	Regulation		Carryover	
			Year	Vehicle
	101	Controls and Displays		
	102	Transmission Shift		
	103	Windshield Defrost & Demist		
	104	Windshield Washing & Wiping		
	105	Brake Systems		
	106	Brake Hoses		
	108	Lamps		
	109	New Pneumatic Tires		
	110	Tire Selection & Rims		
	111	Rearview Mirrors		
	112	Concealed Headlamps		
	113	Hood Latch System		
	114	Theft Protection		
	115	VIN (Canada)		
	116	Brake Fluid		
	118	Power Windows		
	119	New Truck Tires		
	120	Truck Tire Selection & Rims		
	121	Air Brake Systems		
	124	Accelerator Control Systems		
	125	Warning Devices		
	135	Brake Systems		
	201	Interior Impact Protection		
	202	Head Restraints		
	203	Steering Control Systems		
	204	Steering Rear Displacement		
	205	Glazing Materials		
	206	Door Locks		
X	207	Seating Systems		
	208	Occupant Protection		
	209	Seatbelt Assemblies		
	210	Seatbelt Anchorages		
	210.1	Child Seat Tether Anchorages		
	210.2	Child Seat Latch Anchorages		
	212	Windshield Mounting		
	213	Child Restraint Systems		
	214	Side Impact Protection		
	215	Bumpers (Canada)		
	216	Roof Crush Resistance		
	217	Bus Window Retention		
	219	Windshield Zone Intrusion		
	220	School Bus Rollover Protection		
	221	School Bus Body Joint Strength		
	222	School Bus Seating		
	225	Child Seat Anchorages		
	301	Fuel System Integrity		
	302	Flammability of Interior Mat'ls.		
	303	CNG Fuel System Integrity		
	304	CNG Fuel Container Integrity		
	305	Electric Vehicles		
	401	Internal Trunk Release		
	541	Theft Protection		
	564	Replacement Light Source		
	565	Vehicle Identification Number		
	566	Manufacturers Identification		
	567	Certification Label		
	568	Vehicles Made in 2 Stages		
	574	Tire Identification		
	575	Consumer Information		
	581	Bumper Impact		
	CAN	Canadian		
X	NHTSA	NHTSA Form		
	NOISE	Exterior Noise		
	OG	Owner's Guide		
	PDG	Public Domain Guideline		
	PPC	Pre-Production Certification		
	RFI	Radio Frequency Interference		
	SDG	Safety Design Guideline		

2004

04-2993

	Vehicle
	Aviator [U231]
	Crown Victoria - Grand Marquis - Marauder [EN114]
	Econoline [VN127]
	Escape [U204] - Tribute [J14]
	Excursion [U137]
	Expedition [U222] - Navigator [U228]
	Explorer - Mountaineer [U152]
	Explorer Sport Trac [P207]
	F-150 [P221]
	F-150 Heritage [PN96]
	F-53
	F-650 750 [H215]
	F-SuperDuty [P131]
	Focus [C170]
X	Freestar - Monterey [V229]
	LS [DEW98]
	Mustang [SN95]
	Ranger [PN150] - B-series [PN151]
	Taurus - Sable [D186]
	Thunderbird [M205]
	Town Car [FN145]

	Document Type
	Interpretation
X	Plan
	Report

	Organization
	Alternative Fuel
	Automotive Safety Office
	AVT-RVT
X	Body
	Car Programs
	Chassis
	Climate Control
	DSO-SVT
	Electric Vehicle
	Electrical & Lighting
	Environmental & Safety
	FCSD
	Ford of Australia
	Ford of Europe
	Fuel Systems
	Interior Systems
	Mazda
	OPEO-EEME
	Plastics & Trim
	Powertrain
	Restraints
	Supplier Provided
	Transmission
	Truck Operations
	Vehicle Crash
	Vehicle Engineering
	Vehicle Operations
	Vehicle Personalization
	Vehicle Safety

Test Reports

Engineering Drawings

Comments

COMPLIANCE DEMONSTRATION PLAN AND REPORT
F/CMVSS 207 -- Seating Systems

	PLAN Answer Plan Questions below		REPORT of Compliance Demonstrated		
ORGANIZATION	Plan Prepared By: Rick Cendrowski Sign / Date	Supervisor Matt Sahutske Sign / Date	Report Prepared By: Rick Cendrowski Sign / Date	Supervisor Matt Sahutske Sign / Date	Manager Mike Whitens Sign / Date
1					
2					
3					
4					
5					
6					

04-2993

PLAN QUESTIONS:

this Standard/Regulation apply to this vehicle?	Yes __X__ No _____			
our components on this vehicle carryover with	1 No __X__	Yes _____	Base MY _____	& Vehicle _____
ct to complying with this standard/regulation?	2 No _____	Yes _____	Base MY _____	& Vehicle _____
	3 No _____	Yes _____	Base MY _____	& Vehicle _____
complete Base MY & Vehicle information	4 No _____	Yes _____	Base MY _____	& Vehicle _____
ubmit just this page to ASO	5 No _____	Yes _____	Base MY _____	& Vehicle _____
	6 No _____	Yes _____	Base MY _____	& Vehicle _____

ASO CONCURRENCE FOR THE PLAN :

NAME: Kelley M. Adams SIGNATURE: Kelley M. Adams DATE: 9-27-02

NOTES: If some, but not all, of your components are carry-over with respect to this standard/regulation, note those components here with their corresponding Base MY & Vehicles. Also, note "c/o" in the "method" column for those paragraphs in the pro-forma for which the carryover components apply.	Component	Base MY & Vehicle

If engineering judgment (EJ) is being applied to demonstrate compliance, include engineering rationale in the "Evidence/Comments" for those paragraphs to which EJ is being applied and/or attach separate sheets with this information to column the CDP.

Applicable Reference documents:

Federal Standard - 49 CFR 571.207 (FMVSS/CMVSS 207).

Ford Acceptance Criteria - CPSC 01.00 - Body Systems

Approved Engineering Test Procedures CETP 01.10-L-802-US, CETP 01.10-L0801-US, and CETP 01.20-L-809-US.

F/CMVSS Section No.	
S1	Purpose and Scope - Specifies requirements for seats, their attachment assemblies, and their installation to minimize the possibility of their failure by forces acting on them as a result of vehicle impact.
S2	Application - All vehicles.
S3	Definitions - See 49 CFR 571.3 and 49 CFR 571.207.

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
S4	Requirements.	Installation drawing (Driver's seat as installed) or sign-off summary statement.	Sign off sheets		
S4.1	A driver seat is required.				
S4.2	Seat loading: Must sustain loads as specified in (a), (b), and (c) for any adjusted seat position as follows:	Test Report: CETP 01.10-L-801-US and/or CETP 01.20-L-809-US Note: S5.1.1 requires testing at the highest adjusted position.	FMVSS 207 test buck		
(a)	Forward seat CG loading for any adjusted seat position; withstand 20g load through CG. **(withstand 26g (130% MVSS) forward load through CG)**	Matrix showing Seat System complexity and Engineering Judgment used in developing the Compliance Demonstration Plan and Report.	Seat complexity matrix		
(b)	Rearward seat CG loading for any adjusted seat position; withstand 20g load through CG. **(withstand 26g (130% MVSS) rearward load through CG)**		FMVSS 207 test buck		
(c)	Forward seat anchorage loads plus seat belt loads; withstand 20g through CG of seat plus seat belt loads per FMVSS 210 S4.2. **(23g plus 115% MVSS seat belt loads)**	Note: Combination 207/210 testing when seat belt anchors are attached to a seat or share a common anchorage with the seat.	FMVSS 207 test buck		
(d)	Seat back upper bar moment load; withstand 373 Nm moment/occupant. **(withstand 485 Nm moment/occupant)**	Test Report: CETP 01.10-L-801-US	FMVSS 207 test buck		
S4.2.1	Adjusted seat position; Except for vertical movement of non-locking suspension type occupant seats in trucks or buses, the seat must remain in adjusted position during S4.2 testing. **(seat must remain in adjusted position during 130% over FMVSS loads)**	Fill-in and attach a copy of NHTSA Forms 1, 4B1, 4B2 and 4B3 with appropriate data. (Forms can be found in the attached tabs)	FMVSS 207 test buck		

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
S4.3	Restraining device for hinged or folding seats or seat backs, except for passenger seats in a bus or seats having a back adjustable only for comfort of its occupant shall--	Statement describing the hinged/folding seats and/or the seat backs and self locking restraining devices and release controls.			
(a)	Be equipped with a self-locking device, and	Seat System FMVSS Drawing as per Seat Engineering's "Procedure for Seat Systems FMVSS Drawings."	FMVSS Drawing		
(b)	Be equipped with a control for releasing the restraining device, if there are seating accommodations behind the seat.				
S4.3.1	Seat back latch accessibility; release control must be to seat occupant and, if required to exit the vehicle, any occupants behind the seat.	Statement of compliance to requirements for release controls.	FMVSS 207 test buck		
S4.3.2	Performance requirements for restraining device.	Test Report: CETP 01.10-L-801-US and/or CETP 01.20-L-809-US *Note: S5.1.1 requires testing at the highest adjusted position. Also, provide a Mathematical analysis that determines the ability of the seat back latch to remain latched under inertia loading. (Details found in CETP 01.10-L-801-US)*	FEA Model Analysis and FMVSS 207 buck		
S4.3.2.1	Static Force.				
(a)	Forward Facing seats: Withstand 20g forward load through CG of the hinged or folding portion of the system. **(withstand a 26g forward load)**		FMVSS 207 test buck		
(b)	Rearward facing seats: Withstand 8g static rearward load through CG of the hinged or folding portion of the system. **(withstand 10.4g static rearward load through CG)**		FMVSS 207 test buck		

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
S4.3.2.2	Withstand 20g dynamic load opposite in the longitudinal direction opposite to that in which the seat folds. **(withstand 21.2g dynamic load opposite the fold of the seat back)**	Test Report: CETP 01.10-L-802-US	Statement of compliance		
S4.4	Labeling: Seats that are not designated for occupancy while the vehicle is in motion shall be conspicuously labeled to that effect.	Drawings and/or copy of actual label and installation manual drawing.	Drawings		

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
	Unique Canadian Requirements:				
CMVSS 207 (3)(b)	A control for releasing a self-locking device on folding seats or seat backs must be provided.	Statement of compliance to release control requirement.	Statement of compliance		
Notes:	(1) If seat belts are anchored on the seat or share a common anchorage with the seat, F/CMVSS 207/210 forward loads must be applied simultaneously.	(See FMVSS 207 S4.2 (c))	FMVSS 207 test buck		
	(2) If a bench seat and vehicle design has more than 50 in. hip room, at least 3 seating positions must be provided per FMVSS 571.3, Designated Seating Position Definition. In 571.3, special rules apply to school bus seating positions designed to accommodate wheel chairs.		FMVSS 207 test buck		

Adams, Kelley (K.M.)

From: Sahutske, Matthew (M.J.)
Sent: Friday, September 27, 2002 8:37 AM
To: Adams, Kelley (K.M.); Gillespie, Joanna (J.T.)
Cc: Sanson, Suzanne (S.M.); Cendrowski, Rick (R.C.)
Subject: RE: FMVSS 202

Thanks Kelly. I have reviewed and concur with the CDP's provided to you by both Joanna Gillespie, covering both FMVSS 202 and the Ford SDG for Front Row Head Restraint height, and by Rick Cendrowski for FMVSS 207. I will sign the cover sheets later if required.

Matt Sahutske

Lifestyles Seating Systems Engineer
Phone/Fax (313) 621-6941
Pager (313) 796-2509

-----Original Message-----
From: Adams, Kelley (K.M.)
Sent: Friday, September 27, 2002 8:19 AM
To: Gillespie, Joanna (J.T.)
Cc: Sahutske, Matthew (M.J.); Sanson, Suzanne (S.M.)
Subject: RE: FMVSS 202

This is fine. Since you sent it electronically, I need Matt to concur by email, or have him sign the cover sheet and drop it off to me.

Kelley M. Adams,
NHTSA Certified Child Passenger Safety Technician
FORD MOTOR CO - Automotive Safety Office,Windstar & Mustang
PHONE (313) 32-23103, FAX (313) 39-07917
EMAIL kadams4@ford.com

-----Original Message-----
From: Gillespie, Joanna (J.T.)
Sent: Thursday, September 26, 2002 4:38 PM
To: Adams, Kelley (K.M.)
Cc: Sanson, Suzanne (S.M.); Sahutske, Matthew (M.J.)
Subject: FMVSS 202

This is my first attempt at a CDP...

<< File: form202.xls >>

Joanna Gillespie
V-229 Seats
PH: (313)337-9967
Cube: 11E030
email: jgille25@ford.com

ATTACHMENT (A)

COMPLIANCE DEMONSTRATION PLAN TEST MATRIX

Model Year: 2004
Vehicle Line(s): V229
Regulation(s): F/CMVSS 207 & 207/210

Test Procedure: FMVSS 207
Acceptance Criteria: FAC
DATE: 9-26-02
Job 1: August 2003

Summarized by: Richard Cendrowski
Seat Supplier: Intier Automotive
Restraints Supplier: Intier Automotive
Engineering S/O: 12-3-02

System Description/Component Model Usage	METHOD OF COMPLIANCE DEMONSTRATION							REMARKS & RATIONALE
	(BIW/Frame) **207/210** complete seat	(ub or fb) **Forward** seat frame	(ub or fb) **Rearward** seat frame	(ub or fb) **Upper Bar** seat frame	(hb or fb) **Static Latch** seat frame	(sled) **Dynamic Latch** (cmplt seat)	**C/O or EJ**	
1st Row High Back-Power								Will be complete by 11/15/02
1st Row High Back-Manual								Will be complete by 11/15/03
1st Row Low Back-Power								Will be complete by 11/15/04
1st Row Low Back-Manual								Will be complete by 11/15/05
2nd row bench with tracks								Will be complete by 11/15/06
2nd row bench w/out tracks								Will be complete by 11/15/07
2nd row quad LH w/ tracks								Will be complete by 11/15/08
2nd row quad RH w/tracks								Will be complete by 11/15/09
2nd row quad LH w/out tracks								Will be complete by 11/15/10
2nd row quad RH w/out tracks								Will be complete by 11/15/11
3rd row bench								Will be complete by 11/15/12

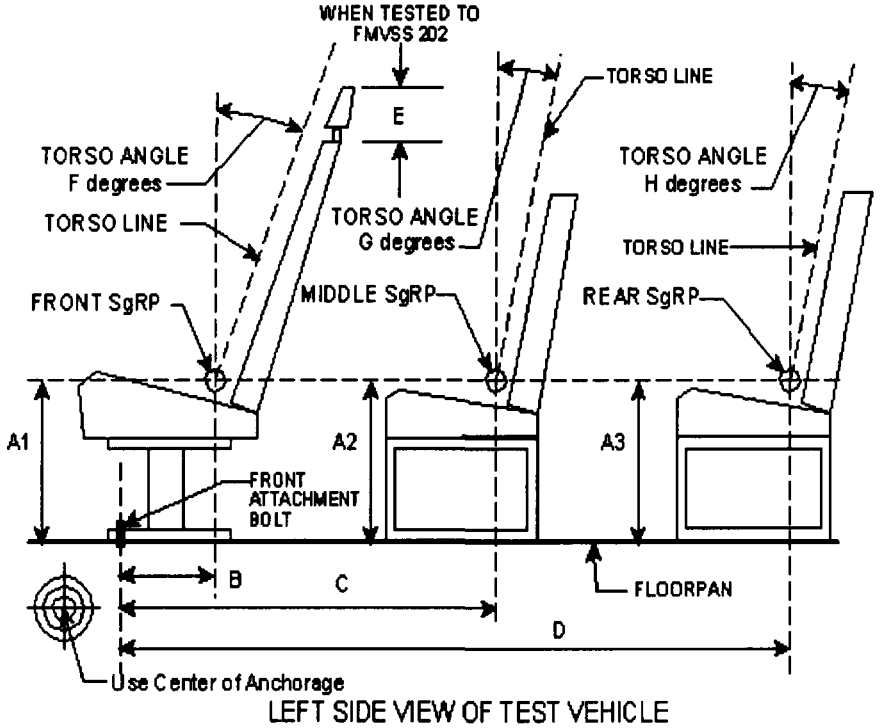
Notes:

FORM 4B1

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

(All dimensions in inches)

Model Year: _____; Make: _____; Model: _____
Body Style: _____; Seat Style: _____



LEFT SIDE VIEW OF TEST VEHICLE

DIMENSION	FRONT, A1	MIDDLE, A2	REAR, A3
A	14.71	12.07	11.82
B	10.18		
C	43.96		
D	75.92		
E	Low Back: Up=10.85, Down=9.08, High Back: N/A		
F	21		
G	22		
H	22		

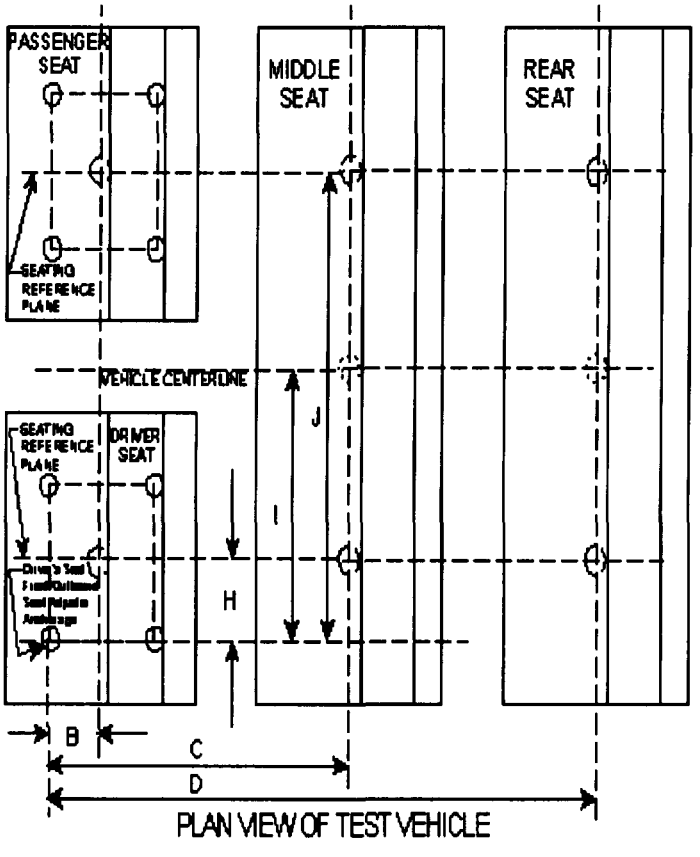
FORM 4B2

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

(All dimensions in inches)

Model Year: 2004 ; Make: Ford ; Model: Windstar

Body Style: Minivan ; Seat Style: Free standing - 1st Row High Back and Low Back, 2nd Row Quads and Bench, 3rd Row B



PLAN VIEW OF TEST VEHICLE

B	10.18
C	43.96
D	75.92
H*	7.07
I*	23.29
J*	32.95

* Provide all dimensions needed to locate SRP.

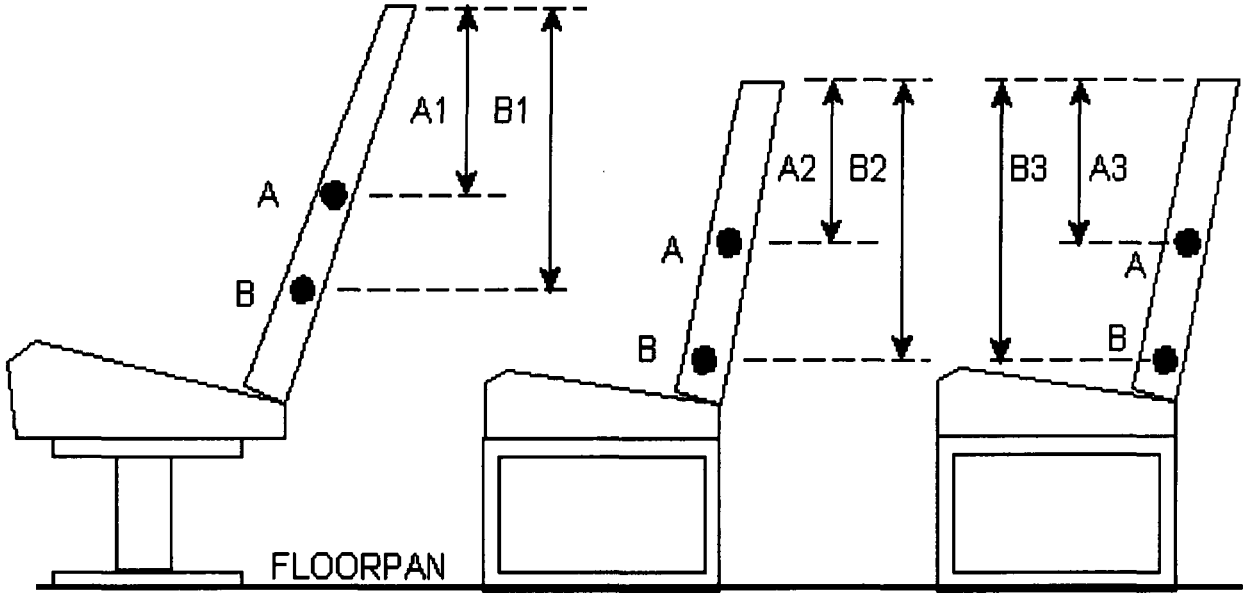
* Provide all dimensions needed to locate SRP.

FORM 4B3

TEST VEHICLE SEAT INFORMATION

(All dimensions in inches)

Model Year: 2004; Make: Ford; Model: Windstar
Body Style: Van; Seat Style: Free standing



LEFT SIDE VIEW OF VEHICLE

Note: A: CG of Seat Back

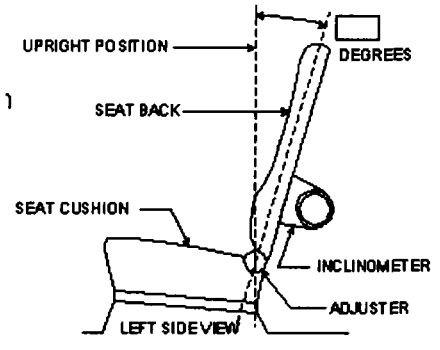
B: CG of total seating system

			FRONT	BACK
A1				
B1		Weight of Hinged or Folding portion of seat		
A2		Weight of Total Seat System		
B2		Angle of Seat Back	See FMVSS drawing	See FMVSS drawing
A3		REMARKS: Weights depend on configuration. Seat Matrix with weights will be provided.		
B3				

TEST VEHICLE INFORMATION

Vehicle Model Year and Make: 2004 Ford

Vehicle Model and Body Style: Windstar, Minivan



1. NOMINAL DESIGN RIDING POSITION

For adjustable driver and passenger seat backs, describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable.

Seat back angle for driver's seat = 17.4 °.

Measurement Instructions:

Recline seat back frame 17.4 degrees from vertical. Place inclinometer just below the grab handle on the back of the seat.

Seat back angle for passenger's seat = 17.4 °.

Measurement Instructions:

Recline seat back frame 17.4 degrees from vertical. Place inclinometer just below the grab handle on the back of the seat.

2. SEAT FORE AND AFT POSITIONS

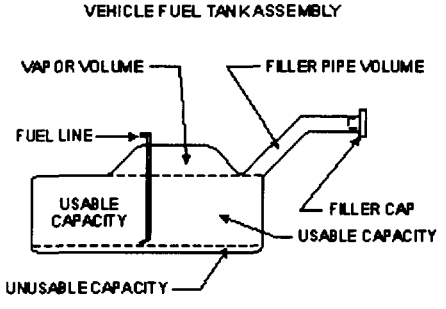
Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.

Position of the driver's seat:

Position tracks in the full rear position. Advance tracks forward 90mm from the full rear position, this is the mid-track position.

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

Position tracks in the full rear position. Advance tracks forward 90mm from the full rear position, this is the mid-track position.



3. FUEL TANK CAPACITY DATA

3.1-A. "Usable Capacity" of standard equipment fuel tank = ___N/A_____ gallons.

B. "Usable Capacity" of optional equipment fuel tank = ____N/A____ gallons.

C. Capacity used when certification testing to requirements of FMVSS 301 = _____N/A_____ gallons.

Operational Instructions:

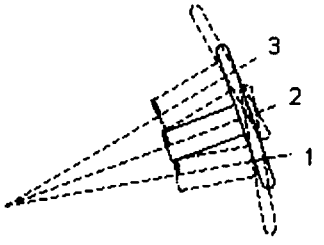
N/A

3.2 Amount of Stoddard solvent added to vehicle for certification test = ___N/A__ gallons.

3.3 Is vehicle equipped with electric fuel pump? __N/A___ YES _____ NO

If YES, does pump normally operate when vehicle's electrical system is activated?
___N/A__ YES _____ NO

STEERING COLUMN ASSEMBLY



LEFT SIDE VIEW

4. STEERING COLUMN ADJUSTMENTS Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions.

If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions:

N/A

5. SEATING REFERENCE POINT (SRP)

Provide drawing which shows the driver's SRP location.

6. FUEL TANK LOCATION

Provide drawing which shows the undercarriage view of the vehicle.
N/A

Regulation			Carryover	
			Year	Vehicle
	101	Controls and Displays		
	102	Transmission Shift		
	103	Windshield Defrost & Demist		
	104	Windshield Washing & Wiping		
	105	Brake Systems		
	106	Brake Hoses		
	108	Lamps		
	109	New Pneumatic Tires		
	110	Tire Selection & Rims		
	111	Rearview Mirrors		
	112	Concealed Headlamps		
	113	Hood Latch System		
	114	Theft Protection		
	115	VIN (Canada)		
	116	Brake Fluid		
	118	Power Windows		
	119	New Truck Tires		
	120	Truck Tire Selection & Rims		
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	124	Accelerator Control Systems		
	125	Warning Devices		
	135	Brake Systems		
	201	Interior Impact Protection		
	202	Head Restraints		
	203	Steering Control Systems		
	204	Steering Rear Displacement		
	205	Glazing Materials		
	206	Door Locks		
X	207	Seating Systems		
	208	Occupant Protection		
	209	Seatbelt Assemblies		
	210	Seatbelt Anchorages		
	210.1	Child Seat Tether Anchorages		
	210.2	Child Seat Latch Anchorages		
	212	Windshield Mounting		
	213	Child Restraint Systems		
	214	Side Impact Protection		
	215	Bumpers (Canada)		
	216	Roof Crush Resistance		
	217	Bus Window Retention		
	219	Windshield Zone Intrusion		
	220	School Bus Rollover Protection		
	221	School Bus Body Joint Strength		
	222	School Bus Seating		
	225	Child Seat Anchorages		
	301	Fuel System Integrity		
	302	Flammability of Interior Mat'ls.		
	303	CNG Fuel System Integrity		
	304	CNG Fuel Container Integrity		
	305	Electric Vehicles		
	401	Internal Trunk Release		
	541	Theft Protection		
	564	Replacement Light Source		
	565	Vehicle Identification Number		
	566	Manufacturers Identification		
	567	Certification Label		
	568	Vehicles Made in 2 Stages		
	574	Tire Identification		
	575	Consumer Information		
	581	Bumper Impact		
	CAN	Canadian		
X	NHTSA	NHTSA Form		
	NOISE	Exterior Noise		
	OG	Owner's Guide		
	PDG	Public Domain Guideline		
	PPC	Pre-Production Certification		
	RFI	Radio Frequency Interference		
	SDG	Safety Design Guideline		

2004

04-5222

Vehicle	
	Aviator [U231]
	Crown Victoria - Grand Marquis - Marauder [EN114]
	Econoline [VN127]
	Escape [U204] - Tribute [J14]
	Excursion [U137]
	Expedition [U222] - Navigator [U228]
	Explorer - Mountaineer [U152]
	Explorer Sport Trac [P207]
	F-150 [P221]
	F-150 Heritage [PN96]
	F-53
	F-650 750 [H215]
	F-SuperDuty [P131]
	Focus [C170]
X	Freestar - Monterey [V229]
	LS [DEW98]
	Mustang [SN95]
	Ranger [PN150] - B-series [PN151]
	Taurus - Sable [D186]
	Thunderbird [M205]
	Town Car [FN145]

Document Type	
	Interpretation
X	Plan
X	Report

Organization	
	Alternative Fuel
	Automotive Safety Office
	AVT-RVT
X	Body
	Car Programs
	Chassis
	Climate Control
	DSO-SVT
	Electric Vehicle
	Electrical & Lighting
	Environmental & Safety
	FCSD
	Ford of Australia
	Ford of Europe
	Fuel Systems
	Interior Systems
	Mazda
	OPEO-EEME
	Plastics & Trim
	Powertrain
	Restraints
	Supplier Provided
	Transmission
	Truck Operations
	Vehicle Crash
	Vehicle Engineering
	Vehicle Operations
	Vehicle Personalization
	Vehicle Safety

Test Reports

TRW - H0003037, H0003038, H0003043
03-01-0720 (KC0309)
03-01-0722 (KC0429)
03-01-0721 (KC0426)
KC0430

Engineering Drawings

Comments

MY: 2004
VEHICLE: VL29

COMPLIANCE DEMONSTRATION PLAN AND REPORT
F/CMVSS 207 -- Seating Systems

Print Date: 2/26/2003

	PLAN Answer Plan Questions below		REPORT of Compliance Demonstrated		
ORGANIZATION	Plan Prepared By: Print Name Sign / Date	Supervisor Print Name Sign / Date	Report Prepared By: Print Name Sign / Date	Supervisor Print Name Sign / Date	Manager Print Name Sign / Date
1 Lifestyle Vehicles	2/26/03 Matt Sahutske	2/26/03 Henry Zielinski	2/26/03 Matt Sahutske	2/26/03 Henry Zielinski	Jerry Brown
2					
3					
4					
5					
6					

PLAN QUESTIONS:				
Does this Standard/Regulation apply to this vehicle?	Yes __X__ No _____			
Are your components on this vehicle carryover with respect to complying with this standard/regulation? If Yes, complete Base MY & Vehicle information and submit just this page to ASO	1 No __X__	Yes _____	Base MY _____	& Vehicle _____
	2 No _____	Yes _____	Base MY _____	& Vehicle _____
	3 No _____	Yes _____	Base MY _____	& Vehicle _____
	4 No _____	Yes _____	Base MY _____	& Vehicle _____
	5 No _____	Yes _____	Base MY _____	& Vehicle _____
	6 No _____	Yes _____	Base MY _____	& Vehicle _____

ASO CONCURRENCE FOR THE PLAN :

NAME: _____ SIGNATURE: _____ DATE: _____

		Component	Base MY & Vehicle
NOTES.	If some, but not all, of your components are carry-over with respect to this standard/regulation, note those components here with their corresponding Base MY & Vehicles. Also, note "c/o" in the "method" column for those paragraphs in the pro-forma for which the carryover components apply.	1st Row Seats: 3F23-1760004/5 2nd Row Seats (Quads): 3F23-1760026/7 2nd Row Seats (Bench): 3F23-1760026 3rd Row Seat: 3F23-17600B01 PARTS NOT C/O, PART NUMBERS FOR REFERENCE ONLY	No C/O Components
	If engineering judgment (EJ) is being applied to demonstrate compliance, include engineering rationale in the "Evidence/Comments" for those paragraphs to which EJ is being applied and/or attach separate sheets with this information to column the CDP.		

Applicable Reference documents:

Federal Standard - 49 CFR 571.207 (FMVSS/CMVSS 207).

Ford Acceptance Criteria - CPSC 01.00 - Body Systems

Approved Engineering Test Procedures CETP 01.10-L-802-US, CETP 01.10-L0801-US, and CETP 01.20-L-809-US.

F/CMVSS Section No.	
S1	Purpose and Scope - Specifies requirements for seats, their attachment assemblies, and their installation to minimize the possibility of their failure by forces acting on them as a result of vehicle impact.
S2	Application - All vehicles.
S3	Definitions - See 49 CFR 571.3 and 49 CFR 571.207.

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
S4	Requirements.	Installation drawing (Driver's seat as installed) or sign-off summary statement.			
S4.1	A driver seat is required.	Installation drawing (Driver's seat as installed) or sign-off summary statement.	Sign off sheets	IL-4F23-011001-1700034-01 - Driver IL-4F23-011001-1700034-02 - Passenger IL-4F23-011001-1700034-03 - Quad IL-4F23-011001-1700034-04 - Bench IL-4F23-011001-1700034-05 - 3rd Row IL-4F23-011001-1762452-3-01 - 3rd Row Striker	FSS
S4.2	Seat loading: Must sustain loads as specified in (a), (b), and (c) for any adjusted seat position as follows:	Test Report: CETP 01.10-L-801-US and/or CETP 01.20-L-809-US Note: S5.1.1 requires testing at the highest adjusted position.	FMVSS 207 test buck	See "Attachement (A)"	Body Engineering
(a)	Forward seat CG loading for any adjusted seat position; withstand 20g load through CG. **(withstand 26g (130% MVSS) forward load through CG)**	Matrix showing Seat System complexity and Engineering Judgment used in developing the Compliance Demonstration Plan and Report.	Seat complexity matrix	See "Attachement (A)"	Body Engineering
(b)	Rearward seat CG loading for any adjusted seat position; withstand 20g load through CG. **(withstand 26g (130% MVSS) rearward load through CG)**		FMVSS 207 test buck	See "Attachement (A)"	Body Engineering
(c)	Forward seat anchorage loads plus seat belt loads; withstand 20g through CG of seat plus seat belt loads per FMVSS 210 S4.2. **(23g plus 115% MVSS seat belt loads)**	Note: Combination 207/210 testing when seat belt anchors are attached to a seat or share a common anchorage with the seat.	FMVSS 207 test buck	See "Attachement (A)"	Body Engineering
(d)	Seat back upper bar moment load; withstand 373 Nm moment/occupant. **(withstand 485 Nm moment/occupant)**	Test Report: CETP 01.10-L-801-US	FMVSS 207 test buck	See "Attachement (A)"	Body Engineering

F/CMVSS Section No.	*Regulatory Requirements/* (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
S4 2.1	Adjusted seat position; Except for vertical movement of non-locking suspension type occupant seats in trucks or buses, the seat must remain in adjusted position during S4.2 testing. **(seat must remain in adjusted position during 130% over FMVSS loads)**	Fill-in and attach a copy of NHTSA Forms 1, 4B1, 4B2 and 4B3 with appropriate data. (Forms can be found in the attached tabs)	FMVSS 207 test buck	See "Attachement (A)" and NHTSA Forms 1, 4B1, 4B2 and 4B3	Body Engineering

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
S4.3	Restraining device for hinged or folding seats or seat backs, except for passenger seats in a bus or seats having a back adjustable only for comfort of its occupant shall--	Statement describing the hinged/folding seats and/or the seat backs and self locking restraining devices and release controls.		All Rows of seats are equipped with latches that provide a folding feature to the seats for comfort, each of these latches are equipped with a self locking device and an occupant release control. See MP# 4F23-011000-G05 and 4F23-011000-G09.	Body Engineering
(a)	Be equipped with a self-locking device, and	Seat System FMVSS Drawing as per Seat Engineering's "Procedure for Seat Systems FMVSS Drawings."	FMVSS Drawing	See Attached NHTSA Forms 1, 4B1, 4B2, and 4B3	Body Engineering
(b)	Be equipped with a control for releasing the restraining device, if there are seating accommodations behind the seat.				
S4.3.1	Seat back latch accessibility; release control must be to seat occupant and, if required to exit the vehicle, any occupants behind the seat.	Statement of compliance to requirements for release controls.	Statement of compliance	Release controls for all latch assemblies are accessible to both occupants in and seated behind any applicable seating position. See MP# 4F23-011000-G05 and 4F23-011000-G09.	Body Engineering
S4.3.2	Performance requirements for restraining device.	Test Report: CETP 01.10-L-801-US and/or CETP 01.20-L-809-US Note: S5.1.1 requires testing at the highest adjusted position. Also, provide a Mathematical analysis that determines the ability of the seat back latch to remain latched under inertia loading. (Details found in CETP 01.10-L-801-US)	FEA Model Analysis and FMVSS 207 buck	See attached inertia calculation - Latch design is common to all rows, calculation completed on the first row based on EJ of latch to latch opening mechanism condition. (See Attachment B)	FSS and Body Engineering
S4.3.2.1	Static Force.				
(a)	Forward Facing seats: Withstand 20g forward load through CG of the hinged or folding portion of the system. **(withstand a 26g forward load)**		FMVSS 207 test buck	See "Attachement (A)"	Body Engineering

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
(b)	Rearward facing seats: Withstand 8g static rearward load through CG of the hinged or folding portion of the system. **(withstand 10.4g static rearward load through CG)**		N/A	N/A	Body Engineering
S4.3 2 2	Withstand 20g dynamic load opposite in the longitudinal direction opposite to that in which the seat folds. **(withstand 21.2g dynamic load opposite the fold of the seat back)**	Test Report: CETP 01.10-L-802-US	FMVSS 207 test buck	See "Attachement (A)"	Body Engineering
S4 4	Labeling: Seats that are not designated for occupancy while the vehicle is in motion shall be conspicuously labeled to that effect.	Drawings and/or copy of actual label and installation manual drawing.	Drawings	A label will be provided on rear quarter trim of the vehicle in a position obvious to an occupant sitting in the 3rd Row seat folded rearward "tailgate position" to instruct them not to operate the vehicle with the seat in this position. copy of label incinded in this report	Body Engineering

F/CMVSS Section No.	Regulatory Requirements/ (Ford Acceptance Criteria)	Compliance Demonstration Requirements	Method	Evidence/Comments (Test #, E/J Rationale, Part #,...)	Responsibility
	Unique Canadian Requirements:				Body Engineering
CMVSS 207 (3)(b)	A control for releasing a self-locking device on folding seats or seat backs must be provided.	Statement of compliance to release control requirement.	Statement of compliance	Release controls for all latch assemblies are accessible to both occupants in and seated behind any applicable seating position. See MP# 4F23-011000-G05 and 4F23-011000-G09.	Body Engineering
Notes:	(1) If seat belts are anchored on the seat or share a common anchorage with the seat, F/CMVSS 207/210 forward loads must be applied simultaneously.	(See FMVSS 207 S4.2 (c))	FMVSS 207 test buck	See "Attachement (A)"	Body Engineering
	(2) If a bench seat and vehicle design has more than 50 in. hip room, at least 3 seating positions must be provided per FMVSS 571.3, Designated Seating Position Definition. In 571.3, special rules apply to school bus seating positions designed to accommodate wheel chairs.		FMVSS 207 test buck	See "Attachement (A)"	Body Engineering

ATTACHMENT (A)

COMPLIANCE DEMONSTRATION PLAN TEST MATRIX

Model Year 2004
Vehicle Line(s) V229
Regulation(s) F/CMVSS 207 & 207/210

Test Procedure: FMVSS 207
Acceptance Criteria: FAC
DATE: 9-26-02
Job 1: August 2003

Summarized by: Richard Cendrowski
Seat Supplier: Intier Automotive
Restraints Supplier: Autoliv
Engineering S/O: 12-3-02

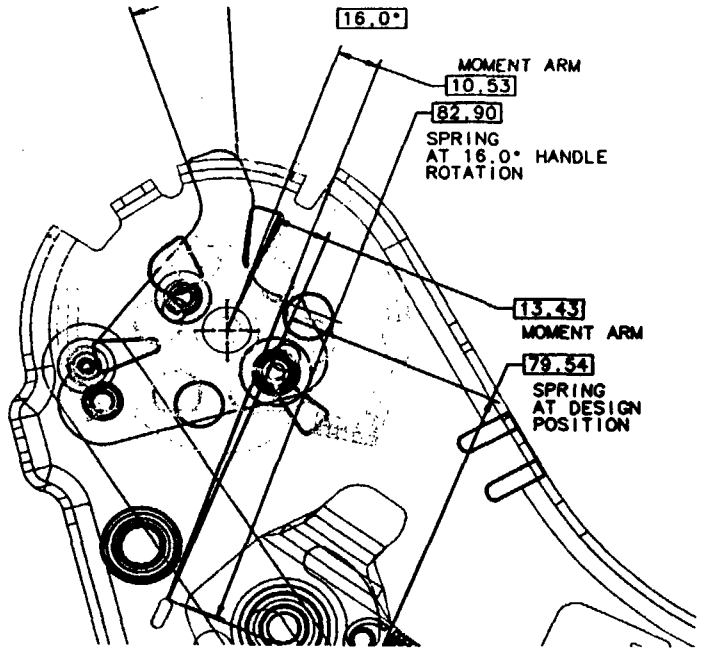
System Description/Component Model Usage	METHOD OF COMPLIANCE DEMONSTRATION							REMARKS & RATIONALE
	(BIW/Frame) **207/210** complete seat	(ub or fb) **Forward** seat frame	(ub or fb) **Rearward** seat frame	(ub or fb) **Upper Bar** seat frame	(hb or fb) **Static Latch** seat frame	(sled) **Dynamic Latch** (cmplt seat)	**C/O or EJ**	
1st Row High Back-Power	Test Order #KC 0924	Test Order #KC 0924	E/J	E/J	E/J	E/J		1st Row High Back Power is similar structure to the High Back Manual
1st Row High Back-Manual	Test Order #KC 1072	Test Order #KC 1072	Test Order #KC 0426	Test Order #KC 0426	Test Order #KC 0426	Test Order #KC 0426		
1st Row Low Back-Power	Test Order #KC 0924	Test Order #KC 0924	Test Order #KC 0426	E/J	E/J	Test Order #KC 0426		Upper Bar and Static Latch are E/J from the Manual Highback test, which is the worse case
1st Row Low Back-Manual	E/J	E/J	E/J	E/J	E/J	E/J		For1st Row Low Back Manual structure is similar to 1st row High Back Manual Structure
2nd row bench with tracks	Test Order #KC 1483	Test Order #KC 1483	Test Order #KC 0429	Test Order #KC 0429	Test Order #KC 0429	Test Order #KC 0429		
2nd row bench w/out tracks	E/J	E/J	E/J	E/J	E/J	E/J		2nd Row Bench structure without tracks is the same structure as with tracks
2nd row quad LH w/ tracks	Test Order #KC 0193	Test Order #KC 0193	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	TRW Test H0003043		
2nd row quad RH w/tracks	Test Order #KC 0193	Test Order #KC 0193	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	TRW Test H0003043		
2nd row quad LH w/out tracks	E/J	E/J	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	E/J		2nd Row Quads with tracks is a more severe condition than 2nd row quads without tracks
2nd row quad RH w/out tracks	E/J	E/J	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	E/J		3rd Row Quads with tracks is a more severe condition than 2nd row quads without tracks
3rd row bench	Test Order #KC 1598	Test Order #KC 1598	Test Order #KC 0309	Test Order #KC 0309	Test Order #KC 0309	TRW Test H0003037		
	Reference Ford Restraints test reports.		**1st Row, 2nd and 3rd Row Bench testing conducted at Tachi-S. 2nd Row Quad testing conducted at Ford test facility.**					

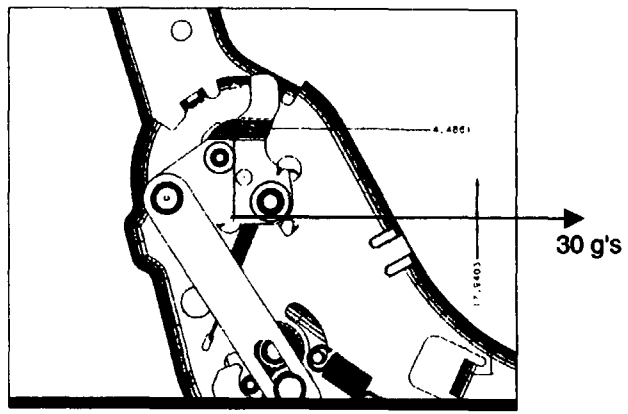
Notes

S 4.3.2 Att 13

V229
Front Handle Inertia Calculation

Frt-Handle + 2 Pins: (BLUE DIMENSIONS)
Mass = 0.108kg
Density = 7.82*10-6 kg/mm3
Link: (RED DIMENSIONS)
Mass = 0.056kg
Density = 7.82*10-6 kg/mm3
Rivet: (PURPLE DIMENSIONS)
Mass = 0.0038kg
Density = 7.82*10-6 kg/mm3





Torque Opening	
Total Weight	1.65 N
Number of G's	30
Force acting on CG	49.5 N
Moment Arm	0.01794 m
T open one side	0.88803 Nm
T open two side	1.77606 Nm

Torque Closing	
Spring Force @ Design Position	33 N
Spring Force @ Max Position	45.2 N
Moment Arm (Design)	0.01343 m
Moment Arm (Release)	0.01053 m
T external spring	0.44319 Nm
T external spring (2 sides)	0.88638 Nm
T Disc Recliner (2 sides)	2 Nm
Total Torque for Spring Forces	2.88638 Nm
Total Torque for Recliner Friction due to Seat Back Weight	9.8 Nm
Tclosing	12.6864 Nm

Topen<Tclosing
1.8Nm<12.7Nm

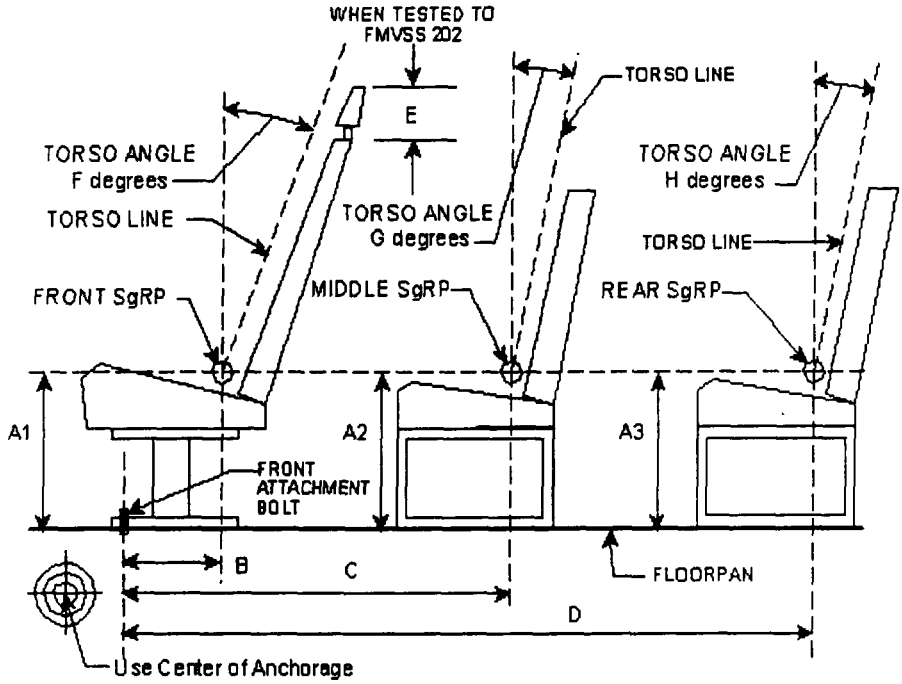
Note: For the 2 Pass Bench, the Ez-Entry linkage in a forward impact load will result in the linkage contacting a hard stop on the handles.

FORM 4B1

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

(All dimensions in inches)

Model Year: 2004; Make: Ford; Model: Windstar
Body Style: Minivan ; Seat Style: 1st Row High Back and Low Back, 2nd Row Quads and Bench, 3rd Row Bench



LEFT SIDE VIEW OF TEST VEHICLE

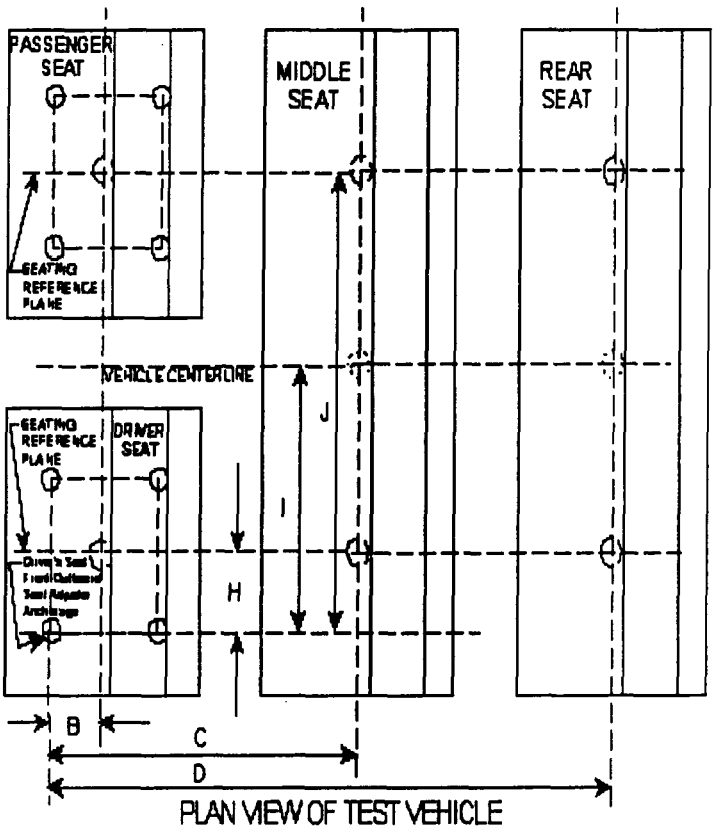
DIMENSION	FRONT, A1	MIDDLE, A2	REAR, A3
A	14.68	13.57	15.3
B	10.18		
C	43.96		
D	75.92		
E	Low Back: Up=10.85, Down=9.08, High Back: N/A		
F	21°		
G	22°		
H	22°		

FORM 4B2

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

(All dimensions in inches)

Model Year: 2004 ; Make: Ford ; Model: Windstar
Body Style: Minivan ; Seat Style: 1st Row High Back and Low Back, 2nd Row Quads and Bench, 3rd Row Bench



PLAN VIEW OF TEST VEHICLE

B	10.18
C	43.96
D	75.92
H*	1st row=7.07, 2nd row quad=10.96, 2nd row bench=12.26, 3rd row=7.07
I*	23.29
J*	1st row=40.0, 2nd row quad=40.10, 2nd row bench=34.30, 3rd row=39.51

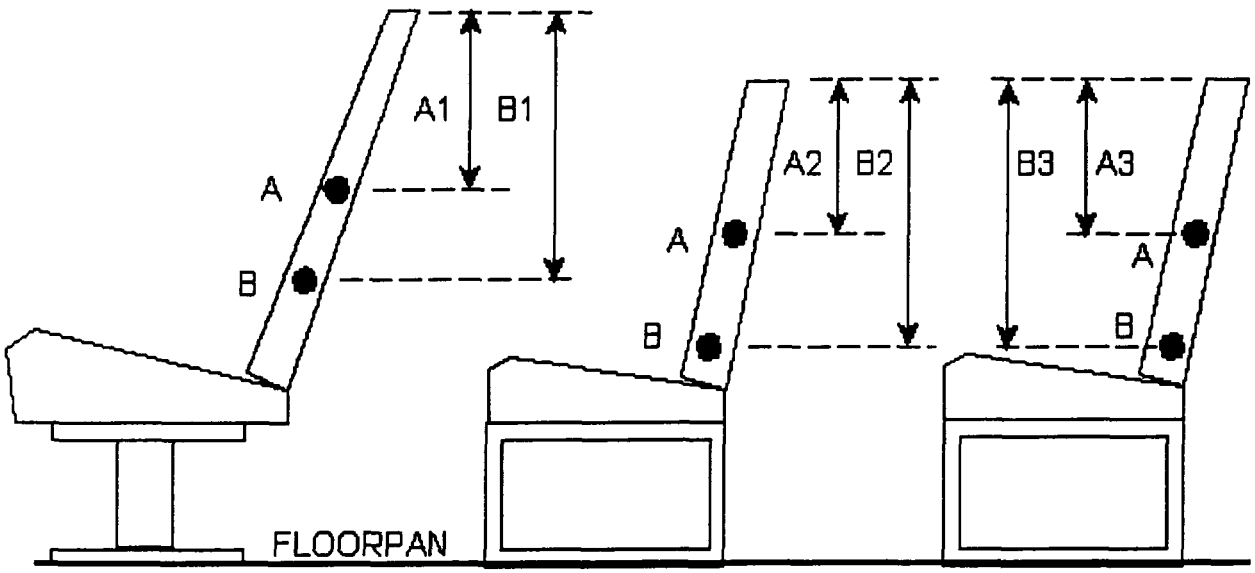
* Provide all dimensions needed to locate SRP.

