

Technician Performing Check: R. Stoner

GVWR: 4250 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Position the seat in its forward most adjustment position. ☒ Check
2. Position the test dummy using the procedures in Appendix B. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.) ☒ Check
3. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant. ☒ Check
5. Attach the inboard and outboard reach string following the instructions on Figure 1C. ☒ Check
5. Place the latch plate in the stowed position. ☒ Check
6. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. Is the latchplate within the reach envelope?
Yes-☒ Pass; No- ☐ Fail
7. Using the clearance test block, specified in Figure 2C of the test procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle.
Yes-☒ Pass; No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Retraction (S7.4.5)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Driver

Date of Comfort and Convenience Check: 04/05/00

Technician Performing Check: R. Stoner

GVWR: 4250 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Is the vehicle a passenger car or walk-in van-type vehicle?

☐ Yes
☒ No

If yes, go to seat belt guides and hardware.

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)

☒ Check

3. If separately adjustable in a vertical direction, the seats are at the lowest position.

☒ Check

4. Place any adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

☒ Check

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

☒ Check

6. Place each adjustable head restraint in its highest adjustment position.

☒ Check

7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

☒ Check

8. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B.

☒ Check

FMVSS 208 Seat Belt Comfort And Convenience Test Summary. Cont'd.
Retraction (S7.4.5)

9. Restrain the dummies using the belt systems for the position being tested. ☒ Check
10. Stow outboard armrests that are capable of being stowed. ☒ Check
11. Check the statement that applies to this test vehicle:
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latchplate is released. ☐ Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released. ☒ Pass
- (C) Neither A or B apply. ☐ **FAIL**
12. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
Yes- ☒ Pass; No- ☐ **Fail**
13. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated? ☒ N/A
Yes- ☐ Pass; No- ☐ **Fail**

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Retraction (S7.4.5)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Front right passenger

Date of Comfort and Convenience Check: 04/05/00

Technician Performing Check: R. Stoner

GVWR: 4250 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Is the vehicle a passenger car or walk-in van-type vehicle? ☐ Yes
☒ No
If yes, go to seat belt guides and hardware.
2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2) ☒ Check
3. If separately adjustable in a vertical direction, the seats are at the lowest position. ☒ Check
4. Place any adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer. ☒ Check
5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR. ☒ Check
6. Place each adjustable head restraint in its highest adjustment position. ☒ Check
7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3) ☒ Check
8. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B. ☒ Check

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Retraction (S7.4.5)

9. Restrain the dummies using the belt systems for the position being tested. ☒ Check
10. Stow outboard armrests that are capable of being stowed. ☒ Check
13. Check the statement that applies to this test vehicle:
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latchplate is released. ☐ Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released. ☒ Pass
- (C) Neither A or B apply. ☐ **FAIL**
14. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
- Yes-☒ Pass; No- ☐ **Fail**
13. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?
- ☒ N/A
- Yes-☐ Pass; No- ☐ **Fail**

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Seat Belt Guides And Hardware (S7.4.6)

Test Vehicle NHTSA No.: CY5105
Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup
Designated Seating Position Tested: Driver
Date of Comfort and Convenience Check: 04/05/00
Technician Performing Check: R. Stoner
GVWR: 4250 pounds

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

- A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b)).
- B. Seats which are removable.
- C. Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, determine the following:

1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

☒ Yes: go to 2.
☐ No: this form is complete.
2. Does one of the following three parts, the seat belt latchplate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

Yes-☒ Pass; No- ☐ Fail
3. Are the remaining two seat belt parts accessible under normal conditions?

Yes-☒ Pass; No- ☐ Fail
4. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
 - (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.

☒ Check

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Seat Belt Guides And Hardware (S7.4.6)

(B) The seat is moved to any position to which it is designed to be adjusted. ☒ Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position. ☒ Check

Yes- ☒ Pass; No- ☐ Fail

5. Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

Yes- ☒ Pass; No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Seat Belt Guides And Hardware (S7.4.6)

Test Vehicle NHTSA No.: CY5105

Vehicle Model Year/Make/Model/Body Style: 2000/Toyota/Tacoma/Pickup

Designated Seating Position Tested: Front right passenger

Date of Comfort and Convenience Check: 04/05/00

Technician Performing Check: R. Stoner

GVWR: 4250 pounds

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

- A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b)).
- B. Seats which are removable.
- C. Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, determine the following:

1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

☒ Yes: go to 2.
☐ No: this form is complete.
2. Does one of the following three parts, the seat belt latchplate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

Yes-☒ Pass; No- ☐ **Fail**
3. Are the remaining two seat belt parts accessible under normal conditions?

Yes-☒ Pass; No- ☐ **Fail**
4. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
 - (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.

☒ Check

FMVSS 208 Seat Belt Comfort And Convenience Test Summary. Cont'd.
Seat Belt Guides And Hardware (S7.4.6)

(B) The seat is moved to any position to which it is designed to be adjusted. ☒ Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position. ☒ Check

