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ISUZU ENGINEERING TEST REPORT

ET5 - 1093

CERTIFICATION TEST REPORT

FMVSS 301

FUEL SYSTEM INTEGRITY

REAR MOVING BARRIER IMPACT

1998 ISUZU RODEO

ISUZU MODEL NO. UES 25F

TAIL GATE MOUNTING SPARE TIRE

TEST NO. A7204

ISUZU MOTORS LIMITED

VEHICLE SAFETY ENGINEERING DEPT.

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1. SELECTION OF TEST VEHICLE

○: TEST

—: Substitute by other vehicle

Test Item		UER/S		
		UES25F	UER25F	UER30F
Perpendicular Frontal Barrier		○ Attachment B (ET5-1085)	— (byUES25F)	○ Attachment C (ET5-1086)
Right side Oblique Frontal Barrier		○ Attachment D (ET5-1087)	— (byUES25F)	○ Attachment E (ET5-1088)
Left Side Oblique Frontal Barrier		○ Attachment F (ET5-1089)	— (byUES25F)	○ Attachment G (ET5-1090)
Left-hand Side Lateral Moving Barrier		○ Attachment H (ET5-1091)	— (byUES25F)	— (byUES25F)
Right-hand Side Lateral Moving Barrier		*) NO TEST	— (byUES25F)	— (byUES25F)
Rear Moving Barrier	Tail Gate MTG Spare Tire	○ Attachment J (ET5-1093)	— (byUES25F)	— (byUES25F)
	Under Floor MTG Spare Tire	○ Attachment K (ET5-1094)	— (byUES25F)	— (byUES25F)

*):1).All vehicle models of UES25F,UER25F,UER30F are identical design concerning the side body structure and side fuel system(fuel tank & fuel line) .

2).Fuel tank & fuel line are located only left side body.

2. SUMMARY DATA

SUMMARY OF TEST CONDITION (1)TYPE OF TEST

FRONTAL () IMPACT
 OBLIQUE () IMPACT ON LEFT(DRIVER'S)SIDE
 RIGHT SIDE
 LATERAL OR SIDE IMPACT ON LEFT(DRIVER'S)SIDE
 REAR IMPACT

TEST CONDITIONS

DATE OF TEST: Feb. 4, 1997 TIME OF TEST: 11:42
 AMBIENT TEMPERATURE AT IMPACT AREA: 5°C
 TEMPERATURE IN OCCUPANT COMPARTMENT: 5°C

TEST VEHICLE INFORMATION

MANUFACTURER : ISUZU MOTORS LIMITED
 MAKE / MODEL : ISUZU/UES25F
 BODY STYLE : MPV 4-DOOR MODEL YEAR: 1998
 VIN. : JACCM58W8W7C00021
 TEST NO : A-7204 BODY COLOR: RED
 ENGINE DATA : 6 CYLINDERS ; 3.2 liters
 GASOLINE ; DIESEL ; TURBOCHARGED
 LONGITUDINAL ; TRANSVERSE ;
 TRANSMISSION DATA : 4 SPEED , MANUAL , AUTOMATIC ,
 FINAL DRIVE DATA : FWD , RWD , 4WD
 MAJOR OPTIONS : A/C , P/S , P/B , P/wdo ,
 TILT WHEEL , P/seats , CRUISE CONTROL
 TYPE OF OCCUPANT RESTRAINT : Driver and passenger airbag with type II belt

TEST FLUID DATA

TEST FLUID TYPE : RED STODDARD SOLVENT SPECIFIC GRAVITY : 0.777
 KINEMATIC VISOSDSITY : 1.39CST
 NOMINAL FUEL CAPACITY : 83 Liters (NFC)
 TEST VOLUME : 78 Liters (94% of NFC)
 ELECTRICE FUEL POMP : YES NO FUEL INJECTION : YES NO

SAMMARY OF TEST CONDITION (2)VEHICLE TIRE DATA

COLD TIRE PRESSIRE : FRONT 196 KPa
 REAR 196 KPa
 TIRES SIZE ON VEHICLE : 235/75 R15
 IS SPARE TIRE A "SPACE SAVER" : NO
 IS SPARE TIRE STANDARD EQUIPMENT : YES

VEHICLE CAPACITY

NUMBER OF OCCUPANTS : 2 FRONT; 3 REAR; - 3rd seat
 TYPE OF FRONT SEATS : x BUCKET; - BENCH; - SPLIT BENCH
 TYPE OF FRONT SEAT BACK : - FIXED x Adj.with x LEVER - Rot.knob
 RATED CARGO AND LUGGAGE
 WEIGHT (RCLW) = 136 kg
 GVWR : 2223 kg

CALCULATION FOR TARGET TEST WEIGHT

UW = Unloaded Weight (Including OW) (1696 kg)
 OW = Option Weight (- kg)
 DSC = Designated Seating Capacity (5)
 RCLW = 136 kg
 TARGET TEST WEIGHT = UW + OW + RCLW + (2 dummies * 80.0kg/dummy)
 TARGET TEST WEIGHT = 1993 kg

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO

RIGHT FRONT = 466 kg RIGHT REAR = 505 kg
 LEFT FRONT = 504 kg LEFT REAR = 518 kg
 TOTAL FRONT WEIGHT = 970 kg (47 % of Total vehicle weight)
 TOTAL REAR WEIGHT = 1023 kg (53 % of Total vehicle weight)
 TOTAL TEST WEIGHT = 1993 kg

3. Test Data

(1) POST IMPACT SUMMARY

Vehicle : UES25F (JACCM58W8W7C00021)Test No. : Feb. 4, 1997Date : A-7204IMPACT VELOCITY : PRIMARY = 49.0 km/h (30.4 MPH)

VEHICLE STATIC CRUSH : Driver Side : 271 mm
 Passenger's Side : 199 mm
 Average : 235 mm

FUEL SYSTEM INTEGRITY - FMVSS 301-75

	Actual	Max. Allow.
Fuel spillage impact until vehicle motion ceases.	0	1 ounce
Fuel spillage for 5 minute period following cessation of vehicle motion after impact.	0	5 ounce
Fuel spillage for next 25 minute period	0	1 ounce 1 minute

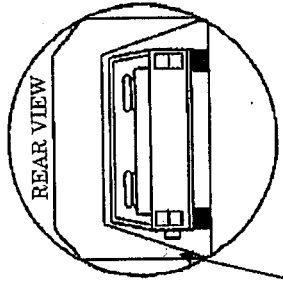
FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

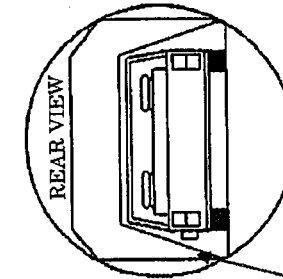
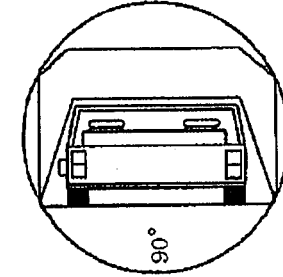
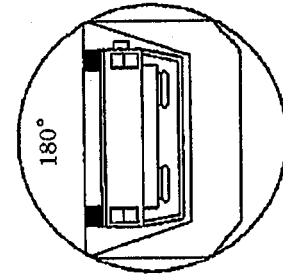
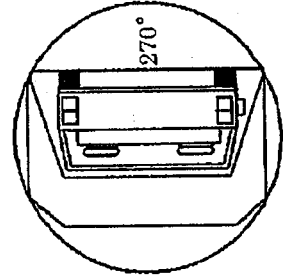
STATIC ROLLOVER (1 st. Roll ; Clockwise)

Test No. A-7204

Vehicle : UES25F VIN. JACCM58W8W7C00021



FILLER CAP 0/360



FILLER CAP 0/360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1-3 minutes	5 ounce	1 ounce	1 ounce

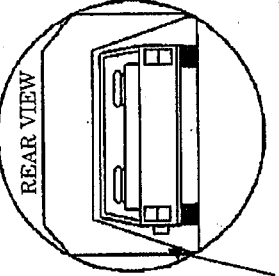
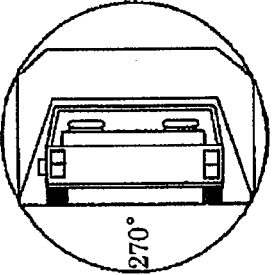
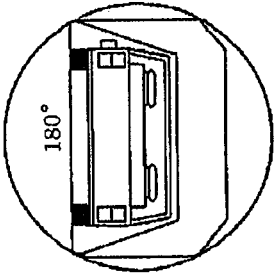
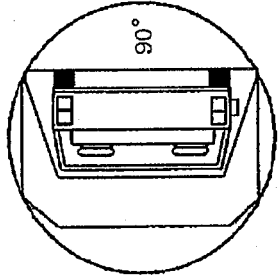
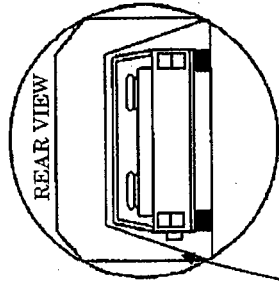
FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (2 nd. Roll ; Clockwise)

Vehicle : UES25F (VIN. JACCM58W8W7C00021)

Test No. A-7204



FILLER CAP 0 / 360

FILLER CAP 0 / 360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1 - 3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

4. PHOTOGRAPHS

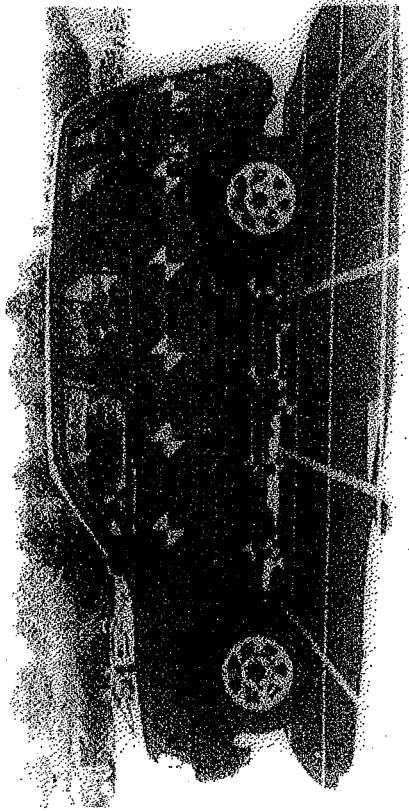


PHOTO 2 REAR TEST LEFT SIDE VIEW

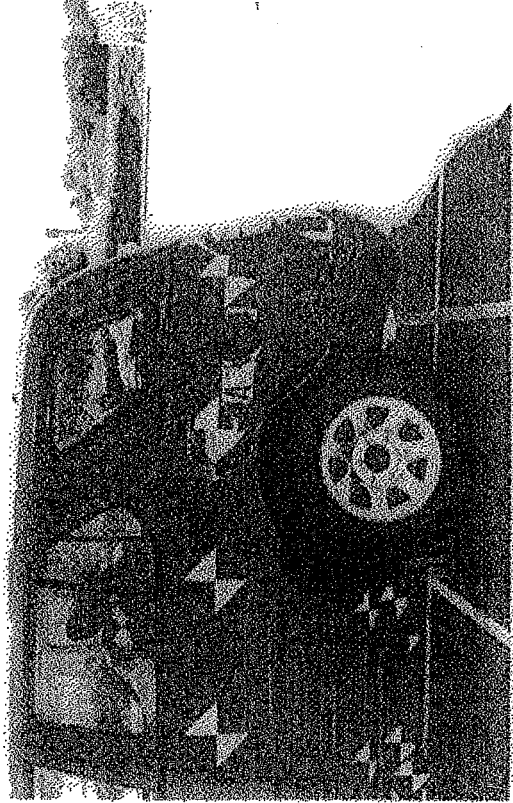


PHOTO 1 REAR TEST LEFT SIDE VIEW

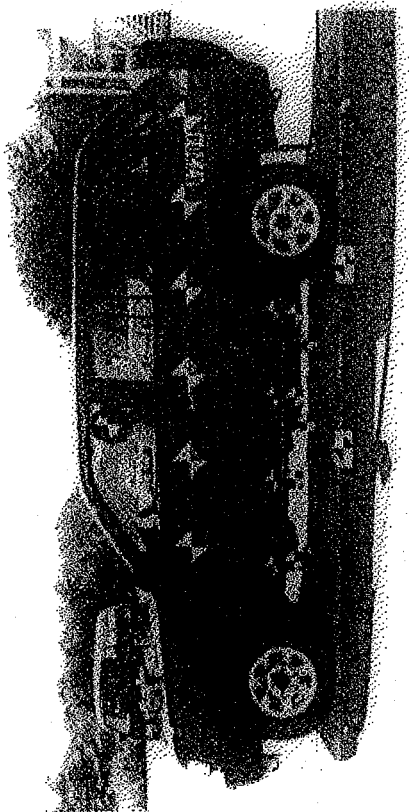


PHOTO 4 FRONT TEST LEFT SIDE VIEW



PHOTO 3 FRONT TEST LEFT SIDE VIEW

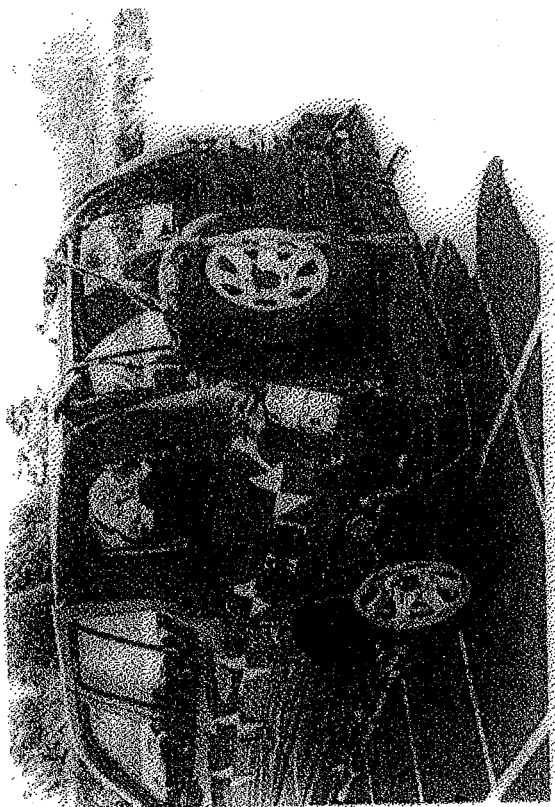


PHOTO 6 - POST TEST REAR THREE QUARTER LEFT SIDE VIEW



PHOTO 5 - PRE TEST REAR THREE QUARTER LEFT SIDE VIEW

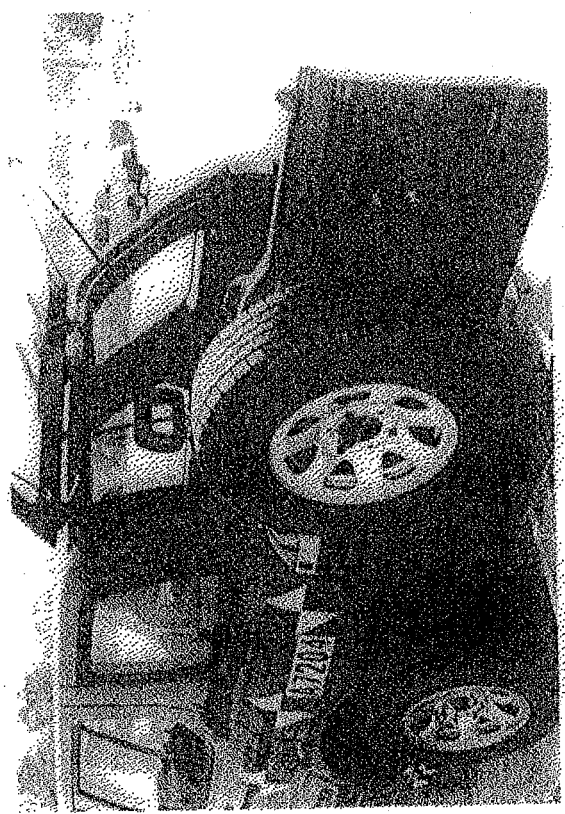


PHOTO 7 - POST TEST REAR THREE QUARTER LEFT SIDE VIEW (RAW FROM OPEN)

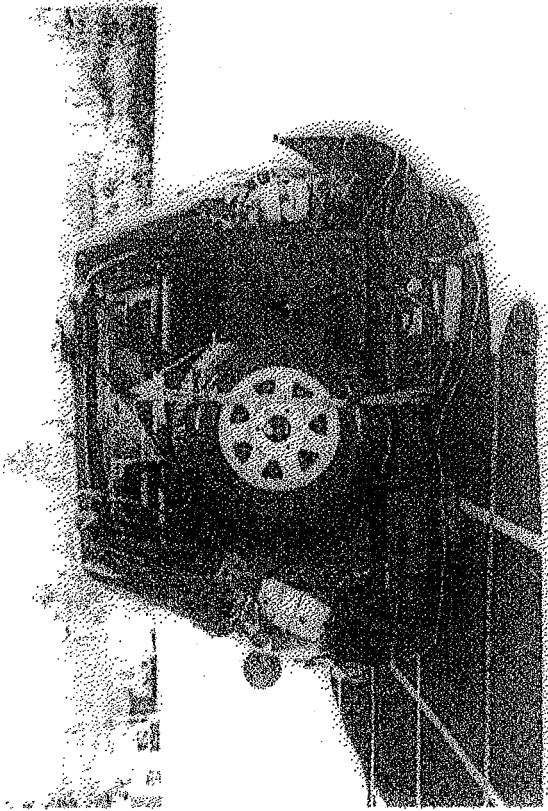


PHOTO 9 POSTTEST REAR VIEW

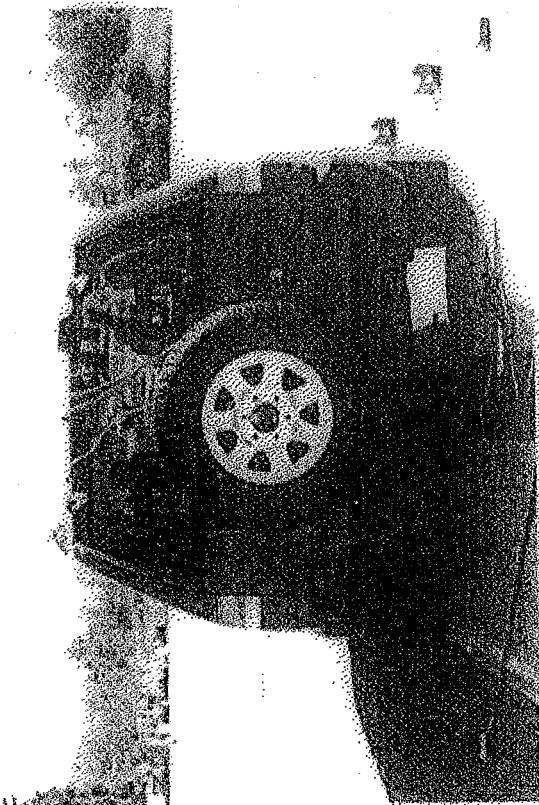


PHOTO 8 PRETEST REAR VIEW

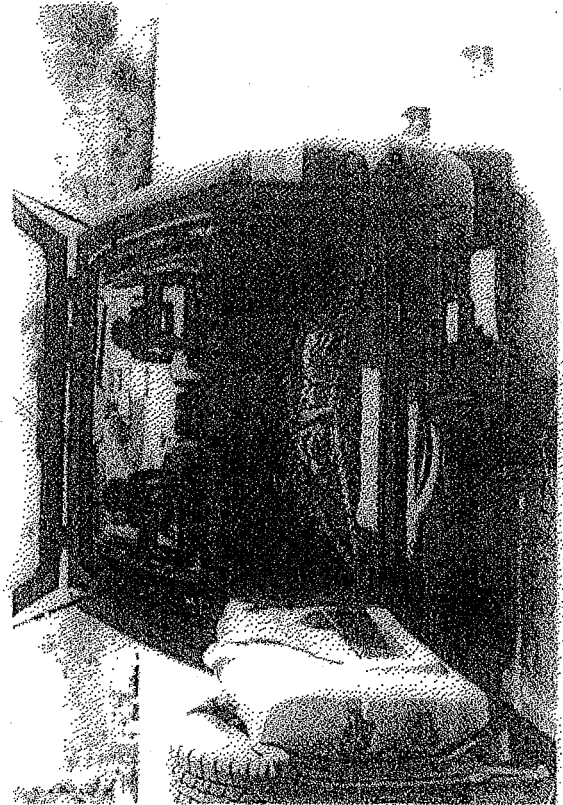


PHOTO 10 PRETEST REAR VIEW

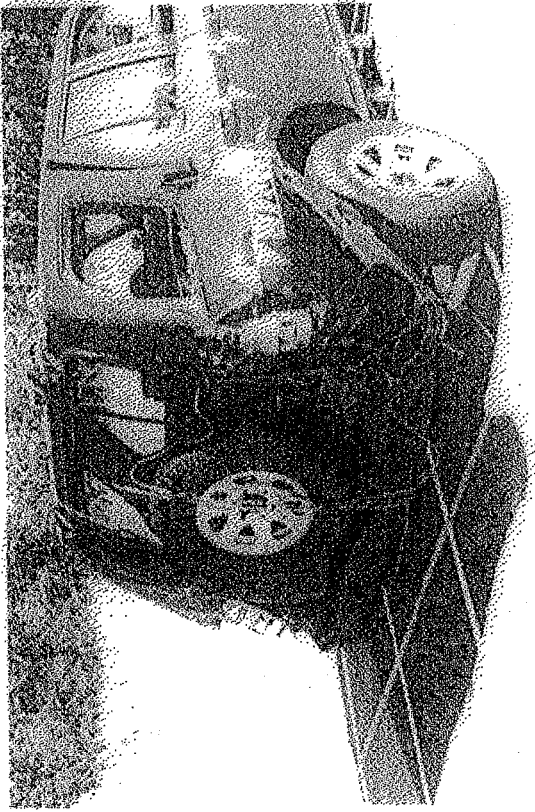


PHOTO 12 - POST TEST - REAR THREE QUARTER SIDE VIEW



PHOTO 11 - PRE TEST - REAR THREE QUARTER SIDE VIEW



PHOTO 13 - POST TEST - REAR THREE QUARTER SIDE VIEW (BACK BRUSH OPEN)