FORM 4B3

TEST VEHICLE SEAT INFORMATION

(All dimensions in inches)

Model Year: 2004; Make: Ford; Model: Windstar
Body Style: Van; Seat Style: Free standing



LEFT SIDE VIEW OF VEHICLE

Note: A: CG of Seat Back

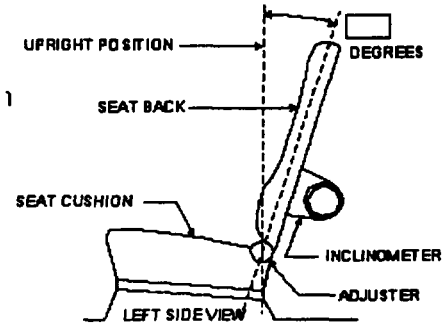
B: CG of total seating system

			FRONT	BACK
A1	21.457			
B1	33.15	Weight of Hinged or Folding portion of seat	High back - 24.05 lbs	
A2	Bench - 344 Quad - 443	Weight of Total Seat System		
B2	Bench - 475 Quad - 619	Angle of Seat Back	See FMVSS drawing	See FMVSS drawing
A3	11.142	REMARKS: Weights depend on configuration. Seat Matrix with weights will be provided.		
B3	16.299			

TEST VEHICLE INFORMATION

Vehicle Model Year and Make: _ 2004 Ford

Vehicle Model and Body Style: _ Windstar, Minivan



1. NOMINAL DESIGN RIDING POSITION

For adjustable driver and passenger seat backs, describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable.

Seat back angle for driver's seat = 17.4 °.

Measurement Instructions:

Recline seat back frame 17.4 degrees from vertical. Place inclinometer just below the grab handle on the back of the seat._____

Seat back angle for passenger's seat = 17.4 °.

Measurement Instructions:

Recline seat back frame 17.4 degrees from vertical. Place inclinometer just below the grab handle on the back of the seat._____

2. SEAT FORE AND AFT POSITIONS

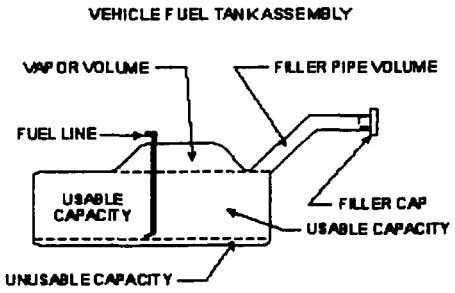
Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.

Position of the driver's seat:

Position tracks in the full rear position. Advance tracks forward 90mm from the full rear position, this is the mid-track position.

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

Position tracks in the full rear position. Advance tracks forward 90mm from the full rear position, this is the mid-track position.



3. FUEL TANK CAPACITY DATA

3.1-A. "Usable Capacity" of standard equipment fuel tank = ___N/A_____ gallons.

B. "Usable Capacity" of optional equipment fuel tank = ____N/A____ gallons.

C. Capacity used when certification testing to requirements of FMVSS 301 = _____N/A_____ gallons.

Operational Instructions:

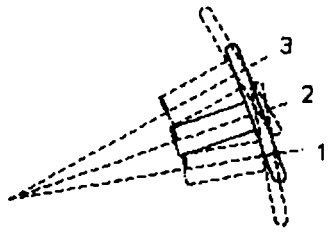
N/A

3.2 Amount of Stoddard solvent added to vehicle for certification test = ___N/A__ gallons.

3.3 Is vehicle equipped with electric fuel pump? __N/A___ YES _____ NO

If YES, does pump normally operate when vehicle's electrical system is activated?
___N/A__ YES _____ NO

STEERING COLUMN ASSEMBLY



LEFT SIDE VIEW

4. STEERING COLUMN ADJUSTMENTS Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions.

If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions:

N/A

5. SEATING REFERENCE POINT (SRP)

Provide drawing which shows the driver's SRP location.

6. FUEL TANK LOCATION

Provide drawing which shows the undercarriage view of the vehicle.
N/A

2004 V229 F/CMVSS.207 label for third row seat when in the "tailgate" mode. (S 4.4 of 207)

75mm wide X 35mm high.
(Hairline border represents label size.)

DECAL - ST INST

4F2A-610A48-AB/ 03-52
03-13-03
REVISION 2

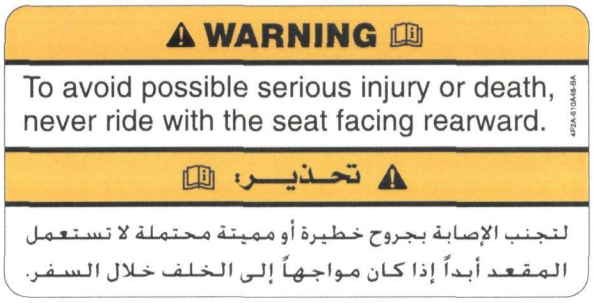
APPROVED BY: _____

DATE: ___/___/___

Please sign, date, and return e-mail: jcheck1@ford.com

Ford Motor Company
GRAPHIC SERVICES
313.248.7273

2004 V229
F/CMVSS 207 label translated



80mm wide X 40mm high.
(Hairline border represents label size.)

DECAL - ST INST

4F2A-610A48-BA / 03-53
03-13-03
REVISION 2

APPROVED BY: _____

DATE: __/__/__

Please sign, date, and return e-mail: jcheck1@ford.com

Ford Motor Company
GRAPHIC SERVICES
313.248.7273

2004 V229

F/CMVSS 207 label translated

80mm wide X 40mm high.
(Hairline border represents label size.)

DECAL - ST INST

4F2A-610A48-CA / 03-54
03-13-03
REVISION 2

APPROVED BY: _____

DATE: ___/___/___

Please sign, date, and return e-mail: jcheck1@ford.com

Ford Motor Company

GRAPHIC SERVICES
313.248.7273

Final Test Report
Confidential

Test Order Number:	TRW - H0003037, H0003038, H0003043
Subject:	2004 V229 Front Seats (Driver and Passenger), Second Row Seats (Quads and Bench), and Third Row Bench **FMVSS 207 Dynamic Latch Test (Seat Cert.)**
Requested By:	Matt Sahutske
Requesting Dept.:	NAE – Seat Engineering
Work Task No.:	G13
Test Facility:	TRW, Hyge
Date Reported:	02/10/03
Test Dates:	01/28/03, 01/31/03
Test Speeds:	N/A (Pulse as specified by Corporate Engineering Test Procedure 01.10-L-802-US) Not less than 21.2 g's nominal half sine waveform with a duration of 125 +/- 10ms. See attachments A, B, and C.
Dummies Used:	None
Run Numbers:	H0003037, H0003038, H0003043
Procedure(s):	Corporate Engineering Test Procedure 01.10-L-802-US (based on FMVSS-207)
Buck #:	H0003037 and H0003038 were run on Ford Rigid Buck #44: H0003043 was run on an Intier fixture
Page:	**1 of 12**

Objective:
Show compliance to FMVSS 207 Dynamic Latch Test

Certification Statement:
I certify that to the best of my knowledge and ability, this test was conducted with parts and related systems signed-off by the design engineer as representative of a design level that is adequate for certification test. Furthermore, the test was conducted in accordance with the Corporate Engineering Test Procedure 01.10-L-802-US (based on FMVSS-207), utilized test equipment and fixtures as described herein, and the test results represent the recorded performance of the tested samples. Any exceptions are noted within this report.

Test data is retained at TRW. A copy of the high-speed film has been given to the requestor for evaluation. The still photographs are in digital format and also located at TRW and can be recovered through Mike Rhein of TRW (586) 781 7586, 4505 W. 26 Mile, Washington, MI 48094.

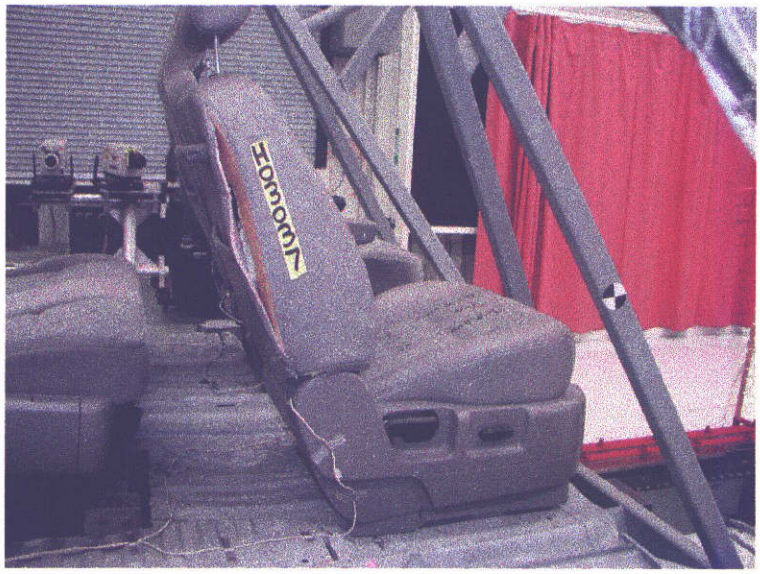
Attachments: **A, B, & C Test Pulse Plots**
D Seat Sign-off

Concur:

Matt Sahutske
Design and Release Engineer
North American Engineering
Seat Engineering

Pre-test photos (H03037):

1st Row High Back Manual and Low Back Power (H03037)



2nd Row 2-Pass Bench (H03037)

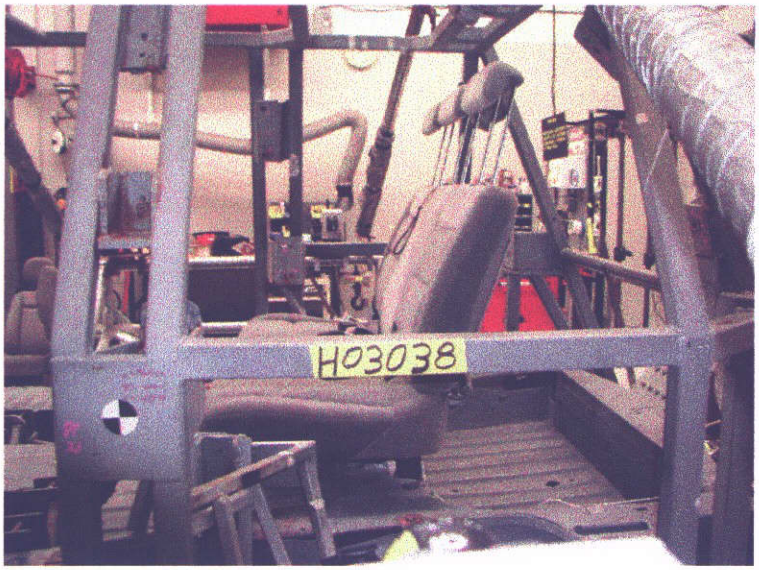
Post-test photos (H03037):

1st Row High Back Manual and Low Back Power (H03037)

2nd Row 2-Pass Bench (H03037)

Pre-test photos (H03038):

3rd Row 3-Pass Bench (H03038)

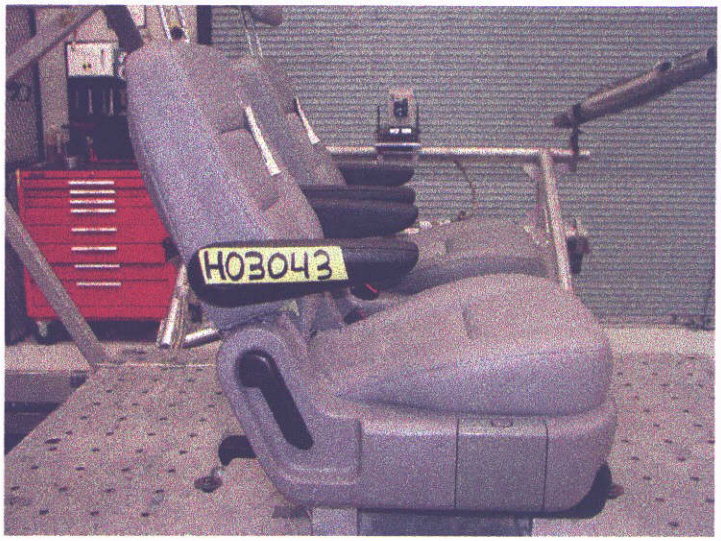


Post-test photos (H03038):

3rd Row 3-Pass Bench (H03038)

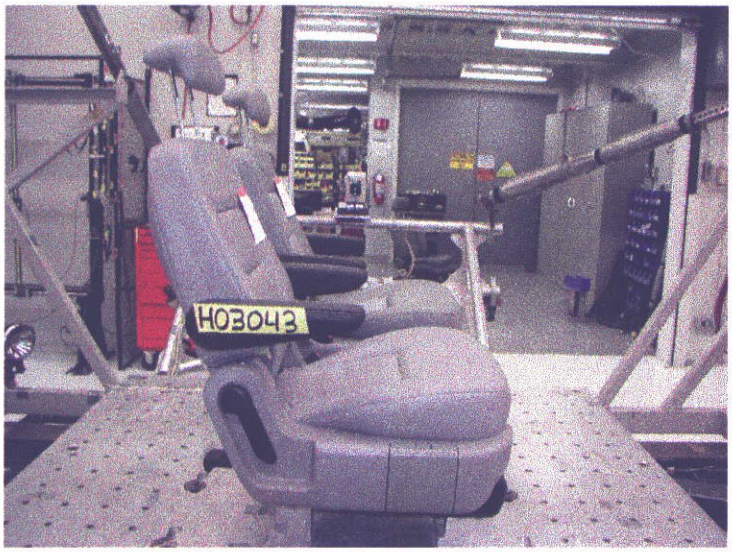
Pre-test photos (H03043):

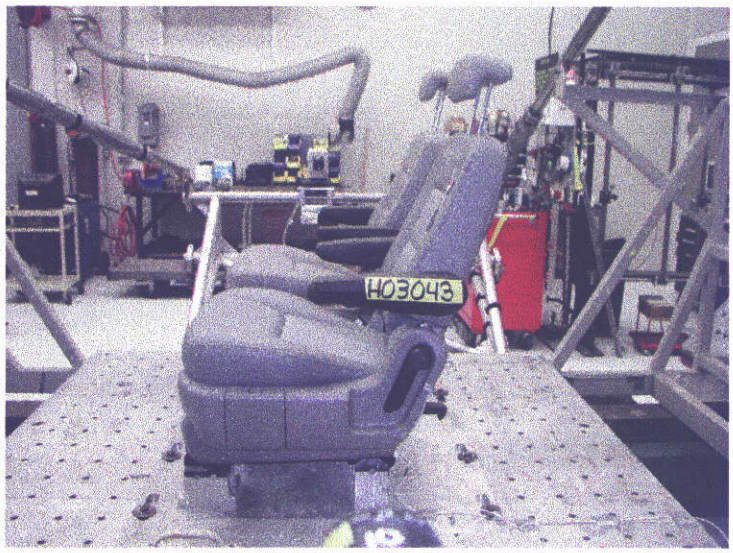
2nd Row Quads (H03043)



Post-test photos (H03043):

2nd Row Quads (H03043)

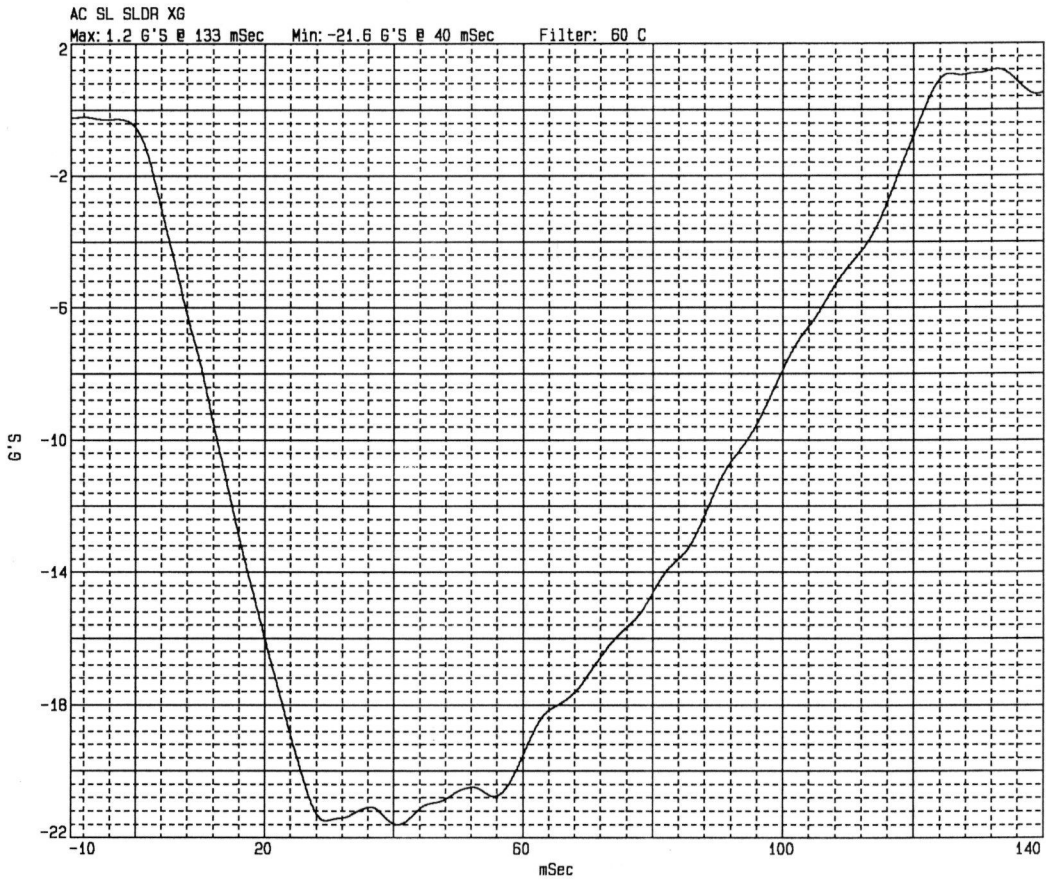




1ST RUN H0003037

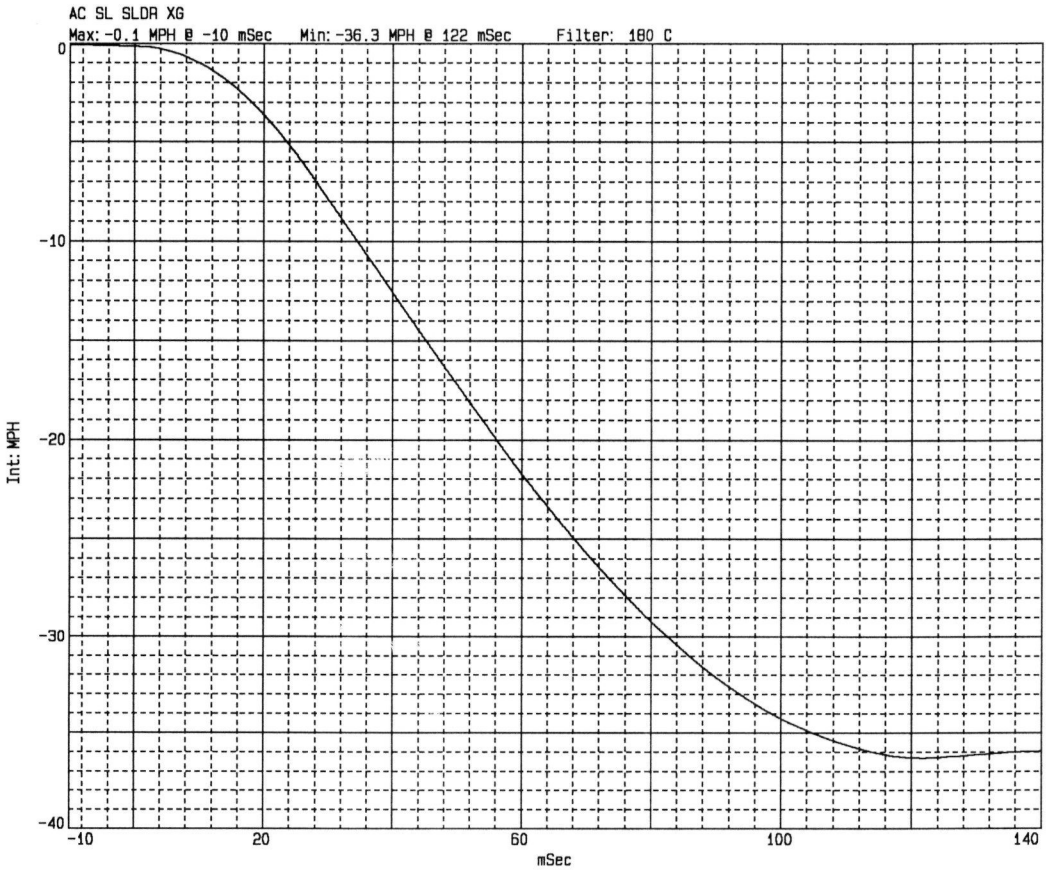
1ST ROW + 2-PASS BENCH

H0003037



TRW HYGE Sled

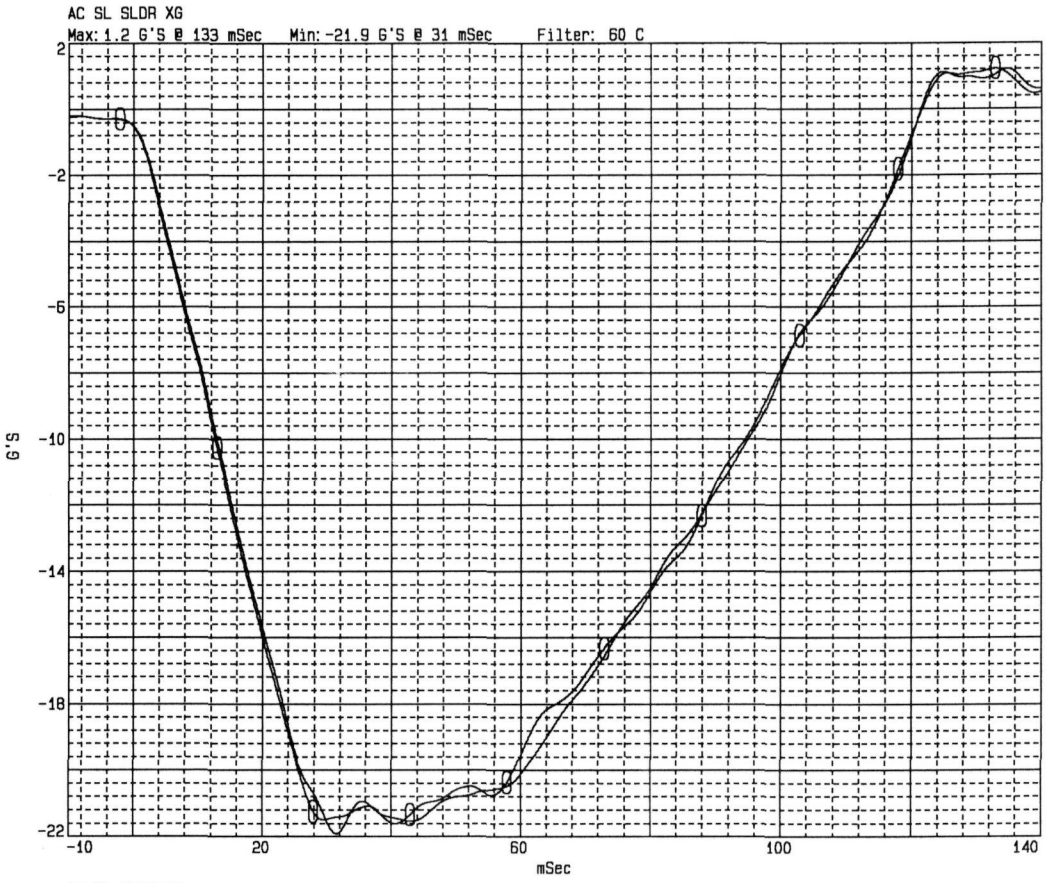
H0003037



1ST + 2ND RUN OVERLAY H0003037 & H0003038

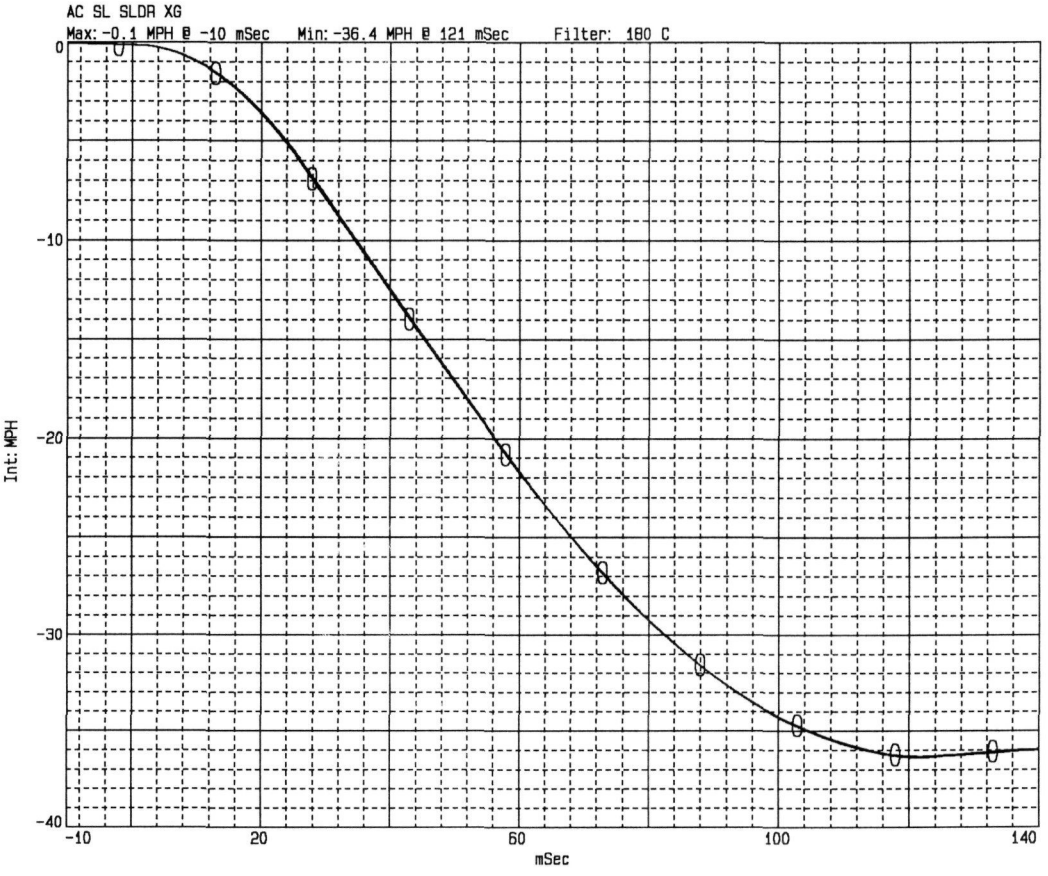
3RD ROW BENCH

H0003038
H0003037-0



TRW HYGE Sled

H0003038
H0003037-0

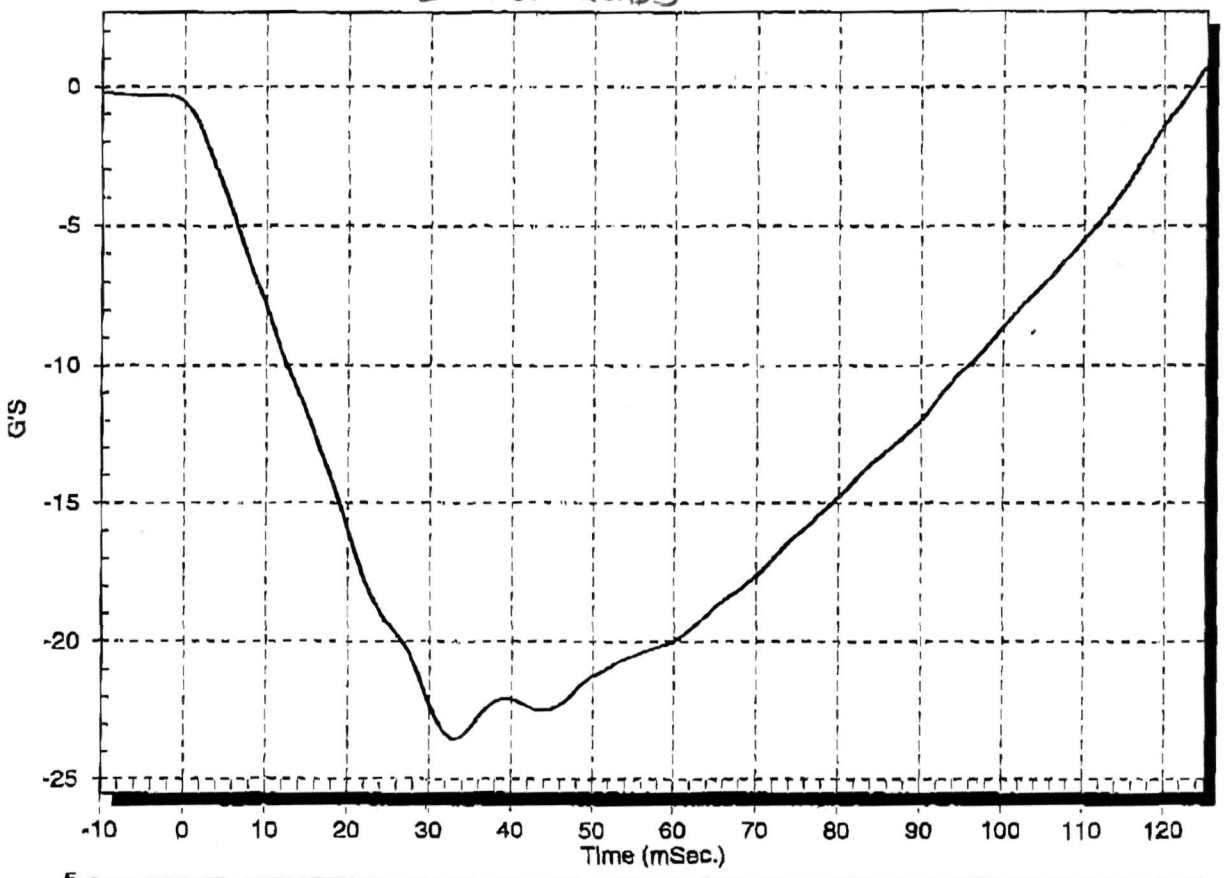


3RD ROW H0003043

2ND ROW QUADS

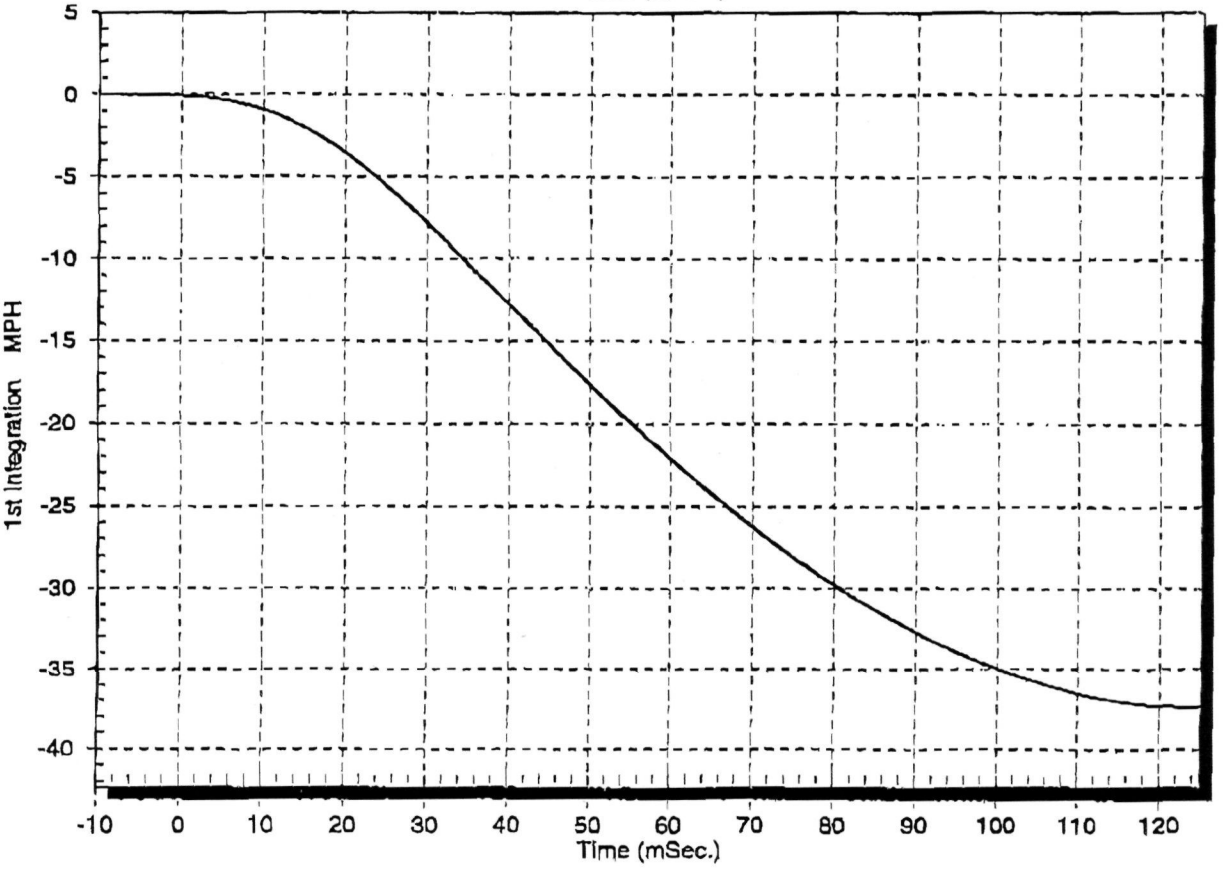
Max: 0.71G'S@125.0/Min:-23.52G'S@ 33.0

H0003043 60 C SL SLDR AC XG



Max: 0.00MPH@-10.0/Min:-37.34MPH@123.8

H0003043 180 C SL SLDR AC XG



TRW HYGE Sled TestNo: H0003043 Format file: 1 PULSE 125.PLF Page No: 1

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

FMVSS /CMVSS 207

TEST REQUEST NUMBER: JC0173

BUCK NUMBER: A4360005

THE SEAT ASSEMBLIES IDENTIFIED BELOW HAVE BEEN EXAMINED BY THE RESPONSIBLE DESIGN ENGINEER AND ARE APPROVED FOR TESTING FOR COMPLIANCE TO FMVSS/CMVSS 207.

VEHICLE LINE AND YEAR: 2004 V229

SEAT TYPE: DR.MANUAL HIGH BACK / PASS POWER LOW BACK
2ND ROW BENCH W/TRACKS
2ND ROW RH QUAD W/TRACKS
2ND ROW LH QUAD W/TRACKS
3RD ROW BENCH

PART NAME:	*PART NUMBER:*	*SUPPLIER:*	*SIGNATURE:*	*DATE:*
DR. MANUAL HIGHBACK	*3F23-1760005-AAW*	*INTIER*		1/13/03
PASS POWER LOWBACK	*3F23-1760004-HKW*	*INTIER*		1/13/03
2ND ROW BENCH W/TRACKS	*3F23-1760026-EAW*	*INTIER*		1/13/03
2ND ROW RH QUAD/W/TRACKS	*3F23-1760026-BAW*	*INTIER*		1/13/03
2ND ROW LH QUAD/W/TRACKS	*3F23-1760027-BAW*	*INTIER*		1/13/03
3DR ROW BENCH	*3F23-17600BO1-AAW*	*INTIER*		1/13/03

NOTE: RUN ONE DYNAMIC LATCH TEST ON ALL THE ABOVE SEATS

TACHI-S ENGINEERING U.S.A. INC.
23227 Commerce Drive, Farmington Hills, Michigan 48335-2705
Phone: (248) 478-5050 Fax: (248) 426-4245
http://www.tachi-s.com

TEST REPORT

TEST REPORT NO.	03-01-0720	**JOB / TRACKING NO.**	1102-03-496
TESTING REQUESTED BY:		**REPORT DATE:**	8-Jan-03
NAME:	Mr. Matthew Sahutske	**TEST DATE:**	12~14-DEC-02
COMPANY:	FORD MOTOR COMPANY		
PHONE / FAX:	(313) 621-6941	**NUMBER OF PAGES:**	1 OF 20

TITLE: **2004 V229 3rd ROW BENCH (KC0309)**
FMVSS 207 STATIC LATCH / FMVSS 207 UPPER BAR / FMVSS 207 SEAT REARWARD ANCHORAGE

APPROVED BY: TESTING MANGER **TESTED BY:** SCOTT WRIGHT

APPROVED BY: **TESTED BY:** BILL NIGH

TEST PURPOSE: TO DETERMINE IF THE SAMPLE MEETS THE REQUIREMENTS OF FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 STATIC LATCH / UPPER BAR / SEAT ANCHORAGE STRENGTH IN THE REARWARD DIRECTION.

TEST SAMPLE: 2004 V229 3rd ROW BENCH (KC0309)

TEST PROCEDURE & REVISION: BASED ON FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 SEAT BACK ANCHORAGE STRENGTH / 38kg*m REARWARD MOMENT / SEAT ANCHORAGE STRENGTH TESTS.

TEST EQUIPMENT: SCHAP / TACHI-S 8-CYLINDER PROPORTIONAL HYDRAULIC TEST STAND
CALIBRATION DUE DATE: JUN '03 MACHINE SERIAL NO. 207210
TOTAL SYSTEM UNCERTAINTY: SYSTEM CALIBRATED ±2.0% OF TARGETED LOADS ≥10% OF FULL SCALE

TEST SET-UP:

SEE ATTACHED SET-UP SHEETS FOR 3rd ROW BENCH

CONCLUSION:

THE SAMPLES TESTED MET THE REQUIREMENTS OF THE FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 (AND FAC REQUIREMENTS) FOR SEAT BACK ANCHORAGE STRENGTH (STATIC LATCH) / 38kg*m REARWARD MOMENT (UPPER BAR) / SEAT ANCHORAGE STRENGTH IN THE REARWARD DIRECTION.

SUMMARY OF RESULTS:

SEE ATTACHED DATA / SUMMARY SHEETS AND (OR) PHOTOS

DISTRIBUTION: **CUSTOMER : 5**

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UPPER BAR LOAD TABLE

SAMPLE	SEAT TRACK TYPE	SEAT POSITION	NUMBER OF PASSENGERS	MOMENT ARM SGRP TO UPPER BAR	FMVSS 207 REQUIRED LOAD (3,300in-lbs/MOMENT ARM x NUMBER OF PASSENGERS	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)5 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
2ND ROW BENCH	MANUAL	FULL REAR	2	16.67 in.	396 lbs.	436 lbs.	**475 lbs.**	515 lbs.	**594 lbs.**
				423.3 mm	1761.63N	1937.8N	**2113.96N**	2290.13N	**2642.45N**
3RD ROW BENCH	N/A	N/A	3	13.37 in.	740 lbs.	814 lbs.	**888 lbs.**	962 lbs.	**1110 lbs.**
				339.7 mm	3292.76N	3622.03N	**3951.31N**	4280.59N	**4939.14N**
						FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

SEAT ANCHORAGE LOAD TABLE

SAMPLE	SEAT TRACK TYPE	SEAT POSITION	WEIGHT OF SEAT +5% (lbs.)	FMVSS 207 REQUIRED LOAD (20 X SEAT WEIGHT)	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)11 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
2ND ROW BENCH	MANUAL	MID / FULL FORWARD	105.61 lbs.	2112 lbs.	2323 lbs.	**2535 lbs.**	2746 lbs.	**3168 lbs.**
			469.78N	9395.53N	10335.09N	**11274.64N**	12214.19N	**14093.3N**
3RD ROW BENCH	N/A	N/A	75.14 lbs.	1503 lbs.	1653 lbs.	**1803 lbs.**	1954 lbs.	**2254 lbs.**
			334.24N	6684.79N	7353.27N	**8021.75N**	8690.22N	**10027.18N**
					FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

STATIC LATCH LOAD TABLE

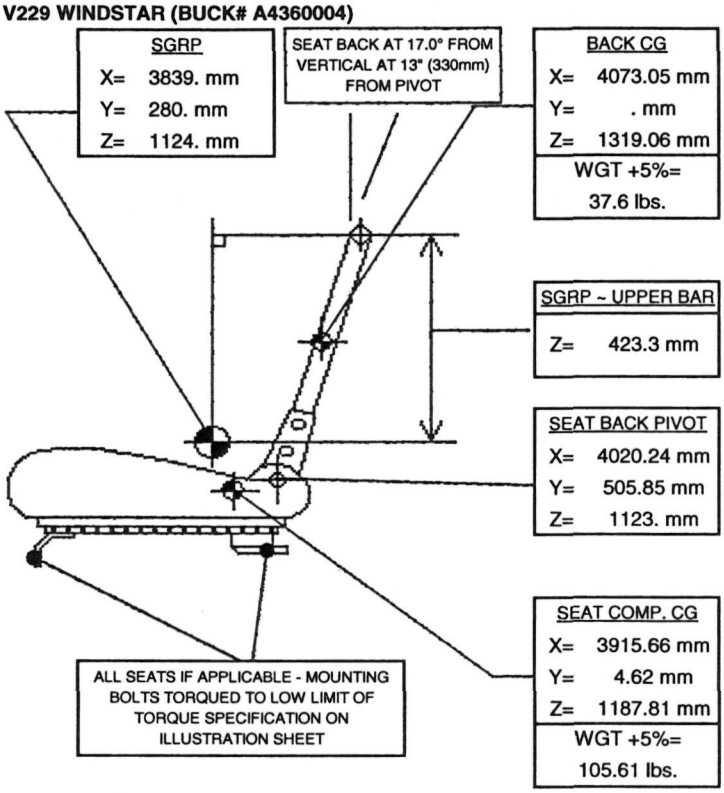
SAMPLE	SEAT TRACK TYPE	SEAT POSITION	WEIGHT OF SEAT BACK +5% (lbs.)	FMVSS 207 REQUIRED LOAD (20 X SEAT WEIGHT)	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)5 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
2ND ROW BENCH	MANUAL	MID POSITION	37.60 lbs.	752 lbs.	827 lbs.	**902 lbs.**	978 lbs.	**1128 lbs.**
			167.25N	3345.06N	3679.57N	**4014.08N**	4348.58N	**5017.59N**
3RD ROW BENCH	N/A	N/A	32.95 lbs.	659 lbs.	725 lbs.	**791 lbs.**	857 lbs.	**989 lbs.**
			146.57N	2931.38N	3224.52N	**3517.65N**	3810.79N	**4397.07N**
					FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

FAC = FORD ACCEPTANCE CRITERIA

SET-UP SHEET WINDSTAR V229

DRAWING: MAGNA SEATING SYSTEMS ENGINEERING DRAWING NO. SK-3F23-011000-AA & BA - FMVSS

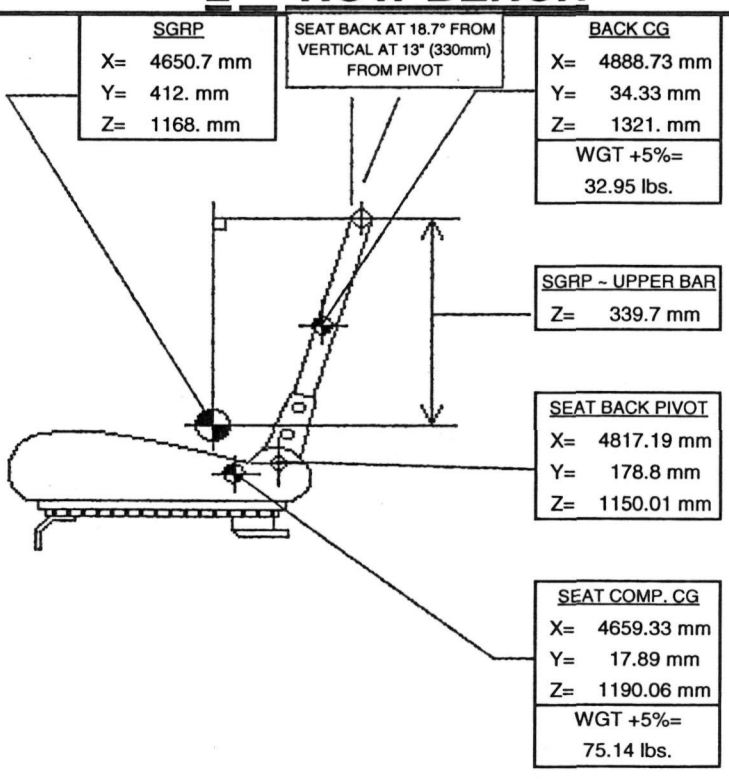
SAMPLE: 2004 V229 WINDSTAR (BUCK# A4360004)



PIVOT TO SEAT CG	
X=	-104.58 mm
Y=	-501.23 mm
Z=	64.81 mm

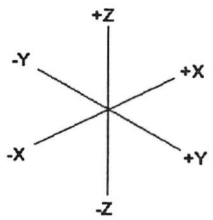
PIVOT TO BACK CG	
X=	52.81 mm
Y=	16. mm
Z=	196.06 mm

2nd ROW BENCH



PIVOT TO SEAT CG	
X=	-157.86 mm
Y=	-160.91 mm
Z=	40.05 mm

PIVOT TO BACK CG	
X=	71.54 mm
Y=	-144.47 mm
Z=	170.99 mm



3rd ROW 3 PASS. BENCH

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

FMVSS /CMVSS 207

TEST REQUEST NUMBER: KC0309

BUCK NUMBER: A4360004

THE SEAT ASSEMBLIES IDENTIFIED BELOW HAVE BEEN EXAMINED BY THE RESPONSIBLE DESIGN ENGINEER AND ARE APPROVED FOR TESTING FOR COMPLIANCE TO FMVSS/CMVSS 207.