Yes-☒ Pass; No- ☐ Fail

5. Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

Yes-☒ Pass; No- ☐ Fail

LOCATION OF ANCHORING POINTS FOR
LATCHPLATE REACH LIMITING CHAINS OR STRINGS
TO TEST FOR LATCHPLATE ACCESSIBILITY

PART 572E DUMMY

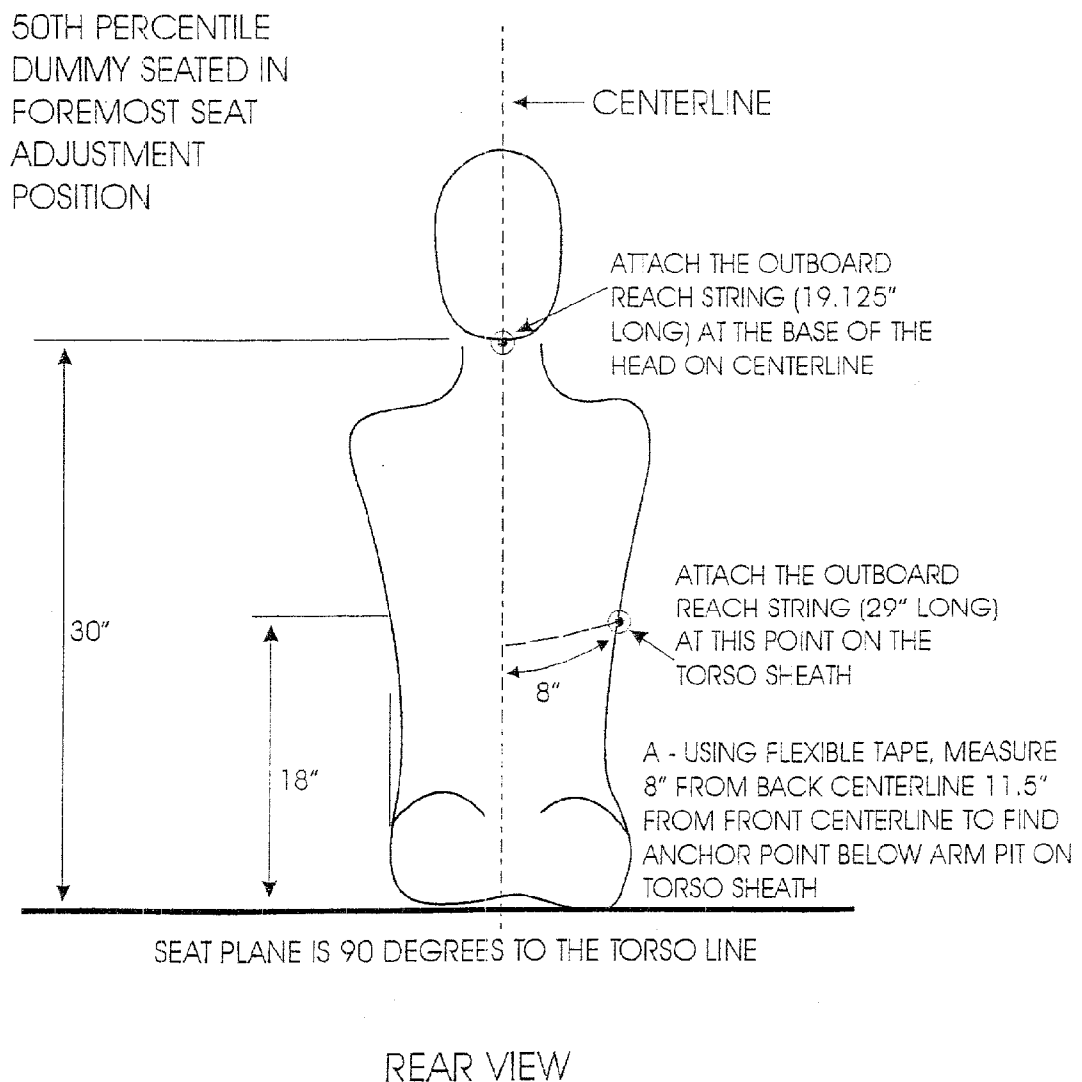


Figure 1C

USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

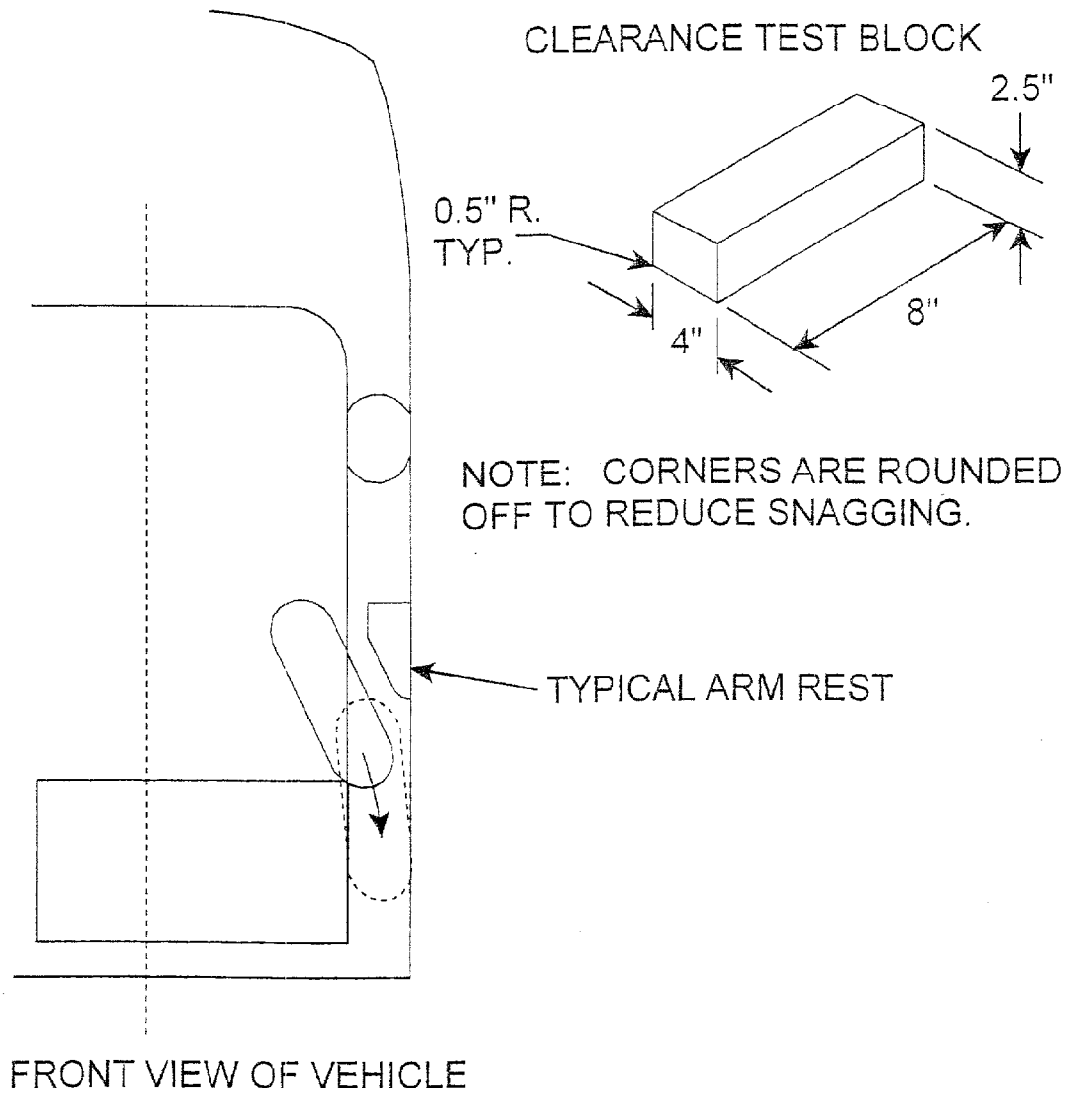


Figure 2C

Appendix A

Photographs

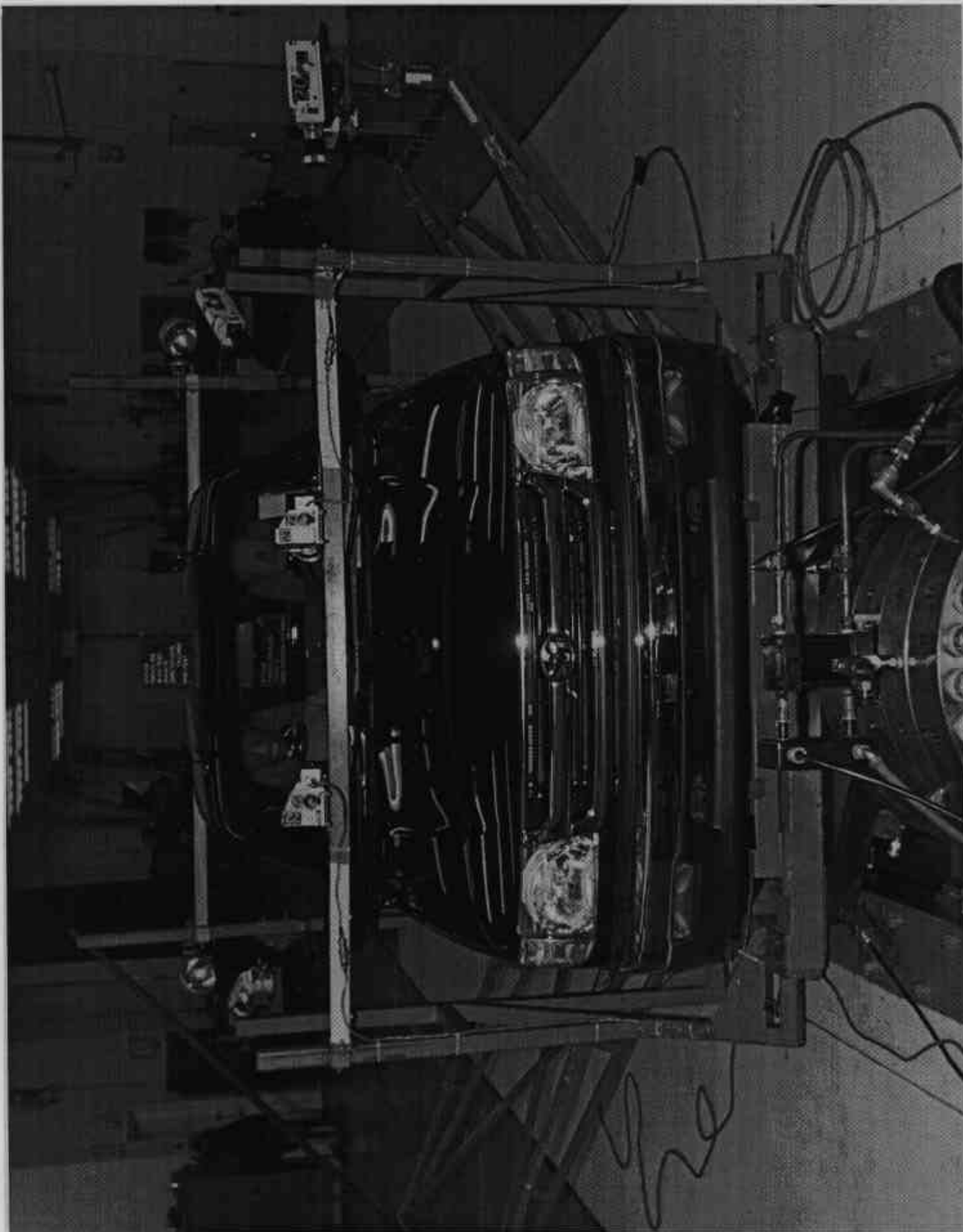


Figure A-1 Pre-Test Front View of Test Vehicle Mounted to Sled

A-2

000407S

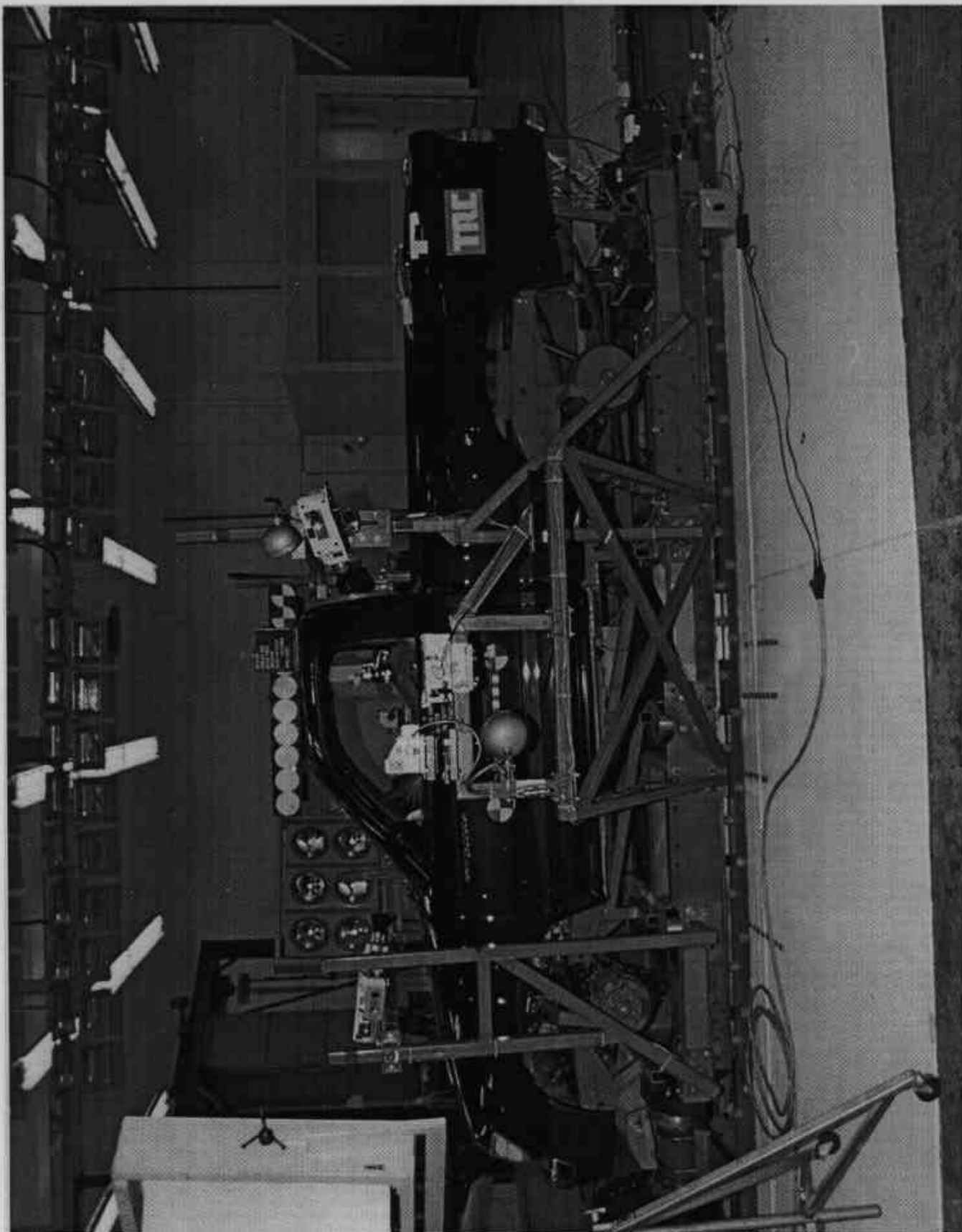


Figure A-2 Pre-Test Left Side View of Test Vehicle Mounted to Sled

A-3

000407S

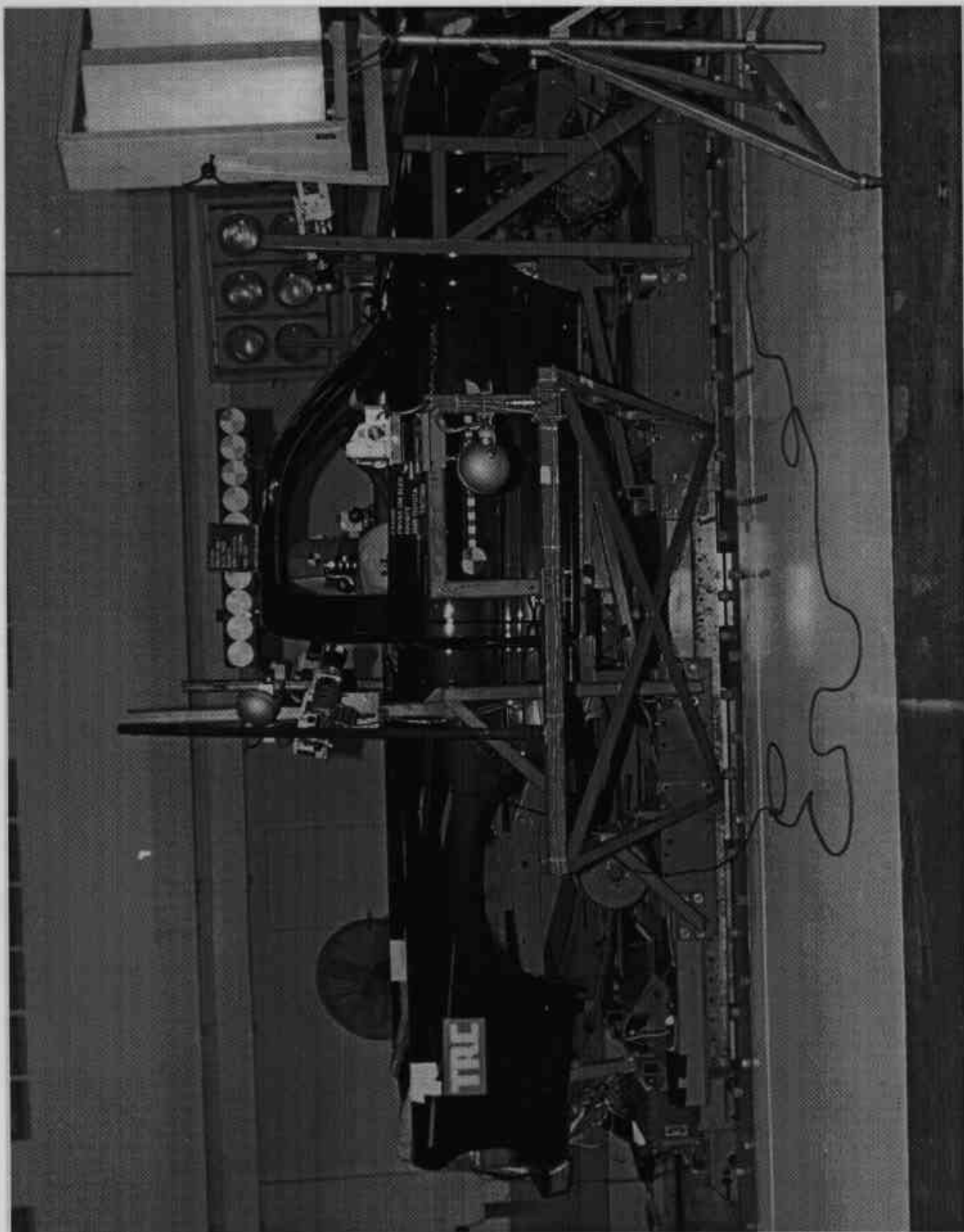


Figure A-3 Pre-Test Right Side View of Test Vehicle Mounted to Sled
A-4 000407S



Figure A-4 Pre-Test Windshield View
A-5

000407S

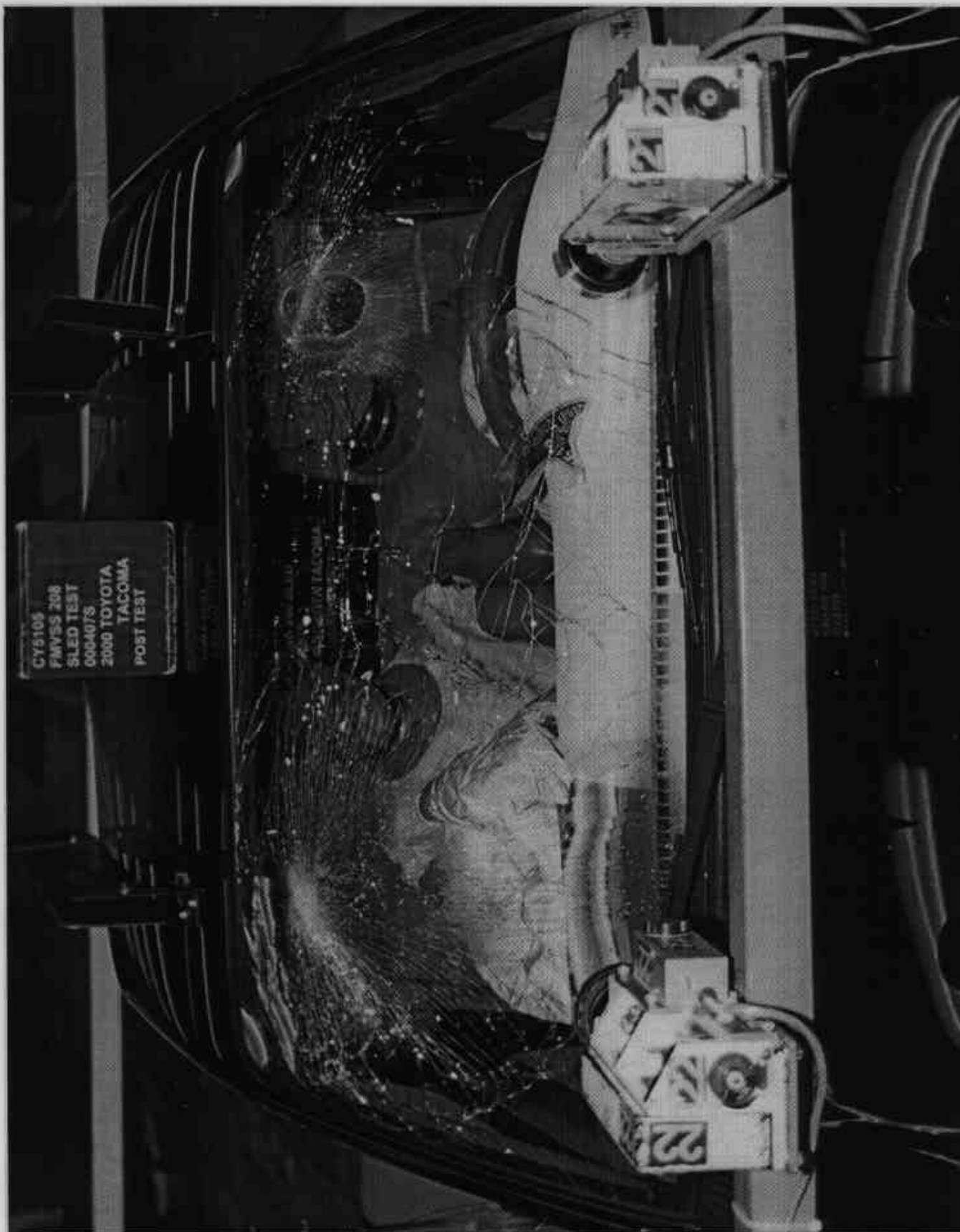


Figure A-5 Post-Test Windshield View
A-6

000407S



Figure A-6 Pre-Test Driver Dummy Position View with Door Open

A-7

000407S



Figure A-7 Post-Test Driver Dummy Position View with Door Open

A-8

000407S



Figure A-8 Pre-Test Driver Seat Track Position View
A-9

000407S



Figure A-9 Post-Test Driver Seat Track Position View
A-10

000407S



Figure A-10 Pre-Test Driver Dummy Position Front View
A-11

000407S

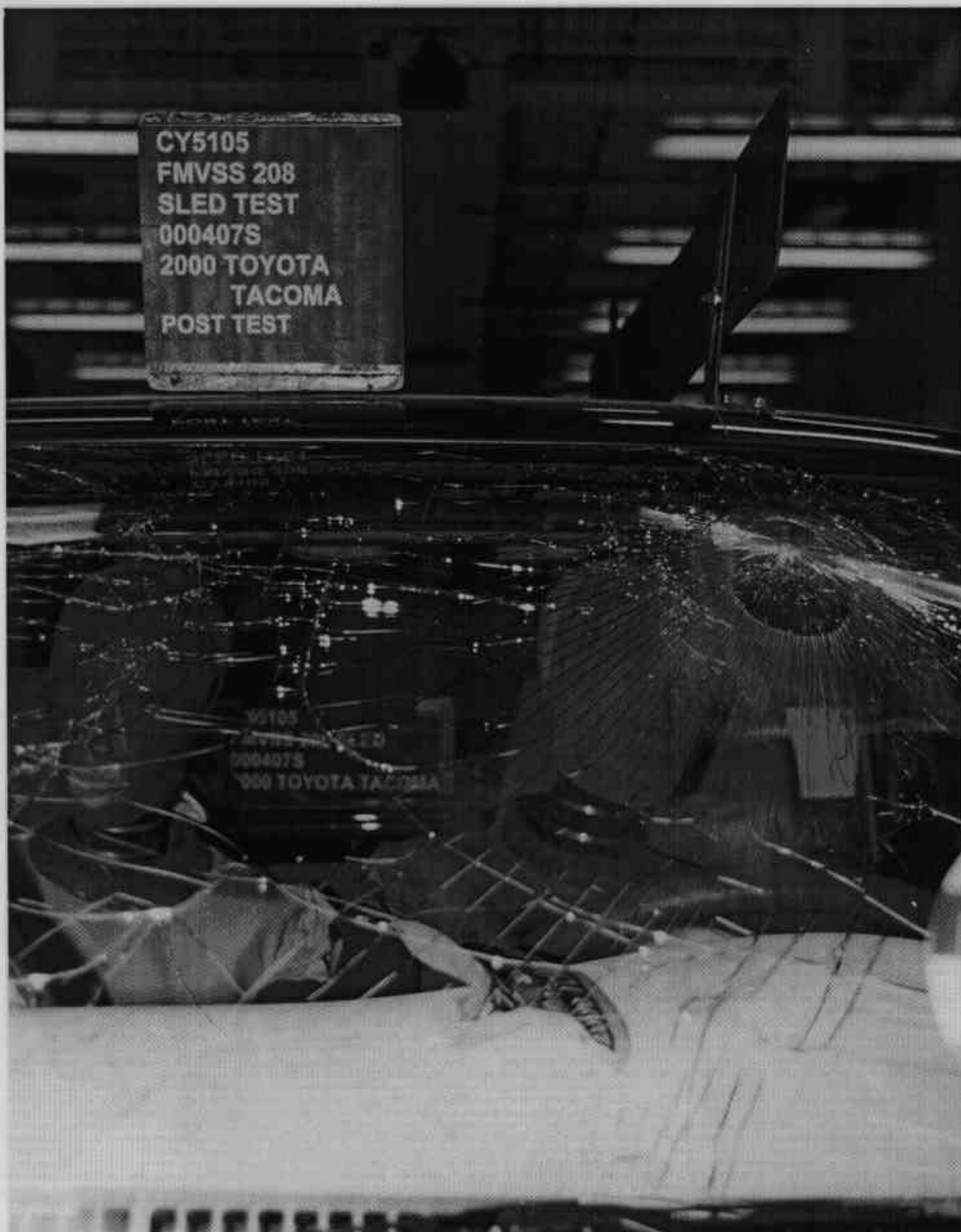


Figure A-11 Post-Test Driver Dummy Position Front View
A-12

000407S



Figure A-12 Pre-Test Passenger Dummy Position View with Door Open

A-13

000407S



Figure A-13 Post-Test Passenger Dummy Position View with Door Open

A-14

000407S



Figure A-14 Pre-Test Passenger Seat Track Position View
A-15

000407S



Figure A-15 Post-Test Passenger Seat Track Position View
A-16

000407S



Figure A-16 Pre-Test Passenger Dummy Position Front View
A-17

000407S



Figure A-17 Post-Test Passenger Dummy Position Front View

A-18

000407S



Figure A-18 Post-Test Driver Airbag View
A-19

000407S



Figure A-19 Post-Test Driver Dummy Removed from Vehicle Overall View

A-20

000407S



Figure A-20 Post-Test Driver Head Contact - View 1
A-21

000407S



CY5105
FMVSS 208
SLED TEST
000407S
2000 TOYOTA
TACOMA
POST TEST

Figure A-21 Post-Test Driver Head Contact - View 2
A-22

000407S

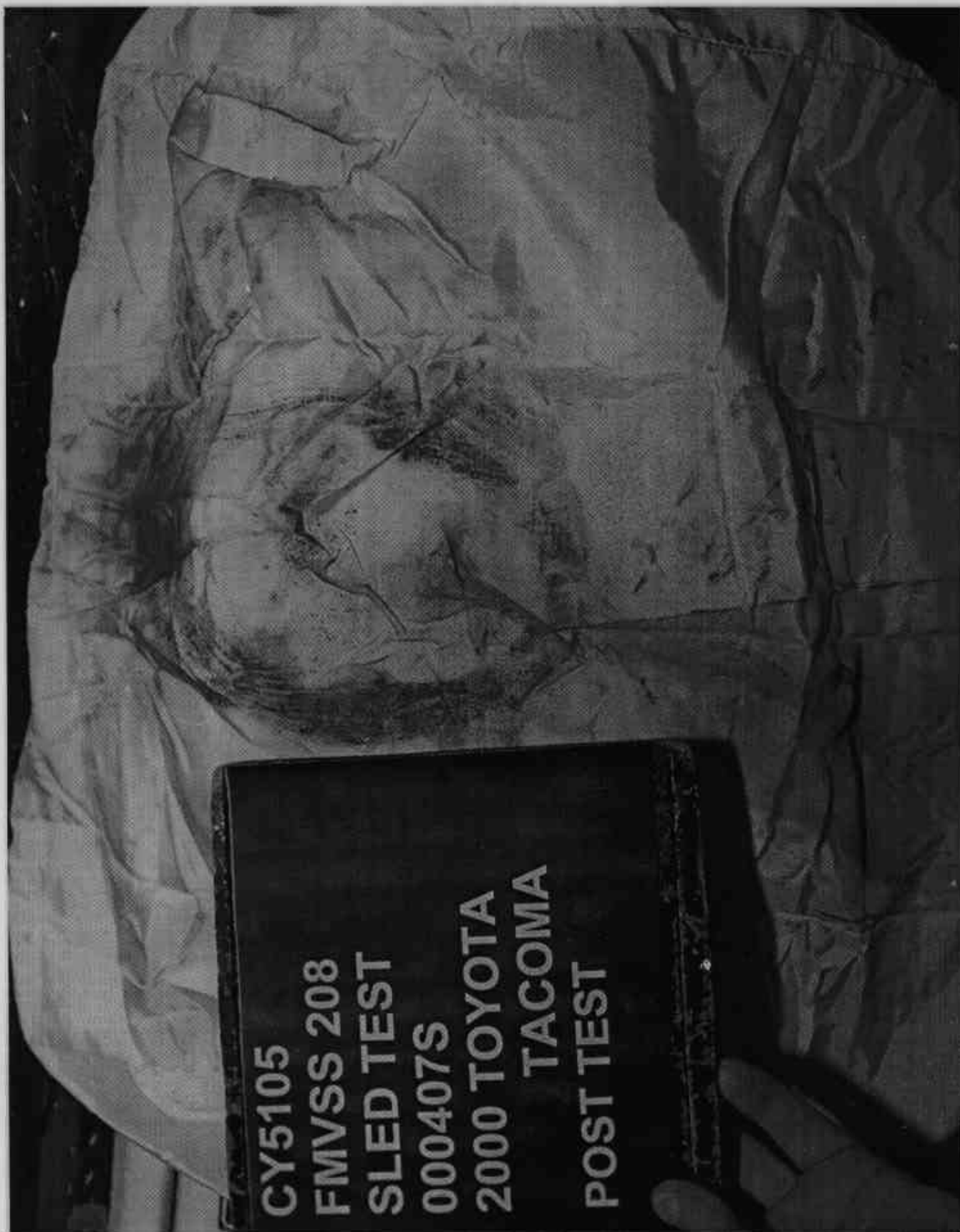


Figure A-22 Post-Test Passenger Airbag View
A-23

000407S



Figure A-23 Post-Test Passenger Dummy Removed from Vehicle Overall View
A-24

000407S

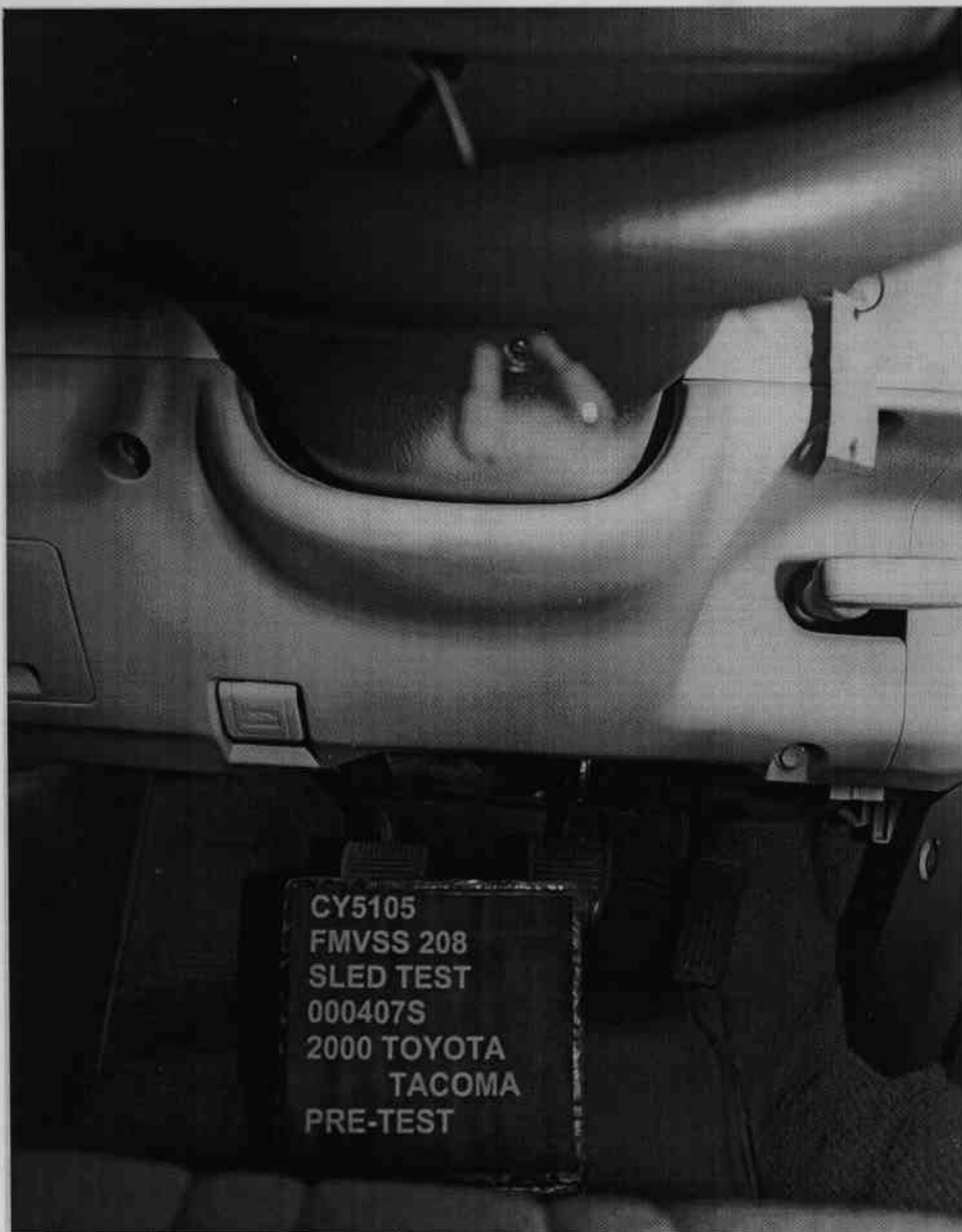


Figure A-24 Pre-Test Driver Knee Bolster View
A-25

000407S

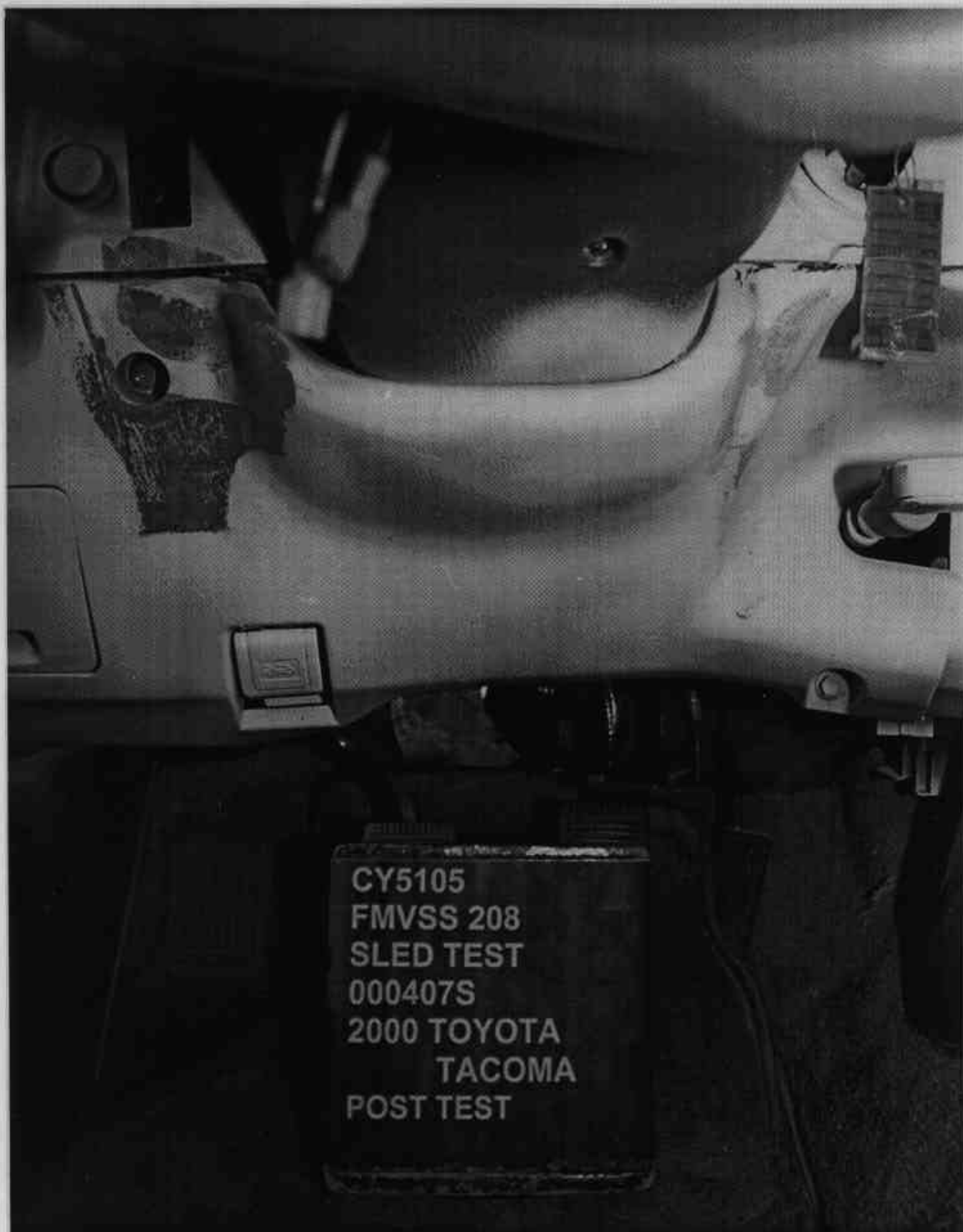


Figure A-25 Post-Test Driver Knee Bolster View
A-26

000407S



Figure A-26 Pre-Test Passenger Glove Box View
A-27

000407S



Figure A-27 Post-Test Passenger Glove Box View
A-28

000407S

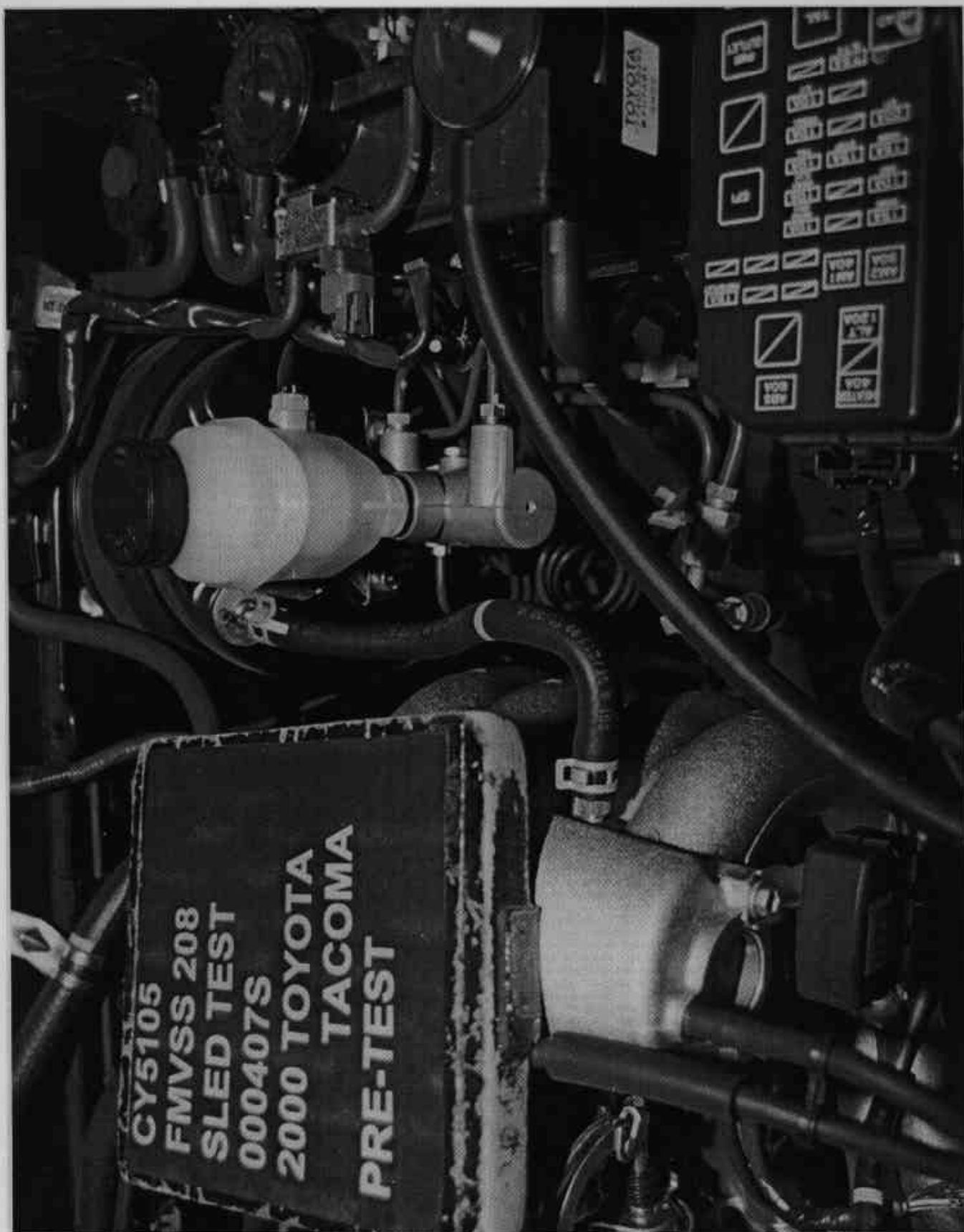


Figure A-28 Pre-Test Steering Column Linkage in Engine Compartment View

A-29

000407S

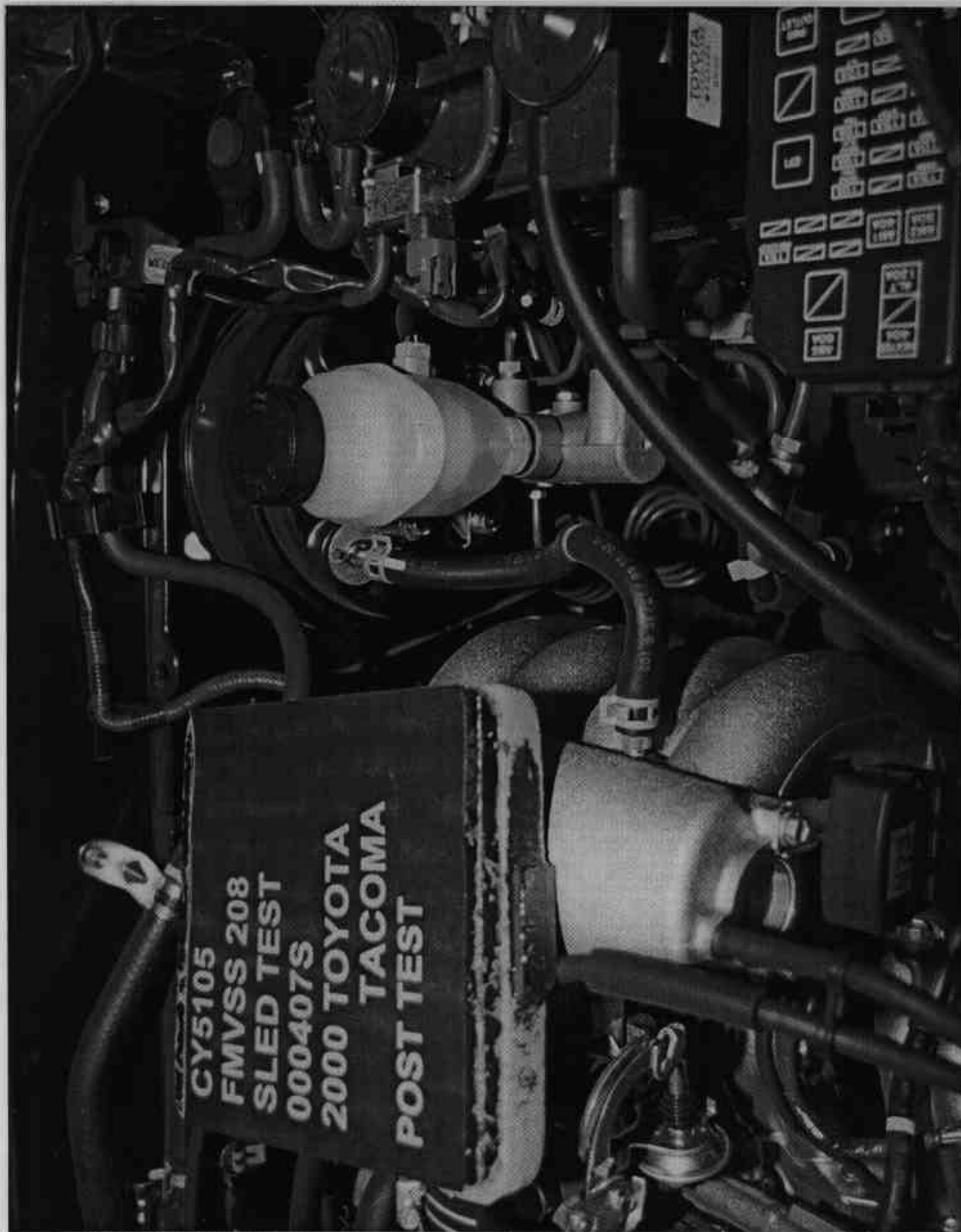


Figure A-29 Post-Test Steering Column Linkage in Engine Compartment View
A-30 000407S



Appendix B

Data Plots

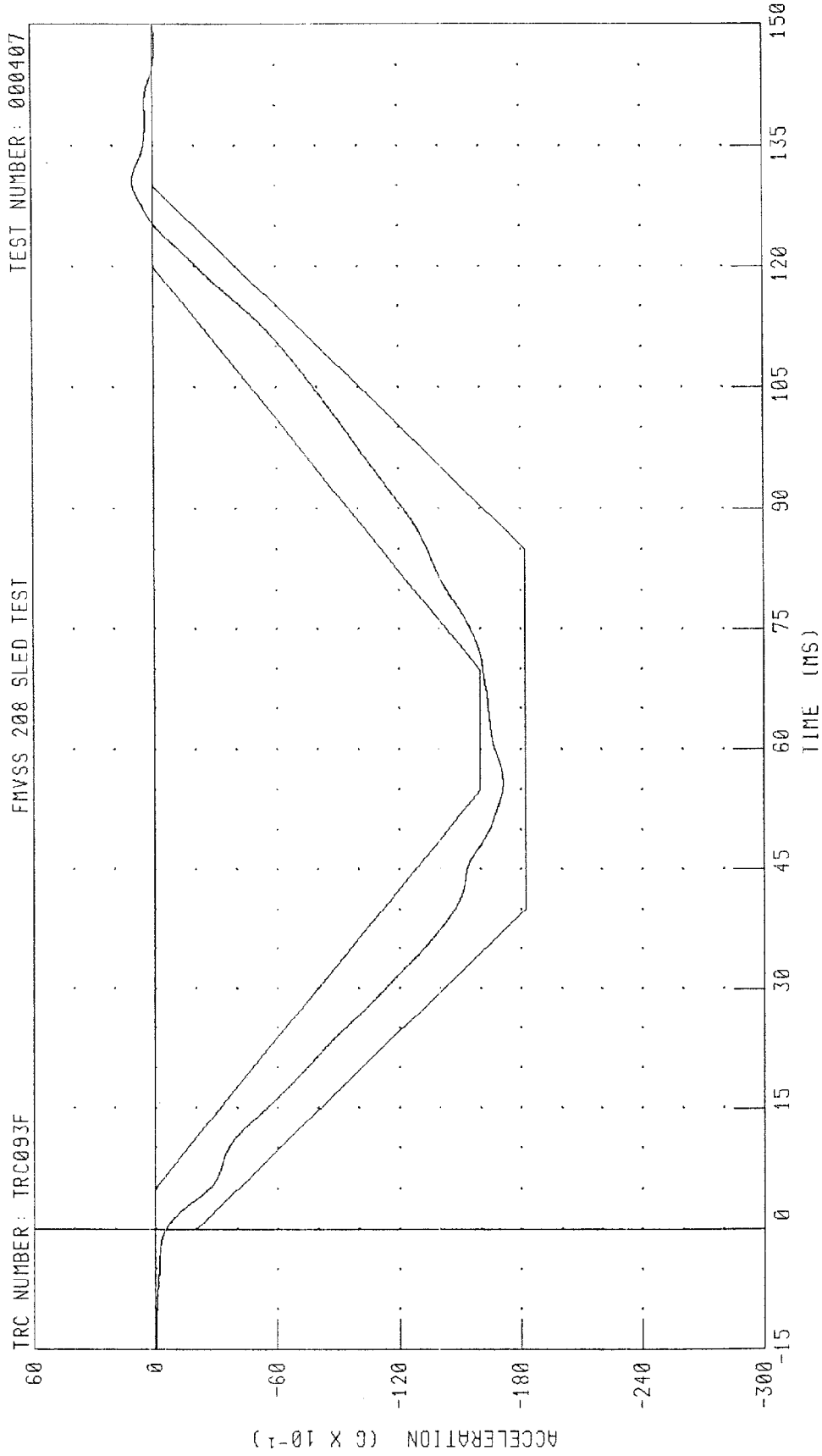
CY5105 / 2000 TOYOTA TACOMA

SLED ACCELERATION

FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



CHANNEL: SLDXG FILTER: CH. CLASS 60

PEAK DATA: 1.06 G @ 130.64 MS, -17.13 G @ 55.84 MS

CY0204 / 2000 TOYOTA TACOMA

SLED ACCELERATION

FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

10

-22

ACCELERATION ($G \times 10^{-1}$)

-55

-88

-120

-153

-186

TIME (MS)

130

160

190

220

250

280

310

CHANNEL: SLDXC

FILTER: CH. CLASS 60

PEAK DATA: 1.06 G @ 130.64 MS; -17.13 G @ 55.84 MS

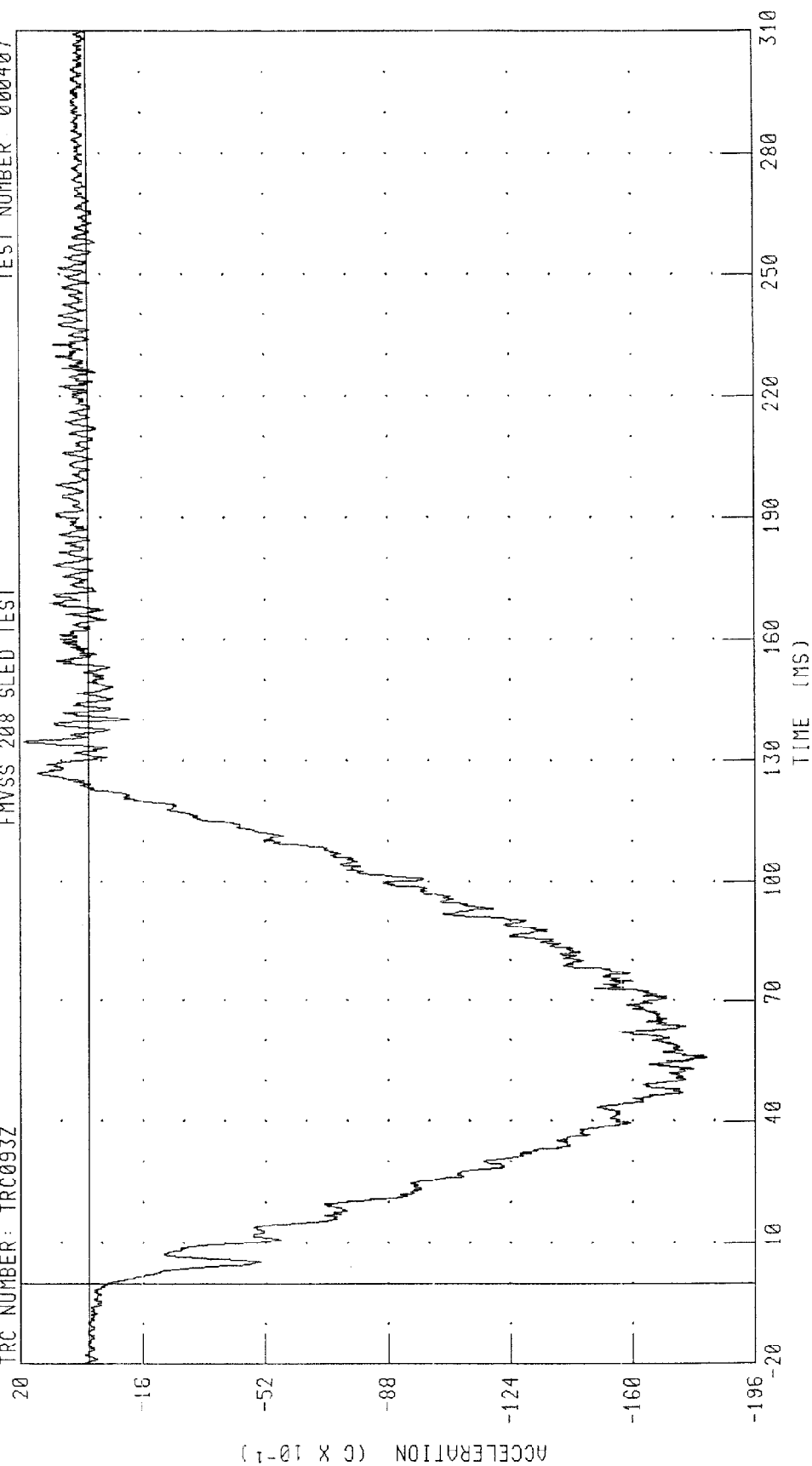
CY0204 / 2000 TOYOTA TACOMA

SLED ACCELERATION PRE-FILTERED AT 200 HZ TO DETERMINE HALF G

TEST NUMBER: 000407

TRC NUMBER: TRC093Z

FMVSS 208 SLED TEST

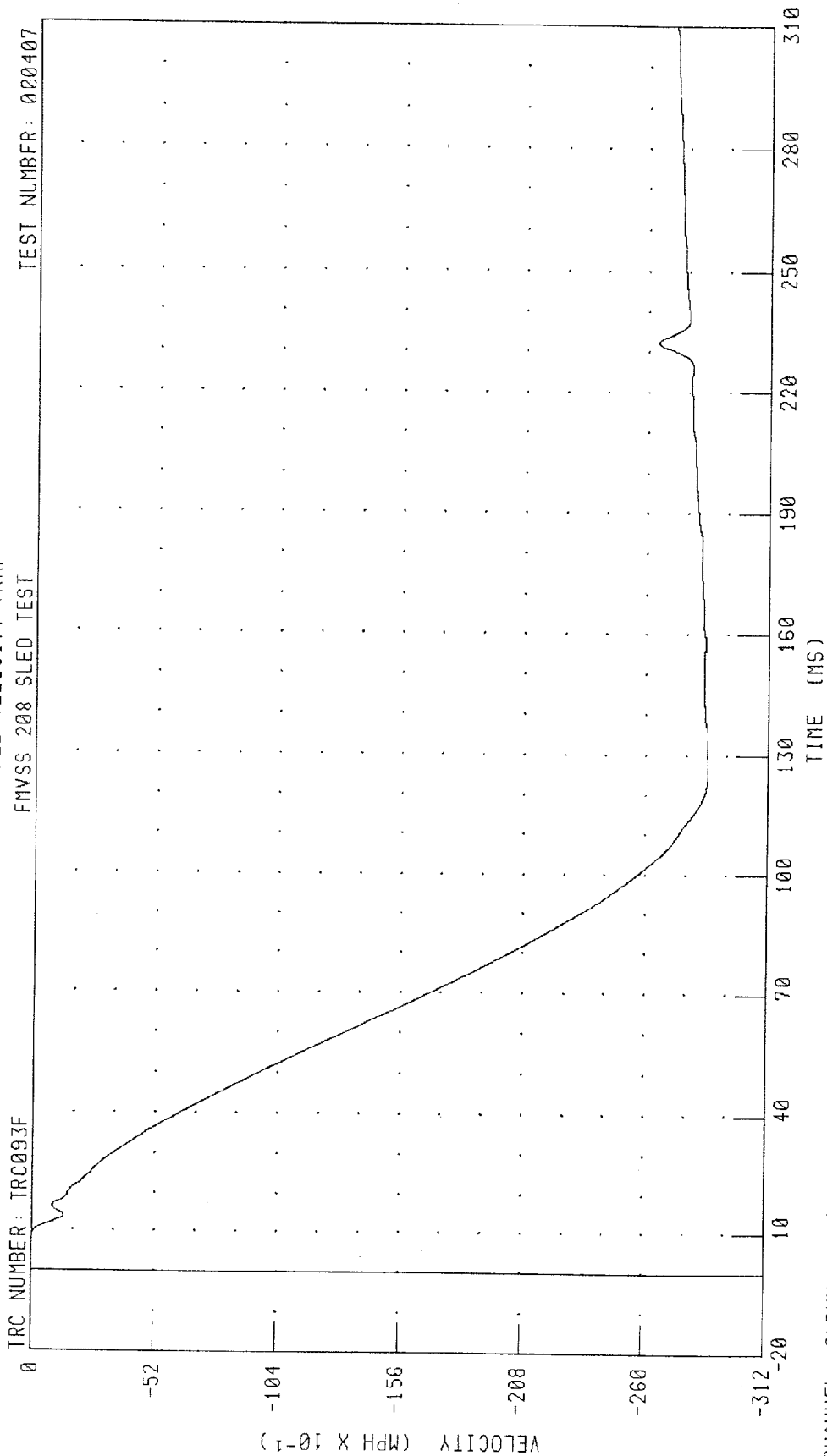


PEAK DATA: 1.89 G @ 134.64 MS, -18.16 G @ 55.60 MS

CHANNEL: SLDXCA FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
 MEASURED VELOCITY TRAP
 FMVSS 208 SLED TEST

TEST NUMBER: 000407



CHANNEL: SLDXV FILTER: CH. CLASS 60

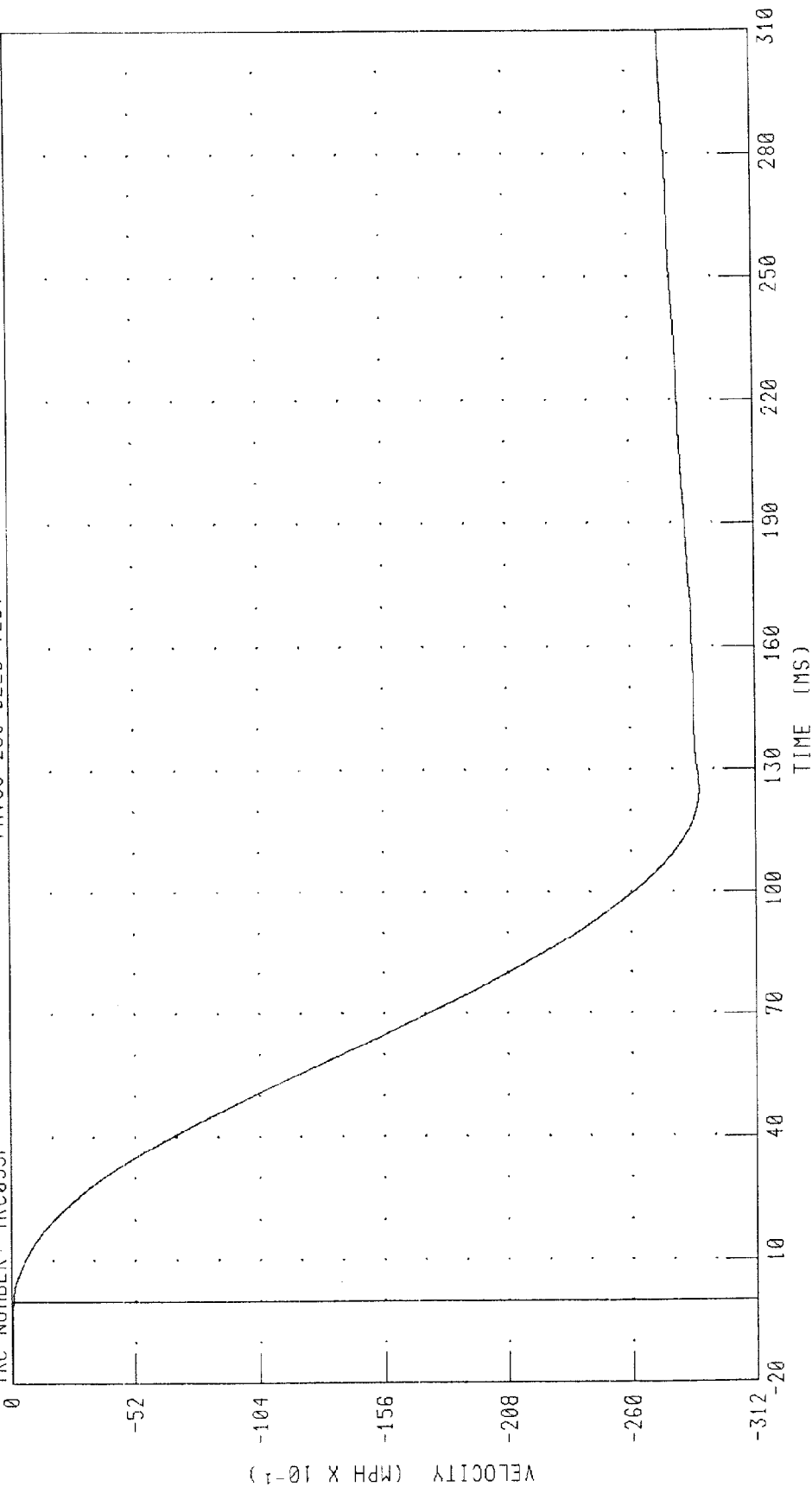
CY0204 / 2000 TOYOTA TACOMA

SLED VELOCITY (INTEGRATED)

FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



PEAK DATA: -0.01 MPH @ -20.00 MS; -28.85 MPH @ 125.04 MS

CHANNEL: SLDXVI FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA

DRIVER AIRBAG EVENT

FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

60

50

40

30

20

10

0

VOLTAGE (V X 10⁻²)

TIME (MS)

PEAK DATA: 1.00 V @ 21.68 MS; 0.00 V @ -20.00 MS

CHANNEL: ABEVT1 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
PASSENGER AIRBAG EVENT
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

60

50

40

30

20

10

0-20

VOLTAGE (V X 10⁻²)

TIME (MS)

310

280

250

220

190

160

130

100

70

40

10

PEAK DATA: 1.00 V @ 21.68 MS; 0.00 V @ -20.00 MS

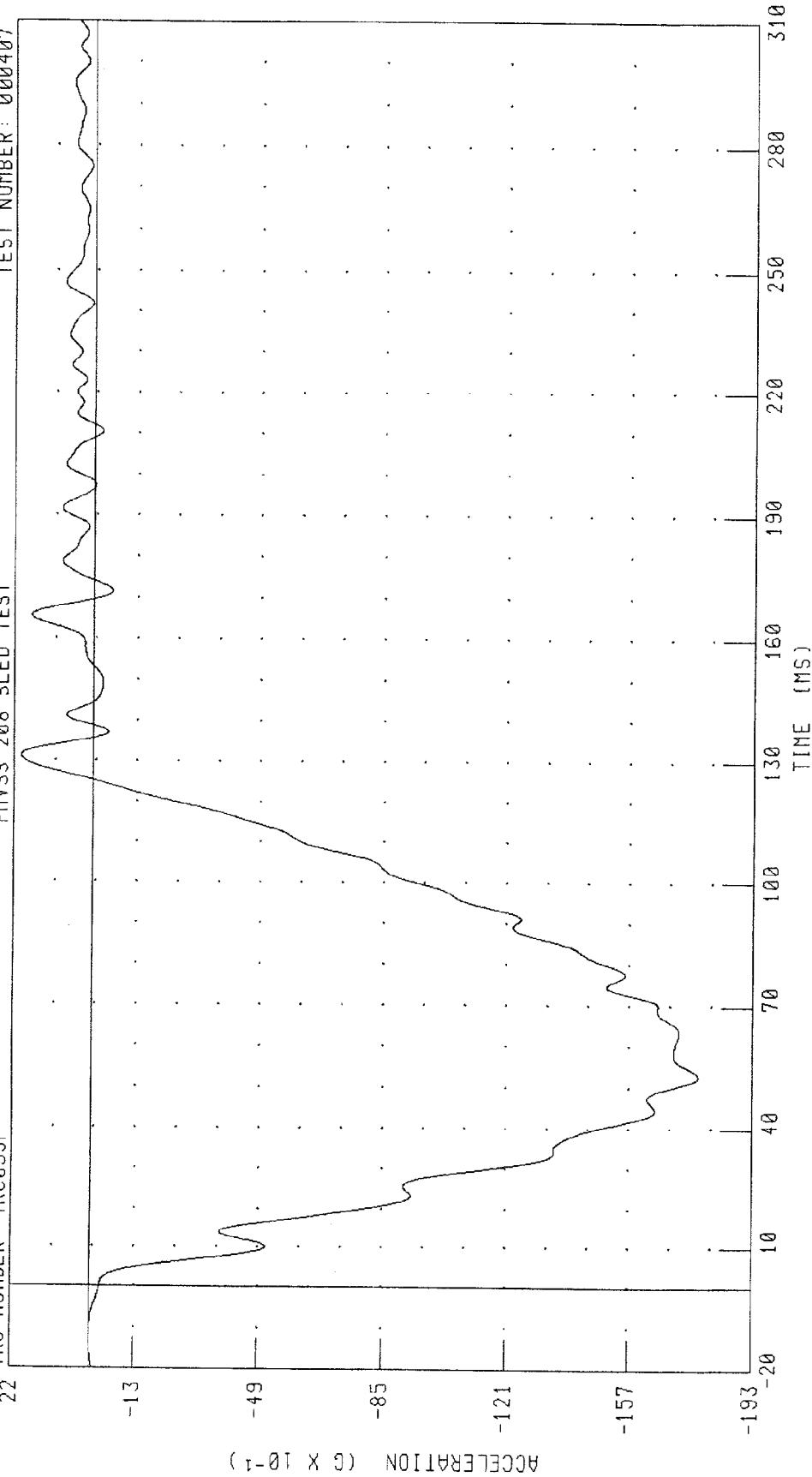
CHANNEL: ABEVT2 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
REAR AXLE X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: TRC093F

TEST NUMBER: 000407

22

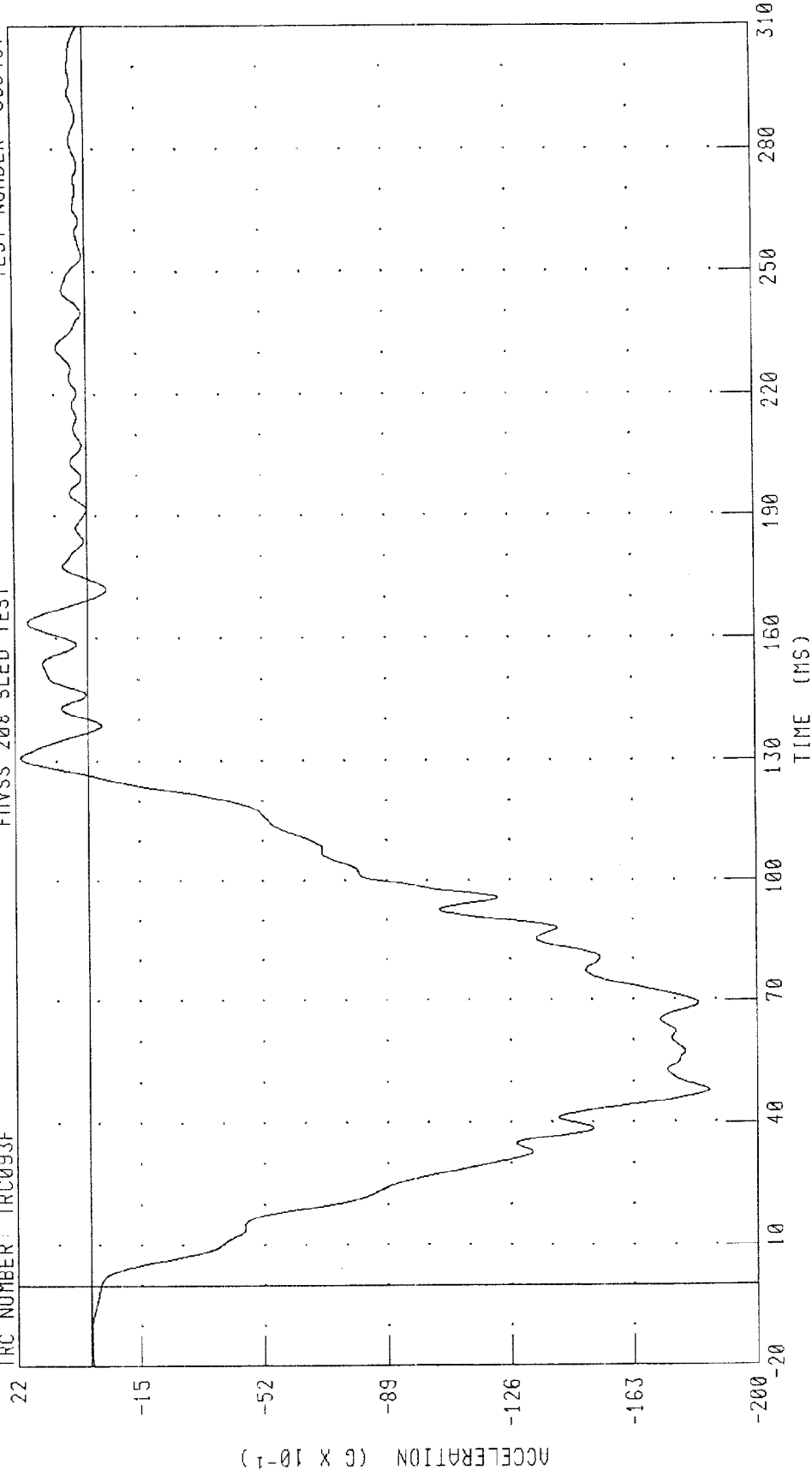


CHANNEL: RAXG FILTER: CH. CLASS 60

CY0204 / 2000 TOYOTA TACOMA
LEFT BODY X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



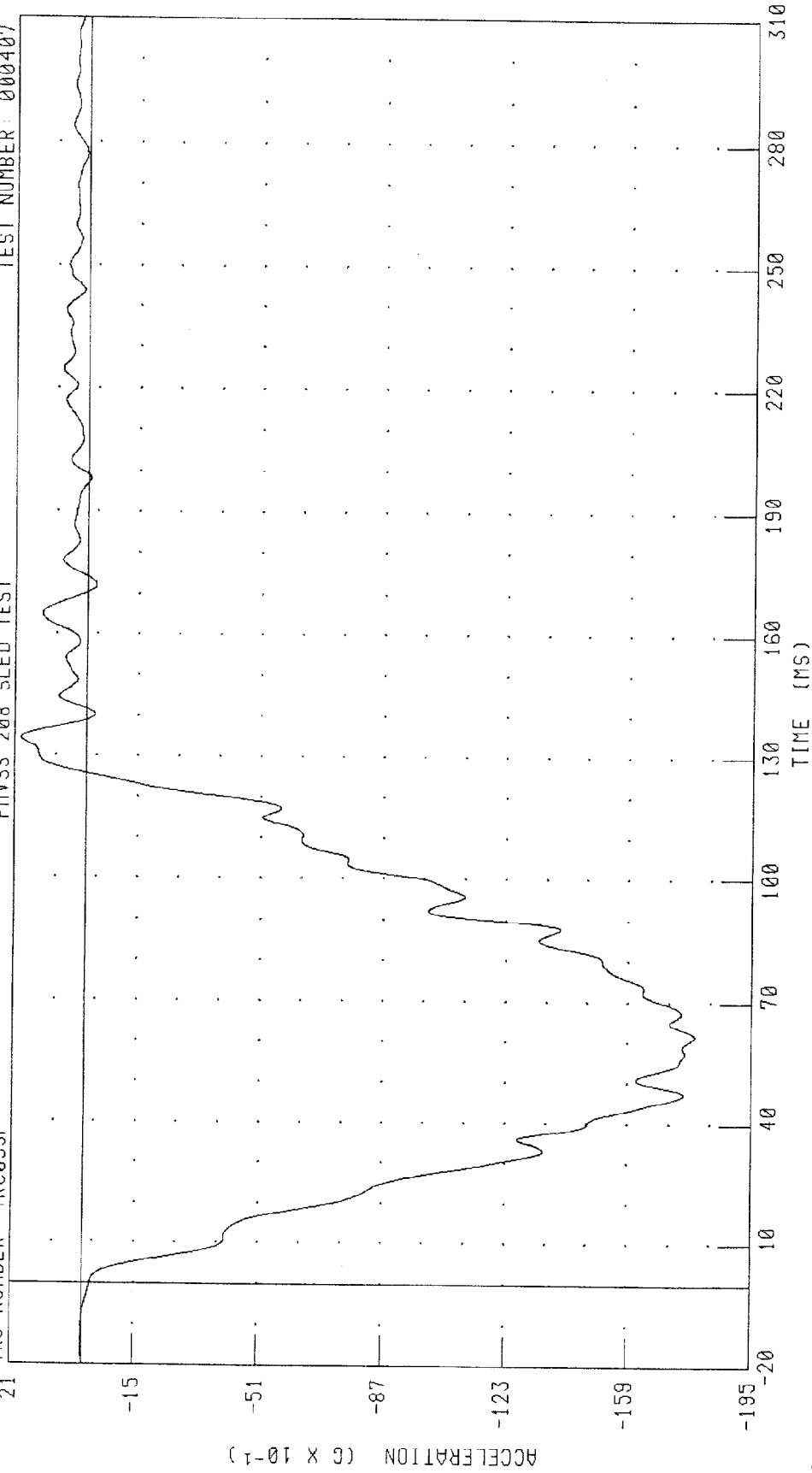
CHANNEL: LBXC FILTER: CH. CLASS 60

PEAK DATA: 2.04 G @ 130.88 MS; -18.57 G @ 48.00 MS

CY0204 / 2000 TOYOTA TACOMA
RIGHT BODY X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: TRC093F

