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Report Number: 208S-TRC-04-002

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

Toyota Motor Manufacturing

2003 Toyota Tacoma Truck

NHTSA Number: C35108

TRC Inc. Test Number: S040413

Transportation Research Center Inc.

10820 State Route 347

East Liberty, OH 43319

Test Date: April 13, 2004

Report Date: April 26, 2004

Final Report

Prepared For:

U. S. Department of Transportation

National Highway Traffic Safety Administration

Office of Enforcement

Office of Vehicle Safety Compliance (NVS-220)

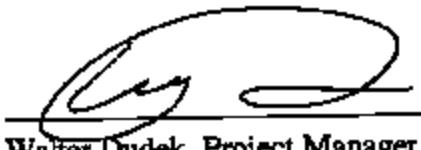
400 Seventh Street, S.W., Room No. 6115

Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-03-D-01002.

Test Performed By: Ronald D. Stoner, Engineering Technician

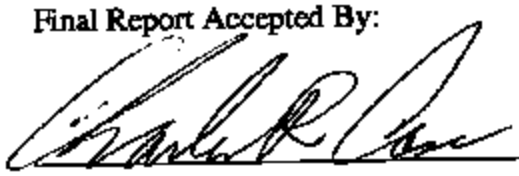
Report Approved By:



Date 4/26/04

Walter Dudek, Project Manager
Transportation Research Center Inc.

Final Report Accepted By:



7/22/04

Date 9/29/04

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

Technical Report Documentation Page

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16. Abstract

An FMVSS 208 Section 13 compliance sled test was conducted on a 2003 Toyota Tacoma Truck Pickup truck, NHTSA No.C35108, 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:

None.

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Table of Contents

List of Photographs

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 Inc.) under Contract No. DTNH22-03-D-01002. The purpose of this test was to determine if the subject vehicle, a 2003 Toyota Tacoma Pickup truck, NHTSA No.C35108, 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 accelerations. The sled was instrumented with one (1) longitudinal accelerometer, which is prefiltered with an analog filter to 200 Hz as an integral part of the sled firing circuit, and two (2) additional accelerometers: the primary accelerometer for pulse and integrated velocity determination and a backup accelerometer. In addition, the sled was instrumented with one (1) light trap to measure velocity and four (4) airbag firing timing circuits.

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-one (41) 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 by TRC Inc. on 04/13/04.

The test vehicle, a 2003 Toyota Tacoma Truck, NHTSA No. C35108, 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	258	339
Chest g	60 g	39.7	35.6
Chest Displacement	3 inches	1.2	0.4
Left Femur	2250 lbs	1345	882
Right Femur	2250 lbs	733	1043
Neck Extension	57 Nm	9.6	16.2
Neck Flexion	190 Nm	27.6	75.8
Neck Tension	3300 N	917	322
Neck Compression	4000 N	985	2584
Neck Shear	3100 N	556	1530

The subject vehicle, a 2003 Toyota Tacoma Truck, NHTSA No. C35108, appears to meet the other FMVSS 208 requirements for which it was tested. 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 17.4 g with an integrated velocity change of 29.4 mph. The airbags 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 airbag event trigger signal was 20.7 ms after the 0.5 g acceleration level was indicated.

Data Acquisition Explanations

There were no anomalies to report for this test.

Sled Test Summary

NHTSA number:	C35108
Test type:	Alternate 208
Test date:	04/13/04
Test time:	11:08
Ambient temperature at impact area:	70° F
Vehicle year/make/ model/body style:	2003/Toyota/Tacoma/Truck

Dummy Info:	Driver #230	Front passenger #314
Type:	Hybrid III 50th	Hybrid III 50th
Location:	Left front	Right front
Restraint:	Airbag	Airbag
Number of data channels:	15	15

Number of Cameras:

Real-time:	1
High-speed:	6

Door Opening Data:

Left Front:	Easy
Right Front:	Easy

Front Seat Data:

Seat track failure:	None	None
Seat back failure	None	None

Visible Dummy Contact Points:

Head:	Airbag, windshield, sun visor, roof liner	Airbag
Chest:	Airbag	Airbag
Left knee:	Knee bolster	Glove box
Right knee:	Knee bolster	Glove box

General Test and Vehicle Parameter Data for the Sled Test Vehicle

Test Vehicle Information:

Vehicle year/make/ model/body style:	2003/Toyota/Tacoma/Truck			
Color:	Super white			
VIN:	5TENL42N43Z[redacted]			
NHTSA number:	[redacted]			
Engine data:				
Placement:	Inline			
Cylinders:	4			
Displacement:	2.4			
Transmission data:	_5_ speed,	_X_ manual,	__automatic,	_X_ overdrive
Final drive:	__fwd,	_X_ rwd,	__4wd	
Date vehicle received:	06/25/03			
Odometer reading:	7			
Dealer's name and address:	Ed Shults Toyota 880 East Main Street Bradford, PA 16701			

Major Options:

Power steering	Yes	Other: None
Power brakes	Yes	
Power windows	No	
Air conditioning	Yes	
Power door locks	No	

Remarks:

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

Data from Vehicle's Certification Label:

Vehicle manufactured by:		Toyota Motor Manufacturing
Date of manufacture:		03/03
VIN:		5TENL42N43Z[redacted]
GVWR:		4250 lbs
GAWR:	Front:	2200 lbs
	Rear:	2500 lbs

Data from Vehicle's Tire Placard:

Tire pressure with maximum capacity vehicle load:	
Front:	29 psi
Rear:	29 psi
Recommended tire size:	P205/75R15
Load range:	N/A lbs
Recommended cold tire pressure:	
Front:	29 psi
Rear:	29 psi
Size of tires on vehicle:	205/75R15
Spare tire:	205/75R15
Vehicle capacity data:	
Type of front seats:	Bench
Number of occupants:	
Front	3
Rear	0
Total	3

Remarks:

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

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

Right front	800.3	lbs	Right rear	580.9 lbs
Left front	809.1	lbs	Left rear	637.1 lbs
Total front weight	1609.4	lbs	(56.9% of total vehicle weight)	
Total rear weight	1218.0	lbs	(43.1% of total vehicle weight)	
Total delivered weight	2827.4	lbs		

Calculation of test vehicle's target test weight:

RCLW = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (2827.4 lbs)

DSC = Designated Seating Capacity (3)

RCLW = 300 lbs

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

Target test weight = 2827.4 + 300.0 + 334.0 = 3461.4 lbs

Weight of test vehicle with two dummies and 298.1 lbs of cargo weight:

Right front	884.0	lbs	Right rear	816.8 lbs
Left front	884.0	lbs	Left rear	878.5 lbs
Total front weight	1768.0	lbs	(51% of total vehicle weight)	
Total rear weight	1695.3	lbs	(49% of total vehicle weight)	
Total test weight	3463.3	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: 1.9° Nose Down

As tested door sill angle: 1.6° Nose Down

Fully loaded door sill angle: 1.3° Nose Down

Vehicle Wheelbase: 103.3 inches

Fuel System Data:

Fuel system capacity from owner's manual: 16.0 gallons

Useable capacity figure furnished by COTR: 16.0 gallons

Remarks: The roll angle measurements were within 1 inch of each other.

The left and right side measurements were 34.6 inches and 34.6 inches respectively.

Post-Impact Data

Test number:	[redacted]3
NHTSA number:	[redacted]
Test date:	04/13/04
Test time:	11:08
Test type:	Alternate 208
Impact angle:	0°
Ambient temperature at impact area:	70° F
Temperature in occupant compartment:	70° F

Sled carriage velocity:

Integrated velocity from the integration of the entire sled acceleration:	29.4 mph
Measured velocity from the light trap device attached to the sled (backup):	28.9 mph
Specified integrated velocity range:	28 to 30 mph

Sled carriage acceleration:

Acceleration:	17.4 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:	126.3 ms
Specified acceleration duration:	120 - 130 ms

The sled acceleration curve was within the specified corridor.

Seat and Steering Column Positioning Data

Vehicle: 2003/Toyota/Tacoma/Truck NHTSA No.: C35108

Nominal Design Riding Position:

Driver Seat: Fixed

Passenger Seat: Fixed

Seat Fore and Aft Positions:

Driver Seat: Set to six notches rearward from the foremost position (7th of 12 notches)

Passenger: Set to six notches rearward from the foremost position (7th of 12 notches)

Steering Column Adjustments:

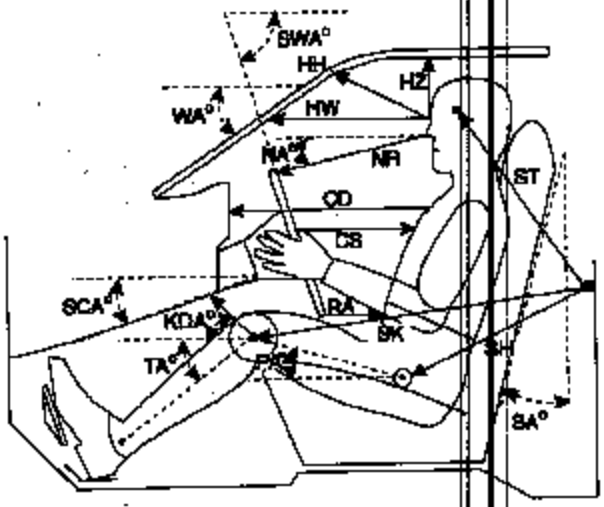
Set to 3rd notch down from top notch

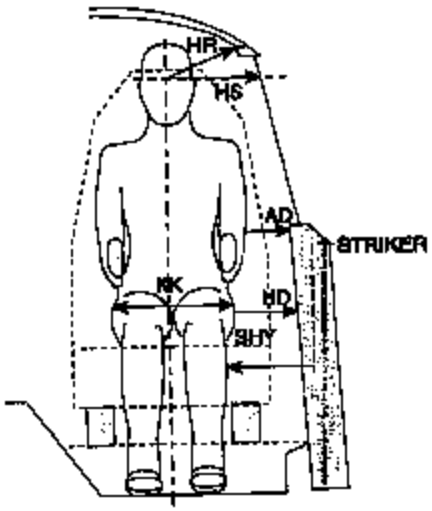
Dummy Measurement Data for Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #230)	Passenger (Serial #314)
WA	Windshield angle	39.7°	N/A
SWA	Steering wheel angle	26.2°	N/A
SCA	Steering column angle	63.8°	N/A
SA	Seat back angle	16.8°	16.8°
HZ	Head to roof	7.6 in	7.4 in
HH	Head to header	16.4 in	16.7 in
HW	Head to windshield	21.4 in	20.8 in
HR	Head to side header	8.3 in	8.0 in
NR	Nose to rim	18.0 in	N/A
NA	Nose to rim angle	12°	N/A
CD	Chest to dash	23.2 in	21.9 in
CS	Steering wheel to chest	14.4 in	N/A
RA	Rim to abdomen	8.2 in	N/A
KDL	Left knee to dash	7.7 in	5.9 in
KDR	Right knee to dash	7.8 in	6.1 in
KDA	Outboard knee to dash angle	19.7°	24.3°
PA	Pelvis angle	23.3°	23°
TA	Tibia angle	36.9°	41.8°
KK	Knee to knee	13.0 in	10.6 in
ST[1]	Striker to head	21.3 in	21.9 in
	Striker to head angle	-70.1°	-68.5°
SK[1]	Striker to knee	28.5 in	29.2 in
	Striker to knee angle	4.9°	3.4°
SH[1]	Striker to H-point	14.1 in	14.5 in
	Striker to H-point angle	24.8°	23.4°
SHY	Striker to H-point (Y dir.)	9.4 in	8.8 in
HS	Head to side window	12.9 in	12.2 in
HD	H-point to door	5.0 in	5.5 in
AD	Arm to door	3.9 in	4.3 in

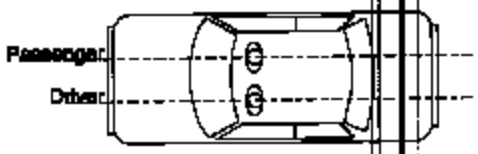
The seat back angle (SA°) is measured relative to vertical.
All other angles are measured relative to horizontal.
[1] A negative angle indicates the measurement point was located below the striker.

Dummy Measurement Locations for Front Seat Occupants

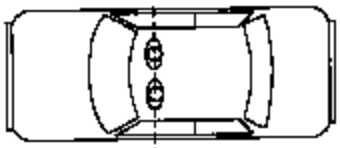




VERTICAL LONGITUDINAL PLANE



VERTICAL TRANSVERSE PLANE



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).

* Measurement used in Data Tape Reference Guide

*[1] KDL,
KDR 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.

SH,
SK,
ST Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of 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.

* Measurement used in Data Tape Reference Guide
[1] Only outboard measurement is referenced in Data Tape Reference Guide

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.

PA Pelvis 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.

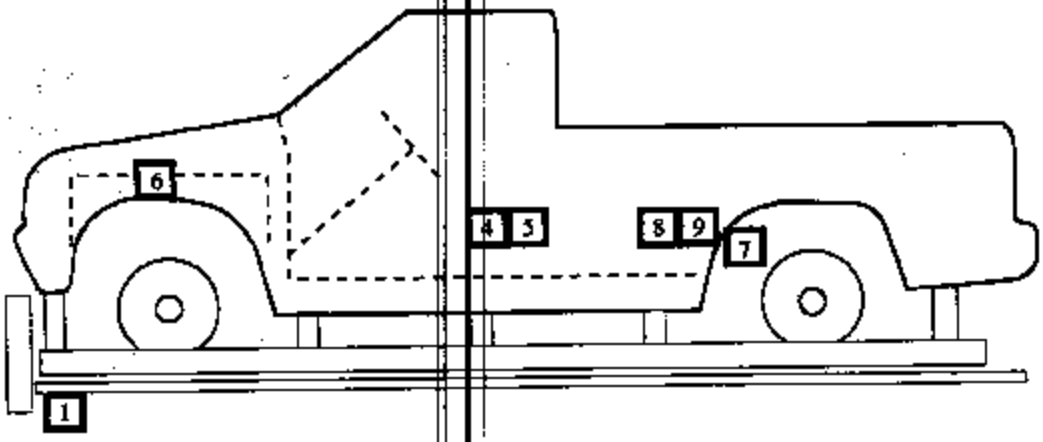
KDA Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See diagram.

WA Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).

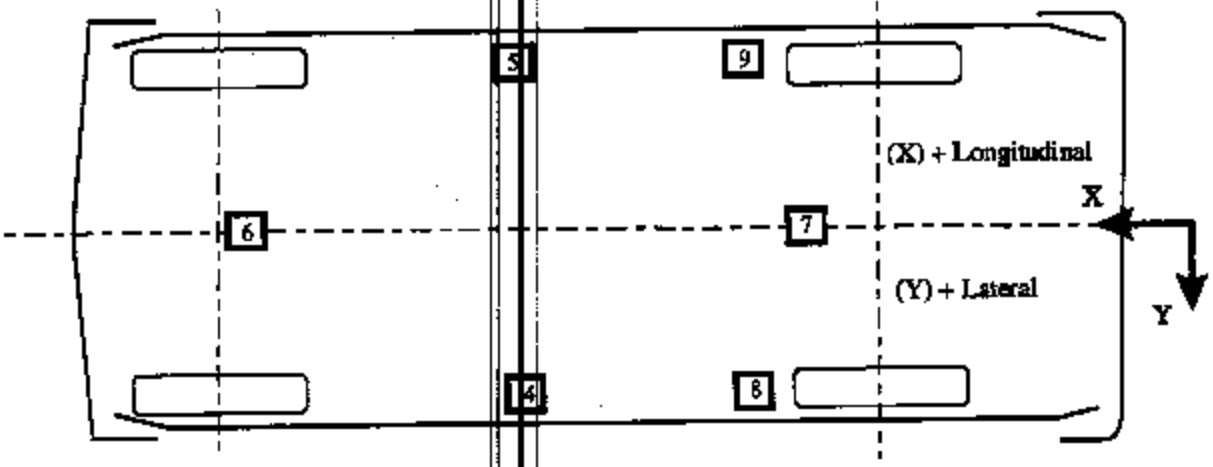
TA Tibia Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.

* Measurement used in Data Tape Reference Guide

Vehicle Accelerometer Placement



Side View



Bottom View

S040413

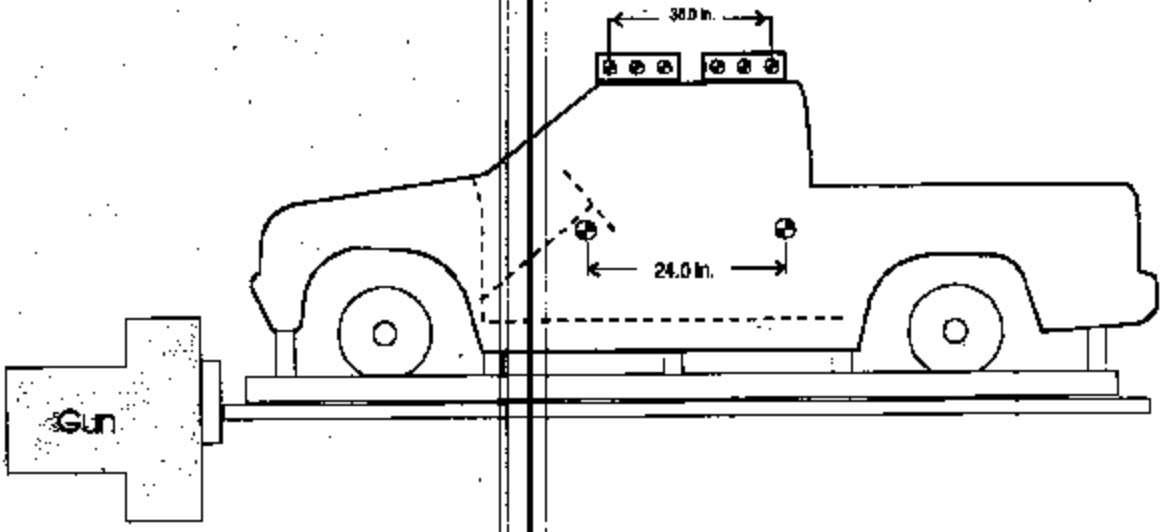
Vehicle Data Summary and Accelerometer Locations, Cont'd.

TEST NUMBER: S040413 No. LOCATION	X	Y	Z	POSITIVE[1] DIRECTION		NEGATIVE[1] DIRECTION	
9 RIGHT VEHICLE FRAME LONGITUDINAL	51.0 in	20.7 in	NA	39.0 g	@ 100.2 ms	17.5 g	@ 63.0 ms
10 DRIVER PRIMARY AIRBAG EVENT	NA	NA	NA	1.0 volt	@ 20.7 ms	---	---
11 PASSENGER PRIMARY AIRBAG EVENT	NA	NA	NA	1.0 volt	@ 20.7 ms	---	---

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

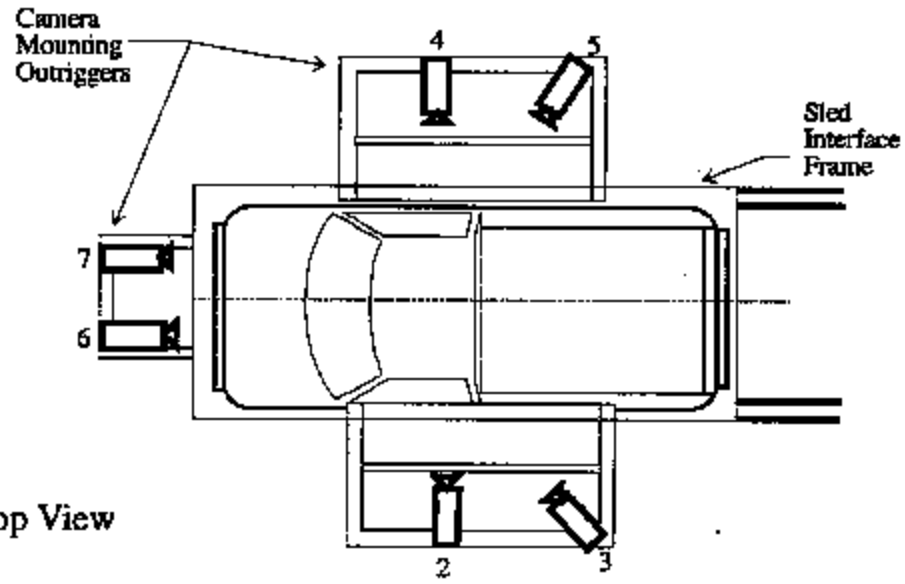
[1] Sign convention per SAEJ211 March 1995.
[2] No positive data in time frame of interest.

REFERENCE PHOTO TARGETS



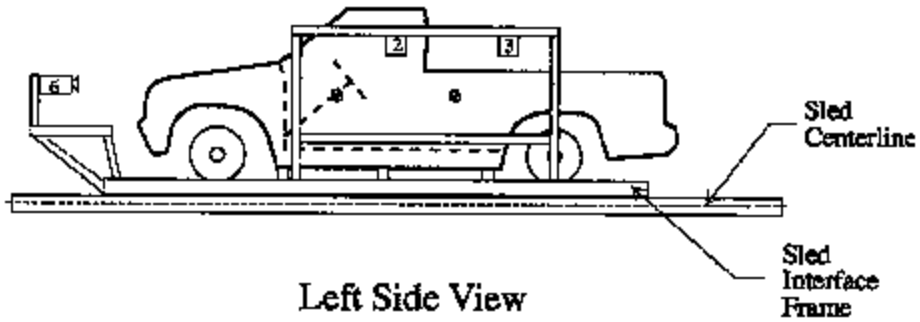
LEFT SIDE VIEW

Camera Positions



Top View

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



Left Side View

Motion Picture Camera Locations

Vehicle year/make/model/body style: 2003/Toyota/Tacoma/Truck NHTSA No.: C35108 Test Number: S040413

Camera Number	View	Camera Positions[1] X	Y	Z	Camera Angle[2]	Film Plane to Head Target	Camera Lens	Film Speed
1	Pre- and Post-Test panning and documentary	94.8 in	304.4 in	41.6 in	3.5°	290.0 in	6.7 mm	30 frames/s
2	Left side view wide	70.4 in	72.4 in	52.6 in	-9.8°	58.1 in	13 mm	1000 frames/s
3	Left side view over shoulder	97.4 in	50.4 in	63.5 in	-14.6°	36.3 in	8 mm	1200 frames/s
4	Right side view wide	70.0 in	73.4 in	63.7 in	-9.7°	58.5 in	13 mm	1000 frames/s
5	Right side view over shoulder	100.3 in	49.8 in	62.5 in	-12.6°	36.0 in	8 mm	1035 frames/s
6	Front view - driver[3]	27.4 in	14.8 in	55.8 in	-7.3°	54.2 in	8 mm	312 frames/s
7	Front view - passenger[3]	27.5 in	16.5 in	56.3 in	-3.1°	53.9 in	8 mm	440 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

[3] Cameras ran slower than 1,000 frames/second settings.

FMVSS 208 Occupant Injury Data

Vehicle: 2003/Toyota/Tacoma/Truck NHTSA No.: C35108 Date:04/13/04

Maximum Acceleration Values: (g)	Driver Dummy #230	Passenger Dummy #314
Head Channel X	-107.0	-67.7
Head Channel Y	-45.3	-26.6
Head Channel Z	26.9	-27.6
HEAD RESULTANT	107.1	75.3
Chest Channel X	-39.2	-34.0
Chest Channel Y	4.5	3.0
Chest Channel Z	13.2	23.1
CHEST RESULTANT	40.7	36.5

Head Injury Criteria (HIC) Values:

HIC	258	339
t_1 = (ms)	102.64	99.20
t_2 = (ms)	138.64	125.36

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

Chest Injury Criteria (Clip) Values:

CLIP (g)	39.7	35.6
t_1 = (ms)	103.65	114.42
t_2 = (ms)	106.61	117.38
Chest Deflection (in)	1.2	0.4

FMVSS 208 Occupant Injury Data, Cont'd.

Vehicle: 2003/Toyota/Tacoma/Truck NHTSA No.: C35108 Date:04/13/04

Max. Compressive Femur Forces:	Driver Dummy #230	Passenger Dummy #314
Left Side (lbs)	1345	882
Right Side (lbs)	733	1043

Neck Injury Criteria:	Driver Dummy #230	Passenger Dummy #314
Peak Flexion Bending Moment (N-m)	27.6	75.8
Peak Extension Bending Moment (N-m)	9.6	16.2
Peak Axial Tension (N)	917	322
Peak Axial Compression (N)	985	2584
Peak Positive X-axis Shear (N)	556	1530
Peak Negative X-axis Shear (N)	161	276

DATA SHEET 3

Certification Label and Tire Placard Information

NHTSA No. C35108 Test Date: 03/29/04

Laboratory: TRC Inc. Test Technician(s): Stephen W. Bell

1. Certification Label
   Manufacturer Toyota Motor Manufacturing, California Inc.
   Date of Manufacture 03/03
   VIN 5TENL42N43Z226334
   Vehicle certified as: __Passenger car __MPV X Truck __Bus
   Front axle GVWR 2200
   Rear axle GVWR 2500
   Total GVWR 4250

2. Tire Placard
   __N/A – Vehicle is not a passenger car and does not have a tire placard.
   X This is not a passenger car (see the item 1 above), but all or part of this information is still contained on a vehicle label and is reported here.

Vehicle Capacity Weight	No
Designated seating capacity front	No
Designated seating capacity rear	No
Total Designated seating capacity	No
Recommended cold tire inflation pressure front	29
Recommended cold tire inflation pressure rear	29
Recommended tire size	P205/75R15

DATA SHEET 4

REAR OUTBOARD SEATING POSITION SEAT BELTS

NHTSA No. C35108 Test Date: 03/29/04

Laboratory: TRC Inc. Test Technician(s): Stephen W. Bell

Do all rear outboard seating positions have type 2 seat belts? Yes ____; No X

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

REMARKS: Vehicle not equipped with rear seats.

DATA SHEET 5

AIR BAG LABELS (S4.5.1)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

1. Air Bag Maintenance Label and Owner's Manual Instructions: (S4.5.1(a))

1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
__ Yes (Go to 1.2); X No (Go to 2)

1.2 Does the vehicle have a label specifying air bag maintenance or replacement?
__Yes-Pass; __**No-FAIL**

1.3 Does the label contain one of the following?
__Yes-Pass; __**No-FAIL**
Check applicable schedule
__ Schedule on label specifies month and year (Record date _____)
__ Schedule on label specifies vehicle mileage (Record mileage _____)
__ Schedule on label specifies interval measured from date on certification label
(Record interval_____)

1.4 Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or the sunvisor?
__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 inches high?
____ height of letters and numerals
__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?
X Yes-Pass; __**No-FAIL**

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?
X Yes-Pass; __**No-FAIL**

2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?
X Yes-Pass; __**No-FAIL**

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?
X Yes-Pass; __**No-FAIL**

2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to ensure maximum safety protection for those occupants?
X Yes-Pass; __**No-FAIL**

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?
X Yes-Pass; __**No-FAIL**

2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? **(Obtain the answer to this question from the COTR.)** (S4.5.1(f)(2))
__Yes (go to 2.7.1); _X_No (go to 3)

2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))
__Yes-Pass; __**No-FAIL**

2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))
__Yes-Pass; __**No-FAIL**

2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))
__Yes-Pass; __**No-FAIL**

2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1 (f)(2)(ii))
__Yes-Pass; __**No-FAIL**

2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))
__Yes-Pass; __**No-FAIL**

2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2 or S23.2 (automatic suppression)?
__Yes, continue with 2.7.6
__No, go to 2.7.7

2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))
__Yes-Pass; __**No-FAIL**

2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?
__Yes-Pass; __**No-FAIL**

2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))
__Yes-Pass; __**No-FAIL**

2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))
__Yes-Pass; __**No-FAIL**

2.7.9 Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that may affect the advanced air bag system? (S4.5.1(f)(2)(vii))
__Yes-Pass; __**No-FAIL**

3. Sun Visor Air Bag Warning Label (S4.5.1 (b)) Check only one of the following:
_X_ The vehicle is not certified to meet the requirements of S19, S21, and S23. **(Obtain the answer to this question from the COTR.)** (S4.5.1(b)(1)) Go to 3.1 and skip 3.2 and 3.3
__The vehicle is certified to meet the requirements of S19, S21, and S23 before 9/1/03. **(Obtain the answer to this question from the COTR.)** (S4.5.1(b)(2)) Go to 3.2 and skip 3.1 and 3.3
__The vehicle is certified to meet the requirements of S19, S21, and S23 on 9/1/03 or later. **(Obtain the answer to this question from the COTR.)** (S4.5.1(b)(3)) Go to 3.3 and skip 3.1 and 3.2

3.1 Vehicles not certified to meet the requirements of S19, S21, and S23.

3.1.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing it? (S4.5.1(b)(1))
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.1.2 Does the label conform in content to the label shown in either Figure 6a or 6b (Figure 6b is for vehicles with passenger air bag on-off switches), as appropriate, at each front outboard seating position? (S4.5.1 (b)(1)) **(Vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children." (S4.5.1(b)(1)(iv)))**
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.1.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1 (b)(1)(i))
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.1.4 Is the message area white with black text? (S4.5.1 (b)(1)(ii))
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.1.5 Is the message area at least 30 cm^2? (S4.5.1 (b)(1)(ii))
Driver side: Length 12.4, Width 2.6
Passenger side: Length 12.4, Width 2.6
Actual message area 32 cm^2
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.1.6 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(b)(2)(iii))
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.1.7 Is the pictogram at least 30 mm in diameter? (S4.5.1 (b)(2)(iii))
Actual diameter 31 mm
Driver side X Yes-Pass __No-FAIL
Passenger side X Yes-Pass __No-FAIL

3.2 Vehicles certified to meet the requirements of S19, S21, and S23 before 9/1/03. (S4.5.1(b)(2))

3.2.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1 (b)(2))
Driver side __ Yes-Pass __No-FAIL
Passenger side __ Yes-Pass __No-FAIL

3.2.2 Does the label conform in content to the label shown in Figure 8 or Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) **(Vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children." (S4.5.1(b)(2)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement "Never put a rear-facing child seat in the front." (S4.5.1(b)(2)(v)))**
Driver side __ Yes-Pass __No-FAIL
Passenger side __ Yes-Pass __No-FAIL

3.2.3 Is the 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

3.2.4 Is the message area white with black text? (S4.5.1(b)(2)(ii))
Driver side __ Yes-Pass __No-FAIL
Passenger side __ Yes-Pass __No-FAIL

3.2.5 Is the message area at least 30 cm^2? (S4.5.1(b)(2)(ii))
Driver side: Length _____, Width _____
Passenger side: Length _____, Width _____
Driver actual message area _____ cm^2
Passenger actual message area _____ cm^2
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.2.6 Is the pictogram black on a white background? (S4.5.1(b)(2)(iii))
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.2.7 Is the pictogram at least 30 mm (1.2 in) in length? (S4.5.1(b)(2)(ii))
Driver side: Length _____
Passenger side: Length _____
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3 Vehicles certified to meet the requirements of S19, S21, and S23 on 9/1/03 and later. (S4.5.1(b)(3))

3.3.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1 (b)(3))
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3.2 Does the label conform in content to the label shown in Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) **(Vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children." (S4.5.1(b)(3)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement "Never put a rear-facing child seat in the front." (S4.5.1(b)(3)(v)))**
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1 (b)(3)(i))
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3.4 Is the message area white with black text? (S4.5.1(b)(3)(ii))
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3.5 Is the message area at least 30 cm^2? (S4.5.1(b)(3)(ii))
Driver side: Length _____, Width _____
Passenger side: Length _____, Width _____
Driver actual message area _____ cm^2
Passenger actual message area _____ cm^2
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3.6 Is the pictogram black on a white background? (S4.5.1(b)(3)(iii))
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.3.7 Is the pictogram at least 30 mm in length? (S4.5.1(b)(3)(ii))
Driver side: Length _____
Passenger side: Length _____
Driver side __ Yes-Pass __ **No-FAIL**
Passenger side __ Yes-Pass __ **No-FAIL**

3.4 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1 (b)(5)(I))
Driver side X Yes-Pass __**No-FAIL**
Passenger side X Yes-Pass __**No-FAIL**

3.5 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 and/or the rollover-warning label? (S4.5.1(b)(5)(II))
Driver side X Yes-Pass __**No-FAIL**
Passenger side X Yes-Pass __**No-FAIL**

3.6 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?
__Yes (go to 3.6.1); X No (go to 4., skipping 3.6.1 through 3.6.3)

3.6.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?
__Yes (go to 3.6.2 and skip 3.6.3); __No (go to 3.6.3 and skip 3.6.2.)

3.6.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))
_____actual distance
__Yes-Pass __**No-FAIL**

3.6.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105(d)(1)(iv)(A))
_____actual distance
__Yes-Pass __**No-FAIL**

4. Air Bag Alert Label (S4.5.1(c)) (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver's sun visor as the "Air Bag Alert Label." 575.105(d))

4.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?
Driver side X Yes __No
Passenger side X Yes __No
If yes, for driver and passenger go to 5.

4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c))
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

4.4 Does the label conform in content to the label shown in Figure 6c? (S4.5.1(c))
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

4.5 Is the message area black with yellow text? (S4.5.1(c)(1))
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

4.6 Is the message area at least 20 cm^2? (S4.5.1(c)(1))
Driver side: Length _____, Width _____
Passenger side:Length _____, Width _____
Actual message area _____cm^2
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))
Driver side: diameter _____
Passenger side:diameter _____
Driver side __ Yes-Pass __**No-FAIL**
Passenger side __ Yes-Pass __**No-FAIL**

5. Label On the Dashboard

5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? **(Obtain the answer to this question from the COTR.)** (S4.5.1(e)(2))
__Yes (go to 5.1.1 and skip 5.2)
X No (go to 5.2, skipping 5.1.1 through 5.1.6)

5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(2))
__ Yes-Pass __**No-FAIL**

5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(2))
__ Yes-Pass __**No-FAIL**

6.1.3 Does the label conform in content to the label shown in Figure 9? (S4.5.1(e)(2)) **(Vehicles without back seats may omit the statement: "The back seat is the safest place for children." (S4.5.1(e)(2)(iii)))**
__ Yes-Pass; __**No-Fail**

5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(2)(i)
__ Yes-Pass; __**No-FAIL**

5.1.5 Is the message white with black text? (S4.5.1(e)(2)(ii))
__ Yes-Pass; __**No-FAIL**

5.1.6 Is the message area at least 30 cm^2? (S4.5.1(e)(2)(ii))
Length _____, Width _____
Actual message area _____ cm^2
__ Yes-Pass; __**No-FAIL**

5.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(1))
X Yes-Pass __**No-FAIL**

5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1))
X Yes-Pass __**No-FAIL**

5.2.2 Does the label conform in content to the label shown in Figure 7? (S4.5.1 (e)(1)(iii)) **(Vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." (S4.5.1(e)(2)(iii)))**
X Yes-Pass; __**No-Fail**

5.2.3 Is the heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1 (e)(1)(i)
X Yes-Pass; __**No-FAIL**

5.2.4 Is the message white with black text? (S4.5.1(e)(1)(ii))
X Yes-Pass; __**No-FAIL**

5.2.5 Is the message area at least 30 cm^2? (S4.5.1(e)(1)(ii))
Length 10.0, Width 3.0
Actual message area 30 cm^2
X Yes-Pass; __**No-FAIL**

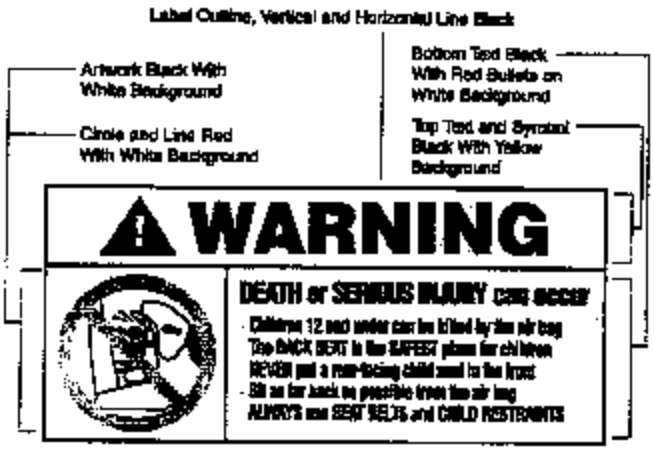


Figure 6a. Sun Visor Label Visible When Visor is in Down Position.

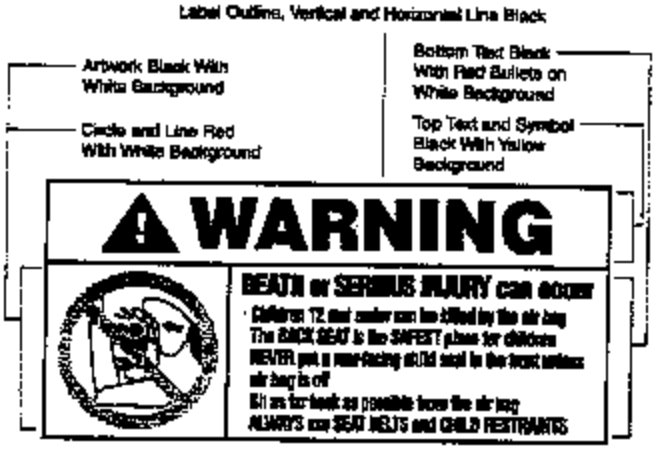


Figure 6b. Sun Visor Label Visible When Visor is in Down Position.

Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

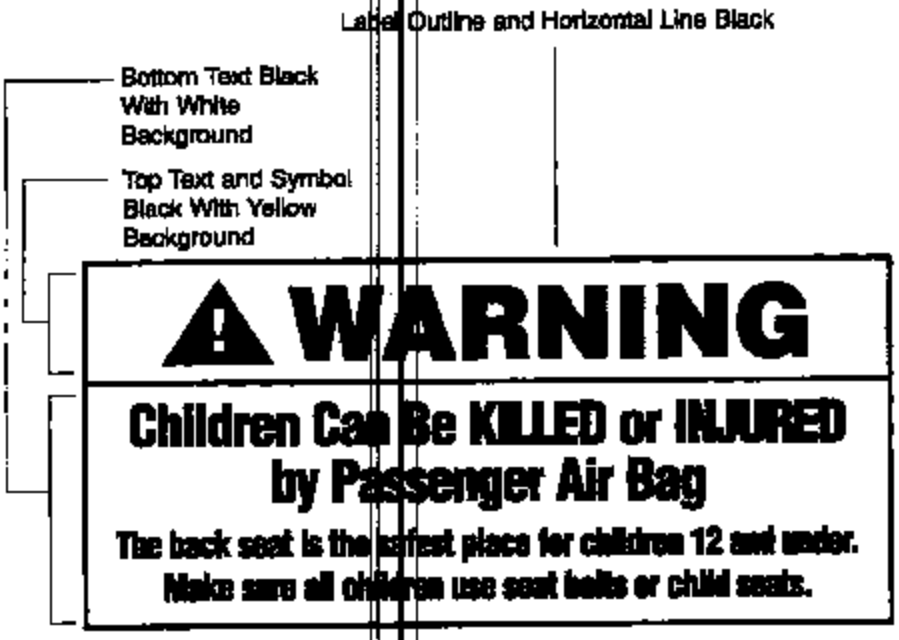


Figure 7. Removable Label on Dash.

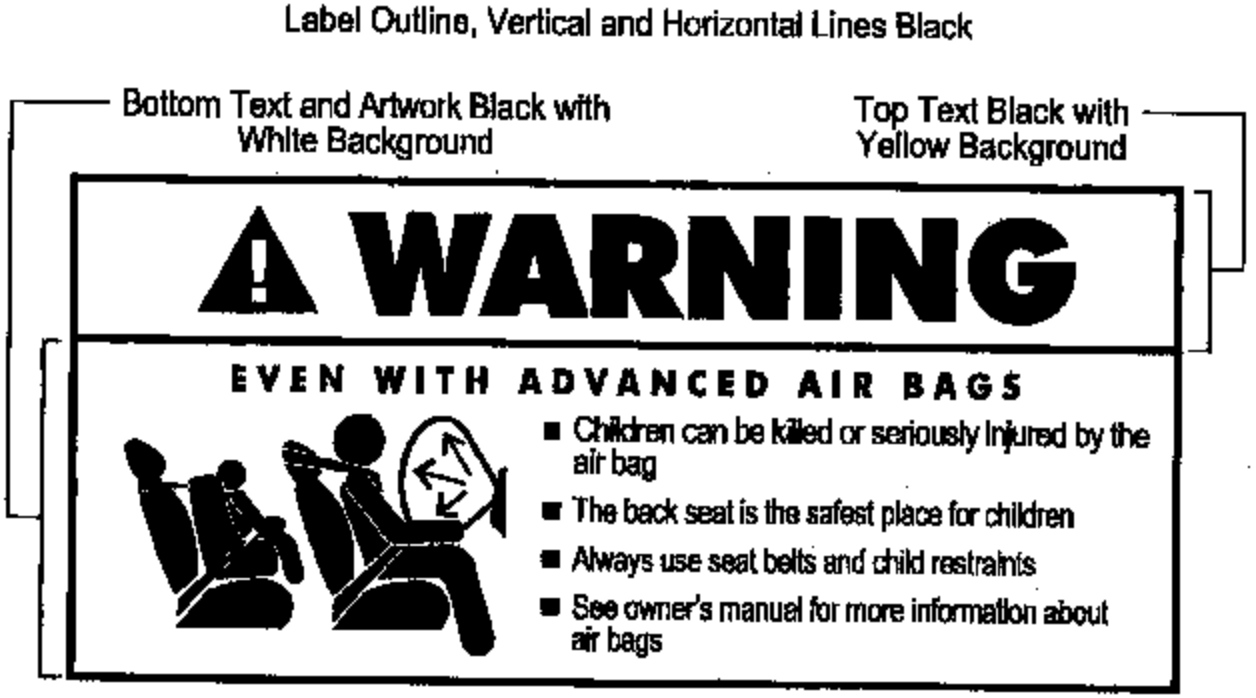


Figure 8. Sun Visor Label Visible when Visor is in Down Position.

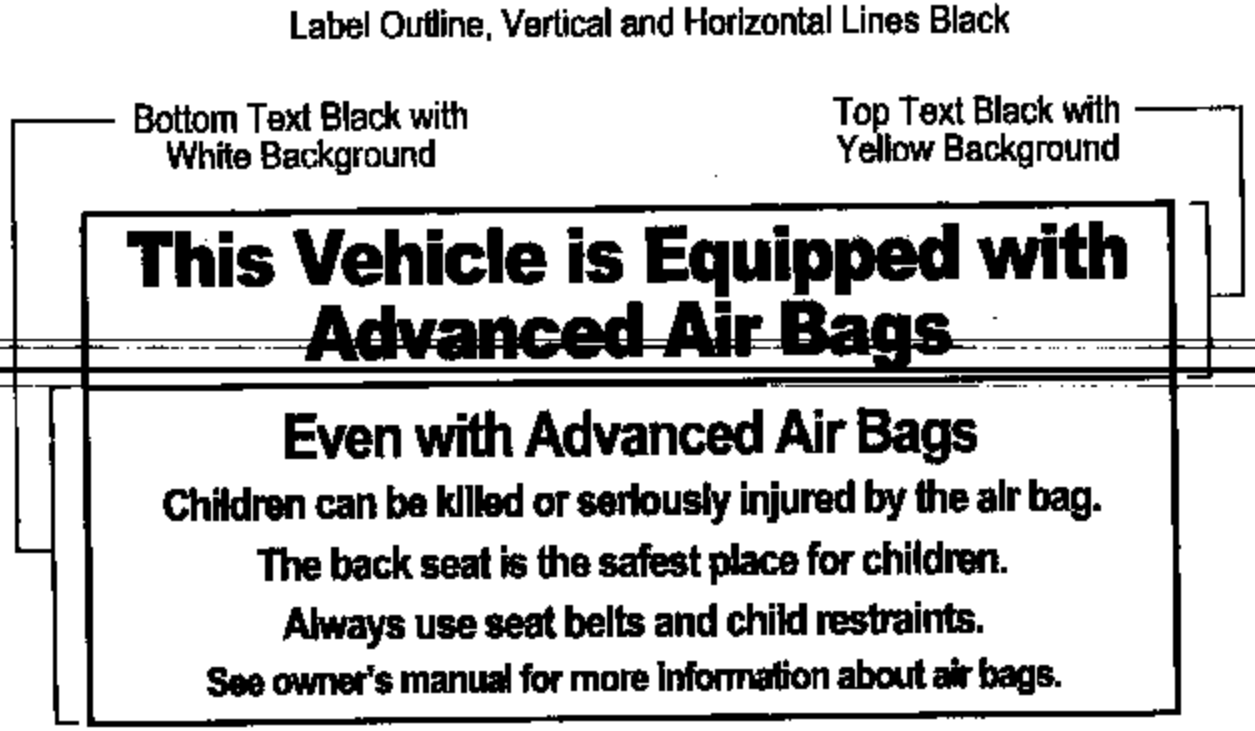


Figure 9. Removable Label on Dash.

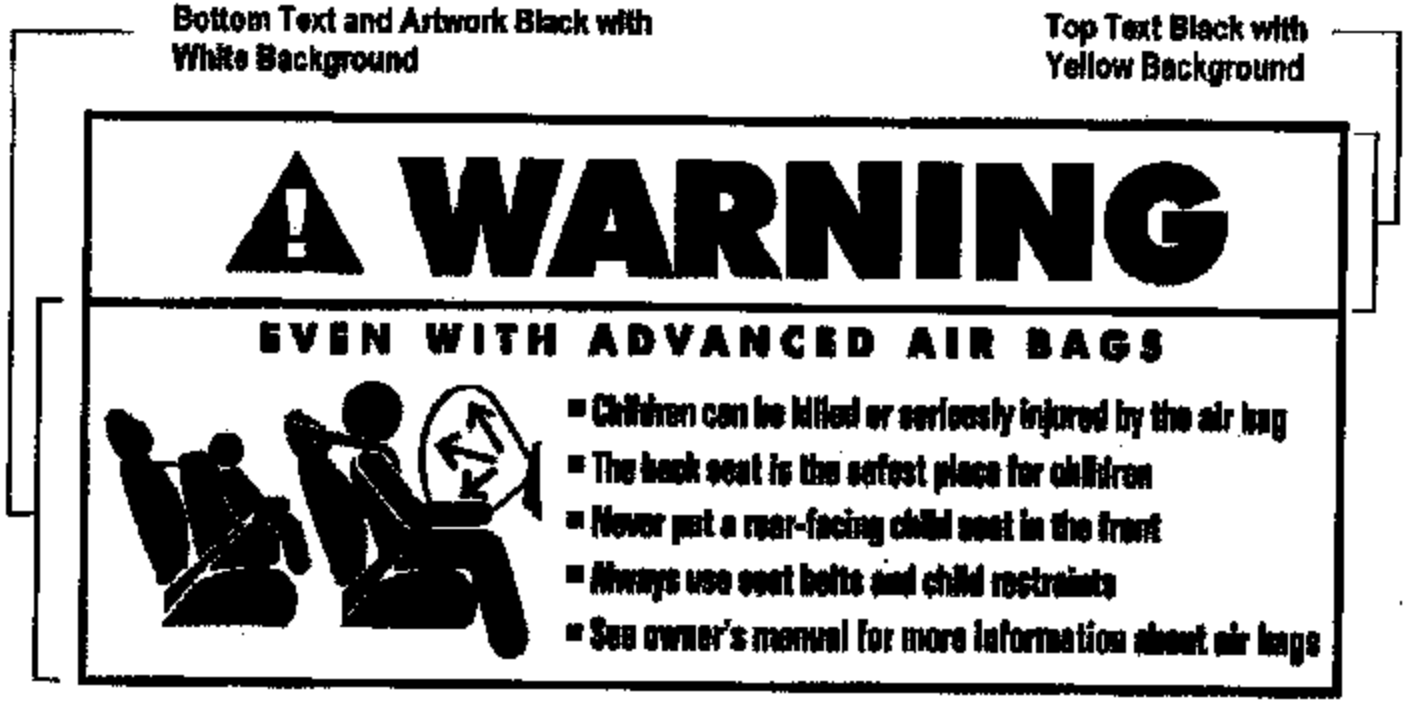


Figure 11. Sun Visor Label Visible when Visor is in Down Position.

DATA SHEET 6

FMVSS 208 READINESS INDICATOR (S4.5.2)

NHTSA No. C35106 Test Date: 03/29/04

Laboratory: TRC Inc. Test Technician(s): Stephen W. Bell

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 to Lawrence F. Hennebergen on behalf of Breed)

X 1. Is the system totally mechanical? Yes ___; No X
(If YES this Data Sheet is complete.)

X 2. Describe the location of the readiness indicator: Lower left hand corner of instrument panel

X 3. Is the readiness indicator clearly visible to the driver?
X Yes-Pass; ___**No-FAIL**

X 4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual?
X Yes-Pass; ___**No-FAIL**

X 5. Does the vehicle have an on-off switch for the passenger air bag?
X Yes (go to 6) ___No (this form is complete)

X 6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position?
X Yes-Pass; ___**No-FAIL**

REMARKS:

DATA SHEET 7

Passenger Air Bag Manual Cut-Off Device (S4.5.4)

NHTSA No. C35106 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

X 1. Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?
X Yes, go to 2
__No, this sheet is complete

X 2. Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4(a))
__Yes, go to 3
X No, go to 4

__3. Verification of the lack of room for a child restraint in the rear seat behind the driver's seat. (S4.5.4(b))

__3.1 Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
__ N/A – No lumbar adjustment

__3.2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
__ N/A – No additional support adjustment

__3.3 If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
__ N/A – No independent fore-aft seat cushion adjustment

__3.4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
__ N/A – No independent seat cushion height adjustment.

__3.5. Put the seat in its full rearward position. (S16.2.10.3.1)
__ N/A - the seat does not have a fore-aft adjustment

__3.6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
__N/A – No seat height adjustment

__3.7 Draw a horizontal reference line on the side of the seat cushion.

__3.8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

__3.9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position. (S8.1.2)
__N/A – The seat does not have fore-aft adjustment.
__Mid position
If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: _____
_____

__3.10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.
__ N/A – No adjustments
Angle of reference line as tested _____

__3.11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
__ N/A – No seat back angle adjustment
Manufacturer's design seat back angle _____
Tested seat back angle _____

__3.12 Is the driver seat a bucket seat?
__ Yes, go to 3.12.1 and skip 3.12.2.
__ No, go to 3.12.2 and skip 3.12.1.

__3.12.1 Bucket seats:

__3.12.1.1 Locate and mark a vertical Plane B through the longitudinal centerline of the seat driver's seat cushion. (S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
Record the width of the seat _____
Record the distance from the edge of the seat to Plane B. _____

__3.12.1.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat.
____ mm distance
__less than 720 mm – Pass
__more than 720 mm – FAIL
Go to 4

__3.12.2 Bench seats (including split bench seats):

__3.12.2.1 Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.

__3.12.2.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat.
____ mm distance
__less than 720 mm – Pass
__more than 720 mm - FAIL
Go to 4

X 4. Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)
X Yes – Pass
__No – FAIL

X 5. Is the on-off device separate from the ignition switch? (S4.5.4.2)
X Yes – Pass
__No – FAIL

X 6. Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)
X Yes – Pass
__No – FAIL

X 7. Telltale light (S4.5.4.3)

X 7.1 Is the light yellow? S4.5.4.3(a))
X Yes – Pass
__No – FAIL

X 7.2 Are the words "PASSENGER AIR BAG OFF" (S4.5.4.3(b))

X 7.2.1 on the telltale?
__Yes – Pass, go to 7.3
X No – go to 7.2.2

X 7.2.2 within 25 mm of the telltale? 5 mm from the edge of the telltale light
X Yes – Pass
__No – FAIL

X 7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c)) (Leave the air bag off for 5 minutes.)
X Yes – Pass
__No – **FAIL**

X 7.4 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))
__Yes – **FAIL**
X No – Pass

X 7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.3(e))
__Yes – **FAIL**
X No – Pass

X 8. Owner's manual

X 8.1 Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))
X Yes – Pass
__No – **FAIL**

X 8.2 Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))

Infants:	there is no back seat
	the rear seat is too small to accommodate a child restraint
	there is a medical condition that must be monitored constantly
Children aged 1 to 12:	there is no back seat
	space is not always available in the rear seat
	there is a medical condition that must be monitored constantly
Medical condition:	medical risk causes special risk for passenger
	greater risk for harm than with the air bag on

X Yes – Pass
__No – **FAIL**

X 8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?
X Yes – Pass
__No – **FAIL**

DATA SHEET 8

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 that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), and that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NHTSA No. C35106 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Right front passenger

__N/A – No retractor is at this position
__N/A – The retractor is an automatic locking retractor ONLY

X 1. Record test fore-aft seat position. Full rear
(S7.1.1.5 (c)(1))
(Any position is acceptable.)

X 2. 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 of the vehicle. (S7.1.1.5 (a))
X Yes-Pass; __**No-FAIL**

X 3. 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))
X Yes-Pass; __**No-FAIL**

X 4. Buckle the seat belt. (S7.1.1.5(c)(1))

X 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

X 6. 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))

X 7. 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?
X Yes; __No (If yes, go to 7.1. If no, go to 8.)

X 7.1 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))
X Yes-Pass; __**No-FAIL**

X 8. 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) & S7.1.1.5(c)(1))

X 9. 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 72.5 inches

X 10. 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))

X 11. 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)

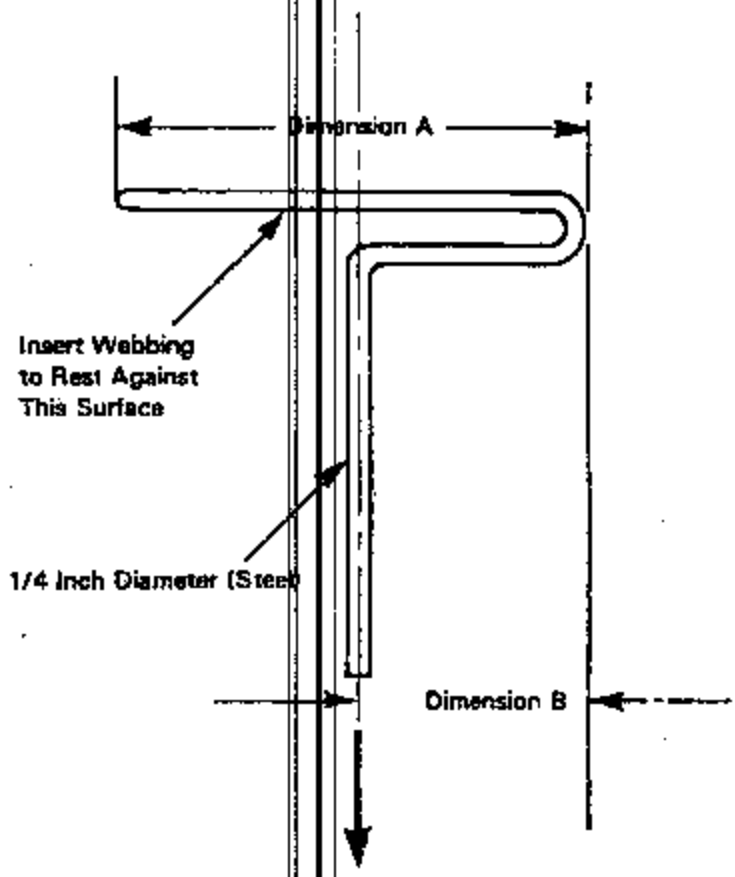
X 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
Measured distance between A and B 48.5 inches

X 13. 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 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
Measured distance between A and B 50.3 inches (S7.1.1.5(c)(6))

X 14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12= 1.8 inches;
X Yes-Pass; __No-FAIL

X 15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13= 22.2 inches;
X Yes-Pass; __No-FAIL

REMARKS:



Dimension A - Width of Webbing Plus 1/2 Inch

Dimension B - 1/2 of Dimension A

Figure 5. - Webbing Tension Pull Device

DATA SHEET 9

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

X 1. The occupant is in the driver's seat.
X 2. The seat belt is in the stowed position.
X 3. The key is in the "on" or "start" position.
X 4. The time duration of the audible signal beginning with key "on" or "start" is 6 seconds.
X 5. The occupant is in the driver's seat.
X 6. The seat belt is in the stowed position.
X 7. The key is in the "on" or "start" position.
X 8. The time duration of the warning light beginning with key "on" or "start" is >60[1] seconds.
X 9. The occupant is in the driver's seat.
X 10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
X 11. The key is in the "on" or "start" position.
X 12. The time duration of the audible signal beginning with key "on" or "start" is 0 seconds.
X 13. The occupant is in the driver's seat.
X 14. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
X 15. The key is in the "on" or "start" position.
X 16. The time duration of the warning light beginning with key "on" or "start" is 0 seconds.
X 17. Complete the following table with the data from 4, 8, 12 and 16 to determine which option is used

		Warning light	Warning light specification	Audible signal	Audible signal specification*
S7.3 (a)(1)	Belt latched & Key on or start	Item 16 0	0 seconds*	Item 12 0	0 seconds**
	Belt stowed & Key on or start	Item 8 >60[1]	60 seconds minimum	Item 4 6	4 to 8 seconds
S7.3 (a)(2)	Belt latched & Key on or start	Item 16	4 to 8 seconds	Item 12	0 seconds**
	Belt stowed & Key on or start	Item 8	4 to 8 seconds	Item 4	4 to 8 seconds

* 49 USCS @ 30124 does NOT allow an audible signal to operate for more than 8 seconds.
** 0 seconds means the light or audible signal are NOT permitted to operate under these conditions. See 7/12/00 interpretation to Patrick Raher of Hogan and Hartson

[1] Light stays on continuously.

X 18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)
X S7.3 (a)(1)
__ S7.3 (a)(2)
__ **FAIL** - Does NOT meet the requirements of either option

X 19. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))
__ Fasten Seat Belts
__ Fasten Belts
X Symbol 101
__ **FAIL** – Does not use any of the above wording or symbol

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Driver

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.

X 1. Does the vehicle incorporate a webbing tension-relieving device?
___Yes (this form is complete)
X No (continue with this check sheet)

X 3. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
X N/A – No lumbar adjustment

X 4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
X N/A – No independent fore-aft seat cushion adjustment

X 6. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
X N/A – No independent seat cushion height adjustment.

X 7. Put the seat in its full rearward position. (S16.2.10.3.1)
__ N/A - the seat does not have a fore-aft adjustment

X 8. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
X N/A – No seat height adjustment

X 9 Draw a horizontal reference line on the side of the seat cushion.

X 10. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

X 11. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
X Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: 1 adjustment position rear of mid

X 12. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal,, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)
X N/A – No adjustments
Reference line angle as tested 0 degrees

X 13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
X N/A – No seat back angle adjustment
Manufacturer's design seat back angle Fixed
Tested seat back angle 16.8 degrees

X 14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

X 15. Fasten the seat belt latch.

X 16. 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.

X 17. 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) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
Contact force 0.334 lb.
X 0.0 to 0.7 pounds - Pass
___ greater than 0.7 pounds - FAIL

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Right front passenger

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.

X 1. Does the vehicle incorporate a webbing tension-relieving device?
___Yes (this form is complete)
X No (continue with this check sheet)

X 3. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
X N/A – No lumbar adjustment

X 4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
X N/A – No independent fore-aft seat cushion adjustment

X 6. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
X N/A – No independent seat cushion height adjustment.

X 7. Put the seat in its full rearward position. (S16.2.10.3.1)
__ N/A - the seat does not have a fore-aft adjustment

X 8. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
X N/A – No seat height adjustment

X 9 Draw a horizontal reference line on the side of the seat cushion.

X 10. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

X 11. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
X Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: 1 adjustment position rear of mid

X 12. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal,, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)
X N/A – No adjustments
Reference line angle as tested 0 degrees

X 13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
X N/A – No seat back angle adjustment
Manufacturer's design seat back angle Fixed
Tested seat back angle 16.8 degrees

X 14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

X 15. Fasten the seat belt latch.

X 16. 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.

X 17. 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) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
Contact force 0.254 lb.
X 0.0 to 0.7 pounds - Pass
___greater than 0.7 pounds - FAIL

DATA SHEET 11

LATCHPLATE ACCESS (S7.4.4)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Driver

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.

X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S.1.3)
X N/A – No lumbar adjustment

X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
X N/A – No independent fore-aft seat cushion adjustment

X 4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
X N/A – No independent seat cushion height adjustment.

X 5. Put the seat in its full rearward position. (S16.2.10.3.1)
__ N/A - the seat does not have a fore-aft adjustment

X 6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
X N/A – No seat height adjustment

X 7 Draw a horizontal reference line on the side of the seat cushion

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forwardmost fore-aft position for this test. (S10.7)

X 10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.
__ N/A – No adjustments
Reference line angle as tested 0

X 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
X N/A – No seat back angle adjustment
Manufacturer's design seat back angle Fixed
Tested seat back angle 16.8 degrees

X 12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) Include the positioning check sheet with this form.

X 13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.

X 14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.

X 14. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.

X 16. Place the latch plate in the stowed position.

X 17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
X Yes - Pass ___NO

X 18. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
X Yes - Pass ___NO

X 19. Is the latch plate within the inboard (item 17) or outboard (item 18) reach envelope?
X Yes - Pass ___**NO - FAIL**

X 20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
X Yes - Pass ___**NO - FAIL**

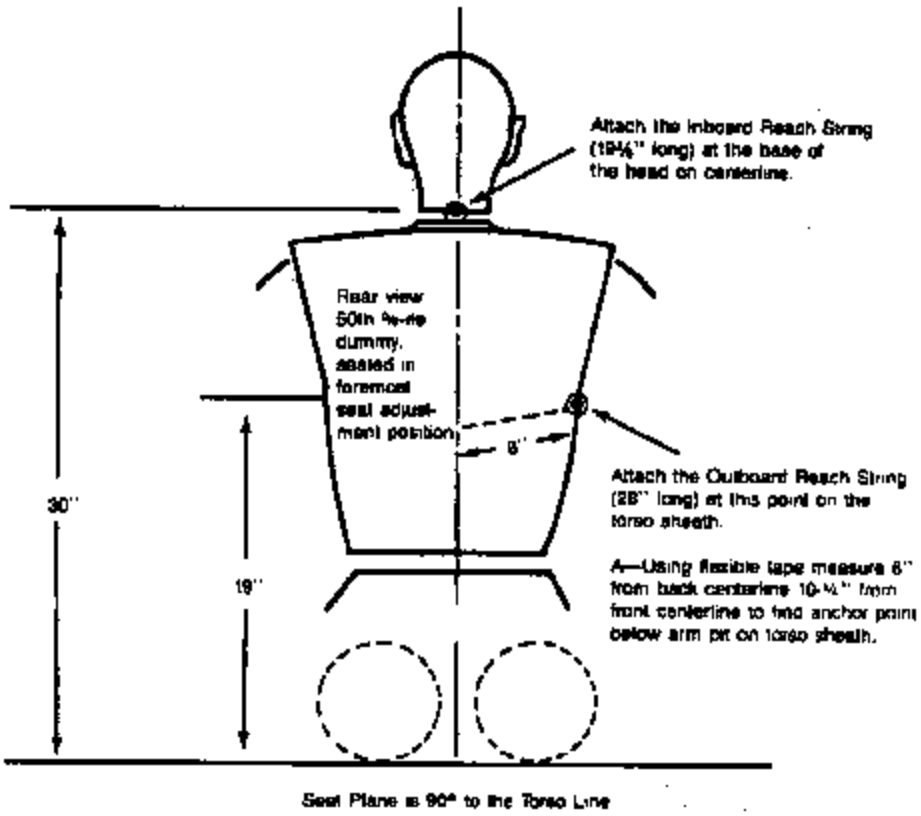


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device

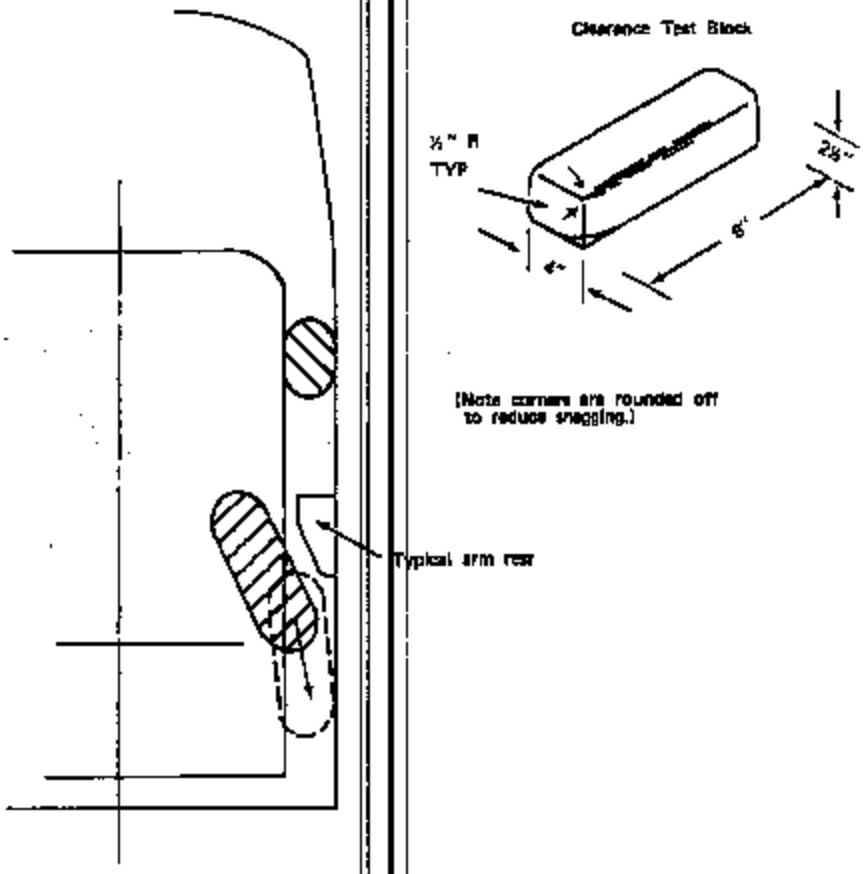


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

DATA SHEET 11

LATCHPLATE ACCESS (S7.4.4)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Right front passenger

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.

X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (6.1.3)
X N/A – No lumbar adjustment

X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
X N/A – No independent fore-aft seat cushion adjustment

X 4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
X N/A – No independent seat cushion height adjustment.

X 5. Put the seat in its full rearward position. (S16.2.10.3.1)
__ N/A - the seat does not have a fore-aft adjustment

X 6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
X N/A – No seat height adjustment

X 7 Draw a horizontal reference line on the side of the seat cushion

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forwardmost fore-aft position for this test. (S10.7)

X 10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.
__ N/A – No adjustments
Reference line angle as tested 0

X 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
X N/A – No seat back angle adjustment
Manufacturer's design seat back angle Fixed
Tested seat back angle 16.8 degrees

X 12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) Include the positioning check sheet with this form.

X 13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.

X 14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.

X 14. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.

X 16. Place the latch plate in the stowed position.

X 17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
X Yes - Pass ___NO

X 18. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
X Yes - Pass ___NO

X 19. Is the latch plate within the inboard (Item 17) or outboard (Item 18) reach envelope?
X Yes - Pass ___**NO - FAIL**

X 20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
X Yes - Pass ___**NO - FAIL**

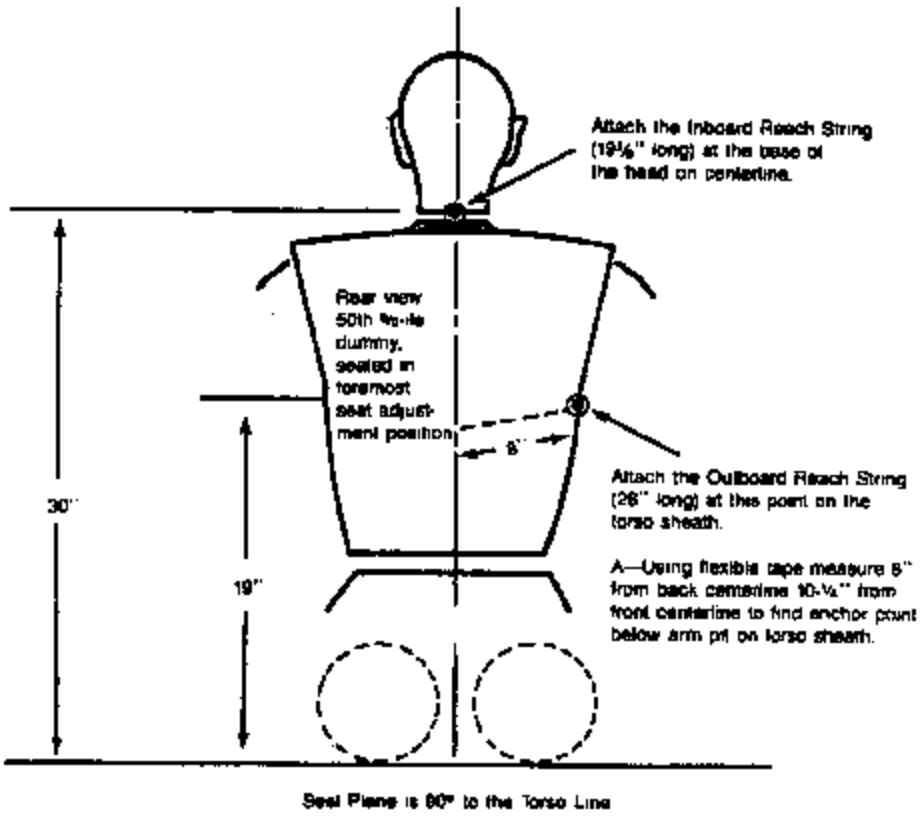


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device

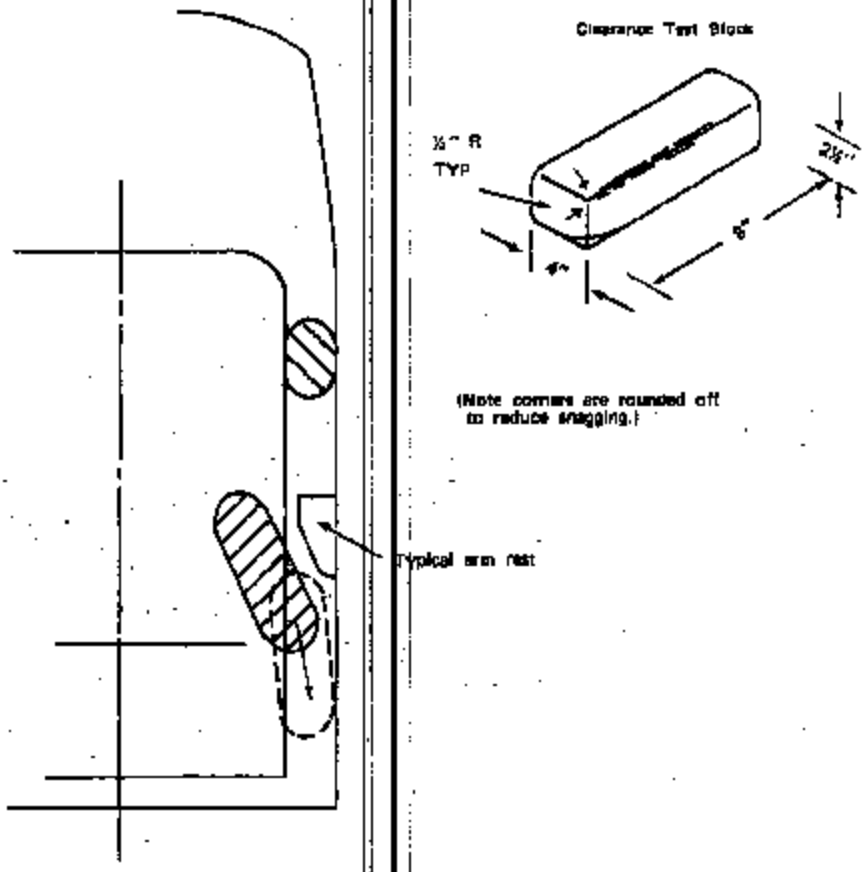


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

DATA SHEET 12

SEAT BELT RETRACTION (S7.4.5)

NHTSA No. C35108 Test Date: 03/29/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Driver

GVWR: 4250 lbs

Test all front outboard 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.

