

INFORMATION Redacted PURSUANT TO THE FREEDOM OF  
INFORMATION ACT (FOIA), 5 U.S.C . 552(B)(6)

EA12-005

CHRYSLER

12-13-2012

Enclosure 6B

301 Developmental Crash

Tests Public

KJ Development Crash Test

VC10445 Public

VEHICLE CRASH ENGINEERING  
VEHICLE CRASH TEST LETTER

PAGE 01

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
TEST DATE 01/30/03  
TEST SITE CPG

TEST PURPOSE PRIMARY, 2003 USA 301-REAR DEVELOPMENT

IMPACT TYPE TARGET SPEED; 48.3 KPH  
DAMAGE LOCATION; REAR (FULL)  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; KJ  
CAR LINE; J  
BODY; 74  
ENGINE; 2.4 LITER  
ENGINE NOTE; I4  
TRANSMISSION; 5 SPEED MANUAL  
TRANS. NOTE;  
VIN AS TESTED; 1J4GL48132W [REDACTED] MOD.  
VIN AS BUILT; 1J4GL48132W [REDACTED] MOD.

TEST SPEED 48.79 KPH BY TRAP AVERAGE

TEST WEIGHT (KG) 2015 TOTAL, 1105 FRONT, 910 REAR

OCCUPANTS 1L - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-59  
RESTRAINT- 3-PT UNIBELT ONLY  
1R - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-50  
RESTRAINT- 3-PT UNIBELT ONLY

BUILD CONDITION

VEHICLE CRASH ENGINEERING  
VEHICLE CRASH TEST LETTER

PAGE 02

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
TEST DATE 01/30/03  
TEST SITE CPG  
TARGET WEIGHT (KG) 2011 TOTAL, 1045 FRONT, 966 REAR  
INCLUDING BALLAST AND OCCUPANTS

FUEL AND BALLAST 64.4 LITERS STODDARD SOLVENT  
300 KG BALLAST WEIGHT SECURED IN CARGO AREA  
90.7 KG ADDITIONAL BALLAST WEIGHT ADDED  
200# OF BALLAST ON FRONT FLOORPANS

REPORT CODES A = TRANSDUCER DATA B = ALL FILM DATA

DISTRIBUTION M. STEBELTON 422-05-01 (AB)  
E. WILLIS 514-17-39 (AB)

DATE 01/30/03 TIME 12:39:14.

FUEL SYSTEM AND STATIC ROLLOVER SUMMARY

TEST NUMBER VC10445, ITEM NUMBER KJ2W [REDACTED] TEST ENGINEER COLLINGS

V.I.N. 1J4GL48132W [REDACTED] TEST DATE 1/30/03 ROLL DATE 1/30/03

TEST TYPE; 30 MPH REAR TYPE IV MOVING BARRIER IMPACT

FUEL; TYPE AND QUANTITY - .767 S.G. STODDARD SOLVENT, 16.8 GALLONS

TEST SPEED 30.3 MPH, TEST WEIGHT 4443 POUNDS.

POST IMPACT LEAKAGE (OZ); AT IMPACT 0

1ST 5 MIN. 0

NEXT 25 MIN. 0

POST TEST PRESSURE CHECK \_\_\_\_\_

ELECTRIC FUEL PUMP RUN \_\_\_\_\_

NO STATIC ROLL PERFORMED

STATIC ROLL LEAKAGE WITH VEHICLE Left SIDE DOWN FIRST

FUEL LEAKAGE LOCATIONS DURING STATIC ROLL

ROLL TIME					TOTAL
0-90	1ST 5 MIN				0 *
<u>1:50</u>	POST 5 MIN				0 **
90-180	1ST 5 MIN				0 *
<u>1:46</u>	POST 5 MIN				0 **
180-270	1ST 5 MIN				0 *
<u>1:38</u>	POST 5 MIN				0 **
270-360	1ST 5 MIN				0 *
<u>1:41</u>	POST 5 MIN				0 **

\* OUNCES IN 5 MINUTES, \*\* OUNCES PER MINUTE

POST TEST FUEL SYSTEM OBSERVATIONS \_\_\_\_\_

**LEFT**  
SIDE  
REAR  
DYNAMIC CRUSH

TUBE COLOR Blue

FRONT SILL

X= 57.7  
Y= -33.5  
Z= 12.9

REAR SILL

X= 87.9  
Y= -33.2  
Z= 13.5

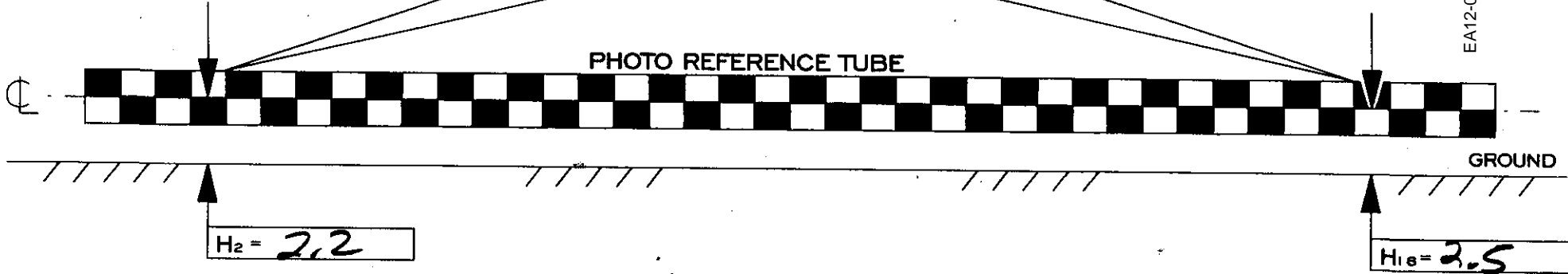
REAR AXLE

X= 131.4  
Y= -34.3  
Z= 13.5

EA12-005- Chrysler -003342

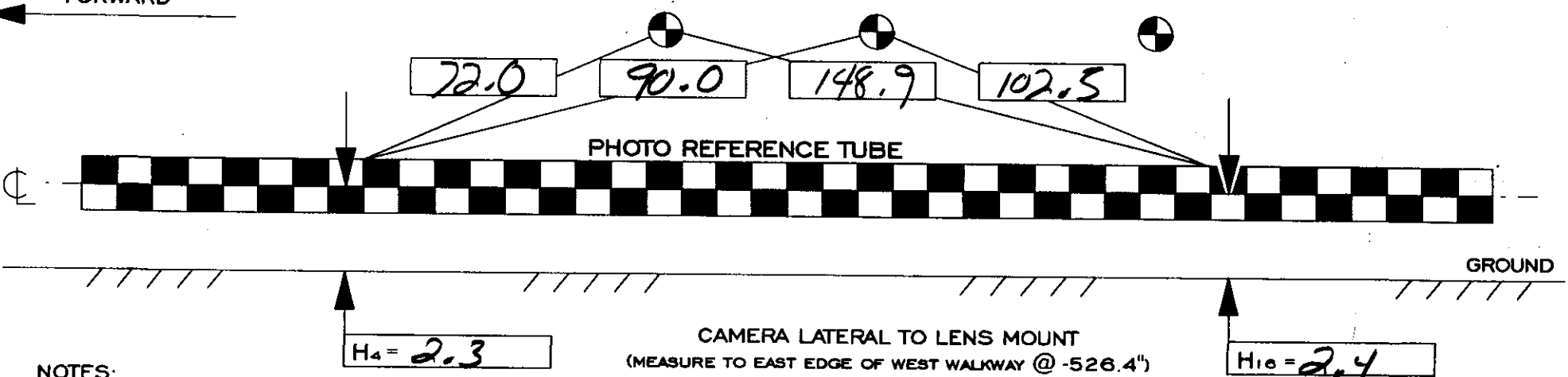
86.1    108.3    127.5    122.3

PHOTO REFERENCE TUBE



72.0    90.0    148.9    102.5

PHOTO REFERENCE TUBE



CAMERA LATERAL TO LENS MOUNT  
(MEASURE TO EAST EDGE OF WEST WALKWAY @ -526.4")

524.7 INCHES  
-1.7

FOR REAR IMPACT TESTS - DIMENSIONING  
BETWEEN SILL TARGETS AND PHOTO REFERENCE TUBE

TEST ENGR Collings  
VC 10445

NOTES:

1. THE Z DIMENSION FOR THE SILL TARGETS AND REAR AXLE MUST BE RETAKEN AT THE TEST SITE
2. IF OTHER TUBE POINTS ARE USED, SO INDICATE

TUBE PRE FA DIAGRAMS 01/28/97

VEHICLE ATTITUDE

TEST NUMBER VC10445

TEST ENGINEER COLLINGS

ITEM NUMBER KJ2W XXXXXXXXXX

TEST DATE   /  /  

X FENDER/WHEELWELL HEIGHTS             SILL HEIGHTS

AS RECEIVED

AS BUILT-UP

AS TESTED

	LF	LR	RF	RR
AS RECEIVED	32.5	32.7	32.7	32.6
AS BUILT-UP				
AS TESTED	30.6	31.6	30.9	31.7

31.89    31.7    32.    31.18

TRANS CAN.  
TEST.

X, Y, Z DIMENSIONS

TEST NUMBER VC10445

TEST ENGINEER COLLINGS

ITEM NUMBER KJ2W [REDACTED] V.I.N. 1J4GL48132W [REDACTED]

TEST DATE 1/20/03

TEST TYPE: 30 MPH REAR TYPE IV MOVING BARRIER IMPACT

LOCATION	X	Y	Z	LOCATION	X	Y	Z
BC1	-0.5	0.0	XXXX	BC2	164.8	0.0	XXXX
B1	0.0	-	XXXX	B2	0.0	-	XXXX
U1	103.4	18.5	10.8	U2	104.7	18.9	11.1
U3	122.0	7.8	18.3	U4	122.6	9.7	18.5
U5	129.4	+2.0	8.8	U6	143.2	19.3	22.5
U7	142.1	18.9	22.4	U8	143.9	5.7	11.8
U9	144.1	3.4	11.5	U10	149.8	5.9	11.8
U11	149.1	3.2	11.6	U12	155.7	19.2	22.5
U13	155.3	19.2	22.5				
UC1	161.9	0.0	16.9				
LFS	57.7	33.5	13.6				
LMS	87.9	33.2	13.8				
LRA	131.4	34.3	13.5				

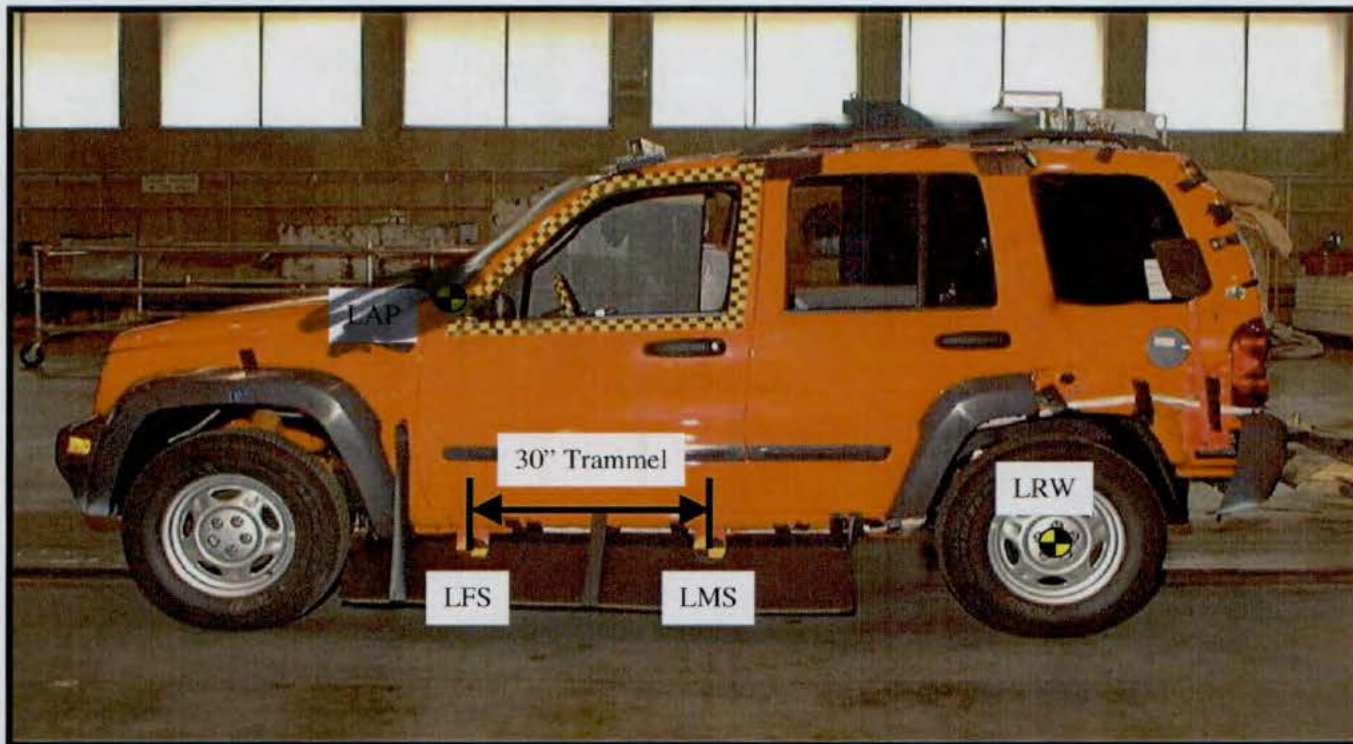
TRAMMEL DIMENSIONS:

LFS-LMS PRE 29.93 POST N/A U1 -U2 37.29

Left Side Rear

Visibility Approved: DGL / 05/03/1999  
Approved for CPG Use: GAB /05/03/1999  
Impact Analysis Engineer: ASD 09/06/02  
ASD T/L:722-1916; PAGER 586-898-4235

ALL REAR IMPACT TEST MODES



Guidelines to Placement of Critical Targets:

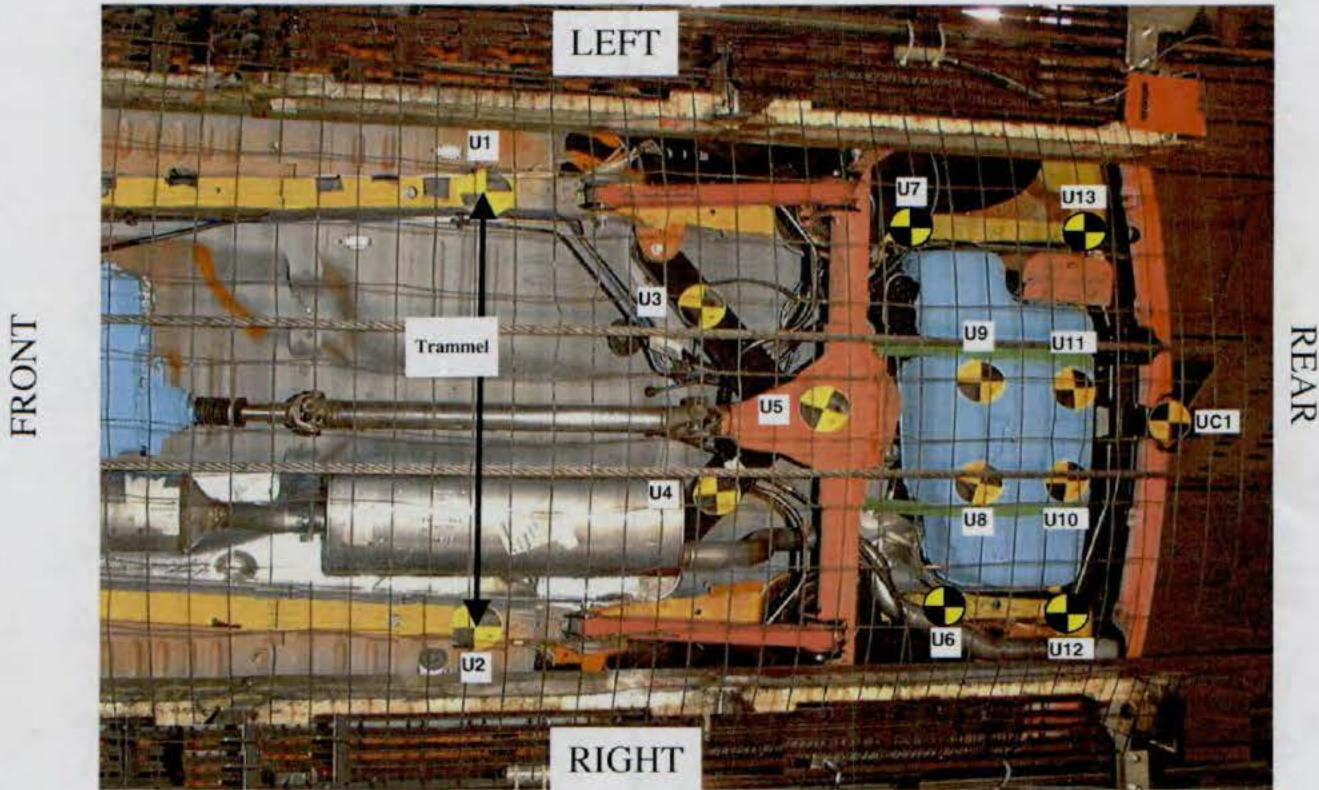
ITEM	COMMENT
LMS	BOTTOM OF B-POST ON SILL
LFS	30" FORE OF LMS
LRW	CENTER OF REAR WHEEL
LAP	4" UP FROM BOTTOM OF WINDSHIELD ON A-POST



Underbody Rear Impact

ALL REAR IMPACT TEST MODES

Visibility Approved: DGL / 05/03/1999  
 Approved for CPG Use: GAB /05/03/1999  
 Impact Analysis Engineer: ASD 09/06/02  
 ASD T/L:722-1916; PAGER 586-898-4235



Guidelines to Placement of Critical Targets:

ITEM	COMMENTS
U1 & U2	5.5" IN FRONT OF FORWARD EDGE OF CONTROL ARM MOUNTING BRACKET.
U3 & U4	CENTER OF UPPER SWING ARMS.
U5	ON CENTER OF REAR DIFFERENTIAL
U12 & U13	END OF RAILS AT REAR BUMPER CROSSMEMBER
U6	14" FORE OF U12
U7	ON LEFT RAIL 16" FORWARD OF U13
U8, U9, U10 & U11	IN SQUARE PATTERN, INSIDE STRAPS ON BOTTOM SURFACE OF THE FUEL TANK
UC1	CENTERED ON REAR BUMPER CROSSMEMBER

# Test VC10445

Last Requester Update  
Last Check

1/29/2003 2:53 PM  
1/29/2003 3:02:26 PM

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED] 03 KJ, USA 301-REAR Development TEST TEST DATE 01/30/03

Analysis	Camera	Lens	Sync	F Stop	HGacq	Pnl	Clb	Skt
1 <input checked="" type="checkbox"/>	<b>LEFT WALKWAY TARGETS OVERALL</b>							<b>DCR</b>
	428	Locam	18	mm	116693	KIN	<input type="checkbox"/>	250
2 <input checked="" type="checkbox"/>	<b>PIT NORTH MID TARGETS</b>							<b>UBR</b>
	432	Locam	13	mm	13-7	COS	<input type="checkbox"/>	250
3 <input checked="" type="checkbox"/>	<b>PIT SOUTH REAR TARGETS</b>							<b>UBR</b>
	433	Locam	13	mm	13-5	COS	<input type="checkbox"/>	250
4 <input type="checkbox"/>	<b>CATWALK VEHICLE REAR MDB INTERACTION</b>							
	1	HG2000	ZOOM	mm	#3	CAN	<input type="checkbox"/>	250
5 <input type="checkbox"/>	<b>LEFT OVERALL</b>							
	15	HG2000	ZOOM	mm	#7	CAN	<input type="checkbox"/>	250
6 <input type="checkbox"/>	<b>PIT FUEL FILLER TUBE</b>							
	6	HG2000	ZOOM	mm	#1	CAN	<input type="checkbox"/>	250
7 <input type="checkbox"/>	<b>PIT FUEL TANK</b>							
	2	HG2000	ZOOM	mm	#5	CAN	<input type="checkbox"/>	250
8 <input type="checkbox"/>	<b>PIT OVERALL</b>							
	7	HG2000	ZOOM	mm	#4	CAN	<input type="checkbox"/>	250
	Utilize Hg2000 Digital Imager							
9 <input type="checkbox"/>	<b>RIGHT OVERALL</b>							
	16	HG2000	ZOOM	mm	#9	CAN	<input type="checkbox"/>	250
10 <input checked="" type="checkbox"/>	<b>VELOCITY HG2000</b>							<b>VEL</b>
	18	HG2000	ZOOM	mm	#8	CAN	<input type="checkbox"/>	250

**In Addition to Default Print:**

ORIGINAL ORDER

# Test Request for VC10445/ JPE Item No.: KJ2W

Doc. Rev. #: 9


<b>Key People:</b> <b>*Test Requester:</b> <b>Eric G</b> <b>Willis/JTE/DCC/</b> <b>DCX</b> <b>Platform: JPE</b> <b>Phone:</b> <b>733-5470</b> Others to be copied on correspondence related to this test:	<b>TEST STATUS:</b> <b>TEST COMPLETE</b> Test Completed on 01/30/2003 <b>TEST SITE:</b> <b>CPG</b> <b>SLOT #:</b> <b>1st Test of the Day</b> <b>SCHEDULED DATE:</b> <b>01/30/2003</b> <b>LAST MODIFIED / BY:</b> <b>01/30/2003 12:34:13 PM by: Michael E</b> <b>Collings</b>  <b><u>REQUESTOR'S NOTE PAD:</u></b>
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<b>INVOICE INFORMATION (Service Center Purpose)</b>	
<b>LOCATION:</b>	1275
<b>DEPARTMENT:</b>	1060
<b>COMMIT NUMBER:</b>	AVPT2002
<b>DO NUMBER:</b>	2003 KJ SCILABS TESTING

<b><u>CPG Personnel Assigned to This Test:</u></b>	
<b>Test Engineer(s)</b> Test Engineer Assigned: Michael E Collings - 836-5516  Test Engineer Check Completed By: Michael E Collings - 836-5516 Test Engineer Test Day: Michael E Collings - 836-5516  Film Analysis Liaison: Andre S Dsouza - 722-1916	<b>Data Acquisition Engineer(s)</b> Data Acquisition Test Engineer: Norman D Post - 836-5369 Data Acquisition Check Completed By: James Moon-Dupree - 836-5436 Data Acquisition Write-Up Engineer: James Moon-Dupree - 836-5436

## Test Requested:

### MVSS 301 30MPH Flat Rear Impact

<b>*Procedure (Select One):</b> SLT13500 <b>*Target Speed:</b> 48.3 KPH (30.0 MPH)  mph->kph  <b>*Best Estimate of Ship Date:</b> 01/16/2003 <b>SPECIFIC TEST DATE REQUIRED:</b> <b>Transport Canada to Witness</b> <b>*When this test is complete, please send test property to:</b>	<b>Regulatory Purpose(s):</b> <small>(used to determine numeric processing)</small> PRIMARY, 2003 USA 301-REAR DEVELOPMENT
--	--


<b>*Stage of Development:</b> <input type="radio"/> Compliance <input checked="" type="radio"/> Development	<b>Priority (optional):</b> <input checked="" type="radio"/> A <input type="radio"/> B <input type="radio"/> C
---	---


\*\*\*\*\* All Required fields (\*) must be entered up to this point for test specification to be accurate \*\*\*\*\*

**Occupants For This Test:**

1L - (Standard) H2-50TH MALE BALLAST DUMMY, 0 - CH,	RESTRAINT- 3-PT UNIBELT ONLY, AD-59
1R - (Standard) H2-50TH MALE BALLAST DUMMY, 0 - CH,	RESTRAINT- 3-PT UNIBELT ONLY, AD-50

**FILM ANALYSIS AND PHOTOGRAPHIC VIEWS:**

<b>Film Analysis Ordered:</b> DYNAMIC CRUSH REAR UNDERBODY REAR - FLAT IMPACT  <b>Film Analysis "If Requested":</b> VELOCITY  <b>Test Site Constraints based on Film Analysis:</b> Advanced Film Analysis Req'd: CPG site recommended  <b>Film Analysis Requested - Custom:</b> No Custom	 <b>Photographic Views Required:</b>  >>LEFT WALKWAY TARGETS OVERALL >>PIT NORTH MID TARGETS >>PIT SOUTH REAR TARGETS >>VELOCITY HG2000 >>RIGHT OVERALL >>PIT OVERALL: utilize hg2000 digital imager >>PIT FUEL TANK >>PIT FUEL FILLER TUBE >>CATWALK VEHICLE REAR MDB INTERACTION  <hr/> <b>Imaging Product Order:</b> VCE provides one original and one print 16 mm film reel with each test.
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 <b>Still Photos Required:</b>																				
<b>STANDARD VIEWS FOR: REAR</b> <table border="1" style="width: 100%;"> <thead> <tr> <th></th> <th>PRE</th> <th>POST</th> </tr> </thead> <tbody> <tr> <td>TOP REAR</td> <td></td> <td></td> </tr> <tr> <td>BOTTOM REAR</td> <td></td> <td></td> </tr> <tr> <td>FUEL FILL TUBE</td> <td></td> <td></td> </tr> <tr> <td>FILLER KEYWAY</td> <td></td> <td></td> </tr> <tr> <td>ACCELS (# OF SHOTS)</td> <td></td> <td></td> </tr> </tbody> </table>		PRE	POST	TOP REAR			BOTTOM REAR			FUEL FILL TUBE			FILLER KEYWAY			ACCELS (# OF SHOTS)			<b>ADDITIONAL STILL PHOTOS:</b> Pre-Test Still Photo: Post-Test Still Photo:	
	PRE	POST																		
TOP REAR																				
BOTTOM REAR																				
FUEL FILL TUBE																				
FILLER KEYWAY																				
ACCELS (# OF SHOTS)																				

**FILM ANALYSIS REPORT UPDATE:**  
 (This Section Indicates the Status of Film Analysis Completion)

FA NAME	PUBLISHED	REISSUED	CANCELLED	COMMENTS



### Vehicle Information:

<p><b>Program:</b> 03 KJ </p> <p><b>Core Item No.:</b> KJ2W </p> <p>NOTE: the Core Item No. cannot exceed 10 characters in length.</p> <p><b>Restrike No.:</b> R</p> <p><input type="checkbox"/> Right-Hand Drive <input type="checkbox"/> Competitive Car</p> <p><b>CAR LINE:</b> J      <b>BODY:</b> 74  <b>Number of Doors in this Vehicle:</b> 4  <b>Vehicle Build Level:</b> V1</p> <p>Other Vehicle Configuration Flag (optional word or short phrase to use in further sorting of platform reports):</p> <p><b>VIN(as built):</b> 1J4GL48132W </p> <p><b>VIN(as tested):</b> 1J4GL48132W </p>	<p><b>Vehicle Readiness to Ship:</b>  <i>This is a minimally modified vehicle, no checklist is required</i></p>
<p><b>ENGINE:</b> 2.4 Liters  <b>ENGINE NOTE:</b> I4</p> <p><b>TRANSMISSION:</b> 5 SPEED MANUAL</p> <p><b>TRANS. NOTE:</b>  <b>DRIVE:</b> 4 X 4</p> <p><b>GVW (opt):</b> kg</p>	<p><b>Vehicle Logistics:</b>          Note: Vehicle must be fully inspected prior to shipment to test site.  <input type="checkbox"/> Yes</p> <p>Shipped to Test Site:          Rec'd at Test Site: 01/17/2003          Returned from Test Site:          When I expect vehicle to be off hold:</p>



### Instrumentation Build Info:

<p><b>General Instrumentation Requirements:</b></p>	
<p><b>Modules Used:</b></p> <p><b>Other Notes:</b>          FUEL PUMP RUNNING DURING TEST</p>	<p><b>Pyrotechnics Used:</b></p> <p><b>Deployment Method:</b>          No Deployment</p>
<p><b>Vehicle Channel Entry:</b></p>	<p><b>List of Dummy Channel Titles Used on this Test:</b></p>
<p><a href="#">Create New Instrumentation Sheet</a></p> <p><b>Attach Instrumentation Sheet Here:</b></p>	<p>BALLAST DUMMY- NO CHANNELS-1L          BALLAST DUMMY- NO CHANNELS-1R</p>

Do not attach more than one file to this field.



Attach New or Replacement Sheet

instKJ2W [redacted].xls

- Protected section of instrumentation sheet indicates minimum instrumentation requirements for the test selected and may only be modified by your Data Acquisition Engineer.
- Please indicate all changes made to the spreadsheet after Test Request submission at the base of the spreadsheet.

<p><b>Total Occupant Channels: 0</b></p> <p><b>Total Vehicle Channels: 7</b></p> <p><b>TOTAL ON-BOARD CHANNELS FOR THIS TEST: 7</b></p>	<p><b>Total Data Acq. Boxes Required: 1</b> Channels in Last Data Acq. Box : 7 out of 32</p>
---	--

**Build Condition as Reported in Test Letter:**



**Test Weight:**

**Target Test Weight Requested**  
Please note: This is an approximate value and includes vehicle, ballast, fuel, ATDs, and instrumentation.