TEST NUMBER: 000407



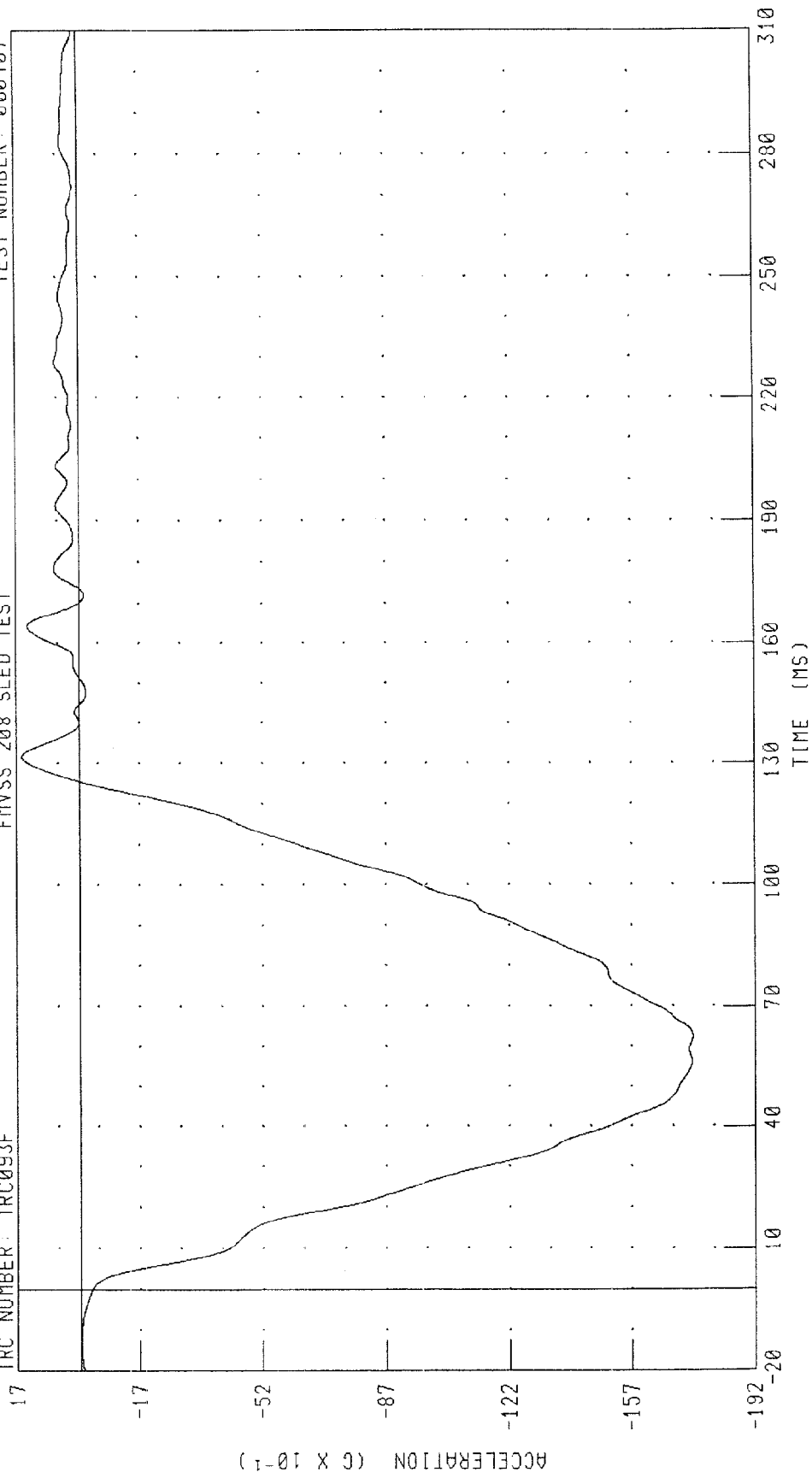
CHANNEL: RBXC FILTER: CH. CLASS 60

PEAK DATA: 1.91 G @ 134.32 MS; -17.85 G @ 61.60 MS

CY0204 / 2000 TOYOTA TACOMA
LEFT FRAME X-AXIS ACCELERATION
FMYSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



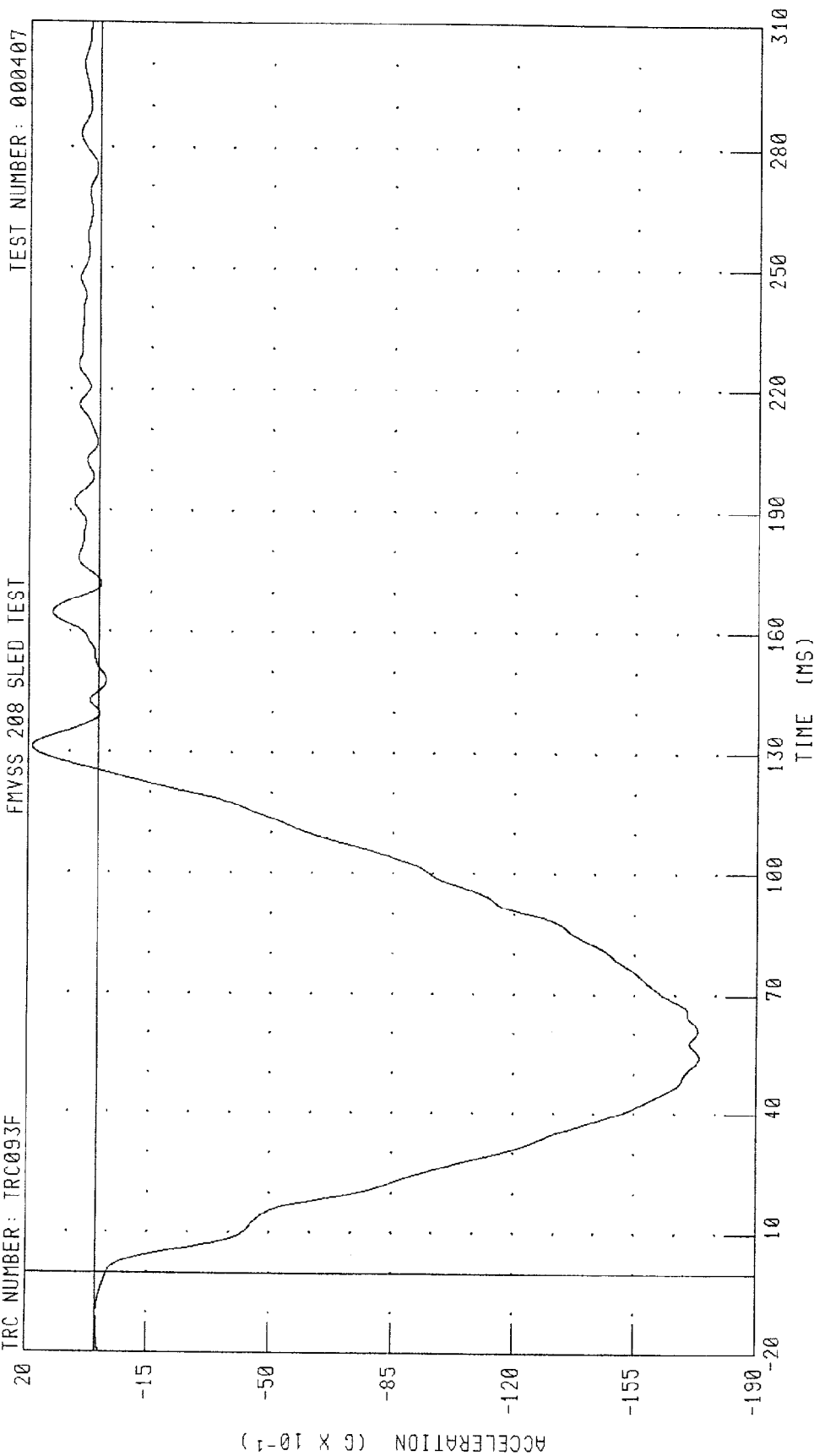
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PEAK DATA: 1.65 G @ 131.68 MS, -17.45 G @ 62.56 MS

CY0204 / 2000 TOYOTA TACOMA
RIGHT FRAME X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



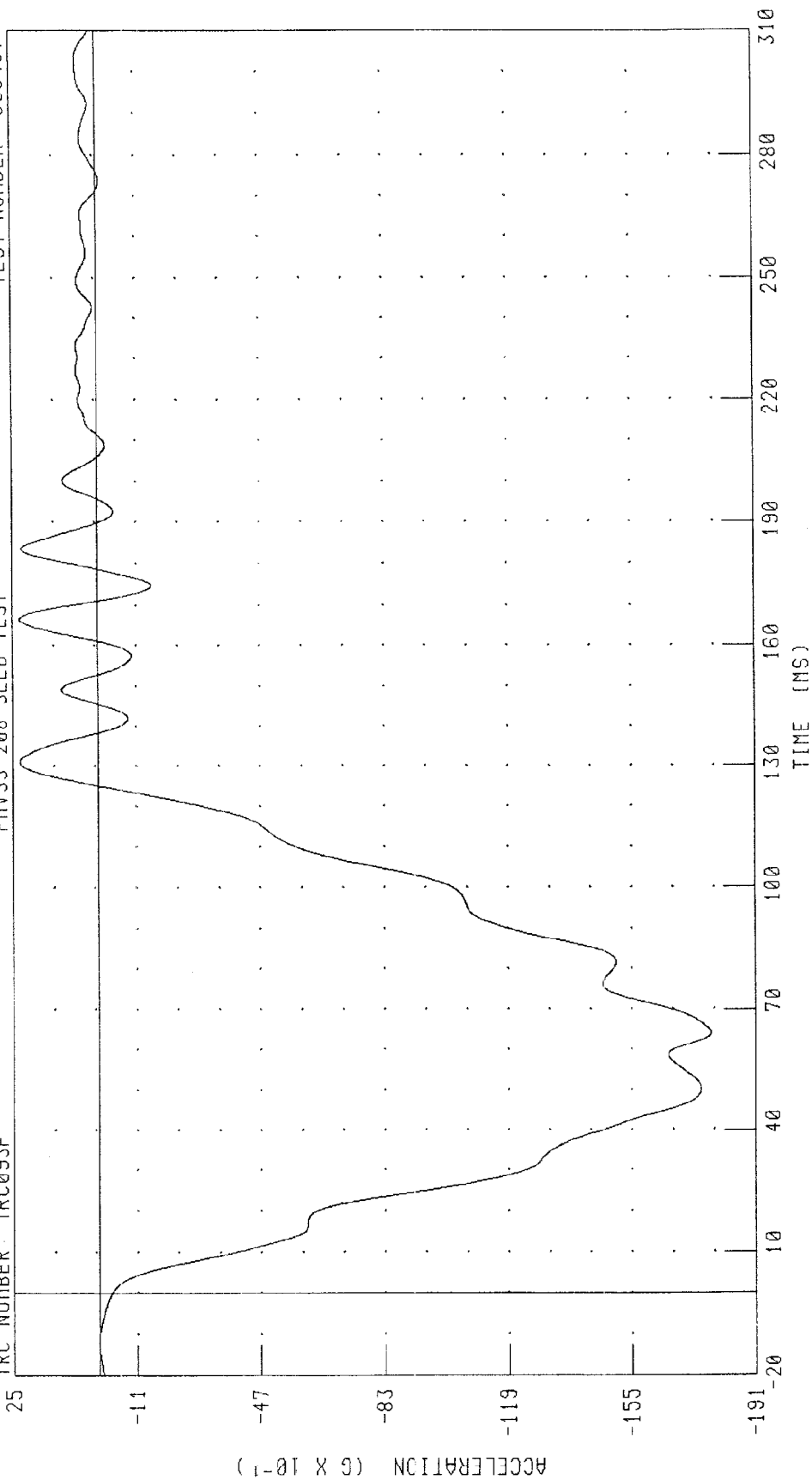
CHANNEL: RFXG FILTER: CH. CLASS 60

PEAK DATA: 1.90 G @ 131.36 MS; -17.37 G @ 54.24 MS

CY0204 / 2000 TOYOTA TACOMA
 BOTTOM ENGINE X-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



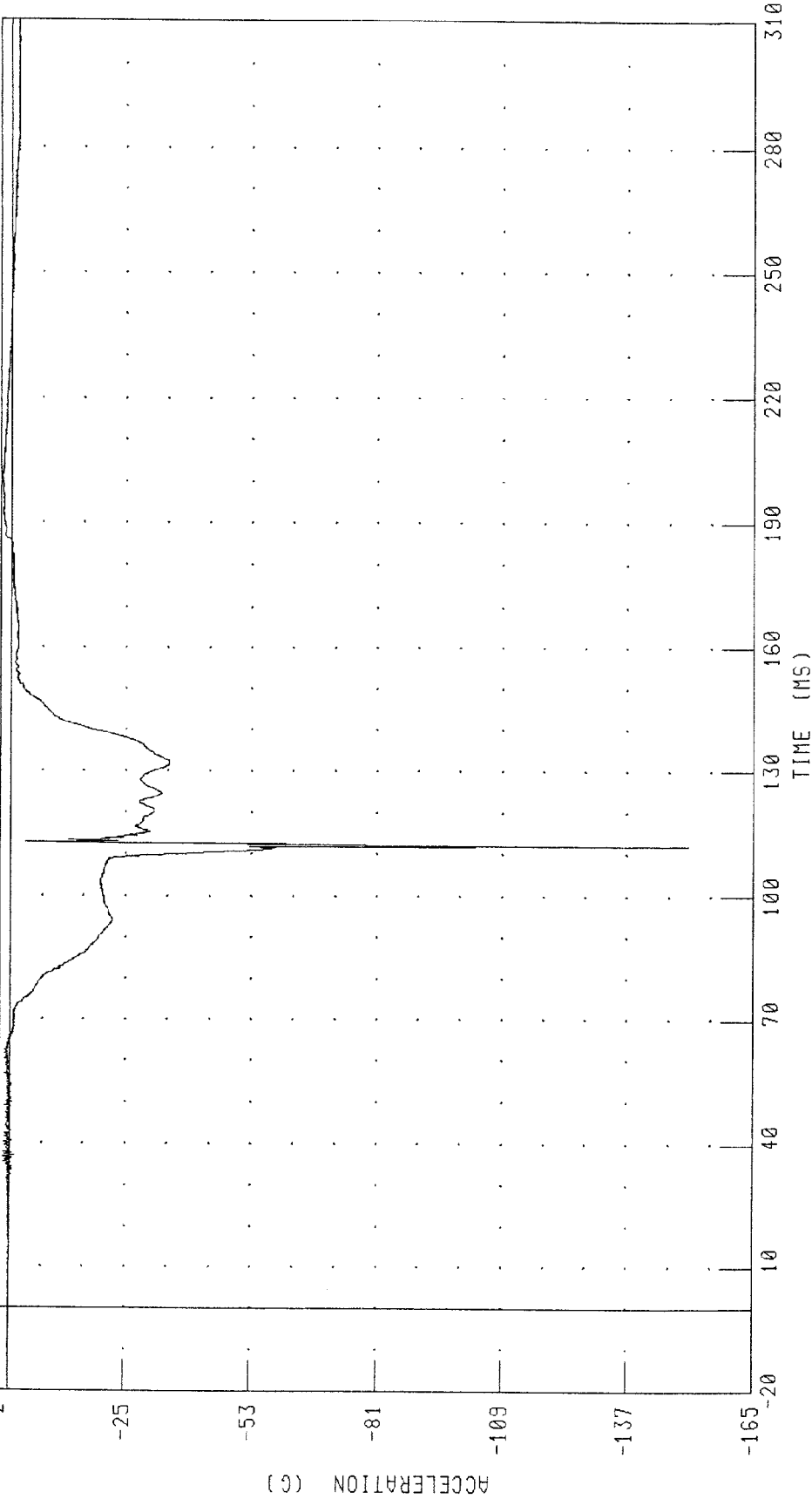
PEAK DATA: 2.30 G @ 131.04 MS, -17.81 G @ 64.24 MS

CHANNEL: BEXG FILTER CH. CLASS 60

CY0204 / 2000 TOYOTA TACOMA
 DRIVER HEAD X-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



PEAK DATA: 2.13 G @ 199.60 MS, -151.23 G @ 112.00 MS

CHANNEL: HEDXC1 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
 DRIVER HEAD Y-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

213

164

ACCELERATION (G X 10⁻¹)

115

66

17

-32

-81

TIME (MS)

310

280

250

220

190

160

130

100

70

40

10

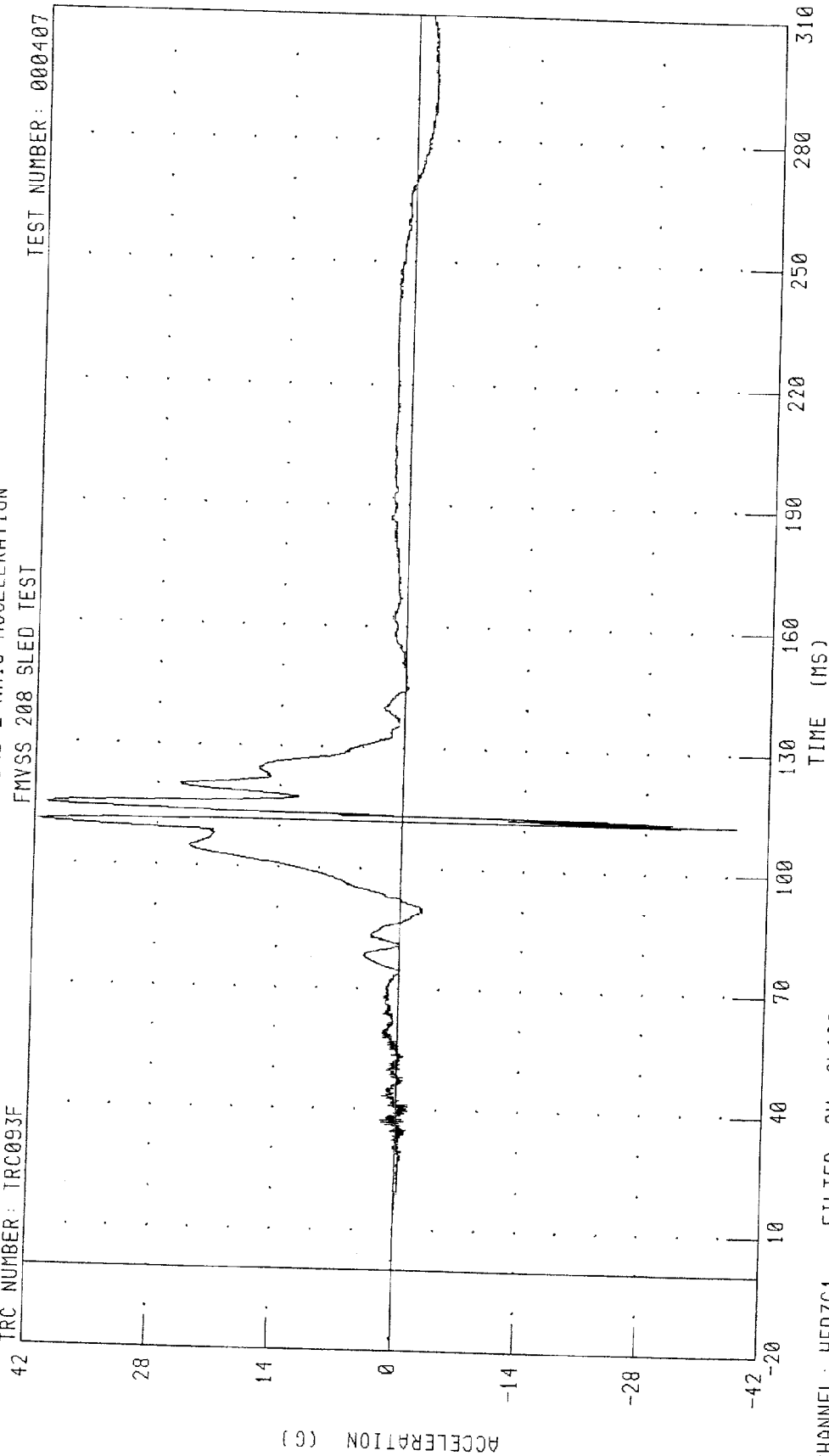
CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

PEAK DATA: 19.74 G @ 112.24 MS, -7.42 G @ 139.92 MS

CY0204 / 2000 TOYOTA TACOMA
DRIVER HEAD Z-AXIS ACCELERATION
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: IRC093F



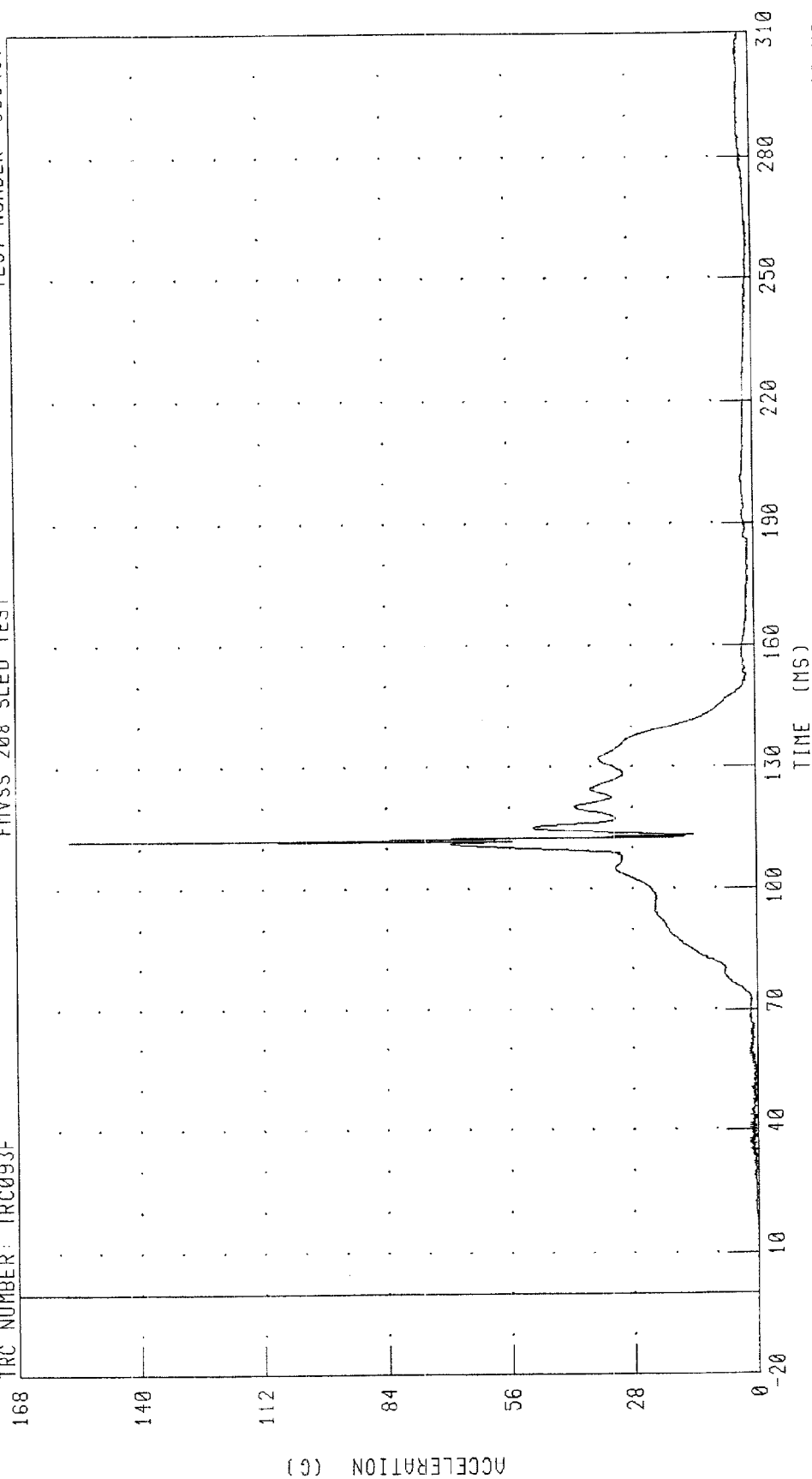
CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

PEAK DATA: 41.71 G @ 110.80 MS, -38.39 G @ 112.00 MS

CY0204 / 2000 TOYOTA TACOMA
 DRIVER HEAD RESULTANT ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

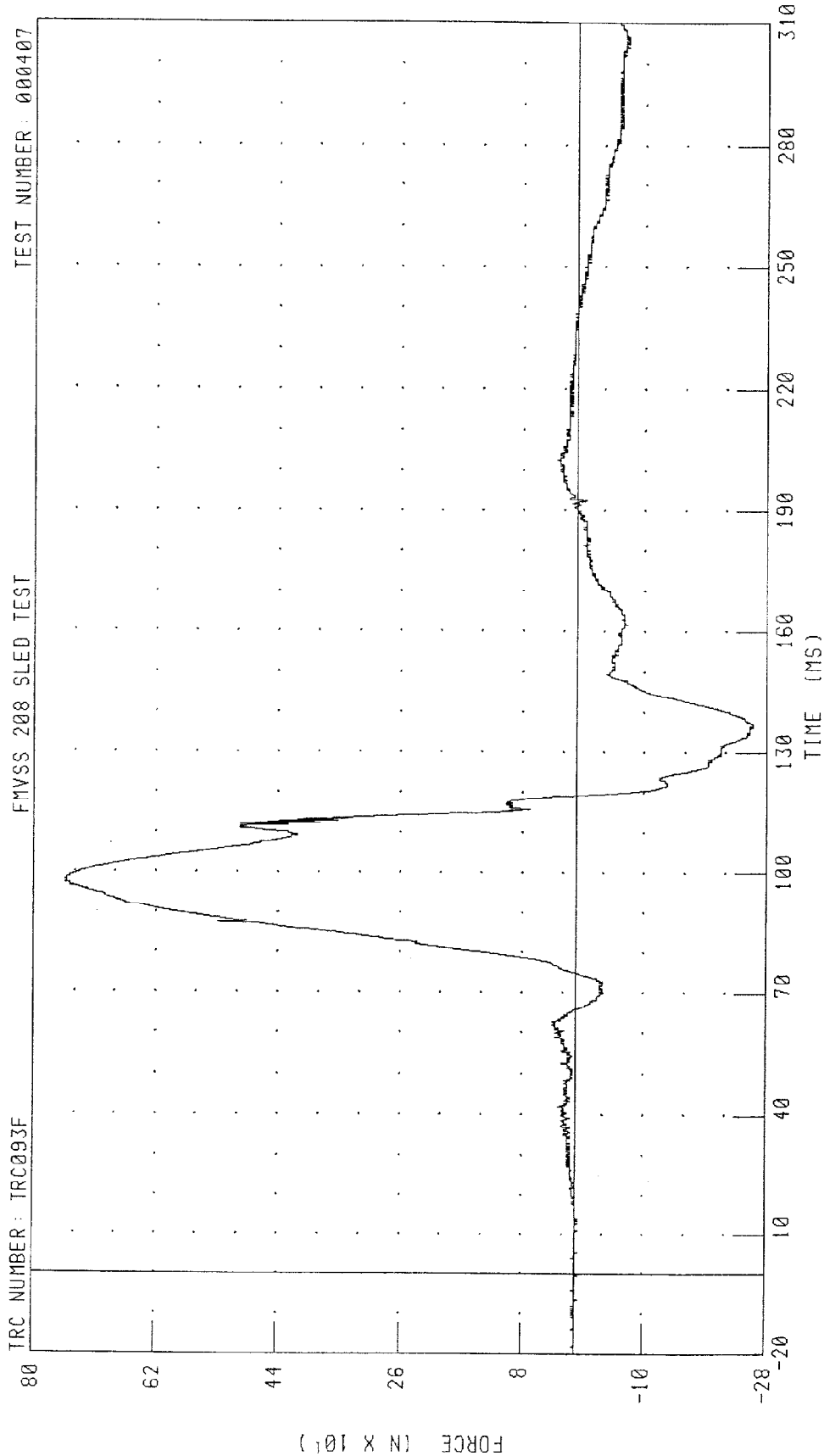
TRC NUMBER: TRC093F



PEAK DATA: 156.04 G @ 112.00 MS, 0.02 G @ -20.00 MS

CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
DRIVER NECK X-AXIS SHEAR FORCE
F1VSS 208 SLED TEST



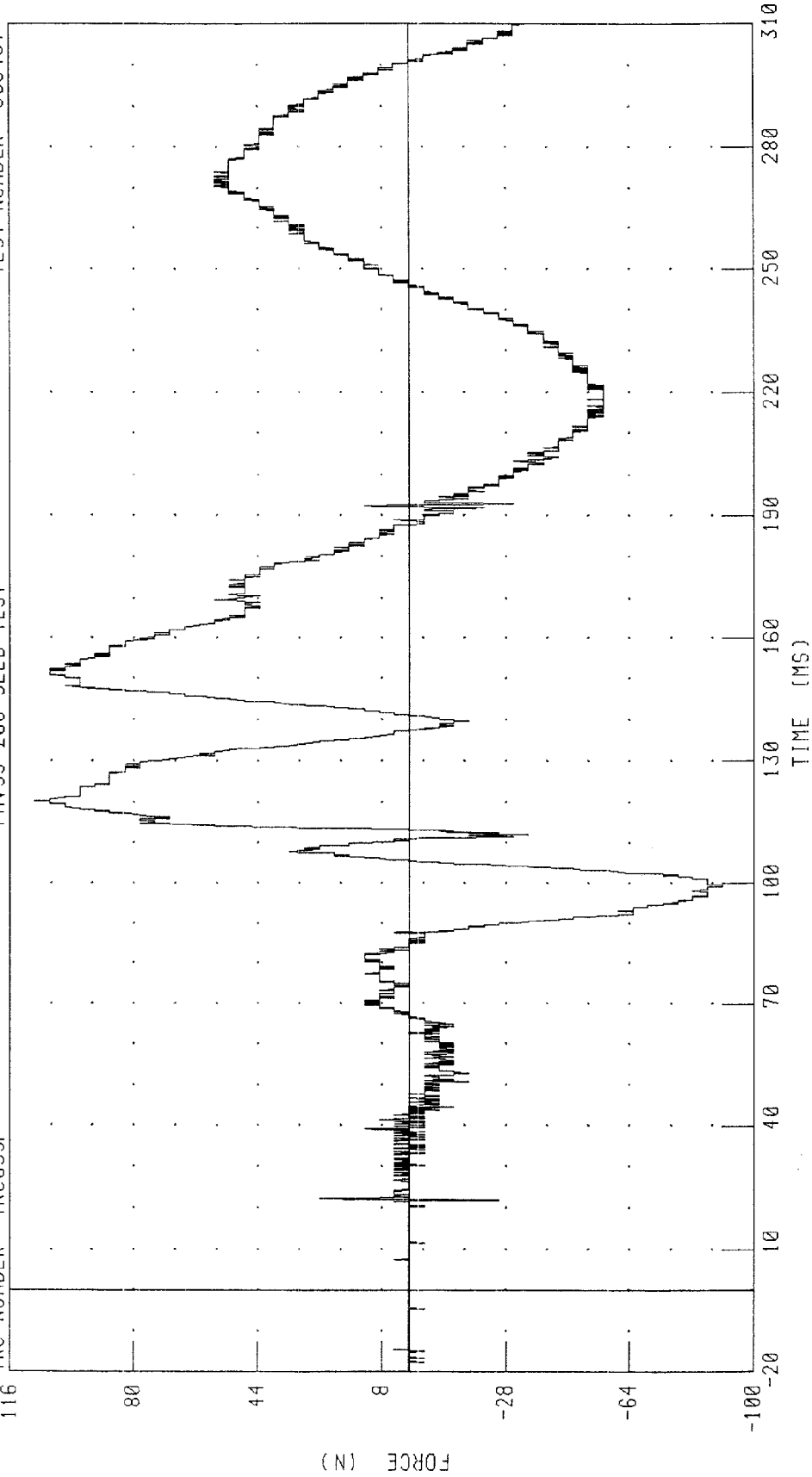
CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

PEAK DATA: 755.30 N @ 97.44 MS; -260.50 N @ 136.32 MS

CY0204 / 2000 TOYOTA TACOMA
DRIVER NECK Y-AXIS SHEAR FORCE
FMVSS 208 SLED TEST

TRC NUMBER: TRC093F

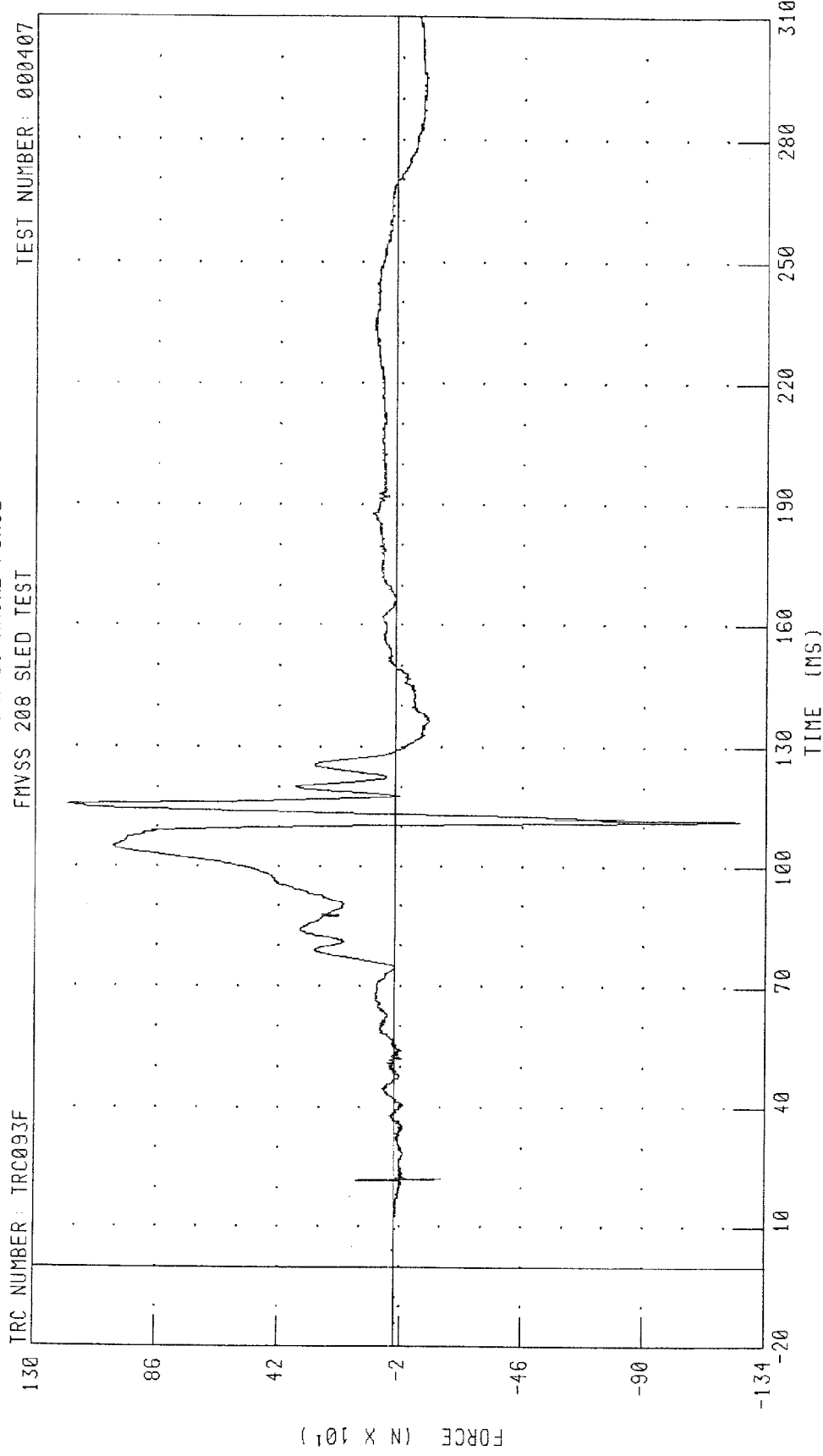
TEST NUMBER: 000407



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 100.73 N @ 120.40 MS, -91.04 N @ 99.20 MS

CY0204 / 2000 TOYOTA TACOMA
 DRIVER NECK Z-AXIS AXIAL FORCE



TRC NUMBER: TRC093F TEST NUMBER: 000407
 FMVSS 208 SLED TEST
 CHANNEL: NEKZF1 FILTER: CH. CLASS 1000
 PEAK DATA: 1185.44 N @ 115.60 MS, -1244.14 N @ 121.60 MS

CY0204 / 2000 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT X AXIS
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

178

120

62

4

-53

-112

-170

TORQUE (N·M X 10⁻¹)

TIME (MS)

PEAK DATA: 16.27 N·M @ 139.76 MS; -15.87 N·M @ 107.44 MS

CHANNEL: NEKXM1 FILTER: CH. CLASS 600

CY0204 / 2000 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT Y AXIS
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

59

46

33

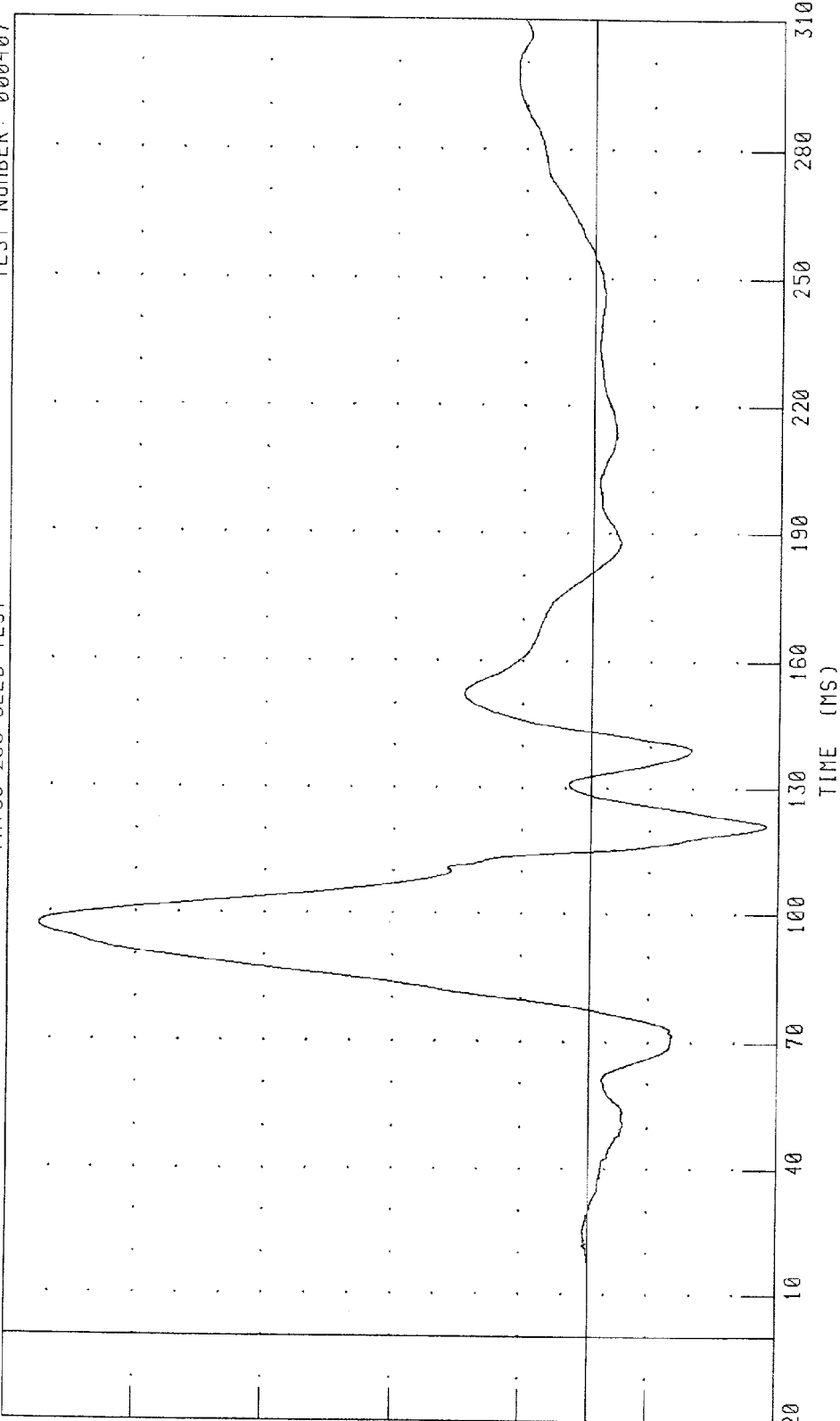
20

7

-6

-19

TORQUE (N·M)



