

• EAO3-010

Ford

10/22/03

• Attachment F

Book 23 of 24

**Final Test Report
Confidential**



Advanced Vehicle Technology

Test Order No.: TA5848
Subject: 2000 D188 Series L
D188 Due Care Testing
Requested By: Dale Ferrigo
Requesting Dept.: T861
Work Task No.: F09
Test Facility: Hyge
Date Received: 12/10/1998
Date Reported: 2/19/1999
Test Dates: 2/5/1998 to 2/6/1998
Run Numbers: H19878 through H19877
Procedure(s): T867-110
Pages: 1 of 28

Stamp(s) by:	
Facsimile Copy	
Stamp(s) Thru:	2005
Module Number:	7-4-2

Objective:

Provide Evaluation Demonstrating Due Care Engineering.

Summary:

Three 81mph, one 30mph (Generic pulse), and one 28mph tests were conducted on the Hyge sled using two 95%, one 5%, two 5%, one 8-year old, or one 8-year old instrumented hybrid III test dummies. The testing was conducted using the D188 rigid front body buck (#418). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safety/lab.ford.com/>.

Attachments

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Dummy Positioning
- VII. Photographic Set-Up


Concur:


Mike Hamilton
Section Supervisor
Test Development Engineering
Safety Laboratories Department


Chris Dragan
Product Test Engineer
Operations Engineering
Safety Laboratories Department

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Sheet 2

Attachment I
Test Authorization

 GTO Test Request		Requester / Coordinator (PROPS): DPERRIGO DALE PERRIGO	
Performing Activity: HYGE and VA Stud	Date Submitted: 19-DEC-1998	Requested Completion Date: 23-DEC-1998	Requester Reference Number:
Procedure Number: NYB-90	Request Title and / or Subject of Request: Drive Hyge Stud Series L.		
Mileage Requester's Dept No.: TSB: AV8216A Mileage Requester's (PROPS): DPERRIGO	Work Task / Work Order Number: P88 Mileage Requester's Name: DALE PERRIGO	Request conducted to verify control has compliance with Government Regulations Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Complete the following two questions as indicated 1 - Reason for not replacing this test by CAE Analysis: <ul style="list-style-type: none"> <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing in Color <input checked="" type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for P88 <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Results will meet DDP/DCR requirements (Sign-Off) <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other:	
Request Purpose / Request Procedure or Description of Request: Evaluate cost savings HYGE Test Procedure TSB-110			
Test Object:	Reference Object: N/A	Reference Description: N/A	
Sample #	Object ID	Object Description	
1	NO_PART_NUMBER_0972N	PART NUMBER NOT PROVIDED IN VERSION 1.4 OF TE	
Signature Approvals (As Required for Control Purpose)			
Requesting Engineer	DALE PERRIGO	Assigned Coordinator	CHRISTOPHER DRAGAN
Requesting Supervisor/Manager	NOT REQUIRED	Assigned Supervisor	MIKE HAMILTON

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Attachment II
Test Matrix



TA# TA5848

SYSTEM: D986 (see also listing)

DATE: 10/14/88

Address: Data Service
Phone: 408/25

REVISION:

CLIN PLAN	RUM RES	HYDR RUN	HYD SECT	PUSH DIRT	PULS REF	MCL VOL	DRY MCL	TEST DATE	PTRY RES TM	1ST STD RES TM	2ND STD RES TM	BEAT DOWN	BEAT POS	RES POS	D-RNG POS	DUMMY LEFT/RIGHT	OBJECTIVE AND COMMENTS	HARDWARE LABEL										Inst. Date			
																		IP	CI	PT	RE	AB	BC	BT	EL	GT	RNA				
01	01					0	000		10mm	20mm	100mm	1st	FR	Y	UP	000	Performance	IP	CI	PT	RE	AB	BC	BT	EL	GT	RNA	A			
02									10mm	20mm	100mm	1st	FR	Y	UP	001	Performance														
02	01					31	000		10mm	10mm	17mm	1st	FR	Y	DOWN		Passenger COP (PT)	IP	CI										B		
03	01					3F	000		10mm	15mm	17mm	1st	FR	Y	DOWN		8yr 8 Year old passenger (PT)	IP	CI										C		
03	02								10mm	15mm	17mm	1st	FR	Y	DOWN		8yr 8 Year old passenger (PT)			PT											
04	01					31	000		10mm	15mm	17mm	1st	FR	Y	DOWN	000	FF instrumenting (7 stages)	IP	CI											D	
02									10mm	15mm	17mm	1st	FR	Y	DOWN	010	FF instrumenting (7 stages)			PT											
08	04					22	000		10mm	15mm	17mm	1st	FR	Y	DOWN		FF Instrumenting (7 stages)	IP	CI											C	
02									10mm	15mm	17mm	1st	FR	Y	DOWN	010	FF Instrumenting (7 stages)			PT											

R25 Head Prototype OFF. Plastic lock with integral air-vent with foam mechanism (strong lock stud). 88 - Jaws change CP level PT with pair design level plastic profile.

D11 Axial CP level integrated wheel gluing. P2X fiber. 2x05mm vents.

D12 Axial CP level integrated wheel gluing. P2X fiber. 2x05mm vents and alternate block.

P15 Axial CP level passenger bag. 107L, 2x05 vents, AXI level cover.

P16 Axial passenger bag. 107L, 2x05 vents, AXI level cover.

S1 D301 Manual Switch

S4 WOTTS 8 Power Switch

OC3 Staining wheel with stroke defined by (2) of barrel with 0.5 inch gap. No stop steps.

IP CP panel that accepts AXI level passenger sitting cover

NOTES:

All runs use instrumented dummies.

Rigid heater core MUST be installed for all runs.

SLHD 0025950

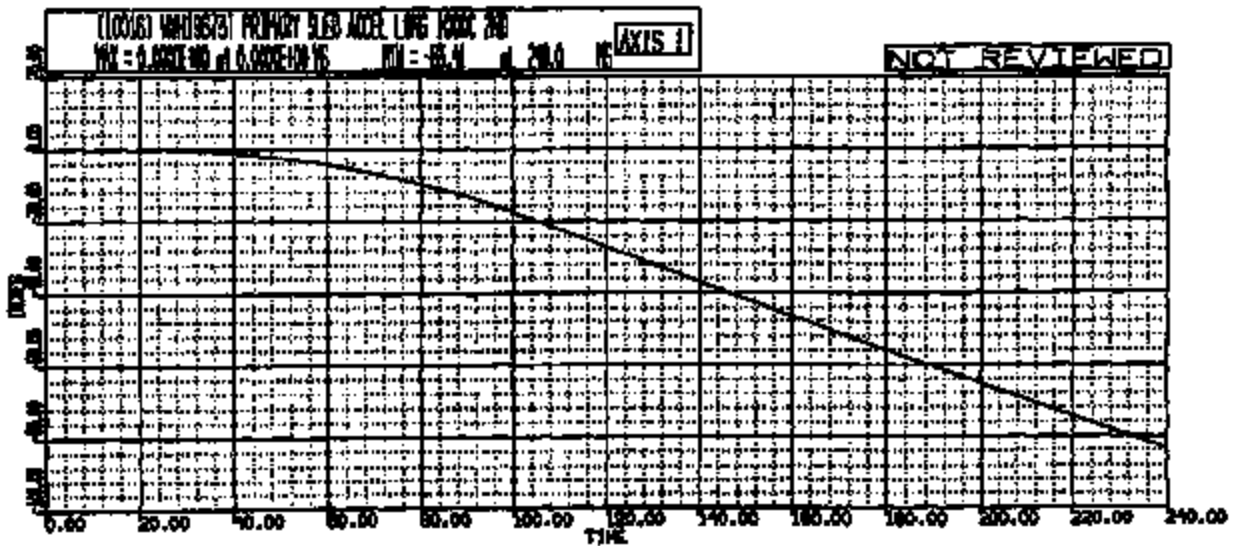
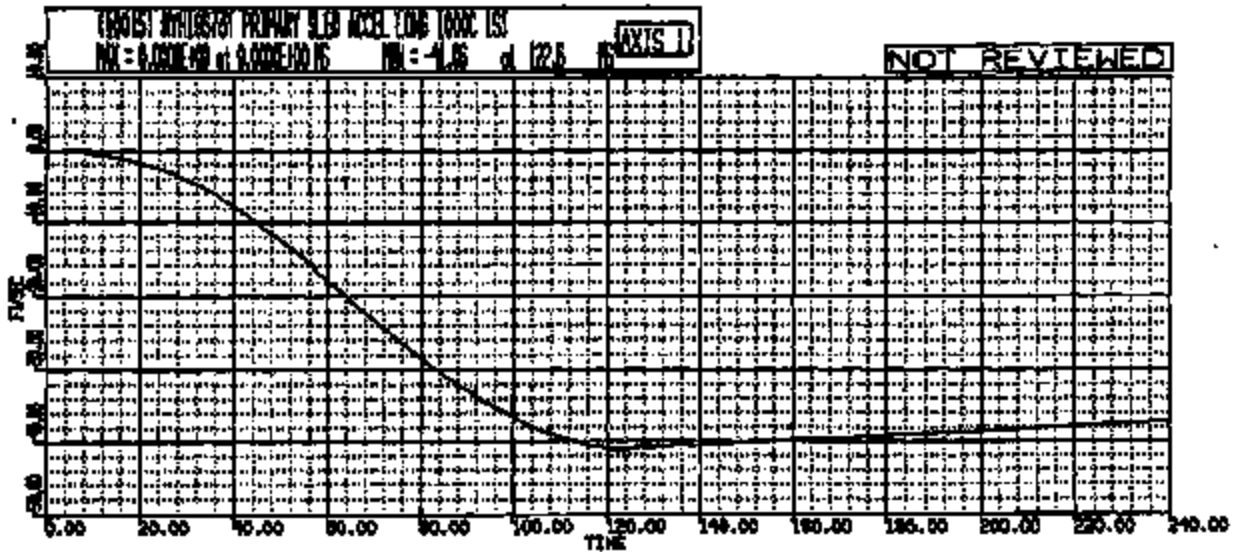
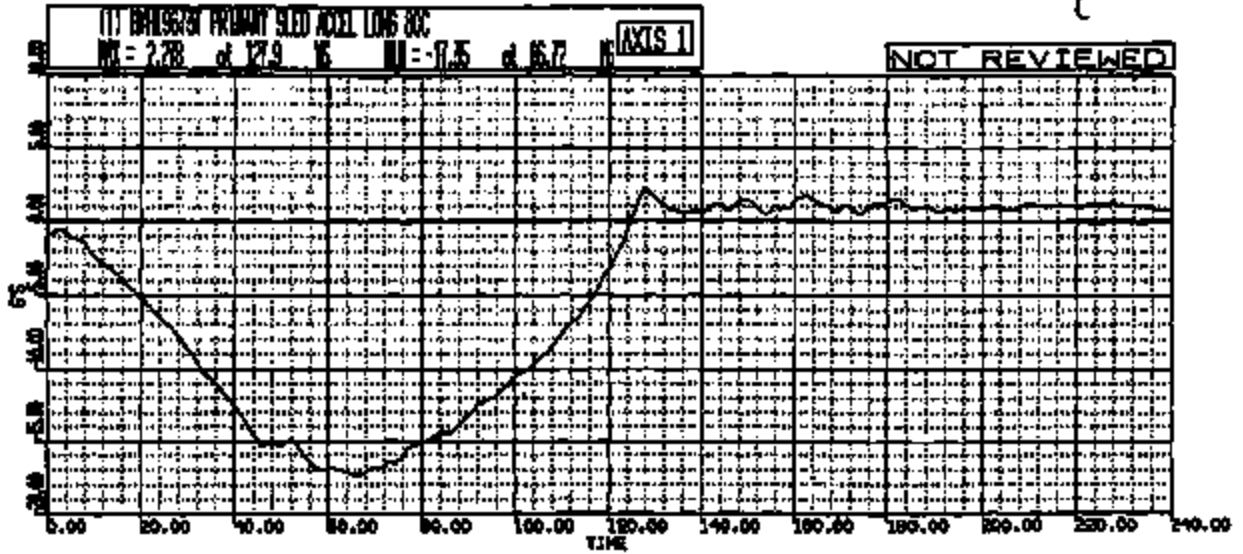
Shakti S

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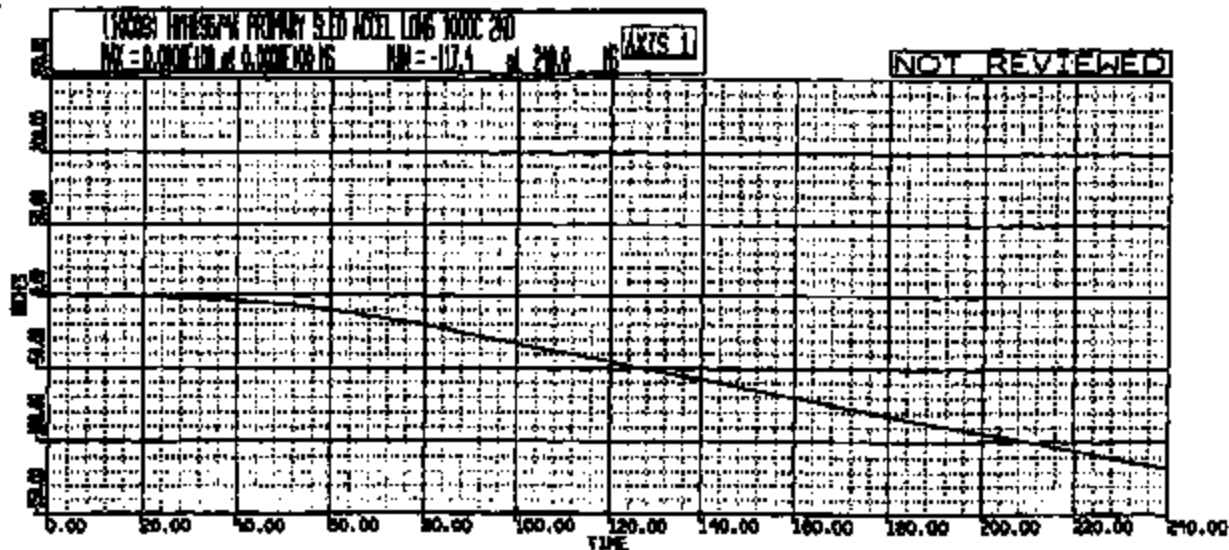
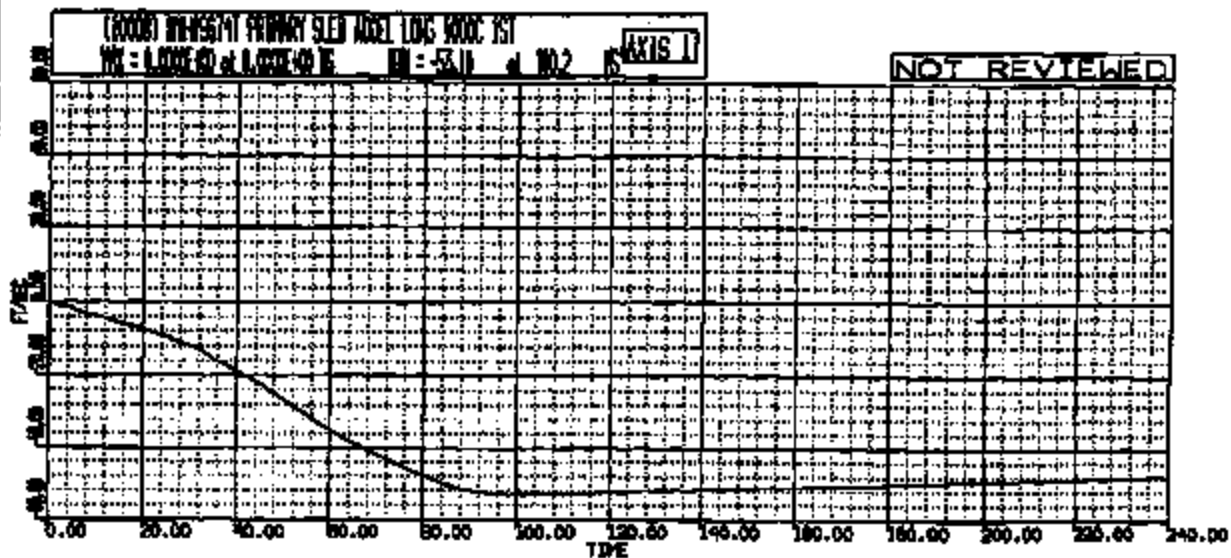
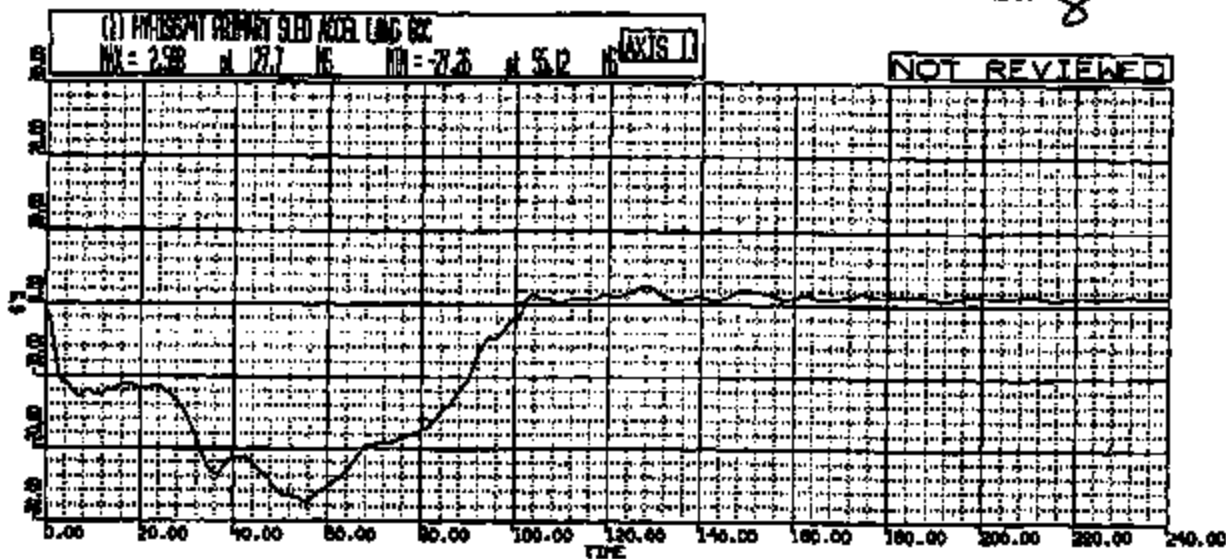
Attachment III.

Sled Pulse

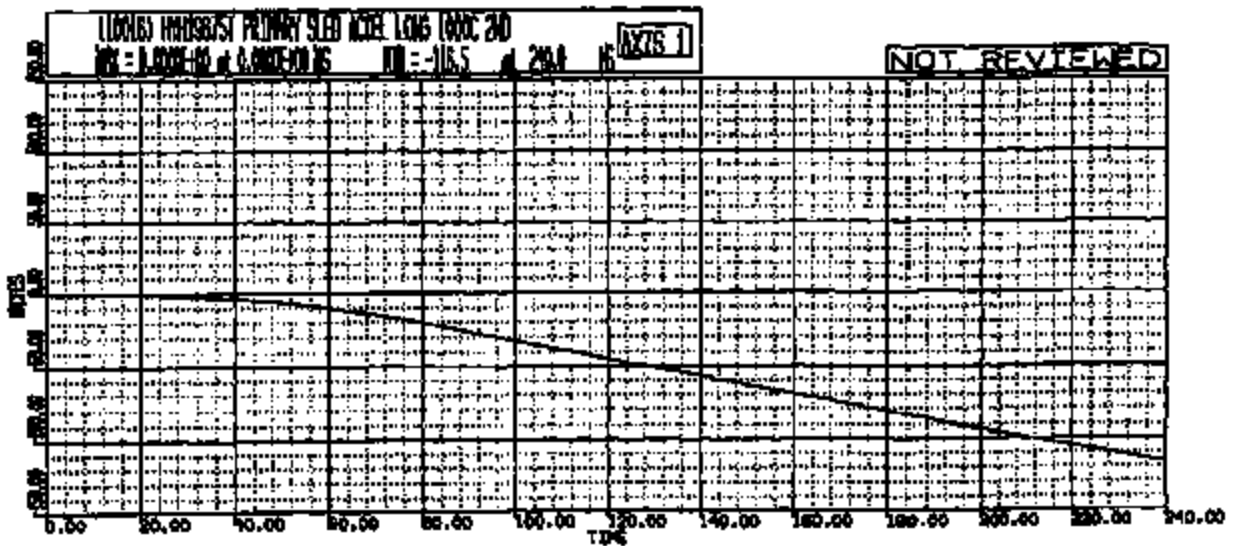
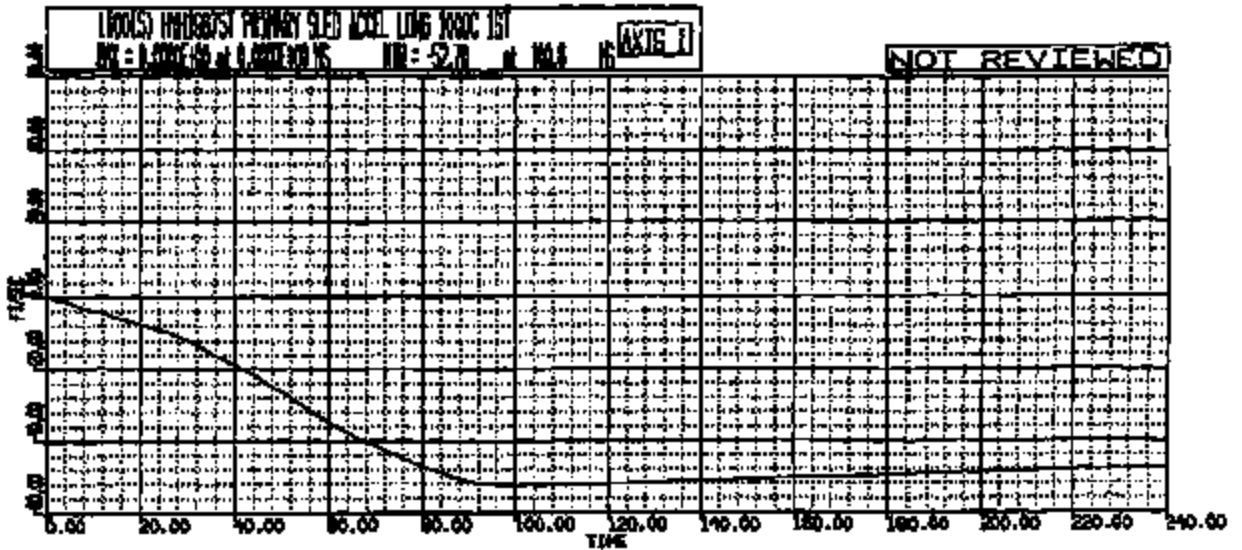
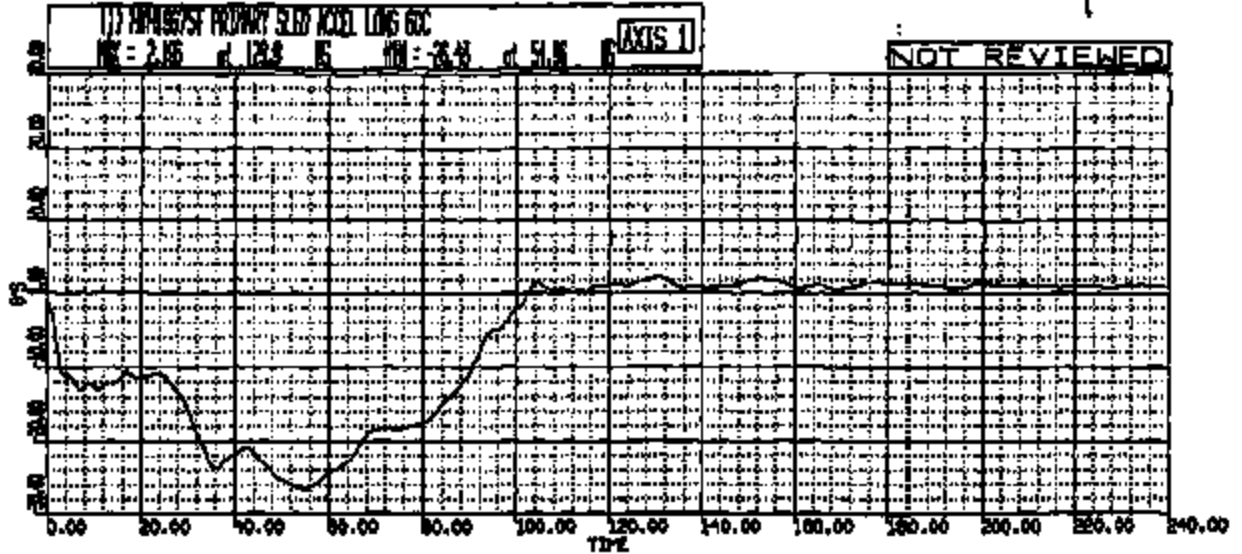
HY R: H16673 TO: TA5848A DATE: 990205 13:56:26
UNKNOWN



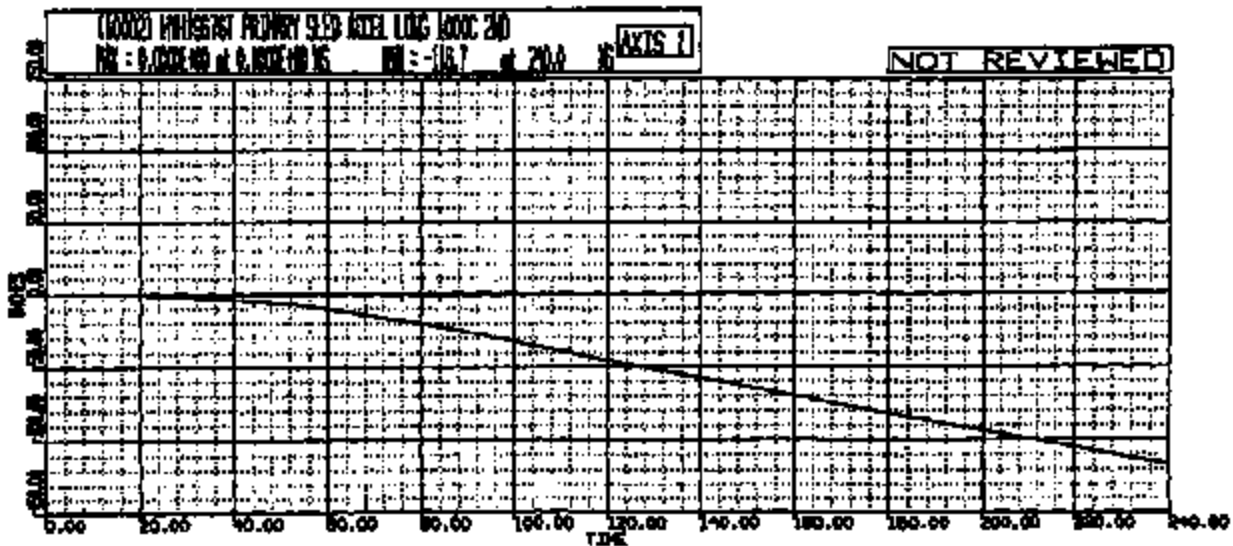
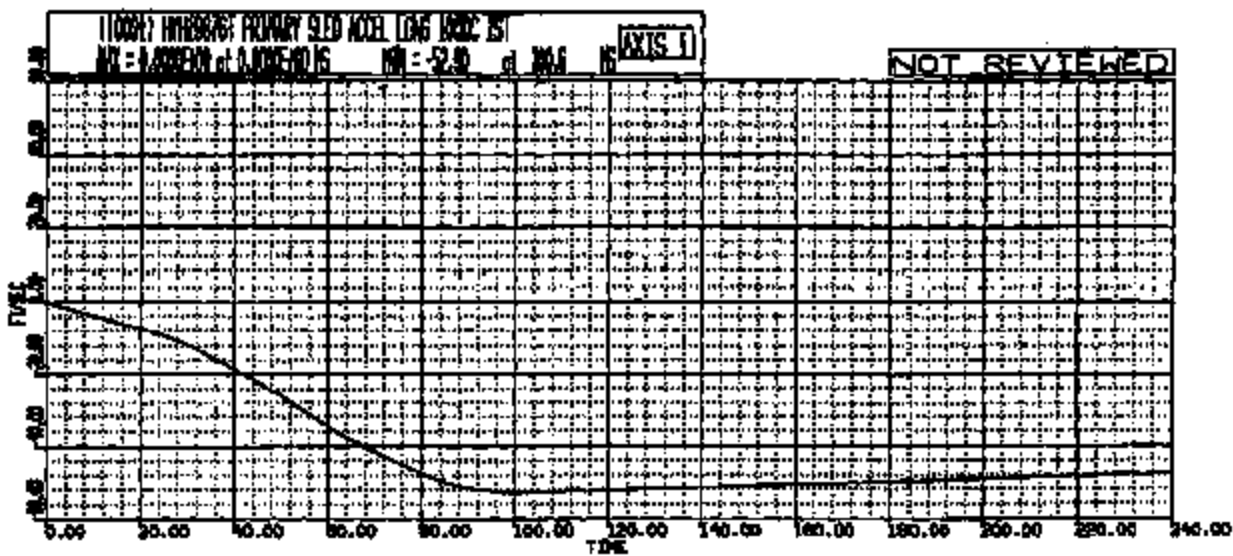
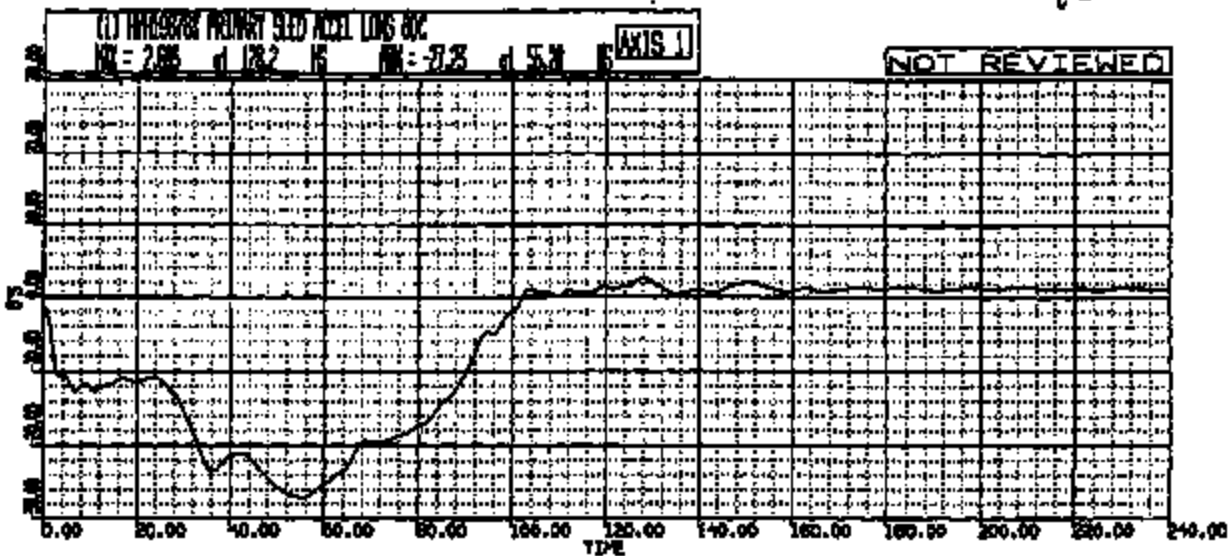
HY R: H108874 TO: TA5848B DATE: 990205 10:28:03
UNKNOWN



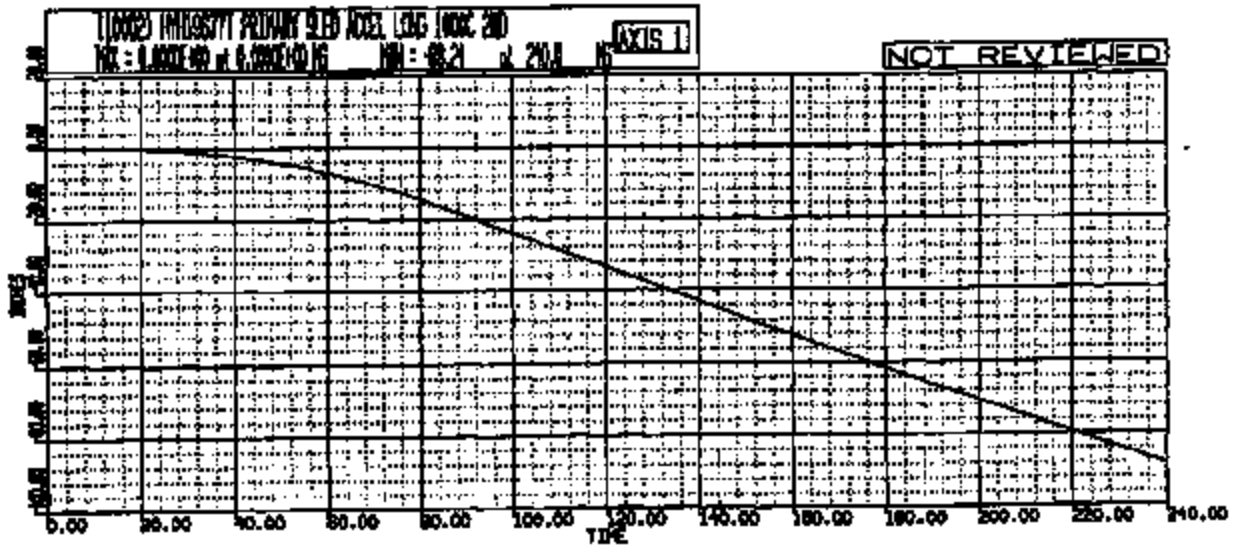
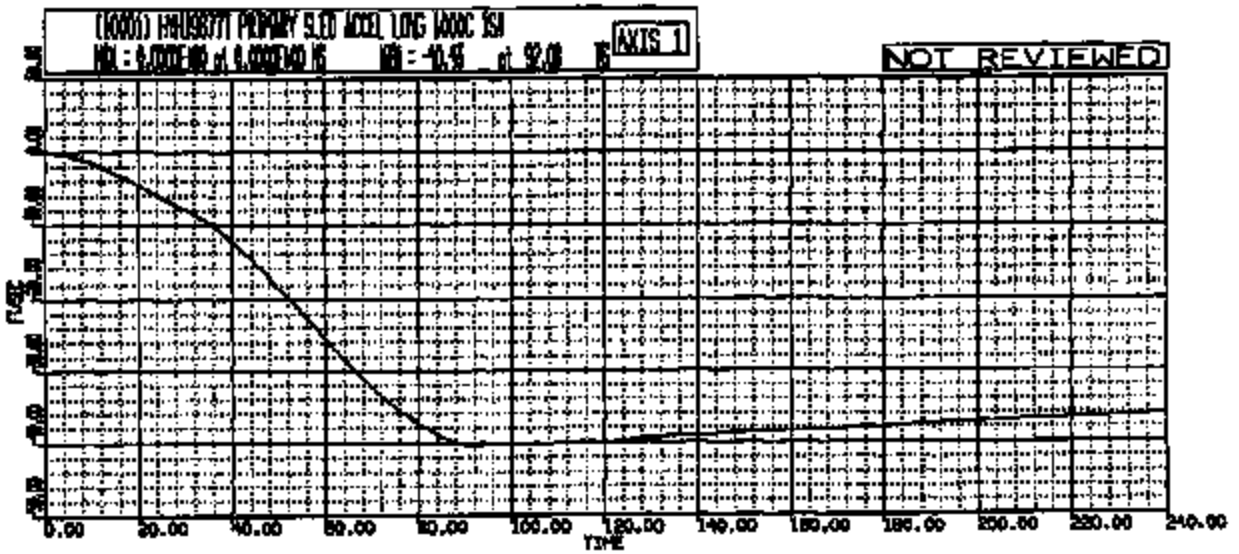
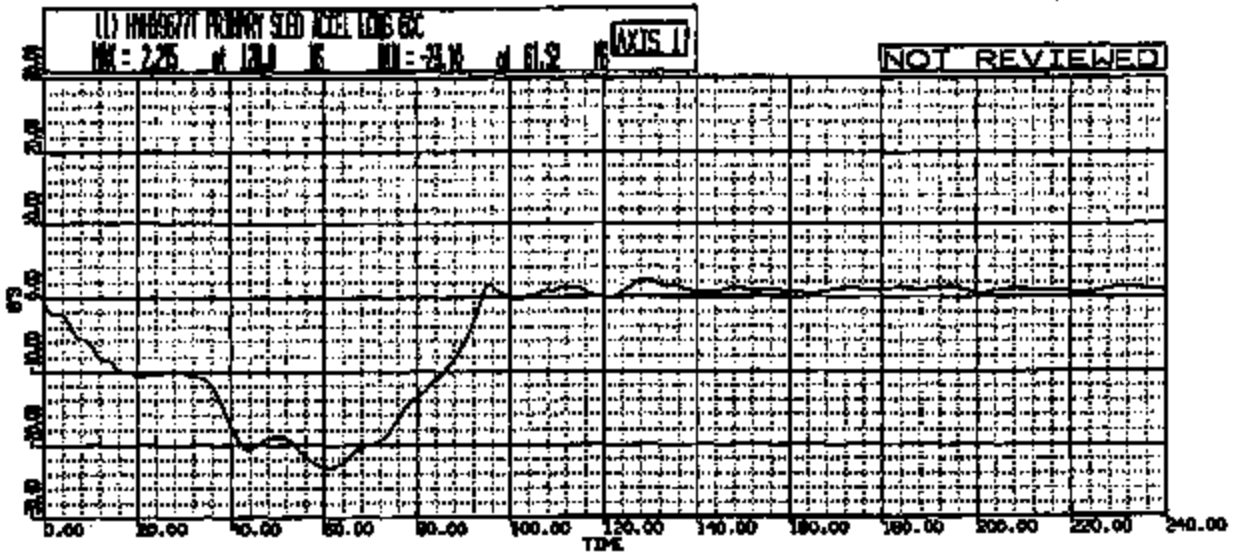
HY R: H18675 TO: TAB848D DATE: 990205 18:05:17
UNKNOWN



HY R: H19676 TO: TA5848C DATE: 990205 21:04:55
UNKNOWN



HY R: H18677 TO: TA5848C DATE: 990208 09:07:55
UNKNOWN



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Attachment IV.
Sled Parameters

RUN #	LA #	TEST TYPE	DATE	TIME	DATA CHASEL.	WEIGHT (LB)	HFCL	WRCHE	LOAD	SET	BRAKE	BUCKP	VELOCITY (MPH)	LEFT	DUMMY SET CENTER	RIGHT	FN	INNER RING	OUTER RING
1963	TABM45A	D185 DV	2/5/77	13:36	64	674	65	45	1805	208	120	415	30	34	--	351	78	CUT	CUT
1964	TABM45B	D185 DV	2/5/77	16:28	37	644	62	62	2282	242	155	418	31	--	--	355	80	IN	IN
1965	TABM45D	D185 DV	2/5/77	19:08	72	644	602	62	2634	269	155	418	31	364	--	355	75	IN	IN
1966	TABM45C	D185 DV	2/5/77	21:24	12	639	62	32	2286	378	150	418	31	--	--	347	82	IN	IN
1967	TABM45E	D185 DV	2/5/77	22:27	12	639	61	30	2004	354	110	418	22	--	--	342	80	IN	CUT

SLED 0025958

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Attachment V.
Post Test Observations

HYGE Sled Test Summary

Sheet 15

Title: Dale Parigo

Form: 28013

HYGE Run # 19673
 Test Engineer: Chris Dragan
 Requester: Dale Parigo

Run Date 2/5/99
 Test Auth # TA5848
 BUCK# 418

1

MATRIX#

Test Title/Description: D188 Due Care Testing

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin #: _____

	LEFT		RIGHT
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Airbag: <u>20/150</u> ms		Airbag: <u>20/150</u> ms
	Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
	Dummy: <u>#346 95th</u>	CENTER	Dummy: <u>#351 95th</u>
	A/B: <u>D-12</u>	DUMMY	A/B: <u>P-16</u>
	Belt: <u>LR-2</u>	BELT	Belt: <u>RR-2</u>
	Seat: <u>FR 51</u>	DR. A/B FMP	Seat: <u>51</u>
	Tracks: power <u>canal</u>	PASS. FMP	Tracks: power <u>canal</u>
	Position: <u>FR</u> Welded? <input checked="" type="checkbox"/> N		Position: <u>FR</u> Welded? <input checked="" type="checkbox"/> N
	Instrument Panel: <u>18</u>		
	Steering Column: <u>SC3</u>		
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT		CENTER		RIGHT	
	Upright On Seat	IB Off Seat	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat
A/B Intact (No Holes):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Face to A/B		IB <u>Center</u>				IB <u>Center</u>
Contact Location:		<u>High</u> <u>Mid</u> Low				<u>High</u> <u>Mid</u> Low
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Refractor Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Buckle Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Seat Tracks Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cracks in IP:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroked w/o interference:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: Pyro didn't fire on passenger side. Both dummies knees hit holster and glove box door

OBSERVER: D. BRANDY

HYGE Sled Test Summary

Sheet 16

Address: Dale Parrigo
Phone: 45618

HYGE Run # 19074 Run Date 2/5/99
 Test Engineer: Chris Dragan Test Auth # TA5848
 Requester: Dale Parrigo BUCK# 418
 Test Title/Description: D186 Dye Core Testing

2

MATRIX #

Crash/HYGE Pulse Rat: _____ Simulated Speed: 31 Pin # 50

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms
	DUMMY	_____	DUMMY	_____
	A/B	_____	A/B	<u>5TH</u>
	Belt	_____	Belt	<u>P-17</u>
	Seat	_____	Seat	<u>RRB</u>
		Tracks: power manual		Tracks: <u>power</u> manual
		Pass. FMM _____		Position: <u>FR</u> Welded? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
		Position: _____		Instrument Panel: _____
		Steering Column: _____		Pre-Test OBSERVATIONS: _____

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT		
	Upright	I/B	O/B	Upright	Left	Right
	On Seat	Off Seat		On Seat	Off Seat	
A/B Intact (No Holes):			Y / N			<input checked="" type="checkbox"/> N
Face to A/B		I/B	Center	O/B		
Contact Location:		High	Mid	Low		
A/B Cover Attached to Can./Cover:			Y / N			<input checked="" type="checkbox"/> N
Adj. D-ring Remain in Position:			Y / N			<input checked="" type="checkbox"/> N
Retractor Intact:	Y / N		Locked:	Y / N		<input checked="" type="checkbox"/> N
Buckle Held:	Y / N		Webbing Intact:	Y / N		<input checked="" type="checkbox"/> N
Seat Tracks Held:			Y / N			<input checked="" type="checkbox"/> N
Cracks in I/P:			Y / N			Y / <input checked="" type="checkbox"/> N
Steering Wheel Deformed:			Y / N			
Column Stroked w/o Interference:			Y / N			
Column Stroke: Left: _____ Right: _____						

Post Test COMMENTS:

TOP OF DUMMY HEAD JUST
BRUSHES AIR BAGS

SEAT NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 17

Initiator: Dale Parrigo
Phone: 256018

HYGE Run # 19675 Run Date 2/5/99
 Test Engineer: Chris Dragan Test Auth # TA5848
 Requester: Dale Parrigo BUCK # 418

4

MATRIX #

Test Title/Description: D186 Due Care Testing
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 Pin # 5a

TIME	LEFT	RIGHT
	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION POST-TEST OBSERVATIONS	Dummy _____	Dummy _____
	A/B <u>D-12</u>	A/B <u>D-16</u>
	Belt <u>LAZ</u>	Belt <u>LAZ</u>
	Seat <u>S-1</u>	Seat <u>S-1</u>
	Tracks: power <input checked="" type="checkbox"/>	Tracks: power <input checked="" type="checkbox"/>
	Position: Welded? <input checked="" type="checkbox"/> N	Position: Welded? <input checked="" type="checkbox"/> N
Instrument Panel: _____		
Steering Column: _____		
Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	IB	O/B	Upright	Left	Right		RIGHT	IB	O/B
	<input checked="" type="checkbox"/> <u>On Seat</u>			<input checked="" type="checkbox"/> <u>On Seat</u>				<input checked="" type="checkbox"/> <u>On Seat</u>		
LEFT SIDE	A/B Intact (No Holes):			<input checked="" type="checkbox"/> Y				A/B Intact (No Holes):		<input checked="" type="checkbox"/> Y
	Face to A/B							Face to A/B		
	Contact Location:		<input checked="" type="checkbox"/> <u>Center</u>					Contact Location:		<input checked="" type="checkbox"/> <u>Center</u>
	A/B Cover Attached to Car/Cover:			<input checked="" type="checkbox"/> Y				A/B Cover Attached to Car/Cover:		<input checked="" type="checkbox"/> Y
	Adj. D-ring Remain in Position:			<input checked="" type="checkbox"/> Y				Adj. D-ring Remain in Position:		<input checked="" type="checkbox"/> Y
	Retractor Intact:	<input checked="" type="checkbox"/> Y			<input checked="" type="checkbox"/> Y			Retractor Intact:	<input checked="" type="checkbox"/> Y	
	Buckle Held:	<input checked="" type="checkbox"/> Y			<input checked="" type="checkbox"/> Y			Buckle Held:	<input checked="" type="checkbox"/> Y	
	Seat Tracks Held:	<u>well</u>			<input checked="" type="checkbox"/> Y			Seat Tracks Held:	<u>well</u>	<input checked="" type="checkbox"/> Y
	Cracks in IP:				<input checked="" type="checkbox"/> Y			Cracks in IP:		<input checked="" type="checkbox"/> Y
	Steering Wheel Deformed:				<input checked="" type="checkbox"/> Y			Steering Wheel Deformed:		<input checked="" type="checkbox"/> Y
Column Stroked w/o Interference:				<input checked="" type="checkbox"/> Y			Column Stroked w/o Interference:		<input checked="" type="checkbox"/> Y	
Column Stroke:	Left: _____						Right: _____			
Post-Test COMMENTS:										
<u>Y SLIGHT BOOSTER CONTACT W/ NO DEFORMATION - SEAT NORMAL</u>										
<u>R/ BOOSTER CONTACT W/ NO DEFORMATION - SEAT NORMAL</u>										
OBSERVER: <u>MATR</u>										

HYGE Sled Test Summary

Sheet 18

Initiator: Dale Perrigo
Time: 15018

HYGE Run # 19676 Run Date 1/15/99
 Test Engineer: Chris Dragan Test Auth # TA5B48
 Requester: Dale Perrigo BUCK # 418

3

MATRIX #

Test Title/Description: D188 Due Care Testing
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 Pn # 50

PRE-TEST OBSERVATIONS	LEFT Airbag: _____ ms Pyro Buckle: _____ ms	CENTER	RIGHT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms
LEFT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N	RIGHT	Dummy <u>LOW</u> A/B <u>FLY</u> Belt _____ Seat <u>S-4</u> Tracks: <u>power</u> manual _____ Position: <u>FR</u> Welded? Y <input checked="" type="checkbox"/>
Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	WB	O/B		RIGHT	WB	O/B
	Upright	On Seat	Off Seat		Upright	On Seat	Off Seat
LEFT SIDE	A/B Intact (No Holes): Y / N			RIGHT SIDE	A/B Intact (No Holes): Y / N		
	Face to A/B	WB	Center O/B		Face to A/B	WB	Center O/B
	Contact Location:	High	Mid Low		Contact Location:	High	Mid Low
	A/B Cover Attached to Can./Cover: Y / N				A/B Cover Attached to Can./Cover: Y / N		
	Adj. D-ring Remain in Position: Y / N				Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> / N		
	Retractor Intact: Y / N		Locked: Y / N		Retractor Intact: <input checked="" type="checkbox"/> / N		Locked: <input checked="" type="checkbox"/> / N
	Buckle Held: Y / N		Webbing Intact: Y / N		Buckle Held: <input checked="" type="checkbox"/> / N		Webbing Intact: <input checked="" type="checkbox"/> / N
	Seat Tracks Held: Y / N				Seat Tracks Held: <input checked="" type="checkbox"/> / N		
	Cracks in VP: Y / N				Cracks in VP: Y <input checked="" type="checkbox"/> N		
	Steering Wheel Deformed: Y / N						
	Column Stroked w/o interference: Y / N						
	Column Stroke: Left: _____ Right: _____						
Post Test COMMENTS: _____ <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="font-size: 1.2em; margin: 0;">NO BAG TO DUMMY CONTACT</p> <p style="font-size: 1.2em; margin: 0;">SEAT / PYRO NORMAL</p> </div>							
OBSERVER: <u>[Signature]</u>							

HYGE Sled Test Summary

Sheet 19

Initiation Date Range
Form 28018

HYGE Run # 19677

Run Date 2 16 199

Test Engineer: Chris Dragan

Test Auth # TA5848

Requester: Dale Parrigo

BUCK # 418

5

MATRX #

Test Title/Description: D185 Due Care Testing

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # _____

PRE-TEST	LEFT Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	DUMMY _____ A/B _____ Belt _____ Seat _____	DUMMY _____ Belt _____ Dr. A/B FMW _____ Pass. FMW _____	DUMMY _____ A/B <u>P-16</u> Belt <u>EEZ</u> Seat <u>S1</u>
	Tracks: power <input type="checkbox"/> manual _____		Tracks: power <input checked="" type="checkbox"/> manual _____
	Position: _____ Welded? Y N		Position: _____ Welded? <input checked="" type="checkbox"/> N
	Instrument Panel: _____		
	Steering Column: _____		
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	CENTER	RIGHT
	Upright <input type="checkbox"/> On Seat	Upright <input type="checkbox"/> On Seat	Upright <input checked="" type="checkbox"/> On Seat
	I/B <input type="checkbox"/> Off Seat	Left <input type="checkbox"/> Off Seat	I/B <input type="checkbox"/> Off Seat
	O/B <input type="checkbox"/> Off Seat	Right <input type="checkbox"/> Off Seat	O/B <input type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact (No Holes):	Y / N	A/B Intact (No Holes): <input checked="" type="checkbox"/> / N
	Face to A/B	I/B Center O/B	Face to A/B
	Contact Location: High Mid Low		Contact Location: High Mid Low
	A/B Cover Attached to Can./Cover:	Y / N	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> / N
	Adj. D-ring Remain in Position:	Y / N	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> / N
	Retractor Intact: Y / N	Locked: Y / N	Retractor Intact: <input checked="" type="checkbox"/> / N
	Buckle Held: Y / N	Webbing Intact: Y / N	Buckle Held: <input checked="" type="checkbox"/> / N
	Seat Tracks Held:	Y / N	Seat Tracks Held: <input checked="" type="checkbox"/> / N
	Cracks in VP:	Y / N	Cracks in VP: <input checked="" type="checkbox"/> / N
	Steering Wheel Deformed:	Y / N	
Column Stroked w/o interference:	Y / N		
Column Stroke: Left: _____		Right: _____	

Post Test COMMENTS: NO A/B DUMMY CONTACT

OBSERVER: C. DRAGAN

TA-5848
Sheet 20

Attachment VI.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 21

Initiation Date Period
Phase: 1981S

TA5848

Run # 19673

Date 2/5/99

D188 Due Care Testing

1

Buck # 418

Reference: H
H
H

Left 95% Hill	DUMMY TYPE	Right 95% Hill
Full Rear	SEAT POSITION	Full Rear
DUMMY NUMBER		

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADD'L
Seat Back Angle (13" above pivot)	27.7	27.8	27.8	27.6	0	+/-1 notch
Pelvic Angle (+/-2.5 deg.; +/-1.0 for 3Mile)	23	22.8	22.8	22		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	3058	3063	3063	3063	12	0
H-Point Vertical Laser # 4	667	653	653	658		0
H-Point Lateral	292	283	-284	297	12	0
Knee Longitudinal Laser # 2	2650			2658		
Knee Vertical Laser # 2	757			764		
Knee Lateral	352	362	-353	353	5	0
Head Longitudinal Laser # 3	3175			3187	level	0
Head Vertical Laser # 3	1354			1361	level	0
Head Lateral	435	428	-427	412	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	226	228	228	226		
Left Knee to Bolster	63			128		0
Right Knee to Bolster	136			145		0
Noes to Steering Wheel Upper Rim or DP	476			645		0
Toes to Steering Wheel Lower Rim	249					0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2730		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					

Notes:

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 22
 Initiator Date Period
 Phone: x16018

TA5848

Run 2 #19674

Date 2/5/99

D186 Due Care Testing

2

Buck # 418

Reference: H
 H
 H

Left	DUMMY TYPE	Right	Center
	SEAT POSITION	64 HR	
	DUMMY NUMBER	Full Rear	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+ mm)	
					1st RUN	ADDL
Seat Back Angle (15" above pivot)			27.8	27	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 396lb)			21	21		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4				312	12	6
H-Point Vertical Laser # 4				643		6
H-Point Lateral				380	12	8
Knee Longitudinal Laser # 3				2777		
Knee Vertical Laser # 2				683		
Knee Lateral				385	6	6
Head Longitudinal Laser # 5				3203	level	6
Head Vertical Laser # 5				1340	level	6
Head Lateral				485	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)				170		6
Left Knee to Bolster				295		6
Right Knee to Bolster				295		6
Nose to Steering Wheel Upper Rim or LP				620		6
Turn to Steering Wheel Lower Rim				675		6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739			2739		
Reference Target Absolute Vertical	608			607		
Reference Target Absolute Lateral	-672			673		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	1st RUN	ADDL
Knee (target) Lateral				335		
Thigh Lateral				340		
Phantom Lateral				345		
Shoulder Lateral				390		
Other						
Other						
Other						
Knee to H-Point				290		
Knee to Phantom				270		
Knee to Thigh				790		
Distance Between A or B Pilar Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Current Angle					< 5 deg.	< 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 23

Inch/Inch: Data Package
Phone: 26016

TA5848

Run 3

Date 1-5-99

D188 Due Care Testing

3

Buck # 418

Reference: H18288
H
H

	Left	Right	Center
	DUMMY TYPE	6 yr. old	
	SEAT POSITION	Full Rear	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADDFL
Seat Back Angle (13° above pivot)					0	± 1 notch
Pelvic Angle (± 2.5 deg; ± 1.0 for SRA)			21			
Column Angle					at left	at left
H-Point Longitudinal Laser # 4					12	8
H-Point Vertical Laser # 4						8
H-Point Lateral				380	12	8
Knee Longitudinal Laser # 2						
Knee Vertical Laser # 2						8
Knee Lateral				390	8	8
Head Longitudinal Laser # 5					level	8
Head Vertical Laser # 5					level	8
Head Lateral				425	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)						8
Left Knee to Bolster						8
Right Knee to Bolster						8
Neck to Steering Wheel Upper Rim or IF						8
Torso to Steering Wheel Lower Rim						8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 24

Revision: Dale Pugh
Phone: x32110

TA5848

Run #: 19675

Date 2-5-99

D186 Due Care Testing

4

Buck # 418

Reference: H19273

H
H

Left	DUMMY TYPE	Right	Center
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (+/- mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)					0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 3° side)			21			
Column Angle					at left	at left
H-Point Longitudinal Layer # 4	2416			2567	12	0
H-Point Vertical Layer # 4	1667			690		0
H-Point Lateral	350		330	330	12	0
Knee Longitudinal Layer # 2	2499			2581		
Knee Vertical Layer # 2	758			739		
Knee Lateral	375		375	375	6	0
Head Longitudinal Layer # 5	3006			2980	level	0
Head Vertical Layer # 5	1236			1263	level	0
Head Lateral	435		436	435	level	0
Dynamic Neck Adjustment (from run 1 with 1)						
Knee Centerline to Knee Centerline (max)	170			170		
Left Knee to Bolster	35			50		0
Right Knee to Bolster	16			60		0
Neck to Steering Wheel Upper Rim or I/P	230			400		0
Torso to Steering Wheel Lower Rim	75					0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS

Knee (target) Lateral	415			360		
Thigh Lateral	340			250		
Phantom Lateral	335			330		
Shoulder Lateral	290			300		
Other						
Other						
Other						
Knee to H-Point	280					
Knee to Phantom	215					
Knee to Thigh	100					
Distance Between A or B Pillar Targets						
Upper or Forward Reference Target						
Lower or Rear and Reference Target						
Reference Bar to Film Plane						
Camera Arm						
					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 25
Initiation Date Range
Form 138018

TA5848

Run 5 19677

Date 8-6-99

D186 Due Care Testing

5

Buck # 418

Reference: H10273
H
H

Left	DUMMY TYPE	Right	Center
	SEAT POSITION	3-Year	
	DUMMY NUMBER	Full Rear	

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)					0	+/-1 notch
Pelvis Angle (+/- 2.5 deg.; +/- 1.0 for 5Mile)			21			
Column Angle					at left	at left
H-Point Longitudinal Laser # 4					12	8
H-Point Vertical Laser # 4						8
H-Point Lateral					12	8
Knee Longitudinal Laser # 2						
Knee Vertical Laser # 2						
Knee Lateral					8	8
Head Longitudinal Laser # 5					level	8
Head Vertical Laser # 5					level	8
Head Lateral					level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)						8
Left Knee to Bolster						8
Right Knee to Bolster						8
Notes to Steering Wheel Upper Rim or VP						8
Notes to Steering Wheel Lower Rim						8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2739			2739		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

TA-5848
Sheet 26

Attachment VII.
Photographic Set-Up

Sheet 27

PHOTOGRAPHIC REQUEST SHEET FOR

TA5848

Inhibitor: Dale Perrigo
Phone: x36018

TEST DESCRIPTION: D186 Dns Car Testing

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

2	Over Shoulder Head to Airbag	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right	
2	Belt "D" Ring (belted tests only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right	
2	Belt Retractor (belted tests only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right	Low angle, cross back
2	Belt Buckle, Inboard (belted tests only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right	
	Inboard Knee to I/P Contact		Left		Right	
	Steering Column Stroke					
	Inner Instrument Panel					
	Dummy Roll Out		Left	Center	Right	
	Seat Tracks		Lt Inbd	Lt o/b	Rt Inbd	Rt o/b
	Fiber Optics					

• OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Video: _____

• OUTRIGGER Cameras:

2	Overall Kinematics (FA)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Knee to Bolster		Left		Right
	Chest to Steering Wheel		Left		Right
	Retractor Payout, Cross-car		Left		Right
	Lap Belt on Dummy		Left		Right
	Seat Track/Cushion		Left		Right

• OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
 High Speed Video: _____
 High Speed Video: _____

• OFF-BOARD Cameras

Offboard - Floor Overall _____
 Offboard - Kinematics _____

Total On-BUCK Cameras = 8

Total OUTRIGGER Cameras = 2

DIGITAL STILL PHOTOGRAPHS:

Pre & Post Test Overalls	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
Knee Bolster(s)	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
A/B Face Print	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
Other:	_____			
Other:	_____			
Other:	_____			
Other:	_____			

ADDITIONAL INFO:

5	Number of Runs
0	Requestor High Speed Films
0	Safety Lab High Speed Films
0	VHS Copies of H.S. Films
0	VHS Copies of H.S. Video

Refer this to TA	
Requestor Info:	Dept. Name: Vehicle Crash Safety
	Dept. No.: T551
	Work Task No.: F09
	Requestor: Dale Perrigo
	Phone No.: x36018

Additional Comments: _____

Sheet 28

FILM ANALYSIS REQUEST SHEET FOR

TA5848

Initiator: Dale Perrigo
Phone: x56018

FILM ANALYSIS:

_____ Head Disp. & Velocity wrt _____

_____ Shoulder Disp. & Velocity wrt _____

_____ H-pt Disp. & Velocity wrt _____

_____ Knee Disp. & Velocity wrt _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

**Final Test Report
Confidential**

Test Order No.: TE0317
Subject: 2000 D186 RETRACTOR EVALUATION
HYGE SLED SERIES
Requested By: K. WARMANN
(Dept.): T551
Date Received: 8/13/98
Work Task No.: F08
Test Facility: HYGE
Test Dates: 8/14/98
Run Numbers: N19345-348
Procedure(s): T857-100, T857-108
Date Reported: 10/1/98
Page: 1 of 16



DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) thru:	2003
Schedule Number:	7-4-2

Objective:

To evaluate the passenger side retractor for D186.

Summary:

Four tests were conducted on the Hyge sled using one 95%, or up to two 50% Hybrid III test dummies (all instrumented). The testing was conducted using the rigid DN101 body buck (#406). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

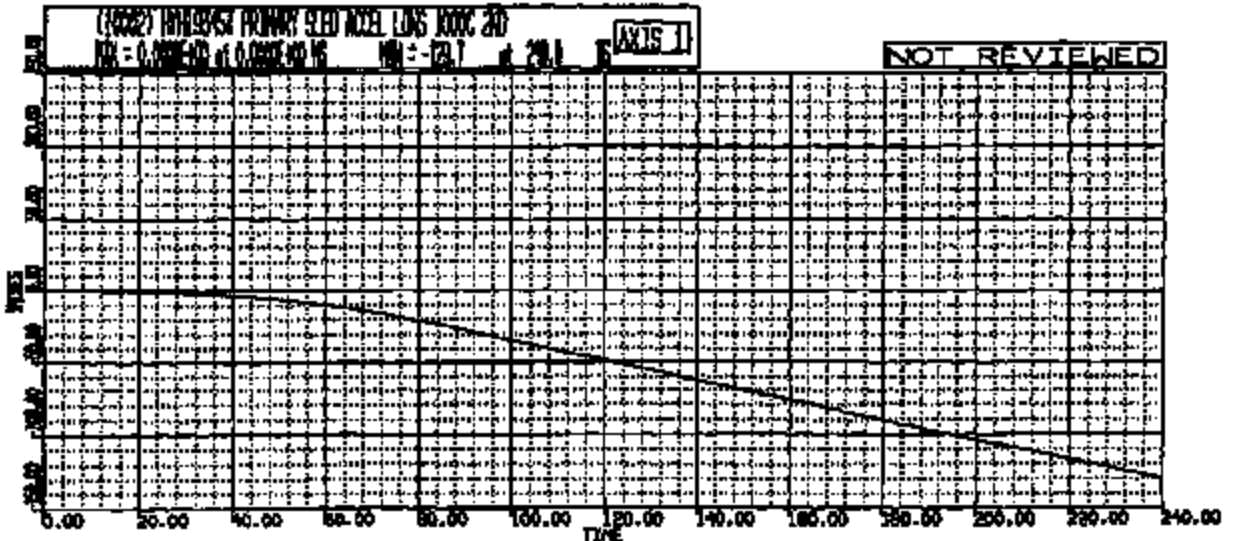
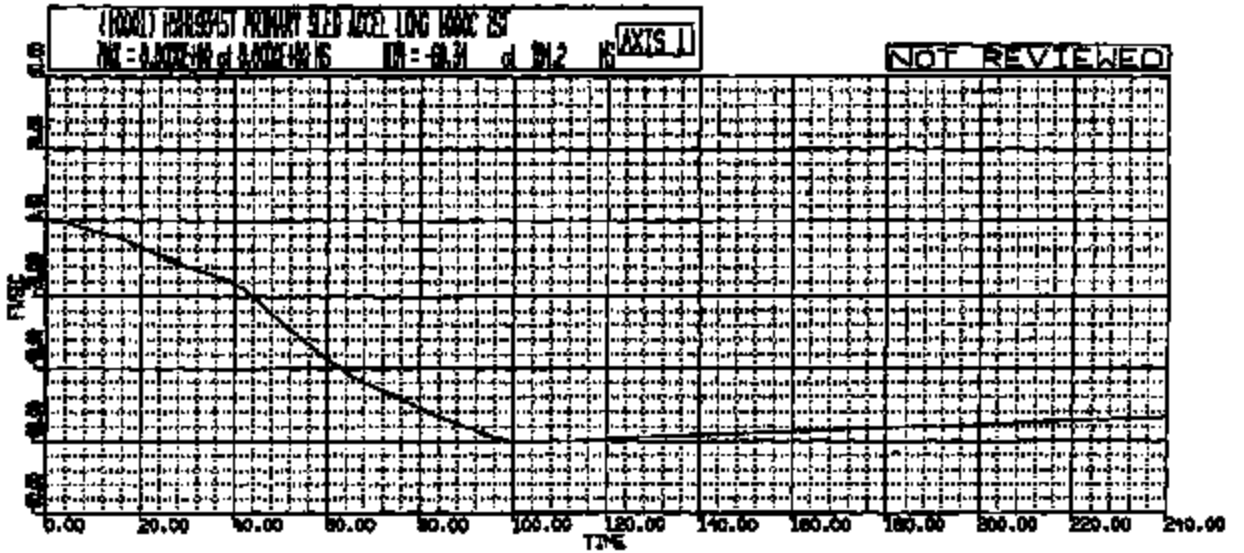
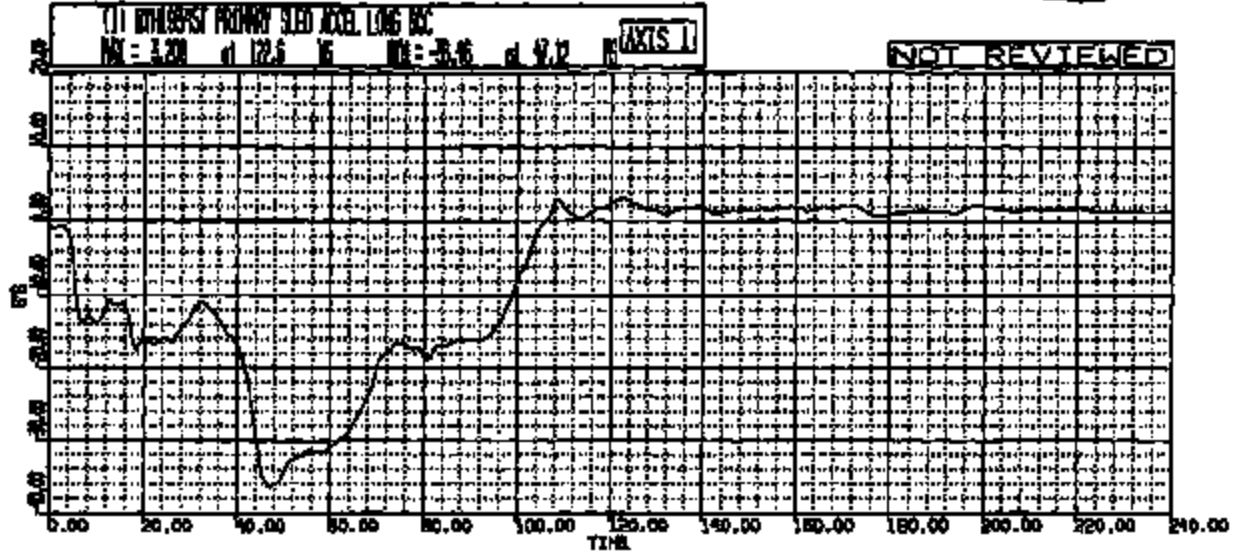
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- II. Sled Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheets

Concur:

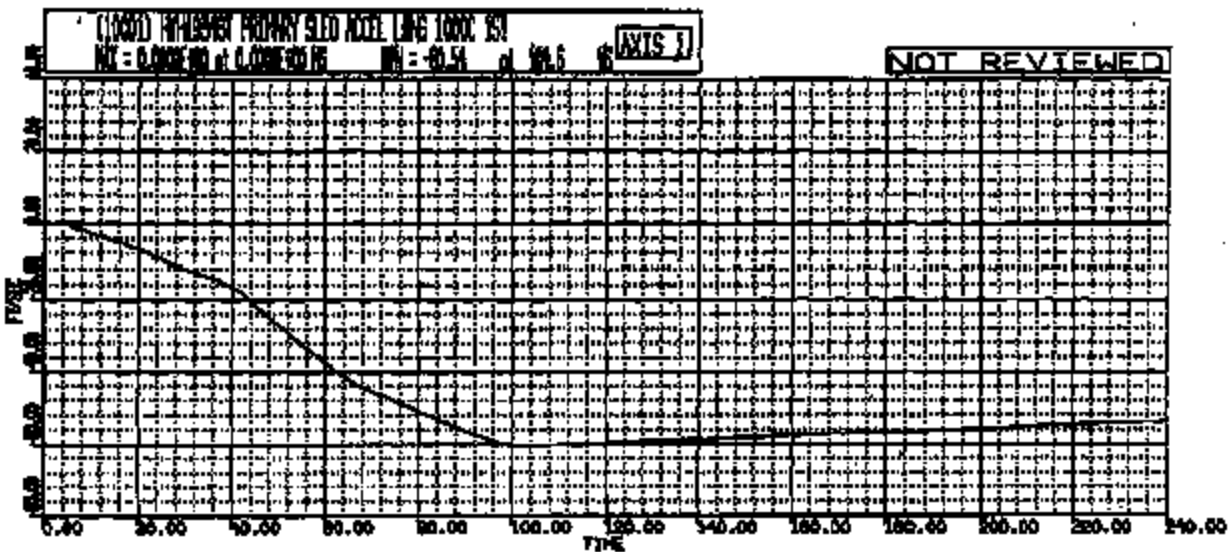
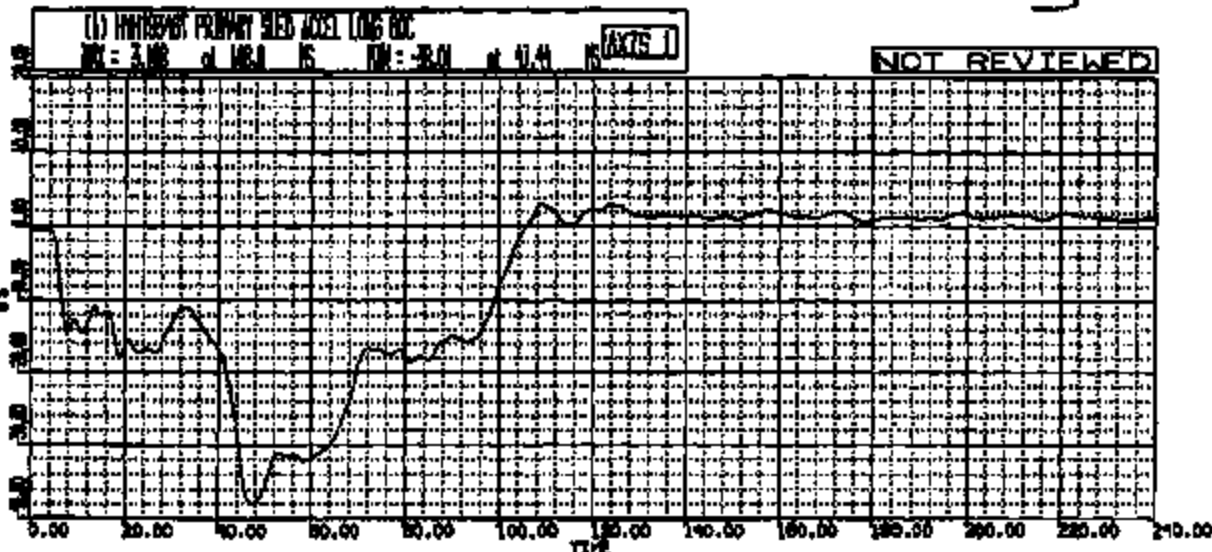

R. N. BURNS
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

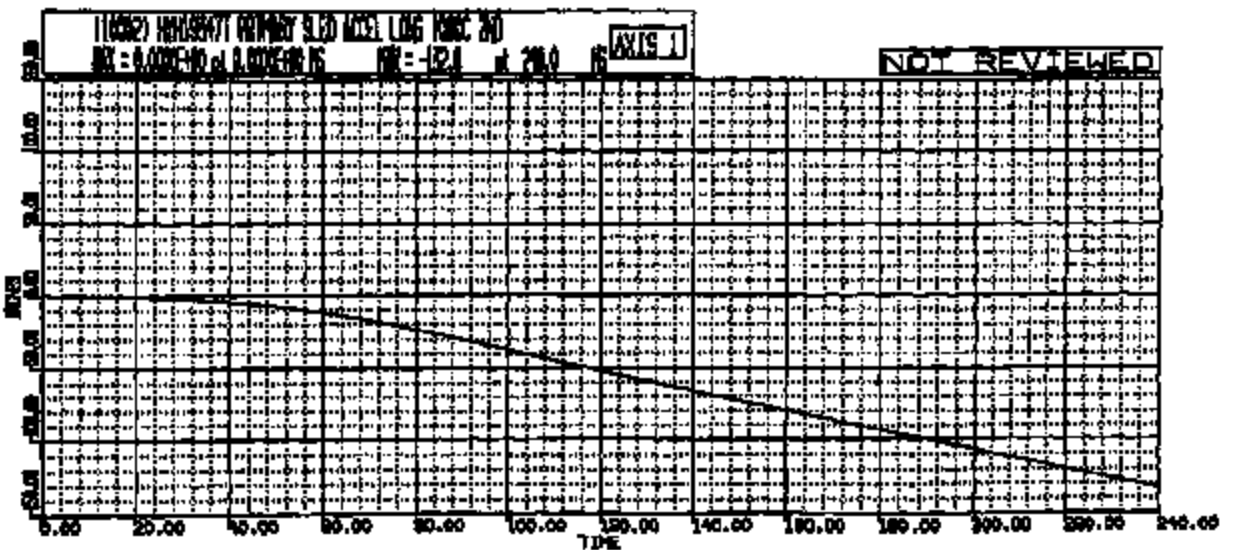
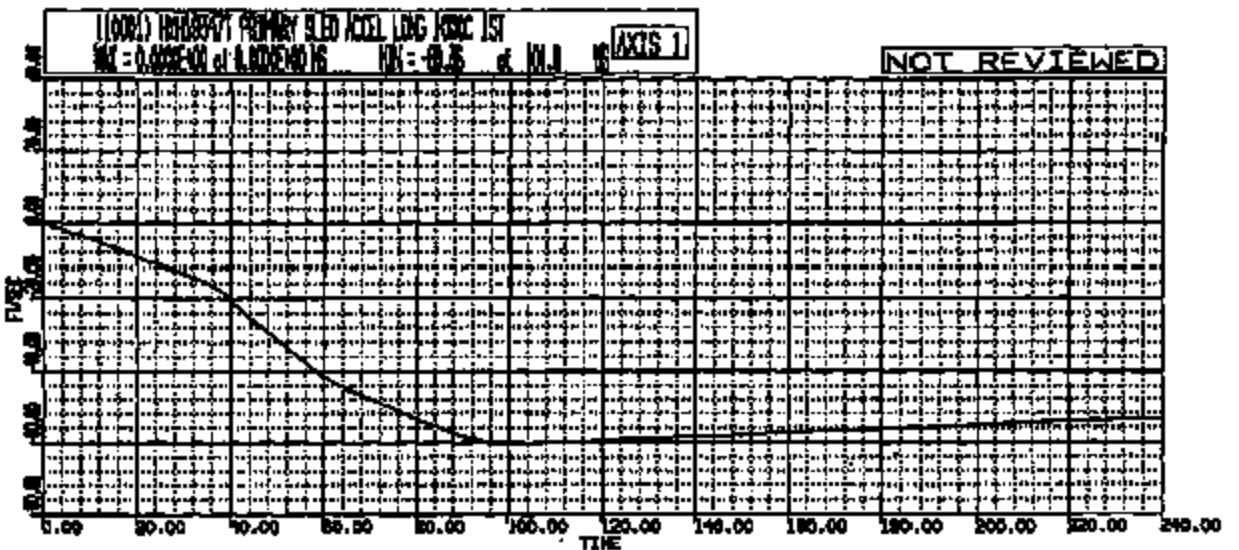
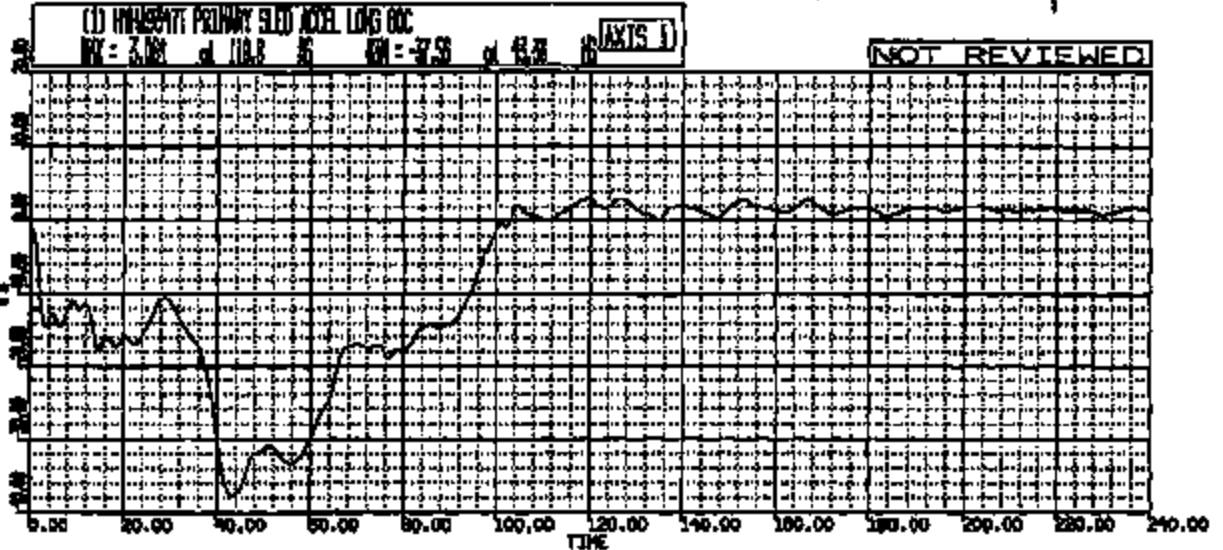
HY R3 H18345 TO: TB0317B DATE: 880814 15:58:27
UNKNOWN



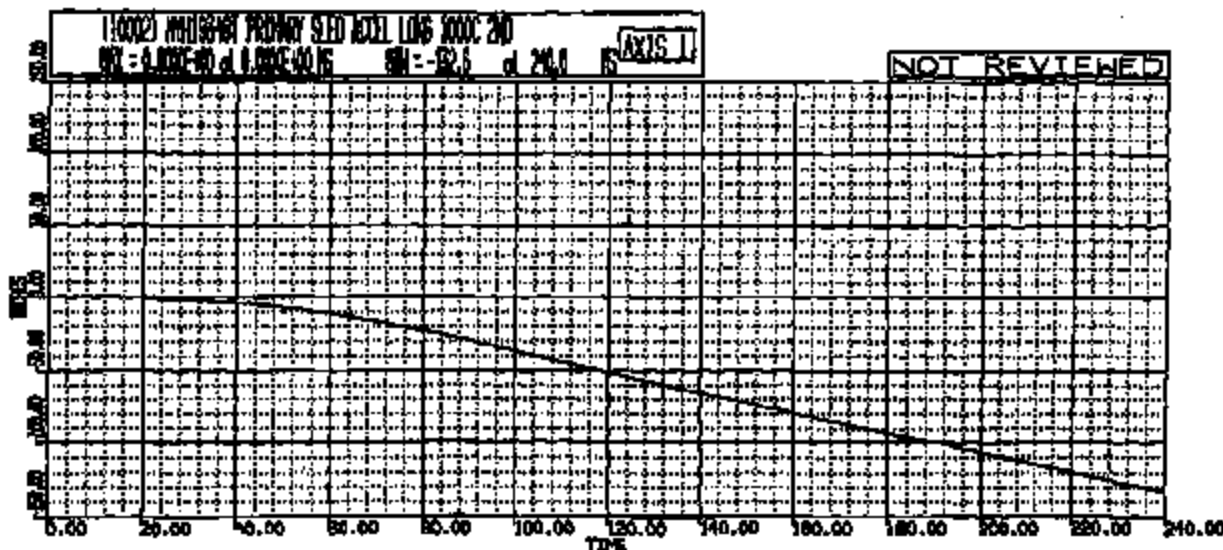
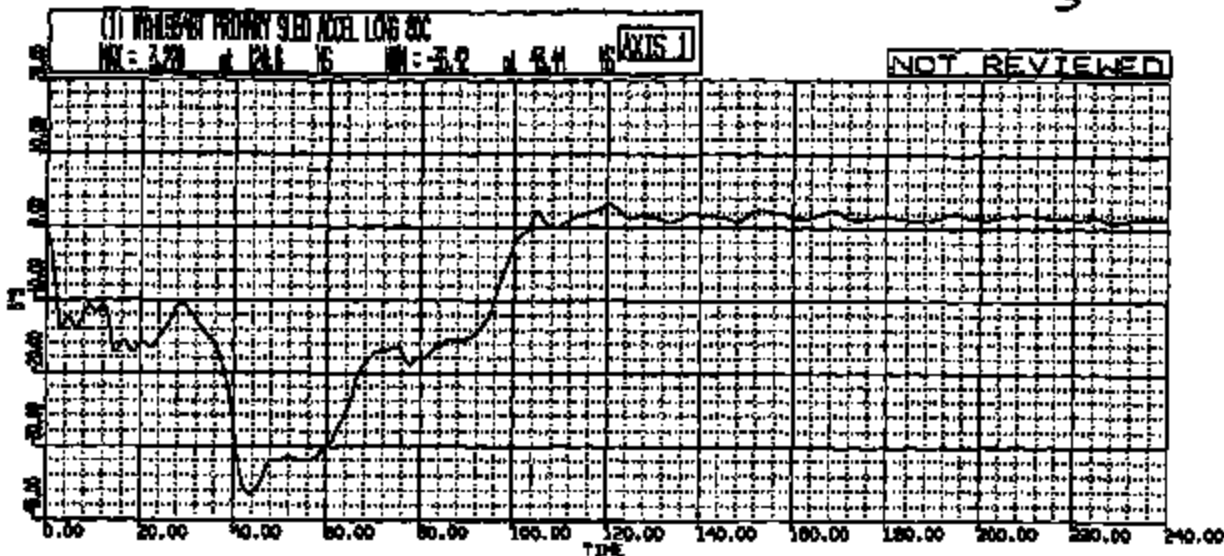
HY R: H18848 TO: TB0317A DATE: 980814 17:30:55
UNKNOWN



HY R: H19347 TO: TB0317A DATE: 980814 18:37:00
UNKNOWN




MY RE: H19348 TO: TB0317B DATE: 980814 21:26:27 UNKNOWN



RUN #	L.A. #	TEST TYPE	DATE	TIME	DATA CHAN.	WORKS (LBS)	HFCL	SECOE	LOAD	SET	BRAKE	BUCK #	VELOCITY (MPH)	LEF	DURANT SPN CENTER	INCH	PER	INER SMC	OUTER RING
1934	19317B	DN10	8/14/78	15:55	8	8404	130	51	2728	486	208	405	36	-	-	217	54A	IN	IN
1934	19317A	DN10	8/14/78	17:30	7	8974	130	51	2888	478	210	405	33	309	-	217	54A	IN	IN
1934	19317A	DN10	8/14/78	18:37	7	8874	130	51	2888	472	210	405	33	309	-	217	54A	IN	IN
1934	19317B	DN10	8/14/78	21:26	5	8875	130	51	2888	472	210	405	33	309	-	217	54A	IN	IN

ATTACHMENT D
 TB-0317
 Sheet 6

 GTO Test Request		Requester/Coordinator (PROPS ID):	
		DPERRIGO	
Testing Activity: HYGE and VIA Sled		Date Submitted: 12-AUG-98	Requested Completion Date: 14-AUG-98
Requester Reference Number:			
Test Procedure Number: HYG-00	Test Title and / or Subject of Test: D180 Passenger Side Retractor Test		
Requester Dept No.: T851 AV2215A	Workorder/Work Order Number: F00	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Requester PROPS ID: DPERRIGO	Requester Name: DALE PERRIGO		
<p>Complete the following two questions as indicated</p> <p>1 - Rational for not replacing this test by CAE Analysis:</p> <p><input checked="" type="checkbox"/> No CAE Methodology or process available</p> <p><input type="checkbox"/> For CAE Correlation</p> <p><input type="checkbox"/> Insufficient confidence in CAE</p> <p><input type="checkbox"/> To obtain base data for CAE</p> <p><input type="checkbox"/> Replacement or improvement of existing Test</p> <p><input type="checkbox"/> Testing is Quicker</p> <p><input type="checkbox"/> Mandatory or Regulatory</p> <p><input type="checkbox"/> Certification</p> <p><input type="checkbox"/> Development test for PSS</p> <p><input type="checkbox"/> Not applicable</p> <p>Other: _____</p> <p>(Check appropriate boxes)</p>		<p>2 - What is the expected Test Outcome:</p> <p><input type="checkbox"/> Results will meet DVP/NCRI requirements</p> <p><input type="checkbox"/> System Component will not meet Test specification</p> <p><input checked="" type="checkbox"/> Unknown</p> <p><input type="checkbox"/> Above is Based on CAE?</p> <p>Other: _____</p> <p>(Check appropriate boxes)</p>	
<p>Test Purpose/Test Procedure or Description of Test:</p> <p>HYGE Test Procedure T857-110</p>			
<p>Signature Approvals (As Required for Control Purposes)</p> <p>Requesting Engineer <u>DALE PERRIGO</u> Testing Engineer _____</p> <p>Requesting Supervisor/Manager <u>ALAN TALE</u> Testing Supervisor _____</p>			

HYGE Sled Test Summary

Initiator: Dale Ferrigo
Phone: 25818

HYGE Run H 19345
Test Engineer: Wjm Van Glabbeek
Requester: Dale Ferrigo

Run Date 8 11 1998
Test Auth # TE0917
BUCK # 406

1
MATRIX #

Test Title/Description: Passenger Side Retractor Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin #: _____

TIME	LEFT	RIGHT	
	Airbag: _____ ms	Airbag: _____ ms	
	Pyro Buckle: _____ ms	Pyro Buckle: <u>12</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	CENTER	RIGHT
	Dummy _____	Dummy _____	Dummy <u>95%</u>
	A/B _____	Belt _____	A/B _____
	Belt _____	_____	Belt _____
	Seat _____	Dr. AB FM _____	Seat _____
	Tracks: power manual _____	Pass. FM _____	Tracks: power <u>manual</u>
	Position: _____	Welded? Y N _____	Position: <u>FR</u> <u>HYDR</u> Y N
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE			MID			RIGHT				
	Upright	I/B	O/B	Upright	Left	Right	Upright	I/B	O/B		
	On Seat	Off Seat		On Seat	Off Seat	Off Seat	On Seat	Off Seat	Off Seat		
A/B Intact (No Holes):				Y / N					Y / N		
Face to A/B		I/B	Center	O/B			Face to A/B	I/B	Center	O/B	
Contact Location:		High	Mid	Low			Contact Location:	High	Mid	Low	
A/B Cover Attached to Can./Cover:				Y / N			A/B Cover Attached to Can./Cover:			Y / N	
Adj. D-ring Remains in Position:				Y / N			Adj. D-ring Remains in Position:			O / N	
Retractor Intact:	Y / N		Locked:	Y / N			Retractor Intact:	O / N		Locked:	O / N
Buckle Held:	Y / N		Webbing Intact:	Y / N			Buckle Held:	O / N		Webbing Intact:	O / N
Seat Tracks Held:				Y / N			Seat Tracks Held:				Y / N
Cracks in I/P:				Y / N			Cracks in I/P:				Y / N
Steering Wheel Deformed:				Y / N							
Column Stroked w/o Interference:				Y / N							
Column Stroke:	Left: _____						Right: _____				

Post Test COMMENTS:
PYRO ROTATED DOWNWARD -
MULTI PAY OUT

OBSERVER: Wjm

HYGE Sled Test Summary

Sheet 10

Division Dale Perrigo
Phone: 436018

HYGE Run H 15346

Run Date 8/14/98

Test Engineer: Wim Van Glabbeek

Test Auth # T80317

Requester: Dale Perrigo

BUCK # 406

2

MATRIX #

Test Title/Description: Passenger Side Retractor Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # _____

LEFT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>50%</u> A/B _____ Belt _____ Seat _____	CENTRE	Dummy _____ Belt _____ Dr. A/B FM _____ Pass. FM _____
	Tracks: power <u>ON</u> Position: <u>MID</u> Welded? <input checked="" type="radio"/> Y <input type="radio"/> N		Tracks: power <u>ON</u> Position: <u>FE</u> Welded? <input type="radio"/> Y <input checked="" type="radio"/> N
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE Upright <input checked="" type="checkbox"/> Y <input type="checkbox"/> N On Seat <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Off Seat <input type="checkbox"/> N	Upright <input type="checkbox"/> N On Seat <input type="checkbox"/> N Left Off Seat <input type="checkbox"/> N Right Off Seat <input type="checkbox"/> N	RIGHT SIDE Upright <input checked="" type="checkbox"/> Y <input type="checkbox"/> N On Seat <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Off Seat <input type="checkbox"/> N
A/B Intact (No Holes): <u>Y/N</u> Face to A/B <u>MS</u> Center <u>MS</u> O/B _____ Contact Location: <u>High</u> Mid Low		A/B Intact (No Holes): <u>Y/N</u> Face to A/B <u>MS</u> Center <u>MS</u> O/B _____ Contact Location: <u>High</u> Mid Low
A/B Cover Attached to Can./Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u> Steering Wheel Deformed: <u>Y/N</u> Column Stroked w/o Interference: <u>Y/N</u>		A/B Cover Attached to Can./Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u>
Column Stroke: Left: _____		Right: _____

Post Test COMMENTS:

Y D-RING BOPING - BELT
GUIDE OUT

R NOTHING UNUSUAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 11

Initiator Date Perigo

Form: 156818

HYGE Run H 19347

Run Date 8/14/98

Test Engineer: Wm Van Glabbeek

Test Auth # TB0317

Requester: Dale Perigo

BUCK # 405

3

MATRIX #

Test Title/Description: Passenger Side Retractor Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # 549

PRE-TEST OBSERVATIONS	<p>LEFT Airbag: _____ ms RIGHT Airbag: _____ ms</p> <p>Pyro Buckle: <u>LD</u> ms Pyro Buckle: <u>LD</u> ms</p>		
POST-TEST OBSERVATIONS	<p>LEFT Dummy <u>5070</u></p> <p>A/B _____</p> <p>Belt _____</p> <p>Seat _____</p> <p>Tracks: power <u>_____</u></p> <p>Position: <u>Mid</u> Welded? <input checked="" type="radio"/> N</p>	<p>CENTER Dummy _____</p> <p>Belt _____</p> <p>Dr. AB FMF _____</p> <p>Pass. FMF _____</p>	<p>RIGHT Dummy <u>5070</u></p> <p>A/B _____</p> <p>Belt _____</p> <p>Seat _____</p> <p>Tracks: power <u>_____</u></p> <p>Position: <u>Mid</u> Welded? <input checked="" type="radio"/> N</p>
	<p>Instrument Panel: _____</p> <p>Steering Column: _____</p> <p>Pre-Test OBSERVATIONS: _____</p>		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p>LEFT SIDE</p> <p>Upright <input checked="" type="checkbox"/> On Seat I/B <input checked="" type="checkbox"/> Off Seat O/B <input checked="" type="checkbox"/> * <u>Sec 100</u></p> <p>A/B Intact (No Holes): <u>sec 100</u></p> <p>Face to A/B: I/B <u>_____</u> Center <u>_____</u> O/B <u>_____</u></p> <p>Contact Location: <u>High</u> <u>Mid</u> <u>Low</u></p> <p>A/B Cover Attached to Can./Cover: <u>Y/N</u></p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y Locked: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N</p> <p>Seat Tracks Held: <u>_____</u> Y / N</p> <p>Cracks in IP: <u>_____</u> Y / N</p> <p>Steering Wheel Deformed: <u>_____</u> Y / N</p> <p>Column Stroked w/o Interference: <u>_____</u> Y / N</p> <p>Column Stroke: Left: _____ Right: _____</p>	<p>RIGHT SIDE</p> <p>Upright <input checked="" type="checkbox"/> On Seat I/B <input checked="" type="checkbox"/> Off Seat O/B <input checked="" type="checkbox"/></p> <p>A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: I/B <u>_____</u> Center <u>_____</u> O/B <u>_____</u></p> <p>Contact Location: <u>High</u> <u>Mid</u> <u>Low</u></p> <p>A/B Cover Attached to Can./Cover: <u>Y/N</u></p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y / N Locked: <input checked="" type="checkbox"/> Y / N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y / N Webbing Intact: <input checked="" type="checkbox"/> Y / N</p> <p>Seat Tracks Held: <u>_____</u> Y / N</p> <p>Cracks in IP: <u>_____</u> Y / N</p>
---	--

Post Test COMMENTS:

2/ MUCH BELT PAY OUT

L/ DAY OUT TO SPOOL - SEAT

BACK RELEASED ON REBOUNDED

COBLE ON I/B STRENGTH

OBSERVER: MST

HYGE Sled Test Summary

Sheet 12

Initiator: Dale Perigo
Phone: x5018

HYGE Run. # 19348
 Test Engineer: Wim Van Glabbeek
 Requester: Dale Perigo

Run Date 8/14/98
 Test Auth # TB0317
 BUCK # 406

4

MATRIX #

Test Title/Description: Passenger Side Retractor Evaluation

Crash/HYGE Pulse Rat: _____ Simulated Speed: _____ Ph: 5A

PRE-TEST OBSERVATIONS	LEFT Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT Airbag: _____ ms Pyro Buckle: <u>10</u> ms	
	Dummy _____ AB _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y</u> N	Dummy _____ Belt _____ Dr. AB FMH _____ Pass. FMH _____ Position: _____ Welded? <u>Y</u> N	Dummy <u>50%</u> AB _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y</u> N
	Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright	VB	O/B	RIGHT	Upright	Left	Right	VB	O/B
		On Seat	Off Seat			On Seat	Off Seat			Off Seat
LEFT SIDE		A/B Intact (No Holes):		Y / N		A/B Intact (No Holes):		Y / N		
		Face to A/B	VB	Center	O/B		Face to A/B	VB	Center	O/B
		Contact Location:	High	Mid	Low		Contact Location:	High	Mid	Low
		A/B Cover Attached to Can./Cover:		Y / N		A/B Cover Attached to Can./Cover:		Y / N		
		Adj. D-ring Remain in Position:		Y / N		Adj. D-ring Remain in Position:		Y / N		
		Retractor Intact:	Y / N	Locked:	Y / N		Retractor Intact:	Y / N	Locked:	Y / N
		Buckle Held:	Y / N	Webbing Intact:	Y / N		Buckle Held:	Y / N	Webbing Intact:	Y / N
		Seat Tracks Held:		Y / N		Seat Tracks Held:		Y / N		
		Cracks in IP:		Y / N		Cracks in IP:		Y / N		
		Steering Wheel Deformed:		Y / N		Steering Wheel Deformed:		Y / N		
	Column Stroked w/o Interference:		Y / N		Column Stroked w/o Interference:		Y / N			
	Column Stroked:	Left:			Right:					
Post Test COMMENTS: _____ <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="font-size: 1.2em;">NOTHING UNUSUAL - ?</p> <p style="font-size: 1.2em;">ROPING THEN D-RING</p> </div>										
										OBSERVER: <u>AST</u>

ATTACHMENT VI Sheet 13
HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Initiator: Dale Parigo
Phone: x56818

TB0317

Run H 19345

Date 8-14-98

Passenger Side Retractor Evaluation

1

Buck # 406

Reference: H
H
H

Left	DUMMY TYPE	Right	Center
	SEAT POSITION	Full Back	
	DUMMY NUMBER	647	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (±.mm)	
					1st RUN	ADDL
Seat Back Angle (13" curve pivot)			27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 3960s)			22.8	23		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4			348	345	12	6
H-Point Vertical Laser # 4			214	-814		6
H-Point Lateral			192	207	12	6
Knee Longitudinal Laser #			85	-65		
Knee Vertical Laser #			100	-100		
Knee Lateral			220	230	6	6
Head Longitudinal Laser # 5			480	490	level	6
Head Vertical Laser # 5			473	495	level	6
Head Lateral			380	350	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)			228	225		
Left Knee to Bolster						6
Right Knee to Bolster						6
Nose to Steering Wheel Upper Rim or LP						6
Toes to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS			
Knee (target) Lateral			204
Thigh Lateral			207
Phantom Lateral			213
Shoulder Lateral			147
Other			
Other			
Other			
Knee to H-Point			
Knee to Phantom			
Knee to Thigh			
Distance Between A or B Pillar Targets			61
Upper or Forward Reference Target			25
Lower or Rearward Reference Target			36
Reference Bar to Film Plane			1036
Camera Angle			
			< 5 deg.
			< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 14
Initiator: Dale Pasig
Phone: 456018

TB0317

Run H 19346

Date 8/14

Passenger Side Retractor Evaluation

2

Buck # 406

Reference: H
H
H

	Left	Right	Center
	GHR3	GHR3	
	DUMMY TYPE		
	MID	Full Back	
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
						1st RUN	ADD'L
Seat Back Angle (15° above pivot)			27.8	27.8		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 59486)			22.6	22.6			
Chest Angle						at left	at left
H-Point Longitudinal	Laser # 4	232	232	348	343	12	0
H-Point Vertical	Laser # 4	-196	-188	214	214		0
H-Point Lateral		216	210	182	190	12	0
Knee Longitudinal	Laser # 1	-188	-188	65	65		
Knee Vertical	Laser # 2	-98	-98	100	100		
Knee Lateral		265	284	220	228	8	8
Head Longitudinal	Laser # 5	347	347	480	470	level	0
Head Vertical	Laser # 5	381	448	473	495	level	0
Head Lateral		327	323	360	360	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		240	240	225	225		
Left Knee to Bolster							0
Right Knee to Bolster							8
Nose to Steering Wheel Upper Rim or IP							8
Torso to Steering Wheel Lower Rim							8
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal							
Reference Target Absolute Vertical							
Reference Target Absolute Lateral							

FILM ANALYSIS							
Knee (target) Lateral		230				198	
Thigh Lateral		270				300	
Phantom Lateral		270				300	
Shoulder Lateral		150				130	
Other							
Other							
Other							
Knee to H-Point		350					
Knee to Phantom		335					
Knee to Thigh		80					
Distance Between A or B Film Targets		61				61	
Upper or Forward Reference Target		28				28	
Lower or Rearward Reference Target		38				38	
Reference Bar to Film Plane		1108				1038	
Chest Angle							

< 6 deg.	< 6 deg.
----------	----------

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 15

Edition Date: Rev 25018

TB0317

Run H 19347

Date 8-14-98

Passenger Side Retractor Evaluation

3

Buck # 405

Reference: H
H
H

Left 60HS	DUMMY TYPE	Right 60HS	Center
MID	SEAT POSITION	MID	
	DUMMY NUMBER		

POSITIONING	Laser #	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (+ mm)	
		LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Seat Back Angle (13° above plumb)		27	27.8	27.8	27	0	+/-1 notch
Footplate Angle (+/- 2.5 deg.; +/-1.0 for 574As)		23	22.5	22.5	23		
Column Angle						at left	at left
H-Point Longitudinal	Laser #	232	232	231	231	12	8
H-Point Vertical	Laser #	156	-188	-188	158		8
H-Point Lateral		210	210	211	210	12	8
Knee Longitudinal	Laser #	168	-188	-188	168		
Knee Vertical	Laser #	98	-88	-71	-71		
Knee Lateral		265	284	285	265	8	8
Head Longitudinal	Laser #	347	347	333	333	level	8
Head Vertical	Laser #	458	448	434	454	level	8
Head Lateral		325	323	324	325	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		240	240	184	198		
Left Knee to Bolster							8
Right Knee to Bolster							8
Nose to Steering Wheel Upper Rim or IP							8
Torso to Steering Wheel Lower Rim							8
Reference Target to Seat Bolt Longitudinal							
Reference Target to Seat Bolt Vertical							
Reference Target to Seat Bolt Lateral							
Reference Target Absolute Longitudinal							
Reference Target Absolute Vertical							
Reference Target Absolute Lateral							

FILM ANALYSIS

Knee (target) Lateral	270		235	
Thigh Lateral	215		220	
Flank Lateral	215		205	
Shoulder Lateral	165		190	
Other				
Other				
Other				
Knee to H-Point			350	
Knee to Flank			270	
Knee to Thigh			85	
Distance Between A or B Pillar Targets	61		61	
Upper or Forward Reference Target	25		25	
Lower or Rearward Reference Target	35		35	
Reference Bar to Film Plane	1108		1038	
Camera Angle				< 8 deg. < 8 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 16

Exhibitor Data Page
Form: 40018

TB0317

Run H 19348

Date 8-14-98

Passenger Side Retractor Evaluation

4

Buck # 405
Reference: H
H
H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)			27.8	25	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 394ls)			22.9	25		
Column Angle					at left	at left
H-Point Longitudinal Laser #			231	221	12	8
H-Point Vertical Laser #			-108	108		8
H-Point Lateral			211	211	12	8
Knee Longitudinal Laser #			-188	188		
Knee Vertical Laser #			-71	71		
Knee Lateral			205	205	8	8
Head Longitudinal Laser #			333	333	level	8
Head Vertical Laser #			434	434	level	8
Head Lateral			324	326	level	8
Dummy Neck Adjustment (Seat on only)						
Knee Centerline to Knee Centerline (mm)			194	195		
Left Knee to Bolster						8
Right Knee to Bolster						8
Neck to Steering Wheel Upper Rim or 1/P						8
Trunk to Steering Wheel Lower Rim						8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS			
Knee (target) Lateral			232
Thigh Lateral			220
Phantom Lateral			210
Shoulder Lateral			175
Other			
Other			
Other			
Knee to H-Point			
Knee to Phantom			
Knee to Thigh			
Distance Between A or B Film Targets			81
Upper or Forward Reference Target			28
Lower or Rearward Reference Target			38
Reference Bar to Film Plane			1036
Column Angle			

Notes: _____



Final Test Report
Confidential



Test Order No.: TB0407
Subject: 2000 D185 FRONT RETRACTOR EVAL.
HYGE SLED SERIES '18'
Requested By: K. WARMANN
(Dept.): T651
Date Received: 8/24/98
Work Task No.: F09
Test Facility: HYGE
Test Dates: 8/28 - 8/31/98
Run Numbers: H18368 - 377
Procedure(s): T657-100, T657-108
Data Reported: 12/21/98
Page: 1 of 34

Check Stamped by:	
Print Record Copy	
(Red Stamped) Title:	2003
Schedule Number:	7-4-2

Objective:

To evaluate the structural integrity of the Breed retractor and also evaluate the reduced output pyro belt pretensioner for D185.