X 1. Is the vehicle a passenger car or walk-in van-type vehicle?
___Yes, this form is complete
X No

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
X N/A – No lumbar adjustment

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position.) (S16.2.10.3.1)
X N/A – No independent fore-aft seat cushion adjustment

X 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
X N/A – No independent seat cushion height adjustment.

X 6. Put the seat in its full rearward position.
__ N/A - the seat does not have a fore-aft adjustment

X 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)
X N/A – No seat height adjustment

X 7 Draw a horizontal line on the side of the seat cushion.

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)
If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: 1 adjustment position rear of true mid

X 10. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)
__ N/A – No seat adjustments
Reference angle as tested 0 degrees

X 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)
X N/A – No seat back angle adjustment
Manufacturer's design seat back angle Fixed
Tested seat back angle 16.6 degrees

X 12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.
X N/A – No head restraint adjustment

X 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
__ N/A – No adjustable upper seat belt anchorage
Manufacturer's specified anchorage position. 1 down from full up
Tested anchorage position 1 down from full up

X 14. Is the driver seat a bucket seat?
__ Yes, go to 14.1 and skip 14.2.
X No, go to 14.2 and skip 14.1.

__14.1 Bucket seats:
Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
Record the width of the seat. _____
Record the distance from the edge of the seat to Plane B. _____

X 14.2 Bench seats (including split bench seats):
X Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.
__Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.
Distance from the vehicle centerline to the center of the steering wheel 14.0 inches
Distance from the vehicle centerline to Plane B 14.0 inches

X 15. Stow outboard armrests that are capable of being stowed. (S7.4.5)

X 16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

X 17. Rest the thighs on the seat cushion.

X 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
0.1 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
0.2 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
23.1 pelvic angle (20° to 25°)

X 19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
__ measured distance (10.6 inches) (S10.5)

X 20. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.

X 21. Fasten the seat belt around the dummy.

X 22. Remove all slack from the lap belt portion. (S10.9)

X 23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

X 24. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
4 pound load applied

X 25. Is the belt system equipped with a tension relieving device?
__Yes, continue
X No, go to 26

X 25.1 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 25.

X 26. Check the statement that applies to this test vehicle:

__26.1 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 latch plate is released. __Pass

X 26.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. X Pass

__26.3 Neither A or B apply. ___**FAIL**

X 27. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
X Yes - Pass ___**NO - FAIL**

X 28. 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?
X N/A
___Yes – Pass ___**NO – FAIL**

DATA SHEET 12

SEAT BELT RETRACTION (S7.4.5)

NHTSA No. C35108 Test Date: 03/29/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Right front passenger

GVWR: 4250 lbs

Test all front outboard 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.

X 1. Is the vehicle a passenger car or walk-in van-type vehicle?
___Yes, this form is complete
X No

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
X N/A – No lumbar adjustment

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position.) (S16.2.10.3.1)
X N/A – No independent fore-aft seat cushion adjustment

X 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
X N/A – No independent seat cushion height adjustment.

X 6. Put the seat in its full rearward position.
__ N/A - the seat does not have a fore-aft adjustment

X 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)
X N/A – No seat height adjustment

X 7 Draw a horizontal line on the side of the seat cushion.

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (If there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
__ N/A - The seat does not have a fore-aft adjustment.

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)
If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: 1 adjustment position rear of true mid

X 10. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)
__ N/A – No seat adjustments
Reference angle as tested 0 degrees

X 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)
X N/A – No seat back angle adjustment
Manufacturer's design seat back angle Fixed
Tested seat back angle 16.6 degrees

X 12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.
X N/A – No head restraint adjustment

X 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
__ N/A – No adjustable upper seat belt anchorage
Manufacturer's specified anchorage position. 1 down from full up
Tested anchorage position 1 down from full up

X 14. Is the driver seat a bucket seat?
__ Yes, go to 14.1 and skip 14.2.
X No, go to 14.2 and skip 14.1.

__14.1 Bucket seats:
Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
Record the width of the seat. _____
Record the distance from the edge of the seat to Plane B. _____

X 14.2 Bench seats (including split bench seats):
__Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.
X Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.
Distance from the vehicle centerline to the center of the steering wheel 14.0 inches
Distance from the vehicle centerline to Plane B 14.0 inches

X 15. Stow outboard armrests that are capable of being stowed. (S7.4.5)

X 16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

X 17. Rest the thighs on the seat cushion.

X 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
0.2 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
0.2 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
22.5 pelvic angle (20° to 25°)

X 19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
__ measured distance (10.6 inches) (S10.5)

X 20. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.

X 21. Fasten the seat belt around the dummy.

X 22. Remove all slack from the lap belt portion. (S10.9)

X 23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

X 24. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
4 pound load applied

X 25. Is the belt system equipped with a tension relieving device?
__Yes, continue
X No, go to 26

X 25.1 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 25.

X 26. Check the statement that applies to this test vehicle:

__26.1 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 latch plate is released. __Pass

X 26.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. X Pass

__26.3 Neither A or B apply. ___**FAIL**

X 27. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
X Yes - Pass ___**NO - FAIL**

X 28. 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?
X N/A
___Yes – Pass ___**NO – FAIL**

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Driver

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.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
__Yes; this form is complete
X No; go to 2

X 2. Is the seat removable? (S7.4.6.1(b))
__Yes; this form is complete
X No; go to 3

X 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
__Yes; this form is complete
X No; go to 4

X 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
X Yes: go to 5.
___No: this form is complete.

X 5. Does one of the following three parts, the seat belt latch plate, 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)? (S7.4.6.1(a))
X Yes – Pass
___**NO – FAIL**
Identify the part(s) on top or above the seat.
X seat belt latch plate; X buckle; X seat belt webbing

X 6. Are the remaining two seat belt parts accessible under normal conditions?
X Yes – Pass
___**NO - FAIL**

X 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No. C35106 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Right front passenger

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.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
__Yes; this form is complete
X No; go to 2

X 2. Is the seat removable? (S7.4.6.1(b))
__Yes; this form is complete
X No; go to 3

X 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
__Yes; this form is complete
X No; go to 4

X 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
X Yes: go to 5.
___No: this form is complete.

X 5. Does one of the following three parts, the seat belt latch plate, 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)? (S7.4.6.1(a))
X Yes – Pass
___**NO – FAIL**
Identify the part(s) on top or above the seat.
X seat belt latch plate; X buckle; X seat belt webbing

X 6. Are the remaining two seat belt parts accessible under normal conditions?
X Yes – Pass
___**NO - FAIL**

X 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
X Yes - Pass ___**NO – FAIL**

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No. C35108 Test Date: 03/30/04

Laboratory: TRC Inc. Test Technician(s): Michael S. Postle

DESIGNATED SEATING POSITION: Center front passenger

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.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
__Yes; this form is complete
X No; got to 2

X 2. Is the seat removable? (S7.4.6.1(b))
__Yes; this form is complete
X No; got to 3

X 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
__Yes; this form is complete
X No; got to 4

X 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
X Yes: go to 5.
___No: this form is complete.

X 5. Does one of the following three parts, the seat belt latch plate, 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)? (S7.4.6.1(a))
X Yes – Pass
___**NO – FAIL**
Identify the part(s) on top or above the seat.
X seat belt latch plate; X buckle; X seat belt webbing

X 6. Are the remaining two seat belt parts accessible under normal conditions?
X Yes – Pass
___**NO - FAIL**

X 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
X Yes - Pass ___**NO - FAIL**

X 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
X Yes - Pass ___**NO – FAIL**

Appendix A

Photographs

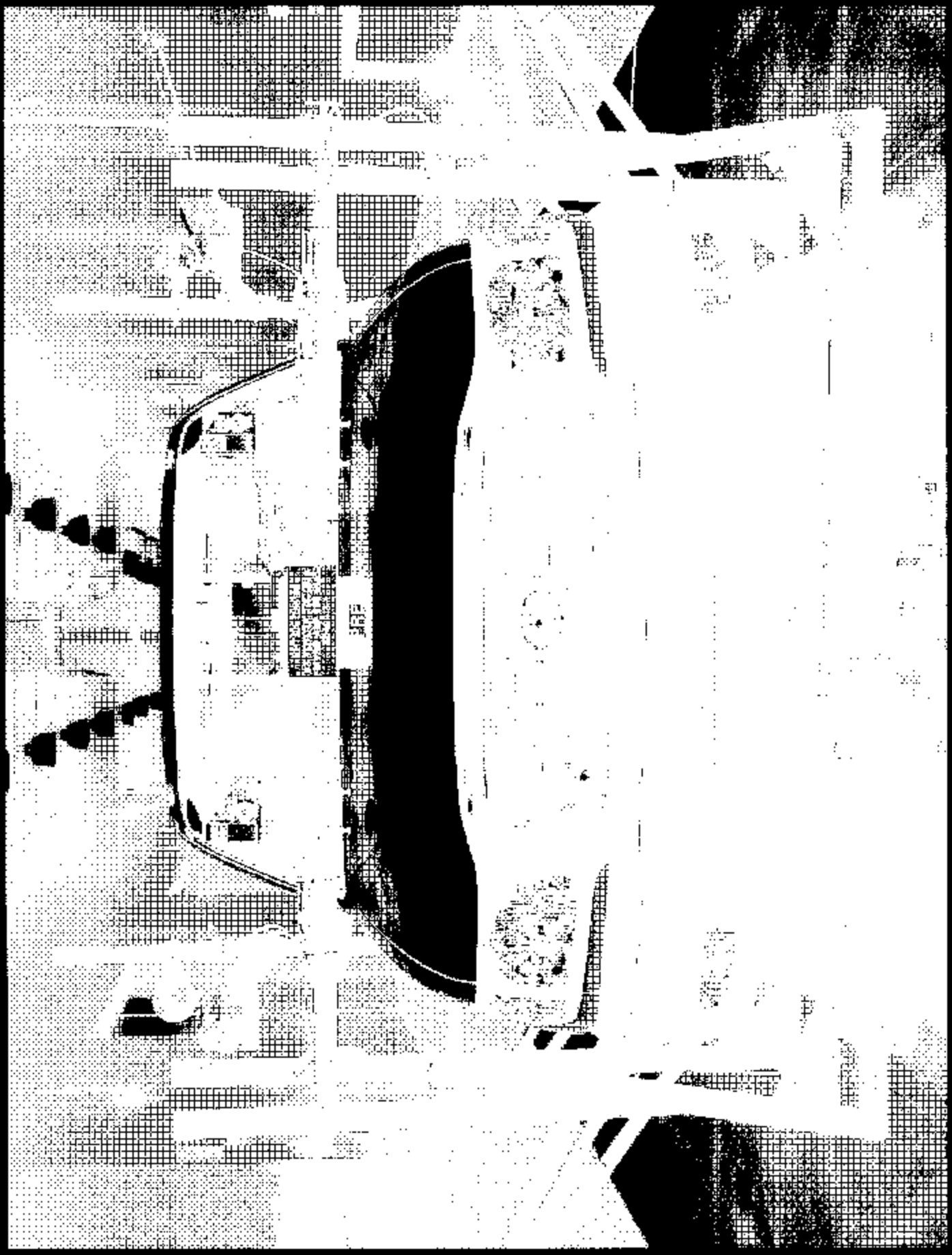


Figure A-1 Pre-Test Front View of Test Vehicle Mounted to Sled

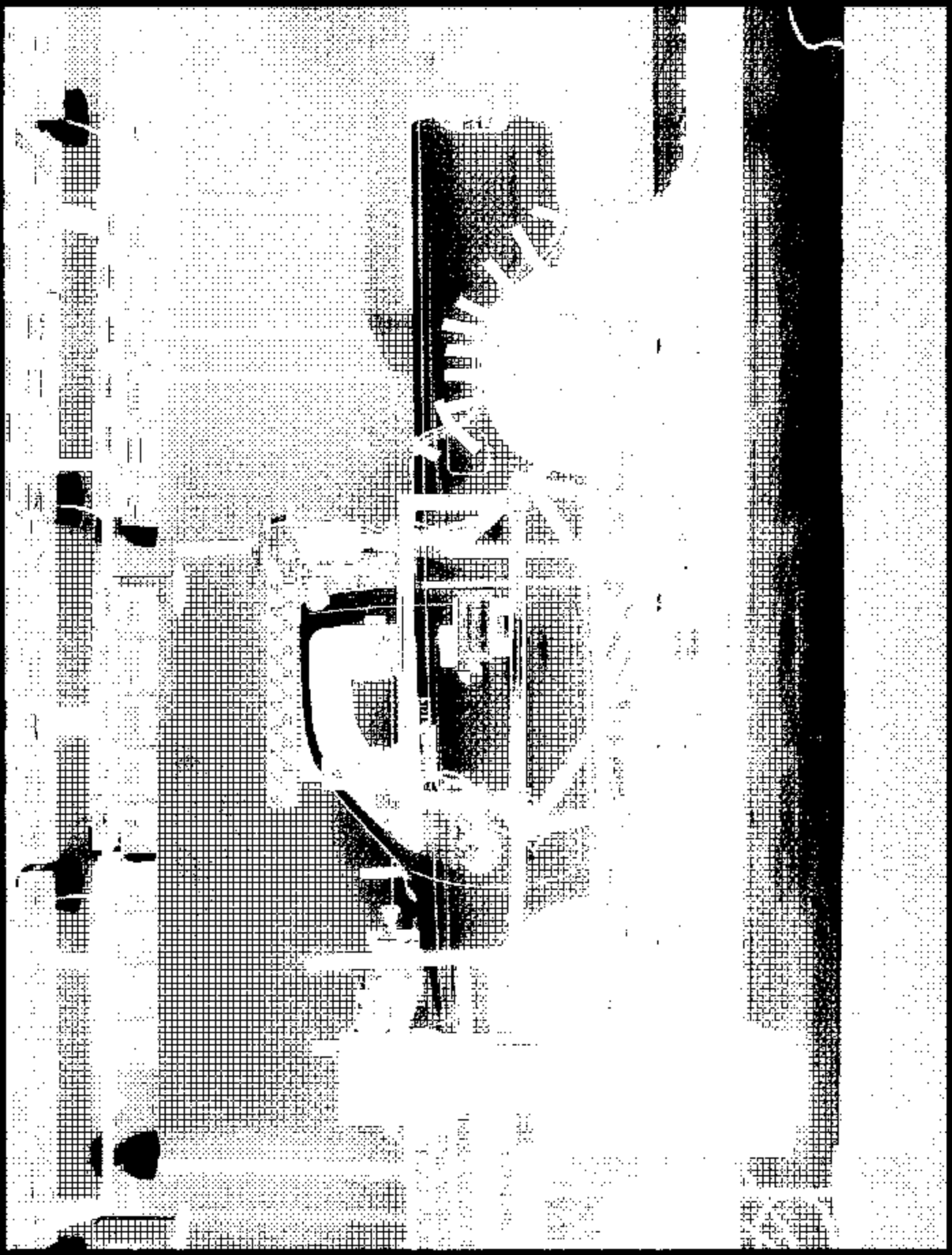


Figure A-2 Pre-Test Left Side View of Test Vehicle Mounted to Sled

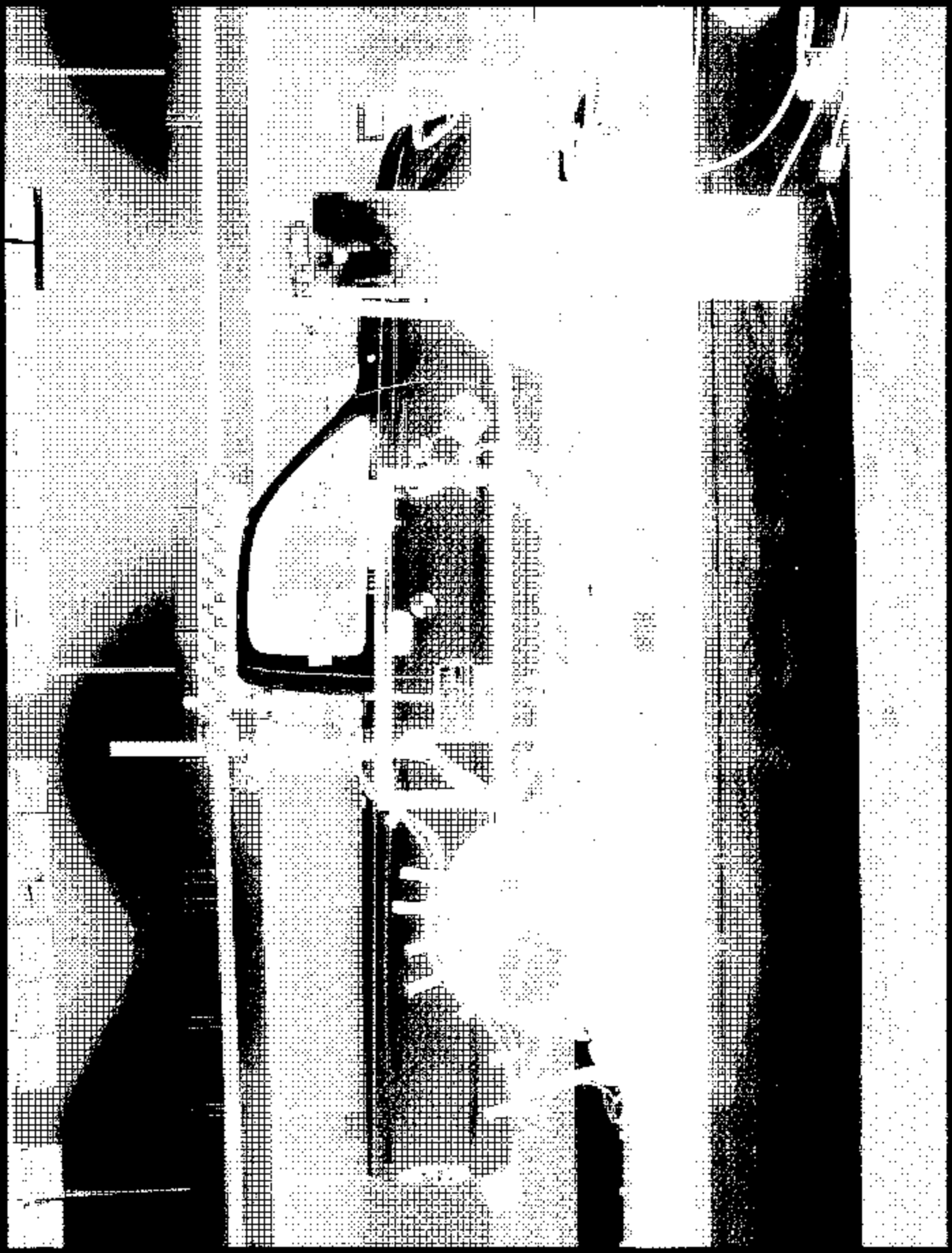


Figure A-3 Pre-Test Right Side View of Test Vehicle Mounted to Sled

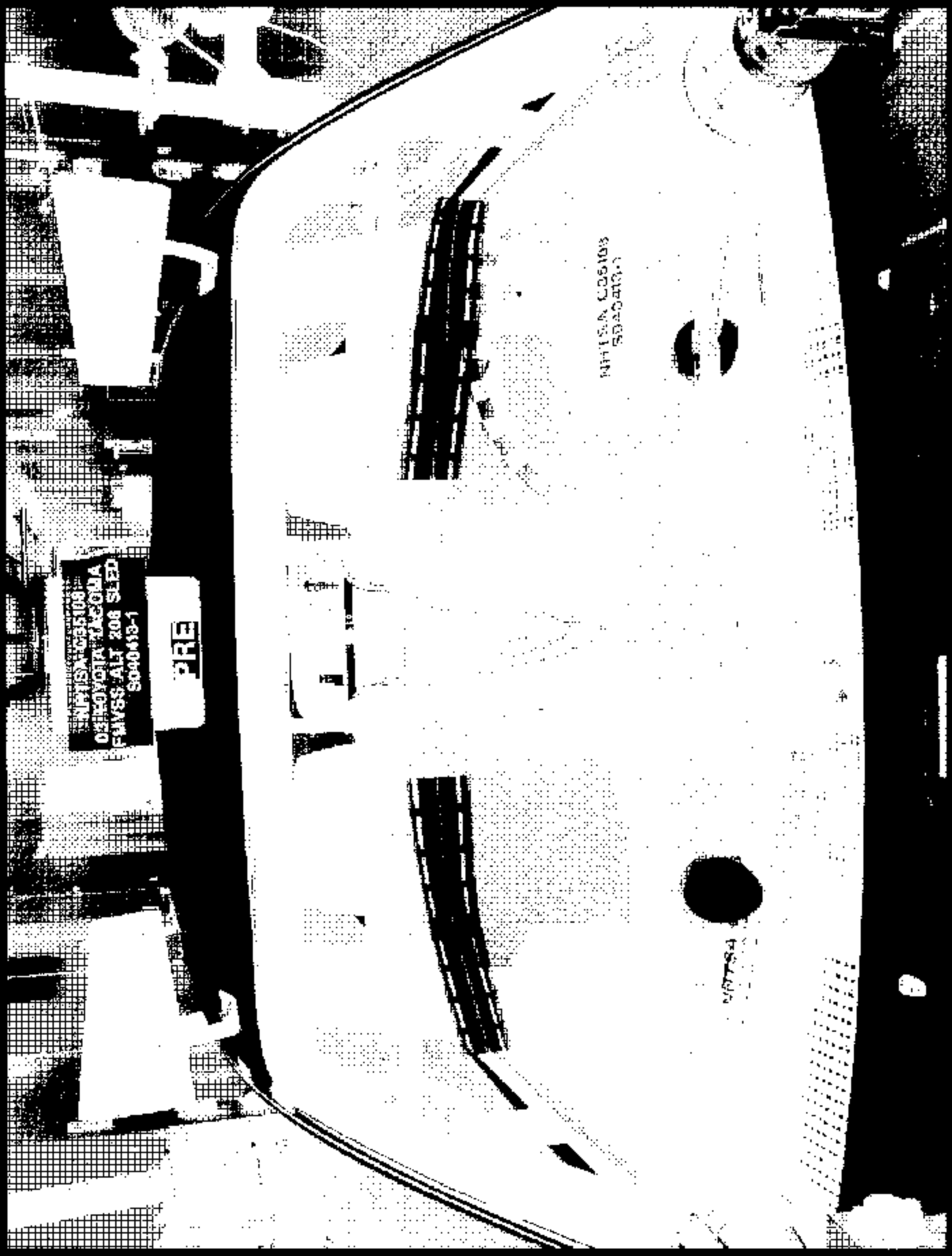


Figure A-4 Pre-Test Windshield View

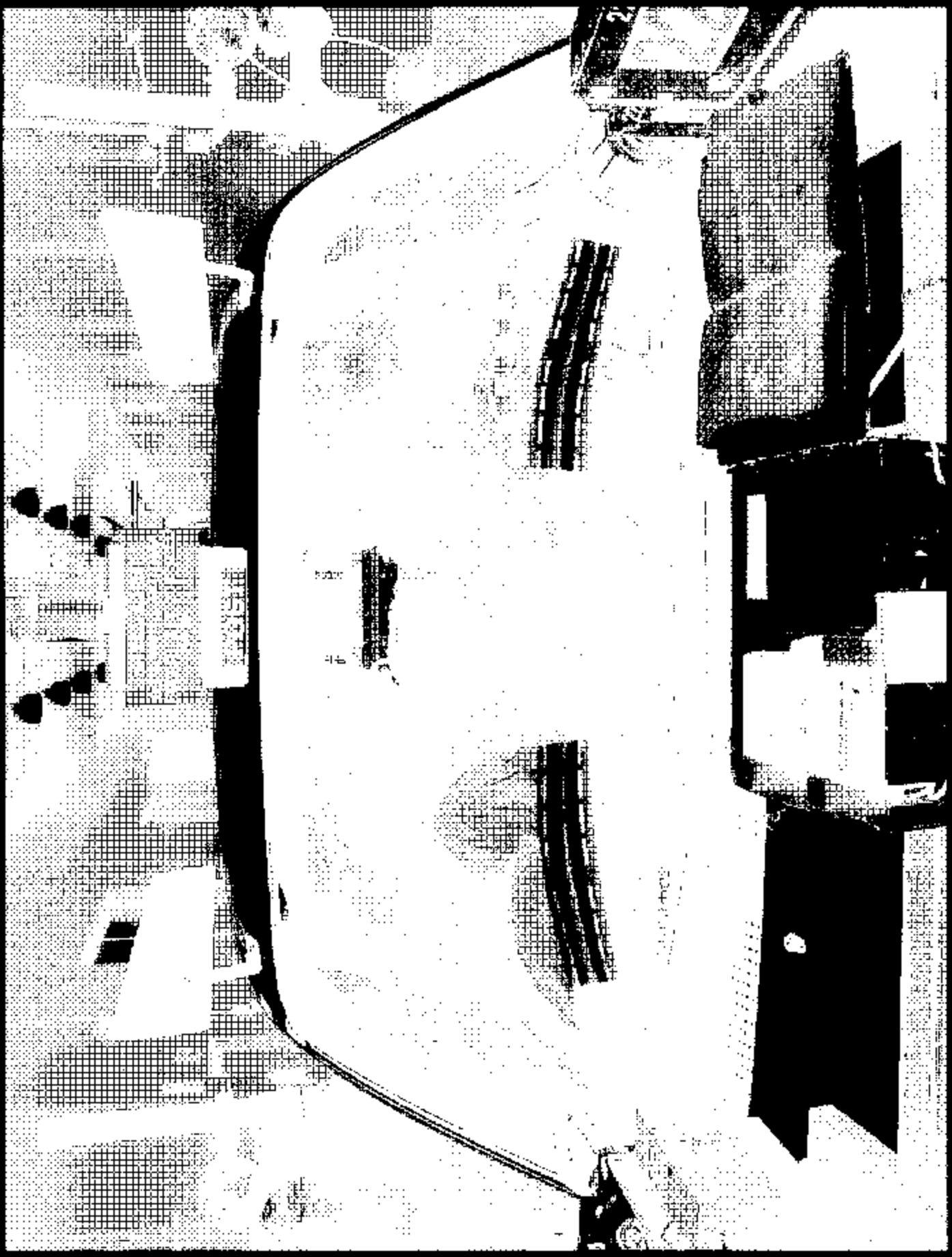


Figure A-5 Post-Test Windshield View

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

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

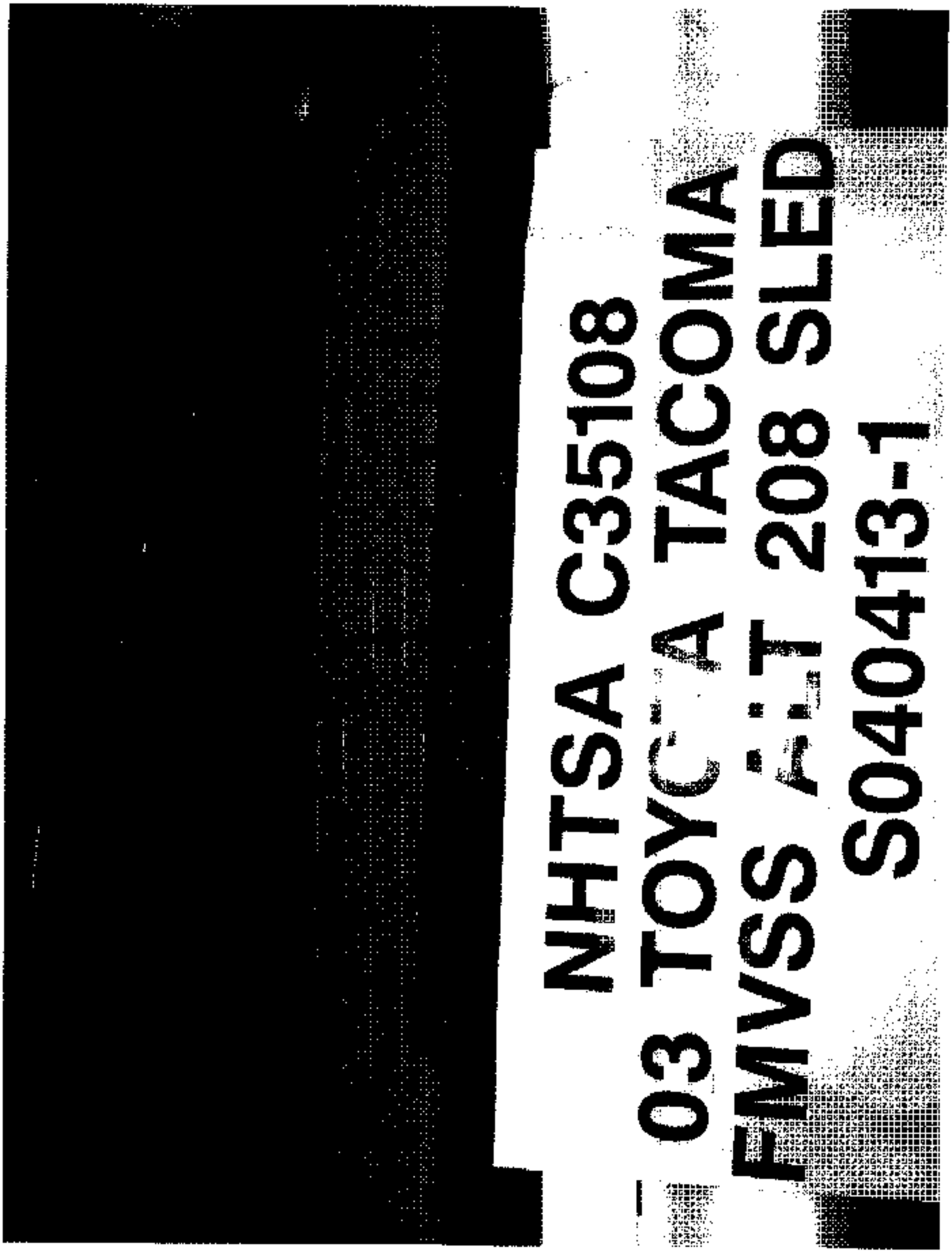


Figure A-8 Pre-Test Driver Seat Track Position View

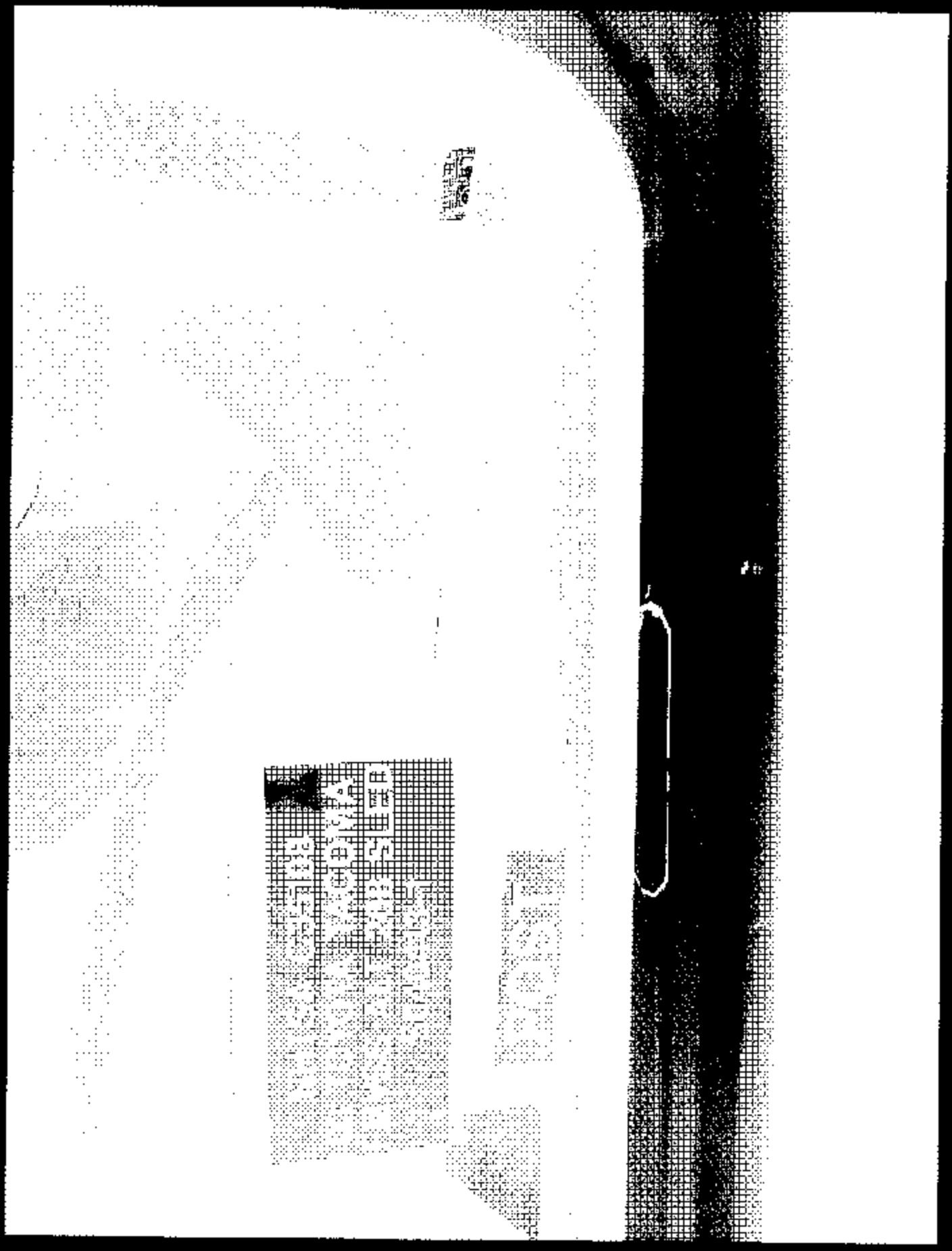


Figure A-9 Post-Test Driver Seat Track Position View

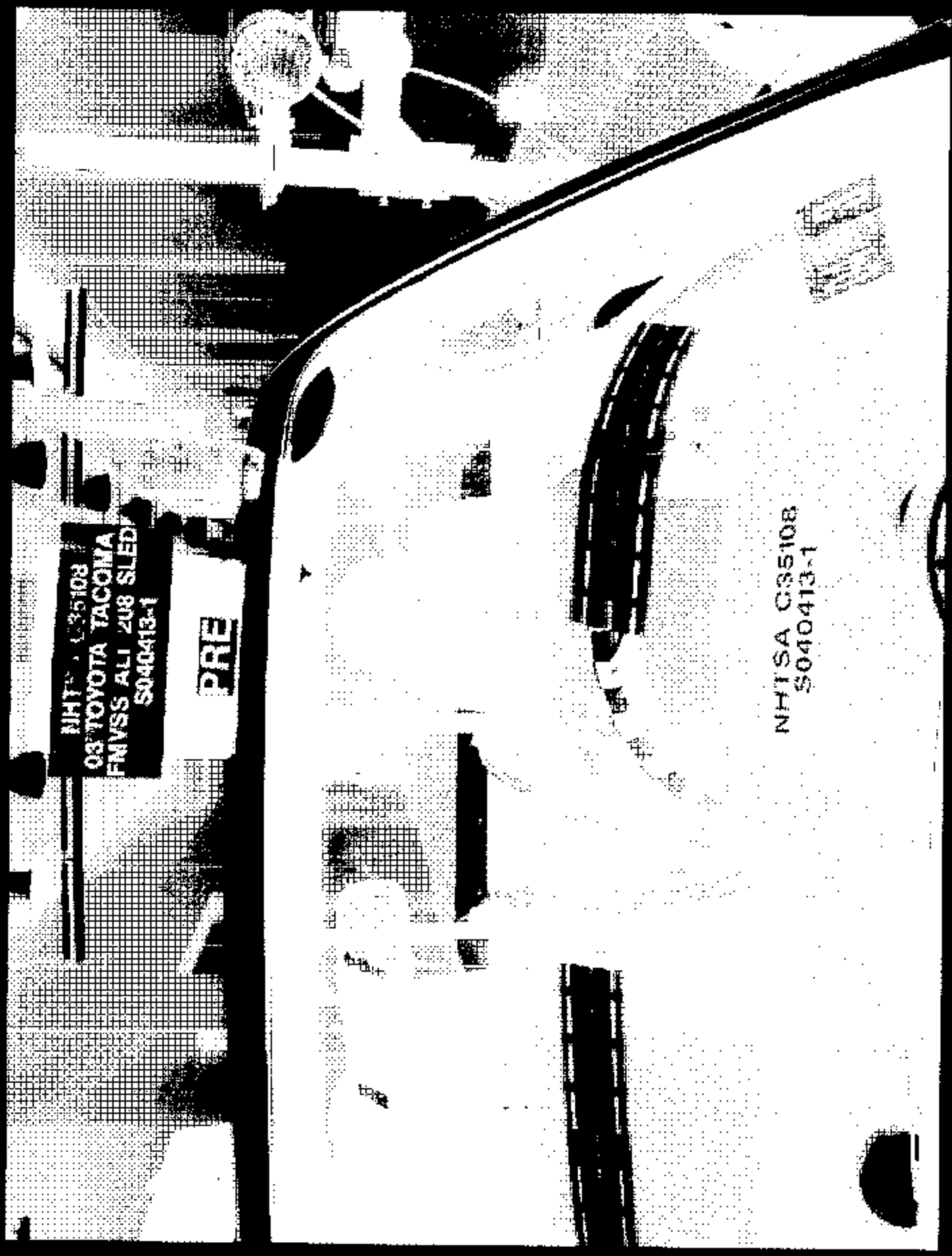


Figure A-10 Pre-Test Driver Dummy Position Front View

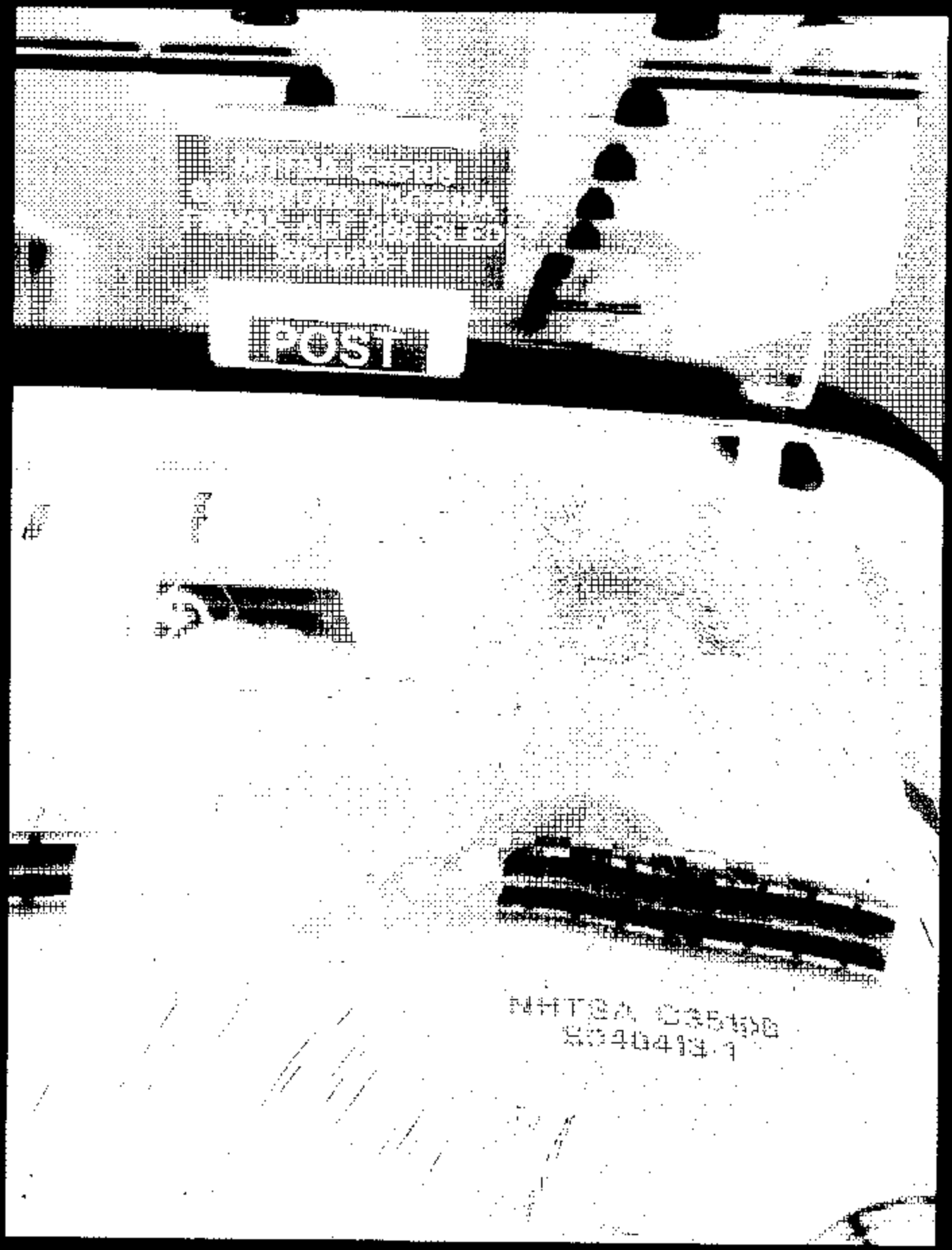


Figure A-11 Post-Test Driver Dummy Position Front View

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

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

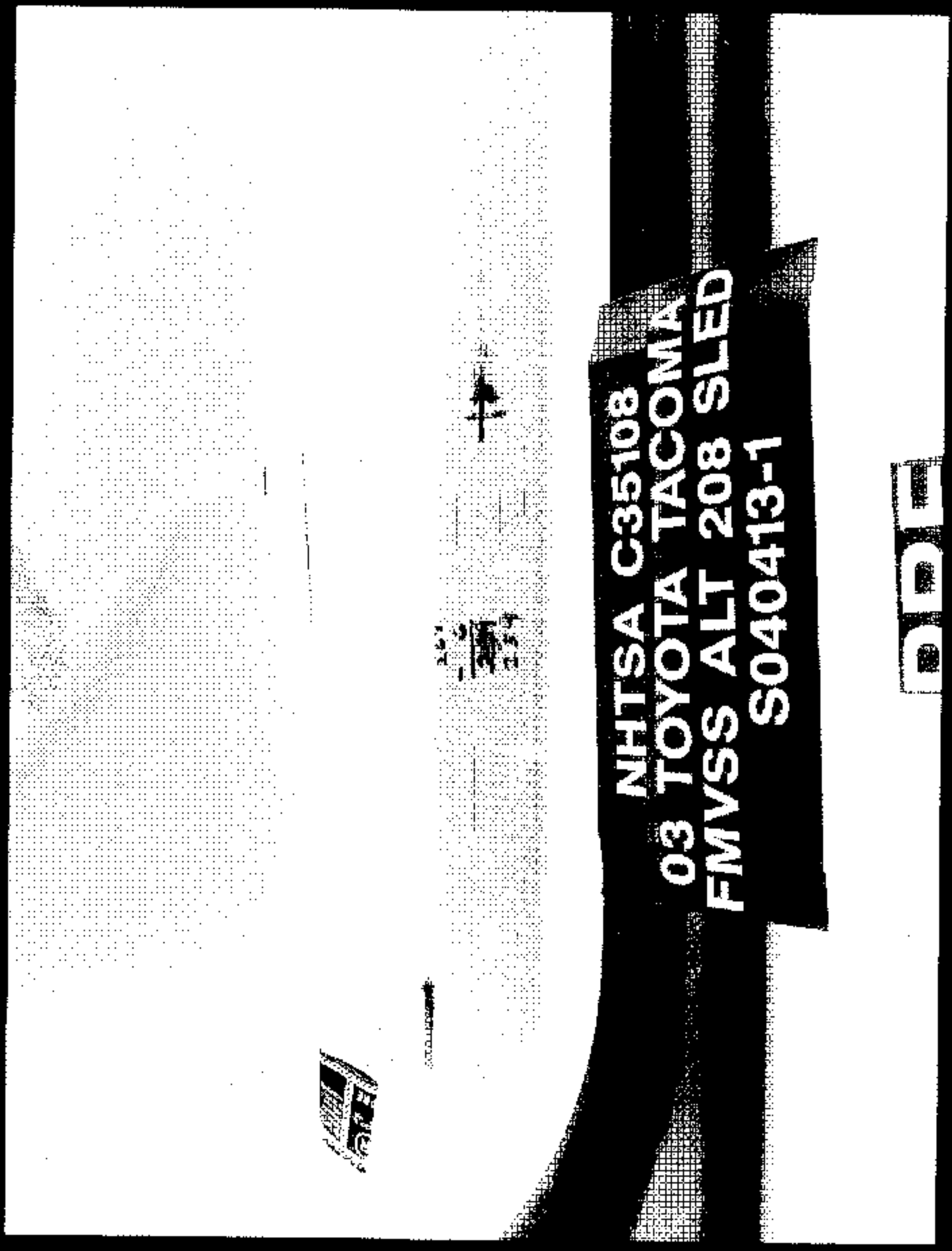


Figure A-14 Pre-Test Passenger Seat Track Position View

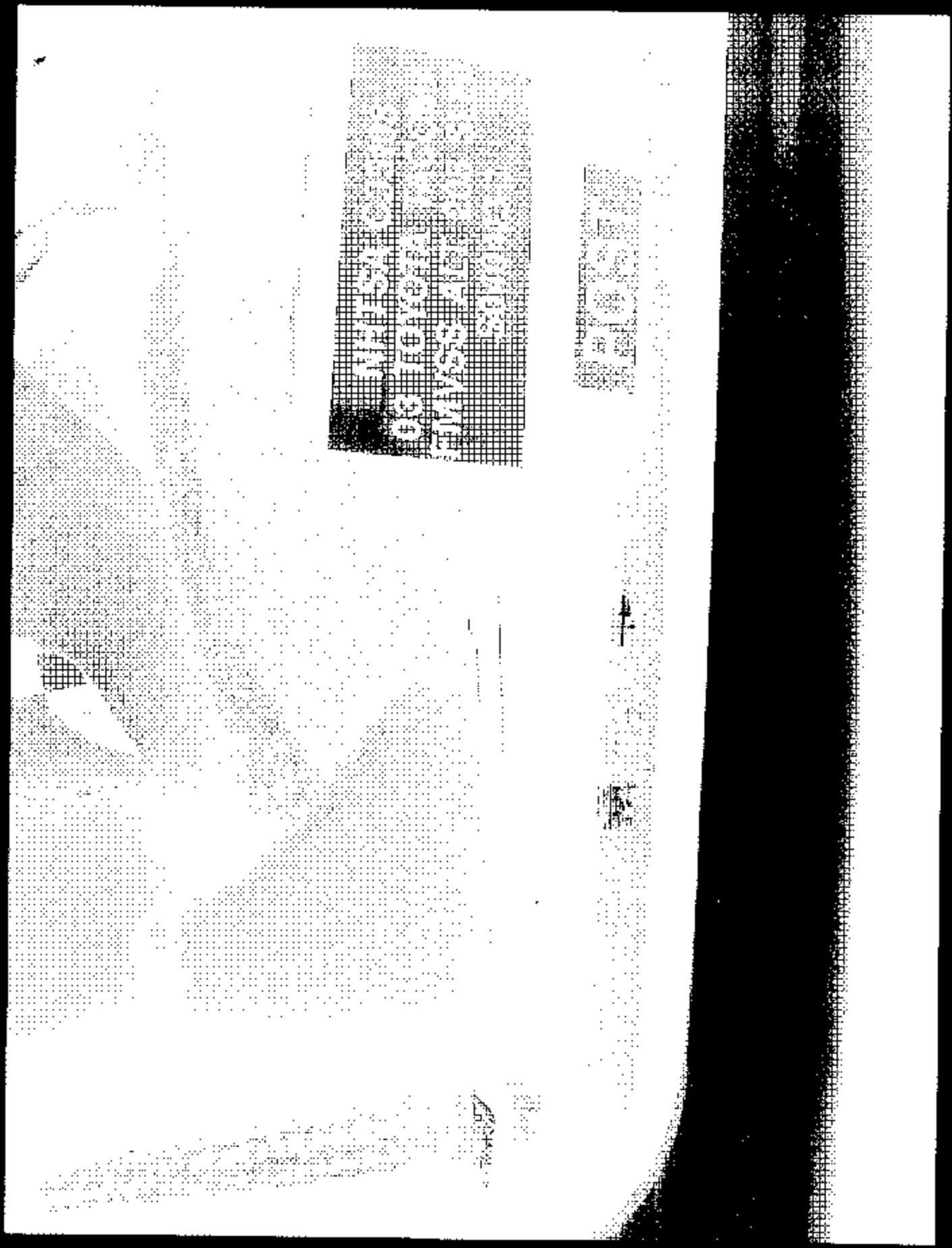


Figure A-15 Post-Test Passenger Seat Track Position View

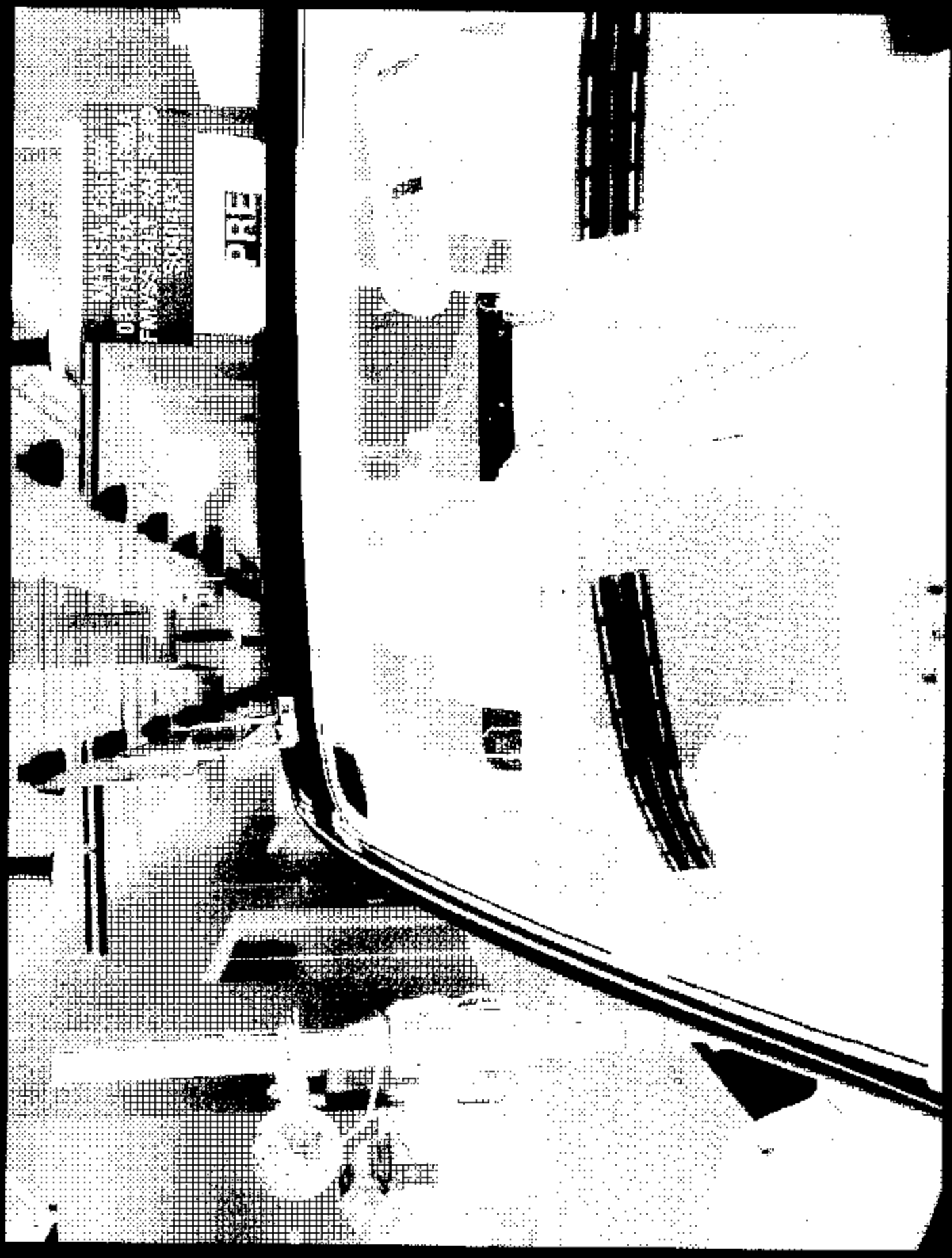


Figure A-16 Pre-Test Passenger Dummy Position Front View

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

Figure A-18 Post-Test Driver Airbag View

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

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

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

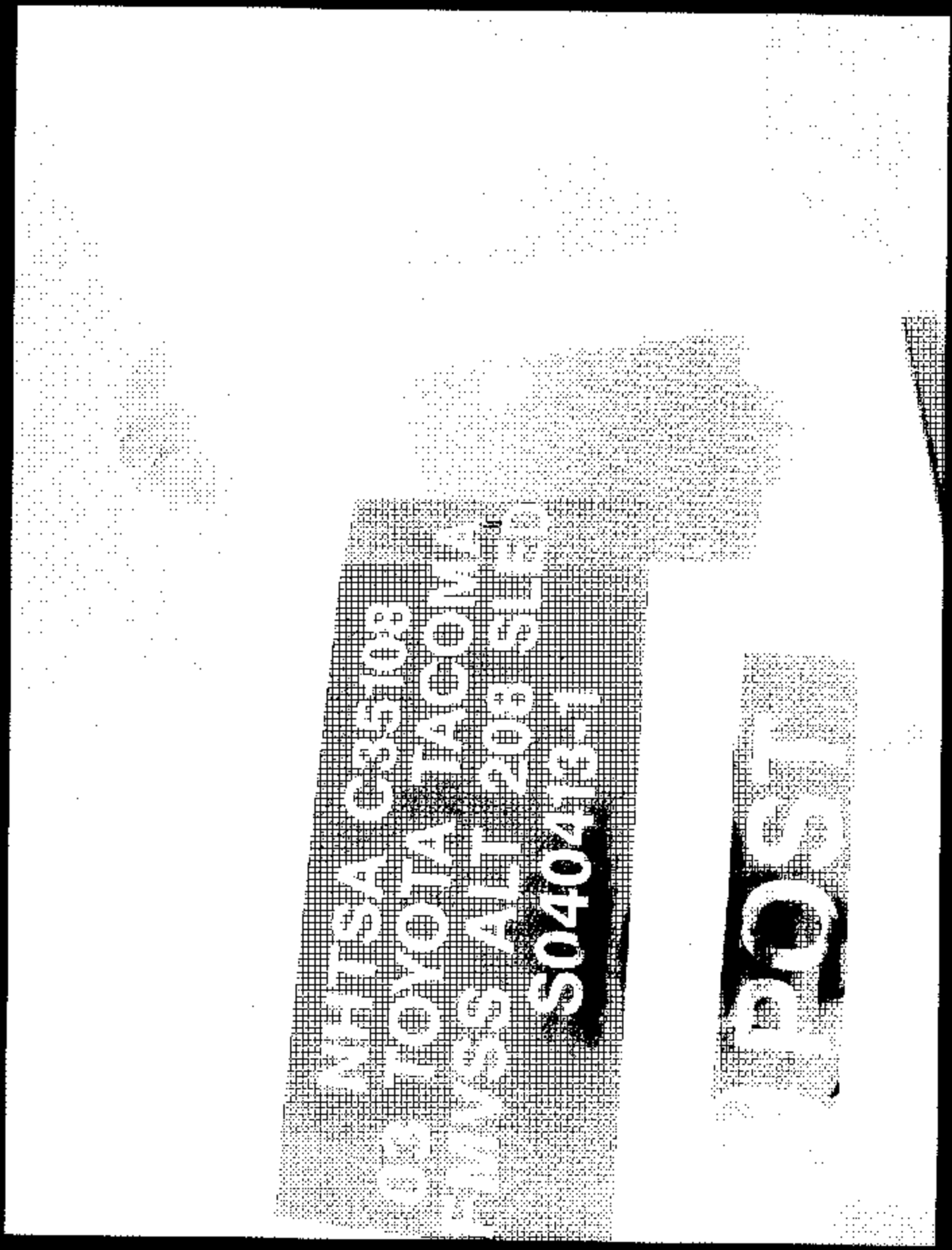


Figure A-22 Post-Test Driver Head Contact - View 3

Figure A-23 Post-Test Passenger Airbag View

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

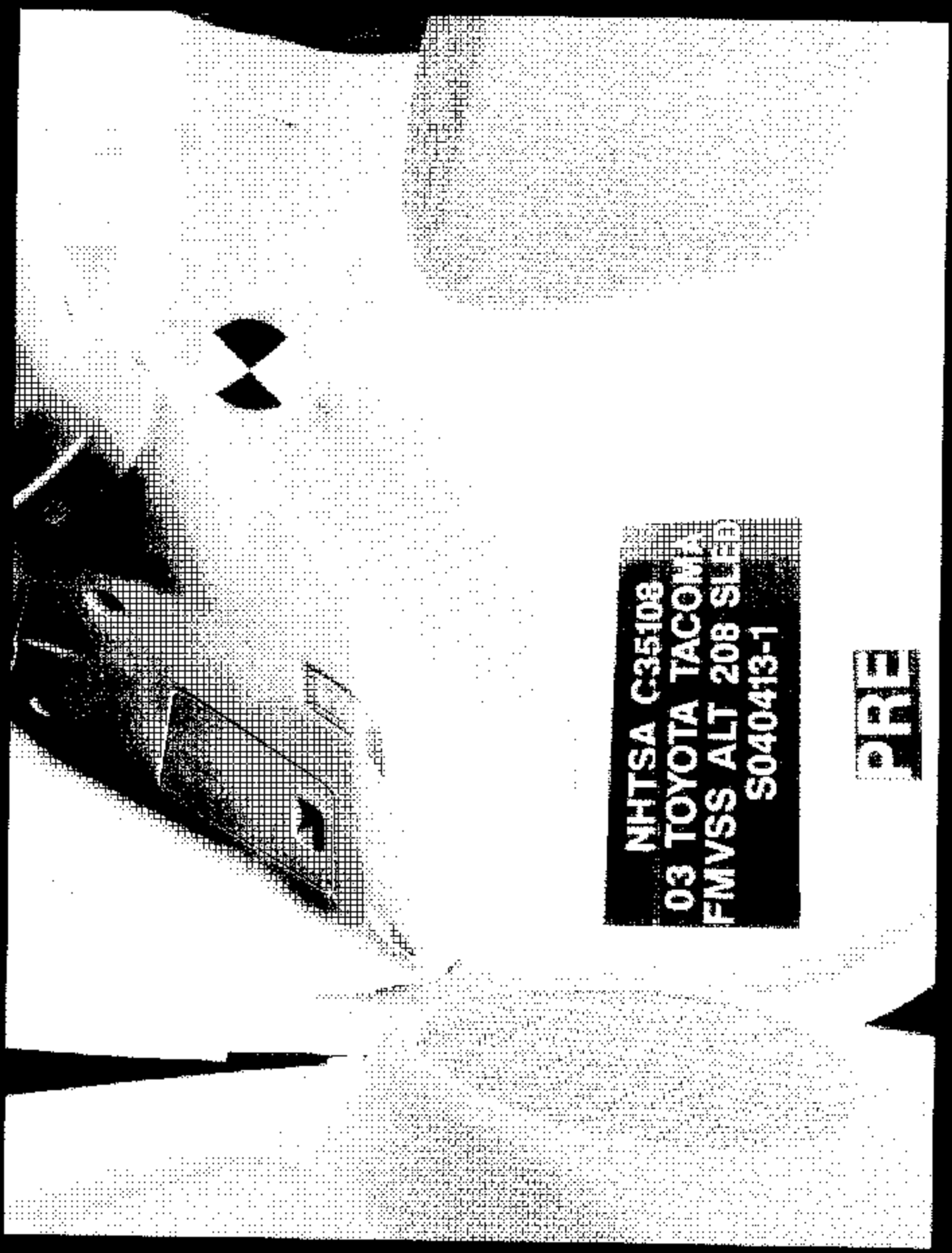


Figure A-25 Pre-Test Driver Knee Bolster View

Figure A-26 Post-Test Driver Knee Bolster View

Figure A-27 Pre-Test Passenger Glove Box View

Figure A-28 Post-Test Passenger Glove Box View

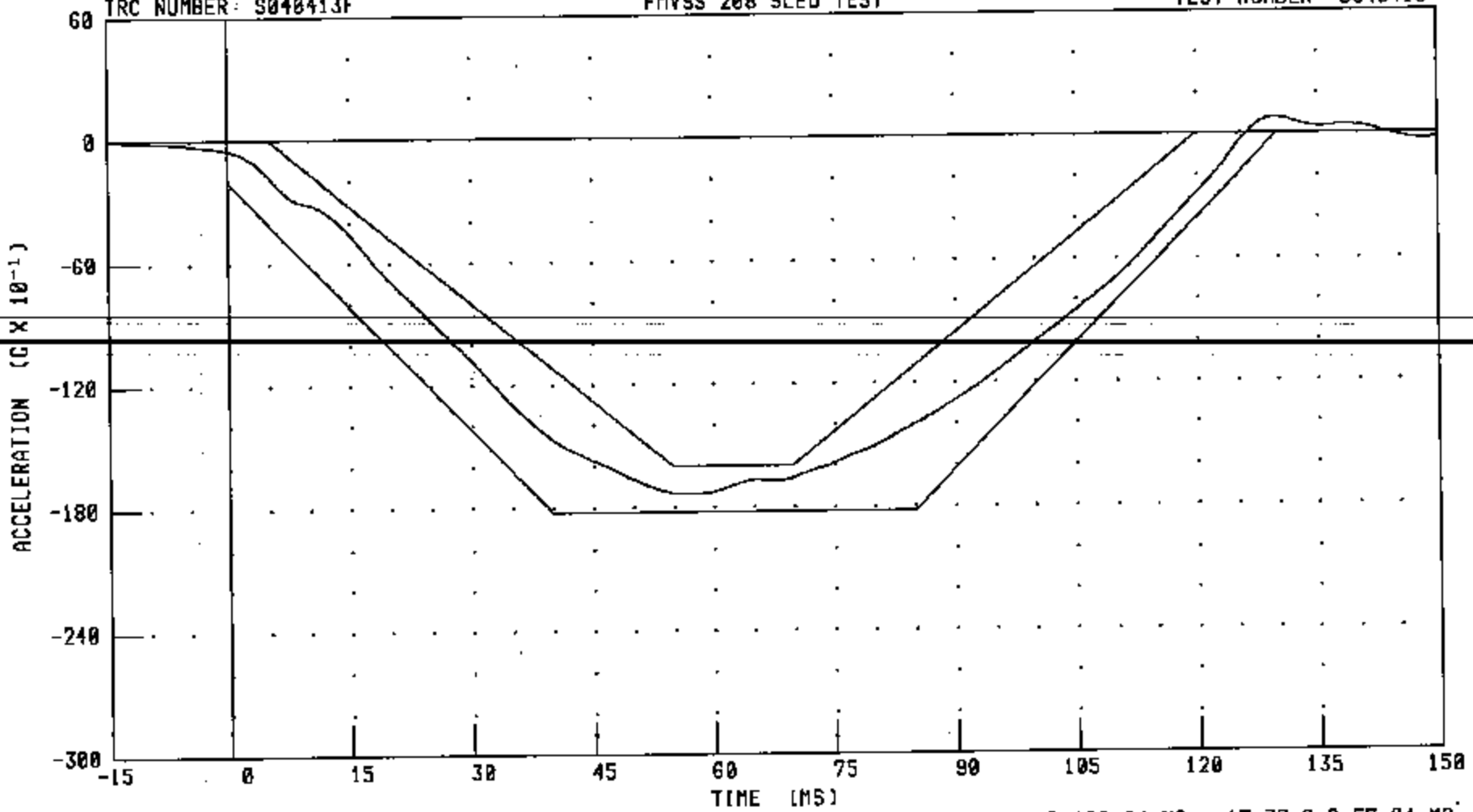
MFD.BY TOYOTA MOTOR MANUFACTURING.CALIFORNIA.INC.
DATE 03/03 GVWR:1920KG (4250LB)
GAWR :FRT.1000KG (2200LB) WITH 1920 TIRES.
15X6JJ RIMS. AT 200KPA (29PSI) COLD.
RR. 1135KG (2500LB) WITH P205/75R15 TIRES.
15X6JJ RIMS. AT 200KPA (29PSI) COLD.
THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
STENL42N43Z[redacted] TRUCK
RZN140L-TRMDKAB
C/TR 040/FZ10
A/TM A02A/
W59

Figure A-29 Pre-Test Vehicle Certification Label View

Appendix B

Data Plots

C35108 / 2003 TOYOTA TACOMA
SLED ACCELERATION
FMVSS 208 SLED TEST



CHANNEL: SLDXC FILTER: CH. CLASS 60

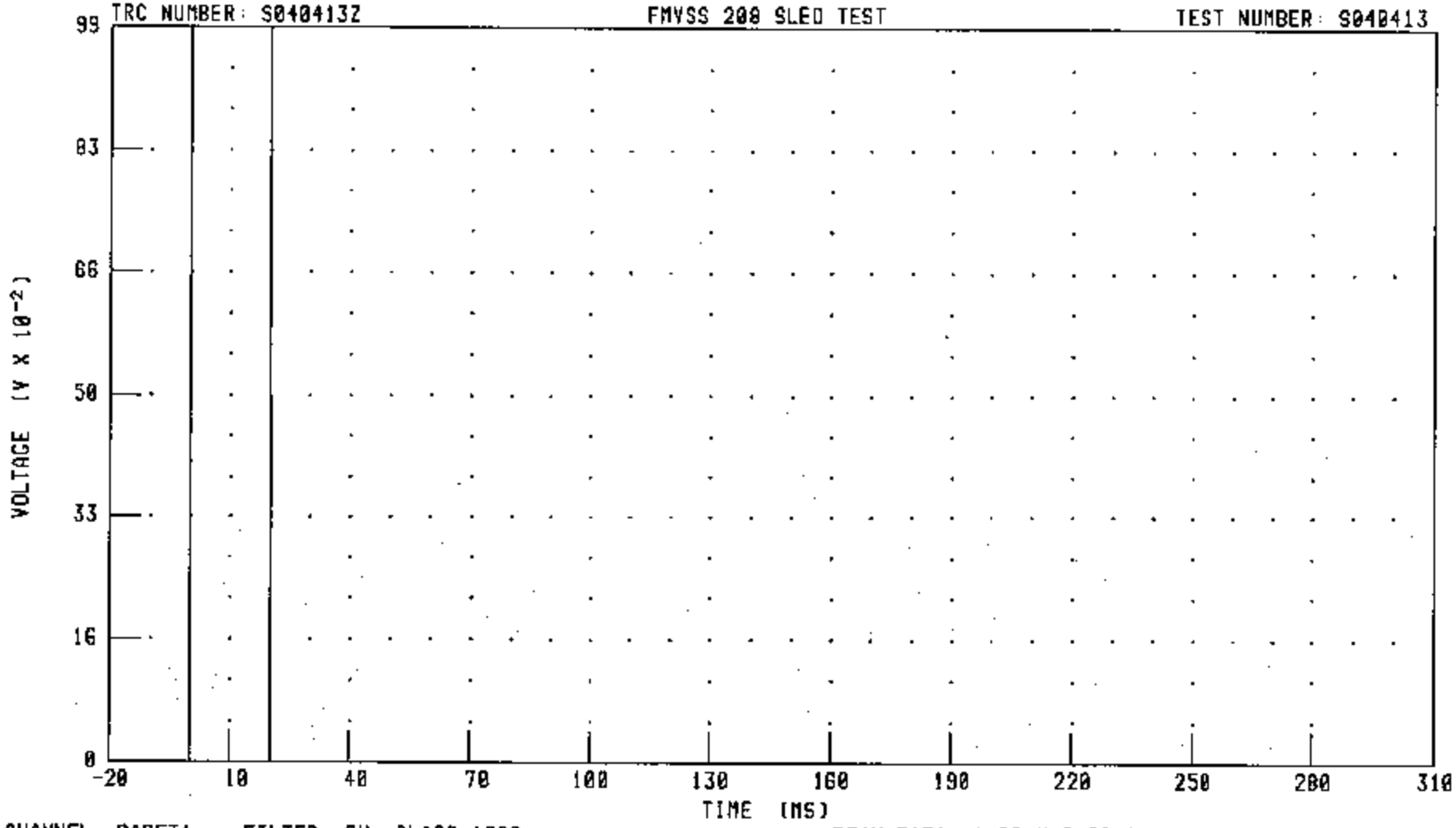
PEAK DATA: 0.77 G @ 129.04 MS; -17.37 G @ 57.04 MS