TIME (MS)

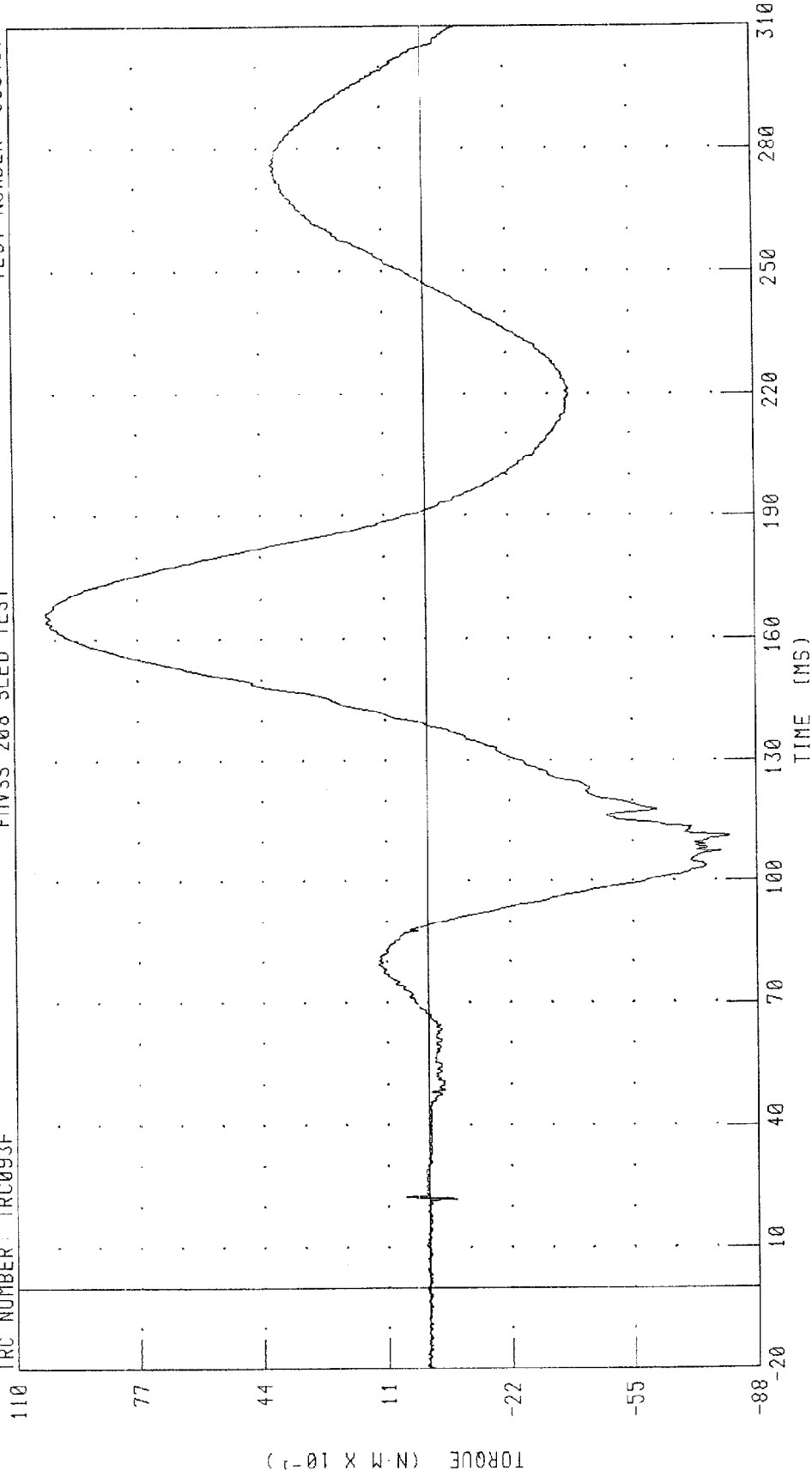
PEAK DATA: 55.87 N·M @ 97.28 MS, -17.79 N·M @ 121.36 MS

CHANNEL: NEKYM1 FILTER: CH. CLASS 600

CY0204 / 2000 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT Z AXIS
FMVSS 208 SLED TEST

TEST NUMBER: 000407

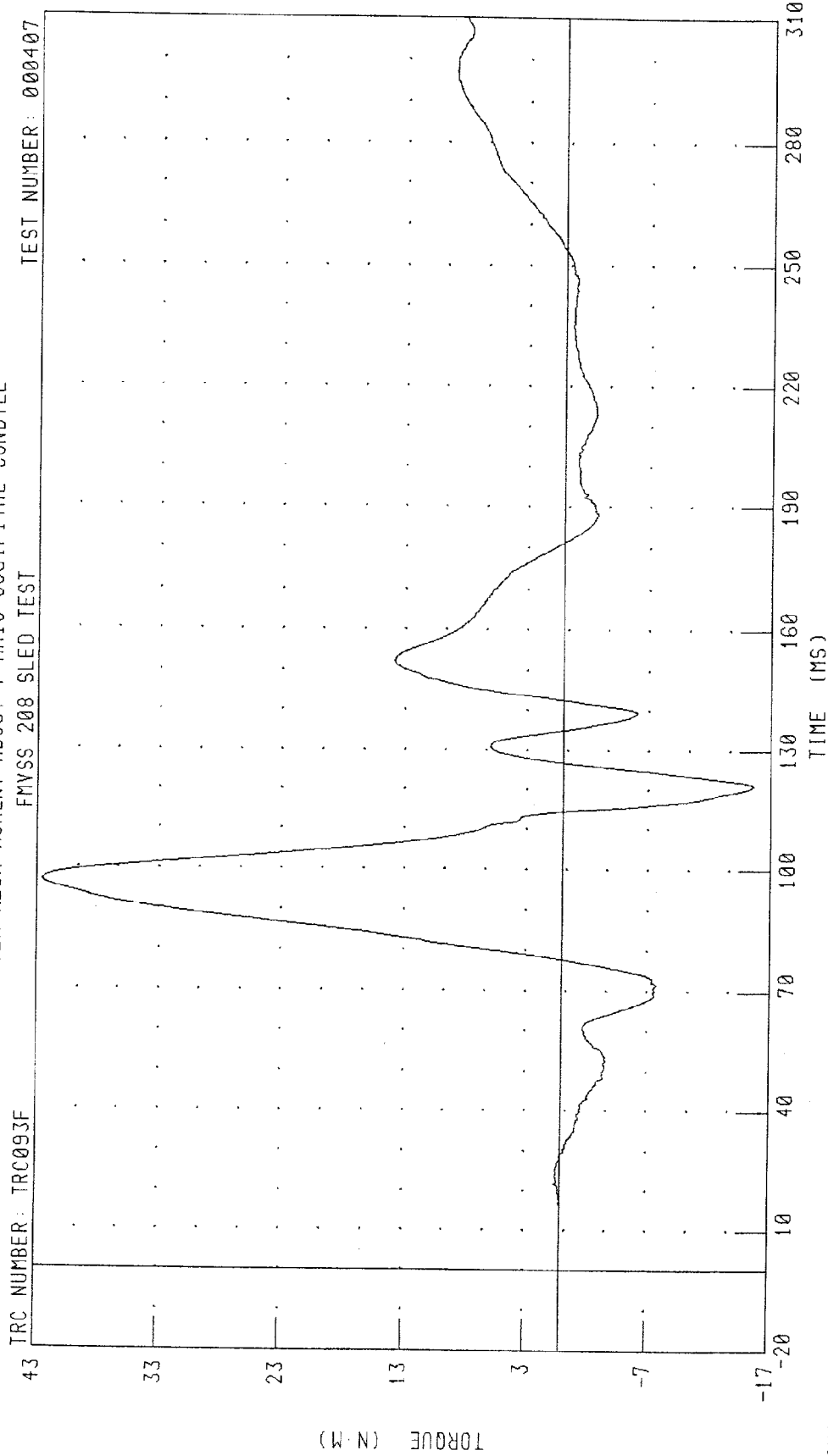
TRC NUMBER: TRC093F



PEAK DATA: 10.16 N M @ 166.40 MS, -8.07 N M @ 111.20 MS

CHANNEL: NEKZM1 FILTER: CH. CLASS 600

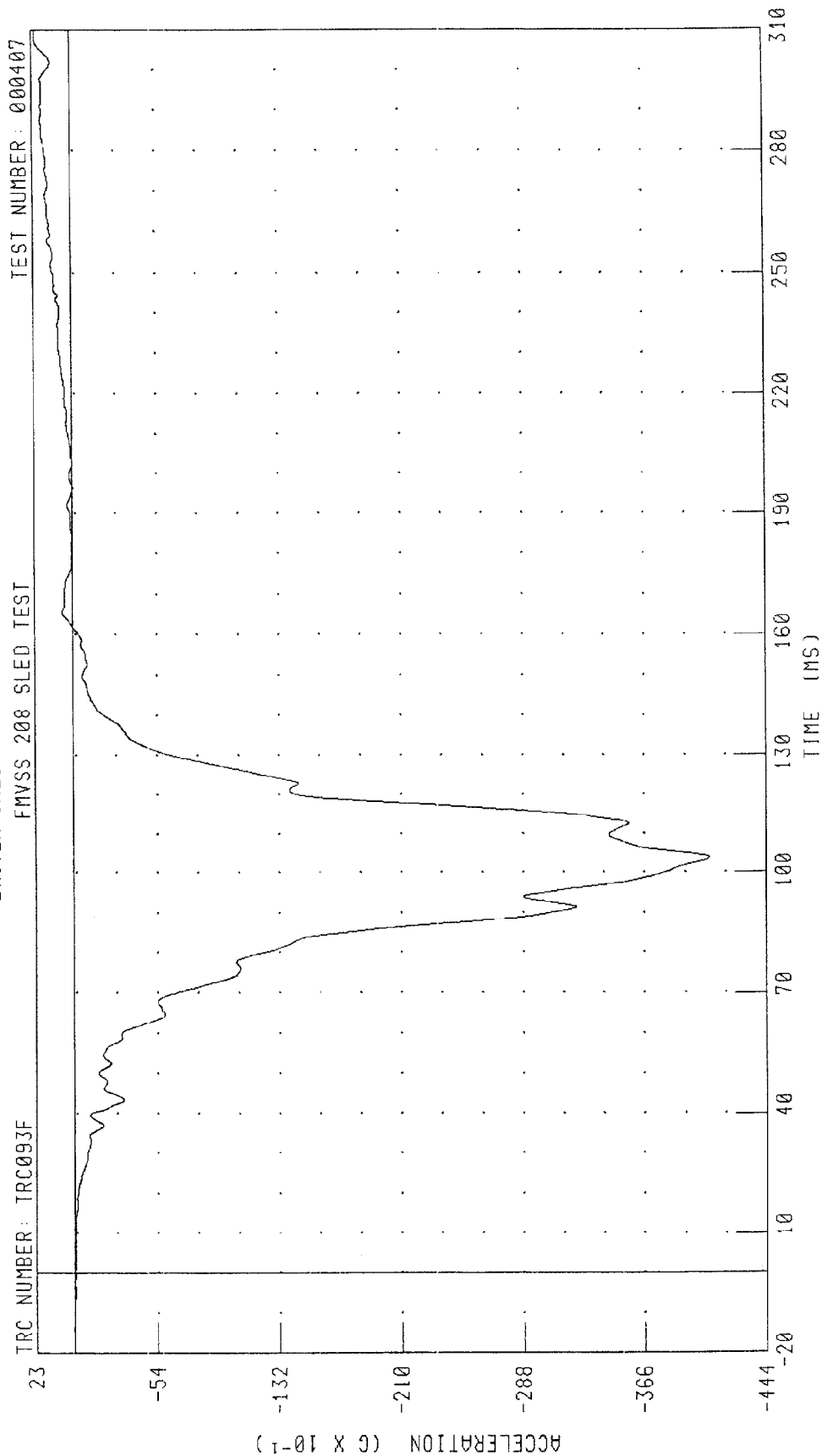
CY0204 / 2000 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE
FMVSS 208 SLED TEST



CHANNEL: NEK0M1 FILTER: CH. CLASS 600

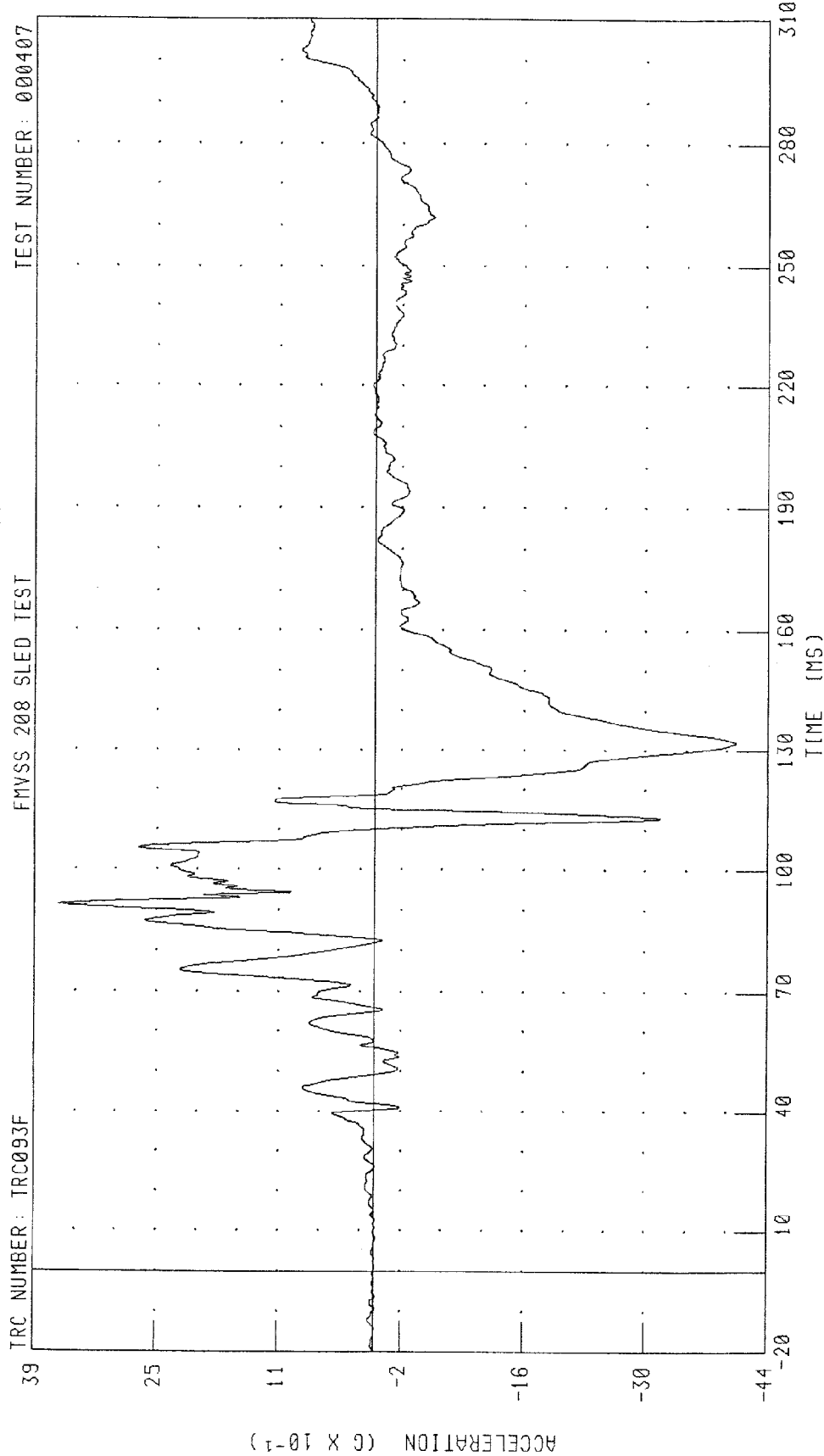
PEAK DATA: 42.58 N·M @ 97.04 MS; -15.61 N·M @ 121.28 MS

CY0204 / 2000 TOYOTA TACOMA
 DRIVER CHEST X-AXIS ACCELERATION
 FMVSS 208 SLED TEST



CHANNEL: CSTXG1 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
DRIVER CHEST Y-AXIS ACCELERATION
FMVSS 208 SLED TEST

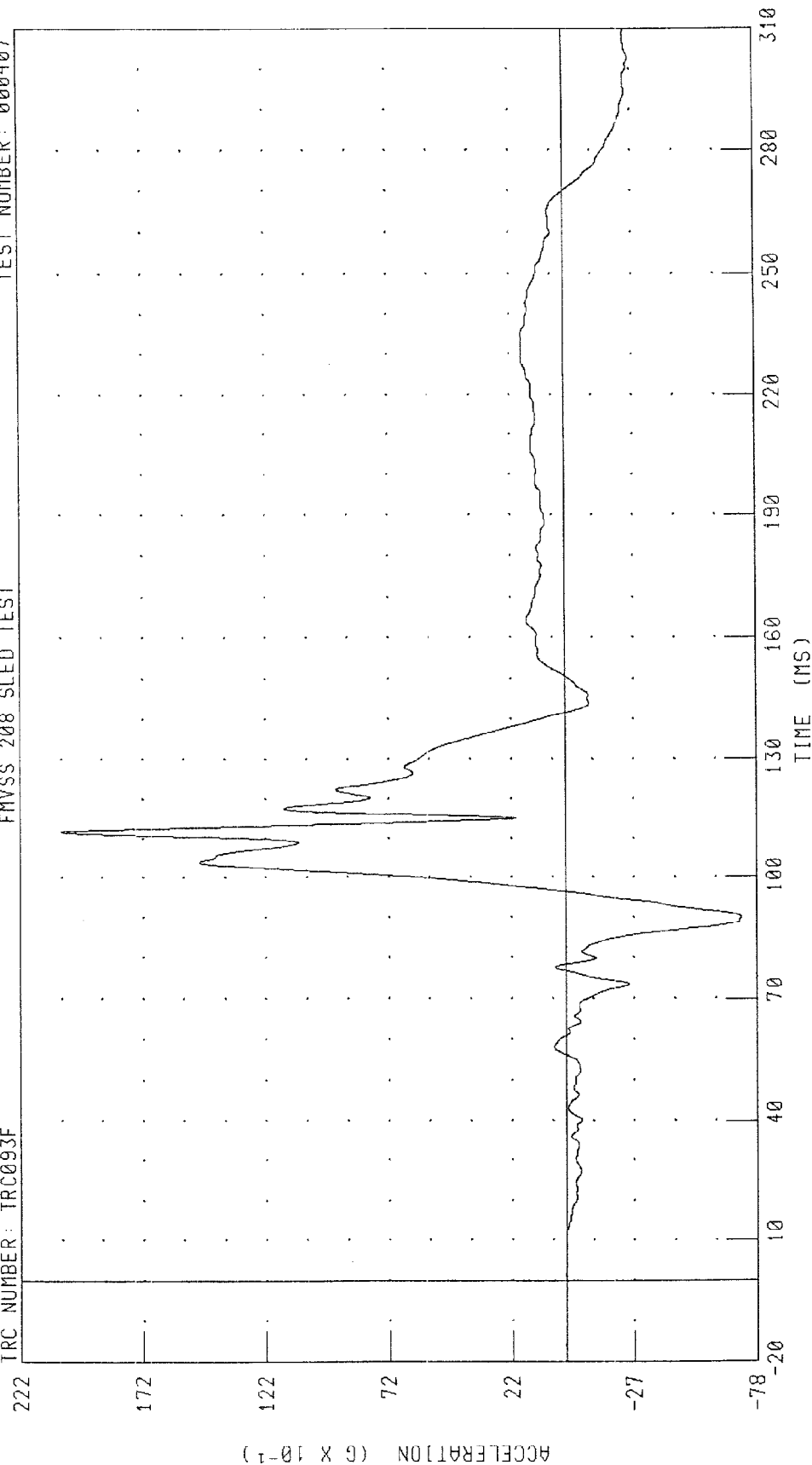


CHANNEL: CSTYC1 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
 DRIVER CHEST Z-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



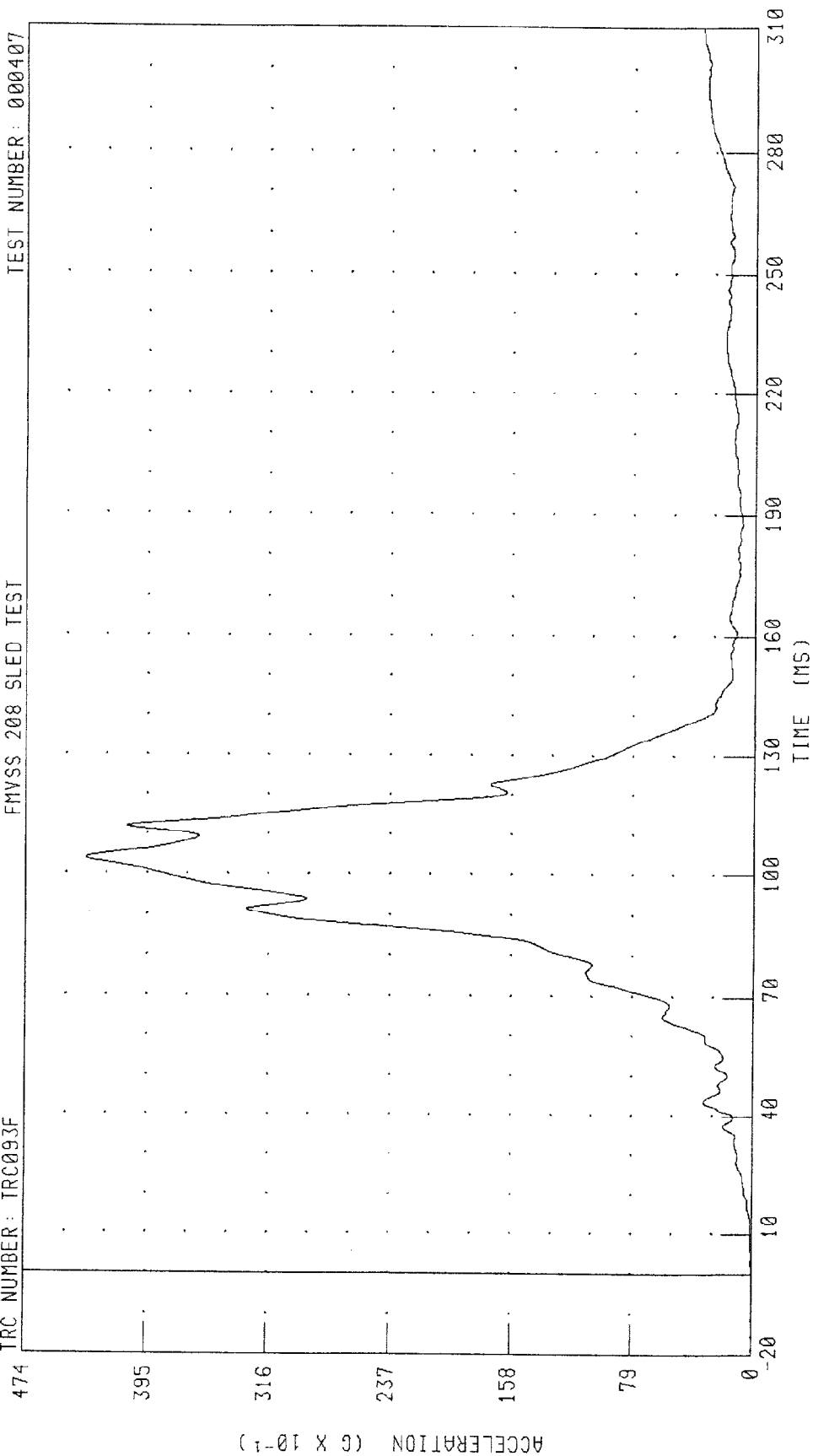
PEAK DATA: 20.54 G @ 111.76 MS; -7.17 G @ 90.08 MS

CHANNEL: CSTZG1 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
 DRIVER CHEST RESULTANT ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

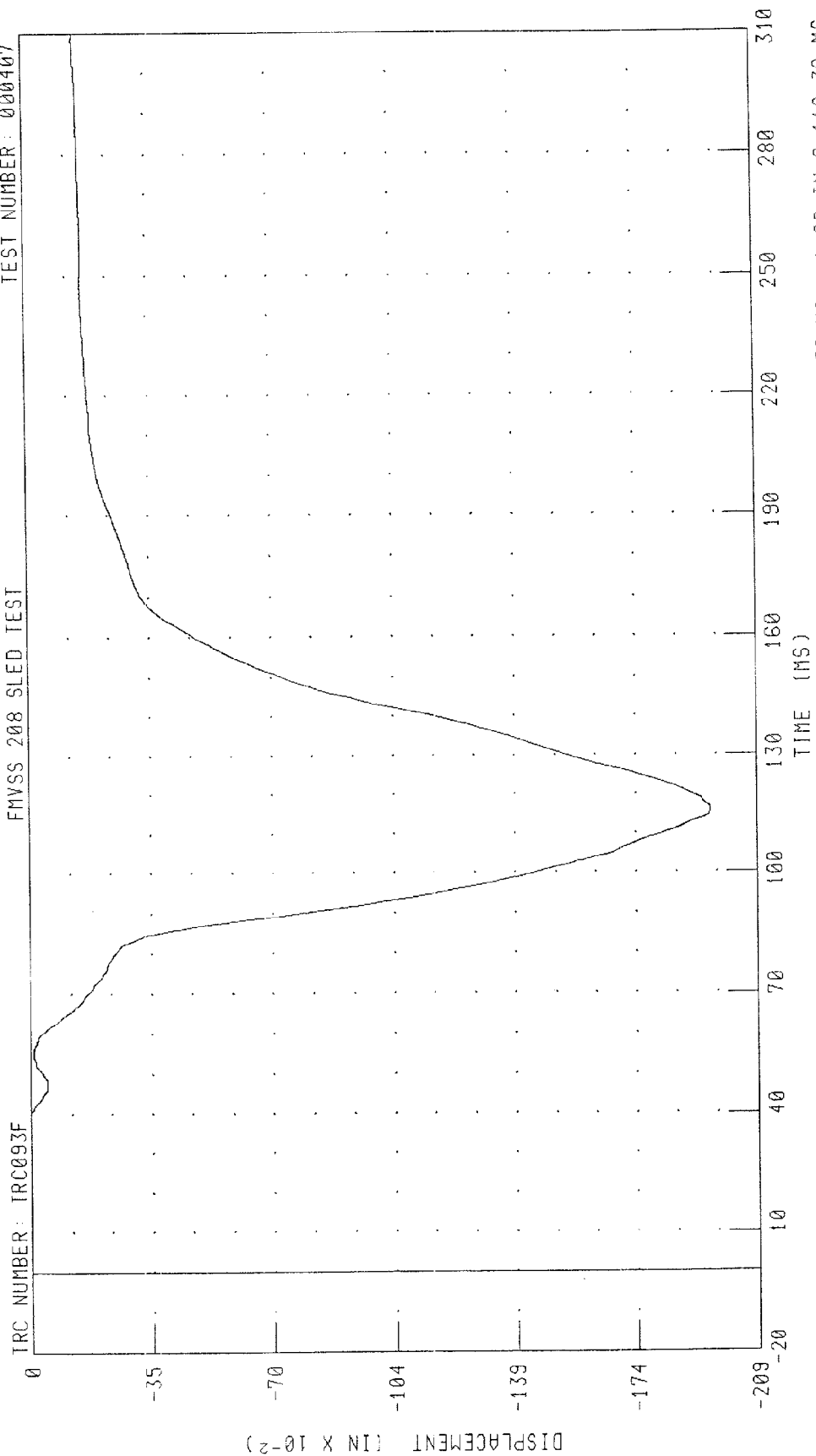


PEAK DATA: 43.47 G @ 104.08 MS, 0.01 G @ -14.64 MS

CHANNEL: CSTRG1 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
DRIVER CHEST DEFLECTION
FMVSS 208 SLED TEST

TEST NUMBER: 000407



PEAK DATA: 0.00 IN @ 39.52 MS; -1.96 IN @ 116.32 MS

CHANNEL: CSTXD1 FILTER: CH. CLASS 600

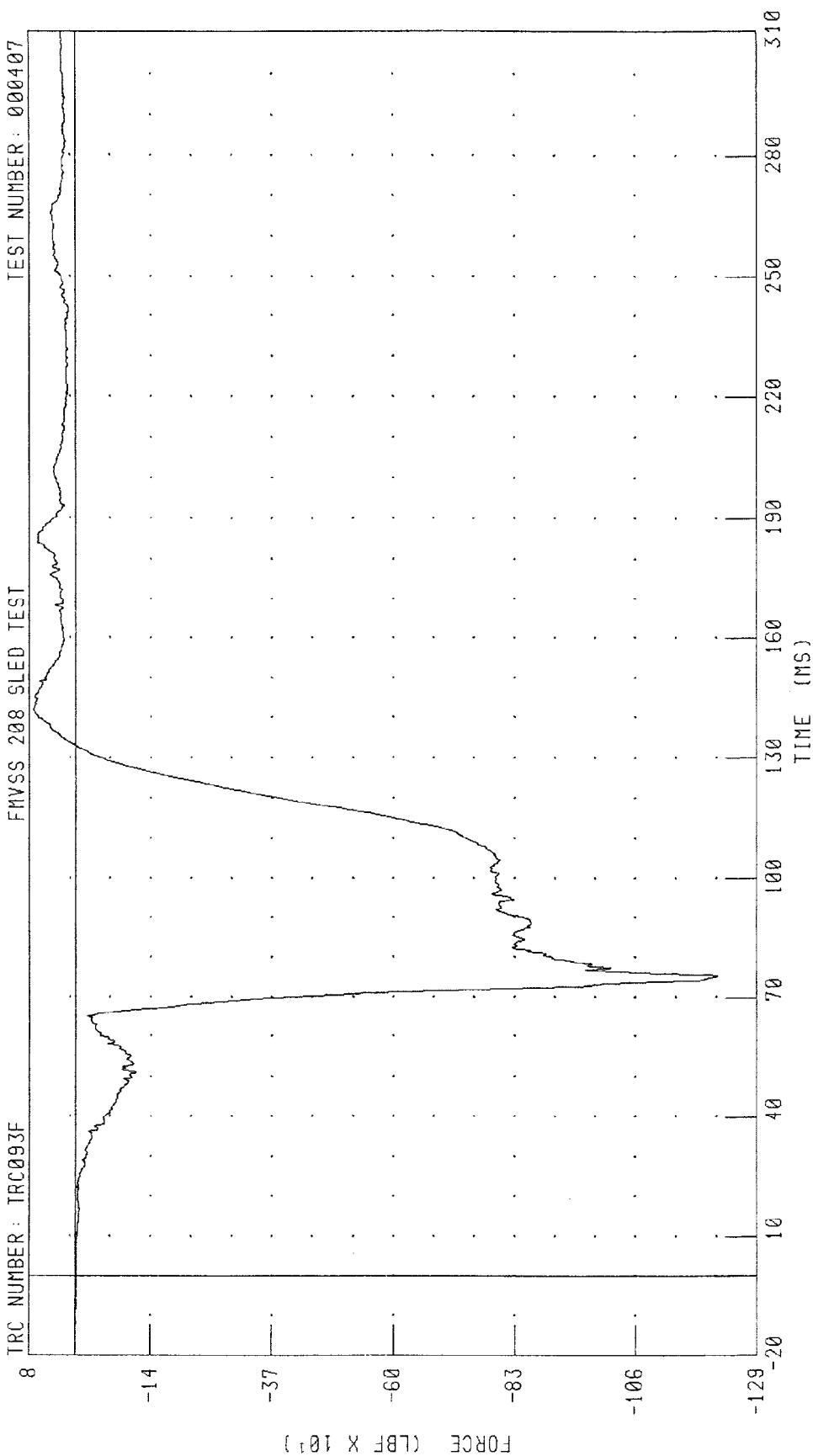
CY0204 / 2000 TOYOTA TACOMA

DRIVER LEFT FEMUR FORCE

FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



CHANNEL: LFMZF1 FILTER: CH. CLASS 600

PEAK DATA: 79.18 LBF @ 141.92 MS; -1219.45 LBF @ 75.36 MS

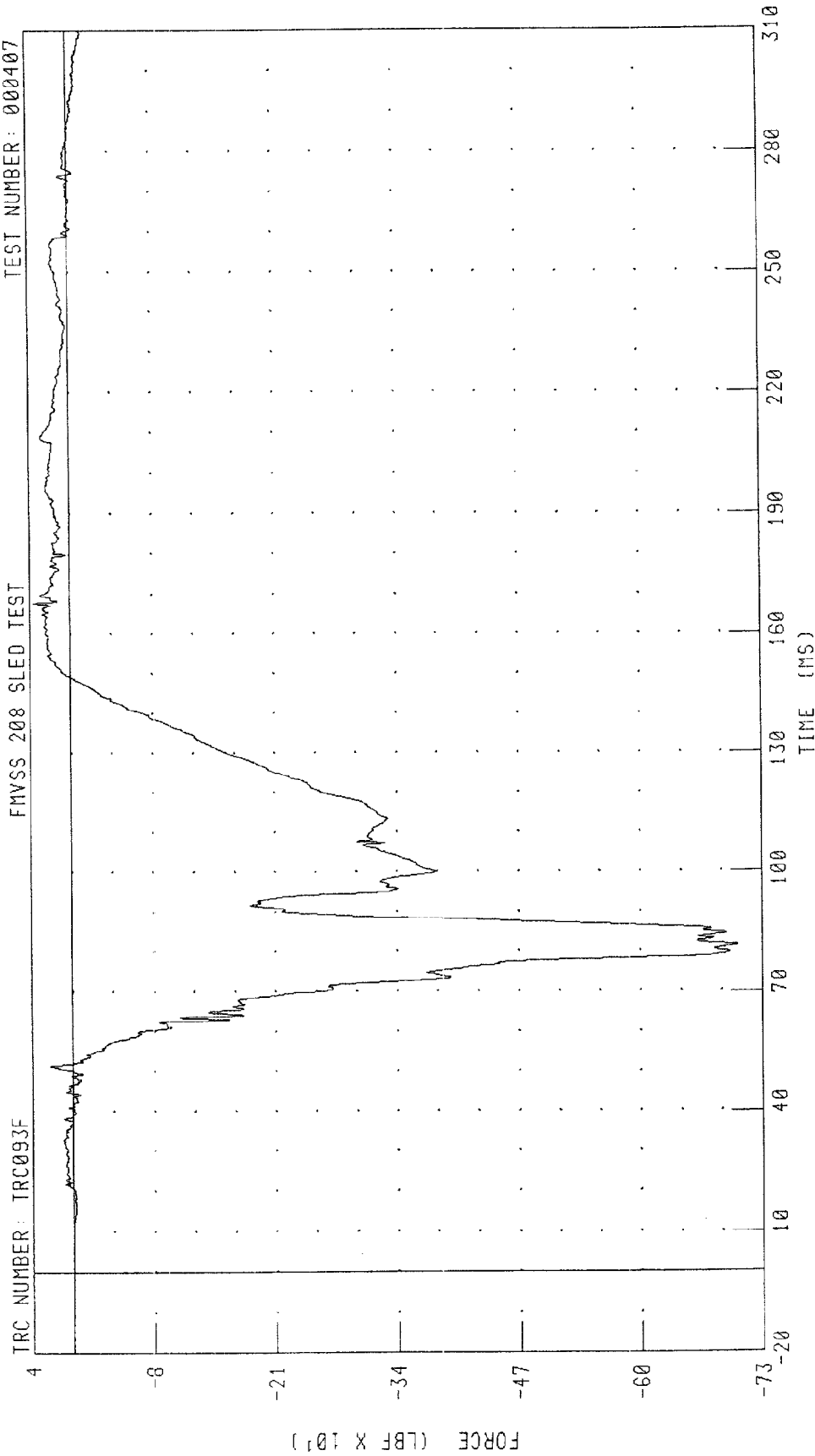
CY0204 / 2000 TOYOTA TACOMA

DRIVER RIGHT FEMUR FORCE

FMVSS 208 SLED TEST

TEST NUMBER: 000407

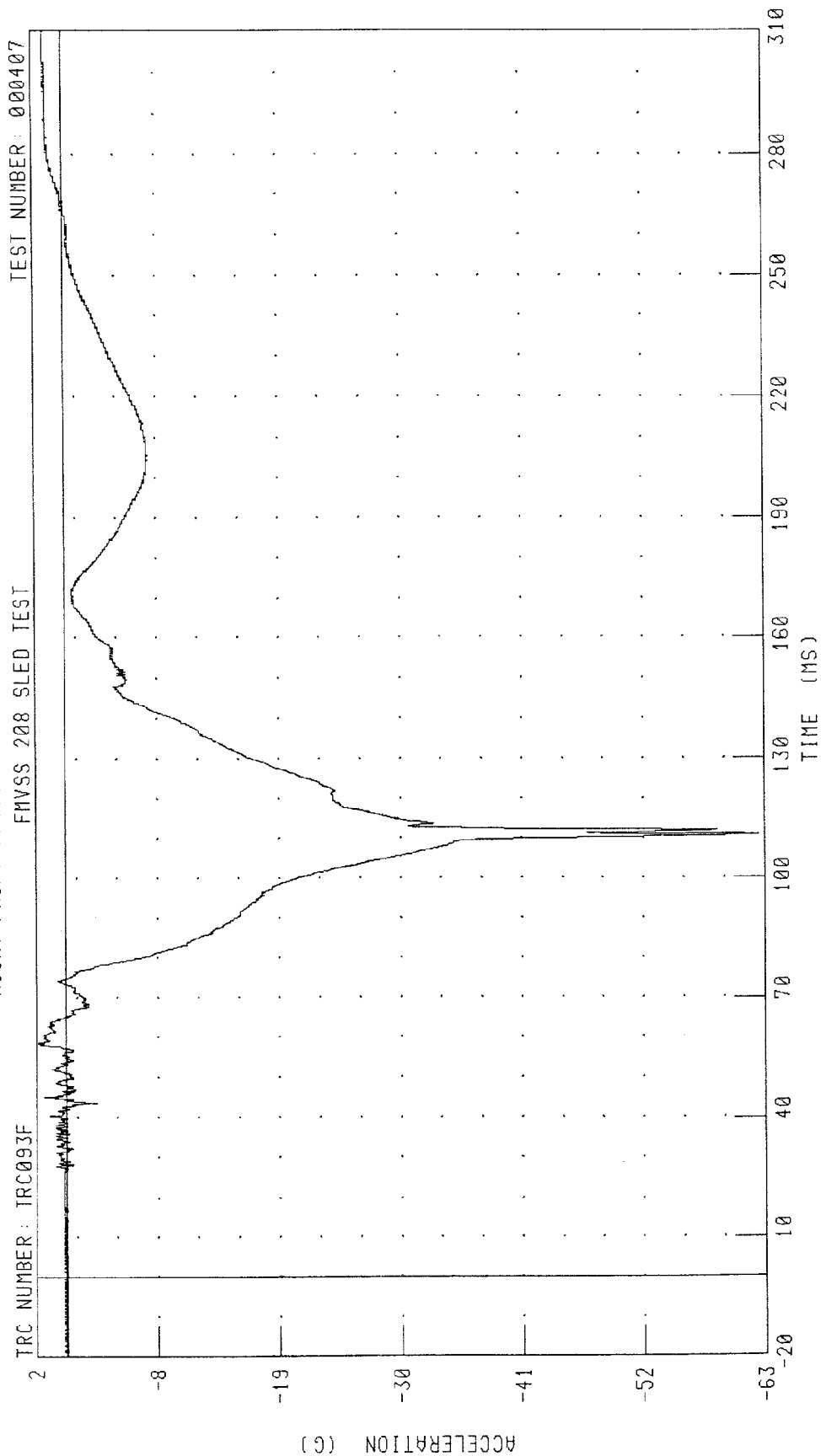
TRC NUMBER: TRC093F



PEAK DATA: 39.31 LBF @ 167.92 MS, -710.39 LBF @ 81.36 MS

CHANNEL: RFMZF1 FILTER: CH. CLASS 600

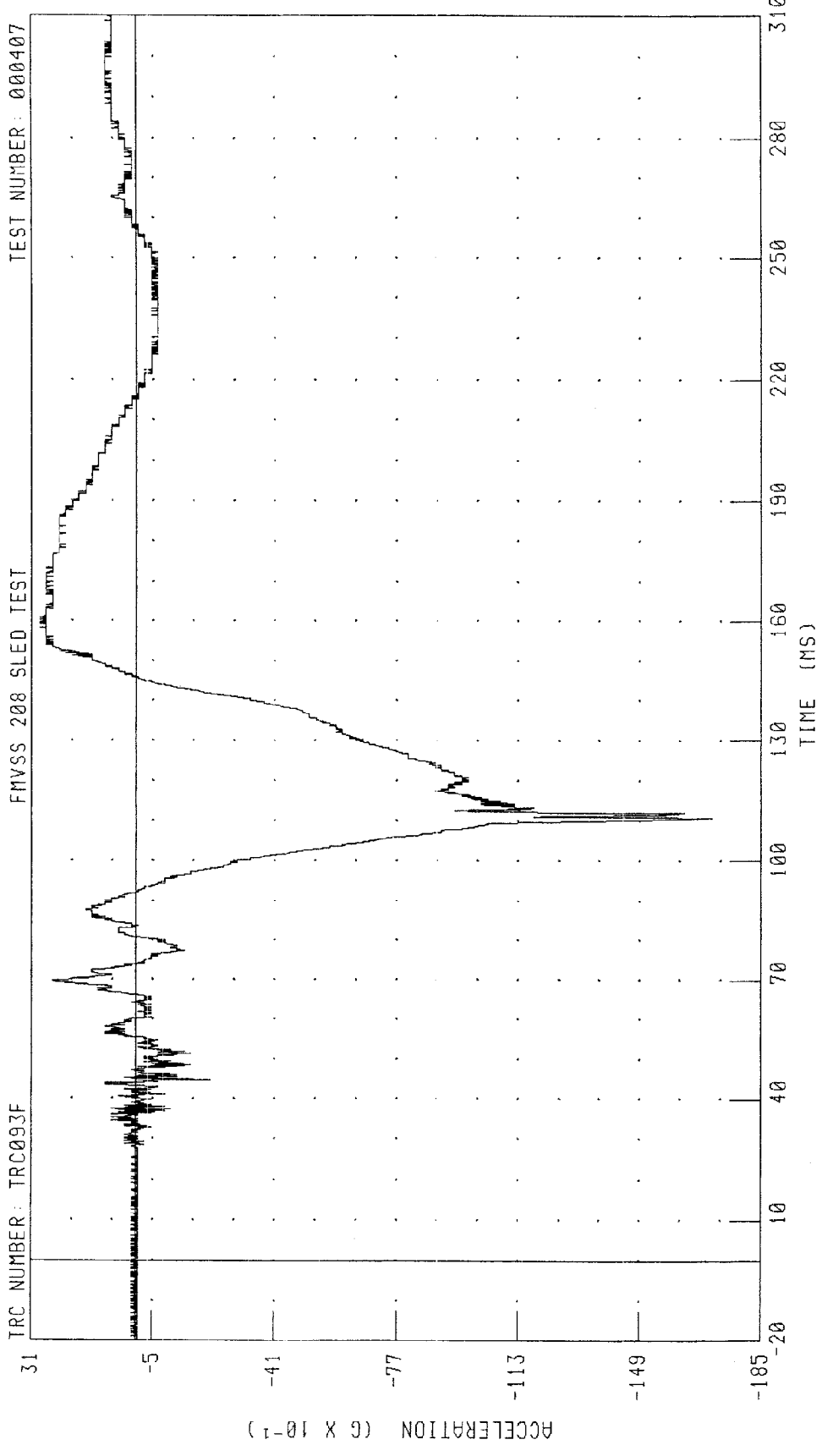
CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION
 FMVSS 208 SLED TEST