Summary:

Ten tests were conducted on the Hyge sled using two instrumented 50% Hybrid III test dummies. The testing was conducted using the rigid DN101 body buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

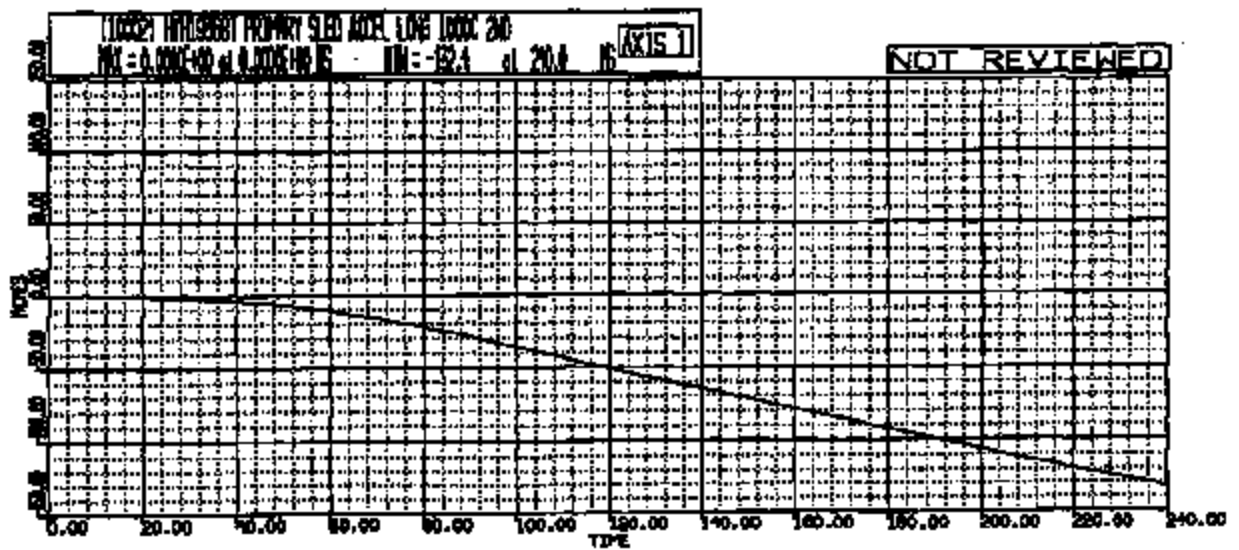
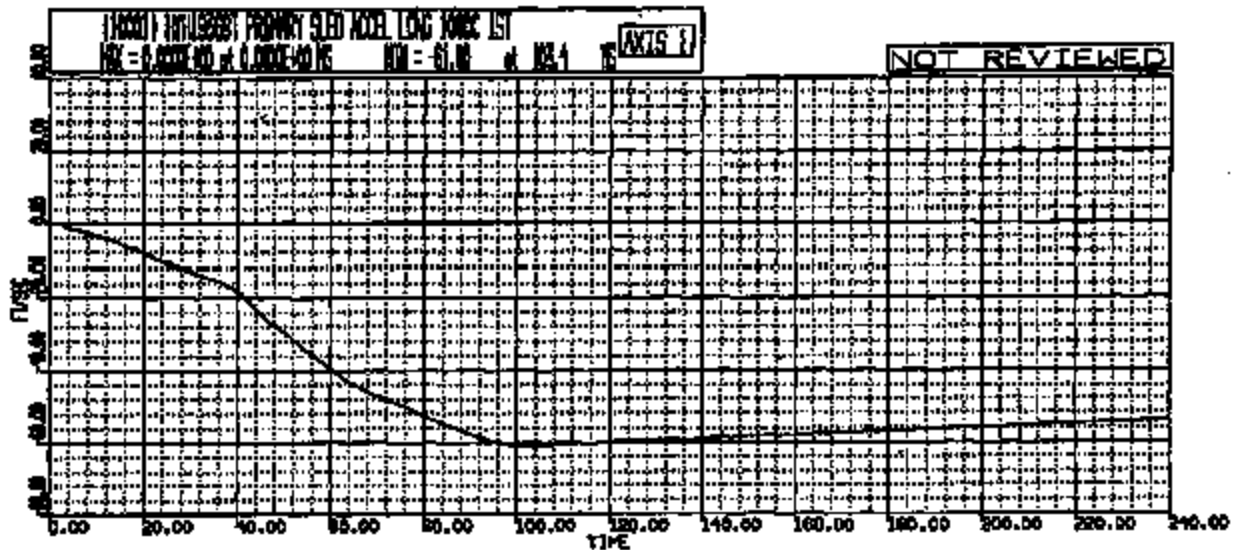
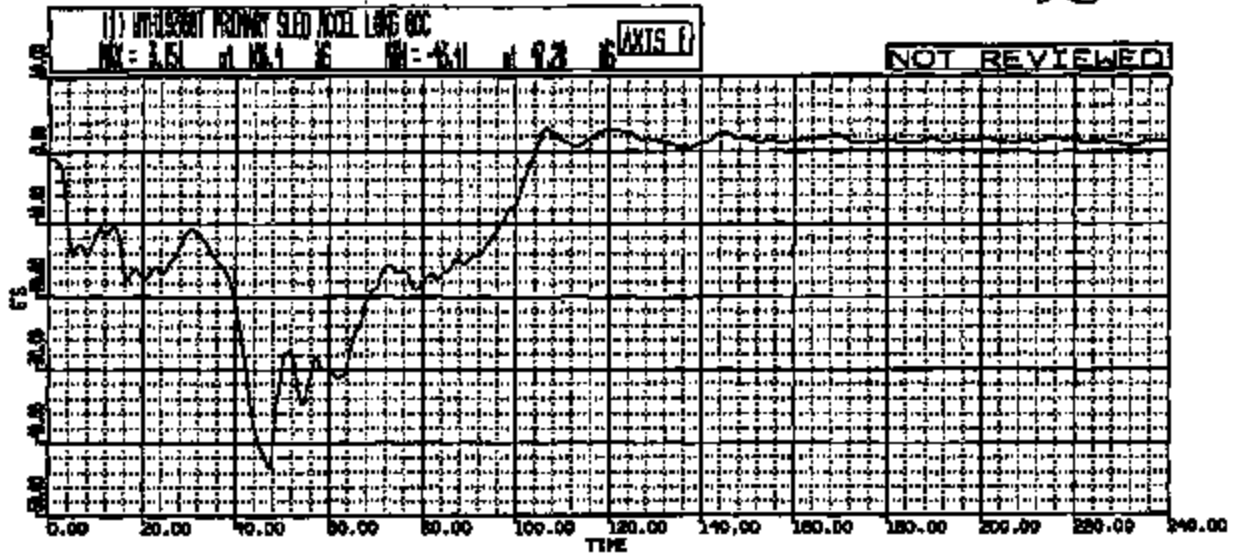
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- II. Sled Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheets

Concur:

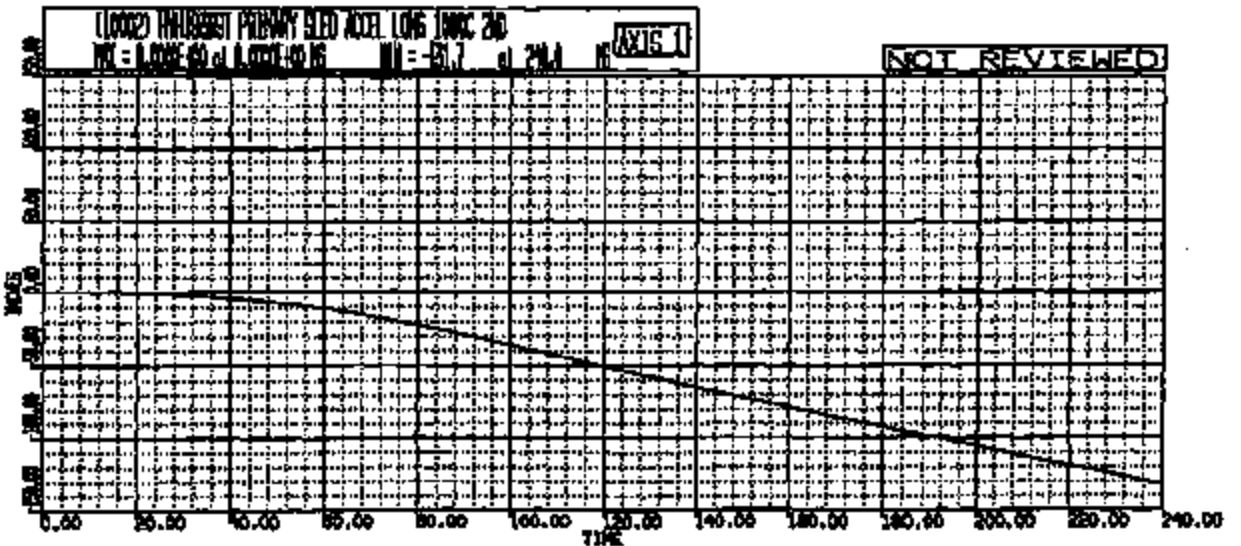
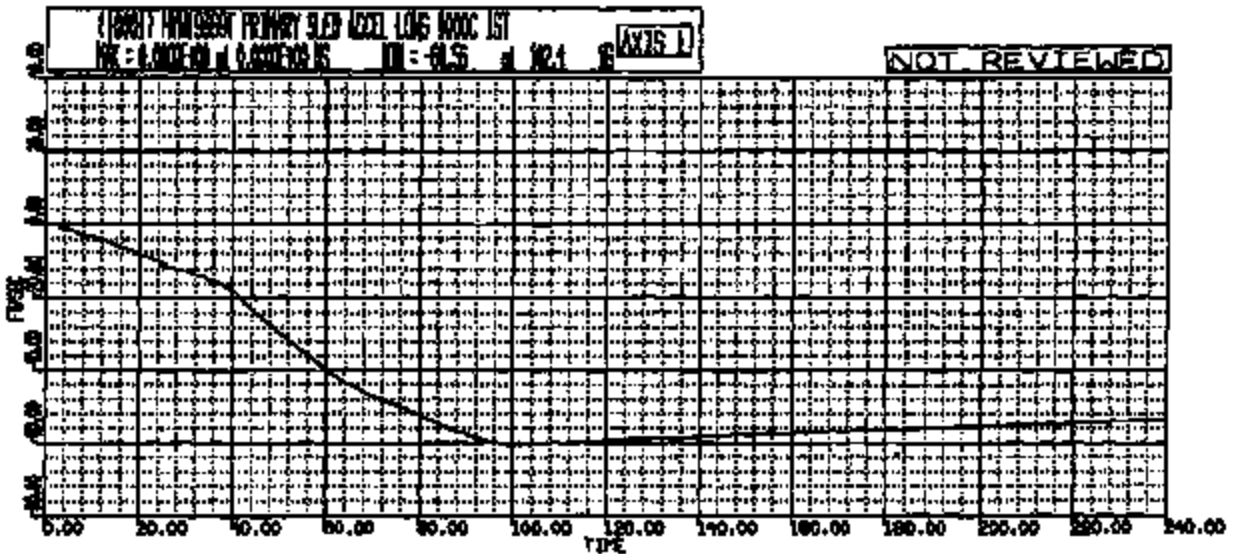
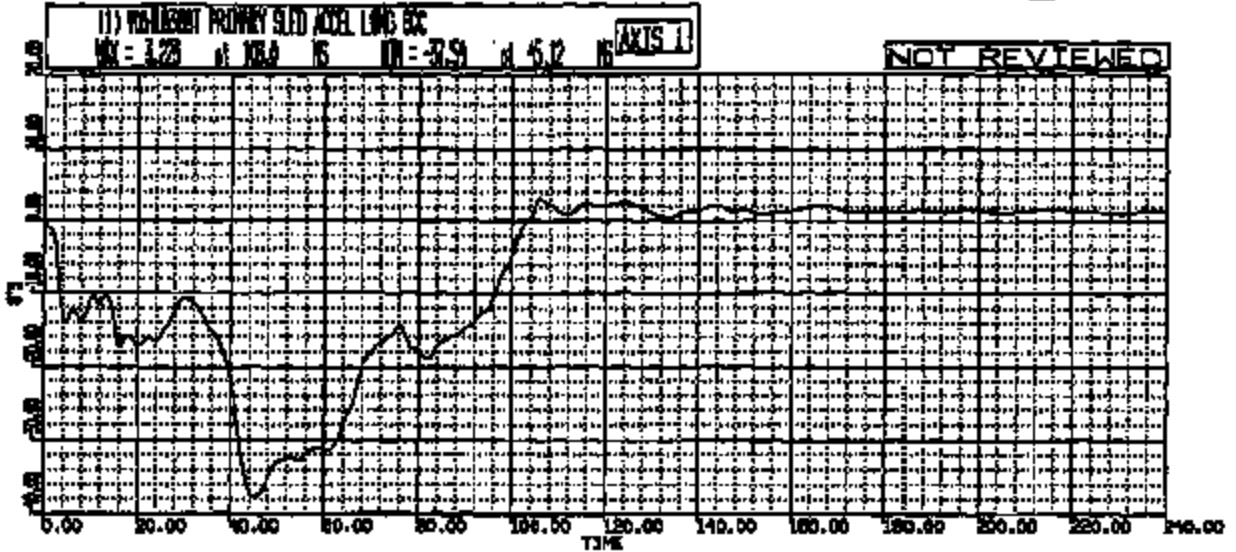
B. N. Burns
B. N. BURNS
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department

Michael T. Doran
M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

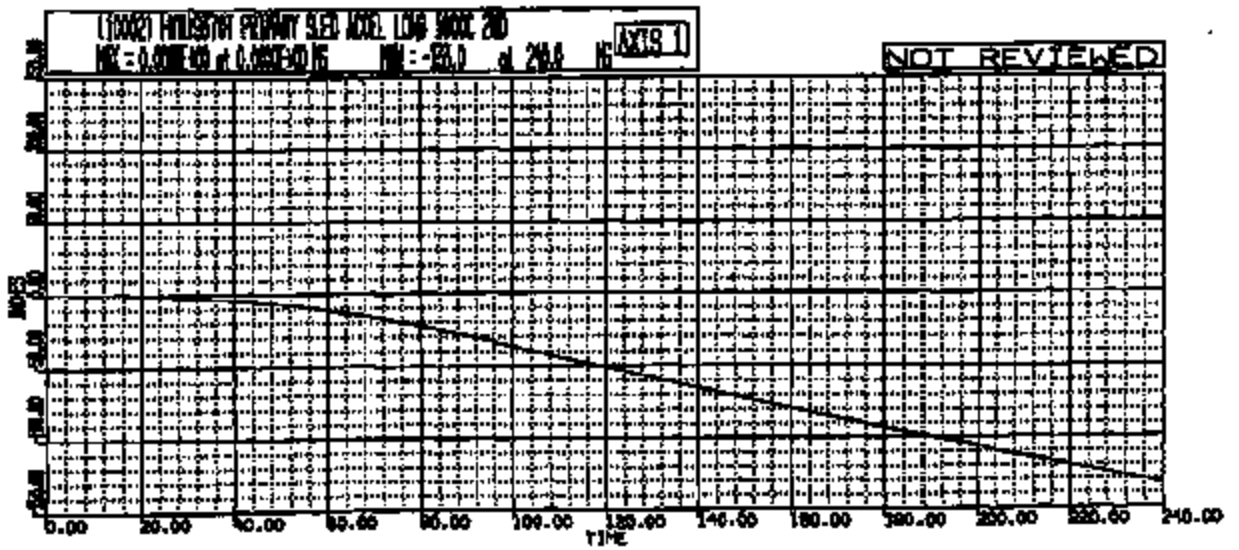
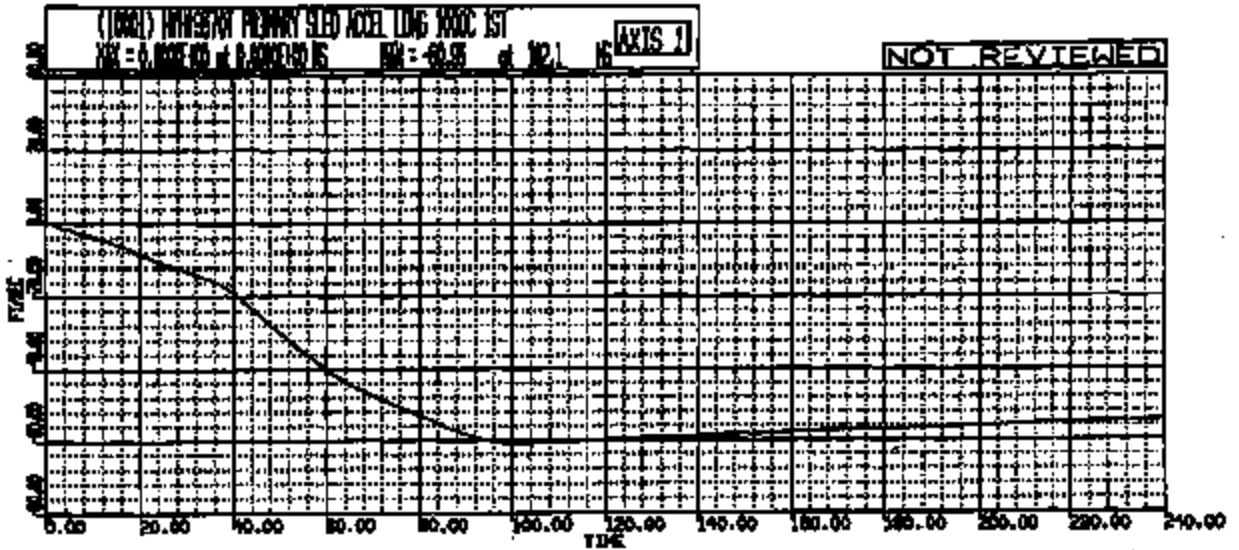
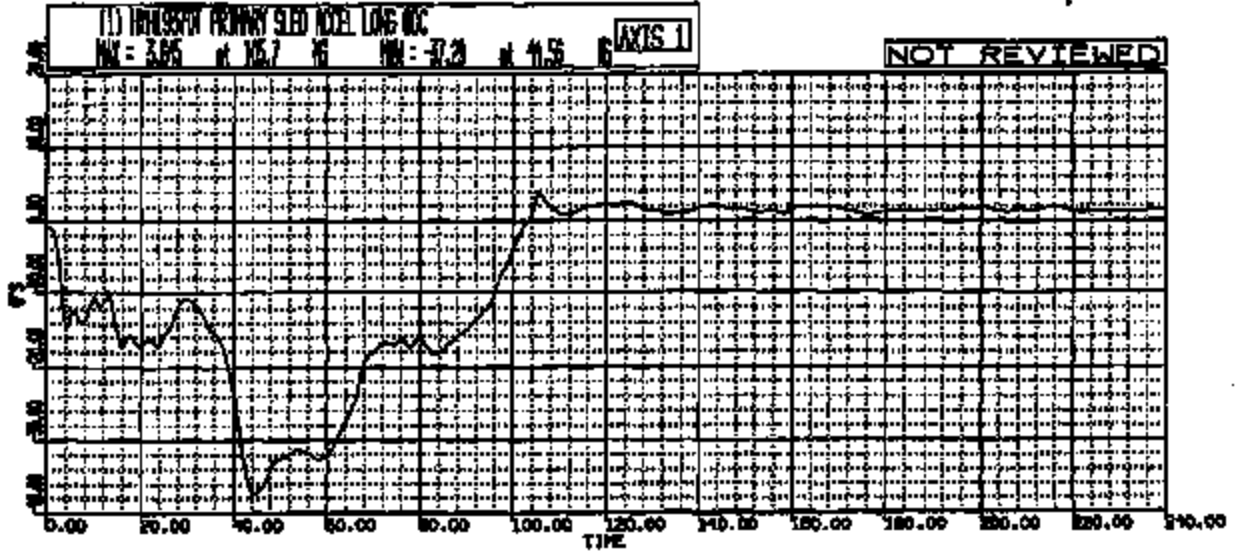
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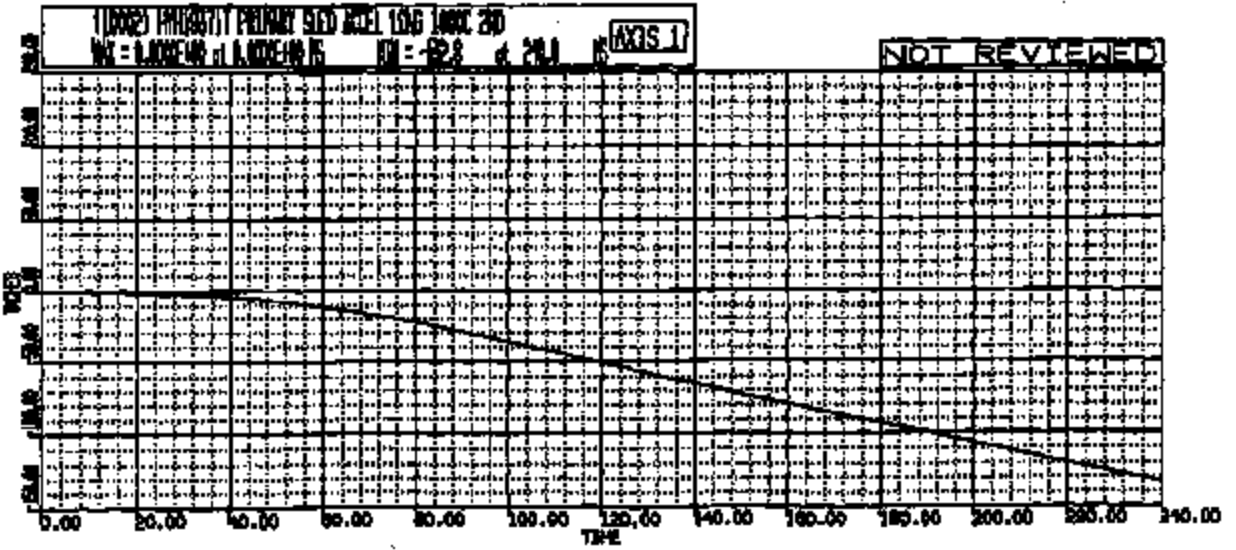
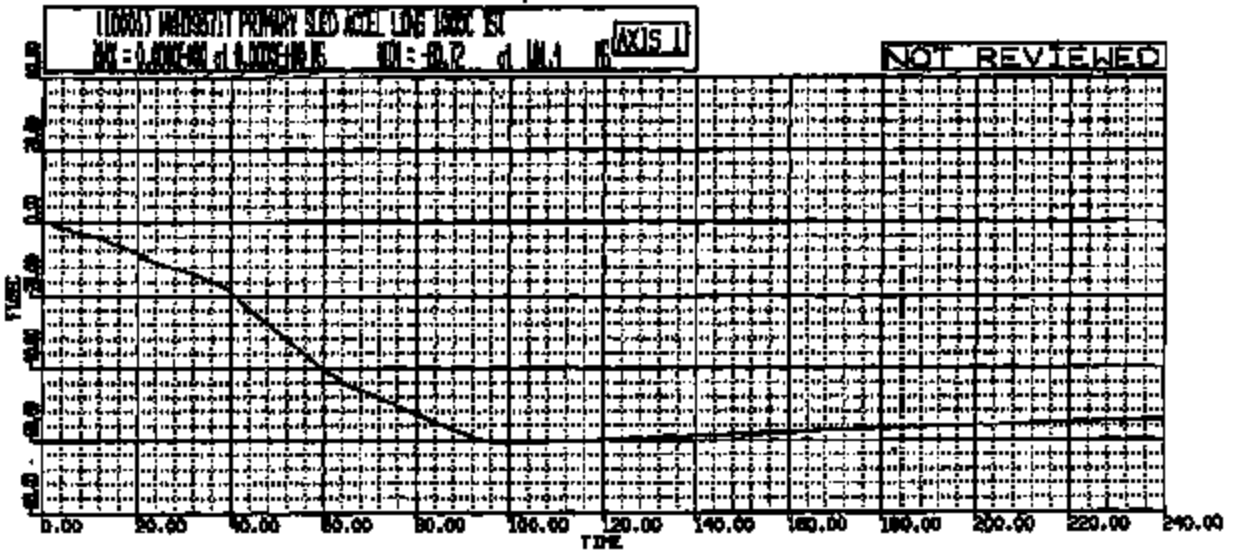
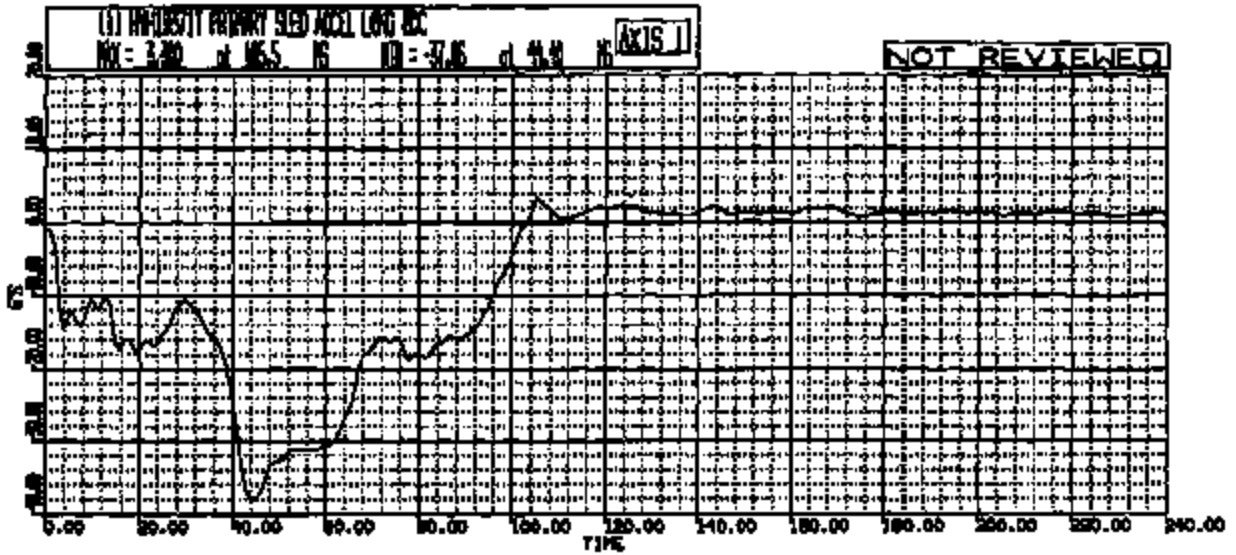
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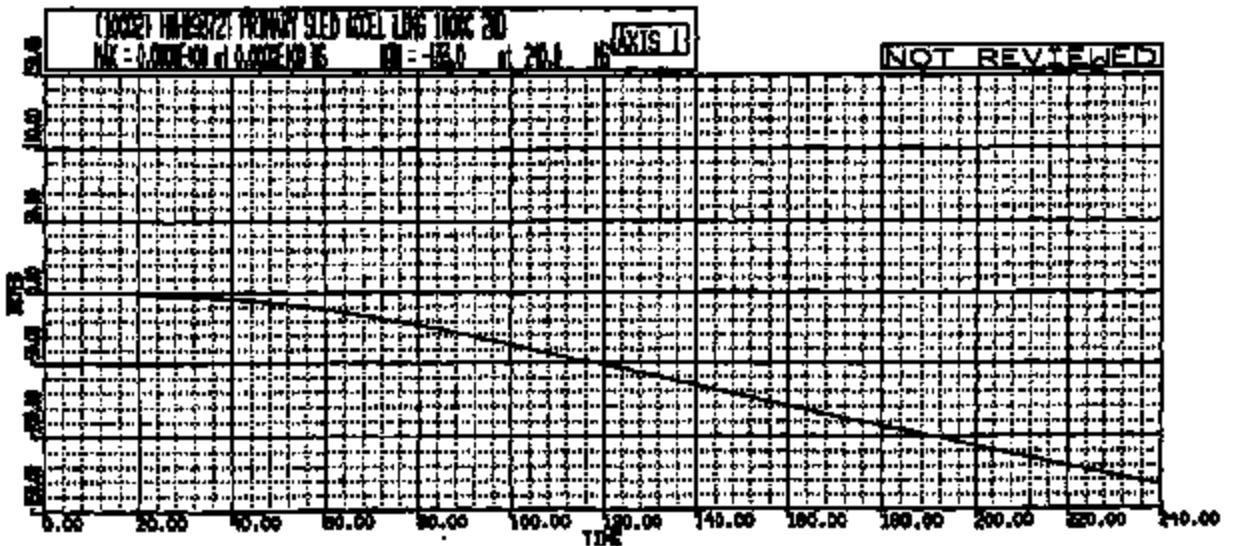
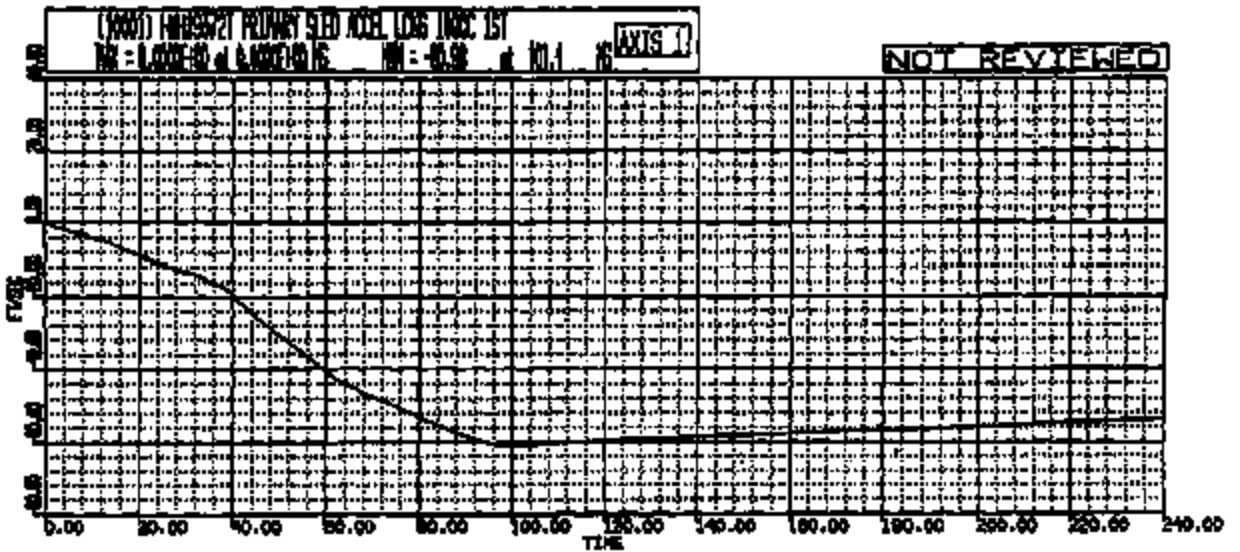
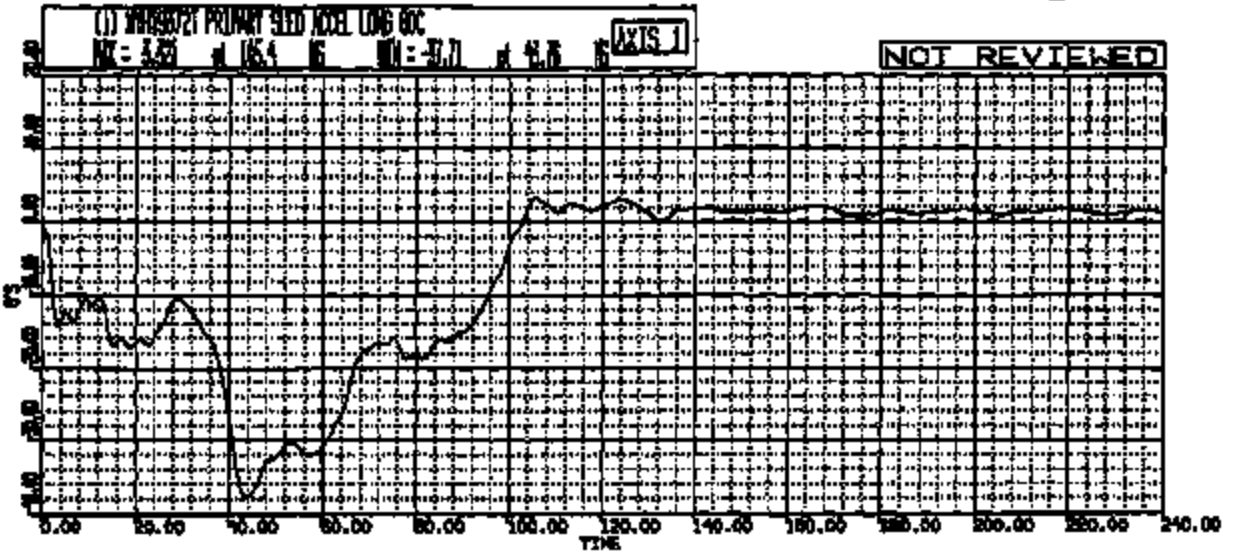
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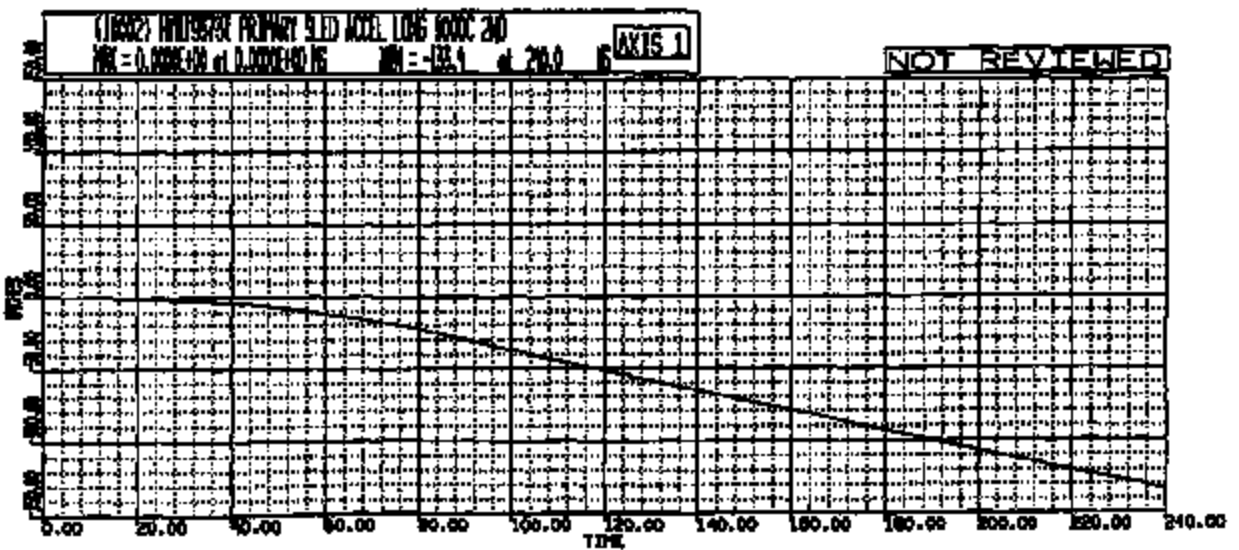
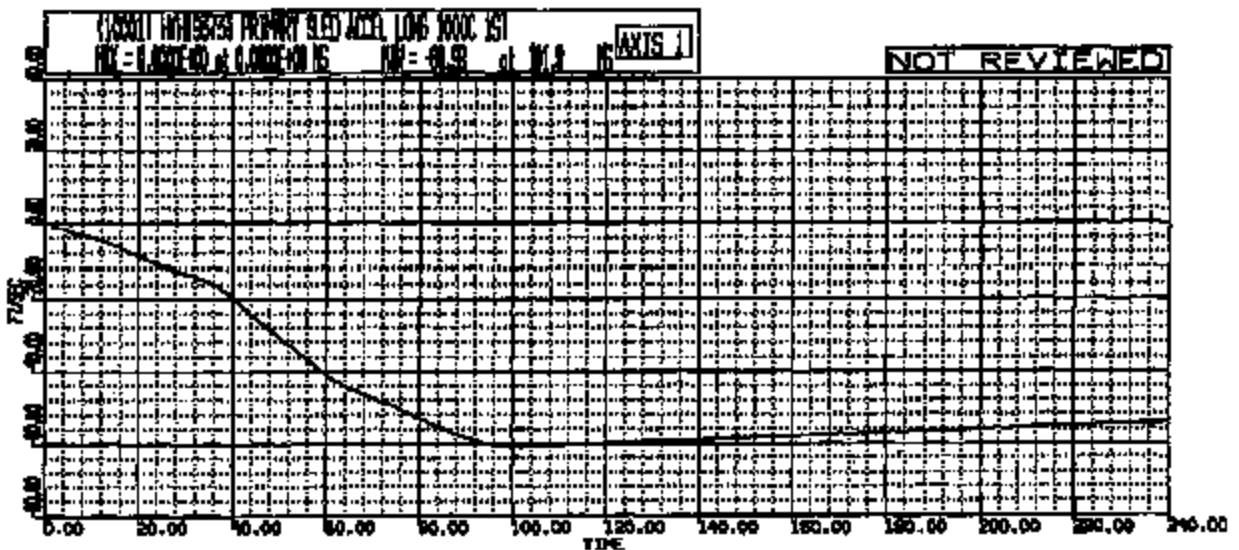
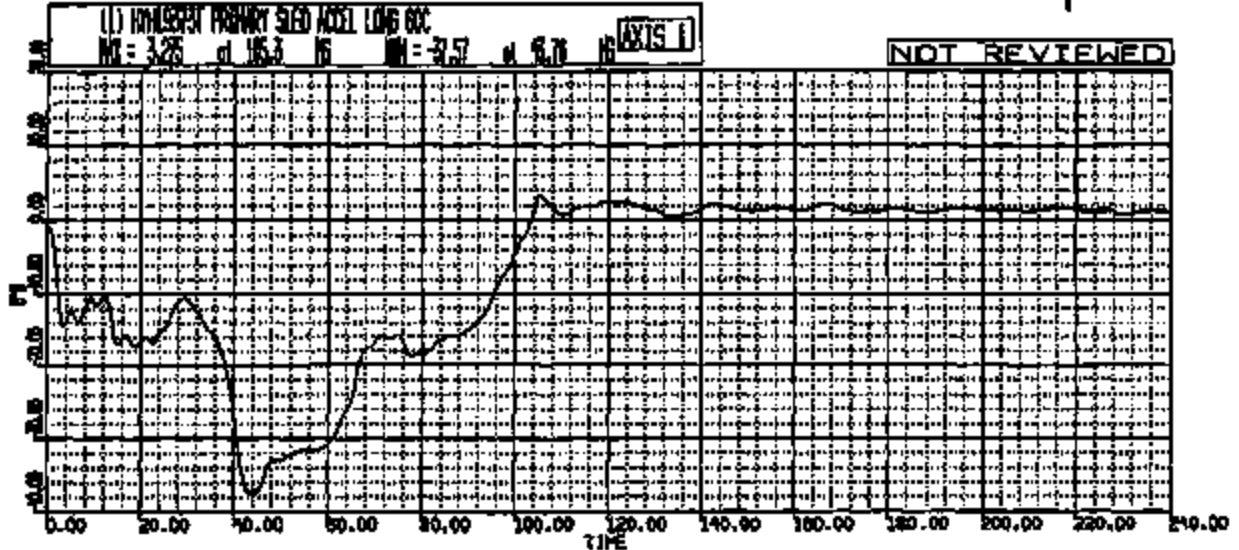
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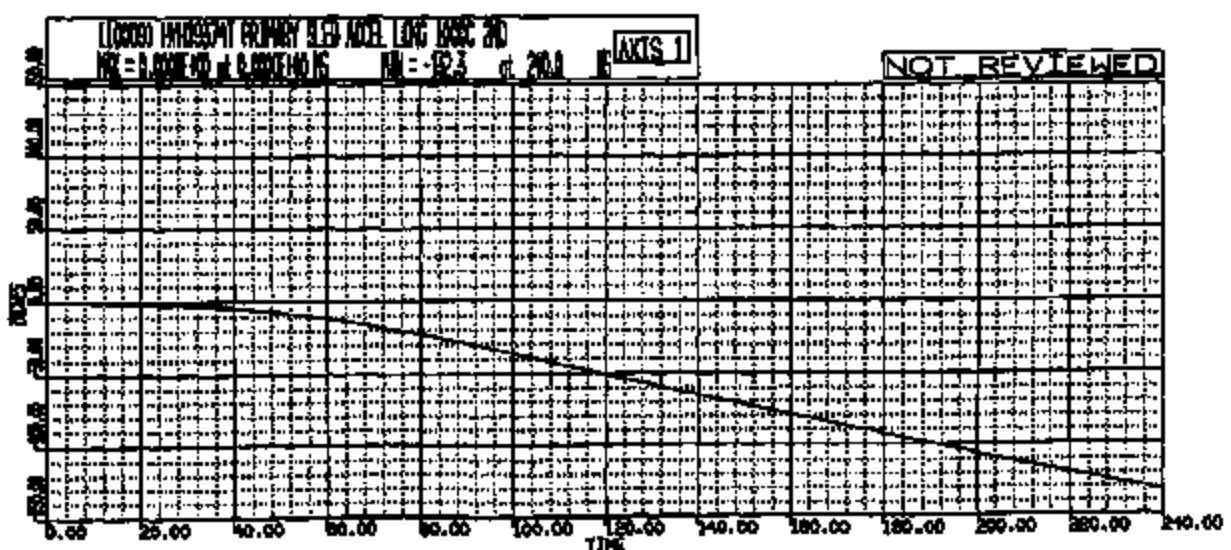
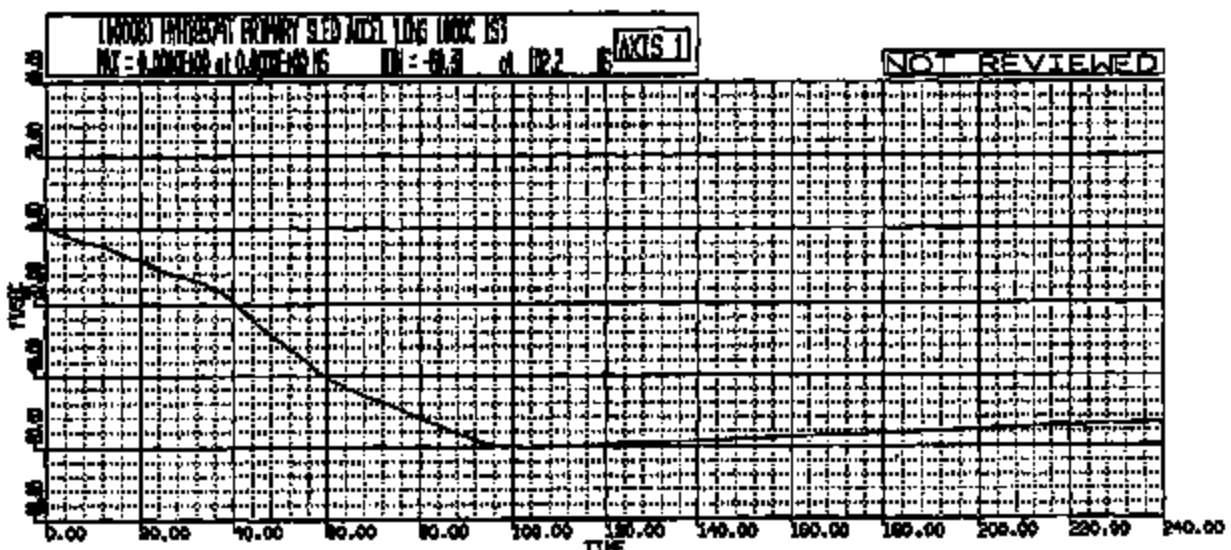
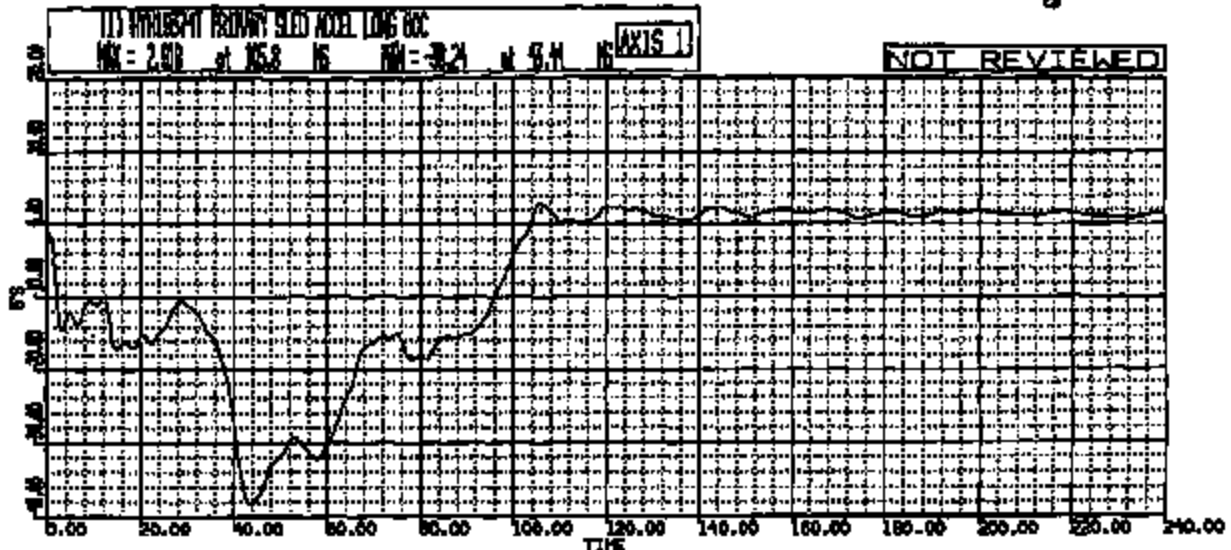
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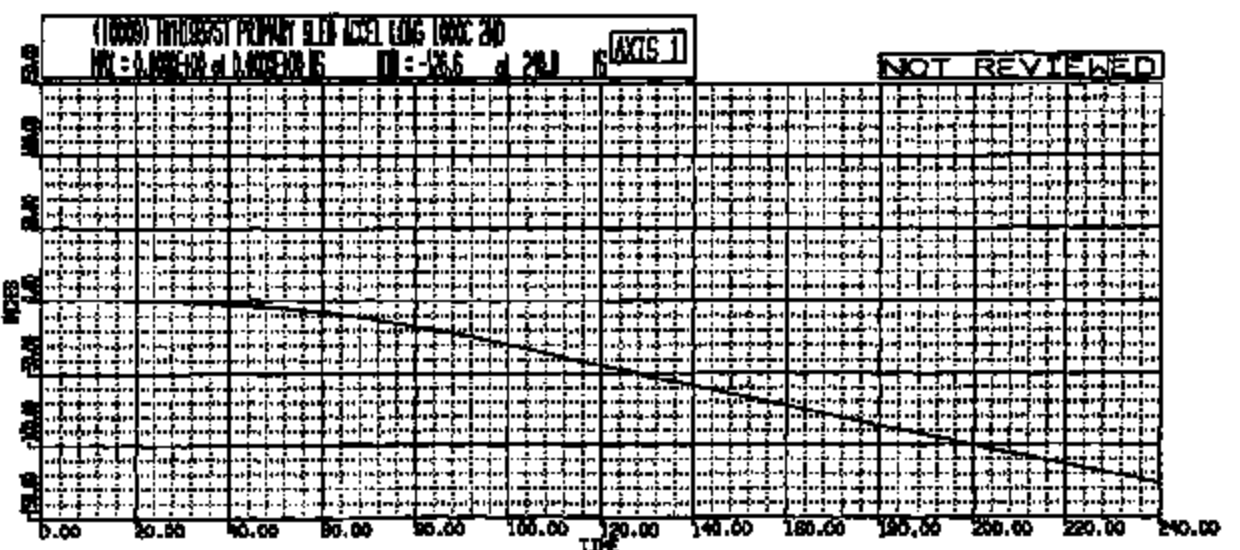
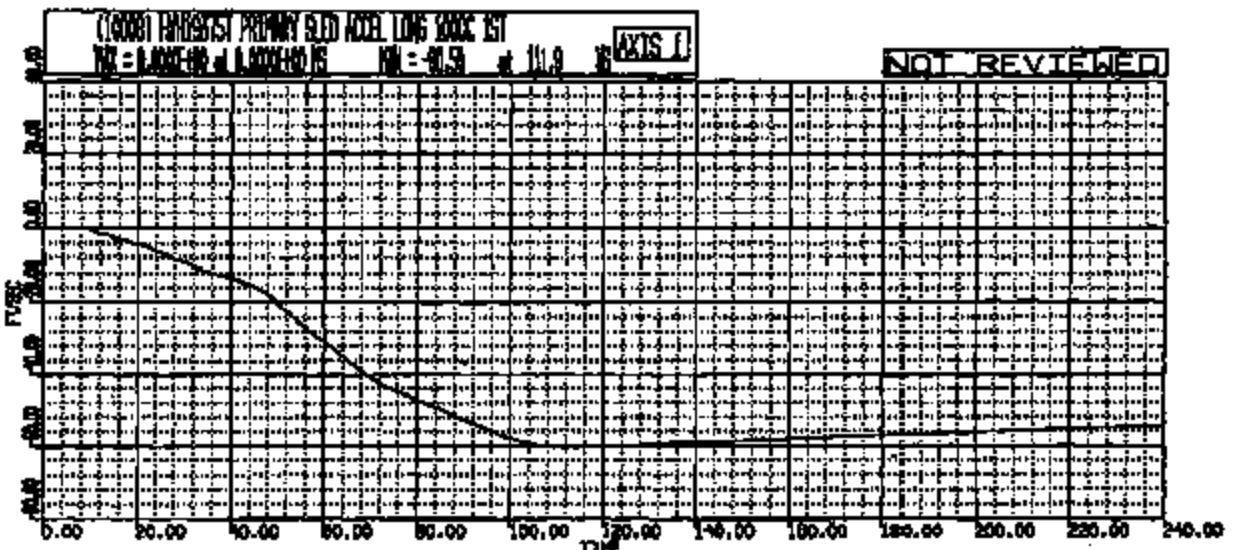
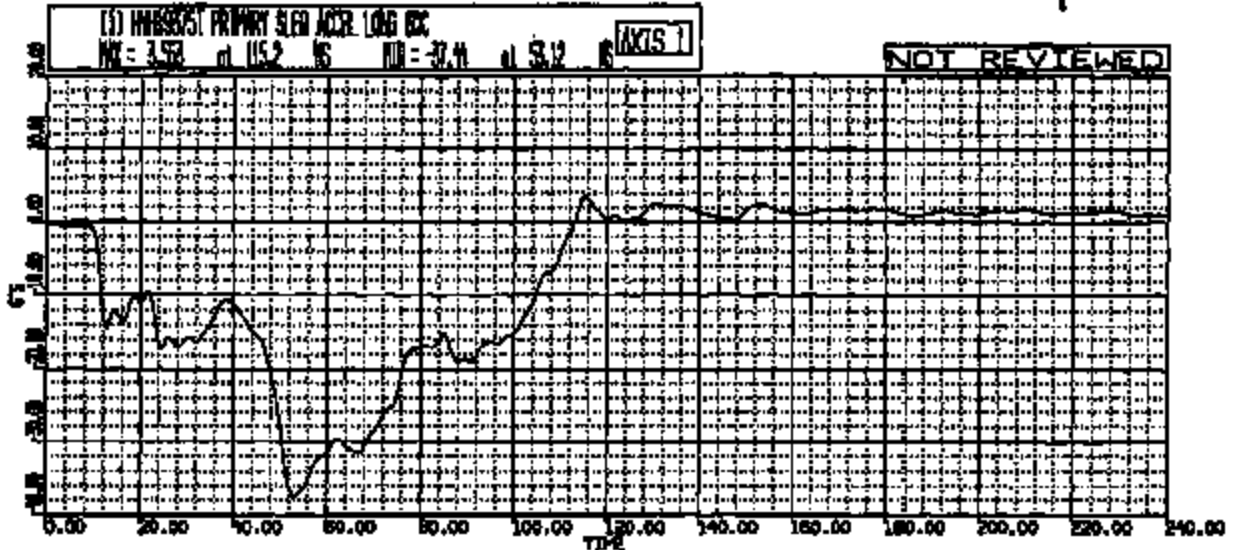
HY R: H19373 TO: T80407A DATE: 880831 10:43:13
20000 DIS



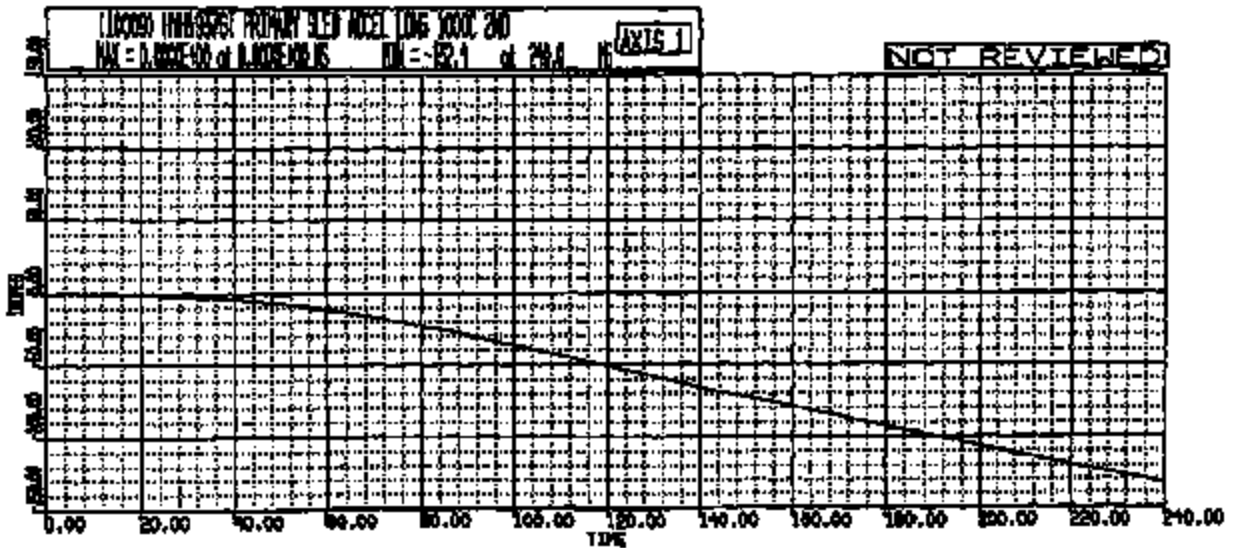
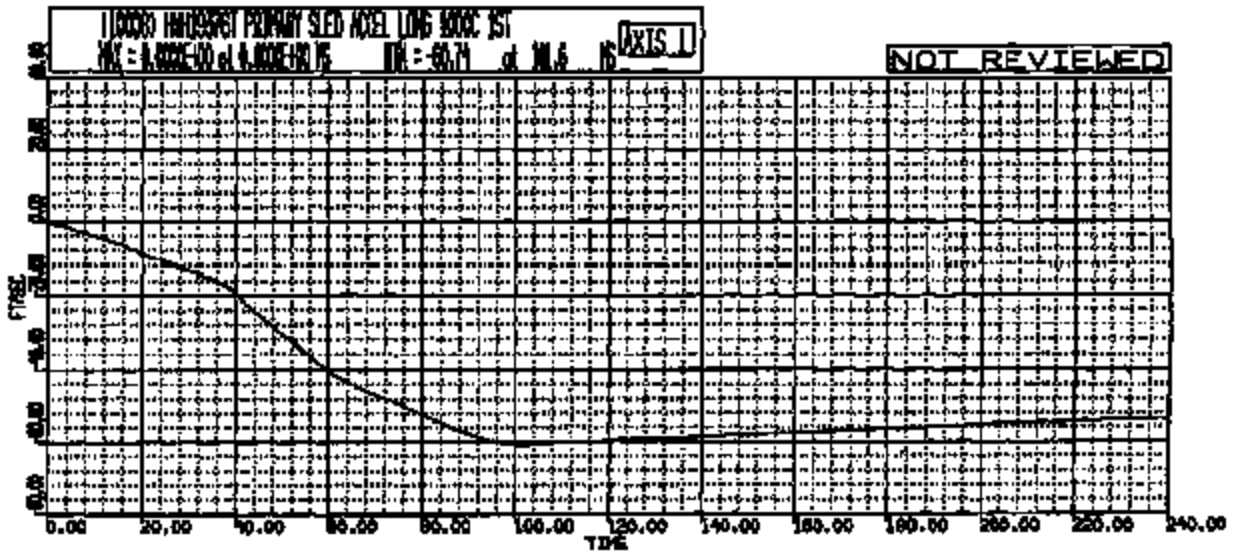
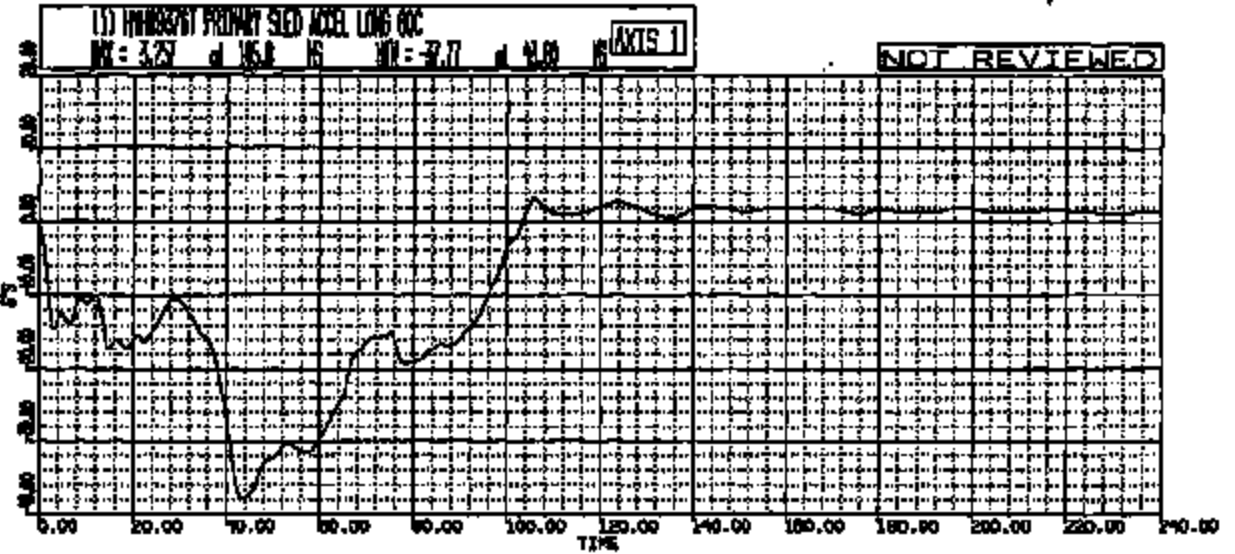
HY R: H10374 TO: TB0407B DATE: 980831 15:18:31
2000 D100



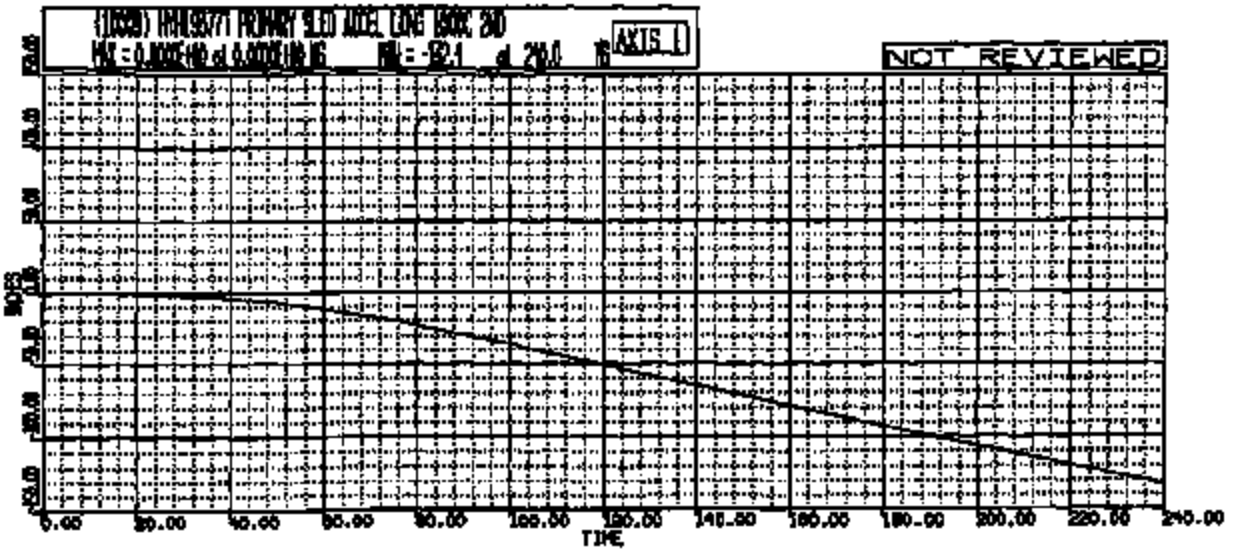
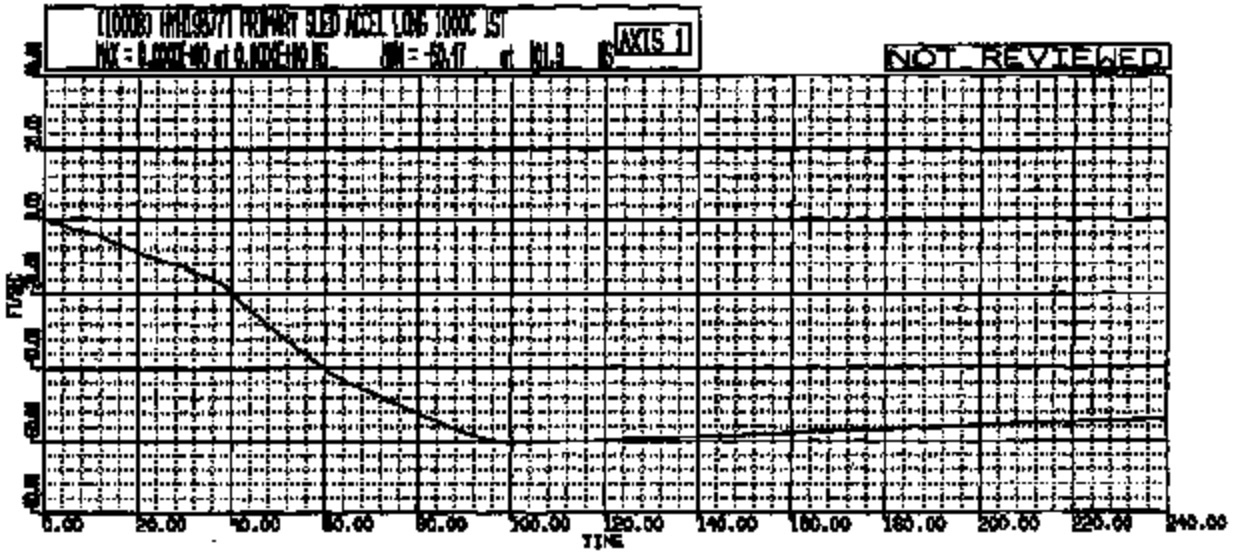
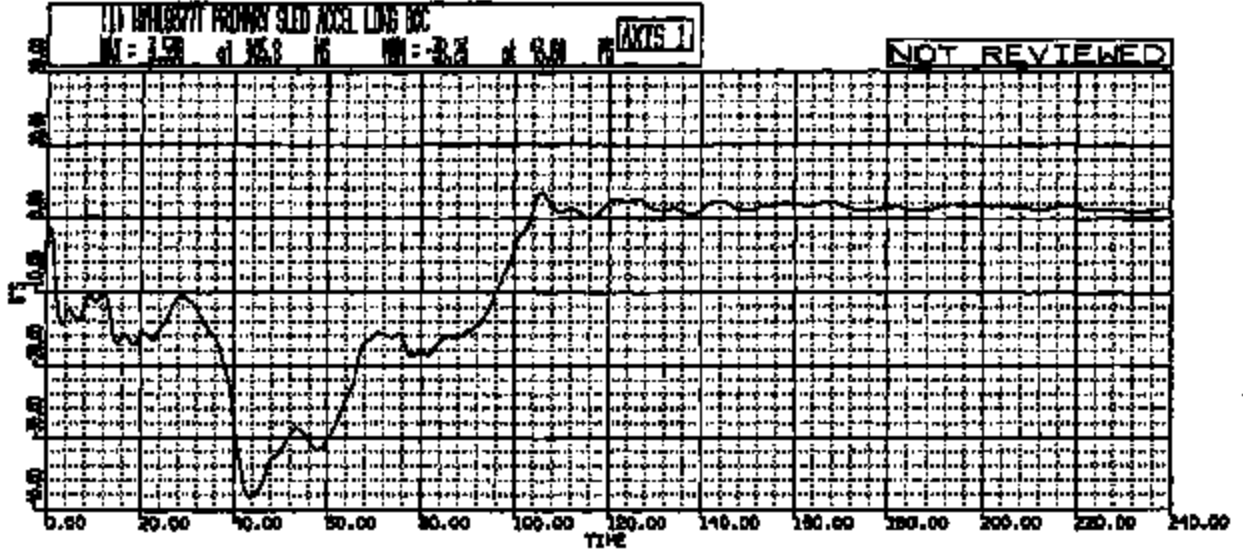
HY R: H19375 TO: TB0407B DATE: 080831 17:36:22
2000 P106



HY R: H18576 TO: TB0407B DATE: 880821 18:18:52
2000 D188



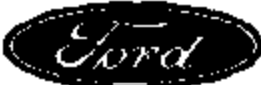
HY R: H18577 TO: TB0407B DATE: 980831 22:10:03
2000 0188



RUN #	T.A.#	TEST TYPE	DATE	TIME	DATA CHANL	WEIGHT (LBS)	HPCL	STRONG	LOAD	REF	BRKES	BUCK #	VELOCITY (MPH)	LEFT	DUMMY IN CENTER	RIGHT	FIN	INNER BEND	OUTER BEND
18348	W047A	DHS REACTOR EVALUATION	8/28/78	17:21	7	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18349	W047A	DHS REACTOR EVALUATION	8/28/78	18:05	7	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18376	W047A	DHS REACTOR EVALUATION	8/28/78	21:15	7	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18377	W047A	DHS REACTOR EVALUATION	8/28/78	22:20	7	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18372	W047A	DHS REACTOR EVALUATION	8/21/78	9:20	7	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18373	W047A	DHS REACTOR EVALUATION	8/21/78	10:40	7	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18374	W047A	DHS REACTOR EVALUATION	8/21/78	13:10	31	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18375	W047A	DHS REACTOR EVALUATION	8/21/78	17:20	31	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18376	W047A	DHS REACTOR EVALUATION	8/21/78	18:40	31	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN
18377	W047A	DHS REACTOR EVALUATION	8/21/78	22:30	31	890	130	61	2852	477	216	408	35	351	--	317	54	55	IN

ATTACHMENT Z
 T B 0407
 Sheet 12

SLEID 0027434

 GTO Test Request		Requestor/Coordinator (PROF# ID): <u>Sheet 13</u> KWARMANN	
		KRIS WARFMAN	
Testing Activity: HYGE and VIA Sled	Date Submitted: 24-AUG-98	Requested Completion Date: 26-AUG-98	Requestor Reference Number:
Test Procedure Number: HYG-00	Test Title and / or Subject of Test: D105 Retractor Evaluation		
B/E/Bible Requestor Dept No.: T651 AV2215A	Work Order/Work Order Number: POB	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
B/E/Bible Requestor PROF# ID.: KWARMANN	B/E/Bible Requestor Name: KRIS WARFMAN		
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input checked="" type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for P&B <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVP/WCR requirements <input checked="" type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other:	
(Check appropriate boxes)		(Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: HYGE Test Procedure T657-110			
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer: <u>KRIS WARFMAN</u>		Testing Engineer: <u>MIKE DORAN</u>	
Requesting Supervisor/Manager: <u>ALAN TAUB</u>		Testing Supervisor: <u>RICHARD BURNS</u>	

TA# TB0407

SYNOPSIS: 0100 Instrument/Pass change simulation
 NAME: 02000

Lab: 0400
 Date: 0710

19368

S/N	R/N	TYPE	R/N	R/N	R/N	R/N	R/N	R/N	R/N	R/N	R/N	R/N	R/N	R/N	INSTRUMENT LEVEL								T/N								
															P	I	N	A	D	S	E	O									
01	01		01	01	01	01	01	01	01	01	01	01	01	01																	
02	01		01	01	01	01	01	01	01	01	01	01	01	01																	
03	01		01	01	01	01	01	01	01	01	01	01	01	01																	
04	01		01	01	01	01	01	01	01	01	01	01	01	01																	
05	01		01	01	01	01	01	01	01	01	01	01	01	01																	
06	01		01	01	01	01	01	01	01	01	01	01	01	01																	
07	01		01	01	01	01	01	01	01	01	01	01	01	01																	
08	01		01	01	01	01	01	01	01	01	01	01	01	01																	
09	01		01	01	01	01	01	01	01	01	01	01	01	01																	
10	01		01	01	01	01	01	01	01	01	01	01	01	01																	

R00 Head Posture CFR. Flashes Led with applied to center web from conclusion (change led fig). 100 Jaws change CP level PT.
 R01 Head Posture CFR. Flashes Led with applied to center web from conclusion (change led fig). 10 Jaws change CP level PT.
 R02 Head Posture CFR. 100-1 Jaws. 100 Jaws change PT.

- 01 Profile AP trail (change) used shag. P0 follow, highest speed.
- 04 WETS 8 year scale
- 05 Blank eye with clear led by (change) led with 6.5 inch gap. No clear drift.
- 07 1000 D/N of instrument panel with clear clear trail (change).

NOTES:
 Run 1-6 use uninstrumented dummies
 Run 7-10 use instrumented driver and uninstrumented passenger dummies

~~XX~~

Run order = 1,5,6,2,3,4,7,8,9,10

SLED 0027436

ATTACHMENT II
 Sheet 14

Sheet 15

Author: Kris Warmann

Phone: 187147

HYGE Sled Test Summary

HYGE Run H 19368

Run Date 8 28, 98

Test Engineer: Wim Van Glabbeek

Test Auth # TBD407

Requester: Kris Warmann

BUCK # 405

MATRIX # 1

Test Title/Description: Retractor analysis

Craft/HYGE Pulse Ret: _____ Simulated Speed: 35 Ptn # 54

FIRE TIME	LEFT	Airbag: _____ ms	RIGHT	Airbag: _____ ms
		Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>317</u>	Dummy	<u>351</u>
	A/B		A/B	
	Belt	<u>LR 27</u>	Belt	<u>RR 27</u>
	Seat		Seat	
	Tractor:	<u>power manual</u>	Dr. A/B FMS	
	Position:	Welded? Y N	Pass. FMS	
	Tractor:	<u>power manual</u>	Tractor:	<u>power manual</u>
	Position:	Welded? Y N	Position:	Welded? Y N
	Instrument Panel:			
	Steering Column:			
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	<input checked="" type="checkbox"/>	Upright	<input checked="" type="checkbox"/>	Upright	<input checked="" type="checkbox"/>
	On Seat	<input checked="" type="checkbox"/>	On Seat	<input checked="" type="checkbox"/>	On Seat	<input checked="" type="checkbox"/>
	A/B Intact (No Holes):	<u>Y/N</u>	A/B Intact (No Holes):	<u>Y/N</u>	A/B Intact (No Holes):	<u>Y/N</u>
	Face to A/B	<u>Center</u>	Face to A/B	<u>Center</u>	Face to A/B	<u>Center</u>
	Contact Location:	<u>High</u>	Contact Location:	<u>High</u>	Contact Location:	<u>High</u>
	A/B Cover Attached to Can./Cover:	<u>Y/N</u>	A/B Cover Attached to Can./Cover:	<u>Y/N</u>	A/B Cover Attached to Can./Cover:	<u>Y/N</u>
	Adj. D-ring Remain in Position:	<u>Y/N</u>	Adj. D-ring Remain in Position:	<u>Y/N</u>	Adj. D-ring Remain in Position:	<u>Y/N</u>
	Retractor Intact:	<u>Y/N</u>	Retractor Intact:	<u>Y/N</u>	Retractor Intact:	<u>Y/N</u>
	Buckle Held:	<u>Y/N</u>	Buckle Held:	<u>Y/N</u>	Buckle Held:	<u>Y/N</u>
	Seat Tracks Held:	<u>Y/N</u>	Seat Tracks Held:	<u>Y/N</u>	Seat Tracks Held:	<u>Y/N</u>
Cracks in I/P:	<u>Y/N</u>	Cracks in I/P:	<u>Y/N</u>	Cracks in I/P:	<u>Y/N</u>	
Steering Wheel Deformed:	<u>Y/N</u>	Steering Wheel Deformed:	<u>Y/N</u>	Steering Wheel Deformed:	<u>Y/N</u>	
Column Stroked w/o Interference:	<u>Y/N</u>	Column Stroked w/o Interference:	<u>Y/N</u>	Column Stroked w/o Interference:	<u>Y/N</u>	
Column Strokes:	Left: _____	Column Strokes:	Right: _____	Column Strokes:	Right: _____	

Post Test COMMENTS: _____

L/ DOPING AT D' RING

R/ SEAT BACK SLIGHT TWIST O/B

X DATA OK

OBSERVER: MAN

HYGE Sled Test Summary

Sheet 16
 Initiator: Kris Warmann
 Phase: 40147

HYGE Run # 19369 Run Date 8/28/98
 Test Engineer: Wim Van Glabbeek Test Auth # TB0407
 Requestor: Kris Warmann BUCK # 406
 Test Title/Description: Retractor analysis



Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 P# 54

	LEFT	Airbag: <u>no</u> Pyro Buckle: <u>10</u> <u>no</u>	RIGHT	Airbag: <u>no</u> Pyro Buckle: <u>10</u> <u>no</u>
PARTS DESCRIPTION PWS-TEST OBSERVATIONS	Dummy	<u>317</u>	Dummy	<u>331</u>
	A/B		A/B	
	Belt	<u>L230</u>	Belt	<u>D230</u>
	Seat		Seat	
	Tractor:	<input checked="" type="radio"/> manual	Dr. A/B FM#		Tractor: ☒ power
Position:	Welded? <input checked="" type="radio"/> Y <input type="radio"/> N	Pass. FM#		Position: Welded? <input checked="" type="radio"/> Y <input type="radio"/> N
Instrument Panel:				
Steering Column:				
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

LEFT SIDE	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> IB <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> IB <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> IB <input checked="" type="checkbox"/> On Seat
	A/B Intact (No Holes): <u>Y/N</u>	A/B Intact (No Holes): <u>Y/N</u>	A/B Intact (No Holes): <u>Y/N</u>
	Face to A/B: <u>IB</u> <u>Genie</u> <u>Off</u>	Face to A/B: <u>IB</u> <u>Genie</u> <u>Off</u>	Face to A/B: <u>IB</u> <u>Genie</u> <u>Off</u>
	Contact Location: <u>High</u> <u>Mid</u> <u>Low</u>	Contact Location: <u>High</u> <u>Mid</u> <u>Low</u>	Contact Location: <u>High</u> <u>Mid</u> <u>Low</u>
	A/B Cover Attached to Can./Cover: <u>Y/N</u>	A/B Cover Attached to Can./Cover: <u>Y/N</u>	A/B Cover Attached to Can./Cover: <u>Y/N</u>
	Adj. D-ring Remains in Position: <u>Y/N</u>	Adj. D-ring Remains in Position: <u>Y/N</u>	Adj. D-ring Remains in Position: <u>Y/N</u>
	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Cracks in MP: <u>Y/N</u>	Cracks in MP: <u>Y/N</u>	Cracks in MP: <u>Y/N</u>

Post Test COMMENTS: _____

1/ POPPING @ D/RING

2/ SEAT TRACK LET GO

POPPING @ D/RING

* DATA OK

OBSERVER: WVG

HYGE Sled Test Summary

Sheet 17
Johnson 1015 Whisman
 Form #071-07

HYGE Run # 19370
 Test Engineer: Wim Van Glabbeek
 Requester: Kris Warman
 Test Title/Description: Retractor analysis

Run Date 8.28.98
 Test Auth # TBO407
 BUCK # 406

6
 MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pn # 54

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>no</u> Pyro Buckle: <u>no</u> Dummy <u>317</u> A/B <u>LR21</u> Belt <u>LR21</u> Seat _____ Tracks: <input checked="" type="checkbox"/> manual <input type="checkbox"/> Pass PMS _____ Position: <input checked="" type="checkbox"/> Welded? <input checked="" type="checkbox"/> N Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____	CENTER	RIGHT Airbag: <u>no</u> Pyro Buckle: <u>no</u> Dummy <u>331</u> A/B _____ Belt <u>LR20</u> Seat _____ Tracks: <input checked="" type="checkbox"/> manual <input type="checkbox"/> Pass PMS _____ Position: _____ Welded? <input checked="" type="checkbox"/> N Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____
------------------------------	--	---------------	---

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	CENTER	RIGHT
	Upright <input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> Off Seat	Upright <input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> On Seat Off Seat	Upright <input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> Off Seat
A/B Intact (No Holes):	<u>Y/N</u>		<u>Y/N</u>
Face to A/B	<u>High Center</u>		<u>High</u>
Contact Location:	<u>High Mid Low</u>		<u>High Mid Low</u>
A/B Cover Attached to Can./Cover:	<u>Y/N</u>		<u>Y/N</u>
Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> N		<input checked="" type="checkbox"/> N
Retractor Intact:	<input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N		<input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N
Buckle Held:	<input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N		<input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N
Seat Tracks Held:	<input checked="" type="checkbox"/> N		<input checked="" type="checkbox"/> N
Cracks in IP:	<u>Y/N</u>		<u>Y/N</u>
Steering Wheel Deformed:	<u>Y/N</u>		<u>Y/N</u>
Column Stroked w/o Interference:	<u>Y/N</u>		<u>Y/N</u>
Column Stroke:	Left: _____		Right: _____
Post Test COMMENTS:			
<p><u>LI BOPPING @ D-RING - SEAT</u> <u>IF APC FORCED REARWARD</u></p> <p><u>R/ SEAT TRACKS RELEASED</u> <u>BOPPING @ D-RING</u></p>			
* DATA OK		OBSERVER: <u>Wim</u>	

HYGE Sled Test Summary

Sheet 18
 Requester: Kris Wurmman
 Please refer to:
2
 MATRIX #

HYGE Run # 19371 Run Date 8 28, 98
 Test Engineer: Wim Van Glabbeek Test Auth # TB0407
 Requester: Kris Wurmman BLCK # 405
 Test Title/Description: Retractor analysis

Crash/HYGE Pulse Rat: _____ Simulated Speed: 35 Km/h Pin # 54

	LEFT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>317</u>	Dummy	<u>331</u>
	A/B		Belt	
	Belt	<u>LR 22</u>		<u>LR 22</u>
	Seat		Dr. A/B FM	
	Tracks:	<input checked="" type="checkbox"/> manual	Pass. FM	<input checked="" type="checkbox"/> manual
Position:	Welded? <input checked="" type="checkbox"/> Y		Position: <input checked="" type="checkbox"/> Welded? <input checked="" type="checkbox"/> Y	
Instrument Panel: _____				
Steering Column: _____				
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			CENT			RIGHT		
	Upright	VB	QB	Upright	Left	Right	Upright	VB	QB
	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> On Seat			<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat	
LEFT SIDE	A/B Intact (No Holes):			A/B Intact (No Holes):			A/B Intact (No Holes):		
	Face to A/B			Face to A/B			Face to A/B		
	Contact Location:			Contact Location:			Contact Location:		
	A/B Cover Attached to Can/Cover:			A/B Cover Attached to Can/Cover:			A/B Cover Attached to Can/Cover:		
	Adj. D-ring Remain in Position:			Adj. D-ring Remain in Position:			Adj. D-ring Remain in Position:		
	Retractor Intact:			Retractor Intact:			Retractor Intact:		
	Buckle Held:			Buckle Held:			Buckle Held:		
	Seat Tracks Held:			Seat Tracks Held:			Seat Tracks Held:		
	Cracks in VP:			Cracks in VP:			Cracks in VP:		
	Steering Wheel Deformed:			Steering Wheel Deformed:			Steering Wheel Deformed:		
Column Stroked w/o Interference:			Column Stroked w/o Interference:			Column Stroked w/o Interference:			
Column Stroke: Left: _____			Column Stroke: Right: _____						
Post Test COMMENTS:									
<u>1/ BELT FRAMED @ SEATBACK</u>									
<u>ANGLE - HOOPING @ D-RING</u>									
<u>2/ NORMAL LOOK</u>									
* DATA OK									
								OBSERVER: <u>MA</u>	

HYGE Sled Test Summary

Sheet 19
 Edition: Eds. Wismann
 Form 08/1987

HYGE Run # 19372
 Test Engineer: Win Van Glabbeek
 Requester: Kris Wismann
 Test Title/Description: Retractor analysis

Run Date 8 13 1988
 Test Auth # TB0407
 BUCK # 405

3

MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # 54

	LEFT	Airbag: <u>N/A</u> ms	ms	RIGHT	Airbag: <u>N/A</u> ms
		Pyro Buckle: _____ ms			Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy: <u>SOBH</u>		Dummy: _____	Dummy: <u>SOBH</u>
		A/B: _____		Belt: _____	A/B: _____
		Belt: <u>LR-22</u>			Belt: <u>RR-22</u>
		Seat: <u>S-4</u>	Dr. A/B FMF: _____		Seat: <u>S-4</u>
		Tracks: <u>power</u> manual	Pass. FMF: _____		Tracks: <u>power</u> manual
		Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>			Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>
	Instrument Panel: _____			Steering Column: _____	
	Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright	IB	OFF SEAT	RIGHT	Upright	IB	OFF SEAT
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
LEFT SIDE	A/B Intact (No Holes):	Y/N				Y/N		
	Face to A/B	IB - Center - OB				IB - Center - OB		
	Contact Location:	High - Mid - Low				High - Mid - Low		
	A/B Cover Attached to Can./Cover:	Y/N				Y/N		
	Adj. D-ring Remain in Position:	Y/N				Y/N		
	Retractor Intact:	<input checked="" type="checkbox"/>	N	Locked:	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N
	Buckle Held:	<input checked="" type="checkbox"/>	N	Webbing Intact:	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N
	Seat Tracks Held:	<input checked="" type="checkbox"/>	Y		<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N
	Cracks in I/P:	Y/N				Y/N		
	Steering Wheel Deformed:	Y/N				Y/N		
Column Stroked w/o Interference:	Y/N				Y/N			
Column Stroke:	Left: _____				Right: _____			

Post Test COMMENTS: POSSIBLE MOVEMENT OF LH SEAT TRACKS.
RIGHTY D-RING WAS UP 1 INCH POST TEST.

*** DATA OK**

OBSERVER: M. DORAN

HYGE Sled Test Summary

Sheet 20
 Issued: Kris Wermann
 Form: 07147

HYGE Run H 19373
 Test Engineer: Wim Van Glabbeek
 Requester: Kris Wermann

Run Date 8 13 198
 Test Auth # TB0407
 BUCK # 406

4

MATRIX #

Test Title/Description: Retractor analysis

Crash/HYGE Pulse Rat: _____

Simulated Speed: 35

Pin # 54

	LEFT		RIGHT
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Airbag: <u>N/A</u> ms		Airbag: <u>N/A</u> ms
	Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
	Dummy <u>50TH</u>	CENTER	Dummy <u>50TH</u>
	A/B <u>N/A</u>		A/B <u>N/A</u>
	Belt <u>LR-22</u>		Belt <u>RR-22</u>
	Seat <u>3-4</u>		Seat <u>3-4</u>
	Tracks: <u>Power</u> manual		Tracks: <u>Power</u> manual
	Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>		Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>
	Instrument Panel: _____		Instrument Panel: _____
	Steering Column: _____		Steering Column: _____
	Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT		RIGHT
	<input checked="" type="checkbox"/> Upright	VB	<input checked="" type="checkbox"/> Upright
	<input checked="" type="checkbox"/> On Seat	Off Seat	<input checked="" type="checkbox"/> On Seat
			<input type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact (No Holes): _____ Y / N Face to A/B: _____ VB Center OVB Contact Location: _____ High Mid Low A/B Cover Attached to Gen/Gover: _____ Y / N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / N Retractor Intact: <input checked="" type="checkbox"/> Y / N Locked: <input checked="" type="checkbox"/> Y / N Buckle Held: <input checked="" type="checkbox"/> Y / N Webbing Intact: <input checked="" type="checkbox"/> Y / N Seat Tracks Held: <input checked="" type="checkbox"/> Y / N Steering Wheel Deflated: _____ Y / N Column Striked two times/THICE: _____ Y / N Column Stroke: Left: _____ Right: _____		
	A/B Intact (No Holes): _____ Y / N Face to A/B: _____ VB Center OVB Contact Location: _____ High Mid Low A/B Cover Attached to Cam/Gover: _____ Y / N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / N Retractor Intact: <input checked="" type="checkbox"/> Y / N Locked: <input checked="" type="checkbox"/> Y / N Buckle Held: <input checked="" type="checkbox"/> Y / N Webbing Intact: <input checked="" type="checkbox"/> Y / N Seat Tracks Held: <input checked="" type="checkbox"/> Y / N Control WP: _____ Y / N		

Post Test COMMENTS: TEST LOOKED NORMAL

DATA OK

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 21
 Author: Kris Warrmann
 Date: 08/14/98

HYGE Run # 19374

Run Date 8/31/98

Test Engineer: Wim Van Glabbeek

Test Auth # TBD407

Requester: Kris Warrmann

BUCK # 405

7

MATRIX #

Test Title/Description: Retractor analysis

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pn# 54

	LEFT	Altrag: <u>12/17</u> ms	RIGHT	Altrag: <u>N/A</u> ms
		Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy <u>50TH</u>	CENTER	Dummy _____
		AB <u>D-6</u>		Belt _____
		Belt <u>LR-20</u>		
		Seat <u>S-4</u>		RIGHT
		Tracks: <u>power manual</u>		Dummy <u>50TH</u>
		Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>		AB <u>N/A</u>
		Instrument Panel: <u>T7</u>		Belt <u>RR-20</u>
		Steering Column: <u>503</u>		Seat <u>S-4</u>
		Pro-Test OBSERVATIONS: _____		Tracks: <u>power manual</u>
				Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE			RIGHT SIDE		
	IB	OB	OFF SEAT	IB	OB	OFF SEAT
<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> On Seat
<input checked="" type="checkbox"/> A/B Intact	<input checked="" type="checkbox"/> A/B Intact	<input checked="" type="checkbox"/> A/B Intact	<input checked="" type="checkbox"/> Face to A/B	<input checked="" type="checkbox"/> A/B Intact	<input checked="" type="checkbox"/> A/B Intact	<input checked="" type="checkbox"/> Face to A/B
<input checked="" type="checkbox"/> Contact Location: High	<input checked="" type="checkbox"/> Contact Location: High	<input checked="" type="checkbox"/> Contact Location: High	<input checked="" type="checkbox"/> Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Contact Location: High	<input checked="" type="checkbox"/> Contact Location: High	<input checked="" type="checkbox"/> Adj. D-ring Remain in Position:
<input checked="" type="checkbox"/> Retractor Intact	<input checked="" type="checkbox"/> Retractor Intact	<input checked="" type="checkbox"/> Retractor Intact	<input checked="" type="checkbox"/> Retractor Intact	<input checked="" type="checkbox"/> Retractor Intact	<input checked="" type="checkbox"/> Retractor Intact	<input checked="" type="checkbox"/> Retractor Intact
<input checked="" type="checkbox"/> Buckle Held	<input checked="" type="checkbox"/> Buckle Held	<input checked="" type="checkbox"/> Buckle Held	<input checked="" type="checkbox"/> Buckle Held	<input checked="" type="checkbox"/> Buckle Held	<input checked="" type="checkbox"/> Buckle Held	<input checked="" type="checkbox"/> Buckle Held
<input checked="" type="checkbox"/> Seat Tracks Held	<input checked="" type="checkbox"/> Seat Tracks Held	<input checked="" type="checkbox"/> Seat Tracks Held	<input checked="" type="checkbox"/> Seat Tracks Held	<input checked="" type="checkbox"/> Seat Tracks Held	<input checked="" type="checkbox"/> Seat Tracks Held	<input checked="" type="checkbox"/> Seat Tracks Held
<input checked="" type="checkbox"/> Cracks in IP:	<input checked="" type="checkbox"/> Cracks in IP:	<input checked="" type="checkbox"/> Cracks in IP:	<input checked="" type="checkbox"/> Cracks in IP:	<input checked="" type="checkbox"/> Cracks in IP:	<input checked="" type="checkbox"/> Cracks in IP:	<input checked="" type="checkbox"/> Cracks in IP:
<input checked="" type="checkbox"/> Steering Wheel Deformed:	<input checked="" type="checkbox"/> Steering Wheel Deformed:	<input checked="" type="checkbox"/> Steering Wheel Deformed:	<input checked="" type="checkbox"/> Steering Wheel Deformed:	<input checked="" type="checkbox"/> Steering Wheel Deformed:	<input checked="" type="checkbox"/> Steering Wheel Deformed:	<input checked="" type="checkbox"/> Steering Wheel Deformed:
<input checked="" type="checkbox"/> Column Stroked w/o interference:	<input checked="" type="checkbox"/> Column Stroked w/o interference:	<input checked="" type="checkbox"/> Column Stroked w/o interference:	<input checked="" type="checkbox"/> Column Stroked w/o interference:	<input checked="" type="checkbox"/> Column Stroked w/o interference:	<input checked="" type="checkbox"/> Column Stroked w/o interference:	<input checked="" type="checkbox"/> Column Stroked w/o interference:
Column Stroke: Left: _____	Column Stroke: Left: _____	Column Stroke: Left: _____	Column Stroke: Left: _____	Column Stroke: Left: _____	Column Stroke: Left: _____	Column Stroke: Left: _____

Post Test COMMENTS:

L/ NO VISIBLE BOLSTER DEFORMATION - COVER FREE UPPER O/B - SEAT BACK FORCED REAR

R/ SLIGHT BOLSTER CONTACT - NO DEFORMATION - SEAT BACK FORCED REAR ON REBOUND

OBSERVER: MA

HYGE Sled Test Summary

Sheet 22
Matrix 808 Wermann

HYGE Run # 19375 Run Date 8/31/98
 Test Engineer: Wm Van Glabbeek Test Auth # TB0407
 Requester: Kris Wermann BUCK # 408
 Test Title/Description: Retractor analysis



Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

TIME	LEFT	MID	RIGHT
	Airbag: <u>12-17</u> ms Pyro Buckle: <u>10</u> ms		Airbag: _____ ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy: <u>327</u>	Dummy: _____	Dummy: <u>331</u>
	A/B: _____	Ball: _____	A/B: _____
	Belt: _____	Dr. A/B P/M: _____	Belt: _____
	Seat: _____	Pass. P/M: _____	Seat: _____
	Tractor: <u>power manual</u>	Position: _____	Tractor: <u>power manual</u>
	Welded? <u>Y</u>		Welded? <u>Y</u>
	Instrument Panel: _____		Instrument Panel: _____
	Steering Column: _____		Steering Column: _____
	Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

SIDE	LEFT			RIGHT		
	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat	Left Off Seat	Right Off Seat
LEFT SIDE	A/B Intact (No Holes):	<u>Y</u>	<u>N</u>	A/B Intact (No Holes):	<u>Y</u>	<u>N</u>
	Face to A/B Contact Location: <u>High</u> <u>Mid</u> <u>Low</u>	<u>Y</u>	<u>N</u>	Face to A/B Contact Location: <u>High</u> <u>Mid</u> <u>Low</u>	<u>Y</u>	<u>N</u>
	A/B Cover Attached to Can/Cover:	<u>Y</u>	<u>N</u>	A/B Cover Attached to Can/Cover:	<u>Y</u>	<u>N</u>
	Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>	Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>
	Retractor Intact: <u>Y</u> <u>N</u> Locked:	<u>Y</u>	<u>N</u>	Retractor Intact: <u>Y</u> <u>N</u> Locked:	<u>Y</u>	<u>N</u>
	Buckle Held: <u>Y</u> <u>N</u> Webbing Intact:	<u>Y</u>	<u>N</u>	Buckle Held: <u>Y</u> <u>N</u> Webbing Intact:	<u>Y</u>	<u>N</u>
	Seat Tracks Held:	<u>Y</u>	<u>N</u>	Seat Tracks Held:	<u>Y</u>	<u>N</u>
	Cracks in IP:	<u>Y</u>	<u>N</u>	Cracks in IP:	<u>Y</u>	<u>N</u>
	Steering Wheel Deformed:	<u>Y</u>	<u>N</u>	Steering Wheel Deformed:	<u>Y</u>	<u>N</u>
	Column Stroked two Interference:	<u>Y</u>	<u>N</u>	Column Stroked two Interference:	<u>Y</u>	<u>N</u>
Column Stroke: Left: _____ Right: _____			Column Stroke: Left: _____ Right: _____			

Post Test COMMENTS:

W/ BOLSTER CONTACT W/ NO VISIBLE DEFORMATION - SEAT NORMAL

D/ SEAT TRACKS RELEASED POPPING @ IN RING - BOLSTER CONTACT W/ SLIGHT DEFORMATION

OBSERVER: MW

HYGE Sled Test Summary

Sheet 23

Address: K&H Warrmann

Phone: 287147

HYGE Run # 19.376
 Test Engineer: Wim Van Glabbeek
 Requester: Kris Warrmann

Run Date 8.31.98
 Test Auth # T80407
 BUCK # 405

9

MATRIX #

Test Title/Description: Retractor analysis

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Ptn # 54

TYPE		LEFT Airbag: <u>1217</u> ms Pyro Buckle: <u>10</u> ms	RIGHT		Airbag: _____ ms Pyro Buckle: <u>10</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy <u>331</u>	CENTER	Dummy _____	RIGHT	Dummy <u>317</u>
		A/B _____		Belt _____		A/B _____
		Belt _____		Dr. A/B FMB _____		Belt _____
		Seat _____		Pass. FMB _____		Seat _____
		Tracks: <u>pass</u> manual		Pass. FMB _____		Tracks: <u>pass</u> manual
	Position: _____	Welded? <u>Y</u> <input checked="" type="checkbox"/>			Position: _____	Welded? <u>Y</u> <input checked="" type="checkbox"/>
	Instrument Panel: _____			Steering Column: _____		
	Pre-Test OBSERVATIONS: _____					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT <input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	CENTER <input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	RIGHT <input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat
MB <input checked="" type="checkbox"/> Off Seat OVB <input checked="" type="checkbox"/> Off Seat	MB <input checked="" type="checkbox"/> Center OVB <input checked="" type="checkbox"/> Low	MB <input checked="" type="checkbox"/> Center OVB <input checked="" type="checkbox"/> Low

<p>A/B Intact (No Holes): <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Face to A/B Contact Location: MB <u>Center</u> OVB <u>Low</u></p> <p>A/B Cover Attached to Can/Cover: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Adj. D-ring Remain in Position: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Retractor Intact: <u>Y</u> <input checked="" type="checkbox"/> N Locked: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Buckle Held: <u>Y</u> <input checked="" type="checkbox"/> N Webbing Intact: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Seat Tracks Held: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Cracks in IP: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Steering Wheel Deformed: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Column Stroked w/o Interference: <u>Y</u> <input checked="" type="checkbox"/> N</p>	<p>A/B Intact (No Holes): <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Face to A/B Contact Location: MB <u>Center</u> OVB <u>Low</u></p> <p>A/B Cover Attached to Can/Cover: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Adj. D-ring Remain in Position: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Retractor Intact: <u>Y</u> <input checked="" type="checkbox"/> N Locked: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Buckle Held: <u>Y</u> <input checked="" type="checkbox"/> N Webbing Intact: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Seat Tracks Held: <u>Y</u> <input checked="" type="checkbox"/> N</p> <p>Cracks in IP: <u>Y</u> <input checked="" type="checkbox"/> N</p>
---	---

Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: RIGHT/SIDE WEBBING FLAY. RT
D-RING; R-SEAT MOVED LEAR

BOLSTER CONTACT - NO VISIBLE DEFORMATION

OBSERVER: KICK DANES
ANDY RANSFORD

SLED 0027445

HYGE Sled Test Summary

Sheet 24
Observer: Kris Wermann

HYGE Run H 19377
Test Engineer: Wim Van Glabbeek
Requester: Kris Wermann

Run Date 8/31/98
Test Auth # TB0407
BUCK # 405

Name: HTM7
10
MATRIX #

Test Title/Description: Retractor analysis
Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin #: _____

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	CENTER	RIGHT Airbag: <u>10</u> ms Pyro Buckle: <u>10</u> ms	
PARTS DESCRIPTION	Dummy <u>317</u> A/B _____ Belt _____ Seat _____	CENTER	Dummy _____ Belt _____ Dr. A/B PMS _____ Pass. PMS _____	Dummy <u>329</u> A/B _____ Belt _____ Seat _____
	Tracks: <u>over manual</u> Position: <u>M/S</u> Welded? <u>N</u>		Tracks: <u>over manual</u> Position: <u>M/S</u> Welded? <u>N</u>	
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

Upright <input checked="" type="checkbox"/> /B <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/> On Seat Off Seat	Upright <input checked="" type="checkbox"/> /B <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/> On Seat Off Seat	
A/B Intact (No Holes): <input checked="" type="checkbox"/> N Face to A/B: <u>High</u> /B <u>High</u> O/B <u>Low</u> Contact Location: _____	A/B Intact (No Holes): <input checked="" type="checkbox"/> N Face to A/B: <u>High</u> /B <u>High</u> O/B <u>Low</u> Contact Location: _____	A/B Intact (No Holes): <input checked="" type="checkbox"/> N Face to A/B: <u>High</u> /B <u>High</u> O/B <u>Low</u> Contact Location: _____
A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> N Cracks in I/P: <input checked="" type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> N	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> N Cracks in I/P: <input checked="" type="checkbox"/> N	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> N Cracks in I/P: <input checked="" type="checkbox"/> N
Column Stroke: Left: _____	Right: _____	
Post Test COMMENTS: <u>NO VISIBLE BOLSTER CONTACT</u> <u>SEAT NORMAL</u> <u>D/D RING RODDINGS - SEAT NORMAL - SLIGHT BOLSTER DEFORMATION</u> <u>BOTH SEAT BACKS FORCED REARWARD</u>		
OBSERVER: <u>WV</u>		

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Station K44 Weapons
Plan: 487147

TB0407

Rep H 19368

Date 8/28/98

Retractor analysis

1

Buck # 405

Reference: H
H
H

Left BOHS	DUMMY TYPE	Right BOHS
MID	SEAT POSITION	MID
DUMMY NUMBER		

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADOL
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5911a)	2.7	22.8	22.8	2.5		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	260	250	12	0
H-Point Vertical Laser # 4	217	217	218	219		0
H-Point Lateral	210	210	210	210	12	0
Knee Longitudinal Laser # 2	140			141		
Knee Vertical Laser # 2	113			105		
Knee Lateral	262	264	265	265	0	0
Head Longitudinal Laser # 5	331			343	level	0
Head Vertical Laser # 5	401			408	level	0
Head Lateral	330	323	448	345	level	0
Dummy Neck Adjustment (First run only)						
Knee Connection to Knee Centerline (mm)	195	194	194	195		
Left Knee to Bolster						0
Right Knee to Bolster						0
Neck to Steering Wheel Upper Rim or LP						0
Torso to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2780			2787		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	240			233	
Thigh Lateral	220			220	
Phantom Lateral	225			208	
Shoulder Lateral	185			170	
Other					
Other					
Other					
Knee to H-Point	270			235	
Knee to Phantom	180			255	
Knee to Thigh	95			95	
Distance Between A or B Piller Targets	51			51	
Upper or Forward Reference Target	40			25	
Lower or Rearward Reference Target	50			25	
Reference Box to Piller Plane	1080			967	
Camera Angle				30	< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 26

Initiator: Edh Warren
Event: 447147

TB0407

Run H 19369

Date 8/28/98

Retractor analysis

5

RUN 2

Buck # 405

Reference: H
H
H

Left BOFS	DUMMY TYPE	Right SOFS	Center
MD	SEAT POSITION	MID	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					IS RUN	ADDL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvis Angle (+/- 2.5 deg; +/-1.9 for 5941a)	23	22.8	22.8	23		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	260	250	12	6
H-Point Vertical Laser # 4	217	-217	-219	215		6
H-Point Lateral	210	210	210	210	12	6
Knee Longitudinal Laser # 2	149			141		
Knee Vertical Laser # 2	113			100		
Knee Lateral	265	264		265	6	6
Head Longitudinal Laser # 3	316			313	level	6
Head Vertical Laser # 3	420			408	level	6
Head Lateral	325	323	448	320	level	6
Driver Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	195	194	184	195		
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or IP						6
Neck to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2736			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- deg)
Knee (target) Lateral	230			225	
Thigh Lateral	215			210	
Phantom Lateral	215			200	
Shoulder Lateral	160			170	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Fillet Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 27
 Author: Eric W...
 Date: 8/28/98

TB0407

Run H / 19370

Date 8/28/98

Retractor analysis

6
 RUN 3

Buck # 405

Reference: H
 H
 H

Left 60-83	DUMMY TYPE	Right 60-83
MID	SEAT POSITION	MID
DUMMY NUMBER		

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					Lim RUN	ADYL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvis Angle (+/- 2.5 deg; +/- 1.0 for 5%ile)	23	22.5	22.5	23		
Column Angle		21	21		±10°	±10°
H-Point Longitudinal Laser # 4	251	251	250	250	12	8
H-Point Vertical Laser # 4	217	217	219	220		8
H-Point Lateral	210	210	210	210	12	8
Knee Longitudinal Laser # 3	145			146		
Knee Vertical Laser # 2	118			100		
Knee Lateral	265	264		265	8	8
Head Longitudinal Laser # 5	326			323	level	8
Head Vertical Laser # 5	323			405	level	8
Head Lateral	335	323	323	335	level	8
Donkey Neck Adjusters (first run only)						
Knee Centerline to Knee Centerline (mm)	195	194	194	195		
Left Knee to Bolster						8
Right Knee to Bolster						8
Neck to Steering Wheel Upper Rim or IAP						8
Torso to Steering Wheel Lower Rim						8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2736			2737		
Reference Target Absolute Vertical	862			864		
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	230			235		
Thigh Lateral	220			225		
Phantom Lateral	225			220		
Shoulder Lateral	175			178		
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 28
 Initiator: Edn Weisman
 Phone: 487147

TB0407

Run H19371

Date 8/28/98

Retractor analysis

2

Buck # 405

Reference: H
 H
 H

Left SOHS	DUMMY TYPE	Right SOHS
MID	SBAT POSITION	MID
	DUMMY NUMBER	

Center

RUN 4

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					Int RUN	ADD'L
Seat Back Angle (15° above pivot)	2.8	27.8	27.8	2.8	0	+/-1 (0.000)
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 590/c)	2.3	22.5	22.5	2.3		
Column Angle		21	21		as int	as left
H-Point Longitudinal Laser # 4	251	251	250	250	12	6
H-Point Vertical Laser # 4	217	-217	-219	220		6
H-Point Lateral	212	210	210	210	12	6
Knee Longitudinal Laser # 2	149			141		
Knee Vertical Laser # 2	173			160		
Knee Lateral	263	264		266	6	6
Head Longitudinal Laser # 5	376			393	level	6
Head Vertical Laser # 5	423			408	level	6
Head Lateral	330	329	335	320	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	195	184	184	193		
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or IP						6
Toes to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2737		
Reference Target Absolute Vertical	862			864		
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	250		250			
Thigh Lateral	215		225			
Phantom Lateral	215		210			
Shoulder Lateral	160		160			
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Piller Target						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 29
 Institute: Kib Western
 Form 487147

TB0407

Run H 19372

Date 8-31-98

Retractor analysis

3

Buck # 405

Reference: H
 H
 H

Left		Right	Center
SDHS	DUMMY TYPE	SDHS	
MD	SEAT POSITION	MD	
317	DUMMY NUMBER	331	

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLEANCES (+ mm)	IN RUN	ADJL
Seat Back Angle (13° above pivot)	28°	27.8	27.8	28°		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for JMWts)	24	22.8	22.5	20			
Column Angle		21	21			at left	at left
H-Point Longitudinal Laser # 4	251	251	250	251		12	0
H-Point Vertical Laser # 4	-217	-217	-219	-217			0
H-Point Lateral	211	210	210	205		12	0
Knee Longitudinal Laser # 2	-149			-141			
Knee Vertical Laser # 2	-113			-100			
Knee Lateral	267	264	264	273		0	0
Head Longitudinal Laser # 3	376			393		level	0
Head Vertical Laser # 3	483			468		level	0
Head Lateral	322	328	335 +0	337		level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)	195	195.00	184	195			
Left Knee to Bolster							0
Right Knee to Bolster							0
Neck to Steering Wheel Upper Rim or VP							0
Torso to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal	2736			2737			
Reference Target Absolute Vertical	882			884			
Reference Target Absolute Lateral							

FILM ANALYSIS

Knee (target) Lateral	251			225			
Thigh Lateral	230			229			
Phantom Lateral	274			213			
Shoulder Lateral	145			165			
Other							
Other							
Other							
Knee to H-Point							
Knee to Phantom							
Knee to Thigh							
Distance Between A or B Filter Targets							
Upper or Forward Reference Target							
Lower or Rearward Reference Target							
Reference Bar to Film Plane							
Camera Angle						< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 30

Address: Kich Warrick
Phone: 487147

TB0407

Run H 19373

Date 8-31-98

Retractor analysis

4

Buck # 408

Reference: H _____
H _____
H _____

Left 50H3	DUMMY TYPE	Right 50H3
MID	SEAT POSITION	MID
317	DUMMY NUMBER	331

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/-mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 5946)	25	22.5	22.5	23		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	851	281	280	851	12	0
H-Point Vertical Laser # 4	-217	-217	-218	-217		0
H-Point Lateral	-207	-210	-210	-212	12	0
Knee Longitudinal Laser # 2	-149	-148	-141	-141		
Knee Vertical Laser # 2	-112	-130	-100	-100		
Knee Lateral	265	-264	-263	-263	0	0
Head Longitudinal Laser # 5	376	378	393	393	level	0
Head Vertical Laser # 5	423	423	408	408	level	0
Head Lateral	388	-323	-335	335	level	0
Dummy Neck Adjustment (best run only)						
Knee Contact to Knee Contact (max)	195	186	184	194		
Left Knee to Bolster						0
Right Knee to Bolster						0
Nose to Steering Wheel Upper Rim or I/P						0
Top to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2739		
Reference Target Absolute Vertical	892			884		
Reference Target Absolute Lateral	788			770		

FILM ANALYSIS			
Knee (target) Lateral	236		218
Thigh Lateral	234		220
Phantom Lateral	230		212
Shoulder Lateral	147		158
Other			
Other			
Other			
Knee to H-Point			
Knee to Phantom			
Knee to Thigh			
Distance Between A or B Pilar Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Camera Angle			

< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 31

Inhibitor Rod Warnings
Phone 187197

TB0407

Run H 19374

Date 8-31-98

Retractor analysis

7

Buck # 405

Reference: H
H
H

Left		Right
50HS	DUMMY TYPE	50HS
MID	SEAT POSITION	MID
317	DUMMY NUMBER	331

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	23	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- LD for 5942a)	23	22.5	22.5	20		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	250	259	12	0
H-Point Vertical Laser # 4	-217	-217	-218	-217		0
H-Point Lateral	-205	-210	-210	010	12	0
Knee Longitudinal Laser # 2	-149	-140	-141	-141		
Knee Vertical Laser # 2	-113	-113	-100	-100		
Knee Lateral	-264	-284	-283	263	0	0
Head Longitudinal Laser # 5	376	378	393	393	level	0
Head Vertical Laser # 5	423	423	405	408	level	0
Head Lateral	322	-323	-336	331	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	195	186	184	194		
Left Knee to Bolster	116			118		0
Right Knee to Bolster	119			121		0
Nose to Steering Wheel Upper Rim or MP	410			400		0
Teeth to Steering Wheel Lower Rim	220					0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	662			664		
Reference Target Absolute Lateral	789			-770		

FILM ANALYSIS				
Knee (target) Lateral	237		209	
Thigh Lateral	227		220	
Phantom Lateral	220		211	
Shoulder Lateral	135		103	
Other				
Other				
Other				
Knee to H-Point	381		346	
Knee to Phantom	245		213	
Knee to Thigh	117		105	
Distance Between A or B Pillar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: _____

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 32

Inhibitor: Eric Wasson
 Part: 087147

TB0407

Run H 19375

Date 8/31/98

Retractor analysis

8

Buck # 405

Reference: H
 H
 H

Left 50H3	DUMMY TYPE	Right 50H3	Center
MID	SEAT POSITION	MID	
317	DUMMY NUMBER	331	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (* mm)	
					1st RUN	ADJL
Seat Back Angle (13" above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 50H3)	23	22.5	22.5	23		
Coccyx Angle	21	21	21		at left	at left
H-Point Longitudinal Laser # 4	251	261	250	250	12	6
H-Point Vertical Laser # 4	217	-217	-219	219		6
H-Point Lateral	210	-210	-210	210	12	6
Knee Longitudinal Laser # 2	150	-148	-141	141		
Knee Vertical Laser # 2	115	-113	-100	100		
Knee Lateral	264	-284	-283	263	6	6
Head Longitudinal Laser # 5	376	378	393	393	level	6
Head Vertical Laser # 5	423	423	408	408	level	6
Head Lateral	323	-323	-335	330	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	155	185	184			
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or VP						6
Torso to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	789			-770		

FILM ANALYSIS

Knee (target) Lateral	230		235	
Thigh Lateral	220		225	
Phantom Lateral	220		205	
Shoulder Lateral	136		170	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Film Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Coccyx Angle				

< 6 deg. < 6 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 33

Initiator: Ken Wenzel
Phone: 487147

TB0407

Run H 19376

Date 8-31-98

Retractor analysis

9

Buck # 406

Reference: H
H
H

Left 50HS	DUMMY TYPE	Right 50HS	Center
MID	SEAT POSITION	MID	
317	DUMMY NUMBER	331	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL.
Seat Back Angle (13° above pivot)		27.8	27.8		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 94lbs)		22.5	22.5			
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	250	251	12	6
H-Point Vertical Laser # 4	-217	-217	-219	-217		6
H-Point Lateral	-210	-210	-210	-210	12	6
Knee Longitudinal Laser # 2	-149	-149	-141	-141		
Knee Vertical Laser # 2	-113	-113	-100	-100		
Knee Lateral	265	-264	-263	-265	6	6
Head Longitudinal Laser # 5	376	378	383	393	level	6
Head Vertical Laser # 5	423	423	408	409	level	6
Head Lateral	330	-323	-335	-335	level	6
Dummy Neck Adjustment (Erect pos only)						
Knee Contact to Knee Contact (max)	195	185	184	195		
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or IF						6
Torso to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	862			864		
Reference Target Absolute Lateral	769			-770		

FILM ANALYSIS				
Knee (target) Lateral	235		240	
Thigh Lateral	220		220	
Phantom Lateral	270		230	
Shoulder Lateral	770		175	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Pillar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 34

Editor: Kris Wynn
Phone: 277147

TB0407

Rm H 19377

Date 8-31-98

Retractor analysis

10

Buck # 405

Reference: H
H
H

Left		Right
80HS	DUMMY TYPE	80HS
MID	SEAT POSITION	MID
317	DUMMY NUMBER	331

Center

POSITIONING

		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+ mm)	
						1st RUN	ADD'L
Seat Back Angle (13° above pivot)			27.8	27.8		0	+1 notch
Pelvis Angle (+/- 2.5 deg.; +/-1.0 for 544ls)			22.5	22.5			
Column Angle			21	21		at left	at left
H-Point Longitudinal	Laser # 4	251	251	250	251	12	6
H-Point Vertical	Laser # 4	-217	-217	-218	-217		6
H-Point Lateral		212	-210	-210	213	12	6
Knee Longitudinal	Laser # 3	-149	-149	-141	-141		
Knee Vertical	Laser # 3	-113	-113	-100	-100		
Knee Lateral		265	-284	-283	267	6	6
Head Longitudinal	Laser # 3	376	378	393	393	level	6
Head Vertical	Laser # 3	423	423	406	408	level	6
Head Lateral		332	-323	-338	333	level	6
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		194	185	184	195		
Left Knee to Bolster							6
Right Knee to Bolster							6
Neck to Steering Wheel Upper Rim or VP							6
Neck to Steering Wheel Lower Rim							6
Reference Target to Seat Bolt Longitudinal							
Reference Target to Seat Bolt Vertical							
Reference Target to Seat Bolt Lateral							
Reference Target Absolute Longitudinal		2737			2738		
Reference Target Absolute Vertical		662			664		
Reference Target Absolute Lateral		789			770		

FILM ANALYSIS

Knee (imgae) Lateral	240		240				
Thigh Lateral	220		215				
Phantom Lateral	220		236				
Shoulder Lateral	160		160				
Other							
Other							
Other							
Knee to H-Point							
Knee to Phantom							
Knee to Thigh							
Distance Between A or B Pillar Targets							
Upper or Forward Reference Target							
Lower or Rearward Reference Target							
Reference Bar to Film Plane							
Camera Angle						< 6 deg.	< 6 deg.