B-2

S040413

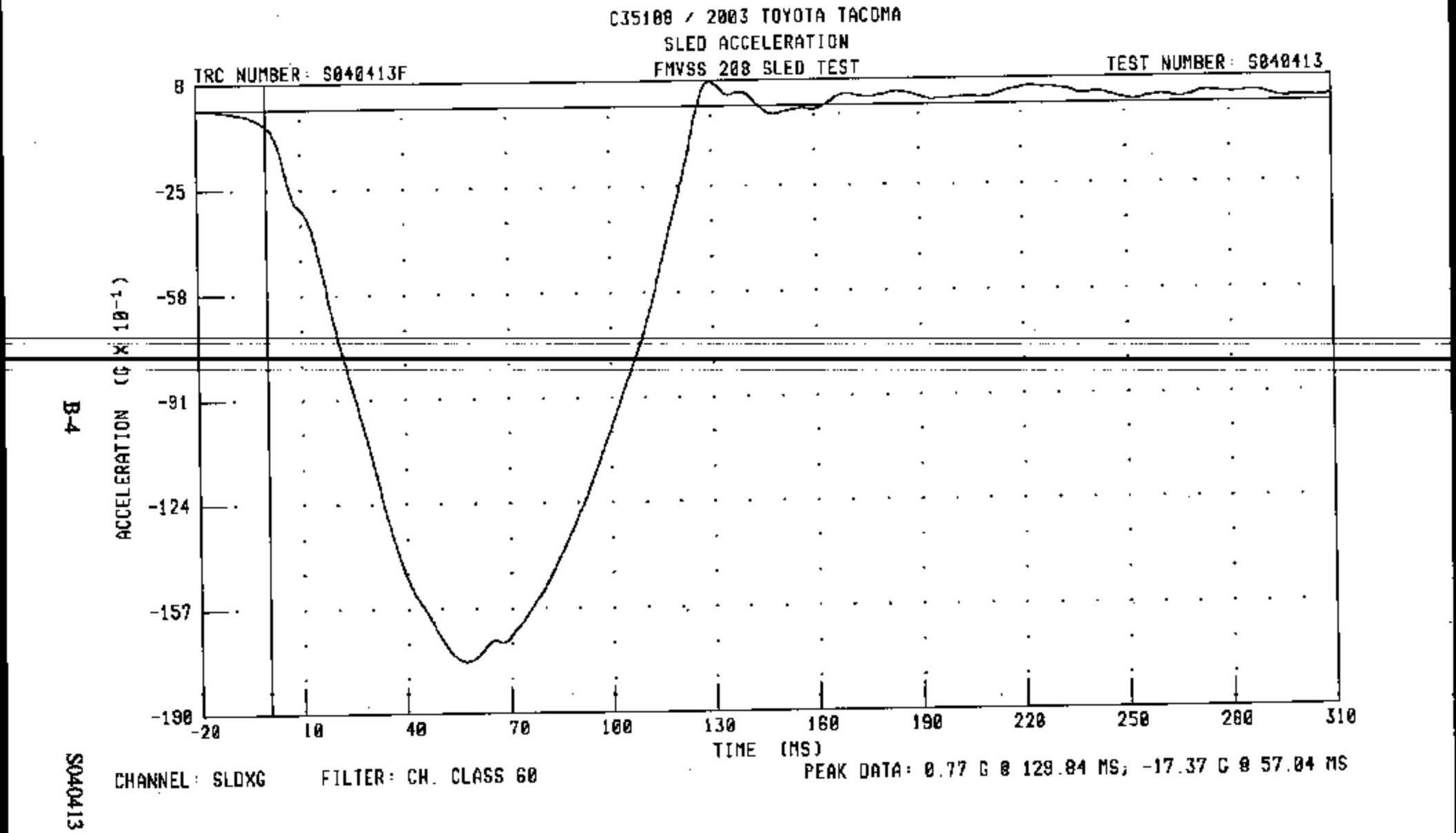
C35108 / 2003 TOYOTA TACOMA
PASSENGER PRIMARY AIRBAG EVENT
FMVSS 208 SLED TEST

TRC NUMBER: S0404132 TEST NUMBER: S040413



CHANNEL: PABET1 FILTER: CH. CLASS 1000 PEAK DATA: 1.00 V @ 20.16 MS; 0.00 V @ -20.00 MS

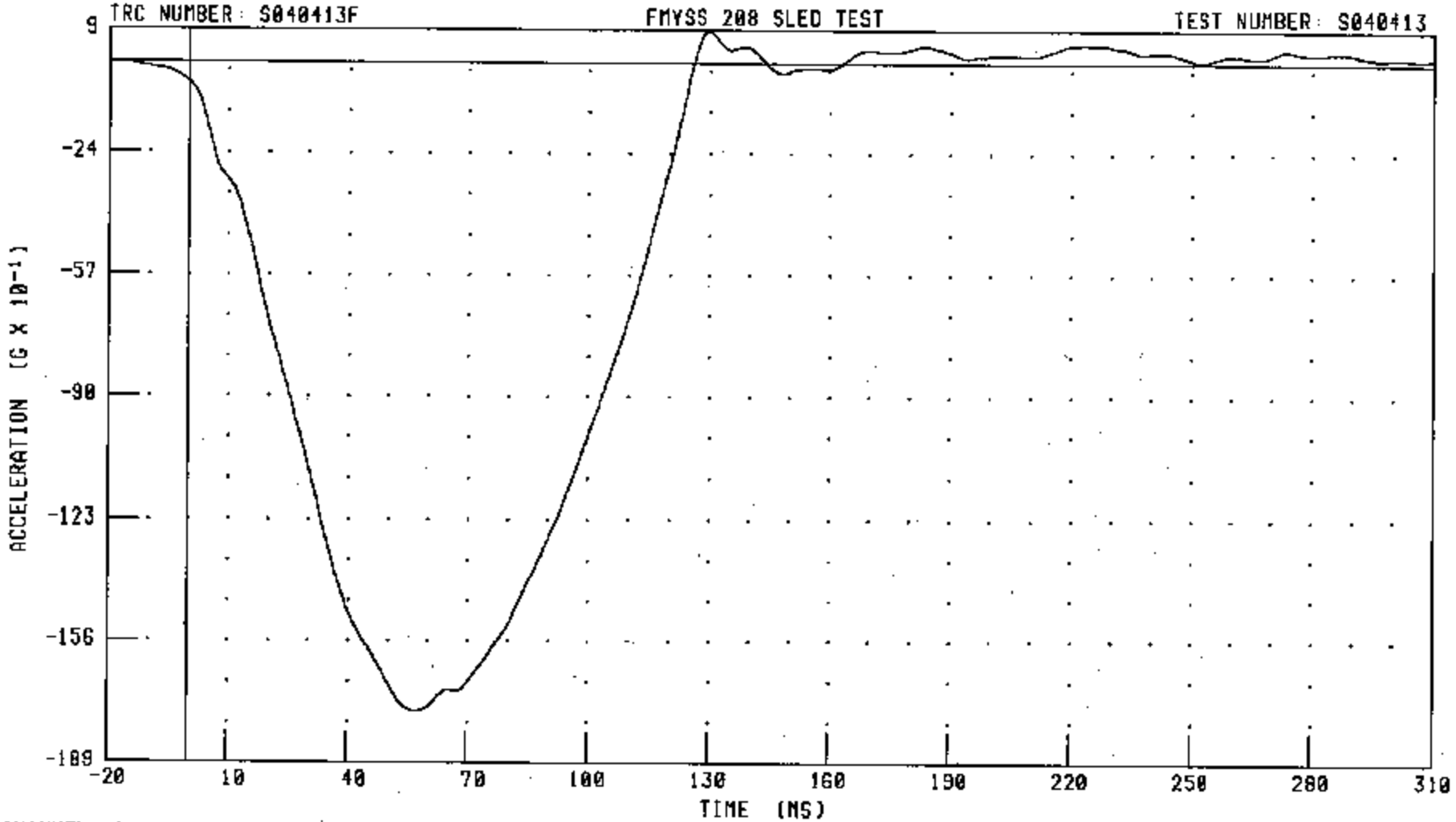
S040413


C35108 / 2003 TOYOTA TACOMA
SLED ACCELERATION
FMVSS 208 SLED TEST
TRC NUMBER: S040413F
TEST NUMBER: S040413
ACCELERATION (G X 10⁻¹)
8
-25
-58
-91
-124
-157
-190
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: SLDXG
FILTER: CH. CLASS 60
PEAK DATA: 0.77 G @ 129.84 MS; -17.37 G @ 57.04 MS

B-4

S040413

C35108 / 2003 TOYOTA TACOMA
SLED ACCELERATION - BACKUP
FMVSS 208 SLED TEST

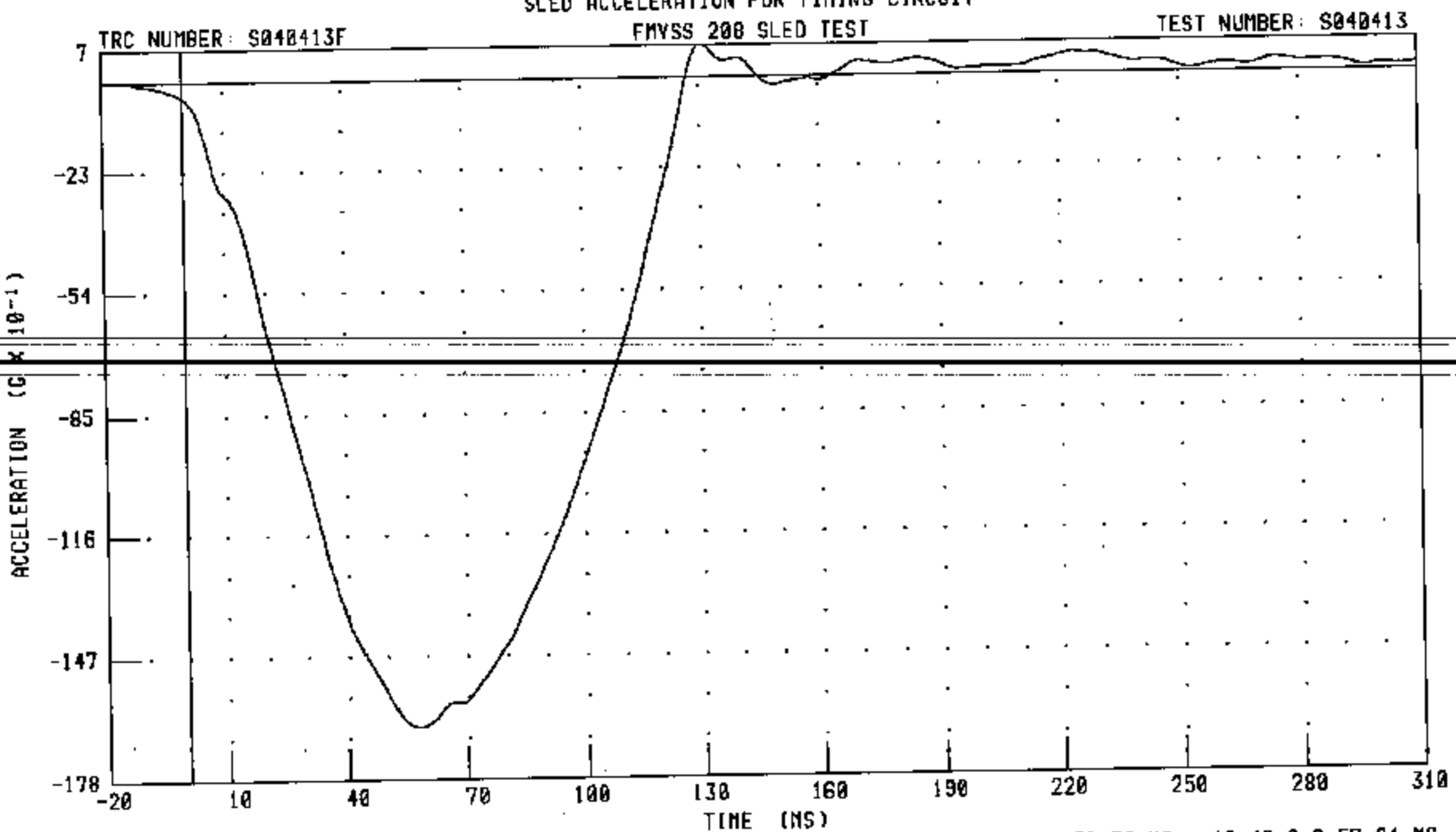


CHANNEL: SLDXGR FILTER: CH. CLASS 60

PEAK DATA: 0.85 G @ 129.84 MS; -17.51 G @ 57.04 MS

S040413

C35108 / 2003 TOYOTA TACOMA
SLED ACCELERATION FOR TIMING CIRCUIT
FMVSS 208 SLED TEST



CHANNEL: SLDXGT FILTER: CH. CLASS 60

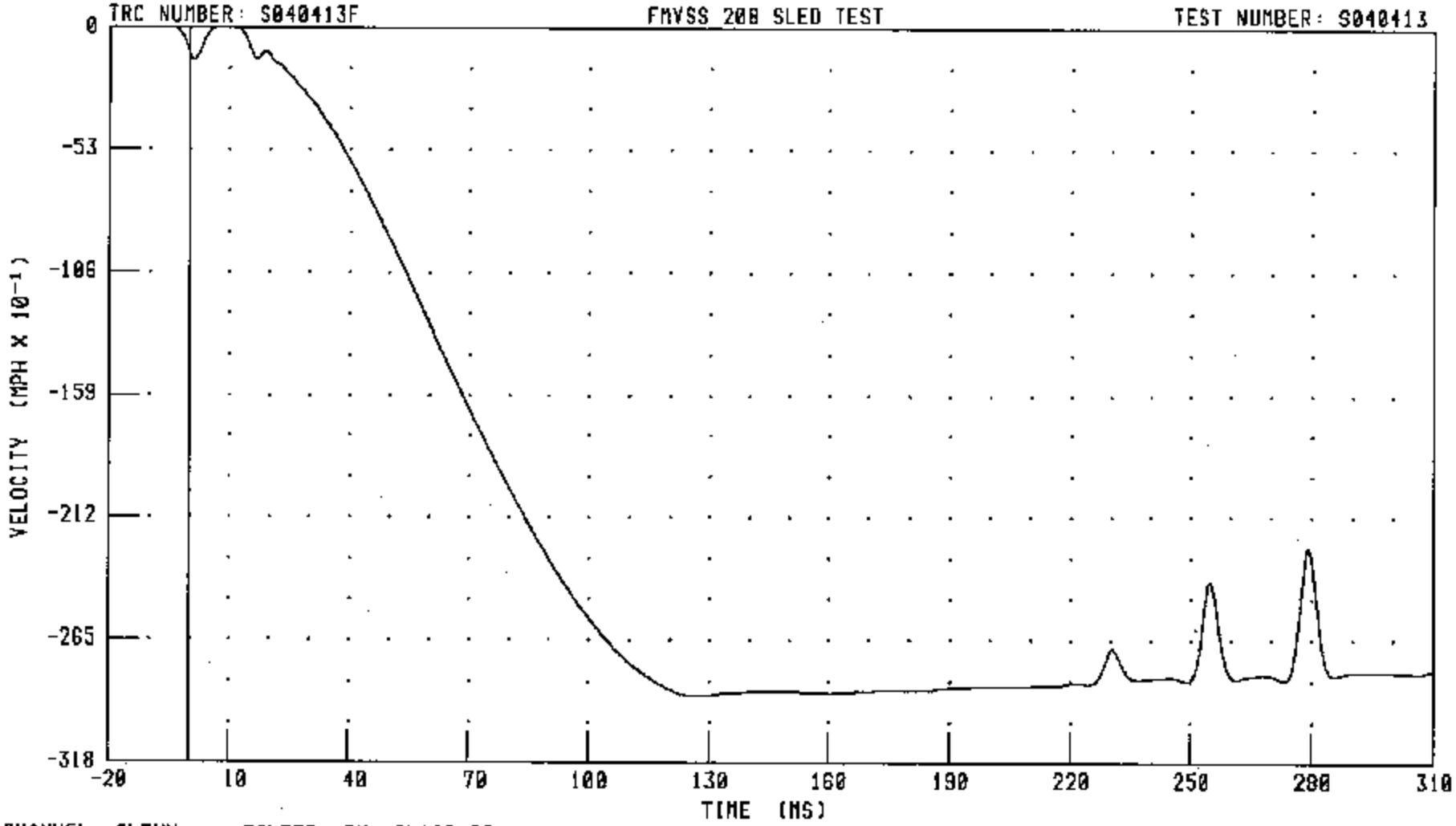
PEAK DATA: 0.82 G @ 130.72 MS; -16.49 G @ 57.84 MS

S040413

C35108 / 2003 TOYOTA TACOMA
MEASURED VELOCITY TRAP
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: SLDXV FILTER: CH. CLASS 60

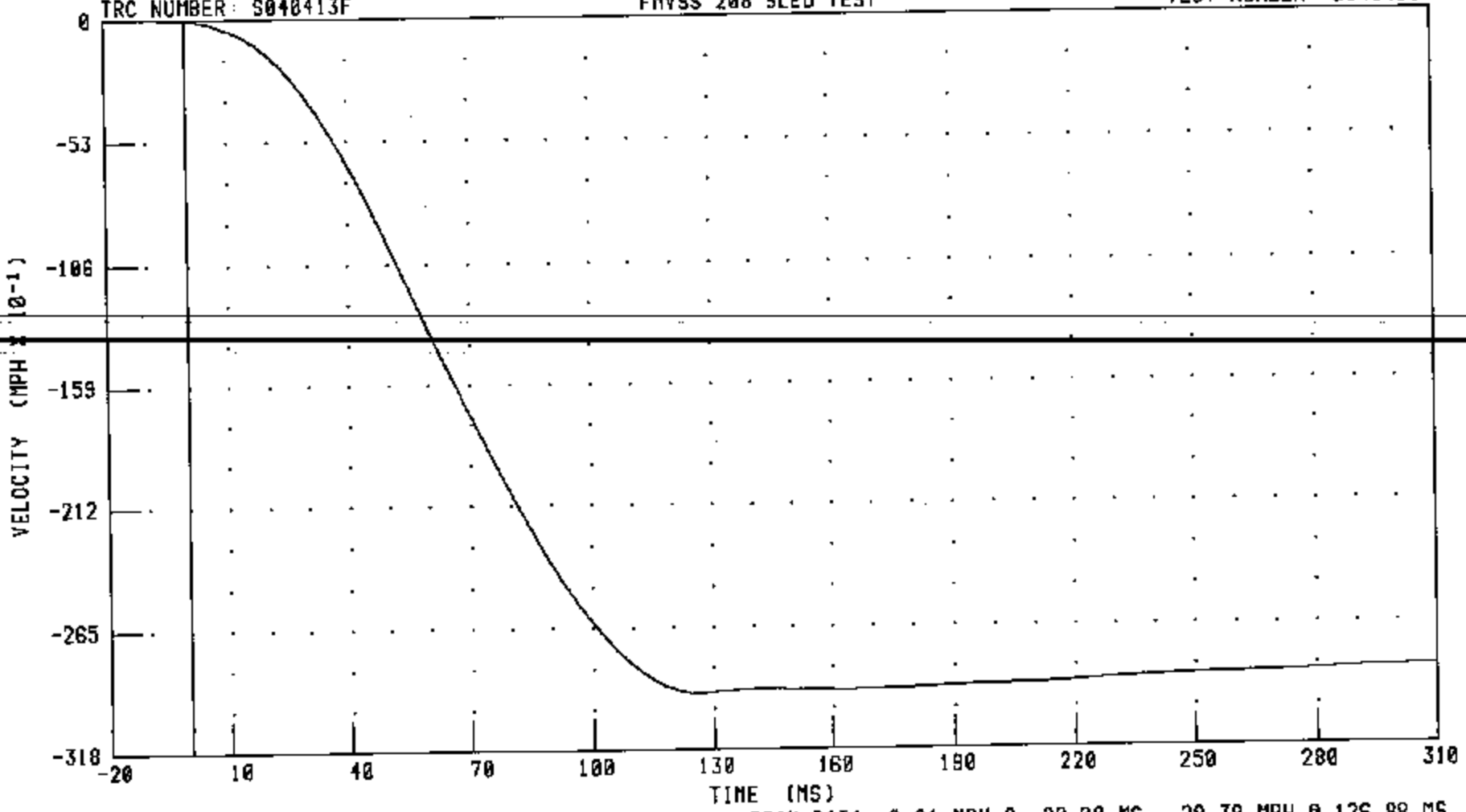
PEAK DATA: 0.06 MPH @ 10.56 MS; -28.91 MPH @ 127.36 MS

S040413

C35108 / 2003 TOYOTA TACOMA
SLED VELOCITY (INTEGRATED)
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: SLDXVI FILTER: CH. CLASS 180

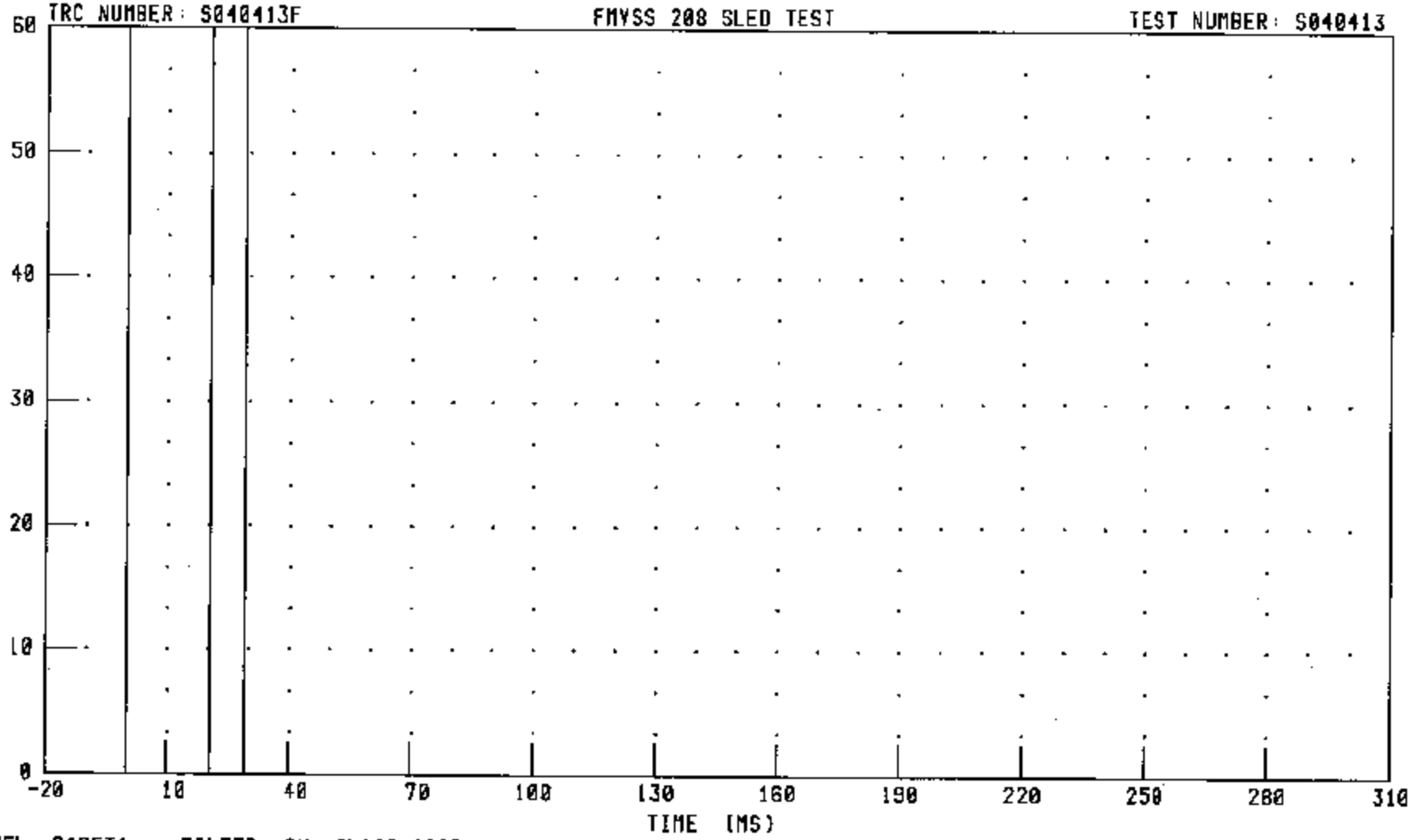
PEAK DATA: 0.01 MPH @ -20.00 MS, -29.38 MPH @ 126.88 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER PRIMARY AIRBAG EVENT
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: DABET1 FILTER: CH. CLASS 1000

PEAK DATA: 1.00 V @ 20.72 MS; 0.00 V @ -20.00 MS

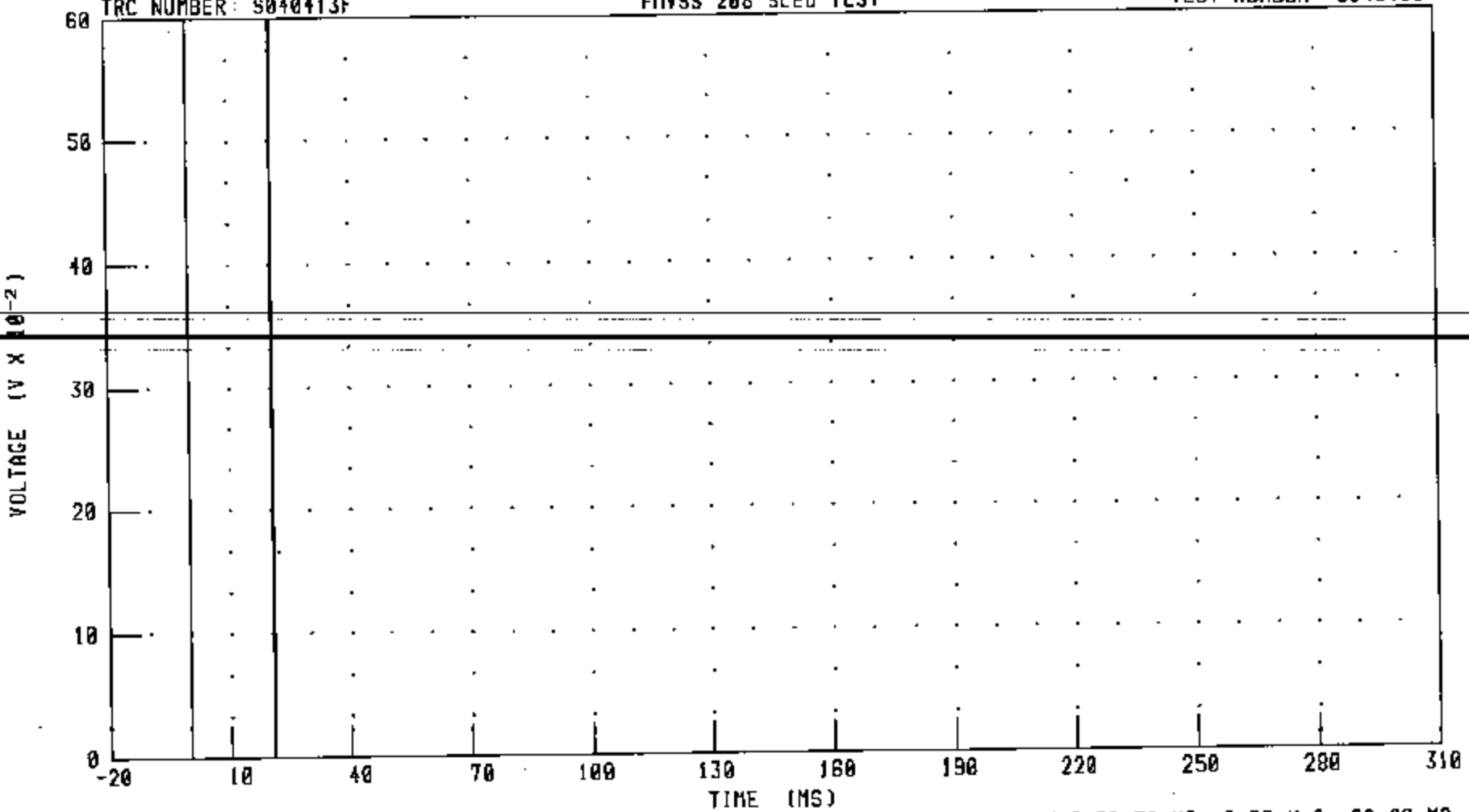
B-9

S040413

C35108 / 2003 TOYOTA TACOMA
PASSENGER PRIMARY AIRBAG EVENT
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

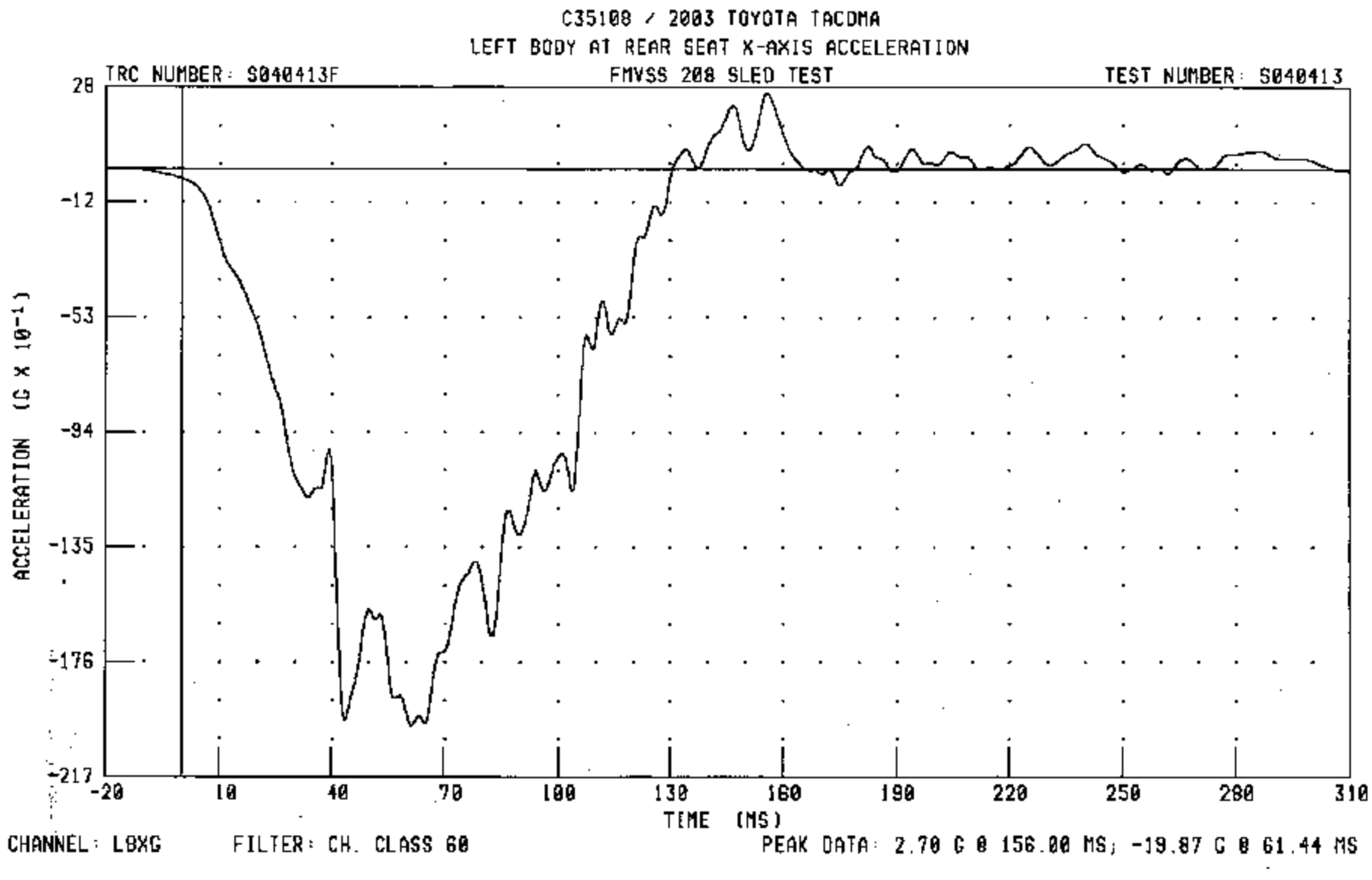
TEST NUMBER: S040413



CHANNEL: PABET1 FILTER: CH. CLASS 1000

PEAK DATA: 1.00 V @ 20.72 MS; 0.00 V @ -20.00 MS

S040413

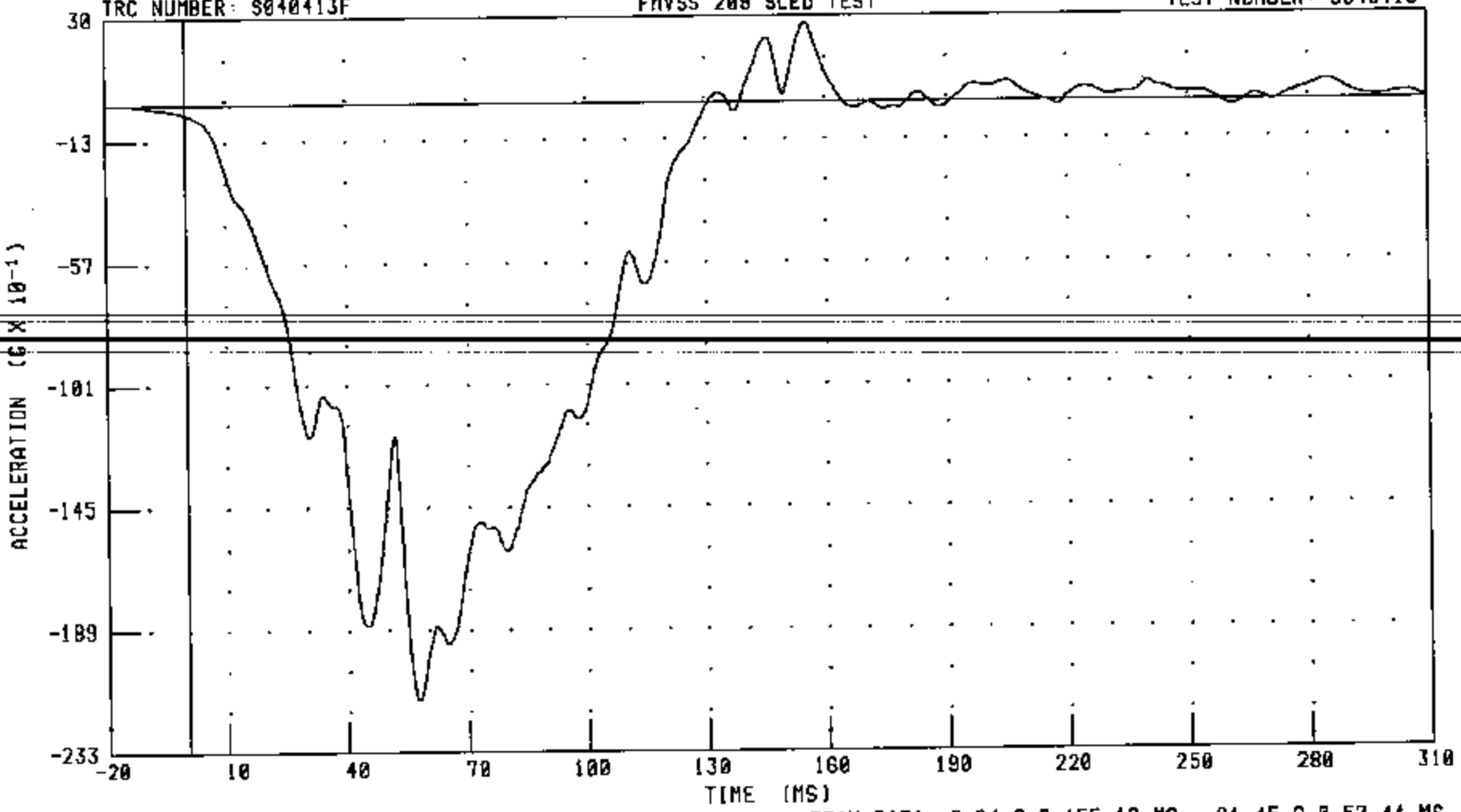

C35108 / 2003 TOYOTA TACOMA
LEFT BODY AT REAR SEAT X-AXIS ACCELERATION
TRC NUMBER: S040413F
FMVSS 208 SLED TEST
TEST NUMBER: S040413
28
-12
-53
-94
-135
-176
-217
ACCELERATION (G X 10⁻¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LBXG
FILTER: CH. CLASS 60
PEAK DATA: 2.70 G @ 156.00 MS; -19.87 G @ 61.44 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT BODY AT REAR SEAT X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

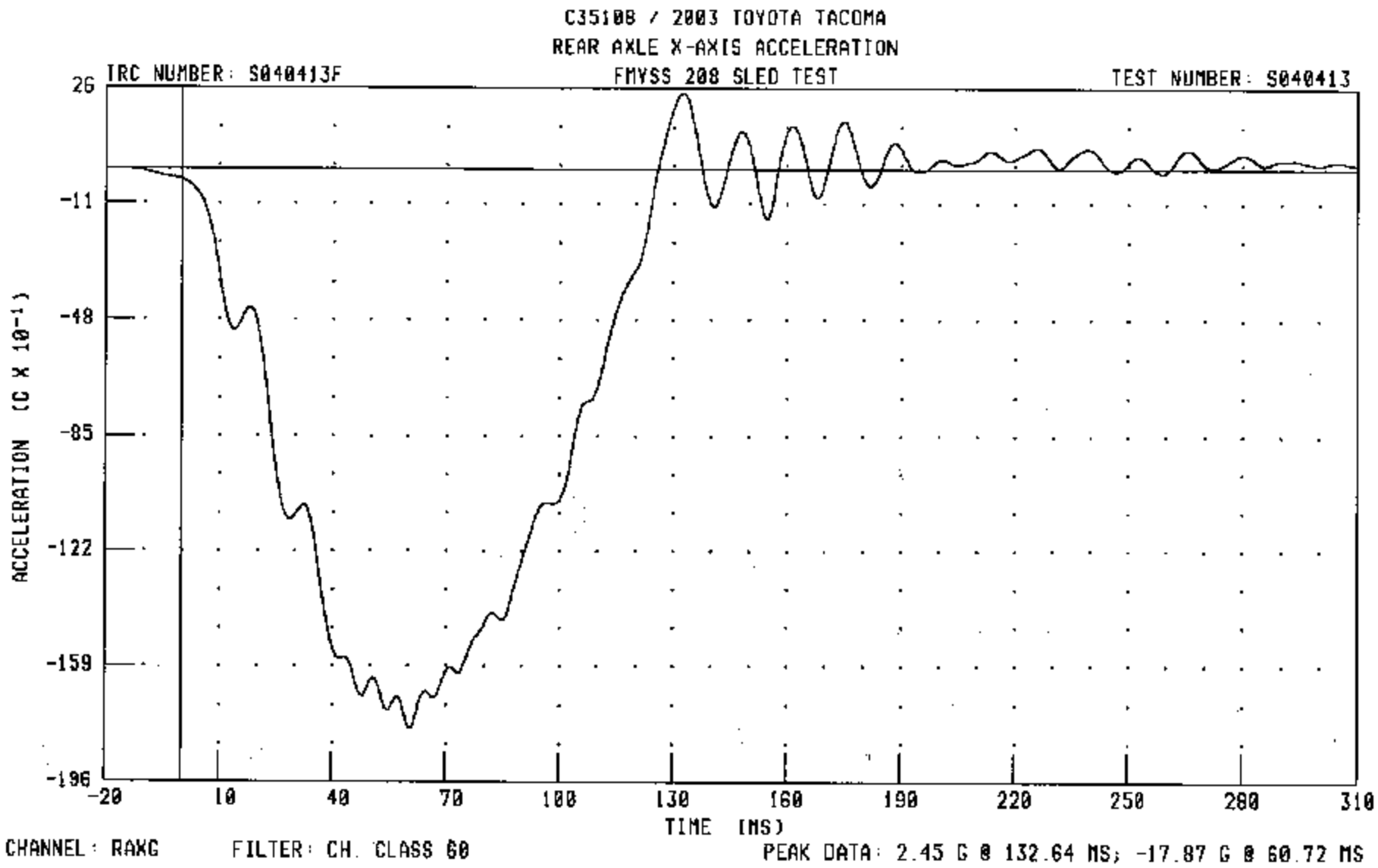
TEST NUMBER: S040413



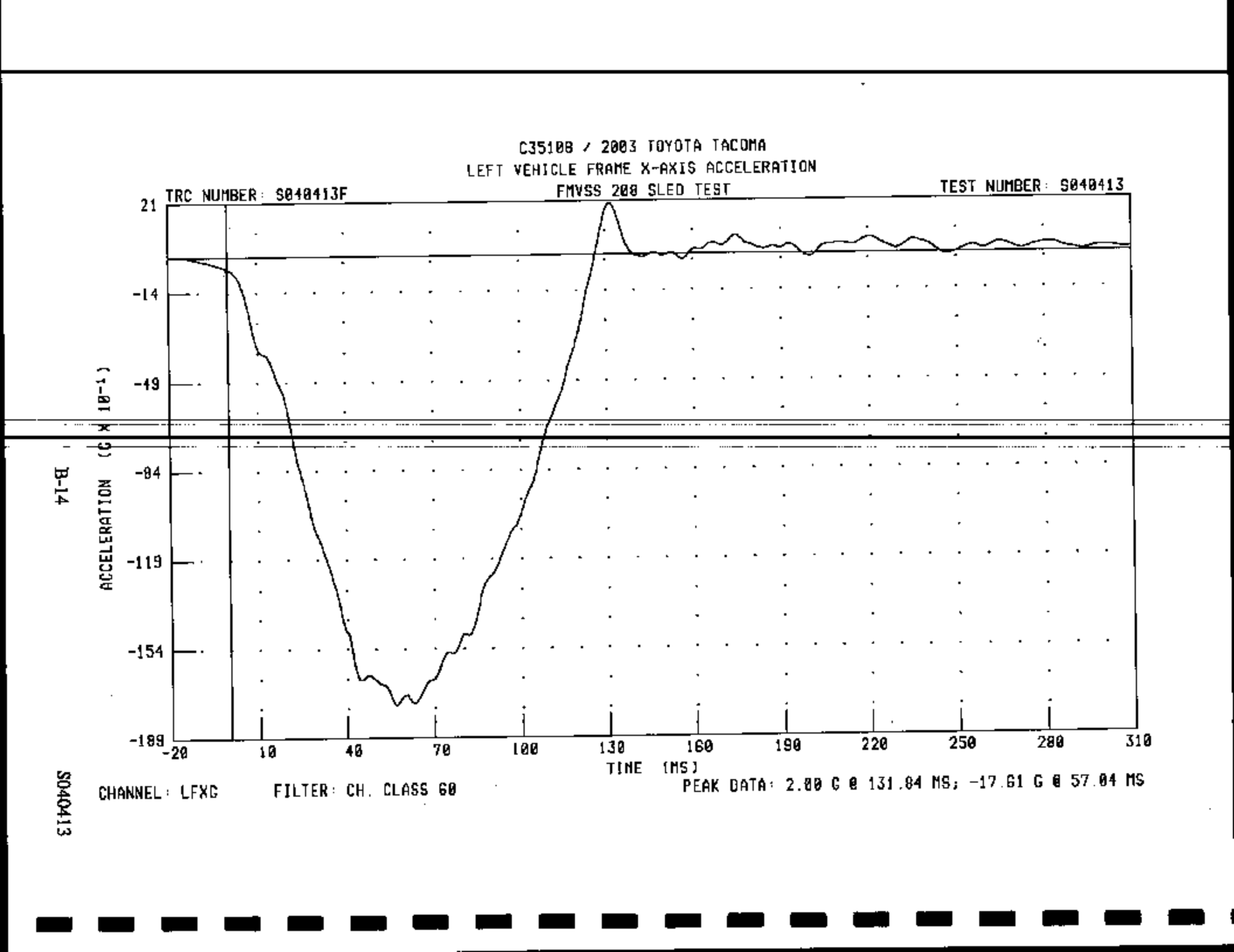
CHANNEL: RBXG FILTER: CH. CLASS 60

PEAK DATA: 2.84 G @ 155.12 MS; -21.45 G @ 57.44 MS

S040413


C35108 / 2003 TOYOTA TACOMA
REAR AXLE X-AXIS ACCELERATION
FMVSS 208 SLED TEST
IRC NUMBER: S040413F
TEST NUMBER: S040413
26
-11
-48
-85
-122
-159
-196
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: RAXG
FILTER: CH. CLASS 60
PEAK DATA: 2.45 G @ 132.64 MS; -17.87 G @ 60.72 MS

S040413

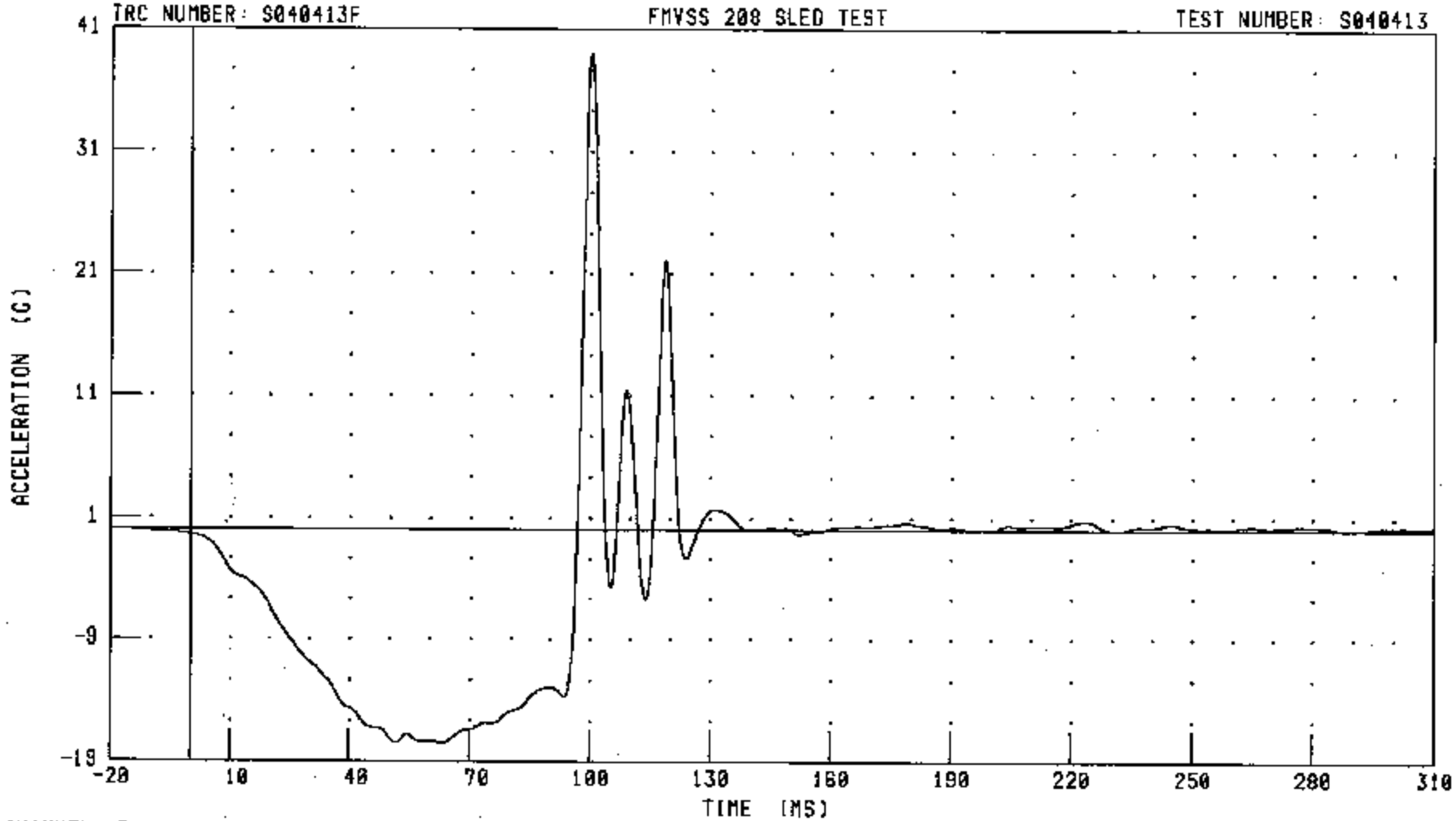

C35108 / 2003 TOYOTA TACOMA
LEFT VEHICLE FRAME X-AXIS ACCELERATION
FMVSS 208 SLED TEST
TRC NUMBER: S040413F
TEST NUMBER: S040413
21
-14
-49
-84
-119
-154
-189
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LFXG
FILTER: CH. CLASS 60
PEAK DATA: 2.00 G @ 131.04 MS; -17.61 G @ 57.04 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT VEHICLE FRAME X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: RFXG FILTER: CH. CLASS 60

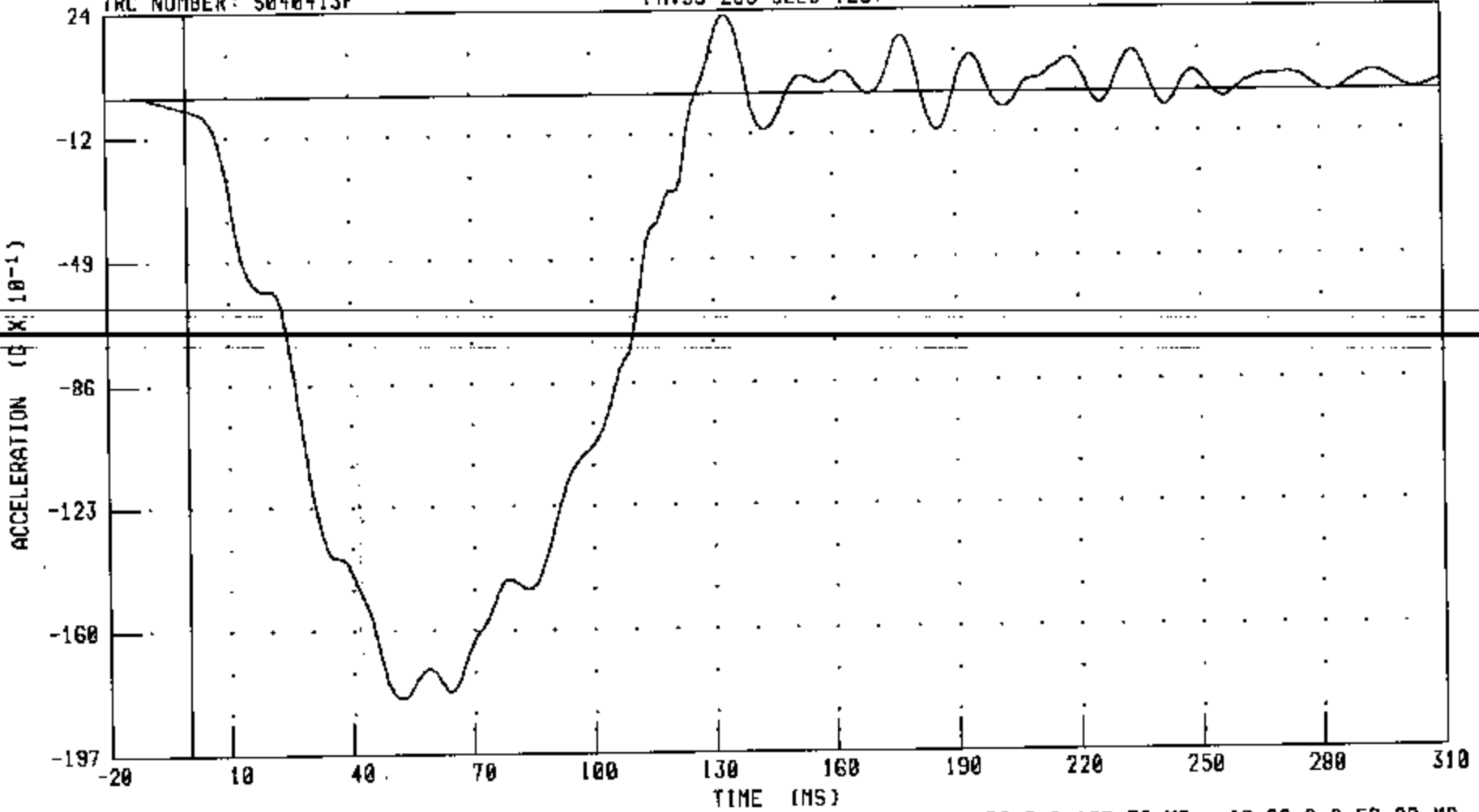
PEAK DATA: 38.96 G @ 100.16 MS; -17.49 G @ 63.04 MS

S040413

C35108 / 2003 TOYOTA TACOMA
TOP ENGINE X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: TEXG FILTER: CH. CLASS 60

PEAK DATA: 2.36 G @ 133.36 MS; -18.02 G @ 52.00 MS

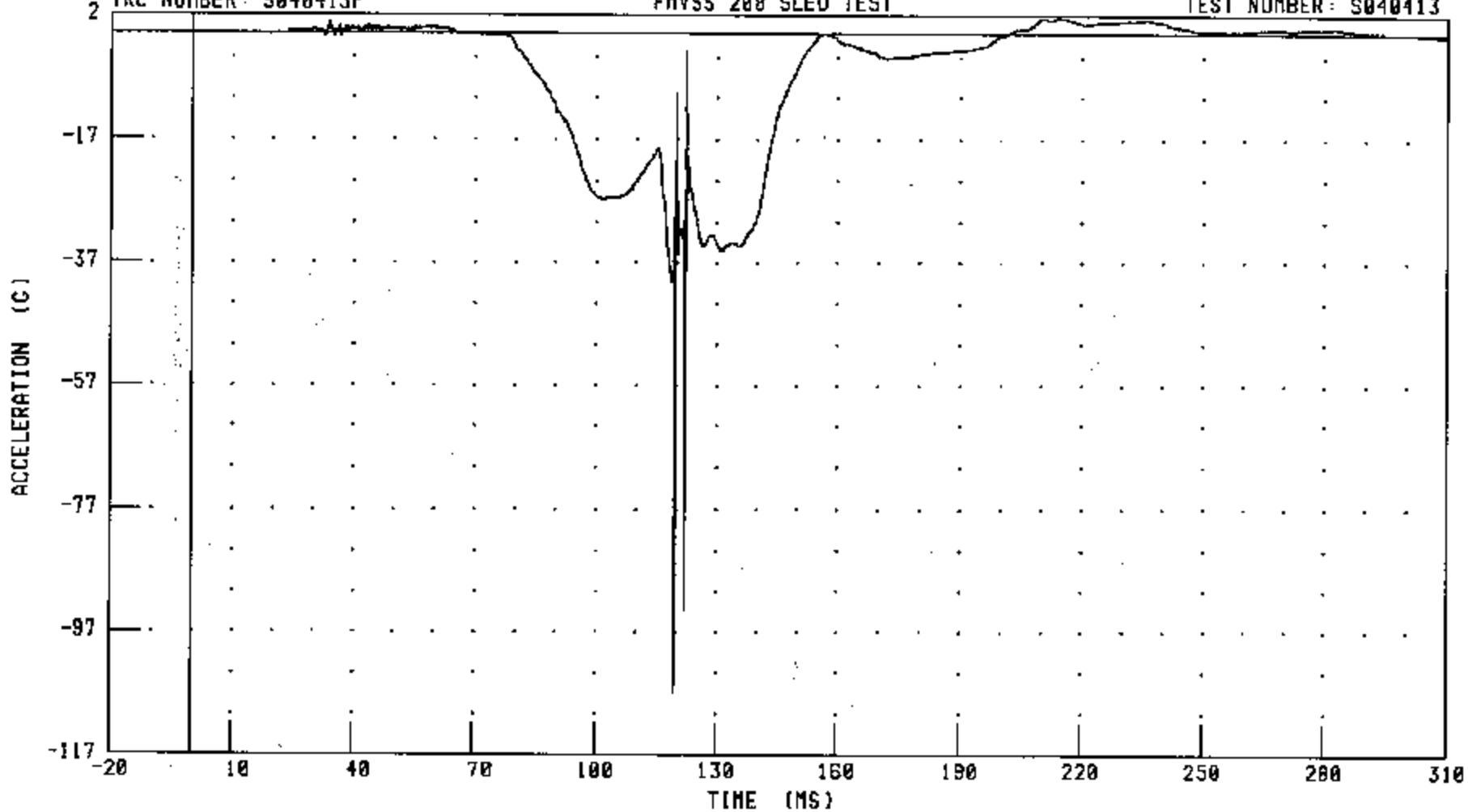
B-16

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER HEAD X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: HEOXG1 FILTER: CH. CLASS 1000

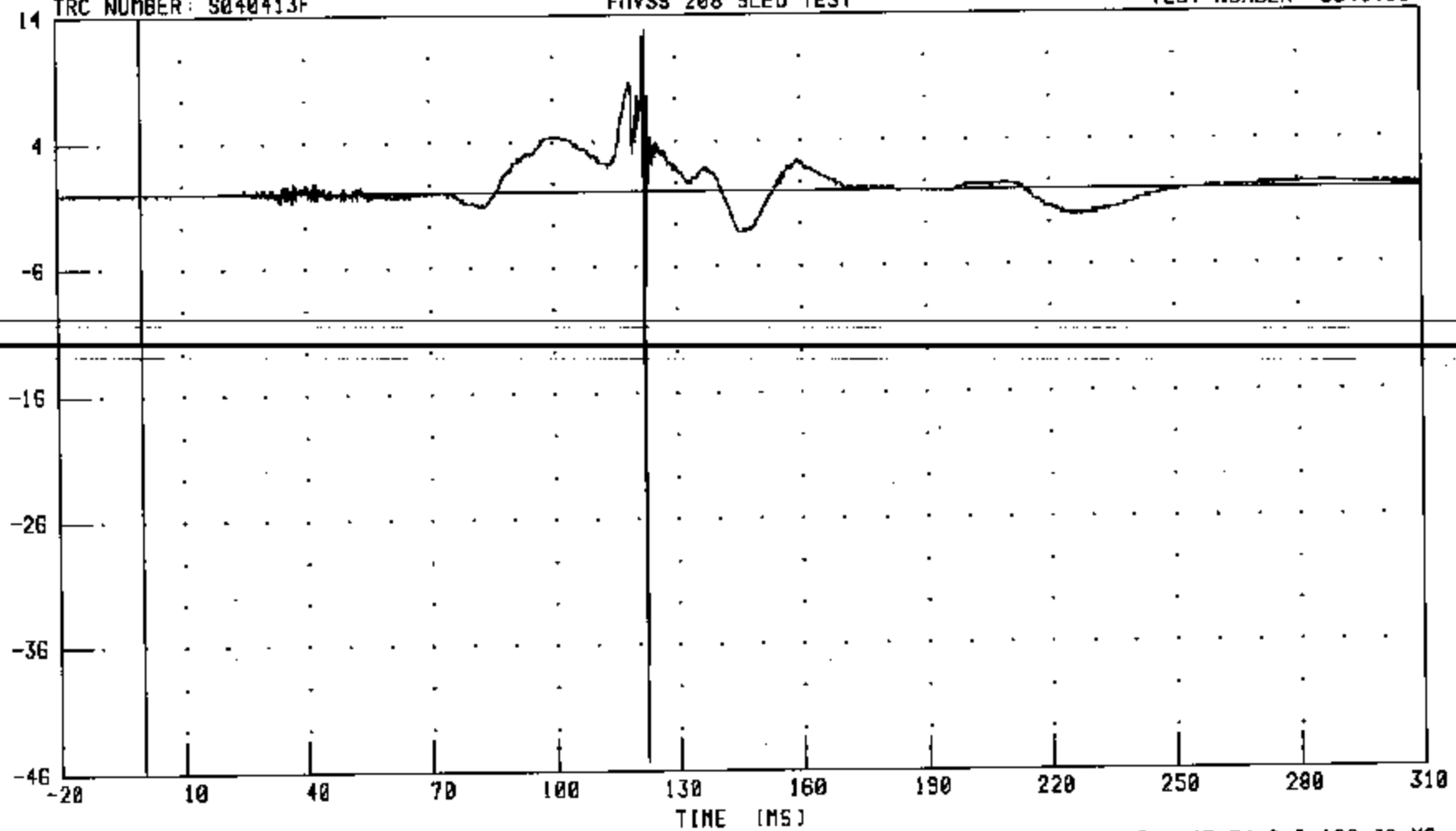
PEAK DATA: 2.56 G @ 213.92 MS; -107.00 G @ 119.76 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER HEAD Y-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413

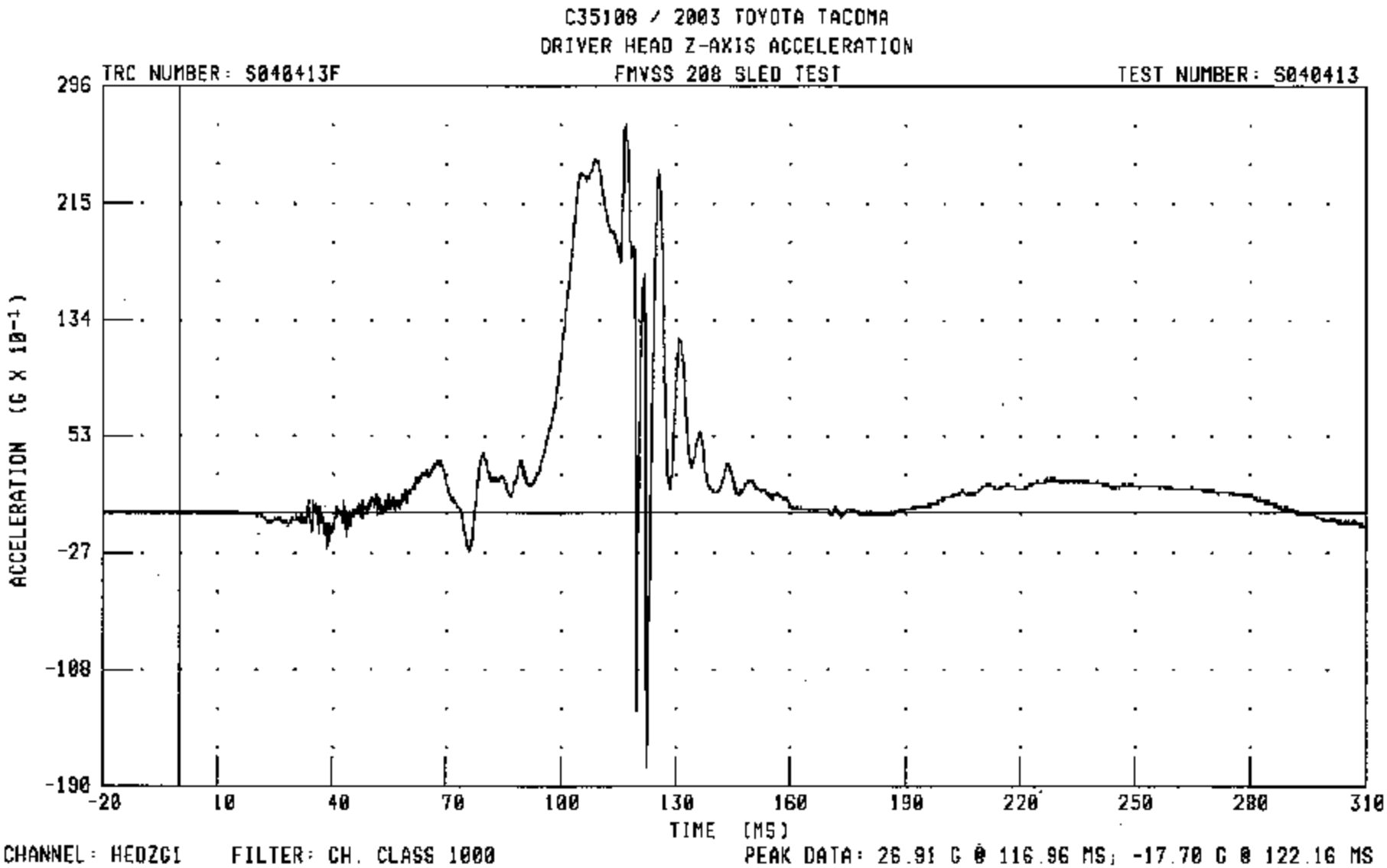


CHANNEL: HEDYC1 FILTER: CH. CLASS 1000

PEAK DATA: 12.85 G @ 122.64 MS; -45.34 G @ 122.32 MS

B-18

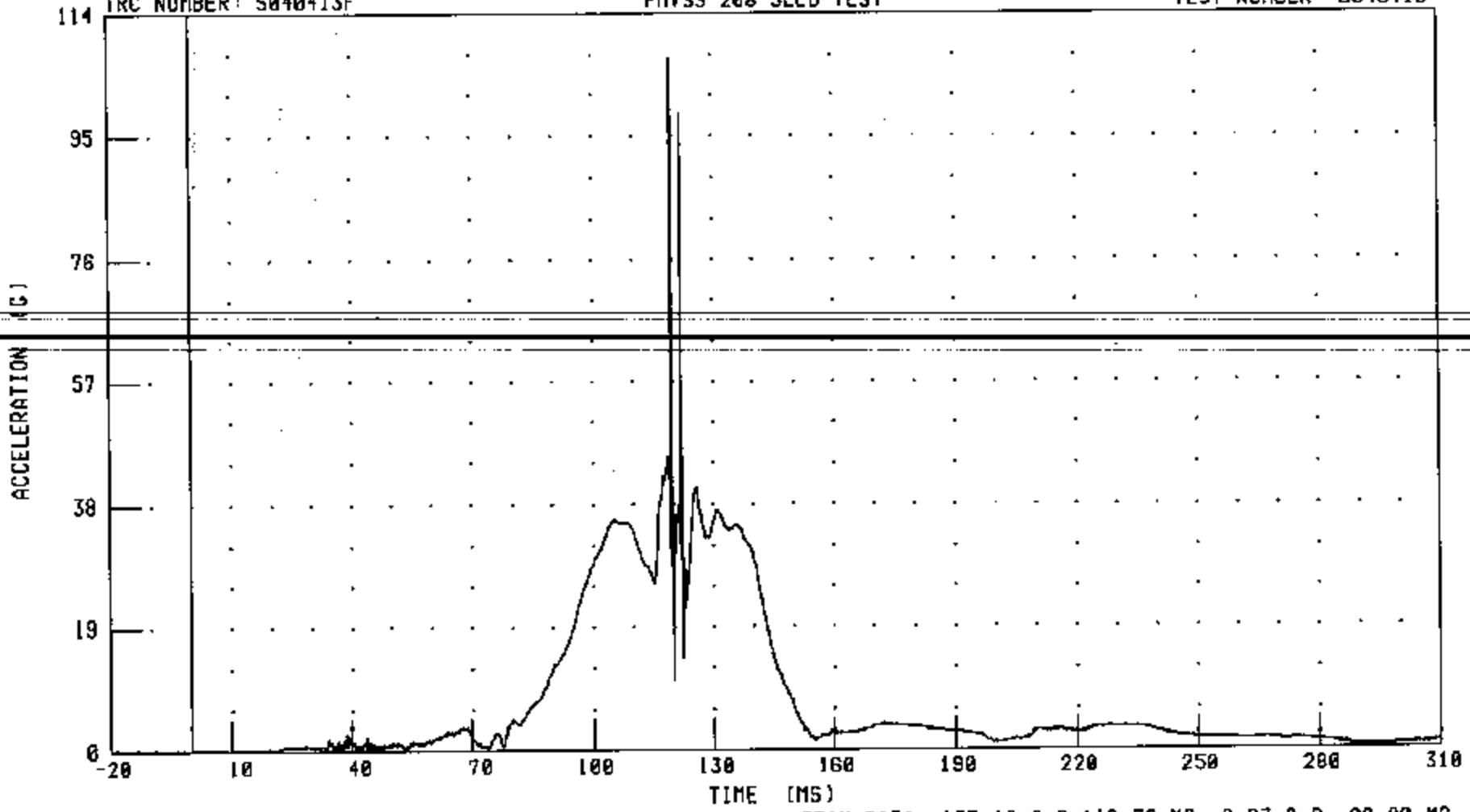
S040413


C35108 / 2003 TOYOTA TACOMA
DRIVER HEAD Z-AXIS ACCELERATION
TRC NUMBER: S040413F
FMVSS 208 SLED TEST
TEST NUMBER: S040413
296
215
134
53
-27
-108
-190
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDZGI
FILTER: CH. CLASS 1000
PEAK DATA: 26.91 G @ 116.96 MS; -17.70 G @ 122.16 MS

C35108 / 2003 TOYOTA TACOMA
DRIVER HEAD RESULTANT ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