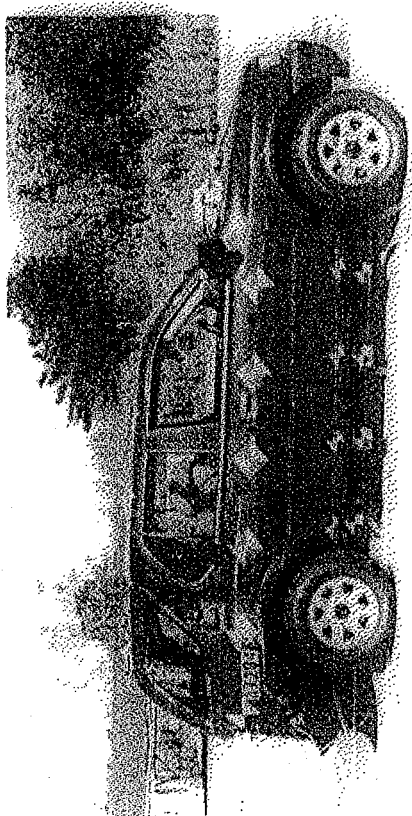


PHOTO 10 - PRE-TEST - REAR RIGHT SIDE VIEW

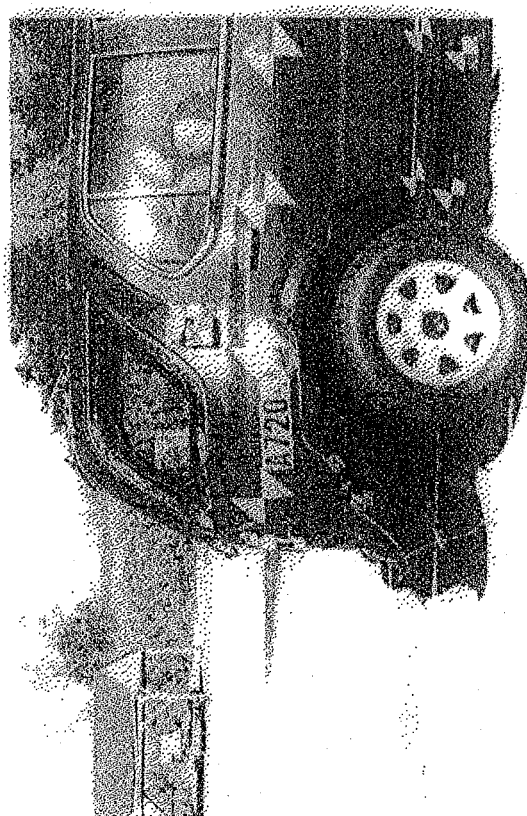


PHOTO 11 - POST-TEST - REAR LEFT SIDE VIEW

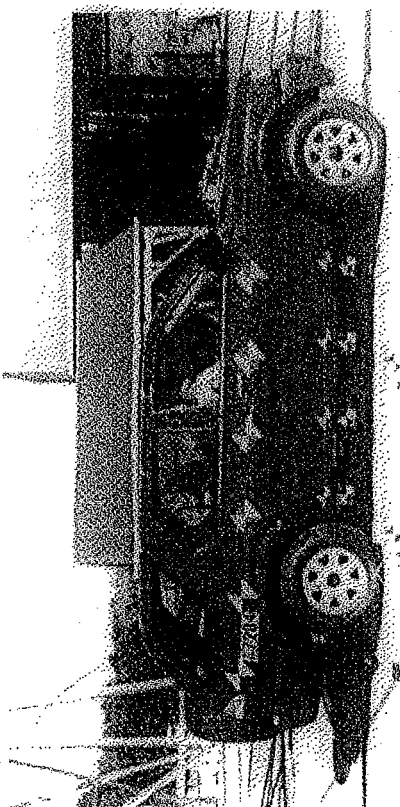


PHOTO 12 - PRE-TEST - FRONT RIGHT SIDE VIEW

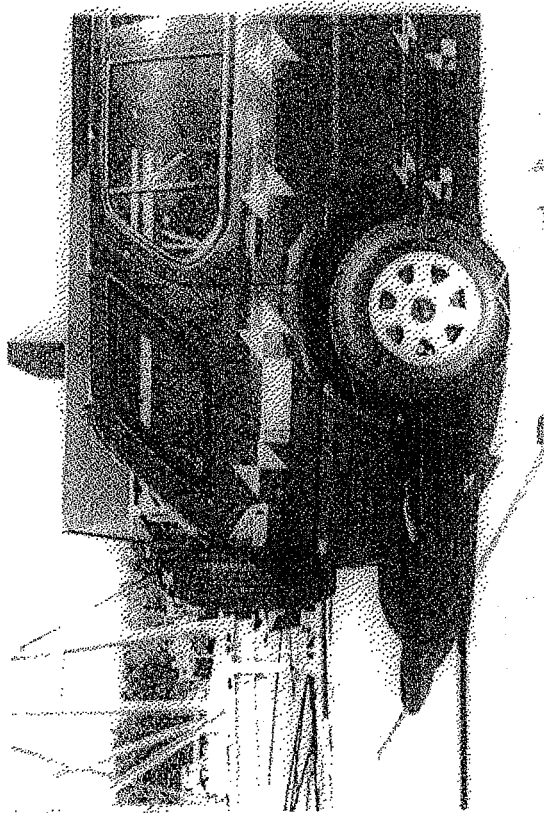


PHOTO 13 - PRE-TEST - FRONT LEFT SIDE VIEW



PHOTO 19 POST TEST OVERHEAD VIEW

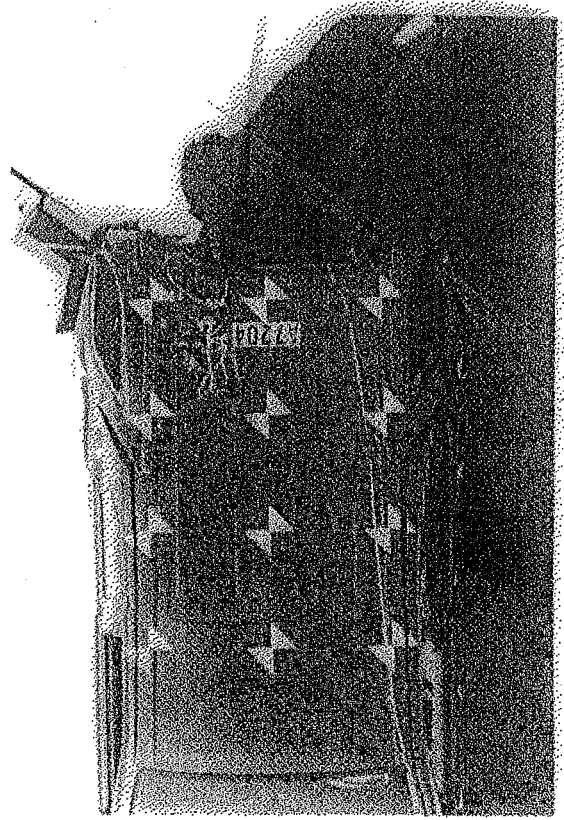


PHOTO 21 POST TEST OVERHEAD VIEW

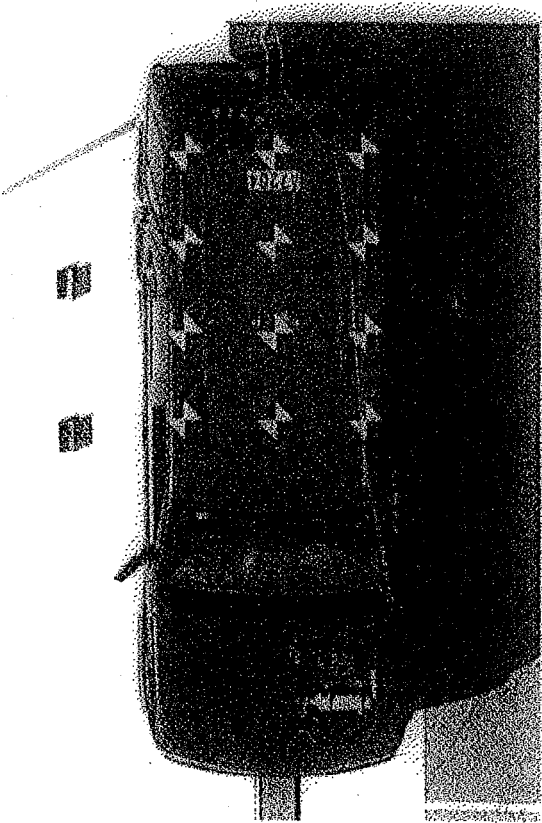


PHOTO 18 PRE TEST OVERHEAD VIEW

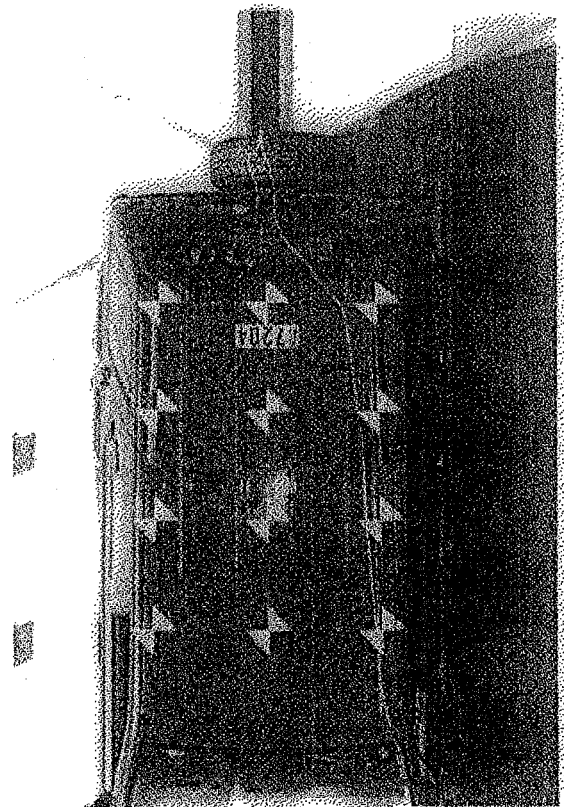


PHOTO 20 PRE TEST OVERHEAD VIEW

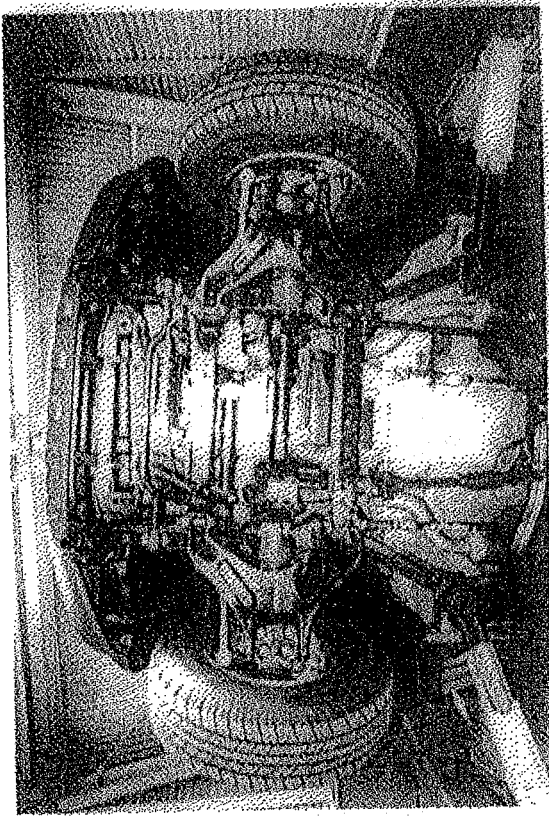


PHOTO 23 - POST-TEST FRONT UNDERBODY VIEW

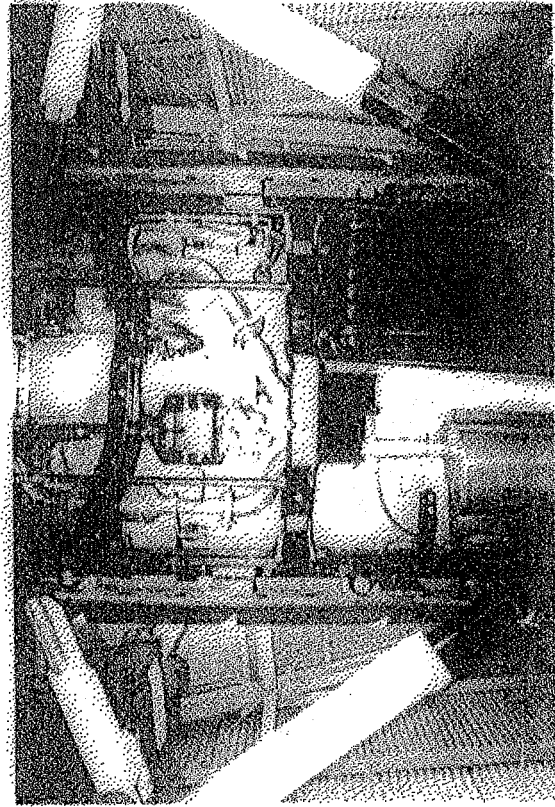


PHOTO 25 - POST-TEST CENTER UNDERBODY VIEW

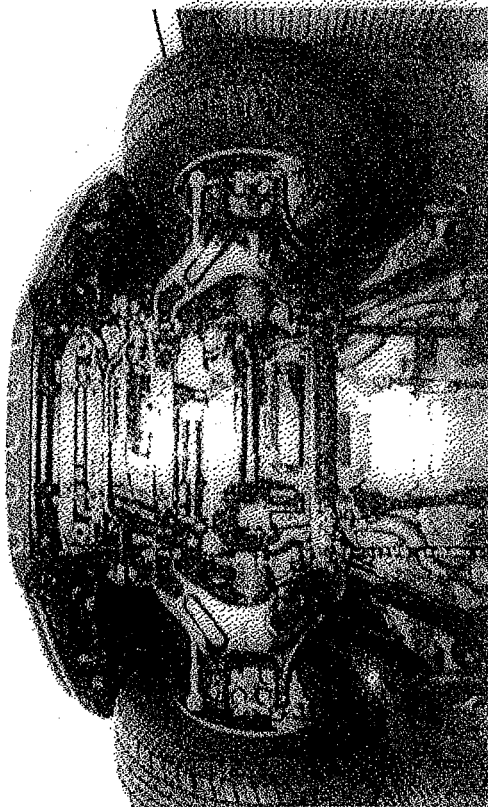


PHOTO 22 - PRE-TEST FRONT UNDERBODY VIEW

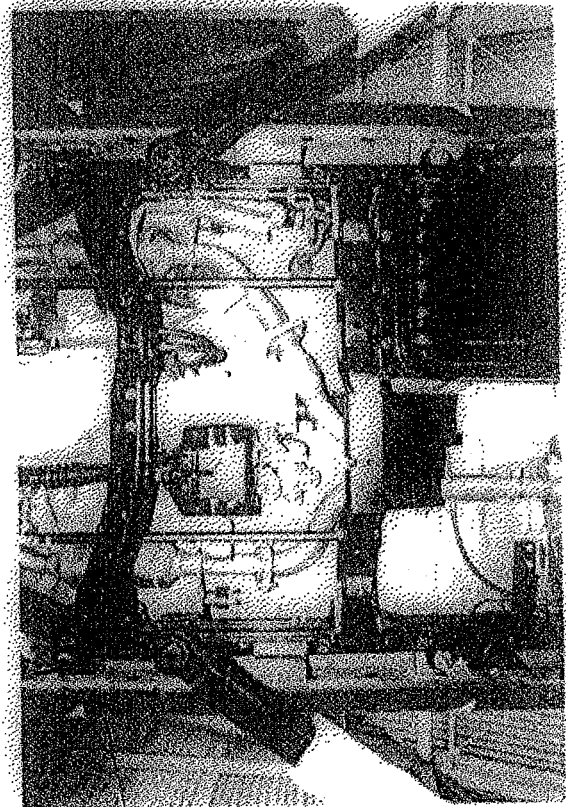


PHOTO 24 - PRE-TEST CENTER UNDERBODY VIEW

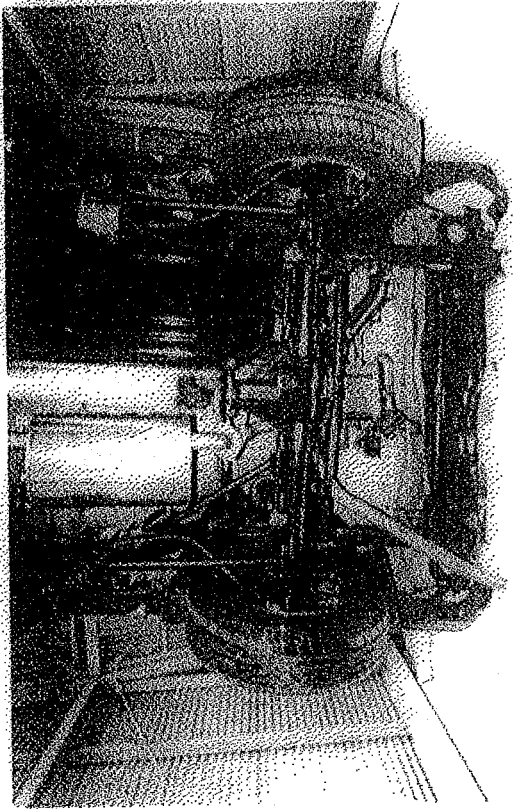


PHOTO 27 POST TEST REAR UNDERBODY VIEW

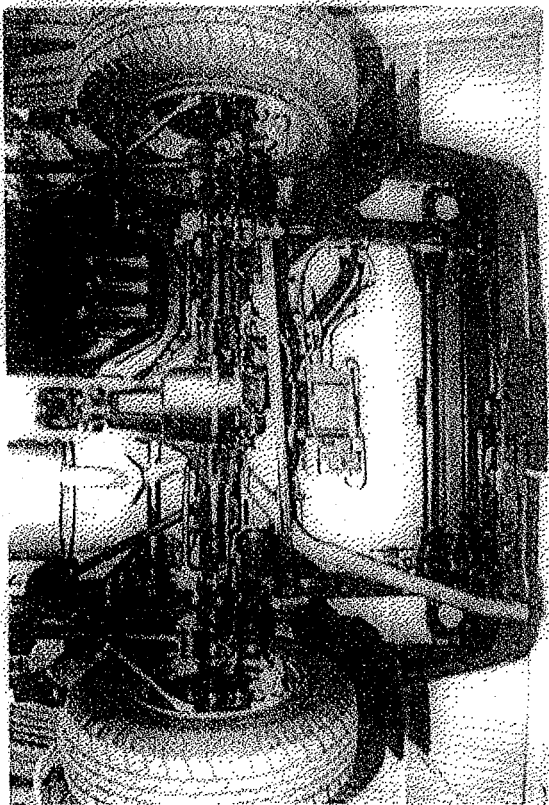


PHOTO 26 PRE TEST REAR UNDERBODY VIEW

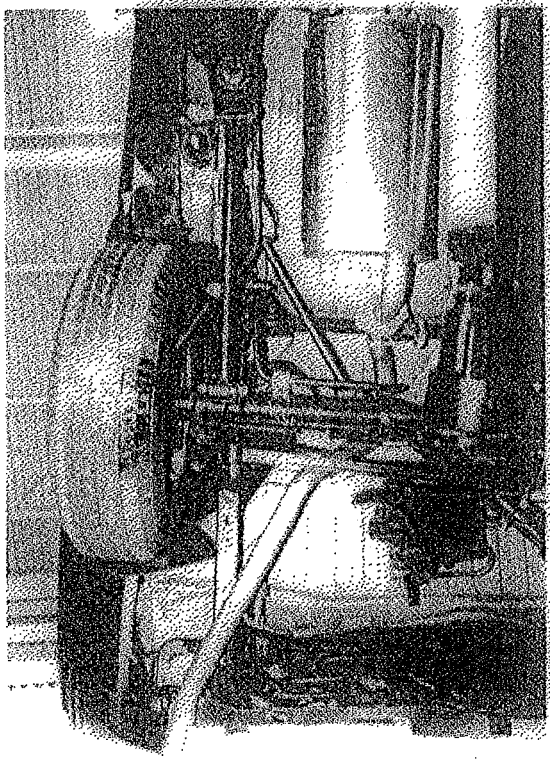


PHOTO 28 POST TEST NEAR UNDERBODY VIEW (RILANED)

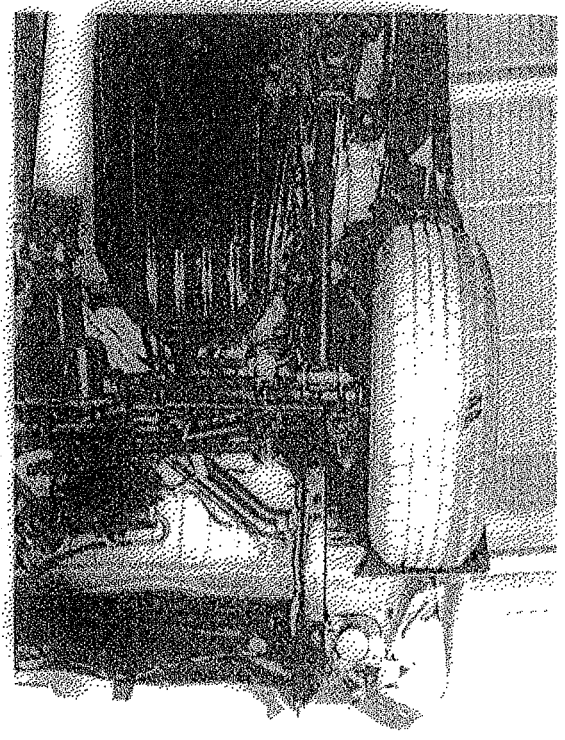


PHOTO 29 POST TEST NEAR UNDERBODY VIEW (RILANED)

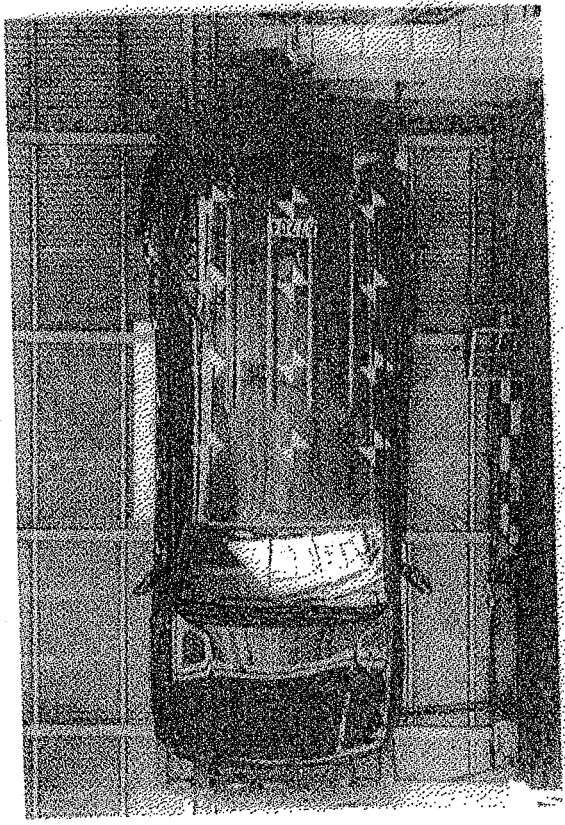


PHOTO 1 - POSTTEST - STATIC ROLLOVER (UP)

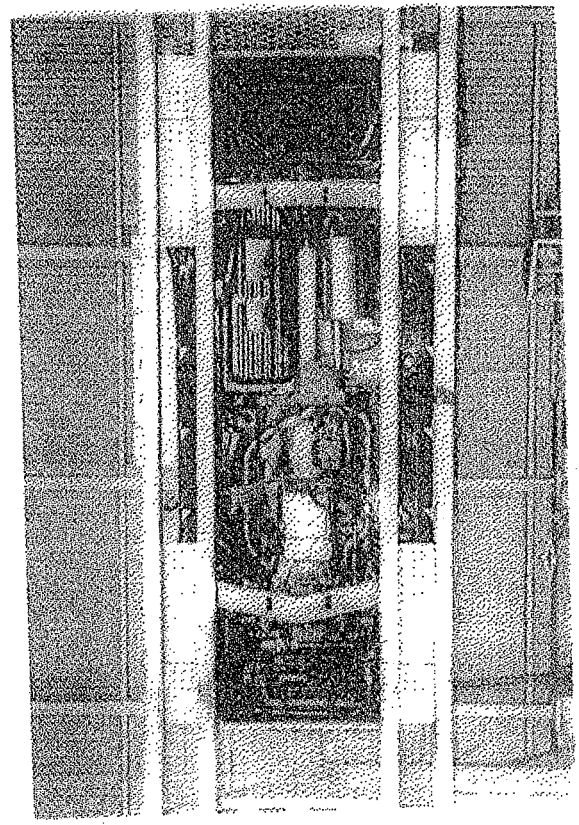


PHOTO 2 - POSTTEST - STATIC ROLLOVER (UP)

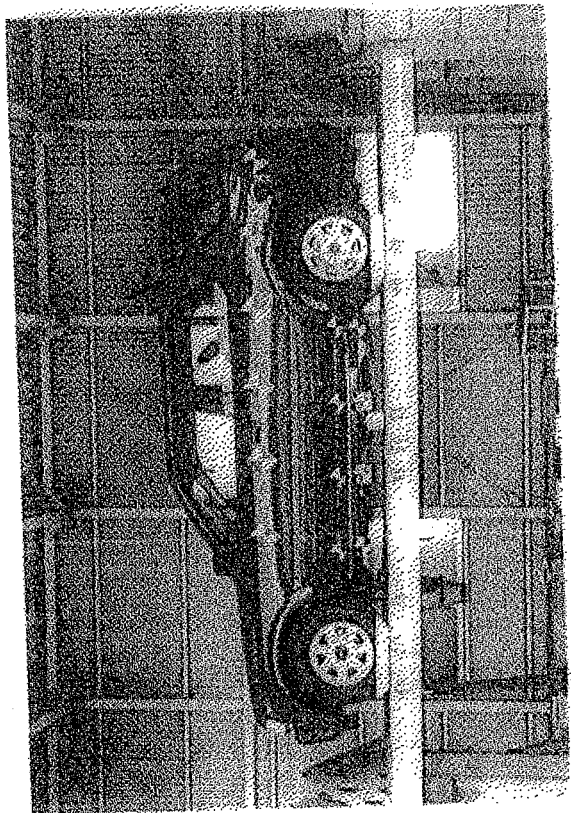


PHOTO 3 - POSTTEST - STATIC ROLLOVER (UP)

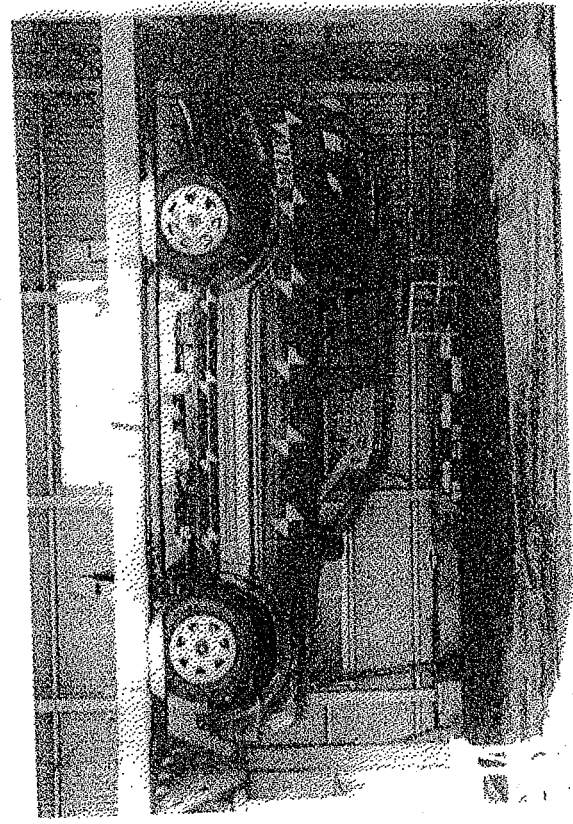


PHOTO 4 - POSTTEST - STATIC ROLLOVER (UP)

CONFIDENTIAL INFORMATION REDACTED

ISUZU ENGINEERING TEST REPORT

ET5 - 1094

CERTIFICATION TEST REPORT

FMVSS 301

FUEL SYSTEM INTEGRITY

REAR MOVING BARRIER IMPACT

1998 ISUZU RODEO

ISUZU MODEL NO. UES 25F

UNDERFLOOR MOUNTING SPARE TIRE

TEST NO. A6D25

ISUZU MOTORS LIMITED

VEHICLE SAFETY ENGINEERING DEPT.

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1. SELECTION OF TEST VEHICLE

○: TEST

-: Substitute by other vehicle

Test Item		UER/S		
		UES25F	UER25F	UER30F
Perpendicular Frontal Barrier		○ Attachment B (ET5-1085)	- (byUES25F)	○ Attachment C (ET5-1086)
Right side Oblique Frontal Barrier		○ Attachment D (ET5-1087)	- (byUES25F)	○ Attachment E (ET5-1088)
Left Side Oblique Frontal Barrier		○ Attachment F (ET5-1089)	- (byUES25F)	○ Attachment G (ET5-1090)
Left-hand Side Lateral Moving Barrier		○ Attachment H (ET5-1091)	- (byUES25F)	- (byUES25F)
Right-hand Side Lateral Moving Barrier		*) NO TEST	- (byUES25F)	- (byUES25F)
Rear Moving Barrier	Tail Gate MTG Spare Tire	○ Attachment J (ET5-1093)	- (byUES25F)	- (byUES25F)
	Under Floor MTG Spare Tire	○ Attachment K (ET5-1094)	- (byUES25F)	- (byUES25F)

*):1).All vehicle models of UES25F,UER25F,UER30F are identical design concerning the side body structure and side fuel system(fuel tank & fuel line) .

2).Fuel tank & fuel line are located only left side body.