Notes:

**Final Test Report
Confidential**

Test Order No.: TB1257
Subject: 2000 D186 L/H 6 WAY DRIVER SEAT BACK
LATCH CERT FMVSS 207 HYGE SLED SERIES
Requested By: M. JESSUP
(Dept.): X531, D186 PLATFORM TEAM
Date Received: 9/23/98
Work Task No.: F09
Test Facility: HYGE
Test Date: 11/2/98
Run Numbers: H19485
Procedure(s): 8T-4, T857-100, T857-106
Date Reported: 1/25/99
Page: 1 of 13



Stamp	
Stamp Copy	
Stamp Thru	2005
Vehicle Number	7-7-12a

Objective:

To determine compliance with FMVSS 207 on the front row 6 way driver seat back latch in the D186.

Summary:

One frontal impact simulation was performed on the Hyge sled. The test results indicated that the seat back latches held. The testing was conducted using the rigid DN101 front seat test buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department Intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

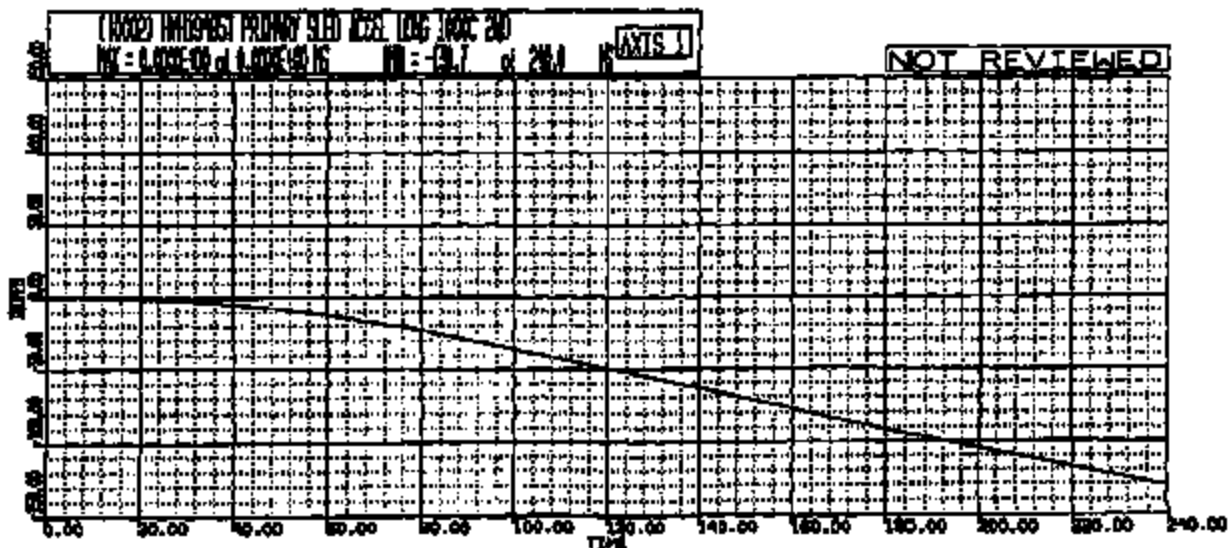
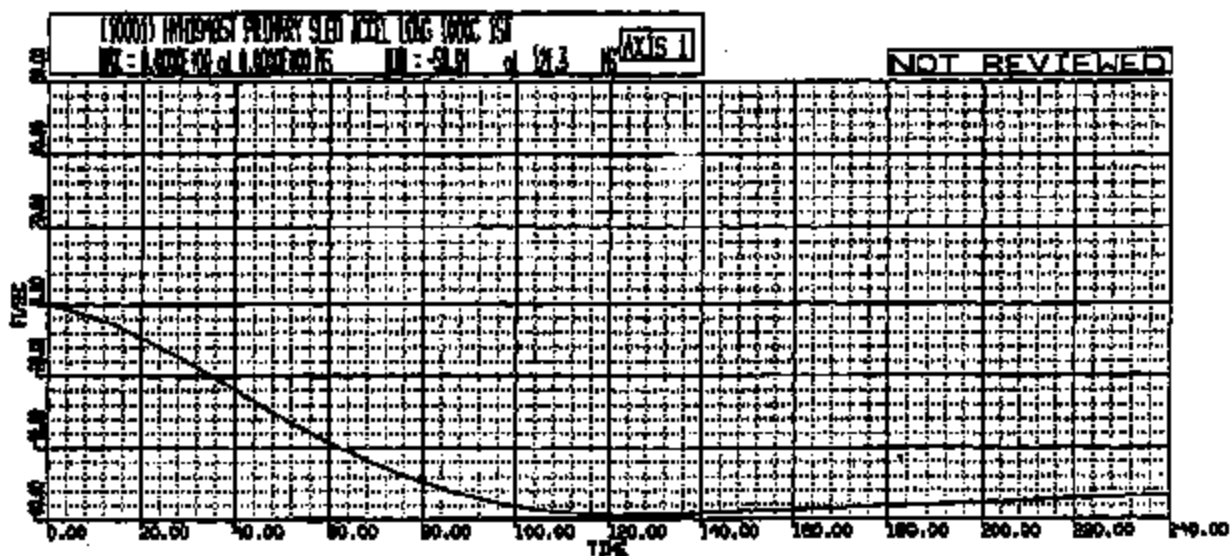
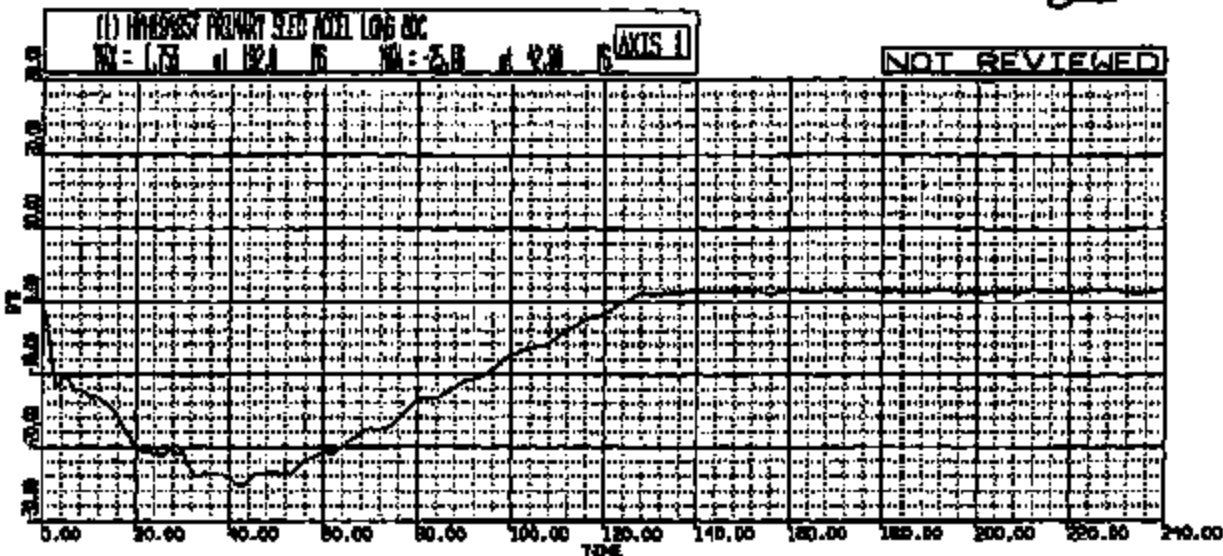
- I. Sled Pulse
- II. Sled Parameters
- III. Test Authorization
- IV. Engineering Approval of Seat Components for Test
- V. Post Test Observations
- VI. Digital Still Photographs

Concur:

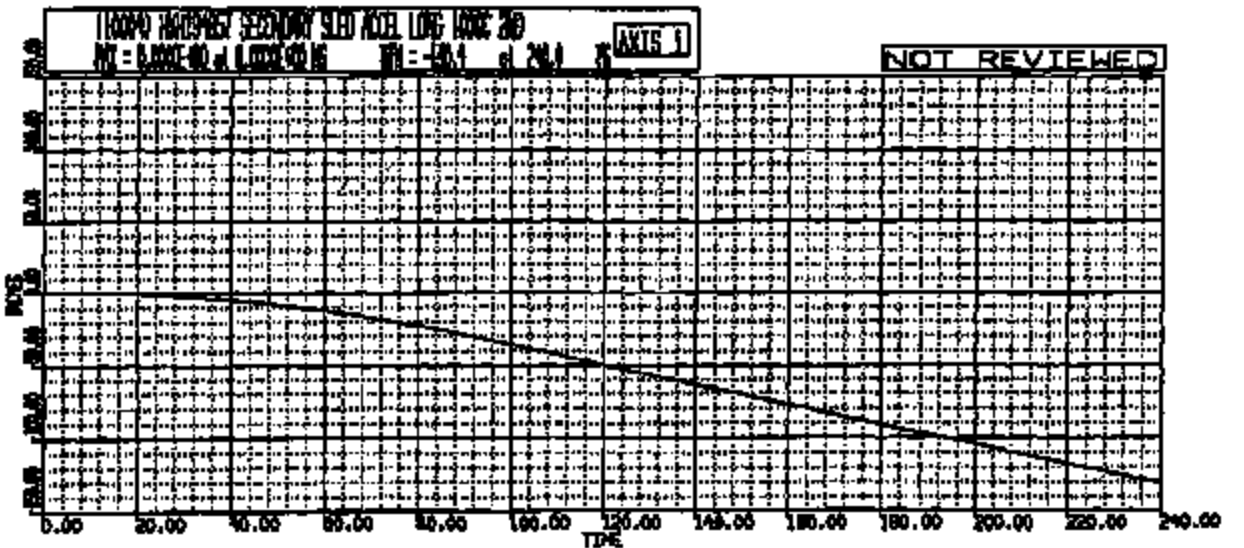
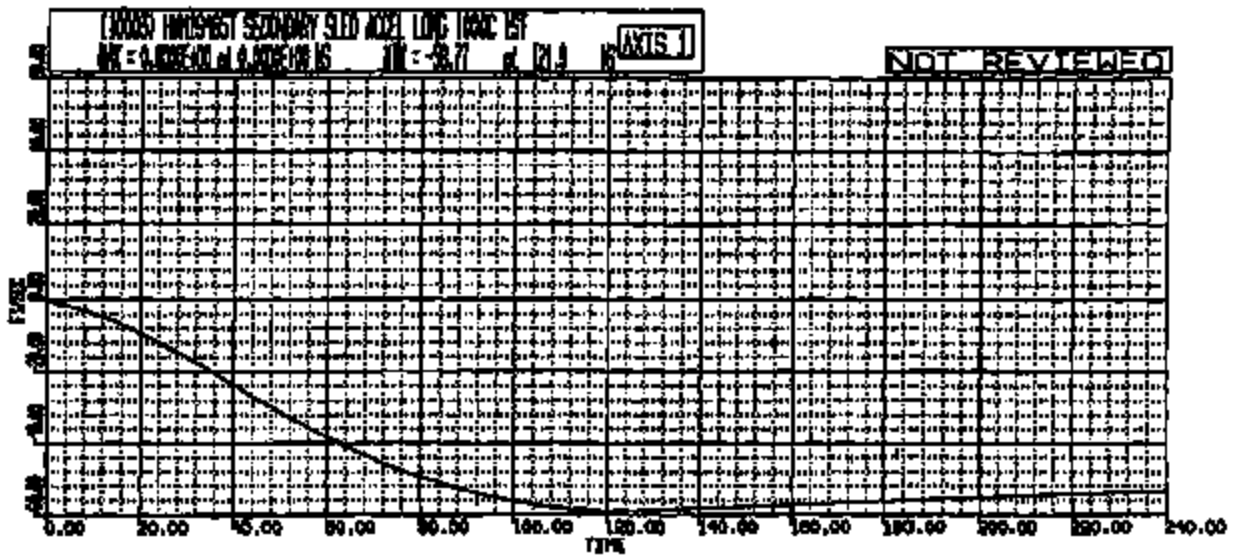
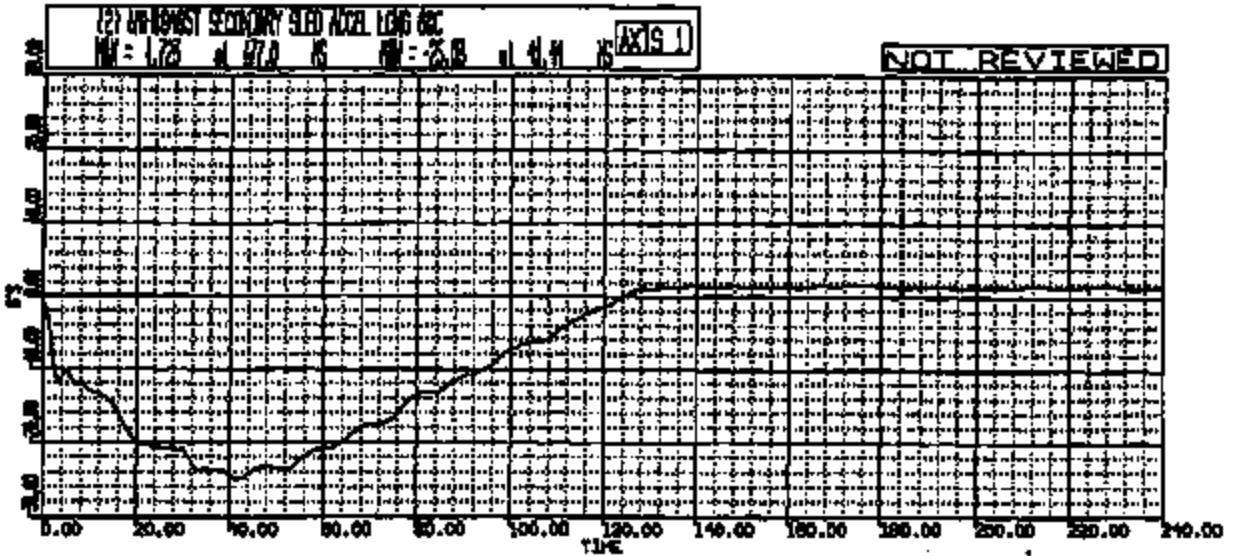

M. HAMILTON
Interim Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

HY R: H18485 TO: TB1257 DATE: 991102 15:00:11
UNKNOWN




BY R: H18485 TO: TB1257 DATE: 081102 15:00:11
UNKNOW



BUN #	T.A. #	TEST TYPE	DATE	TIME	DATA CHANG.	WEIGHT LBS	HPGA	SCORE	LOAD	SEI	EMME	BUCK #	VELOCITY (M/PS)	LEFT	DUNNY SW CENTER	RIGHT	PH	INNER BING	OUTER BING
19483	101237	(1) 105 L (1) 85A1 C57	11/2/98	1800	3	899	55	220	2232	372	175	408	58	-	-	-	9	N	N

ATTACHMENT II
 TB-1257
 8/20/04

SLIED 0027570

 GTO Test Request		Requester/Coordinator (PROPS ID):	
		MJE88UP1 <i>Sheet 5</i> MARK JESSUP	
Testing Activity: FMVSS and VIA Sled	Date Submitted: 23-SEP-88	Requested Completion Date: 01-NOV-88	Requester Reference Number:
Test Procedure Number: BT-4	Test Title and / or Subject of Test FMVSS 207 Seat Anchorage (Dynamic Latch)		
Billable Requestor Dept No.: XES1 FW2410AEC	Worktask/Work Order Number: FOE	Test conducted to certify control item compliance with Government Regulations:	
Billable Requestor PROPS ID: MJE88UP1	Billable Requestor Name: MARK JESSUP	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
Complete the following two questions as indicated			
1 - Rationale for not replacing this test by CAE Analysis: <ul style="list-style-type: none"> <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Outlier <input type="checkbox"/> Mandatory or Regulatory <input checked="" type="checkbox"/> Certification <input type="checkbox"/> Development test for FBS <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <ul style="list-style-type: none"> <input type="checkbox"/> Results will meet DVP/MCR requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other: Conformance with FMVSS Certification	
(Check appropriate boxes)		(Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: ETP:BT-4 Seat Latch Acceleration Test			
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer	<u>MARK JESSUP</u>	Testing Engineer	_____
Requesting Supervisor/Manager	<u>STEPHEN KOZAK</u>	Testing Supervisor	_____

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

Test Request Number: TB-1257

Buck No: Sled

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: 2000 D-188.

Seat Type: Front Row Driver Bucket Seat.

<u>Part Name:</u>	<u>Part Number:</u>	<u>Supplier:</u>	<u>Signature:</u>	<u>Date:</u>
LH Side SI 8 way Pwr w/SAB & Lumber	YF12-5460005-HAW	JGR LEAR	<i>[Signature]</i>	10/12/98

Production Intent seat hardware supplied by V.C. Engineer

Restraints
hardware.

The Mechanical components are correctly assembled and functional prior to the Test.

Note: FMVSS 207 Dynamic Latch Test

HYGE Sled Test Summary

ATTACHMENT II

Slatt

(Initiator: Jim Eggleston
Phone: x25936)

HYGE Run H 19485
 Test Engineer: Mike Doran
 Requester: Jim Eggleston

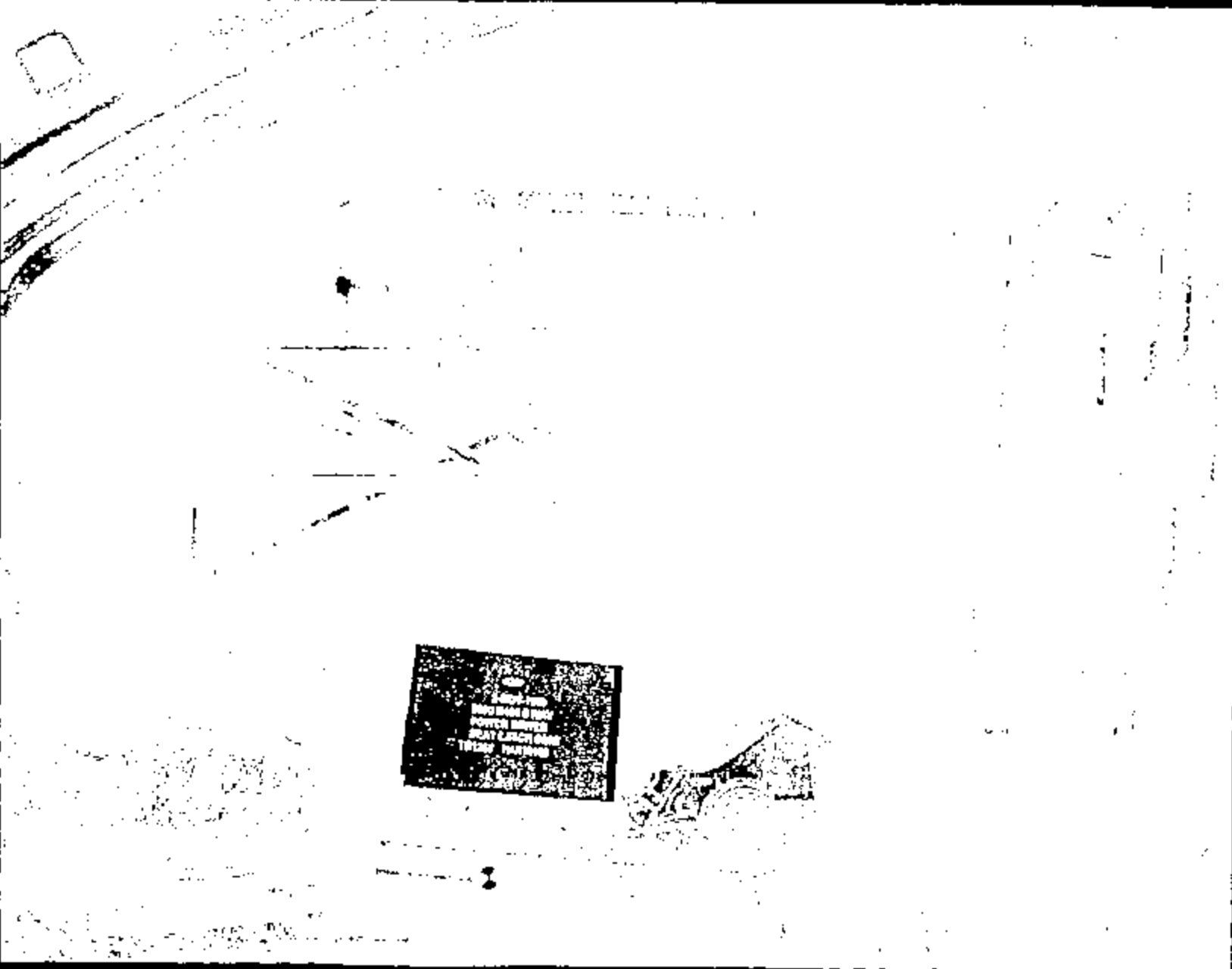
Run Date 11/2/98
 Test Auth # TB1257
 BUCK # 405

MATRIX #

Test Title/Description: L/H 6 WAY DRIVER SEAT LATCH CERT

PRE-TEST	LEFT Airbag: _____ ms	RIGHT Airbag: _____ ms	
	Pyro Buckle: _____ ms	Pyro Buckle: _____ ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT Dummy _____	CENTER Dummy _____	RIGHT Dummy _____
	A/B _____	Belt _____	A/B _____
	Belt _____	Dr. A/B FMR _____	Belt _____
	Seat _____	Pass. FMR _____	Seat _____
	Tracks: power manual _____	Pass. FMR _____	Tracks: power manual _____
	Position: _____ Welded? <u>Y N</u>		Position: _____ Welded? <u>Y N</u>
	Instrument Panel: _____		
	Steering Column: _____		
Pre-Test OBSERVATIONS: _____			

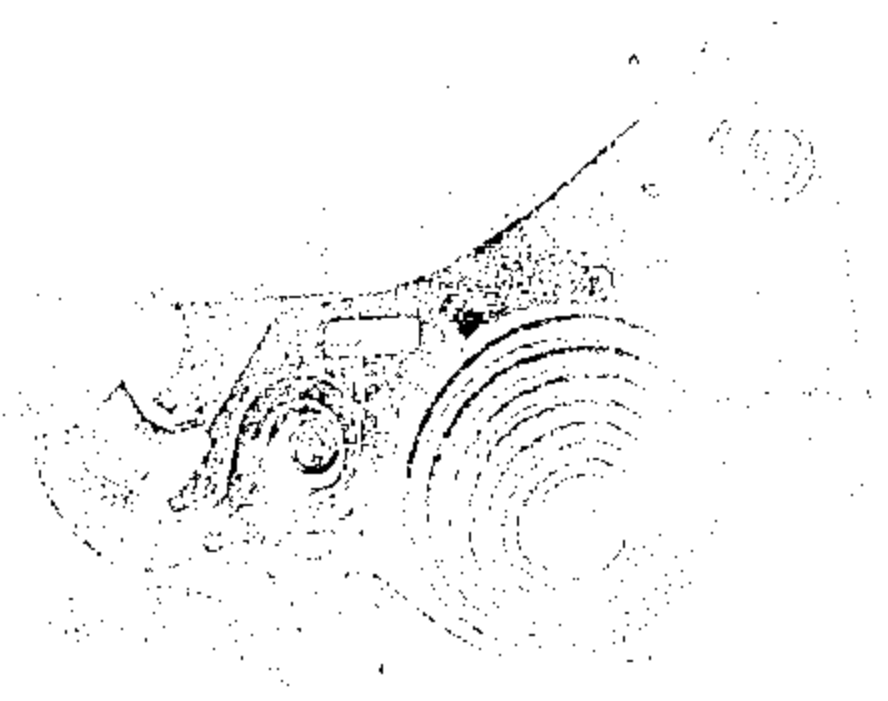
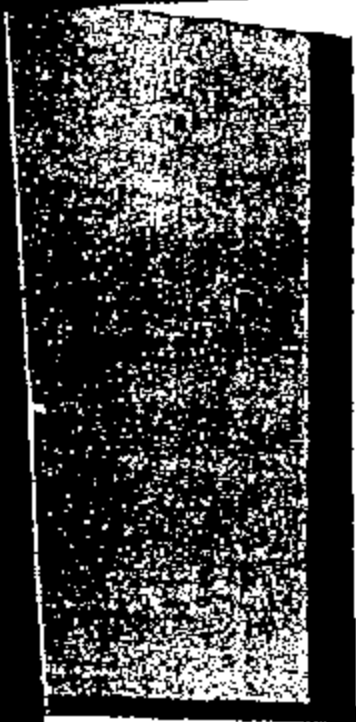
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:											
LEFT SIDE	Upright	I/B	O/B	CENTER	Upright	Left	Right	RIGHT SIDE	Upright	I/B	O/B
	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat
A/B Intact (No Holes): <u>Y/N</u>				A/B Intact (No Holes): <u>Y/N</u>							
Face to A/B _____			I/B Center O/B _____			Face to A/B _____			I/B Center O/B _____		
Contact Location: _____			High Mid Low _____			Contact Location: _____			High Mid Low _____		
A/B Cover Attached to Can/Cover: <u>Y/N</u>				A/B Cover Attached to Can/Cover: <u>Y/N</u>							
Adj. D-ring Remain in Position: <u>Y/N</u>				Adj. D-ring Remain in Position: <u>Y/N</u>							
Retractor Intact: <u>Y/N</u>			Locked: <u>Y/N</u>			Retractor Intact: <u>Y/N</u>			Locked: <u>Y/N</u>		
Buckle Held: <u>Y/N</u>			Webbing Intact: <u>Y/N</u>			Buckle Held: <u>Y/N</u>			Webbing Intact: <u>Y/N</u>		
Seat Tracks Held: <u>Y/N</u>				Seat Tracks Held: <u>Y/N</u>							
Cracks in I/P: <u>Y/N</u>				Cracks in I/P: <u>Y/N</u>							
Steering Wheel Deformed: <u>Y/N</u>				Steering Wheel Deformed: <u>Y/N</u>							
Column Stroked w/o Interference: <u>Y/N</u>				Column Stroked w/o Interference: <u>Y/N</u>							
Column Stroke: Left: _____						Right: _____					
Post Test COMMENTS: <u>SEAT BACK LATCH HELD DURING TEST.</u>											
OBSERVER: <u>M. Doran</u>											



ATTACHMENT VI
 TB-1257
 Sheet 8

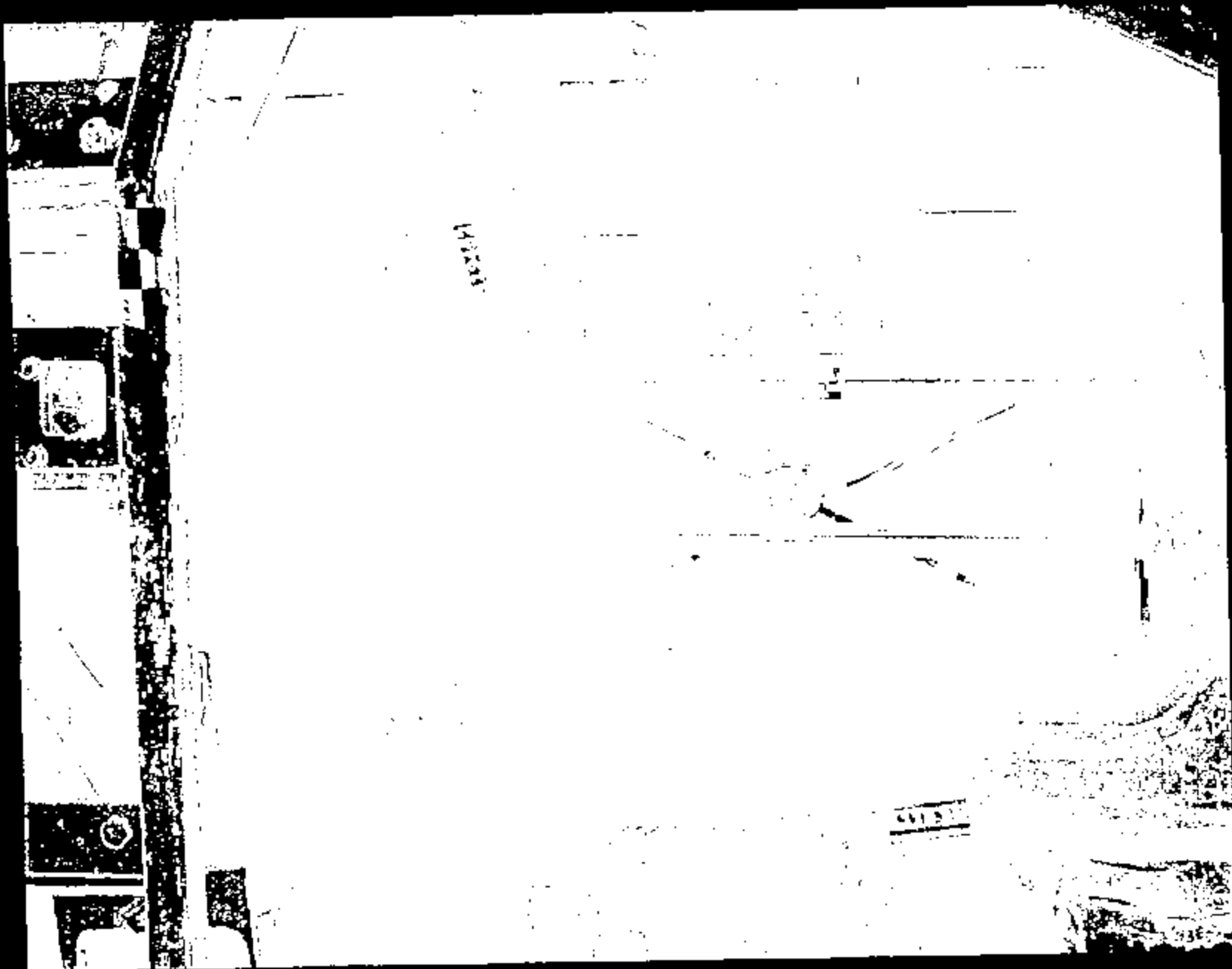
SLED 0027574

000 Image 0000



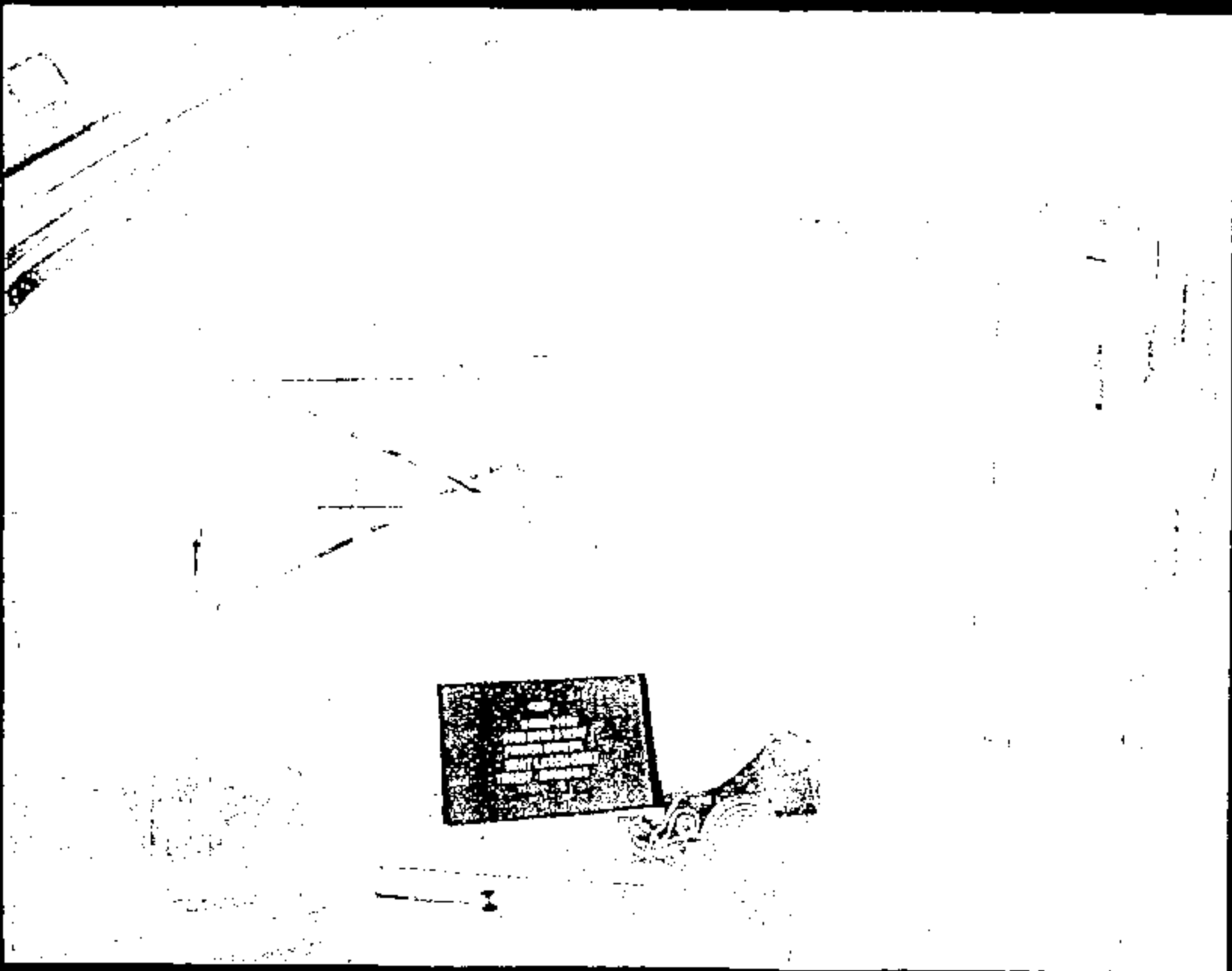
TB-1257
2/20/09

SLIED 0027575



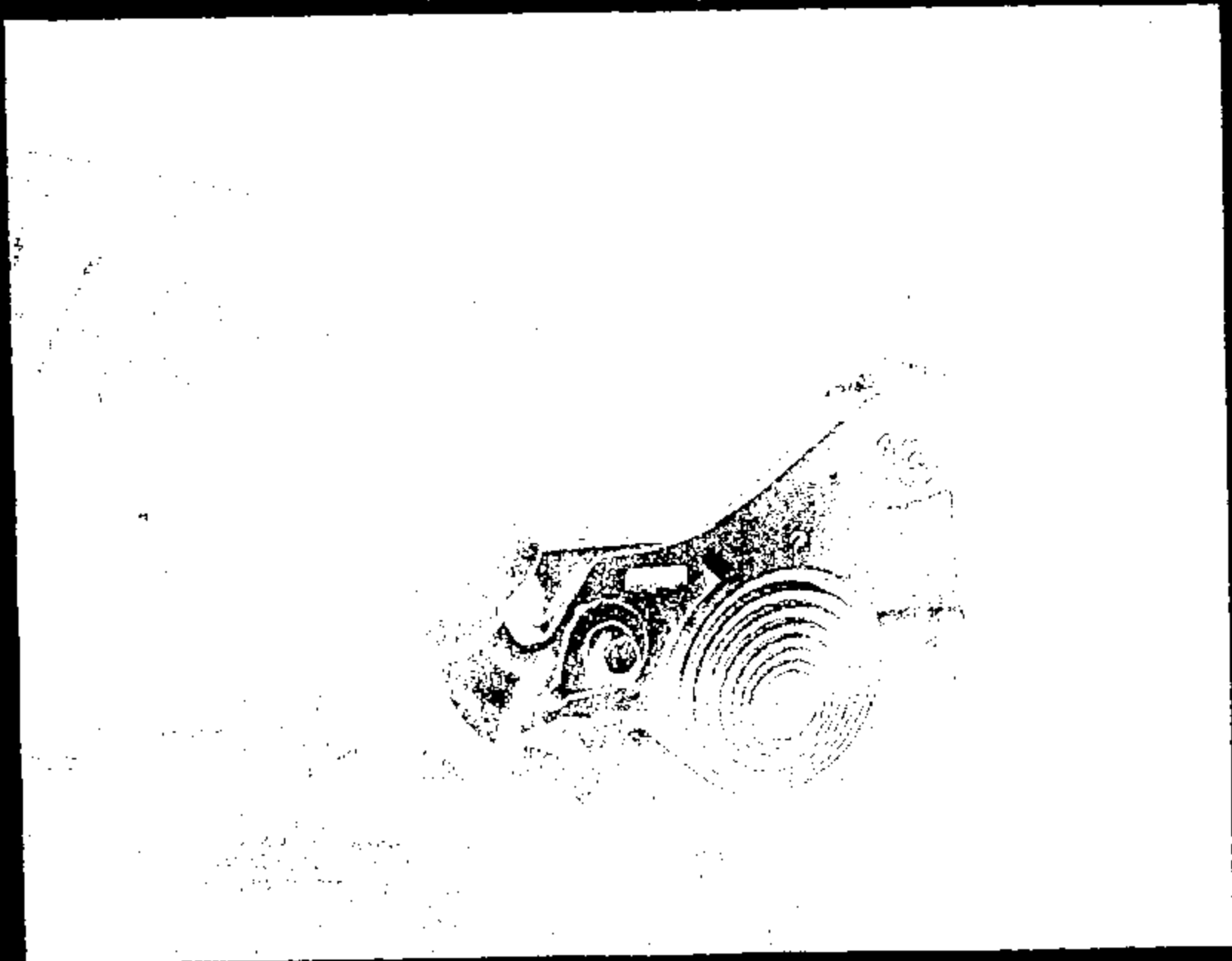
SIEMENS 027576

TB-R-57
88-F-10



SLED 0027577

TB-1257
Sled-11



SLERD 0027578

TB-1257
Sheet 12



SLEED 0027579

TB-1257
8/20/01-13

**Final Test Report
Confidential**



Advanced Vehicle Technology

Test Order No.: TR2501
Subject: 2000 D186 Series A
Demo of FMVSS 208 Hyge Certification Test
Requested By: Bob Hammond
Requesting Dept.: T551
Work Task No.: F09
Test Facility: Hyge
Date Received: 11/8/1998
Date Reported: 1/18/1999
Test Dates: 11/18/1998
Run Numbers: H19520
Procedure(s): T657-110
Page: 1 of 16

DISPOSE of Copy (Black Stamped) by:	
RETAIN Facsim Copy (Red Stamped) thru	2004
Schedule Number:	7-4-2

Objective:

Demonstration of FMVSS208 Hyge Certification Sled Test.

Summary:

One 30 MPH (Generic Pulse) test was conducted on the Hyge sled using two 50% instrumented hybrid III test dummies. The testing was conducted using a D186 full vehicle. The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Photographic Set-Up

Consent:


Mike Hamilton
Section Supervisor
Operations Engineering
Safety Laboratories Department


Wim H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

SLED 0027904

TB-2501
Sheet 2

Attachment I.
Test Authorization



GTO Test Request

Requester/Coordinator (PROPS ID):
 RHAMMONS
 BOB HAMMOND

Testing Activity: HYGE and VIA Sled
 Date Submitted: 09-NOV-88
 Requested Completion Date: 16-NOV-88
 Requester Reference Number:

Test Procedure Number: 108
 Test Title and / or Subject of Test: D188 FMVSS208 Demo

Eligible Requester Dept No.: T651 AV221BA
 Worldwide/Work Order Number: F89
 Test conducted to certify control item compliance with Government Regulations:
 Yes: No:

Eligible Requester PROPS I.D.: RHAMMONS
 Eligible Requester Name: BOB HAMMOND

Complete the following two questions as indicated

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

- No CAE Methodology or process available
- For CAE Correlation
- Insufficient confidence in CAE
- To obtain basic data for CAE
- Replacement or improvement of existing Test
- Testing is Outlier
- Mandatory or Regulatory
- Certification
- Development test for F88
- Not applicable

Other: FMVSS 208 Demonstration

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- Results will meet DVP/AVCR requirements
- System Component will not meet Test specification
- Unknown
- Above is Based on CAE?

Other:

(Check appropriate boxes)

Test Purpose/Test Procedure or Description of Test:
 T657-108 Hyge Sled FMVSS 208 Certification Procedure

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: BOB HAMMOND Testing Engineer: _____
 Requesting Supervisor/Manager: ALAN TAUB Testing Supervisor: _____

S. Raat: 4

Test Definition Worksheet

Request No: TE2501 D185 FMVSS208 Demo
 Service/Procedure: 108 T657-108 Hyge sled FMVSS 208 Certification Procedure
 Test Object: Request Date: 03-NOV-88
 Requester: BOB HAMMOND (RHAMMONS) Requester Phone: 813-32-31188

Sample #:	Part #:	Part Description:
1	D185	FULL VEHICLE PREPD FOR HYGE SLED TEST

Parameter:	Value:	Units:
Vehicle Model	CRV185	
Requester Pager ID	sham	
Veh. Year	2000	
Impact Area	FRONT	
Buck #	vehicle	
CITY	2	
TYPE	50TH HYBRID II	
Instrumentation	STANDARD	
1 Pulse Ref	g pulse	
1 Vel	30	

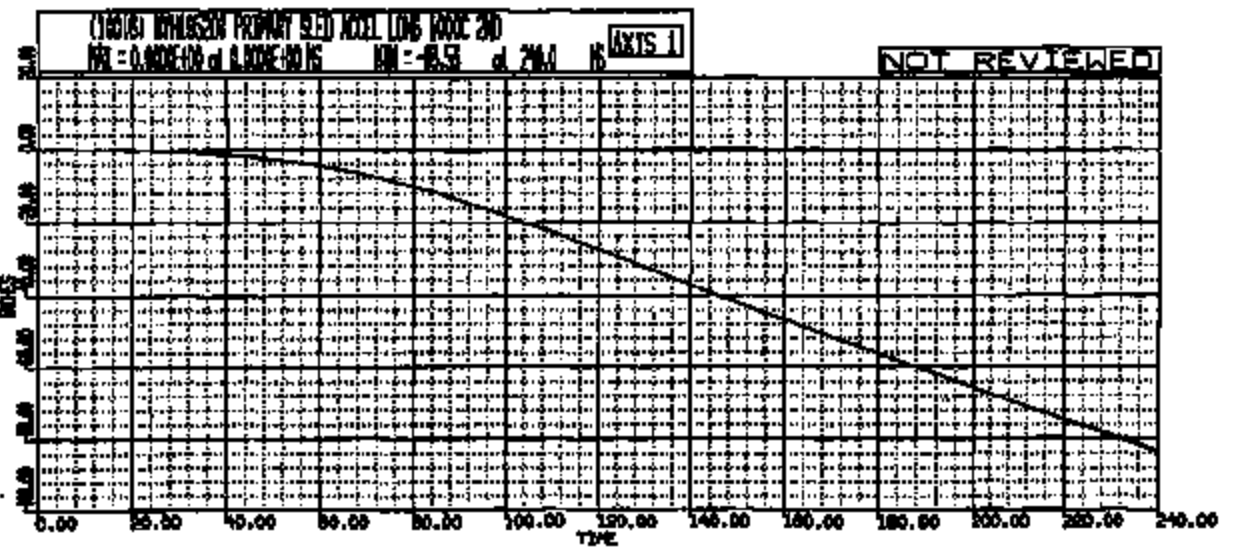
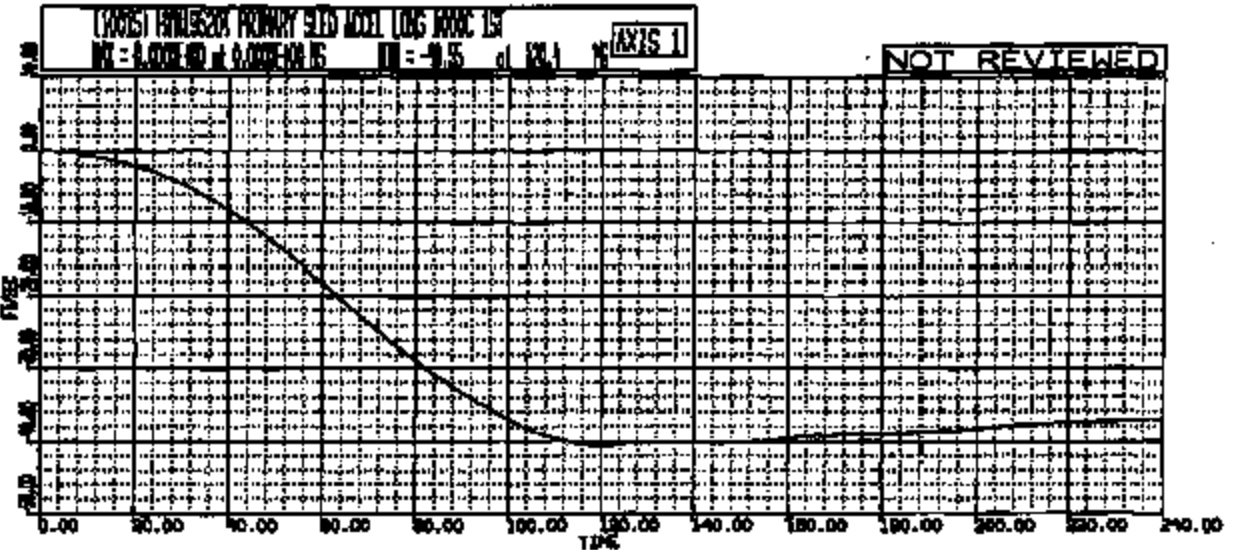
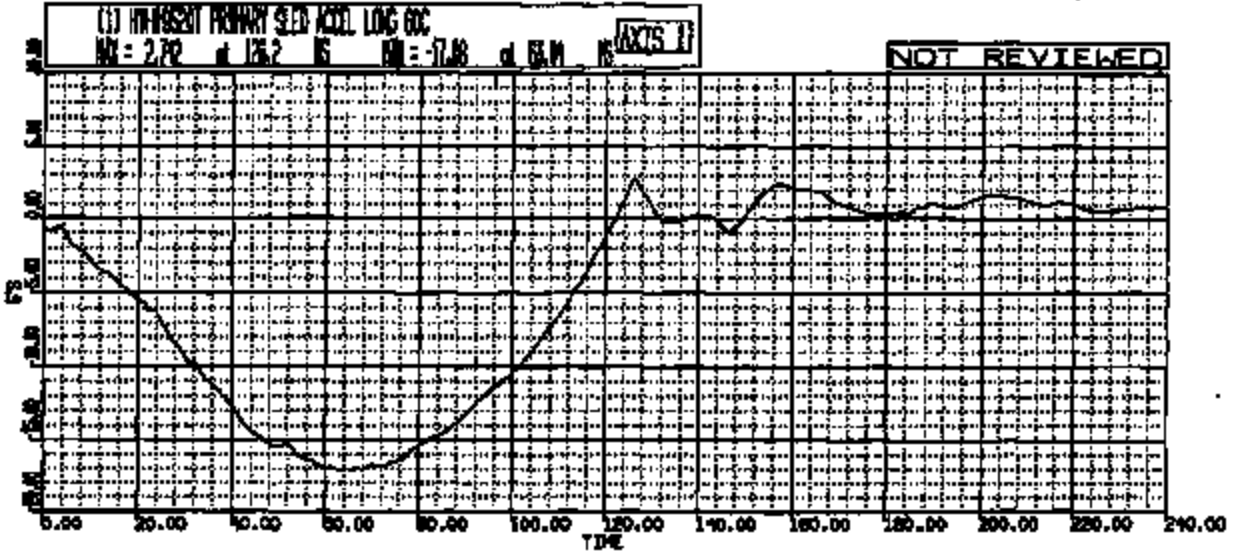
TB-2501
Sheet 5

Attachment II.
Test Matrix

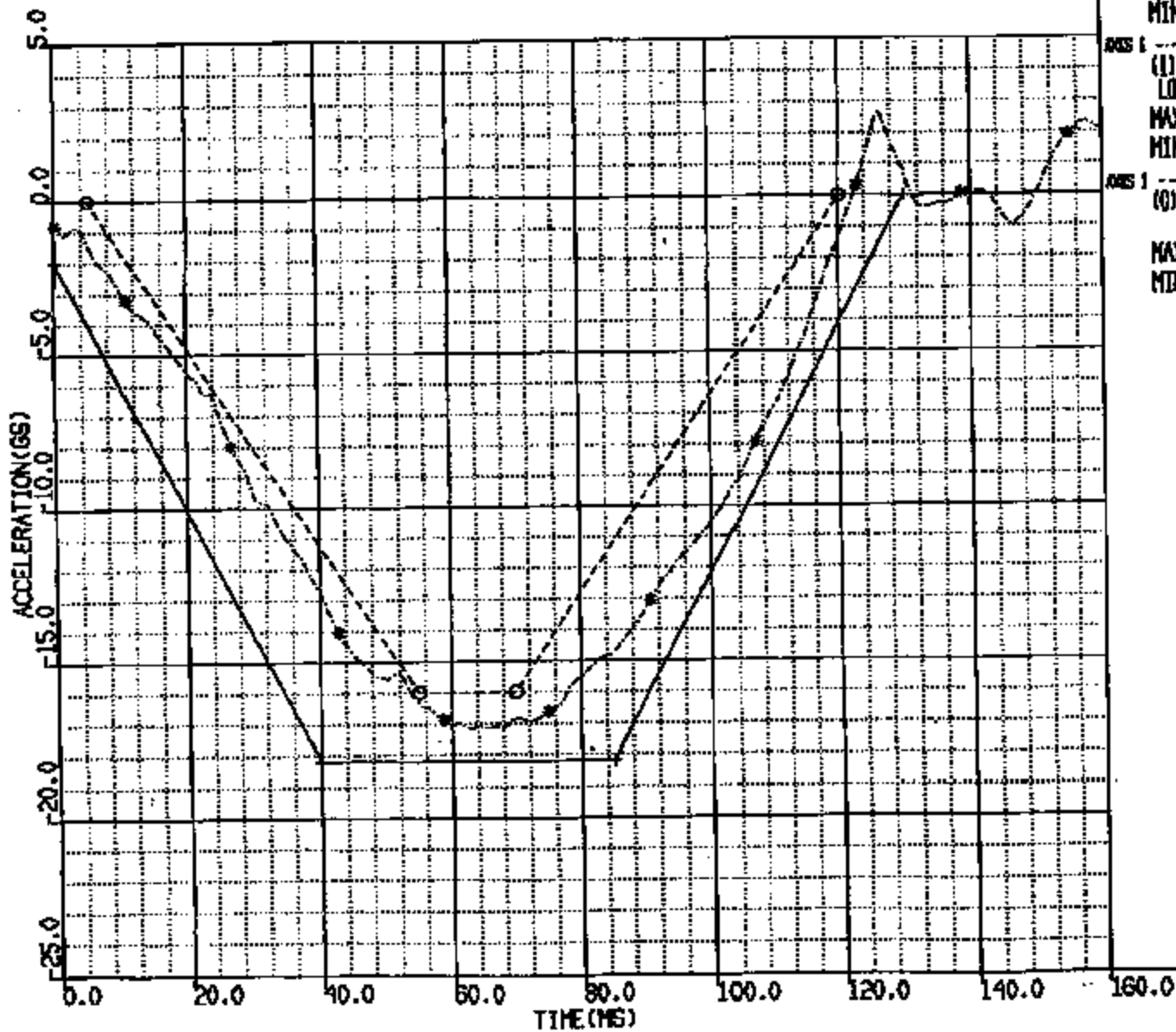
TB-2501
Sheet 7

Attachment III.
Sled Pulse

Y R: H119S20 TO: TB2501A DATE: 981110 12:00:42
UNKNOWN



GENERIC PULSE OVERLAY



FOREIGN

MS 1	(0) UPPER CRITERIA		
	MAX = 0.0000E+00	at 130.0	MS
	MIN = -18.20	at 40.00	MS
MS 1	(1) 001195201 PRIMARY SLED ACCEL LONG GAC		
	MAX = 2.633	at 126.2	MS
	MIN = -17.19	at 63.04	MS
MS 1	(0) LOWER CRITERIA		
	MAX = 0.0000E+00	at 5.000	MS
	MIN = -16.00	at 55.00	MS

CSDAS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, SIO-PL
 CREATED: 16-NOV-98 12:36:58

TB-2561
 8 Nov 98

SLED 0027912

TB-2501
Sheet 10

Attachment IV.
Sled Parameters

CLUBlog

RUN #	T.A.#	TRK TYPE	DATE	TIME	DATA CHANL	WEIGHT (LBS)	HFCL	STROKE	LOAD	SET	BRKES	BRKES	VELOCITY (MPH)	LEFT	DUNNIN RPM CENTER	RIGHT	FIN	INNER RING	OUTER RING
1000	10001A	DATA (1) RAIL VEHICLE FRAME 206 C	11/14/1999	12:20	17	4436	68	26	2108	356	150	LIVE	30	342		313	68	CLW	CLW

SLEED 0027914

IB-2501
8/2/11

TB-2501
Sheet 12

Attachment V.
Post Test Observations

HYGE Sled Test Summary

Sheet 13

Initiator: Bob Hammond
Phone: x31106

HYGE Run # _____ Run Date 11/16/98
 Test Engineer: Wim Van Glabbeek Test Auth # TB2501
 Requestor: Bob Hammond BUCK # Full vehicle

1

MATRIX #

Test Title/Description: Demo of FMVSS 208 Hyge Certification Test

Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Ptn # 93

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>2.0</u> ms Pyro Buckle: _____ ms	RIGHT Airbag: <u>20</u> ms Pyro Buckle: _____ ms	
PRE-TEST OBSERVATIONS	Dummy <u>SDH3</u> A/B _____ Belt _____ Seat _____	DUMMY Dummy _____ Belt _____ Dr. AB FMB _____ Pass. FMB _____	Dummy <u>SDH3</u> A/B _____ Belt _____ Seat _____
	Tracks: power manual _____ Pass. FMB _____		Tracks: power manual _____
	Position: _____ Welded? <u>Y</u> <u>N</u>		Position: _____ Welded? <u>Y</u> <u>N</u>
	Instrument Panel: _____		
	Steering Column: _____		
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

LEFT SIDE	Upright	IB	O/B	UPR	Left	Right	UPR	IB	O/B
	On Seat	On Seat	Off Seat	On Seat	Off Seat	On Seat	On Seat	Off Seat	
AB Intact (No Holes):				<u>Y</u>					<u>Y</u>
Face to A/B	<u>Y</u>	<u>Y</u>	<u>Y</u>				<u>Y</u>	<u>Y</u>	<u>Y</u>
Contact Location:	High	<u>Mid</u>	Low				High	<u>Mid</u>	Low
AB Cover Attached to Can./Cover:	<u>Y</u>								<u>Y</u>
Adj. D-ring Remain in Position:	<u>Y</u>								<u>Y</u>
Retractor Intact:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Locked:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Buckle Held:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Webbing Intact:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Seat Tracks Held:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Cracks in I/P:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Steering Wheel Deformed:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Column Striked w/o Interference:	<u>Y</u>			<u>Y</u>	<u>Y</u>				<u>Y</u>
Column Stroke: Left: _____				Right: _____					
Post Test COMMENTS: _____									

OBSERVER: <u>WV</u>									

TB-2501
Sheet 14

Attachment VI.
Photographic Set-Up

SLED 0027917

PHOTOGRAPHIC REQUEST SHEET FOR

TB2501

Sheet 15

TEST DESCRIPTION: Demo of FMVSS 208 Hyge Certification Test

Initiator: Bob Hammond

Phone: x31186

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

<u>2</u>	Over Shoulder Head to Airbag	<u>X</u>	Left	<u>X</u>	Right
	Bolt "D" Ring		Left		Right
	Bolt Retractor		Left		Right
	Belt Buckle, Inboard		Left		Right
	Inboard Knee to IP Contact		Left		Right
	Steering Column Stroke				
	Inner Instrument Panel				
	Dummy Roll Out		Left	Center	Right
	Seat Tracks		Lt inbd	Lt o/b	Rt inbd Rt o/b
	Fiber Optics				

• OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Video: _____

• OUTRIGGER Cameras:

<u>2</u>	Overall Kinematics (RYA)	<u>X</u>	Left	<u>X</u>	Right
	Knee to Bolster		Left		Right
	Chest to Steering Wheel		Left		Right
	Retractor Payout, Cross-car		Left		Right
	Lap Belt on Dummy		Left		Right
	Seat Track/Cushion		Left		Right

• OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
1 High Speed Video: Overall Kinematics
1 High Speed Video: Overall Kinematics

• OFF-BOARD Cameras

Offboard - Floor Overall _____
 Offboard - Kinematics _____

Total On-BUCK Cameras = 2 Total OUTRIGGER Cameras = 4

DIGITAL STILL PHOTOGRAPHS:

<u>X</u>	Pre & Post Test Overalls	<u>X</u>	Left	<u>X</u>	Right
<u>X</u>	Knee Bolster(s)	<u>X</u>	Left	<u>X</u>	Right
<u>X</u>	A/B Face Print	<u>X</u>	Left	<u>X</u>	Right
	Other: _____				
	Other: _____				
	Other: _____				

ADDITIONAL INFO:

1 Number of Runs
1 Requestor High Speed Films
0 Safety Lab High Speed Films
0 VHS Copies of H.S. Films
0 VHS Copies of H.S. Video

Refer this to TA
 Requestor Info: Dept. Name Vehicle Safety and CAE
 Dept. No. T951
 Work Task No. P09
 Requestor: Bob Hammond
 Phone No. x31186

Additional Comments: _____

Sheet 16

FILM ANALYSIS REQUEST SHEET FOR

TR2581

Instructor: Bob Hamstead
Phone: x31186

FILM ANALYSIS:

_____ Head Disp. & Velocity wrt _____

_____ Shoulder Disp. & Velocity wrt _____

_____ H-pt Disp. & Velocity wrt _____

_____ Knee Disp. & Velocity wrt _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

**Final Test Report
Confidential**



Test Order No.: TB8057
Subject: 2000 D188 Series B
Demo of FMVSS 208 Hyge Certification Test
Requested By: Bob Hammond
Requesting Dept.: T551
Work Task No.: F09
Test Facility: Hyge
Date Received: 12/8/1998
Date Reported: 1/4/1999
Test Dates: 12/15/1998
Run Numbers: H19600
Procedure(s): T857-110
Page: 1 of 16

Advanced Vehicle Technology

Number of Copies	
Check Stamped) by:	
WAN Records Copy	2004
Check Stamped) Thru:	
Article Number:	7-4-2

Objective:

Demo of FMVSS 208 Hyge Certification Test

Summary:

One 35 mph (Generic pulse) test was conducted on the Hyge sled using two 50% instrumented hybrid III test dummies. The testing was conducted using the live D186/DN101 buck. The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Dummy Positioning
- VII. Photographic Set-Up


Concur:


Mike Hamilton
Section Supervisor
Test Development Engineering
Safety Laboratories Department


Chris Dragan
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TB-3057
Sheet 2

Attachment I
Test Authorization

 GTO Test Request		Requester/Coordinator (PROPS ID):	
		RHAMMONS	
Testing Activity: HYGE and VIA Blvd		Date Submitted: 08-DEC-96	Requested Completion Date: 10-DEC-96
Requester Reference Number:			
Test Procedure Number: 109	Test Title and / or Subject of Test: Demo of FMVSS 208 Certification Test		
Billable Requestor Dept No.1: TSS1 AV2215A	Worksheet/Work Order Number: F09	Test conducted to certify overall item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Billable Requestor PROPS I.D.: RHAMMONS	Billable Requestor Name: BOB HAMMOND		
<p>Complete the following two questions as indicated</p> <p>1 - Rational for not replacing this test by CAE Analysis:</p> <ul style="list-style-type: none"> <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Completion <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for FBS <input checked="" type="checkbox"/> Not applicable <p>Other: Demo of FMVSS 208 Cert Test for NHTSA</p> <p>(Check appropriate boxes)</p>		<p>2 - What is the expected Test Outcome:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Results will meet OVP/MOR requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? <p>Other:</p> <p>(Check appropriate boxes)</p>	
<p>Test Purpose/Test Procedure or Description of Test:</p> <p>T657-109 Hyge Blvd FMVSS 208 Certification Procedure</p>			
<p>Signature Approvals (As Required for Control Purposes)</p> <p>Requesting Engineer: <u>BOB HAMMOND</u> Testing Engineer: _____</p> <p>Requesting Supervisor/Manager: <u>ALAN TAUB</u> Testing Supervisor: _____</p>			

TB-3057
Sheet 4

Attachment II.
Test Matrix

SLED 0028062



TAN TB3057

SYSTEM:

DATE: 09/18

Author: Bob Howard
Drawn: 03/86

REVISIONS														HARDWARE LEVEL										REV	DATE			
CLAS	REAR	HYDR	HYD	FRON	PULS	NOVA	REV	TRST	PTRO	1ST STG	2ND STG	SEAT	SEAT	DEL	D-RING	DUMMY	OBJE	COM	IP	CI	PI	RE	AB			SC	ET	ES	OT
NUM	NUM	NUM	DEPT	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	
01	01		A	MOR	g	SR	Std			20mm	Auto	1st	M	M	20	2000												
02	02									20mm	Auto	2nd	M	M	20	2000												

pa *170ms*

NOTES:

Put vehicle in. Use HYDR2 for type parameters

HARDWARE:

- R26 Speed Photogun CPL. Replace Lock with speeded to order with same mechanism (stronger lock sig). SR Jaws clamp CP level PT with pilot design level pilot pins.
- D12 Asst CP level integrated wheel offset. V2 Inlet. 200mm with seal already built.
- P16 Asst passenger leg. 100L, 200L with, ASX level cover.
- B4 WHITE II Power Switch
- SC1 Steady column with no state feedback
- B CP panel for simple ASX level passenger wiring cover

SLIED 0028063

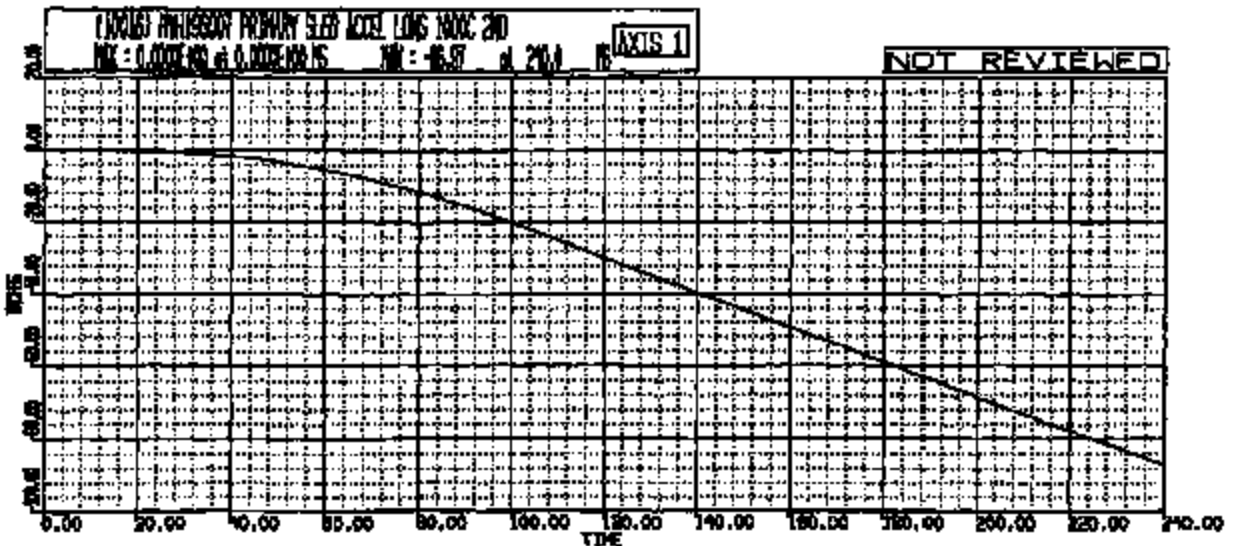
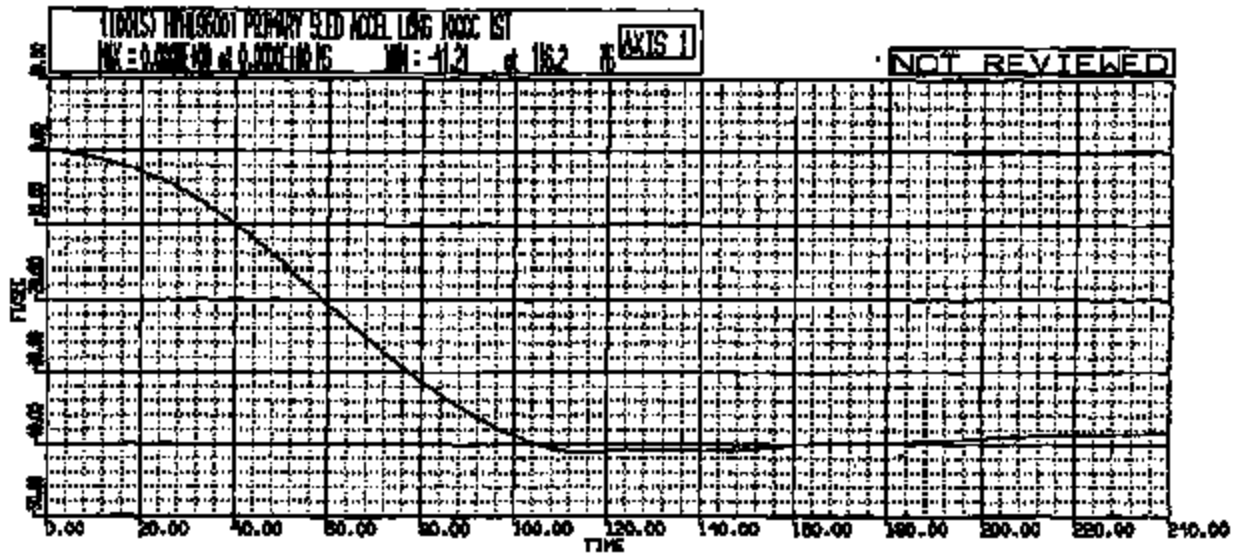
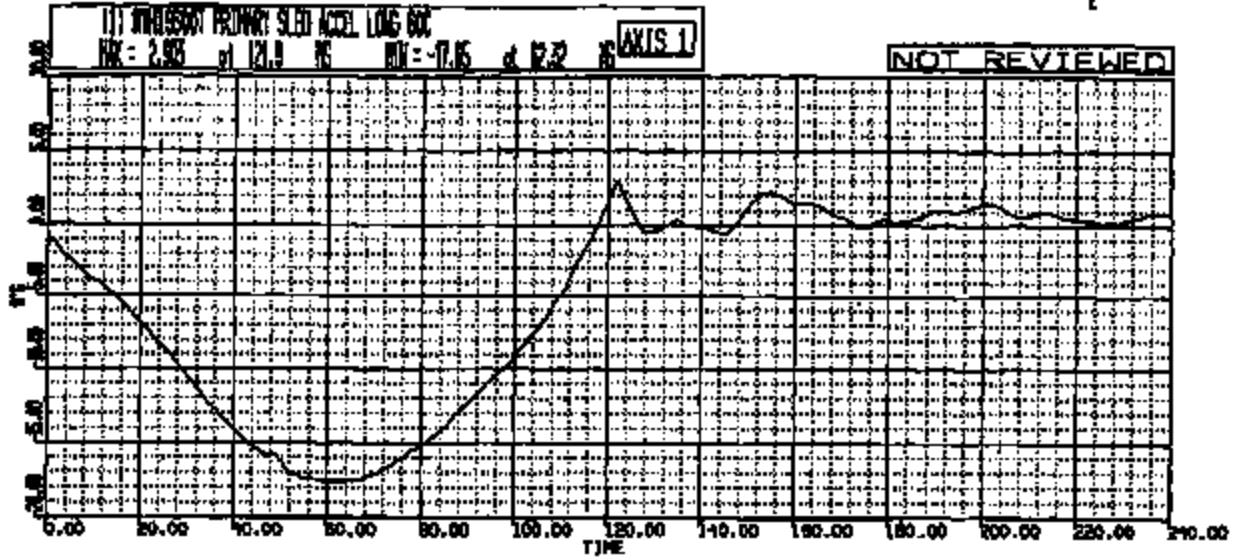
Shank

TB-3057
Sheet 6

Attachment III.

Sled Pulse

HY R: H18600 TO: TB3057A DATE: 981216 14:03:44
UNKNOWN



TB 3057
Sheet 8

Attachment IV.
Sled Parameters

Sheet 9

HYGE - FIRING PARAMETERS SHEET

Instructor: Bob Hammond
Phone: 41188

Test Order # **TB3057**

Fixture / Buck#: **full vehicle**

Test Description: Total # of Runs: **1**

Demo of FMVSS 208 Hyge Certification Test

Med Parameters		Test Eng. Initials & date:				WV 11/18/98				
Dummy #	Weight lb	SPCL in	Stroke in	Load psi	Set psi	Brake psi	Speed mph	Water, Fin	Oriflon rings	Dummy Config
1	7011	65	48	2148	358	140	30	93	OUT	2-30H3
REF	XXXX	XX	XX	XXXX	XXK	XXK	XX	XXK	XXXX XXK	X-KKKK X-KKKK

Crash Ref: Ref. HYGE Run#: g pulse H19820 Other Ref.:

Weight Certification

Dummies	Configuration #1 2-30H3	Configuration #2 2-30H3	Configuration #3	Configuration #4	Configuration #1			Configuration #2			Configuration #3			Configuration #4				
					num.	wt.	Total	num.	wt.	Total	num.	wt.	Total	num.	wt.	Total		
Seat Description																		
Seat							2041			2041			2041			2041		2041
rear outboard/down					0	0	008			0	0	008			0	0	008	008
Misc. Figs. & Attach.					0	0	309			0	0	309			0	0	309	309
22 ch. cable box	3	37	111		3	37	111	3	37	111	3	37	111	3	37	111		111
	SUBTOTAL						3378			3378			3378			3378		3378
Buck # Full vehicle			3178				3178			3178			3178			3178		3178
Camera	0	10	80		0	10	80	0	10	80	0	10	80	0	10	80		80
Hubcap	0	12	0		0	12	0	0	12	0	0	12	0	0	12	0		0
disc brake	0	8	38		0	8	38	0	8	38	0	8	38	0	8	38		38
mounts	0	17	0		0	17	0	0	17	0	0	17	0	0	17	0		0
	SUBTOTAL						3278			3278			3278			3278		3278
dummies 30H3	0	225	0		0	225	0	0	225	0	0	225	0	0	225	0		0
H3s 30H3	2	180	360		2	180	360	0	180	0	0	180	0	0	180	0		0
3H3	0	110	0		0	110	0	0	110	0	0	110	0	0	110	0		0
INFANT	0	20	0		0	20	0	0	20	0	0	20	0	0	20	0		0
3 YEAR	0	35	0		0	35	0	0	35	0	0	35	0	0	35	0		0
8 YEAR	0	48	0		0	48	0	0	48	0	0	48	0	0	48	0		0
seats DirectLeft	0	40	0		0	40	0	0	40	0	0	40	0	0	40	0		0
Pass-Right	0	60	0		0	60	0	0	60	0	0	60	0	0	60	0		0
ControlPanel	0	60	0		0	60	0	0	60	0	0	60	0	0	60	0		0
blocker seat	0	60	0		0	60	0	0	60	0	0	60	0	0	60	0		0
other seat	0	60	0		0	60	0	0	60	0	0	60	0	0	60	0		0
Inst. panel			0				0			0			0			0		0
belts			0				0			0			0			0		0
other	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0
other	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0
other	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0
	SUBTOTAL						6651			6651			6651			6651		6651
	TOTALS						7011			7011			6651			6651		6651

Additional Pulse Information:

*ext
DSKB: [WVANGLAB.PULSE] PIN.CDN:4481 8 lines

TB-3057
Sheet 10

ASRC *** Safety >>> @dskd:[pulse.obj]batch_pulse_logicals.com

end of simulation.

PIN 93 GENERIC PULSE (T4 RINGS OUT Variable is N0. 2(set press.)

MASS	HPCL	STROKE	LOAD	SET
7011	65	48	2148.	358.

TIME	ACCELERATION	VELOCITY	RADIUS	DISPLACEMENT
71.0	17.241	23.26	1.6330	6.9440
124.0	1.159	43.92	0.0000	29.6920

BRAKE PRESSURE = 140. KINETIC ENERGY = 210258.

MINIMUM MARGIN OF SAFETY= 10.6

Do you want the scan information printed? (Y/N):

n

NAASRC *** Safety >>>

SLED 0028068

TB-3057
Sheet 11

Attachment V.
Post Test Observations

HYGE Sled Test Summary

Sheet 12
Initiator: Bob Hammond
Phone: x31166

HYGE un H 19600

Run Date R 116198

Test Engineer: Chris Dragon

Test Auth # TB3057

Requester: Bob Hammond

BUCK # ul vehicle

Test Title/Description: Demo of FMVSS 208 Hyge Certification Test

1

MATRIX #

Crash/HYGE Pulse Ref:

Simulated Speed:

Flt #

	LEFT	Airbag: 20/120 ms Pyro Buckle: ms	RIGHT	Airbag: 20/120 ms Pyro Buckle: ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	50H3	Dummy	50H3
	AB	DIZ	Belt	PIB
	Belt	N/A	Seat	N/A
	Seat		Dr. AB FM	
	Tracks:	power manual	Pass. FM	power manual
Position:	MD	Welded? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Position:	MD. Welded? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Instrument Panel:				
Steering Column:				
Pre-Test OBSERVATIONS:				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT <input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	CENTER Upright On Seat	RIGHT <input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat
--	---	-------------------------------------	--

	LEFT IB <input checked="" type="checkbox"/> On Seat O/B Off Seat	CENTER Upright On Seat	RIGHT <input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat
--	---	-------------------------------------	--

	LEFT A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	RIGHT A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Face to A/B Contact Location: High <input checked="" type="checkbox"/> MD <input type="checkbox"/> Low	Upright On Seat	Face to A/B Contact Location: High <input checked="" type="checkbox"/> MD <input type="checkbox"/> Low
	A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Upright On Seat	Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Column Stroke: Left _____ Right _____

Post Test COMMENTS:

Driver: Seat back did not hold

Pass: Glass into driver opened / Ash tray open-ori

DATA REVIEWED

* CH 51

OBSERVER: WPU

TB-3057
Sheet 13

Attachment VI.
Dummy Positioning

TB-3057
Sheet 14

Attachment VII.
Photographic Set-Up

Sheet 15

PHOTOGRAPHIC REQUEST SHEET FOR

TB3057

Instructor: Bob Hammond
Phone: x31186

TEST DESCRIPTION: Demo of FMVSS 208 Hyge Certification Test

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

<input checked="" type="checkbox"/> 2	Over Shoulder Head to Airbag	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right				
<input type="checkbox"/>	Belt "D" Ring	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right				
<input type="checkbox"/>	Belt Retractor	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right				
<input type="checkbox"/>	Belt Buckle, Inboard	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right				
<input type="checkbox"/>	Inboard Knee to IP Contact	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right				
<input type="checkbox"/>	Steering Column Stroke								
<input type="checkbox"/>	Inner Instrument Panel								
<input type="checkbox"/>	Dummy Roll Out	<input type="checkbox"/>	Left	<input type="checkbox"/>	Center	<input type="checkbox"/>	Right		
<input type="checkbox"/>	Seat Tracks	<input type="checkbox"/>	Lt inbd	<input type="checkbox"/>	Lt o/b	<input type="checkbox"/>	Rt inbd	<input type="checkbox"/>	Rt o/b
<input type="checkbox"/>	Fiber Optics								

- OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Video: _____

• OUTRIGGER Cameras:

<input checked="" type="checkbox"/> 2	Overall Kinematics (R/A)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
<input type="checkbox"/>	Knee to Bolster	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
<input type="checkbox"/>	Chest to Steering Wheel	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
<input type="checkbox"/>	Retractor Payout, Cross-car	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
<input type="checkbox"/>	Lap Belt on Dummy	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right
<input type="checkbox"/>	Seat Track/Cushion	<input type="checkbox"/>	Left	<input type="checkbox"/>	Right

- OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
 1 High Speed Video: Overall kinematics
 1 High Speed Video: Overall kinematics

• OFF-BOARD Cameras

Offboard - Floor Overall
 Offboard - Kinematics

Total On-BUCK Cameras =	2	Total OUTRIGGER Cameras =	4
-------------------------	---	---------------------------	---

DIGITAL STILL PHOTOGRAPHS:

<input checked="" type="checkbox"/>	Pre & Post Test Overalls	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
<input checked="" type="checkbox"/>	Knee Bolster(s)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
<input checked="" type="checkbox"/>	A/B Face Print	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
<input type="checkbox"/>	Other: _____				
<input type="checkbox"/>	Other: _____				
<input type="checkbox"/>	Other: _____				
<input type="checkbox"/>	Other: _____				

ADDITIONAL INFO:

<input type="checkbox"/> 1	Number of Runs	Refer this to TA
<input type="checkbox"/> 1	Requestor High Speed Films	Requestor Info: Dept. Name
<input type="checkbox"/> 0	Safety Lab High Speed Films	Dept. No.
<input type="checkbox"/> 0	VHS Copies of H.S. Films	Work Task No.
<input type="checkbox"/> 0	VHS Copies of H.S. Video	Requestor
		Phone No.

Vehicle Safety and CAE
 T551
 P09
 Bob Hammond
 x31186

Additional Comments: _____

FILM ANALYSIS REQUEST SHEET FOR

Sheet 16

TB3057

Initiator: Bob Hammond

Form: x31126

FILM ANALYSIS:

Head Disp. & Velocity wrt _____
 Shoulder Disp. & Velocity wrt _____
 H-yt Disp. & Velocity wrt _____
 Knee Disp. & Velocity wrt _____
 Other, Specify: _____

 Other, Specify: _____

 Other, Specify: _____

 Other, Specify: _____

**Final Test Report
Confidential**



Advanced Vehicle Technology

Test Order No.: TB9198
Subject: 2000 D186
Inflatable Seatbelt Evaluation - Rear Seat
Requested By: Krish Askota
Requesting Dept.: T608
Work Task No.: YB922
Test Facility: Hyge
Date Received: 8/5/98
Date Reported: 1/28/99
Test Dates: 12/21/1998 through 12/29/1998
Run Numbers: H19606 through H19618
Procedure(s): T687-110
Page: 1 of 32
Date: 1-28-99

Number of Copies (not Stamped) by:	
(IN Record Copy Stamped) Thru:	2005
File Number:	7-4-2

Objective:

To evaluate performance of UPCO inflatable seatbelts.

Summary:

Two 35 MPH and four 81 MPH tests were conducted on the Hyge sled using either two 8 year old, 5%, 50%, or 95% instrumented hybrid III test dummies. The testing was conducted using the DN101 rigid rear body buck (#328). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Dummy Positioning
- VII. Photographic Set-Up

Concours:

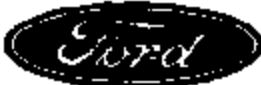

Mike Hamilton
Section Supervisor
Test/Development Engineering
Safety Laboratories Department


Chris Dragan
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TB-3195
Sheet 2

Attachment I
Test Authorization

SLED 0028153

 GTO Test Request		Requested/Coordinator (PROPS ID): KARIBOTE Kish Aakola	
		Testing Activity: HYGE and VIA Sled	Date Submitted: 15-DEC-98	Requested Completion Date: 22-DEC-98	Requestor Reference Number:
Test Procedure Number: HYG-00		Test Title and / or Subject of Test: Infinite Seatbelt Eval.	
Bilable Requestor Dept No.: T803 AV2040AEM		Worktask/Work Order Number: YR22	
Bilable Requestor PROPS I.D.: KARIBOTE		Bilable Requestor Name: Kish Aakola	
Test conducted to verify control law compliance with Government Regulations: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input type="checkbox"/> No CAE Methodology or process available <input checked="" type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for FSS <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVP/PCR requirements <input type="checkbox"/> System Component will not meet Test specification <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other:	
(Check appropriate boxes)		(Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: HYGE Test Procedure T867-110			
Signature Approval (As Required for Control Purposes)			
Requesting Engineer <u>Kish Aakola</u>		Testing Engineer _____	
Requesting Supervisor/Manager <u>JAMES CHENG</u>		Testing Supervisor _____	

Sheet 4

Test Definition Worksheet

Request No: TB3195 Initial Request Eval.
 Service/Procedure: HYQ-00 HYQE Test Procedure T857-110

Test Object:
 Requester: Krish Ashota (KAEK30TE)

Request Date: 18-DEC-88
 Requester Phone: 319-84-57891

Sample #:	Part #:	Part Description:
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8

Parameter:	Value:	Units:
Vehicle Model	DM101	
Veh. Year	1987	

TB-3195
Sheet 5

Attachment II.

Test Matrix

HyGe Sled Test Matrix for Inflatable Seat Belt Evaluation Using Rear Seat Buck
Comparison between Seat Belt System(SB) and Inflatable Seat Belt(IB)

Test No.	Dummies in Rear Seat		Type of Restraint Usage		Velocity (mph) & Sled Pulse	Comments
	Occupant 1	Occupant 2	Occupant 1	Occupant 2		
①	95H3	95H3	Inflataband	Seat Belt	35, NCAP	Dummy Instrumentation 95H3, 50H3 and 5H3: same as in TA-8848. For Child Dummies pl. refer to the attached sheet. CRABI and 3 Yr: Use fwd facing child seats.
②	50 H3	50 H3	Inflataband	Seat Belt	35, NCAP	
③	50H3	50H3	Inflataband	Seat Belt	31, FMVSS 208	
④	5H3	5H3	Inflataband	Seat Belt	31, FMVSS 208	
⑤	5H3	5H3	Inflataband	Seat Belt	31, FMVSS 208	
6	6 mo. CRAB7	6 mo. CRAB1	Inflataband	Seat Belt	31, FMVSS 208	
7	3 Yr	3 Yr	Inflataband	Seat Belt	31, FMVSS 208	
⑧	6 Yr H3	6 Yr H3	Inflataband	Seat Belt	31, FMVSS 208	

NEW ADDITION
 4
 2

Note: NCAP/FMVSS 208 pulse refers to the non-generic pulse (obtained from collision into a fixed barrier)

For additional information please contact Krish Ackbote(x57691)/Suresh Kulkarni(x40691).