PEAK DATA: 107.12 G @ 119.76 MS; 0.03 G @ -20.00 MS

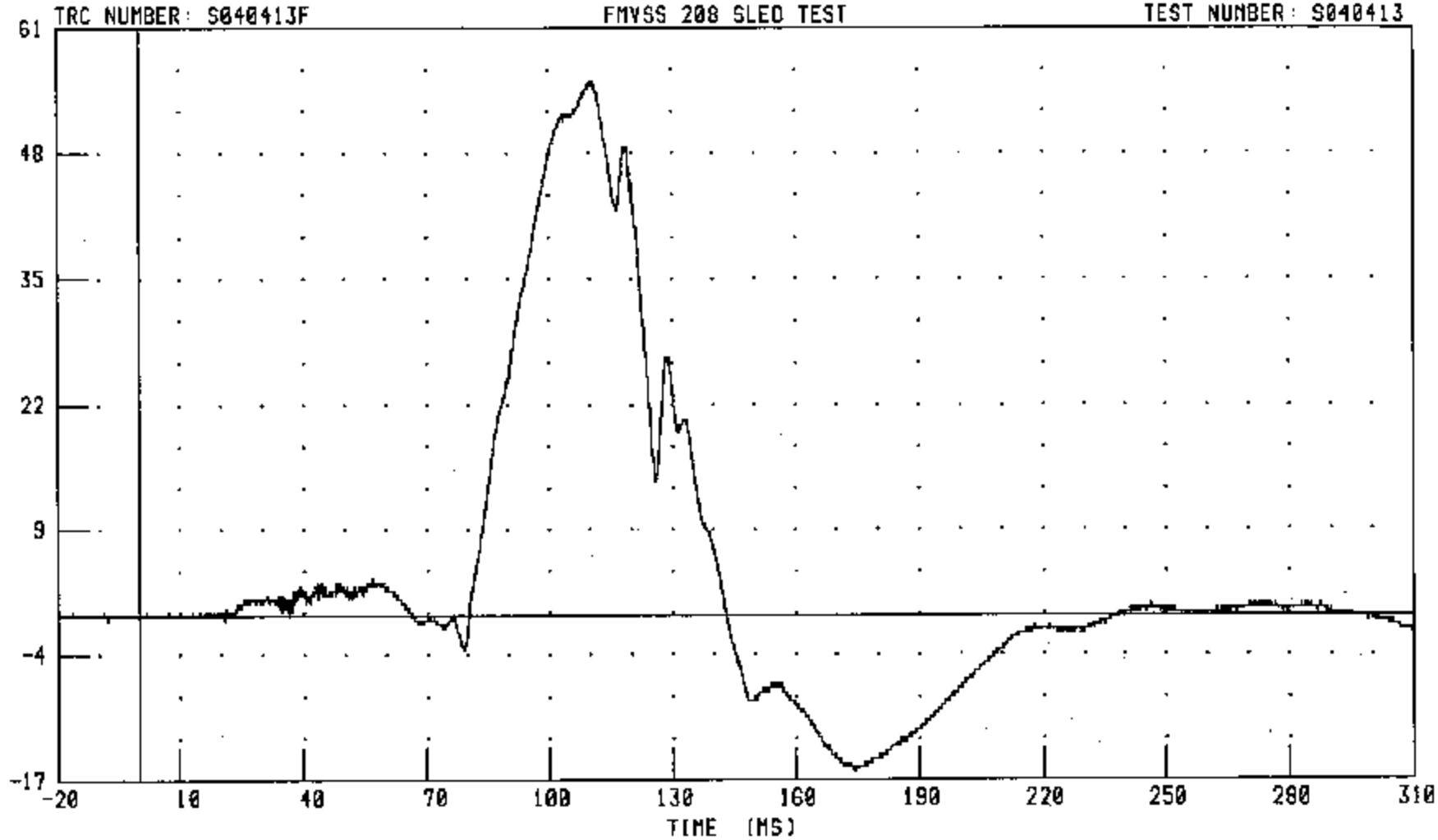
B-20

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER NECK X-AXIS SHEAR FORCE
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

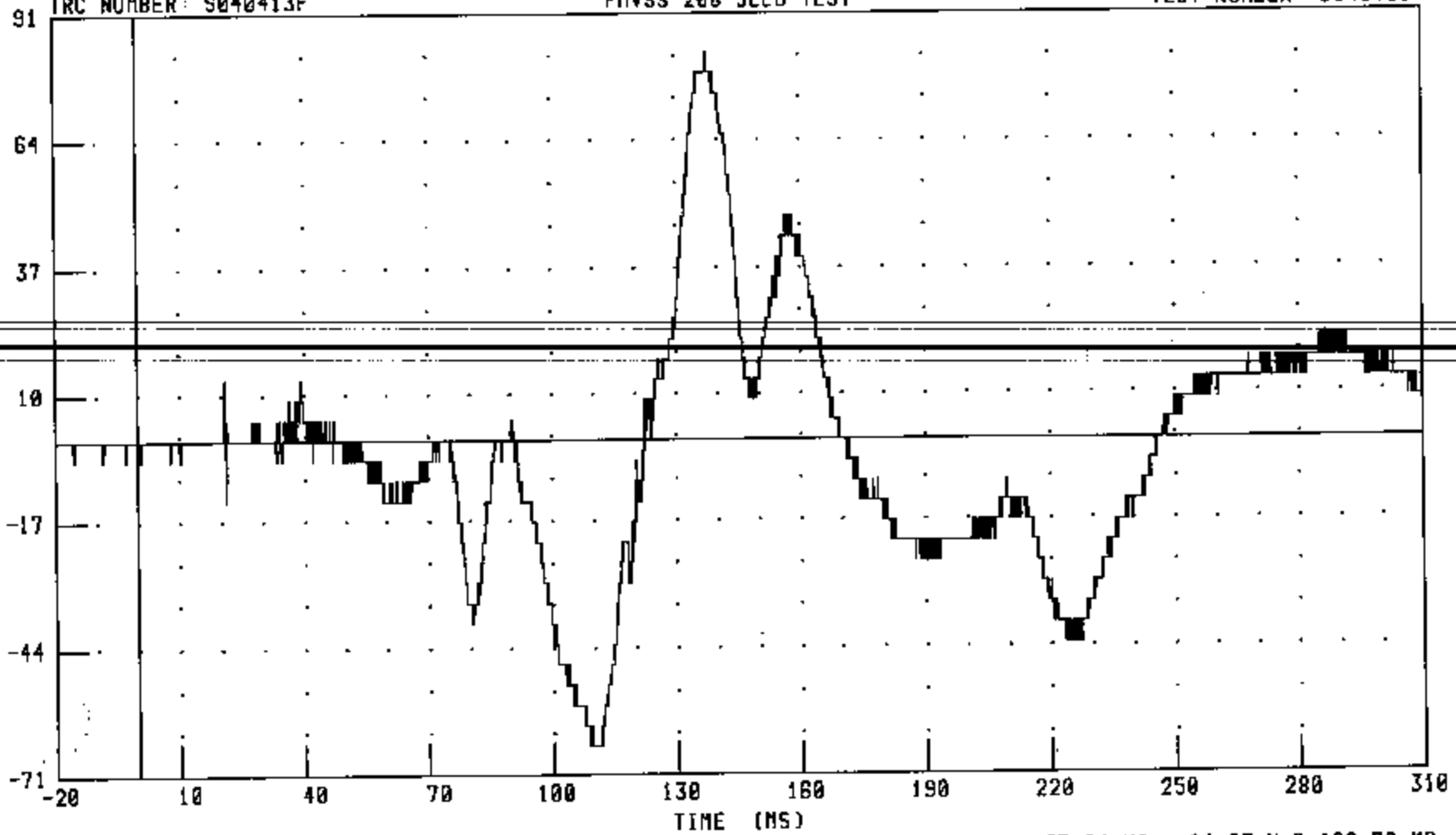
PEAK DATA: 555.53 N @ 110.40 MS; -160.99 N @ 174.16 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER NECK Y-AXIS SHEAR FORCE
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



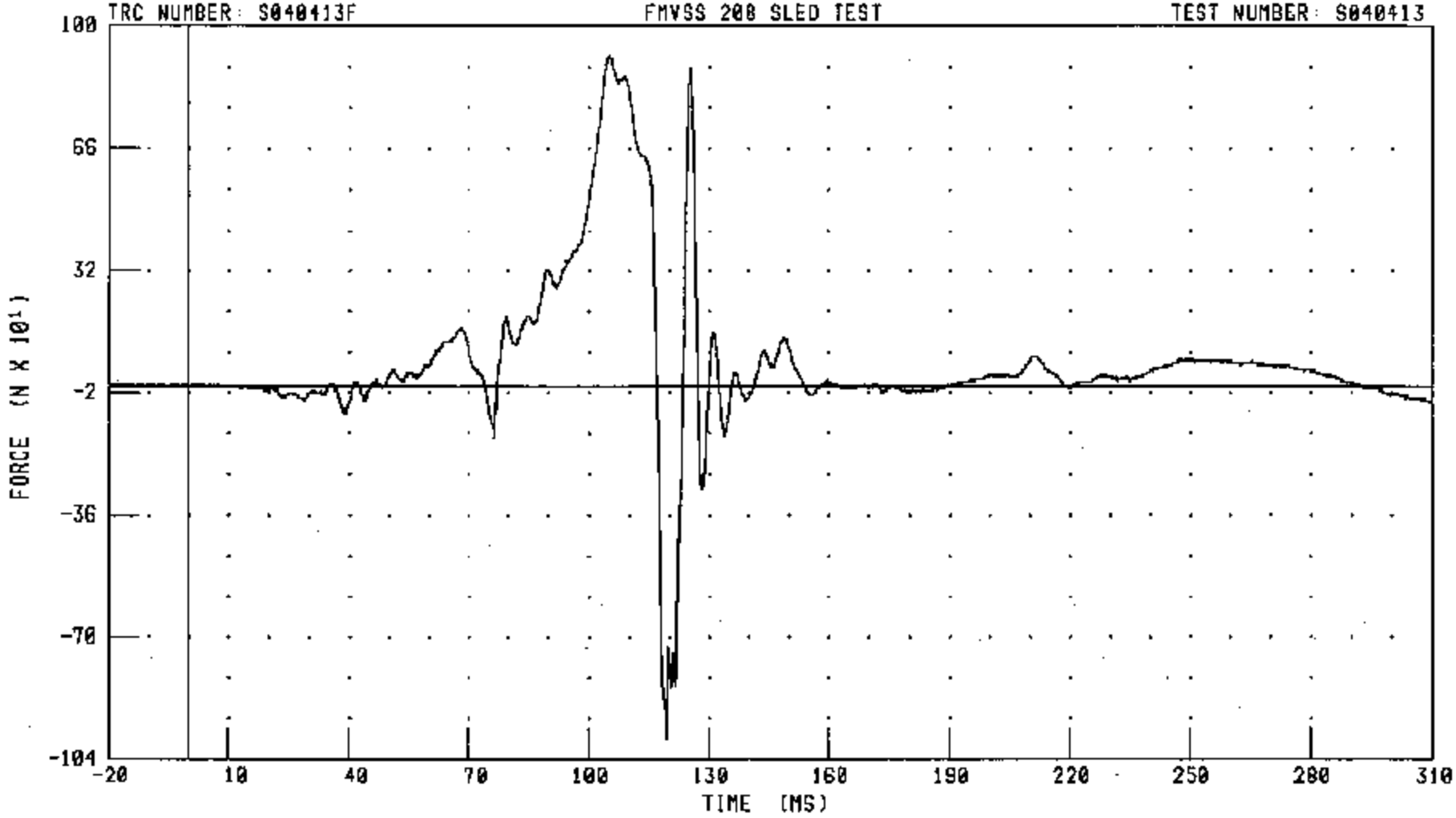
CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 82.64 N @ 137.84 MS; -64.95 N @ 108.72 MS

B-22

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER NECK Z-AXIS AXIAL FORCE



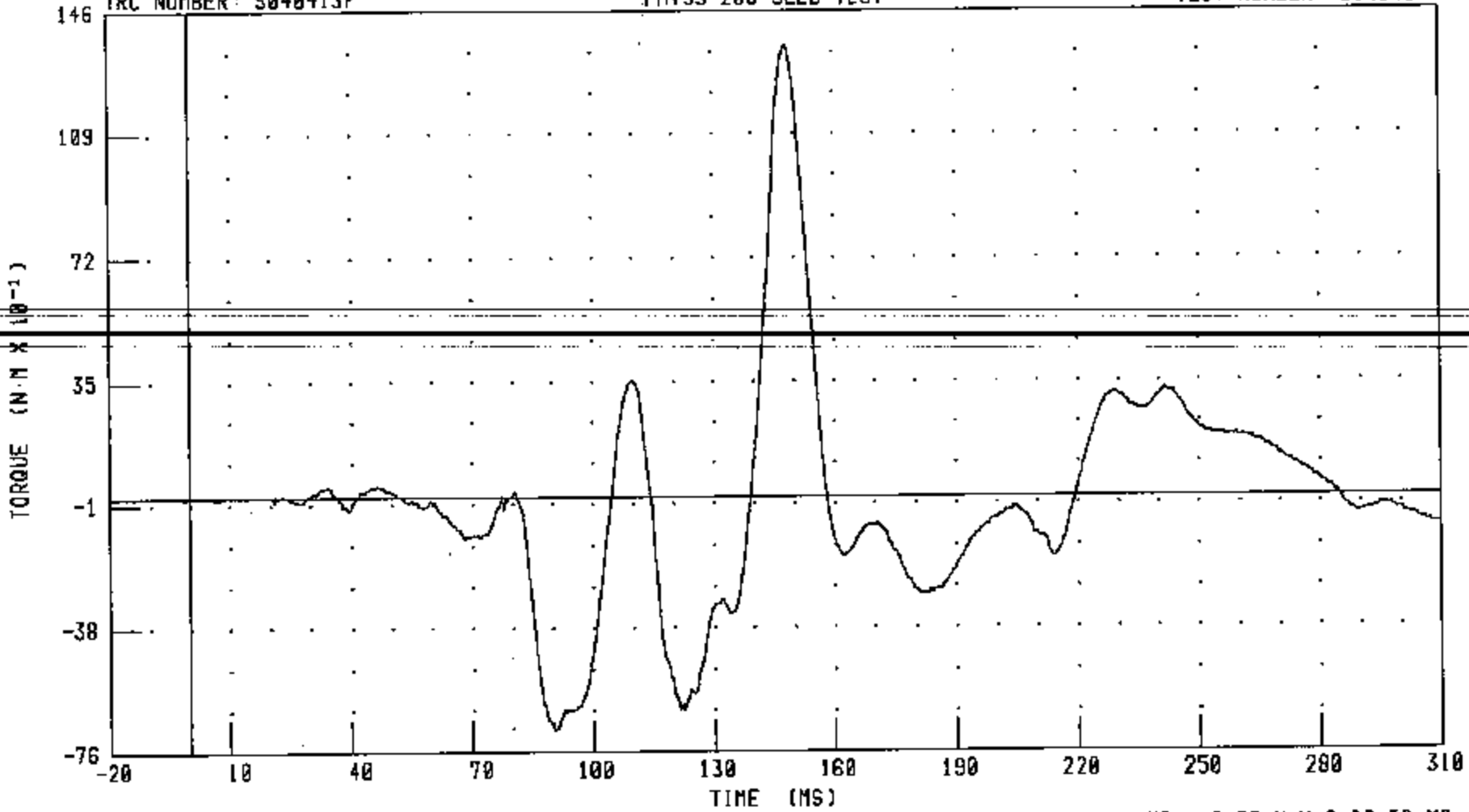
CHANNEL: NEKZF1 FILTER: CH. CLASS 1000 PEAK DATA: 916.84 N @ 105.20 MS; -985.39 N @ 119.36 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT X AXIS
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: NEKXM1 FILTER: CH. CLASS 600

PEAK DATA: 13.55 N-M @ 148.32 MS; -6.93 N-M @ 90.56 MS

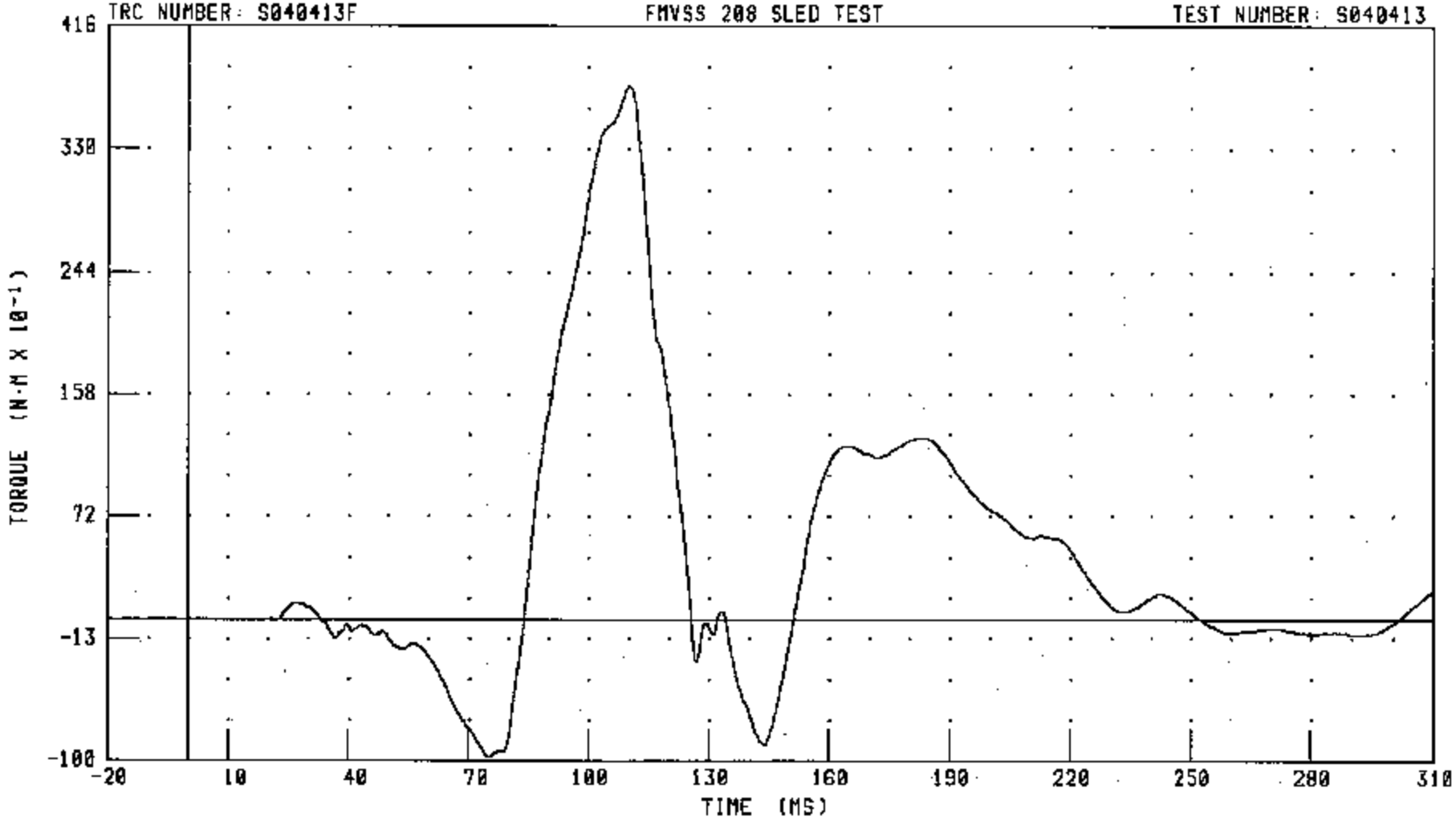
B-24

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT Y AXIS
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: NEKYM1 FILTER: CH. CLASS 600

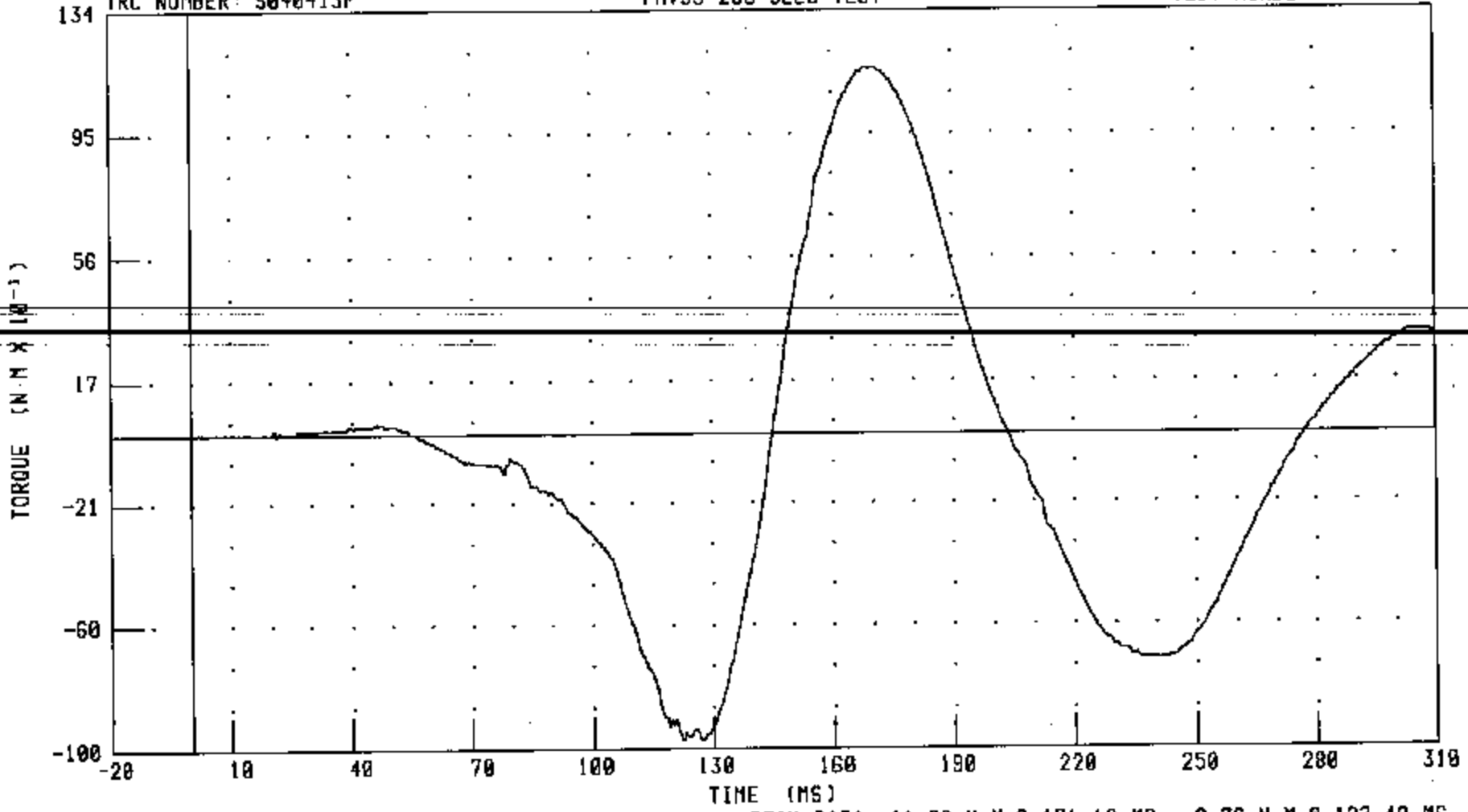
PEAK DATA: 37.43 N-M @ 110.32 MS; -9.71 N-M @ 75.20 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER NECK MOMENT ABOUT Z AXIS
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: NEKZM1 FILTER: CH. CLASS 600

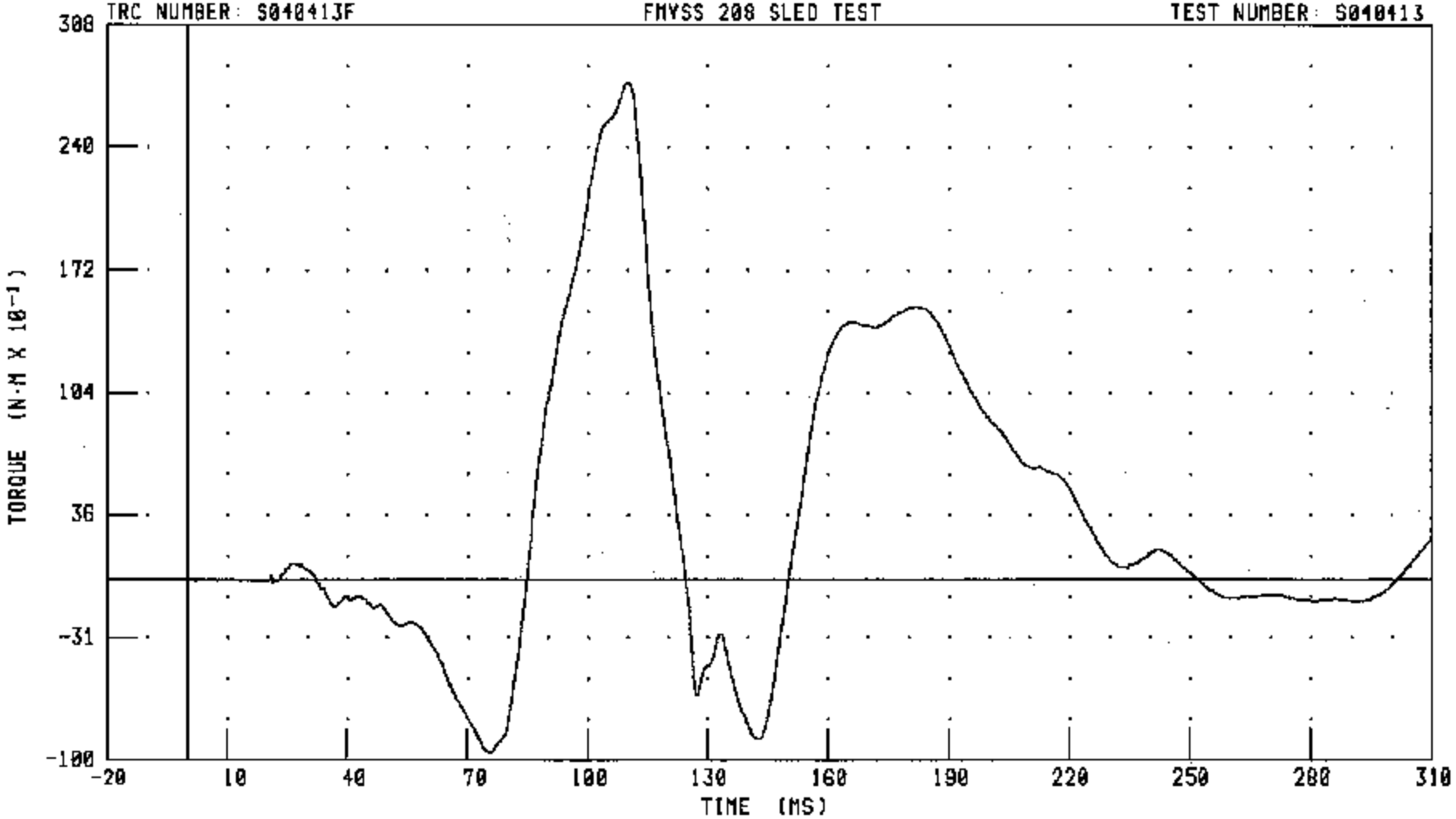
PEAK DATA: 11.60 N-M @ 171.12 MS, -9.76 N-M @ 122.48 MS

S040413

C35108 / 2003 TOYOTA TACOMA

DRIVER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE

TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



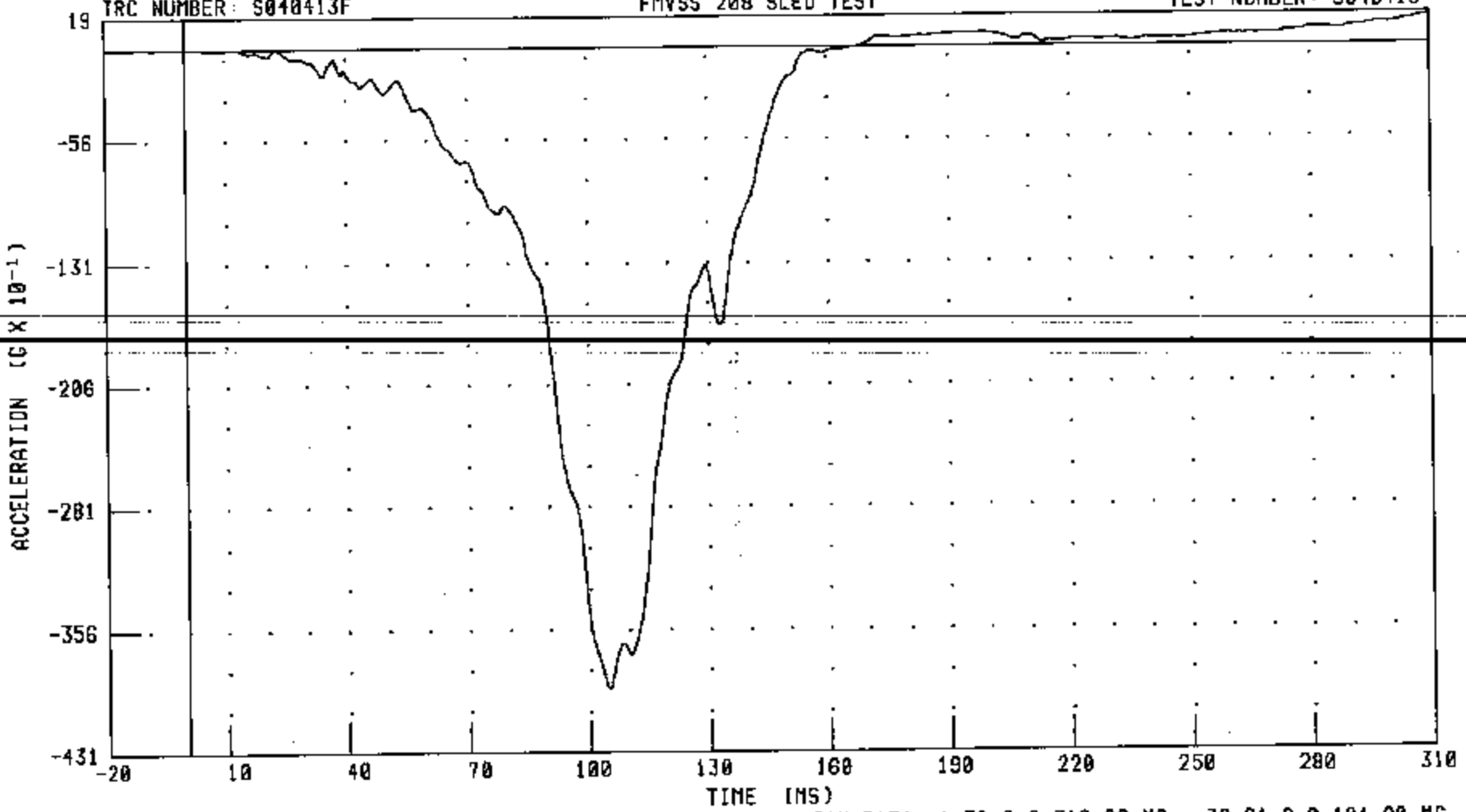
CHANNEL: NEKOM1 FILTER: CH. CLASS 600 PEAK DATA: 27.61 N-M @ 110.24 MS, -9.61 N-M @ 75.84 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER CHEST X-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: CSTXC1 FILTER: CH. CLASS 180

PEAK DATA: 1.78 G @ 310.00 MS; -39.21 G @ 104.80 MS

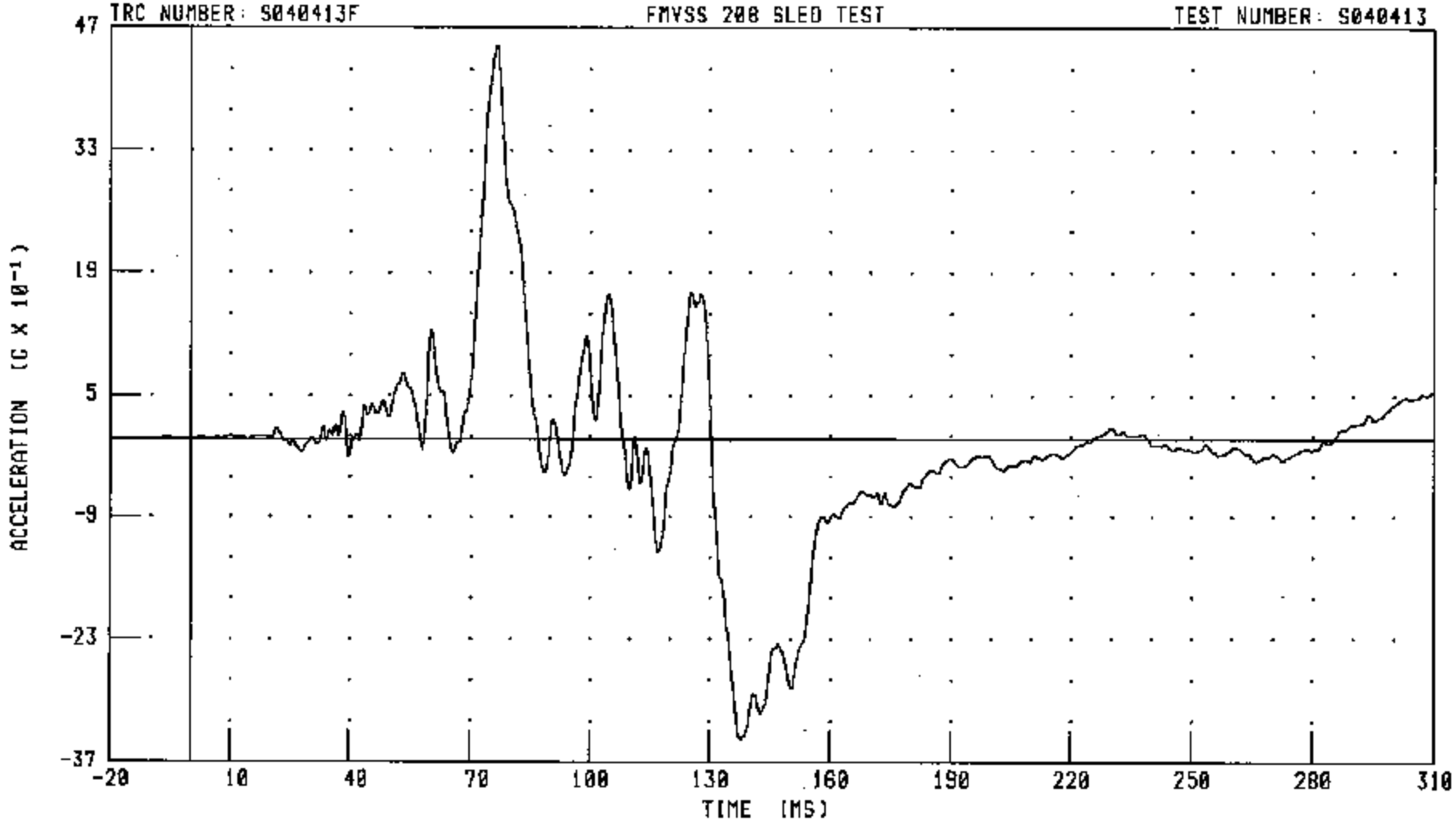
B-28

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER CHEST Y-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: CSTYG1 FILTER: CH. CLASS 180

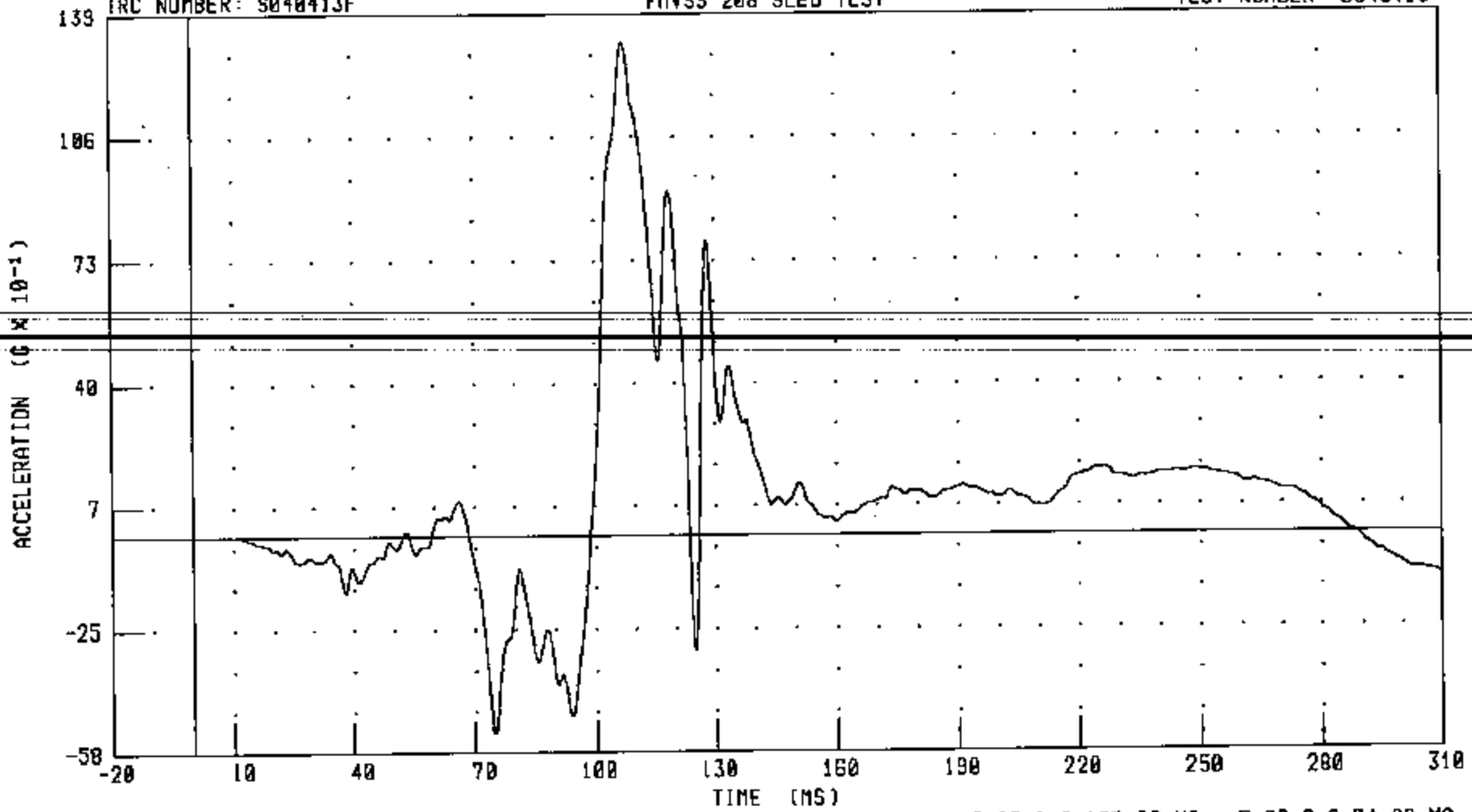
PEAK DATA: 4.51 G @ 76.72 MS; -3.44 G @ 138.00 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER CHEST Z-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: CSTZG1 FILTER: CH. CLASS 180

PEAK DATA: 13.23 G @ 107.60 MS; -5.28 G @ 74.88 MS

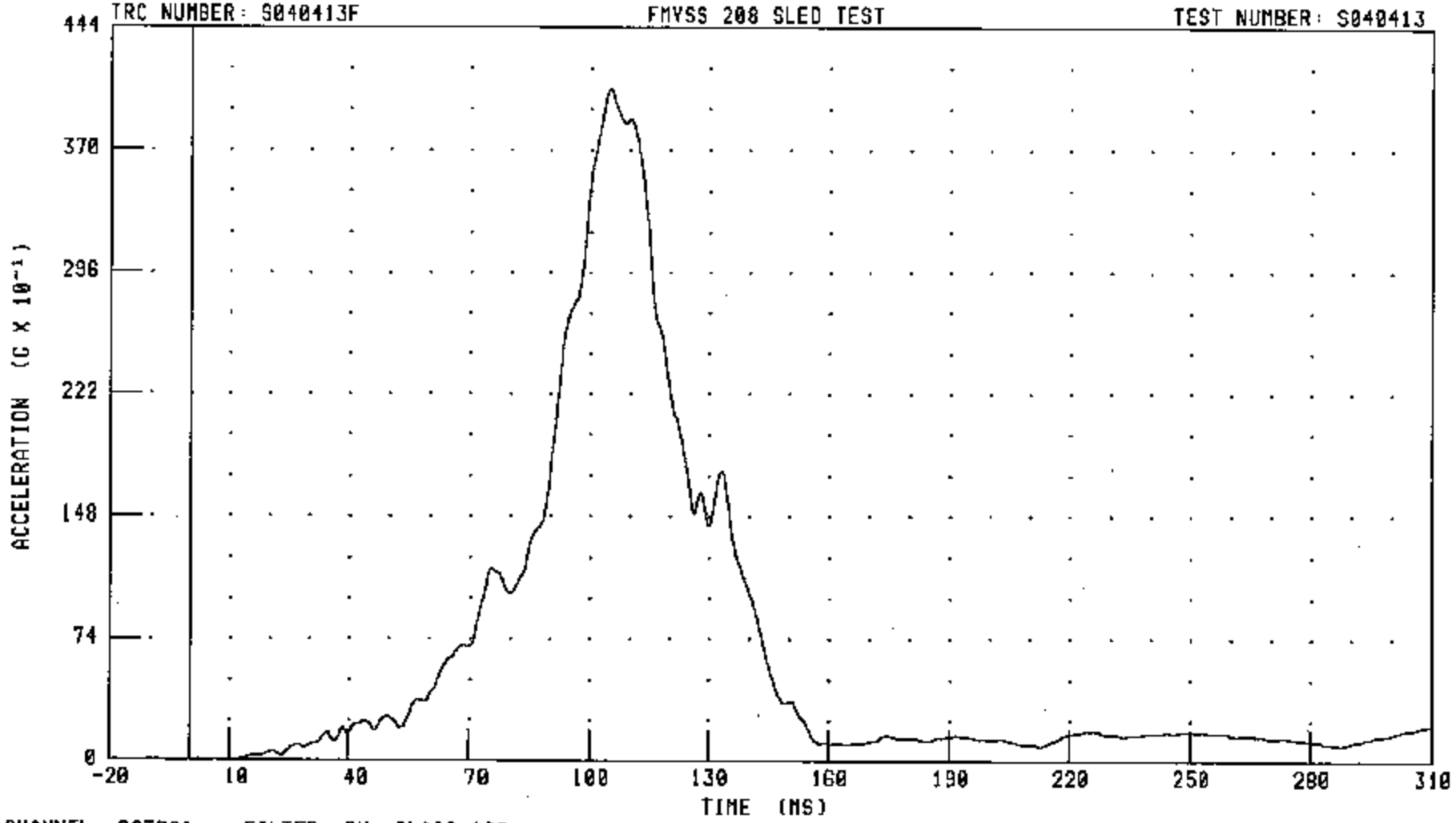
B-30

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER CHEST RESULTANT ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: CSTRGI FILTER: CH. CLASS 180

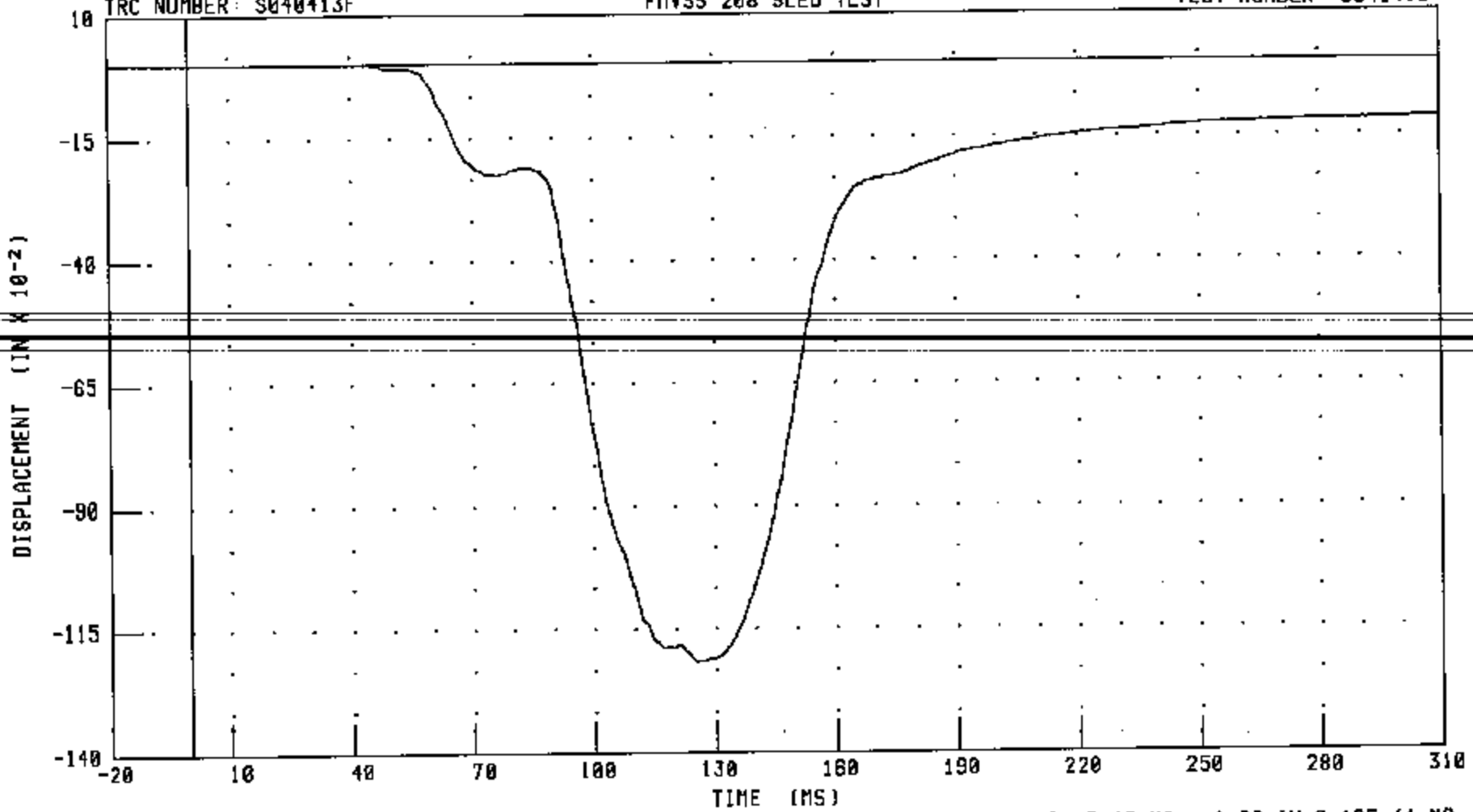
PEAK DATA: 40.67 G @ 104.96 MS; 0.00 G @ -4.64 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER CHEST DEFLECTION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413

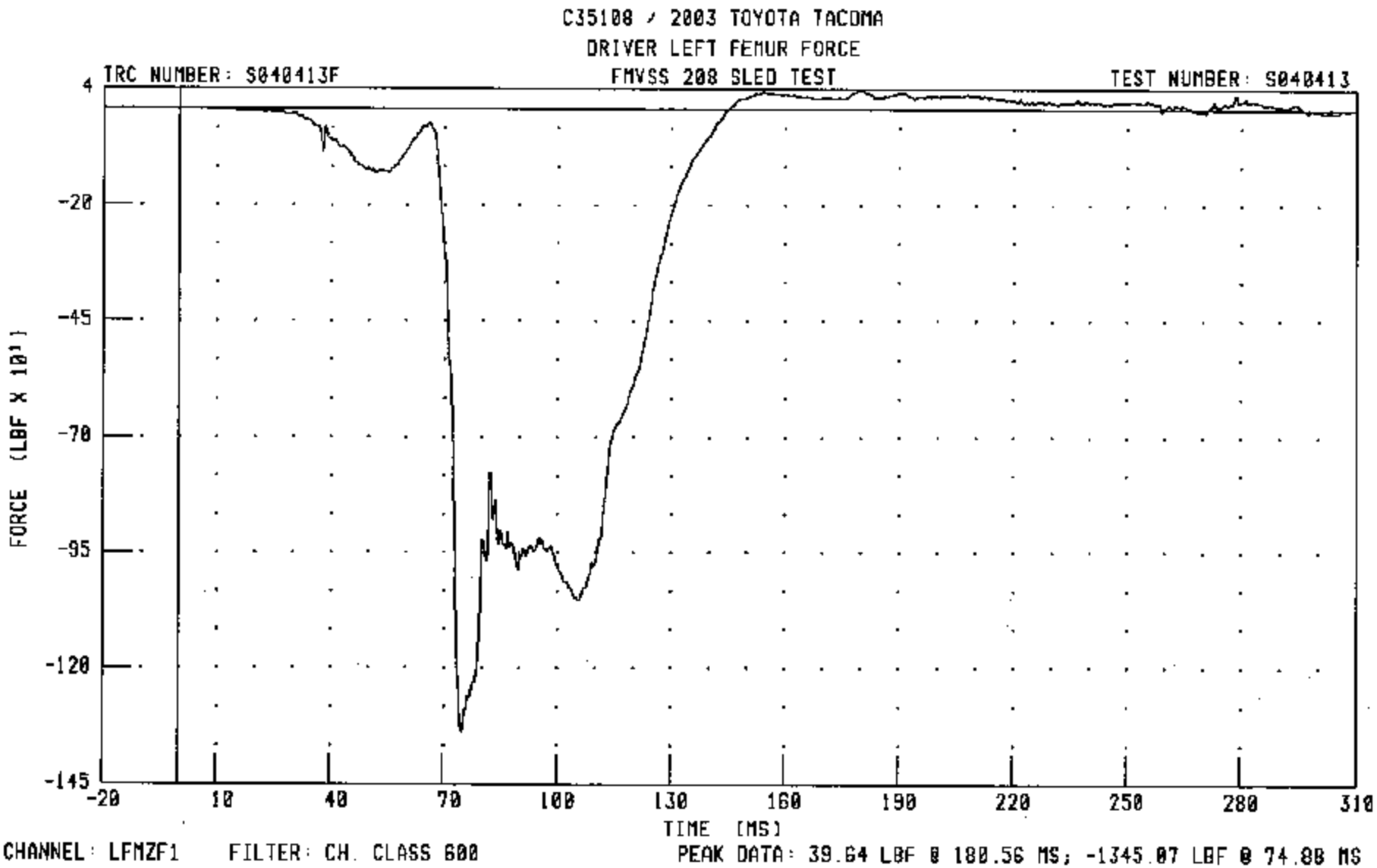


CHANNEL: CSTXD1 FILTER: CH. CLASS 600

PEAK DATA: 0.00 IN @ -0.16 MS; -1.22 IN @ 125.44 MS

B-32

S040413

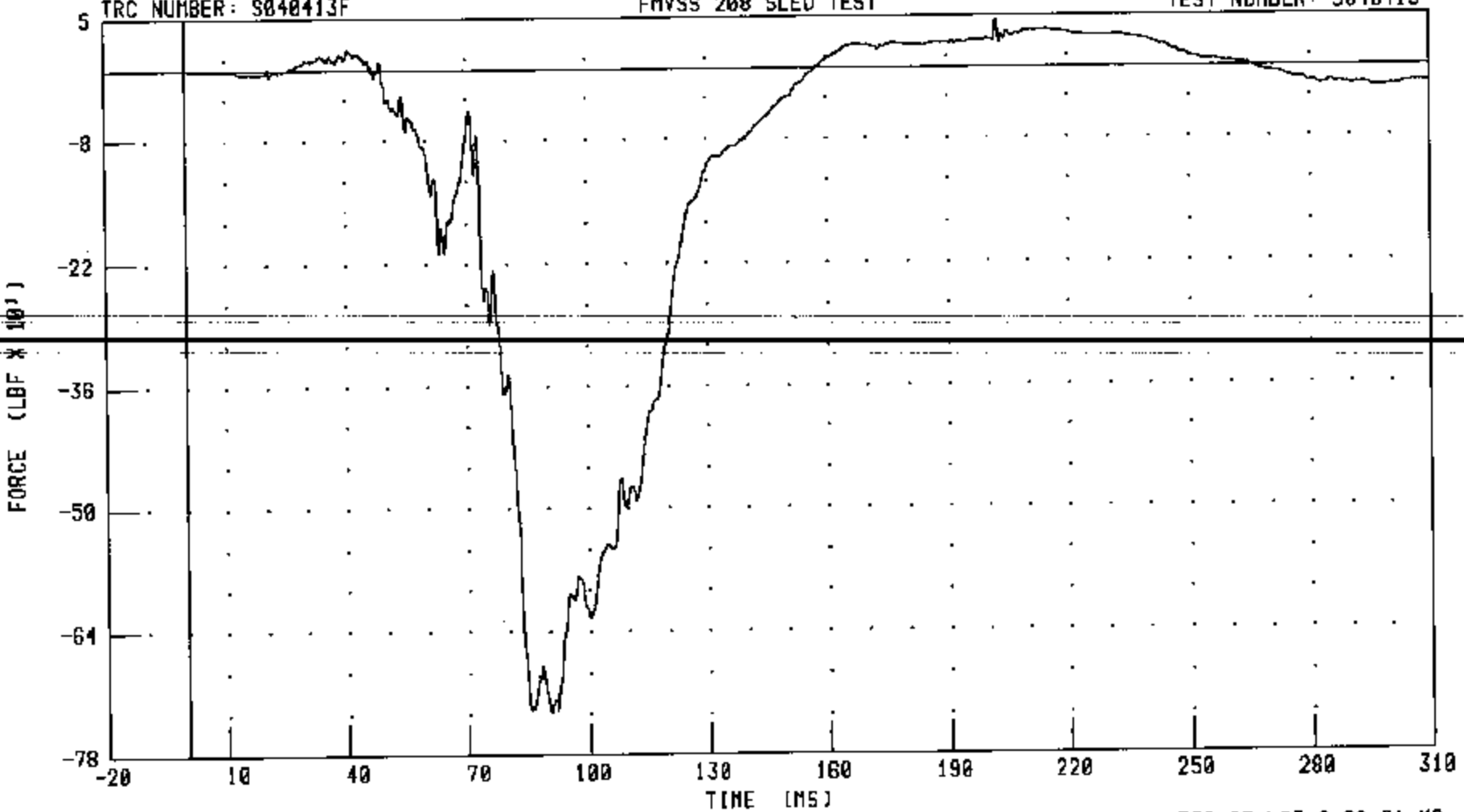

C35108 / 2003 TOYOTA TACOMA
DRIVER LEFT FEMUR FORCE
FMVSS 208 SLED TEST
TRC NUMBER: S040413F
TEST NUMBER: S040413
4
-20
-45
-70
-95
-120
-145
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LFMZF1
FILTER: CH. CLASS 600
PEAK DATA: 39.64 LBF @ 180.56 MS; -1345.07 LBF @ 74.88 MS

S040413

C35108 / 2003 TOYOTA TACOMA
DRIVER RIGHT FEMUR FORCE
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413

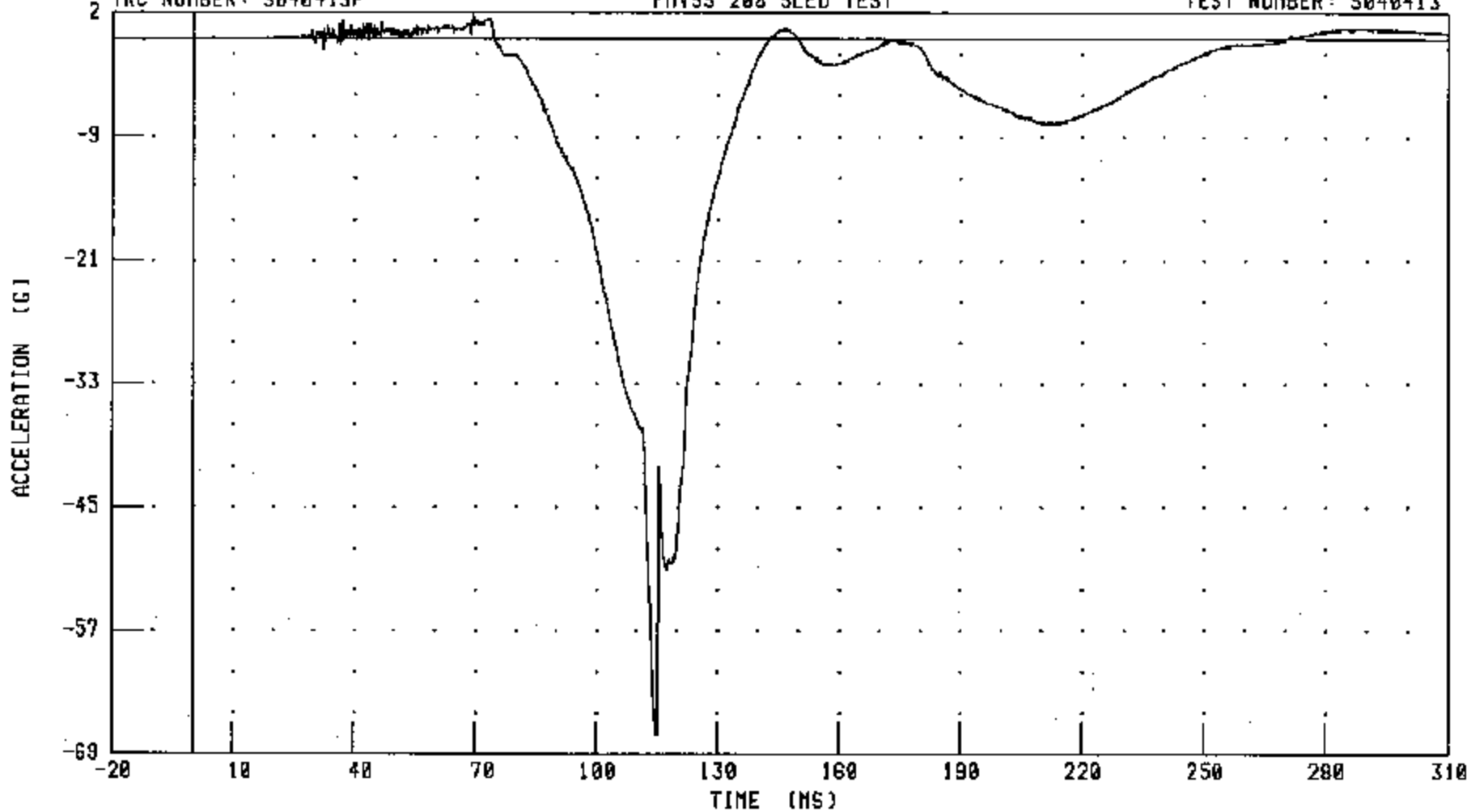


CHANNEL: RFMZF1 FILTER: CH. CLASS 600

PEAK DATA: 54.18 LBF @ 202.48 MS; -732.83 LBF @ 90.24 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



CHANNEL: HEDXC2 FILTER: CH. CLASS 1000 PEAK DATA: 2.35 G @ 69.36 MS; -67.70 G @ 115.04 MS

S040413

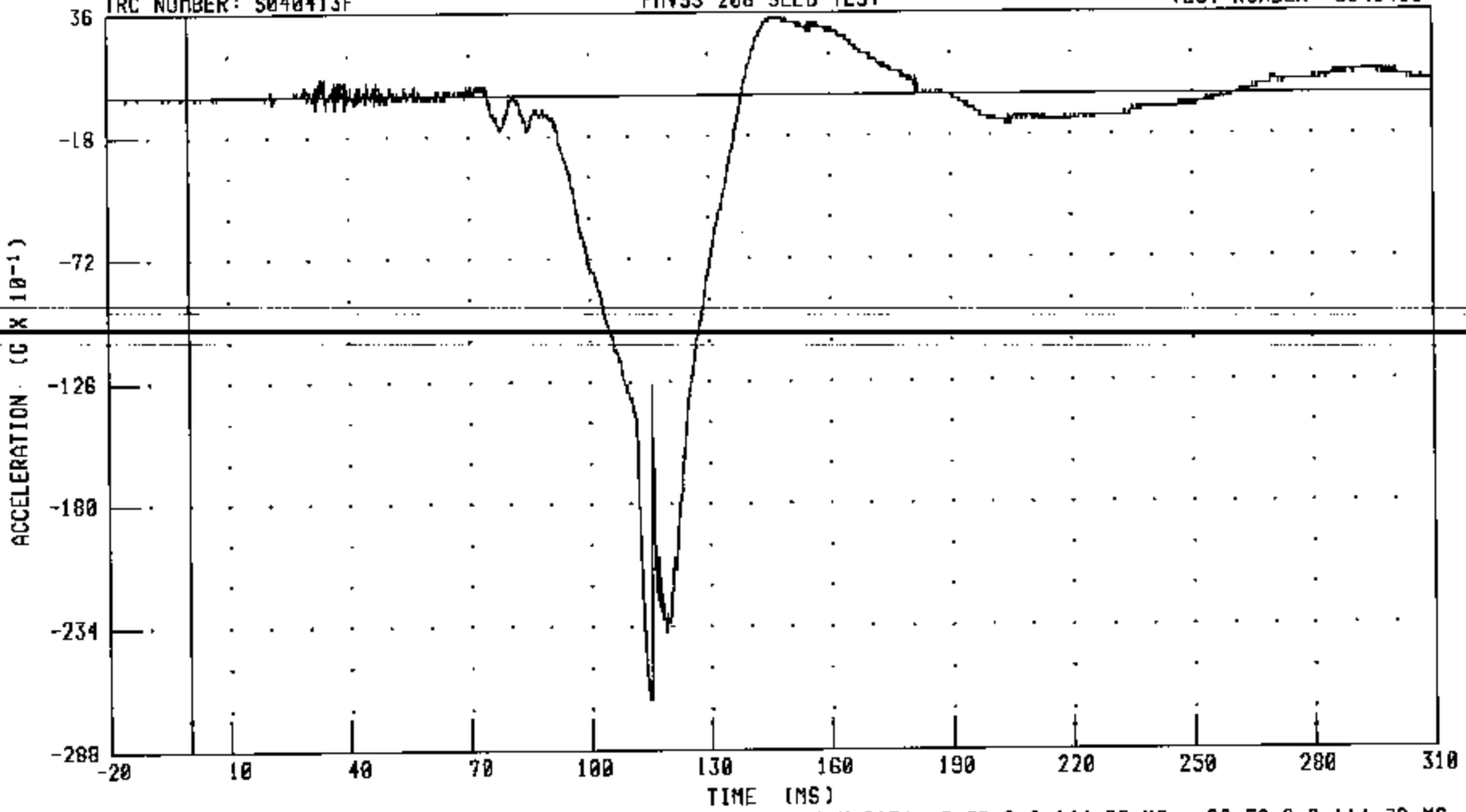
C35108 / 2003 TOYOTA TACOMA

RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION

FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



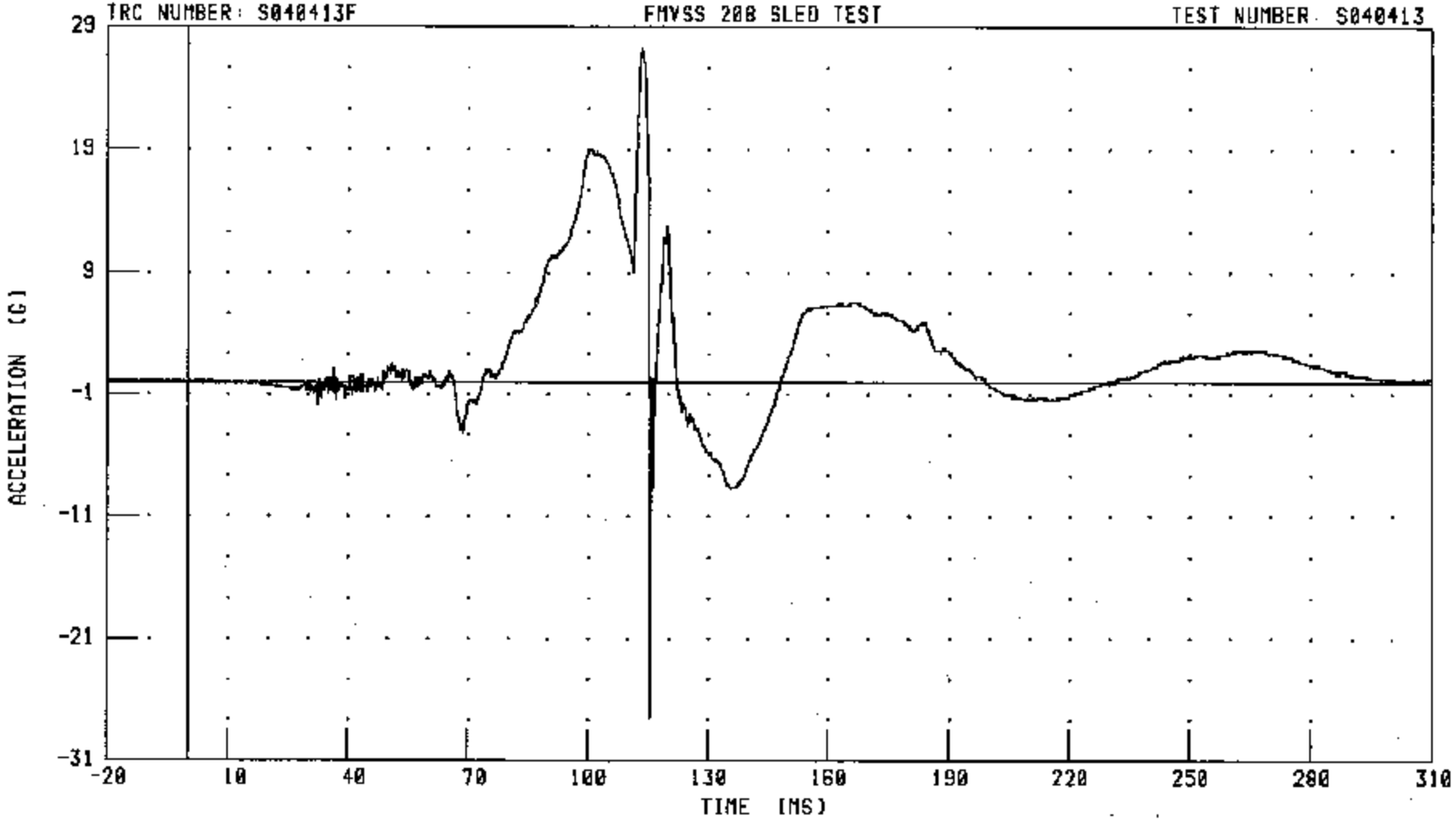
CHANNEL: HEDYG2 FILTER: CH. CLASS 1000

PEAK DATA: 3.33 G @ 144.80 MS; -26.59 G @ 114.32 MS

B-36

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



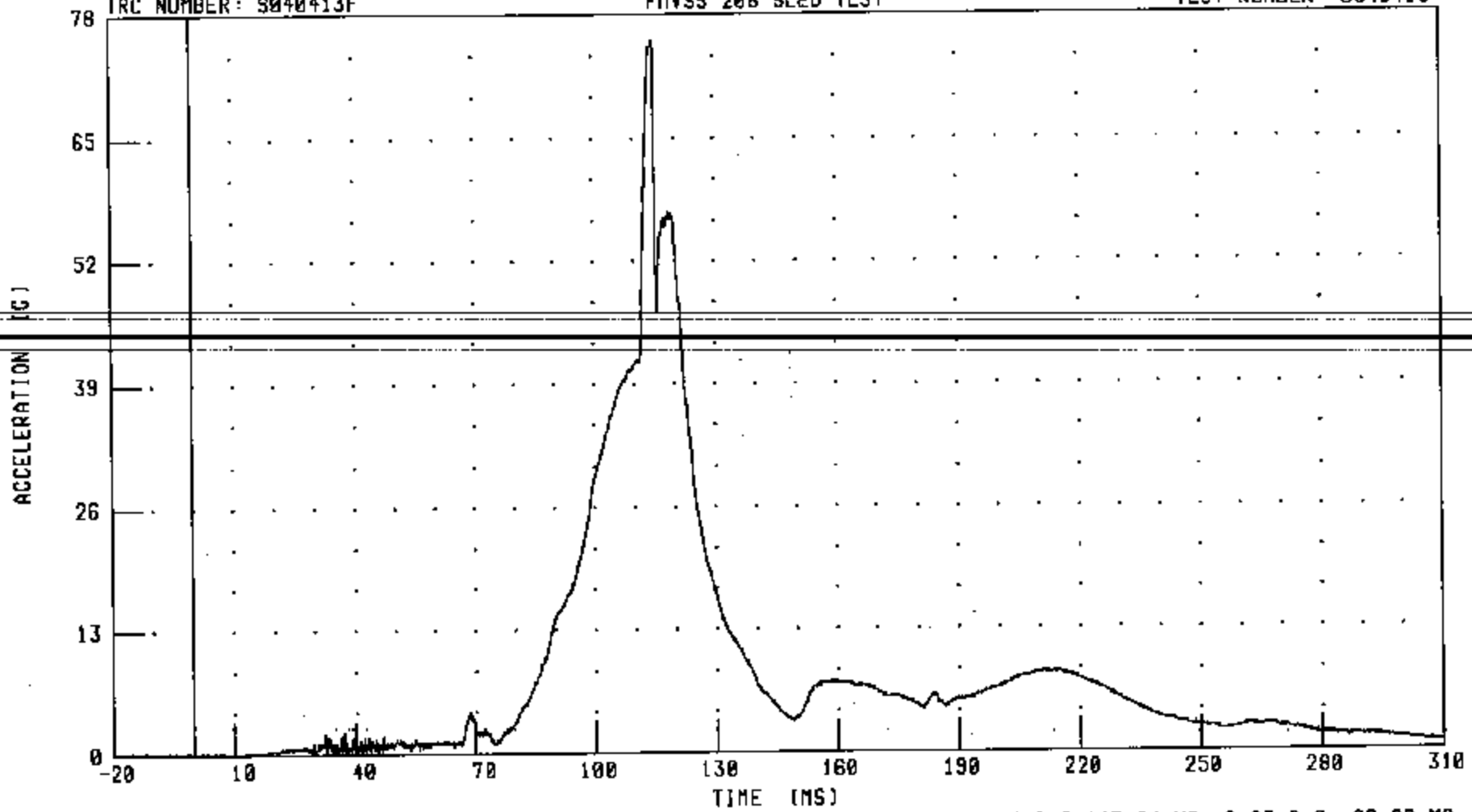
CHANNEL: HEDZG2 FILTER: CH. CLASS 1000
PEAK DATA: 27.23 G @ 113.68 MS; -27.59 G @ 115.68 MS