1 pound weight = 0.4536 kilograms (kg)

**Total Target Test Weight: 2011 kg (4,433 lbs)**



lb->kg

**Weight Balance and Luggage:**  
Please note: This section is OPTIONAL. Values entered here are approximate.

**Total Front 1,045 kg (2,304 lbs)**



lb->kg

**Total Rear 966 kg (2,130 lbs)**

**Weight Adjustment Method:**

(standard procedure to be used unless otherwise specified.  
Define which parts should be removed first if the vehicle is over  
the target weight after occupants and instrumentation are added)

Test weight represents a 2.4L 4x4 Liberty SPORT + 2 occupants  
+ luggage



**Luggage: 300 kg**



**Actual Test Weight: 2015 kg**

**Weight Balance:**

- Total Front: 1105 kg

- Total Rear: 910 kg

**Additional Ballast Installed: 90.7 kg**

**Detail of Additional Ballast Installed: 200# OF BALLAST ON FRONT FLOORPANS**



## Mechanical Requirements:

### Specific Work to Be Done at Test Site:

CAUTION: ensure all 5 tire pressures are set to recommended setting of 33PSI  
CAUTION: ensure parking brake is disengaged and transmission is in neutral  
DO NOT DISTURB: *flipper glass, swing gate, spare tire*  
TEST VEHICLE WITH 16.8 GALLONS STODDARD IN FUEL SYSTEM  
FUEL FILL TO SPEC IS MANDATORY  
PRE-TEST PRESSURE CHECK REQUIRED  
FUEL PUMP RUNNING DURING TEST  
STATIC ROLL ASSESSMENT REQUIRED (SLW13532)  
Pre-Test Measurement: Install and dimension 2D tube  
Pre-Test Measurement: measure vehicle attitude as received and post build-up - adjust as needed  
Film Targeting: No Film Analysis Targeting or Cameras Required  
Paint: rear underbody for film analysis

### Work Orders for This Test:

**Extra Attachments, Rich Text or Additional Info here if required:**

#### Document Information

**Date Created:** 01/10/2003 12:31 PM  
**Created By:** Eric G Willis/JTE/DCC/DCX

**Last Edited:** 01/30/2003 12:34:13 PM  
**Edited By:** Michael E Collings/CPG/DCC/DCX



**Edit History:**

<b>Edit History:</b>			
1/16/2003 2:51:54 PM	Christine M Durst	EditApprovalStatus [] --> [**** TEST REQUEST :INITIALLY APPROVED ****] MODIFIED /Rev#:1	
1/16/2003 2:51:54 PM	Christine M Durst	SchedTest [] --> [01/30/2003 12:00:00 AM] MODIFIED /Rev#:1	
1/16/2003 2:51:54 PM	Christine M Durst	Slot [] --> [tbd] MODIFIED /Rev#:1	
1/16/2003 2:51:54 PM	Christine M Durst	VehicleChan [0] --> [7] MODIFIED /Rev#:1	
1/17/2003 3:47:38 PM	Christine M Durst	Slot[tbd] --> [2nd] MODIFIED / Rev# 2	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- 215/75R16 TIRES WITH STEEL RIMS] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- NON-TILT STR COL] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- NO SUNROOF] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- NO SAC] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- MANUAL WINDOWS] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- MANUAL CLOTH HIGH BACK SEATS] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- FULL SPARE] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- NO REAR TANK SKID PLATE] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- NO REAR TOW HOOKS] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- FT SKIDPLATE] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	BuildCondition [- NO FRONT TOW HOOKS] ADDED /Rev#:3	
1/27/2003 2:44:47 PM	Eric G Willis	FAPVListDupViews [CATWALK VEHICLE REAR MDB INTERACTION] ADDED /Rev#:3	
1/28/2003 10:58:48 AM	Eric G Willis	MECHWIAdjustNote [Please weigh vehicle as received and call Eric Willis @ 733 5470 to determine target test weight] --> [weight ] MODIFIED /Rev#:4	
1/28/2003 10:58:48 AM	Eric G Willis	WeightTarget [0] --> [2011] MODIFIED /Rev#:4	
1/28/2003 11:24:26 AM	Eric G Willis	MECHWIAdjustNote [weight ] --> [Test weight represents a 2.4L 4x4 Liberty SPORT + 2 occupants + luggage] MODIFIED /Rev#:4	
1/28/2003 11:24:26 AM	Eric G Willis	WeightTargetF [] --> [1045] MODIFIED /Rev#:4	
1/28/2003 12:43:29 PM	Christine M Durst	EditApprovalStatus [**** TEST REQUEST :INITIALLY APPROVED ****] --> [01/28/2003 12:43:07 PM **** TEST REQUEST RE- APPROVED ****] MODIFIED /Rev#:5	
1/29/2003 12:22:57 PM	Christine M Durst	Slot[2nd] --> [1st] MODIFIED / Rev# 6	
1/29/2003 12:53:59 PM	Robert D Burton	FAPVListDupViews [PIT OVERALL] REMOVED /Rev#:7	
1/29/2003 2:52:46 PM	Michael E Collings	FAOrder [UNDERBODY REAR - FLAT IMPACT] --> [DYNAMIC CRUSH REAR:UNDERBODY REAR - FLAT IMPACT] MODIFIED /Rev#:8	
1/29/2003 2:52:46 PM	Michael E Collings	FAPVListDupViews [LEFT WALKWAY TARGETS OVERALL] ADDED /Rev#:8	
1/29/2003 2:52:46 PM	Michael E Collings	MECHInstall [Pre-Test Measurement: Install and dimension 2D tube] ADDED /Rev#:8	
01/29/2003 02:52:59 PM	Michael E Collings	Additional Comments: ADDING REQUIRED CAMERA /Rev#:8	
<b>Last Edit:</b>			
01/30/2003 12:33:10 PM	Michael E Collings	FINAL TEST LETTER REVISED	

01/30/2003 12:33:10 PM Michael E Collings Resubmit Comments re-submit  
01/30/2003 12:32:49 PM Michael E Collings FINAL TEST LETTER SUBMITTED  
1/29/2003 3:08:10 PM Robert D Burton FAPVListDupViews [LEFT OVERALL] REMOVED /Rev#:9  
1/29/2003 3:08:10 PM Robert D Burton FAPVListDupViews [PIT OVERALL: utilize hg2000 digital imager] ADDED /Rev#:9

[Click here to view previous edits](#)

Old Change Method Info

**History of Changes to This Record After Test Request Approval:**

Date/Time	Edited By	Description
	Eric G Willis/JTE/DCC/DCX	TEST REQUEST INITIALLY APPROVED

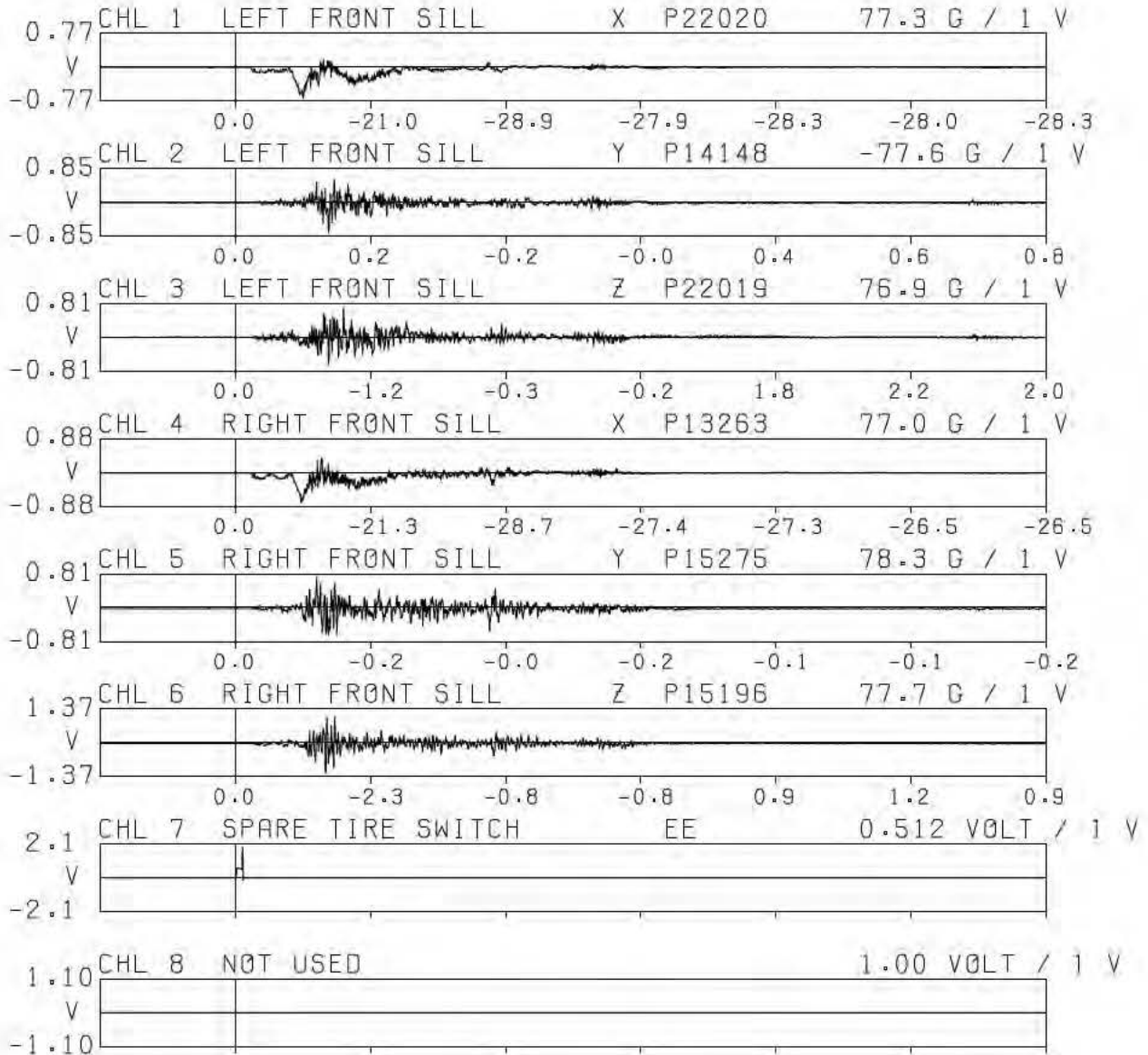
EA12-005  
CHRYSLER  
12-13-2012  
Enclosure 6B  
301 Developmental Crash  
Tests Public  
KJ Development Crash Test  
VC10445.EDP.REPORT

TRANSDUCER SUMMARY REPORT

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W  
 03 KJ. USA 301-REAR DEVELOPMENT TEST  
 IMPACT ANALYSIS DEPT. 5320  
 JAN 30, 2003

DATA SET 01/30/03BA  
 ERRATA 1

-50 0 50 100 150 200 250 300



-50 0 50 100 150 200 250 300  
 TIME, MSEC

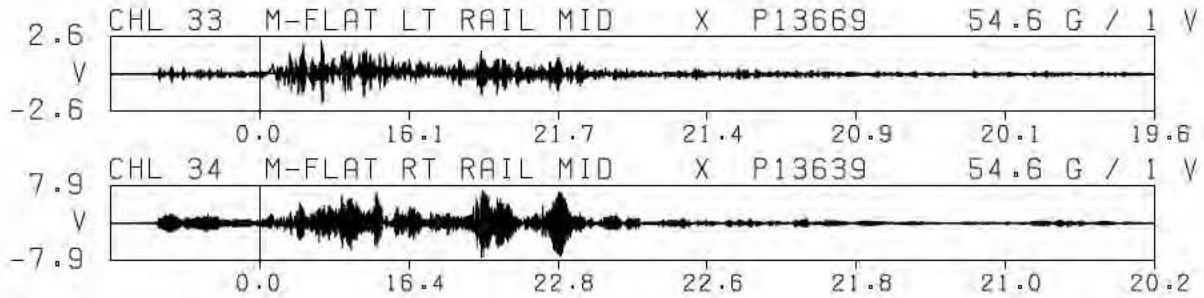
NOTE COMPUTED FIRST INTEGRAL VALUES ARE INDICATED BELOW EACH CHANNEL AND BRIDGED DATA IS INDICATED BY A -B-.

TRANSDUCER SUMMARY REPORT

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ. USA 301-REAR DEVELOPMENT TEST  
IMPACT ANALYSIS DEPT. 5320  
JAN 30, 2003

DATA SET 01/30/03BC  
ERRATA 1

-50 0 50 100 150 200 250 300



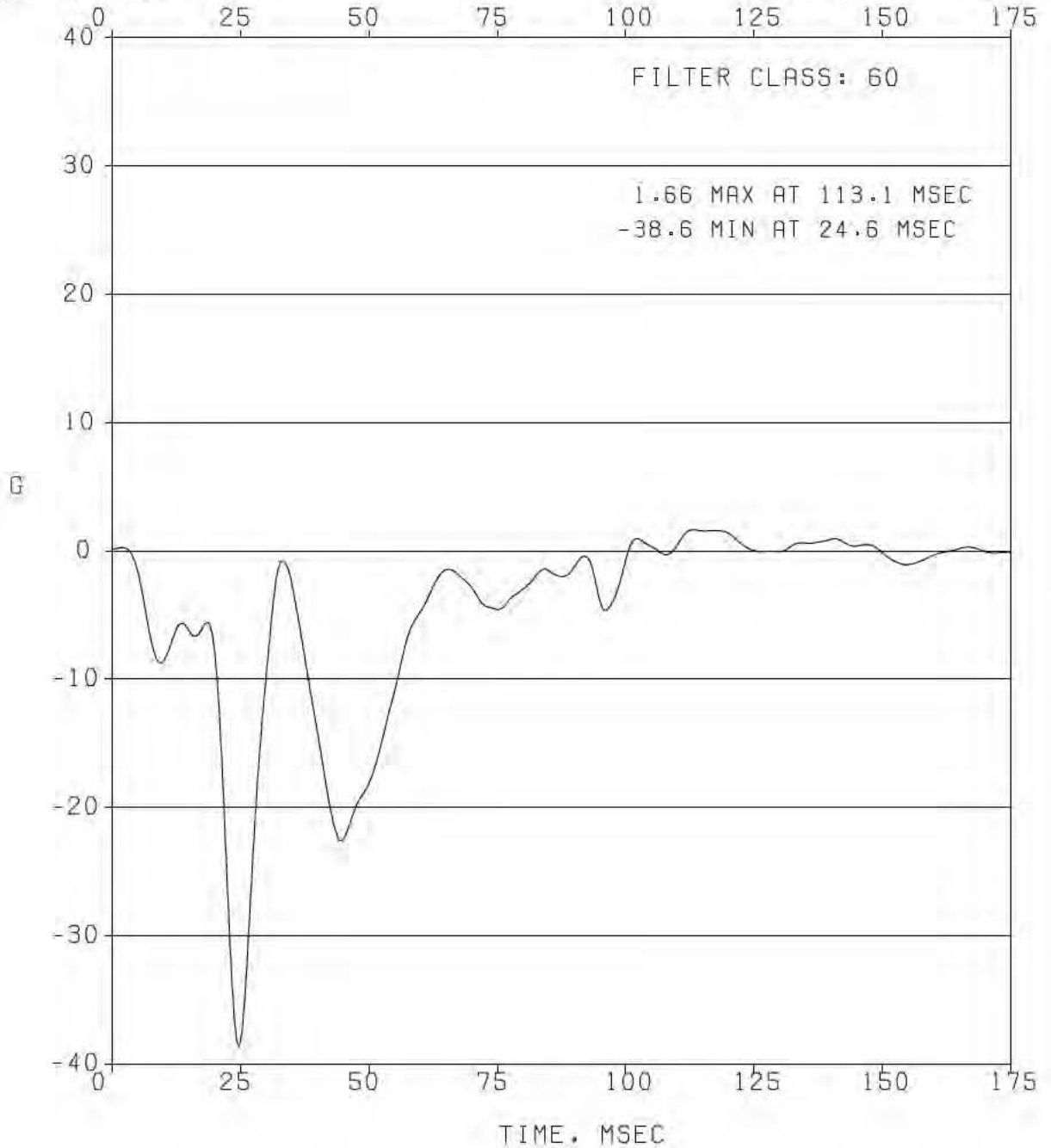
-50 0 50 100 150 200 250 300  
TIME, MSEC

NOTE COMPUTED FIRST INTEGRAL VALUES ARE INDICATED BELOW  
EACH CHANNEL AND BRIDGED DATA IS INDICATED BY A -B-.

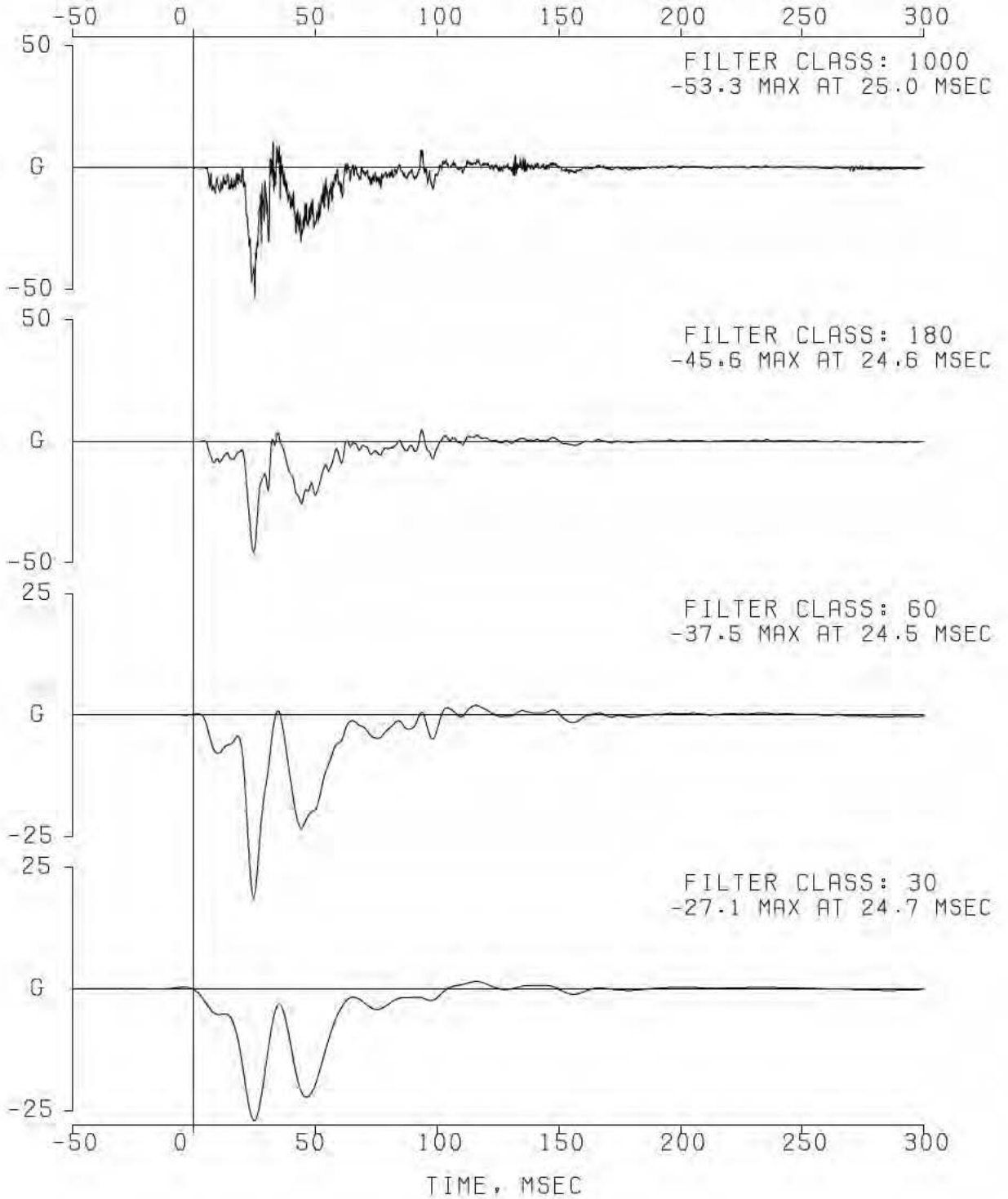
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
AVERAGE OF

CHANNEL 001 LEFT FRONT SILL X P22020  
CHANNEL 004 RIGHT FRONT SILL X P13263

FILTER TYPE: PHASELESS, 4 POLE BUTTERWORTH, 2-PASS ( 99.0 )  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30.2003 ERRATA 1



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 001 LEFT FRONT SILL X P22020  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30, 2003 ERRATA 1

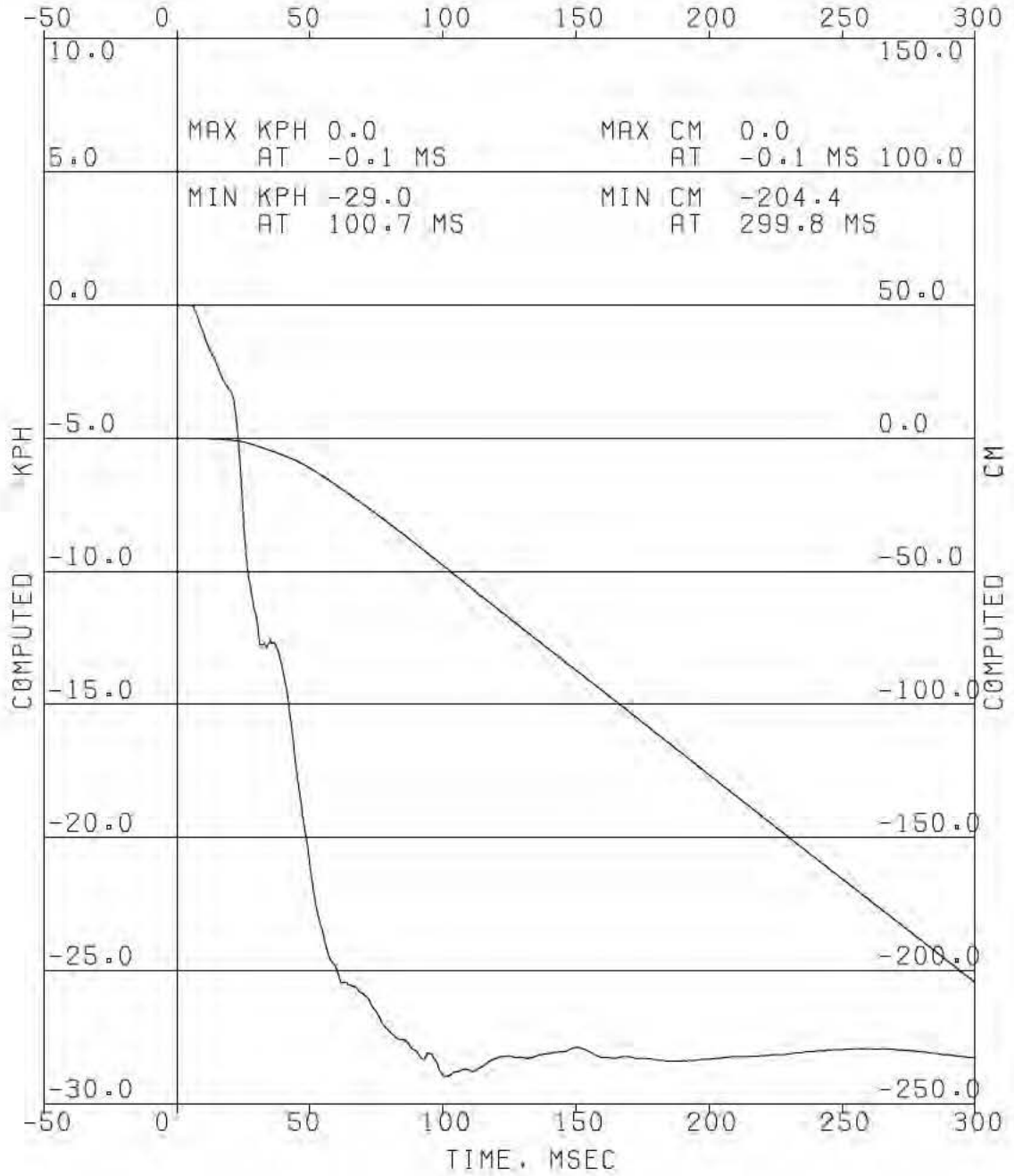


VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 001 LEFT FRONT SILL X P22020

FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
JAN 30, 2003

DATA SET 01/30/03BA  
ERRATA 1

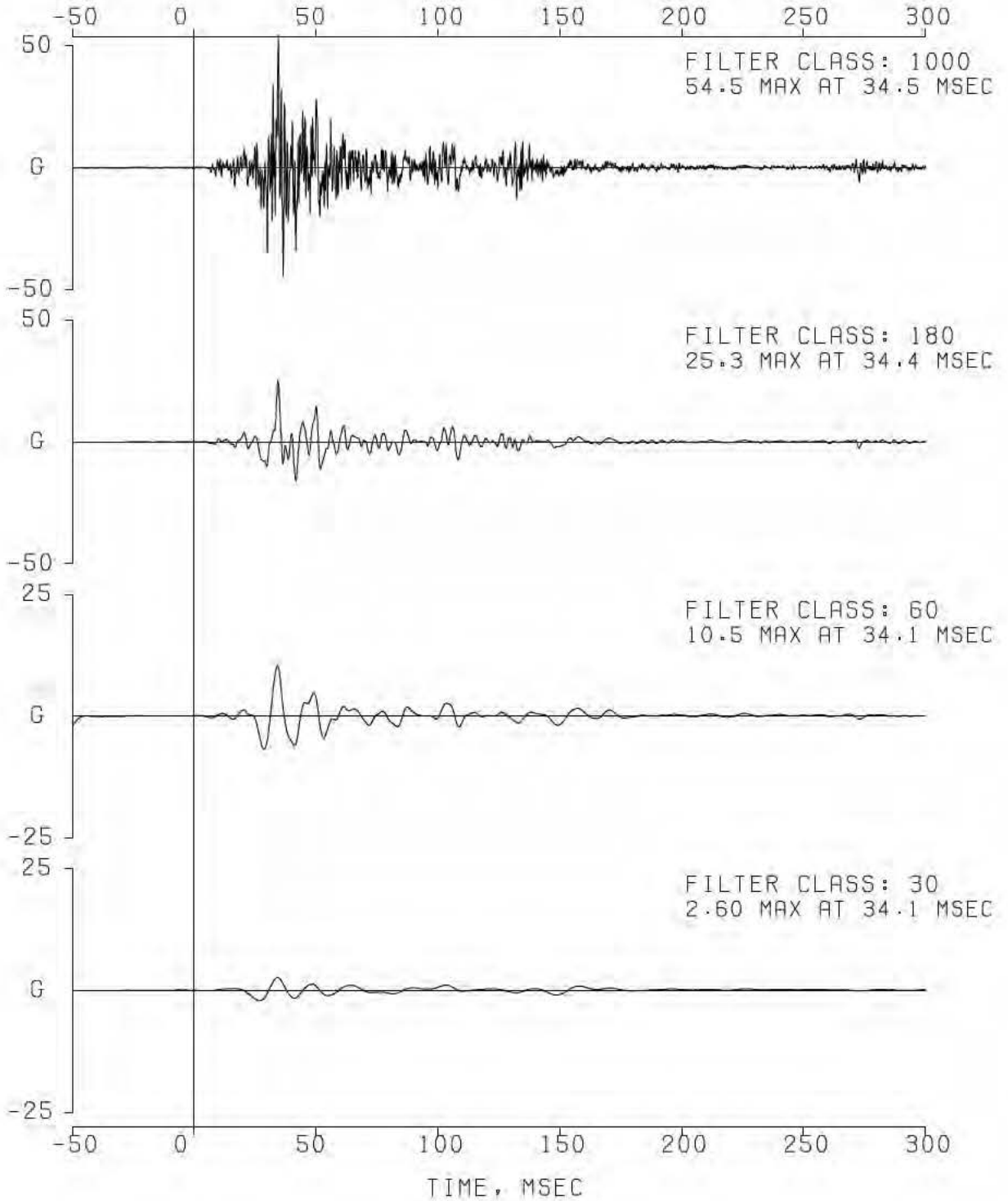


EA12-005- Chrysler -005323

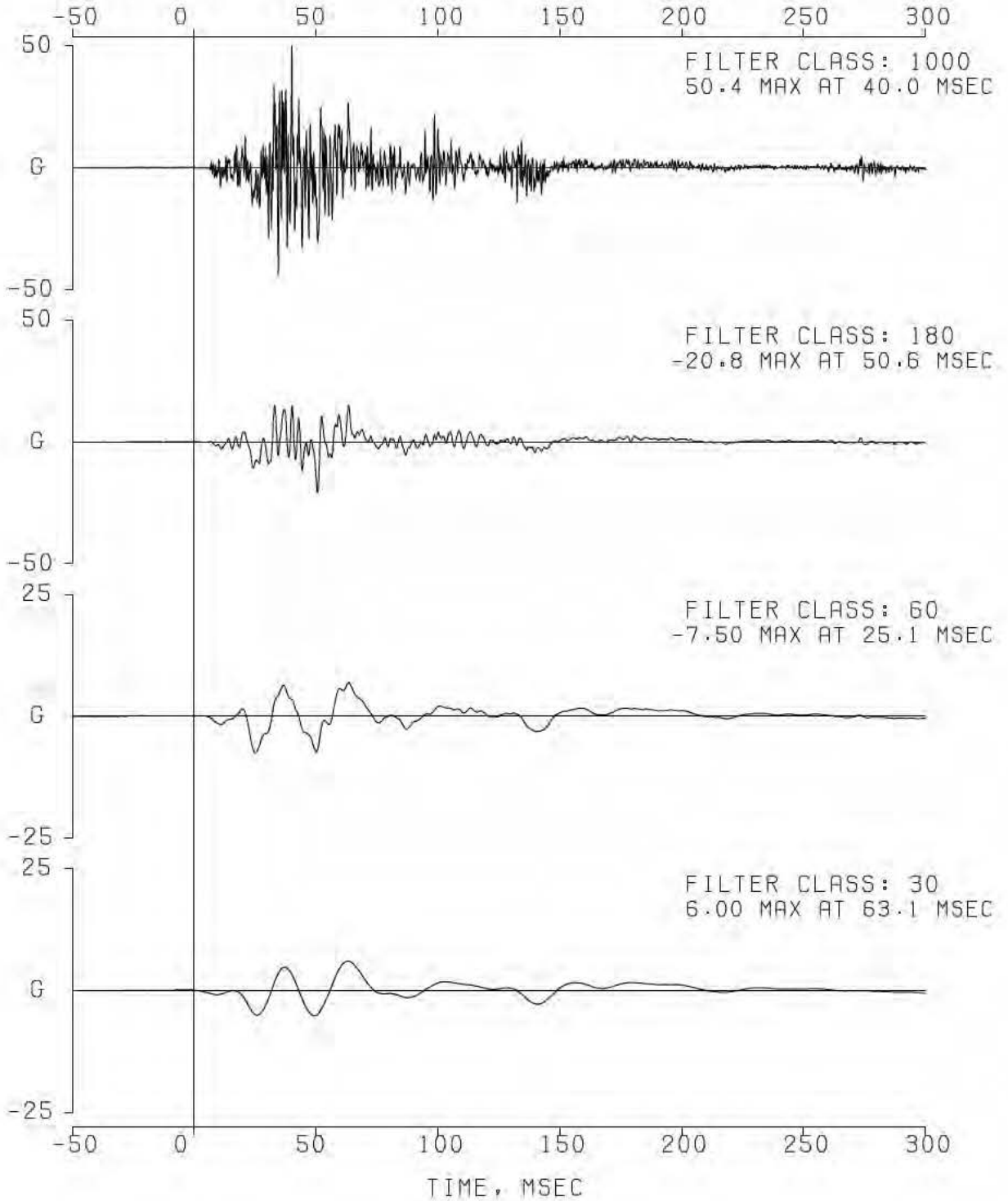
COMPUTED KPH  
COMPUTED CM



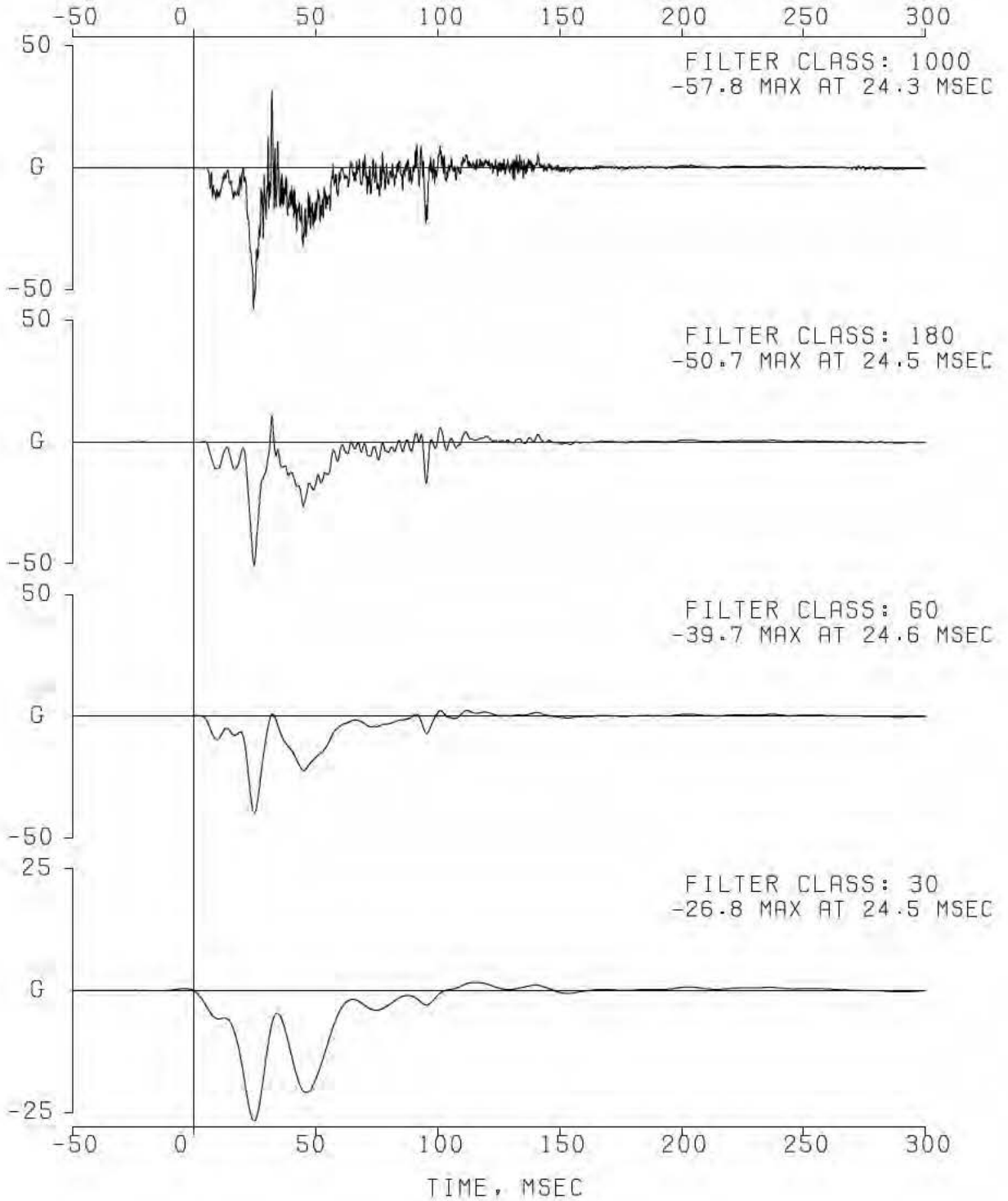
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 002 LEFT FRONT SILL Y P14148  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30, 2003 ERRATA 1



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 003 LEFT FRONT SILL Z P22019  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30, 2003 ERRATA 1



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 004 RIGHT FRONT SILL X P13263  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30, 2003 ERRATA 1

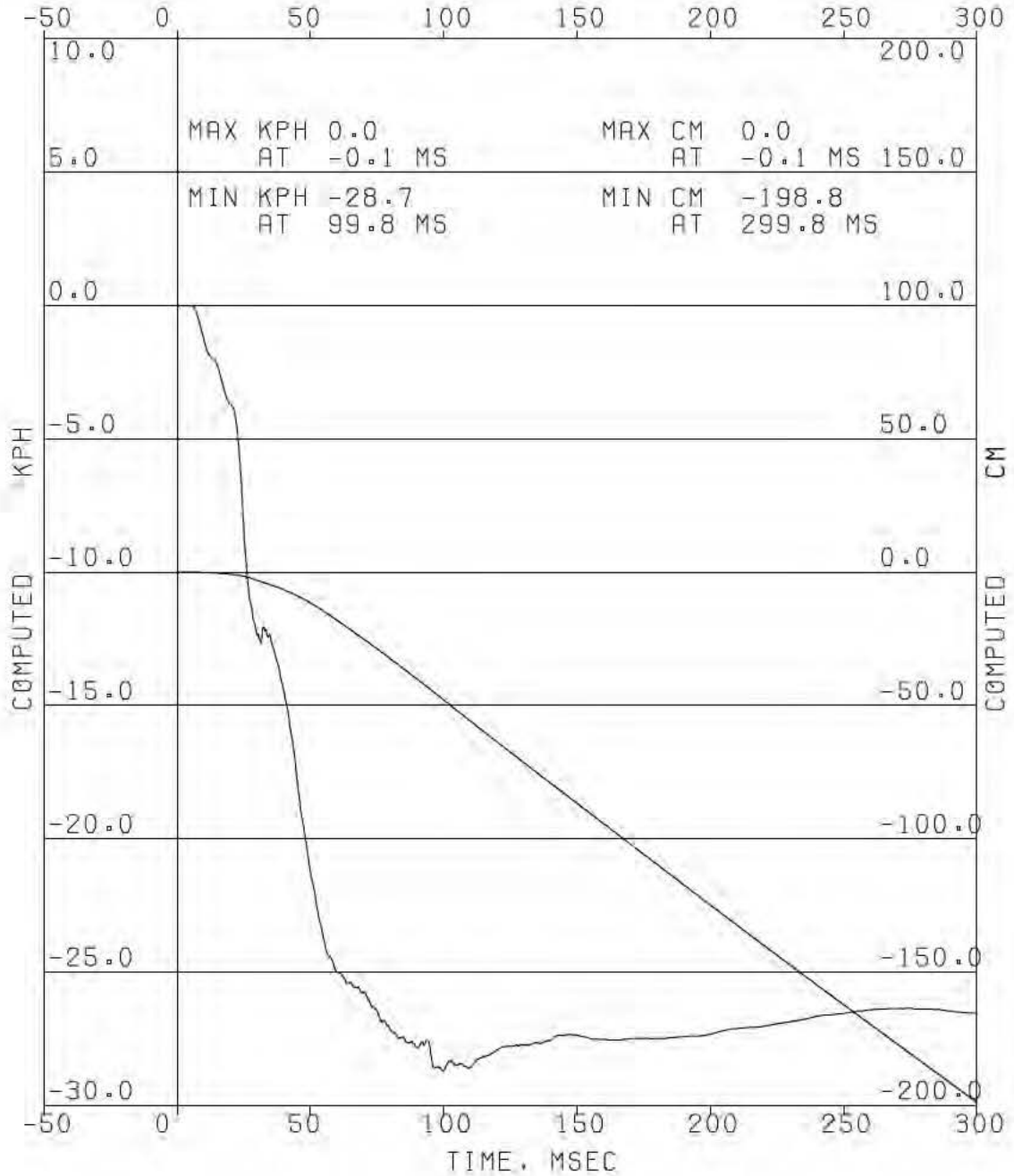


VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 004 RIGHT FRONT SILL X P13263

FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
JAN 30, 2003

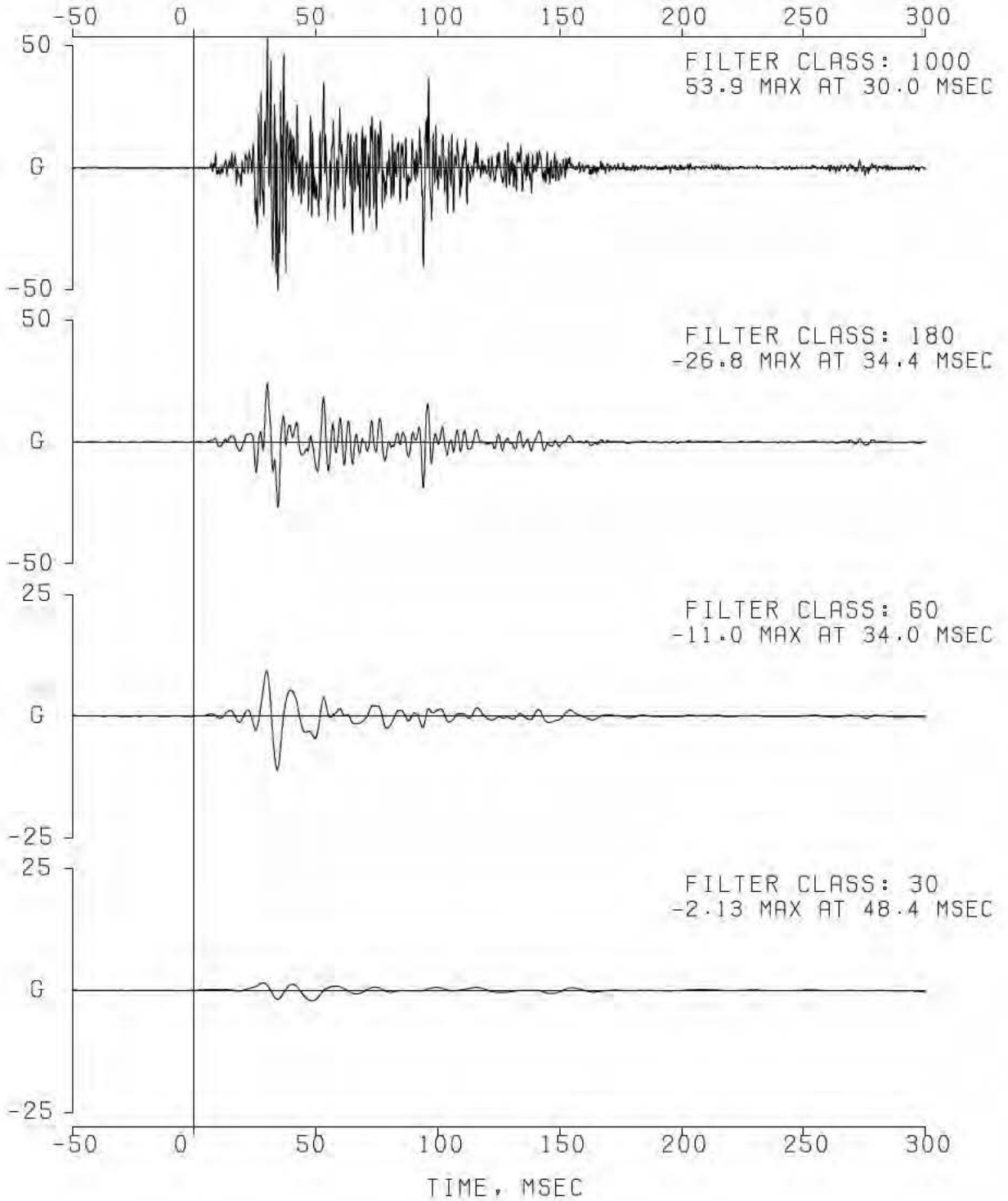
DATA SET 01/30/03BA  
ERRATA 1



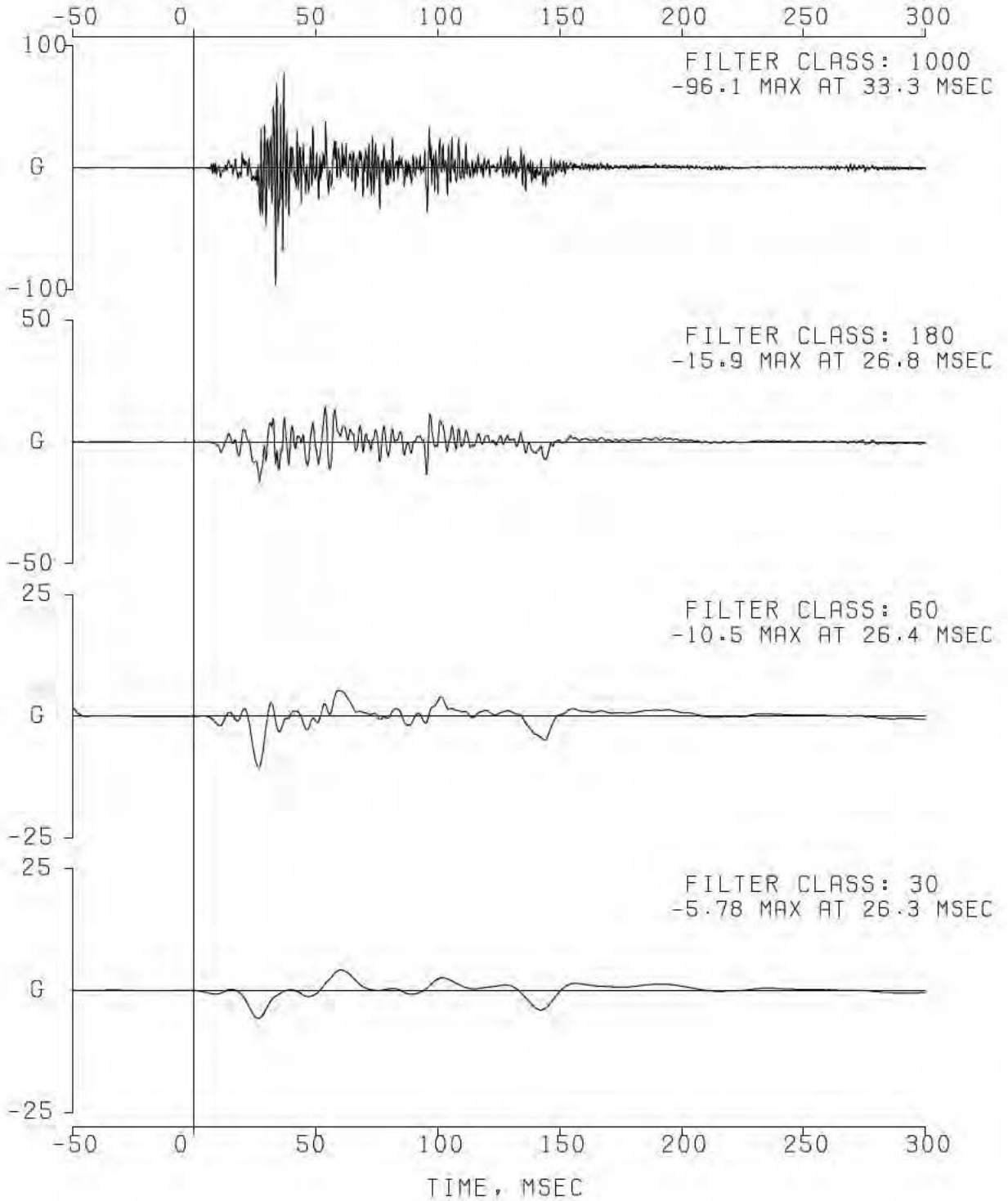
EA12-005- Chrysler -005327

COMPUTED KPH  
COMPUTED CM

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 005 RIGHT FRONT SILL Y P15275  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30, 2003 ERRATA 1



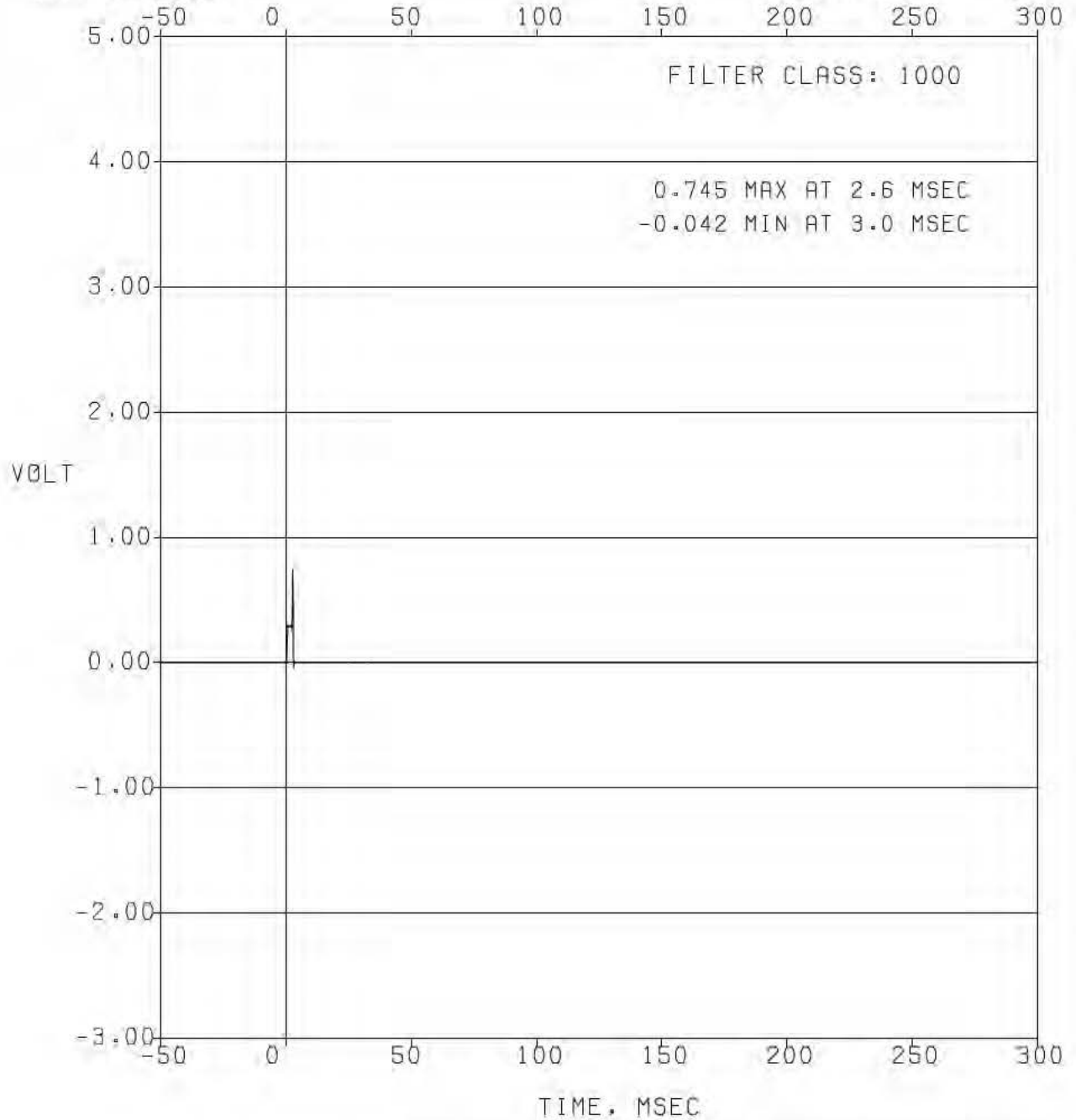
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 006 RIGHT FRONT SILL Z P15196  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30, 2003 ERRATA 1



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

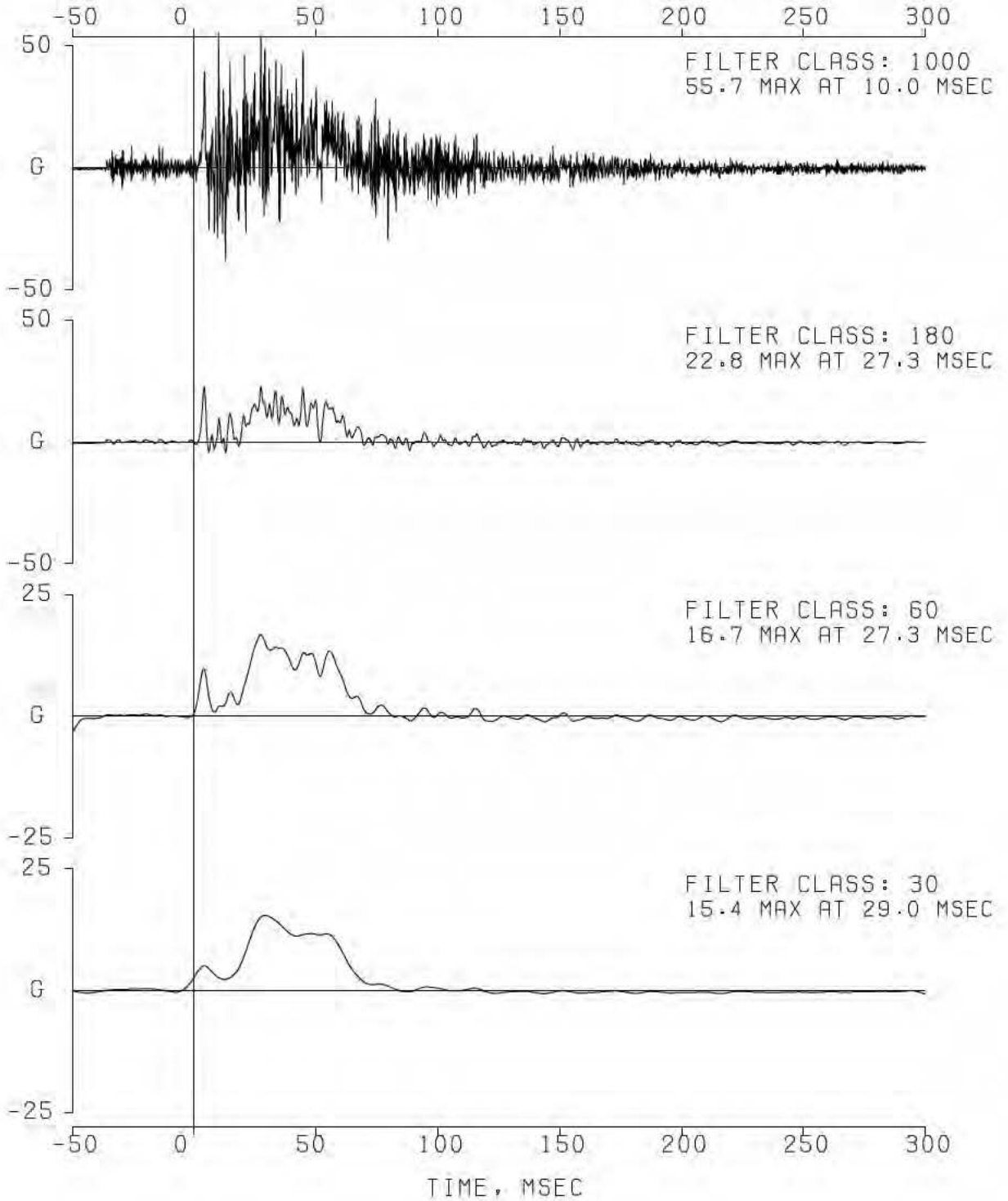
CHANNEL 007 SPARE TIRE SWITCH EE

FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BA  
JAN 30.2003 ERRATA 1



\*\*\*\*\* NOTE \*\*\*\*\*  
\*\*\*\*\* EVENT AT .2 MS \*\*\*\*\*

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 033 M-FLAT LT RAIL MID X P13669  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BC  
JAN 30, 2003 ERRATA 1



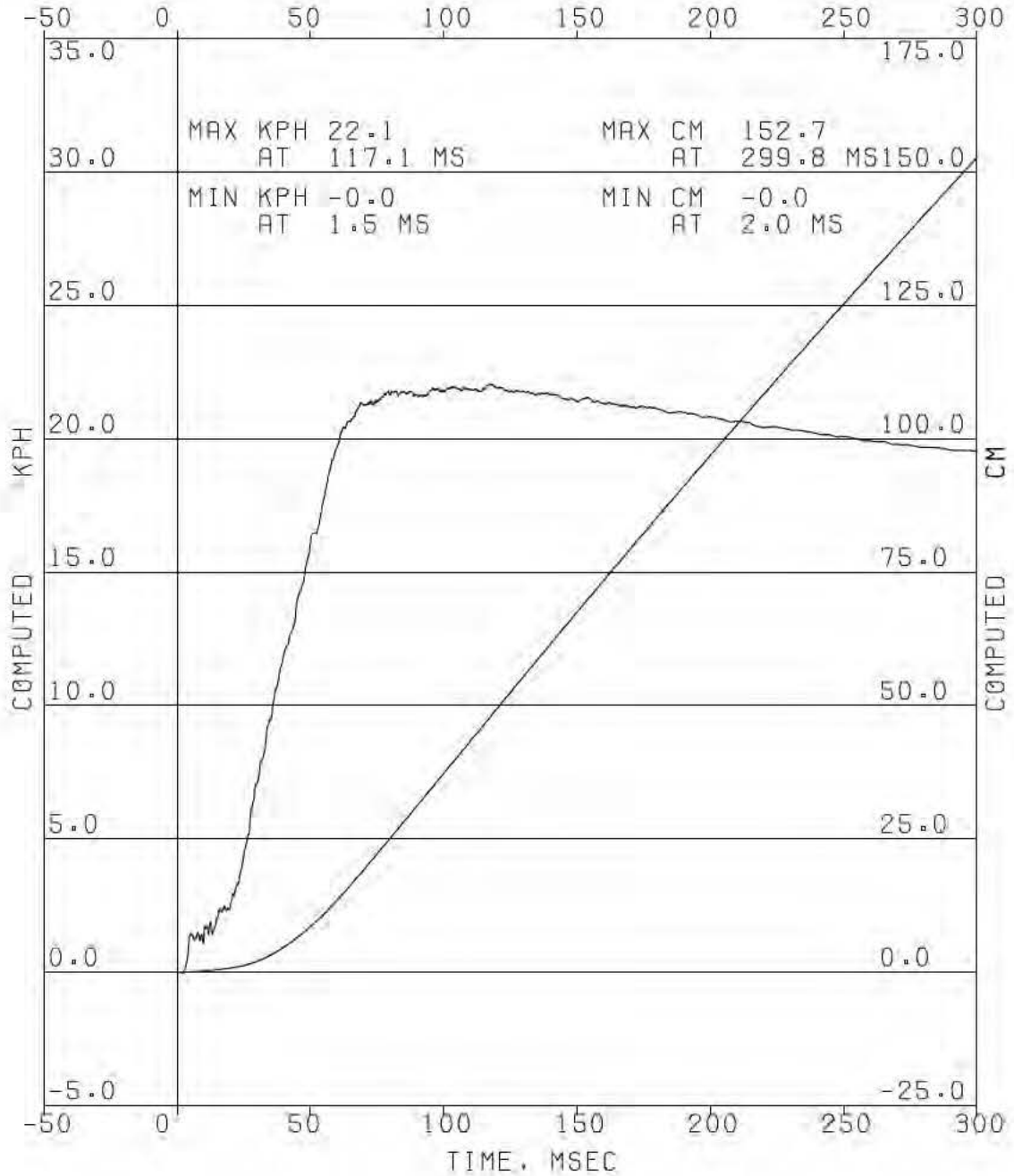


VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 033 M-FLAT LT RAIL MID X P13669

FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
JAN 30, 2003

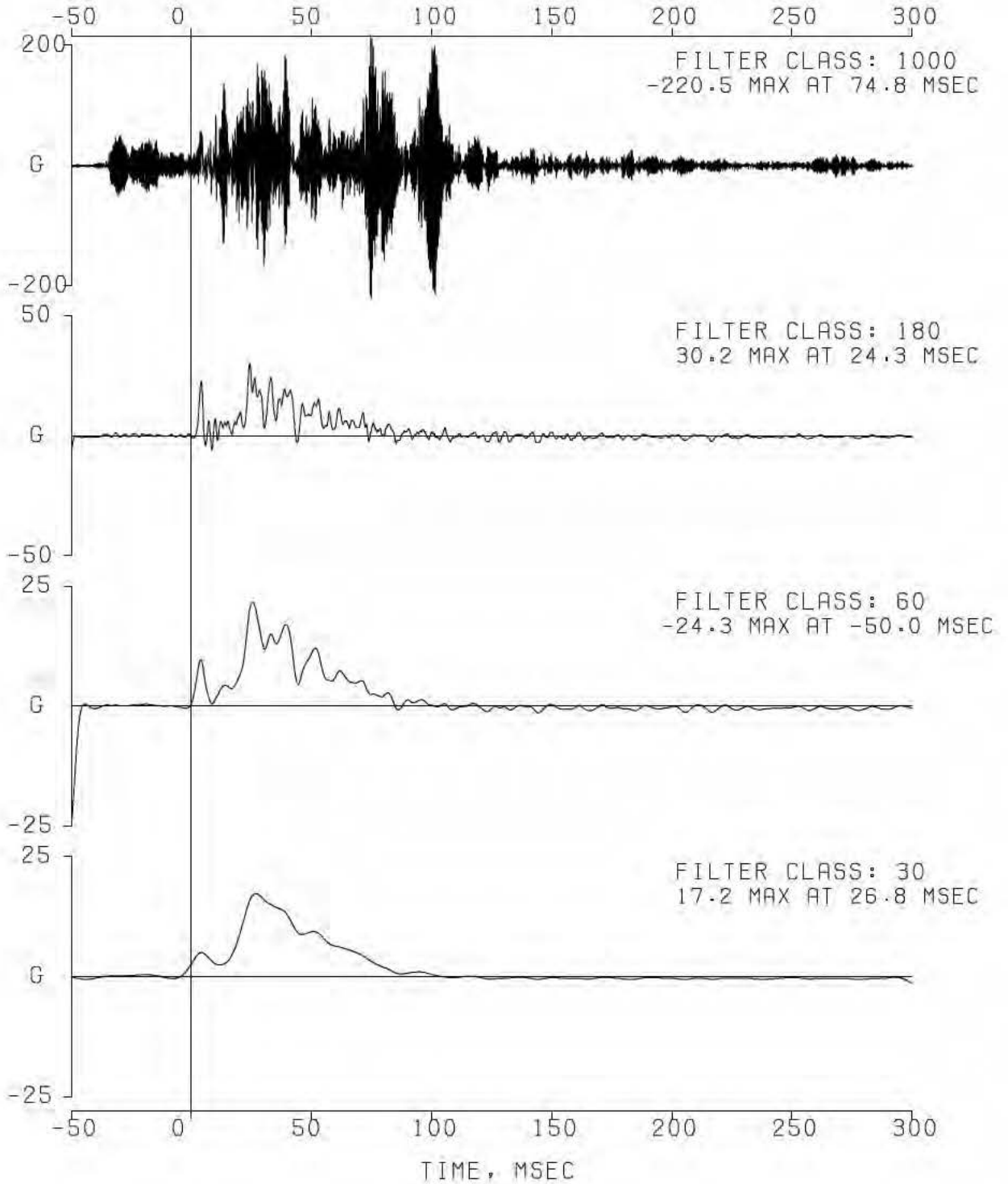
DATA SET 01/30/03BC  
ERRATA 1



EA12-005- Chrysler -005332

COMPUTED KPH  
COMPUTED CM

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 034 M-FLAT RT RAIL MID X P13639  
FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 01/30/03BC  
JAN 30, 2003 ERRATA 1

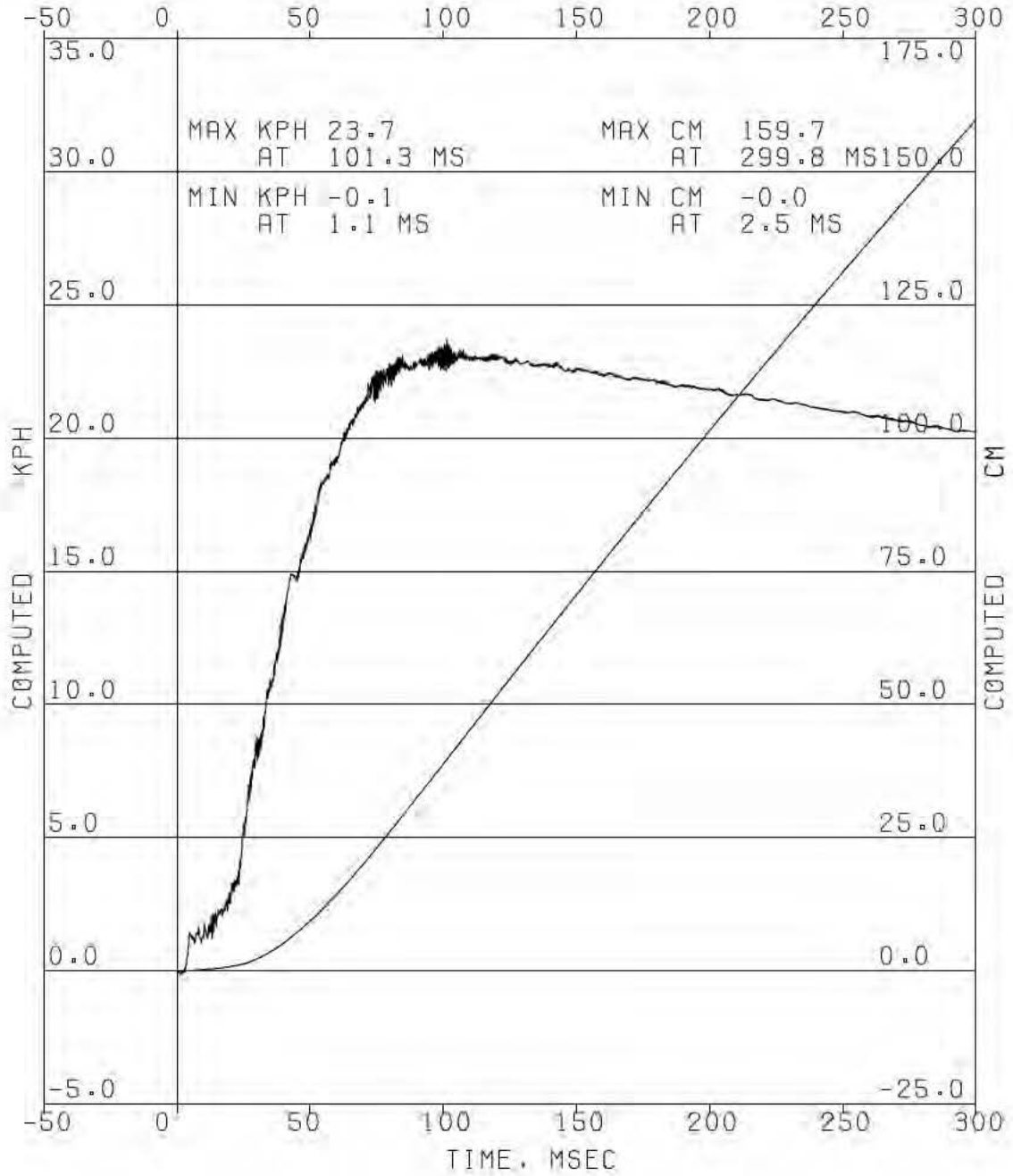


VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
CHANNEL 034 M-FLAT RT RAIL MID X P13639

FILTER TYPE: PHASELESS, DCX FFT 10K 4 POLE BUTTERWORTH, ( 1650.0)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
JAN 30, 2003

DATA SET 01/30/03BC  
ERRATA 1



EA12-005- Chrysler -005334

COMPUTED KPH  
COMPUTED CM

TITLE: Page Index of EDP plots Pages 001 - 016  
 \*\*\*\*\* VC10445A \*\*\*\*\* Page I-01  
 TITLE: Transducer Summary Reports Pages 001 - 002  
 SYSTEM: METRIC  
 PAGE: 001 TSR Channels 001 - 008  
 PAGE: 002 TSR Channels 033 - 034  
  
 \*\*\*\*\* VC10445B \*\*\*\*\*  
 TITLE: Vehicle Channels Pages 003 - 016  
 SYSTEM: METRIC  
 PAGE: 003 Average of Frt Sill Chls 1 & 4  
 PAGE: 004 LEFT FRONT SILL X, Chl 1  
 PAGE: 005 LEFT FRONT SILL X, Chl 1, VD  
 PAGE: 006 LEFT FRONT SILL Y, Chl 2  
 PAGE: 007 LEFT FRONT SILL Z, Chl 3  
 PAGE: 008 RIGHT FRONT SILL X, Chl 4  
 PAGE: 009 RIGHT FRONT SILL X, Chl 4, VD  
 PAGE: 010 RIGHT FRONT SILL Y, Chl 5  
 PAGE: 011 RIGHT FRONT SILL Z, Chl 6  
 PAGE: 012 SPARE TIRE SWITCH, Chl 7, Event \*N\*  
 PAGE: 013 M-FLAT LT RAIL MID X, Chl 33  
 PAGE: 014 M-FLAT LT RAIL MID X, Chl 33, VD  
 PAGE: 015 M-FLAT RT RAIL MID X, Chl 34  
 PAGE: 016 M-FLAT RT RAIL MID X, Chl 34, VD

EA12-005

CHRYSLER

12-13-2012

Enclosure 6B

301 Developmental Crash

Tests Public

KJ Development Crash Test

VC10445.FAR.DCR.FA\_REPO

RT.DCR\_DYNAMIC\_CRUSH

\_REAR Public

# G L O S S A R Y   O F   T E R M S

## U S E D   I N   S T A N D A R D   R E P O R T S

AD	ANTHROPOMORPHIC DEVICE
ATD	ANTHROPOMORPHIC TEST DEVICE
BASE COORD	BASE COORDINATE SYSTEM
C/L	CENTERLINE
CAR COORD	CAR COORDINATE SYSTEM
CCW	COUNTER CLOCKWISE
CORR-IN	SEPARATION IN INCHES (MINUS INITIAL LENGTH)
CORR-MM	SEPARATION IN MM (MINUS INITIAL LENGTH)
CORR-P	CORRECTED (ZEROED) PITCH
CORR-R	CORRECTED (ZEROED) ROLL
CORR-Y	CORRECTED (ZEROED) YAW
CW	CLOCKWISE
EFI	ELECTRONIC FUEL INJECTOR
ENG	ENGINE
ENGY	ENGINE PITCH AND YAW
FESM	FRONT END SHEET METAL
FIDUCIAL	REFERENCE POINT OR TARGET
FS	FRONT SILL TARGET
FWD	FORWARD
IP	INSTRUMENT PANEL TARGET
LBS	POUNDS
LCP,LQP	LEFT C-POST & QUARTER PANEL TARGETS
LFS,LMS,LRS	LEFT FRONT SILL, MID SILL, & REAR SILL TARGETS
LT	LEFT
MS	MID SILL TARGET
NORMALIZE	PUT ON A COMMON BASIS
NOSE-DOWN	LEADING END BELOW TRAILING
NOSE-UP	LEADING END ABOVE TRAILING
PERF	PERFORMANCE
REF	REFERENCE
REL	RELATIVE TO (ONE-DIMENSIONAL)
RCP,RQP	RIGHT C-POST & QUARTER PANEL TARGETS
RFS,RMS,RRS	RIGHT FRONT, MID, & REAR SILL TARGETS
ROLL-LEFT	LEFT SIDE LOWER THAN RIGHT
ROLL-RIGHT	RIGHT SIDE LOWER THAN LEFT
RS	REAR SILL TARGET
RT	RIGHT
SEP	SEPARATION OF (THREE-DIMENSIONAL)
SYS	SYSTEM
TBI	THROTTLE BODY INJECTOR
TIME.MS	TIME IN MILLISECONDS
U/B	UNDERBODY
VS	VERSUS
X	LONGITUDINAL AXIS (INCREASING TOWARD TRAILING EDGE)
XF	X-FILTERED
Y	LATERAL AXIS (INCREASING TO THE RIGHT)
YAW-LEFT	LEADING EDGE TO LEFT
YAW-RIGHT	LEADING EDGE TO RIGHT
Z	VERTICAL AXIS (INCREASING UPWARD)
ZEROED	SHIFTED TO START AT ZERO
ZERO-IN	ZEROED INCHES
ZERO-MM	ZEROED MILLIMETERS

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

ZERØED X MOTION OF F3 REL TO LFS IN BASE COØRD SYS  
VERSUS TIME IN MILLISECONDS

REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

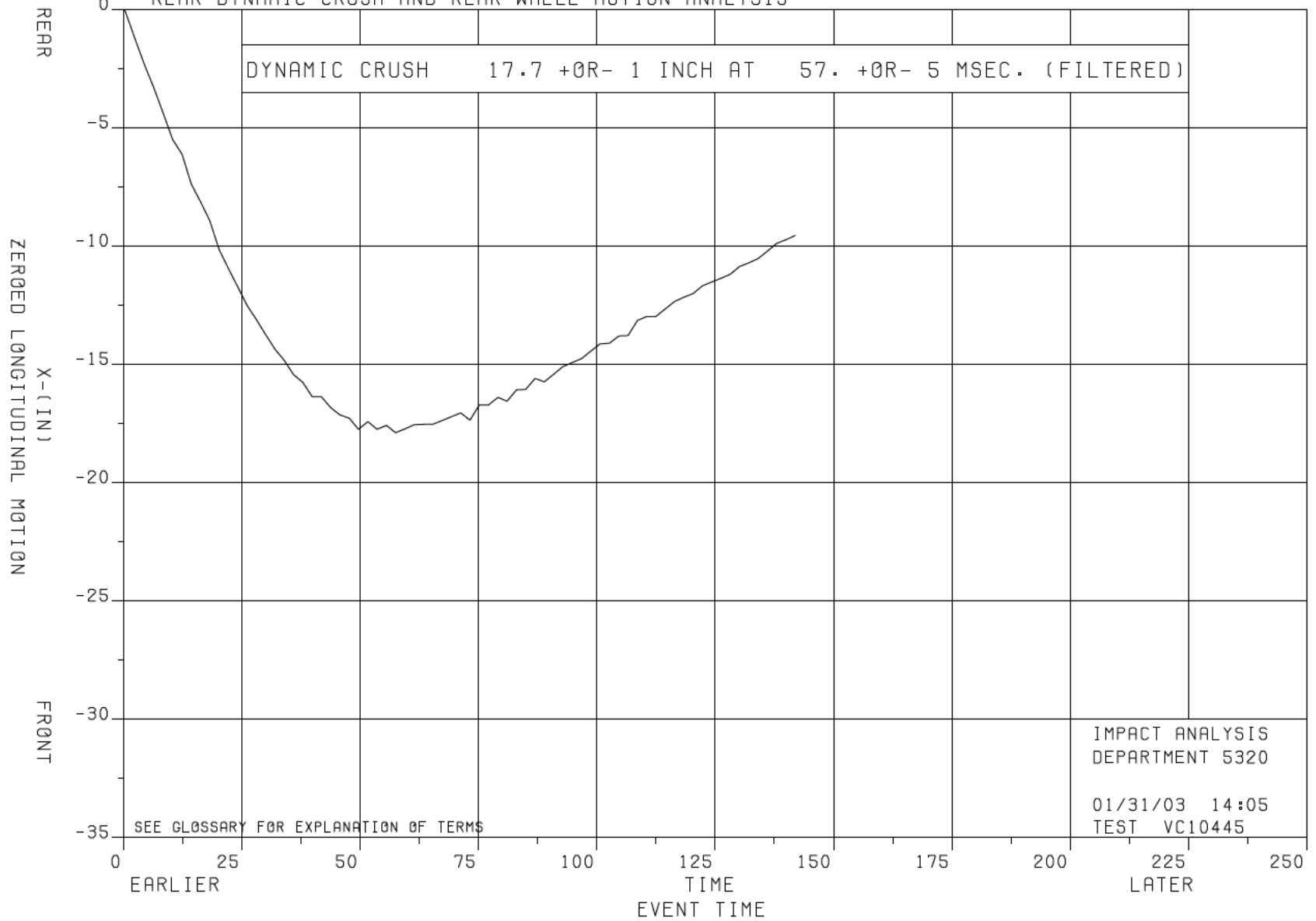


FIGURE 1

EA12-005-Chrysler-003383

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

ZERØD Z OF LRW RELATIVE TO LFS IN CAR COØRD  
VERSUS ZERØD X OF LRW RELATIVE TO LFS IN CAR COØRD  
REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

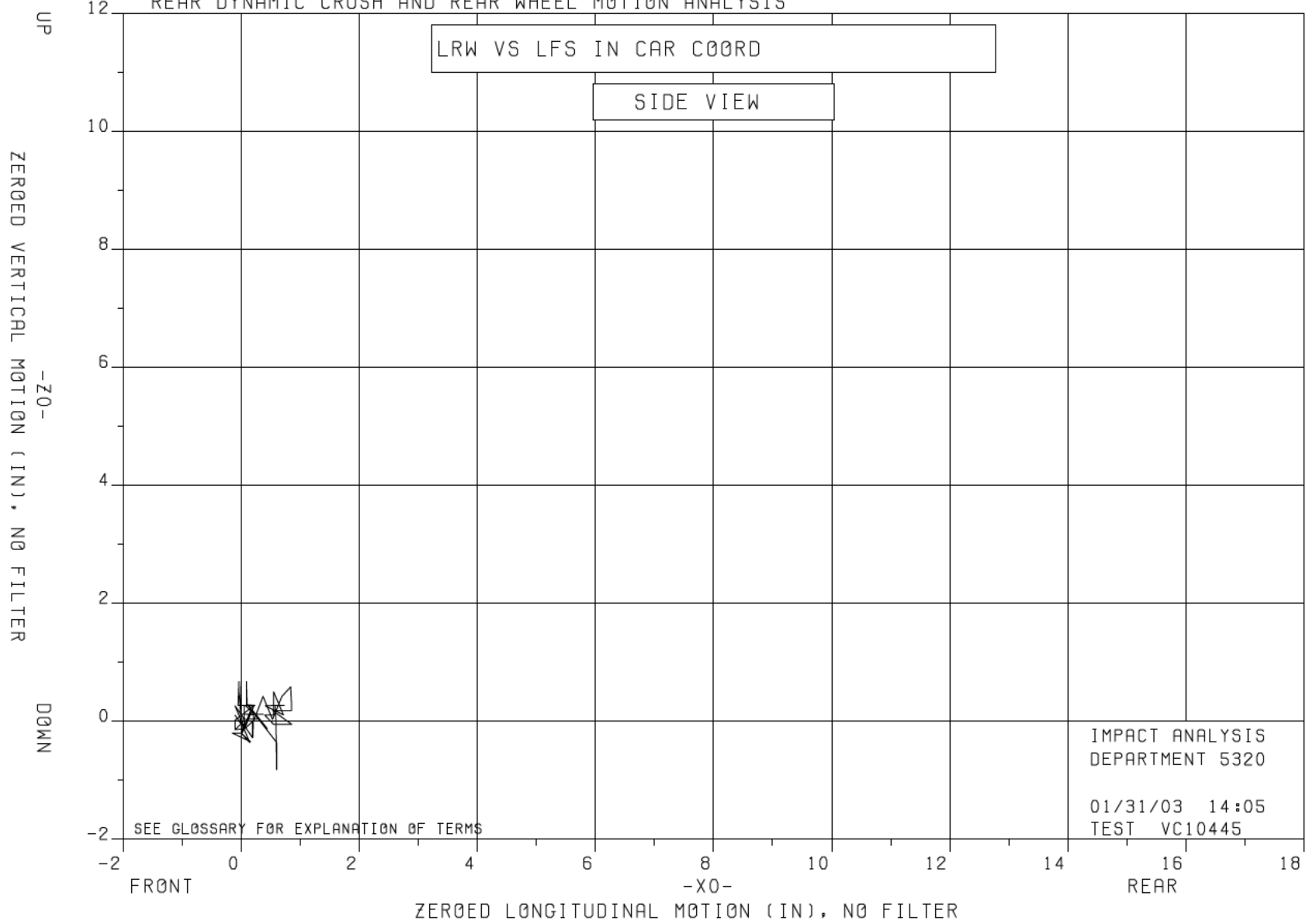


FIGURE 2

EA12-005-Chrysler-003384



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED PITCH OF LMS TO LFS IN BASE COORD SYSTEM  
VERSUS TIME IN MILLISECOND

REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

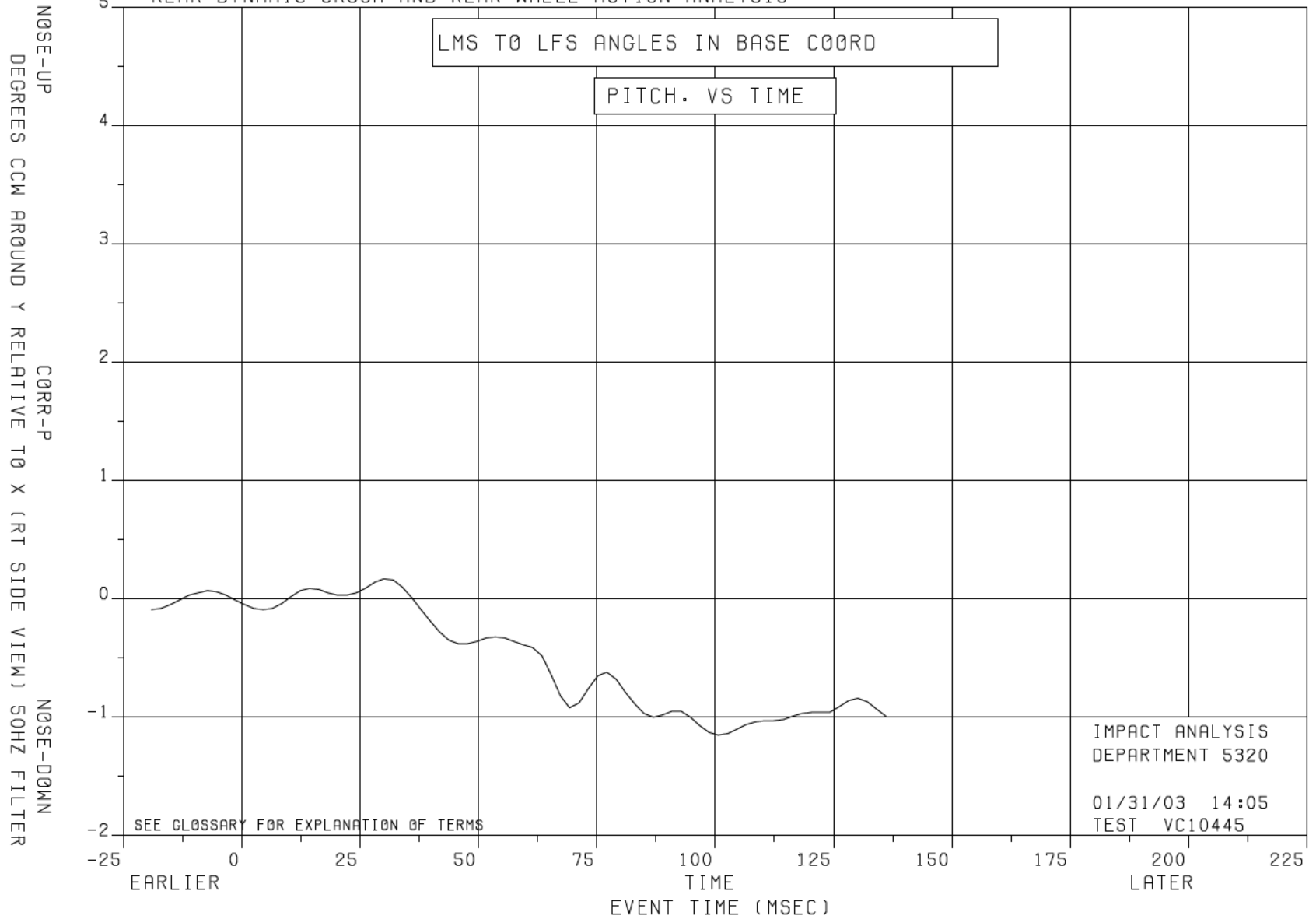


FIGURE 3

EA12-005-Chrysler-003385

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

LMS TO LFS DISTANCE -29.97 INCHES (INITIAL DIST) (IN)  
VERSUS TIME IN MILLISECOND

REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

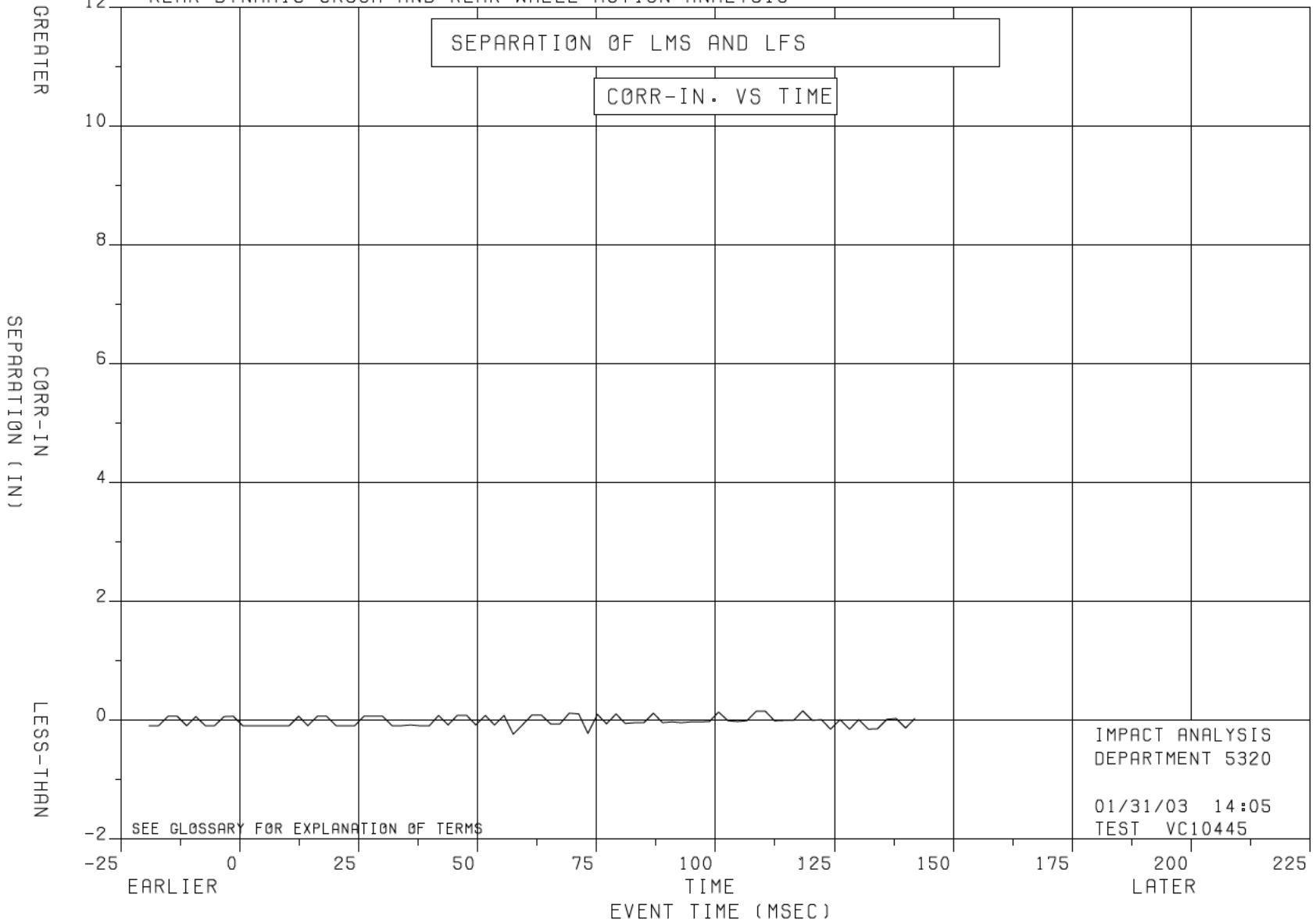


FIGURE 4

INTER COMPANY CORRESPONDENCE

DATE 01/31/03

TO  
DISTRIBUTION

FROM  
E. J. BACHMANN

DEPARTMENT  
5320

PLANT/OFFICE  
CTC

CIMS NUMBER  
481-00-27

SUBJECT:  
REAR DYNAMIC CRUSH ANALYSIS  
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
TEST DATE 01/30/03

TEST SITE CPG

TEST PURPOSE PRIMARY, 2003 USA 301-REAR DEVELOPMENT

IMPACT TYPE TARGET SPEED; 48.3 KPH  
DAMAGE LOCATION; REAR (FULL)  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; KJ  
CAR LINE; J  
BODY; 74  
ENGINE; 2.4 LITER  
ENGINE NOTE; I4  
TRANSMISSION; 5 SPEED MANUAL  
TRANS. NOTE;  
VIN AS TESTED; 1J4GL48132W [REDACTED] MOD.  
VIN AS BUILT; 1J4GL48132W [REDACTED] MOD.

TEST SPEED 48.79 KPH BY TRAP AVERAGE

TEST WEIGHT (KG) 2015 TOTAL, 1105 FRONT, 910 REAR

OCCUPANTS 1L - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-59  
RESTRAINT- 3-PT UNIBELT ONLY  
1R - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-50  
RESTRAINT- 3-PT UNIBELT ONLY

BUILD CONDITION

MODIFICATIONS: NONE

TARGET WEIGHT (KG) 2011 TOTAL, 1045 FRONT, 966 REAR  
INCLUDING BALLAST AND OCCUPANTS

FUEL AND BALLAST 64.4 LITERS STODDARD SOLVENT  
300 KG BALLAST WEIGHT SECURED IN CARGO AREA  
90.7 KG ADDITIONAL BALLAST WEIGHT ADDED  
200# OF BALLAST ON FRONT FLOORPANS

DATA FOR THIS ANALYSIS WAS DIGITIZED BY S. D. AMUNDSEN.

REAR DYNAMIC CRUSH, PITCH, AND REAR WHEEL MOTION RELATIVE TO  
THE FRONT SILL HAVE BEEN DETERMINED BY FILM ANALYSIS. TIME  
WAS BASED ON CAMERA TIMING DATA. LATERAL VALUES WERE HELD  
CONSTANT THROUGHOUT THE ANALYSIS.

DYNAMIC CRUSH 17.7 +0R- 1 INCH AT 57. +0R- 5 MSEC.

-----  
Q. C. ANALYST

-----  
E. J. BACHMANN

GRAPHS - 4

EA12-005

CHRYSLER

12-13-2012

Enclosure 6B

301 Developmental Crash

Tests Public

KJ Development Crash Test

VC10445.FAR.UBR.FA\_REPO

RT.UBR\_UNDERBODY\_REA

R Public

G L O S S A R Y   O F   T E R M S

U S E D   I N   S T A N D A R D   R E P O R T S

AD	ANTHROPOMORPHIC DEVICE
ATD	ANTHROPOMORPHIC TEST DEVICE
BASE COORD	BASE COORDINATE SYSTEM
C/L	CENTERLINE
CAR COORD	CAR COORDINATE SYSTEM
CCW	COUNTER CLOCKWISE
CORR-IN	SEPARATION IN INCHES (MINUS INITIAL LENGTH)
CORR-MM	SEPARATION IN MM (MINUS INITIAL LENGTH)
CORR-P	CORRECTED (ZEROED) PITCH
CORR-R	CORRECTED (ZEROED) ROLL
CORR-Y	CORRECTED (ZEROED) YAW
CW	CLOCKWISE
EFI	ELECTRONIC FUEL INJECTOR
ENG	ENGINE
ENGPY	ENGINE PITCH AND YAW
FESM	FRONT END SHEET METAL
FIDUCIAL	REFERENCE POINT OR TARGET
FS	FRONT SILL TARGET
FWD	FORWARD
IP	INSTRUMENT PANEL TARGET
LBS	POUNDS
LCP,LQP	LEFT C-POST & QUARTER PANEL TARGETS
LFS,LMS,LRS	LEFT FRONT SILL, MID SILL, & REAR SILL TARGETS
LT	LEFT
MS	MID SILL TARGET
NORMALIZE	PUT ON A COMMON BASIS
NOSE-DOWN	LEADING END BELOW TRAILING
NOSE-UP	LEADING END ABOVE TRAILING
PERF	PERFORMANCE
REF	REFERENCE
REL	RELATIVE TO (ONE-DIMENSIONAL)
RCP,RQP	RIGHT C-POST & QUARTER PANEL TARGETS
RFS,RMS,RRS	RIGHT FRONT, MID, & REAR SILL TARGETS
ROLL-LEFT	LEFT SIDE LOWER THAN RIGHT
ROLL-RIGHT	RIGHT SIDE LOWER THAN LEFT
RS	REAR SILL TARGET
RT	RIGHT
SEP	SEPARATION OF (THREE-DIMENSIONAL)
SYS	SYSTEM
TBI	THROTTLE BODY INJECTOR
TIME.MS	TIME IN MILLISECONDS
U/B	UNDERBODY
VS	VERSUS
X	LONGITUDINAL AXIS (INCREASING TOWARD TRAILING EDGE)
XF	X-FILTERED
Y	LATERAL AXIS (INCREASING TO THE RIGHT)
YAW-LEFT	LEADING EDGE TO LEFT
YAW-RIGHT	LEADING EDGE TO RIGHT
Z	VERTICAL AXIS (INCREASING UPWARD)
ZEROED	SHIFTED TO START AT ZERO
ZERO-IN	ZEROED INCHES
ZERO-MM	ZEROED MILLIMETERS

IMPACT ANALYSIS  
DEPARTMENT 5320  
02/05/03 14:49  
EAT 2005-chnySet-004365

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF MB1 RELATIVE TO U1 IN BASE COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

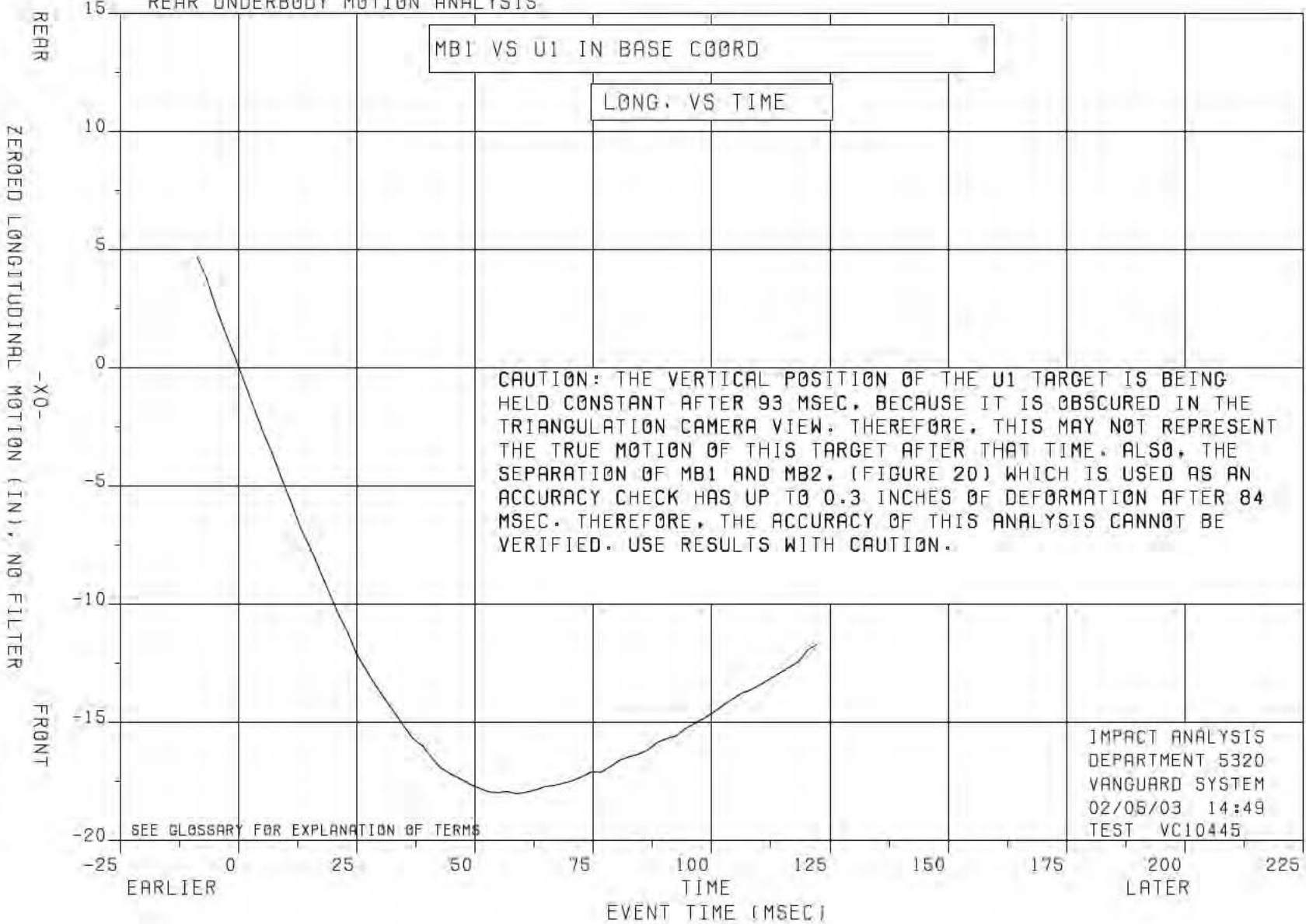


FIGURE 1

EA12-005-Chrysler-003357

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZERØED X OF MB1 RELATIVE TO U13 IN CAR COØRD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

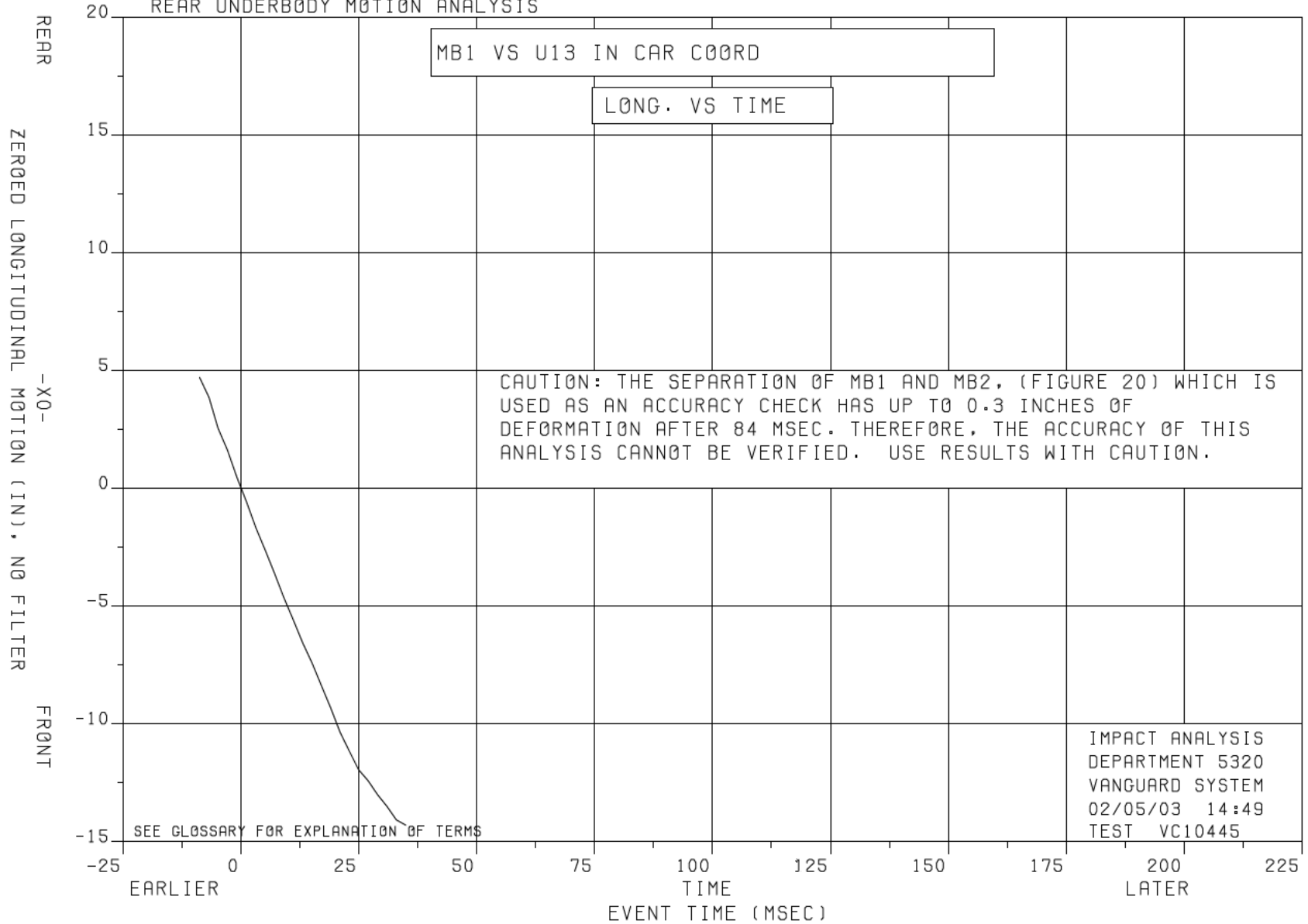


FIGURE 2

EA12-005-Chrysler-003358



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U13 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

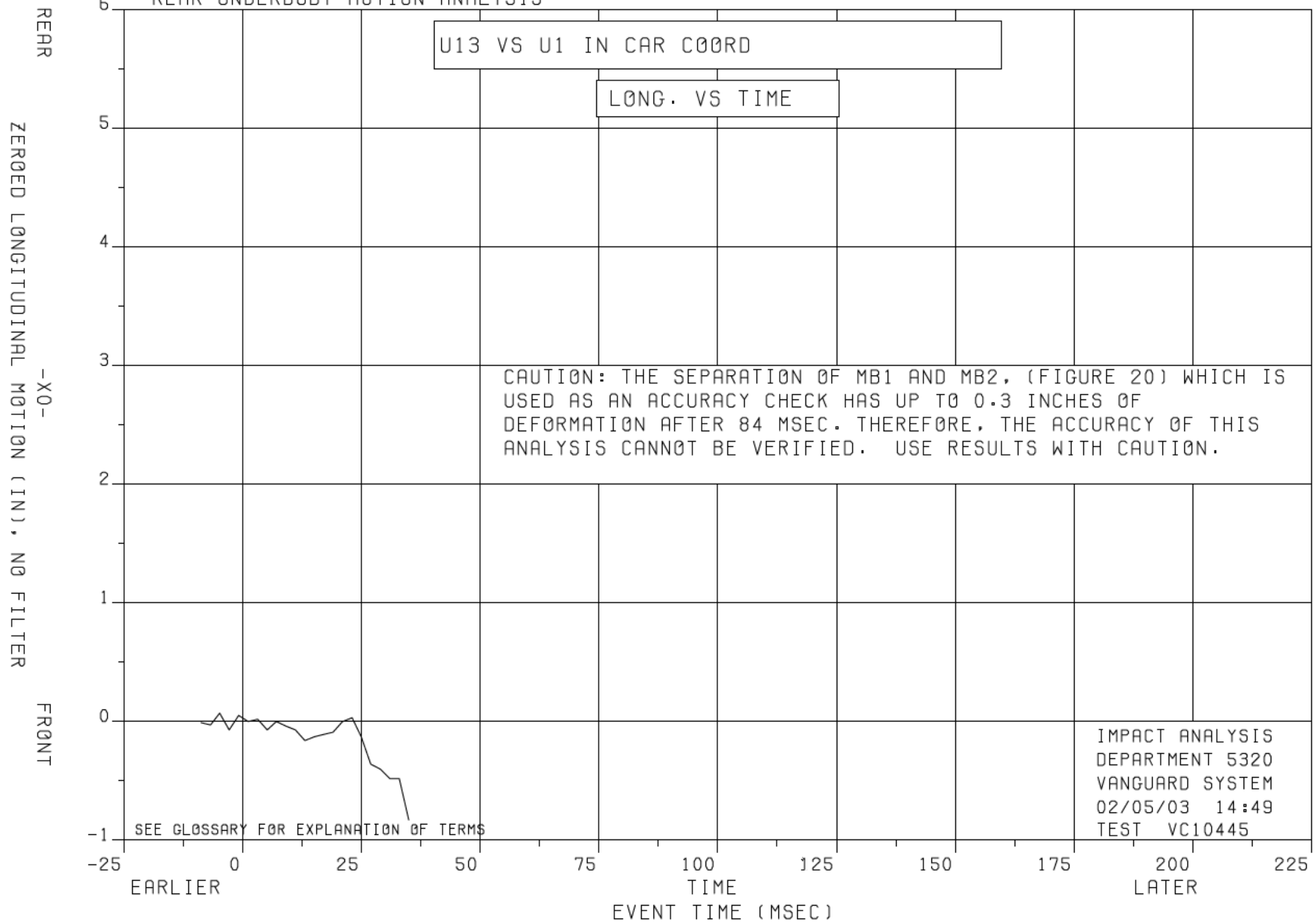


FIGURE 3

EA12-005-Chrysler-003359

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF MB2 RELATIVE TO U2 IN BASE COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

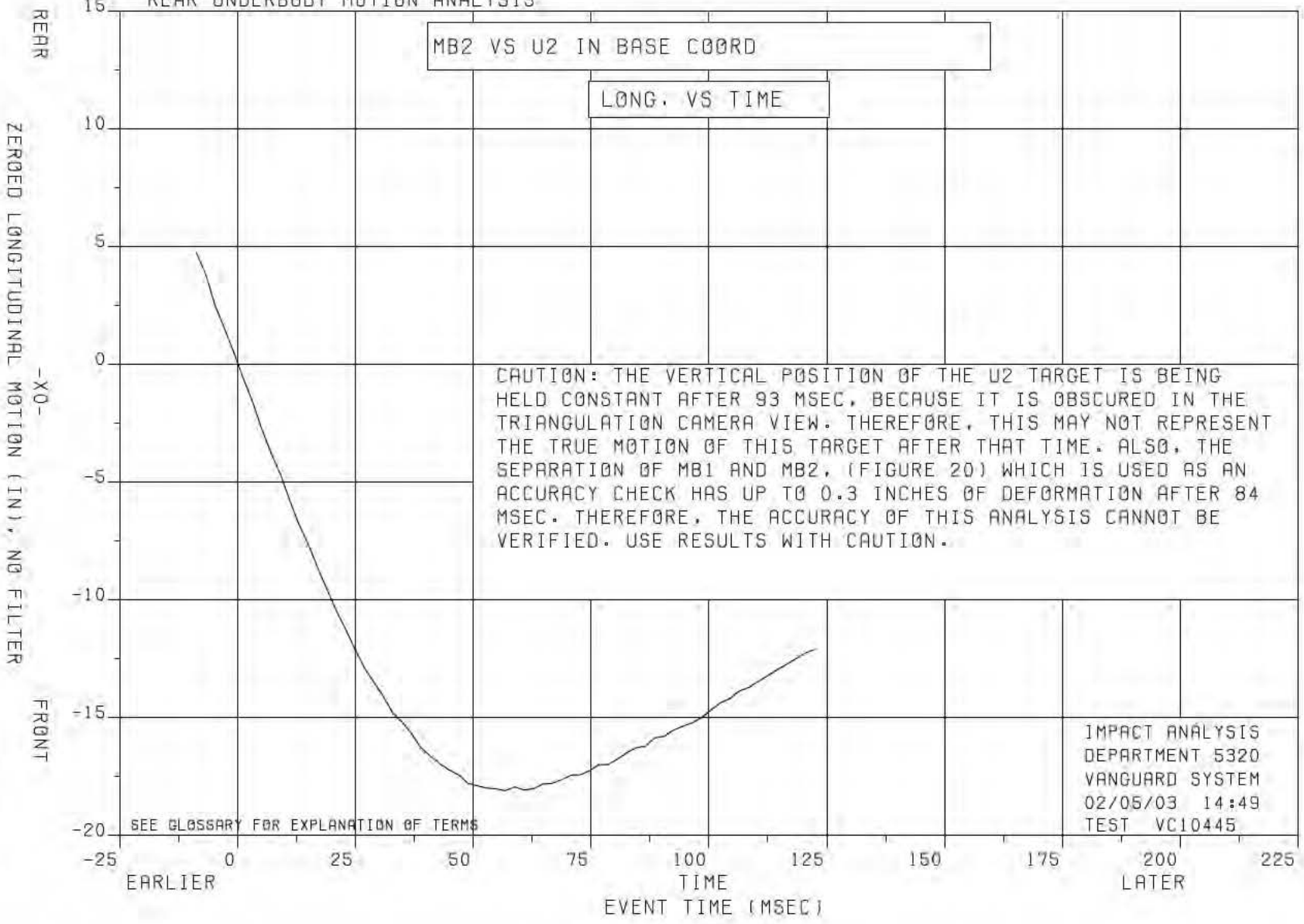


FIGURE 4

EA12-005-Chrysler-003360

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF MB2 RELATIVE TO U12 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

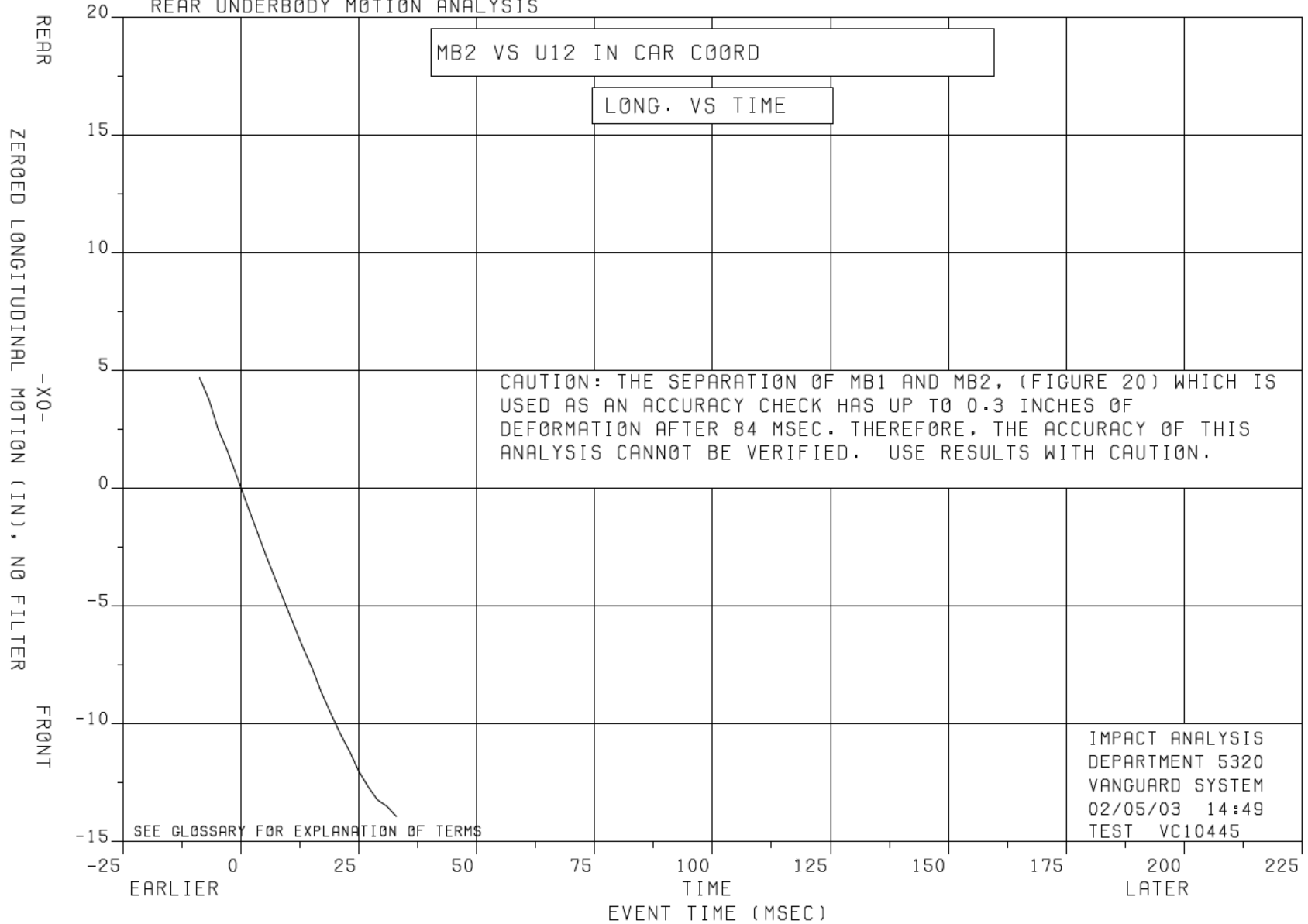


FIGURE 5

EA12-005-Chrysler-003361

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U12 RELATIVE TO U2 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

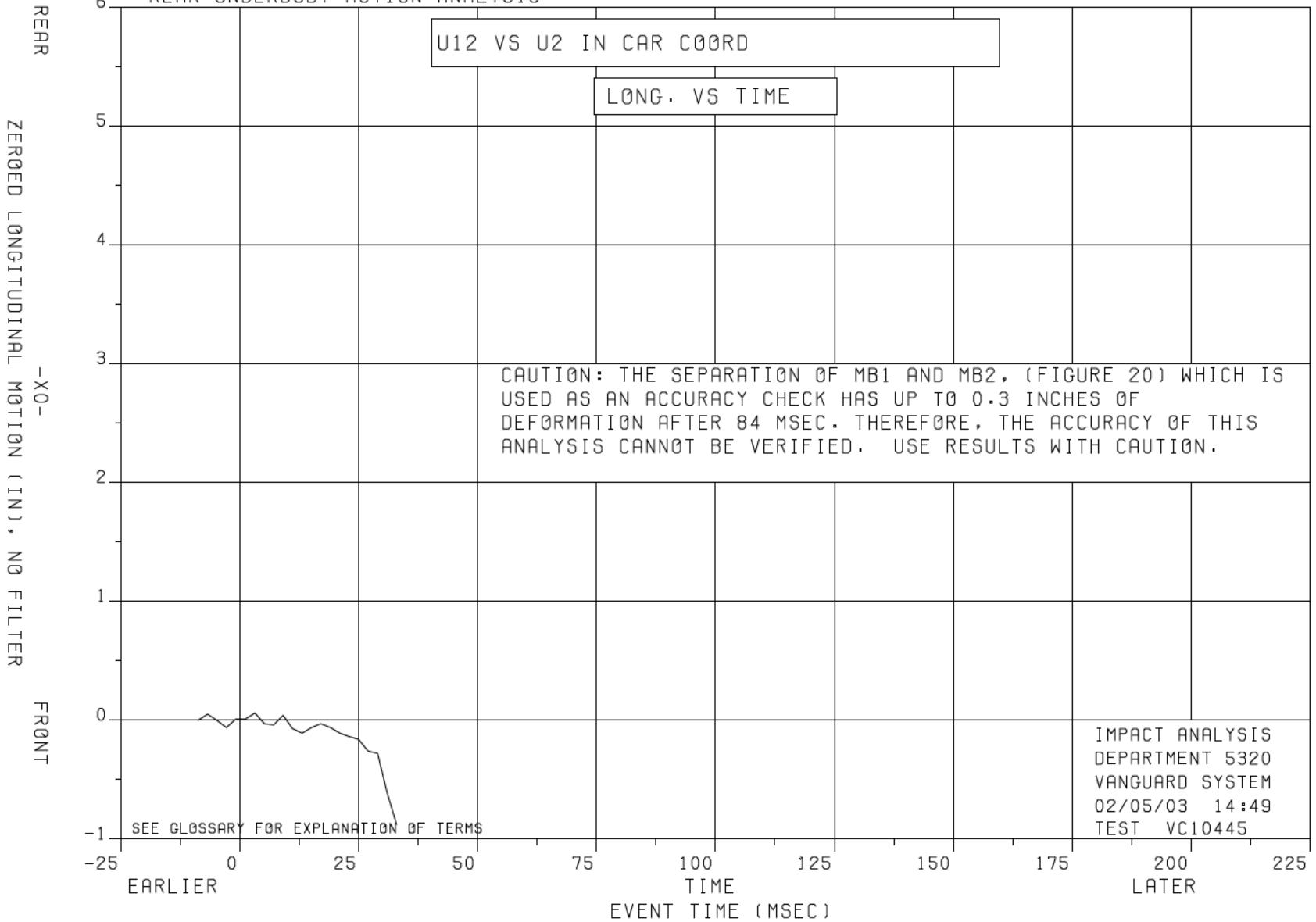


FIGURE 6

EA12-005-Chrysler-003362

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U5 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

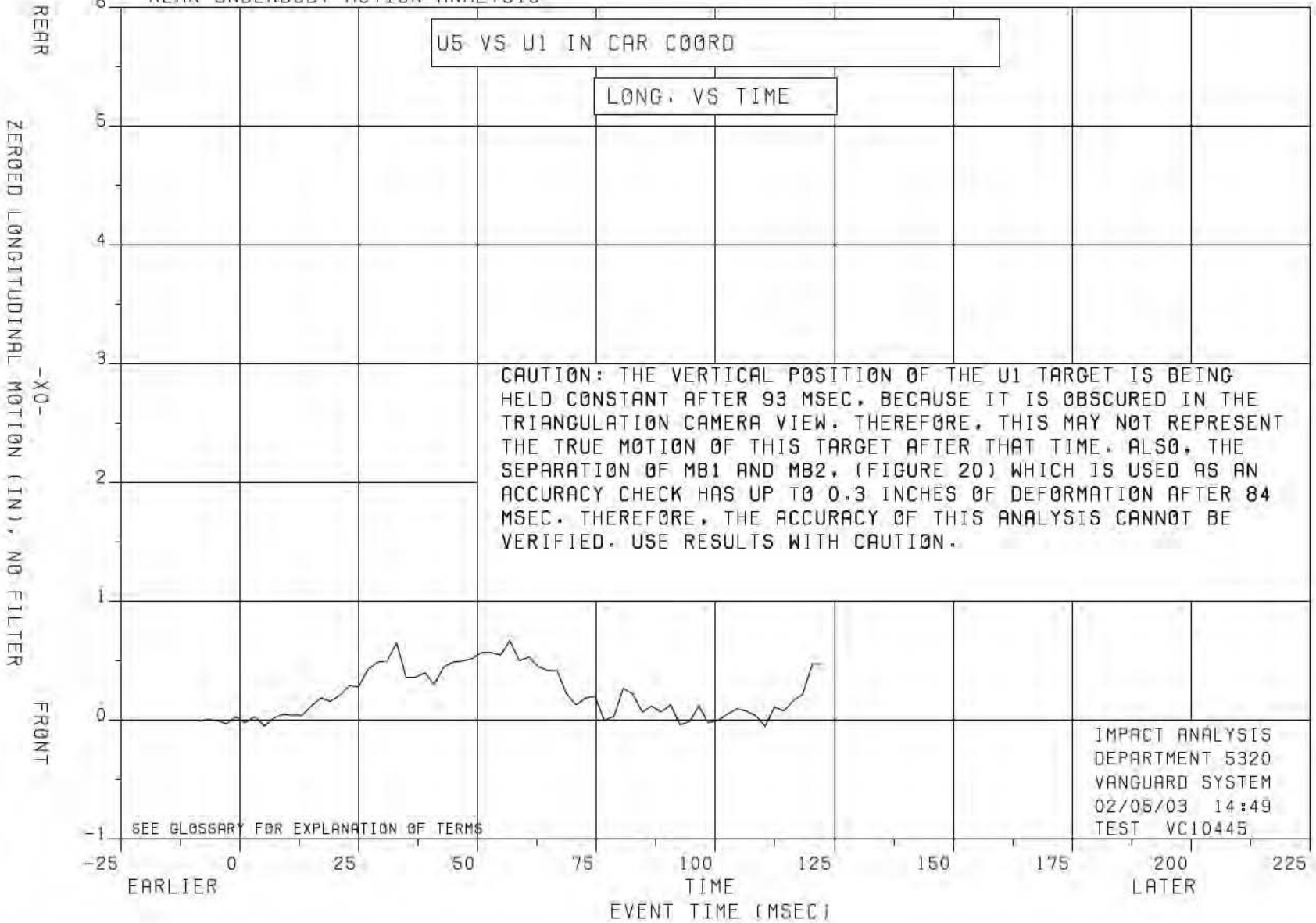


FIGURE 7

EA12-005-Chrysler-003363

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U5 RELATIVE TO U2 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

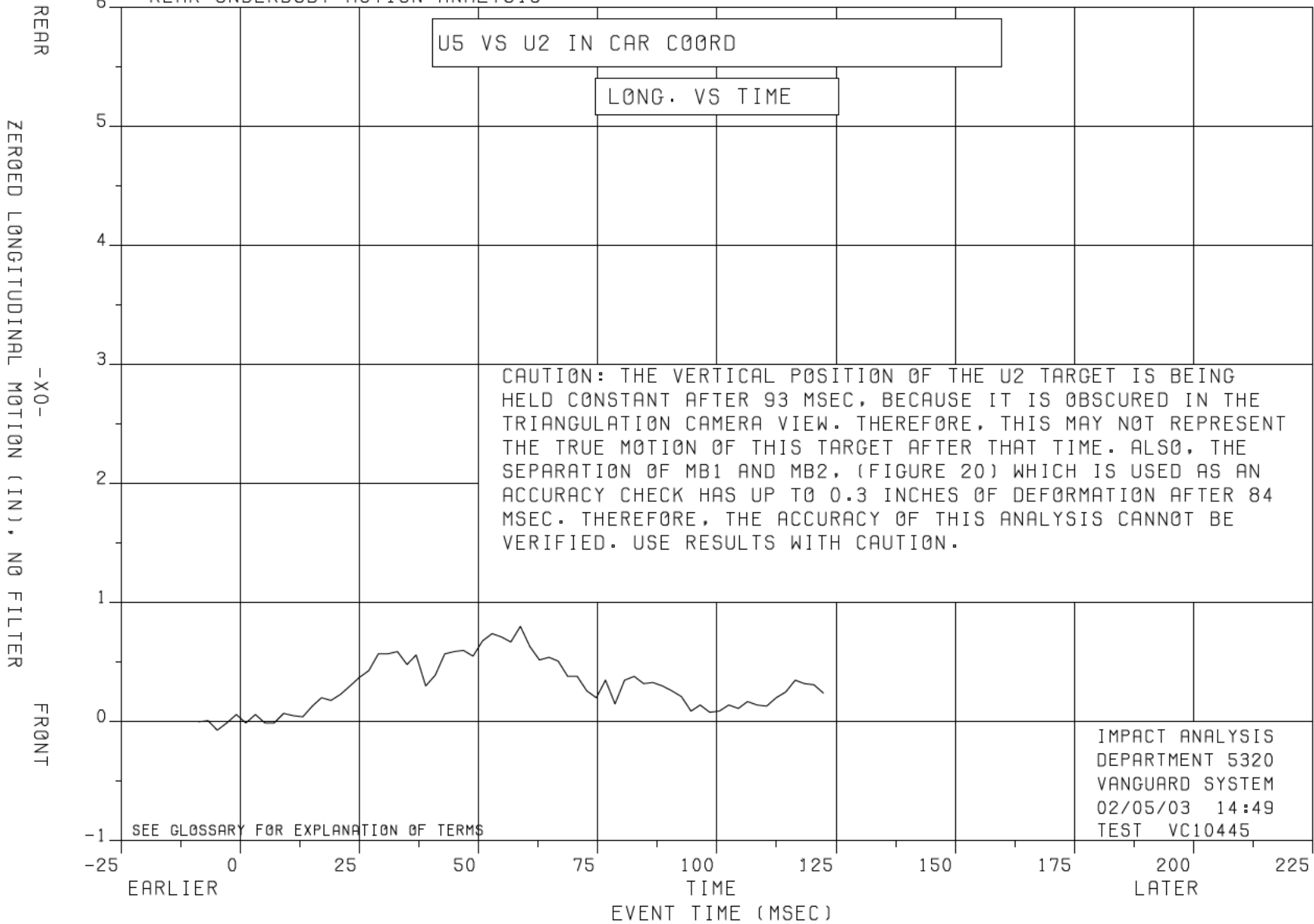


FIGURE 8

EA12-005-Chrysler-003364

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 02/05/03 14:49  
 TEST VC10445

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U9 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

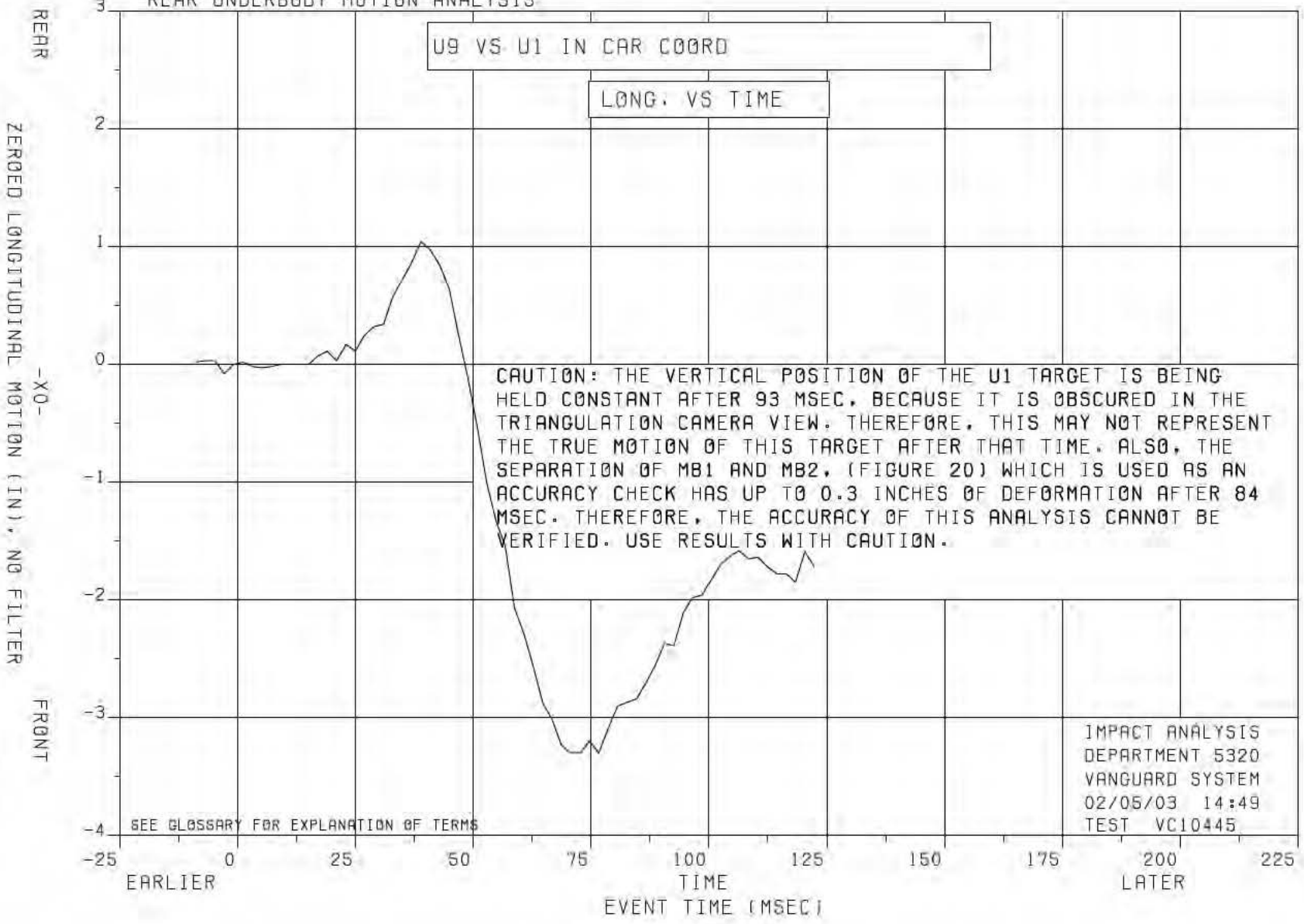


FIGURE 9

EA12-005-Chrysler-003365

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U10 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

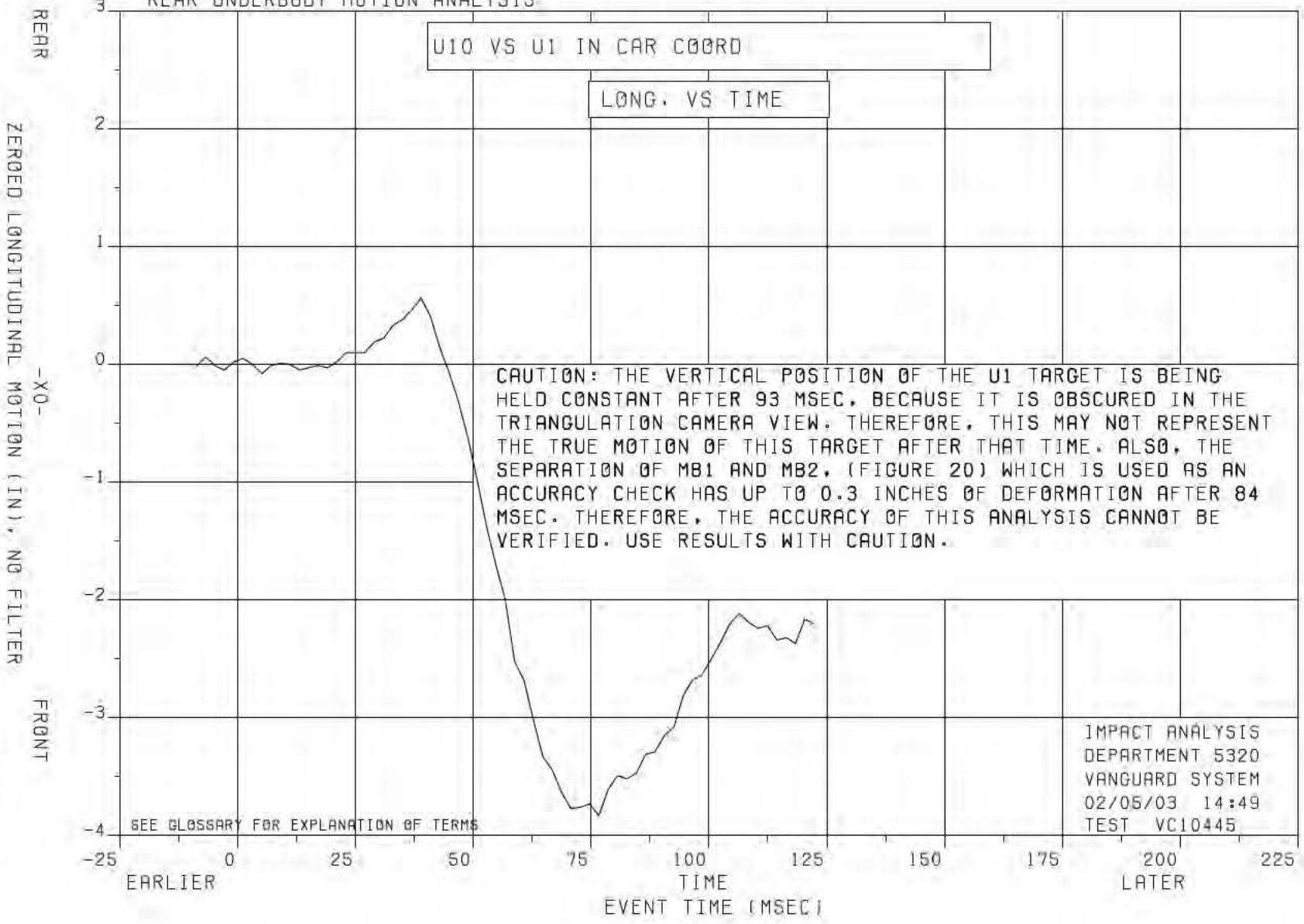


FIGURE 10

EA12-005-Chrysler-003366



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED PITCH OF U10 TO U8 IN CAR COORD SYSTEM  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

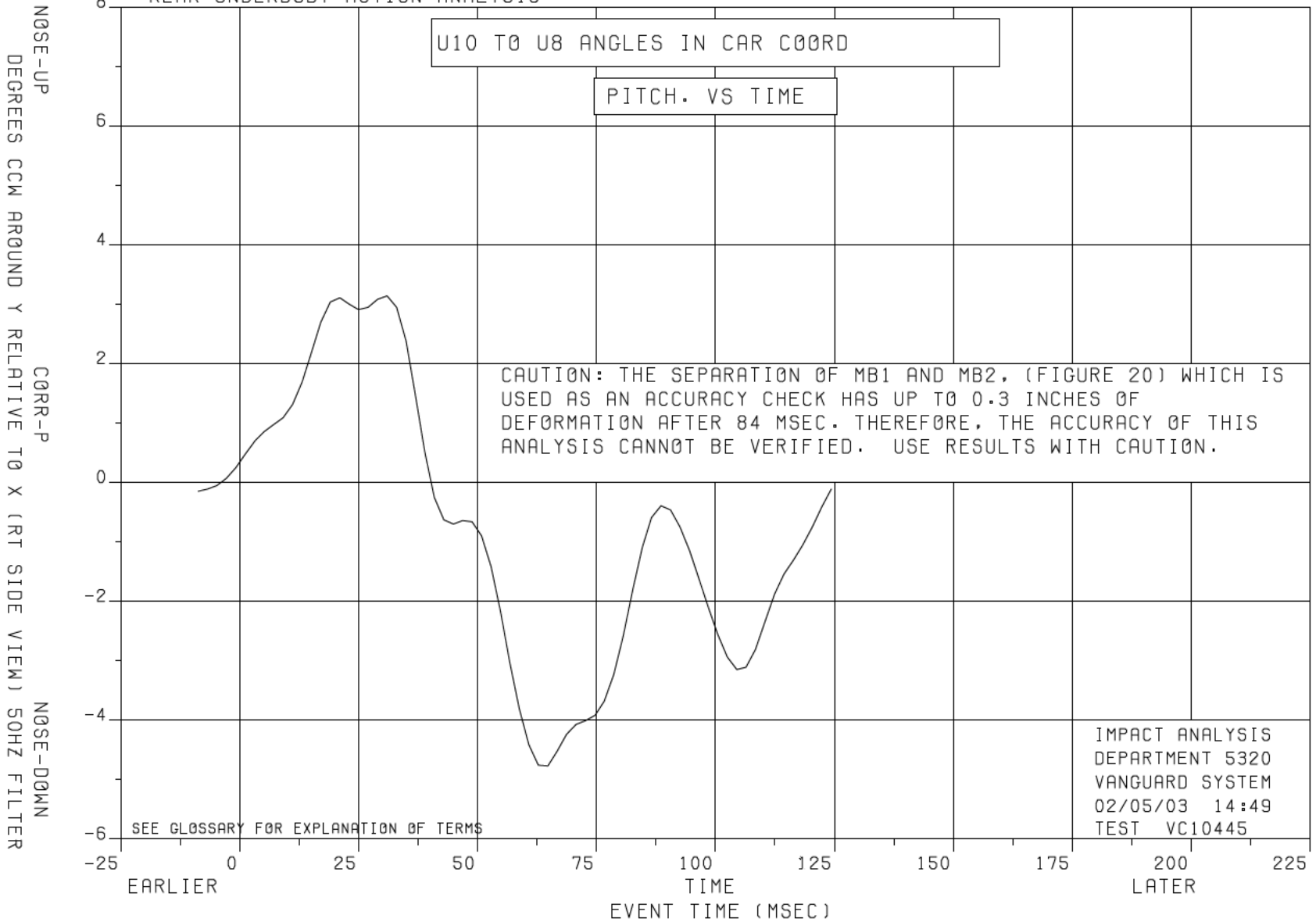


FIGURE 11

EA12-005-Chrysler-003367

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED SEPARATION OF U10 AND U8 (IN)  
VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

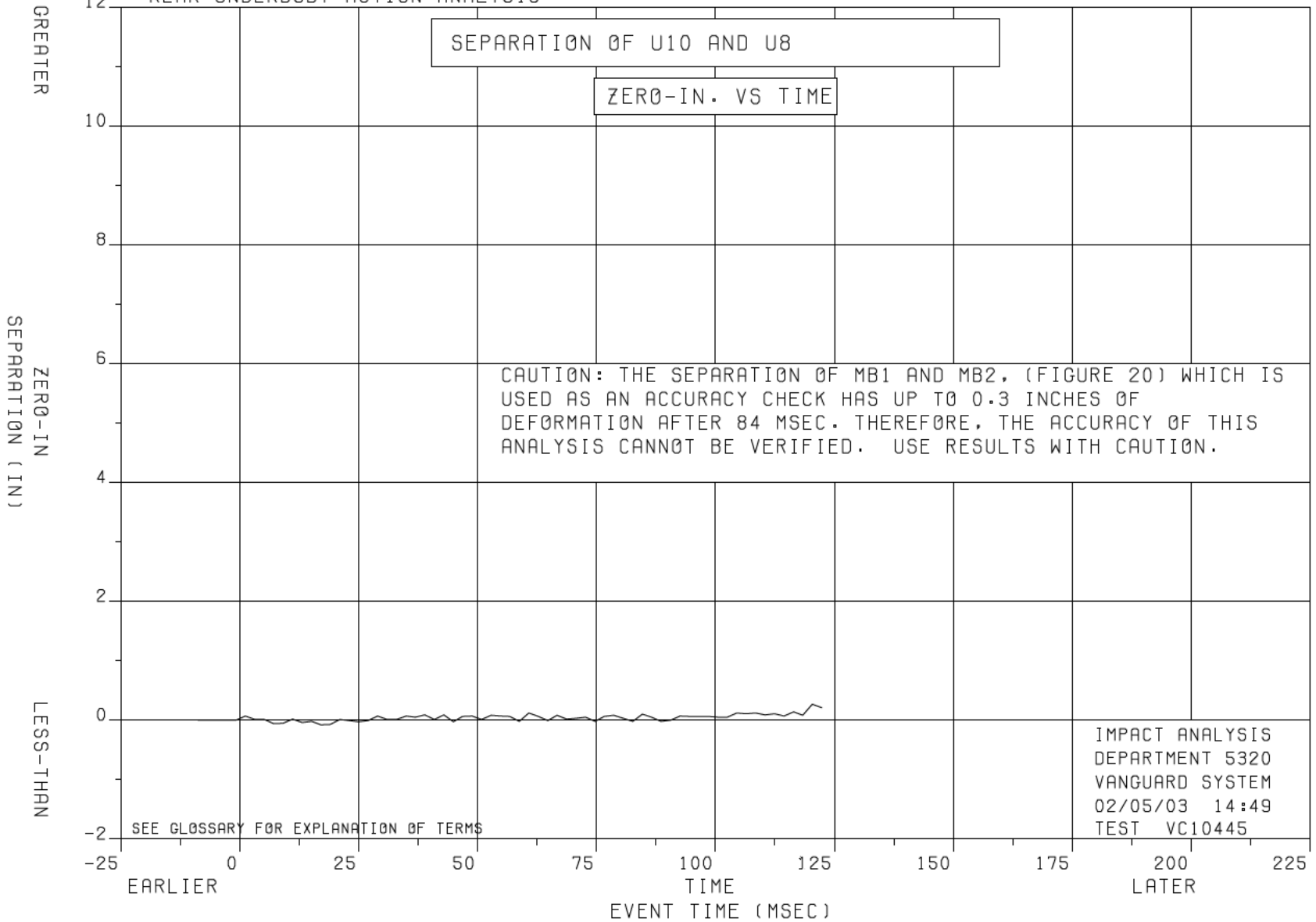


FIGURE 12

EA12-005-Chrysler-003368

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED PITCH OF U11 TO U9 IN CAR COORD SYSTEM  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

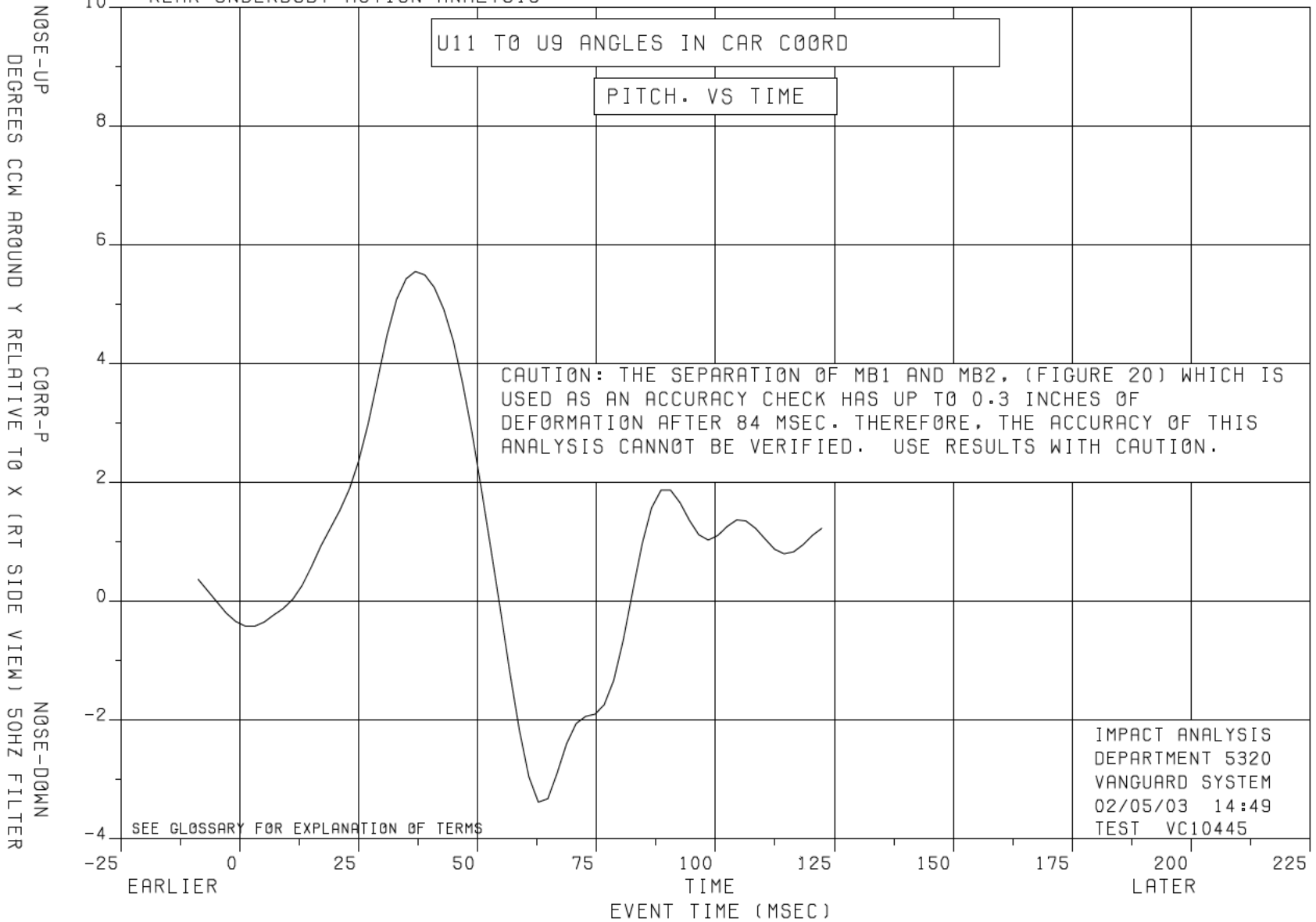


FIGURE 13

EA12-005-Chrysler-003369

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2V [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED SEPARATION OF U11 AND U9 (IN)  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

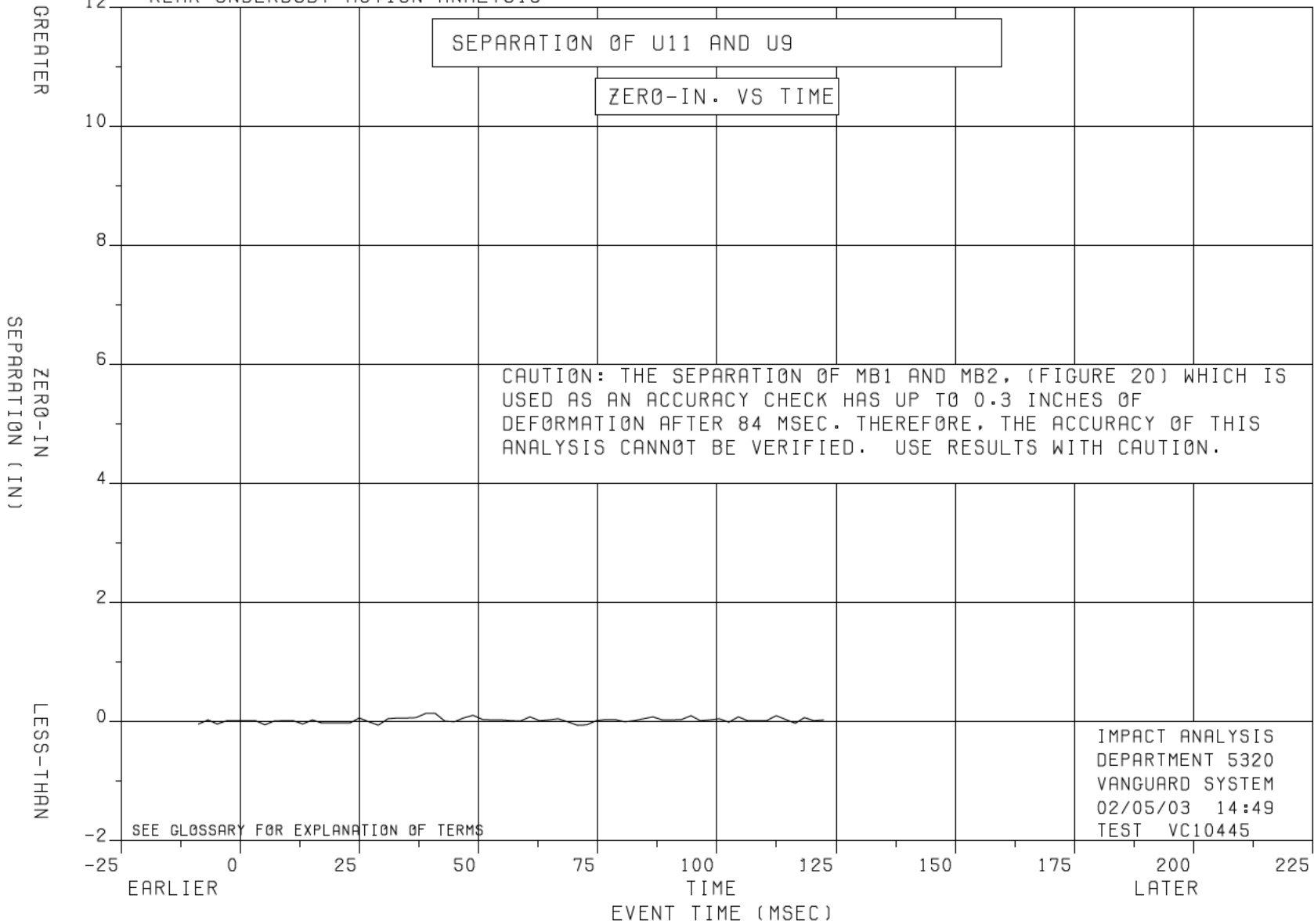


FIGURE 14

EA12-005-Chrysler-003370

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U3 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

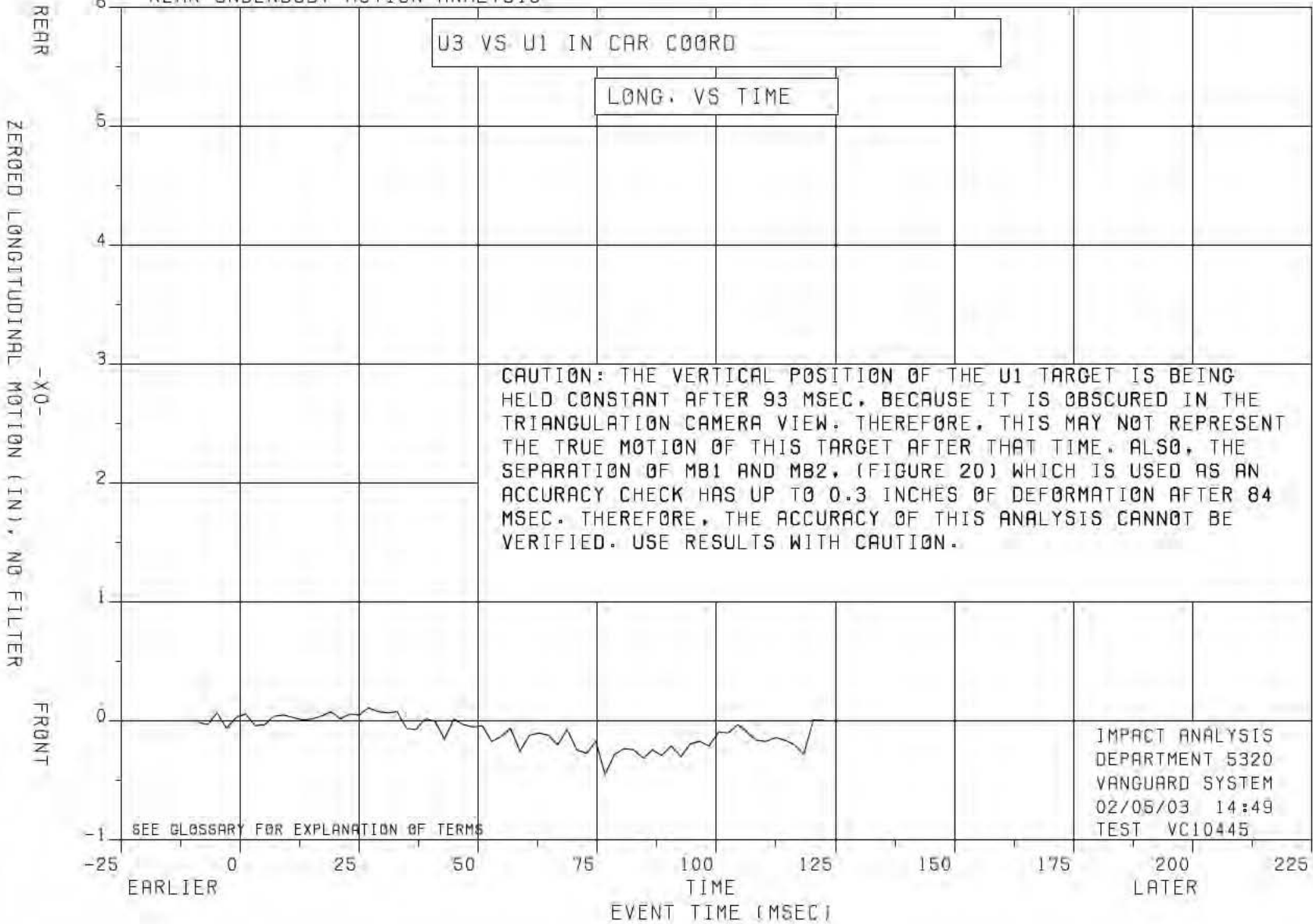


FIGURE 15

EA12-005-Chrysler-003371

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF U4 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

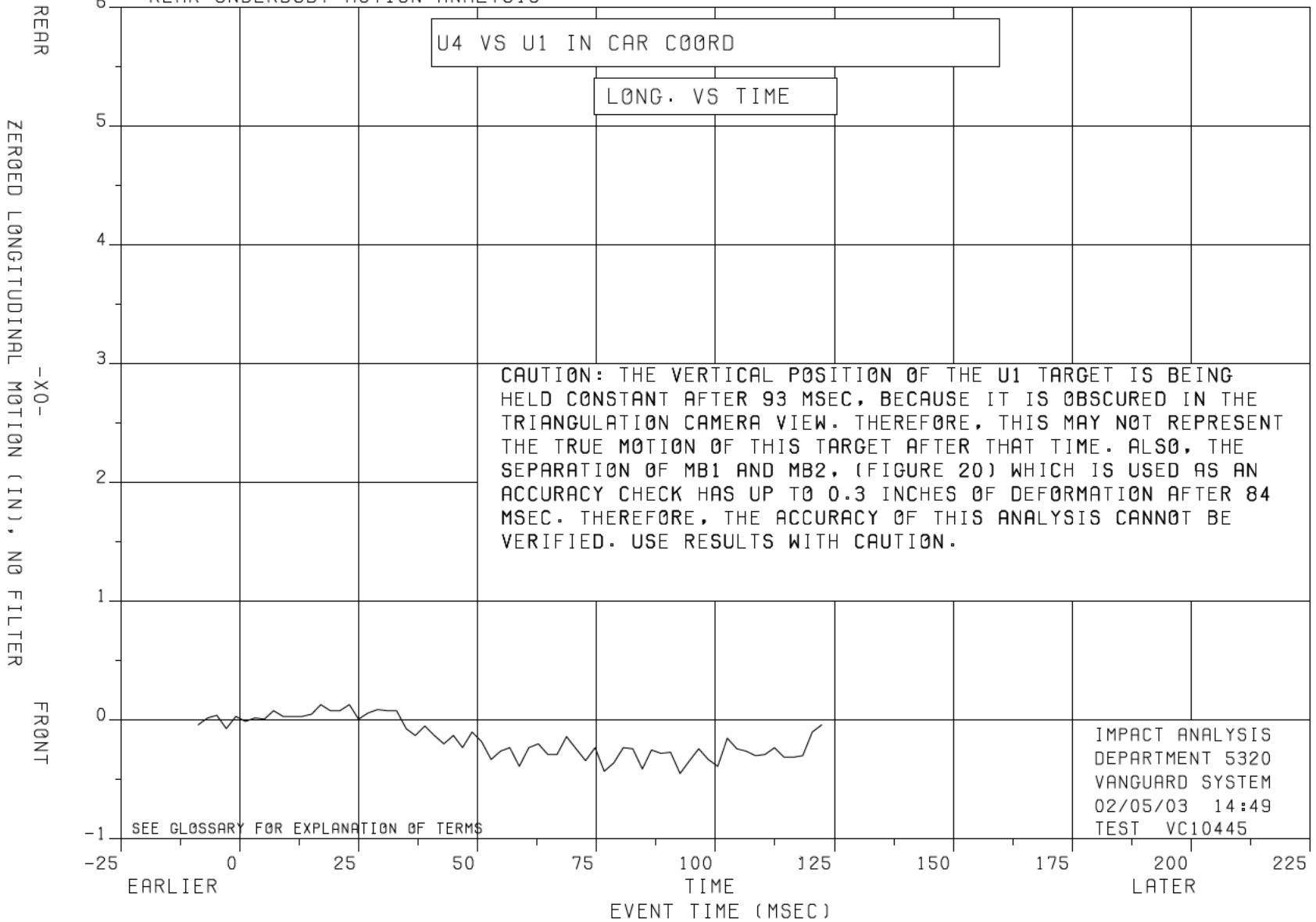


FIGURE 16

EA12-005-Chrysler-003372

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF UC1 RELATIVE TO U1 IN BASE COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

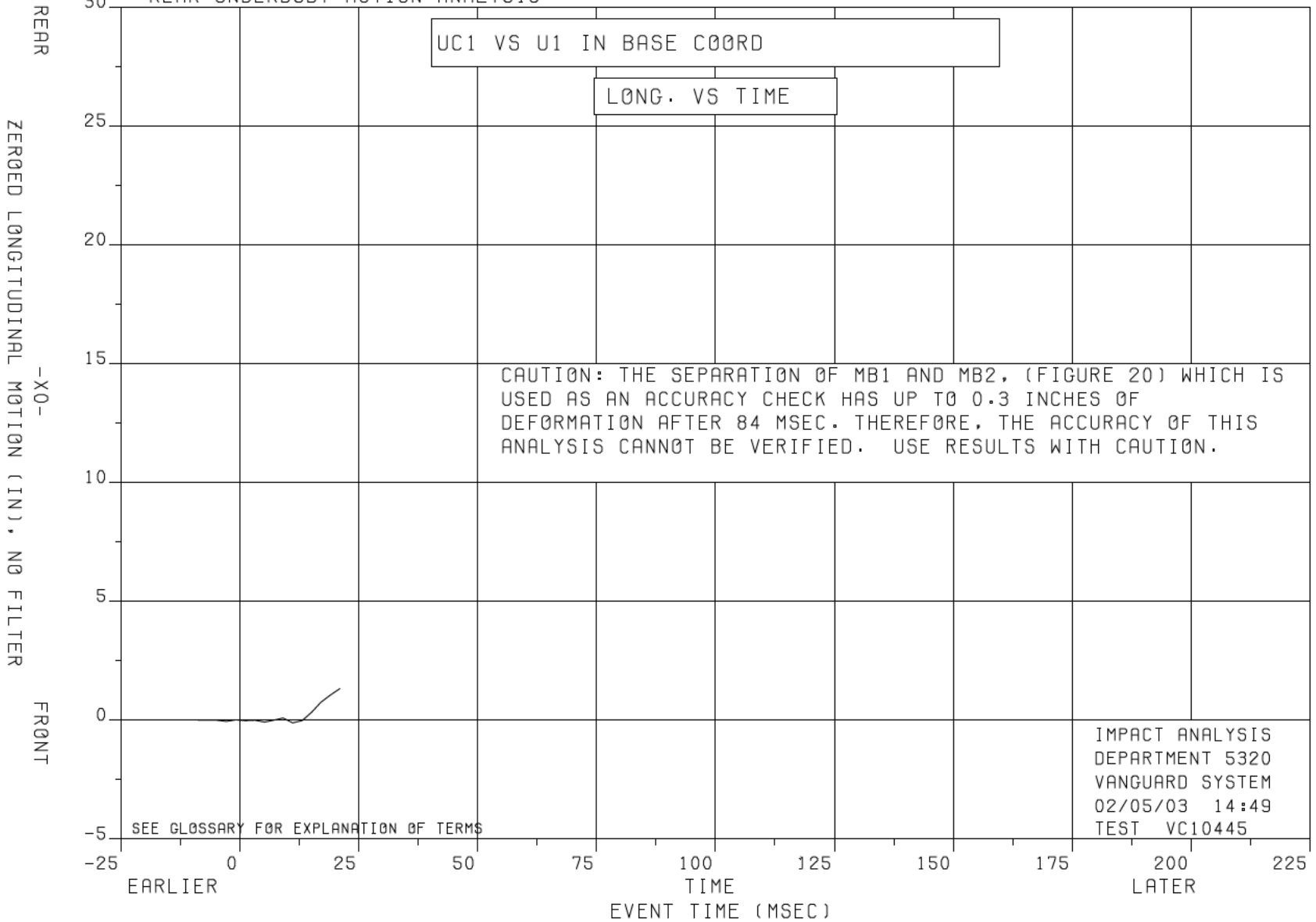


FIGURE 17

EA12-005-Chrysler-003373

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED X OF UC1 RELATIVE TO U2 IN BASE COORD  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

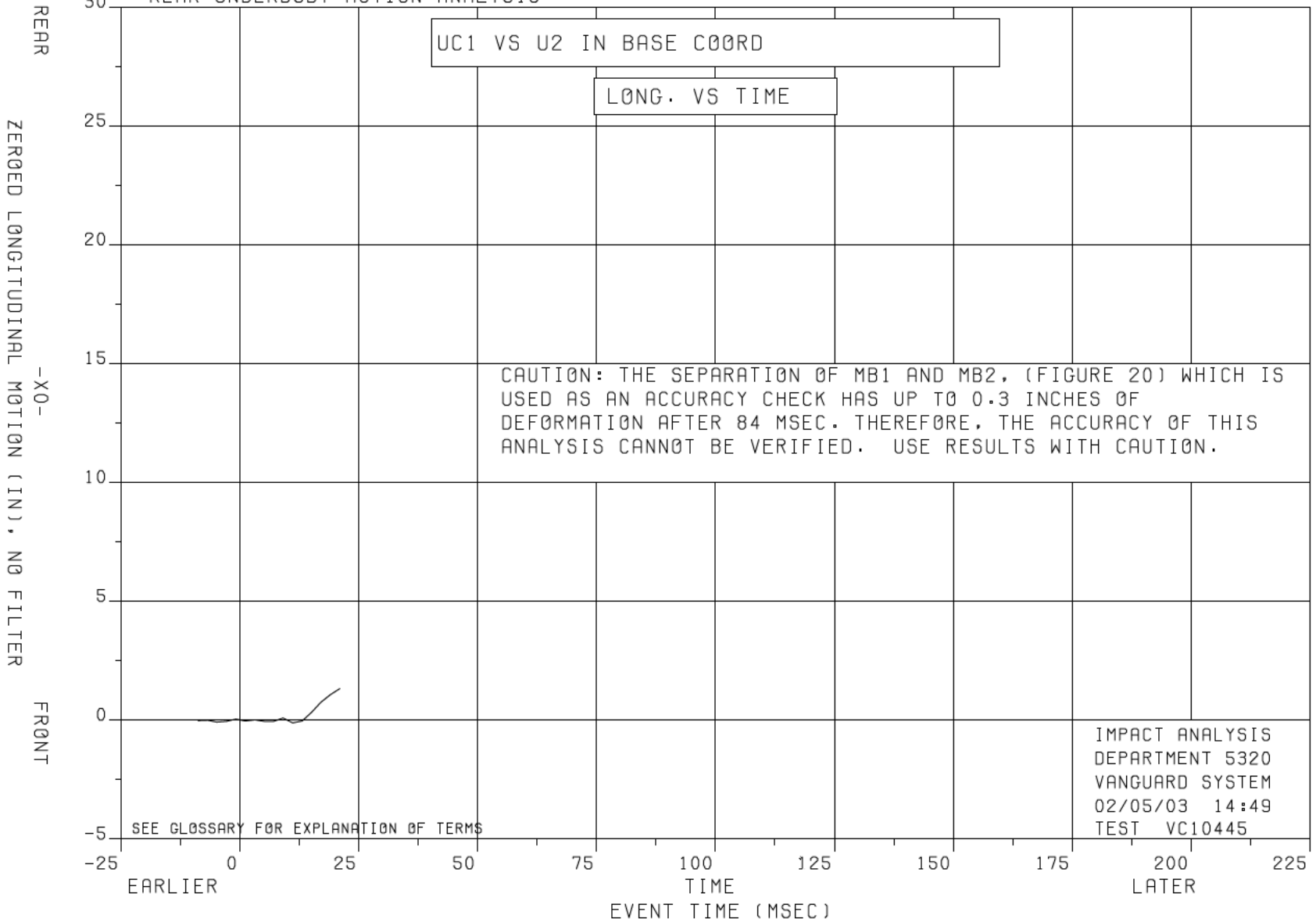


FIGURE 18

EA12-005-Chrysler-003374



VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED YAW OF U1 TO U2 IN BASE COORD SYSTEM  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

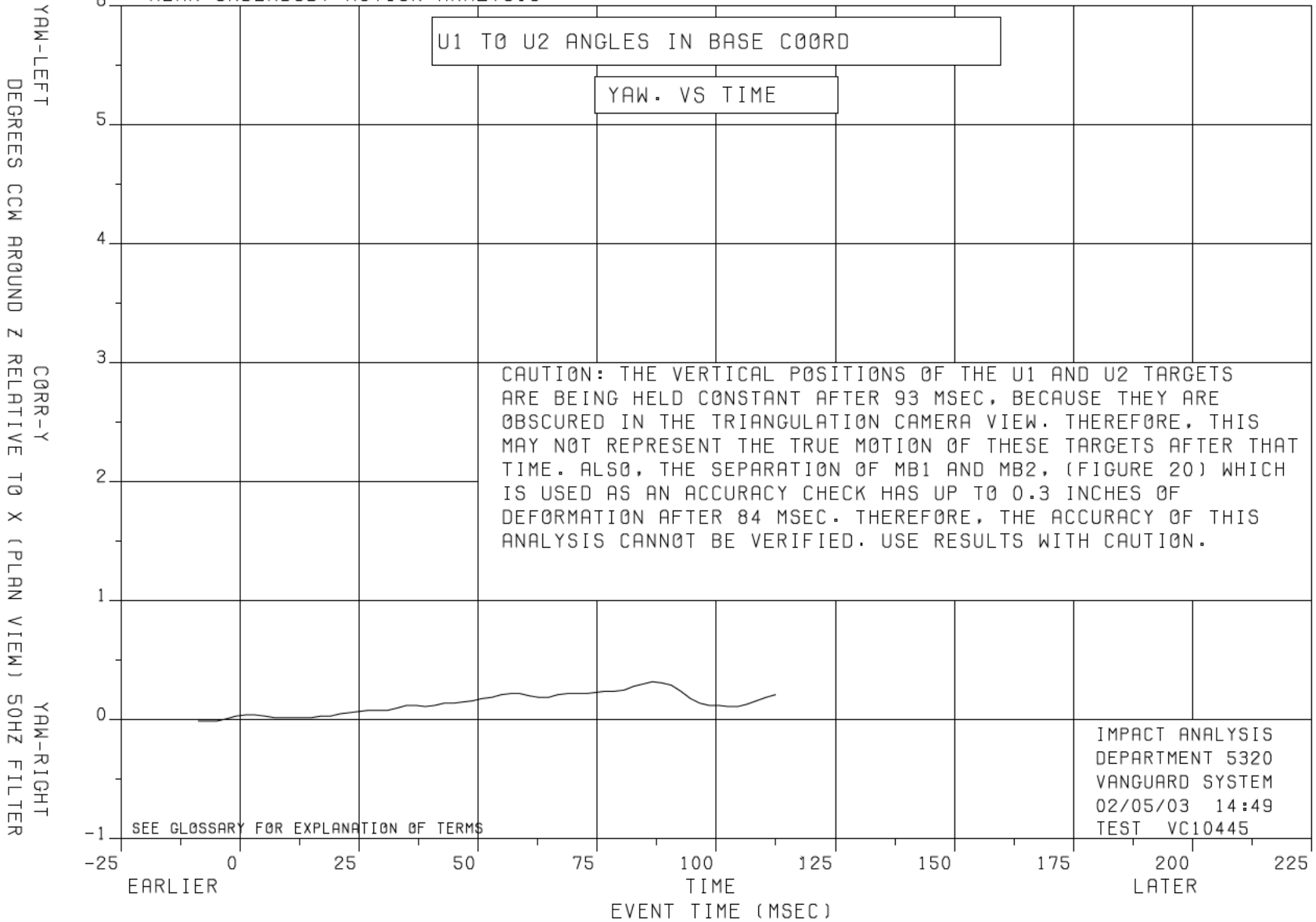


FIGURE 19

EA12-005-Chrysler-003375

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

MB1 TO MB2 DISTANCE -37.66 INCHES (INITIAL DIST) (IN)  
VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

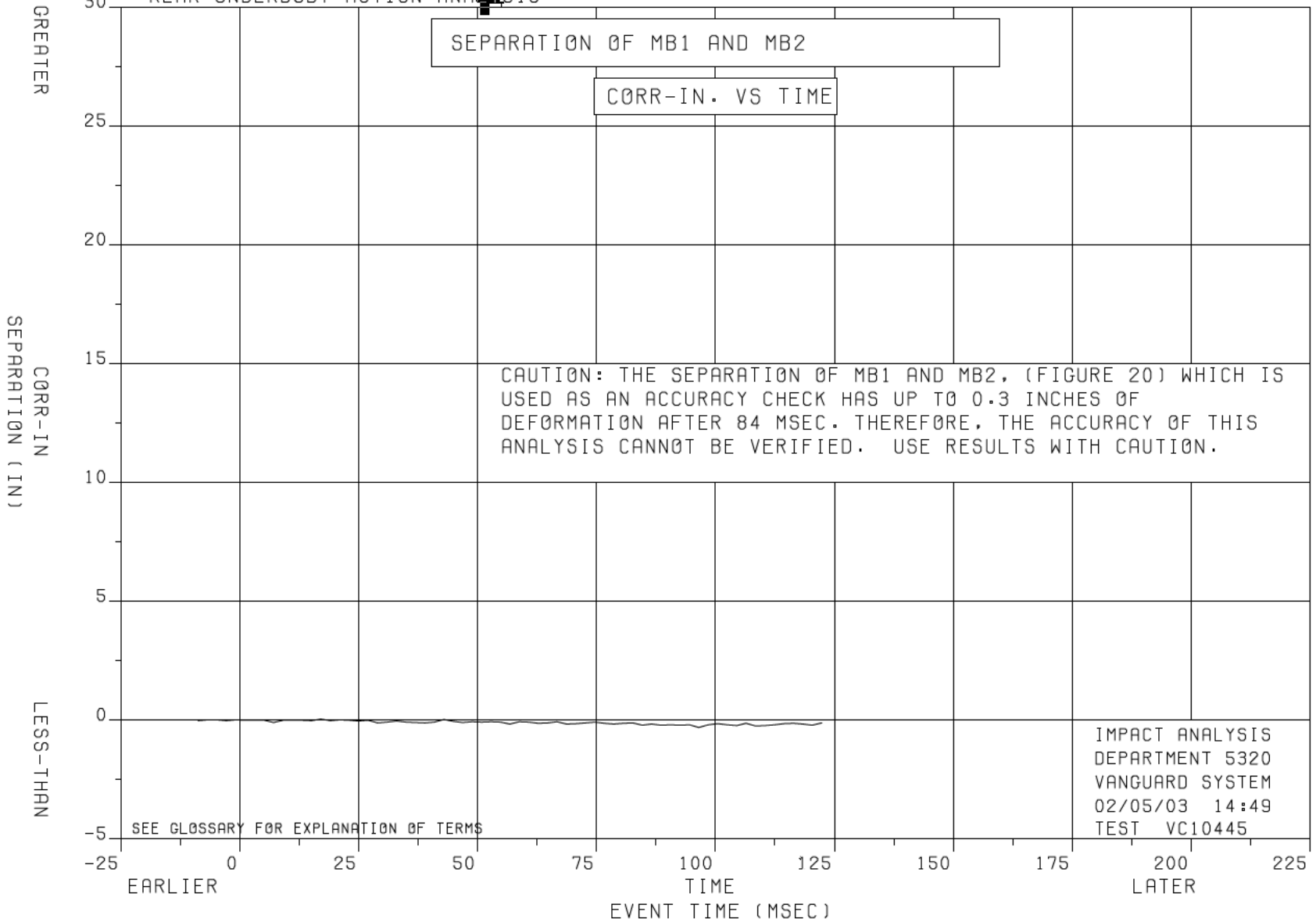


FIGURE 20

EA12-005-Chrysler-003376

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

ZEROED PITCH OF SILL VECTOR IN BASE COORD SYSTEM  
VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

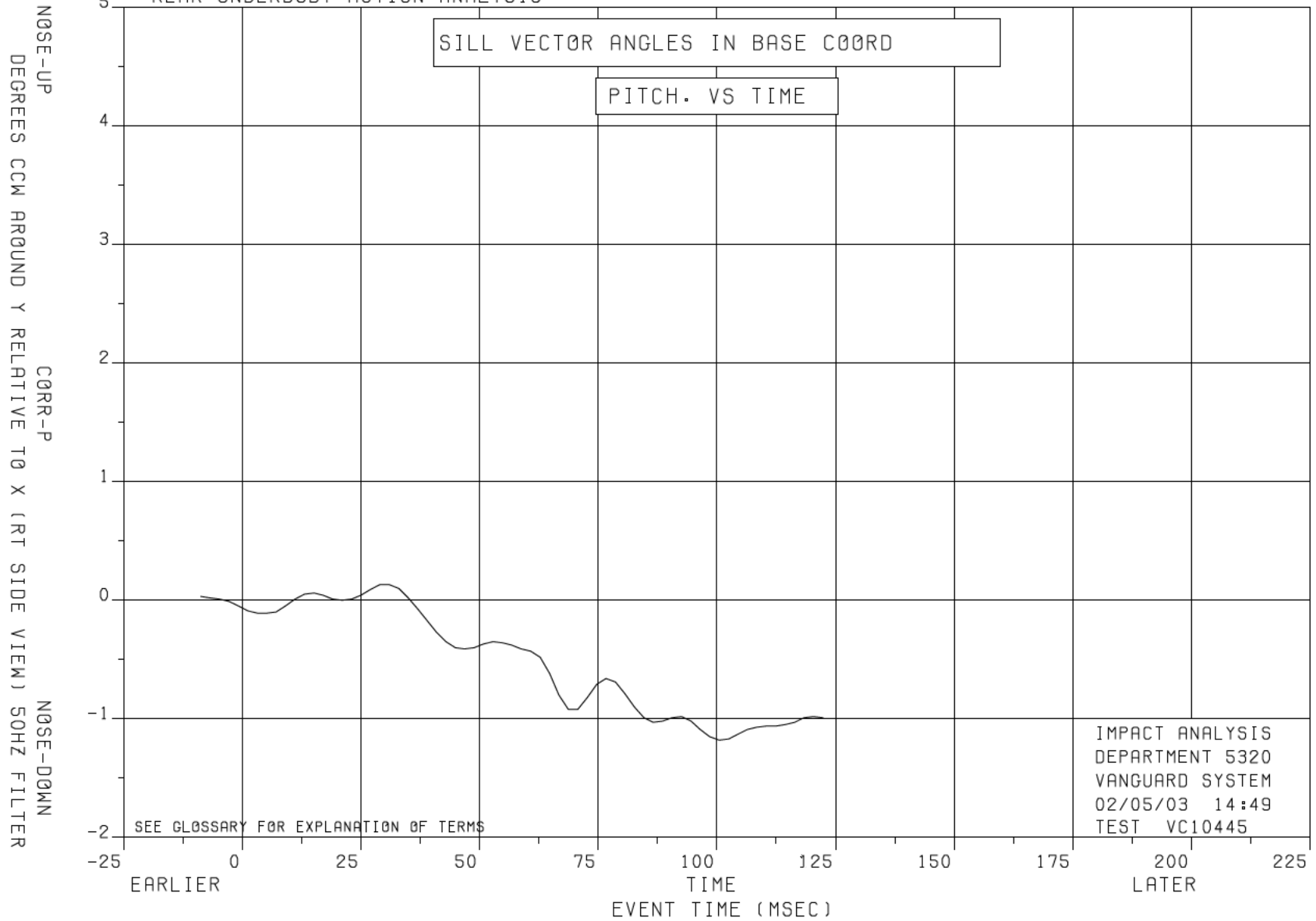


FIGURE 21

EA12-005-Chrysler-003377

SEE GLOSSARY FOR EXPLANATION OF TERMS

IMPACT ANALYSIS  
DEPARTMENT 5320  
VANGUARD SYSTEM  
02/05/03 14:49  
TEST VC10445

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
 03 KJ, USA 301-REAR DEVELOPMENT TEST

U1 TO U2 DISTANCE -37.29 INCHES (INITIAL DIST) (IN)  
 VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

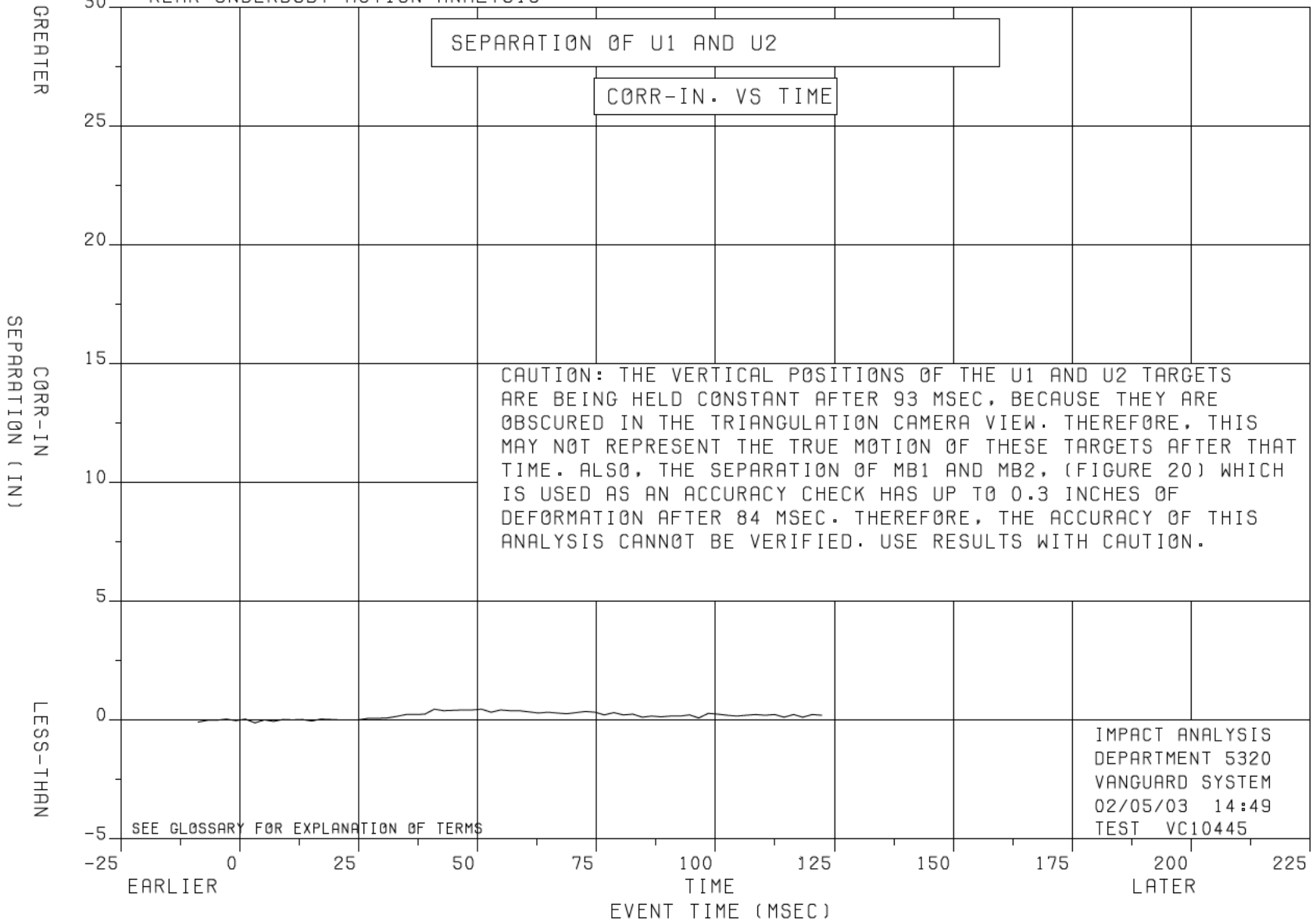


FIGURE 22

EA12-005-Chrysler-003378

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

LFS TO LMS DISTANCE -29.97 INCHES (INITIAL DIST) (IN)  
VERSUS TIME IN MILLISECOND

REAR UNDERBODY MOTION ANALYSIS

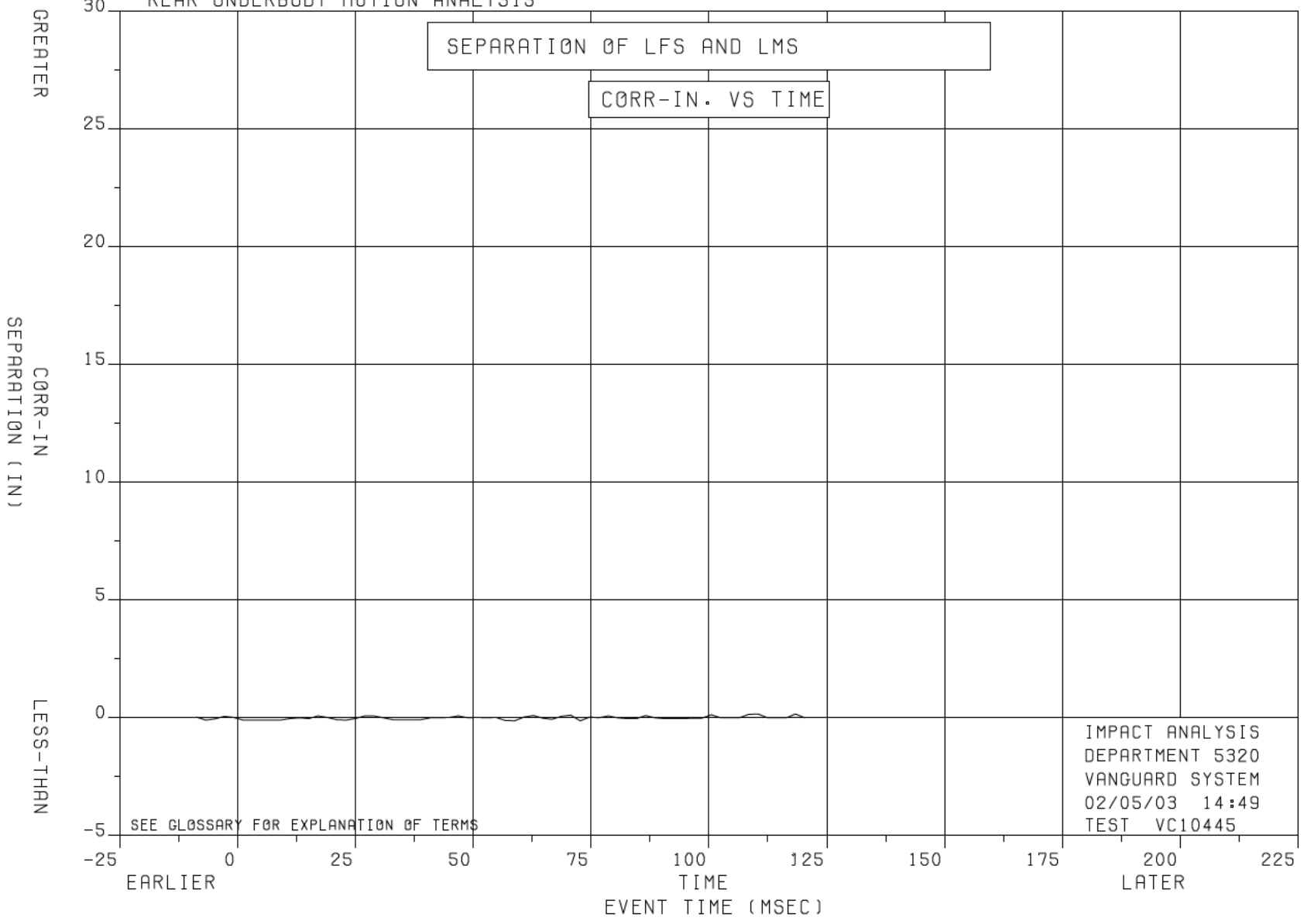


FIGURE 23

EA12-005-Chrysler-003379

INTER COMPANY CORRESPONDENCE

DATE 02/05/03

TO  
DISTRIBUTION

FROM  
E. J. BACHMANN

DEPARTMENT  
5320

PLANT/OFFICE  
CTC

CIMS NUMBER  
481-00-27

SUBJECT:  
REAR UNDERBODY MOTION ANALYSIS  
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
TEST DATE 01/30/03

TEST SITE CPG

TEST PURPOSE PRIMARY, 2003 USA 301-REAR DEVELOPMENT

IMPACT TYPE TARGET SPEED; 48.3 KPH  
DAMAGE LOCATION; REAR (FULL)  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; KJ  
CAR LINE; J  
BODY; 74  
ENGINE; 2.4 LITER  
ENGINE NOTE; I4  
TRANSMISSION; 5 SPEED MANUAL  
TRANS. NOTE;  
VIN AS TESTED; 1J4GL48132W [REDACTED] MOD.  
VIN AS BUILT; 1J4GL48132W [REDACTED] MOD.

TEST SPEED 48.79 KPH BY TRAP AVERAGE

TEST WEIGHT (KG) 2015 TOTAL, 1105 FRONT, 910 REAR

OCCUPANTS 1L - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-59  
RESTRAINT- 3-PT UNIBELT ONLY  
1R - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-50  
RESTRAINT- 3-PT UNIBELT ONLY

BUILD CONDITION

MODIFICATIONS: NONE

TARGET WEIGHT (KG) 2011 TOTAL, 1045 FRONT, 966 REAR  
INCLUDING BALLAST AND OCCUPANTS

FUEL AND BALLAST 64.4 LITERS STODDARD SOLVENT  
300 KG BALLAST WEIGHT SECURED IN CARGO AREA  
90.7 KG ADDITIONAL BALLAST WEIGHT ADDED  
200# OF BALLAST ON FRONT FLOORPANS

DATA FOR THIS ANALYSIS WAS DIGITIZED BY S. D. AMUNDSEN.

THE RELATIVE MOTIONS OF SELECTED REAR UNDERBODY TARGETS HAVE BEEN  
DETERMINED BY FILM ANALYSIS. TIME WAS BASED ON CAMERA TIMING DATA.

CAUTION:  
THE FOLLOWING TARGETS HAVE VERTICAL DATA THAT IS HELD  
CONSTANT DURING PART OF THIS ANALYSIS. SEE CAUTION  
NOTE ON PLOTS FOR DETAILS.

U1 U2

NOTE: THE FOLLOWING TARGETS ARE NOT INCLUDED IN THIS ANALYSIS  
FOR THE MENTIONED REASONS:

TARGET	REASON
U6	TARGET NOT VISIBLE
U7	TARGET NOT VISIBLE

-----  
Q. C. ANALYST

-----  
E. J. BACHMANN

GRAPHS - 23

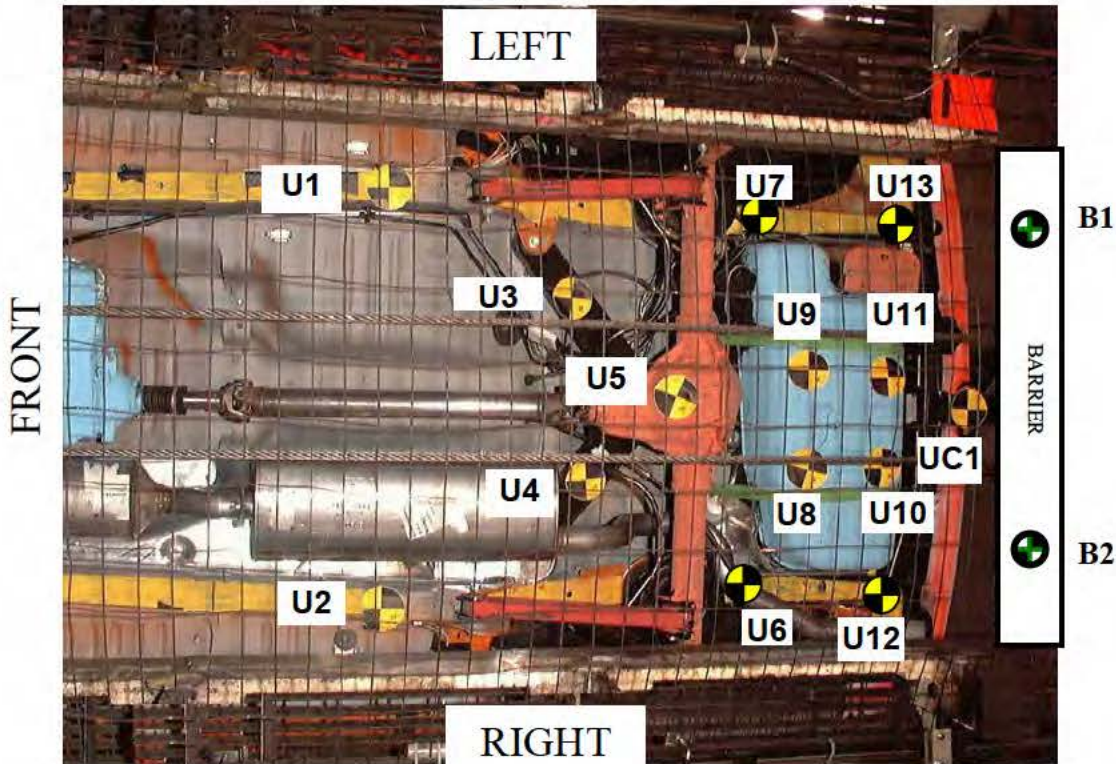
TEST VC10445 02/05/03 14:49 PAGE 2 OF 2

EA12-005- Chrysler -003381

EA12-005  
CHRYSLER  
12-13-2012  
Enclosure 6B  
301 Developmental Crash  
Tests Public  
KJ Development Crash Test  
VC10445.FAR.UBR.LEGEND



**VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W  
03 KJ, USA 301-REAR DEVELOPMENT TEST**



**TARGET NAME**

**TARGET DESCRIPTION**

UC1	CENTER TARGET, REAR BUMPER CROSSMEMBER
U1	LEFT FOREMOST RAIL TARGET
U2	RIGHT FOREMOST RAIL TARGET
U3	LEFT UPPER SWING-ARM TARGET
U4	RIGHT UPPER SWING-ARM TARGET
U5	REAR DIFFERENTIAL TARGET
*U6	RIGHT RAIL TARGET -RWD OF AXLE
*U7	LEFT RAIL TARGET -RWD OF AXLE
U8	RIGHT FRONT CORNER FUEL TANK TARGET
U9	LEFT FRONT CORNER FUEL TANK TARGET
U10	RIGHT AFT FUEL TANK TARGET
U11	LEFT AFT FUEL TANK TARGET
U12	RIGHT AFTMOST RAIL TARGET -NEAR REAR RIGHT CORNER FUEL TANK
U13	LEFT AFTMOST RAIL TARGET - NEAR REAR LEFT CORNER FUEL TANK
B1	LEFT MOVING BARRIER BOTTOM TARGET
B2	RIGHT MOVING BARRIER BOTTOM TARGET

\* TARGET NOT VISIBLE FOR THIS ANALYSIS

EA12-005  
CHRYSLER  
12-13-2012  
Enclosure 6B  
301 Developmental Crash  
Tests Public  
KJ Development Crash Test  
VC10445.Photos-BuildDown

VC 10445



EA12-005- Chrysler -005337

VC 10445

EA12-005- Chrysler -005338

A80

HARRY LANE  
OAK RIDGE, TENN

Jeep  
4x4

EA12-005- Chrysler -005339

VC 10445



VC 10445

EA12-005- Chrysler -005340



EA12-005- Chrysler -005341

VC 10445

VC 10445

EA12-005- Chrysler -005342







EA12-005- Chrysler -005343

VC 10445



EA12-005- Chrysler -005344

VC 10445



EA12-005- Chrysler -005345

VC 10445

6

12



EA12-005- Chrysler -005346

VC 10445



VC 10445

EA12-005- Chrysler -005347



EA12-005- Chrysler -005348

VC 10445



EA12-005- Chrysler -005349

VC 10445



EA12 005 Chrysler -005350

VC 10445





3469980

MPF 807708440  
111 XXPG144200845

© 2005- Chrysler -005351

VC 10445



EA12005- Chrysler -005352

VC 10445



EA12-005- Chrysler -005353

VC 10445

521003377  
KAV14820503  
521003377



EA12-005- Chrysler -005354

VC 10445

VC 10445



EA12-005- Chrysler -005355

004



05- Chrysler -005356

VC 10445



EA12-005- Chrysler -005357

VC 10445



EA12-005- Chrysler -005358

VC 10445





EA12-005- Chrysler -005359

VC 10445

VC 10445

521011210  
10932-D  
L2 130 2

EA12-005- Chrysler-005360



10445

10445

16.8 gal of SS

**vc 10445 post**

EA12-005- Chrysler -005361



EA12-005- Chrysler -005362

**vc 10445 post**

**vc 10445 post**

*pal of SS.*

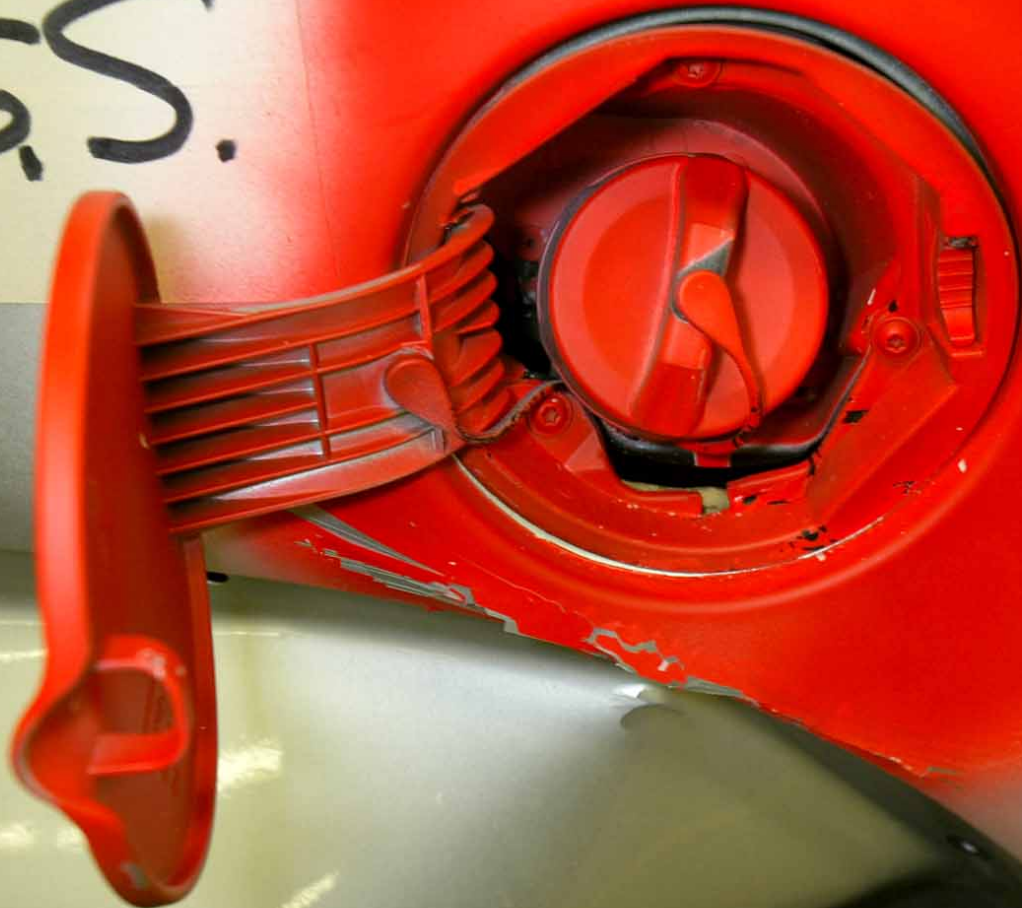




EA12-005- Chrysler -005364

**vc10445 post**

SS.



EA12-005- Chrysler -005365

**vc10445 post**

EA12-005  
CHRYSLER  
12-13-2012  
Enclosure 6B  
301 Developmental Crash  
Tests Public  
KJ Development Crash Test  
VC10445.Photos-PostTest



EA12-005  
CHRYSLER  
12-13-2012  
Enclosure 6B  
301 Developmental Crash  
Tests Public  
KJ Development Crash Test  
VC10445.Photos-PreTest

**vc10445 pre**



gal of SS.

**vc 10445 pre**



vc10445 pre



+ BC2



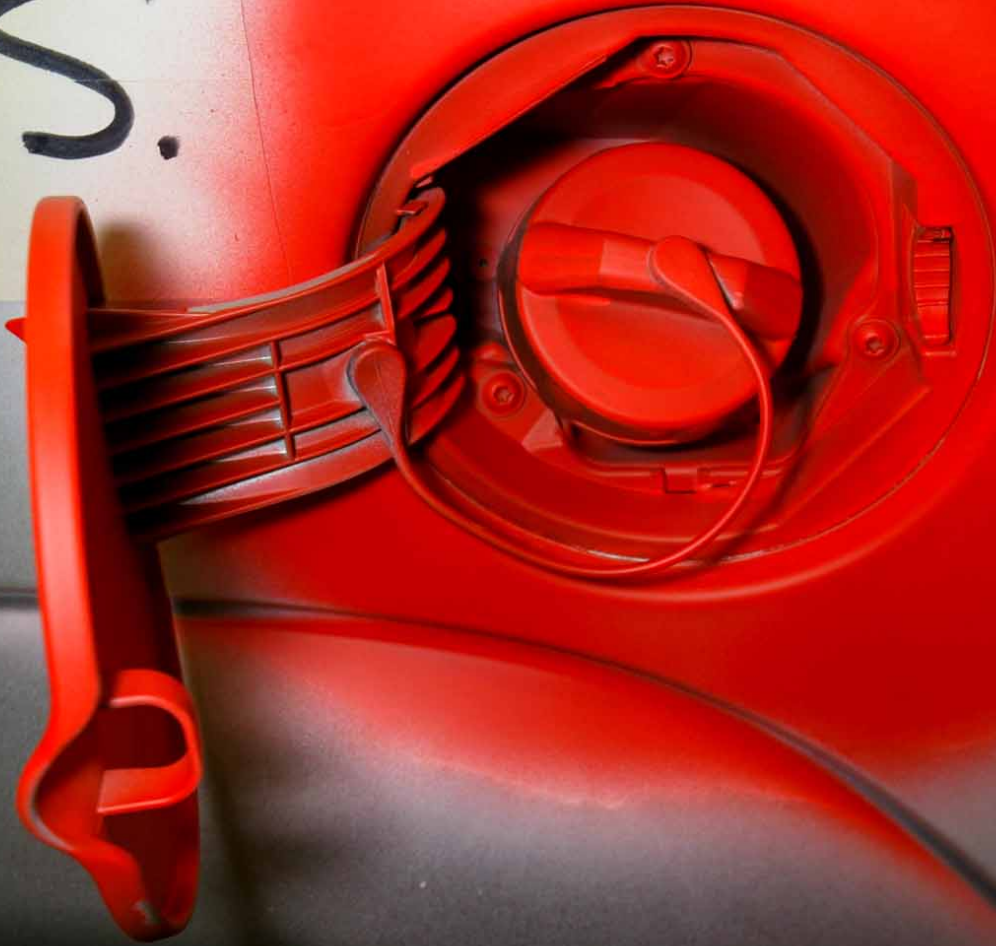
vc10445 pre



EA12-005- Chrysler -005369

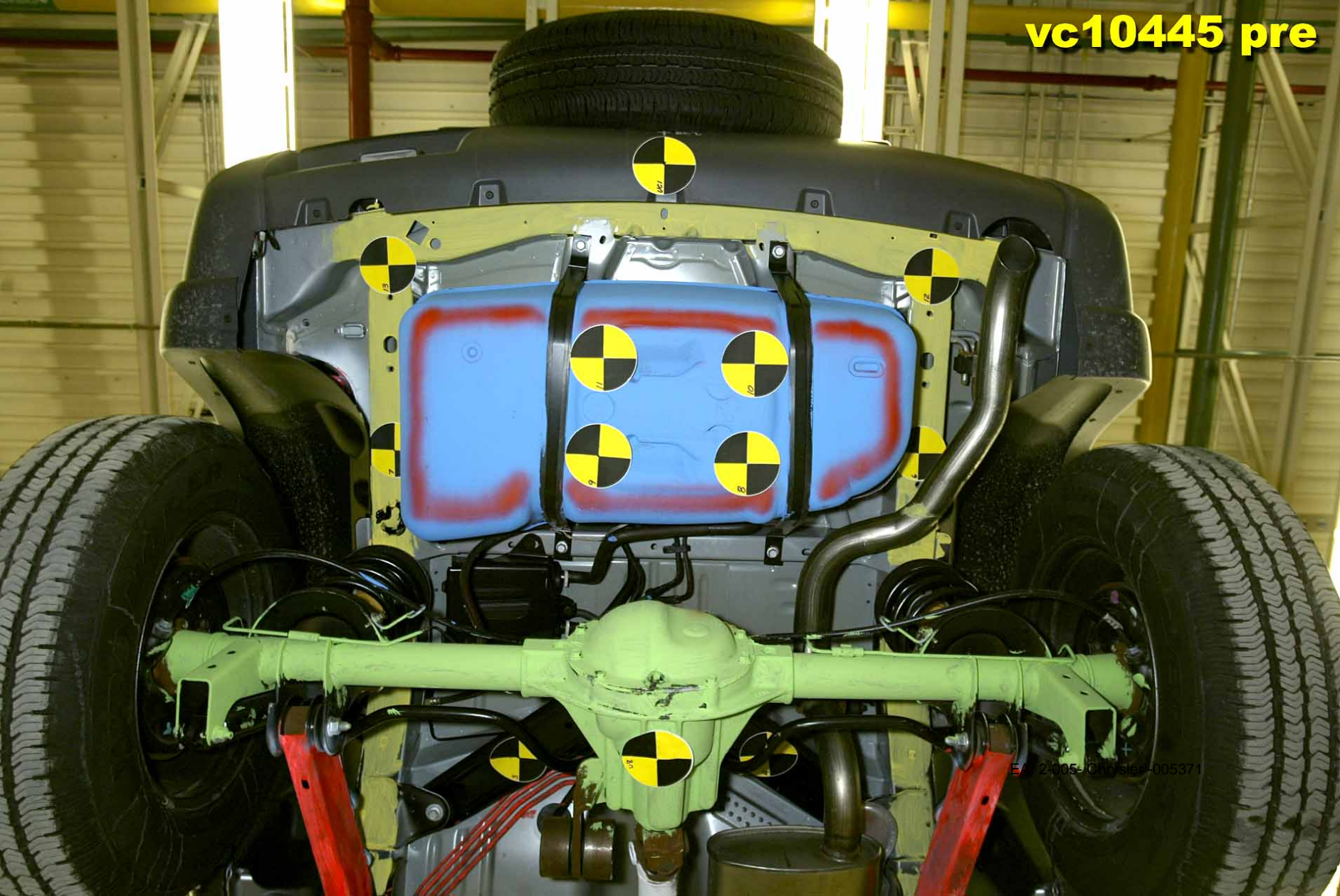
**vc10445 pre**

vc



EA12-005- Chrysler -005370

vc10445 pre



E 2105-01016-005371

vc10445 pre



E 12-005- Chrysler -005372



vc10445 pre

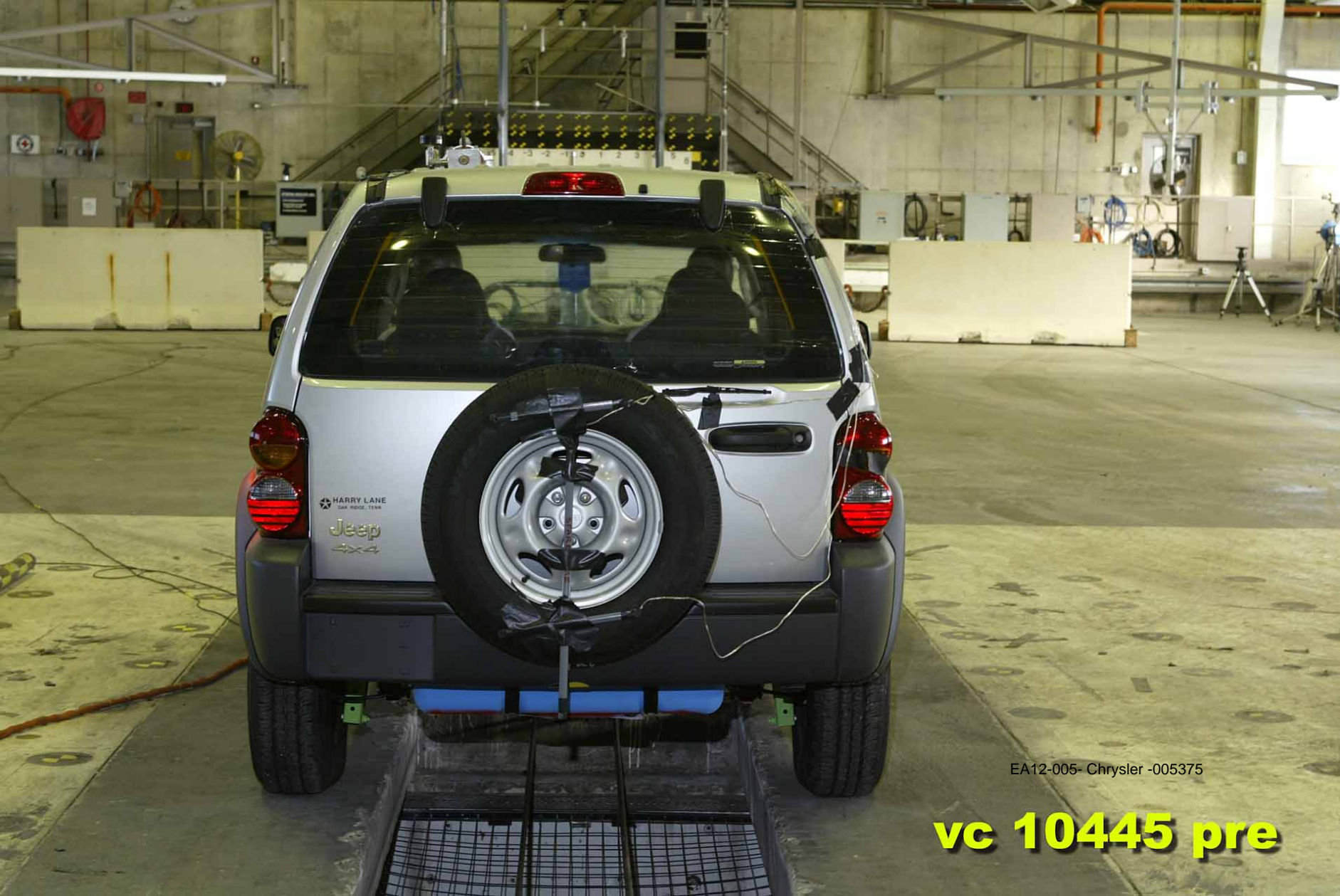


EA12-005- Chrysler -005373

**vc10445 pre**



EA12-005- Chrysler -005374



HARRY LANE  
CAR ROOLS, TEXAS

Jeep  
4x4

EA12-005- Chrysler -005375

**vc 10445 pre**

EA12-005  
CHRYSLER  
12-13-2012  
Enclosure 6B  
301 Developmental Crash  
Tests Public  
KJ Development Crash Test  
VC10445.TVA.TVALUE  
Public

DATE 01/30/03  
TIME 14:13:10.

ELECTRONIC DATA PROCESSING  
EDP TEST LETTER

VEHICLE CRASH ENGINEERING  
DEPT 5320

VC10445 ITEM KJ2W [REDACTED]  
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST  
TEST DATE 01/30/03  
TEST SITE CPG

TEST PURPOSE PRIMARY, 2003 USA 301-REAR DEVELOPMENT

IMPACT TYPE TARGET SPEED; 48.3 KPH  
DAMAGE LOCATION; REAR (FULL)  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; KJ  
CAR LINE; J  
BODY; 74  
ENGINE; 2.4 LITER  
ENGINE NOTE; I4  
TRANSMISSION; 5 SPEED MANUAL  
TRANS. NOTE;  
VIN AS TESTED; 1J4GL48132W [REDACTED] MOD.  
VIN AS BUILT; 1J4GL48132W [REDACTED] MOD.

TEST SPEED 48.79 KPH BY TRAP AVERAGE

TEST WEIGHT (KG) 2015 TOTAL, 1105 FRONT, 910 REAR

OCCUPANTS 1L - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-59  
RESTRAINT- 3-PT UNIBELT ONLY  
1R - 50TH MALE BALLAST HYBRID 2, 0 - CH AD-50  
RESTRAINT- 3-PT UNIBELT ONLY

BUILD CONDITION

TARGET WEIGHT (KG) 2011 TOTAL, 1045 FRONT, 966 REAR  
INCLUDING BALLAST AND OCCUPANTS

DATE 01/30/03  
TIME 14:13:10.

ELECTRONIC DATA PROCESSING  
EDP TEST LETTER

VEHICLE CRASH ENGINEERING  
DEPT 5320

VC10445 ITEM KJ2W [REDACTED]  
VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

TEST DATE 01/30/03

TEST SITE CPG

FUEL AND BALLAST 64.4 LITERS STODDARD SOLVENT  
300 KG BALLAST WEIGHT SECURED IN CARGO AREA  
90.7 KG ADDITIONAL BALLAST WEIGHT ADDED  
200# OF BALLAST ON FRONT FLOORPANS

EDP TECHNICIAN S. MARCHENIA

No. of Pages 16  
CC

M. STEBELTON 422-05-01  
E. WILLIS 514-17-39

DATE 01/30/03  
TIME 14:13:39.

TEST VALUES  
EDP CHANNEL SUMMARY

SAFETY TEST  
DEPT 5320

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

TEST DATE 01/30/03 SPEED 48.8 TEST WT 2015

LIBRARY VC10445

Errata # 1 Data Set 01/30/03BA CHL001-016 30.3 REAR VC10445E

Errata # 1 Data Set 01/30/03BB CHL017-032 30.3 REAR VC10445E

The data is displayed in the Metric system of Units (G, CM, N, N-M, KPH, etc.)

CHL	TRANSDUCER LOCATION		1000 CFC PEAK	DCX 600 CFC PEAK	180 CFC PEAK	PH 60 CFC PEAK	AT 300MS		
1	LEFT FRONT SILL	X	P22020	-53.3	-50.8	-45.6	-37.5	-28.3	KPH
2	LEFT FRONT SILL	Y	P14148	54.5	49.5	25.3	10.5	0.8	KPH
3	LEFT FRONT SILL	Z	P22019	50.4	41.7	-20.8	-7.5	2.0	KPH
4	RIGHT FRONT SILL	X	P13263	-57.8	-55.1	-50.7	-39.7	-26.5	KPH
5	RIGHT FRONT SILL	Y	P15275	53.9	-46.3	-26.8	-11.0	-0.2	KPH
6	RIGHT FRONT SILL	Z	P15196	-96.1	-79.4	-15.9	-10.5	0.9	KPH
7	SPARE TIRE SWITCH		EE	0.7	VOLT				*
33	M-FLAT LT RAIL MID	X	P13669		48.2		16.7	19.6	KPH
34	M-FLAT RT RAIL MID	X	P13639		58.3		-24.3	20.2	KPH

Multi-Channel Plot data

CHLS & 1 4 CL PH60 AVERAGE OF FRT SILL -324.6G AT .6 MS

\* - See Notes & Comments page

DATE 01/30/03  
TIME 14:13:39.

TEST VALUES  
NOTES & COMMENTS

SAFETY TEST  
DEPT 5320

VC10445 48.3 KPH REAR (FULL) TYPE IV ITEM KJ2W [REDACTED]  
03 KJ, USA 301-REAR DEVELOPMENT TEST

LIBRARY VC10445

Errata # 1 Data Set 01/30/03BA CHL001-016 30.3 REAR VC10445E  
Errata # 1 Data Set 01/30/03BB CHL017-032 30.3 REAR VC10445E

CHL 7 \*N\* \*\*\*\*\* EVENT AT .2 MS \*\*\*\*\*