VEHICLE LINE AND YEAR: 2004 V229

SEAT TYPE: 3RD ROW BENCH

PART NAME:	*PART NUMBER:*	*SUPPLIER:*	*SIGNATURE:*	*DATE:*
(1) 3RD ROW BENCH	*3F23-17600B01-DJW*	*INTIER AUTOMOTIVE SEATING*		10/28/02

NOTE: *RUN ONE STATIC LATCH*
RUN ONE REARWARD PULL
RUN ONE UPPER BAR

SIGN-OFF
F/CMVSS - 207
2004 V229
BUCK# A4360004

KC0309

This Vehicle is equipped to the latest level design, and is production intent

	PRINT NAME	SIGN NAME	DATE
BODY SHELL	T. JOSEPH	T. Joseph	10/29/02
UNDERBODY	THOMAS JOSEPH	T. Joseph	10/29/02

KC0309

VEV Test Request - KC0309

Requester / Coordinator (CDS Id):
MSAHUTS1

Matthew Sahutske

Performing Activity:	Date Submitted:	Requested Completion Date:	Requester Reference Number:
Body / Chassis Durability	17-OCT-2002	25-OCT-2002	

TESTnet Test Procedure: ANCHOR_US
CETP: 01.10-L-801-US
CETP Title: Seat Anchorage Test

Request Title and / or Subject of Request:
FMVSS 207 SEAT ANCHORAGES (2004,V229 3RD ROW

Billable Requester's Dept No.:
5100Y246 UNKNOWN

Billable Requester's CDS Id:
MSAHUTS1

Billable Requester's Name:
Matthew Sahutske

Work Task / Work Order: G13
Program: V229
Description:
2004 1/4 V229 NEW WINDSTAR & MERC MINIV

Request conducted to certify control item compliance with Government Regulations:

Yes: [X] No: [ ]

Complete the following two questions as indicated

1 - Rationale for not replacing this test by CAE Analysis:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

Seat Anchorage Test

Test Objects:

Reference Object	Reference Description
N/A	N/A

Sample #	Object ID	Object Description
1	A4360004	BODY IN WHITE
2	3F23-17600B01-DJW	3RD ROW BENCH
3	3F23-17600B01-DJW	3RD ROW BENCH
4	3F23-17600B01-DJW	3RD ROW BENCH

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: Matthew Sahutske _____ Assigned Coordinator: _____

Request Authorized by: Not Required _____ Assigned Supervisor: _____

Bill Of Materials Report

Test Request: KC0309

Test Title: FMVSS 207 SEAT ANCHORAGES (2004,V229 3RD ROW

Object ID (Sample)	*Part Number*	*Description*	*Qty*	*Receipt Date*
A4360004				
3F23-17600B01-DJW				
3F23-17600B01-DJW				
3F23-17600B01-DJW				

V229 THIRD ROW BENCH SUMMARY

KC0309

STATIC LATCH

		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	% OVER FMVSS MAX
2ND ROW BENCH WITH TRACKS	MID SLIDE POSITION	725 lbs.	768 lbs.	16.52%	857 lbs.	925 lbs.	40.32%

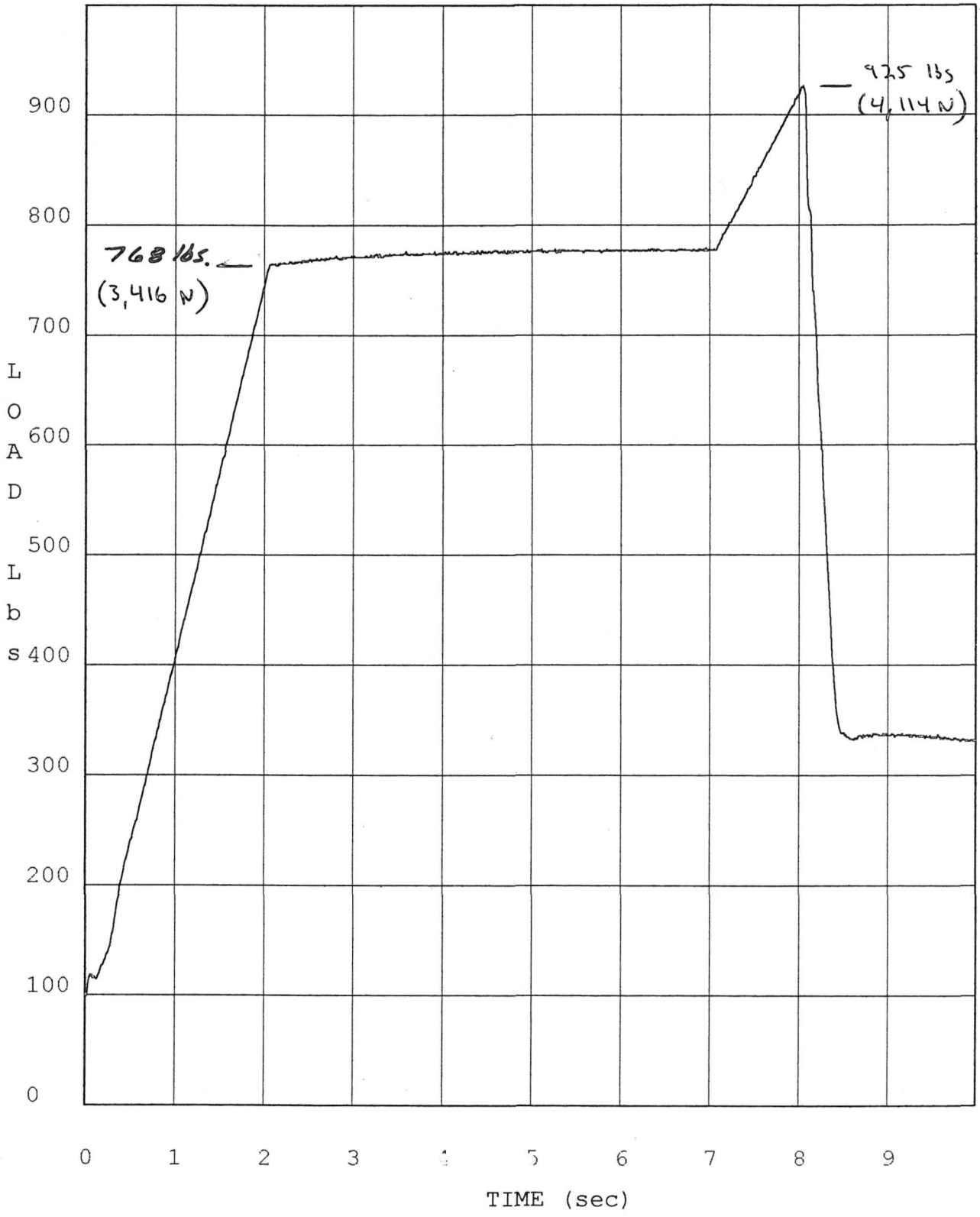
UPPER BAR

		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	% OVER FMVSS MAX
2ND ROW BENCH WITH TRACKS	MOST REAR TRACK POSITION	814 lbs.	838 lbs.	13.24%	962 lbs.	987 lbs.	33.38%

REARWARD ANCHORAGE

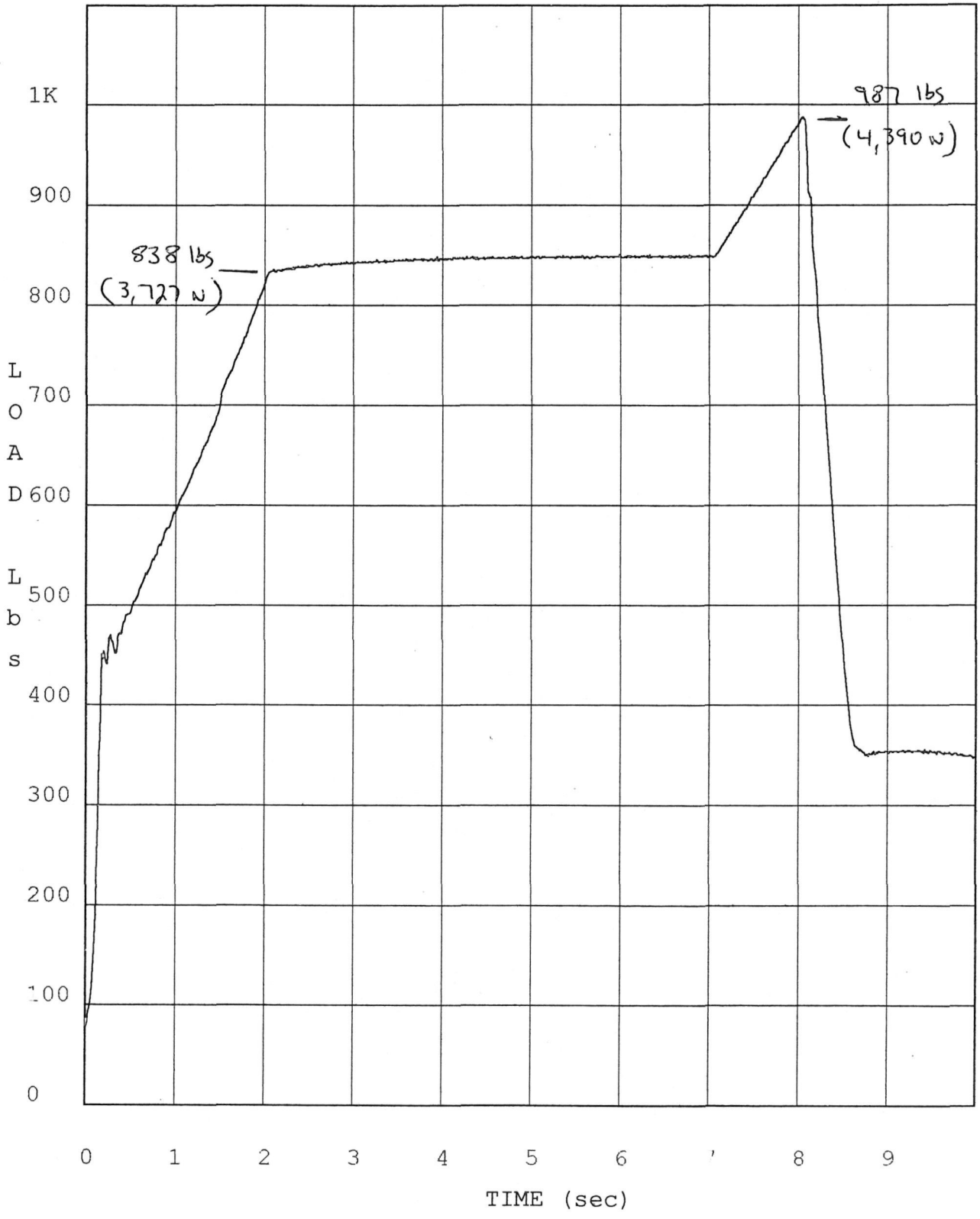
		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	% OVER FMVSS MAX
2ND ROW BENCH WITH TRACKS	FULL FORWARD POSITION	1653 lbs.	1772 lbs.	17.92%	1954 lbs.	2000 lbs.	33.06%

12/14/2002 23:20 Model: 2004 V229 3RD ROW
Part No: FMVSS 207 STATIC LATCH
Operator: S.W. (KC0309)



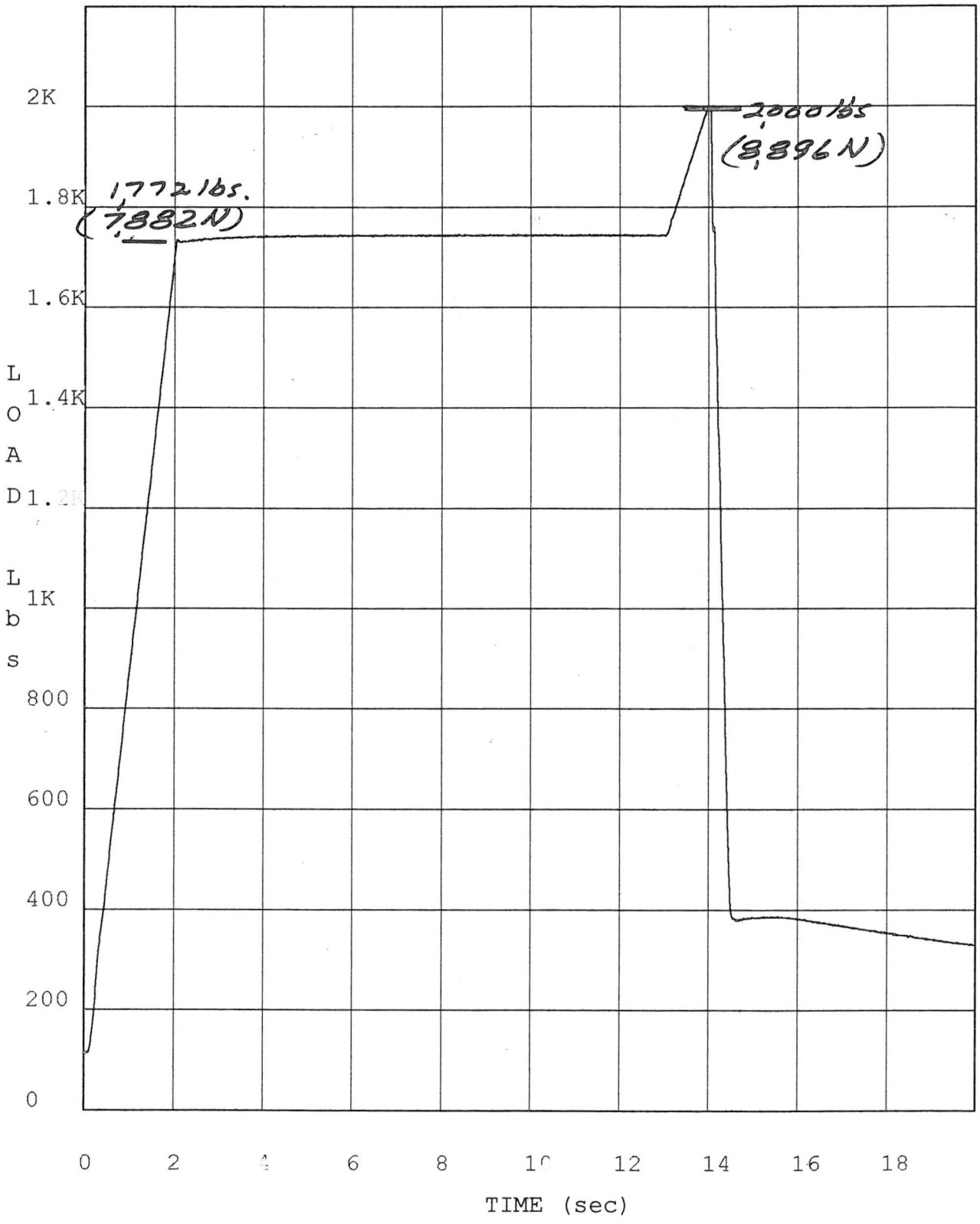
Ram: Center Rear

12/13/2002 02:18 Model: 2004 V229 3RD ROW BENCH
Part No: FMVSS 207 UPPER BAR
Operator: S.W (KC 0309)



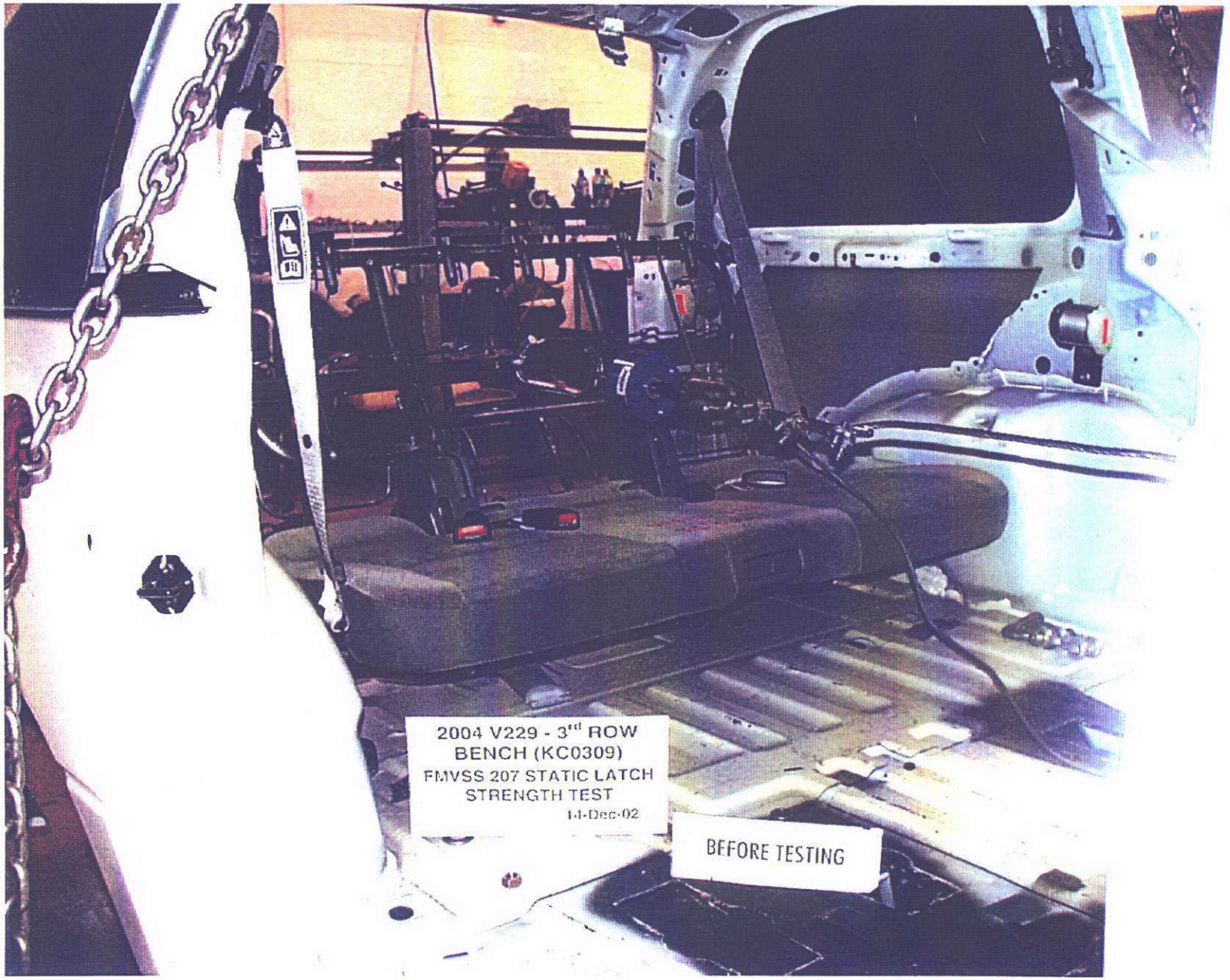
Ram: Center Rear

12/13/2002 05:15 Model: 2004 V229 3RD ROW
Part No: FMVSS 207 REARWARD ANCH.
Operator: S.W. (KC0309)



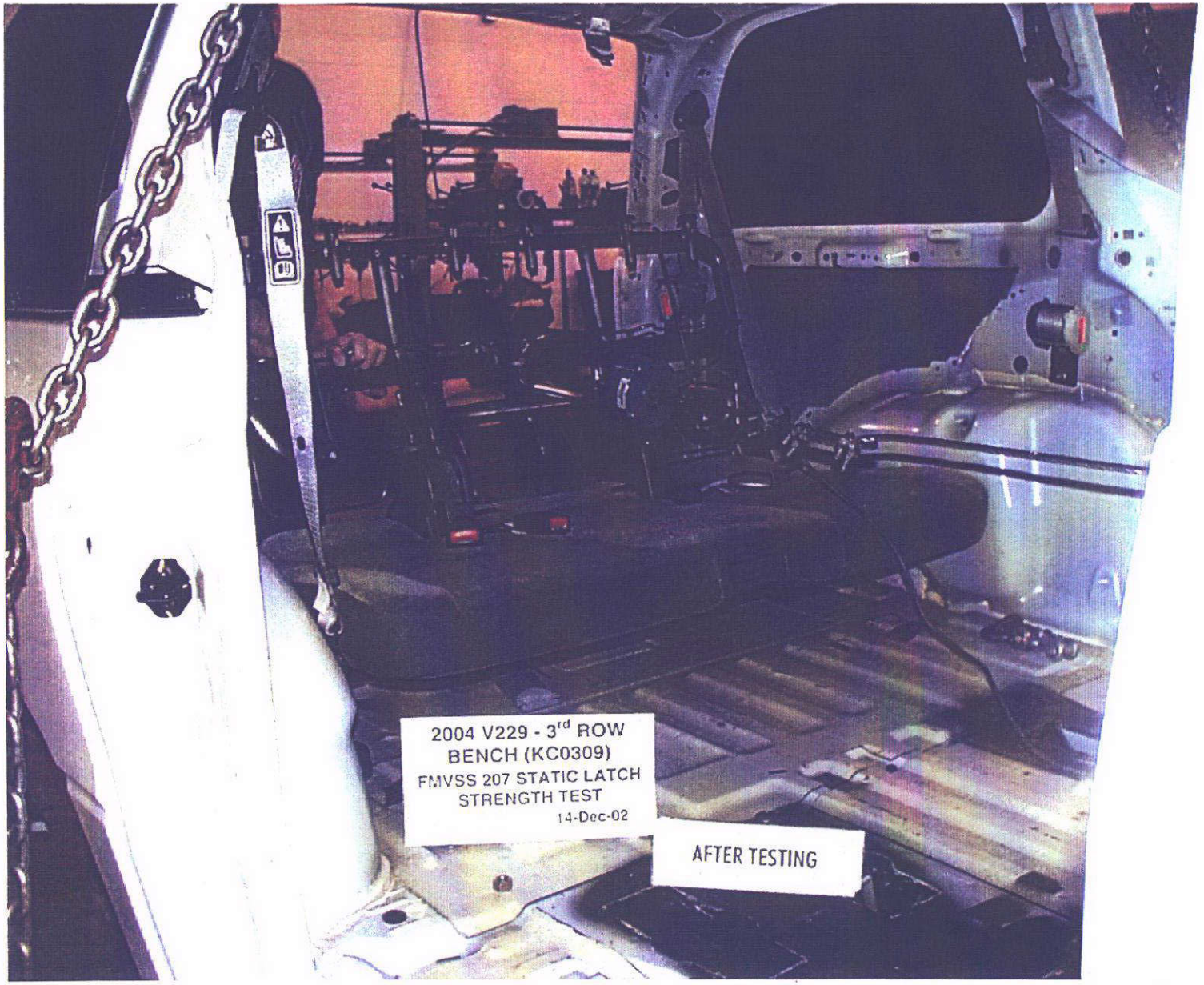
Ram: Center Rear

STATIC LATCH / BEFORE TESTING:

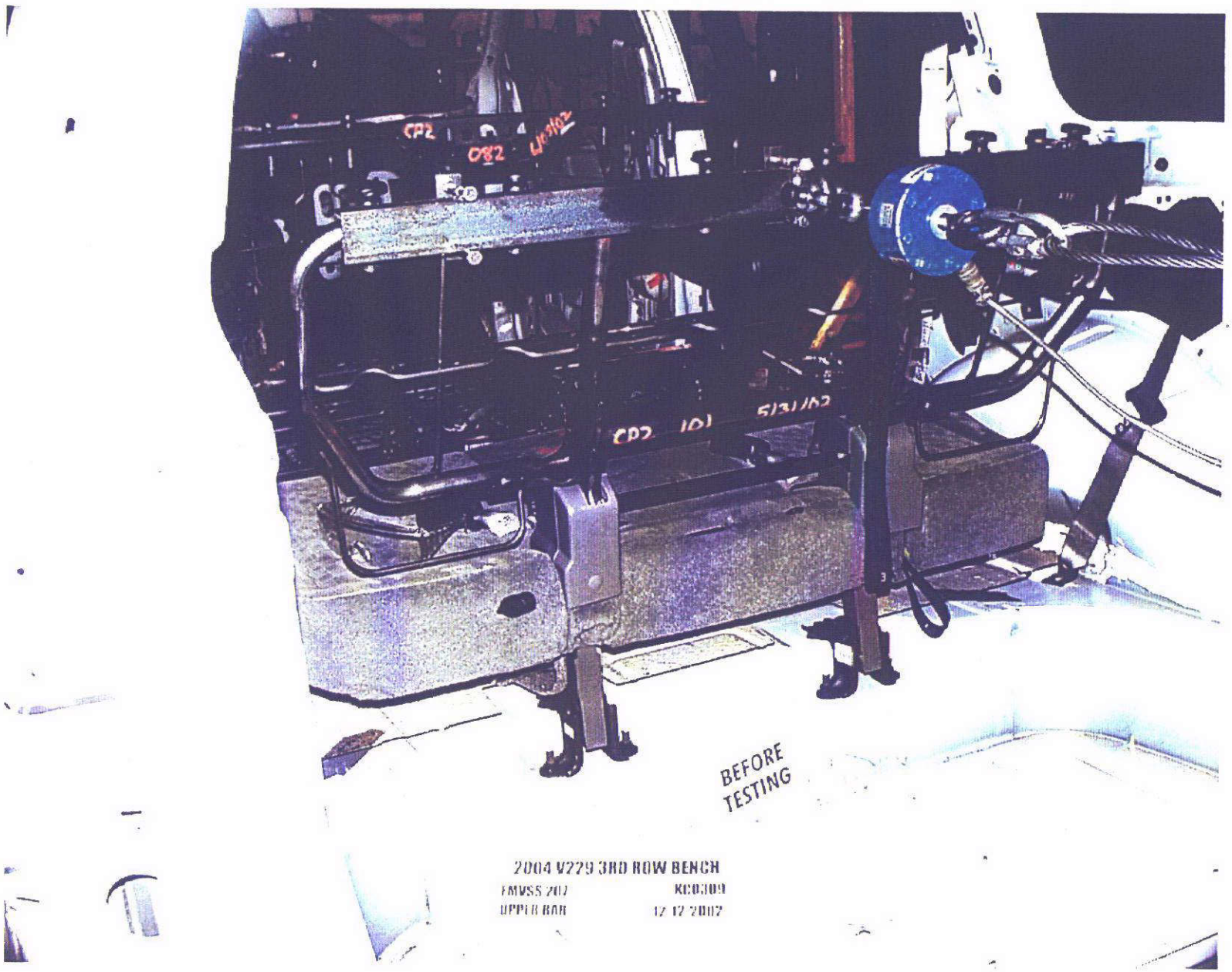


STATIC LATCH / AT SPECIFIED LOAD:

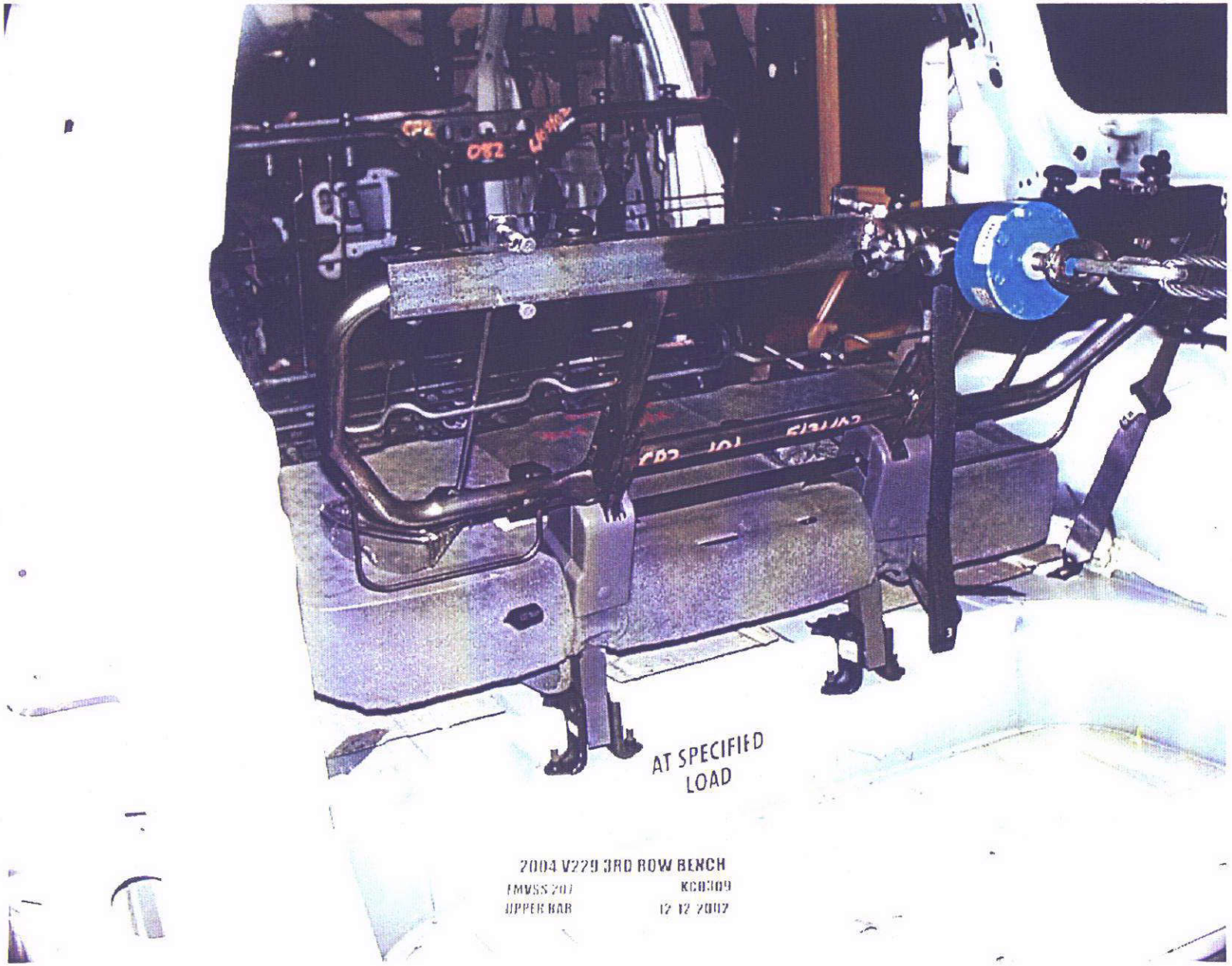
STATIC LATCH / AFTER TESTING:



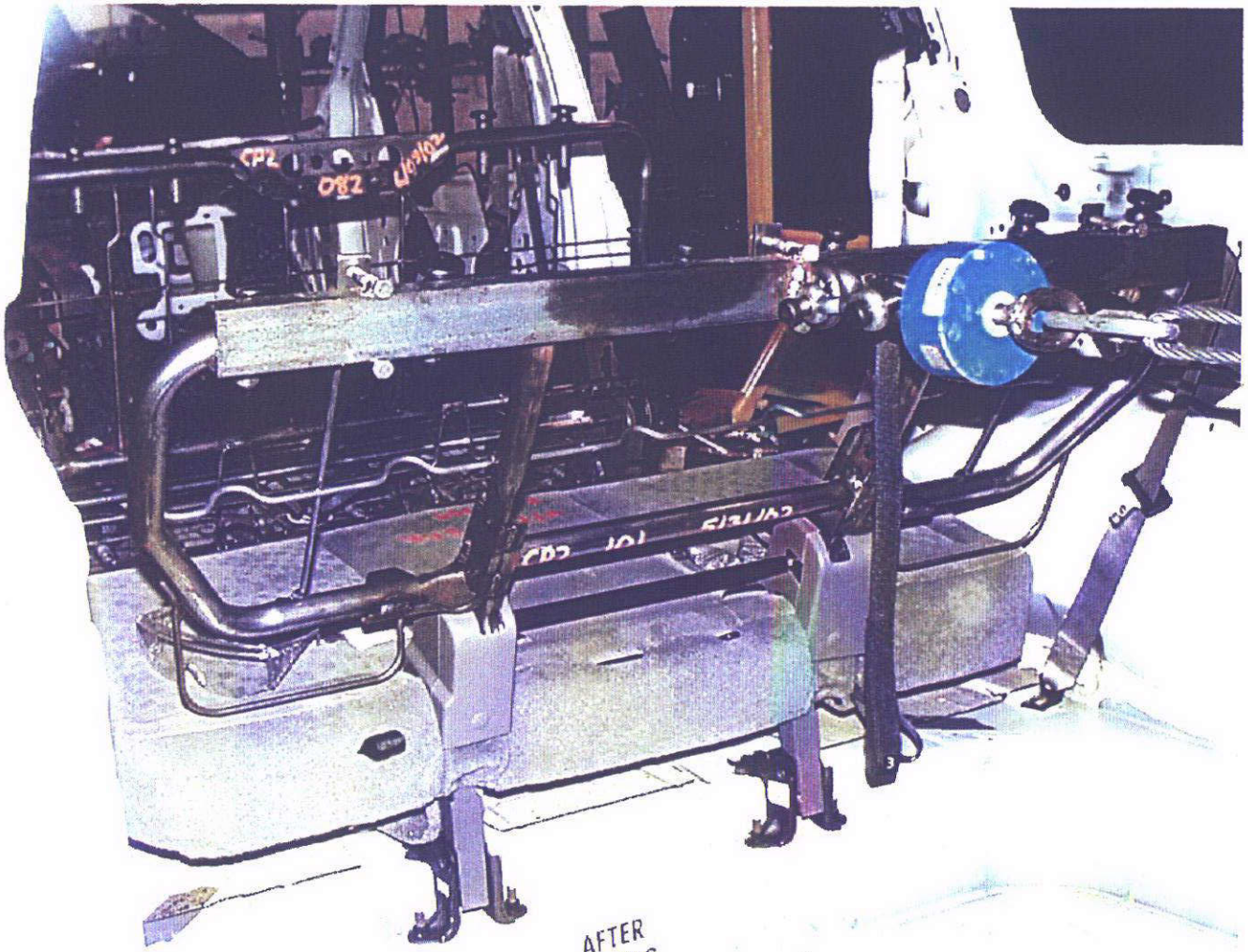
UPPER BAR / BEFORE TESTING:



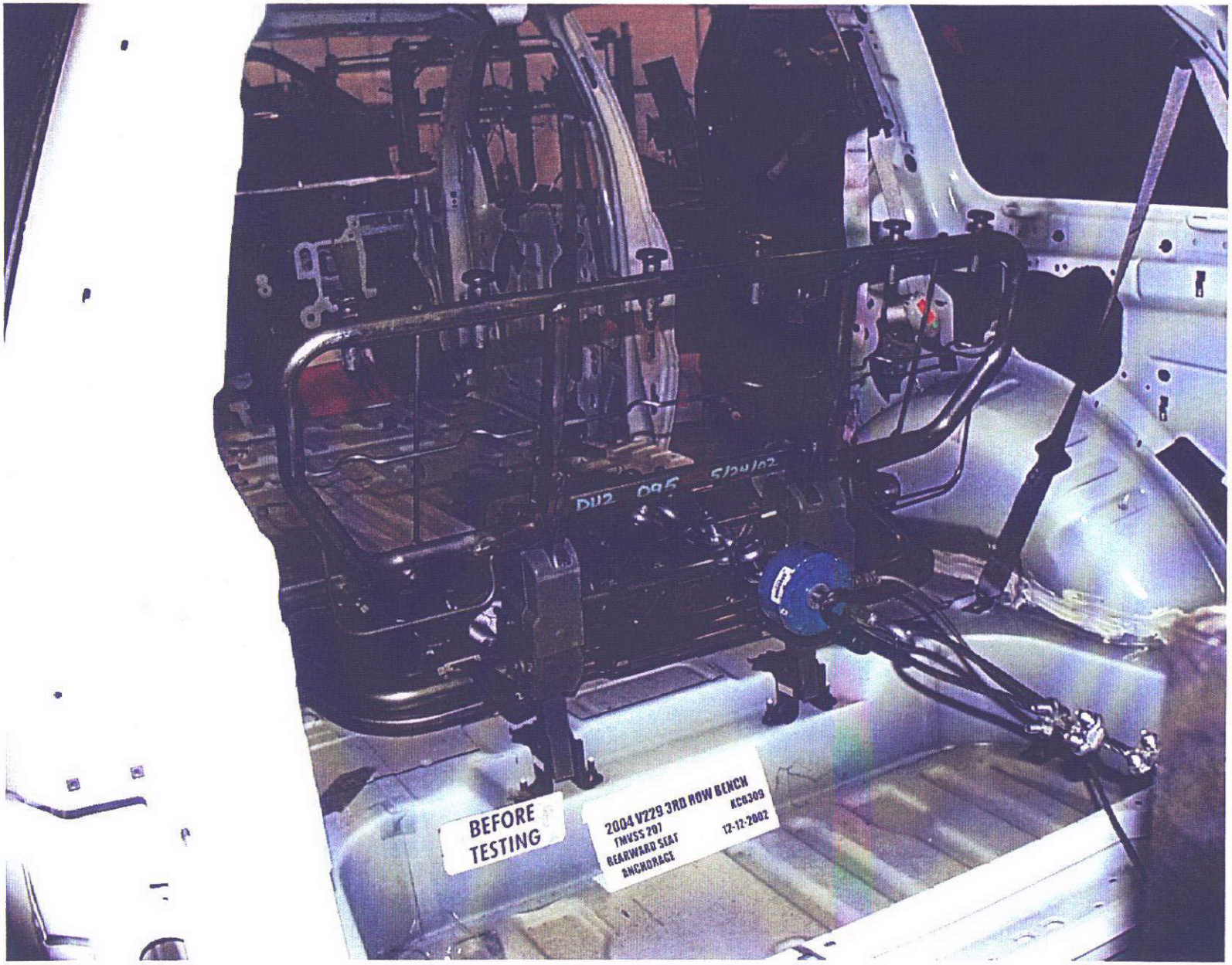
UPPER BAR / AT SPECIFIED LOAD:



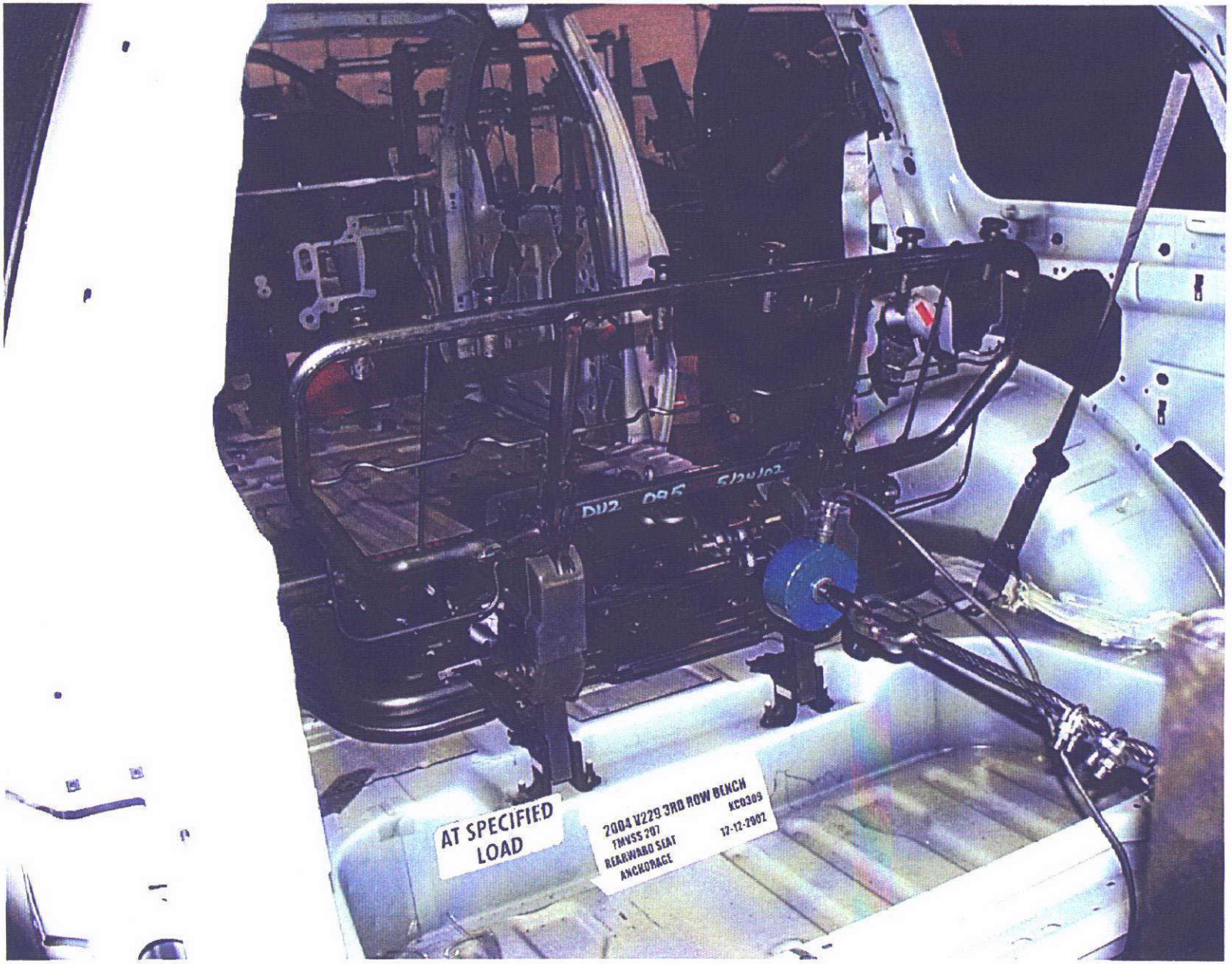
UPPER BAR / AFTER TESTING:



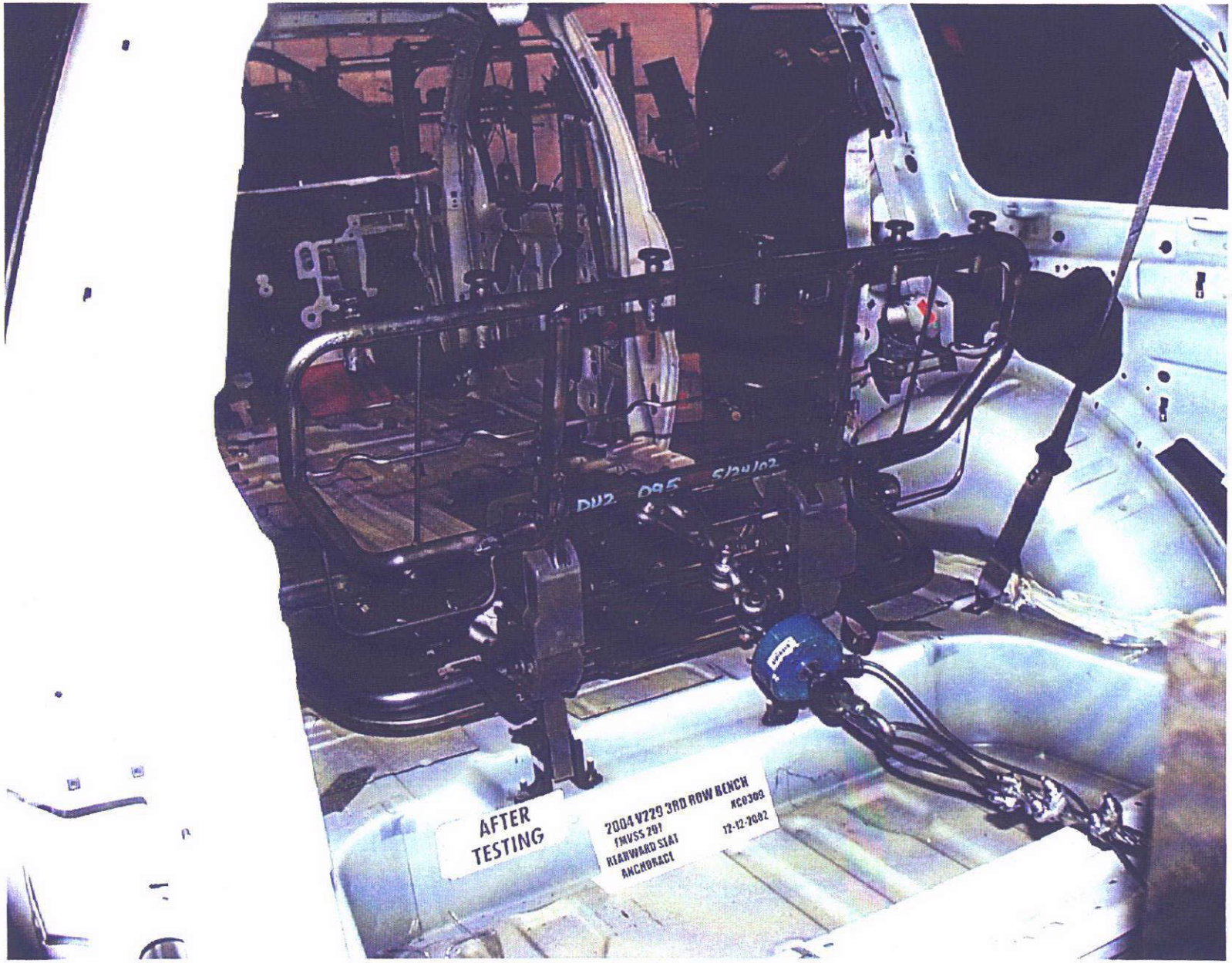
REARWARD ANCHORAGE / BEFORE TESTING:



REARWARD ANCHORAGE / AT SPECIFIED LOAD:



REARWARD ANCHORAGE / AFTER TESTING:



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23227 Commerce Drive, Farmington Hills, Michigan 48335-2705
Phone: (248) 478-5050 Fax: (248) 426-4245
http://www.tachi-s.com

TEST REPORT

TEST REPORT NO.	03-01-0722	**JOB / TRACKING NO.**	1102-03-496
TESTING REQUESTED BY:		**REPORT DATE:**	8-Jan-03
NAME:	Mr. Matthew Sahutske	**TEST DATE:**	12~14-DEC-02
COMPANY:	FORD MOTOR COMPANY		
PHONE / FAX:	(313) 621-6941	**NUMBER OF PAGES:**	1 OF 25

TITLE: **2004 V229 2nd ROW BENCH WITH TRACKS (KC0429)**
FMVSS 207 STATIC LATCH / FMVSS 207 UPPER BAR / FMVSS 207 SEAT REARWARD ANCHORAGE

APPROVED BY: TESTING MANGER **TESTED BY:** SCOTT WRIGHT

APPROVED BY: **TESTED BY:** BILL NIGH

TEST PURPOSE: TO DETERMINE IF THE SAMPLE MEETS THE REQUIREMENTS OF FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 STATIC LATCH / UPPER BAR / SEAT ANCHORAGE STRENGTH IN THE REARWARD DIRECTION.

TEST SAMPLE: 2004 V229 2nd ROW BENCH WITH TRACKS (KC0429)

TEST PROCEDURE & REVISION: BASED ON FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 SEAT BACK ANCHORAGE STRENGTH / 38kg*m REARWARD MOMENT / SEAT ANCHORAGE STRENGTH TESTS.

TEST EQUIPMENT: SCHAP / TACHI-S 8-CYLINDER PROPORTIONAL HYDRAULIC TEST STAND
CALIBRATION DUE DATE: JUN '03 MACHINE SERIAL NO. 207210
TOTAL SYSTEM UNCERTAINTY: SYSTEM CALIBRATED ±2.0% OF TARGETED LOADS ≥10% OF FULL SCALE

TEST SET-UP:

SEE ATTACHED SET-UP SHEETS FOR 2nd ROW BENCH

CONCLUSION:

THE SAMPLE TESTED MET THE REQUIREMENTS OF THE FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 (AND FAC REQUIREMENTS) FOR SEAT BACK ANCHORAGE STRENGTH (STATIC LATCH) / 38kg*m REARWARD MOMENT (UPPER BAR) / SEAT ANCHORAGE STRENGTH IN THE REARWARD DIRECTION.

SUMMARY OF RESULTS:

SEE ATTACHED DATA / SUMMARY SHEETS AND (OR) PHOTOS

DISTRIBUTION: **CUSTOMER : 5**

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UPPER BAR LOAD TABLE

SAMPLE	SEAT TRACK TYPE	SEAT POSITION	NUMBER OF PASSENGERS	MOMENT ARM SGRP TO UPPER BAR	FMVSS 207 REQUIRED LOAD (3,300in-lbs/MOMENT ARM x NUMBER OF PASSENGERS	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)5 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
2ND ROW BENCH	MANUAL	FULL REAR	2	16.67 in.	396 lbs.	436 lbs.	**475 lbs.**	515 lbs.	**594 lbs.**
			03-01-0722	423.3 mm	1761.63N	1937.8N	**2113.96N**	2290.13N	**2642.45N**
3RD ROW BENCH	N/A	N/A	3	13.37 in.	740 lbs.	814 lbs.	**888 lbs.**	962 lbs.	**1110 lbs.**
				339.7 mm	3292.76N	3622.03N	**3951.31N**	4280.59N	**4939.14N**
						FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

SEAT ANCHORAGE LOAD TABLE

SAMPLE	SEAT TRACK TYPE	SEAT POSITION	WEIGHT OF SEAT +5% (lbs.)	FMVSS 207 REQUIRED LOAD (20 X SEAT WEIGHT)	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)11 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
2ND ROW BENCH	MANUAL	MID / FULL FORWARD	105.61 lbs.	2112 lbs.	2323 lbs.	**2535 lbs.**	2746 lbs.	**3168 lbs.**
			469.78N	9395.53N	10335.09N	**11274.64N**	12214.19N	**14093.3N**
3RD ROW BENCH	N/A	N/A	75.14 lbs.	1503 lbs.	1653 lbs.	**1803 lbs.**	1954 lbs.	**2254 lbs.**
			334.24N	6684.79N	7353.27N	**8021.75N**	8690.22N	**10027.18N**
					FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

STATIC LATCH LOAD TABLE

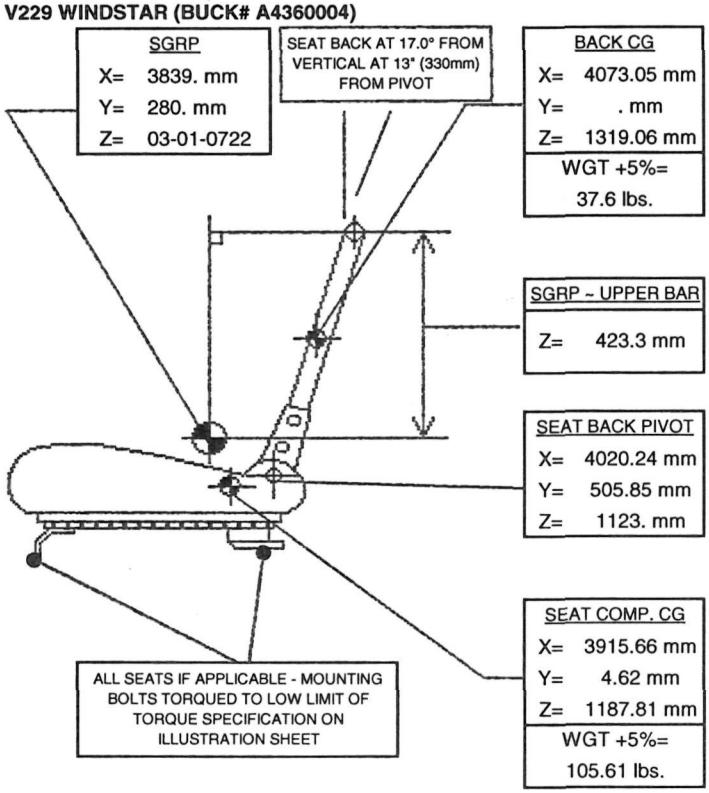
SAMPLE	SEAT TRACK TYPE	SEAT POSITION	WEIGHT OF SEAT BACK +5% (lbs.)	FMVSS 207 REQUIRED LOAD (20 X SEAT WEIGHT)	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)5 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
2ND ROW BENCH	MANUAL	MID POSITION	37.60 lbs.	752 lbs.	827 lbs.	**902 lbs.**	978 lbs.	**1128 lbs.**
			167.25N	3345.06N	3679.57N	**4014.08N**	4348.58N	**5017.59N**
3RD ROW BENCH	N/A	N/A	32.95 lbs.	659 lbs.	725 lbs.	**791 lbs.**	857 lbs.	**989 lbs.**
			146.57N	2931.38N	3224.52N	**3517.65N**	3810.79N	**4397.07N**
		SEE ATTACHED SET-UP SHEETS F			FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

FAC = FORD ACCEPTANCE CRITERIA

SET-UP SHEET WINDSTAR V229

DRAWING: MAGNA SEATING SYSTEMS ENGINEERING DRAWING NO. SK-3F23-011000-AA & BA - FMVSS

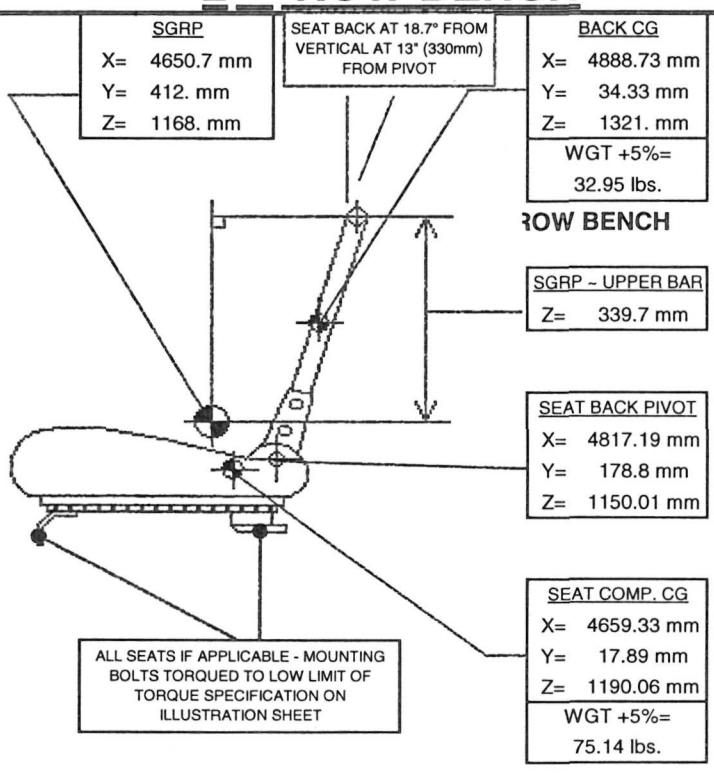
SAMPLE: 2004 V229 WINDSTAR (BUCK# A4360004)



PIVOT TO SEAT CG	
X=	-104.58 mm
Y=	-501.23 mm
Z=	64.81 mm

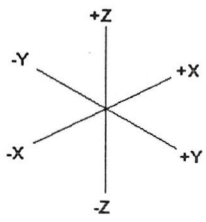
12~14-DEC-02	
X=	52.81 mm
Y=	16. mm
Z=	196.06 mm

2nd ROW BENCH



PIVOT TO SEAT CG	
X=	-157.86 mm
Y=	-160.91 mm
Z=	40.05 mm

PIVOT TO BACK CG	
X=	71.54 mm
Y=	-144.47 mm
Z=	170.99 mm



3rd ROW 3 PASS. BENCH

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

FMVSS /CMVSS 207

TEST REQUEST NUMBER: KC0429

BUCK NUMBER: A4360004

THE SEAT ASSEMBLIES IDENTIFIED BELOW HAVE BEEN EXAMINED BY THE RESPONSIBLE DESIGN ENGINEER AND ARE APPROVED FOR TESTING FOR COMPLIANCE TO FMVSS/CMVSS 207.

VEHICLE LINE AND YEAR: 2004 V229

SEAT TYPE: 2ND ROW BENCH WITH TRACKS
2ND ROW BENCH WITHOUT TRACKS

PART NAME:	*PART NUMBER:*	*SUPPLIER:*	*SIGNATURE:*	*DATE:*
(1) 2ND ROW BENCH WITH TRACKS	*3F23-1760026-EHW*	*INTIER AUTOMOTIVE SEATING*	Robert Eckert	10/28/02
(2) 2ND T ROW BENCH WITHOUT TRACKS	*3F23-17600026-DHW*	*INTIER AUTOMOTIVE SEATING*		

NOTE: RUN RUN ONE STATIC LATCH AND ONE UPPER BAR ON 2ND ROW BENCH WITH TRACKS

RUN ONE STATIC LATCH AND ONE REARWARD TEST ON 2ND ROW BENCH WITHOUT TRACKS

SIGN-OFF
F/CMVSS - 207
2004 V229
BUCK# A4360004

KC0429

This Vehicle is equipped to the latest level design, and is production intent

	PRINT NAME	SIGN NAME	DATE
BODY SHELL	T. JOSEPH	T. Joseph	10/29/02
UNDERBODY	THOMAS JOSEPH	T. Joseph	10/29/02

Active Requestor Instructions

KC0429

Created By: BILL RZEPKA **Date/Time:** 17-OCT-2002 08:51:43

Reactivated By: N/A

Comments: N/A

Subject: TEST TYPE

Contents:

PLEASE RUN 1 STATIC LATACH,ONE REARWARD AND ONE UPPER BAR ON 2ND ROW BENCH WITH TRACKS.