S040413

C35108 / 2003 TOYOTA TACOMA

RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION

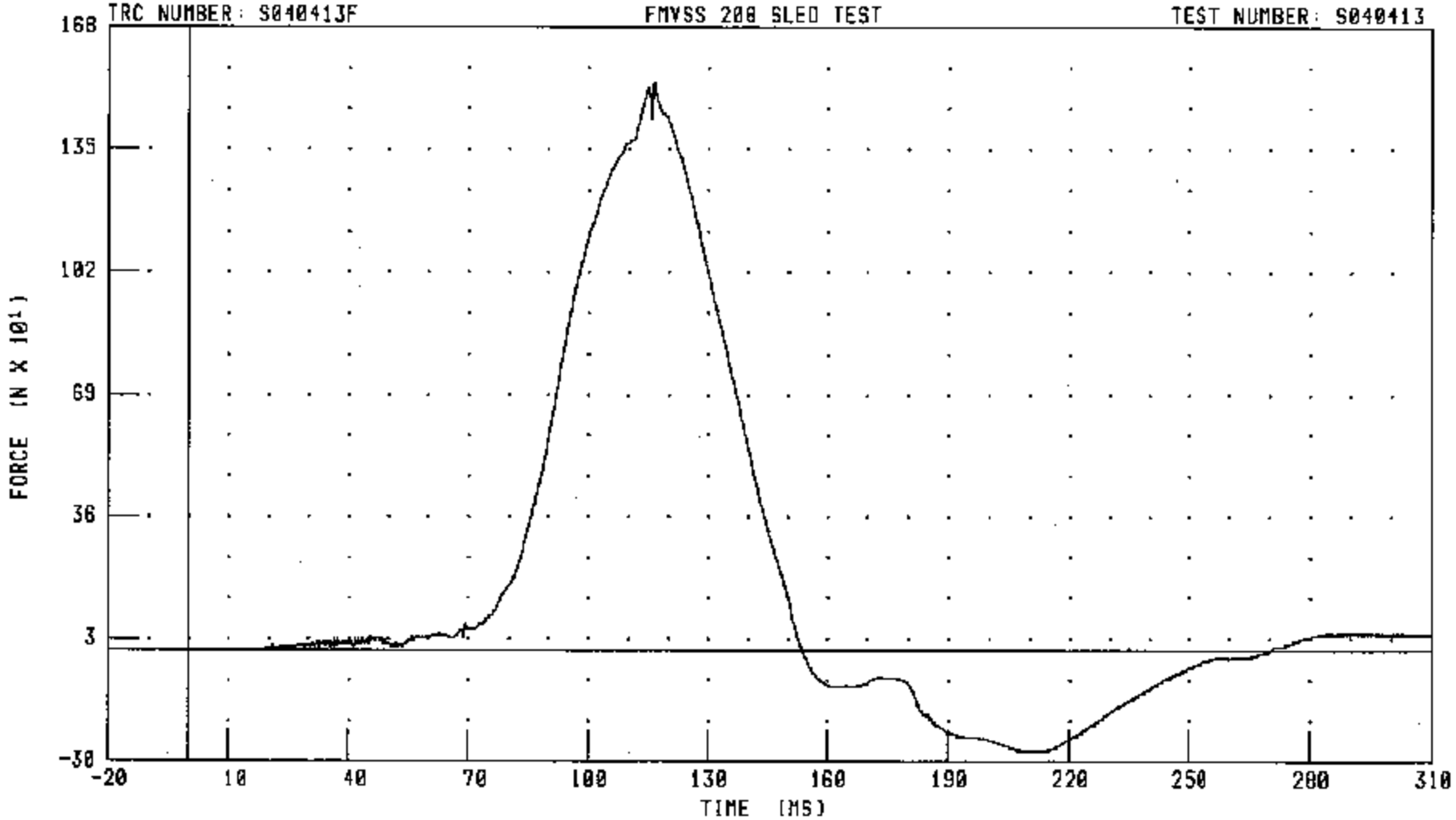
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



CHANNEL: HEDRG2 FILTER: CH. CLASS 1000 PEAK DATA: 75.30 G @ 115.04 MS; 0.09 G @ -20.00 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK X-AXIS SHEAR FORCE
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



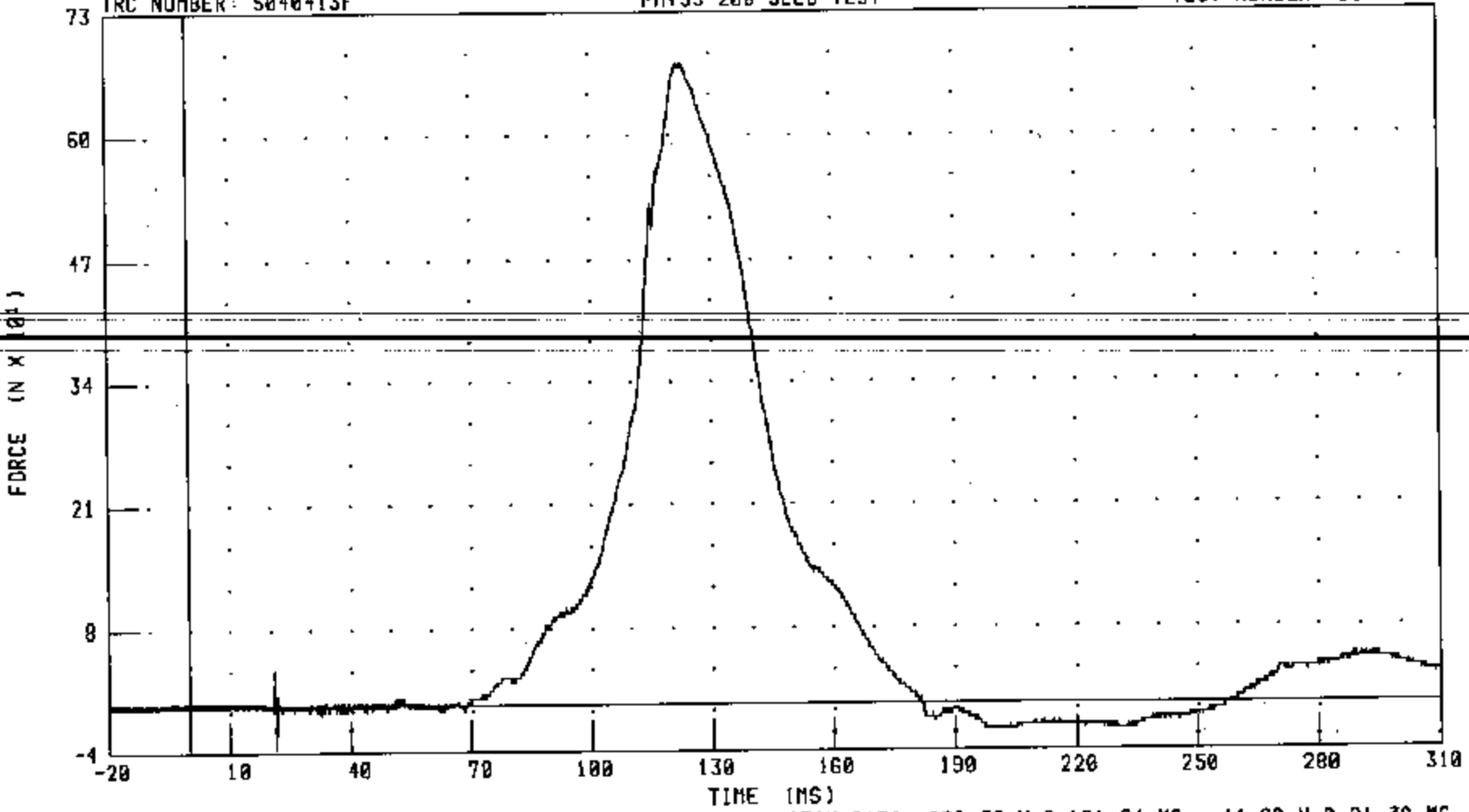
CHANNEL: NEKXF2 FILTER: CH. CLASS 1000
PEAK DATA: 1530.15 N @ 116.56 MS; -275.63 N @ 209.52 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK Y-AXIS SHEAR FORCE
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



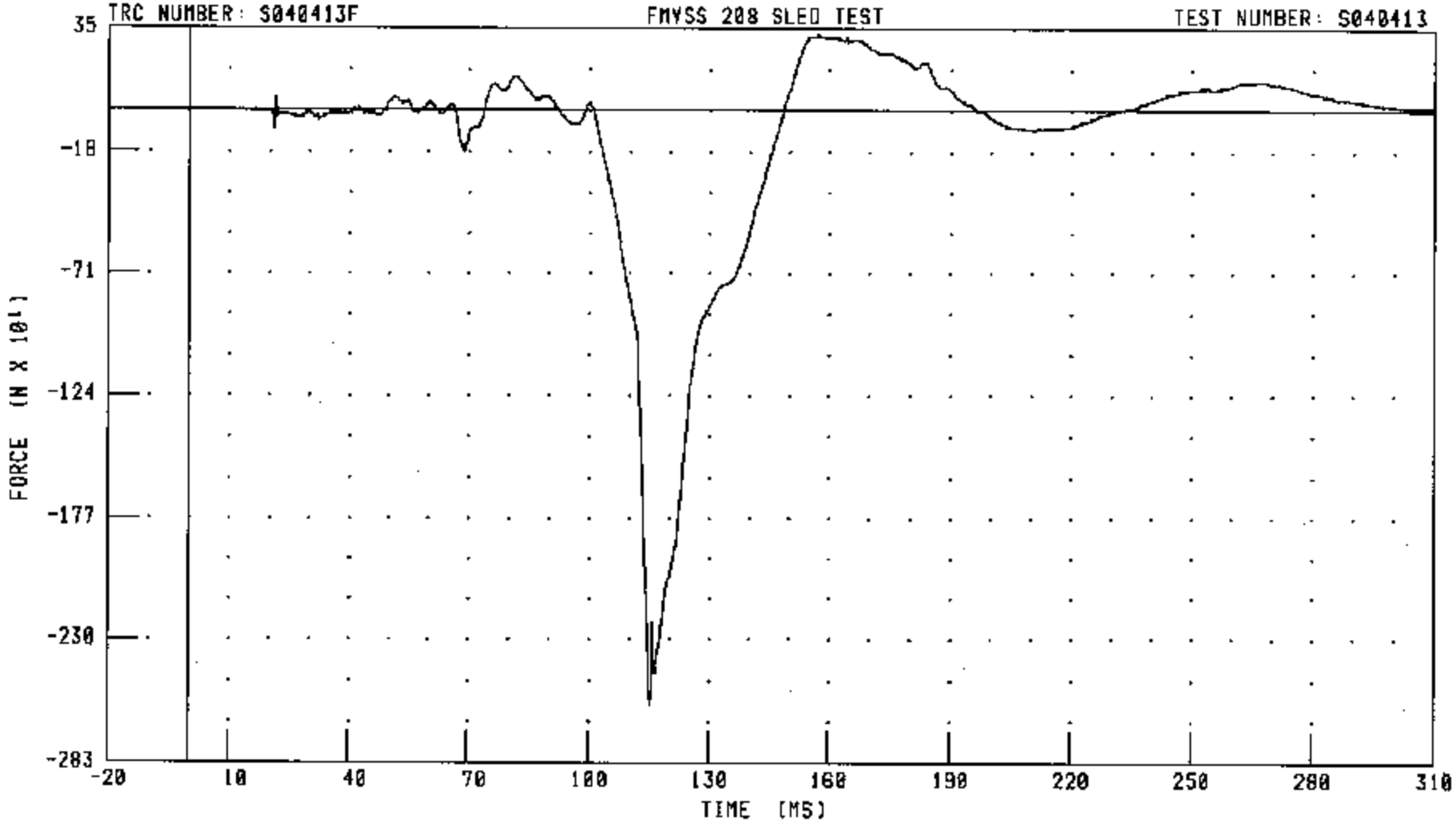
CHANNEL: NEKYF2 FILTER: CH. CLASS 1000

PEAK DATA: 676.32 N @ 121.84 MS; -44.02 N @ 21.36 MS

B-40

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK Z-AXIS AXIAL FORCE
FMVSS 208 SLED TEST



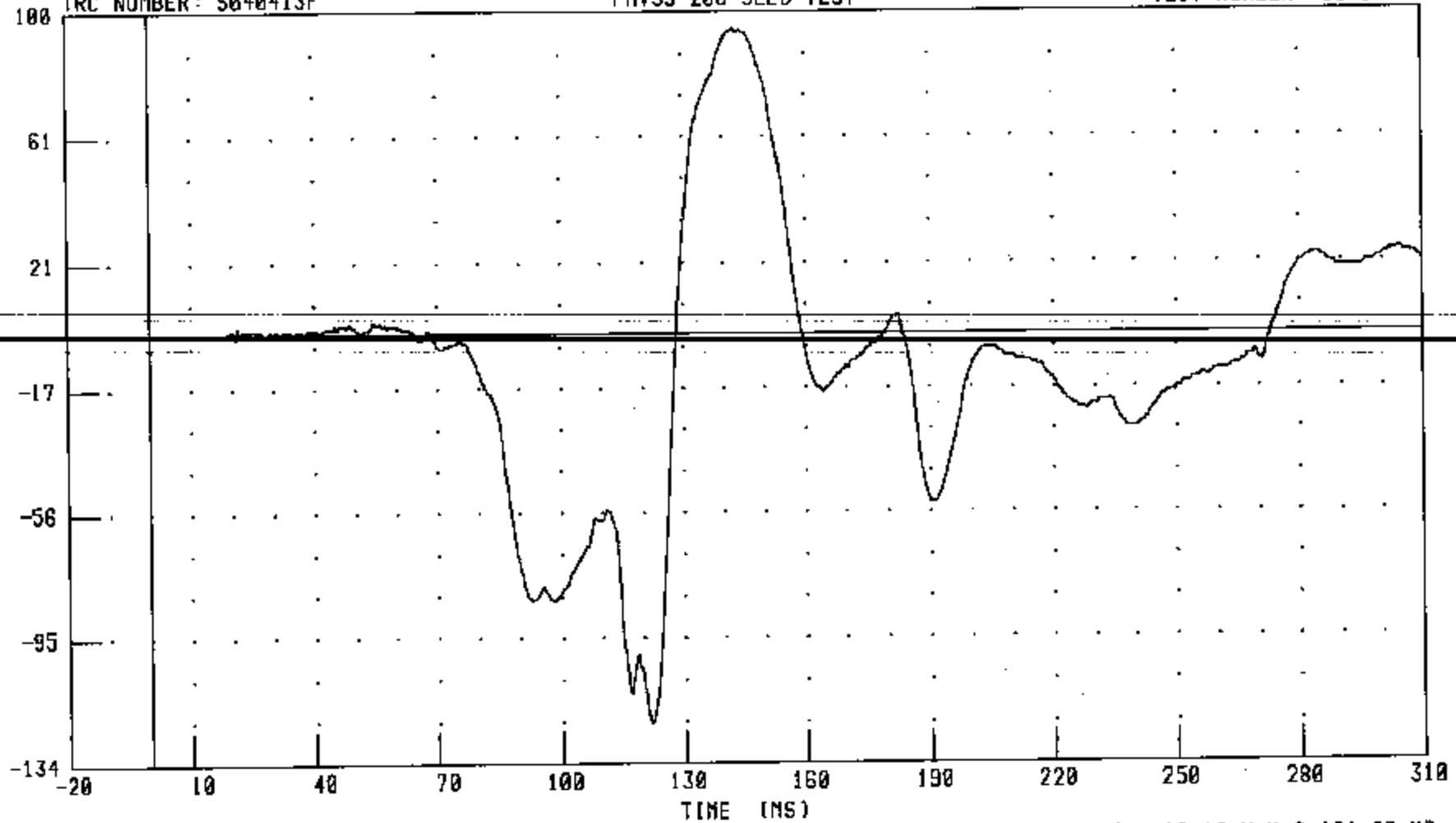
CHANNEL: NEKZF2 FILTER: CH. CLASS 1000
PEAK DATA: 322.12 N @ 157.36 MS; -2583.56 N @ 115.36 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK MOMENT ABOUT X AXIS
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



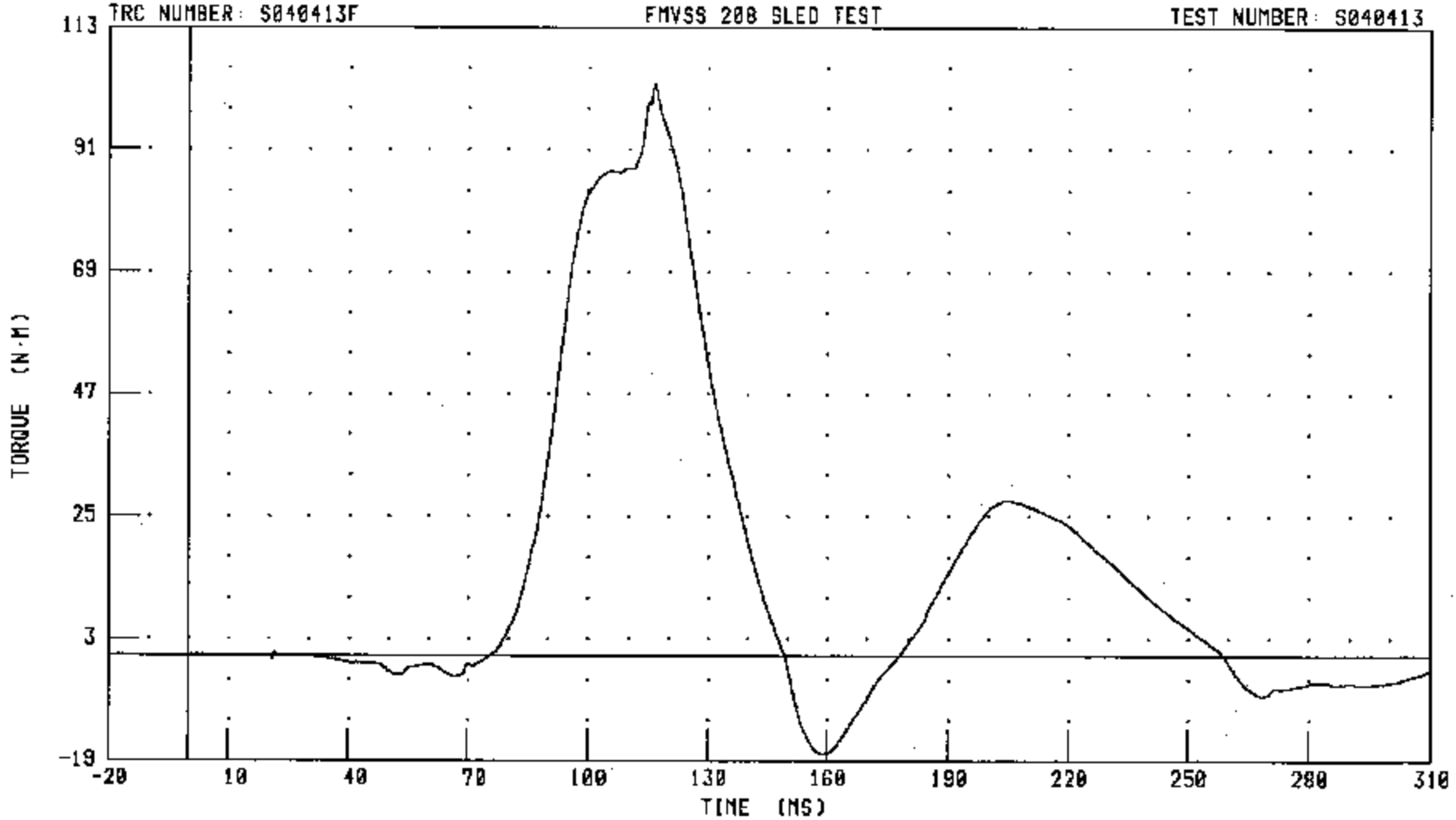
CHANNEL: NEKXM2 FILTER: CH. CLASS 600

PEAK DATA: 9.46 N·M @ 143.04 MS; -12.16 N·M @ 121.92 MS

B-42

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



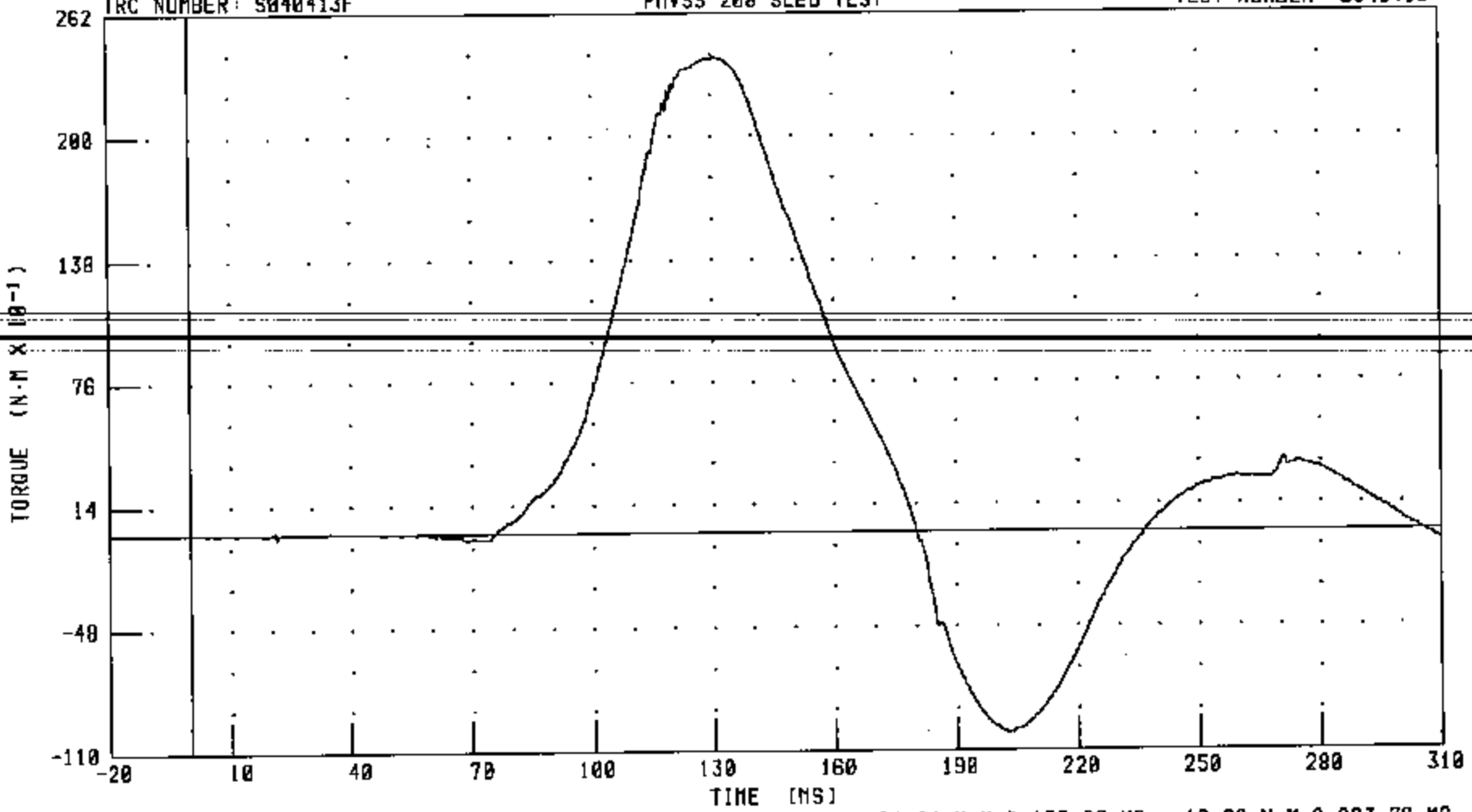
CHANNEL: NEKYM2 FILTER: CH. CLASS 600
PEAK DATA: 102.73 N-M @ 116.56 MS; -17.73 N-M @ 159.36 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Z AXIS
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: NEKZM2 FILTER: CH. CLASS 600

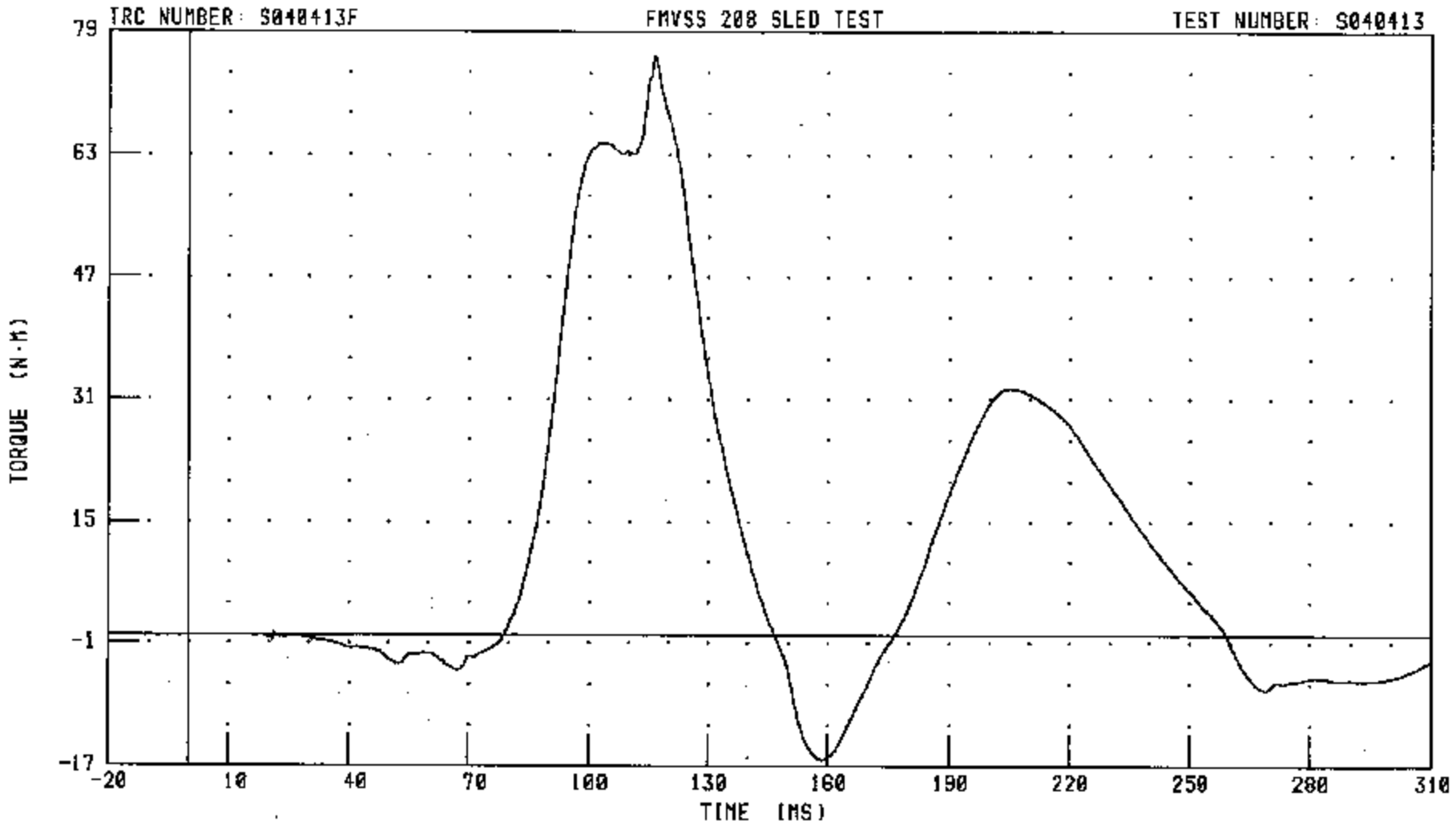
PEAK DATA: 24.01 N-M @ 130.00 MS; -10.09 N-M @ 203.76 MS

B-44

S040413

C35108 / 2003 TOYOTA TACOMA

RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE

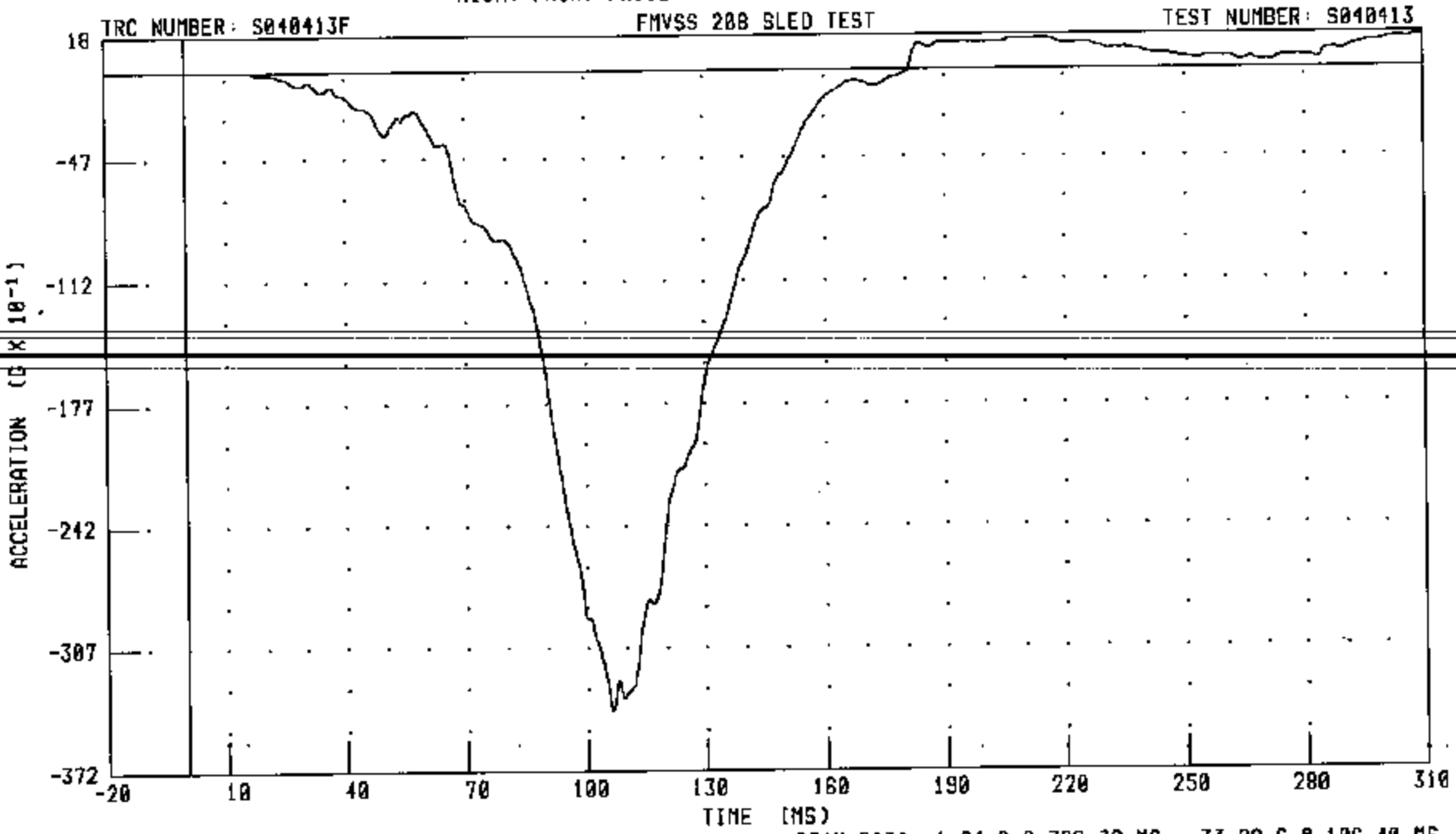


CHANNEL: NEKOM2 FILTER: CH. CLASS 600

PEAK DATA: 75.81 N-M @ 116.64 MS; -16.17 N-M @ 159.28 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION
FMVSS 208 SLED TEST



CHANNEL: CSTXG2 FILTER: CH. CLASS 180

PEAK DATA: 1.64 G @ 308.32 MS; -33.99 G @ 106.40 MS

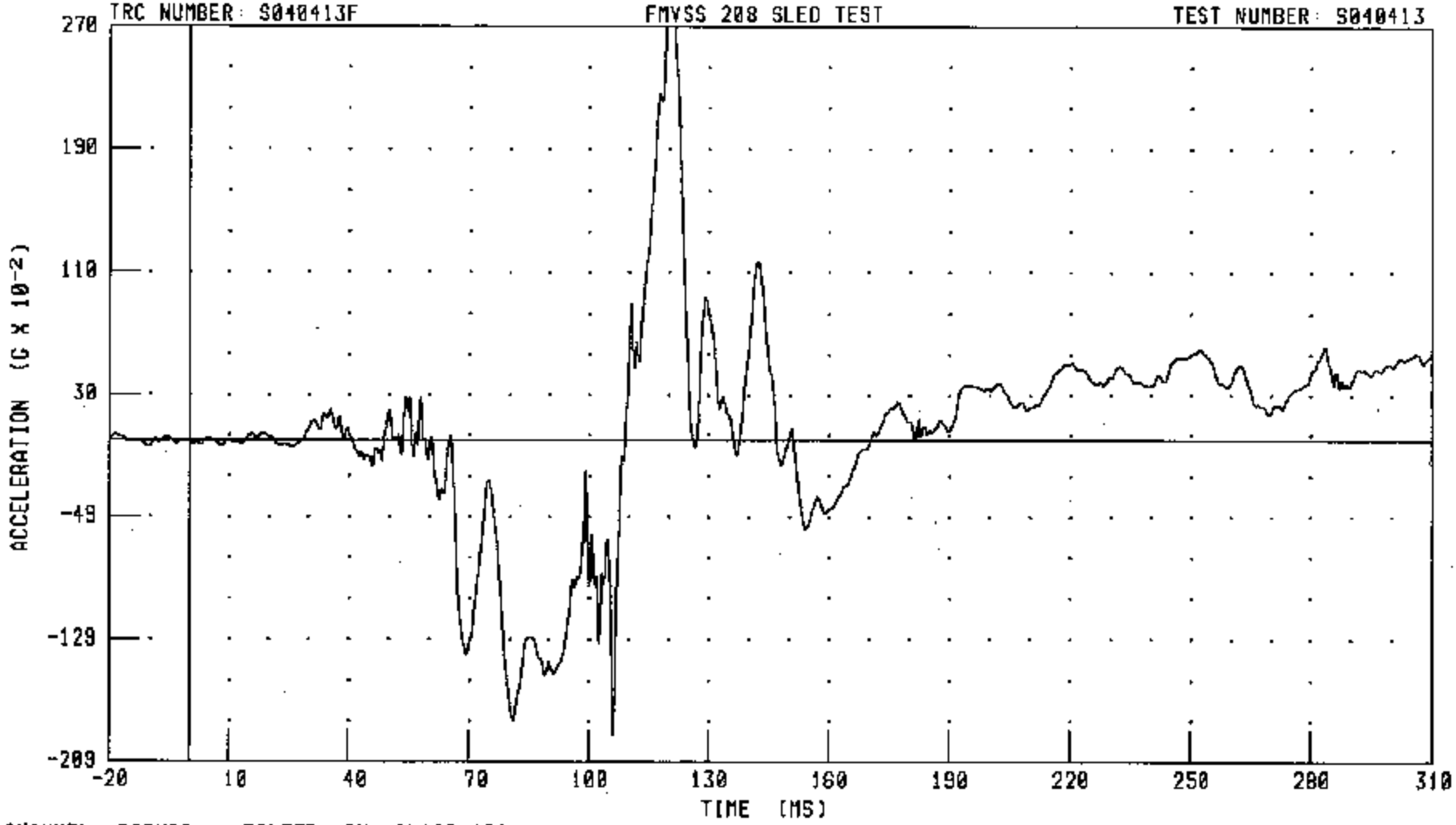
B-46

S040413

C35108 / 2003 TOYOTA TACOMA

RIGHT FRONT PASSENGER CHEST Y-AXIS ACCELERATION

TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



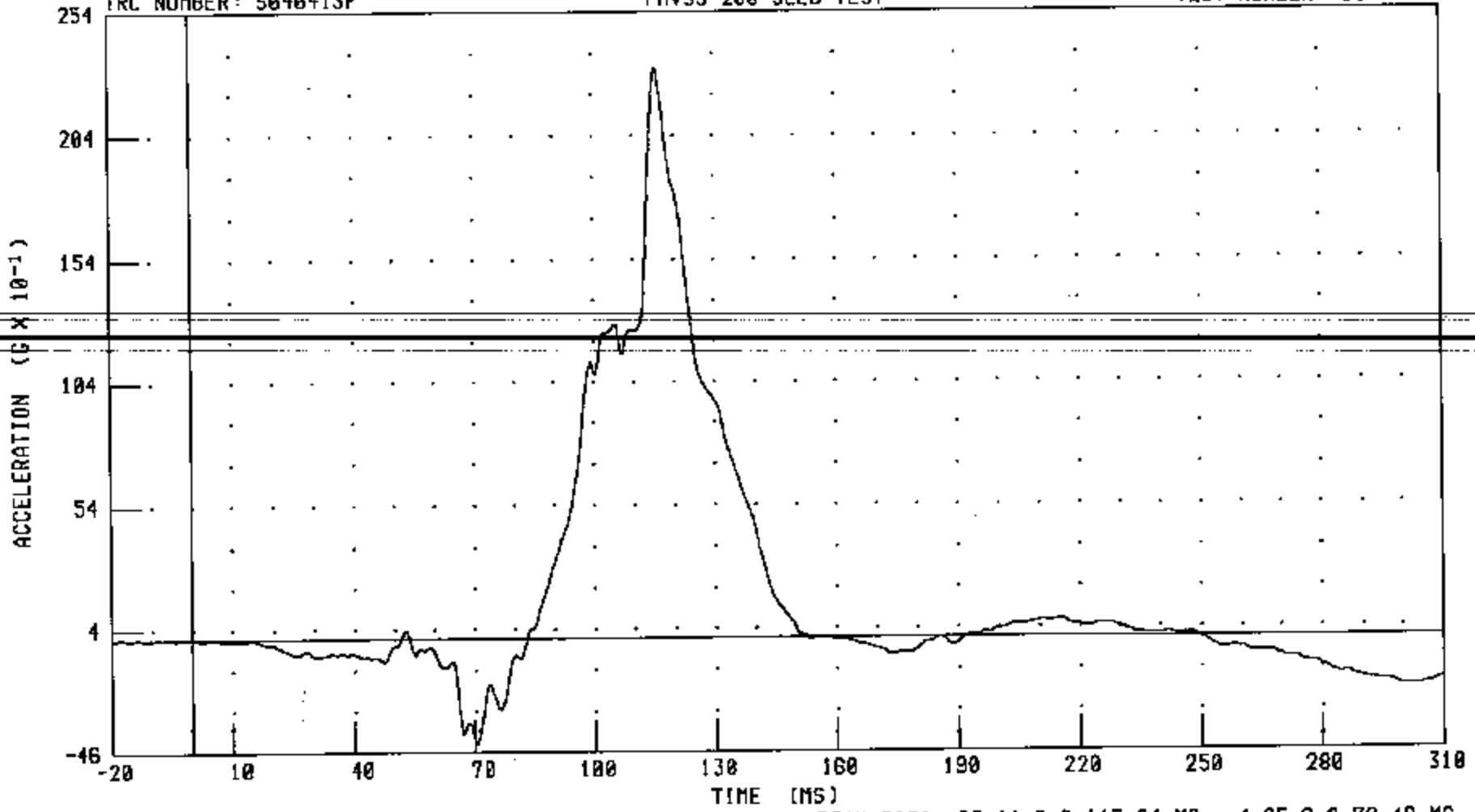
CHANNEL: CSTYG2 FILTER: CH. CLASS 180 PEAK DATA: 2.96 G @ 120.08 MS, -1.93 G @ 106.32 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



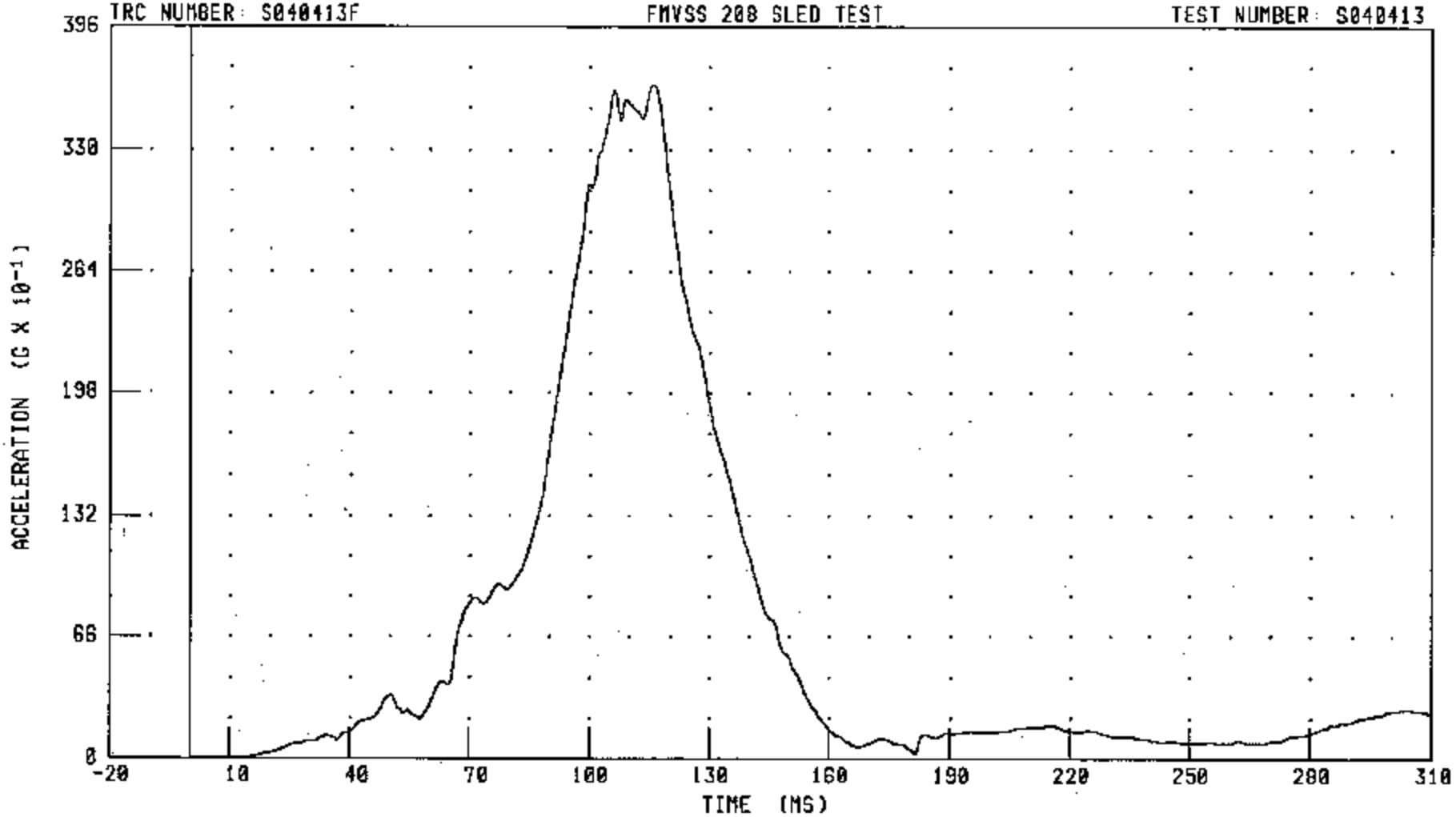
CHANNEL: CSTZC2 FILTER: CH. CLASS 180

PEAK DATA: 23.11 G @ 115.84 MS; -4.25 G @ 70.40 MS

B-48

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



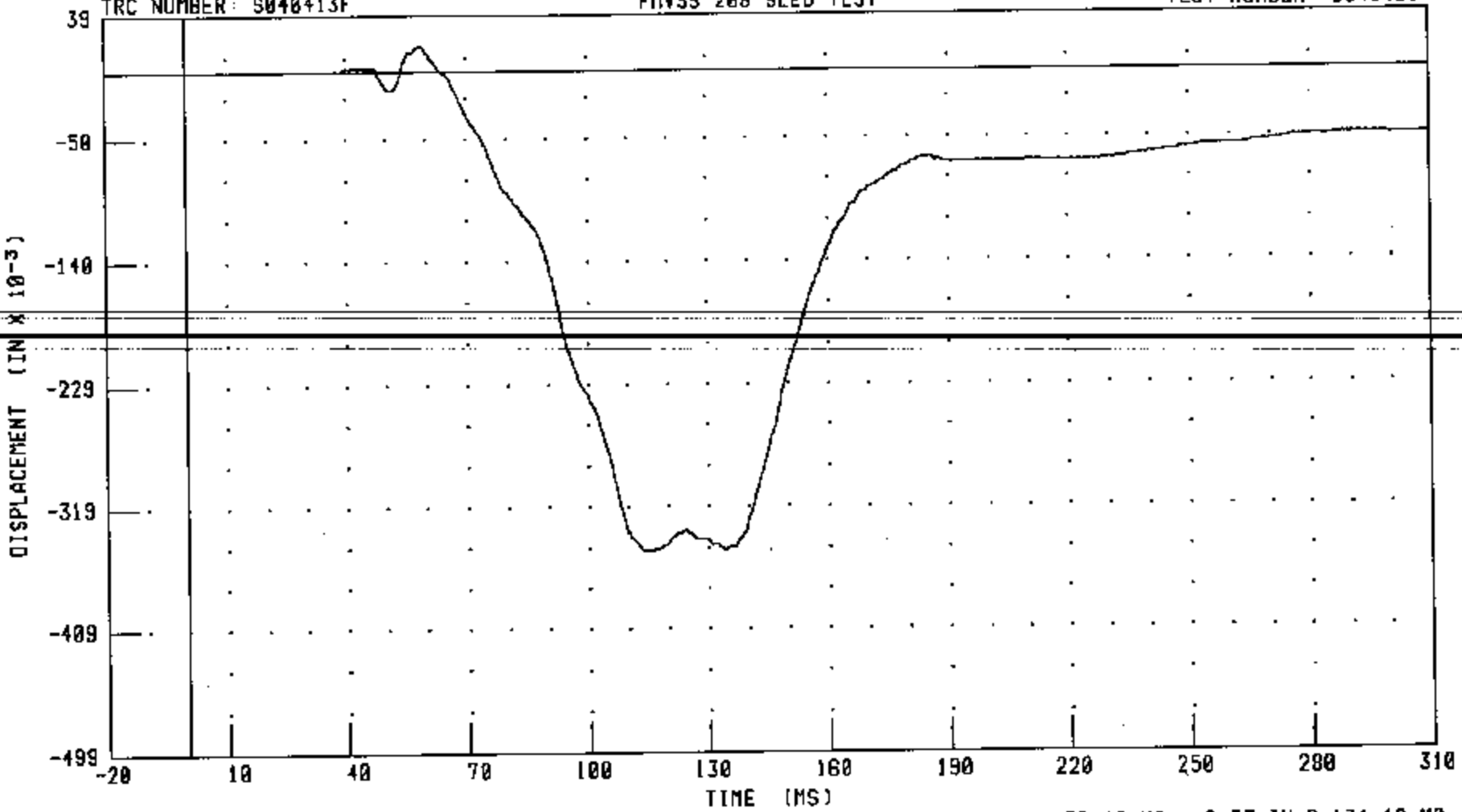
CHANNEL: CSTRG2 FILTER: CH. CLASS 180 PEAK DATA: 36.46 G @ 116.00 MS; 0.00 G @ -0.40 MS

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER CHEST DEFLECTION
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



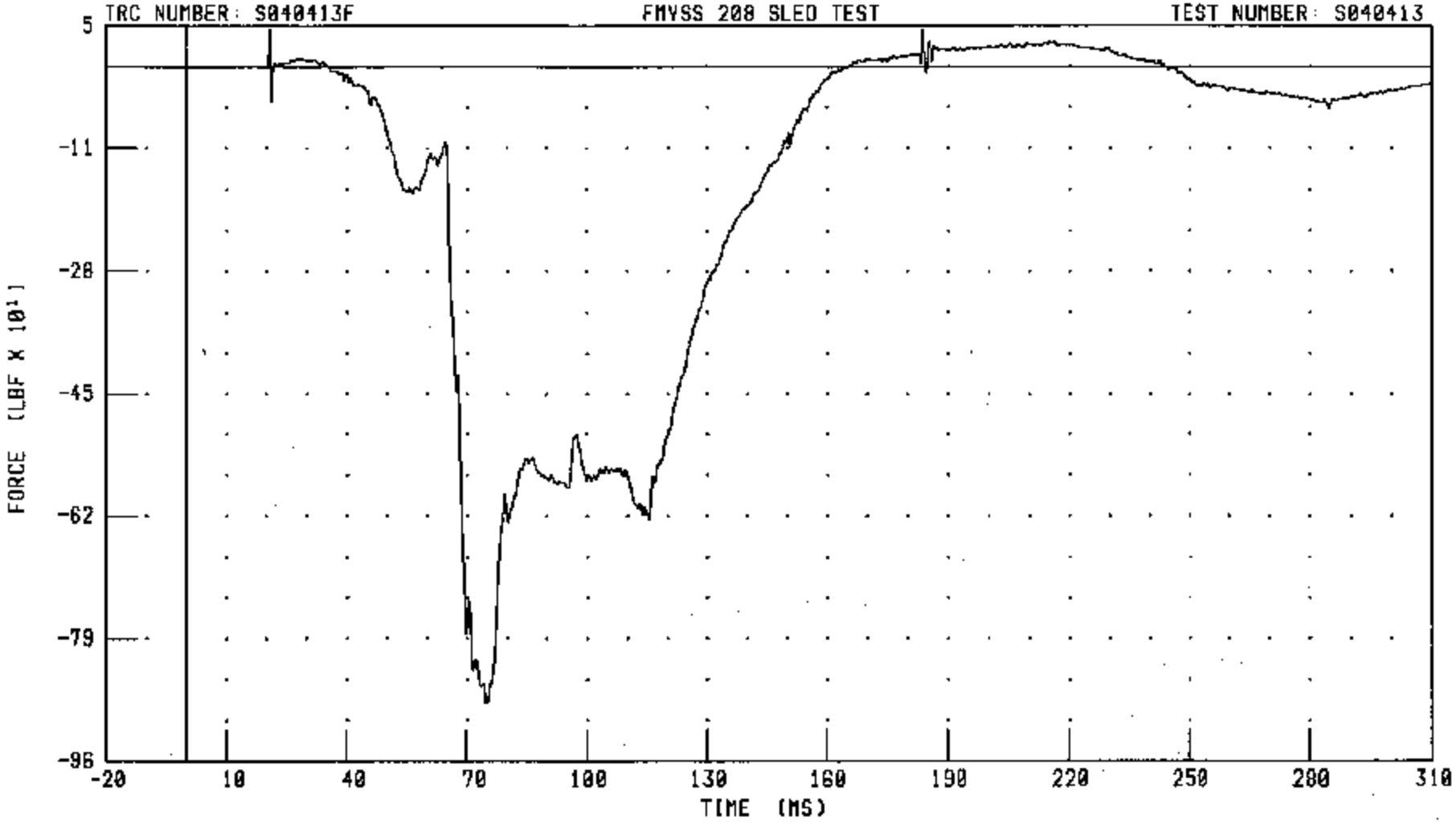
CHANNEL: CSTXD2 FILTER: CH. CLASS 600

PEAK DATA: 0.02 IN @ 59.12 MS, -0.35 IN @ 134.16 MS

B-50

S040413

C35108 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER LEFT FEMUR FORCE
TRC NUMBER: S040413F FMVSS 208 SLED TEST TEST NUMBER: S040413



CHANNEL: LFMZF2 FILTER: CH. CLASS 600 PEAK DATA: 52.22 LBF @ 21.04 MS; -882.36 LBF @ 74.96 MS

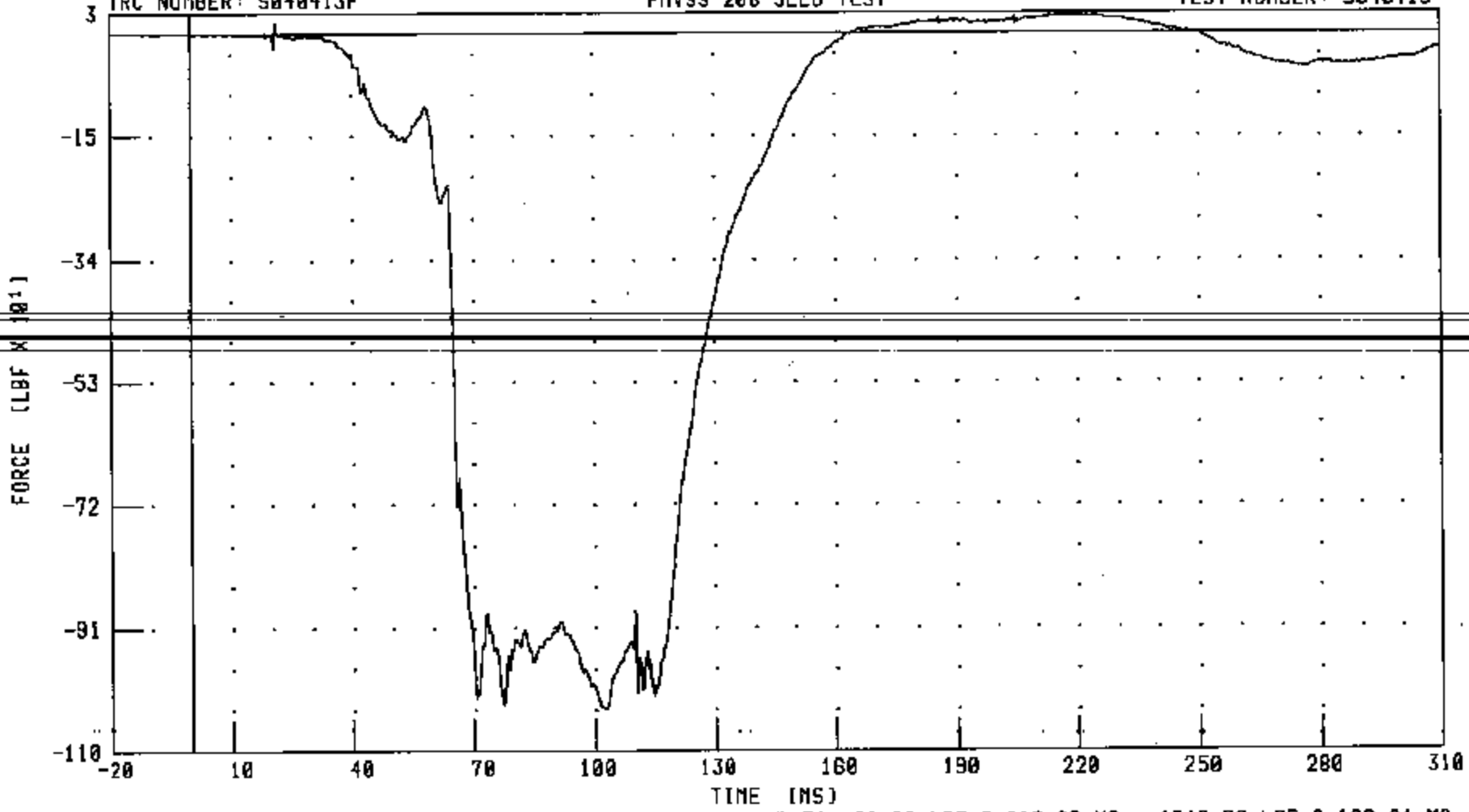
B-51

S040413

C35100 / 2003 TOYOTA TACOMA
RIGHT FRONT PASSENGER RIGHT FEMUR FORCE
FMVSS 208 SLED TEST

TRC NUMBER: S040413F

TEST NUMBER: S040413



CHANNEL: RFMZF2 FILTER: CH. CLASS 600

PEAK DATA: 29.26 LBF @ 213.60 MS; -1042.76 LBF @ 102.64 MS

B-52

S040413

Appendix C

Manufacturer's Vehicle Information

TOYOTA'S RESPONSE TO
NHTSA'S REQUEST ON FMVSS No. 208 FOR
THE 2002 TOYOTA TACOMA
(NSA-31CCa, OA-208-010924-X)

Q.1. Please inform OVSC to which sections of FMVSS No.208 the subject vehicle is certified with respect to dynamic tests in which seat belts are fastened and seat belts are unfastened. Provide a copy of the certification test reports for all the applicable impact tests with regard to the these sections.

Response 1.

The air bag restraint system of the 2002 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-7.

And the summary reports of our certification tests for the sled test with only the automatic restraint system are provided as Attachment I-8 and I-9.

Q.2. Provide the following: (1)describe the difference between the MY 2002 air bag system and the MY 2001 air bag system, (2) explain what other restraint changes have been made, (3) explain what other vehicle changes have been made that might have affected of FMVSS No.208 performance, and (4) describe any features that might affect performance with respect to children and out of position.

Response 2
Since Toyota Tacoma is not a new design vehicle/model, the following information are provided;

(1) There is no difference between the MY 2002 air bag system and the MY 2001 air bag system.

(2) No other restraint changes.

(3) No other vehicle changes, that might have affected FMVSS208 performance

(4) No features, that might affect performance with respect to children and out of position.

Q.3. 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 air bags with dual stage or multistage inflators describe when the stages are triggered and provide data to show that this is similar to what would occur in a crash of similar severity.

Response 3
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.

Air bag with dual stage or multistage inflators is not used in the 2002 Toyota Tacoma.

Q.4. 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 4
Tension-relieving device is not used in the 2002 Toyota Tacoma.

Q.5. 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 5
Both sides of the front and rear windows were opened and rear vents were closed during the tests.

Q.6. 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.

Response 6
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 11 of Attachment IV-1.

Q.7. State whether the vehicle has a foot rest for the driver.

Response 7
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 through IV-6.

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 IV-1.

Q.10. For all certification barrier tests, provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression, and femur loads, and where applicable neck moments and forces). For all certification sled tests, provide the resulting injury criteria (i.e., HIC, chest acceleration, chest compression, femur loads, and neck moments and forces).

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-9 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 V.

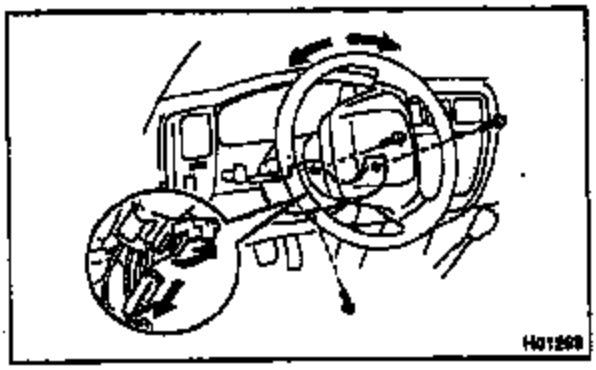
Q.12. If the vehicle uses a pressure vessel to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements S9.1.

Response 12
We provide the approval letters of Research and Special Program Administration as Attachment VI-1 for the passenger's air bag.

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

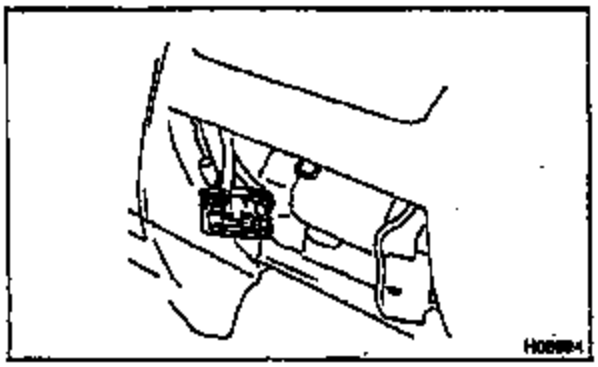
LOCATION AND DISCONNECTION OF THE AIR BAG CONNECTOR



DRIVER SIDE AIR BAG

(1) Remove the 3 screws and steering column lower cover as shown in the illustration.

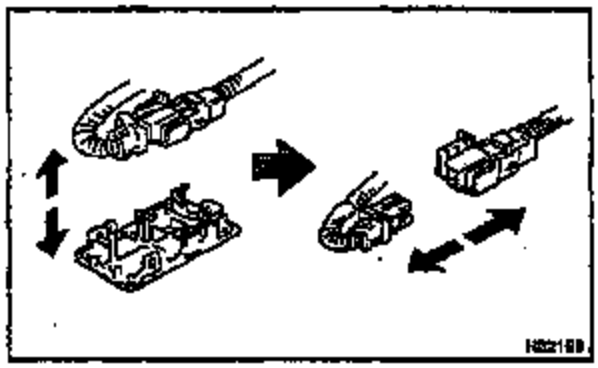
(2) Disconnect the airbag connector of the spiral cable.



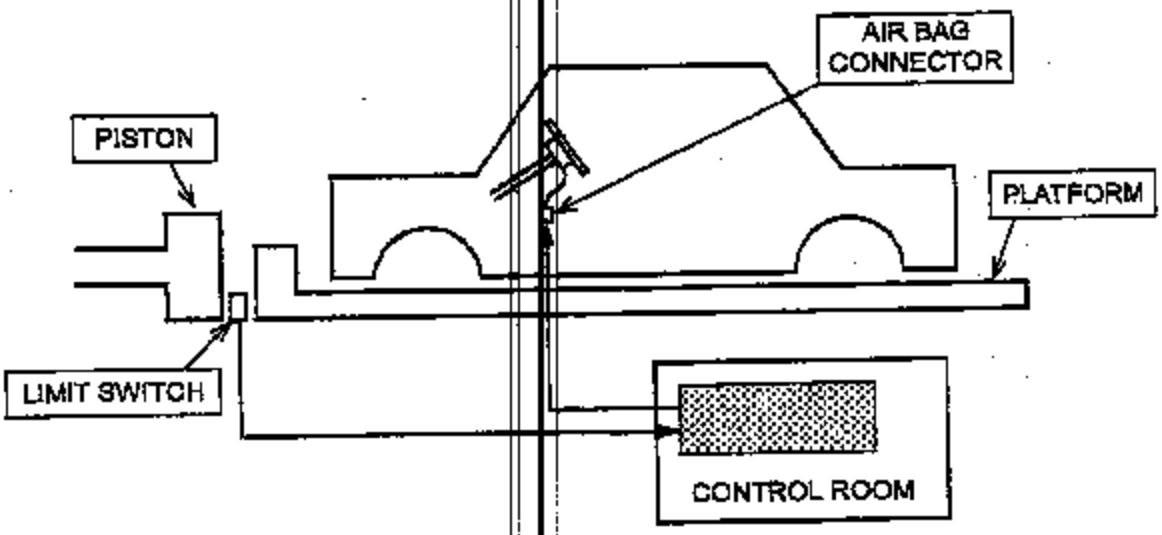
PASSENGER SIDE AIR BAG

(1) Remove the glove compartment door.

(2) Disconnect the airbag connector.



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.

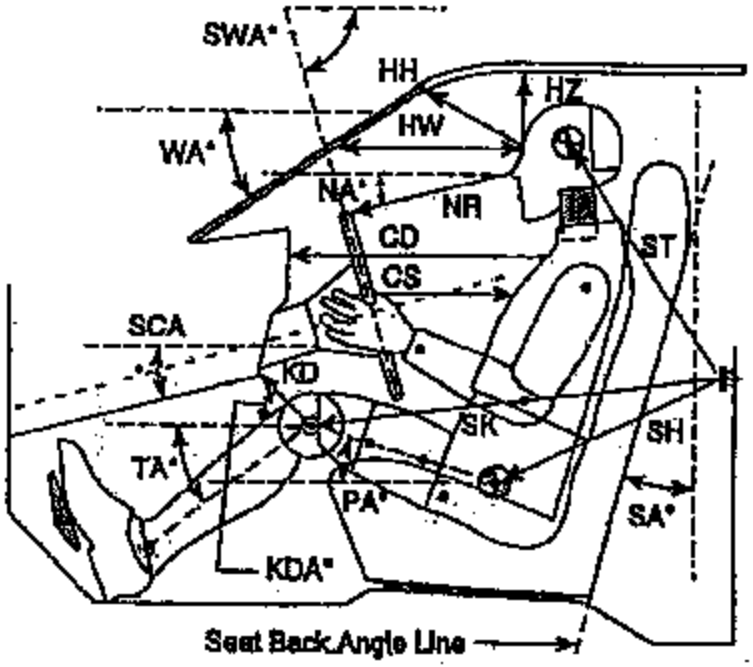
2. Connect the limit switch, air bag and Master computer which controls the trigger time for the air bag.

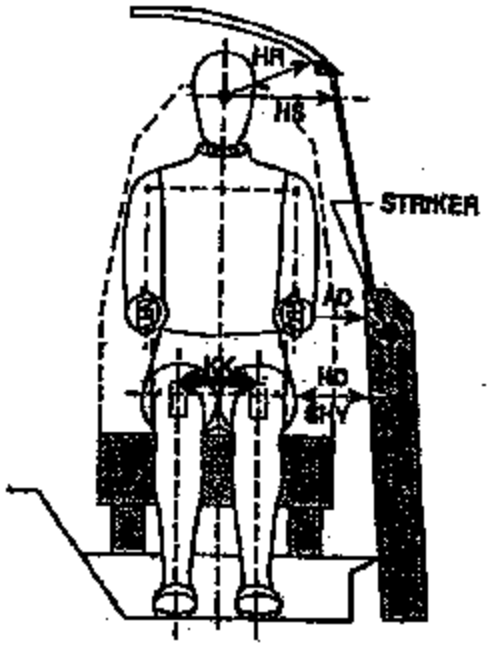
3. When the platform acceleration is initiated, the limit switch send out a signal to the Master computer.

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.

DUMMY MEASUREMENTS FOR FRONT SEAT PASSENGERS



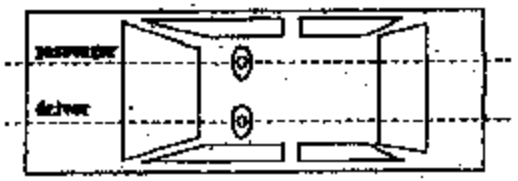


HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
NR - Nose to Rim
CS - Steering Wheel to Chest
CD - Chest to Dash
RA - Rim to Abdomen
KDL/KDR - Knee to Dash
KDA - Knee to Dash Angle

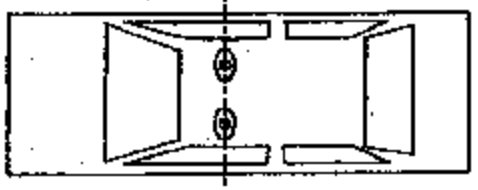
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
NA - Nose to Rim Angle
TA - Tibial Angle
PA - Pelvic Angle
SA - Seat Back Angle
SCA - Steering Column Angle
SWA - Steering Wheel Angle
WA - Windshield Angle

HR - Head to Side Header
HS - Head to Side Window
AD - Arm to Door
HD - H-Point to Door
SHY - Striker to H-Point (Y Dir.)
KK - Knee to Knee

Vertical Longitudinal planes



Vertical Transverse Plane



ATTACHMENT III

DUMMY POSITIONING IN VEHICLE FRONT SEAT MEASUREMENT TABLE

Regular Cab

	DRIVER	PASSENGER
WA°		ND
SWA°		ND
SCA°		ND
SA°	ND	ND
HZ	8.3inch (210mm)	8.3inch (210mm)
HH	16.1inch (410mm)	16.1inch (410mm)
HW	22.2inch (565mm)	22.2inch (565mm)
HR	9.1inch (230mm) : Separate Seat 9.5inch(240mm) : Bench Seat	9.1inch (230mm) : Separate Seat 9.5inch(240mm) : Bench Seat
NR	16.5inch (420mm)	ANGLE(NA°) ND
CD	21.9inch (555mm)	19.1inch (485mm)
CS	11.6inch (295mm)	
RA	7.9inch (200mm)	
KDL	7.1inch(180mm) ANGLE(KDA°)ND	6.7inch (170mm)
KDR	7.1inch (180mm)	6.7inch (170mm) ANGLE(KDA°) ND
PA°	ND	ND
TA°	ND	ND
KK	10.6inch (270mm) : Separate Seat 11.0inch(280mm) : Bench Seat	10.2inch (260mm)
ST	25.2inch (640mm) ANGLE ND	25.2inch (640mm) ANGLE ND
SK	29.5inch (750mm) ANGLE ND	29.5inch (750mm) ANGLE ND
SH	16.9inch (440mm) ANGLE ND	16.9inch (440mm) ANGLE ND
SHY	6.5inch (165mm)	6.5inch (165mm)
HS	12.2inch (310mm) : Separate Seat 12.5inch(318mm) : Bench Seat	12.2inch (310mm) : Separate Seat 12.5inch(318mm) : Bench Seat
HD	6.5inch (165mm) : Separate Seat 6.8inch(173mm) : Bench Seat	6.5inch (165mm) : Separate Seat 6.8inch(173mm) : Bench Seat
AD	4.3inch (110mm) : Separate Seat 4.6inch(118mm) : Bench Seat	3.9inch (100mm) : Separate Seat 4.3inch(108mm) : Bench Seat

ATTACHMENT IV

INFORMATION FOR NHTSA REGARDING THE 2002 TACOMA PICK UP
(TEST CONDITIONS FOR CRASH TEST)

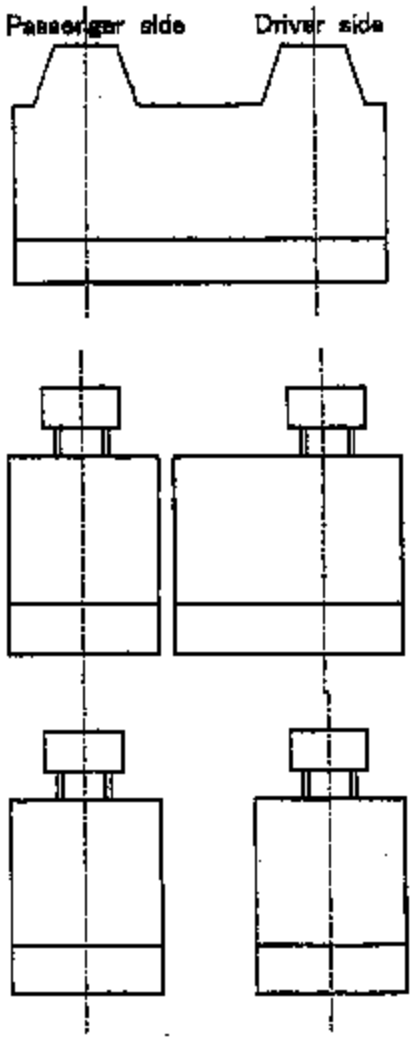
The following are design-related matters necessary for conducting the barrier crash test.