2. SUMMARY DATA

SUMMARY OF TEST CONDITION (1)TYPE OF TEST

FRONTAL () IMPACT
 OBLIQUE () IMPACT ON LEFT(DRIVER'S)SIDE
 RIGHT SIDE
 LATERAL OR SIDE IMPACT ON LEFT(DRIVER'S)SIDE
 REAR IMPACT

TEST CONDITIONS

DATE OF TEST: Dec. 25. 96 TIME OF TEST: 15:13
 AMBIENT TEMPERATURE AT IMPACT AREA: 10°C
 TEMPERATURE IN OCCUPANT COMPARTMENT: 10°C

TEST VEHICLE INFORMATION

MANUFACTURER: ISUZU MOTORS LIMITED
 MAKE / MODEL : ISUZU/UES25F
 BODY STYLE : MPV 4-DOOR MODEL YEAR: 1998
 VIN. : JACCM58W7W7E00002
 TEST NO : A-6D25 BODY COLOR: RED
 ENGINE DATA : 6 CYLINDERS; 3.2 liters
 GASOLINE; DIESEL; TURBOCHARGED
 LONGITUDINAL; TRANSVERSE;
 TRANSMISSION DATA : 4 SPEED, MANUAL, AUTOMATIC,
 FINAL DRIVE DATA : FWD, RWD, 4WD
 MAJOR OPTIONS : A/C, P/S, P/B, P/wdo,
 TILT WHEEL, P/seats, CRUISE CONTROL
 TYPE OF OCCUPANT RESTRAINT : Driver and passenger airbag with type II belt

TEST FLUID DATA

TEST FLUID TYPE : RED STODDARD SOLVENT SPECIFIC GRAVITY : 0.777
 KINEMATIC VISOSDSITY : 1.39CST
 NOMINAL FUEL CAPACITY : 83 Liters (NFC)
 TEST VOLUME : 78 Liters (94% of NFC)
 ELECTRICE FUEL POMP : YES NO FUEL INJECTION : YES NO

SAMMARY OF TEST CONDITION (2)

ET 5-1094

VEHICLE TIRE DATA

COLD TIRE PRESSIRE : FRONT 196 KPa
REAR 196 KPa
TIRES SIZE ON VEHICLE : 235/75 R15
IS SPARE TIRE A "SPACE SAVER" : NO
IS SPARE TIRE STANDARD EQUIPMENT : YES

VEHICLE CAPACITY

NUMBER OF OCCUPANTS : 2 FRONT; 3 REAR; - 3rd seat
TYPE OF FRONT SEATS : x BUCKET; - BENCH; - SPLIT BENCH
TYPE OF FRONT SEAT BACK : - FIXED x Adj.with x LEVER - Rot.knob
RATED CARGO AND LUGGAGE
WEIGHT (RCLW) = 136 kg
GVWR : 2223 kg

CALCULATION FOR TARGET TEST WEIGHT

UW = Unloaded Weight (Including OW) (1696 kg)
OW = Option Weight (- kg)
DSC = Designated Seating Capacity (5)
RCLW= 136 kg
TARGET TEST WEIGHT = UW + OW + RCLW + (2 dummies * 80.0kg/dummy)
TARGET TEST WEIGHT = 1993 kg

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO

RIGHT FRONT = 471 kg REGHT REAR = 511 kg
LEFT FRONT = 497 kg LEFT REAR = 514 kg
TOTAL FRONT WEIGHT = 968 kg (49 % of Total vehicle weight)
TOTAL REAR WEIGHT = 1025 kg (51 % of Total vehicle weight)
TOTAL TEST WEIGHT = 1993 kg

ET 5-1094

3. Test Data

(1) POST IMPACT SUMMARY

Vehicle : UES25F (JACCM58W7W7E00002)
Test No. : Dec. 25, 1997
Date : A-6D25

IMPACT VELOCITY : PRIMARY = 48.6 km/h (30.3 MPH)

VEHICLE STATIC CRUSH : Driver Side : 295 mm
Passenger's Side : 280 mm
Average : 287.5 mm

FUEL SYSTEM INTEGRITY - FMVSS 301-75

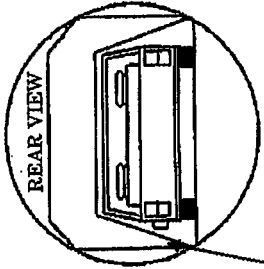
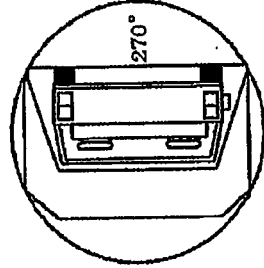
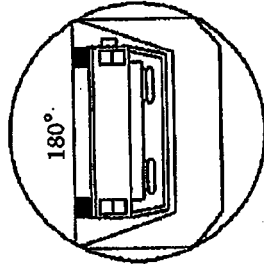
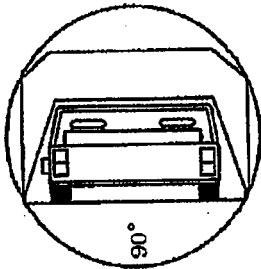
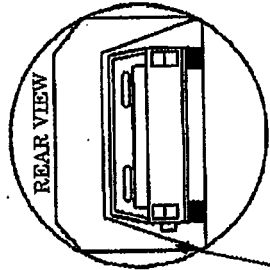
	Actual	Max. Allow.
Fuel spillage impact until vehicle motion ceases.	0	1 ounce
Fuel spillage for 5 minute period following cessation of vehicle motion after impact.	0	5 ounce
Fuel spillage for next 25 minute period	0	1ounce 1 minute

FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (1 st. Roll ; Clockwise)

Vehicle : UES25F (VIN. JACCM58W7W7E00002) Test No. A-6D25



FILLER CAP 0 / 360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1 - 3 minutes	5 ounce	1 ounce	1 ounce

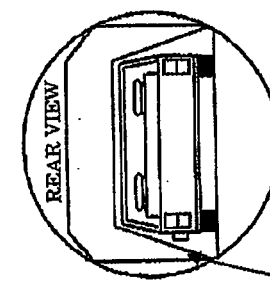
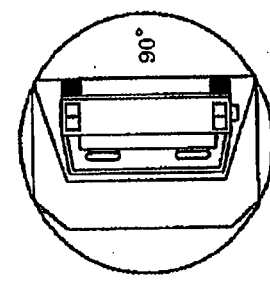
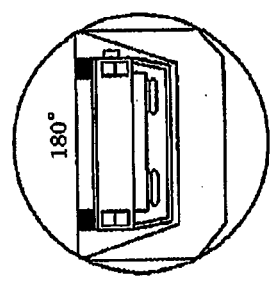
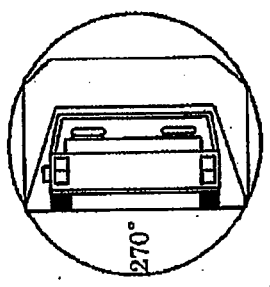
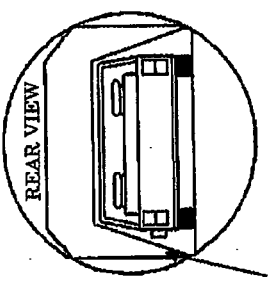
FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (2 nd. Roll ;Clockwise)

Test No. A-6D25

Vehicle : UES25F (VIN. JACCM58W7W7E00002)



FILLER CAP 0/360

FILLER CAP 0/360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1-3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

ET 5-1094

4. PHOTOGRAPHS

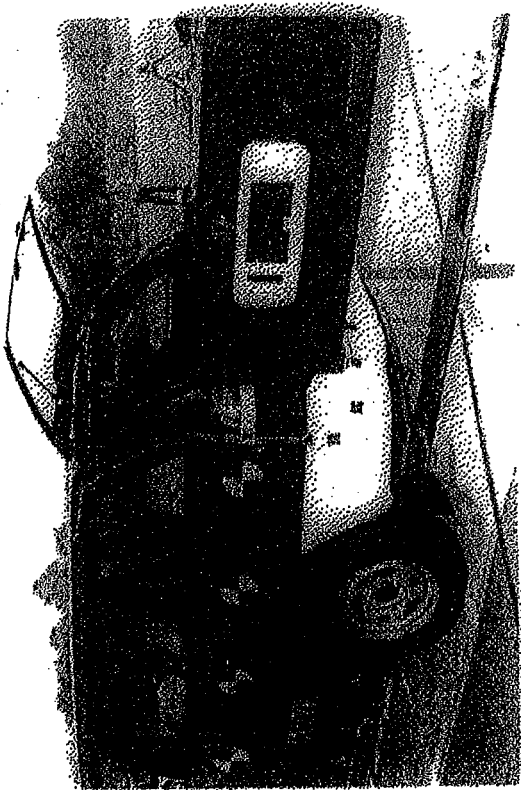


PHOTO 1 PRETEST REAR THREE QUARTER LEFT SIDE VIEW WITH OPEN HATCH DOOR

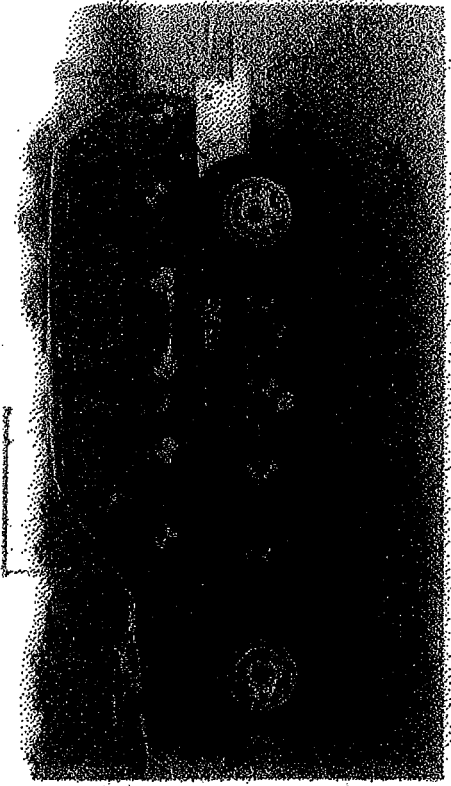


PHOTO 3 POSTTEST LEFT SIDE VIEW

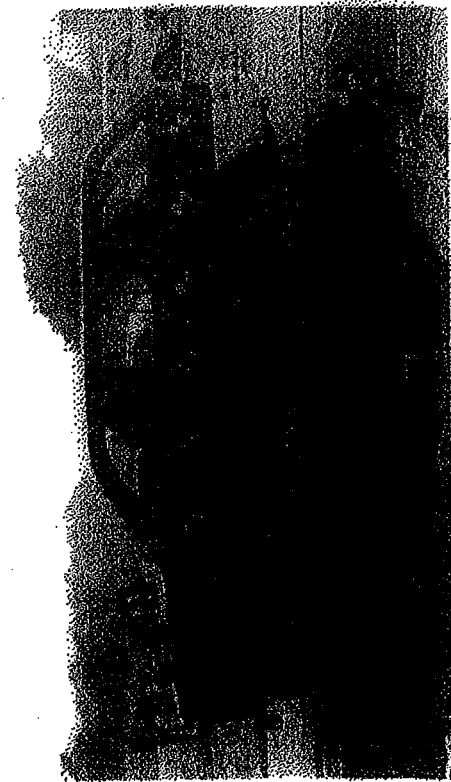


PHOTO 2 PRETEST LEFT SIDE VIEW



PHOTO 4 PRE TEST LEFT SIDE VIEW

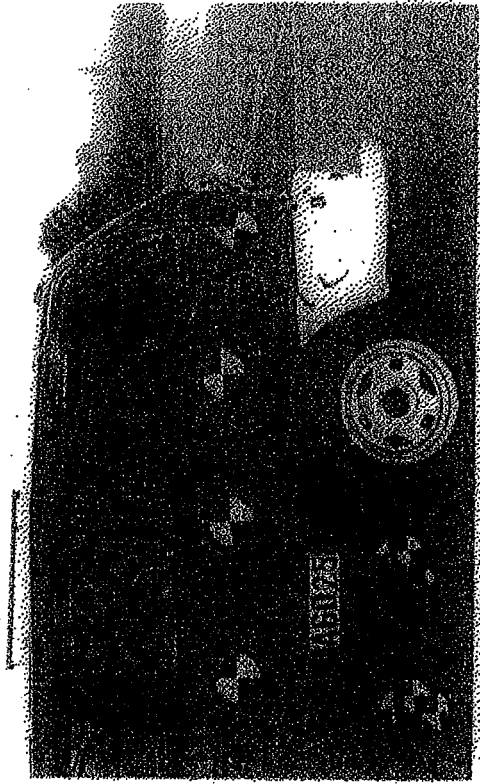


PHOTO 5 POST TEST LEFT SIDE VIEW



PHOTO 6 PRE TEST FRONT THREE QUARTER LEFT SIDE VIEW

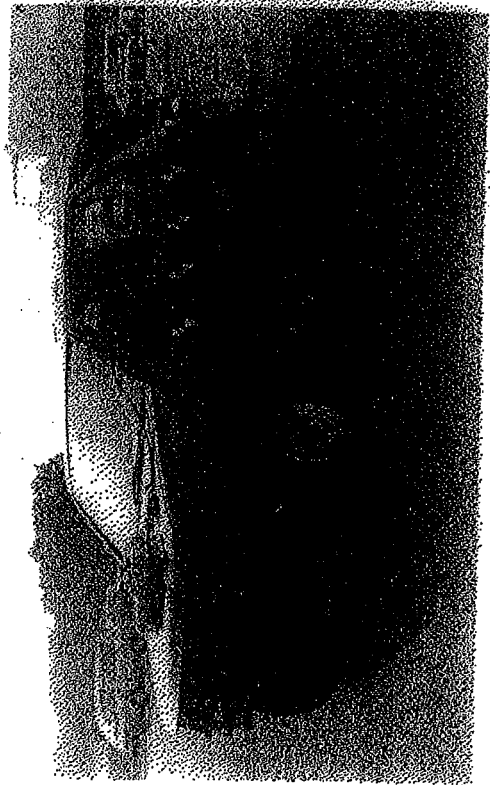


PHOTO 7 POST TEST FRONT THREE QUARTER LEFT SIDE VIEW



PHOTO 9 - POST TEST - REAR THREE QUARTER LEFT SIDE VIEW

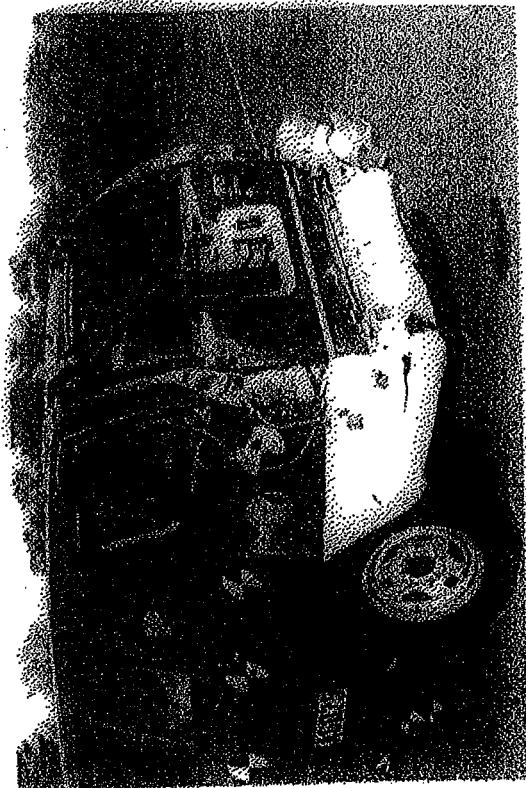


PHOTO 11 - POST TEST - REAR THREE QUARTER LEFT SIDE VIEW



PHOTO 8 - PRE TEST - REAR THREE QUARTER LEFT SIDE VIEW

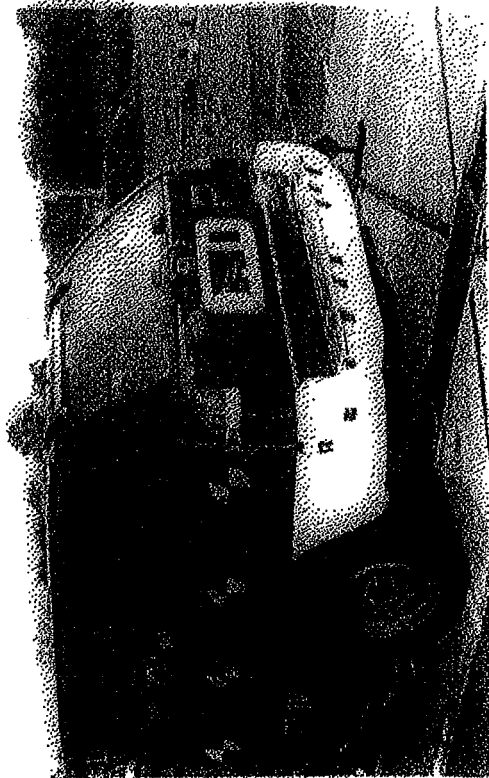


PHOTO 10 - PRE TEST - REAR THREE QUARTER LEFT SIDE VIEW

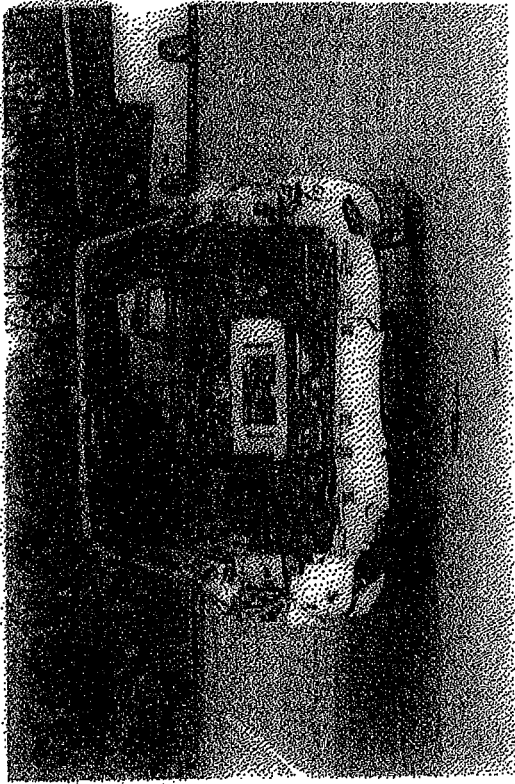


PHOTO 13 - POST TEST REAR VIEW



PHOTO 12 - PRETEST REAR VIEW

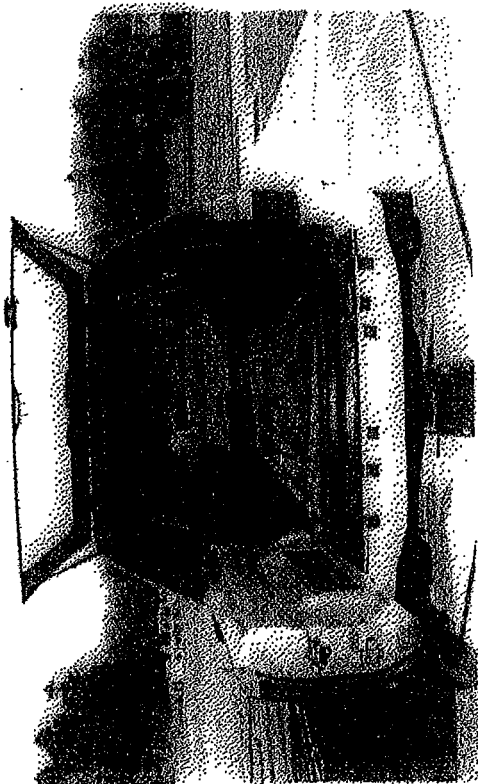


PHOTO 11 - PRETEST REAR VIEW

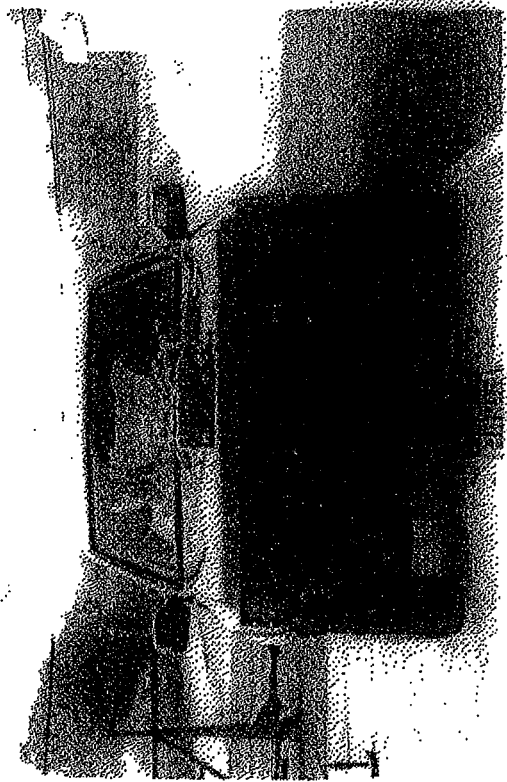


PHOTO 13 - PRE-TEST FRONT VIEW

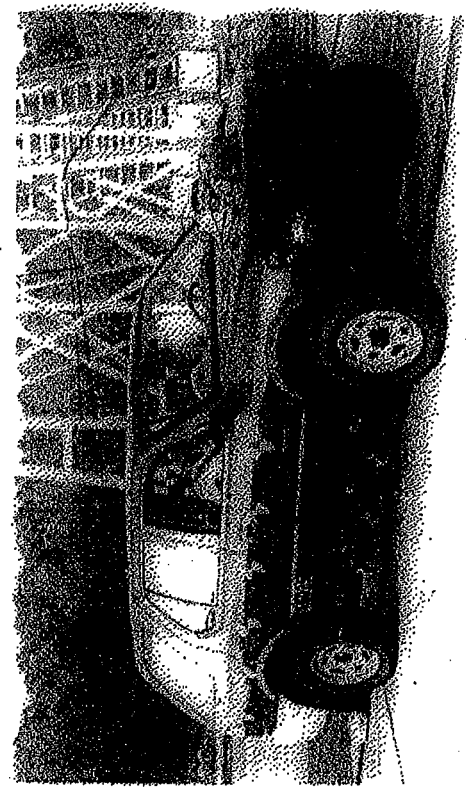


PHOTO 17 - PRE-TEST FRONT THREE QUARTER RIGHT SIDE VIEW



PHOTO 16 - POST-TEST FRONT VIEW

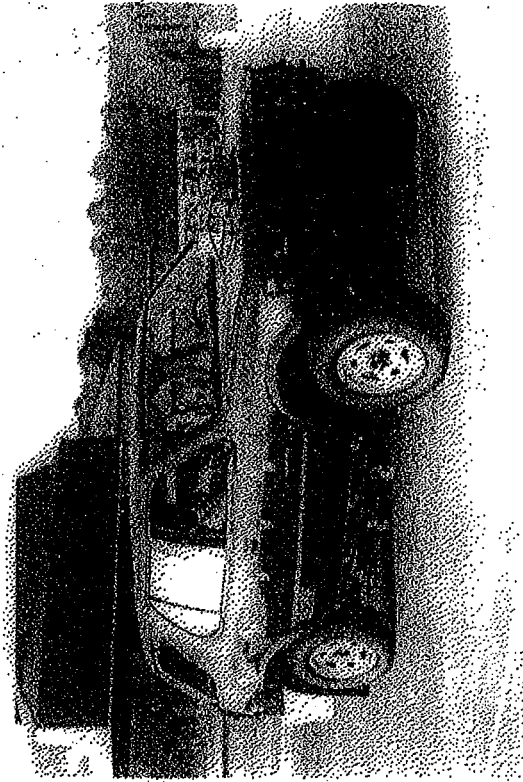


PHOTO 18 - POST-TEST FRONT THREE QUARTER RIGHT SIDE VIEW

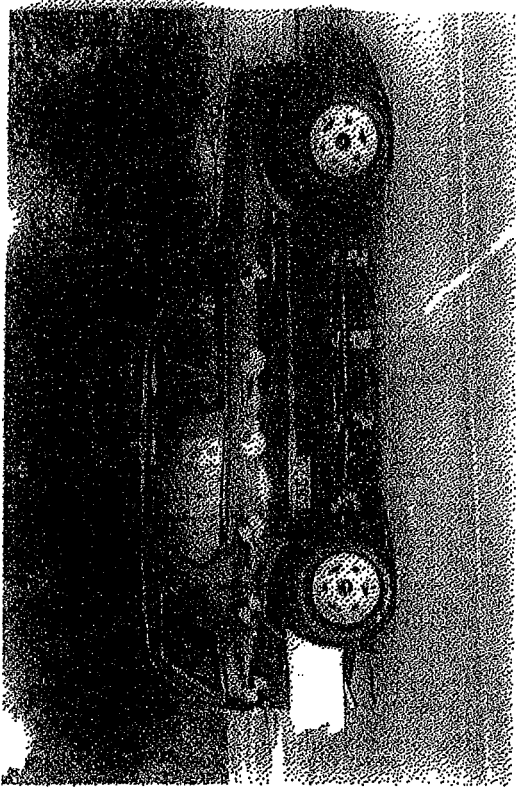


PHOTO 20 POST TEST RIGHT SIDE VIEW



PHOTO 22 POST TEST RIGHT SIDE VIEW

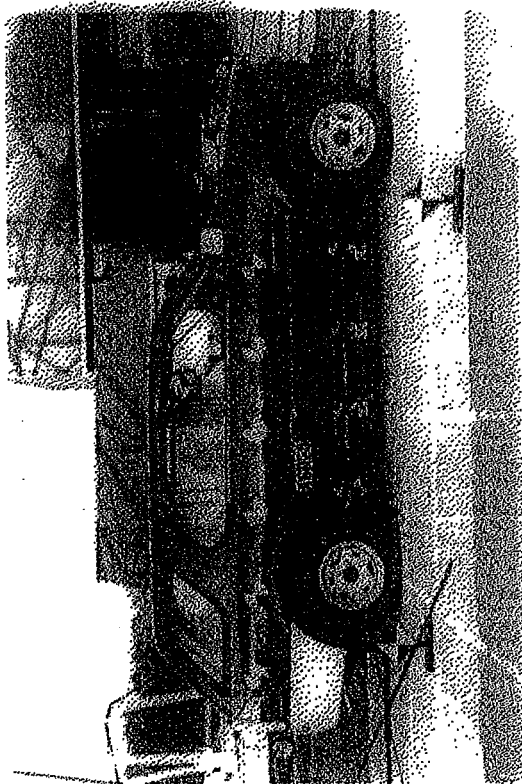


PHOTO 19 PRE TEST RIGHT SIDE VIEW

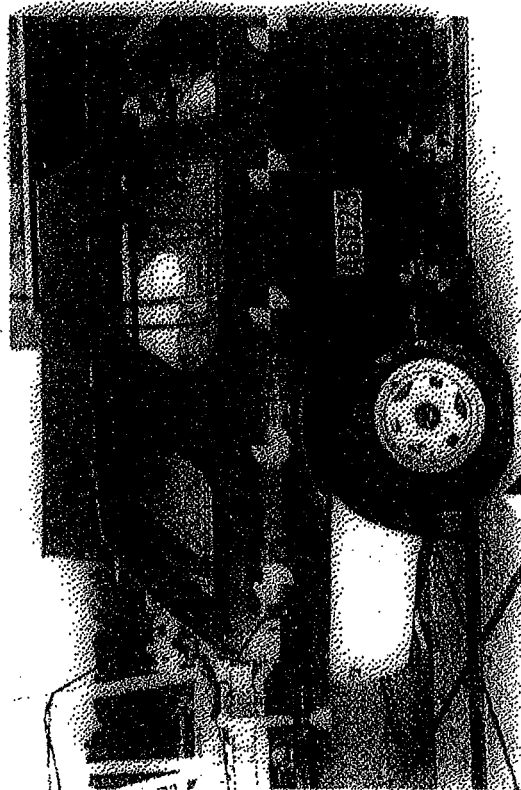


PHOTO 21 PRE TEST RIGHT SIDE VIEW

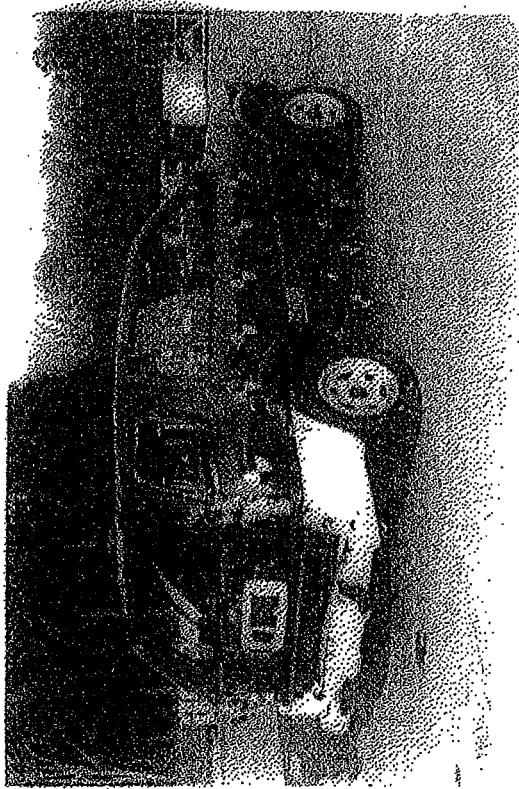


PHOTO 21 POST TEST REAR THREE QUARTER RIGHT SIDE VIEW



PHOTO 22 POST TEST REAR THREE QUARTER RIGHT SIDE VIEW

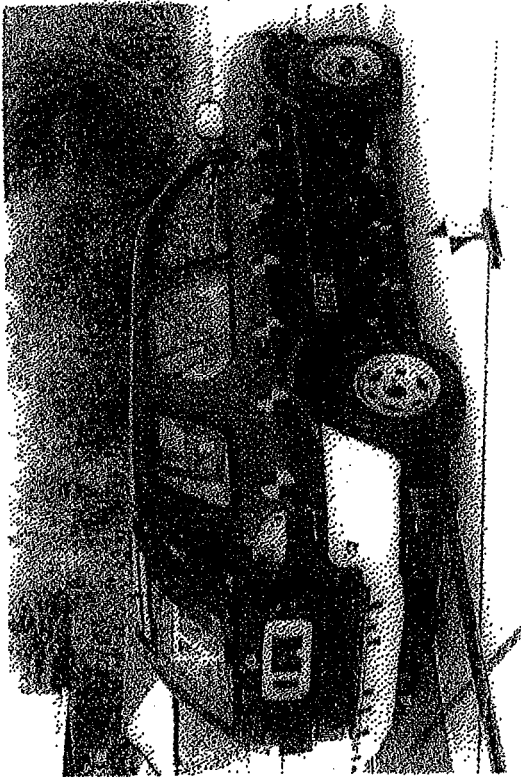


PHOTO 23 PRE TEST REAR THREE QUARTER RIGHT SIDE VIEW

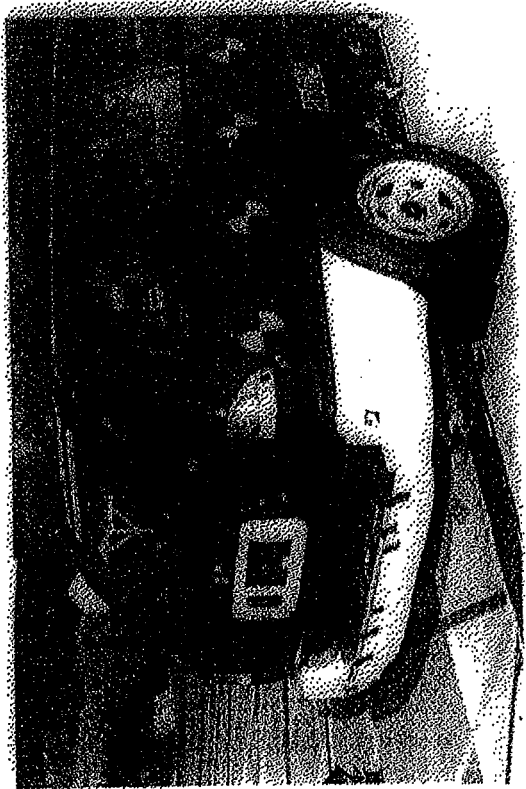


PHOTO 24 PRE TEST REAR THREE QUARTER RIGHT SIDE VIEW



PHOTO 27 (PRE-TEST) REAR QUARTER QUARTER RIGHT SIDE VIEW (OPEN BACK DOOR)