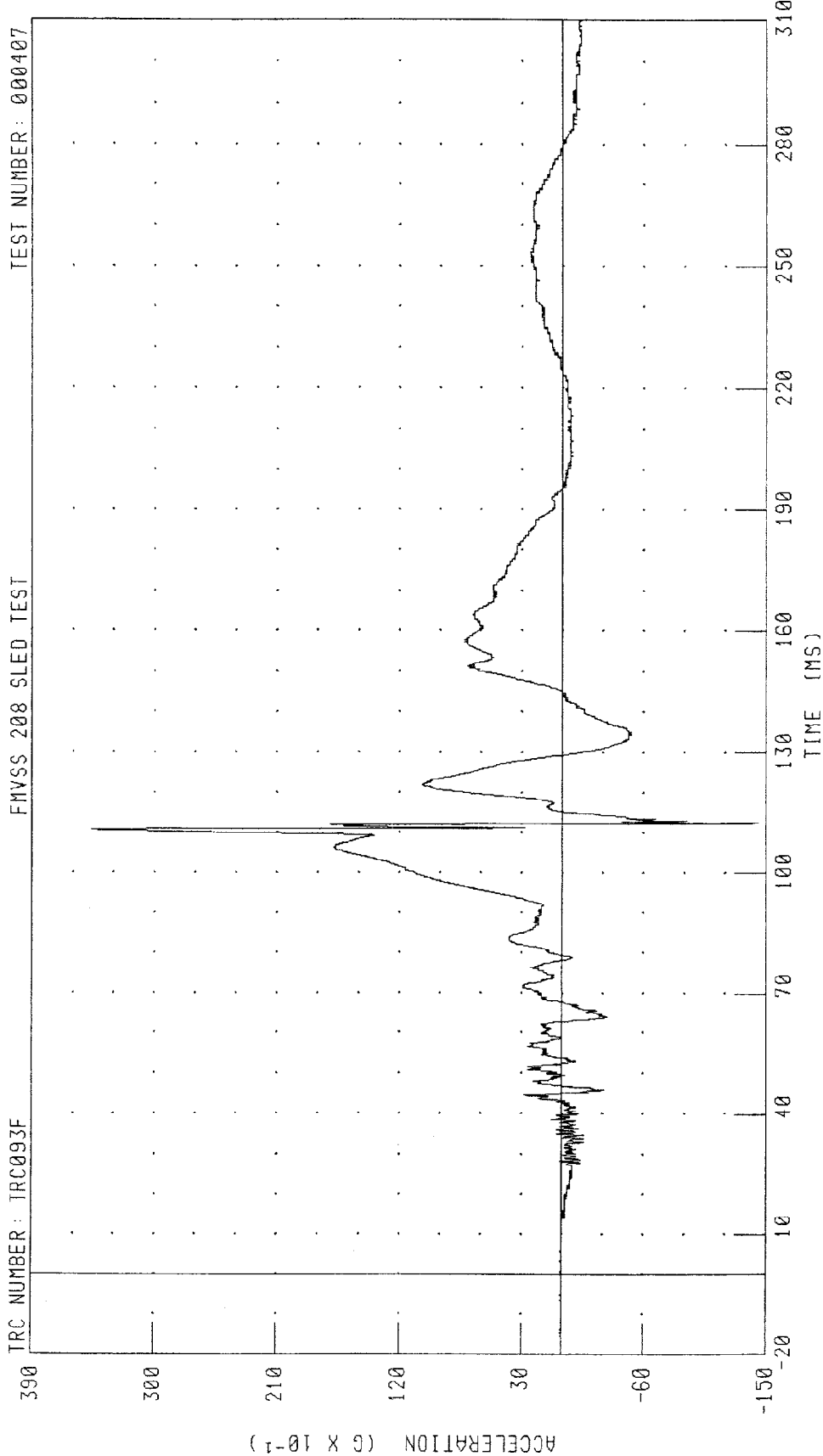
PEAK DATA: 2.50 G @ 58.56 MS; -62.74 G @ 110.88 MS

CHANNEL: HEDXC2 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION



CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION
 FMVSS 208 SLED TEST



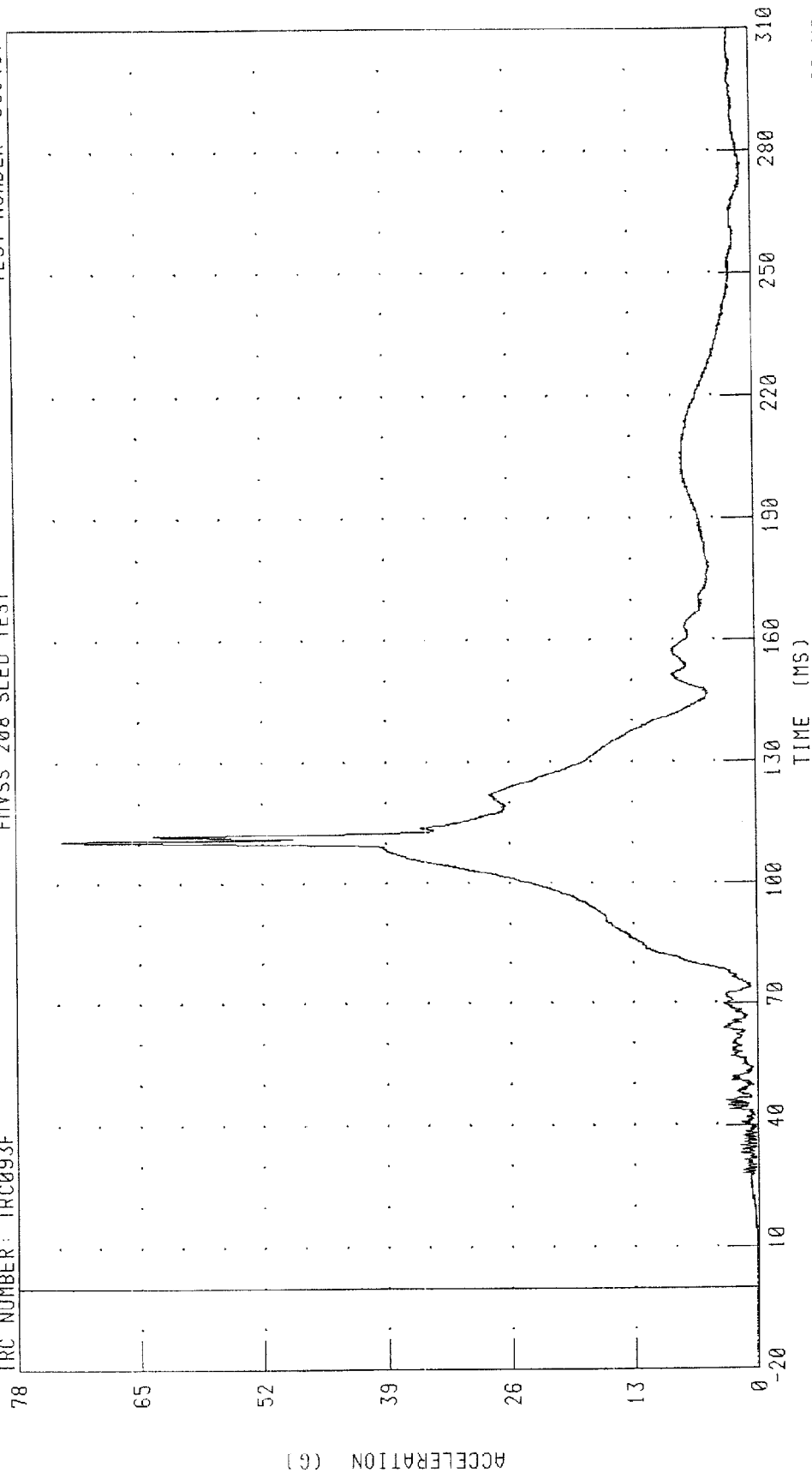
PEAK DATA: 34.69 G @ 110.80 MS; -14.51 G @ 112.48 MS

CHANNEL: HEDZG2 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

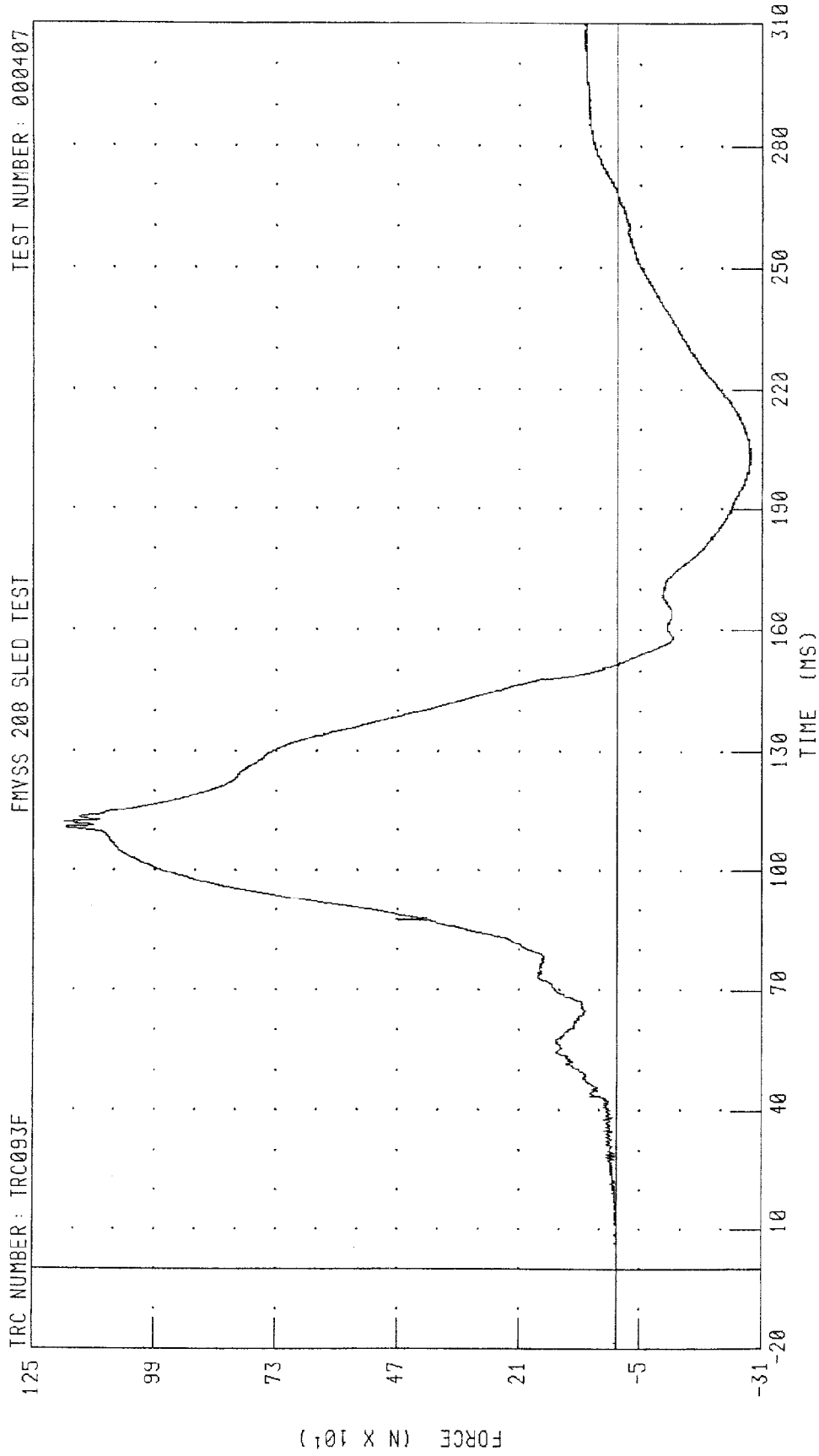
TRC NUMBER: TRC093F



CHANNEL: HEDRC2 FILTER: CH. CLASS 1000

PEAK DATA: 73.19 G @ 110.80 MS; 0.07 G @ -20.00 MS

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER NECK X-AXIS SHEAR FORCE
 FMVSS 208 SLED TEST



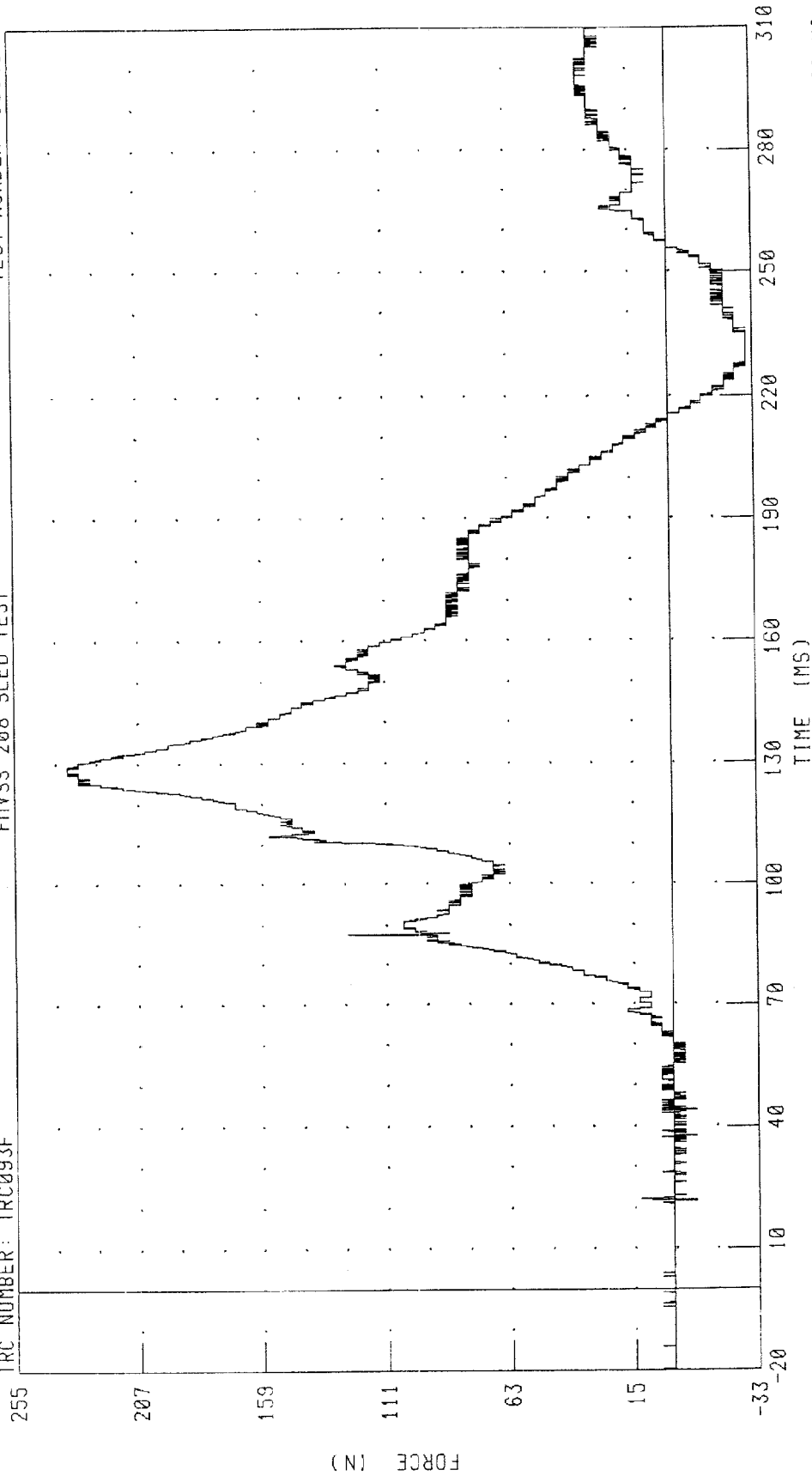
PEAK DATA: 1185.49 N @ 112.08 MS; -286.58 N @ 201.52 MS

CHANNEL: NEKXF2 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK Y-AXIS SHEAR FORCE
FMVSS 208 SLED TEST

TEST NUMBER 000407

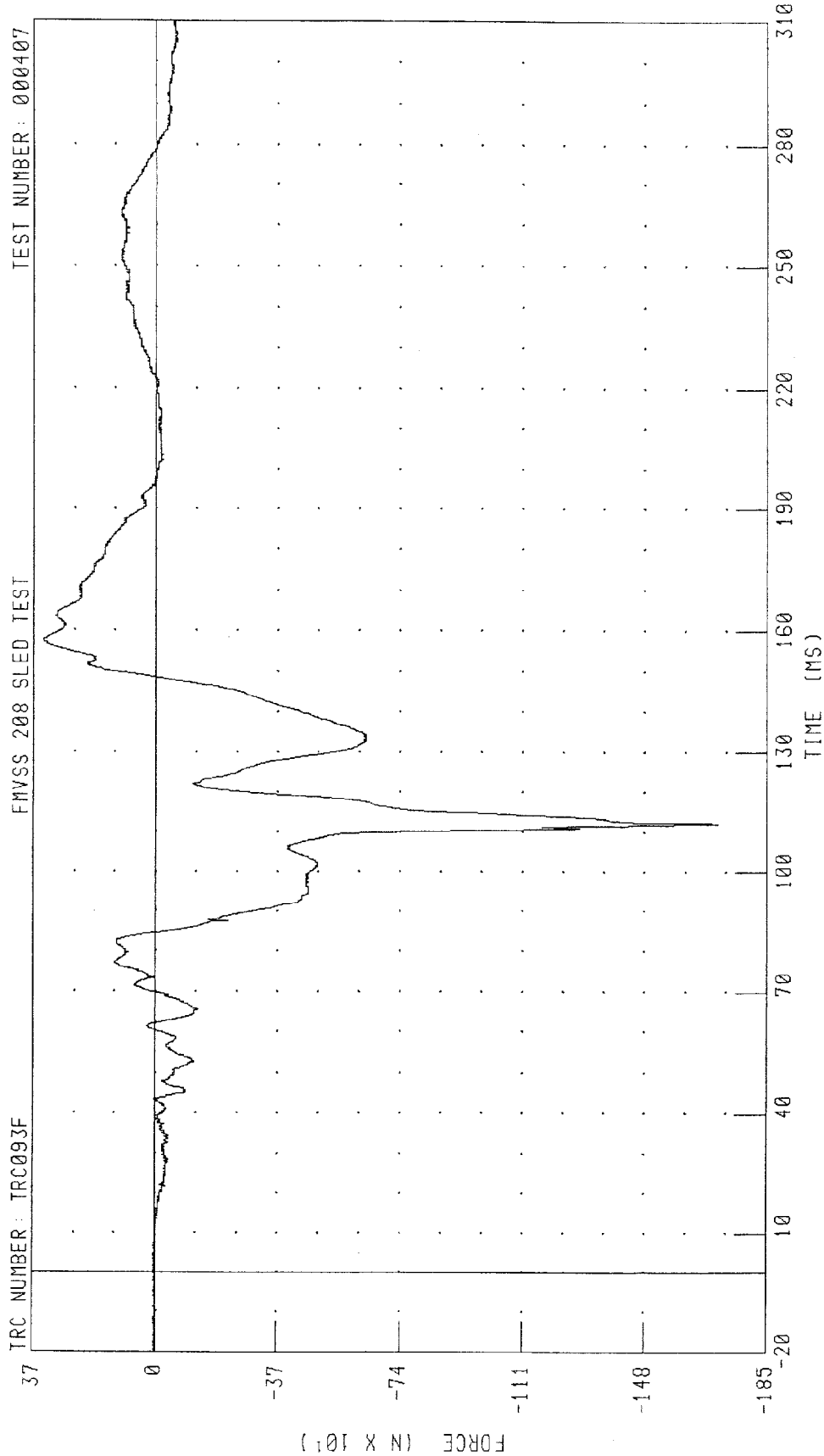
TRC NUMBER: TRC093F



CHANNEL: NEKYF2 FILTER: CH. CLASS 1000

PEAK DATA: 234.53 N @ 127.60 MS, -30.59 N @ 226.80 MS

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER NECK Z-AXIS AXIAL FORCE
 FMVSS 208 SLED TEST



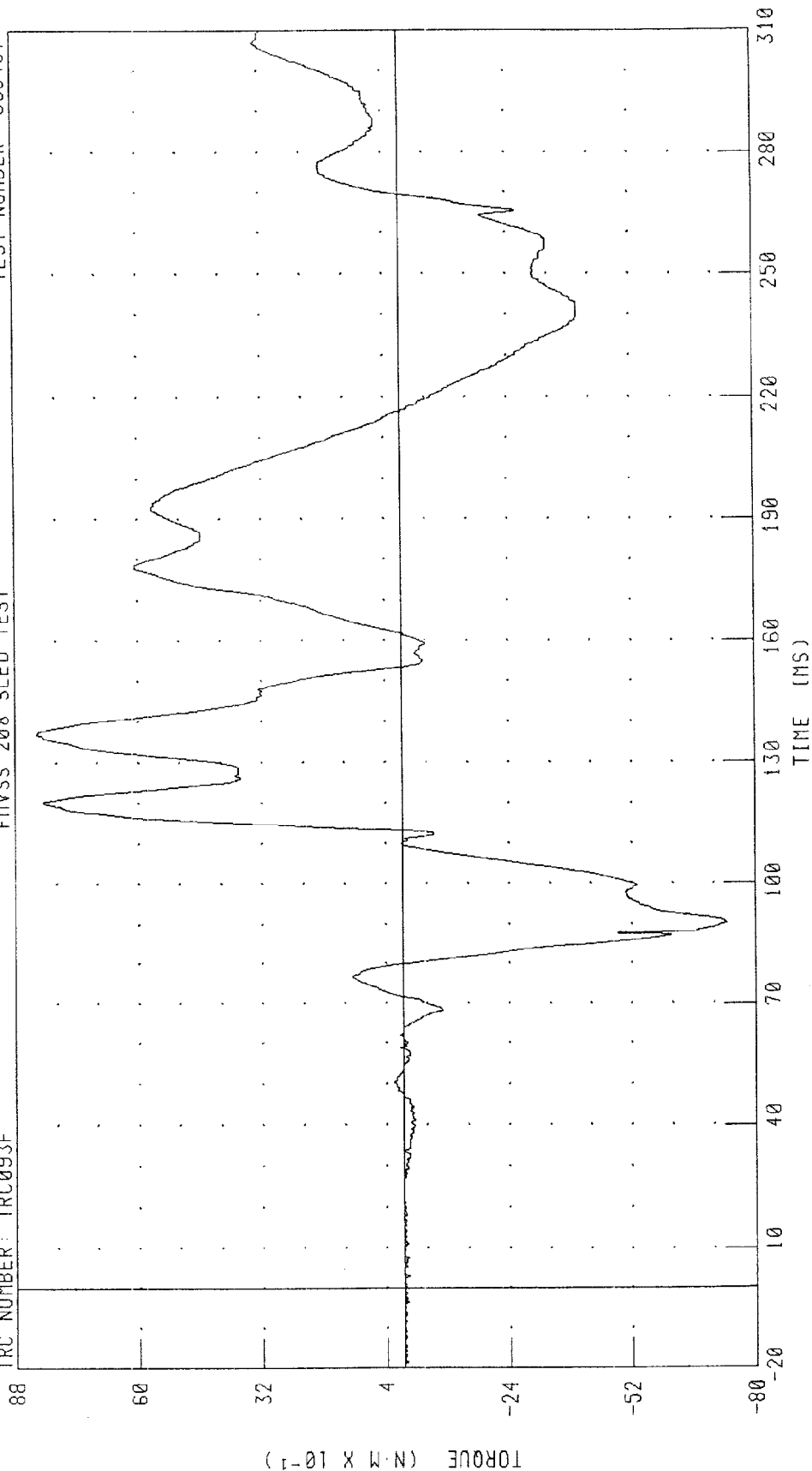
PEAK DATA: 337.98 N @ 157.28 MS; -1701.77 N @ 112.16 MS

CHANNEL: NEKZF2 FILTER: CH. CLASS 1000

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER NECK MOMENT ABOUT X AXIS
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

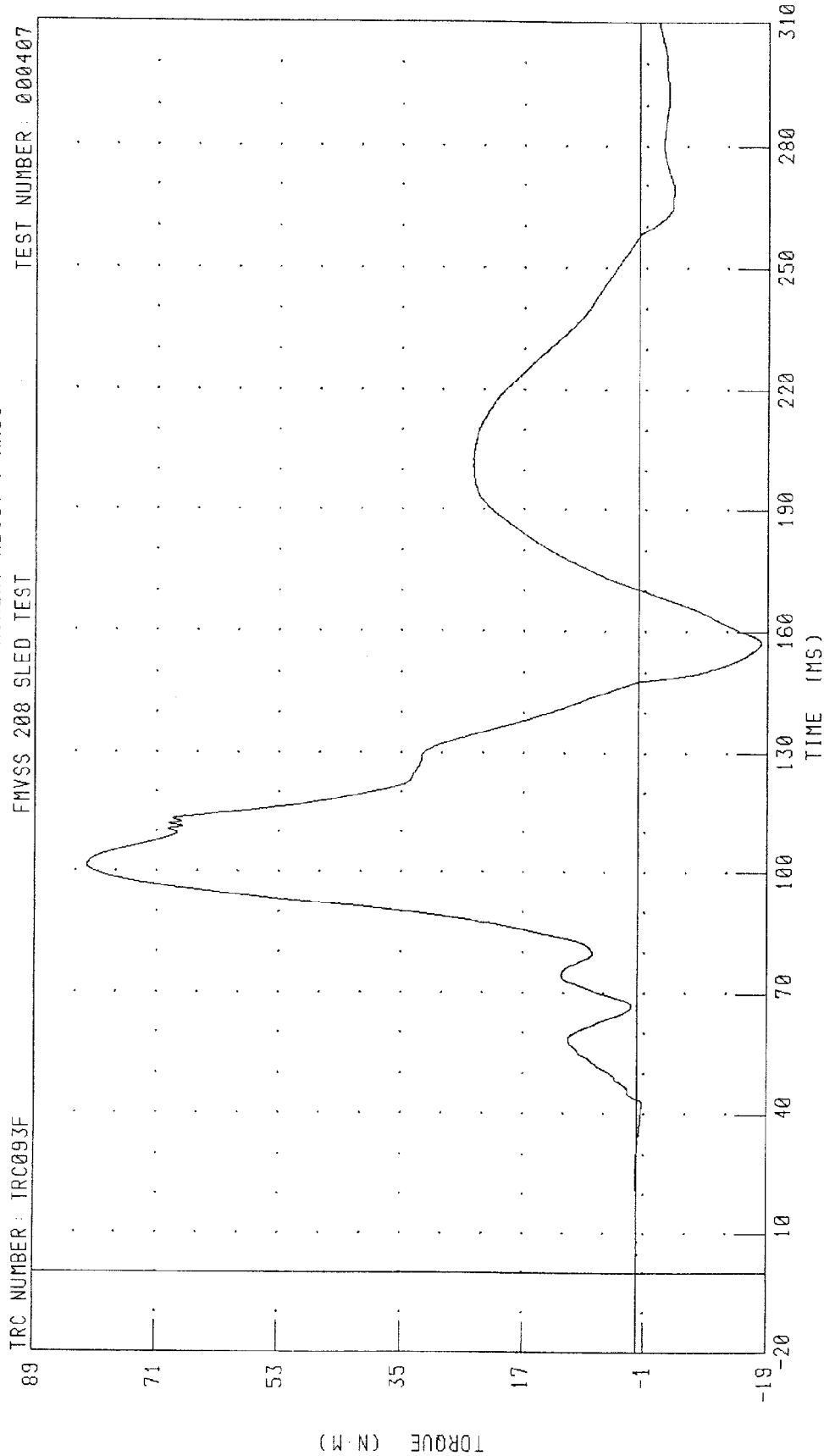
TRC NUMBER: TRC093F



PEAK DATA: 8.30 N·M @ 137.04 MS; -7.35 N·M @ 90.24 MS

CHANNEL: NEKXM2 FILTER: CH. CLASS 600

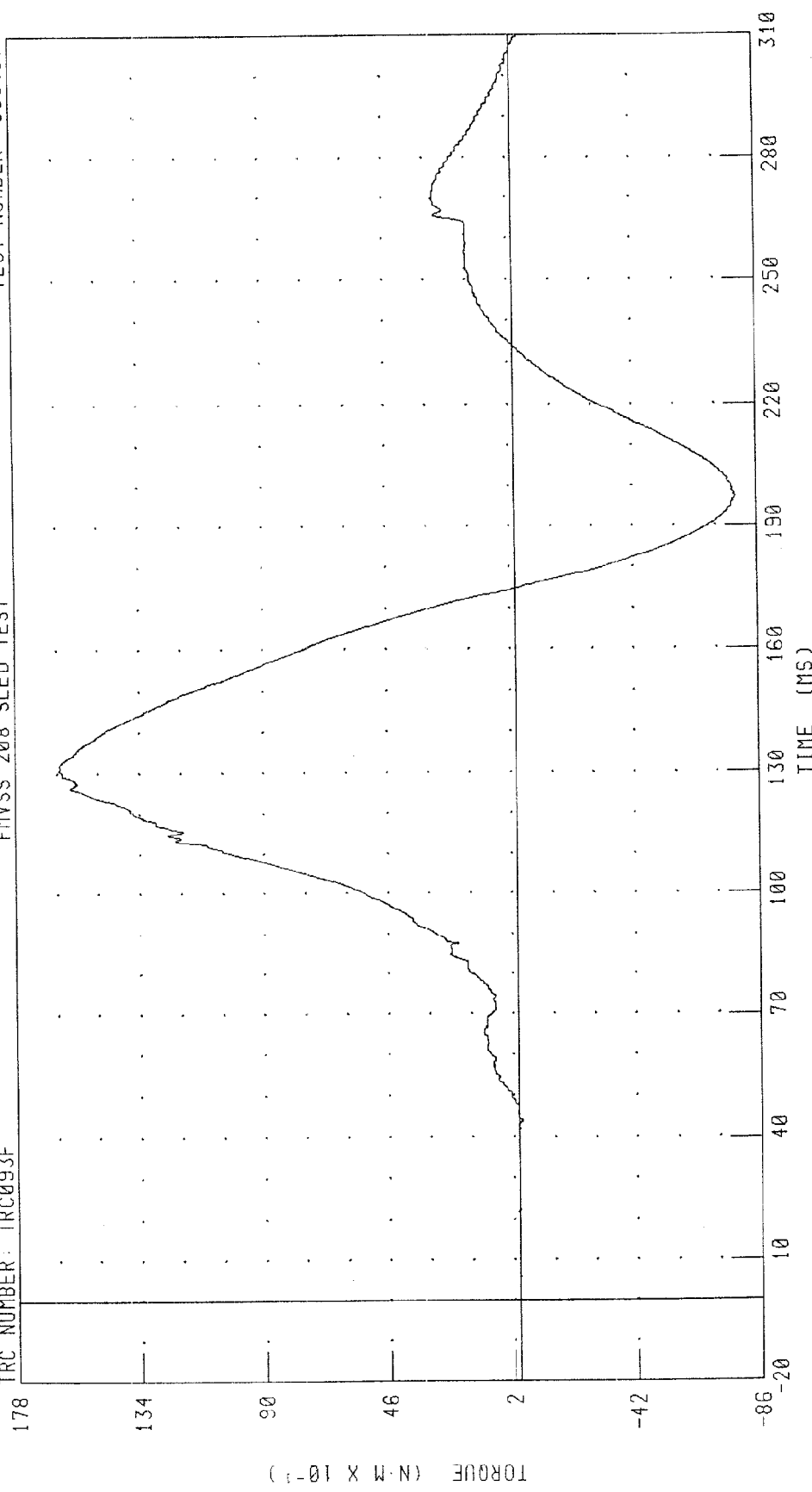
CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS
 FMVSS 208 SLED TEST



CY0204 / 2000 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Z AXIS
FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F