		4×2	4×4
1. Useable Fuel Tank Volume	:	16.0 gallons	18.5 gallons
92% of useable volume	:	14.7 gallons	17.0 gallons
94% of useable volume	:	15.0 gallons	17.4 gallons

2. Vehicle Capacity Weight :

Rated Cargo & Luggage Weight : 300 lbs

Designated Seating Capacity :



Bench Seat : 3

or

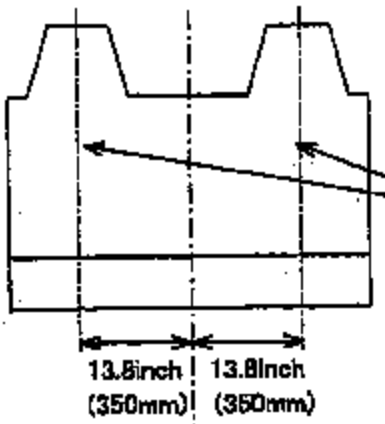
Sprit Bench Seat : 3

or

Separate Seat : 2

3. Tire Inflation Pressure : P205/75R15 (Fr: 26 psi , Rr: 29 psi)
P235/55R16 (Fr: 26 psi , Rr: 29 psi)
P225/75R15 (Fr: 26 psi , Rr: 29 psi)
P265/70R16 (Fr: 26 psi , Rr: 29 psi)

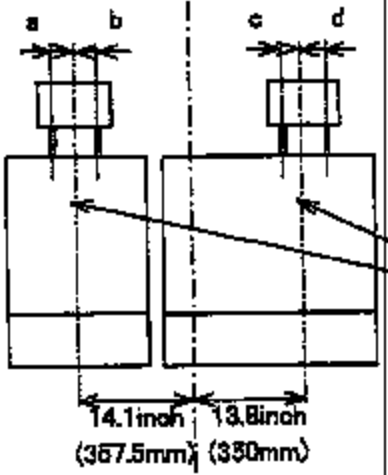
4. Outboard Designated Seating Position :



(Bench Seat)

13.8inch(350mm) outboard of the vertical plane which include vehicle center.

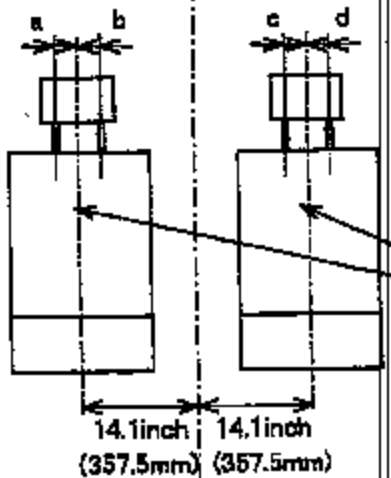
Designated Seating Position
= Center of Head restraint



(Split Bench Seat)

a : 3.0inch(75.0mm)
b : 3.0inch(75.0mm)
c : 2.7inch(68.5mm)
d : 3.2inch(82.5mm)

Designated Seating Position



(Separate Seat)

a : 3.0inch(75.0mm)
b : 3.0inch(75.0mm)
c : 3.0inch(75.0mm)
d : 3.0inch(75.0mm)

Designated Seating Position

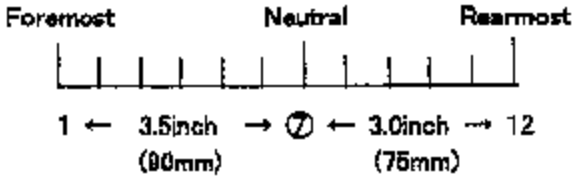
Tacoma

5. Designated Seat Slide Position :

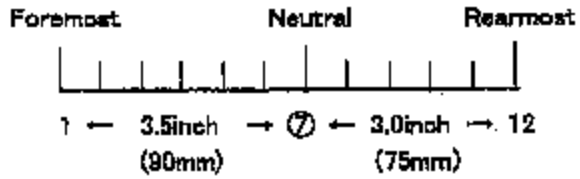
Regular Cab Front Seat (Driver & Passenger Side)

Move the seat six notches rearward from the foremost position.

(Bench Seat)



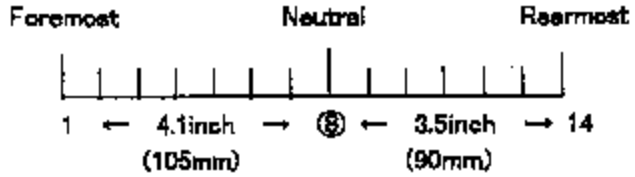
(Separate Seat)



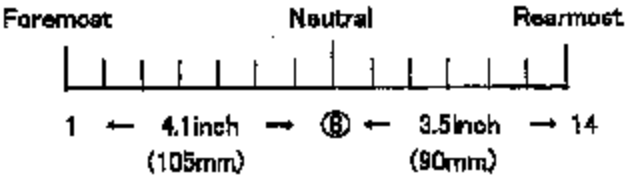
Extra Cab & Double Cab Front Seat (Driver & Passenger Side)

Move the seat seven notches rearward from the foremost position.

(Split Bench Seat)

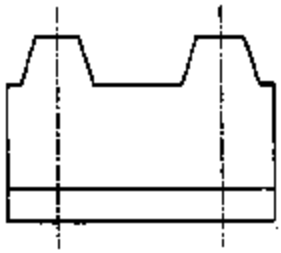
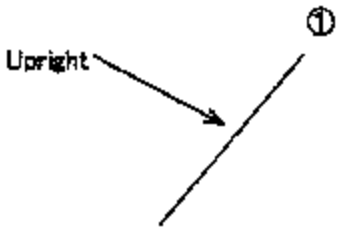
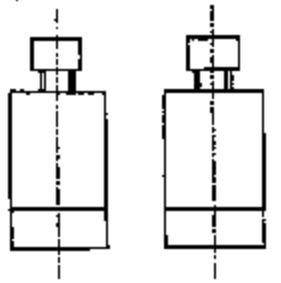
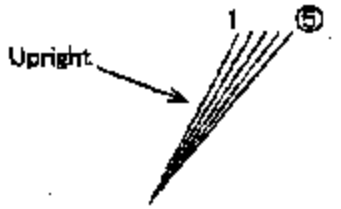
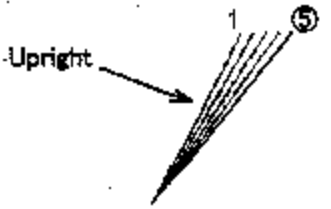


(Separate Seat)



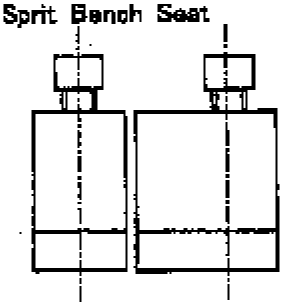
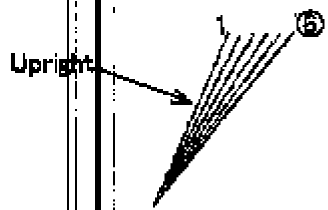
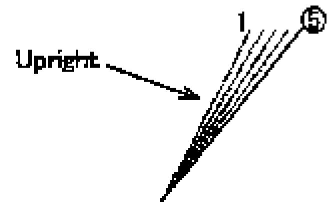
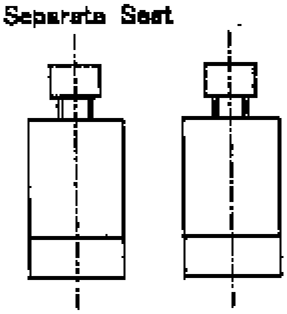
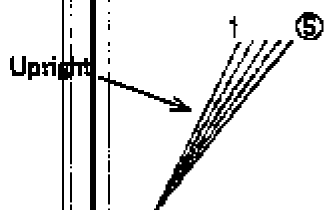
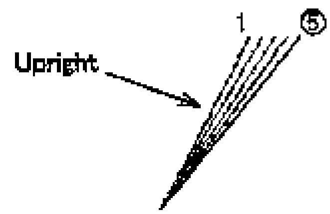
6. Designated Seat Back Position :

Regular Cab

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

Tacoma

Extra Cab & Double Cab

Seat Type	Driver's Seat	Passenger's Seat
Sprit Bench Seat 	Recline five notches rearward from the most upright position. 	Recline four notches rearward from the most upright position. 
Separate Seat 	Recline four notches rearward from the most upright position. 	Recline four notches rearward from the most upright position. 

7. Other seat adjustment :

Lumbar support : Rearmost

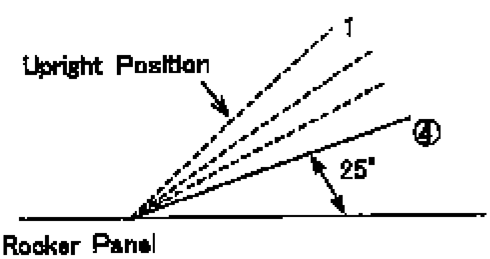
Vertical adjuster : Lowermost

8. Steering column angle ::

Tilt column:

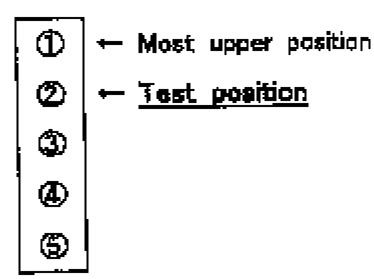
Tilt three notches downward from the upright position.

Steering column angle is 25.0° to the rocker panel.



9. Shoulder Belt Anchor Position :

We conducted our certification tests with the adjustable shoulder belt connection locked in the second position from the upper most.



10. Anthropomorphic Test Device

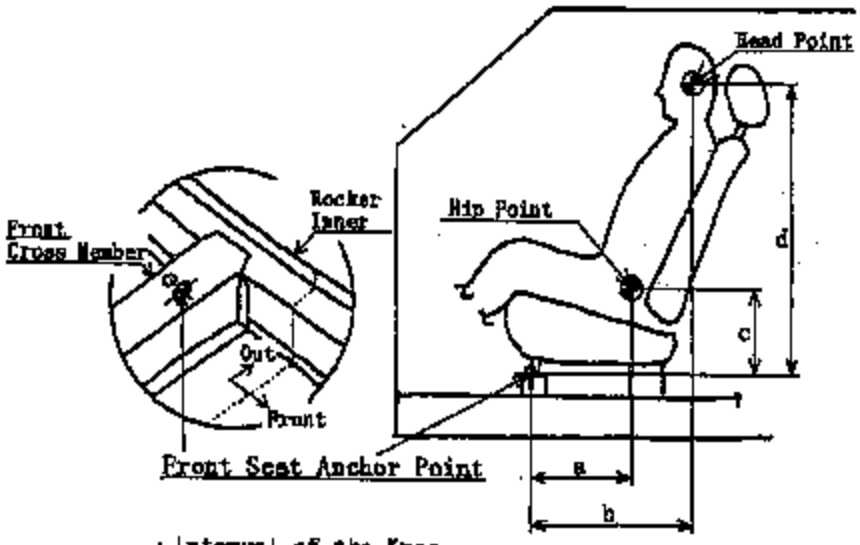
Driver : HYBRID-III
Passenger : HYBRID-III

11. Dummy Clearance Dimensions :

If the dummies are properly positioned on the adjusted seating system, the dimensions are as follows:

11.1 Driver(Manual Seat)

· Hip & Head Point



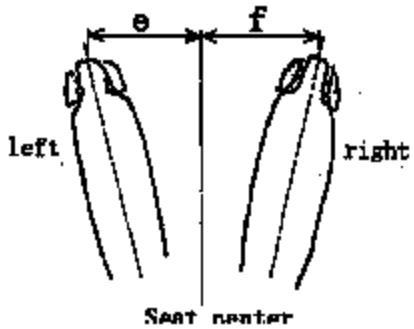
REGULAR CAB

	Driver
a	10.6 inch(268mm)
b	ND
c	8.8inch(224mm)
d	ND

EXTRA&DUBLE CAB

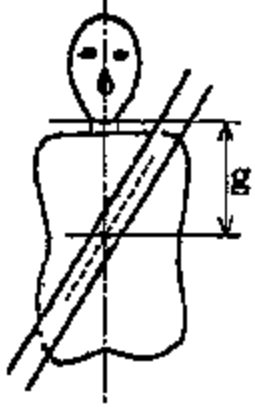
	Driver
a	11.1 inch(283mm)
b	ND
c	8.7inch(222mm)
d	ND

· Interval of the Knee



	Driver
e	Bench & Sprit Bench Seat: 6.3inch(160mm) Separate Seat: 5.9inch(150mm)
f	4.7inch(120mm)

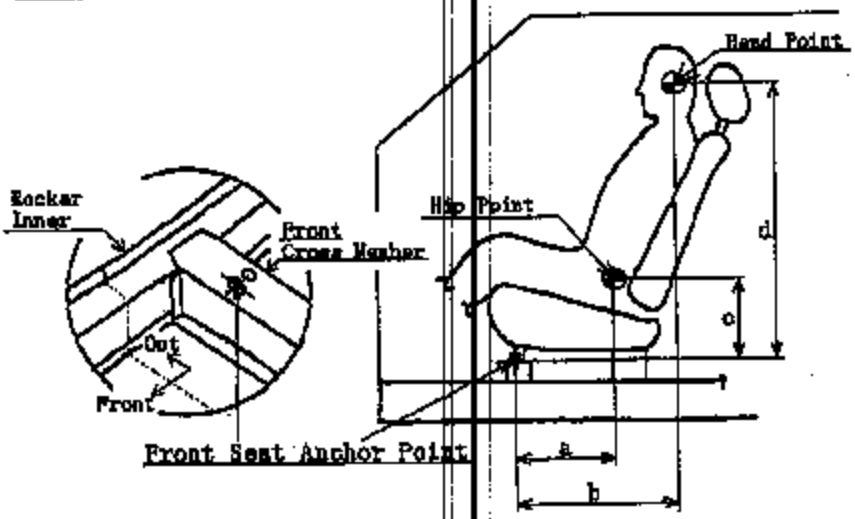
· Belt Position



	Driver
g	5.5inch(140mm)

11.2 Passenger(Manual Seat)

· Hip & Head Point



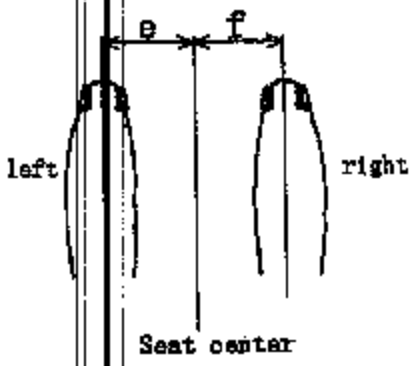
REGULAR CAB

	Driver
a	10.6 inch(268mm)
b	ND
c	8.8inch(224mm)
d	ND

EXTRA&DOUBLE CAB

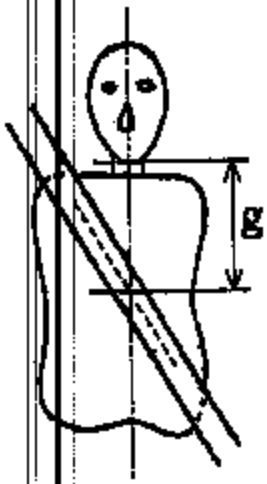
	Driver
a	11.1 inch(283mm)
b	ND
c	8.7inch(222mm)
d	ND

· Interval of the Knee



	Passenger
e	3.9inch(100mm)
f	3.9inch(100mm)

· Belt Position



	Passenger
g	5.5inch(140mm)

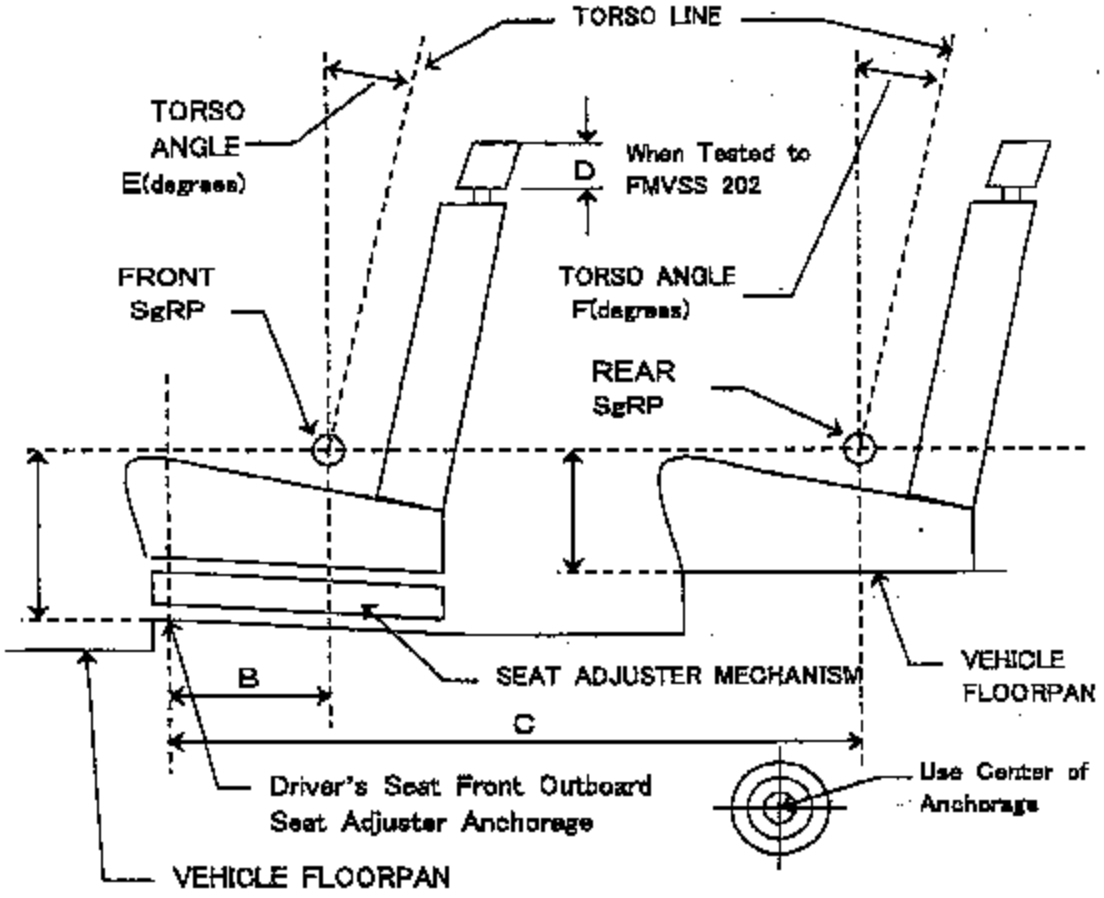
SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA FOR FMVSS 201,202,203,207 & 210

(All dimensions in inches)

Model Year: 2002 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	24°			
F				

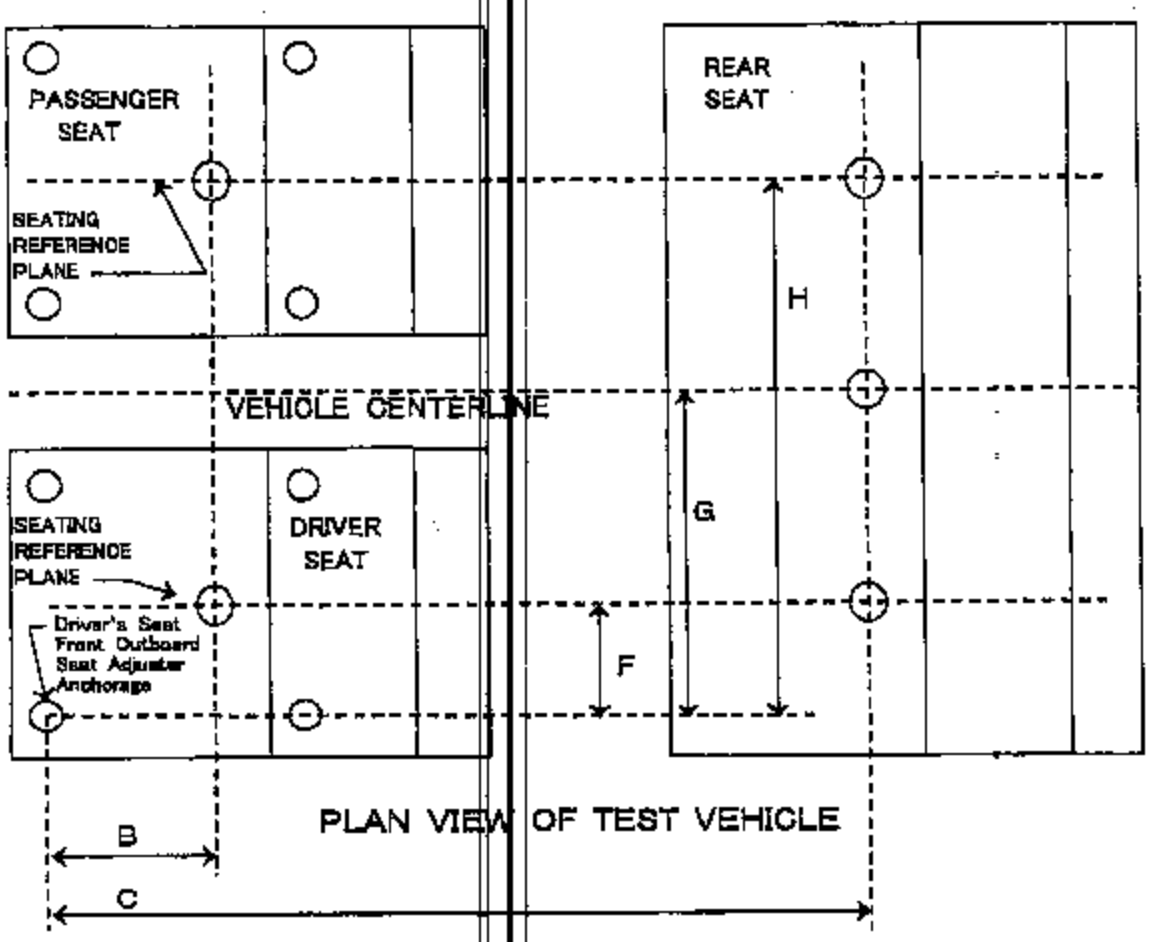
SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA FOR FMVSS 201,202,203,207 & 210

(All dimensions in Inches)

Model Year: 2002 Model ; Make TOYOTA ; Model: TACOMA

Body Style: REGULAR CAB ; Seat Style: Fr Bench Seat

Rr

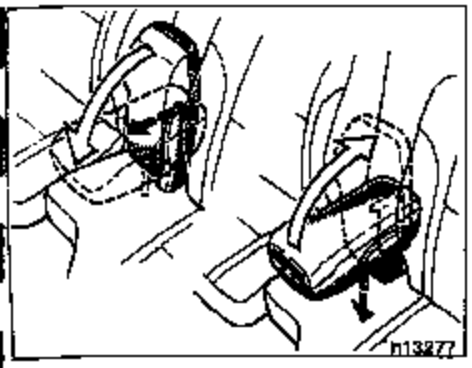


PLAN VIEW OF TEST VEHICLE

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

* Provide all dimensions needed to locate SRP.

Armrest



To use the armrest, do this.

To lower: Pull the lock release strap and down the armrest.
To raise: Push down the lock release strap and up the armrest.

NOTICE

To prevent damage to the armrest, avoid putting heavy loads on it.

Seat belts—
—Seat belt precautions

Toyota strongly urges that the driver and passengers in the vehicle be properly restrained at all times with the seat belts provided. Failure to do so could increase the chance of injury and/or the severity of injury in accidents.

The seat belts provided for your vehicle are designed for people of adult size, large enough to properly wear them.

Child. Use a child restraint system appropriate for the child until the child becomes large enough to properly wear the vehicle's seat belts. See "Child restraint" for details.

REGULAR CAB MODELS—
If a child is too large for a child restraint system, the child should sit in the seat and must be restrained using the vehicle's seat belt.

XTRA-CAB and DOUBLE CAB MODELS—
If a child is too large for a child restraint system, the child should sit in the rear seat and must be restrained using the vehicle's seat belt. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.

If a child must sit in the front seat, the seat belts should be worn properly. If an accident occurs and the seat belts are not worn properly, the force of the rapid inflation of the airbag may cause death or serious injury to the child.

Do not allow the child to stand up or kneel on either rear or front seats. An unrestrained child could suffer serious injury or death during emergency braking or a collision. Also, do not let the child sit on your lap. It does not provide sufficient restraint.

Small-framed person or youth in a 3-point type seat belt. On models with a bench seat, have a small-framed person or youth sit slightly closer to the center of the vehicle (so the shoulder belt does not cross over the neck). On models with separate seats, move the seat fully backward.

Pregnant woman. Toyota recommends the use of a seat belt. Ask your doctor for specific recommendations. The lap belt should be worn securely and as low as possible over the hips and not on the waist.

Injured person. Toyota recommends the use of a seat belt. Depending on the injury, first check with your doctor for specific recommendations

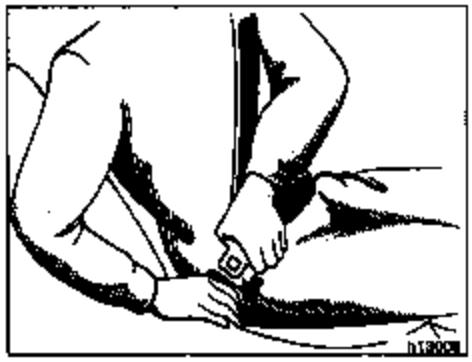
⚠ CAUTION

Persons should ride in their seats properly wearing their seat belts whenever the vehicle is moving. Otherwise, they are much more likely to suffer serious bodily injury or death in the event of sudden braking or a collision.

When using the seat belts, observe the following:

- **Use the belt for only one person at a time. Do not use a single belt for two or more people—even children.**
- **Avoid reclining the seatbacks too much. The seat belts provide maximum protection when the seatbacks are in the upright position. (Refer to the seat adjustment instructions.)**
- **Be careful not to damage the belt webbing or hardware. Take care that they do not get caught or pinched in the seat or side doors.**
- **Inspect the belt system periodically. Check for cuts, fraying, and loose parts. Damaged parts should be replaced. Do not disassemble or modify the system.**
- **Keep the belts clean and dry. If they need cleaning, use a mild soap solution or lukewarm water. Never use bleach, dye, or abrasive cleaners—they may severely weaken the belts. (See "Cleaning the interior" in Section 5.)**
- **Replace the belt assembly (including bolts) if it has been used in a severe impact. The entire assembly should be replaced even if damage is not obvious.**

—Front and rear outside seat belts



Adjust the seat as needed (front seats only) and sit up straight and well back in the seat. To fasten your belt, pull it out of the retractor and insert the tab into the buckle.

You will hear a click when the tab locks into the buckle.

The seat belt length automatically adjusts to your size and the seat position.

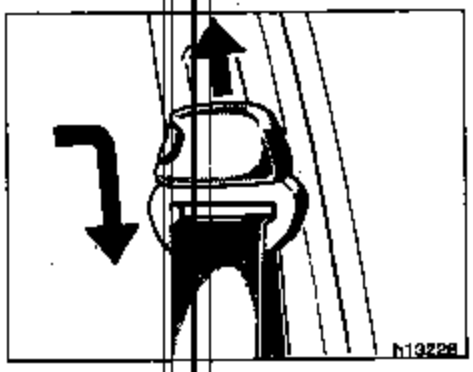
The retractor will lock the belt during a sudden stop or on impact. It also may lock if you lean forward too quickly. A slow, easy motion will allow the belt to extend, and you can move around freely.

If the seat belt cannot be pulled out of the retractor, firmly pull the belt and release it. You will then be able to smoothly pull the belt out of the retractor.

When a passenger's shoulder belt is completely extended and is then retracted even slightly, the belt is locked in that position and cannot be extended. This feature is used to hold the child restraint system securely. (For details, see "Child restraint" in this section.) To free the belt again, fully retract the belt and then pull the belt out once more.

⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, immediately contact your Toyota dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.**



Seat belts with an adjustable shoulder anchor—

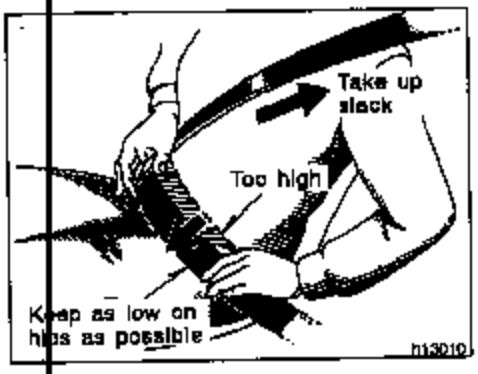
Adjust the shoulder anchor position to your size.

To raise: Slide the anchor up.
To lower: Push in the lock release button and slide the anchor down.

After adjustment, make sure the anchor is locked in position.

⚠ CAUTION

Always make sure the shoulder belt is positioned across the center of your shoulder. The belt should be kept away from your neck, but not falling off your shoulder. Failure to do so could reduce the amount of protection in an accident and cause severe injuries in a collision.

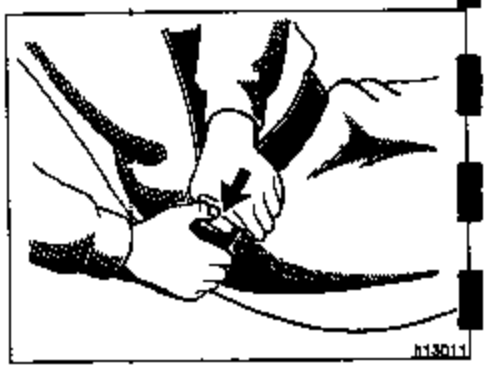


Adjust the position of the lap and shoulder belts.

Position the lap belt as low as possible on your hips—not on your waist, then adjust it to a snug fit by pulling the shoulder portion upward through the latch plate.

⚠ CAUTION

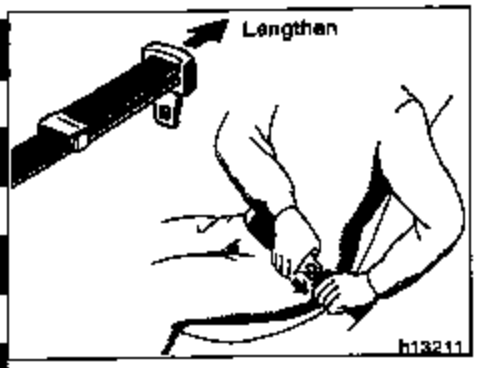
- **Both high-positioned lap belts and loose-fitting belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on hips as possible.**
- **For your safety, do not place the shoulder belt under your arm.**



To release the belt, press the buckle-release button and allow the belt to retract.

If the belt does not retract smoothly, pull it out and check for kinks or twists. Then make sure it remains untwisted as it retracts.

—Front and rear center seat belt



Sit up straight and well back in the seat. To fasten your belt, insert the tab into the buckle.

You will hear a click when the tab locks into the buckle.

If the belt is not long enough for you, hold the tab at a right angle to the belt and pull on the tab.

⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, immediately contact your Toyota dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.**

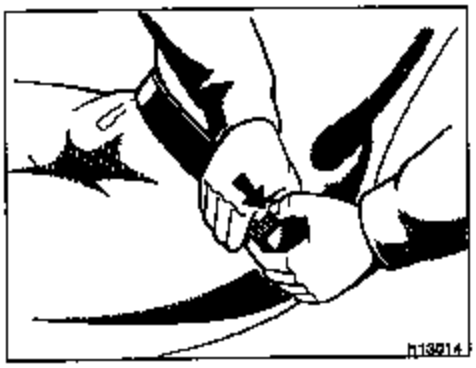
Remove excess length of the belt and adjust the belt position.

To shorten the belt, pull the free end of the belt.

Position the lap belt as low as possible on your hips—not on your waist, then adjust it to a snug fit.

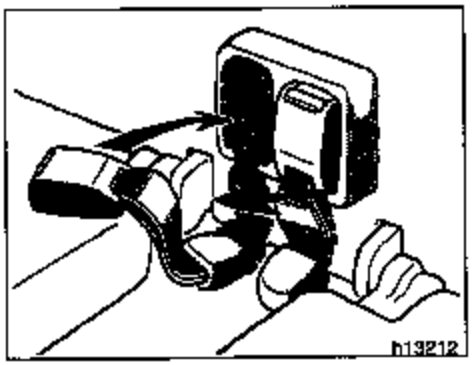
⚠ CAUTION

Both high-positioned and loose-fitting lap belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on hips as possible.



To release the belt, press the buckle-release button.

—Stowing the rear seat buckles (xtra-cab models)



The buckles can be fixed when not in use.

When taking out the buckle from the holder, pull on the belt webbing to remove the buckle from the lower portion.

—Seat belt extender

If your seat belts cannot be fastened securely because they are not long enough, a personalized seat belt extender is available from your Toyota dealer free of charge.

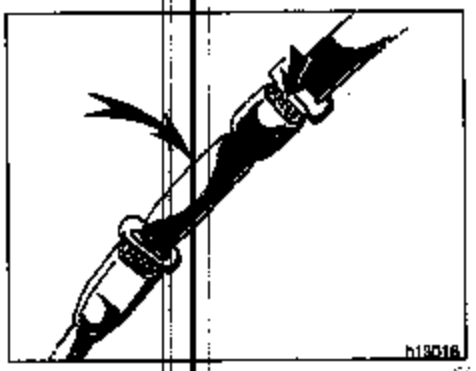
Please contact your local Toyota dealer so that the dealer can order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

⚠ CAUTION

When using the seat belt extender, observe the following precautions. Failure to follow these instructions could reduce the effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- **Never use the seat belt extender if you can fasten the seat belt without it.**

- Remember that the extender provided for you may not be safe when used on a different vehicle, for another person, or at a different seating position than the one originally intended.



To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle-release buttons of the extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle.

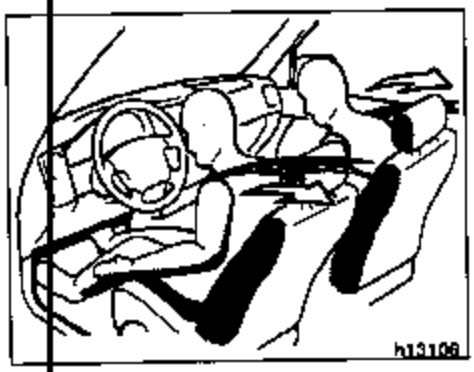
When releasing the seat belt, press on the buckle-release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.

⚠ CAUTION

- After inserting the tab, make sure the tab and buckle are locked and that the seat belt extender is not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.
- If the seat belt does not function normally, immediately contact your Toyota dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.

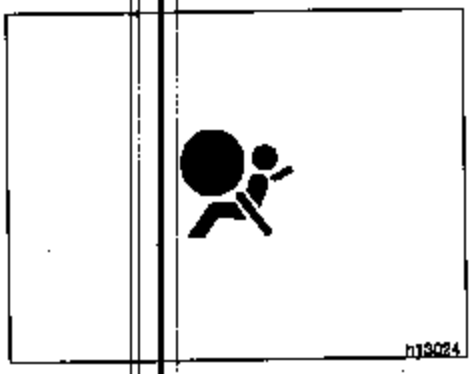
—Front seat belt pretensioners



The driver and front passenger's seat belt pretensioners are designed to be activated in response to a severe frontal impact.

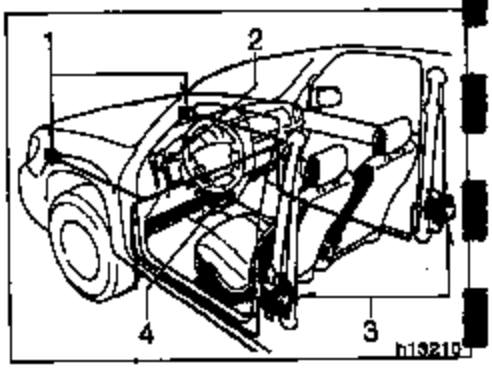
When the airbag sensor detects the shock of a severe frontal impact, the front seat belts are quickly drawn back in by the retractors so that the belts snugly restrain the front seat occupants.

The front seat belt pretensioners are activated even with no passenger in the front seat.



This indicator comes on when the ignition key is turned to the "ON" position. It goes off after about 6 seconds. This means the front seat belt pretensioners are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, initiators, warning light, interconnecting wiring and power sources. (For details, see "Service reminder indicators and warning buzzers" in Section 1-5.)



The front seat belt pretensioner system mainly consists of the following components and their locations are shown in the illustration.

1. Front airbag sensors
2. SRS warning light
3. Front seat belt pretensioner assemblies
4. Airbag sensor assembly

The front seat belt pretensioners are controlled by the airbag sensor assembly. The airbag sensor assembly consists of a safing sensor and airbag sensor.

When the front seat belt pretensioners are activated, an operating noise may be heard and a small amount of smoke-like gas may be released. This gas is harmless and does not indicate that a fire is occurring.

Once the front seat belt pretensioners have been activated, the seat belt retractors remain locked.

⚠ CAUTION

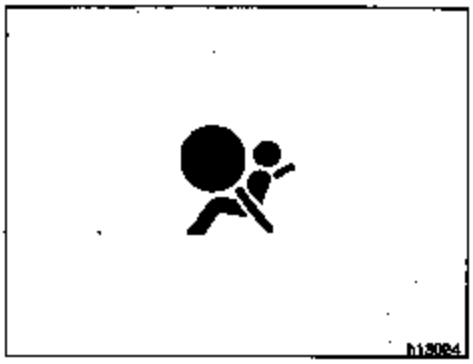
Do not modify, remove, strike or open the front seat belt pretensioner assemblies, airbag sensor or surrounding area or wiring. Doing any of these may cause sudden operation of the front seat belt pretensioners or disable the system, which could result in death or serious injury.

Failure to follow these instructions can result in death or serious injuries. Consult your Toyota dealer about any repairs and modifications.

NOTICE

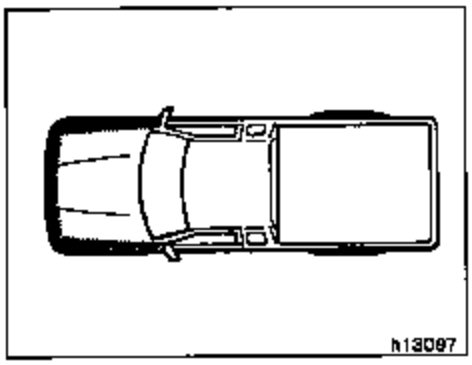
Do not perform any of the following changes without consulting your Toyota dealer. Such changes can interfere with proper operation of the front seat belt pretensioners in some cases.

- ***Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player***
- ***Repairs on or near the front seat belt pretensioner assemblies***
- ***Modification of the suspension system***
- ***Modification of the front end structure***
- ***Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end***
- ***Repairs made on or near the front fenders, front end structure or console***



This front seat belt pretensioner system has a service reminder indicator to inform the driver of operating problems. If any of the following conditions occurs, this indicates a malfunction of the airbags or pretensioners. Contact your Toyota dealer as soon as possible to service the vehicle.

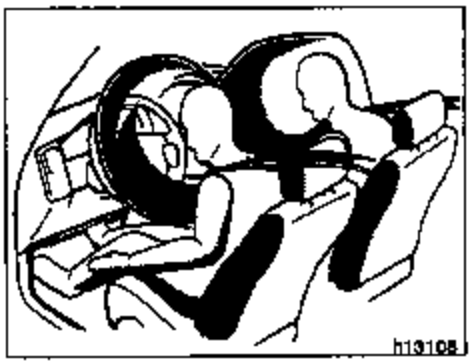
- The light does not come on when the ignition key is turned to the "ON" position, or the light remains on.
- The light comes on or flashes while driving.
- If either front seat belt does not retract or can not be pulled out due to a malfunction or activation of the relevant front seat belt pretensioner.



In the following cases, contact your Toyota dealer as soon as possible:

- The front part of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the front seat belt pretensioners to operate.
- Either front seat belt pretensioner assembly or surrounding area is scratched, cracked, or otherwise damaged.

SRS driver airbag and front passenger airbag (vehicles with passenger airbag manual on-off switch)



The SRS (Supplemental Restraint System) airbags are designed to provide further protection for occupants in the following seats in addition to the primary safety protection provided by the seat belts.

- Models with separate front seats—The SRS airbags are designed to protect the driver and front passenger.
- Models with bench front seats—The SRS airbags are designed to protect the driver and right-front passenger. They are not designed to protect occupant in the center position.

In response to a severe frontal impact, the SRS airbags work together with the seat belts to help prevent or reduce injury by inflating. The SRS airbags help to reduce injuries mainly to the driver's or front passenger's head or chest directly hitting the steering wheel or dashboard. When the passenger airbag manual on-off switch is in the "ON" position, the front passenger airbag is activated even with no passenger in the front seat.

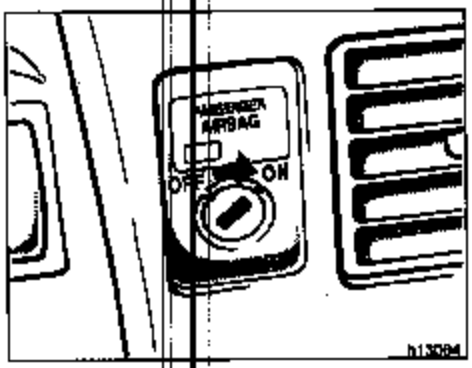
Be sure to wear your seat belt properly.

Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seat belt restraint system by the driver when the SRS airbags are inflated.

⚠ CAUTION

The driver or front passenger who is too close to the steering wheel or dashboard during airbag deployment can be killed or seriously injured. Toyota strongly recommends that:

- **The driver sit as far back as possible from the steering wheel while still maintaining control of the vehicle.**
- **The front passenger sit as far back as possible from the dashboard.**
- **All vehicle occupants be properly restrained using the available seat belts.**



h13094

The passenger airbag system is equipped with a manual on–off switch and indicator light. Turning the passenger airbag manual on–off switch clockwise to the "ON" position makes the front passenger airbag system operational. Turning the passenger airbag manual on–off switch counterclockwise to the "OFF" position disables the front passenger airbag system. The indicator light on the passenger airbag manual on–off switch will come on when the front passenger airbag system has been disabled.

See "Passenger airbag manual on–off switch" in this section for detail.

⚠ CAUTION

- **Make sure that the indicator light is off.**
- **Do not turn off the passenger airbag manual on–off switch except when a member of a passenger risk group identified in TABLE 1 is occupying the right front passenger seating position.**
- **When the passenger airbag manual on–off switch is turned off, the front passenger airbag will not inflate in a collision and turning off the front passenger airbag can reduce the occupant protection which your vehicle safety systems can provide to you in certain accidents and increase the likelihood of serious personal injuries.**

TABLE 1: A PASSENGER RISK GROUP

Infant. An infant (less than 1 year old) who must ride in the front seat because:

- Vehicle has no rear seat;
- Vehicle has a rear seat too small to accommodate a rear–facing infant seat; or
- The infant has a medical condition which, according to the infant's physician, makes it necessary for the infant to ride in the front seat so that the driver can constantly monitor the child's condition.

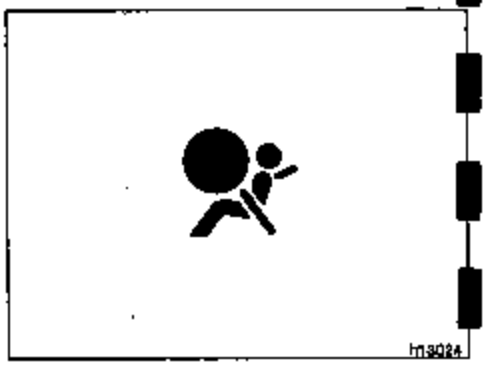
Child age 1 to 12. A child age 1 to 12 must ride in the front seat because:

- Vehicle has no rear seat;
- Although children ages 1 to 12 ride in the rear seat(s) whenever possible, children ages 1 to 12 sometimes must ride in the front because no space is available in the rear seat(s) of vehicle; or
- The child has a medical condition which, according to the child's physician, makes it necessary for the child to ride in the front seat so that the driver can constantly monitor the child's condition.

Medical condition. A passenger has a medical condition which according to his or her physician:

- Causes the passenger airbag to pose a special risk for the passenger; and
- Makes the potential harm from the passenger airbag in a crash greater than the potential harm from turning off the airbag and allowing the passenger, even if belted, to hit the dashboard, or windshield in a crash.

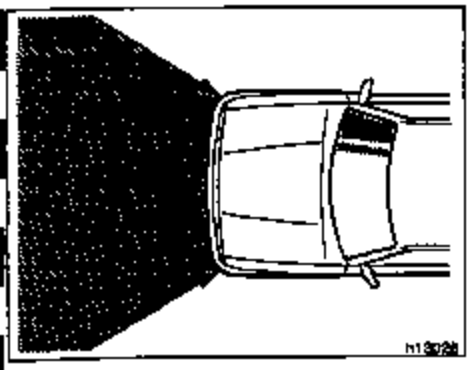
For more detailed information concerning the passenger risk group, please contact NHTSA at 1–800–424–9393 or Transport Canada at 1–800–333–0371.



h13034

This indicator comes on when the ignition key is turned to the "ON" position and goes off after about 6 seconds. This means the SRS airbags are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see "Service reminder indicators and warning buzzers" in Section 1–5.)



The SRS airbag system is designed to activate in response to a severe frontal impact within the shaded area between the arrows in the illustration.

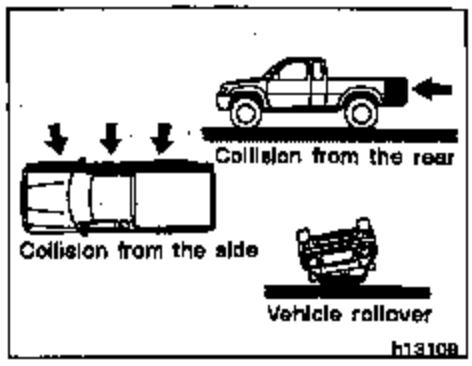
The SRS airbags will deploy if the severity of the impact is above the designed threshold level, comparable to an approximate 25 km/h (15 mph) collision when impacting straight into a fixed barrier that does not move or deform.

If the severity of the impact is below the above threshold level, the SRS airbags may not deploy.

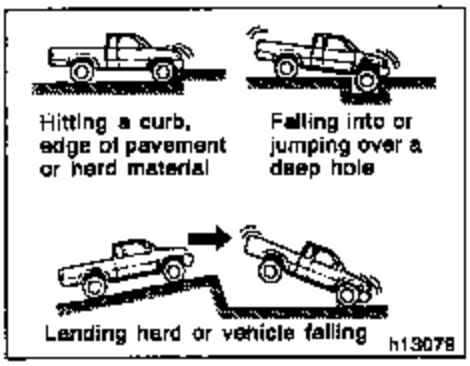
However, this threshold velocity will be considerably higher if the vehicle strikes an object, such as a parked vehicle or sign pole, which can move or deform on impact, or if it is involved in an underride collision (e.g. a collision in which the nose of the vehicle "underrides", or goes under, the bed of a truck, etc.).

It is possible that in some collisions at the lower zone of airbag sensor detection and activation the SRS airbags and seat belt pretensioners will not operate all together.

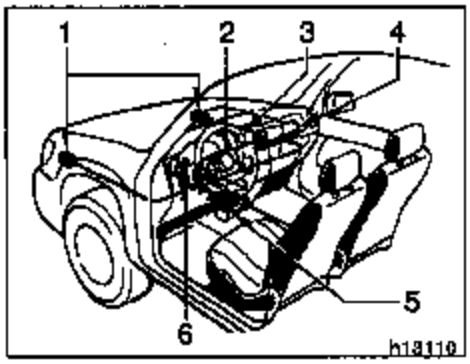
For the safety of all occupants, always wear your seat belts properly.



The SRS airbags are not designed to inflate if the vehicle is involved in a side or rear collision, if it rolls over, or if it is involved in a low-speed frontal collision.



The SRS airbags may deploy if a serious impact occurs to the underside of your vehicle. Some examples are shown in the illustration.



The SRS airbag system consists mainly of the following components, and their locations are shown in the illustration.

1. Front airbag sensors
2. Airbag module for driver (airbag and inflator)
3. Passenger airbag manual on–off switch
4. Airbag module for front passenger (airbag and inflator)
5. Airbag sensor assembly
6. SRS warning light

The airbag sensor assembly consists of a safing sensor and airbag sensor.

In a severe frontal impact, the sensors detect deceleration and the system triggers the airbag inflators. Then a chemical reaction in the inflators quickly fills the airbags with non-toxic gas to help restrain the forward motion of the occupants.

When the airbags inflate, they produce a fairly loud noise and release some smoke and residue along with non-toxic gas. This does not indicate a fire. This gas is normally harmless; however, for those who have delicate skin, it may cause a minor skin irritation. Be sure to wash off any residue as soon as possible to prevent any potential skin irritation.

Deployment of the airbags happens in a fraction of a second, so the airbags must inflate with considerable force. While the system is designed to reduce serious injuries, it may also cause minor burns or abrasions and swelling.

Parts of the airbag module (steering wheel hub; dashboard) may be hot for several minutes, but the airbags themselves will not be hot. The airbags are designed to inflate only once.

A crash severe enough to inflate the airbags may break the windshield as the vehicle buckles. In vehicles with a passenger airbag the windshield may also be damaged by absorbing some of the force of the inflating airbag.

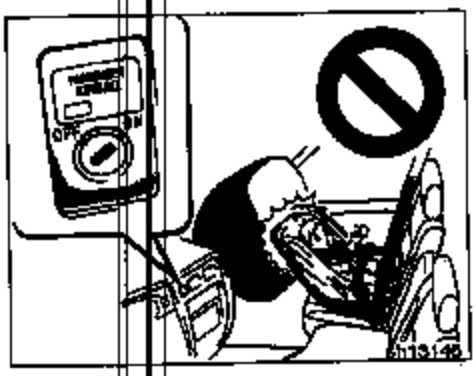
⚠ CAUTION

- The SRS airbag system is designed only as a supplement to the primary protection of the driver side and front passenger side seat belt systems. The front seat occupants can be killed or seriously injured by the inflating airbags if they do not wear the available seat belts properly. During sudden braking just before a collision, an unrestrained driver or front passenger can move forward into direct contact with or close proximity to the airbag which may then deploy during the collision. To ensure maximum protection in an accident, the driver and all passengers in the vehicle must wear their seat belts properly. Wearing a seat belt properly during an accident reduces the chances of death or serious injury or being thrown out of the vehicle. For instructions and precautions concerning the seat belt system, see "Seat belts" in this section.

- Improperly seated and/or restrained infants and children can be killed or seriously injured by the deploying airbags. An infant or child who is too small to use a seat belt should be properly secured using a child restraint system. As to Xtracab models, Toyota recommends that all infants and children be placed in the rear seat of the vehicle and properly restrained. The rear seat is the safest for infants and children. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.

⚠ CAUTION

A member of a passenger risk group should never sit or be occupied in the right front passenger seat with airbag manual on–off switch in the "ON" position. (For details, see "SRS driver and front passenger airbags" in this section.)

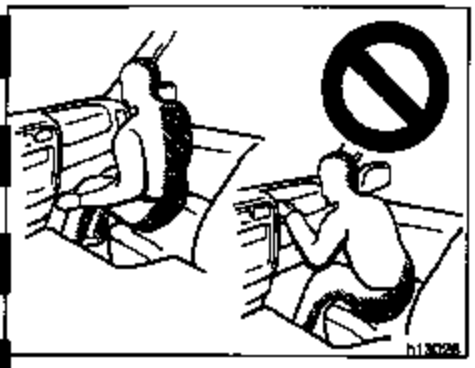


- A forward–facing child restraint system which belongs to a passenger risk group should never be installed on the right front seat with the passenger airbag manual on–off switch in the "ON" position, because the force of the deploying airbag could cause death or serious injury to the child in forward seating position.

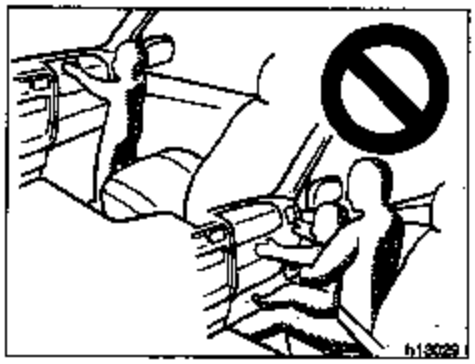
  For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.

⚠ CAUTION

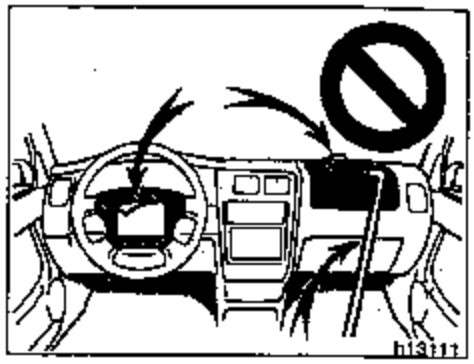
- Never install a rear–facing child restraint system on the right front seat with the passenger airbag manual on–off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.



- Do not sit on the edge of the seat or lean over the dashboard when the vehicle is in use, since the airbags inflate with considerable speed and force. Otherwise you may be killed or seriously injured. Sit up straight and well back in the seat, and always use your seat belt properly.



- Do not allow a child to stand up or to kneel on the front passenger seat, since the airbag inflates with considerable speed and force. Otherwise, the child may be killed or seriously injured.
- Do not hold a child on your lap or in your arms. Use a child restraint system in the rear seat. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.



- Do not put objects or your pets on or in front of the dashboard or steering wheel pad that houses the airbag system. They might restrict inflation or cause death or serious injury as they are projected rearward by the force of the deploying airbags. Likewise, the driver and front passenger should not hold objects in their arms or on their knees.

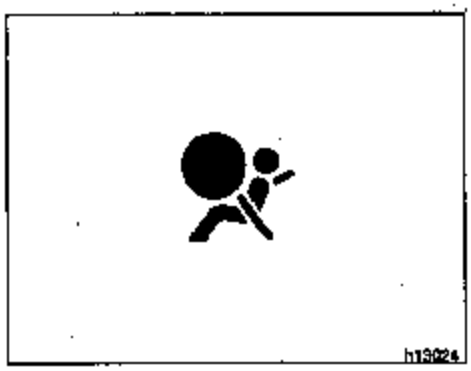
- Do not modify or remove any wiring. Do not modify, remove, strike or open any components such as the steering wheel pad, steering wheel, column cover, front passenger airbag cover, front passenger airbag or airbag sensor assembly. Doing so may cause sudden SRS airbag inflation or disable the system, which could result in death or serious injury.

Failure to follow these instructions can result in death or serious injury. Consult your Toyota dealer about any repairs and modifications.

NOTICE

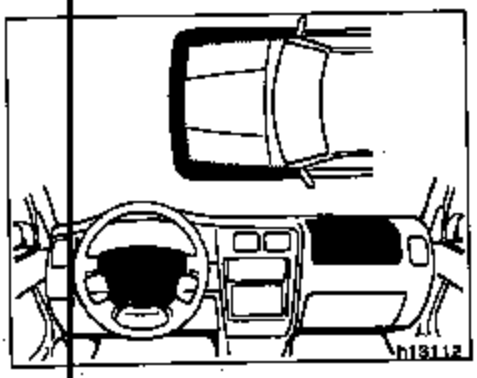
Do not perform any of the following changes without consulting your Toyota dealer. Such changes can interfere with proper operation of the SRS airbag system in some cases.

- *Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player*
- *Modification of the suspension system*
- *Modification of the front end structure*
- *Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end*
- *Repairs made on or near the front fenders, front end structure, console, steering column, steering wheel or dashboard near the front passenger airbag*



This SRS airbag system has a service reminder indicator to inform the driver of operating problems. If either of the following conditions occurs, this indicates a malfunction of the airbags. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the "ON" position, or the light remains on.
- The light comes on while driving.



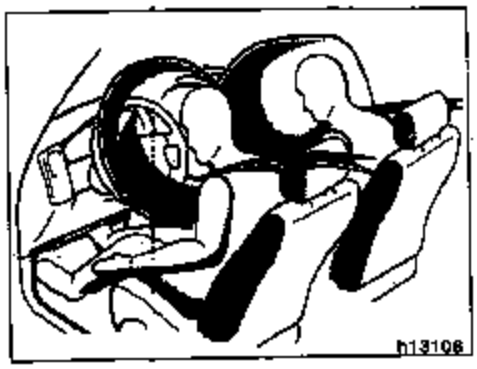
In the following cases, contact your Toyota dealer as soon as possible:

- The SRS front airbags have been inflated.
- The front of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the SRS airbags to inflate.
- The pad section of the steering wheel or front passenger airbag cover (shaded in the illustration) is scratched, cracked, or otherwise damaged.

NOTICE

Do not disconnect the battery cables before contacting your Toyota dealer.

passenger airbag (vehicles without passenger airbag manual on-off switch)



The SRS (Supplemental Restraint System) airbags are designed to provide further protection for the driver and front passenger in addition to the primary safety protection provided by the seat belts.

In response to a severe frontal impact, the SRS airbags work together with the seat belts to help reduce injury by inflating. The SRS airbags help to reduce injuries mainly to the driver's or front passenger's head or chest caused by directly hitting the steering wheel or dashboard. The front passenger airbag is activated even with no passenger in the front seat.

Be sure to wear your seat belt properly.

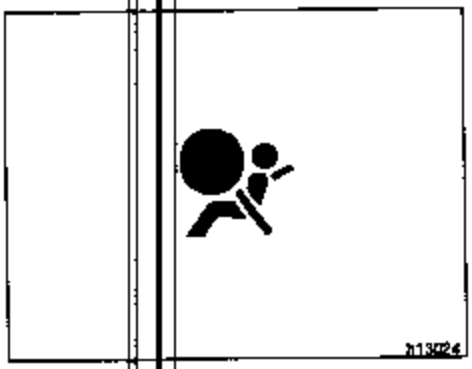
48

Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seat belt restraint system by the driver when the SRS airbags are inflated.

⚠ CAUTION

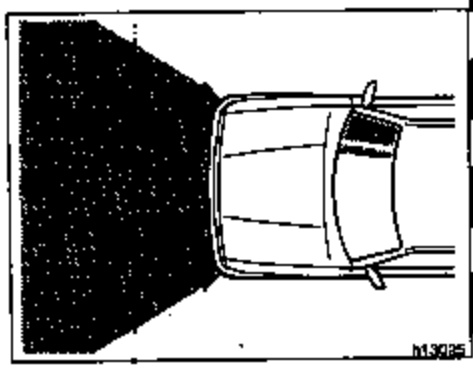
The driver or front passenger who is too close to the steering wheel or dashboard during airbag deployment can be killed or seriously injured. Toyota strongly recommends that:

- **The driver sit as far back as possible from the steering wheel while still maintaining control of the vehicle.**
- **The front passenger sit as far back as possible from the dashboard.**
- **All vehicle occupants be properly restrained using the available seat belts.**



This indicator comes on when the ignition key is turned to the "ON" position. It goes off after about 6 seconds. This means the SRS airbags are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see "Service reminder indicators and warning buzzers" in Section 1-5.)



The SRS airbag system is designed to activate in response to a severe frontal impact within the shaded area between the arrows in the illustration.

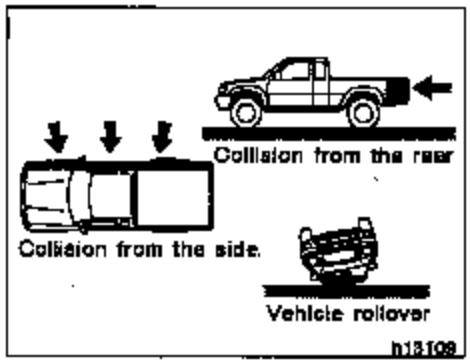
The SRS airbags will deploy if the severity of the impact is above the designed threshold level, comparable to an approximate 25 km/h (15 mph) collision when impacting straight into a fixed barrier that does not move or deform.

If the severity of the impact is below the above threshold level, the SRS airbags may not deploy.

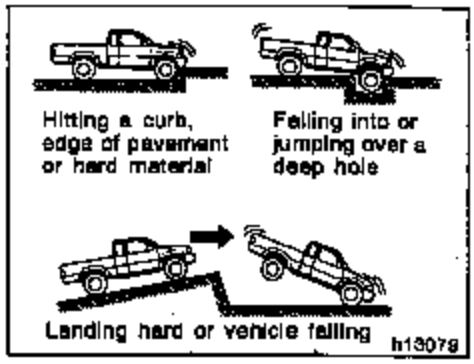
However, this threshold velocity will be considerably higher if the vehicle strikes an object, such as a parked vehicle or sign pole, which can move or deform on impact, or if it is involved in an underride collision (e.g. a collision in which the nose of the vehicle "underrides", or goes under, the bed of a truck, etc.).

It is possible that in some collisions at the lower zone of airbag sensor detection and activation the SRS airbags and seat belt pretensioners will not operate all together.

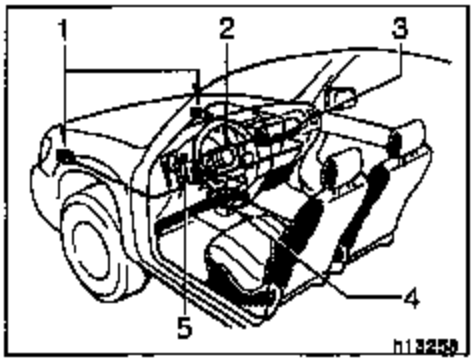
For the safety of all occupants, always wear your seat belts properly.



The SRS airbags are not designed to inflate if the vehicle is involved in a side or rear collision, if it rolls over, or if it is involved in a low-speed frontal collision.



The SRS airbags may deploy if a serious impact occurs to the underside of your vehicle. Some examples are shown in the illustration.



The SRS airbag system consists mainly of the following components, and their locations are shown in the illustration.

1. Front airbag sensors
2. Airbag module for driver (airbag and inflator)
3. Airbag module for front passenger (airbag and inflator)
4. Airbag sensor assembly
5. SRS warning light

The airbag sensor assembly consists of a safing sensor and airbag sensor.

In a severe frontal impact, the sensors detect deceleration and the system triggers the airbag inflators. Then a chemical reaction in the inflators quickly fills the airbags with non-toxic gas to help restrain the forward motion of the occupants.

When the airbags inflate, they produce a fairly loud noise and release some smoke and residue along with non-toxic gas. This does not indicate a fire. This gas is normally harmless; however, for those who have delicate skin, it may cause a minor skin irritation. Be sure to wash off any residue as soon as possible to prevent any potential skin irritation.

Deployment of the airbags happens in a fraction of a second, so the airbags must inflate with considerable force. While the system is designed to reduce serious injuries, it may also cause minor burns or abrasions and swelling.

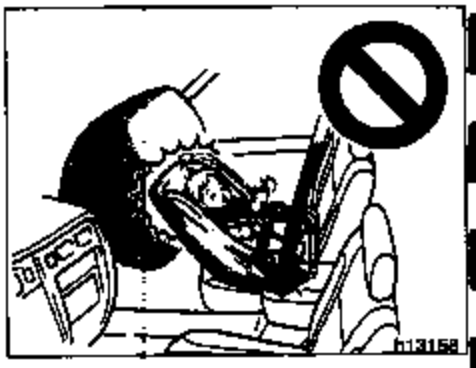
Parts of the airbag module (steering wheel hub, dashboard) may be hot for several minutes, but the airbags themselves will not be hot. The airbags are designed to inflate only once.

A crash severe enough to inflate the airbags may break the windshield as the vehicle buckles. In vehicles with a passenger airbag the windshield may also be damaged by absorbing some of the force of the inflating airbag.

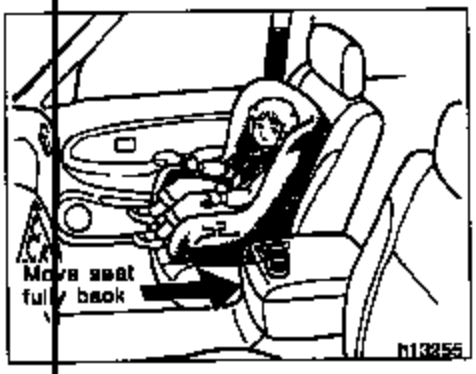
⚠ CAUTION

- The SRS airbag system is designed only as a supplement to the primary protection of the driver side and front passenger side seat belt systems. The front seat occupants can be killed or seriously injured by the inflating airbags if they do not wear the available seat belts properly. During sudden braking just before a collision, an unrestrained driver or front passenger can move forward into direct contact with or close proximity to the airbag which may then deploy during the collision. To ensure maximum protection in an accident, the driver and all passengers in the vehicle must wear their seat belts properly. Wearing a seat belt properly during an accident reduces the chances of death or serious injury or being thrown out of the vehicle. For instructions and precautions concerning the seat belt system, see "Seat belts" in this section.

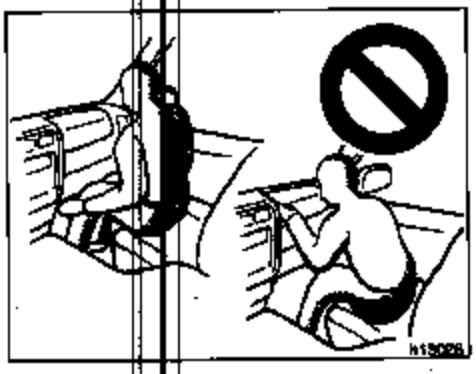
- Improperly seated and/or restrained infants and children can be killed or seriously injured by the deploying airbags. An infant or child who is too small to use a seat belt should be properly secured using a child restraint system. Toyota strongly recommends that all infants and children be placed in the rear seat of the vehicle and properly restrained. The rear seat is the safest for infants and children. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.



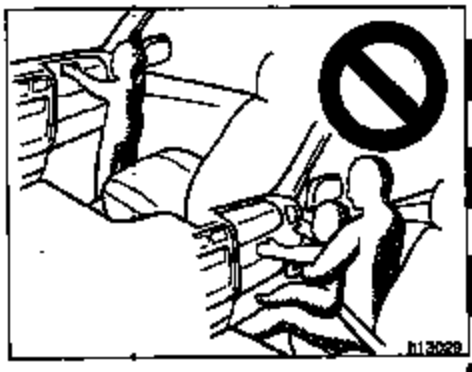
- Never install a rear-facing child restraint system on the front passenger seat because the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.



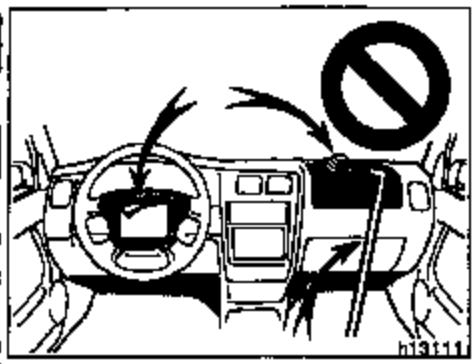
- A forward-facing child restraint system should be allowed to be installed on the front passenger seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying front passenger airbag could cause death or serious injury to the child. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.



- Do not sit on the edge of the seat or lean over the dashboard when the vehicle is in use, since the airbags inflate with considerable speed and force. Otherwise you may be killed or seriously injured. Sit up straight and well back in the seat, and always use your seat belt properly.



- Do not allow a child to stand up or to kneel on the front passenger seat, since the airbag inflates with considerable speed and force. Otherwise, the child may be killed or seriously injured.
- Do not hold a child on your lap or in your arms. Use a child restraint system in the rear seat. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.



- **Do not put objects or your pets on or in front of the dashboard or steering wheel pad that houses the airbag system. They might restrict inflation or cause death or serious injury as they are projected rearward by the force of the deploying airbags. Likewise, the driver and front passenger should not hold things in their arms or on their knees.**

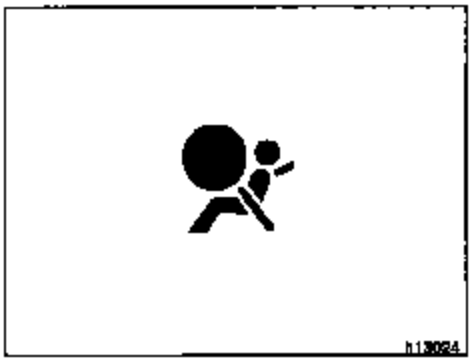
- **Do not modify or remove any wiring. Do not modify, remove, strike or open any components such as the steering wheel pad, steering wheel, column cover, front passenger airbag cover, front passenger airbag or airbag sensor assembly. Doing so may cause sudden SRS airbag inflation or disable the system, which could result in death or serious injury.**

Failure to follow these instructions can result in death or serious injury.

NOTICE

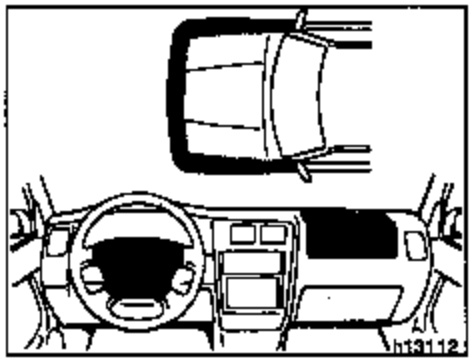
Do not perform any of the following changes without consulting your Toyota dealer. Such changes can interfere with proper operation of the SRS airbag system in some cases.

- ***Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player***
- ***Modification of the suspension system***
- ***Modification of the front end structure***
- ***Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end***
- ***Repairs made on or near the front fenders, front end structure, console, steering column, steering wheel or dashboard near the front passenger airbag***



This SRS airbag system has a service reminder indicator to inform the driver of operating problems. If either of the following conditions occurs, this indicates a malfunction of the airbags. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the "ON" position, or the light remains on.
- The light comes on while driving.