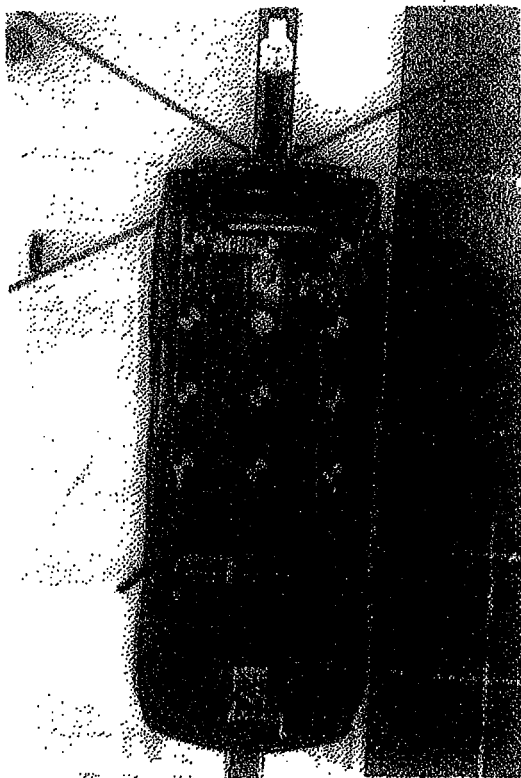


PHOTO 28 (PRE-TEST) OVERHEAD VIEW

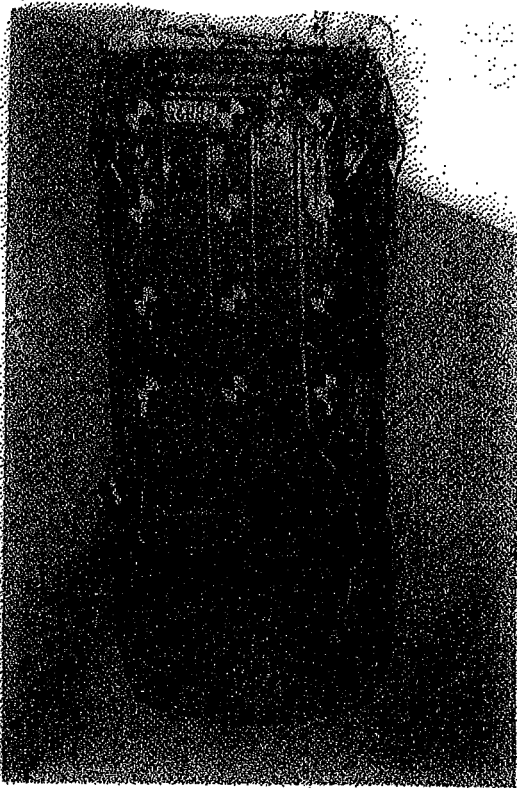


PHOTO 29 (POST-TEST) OVERHEAD VIEW

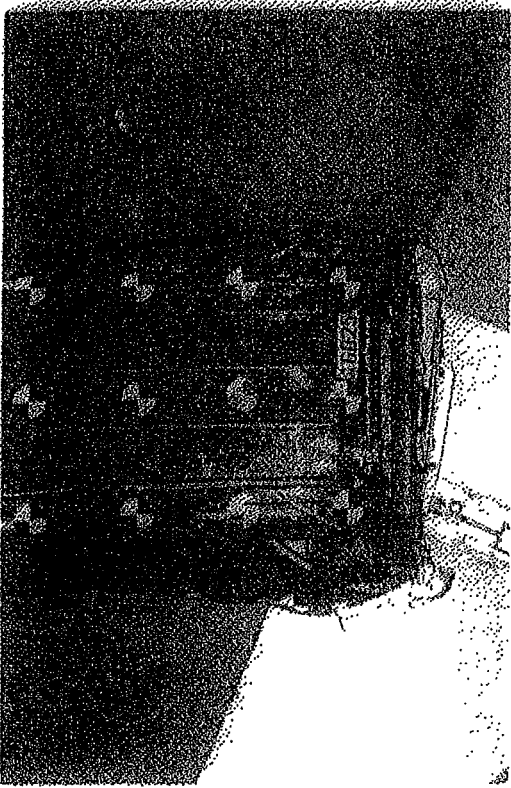


FIGURE 31 PRETEST OVERHEAD VIEW



FIGURE 32 PRETEST FRONT OVERHEAD VIEW

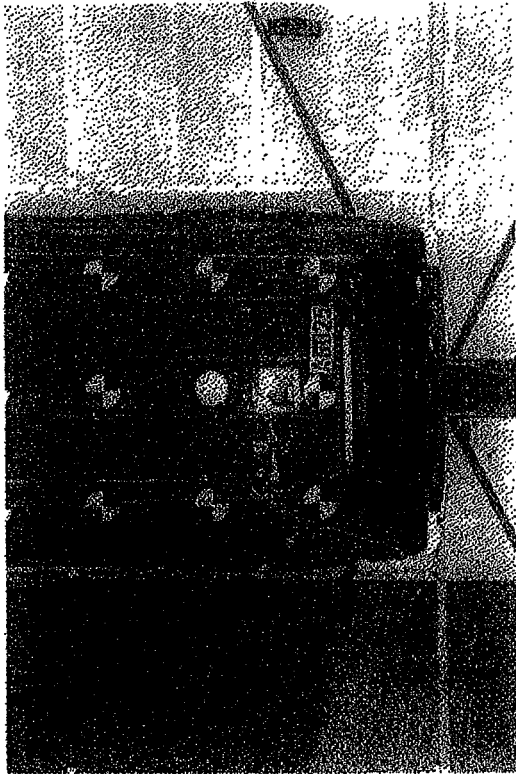


FIGURE 30 PRETEST OVERHEAD VIEW



FIGURE 29 PRETEST FRONT OVERHEAD VIEW

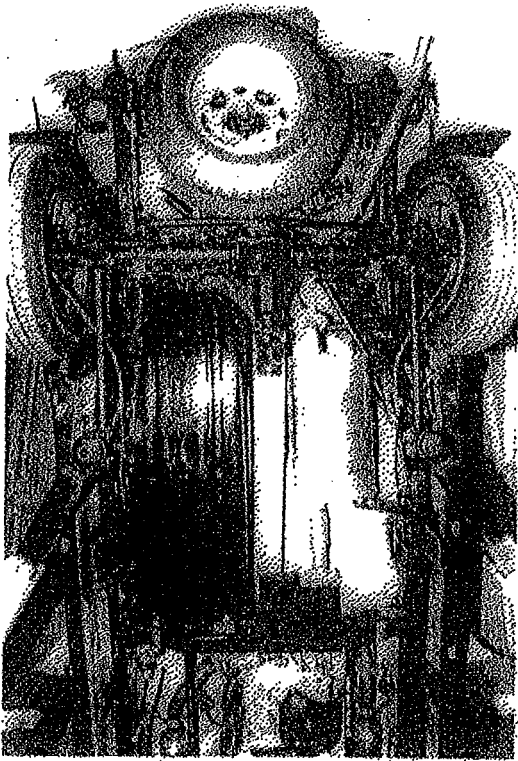


PHOTO 35 - POST TEST - REAR BODY VIEW

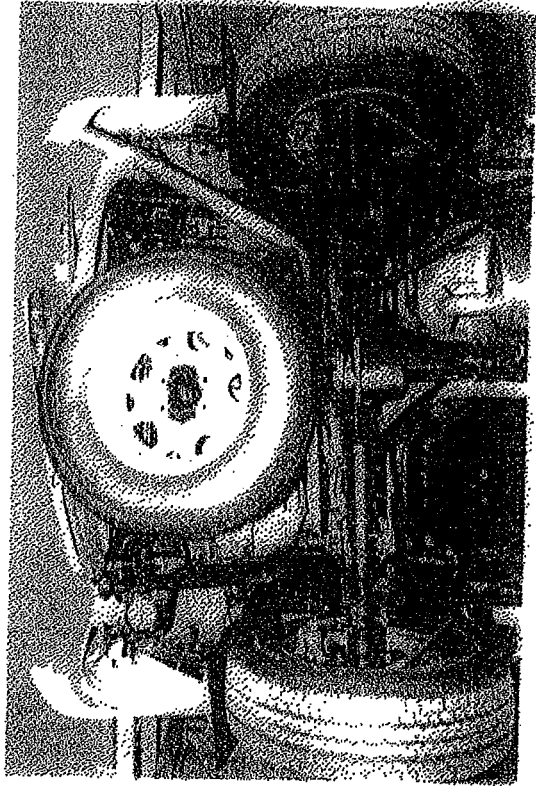


PHOTO 37 - POST TEST - REAR BODY VIEW

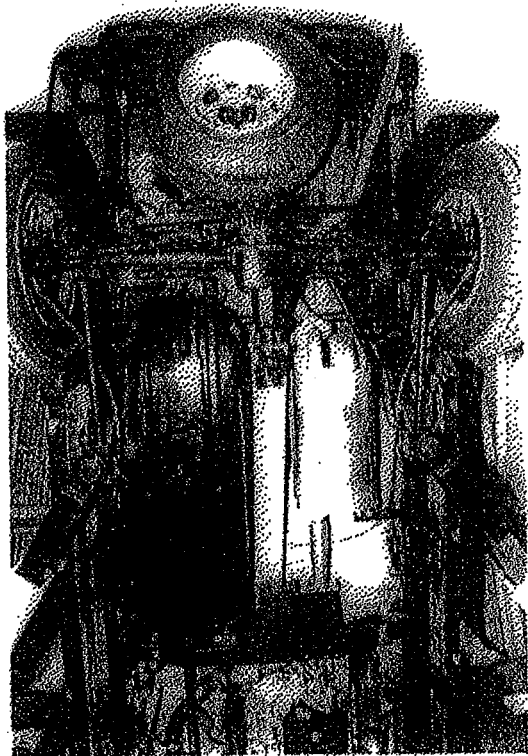


PHOTO 34 - PRE TEST - REAR BODY VIEW

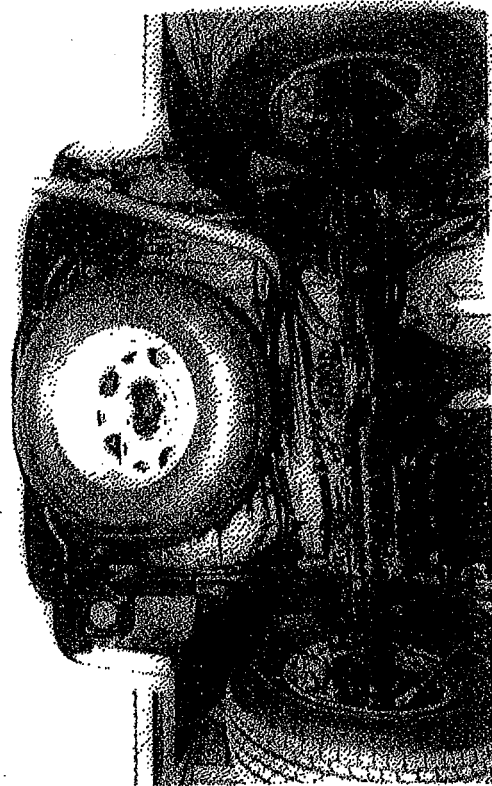


PHOTO 36 - PRE TEST - REAR BODY VIEW



PHOTO 59 POST TEST REAR UNDERBODY VIEW OF EL TANI



PHOTO 60 POST TEST REAR UNDERBODY VIEW OF EL TANI



PHOTO 58 PRE TEST REAR UNDERBODY VIEW OF EL TANI

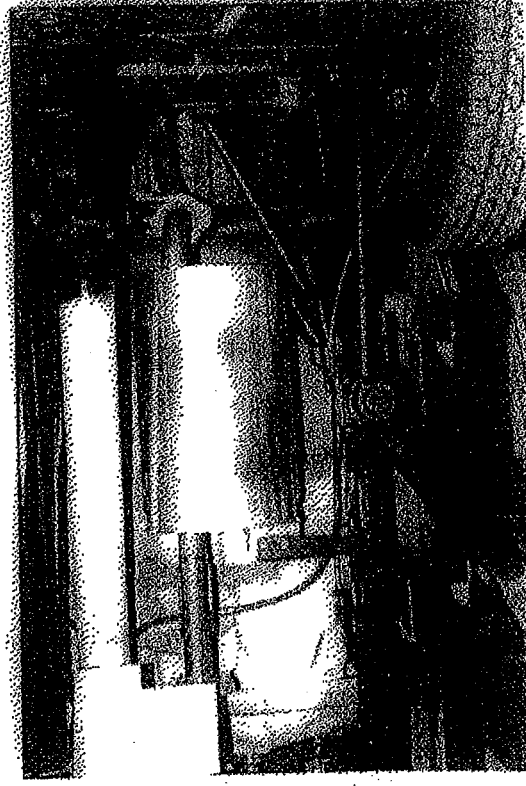


PHOTO 59 PRE TEST REAR UNDERBODY VIEW OF EL TANI

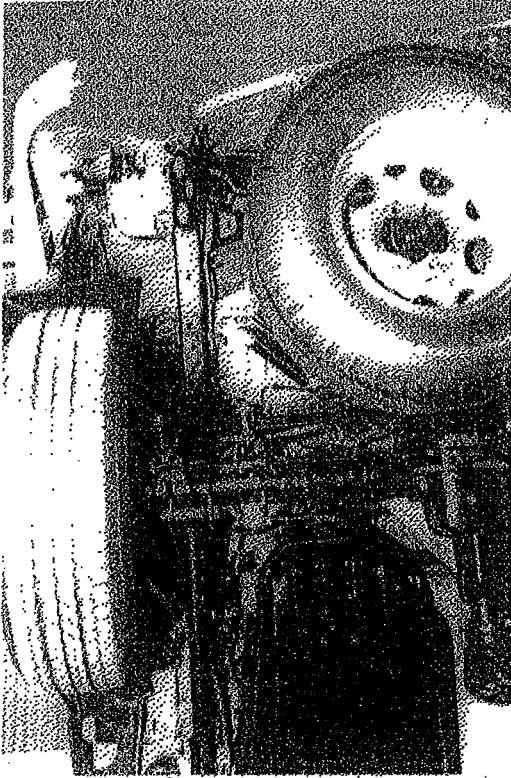


PHOTO 15 POST TEST REAR CENTER BY VIEW (RI) ANGLE

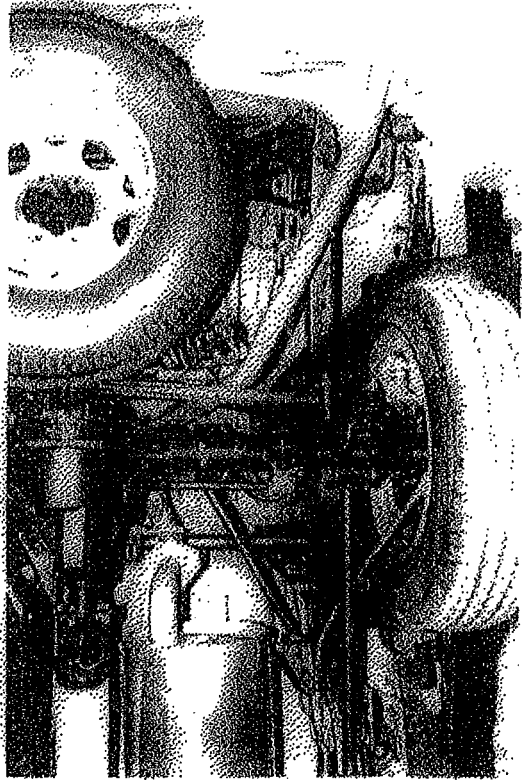


PHOTO 17 POST TEST REAR CENTER BY VIEW (RI) ANGLE

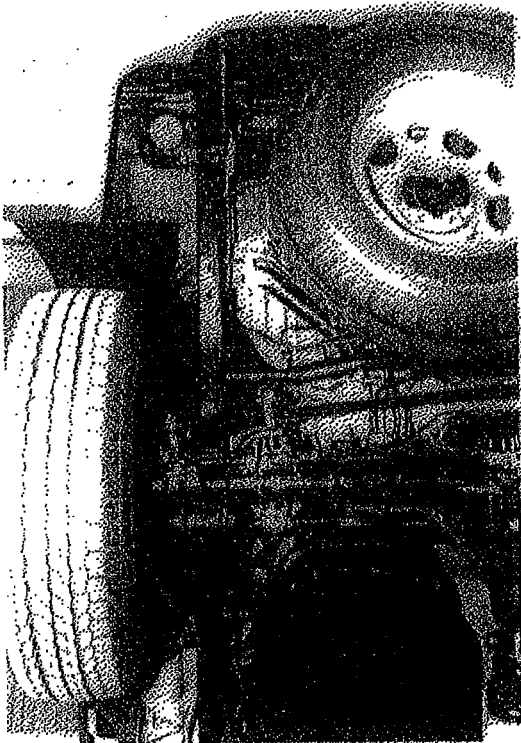


PHOTO 12 PRE TEST REAR CENTER BY VIEW (RI) ANGLE

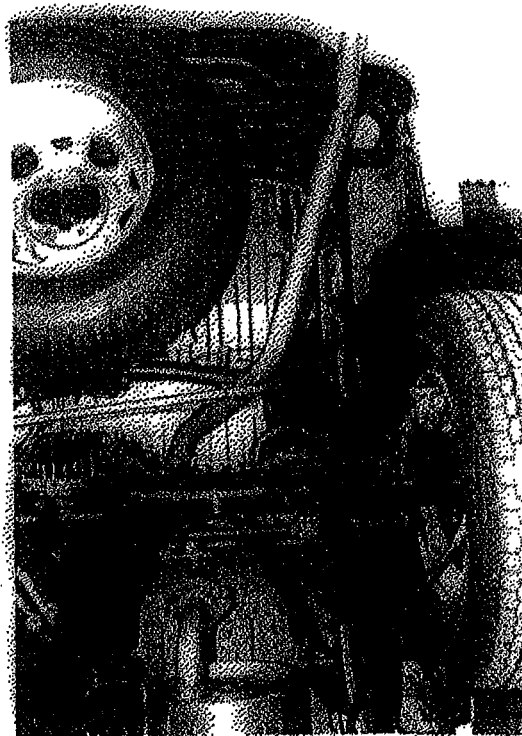


PHOTO 14 PRE TEST REAR CENTER BY VIEW (RI) ANGLE

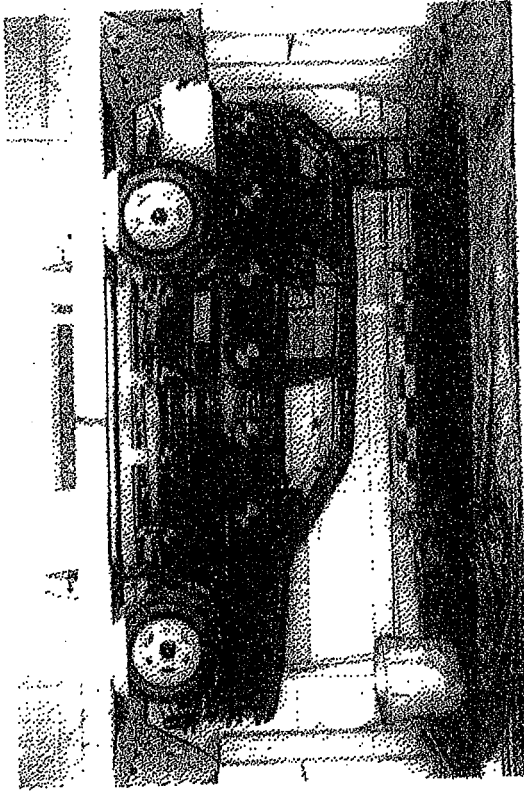


PHOTO 17 POST TEST STATIC ROLL-OVER DISC 1

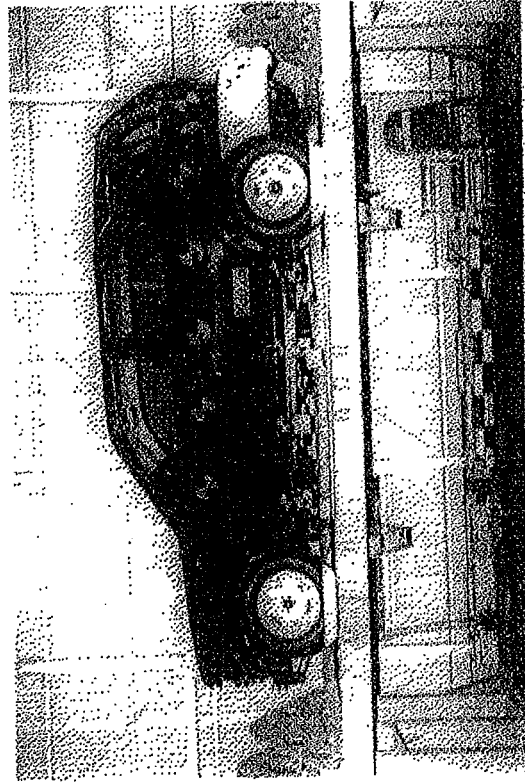


PHOTO 18 POST TEST STATIC ROLL-OVER DISC 2

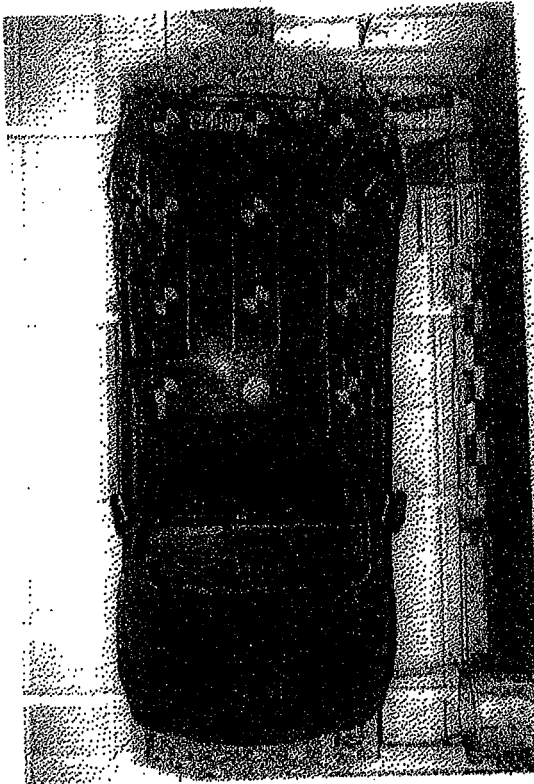


PHOTO 19 POST TEST STATIC ROLL-OVER DISC 3



PHOTO 20 POST TEST STATIC ROLL-OVER DISC 4

CONFIDENTIAL INFORMATION REDACTED

ET 5-1244

ISUZU ENGINEERING TEST REPORT

ET5 - 1244

CERTIFICATION TEST REPORT

FMVSS 301

FUEL SYSTEM INTEGRITY

REAR MOVING BARRIER IMPACT

2000 ISUZU RODEO

ISUZU MODEL NO. UES25F

UNDERFLOOR MOUNTING SPARE TIRE

TEST NO. A-9423

ISUZU MOTORS LIMITED

VEHICLE SAFETY ENGINEERING DEPT.