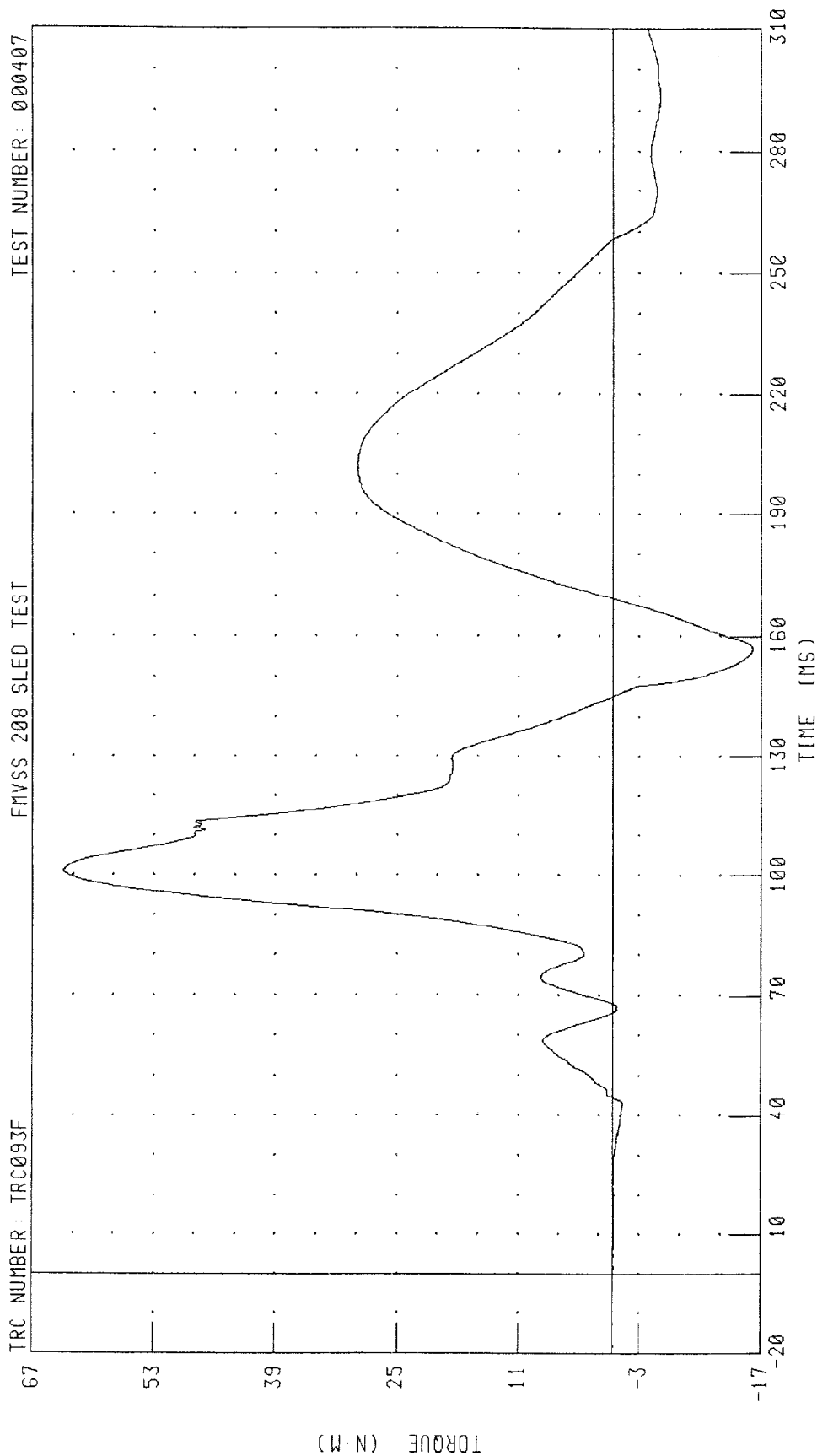


PEAK DATA: 16.27 N·M @ 130.80 MS, -7.85 N·M @ 197.36 MS

CHANNEL: NEKZM2 FILTER: CH. CLASS 600

CY0204 / 2000 TOYOTA TACOMA

RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE



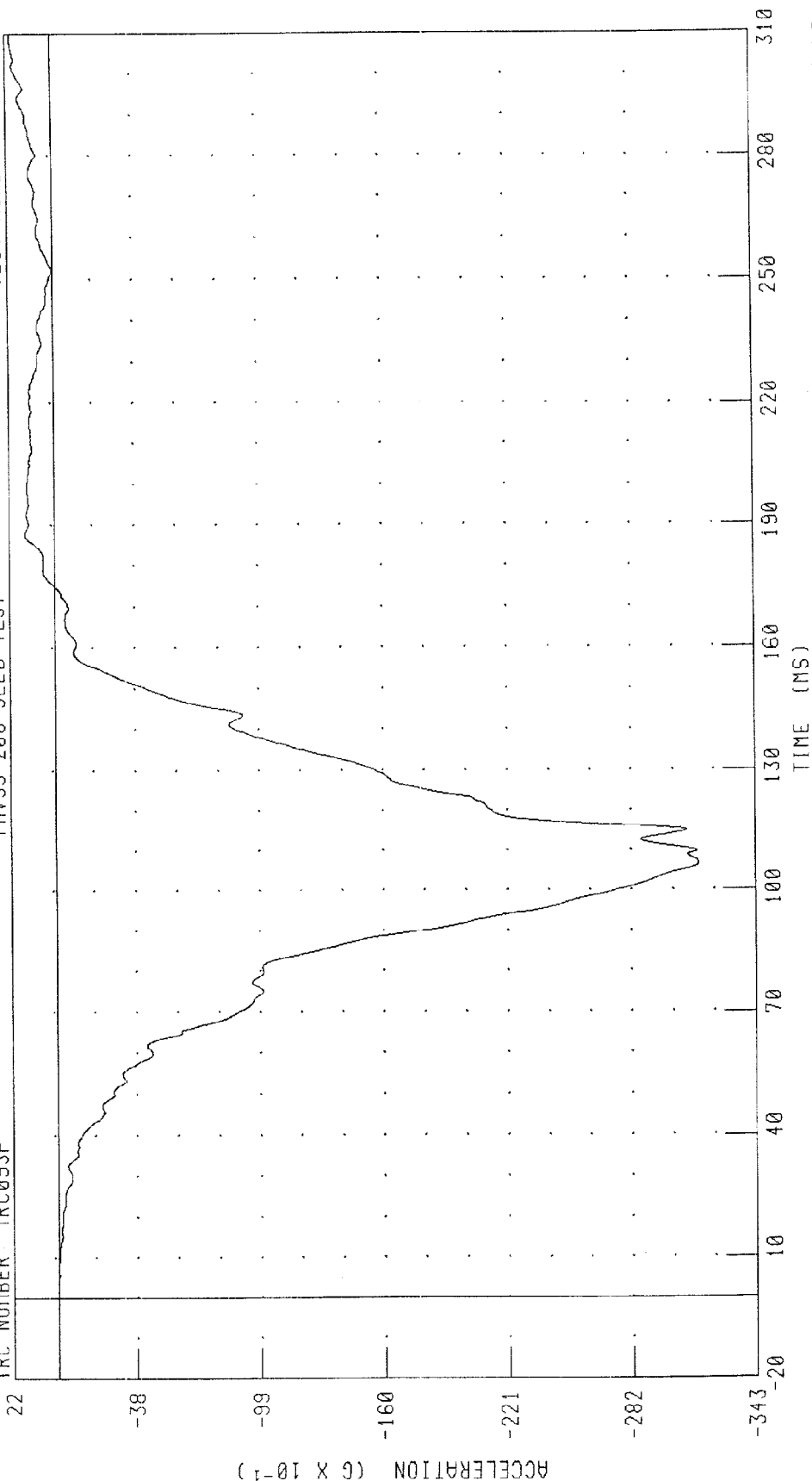
CHANNEL: NEKOM2 FILTER: CH. CLASS 600

PEAK DATA: 63.46 N-M @ 101.12 MS, -16.08 N-M @ 157.04 MS

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

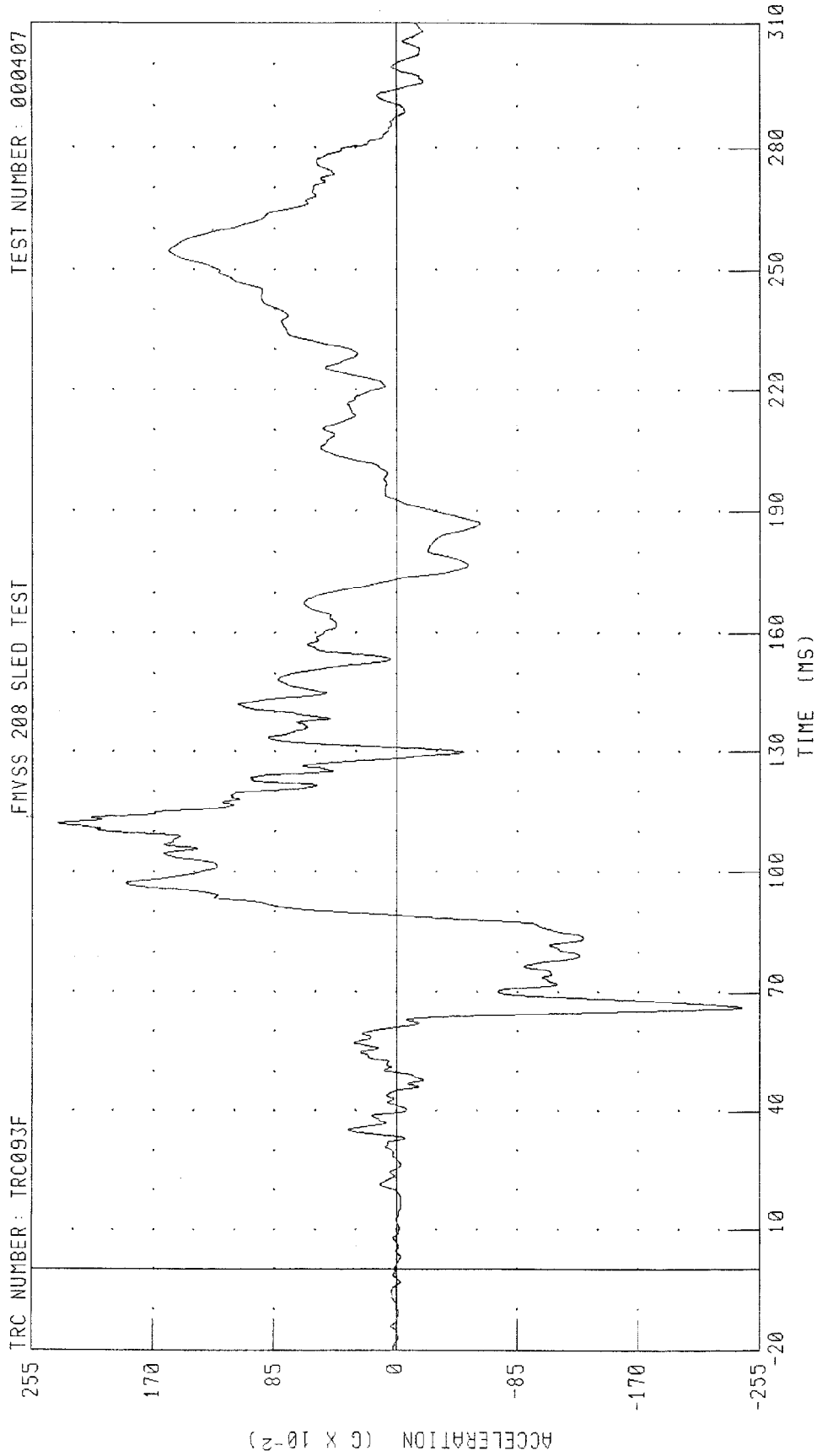
TRC NUMBER: TRC093F



PEAK DATA: 2.02 G @ 308.56 MS; -31.62 G @ 106.88 MS

CHANNEL: CSTXG2 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER CHEST Y-AXIS ACCELERATION
 FMVSS 208 SLED TEST



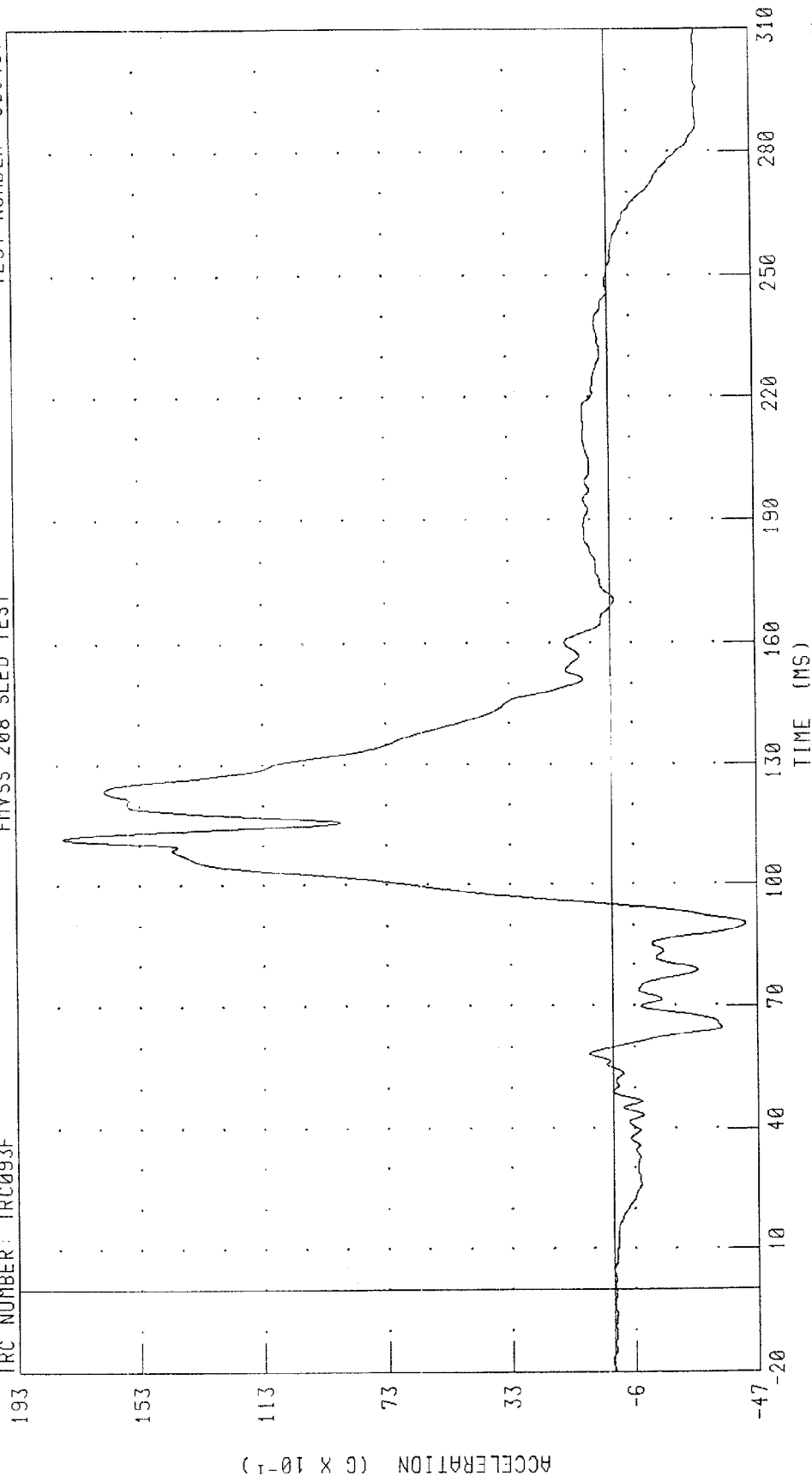
PEAK DATA: 2.37 G @ 111.92 MS, -2.43 G @ 66.80 MS

CHANNEL: CSTYG2 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

TRC NUMBER: TRC093F



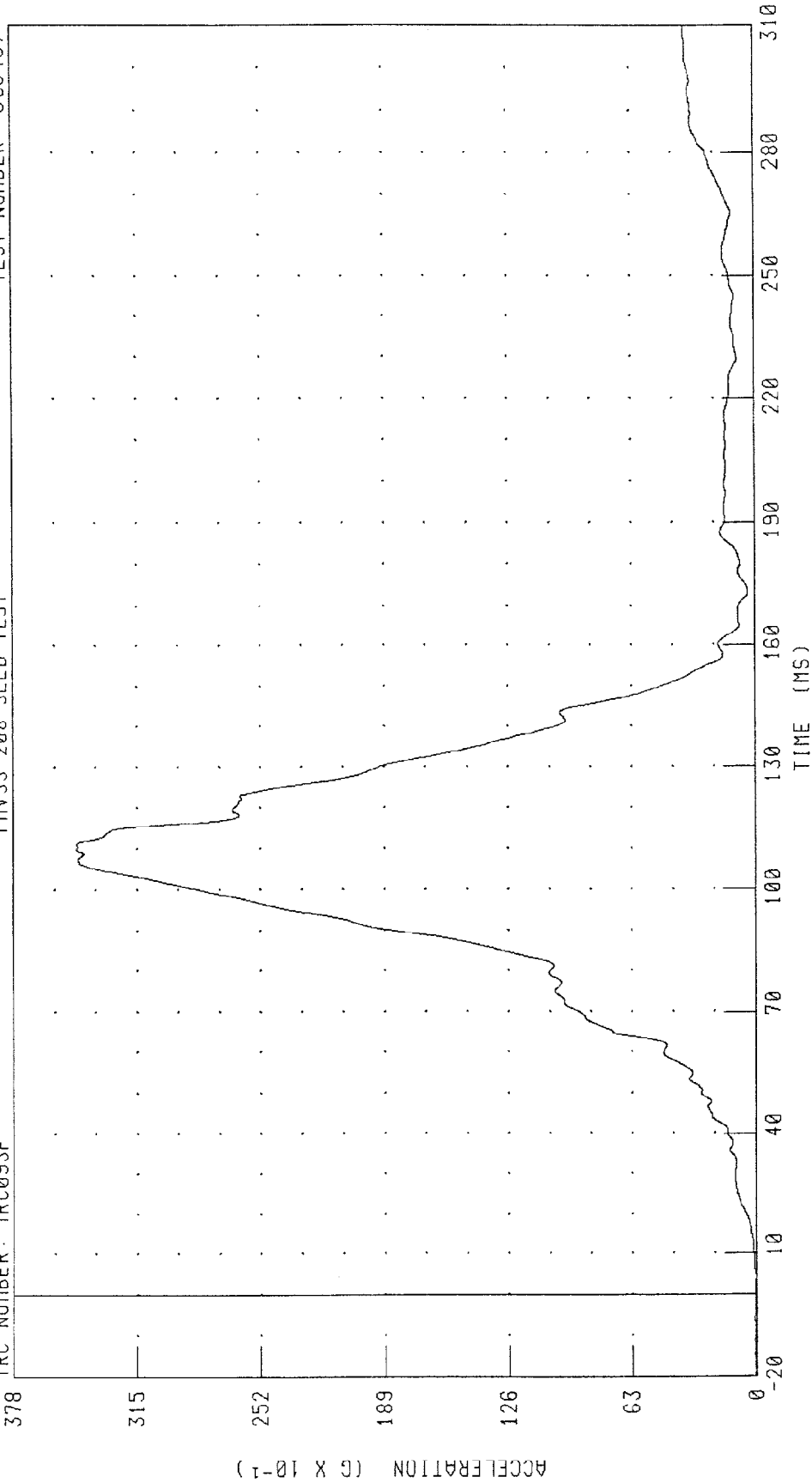
PEAK DATA: 17.77 G @ 111.84 MS; -4.34 G @ 90.24 MS

CHANNEL: CSTZC2 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER: 000407

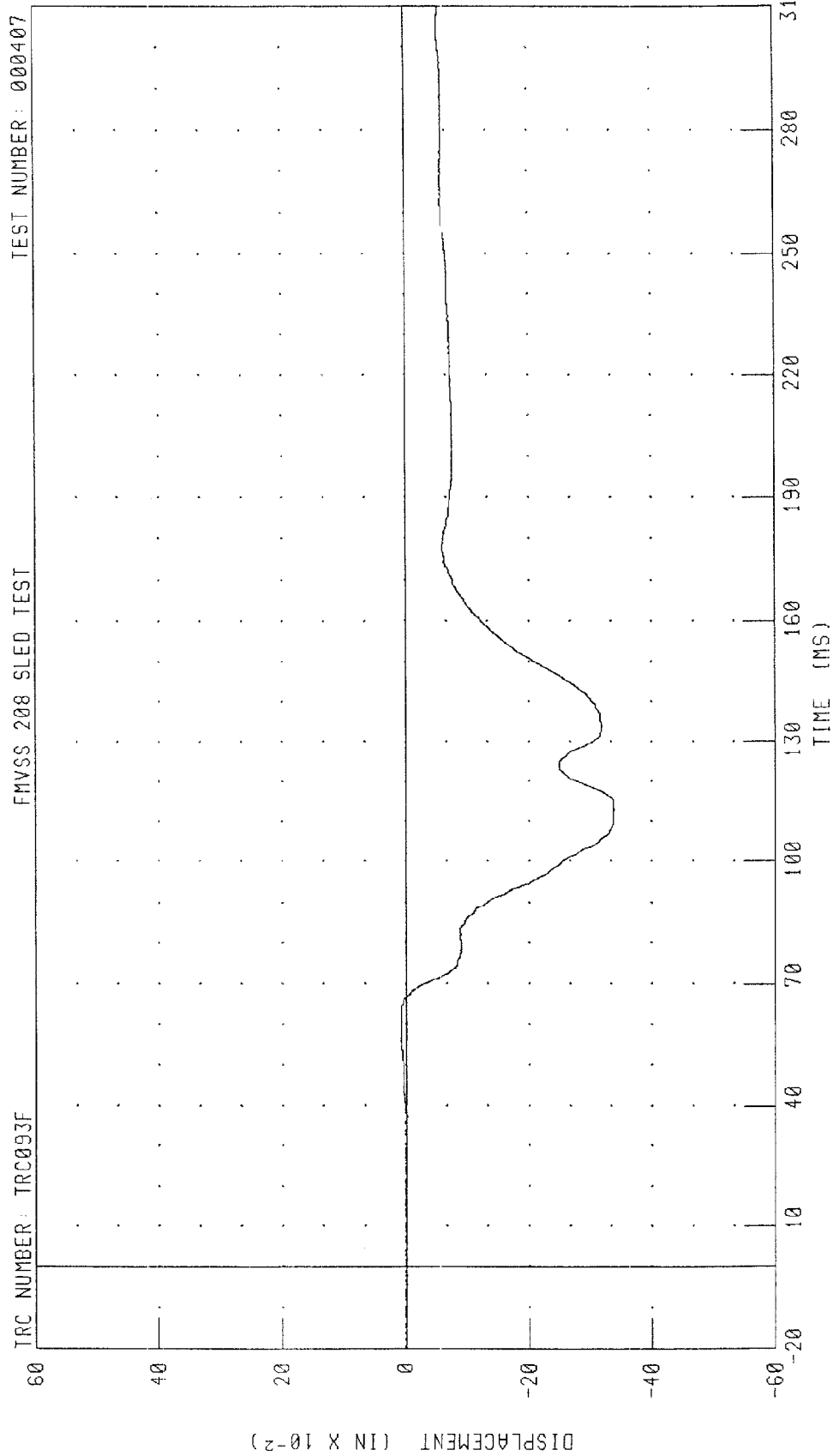
TRC NUMBER: TRC093F



PEAK DATA: 34.59 G @ 109.92 MS; 0.01 G @ 4.16 MS

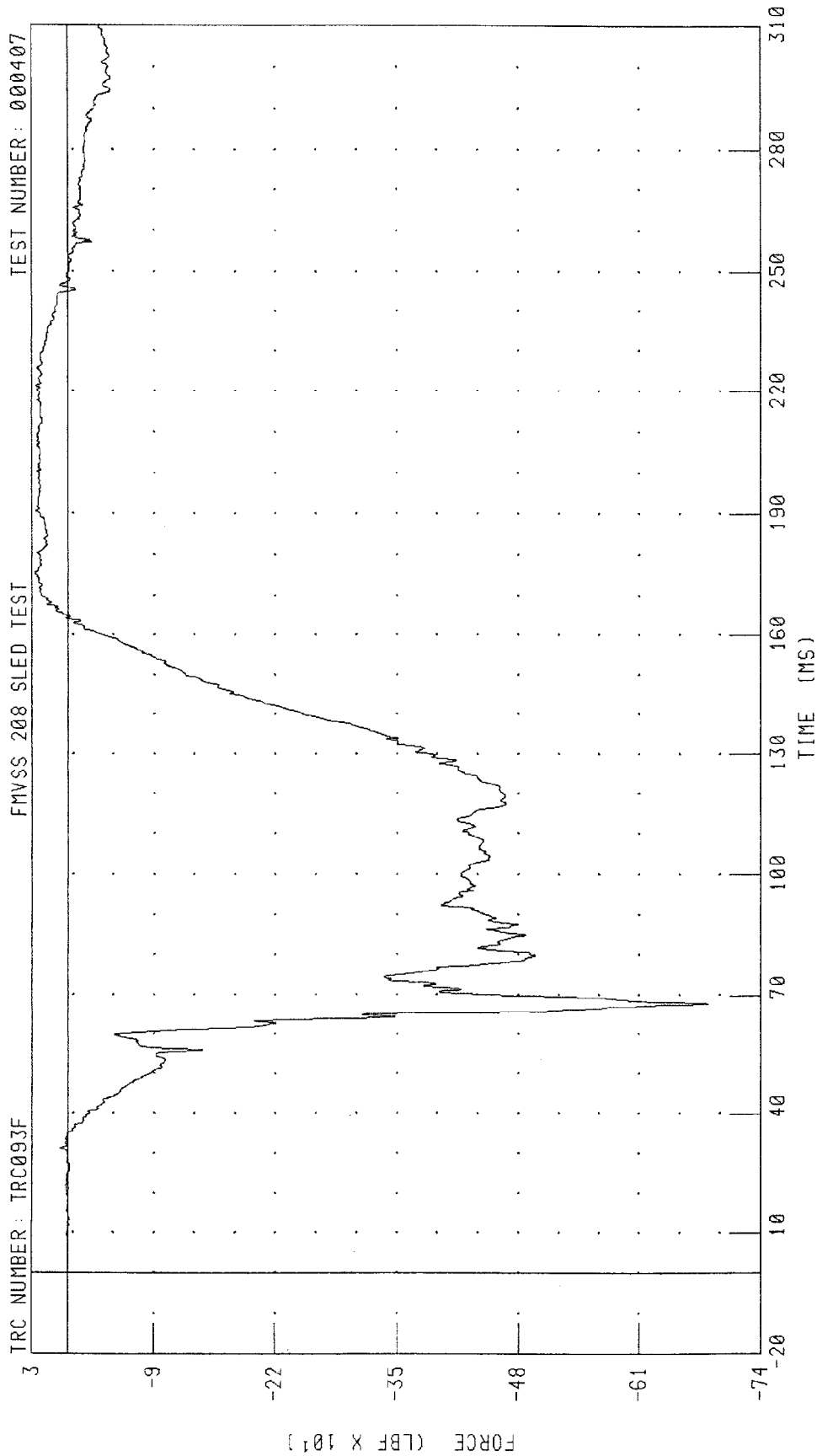
CHANNEL: CSTRC2 FILTER: CH. CLASS 180

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER CHEST DEFLECTION
 FMVSS 208 SLED TEST



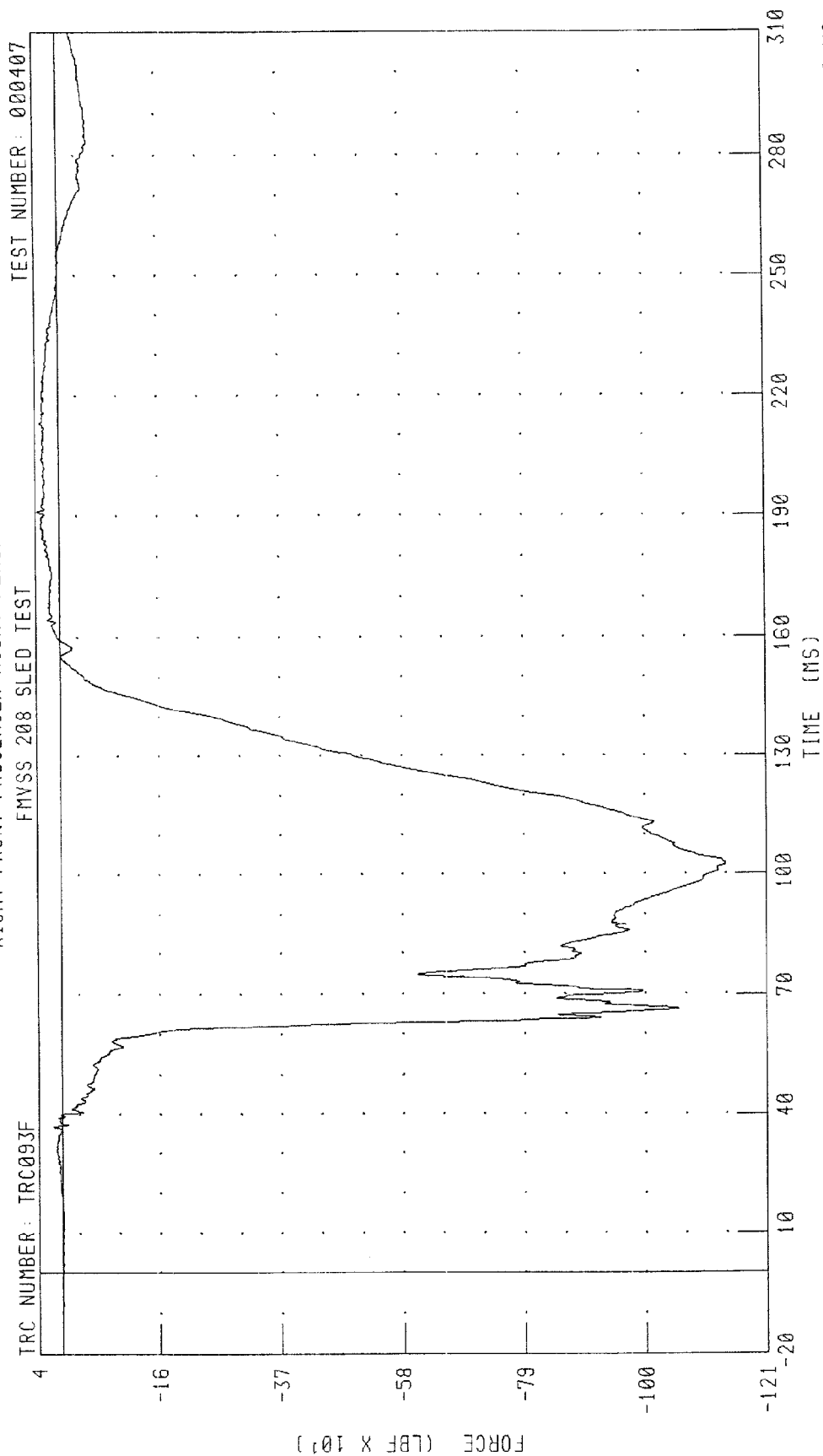
CHANNEL: CSTXD2 FILTER: CH. CLASS 600

CY0204 / 2000 TOYOTA TACOMA
RIGHT FRONT PASSENGER LEFT FEMUR FORCE
FMVSS 208 SLED TEST



CHANNEL: LFMZF2 FILTER: CH. CLASS 600

CY0204 / 2000 TOYOTA TACOMA
 RIGHT FRONT PASSENGER RIGHT FEMUR FORCE
 FMVSS 208 SLED TEST



PEAK DATA: 37.66 LBF @ 191.12 MS; -1148.93 LBF @ 102.88 MS

CHANNEL: RFNZF2 FILTER: CH. CLASS 600

Appendix C

Manufacturer's Vehicle Information

TOYOTA'S RESPONSE TO
NHTSA'S REQUEST ON FMVSS No. 208 FOR
THE 2000 TOYOTA TACOMA
(NSA-31CCa, OA: 208991029P)

- Q.1. Please inform OVSC if the air bag restraint system is certified to meet the requirements of S4.1.5.1(a)(1) or S13.

If the air bags were installed to meet the requirements of S4.1.5.1(a)(1), please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts unfastened and fastened.

If the air bags were installed to meet the requirements of S13, please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts fastened and the certification test reports for the sled test using only the automatic restraint system.

Response 1.

The air bag restraint system of the 2000 Toyota Tacoma meets the requirements of S13 of FMVSS No. 208.

We provide the summary reports for frontal/angular barrier impact test with the safety manual belts fastened at 30mph as Attachment I-1 through I-4.

And the summary reports of our certification tests for the sled test with only the automatic restraint system are provided as Attachment I-5 and I-6.

- Q.2. If this is a new design vehicle/model, describe any features that might affect performance with respect to children and out of position occupants.

If this is not a new design vehicle/model, provide the following: (1) state when the air bag was depowered, (2) describe the difference between the MY 2000 air bag system and the MY 1999 air bag system, (3) explain what other restraint changes have been made, and (4) explain what other vehicle changes have been made that might have affected FMVSS 208 performance. Explain which changes might affect performance with respect to children and out of position occupants.

Response 2:

Since Toyota Tacoma is not a new design vehicle/model, the following information are provided;

- (1) Toyota Tacoma's air bags have been depowered from August, 1997.
- (2) The passenger side air bag system for the 2000 model Tacoma has been depowered than the 1999 model Tacoma.
- (3) The volume and power for the passenger side air bag have been 10% decreased.
- (4) No other vehicle changes, that might have affected FMVSS 208 performance since the last compliance test, have been made.

Depowered passenger side air bag system might affect performance with respect to children and out of position occupants.

- Q.3. State if these vehicles have crash event recorders. If yes, explain any procedures needed for the sled or barrier crash event to be recorded. In addition, explain how to retrieve the crash event data form the recorder.

Response 3:

The Toyota Tacoma has a simple crash event memory.

The procedure to record the sled and barrier crash event is done by simply turning the ignition key to the "ON" or "ACC" position before testing. And the ignition key should be turned to "OFF" position as soon as the test is completed and components should not be given any additional shocks whenever the ignition key is in "ON" or "ACC" position.

A special tool, which exists in TMC Japan, is necessary to retrieve the data from the memory and analyze the result.

- Q.4. If the vehicle was certified with unrestrained dummies to meet the requirements of S13, describe how to disconnect the air bags from the vehicle sensors and connect them to the triggering mechanism used in the sled test. Describe the method used in certification to determine when to trigger the air bag and the system used to trigger the air bag.

For more advanced air bag systems, explain how the triggering of the air bag system in the sled test is different from the triggering of the air bag in a crash. For example, if a multistage inflator is used, explain whether the stages are fired simultaneously in the sled test but fired in a staggered sequence in a similar crash situation.

Response 4:

We provide the illustration which shows the location of the air bag connector to disconnect the air bag as Attachment II-1.

And we describe the air bag triggering system used in certification test in Attachment II-2.

More advanced air bag system is not used in the 2000 Toyota Tacoma.

- Q.5. State for any safety belt system in this vehicle whether or not it is equipped with a tension-relieving device. Provide a copy of the information furnished in accordance with S7.4.2 if the tension-relieving device is used.

Response 5:

Tension-relieving device is not used in the 2000 Toyota Tacoma.

- Q.6. FMVSS No. 208, S8.1.5 allows the manufacturer the option of having movable vehicle windows and vents placed in the closed position. State whether the vehicle's movable windows and vents were opened or closed for the certification tests.

Response 6:

Both sides of the front windows and rear vents were opened during the tests.

- Q.7. Submit dummy placement measurements, including diagrams or photographs which show exactly where measurements were taken. Enclosed is a diagram of some of OVSC's dummy measurements. Where possible, use the dimension shown in the diagram to provide the individual dummy placement measurements.

State whether the vehicle has a foot rest for the driver.

Response 7:

The dummy placement measurement data in the OVSC form is provided in Attachment III, and in addition, we provide our diagrams and measurement data in section 10 of Attachment V.

A foot rest is provided for the driver.

- Q.8. Provide the seat positioning, steering column positioning, and fuel tank data on the enclosed form. If more than one front seating, steering column or fuel tank configuration are available on this vehicle, provide separate information for each. In addition, provide the seating reference point for each seat for the lockable seat belt requirement in S7.1 1.5.

Response 8:

We provide the seat positioning, steering column positioning, and fuel tank data as Attachment IV-1, and the seating reference point for each seat as Attachment IV-2.

- Q.9. If the vehicle is equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant.

Response 9:

See section 9 of the Attachment V.

- Q.10. For barrier tests provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression, and femur loads) recorded for all certification tests conducted to meet the requirements of S4.1.5.1(a)(1). For sled tests, provide the resulting injury criteria (i.e., HIC, chest acceleration, chest compression, femur loads, and neck moments and forces) recorded for all certification tests conducted to meet the requirements of S13.

Response 10:

We provide the speed at impact, vehicle test weight, and resulting injury criteria recorded for each certification test in Attachment I-1 through I-6 in response to your request No.1.

- Q.11. When vehicle components must be removed to obtain the proper test weight for the barrier test, what components do you recommend for removal and in what priority order do you recommend removal?

Response 11:

The recommended parts for vehicle weight adjustment are listed in Attachment VI.

Q.12. If the vehicle uses a pressure vessel to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements S9.1.

Response 12:

Not applicable. We do not use any pressure vessel to inflate the air bag of the 2000 Toyota Tacoma.

Q.13. If the vehicle uses an explosive device to inflate the air bag, provide a copy of the test report or engineering analysis to demonstrate that it meets all the requirements of S9.2

Response 13:

The air bag inflators at the driver's and passenger's seating positions of the 2000 Toyota Tacoma were approved for shipment by the Research and Special Programs Administration of the Department of Transportation. These approvals mean that the air bag inflators of the 2000 Toyota Tacoma meet all the requirements of S9.2.

We provide the approval letters of Research and Special Program Administration as Attachment VII-1 for the driver's air bag and as Attachment VII-2 for the passenger's air bag.

Q.14 Explain any leakage that has occurred from the onboard vapor recovery system pressure relief valve during any frontal impact development or certification testing performed by or for Toyota Technical Center, Inc. If any leakage occurred, include the amount. Describe the method used to collect fluid from the onboard vapor recovery system pressure relief valve for the period from impact until motion of the vehicle has ceased.

Response 14:

The onboard vapor recovery system is not used in the 2000 Toyota Tacoma.

Attachment I-1

Report No. : RRMS-991004

Report Date : February. 5. 1999

FMVSS 208 "Occupant Crash Protection" Compliance Test
for the 2000 Toyota TACOMA Pick up (summary)

1. Test Date : November. 12. 1998
2. Test Location : Hino Vehicle Safety Laboratory
3. Test Vehicle : 2000 Model Toyota TACOMA Pick up
*Body Type : 4×2 Regular Cab
*engine : 2RZ-FE

4. Test Condition :

4.1 Type of Test

☒ frontal , ☐ angular Left , ☐ angular Right , ☐ Sled Test

4.2 Use of Manual or Automatic Belt

Driver : ☒ Yes ☐ No

Passenger : ☒ Yes ☐ No

4.3 Test Speed (or ΔV) : 35.1mph

4.4 Vehicle Weight : 3228 lbs (1464kg)

5. Test Results

		Driver	Passenger
Head Injury Criterion (HIC)		918	377
Chest Deceleration (G's)		52.5	46.8
Chest Deflection (inch)		1.6	1.2
Femur Loads (lbs)	Right	329.7	572.7
	Left	1189.7	597.2
Neck Injury	Flexion Bending Moment (Nm)	/	
	Extension Bending Moment (Nm)		
	Axial Tension (N)		
	Axial Compression (N)		
	Fore-and-Aft Shear (N)		

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Attachment I-2

Report No. : RRMS-991005

Report Date : February. 5. 1999

FMVSS 208 "Occupant Crash Protection" Compliance Test
for the 2000 Toyota TACOMA Pick up (summary)

1. Test Date : November. 25. 1998
2. Test Location : Hino Vehicle Safety Laboratory
3. Test Vehicle : 2000 Model Toyota TACOMA Pick up
*Body Type : 4×4 Extra Cab
*engine : 5VZ-FE
4. Test Condition :

4.1 Type of Test

☒ frontal , ☐ angular Left , ☐ angular Right , ☐ Sled Test

4.2 Use of Manual or Automatic Belt

Driver : ☒ Yes ☐ No
 Passenger : ☒ Yes ☐ No

4.3 Test Speed (or ΔV) : 30.0mph

4.4 Vehicle Weight : 4367 lbs (1981kg)

5. Test Results

		Driver	Passenger
Head Injury Criterion (HIC)		497	269
Chest Deceleration (G's)		42.3	40.2
Chest Deflection (inch)		1.2	0.9
Femur Loads (lbs)	Right	323.5	1170.8
	Left	1226.6	794.3
Neck Injury	Flexion Bending Moment (Nm)		
	Extension Bending Moment (Nm)		
	Axial Tension (N)		
	Axial Compression (N)		
	Fore-and-Aft Shear (N)		

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Attachment I-3

Report No. : RRMS-981010
 Report Date : June.17.1998

FMVSS 208 "Occupant Crash Protection" Compliance Test
 for the 2000 Toyota TACOMA Pick up (summary)

1. Test Date : October.28.1997
2. Test Location : Hino Vehicle Safety Laboratory
3. Test Vehicle : 1999 Model Toyota TACOMA Pick up
 *Body Type : 4×4 Extra Cab
 *engine : 3RZ-FE
4. Test Condition :

4.1 Type of Test

☐ frontal , ☒ angular Left , ☐ angular Right , ☐ Sled Test

4.2 Use of Manual or Automatic Belt

Driver : ☒ Yes ☐ No
 Passenger : ☒ Yes ☐ No

4.3 Test Speed (or ΔV) : 30.0mph

4.4 Vehicle Weight : 4365 lbs (1980kg)

5. Test Results

		Driver	Passenger
Head Injury Criterion (HIC)		357	151
Chest Deceleration (G's)		39.4	36.9
Chest Deflection (inch)		1.1	1.0
Femur Loads (lbs)	Right	755.7	613.4
	Left	313.0	679.7
Neck Injury	Flexion Bending Moment (Nm)		
	Extension Bending Moment (Nm)		
	Axial Tension (N)		
	Axial Compression (N)		
	Fore-and-Aft Shear (N)		

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Attachment I-4

Report No. : RRMS-981011
 Report Date : June. 17. 1998

FMVSS 208 "Occupant Crash Protection" Compliance Test
 for the 2000 Toyota TACOMA Pick up (summary)

1. Test Date : November. 3. 1997
2. Test Location : Hino Vehicle Safety Laboratory
3. Test Vehicle : 1999 Model Toyota TACOMA Pick up
 *Body Type : 4×4 Extra Cab
 *engine : 3RZ-FE
4. Test Condition :

4.1 Type of Test

☐ frontal , ☐ angular Left , ☒ angular Right , ☐ Sled Test

4.2 Use of Manual or Automatic Belt

Driver : ☒ Yes ☐ No
 Passenger : ☒ Yes ☐ No

4.3 Test Speed (or ΔV) : 30.2mph

4.4 Vehicle Weight : 4367 lbs (1981kg)

5. Test Results

		Driver	Passenger
Head Injury Criterion (HIC)		307	182
Chest Deceleration (G's)		33.5	36.4
Chest Deflection (inch)		1.0	0.8
Femur Loads (lbs)	Right	385.7	340.3
	Left	539.6	943.4
Neck Injury	Flexion Bending Moment (Nm)		
	Extension Bending Moment (Nm)		
	Axial Tension (N)		
	Axial Compression (N)		
	Fore-and-Aft Shear (N)		

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000407S

Attachment I-5

Report No. : RRMS-993002

Report Date : February. 5. 1999

FMVSS 208 "Occupant Crash Protection" Compliance Test
for the 2000 Toyota TACOMA Pick up (summary)

1. Test Date : November. 4. 1998
2. Test Location : Hino Vehicle Safety Laboratory
3. Test Vehicle : 2000 Model Toyota TACOMA Pick up
*Body Type: Regular Cab
*engine : _____
4. Test Condition :

4.1 Type of Test

☐ frontal , ☐ angular Left , ☐ angular Right , ☒ Sled Test

4.2 Use of Manual or Automatic Belt

Driver : ☐ Yes ☒ No

Passenger : ☐ Yes ☒ No

4.3 Test Speed (or ΔV) : 29.8mph

4.4 Vehicle Weight : _____

5. Test Results

		Driver	Passenger
Head Injury Criterion (HIC)		205	274
Chest Deceleration (G's)		43.9	39.1
Chest Deflection (inch)		2.2	0.8
Femur Loads (lbs)	Right	714.7	876.8
	Left	1096.3	705.3
Neck Injury	Flexion Bending Moment (Nm)	40	61
	Extension Bending Moment (Nm)	10	17
	Axial Tension (N)	721	430
	Axial Compression (N)	549	1339
	Fore-and-Aft Shear (N)	892	1746

Attachment I-6

Report No. : RRMS-993003

Report Date : February. 5. 1999

FMVSS 208 "Occupant Crash Protection" Compliance Test
for the 2000 Toyota TACOMA Pick up (summary)

1. Test Date : December. 3. 1998
2. Test Location : Hino Vehicle Safety Laboratory
3. Test Vehicle : 2000 Model Toyota TACOMA Pick up
*Body Type: Extra Cab
*engine : -----
4. Test Condition :

4.1 Type of Test

☐ frontal , ☐ angular Left , ☐ angular Right , ☒ Sled Test

4.2 Use of Manual or Automatic Belt

Driver : ☐ Yes ☒ No
Passenger : ☐ Yes ☒ No

4.3 Test Speed (or ΔV) : 30.2mph

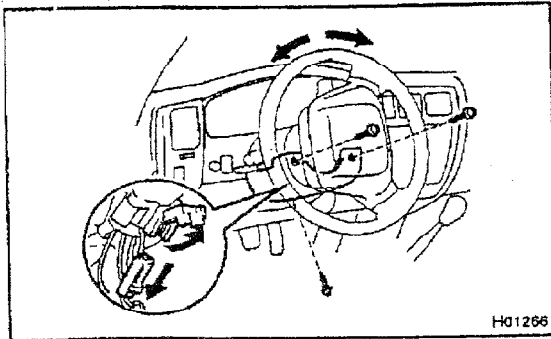
4.4 Vehicle Weight : -----

5. Test Results

		Driver	Passenger
Head Injury Criterion (HIC)		167	362
Chest Deceleration (G's)		39.2	40.9
Chest Deflection (inch)		1.4	0.2
Femur Loads (lbs)	Right	654.7	1083.3
	Left	1096.9	981.8
Neck Injury	Flexion Bending Moment (Nm)	45	87
	Extension Bending Moment (Nm)	13	20
	Axial Tension (N)	660	504
	Axial Compression (N)	449	3270
	Fore-and-Aft Shear (N)	912	1679

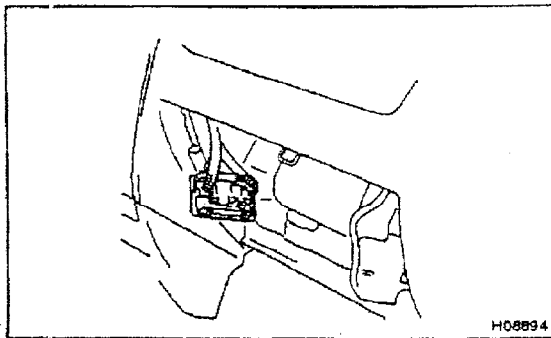
Attachment II-1

LOCATION AND DISCONNECTION OF THE AIR BAG CONNECTOR



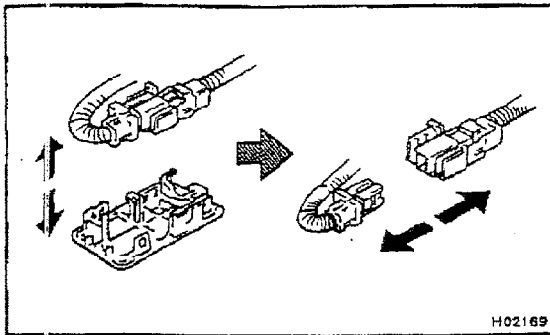
DRIVER SIDE AIR BAG

- (1) Remove the 3 screws and steering column lower cover as shown in the illustration.
- (2) Disconnect the airbag connector of the spiral cable.