RUN ONE STATIC LATCH AND ONE REARWARD TEST ON 2ND ROW BENCH WITHOUT TRACKS.

KC0429

VEV Test Request - KC0429

Requester / Coordinator (CDS Id):
MSAHUTS1

Matthew Sahutske

Performing Activity:	Date Submitted:	Requested Completion Date:	Requester Reference Number:
Body / Chassis Durability	22-OCT-2002	08-NOV-2002	

TESTnet Test Procedure: ANCHOR_US
CETP: 01.10-L-801-US
CETP Title: Seat Anchorage Test

Request Title and / or Subject of Request:
FMVSS 207 (2004,V229 2ND ROW BENCH)

Billable Requester's Dept No.:
5100Y246 UNKNOWN

Billable Requester's CDS Id:
MSAHUTS1

Billable Requester's Name:
Matthew Sahutske

Work Task / Work Order: G13
Program: V229
Description:
2004 1/4 V229 NEW WINDSTAR & MERC MINIV

Request conducted to certify control item compliance with Government Regulations:

Yes: [X] No: [ ]

Complete the following two questions as indicated

1 - Rationale for not replacing this test by CAE Analysis:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

Seat Anchorage Test

Test Objects:

Reference Object	Reference Description
N/A	N/A

Sample #	Object ID	Object Description
1	A4360004	BODY IN WHITE
2	3F23-1760026-EHW	2ND ROW BENCH WITH TRACKS
3	3F23-1760026-DHW	2ND ROW BENCH WITHOUT TRACKS

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: Matthew Sahutske _____ Assigned Coordinator: _____

Request Authorized by: Not Required _____ Assigned Supervisor: _____

Test Definition Worksheet

Request No: KC0429 FMVSS 207 (2004,V229 2ND ROW BENCH)

Service/Procedure: ANCHOR_US Seat Anchorage Test

Test Object: Request Date: 22-OCT-2002

Requester: Matthew Sahutske (MSAHUTS1) Requester Phone: 1-313-6216941

Sample	Object ID	Object Description	Date	Runs	Dispos.
1	A4360004	BODY IN WHITE	21-OCT-02	1	RETURN
2	3F23-1760026-EHW	2ND ROW BENCH WITH TRACKS	31-OCT-02	1	SCRAP
3	3F23-1760026-DHW	2ND ROW BENCH WITHOUT TRACKS	31-OCT-02	1	SCRAP

Parameter:	Value:	Units:
Vehicle Programs	V229	
Vehicle Year	2002	
Requesters Phone Number	322-1708	
Mail Report to:	2CC54	Room Number/Mail Drop
Building Name	PDC	

Printed For: BILL RZEPKA From Testnet Server: BCTD

22-Oct-2002 14:36:06

FOR REFERENCE ONLY

V229 SECOND ROW BENCH SUMMARY

KC0429

STATIC LATCH

		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	% OVER FMVSS MAX
2ND ROW BENCH WITH TRACKS	MID SLIDE POSITION	827 lbs.	875 lbs.	16.38%	978 lbs.	1029 lbs.	36.78%

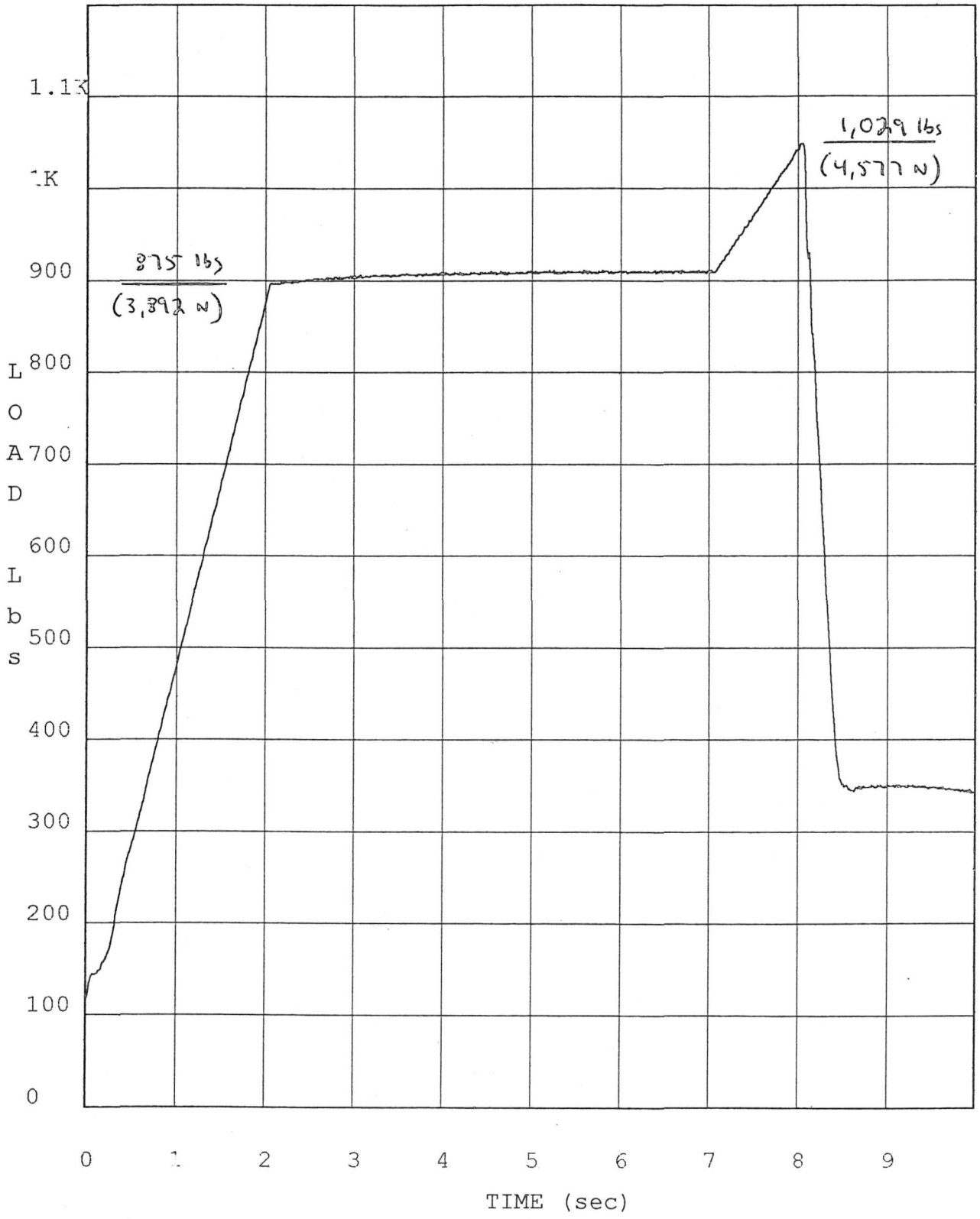
UPPER BAR

		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	% OVER FMVSS MAX
2ND ROW BENCH WITH TRACKS	MOST REAR TRACK POSITION	436 lbs.	443 lbs.	11.77%	515 lbs.	564 lbs.	42.37%

REARWARD ANCHORAGE

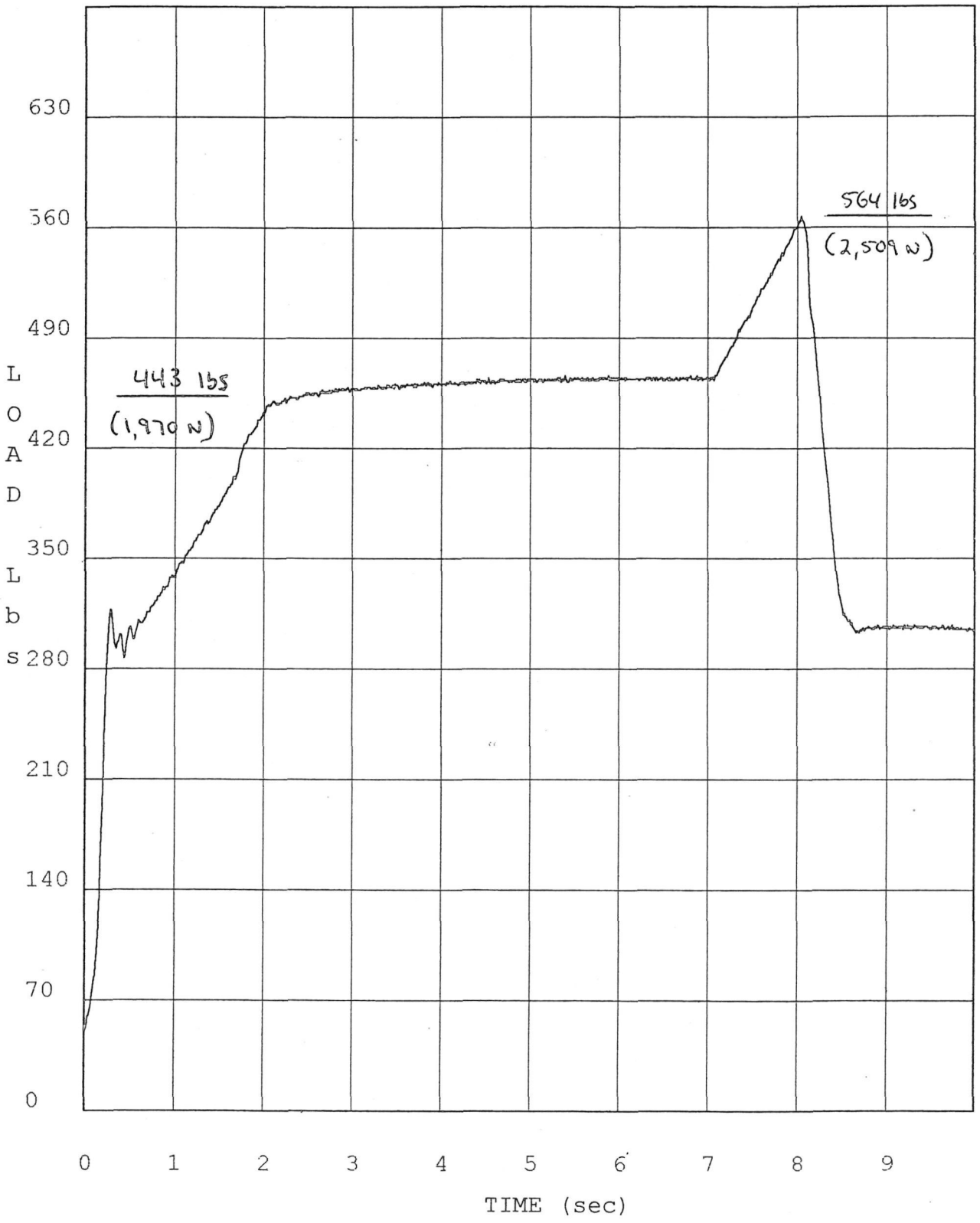
		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	% OVER FMVSS MAX
2ND ROW BENCH WITH TRACKS	FULL FORWARD POSITION	2323 lbs.	2361 lbs.	11.80%	2746 lbs.	2761 lbs.	30.71%
2ND ROW BENCH WITH TRACKS	MID SLIDE POSITION	2323 lbs.	2368 lbs.	12.13%	2746 lbs.	2773 lbs.	31.28%

12/14/2002 23:37 Model: 2004 V229 2ND ROW BENCH WITH TRACKS
Part No: FMVSS 207 STATIC LATCH
Operator: S.W. (KC0429)



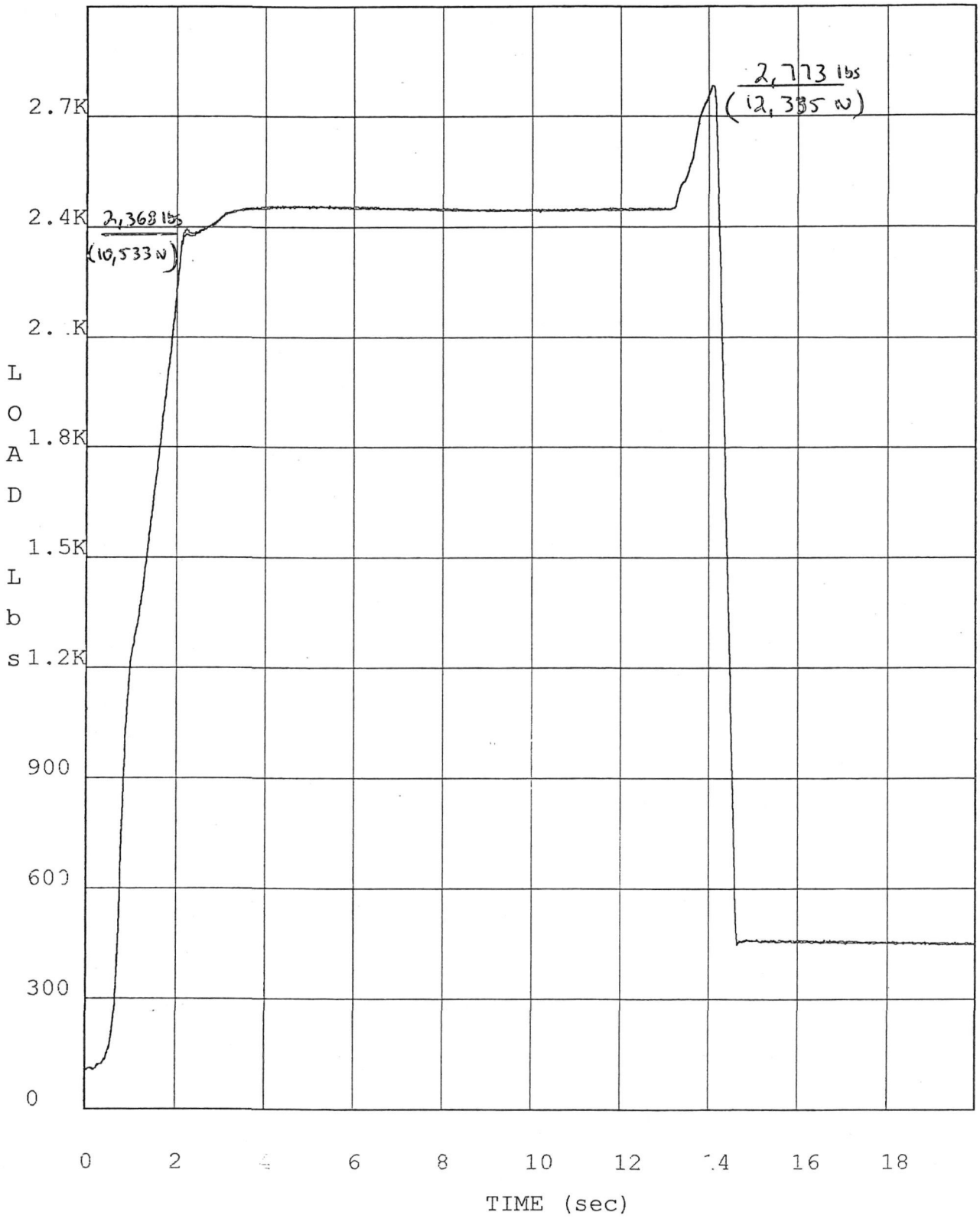
Ram: Center Rear

12/13/2002 03:25 Model: 2004 V229 2ND ROW BENCH WITH TRACKS
Part No: FMVSS 207 UPPER BAR
Operator: S.W. (KC0429)



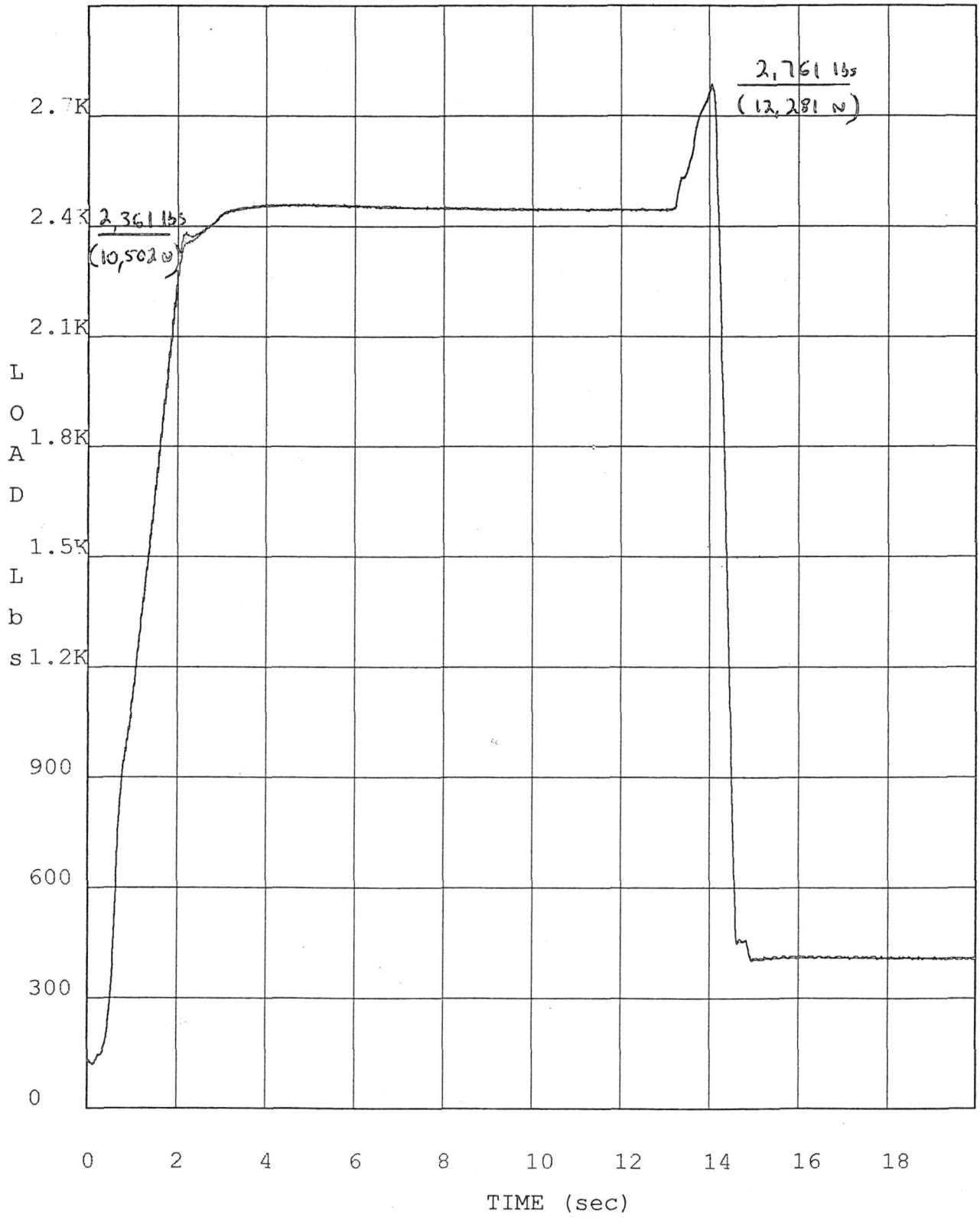
Ram: Center Rear

12/20/2002 23:45 Model: 2004 V229 2ND ROW BENCH WITH TRACKS
Part No: FMVSS 207 REARWARD ANCHORAGE MID TRACK
Operator: S.W.



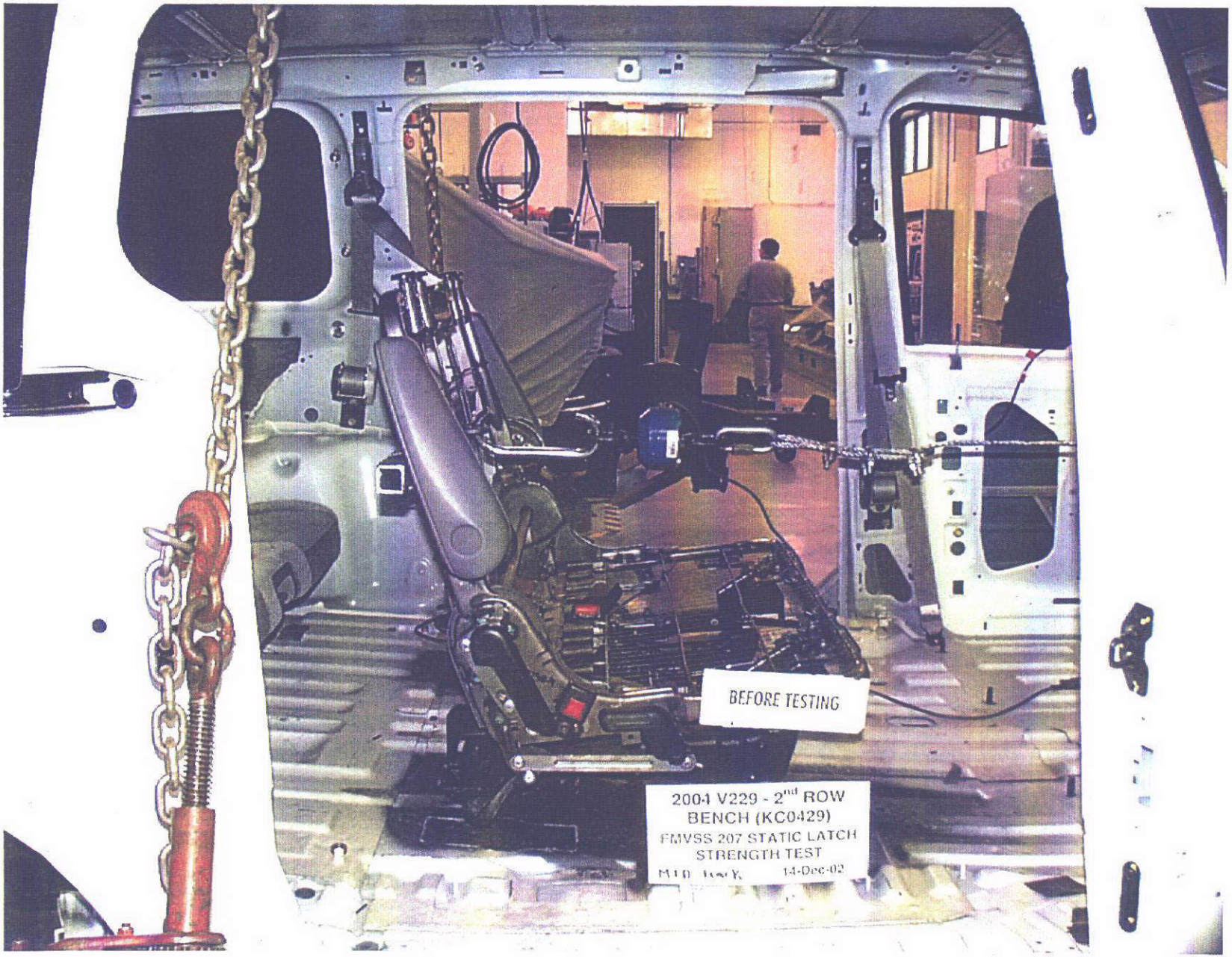
Ram: Center Front

12/20/2002 23:48 Model: 2004 V229 2ND ROW BENCH WITH TRACKS
Part No: FMVSS 207 REARWARD ANCHORAGE FULL FORWARD
Operator: S.W.



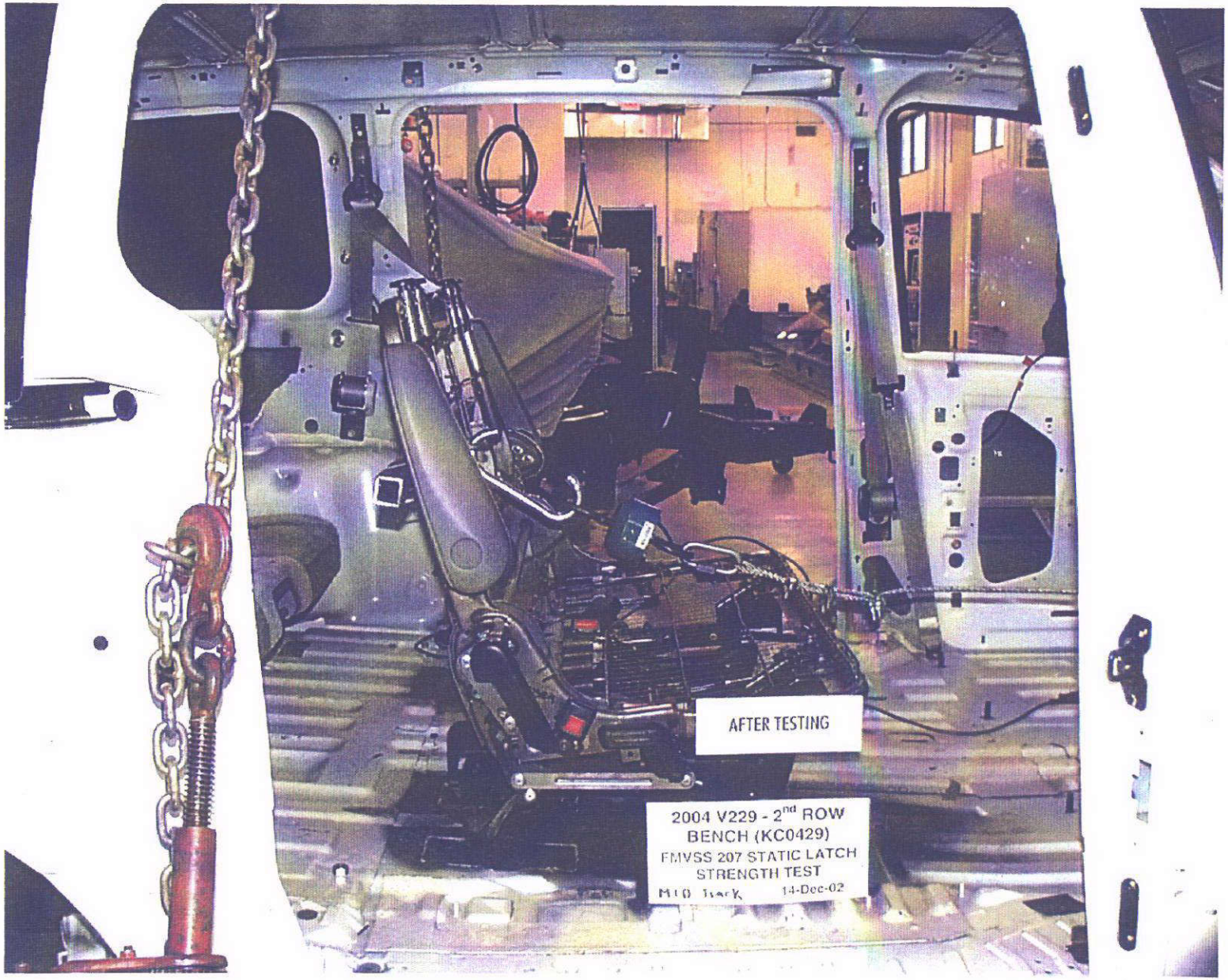
Ram: Center Front

STATIC LATCH / BEFORE TESTING:



STATIC LATCH / AT SPECIFIED LOAD:

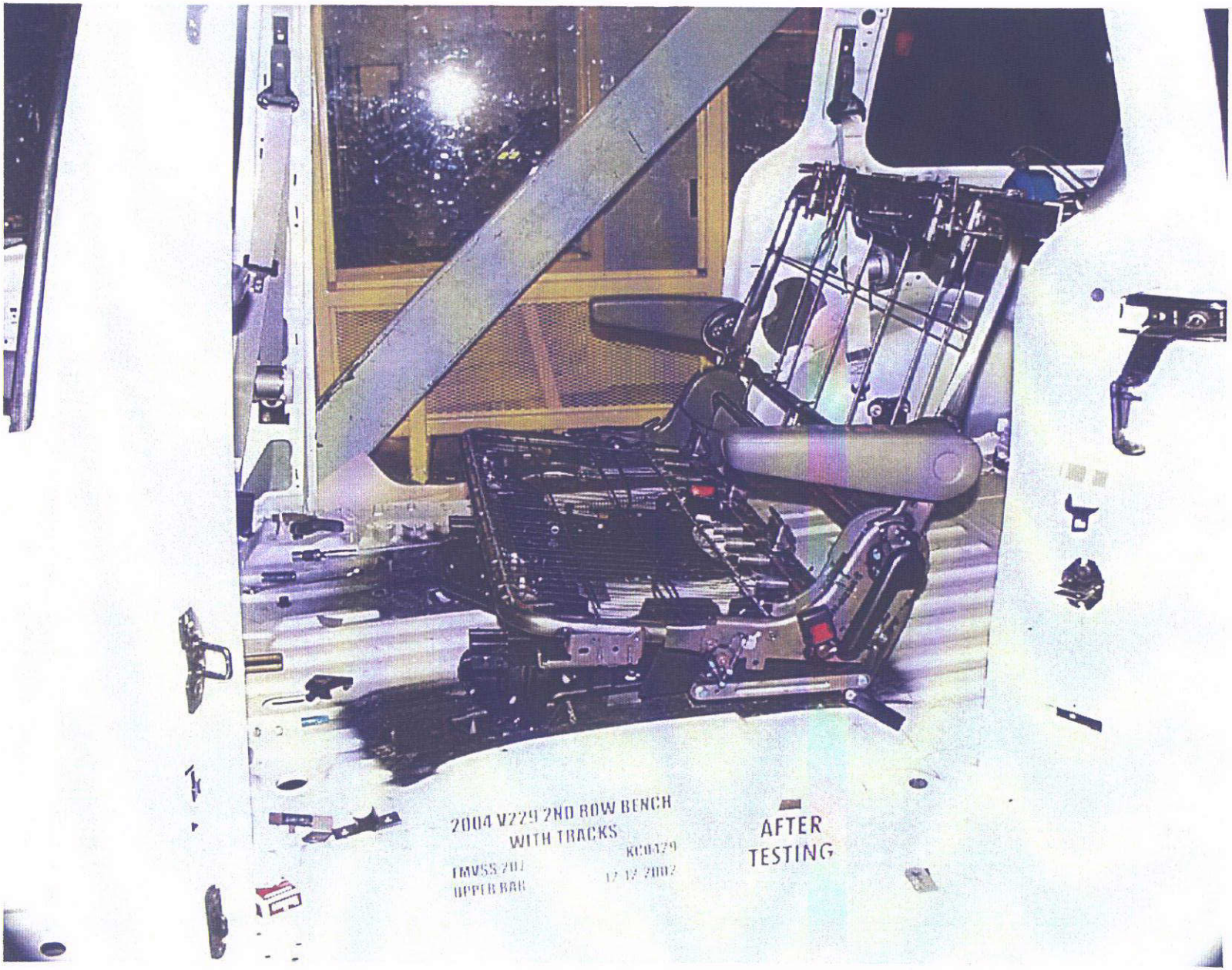
STATIC LATCH / AFTER TESTING:



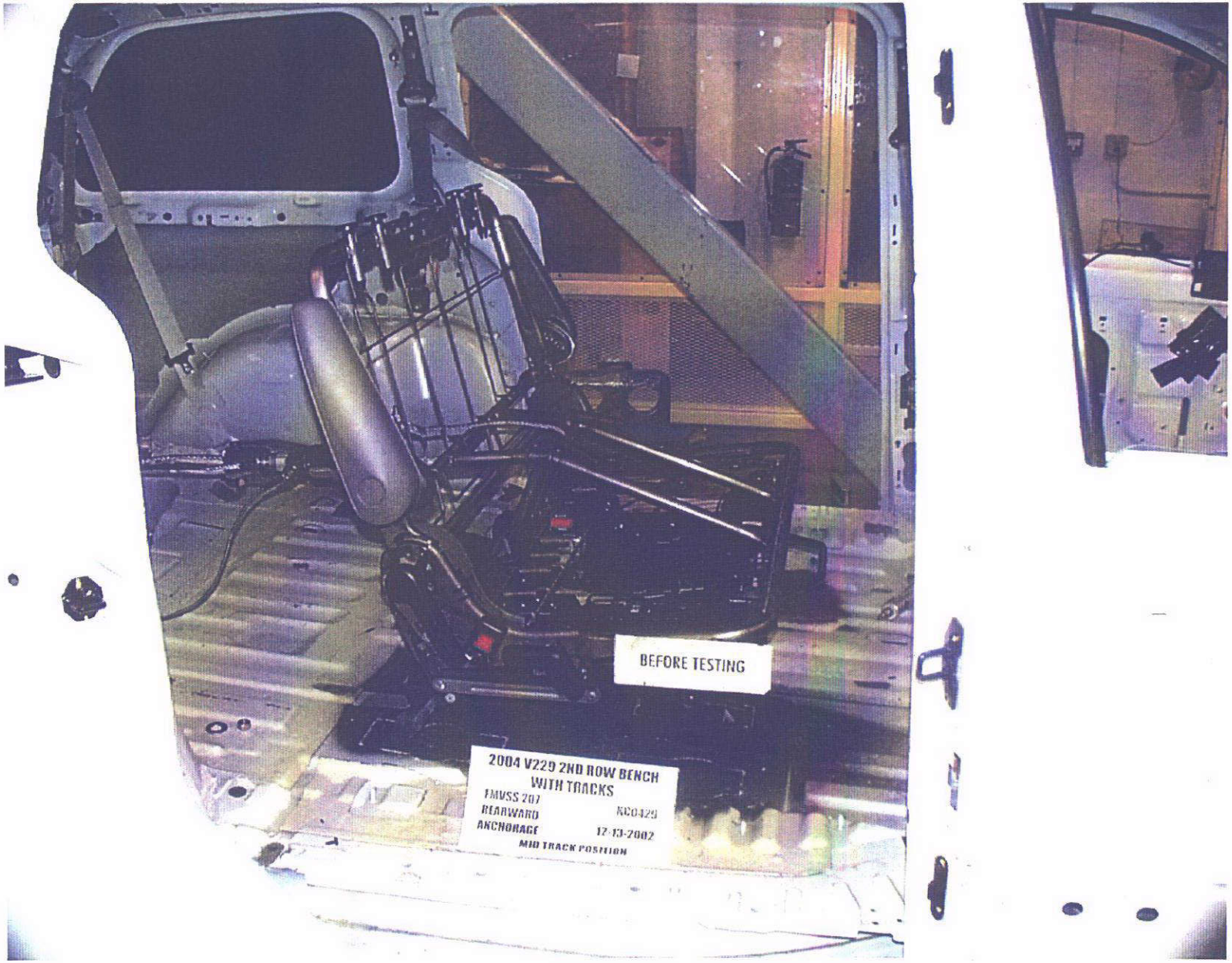
UPPER BAR / BEFORE TESTING:

UPPER BAR / AT SPECIFIED LOAD:

UPPER BAR / AFTER TESTING:



REARWARD ANCHORAGE / MID TRACK / BEFORE TESTING:

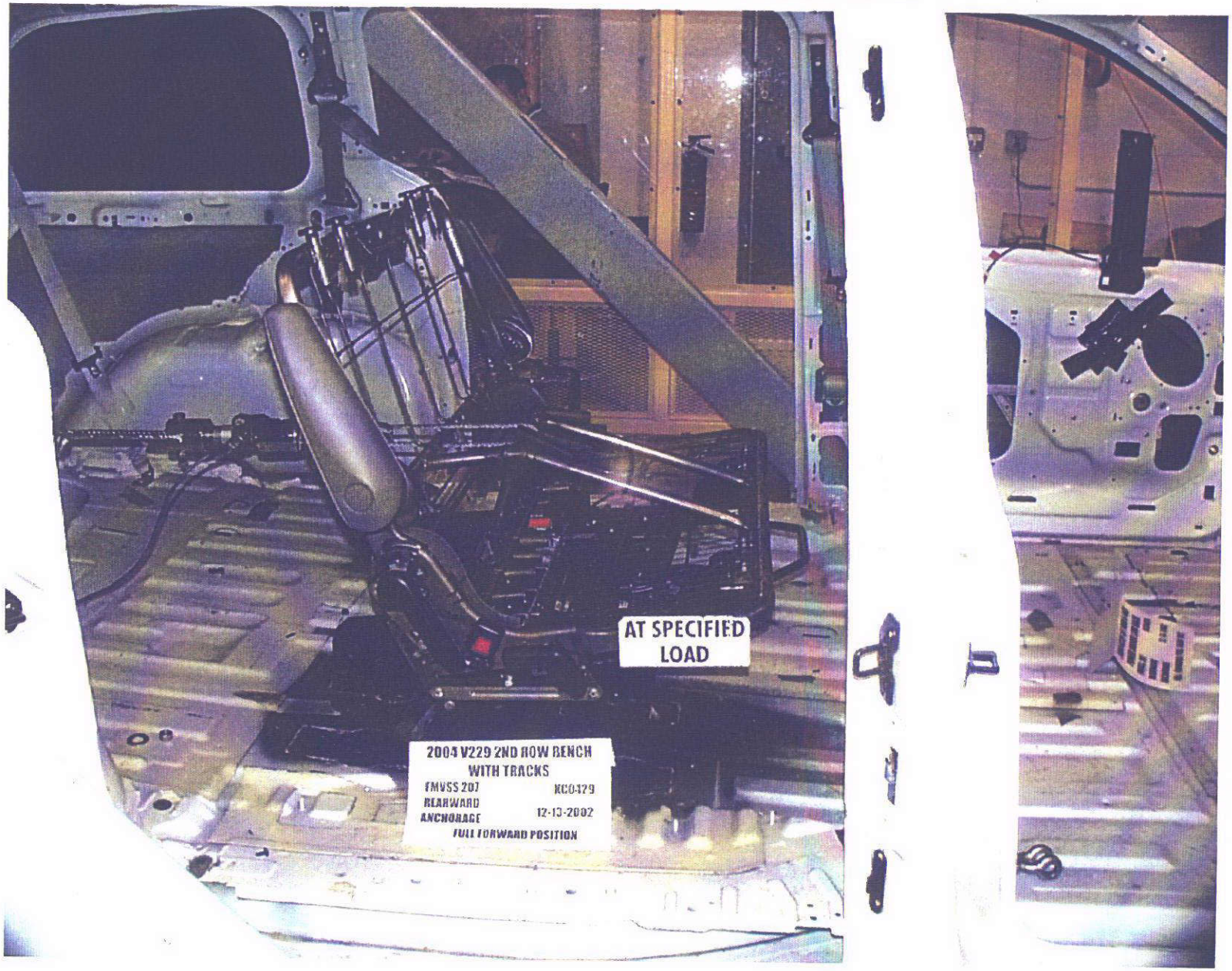


REARWARD ANCHORAGE / MID TRACK / AT SPECIFIED LOAD:

REARWARD ANCHORAGE / MID TRACK / AFTER TESTING:

REARWARD ANCHORAGE / FORWARD TRACK / BEFORE TESTING:

REARWARD ANCHORAGE / FORWARD TRACK / AT SPECIFIED LOAD:



REARWARD ANCHORAGE / FORWARD TRACK / AFTER TESTING:

TACHI-S ENGINEERING U.S.A. INC.

23227 Commerce Drive, Farmington Hills, Michigan 48335-2705
Phone: (248) 478-5050 Fax: (248) 426-4245
http://www.tachi-s.com

TEST REPORT

TEST REPORT NO.	03-01-0721	**JOB / TRACKING NO.**	1102-03-496
TESTING REQUESTED BY:		**REPORT DATE:**	8-Jan-03
NAME:	Mr. Matthew Sahutske	**TEST DATE:**	12~14-DEC-02
COMPANY:	FORD MOTOR COMPANY		
PHONE / FAX:	(313) 621-6941	**NUMBER OF PAGES:**	1 OF 44

TITLE: **2004 V229 1st ROW LOW BACK DRV. PWR. / HIGH BACK DRV. & PASS. (KC0426)**
FMVSS 207 STATIC LATCH / FMVSS 207 UPPER BAR / FMVSS 207 SEAT REARWARD ANCHORAGE

APPROVED BY: TESTING MANGER **TESTED BY:** SCOTT WRIGHT

APPROVED BY: **TESTED BY:** BILL NIGH

TEST PURPOSE: TO DETERMINE IF THE SAMPLE MEETS THE REQUIREMENTS OF FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 STATIC LATCH / UPPER BAR / SEAT ANCHORAGE STRENGTH IN THE REARWARD DIRECTION.

TEST SAMPLE: 2004 V229 1st ROW LOW BACK DRV. PWR. / HIGH BACK DRV. & PASS. (KC0426)

TEST PROCEDURE & REVISION: BASED ON FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 SEAT BACK ANCHORAGE STRENGTH / 38kg*m REARWARD MOMENT / SEAT ANCHORAGE STRENGTH TESTS.

TEST EQUIPMENT: SCHAP / TACHI-S 8-CYLINDER PROPORTIONAL HYDRAULIC TEST STAND
CALIBRATION DUE DATE: JUN '03 MACHINE SERIAL NO. 207210
TOTAL SYSTEM UNCERTAINTY: SYSTEM CALIBRATED ±2.0% OF TARGETED LOADS ≥10% OF FULL SCALE

TEST SET-UP:

SEE ATTACHED SET-UP SHEETS FOR 1st ROW 6-WAY POWER DRIVER AND LOW & HIGH *BACK DRIVER AND PASSENGER*

CONCLUSION:

THE SAMPLES TESTED MET THE REQUIREMENTS OF THE FEDERAL MOTOR VEHICLE SAFETY STANDARD 207 (AND FAC REQUIREMENTS) FOR SEAT BACK ANCHORAGE STRENGTH (STATIC LATCH) / 38kg*m REARWARD MOMENT (UPPER BAR) / SEAT ANCHORAGE STRENGTH IN THE REARWARD DIRECTION.

SUMMARY OF RESULTS:

SEE ATTACHED DATA / SUMMARY SHEETS AND (OR) PHOTOS

DISTRIBUTION: **CUSTOMER : 5**

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UPPER BAR LOAD TABLE

SAMPLE	SEAT TRACK TYPE	SEAT TRACK POSITION	NUMBER OF PASSENGERS	MOMENT ARM SGRP TO UPPER BAR	FMVSS 207 REQUIRED LOAD (3,300in-lbs/MOMENT ARM x NUMBER OF PASSENGERS	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)5 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
FRT. HIGH BAC DRIVER	2-WAY MANUAL	FULL REAR	1	18.52 in.	178 lbs.	196 lbs.	**214 lbs.**	232 lbs.	**267 lbs.**
				470.4 mm	792.62N	871.89N	**951.15N**	1030.41N	**1188.93N**
						FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

SEAT ANCHORAGE LOAD TABLE

SAMPLE	SEAT TRACK TYPE	SEAT TRACK POSITION	WEIGHT OF SEAT +5% (lbs.)	FMVSS 207 REQUIRED LOAD (20 X SEAT WEIGHT)	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)11 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
FRT. LOW BACK DRIVER	6-WAY POWER	MID FULL UP	69.17 lbs.	1383 lbs.	1522 lbs.	**1660 lbs.**	1798 lbs.	**2075 lbs.**
FRT. LOW BACK DRIVER	6-WAY POWER	FORWARD / FULL REAR TILT	307.68N	6153.67N	6769.04N	**7384.4N**	7999.77N	**9230.51N**
FRT. HIGH BACK DRIVER	2-WAY MANUAL	MID TRACK	68.56 lbs.	1371 lbs.	1508 lbs.	**1645 lbs.**	1783 lbs.	**2057 lbs.**
FRT. HIGH BACK DRIVER	2-WAY MANUAL	FULL FORWARD TRACK	304.97N	6099.4N	6709.34N	**7319.28N**	7929.22N	**9149.1N**
FRT. HIGH BACK PASSENGER	2-WAY MANUAL	MID TRACK	68.56 lbs.	1371 lbs.	1508 lbs.	**1645 lbs.**	1783 lbs.	**2057 lbs.**
FRT. HIGH BACK PASSENGER	2-WAY MANUAL	FULL FORWARD TRACK	304.97N	6099.4N	6709.34N	**7319.28N**	7929.22N	**9149.1N**
					FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

STATIC LATCH LOAD TABLE

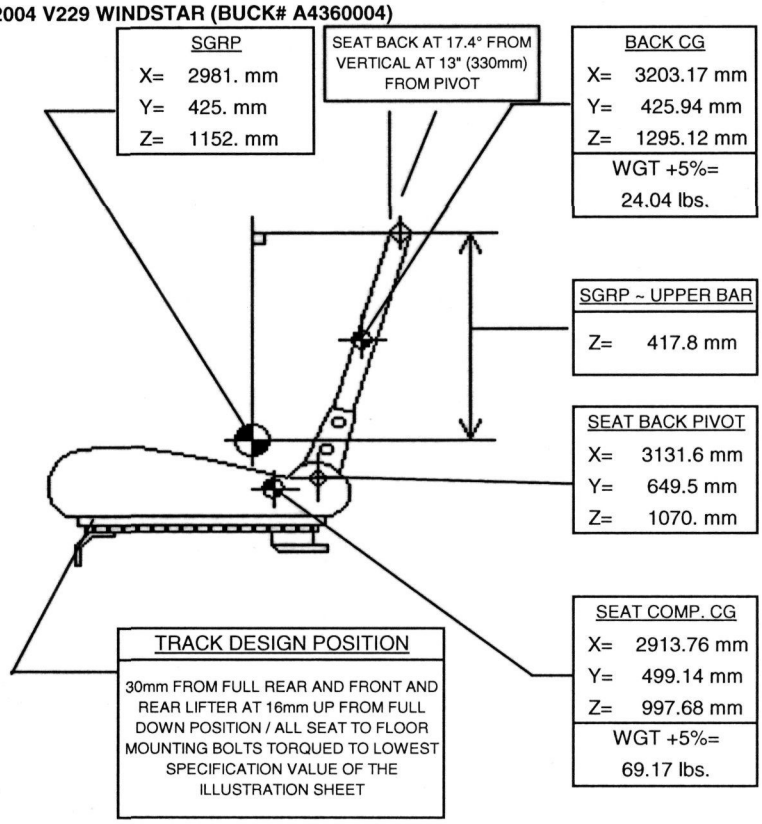
SAMPLE	SEAT TRACK TYPE	SEAT TRACK POSITION	WEIGHT OF SEAT BACK +5% (lbs.)	FMVSS 207 REQUIRED LOAD (20 X SEAT WEIGHT)	FORD HOLD LOAD (REQ'D LOAD +10%)	HOLD LOAD TARGET (REQ'D LOAD + 20%)5 SECOND HOLD	FORD MAXIMUM LOAD (REQ'D LOAD + 30%)	MAXIMUM LOAD TARGET (REQ'D LOAD + 50%)
FRT. HIGH BACK DRIVER	2-WAY MANUAL	MID TRACK	25.32 lbs.	506 lbs.	557 lbs.	**608 lbs.**	658 lbs.	**760 lbs.**
			112.63N	2252.58N	2477.84N	**2703.1N**	2928.35N	**3378.87N**
FRT. HIGH BACK PASSENGER	2-WAY MANUAL	MID TRACK	25.32 lbs.	506 lbs.	557 lbs.	**608 lbs.**	658 lbs.	**760 lbs.**
			112.63N	2252.58N	2477.84N	**2703.1N**	2928.35N	**3378.87N**
					FAC	2 SECOND RAMP 5 SECOND HOLD	FAC	1 SECOND RAMP

FAC = FORD ACCEPTANCE CRITERIA

SET-UP SHEET WINDSTAR V229

DRAWING: MAGNA SEATING SYSTEMS ENGINEERING DRAWING NO. SK-3F23-011000-AA & BA - FMVSS

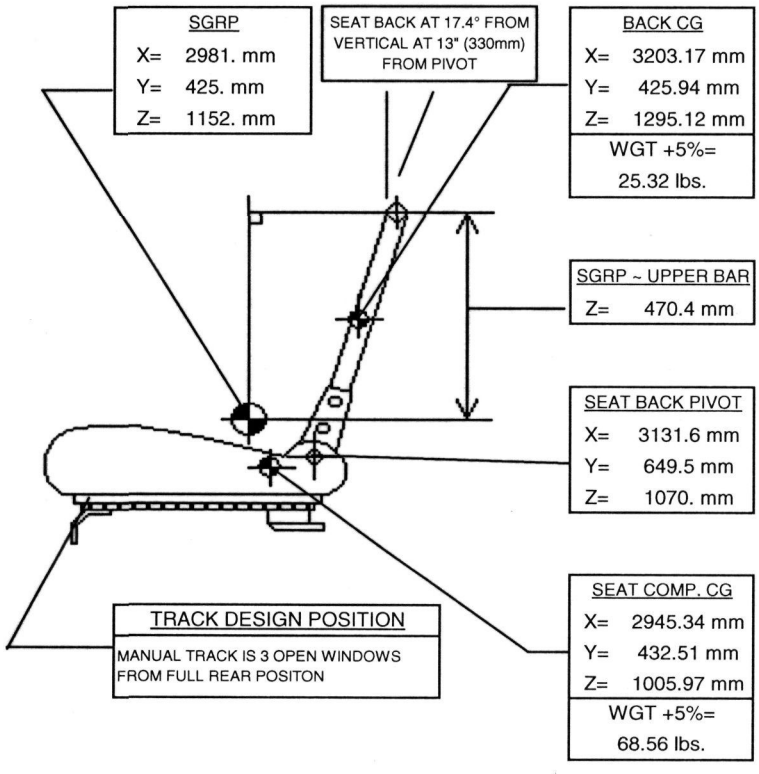
SAMPLE: 2004 V229 WINDSTAR (BUCK# A4360004)



PIVOT TO SEAT CG
X= -217.84 mm
Y= 150.36 mm
Z= -72.32 mm

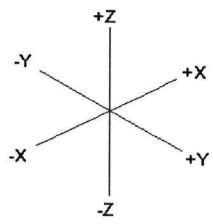
PIVOT TO BACK CG
X= 71.57 mm
Y= 223.56 mm
Z= 225.12 mm

FRONT SEAT LOW BACK POWER



PIVOT TO SEAT CG
X= -186.26 mm
Y= 216.99 mm
Z= -64.03 mm

PIVOT TO BACK CG
X= 71.57 mm
Y= 223.56 mm
Z= 225.12 mm



FRONT SEAT HIGH BACK MANUAL

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

FMVSS /CMVSS 207

TEST REQUEST NUMBER: KC0426

BUCK NUMBER: A4360004

THE SEAT ASSEMBLIES IDENTIFIED BELOW HAVE BEEN EXAMINED BY THE RESPONSIBLE DESIGN ENGINEER AND ARE APPROVED FOR TESTING FOR COMPLIANCE TO FMVSS/CMVSS 207.