THE TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGES</u>
1. SUMMARY DATA (TEST CONDITION)	4 - 5
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3. PHOTOGRAGHS	9 - 14

SUMMARY OF TEST CONDITION (1)TYPE OF TEST

FRONTAL () IMPACT
 OBLIQUE () IMPACT ON LEFT(DRIVER'S)SIDE
 RIGHT SIDE
 LATERAL OR SIDE IMPACT ON LEFT(DRIVER'S)SIDE
 REAR IMPACT

TEST CONDITIONS

DATE OF TEST April 23, 1999 TIME OF TEST: 14:20
 AMBIENT TEMPERATURE AT IMPACT AREA: 17.5°C
 TEMPERATURE IN OCCUPANT COMPARTMENT: 17.5°C

TEST VEHICLE INFORMATION

MANUFACTURER : ISUZU MOTORS LIMITED
 MAKE / MODEL : ISUZU/UES25F
 BODY STYLE : MPV 4-DOOR MODEL YEAR: 2000
 VIN. : N148DOM-16
 TEST NO : A-9423 BODY COLOR: RED
 ENGINE DATA : 6 CYLINDERS ; 3.2 liters
 GASOLINE ; DIESEL ; TURBO CHARGED
 LONGITUDINAL ; TRANSVERSE ;
 TRANSMISSION DATA : 4 SPEED , - MANUAL , AUTOMATIC .
 FINAL DRIVE DATA : - FWD , - RWD , 4WD
 MAJOR OPTIONS : A/C , P/S , - P/B , P/wdo ,
 TILT WHEEL , - P/seats , CRUISE CONTROL
 TYPE OF OCCUPANT RESTRAINT : Driver and passenger airbag with type II belt

TEST FLUID DATA

TEST FLUID TYPE : RED STODDARD SOLVENT SPECIFIC GRAVITY : 0.777
 KINEMATIC VISOSDSITY : 1.39CST
 NOMINAL FUEL CAPACITY : 80 Liters (NFC)
 TEST VOLUME : 75.2Liters (94% of NFC)
 ELECTRICE FUEL POMP : YES - NO FUEL INJECTION : YES - NO

SAMMARY OF TEST CONDITION (2)

ET 5-1244

VEHICLE TIRE DATA

COLD TIRE PRESSIRE : FRONT 177 KPa
REAR 177 KPa
TIRES SIZE ON VEHICLE : 235/70 R16
IS SPARE TIRE A "SPACE SAVER" : NO
IS SPARE TIRE STANDARD EQUIPMENT : YES

VEHICLE CAPACITY

NUMBER OF OCCUPANTS : 2 FRONT; 3 REAR; - 3rd seat
TYPE OF FRONT SEATS : × BUCKET; - BENCH; - SPLIT BENCH
TYPE OF FRONT SEAT BACK : - FIXED × Adj.with × LEVER - Rot.knob
RATED CARGO AND LUGGAGE
WEIGHT (RCLW) = 136 kg
GVWR : 2359 kg

CALCULATION FOR TARGET TEST WEIGHT

UW = Unloaded Weight (Including OW) (1876 kg)
OW = Option Weight (- kg)
DSC = Designated Seating Capacity (5)
RCLW = 136 kg
TARGET TEST WEIGHT = UW + OW + RCLW + (2 dummies * 75.0kg/dummy)
TARGET TEST WEIGHT = 2162 kg

*Hybrid - II

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO

RIGHT FRONT = 569 kg REGHT REAR = 517 kg
LEFT FRONT = 562 kg LEFT REAR = 517 kg
TOTAL FRONT WEIGHT = 1131 kg (52 % of Total vehicle weight)
TOTAL REAR WEIGHT = 1034 kg (48 % of Total vehicle weight)
TOTAL TEST WEIGHT = 2165 kg

ET 5-1244

2. Test Data

(1) POST IMPACT SUMMARY

Vehicle : UES25F (N148DOM-16)
Test No. : April 23, 1999
Date : A-9423

IMPACT VELOCITY : PRIMARY = 55.4 km/h (34.4 MPH)

VEHICLE STATIC CRUSH: Driver Side : 261 mm
 Passenger's Side : 265 mm
 Average : 263 mm

FUEL SYSTEM INTEGRITY - FMVSS 301-75

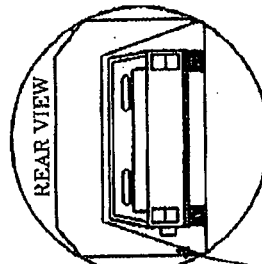
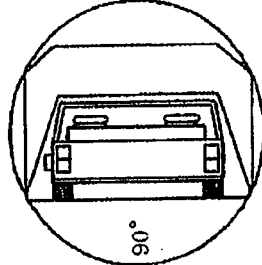
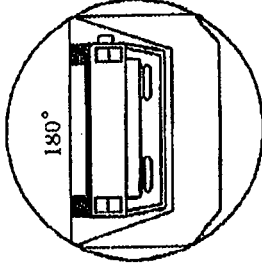
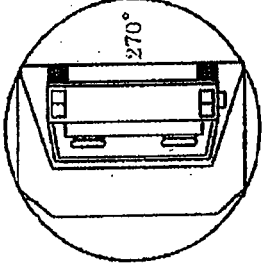
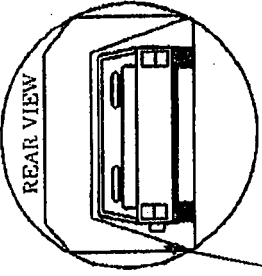
	Actual	Max. Allow.
Fuel spillage impact until vehicle motion ceases.	0	1 ounce
Fuel spillage for 5 minute period following cessation of vehicle motion after impact.	0	5 ounce
Fuel spillage for next 25 minute period	0	1 ounce 1 minute

FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (1 st. Roll; Clockwise)

Vehicle : UES25F (VIN N148DOM-16) Test No. A-9423



FILLER CAP 0 / 360

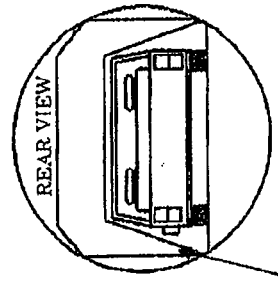
Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1 - 3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

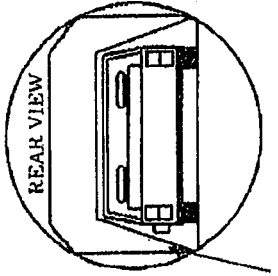
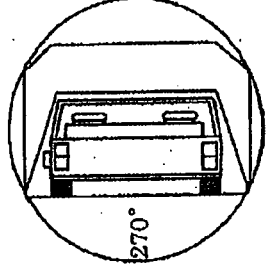
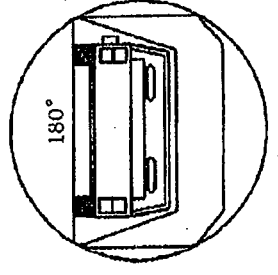
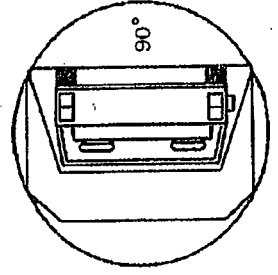
FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (2 nd. Roll ; Clockwise)

Vehicle : UES25F (VIN. N148DOM-16) Test No. A-9423



FILLER CAP 0/360



FILLER CAP 0/360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1 - 3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

3. PHOTOGRAGHS

<u>PAGES</u>		<u>PHOTO.No</u>
10	PHOTO. 1
	~	
14	PHOTO.10

Photo. /

PRE-TEST

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Photo. 2

PRE-TEST



Photo. 3

POST-TEST

ET 5-1244

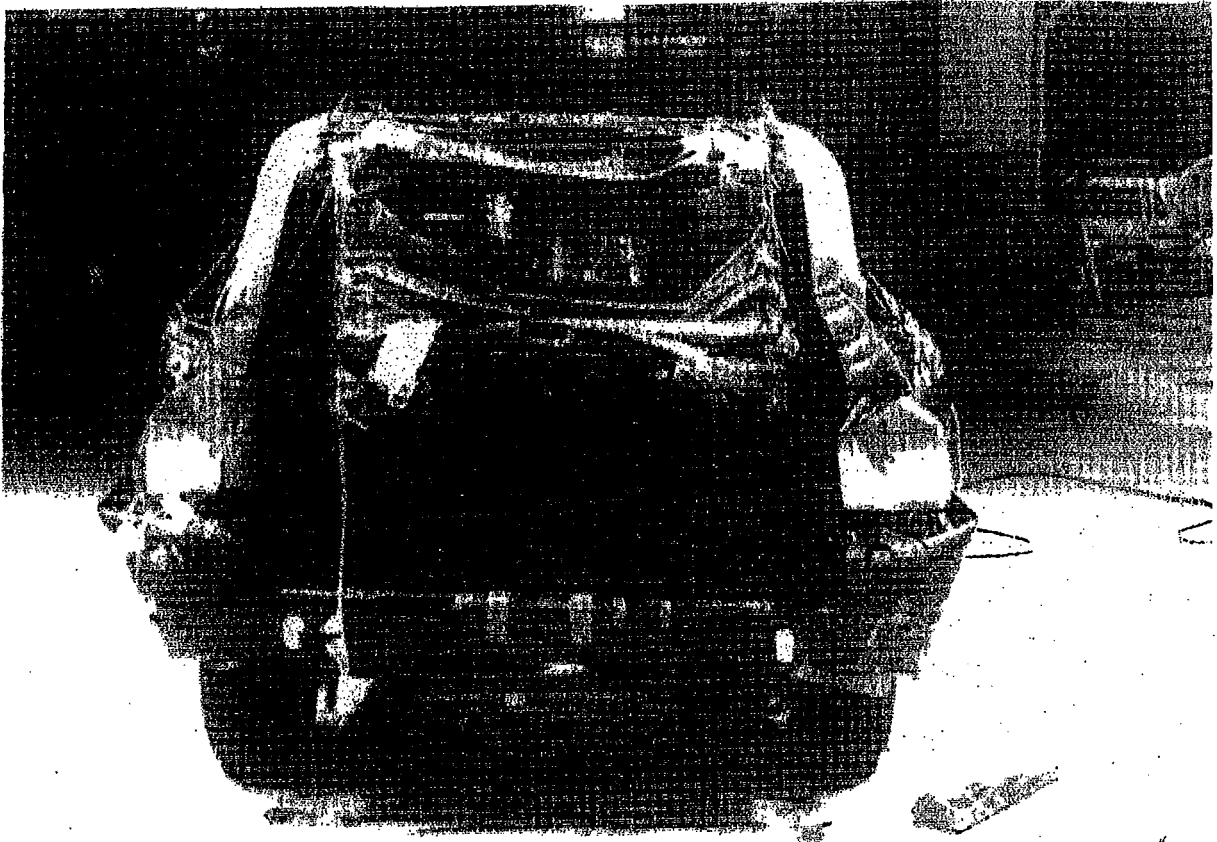


Photo. 4

POST-TEST



Photo. 5

POST-TEST

ET 5-1244

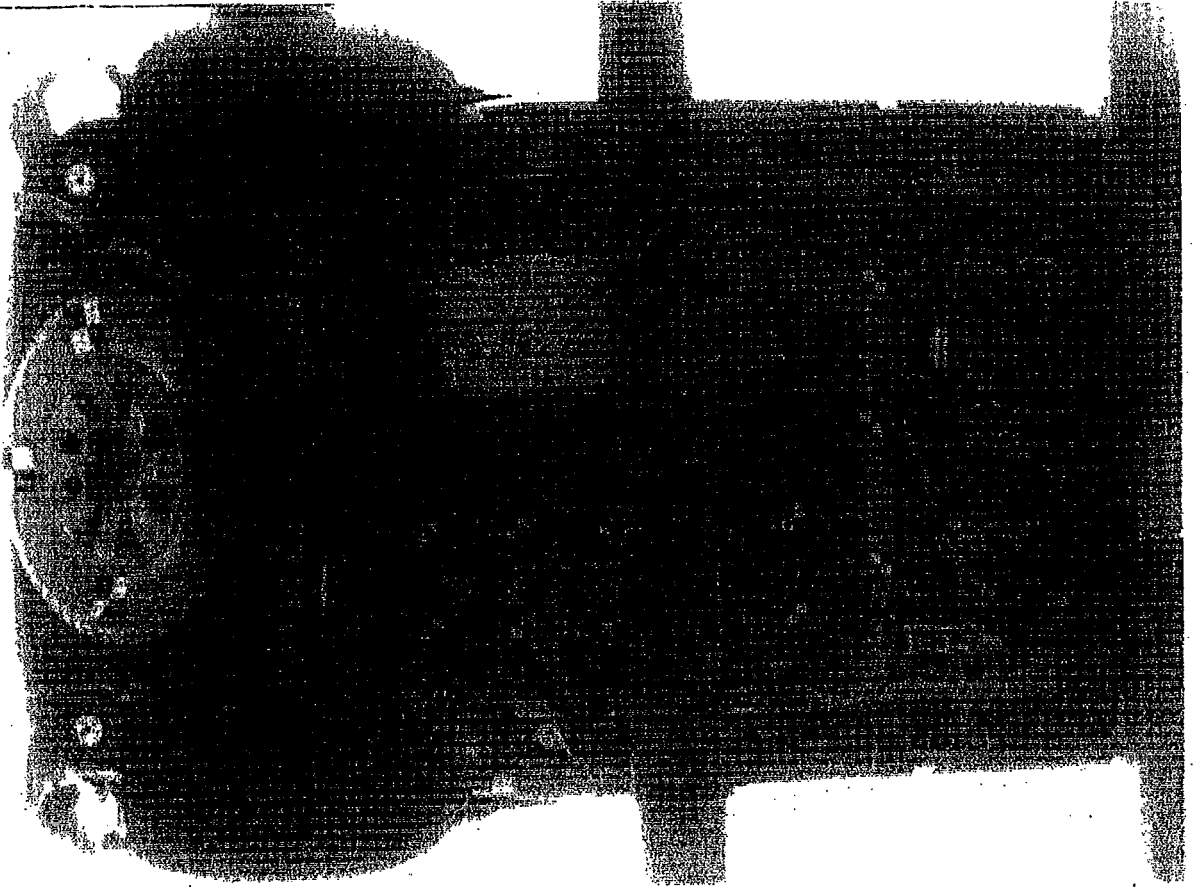
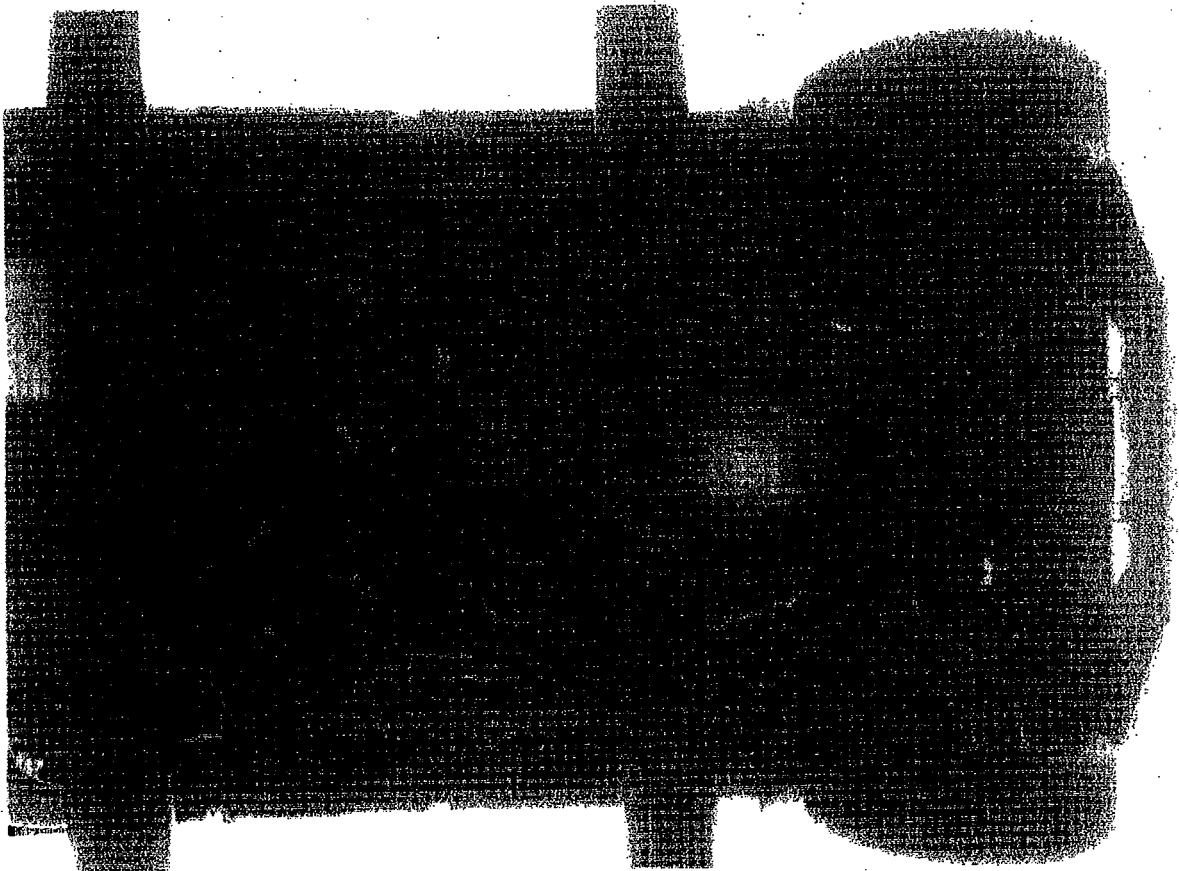


Photo. 6

POST-TEST



ET 5-1244

STATIC ROLL OVER TEST

Photo. 7

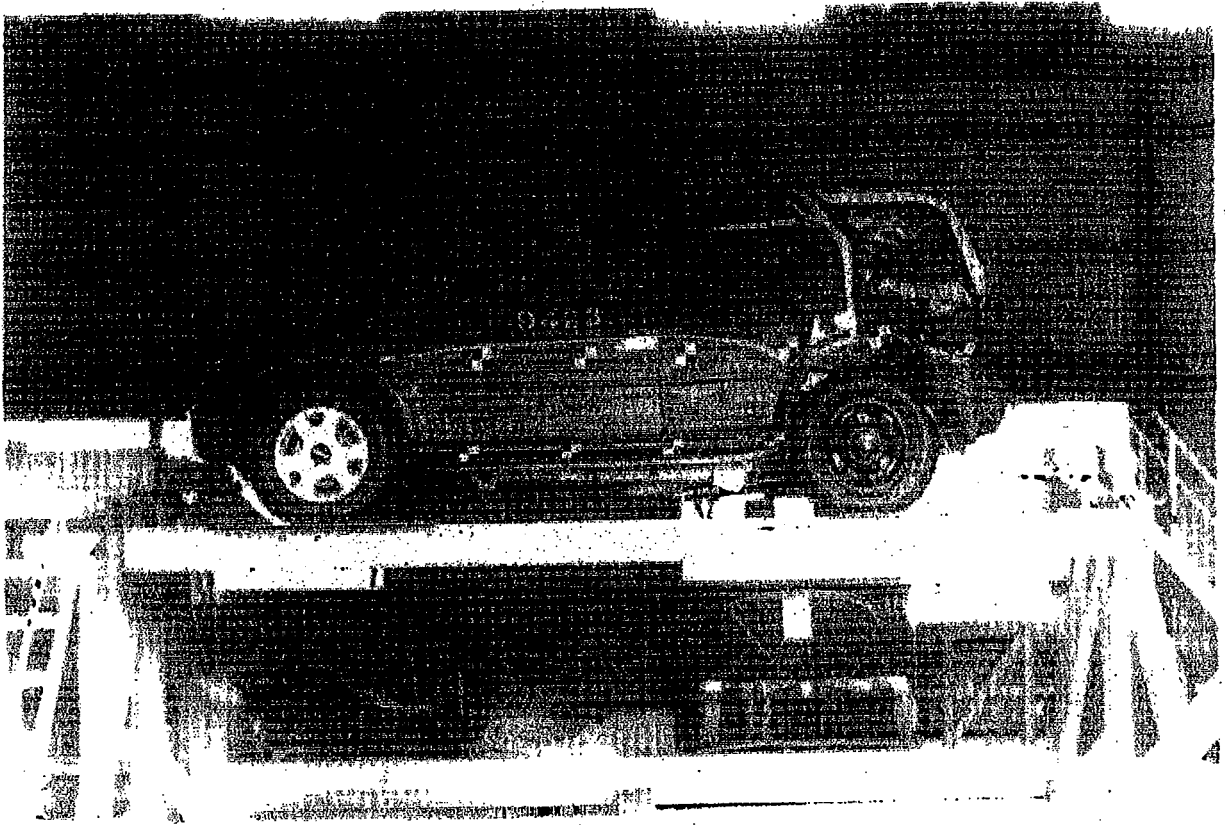
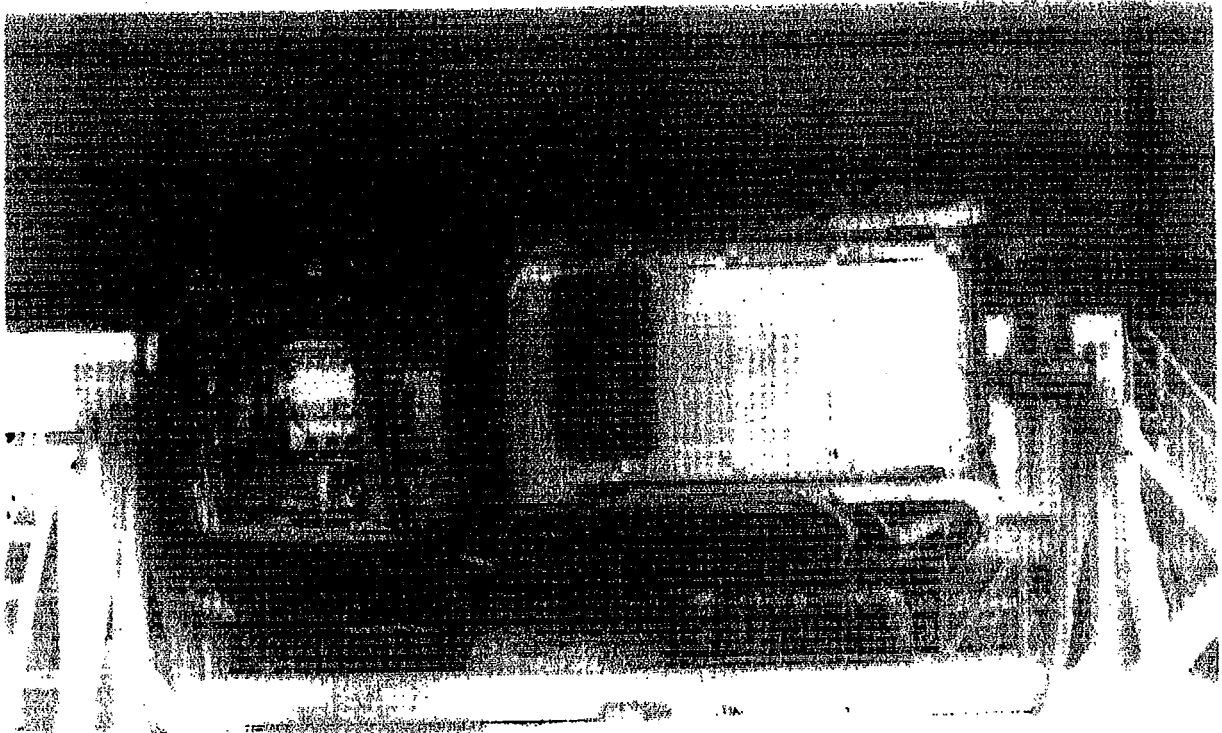


Photo. 8

STATIC ROLL OVER TEST



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Photo. 9

STATIC ROLL OVER TEST

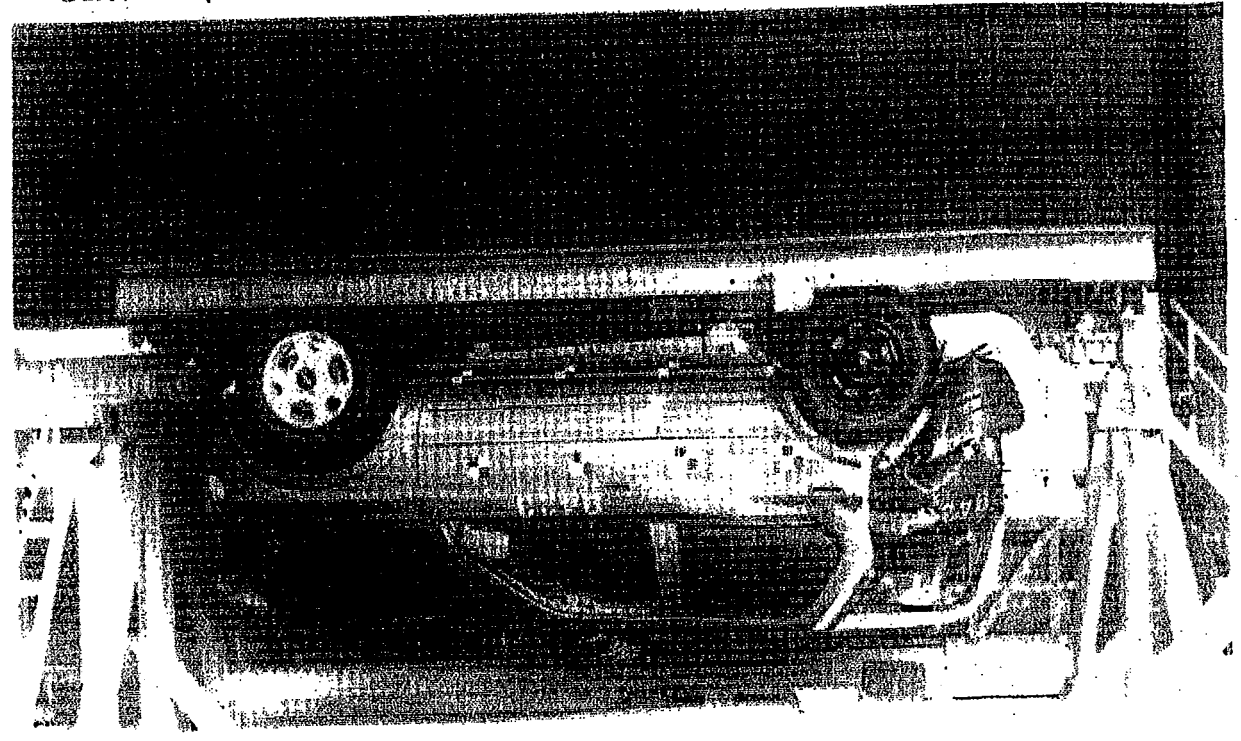


Photo. 10

STATIC ROLL OVER TEST



CONFIDENTIAL INFORMATION REDACTED

ET5-1309

ISUZU ENGINEERING TEST REPORT

ET5 - 1309

CERTIFICATION TEST REPORT

FMVSS 301

FUEL SYSTEM INTEGRITY

REAR MOVING BARRIER IMPACT

2001 ISUZU RODEO

ISUZU MODEL NO. UES25F

TEST NO. A 0608P

ISUZU MOTORS LIMITED

VEHICLE SAFETY ENGINEERING DEPT.