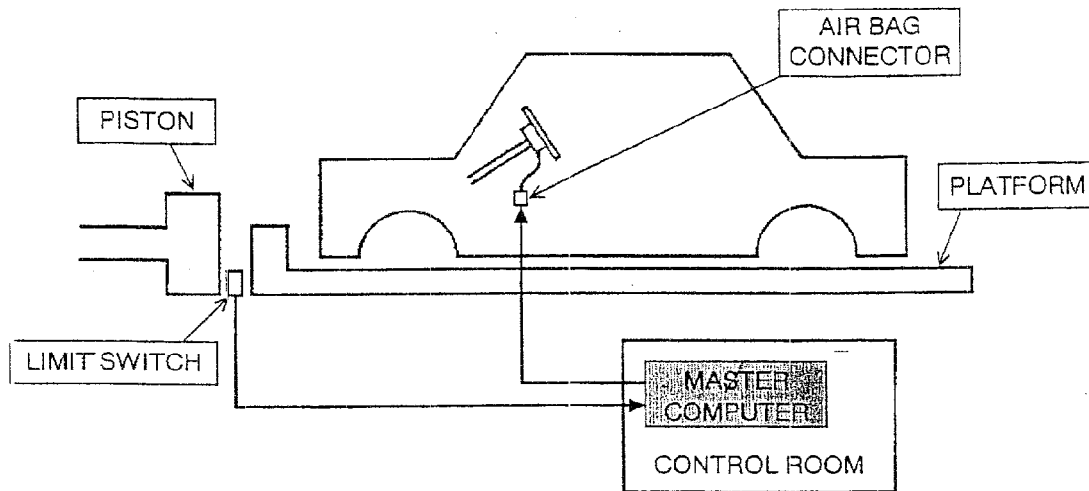


PASSENGER SIDE AIR BAG

- (1) Remove the glove compartment door.
- (2) Disconnect the airbag connector.



Attachment II-2

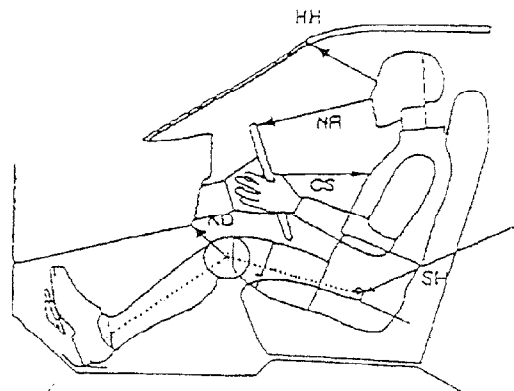
AIR BAG TRIGGERING SYSTEM FOR SLED TEST

1. The timing of the initiation of the platform acceleration is measured by the limit switch that is installed between the piston and the platform.
2. Connect the limit switch, air bag and Master computer which controls the trigger time for the air bag.
3. When the platform acceleration is initiated, the limit switch send out a signal to the Master computer.
4. Master computer controls the trigger time for the air bag with the limit switch signal.
5. At 20ms from the time that 0.5G is measured on the platform, Master computer send out the trigger signal to the air bag.

Attachment III

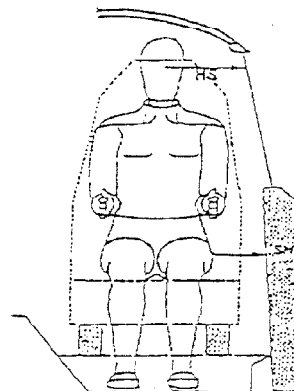
OCCUPANT CLEARANCE DIMENSION

	REGULAR CAB		EXTRA CAB	
	DRIVER	PASSENGER	DRIVER	PASSENGER
HH	16.3inch	16.3inch	16.9inch	16.9inch
NR	16.5inch	—	17.1inch	—
CS	11.6inch	—	12.2inch	—
KDL	7.5inch	7.1inch	7.5inch	7.1inch
KDR	7.5inch	7.1inch	7.5inch	7.1inch
SH	17.5inch	17.5inch	16.9inch	16.9inch



HH - Head to Header
 NR - Nose to Rim
 CS - Steering Wheel to Chest
 KDL/KDR - Knee to Dash
 SH - Striker to H-Point

	REGULAR CAB		EXTRA CAB	
	DRIVER	PASSENGER	DRIVER	PASSENGER
SHY	6.1inch	6.1inch	6.5inch	6.5inch
HS	12.6inch	12.6inch	12.2inch	12.2inch



SHY - Striker to H-Point(Y-Dir.)
 HS - Head to Side Window

Attachment IV-1

TEST VEHICLE INFORMATION

Vehicle Model Year & Make: 2000 Model TOYOTA TACOMA Pick upVehicle Model & Body Style: TACOMA Pick up

1. NOMINAL DESIGN RIDING POSITION

For adjustable driver and passenger seat backs.
Please describe how to position the inclinometer to measure the seat back angle.
Include description of the location of the adjustment latch detent if applicable. Indicate, if applicable, how the detents are numbered (Is the first detent "0" or "1"?).

The first detent is "1".

1-1. REGULAR CAB

(Bench Seat)

Seat back angle for driver's seat = 0 degrees.

(from the most upright position)

Measurement Instructions:

First notch (upright position)

Seat back angle for passenger's seat = 0 degrees. (Separate Seat)

(from the most upright position)

Measurement Instructions:

Same with the driver's seat.

(Separate Seat)

Seat back angle for driver's seat = 8 degrees.

(from the most upright position)

Measurement Instructions:

Recline to the fifth notch rearward
from the most upright position.

Seat back angle for passenger's seat = 8 degrees.

(from the most upright position)

Measurement Instructions:

Same with the driver's seat.

1-2. EXTRA CAB

(Split Bench Seat)

Seat back angle for driver's seat = 10 degrees.

(from the most upright position)

Measurement Instructions:

Recline to the sixth notch rearward
from the most upright position.

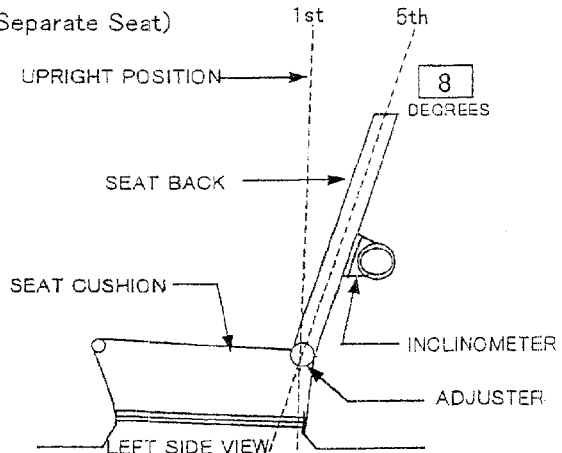
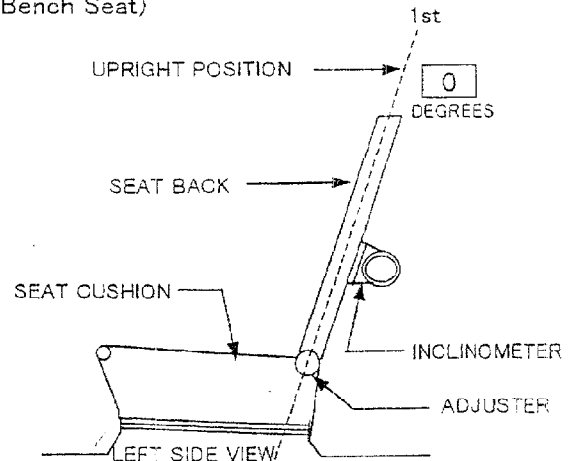
Seat back angle for passenger's seat = 8 degrees.

(from the most upright position)

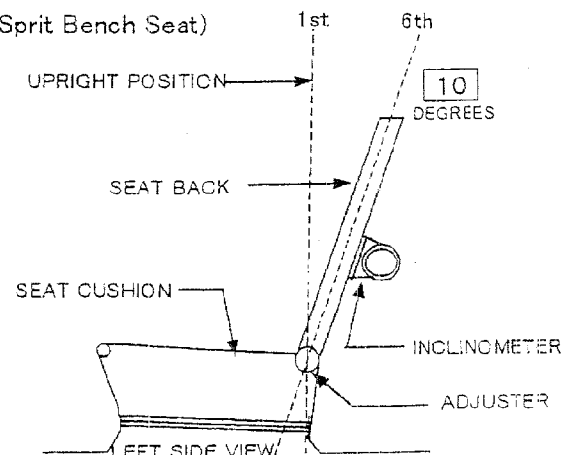
Measurement Instructions:

Recline to the fifth notch rearward
from the most upright position.

(Bench Seat)



(Split Bench Seat)



(Separate Seat)

Seat back angle for driver's seat = 8 degrees.
(from the most upright position)

Measurement Instructions:

Recline to the fifth notch rearward
from the most upright position.

Seat back angle for passenger's seat = 8 degrees.
(from the most upright position)

Measurement Instructions:

Same with the driver's seat.

(Separate Seat)

UPRIGHT POSITION

SEAT BACK

SEAT CUSHION

8
DEGREES

INCLINOMETER

ADJUSTER

LEFT SIDE VIEW

2. SEAT FORE & AFT POSITIONS

Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.

2-1. REGULAR CAB

(Bench Seat)

Positioning of the driver's seat:

Move to the seventh notch rearward from the
foremost position.

Positioning of the passenger's seat(if applicable):

Same with the driver's position.

(Separate Seat)

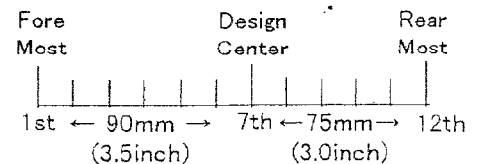
Positioning of the driver's seat:

Move to the seventh notch rearward from the
foremost position.

Positioning of the passenger's seat(if applicable):

Same with the driver's position.

(REGULAR CAB)



2-2. EXTRA CAB

(Split Bench Seat)

Positioning of the driver's seat:

Move to the eighth notch rearward from the
foremost position.

Positioning of the passenger's seat(if applicable):

Same with the driver's position.

(Separate Seat)

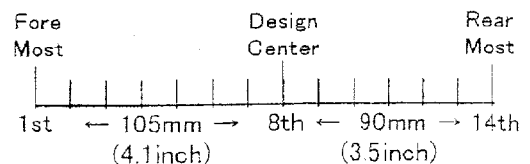
Positioning of the driver's seat:

Move to the eighth notch rearward from the
foremost position.

Positioning of the passenger's seat(if applicable):

Same with the driver's position.

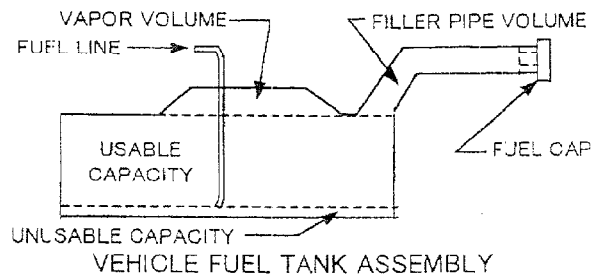
(EXTRA CAB)



3. FUEL TANK CAPACITY DATA

- 3.1 A. (4x2)
 "Usable Capacity" of standard
 equipment fuel tank =
15.0 gallons.
- B. "Usable Capacity" of optional
 equipment fuel tank =
 _____ gallons.
- C. "Usable Capacity" of vehicle(s) used
 for certification testing to requirements
 of FMVSS 301 = 14.2 gallons.

Operational Instructions:
None.



- (4x4)
 "Usable Capacity" of standard
 equipment fuel tank =
18.0 gallons.
- "Usable Capacity" of optional
 equipment fuel tank =
 _____ gallons.
- "Usable Capacity" of vehicle(s) used
 for certification testing to requirements
 of FMVSS 301 = 17.1 gallons.

- 3.2 (4x2): Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 14.2 gallons
(4x4): Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 17.1 gallons

- 3.3 Is vehicle equipped with electric fuel pump?

Yes- V No- _____

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.
The electric fuel pump operates only during the engine is running.

4. STEERING COLUMN ADJUSTMENTS

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions:

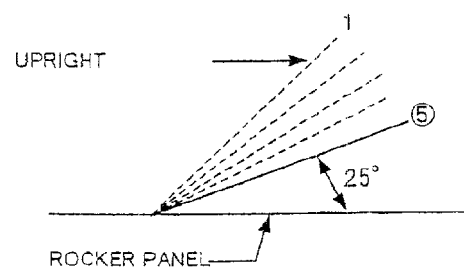
(Column-Sift Tilt Column)

Tilt fifth notch downward from the upright position.
Steering column angle is 25.0° to the rocker panel.

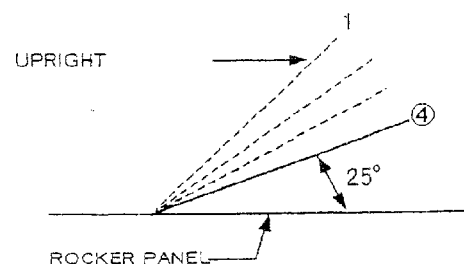
(Other Tilt Column)

Tilt fourth notch downward from the upright position.
Steering column angle is 25.0° to the rocker panel.

(Column-Sift Tilt Column)



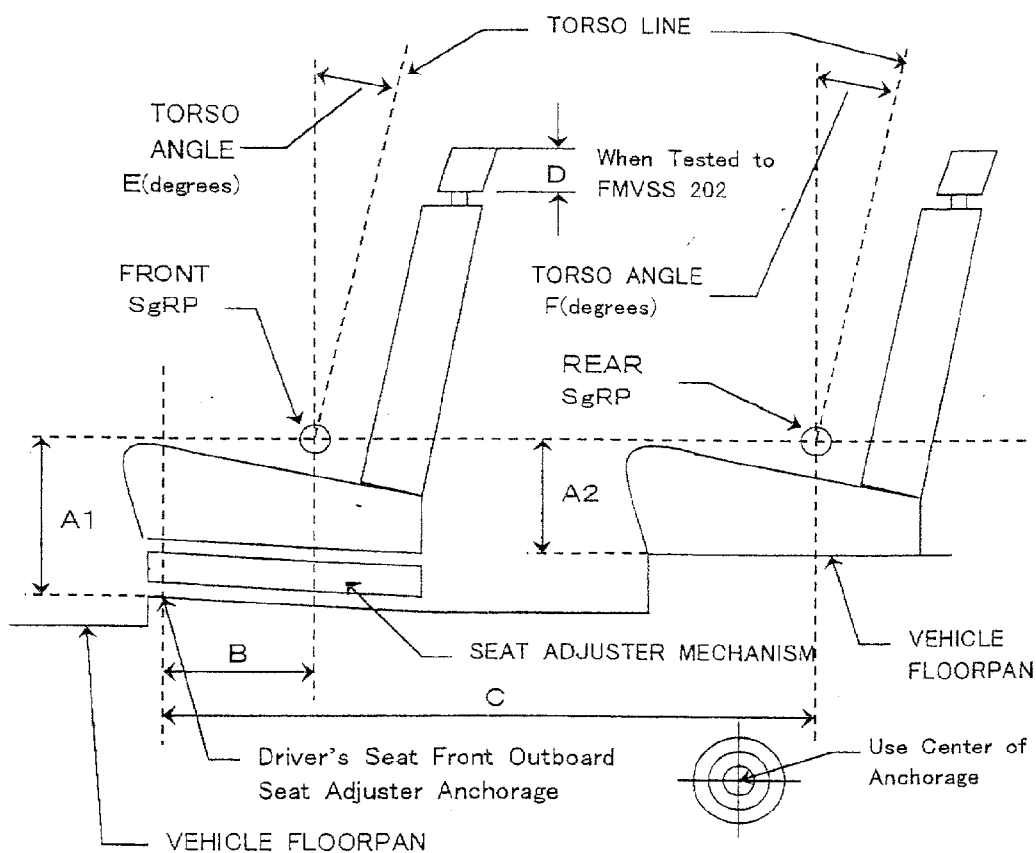
(Other Tilt Column)



Attachment IV-2

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: REGULAR CAB ; Seat Style: Fr Bench Seat
Rr

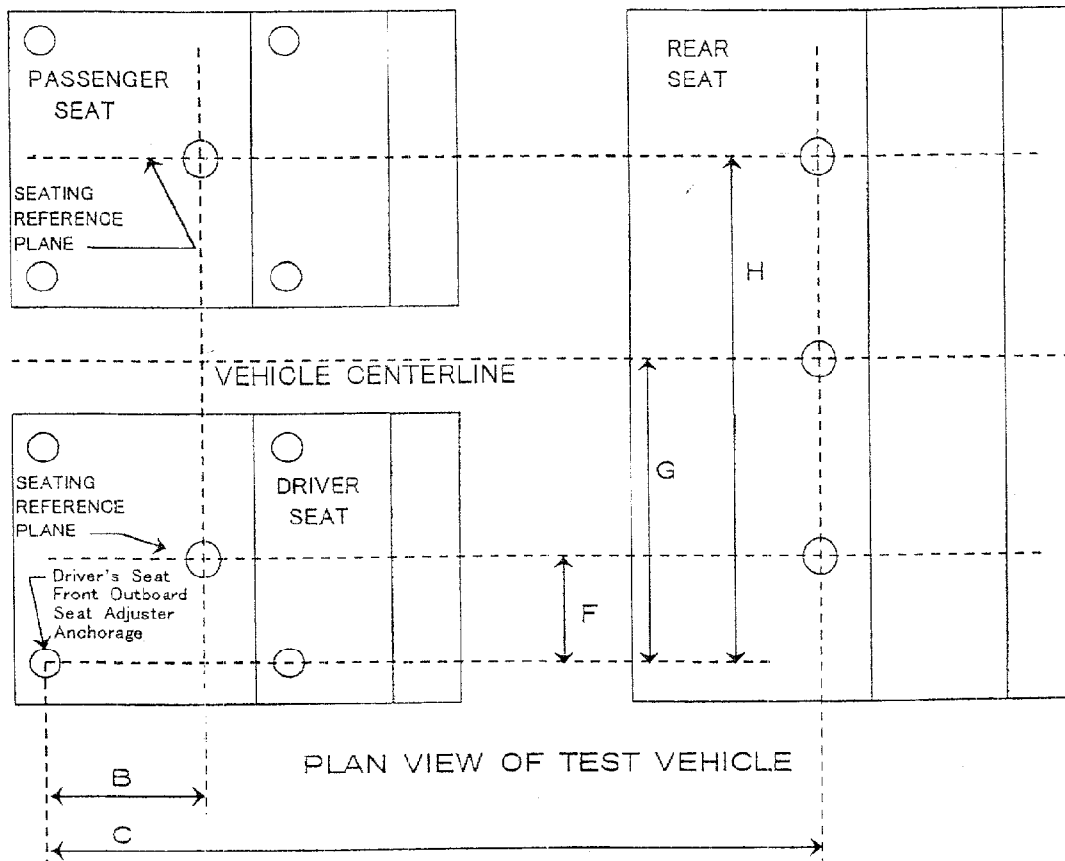


LEFT SIDE VIEW OF TEST VEHICLE

DIMENSION	FRONT, A1		REAR, A2	
	Outboard	Center	Outboard	Center
A	8.54	9.17		
B	13.50	13.66		
C				
D				
E				
F				

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: REGULAR CAB ; Seat Style: Fr Bench Seat
Rr

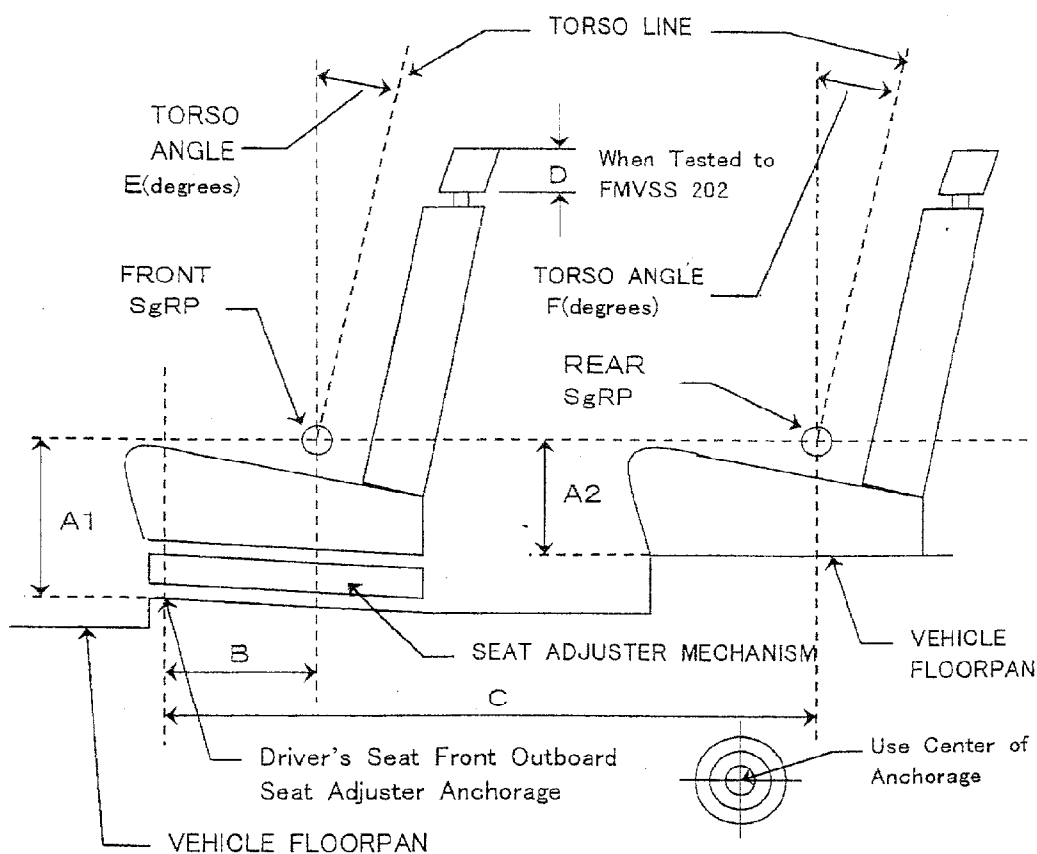


B	13.50		
C			
F*	Fr	9.06	Rr
G	22.83		
H*	Fr	36.61	Rr

* Provide all dimensions needed to locate SRP.

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: REGULAR CAB ; Seat Style: Fr Separate Seat
Rr

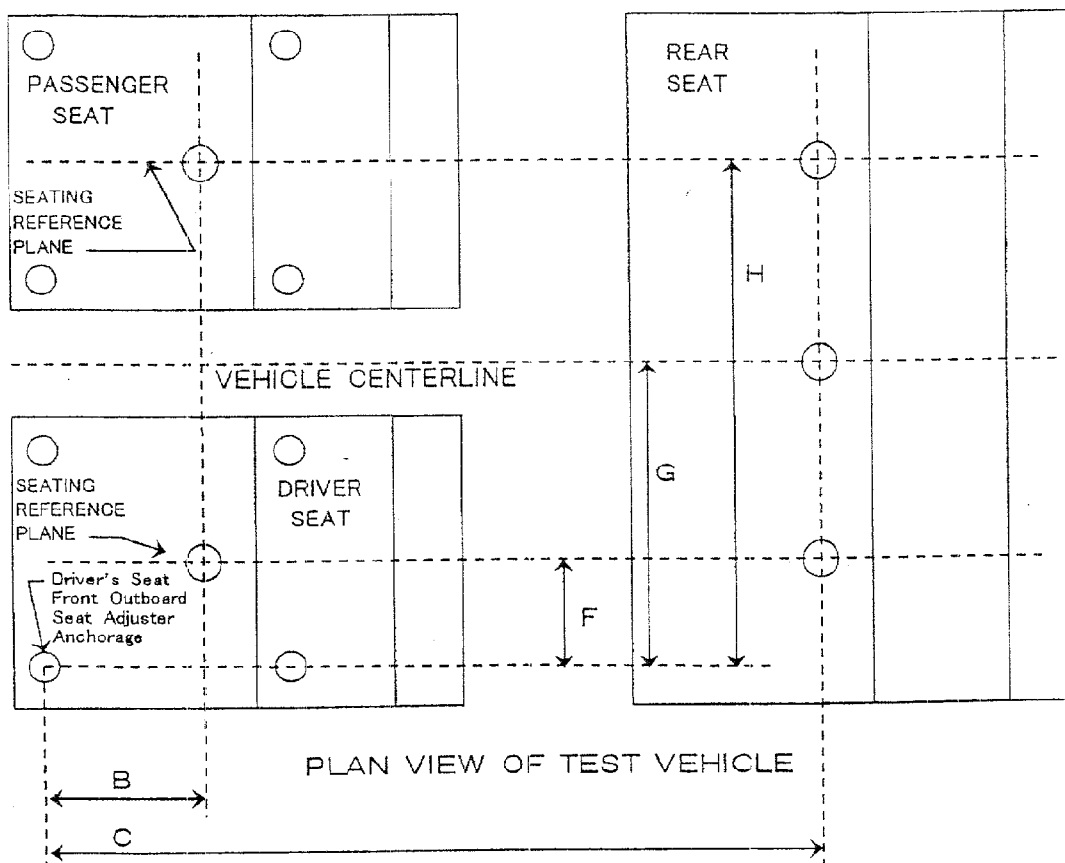


LEFT SIDE VIEW OF TEST VEHICLE

DIMENSION	FRONT, A1		REAR, A2	
	Outboard	Center	Outboard	Center
A	8.54			
B	13.50			
C				
D				
E				
F				

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model: ; Make: TOYOTA ; Model: TACOMA
Body Style: REGULAR CAB ; Seat Style: Fr Separate Seat
Rr

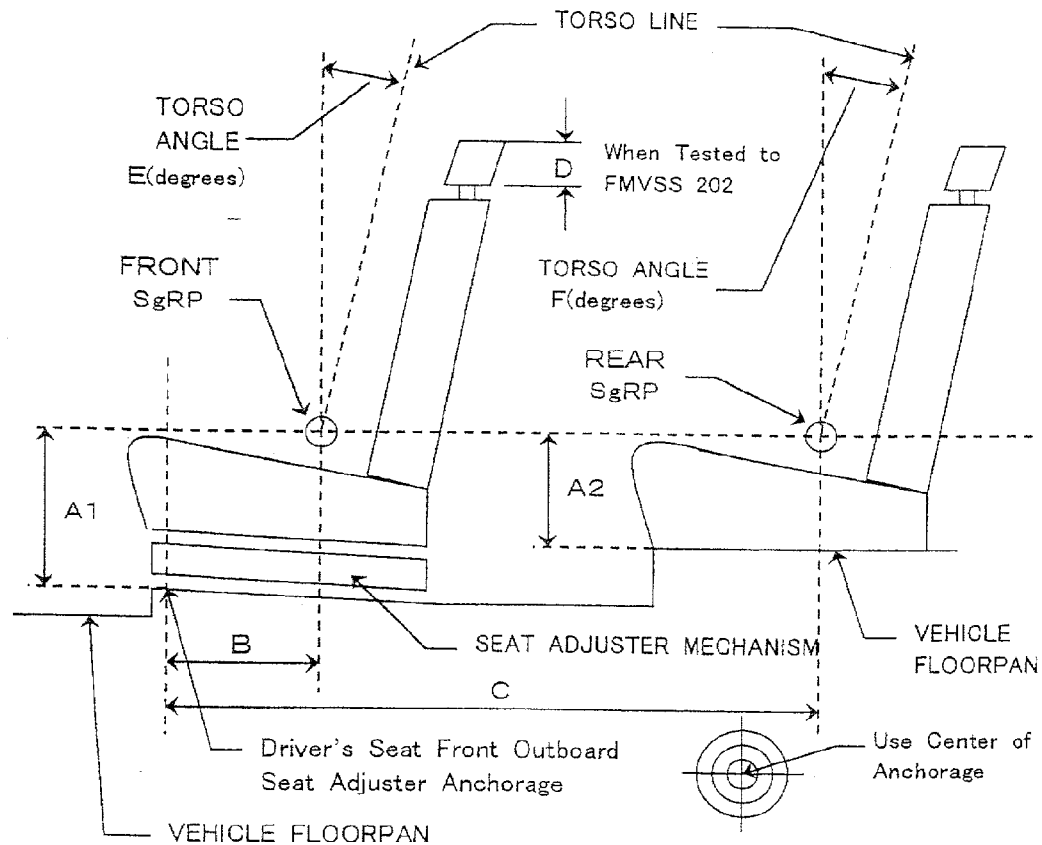


B	13.50		
C			
F*	Fr	8.76	Rr
G	22.83		
H*	Fr	36.91	Rr

* Provide all dimensions needed to locate SRP.

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: EXTRA CAB ; Seat Style: Fr 6:4Split Bench Seat(6:Driver, 4:Passenger)
Rr Bench Seat(Only)

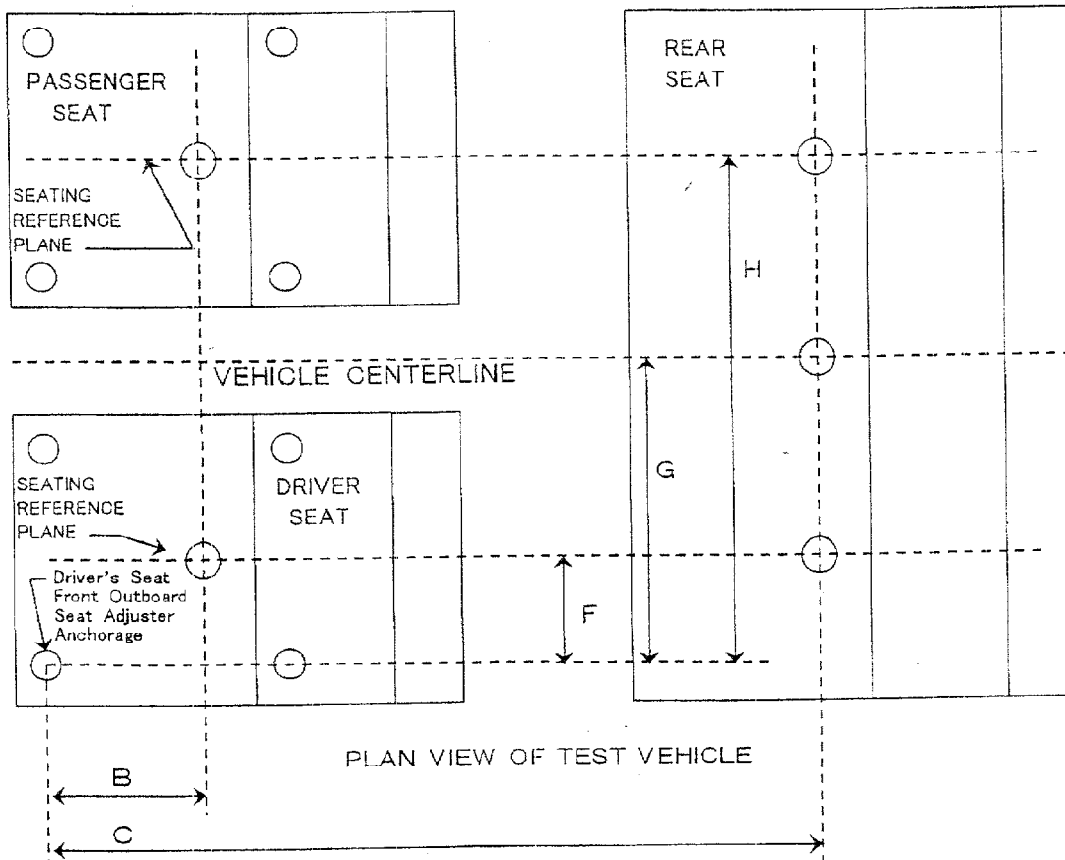


LEFT SIDE VIEW OF TEST VEHICLE

DIMENSION	FRONT, A1		REAR, A2	
	Outboard	Center	Outboard	Center
A	8.44	10.17	9.53	
B	14.68	12.67		
C			37.80	
D				
E				
F				

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: EXTRA CAB ; Seat Style: Fr 6:4Split Bench Seat(6:Driver, 4:Passenger)
Rr Bench Seat(Only)

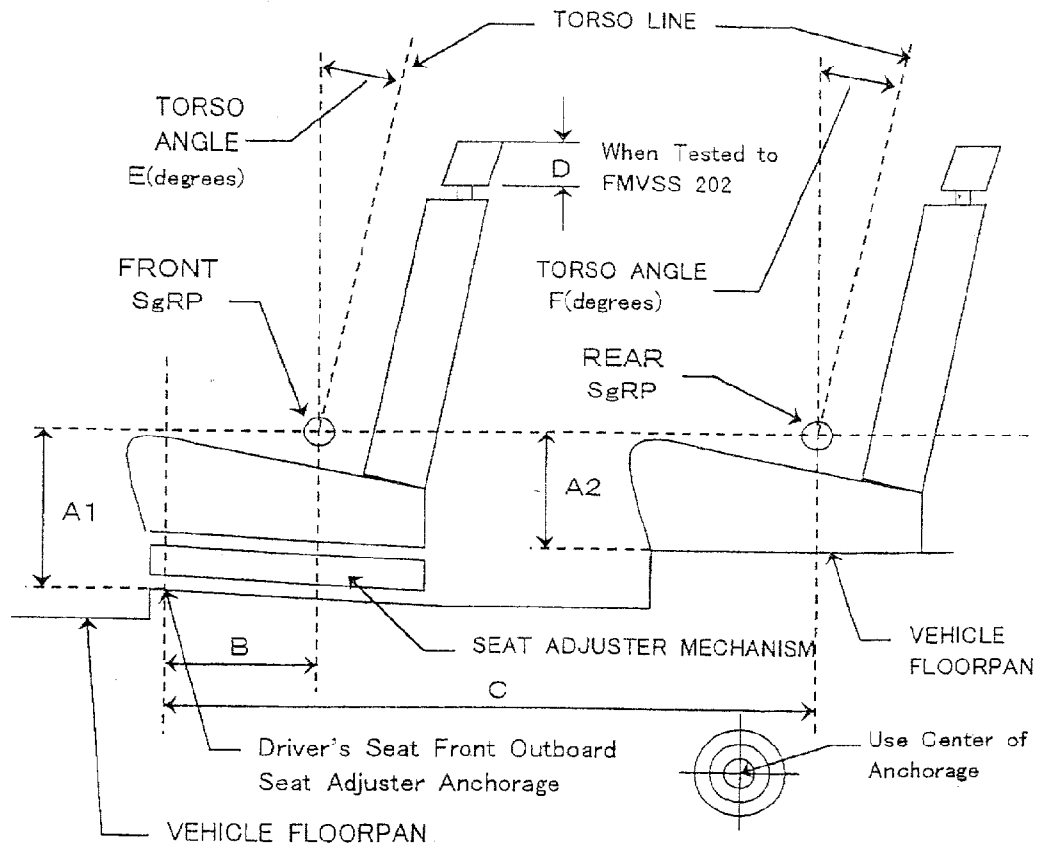


B		14.68
C		37.80
F*	Fr	9.06
	Rr	9.06
G		22.83
H*	Fr	36.91
	Rr	36.61

* Provide all dimensions needed to locate SRP.