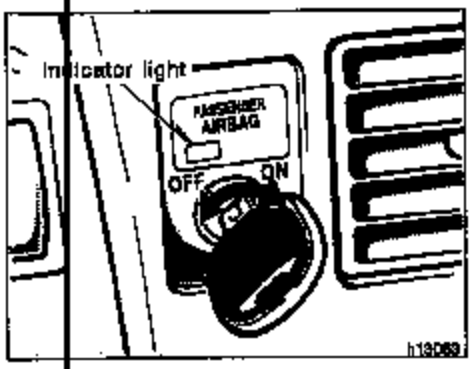
In the following cases, contact your Toyota dealer as soon as possible:

- The SRS front airbags have been inflated.
- The front of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the SRS airbags to inflate.
- The pad section of the steering wheel or front passenger airbag cover (shaded in the illustration) is scratched, cracked, or otherwise damaged.

NOTICE

Do not disconnect the battery cables before contacting your Toyota dealer.

Passenger airbag manual on–off switch (on some models)



This on–off switch is designed to disable the front passenger airbag in order to allow usage, if necessary, of a member of a passenger risk group identified in TABLE 1 is occupying the right front passenger seating position. (For details, see "SRS driver airbag and front passenger airbag" in this section.)

Operate on–off switch as follows:

Insert key into the keyhole and turn it.

To turn front passenger airbag on: Turn the key clockwise to the "ON" position.
To turn front passenger airbag off: Turn the key counterclockwise to the "OFF" position.

The indicator light comes on when the front passenger airbag system is off.

⚠ CAUTION

- **Make sure that the indicator light is off.**
- **Do not turn off the passenger airbag manual on–off switch except when a member of a passenger risk group identified in TABLE 1 is occupying the right front passenger seating position.**
- **When the passenger airbag manual on–off switch is turned off, the front passenger airbag will not inflate in a collision and turning off the front passenger airbag can reduce the occupant protection which your vehicle safety systems can provide to you in certain accidents and increase the likelihood of serious personal injuries.**

For details, see "SRS driver and front passenger airbags" in this section.

Child restraint—
—Child restraint precautions

Toyota strongly urges the use of child restraint systems for children small enough to use them.

The laws of all 50 states in the U.S.A. and Canada now require the use of a child restraint system.

Your vehicle conforms to SAEJ1819.

If a child is too large for a child restraint system, the child should sit in the seat and must be restrained using the vehicle's seat belt. See "Seat belts" for details.

⚠ CAUTION

- **For effective protection in automobile accidents and sudden stops, a child must be properly restrained, using a seat belt or child restraint system depending on the age and size of the child. Holding a child in your arms is not a substitute for a child restraint system. In an accident, the child can be crushed against the windshield, or between you and the vehicle's interior.**

Vehicles with passenger airbag manual on–off switch—

- **REGULAR CAB MODELS—**
  Toyota strongly urges use of a proper child restraint system which conforms to the size of the child.
  EXTRA–CAB MODELS—
  Toyota strongly urges use of a proper child restraint system which conforms to the size of the child, installed on the rear seat. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.
- **Never put infant or child age 1 to 12 in a passenger risk group on the right front seat with the passenger airbag manual on–off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the passenger airbag can cause death or serious injury to the child.**

If you must put infant or child age 1 to 12 in a passenger risk group on the right front seat, make sure the passenger airbag manual on–off switch is in the "OFF" position and that the indicator light is on. (For details, see "SRS driver airbag and front passenger airbag" in this section.)

- **Make sure that you have complied with all installation instructions provided by the child restraint manufacturer and that the system is properly secured.**

Vehicles without passenger airbag manual on–off switch—

- **Toyota strongly urges use of a proper child restraint system which conforms to the size of the child installed on the rear seat. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.**
- **Never install a rear–facing child restraint system on the front seat. In the event of an accident, the force of the rapid inflation of the airbag can cause death or serious injury if a rear–facing child restraint system is installed on the front seat.**
- **Unless it is unavoidable, do not install a forward–facing child restraint system on the front seat.**
- **A forward–facing child restraint system should be allowed to be installed on the front passenger seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying front passenger airbag could cause death or serious injury to the child.**

- **Make sure that you have complied with all installation instructions provided by the child restraint manufacturer and that the system is properly secured.**

—Child restraint system

A child restraint system for a small child or baby must itself be properly restrained on the seat with either the lap belt or the lap portion of the lap/shoulder belt. You must carefully consult the manufacturer's instructions which accompany the child restraint system.

To provide proper restraint, use a child restraint system following the manufacturer's instructions about the appropriate age and size of the child for the child restraint system.

Install the child restraint system correctly following the instructions provided by its manufacturer. General directions are also provided under the following illustrations.

The child restraint system should be installed on the rear seat if your vehicle is equipped with rear seats. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.

⚠ CAUTION

Vehicles with passenger airbag manual on–off switch—

- **Never put infant or child age 1 to 12 in a passenger risk group on the right front seat with the passenger airbag manual on–off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the passenger airbag can cause death or serious injury to the child.**

  If you must put infant or child age 1 to 12 in a passenger risk group on the right front seat, make sure the passenger airbag manual on–off switch is in the "OFF" position and that the indicator light is on. (For details, see "SRS driver airbag and front passenger airbag" in this section.)
- **After installing the child restraint system, make sure it is secured in place according to the manufacturer's instructions. If it is not restrained securely, it may cause death or serious injury to the child in the event of a sudden stop or accident.**

Vehicles without passenger airbag manual on–off switch—

- **Never install a rear–facing child restraint system on the front seat. In the event of an accident, the force of the rapid inflation of the airbag can cause death or serious injury if a rear–facing child restraint system is installed on the front seat.**
- **Unless it is unavoidable, do not install a forward–facing child restraint system on the front seat.**
- **A forward–facing child restraint system should be allowed to be installed on the front passenger seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying front passenger airbag could cause death or serious injury to the child.**
- **After installing the child restraint system, make sure it is secured in place according to the manufacturer's instructions. If it is not restrained securely, it may cause death or serious injury to the child in the event of a sudden stop or accident.**

When not using the child restraint system, keep it secured with the seat belt or place it somewhere other than the passenger compartment. This will prevent it from injuring passengers in the event of a sudden stop or accident.

Your vehicle has anchors for securing the top strap of a child restraint system.

—Types of child restraint system

Child restraint systems are classified into the following 3 types depending on the child's age and size.

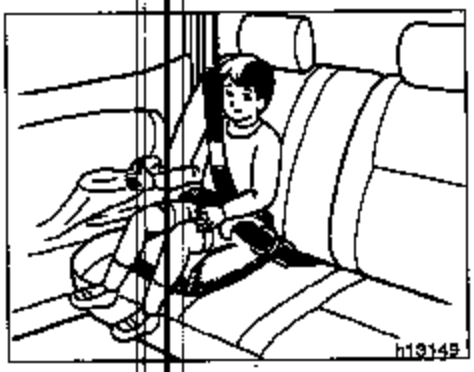
(A) Infant seat
(B) Convertible seat
(C) Booster seat

Install the child restraint system following the instructions provided by its manufacturer.

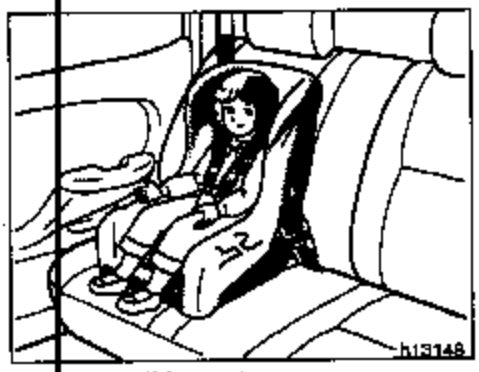
For instructions on how to use the anchor bracket, see "—Using a top strap" in this section.

The child restraint lower anchorages approved for your vehicle may also be used. See "—Installation with child restraint lower anchorages" in this section.

(A) Infant seat

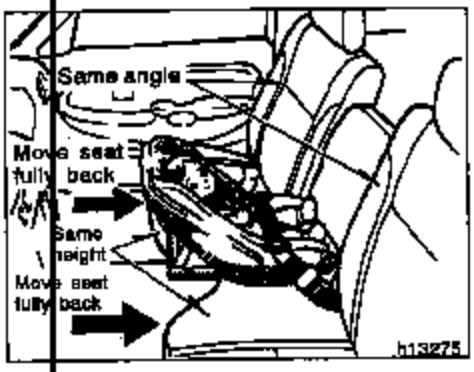


(C) Booster seat



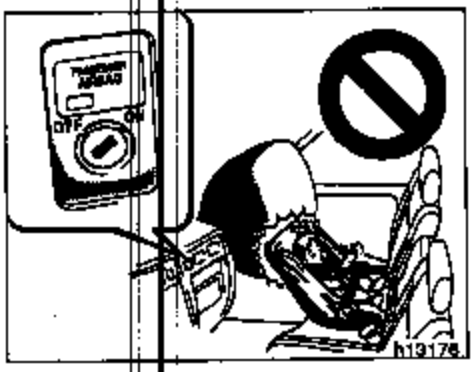
(B) Convertible seat

60



⚠ CAUTION

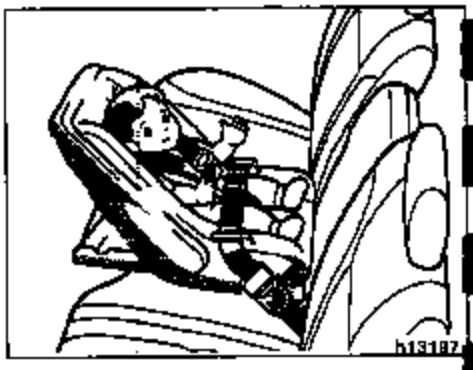
- Split bench seat only: When installing a child restraint system in the center position, adjust both seat cushions to the same position and align both seatbacks at the same angle. Otherwise, the child restraint system cannot be securely restrained and this may cause death or serious injuries in a collision.
- If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system at another position.



⚠ CAUTION

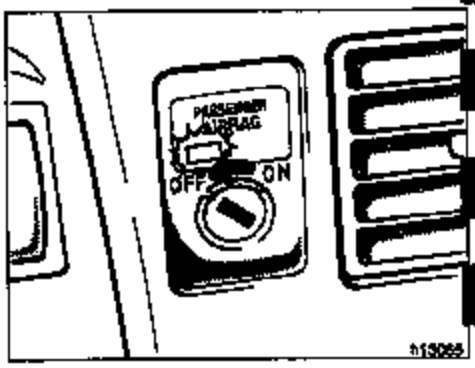
Never install a rear-facing child restraint system on the front passenger seat with the passenger airbag manual on-off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.

—Installation with 2-point type seat belt (vehicles with passenger airbag manual on-off switch)



(A) INFANT SEAT INSTALLATION

An infant seat is used in rear-facing position only.

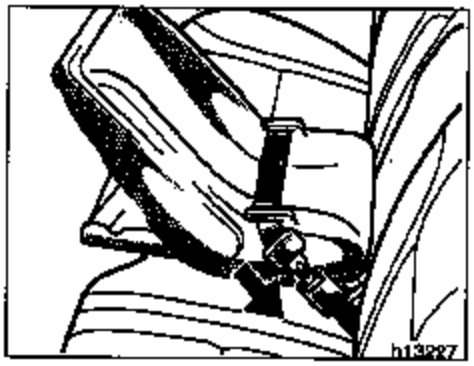


When you install a rear-facing child restraint system on the front passenger seat, turn the passenger airbag manual on-off switch counterclockwise to the "OFF" position. (For details, see "SRS driver airbag and front passenger airbag (vehicles with passenger airbag manual on-off switch)" in this section.)

The indicator light comes on when the system is off.

⚠ CAUTION

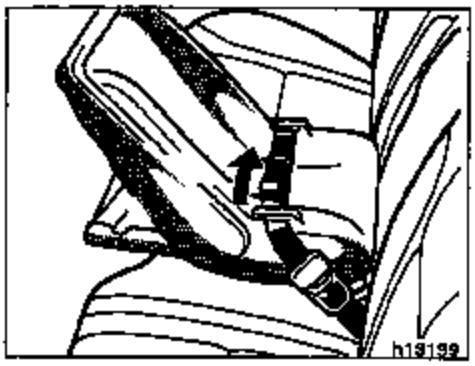
If you must install a rear-facing child restraint system on the front passenger seat, make sure the passenger airbag manual on-off switch is in the "OFF" position and that the indicator light is on.



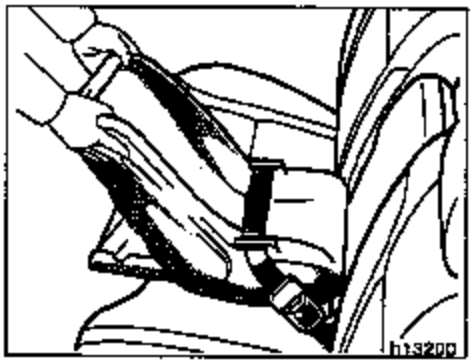
1. Run the center lap belt through or around the infant seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the lap belt.

⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the lap belt is not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**

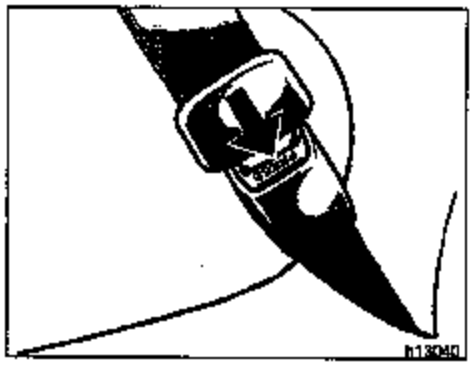


2. While pressing the infant seat firmly against the seat cushion and seatback, tighten the lap belt by pulling its free end to hold the infant seat securely.

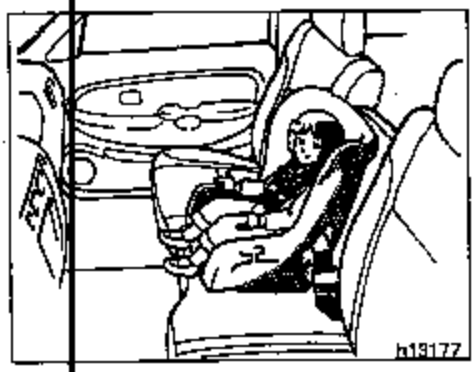


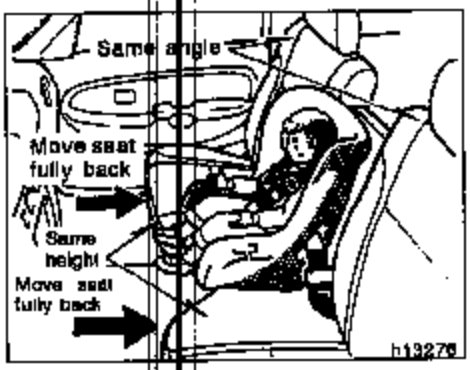
⚠ CAUTION

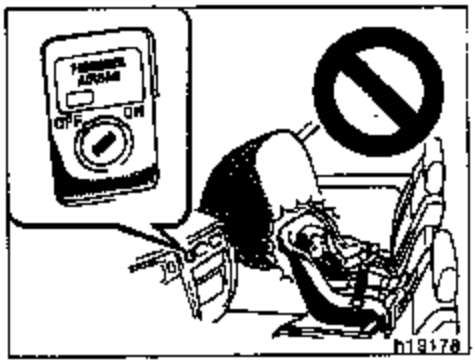
Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.



3. To remove the infant seat, press the buckle-release button.







(8) CONVERTIBLE SEAT INSTALLATION

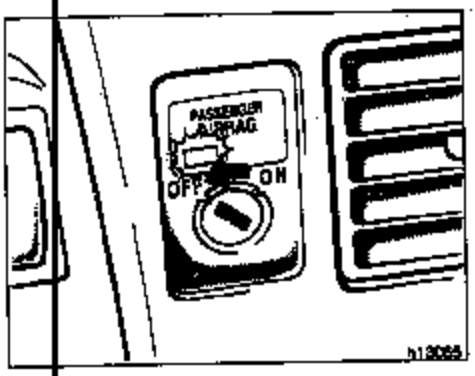
A convertible seat is used in forward-facing and rear-facing position depending on the child's age and size. When installing, follow the manufacturer's instructions about the applicable child's age and size as well as directions for installing a child restraint system.

⚠ CAUTION

- **Split bench seat only: When installing a child restraint system in the center position, adjust both seat cushions to the same position and align both seatbacks at the same angle. Otherwise, the child restraint system cannot be securely restrained and this may cause death or serious injuries in a collision.**
- **If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system at another position.**

⚠ CAUTION

Rear-facing child restraint system: Never install a rear-facing child restraint system on the front passenger seat with the passenger airbag manual on-off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.

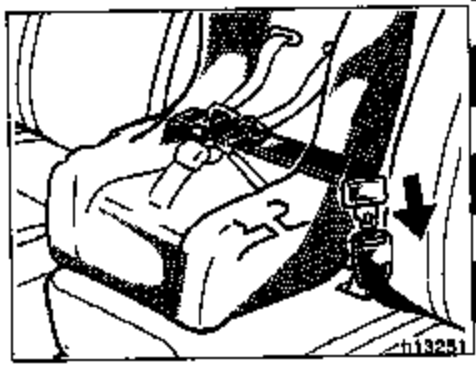


When you install a rear-facing child restraint system on the front passenger seat, turn the passenger airbag manual on-off switch counterclockwise to the "OFF" position. (For details, see "SRS driver airbag and front passenger airbag" in this section.)

The indicator light comes on when the system is off.

⚠ CAUTION

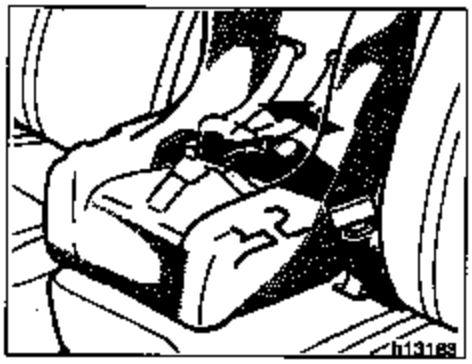
- **If you must install a rear-facing child restraint system on the front passenger seat, make sure the passenger airbag manual on-off switch is in the "OFF" position and that the indicator light is on.**
- **Forward-facing child restraint system: A forward-facing child restraint system should never be installed on the front passenger seat with the passenger airbag manual on-off switch in the "ON" position, because the force of the deploying airbag could cause death or serious injury to the child in forward seating position.**



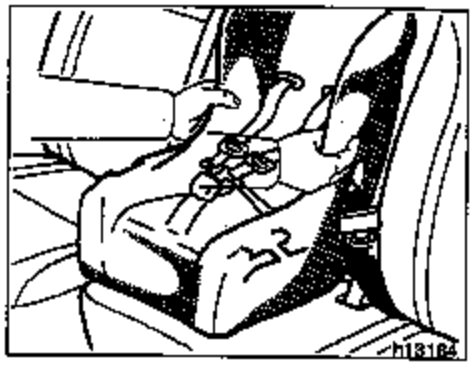
1. Run the center lap belt through or around the convertible seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the lap belt.

⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the lap belt is not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**



2. While pressing the convertible seat firmly against the seat cushion and seatback, tighten the lap belt by pulling its free end to hold the convertible seat securely.

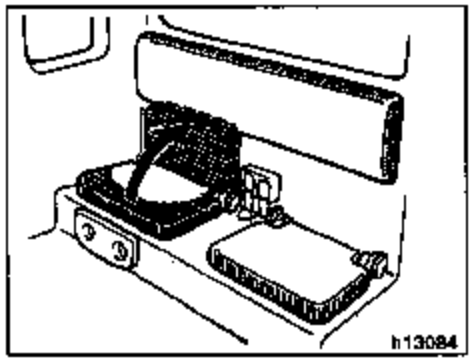


⚠ CAUTION

Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.

—Installation with 3–point type seat belt (vehicles with passenger airbag manual on–off switch)

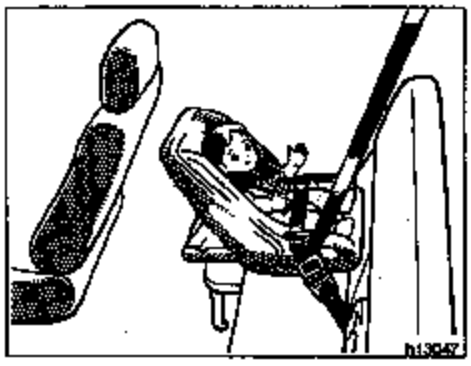
3. To remove the convertible seat, press the buckle–release button.



WHEN INSTALLING ON THE REAR SEAT (xtra–cab models):

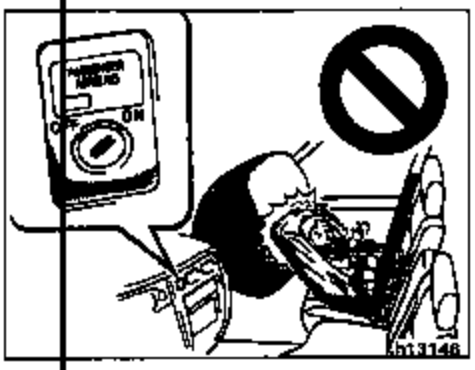
Raise the bottom cushion before installing the child restraint system.

If your child restraint system is too large, you can use the folding table as an auxiliary support. For instructions about how to stand the table, see "Rear cup holder (xtra–cab models)" in Section 1–9.



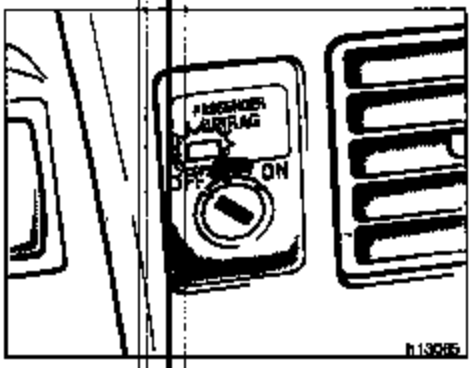
(A) INFANT SEAT INSTALLATION

An infant seat is used in rear–facing position only.



⚠ CAUTION

Never install a rear-facing child restraint system on the right front seat with the passenger airbag manual on-off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.

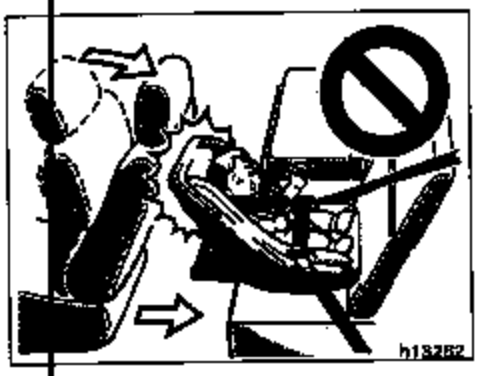


When you install a rear-facing child restraint system which belongs to a passenger risk group on the right front seat, turn the passenger airbag manual on-off switch counterclockwise to the "OFF" position. (For details, see "SRS driver airbag and front passenger airbag" in this section.)

The indicator light comes on when the system is off.

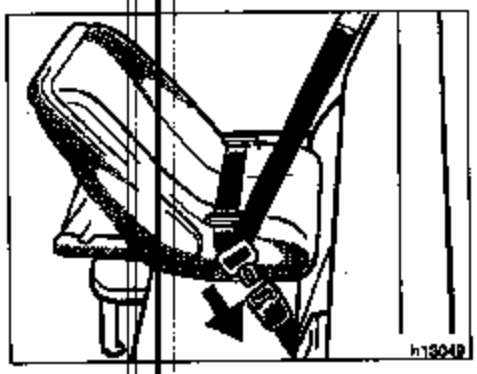
⚠ CAUTION

If you must install a rear-facing child restraint system on the right front seat, make sure the front passenger airbag manual on-off switch is in the "OFF" position and that the indicator light is on.



⚠ CAUTION

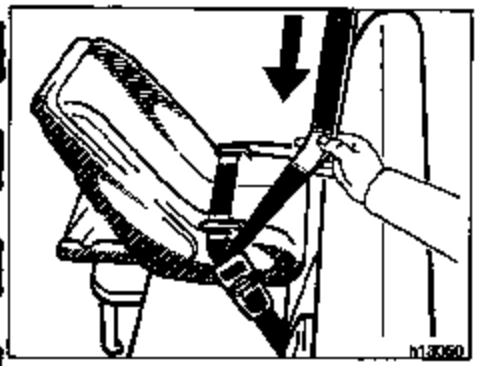
- **Do not install a child restraint system on the rear seat if the child restraint system interferes with the front seat lock mechanism or with your proper driving position. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.**
- **If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system on the rear right seat.**



1. Run the lap and shoulder belt through or around the infant seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the belt. Keep the lap portion of the belt tight.

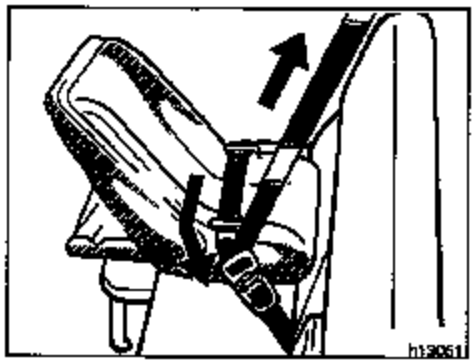
⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the lap and shoulder portions of the belt are not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**

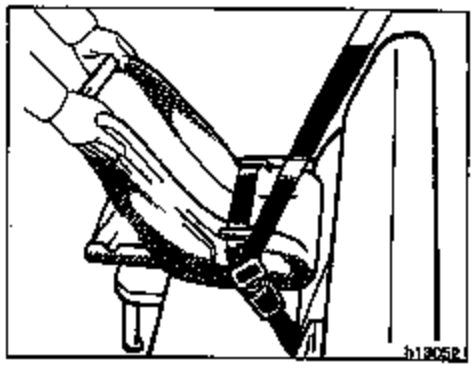


2. Fully extend the shoulder belt to put it in the lock mode. When the belt is then retracted even slightly, it cannot be extended.

To hold the infant seat securely, make sure the belt is in the lock mode before letting the belt retract.

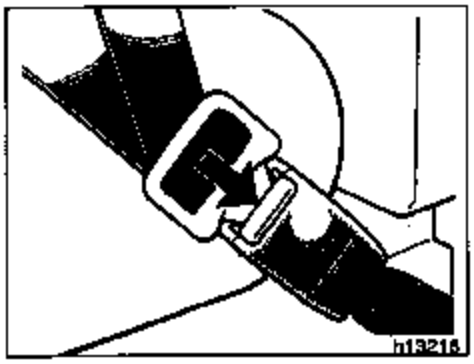


3. While pressing the infant seat firmly against the seat cushion and seatback, let the shoulder belt retract as far as it will go to hold the infant seat securely.

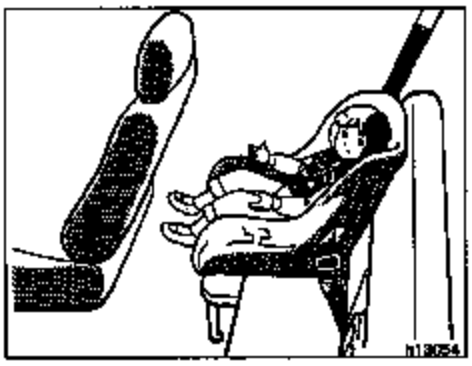


⚠ CAUTION

Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.

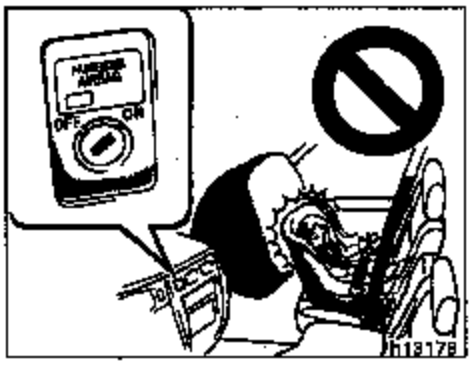


4. To remove the infant seat, press the buckle-release button and allow the belt to retract completely. The belt will move freely again and be ready to work for an adult or older child passenger.



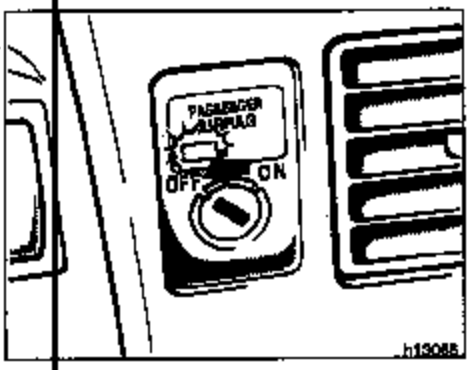
(B) CONVERTIBLE SEAT INSTALLATION

A convertible seat is used in forward-facing and rear-facing position depending on the child's age and size. When installing, follow the manufacturer's instruction about the applicable child's age and size as well as directions for installing a child restraint system.



⚠ CAUTION

Rear-facing child restraint system: Never install a rear-facing child restraint system on the right front seat with the passenger airbag manual on-off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.



When you install a rear-facing child restraint system which belongs to a passenger risk group on the right front seat, turn the passenger airbag manual on-off switch counterclockwise to the "OFF" position. (For details, see "SRS driver and front passenger airbags" in this section.)

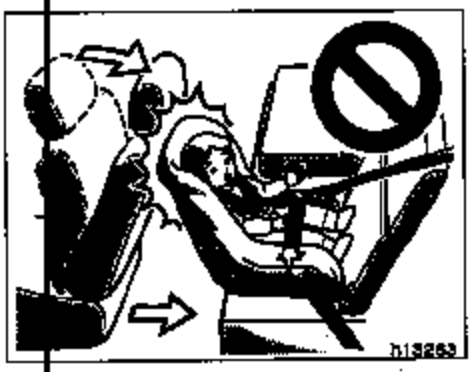
The indicator light comes on when the system is off.

⚠ CAUTION

If you must install a rear-facing child restraint system on the right front seat, make sure the passenger airbag manual on-off switch is in the "OFF" position and that the indicator light is on.

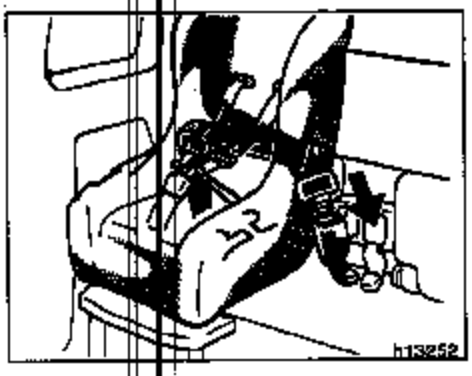
⚠ CAUTION

Forward-facing child restraint system: A forward-facing child restraint system which belongs to a passenger risk group should never be installed on the right front seat with the passenger airbag manual on-off switch in the "ON" position, because the force of the deploying airbag could cause death or serious injury to the child in forward seating position. (For details, see "SRS driver and front passenger airbags" in this section.)



⚠ CAUTION

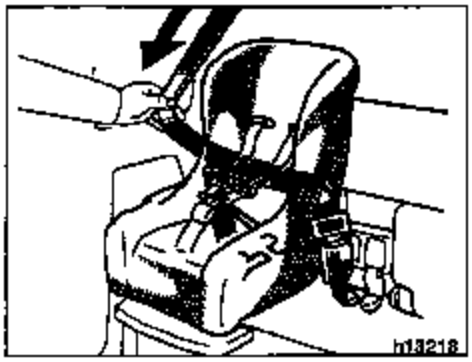
- Do not install a child restraint system on the rear seat if the child restraint system interferes with the front seat lock mechanism or with your proper driving position. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.
- If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system on the rear right seat.



1. Run the lap and shoulder belt through or around the convertible seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the belt. Keep the lap portion of the belt tight.

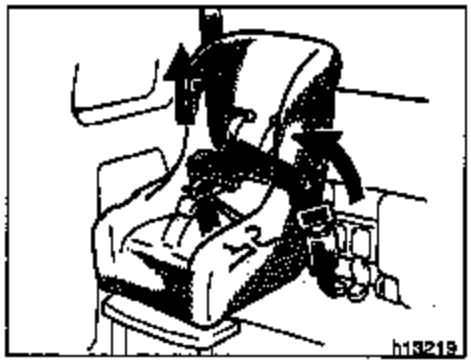
⚠ CAUTION

- After inserting the tab, make sure the tab and buckle are locked and that the lap and shoulder portions of the belt are not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.
- If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.

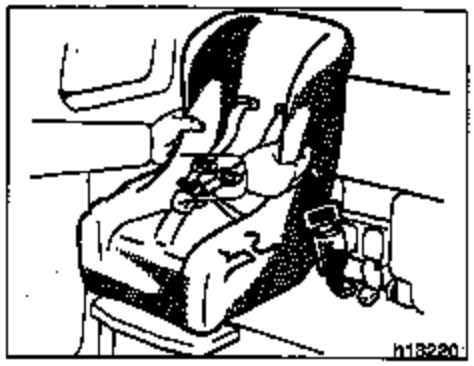


2. Fully extend the shoulder belt to put it in the lock mode. When the belt is then retracted slightly, it cannot be extended.

To hold the convertible seat securely, make sure the belt is in the lock mode before letting the belt retract.



3. While pressing the convertible seat firmly against the seat cushion and seatback, let the shoulder belt retract as far as it will go to hold the convertible seat securely.



⚠ CAUTION

Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.

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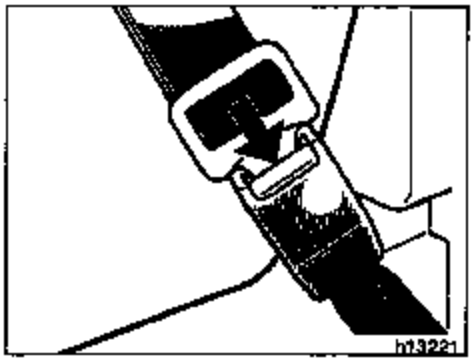
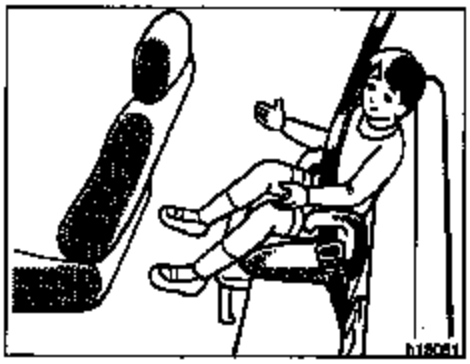


4. To remove the convertible seat, press the buckle-release button and allow the belt to retract completely. The belt will move freely again and be ready to work for an adult or older child passenger.

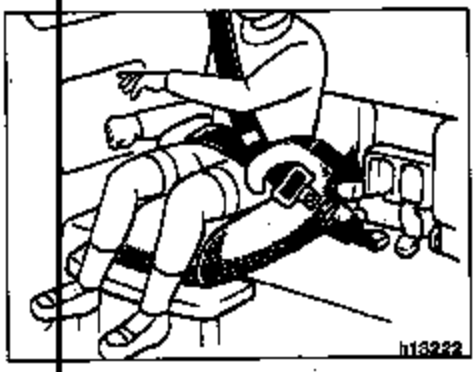


(C) BOOSTER SEAT INSTALLATION

A booster seat is used in forward-facing position only.

⚠ CAUTION

A forward-facing child restraint system which belongs to a passenger risk group should never be installed on the right front seat with the passenger airbag manual on-off switch in the "ON" position, because the force of the deploying airbag could cause death or serious injury to the child in forward seating position. (For details, see "SRS driver airbag and front passenger airbag" in this section.)



1. Sit the child on a booster seat. Run the lap and shoulder belt through or around the booster seat and child following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the belt.

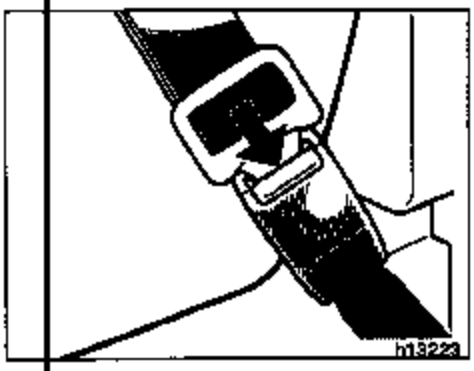
Make sure the shoulder belt is correctly across the child's shoulder and that the lap belt is positioned as low as possible on child's hips. See "Seat belts" for details.

⚠ CAUTION

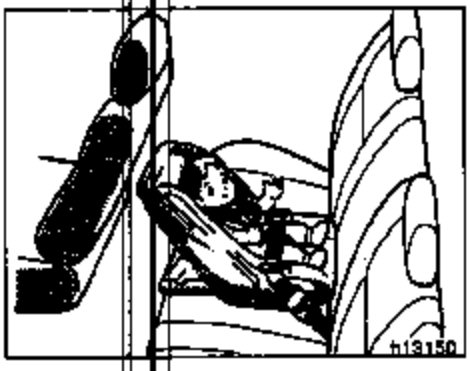
- Always make sure the shoulder belt is positioned across the center of child's shoulder. The belt should be kept away from child's neck, but not falling off child's shoulder. Failure to do so could reduce the amount of protection in an accident and cause serious injuries in a collision.
- Both high-positioned lap belts and loose-fitting belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on a child's hips as possible.
- For child's safety, do not place the shoulder belt under child's arm.
- After inserting the tab, make sure the tab and buckle are locked and that the lap and shoulder portions of the belt are not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent your child from properly latching the tab and buckle.

- If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.

—Installation with 2-point type seat belt (vehicles without passenger airbag manual on-off switch)

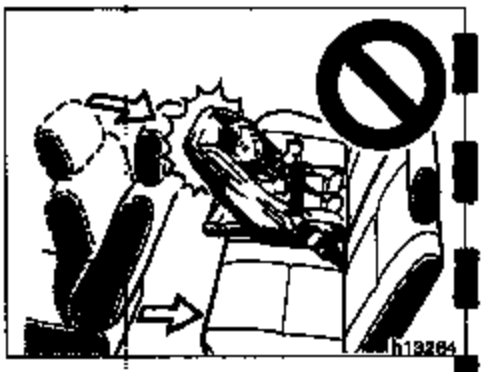


2. To remove the child restraint system, press the buckle-release button and allow the belt to retract.



(A) INFANT SEAT INSTALLATION

An infant seat is used in rear-facing position only.



⚠ CAUTION

- Do not install a child restraint system on the rear seat if it interferes with the lock mechanism of the front seats. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.
- If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system on the rear right seat.

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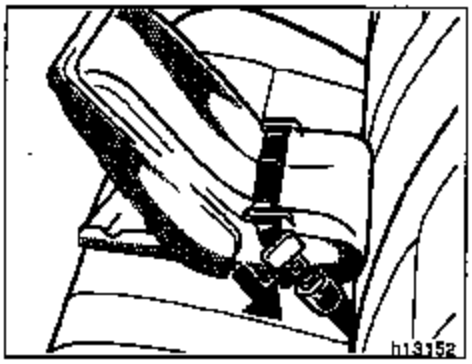
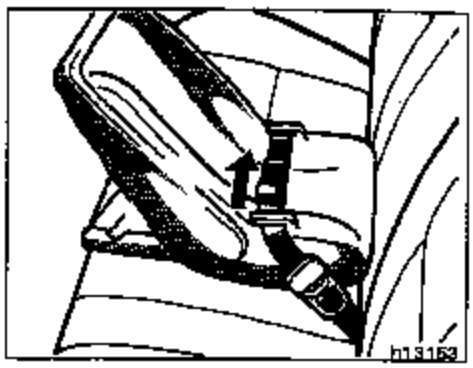


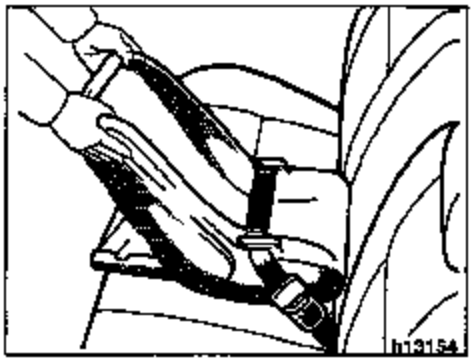
1. Run the center lap belt through or around the infant seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the lap belt.

⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the lap belt is not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**

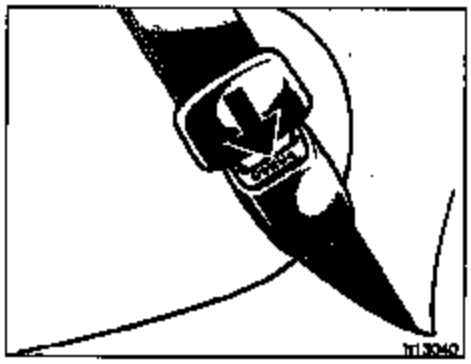


2. While pressing the infant seat firmly against the seat cushion and seatback, tighten the lap belt by pulling its free end to hold the infant seat securely.



⚠ CAUTION

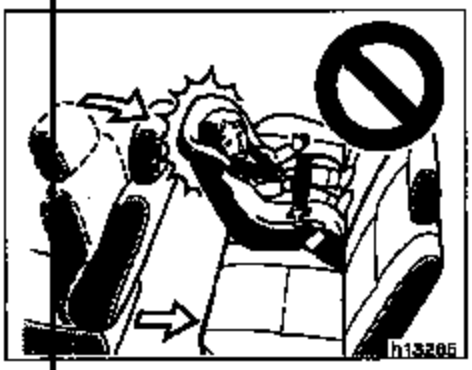
Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.



3. To remove the infant seat, press the buckle-release button.

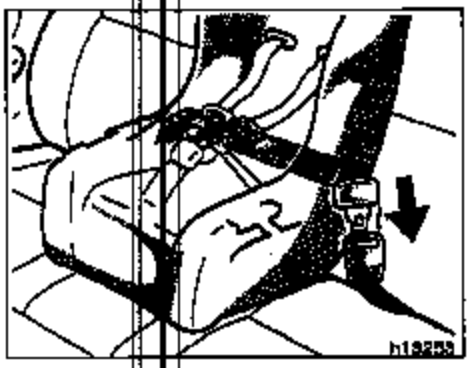
(B) CONVERTIBLE SEAT INSTALLATION

A convertible seat is used in forward-facing and rear-facing position depending on the child's age and size. When installing, follow the manufacturer's instructions about the applicable child's age and size as well as direction for installing of a child restraint system.



⚠ CAUTION

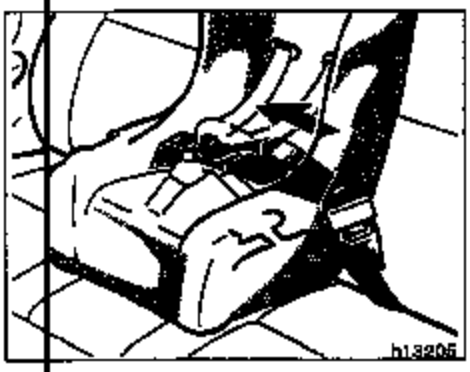
- **Do not install a child restraint system on the rear seat if it interferes with the lock mechanism of the front seats. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.**
- **If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system on the rear right seat.**



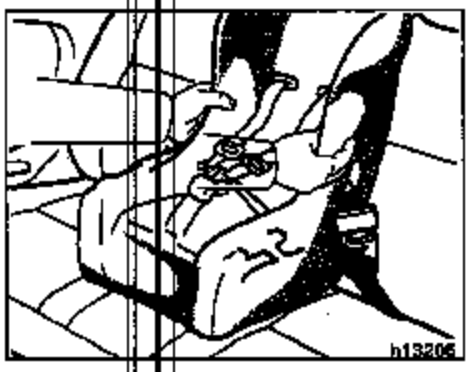
1. Run the center lap belt through or around the convertible seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the lap belt.

⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the lap belt is not twisted.**
- **Do not insert coins, clips, etc. into the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**

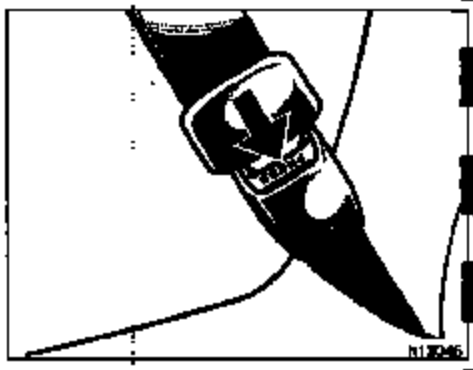


2. While pressing the convertible seat firmly against the seat cushion and seatback, tighten the lap belt by pulling its free end to hold the convertible seat securely.



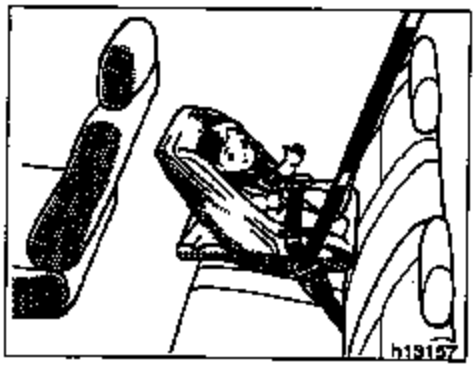
⚠ CAUTION

Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.



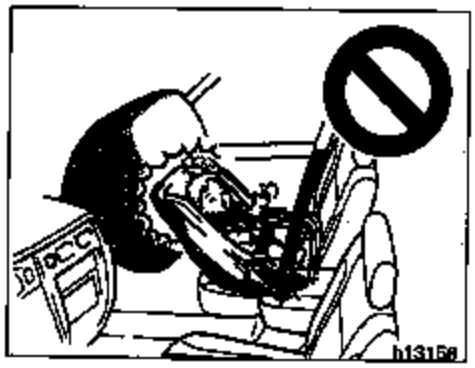
3. To remove the convertible seat, press the buckle-release button.

—Installation with 3–point type seat belt (vehicles without passenger airbag manual on–off switch)



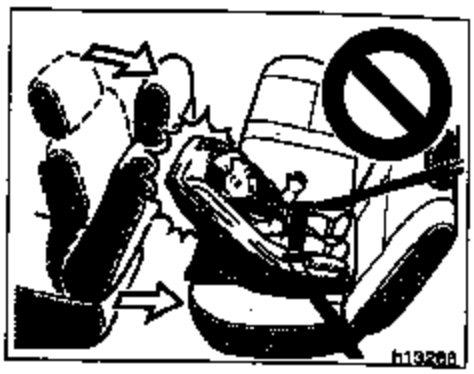
(A) INFANT SEAT INSTALLATION

An infant seat is used in rear–facing position only.



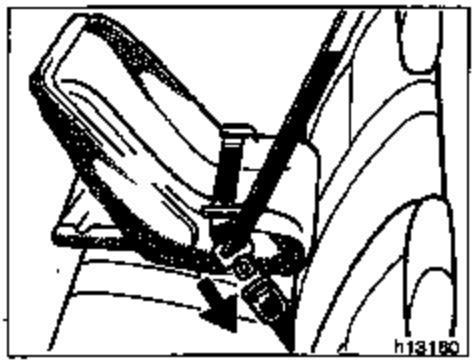
⚠ CAUTION

- **Never install a rear–facing child restraint system on the front passenger seat because the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.**



- **Do not install a child restraint system in the rear seat if it interferes with the lock mechanism of the front seats. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.**
- **If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system on the rear right seat.**

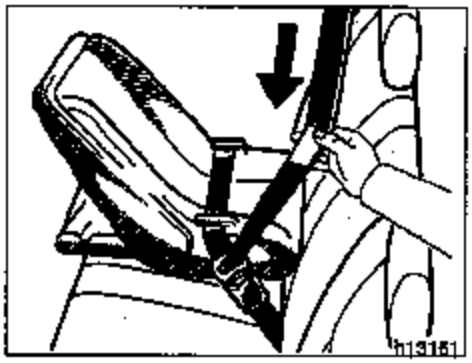
82



1. Run the lap and shoulder belt through or around the infant seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the belt. Keep the lap portion of the belt tight.

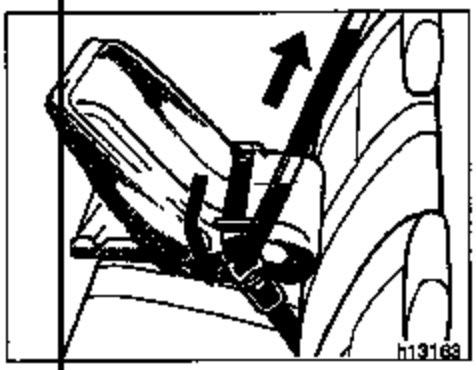
⚠ CAUTION

- **After inserting the tab, make sure the tab and buckle are locked and that the lap and shoulder portions of the belt are not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**

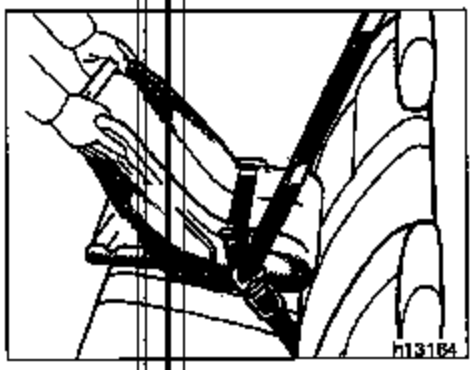


2. Fully extend the shoulder belt to put it in the lock mode. When the belt is then retracted even slightly, it cannot be extended.

To hold the infant seat securely, make sure the belt is in the lock mode before letting the belt retract.

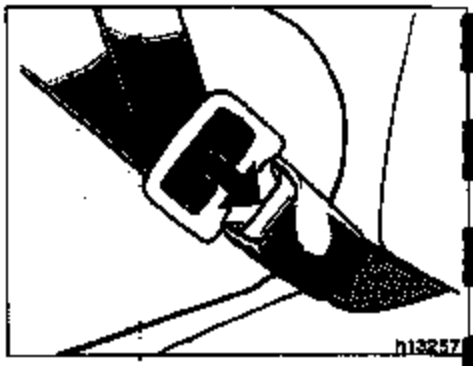


3. While pressing the infant seat firmly against the seat cushion and seatback, let the shoulder belt retract as far as it will go to hold the infant seat securely.

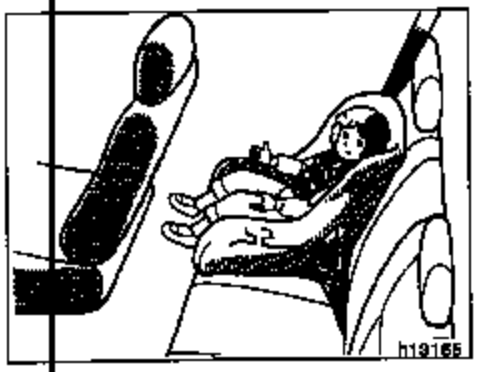


⚠ CAUTION

Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.

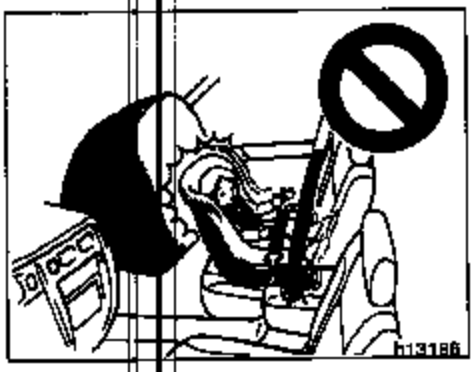


4. To remove the infant seat, press the buckle-release button and allow the belt to retract completely. The belt will move freely again and be ready to work for an adult or older child passenger.



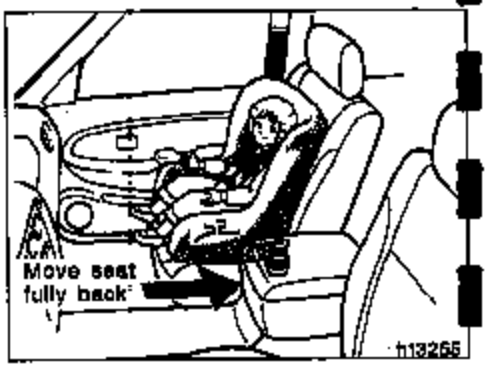
(B) CONVERTIBLE SEAT INSTALLATION

A convertible seat is used in forward-facing and rear-facing position depending on the child's age and size. When installing, follow the manufacturer's instructions about the applicable child's age and size as well as directions for installing a child restraint system.

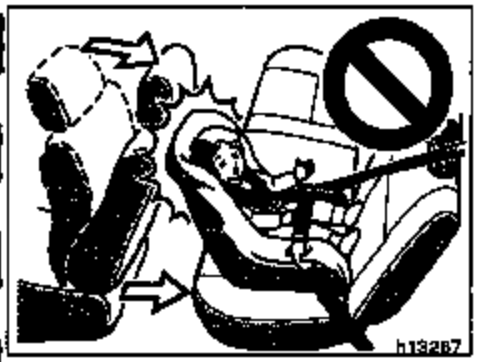


⚠ CAUTION

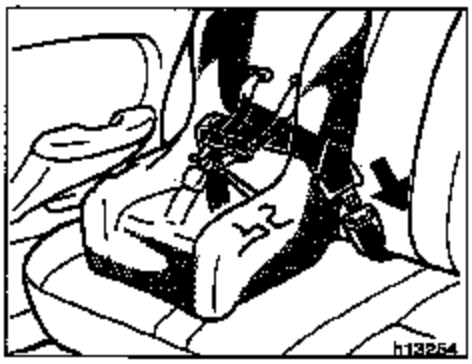
- **Never install a rear-facing child restraint system on the front passenger seat because the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.**



- **A forward-facing child restraint system should be allowed to be installed on the front seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying airbag could cause death or serious injury to the child.**



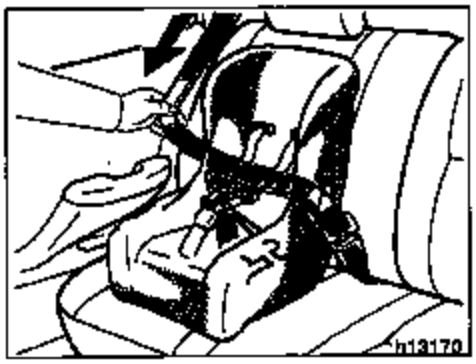
- **Do not install a child restraint system in the rear seat if it interferes with the lock mechanism of the front seats. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.**
- **If the driver's seat position does not allow sufficient space for safe installation, install the child restraint system on the rear right seat.**



1. Run the lap and shoulder belt through or around the convertible seat following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the belt. Keep the lap portion of the belt tight.

⚠ CAUTION

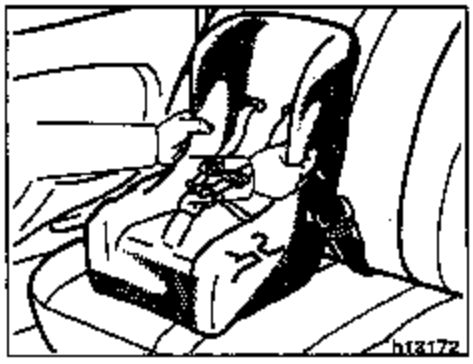
- **After inserting the tab, make sure the tab and buckle are locked and that the lap and shoulder portions of the belt are not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.**
- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**



2. Fully extend the shoulder belt to put it in the lock mode. When the belt is then retracted slightly, it cannot be extended.

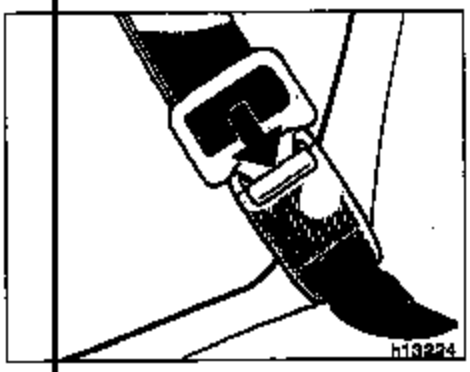
To hold the convertible seat securely, make sure the belt is in the lock mode before letting the belt retract.

3. While pressing the convertible seat firmly against the seat cushion and seatback, let the shoulder belt retract as far as it will go to hold the convertible seat securely.

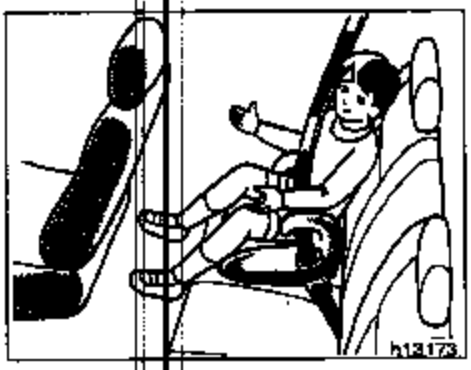


⚠ CAUTION

Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.

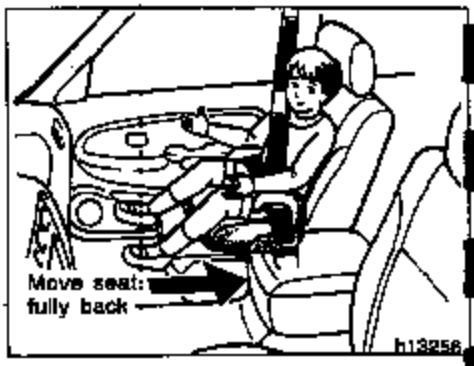


4. To remove the convertible seat, press the buckle-release button and allow the belt to retract completely. The belt will move freely again and be ready to work for an adult or older child passenger.



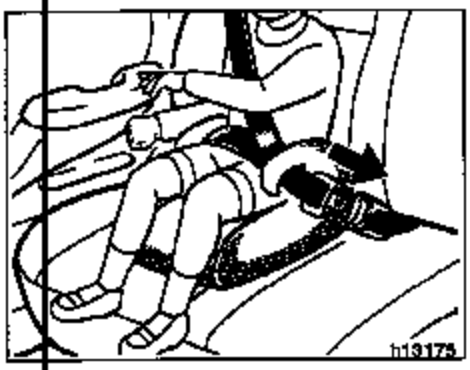
(C) BOOSTER SEAT INSTALLATION

A booster seat is used in forward-facing position only.



⚠ CAUTION

A forward-facing child restraint system should be allowed to be installed on the front seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying airbag could cause death or serious injury to the child.



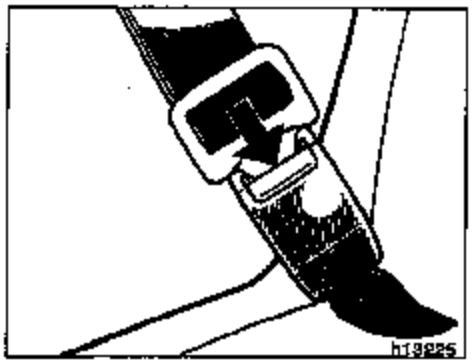
1. Sit the child on a booster seat. Run the lap and shoulder belt through or around the booster seat and child following the instructions provided by its manufacturer and insert the tab into the buckle taking care not to twist the belt.

Make sure the shoulder belt is correctly across the child's shoulder and that the lap belt is positioned as low as possible on child's hips. See "Seat belts" for details.

⚠ CAUTION

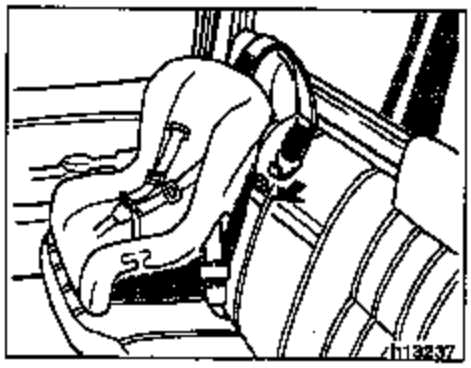
- **Always make sure the shoulder belt is positioned across the center of child's shoulder. The belt should be kept away from child's neck, but not falling off child's shoulder. Failure to do so could reduce the amount of protection in an accident and cause serious injuries in a collision.**
- **Both high-positioned lap belts and loose-fitting belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on a child's hips as possible.**
- **For child's safety, do not place the shoulder belt under child's arm.**
- **After inserting the tab, make sure the tab and buckle are locked and that the lap and shoulder portions of the belt are not twisted.**
- **Do not insert coins, clips, etc. in the buckle as this may prevent your child from properly latching the tab and buckle.**

- **If the seat belt does not function normally, it cannot protect your child from injury. Contact your Toyota dealer immediately. Do not use the child restraint system until the seat belt is fixed.**

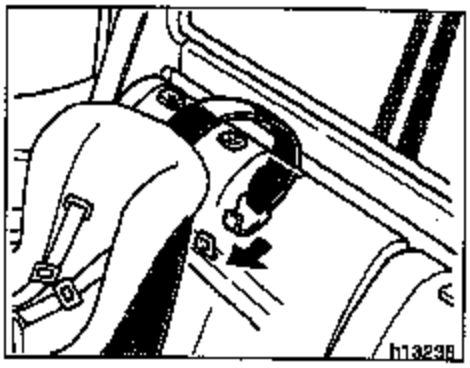


2. To remove the child restraint system, press the buckle-release button and allow the belt to retract.

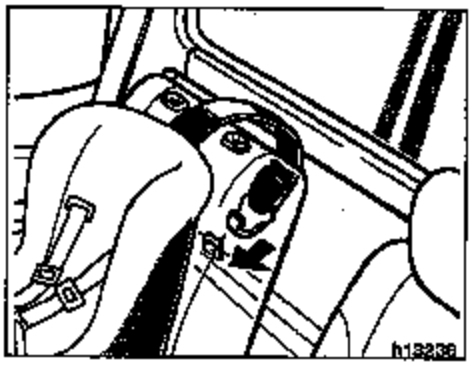
—Using a top strap (regular and double cab models)



Regular cab with bench seat

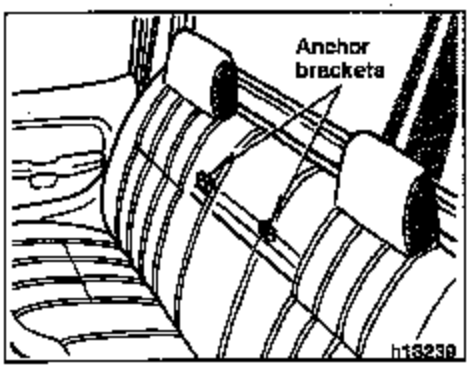


Double cab with rear seats

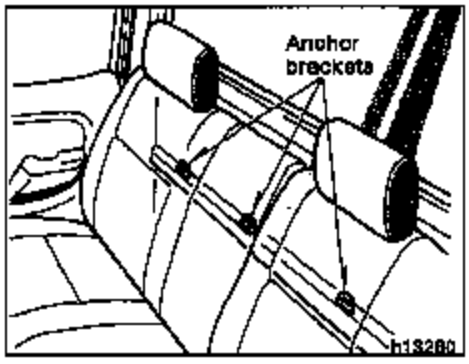


Regular cab with separate seats

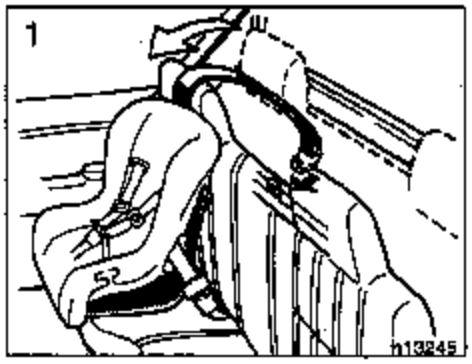
Follow the procedure below for a child restraint system that requires the use of a top strap.



Regular cab with bench seat



Double cab with rear seats

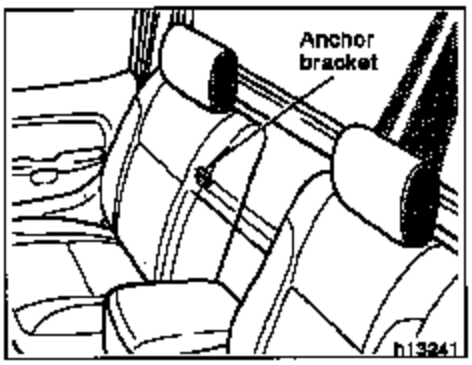


TO USE THE ANCHOR BRACKET:

Regular cab with bench seat—

1. Pull the seatback release lever and swing the seatback forward slightly, then latch the hook onto the anchor bracket.

Return the seatback to its original position.



Regular cab with separate seats

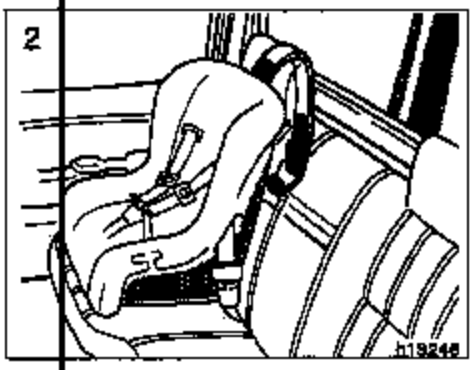
Use the anchor bracket on the back panel to attach the top strap.

Regular cab models—

Anchor brackets are installed for (each) passenger seating position.

Double cab models—

Anchor brackets are installed for each rear seating position.

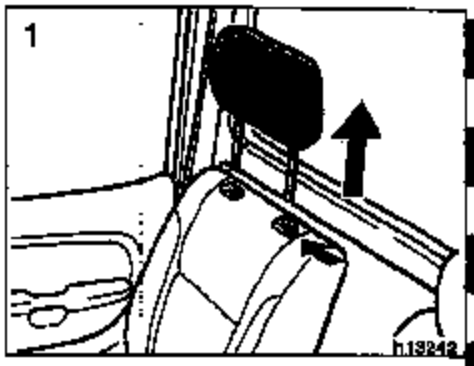


2. Fix the child restraint system with the seat belt and tighten the top strap.

For instructions on installing the child restraint system, see "Child restraint" in this section.

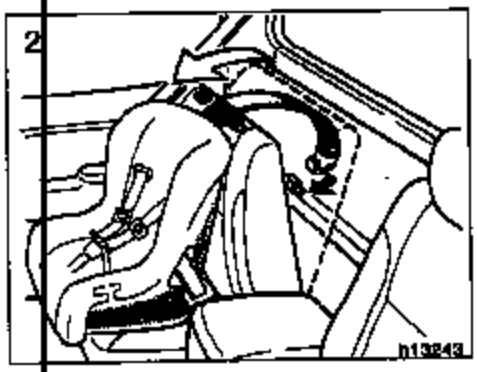
⚠ CAUTION

- When returning the seatback to its original position, make sure the seatback is securely locked by pushing forward and rearward on the top of the seatback.
- Make sure the top strap is securely latched, and check that the child restraint system is secure by pushing and pulling it in different directions. Follow all the installation instructions provided by its manufacturer.



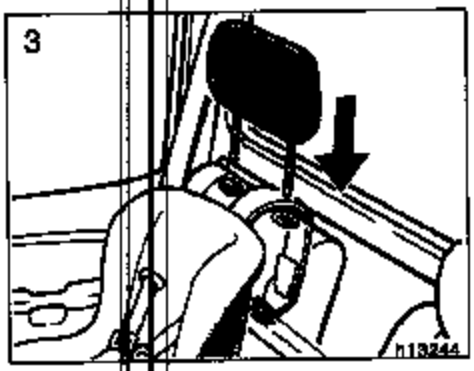
Regular cab with separate seats—

1. Remove the passenger head restraint.



2. Pull the seatback release lever and swing the seatback forward slightly, then latch the hook onto the anchor bracket.

Return the seatback to upright position.



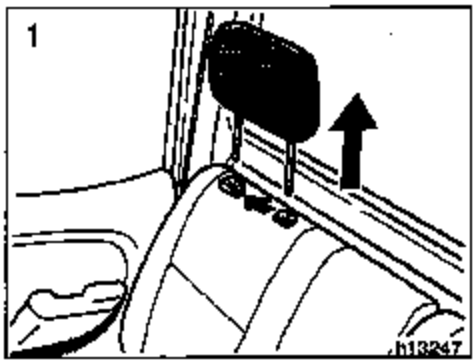
3. Fix the child restraint system with the seat belt and tighten the top strap.

Replace the passenger head restraint.

For instructions on installing the child restraint system, see "Child restraint" in this section.

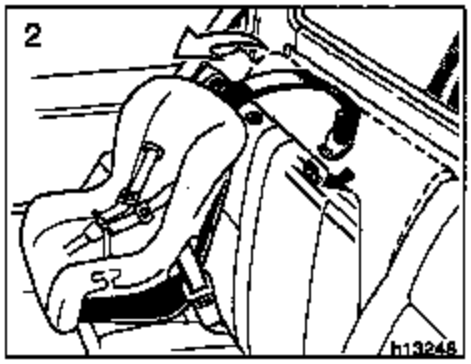
⚠ CAUTION

- When returning the seatback to its original position, make sure the seatback is securely locked by pushing forward and rearward on the top of the seatback.
- Make sure the top strap is securely latched, and check that the child restraint system is secure by pushing and pulling it in different directions. Follow all the installation instructions provided by its manufacturer.



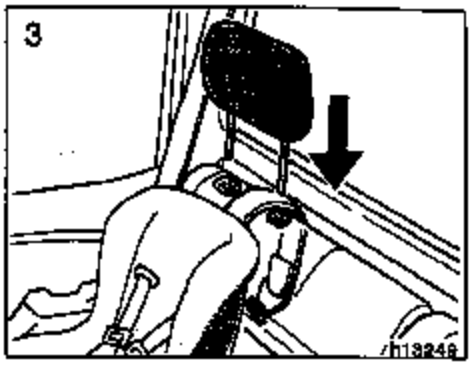
Double cab with rear seats—

1. Remove the head restraint (outside position only).



2. Pull the seatback release lever and swing the seatback forward slightly, then latch the hook onto the anchor bracket.

   Return the seatback to upright position.



3. Fix the child restraint system with the seat belt and tighten the top strap.

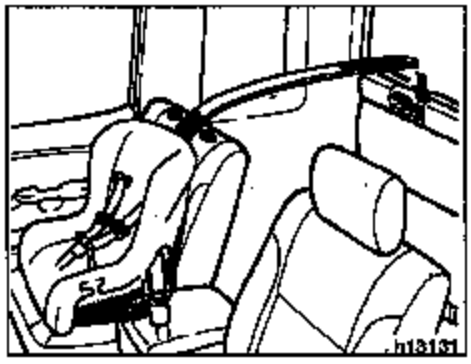
   Replace the head restraint (outside position only).