VEHICLE LINE AND YEAR: 2004 V229

SEAT TYPE: 1ST ROW DRIVER AND PASSENGER SEAT

PART NAME:	*PART NUMBER:*	*SUPPLIER:*	*SIGNATURE:*	*DATE:*
(1) 1ST ROW PASS MAN HIGH BACK	*3F23-1760004-HJW*	*INTIER AUTOMOTIVE SEATING*		10/28/02
(2) 1ST ROW DRIVER MAN HIGH BACK	*3F23-1760005-HJW*	*INTIER AUTOMOTIVE SEATING*		10/28/02
(3) 1ST ROW DRIVER POWER LOW BACK	*3F23-1760005-KLW*	*INTIER AUTOMOTIVE SEATING*		10/28/02

NOTE: RUN

REARWARD PULL TEST DRIVER MAN HIGH BACK,POWER LOW BACK ~~AND MAN PASS HIGH BAC~~
UPPER BAR TEST DRIVER SEAT MAN HIGH BACK
STATIC LATCH DRIVER MAN HIGH BACK ~~& PASSENGER MAN HIGH BACK~~

SIGN-OFF
F/CMVSS - 207
2004 V229
BUCK# A4360004

KC0426

This Vehicle is equipped to the latest level design, and is production intent

BODY SHELL John P. Doyle _____ 10/29/02

PRINT NAME ***SIGN NAME*** ***DATE***

UNDERBODY John P. Doyle _____ 10/29/02

PRINT NAME ***SIGN NAME*** ***DATE***

KC0426

VEV Test Request - KC0426

Requester / Coordinator (CDS Id):
MSAHUTS1

Matthew Sahutske

Performing Activity:	Date Submitted:	Requested Completion Date:	Requester Reference Number:
Body / Chassis Durability	17-OCT-2002	08-NOV-2002	

TESTnet Test Procedure: ANCHOR_US
CETP: 01.10-L-801-US
CETP Title: Seat Anchorage Test

Request Title and / or Subject of Request:
FMVSS 207 SEAT ANCHORAGES (2004,V229 1ST ROW

Billable Requester's Dept No.:
5100Y246 UNKNOWN
Billable Requester's CDS Id:
MSAHUTS1
Billable Requester's Name:
Matthew Sahutske

Work Task / Work Order: G13
Program: V229
Description:
2004 1/4 V229 NEW WINDSTAR & MERC MINIV

Request conducted to certify control item compliance with Government Regulations:

Yes: [X] No: [ ]

Complete the following two questions as indicated

1 - Rationale for not replacing this test by CAE Analysis:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

Seat Anchorage Test

Test Objects:

Reference Object	Reference Description
N/A	N/A

Sample #	Object ID	Object Description
1	A4360004	BODY IN WHITE
2	3F23-1760005-HJW	DRIVER SEAT MAN HIGH BACK
3	3F23-1760004-HJW	PASSENGER MAN HIGH BACK
4	3F23-1760005-KLW	DRIVER POWER LOW BACK

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: Matthew Sahutske
Assigned Coordinator: _____
Request Authorized by: Not Required
Assigned Supervisor: _____

Test Definition Worksheet

Request No:	KC0426	FMVSS 207 SEAT ANCHORAGES (2004,V229 1ST ROW	
Service/Procedure:	ANCHOR_US	Seat Anchorage Test	
Test Object:		Request Date:	17-OCT-2002
Requester:	Matthew Sahutske (MSAHUTS1)	Requester Phone:	1-313-6216941

Sample	Object ID	Object Description	Date	Runs	Dispos.
1	A4360004	BODY IN WHITE	21-OCT-02	1	RETURN
2	3F23-1760005-HJW	DRIVER SEAT MAN HIGH BACK	31-OCT-02	1	SCRAP
3	3F23-1760004-HJW	PASSENGER MAN HIGH BACK	31-OCT-02	1	SCRAP
4	3F23-1760005-KLW	DRIVER POWER LOW BACK	31-OCT-02	1	SCRAP

Parameter:	Value:	Units:
Vehicle Programs	V229	
Vehicle Year	2002	
Requesters Phone Number	322-1708	
Mail Report to:	2CC54	Room Number/Mail Drop
Building Name	PDC	

FOR REFERENCE ONLY

V229 FIRST ROW SUMMARY

KC0426

STATIC LATCH

		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	MAX % OVER FMVSS
1ST ROW MANUAL HIGH BACK DRIVER	MID SLIDE POSITION	557 lbs.	838 lbs.	65.49%	658 lbs.	987 lbs.	95.00%
1ST ROW MANUAL HIGH BACK PASSENGER	MID SLIDE POSITION	557 lbs.	586 lbs.	15.73%	658 lbs.	696 lbs.	37.51%

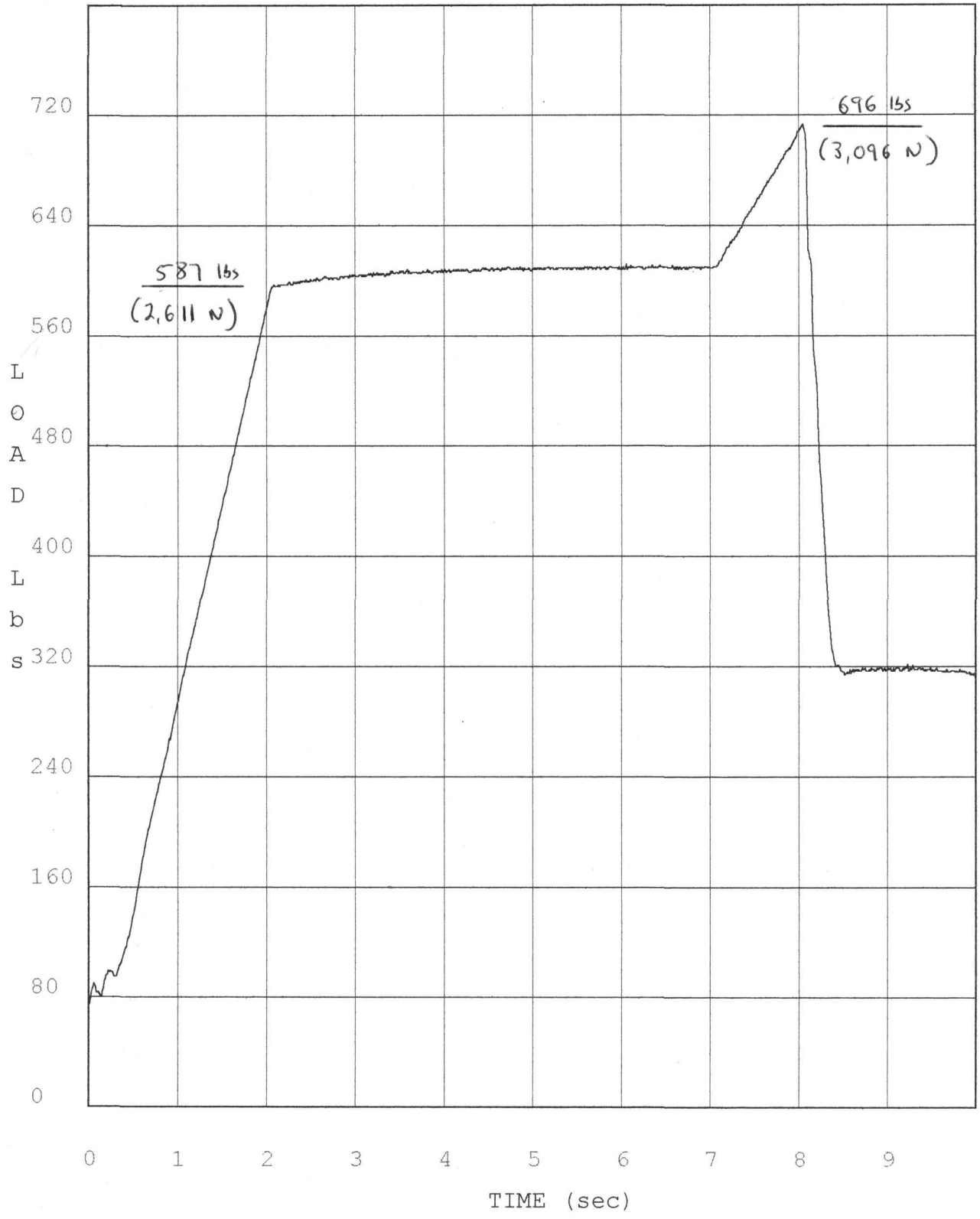
UPPER BAR

		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	MAX % OVER FMVSS
1ST ROW MANUAL HIGH BACK DRIVER	MOST REAR TRACK POSITION	196 lbs.	205 lbs.	15.05%	232 lbs.	240 lbs.	34.48%

REARWARD ANCHORAGE

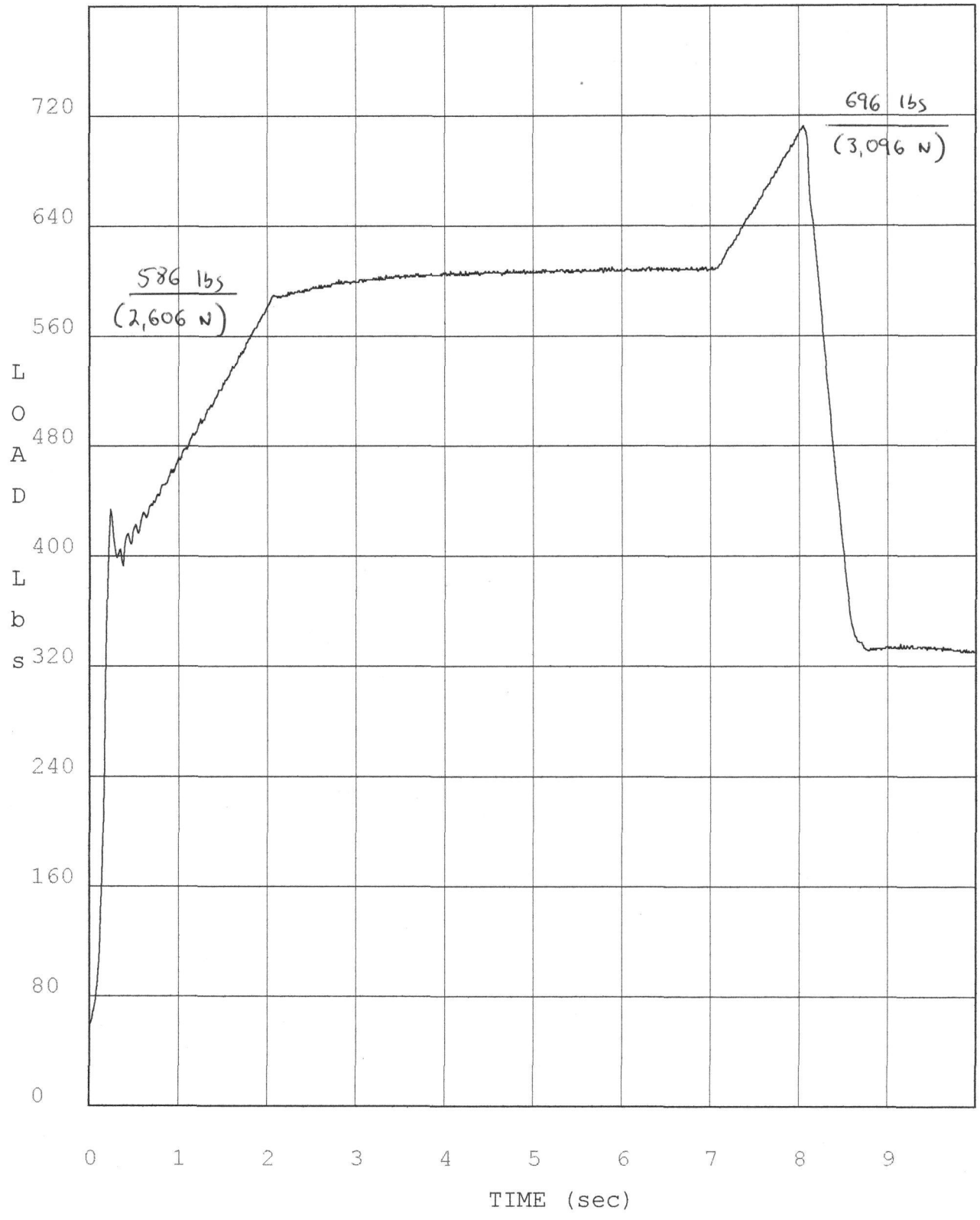
		FAC	TSE LOAD	% OVER FMVSS	FAC MAX	TSE MAX	MAX % OVER FMVSS
1ST ROW 6-WAY POWER DRIVER LOWBACK	MID SLIDE/FULL UP	1522 lbs.	1541 lbs.	11.37%	1798 lbs.	1881 lbs.	36.00%
1ST ROW 6-WAY POWER DRIVER LOWBACK	FULL FORWARD/ FULL REAR TILT	1522 lbs.	1537 lbs.	11.08%	1798 lbs.	1880 lbs.	35.93%
1ST ROW MANUAL HIGH BACK DRIVER	MID SLIDE POSITION	1508 lbs.	1544 lbs.	12.63%	1783 lbs.	1886 lbs.	37.51%
1ST ROW MANUAL HIGH BACK DRIVER	FULL FORWARD POSITION	1508 lbs.	1539 lbs.	12.26%	1783 lbs.	1884 lbs.	37.36%
1ST ROW MANUAL HIGH BACK PASSENGER	MID SLIDE POSITION	1508 lbs.	1542 lbs.	12.48%	1783 lbs.	1890 lbs.	37.80%
1ST ROW MANUAL HIGH BACK PASSENGER	FULL FORWARD POSITION	1508 lbs.	1538 lbs.	12.19%	1783 lbs.	1884 lbs.	37.36%

12/14/2002 23:59 Model: 2004 V229 1ST ROW MANUAL HIGH BACK DRIVER
Part No: FMVSS 207 STATIC LATCH
Operator: S.W. (KC0426)



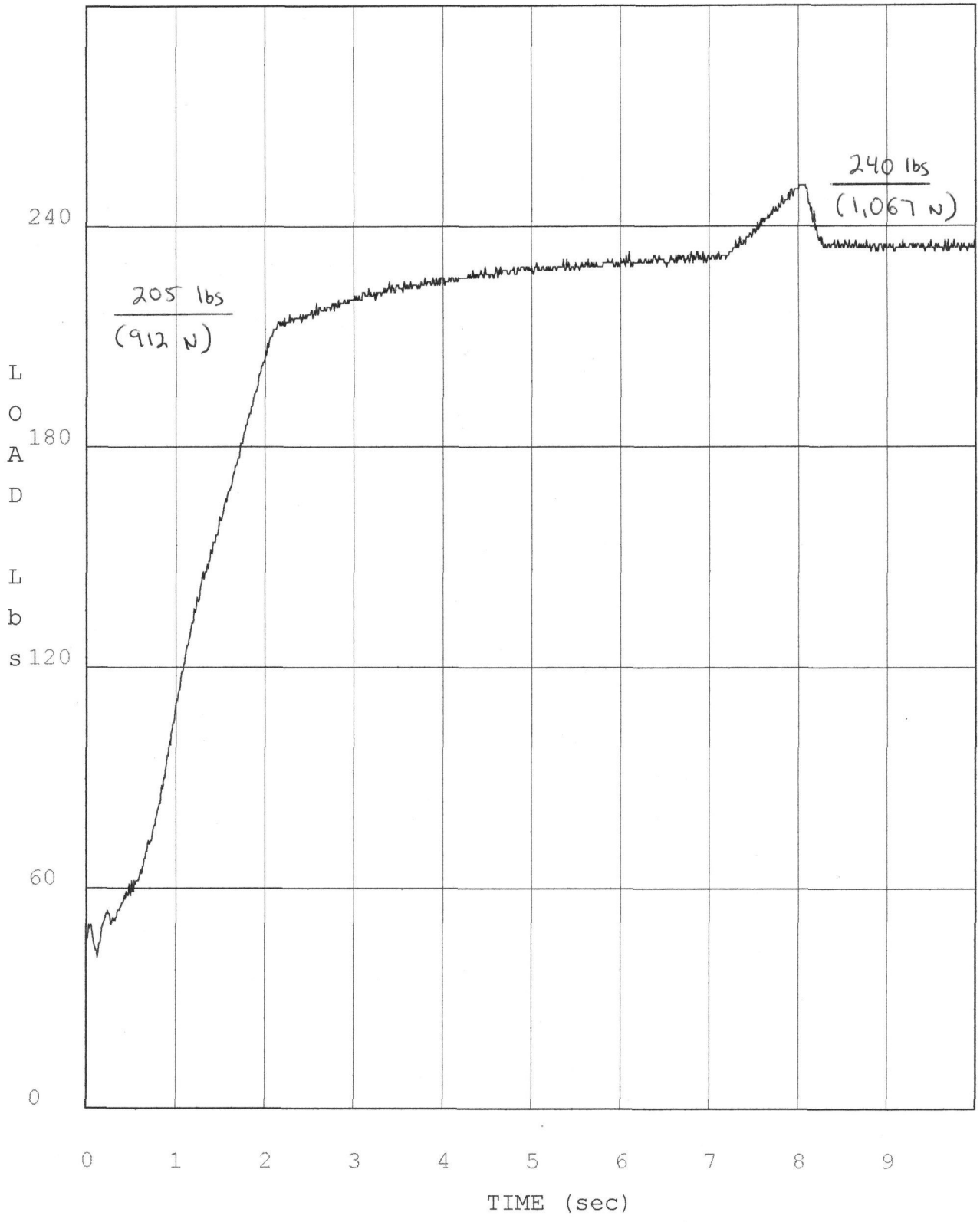
Ram: Center Rear

12/15/2002 00:06 Model: 2004 V229 1ST ROW MANUAL HIGH BACK PASSENGE
Part No: FMVSS 207 STATIC LATCH
Operator: S.W. (KC0426)



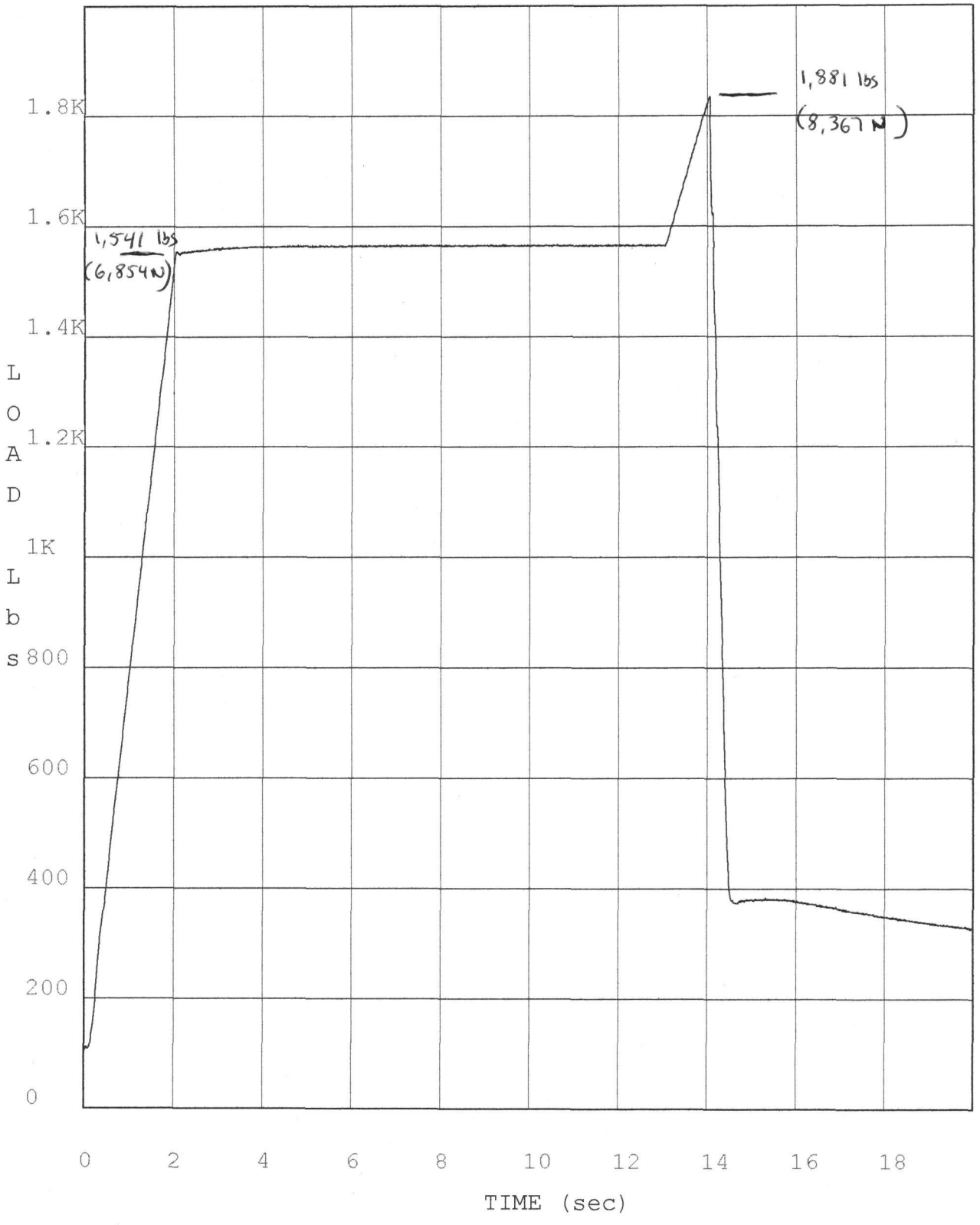
Ram: Center Rear

12/13/2002 04:02 Model: 2004 V229 1ST ROW MANUAL HIGH BACK DRIVER
Part No: FMVSS 207 UPPER BAR
Operator: S.W. (KC0426)



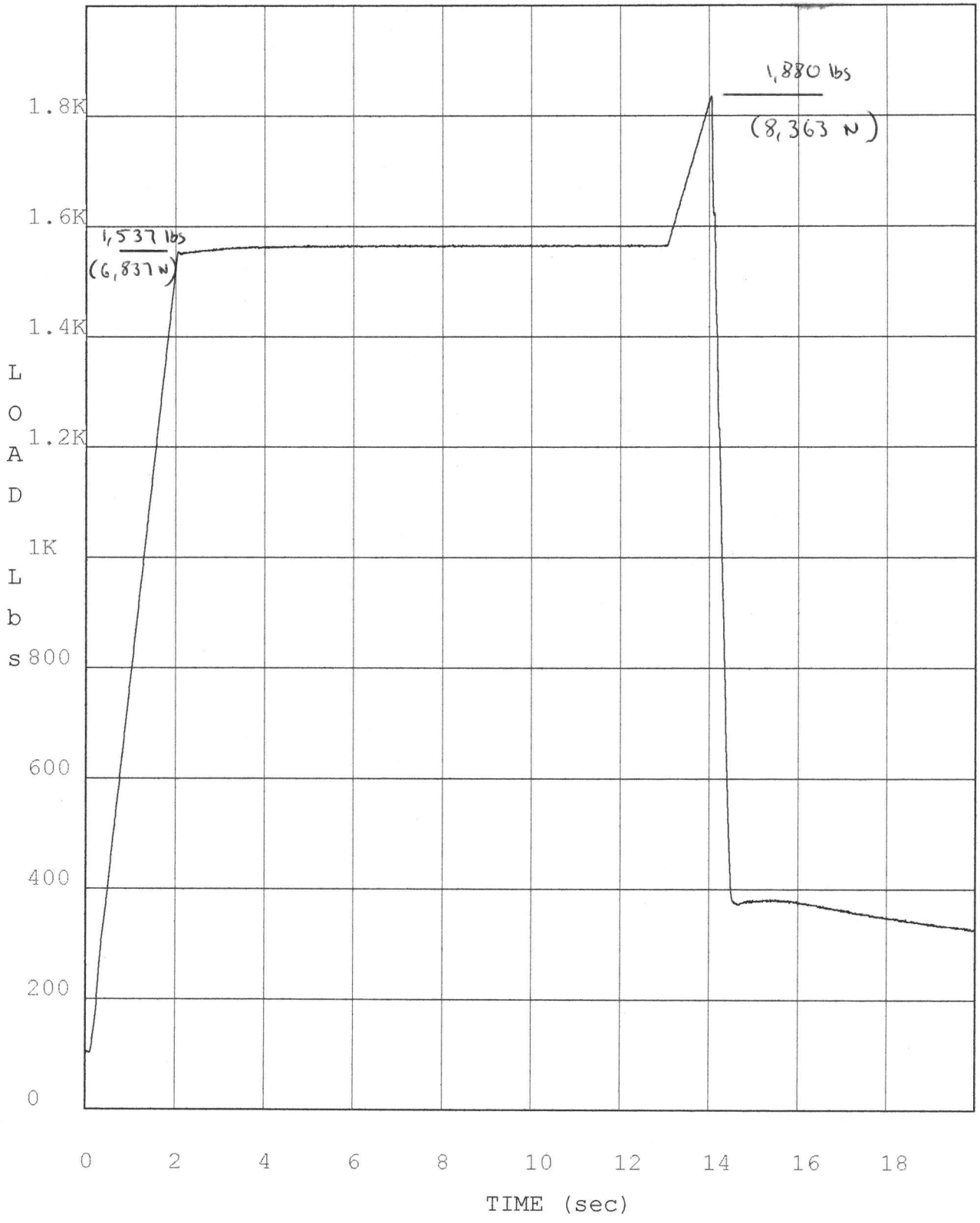
Ram: Center Rear

12/14/2002 05:44 Model: 2004 V229 1ST ROW 6 WAY POWER LOW BACK DRIV
Part No: FMVSS 207 REARWARD ANCHORAGE MID TRACK/ FULL UP
Operator: S.W. (KC0426)



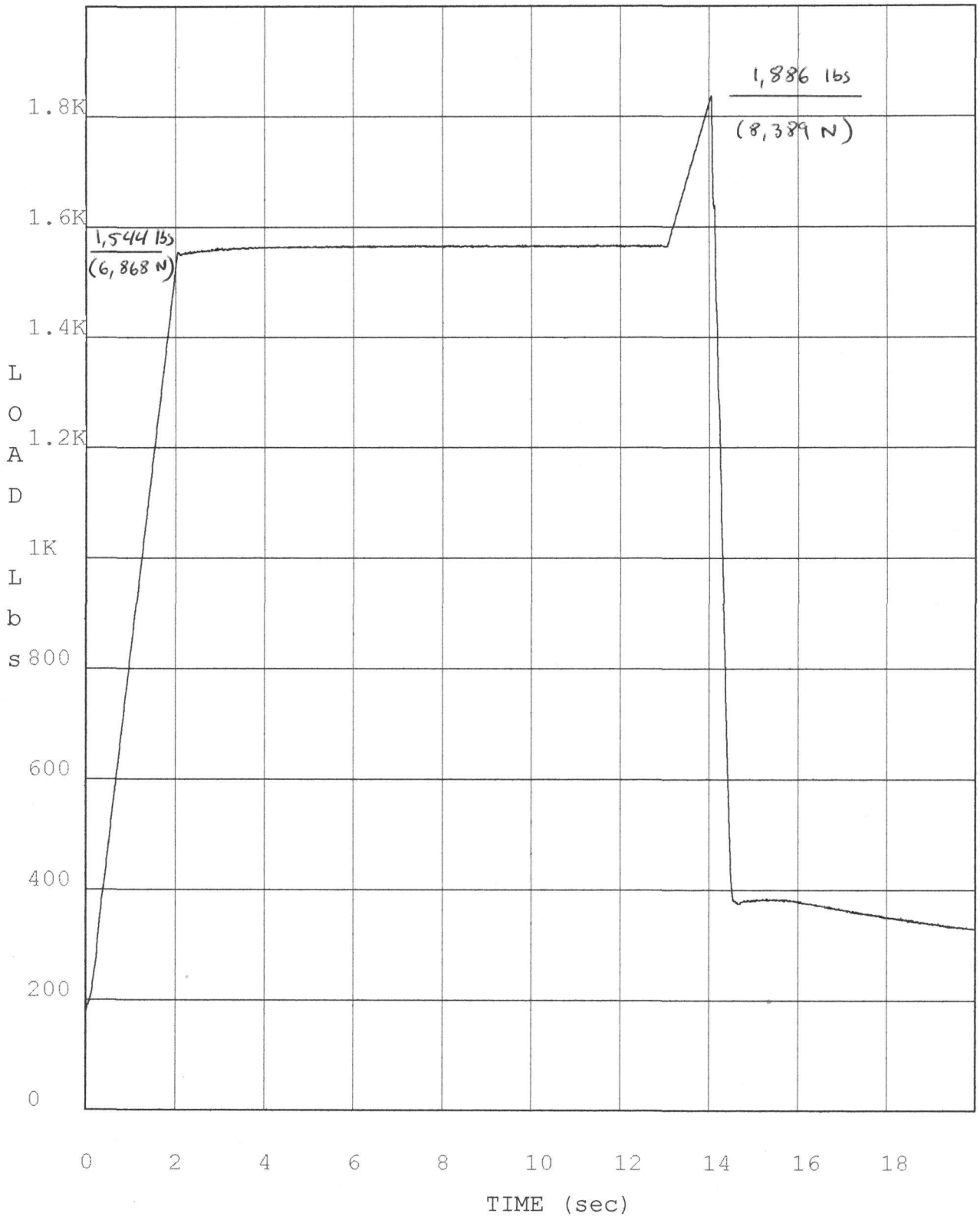
Ram: Center Rear

12/14/2002 05:35 Model: 2004 V229 1ST ROW 6 WAY POWER LOW BACK DRIV
Part No: FMVSS 207 REARWARD ANCHORAGE FULL FORWARD/ FULL REAR TILT
Operator: S.W. (KC0426)



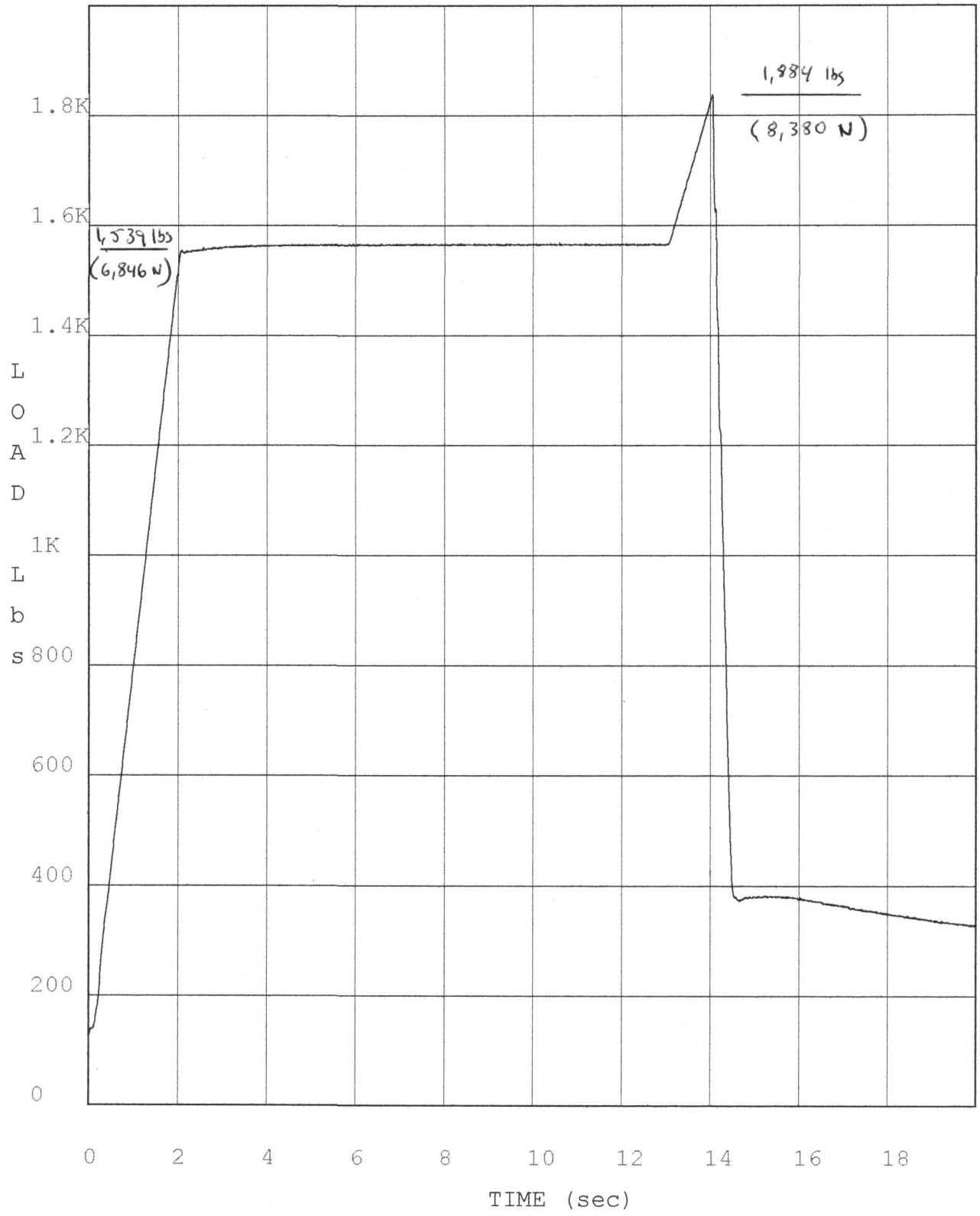
Ram: Center Rear

12/14/2002 04:04 Model: 2004 V229 1ST ROW MANUAL HIGHBACK DRIVER
Part No: FMVSS 207 REARWARD ANCHORAGE MID TRACK
Operator: S.W. (KC0426)



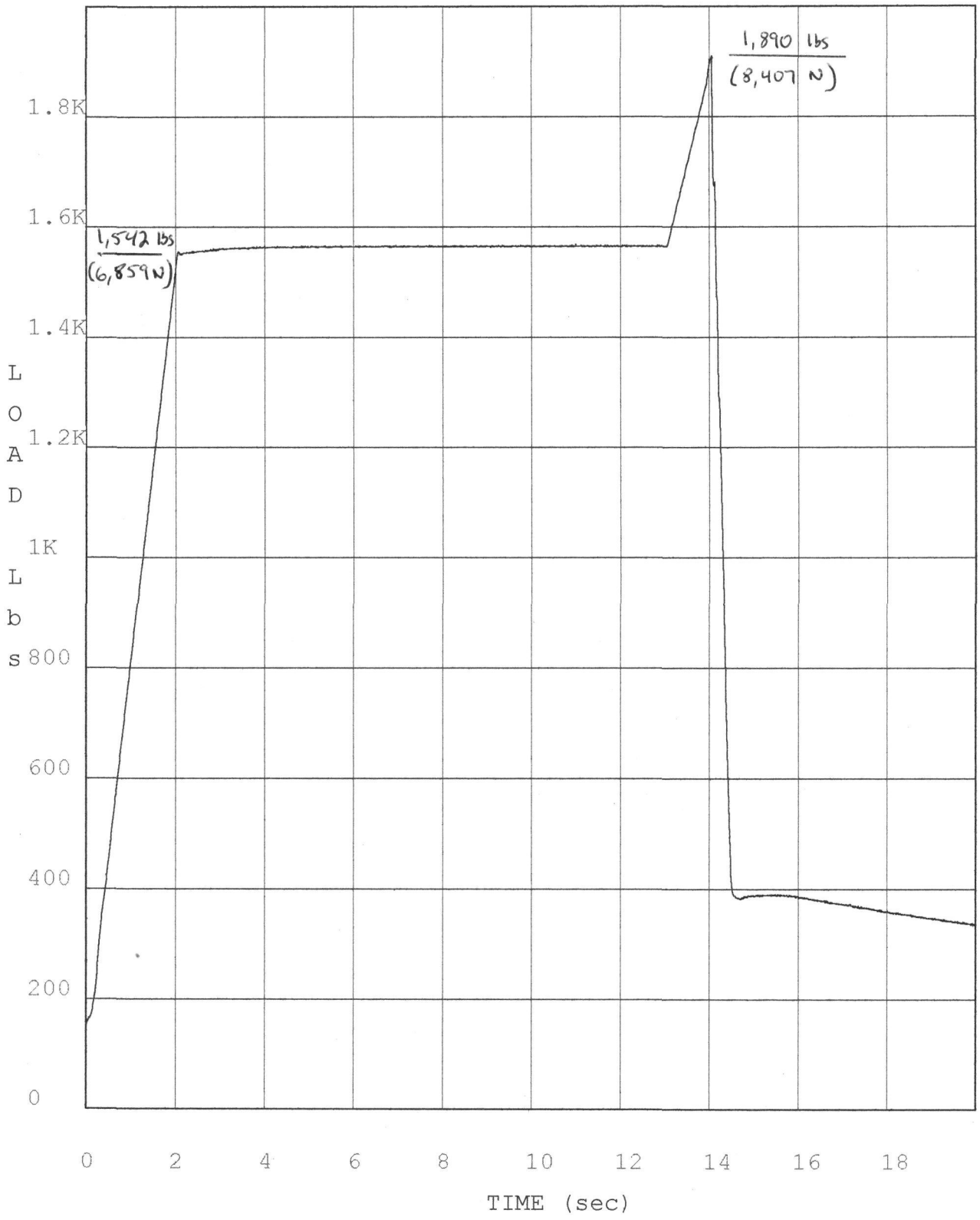
Ram: Center Rear

12/14/2002 03:55 Model: 2004 V229 1ST ROW MANUAL HIGHBACK DRIVER
Part No: FMVSS 207 REARWARD ANCHORAGE FULL FORWARD
Operator: S.W. (KC0426)



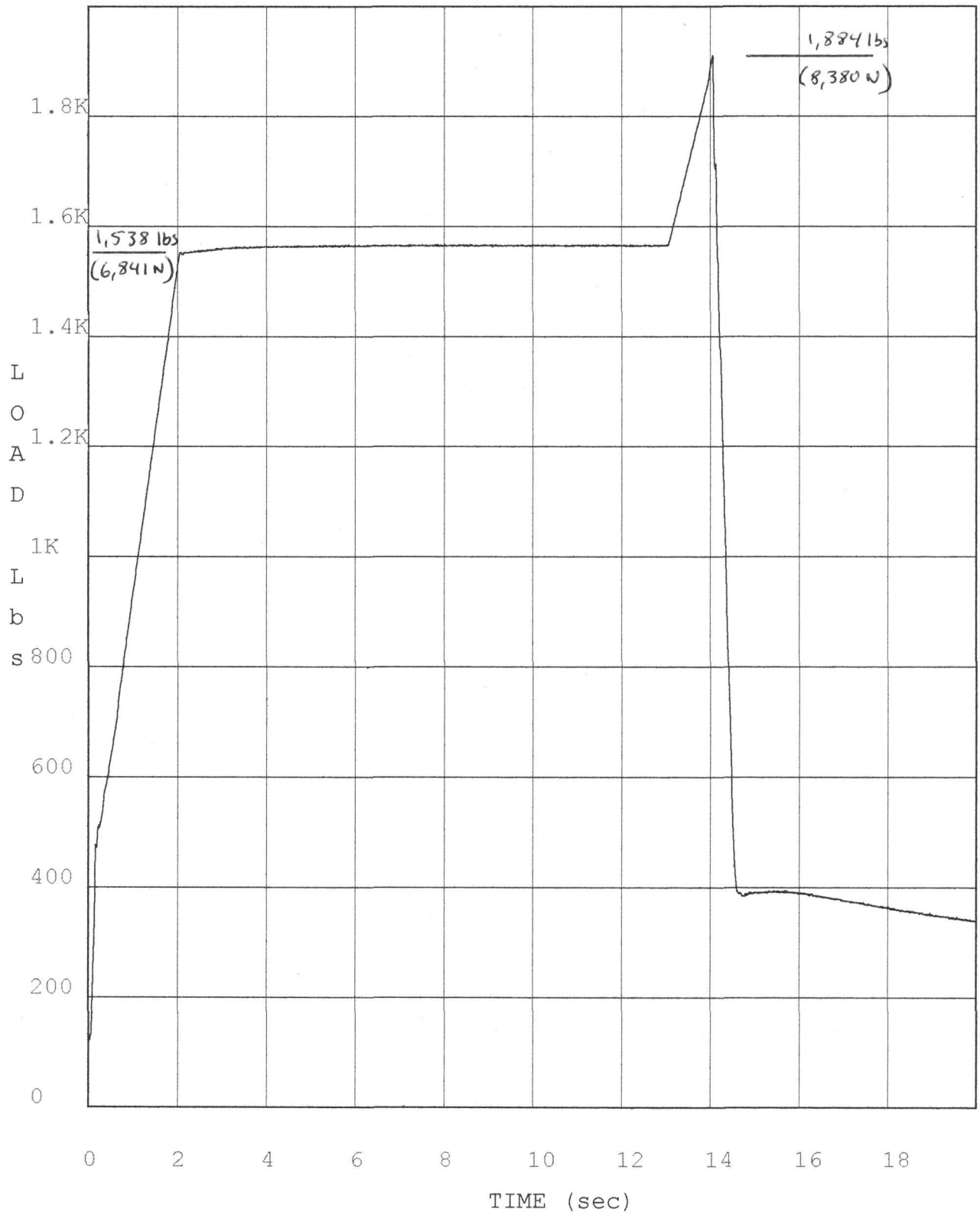
Ram: Center Rear

12/14/2002 04:44 Model: 2004 V229 1ST ROW MANUAL HIGHBACK PASSENGER
Part No: FMVSS 207 REARWARD ANCHORAGE MID TRACK
Operator: S.W. (KC0426)



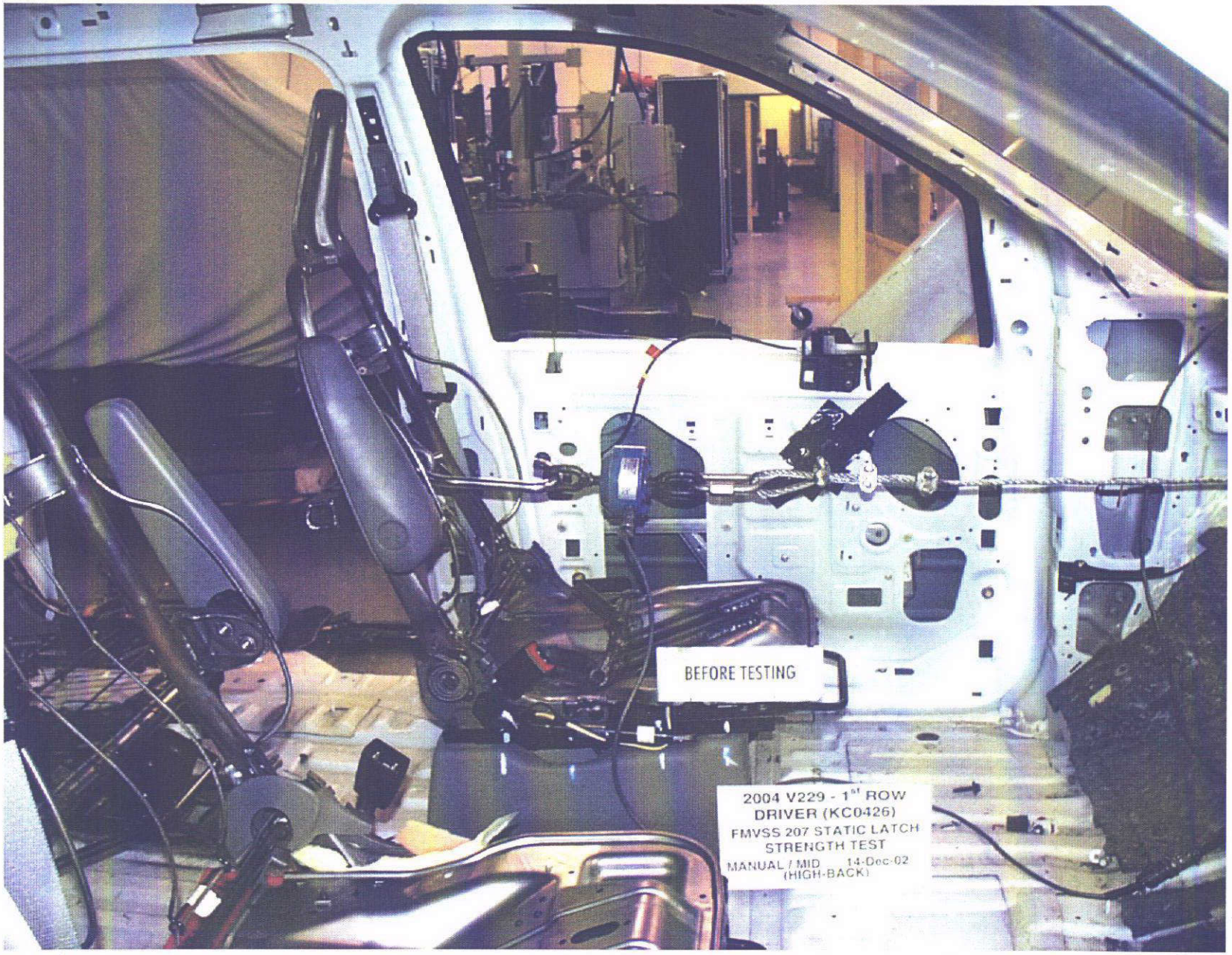
Ram: Center Rear

12/14/2002 04:35 Model: 2004 V229 1ST ROW MANUAL HIGHBACK PASSENGER
Part No: FMVSS 207 REARWARD ANCHORAGE FULL FORWARD
Operator: S.W. (KC0426)

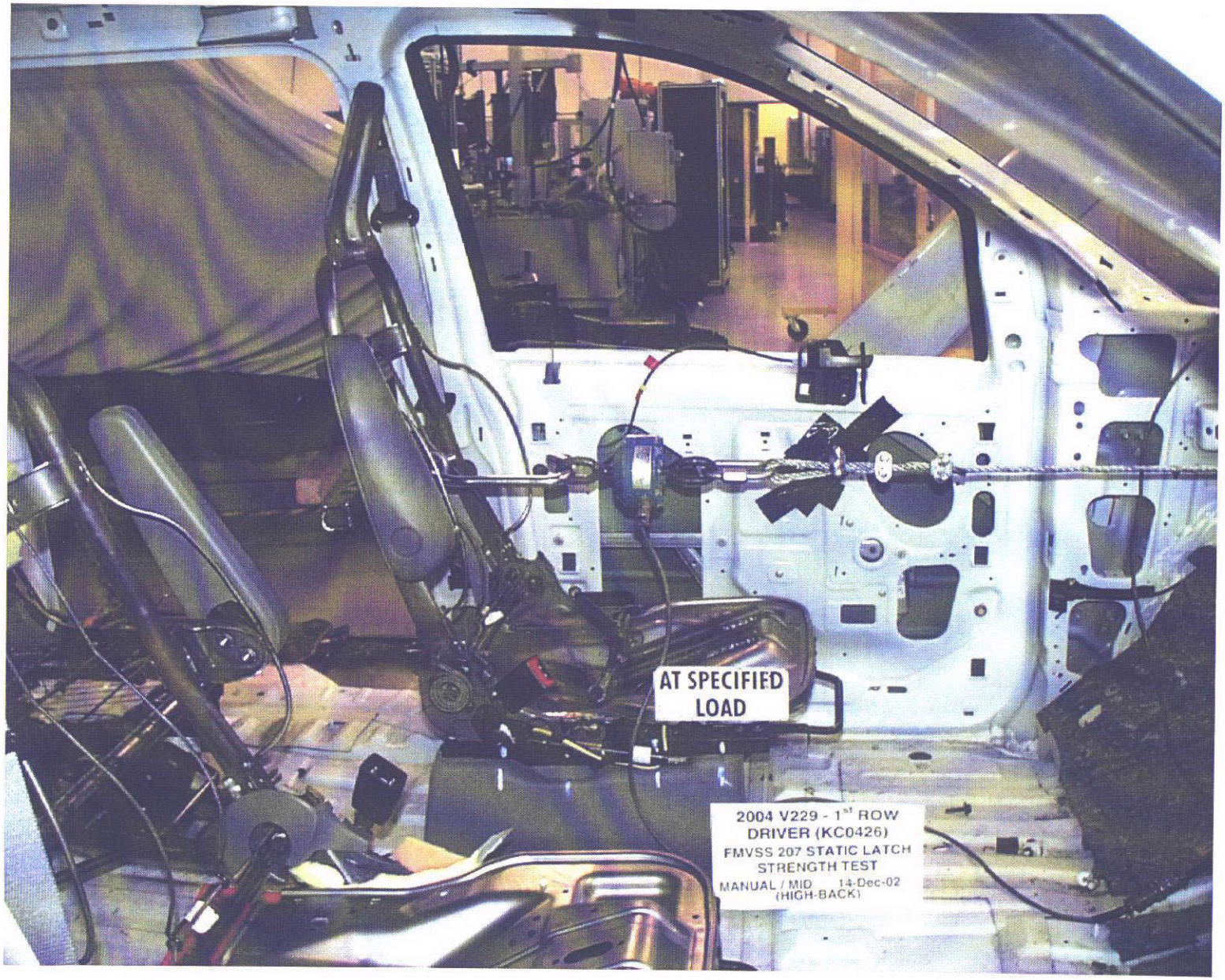


Ram: Center Rear

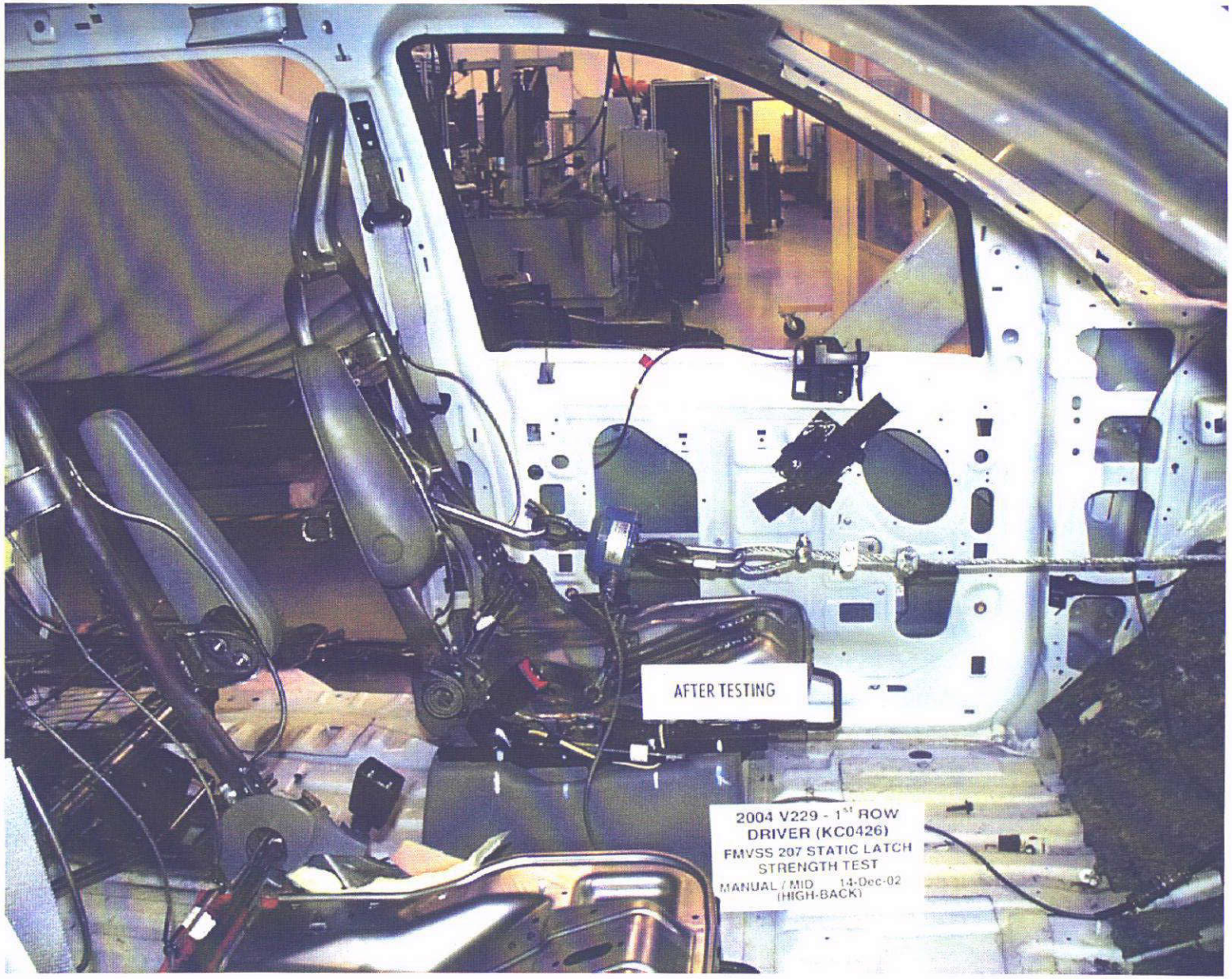
STATIC LATCH / MANUAL HIGH BACK DRIVER / BEFORE TESTING:



STATIC LATCH / MANUAL HIGH BACK DRIVER / AT SPECIFIED LOAD:



STATIC LATCH / MANUAL HIGH BACK DRIVER / AFTER TESTING:



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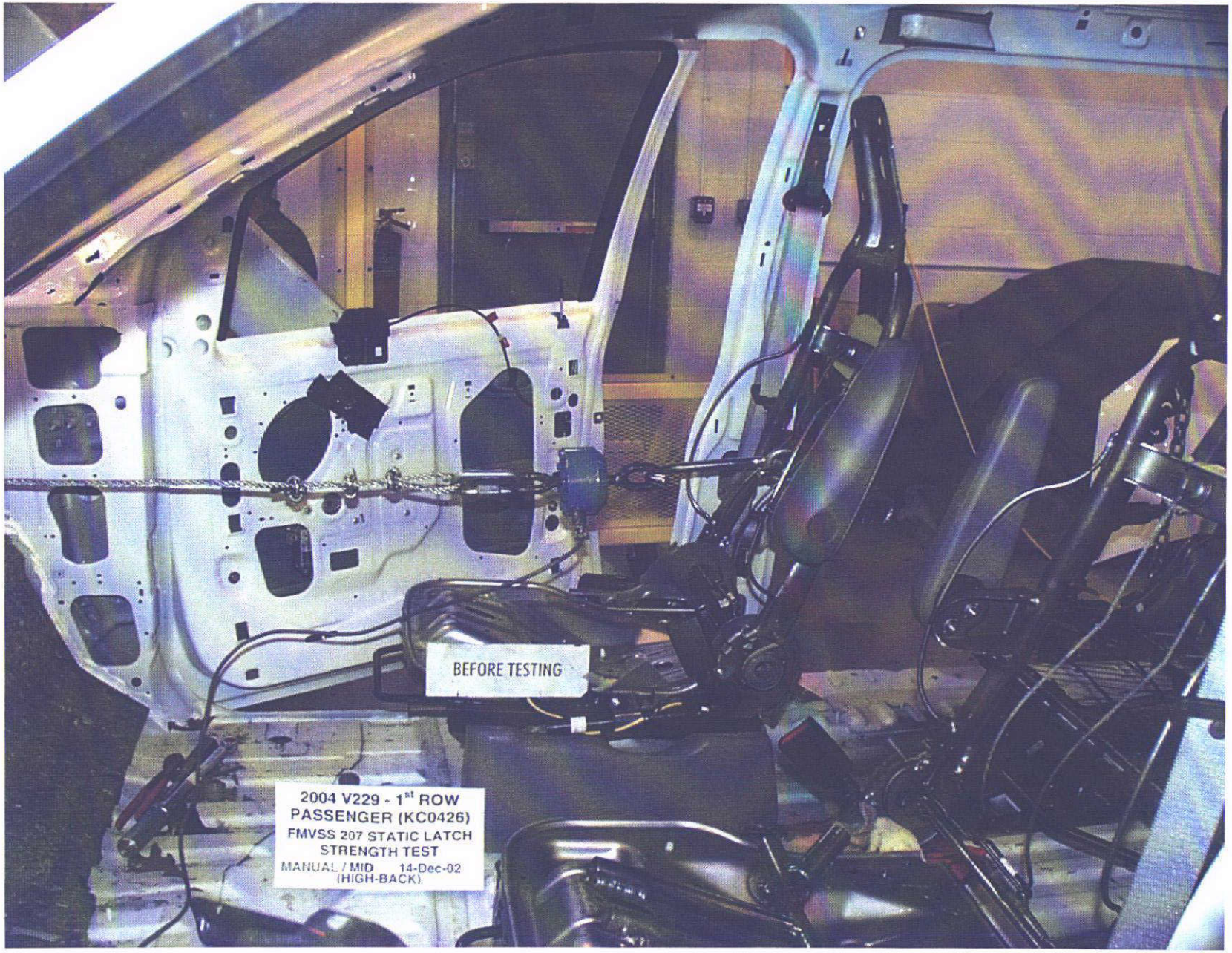
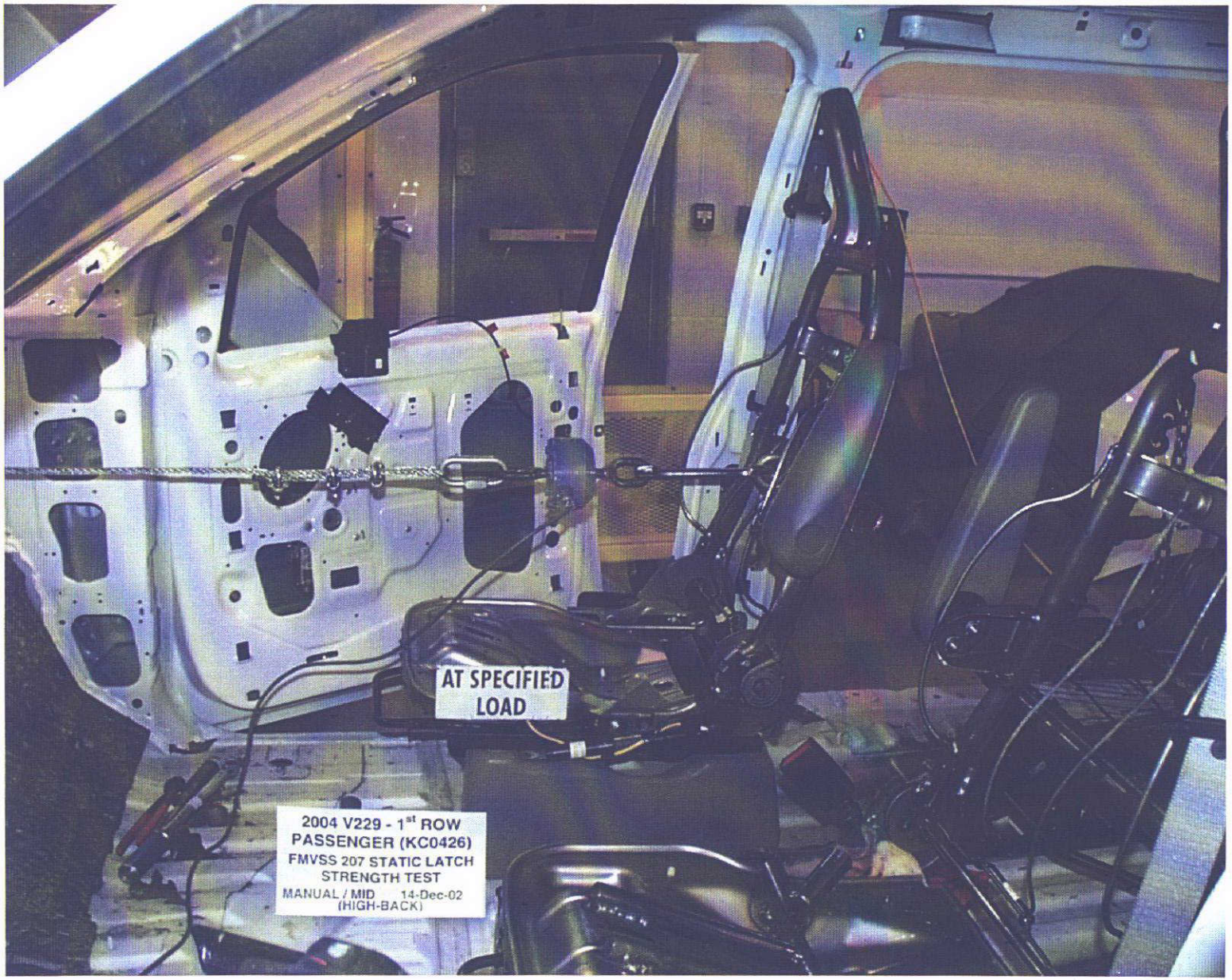
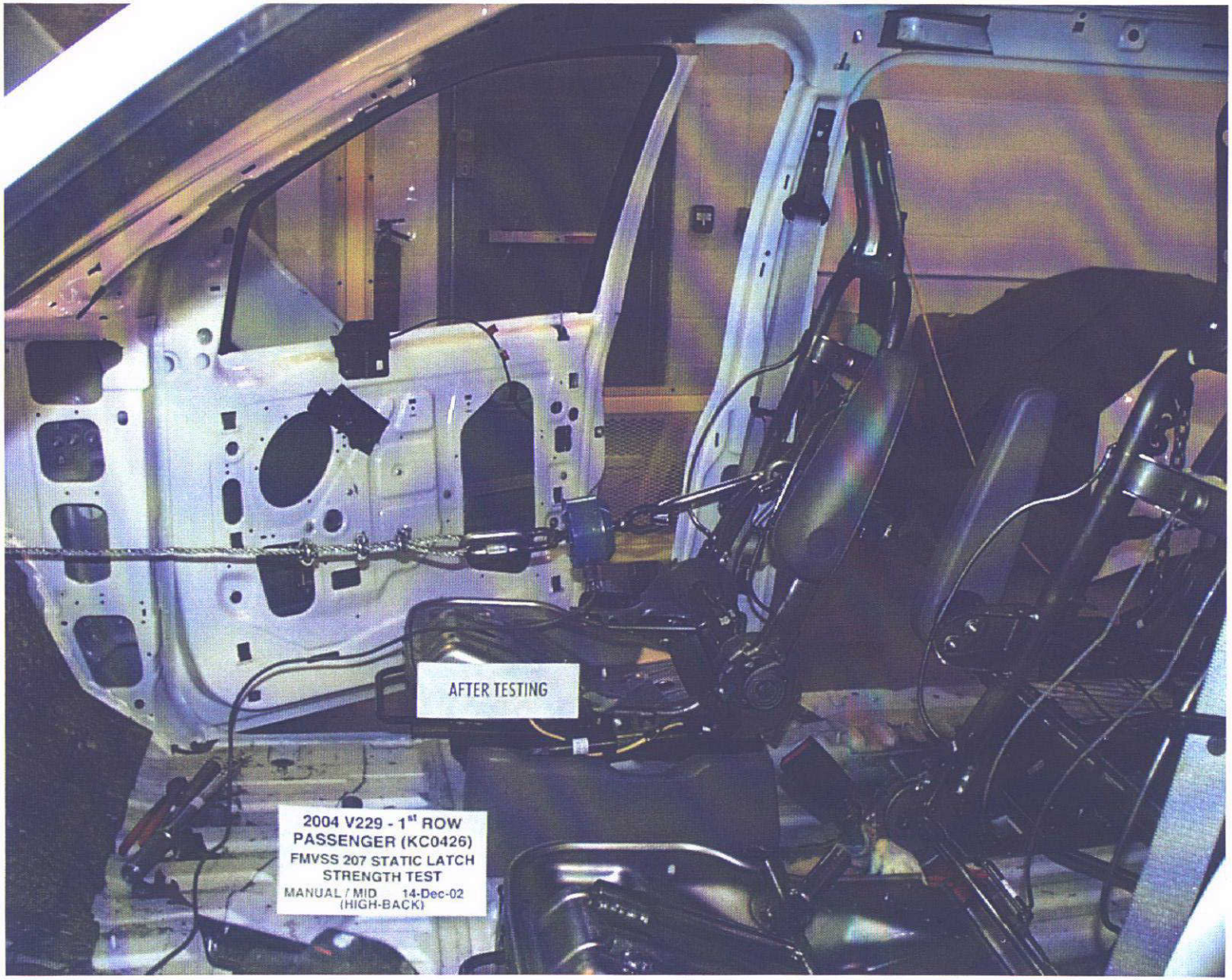


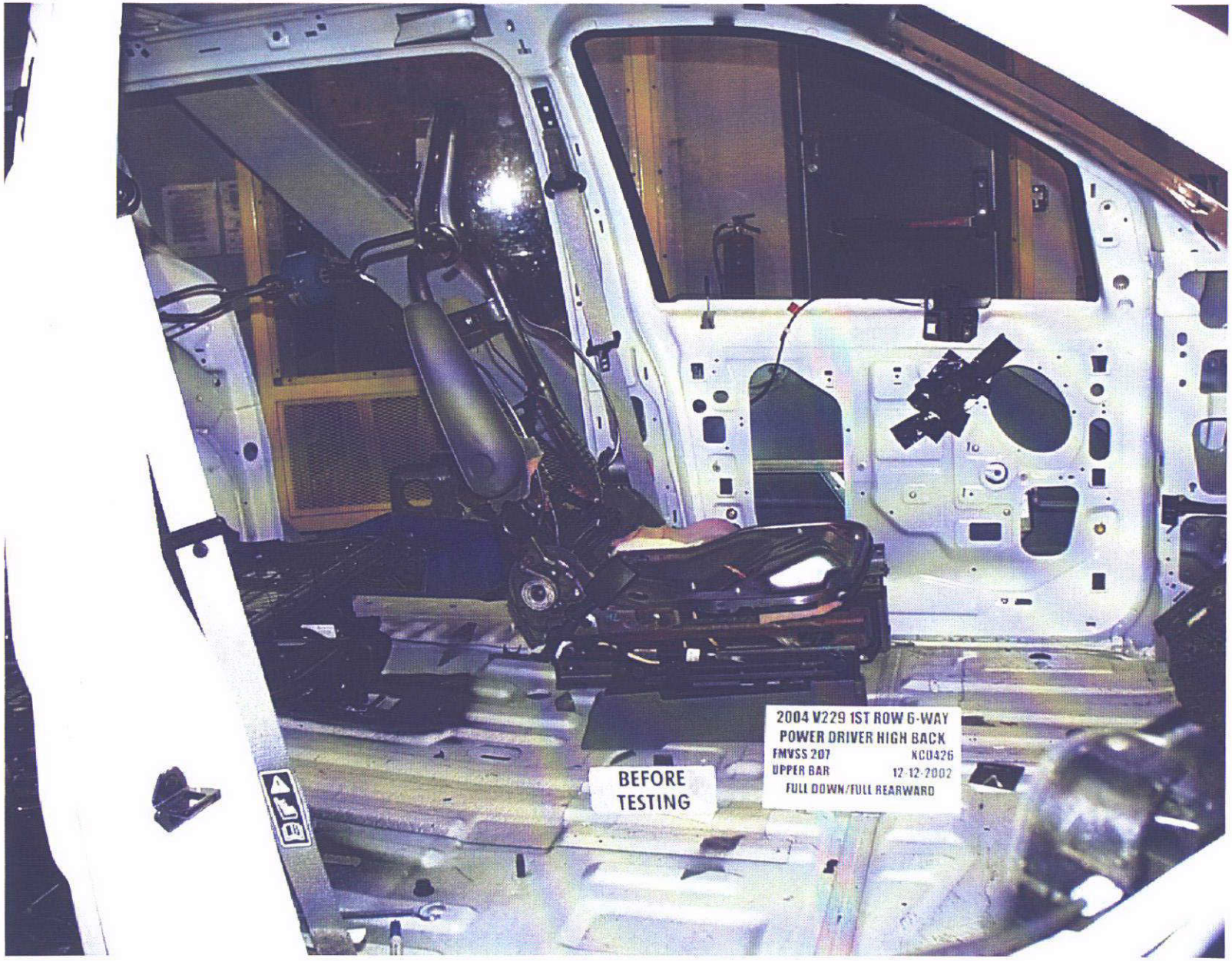
STATIC LATCH / MANUAL HIGH BACK PASSENGER / AT SPECIFIED LOAD:



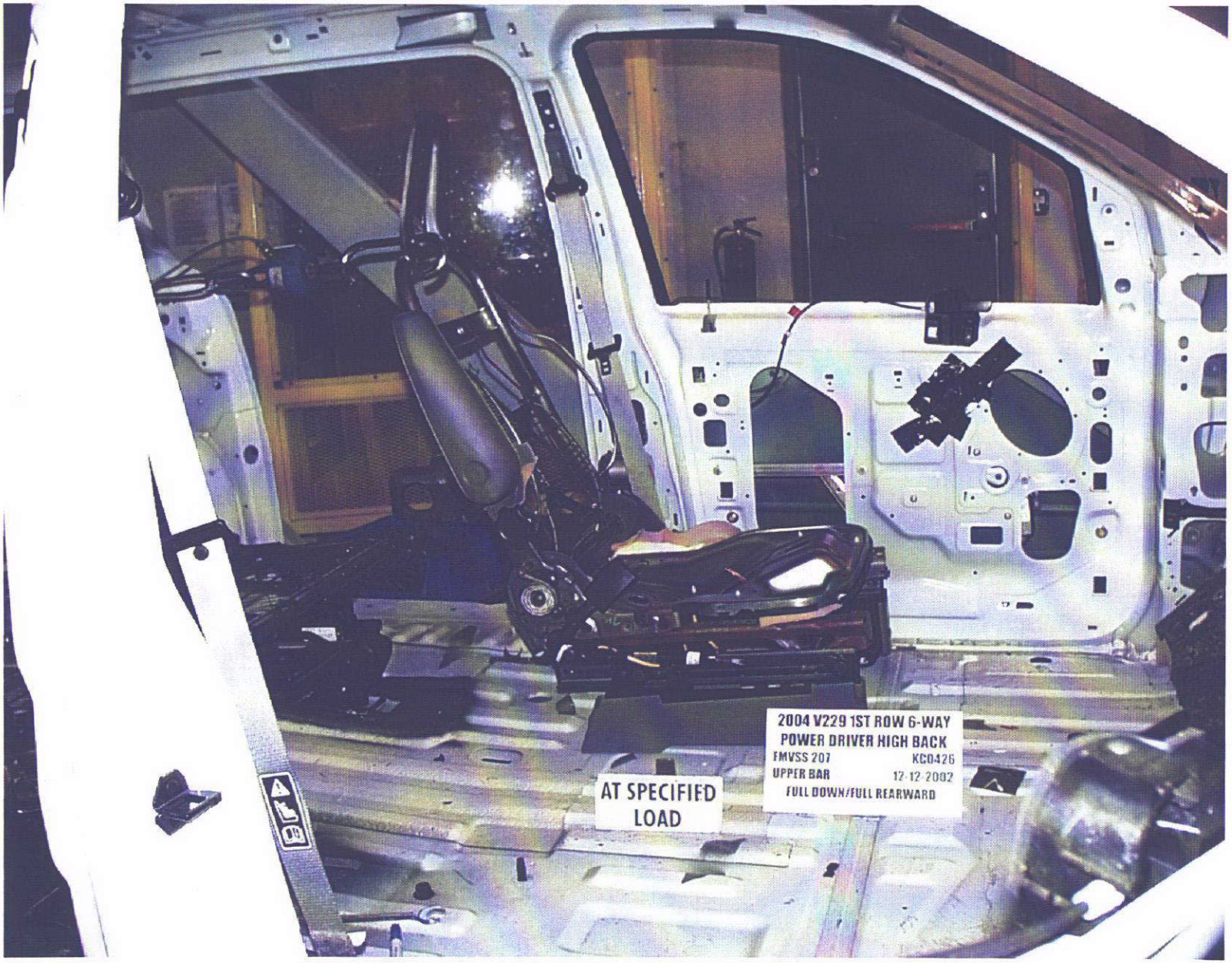
STATIC LATCH / MANUAL HIGH BACK PASSENGER / AFTER TESTING:



UPPER BAR / POWER HIGH BACK DRIVER / BEFORE TESTING:



UPPER BAR / POWER HIGH BACK DRIVER / AT SPECIFIED LOAD:



UPPER BAR / POWER HIGH BACK DRIVER / AFTER TESTING:

REARWARD ANCHORAGE / PWR. DRV. L/B MID TRACK FULL UP / BEFORE TESTING:

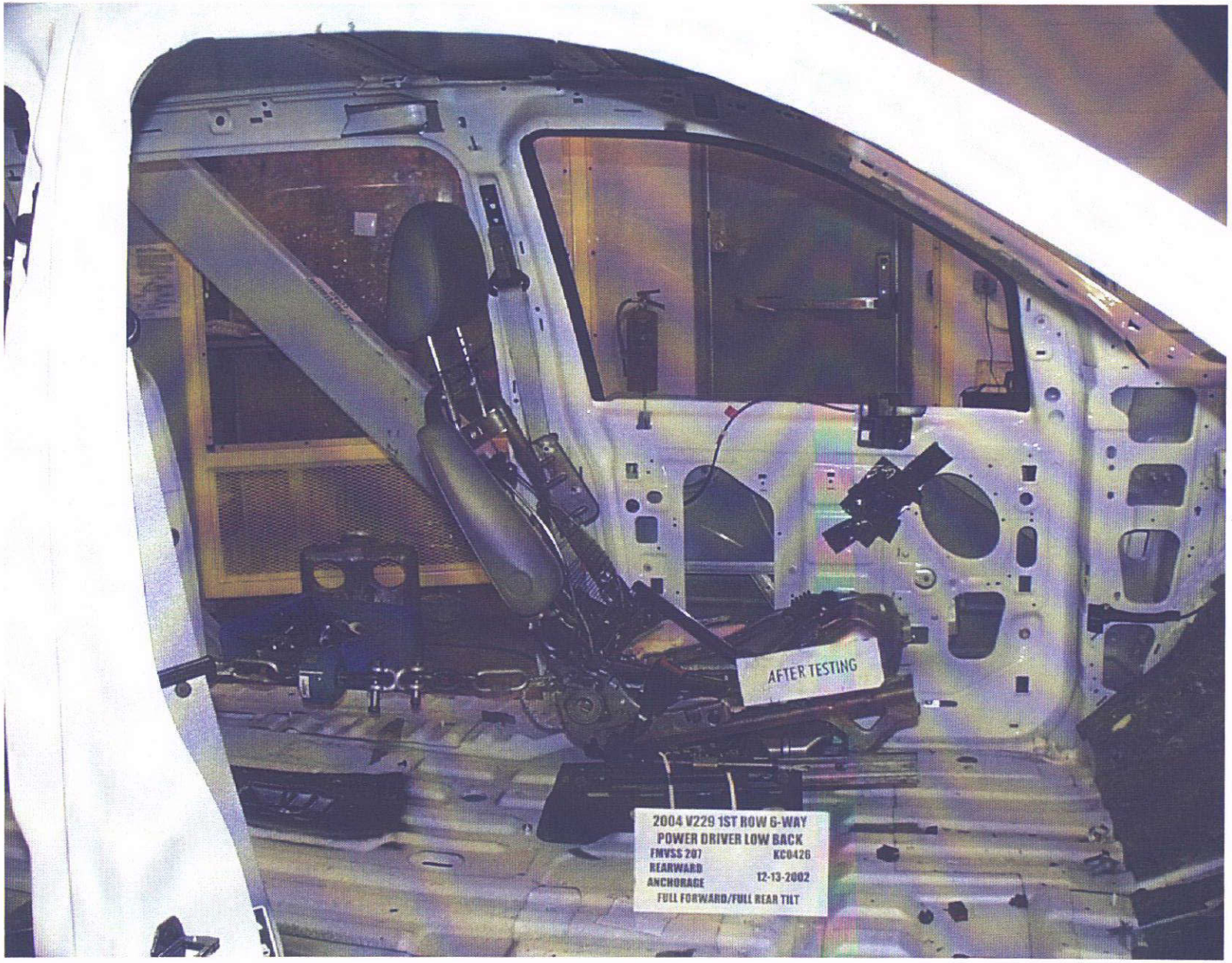
REARWARD ANCHORAGE / PWR. DRV. L/B MID TRACK FULL UP / AT SPECIFIED LOAD:

REARWARD ANCHORAGE / PWR. DRV. L/B MID TRACK FULL UP / AFTER TESTING:

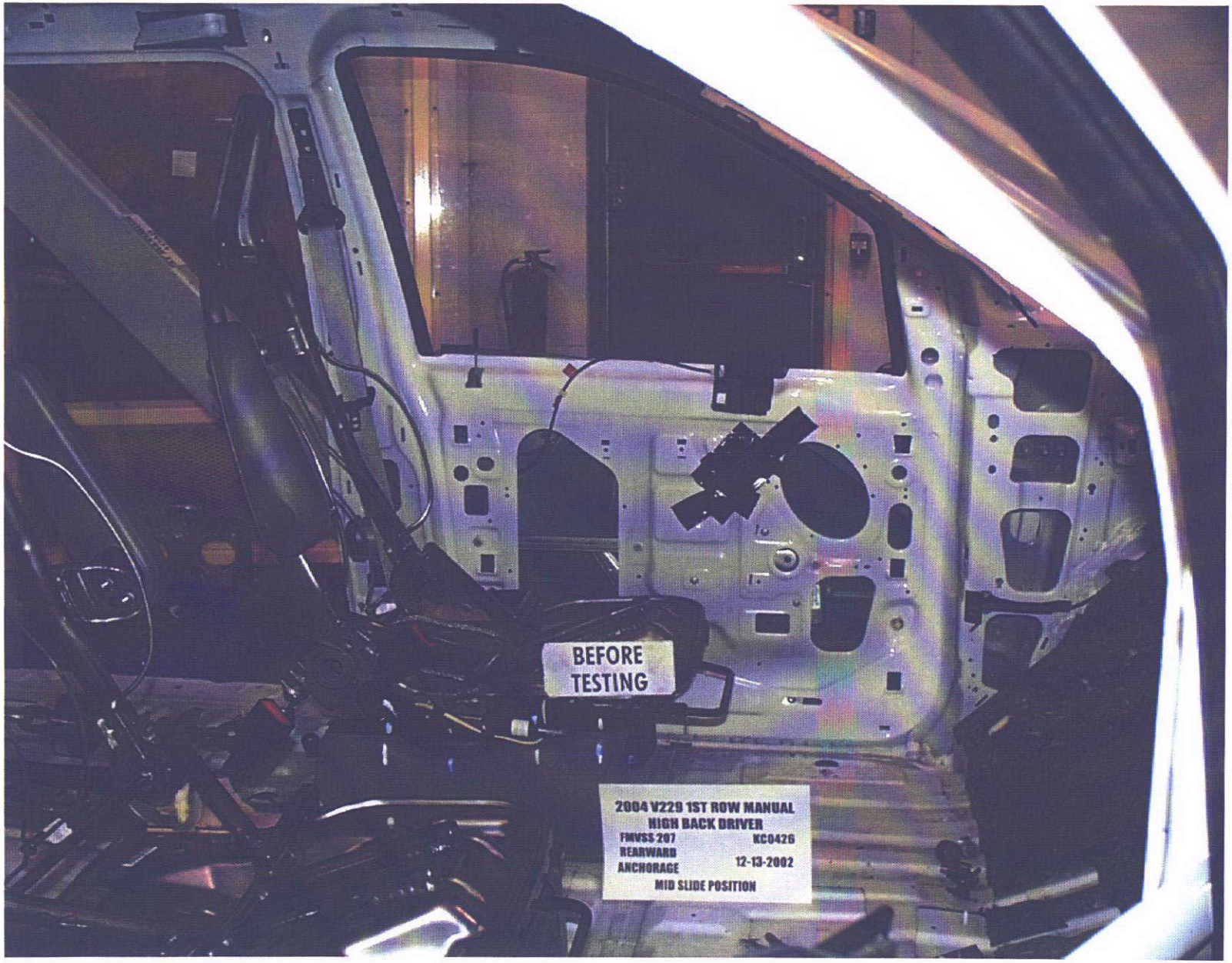
REARWARD ANCHORAGE / PWR. DRV. L/B FULL / FORWARD & REAR TILT / BEFORE TESTING:

REARWARD ANCHORAGE / PWR. DRV. L/B FULL / FORWARD & REAR TILT / SPECIFIED LOAD:

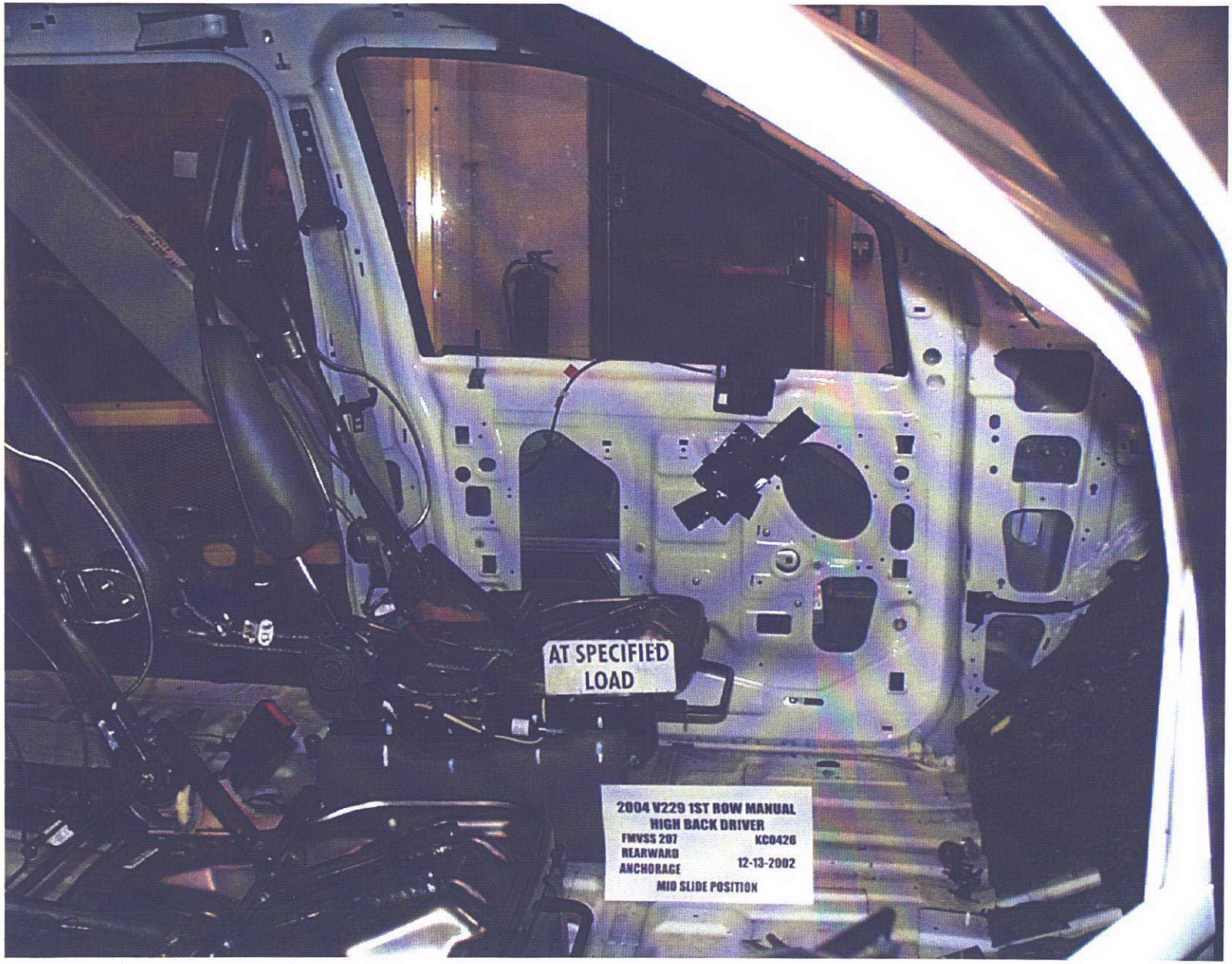
REARWARD ANCHORAGE / PWR. DRV. L/B FULL / FORWARD & REAR TILT / AFTER TESTING:



REARWARD ANCHORAGE / MANUAL H/B DRV. / MID TRACK / BEFORE TESTING:



REARWARD ANCHORAGE / MANUAL H/B DRV. / MID TRACK / AT SPECIFIED LOAD:



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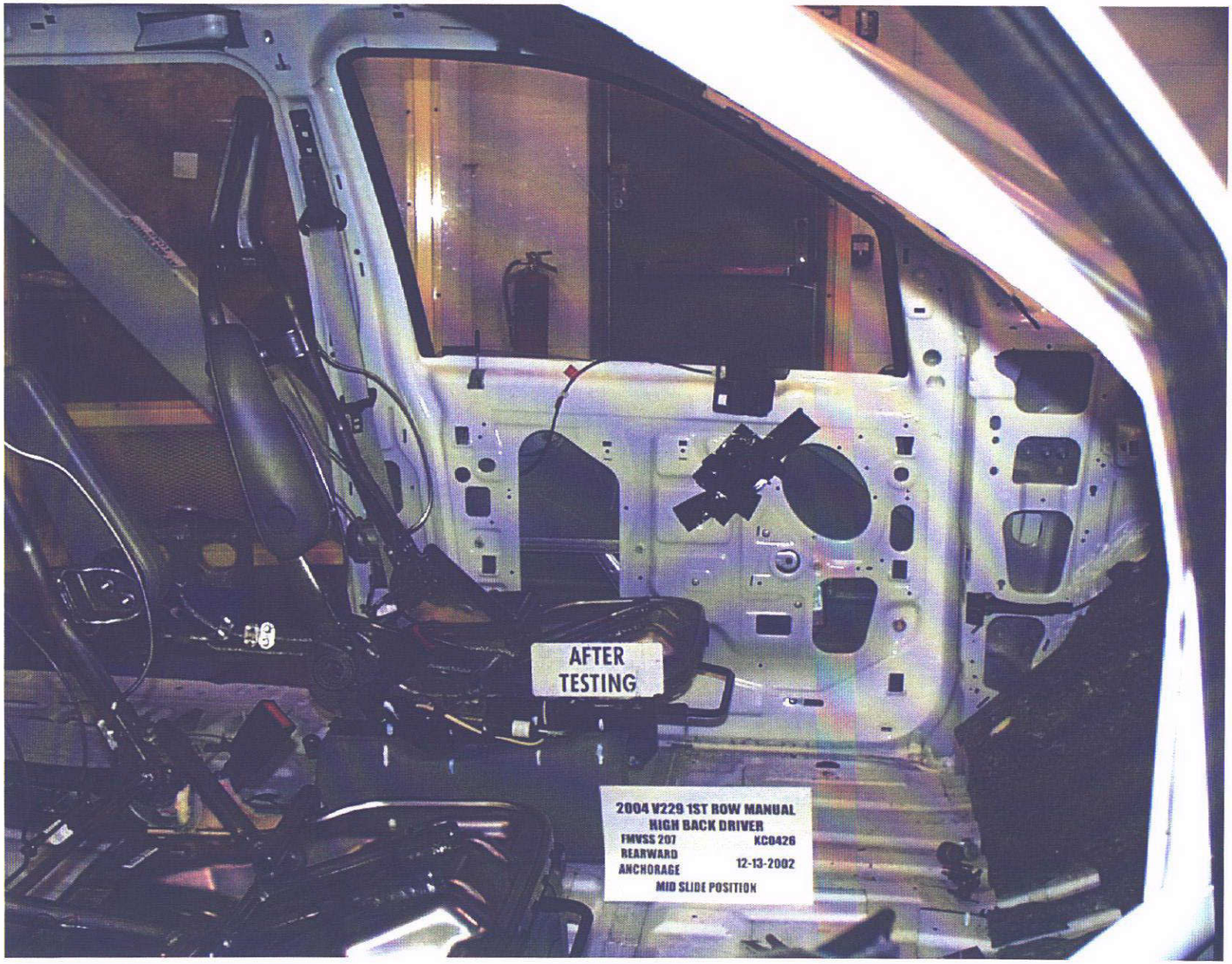
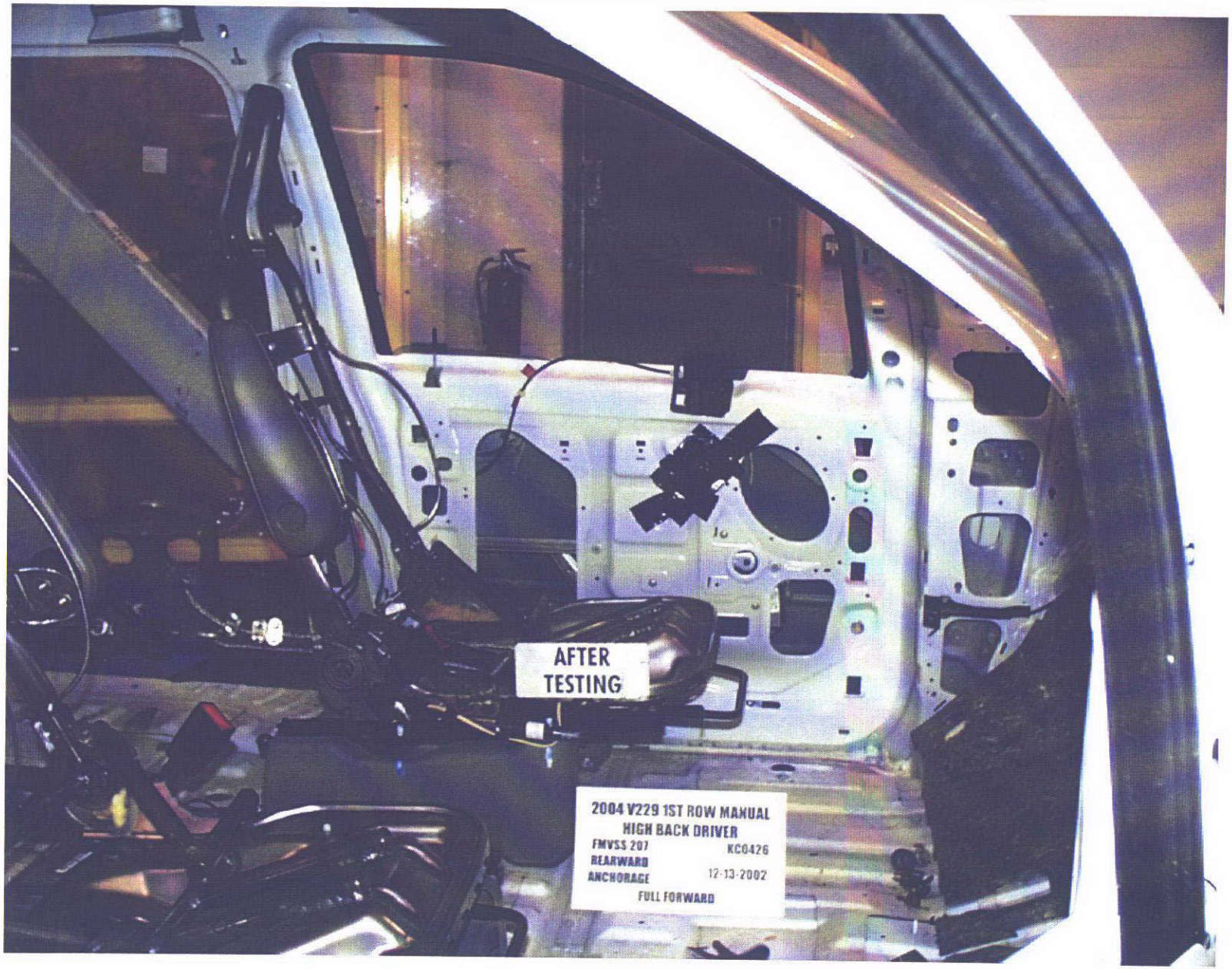


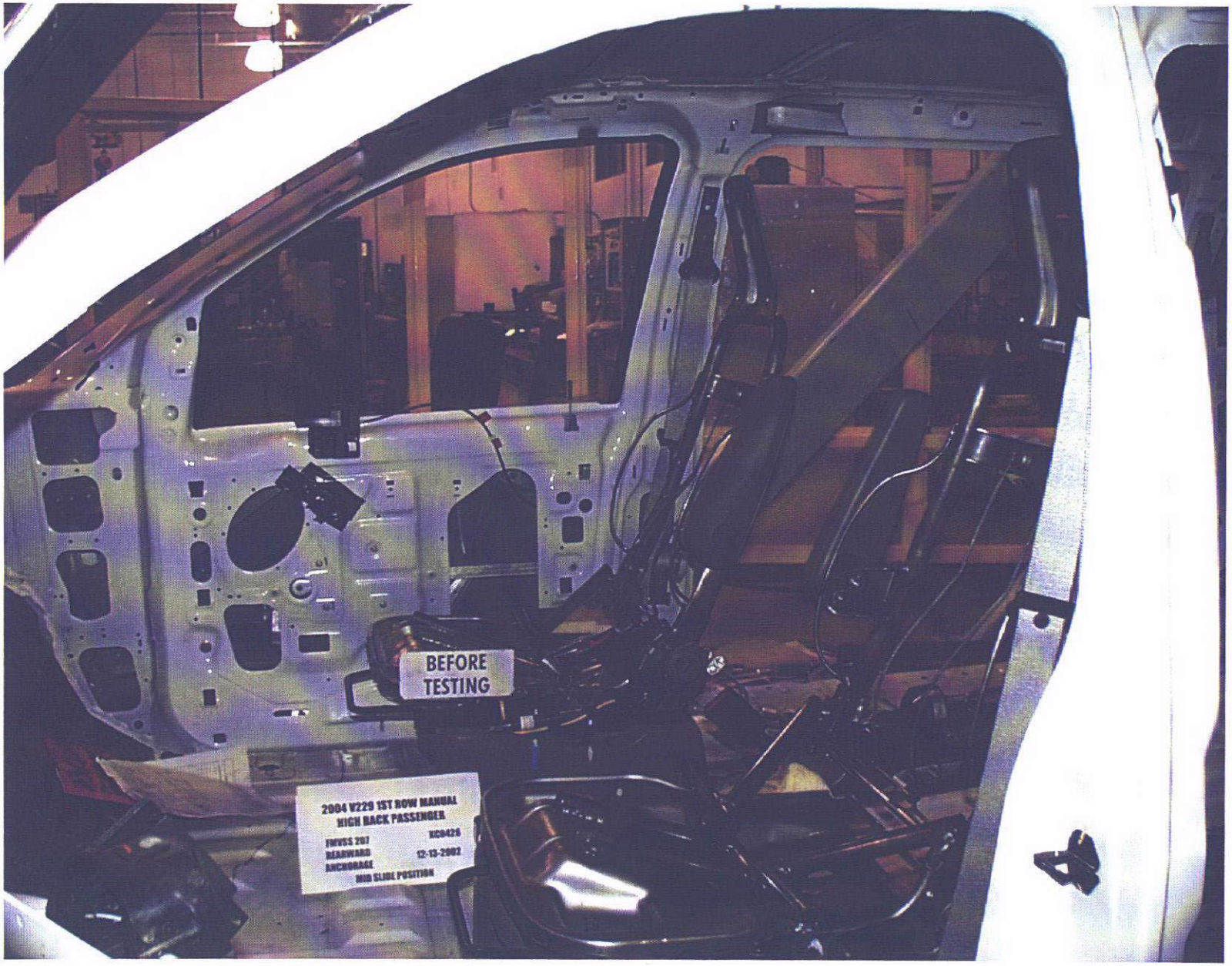
REARWARD ANCHORAGE / MANUAL H/B DRV. / FORWARD TRACK / BEFORE TESTING:

REARWARD ANCHORAGE / MANUAL H/B DRV. / FORWARD TRACK / SPECIFIED LOAD:

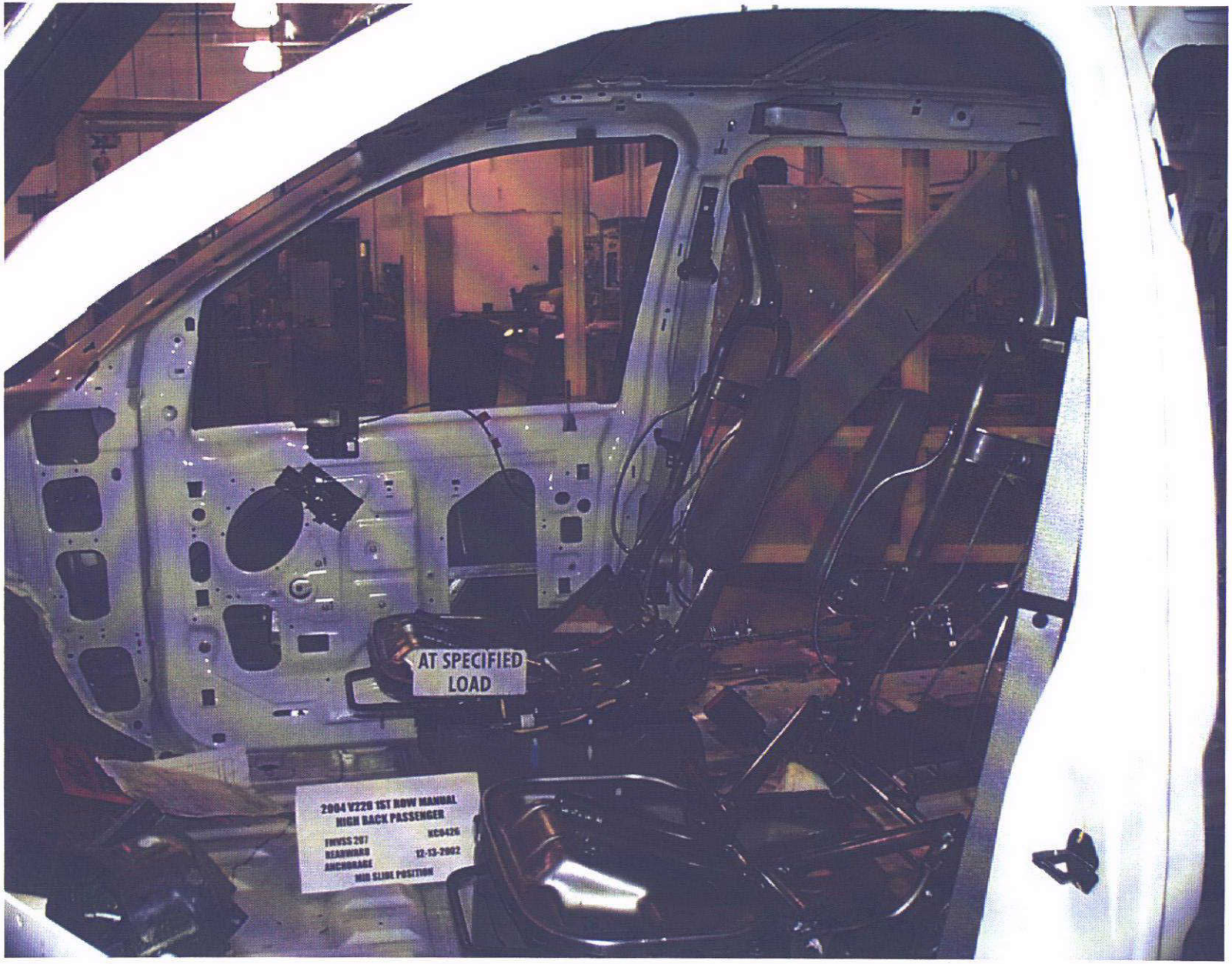
REARWARD ANCHORAGE / MANUAL H/B DRV. / FORWARD TRACK / AFTER TESTING:



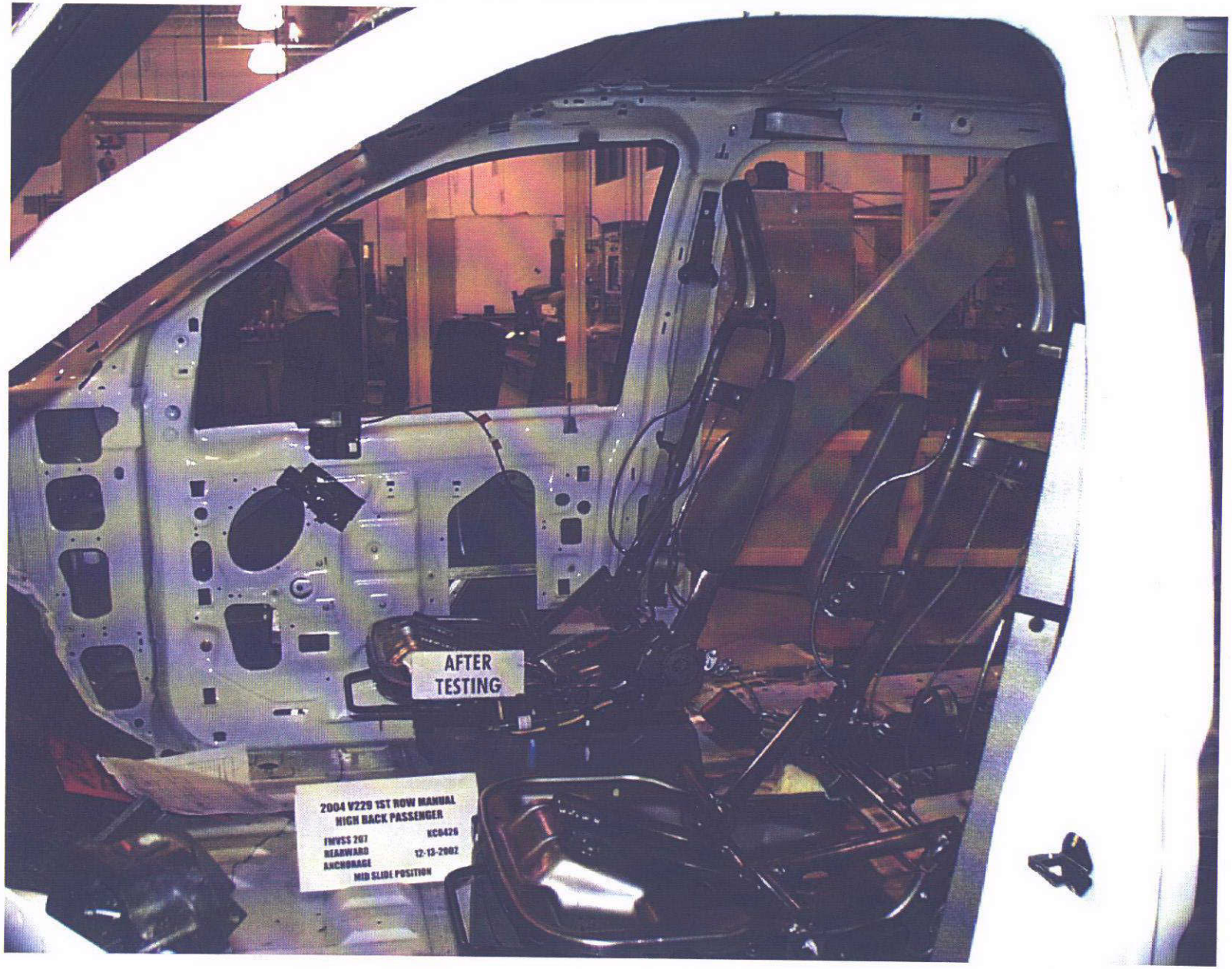
REARWARD ANCHORAGE / MANUAL H/B PASS. / MID TRACK / BEFORE TESTING:



REARWARD ANCHORAGE / MANUAL H/B PASS. / MID TRACK / AT SPECIFIED LOAD:



REARWARD ANCHORAGE / MANUAL H/B PASS. / MID TRACK / AFTER TESTING:



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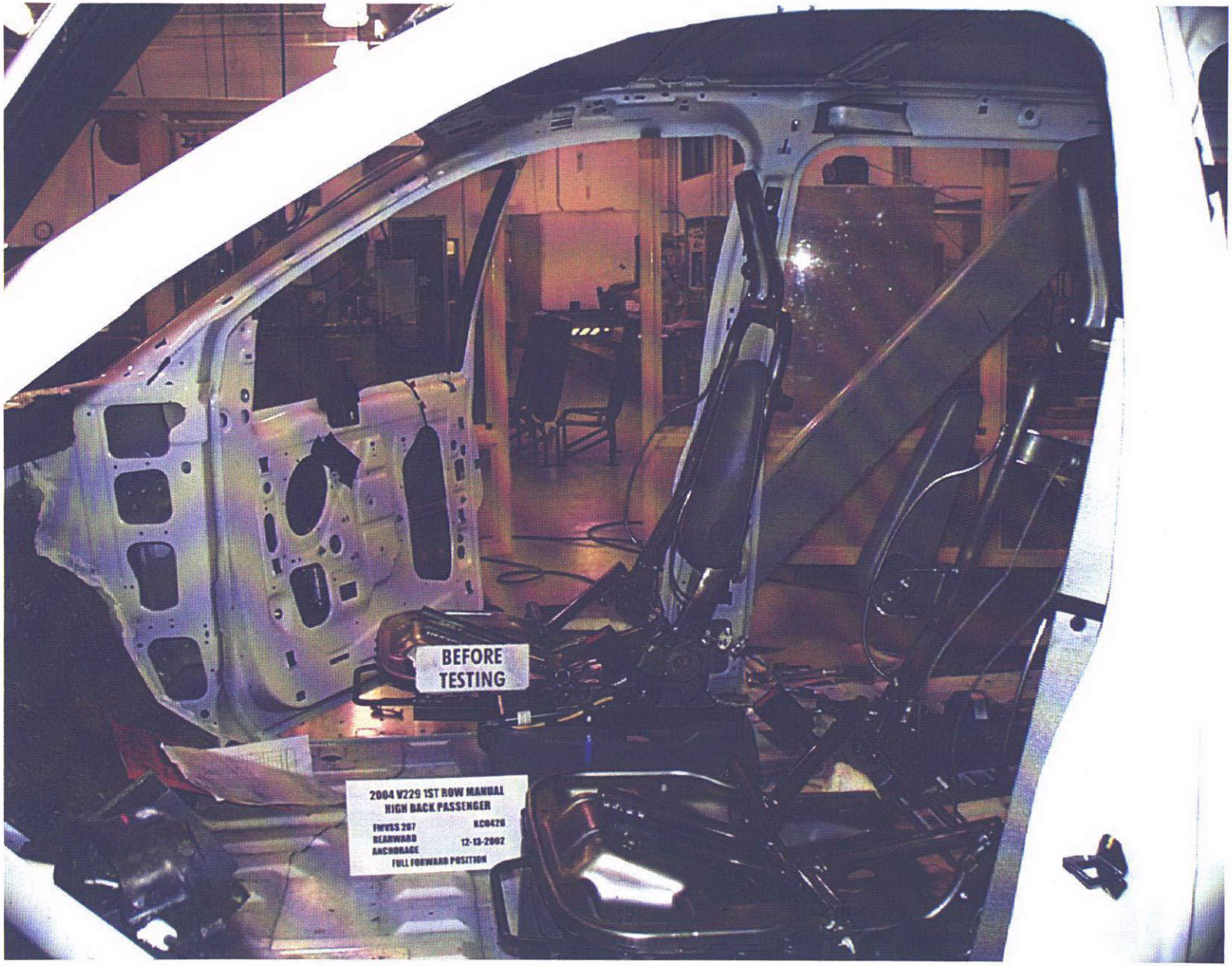
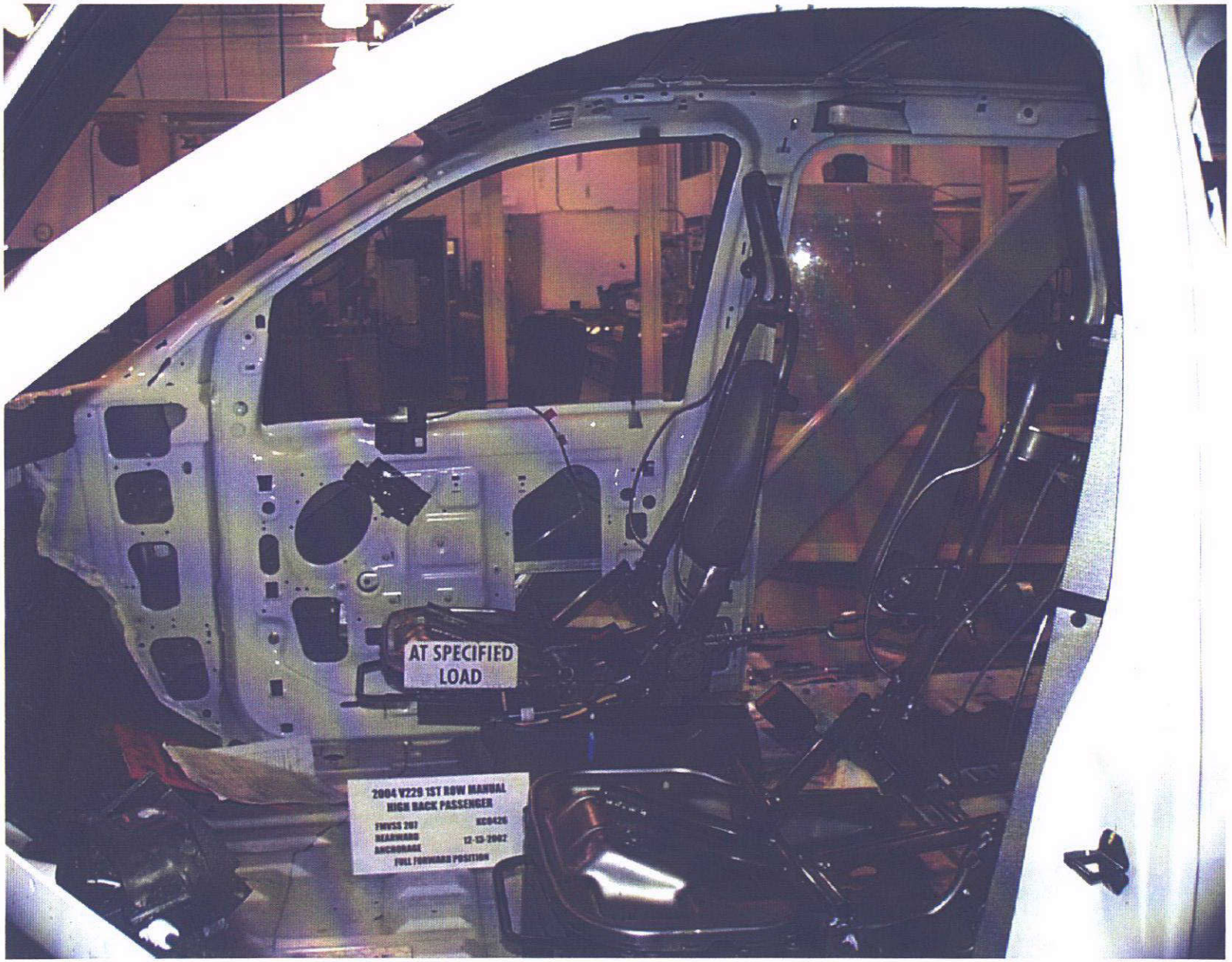


REARWARD ANCHORAGE / MANUAL H/B PASS. / FORWARD TRACK / SPECIFIED LOAD:



REARWARD ANCHORAGE / MANUAL H/B PASS. / FORWARD TRACK / AFTER TESTING:

FINAL TEST REPORT **CONFIDENTIAL**

VEHICLE EVALUATION & VERIFICATION

TO: M. Sahutske (original + 1 copies)

Test Order	KC 0430
Work Task	G13
Test Date	11/7-13/02
Date Reported	11/21/02
Sheet	1 of 40

SUBJECT: 2004 V229 Seat Certification (FMVSS 207)

REQUESTED BY: Department Y246 - M. Sahutske

OBJECT: To certify compliance of 2004 V229 second row quad seats to the requirements of FMVSS 207.

TEST SAMPLE DATA:

Year and Model:	2004 V229
Seat Type:	Second row quad
Body #:	A4360005
Components Tested	2nd row bucket seats by Intier Automotive (Refer to sheet 20 for part numbers)
Engineering Drawing #:	SK-3F23-011000-AA
	• Seat Back Angle = 17.0 degree

CERTIFICATION STATEMENT:

I certify that to the best of my knowledge and ability this test was conducted with parts and related systems signed-off by the requester as representative of a design level that is adequate for a certification test. Furthermore, that the test was conducted in accordance with the requested company test procedures utilizing test equipment and fixtures as described or referenced herein and that the test results represent the recorded performance of the tested sample. Any exceptions are described in this report.

N. F. Werner
Test Development Engineer
Body & Chassis Test Department

CONCUR: L. E. Brown
Section Supervisor

SUMMARY OF TEST RESULTS:

Second Row Quad Seat without sliding track - Sample 1 - Section 571.207 S4.2 (d) - Upper Bar Test - Rearward Force Application - Fixed Position

FMVSS 207 required moment = 3301 lb-in = 373 Nm
"...each seat shall remain in its adjusted position when tested in accordance with the test procedures specified in S5." (S4.2.1)

Sample 1 (Upper Bar) measured moment = 16.50 in x 275 lb
= 4538 lb-in
= 513 Nm
Sample 1 (Upper Bar) remained in its adjusted position when tested in accordance with the test procedures specified in S5.

Second Row Quad Seat without sliding track - Sample 2 - Section 571.207 S4.2 (b) - Seat Anchorage Test - Rearward Force Application - Fixed Position

FMVSS 207 required force = 66.2 lb x 20 = 1324 lb = 5889 N
"...each seat shall remain in its adjusted position when tested in accordance with the test procedures specified in S5." (S4.2.1)

Sample 2 (Seat Anchorage) measured force = 1960 lb = 8718 N
Sample 2 (Seat Anchorage) remained in its adjusted position when tested in accordance with the test procedures specified in S5.

Second Row Quad Seat with sliding track - Sample 3 - Section 571.207 S4.2 (b) - Seat Anchorage Test - Rearward Force Application - Mid Position

FMVSS 207 required force = 72.8 lb x 20 = 1456 lb = 6476 N
"...each seat shall remain in its adjusted position when tested in accordance with the test procedures specified in S5." (S4.2.1)

Sample 3 (Seat Anchorage) measured force = 2169 lb = 9648 N
Sample 3 (Seat Anchorage) remained in its adjusted position when tested in accordance with the test procedures specified in S5.

Second Row Quad Seat with sliding track - Sample 4 - Section 571.207 S4.2 (b) - Seat Anchorage Test - Rearward Force Application – Full Forward

FMVSS 207 required force = 72.8 lb x 20 = 1456 lb = 6476 N
"...each seat shall remain in its adjusted position when tested in accordance with the test procedures specified in S5." (S4.2.1)

Sample 4 (Seat Anchorage) measured force = 2162 lb = 9617 N
Sample 4 (Seat Anchorage) remained in its adjusted position when tested in accordance with the test procedures specified in S5.

SUMMARY OF TEST RESULTS:

Second Row Quad Seat with sliding track - Sample 5 - Section 571.207 S4.3.2.1 (a) - Seat Latch Test - Forward Force Application

FMVSS 207 required force = 29.5 lb x 20 = 590 lb = 2624 N
"Once engaged, the restraining device for a forward facing seat shall not release or fail..." (S4.3.2.1 (a))

Sample 5 (Seat Latch) measured force = 876 lb = 3896 N
The sample 5 (Seat Latch) restraining device did not release or fail when tested.

TABLE OF CONTENTS:

Data Plots	- Sample 1	– sheet 4-6
Data Plots	- Sample 2	– sheet 7-8
Data Plots	- Sample 3	– sheet 9-12
Data Plots	- Sample 4	– sheet 13-16
Data Plots	- Sample 5	– sheet 17-18
Sign-off Documents		- sheet 19-20
Equipment List		- sheet 21
Uncertainty Analysis		- sheet 22-28
Test Request		- sheet 29-30
Photographs	- Sample 1	- sheet 31-32
Photographs	- Sample 2	- sheet 33-34
Photographs	- Sample 3	- sheet 35-36
Photographs	- Sample 4	- sheet 37-38
Photographs	- Sample 5	- sheet 39-40

PROCEDURE:

This test was conducted in accordance with Corporate Engineering Test Procedure 01.10-L-801-US except:

- All tests were run to a 30% overload and not to failure.
- The instrumentation used is on sheet 21.

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - FIXED

Test Type - UPPER BAR

Seat Type - 2ND ROW QUAD

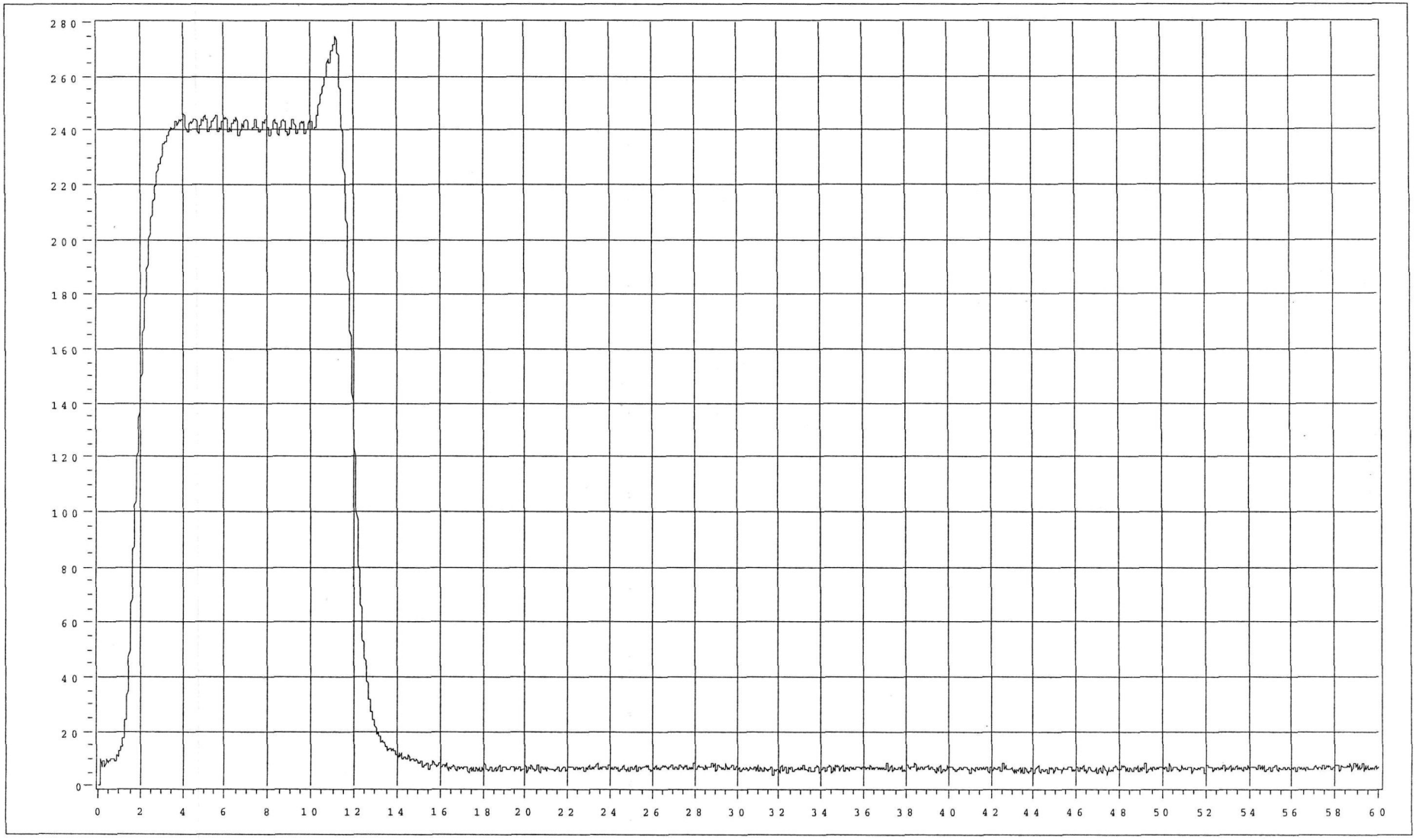
Track Position - FIXED

Test Date -11/7/02

Date Plotted: 11/7/02

Time Plotted: 10:21 AM

Sample Number- 01



SM-15 Required Load - 260 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Peak Load - 275

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Channel Name - 500 lb ram load cell

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - FIXED

Test Type - UPPER BAR

Seat Type - 2ND ROW QUAD

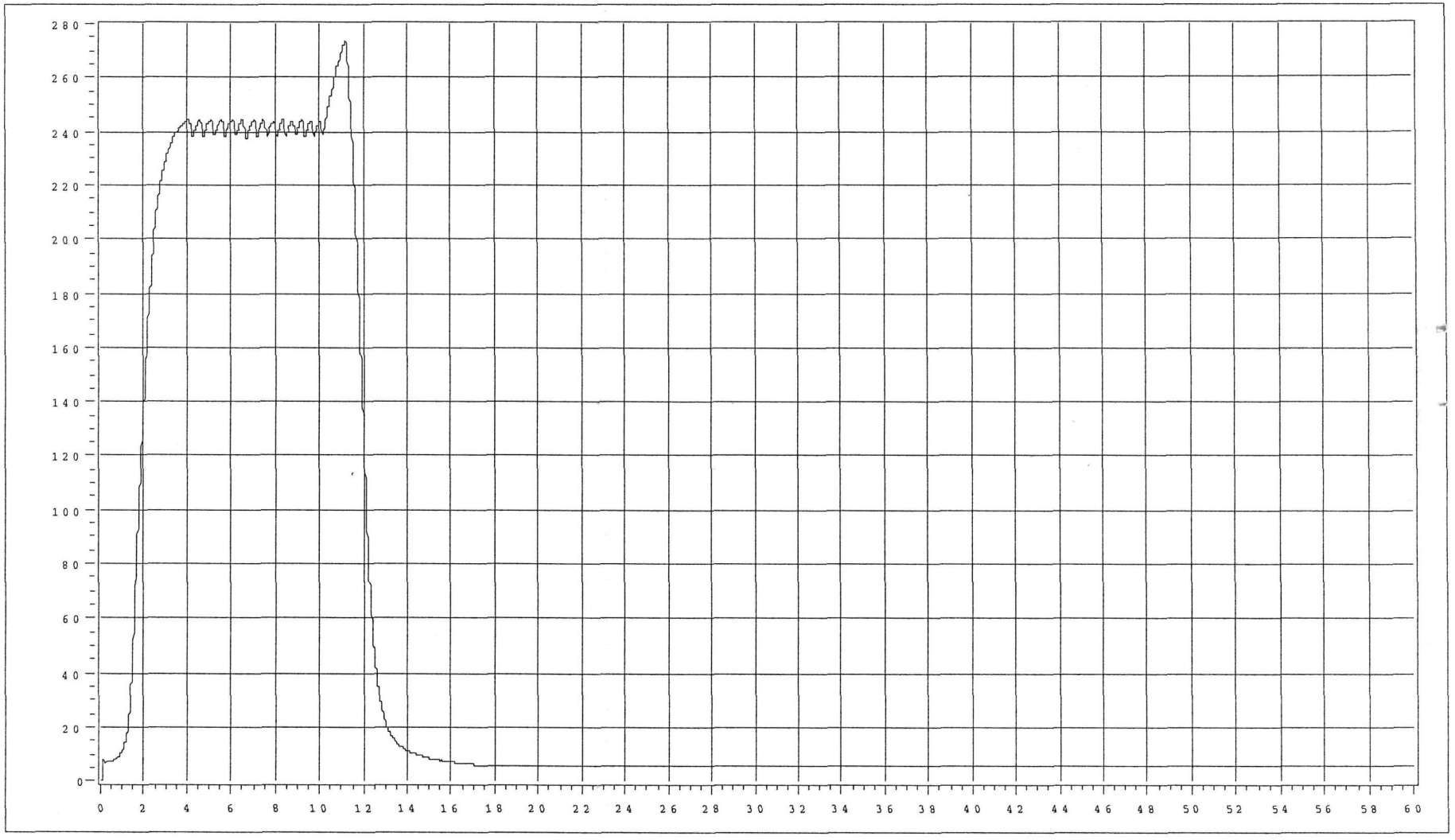
Track Position - FIXED

Test Date - 11/7/02

Date Plotted: 11/7/02

Time Plotted: 10:25 AM

Sample Number- 01



Tech - M. POTOCKI

Engineer - N. WERNER

Software Revision: 3.00 - 05/23/2000

Asset # 6938 7/ZW

4

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - FIXED

Test Type - UPPER BAR

Seat Type - 2ND ROW QUAD

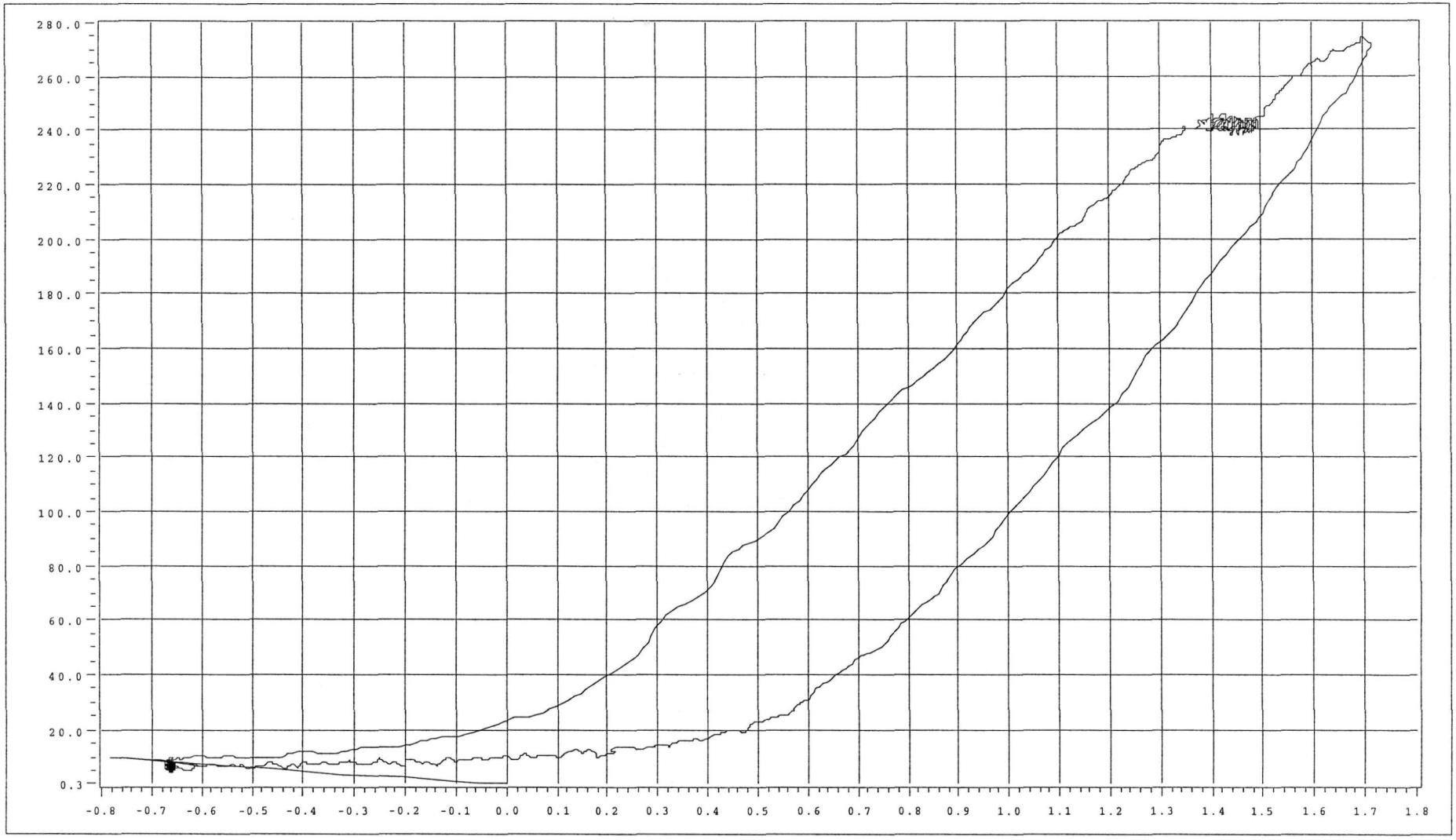
Track Position - FIXED

Test Date - 11/7/02

Date Plotted: 11/7/02

Time Plotted: 10:21 AM

Sample Number- 01



SM-15 Required Load - 260 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

SEA - KC0430

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - FIXED

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD

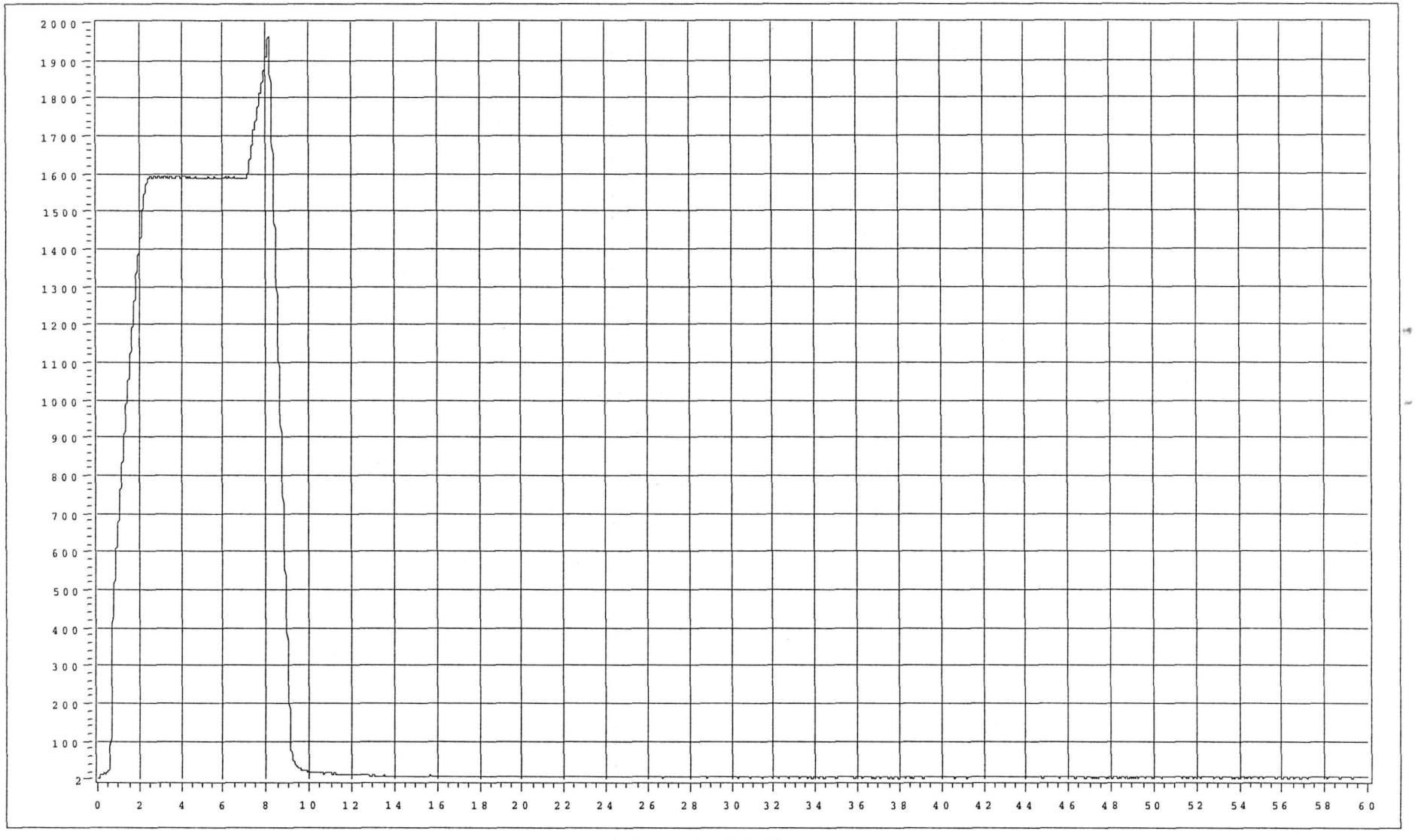
Track Position - FIXED

Test Date -11/11/02

Date Plotted: 11/11/02

Time Plotted: 10:08 AM

Sample Number- 02



SM-15 Required Load - 1720 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Peak Load - 1960

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - FIXED

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD

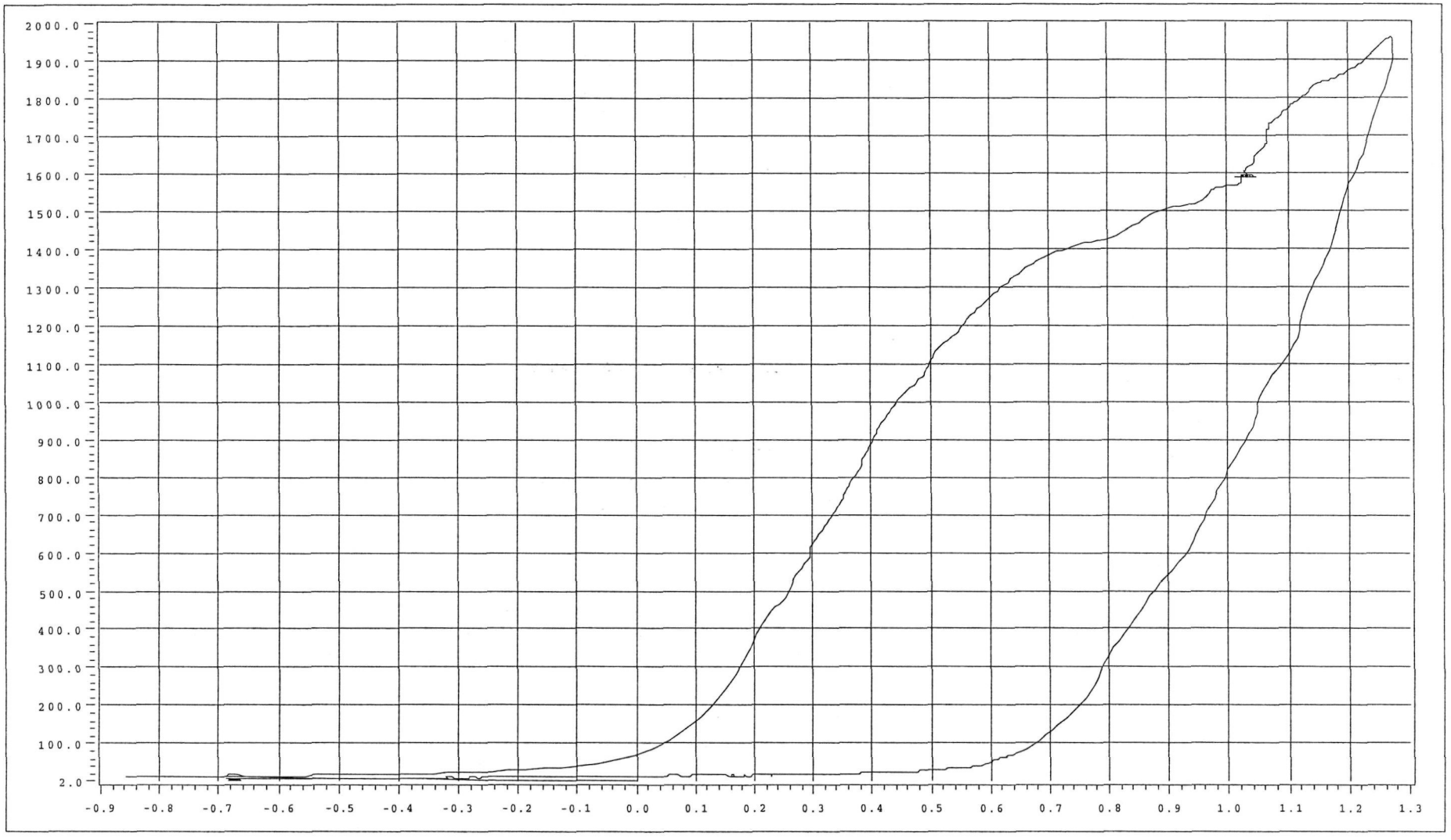
Track Position - FIXED

Test Date - 11/11/02

Date Plotted: 11/11/02

Time Plotted: 10:08 AM

Sample Number- 02



SM-15 Required Load - 1720 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

08

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

SEA - KC0430

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - SLIDING

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD-SLIDING TRACK

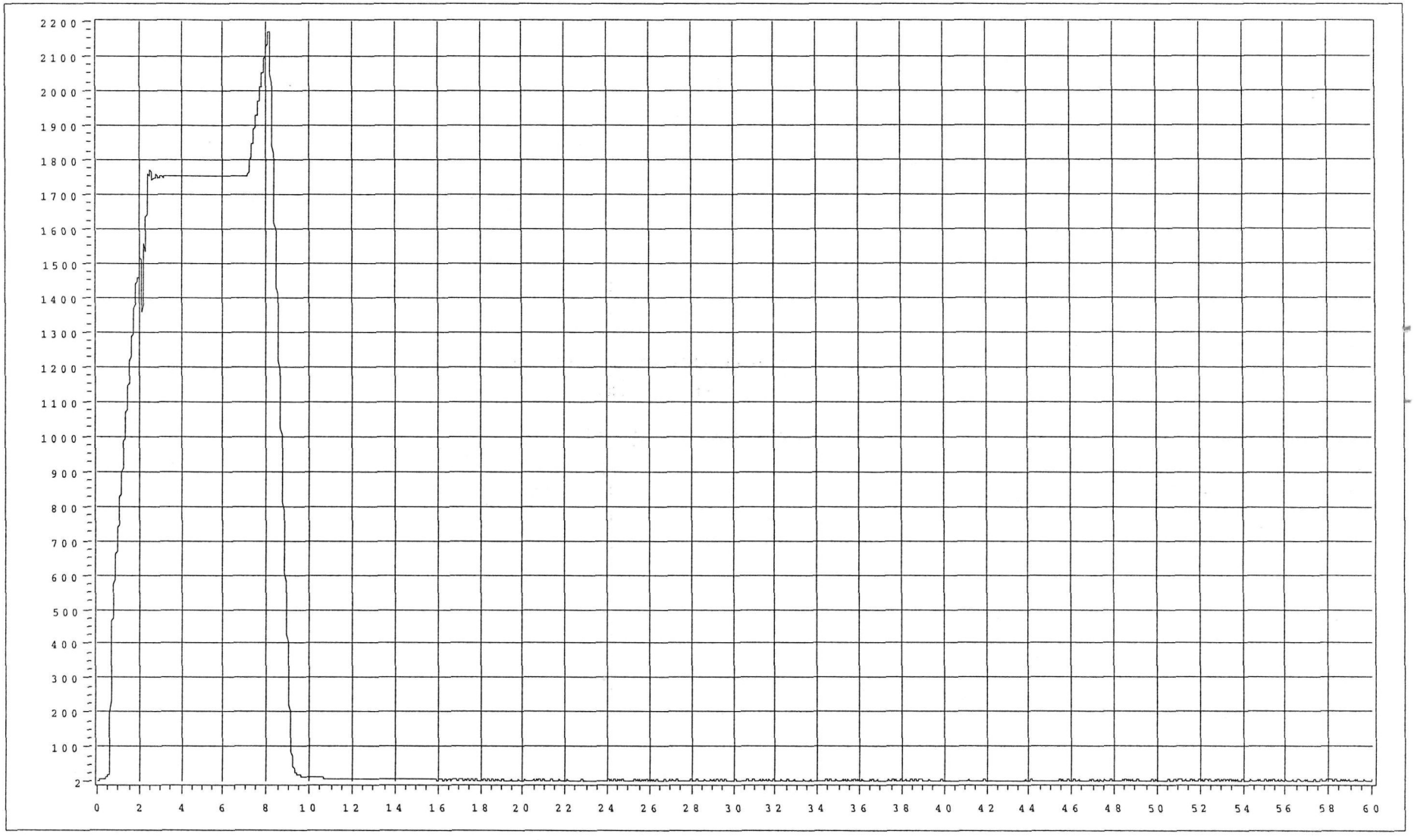
Track Position - MID POSITION

Test Date -11/12/02

Date Plotted: 11/12/02

Time Plotted: 1:12 PM

Sample Number- 03



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Peak Load - 2169

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

9

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - SLIDING

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD-SLIDING TRACK

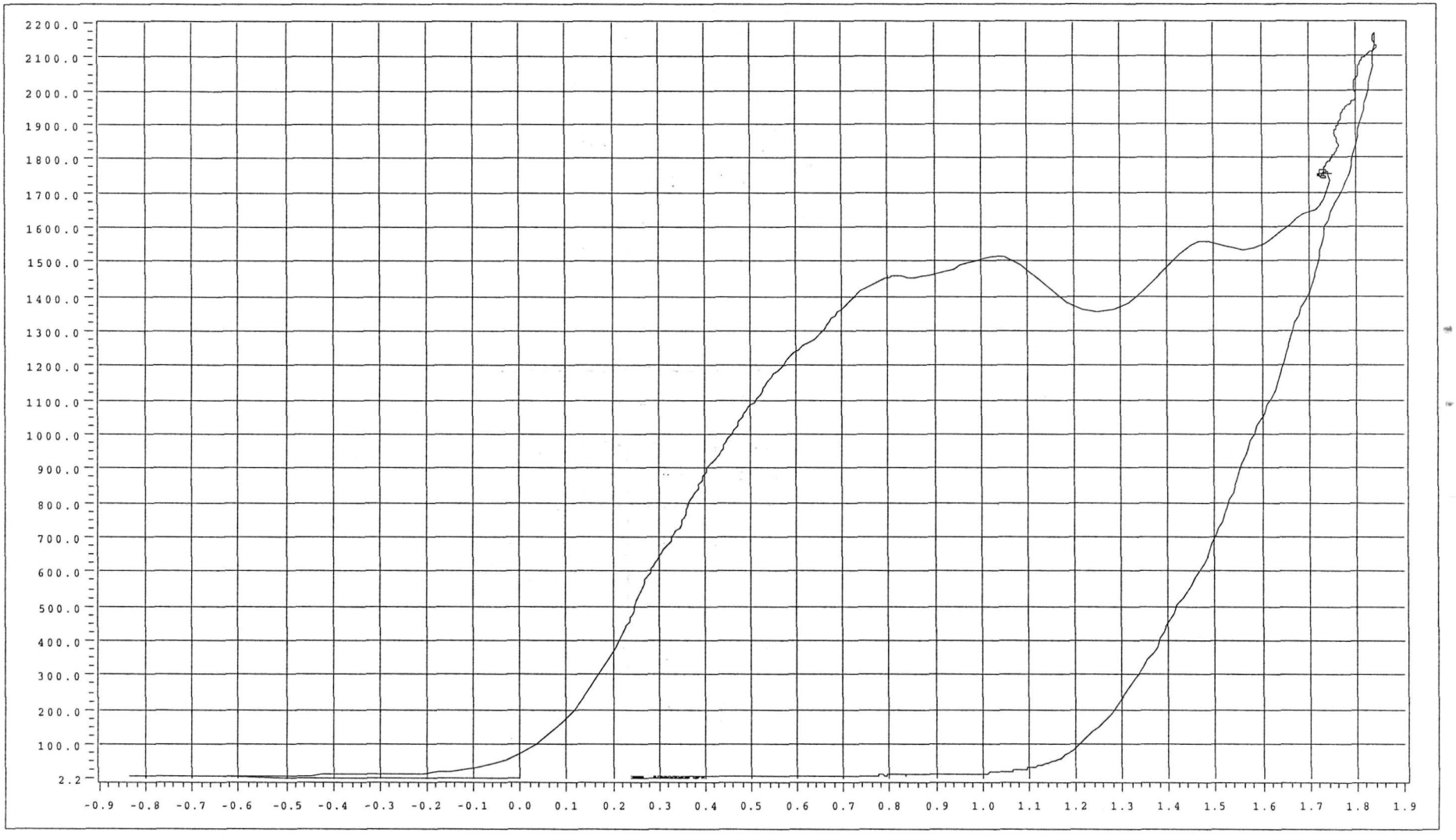
Track Position - MID POSITION

Test Date -11/12/02

Date Plotted: 11/12/02

Time Plotted: 1:13 PM

Sample Number- 03



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

10

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

SEA - KC0430

Test Date -11/12/02

Date Plotted: 11/12/02

Time Plotted: 2:09 PM

Sample Number- 03

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - SLIDING

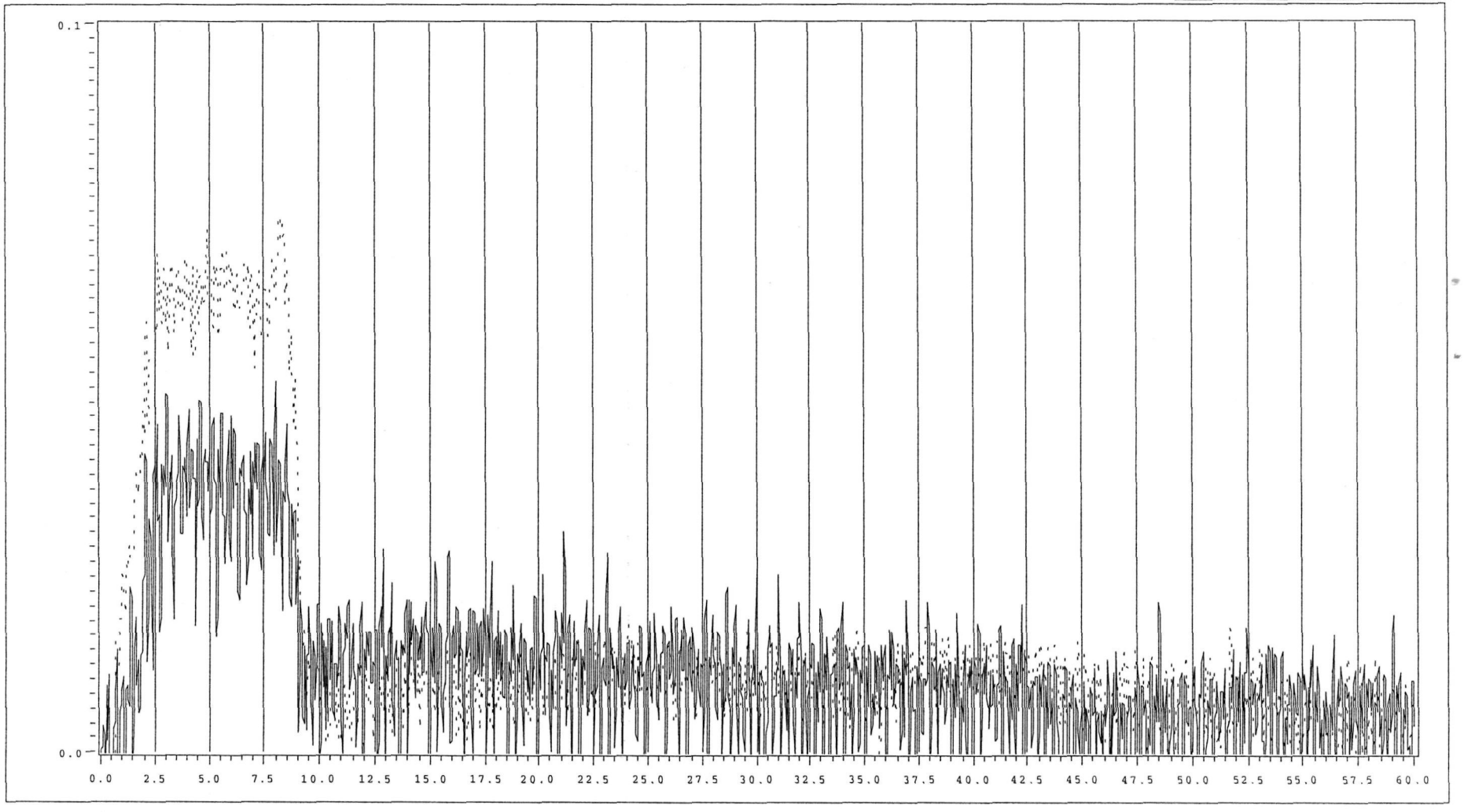
Track Position - MID POSITION

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD-SLIDING TRACK

Track base = CHANNEL #5

Track slider = CHANNEL #6



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

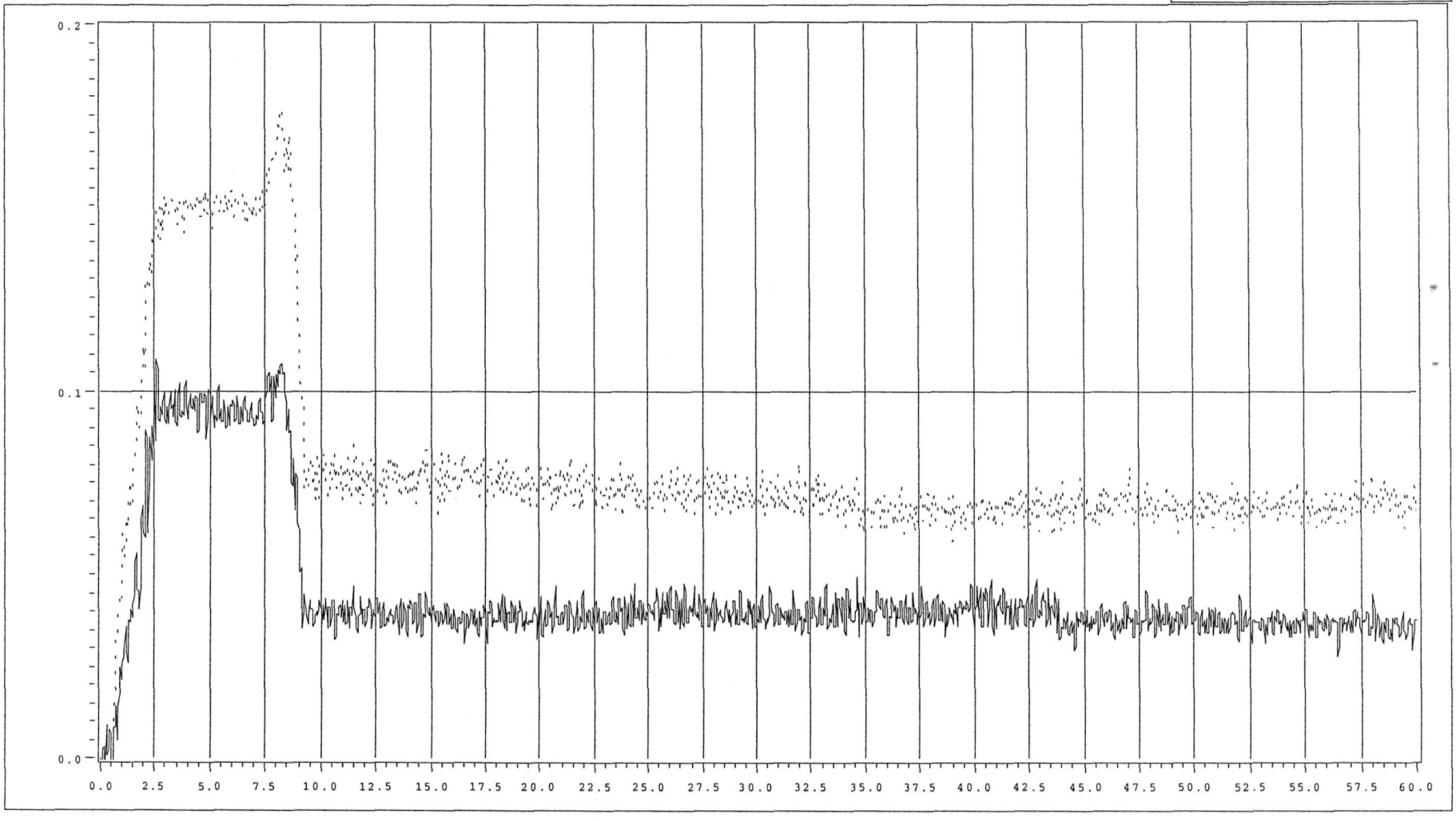
SEA - KC0430

Test Date -11/12/02
Date Plotted: 11/12/02
Time Plotted: 2:10 PM
Sample Number- 03

Load Direction - REARWARD
Year/Model - 2004 V229
Track Type - SLIDING
Track Position - MID POSITION

Test Type - SEAT ANCHORAGE
Seat Type - 2ND ROW QUAD-SLIDING TRACK

Track base = CHANNEL #7
Track slider = CHANNEL #8



SM-15 Required Load - 1893 lb
Tech - M. POTOCKI
Engineer - N. WERNER

Cal Date - 10/24/02 Due - 10/24/03
Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