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: EXTRA CAB ; Seat Style: Fr Separate Seat
Rr Bench Seat(Only)



LEFT SIDE VIEW OF TEST VEHICLE

DIMENSION	FRONT, A1		REAR, A2	
	Outboard	Center	Outboard	Center
A	8.44		9.53	
B	14.68			
C			37.80	
D				
E				
F				

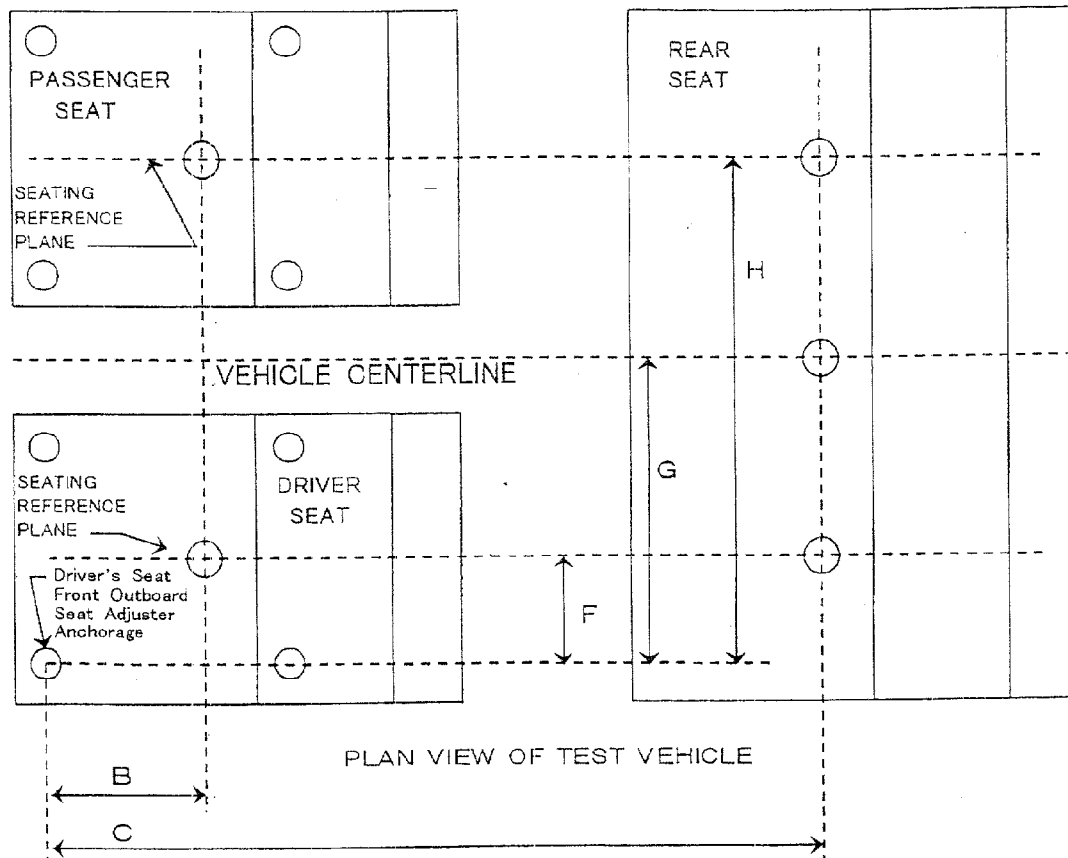
C-25

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12/23/99 THU 10:09 [TX/RX NO 5128]

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201,202,203,207 & 210
(All dimensions in inches)

Model Year: 2000 Model ; Make: TOYOTA ; Model: TACOMA
Body Style: EXTRA CAB ; Seat Style: Fr Separate Seat
Rr Bench Seat(Only)



B	14.68		
C	37.80		
F*	Fr	8.76	Rr 9.06
G	22.83		
H*	Fr	36.91	Rr 36.61

* Provide all dimensions needed to locate SRP.

INFORMATION FOR NHTSA REGARDING THE 2000 TACOMA PICK UP
(TEST CONDITIONS FOR CRASH TEST)

The following are design-related matters necessary for conducting the barrier crash test.

	4x2	4x4
1. <u>Useable Fuel Tank Volume</u>	: 14.9gallons	17.8gallons
92% of useable volume	: 13.7gallons	16.4gallons
94% of useable volume	: 14.0gallons	16.7gallons

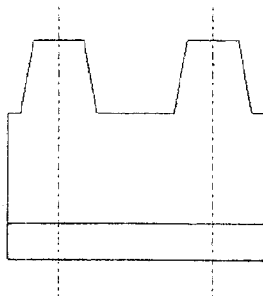
2. Vehicle Capacity Weight : 1100lbs

Rated Cargo & Luggage Weight : 300lbs

Designated Seating Capacity :

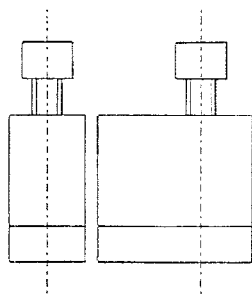
Passenger side Driver side

Bench Seat 3



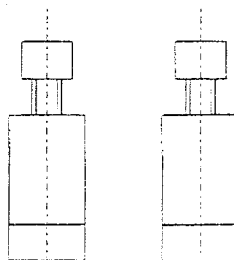
or

Split Bench Seat 3



or

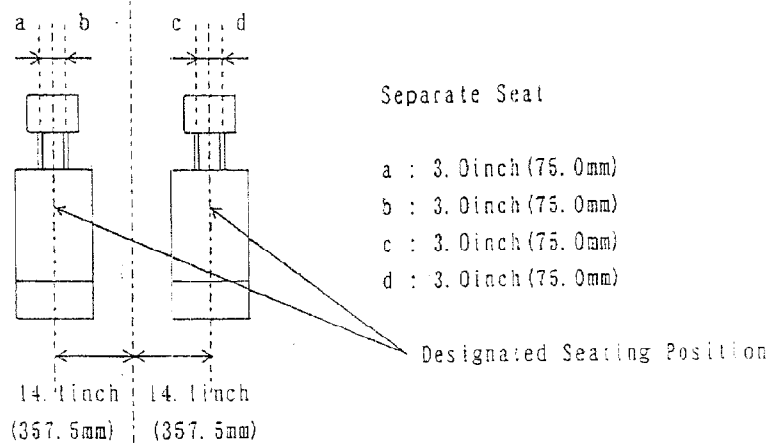
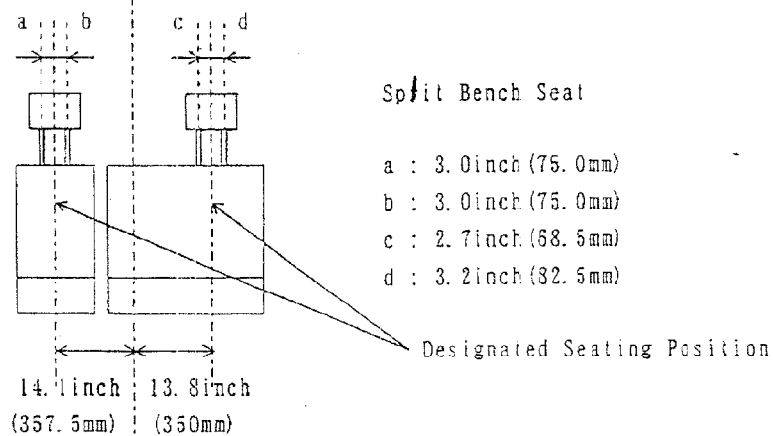
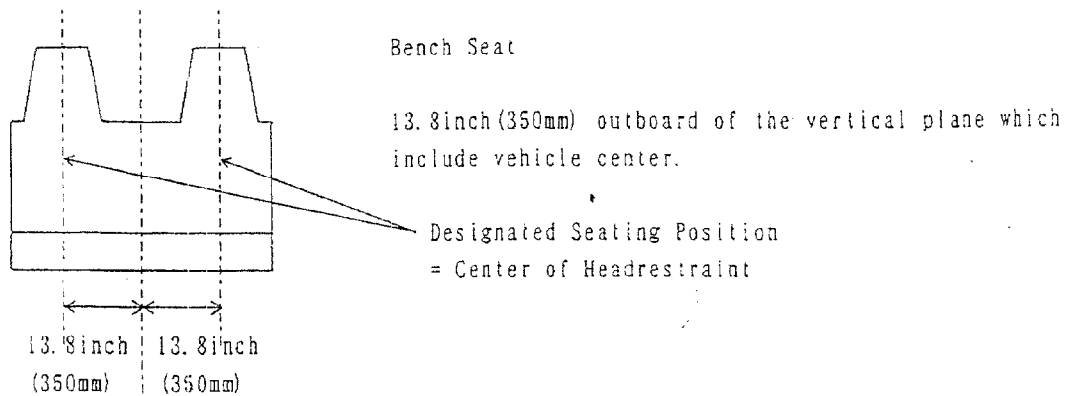
Separate Seat 2



3. Tire Inflation Pressure : P195/75R14 (Fr: 26psi, Rr: 29psi)
 P215/70R14 (Fr: 26psi, Rr: 29psi)
 P225/75R15 (Fr: 26psi, Rr: 29psi)
 10.5R15 (Fr: 26psi, Rr: 29psi)

4. Outboard Designated Seating Position :

Passenger side Driver side

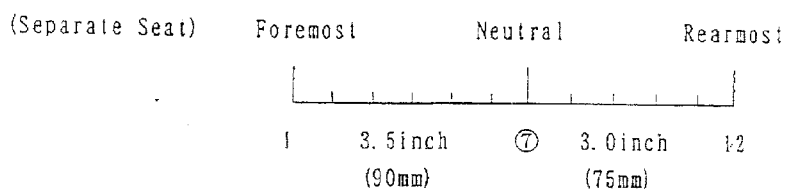
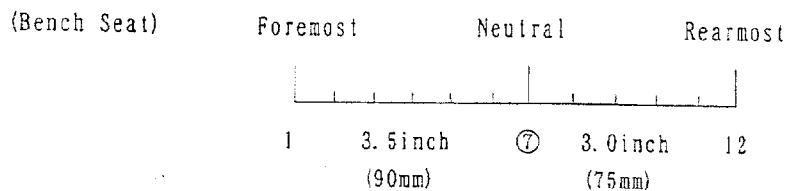


Vehicle Center

5. Designated Seat Slide Position :

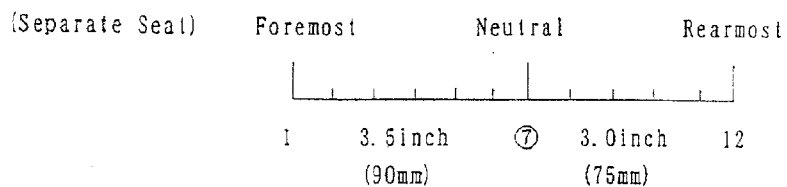
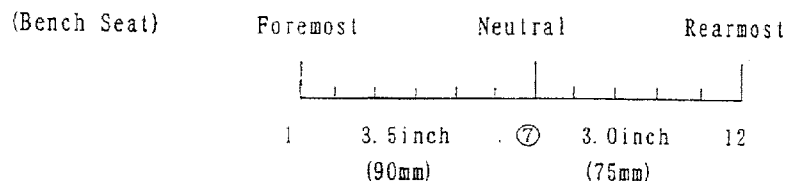
Regular Cab Driver's Seat

Move the seat seventh notches rearward from the foremost position.



Regular Cab Passenger's Seat

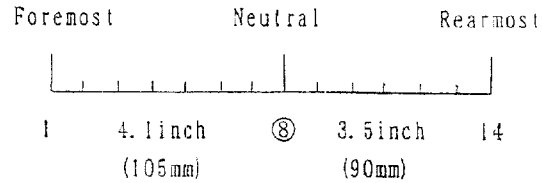
Move the seat seventh notches rearward from the foremost position.



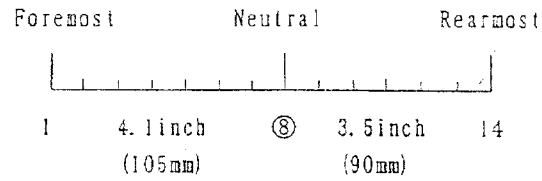
Extra Cab Driver's Seat

Move the seat eighth notches rearward from the foremost position.

(Split Bench Seat)

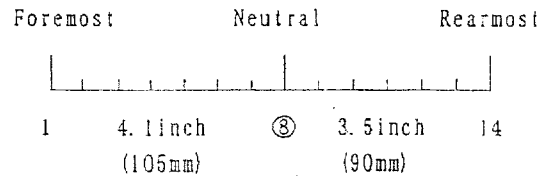


(Separate Seat)

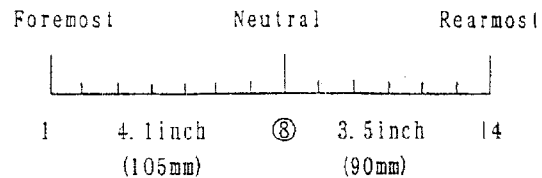
Extra Cab Passenger's Seat

Move the seat eighth notches rearward from the foremost position.

(Split Bench Seat)

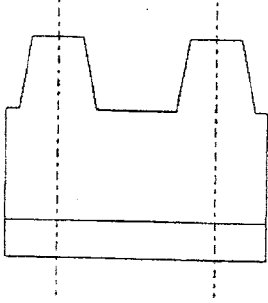
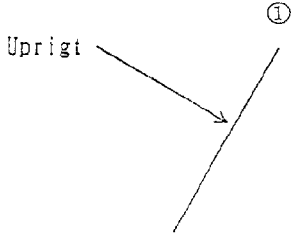
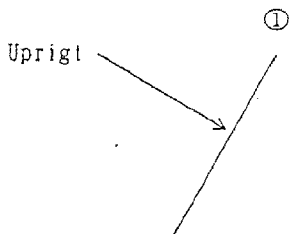
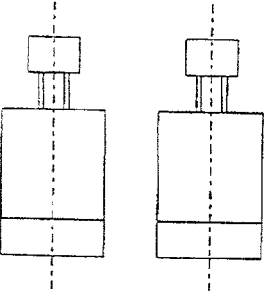
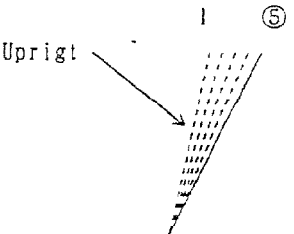
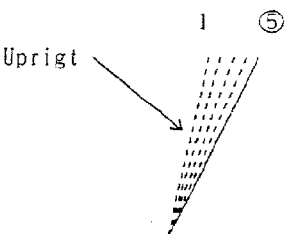


(Separate Seat)

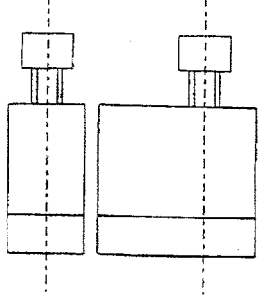
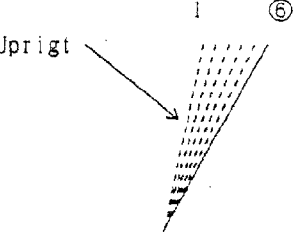
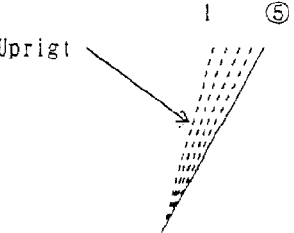


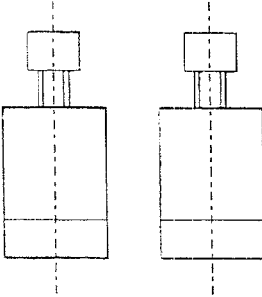
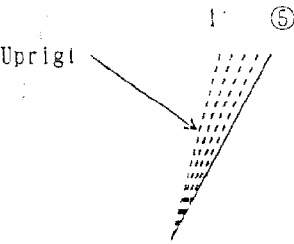
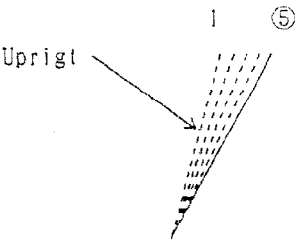
6. Designated Seat Back Position :

Regular Cab

Seat Type	Driver's Seat	Passenger's Seat
Bench Seat 	Most upright position. 	Most upright position. 
Separate Seat 	Recline fifth notches rearward from the most upright position. 	Recline fifth notches rearward from the most upright position. 

Extra Cab

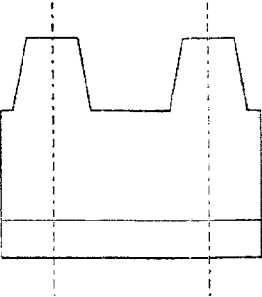
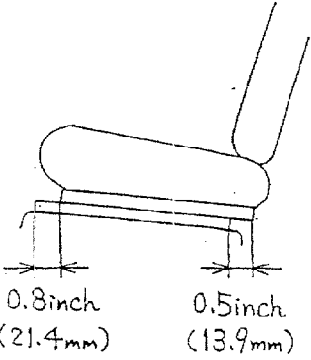
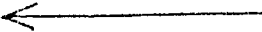
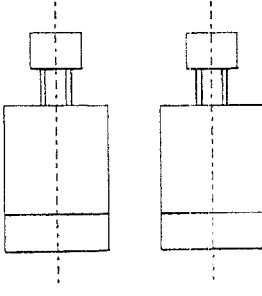
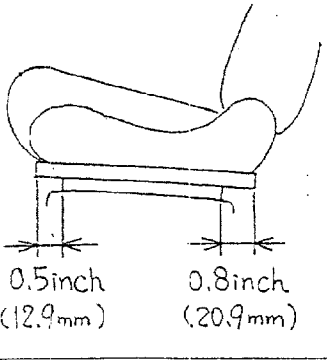
Split Bench Seat 	Recline sixth notches rearward from the most upright position. 	Recline fifth notches rearward from the most upright position. 
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Seat Type	Driver's Seat	Passenger's Seat
Separate Seat 	Recline fifth notches rearward from the most upright position. 	Recline fifth notches rearward from the most upright position. 

SUPPLEMENTARY EXPLANATION FOR FRONT SEAT ADJUSTMENT

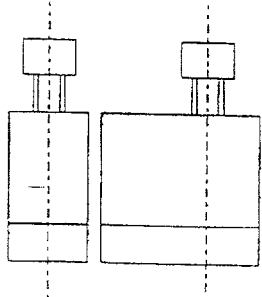
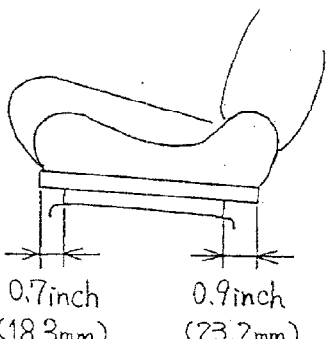
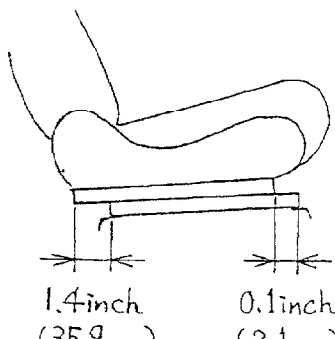
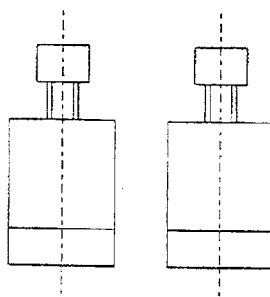
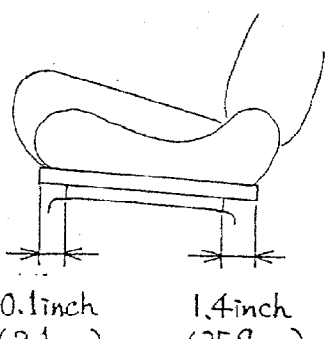
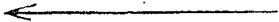
1) Regular Cab (Driver, Passenger)

The relationship of the location between the outer seat track upper rail and lower rail at the seventh notch rearward from the foremost position.

Seat Type	Driver Side Position	Passenger Side Position
Bench Seat 	 0.8inch (21.4mm) 0.5inch (13.9mm)	
Separate Seat 	 0.5inch (12.9mm) 0.8inch (20.9mm)	

2) Extra Cab (Driver, Passenger)

The relationship of the location between the outer seat track upper rail and lower rail at the eighth notch rearward from the foremost position.

Seat Type	Driver Side Position	Passenger Side Position
Split Bench Seat 	 0.7inch (18.3mm) 0.9inch (23.2mm)	 1.4inch (35.9mm) 0.1inch (2.1mm)
Separate Seat 	 0.1inch (2.1mm) 1.4inch (35.9mm)	

7. Other seat adjustment :

Lumbar support : Rearmost

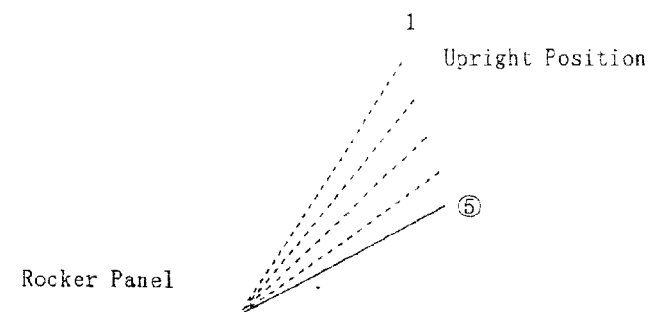
Vertical adjuster : Lowermost

8. Steering column angle :

Tilt column : Column-Sift

Tilt fifth notches downward from the upright position.

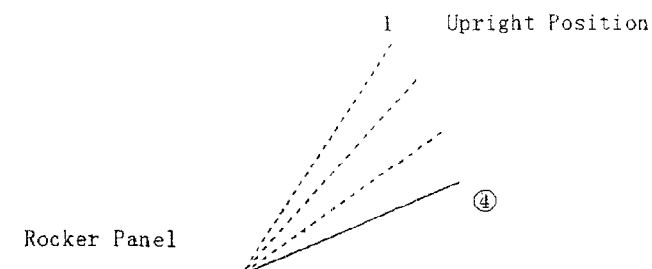
Steering column angle is 25.0° to the rocker panel.



Tilt column : Other

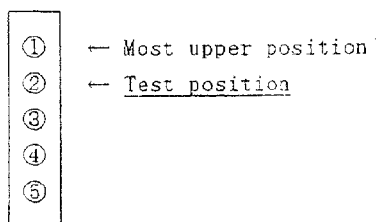
Tilt fourth notches downward from the upright position.

Steering column angle is 25.0° to the rocker panel.



9. Shoulder Belt Anchor Position :

Lock on the second position from the most upper position.

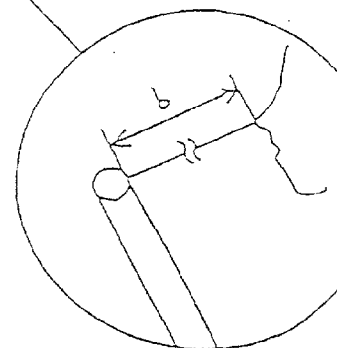
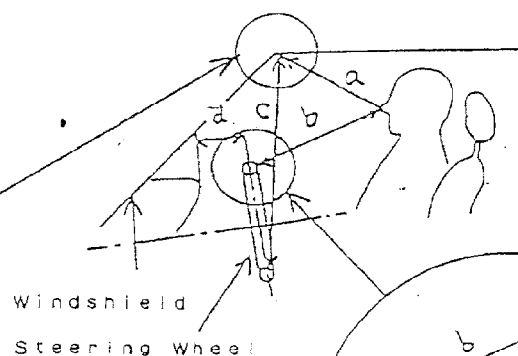
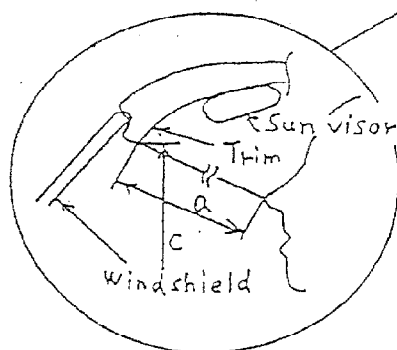


10. Dummy Clearance Dimensions :

If the dummy are properly positioned on the seat, the dimensions are as follows :

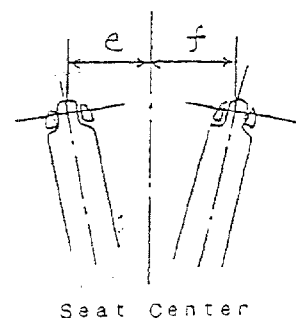
Driver :

	Regular Cab	Extra Cab
a	16.1inch (410mm)	16.7inch (425mm)
b	16.5inch (420mm)	17.1inch (435mm)
c	22.8inch (580mm)	22.8inch (580mm)
d	5.9inch (150mm)	5.9inch (150mm)



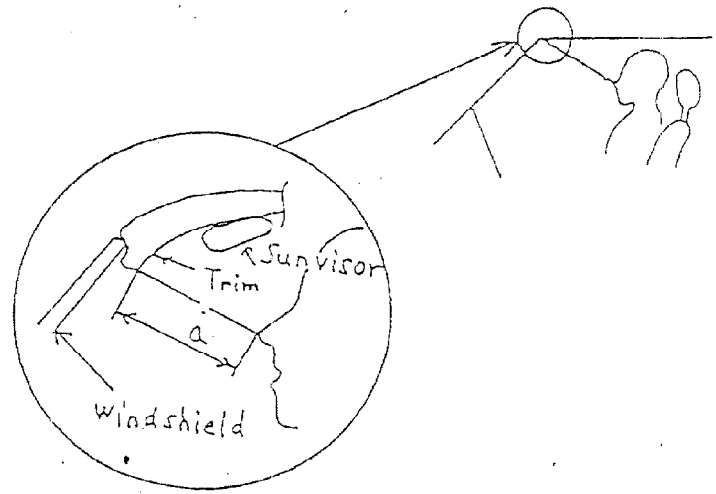
	Bench & Split Bench Seat	Separate Seat
e	6.1inch (155mm)	6.3inch (160mm)
f	4.5inch (115mm)	4.3inch (110mm)

Interval of the knee



Passenger :

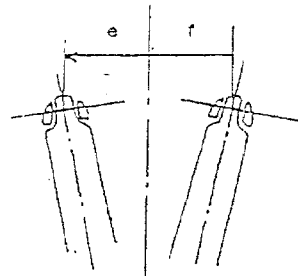
	Regular Cab	Extra Cab
a	16.1inch (410mm)	16.7inch (425mm)



e : 3.9inch (100mm)

f : 3.9inch (100mm)

Interval of the knee

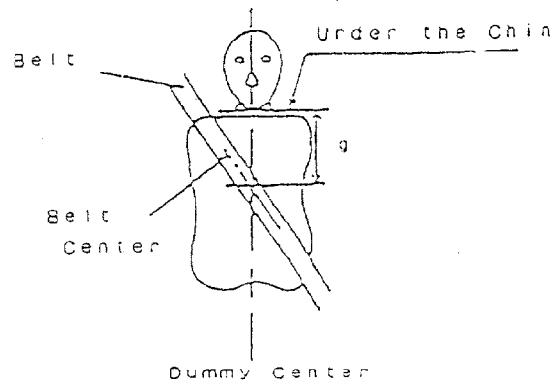


Seat Center

11. Belt Position :

Belt Position

g : 5.5inch (140mm)



12. Reconfirmation of the Test Procedure :

We would like to reconfirm the FMVSS208 test procedure, in particular concerning the following 9 items, in order to avoid test procedure trouble that may affect the test result.

1. Dummy center positions :

We would like you to adjust the dummy center position in the following manner.

① Bench Seat

Scribe a line for the dummy center position 13.8 inches apart from the vehicle center line in side and passenger side is 13.8 inches as illustrated below.

Split Bench Seat

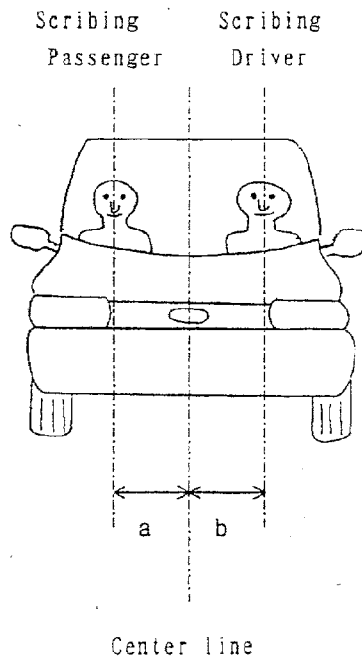
Scribe a line for the dummy center position 13.8 inches apart from the vehicle center line in side and passenger side is 14.1 inches as illustrated below.

Separate Seat

Scribe a line for the dummy center position 14.1 inches apart from the vehicle center line in side and passenger side is 14.1 inches as illustrated below.

② Place each dummy with its center line adjusted to the line described in ①.

③ The lines are to be scribed on windshield, seat cushion, seat back, roof and rear window.

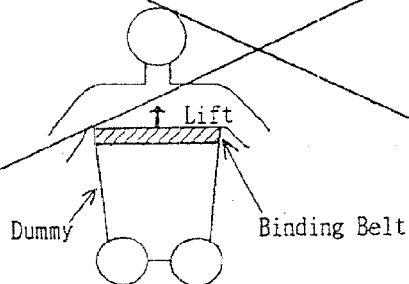


Seat Type	a	b
Bench Seat	13.8inch	13.8inch
Split Bench Seat	14.1inch	13.8inch
Separate Seat	14.1inch	14.1inch

Figure : Outline of the scribing position

2. Dummy upward displacement :

Please slowly lift the dummy parallel to the seat back plane until the dummy's buttocks no longer contact seat cushion or until there is dummy head contact with the headlining by binding the armpit as shown below.

3. Dummy H-point :

Please adjust the H-point of dummy as close as possible with the point where was obtained by using a three dimensional dummy. If differs, please record the gap between the position of the three dimensional dummy and that of the pre-test position.

4. Hands :

The palms of the driver test dummy shall be contact with the outer part of the steering wheel rim. The thumbs shall be over the steering wheel rim and shall be lightly taped to the steering rim so that if the hand of the test dummy is pushed upward by a force of not less than 2 pounds and not more than 5 pounds, the tape shall release the hand from the steering wheel rim. The tape shall be 0.5 inch width and the thumb taping shall be one round.

5. Limb joint :

The dummy limb joints shall be set at 1G, barely restraining the weight of the limb when it is extended horizontally. The force required to move a limb segment shall not exceed 2G throughout the range of limb motion.

6. Abdomen assy :

A extremely worn abdomen assembly which seemed to fail with the calibration requirement was used in a compliance test. If any abnormal condition can be seen on dummy, please assure that the abdomen complies with the calibration requirements.

7. Ribs :

Please assure that the ribs of the dummies are not deformed. If any deformation can be seen on ribs, please exchange it to the undeformed one.

8. Leg positioning :

Please set the legs in the following manner.

- (1) Put the driver's feet on the accelerator pedal and foot rest.
- (2) After the feet are positioned, adjust the knee position so that the legs stand perpendicularly.

9. Shoulder belt :

The shoulder belt shall be straightly fastened on the upper torso.

10. Steering column target :

In some NHTSA's vehicle impact tests, the steering column target was fixed onto the steering column cover by using a steel plate as a bracket. The steel plate fixed onto the steering column cover may contact with the speed meter and the contact between steel plate and speed meter has a possibility of preventing the normal steering column stroke.

Therefore, we would like to propose the following countermeasures;

- ① Using any breakable material like plastics as the substitution for a steel plate.
- ② Having enough distance (at least not less than 40mm) between the front end of bracket target and the rear end of speed meter.

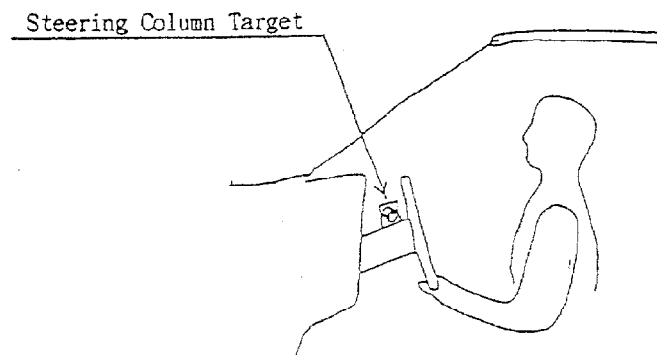


Figure : Steering column target

Attachment VI

RECOMMENDED REMOVAL PARTS FOR WEIGHT ADJUSTMENT

Following is the list of the vehicle components that may be removed in order to adjust the test vehicle weight.

No	Part name	Estimated weight (lbs)
1	Rear combination lamp	1.1 #1
2	Tool & Jack (4x2/4x4)	4.4 / 12.1
3	Outside mirror (manual/power)	0.7 #1
4	Inner mirror	0.4
5	Engin under guard (4x2/4x4)	0.6 / 17.4
6	Back window glass	9.5
7	Assist grip	0.1 #1
8	Mud guard (front/rear)	1.6 / 1.8 #1
9	Sunvisor	0.6 #1
10	Spare tire	Please see the following table

#1 : These weights indicate the weight of one piece.

SPARE TIRE WEIGHT

TIRE SIZE	WHEEL SIZE	WEIGHT (lbs)
P195/75R14	5JJ-14 (STEEL WHEEL)	36.4
P215/70R14	6JJ-14 (STEEL WHEEL)	37.9
P225/75R15	6JJ-15 (STEEL WHEEL)	50.7
10.5R15	7JJ-15 (STEEL WHEEL)	63.1



U.S. Department
of Transportation

Research and
Special Programs
Administration

The US Department of Transportation
Competent Authority for the United States

Attachment VII-1

400 Seventh Street, S.W.
Washington, D.C. 20590

CLASSIFICATION OF EXPLOSIVES

Based upon a request by Frank S. Fullmer on behalf of Morton International, Inc., 3250 Airport Road, Ogden, Utah, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR).

U.N. PROPER SHIPPING NAME AND NUMBER: Airbag inflators, UN3268

U.N. CLASSIFICATION CODE: 9

REFERENCE NUMBER

PRODUCT DESIGNATION/PART NUMBER

EX-9304209

Passive Restraint Inflator/Module (UT10100)

EX-9304310

Passive Restraint Inflator Module
(UT10731) (UT10939-01)

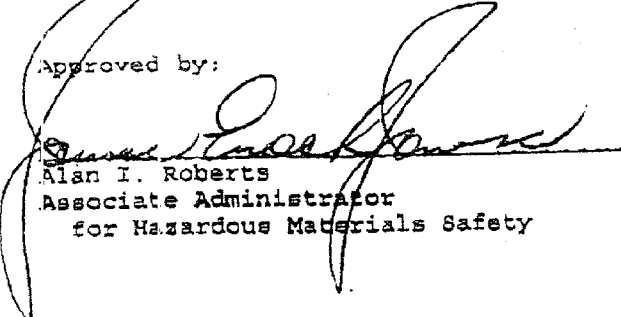
*** The following is provided to facilitate transition to the UN system ***

Classification under Sections 173.85 or 173.114a (49 CFR):

DOT DESCRIPTION/COMMERCIAL NAME: Not applicable

DOT HAZARD CLASSIFICATION: Not applicable

Approved by:


Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

FEB 16 1995

(DATE)

Attachment VII-2



U.S. Department
of Transportation
Research and
Special Programs
Administration

The US Department of Transportation
Competent Authority for the United States

140 Seventh Street S.W.
Washington D.C. 20590

CLASSIFICATION OF EXPLOSIVES

Based upon a request by Terry Zost on behalf of Autoliv ASF, Inc. (formerly Morton Int'l), 3350 Airport Road, Ogden, Utah, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR).

U.N. PROPER SHIPPING NAME AND NUMBER: Argon, compressed, UN1006 (see note 1)

U.N. CLASSIFICATION CODE: 2.2

<u>REFERENCE NUMBER</u>	<u>PRODUCT DESIGNATION/PART NUMBER</u>
EX-9510011	702439
EX-9510012	690167

Note 1 - Pressure vessels used in the devices given in this approval must be in compliance with requirements for the gas or gasses it contains as prescribed in 49 CFR Sections 173.301, 173.302 or 173.306(a)(1).

U.N. PROPER SHIPPING NAME AND NUMBER: Argon, compressed, UN1006

U.N. CLASSIFICATION CODE: 2.2

<u>REFERENCE NUMBER</u>	<u>PRODUCT DESIGNATION/PART NUMBER</u>
EX-9409006	116242 (-11, -12, -13, -14, 15, -21, -22, -23, -24, -25, -31, -32, -33, -34, -35, -41, -42, -43, -44, -45, -51, -52, -53, -54, -55, -61, -62, -63, -64, -65, -71, -72, -73, -74, -75)

U.N. PROPER SHIPPING NAME AND NUMBER:

Cartridges, power device, UN0323 (see note 2)

U.N. CLASSIFICATION CODE: 1.4S

<u>REFERENCE NUMBER</u>	<u>PRODUCT DESIGNATION/PART NUMBER</u>
EX-9603058	850009-36

Note 2 - This classification is only valid when the cartridges, power device are packaged as follows: Inner Packaging: Trays, metal, with cover, each containing not more than 86 devices. Outer Packaging: As specified in 49 CFR Section 173.62, Packing Method E-114, each containing one inner packaging.

Appendix D

Miscellaneous Test Information

		Driver Spine	Driver Head	Driver Neck	Driver Knee	Pass. Spine	Pass. Head
04/07/2000	13:06:00	71.867	72.07	72.356	72.483	71.939	72.09
04/07/2000	13:07:00	71.871	72.078	72.335	72.425	71.941	72.083
04/07/2000	13:08:00	71.873	72.114	72.373	72.409	71.942	72.122
04/07/2000	13:09:00	71.877	72.058	72.313	72.345	71.945	72.043
04/07/2000	13:10:00	71.879	71.939	72.235	72.236	71.946	71.912
04/07/2000	13:11:00	71.88	71.789	72.157	72.092	71.947	71.74
04/07/2000	13:12:00	71.881	71.666	72.041	71.972	71.949	71.601
04/07/2000	13:13:00	71.881	71.512	71.949	71.823	71.949	71.444
04/07/2000	13:14:00	71.882	71.383	71.844	71.679	71.95	71.307
04/07/2000	13:15:00	71.882	71.231	71.763	71.526	71.951	71.164
04/07/2000	13:16:00	71.881	71.115	71.706	71.387	71.951	71.049
04/07/2000	13:17:00	71.881	71.11	71.676	71.309	71.953	71.042
04/07/2000	13:18:00	71.881	70.989	71.626	71.192	71.953	70.912
04/07/2000	13:19:00	71.879	70.848	71.499	71.058	71.953	70.777
04/07/2000	13:20:00	71.876	70.813	71.379	70.953	71.953	70.724
04/07/2000	13:21:00	71.878	70.759	71.345	70.892	71.954	70.671
04/07/2000	13:22:00	71.874	70.627	71.349	70.788	71.953	70.566
04/07/2000	13:23:00	71.869	70.573	71.304	70.728	71.952	70.522
04/07/2000	13:24:00	71.866	70.533	71.24	70.674	71.952	70.487
04/07/2000	13:25:00	71.864	70.463	71.21	70.592	71.951	70.413
04/07/2000	13:26:00	71.861	70.36	71.147	70.492	71.949	70.316
04/07/2000	13:27:00	71.855	70.315	71.108	70.426	71.947	70.267
04/07/2000	13:28:00	71.852	70.252	71.068	70.362	71.946	70.215
04/07/2000	13:29:00	71.846	70.231	70.956	70.316	71.945	70.18
04/07/2000	13:30:00	71.842	70.162	70.919	70.236	71.943	70.113
04/07/2000	13:31:00	71.838	70.125	70.881	70.197	71.94	70.082
04/07/2000	13:32:00	71.834	70.074	70.843	70.133	71.938	70.044
04/07/2000	13:33:00	71.83	70.061	70.849	70.108	71.935	70.034
04/07/2000	13:34:00	71.822	69.989	70.759	70.037	71.933	69.949
04/07/2000	13:35:00	71.812	69.938	70.697	69.979	71.931	69.911
04/07/2000	13:36:00	71.806	69.958	70.724	69.98	71.927	69.943
04/07/2000	13:37:00	71.805	69.931	70.641	69.951	71.927	69.913
04/07/2000	13:38:00	71.807	69.944	70.659	69.945	71.927	69.931

Pass. Neck	Pass. Spine
72.281	72.303
72.25	72.278
72.254	72.282
72.218	72.239
72.146	72.145
72.054	72.02
71.973	71.924
71.877	71.795
71.795	71.664
71.697	71.546
71.62	71.421
71.598	71.372
71.517	71.272
71.416	71.154
71.365	71.055
71.321	71.021
71.228	70.925
71.17	70.881
71.12	70.837
71.075	70.759
70.984	70.673
70.931	70.612
70.883	70.571
70.835	70.53
70.76	70.449
70.716	70.42
70.668	70.366
70.635	70.342
70.573	70.27
70.515	70.214
70.498	70.222
70.456	70.196
70.438	70.198