For instructions on installing the child restraint system, see "Child restraint" in this section.

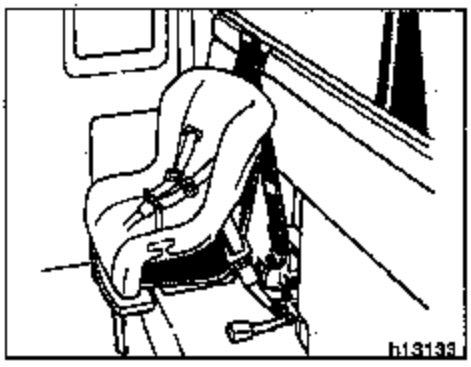
⚠ CAUTION

- When returning the seatback to its original position, make sure the seatback is securely locked by pushing forward and rearward on the top of the seatback. Failure to do so will prevent the seat belt from operating properly.
- Make sure the top strap is securely latched, and check that the child restraint system is secure by pushing and pulling it in different directions. Follow all the installation instructions provided by its manufacturer.

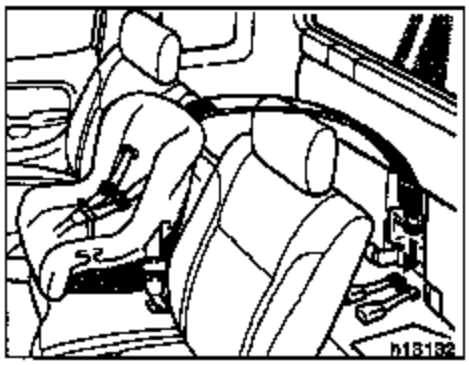
—Using a top strap (xtra-cab models)



Front outside position



Rear outside position



Front center position

Follow the procedure below for a child restraint system that requires the use of a top strap.

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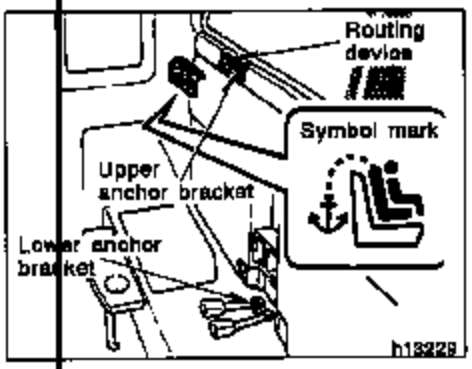
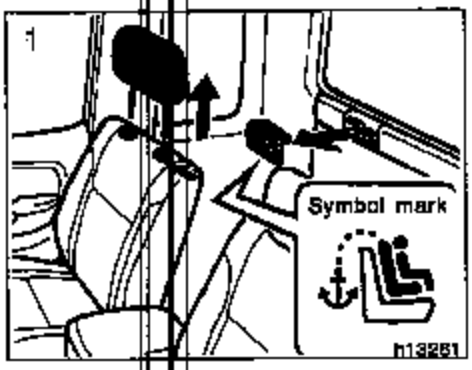


Use the routing device and the anchor bracket to attach the top strap.

Upper anchor bracket is installed for right-front passenger's seating position, lower anchor bracket is installed for front center seating position (with split bench seat) or right-rear seating position.

This symbol indicates the locations of user ready anchor bracket.

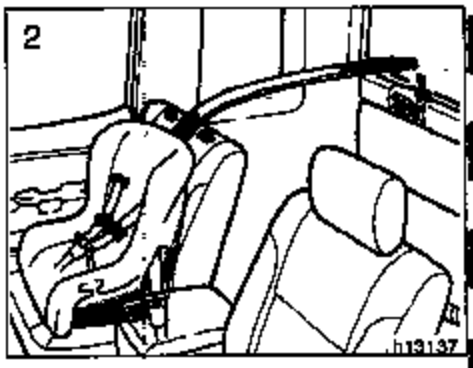


TO USE THE ANCHOR BRACKET:

Front outside position—

1. Remove the passenger head restraint.

Lightly push down on the top surface of the anchor bracket cover with the symbol mark shown in the illustration, then pull it forward to remove.



2. Fix the child restraint system with the seat belt.

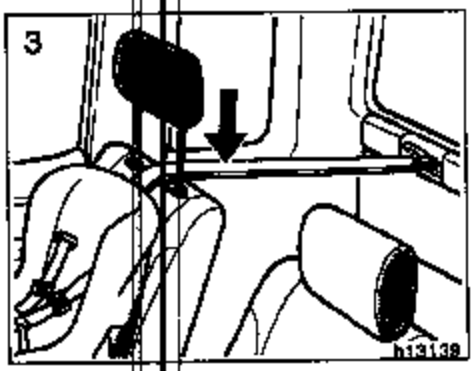
Latch the hook onto the anchor bracket on the back panel and tighten the top strap.

For instructions on installing the child restraint system, see "Child restraint" in this section.

96

⚠ CAUTION

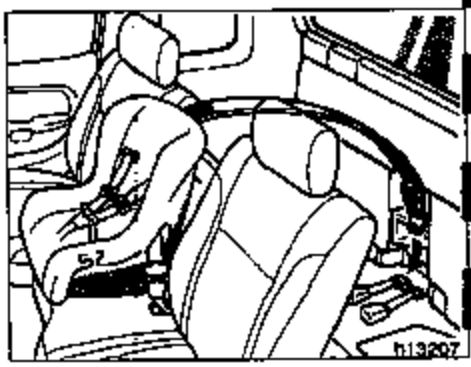
Make sure the top strap is securely latched, and check that the child restraint system is secure by pushing and pulling it in different directions. Follow all the installation instructions provided by its manufacturer.



3. Replace the head restraint.

Store the removed cover in a safe place such as the glove box.

Be sure to replace the cover when the anchor bracket is not in use.



Front center position—

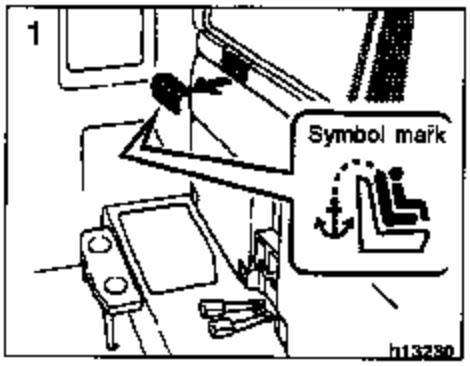
Fix the child restraint system with the seat belt.

Latch the hook onto the rear lower anchor bracket and tighten the top strap.

For instructions on installing the child restraint system, see "Child restraint" in this section.

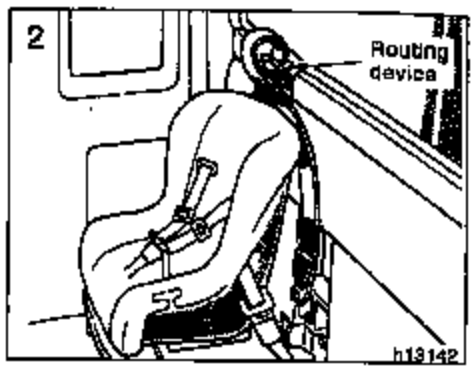
⚠ CAUTION

Make sure the top strap is securely latched, and check that the child restraint system is secure by pushing and pulling it in different directions. Follow all the installation instructions provided by its manufacturer.



Rear outside position—

1. **Lightly push down on the top surface of the anchor bracket cover with the symbol mark shown in the illustration, then pull it forward to remove.**



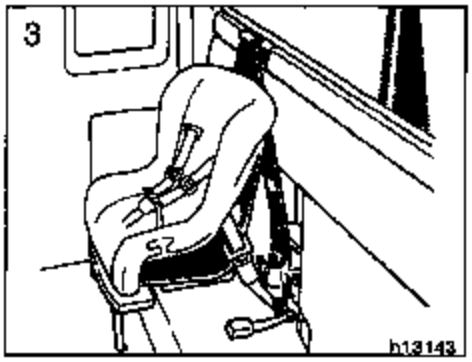
2. **Fix the child restraint system with the seat belt.**

   Route the top strap through the routing device as shown in the illustration.

For instructions on installing the child restraint system, see "Child restraint" in this section.

⚠ CAUTION

Make sure the top strap is not twisted.



3. **Latch the hook onto the rear lower anchor bracket and tighten the top strap.**

Store the removed cover in a safe place such as the glove box.

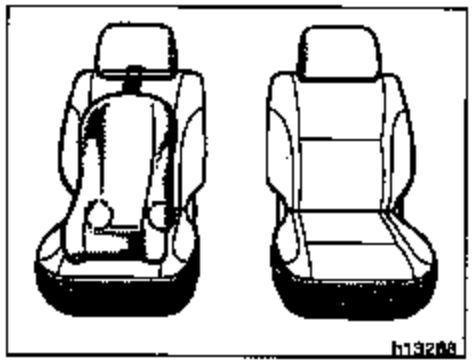
Be sure to replace the cover when the anchor bracket is not in use.

⚠ CAUTION

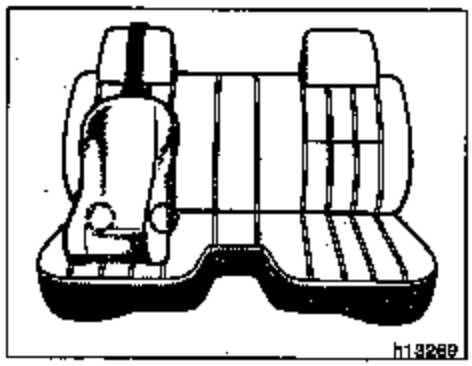
Make sure the top strap is securely latched, and check that the child restraint system is secure by pushing and pulling it in different directions. Follow all the installation instructions provided by its manufacturer.

—Installation with child restraint lower anchorages

(regular cab and xtra-cab models)



Separate seat

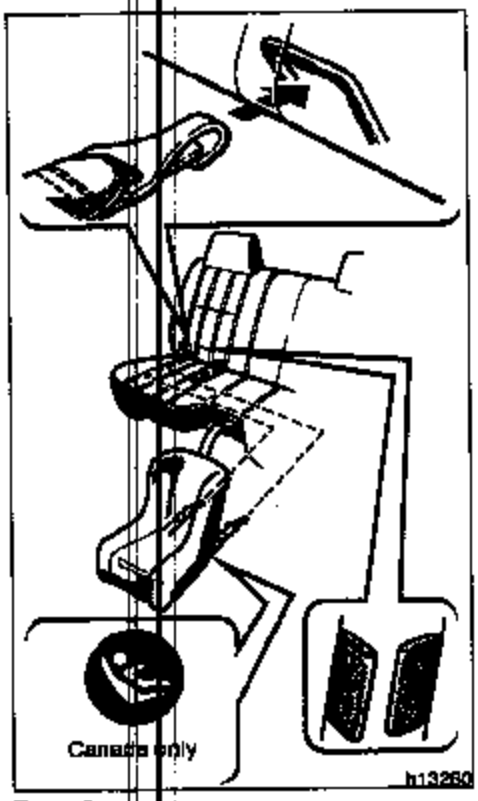


Bench seat

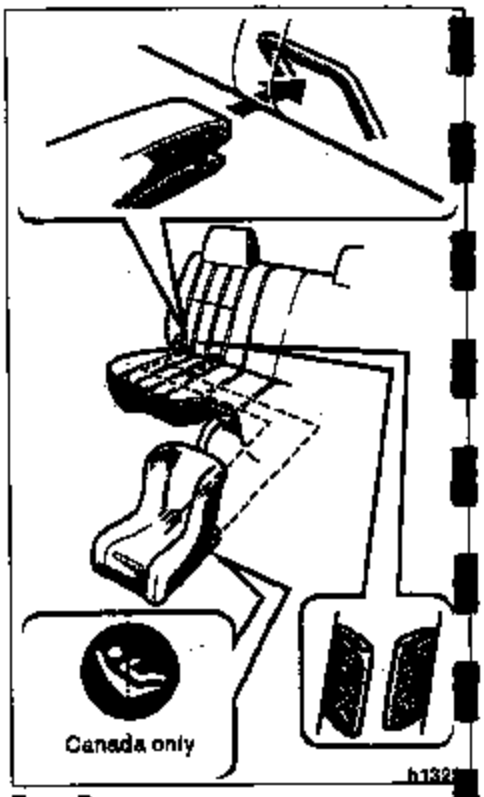
Lower anchorages for the child restraint systems complying with the FMVSS225 or CMVSS210.2 specifications are installed in the outside positions of the rear seat.

The anchorages are installed in the clearance between the seat cushion and seatback on the right side of the front seats (separate and split bench seat) or right position of the front seat (non-split bench seat).

Child restraint systems complying with the FMVSS225 or CMVSS210.2 specification can be fixed to these anchorages. In this case, it is not necessary to fix the child restraint system with a seat belt on the vehicle.



Type A



Type B

For owners in Canada

The symbol on a child restraint system indicates the presence of a lower connector system.

CHILD RESTRAINT SYSTEM INSTALLATION

Type A—

1. **Widen the clearance between the seat cushion and seatback a little and confirm the position of the lower anchorages near the tag on the seatback.**
2. **Latch the hooks of lower straps onto the anchorages and tighten the lower straps.**

Type B—

1. **Widen the clearance between the seat cushion and seatback a little and confirm the position of the lower anchorages near the tag on the seatback.**
2. **Latch the buckles onto the anchorages.**

If your child restraint system has a top strap, it should be anchored. (For the installation of the top strap, see "—Using a top strap" in this section.)

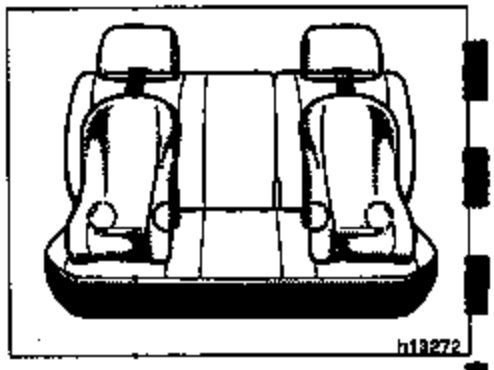
For the installation details, refer to the instruction manual equipped with each product.

⚠ CAUTION

- **When using the lower anchorages for the child restraint system, be sure that there are no irregular objects around the anchorages or that the seat belt is not caught.**
- **Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.**
- **After securing the child restraint system, never slide or recline the seat.**
- **Vehicles with passenger airbag manual on-off switch—**

  Child restraint system should never be installed on the front passenger seat with the passenger airbag manual on-off switch in the "ON" position, because the force of the deploying airbag could cause death or serious injury to the child in forward sitting position.

—Installation with child restraint lower anchorages (double cab models)

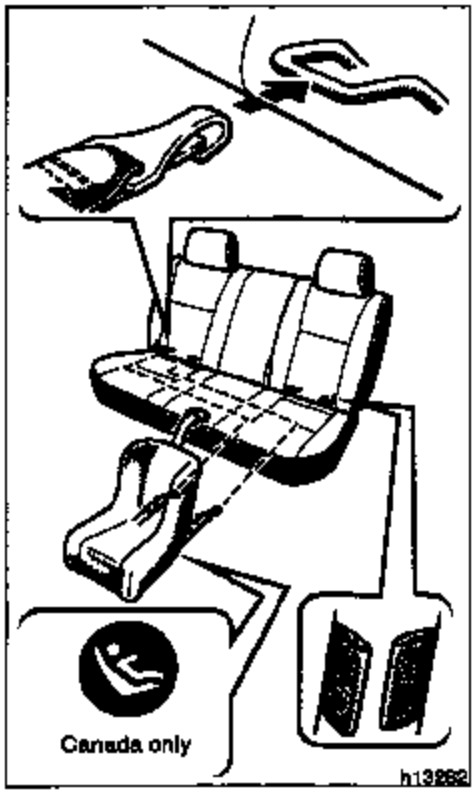


Lower anchorages for the child restraint systems complying with the FMVSS225 or CMVSS210.2 specifications are installed in the outside positions of the rear seat.

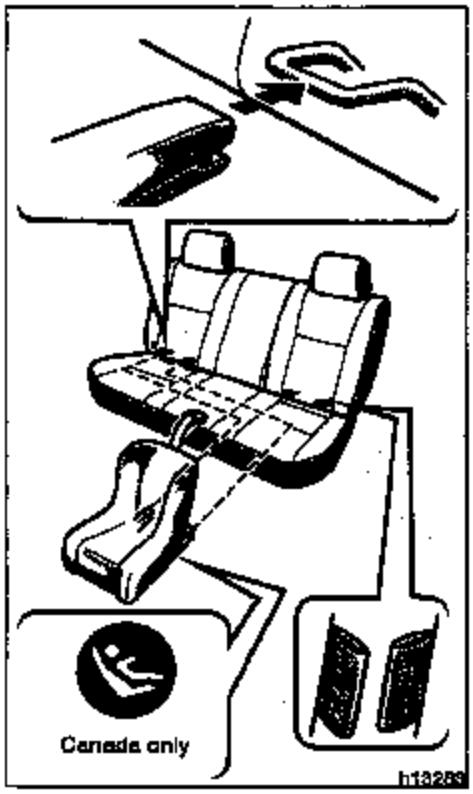
The anchorages are installed in the clearance between the seat cushion and seatback for outside positions of the rear seat.

Child restraint systems complying with the FMVSS225 or CMVSS210.2 specification can be fixed with these anchorages. In this case, it is not necessary to fix the child restraint system with a seat belt on the vehicle.

S040413



Type A



Type B

For owners in Canada

The symbol on a child restraint system indicates the presence of a lower connector system.

CHILD RESTRAINT SYSTEM INSTALLATION

Type A—

1. **Widen the clearance between the seat cushion and seatback a little and confirm the position of the lower anchorages near the tag on the seatback.**
2. **Latch the hooks of lower straps onto the anchorages and tighten the lower straps.**

Type B—

1. **Widen the clearance between the seat cushion and seatback a little and confirm the position of the lower anchorages near the tag on the seatback.**
2. **Latch the buckles onto the anchorages.**

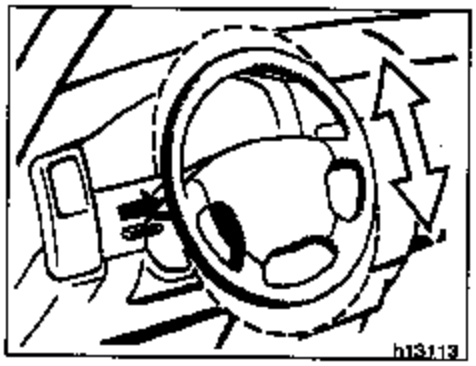
If your child restraint system has a top strap, it should be anchored. (For the installation of the top strap, see "—Using a top strap" in this section.)

For the installation details, refer to the instruction manual equipped with each product.

⚠ CAUTION

- **When using the lower anchorages for the child restraint system, be sure that there are no irregular objects around the anchorages or that the seat belt is not caught.**
- **Push and pull the child restraint system in different directions to be sure it is secure. Follow all the installation instructions provided by its manufacturer.**
- **After securing the child restraint system, never recline the seat.**
- **Do not install a child restraint system on the rear seat if it interferes with the lock mechanism of the front seats. This can cause death or serious injury to the child and front passenger in case of sudden braking or a collision.**

Tilt steering wheel



To change the steering wheel angle:

Hold the steering wheel, pull the lock release lever toward you, tilt the steering wheel to the desired angle and release the lever.

When the steering wheel is in a low position, it will spring up as you release the lock release lever.

⚠ CAUTION

- **Do not adjust the steering wheel while the vehicle is moving. Doing so may cause the driver to mishandle the vehicle and an accident may occur resulting in death or serious injuries.**
- **After adjusting the steering wheel, try moving it up and down to make sure it is locked in position.**

TOYOTA

MANUFACTURER'S SUGGESTED RETAIL PRICE $12,100.00

OPTIONAL EQUIPMENT

	50 STATE EMISSIONS	
FT	TILT WHEEL W/INT. WIPERS	245.00
TN	SLIDING REAR WINDOW	160.00
WR	ENHANCEMENT PACKAGE:	1,375.00
HE	A/C,P205/75R15 RADIAL TIRES W/STYLED STEEL WHEELS,AM/FM/CASS W/4 SPKRS,PAINTED REAR BUMPER	
CF.	CARPET FLOOR MATS (2-PC. SET)	67.00

- MANUAL OVERDRI
- COIL SPRING DOUBLE WIS
- INDEPENDENT FRONT SUSPE
- REAR LEAF SPRING SUSPE
- FRONT STABILIZER BAR
- POWER RACK AND PINION STEERING
- PWR-ASSIST VENTED FRT DISC BRAKES W/RR DRUMS
- P205/75R15 RADIAL TIRES
- 15" STEEL WHEELS
- HEAVY DUTY BATTERY

SAFETY

- 4 WHEEL ANTI-LOCK BRAKES
- DR & PASS SIDE AIRBAGS W/PASS SIDE CUTOFF SWITCH
- FRONT SEAT BELT PRETENSIONERS FORCE LIMITERS
- CRS TOP TETHER ANCHOR BRACKET
- ISO FIX CRS LWER ANCHOR BRCKT
- SIDE-DOOR IMPACT BEAMS

PASSENGER
- TWO AUXILI
* * * FULL

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:

U.S./CANADIAN PARTS CONTENT: 45.0%

MAJOR SOURCES OF FOREIGN PARTS CONTENT:

JAPAN 40.0%

FOR THIS VEHICLE:

FINAL ASSEMBLY POINT:

FREMONT,CALIFORNIA, U.S.A.

COUNTRY OF ORIGIN:

ENGINE PARTS: JAPAN

TRANSMISSION PARTS: JAPAN

NOTE: Parts content does not include final assembly, distribution, or other non-parts costs.

Compare this vehicle to others in the FREE FUEL ECONOMY GUIDE

Fuel Economy Information

CITY MPG 22

HIGHWAY MPG 27

WARNING: NOT TO BE REMOVED EXCEPT AFTER SALE OR LEASE TO A CONSUMER TACOMA #3

DELIVERY, PROCESSING AND HANDLING FEE	510.00
SUB-TOTAL BEFORE DISCOUNT	$14,457.00
EXTRA VALUE PACKAGE MSRP DISCOUNT	-$500.00
TOTAL	$13,957.00

DEALER NAME/ADDRESS: SHIP TO:

ED SHULTS TOYOTA
600 EAST MAIN STREET
BRADFORD PA16701

LU

C-54

S040413

Appendix D

Miscellaneous Test Information

Channel Report

04/13/2004 9:07:10 AM

Name of Test 040413 **System** K3600 **Name of DAU** DAU3

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal.		Group	Mfg.	Model
3000	EVENT	EVENT	EVENT		10.24	V	+	11/08/2003	OK	SLED	TRC	Event
3001	C15351	SLDXG	SLED G LONG.	Rear	199.58523	g	-	03/15/2004	OK	SLED	Endevco	7231C
3002	C15519	SLDXGR	SLED G LONG	Rear	200.05001	g	-	03/15/2004	OK	SLED	Endevco	7231C
3003	SLDXV	SLDXV	SLED VELOCITY		164.82632	km/h	-	07/31/2003	OK	SLED	TRC	SLDXV
3004	SLDXGT	SLDXGT	SLED TRIGGER/SLDXGT	Rear	189.76668	g	-	07/15/2003	OK	-1	Endevco	7231C
3005	AD4H9	HEDXG1	Head Accel X	Rear	400.70593	g	-	03/15/2004	OK	230n	Endevco	7231C
3006	AD4J7	HEDYG1	Head Accel Y	Left	398.61264	g	-	03/15/2004	OK	230n	Endevco	7231C
3007	AD4J8	HEDZG1	Head Accel Z	Up	398.92477	g	-	03/15/2004	OK	230n	Endevco	7231C
3008	1716-0235-FX	NEKXF1	Neck Force X	Hd	8893.5209	N	-	03/15/2004	OK	230n	Denton	1716
3009	1716-0235-FY	NEKYF1	Neck Force Y	Hd	8890.2239	N	+	03/15/2004	OK	230n	Denton	1716
3012	1716-0235-FZ	NEKZF1	Neck Force Z	Hd	13341.671	N	+	03/15/2004	OK	230n	Denton	1716
3013	1716-0235-MX	NEKXM1	Neck Moment X	Rt Ear	282.88566	N-m	-	03/15/2004	OK	230n	Denton	1716
3014	1716-0235-MY	NEKYM1	Neck Moment Y	Chn	283.00437	N-m	+	03/15/2004	OK	230n	Denton	1716
3015	1716-0235-MZ	NEKZM1	Neck Moment Z	Chn	282.84026	N-m	+	03/15/2004	OK	230n	Denton	1716
3016	ACTR4	CSTXG1	Chest Accel X	Fwd	400.04688	g	+	03/15/2004	OK	230n	Endevco	7231C
3017	ACTT4	CSTYG1	Chest Accel Y	Left	399.13157	g	-	03/15/2004	OK	230n	Endevco	7231C
3018	ACTW0	CSTZG1	Chest Accel Z	Down	399.23583	g	+	03/15/2004	OK	230n	Endevco	7231C
3019	85427-1	CSTXD1	Chest Deflection X	Strnm	99.778810	mm	+	03/16/2004	OK	230n	Servo	14CB1-2847
3020	2430-984	LFMZF1	Left Femur Force Z 60	Knee	13354.199	N	+	03/15/2004	OK	230n	GSE	2430
3021	2430-985	RFMZF1	Right Femur Force Z S1511	Knee	13345.845	N	+	03/15/2004	OK	230n	GSE	2430
3022	APDJ3	HEDXG2	Head Accel X	Rwd	400.74513	g	-	03/15/2004	OK	314n	Endevco	7231C
3023	AGHP8	HEDYG2	Head Accel Y	Left	400.51315	g	-	03/15/2004	OK	314n	Endevco	7231C
3024	APD60	HEDZG2	Head Accel Y	Up	399.51932	g	-	03/15/2004	OK	314n	Endevco	7231C
3025	1716A-1221-FX	NEKXF2	Neck Force X	Hd	8889.9769	N	-	03/15/2004	OK	314n	Denton	1716A
3026	1716A-1221-FY	NEKYF2	Neck Force Y	Hd	8898.2041	N	+	03/15/2004	OK	314n	Denton	1716A
3027	1716A-1221-FZ	NEKZF2	Neck Force Z	Hd	13342.680	N	+	03/15/2004	OK	314n	Denton	1716A
3028	1716A-1221-MX	NEKXM2	Neck Moment X	Rt Ear	283.08084	N-m	-	03/15/2004	OK	314n	Denton	1716A
3029	1716A-1221-MY	NEKYM2	Neck Moment Y	Chn	282.99444	N-m	+	03/15/2004	OK	314n	Denton	1716A
3030	1716A-1221-MZ	NEKZM2	Neck Moment Z	Chn	283.12378	N-m	+	03/15/2004	OK	314n	Denton	1716A
3031	C13010	CSTXG2	Chest Accel X	Fwd	400.88947	g	+	03/15/2004	OK	314n	Endevco	7231C
3032	C14563	CSTYG2	Chest Accel Y	Left	402.12687	g	-	03/15/2004	OK	314n	Endevco	7231C
3033	AD343	CSTZG2	Chest Accel Z	Down	400.49436	g	+	03/15/2004	OK	314n	Endevco	7231C

Channel Report

04/13/2004 9:07:10 AM

3034	14CB1-2847-041	CSTXD2	Chest Deflection X	Stmm	101.14479	mm	+	03/16/2004	OK	314n	Servo	14CB1-2847
3035	2430-962	LFMZF2	Left Femur Force Z 91	Knee	13340.907	N	+	03/15/2004	OK	314n	GSE	2430
3036	2430-982	RFMZF2	Right Femur Force Z 98	Knee	13342.089	N	+	03/15/2004	OK	314n	GSE	2430
3037	P33562	LBXG	Left Body At Rear Seat	Fwd	200.12977	g	+	03/31/2004	OK	-1	Endevco	7264C-2K-2-180
3038	P34003	RBXG	Right Body At Rear Seat	Fwd	200.25187	g	+	03/31/2004	OK	-1	Endevco	7264C-2K-2-180
3039	P33759	TEXG	TOP OF ENGINE BLOCK	FWD	199.72109	g	+	03/31/2004	OK	-1	Endevco	7264C-2K-2-180
3040	P33603	RAXG	REAR AXLE	RR	200.16263	g	-	03/17/2004	OK	-1	Endevco	7264C-2K-2-180
3041	P28948	LFXG	LT VEHICLE FRAME	FWD	200.27694	g	+	02/05/2004	OK	-1	Endevco	7264C-2K-2-180
3042	P28089	RFXG	RT VEHICLE FRAME	FWD	199.94220	g	+	01/28/2004	OK	-1	Endevco	7264C-2K-2-180

Digital and System Channel Report

2004-04-13 09:06:20

Name of Test	040413	System	K3600	Name of DAU	DAU3	descriptio

enabled	Channel	Short Name	Type	Data File	Module Type
Yes	3500		dig0	DAT33500	KM3650 Sequencer

bit position	bit	short	long	descriptio
MSB = bit 15	0			
bit 14	0			
bit 13	1	Switch	Backup Switch	
bit 12	1	DABET1	DRIV. AIRBAG EVENT - PRIMARY	17
bit 11	1	PABET1	PASS. AIRBAG EVENT - PRIMARY	18
bit 10	0			
bit 09	0			
bit 08	0			
bit 07	0			
bit 06	0			
bit 05	0			
bit 04	0			
bit 03	0			
bit 02	0			
bit 01	0			
LSB = bit 00	0			

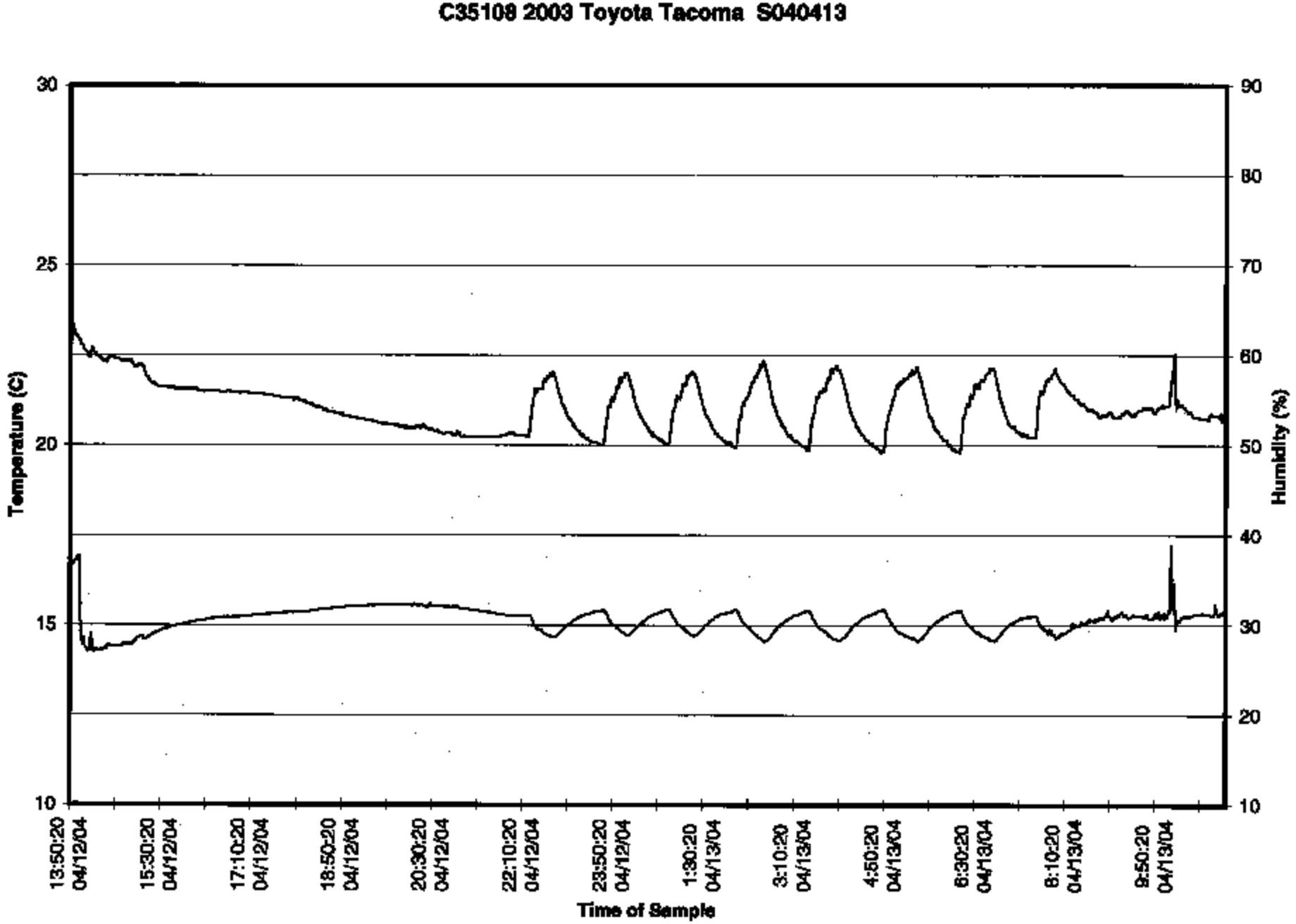
Dummy 230n **Type** HYBRID III 50TH **Descriptio** NHTSA - 230n HYBRID III 50TH. CAL DUE 9-15-04 (DKS 3-16-04)J211

Chnnam	Location	Model	Name	Manufacturer	Sens./mV/V/		Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7231C	AD4H9	Endevco	0.01981	g	750	3/15/2004	Rear	1
HEDYG	Head Accel Y	7231C	AD4J7	Endevco	0.01961	g	750	3/15/2004	Left	1
HEDZG	Head Accel Z	7231C	AD4J8	Endevco	0.0193	g	750	3/15/2004	Up	1
NEKXF	Neck Force X	1716	1716-0235-FX	Denton	0.0001919	N	8896.4	3/15/2004	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716	1716-0235-FY	Denton	0.0001879	N	8896.4	3/15/2004	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716	1716-0235-FZ	Denton	0.0000936	N	13344.6	3/15/2004	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716	1716-0235-MX	Denton	0.0058955	N-	282.5	3/16/2004	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716	1716-0235-MY	Denton	0.0058266	N-	282.5	3/15/2004	Chn to Strnm	0
NEKZM	Neck Moment Z	1716	1716-0235-MZ	Denton	0.0083228	N-	282.5	3/15/2004	Chn to Lt Shld	0
CSTXG	Chest Accel X	7231C	ACTR4	Endevco	0.01969	g	750	3/15/2004	Fwd	0
CSTYG	Chest Accel Y	7231C	ACTT4	Endevco	0.01929	g	750	3/16/2004	Left	1
CSTZG	Chest Accel Z	7231C	ACTW0	Endevco	0.01973	g	750	3/16/2004	Down	0
CSTXD	Chest Deflection X	14CB1-2847	85427-1	Servo	1.1403	m	100	3/16/2004	Strnm Away Frm Spn	0
LFMZF	Left Femur Force Z 60	2430	2430-984	GSE	0.000071	N	13344.7	3/15/2004	Knee Fd,Pel Rr	0
RFMZF	Right Femur Force Z S1511	2430	2430-985	GSE	0.0000695	N	13344.7	3/15/2004	Knee Fd,Pel Rr	0

Dummy 314n **Type** HYBRID III 50TH **Descriptio** NHTSA - 314n HYBRID III 50TH CAL DUE 9-15-04 (DKS 3-15-04)J211

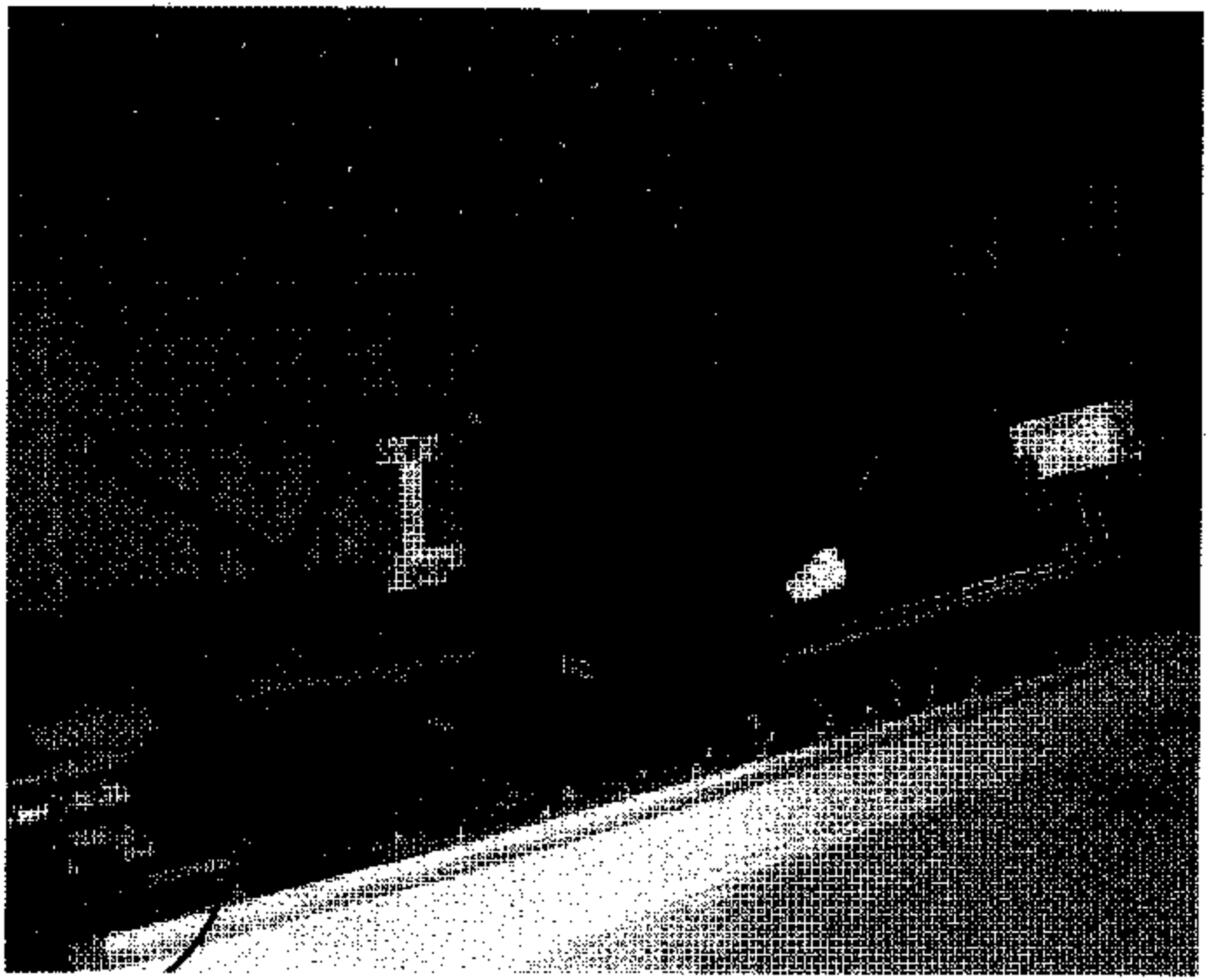
Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/		Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7231C	APDJ3	Endevco	0.02012	g	750	3/15/2004	Rwd	1
HEDYG	Head Accel Y	7231C	AGHP8	Endevco	0.01908	g	750	3/15/2004	Left	1
HEDZG	Head Accel Y	7231C	APD60	Endevco	0.02067	g	750	3/15/2004	Up	1
NEKXF	Neck Force X	1716A	1716A-1221-FX	Denton	0.0001949	N	8896.4	3/15/2004	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1221-FY	Denton	0.0001899	N	8896.4	3/15/2004	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1221-FZ	Denton	0.0000998	N	13344.6	3/15/2004	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1221-MX	Denton	0.0060898	N·	282.5	3/15/2004	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1221-MY	Denton	0.0058741	N·	282.5	3/15/2004	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1221-MZ	Denton	0.0085101	N·	282.5	3/15/2004	Chn to Lt Shld	0
CSTXG	Chest Accel X	7231C	C13010	Endevco	0.02936	g	750	3/15/2004	Fwd	0
CSTYG	Chest Accel Y	7231C	C14563	Endevco	0.02961	g	750	3/15/2004	Left	1
CSTZG	Chest Accel Z	7231C	AD343	Endevco	0.01937	g	750	3/15/2004	Down	0
~~CSTXD~~	~~Chest Deflection X~~	~~14CB1-2847~~	~~14CB1-2847-041~~	~~Servo~~	~~1.1249~~	~~m~~	~~100~~	~~3/16/2004~~	~~Strap Away Frm Spn~~	~~0~~
~~LFMZF~~	~~Left Femur Force Z 91~~	~~2430~~	~~2430-982~~	~~GSE~~	~~0.0000694~~	~~N~~	~~13344.7~~	~~3/15/2004~~	~~Knee Fd,Pel Rr~~	~~0~~
RFMZF	Right Femur Force Z 98	2430	2430-982	GSE	0.0000678	N	13344.7	3/15/2004	Knee Fd,Pel Rr	0

D-6

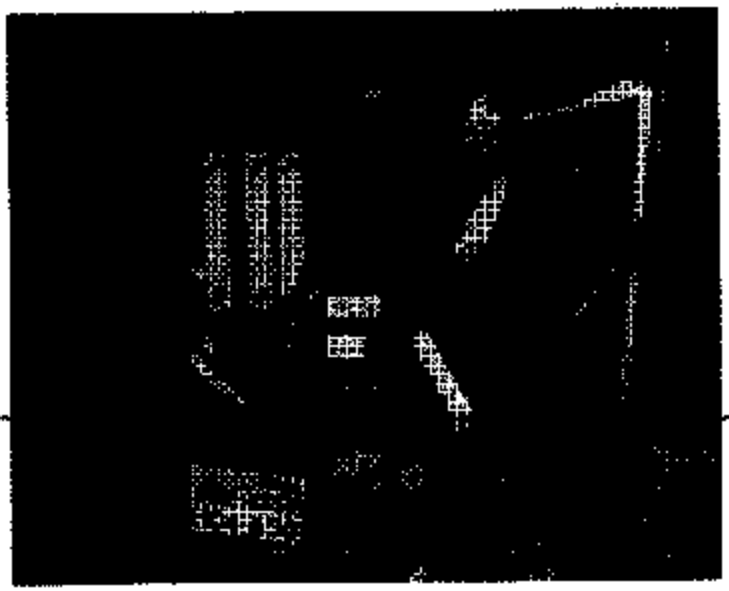

C35108 2003 Toyota Tacoma S040413
Temperature (C)
Humidity (%)
30
25
20
15
10
90
80
70
60
50
40
30
20
10
13:50:20 04/12/04
15:30:20 04/12/04
17:10:20 04/12/04
18:50:20 04/12/04
20:30:20 04/12/04
22:10:20 04/12/04
23:50:20 04/12/04
1:30:20 04/13/04
3:10:20 04/13/04
4:50:20 04/13/04
6:30:20 04/13/04
8:10:20 04/13/04
9:50:20 04/13/04
Time of Sample

S040413

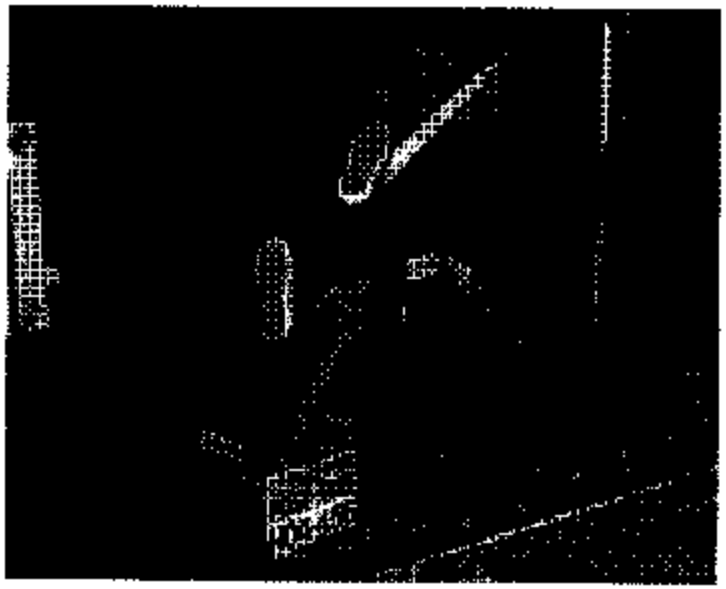
SLED BUCK – STANDARD BENCH SEAT
Report No.: 213-MGA-04-029

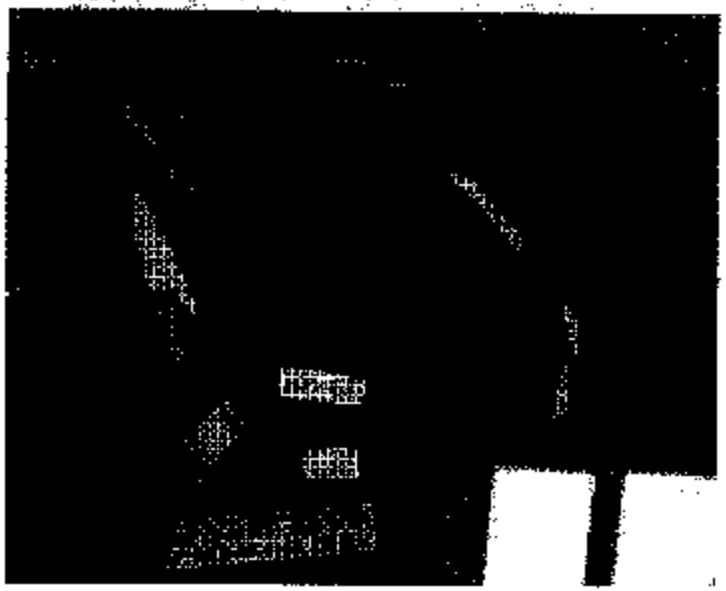


Item Code: 029-G8487NGS-01-D6U Report No.: 213-MGA-04-029 Sled Test: H04456 Pre-Test



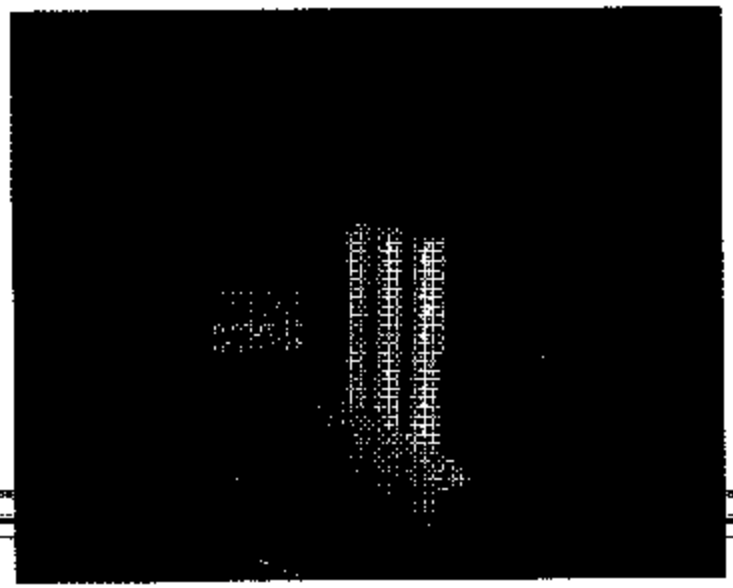
Item Code: 029-G8487NGS-01-D6U Report No.: 213-MGA-04-029 Sled Test: H04456 Post-Test

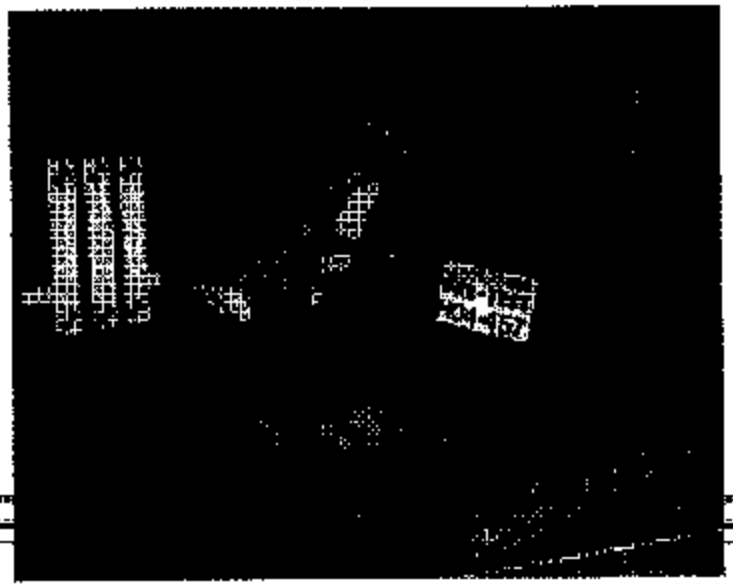


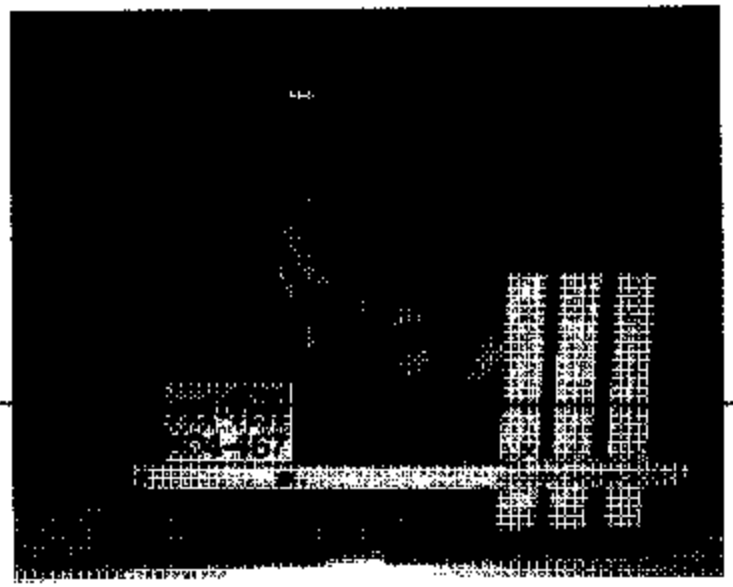


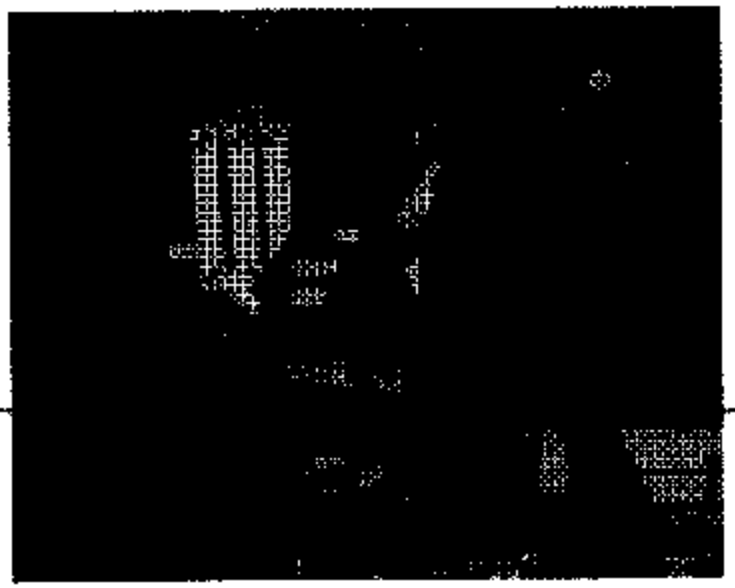
C3

Item Code: 029-G8487NGS-02-D3U Report No.: 213-MGA-04-029 Sled Test: H04457 Pre-Test



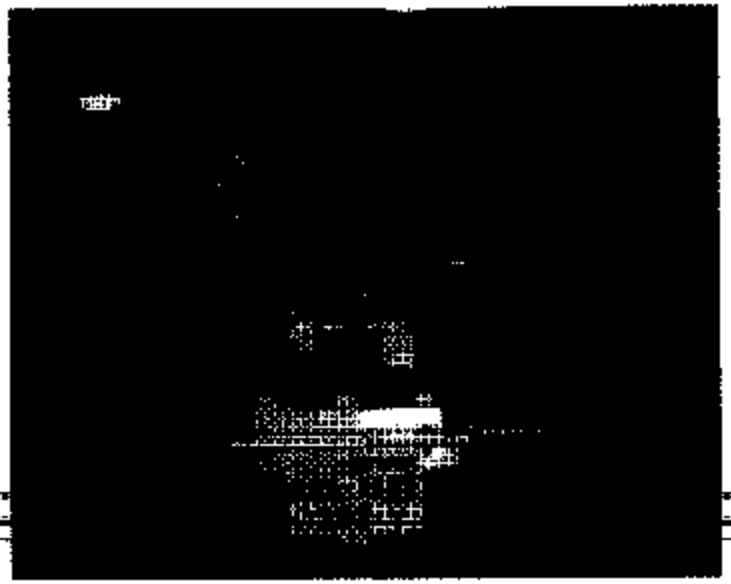


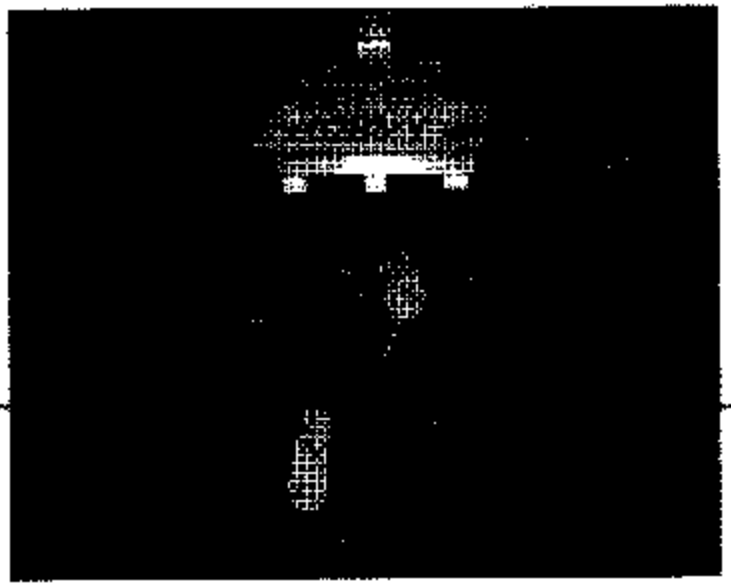


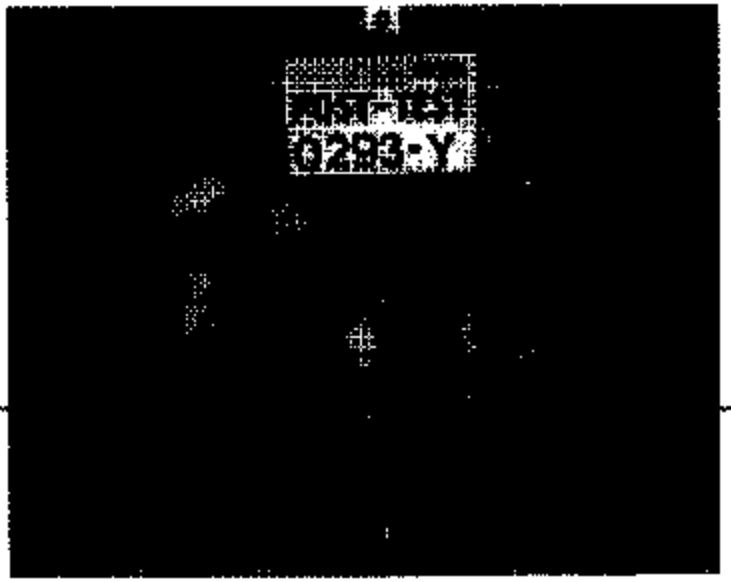


Item Code: 029-G8487NGS-02-D3U Report No.: 213-MGA-04-029 Sled Test: H04457 Post-Test

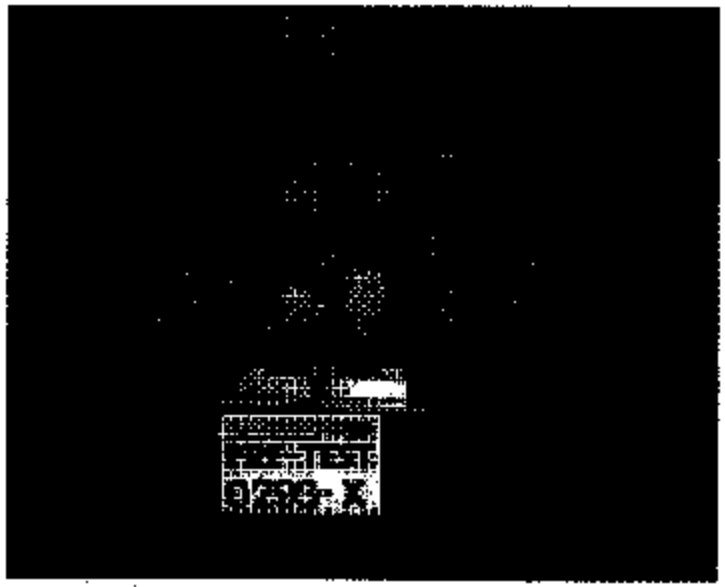
Test: 0293 Y AXIS FORWARD PRE AND POST-TEST

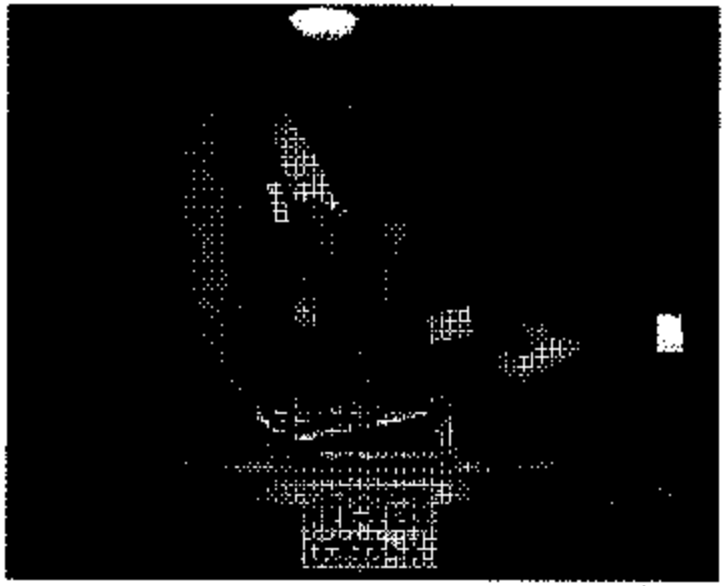


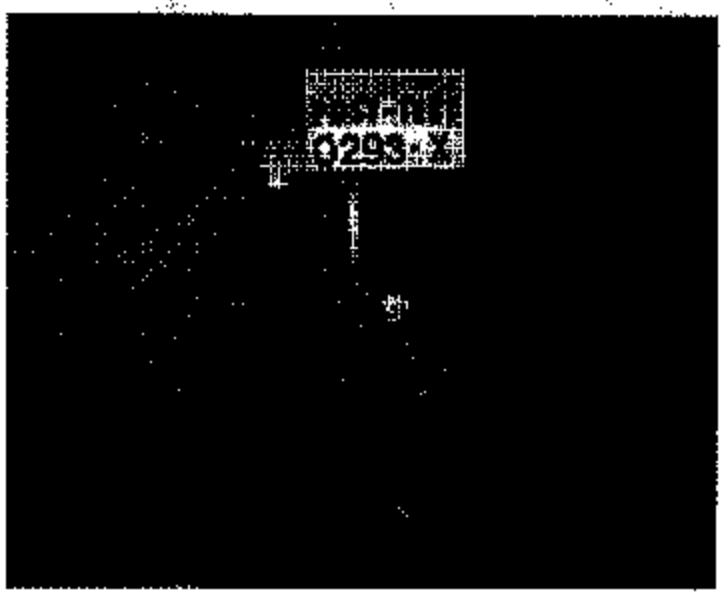


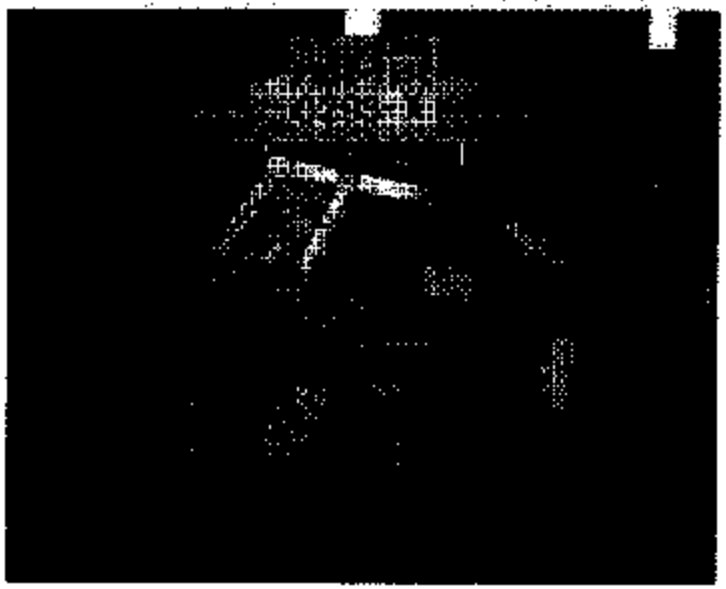


Test: 0293 X AXIS LATERAL PRE AND POST-TEST



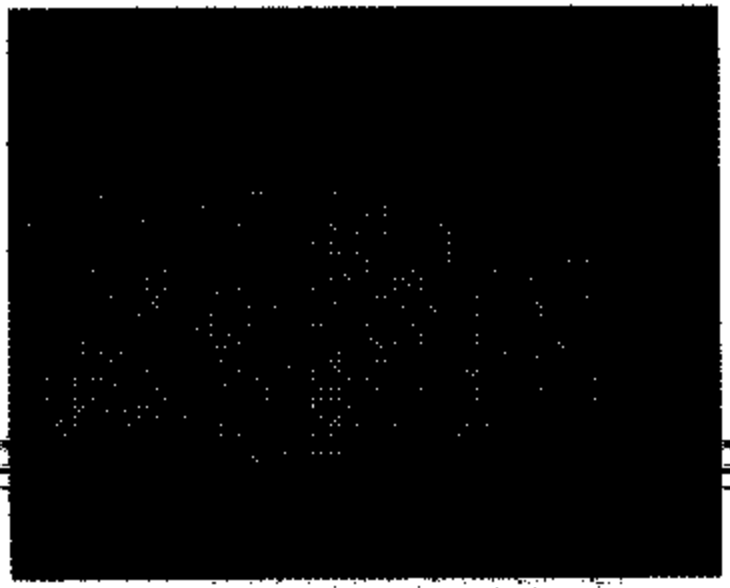




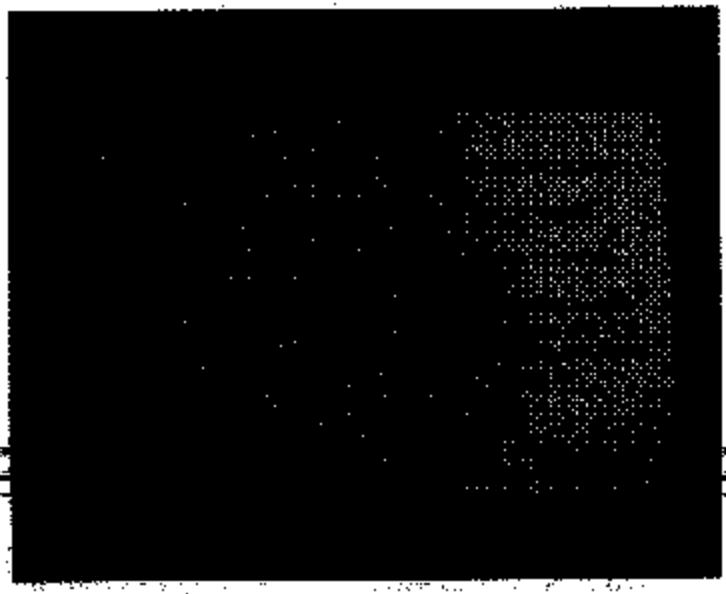


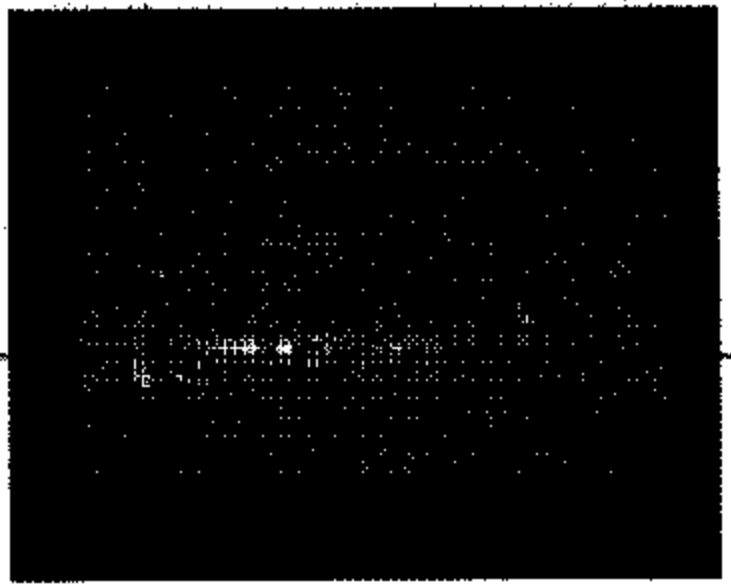
LABELS

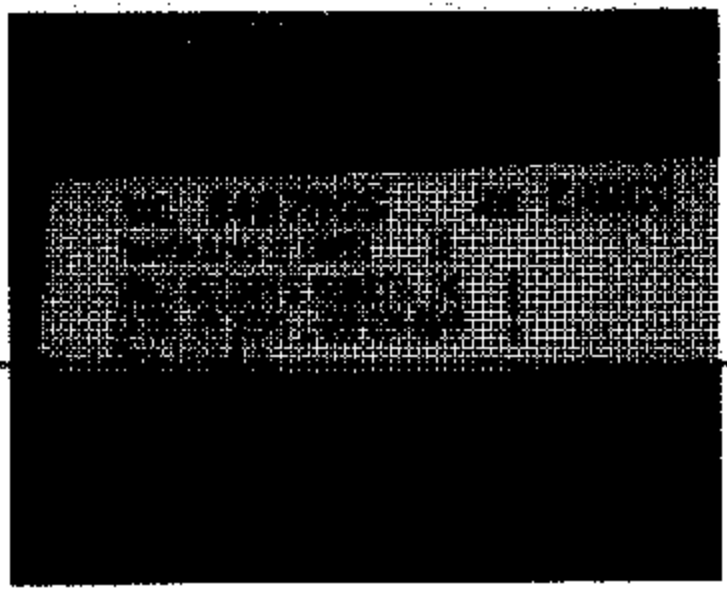
Item Code: 029-G8487NGS-01-D6U



Item Code: 029-G8487NGS-02-D3U

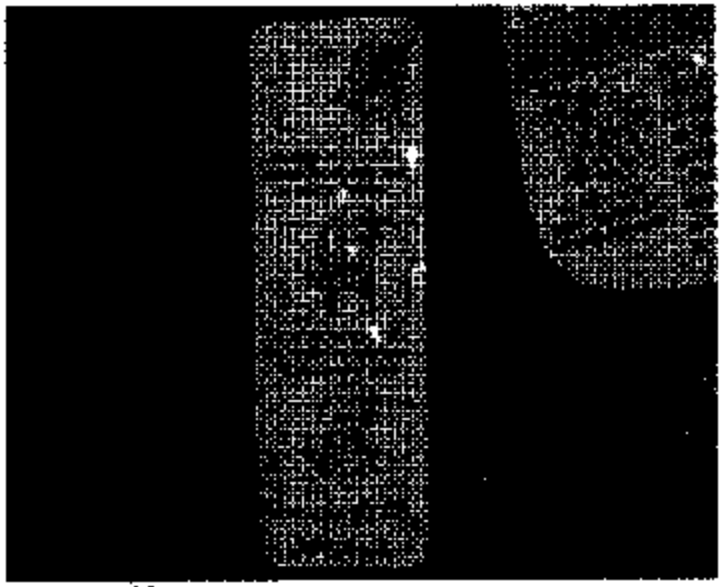




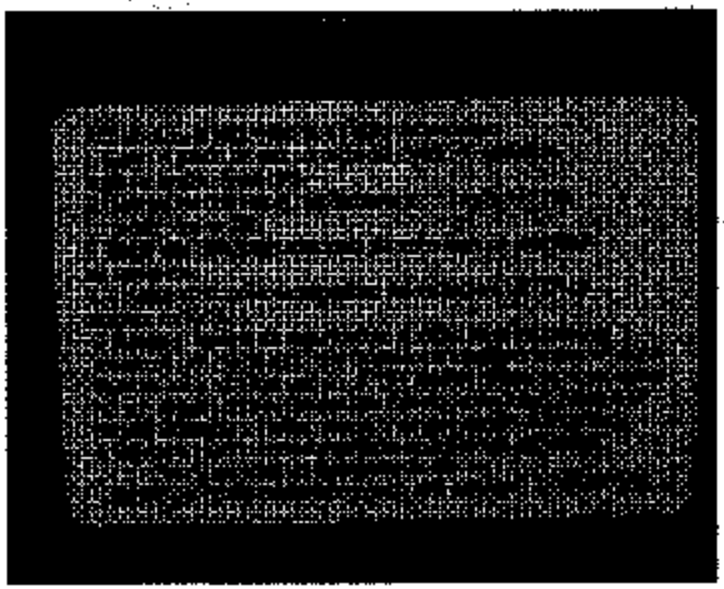


LABELS

Item Code: 029-G8487NGS-01-D6U



Item Code: 029-G8487NGS-02-D3U



CONFIGURATION

Item Code: 029-G8487NGS-01-D6U

Item Code: 029-G8487NGS-02-D3U