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3. PHOTOGRAGHS	9 - 15

1. SUMMARY DATA

ET5-1309

SUMMARY OF TEST CONDITION (1)

TYPE OF TEST

_____ FRONTAL () IMPACT
_____ OBLIQUE () IMPACT ON _____ LEFT(DRIVER'S)SIDE
_____ RIGHT SIDE
_____ LATERAL OR SIDE IMPACT ON _____ LEFT(DRIVER'S)SIDE
 x REAR IMPACT

TEST CONDITIONS

DATE OF TEST: June 8, 2000 TIME OF TEST: 13:30
AMBIENT TEMPERATURE AT IMPACT AREA: 26°C
TEMPERATURE IN OCCUPANT COMPARTMENT: 26°C

TEST VEHICLE INFORMATION

MANUFACTURER: ISUZU MOTORS LIMITED
MAKE / MODEL : ISUZU/UES25F
BODY STYLE : MPV 4 DOOR MODEL YEAR: 2001
VIN. : 4S2DM58W714300001
TEST NO : A0608P BODY COLOR: RED
ENGINE DATA : 6 CYLINDERS ; 3.2 ;liters
 x GASOLINE ; DIESEL ; TURBO CHARGED
 x LONGITUDINAL ; TRANSVERSE ;
TRANSMISSION DATA : 4 SPEED , MANUAL , x AUTOMATIC ,
FINAL DRIVE DATA : FWD , RWD , x 4WD
MAJOR OPTIONS : x A/C , x P/S , P/B , x P/wdo ,
 x TILT WHEEL , x P/seats , x CRUISE CONTROL
TYPE OF OCCUPANT RESTRAINT : Driver and passenger airbag with type II belt

TEST FLUID DATA

TEST FLUID TYPE : RED STODDARD SOLVENT SPECIFIC GRAVITY : 0.777
KINEMATIC VISOSDITY : 1.39CST
NOMINAL FUEL CAPACITY : 74 Liters (NFC)
TEST VOLUME : 70 Liters (94% of NFC)
ELECTRICE FUEL POMP : x YES NO FUEL INJECTION : x YES NO

SAMMARY OF TEST CONDITION (2)

ET5-1309

VEHICLE TIRE DATA

COLD TIRE PRESSURE : FRONT 177 KPa
REAR 177 KPa
TIRES SIZE ON VEHICLE : P245/70R16
IS SPARE TIRE A "SPACE SAVER" : NO
IS SPARE TIRE STANDARD EQUIPMENT : YES

VEHICLE CAPACITY

NUMBER OF OCCUPANTS : 2 FRONT; 3 REAR; - 3rd seat
TYPE OF FRONT SEATS : x BUCKET; - BENCH; - SPLIT BENCH
TYPE OF FRONT SEAT BACK : - FIXED x Adj.with x LEVER - Rot.knob
RATED CARGO AND LUGGAGE
WEIGHT (RCLW) = 136 kg
GVWR : 2359 kg GAWR:FRONT 1134 kg REAR 1315 kg

CALCULATION FOR TARGET TEST WEIGHT

UW = Unloaded Weight (Including OW) (1879 kg)
OW = Option Weight (- kg)
DSC = Designated Seating Capacity (5)
RCLW= 136 kg
TARGET TEST WEIGHT = UW + OW + RCLW + (2 dummies* × 75.0kg/dummy)
TARGET TEST WEIGHT = 2165 kg

*Hybrid-II

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO

RIGHT FRONT = 531 kg REGHT REAR = 549 kg
LEFT FRONT = 569 kg LEFT REAR = 526 kg
TOTAL FRONT WEIGHT = 1100 kg (50.6 % of Total vehicle weight)
TOTAL REAR WEIGHT = 1075 kg (49.4 % of Total vehicle weight)
TOTAL TEST WEIGHT = 2175 kg

2. Test Data

ET5-1309

(1) POST IMPACT SUMMARY

Vehicle : UES25F (4S2DM58W714300001)
Test No. : A0608P
Date : June 8, 2000

IMPACT VELOCITY : PRIMARY = 48.6 km/h (30.2 MPH)

VEHICLE STATIC CRUSH: Driver Side : 292 mm
 Passenger's Side : 288 mm
 Average : 290 mm

FUEL SYSTEM INTEGRITY - FMVSS 301-75

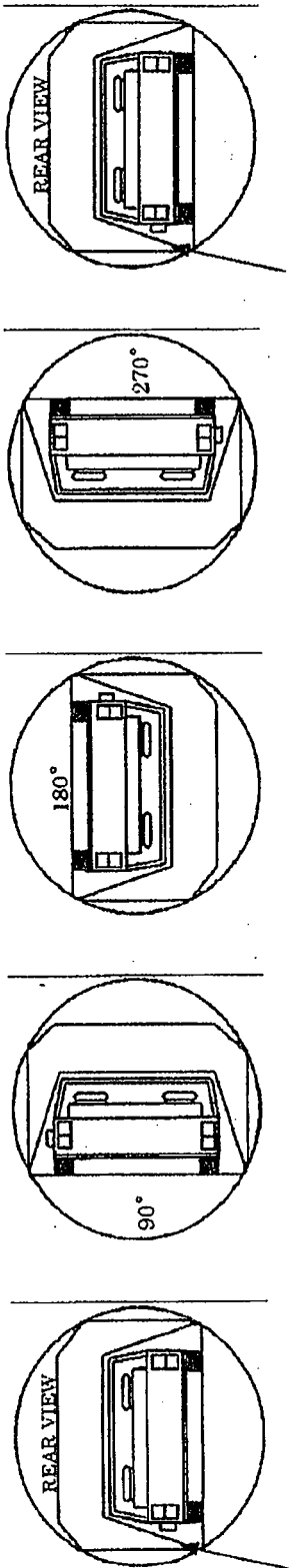
	Actual	Max. Allow.
Fuel spillage impact until vehicle motion ceases.	0	1 ounce
Fuel spillage for 5 minute period following cessation of vehicle motion after impact.	0	5 ounce
Fuel spillage for next 25 minute period	0	1 ounce 1 minute

FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (1 st. Roll :Clockwise)

Vehicle : UES25F (VIN 4S2DM58W714300001) Test No. A0608P



FILLER CAP 0 / 360

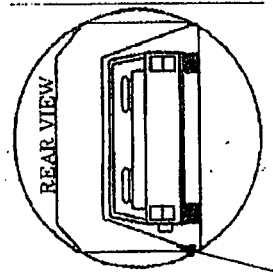
Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1 - 3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

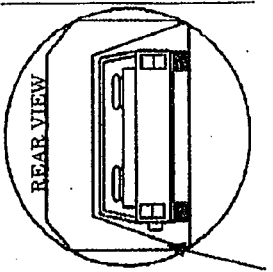
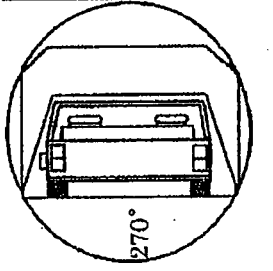
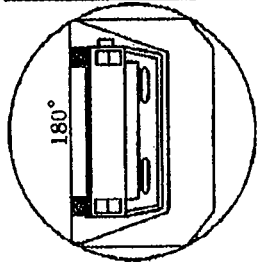
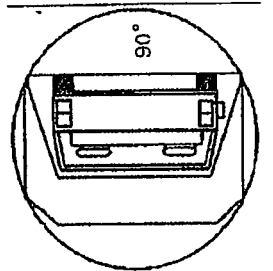
FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (2 nd. Roll ; Clockwise)

Vehicle : UES25F (VIN 4S2DM58W714300001) Test No. A0608P



FILLER CAP 0/360



FILLER CAP 0/360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1-3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

3. PHOTOGRAGHS

PAGES

PHOTO.No

1 0

PHOTO. 1

1 5

PHOTO.12

ET5-1309

Photo. 1

PRE-TEST



Photo. 2

POST-TEST

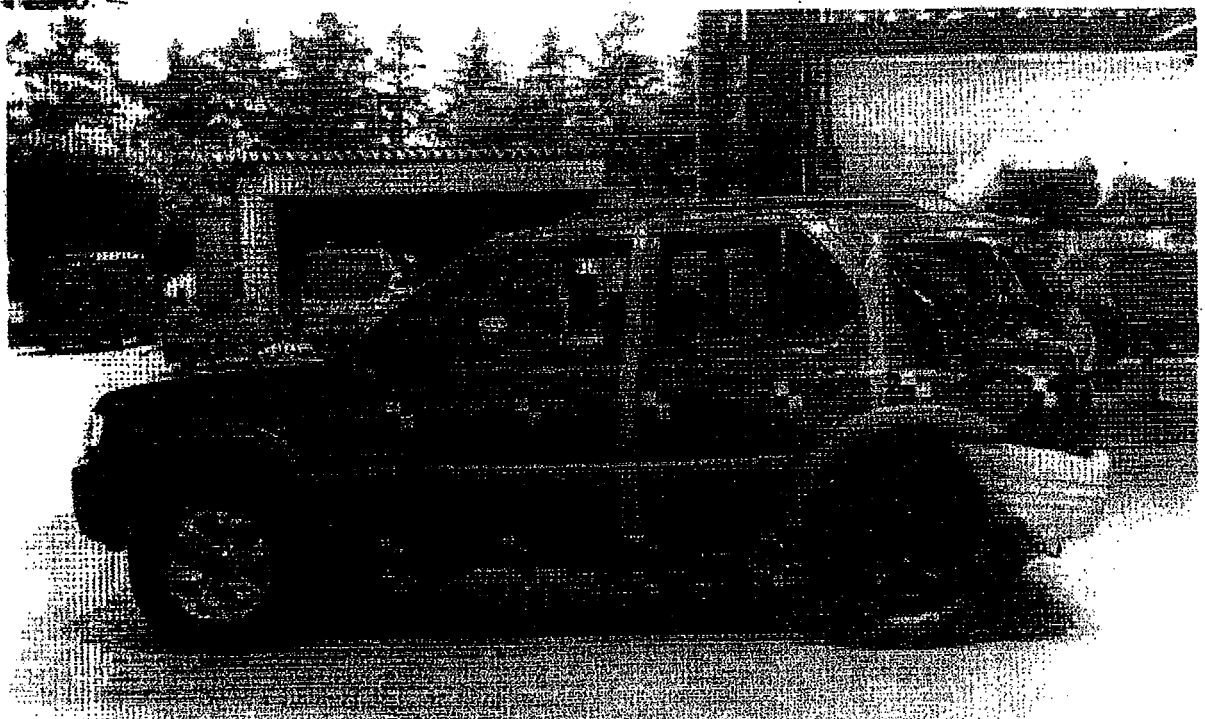


ET5-1969

Photo. 3 PRE-TEST



Photo. 4 POST-TEST



5

PRE-TEST

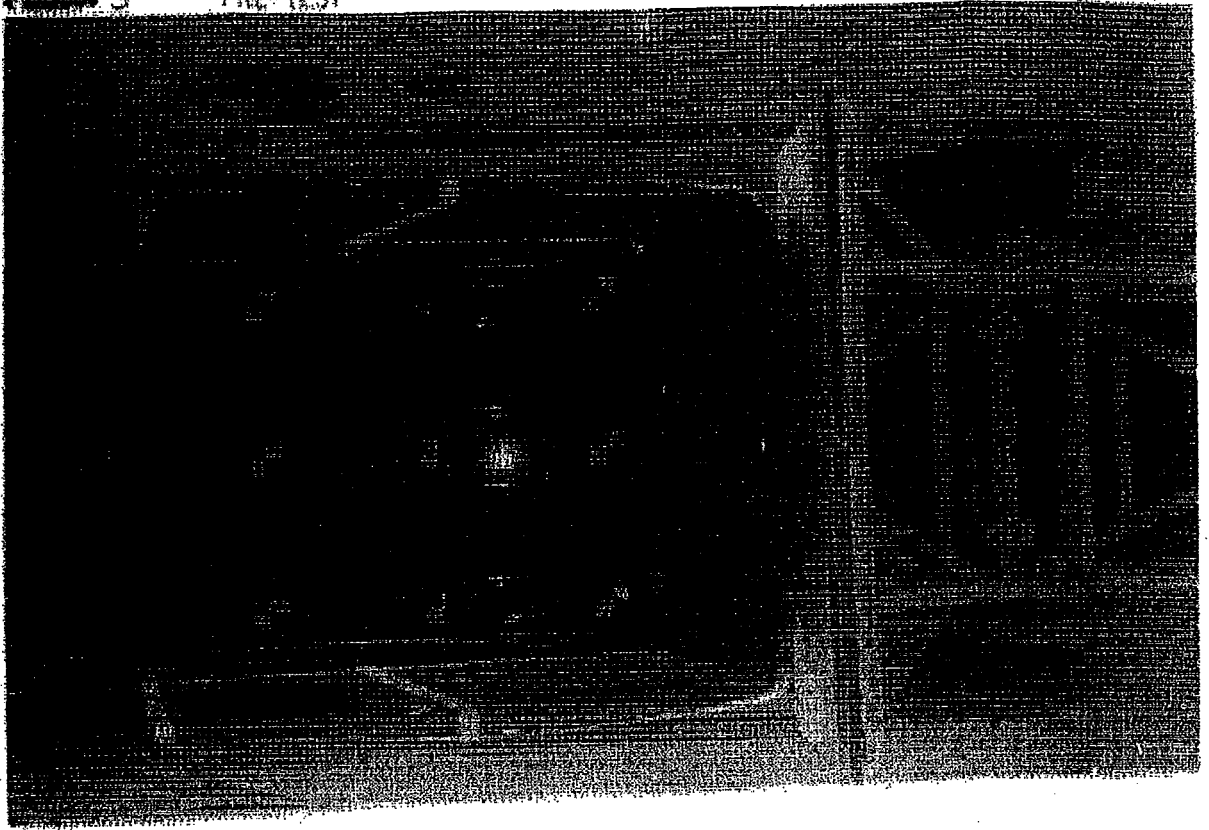


Photo. / POST-TEST



Photo. 7

POST-TEST

BT5-1309

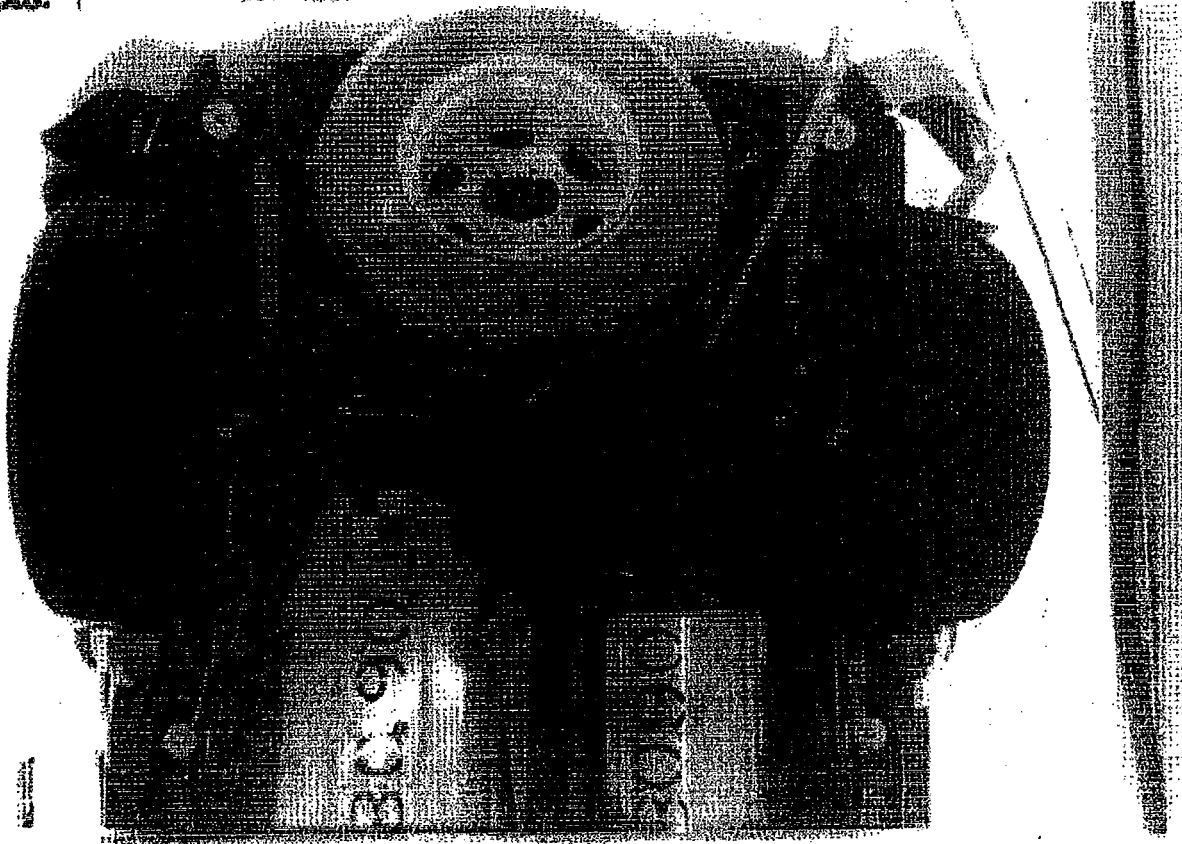


Photo. 8

POST-TEST

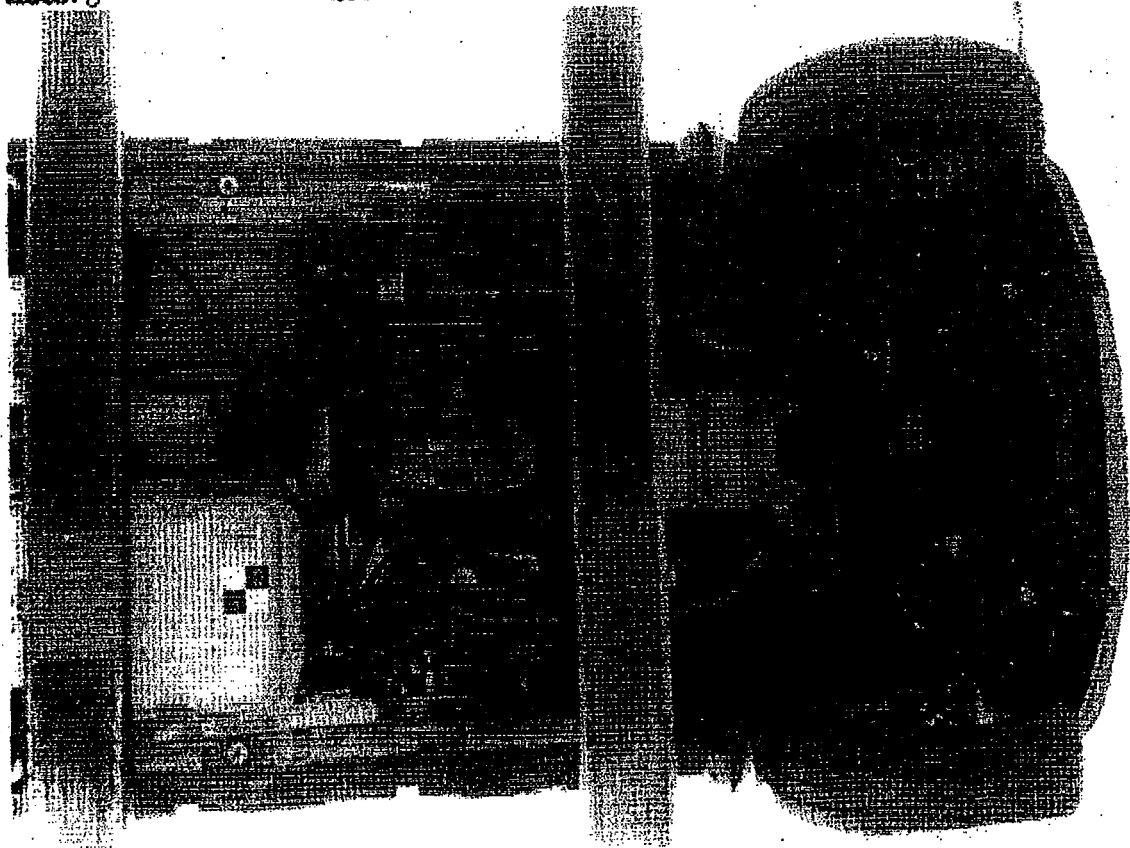


Photo. 9

POST-TEST

DT5-1309

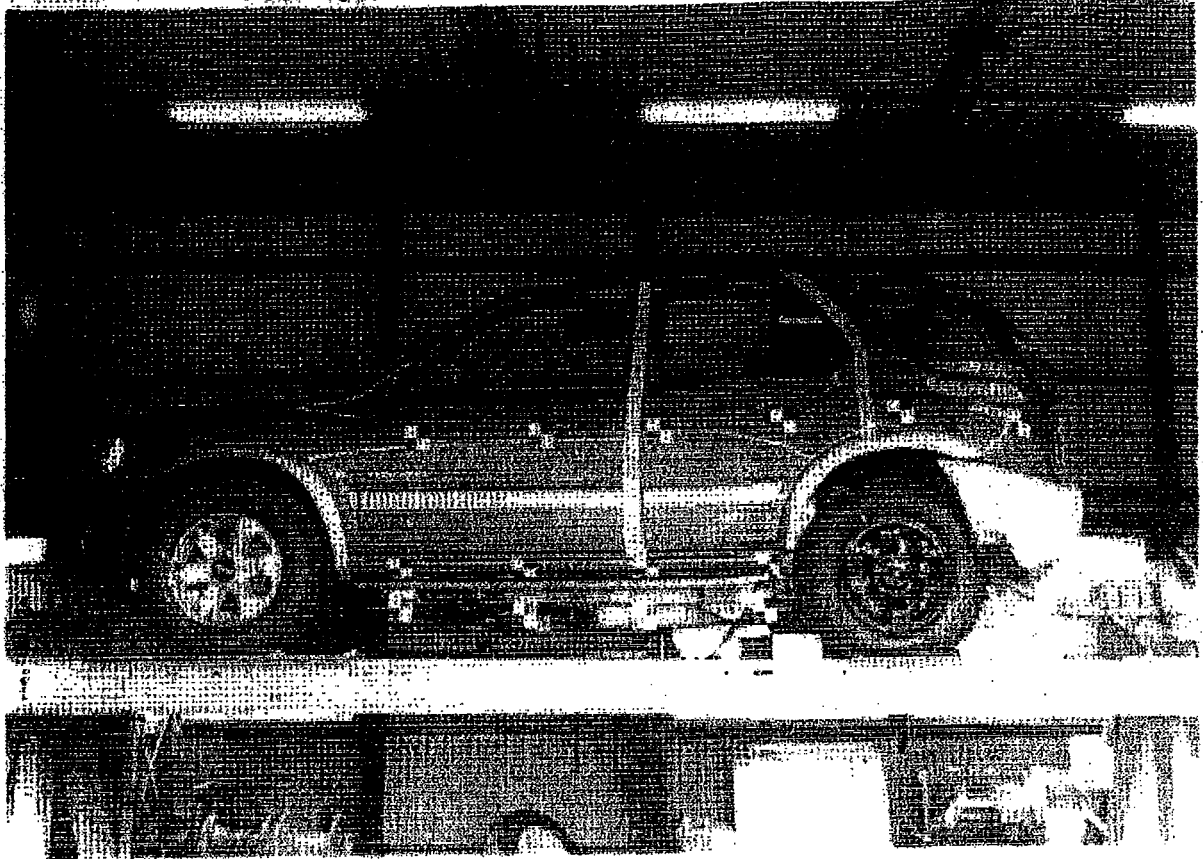


Photo. 10

POST-TEST



Photo. 11 POST-TEST

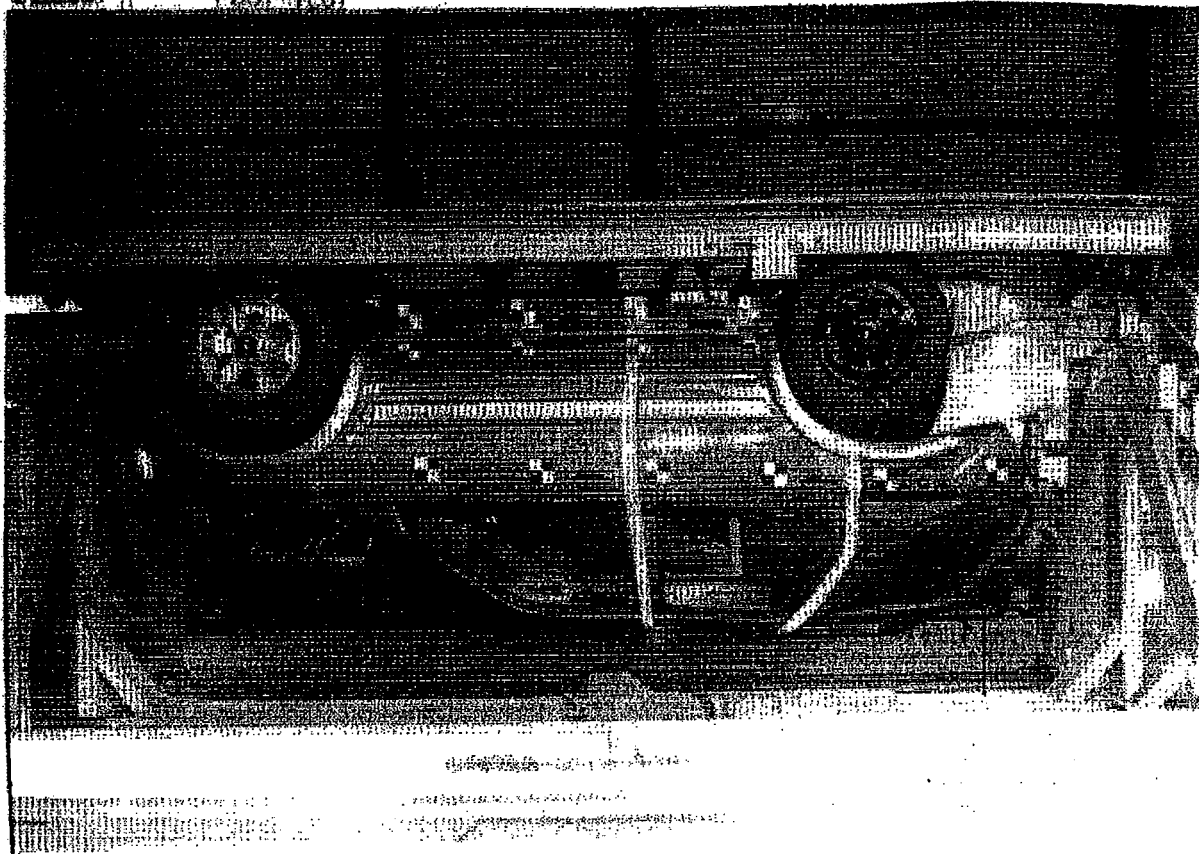


Photo. 12 POST-TEST



CONFIDENTIAL INFORMATION REDACTED

ET5-1310

ISUZU ENGINEERING TEST REPORT

ET5 - 1310

CERTIFICATION TEST REPORT

FMVSS 301

FUEL SYSTEM INTEGRITY

REAR MOVING BARRIER IMPACT

2001 ISUZU RODEO

ISUZU MODEL NO. UER30F

TEST NO. A 0705

ISUZU MOTORS LIMITED

VEHICLE SAFETY ENGINEERING DEPT.