SEA - KC0430

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - SLIDING

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD-SLIDING TRACK

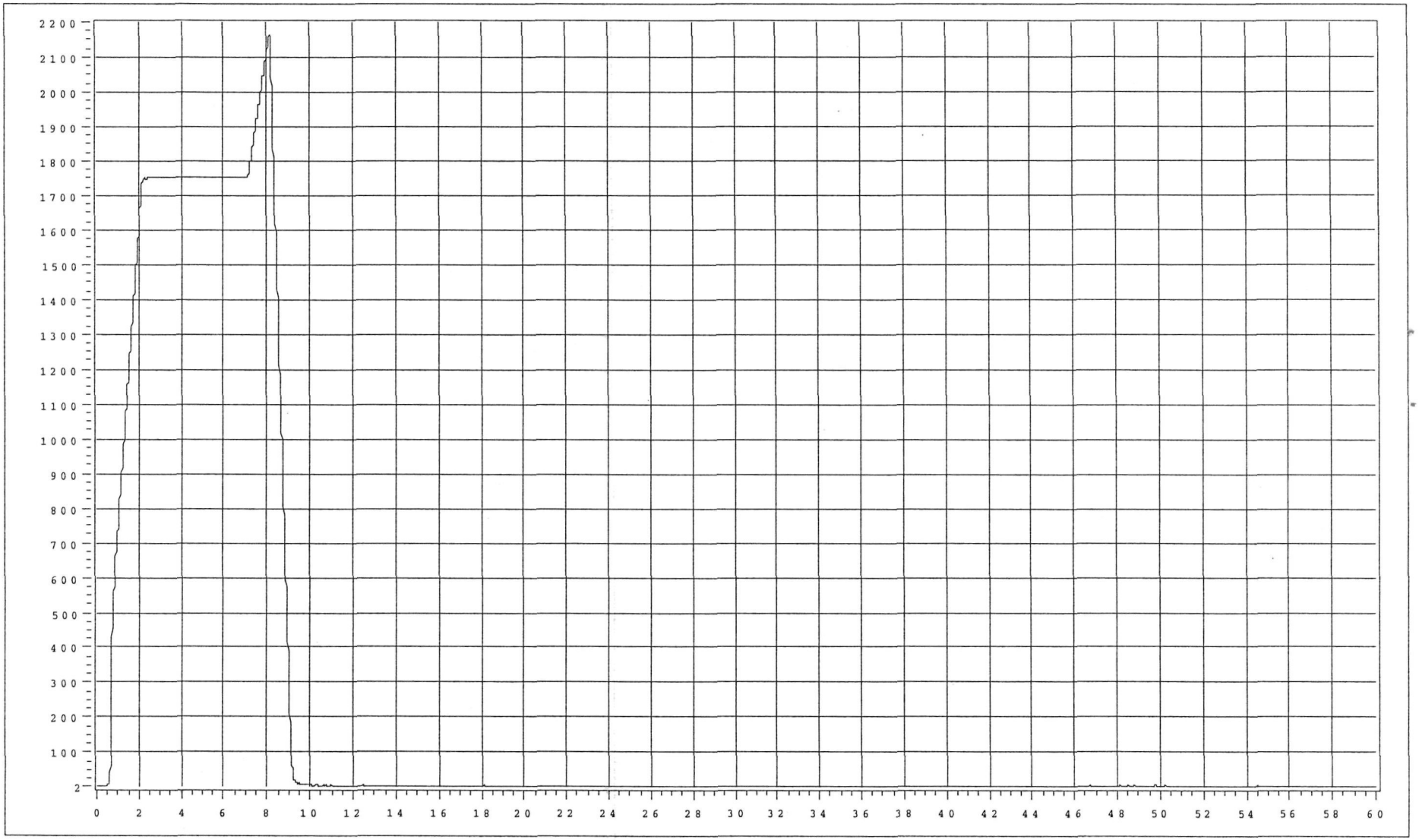
Track Position - FULL FORWARD POSITION

Test Date -11/12/02

Date Plotted: 11/12/02

Time Plotted: 2:30 PM

Sample Number- 04



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Peak Load - 2162

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

3

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Load Direction - REARWARD

Year/Model - 2004 V229

Track Type - SLIDING

Test Type - SEAT ANCHORAGE

Seat Type - 2ND ROW QUAD-SLIDING TRACK

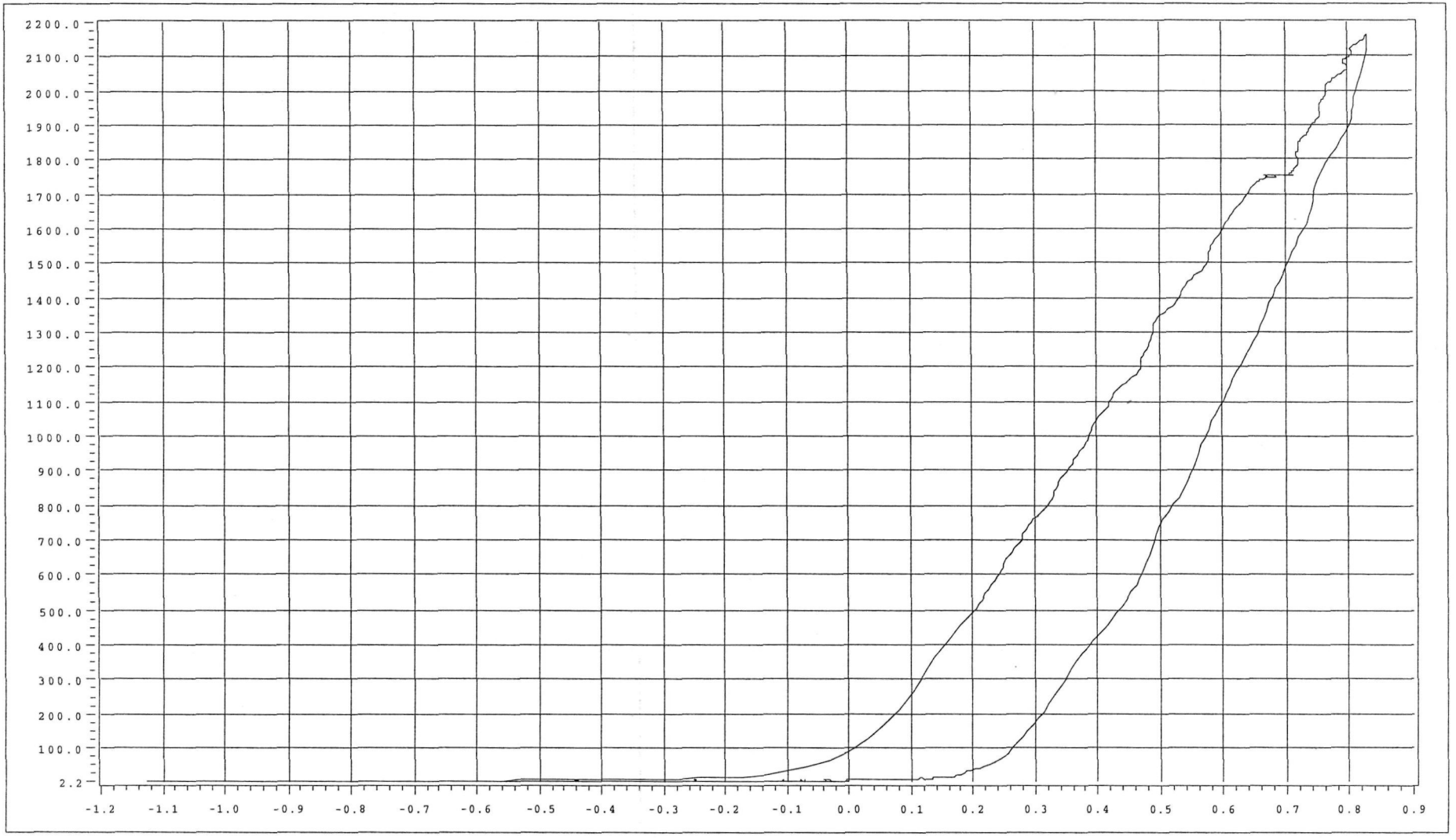
Track Position - FULL FORWARD POSITION

Test Date - 11/12/02

Date Plotted: 11/12/02

Time Plotted: 2:31 PM

Sample Number- 04



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

SEA - KC0430

Test Date -11/12/02

Date Plotted: 11/12/02

Time Plotted: 2:31 PM

Load Direction - REARWARD

Test Type - SEAT ANCHORAGE

Year/Model - 2004 V229

Seat Type - 2ND ROW QUAD-SLIDING TRACK

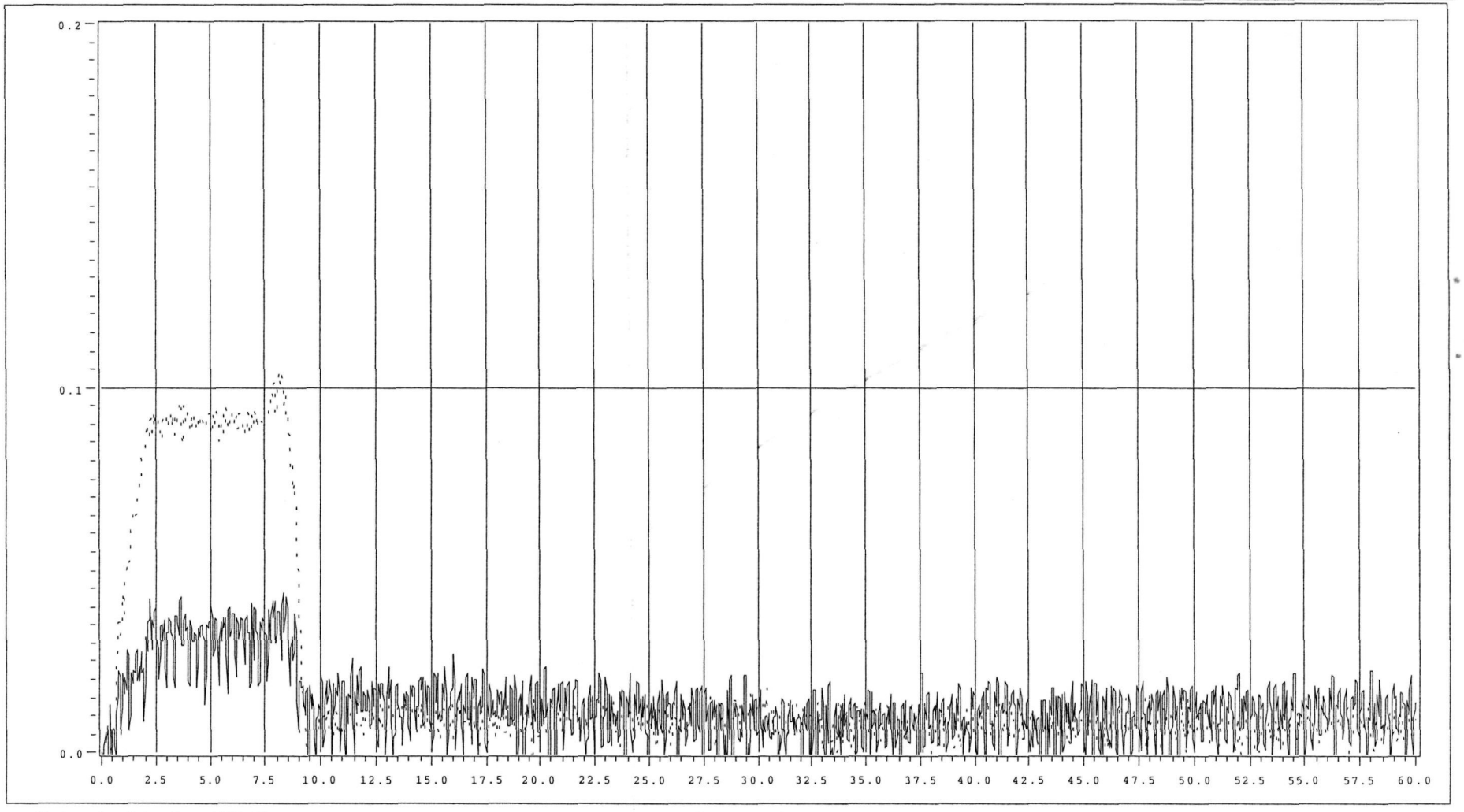
Sample Number- 04

Track Type - SLIDING

Track Position - FULL FORWARD POSITION

Track base = CHANNEL #5

Track slider = CHANNEL #6



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

5

FMVSS 207 - SEAT ANCHORAGE TEST

Sheet Number _____

SEA - KC0430

Test Date -11/12/02

Date Plotted: 11/12/02

Time Plotted: 2:32 PM

Load Direction - REARWARD

Test Type - SEAT ANCHORAGE

Sample Number- 04

Year/Model - 2004 V229

Seat Type - 2ND ROW QUAD-SLIDING TRACK

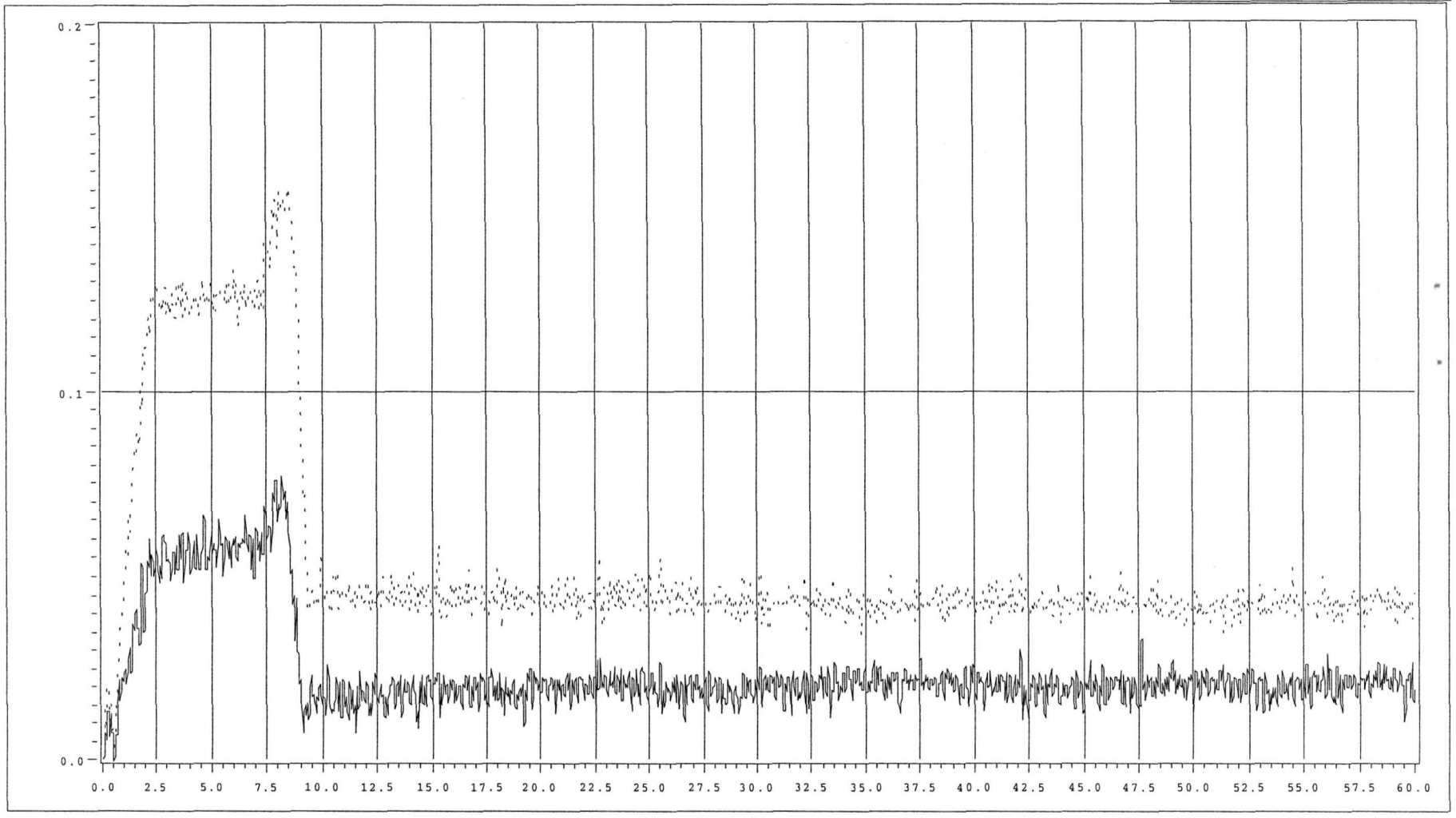
Track Type - SLIDING

Track Position - FULL FORWARD POSITION

Track base =
Track slider =

CHANNEL #7

CHANNEL #8



SM-15 Required Load - 1893 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Load Direction - FORWARD

Year/Model - 2004 V229

Track Type -

Test Type - SEAT LATCH

Seat Type - 2ND ROW QUAD

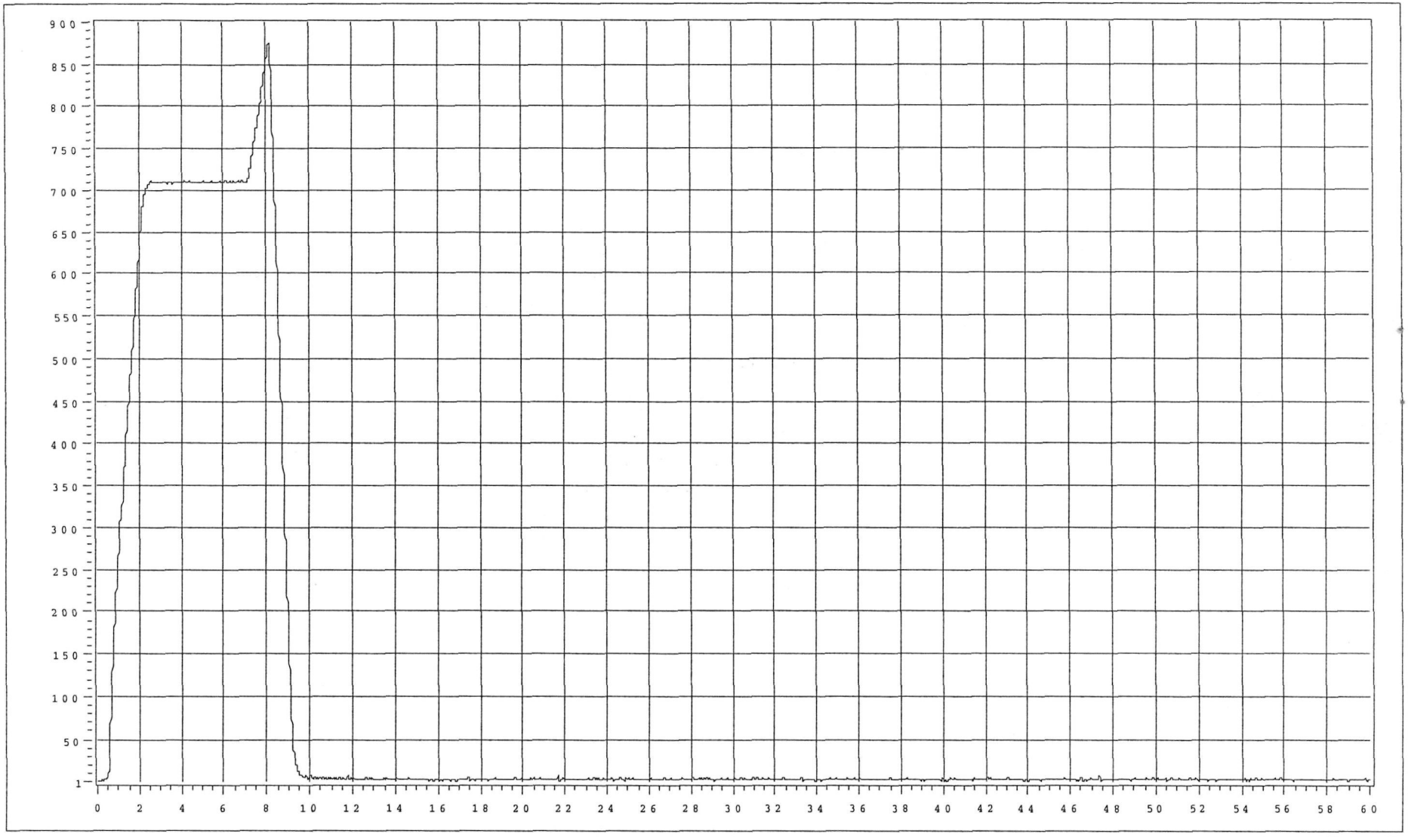
Track Position - MID POSITION

Test Date -11/13/02

Date Plotted: 11/13/02

Time Plotted: 2:36 PM

Sample Number- 05



SM-15 Required Load - 767 lb

Tech - M. POTOCKI

Engineer - N. WERNER

Peak Load - 876

Assetcode/Bridge/Pol - T656010490/A/POS

Cal Date - 10/24/02 Due - 10/24/03

Software Revision: 3.00 - 05/23/2000

FMVSS 207 - SEAT ANCHORAGE TEST

SEA - KC0430

Sheet Number _____

Channel Name - Station #1 Ram

Load Direction - FORWARD

Year/Model - 2004 V229

Track Type -

Test Type - SEAT LATCH

Seat Type - 2ND ROW QUAD

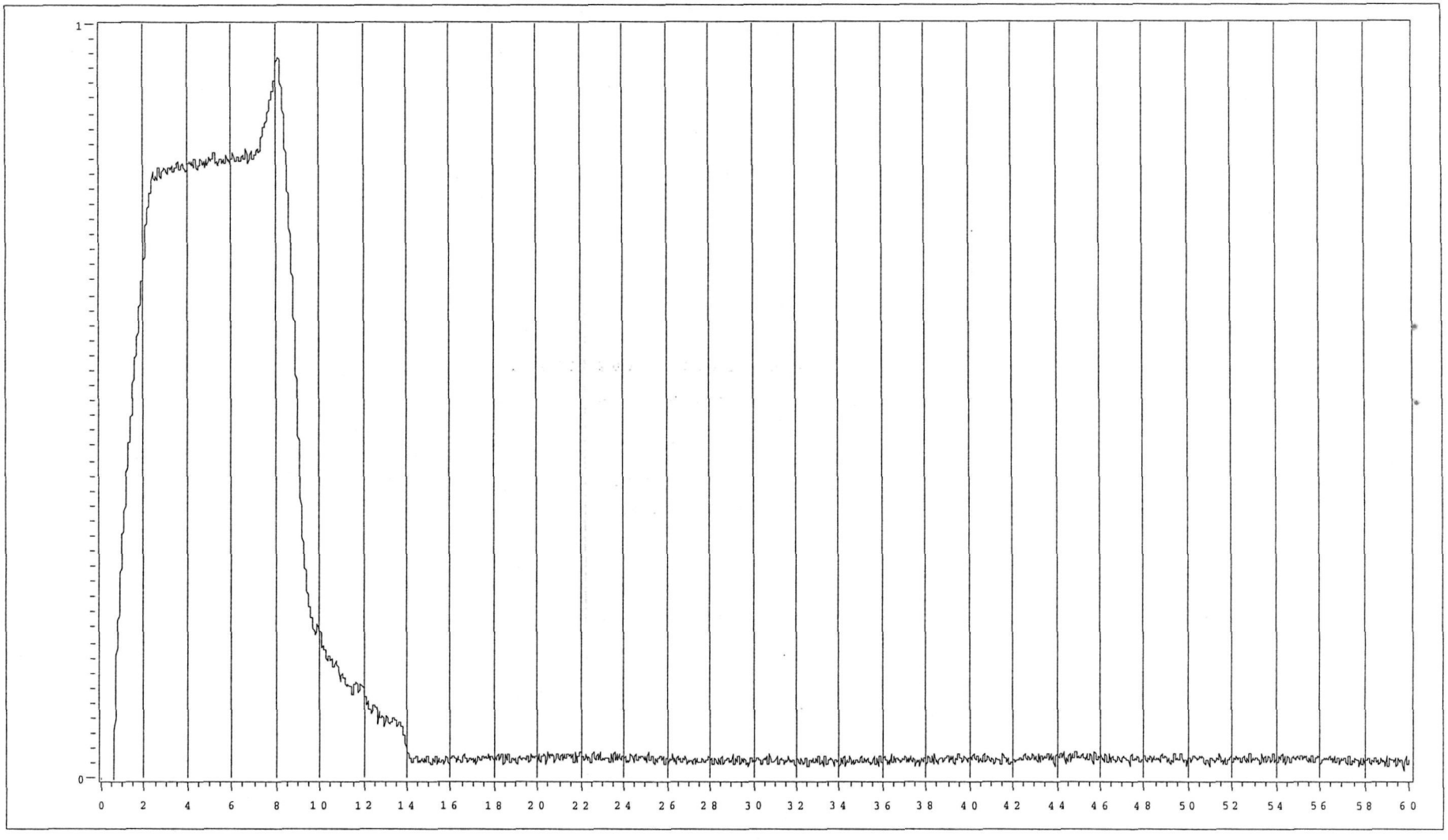
Track Position - MID POSITION

Test Date - 11/13/02

Date Plotted: 11/14/02

Time Plotted: 10:03 AM

Sample Number- 05



Tech - M. POTOCKI

Engineer - N. WERNER

Software Revision: 3.00 - 05/23/2000

SIGN-OFF
F/CMVSS - 207
2004 V229
BUCK# A4360005

KC0430

This Vehicle is equipped to the latest level design, and is production intent

	PRINT NAME	SIGN NAME	DATE
BODY SHELL	T. JOSEPH		10/29/02
UNDERBODY	THOMAS JOSEPH		10/29/02

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

FMVSS /CMVSS 207

TEST REQUEST NUMBER: KC0430

BUCK NUMBER: A4360005

THE SEAT ASSEMBLIES IDENTIFIED BELOW HAVE BEEN EXAMINED BY THE RESPONSIBLE DESIGN ENGINEER AND ARE APPROVED FOR TESTING FOR COMPLIANCE TO FMVSS/CMVSS 207.

VEHICLE LINE AND YEAR: 2004 V229

SEAT TYPE: 2ND ROW QUAD BUCKET WITH TRACKS
2ND ROW QUAD BUCKET WITHOUT TRACKS

PART NAME:	*PART NUMBER:*	*SUPPLIER:*	*SIGNATURE:*	*DATE:*
(1) 2ND ROW BUCKET LH WITH TRACKS	*3F23-1760027-JHW*	*INTIER AUTOMOTIVE SEATING*	Robert Eckert	10/28/02
(2) 2ND T ROW BUCKET RH WITH TRACKS	*3F23-17600026-JHW*	*INTIER AUTOMOTIVE SEATING*	Robert Eckert	10/28/02
(3) 2ND ROW BUCKET LH WITH OUT TRACKS	*3F23-1769927-AGW*	*INTIER AUTOMOTIVE SEATING*	Robert Eckert	10/29/02
(4) 2ND ROW BUCKET RH WITHOUT TRACKS	*3F23-1769926-AHW*	*INTIER AUTOMOTIVE SEATING*	Robert Eckert	10/29/02

NOTE: RUN RUN ONE STATIC LATCH ON RH QUAD WITH TRACKS
RUN ONE REARWARD PULL ON THE LH QUAD WITH TRACKS
RUN ONE UPPER BAR ON THE RH QUAD WITHOUT TRACKS
RUN ONE REARWARD PULL ON THE LH QUAD WITHOUT TRACKS

Equipment List
FMVSS 207

Calibration Expiration: 10/24/03 **Console Asset #**10566

Description	Manufacturer	Model #	Asset #	Comments
Load Transducer (5000 lb)	Interface	1010-BF	10490	Channel #1 - Ram Load
Displacement Transducer	Magnetek	P-30B	10354	Channel #2 - Ram Displacement
Load Transducer (500 lb)	Lebow	3132	6938	Channel #5 - Ram Load
Load Transducer (1000 lb)	Lebow	3132	7307	Channel #5 - Ram Load
Displacement Transducer	Magnetek	P-30B	9765	Channel #5 - Displacement
Displacement Transducer	Magnetek	P-30B	10352	Channel #6 - Displacement
Displacement Transducer	Magnetek	P-30B	10643	Channel #7 - Displacement
Displacement Transducer	Magnetek	P-30B	8227	Channel #8 - Displacement
High Speed Voltmeter	HP	44702A	6692	Channels # 1-8
4 Channel Multiplexer	HP	44730A	10433	Channels # 1-4
4 Channel Multiplexer	HP	44730A	14698	Channels # 5-8
Waveform Generator	HP	44726A	10248	
Voltmeter	HP	44701A	6699	
Servo-Hydraulic Controller	MTS	407	18803	
Servo-Hydraulic Ram	MTS	N/A	S/N 136	
Relay Multiplexer	HP	44705A	-	
Digital Output (Open Drain)	HP	44724A	-	

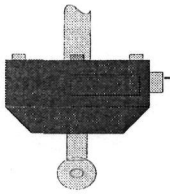
Other Equipment

Description	Manufacturer	Model #	Asset #	Comments
Digital Level	MD	SMARTOOL	18582	Manual Measurements
Tape Measure	Stanley	-	14030	Manual Measurements
Scale	GEI	2020A	20005	Manual Measurements

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: *FMVSS 207*
Channel Name: Channel #1 - Ram Load

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Interface 1010-BF (Asset #10490)
Full Scale Range: 5000 lb
Component Uncertainty: 1.44 lb (10/24/2002 calibration)

SIGNAL CONDITIONER 1: Hewlett Packard GDAS (Asset #10566)
Component Uncertainty: 5.77 lb (10/30/02 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:

[redacted]

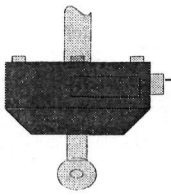
Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): 5.95 lb
System Expanded Uncertainty, 95% Confidence Interval (+/-): 11.9 lb

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: FMVSS 207
Channel Name: Channel #2 - Ram Displacement

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Magnetek P-30B (Asset #10354)
Full Scale Range: 30.0 inch
Component Uncertainty: .166 inch (10/28/2002 calibration)

SIGNAL CONDITIONER 1: Hewlwtt Packard GDAS (Asset #10566)
Component Uncertainty: .0345 inch (10/30/2002 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:

[redacted]

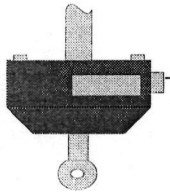
Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): .170 inch
System Expanded Uncertainty,
95% Confidence Interval (+/-): .339 inch

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: FMVSS 207
Channel Name: Channel #5 - Ram Load

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Lebow 3132 (Asset #6938)
Full Scale Range: 500 lb
Component Uncertainty: .312 lb (10/25/2002 calibration)

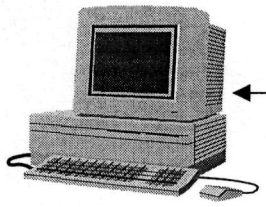
SIGNAL CONDITIONER 1: Hewlett Packard GDAS (Asset #10566)
Component Uncertainty: .577 lb (10/30/02 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:



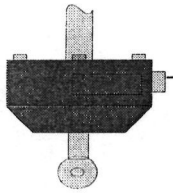
Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): .656 lb
System Expanded Uncertainty, 95% Confidence Interval (+/-): 1.31 lb

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: FMVSS 207
Channel Name: Channel #5 - Displacement

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Magnetek P-20B (Asset #9765)
Full Scale Range: 20.0 inch
Component Uncertainty: .0696 inch (10/28/2002 calibration)

SIGNAL CONDITIONER 1: Hewlett Packard GDAS (Asset #10566)
Component Uncertainty: .0230 inch (10/30/2002 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:

[redacted]

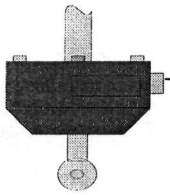
Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): .0733 inch
System Expanded Uncertainty, 95% Confidence Interval (+/-): .147 inch

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: FMVSS 207
Channel Name: Channel #6 - Displacement

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Magnetek P-30B (Asset #10352)
Full Scale Range: 30.0 inch
Component Uncertainty: .0517 inch (10/28/2002 calibration)

SIGNAL CONDITIONER 1: Hewlett Packard GDAS (Asset #10566)
Component Uncertainty: .0345 inch (10/30/2002 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:

[redacted]

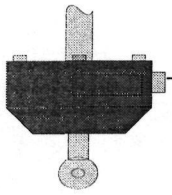
Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): .0359 inch
System Expanded Uncertainty, 95% Confidence Interval (+/-): .0718 inch

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: FMVSS 207
Channel Name: Channel #7 - Displacement

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Magnetek P-30B (Asset #10643)
Full Scale Range: 30.0 inch
Component Uncertainty: .0352 inch (10/28/2002 calibration)

SIGNAL CONDITIONER 1: Hewlett Packard GDAS (Asset #10566)
Component Uncertainty: .0345 inch (10/30/2002 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:

[redacted]

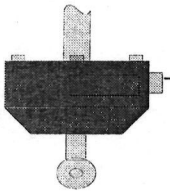
Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): .0493 inch
System Expanded Uncertainty, 95% Confidence Interval (+/-): .0986 inch

BODY and CHASSIS TEST DEPARTMENT
MEASUREMENT UNCERTAINTY

B & C Test Section: Body Test
Test Facility: FMVSS 207
Channel Name: Channel #8 - Displacement

Eng./Tech. Name: N. Werner
Test Auth. No.: KC 0430
Test Description: FMVSS 207
Test Type: Certification



TRANSDUCER: Magnetek P-30B (Asset #8227)
Full Scale Range: 30.0 inch
Component Uncertainty: .114 inch (10/31/2002 calibration)

SIGNAL CONDITIONER 1: Hewlett Packard GDAS (Asset #10566)
Component Uncertainty: .0345 inch (10/30/2002 calibration)

SIGNAL CONDITIONER 2:
Component Uncertainty:

SIGNAL CONDITIONER 3:
Component Uncertainty:

SIGNAL CONDITIONER 4:
Component Uncertainty:

DIGITIZER:
Component Uncertainty:

[redacted]

Display Device
Component Uncertainty:

System Standard Uncertainty (+/-): .119 inch
System Expanded Uncertainty, 95% Confidence Interval (+/-): .238 inch

KC0430

VEV Test Request - KC0430

Requester / Coordinator (CDS Id):
MSAHUTS1

Matthew Sahutske

Performing Activity:	Date Submitted:	Requested Completion Date:	Requester Reference Number:
Body / Chassis Durability	17-OCT-2002	08-NOV-2002	

TESTnet Test Procedure: ANCHOR_US
CETP: 01.10-L-801-US
CETP Title: Seat Anchorage Test

Request Title and / or Subject of Request:
FMVSS 207 (2004,V229 2NR ROW QUAD BUCKETS)

Billable Requester's Dept No.:
5100Y246 UNKNOWN
Billable Requester's CDS Id:
MSAHUTS1
Billable Requester's Name:
Matthew Sahutske

Work Task / Work Order: G13
Program: V229
Description:
2004 1/4 V229 NEW WINDSTAR & MERC MINIV

Request conducted to certify control item compliance with Government Regulations:

Yes: [X] No: [ ]

Complete the following two questions as indicated

1 - Rationale for not replacing this test by CAE Analysis:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

Seat Anchorage Test

Test Objects:

Reference Object	Reference Description
N/A	N/A

Sample #	Object ID	Object Description
1	A4360005	BODY IN WHITE
2	3F23-1760027-AGW	2ND ROW LH QUAD W/O TRACKS
3	3F23-1760026-AHW	2ND ROW RH QUAD W/O TRACKS
4	3F23-1760027-JHW	2ND ROW LH QUAD WITH TRACKS
5	3F23-1760026-JHW	2ND ROW RH QUAD WITH TRACKS

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: Matthew Sahutske
Assigned Coordinator: _____
Request Authorized by: Not Required
Assigned Supervisor: _____

Test Definition Worksheet

Request No: KC0430 FMVSS 207 (2004,V229 2NR ROW QUAD BUCKETS)

Service/Procedure: ANCHOR_US Seat Anchorage Test

Test Object: Request Date: 17-OCT-2002

Requester: Matthew Sahutske (MSAHUTS1) Requester Phone: 1-313-6216941

Sample	Object ID	Object Description	Date	Runs	Dispos.
1	A4360005	BODY IN WHITE	21-OCT-02	1	RETURN
2	3F23-1760027-AGW	2ND ROW LH QUAD W/O TRACKS	31-OCT-02	1	SCRAP
3	3F23-1760026-AHW	2ND ROW RH QUAD W/O TRACKS	31-OCT-02	1	SCRAP
4	3F23-1760027-JHW	2ND ROW LH QUAD WITH TRACKS	31-OCT-02	1	SCRAP
5	3F23-1760026-JHW	2ND ROW RH QUAD WITH TRACKS	31-OCT-02	1	SCRAP

Parameter:	Value:	Units:
Vehicle Programs	V229	
Vehicle Year	2002	
Requesters Phone Number	322-1708	
Mail Report to:	2CC54	Room Number/Mail Drop
Building Name	PDC	

FOR REFERENCE ONLY

KC 0430

5K-3F23-011000-AA

Seat Anchorage Setup

Sample #	Seat Track Type	Load Direction	Seat Position	Seat System Weight + 5%	FMVSS 207 Required Load =(20x(wgt+5%))	Ford Hold Load (Req'd Load + 10%)	Hold Load Target (Req'd Load + 20%)	Ford Maximum Load (Req'd Load + 30%)	Maximum Load Target (Req'd Load + 50%)
1	FIXED	REAR-WARD	FIXED	66.2 lb	1324. lb	1456. lb	1588. lb	1720. lb	1985. lb
2	ADJUSTABLE	REAR-WARD	MID	72.8 lb	1456. lb	1602. lb	1748. lb	1893. lb	2184. lb
3	ADJUSTABLE	REAR-WARD	FULL FWD	72.8. lb	1456. lb	1602. lb	1748. lb	1893. lb	2184. lb
					red line	FAC	2 second ramp 5 second hold	FAC	1 second ramp

Upper Bar Setup

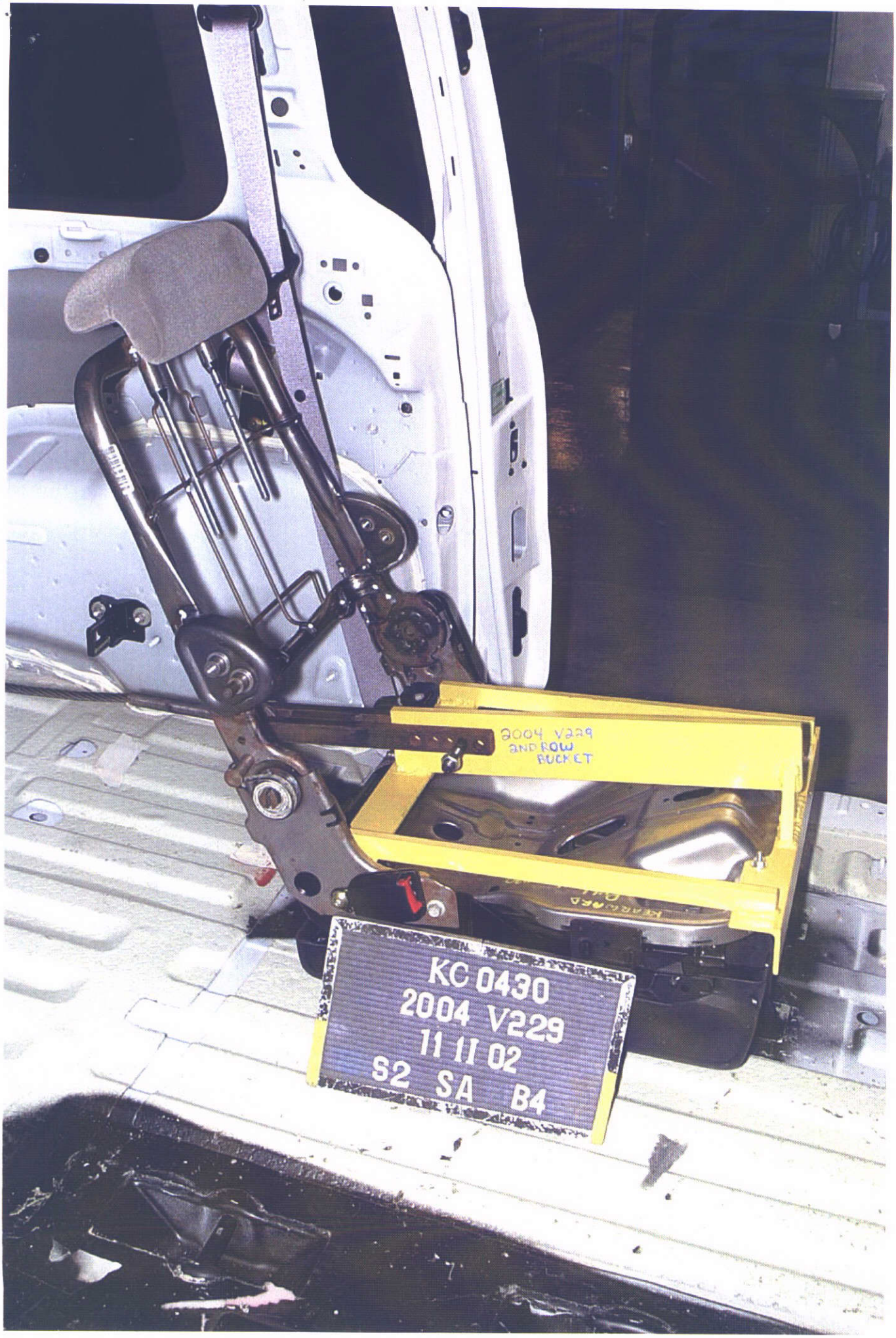
Sample #	Seat Track Type	Load Direction	Seat Position	Distance from SGRP to Upper Bar	FMVSS 207 Required Load = (3300 in-lb / dist.) x passenger #	Ford Hold Load (Req'd Load + 10%)	Hold Load Target (Req'd Load + 20%)	Ford Maximum Load (Req'd Load + 30%)	Maximum Load Target (Req'd Load + 50%)
1	Fixed	Rear-ward	Fixed	16.50 inch	200. lb	220. lb	240. lb	260. lb	300. lb
2				inch	lb	lb	lb	lb	lb
					red line	FAC	2 second ramp 5 second hold	FAC	1 second ramp

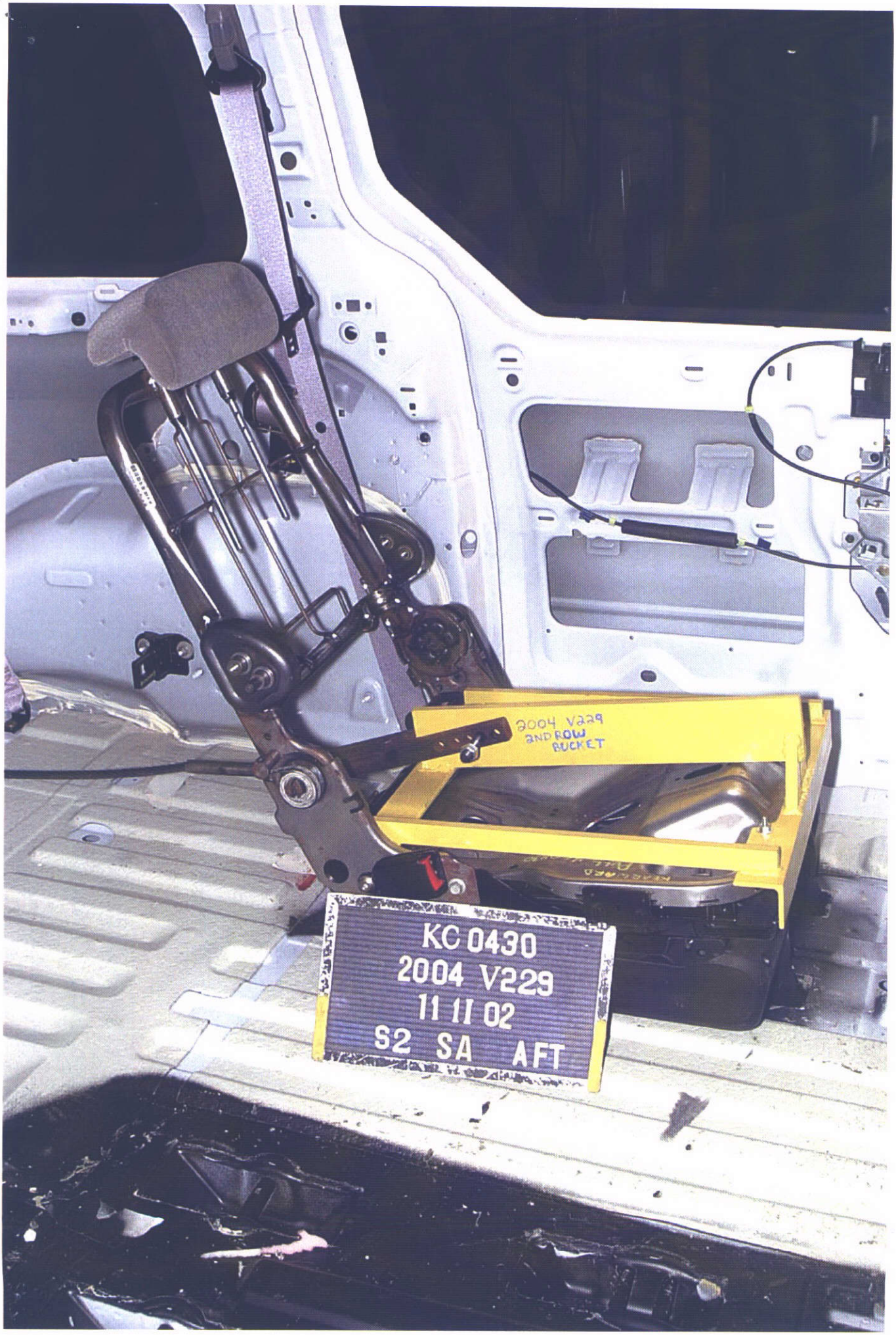
Seat Back Latch Setup

Sample #	Seat Back Position	Load Direction	Distance from Seat Back CG to Pivot Point	Seat Back Weight + 5%	FMVSS 207 Required Load =(20x(wgt+5%))	Ford Hold Load (Req'd Load + 10%)	Hold Load Target (Req'd Load + 20%)	Ford Maximum Load (Req'd Load + 30%)	Maximum Load Target (Req'd Load + 50%)
1	design	forward	4.02 inch	29.5 lb	590. lb	649. lb	708. lb	767. lb	885. lb
2	design		inch	lb	lb	lb	lb	lb	lb
					red line	FAC	2 second ramp 5 second hold	FAC	1 second ramp


KC 0430
2004 V229
11 7 02
S1 UB B4
KC0430
UPPER BAR
REARWARD PULL


KC 0430
2004 V229
11 7 02
S1 UB AFT
REARWARD PULL


2004 V229
2ND ROW
BUCKET
KC 0430
2004 V229
11 11 02
S2 SA B4


2004 V229
2ND ROW
BUCKET
KC 0430
2004 V229
11 11 02
S2 SA AFT


2004 V229
3RD ROW
ROCKET
KC 0430
2004 V229
11 12 02
S3 SA B4


2004 V229
2ND ROW
BUCKET
KC 0430
2004 V229
11 12 02
S3 SA AFT


2004 V229
2ND ROW
BUCKET
KC 0430
2004 V229
11 12 02
S4 S4 R4


2004 V229
2ND ROW
BUCKET
KC 0430
2004 V229
11 12 02
S4 SA AFT


KC 0430
2004 V229
11 13 02
S5 SL B4

KC 0430
2004 V229
11 1302
SS SL AFT

Regulation			Carryover	
			Year	Vehicle
	101	Controls and Displays		
	102	Transmission Shift		
	103	Windshield Defrost & Demist		
	104	Windshield Washing & Wiping		
	105	Brake Systems		
	106	Brake Hoses		
	108	Lamps		
	109	New Pneumatic Tires		
	110	Tire Selection & Rims		
	111	Rearview Mirrors		
	112	Concealed Headlamps		
	113	Hood Latch System		
	114	Theft Protection		
	115	VIN (Canada)		
	116	Brake Fluid		
	118	Power Windows		
	119	New Truck Tires		
	120	Truck Tire Selection & Rims		
	121	Air Brake Systems		
	124	Accelerator Control Systems		
	125	Warning Devices		
	135	Brake Systems		
	201	Interior Impact Protection		
	202	Head Restraints		
	203	Steering Control Systems		
	204	Steering Rear Displacement		
	205	Glazing Materials		
	206	Door Locks		
x	207	Seating Systems		
	208	Occupant Protection		
	209	Seatbelt Assemblies		
	210	Seatbelt Anchorages		
	210.1	Child Seat Tether Anchorages		
	210.2	Child Seat Latch Anchorages		
	212	Windshield Mounting		
	213	Child Restraint Systems		
	214	Side Impact Protection		
	215	Bumpers (Canada)		
	216	Roof Crush Resistance		
	217	Bus Window Retention		
	219	Windshield Zone Intrusion		
	220	School Bus Rollover Protection		
	221	School Bus Body Joint Strength		
	222	School Bus Seating		
	225	Child Seat Anchorages		
	301	Fuel System Integrity		
	302	Flammability of Interior Mat'ls.		
	303	CNG Fuel System Integrity		
	304	CNG Fuel Container Integrity		
	305	Electric Vehicles		
	401	Internal Trunk Release		
	541	Theft Protection		
	564	Replacement Light Source		
	565	Vehicle Identification Number		
	566	Manufacturers Identification		
	567	Certification Label		
	568	Vehicles Made in 2 Stages		
	574	Tire Identification		
	575	Consumer Information		
	581	Bumper Impact		
	CAN	Canadian		
	NOISE	Exterior Noise		
	RFI	Radio Frequency Interference		
	SDG	Safety Design Guideline		

2004

04-5341

Vehicle		
	Aviator	U231
	B-Series	PN151
	Crown Victoria	EN114
	Econoline	VN127
	Escape	U204
	Excursion	U137
	Expedition	U222
	Explorer	U152
	Explorer Sport Trac	P207
	F-150	P221
	F-150	PN96
	Focus	C170
x	Freestar	V229
	F-Super Duty	P131
	Grand Marquis	EN114
	GT	S361
	LS	DEW98
	Marauder	EN114
x	Monterey	V229
	Mountaineer	U152
	Mustang	SN95
	Navigator	U228
	Ranger	PN150
	Sable	D186
	Taurus	D186
	Thunderbird	M205
	Town Car	FN145
	Tribute	J14

Document Type	
	Interpretation
	Plan
x	Report

Organization	
	Alternative Fuel
	Automotive Safety Office
	AVT-RVT
	Body
	Car Programs
	Chassis
	Climate Control
	DSO-SVT
	Electric Vehicle
	Electrical & Lighting
	Environmental & Safety
	FCSD
	Ford of Australia
	Ford of Europe
	Fuel Systems
	Interior Systems
	Mazda
	OPEO-EEME
	Plastics & Trim
	Powertrain
x	Restraints
	Supplier Provided
	Transmission
	Truck Operations
	Vehicle Crash
	Vehicle Engineering
	Vehicle Operations
	Vehicle Personalization
	Vehicle Safety

Test Reports

Engineering Drawings

Comments

Supplement - Complexity Matrix

Trim Package

ATTACHMENT (A)

COMPLIANCE DEMONSTRATION PLAN TEST MATRIX

Model Year 2004
Vehicle Line(s) V229
Regulation(s) F/CMVSS 207 & 207/210

Test Procedure: FMVSS 207
Acceptance Criteria: FAC
DATE: 9-26-02
Job 1: August 2003

Summarized by. Richard Cendrowski
Seat Supplier: Intier Automotive
Restraints Supplier: Autoliv
Engineering S/O: 12-3-02

System Description/Component Model Usage	METHOD OF COMPLIANCE DEMONSTRATION							REMARKS & RATIONALE
	(BIW/Frame) 207/210 complete seat	(ub or fb) Forward seat frame	(ub or fb) Rearward seat frame	(ub or fb) Upper Bar seat frame	(hb or fb) Static Latch seat frame	(sled) Dynamic Latch (cmplt seat)	C/O or E/J	
1st Row High Back-Power	Test Order #KC 0924	Test Order #KC 0924	E/J	E/J	E/J	E/J		1st Row High Back Power is similar structure to the High Back Manual
1st Row High Back-Manual	Test Order #KC 1072	Test Order #KC 1072	Test Order #KC 0426	Test Order #KC 0426	Test Order #KC 0426	Test Order #KC 0426		
1st Row Low Back-Power	Test Order #KC 0924	Test Order #KC 0924	Test Order #KC 0426	E/J	E/J	Test Order #KC 0426		Upper Bar and Static Latch are E/J from the Manual Highback test, which is the worse case
1st Row Low Back-Manual	E/J	E/J	E/J	E/J	E/J	E/J		For1st Row Low Back Manual structure is similar to 1st row High Back Manual Structure
2nd row bench with tracks	Test Order #KC 1483	Test Order #KC 1483	Test Order #KC 0429	Test Order #KC 0429	Test Order #KC 0429	Test Order #KC 0429		
2nd row bench w/out tracks	E/J	E/J	E/J	E/J	E/J	E/J		2nd Row Bench structure without tracks is the same structure as with tracks
2nd row quad LH w/ tracks	Test Order #KC 0193	Test Order #KC 0193	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	TRW Test H0003043		
2nd row quad RH w/tracks	Test Order #KC 0193	Test Order #KC 0193	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	TRW Test H0003043		
2nd row quad LH w/out tracks	E/J	E/J	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	E/J		2nd Row Quads with tracks is a more severe condition than 2nd row quads without tracks
2nd row quad RH w/out tracks	E/J	E/J	Test Order #KC 0430	Test Order #KC 0430	Test Order #KC 0430	E/J		3rd Row Quads with tracks is a more severe condition than 2nd row quads without tracks
3rd row bench	Test Order #KC 1598	Test Order #KC 1598	Test Order #KC 0309	Test Order #KC 0309	Test Order #KC 0309	TRW Test H0003037		
	Reference Ford Restraints test reports.		1st Row, 2nd and 3rd Row Bench testing conducted at Tachi-S. 2nd Row Quad testing conducted at Forc test facility.					

Notes: