

# 実験報告

KS0部 KS4グループ

No. K4X00N/122

発行日付 01. 1. 24.

報告配布先

部署	詳報	要報
XR4		1
KAB		1
合計		2

P.1 迄要報

題目 F50, '02 Year Model, F.M.V.S.S. No.214 Self-Certification Test

Left side Impact (33.5mph)

担当者 中村 浩二

実験期間 '01. 1. 10 ~ '01. 1. 15

試験日 '01. 1. 12

**1. PURPOSE**

This is a certification test report for the requirements of FMVSS No.214 "Side Impact protection (Dynamic)".

**APPLIED MODELS**

F50  
USA.  
ALL MODELS

**2. CONCLUSION**

Complied with FMVSS No.214 Moving deformable barrier crash requirement. Vehicle impacted on Left side.

**3. SUMMARY OF TEST RESULTS**

**3.1 TEST RESULTS**

ITEM	REQUIREMENT	RESULT		JUDGE-MENT
		FRONT Passenger	REAR Passenger	
S.5.1 Thorax	The Thoracic Trauma Index(TTI(d)) shall not exceed 85g for passenger cars with four side doors, and shall not exceed 90g for passenger cars with two side doors, when calculated in accordance with the following formula : $TTI(d) = 1/2(GR + GLS)$ The term "GR" is the greater of the peak accelerations of either the upper or lower rib expressed in g's and the term "GLS" is the lower spine (T12) peak acceleration, expressed in g's. The peak acceleration values are obtained in accordance with the procedure specified in S.6.13.5.	46	47	OK
S. 5.2 Pelvis	The peak lateral acceleration of the pelvis, as measured in accordance with S.6.13.5, shall not exceed 130g's.	66 g	61 g	OK
S.5.3 Door opening	(1)Any side door, which is struck by the moving deformable barrier, shall not separate totally from the car. (2)Any door (including a rear hatchback or tailgate), which is not struck by the moving deformable barrier, shall meet the following requirements : ① The door shall not disengage from the latched position. ② The latch shall not separate from the striker, and the hinge components shall not separate from each other or from their attachment to the vehicle. ③ Neither the latch nor the hinge systems of the door shall pull out of their anchorages.	STRUCK SIDE	NON STRUCK SIDE	OK
		FR <i>Complied</i>	FR <i>complied</i>	
		RR <i>Complied</i>	RR <i>Complied</i>	
		Tailgate		

**3.2 TEST CONDITIONS**

- (1)Test Vehicle      MODEL: BPHALGNF50 (VEC No. EF-178)  
 VIN: JNKBF0/A82M000028  
 ENGINE: VK45DE      T/M: A/T
- (2)Test Method      In accordance with FMVSS No.214 "Side Impact protection".
- (3)Type of Dummy    Subpart M of 572(SID/H III) produced by, FTSS (FR), FTSS (RR).
- (4)Impact Velocity    54.3 km/h ( 33.7 mph)
- (5)Weight of Test Vehicle    200 / kg ( 441 / lbs.)
- (6)Weight of Moving Barrier    1368 kg ( 3016 lbs.)

KAB	KS4
主担	主担
内村 高橋	
担当者	担当者
息 本 細川	
	内村 中村

### 3.3 REASON FOR TEST CONDITIONS

#### 3.3.1 TEST VEHICLE SELECTION

The test vehicle was selected by the reason that the body construction and interior parts for all models do not have any differences which influence on the performance of this crash.

The weight of test vehicle was set up the minimum weight among application models.

#### 3.3.2 IMPACT SIDE

Left side impact condition was selected to represent both left and right impact conditions for this certification test since this model has a symmetric body structure.

### 3.4 CONDITION OF WEIGHTS

	TOTAL	FRONT	REAR
*DESIGN WEIGHT	2001	1042	959
TEST WEIGHT	2001	1040	961

(kg)

\*Vehicle Type : BPHALGNF50 with Full option

CARGO & LUGGAGE WEIGHT	<p style="text-align: center;">50</p> <p style="text-align: center;">Loading Position : LUGGAGE AREA</p>
WEIGHT ADJUSTMENT	<p>0</p>

(kg)

3.5 CONDITION OF VEHICLE

FUEL TANK	Usable Capacity : <u>80</u> l Charged Volume : <u>75.2</u> l ( <u>94</u> %) Test Fluid Name : <u>SHELL LAWS</u> Specific gravity : <u>0.79</u> Used the fluid specified in Table 1 ASTM D484-76.
IGNITION KEY POSITION	ON
FUEL PUMP OPERATION	( <del>YES</del> , NO ) <u>Electric Pump</u>
PARKING BRAKE	ENGAGED
TRANSMISSION	<del>MANUA SECOND GEAR</del> / AUTOMATIC--NEUTRAL
TIRE PRESSURE	Front : <u>230</u> kpa Rear : <u>230</u> kpa
STEERING COLUMN POSITION	Tilt : Midpoint of <del>swing or nominal design position</del> . Telescopic : Midpoint of stroke.
HOOD	Fully closed and latched
DOOR&TRUNK LID (REAR GATE)	Fully closed and latched but not locked
SIDE WINDOW GLASS	Front Right (Opened, <del>Closed</del> ) Rear Right (Opened, <del>Closed</del> ) Front Left (Opened, <del>Closed</del> ) Rear Left (Opened, <del>Closed</del> )
OPTIONAL EQUIPMENT	None

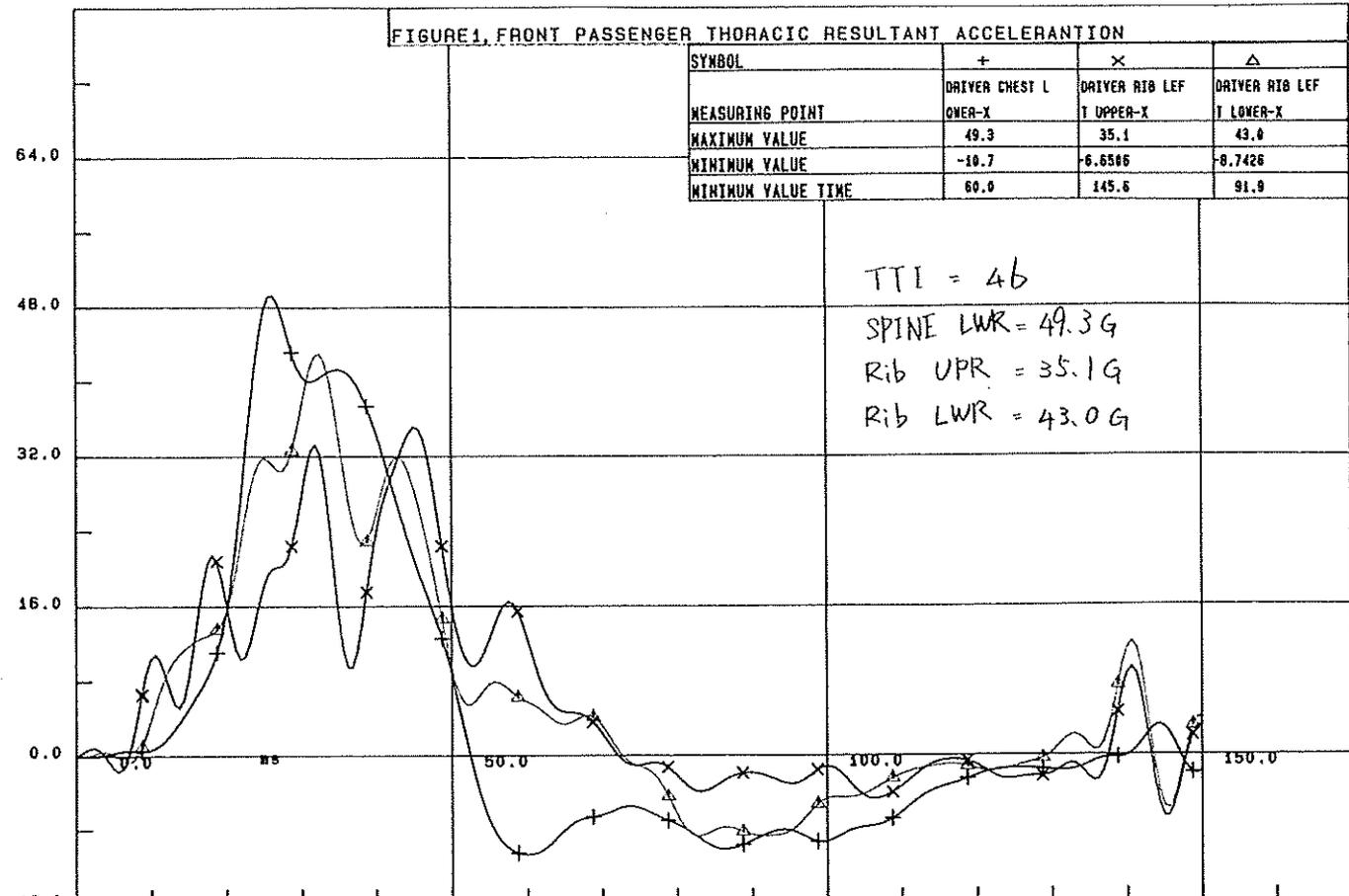
### 3.6 CONDITION OF DUMMYS

Used Restraints	FRONT : With active belt(three points) and side air bag device. REAR : With active belt(three points)
Type of Dummies	Subpart F of PART 572 (Side Impact Dummy) produced by <u>FISS</u> (FR) <u>FTSS</u> (RR)
Position of Dummies	Left front and left rear outboard designated seating position.
Position of Seats	Seat slide : Front : <del>Midpoint or the closest position to the rear of the Midpoint</del> ( <del>mm from frontmost</del> ) Rear : Not adjustable.
	Seat lifter : Front : Lowest position. Rear : Not adjustable.
	Seat back : Front : Nominal design position. Torso angle $21^{\circ}$ ( <del>mm notch from frontmost</del> ) Rear : Not adjustable <del>or Nominal design position</del> . ( <del>mm notch from frontmost</del> )
	Head restraint : Front : Highest position. Rear : <del>Not adjustable or</del> Highest position.
Positioning Method	In accordance with F.M.V.S.S. No.214.S.7
Condition of Method	In accordance with F.M.V.S.S. No.214S.6.13.1~S.6.13.4
Temperature of Dummies	Driver : <u>20.5</u> °C , Passenger : <u>20.5</u> °C

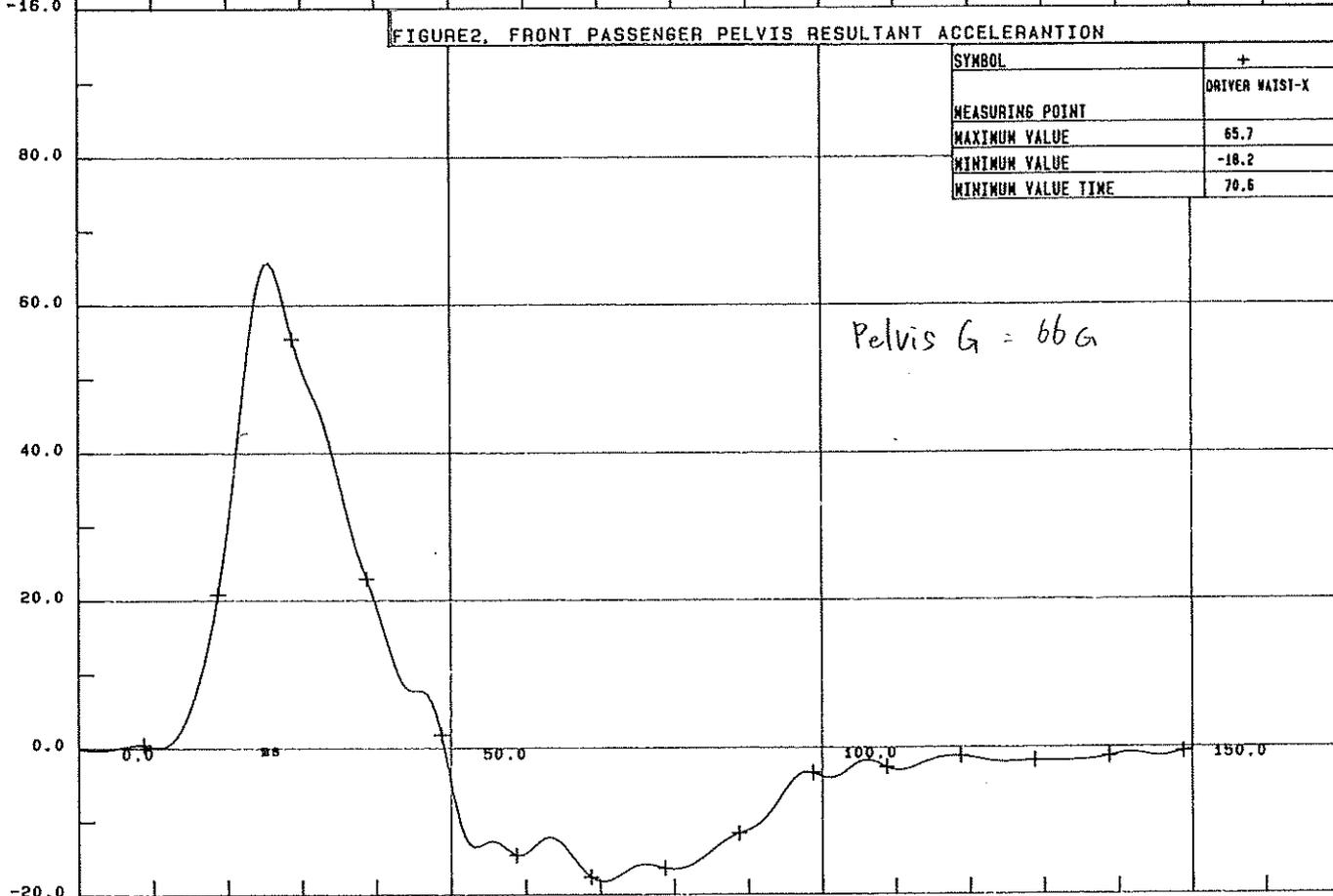
### 4.DATA

- 4.1 Detailed data of front passenger's injury criteria.  
See Figure 1~2.
- 4.2 Detailed data of Rear Passenger's injury criteria.  
See Figure 3~4.
- 4.3 Photographs of the test vehicle before and after.  
See Photo. 1~8.

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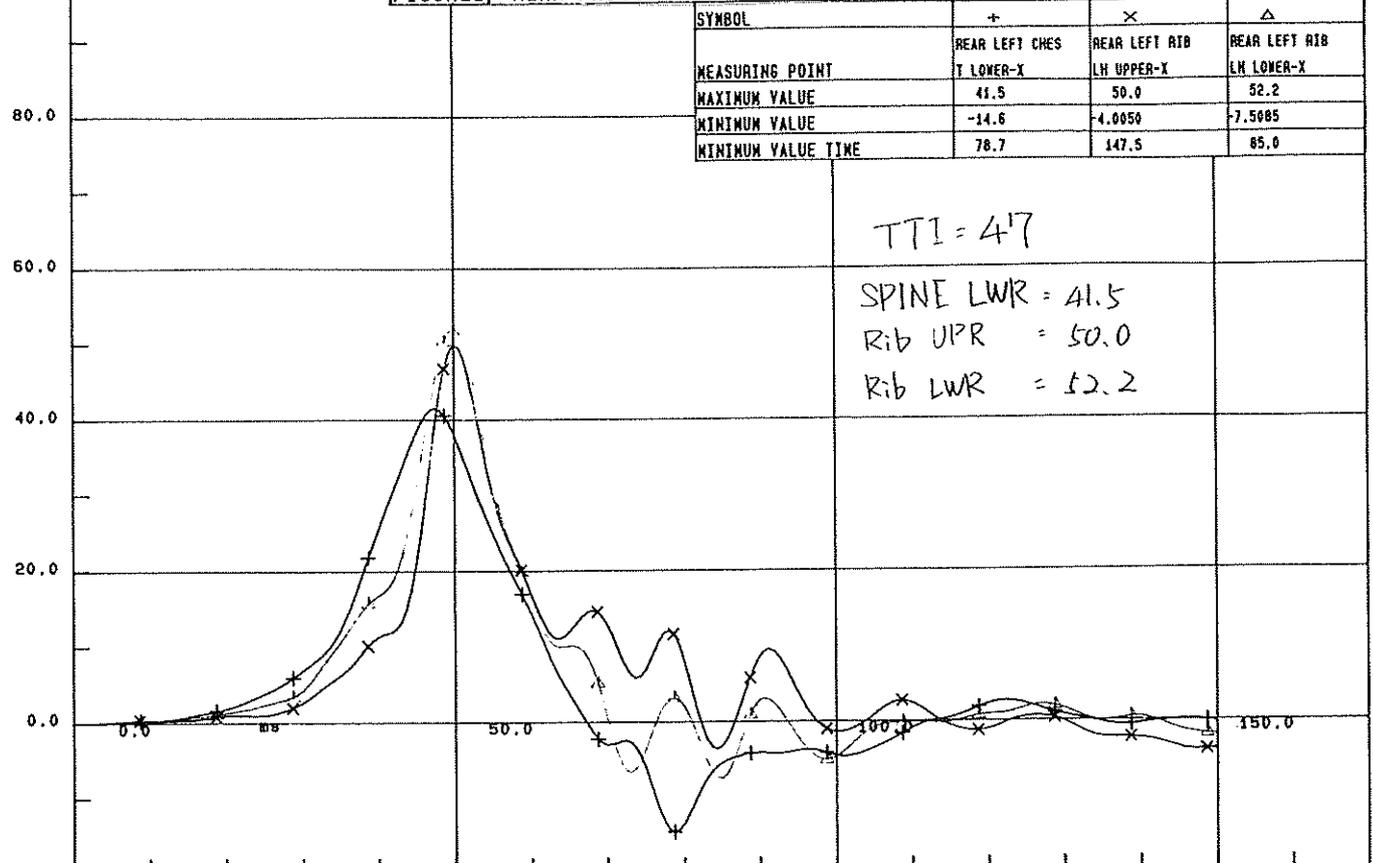


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FIGURE3, REAR PASSENGER THORACIC RESULTANT ACCELERANTION



6

FIGURE4, REAR PASSENGER PELVIS RESULTANT ACCELERANTION

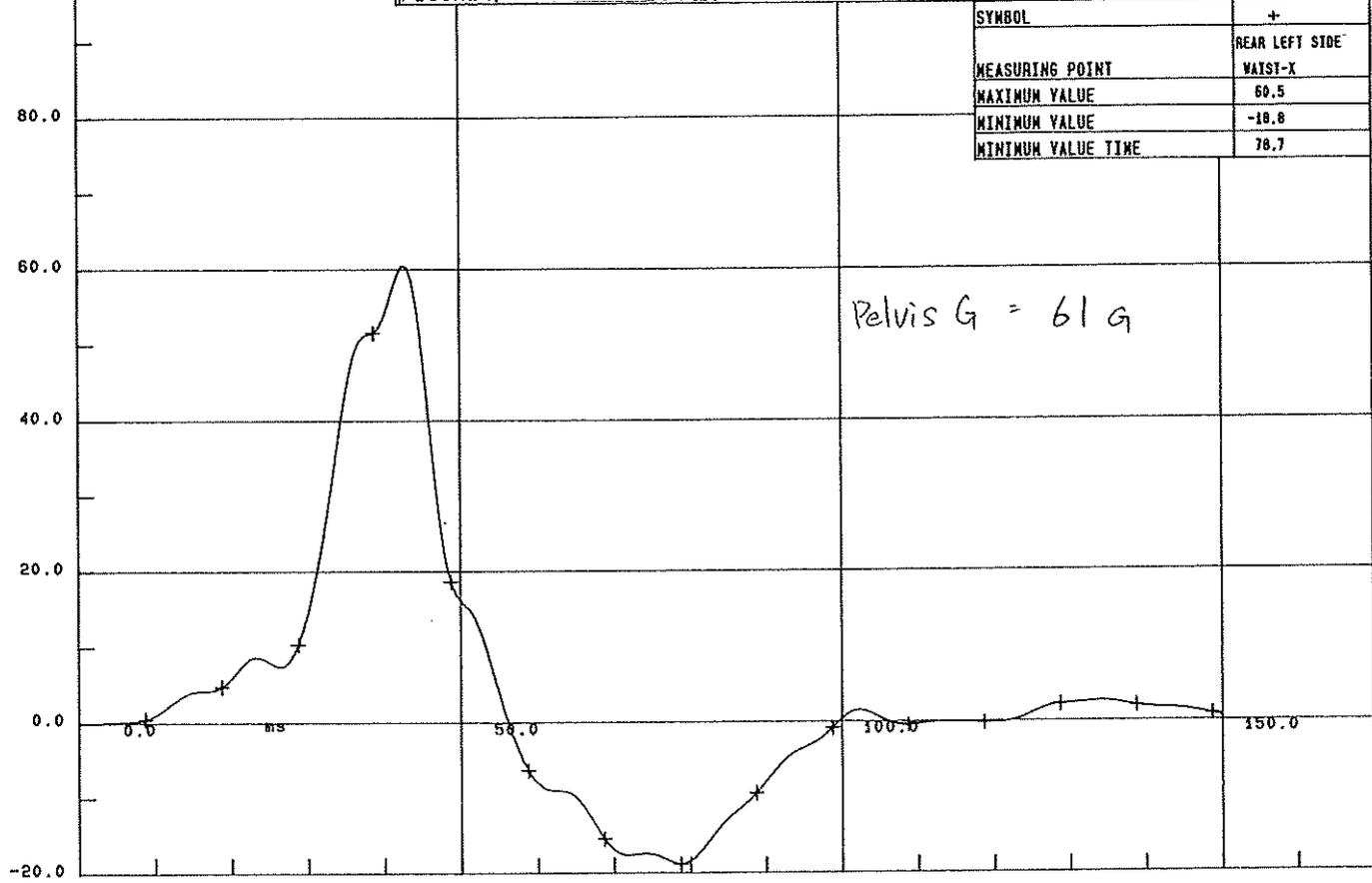
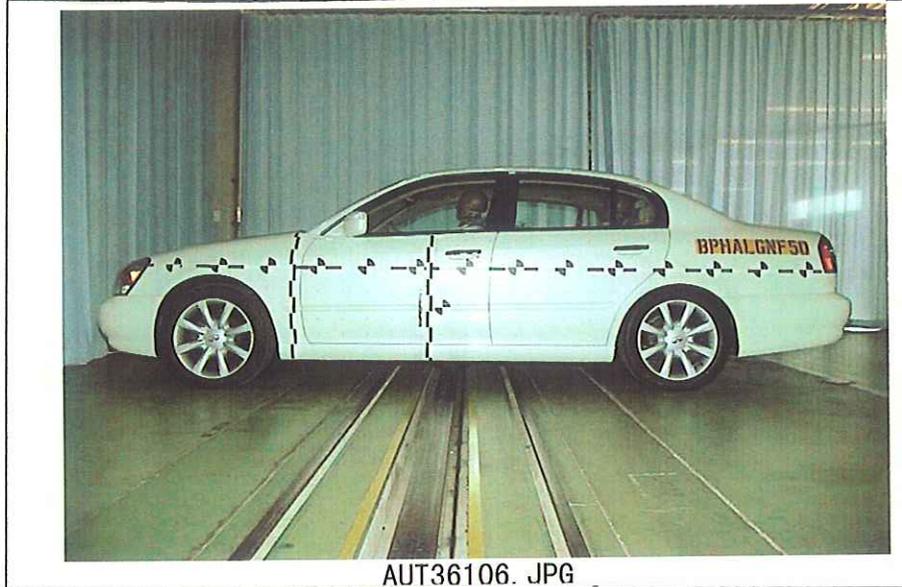


Photo. No.1	
Photo. No.2	

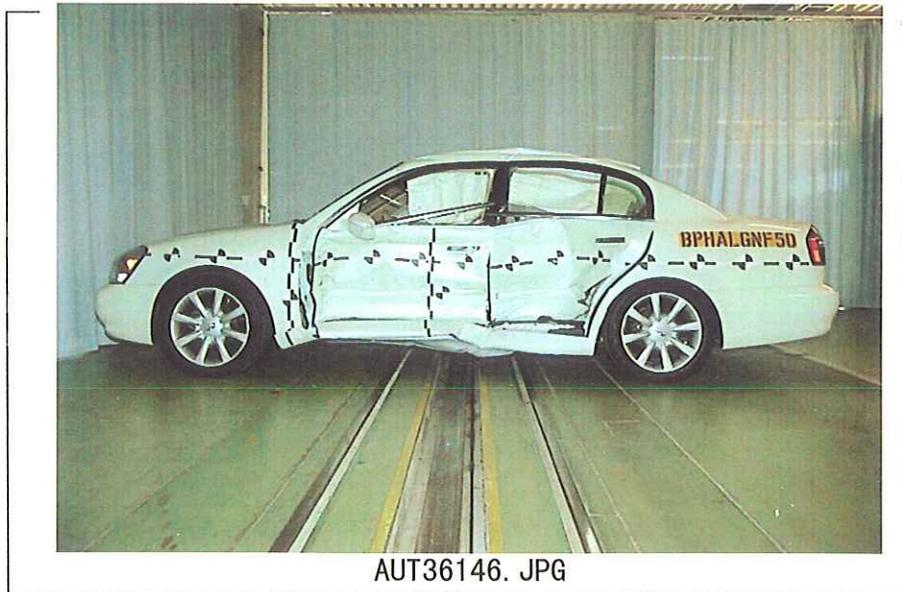
Test Report No. K4X00N/2.2



AUT36106. JPG

Photo. No.1                      PRETEST

SUBJECT :    Side    view



AUT36146. JPG

Photo. No.2                      POSTTEST

SUBJECT :    Side    view

Photo. No.3	AUT36110
Photo. No.4	

Test Report No. K4X00N/22

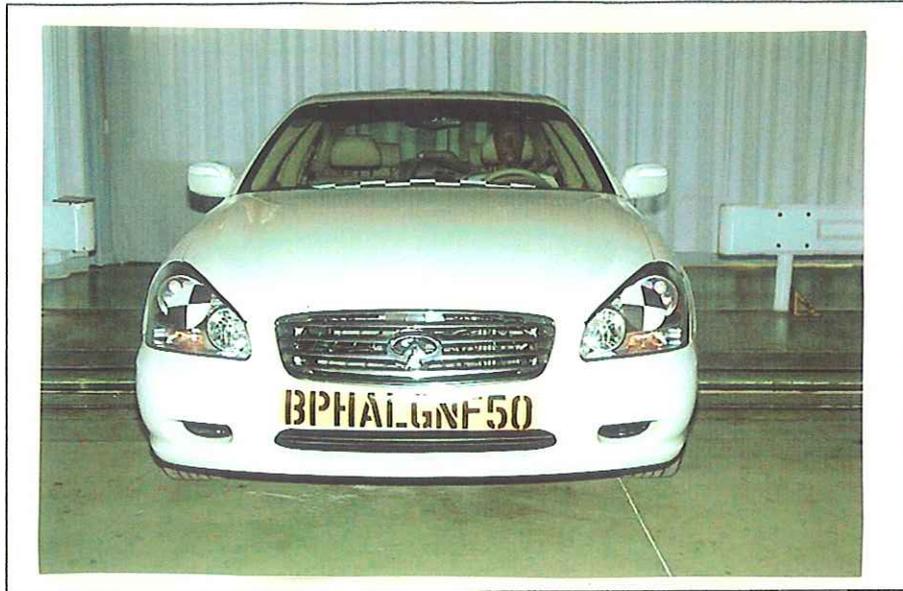
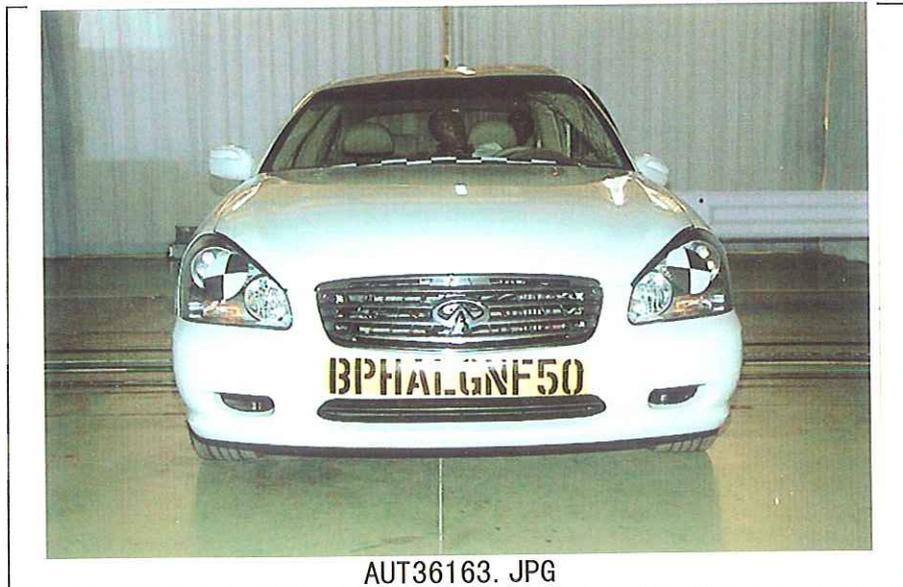


Photo. No.3                      PRETEST  
 SUBJECT : Front view



AUT36163. JPG

Photo. No.4                      POSTTEST  
 SUBJECT : Front view

Photo. No.5	AUT 36111. JPG
Photo. No.6	

Test Report No. K4X00/N122

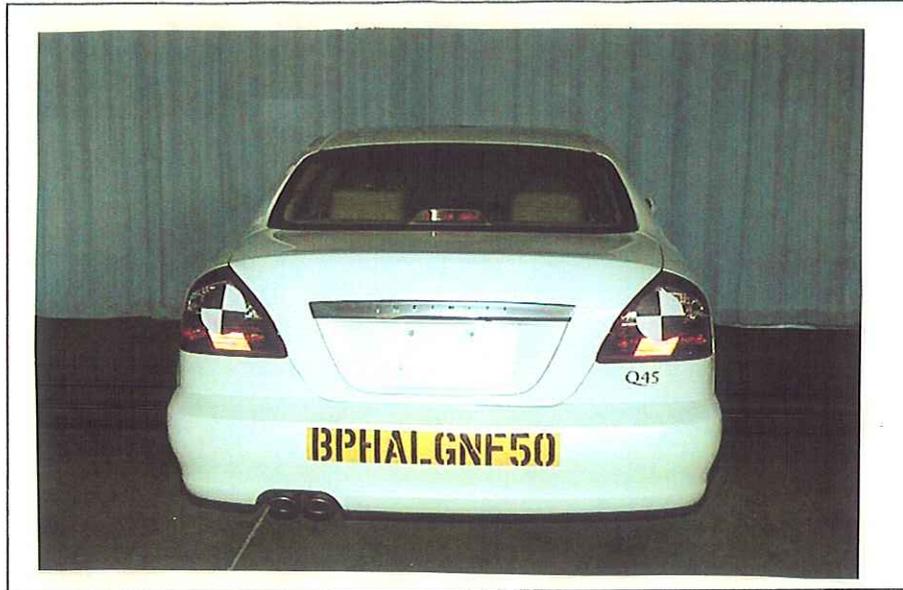
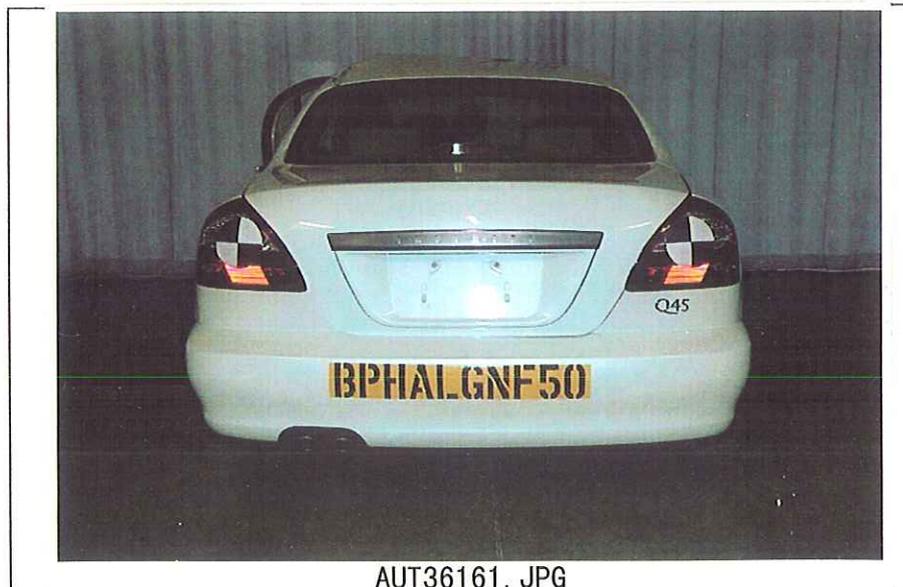


Photo. No.5                      PRETEST

SUBJECT :    Rear    view                      \_\_\_\_\_



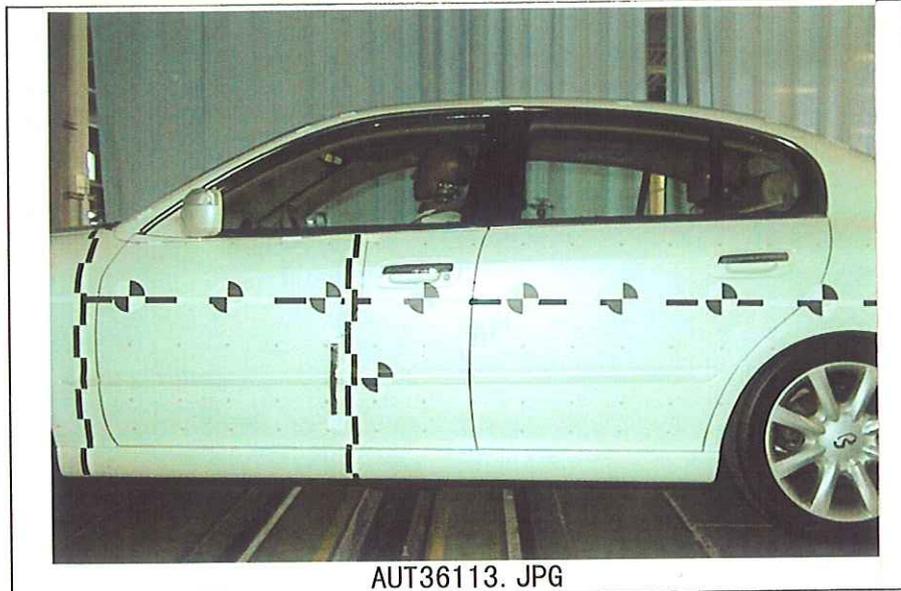
AUT36161. JPG

Photo. No.6                      POSTTEST

SUBJECT :    Rear    view                      \_\_\_\_\_

Photo. No.7	
Photo. No.8	

Test Report No. K4X00N122

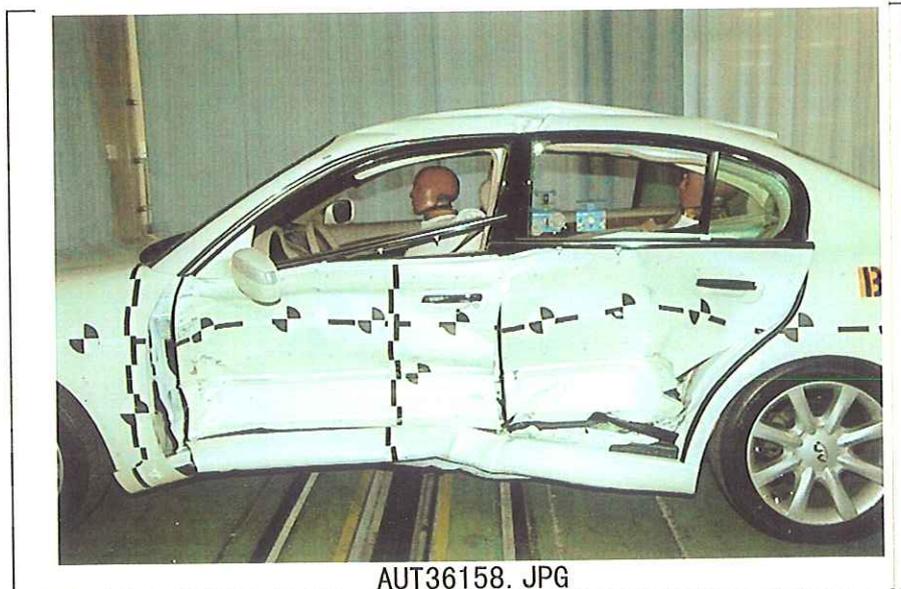


AUT36113. JPG

Photo. No.7

PRETEST

SUBJECT : Front dummy, Rear dummy, Position view



AUT36158. JPG

Photo. No.8

POSTTEST

SUBJECT : Front dummy, Rear dummy, Position view

Head protection inflatable restraint system is rolled up to take a photograph of post-test Dummy condition.

# 実験報告

No. K4X02N129

KS0部 KS4グループ

発行日付 02.5.31.

報告配布先

部署	詳報	要報
XR4		1
KAB		1
合計		2

P.1 迄要報

題目 F50, 2003 Year Model, FMVSS No.214 Self-Certification Test

Side impact protection (Dynamic)

担当者 上野 公士

実験期間

試験日 '02.5.30

1.PURPOSE

This is a certification test report for the requirements of FMVSS No.214 Side impact protection. (Dynamic)

Applied Models

F50

USA

All Models

2.CONCLUSION

Complied with FMVSS No.214.

There were no modification concerning with the performance required in this standard, therefore, the test results of this standard on 2003 year models can be carried over from 2002 year models.

FMVSS No.	Item	Original Test Report No.
214	Side impact protection. (Dynamic)	<u>K4X00122</u>

XR4	主担
<u>名崎</u>	担当
<u>塚口</u>	

KAB	KS4
主担	主担
<u>江浜</u>	<u>江川</u>
担当者	担当者
<u>江浜</u>	<u>橋本</u>
	<u>西村</u>
<u>藤村</u>	<u>上野</u>

# 実験報告

No. K4X03N263

KS0部 KS4グループ

発行日付 03.7.8

報告配布先

部署	詳報	要報
XW4		1
KAB		1
合計		2

P.1 迄要報

題目 F50 , 2004 Year Model, FMVSS No.214 Self-Certification Test

Side impact protection (Dynamic)

担当者 上野 公士

実験期間 03.7.2 ~ 03.7.2

試験日 \_\_\_\_\_

1.PURPOSE

This is a certification test report for the requirements of FMVSS No.214 Side impact protection. (Dynamic)

Applied Models

F50  
USA  
All Models.

2.CONCLUSION

Complied with FMVSS No.214.

There were no modification concerning with the performance required in this standard , therefore , the test results of this standard on 2004 year models can be carried over from 2003 year models.

FMVSS No.	Item	Original Test Report No.
214	Side impact protection. (Dynamic)	<u>K4X00N122</u>

XW4	主担
<u>名崎</u>	担当
板垣	

KAB	KS4
主担	主担
<u>丸</u>	<u>石川</u>
<u>4</u>	
担当者	担当者
<u>江波</u>	<u>橋本</u>
<u>藤村</u>	<u>上野</u>

秘

認証

# 実験報告

KS0部 KS4グループ

No. K4X04N05/

発行日付 04.3.4.

報告配布先

部署	詳報	要報
KAB		1
合計		1

P.1 迄要報

題目 F50 , 2005 Year Model, FMVSS No.214 Self-Certification Test

Side impact protection (Dynamic)

担当者 上野 公士

実験期間 04.03.03 ~ 04.03.03

試験日

## 1.PURPOSE

This is a certification test report for the requirements of FMVSS No.214 Side impact protection. (Dynamic)

Applied Models

F50

USA

All Models.

## 2.CONCLUSION

Complied with FMVSS No.214.

There were no modification concerning with the performance required in this standard , therefore , the test results of this standard on 2005 year models can be carried over from 2002 year models.

FMVSS No.	Item	Original Test Report No.
214	Side impact protection. (Dynamic)	<u>K4X00N122</u>

XW4
主担
<u>名所</u>
担当
<u>塚口</u>

KAB	KS4
主担	主担
<u>丸山</u>	<u>石川</u>
担当者	担当者
<u>茶谷</u>	<u>橋本</u>
	<u>上野</u>

# 実験報告

No. K4X02N070

KS0部 KS4グループ

発行日付 02. 2. 15.

報告配布先

部署	詳報	要報
XR4		1
KAB		1
合計		2

P.1 迄要報

題目 Y34 . 03 Year Model. F.M.V.S.S. No.214. Self-Certification Test

Left side Impact (33.5mph)

担当者 滋野 直樹

実験期間 2002,02,06 ~ 2002,02,12

試験日 2002,02,08

**1.PURPOSE**

This is a certification test report for the requirements of FMVSS No.214 "Side Impact protection (Dynamic)".

**2.CONCLUSION**

Complied with FMVSS No.214 Moving deformable barrier crash requirement. Vehicle impacted on Left side.

**3.SUMMARY OF TEST RESULTS**

**3.1 TEST RESULTS**

**APPLIED MODELS**

Y34  
USA  
ALL MODELS  
with side air bag

ITEM	REQUIREMENT	RESULT		JUDGE-MENT
		FRONT Passenger	REAR Passenger	
S.5.1 Thorax	The Thoracic Trauma Index(TTI(d)) shall not exceed 85g for passenger cars with four side doors, and shall not exceed 90g for passenger cars with two side doors, when calculated in accordance with the following formula : $TTI(d) = 1/2(GR + GLS)$ The term "GR" is the greater of the peak accelerations of either the upper or lower rib expressed in g's and the term "GLS" is the lower spine (T12) peak acceleration, expressed in g's. The peak acceleration values are obtained in accordance with the procedure specified in S.6.13.5.	53	67	OK
S. 5.2 Pelvis	The peak lateral acceleration of the pelvis, as measured in accordance with S.6.13.5, shall not exceed 130g's.	94 g	90 g	OK
S.5.3 Door opening	(1)Any side door, which is struck by the moving deformable barrier, shall not separate totally from the car. (2)Any door (including a rear hatchback or tailgate), which is not struck by the moving deformable barrier, shall meet the following requirements : ① The door shall not disengage from the latched position. ② The latch shall not separate from the striker, and the hinge components shall not separate from each other or from their attachment to the vehicle. ③ Neither the latch nor the hinge systems of the door shall pull out of their anchorages.	STRUCK SIDE	NON STRUCK SIDE	OK
		FR	FR	
		Complied	Complied	
		RR	RR	
		Complied Complied		
		Tailgate		

**3.2 TEST CONDITIONS**

(1)Test Vehicle MODEL : MPHALQN Y34 (VEC No. DL-377)

VIN : JNKAY4IE53M000019

ENGINE : VK45DE

T/M : A/T

(2)Test Method In accordance with FMVSS No.214 "Side Impact protection".

(3)Type of Dummy Subpart M of 572(SID/H III) produced by, FTSS (FR), FTSS (RR).

(4)Impact Velocity \* 61.9 km/h ( 38.5 mph)

(5)Weight of Test Vehicle 1959 kg ( 4319 lbs.)

(6)Weight of Moving Barrier 1368 kg ( 3016 lbs.)

\*This higher speed impact test result covers FMVSS214 test result.

XR4 主担	名崎 担当
KAB	KS4
主担	主担
丸山	江藤
担当者	担当者
藤村	竹野

3.3 REASON FOR TEST CONDITIONS

3.3.1 TEST VEHICLE SELECTION

The test vehicle was selected by the reason that the body construction and interior parts for all models do not have any differences which influence on the performance of this crash.

The weight of test vehicle was set up the minimum weight among application models.

3.3.2 IMPACT SIDE

Left side impact condition was selected to represent both left and right impact conditions for this certification test since this model has a symmetric body structure.

3.4 CONDITION OF WEIGHTS

	TOTAL	FRONT	REAR
*DESIGN WEIGHT	1959	987	972
TEST WEIGHT	1959	991	968

(kg)

\*Vehicle Type : MPHALWNY34 with Full option

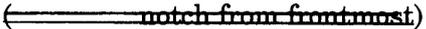
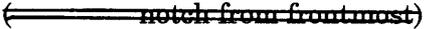
CARGO & LUGGAGE WEIGHT	<p style="text-align: center;">_____ 50 _____</p> <p style="text-align: center;">Loading Position : LUGGAGE AREA</p>
WEIGHT ADJUSTMENT	<p style="text-align: center;">_____ 0 _____</p>

(kg)

3.5 CONDITION OF VEHICLE

FUEL TANK	Usable Capacity : <u>80</u> l Charged Volume : <u>75.2</u> l ( <u>94</u> % ) Test Fluid Name : <u>SHELL LAWS</u> Specific gravity : <u>0.79</u> Used the fluid specified in Table 1 ASTM D484-76.
IGNITION KEY POSITION	ON
FUEL PUMP OPERATION	( <del>YES</del> , NO ) <u>Electric</u> Pump
PARKING BRAKE	ENGAGED
TRANSMISSION	<del>MANUAL-SECOND GEAR</del> / AUTOMATIC--NEUTRAL
TIRE PRESSURE	Front : <u>230</u> kpa Rear : <u>230</u> kpa
STEERING COLUMN POSITION	Tilt : Midpoint of swing <del>or nominal design position.</del> Telescopic : Midpoint of stroke.
HOOD	Fully closed and latched
DOOR & TRUNK LID (REAR GATE)	Fully closed and latched but not locked
SIDE WINDOW GLASS	Front Right (Opened, <del>Closed</del> ) Rear Right ( <del>Opened</del> , <del>Closed</del> ) REMOVED Front Left ( <del>Opened</del> , Closed) Rear Left ( <del>Opened</del> , Closed)
OPTIONAL EQUIPMENT	None

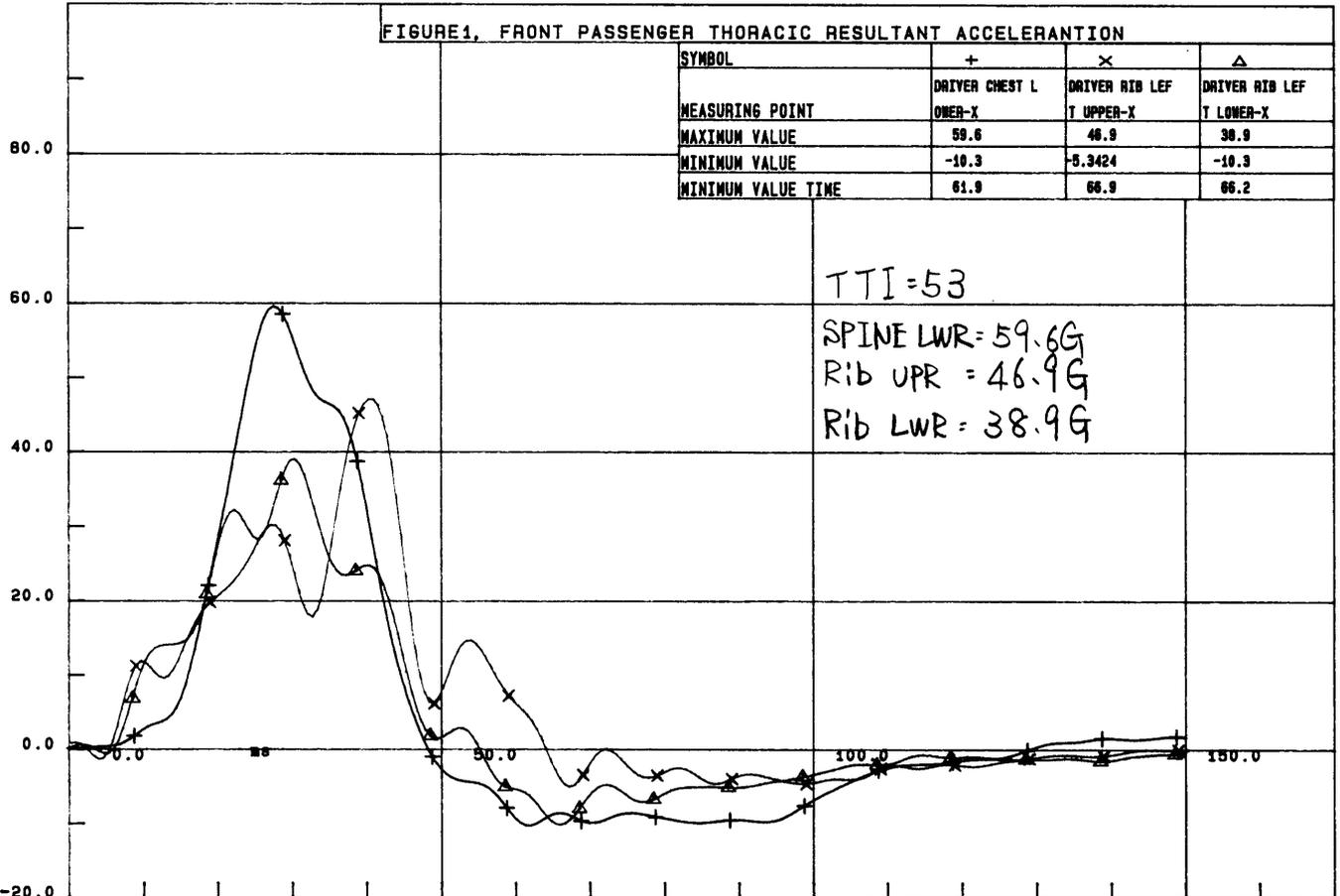
### 3.6 CONDITION OF DUMMYS

Used Restraints	FRONT : With active belt(three points) and side air bag device. REAR : With active belt(three points)
Type of Dummies	Subpart F of PART 572 (Side Impact Dummy) produced by <i>FTSS</i> (FR) <i>FTSS</i> (RR)
Position of Dummies	Left front and left rear outboard designated seating position.
Position of Seats	Seat slide : Front : Midpoint <del>or the closest position to the rear of the Midpoint</del>  Rear : Not adjustable.
	Seat lifter : Front : Lowest position. Rear : Not adjustable.
	Seat back : Front : Nominal design position. <i>Torso angle 21°</i>  Rear : Not adjustable <del>or Nominal design position</del> . 
	Head restraint : Front : Highest position. Rear : <del>Not adjustable</del> or Highest position.
Positioning Method	In accordance with F.M.V.S.S. No.214.S.7
Condition of Method	In accordance with F.M.V.S.S. No.214S.6.13.1~S.6.13.4
Temperature of Dummies	Driver : <u>22.0</u> °C , Passenger : <u>22.0</u> °C

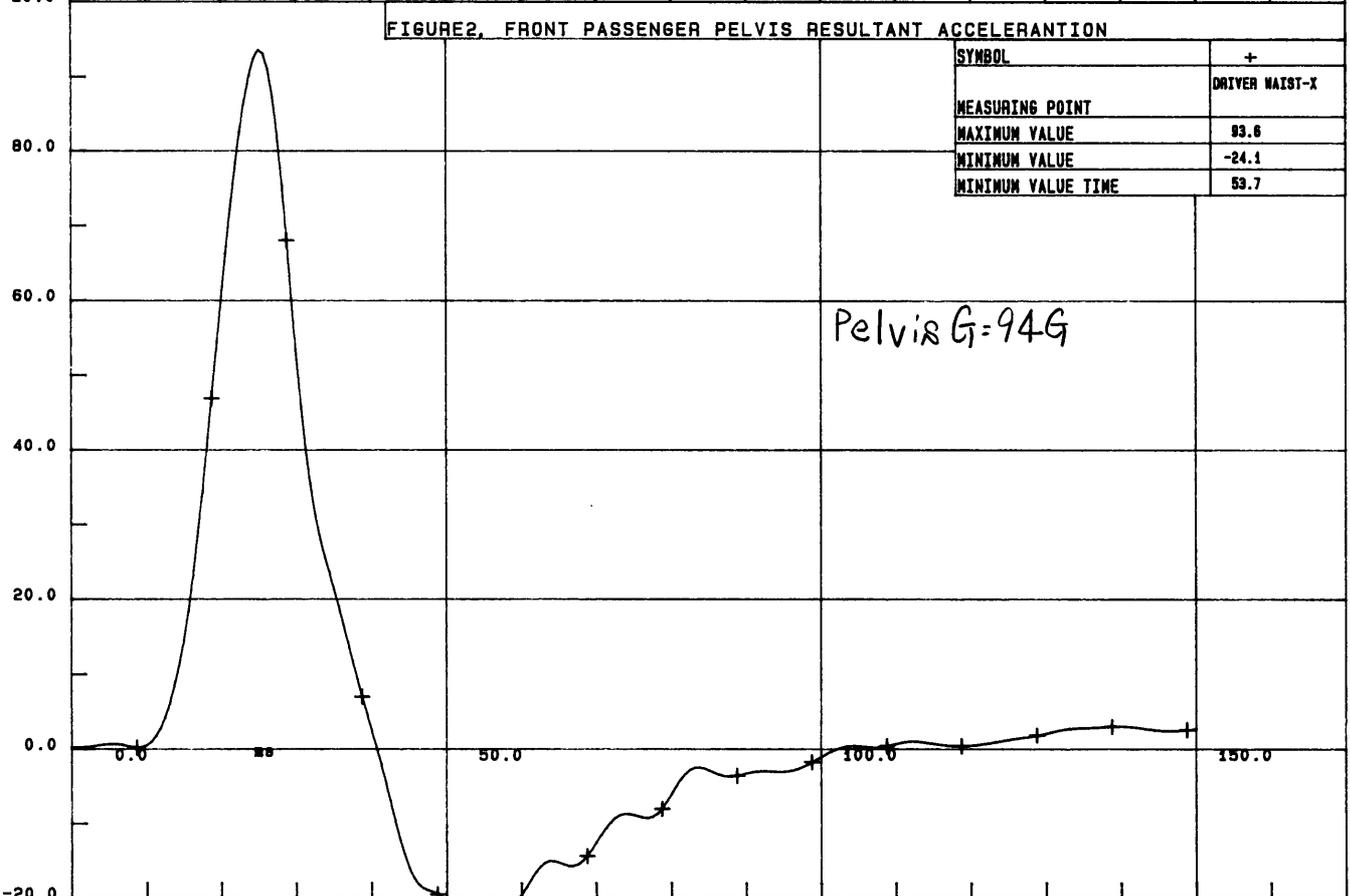
### 4.DATA

- 4.1 Detailed data of front passenger's injury criteria.  
See Figure 1~2.
- 4.2 Detailed data of Rear Passenger's injury criteria.  
See Figure 3~4.
- 4.3 Photographs of the test vehicle before and after.  
See Photo. 1~8.

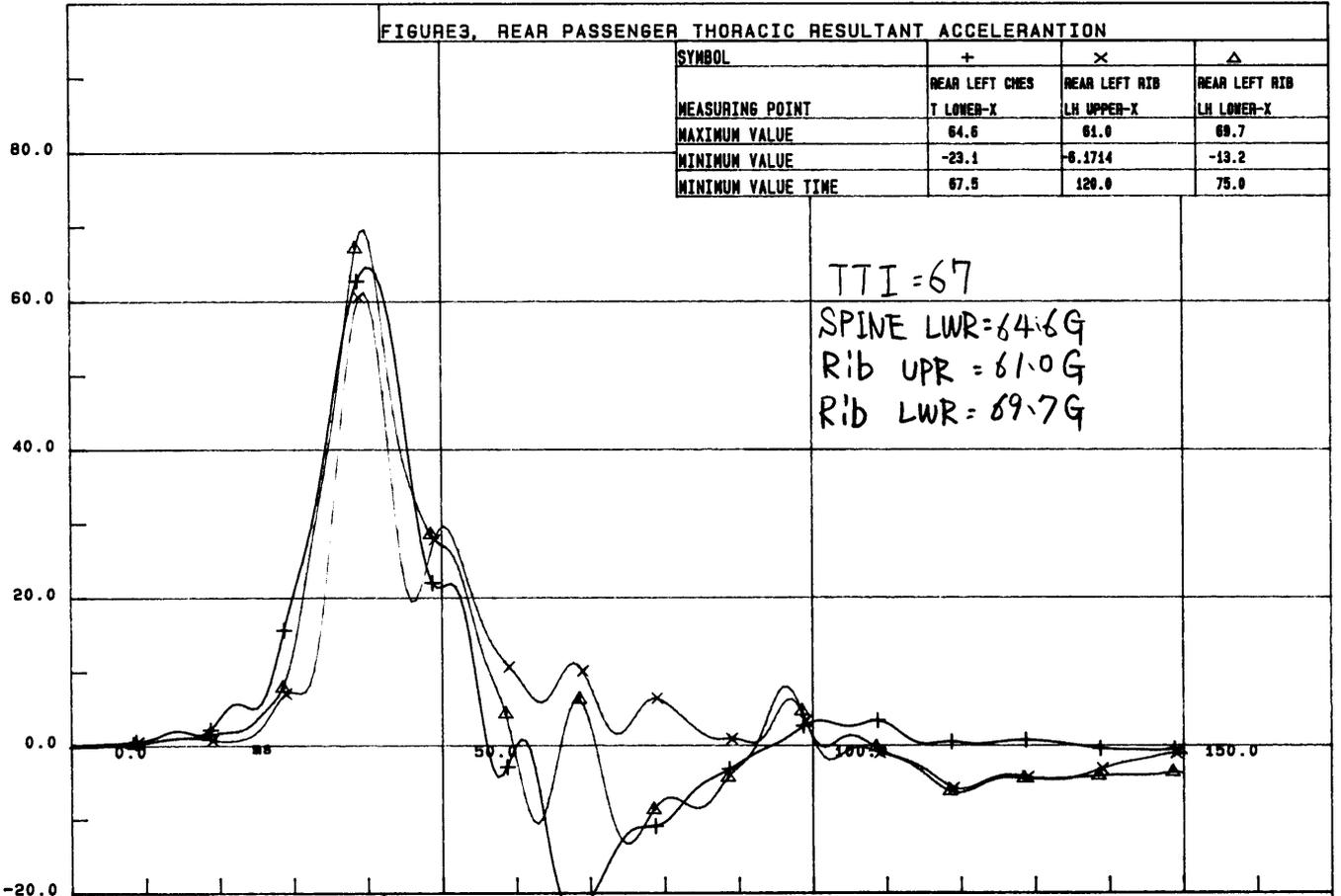
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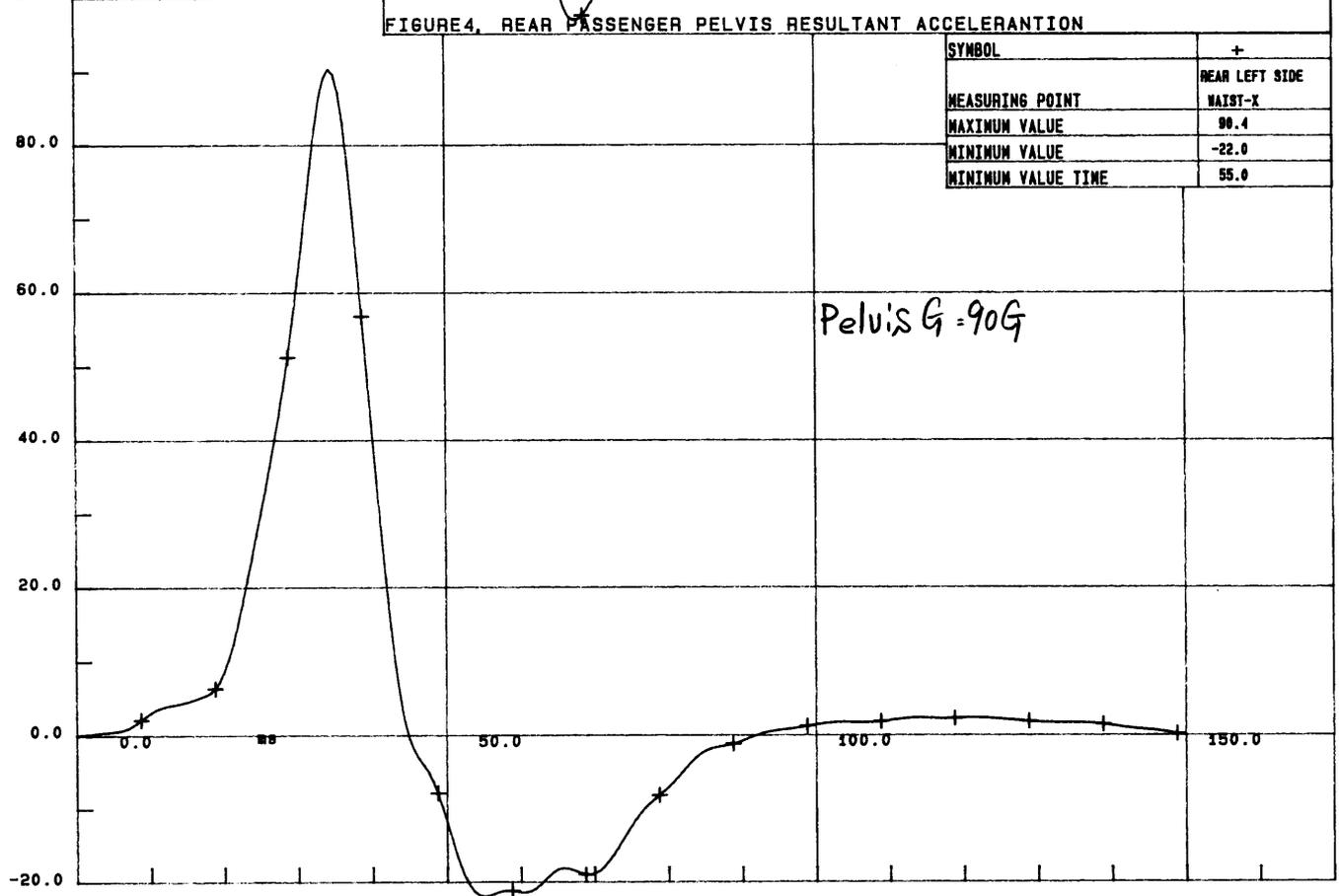


Photo. No.1	<i>[Signature]</i>
Photo. No.2	

Test Report No. K4X02N070



AUT68232. JPG

Photo. No.1                      PRETEST

SUBJECT :    Side    view



AUT68254. JPG

Photo. No.2                      POSTTEST

SUBJECT :    Side    view

Photo. No.3	
Photo. No.4	

Test Report No. K4X02N070



AUT68228. JPG

Photo. No.3                      PRETEST

SUBJECT :    Front    view



AUT68303. JPG

Photo. No.4                      POSTTEST

SUBJECT :    Front    view

Photo. No.5	
Photo. No.6	

Test Report No. K4X02N070



Photo. No.5                      PRETEST  
SUBJECT :    Rear    view

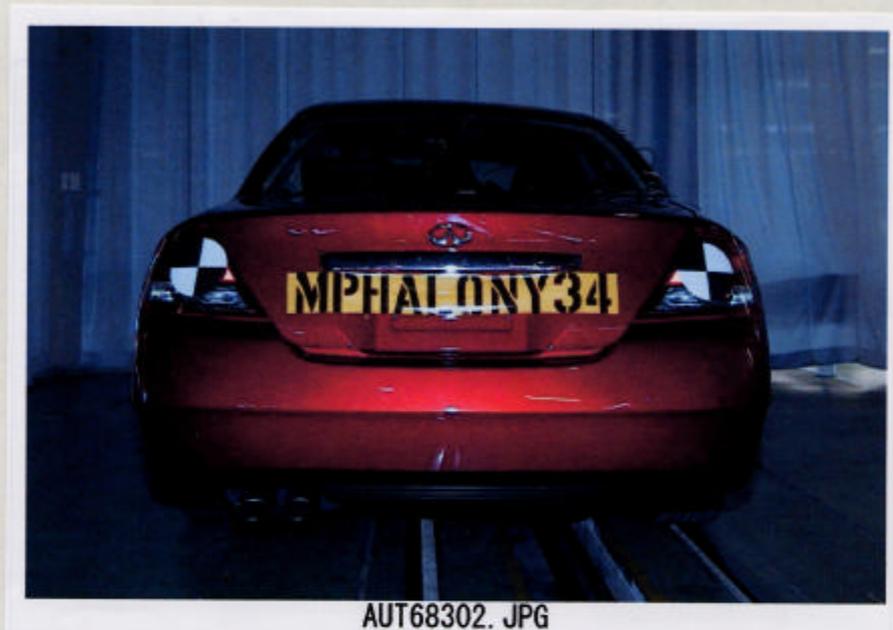


Photo. No.6                      POSTTEST  
SUBJECT :    Rear    view

- 9/10 -

Photo. No.7	<i>6</i>
Photo. No.8	

Test Report No. K4X02N070



AUT68235. JPG

Photo. No.7

PRETEST

SUBJECT : Front dummy, Rear dummy, Position view



AUT68313. JPG

Photo. No.8

POSTTEST

SUBJECT : Front dummy, Rear dummy, Position view



4. 添付データ

**Data**

- 4 - 1 . 乗員傷害値を 図 - 1 ~ 図 - 3 に示す ..... P.3 ~ 4  
**Passenger's injury criteria See Figure 1-3**
- 4 - 2 . 状況写真を写真 - 1 ~ 11 に示す ..... P.5 ~ 7  
**Photographs See Photo 1-11**

4. 添付データ

**Data**

- 4 - 1 . 乗員傷害値を 図 - 1 ~ 図 - 2 に示す ..... P.3 ~ 4  
**Passenger's injury criteria See Figure 1-3**
- 4 - 2 . 状況写真を写真 - 1 ~ 11 に示す ..... P.5 ~ 7  
**Photographs See Photo 1-11**