TEL: 313 846 4230

LT TRUCK ENGINEERING

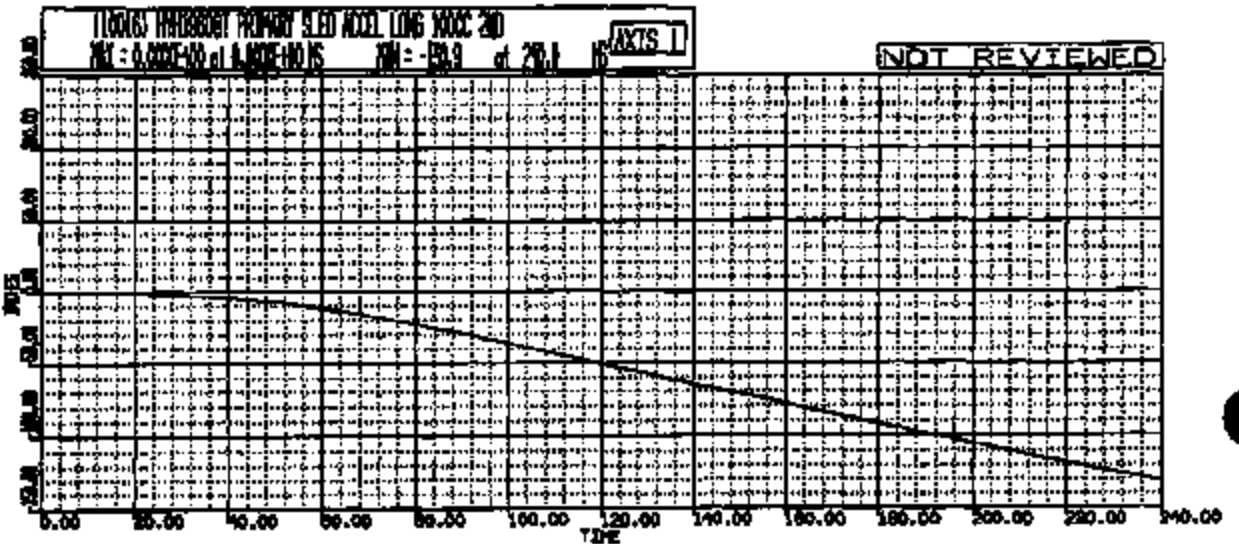
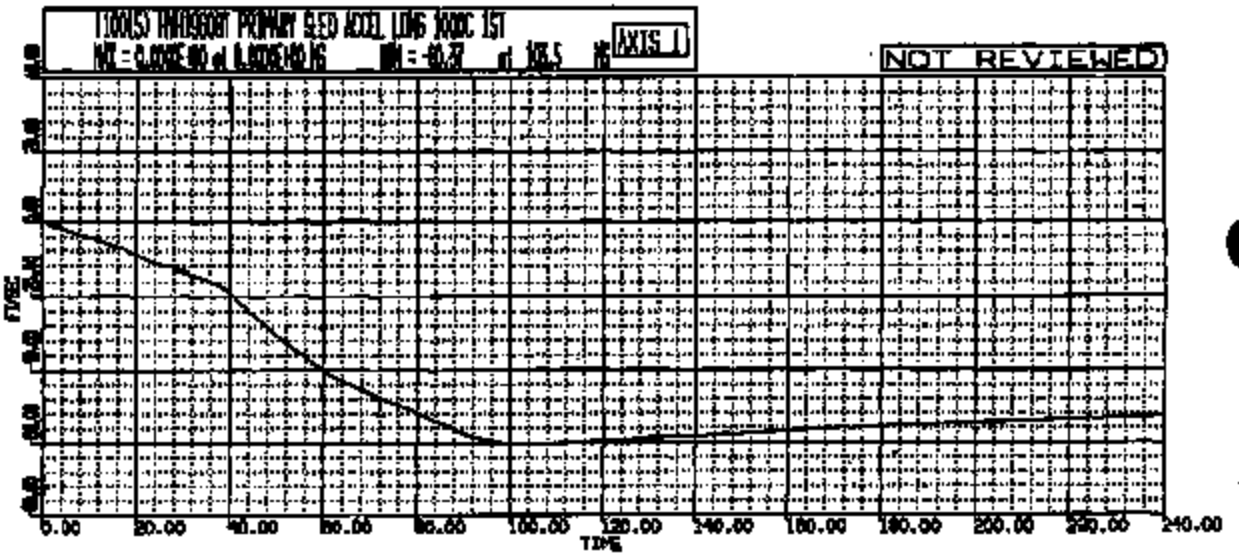
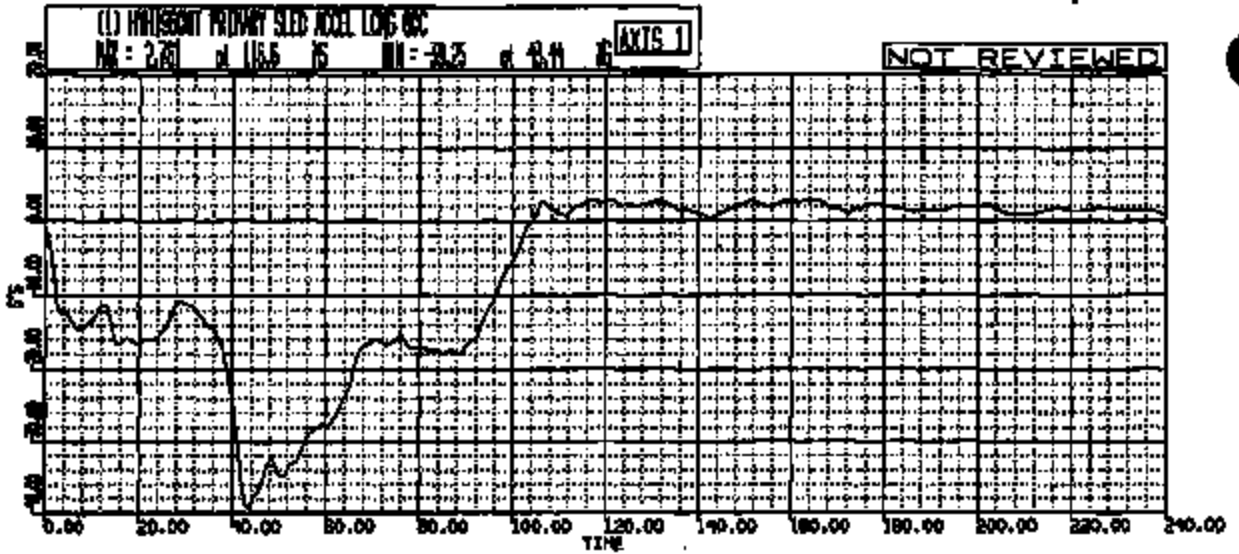
8518200 CEFIS
 OCT. -22' 98 (THU) 10:11

TR-3195
 Ruck

TB-3195
Sheet 8

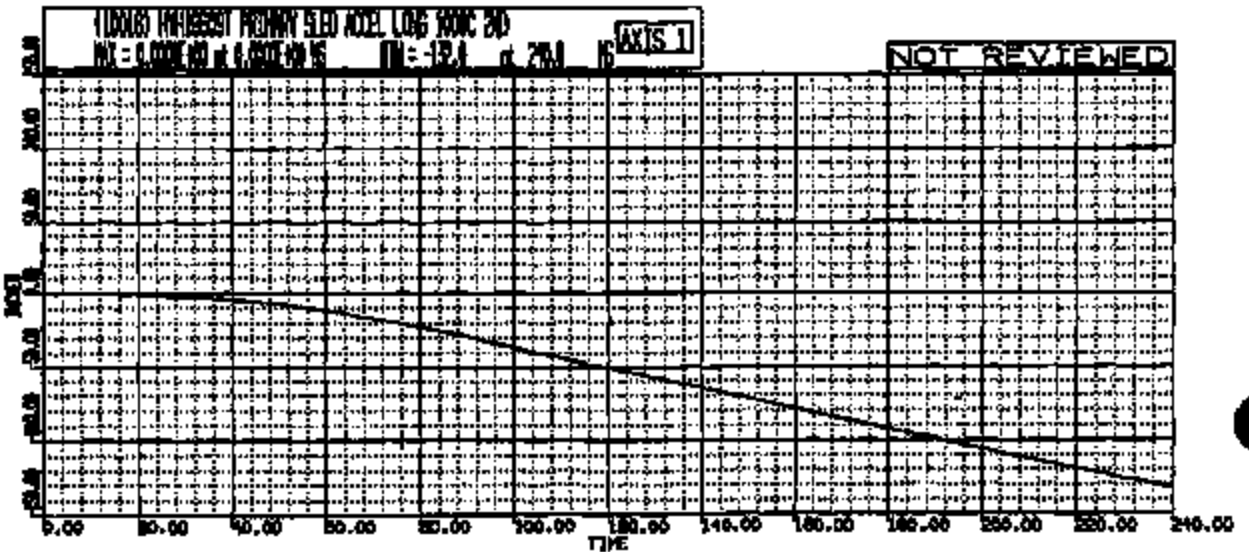
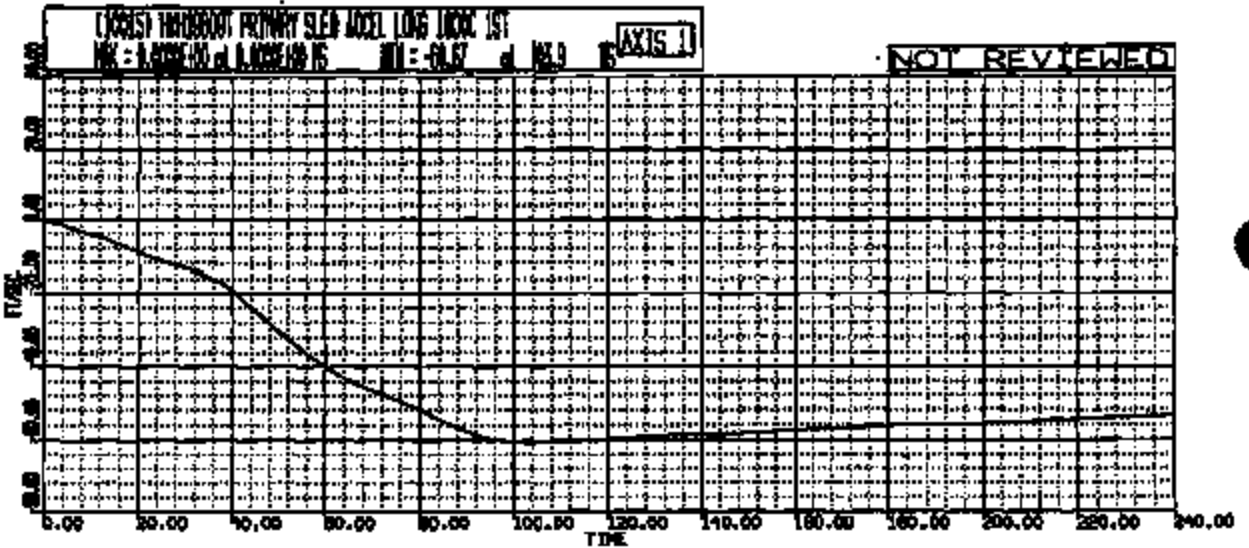
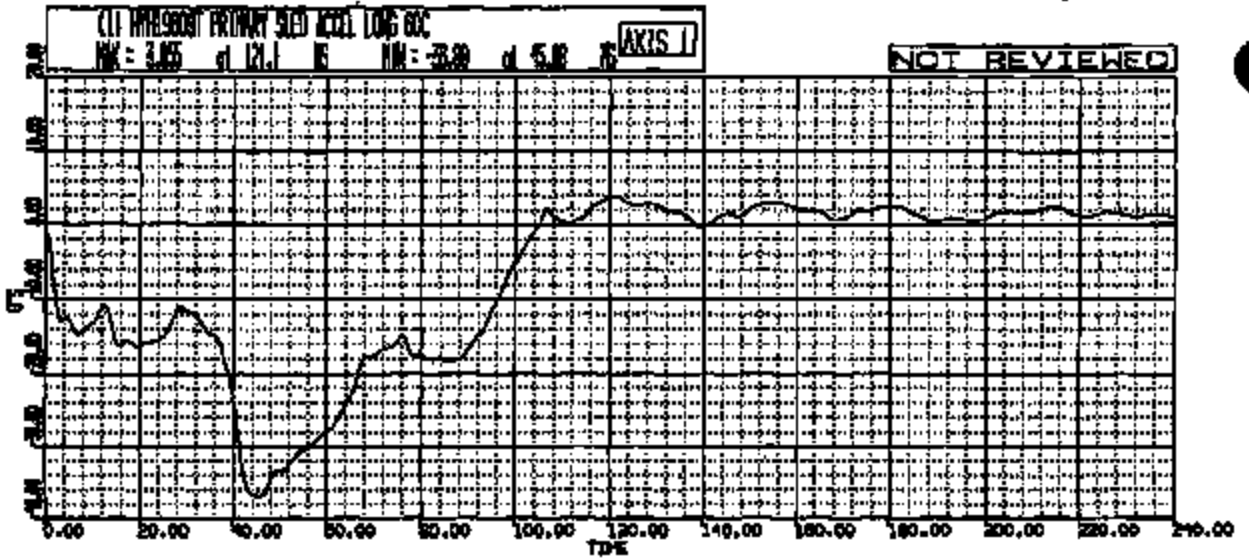
Attachment III.
Sled Pulse

HY R: HISBOB TO: TB3195A DATE: 981221 15:45:17
UNKNOWN



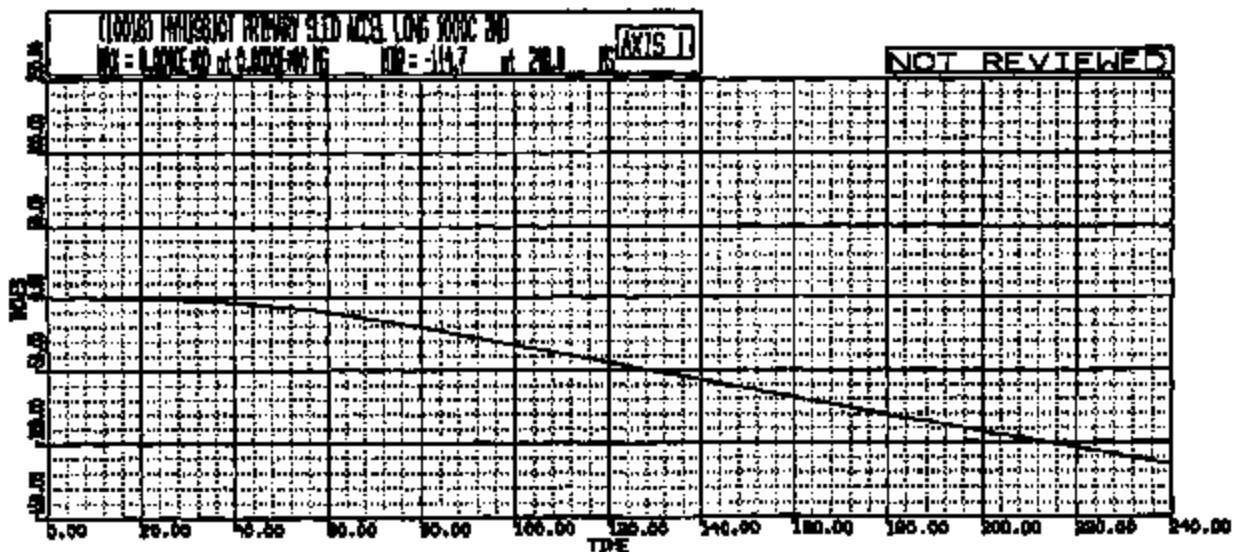
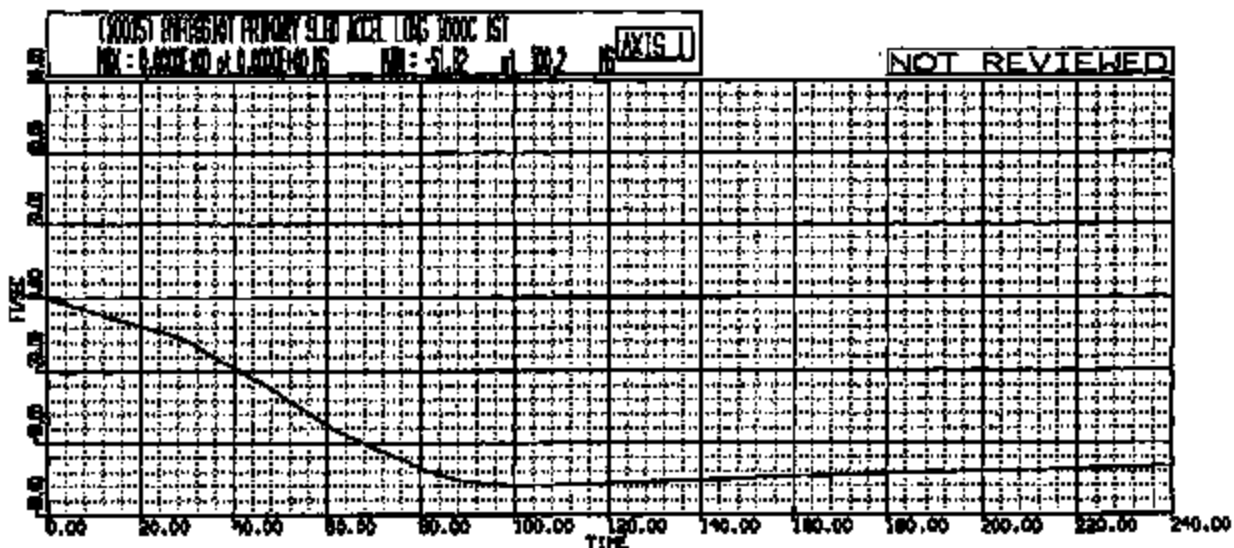
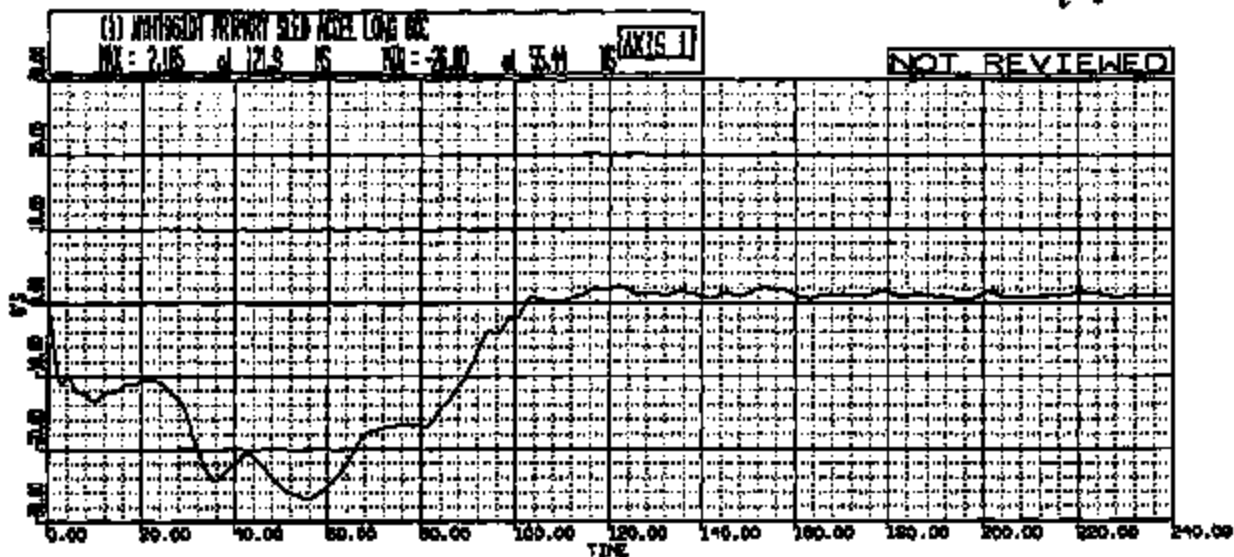
ADJUSTED IN ACCORDANCE WITH
ST-25 REFERENCES 6 AND 7

BY R: H18808 TO: TB3195C DATE: 081221 18:16:24
UNKNOWN

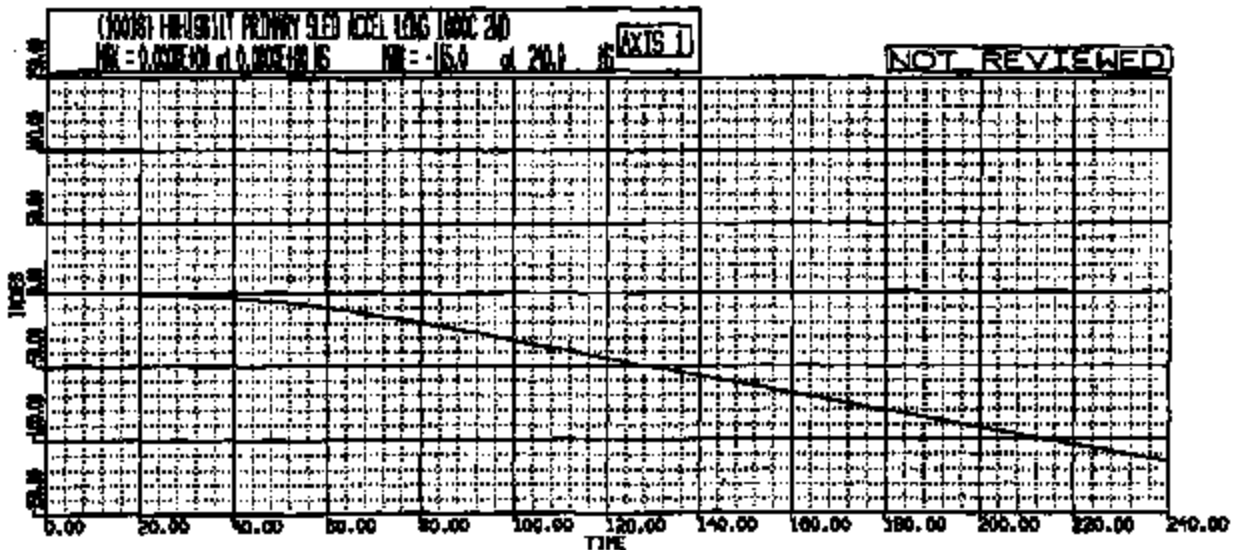
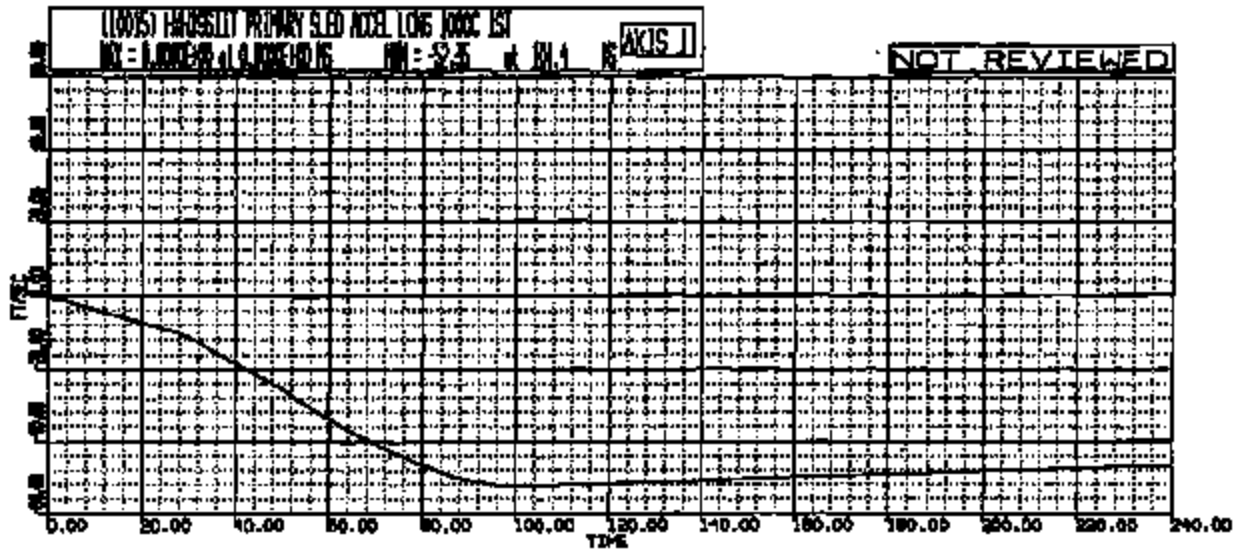
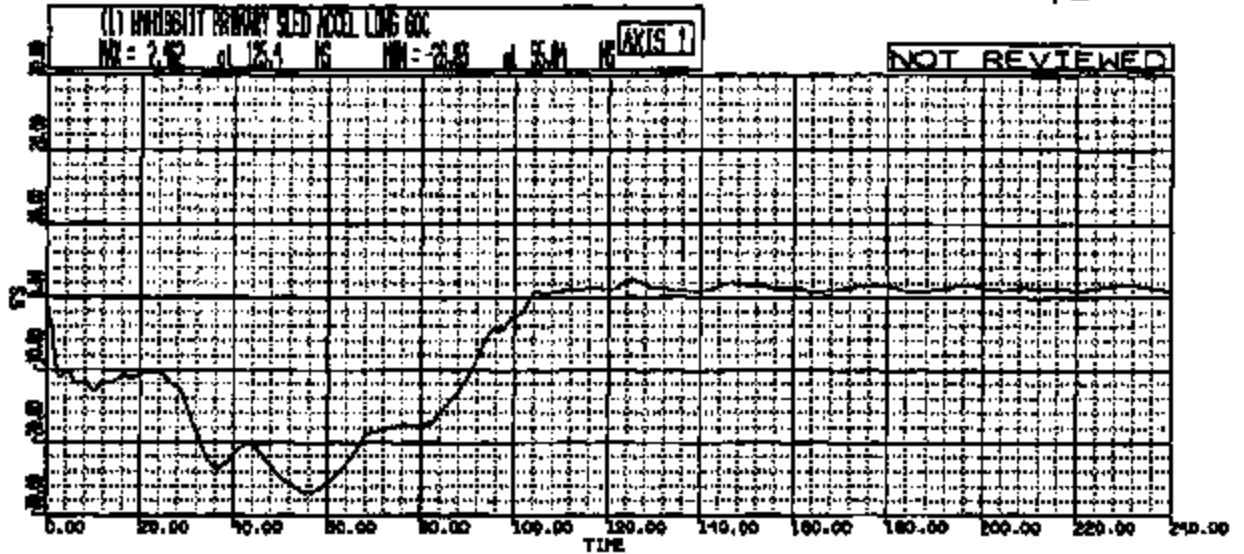


ADJUSTED IN ACCORDANCE WITH
SI-25 REFERENCES 6 AND 7

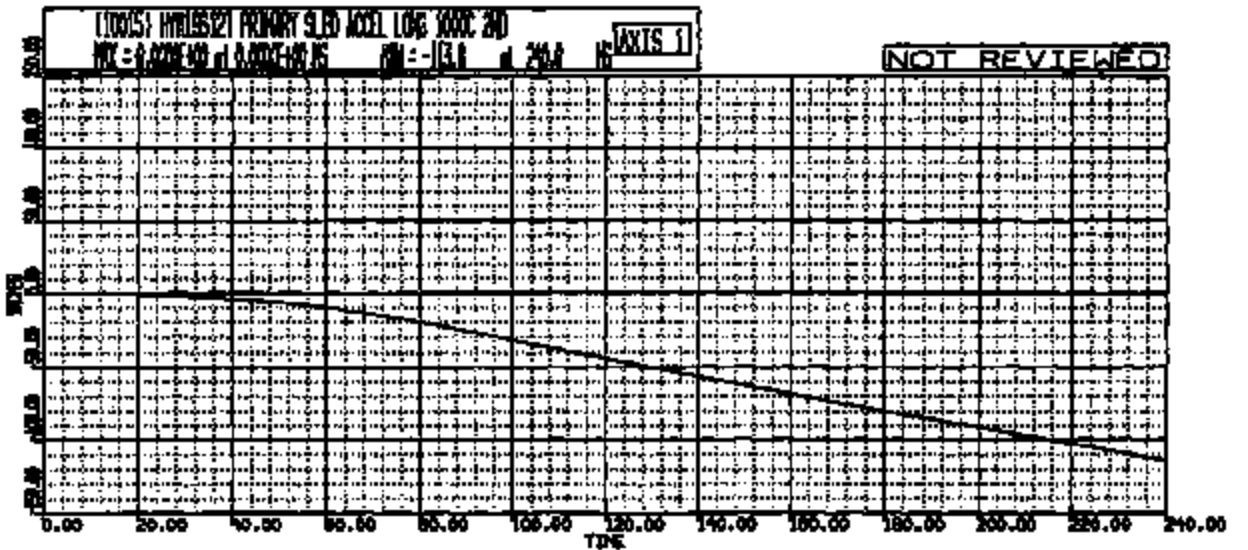
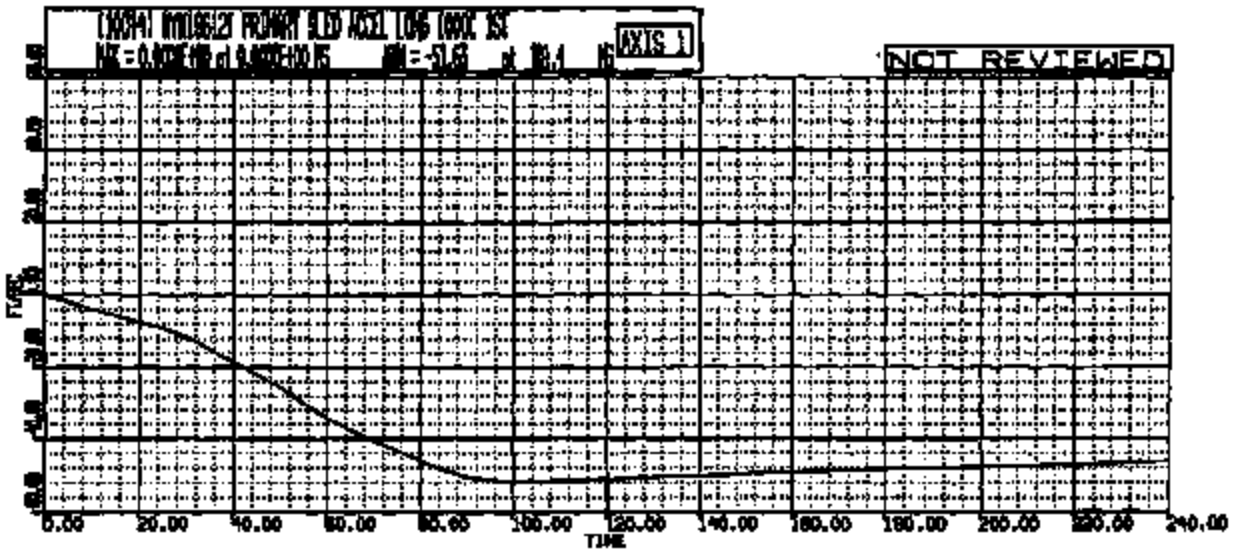
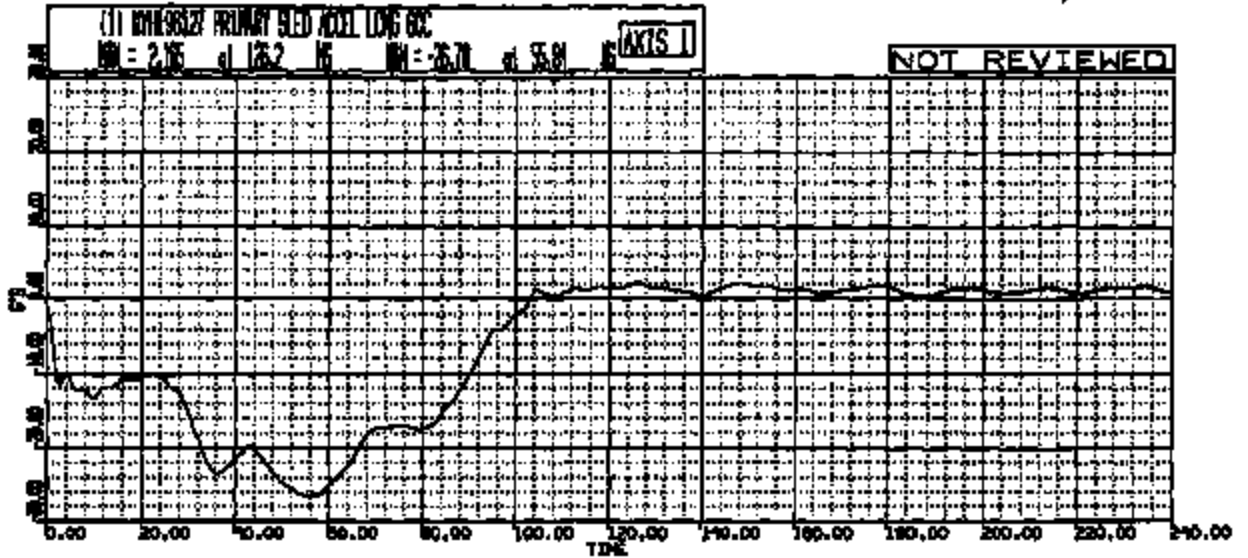
HY R: H18610 TO: TB3195C DATE: 981221 19:31:17
UNKNOWN

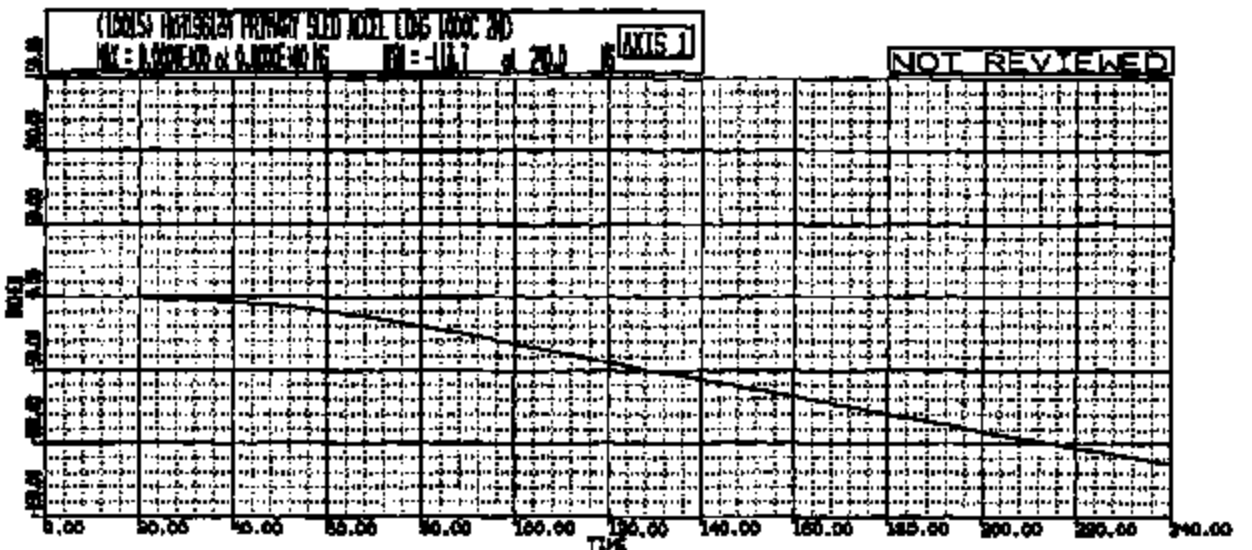
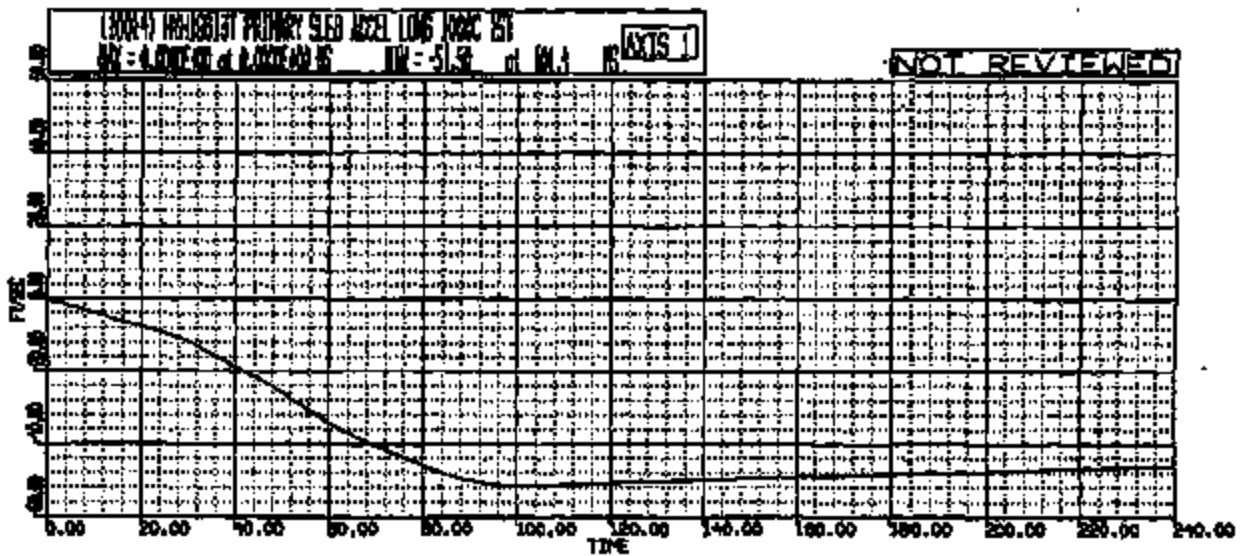
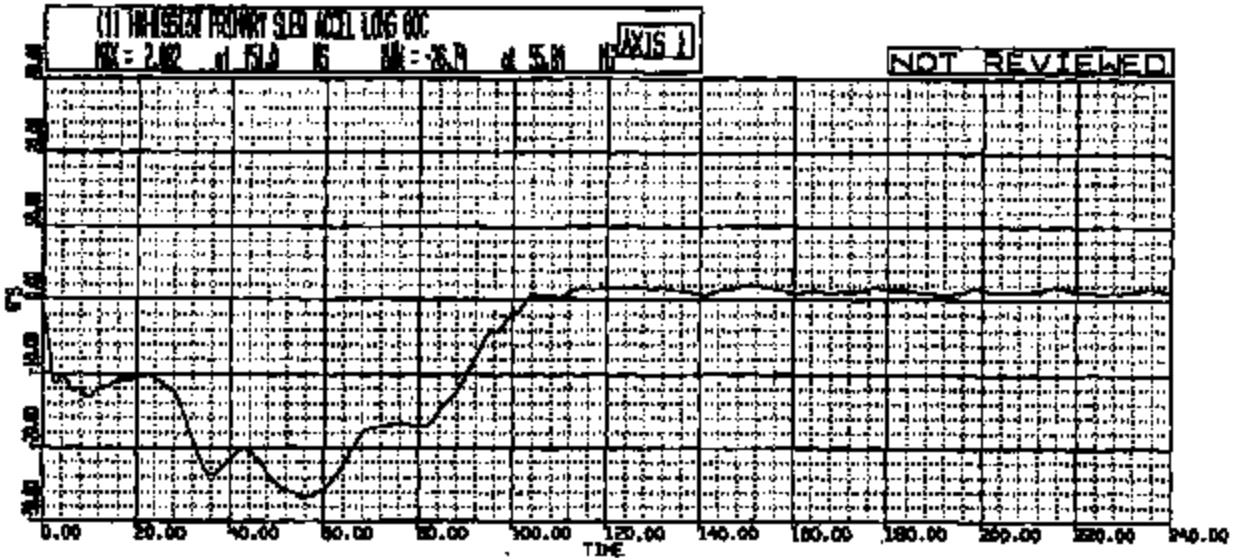


HY R: H19611 TO: TB3195D DATE: 881228 08:21:19
UNKNOWN



HY R: H18812 TO: TB3195B DATE: 881222 14:20:19
UNKNOWN





MY R: H19613 TO: TB31958 DATE: 981222 16:42:47
UNKNOWN

TB-3195
Sheet 15

Attachment IV.
Sled Parameters

SLED 0028166

LINE	T.A.C	TEST TYPE	DATE	TIME	DATA CHANG	WEIGHT (LB)	HFCL	SCORE	LOAD	ST	SPR2	BUCKE	VELOCITY (MP)	LEN	DANGER SYN CENTER	WGT	FW	INER (MM)	OUTER (MM)
1908	W810A	RELEASE BEAM TEST EVALUATION	12/21/78	18:21	82	2064	130	81	2062	45	300	300	30	30	--	344	64	IN	IN
1909	W810C	RELEASE BEAM TEST EVALUATION	12/21/78	18:24	92	2066	130	41	2036	45	180	300	30	30	--	307	54	IN	IN
1910	W810C	RELEASE BEAM TEST EVALUATION	12/21/78	18:31	99	2074	130	82	2028	25	180	300	31	30	--	307	55	IN	IN
1911	W810D	RELEASE BEAM TEST EVALUATION	12/22/78	17:21	87	2104	130	82	2100	30	180	300	31	30	--	341	60	IN	IN
1912	W810E	RELEASE BEAM TEST EVALUATION	12/22/78	17:30	85	2034	130	82	2014	30	180	300	31	30	--	341	60	IN	IN
1913	W810E	RELEASE BEAM TEST EVALUATION	12/22/78	17:42	85	2034	130	82	2214	30	180	300	31	30	--	341	60	IN	IN

SLED 0028167

T-B-3195
Sheet 16

TB-3195
Sheet 17

Attachment V.
Post Test Observations

HYGE Sled Test Summary

Spent 18

Inhibitor: Kris's Address
Phone: 457691

HYGE Run H: 19608
Test Engineer: Chris Dragan
Requester: Krish Aakbote

Run Date: 12/21/98
Test Auth #: TBS186
BUCK #: 328

1

MATRIX #

Test Title/Description: Inflatable Seatbelt Evaluation - Rear Seat

Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 (35) Pin # 50 (54A)

	LEFT	Airbag: <u>N/A</u> ms	Pyro Buckle: <u>12</u> ms	RIGHT	Airbag: <u>N/A</u> ms	Pyro Buckle: <u>12</u> ms
PARTS DESCRIPTION POST-TEST OBSERVATIONS	Dumm <u>5H3 / 80H3 (85H3)</u>	CENTER		Dumm <u>5H3 / 80H3 (85H3)</u>		
	A/B <u>N/A</u>	Dummy _____		A/B <u>N/A</u>	Belt _____	
	Belt <u>R4 R-2</u>	Belt _____		Belt <u>R1</u>	Belt _____	
	Seat _____	Dr. A/B PMP _____		Seat _____	Seat _____	
	Tracks: <u>power manual</u>	Pass. PMP _____		Tracks: <u>power manual</u>	Pass. PMP _____	
Position: <u>FIXED</u>	Welded? <u>Y N</u>		Position: <u>FIXED</u>	Welded? <u>Y N</u>		
Instrument Panel: _____						
Steering Column: _____						
Pre-Test OBSERVATIONS: <u>REAR BELT</u>						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT			RIGHT		
	Upright	1/8	0/8	Upright	1/8	0/8	Upright	1/8	0/8
	On Seat	Off Seat		On Seat	Off Seat		On Seat	Off Seat	
LEFT SIDE	A/B Intact (No Holes):	<u>Y/N</u>		A/B Intact (No Holes):	<u>Y/N</u>		A/B Intact (No Holes):	<u>Y/N</u>	
	Face to A/B	<u>1/8</u>	<u>0/8</u>	Face to A/B	<u>1/8</u>	<u>0/8</u>	Face to A/B	<u>1/8</u>	<u>0/8</u>
	Contact Location:	<u>High</u>	<u>Mid</u>	Contact Location:	<u>High</u>	<u>Mid</u>	Contact Location:	<u>High</u>	<u>Mid</u>
	A/B Cover Attached to Can./Cover:	<u>Y/N</u>		A/B Cover Attached to Can./Cover:	<u>Y/N</u>		A/B Cover Attached to Can./Cover:	<u>Y/N</u>	
	Adj. D-ring Remain in Position:	<u>Y/N</u>		Adj. D-ring Remain in Position:	<u>FIXED Y/N</u>		Adj. D-ring Remain in Position:	<u>Y/N</u>	
	Retractor Intact:	<u>Y/N</u>	Locked: <u>Y/N</u>	Retractor Intact:	<u>Y/N</u>	Locked: <u>Y/N</u>	Retractor Intact:	<u>Y/N</u>	Locked: <u>Y/N</u>
	Buckle Held:	<u>Y/N</u>	Webbing Intact: <u>Y/N</u>	Buckle Held:	<u>Y/N</u>	Webbing Intact: <u>Y/N</u>	Buckle Held:	<u>Y/N</u>	Webbing Intact: <u>Y/N</u>
	Seat Tracks Held:	<u>Y/N</u>		Seat Tracks Held:	<u>Y/N</u>		Seat Tracks Held:	<u>Y/N</u>	
	Cracks in IP:	<u>Y/N</u>		Cracks in IP:	<u>Y/N</u>		Cracks in IP:	<u>Y/N</u>	
	Steering Wheel Deformed:	<u>Y/N</u>		Steering Wheel Deformed:	<u>Y/N</u>		Steering Wheel Deformed:	<u>Y/N</u>	
Column Stroked w/o Interference:	<u>Y/N</u>		Column Stroked w/o Interference:	<u>Y/N</u>		Column Stroked w/o Interference:	<u>Y/N</u>		
Column Stroke: Left: <u>STOCK</u>			Column Stroke: Right: _____			Column Stroke: Right: _____			

Post Test COMMENTS:

R/ BELT LET-GO AT BUCKLE

L/ DUMMY UPRIGHT AND NORMAL HELMETS BELT DEPLOYED

OBSERVER: WAG

HYGE Sled Test Summary

Sheet 19

Observer: Krish Ashbora

Form: 157691

HYGE Run # 19609

Run Date 12/21/98

Test Engineer: Chris Dragan

Test Auth # TB3195

Requester: Krish Ashbora

BUCK # 329

2

MATRIX #

Test Title/Description: Inflatable Seatbelt Evaluation - Rear Seat

Crash/HYGE Pulse Ref:

Simulated Speed: 31 MS

Pin # 50 / N/A

	LEFT	Airbag: <u>N/A</u>	ms	RIGHT	Airbag: <u>N/A</u>	ms
		Pyro Buckle: <u>12</u>	ms		Pyro Buckle: <u>12</u>	ms
PARTS IDENTIFICATION PRE-TEST OBSERVATIONS	Left	Durum SHS / <u>60HS</u> / 98HS		Center	Jummy	
		A/B <u>N/A</u>			Belt	
		Belt <u>2-2-2</u>				
		Seat				
		Dr. A/B FMI				
	Tractor: <u>power manual</u>					
	Position: <u>FIXED</u>		Welded? <u>Y N</u>			
	Instrument Panel:					
	Steering Column:					
	Pre-Test OBSERVATIONS:	<u>DEAD BELT</u>				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright	Y/B	O/B	CENTRE	Upright	Left	Right	RIGHT	Upright	Y/B	O/B
		On Seat		Off Seat		On Seat	Off Seat			On Seat	Off Seat	
LEFT SIDE	A/B Intact (No Holes):			Y / N								Y / N
	Face to A/B		Y/B	Center	O/B							
	Contact Location:		High	Mid	Low							
	A/B Cover Attached to Can/Cover:			Y / N								Y / N
	Adj. D-ring Remain in Position:			Y / N								Y / N
	Retractor Intact:	Y / N		Locked:	Y / N							Y / N
	Buckle Held:	Y / N		Webbing Intact:	Y / N							Y / N
	Seat Tracks Held:			Y / N								Y / N
	Cracks in I/P:			Y / N								Y / N
	Steering Wheel Deformed:			Y / N								Y / N
Column Stroked w/o Interference:			Y / N								Y / N	
Column Stroke:	Left:				Right:							

Post Test COMMENTS:

R/ I/B BOLT STIPPED-OUT
3/4 NUT ON 12MM BOLT

W/ INFLATABLET DEPLOYED

OBSERVER: MA

HYGE Sled Test Summary

Sheet 20

Initiator: Krish Ashkota

Phone: 257991

HYGE Run H 19640

Run Date 12 21 1998

Test Engineer: Chris Dragan

Test Auth # TBS195

Requestor: Krish Ashkota

BUCK # 323

3

MATRIX #

Test Title/Description: Inflatable Seatbelt Evaluation - Rear Seat

Crash/HYGE Pulse Ref: _____

Simulated Speed: 31/65

Pin # 0154 A

PYRO TYPED	LEFT	Airbag: <u>N/A</u> ms		RIGHT	Airbag: <u>N/A</u> ms
		Pyro Buckle: <u>12</u> ms			Pyro Buckle: <u>12</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dumm SH3 / 65PH / 66H3	DUMMY	RIGHT	Dumm SH3 / 65PH / 66H3
		A/B <u>N/A</u>	Belt		A/B <u>N/A</u>
		Belt <u>122</u>			Belt <u>122</u>
		Seat _____	Dr. A/B PMS _____		Seat _____
		Tracks: <u>power manual</u>	Pass. PMS _____		Tracks: <u>power manual</u>
	Position: <u>FIXED</u> Welded? <u>Y</u> <u>N</u>			Position: <u>FIXED</u> Welded? <u>Y</u> <u>N</u>	
	Instrument Panel: _____			Instrument Panel: _____	
	Steering Column: _____			Steering Column: _____	
	Pre-Test OBSERVATIONS: <u>DEAD BELT</u>			Pre-Test OBSERVATIONS: _____	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	IB	O/B		Upright	IB	O/B	
	On Seat	On Seat	Off Seat		On Seat	On Seat	Off Seat	
A/B Intact (No Holes):				Y / N	A/B Intact (No Holes):			Y / N
Face to A/B				Y / N	Face to A/B			Y / N
Contact Location:				Y / N	Contact Location:			Y / N
A/B Cover Attached to Can./Cover:				Y / N	A/B Cover Attached to Can./Cover:			Y / N
Adj. D-ring Remain in Position:				Y / N	Adj. D-ring Remain in Position:			Y / N
Retractor Intact:				Y / N	Retractor Intact:			Y / N
Buckle Held:				Y / N	Buckle Held:			Y / N
Seat Tracks Held:				Y / N	Seat Tracks Held:			Y / N
Cracks in IP:				Y / N	Cracks in IP:			Y / N
Steering Wheel Deformed:				Y / N	Steering Wheel Deformed:			Y / N
Column Stroked w/o Interference:				Y / N	Column Stroked w/o Interference:			Y / N
Column Stroke: Left: _____					Column Stroke: Right: _____			

Post Test COMMENTS:

R/ INFLATABLE BELT DEPLOYED

L DUMMY NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 21

Inhibitor: Kifah Aakbois

Form: 17109

HYGE Run H 19611
 Test Engineer: Chris Dragan
 Requester: Kifah Aakbois

Run Date 12/22/98
 Test Auth #: TB3195
 BUCK # 323

6

MATRIX #

Test Title/Description: Inflatable Seatbelt Evaluation - Rear Seat

Crash/HYGE Pulse Ref: _____ Simulated Speed: (31) 35 Pin # 50/84 A

	LEFT	Airbag: <u>N/A</u> ms	RIGHT	Airbag: <u>N/A</u> ms
		Pyro Buckle: <u>12</u> ms		Pyro Buckle: <u>12</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy: <u>5H0+50H0+55H0 GYR</u>	RIGHT	Dummy: <u>5H0+50H0+55H0 GYR</u>
		AVS: <u>N/A</u>		AVS: <u>N/A</u>
		Belt: <u>R1</u>		Belt: <u>R1</u>
		Seat: _____		Seat: _____
		Dr. AVS FMS: _____		Dr. AVS FMS: _____
		Tracks: <u>power manual</u>		Tracks: <u>power manual</u>
	Position: _____	Welded? <u>Y N</u>		Position: _____
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright <input checked="" type="checkbox"/> MB O/B On Seat Off Seat	RIGHT	Upright <input checked="" type="checkbox"/> MB O/B On Seat Off Seat
LEFT SIDE	AVS Intact (No Holes):	<input checked="" type="checkbox"/> Y / N		AVS Intact (No Holes): <u>Y / N</u>
	Face to AVS	<input checked="" type="checkbox"/> MB Center O/B		Face to AVS <u>MB Center O/B</u>
	Contact Location:	High Mid <input checked="" type="checkbox"/> Low		Contact Location: <u>High Mid Low</u>
	AVS Cover Attached to Can. Cover:	<u>Y / N</u>		AVS Cover Attached to Can. Cover: <u>Y / N</u>
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / N		Adj. D-ring Remain in Position: <u>Y / N</u>
	Retractor Intact:	<input checked="" type="checkbox"/> Y / N	Locked: <input checked="" type="checkbox"/> Y / N	Retractor Intact: <u>Y / N</u> Locked: <u>Y / N</u>
	Buckle Held:	<input checked="" type="checkbox"/> Y / N	Webbing Intact: <input checked="" type="checkbox"/> Y / N	Buckle Held: <u>Y / N</u> Webbing Intact: <u>Y / N</u>
	Seat Tracks Hold:	<u>Y / N</u>		Seat Tracks Hold: <u>Y / N</u>
	Cracks in UF:	<u>Y / N</u>		Cracks in UF: <u>Y / N</u>
	Steering Wheel Deformed:	<u>Y / N</u>		Steering Wheel Deformed: <u>Y / N</u>
Column Struck w/o Interference:	<u>Y / N</u>		Column Struck w/o Interference: <u>Y / N</u>	
	Column Stroke: Left: _____		Right: _____	

Post Test COMMENTS: INFLATABLE BELT DEPLOYED
TEST LOOKED NORMAL

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 22
 Inflation Krieh Address
 Phone #57881

HYGE Run # 19612 Run Date 12/22/98
 Test Engineer: Chris Dragan Test Auth # TB9185
 Requester: Krieh Askbore BUCK# 323

4

MATRIX #

Test Title/Description: Instable Seatbelt Evaluation - Rear Seat
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 31/35 Ptn # 50/54 A

LEFT	LIFT	Airbag: <u>N/A</u> ms Pyro Buckle: <u>12</u> ms	RIGHT	LIFT	Airbag: <u>N/A</u> ms Pyro Buckle: <u>12</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	DUMMY	<u>5H3 / 50H3 / 95H3</u>	DUMMY	<u>5H3 / 50H3 / 95H3</u>	
	A/B	<u>N/A</u>	A/B	<u>N/A</u>	
	Belt	<u>R1</u>	Belt	<u>R1</u>	
	Seat	_____	Seat	_____	
	Tracks:	<u>power manual</u>	Tracks:	<u>power manual</u>	
	Position:	<u>Welded? Y N</u>	Position:	<u>Welded? Y N</u>	
	Instrument Panel: _____		Steering Column: _____		
	Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT	CENTER	RIGHT
Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	Upright <input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat

LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Face to A/B: High <u>Center</u> Low Contact Location: High <u>Mid</u> Low A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Adj. D-ring Remain in Position: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Cracks in IP: <u>Y Y N</u> Steering Wheel Deformed: <u>Y Y N</u> Column Stroked w/o Interference: <u>Y Y N</u>	A/B Intact (No Holes): <u>Y Y N</u> Face to A/B: High <u>Center</u> Low Contact Location: High <u>Mid</u> Low A/B Cover Attached to Can/Cover: <u>Y Y N</u> Adj. D-ring Remain in Position: <u>Y Y N</u> Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <u>Y Y N</u> Cracks in IP: <u>Y Y N</u>
------------------	---	---

Column Stroked... Left: _____ Right: _____

Post Test COMMENTS: Test Approve Normal!

OBSERVER: A. [Signature]

HYGE Sled Test Summary

Sheet 23

William Erik Aakbø

Phone #7691

HYGE Run # 19613
 Test Engineer: Chris Drogan
 Requester: Krish Aakbø

Run Date 12/22/98
 Test Auth # TB3198
 BUOK # 323

5

MATRIX #

Test Title/Description: Inflatable Seatbelt Evaluation - Rear Seat

Crash/HYGE Pulse Ref: _____ Simulated Speed: 31/35 Pin # 50/54 A

PRE-TEST	LEFT Airbag: <u>N/A</u> ms Pyro Buckle: <u>12</u> ms	RIGHT	Airbag: <u>N/A</u> ms Pyro Buckle: <u>12</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dumm <u>5H3 / 60H3 / 95H3</u> A/B <u>N/A</u> Belt <u>R1</u> Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y N</u>	CENTRE	Dumm <u>5H3 / 60H3 / 95H3</u> A/B <u>N/A</u> Belt <u>R1</u> Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y N</u>	
	Dr. A/B FMR _____ Pass. FMR _____			
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright <input checked="" type="checkbox"/> On Seat V/B <input type="checkbox"/> Off Seat O/B <input type="checkbox"/>	Upright <input type="checkbox"/> On Seat Left <input type="checkbox"/> Off Seat Right <input type="checkbox"/>	Upright <input checked="" type="checkbox"/> On Seat V/B <input type="checkbox"/> Off Seat O/B <input type="checkbox"/>
LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Face to A/B <u>Y</u> V/B Center O/B Contact Location: <u>High</u> Mid Low A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	RIGHT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Face to A/B <u>Y</u> V/B Center O/B Contact Location: <u>High</u> Mid Low A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: Test Specimen Normal

OBSERVER: A. Rasmussen

FB-3195
Sheet 24

Attachment VI.
Dummy Positioning

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 25

Inkblot: Erik Aakhus
Pinner: 47891

TB3195

Run H 19608

Date 12-21-98

Inflatable Seatbelt Evaluation - Rear Seat

1

Buck # 323

Reference: H
H
H

Left		Right	Center
85H3	DUMMY TYPE	96H3	
	SEAT POSITION		
347	DUMMY NUMBER	344	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL.
Seat Back Angle (13° above pivot)					0	+/-1 notch
Pelvic Angle (°/-2.5 deg; °/-1.0 for 596lb)						
Column Angle					at left	at left
H-Point Longitudinal	Laser # 4	-16		310	12	0
H-Point Vertical	Laser # 4	-279		-253		0
H-Point Lateral		235		235	12	0
Knee Longitudinal	Laser # 2	-140		-87		
Knee Vertical	Laser # 2	-179		-137		
Knee Lateral		275		275	0	0
Head Longitudinal	Laser # 5	33		20-160	level	0
Head Vertical	Laser # 5	420		427	level	0
Head Lateral		370		370	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)						0
Left Knee to Bolster						0
Right Knee to Bolster						0
Head to Steering Wheel Upper Rim or 1/2"						0
Head to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal		2737		2738		
Reference Target Absolute Vertical		882		884		
Reference Target Absolute Lateral		789		770		

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Shoulder Lateral					
Shoulder Longitudinal					
Other					
Other					
Other					
Knee to H-Point					
Knee to Pelvic					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 6 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 26

Initiator: Kirk Adkins
Phone: 27691

TB3196

Run H 19609

Date 12/21/98

Inflatable Seatbelt Evaluation - Rear Seat

2

Buck # 323

Reference: H
H
H

Left SOFS	DUMMY TYPE	Right SOFS	Center
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)					0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5V60)						
Colum Angle					at left	at left
H-Point Longitudinal	3944		3	3944	12	6
H-Point Vertical	668			675		6
H-Point Lateral	260			260	12	6
Knee Longitudinal	3555			3550		
Knee Vertical	756			765		
Knee Lateral	285				6	6
Head Longitudinal	4061			4062	level	6
Head Vertical	1325			1325	level	6
Head Lateral	285			285	level	6
Distance Neck Adjustment (Seat post only)						
Knee Centerline to Knee Centerline (max)						
Left Knee to Belt						6
Right Knee to Belt						6
Neck to Steering Wheel Upper Rim or HF						6
Toes to Steering Wheel Lower Rim						6
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	652			654		
Reference Target Absolute Lateral	780			770		

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 6 deg.	< 6 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 27
 Initiator: Krik Acheto
 Phone: 437691

TB3195

Run H 19610

Date 12/21/98

Inflatable Seatbelt Evaluation - Rear Seat

3

Buck # 323

References: H
H
H

Left SDHS	DUMMY TYPE	Right SDHS	Center
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)					0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for F/Glo)						
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	3944			3944	12	6
H-Point Vertical Laser # 4	668			668		6
H-Point Lateral	260	260	260	265	12	6
Knee Longitudinal Laser # 2	3555			3555		
Knee Vertical Laser # 2	756			756		
Knee Lateral	280	285	285	285	6	6
Head Longitudinal Laser # 5	4061			4061	level	6
Head Vertical Laser # 5	1325			1325	level	6
Head Lateral	385	385	385	380	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)						6
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or VP						6
Neck to Steering Wheel Lower Rim						6
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	769			770		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	1st RUN	ADDL
Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 6 deg.	< 6 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 28

Initiator: Keith Aultman
Phone: x77091

TB3195

Run H 19618

Date 12-22-98

Inflatable Seatbelt Evaluation - Rear Seat

4

Buck # 323

Reference: H
H
H

Left SFS	DUMMY TYPE	Right SFS	Center
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING	Laser #	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (+/- mm)	
		LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADJL
Seat Back Angle (13° above pivot)						0	+/-1 notch
Foot Angle (+/- 2.5 deg; +/-1.0 for S961a)							
Column Angle						at left	at left
H-Point Longitudinal	4	3977			3977	12	0
H-Point Vertical	4	659			659		0
H-Point Lateral		305			325	12	0
Knee Longitudinal	2	3617			3619		
Knee Vertical	2	737			737		
Knee Lateral		350			355	0	0
Head Longitudinal	5	4007			4009	level	0
Head Vertical	5	1225			1225	level	0
Head Lateral		390			390	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (max)							0
Left Knee to Bolster							0
Right Knee to Bolster							0
Nose to Steering Wheel Upper Rim or LP							0
Top to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Abscissa Longitudinal		2737			2738		
Reference Target Abscissa Vertical		882			884		
Reference Target Abscissa Lateral		789			770		

FLM ANALYSIS

Knee (target) Lateral							
Thigh Lateral							
Phantom Lateral							
Shoulder Lateral							
Other							
Other							
Other							
Knee to H-Point							
Knee to Phantom							
Knee to Thigh							
Distance Between A or B Pillar Targets							
Upper or Forward Reference Target							
Lower or Rearward Reference Target							
Reference Bar to Film Plane							
Column Angle						< 5 deg.	< 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 29

Initiator: Keith Adkins
Form: 107891

TB3195

Run H 19613

Date 12-22-78

Inflatable Seatbelt Evaluation - Rear Seat

5

Buck # 323

Reference: H
H
H

Left SHS	DUMMY TYPE	Right SHS	Center
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADYL
Seat Back Angle (13° above pivot)					0	± 1 notch
Pelvic Angle (± 2.5 deg.; ± 1.0 for 3961a)						
Cervical Angle					at left	at left
H-Point Longitudinal Laser # 4	3997			3997	12	0
H-Point Vertical Laser # 4	619			619		0
H-Point Lateral	305	305	305	305	12	0
Knee Longitudinal Laser # 2	3619			3619		
Knee Vertical Laser # 2	737			737		
Knee Lateral	350	350	350	350	0	0
Head Longitudinal Laser # 5	4097			4097	level	0
Head Vertical Laser # 5	1228			1228	level	0
Head Lateral	395	390	390	390	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)						
Left Knee to Bolster						0
Right Knee to Bolster						0
Neck to Steering Wheel Upper Rim or IP						0
Top to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	700			770		

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Cervical Angle					< 6 deg.	< 6 deg.

Notes:

TB-3195
Sheet 30

Attachment VII
Photographic Set-Up

PHOTOGRAPHIC REQUEST SHEET FOR

TB3195

Sheet 31

TEST DESCRIPTION: Irrelevant Seatbelt Evaluation - Rear Seat

Informer: **Kirk Ashboro**

Phone: **x57691**

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

2	Over Shoulder Head to Airbag	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt "D" Ring	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt Retractor	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt Buckle, Inboard	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Inboard Knee to I/P Contact		Left		Right
1	Steering Column Stroke	<input checked="" type="checkbox"/>			
	Inner Instrument Panel				
2	Dummy Roll Out	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Seat Tracks		Lt inbd		Rt inbd
	Fiber Optics				

• OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Video: _____

• OUTRIGGER Cameras:

2	Overall Kinematics (F/A)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Knee to Bolster		Left		Right
	Chest to Steering Wheel		Left		Right
2	Retractor Payout, Cross-car	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Lap Belt on Dummy		Left		Right
	Seat Track/Cushion		Left		Right

• OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
 1 High Speed Video: **LHS**
 1 High Speed Video: **RHS**

• OFF-BOARD Cameras

Offboard - Floor Overall _____
 Offboard - Kinematics _____

Total On-BUCK Cameras = **11** Total OUTRIGGER Cameras = **6**

DIGITAL STILL PHOTOGRAPHS:

<input checked="" type="checkbox"/>	Pre & Post Test Overall	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Knee Bolster(s)		Left		Right
	A/B Face Print		Left		Right
	Other: _____				
	Other: _____				
	Other: _____				

ADDITIONAL INFO:

4 Number of Runs
 2 Requester High Speed Films
 1 Safety Lab High Speed Films
 2 VHS Copies of H.S. Films
 2 VHS Copies of H.S. Video

Refer this to TA _____
 Requester Inbd: _____ Dept. Name: **Safety & Biomech CAE**
 Dept. No. **T303**
 Work Task No. **YR922**
 Requestor: **Kirk Ashboro**
 Phone No. **x57691**

Additional Comments: _____

FILM ANALYSIS REQUEST SHEET FOR

TB3195

Sheet 32

Initiator: Krish Aekbote
Phone: 257691

FILM ANALYSIS:

_____ Head Disp. & Velocity wrt _____
_____ Shoulder Disp. & Velocity wrt _____
_____ Hip Disp. & Velocity wrt _____
_____ Knee Disp. & Velocity wrt _____
_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

**Final Test Report
Confidential**

**GTO - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TA5549
Subject: 2000 D188 Series M
D188 DV Completion
Requested By: Dale Perrigo
Requesting Dept.: T551
Work Task No.: F09
Test Facility: Hyge
Date Reported: 10/6/99
Test Dates: 6/17/99 to 6/18/99
Run Numbers: H18985 to 18988
Test Speeds: 35, 31, 30 mph
Dummies used: 1-50HR, 2-50HR, 2-5HR
Procedure(s): T857-100
Busk #: 418
Page: 1 of 7

DISPOSE of Copies (Black Stamped) by	
RETAIN Process Copy (Red Stamped) Thru	2005
Schedule Number:	7-4-2

Objective:

DV completion, testing of contingency plan without pretensioners, testing of new driver inflator.

Summary:

The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <https://www-safetylab.ford.com/>.

Attachments

I.	Test Authorization
II.	Test Matrix
III.	Sled Parameters

Concur:


Steve Lash
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TR-5849
Sheet 2

Attachment I.
Test Authorization



GTO Test Request

Requester / Coordinator (PROPS)

DPERWGO

DALE PERRIGO

Performing Activity HYBE and VIA Steel	Date Submitted 10-FEB-1999	Requested Completion Date 03-MAR-1999	Requester Reference Number
Procedure Number HYQ-00	Request Title and / or Subject of Request DIMS Hyge Steel Series III		
Requester's Dept No.: T881 AV2216A	Work Task / Work Order Number: 709	Request conducted to certify control items compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Requester's (PROPS): DPERWGO	Requester's Name: DALE PERRIGO		
Complete the following two questions as indicated			
1 - Reasons for not replacing this test by CAE Analysis: <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Required <input checked="" type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for FMS <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input checked="" type="checkbox"/> Results will meet (VPPWDR) requirements (Sign-Off) <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is based on CAE? Other:	
(Check appropriate boxes)			
Request Purpose / Request Procedure or Description of Request: Evaluate diml stage HYBE Test Procedure T887-116			
Test Object:	Reference Object	Reference Description	
	N/A	N/A	
Sample #	Object ID	Object Description	
1	NO_PART_NUMBER_GIVEN	PART NUMBER NOT PROVIDED IN VERSION 1.1 OF TESTM	
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer	DALE PERRIGO	Assigned Coordinator	WIM VAN GLASBEEK
Request Authorized by	Not Required	Assigned Supervisor	STEPHEN LESH

Printed For: WIM VAN GLASBEEK From Testnet Server: BLD

18-AUG-1999 10:02:03

FOR REFERENCE ONLY

Page 1 of 1

SLED 0028891

TA-5849
Sheet 4

Attachment II.
Test Matrix

TA# TA5849

SYSTEM: 8:00 IN Completion

DATE: 10-08-88

REVISION: 0-1000

Metric Data Table
Form 15703

CUM RUN	TYPE	HYDRA	HYDRA	FRN	PLUSE	MEM	BOY	TRIT	FRND	RT BT	END	END	SEAT	QCAT	SCX	O-FWD	DIRTY	LEFT/DIR	RIGHT	CONJECTURES AND COMMENTS	IP	IK	PI	PE	AB	SC	BT	BL	QT	FOR	Inst.
FLSH	TRPT	FLN	SEN	DEPT	FGP	VEL	MOL	DATE	TIME	TIME	TIME	POS	POS	POS	POS	POS	POS	POS	POS												
01	01									1200	1200	12	FR																		
02	02	1998								1200	1200	12	FR																		
03	01	1998								1200	1200	12	FR																		
04	01	1998								1200	1200	12	FR																		
05	01	1998								1200	1200	12	FR																		
06	01	1998								1200	1200	12	FR																		
07	01	1998								1200	1200	12	FR																		
08	01	1998								1200	1200	12	FR																		

PLEASE PUT BILLY LOAD ON ALL TESTS

R01 Head Package CPR. Plastic Lock with upgraded air-vent web seats underlines (change lock key). R02 Jack change CP head PT with pilot design least pilot profile.
 R03 Head Package CPR. Plastic Lock with upgraded air-vent web seats underlines (change lock key). No protrusion

- D11 Actile-CP head integrated wheel string. F0 indicator, 200mm vane.
- D12 Actile-CP head integrated wheel string. F0 indicator, 200mm vane and alternate fabric.
- D13 Actile-CP head integrated wheel string. ADP01 indicator, 200mm vane and alternate fabric.
- D14 Actile-CP head integrated wheel string. F0 indicator, 200mm vane and alternate fabric.
- P16 Actile passenger bag. 100L, 200 vane, AGN head cover.
- P18 Actile passenger bag. KIC020 indicator, 100L, 200 vane, AGN head cover.
- P19 Actile passenger bag. KIC020 indicator, 100L, 200 vane, AGN head cover.

- (R1)** D101 Manual Seat
- R2 METS II Power Seat
- R03 Opening column with stroke limited by 100g head with 0.5 inch gap. No other rivets.
- R4 CP panel that covers AGN head passenger string area

NOTES:
 All runs use instrumented dummies.
 Rigid header core **MUST** be installed for all runs.

SLIED 0028893

Sheet 5

TR-5849
Sheet 6

Attachment III.
Sled Parameters

LINE #	LA #	TESTTYPE	DATE	TIME	DATA CHANGE	WEIGHT (LBS)	HPC/L	STROKE	LOAD	SET	DRARE	BUCKLE	VELOCITY (MPH)	LEFT	DUMMY S/N CENTER	RIGHT	FIN	INNER BNC	OUTER BNC
19985	TA8897A	D186 DESIGN VERIFICATION	6/17/99	11:00	34	5893	130	61	2676	468	205	418	35	—	347	—	84	N	N
19986	TA8897B	D186 DESIGN VERIFICATION	6/17/99	14:48	34	5478	130	61	2682	442	198	418	35	347	—	—	84	N	N
19987	TA8897C	D186 DESIGN VERIFICATION	6/17/99	18:14	66	5668	150	61	2730	454	190	418	38	323	—	329	84	N	N
19988	TA8897C	D186 DESIGN VERIFICATION	6/17/99	21:47	66	6085	150	62	2332	377	160	418	31	323	—	329	80	N	N
19989	TA8897C	D186 DESIGN VERIFICATION	6/18/99	18:00	66	5825	150	62	2382	397	150	418	31	323	—	329	80	N	N
19990	TA8897A	D186 DESIGN VERIFICATION	6/18/99	19:00	34	6398	150	62	2232	382	150	418	31	—	—	329	80	N	N
19991	TA8897D	D186 DESIGN VERIFICATION	6/18/99	16:53	66	6688	65	48	1718	285	115	418	30	323	—	329	88	OUT	OUT
19992	TA8897E	D186 DESIGN VERIFICATION	6/18/99	20:53	72	6516	65	45	1722	287	110	418	30	323	—	361	88	OUT	OUT
19993	TA8897D	D186 DESIGN VERIFICATION	6/18/99	22:19	34	6470	65	48	1718	286	110	418	30	347	—	—	88	OUT	OUT

SLEED 0028895

TA-5849
Sheet 17

**Final Test Report
Confidential**

**GTO - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TB6888
Subject: 2000 D198 Series O
D198 Testing w/o Pretensioners
Requested By: Dale Parrigo
Requesting Dept.: T551
Work Task No.: F09
Test Facility: Hyge
Date Reported: 9/30/99
Test Dates: 8/2/1999 to 8/4/1999
Run Numbers: H20066 to H20075
Test Speeds: 25 mph, 31 mph, and 30 mph Generic Pulse
Dummies used: 2-50FH3, 2-5FH3, 1-6YRH3
Procedure(s): T857-100
Buck #:: 418
Page: 1 of 27

DISPOSE of Copies (Black Stamped) by:	
RETAIN Factors Copy (Red Stamped) Thru:	2005
Schedule Number:	7-4-2

Objective:

DV completion, testing of contingency plan without pretensioners.

Summary:

The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department Intranet home page under <http://www.safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Parameters
- IV. Post Test Observations
- V. Dummy Positioning

CONCURRED:

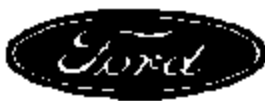

Steve Leah
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

SLED 0029328

TB-6936
Sheet 2

Attachment I.
Test Authorization



GTO Test Request

Sheet 3

Requester / Coordinator (PROF):

DPERRIGO

DALE PERRIGO

Performing Activity HYBE and WA Sled	Date Submitted: 25-JUN-1999	Requested Completion Date 08-JUL-1999	Requester Reference Number
Procedure Number: 108	Request Title and / or Subject of Request: D188 HYBE SLED SEATBELT		
Disable Requester's Dept No: TEST AVESTRA	Work Task / Work Order Number: FO8	Request conducted to verify control (test compliance with Government Regulations)	
Disable Requester's (PROF): DPERRIGO	Disable Requester's Name: DALE PERRIGO	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>

Complete the following two questions as indicated

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

- No CAE Methodology or process available
- For CAE Correlation
- Insufficient confidence in CAE
- To obtain basic data for CAE
- Replacement or improvement of existing Test
- Testing in Caliber
- Mandatory or Regulatory
- Certification
- Development test for FDS
- Not applicable

Other:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- Results will meet DWP/NOP requirements (Sign-Off)
- System Component will not meet Test specification
- Unknown
- Above is Same as CAE?

Other:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

TEST-108 Hybe Sled PERRIGO 808 Certification Procedure

Test Object:	Reference Object	Reference Description
	NA	NA

Sample #	Object ID	Object Description
1	SLED PARTS	D188 SEATS, BELTS, BAGS, IPE

Signature Approvals (As Required for Control Purpose)

Requesting Engineer DALE PERRIGO Assigned Coordinator WIM VAN GLABBECK
 Request Authorized by Not Required Assigned Supervisor STEPHEN LESH

Printed For: WIM VAN GLABBECK From Testnet Server: SLD

18-AUG-1999 10:33:22

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Page 1 of 1

SLED 0029330

TB-6936
Sheet 4

Attachment II.

Test Matrix

SLED 0029331

TAF TB9936

SYSTEM: 0000 Working with Performance
DATE: 22-Jun-82
ISSUES: 01-Jun-82

Author: Dale Padgett
Rev: 10000

Table with columns for aircraft type (CLAS), model (MODEL), engine (ENGIN), fuel system (FUEL), and various performance metrics like cruise speed (CRUISE), climb rate (CLIMB), and descent rate (DESCENT). Rows are labeled A through D.

- 100 Standard Package CRJL, P1 Probe Lead with uprated on under web suspension (average test temp. 45-June stage CP lead PT with pilot design level plate profile.
- 101 Apply CP lead integrated stand string. P1 inhibit, 2000psi vents.
- 102 Apply CP lead integrated stand string. P1 inhibit, 2000psi vents and 2000psi valve.
- 103 Apply integrated stand string. ACFTN inhibit, 2000psi vents and 2000psi valve.
- 104 Apply CP lead integrated stand string. P1 inhibit, 2000psi vents and 2000psi valve.
- 105 Apply passenger bag. 101L, 2000 vents, ASK level cover.
- 106 Apply passenger bag. 2000psi inhibit, 101L, 2000 vents, ASK level cover.
- 107 Apply passenger bag. 2000psi inhibit, 101L, 2000 vents, ASK level cover.
- 108 D101 Manual mode.
- 109 W1101 Power Brake.
- 110 Standby system with valve (driven by 120psi master with 100psi gap. No other dev.
- 111 CP lead test sample ASK level passenger stand cover.

NOTES:
All runs use instrumented dummies, EXCEPT Matrix #2 where the D5% is Uninstrumented.
Rigid heater core MUST be installed for all runs.
Crew display and seat belt status indicators.

SLIED 0029332

Sheet 5

TB-6936
Sheet 6

Attachment III.
Sled Parameters

TB-6936
Sheet-7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

TB-6936
Sheet 8

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 9

Initiator: Dale Ferrigo
Form: 250018

HYGE Run H 20066 Run Date 8/2/99
 Test Engineer: Wyn Van Glabbeek Test Auth # TB0098
 Requester: Dale Ferrigo BUCK # 418

1

MATRIX #

Test Title/Description: D188 Testing w/o Pretensioners

Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Ph # 93

PRE-TEST OBSERVATIONS	LEFT Airbag: _____ me Pyro Buckle: _____ me	CENTER	RIGHT Airbag: _____ me Pyro Buckle: _____ me	
LEFT	Dummy <u>5010</u> A/B _____ Belt <u>D14</u> Seat _____ Tracks: <u>FF</u> manual Position: <u>FF</u> Welded? <u>Y</u>	RIGHT	Dummy <u>5010</u> A/B _____ Belt _____ Seat _____ Tracks: <u>FF</u> manual Position: <u>FF</u> Welded? <u>Y</u>	
Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			CENT	RIGHT			
	Upright	VB	QB		Upright	VB	QB	
LEFT SIDE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
A/B Intact (No Holes):								Y / N
Face to A/B	VB Center QB				High Mid Low			
Contact Location:	High Mid Low							
A/B Cover Attached to Can/Cover:								Y / N
Adj. D-ring Remain in Position:								Y / N
Retractor Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Locked: <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Locked: <input checked="" type="checkbox"/>	Y / N
Buckle Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wobbling Intact: <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wobbling Intact: <input checked="" type="checkbox"/>	Y / N
Seat Tracks Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Y / N
Cracks in IP:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Y / N
Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Column Stroked w/o Interference:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Column Stroke: Left: _____ Right: _____								
Post Test COMMENTS: <u>SEAT NORMAL - SLIGHT</u> <u>BOLSTER CONTACT - UPPER</u> <u>BOLSTER COVER FREE</u>								
								OBSERVER: <u>Wyn</u>

HYGE Sled Test Summary

Sheet 10

Instructor: Dale Perrigo
Form #58918

HYGE Run H 20067

Run Date 8/3/99

Test Engineer: Wim Van Glabbeek

Test Auth # TB6938

Requester: Dale Perrigo

BUCK # #REF?

3

MATRIX #

Test Title/Description: D186 Testing w/o Pretensioning

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35

Pin # 54A

LEFT	Airbag: <u>13</u> ms	RIGHT	Airbag: <u>17</u> ms
	Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
Dummy	<u>50TH</u>	Dummy	<u>50TH</u>
A/B	<u>D-12</u>	Seat	<u>P-18</u>
Belt	<u>LR-86</u>	Dr. A/B PWR	<u>RR-86</u>
Seat	<u>S-4</u>	Pass. PWR	<u>S-4</u>
	Tracks: <u>Good</u> manual		Tracks: <u>Good</u> manual
	Position: <u>mid</u> Welded? <u>Y</u>		Position: <u>mid</u> Welded? <u>Y</u>
	Instrument Panel: <u>1-8</u>		
	Steering Column: <u>SC-3</u>		
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT		
	Upright	IB	O/B	Upright	IB	O/B
	<u>On Seat</u>	<u>Off Seat</u>		<u>On Seat</u>	<u>Off Seat</u>	
A/B Intact	<u>No Holes</u>		<u>Y</u> / <u>N</u>	<u>No Holes</u>		<u>Y</u> / <u>N</u>
Face to A/B		<u>High</u>	<u>Mid</u> / <u>Low</u>		<u>High</u>	<u>Mid</u> / <u>Low</u>
A/B Cover Attached to Can/Cover:			<u>Y</u> / <u>N</u>			<u>Y</u> / <u>N</u>
Adj. D-ring Remain in Position:			<u>Y</u> / <u>N</u>			<u>Y</u> / <u>N</u>
Retractor Intact:	<u>Y</u> / <u>N</u>		<u>Y</u> / <u>N</u>	<u>Y</u> / <u>N</u>		<u>Y</u> / <u>N</u>
Buckle Held:	<u>Y</u> / <u>N</u>		<u>Y</u> / <u>N</u>	<u>Y</u> / <u>N</u>		<u>Y</u> / <u>N</u>
Seat Tracks Held:			<u>Y</u> / <u>N</u>			<u>Y</u> / <u>N</u>
Cracks in VP:			<u>Y</u> / <u>N</u>			<u>Y</u> / <u>N</u>
Steering Wheel Deformed:			<u>Y</u> / <u>N</u>			<u>Y</u> / <u>N</u>
Column Stroked w/o Interference:			<u>Y</u> / <u>N</u>			<u>Y</u> / <u>N</u>
Column Stroked: Left: _____			Right: _____			
Post Test COMMENTS: <u>* GLOVE BOX DOOR CAME OPEN</u>						
<u>* TEST LOCKED NORMAL</u>						
OBSERVER: <u>[Signature]</u>						

HYGE Sled Test Summary

Sheet 11

Editor: Dale Poirge
Phone: x58018

HYGE Run H 20062 Run Date 8/3/99
 Test Engineer: Wim Van Glabbeek Test Auth # TB9336
 Requirer: Dale Poirge BUCK # #REPI

4

MATRIX #

Test Title/Description: D186 Testing w/o Pretensioners

Crash/HYGE Pulse Rail: _____ Simulated Speed: 35 Ptn # 54A

FREE TIME	LEFT Airbag: <u>12</u> ms Pyro Buckle: _____ ms	RIGHT Airbag: <u>17</u> ms Pyro Buckle: _____ ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>5074</u> A/B <u>D-14</u> Belt <u>LR-26</u> Seat <u>S-4</u> Tracks: <u>power</u> manual Position: <u>mid</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>	Dummy _____ Belt _____ Dr. A/B P/M _____ Pass. P/M _____	Dummy <u>5074</u> A/B <u>P-19</u> Belt <u>RR-26</u> Seat <u>S-4</u> Tracks: <u>power</u> manual Position: <u>mid</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>
	Instrument Panel: <u>18</u>		
	Steering Column: <u>303</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright			RIGHT SIDE	Upright		
	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat
A/B Intact <u>No Holes</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A/B Intact <u>No Holes</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Face to A/B Contact Location: High <u>Mid</u> Low	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Face to A/B Contact Location: High <u>Mid</u> Low	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Adj. D-ring Remain in Position: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Retractor Intact: <input checked="" type="checkbox"/> N Looked: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Retractor Intact: <input checked="" type="checkbox"/> N Looked: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Seat Tracks Held: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Seat Tracks Held: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cracks in IP: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cracks in IP: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Steering Wheel Deformed: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Column Stroked w/o Interference: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Column Stroke: Left: _____ Right: _____							
Post Test COMMENTS: <u>A DRIVER SIDE BELT AT THE ANCHOR BROKE THE SEAT SIDE COVER WHICH TORE INTO THE BELT SAME THING HAPPENED ON 20062</u>							
OBSERVER: <u>D. Dunde</u>							

HYGE Sled Test Summary

Sheet 12

Initiator: Dale Parigo
Phone: #46019

HYGE Run H 00068 Run Date 8/3/99

Test Engineer: Wm Van Glabbeek Test Auth # TB0956

Requester: Dale Parigo SUCR # #REF!



Test Title/Description: D185 Testing w/o Pretensioners

Crash/HYGE Pulse Ref: _____ Simulated Speed: 21 Pin # 50

TYPE THREE	LEFT	Airbag: <u>18</u> ms	RIGHT	Airbag: <u>130</u> ms
		Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>BOTH</u>	Dummy	<u>BOTH</u>
	A/B	_____	Belt	_____
	Belt	<u>LR-26</u>	Dr. A/B FMB	_____
	Seat	<u>S-4</u>	Pass. FMB	_____
	Tracks:	<u>none</u> manual	Pass. FMB	_____
	Position:	<u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>	Position:	<u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>
	Instrument Panel:	<u>18</u>		
	Steering Column:	<u>SC-3</u>		
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST

Consistent (if needed) below:

LEFT	<input checked="" type="checkbox"/> Upright	IB	<input checked="" type="checkbox"/> On Seat	RIGHT	Upright	IB	<input checked="" type="checkbox"/> On Seat
	<input checked="" type="checkbox"/> On Seat	Off Seat	<input checked="" type="checkbox"/> On Seat		Off Seat	Off Seat	
LEFT SIDE	A/B Intact (<u>no holes</u>):	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	A/B Intact (<u>no holes</u>):	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Face to A/B	IB <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Low	Face to A/B	IB <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Low			
	Contact Location:	High <input checked="" type="checkbox"/> Low	Contact Location:	High <input checked="" type="checkbox"/> Low			
	A/B Cover Attached to Can/Cover:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	A/B Cover Attached to Can/Cover:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Retractor Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N Looked: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Retractor Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N Looked: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Buckle Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N Webbing Intact:	Buckle Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N Webbing Intact:			
	Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Cracks in IP:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Cracks in IP:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N				
Column Stroke:	Left: _____	Right:	_____				

Post Test COMMENTS:

R/ BOLSTER CONTACT W/ SLIGHT DEFORMATION - SEAT NORMAL

L/ SLIGHT BOLSTER DEFORMATION SEAT NORMAL

OBSERVER: Wm Van Glabbeek

HYGE Sled Test Summary

Sheet 13

Inhibitor Dale Parigo
Phone: x56916

HYGE Run H 2001B Run Date 8/13/99
 Test Engineer: Wim Van Glabbeek Test Auth # TB6936
 Requestor: Dale Parigo BUCK # #REF!
 Test Title/Description: D186 Testing w/o Pretensioning

9

MATRX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # 50

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>17</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>120</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION	Dummy <u>5070</u> A/B _____ Belt <u>L2-2a</u> Seat <u>5-4</u>	DUMMY Belt _____ Dr. A/B FMW _____ Pass. FMW _____	Dummy <u>5070</u> A/B _____ Belt <u>A2-2b</u> Seat <u>5-4</u>
	Tracks: <u>manual</u>	Tracks: <u>manual</u>	Tracks: <u>manual</u>
	Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>	Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>	Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>
	Instrument Panel: _____	Instrument Panel: _____	Instrument Panel: _____
	Steering Column: _____	Steering Column: _____	Steering Column: _____
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

		LEFT			RIGHT		
		Upright	VB	O/B	Upright	Left	Right
		On Seat	On Seat	Off Seat	On Seat	Off Seat	Off Seat
LEFT SIDE	A/B Intact (No Frills)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Face to A/B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Contact Location:	<u>High</u>	<u>Mid</u>	<u>Low</u>	<u>High</u>	<u>Mid</u>	<u>Low</u>
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Retractor Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Buckle Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Seat Tracks Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Cracks in MP:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroked w/o Interference:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Column Stroke:	Left: _____	Right: _____					

Post Test COMMENTS:

1/ BOLSTER CONTACT W/ NO VISIBLE EXTERIOR DEFORMATION SEAT NORMAL

2/ SLIGHT BOLSTER DEFORMATION SEAT NORMAL

OBSERVER: Wim

HYGE Sled Test Summary

Sheet 14

Initiator: Dale Perrigo
Phone: x5618

HYGE Run H 20071 Run Date 8/3/99
 Test Engineer: Wim Van Glabbeek Test Auth # TB8836
 Requester: Dale Perrigo BUCK # #REPI



Test Title/Description: D166 Testing w/o Pretensioners
 Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # 50

	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>30%</u>	Dummy	<u>30%</u>
	A/B	<u>N/A</u>	Belt	<u>P17</u>
	Belt	<u>LR26</u>	Belt	<u>RR26</u>
	Seat	_____	Seat	_____
	Tracks: <input checked="" type="checkbox"/> manual	_____	Pass, FMF	_____
Position: <u>FF</u>	Welded? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Position: <u>FF</u>	Welded? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Instrument Panel: _____				
Steering Column: _____				
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT		
	Upright	IB	O/B	Upright	IB	O/B
	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Off Seat
A/B Intact (No Holes)	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Face to A/B	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Contact Location:	<input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> Mid	<input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> Mid	<input checked="" type="checkbox"/> Low
A/B Cover Attached to Can/Cover	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Retractor Intact:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Locked:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Buckle Held:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Webbing Intact:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Seat Tracks Held:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Cracks in VP:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N
Column Stroke: Left: _____ Right: _____						
Post Test COMMENTS:						
<u>L/ NO VISIBLE BOLSTER DEFORMATION - IT APPEARS THE BELT WAS CUT AT SEAT HINGE - SEAT NORMAL</u>						
<u>R/ NO VISIBLE BOLSTER DEFORMATION SEAT NORMAL</u>						
OBSERVER: <u>Wim Van Glabbeek</u>						

SLED 0029341

HYGE Sled Test Summary

Sheet 15

Initiator: Dale Parigo
Phone: x50018

HYGE Run # 20072

Run Date 8/3/99

Test Engineer: Wim Van Glabbeek

Test Auth # TB6638

Requester: Dale Parigo

BUCK # #REPI

6

MATRIX #

Test Title/Description: D188 Testing w/o Pretensioners

Crash-HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # 93

	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50%</u>	Dummy	<u>50%</u>
	A/B	_____	Belt	_____
	Belt	_____	Dr. A/B P/M	_____
	Seat	_____	Pass. F/M	_____
	Tracks: <u>FE</u> manual		Position: <u>FE</u> Welded? <u>Y</u>	
Instrument Panel: _____				
Steering Column: _____				
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	UPRIGHT		CENTRE	LEFT		RIGHT	UPRIGHT	
	MB	OB		On Seat	Off Seat		MB	OB	On Seat	Off Seat
A/B Intact (No Poles):								
Face to A/B	MB <u>CR</u>	OB <u>CR</u>					MB <u>CR</u>	OB <u>CR</u>
Contact Location:	<u>High</u>	<u>Mid</u>		<u>Low</u>			<u>High</u>	<u>Mid</u>
A/B Cover Attached to Can/Cover:				<u>Y</u>	<u>N</u>			<u>Y</u>
Adj. D-ring Remain in Position:				<u>Y</u>	<u>N</u>			<u>Y</u>
Retractor Intact:	<u>Y</u>	<u>N</u>		Locked:	<u>Y</u>		Locked:	<u>Y</u>
Buckle Held:	<u>Y</u>	<u>N</u>		Webbing Intact:	<u>Y</u>		Webbing Intact:	<u>Y</u>
Seat Tracks Held:	<u>Y</u>	<u>N</u>			<u>Y</u>			<u>Y</u>
Cracks in VP:				<u>Y</u>	<u>N</u>			<u>Y</u>
Steering Wheel Deformed:				<u>Y</u>	<u>N</u>			<u>Y</u>
Column Stroked w/o Interference:				<u>Y</u>	<u>N</u>			<u>Y</u>
Column Stroke: Left: _____				Right: _____				

Post Test COMMENTS:

1/ NO VISIBLE BOLSTER DEFORMATION
SEAT NORMAL

2/ NO VISIBLE BOLSTER
DEFORMATION - SEAT
NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 16

Editor: Dale Perrigo
Phone: 46818

HYGE Run H 20073

Run Date 8 14 199

Test Engineer: Wim Van Glabbeek

Test Auth # TB8936

Requester: Dale Perrigo

BUCK # #REF!

9

MATRIX #

Test Title/Description: D188 Testing w/o Pretensioners

Crash/HYGE Pulse Ref: _____

Simulated Speed: 30

Pin # 93

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>20/130</u> ms Pyro Buckle: <u>10</u> ms	CENTER	RIGHT Airbag: _____ ms Pyro Buckle: _____ ms
	Dummy: <u>5TH</u> A/B: <u>D13</u> Belt: <u>LB-95</u> Seat: <u>S-4</u> Tracks: <u>power</u> <input checked="" type="checkbox"/> <u>manual</u> Position: <u>FP</u> Welded? <input checked="" type="checkbox"/> <u>N</u>		Dummy: _____ A/B: _____ Belt: _____ Seat: _____ Tracks: _____ <u>power</u> <input type="checkbox"/> <u>manual</u> Position: _____ Welded? <input type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>
	Instrument Panel: <u>18</u> Steering Column: <u>S03</u> Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	IB	O/B	Upright	Left	Right	RIGHT	Upright	IB	O/B
		<input checked="" type="checkbox"/> <u>On Seat</u>	<input type="checkbox"/> <u>Off Seat</u>	<input type="checkbox"/> <u>On Seat</u>	<input type="checkbox"/> <u>Off Seat</u>	<input type="checkbox"/> <u>Off Seat</u>		<input type="checkbox"/> <u>On Seat</u>	<input type="checkbox"/> <u>Off Seat</u>	<input type="checkbox"/> <u>Off Seat</u>
LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> <u>N</u>			A/B Intact (No Holes): _____			Y / N			
	Face to A/B Contact Location: <input checked="" type="checkbox"/> <u>High</u> <input type="checkbox"/> <u>Mid</u> <input type="checkbox"/> <u>Low</u>			Face to A/B Contact Location: _____			I/B Center O/B High Mid Low			
	A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> <u>N</u>			A/B Cover Attached to Can/Cover: _____			Y / N			
	Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> <u>N</u>			Adj. D-ring Remains in Position: _____			Y / N			
	Retractor Intact: <input checked="" type="checkbox"/> <u>N</u> Locked: <input type="checkbox"/> <u>N</u>			Retractor Intact: _____ Locked: _____			Y / N Y / N			
	Buckle Held: <input checked="" type="checkbox"/> <u>N</u> Webbing Intact: <input checked="" type="checkbox"/> <u>N</u>			Buckle Held: _____ Webbing Intact: _____			Y / N Y / N			
	Seat Tracks Held: <input checked="" type="checkbox"/> <u>N</u>			Seat Tracks Held: _____			Y / N			
	Cracks in LP: <input type="checkbox"/> <u>N</u>			Cracks in LP: _____			Y / N			
	Steering Wheel Deformed: <input type="checkbox"/> <u>N</u>			Steering Wheel Deformed: _____			Y / N			
	Column Broke w/o Interference: <input checked="" type="checkbox"/> <u>N</u>			Column Broke w/o Interference: _____			Y / N			
	Column Broke: Left: _____ Right: _____									

Post Test COMMENTS:

TEST LOOKED NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 17

Inhibitor: Dale Ferrigo
Phone: x56018

HYGE Run H 20074

Run Date 8/4/99

Test Engineer: Wim Van Glabbeek

Test Auth # TB8938

Requester: Dale Ferrigo

BUCK # #REF1



Test Title/Description: D186 Testing w/o Pretensioners

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # 54A

	LEFT Airbag: _____ ms Pyro Buckle: _____ ms		RIGHT Airbag: <u>12180</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: <u>power</u> manual Position: _____ Welded? <u>Y</u> <u>N</u>	CENTER	Dummy _____ Belt _____ Dr. A/B FMS _____ Pass. FMS _____ Position: _____ Welded? <u>Y</u> <u>N</u>
	Dummy <u>Coyle</u> A/B _____ Belt <u>RR-200</u> Seat <u>S.4</u> Tracks: <u>power</u> manual Position: <u>FR</u> Welded? <u>Y</u> <u>N</u>		
	Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____		
	POST-TEST OBSERVATIONS / CHECKLIST Comment (if needed) below:		
LEFT SIDE	Upright <input type="checkbox"/> On Seat I/B <input type="checkbox"/> Off Seat O/B <input type="checkbox"/> Off Seat A/B Intact (No Holes): <u>Y</u> / <u>N</u> Face to A/B _____ Contact Location: _____ A/B Cover Attached to Can./Cover: <u>Y</u> / <u>N</u> Adj. D-ring Remains in Position: <u>Y</u> / <u>N</u> Retractor Intact: <u>Y</u> / <u>N</u> Locked: _____ Buckle Held: <u>Y</u> / <u>N</u> Webbing Intact: _____ Seat Tracks Held: <u>Y</u> / <u>N</u> Cracks in MP: _____ Steering Wheel Deformed: _____ Column Broked w/o Interference: _____ Column Stroke: Left: _____ Right: _____	RIGHT SIDE	Upright <input checked="" type="checkbox"/> On Seat I/B <input checked="" type="checkbox"/> Off Seat O/B <input checked="" type="checkbox"/> Off Seat A/B Intact (NO HOLES): <u>Y</u> / <u>N</u> Face to A/B _____ Contact Location: _____ A/B Cover Attached to Can./Cover: <u>Y</u> / <u>N</u> Adj. D-ring Remains in Position: <u>Y</u> / <u>N</u> Retractor Intact: <u>Y</u> / <u>N</u> Locked: _____ Buckle Held: <u>Y</u> / <u>N</u> Webbing Intact: _____ Seat Tracks Held: <u>Y</u> / <u>N</u> Cracks in MP: _____
Post Test COMMENTS: _____ <u>SEAT AND I/P NORMAL</u>			
OBSERVER: <u>Wim</u>			

HYGE Sled Test Summary

Sheet 18

Revision Date Pending
Phone: x58018

HYGE Run H 20075

Run Date 8/4/99

Test Engineer: Wim Van Glabbeek

Test Auth # TB6836

Requester: Dele Perigo

BUCK # #REF!



Test Title/Description: D188 Testing w/o Pretensioners

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # _____

PRE-TEST	LEFT Airbag: _____ Pyro Buckle: _____	rta rca	RIGHT Airbag: _____ Pyro Buckle: _____	rra rra
PRE-TEST OBSERVATIONS	Dummy _____ A/B _____ Belt _____ Seat _____	Dummy _____ Belt _____ Dr. A/B FMS _____ Pass. FMS _____	Dummy _____ A/B _____ Belt _____ Seat _____	Tracks: power manual _____ Position: _____ Welded? Y N _____
	Instrument Panel: _____ Steering Column: _____			
	Pre-Test OBSERVATIONS: <u>95% car seat center</u>			
	_____ _____			
	_____ _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright	I/B	O/B		RIGHT	Upright	I/B	O/B	
		On Seat	Off Seat				On Seat	Off Seat		
LEFT SIDE	A/B Intact (No Holes):				Y / N	A/B Intact (No Holes):				Y / N
	Face to A/B	I/B	Center	O/B		Face to A/B	I/B	Center	O/B	
	Contact Location:	High	Mid	Low		Contact Location:	High	Mid	Low	
	A/B Cover Attached to Can./Cover:				Y / N	A/B Cover Attached to Can./Cover:				Y / N
	Adj. D-ring Remains in Position:				Y / N	Adj. D-ring Remains in Position:				Y / N
	Retractor Intact:	Y / N	Looked:		Y / N	Retractor Intact:	Y / N	Looked:		Y / N
	Buckle Held:	Y / N	Webbing Intact:		Y / N	Buckle Held:	Y / N	Webbing Intact:		Y / N
	Seat Tracks Held:				Y / N	Seat Tracks Held:				Y / N
	Cracks in MP:				Y / N	Cracks in MP:				Y / N
	Steering Wheel Deformed:				Y / N	Steering Wheel Deformed:				Y / N
Column Broke w/o Interference:				Y / N	Column Broke w/o Interference:				Y / N	
Column Stroke:	Left: _____				Right: _____					

Post Test COMMENTS: Belt locked, webbing o.k.
Dummy upright, Test appears normal

OBSERVER: _____

TB-6936
Sheet 19

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 20

Initiator Date/Period
Phone #36018

TA5848

Run 20066

Date 8-2-99

D186 Due Care Testing

7

Buck # 418

Reference: H
H
H

Left		Right	Center
6% Fill	DUMMY TYPE		
Full	SEAT POSITION		
Forward	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+ mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)		27.8			0	+/-1 notch
Recline Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)		21				
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	2823	2881			12	8
H-Point Vertical Laser # 4	680	683				8
H-Point Lateral	348	-348			12	8
Knee Longitudinal Laser # 2	2504					
Knee Vertical Laser # 2	720					
Knee Lateral	398	-398			8	8
Head Longitudinal Laser # 1	2913				level	8
Head Vertical Laser # 1	1256				level	8
Head Lateral	450				level	8
Dummy Neck Adjustment (first run only)						
Knee Contact to Knee Contact (max)	162	188				
Left Knee to Bolster	60					8
Right Knee to Bolster	40					8
Neck to Steering Wheel Upper Rim or IP	230					8
Neck to Steering Wheel Lower Rim	70					8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2790					
Reference Target Absolute Vertical	808					
Reference Target Absolute Lateral	872					

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Film Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 21

Inhibitor Dale Perdig
Phone # 56018

TA5849

Run 20067

Date 8-3-99

D165 Due Care Testing

3

Buck # 418

References: H
H
H

Left		Right
60% Hill	DUMMY TYPE	60% Hill
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (± mm)	
					1st RUN	ADD'L
Seat Back Angle (19° above pivot)	28	28		28	0	±1 notch
Pelvis Angle (+/- 2.5 deg.; +/- 1.0 for 5941a)	21	22.5	22.5	24		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	2990	2887	2887	2997	12	6
H-Point Vertical Laser # 4	657	646	646	670		6
H-Point Lateral	310	-313	-314	314	12	6
Knee Longitudinal Laser # 2	2571			2550		
Knee Vertical Laser # 2	737			730		
Knee Lateral	367	-387	-388	388	6	6
Head Longitudinal Laser # 5	3071			3072	level	6
Head Vertical Laser # 5	1314			1320	level	6
Head Lateral	430			435	level	6
Dummy Neck Adjustment (first run only)						
Knee Contact to Knee Contact (mm)	225	194	194	199		
Left Knee to Bolster	120			105		6
Right Knee to Bolster	115			120		6
Neck to Steering Wheel (Upper Rim) MP	370			320	3-4mm	6
Neck to Steering Wheel Lower Rim	195					6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739			2739		
Reference Target Absolute Vertical	608			607		
Reference Target Absolute Lateral	672			673		

FILM ANALYSIS

Knee (Target) Lateral	333		335		
Thigh Lateral	315		300		
Phantom Lateral	310		305		
Shoulder Lateral	270		270		
Other					
Other					
Other					
Knee to H-Point	345		360		
Knee to Phantom	260		245		
Knee to Thigh	112		147		
Distance Between A or B Piller Targets			57		
Upper or Forward Reference Target			100		
Lower or Rearward Reference Target			95		
Reference Bar to Film Plane					
Camera Angle					<5 deg. | <5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 22

Initiator Date Range
Floor #10018

TB6936

Run 20069

Date 8-3-99

D186 Due Care Testing

4

Buck # 418

Reference: H
H
H

Left		Right
50% Hill	DUMMY TYPE	50% Hill
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	28	28	28	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 3%ile)	25	22.5	22.5	24		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	2980	2980	2987	2987	12	8
H-Point Vertical Laser # 4	651	651	670	670		6
H-Point Lateral	310	-310	-314	314	12	6
Knee Longitudinal Laser # 2	2591	2581	2580	2580		
Knee Vertical Laser # 2	937	787	720	720		
Knee Lateral	367	-367	-366	367	6	6
Head Longitudinal Laser # 5	3071	3071	3072	3072	level	6
Head Vertical Laser # 5	1314	1314	1328	1328	level	6
Head Lateral	430	-430	-435	435	level	6
Dummy Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (max)	185	184	184			
Left Knee to Bolster	120	120	106	106		6
Right Knee to Bolster	115	116	120	120		6
Head to Steering Wheel Upper Rim or IP	365	370	520	520		6
Head to Steering Wheel Lower Rim	195	196				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2789			2789		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			873		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)
Knee (target) Lateral	310			310	
Thigh Lateral	310			325	
Phantom Lateral	300			310	
Shoulder Lateral	250			270	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets				51	
Upper or Forward Reference Target				100	
Lower or Rearward Reference Target				85	
Reference Bar to Film Plane					
Column Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 23

Initiator: Dale Fiedler
Phone: 216218

TB6936

Run 20069

Date 8-3-99

D185 Due Care Testing

8

Buck # 418

Reference: H
H
H

Left 50% H/H	DUMMY TYPE	Right 50% H/H
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)		28	28		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5%ile)	23	22.5	22.5	22		
Column Angle					at left	at left
H-Point Longitudinal Laser # <u>1</u>	2980	2880	2887	2987	12	8
H-Point Vertical Laser # <u>1</u>	651	851	670	670		8
H-Point Lateral	310	-310	-314	314	12	8
Knee Longitudinal Laser # <u>2</u>	2591	2681	2680	2580		
Knee Vertical Laser # <u>2</u>	727	737	720	720		
Knee Lateral	367	-367	-368	368	8	8
Head Longitudinal Laser # <u>3</u>	3071	3071	3072	3072	level	8
Head Vertical Laser # <u>3</u>	1318	1814	1328	1328	level	8
Head Lateral	430	-490	-495	435	level	8
Driver's Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (rear)	228	205	104	195		
Left Knee to Bolster	100	120	105	95		8
Right Knee to Bolster	80	116	120	105		8
Wrist to Steering Wheel Upper Rim or DF	560	370	620	520		8
Thru to Steering Wheel Lower Rim	178	185				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	8789			8739		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			873		

FILM ANALYSIS					
Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Film Targets				51	
Upper or Forward Reference Target				100	
Lower or Rearward Reference Target				85	
Reference Bar to Film Plane					
Column Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 24

Initiator: Dale Parviz
Form: A56018

TB6936

Run 2000

Date 8/3/99

D186 Due Care Testing

5

Buck # 418

Reference: H
H
H

Left 50% Fill	DUMMY TYPE	Right 50% Fill
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)	22	28	28	22	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for SRA's)	23	22.5	22.5	23		
Column Angle					at left	at left
H-Point Longitudinal Laser # <u>4</u>	2980	2980	2987	2987	12	8
H-Point Vertical Laser # <u>4</u>	658	661	670	670		8
H-Point Lateral	312	-310	-314	314	12	8
Knee Longitudinal Laser # <u>2</u>	2501	2591	2580	2580		
Knee Vertical Laser # <u>2</u>	737	737	720	720		
Knee Lateral	367	-367	-368	368	6	8
Head Longitudinal Laser # <u>5</u>	3071	3071	3072	3072	level	8
Head Vertical Laser # <u>5</u>	1314	1314	1328	1328	level	8
Head Lateral	427	-430	-435	437	level	8
Dummy Neck Adjustment (1st run only)						
Knee Contour to Knee Contour (mm)	105	104	104	104		
Left Knee to Bolster	100	120	105	95		8
Right Knee to Bolster	90	116	120	105		8
Nose to Steering Wheel Upper Rim or HP	360	370	320	520		8
Torso to Steering Wheel Lower Rim	180	180				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2730		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			873		

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Flank Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Flank						
Knee to Thigh						
Distance Between A or B Pillar Targets				51		
Upper or Forward Reference Target				100		
Lower or Rearward Reference Target				95		
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 8 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 25

Initiator: Dale Pospisil
Phone: 234018

TB6936

Run 20071

Date 8-3-99

D186 Due Care Testing

7

Buck # 418

Reference: H
H
H

Left		Right	Center
6% Hill	DUMMY TYPE	6% Hill	
Full Forward	SEAT POSITION	Full Forward	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (± mm)	
					1st RUN	ADDL.
Seat Back Angle (13° above pivot)		27.8	27.8		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-LO for 5%ile)		21	21			
Column Angle					at left	at left
H-Point Longitudinal Laser # <u>4</u>	2843	2843	2861	2850	12	0
H-Point Vertical Laser # <u>4</u>	680	680	689	689		0
H-Point Lateral Laser # <u>4</u>	-344	-348	-348	-348	12	0
Knee Longitudinal Laser # <u>2</u>	2504	2504		2580		
Knee Vertical Laser # <u>2</u>	720	720		720		
Knee Lateral Laser # <u>2</u>	396	398	-398	396	0	0
Head Longitudinal Laser # <u>5</u>	2943	2943		2973	level	0
Head Vertical Laser # <u>5</u>	1256	1256		1253	level	0
Head Lateral Laser # <u>5</u>	432	450		435	level	0
Dummy Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (mm)	162	162	162	160		
Left Knee to Bolster	60	80		40		0
Right Knee to Bolster	30	40		45		0
Nose to Steering Wheel Upper Rim or LP	230	230		390		0
Torso to Steering Wheel Lower Rim	75	70				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2789			2790		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			873		

FILM ANALYSIS				
Knee (target) Lateral				
Thigh Lateral				
Phantom Lateral				
Shoulder Lateral				
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Pillar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

SP
 Inst. at: Des Moines, IA
 Pt. no. 25001

TB6936

Run 20072

Date 8-3-99

D186 Due Care Testing

7

Buck # 418
 Reference: H
H
H

Left		Right	
5% Fill	DUMMY TYPE	6% Fill	
Full Forward	SEAT POSITION	Full Forward	
	DUMMY NUMBER		

POSITIONING	ACTUAL 4PT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL.
Seat Back Angle (13° above pivot)	28	27.8	27.8	29	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5%ile)	22	21	21	22		
Crutch Angle					at left	at left
H-Point Longitudinal Laser # 4	2843	2843	285	2830	12	6
H-Point Vertical Laser # 4	680	690	695	689		6
H-Point Lateral	350	348	346	347	12	6
Knee Longitudinal Laser # 2	2504	2504		2498		
Knee Vertical Laser # 2	720	720		720		
Knee Lateral	398	388	390	395	6	6
Head Longitudinal Laser # 5	2943	2943		2973	level	6
Head Vertical Laser # 5	1256	1258		1253	level	6
Head Lateral	450	450		456	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	163	162	162	162		
Left Knee to Bolster	40	60		35		6
Right Knee to Bolster	20	40		45		6
Tooth in Steering Wheel Upper Rim or LP	230	230		390		6
Tooth in Steering Wheel Lower Rim	70	70				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2730		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			879		

FILM ANALYSIS					
Knee (target) Lateral					
Thigh Lateral					
Pelvis Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Pelvis					
Knee to Thigh					
Distance Between A or B (like Targets)					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 6 deg. < 6 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 27

Revision Date Period
Phase #50018

TB6936

Run 20073

Date 8-4-99

D166 Due Care Testing

9

Buok # 418

Reference: H
H
H

Left	Right
6% Hill	DUMMY TYPE
FLR	SEAT POSITION
Forward	DUMMY NUMBER

Center

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)		27.8			0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 594lb)	16°	21				
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	2844	2843			12	8
H-Point Vertical Laser # 4	681	680				8
H-Point Lateral	348	348			12	8
Knee Longitudinal Laser # 2	2504	2504				
Knee Vertical Laser # 2	781	780				
Knee Lateral	358	368			8	8
Head Longitudinal Laser # 5	2944	2943			level	8
Head Vertical Laser # 5	1256	1258			level	8
Head Lateral	450	480			level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	162	162				
Left Knee to Bolster	40	60				8
Right Knee to Bolster	40	40				8
Neck to Steering Wheel Upper Rim or LF	235	230				8
Torso to Steering Wheel Lower Rim	95	70				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal		2739				
Reference Target Absolute Vertical		808				
Reference Target Absolute Lateral		872				

FLM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B FLM Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Fixer						
Camera Angle					< 8 deg.	< 6 deg.