THE TABLE OF CONTENTS

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<u>DESCRIPTION</u>	<u>PAGES</u>
1. SUMMARY DATA (TEST CONDITION)	4 - 5
2. TEST DATA (POST IMPACT SUMMARY)	6 - 8
3. PHOTOGRAGHS	9 - 14

1. SUMMARY DATA

ET5-1310

SUMMARY OF TEST CONDITION (1)

TYPE OF TEST

FRONTAL () IMPACT
OBLIQUE () IMPACT ON LEFT(DRIVER'S)SIDE
RIGHT SIDE
LATERAL OR SIDE IMPACT ON LEFT(DRIVER'S)SIDE
x REAR IMPACT

TEST CONDITIONS

DATE OF TEST: July 5, 2000 TIME OF TEST: 14:30
AMBIENT TEMPERATURE AT IMPACT AREA: 31C
TEMPERATURE IN OCCUPANT COMPARTMENT: 31C

TEST VEHICLE INFORMATION

MANUFACTURER: ISUZU MOTORS LIMITED
MAKE / MODEL : ISUZU/UER30F
BODY STYLE : MPV 4 DOOR MODEL YEAR: 2001
VIN. : 4S2CK58D814300010
TEST NO : A0705 BODY COLOR: RED
ENGINE DATA : 4 CYLINDERS ; 2.2 :liters
x GASOLINE ; DIESEL ; TURBO CHARGED
x LONGITUDINAL ; TRANSVERSE ;
TRANSMISSION DATA : 4 SPEED , - MANUAL , x AUTOMATIC ,
FINAL DRIVE DATA : - FWD , x RWD , - 4WD
MAJOR OPTIONS : x A/C , x P/S , - P/B , - P/wdo ,
- TILT WHEEL , - P/seats , - CRUISE CONTROL
TYPE OF OCCUPANT RESTRAINT : Driver and passenger airbag with type II belt

TEST FLUID DATA

TEST FLUID TYPE : RED STODDARD SOLVENT SPECIFIC GRAVITY : 0.777
KINEMATIC VISODSITY : 1.39CST
NOMINAL FUEL CAPACITY : 74 Liters (NFC)
TEST VOLUME : 70 Liters (94% of NFC)
ELECTRICE FUEL POMP : x YES - NO FUEL INJECTION : x YES - NO

SAMMARY OF TEST CONDITION (2)

ET5-1310

VEHICLE TIRE DATA

COLD TIRE PRESSIRE : FRONT 196 KPa
REAR 196 KPa
TIRES SIZE ON VEHICLE : P225/75R16
IS SPARE TIRE A "SPACE SAVER" : NO
IS SPARE TIRE STANDARD EQUIPMENT : YES

VEHICLE CAPACITY

NUMBER OF OCCUPANTS : 2 FRONT; 3 REAR; - 3rd seat
TYPE OF FRONT SEATS : x BUCKET; - BENCH; - SPLIT BENCH
TYPE OF FRONT SEAT BACK : - FIXED x Adj.with x LEVER - Rot.knob
RATED CARGO AND LUGGAGE
WEIGHT (RCLW) = 126 kg
GVWR : 2155 kg GAWR:FRONT 1134 kg REAR 1315 kg

CALCULATION FOR TARGET TEST WEIGHT

UW = Unloaded Weight (including OW) (1689 kg)
OW = Option Weight (- kg)
DSC = Designated Seating Capacity (5)
RCLW= 126 kg
TARGET TEST WEIGHT = UW + OW + RCLW + (2 dummies* × 75.0kg/dummy)
TARGET TEST WEIGHT = 1965 kg

*Hybrid-II

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO

RIGHT FRONT = 483 kg REGHT REAR = 510 kg
LEFT FRONT = 502 kg LEFT REAR = 480 kg
TOTAL FRONT WEIGHT = 985 kg (50 % of Total vehicle weight)
TOTAL REAR WEIGHT = 990 kg (50 % of Total vehicle weight)
TOTAL TEST WEIGHT = 1975 kg

(1) POST IMPACT SUMMARY

Vehicle : UER30E (4S2CK58D814300010)
 Test No. : A0705
 Date : July 5, 2000

IMPACT VELOCITY : PRIMARY = 49.5 km/h (30.8 MPH)

VEHICLE STATIC CRUSH: Driver Side : 202 mm
 Passenger Side : - mm

FUEL SYSTEM INTEGRITY - FMVSS 301-75

	Actual	Max. Allow.
Fuel spillage impact until vehicle motion ceases.	0	1 ounce
Fuel spillage for 5 minute period following cessation of vehicle motion after impact.	0	5 ounce
Fuel spillage for next 25 minute period	0	1 ounce 1 minute

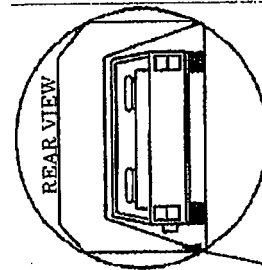
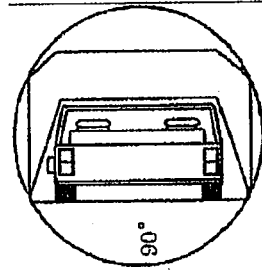
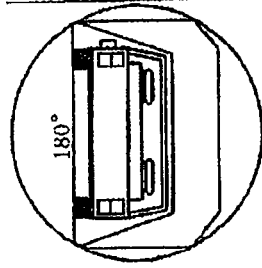
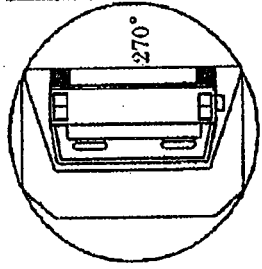
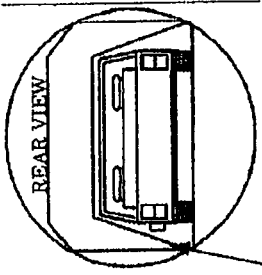
FUEL SPILLAGE LOCATION : NONE

FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (1 st. Roll ; Clockwise)

Vehicle : UEE30F (VIN. 4S2CK58D814300010)

Test No. A0705



FILLER CAP 0 / 360

FILLER CAP 0 / 360

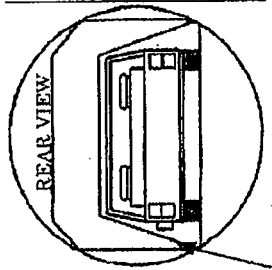
Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1 - 3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

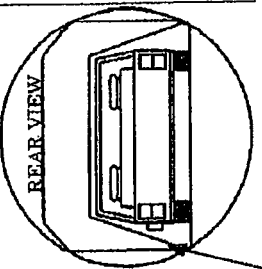
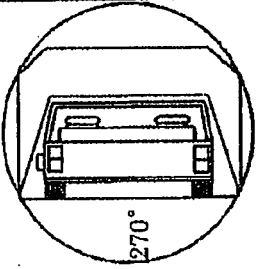
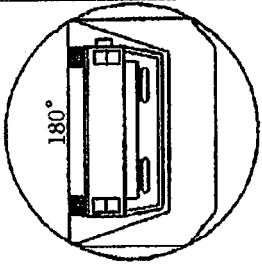
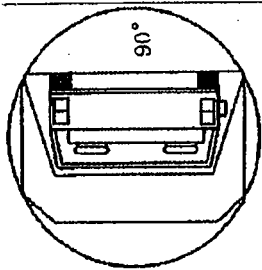
FUEL SYSTEM INTEGRITY - FMVSS 301-75

STATIC ROLLOVER (2 nd. Roll ; Clockwise)

Vehicle : UER30F VIN 4S2CK58D814300010 Test No. A0705



FILLER CAP 0 / 360



FILLER CAP 0 / 360

Rotation Angle	Rotation Time	Fuel spillage during 5 minute period from onset of rotation	Fuel spillage during 6 minute period from onset of rotation	Fuel spillage during 7 minute period from onset of rotation
0 - 90	60 seconds	0 ounce	0 ounce	-
90 - 180	60 seconds	0 ounce	0 ounce	-
180 - 270	60 seconds	0 ounce	0 ounce	-
270 - 360	60 seconds	0 ounce	0 ounce	-
Max. allowed	1-3 minutes	5 ounce	1 ounce	1 ounce

FUEL SPILLAGE LOCATION : NONE

3. PHOTOGRAGHS

<u>PAGES</u>		<u>PHOTO.No</u>
1 0	-----	PHOTO. 1
	~	
1 4	-----	PHOTO.10

ET5-1310

PRE-TEST



Photo 2

POST-TEST



Photo. 3

PNE-TEST

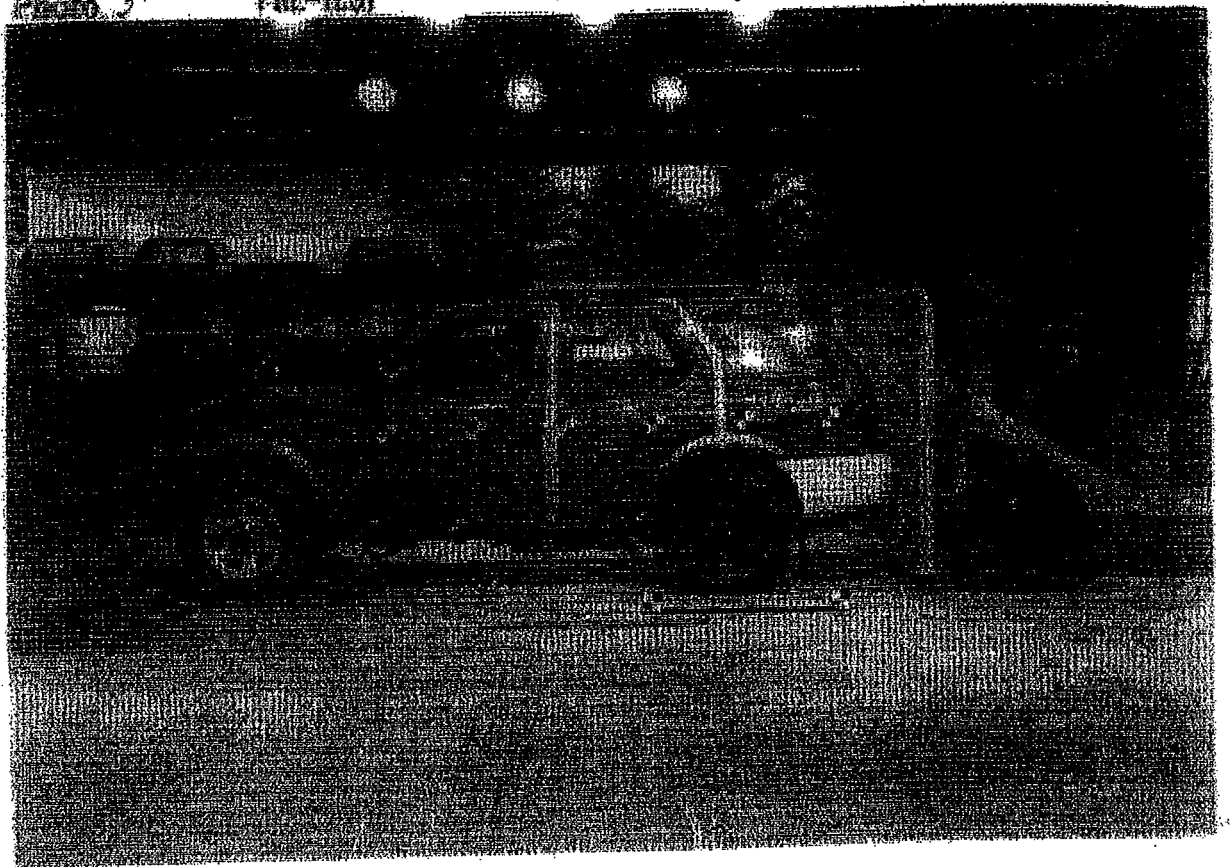
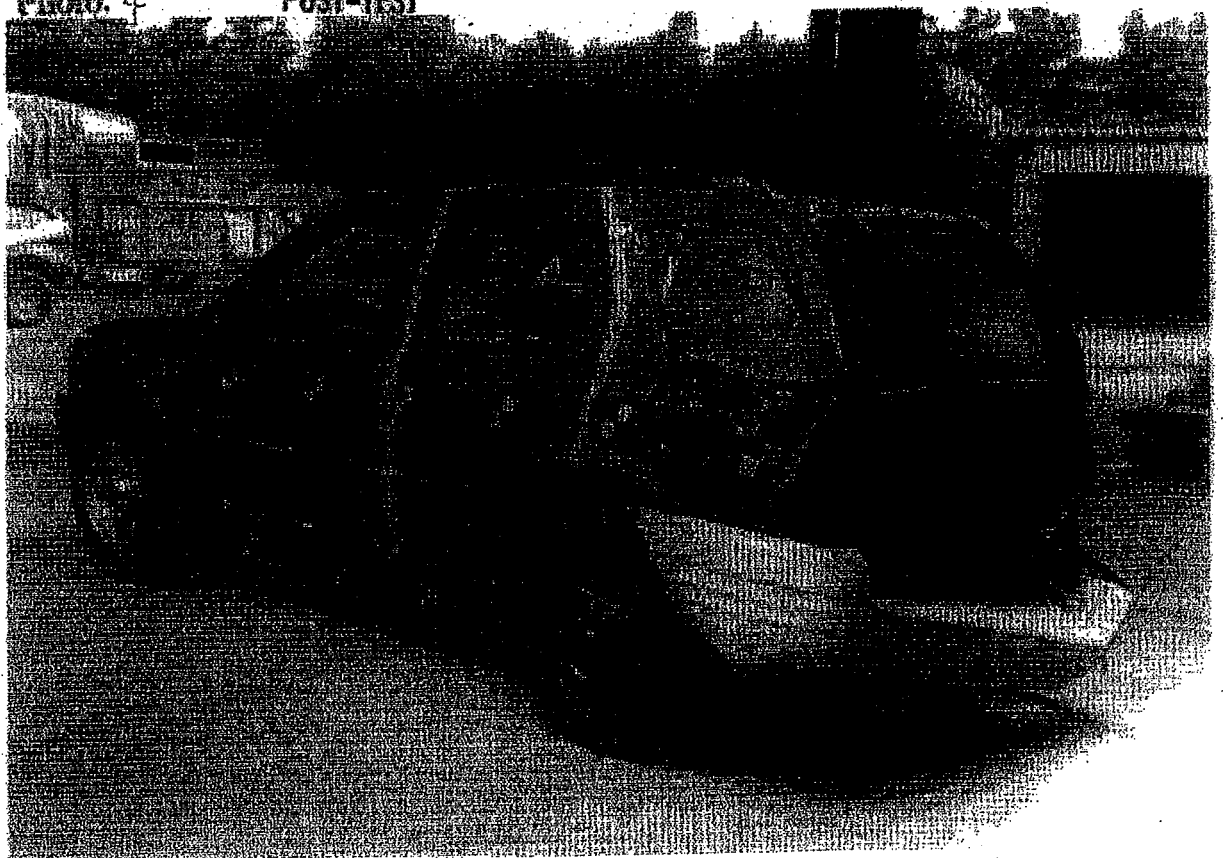


Photo. 4

POST-TEST



ET5-1310

PRE-TEST



Photo 6

POST-TEST



Photo. 7

POST-TEST

ET5-1310

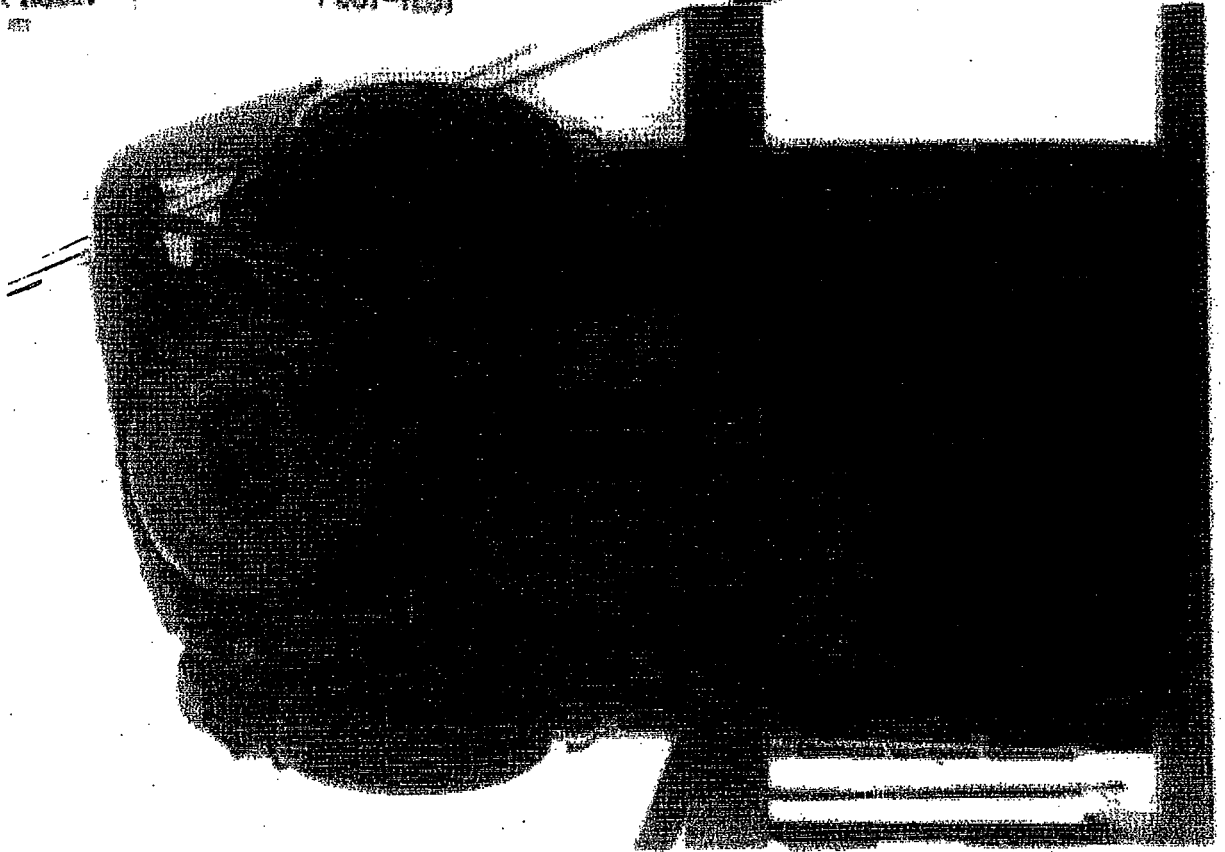
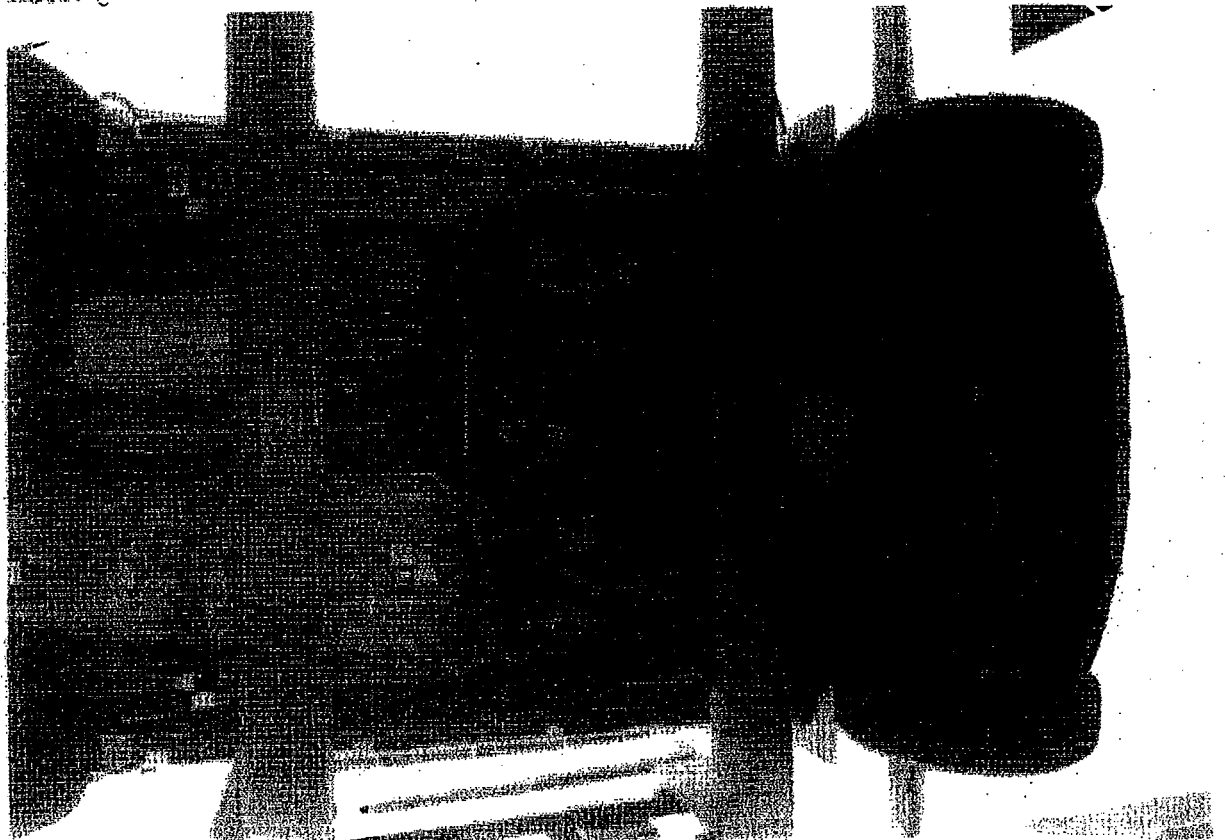


Photo. 8

POST-TEST



ET5-1310

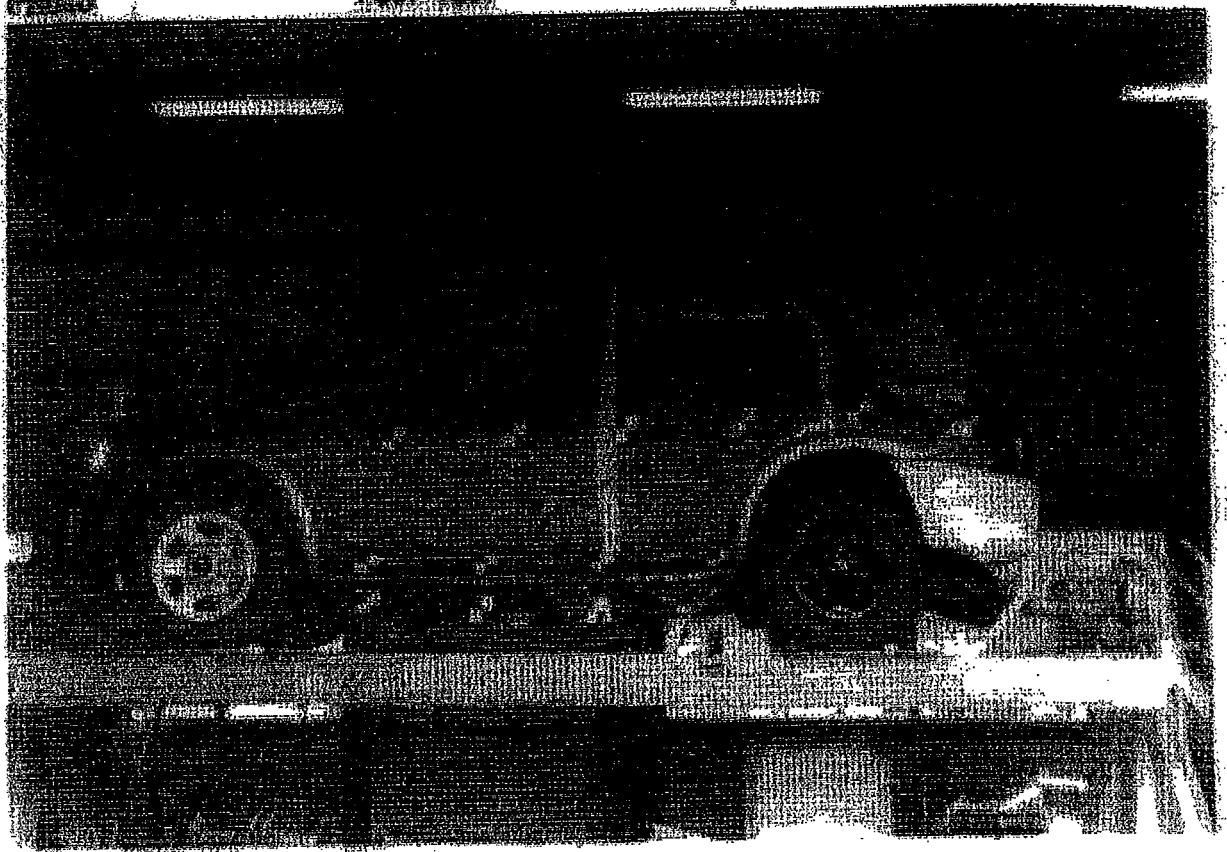
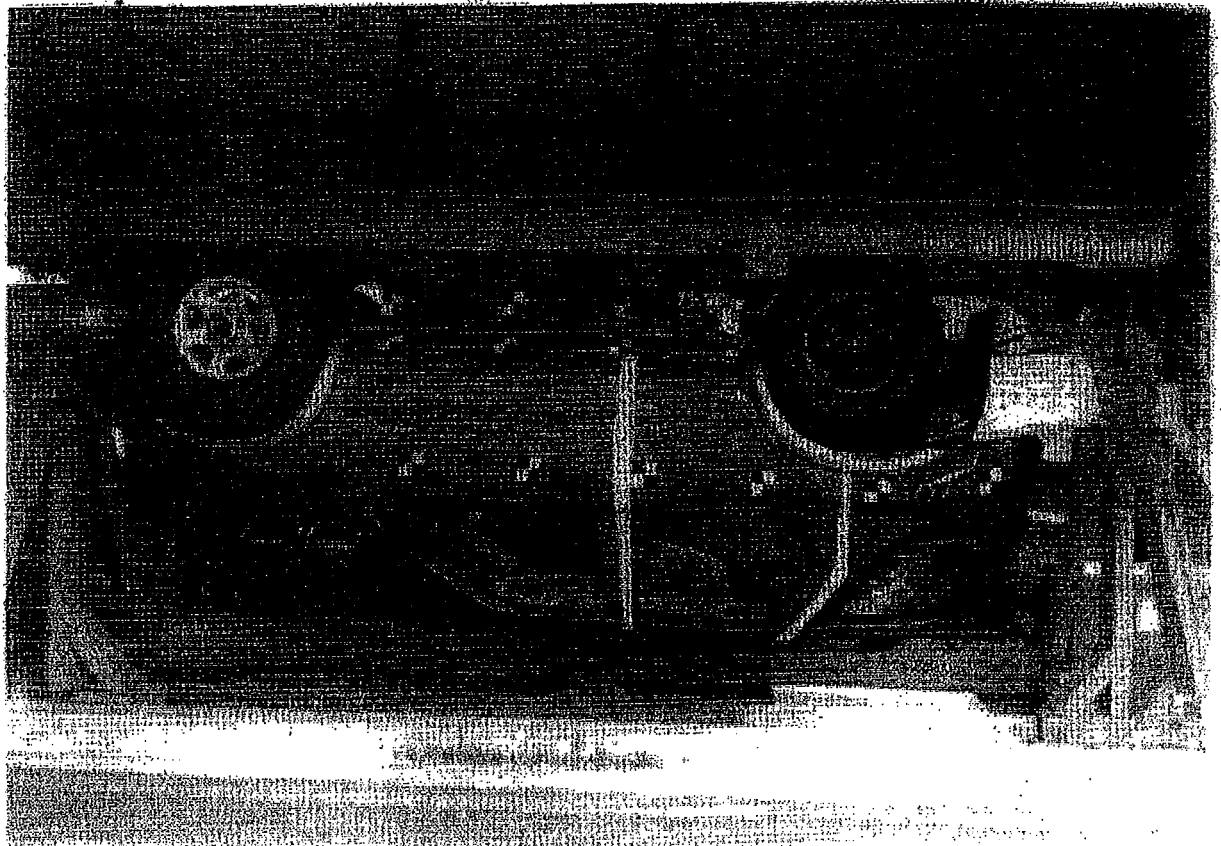


Photo. 10

POST-TEST



CONFIDENTIAL INFORMATION REDACTED

ET 2-1219

ISUZU MOTORS LIMITED

DESIGN VALIDATION REPORT

REPORT No. V-UE-030

ISSUED DATE July 11 1997

Vehicle Model: UES25F UER25F UER30F

Model Year : 1998

Subject: FMVSS No.301.Fuel System Integrity

<u>Section</u>	<u>Item</u>	<u>Method of Validation</u>	<u>Conclusion</u>
S5.5	Fuel Spillage: Barrier Crash	Test	Comply (cf. Attachment B to K)
S5.6	Fuel Spillage: Rollover	Test	Comply (cf. Attachment B to K)

This certifies that UES25F, UER25F, UER30F meet the applicable requirements of FMVSS No.301.