Notes:

**Final Test Report
Confidential**

**GTO - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TB8048
Subject: 2000 D188 Series P
D188 Seat/Belt Interaction Investigation
Requested By: Dale Perrigo
Requesting Dept.: T851
Work Task No.: F09
Test Facility: Hyge
Date Reported: 8/30/99
Test Dates: 8/30/1999
Run Numbers: H30125 to H30127
Test Speeds: 31 mph, 80 mph (Generic Pulse)
Dummies used: 2 - 5HS
Procedure(s): T857-100
Busk #: 418
Page: 1 of 15

DATE OF COPY	
(Black Stamped) by:	
RETAIN REISSUE COPY	
(Red Stamped) Thru:	0005
Schedule Number:	7-4-2

Objective:

Investigate the extent of seat and belt interaction during crash events.

Summary:

The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <https://www.safetyslh.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Parameters
- IV. Post Test Observations
- V. Dummy Positioning

Concours:


Steve Leah
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

SLED 0029430

TB-804.8
Sheet 2

Attachment I
Test Authorization

Sheet 3



GTO Test Request

Requester / Coordinator (PROPR):

LAKE MIKIR

LAKE MIKIR

Participating Activity:

FFBS and VSA Steel

Date Submitted:

17-AUG-1999

Requested Completion Date:

08-SEP-1999

Requester Reference Number:

Procedure Number:

108

Request Title and / or Subject of Request:

2000 D100 BLEED SERVICE ?

Billable Requester's Dept No.:

TEST AV2216A

Work Task / Work Order Number:

F09

Request conducted to certify control Stan compliance with Government Regulations:

Yes:

No:

Billable Requester's (PROPR):

LAKE MIKIR

Billable Requester's Name:

LAKE MIKIR

Complete the following two questions as indicated

1 - Rational for not replacing this test by CAE Analysis

- No CAE methodology or process available
- For CAE Correlation
- Insufficient confidence in CAE
- To obtain test data for CAE
- Replacement or improvement of existing Test
- Testing to Customer
- Mandatory or Regulatory
- Certification
- Development test for PDS
- Not applicable

Other:

(Check appropriate boxes)

2 - What is the expected Test Outcome

- Results will meet DVP/PPW requirements (Sign-Off)
- System Component will not meet Test specification
- Unknown
- Above is Based on CAE?

Other:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

T887-108 Hygro Steel Buck Upright Adult Hybrid II Dummy Positioning Procedure

Test Object:

Reference Object

Reference Description

N/A

N/A

Sample #

Object ID

Object Description

1

D100 BUCK

D100 BUCK

Signature Approvals (As Required for Control Purpose)

Requesting Engineer

LAKE MIKIR

Assigned Coordinator

WIM VAN GLABBEK

Request Authorized by

Not Required

Assigned Supervisor

STEPHEN LESH

TB-8048
Sheet 4

Attachment II.
Test Matrix

TB-8048
Sheet 6

Attachment III
Sled Parameters

SLED 0029435

TB-8048
8P-act-7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

TB-8048
Sheet 8

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 9

Initiator Dale Ferrigo
Phone: 28018

HYGE Run H 20125 Run Date 8/20/99

Test Engineer: Wim Van Glabbeek Test Auth # TB8048
Requester: Dale Ferrigo BUOK # #REF!

1
MATRIX #

Test Title/Description: D188 Seat/Belt Interaction Investigation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 Pin # 30

	LEFT	Airbag: <u>12/12</u> ms Pyro Buckle: <u>16</u> ms	RIGHT	Airbag: <u>12/12</u> ms Pyro Buckle: <u>16</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>5%</u>	Dummy	<u>5%</u>
	A/B	<u>D-12</u>	Belt	<u>AA-27</u>
	Belt	<u>AA-27</u>	Dr. A/B FMP	<u>AA-27</u>
	Seat	<u>A</u>	Pass. FMP	<u>A</u>
	Tracks:	<u>none</u> manual	Pass. FMP	<u>none</u> manual
	Position:	<u>FE</u> Welded? <u>Y</u>		<u>FE</u> Welded? <u>Y</u>
	Instrument Panel:			
	Steering Column:			
	Pre-Test OBSERVATIONS:			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT		
	Upright	Left	Right	Upright	Left	Right
A/B Intact (No Holes):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Face to A/B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contact Location:	High <input checked="" type="checkbox"/>	Low <input checked="" type="checkbox"/>		High <input checked="" type="checkbox"/>	Low <input checked="" type="checkbox"/>	
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Retractor Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Buckle Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Seat Tracks Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cracks in MP:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroked w/o interference:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroke:	Left: _____		Right: _____			

Post Test COMMENTS:

1/ NO VISIBLE BOLSTER DEFORM-
NATION - SEAT NORMAL
I/P NORMAL

2/ NO VISIBLE BOLSTER DEFORM-
NATION - SEAT NORMAL
I/P NORMAL

OBSERVER: WVG

HYGE Sled Test Summary

Sheet 10
Initiator: Dale Parigo
 Phone: x58018

HYGE Run H 20126 Run Date 8/20/99
 Test Engineer: Wim Van Glabbeek Test Auth # TB6046
 Requester: Dale Parigo BUCK # #REF1

2

MATRIX #

Test Title/Description: D188 Seat/Belt Interaction Investigation
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 P# 50

	LEFT	Airbag: <u>24/10</u> ms Pyro Buckle: <u>1/0</u> ms	RIGHT	Airbag: <u>24/10</u> ms Pyro Buckle: <u>1/0</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>5010</u>	Dummy	<u>5010</u>
	A/B	<u>D-12</u>	Belt	<u>D18</u>
	Belt	<u>LA-27</u>	Belt	<u>RA-27</u>
	Seat	<u>4</u>	Dr. A/B FME	<u>4</u>
	Tracks:	<u>pass</u> manual	Pass. FME	<u>pass</u> manual
	Position:	<u>FR</u> Welded? <u>Y</u>		<u>FR</u> Welded? <u>Y</u>
	Instrument Panel:	_____		
	Steering Column:	_____		
	Pre-Test OBSERVATIONS:	_____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright	Left	Right		RIGHT	Upright	Left	Right
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Left <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Left <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> Off Seat
A/B Intact (No Holes):	<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N			
Face to A/B	<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N			
Contact Location:	LB <u>Center</u> O/B <u>Low</u>					LB <u>Center</u> O/B <u>Low</u>			
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N			
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N			
Retractor Intact:	<input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> N			<input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> N	
Buckle Held:	<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> N			<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> N	
Seat Tracks Held:	<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N			
Cracks in VP:	<input checked="" type="checkbox"/> Y					<input checked="" type="checkbox"/> Y			
Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y					<input checked="" type="checkbox"/> Y			
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N			
Column Stroke:	Left: _____					Right: _____			

Post Test COMMENTS: _____

L/R NO VISIBLE BOLSTER DEFORMATION - SEATS AND I/P NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 11

Initiator: Dale Perrigo

Form: 35018

HYGE Run # 20127

Run Date 8/20/99

Test Engineer: Wm Van Glabbeek

Test Auth # TB0048

Requester: Dale Perrigo

BUCK # #REF1

3

MATRIX #

Test Title/Description: D186 Seat/Belt Interaction Investigation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 30

Pin # 93

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Airbag: <u>20/120ms</u> Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
	DUMMY	<u>S-10</u>	DUMMY	_____
	AB	<u>D-13</u>	AB	_____
	Belt	<u>LR27</u>	Belt	_____
	Seat	<u>34</u>	Seat	_____
		Tracks: <u>power manual</u>		Tracks: <u>power manual</u>
		Position: <u>EP</u> Welded? <u>Y</u>		Position: _____ Welded? <u>Y</u> <u>N</u>
		Instrument Panel: _____		
		Steering Column: _____		
		Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST (Comments if needed) below:

LEFT SIDE	Upright		Left		Right		RIGHT SIDE
	Upright	On Seat	Upright	On Seat	Upright	On Seat	
A/B Intact (No Holes):	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Face to A/B	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Contact Location:	High	<u>Mid</u>	High	<u>Mid</u>	High	<u>Mid</u>	Y / N
A/B Cover Attached to Can./Cover:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Adj. D-ring Remain in Position:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Retractor Intact:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Buckle Held:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Seat Tracks Held:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Cracks in MP:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Steering Wheel Deformed:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Column Stroked w/o Interference:	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	Y / N
Column Stroke: Left: _____			Right: _____				
Post Test COMMENTS:							
<u>I/B AND SEAT LOOKS NORMAL</u>							
OBSERVER: <u>Wm Van Glabbeek</u>							

TB-8048
Sheet 12

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 13
 Initials: Dale Perry
 Phone: x56018

TB0035

Run 20125

Date 8/20/90

D186 Due Care Testing

1

Buck # 418
 Reference: H _____
 H _____
 H _____

Left		Right	Center
5% HIU	DUMMY TYPE	5% HIU	
Full Forward	SEAT POSITION	Full Forward	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	22	21	21	22		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	2847	2849	2861	2861	12	0
H-Point Vertical Laser # 4	650	680	688	676		0
H-Point Lateral	348	-348	-340	355	12	0
Knee Longitudinal Laser # 2	2508	2504		2523		
Knee Vertical Laser # 2	725	720		700		
Knee Lateral	398	398	-390	398	0	0
Head Longitudinal Laser # 5	2570	2843		2597	level	0
Head Vertical Laser # 5	1240	1250		1259	level	0
Head Lateral	428	450		427	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	162	162	162	162		
Left Knee to Bolster	40	60		30		0
Right Knee to Bolster	35	40		78		0
Neck to Steering Wheel Upper Rim or LP	250	280		420		0
Torso to Steering Wheel Lower Rim	50	70				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739			2739		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			873		

FILM ANALYSIS			
Knee (target) Lateral	316		303
Thigh Lateral	368		363
Phantom Lateral	368		365
Shoulder Lateral	302		305
Other			
Other			
Other			
Knee to H-Point	252		253
Knee to Phantom	212		220
Knee to Thigh	130		132
Distance Between A or B Film Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Camera Angle			

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 14
Indicates Date Period

TB6936

Run 20/26

Date 8-20-97

Form 250018

D186 Due Care Testing

2

Buck # 416

References: H _____
H _____
H _____

Left 8% Hill	DUMMY TYPE	Right 8% Hill
Full Forward	SEAT POSITION	Full Forward
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (+/- mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADDL.
Seat Back Angle (13" above pivot)		27.8	27.8		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 50th)		21	21			
Column Angle					at left	at left
H-Point Longitudinal Laser # 4		2843	2851		12	6
H-Point Vertical Laser # 4		880	883			6
H-Point Lateral	330	-348	-348	345	12	6
Knee Longitudinal Laser # 2		2504				
Knee Vertical Laser # 2		720				
Knee Lateral	395	388	-348	398	6	6
Head Longitudinal Laser # 5		2943			level	6
Head Vertical Laser # 5		1258			level	6
Head Lateral	450	450	450	445	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	162	182	182	160		
Left Knee to Bolster	60	60	50	75		6
Right Knee to Bolster	40	40	75	75		6
Noe to Steering Wheel Upper Rim or MP	280	230	420	420		6
Torso to Steering Wheel Lower Rim	90	70				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	872			873		

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Flaccum Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Flaccum					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 15
 Initial: Dale Perrigo
 Phone: x5018

TB6935

Run 20127

Date 8/24/99

D186 Due Care Testing

3

Buck # 418
 Reference: H
H
H

Left	Right	Center
5% Fill	DUMMY TYPE	
Full Forward	SEAT POSITION	
	DUMMY NUMBER	

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (\pm mm)
					1st RUN ADDL
Seat Back Angle (13° above pivot)	40	20			0 \pm 1 notch
Pelvic Angle (\pm 2.5 deg; \pm 1.0 for 5%ile)	22	21			
Column Angle					at left at left
H-Point Longitudinal Laser # 4	2953	2881			12 8
H-Point Vertical Laser # 4	688	683			6
H-Point Lateral	248	-348			12 8
Knee Longitudinal Laser # 2	2438				
Knee Vertical Laser # 2	124				
Knee Lateral	420	-300			8 8
Head Longitudinal Laser # 5	2960				level 8
Head Vertical Laser # 5	1260				level 8
Head Lateral	460				level 8
Dummy Neck Adjustment (first run only)					
Knee Centerline to Knee Centerline (max)	162	182			
Left Knee to Bolster	50				8
Right Knee to Bolster	44				8
Neck to Steering Wheel Upper Rim or SP	250				8
Neck to Steering Wheel Lower Rim	15				8
Reference Target to Seat Belt Longitudinal					
Reference Target to Seat Belt Vertical					
Reference Target to Seat Belt Lateral					
Reference Target Absolute Longitudinal	2780				
Reference Target Absolute Vertical	600				
Reference Target Absolute Lateral	872				

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Column Angle					

< 5 deg. < 5 deg.

Notes: _____

**Final Test Report
Confidential**

**GTO - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TB8720
Subject: 2000 D186 Series R
D186 Driver Air Bag ADP81, SK38 vents
Requested By: L. Miskir / T.C. Weng
Requesting Dept.: T551
Work Task No.: F00
Test Facility: Hyge
Date Reported: 9/22/99
Test Dates: 9/25/99, 9/27/99
Run Numbers: H30333 to H30336
Test Speeds: 85, 90 mph
Dummies used: 1-50EB
Procedure(s): T657-100
Snack #: 418
Page: 1 of 21

DISPOSE of Copies (Black Stamped) by:	
RETAIN Facsim Copy (Red Stamped) Thru:	2005
Schedule Number:	7-4-2

Objective:

Driver airbag development.

Summary:

The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Parameters
- IV. Post Test Observations
- V. Dummy Positioning

Concur:


Steve Leah
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

SLED 0029526

TB-8729
Sheet 2

Attachment I
Test Authorization

Sheet 3



GTO Test Request

Requester / Coordinator (PROB):

LMBIKR

LAKE BRICK

Performing Activity HYGE and WA Stud	Date Submitted 16-SEP-1999	Requested Completion Date 26-SEP-1999	Requester Reference Number
---	-------------------------------	--	----------------------------

Procedure Number 188	Request Title and / or Subject of Request D188 BLEED SERVICE G (NOAP & PIVS&S)
-------------------------	---

Billable Requester's Dept No: T881 AV2016A	Work Task / Work Order Number F08	Request conducted to certify control item compliance with Government Regulations: Test <input checked="" type="checkbox"/> No <input type="checkbox"/>
Billable Requester's (PROB): LMBIKR	Billable Requester's Name: LAKE BRICK	

Complete the following two questions as indicated

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

- No CAE Methodology or process available
- Per CAE Correlation
- Insufficient confidence in CAE
- To obtain basic data for CAE
- Replacement or improvement of existing Test
- Testing in Dealer
- Mandatory or Regulatory
- Certification
- Development test for F08
- Not applicable

Other:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- Results will meet DVVPCR requirements (Sign-Off)
- System Component will not meet Test specification
- Unknown
- Above is Based on CAE

Other:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

T887-108 Hyge Stud Book Upright Adult Hybrid B Duraway Positioning Procedure

Test Object:	Reference Object	Reference Description
	N/A	N/A

Sample #	Object ID	Object Description
1	D188 BOOK	D188 BOOK

Signature Approvals (As Required for Control Purposes)

Requesting Engineer	<u>LAKE BRICK</u>	Assigned Coordinator	<u>JOE PRATER</u>
Request Authorized by	<u>Not Required</u>	Assigned Supervisor	<u>STEPHEN LESH</u>

Attachment II.

Test Matrix

Attachment III.
Sled Parameters

TB-8729
8/26/77

LINE	LA #	DESCRIPTION	QTY	UNIT	TOP FT	START	STOP	DEPTH	SPCL	REMARKS	TEST	LEAD	SOIL	MOIST	TEMP	WIND	COOL	COLE	SCALE	HOW	BY	DATE	TIME	BYZ	ANALYST	REMARK	PH	TEMP	MOIST	LEAD	TOTAL
1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	
...	

SLEED 0029532

TB-8729
Sheet 8

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Shaw
 Initiator: L. Mialk / T. C. Wong
 Phone: x44280

HYGE Run H 20232 Run Date 9/25/99
 Test Engineer: Wim Van Glabbeek Test Auth # TB572B
 Requester: L. Mialk / T. C. Wong BUCK # 418
 Test Title/Description: D186 Driver Air Bag ADP01, ??? vents.



Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

FORM NUMBER	LEFT Airbag: _____ ms Pyro Buckle: _____ ms	CENTRE	RIGHT Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>337</u> A/B _____ Belt _____ Seat _____	Dummy _____ Belt _____	Dummy _____ A/B _____ Belt _____ Seat _____
	Tracker: <u>power</u> manual Position: <u>mid</u> Webbed? <u>Y</u> <input type="radio"/>	Dr. A/B PMS _____ Pass. PMS _____	Tracker: <u>power</u> manual Position: _____ Webbed? <u>Y</u> <input type="radio"/>
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT	Upright			CENTRE	Upright			RIGHT	Upright		
	On Seat	VB	O/B		On Seat	Left	Right		On Seat	VB	O/B
	<input checked="" type="radio"/>										
	<input checked="" type="radio"/>										
LEFT SIDE	A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N			
	Face to A/B Contact Location:			VB Center O/B	Face to A/B Contact Location:			VB Center O/B			
				High Mid Low				High Mid Low			
	A/B Cover Attached to Can./Cover:			<input checked="" type="radio"/> Y <input type="radio"/> N	A/B Cover Attached to Can./Cover:			Y / N			
	Adj. D-ring Remain in Position:			<input checked="" type="radio"/> Y <input type="radio"/> N	Adj. D-ring Remain in Position:			Y / N			
	Retractor Intact:			<input checked="" type="radio"/> Y <input type="radio"/> N	Retractor Intact:			Y / N			
	Locked:			<input checked="" type="radio"/> Y <input type="radio"/> N	Locked:			Y / N			
	Buckle Held:			<input checked="" type="radio"/> Y <input type="radio"/> N	Buckle Held:			Y / N			
	Webbing Intact:			<input checked="" type="radio"/> Y <input type="radio"/> N	Webbing Intact:			Y / N			
	Seat Tracks Held:			<input checked="" type="radio"/> Y <input type="radio"/> N	Seat Tracks Held:			Y / N			
Cracks in IP:			<input checked="" type="radio"/> Y <input type="radio"/> N	Cracks in IP:			Y / N				
Steering Wheel Deformed:			<input checked="" type="radio"/> Y <input type="radio"/> N	Steering Wheel Deformed:			Y / N				
Column Stroked w/o Interference:			<input checked="" type="radio"/> Y <input type="radio"/> N	Column Stroked w/o Interference:			Y / N				
Column Stroke: Left: _____			Right: _____	Column Stroke: Left: _____			Right: _____				
Post Test COMMENTS: <u>Test appears normal</u> <u>BELT FRAYED NEAR FLOOR ANCHOR (SEAT FRAME OR PLASTIC)</u>											
OBSERVER: <u>[Signature]</u>											

HYGE Sled Test Summary

Sheet 10
 Issued: L. Malick/T. C. Wang
 Photo: x84280

HYGE Run H 20233 Run Date 9/25/99
 Test Engineer: Wim Van Glabbeek Test Auth # T86729
 Requester: L. Malick/T. C. Wang BUICK # 418

2

MATRIX #

Test Title/Description: D786 Driver Air Bag ADPS1, ??? vents.
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pn # 344

PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms		
PARTS DESCRIPTION	LEFT	Dummy _____ A/B _____ Belt _____ Seat _____	CENTER	Dummy _____ Belt _____ Dr. A/B FRM _____ Pass. FRM _____	RIGHT	Dummy <u>50-12</u> A/B <u>0-5</u> Belt <u>1-2-3</u> Seat _____
	Tracks: <u>power manual</u>		Tracks: <u>power manual</u>		Position: <u>MIS</u> Welded? <u>Y</u>	
	Position: _____		Position: _____		Instrument Panel: _____	
	Steering Column: _____		Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	LEFT SIDE			RIGHT SIDE	RIGHT SIDE		
	Upright On Seat	IB Off Seat	O/B		Upright On Seat	IB Off Seat	O/B
A/B Intact (No Holes):	<input checked="" type="checkbox"/>	Y / N		A/B Intact (No Holes):		Y / N	
Face to A/B Contact Location:	High	<input checked="" type="checkbox"/> Low		Face to A/B Contact Location:	High	Mid Low	
A/B Cover Attached to Can/Cover:	<input checked="" type="checkbox"/>	Y / N		A/B Cover Attached to Can/Cover:		Y / N	
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	Y / N		Adj. D-ring Remain in Position:		Y / N	
Retractor Intact:	<input checked="" type="checkbox"/>	Y / N	Locked: <input checked="" type="checkbox"/>	Retractor Intact:	Y / N	Locked: <input checked="" type="checkbox"/>	
Buckle Held:	<input checked="" type="checkbox"/>	Y / N	Webbing Intact:	Buckle Held:	Y / N	Webbing Intact: <input checked="" type="checkbox"/>	
Seat Tracks Held:	<input checked="" type="checkbox"/>	Y / N		Seat Tracks Held:		Y / N	
Cracks in IP:	<input checked="" type="checkbox"/>	Y / N		Cracks in IP:		Y / N	
Steering Wheel Deformed:	<input checked="" type="checkbox"/>	Y / N					
Column Stroked w/o Interference:	<input checked="" type="checkbox"/>	Y / N					
Column Stroke: Left: _____			Right: _____				

Post Test COMMENTS: _____

BELT FRAMED AT SEAT
PLASTIC COVER - NO
VISIBLE BOLSTER DEFOR-
MATION

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 1
 Initiator: L. Maikr / T. C. Wang
 Phone: 24080

HYGE Run H 20234 Run Date 9/25/99
 Test Engineer: Wim Van Glabbeek Test Auth # TB9729
 Requester: L. Maikr / T. C. Wang BUCK # 418
 Test Title/Description: D188 Driver Air Bag ADP81, 777 ver.16

3

MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # 544

PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION	LEFT	Dummy <u>30" / 2</u> A/B <u>D-5</u> Belt <u>D-25</u> Seat _____ Tracks: <u>power manual</u> Position: <u>MIS</u> Welded? <u>Y</u> <input checked="" type="radio"/> <u>N</u>	CENTER	Dummy _____ Belt _____ Seat _____ Dr. A/B FM: _____ Pass. FM: _____ Tracks: _____ Position: _____ Welded? <u>Y</u> <input type="radio"/> <u>N</u>
	RIGHT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y</u> <input type="radio"/> <u>N</u>		
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	<input checked="" type="radio"/> Upright <input checked="" type="radio"/> On Seat	MB	O/B	OFF SEAT	LEFT	RIGHT	RIGHT	Upright	MB	O/B	OFF SEAT
	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat	Left Off Seat	Right Off Seat		
A/B Intact (No Holes):	<input checked="" type="radio"/> Y	<input type="radio"/> N			A/B Intact (No Holes):	<input type="radio"/> Y	<input type="radio"/> N				
Face to A/B Contact Location:	<input checked="" type="radio"/> High	<input type="radio"/> Mid	<input type="radio"/> Low		Face to A/B Contact Location:	<input type="radio"/> High	<input type="radio"/> Mid	<input type="radio"/> Low			
A/B Cover Attached to Can./Cover:	<input checked="" type="radio"/> Y	<input type="radio"/> N			A/B Cover Attached to Can./Cover:	<input type="radio"/> Y	<input type="radio"/> N				
Adj. D-ring Remain in Position:	<input checked="" type="radio"/> Y	<input type="radio"/> N			Adj. D-ring Remain in Position:	<input type="radio"/> Y	<input type="radio"/> N				
Retractor Intact:	<input checked="" type="radio"/> Y	<input type="radio"/> N	Locked:	<input checked="" type="radio"/> Y	<input type="radio"/> N	Locked:	<input checked="" type="radio"/> Y	<input type="radio"/> N			
Buckle Held:	<input checked="" type="radio"/> Y	<input type="radio"/> N	Webbing Intact:	<input checked="" type="radio"/> Y	<input type="radio"/> N	Webbing Intact:	<input checked="" type="radio"/> Y	<input type="radio"/> N			
Seat Tracks Held:	<input checked="" type="radio"/> Y	<input type="radio"/> N			Seat Tracks Held:	<input type="radio"/> Y	<input type="radio"/> N				
Cracks in VP:	<input checked="" type="radio"/> Y	<input type="radio"/> N			Cracks in VP:	<input type="radio"/> Y	<input type="radio"/> N				
Steering Wheel Deformed:	<input checked="" type="radio"/> Y	<input type="radio"/> N			Steering Wheel Deformed:	<input type="radio"/> Y	<input type="radio"/> N				
Column Struck w/o Interference:	<input checked="" type="radio"/> Y	<input type="radio"/> N			Column Struck w/o Interference:	<input type="radio"/> Y	<input type="radio"/> N				
Column Stroke: Left: _____					Column Stroke: Right: _____						

Post Test COMMENTS: _____

NO VISIBLE BOLSTER
CONTACT - SEAT NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 12
 Requester: L. Melidr / T. C. Wang
 Form: 01-0200

HYGE Run # 30236
 Test Engineer: Wim Van Glabbeek
 Requester: L. Melidr / T. C. Wang

Run Date 9/27/99
 Test Auth # TB9729
 BUCK # 418

5

MATRIX #

Test Title/Description: D188 Driver Air Bag ADP81, ??? vants.

Crew/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # 54A

	LEFT Airbag: <u>10-17</u> ms Pyro Buckle: <u>10</u> ms		RIGHT Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>SOTN</u> A/B <u>0-17</u> Belt <u>R-25</u> Seat <u>S-4</u> Tracks: <u>cover manual</u> Position: <u>MID</u> Welded? <u>Y</u>	CENTER Dummy _____ Belt _____ Dr. A/B FM# _____ Pass. FM# _____	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: _____ Position: _____ Welded? <u>Y</u> <u>N</u>
	Instrument Panel: <u>1-8</u>		
	Steering Column: <u>SC-3</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	I/B	O/B		RIGHT	I/B	O/B
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat			OFF	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat		
A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y			N			<input type="checkbox"/> Y / <input type="checkbox"/> N
Face to A/B		<input checked="" type="checkbox"/> Center		O/B			
Contact Location:		High <input checked="" type="checkbox"/> MID		Low			
A/B Cover Attached to Can./Cover:				<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N			
Adj. D-ring Remain in Position:				<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N			
Retractor Intact:	<input checked="" type="checkbox"/> Y			N			Locked: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N
Buckle Held:	<input checked="" type="checkbox"/> Y			N			Webbing Intact: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N
Seat Tracks Held:	<input checked="" type="checkbox"/> Y			N			
Cracks in IP:	<input type="checkbox"/> Y			<input checked="" type="checkbox"/> N			
Steering Wheel Deformed:	<input type="checkbox"/> Y			<input checked="" type="checkbox"/> N			
Column Stroked w/o interference:	<input checked="" type="checkbox"/> Y			N			
Column Stroke: Left: _____ Right: _____							

Post Test COMMENTS: # 1/8" TEAR BY THE BELT ANCHOR
CAUSED BY THE SEAT

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 13

Inch: L. Milder/T. C. Wang
Phone: 284350

HYGE Run # 20237

Run Date 9/27/99

Test Engineer: Wim Van Glabbeek

Test Auth # TB6729

Requester: L. Milder/T. C. Wang

BUCK # 418

4 RE-RUN
MATRIX #

Test Title/Description: D188 Driver Air Bag ADP61, ??? vents.

Crash/HYGE Pulse Ref:

Simulated Speed: 35

Pin # 54A

PARTS DESCRIPTIONS	LEFT	Airbag: <u>13/17</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
	LEFT	Dummy: <u>5001</u> A/B: <u>D-16</u> Belt: <u>R-25</u> Seat: <u>5-4</u> Tracks: <u>power</u> manual Position: <u>MID</u> Welded? <u>Y</u>	CENTER	Dummy: _____ Belt: _____ Dr. A/B FMS: _____ Pass. FMS: _____ Tracks: _____ Position: _____ Welded? <u>Y</u>
	RIGHT	Dummy: _____ A/B: _____ Belt: _____ Seat: _____ Tracks: <u>power</u> manual Position: _____ Welded? <u>Y</u>		
	Instrument Panel: <u>18</u> Steering Column: <u>303</u> Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	IB	O/B	UPRIGHT	LEFT	RIGHT	RIGHT	UPRIGHT	IB	O/B
	<u>Upright</u> <u>On Seat</u>	<u>On Seat</u>	<u>Off Seat</u>	<u>Y</u>	<u>On Seat</u>	<u>Off Seat</u>	<u>Y</u>	<u>On Seat</u>	<u>Off Seat</u>	<u>Off Seat</u>
LEFT SIDE	A/B Intact: <u>No Holes</u>		Face to A/B		Contact Location: <u>High</u>		A/B Cover Attached to Can/Cover: <u>Y</u>		Adj. D-ring Remain in Position: <u>Y</u>	
	<u>Y</u> / N		IB <u>Center</u> O/B		High <u>Mid</u> Low		Y / N		Y / N	
	<u>Y</u> / N		Locked: <u>Y</u>		<u>Y</u> / N		Retractor Intact: <u>Y</u>		Locked: <u>Y</u>	
	<u>Y</u> / N		Webbing Intact: <u>Y</u>		<u>Y</u> / N		Buckle Held: <u>Y</u>		Webbing Intact: <u>Y</u>	
	<u>Y</u> / N		<u>Y</u> / N		<u>Y</u> / N		Seat Tracks Held: <u>Y</u>		<u>Y</u> / N	
	<u>Y</u> / N		<u>Y</u> / N		<u>Y</u> / N		Cracks in IP: <u>Y</u>		<u>Y</u> / N	
	<u>Y</u> / N		<u>Y</u> / N		<u>Y</u> / N		Steering Wheel Deformed: <u>Y</u>		<u>Y</u> / N	
	<u>Y</u> / N		<u>Y</u> / N		<u>Y</u> / N		Column Stroked w/o interference: <u>No</u>		<u>Y</u> / N	
	<u>Y</u> / N		<u>Y</u> / N		<u>Y</u> / N		Column Stroke: Left: _____		Right: _____	
	<u>Y</u> / N		<u>Y</u> / N		<u>Y</u> / N		Post Test COMMENTS: <u>TEST LOOKED NORMAL</u>			

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 14
Author: L. Miskir/T. C. Wang
Date: 12/28

HYGE Run H 20238 Run Date 9/27/99
Test Engineer: Wim Van Glabbeek Test Auth # TB6728
Requester: L. Miskir/T. C. Wang BUCK # 418
Test Title/Description: D166 Driver Air Bag ADP81, ??? vents.

6
MATRIX #

Graph/HYGE Pulse Ref: _____ Simulated Speed: 30 P# 93

PRE-TEST OBSERVATIONS	LEFT	Airbag: <u>12/17</u> ms	RIGHT	Airbag: _____ ms
		Pyro Buckle: <u>10</u> ms		Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy <u>50TH</u>	CENTER	Dummy _____
		A/B _____		Belt _____
		Belt <u>R-25</u>		Seat _____
		Seat <u>3-4</u>	Dr. A/B FMR _____	Pass. FMR _____
		Tracks: <u>open</u> manual		Tracks: <u>power</u> manual
		Position: <u>MID</u> Welded? <u>N</u>		Position: _____ Welded? Y N
	Instrument Panel: <u>I-8</u>			
	Steering Column: <u>SC-3</u>			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT	Upright	VB	O/B	CENTER	Upright	Left	Right	RIGHT	Upright	VB	O/B	
	On Seat	Off Seat			On Seat	Off Seat			On Seat	Off Seat		
LEFT SIDE	A/B Intact (No Holes):				A/B Intact (No Holes):				Y / N			
	Face to A/B			VB	Center	O/B	Face to A/B			VB	Center	O/B
	Contact Location:			High	MID	Low	Contact Location:			High	Mid	Low
	A/B Cover Attached to Can./Cover:				A/B Cover Attached to Can./Cover				Y / N			
	Adj. D-ring Remain in Position:				Adj. D-ring Remain in Position:				Y / N			
	Retractor Intact:			Y / N	Locked:	Y / N	Retractor Intact:			Y / N	Locked:	Y / N
	Buckle Held:			Y / N	Webbing Intact:	Y / N	Buckle Held:			Y / N	Webbing Intact:	Y / N
	Seat Tracks Held:				Seat Tracks Held:				Y / N			
	Cracks in I/P:			Y / N	Cracks in I/P:				Y / N			
	Steering Wheel Deformed:			Y / N	Steering Wheel Deformed:				Y / N			
	Column Stroked w/o Interference:			No stroke	Column Stroked w/o Interference:				Y / N			
	Column Stroke: Left: _____				Column Stroke: Right: _____							
Post Test COMMENTS: <u>IF TEST LOOKED NORMAL</u>												
OBSERVER: <u>[Signature]</u>												

TB-8729
Sheet 15

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 16 of 24
Date: 9-25-99
Phone: 84288

TB8420

Run

20232
1,2,4,5,6

Date

D186 Due Care Testing

1

Buck # 418

Reference: H
H
H

Left		Right	Center
60% HIN	DUMMY TYPE		
MID	SEAT POSITION		
337	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	27	27	27		0	+1 notch
Pelvis Angle (+/- 2.5 deg; +/- 1.0 for 50th)	22.2	22.5	22.5			
Column Angle						
H-Point Longitudinal Laser # 4	2987	2987	2987		at mid	at left
H-Point Vertical Laser # 4	646	646	646		12	6
H-Point Lateral Laser # 4	-312	-313	-314		12	6
Knee Longitudinal Laser # 2	2607	2602	2607			
Knee Vertical Laser # 2	736	753	741			
Knee Lateral Laser # 2	-367	-367	-368		6	6
Head Longitudinal Laser # 1	3104	3104	3113		level	6
Head Vertical Laser # 1	1316	1310	1312		level	6
Head Lateral Laser # 1	-420	-40	-420		level	6
Dummy Neck Adjustment (Not run only)						
Knee Centerline to Knee Centerline (mm)	194	194	194			
Left Knee to Bolster	130	106	130			6
Right Knee to Bolster	120	110	126			6
Neck to Steering Wheel Upper Rim or 1/2	485	395	560			6
Thigh to Steering Wheel Lower Rim	220	200				6
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2739					
Reference Target Absolute Vertical	609					
Reference Target Absolute Lateral	672					

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Film Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					

< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 17 of 24/99
 Volume: Initial/Version
 Pages: 24/28
 fm.

TB8429

Run

20233
 1034,5,6

Date

9/25/99

D188 Due Care Testing

2

Buck # 418

Reference: H
 H
 H

Left		Right	Center
50% Hgt	DUMMY TYPE		
MID	SEAT POSITION		
337	DUMMY NUMBER		

POSITIONING	Laser #	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (in mm)	
		LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Seat Back Angle (1.5' above pivot)		27	27	27	27	0	+/- notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5th/6th)		22	22.5	22.5	22.5		
Column Angle						at left	at right
H-Point Longitudinal	Laser # 4	2987	2987	2987	2987	12	6
H-Point Vertical	Laser # 4	646	646	646	646		6
H-Point Lateral		313	-313	-314	-314	12	6
Knee Longitudinal	Laser # 2	2572	2582	2587	2587		
Knee Vertical	Laser # 2	736	753	741	741		
Knee Lateral		365	-387	-388	-388	6	6
Head Longitudinal	Laser # 3	3104	3104	3113	3113	level	6
Head Vertical	Laser # 3	1310	1310	1312	1312	level	6
Head Lateral		420	-40	-420	-420	level	6
Dummy Neck Adjustments (first run only)							
Knee Centerline to Knee Centerline (max)		195	194	194	194		
Left Knee to Bolster		110	108	130	130		6
Right Knee to Bolster		97	110	125	125		6
Head to Steering Wheel Upper Rim or MP		300	305	300	300		6
Thigh to Steering Wheel Lower Rim		220	200				6
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2739					
Reference Target Absolute Vertical		808					
Reference Target Absolute Lateral		872					

FILM ANALYSIS

Knee (target) Lateral							
Thigh Lateral							
Fluorimeter Lateral							
Shoulder Lateral							
Other							
Other							
Other							
Knee to H-Point							
Knee to Fluorimeter							
Knee to Thigh							
Distance Between A or B Film Targets							
Upper or Forward Reference Target							
Lower or Rearward Reference Target							
Reference Bar to Film Plane							
Camera Angle						< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 18
09/25/99
fm

TB8429

Run

20334

Date

9/25/99

Inhibitor: (units of run)
Phone: 84380

D188 Due Care Testing

3

Buck # 418

Reference: H
H
H

Left		Right	Center
50% Ht:	DUMMY TYPE		
Mid	SEAT POSITION		
523	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L.
Seat Back Angle (13° above pivot)	27	27	27		0	+/-1 notch
Pelvis Angle (+/- 2.5 deg.; +/-1.0 for 59 lbs)	23	22.5	22.5			
Column Angle					at left	at left
H-Point Longitudinal Layer # 3	2987	2987	2987		12	6
H-Point Vertical Layer # 4	646	646	646			6
H-Point Lateral Layer # 4	-313	-313	-314		12	6
Knee Longitudinal Layer # 2	2592	2592	2597			
Knee Vertical Layer # 2	736	783	741			
Knee Lateral Layer # 2	-357	-357	-358		8	6
Head Longitudinal Layer # 5	3100	3104	3113		level	6
Head Vertical Layer # 5	1310	1310	1312		level	6
Head Lateral Layer # 5	-40	-40	-42D		level	6
Dummy Neck Adjustments (Seat run only)						
Knee Centerline to Knee Centerline (max)	195	194	194			
Left Knee to Bolster	112	108	130			8
Right Knee to Bolster	103	110	125			8
Neck to Steering Wheel Upper Rim or LP	410	388	660			8
Neck to Steering Wheel Lower Rim	220	200				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739					
Reference Target Absolute Vertical	808					
Reference Target Absolute Lateral	872					

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Pilder Target						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes

HUGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 19 of 20
 Johnson Industries
 Phone 84280
 Jan.

TB8428

Run 1,3,4,5,6

Date 9-27-99

D185 Due Care Testing

5

Buck # 418

Reference: H
 H
 H

Left	Right	Center
50% HILL	DUMMY TYPE	
MOD	SEAT POSITION	
928	DUMMY NUMBER	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1x RUN	ADD'L
Seat Back Angle (15° above pivot)	27	27	27		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 9th/10)	24	22.5	22.5			
Column Angle					at left	at left
H-Point Longitudinal Layer # 4	2987	2987	2987		12	0
H-Point Vertical Layer # 4	646	646	646			0
H-Point Lateral	310	-313	-314		12	0
Knee Longitudinal Layer # 2	2592	2582	2587			
Knee Vertical Layer # 2	786	788	741			
Knee Lateral	367	-367	-368		0	0
Head Longitudinal Layer # 5	3104	3104	3113		level	0
Head Vertical Layer # 5	1310	1310	1312		level	0
Head Lateral	420	-40	-420		level	0
Dummy Neck Adjustment (last run only)						
Knee Centerline to Knee Centerline (max)	194	194	194			
Left Knee to Bolster	106	108	130			0
Right Knee to Bolster	110	110	128			0
Knee to Steering Wheel Upper Rim or HZ	395	395	500			0
Upper to Steering Wheel Lower Rim	300	300				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2728					
Reference Target Absolute Vertical	608					
Reference Target Absolute Lateral	672					

FILM ANALYSIS					
Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Hiza Plane					
Column Angle					

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 29 of 24
 Indicator: Initial Runway
 Phone: 94380
 for
 4/RE-Run

TE8429

Run 1,2,3,4,5,6

Date 9/29/99

D186 Due Care Testing

Buck # 418

Reference: H
 H
 H

Left		Right	Center
50% HRI	DUMMY TYPE		
MID	SEAT POSITION		
3/9	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADD'L
Seat Back Angle (13" above pivot)	27	27	27		0	± 1.0000
Pelvic Angle (± 2.5 deg.; ± 1.0 for S/Hts)	24	22.5	22.5			
Column Angle					at left	at right
H-Point Longitudinal Laser # 1	2987	2987	2987		12	6
H-Point Vertical Laser # 1	546	548	548			6
H-Point Lateral	313	-313	-314		12	6
Knee Longitudinal Laser # 2	2592	2592	2597			
Knee Vertical Laser # 2	736	763	741			
Knee Lateral	367	-367	-368		6	6
Head Longitudinal Laser # 5	3104	3104	3113		level	6
Head Vertical Laser # 5	1310	1310	1312		level	6
Head Lateral	420	420	-420		level	6
Dummy Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (mm)	194	184	194			
Left Knee to Bolster	105	106	130			6
Right Knee to Bolster	110	110	128			6
Nose to Steering Wheel Upper Rim or IP	395	386	380			6
Top to Steering Wheel Lower Rim	200	200				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730					
Reference Target Absolute Vertical	808					
Reference Target Absolute Lateral	872					

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 21 of 21
for

TBB429

Run 1,2,3,4,5 (5)

Date 9-27/99

Ref: 9200
Rev: 9200

D186 Due Care Testing

6

Buck # 418

Reference: H
H
H

Left		Right	Center
60% HR	DUMMY TYPE		
MID	SEAT POSITION		
329	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					Let RUN	ADDL
Seat Back Angle (15° above pivot)	27	27	27		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 390in)	25	22.5	22.5			
Crotch Angle					at left	at left
H-Point Longitudinal Laser # 4	2957	2957	2957		12	8
H-Point Vertical Laser # 4	646	646	646			8
H-Point Lateral	313	-313	-314		18	6
Knee Longitudinal Laser # 2	2597	2592	2597			
Knee Vertical Laser # 2	736	753	741			
Knee Lateral	367	-367	-358		0	8
Head Longitudinal Laser # 3	3104	3104	3113		level	8
Head Vertical Laser # 3	1310	1310	1312		level	8
Head Lateral	420	420	-420		level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	194	194	194			
Left Knee to Bolster	105	105	130			8
Right Knee to Bolster	110	110	125			8
Head to Steering Wheel Upper Rim or LP	395	395	380			8
Torso to Steering Wheel Lower Rim	195	200				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739					
Reference Target Absolute Vertical	808					
Reference Target Absolute Lateral	872					

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Crotch Angle					< 5 deg. < 5 deg.

Notes:

**Final Test Report
Confidential**

**GTO - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: T88428
Subject: 2000 D188 Series B
D188 Driver Air Bag ADPS1, 2X32 vents
Requested By: L. Miskic / T.C. Wang
Requesting Dept.: T851
Work Task No.: F09
Test Facility: Hyge
Date Reported: 9/28/99
Test Dates: 9/20/99
Run Numbers: H20205 to H20208
Test Speeds: 38, 30 mph
Dummies used: 1-59H3
Procedure(s): T887-100
Buck #: 418
Page: 1 of 12

DISPOSE of Copies (Check Stamped) by:	
RETAIN Reason Copy (Check Stamped) Thru:	2005
Module Number:	7-4-2

Objective:

Driver airbag development.

Summary:

The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safstyla.ford.com/>.

Attachments

- I. Test Authorization
- II. Test Matrix
- III. Sled Parameters
- IV. Post Test Observations
- V. Dummy Positioning

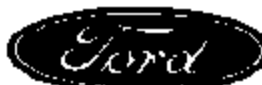
Concur:


Steve Lash
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TB-8429
Sheet 2

Attachment I.
Test Authorization

	GTO Test Request	Requester / Coordinator (PRIME): LAKE MESSOR LAKE MESSOR
---	------------------	--

Performing Activity: HYBRID and VTA Road	Date Submitted: 02-SEP-1999	Requested Completion Date: 10-SEP-1999	Requester Reference Number: 00005
---	--------------------------------	---	--------------------------------------

Procedure Number: 100	Request Title and / or Subject of Request: D166 HYBRID BLEED SERIES G
--------------------------	--

Reliable Requester's Dept No.: T2E1 AVSRTSA	Work Task / Work Order Number: F08	Request conducted to verify product team compliance with Government Regulations Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
Reliable Requester's (PRIME): LAKE MESSOR	Reliable Requester's Name: LAKE MESSOR	

Complete the following two questions as indicated

<p>1 - Reason for not replacing this test by CAE Analysis</p> <ul style="list-style-type: none"> <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Critical <input type="checkbox"/> Mandatory or Regulatory <input checked="" type="checkbox"/> Certification <input type="checkbox"/> Development test for F08 <input type="checkbox"/> Not applicable <p>Other: _____</p> <p style="text-align: center;">(Check appropriate boxes)</p>	<p>2 - What is the expected Test Outcome:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Results will meet GM/WWO requirements (Sign-Off) <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Above is Based on CAE? <p>Other: _____</p> <p style="text-align: center;">(Check appropriate boxes)</p>
---	--

Request Purpose / Request Procedure or Description of Request:

T2E1-166 Hygro Bleed Truck Upright Adult Hybrid II Dursey Positioning Procedures

Test Object:	Reference Object	Reference Description
	N/A	N/A

Sample #	Object ID	Object Description
1	1	D166 TRUCK

Signature Approvals (As Required for Control Purposes)

Requesting Engineer LAKE MESSOR	Assigned Coordinator BILL JOHNSTON
Request Authorized by Not Required	Assigned Supervisor GARRY CATHEY

TB-8429
Sheet 4

Attachment II
Test Matrix

TAS TB8429

Richard L. Storer / T. G. Wong
Threat Analyst

SYSTEM: Data Driver Air Bag ADMM, 2002 model.
DATE: 01-Jan-09
REVISION: 00-001-00

DRIVER ONLY - 4-RWS - ZW155213-2470

One set for 09/15/09

CUMPLN	PLN	HYPC	MUN	HYB	PYM	FLARE	MOM	BODY	TRMT	PYRO	RET	STG	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	SPND	INSTRUMENT LEVEL								FAC	SUM														
																												P	FL	FL	FL	FL	FL	FL	FL			FL	FL	FL	FL	FL	FL	FL	FL	FL					

- D02 Head Protective CAP. Pivots Lock with updated on-center web spring mechanism (strongback flag). 30 Joule charge CP level PT with pilot design level pilot profile.
- D03 Airbag Integrated wheel offset. ADAPT Inlets, Rollers with and damping coils.
- D04 WYTH II Power Seat
- D05 Storage cabinet with straps linked by 120psi/burst with 4.8 inch gap. No other dials
- D06 CP power seat except ADC level passenger sitting area

NOTES:
All runs use instrumented dummies.
Rigid heater cover **MUST** be installed for all runs.

*BELT LOAD CELLS
PYRO-BUCKLES*

Storer

TB-8429
Sheet 6

Attachment III.
Sled Parameters

TB-8429
Sheet 8

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 9
 Author: L. Milder / T. C. Wong
 Phone: 284380

HYGE Run # 20205 Run Date 9/12/1999
 Test Engineer: Wim Van Glabbeek Test Auth # TB8429
 Requester: L. Milder / T. C. Wong BUCK # 418
 Test Title/Description: D188 Driver Air Bag ADP81, 2K32 vents.

1

MATRIX #

Crash/HYGE Pulse Flat: _____ Simulated Speed: 35 Pin # 548

	LEFT	RIGHT	
	Airbag: <u>12/17</u> ms	Airbag: _____ ms	
	Pyro Buckle: <u>10</u> ms	Pyro Buckle: _____ ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy: <u>JOHN</u>	Dummy: _____	Dummy: _____
	A/B: <u>D-15</u>	Belt: _____	A/B: _____
	Belt: <u>R-05</u>	Dr. A/B FMB: _____	Belt: _____
	Seat: <u>S-4</u>	Pass. FMB: _____	Seat: _____
	Tracks: <u>power</u> manual	Tracks: _____	Tracks: _____
	Position: <u>MID</u> Welded? <u>Y</u>	Position: _____	Position: _____
	Instrument Panel: <u>18</u>		
	Steering Column: <u>SAB</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT		
	Upright On Seat	I/B Off Seat	O/B	Upright On Seat	Left Off Seat	Right Off Seat
A/B Intact (No Holes):	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Face to A/B		I/B Center	O/B			
Contact Location:		<u>High</u>	<u>Mid</u>	Low		
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Retractor Intact:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Locks:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Buckle Held:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Webbing Intact:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Seat Tracks Held:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Cracks in IP:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Steering Wheel Deformed:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Column Stroked w/o Interference:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		

Column Stroke: Left: _____ Right: _____

Post Test COMMENTS:

BOOSTER DEFORMATION -
S/W SLIGHT DEFORMATION
BOTTOM 1/4 - SEAT
NORMAL - HEAD CONTACT
W/S ABOUT 5" BELOW HEAD

OBSERVER: [Signature]

OBS

20206

TB-8429
Sheet 10

FACE C AND HI-MID

Cover attached YES

TRACKS Held YES

CRACK IN I/O YES

Wheel deFORM - YES

Column STRAIGHT - YES

dummy upright and normal
seat normal - bolster deformed
S/w deformed @ 1/4 lower edge,
w/s contact 5" below header

TB-8429
Sheet 11

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 12

Initiator: [illegible]
Phone: 84380

TB8429

Run 20205

Date 9-20-99

D188 Due Care Testing

2

Buck # 418

Reference: H
H
H

Left		Right	Center
80% HRI	DUMMY TYPE		
MID	SEAT POSITION		
323	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13" above pivot)	27	27	27		0	±1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for S Side)	25	22.5	22.5			
Column Angle					at left	at left
H-Point Longitudinal	2987	2987	2987		12	6
H-Point Vertical	646	646	646			6
H-Point Lateral	315	-313	-314		12	6
Knee Longitudinal	2592	2582	2597			
Knee Vertical	754	753	741			
Knee Lateral	327	-367	-368		8	6
Head Longitudinal	3104	3104	3113		level	6
Head Vertical	1310	1310	1312		level	6
Head Lateral	420	-40	-420		level	6
Dummy Neck Adjustment (Dist run only)						
Knee Centerline to Knee Centerline (max)	194	194	194			
Left Knee to Bolster	195	105	130			6
Right Knee to Bolster	100	110	125			6
Noise to Steering Wheel Upper Rim or VP	390	388	680			6
Top to Steering Wheel Lower Rim	200	200				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738					
Reference Target Absolute Vertical	608					
Reference Target Absolute Lateral	678					

FILM ANALYSIS

Knee (target) Lateral						
Thigh Lateral						
Phantom Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 6 deg.	< 6 deg.

Notes:

**Final Test Report
Confidential**

**Advanced Vehicle Technology
Global Test Operations
Safety Laboratories Department**

Test Order No.: TA8837
Subject: 9000 D186 Retr. Eval.
Retractor Evaluation
Requested By: Dale Perrigo
Requesting Dept.: T851
Work Task No.: F09
Test Facility: Hyge
Date Received: 7/22/1998
Date Reported: 5/18/99
Test Dates: 8/10/1998
Run Numbers: H18928 to H18931
Procedure(s): T857-106
Page: 1 of 26

DISPOSE of Copies (Black Stamped) by:	
RETAIN (Paper Copy (Red Stamped) Thru:	2005
Checklist Number:	7-4-2

Objective:

The purpose of this test is to evaluate the web sense mechanism in the front seat retractors.

Summary:

Four 35MPH tests were conducted on the Hyge sled using either two 95% or two 50% instrumented hybrid III test dummies. The testing was conducted using the DNI0LD186 rigid front body buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Dummy Positioning
- VII. Photographic Set-Up

Concur:


Steve Leach
Section Supervisor
Operations Engineering
Safety Laboratories Department


Wim Van Gladbeck
Test Development Engineer
Operations Engineering
Safety Laboratories Department

TR-7887
Sheet 2

Attachment L
Test Authorization



GTO Test Request

Requester / Distributor (PROF):
KWARSMANN
KRIS WARMANN

Performing Activity: HYBE and VSA Mod	Date Submitted: 20-JUL-1999	Requested Completion Date: 31-JUL-1999	Requester Reference Number:
---	---------------------------------------	--	-----------------------------

Procedure Number: HYBE-40	Request Title and / or Subject of Request: DISE Retraction Rotation
-------------------------------------	---

State Requester's Dept No: T851 AVE216A	Work Task / Work Order Number: F88	Request conducted to verify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
State Requester's (PROF): KWARSMANN	State Requester's Name: KRIS WARMANN	

Complete the following two questions as indicated

<p>1 - Rational for not replacing this test by GAE Analysis</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> No GAE Methodology or process available <input type="checkbox"/> For GAE Correlation <input type="checkbox"/> Insufficient conditions in GAE <input type="checkbox"/> To obtain basic data for GAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing in Qualifier <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for PSS <input type="checkbox"/> Not applicable <p>Other: _____</p> <p style="text-align: center;">(Check appropriate boxes)</p>	<p>2 - What is the expected Test Outcome:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Results will meet OVERSIGHT requirements (Sign-Off) <input type="checkbox"/> System Component will not meet Test specification <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Allow is Based on GAE? <p>Other: _____</p> <p style="text-align: center;">(Check appropriate boxes)</p>
---	---

Request Purpose / Request Priority or Description of Request:
HYBE Test Procedure T851-110

Test Object:	Reference Object	Reference Description
	NA	NA
Sample #	Object ID	Object Description
1	1	MEAT

Signature Approvals (As Required for Control Purposes)

Requesting Engineer	<u>KRIS WARMANN</u>	Assigned Coordinator	<u>WM VAN GLABBECK</u>
Requesting Supervisor/Manager	<u>NOT REQUIRED</u>	Assigned Supervisor	<u>STEPHEN LESH</u>

Sheet 4

Test Definition Worksheet

quest No: TA0837

D188 Retractor Evaluation

Service/Procedure: HYG-00

HYGE Test Procedure T857-110

Test Object:

Request Date: 23-JUL-1998

Requester: KRIS WARMANN (KWARMANN)

Requester Phone: 313-24-67147

Sample #	Object ID	Object Description
1	1	SEAT

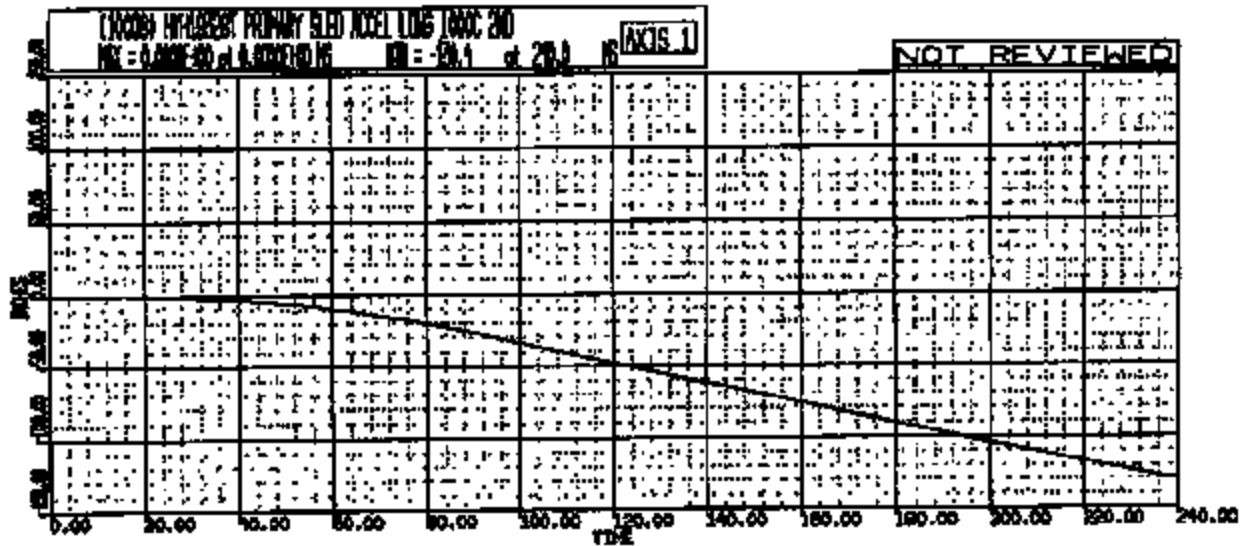
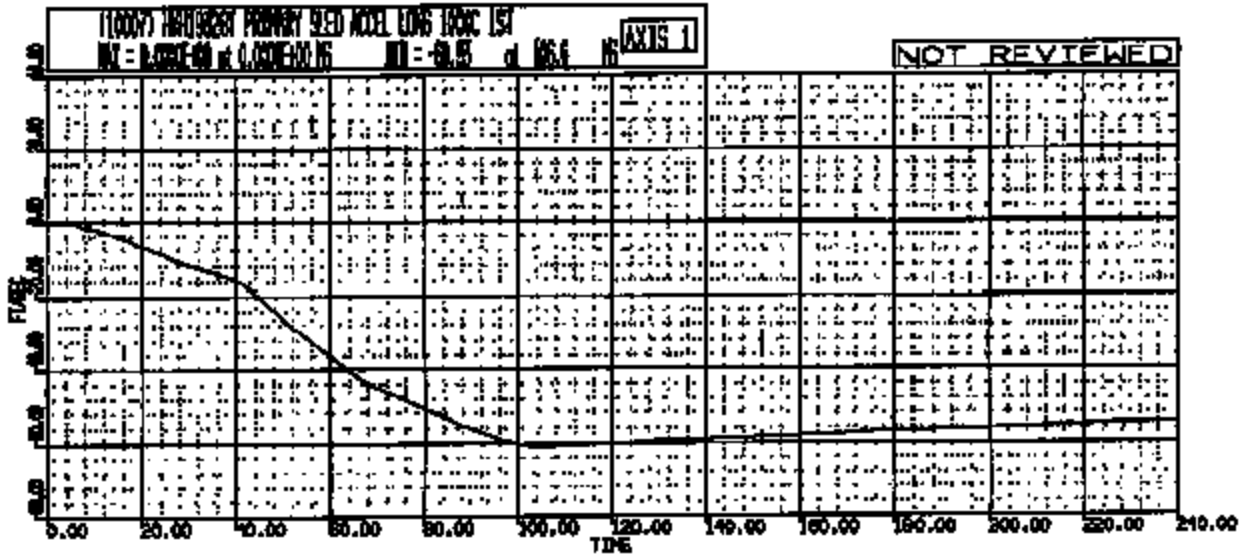
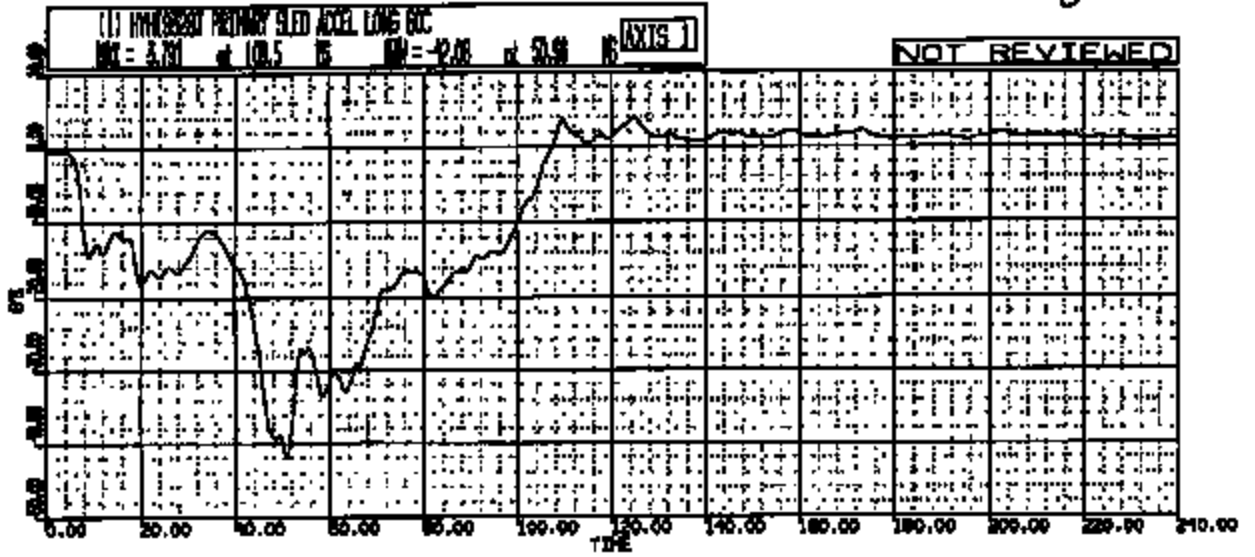
Parameter:	Value:	Units:
Vehicle Model	DW188	

Attachment II.

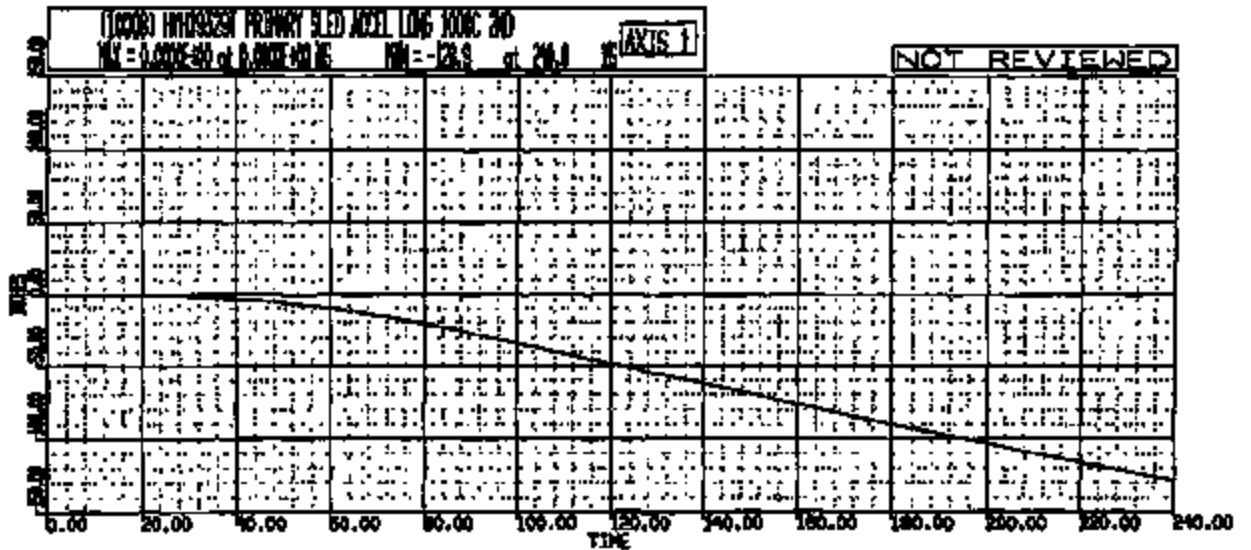
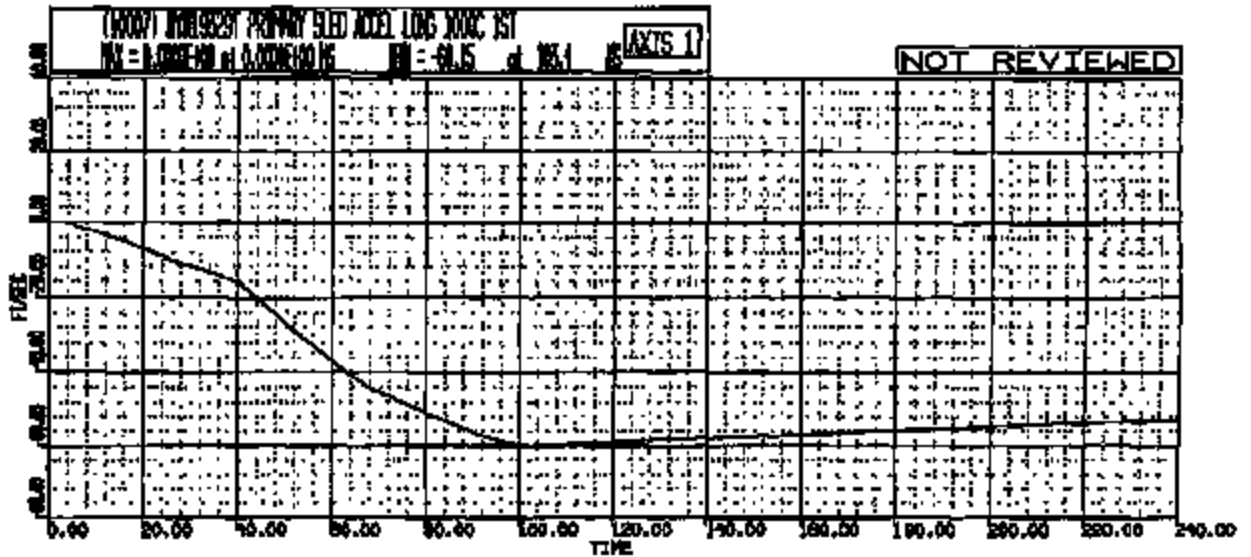
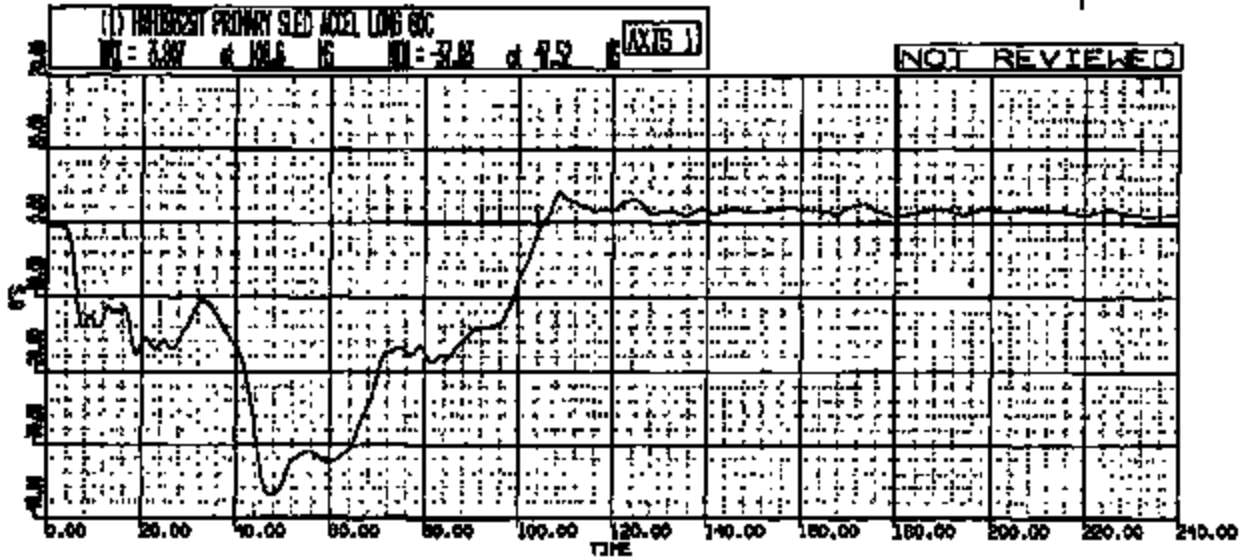
Test Matrix

Attachment III.
Sled Pulse

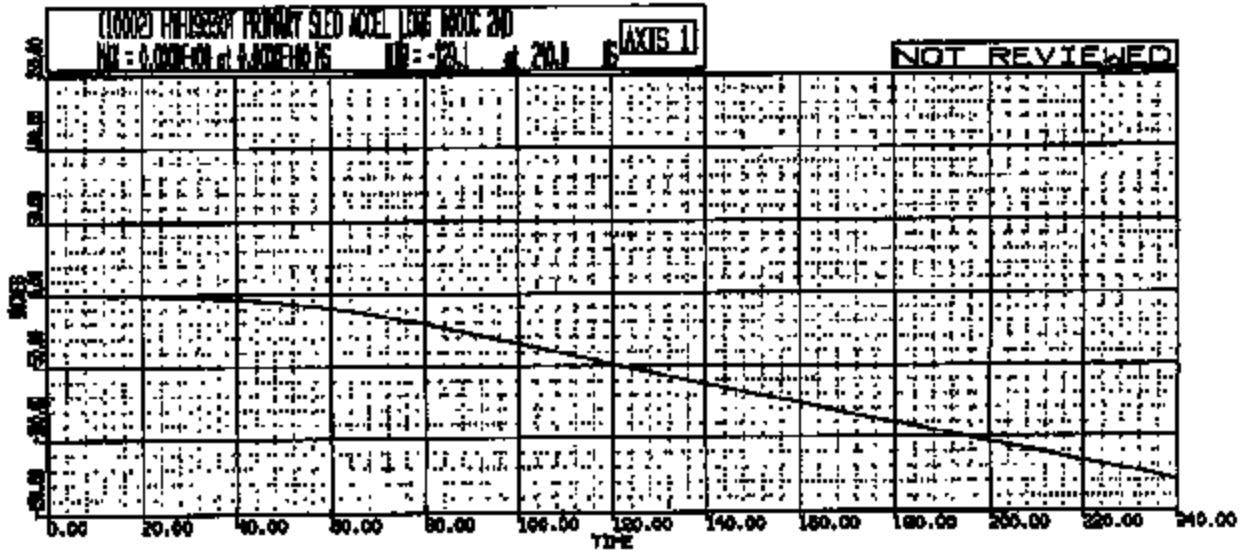
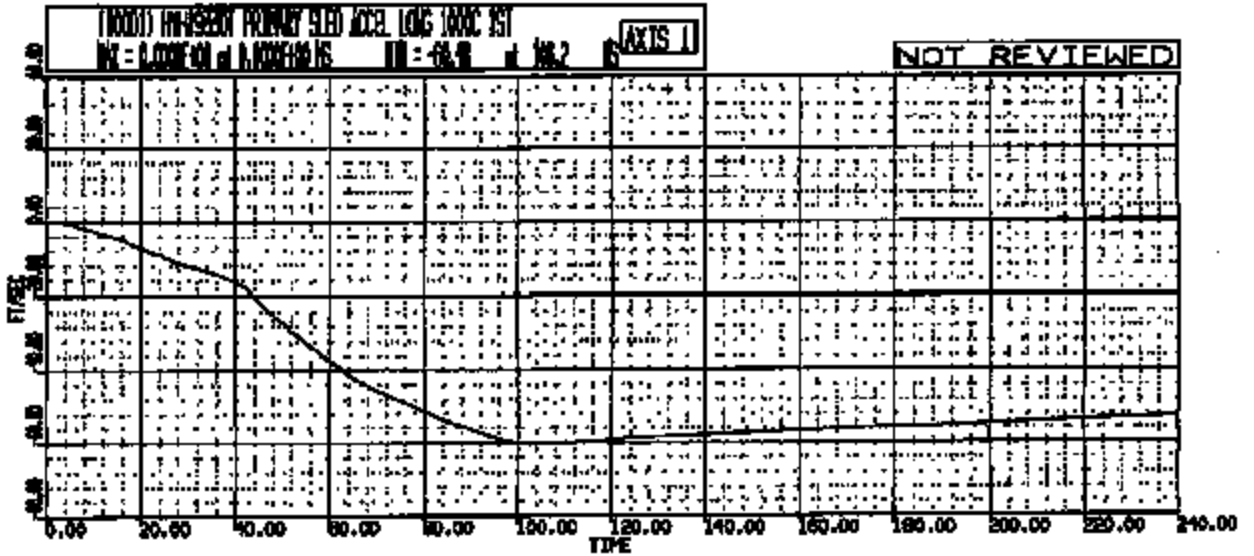
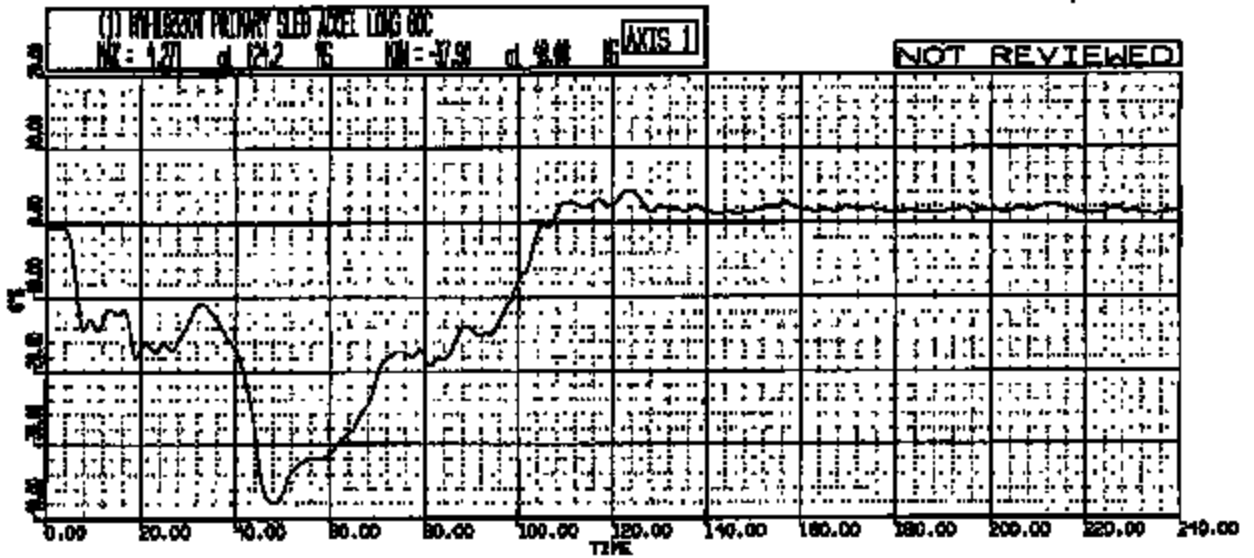
HY R: H10529 TO: TA9837A DATE: 880810 15:09:10
UNKNOWN



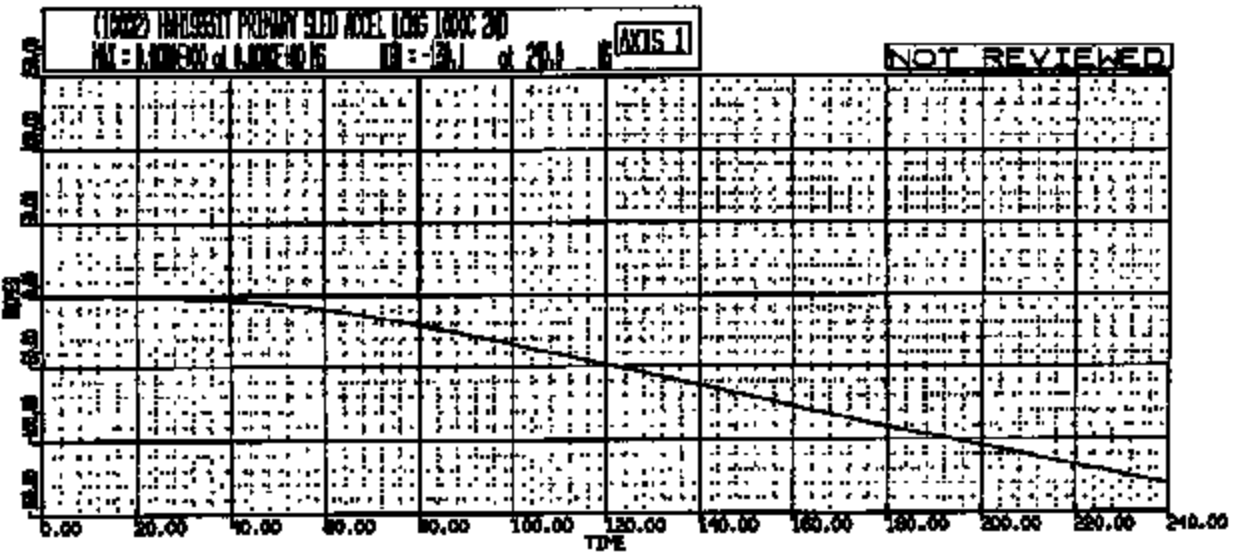
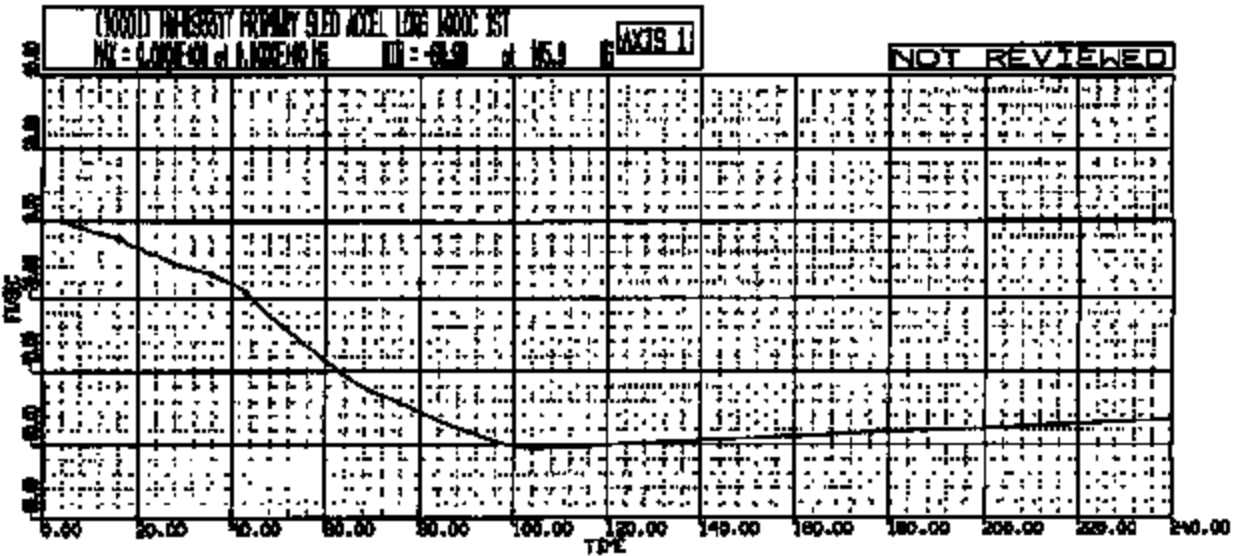
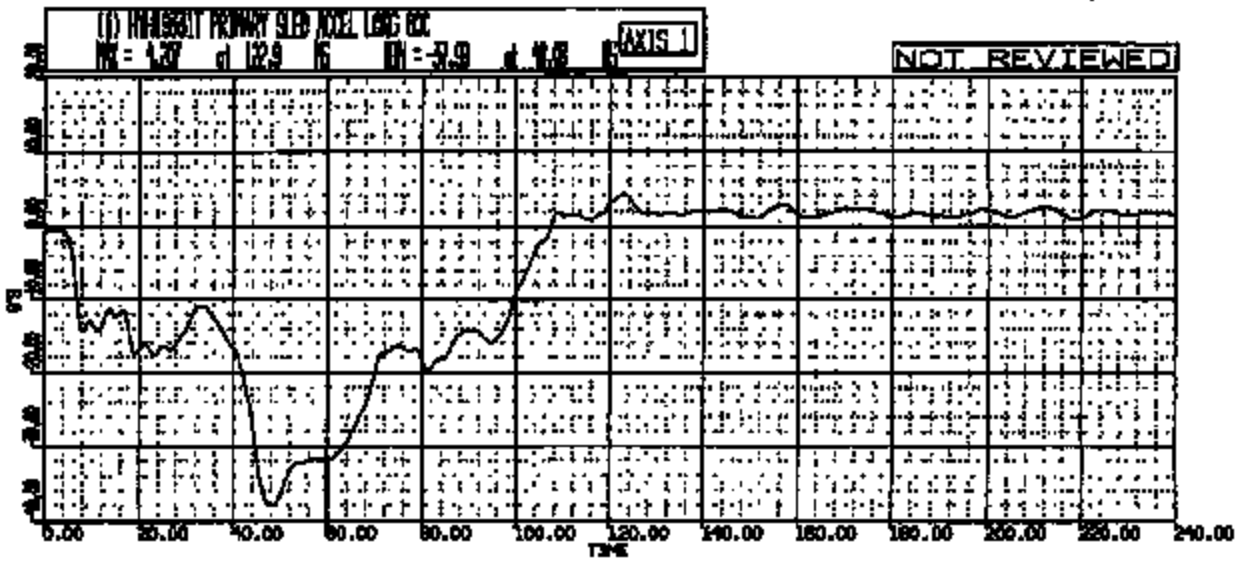
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UNKNOWN



HY R: H10230 TO: TA9837B DATE: 990810 19:21:01
UNKNOWN



BY: H19331 TO: TA9837B DATE: 980610 22:52:55
UNKNOWN



TR-9831
Sheet 12

Attachment IV.
Sled Parameters

RUN #	L.A.#	IN TYPE	DATE	TIME	DATA CHANNEL	WEIGHT (LBS)	HPOL	STROKE	LOAD	NET	BASE	BUCK #	VELOCITY (MPH)	LEFT	DUMPER SYN CENTER	DIRT #	FIN	INNER RING	OUTER RING
1828	BAKWA	CHIN	8/10/78	18:09	39	8879	138	41	2832	472	210	405	38	312		30	54A	IN	IN
1829	BAKWA	CHIN	8/10/78	17:58	39	8879	138	41	2832	472	210	405	38	312		30	54A	IN	IN
1830	BAKWA	CHIN	8/10/78	18:21	9	8880	130	41	2832	478	215	405	38	301		30	54A	IN	IN
1831	BAKWA	CHIN	8/10/78	22:32	9	8880	130	41	2832	478	215	405	38	301		30	54A	IN	IN

SLFID 0032142

 TR-98312
 8/10/78

Attachment V.
Post Test Observations

Sheet 15

HYGE Sled Test Summary

Inhibitor: Dale Parrigo
Phone: x36018

HYGE Run # 19328
Test Engineer: Wim Van Glabbeek
Requester: Dale Parrigo

Run Date 8/10/98
Test Auth # TABBS7
BUCK# 405

1
MATRIX #

Test Title/Description: Retractor Evaluation
Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # _____

TYPE	LEFT	Airbag: _____ ms	RIGHT	Airbag: _____ ms
		Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>5043</u>	Dummy	<u>5043</u>
	A/B	_____	A/B	_____
	Belt	_____	Belt	_____
	Seat	_____	Seat	_____
	Tracks: power manual	_____	Tracks: power manual	_____
	Position: _____	Welded? Y N	Position: _____	Welded? Y N
	Instrument Panel: _____		Instrument Panel: _____	
	Steering Column: _____		Steering Column: _____	
	Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____	

POST-TEST OBSERVATIONS & CHECKLIST

Comments (if needed) below:

LEFT SIDE	Upright	I/B	O/B	CENTER	Upright	Left	Right	RIGHT	Upright	I/B	O/B	
	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat		On Seat	Off Seat		
A/B Intact (No Holes):												
Face to A/B		I/B	Center	O/B						I/B	Center	O/B
Contact Location:		High	Mid	Low						High	Mid	Low
A/B Cover Attached to Can./Cover:												
Adj. D-ring Remain in Position:												
Retractor Intact: Y/N				Locked: Y/N								Locked: Y/N
Buckle Held: Y/N				Webbing Intact: Y/N								Webbing Intact: Y/N
Seat Tracks Held:												
Cracks in IP:												
Steering Wheel Deformed:												
Column Stroked w/o Interference:												
Column Stroke: Left: _____												Right: _____

Post Test COMMENTS: _____

OBSERVER: _____

HYGE Sled Test Summary

Sheet 16

Initiator: Dale Ferrigo
Form: 450813

HYGE Run #: 19329

Run Date: 8/10/98

Test Engineer: Wim Van Glabbeek

Test Auth #: TAB837

Requester: Dale Ferrigo

BUCK #: 405

2

MATRIX #

Test Title/Description: Retractor Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 65

Pin #: _____

	LEFT	Airbag: _____ Pyro Buckle: _____	ms	RIGHT	Airbag: _____ Pyro Buckle: _____	ms
PARTS DESCRIPTION POST-TEST OBSERVATIONS		Dummy <u>312</u>		Dummy Belt	Dummy <u>323</u>	
		A/B _____			A/B _____	
		Belt _____			Belt _____	
		Seat _____		Dr. A/B F/W _____	Seat _____	
		Tracks: power <u>Y</u>		Pass. F/W _____	Tracks: power <u>Y</u>	
		Position: <u>MID</u> <u>WADEN</u> Y N			Position: <u>MID</u> <u>WADEN</u> Y N	
	Instrument Panel: _____					
	Steering Column: _____					
	Pre-Test OBSERVATIONS: _____					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<input checked="" type="checkbox"/> Upright On Seat <input checked="" type="checkbox"/> V/B On Seat <input checked="" type="checkbox"/> O/B Off Seat	Upright On Seat Left Off Seat Right Off Seat	<input checked="" type="checkbox"/> Upright On Seat <input checked="" type="checkbox"/> V/B On Seat <input checked="" type="checkbox"/> O/B Off Seat
--	--	--

	A/B Intact (No Holes):	Y/N	A/B Intact (No Holes):	Y/N
LEFT SIDE	Face to A/B	Y/N	Face to A/B	Y/N
	Contact Location:	Y/N	Contact Location:	Y/N
	A/B Cover Attached to Can/Cover:	Y/N	A/B Cover Attached to Can/Cover:	Y/N
	Adj. D-ring Remains in Position:	Y/N	Adj. D-ring Remains in Position:	Y/N
	Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N	Y/N	Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N	Y/N
	Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N	Y/N	Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N	Y/N
	Seat Tracks Held:	Y/N	Seat Tracks Held:	Y/N
	Cracks in VP:	Y/N	Cracks in VP:	Y/N
	Steering Wheel Deformed:	Y/N		
	Column Stroked w/o Interference:	Y/N		
	Column Stroked Left: _____		Column Stroked Right: _____	

Post Test COMMENTS:

H BOPING IN D RING - I/B BELT TO SEAT DEFORMATION

R/ RETRACTOR HANGING OUT TO END OF SPOOL - I/B BELT TO SEAT DEFORMATION

OBSERVER: [Signature]

HYGE Sled Test Summary

Initiator: Dale Parrigo
Phone: 25018

HYGE Run # 19330

Run Date 8/10/98

Test Engineer: Wim Van Glabbeek

Test Auth # TAB337

Requester: Dale Parrigo

BUCK # 405

MATRIX # 3

Test Title/Description: Retractor Evaluation

Crash/HYGE Pulse Ref:

Simulated Speed: 35

Pin #

FINE THICK	LEFT	Airbag: <u>na</u>	RIGHT	Airbag: <u>na</u>
		Pyro Buckle: <u>na</u>		Pyro Buckle: <u>na</u>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>96H3</u>	Dummy	<u>96H3</u>
	A/B		A/B	
	Belt		Belt	
	Seat		Seat	
	Tracks: power manual		Tracks: power manual	
	Position: Welded? Y N		Position: Welded? Y N	
	Instrument Panel:		Instrument Panel:	
	Steering Column:		Steering Column:	
Pre-Test OBSERVATIONS:				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	VB	OVB	RIGHT SIDE	Upright	Left	Right	Upright	VB	OVB
	On Seat	Off Seat			On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat
A/B Intact (No Holes):										
Face to A/B										
Contact Location:										
A/B Cover Attached to Can./Cover:										
Adj. D-ring Remain in Position:										
Retractor Intact:										
Buckle Held:										
Webbing Intact:										
Seat Tracks Held:										
Cracks in IP:										
Steering Wheel Deformed:										
Column Staked into Interference:										
Column Stroke: Left:										
Right:										

Post Test COMMENTS:

R/ RETRACTOR DAMAGED - OUT TO
SPOOL - D' BUCKLE TWIST
DUMMY ROTATED 1/3 - PYRO
GONE.

L/ O/B FRONT SEAT BELT OUT ON
REBOUND - D' BELT TWISTED

OBSERVER: [Signature]

HYGE Sled Test Summary

HYGE Run # 19331
 Test Engineer: Wim Van Glabbeek
 Requester: Dale Perrigo

Run Date 8,10,98
 Test Auth # TAG937
 BUCK # 406

Initial: Dale Perrigo
 Form: 136018

4
MATRIX #

Test Title/Description: Retractor Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 25 Pln # 54A

TYPE	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION POST-TEST OBSERVATIONS	LEFT	Dummy <u>9543</u>	CENTER	Dummy _____
		A/B _____		Belt _____
		Belt _____		Seat _____
		Tractor: power manual		Dr. A/B FMS _____
		Position: <u>PR</u> Welded? Y N		Pass. FMS _____
			RIGHT	
				Dummy <u>9543</u>
				A/B _____
				Belt _____
				Seat _____
				Tractor: power manual
				Position: <u>PR</u> Welded? Y N
				Instrument Panel: _____
				Steering Column: _____
				Pre-Test OBSERVATIONS: _____

POST-TEST OBSERVATIONS & CHECKLIST Common (if needed) below

LEFT SIDE	LEFT	Upright	IB	O/B	OFF SEAT	RIGHT	Upright	IB	O/B	ON SEAT	LEFT	Upright	IB	O/B	OFF SEAT
	ON SEAT	OFF SEAT	ON SEAT	OFF SEAT	ON SEAT	ON SEAT	OFF SEAT	ON SEAT	OFF SEAT	ON SEAT	ON SEAT	OFF SEAT	OFF SEAT	ON SEAT	OFF SEAT
	A/B Intact (No Holes): <u>Y/N</u>														
	Face to A/B: <u>IB</u> Center <u>O/B</u>														
	Contact Location: <u>High</u> Mid <u>Low</u>														
	A/B Cover Attached to Can./Cover: <u>Y/N</u>														
	Adj. D-ring Remain in Position: <u>Y/N</u>														
	Retractor Intact: <u>Y</u> N Locked: <u>Y</u> N														
	Buckle Held: Y <u>N</u> Webbing Intact: <u>Y</u> N														
	Seat Tracks Held: <u>Y/N</u>														
	Cracks in IP: <u>Y/N</u>														
	Steering Wheel Deformed: <u>Y/N</u>														
	Column Stroked w/o Interference: <u>Y/N</u>														
	Column Stroke: Left: _____ Right: _____														

Post Test COMMENTS: _____

BOTH BUCKLES LET GO
 RT SEAT PYRO GONE

OBSERVER: MJM

TR-9837
Sheet-19

Attachment VI.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 20

Inhibitor: Dale Padigo
Phone: x38813

TA9837.

Run H 19328

Date 8-10-98

Retractor Evaluation

1

Buck # 405

Reference: H
H
H

Left	DUMMY TYPE	Right
50HS		50HS
MD	SEAT POSITION	MD
310	DUMMY NUMBER	322

POSITIONING

2235
1659

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 50HS)	25	22.5	22.5	20		
Column Angle					at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	0
H-Point Vertical Laser #	-196	-198	-198	-198		0
H-Point Lateral	213	210	211	211	12	0
Knee Longitudinal Laser #	-168	-168	-168	-149		
Knee Vertical Laser #	-94	-98	-71	-71		
Knee Lateral	264	264	265	265	0	0
Head Longitudinal Laser #	353	347	333	356	level	0
Head Vertical	458	448	434	432	level	0
Head Lateral	330	323	324	320	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)		194	184	194		
Left Knee to Bolster						0
Right Knee to Bolster						0
Nose to Steering Wheel Upper Rim or IP						0
Thigh to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	233		236	
Thigh Lateral	233		235	
Fluorim Lateral	215		230	
Shoulder Lateral	160		170	
Other				
Other				
Other				
Knee to H-Point	355		340	
Knee to Pelvis	257		187	
Knee to Thigh	98		83	
Distance Between A or B Film Targets	51		51	
Upper or Forward Reference Target	25		25	
Lower or Rearward Reference Target	35		35	
Reference Bar to Film Plane	1027/1028		967/1000	
Camera Angle	3.5		2.5	< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Instructor: Dale Ferrigo
Phone: x50013

TA9837

Run H 19329

Date 8/10/98

Retractor Evaluation

2

Block # 405

Reference: H
H
H

Left		Right	Center
50H3	DUMMY TYPE	50H3	
MID	SEAT POSITION	MID	
312	DUMMY NUMBER	387	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 (notch)
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 50H3)		22.5	22.5			
Column Angle					at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	6
H-Point Vertical Laser #	-196	-198	-198	-198		6
H-Point Lateral Laser #	209	210	211	210	12	6
Knee Longitudinal Laser #	-168	-168	-168			
Knee Vertical Laser #	-98	-98	-71			
Knee Lateral Laser #	264	264	265	265	6	6
Head Longitudinal Laser #	347	347	339		level	6
Head Vertical Laser #	445	448	434		level	6
Head Lateral Laser #	323	323	324		level	6
Dummy Neck Adjustments (first run only)						
Knee Centerline to Knee Centerline (max)	194	240	194	194		
Left Knee to Bolster						6
Right Knee to Bolster						6
Knee to Steering Wheel Upper Rim or 1/P						6
Thigh to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						



FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± deg.)
Knee (target) Lateral	215			215	< 5 deg.
Thigh Lateral	205			215	< 5 deg.
Phantom Lateral	195			270	
Shoulder Lateral	150			150	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Film Targets	61			61	
Upper or Forward Reference Target	25			25	
Lower or Rearward Reference Target	35			35	
Reference Bar to Film Plane	1105			1095	
Camera Angle					

Notes: * PER REQUESTER (SET LIKE PASS.)

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 22

TA9837

Run H/9330

Date 8/10/98

Initiator: Dale Perigo
Phone: x4016

Retractor Evaluation

3

Buck # 405

Reference: H
H
H

Left		Right
SEHS	DUMMY TYPE	SEHS
Full Back	SEAT POSITION	Full Back
551	DUMMY NUMBER	347

Center

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for J500)	22.8	22.5	22.5	22.5		
Column Angle					at left	at left
H-Point Longitudinal Laser #	306	348	348	316	12	0
H-Point Vertical Laser #	212	-212	-214	216		6
H-Point Lateral Laser #	195	-578	-578	19.2	12	6
Knee Longitudinal Laser #	-65			6.5		
Knee Vertical Laser #	-78			14.9		
Knee Lateral	220	520	520	220	6	0
Head Longitudinal Laser #	470			470	level	0
Head Vertical Laser #	272			272	level	6
Head Lateral	350	448	448	350	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	225	225	226	225		
Left Knee to Bolster						0
Right Knee to Bolster						0
None to Steering Wheel Upper Rim or EP						0
Torso to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

4 →
2 →
5 →

FILM ANALYSIS

Knee (target) Lateral	220		190	
Thigh Lateral	200		195	
Phantom Lateral	185		225	
Shoulder Lateral	185		135	
Other				
Other				
Other				
Knee to H-Point	350		350	
Knee to Phantom	240		240	
Knee to Thigh	90		120	
Distance Between A or B Piller Targets	51		51	
Upper or Forward Reference Target	25		25	
Lower or Rearward Reference Target	35		35	
Reference Bar to Film Plane	1105		1095	
Camera Angle				< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 23

Initiator: Dale Perigo
Form: X5010

TA9837

Run H 12331

Date 8/10/98

Retractor Evaluation

4

Buck # 406

Reference: H
H
H

Left		Right	
SEHS	DUMMY TYPE	SEHS	
Full Back	SEAT POSITION	Full Back	
351	DUMMY NUMBER	347	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (19" above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	21.8	22.5	22.5	22.5	0	+/-1 notch
Column Angle						
H-Point Longitudinal Laser #	345	346	345	346	at left	at left
H-Point Vertical Laser #	212	-212	-214	214	12	6
H-Point Lateral	295	578	578	192	12	6
Knee Longitudinal Laser #	65			65		
Knee Vertical Laser #	16			100		
Knee Lateral	220	520	520	225	0	6
Head Longitudinal Laser #	478			480	level	6
Head Vertical Laser #	477			473	level	6
Head Lateral	350	446	446	350	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mea)	225	228	228	225		6
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or VP						6
Torso to Steering Wheel Lower Rim						6
Reference Target to Seat Back Longitudinal						
Reference Target to Seat Back Vertical						
Reference Target to Seat Back Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS				
Knee (target) Lateral	210		210	
Thigh Lateral	210		200	
Phantom Lateral	200		195	
Shoulder Lateral	145		130	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Pillar Targets	51		51	
Upper or Forward Reference Target	25		25	
Lower or Rearward Reference Target	35		35	
Reference Bar to Film Plane	1105		1055	
Center Angle				

Notes: _____

TR-9851
Sheet 24

Attachment VII.
Photographic Set-Up

SLED 0032153

Sheet 25

PHOTOGRAPHIC REQUEST SHEET FOR

TA9837

Initiator: Dale Parrigo
Phone: x36018

TEST DESCRIPTION: Retractor Evaluation

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

Over Shoulder Head to Airbag		Left		Right	
2 Belt "D" Ring		X Left		X Right	
2 Belt Retractor		X Left		X Right	See Note Below
2 Belt Buckle, Inboard		X Left		X Right	
Inboard Knee to IP Contact					
Steering Column Stroke					
Inner Instrument Panel					
Dummy Roll Out		Left	Center	Right	
Seat Tracks		Lt inbd	Lt o/b	Rt inbd	Rt o/b
Fiber Optics					

- OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Video: _____

• OUTRIGGER Cameras:

2 Overall Kinematics (R/A)		X Left		X Right
Knee to Bolster				Left Right
Chest to Steering Wheel				Left Right
Retractor Payout, Cross-car				Left Right
Lap Belt on Dummy				Left Right
Seat Track/Cushion				Left Right

- OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
 1 High Speed Video: At the LH retractor
 1 High Speed Video: At the RH Retractor

• OFF-BOARD Cameras

Offboard - Floor Overall _____
 Offboard - Kinematics _____

Total On-BUCK Cameras =	6	Total OUTRIGGER Cameras =	4
-------------------------	---	---------------------------	---

DIGITAL STILL PHOTOGRAPHS:

X Pre & Post Test Overall		X Left		X Right
Knee Bolster(s)				Left Right
A/B Face Print				Left Right
X Other: LH and RH Retractors				
Other: _____				
Other: _____				
Other: _____				

ADDITIONAL INFO:

5 Number of Runs	Refer this to TA		
1 Requestor High Speed Films	Requestor Info:	Dept. Name	Vehicle Crash Safety
1 Safety Lab High Speed Films		Dept. No.	T331
0 VHS Copies of H.S. Films		Work Task No.	F09
0 VHS Copies of H.S. Video		Requestor.	Dale Parrigo
		Phone No.	x36018

Additional Comments: Set-up retractor film camera view from below

Sheet 26

FILM ANALYSIS REQUEST SHEET FOR

TA9837

Initiator: Dale Perigo
Phone: x50018

FILM ANALYSIS:

Head Disp. & Velocity wri _____
 Shoulder Disp. & Velocity wri _____
 El-pt Disp. & Velocity wri _____
 Knee Disp. & Velocity wri _____
 Other, Specify: _____

 Other, Specify: _____

 Other, Specify: _____

 Other, Specify: _____

Final Test Report
Confidential



Advanced Vehicle Technology

Test Order No.: TB4763
Subject: 2000 D188 Series N
D188 Passenger Inflator Evaluation
Requested By: Dale Perrigo
Requesting Dept.: T651
Work Task No.: F09
Test Facility: Hyge
Date Received: 8/19/1999
Date Reported: 9/18/1999
Test Dates: 4/13/1999 to 4/14/1999
Run Numbers: H10881 to H10895
Procedure(s): T657-110
Pages: 1 of 20
Date: 6/17/99

Case of Copies (Not Stamped) by:	
YAH Record Copy (Not Stamped) Date:	8/20/99
Article Number:	7-4-2

Objective:

Passenger side airbag inflator evaluation.

Summary:

One 25 MPH, two 31 MPH, and two 30 MPH (Generic pulse) tests were conducted on the Hyge sled using either one 5% or one 60% instrumented hybrid III test dummy. The testing was conducted using the D188 rigid full body buck (#418). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Parameters
- IV. Post Test Observations
- V. Dummy Positioning

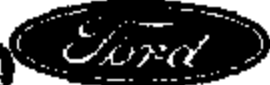
Consent:


Steve Leuk
Section Supervisor
Operations Engineering
Safety Laboratories Department


Wim Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

7B-4763
Sheet 2

Attachment I
Test Authorization

 GTO Test Request		Requester / Coordinator (PROFE): DPERWGO	
		DALE PERRIGO	
Performing Activity: HYGE and VIA Med	Date Submitted: 15-MAR-1999	Requested Completion Date: 28-MAR-1999	Requester Reference Number:
Procedure Number: 108	Request Title and / or Subject of Request: D188 HYBRID INFLATOR EVAL. OF 6TH FEMALES UPRIGHT		
Requester's Dept No.: T801 AVIATION	Work Task / Work Order Number: F89	Request submitted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Requester's (PROFE): DPERWGO	Requester's Name: DALE PERRIGO		
<p>Complete the following two questions as indicated</p> <p>1 - Reason for not replacing this test by GAE Analysis:</p> <ul style="list-style-type: none"> <input type="checkbox"/> No GAE Methodology or process available <input type="checkbox"/> For GAE Correlation <input type="checkbox"/> Insufficient confidence in GAE <input type="checkbox"/> To obtain basic data for CAI <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing in Outdoor <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input checked="" type="checkbox"/> Development test for F89 <input type="checkbox"/> Not applicable <p>Other:</p> <p style="text-align: center;">(Check appropriate boxes)</p>		<p>2 - What is the expected Test Outcome:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Results will meet DVPWGR requirements (Sign-Off) <input type="checkbox"/> System Component will not meet Test specification <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Above is based on GAE? <p>Other:</p> <p style="text-align: center;">(Check appropriate boxes)</p>	
Request Purpose / Request Procedure or Description of Request: TEST - VIA Hyge Med Desk Upright Adult Hybrid III Dummy Positioning Procedure			
Test Object:	Reference Object:	Reference Description:	
	NA	NA	
Sample #	Object ID	Object Description	
1	D188 F89 RESTRAINTS	BELTS, AIRBAGS, ETC.	
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer	DALE PERRIGO	Assigned Coordinator	WIM VAN GLABBEK
Request Authorized by	Not Required	Assigned Supervisor	STEPHEN LESH

Sheet 4

Test Definition Worksheet

Test No: TB4763 D186 HYGE INFLATOR EVAL OF 5TH FEMALE UPRIGHT
 Service/Procedure: 108 T887-108 Hyge Blad Back Upright Adult Hybrid II Dummy Positioning Procedure
 Test Object: Request Date: 12-MAR-1999
 Requester: DALE PERRIGO (DPERRIGO) Requester Phone: 84-58018

Sample #	Object ID	Object Description
1	D186 PSGR RESTRAINTS	BELTS, AIRBAGS, ETC.

Parameter:	Value:	Units:
Vehicle Model	DW186	
Requester Pager ID	DPER	
Veh. Year	2000	

FOR REFERENCE ONLY

SLED 0032224

Attachment II
Test Matrix

TAF TB4763

SYSTEM: B196 Passenger Interceptor Evolution

DATE: 30-Mar-99

PROVIDED:

Author: Dale Partridge
From: JLN/B

CUM RUNS	FROM RUN	HYGE	HYGE RUN	TYPE	FROM DEPT	PLANE	ACFT	MODE	TEST DATE	TYPE	P190	P191	P192	P193	P194	P195	P196	P197	P198	P199	P200	DIAGN	DIAGN	DIAGN	DIAGN	DIAGN	HARDWARE LEVEL							Inst.	Date:				
																											IP	CI	FI	RI	AB	BC	BT			BL	CT	DN	DRN
01	01			D	REPT																																		
02	01			D	REPT																																		
03	01			D	REPT																																		
04	01			D	REPT																																		
05	01			D	REPT																																		

- P25 Broad Prototyp CFR. Forward Lock with upgraded on-center with same mechanics (designer lock only). 80 Inch change CP level PT with pwr Aobjn level pilot profile.
- D41 Active CP level Integrated wheel steering. P3 Interp. 2x20mm vents.
- D12 Active CP level Integrated wheel steering. P3 Interp. 2x20mm vents and alternate bleed.
- P26 Active passenger bag. 107L, 2x20 vents, ASX level cover
- P17 Active passenger bag. JYC350 Interp, 107L, 2x20 vents, ASX level cover.
- P18 Active passenger bag. 825 Interp, 20 Inch, 107L, 2x20 vents, ASX level cover.
- 01 D101 Manual Start
- 04 W475 5 Power Boost
- 0C3 Steering column with extra limited by 100psi limited with 0.3 inch gap. No shear cups
- 08 CP panel that accepts ASX level passenger abing cover

NOTES:
 All runs use instrumented dynamics.
 Rigid heater core MUST be installed for all runs.

SLFD 0032226

Sheet 6

1B-4163
Sheet 7

Attachment III.
Sled Parameters

NUMBER OF RINGS	RING	T.A.#	TEXT TYPE	DATE	TIME	DATA CHRON.	WEIGHT (LBS)	NPCL	INCHES	LONG	SET	SPACE	BUCK #	VELOCITY (MPH)	LEFT	CLEARER OR CENTER	RIGHT	FEET	INNER RING	OUTER RING
1	1021	1021A	DRUG PAGE A DEV	4/19/77	14:28	25	225	65	48	152	277	180	400	30	--	--	35	65	CR	CR
2	1022	1022A	DRUG PAGE A DEV	4/19/77	14:33	25	225	70	48	152	277	180	400	30	--	--	35	64	CR	CR
3	1023	1023A	DRUG PAGE A DEV	4/19/77	14:38	25	225	75	48	152	277	180	400	31	--	--	35	65	CR	CR
4	1024	1024A	DRUG PAGE A DEV	4/19/77	14:43	25	225	80	48	152	277	180	400	31	--	--	35	65	CR	CR
5	1025	1025A	DRUG PAGE A DEV	4/19/77	14:48	25	225	85	48	152	277	180	400	31	--	--	35	65	CR	CR

SLIED 0032228

115-416
8/24/8

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 10

Instructor: Dale Parrigo
Phone: x39018

HYGE Run # 19821

Run Date 4/13/99

Test Engineer: Wm Van Glabbeek

Test Auth # TB4783

Requester: Dale Parrigo

BUCK # 406

1

MATRIX #

Test Title/Description: D186 Passenger Inflator Evaluation

Coach/HYGE Pulse Rat:

Simulated Speed: 30

Pin # 93

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	<p>LEFT Airbag: _____ ma Pyro Buckle: _____ ga</p> <p>Dummy _____ A/B _____ Belt _____ Seat _____ Track: power manual _____ Position: _____ Welded? Y N</p> <p>Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____</p>	<p>RIGHT Airbag: <u>30/100</u> ma Pyro Buckle: <u>10</u> ma</p> <p>Dummy <u>5TH</u> A/B <u>P-18</u> Belt <u>R-2</u> Seat <u>S-4</u> Track: <u>power</u> manual _____ Position: <u>PP</u> Welded? Y <u>(N)</u></p>
--	--	---

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright			RIGHT SIDE	Upright			
	LB	VB	Q/B		LB	VB	Q/B	
	On Seat	Off Seat		On Seat	Off Seat		On Seat	Off Seat
A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N	
Face to A/B		LB Center Q/B		Face to A/B		LB Center Q/B		
Contact Location:		High Mid Low		Contact Location:		High Mid Low		
A/B Cover Attached to Can./Cover:			Y / N	A/B Cover Attached to Can./Cover:			Y / N	
Adj. D-ring Remain in Position:			Y / N	Adj. D-ring Remain in Position:			Y / N	
Retractor Intact:	Y / N	Locked:	Y / N	Retractor Intact:	Y / N	Locked:	Y / N	
Buckle Held:	Y / N	Webbing Intact:	Y / N	Buckle Held:	Y / N	Webbing Intact:	Y / N	
Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N	
Cracks in MP:			Y / N	Cracks in MP:			Y / N	
Steering Wheel Deformed:			Y / N					
Column Stroked w/o interference:			Y / N					
Column Stroke:	Left:			Right:				

Post Test COMMENTS: * TEST LOCKED NORMAL

DATA REVIEWED

OBSERVER: D. Duda

HYGE Sled Test Summary

Sheet 11

Address: Dale Ferrigo
Phone: x5018

HYGE Run # 19822

Run Date 4/13/99

Test Engineer: Wim Van Glabbeek

Test Auth # TB4783

Requester: Dale Ferrigo

BUCK# 418

3
MATRIX #

Test Title/Description: D188 Passenger Interior Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35

Pin # 54

	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>18/17</u> ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: <u>power</u> manual _____ Position: _____ Welded? Y N _____	CENTER	Dummy _____ Belt _____ Dr. A/B FMB _____ Pass. FMB _____
			RIGHT	Dummy <u>50 TH</u> A/B <u>P-18</u> Belt <u>R-2</u> Seat <u>S-4</u> Tracks: <u>power</u> manual _____ Position: <u>M/D</u> Welded? Y <input checked="" type="checkbox"/>
	Instrument Panel: _____			
	Steering Column: _____			
Pre-Test OBSERVATIONS: _____				
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:				
	LEFT	Upright I/B O/B On Seat Off Seat	RIGHT	Upright Left Right On Seat Off Seat
LEFT SIDE		A/B Intact (No Holes): Y / N		A/B Intact (No Holes): <input checked="" type="checkbox"/> / N
		Face to A/B I/B Center O/B Contact Location: High Mid Low		Face to A/B I/B Center <input checked="" type="checkbox"/> Contact Location: High <input checked="" type="checkbox"/> Mid Low
		A/B Cover Attached to Can./Cover: Y / N		A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> / N
		Adj. D-ring Remain in Position: Y / N		Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> / N
		Retractor Intact: Y / N Locked: Y / N		Retractor Intact: <input checked="" type="checkbox"/> / N Locked: <input checked="" type="checkbox"/> / N
		Buckle Held: Y / N Webbing Intact: Y / N		Buckle Held: <input checked="" type="checkbox"/> / N Webbing Intact: <input checked="" type="checkbox"/> / N
		Seat Tracks Held: Y / N		Seat Tracks Held: <input checked="" type="checkbox"/> / N
		Cracks in I/P: Y / N		Cracks in I/P: Y <input checked="" type="checkbox"/>
		Steering Wheel Deformed: Y / N		
		Column Stroked w/o interference: Y / N		
	Column Stroke: Left: _____ Right: _____			
Post Test COMMENTS: <u>* COLORE BOX DOOR CAME OPEN</u>				
DATA REVIEWED				
* CU 16				
				OBSERVER: <i>[Signature]</i>

HYGE Sled Test Summary

Sheet 12

Initiator: Dale Parigo

Phone: x58018

HYGE Run # 19823

Run Date 4, 13, 99

Test Engineer: Wim Van Glabbeek

Test Auth # TB4763

Requester: Dale Parigo

BUCK # 416

4

MATRIX #

Test Title/Description: D186 Passenger Inflator Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 31

Pin # 50

FRONT SEAT	LEFT Airbag: <u>12/120</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: <u>12/120</u> ms Pyro Buckle: <u>10</u> ms
PRE-TEST OBSERVATIONS	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: <u>power manual</u>	CENTER	Dummy _____ Belt _____ Dr. A/B FMM _____ Pass. FMM _____
	Position: _____ Welded? <u>Y</u> <u>N</u>	RIGHT	Dummy <u>331</u> A/B <u>18</u> Belt <u>222</u> Seat <u>54</u> Tracks: <u>power manual</u>
	Instrument Panel: _____ Steering Column: _____	RIGHT	Position: <u>MLO</u> Welded? <u>Y</u> <u>N</u>
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			CENTER			RIGHT		
	Upright On Seat	VB Off Seat	OVB	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat	VB Off Seat	OVB
A/B Intact (No Holes):				Y / N					Y / N
Face to A/B									
Contact Location:				VB Center High Mid Low					VB OVB High Low
A/B Cover Attached to Can/Cover:				Y / N					Y / N
Adj. D-ring Remain in Position:				Y / N					Y / N
Retractor Intact:	Y / N			Locked: Y / N					Y / N
Buckle Held:	Y / N			Webbing Intact: Y / N					Y / N
Seat Tracks Held:				Y / N					Y / N
Cracks in UP:				Y / N					Y / N
Steering Wheel Deformed:				Y / N					Y / N
Column Stroked w/o Interference:				Y / N					Y / N
Column Stroke:	Left: _____			Right: _____					
Post Test COMMENTS: _____ <u>ROPPING AT 'D' RING - BOLSTER CONTACT W/ NO VISIBLE DEFORMATION</u> <u>DATA REVIEWED</u> <u>* CH 16</u>									
OBSERVER:								<u>MSM</u>	

HYGE Sled Test Summary

Sheet 13

HYGE Run # 19824

Run Date 4.13.99

Initiator: Dale Perrigo
Form #58018

Test Engineer: Wim Van Glabbeek

Test Auth # TB4763

5

MATRIX #

Requestor: Dale Perrigo

BUCK # 418

Test Title/Description: D186 Passenger Inflation Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 31

Ph # 50

	LEFT Airbag: <u>12/17</u> ms		RIGHT Airbag: <u>12/17</u> ms
	Pyro Buckle: <u>16</u> ms		Pyro Buckle: <u>10</u> ms

	DUMMY A/B _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? Y N		DUMMY A/B _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: <u>MID</u> Welded? Y <input checked="" type="checkbox"/>
PARTS DESCRIPTIONS PRE-TEST OBSERVATIONS	INSTRUMENT PANEL: Steering Column: _____ Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Consent (if needed) below:

	LEFT	Upright	I/B	O/B		RIGHT	Upright	I/B	O/B	
			On Seat	Off Seat			On Seat	Off Seat	Off Seat	
LEFT SIDE					RIGHT SIDE					
A/B Intact (No Holes):				Y / N	A/B Intact (No Holes):				Y / N	
Face to A/B			I/B	Center	O/B	Face to A/B		I/B	Center	O/B
Contact Location:			High	Mid	Low	Contact Location:		High	Mid	Low
A/B Cover Attached to Can./Cover:				Y / N	A/B Cover Attached to Can./Cover:				Y / N	
Adj. D-ring Remain in Position:				Y / N	Adj. D-ring Remain in Position:				Y / N	
Retractor Intact:		Y	N	Locked:	Y / N	Retractor Intact:		Y	N	Locked:
Buckle Held:		Y	N	Webbing Intact:	Y / N	Buckle Held:		Y	N	Webbing Intact:
Seat Tracks Held:				Y / N	Seat Tracks Held:				Y / N	
Cracks in IP:				Y / N	Cracks in IP:				Y / N	
Steering Wheel Deformed:				Y / N						
Column Stroked w/o Interference:				Y / N						
Column Stroker: Left:					Right:					

Post Test COMMENTS:

BUCKLE RELEASED

BOLSTER DEFORMATION

DATA REVIEWED

* CH 16

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 14

Initiator: Dale Ferrigo
Phone: x56812

HYGE Run H 19825
Test Engineer: Wim Van Glabbeek
Requester: Dale Ferrigo

Run Date 4/14/99
Test Auth # TB4753
BUCK# 418

2
MATRIX #

Test Title/Description: D188 Passenger Inflator Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Pin # 93

PRE-TEST OBSERVATIONS	<p>LEFT Airbag: _____ ms RIGHT Airbag: <u>30/120</u> ms Pyro Buckle: _____ ms Pyro Buckle: _____ ms</p> <p>Dummy _____ Dummy _____ A/B _____ A/B _____ Belt _____ Belt _____ Seat _____ Seat _____ Dr. A/B FMF _____ Tracks: <u>power</u> manual _____ Pos. FMS _____ Position: _____ Welded? Y N _____ Instrument Panel: _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____</p>	<p>Dummy <u>BOTH</u> A/B <u>P-18</u> Belt <u>N/A</u> Seat <u>S-4</u> Tracks: <u>power</u> manual _____ Position: <u>MID</u> Welded? Y <u>(N)</u></p>																																																																																																																
POST-TEST OBSERVATIONS & CHECKLIST	<p>Comment (if needed) below:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 15%;">LEFT</th> <th style="width: 15%;">MID</th> <th style="width: 15%;">RIGHT</th> <th style="width: 10%;"></th> <th style="width: 15%;">LEFT</th> <th style="width: 15%;">MID</th> <th style="width: 15%;">RIGHT</th> </tr> <tr> <td></td> <td>Upright On Seat</td> <td>I/B Off Seat</td> <td>O/B Off Seat</td> <td></td> <td>Upright On Seat</td> <td>Left Off Seat</td> <td>Right Off Seat</td> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: middle;">LEFT SIDE</td> <td colspan="3">A/B Intact (No Holes): Y / N</td> <td style="text-align: center; vertical-align: middle;">RIGHT SIDE</td> <td colspan="3">A/B Intact (No Holes): <u>(Y) / N</u></td> </tr> <tr> <td></td> <td>Face to A/B</td> <td>I/B Center</td> <td>O/B</td> <td></td> <td>Face to A/B</td> <td>I/B Center</td> <td>O/B</td> </tr> <tr> <td></td> <td>Contact Location: High Mid Low</td> <td></td> <td></td> <td></td> <td>Contact Location: High <u>(Mid)</u> Low</td> <td></td> <td></td> </tr> <tr> <td></td> <td colspan="3">A/B Cover Attached to Can./Cover: Y / N</td> <td></td> <td colspan="3">A/B Cover Attached to Can./Cover: <u>(Y) / N</u></td> </tr> <tr> <td></td> <td colspan="3">Adj. D-ring Remain in Position: Y / N</td> <td></td> <td colspan="3">Adj. D-ring Remain in Position: <u>(Y) / N</u></td> </tr> <tr> <td></td> <td>Retractor Intact: Y / N</td> <td>Locked: Y / N</td> <td></td> <td></td> <td>Retractor Intact: <u>(Y) / N</u></td> <td>Locked: Y / N</td> <td></td> </tr> <tr> <td></td> <td>Buckle Held: Y / N</td> <td>Webbing Intact: Y / N</td> <td></td> <td></td> <td>Buckle Held: <u>(Y) / N</u></td> <td>Webbing Intact: <u>(Y) / N</u></td> <td></td> </tr> <tr> <td></td> <td colspan="3">Seat Tracks Held: Y / N</td> <td></td> <td colspan="3">Seat Tracks Held: <u>(Y) / N</u></td> </tr> <tr> <td></td> <td colspan="3">Cracks in IP: Y / N</td> <td></td> <td colspan="3">Cracks in IP: <u>(Y) / N</u></td> </tr> <tr> <td></td> <td colspan="3">Steering Wheel Deformed: Y / N</td> <td></td> <td colspan="3">Steering Wheel Deformed: Y / N</td> </tr> <tr> <td></td> <td colspan="3">Column Stroked w/o Interference: Y / N</td> <td></td> <td colspan="3">Column Stroked w/o Interference: Y / N</td> </tr> <tr> <td></td> <td>Column Stroke: Left _____</td> <td></td> <td>Right: _____</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Post Test COMMENTS: <u>* WINDSHIELD CRACKED</u></p> <p style="text-align: center; font-size: 1.2em; font-weight: bold;">DATA REVIEWED</p> <p style="text-align: center;">* CH 14 Questionable Data</p> <p style="text-align: right;">OBSERVER: <u>[Signature]</u></p>			LEFT	MID	RIGHT		LEFT	MID	RIGHT		Upright On Seat	I/B Off Seat	O/B Off Seat		Upright On Seat	Left Off Seat	Right Off Seat	LEFT SIDE	A/B Intact (No Holes): Y / N			RIGHT SIDE	A/B Intact (No Holes): <u>(Y) / N</u>				Face to A/B	I/B Center	O/B		Face to A/B	I/B Center	O/B		Contact Location: High Mid Low				Contact Location: High <u>(Mid)</u> Low				A/B Cover Attached to Can./Cover: Y / N				A/B Cover Attached to Can./Cover: <u>(Y) / N</u>				Adj. D-ring Remain in Position: Y / N				Adj. D-ring Remain in Position: <u>(Y) / N</u>				Retractor Intact: Y / N	Locked: Y / N			Retractor Intact: <u>(Y) / N</u>	Locked: Y / N			Buckle Held: Y / N	Webbing Intact: Y / N			Buckle Held: <u>(Y) / N</u>	Webbing Intact: <u>(Y) / N</u>			Seat Tracks Held: Y / N				Seat Tracks Held: <u>(Y) / N</u>				Cracks in IP: Y / N				Cracks in IP: <u>(Y) / N</u>				Steering Wheel Deformed: Y / N				Steering Wheel Deformed: Y / N				Column Stroked w/o Interference: Y / N				Column Stroked w/o Interference: Y / N				Column Stroke: Left _____		Right: _____				
	LEFT	MID	RIGHT		LEFT	MID	RIGHT																																																																																																											
	Upright On Seat	I/B Off Seat	O/B Off Seat		Upright On Seat	Left Off Seat	Right Off Seat																																																																																																											
LEFT SIDE	A/B Intact (No Holes): Y / N			RIGHT SIDE	A/B Intact (No Holes): <u>(Y) / N</u>																																																																																																													
	Face to A/B	I/B Center	O/B		Face to A/B	I/B Center	O/B																																																																																																											
	Contact Location: High Mid Low				Contact Location: High <u>(Mid)</u> Low																																																																																																													
	A/B Cover Attached to Can./Cover: Y / N				A/B Cover Attached to Can./Cover: <u>(Y) / N</u>																																																																																																													
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	Buckle Held: Y / N	Webbing Intact: Y / N			Buckle Held: <u>(Y) / N</u>	Webbing Intact: <u>(Y) / N</u>																																																																																																												
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	Column Stroked w/o Interference: Y / N				Column Stroked w/o Interference: Y / N																																																																																																													
	Column Stroke: Left _____		Right: _____																																																																																																															

1 B-4.160
Sheet 15

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 16

Revision Date Prefix
Phone: x36018

TA5848

Run 1 1983

Date 4-23-99

D186 Due Care Testing

1

Buck # 408

Reference: H
H
H

Left		Right	
5% HIL	DUMMY TYPE	5% HIL	
Full Forward	SEAT POSITION	Full Forward	
	DUMMY NUMBER	357	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)		UPRIGHT	UPRIGHT	15	0	± 1 notch
Pelvis Angle (± 2.5 deg.; ± 1.0 for 5%ile)		21	21	13		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4		2858	2858	2866	12	8
H-Point Vertical Laser # 4		682	682	669		8
H-Point Lateral Laser # 4		348	-348	343	12	8
Knee Longitudinal Laser # 2				2533		
Knee Vertical Laser # 2				714		
Knee Lateral Laser # 2		388	-388	399	8	8
Head Longitudinal Laser # 5				3924	level	8
Head Vertical Laser # 5				1257	level	8
Head Lateral Laser # 5		434	-435	417	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)		162	162	162		
Left Knee to Bolster				88		8
Right Knee to Bolster				88		8
Neck to Steering Wheel Upper Rim or IP				320		8
Turn to Steering Wheel Lower Rim						8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS

Knee (target) Lateral			369	
Thigh Lateral			262	
Phantom Lateral			352	
Shoulder Lateral			291	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Pillar Targets			51	
Upper or Forward Reference Target			102	
Lower or Rearward Reference Target			92	
Reference Bar to Film Plane			912	
Camera Angle			4 deg. ↓	

Notes:

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 17

Initiator: Data Page
Form: 434018

TB4763

Run 19822

Date 4-13-99

D186 Passenger Inflator Evaluation

3

Buck # 418

Reference: H
H
H

Left 50% HII	DUMMY TYPE	Right 50% HII	Center
MID	SEAT POSITION	MID	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)		27.8	27.8	27	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- LD for 5%ile)		22.5	22.5	22		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4		2960	2960	2967	12	0
H-Point Vertical Laser # 4		688	688	682		0
H-Point Lateral		318	319	313	12	0
Knee Longitudinal Laser # 2				2565		
Knee Vertical Laser # 2				785		
Knee Lateral		372	373	373	0	0
Head Longitudinal Laser # 5				3101	level	0
Head Vertical Laser # 5				1301	level	0
Head Lateral		431	432	432	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)		194	194	194		
Left Knee to Bolster		87	87	89		0
Right Knee to Bolster		82	82	92		0
Neck to Steering Wheel Upper Rim or IP		371	663	553		0
Top of Steering Wheel Lower Rim		188				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2730		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS				
Knee (target) Lateral			336	
Thigh Lateral			328	
Phantom Lateral			318	
Shoulder Lateral			2100	
Other				
Other				
Other				
Knee to H-Point			275	
Knee to Phantom			820	
Knee to Thigh			109	
Distance Between A or B Pillar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 18

Initiator: Dale Parrigo
Phone: x56018

TB4763

Run 19823

Date 4/13/99

D186 Passenger Inflator Evaluation

4

Buck # 418

Reference: H
H
H

Left	Right	Center
DUMMY TYPE	50% HM	
SEAT POSITION	MID	
DUMMY NUMBER		

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	1st RUN	ADDL
Seat Back Angle (18° above pivot)			27.8	27		0	+/- 1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for SMI)			22.6	23			
Column Angle						at left	at left
H-Point Longitudinal Laser # 4			2987	2967		12	8
H-Point Vertical Laser # 4			652	662			8
H-Point Lateral			313	313		12	8
Knee Longitudinal Laser # 2			2585	2565			
Knee Vertical Laser # 2			735	735		6	8
Knee Lateral			373	375			
Head Longitudinal Laser # 5			3101	3140		level	8
Head Vertical Laser # 5			1301	1300		level	8
Head Lateral			432	413		level	8
Dummy Neck Adjustment (first run only)							
Knee Contact to Knee Contact (mm)			194	135			
Left Knee to Bolster			89	55			8
Right Knee to Bolster			92	92			8
Nose to Steering Wheel Upper Rim or IP			653	575			8
Tip to Steering Wheel Lower Rim							8
Reference Target to Seat Bolt Longitudinal							
Reference Target to Seat Bolt Vertical							
Reference Target to Seat Bolt Lateral							
Reference Target Absolute Longitudinal	2739			2739			
Reference Target Absolute Vertical	808			807			
Reference Target Absolute Lateral	872			873			

FILM ANALYSIS

Knee (target) Lateral			345				
Thigh Lateral			300				
Phantom Lateral			330				
Shoulder Lateral			260				
Other							
Other							
Other							
Knee to H-Point							
Knee to Phantom							
Knee to Thigh							
Distance Between A or B Piller Targets							
Upper or Forward Reference Target							
Lower or Rearward Reference Target							
Reference Bar to Film Plane							
Column Angle						< 6 deg.	< 6 deg.

Notes:

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 19

Initiator: Dale Parrigo
Phone: 26018

TB4763

Run 19824

Date 4/13/99

D186 Passenger Inflator Evaluation

5

Buck # 418

Reference: H
H
H

Left	Right	Center
DUMMY TYPE		60% HMI
SEAT POSITION		MID
DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					Int RUN	ADD'L
Seat Back Angle (18° above pivot)			27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5M36)			22.5	23		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4			2957	2961	12	8
H-Point Vertical Laser # 4			862	662		8
H-Point Lateral			313	312	12	8
Knee Longitudinal Laser # 2			2566	2565		
Knee Vertical Laser # 2			736	735		
Knee Lateral			873	873	6	8
Head Longitudinal Laser # 5			3101	3100	level	8
Head Vertical Laser # 5			1301	1300	level	8
Head Lateral			432	432	level	8
Daunt Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)			184	195		8
Left Knee to Bolster			88	95		8
Right Knee to Bolster			82	92		8
Nose to Steering Wheel Upper Rim or IP			583	555		8
Thru to Steering Wheel Lower Rim						8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS

Knee (upper) Lateral				240		
Thigh Lateral				230		
Phantom Lateral				225		
Shoulder Lateral				250		
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Curvature Angle					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 20
 Release: Dale Perrygo
 Phone: x56018

TB4763

Run 19885

Date 4-14-99

D186 Passenger Inflator Evaluation

2

Buck # 418

Reference: H _____
 H _____
 H _____

Left	Right	
DUMMY TYPE		60% HBI
SEAT POSITION		MID
DUMMY NUMBER		331

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Bank Angle (13° above pivot)			27.8	28	0	+/- 1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5Mils)			22.8	21		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4			2967	2967	12	0
H-Point Vertical Laser # 4			662	662		0
H-Point Lateral			313	312	12	0
Knee Longitudinal Laser # 2			2585	2585		
Knee Vertical Laser # 2			735	735		
Knee Lateral			373	373	0	0
Head Longitudinal Laser # 5			3101	3101	level	0
Head Vertical Laser # 5			1301	1301	level	0
Head Lateral			432	432	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)			194	194		
Left Knee to Bolster			89	81		0
Right Knee to Bolster			92	94		0
Nose to Steering Wheel Upper Rim or MP			653	652		0
Torso to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2730			2730		
Reference Target Absolute Vertical	608			607		
Reference Target Absolute Lateral	-672			673		

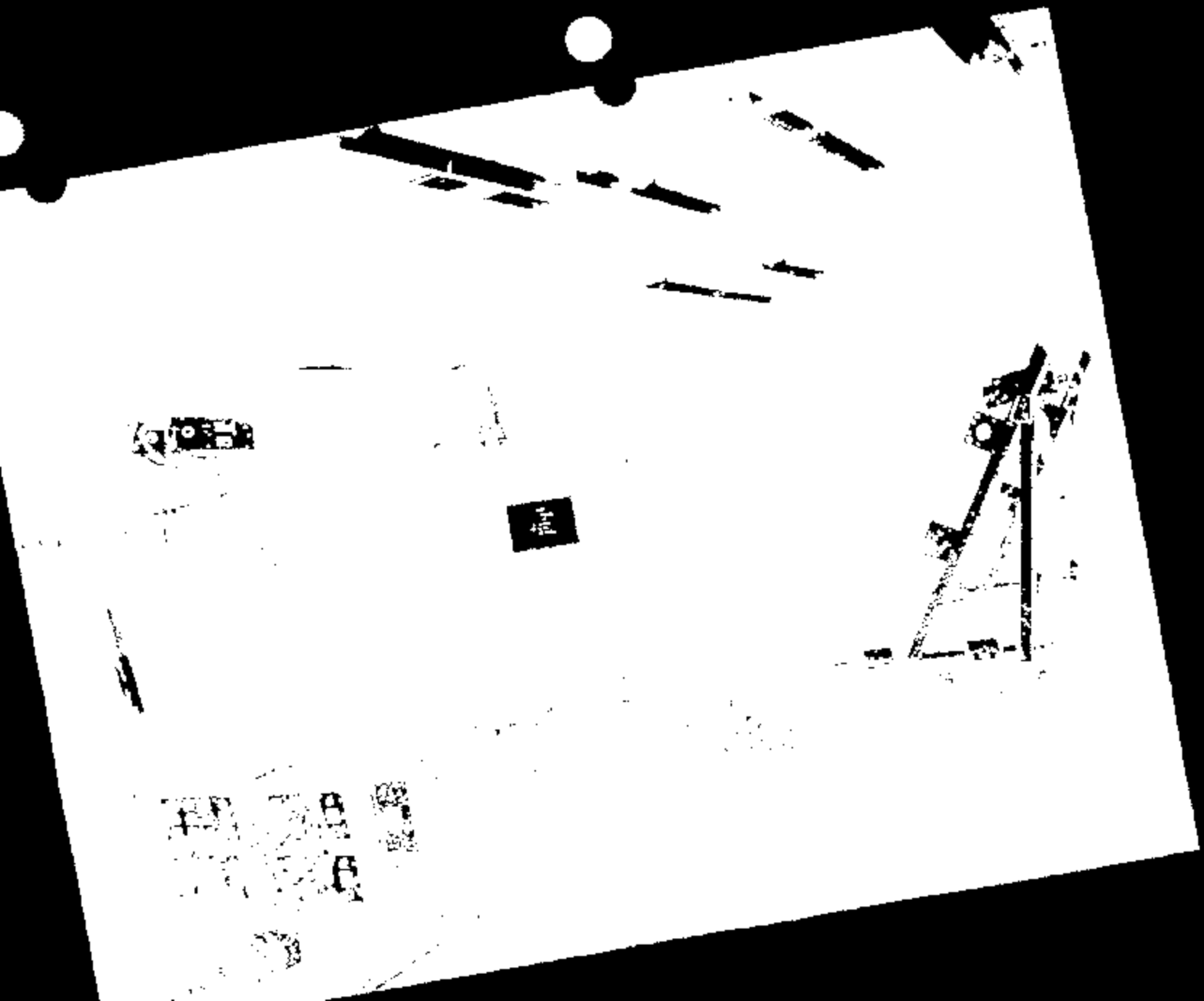
FILM ANALYSIS						
Knee (target) Lateral				348		
Thigh Lateral				336		
Flantom Lateral				339		
Shoulder Lateral				330		
Other						
Other						
Other						
Knee to H-Point						
Knee to Flantom						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

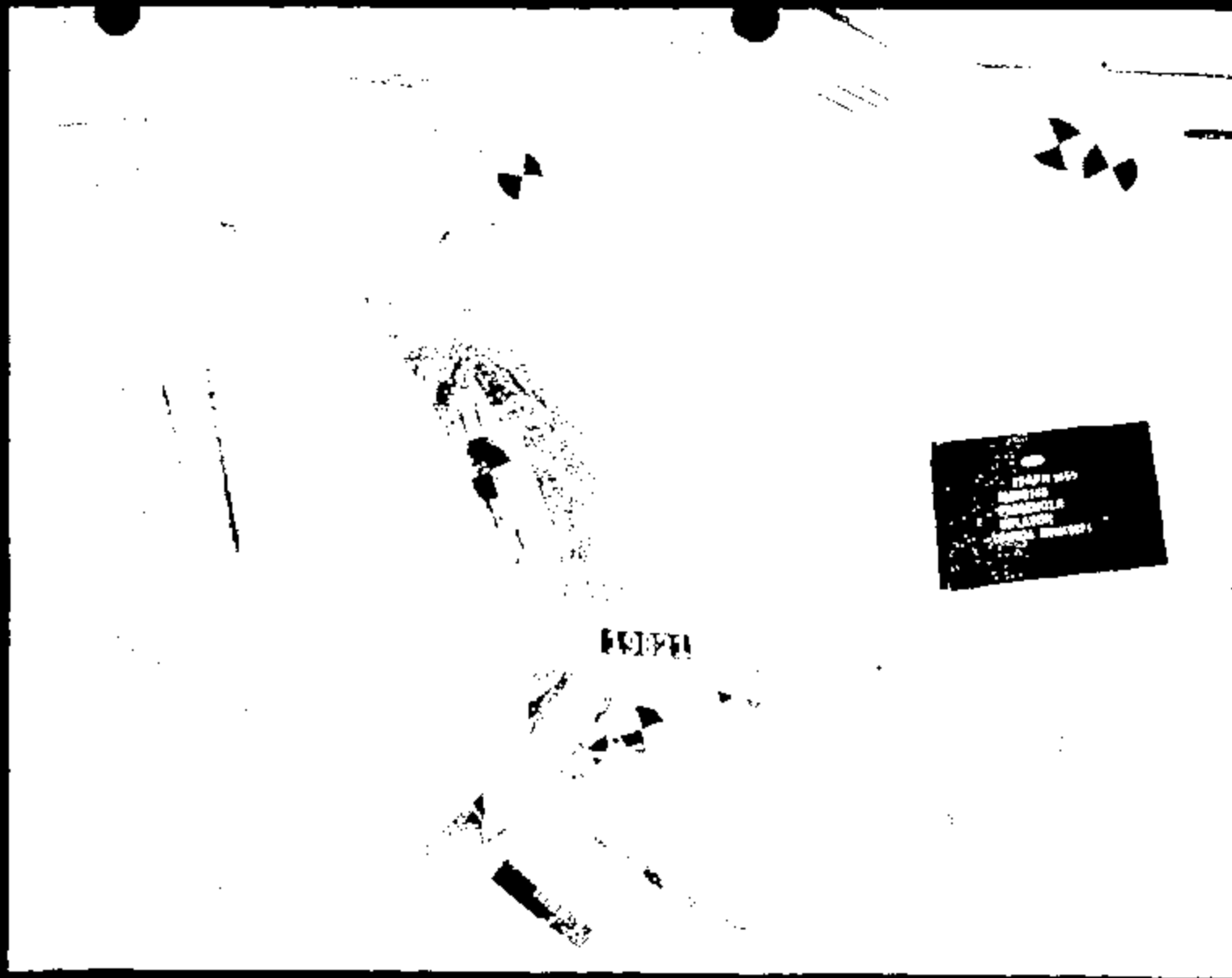
Notes: _____



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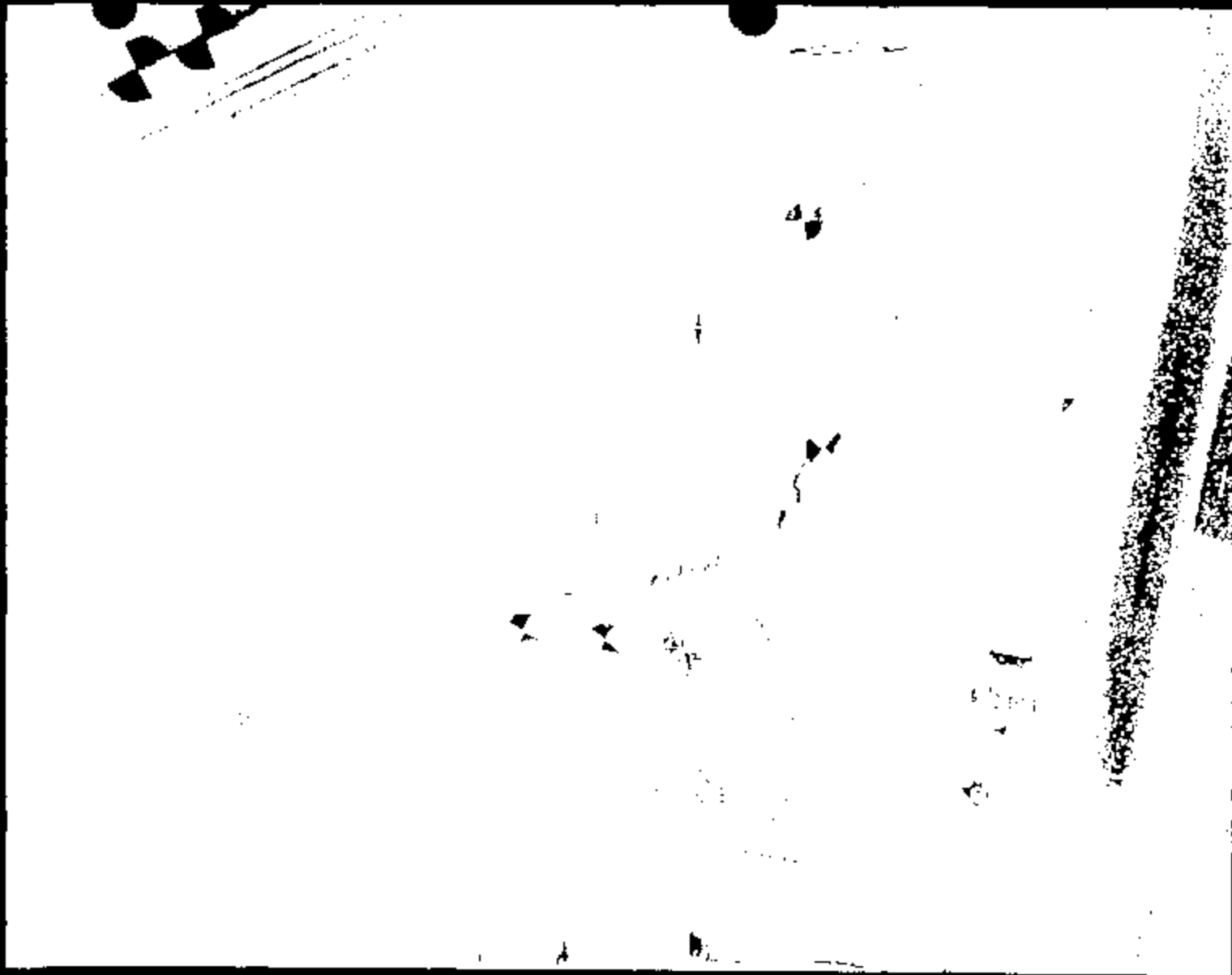


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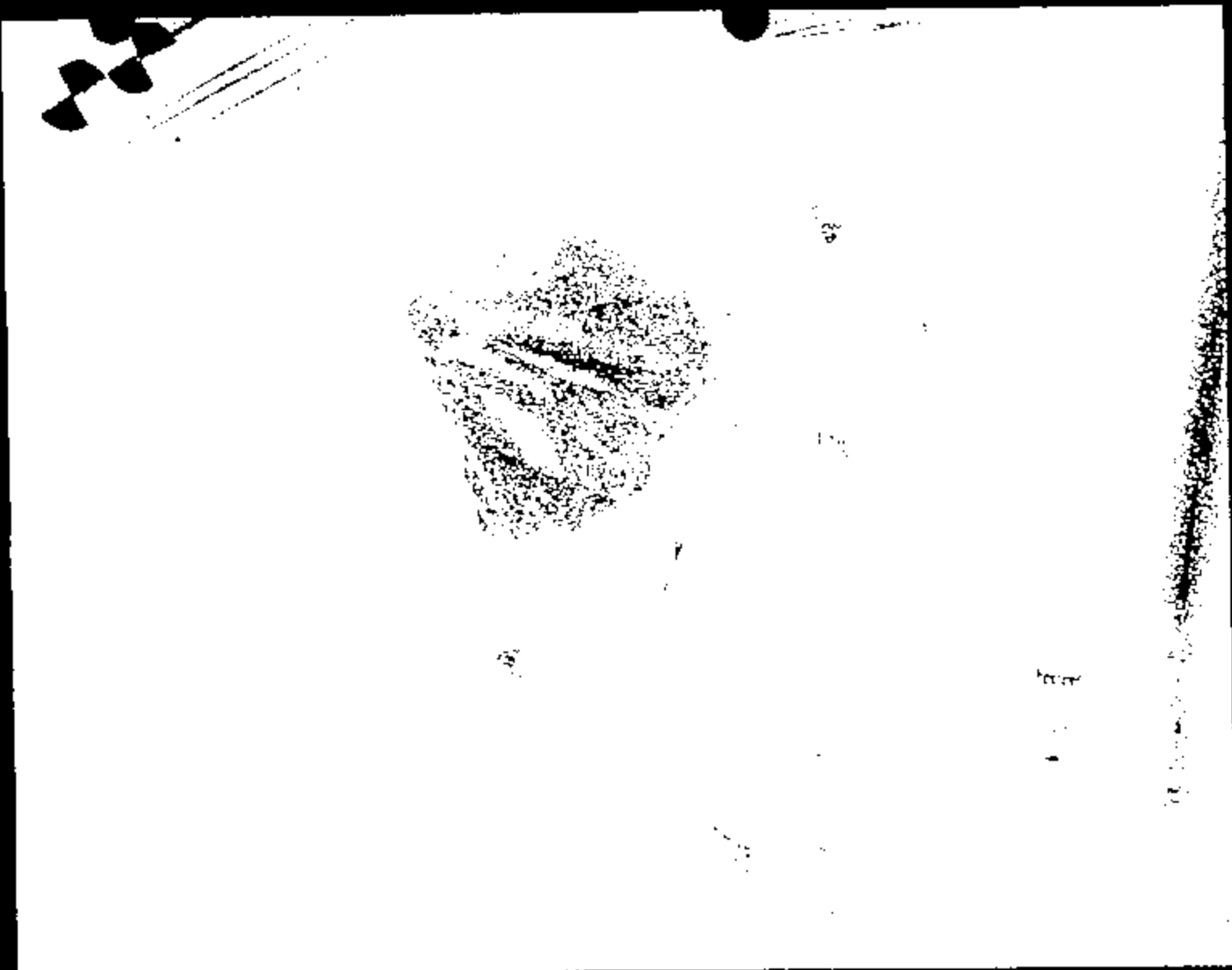
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SLEED 0032244

19821004.jpg



SLEID 0032245

19821005.jpg



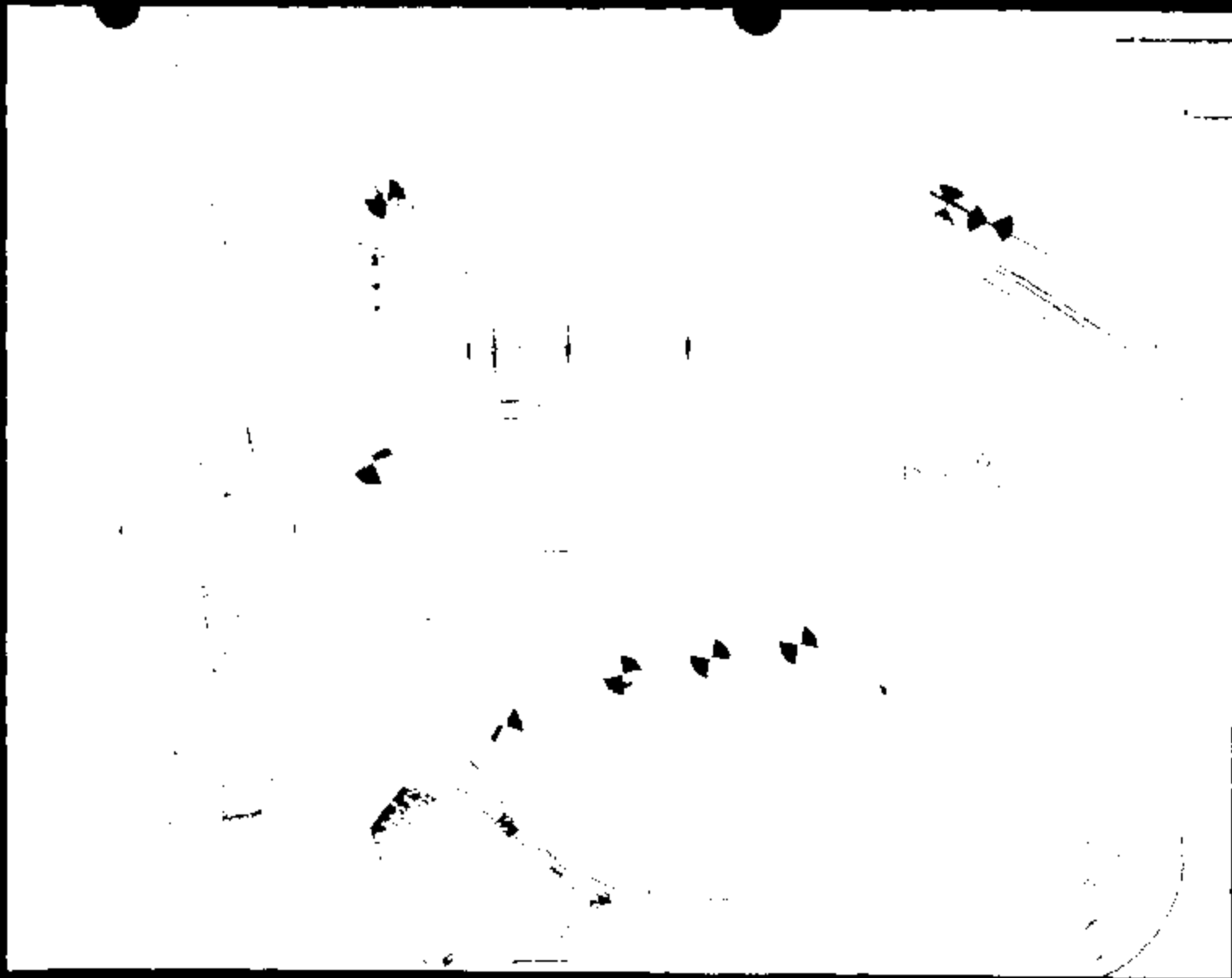
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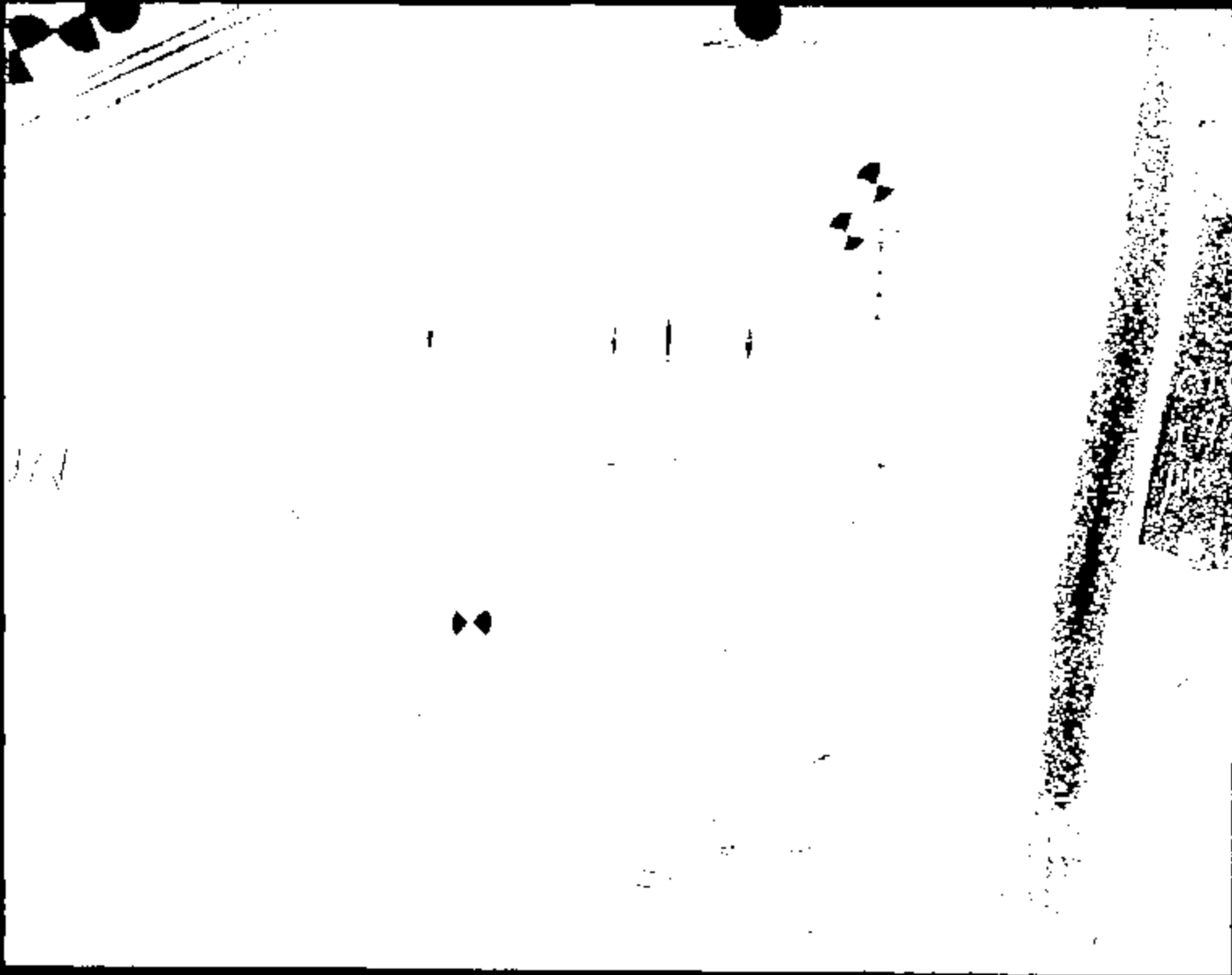
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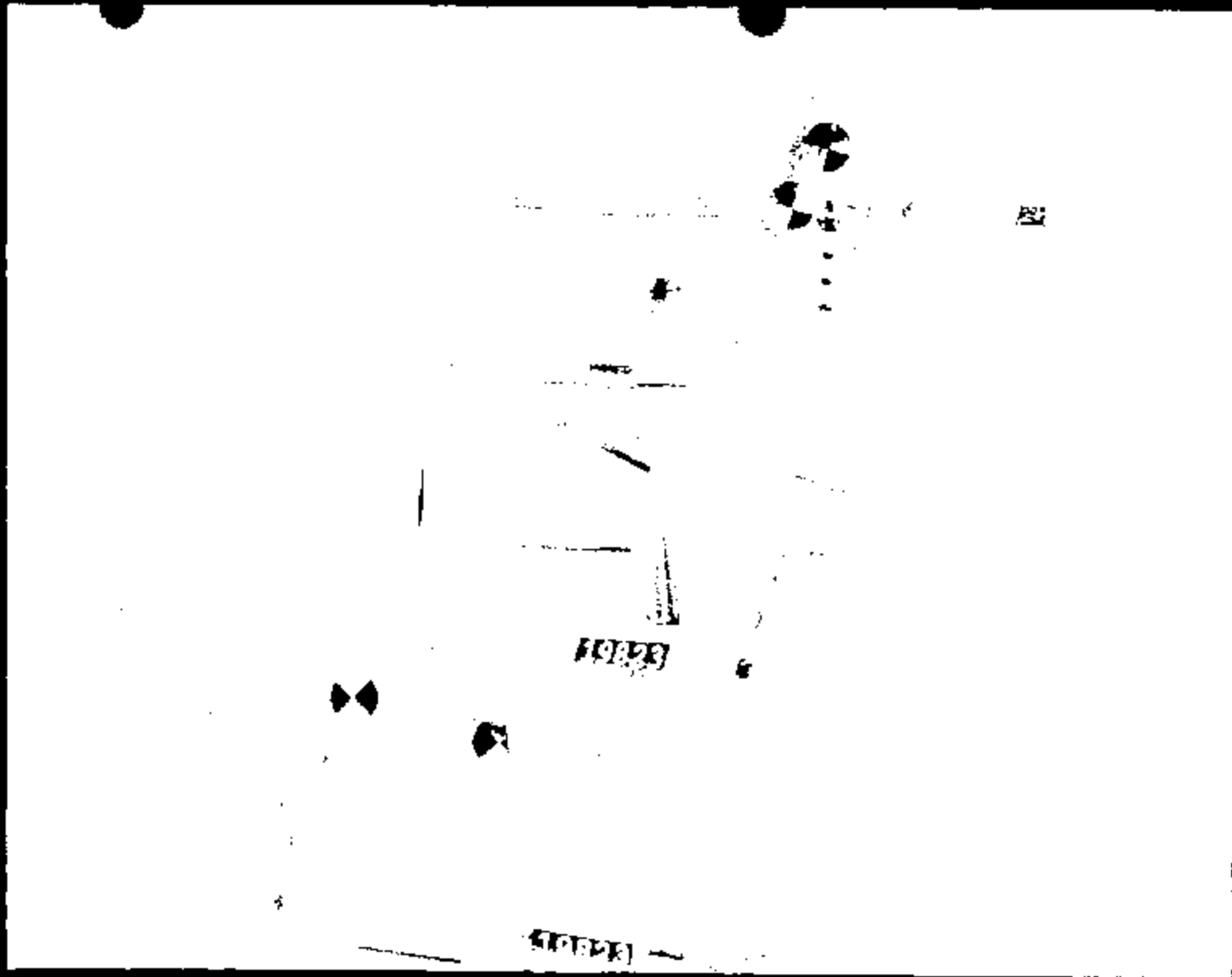
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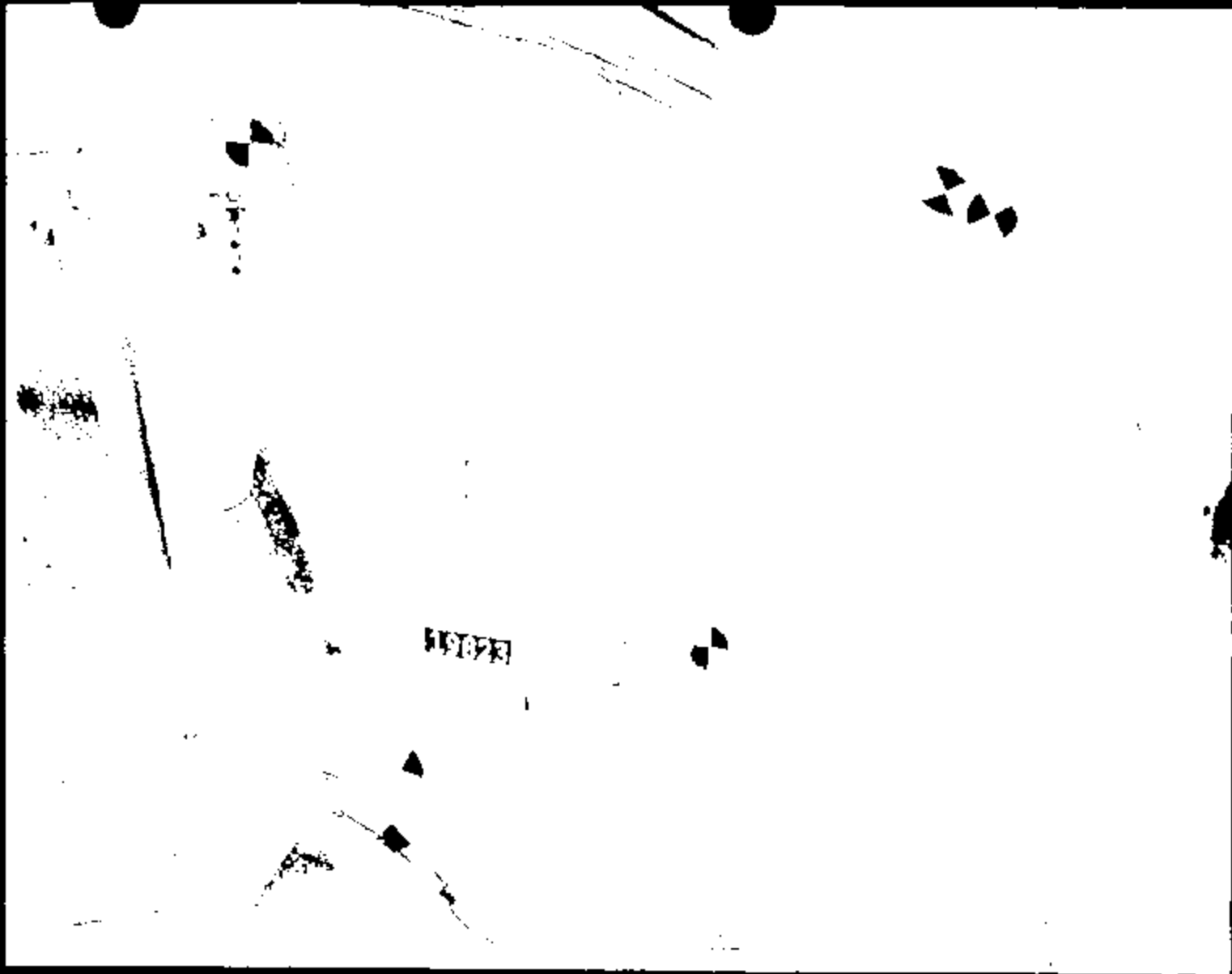
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519823

SLHD 0032252

19823002.jpg



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19823003 . jpg



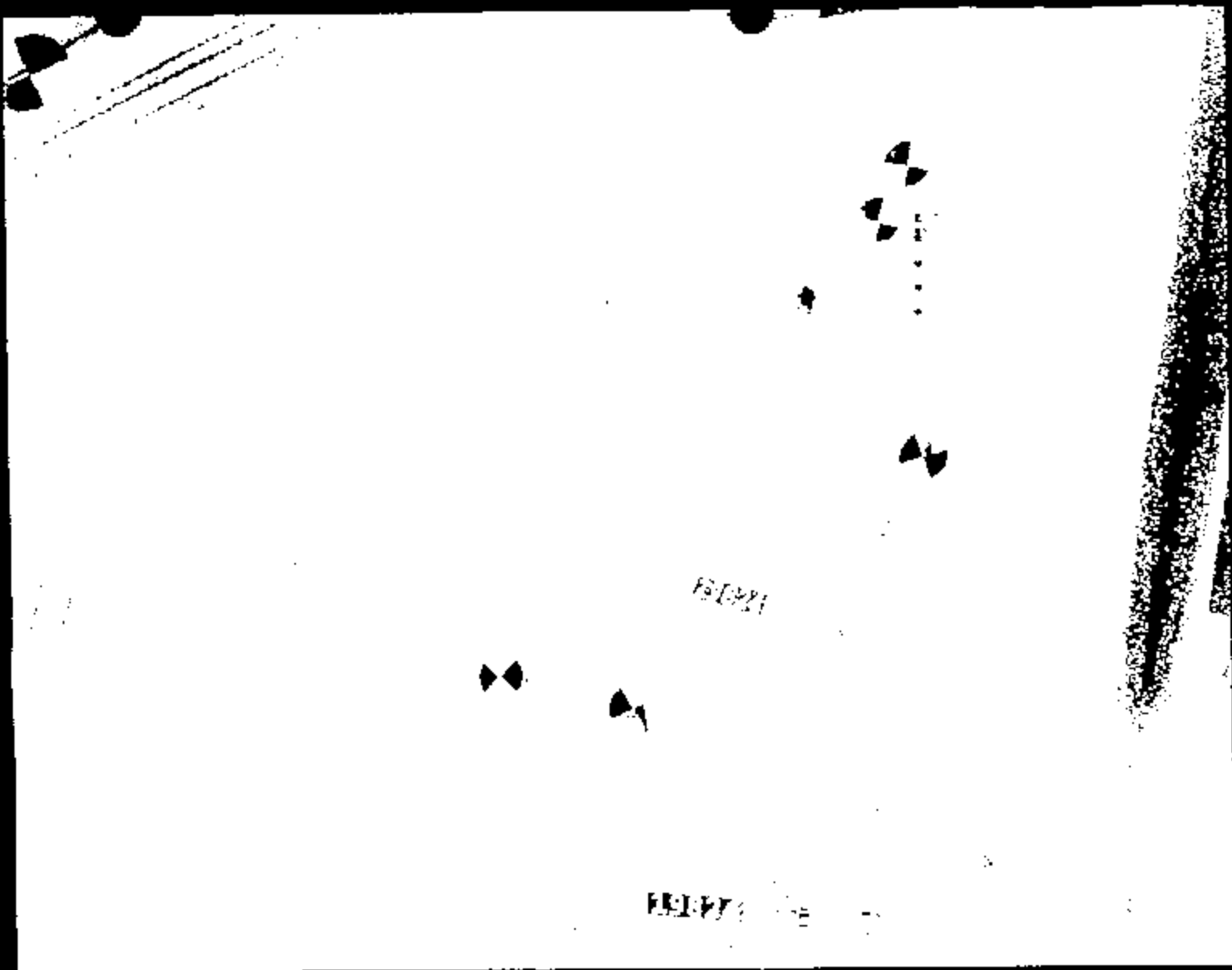
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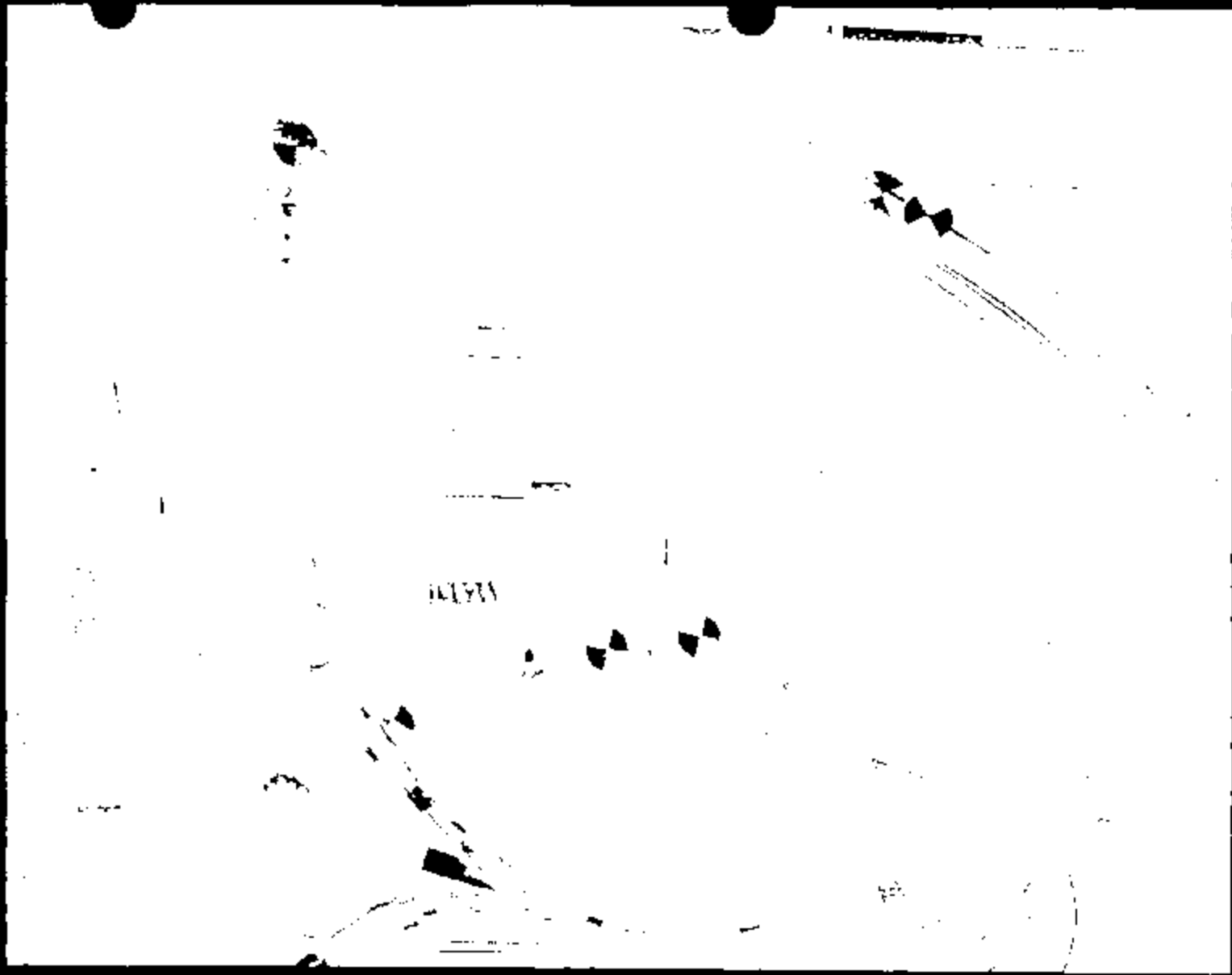
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SLED 0032257

1982402.jpg



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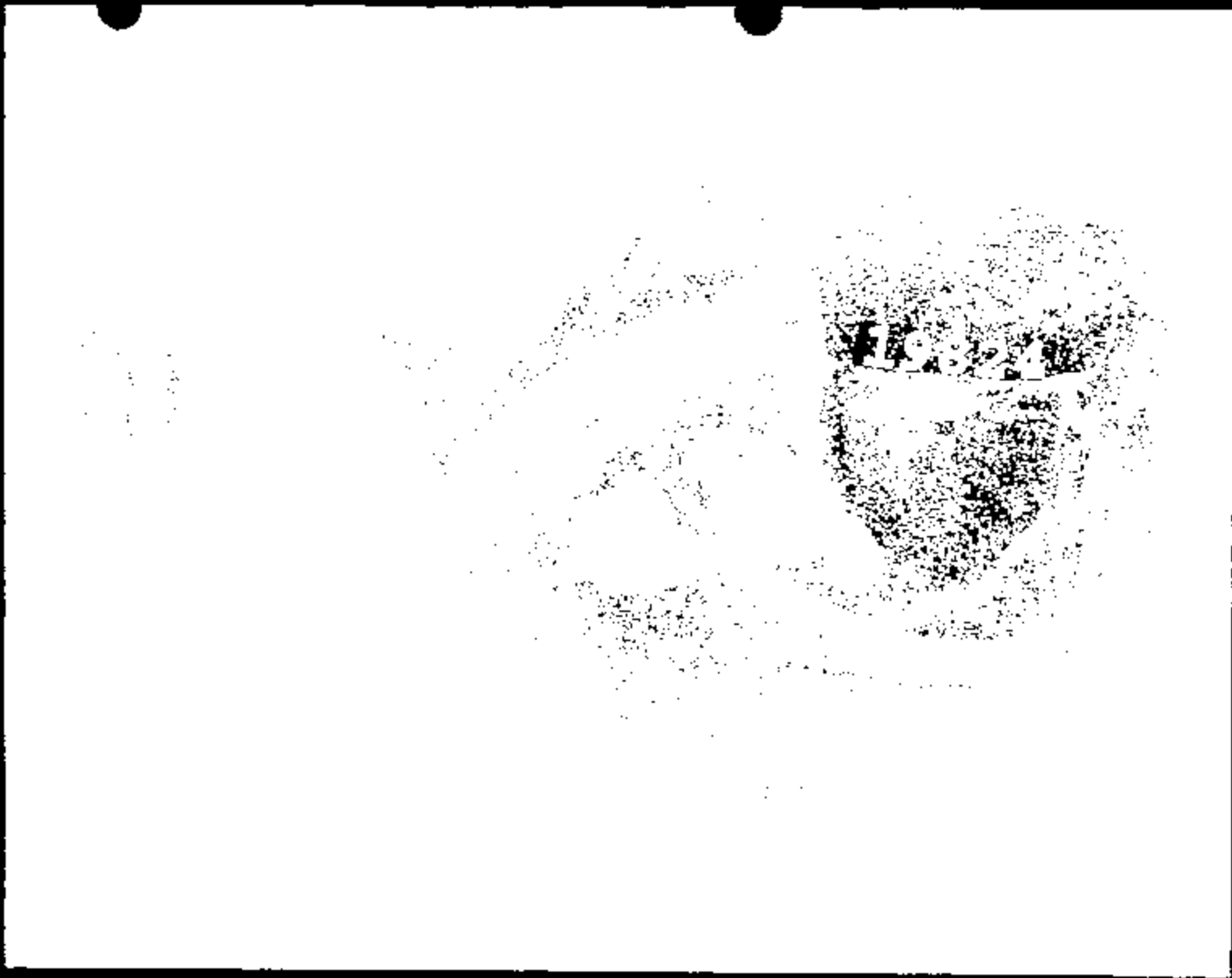
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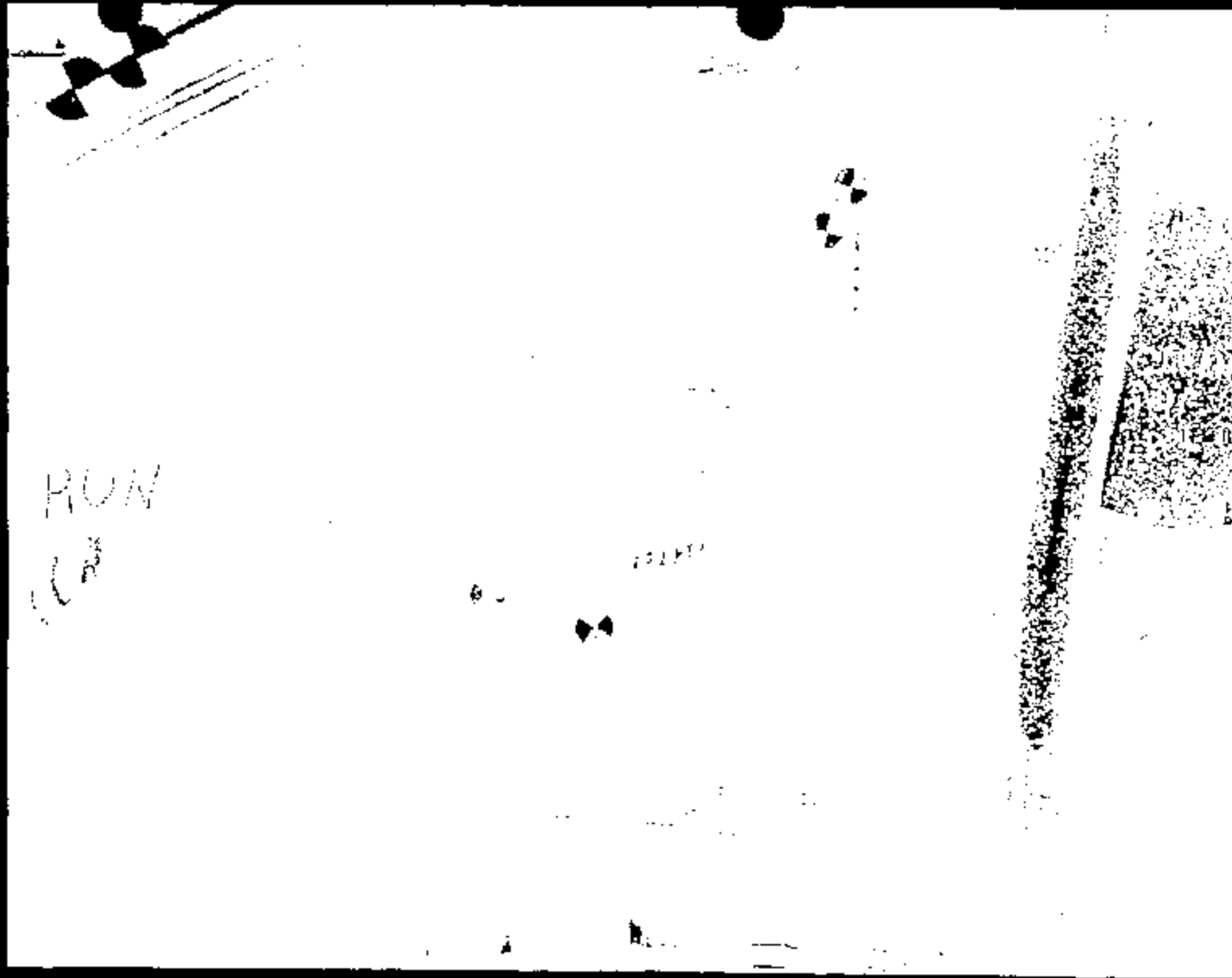
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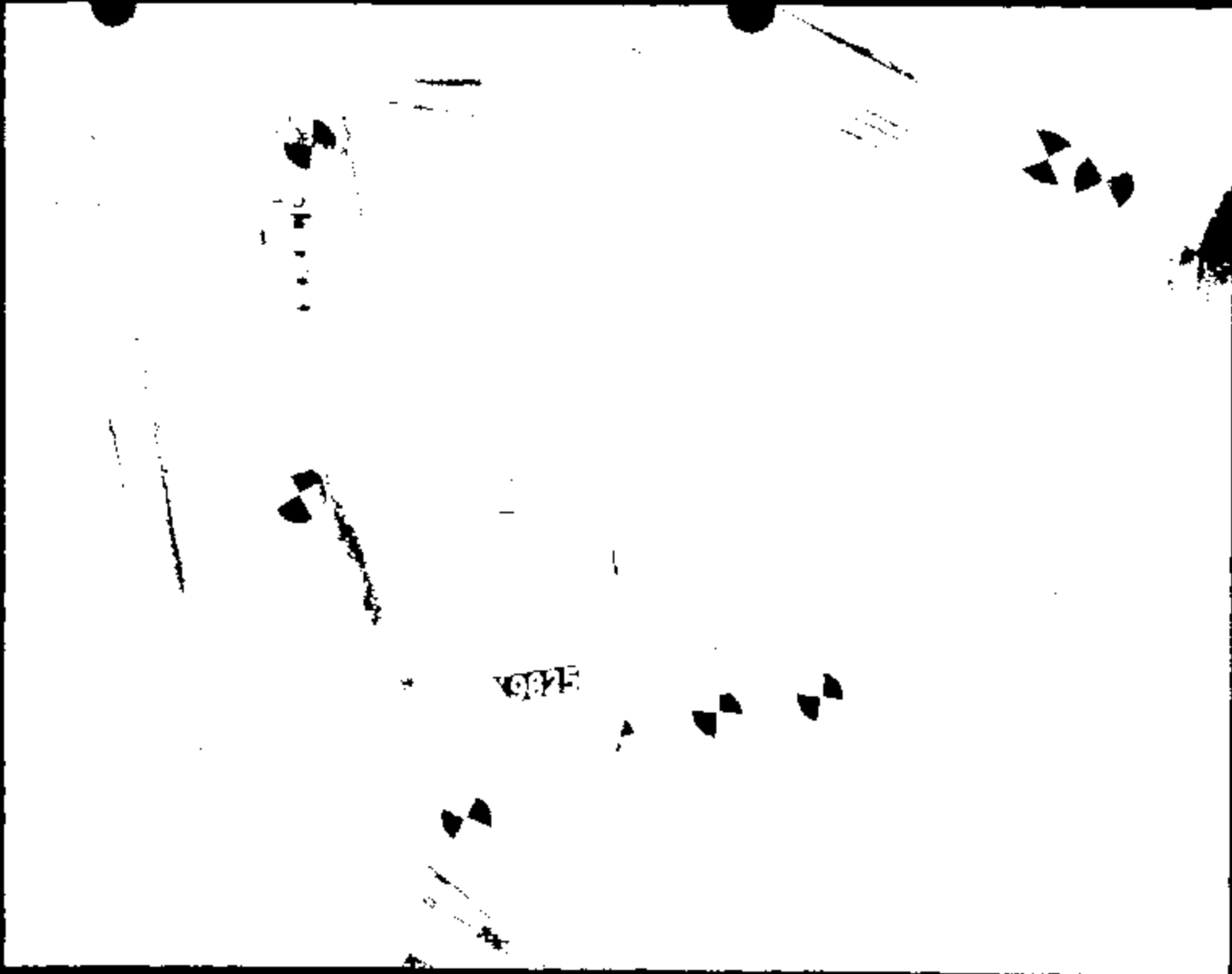
RUN

11/11

11/11

FILED 0032261

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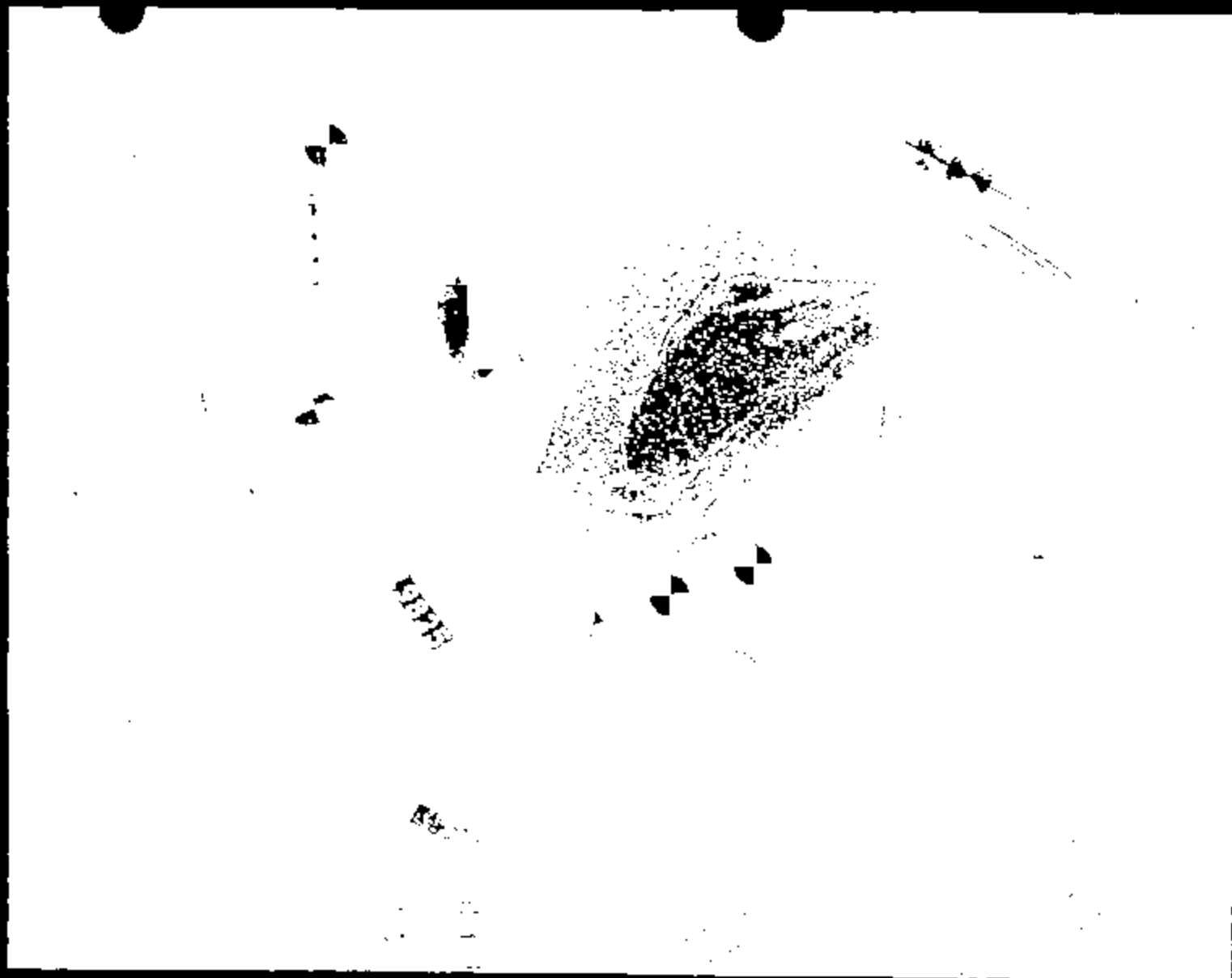
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19825003.jpg



SLEED 0032264

19825004.jpg



19822004.jpg

SLID 0032265



SLEED 0032266

19822005.jpg

**Final Test Report
Confidential**

**GTO - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TC0492
Subject: 206X
OPTIMUM REAR SEAT DESIGN
Requested By: H.McKeenan/A.Philips
Requesting Dept.: T651
Work Task No.: X8830
Test Facility: Hyge
Date Reported: 2/17/00
Test Dates: 2/15/00 - 2/18/00
Run Numbers: H20682 - H20692 and H20694 - H20696
Test Speeds: 30 mph
Dummies used: 2-6YR
Procedure(s): T657-100
Buck #: 424
Page: 1 of 25

(Date Stamped) by:
[Signature]
2005
1-4-2

Objective:

To evaluate the rear seat and seat belt systems.

Summary:


The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Test Parameters
- IV. Post Test Observations
- V. Dummy Positioning

Concur:


Steve Leah
Section Supervisor
Operations Engineering
Safety Laboratories Department


Kathryn Swanson
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TC-0432
Sheet 2

Attachment I.
Test Authorization

GTO Test Request		Requester / Coordinator (PROF): SMECKEDIA BARB MCKEEHAN	
Performing Activity: Crash Barrier Test Lab	Date Submitted: 19-FEB-2006	Requested Completion Date: 18-AUG-2006	Requester Reference Number:
Procedure Number: BLD-02	Request Title and / or Subject of Request: 199X MADIYMO DISHEVIC REAR SEAT		
Billable Requester's Dept No.: TMR AVS214AEO	Work Task / Work Order Number: AVS21	Request conducted to verify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Billable Requester's (PROF): DTAYLDR	Billable Requester's Name: Dan Taylor		
<p>Complete the following two questions as indicated</p> <p>I - Rational for not replacing this test by CAE Analysis:</p> <ul style="list-style-type: none"> <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing in Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input checked="" type="checkbox"/> Development test for PDB <input type="checkbox"/> Not applicable <p>Other:</p> <p style="text-align: center;">(Check appropriate boxes)</p>		<p>II - What is the expected Test Outcome:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Results will meet DVP/WOR requirements (Sign-Off) <input type="checkbox"/> System Component will not meet Test specification <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? <p>Other:</p> <p style="text-align: center;">(Check appropriate boxes)</p>	
Request Purpose / Request Procedure or Description of Request: T657-028 Custom Test Procedure			
Test Object:	Reference Object: N/A	Reference Description: N/A	
Sample #	Object ID	Object Description	
1	BRD-0901	PYRO-BKL	
2	BRD-0902	PYRO-RETR	
3	FBC-1111	ROOFER SEAT	
4	FBC-1112	4-POINT HARNESS	
5	AMC-0008	SAFE KIT	
6	AMC-0004	BELT ADJUSTER	
Signature Approvals (As Required for Control Purposes):			
Requesting Engineer	BARB MCKEEHAN	Assigned Coordinator	KATHRYN SWANSON
Request Authorized by	Not Required	Assigned Supervisor	STEPHEN LESH

Test Object:	Reference Object	Reference Description
	NA	NA

Sample #	Object ID	Object Description
7	AMK-888	SKL BLNBYE

TC-0432
Sheet 5

Attachment II
Test Matrix

TC-0432
Sheet 7

Attachment III.
Sled Parameters

TC-0432
Sheet 9

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 10

Edition: B.M. Keenan/A. Phillips
Form: 03482/031784

HYGE Run #: 20582 Run Date: 2/15/00
 Test Engineer: Joe Prater Test Auth #: TC0482
 Requester: B.M. Keenan/A. Phillips BUCK #: 494

1

MATRIX-0

Test Title/Description: OPTIMUM REAR SEAT DESIGN

Crash/HYGE Pulse Ref: _____ Struck Speed: 30 Pk #: 93

	LEFT	Airbag: _____ Pyro Buckle: _____	n/a	RIGHT	Airbag: _____ Pyro Buckle: _____	n/a	
PULSE DESCRIPTION PRE-TEST OBSERVATIONS	L	Dummy: <u>6 year old</u>	C	Dummy: <u>n/a</u>	R	Dummy: <u>6 year old</u>	
		A/B: <u>n/a</u>	C	Belt: <u>n/a</u>		A/B: <u>n/a</u>	
		Belt: <u>std/3-pt eld/4-pt</u>	C			Belt: <u>std/3-pt eld/4-pt</u>	
	Seat: _____				Seat: _____		
Bolt 'slider' positioned on pads FLUJ press ure type positioned Pre-Test OBSERVATIONS: _____							
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:							
LEFT SIDE	L	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	C	Upright Left Right On Seat Off Seat Off Seat	C	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	R
		Any submerging? <input checked="" type="checkbox"/>				Any submerging? <input checked="" type="checkbox"/>	
		Belt 'slider' in pre-test position? comment on location if N	<input checked="" type="checkbox"/> Y/N			Belt 'slider' in pre-test position? comment on location if N	<input checked="" type="checkbox"/> Y/N
		Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y/N				Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y/N	
		Retractor Intact: <input checked="" type="checkbox"/> Y/N Lockset: <input checked="" type="checkbox"/> Y/N				Retractor Intact: <input checked="" type="checkbox"/> Y/N Lockset: <input checked="" type="checkbox"/> Y/N	
		Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing Intact: <input checked="" type="checkbox"/> Y/N				Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing Intact: <input checked="" type="checkbox"/> Y/N	
Post Test COMMENTS: _____ _____ _____ _____ _____ _____ _____							
OBSERVER:							

SLED 0033198

HYGE Sled Test Summary

Sheet 11

Title: S.McKeehan/PLP
Form: 21426/22226

HYGE Run #: 00583

Run Date: 2 / 15 / 00

Test Engineer: Joe Prater

Test Auth #: TC0492

Requester: S.McKeehan/A.Phillips

BUCK #: 484

2

MATRIX #

Test Title/Description: OPTIMUM REAR SEAT DESIGN

Graph/HYGE Pulse Ref: _____

Simulated Speed: 30

Pin #: 93

	LEFT	Airbag: _____ Pyro Buckle: _____	n/a	RIGHT	Airbag: _____ Pyro Buckle: _____	n/a	
PARTS DESCRIPTION PARTS OBSERVATIONS	Dummy	<u>6 year old</u>	CENTER	Dummy	<u>n/a</u>	Dummy	<u>6 year old</u>
	A/B	<u>n/a</u>		Belt	<u>n/a</u>	A/B	<u>n/a</u>
	Belt	<u>std 3-pt slider/4-pt</u>		Belt	<u>std 3-pt slider/4-pt</u>	Belt	<u>std 3-pt slider/4-pt</u>
	Seat	<u>booster</u>		Seat	_____	Seat	_____
<p>Belt 'slider' positioned on pelvis</p> <p>PLU press sense tape positioned</p> <p>Pre-Test OBSERVATIONS: _____</p>							
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:							
LEFT SIDE	<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> On Seat	RIGHT SIDE	<input checked="" type="checkbox"/> Upright	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> On Seat	
	Any submerging? <input checked="" type="checkbox"/>			Any submerging? <input checked="" type="checkbox"/>		Belt 'slider' in pre-test position? <input checked="" type="checkbox"/>	
	Belt 'slider' in pre-test position? <input checked="" type="checkbox"/>			Belt 'slider' in pre-test position? <input checked="" type="checkbox"/>		comment on location if N _____	
	comment on location if N _____			comment on location if N _____		_____	
Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> / N		Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> / N		Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> / N		Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> / N	
Retractor Intact: <input checked="" type="checkbox"/> / N		Retractor Intact: <input checked="" type="checkbox"/> / N		Retractor Intact: <input checked="" type="checkbox"/> / N		Retractor Intact: <input checked="" type="checkbox"/> / N	
Buckle Held: <input checked="" type="checkbox"/> / N		Webbing Intact: <input checked="" type="checkbox"/> / N		Buckle Held: <input checked="" type="checkbox"/> / N		Webbing Intact: <input checked="" type="checkbox"/> / N	
<p>Post Test COMMENTS: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>							
OBSERVER:							

HYGE Sled Test Summary

Sheet 12

Label: 33442-010A-1000
 Form 30-600 / 2-11-76

3
 MATRIX

HYGE Run # 80584 Run Date 2 / 15 / 00
 Test Engineer: Joe Pister Test Auth # TC0492
 Requester: S. McKeenan/A. Phelps BUCK # 424
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

Crash HYGE Pulse Ref: _____ Simulated Speed: 30 Ft/s 93

		LEFT	Airbag: _____ Pyro Bulbs: _____	ms	RIGHT	Airbag: _____ Pyro Bulbs: _____	ms	
PRE-TEST OBSERVATIONS	DUMMY	8 year old	n/a	n/a	8 year old	n/a	n/a	
	A/B	n/a	n/a	n/a	n/a	n/a	n/a	
	Belt	4-1/2 pt slider/4 pt	n/a	n/a	4-1/2 pt slider/4 pt	n/a	n/a	
	Seat	booster	n/a	n/a	booster	n/a	n/a	
Belt 'slider' positioned on pelvis FLJL press sense tape positioned Pre-Test OBSERVATIONS: _____								
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:								
LEFT SIDE	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input type="checkbox"/> MS <input type="checkbox"/> Off Seat	<input type="checkbox"/> Q/S <input type="checkbox"/> Off Seat	<input type="checkbox"/> Comment	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat	<input type="checkbox"/> Left <input type="checkbox"/> Off Seat	<input type="checkbox"/> Flight <input type="checkbox"/> Off Seat	
	Any submerging?	Y/N		Y/N	Y/N	Y/N		
	Belt 'slider' in pre-test position?	Y/N		Y/N	Y/N	Y/N		
	comment on location if N	_____						
	Adj. D-ring Remain in Position:	Y/N		Y/N	Y/N	Y/N		
Retractor Intact:	Y/N	Locked:	Y/N	Y/N	Retractor Intact:	Y/N	Locked:	Y/N
Buckle Held:	Y/N	Webbing Intact:	Y/N	Y/N	Buckle Held:	Y/N	Webbing Intact:	Y/N
Post Test COMMENTS: _____ _____ _____ _____ _____								
OBSERVER: <u>NAB</u>								

HYGE Sled Test Summary

Sheet 13

Edition 3.1.06/06/06
Form: 33492 / 33176

HYGE Run H 20585 Run Date 2/15/00
 Test Engineer: Joe Freter Test Auth # TC0482
 Requester: B. McKeenan/A. P. Nipe BUICK # 424
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

4
MATRD'S

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin #: _____

HYGE TEST	LEFT	Airbag: _____ Pyro Bladder: _____	ms _____ ms _____	RIGHT	Airbag: _____ Pyro Bladder: _____	ms _____ ms _____
	PART DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>6 year old</u> AB <u>n/a</u> Belt <u>sh/3-pt slider/4-pt</u> Seat <u>booster</u>	DUMMY BELT	Dummy <u>n/a</u> Belt <u>n/a</u>	DUMMY BELT	Dummy <u>6 year old</u> AB <u>n/a</u> Belt <u>sh/3-pt slider/4-pt</u> Seat _____	DUMMY BELT
Belt 'slider' positioned on pelvic FLJL press sense tape positioned Pre-Test OBSERVATIONS: _____ _____ _____						
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:						
LEFT SIDE	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input type="checkbox"/> VS <input type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Upright <input type="checkbox"/> On Seat	<input type="checkbox"/> Left <input type="checkbox"/> Right	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input type="checkbox"/> VS <input type="checkbox"/> Off Seat
RIGHT SIDE	Any submarking? <input checked="" type="checkbox"/> Y	Belt 'slider' in pre-test position? <input type="checkbox"/> Y/N comment on location if N. _____	Any submarking? <input checked="" type="checkbox"/> Y	Belt 'slider' in pre-test position? <input type="checkbox"/> Y/N comment on location if N. _____	Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
Post Test COMMENTS: _____ _____ _____ _____ _____ _____ _____						
OBSERVER: <u>DAB</u>						

HYGE Sled Test Summary

Sheet 14

Revision 3.34 McClellan/A. Phillip

Form 314183 / 332795

HYGE Run # 20586 Run Date 2 / 15 / 00
Test Engineer: Joe Foster Test Auth # TDD432
Requester: B. McClellan/A. Phillip BUCK # 424
Test Title/Description: OPTIMUM REAR SEAT DESIGN

5	DATE
MATRD#	0-18-1997

Coach/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

TYPE	TEST	LEFT	Airbag: _____ ms	ms	RIGHT	Airbag: _____ ms	ms
		Pyro Buoler: _____ ms	ms		Pyro Buoler: _____ ms	ms	ms
PRE-TEST OBSERVATIONS	LEFT	Dummy	<u>6 year old</u>	RIGHT	Dummy	<u>6 year old</u>	
		A/B	<u>n/a</u>		A/B	<u>n/a</u>	
		Belt	<u>std 3-pt slider/4-pt</u>		Belt	<u>std 3-pt slider/4-pt</u>	
		Seat	<u>booster</u>		Seat	<u></u>	
		Belt 'slider' positioned on pelvis					
	FLM press ure tape positioned						
	Pre-Test OBSERVATIONS: _____						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT	Upright	On Seat	Off Seat	Right	On Seat	Off Seat	RIGHT	Upright	On Seat	Off Seat
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Any submarining?		<u>Y/N</u>		Any submarining?		<u>Y/N</u>			
	Belt 'slider' in pre-test position? comment on location if N		<u>Y/N</u>		Belt 'slider' in pre-test position? comment on location if N		<u>Y/N</u>			
	Adj. D-ring Remain in Position:		<u>Y/N</u>		Adj. D-ring Remain in Position:		<u>Y/N</u>			
	Retractor Intact:	<input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y	Retractor Intact:	<input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y		
	Buckle Held:	<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y	Buckle Held:	<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y		

Post Test COMMENTS: _____

OBSERVER: _____

HYGE Sled Test Summary

Sheet 15

Address: B. J. McKeown, Jr.
Phone: 234182 / 232796

HYGE Run # 20587 Run Date 2/15/00
 Test Engineer: Joe Prater Test Auth # TC0492
 Requester: B. McKeown/A. Phillips BUCK # 404
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

6

MATRONS

Crash/HYGE Pulse Rat: _____ Simulated Speed: _____ Pin # _____

	LEFT	Airbag: _____ ms	Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms	Pyro Buckle: _____ ms
PARTS DESCRIPTION Part-serial comparisons	Dummy	<u>8 year old</u>		Dummy	<u>n/a</u>	
	A/B	<u>n/a</u>		A/B	<u>n/a</u>	
	Belt	<u>std/3-pt elden/4-pt</u>		Belt	<u>std/3-pt elden/4-pt</u>	
	Seat	<u>booster</u>		Seat		
Belt 'elder' positioned on pelvis FLJL press sense tape positioned Pre-Test OBSERVATIONS: _____						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	RIGHT
	<input checked="" type="checkbox"/> Upright On Seat <input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Upright On Seat <input type="checkbox"/> Left On Seat <input type="checkbox"/> Right On Seat
Any submerging?	Y/N	Y/N
Belt 'elder' in pre-test position? comment on location if N	Y/N	Y/N
Adj. D-ring Restrain in Position: Restraint Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Decide Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		Adj. D-ring Restrain in Position: Restraint Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Decide Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N

Post Test COMMENTS:

LEFT / NORMAL

RIGHT / MULT BUCK PAYLOAD
ROPED END RING

OBSERVER: _____

HYGE Sled Test Summary

Sheet 16

HYGE Run # 20588 Run Date 2/15/00
 Test Engineer: Joe Prater Test Auth # TC0402
 Requester: B. McKeeney/A. Phillips BUCK # 424
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

Edition: 3.0 (McKeeney/A. Phillips)
 Form: X14292 / 321796
7
 MATRIX #

Crash/HYGE Pulse Rate _____ Simulated Speed: _____ Pin # _____

	LEFT	Airbag: _____ Pyro Buckle: _____	rta rta	rearr	Airbag: _____ Pyro Buckle: _____	rta rta
PRE-TEST OBSERVATIONS	Dummy	<u>8 year old</u>		Dummy	<u>n/a</u>	
	A/B	<u>n/a</u>		Belt	<u>n/a</u>	
	Belt	<u>std/3-pt slider/4-pt</u>		Belt	<u>std/3-pt slider/4-pt</u>	
	Seat	<u>bucket</u>		Seat		
Belt 'slider' positioned on rebara PUM press sense tape positioned Pre-Test OBSERVATIONS: <u>L/ FOOT REST</u>						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<input type="checkbox"/> Upright <input type="checkbox"/> On Seat <input type="checkbox"/> I/S <input type="checkbox"/> Off Seat <input type="checkbox"/> O/S	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat <input type="checkbox"/> Left <input type="checkbox"/> Flight <input type="checkbox"/> Off Seat	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat <input type="checkbox"/> I/S <input type="checkbox"/> O/S <input type="checkbox"/> Off Seat
---	---	---

Any submarking? <u>Y/N</u> Belt 'slider' in pre-test position? comment on location if N <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u>	Any submarking? <u>Y/N</u> Belt 'slider' in pre-test position? comment on location if N <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u>
---	---

Post Test COMMENTS: R/ NORMAL
L/ APPEARS DUMMY EYES OUT
OF TOPO REEL

OBSERVERS: [Signature]

SLED 0033204

HYGE Sled Test Summary

Sheet 18

Instructor: B. McKeehan/A. Phillips
Form 234192 / 201796

HYGE Run # 20580

Run Date 2/15/00

Test Engineer: Joe Prater

Test Auth # TC0432

Requester: B. McKeehan/A. Phillips

BUCK # 424

9
MATTHEW

Test Title/Description: OPTIMUM REAR SEAT DESIGN

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin #: _____

	LEFT	Airbag: _____ ms	Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms	Pyro Buckle: _____ ms
PART DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	8 year old		Dummy	n/a	
	A/B	n/a		Belt	n/a	
	Belt	std/3-pt eld/14-pt		Belt	std/3-pt eld/14-pt	
	Seat	booster		Seat	_____	
<p>Belt 'slider' positioned on pelvis _____</p> <p>FULL press wire tape positioned _____</p> <p>Pre-Test OBSERVATIONS: _____</p>						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p>Upright <input checked="" type="checkbox"/> ON Seat <input checked="" type="checkbox"/> ON Seat</p> <p>Any submarining? <input type="checkbox"/> Y/N</p> <p>Belt 'slider' in pre-test position? <input type="checkbox"/> Y/N</p> <p>comment on location if N _____</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y/N</p> <p>Retractor intact: <input checked="" type="checkbox"/> Y/N Locked: <input checked="" type="checkbox"/> Y/N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing intact: <input checked="" type="checkbox"/> Y/N</p>	<p>Upright <input checked="" type="checkbox"/> ON Seat <input checked="" type="checkbox"/> ON Seat</p> <p>Any submarining? <input type="checkbox"/> Y/N</p> <p>Belt 'slider' in pre-test position? <input type="checkbox"/> Y/N</p> <p>comment on location if N _____</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y/N</p> <p>Retractor intact: <input checked="" type="checkbox"/> Y/N Locked: <input checked="" type="checkbox"/> Y/N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing intact: <input checked="" type="checkbox"/> Y/N</p>	<p>Upright <input checked="" type="checkbox"/> ON Seat <input checked="" type="checkbox"/> ON Seat</p> <p>Any submarining? <input type="checkbox"/> Y/N</p> <p>Belt 'slider' in pre-test position? <input type="checkbox"/> Y/N</p> <p>comment on location if N _____</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y/N</p> <p>Retractor intact: <input checked="" type="checkbox"/> Y/N Locked: <input checked="" type="checkbox"/> Y/N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing intact: <input checked="" type="checkbox"/> Y/N</p>
--	--	--

Post Test COMMENTS:

L/ PYRO DID NOT FULLY STRIKE

BUCKLE HUNG UP ON SEAT (CENTER)

R/ TORSO BELT CAME

LOOSE - APPEARS FROM UNDER

THAT RETRACTOR DID NOT HOLD

FOOT REST SHOULD NOT HAVE

BEEN USED

OBSERVERS: Matthew

HYGE Sled Test Summary

Sheet 19

Edgemoor Road, Easton, PA 18042
Phone 20489/321794

HYGE Run # 20595 Run Date 2/16/00
 Test Engineer: Joe Fryer Test Auth # TC0492
 Requester: B. McKeahen/A. Phillips BUCK # 424
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

10

MATRD#

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

	LEFT	Airbag: _____ Pyro Buckle: _____	RIGHT	Airbag: _____ Pyro Buckle: _____
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>5 year old</u>	Dummy	<u>n/a</u>
	A/B	<u>n/a</u>	Belt	<u>n/a</u>
	Belt	<u>std/3-pt slider/4-pt</u>	Belt	<u>std/3-pt slider/4-pt</u>
	Seat	<u>bucket</u>	Seat	_____
Belt 'slider' positioned on pelvis F.U.I. press area tape positioned Pre-Test OBSERVATIONS: _____				
POST-TEST OBSERVATIONS & CHECKLIST				
Comment (if needed) below:				
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	IS On Seat	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat	RIGHT On Seat
LEFT SIDE	Any submarining? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Any submarining? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Belt 'slider' in pre-test position? comment on location if N _____		Belt 'slider' in pre-test position? comment on location if N _____	
	Adj.-D-ring Remains in Position: _____		Adj.-D-ring Remains in Position: _____	
	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Post Test COMMENTS: <u>Slider unhooked (left)</u>				
OBSERVER: <u>JCFB</u>				

HYGE Sled Test Summary

Sheet 20

Initiator: B. McKeehan/A. Phillips
Form: S14102 / 001705

HYGE Run # 20591 Run Date 2/15/00
 Test Engineer: Joe Proter Test Auth # TC0492
 Requestor: B. McKeehan/A. Phillips BUCK # 434
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

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MATRDC-#

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # 92

TEST TIMES	LEFT	Airbag: _____ Pyro Buckle: _____	RIGHT	Airbag: _____ Pyro Buckle: _____
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>8 year old</u>	Dummy	<u>n/a</u>
	A/B	<u>n/a</u>	Belt	<u>n/a</u>
	Belt	<u>std 3-pt slider-ft</u>	Belt	<u>std 3-pt slider-ft</u>
	Seat	<u>booster</u>	Seat	_____
	Belt 'slider' positioned on pelvis		FULL press sense tape positioned	
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	VS	CRS	RIGHT SIDE	Upright	VS	CRS
	On Seat		Off Seat		On Seat		Off Seat
Any submarining?	Y/N			Any submarining?	Y/N		
Belt 'slider' in pre-test position? comment on location if N	Y/N			Belt 'slider' in pre-test position? comment on location if N	Y/N		
Adj. D-ring Remain in Position:	Y / N			Adj. D-ring Remain in Position:	Y / N		
Retractor Intact: Y / N Locked: Y / N				Retractor Intact: <input checked="" type="checkbox"/> Y Locked: <input checked="" type="checkbox"/> Y			
Buckle Held: Y / N Webbing Intact: Y / N				Buckle Held: <input checked="" type="checkbox"/> Y Webbing Intact: <input checked="" type="checkbox"/> Y			

Post Test COMMENTS:

LEFT / TOSSO BELT CAME EDGE
BUCKLE HUNG UP ON
SEAT EDGE - (BOOSTER)

RIGHT / APPEARED NORMAL

OBSERVER: Wor

HYGE Sled Test Summary

Sheet 21

Title: B.McKeahy/A.Philips
Form: X1493 / X1196

HYGE Run H 20596 Run Date 2/16/00
 Test Engineer: Joe Frazer Test Auth # TC0432
 Requester: B.McKeahy/A.Philips SUCR # 424
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

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MATRIX #

Cash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

	LEFT	Airbag: _____ Pyro Buckle: _____		RIGHT	Airbag: _____ Pyro Buckle: _____	
Pre-Test Observations	LEFT	Dummy <u>5 year old</u> A/B <u>n/a</u> Belt <u>sliders pt slider/4-pt</u> Seat <u>booster</u>	CENTER	RIGHT	Dummy <u>5 year old</u> A/B <u>n/a</u> Belt <u>sliders pt slider/4-pt</u> Seat _____	
		Dummy <u>n/a</u> Belt <u>n/a</u>			Dummy <u>n/a</u> Belt <u>n/a</u>	
	Belt 'slider' positioned on rails FLM press sense tape positioned Pre-Test OBSERVATIONS: _____					
	POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:					
	<input checked="" type="checkbox"/> Upright On Seat <input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	<input type="checkbox"/> Upright On Seat <input type="checkbox"/> Off Seat		<input type="checkbox"/> Upright On Seat <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	<input type="checkbox"/> Upright On Seat <input type="checkbox"/> Off Seat	
	Any submarining? <input checked="" type="checkbox"/> Y Belt 'slider' in pre-test position? <input checked="" type="checkbox"/> Y comment on location if N _____ Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N			Any submarining? <input checked="" type="checkbox"/> Y Belt 'slider' in pre-test position? <input checked="" type="checkbox"/> Y comment on location if N _____ Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		
Post Test COMMENTS: <u>L/ TORSO BELT CAME FREE</u> <u>OF LAP BELT - BUCKLE</u> <u>CAUGHT ON BOOSTER EDGES</u> <u>R/ NORMAL</u>						
OBSERVER: <u>MFR</u>						

HYGE Sled Test Summary

Sheet 22

Initiator: B. McKeahan/A. Phillips
Phone: 304188/301794

HYGE Run # 20592
Test Engineer: Joe Prater
Requester: B. McKeahan/A. Phillips
Test Title/Description: OPTIMUM REAR SEAT DESIGN

Run Date 2/16/00
Test Auth # TC0482
BUCK # 494

13
MATRD: #

Crash/HYGE Pulse Rat. _____ Simulated Speed: 30 Fin # 93

TYPE	LEFT		RIGHT	
	Airbag:	ms	Airbag:	ms
	Pyro Buckle:	ms	Pyro Buckle:	ms
DUMMY	Dummy	<u>8 year old</u>	Dummy	<u>n/a</u>
	A/B	<u>n/a</u>	A/B	<u>n/a</u>
	Belt	<u>3pt/3-pt slider/4-pt</u>	Belt	<u>3pt/3-pt slider/4-pt</u>
	Seat	<u>boosting</u>	Seat	<u>_____</u>
Pre-Test OBSERVATIONS: Belt 'slider' positioned on pelvis FLJL press sense tags positioned Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

LEFT SIDE	Upright		RIGHT SIDE	Upright	
	On Seat	Off Seat		On Seat	Off Seat
Any submerging?		<u>Y</u>	Any submerging?		<u>Y</u>
Belt 'slider' in pre-test position?		<u>Y/N</u>	Belt 'slider' in pre-test position?		<u>Y/N</u>
comment on location if N	_____		comment on location if N	_____	
Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>	Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>
Retractor Intact:	<u>Y</u>	<u>N</u>	Retractor Intact:	<u>Y</u>	<u>N</u>
Lockact:	<u>Y</u>	<u>N</u>	Lockact:	<u>Y</u>	<u>N</u>
Buckle Held:	<u>Y</u>	<u>N</u>	Buckle Held:	<u>Y</u>	<u>N</u>
Webbing Intact:	<u>Y</u>	<u>N</u>	Webbing Intact:	<u>Y</u>	<u>N</u>
Post Test COMMENTS: _____					
OBSERVER: <u>JOB</u>					

HYGE Sled Test Summary

Sheet 23

HYGE Run # 20594 Run Date 2/16/00
 Test Engineer: Joe Pastor Test Auth # TQ0482
 Requestor: B.McKeehan/A.Philips BUCK # 424
 Test Title/Description: OPTIMUM REAR SEAT DESIGN

Title: B.McKeehan/A.Philips

Form: 21483/28190

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MATRIX

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

	LEFT	RIGHT	Pin #
	Airbag: _____ Pyro Buckle: _____	Airbag: _____ Pyro Buckle: _____	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>5 year old</u>	Dummy <u>n/a</u>	Dummy <u>5 year old</u>
	A/B <u>n/a</u>	Belt <u>n/a</u>	A/B <u>n/a</u>
	Belt <u>std/3-pt slider/4-pt</u>		Belt <u>std/3-pt slider/4-pt</u>
	Seat <u>booster</u>		Seat _____
	Belt 'slider' positioned on pelvis FUJI press sens tape positioned Pre-Test OBSERVATIONS: _____ _____ _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<input checked="" type="checkbox"/> Upright VS On Seat <input type="checkbox"/> O/S ON Seat		<input type="checkbox"/> Upright Left On Seat <input type="checkbox"/> Right On Seat		<input checked="" type="checkbox"/> Upright VS On Seat <input type="checkbox"/> O/S ON Seat
LEFT SIDE RIGHT SIDE	Any submarking? <u>Y/N</u>		Any submarking? <u>Y/N</u>		Any submarking? <u>Y/N</u>
	Belt 'slider' in pre-test position? comment on location if N _____	<u>Y/N</u>	Belt 'slider' in pre-test position? comment on location if N _____		<u>Y/N</u>
	Adj. D-ring Remain in Position:	<u>Y/N</u>	Adj. D-ring Remain in Position:		<u>Y/N</u>
	Retractor Intact: <u>Y/N</u> Lockset: <u>X/N</u>		Retractor Intact: <u>Y/N</u> Lockset: <u>Y/N</u>		
Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u>		Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u>			

Post Test COMMENTS:

OBSERVER: DAB

TC-0432
Sheet 24

Attachment V.
Dummy Positioning

2017-25
 Volume 2, Appendix A, Page 10
 Form 204102/201709

TC0482

Rev H 20582

Date 8-15-00

OPTIMUM REAR SEAT DESIGN

Buck # 424
 Reference: H
 H
 H

Left HTI 6 yr old	DUMMY TYPE	Right HTI 6 yr old	Center
SEAT POSITION			
DUMMY NUMBER			

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above givc)		17.5	17.5		0	+/-1 (max)
pelvic Angle (+/- 2.5 deg; +/- 1.0 for PNHs)						
Column Angle						
H-Point Lateral	Lower 2				18	0
H-Point Vertical	Lower 2				18	0
H-Point Lateral		275	260			
Knee Lateral	Lower 2	1 TARGETS				
Knee Vertical	Lower 2					
Knee Lateral		335	300	388		
Head Lateral	Lower 2				100	0
Head Vertical	Lower 2				100	0
Head Lateral		510	570		100	0
Driver Neck Adjustment (flat run only)	ROCKER			ROCKER		
Knee Centerline to Knee Centerline (mm)						0
Left Knee to Bolster						0
Right Knee to Bolster						0
Head to Headrest (Upper 5th or 6th)						0
Head to Headrest (Lower 5th)						0
Reference Point to Seat Back Lateral						
Reference Point to Seat Back Vertical						
Reference Point to Seat Back Lateral						
Reference Point Absolute Lateral						
Reference Point Absolute Vertical						
Reference Point Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	1st RUN	ADD'L
Head (Target) Lateral						
Thigh Lateral						
Shoulder Lateral						
Other						
Other						
Other						
Knee to H-Point						
Knee to Pelvic						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Head						
Column Angle					< 8 deg.	< 8 deg.

Notes: First run position normal (center in seat)
 Use labels in position for camera film runs, next justification for CAE correlation
 Get film analysis

**Final Test Report
Confidential**

Test Order No.: TB0407
Subject: 2000 D188 FRONT RETRACTOR EVAL.
HYGE SLED SERIES '13'
Requested By: K. WARMANN
(Dept.): T661
Date Received: 8/24/98
Work Task No.: F09
Test Facility: HYGE
Test Dates: 8/28 - 8/31/98
Run Numbers: M19888 - 877
Procedure(s): T667-100, T667-108
Date Reported: 12/21/98
Page: 1 of 34



Checked by:	
Not Stamped by:	
MAIN Record Copy	2003
Not Stamped Thru:	
Schedule Number:	7-4-2

Objective:

To evaluate the structural integrity of the Breda retractor and also evaluate the reduced output pyro belt pretensioner for D188.

Summary:

Ten tests were conducted on the Hyge sled using two instrumented 50% Hybrid III test dummies. The testing was conducted using the rigid DN101 body buck (M05). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department internet home page under <http://www-safetylab.ford.com/>.

Attachments:

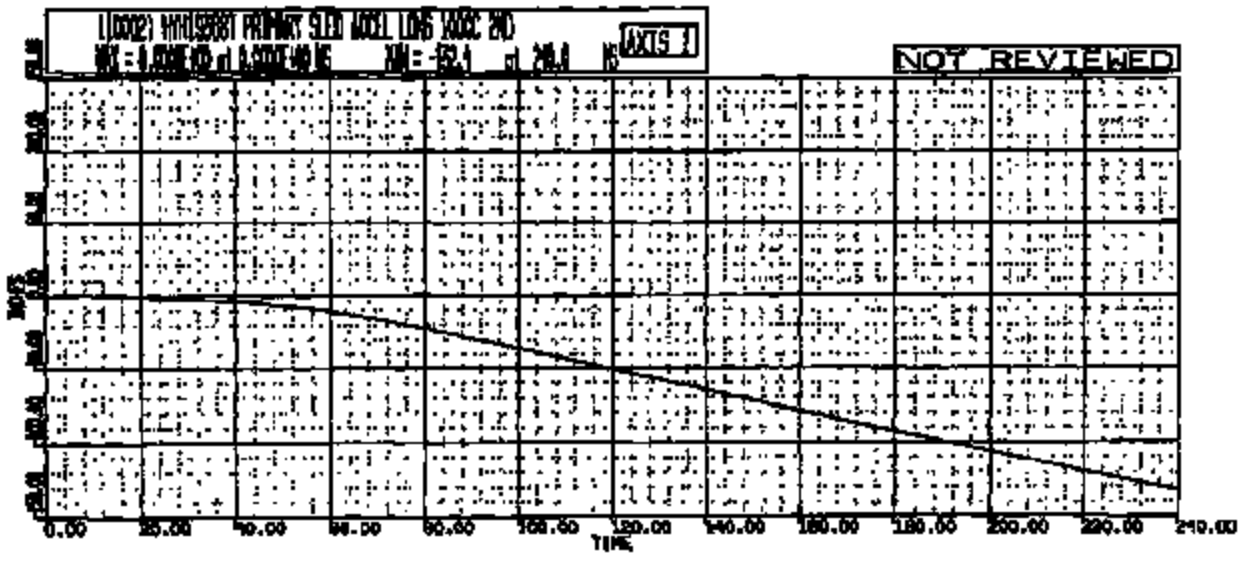
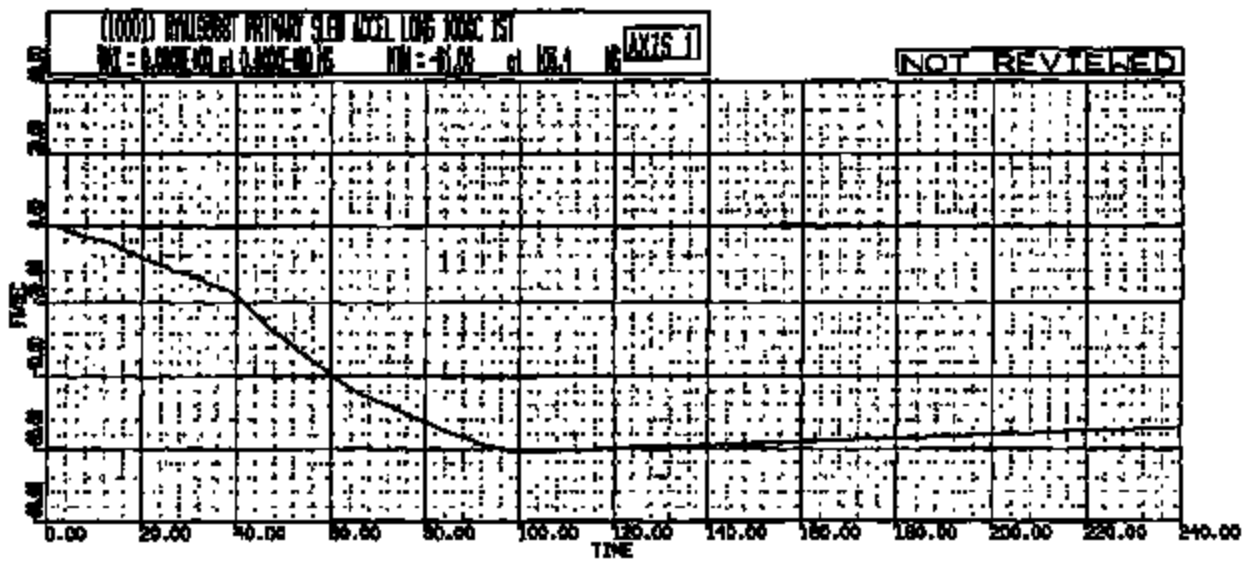
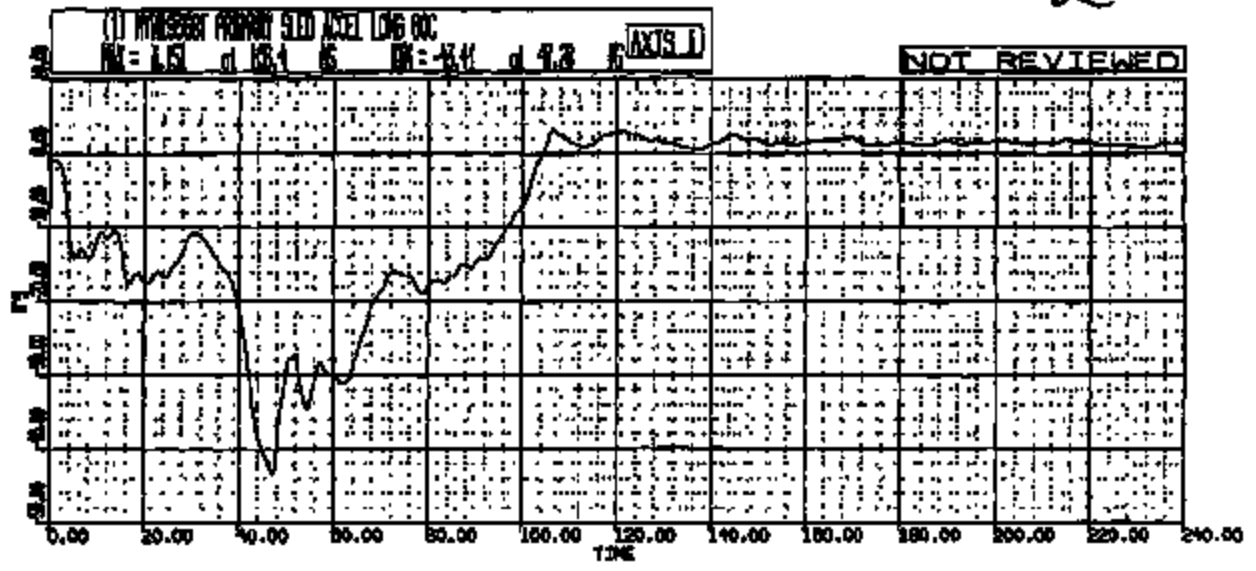
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- II. Sled Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheets

Concur:

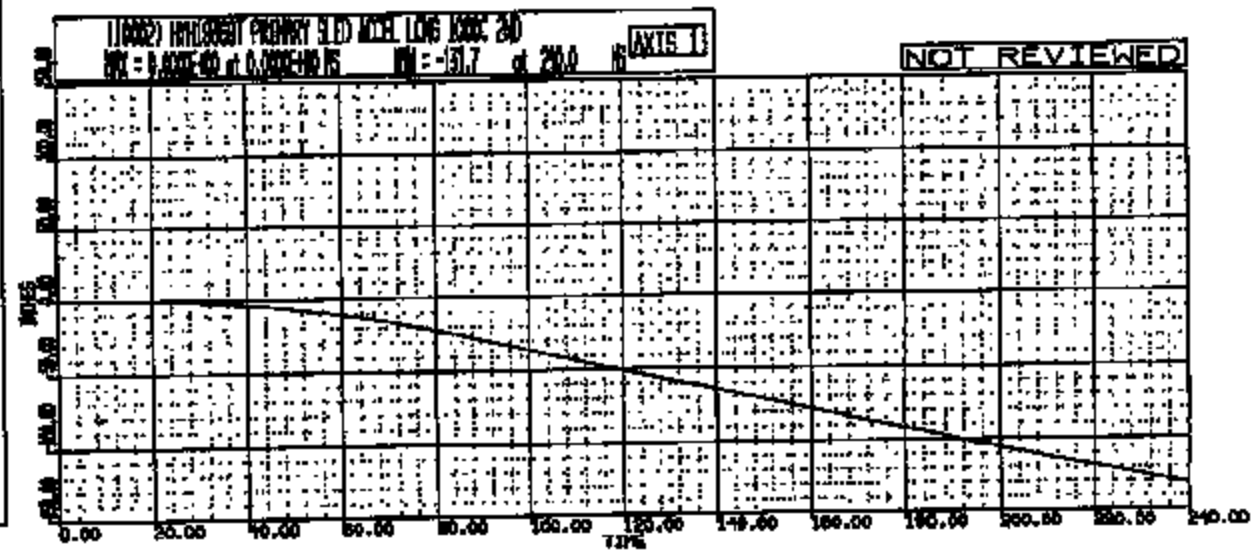
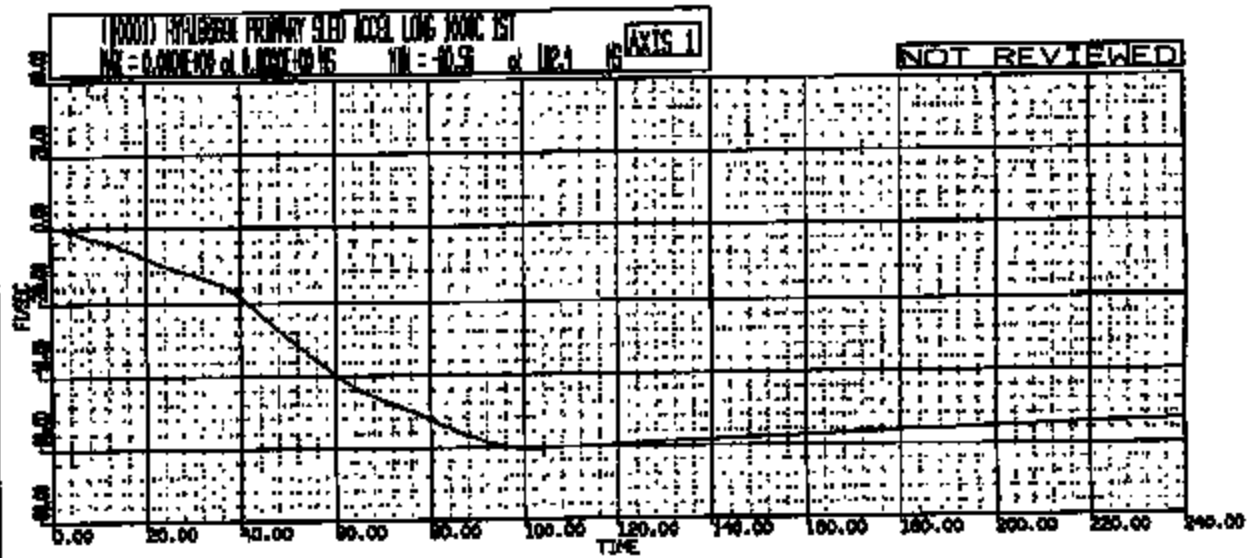
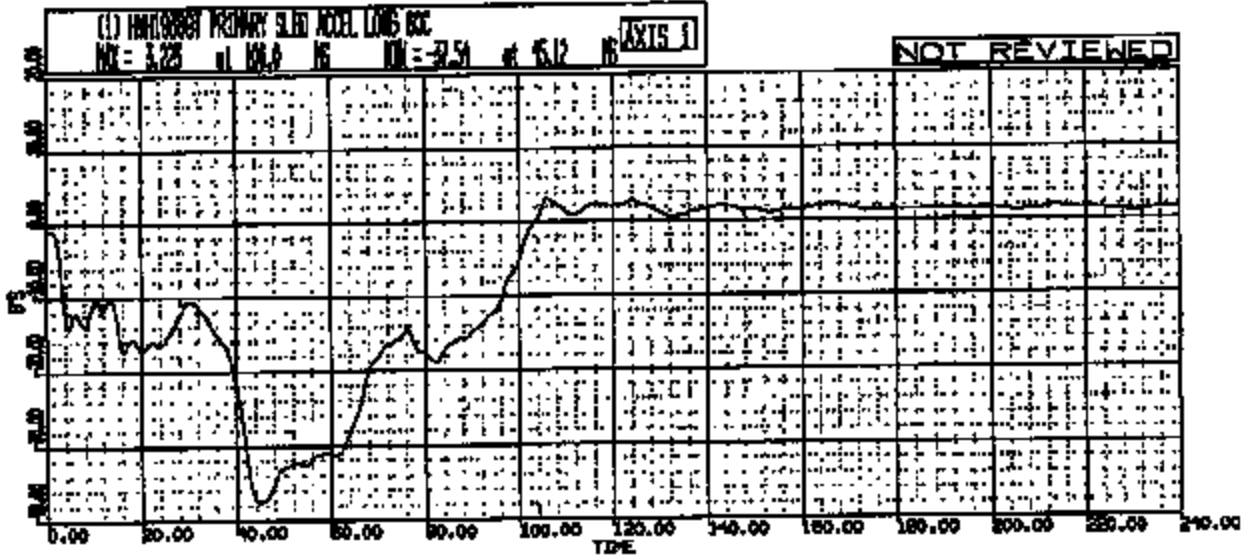

R. N. BURNS
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

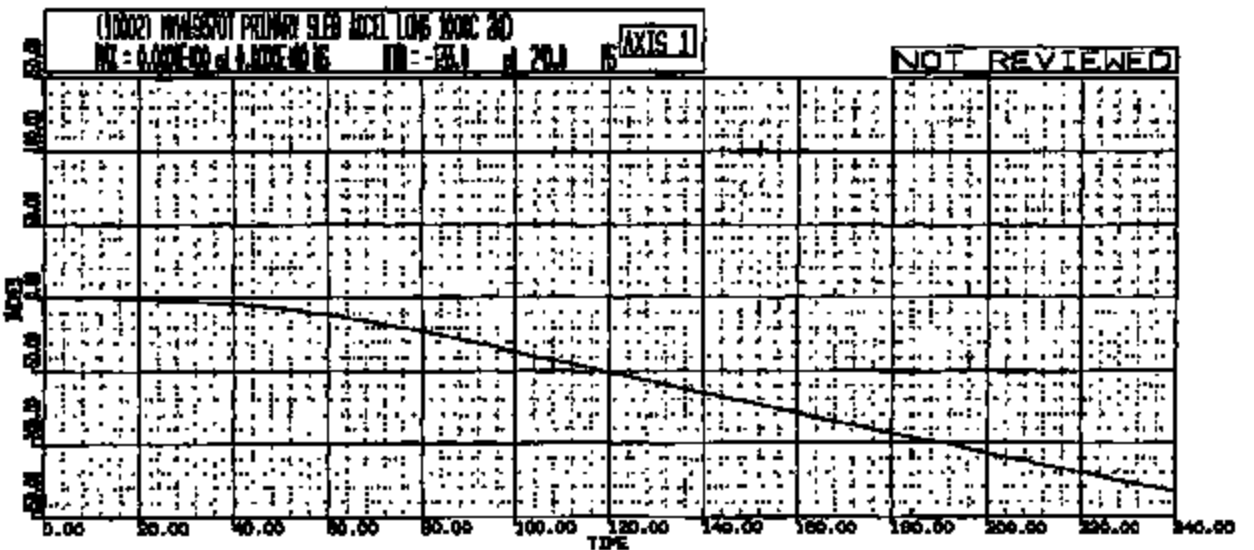
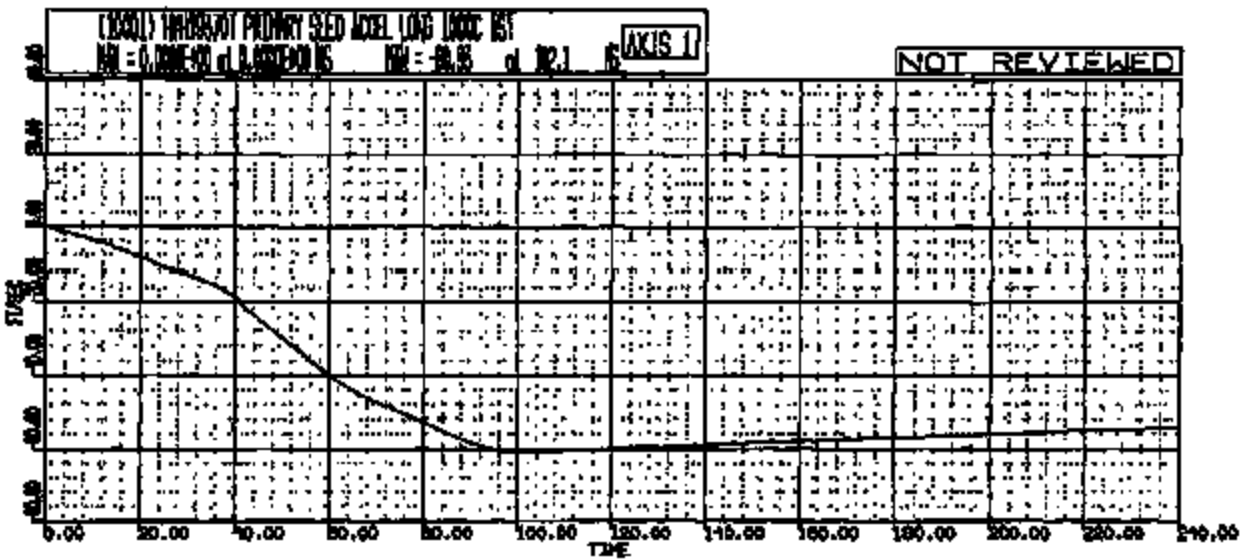
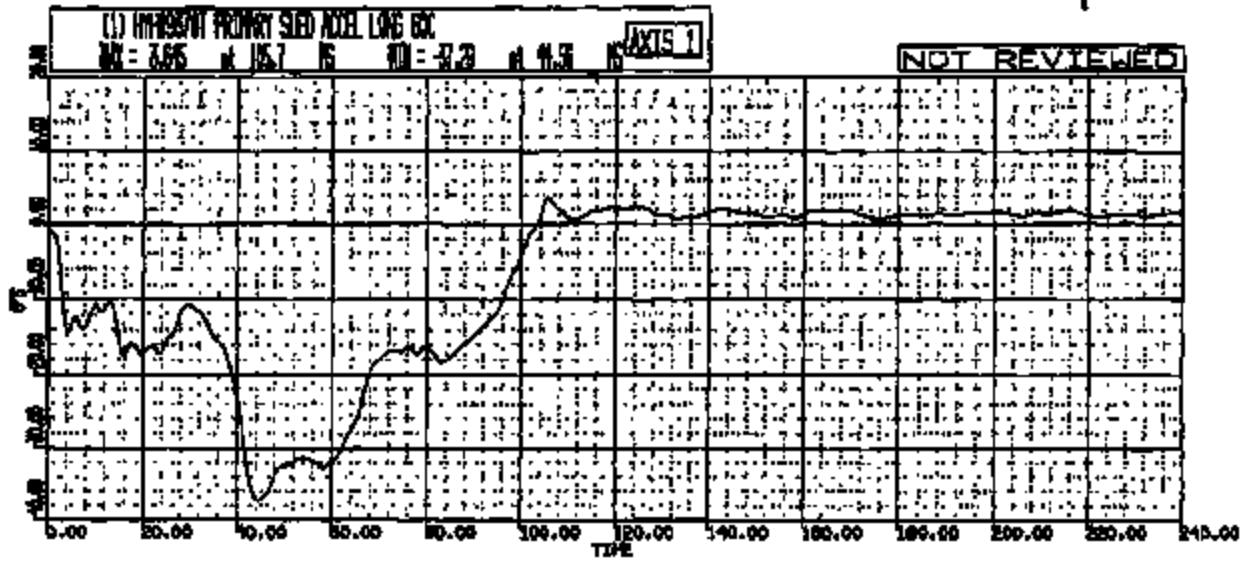
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80000 D186



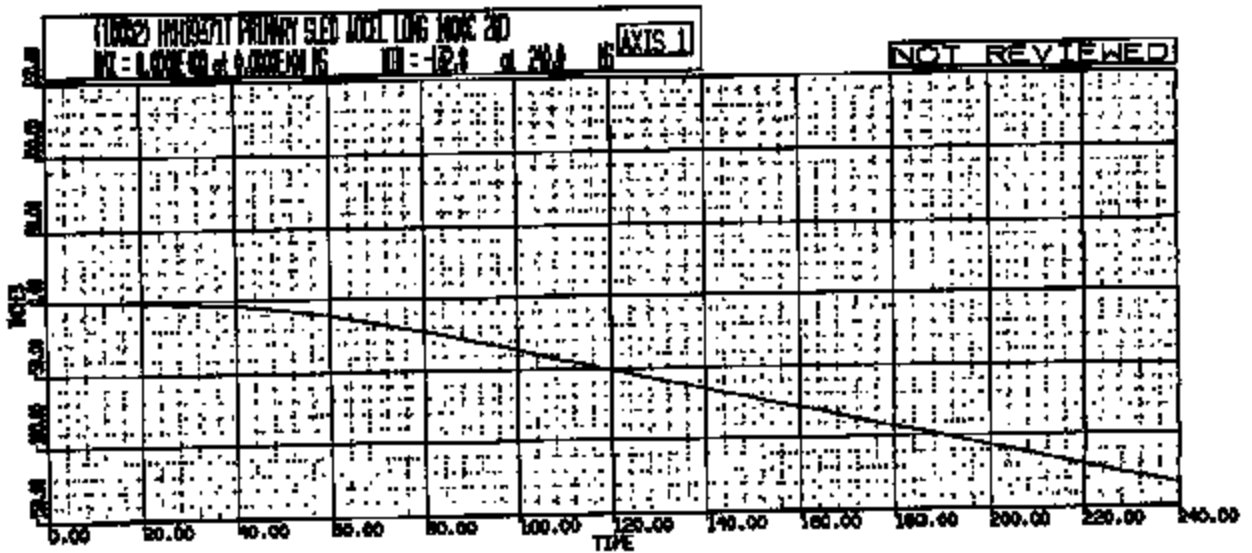
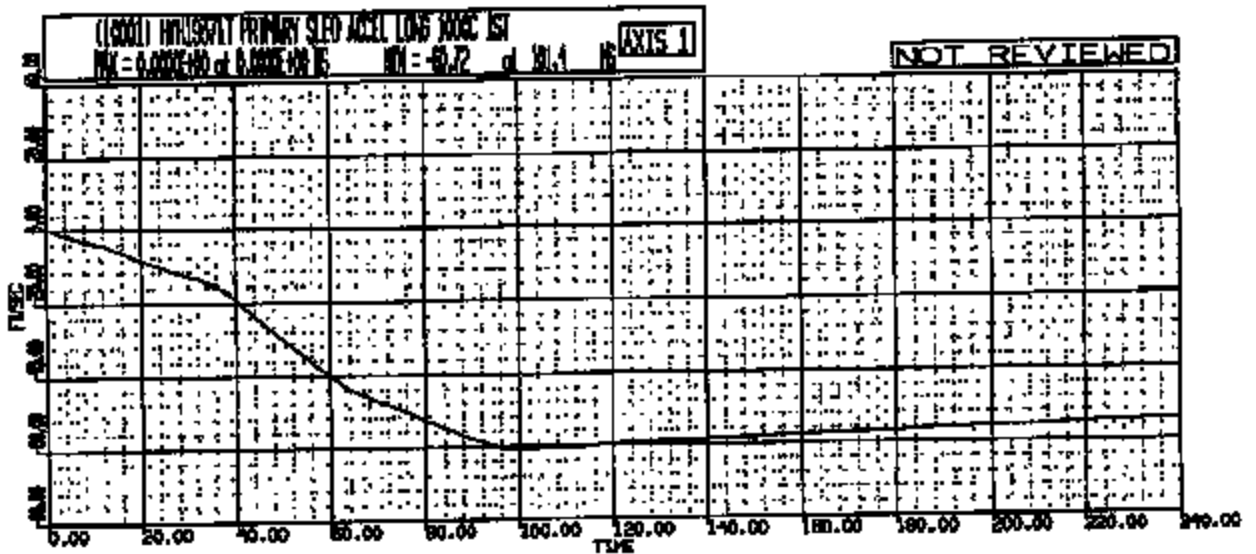
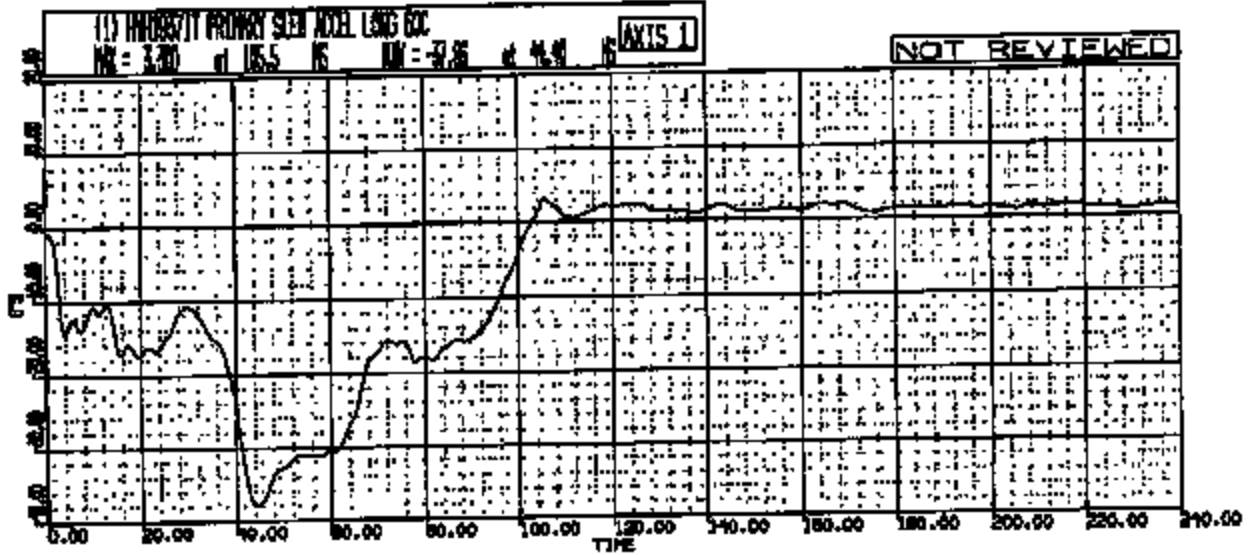
HY R: H18288 TC: TB0407A DATE: 980828 18:55:28
20000 0166



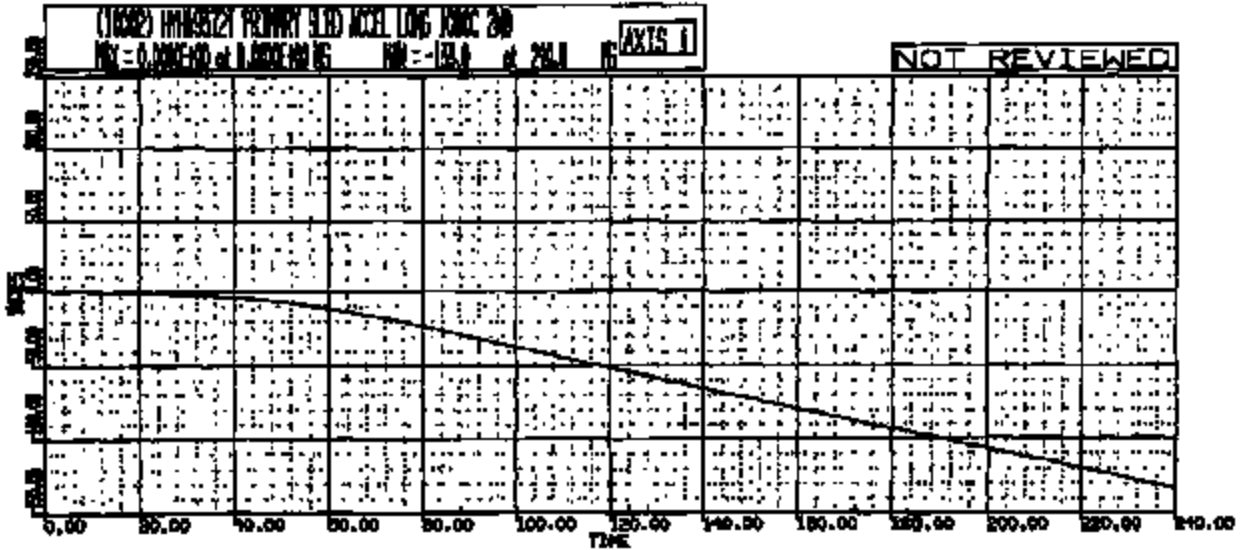
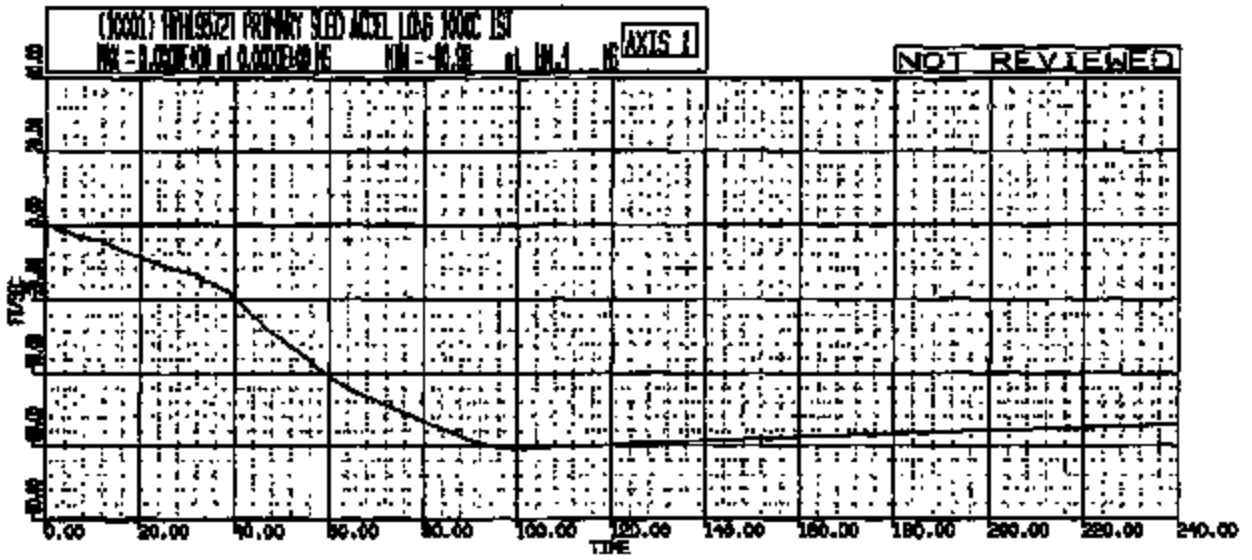
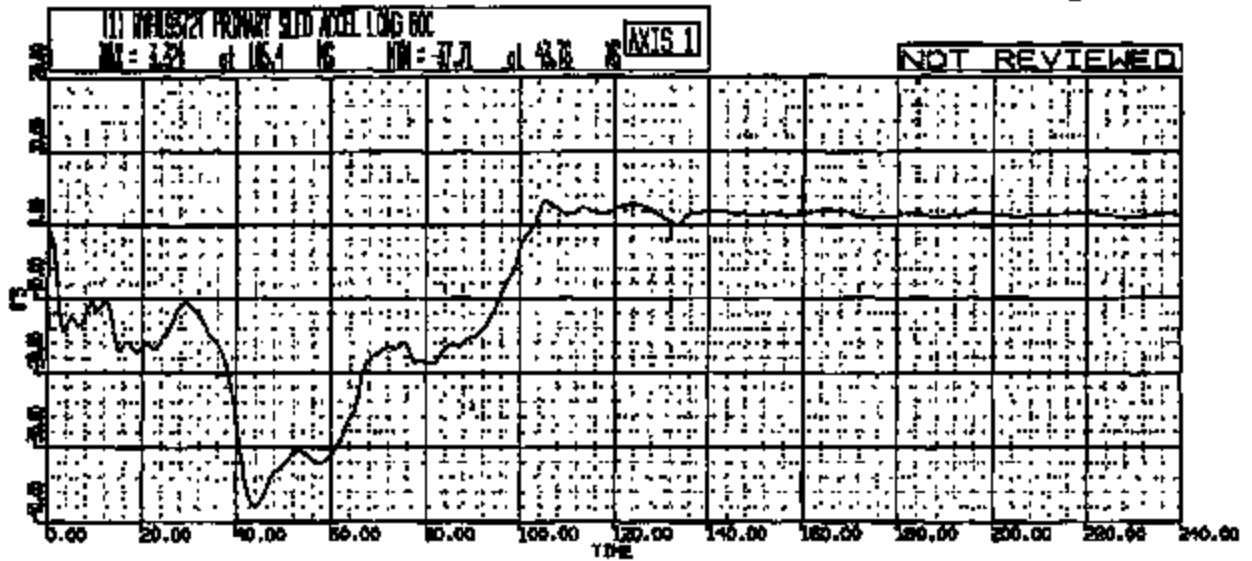
MY R: H19870 TO: TB0407A DATE: 980828 21:13:13
20000 DISE



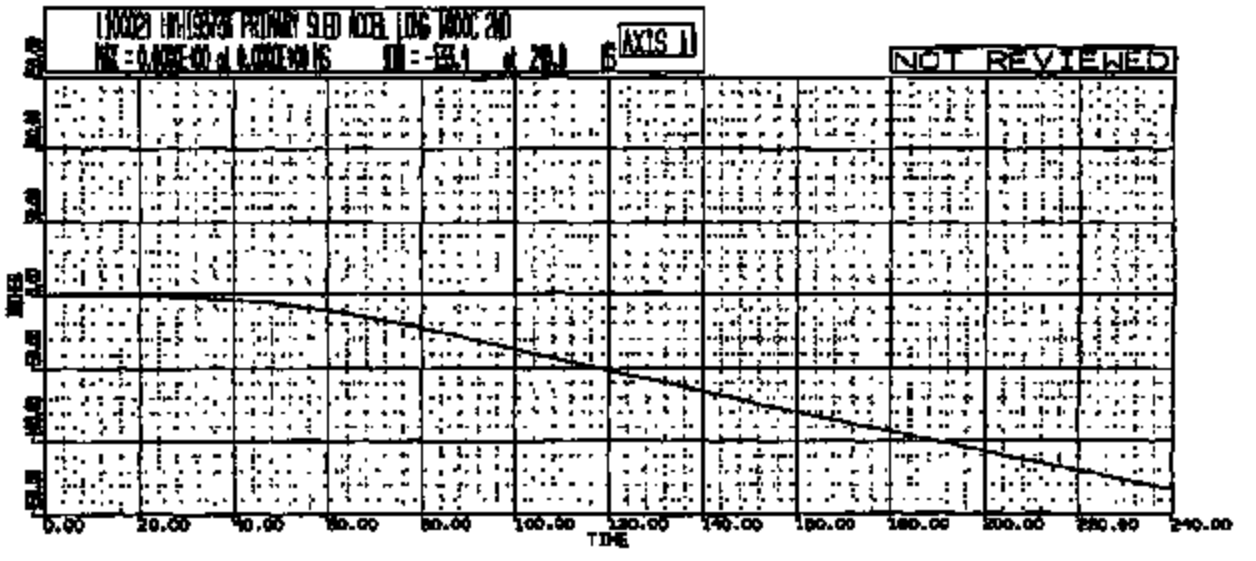
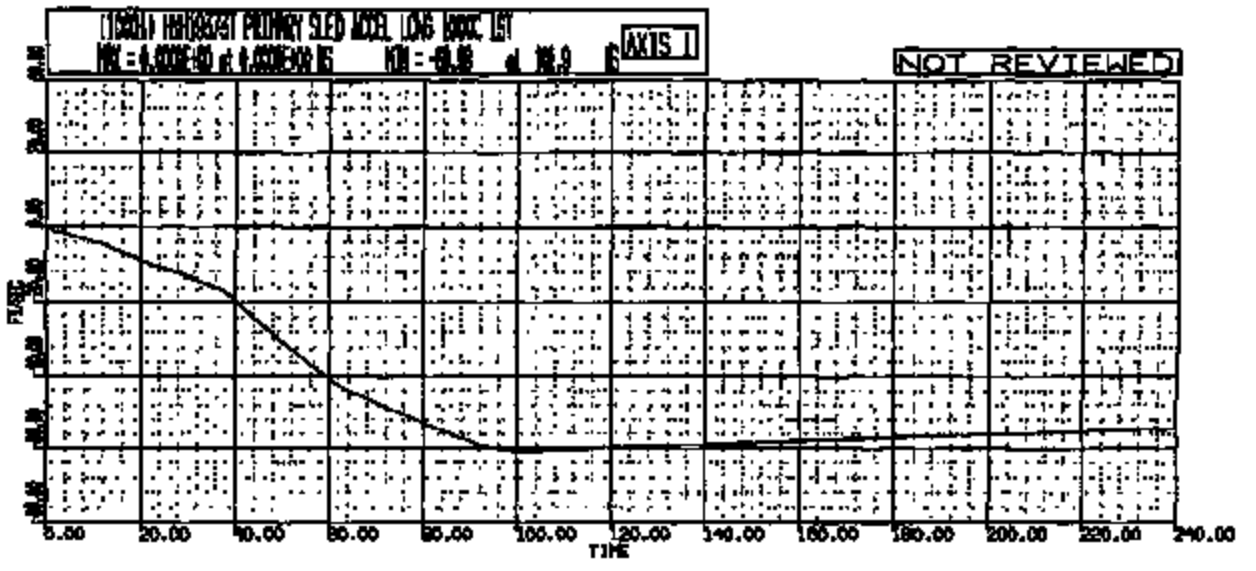
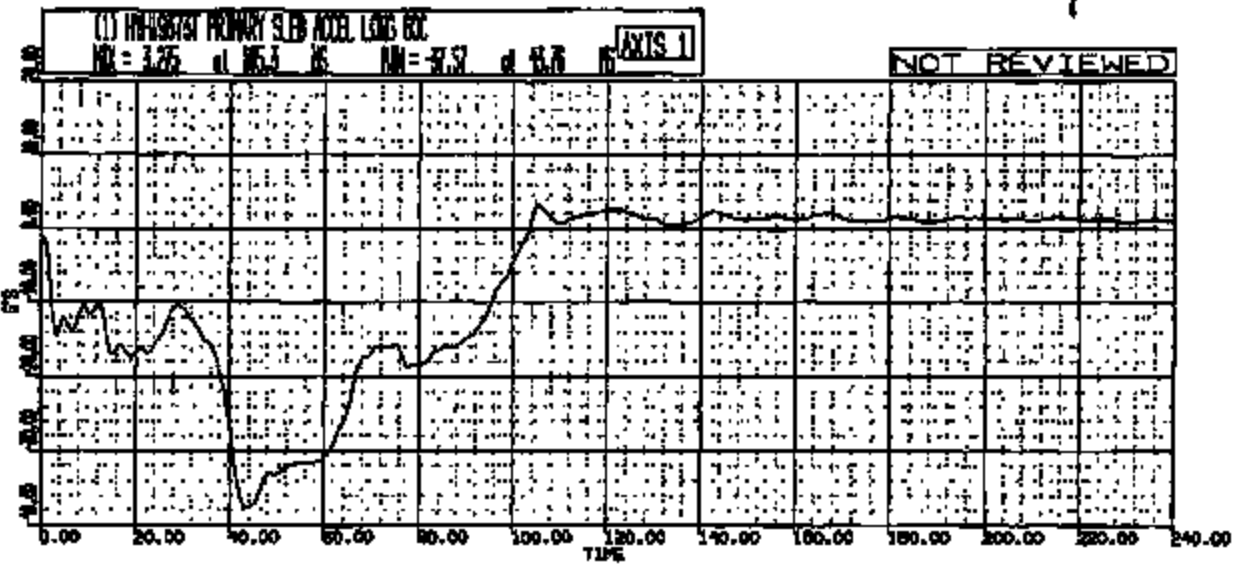
HY R: H19271 TO: TB0407A DATE: 980828 22:29:10
20000 D188

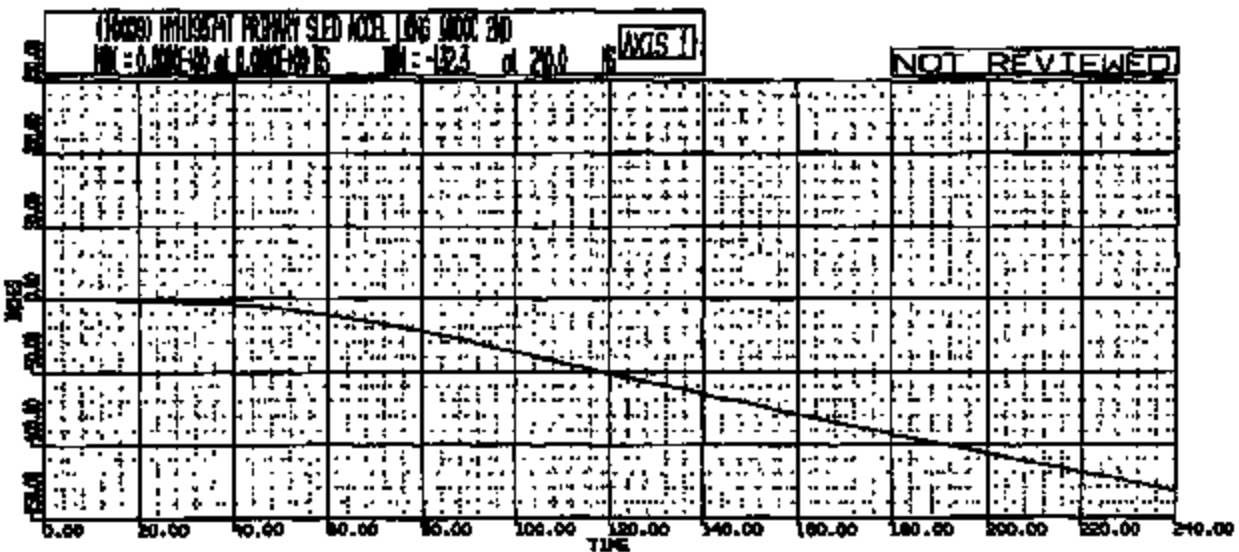
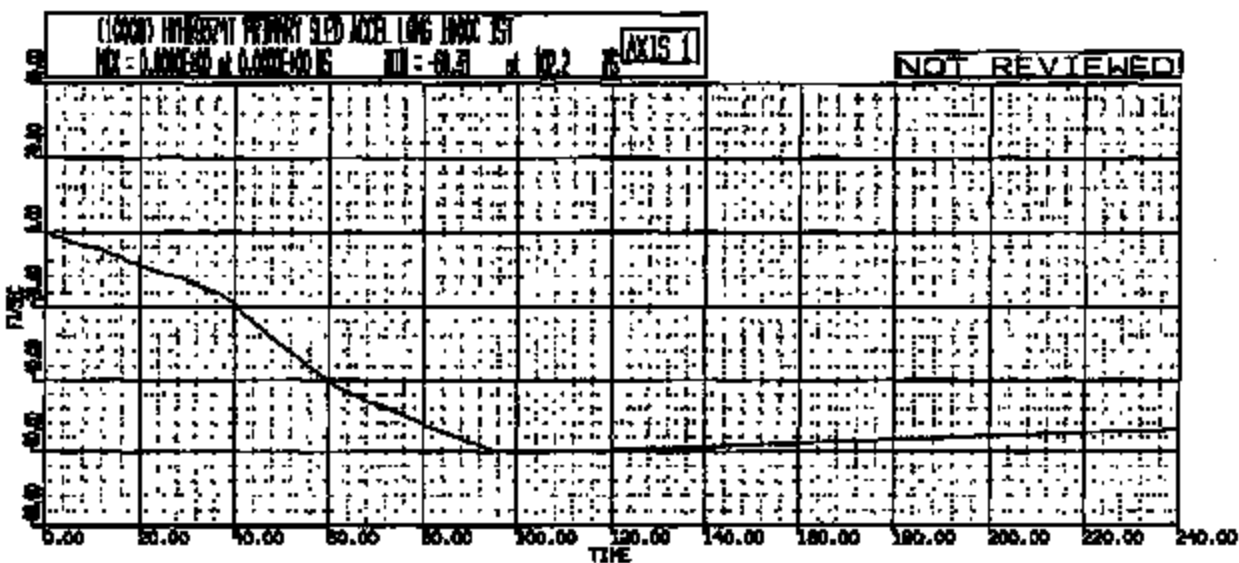
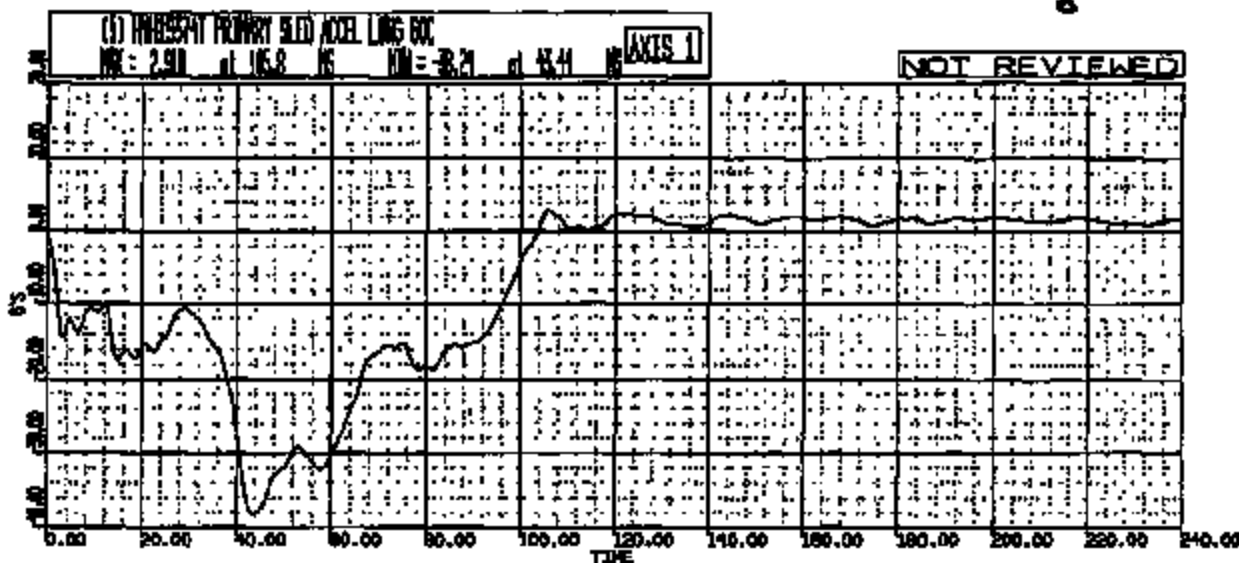


HY R: H19372 TO: TB0407A DATE: 880831 08:20:12
20000 D186



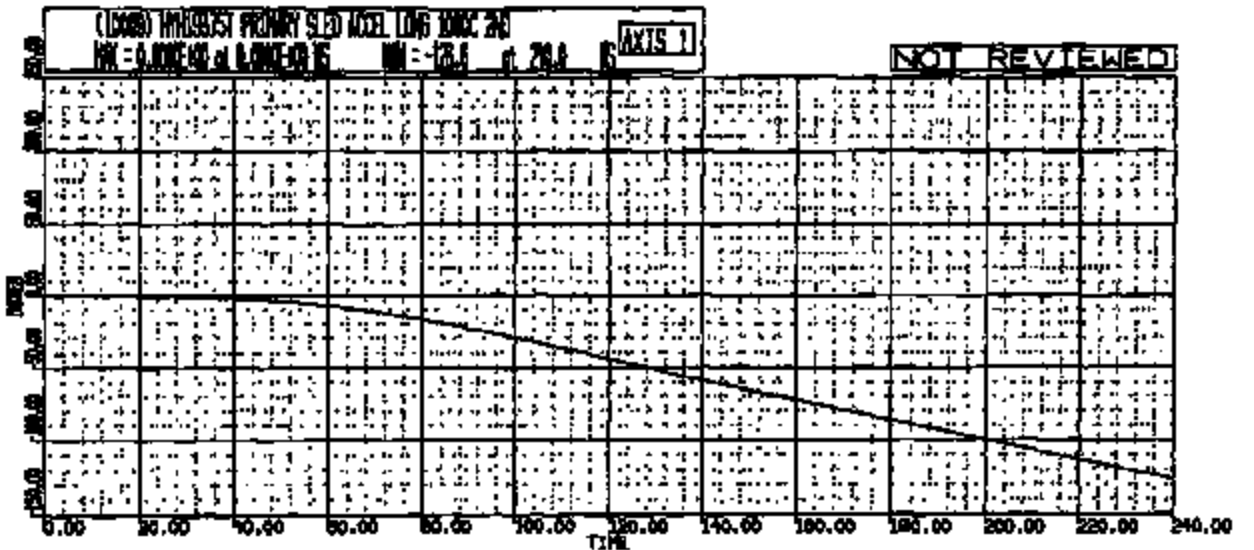
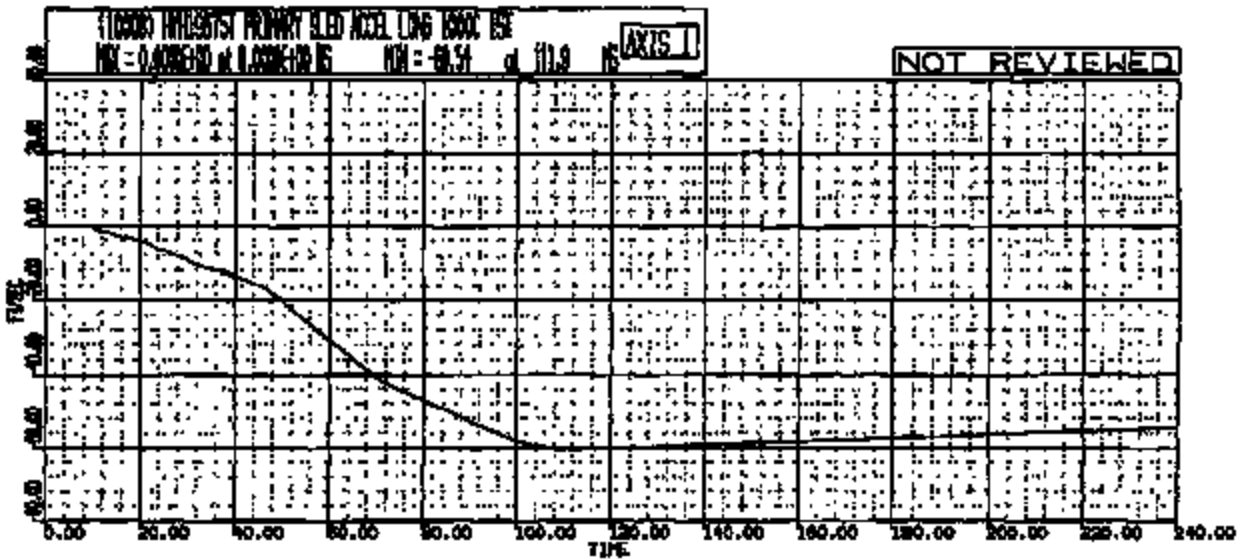
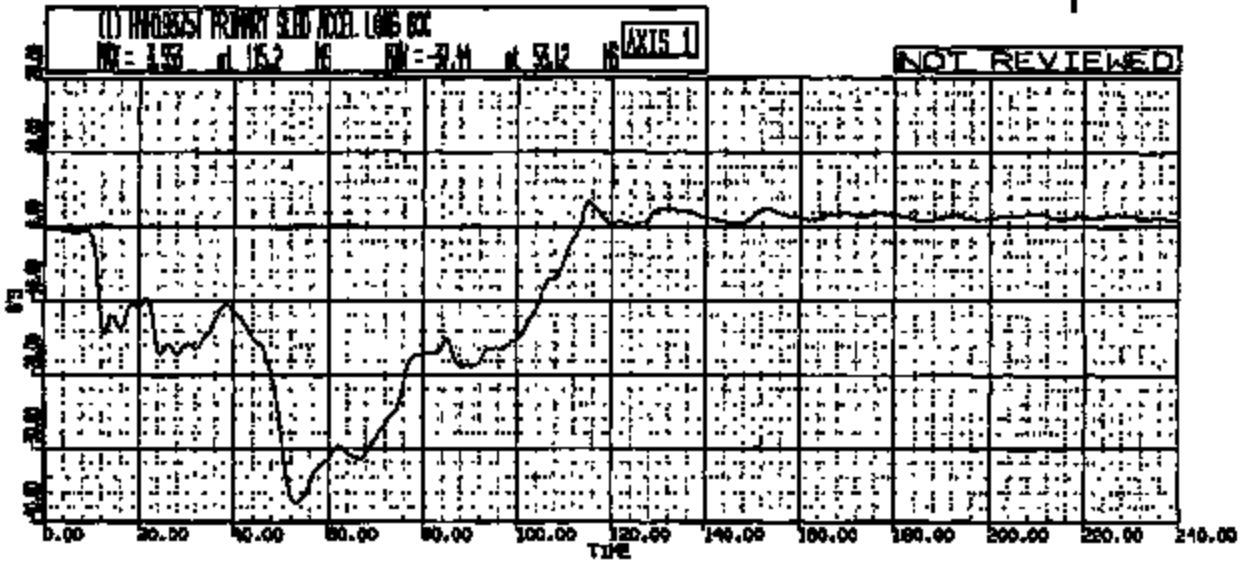
HY RI H19275 TO: TB0407A DATE: 980831 10:45:13
20000 D166



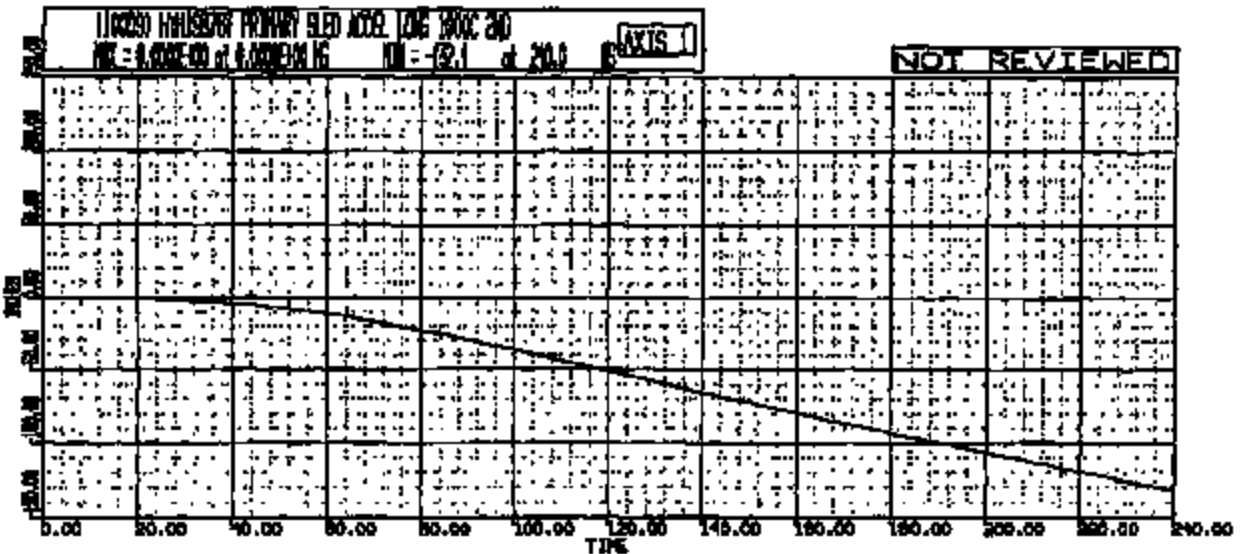
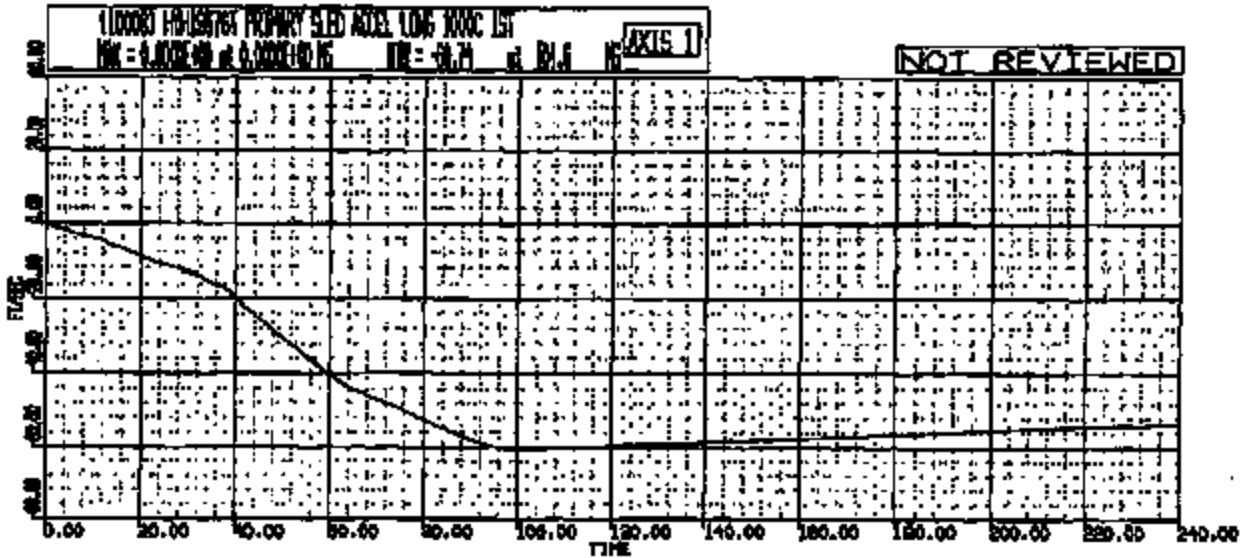
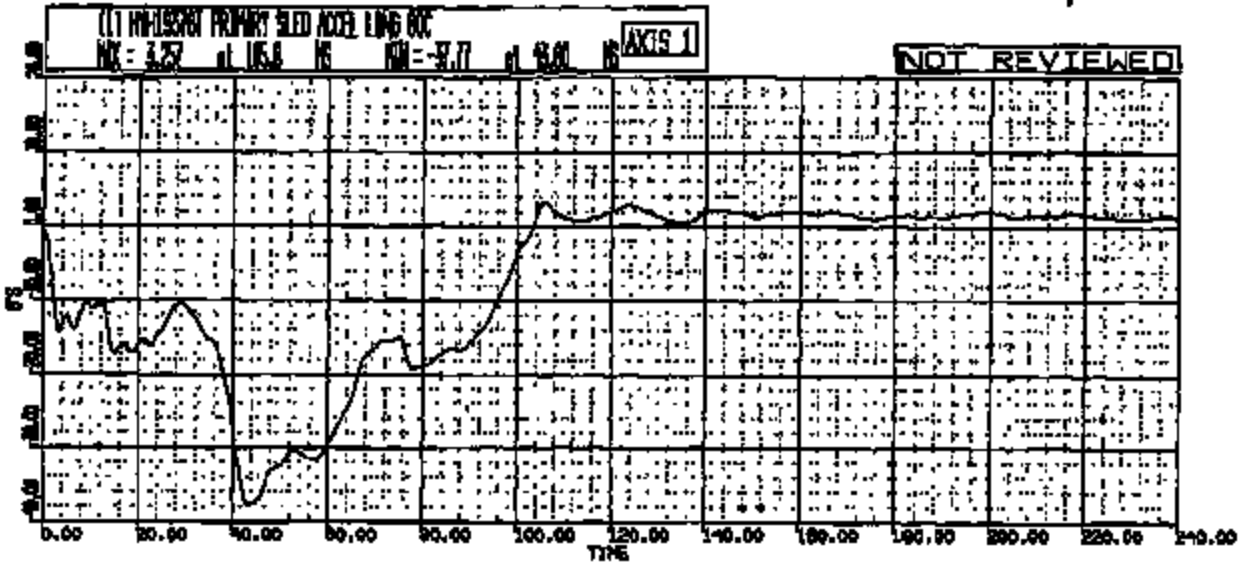


HY R: H18374 TO: TB0407B DATE: 980831 15:16:31
2000 D188

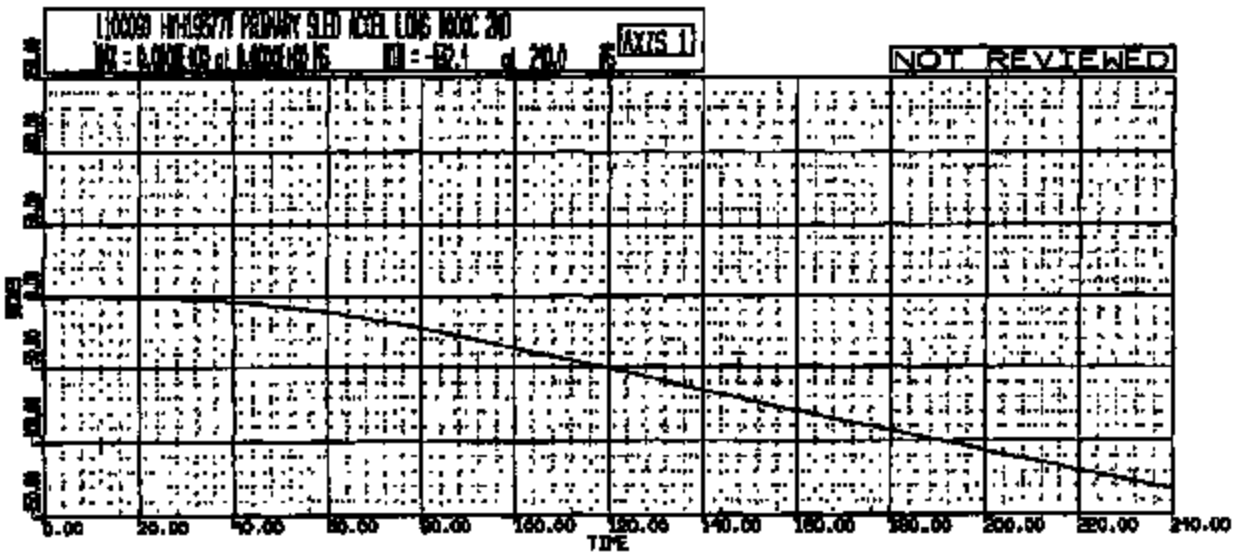
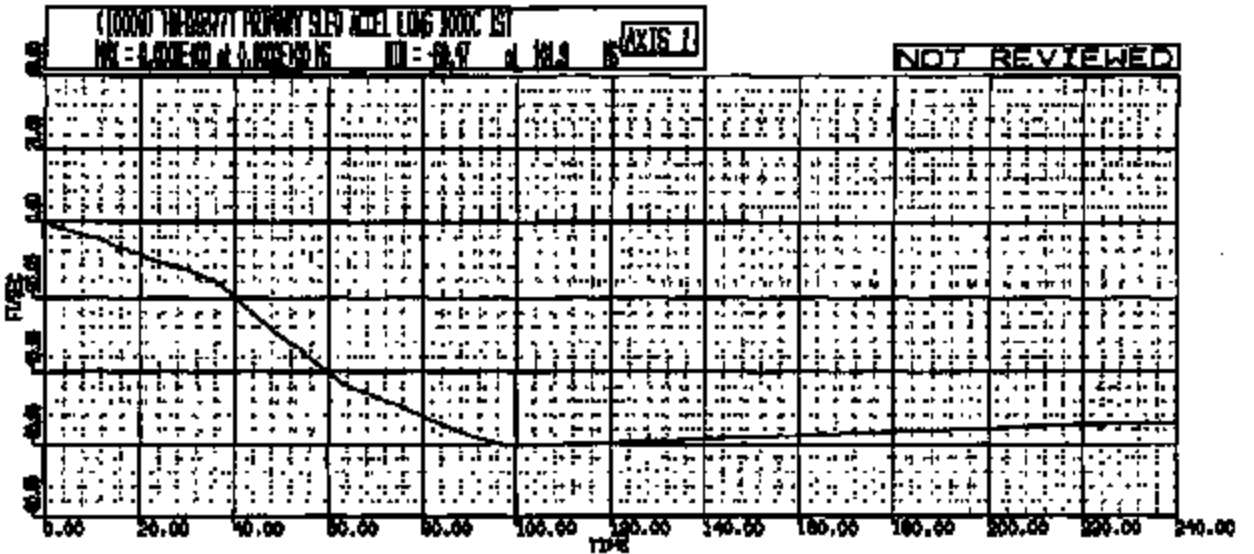
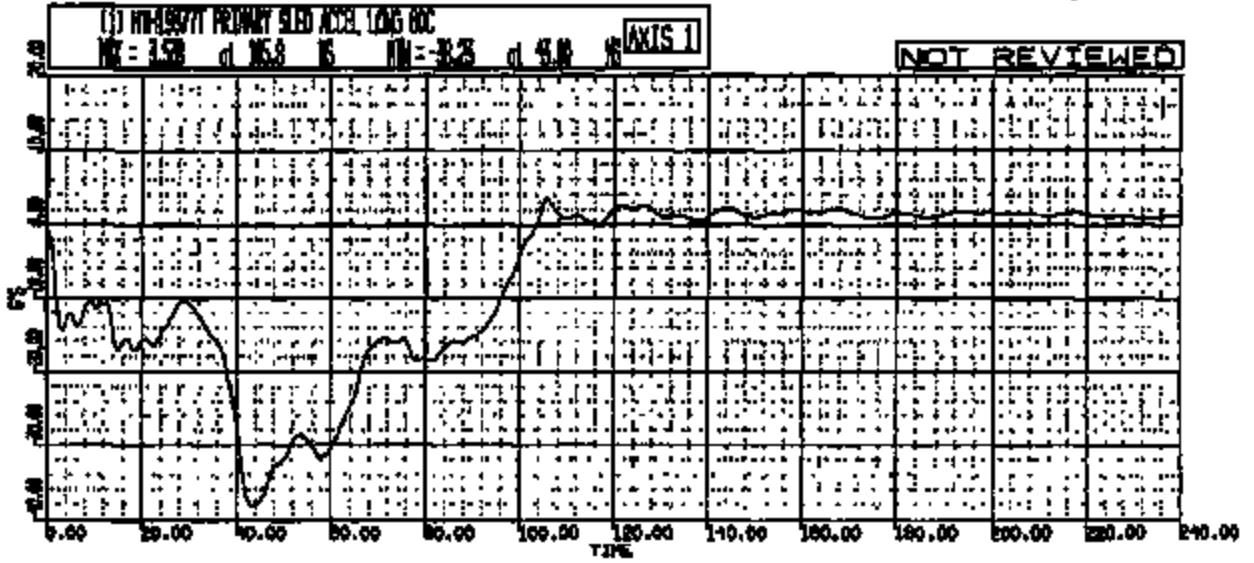
HY R: H10376 TO: TB0407B DATE: 880831 17:30:22
2000 0188



MY R: H1837B TO: TB0407B DATE: 980821 16:48:52
2000 D188

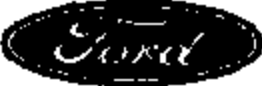


MY R: H19577 TO: TB0407B DATE: 980831 22:10:03
2000 D188



RUN#	LA #	TEST TYPE	DATE	TIME	DATA CHAN#	WEIGHT (LBS)	HPL	USPONE	LOAD	WT	DRIVE	SUCK #	VELOCITY (MPHO)	LEFT	DURAY 8M CRIB	RIGHT	PN	INNER RING	OUTER RING
1936	10000A	DRS REACTOR EVALUATION	6/28/78	17:21	9	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1937	10000A	DRS REACTOR EVALUATION	6/28/78	18:05	9	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1938	10000A	DRS REACTOR EVALUATION	6/28/78	21:13	9	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1939	10000A	DRS REACTOR EVALUATION	6/28/78	22:32	9	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1940	10000A	DRS REACTOR EVALUATION	6/30/78	7:20	9	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1941	10000A	DRS REACTOR EVALUATION	6/30/78	10:40	9	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1942	10000A	DRS REACTOR EVALUATION	6/30/78	12:11	31	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1943	10000A	DRS REACTOR EVALUATION	6/30/78	17:54	31	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1944	10000A	DRS REACTOR EVALUATION	6/30/78	18:39	31	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN
1945	10000B	DRS REACTOR EVALUATION	6/30/78	22:14	31	890	130	61	2842	477	218	405	35	331	—	317	54	IN	IN

ATTACHMENT Z
 TB0407
 Sheet 12

 GTO Test Request		Requester/Coordinator (PROPS ID): <u>Sheet 13</u> KWARMANN KRIS WARMANN	
		Testing Activity: HYGE and VIA Blvd	Date Submitted: 24-AUG-88	Requested Completion Date: 28-AUG-88	Requestor Reference Number:
Test Procedure Number: HYG-00		Test Title and / or Subject of Test: D180 Retractor Evaluation	
Billable Requestor Dept No.: TEST AY2E1EA		Worksheet/Work Order Number: P08	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
Billable Requestor PROPS ID: KWARMANN		Billable Requestor Name: KRIS WARMANN	
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input checked="" type="checkbox"/> No CAE Methodology or probes available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain base data for CAE <input type="checkbox"/> Replacement or Improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for F88 <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVP/WCF requirements <input checked="" type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other:	
(Check appropriate boxes)		(Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: HYG Test Procedure T857-110			
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer <u>KRIS WARMANN</u>		Testing Engineer <u>MIKE DORAN</u>	
Requesting Supervisor/Manager <u>ALAN TALE</u>		Testing Supervisor <u>RICHARD BURNS</u>	

TAS TB0407

DATE: 03/08/01

Author: Ted Wynn
Issue: 03/07

9368

QTY	UNIT	ITEM	DESCRIPTION	REV	DATE	QTY	UNIT	ITEM	DESCRIPTION	REV	DATE	QTY	UNIT	ITEM	DESCRIPTION	REV	DATE	QTY	UNIT	ITEM	DESCRIPTION	REV	DATE	
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													
01	01		IN FRONT (HSS00)	01	0000			01	01	Y	0000													

- 01: Steel Prototype CPN. Plastic lock with upgraded on-water web screw mechanism (stronger lock leg). 100-Apple change CP level PT.
- 02: Steel Prototype CPN. Plastic Lock with upgraded on-water web screw mechanism (stronger lock leg). 100-Apple change CP level PT.
- 03: Steel Prototype CPN. 100-Apple change. 100-Apple change PT.
- 04: Adult 1/2 inch impedance wheel casting. 1/2 inch, 1/2 inch, 1/2 inch.
- 05: WTY's spacer only.
- 06: Spacing column with stops held by tapered pin with 4.5 inch gap. No other parts.
- 07: 1000 DWT 101 Interweb panel with steel door/lock holder.

NOTES:
 Run 1-4 use uninstrumented durma
 Run 7-10 use instrumented driver and uninstrumented passenger durma
 High heater core should NOT be installed for run 7-8
 High heater core MUST be installed for run 7-10

Run order : 1, 5, 6, 2, 3, 4, 7, 8, 9, 10

SLIED 0033926

ATTACHMENT 11
 Sheet 14

HYGE Sled Test Summary

Sheet 15

Editor: Kris Wannam
Phone: 2871-47

HYGE Run H 19368
Test Engineer: Wim Van Glabbeek
Requester: Kris Wannam

Run Date 8 28, 98
Test Auth # TB0407
BUCK # 405

1
MATRIX #

Test Title/Description: Retractor analysis
Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # 54

TIME	LEFT	Airbag: _____ ms	RIGHT	Airbag: _____ ms	
	Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms		
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy: <u>317</u>	CENTER	Dummy: _____	
	A/B	_____	Belt	_____	
	Belt	<u>LR 27</u>			
	Seat	_____	Dr. A/B FMP	_____	
	Tractor:	<u>power manual</u>	Pass. FMP	_____	
	Position:	Welded? Y N			
			FRONT	Dummy: <u>331</u>	
				A/B	_____
				Belt	<u>RR 27</u>
				Seat	_____
				Tractor:	<u>power manual</u>
				Position:	Welded? Y N
				Instrument Panel:	_____
				Steering Column:	_____
				Pre-Test OBSERVATIONS:	_____

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	MB	<u>ON SEAT</u>	OFF SEAT	RIGHT	Upright	MB	<u>ON SEAT</u>	OFF SEAT
	A/B Intact (No Holes):		<u>Y/N</u>			A/B Intact (No Holes):		<u>Y/N</u>	
	Face to A/B	MB	Center	GB		Face to A/B	MB	Center	GB
	Contact Location:	High	Mid	Low		Contact Location:	High	Mid	Low
	A/B Cover Attached to Can/Cover:		<u>Y/N</u>			A/B Cover Attached to Can/Cover:		<u>Y/N</u>	
	Adj. D-ring Remain in Position:		<u>Y/N</u>			Adj. D-ring Remain in Position:		<u>Y/N</u>	
	Retractor Intact:	<u>Y/N</u>	Locked:	<u>Y/N</u>		Retractor Intact:	<u>Y/N</u>	Locked:	<u>Y/N</u>
	Buckle Held:	<u>Y/N</u>	Webbing Intact:	<u>Y/N</u>		Buckle Held:	<u>Y/N</u>	Webbing Intact:	<u>Y/N</u>
	Seat Tracks Held:		<u>Y/N</u>			Seat Tracks Held:		<u>Y/N</u>	
	Cracks in VP:		<u>Y/N</u>			Cracks in VP:		<u>Y/N</u>	
Steering Wheel Deformed:		<u>Y/N</u>		Steering Wheel Deformed:		<u>Y/N</u>			
Column Stroked w/o Interference:		<u>Y/N</u>		Column Stroked w/o Interference:		<u>Y/N</u>			
Column Stroke: Left: _____				Column Stroke: Right: _____					
Post Test COMMENTS:									
<u>L/RODING AT D RING</u>									
<u>R/ SEAT BACK SLIGHT TWIST O/B</u>									
* DATA OK									
OBSERVER:								<u>MAN</u>	

HYGE Sled Test Summary

Sheet 16
 Edition: Eric Warmann
 Form: 487147
5
 MATRIX #

HYGE Run H 19369

Run Date 8/28/98

Test Engineer: Wim Van Glabbeek

Test Auth # TB0407

Requester: Kris Warmann

BUCK # 400

Test Title/Description: Retractor analysis

Crash/HYGE Pulse Ref: _____

Strutted Speed: 35

Pin # 54

	LEFT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms	
PARTS DESCRIPTION POST-TEST OBSERVATIONS	Dummy	<u>317</u>	Dummy	<u>331</u>	
	A/B		A/B		
	Ball	<u>L230</u>	Ball	<u>R230</u>	
	Seat		Seat		
	Tractor:	<input checked="" type="radio"/> Manual	Dr. A/B Fall		Tractor: <input checked="" type="radio"/> power
	Position:	<input checked="" type="radio"/> Waked? <input checked="" type="radio"/> Y <input type="radio"/> N	Pass. Fall		Position: <input checked="" type="radio"/> Waked? <input checked="" type="radio"/> Y <input type="radio"/> N
Instrument Panel:		_____			
Steering Column:		_____			
Pre-Test OBSERVATIONS: _____					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p><input checked="" type="radio"/> Upright <input checked="" type="radio"/> IB <input checked="" type="radio"/> On Seat <input type="radio"/> Off Seat</p> <p><input checked="" type="radio"/> Upright <input type="radio"/> Left <input type="radio"/> Right <input type="radio"/> On Seat <input type="radio"/> Off Seat</p> <p><input checked="" type="radio"/> Upright <input checked="" type="radio"/> IB <input checked="" type="radio"/> On Seat <input type="radio"/> Off Seat</p>	<p><input checked="" type="radio"/> Upright <input checked="" type="radio"/> IB <input checked="" type="radio"/> On Seat <input type="radio"/> Off Seat</p> <p><input checked="" type="radio"/> Upright <input type="radio"/> Left <input type="radio"/> Right <input type="radio"/> On Seat <input type="radio"/> Off Seat</p> <p><input checked="" type="radio"/> Upright <input checked="" type="radio"/> IB <input checked="" type="radio"/> On Seat <input type="radio"/> Off Seat</p>
---	---

<p>LEFT SIDE</p> <p>A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: <u>MS Center</u> <input type="radio"/> <u>OB</u> <input type="radio"/></p> <p>Contact Location: <u>High</u> <input type="radio"/> <u>Mid</u> <input type="radio"/> <u>Low</u> <input type="radio"/></p> <p>A/B Cover Attached to Can/Cover: <u>Y/N</u></p> <p>Adj. D-ring Remains in Position: <input checked="" type="radio"/> Y <input type="radio"/> N</p> <p>Retractor Intact: <input checked="" type="radio"/> Y <input type="radio"/> N Locked: <input type="radio"/> Y <input type="radio"/> N</p> <p>Buckle Held: <input checked="" type="radio"/> Y <input type="radio"/> N Webbing Intact: <input type="radio"/> Y <input type="radio"/> N</p> <p>Seat Tracks Held: <input checked="" type="radio"/> Y <input type="radio"/> N</p> <p>Cracks in MP: <u>Y/N</u></p> <p>Steering Wheel Deformed: <u>Y/N</u></p> <p>Column Stroked w/o Interference: <u>Y/N</u></p> <p>Column Stroke: Left: _____ Right: _____</p>	<p>RIGHT SIDE</p> <p>A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: <u>MS Center</u> <input type="radio"/> <u>OB</u> <input type="radio"/></p> <p>Contact Location: <u>High</u> <input type="radio"/> <u>Mid</u> <input type="radio"/> <u>Low</u> <input type="radio"/></p> <p>A/B Cover Attached to Can/Cover: <u>Y/N</u></p> <p>Adj. D-ring Remains in Position: <input checked="" type="radio"/> Y <input type="radio"/> N</p> <p>Retractor Intact: <input checked="" type="radio"/> Y <input type="radio"/> N Locked: <input type="radio"/> Y <input type="radio"/> N</p> <p>Buckle Held: <input checked="" type="radio"/> Y <input type="radio"/> N Webbing Intact: <input type="radio"/> Y <input type="radio"/> N</p> <p>Seat Tracks Held: <input checked="" type="radio"/> Y <input type="radio"/> N</p> <p>Cracks in MP: <u>Y/N</u></p>
--	--

Post Test COMMENTS:

1/ POPPING @ D-RING

2/ SEAT TRACK LET GO

POPPING @ D-RING

* DATA OK

OBSERVER: WVG

HYGE Sled Test Summary

Sheet 17
Initials: Kris Wamann
 Form 12749

HYGE Run # 19370 Run Date 8/28/98
 Test Engineer: Wim Van Glabbeek Test Auth # TB0407
 Requestor: Kris Wamann BUCK # 405
 Test Title/Description: Retractor analysis

6

MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pn # 34

	LEFT	RIGHT	
	Airbag: <u>no</u>	Airbag: <u>no</u>	
	Pyro Buckle: <u>no</u>	Pyro Buckle: <u>no</u>	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>307</u>	Dummy _____	Dummy <u>331</u>
	A/B _____	Beil _____	A/B _____
	Seat <u>LR21</u>	Dr. A/B FMR _____	Seat _____
	Tracks: <u>used</u> manual	Pass. FMR _____	Tracks: <u>used</u> manual
	Position: _____ Welded? <u>Y</u>		Position: _____ Welded? <u>N</u>
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat</p> <p><input checked="" type="checkbox"/> A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: <u>High</u> Center <u>CR</u> Low</p> <p>Contact Location: _____</p> <p>A/B Cover Attached to Can./Cover: <u>Y/N</u></p> <p>Adj. D-ring Remain in Position: <u>Y/N</u></p> <p>Retractor Intact: <u>Y</u> N Lockset: <u>Y</u> N</p> <p>Buckle Held: <u>Y</u> N Webbing Intact: <u>Y</u> N</p> <p>Seat Tracks Held: <u>Y</u> N</p> <p>Cracks in J/P: <u>Y/N</u></p> <p>Steering Wheel Deformed: <u>Y/N</u></p> <p>Column Stroked w/o interference: <u>Y/N</u></p> <p>Column Stroke: Left _____ Right _____</p>	<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat</p> <p><input checked="" type="checkbox"/> A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: <u>High</u> Center <u>CR</u> Low</p> <p>Contact Location: _____</p> <p>A/B Cover Attached to Can./Cover: <u>Y/N</u></p> <p>Adj. D-ring Remain in Position: <u>Y/N</u></p> <p>Retractor Intact: <u>Y</u> N Lockset: <u>Y</u> N</p> <p>Buckle Held: <u>Y</u> N Webbing Intact: <u>Y</u> N</p> <p>Seat Tracks Held: <u>Y</u> N</p> <p>Cracks in J/P: <u>Y/N</u></p>	<p>Post Test COMMENTS: _____</p> <p><u>L/ROD RING @ D-RING - SEAT</u> <u>IF ACQ FORCED REARWARD</u></p> <p><u>R/SEAT TRACKS RELEASED</u> <u>ROD RING @ D-RING</u></p>
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* DATA OK OBSERVER: WV

SLED 0033929

HYGE Sled Test Summary

Sheet 18
 Subject: Kris Warrman
 Date: 8/28/98
 2
 MATRIX #

HYGE Run # 19371
 Test Engineer: Wm Van Gabbek
 Requester: Kris Warrman
 Test Title/Description: Retractor analysis

Run Date 8 28, 98
 Test Auth # TED407
 BUCK # 405

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 P# 54

	LEFT	Airbag: <u>no</u>	RIGHT	Airbag: <u>no</u>
		Pyro Buckle: <u>12</u>		Pyro Buckle: <u>12</u>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy <u>317</u>	CENTER	Dummy _____
		A/B _____		Belt _____
		Belt <u>LA 22</u>		Belt <u>PA 22</u>
		Seat _____		Seat _____
		Tracks: <input checked="" type="checkbox"/> manual		Tracks: <input checked="" type="checkbox"/> manual
		Position: _____ Welded? <input checked="" type="checkbox"/>		Position: _____ Welded? <input checked="" type="checkbox"/>
	Instrument Panel: _____		Steering Column: _____	
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright <input checked="" type="checkbox"/> On Seat	RIGHT	Upright <input checked="" type="checkbox"/> On Seat
		VB <input checked="" type="checkbox"/> Off Seat		VB <input checked="" type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact (No Holes):	<u>Y/N</u>	A/B Intact (No Holes):	<u>Y/N</u>
	Face to A/B	<u>VB</u> Center <u>OV</u>	Face to A/B	<u>VB</u> Center <u>OV</u>
	Contact Location:	<u>High</u> <u>Mid</u> <u>Low</u>	Contact Location:	<u>High</u> <u>Mid</u> <u>Low</u>
	A/B Cover Attached to Can/Cover:	<u>Y/N</u>	A/B Cover Attached to Can/Cover:	<u>Y/N</u>
	Adj. D-ring Remains in Position:	<u>Y/N</u>	Adj. D-ring Remains in Position:	<u>Y/N</u>
	Retractor Intact:	<u>Y/N</u> Locked: <u>Y/N</u>	Retractor Intact:	<u>Y/N</u> Locked: <u>Y/N</u>
	Buckle Held:	<u>Y/N</u> Webbing Intact: <u>Y/N</u>	Buckle Held:	<u>Y/N</u> Webbing Intact: <u>Y/N</u>
	Seat Tracks Held:	<u>Y/N</u>	Seat Tracks Held:	<u>Y/N</u>
	Cracks in IP:	<u>Y/N</u>	Cracks in IP:	<u>Y/N</u>
	Steering Wheel Deformed:	<u>Y/N</u>		
Column Stroke w/o Interference:	<u>Y/N</u>			
Column Stroke:	Left: _____	Right: _____		

Post Test COMMENTS: _____

1/ BELT FRAMED @ SEATBACK HINGE - HOPEING @ D-RING

2/ NORMAL LOOK

* DATA OK

OBSERVER: M

HYGE Sled Test Summary

Sheet 19
 Edition 2nd Edition
 Form 12747
3
MATRIX #

HYGE Run # 19372
 Test Engineer: Wm Van Glabbeek
 Requester: Kris Warrern
 Test Title/Description: Restraint analysis

Run Date 8 13 198
 Test Auth # TED407
 BUCK # 408

Crash/HYGE Pulse Rat: _____ Simulated Speed: 35 Pls # 54

	LEFT	Airbag: <u>N/A</u> me	RIGHT	Airbag: <u>N/A</u> me
		Pyro Buckle: _____ me		Pyro Buckle: _____ me
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50TH</u>	Dummy	<u>50TH</u>
	A/B	_____	Belt	_____
	Belt	<u>LR-22</u>	Belt	<u>RR-22</u>
	Seat	<u>5-4</u>	Dr. AIR FIB	_____
	Tracks:	<u>power</u> manual	Pass. FIB	_____
	Position:	<u>MID</u>	Welded? Y <input checked="" type="checkbox"/>	Position:	MID
Instrument Panel:		_____		
Steering Column:		_____		
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> OFF SEAT</p> <p>A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: <u>Center</u> High Low</p> <p>Contact Location: <u>High</u> Mid Low</p> <p>A/B Cover Attached to Can./Cover: <u>Y/N</u></p> <p>Adj. D-ring Remain in Position: <u>Y/N</u></p> <p>Retractor Intact: <u>Y/N</u> Looked: <u>Y/N</u></p> <p>Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u></p> <p>Seat Tracks Held: <u>Y/N</u></p> <p>Cracks in IP: <u>Y/N</u></p> <p>Steering Wheel Deformed: <u>Y/N</u></p> <p>Column Striked w/o Interference: <u>Y/N</u></p>	<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> ON SEAT</p> <p>A/B Intact (No Holes): <u>Y/N</u></p> <p>Face to A/B: <u>Center</u> High Low</p> <p>Contact Location: <u>High</u> Mid Low</p> <p>A/B Cover Attached to Can./Cover: <u>Y/N</u></p> <p>Adj. D-ring Remain in Position: <u>Y/N</u></p> <p>Retractor Intact: <u>Y/N</u> Looked: <u>Y/N</u></p> <p>Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u></p> <p>Seat Tracks Held: <u>Y/N</u></p> <p>Cracks in IP: <u>Y/N</u></p>	<p>Column Stroke: Left: _____ Right: _____</p> <p>Post Test COMMENTS: <u>POSSIBLE MOVEMENT OF L/R SEAT TRACKS</u> <u>PLANNING R-RING WAS UP 3 NOTEN POST TEST.</u></p>
--	---	---

*** DATA OK**

OBSERVER: M. DORAN

HYGE Sled Test Summary

Sheet 20
 Issued: Kris Weismann
 Form 107147
4
MATRIX #

HYGE Run # 19373 Run Date 8 13 198
 Test Engineer: Wim Van Glabbeek Test Auth # TE0407
 Requester: Kris Weismann BUCK # 408
 Test Title/Description: Retractor analysis

Crash/HYGE Pulse Ret: _____ Simulated Speed: 35 Pin # 54

TIME	LEFT	Airbag: <u>N/A</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: <u>N/A</u> ms Pyro Buckle: <u>10</u> ms			
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50TH</u>	Dummy	<u>50TH</u>			
	A/B	<u>N/A</u>	Belt	<u>N/A</u>			
	Belt	<u>LR-22</u>	Belt	<u>RR-22</u>			
	Seat	<u>34</u>	Seat	<u>34</u>			
	Tracks:	<u>power manual</u>	Tracks:	<u>power manual</u>			
Position:	<u>MID</u>	Welded?	<u>Y</u>	Position:	<u>MID</u>	Welded?	<u>Y</u>
Instrument Panel:		_____					
Steering Column:		_____					
Pre-Test OBSERVATIONS: _____							

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<u>Upright</u> <input type="checkbox"/> <u>MB</u> <input type="checkbox"/> <u>On Seat</u> <input type="checkbox"/>	<u>Upright</u> <input type="checkbox"/> <u>MB</u> <input type="checkbox"/> <u>Off Seat</u> <input type="checkbox"/>	<u>Upright</u> <input type="checkbox"/> <u>Left</u> <input type="checkbox"/> <u>Right</u> <input type="checkbox"/> <u>On Seat</u> <input type="checkbox"/> <u>Off Seat</u> <input type="checkbox"/>	<u>Upright</u> <input type="checkbox"/> <u>MB</u> <input type="checkbox"/> <u>On Seat</u> <input type="checkbox"/>	<u>Upright</u> <input type="checkbox"/> <u>MB</u> <input type="checkbox"/> <u>Off Seat</u> <input type="checkbox"/>
--	--	---	---	--	---

LEFT SIDE	A/B Intact (No Holes): _____ Y/N Base to A/B _____ MB _____ Center _____ CB _____ Contact Location: _____ High _____ Mid _____ Low _____ A/B Cover Attached to Can/Sever: _____ Y/N Adj. D-ring Remain in Position: _____ Y/N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Seat Tracks Held: _____ Y/N Brakes WIP: _____ Y/N Steering Wheel Deformed: _____ Y/N Column Girder not Transferred: _____ Y/N Column Stroke: Left: _____ Right: _____	A/B Intact (No Holes): _____ Y/N Base to A/B _____ MB _____ Center _____ CB _____ Contact Location: _____ High _____ Mid _____ Low _____ A/B Cover Attached to Can/Sever: _____ Y/N Adj. D-ring Remain in Position: _____ Y/N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Seat Tracks Held: _____ Y/N Brakes WIP: _____ Y/N
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Post Test COMMENTS: TEST LOCKED NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 21
Name: Kris Warrmann

HYGE Run H 19374
 Test Engineer: Wim Van Glabbeek
 Requestor: Kris Warrmann

Run Date 8/31/98
 Test Auth # TBD407
 BUCK # 405

7
MATRIX #

Test Title/Description: Retractor analysis

Crash/HYGE Pulse Ref:

Strutted Speed: 35

Pin # 54

TIME	LEFT	Airbag: <u>12/17</u> ms	RIGHT	Airbag: <u>N/A</u> ms
		Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	DUMMY	<u>50TH</u>	DUMMY	<u>50TH</u>
	A/E	<u>D-6</u>	Seat	<u>N/A</u>
	Belt	<u>LR-20</u>	Belt	<u>RR-20</u>
	Seat	<u>S-4</u>	Seat	<u>S-4</u>
	Tracks:	<u>pass</u> normal	Pass. FMS	<u>pass</u> normal
	Position:	<u>mid</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>	Pass. FMS	<u>mid</u> Welded? <u>Y</u> <input checked="" type="checkbox"/>
Instrument Panel:	<u>17</u>			
Steering Column:	<u>SC3</u>			
Pre-Test OBSERVATIONS:				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<input checked="" type="checkbox"/> Upright	IB	O/B		Upright	Left	Right		<input checked="" type="checkbox"/> Upright	IB	O/B
	<input checked="" type="checkbox"/> On Seat		<input checked="" type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> On Seat		<input checked="" type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact: <u>NO DEFORMATION</u>										
	Face to A/B	IB	<u>center</u>	O/B							
	Contact Location:	High	<u>mid</u>	Low							
	A/B Cover Attached to Cab/Cover:										
	Adj. D-ring Remains in Position:										
	Retractor Intact:	<input checked="" type="checkbox"/> Y	N	Locked:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y
	Buckle Held:	<input checked="" type="checkbox"/> Y	N	Webbing Intact:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y
	Seat Tracks Held:	<input checked="" type="checkbox"/> Y	N		<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y
	Cracks in IP:				<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y
	Steering Wheel Deformed:				<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y
Column Stroked w/o Interference:				<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y	
Column Stroke:	Left:			Right:							

Post Test COMMENTS:

L/ NO VISIBLE BOLSTER DEFORMATION -
COVER FREE UPSEA O/B -
SEAT BACK FORCED REAR

R/ SLIGHT BOLSTER CONTACT - NO
DEFORMATION - SEAT BACK
FORCED REAR ON REBOUND

OBSERVER: MA

HYGE Sled Test Summary

Sheet 22
Author: Kris Warnman
Form: 07/97

HYGE Run # 19375 Run Date 8/31/98
 Test Engineer: Wim Van Glabbeek Test Auth # TR0407
 Requestor: Kris Warnman BUCK # 405
 Test Title/Description: Retractor analysis

8
MATRIX #

Crash/HYGE Poles Ref: _____ Simulated Speed: _____ Pin # _____

HYGE TIME	LEFT	Airbag: <u>12-12</u> ms	RIGHT	Airbag: _____ ms
		Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION POST-TEST OBSERVATIONS	LEFT	Dummy: <u>337</u>	CENTER	Dummy: _____
		A/B: _____		Belt: _____
		Belt: _____		Seat: _____
		Seat: _____		Dr. AB PMP: _____
		Tracks: <u>Pass</u> <u>Pinup</u>		Pass. PMP: _____
		Position: _____		Welded? <u>Y</u>
			RIGHT	Dummy: <u>337</u>
				A/B: _____
				Belt: _____
				Seat: _____
				Tracks: <u>Pass</u> <u>Pinup</u>
				Position: _____
				Welded? <u>Y</u>
				Instrument Panel: _____
				Steering Column: _____
				Pre-Test OBSERVATIONS: _____

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright		Left		Right	
	On Seat	Off Seat	On Seat	Off Seat	On Seat	Off Seat
A/B Intact (No Holes):	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Face to A/B	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Contact Location:	<u>High</u>	<u>Mid</u>	<u>Low</u>		<u>High</u>	<u>Mid</u>
A/B Cover Attached to Can/Cover:	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>N</u>
Retractor Intact:	<u>Y</u>	<u>N</u>	Locked:	<u>Y</u>	<u>Y</u>	<u>N</u>
Buckle Held:	<u>Y</u>	<u>N</u>	Webbing Intact:	<u>Y</u>	<u>Y</u>	<u>N</u>
Seat Tracks Held:	<u>Y</u>	<u>N</u>		<u>Y</u>	<u>Y</u>	<u>N</u>
Cracks in IP:	<u>Y</u>	<u>N</u>		<u>Y</u>	<u>Y</u>	<u>N</u>
Steering Wheel Deformed:	<u>Y</u>	<u>N</u>		<u>Y</u>	<u>Y</u>	<u>N</u>
Column Stroked w/o Interference:	<u>Y</u>	<u>N</u>		<u>Y</u>	<u>Y</u>	<u>N</u>
Column Stroke: Left: _____			Right: _____			

Post Test COMMENTS:

W/ BOLSTER CONTACT W/ NO

VISIBLE DEFORMATIONS - SEAT

NORMAL

2/ SEAT TRACKS RELEASED

POPPING @ IN BUCK

BOLSTER CONTACT W/ SLIGHT

DEFORMATION

OBSERVER: Wim

SLED 0033934

HYGE Sled Test Summary

Sheet 23

Invent: Ed Whelan
Rev: 0710

HYGE Run # 19376
 Test Engineer: Wim Van Ootbeek
 Requester: Kris Wammann
 Test Title/Description: Retractor analysis

Run Date 8/31/98
 Test Auth # TED407
 BUCK # 405

9

MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pn # 54

	LEFT	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTIONS PRE-TEST OBSERVATIONS	Dummy	<u>331</u>	Dummy	<u>317</u>
	A/B	_____	A/B	_____
	Belt	_____	Belt	_____
	Seat	_____	Seat	_____
	Tracks: <u>prop</u> <u>normal</u>	Dr. A/B F&M _____ Pass. F&M _____	Tracks: <u>prop</u> <u>normal</u>	Position: _____ Welded? <u>Y</u>
Position: _____	Welded? <u>Y</u>	Position: _____	Welded? <u>Y</u>	
Instrument Panel: _____				
Steering Column: _____				
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright On Seat	I/B Off Seat	O/B Off Seat	CENTER	Upright On Seat	Left Off Seat	Right Off Seat	RIGHT SIDE	Upright On Seat	I/B Off Seat	O/B Off Seat
	A/B Intact (No Holes):						Y				
Face to A/B											Y
Contact Location:		High	Mid						High	Mid	Low
A/B Cover Attached to Can./Cover:					Y						Y
Adj. D-ring Remain in Position:					Y						Y
Retractor Intact:					Y						Y
Buckle Held:					Y						Y
Seat Tracks Held:					Y						Y
Cracks in IP:					Y						Y
Steering Wheel Deformed:					Y						Y
Column Stroked w/o Interference:					Y						Y
Column Stroke: Left: _____											
Post Test COMMENTS:	Right/Side WEBBING FRAY RT										
	D-RING; R-SEAT MOVED LENS. —										
NO BOLSTER CONTACT — NO VISIBLE DEFORMATION											
OBSERVER: <u>RICK DAVES</u> <u>ANDY RANSFORD</u>											

HYGE Sled Test Summary

Sheet 24
Revised Ed. Warrick

Form 107142

10

MATRIX #

HYGE Run # 19377
 Test Engineer: Wim Van Glabbeek
 Requestor: Kris Warrick

Run Date 8/13/98
 Test Auth # YB0407
 BUCK # 40E

Test Title/Description: Retractor analysis

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin #: _____

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	RIGHT Airbag: <u>10</u> ms Pyro Buckle: <u>10</u> ms	
PARTS DESCRIPTIONS PRE-TEST OBSERVATIONS	Dummy <u>317</u> A/B _____ Belt _____ Seat _____ Tracks: <u>over normal</u> Position: <u>MUS</u> Welded? <u>(N)</u>	Dummy _____ Belt _____ Dr. A/B PMP _____ Pass. PMP _____	Dummy <u>329</u> A/B _____ Belt _____ Seat _____ Tracks: <u>over normal</u> Position: <u>MUS</u> Welded? <u>(N)</u>
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comments (if needed) below:

	Upright On Seat <input checked="" type="checkbox"/> Upright Left Off Seat <input checked="" type="checkbox"/> Left Right Off Seat <input checked="" type="checkbox"/> Right	Upright On Seat <input checked="" type="checkbox"/> Upright Left Off Seat <input checked="" type="checkbox"/> Left Right Off Seat <input checked="" type="checkbox"/> Right	
LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y/N Face to A/B: <input checked="" type="checkbox"/> Y/N Contact Location: <u>High</u> Low A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y/N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y/N Retractor Intact: <input checked="" type="checkbox"/> Y/N Locked: <input checked="" type="checkbox"/> Y/N Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing Intact: <input checked="" type="checkbox"/> Y/N Seat Tracks Held: <input checked="" type="checkbox"/> Y/N Cracks in MP: <input checked="" type="checkbox"/> Y/N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y/N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y/N	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y/N Face to A/B: <input checked="" type="checkbox"/> Y/N Contact Location: <u>High</u> Low A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y/N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y/N Retractor Intact: <input checked="" type="checkbox"/> Y/N Locked: <input checked="" type="checkbox"/> Y/N Buckle Held: <input checked="" type="checkbox"/> Y/N Webbing Intact: <input checked="" type="checkbox"/> Y/N Seat Tracks Held: <input checked="" type="checkbox"/> Y/N Cracks in MP: <input checked="" type="checkbox"/> Y/N	
	Column Stroke: Left: _____ Right: _____		

Post Test COMMENTS:

1/ NO VISIBLE BOLSTER CONTACT

2/ D-RING BOPPING - SEAT NORMAL - SLIGHT BOLSTER DEFORMATION

BOTH SEAT BACKS FORCED REARWARD

OBSERVER: WV

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Inhibitor: Kris Warrance
Phone: 287147

TB0407

Run H 19368

Date 8/28/98

Retractor analysis

1

Buck # 406
Reference: H
H
H

Lab 6018	DUMMY TYPE	Right 6018
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					(± RUN)	ADD'L
Seat Back Angle (13° above pivot)	23	27.5	27.5	23	0	±1 notch
Pelvic Angle (± 2.5 deg; ±1.0 for JPHs)	23	22.5	22.5	23		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	257	251	260	250	12	0
H-Point Vertical Laser # 4	217	217	210	219		0
H-Point Lateral	210	210	210	210	12	0
Knee Longitudinal Laser # 2	140			141		
Knee Vertical Laser # 2	113			113		
Knee Lateral	162	84	265	165	0	0
Head Longitudinal Laser # 5	331			333	level	0
Head Vertical Laser # 5	401			408	level	0
Head Lateral	330	323	440	345	level	0
Downy Neck Adjustment (first run only)						
Knee Centerline to Knee Contactline (mm)	195	194	194	195		
Left Knee to Bolster						0
Right Knee to Bolster						0
Head to Steering Wheel Upper Rim or VP						0
Head to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)
Knee (target) Lateral	260			250	
Thigh Lateral	220			220	
Phantom Lateral	223			223	
Shoulder Lateral	185			170	
Other					
Other					
Other					
Knee to H-Point	320			325	
Knee to Phantom	180			180	
Knee to Thigh	95			95	
Distance Between A or B Piller Targets	51			51	
Upper or Forward Reference Target	50			50	
Lower or Rearward Reference Target	50			50	
Reference Bar in Film Plane	900			900	
Camera Angle					< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 26

Initials: Ed Williams
Date: 8/28/98

TB0407

Run H 19369

Date 8/28/98

Retractor analysis

5
RUN 2

Buck # 405

Reference: H
H
H

Left 5043	DUMMY TYPE	Right 5043	Coater
MID	SEAT POSITION	MID	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADJL
Seat Back Angle (13° slave pivot)	28	27.8	27.8	28	0	+1 000th
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 390lb)	23	22.8	22.8	23		
Calcane Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	250	250	12	6
H-Point Vertical Laser # 4	217	217	218	219		6
H-Point Lateral	210	210	210	210	12	6
Knee Longitudinal Laser # 3	149			141		
Knee Vertical Laser # 3	413			400		
Knee Lateral	265	264		265	6	6
Head Longitudinal Laser # 5	376			364	level	6
Head Vertical Laser # 5	420			408	level	6
Head Lateral	325	323	446	320	level	6
Dummy Neck Adjustment (Set run only)						
Knee Centerline to Knee Centerline (mm)	185	187	184	195		
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or IP						6
Torso to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	230			225	
Thigh Lateral	215			218	
Phantom Lateral	215			200	
Shoulder Lateral	160			170	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 6 deg. < 6 deg.

Notes: _____

HYGE - DUMMY POSITIONING and P/A TARGETING Sheet

Sheet 27
Initiator: Edie Williams
Phone: 287147

TB0407

Run H 19370

Date 8/28/98

Retractor analysis

6
RUN 3

Buck # 408

Reference: H
H
H

Left SOFB	DUMMY TYPE	Right SOFB
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
						1st RUN	ADD'L
Seat Back Angle (13" above pivot)		28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for SWSs)		23	22.5	22.5	23		
Column Angle			21	21		at left	at left
H-Point Longitudinal	Laser # 4	251	251	250	250	12	8
H-Point Vertical	Laser # 4	217	-217	-219	220		8
H-Point Lateral		210	210	210	210	12	8
Knee Longitudinal	Laser # 3	143			141		
Knee Vertical	Laser # 3	113			100		
Knee Lateral		264	264		265	8	8
Head Longitudinal	Laser # 5	370			393	level	8
Head Vertical	Laser # 5	423			405	level	8
Head Lateral		335	325	325/400	335	level	8
Dummy Neck Adjustment (Rear run only)							
Knee Centerline to Knee Centerline (max)		193	198	194	195		
Left Knee to Bolster							8
Right Knee to Bolster							8
Neck to Steering Wheel Upper Rim or MP							8
Topo to Steering Wheel Lower Rim							8
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2788			2787		
Reference Target Absolute Vertical		852			854		
Reference Target Absolute Lateral							

FILM ANALYSIS				
Knee (avg) Lateral		220		225
Thigh Lateral		230		225
Phantom Lateral		225		220
Shoulder Lateral		175		170
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Piller Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 28
 Author: Ed Winters
 Date: 8/28/98
 Form 167147

TB0407

Run H19371

Date 8/28/98

Retractor analysis

Buck # 406

Reference: H
 H
 H

Left 60-3	DUMMY TYPE	Right 60-3
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

2
 RUN 4

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDT.
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5%ile)	2.2	22.8	22.8	2.3		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	257	251	250	258	12	0
H-Point Vertical Laser # 4	217	-217	-219	220		0
H-Point Lateral	212	210	210	210	12	0
Knee Longitudinal Laser # 2	143			141		
Knee Vertical Laser # 2	113			110		
Knee Lateral	263	264		264	0	0
Head Longitudinal Laser # 5	270			273	at left	0
Head Vertical Laser # 5	423			428	at left	0
Head Lateral	330	328	335	330	at left	0
Driver Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	195		184	195		
Left Knee to Bolster						0
Right Knee to Bolster						0
Neck to Steering Wheel Upper Rim or MP						0
Neck to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2730			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral		220			225	
Thigh Lateral		215			225	
Forearm Lateral		215			210	
Shoulder Lateral		160			160	
Other						
Other						
Other						
Knee to H-Point						
Knee to Forearm						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle						< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 29
 Edition Eds Watson
 Form 28747

TBD407

Run H 19372

Date 8-31-98

Retractor analysis

3

Buck # 405

Reference: H
 H
 H

Left SOFS	DUMMY TYPE	Right SOFS	Center
MD	SEAT POSITION	MD	
31	DUMMY NUMBER	331	

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)
					1st RUN ADDL
Seat Back Angle (15° above pivot)	28°	27.8	27.8	28°	0 +/-1 notch
Pelvis Angle (+/- 2.5 deg.; +/- 1.0 for 50kts)	24	22.5	22.5	22°	
Chest Angle		21	21		at left at left
H-Point Longitudinal Laser # 4	251	251	250	251	12 0
H-Point Vertical Laser # 4	-217	-217	-218	-217	12 0
H-Point Lateral	211	210	210	205	12 0
Knee Longitudinal Laser # 2	-149			-141	
Knee Vertical Laser # 2	-113			-100	
Knee Lateral	261	264	264	263	0 0
Head Longitudinal Laser # 3	316			313	level 0
Head Vertical Laser # 3	403			403	level 0
Head Lateral	322	323	325 +0	337	level 0
Dummy Neck Adjustment (first run only)					
Knee Centerline to Knee Centerline (mm)	195	195.000	194	193	
Left Knee to Bolster					0
Right Knee to Bolster					0
Neck to Steering Wheel Upper Rim or I/P					0
Torso to Steering Wheel Lower Rim					0
Reference Target to Seat Belt Longitudinal					
Reference Target to Seat Belt Vertical					
Reference Target to Seat Belt Lateral					
Reference Target Absolute Longitudinal	2736			2737	
Reference Target Absolute Vertical	452			444	
Reference Target Absolute Lateral					

PEM ANALYSIS

Knee (target) Lateral	231		225	
Thigh Lateral	220		225	
Phantom Lateral	224		213	
Shoulder Lateral	145		165	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Piller Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Floor Plane				
Camber Angle				< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 30

Reference: 800 Wagon
Part: 47147

TB0407

Run H 19373

Date 8-31-98

Retractor analysis

4

Buck # 406

Reference: H
H
H

Left 80H3	DUMMY TYPE	Right 80H3	Center
MID	SEAT POSITION	MID	
317	DUMMY NUMBER	331	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADJVL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Seat Angle (+/- 2.5 deg, +/-LO for 90/10)	25	22.5	22.5	25		
Column Angle		21	21		at left	at left
H-Point Longitudinal Layer # 4	351	251	250	351	12	0
H-Point Vertical Layer # 4	-217	-217	-210	-217		0
H-Point Lateral	-207	-210	-210	-210	12	0
Knee Longitudinal Layer # 2	-149	-149	-141	-141		
Knee Vertical Layer # 2	-112	-130	-100	-100		
Knee Lateral	265	-284	-283	-265	0	0
Head Longitudinal Layer # 5	376	370	393	393	level	0
Head Vertical Layer # 5	483	423	408	408	level	0
Head Lateral	380	-323	-330	335	level	0
Driver Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (max)	195	188	184	194		
Left Knee to Bolster						0
Right Knee to Bolster						0
Neck to Steering Wheel Upper Rim or IP						0
Neck to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	482			483		
Reference Target Absolute Lateral	780			770		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	236			238	
Thigh Lateral	224			226	
Shoulder Lateral	200			212	
Shoulder Lateral	147			158	
Other					
Other					
Other					
Knee to H-Point					
Knee to Pelvis					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 8 deg. < 8 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 31

Initiator: Kate Winters
Phone: 4871 47

TB0407

Run H 19374

Date 8-31-98

Retractor analysis

7

Buck # 405

Reference: H
H
H

Left 50H3	DUMMY TYPE	Right 50H3	Center
MD	SEAT POSITION	MD	
317	DUMMY NUMBER	331	

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL.
Seat Back Angle (13" above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 99thile)	25	22.5	22.5	20		
Coleman Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	261	260	251	12	0
H-Point Vertical Laser # 4	-217	-217	-218	-217		0
H-Point Lateral	-205	-210	-210	810	12	0
Knee Longitudinal Laser # 2	-149	-140	-141	-141		
Knee Vertical Laser # 2	-113	-113	-100	-100		
Knee Lateral	-244	-264	-263	313	0	0
Head Longitudinal Laser # 3	376	376	393	393	level	0
Head Vertical Laser # 3	423	423	408	408	level	0
Head Lateral	322	-323	-336	331	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	195	198	194	194		
Left Knee to Bolster	116			118		0
Right Knee to Bolster	119			131		0
Nose to Steering Wheel Upper Rim or MP	410			600		0
Torso to Steering Wheel Lower Rim	220					0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	802			804		
Reference Target Absolute Lateral	709			770		

FILM ANALYSIS

Knee (target) Lateral	237			309		
Thigh Lateral	227			320		
Phantom Lateral	224			311		
Shoulder Lateral	135			163		
Other						
Other						
Other						
Knee to H-Point	351			346		
Knee to Phantom	243			313		
Knee to Thigh	117			165		
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 32

Inhibitor: Koh Watanabe
Part No: 47147

TB0407

Run H 19375

Date 8/31/98

Retractor analysis

8

Buck # 408

Reference: H
H
H

Left 50FS	DUMMY TYPE	Right 50FS	Center
MID	SEAT POSITION	MID	
317	DUMMY NUMBER	331	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 594lbs)	23	22.5	22.5	23		
Column Angle	21	21	21		not left	not left
H-Point Longitudinal Laser # 4	251	251	250	250	12	6
H-Point Vertical Laser # 4	217	-217	-218	219		6
H-Point Lateral	210	-210	-210	210	12	6
Knee Longitudinal Laser # 2	150	-149	-141	141		
Knee Vertical Laser # 2	113	-113	-100	100		
Knee Lateral	264	-264	-263	263	6	6
Head Longitudinal Laser # 5	376	378	363	373	level	6
Head Vertical Laser # 5	425	423	408	408	level	6
Head Lateral	323	-323	-336	330	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	158	165	164			
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or VP						6
Toon to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	862			864		
Reference Target Absolute Lateral	789			770		

FILM ANALYSIS

Knee (target) Lateral	230		225	
Thigh Lateral	220		225	
Phantom Lateral	220		205	
Shoulder Lateral	155		170	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Filter Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Column Angle				

< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 33

Inhibitor: Erik Wiegman

Phone: 487147

TB0407

Run H 19376

Date 8-31-98

Retractor analysis

9

Buck # 406

Reference: H
 H
 H

Left SOFIS	DUMMY TYPE	Right SOFIS	
MID	SEAT POSITION	MID	
317	DUMMY NUMBER	331	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)		27.8	27.8		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for JMW)		22.5	22.5			
Column Angle		21	21			
H-Point Longitudinal	Laser # 4	251	261	260	251	at left
H-Point Vertical	Laser # 4	-217	-217	-218	-217	at left
H-Point Lateral		-210	-210	-210	-210	at left
Knee Longitudinal	Laser # 2	-149	-149	-141	-141	
Knee Vertical	Laser # 2	-113	-113	-100	-100	
Knee Lateral		263	264	263	263	
Head Longitudinal	Laser # 5	376	376	383	393	level
Head Vertical	Laser # 5	423	423	408	408	level
Head Lateral		330	323	335	335	level
Dummy Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (max)		193	180	184	195	
Left Knee to Bolster						6
Right Knee to Bolster						6
Neck to Steering Wheel Upper Rim or YP						6
Torso to Steering Wheel Lower Rim						6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal		2737			2738	
Reference Target Absolute Vertical		882			884	
Reference Target Absolute Lateral		788			778	

FILM ANALYSIS			
Knee (target) Lateral	235		240
Thigh Lateral	220		220
Phantom Lateral	270		230
Shoulder Lateral	170		175
Other			
Other			
Other			
Knee to H-Point			
Knee to Phantom			
Knee to Thigh			
Distance Between A or B Pillar Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Camera Angle			

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 34

Instructor Eric Werners
Phone: 487147

TB0407

Run H 19372

Date 8-31-98

Retractor analysis

10

BUCK # 408

Reference: H
H
H

Left SOH3	DUMMY TYPE	Right SOH3	Center
MID	SEAT POSITION	MID	
317	DUMMY NUMBER	331	

POSITIONING

		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
						1st RUN	ADD'L
Seat Back Angle (13" above pivot)			27.8	27.8		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 3M88a)			22.8	22.8			
Column Angle			21	21		at left	at left
H-Point Longitudinal	Laser # 4	251	251	250	251	12	5
H-Point Vertical	Laser # 4	-217	-217	-218	-217		5
H-Point Lateral		212	-210	-210	213	12	5
Knee Longitudinal	Laser # 2	-149	-149	-141	-141		
Knee Vertical	Laser # 2	-113	-113	-100	-100		
Knee Lateral		265	-284	-283	267	8	5
Head Longitudinal	Laser # 5	376	378	383	393	level	5
Head Vertical	Laser # 5	423	423	408	408	level	5
Head Lateral		330	-323	-335	333	level	5
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (max)		195	195	184	195		
Left Knee to Boleter							5
Right Knee to Boleter							5
Neck to Steering Wheel Upper Rim or 1/P							5
Torso to Steering Wheel Lower Rim							5
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2737			2738		
Reference Target Absolute Vertical		862			864		
Reference Target Absolute Lateral		788			770		

FILM ANALYSIS

Knee (target) Lateral	230		240	
Thigh Lateral	220		215	
Phantom Lateral	220		235	
Shoulder Lateral	160		160	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Hilar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes:

**Final Test Report
Confidential**

Test Order No.: TB1289
Subject: 2000 D186 PASSENGER SEAT BACK LATCH
CERT FMVSS 207 HYGE SLED SERIES
Requested By: M. JESSUP
(Dept.): X581, D186 PLATFORM TEAM
Date Received: 9/23/98
Work Task No.: F09
Test Facility: HYGE
Test Dates: 11/2/98
Run Numbers: H10489
Procedure(s): ST-4, T657-100, T657-106
Data Reported: 1/25/99
Page: 1 of 13



DISPOSE of Copy (Black Stamped) by:	
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Objective:

To determine compliance with FMVSS 207 on the front row 2 way passenger seat back latch in the D186.

Summary:

One frontal impact simulation was performed on the Hyge sled. The test results indicated that the seat back latches held. The testing was conducted using the rigid DN101 front seat test buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

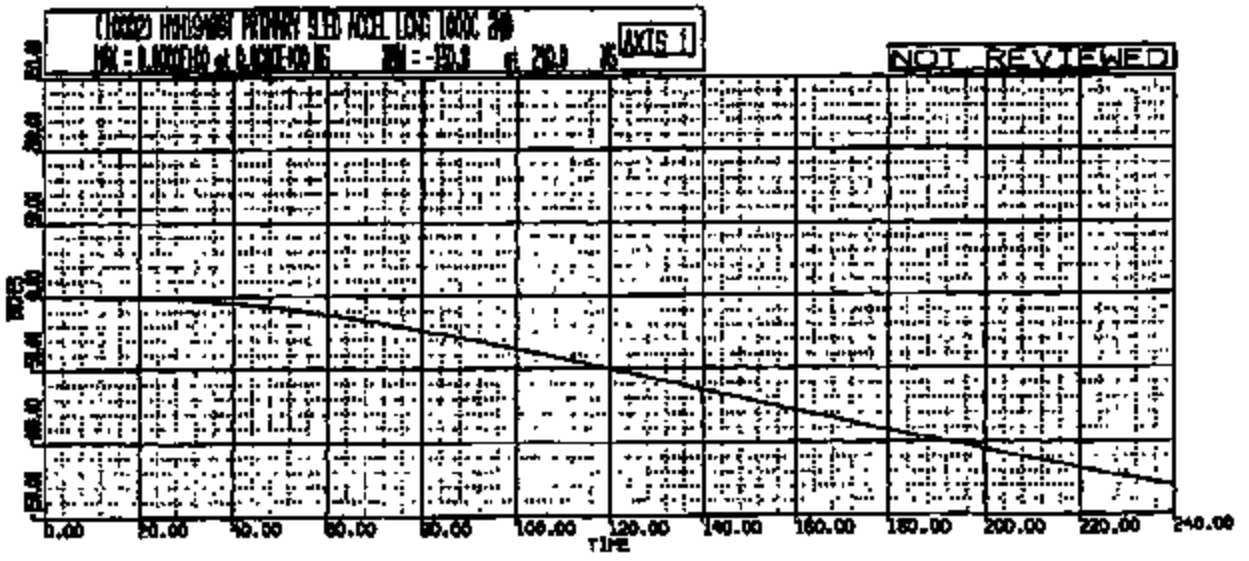
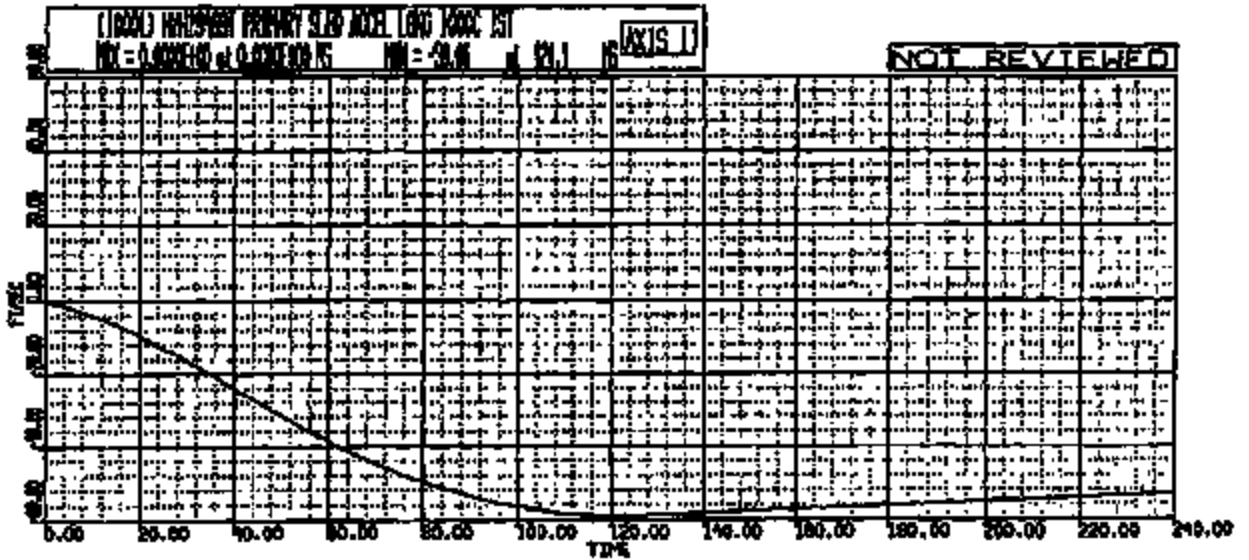
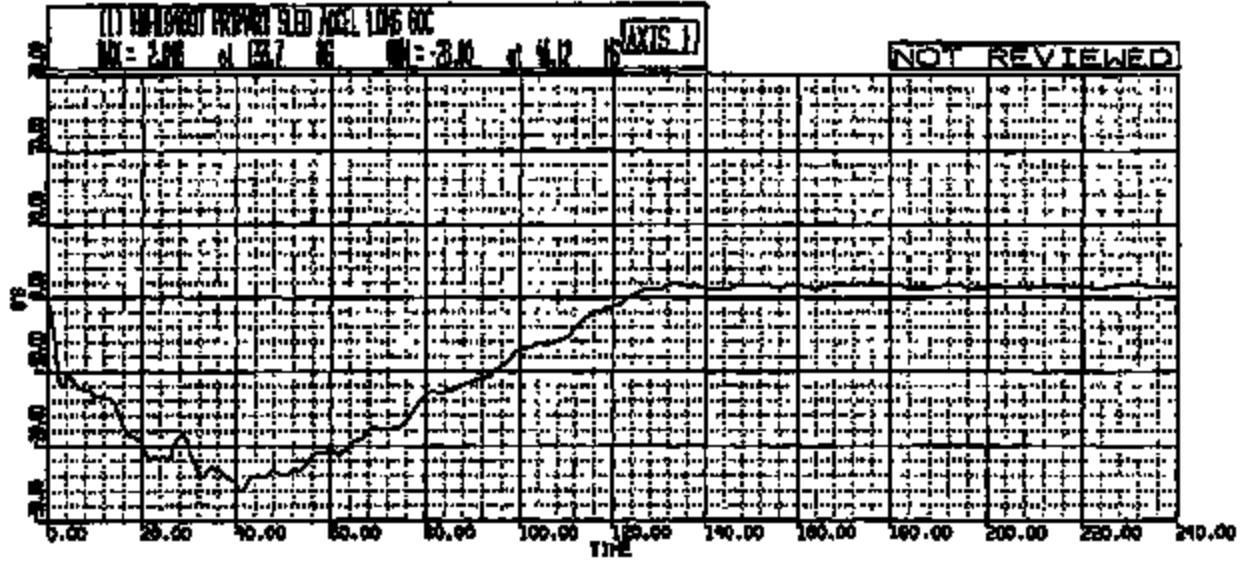
- I. Sled Pulse
- II. Sled Parameters
- III. Test Authorization
- IV. Engineering Approval of Seat Components for Test
- V. Post Test Observations
- VI. Digital Still Photographs

Concur:

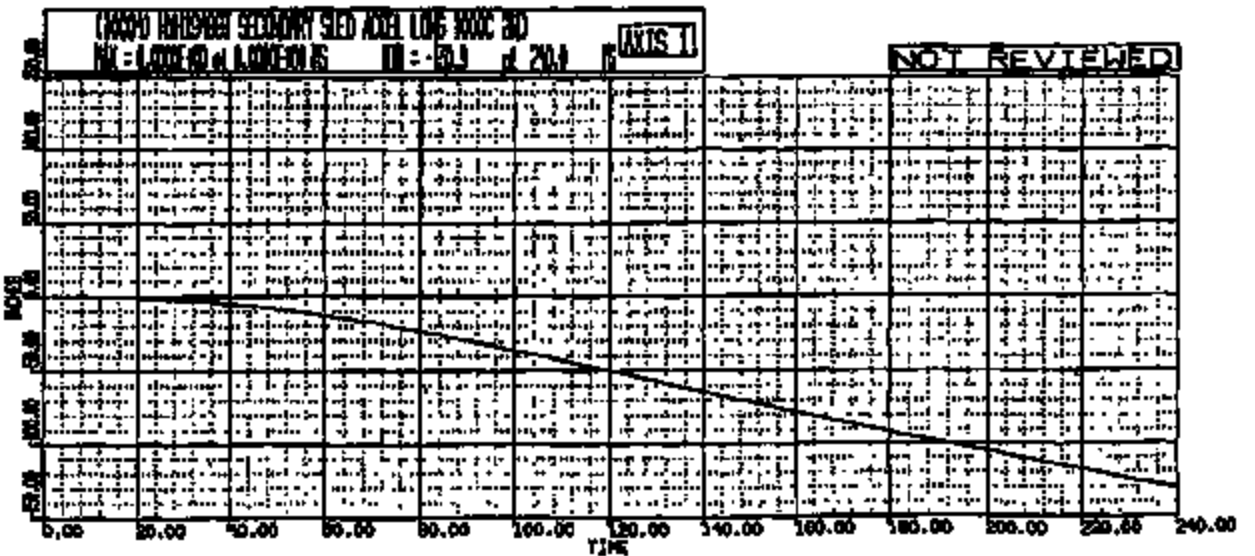
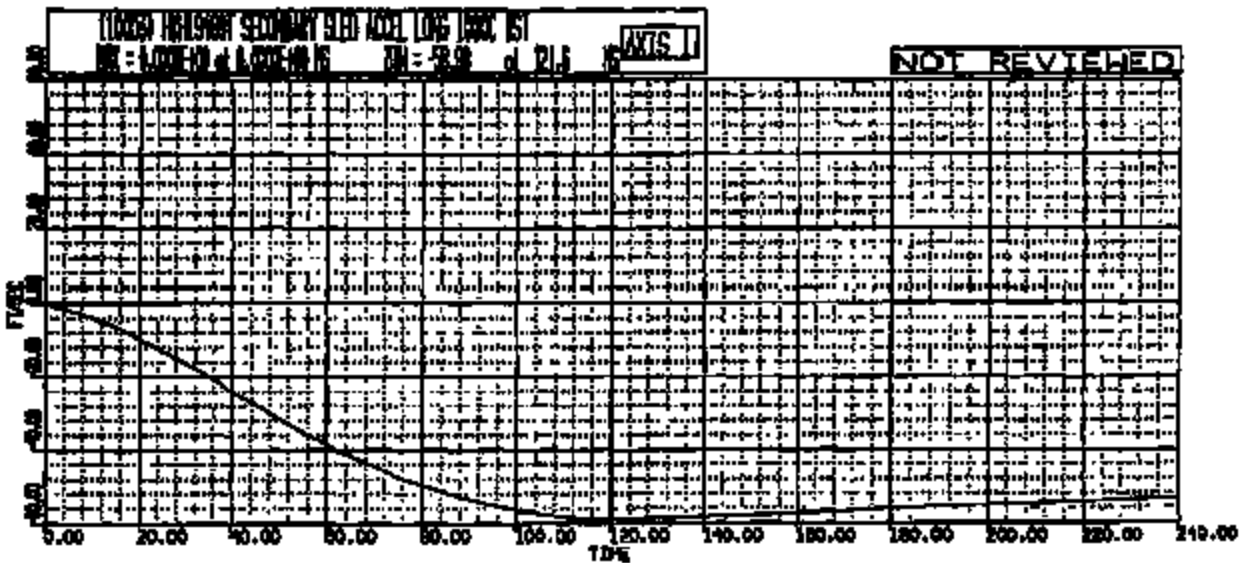
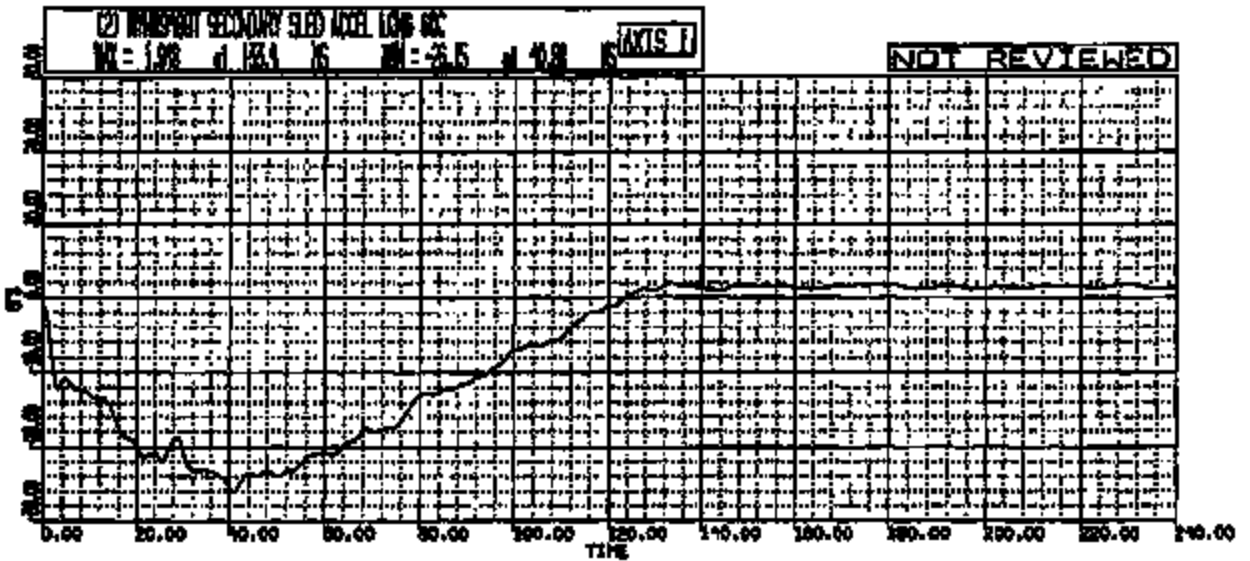

M. HAMILTON
Interim Section Supervisor
HYGE Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

HY R: H10480 TO: TB1269 DATE: 981103 14:25:48
UNKNOWN




H. R. H19489 TO: TB1269 DATE: 0911.5 14:25:49
UNKNOWN



BLDG	L.A.#	MET TYPE	DATE	TIME	DATA CHANG.	WINDT (MPH)	SPCL	WINDDZ	LOAD	SET	BRANE	BUCK #	VELOCITY (MPH)	LEFT	DURBY SW CENTER	RIGHT	FIN	INNER SWG	OUTER SWG
1900P	101200	DRG RAN BRAT CEM	11/23/96	1458	5	6276	80	120	2300	372	176	400	30				0	04	04

ATTACHMENT II
 TB-1269
 Sheet 4

SLED 0041534

 GTO Test Request		Requester/Coordinator (PROPS ID):	
		MESSUP1 <i>Sheet 5</i> MARK JESSUP	
Testing Activity: HYGE and VIA Bed	Date Submitted: 23-SEP-88	Requested Completion Date: 01-NOV-88	Requestor Reference Number:
Test Procedure Number: ET-4	Test Title and / or Subject of Test: FMVSS 207 Seat Anchorage (Dynamic Latch)		
Eligible Requestor Dept No.:	Worktask/Work Order Number:	Test conducted to certify control item compliance with Government Regulations: Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
X331 PWR410A60	FO8		
Eligible Requestor PROPS I.D.:	Eligible Requestor Name:		
MESSUP1	MARK JESSUP		
Complete the following two questions as indicated: 1 - Rational for not replacing this test by CAE Analysis: <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input checked="" type="checkbox"/> Certification <input type="checkbox"/> Development test for FSD <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVPWQR requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other: Compliance with FMVSS Certification	
(Check appropriate boxes)		(Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: ETP:ET-4 Seat Latch Acceleration Test			
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer: <u>MARK JESSUP</u>		Testing Engineer: _____	
Requesting Supervisor/Manager: <u>STEPHEN KOZAK</u>		Testing Supervisor: _____	

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

Test Request Number: TR-1289

Buck No: Sled

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: 2000 D-186.

Seat Type: Front Row Passenger Seat.

<u>Part Name:</u>	<u>Part Number:</u>	<u>Supplier:</u>	<u>Signature:</u>	<u>Date:</u>
R/H Bid St 2 way manual w/BAS	YF12-6480004-FAW	J&J L&R	<i>[Signature]</i>	10/19/98

Production intent seat hardware supplied by V.C. Engineer

Restraints
hardware.

The Mechanical components are correctly assembled and functional prior to the Test.

Note: FMVSS 207 Dynamic Latch Test

HYGE Sled Test Summary

Editor: Jim Eggleston
Phone: 435136

HYGE Run #: 19489 Run Date: 11/3/96
 Test Engineer: Mike Doran Test Auth #: TB1280
 Requester: Jim Eggleston BUCK #: 405

MATRIX #

Test Title/Description: R/H 2 WAY PASSENGER SEAT LATCH CERT

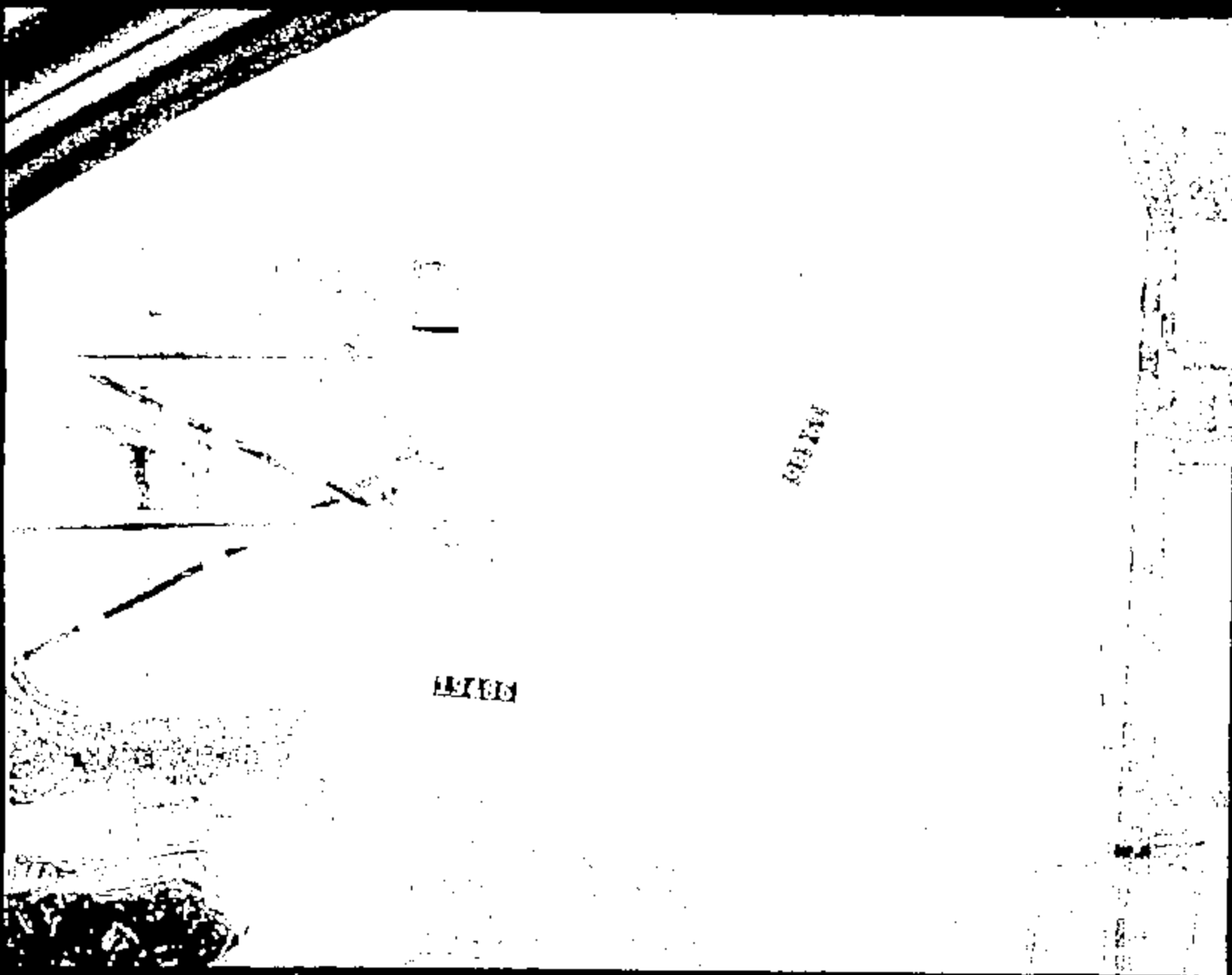
Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin #: 0

PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms	RIGHT	Airbag: _____ ms
		Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
POST-TEST OBSERVATIONS	LEFT	Dummy _____	CENTER	Dummy _____
		A/B _____		Belt _____
		Belt _____		Seat _____
		Seat _____		Dr. A/B FMS _____
		Tracks: power manual _____		Pass. FMS _____
		Position: _____ Welded? Y N _____		Position: _____ Welded? Y N _____
		Instrument Panel: _____		
		Steering Column: _____		
		Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

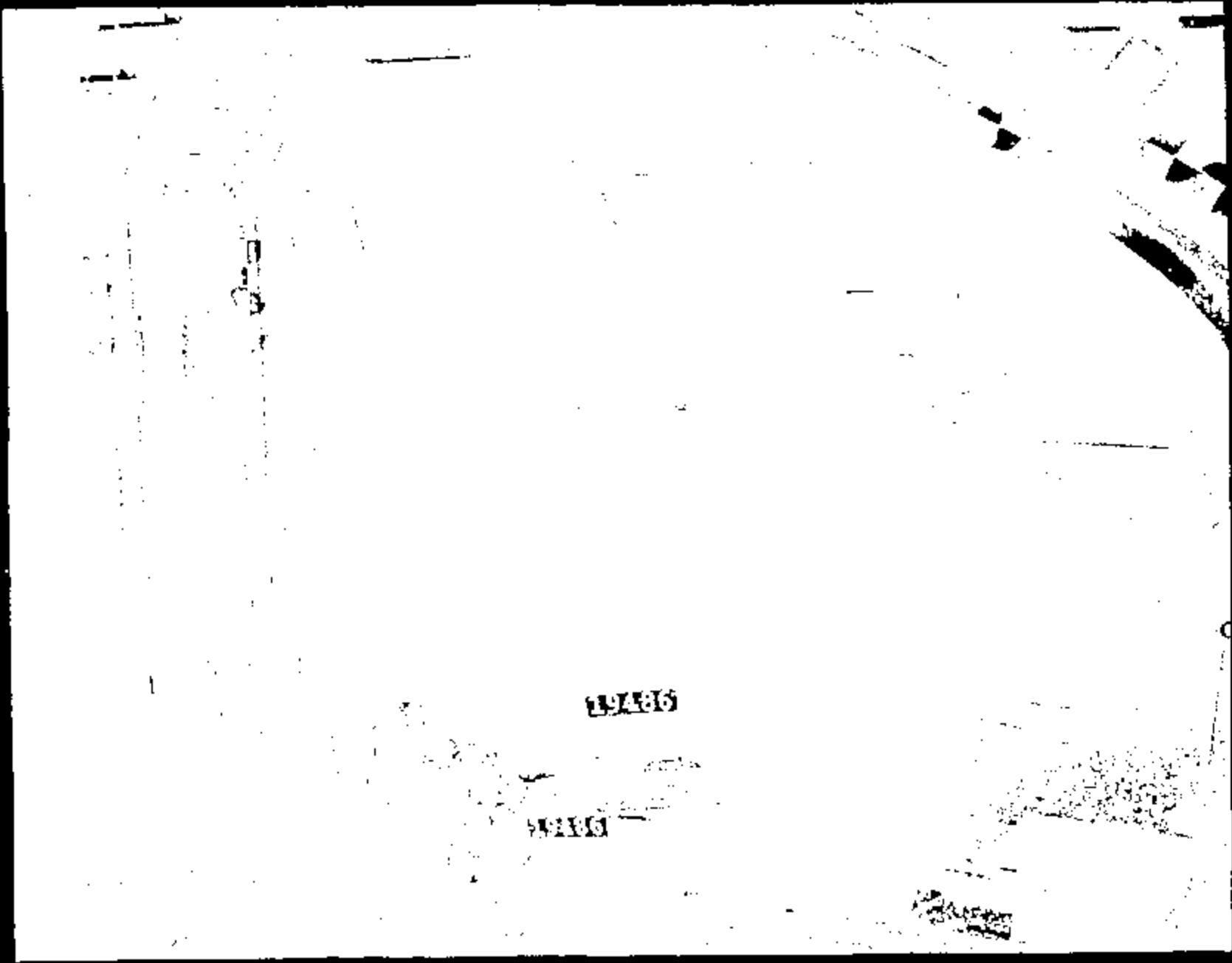
LEFT	Upright	I/B	O/B	CENTER	Upright	Left	Right	RIGHT	Upright	I/B	O/B	
	On Seat	Off Seat			On Seat	Off Seat			On Seat	Off Seat		
LEFT SIDE	A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N				
	Face to A/B			I/B	Center	O/B	Face to A/B			I/B	Center	O/B
	Contact Location:			High	Mid	Low	Contact Location:			High	Mid	Low
	A/B Cover Attached to Can./Cover:			Y / N	A/B Cover Attached to Can./Cover:			Y / N				
	Adj. D-ring Remain in Position:			Y / N	Adj. D-ring Remain in Position:			Y / N				
	Retractor Intact:			Y / N	Retractor Intact:			Y / N				
	Buckle Held:			Y / N	Buckle Held:			Y / N				
	Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N				
	Cracks in IP:			Y / N	Cracks in IP:			Y / N				
	Steering Wheel Deformed:			Y / N	Steering Wheel Deformed:			Y / N				
Column Stroked w/o Interference:			Y / N	Column Stroked w/o Interference:			Y / N					
Column Stroke: Left: _____				Column Stroke: Right: _____								
Post Test COMMENTS: <u>SEAT BACK LATCH HOLD.</u>												

OBSERVER: <u>M. Doran</u>												



ATTACHMENT II
 TB-1269
 Sheet 8

SEED 0041538

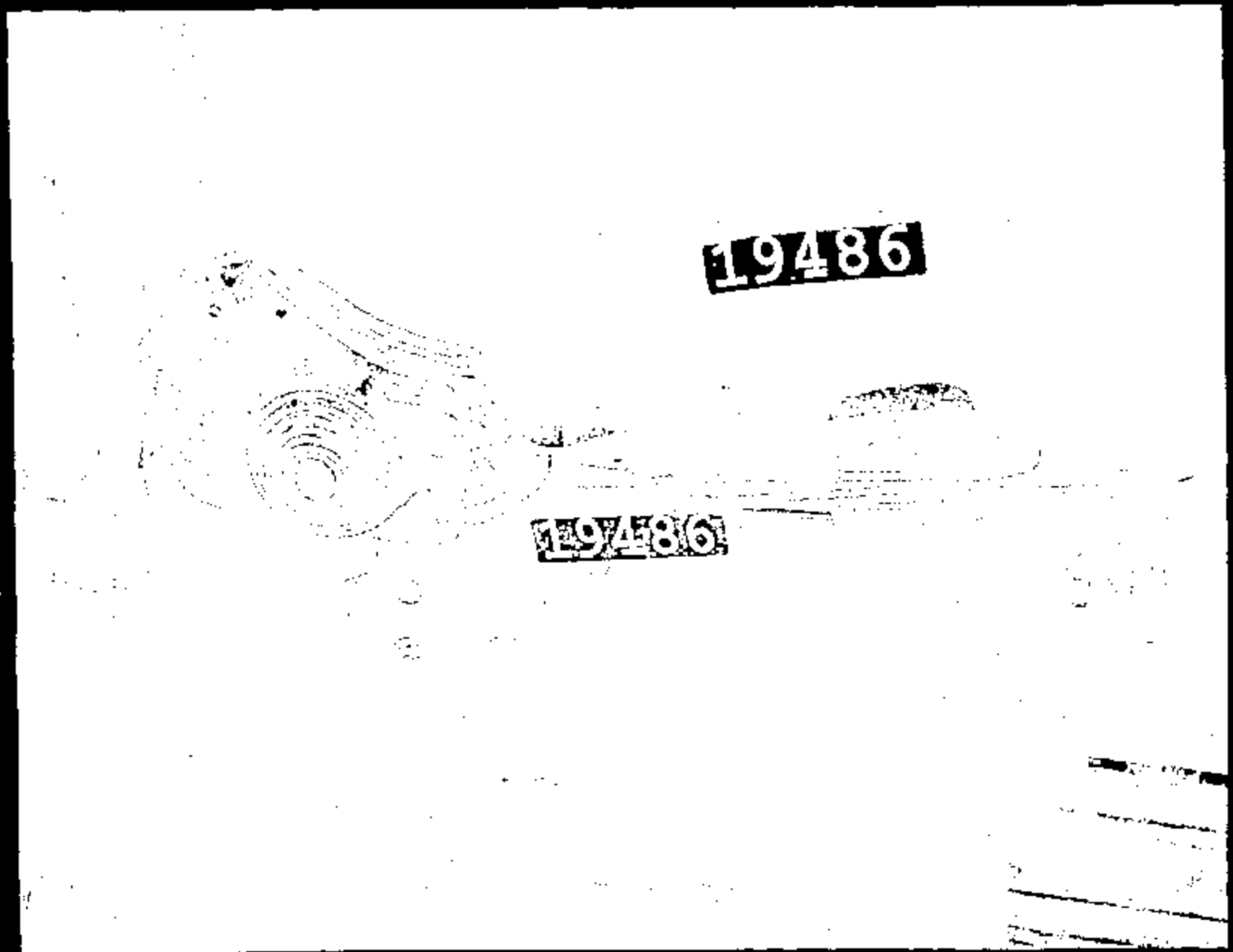


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SLEID 0041339

715-1269
Rena-9

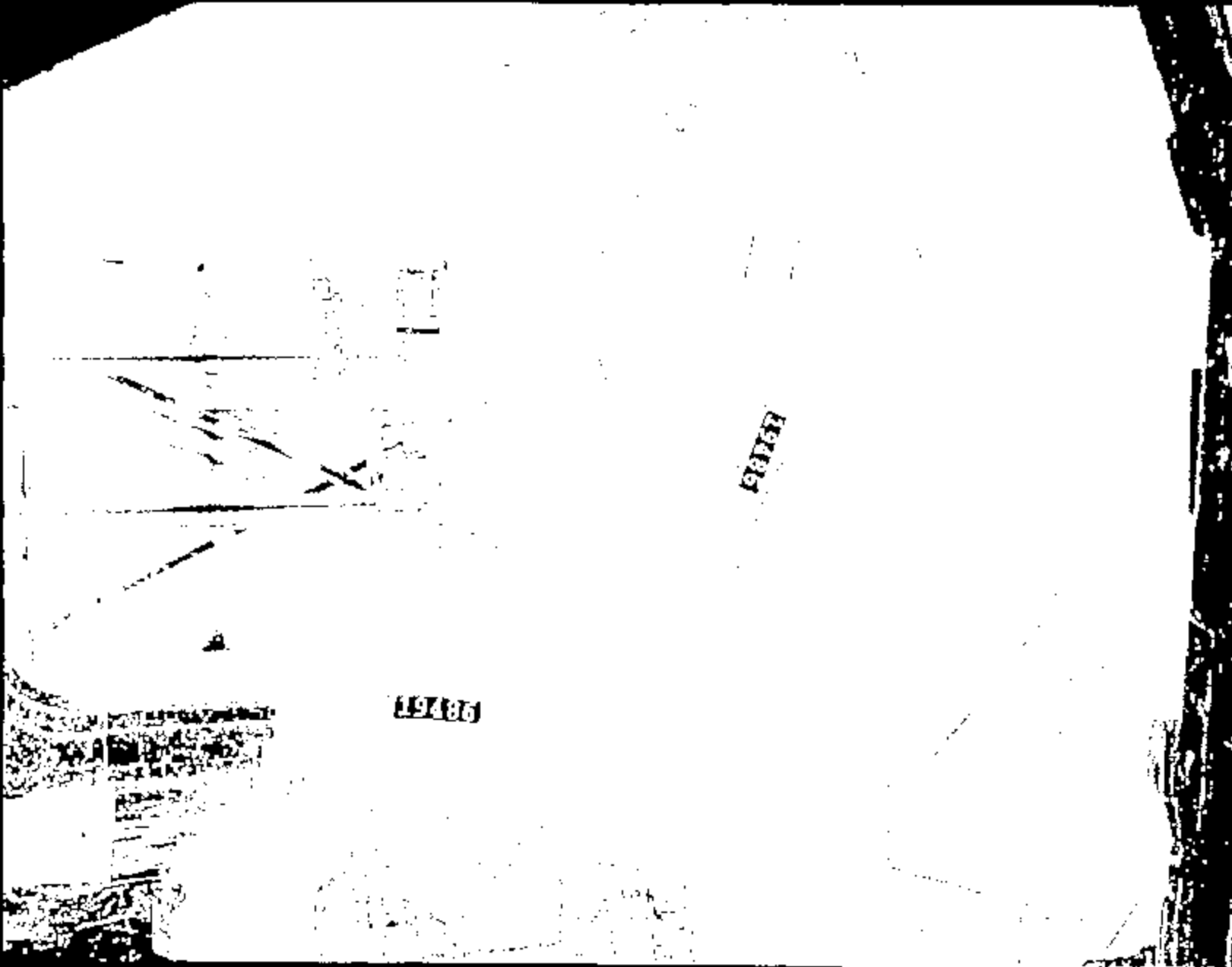


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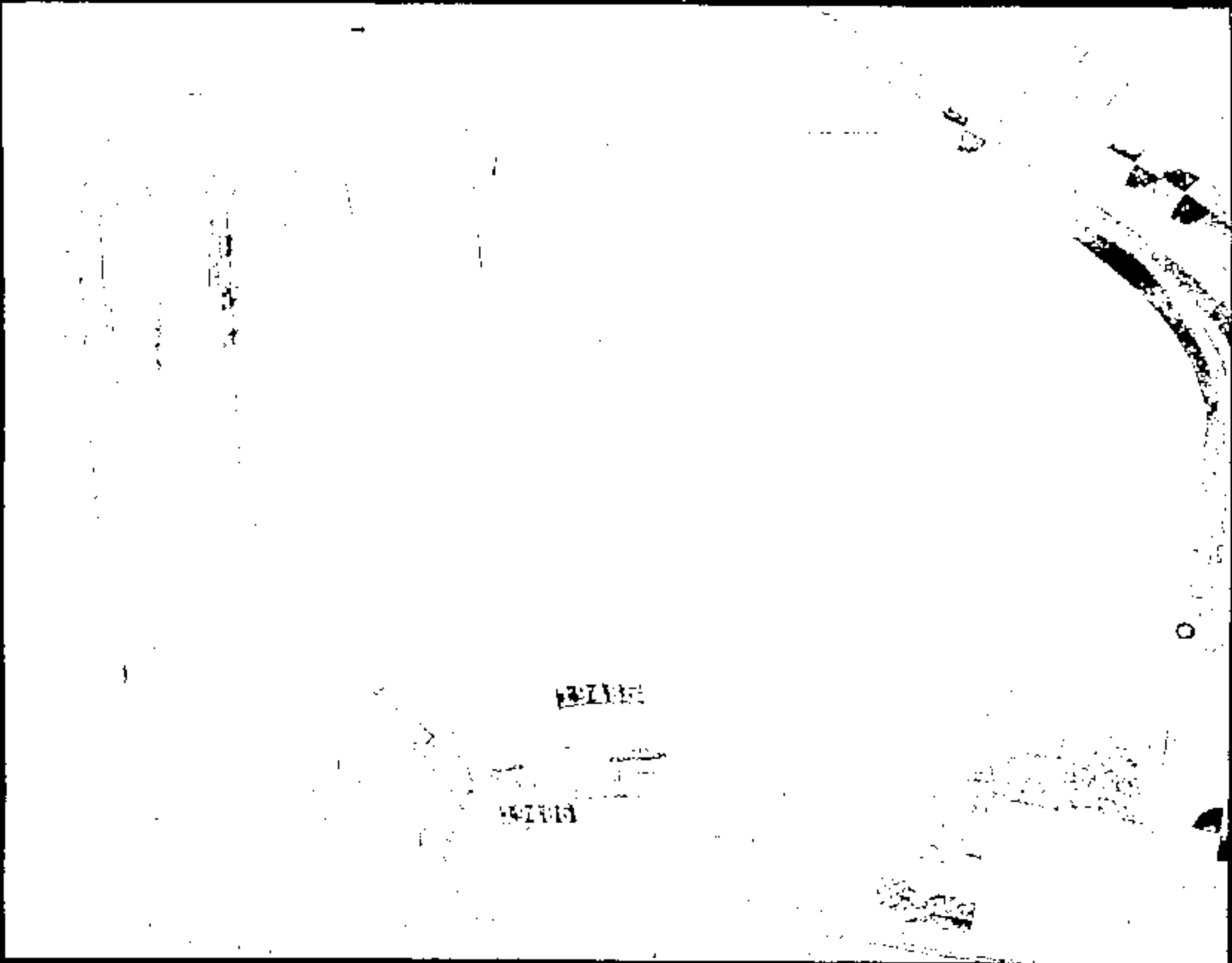
TR-1269
Sheet-10

SLIED 0041540



11-51-00 CHITS

TB-1267
Blount-11

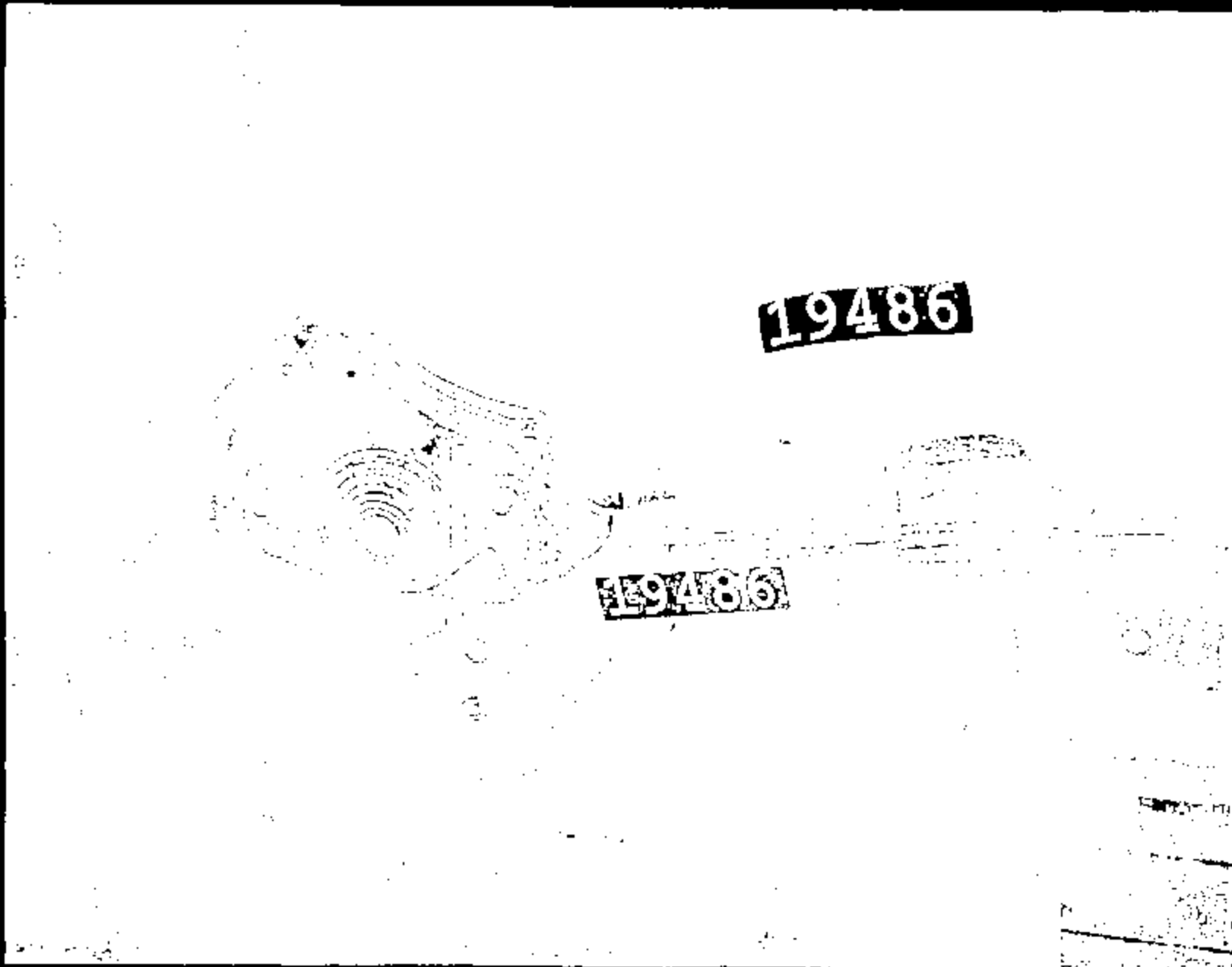


FBI

FBI

SLED 0041542

TB-1269
BR-12



19486

19486

SLHD 0041543

TB-1269
Sheet-13

**Final Test Report
Confidential**

Test Order No.: TB1270
Subject: 2000 D188 2ND ROW SEAT BACK LATCH
CERT FMVSS 207 HYGE SLED SERIES
Requested By: M. JESSUP
(Dept.): X881, D188 PLATFORM TEAM
Date Received: 9/28/98
Work Task No.: F09
Test Facility: HYGE
Test Dates: 11/2/98
Run Numbers: H19487
Procedure(s): ST-4, T887-100, T887-106
Date Reported: 1/25/99
Page: 1 of 15



3 FCSE of Copies	
(Black Stamped) by	
3 ATAIN Record Copy	2005
(Red Stamped) Thru	
Vehicle Number:	7-7-12a

Objective:

To determine compliance with FMVSS 207 on the 2nd row seat back latches in the D188.

Summary:

One frontal impact simulation was performed on the Hyge sled. The test results indicated that the seat back latches held. The testing was conducted using the rigid DN101 rear seat test buck (#328). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department Intranet home page under <http://www-safetylab.ford.com/>.

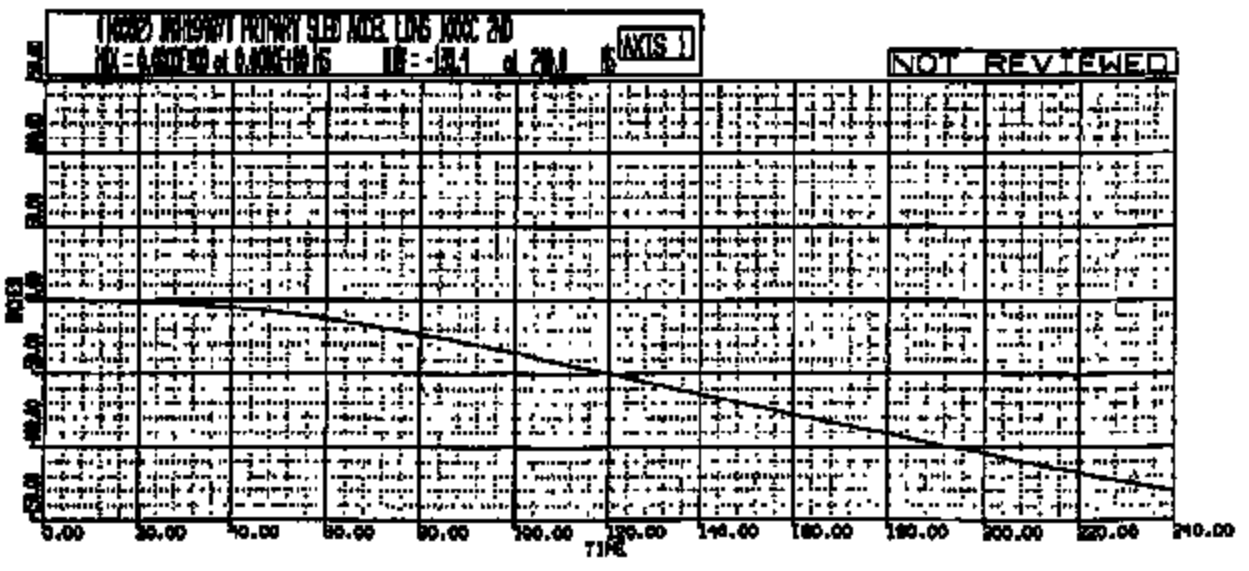
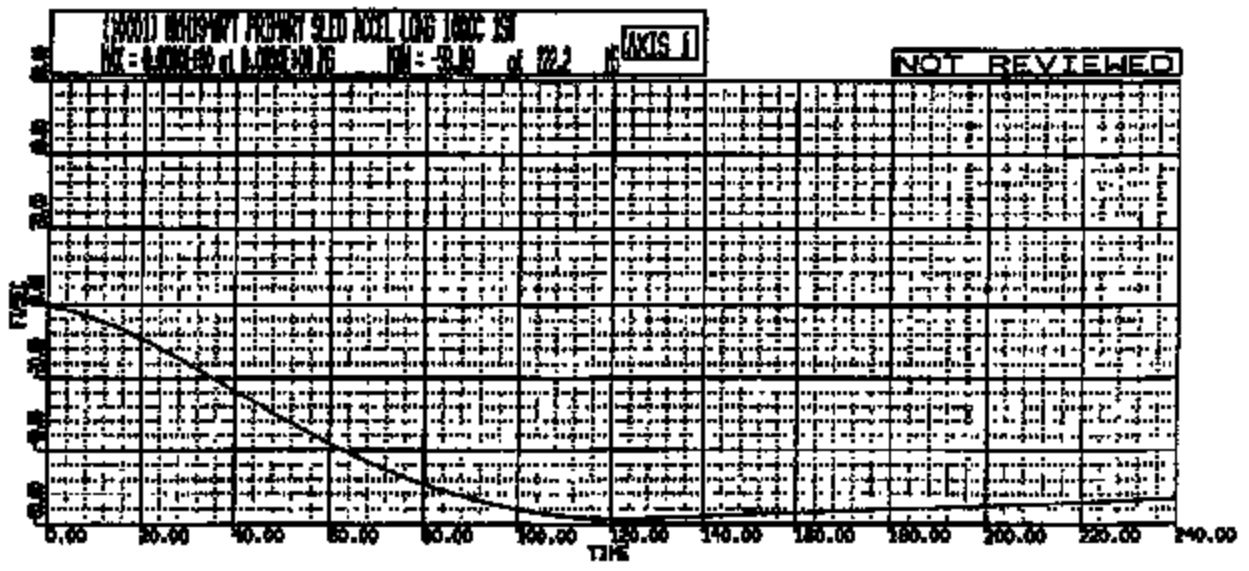
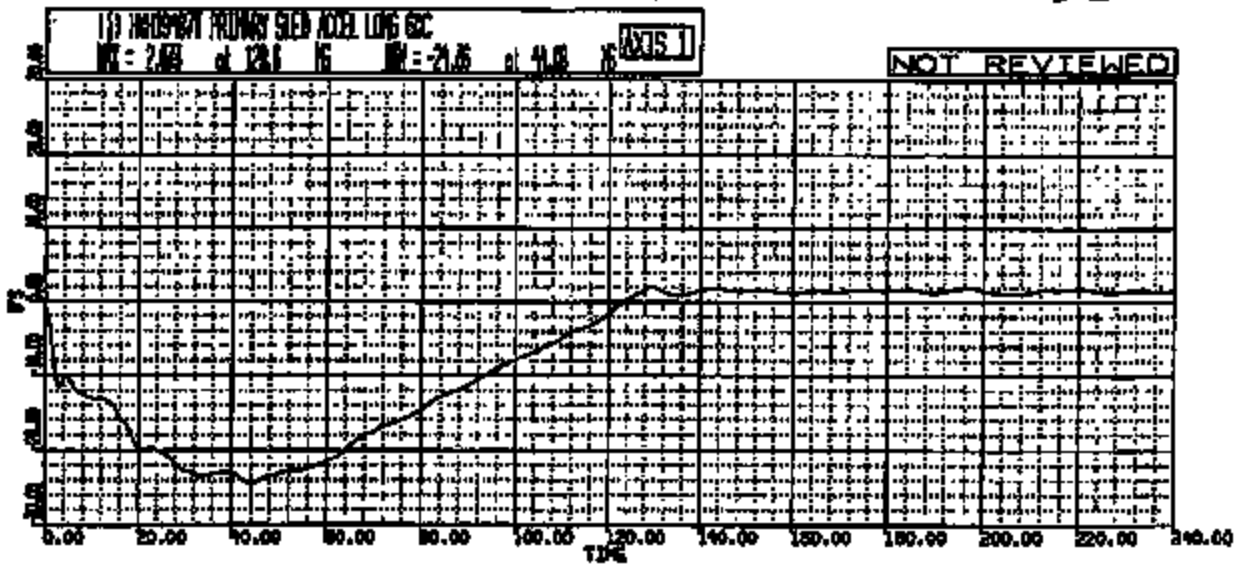
Attachments:

- I. Sled Pulse
- II. Sled Parameters
- III. Test Authorization
- IV. Engineering Approval of Seat Components for Test
- V. Post Test Observations
- VI. Digital Still Photographs

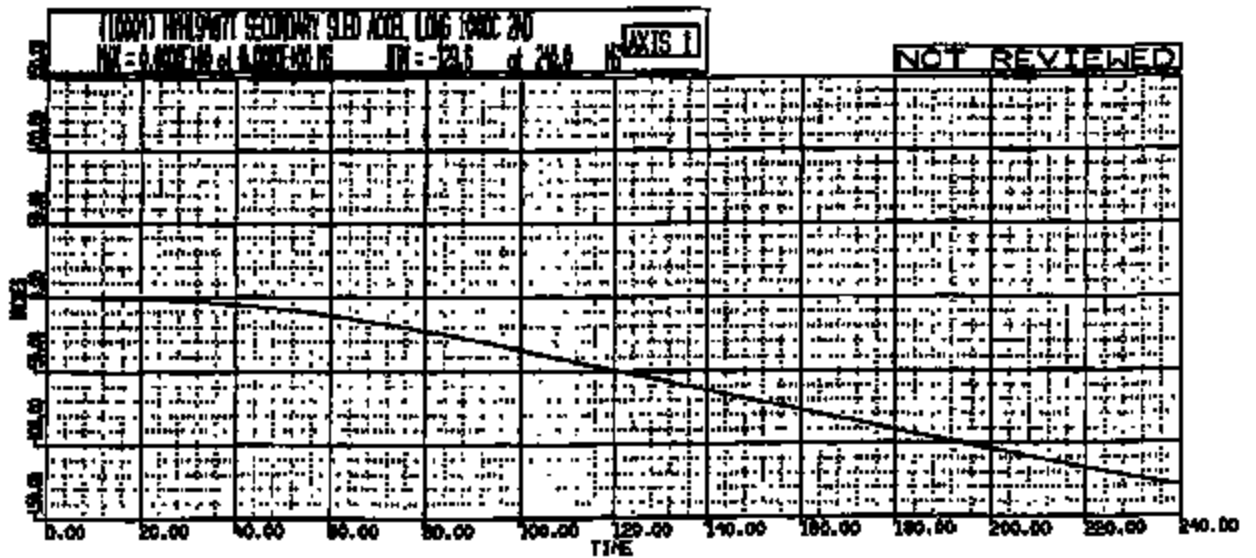
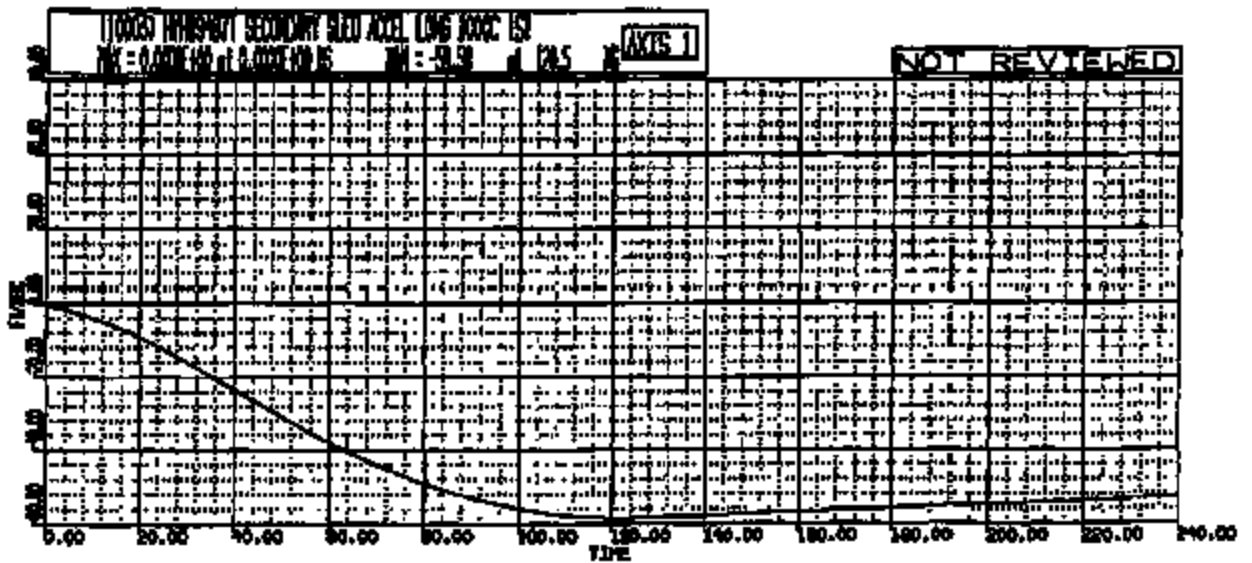
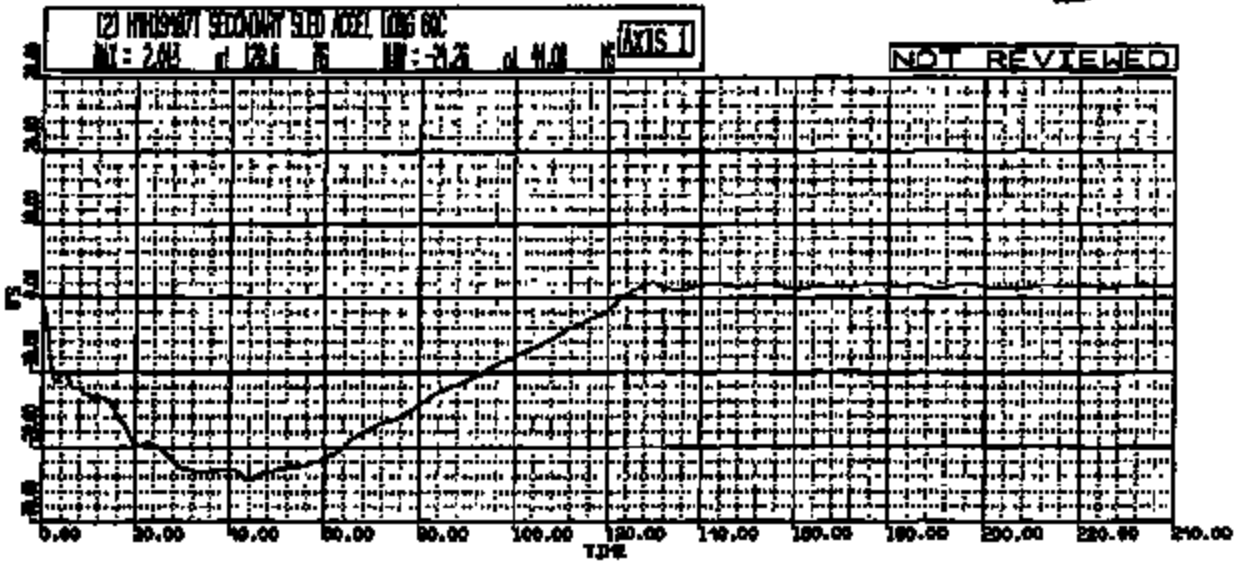
Concur:


M. HAMILTON
Interim Section Supervisor
HYGE Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department



F R: H19487 TO: TB1270 DATE: 9811-2 20:44:18
UNKNOWN




HY R: H1887 TO: TB1270 DATE: 881102 20:44:18
UNKNOWN

BLN#	T.A.#	TRK TYPE	DATE	TIME	DATA CHANG.	WEIGHT (LBS)	NPCL	SENSE	LOAD	SET	BEARE	BUCKN	VELOCITY (MPH)	LEFT	CURRY ON CENTER	MODE	FN	POWER USED	CURR. REVD
1007	01720	DATA BEARER BACK ORN	11/29/99	2054	3	2000	80	120	2400	800	170	200	30	--	--	--	0	0	0

ATTACHMENT II
 TB-1270
 Sheet 4

SLED 0041547

 GTO Test Request		Requester/Coordinator (PROPS ID): <i>Sheet 5</i> MJE88UP1	
		MARK JESSUP	
Testing Activity: HYQIE and VIA Blvd	Date Submitted: 23-SEP-88	Requested Completion Date: 01-NOV-88	Requester Reference Number:
Test Procedure Number: ST-4	Test Title and / or Subject of Test: FMVSS 207 Seat Anchorage (Dynamic Latch)		
Billable Requestors Dept No.: XSS1 FW2410AEC	Worktask/Work Order Number: F08	Test conducted to certify normal item compliance with Government Regulations: Year <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
Billable Requestors PROPS ID: MJE88UP1	Billable Requestors Name: MARK JESSUP		
Complete the following two questions as indicated 1 - National for not replacing this test by GAE Analysis: <input type="checkbox"/> No GAE Methodology or process available <input type="checkbox"/> For GAE Correlation <input type="checkbox"/> Insufficient confidence in GAE <input type="checkbox"/> To obtain basic data for GAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Costly <input type="checkbox"/> Mandatory or Regulatory <input checked="" type="checkbox"/> Certification <input type="checkbox"/> Development test for FSB <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVPPWOR requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on GAE? Other: Compliance with FMVSS Certification	
(Check appropriate boxes)		(Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: ETP:ST-4 Seat Latch Acceleration Test			
Signature Approvals (As Required for Control Purposes) Requesting Engineer: <u>MARK JESSUP</u> Testing Engineer: _____ Requesting Supervisor/Manager: <u>STEPHEN KOZAK</u> Testing Supervisor: _____			

ENGINEERING APPROVAL OF SEAT COMPONENTS AND ASSEMBLIES FOR TEST

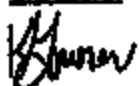
Test Request Number: TB-1270

Buck No: Sled

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: 2000 D-166.

Seat Type: Rear Seat Sedan.

<u>Part Name:</u>	<u>Part Number:</u>	<u>Supplier:</u>	<u>Signature:</u>	<u>Date:</u>
Rr St Back	YF12-5460CA2B-DAW	JCI LAWR		10/19/96

Production intent seat hardware supplied by V.C. Engineer

Restraints
hardware.

The Mechanical components are correctly assembled and functional prior to the Test.

Notes FMVSS 207 Dynamic Latch Test

HYGE Sled Test Summary

ATTACHMENT II
Sheet 7

Instruct. Jim Eggleston
Form 128936

HYGE Run H 19487
Test Engineer: Mike Doran
Requester: Jim Eggleston

Run Date 11/2/98
Test Auth # TB1270
BUCK # 108323

MATRIX #

Test Title/Description: 2ND ROW SEAT BACK LATCH CERT

Crash/HYGE Pulse Ref: _____ Simulated Speed: 25 Fin # 0

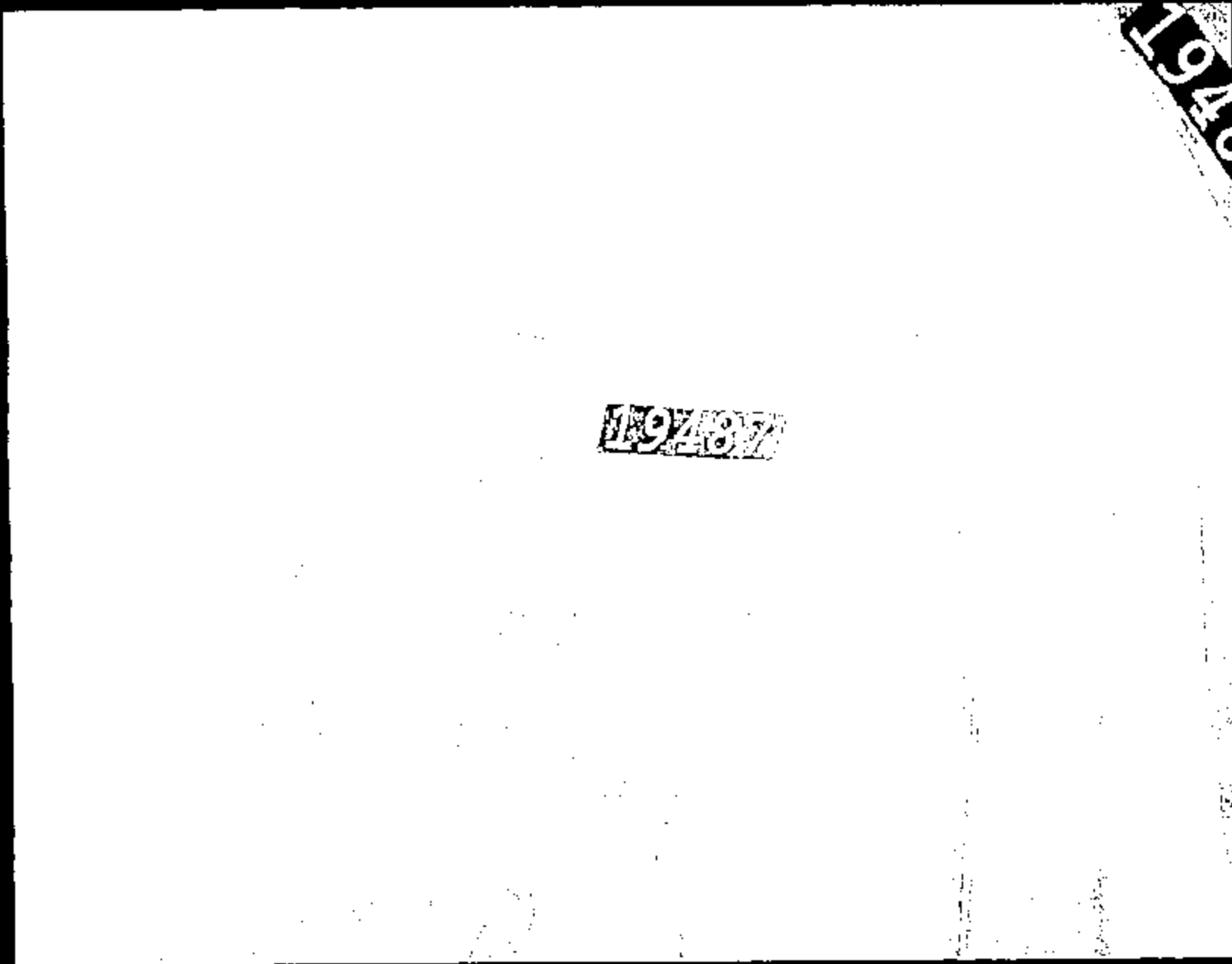
PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ m/s Pyro Buckle: _____ m/s	RIGHT	Airbag: _____ m/s Pyro Buckle: _____ m/s
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N _____	CENTER	Dummy _____ Belt _____ Dr. A/B FMB _____ Pass. FMB _____ Position: _____ Welded? Y N _____
	RIGHT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N _____		
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	IB	O/B	RIGHT SIDE	Upright	IB	O/B
	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat
A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N
Face to A/B Contact Location:		IB Center	O/B	Face to A/B Contact Location:		IB Center	O/B
		High Mid Low				High Mid Low	
A/B Cover Attached to Can./Cover:			Y / N	A/B Cover Attached to Can./Cover:			Y / N
Adj. D-ring Remain in Position:			Y / N	Adj. D-ring Remain in Position:			Y / N
Retractor Intact: Y / N Locked:			Y / N	Retractor Intact: Y / N Locked:			Y / N
Buckle Held: Y / N Webbing Intact:			Y / N	Buckle Held: Y / N Webbing Intact:			Y / N
Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N
Cracks in UP:			Y / N	Cracks in UP:			Y / N
Steering Wheel Deformed:			Y / N				
Column Stroked w/o Interference:			Y / N				
Column Stroke: Left: _____ Right: _____							

Post Test COMMENTS: BOTH SEAT BACK LATCHES HELD.

OBSERVER: M. Doran

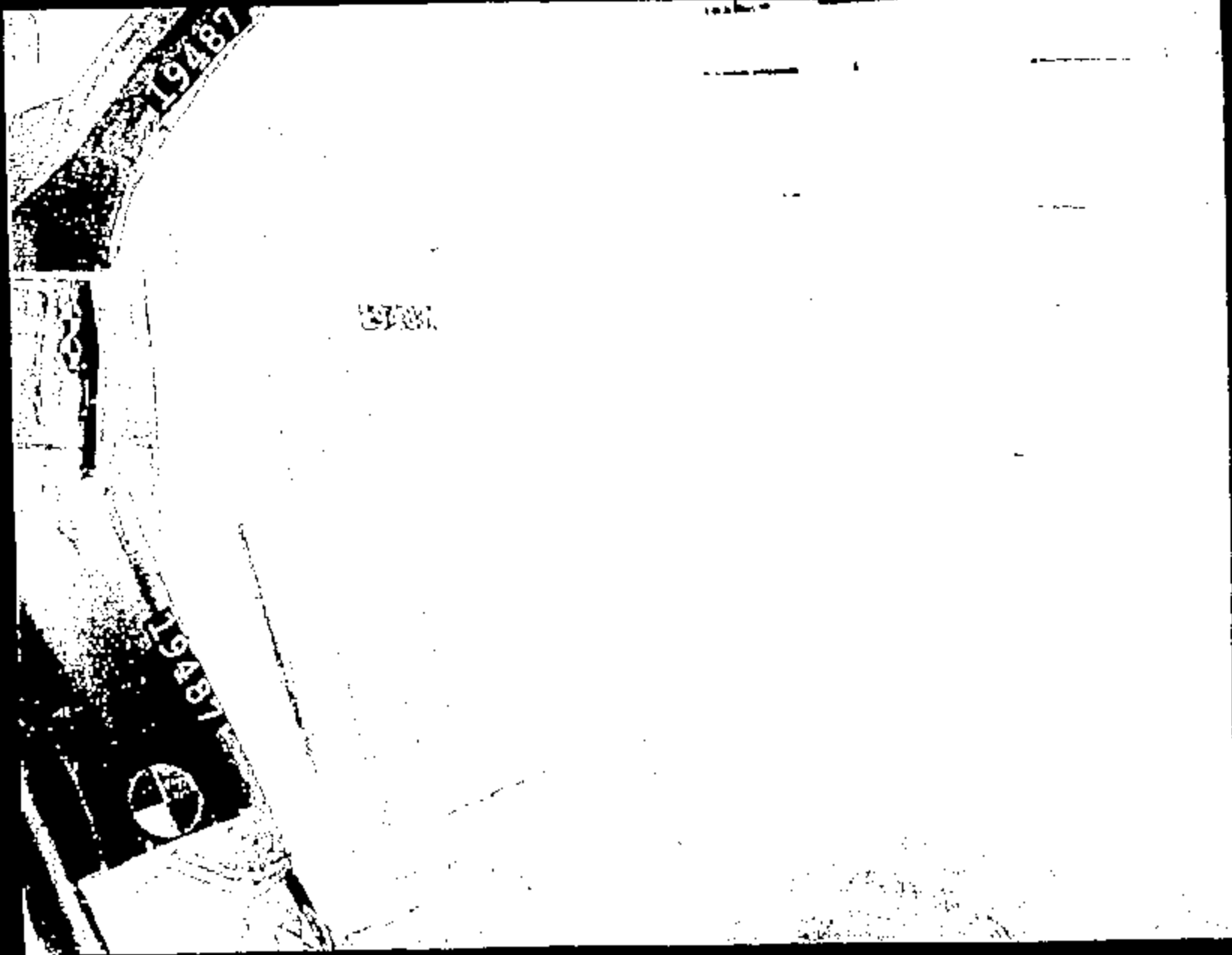


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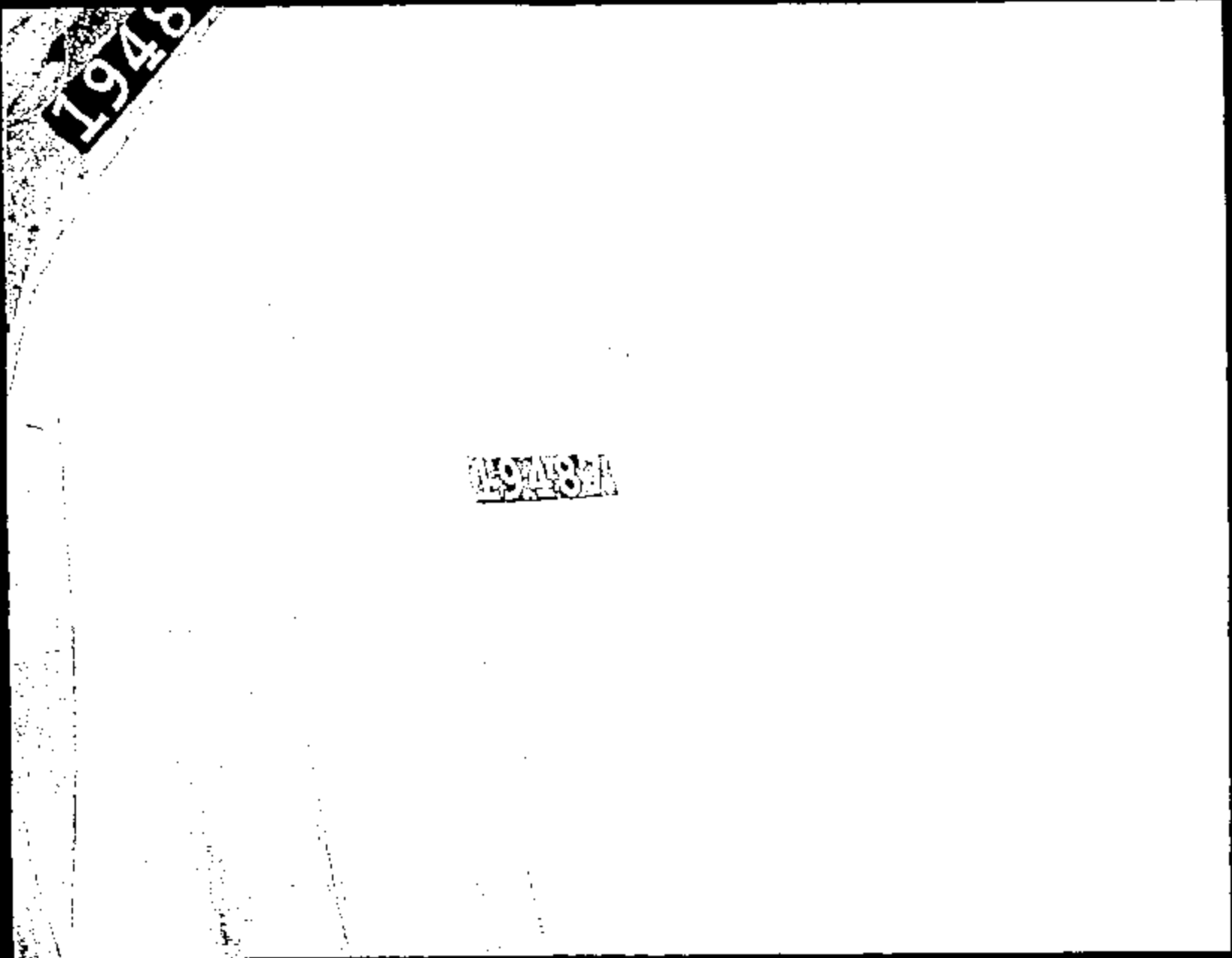
TB-1270
Sheet-9

SLID 0041552



555100 CEFTS

TS-1270
Blast-10

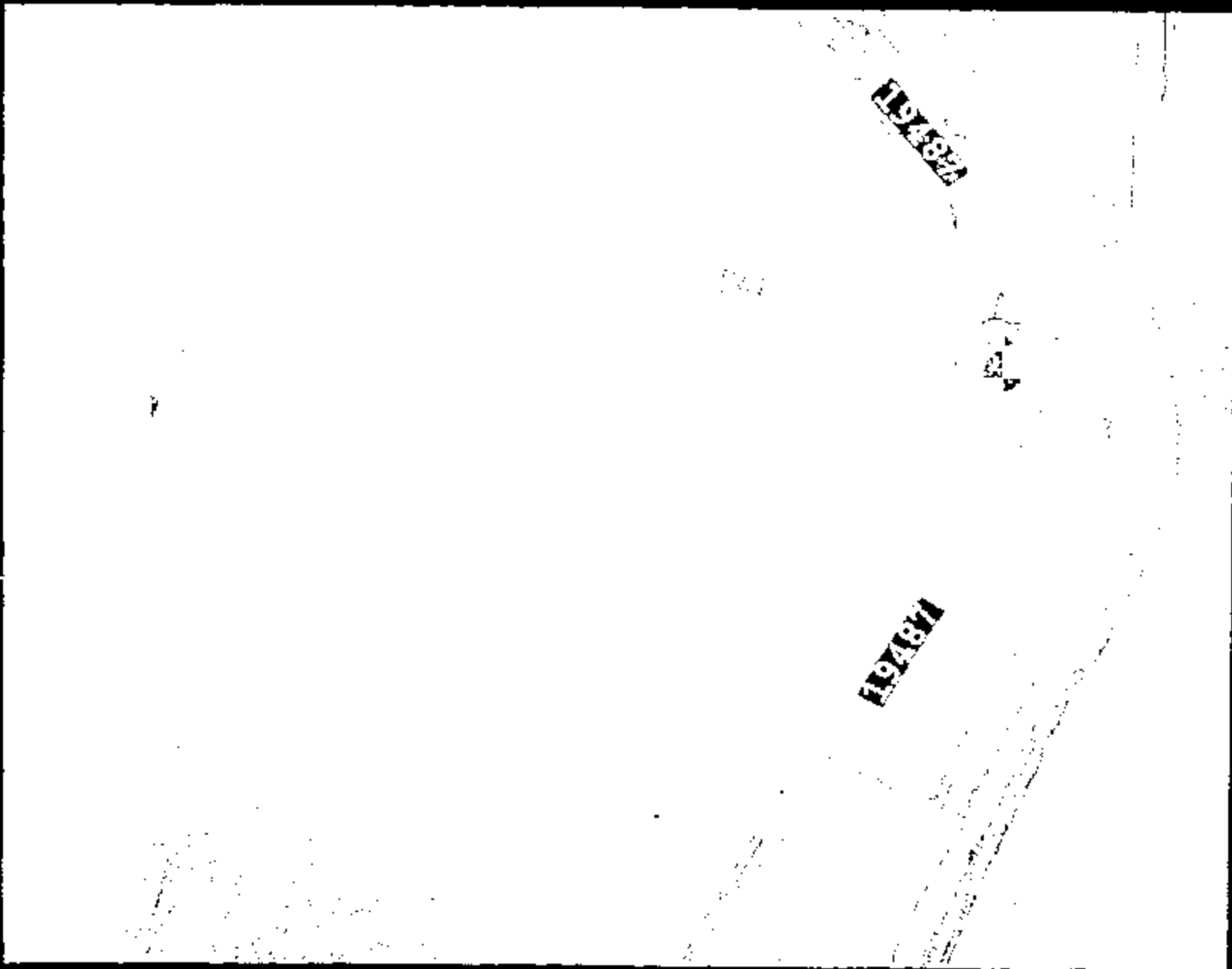


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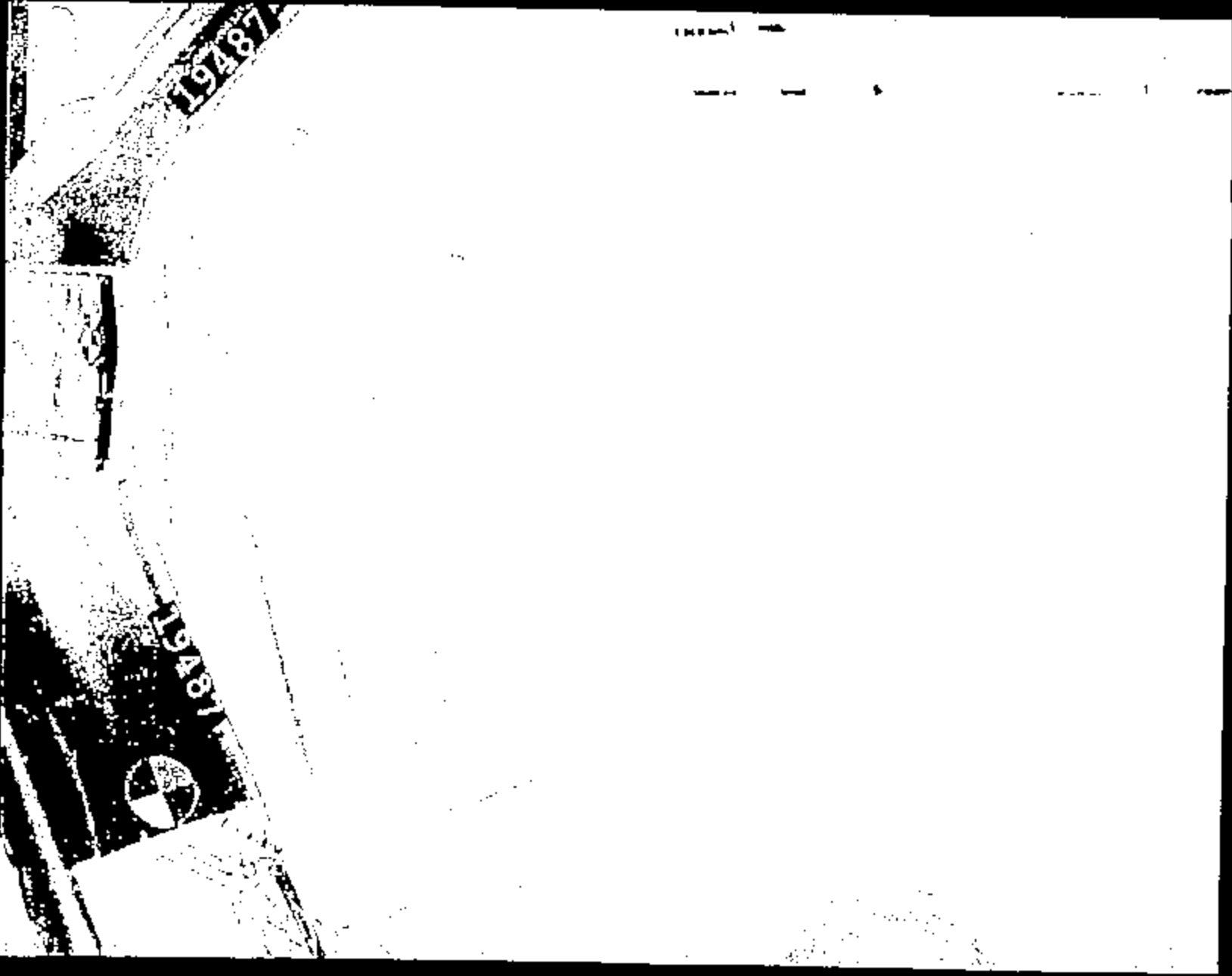
TB-1270
8/20/11

SLID 0041554



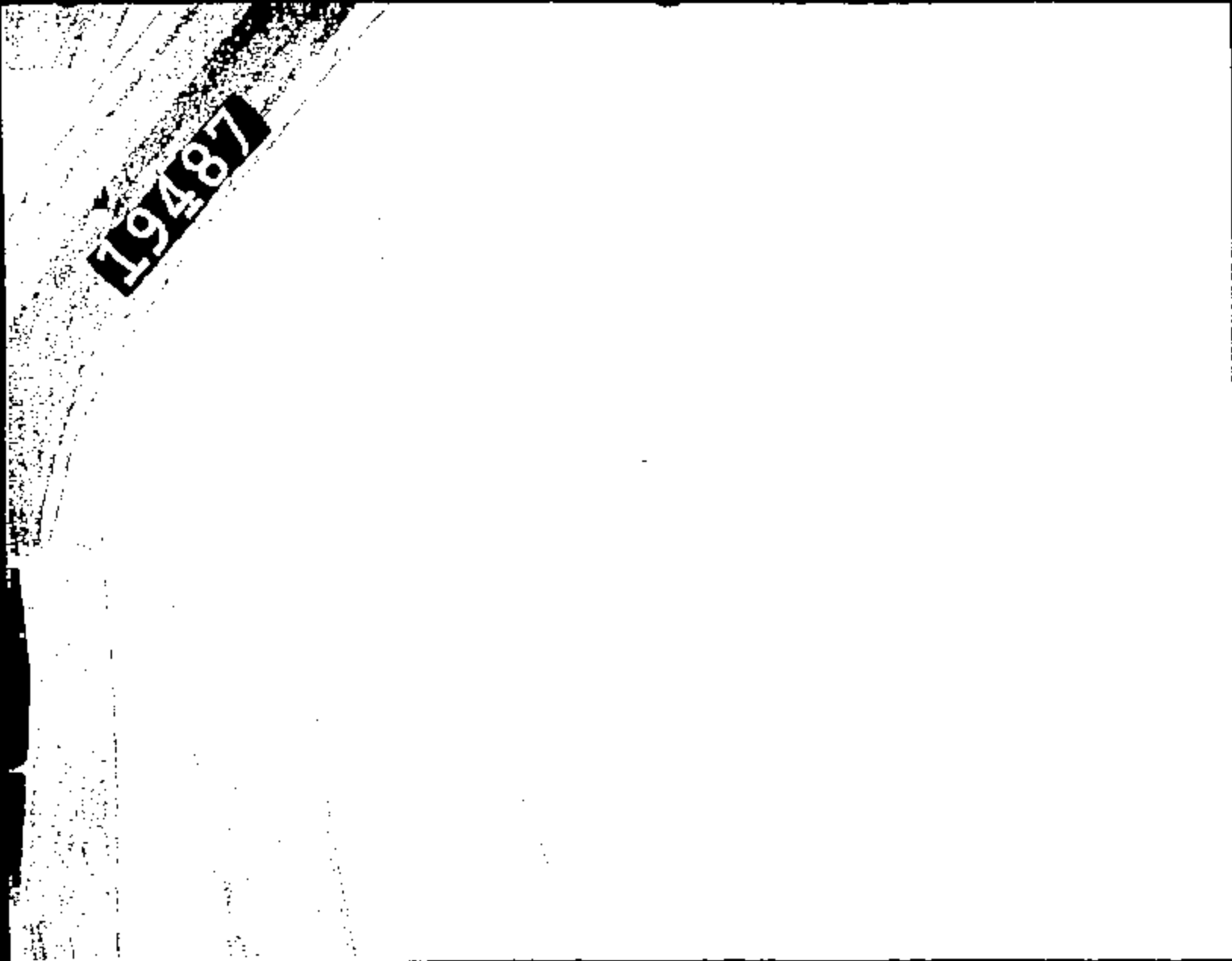
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15-1270
Roof-12



LSL100 CETS
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TB-1270
8 Road-141



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Sheet-15