Authorized by 山田 豊
T.YAMADA
General Manager
Vehicle Research &
Experiment Dept.

Attachment A

SELECTION OF TEST VEHICLE

○: TEST

—: Substitute by other vehicle

Test Item		UER/S		
		UES25F	UER25F	UER30F
Perpendicular Frontal Barrier		○ Attachment B	— (byUES25F)	○ Attachment C
Right side Oblique Frontal Barrier		○ Attachment D	— (byUES25F)	○ Attachment E
Left Side Oblique Frontal Barrier		○ Attachment F	— (byUES25F)	○ Attachment G
Left-hand Side Lateral Moving Barrier		○ Attachment H	— (byUES25F)	— (byUES25F)
Right-hand Side Lateral Moving Barrier		*) NO TEST	— (byUES25F)	— (byUES25F)
Rear Moving Barrier	Tail Gate MTG Spare Tire	○ Attachment J	— (byUES25F)	— (byUES25F)
	Under Floor MTG Spare Tire	○ Attachment K	— (byUES25F)	— (byUES25F)

*):1).All vehicle models of UES25F,UER25F,UER30F are identical design concerning the side body structure and side fuel system(fuel tank & fuel line) .

2).Fuel tank & fuel line are located only left side body.

Attachment B (1 of 3)

Vehicle Model: UES25F (DOHC MODEL)

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Perpendicular Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2CM58W3W4300029

Explanation of reason why the tests was conducted on the vehicle stated above:

1. All vehicle models of UES25F UER25F are identical design concerning the front body structure and fuel system.
2. The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F.

Test Date : Jun. 18, 1997

Test Conditions:

1. Frontal Barrier Crash Test

Barrier Face Angle

Perpendicular to the line of travel
of the vehicle

Vehicle Impact Speed

48.6km/h (30.4MPH)

Vehicle Weight Less Dummies

1834kg

Occupants

Driver

Hybrid III (80kg)

Right Front passenger

Hybrid III (80kg)

Percent of Fuel Teak capacity

Used

94 %

2. Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

Attachment B (2 of 3)

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

Attachment B (3 of 3)

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1085

T. Kaneko

T.KANEKO
 Crash worthiness &
 Safety Performance Section
 Vehicle Research &
 Experiment Dept.

Y. Okami

Y.OKAMI
 Manager
 Crash worthiness &
 Safety & Performance Section
 Vehicle Research & Experiment Dept.

Attachment C (1 of 3)

Vehicle Model: UER30F

Model Year: 1998Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Perpendicular Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UER30F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCK58D8W7C00010

Explanation of reason why the tests was conducted on the vehicle stated above:

All vehicle models of UER30F are identical design concerning the front body structure and fuel system.

Test Date: May. 22. 1997

Test Conditions:

1. Frontal Barrier Crash Test

Barrier Face Angle Perpendicular to the line of travel
of the vehicle

Vehicle Impact Speed 48.6km/h (30.2MPH)

Vehicle Weight Less Dummies 1605kg

Occupants

Driver Hybrid III (80kg)

Right Front passenger Hybrid III (80kg)

Percent of Fuel Tank capacity
Used 94 %

2. Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

Attachment C (2 of 3)

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

Attachment C (3 of 3)

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

 YES NOReference Report: ISUZU Research Engineering Report No. ET5-1086*T. Kaneko*

T.KANEKO
 Crash worthiness &
 Safety Performance Section
 Vehicle Research &
 Experiment Dept

Y. Yokami

YOKAMI
 Manager
 Crash worthiness &
 Safety & Performance Section
 Vehicle Research & Experiment Dept.

Attachment D (1 of 3)

Vehicle Model: UES25F (DOHC MODEL)

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301. Fuel System Integrity
 (Right side 30° oblique Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: (UES25F)

Explanation of reason why the tests was conducted on the vehicle stated above;

- 1.All vehicle models of UES25F UER25F are identical design concerning the front body structure and fuel system.
- 2.The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F.

Test Date:

Test Conditions:

1.Frontal Barrier Crash Test

Barrier Face Angle	30degree In the right direction from the Perpendicular to the line of travel of the vehicle
--------------------	---

Vehicle Impact Speed	48.4km/h (30.1MPH)
Vehicle Weight Less Dummies	1832kg

Occupants	
Driver	Hybrid III (80kg)
Right Front passenger	Hybrid III (80kg)

Percent of Fuel Teak capacity Used	94 %
------------------------------------	------

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?
_____ x YES _____ NO

Continued

Attachment D (2 of 3)

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1087

Y. Ishihara
 YISHIHARA
 Crash worthiness &
 Safety Performance Section
 Vehicle Research &
 Experiment Dept

Y. Akami
 YOKAMI
 Manager
 Crash worthiness &
 Safety & Performance Section
 Vehicle Research & Experiment Dept.

Vehicle Model: UER30F

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Right side 30° oblique Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UER30F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCK58WDXW7C00008(UER30F)

Explanation of reason why the tests was conducted on the vehicle stated above:

1.All vehicle models of UER30F are identical design concerning the front body structure and fuel system.

Test Date:

Test Conditions:

1.Frontal Barrier Crash Test

Barrier Face Angle 30 degree In the right direction from the Perpendicular to the line of travel of the vehicle

Vehicle Impact Speed 48.4km/h (30.1MPH)

Vehicle Weight Less Dummies 1575kg

Occupants

Driver Hybrid III (80kg)

Right Front passenger Hybrid III (80kg)

Percent of Fuel Teak capacity Used 94 %

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?
× YES _____ NO

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

Attachment E (3 of 3)

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

 YES NO
Reference Report: ISUZU Research Engineering Report No. ET5-1088

Y. Ishihara
Y. ISHIIHARA

Crash worthiness &
Safety Performance Section
Vehicle Research &
Experiment Dept.

J. Okami
Y. OKAMI

Manager
Crash worthiness &
Safety & Performance Section
Vehicle Research & Experiment Dept.

Vehicle Model:: UES25F (DOHC MODEL)

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Left side 30° oblique Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCM58W8W7E00008

Explanation of reason why the tests was conducted on the vehicle stated above;

1. All vehicle models of UES25F, UER25F are identical design concerning the front body structure and fuel system.
2. The test vehicle was set on the weight of not less than the maximum vehicle weight In all vehicle models of UER25F, UER25F.

Test Date: Feb. 24, 1997

Test Conditions:

1.Frontal Barrier Crash Test

Barrier Face Angle	30° degrees In the left direction from the Perpendicular to the line of travel of the vehicle
--------------------	---

Vehicle Impact Speed	48.3km/h (30.0MPH)
Vehicle Weight Less Dummies	1833kg

Occupants

Driver	Hybrid III (80kg)
Right Front passenger	Hybrid III (80kg)

Percent of Fuel Tank capacity Used	94 %
------------------------------------	------

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?
x YES NO

Test Results

1. Left side 30° oblique Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1089

S. Ito

S. ITO
Crash worthiness &
Safety Performance Section
Vehicle Research &
Experiment Dept

Y. Okami

Y. OKAMI
Manager
Crash worthiness &
Safety & Performance Section
Vehicle Research & Experiment Dept.

Vehicle Model: UER30F

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Left side 30° oblique Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UER30F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCK58WDIW7C00012(UER30F)

Explanation of reason why the tests was conducted on the vehicle stated above;

- 1.All vehicle models of UER30F are identical design concerning the front body structure and fuel system.

Test Date: Mar. 7, 1997

Test Conditions:

1.Frontal Barrier Crash Test

Barrier Face Angle	30 degree in the left direction from the Perpendicular to the line of travel of the vehicle
--------------------	---

Vehicle Impact Speed	48.9km/h (30.4MPH)
----------------------	--------------------

Vehicle Weight Less Dummies	1576kg
-----------------------------	--------

Occupants

Driver	Hybrid III (80kg)
--------	-------------------

Right Front passenger	Hybrid III (80kg)
-----------------------	-------------------

Percent of Fuel Teak capacity Used	94 %
------------------------------------	------

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1090

Y. Ishihara

YISHIHARA

Crash worthiness &
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Vehicle Research &
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Y. Okami

Y.OKAMI

Manager
Crash worthiness &
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Vehicle Research & Experiment Dept.

Vehicle Model : UES25F

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Left Side Lateral Impact & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCM58W5W7C00011

Explanation of reason why the tests was conducted on the vehicle stated above:

- 1.All vehicle models of UES25F UER25F UER30F are identical design concerning the side body structure and fuel system.
- 2.The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F,UER30F.
- 3.Test condition is FMVSS214, because severe than FMVSS301 lateral moving barrier test condition.

Test Date: Jun.16 , 1997

Test Conditions:

1.LH side Moving Deformable Barrier Crash Test

Moving Barrier Angle	63deg. with the centerline of the vehicle
Moving Barrier Impact Speed	62.6km/h (38.9MPH)
Vehicle Weight Less Dummies	1833g

Occupants

Driver	SID (80kg)
Left Rear passenger	SID (80kg)

Percent of Fuel Teak capacity

Used 94 %

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Test Results

1. Rear Moving Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

Attachment H (3 of 3)

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

 x YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1091

Y. Ishihara
YISHIHARA
Crash worthiness &
Safety Performance Section
Vehicle Research &
Experiment Dept.

J. Okami
YOKAMI
Manager
Crash worthiness &
Safety & Performance Section
Vehicle Research & Experiment Dept.

Attachment J (1 of 3)

Vehicle Model : UES25F(Tail Gate Mounting Spare Tire)

Model Year: 1998Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Rear Moving Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCM58W8W7C00021

Explanation of reason why the tests was conducted on the vehicle stated above:

- 1.All vehicle models of UES25F UER25F UER30F are identical design concerning the rear body structure and fuel system.
- 2.The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F,UER30F.

Test Date: Feb. 4, 1997

Test Conditions:

1.Rear Moving Barrier Crash Test

Moving Barrier Impact Speed	49.0km/h (30.4MPH)
Vehicle Weight Less Dummies	1833g

Occupants

Driver	Hybrid III (80kg)
Right Front passenger	Hybrid III (80kg)

Percent of Fuel Teak capacity Used	94 %
------------------------------------	------

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

Test Results

1. Rear Moving Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1093

T. Kaneko

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Vehicle Research &
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Y. Okami

YOKAMI
Manager
Crash worthiness &
Safety & Performance Section
Vehicle Research & Experiment Dept.

Vehicle Model: UES25F(Under Floor Mounting Spare Tire)

Model Year: 1998

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Rear Moving Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: JACCM58W7W7E00002

Explanation of reason why the tests was conducted on the vehicle stated above:

- 1.All vehicle models of UES25F UER25F UER30F are identical design concerning the rear body structure and fuel system.
- 2.The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F, UER30F.

Test Date: Dec. 25. 1997

Test Conditions:

1.Rear Moving Barrier Crash Test

Moving Barrier Impact Speed	48.6km/h (30.3MPH)
Vehicle Weight Less Dummies	1833g
Occupants	
Driver	Hybrid III (80kg)
Right Front passenger	Hybrid III (80kg)
Percent of Fuel Teak capacity Used	94 %

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Attachment K (2 of 3)

Test Results

1. Rear Moving Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

 x YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1094

T. Kaneko

T.KANEKO
Crash worthiness &
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Vehicle Research &
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Y. Okami

Y.OKAMI
Manager
Crash worthiness &
Safety & Performance Section
Vehicle Research & Experiment Dept.

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ET 2-1411

ISUZU

ISUZU MOTORS LIMITED

D E S I G N V A L I D A T I O N R E P O R T

REPORT No. V-UE-128

ISSUED DATE September 13th, 1999

Vehicle Model : UES25F, UER25F, UER30F
Model Year : 2000
Subject : FMVSS No.301.Fuel System Integrity

<u>Section</u>	<u>Item</u>	<u>Method of Validation</u>	<u>Conclusion</u>
S5.5	Fuel Spillage: Barrier Crash	Test	Comply (cf. Attachment A to D)
S5.6	Fuel Spillage: Rollover	Test	Comply (cf. Attachment A to D)

This certifies that UES25F, UER25F and UER30F meet the applicable requirements of FMVSS No.301.

Authorized by Y. Okami
Y. OKAMI
General Manager
Vehicle Safety Engineering Dept.

SELECTION OF TEST VEHICLE

○: TEST

—: Substitute by other vehicle

Test Item	UES25F
Perpendicular Frontal Barrier	○ Attachment B
Right side Oblique Frontal Barrier	— (99 UES25F) Attachment D
Left Side Oblique Frontal Barrier	— (99 UES25F) Attachment D
Right-hand Side Lateral Moving Barrier	No Test * (99 UES25F)
Left-hand Side Lateral Moving Barrier	— (99 UES25F) Attachment D
Rear Moving Barrier	○ Attachment C

*Fuel tank & fuel line are located only left side body.

Vehicle Model: UES25F

Model Year: 2000

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Perpendicular Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W1Y4300005

Explanation of reason why the tests was conducted on the vehicle stated above;

- (1) All vehicle models of UES25F, UER25F and UER30F are identical in design concerning the fuel systems.
- (2) The test vehicle, UES25F is the heaviest model among all vehicle models of UES25F, UER25F and UER30F.

Test Date: August 7th, 1999

Test Conditions:

1. Frontal Barrier Crash Test

Barrier Face Angle

Perpendicular to the line of travel
of the vehicle

Vehicle Impact Speed

48.6 km/h (30.2 MPH)

Vehicle Weight With Dummies

2162 kg

Occupants

Driver

Hybrid III (80 kg)

Right Front passenger

Hybrid III (80 kg)

Percent of Fuel Teak capacity
Used

94 %

2. Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
Per minutes for subsequent 25 minutes Period	0	1.0

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time (minutes)	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	1.0	0	0	—
90° ~ 180°	1.0	0	0	—
180° ~ 270°	1.0	0	0	—
270° ~ 360°	1.0	0	0	—
Max. Allow	1.0-3.0	5.0	1.0	1.0

Continued

3. Rollover Test Results (counterclockwise)

Rotation angle	Rotation time (minutes)	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	1.0	0	0	—
90° ~ 180°	1.0	0	0	—
180° ~ 270°	1.0	0	0	—
270° ~ 360°	1.0	0	0	—
Max. Allow	1.0-3.0	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference: ISUZU Research Engineering Report No. ET5-1239


S. KAMIYAMA

Crashworthiness &
Safety Performance Test Section
Vehicle Safety Engineering Dept.


S. SAITOH

Manager
Crashworthiness &
Safety Performance Test Section
Vehicle Safety Engineering Dept.

Vehicle Model: UES25F

Model Year: 2000

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Rear Moving Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: N148DOM-16

Explanation of reason why the tests was conducted on the vehicle stated above;

The vehicle used in this test is a Japanese model, so that is a right hand vehicle. However, the rear part of the vehicle is the same as a US model, and also a rear moving barrier test for US is severer than for Japan. Therefore, the above model was examined in order to comply with both Japanese and US regulations.

Test Date: April 23rd, 1999

Test Conditions:

1.Rear Moving Barrier Crash Test

Moving Barrier Impact Speed	55.4 km/h (34.4 MPH)
Vehicle Weight with Dummies	2165 kg

Occupants

Driver	Hybrid II (75 kg)
Right Front Passenger	Hybrid II (75 kg)

Percent of Fuel Teak capacity Used	94 %
---------------------------------------	------

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

ET 2-1411

Test Results

1. Rear Moving Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
Per minutes for subsequent 25 minutes Period	0	1.0

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time (minutes)	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	1.0	0	0	—
90° ~ 180°	1.0	0	0	—
180° ~ 270°	1.0	0	0	—
270° ~ 360°	1.0	0	0	—
Max. Allow	1.0-3.0	5.0	1.0	1.0

Continued

3. Rollover Test Results (counterclockwise)

Rotation angle	Rotation time (minutes)	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	1.0	0	0	—
90° ~ 180°	1.0	0	0	—
180° ~ 270°	1.0	0	0	—
270° ~ 360°	1.0	0	0	—
Max. Allow	1.0-3.0	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference: ISUZU Research Engineering Report No. ET5-1244

S. Kamiyama
S. KAMIYAMA

Crashworthiness &
Safety Performance Test Section
Vehicle Safety Engineering Dept.

S. Saitoh
S. SAITOH
Manager

Crashworthiness &
Safety Performance Test Section
Vehicle Safety Engineering Dept.

Attachment D

Vehicle Model: UES25F

ET 2-1411

Model Year: 2000

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Left and Right side 30° oblique frontal crash tests & Static Rollover) &
(Left Side Lateral Impact & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of
S5.5 & S5.6 of FMVSS No.301.

Basis of validation:

The following design validation report is applicable as following reasons.

These tests were conducted using the 1999 year model of UES25F and the results is shown in the following report. Although passenger compartment frames of a 2000 model of UES25F is slightly different from that of 1999 year's, both models' fuel pipe layout are same. Therefore, the result of 1999 UES25F can substitute for that of 2000 UES25F.

Applicable Design Validation Report No. V-UE-030

References : ISUZU Research Engineering Report No. ET5-1072, 1073, 1091


S. KAMIYAMA

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Vehicle Safety Engineering Dept.


S. SAITOH
Manager

Crashworthiness &
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Vehicle Safety Engineering Dept.

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ETZ-1433

ISUZU MOTORS LIMITED

DESIGN VALIDATION REPORT

REPORT No. V-UE-184

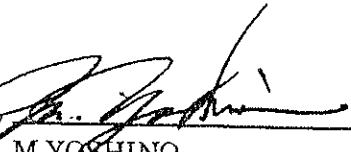
ISSUED DATE July 30, 2000

Vehicle Model: UES25F, UER25F, UER30F
Model Year : 2001
Subject: FMVSS No.301 Fuel System Integrity

<u>Section</u>	<u>Item</u>	<u>Method of Validation</u>	<u>Conclusion</u>
S5.5	Fuel Spillage: Barrier Crash	Test	Comply (cf. Attachment B to G)
S5.6	Fuel Spillage: Rollover	Test	Comply (cf. Attachment B to G)

This certifies that UES25F, UER25F, UER30F meet the applicable requirements of FMVSS No.301.

Authorized by



M. YOSHINO
General Manager
Vehicle Safety Engineering Dept.

SELECTION OF TEST VEHICLE

○: TEST

—: Substitute by other vehicle

Test Item	UER/S		
	UES25F	UER25F	UER30F
Perpendicular Frontal Barrier	○ Attachment B	— (byUES25F)	○ Attachment C
Right side Oblique Frontal Barrier	— (00UES25F) Attachment D	— (byUES25F)	— (00UER30F) Attachment D
Left Side Oblique Frontal Barrier	— (00UES25F) Attachment D	— (byUES25F)	— (00UER30F) Attachment D
Left-hand Side Lateral Moving Barrier	○ Attachment E (FMVSS214)	— (byUES25F)	— (byUES25F)
Right-hand Side Lateral Moving Barrier	*) NO TEST	— (byUES25F)	— (byUES25F)
Rear Moving Barrier	○ Attachment F	— (byUES25F)	○ Attachment G

- *):1) All vehicle models of UES25F,UER25F,UER30F are identical design concerning the side body structure and side fuel system(fuel tank & fuel line) .
2) Fuel tank & fuel line are located only left side body.

Vehicle Model: UES25F

Model Year: 2001

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301. Fuel System Integrity
(Perpendicular Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W114300009 (UES25F)

Explanation of reason why the tests was conducted on the vehicle stated above;

- 1.All vehicle models of UES25F,UER25F are identical design concerning the front body structure and fuel system.
- 2.The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F.

Test Date : June 19, 2000

Test Conditions:

1.Frontal Barrier Crash Test

Barrier Face Angle

Perpendicular to the line of travel of the vehicle

Vehicle Impact Speed

56.6km/h (35.2MPH)

Vehicle Weight Less Dummies

2015kg

Occupants

Driver

Hybrid III (80kg)

Right Front passenger

Hybrid III (80kg)

Percent of Fuel Teak capacity

Used

94 %

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Test Results

1. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 ,minute

2. Rollover Test Results (clockwise):

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1306

K. Kano

K.KANO

Crashworthiness &
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Vehicle Safety Engineering Dept.

A. Kawabata

A.KAWABATA

Manager
Crashworthiness &
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Vehicle Safety Engineering Dept.



Vehicle Model: UER30F

Model Year: 2001

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301 Fuel System Integrity
(Perpendicular Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2CK58D814300007 (UER30F)

Explanation of reason why the tests was conducted on the vehicle stated above;

- 1.All vehicle models of UER30F are identical design concerning the front body structure and fuel system.

Test Date : June 26, 2000

Test Conditions:

1.Frontal Barrier Crash Test

Barrier Face Angle

Perpendicular to the line of travel of the vehicle

Vehicle Impact Speed

56.3km/h (35.0MPH)

Vehicle Weight Less Dummies

1815kg

Occupants

Driver

Hybrid III (80kg)

Right Front passenger

Hybrid III (80kg)

Percent of Fuel Teak capacity

Used

94 %

3.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

Test Results

2. Perpendicular Frontal Barrier Crash test results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 ,minute

3. Rollover Test Results (clockwise);

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued



3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1307

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Vehicle Model: UES25F, UER30F

Model Year: 2001

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Right and Left side 30° oblique Frontal Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F, UER30F meet the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Basis of Validation

Basis of validation

The body structure and fuel system of 2001 UES25F & UER30F are the same as those of 2000 UES25F & UER30F except material of fuel tank. It is the difference of material between the resin tank and the steel tank.

But, this difference have no influence of the fuel system integrity in the right and left side 30° oblique frontal barrier crash test.

The Following Design Validation Report is applicable.

Applicable Design Validation Report No. V-UE-128

Reference Report: ISUZU Research Engineering Report No. ET5-1087, 1088

ET5-1089, 1090

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A.KAWABATA

Manager
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Vehicle Model : UES25F

Model Year: 2001

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301. Fuel System Integrity
(Left-hand Side Lateral Moving Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W414300005 (UES25F)

Explanation of reason why the tests was conducted on the vehicle stated above;

- 1.All vehicle models of UES25F UER25F UER30F are identical design concerning the side body structure and fuel system.
- 2.The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F,UER30F.
- 3.Test condition is FMVSS214, because severe than FMVSS301 lateral moving barrier test condition.

Test Date: July 3, 2000

Test Conditions:

- 1.Left-hand side Moving Deformable Barrier Crash Test

Moving Barrier Angle	63deg. with the centerline of the vehicle
Moving Barrier Impact Speed	62.2km/h (38.7MPH)
Vehicle Weight Less Dummies	2015g

Occupants	
Driver	SID (80kg)
Left Rear passenger	SID (80kg)

Percent of Fuel Teak capacity	
Used	94 %

2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?
 x YES NO

Continued

Test Results

1. Left-hand Side Moving Deformable Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 ,minute

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

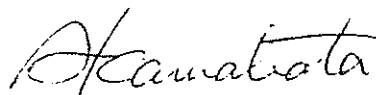
Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1308



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A.KAWABATA
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Vehicle Model : UES25F

Model Year: 2001

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301, Fuel System Integrity
(Rear Moving Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UES25F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W714300001 (UES25F)

Explanation of reason why the tests was conducted on the vehicle stated above;

1. All vehicle models of UES25F, UER25F are identical design concerning the rear body structure and fuel system.
2. The test vehicle was set on the weight of not less than the maximum vehicle weight in all vehicle models of UES25F, UER25F.

Test Date: June 8, 2000

Test Conditions:

1. Rear Moving Barrier Crash Test

Moving Barrier Impact Speed	48.6km/h (30.2MPH)
Vehicle Weight Less Dummies	2015g

Occupants

Driver	Hybrid II (80kg)
Right Front passenger	Hybrid II (80kg)

Percent of Fuel Teak capacity Used	94 %
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2. Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?

 x YES NO

Continued

Test Results

1. Rear Moving Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1309

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Vehicle Model: UER30F

Model Year: 2001

Subject: Compliance for S5.5 & S5.6 of FMVSS No.301, Fuel System Integrity
(Rear Moving Barrier Crash & Static Rollover)

Introduction: To determine if the fuel system of UER30F meets the requirements of S5.5 and S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2CK58D814300010 (UER30F)

Explanation of reason why the tests was conducted on the vehicle stated above;

- 1.All vehicle models of UER30F are identical design concerning the rear body structure and fuel system.

Test Date: July 5, 2000

Test Conditions:

1.Rear Moving Barrier Crash Test

Moving Barrier Impact Speed	49.5km/h (30.8MPH)
Vehicle Weight Less Dummies	1815g

Occupants

Driver	Hybrid II (80kg)
Right Front passenger	Hybrid II (80kg)

Percent of Fuel Teak capacity Used	94 %
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2.Rollover Test

Is roll duration time at each increment of 90 degrees between 1-3 minutes?
 x YES NO

Continued

Test Results

1. Rear Moving Barrier Crash Test Results.

	Results (ounce by weight)	Max. Allow (ounce by weight)
During impact	0	1.0
During first 5 minutes after impact	0	5.0
per minutes for subsequent 25 minutes Period	0	1.0 / 1 .minute

2. Rollover Test Results (clockwise);

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0

Continued

3. Rollover Test Results (Counterclockwise)

Rotation angle	Rotation time	During first 5 minutes (ounce by weight)	During any 1 minutes interval (ounce by weight)	During any 1 minutes interval (ounce by weight)
0° ~ 90°	minute	0	0	—
90° ~ 180°	minute	0	0	—
180° ~ 270°	minute	0	0	—
270° ~ 360°	minute	0	0	—
Max. Allow	1-3 minute	5.0	1.0	1.0


Do the above results of examination satisfy the requirements?

YES NO

Reference Report: ISUZU Research Engineering Report No. ET5-1310


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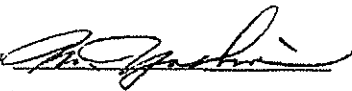
ISUZU MOTORS LIMITED

DESIGN VALIDATION REPORT

REPORT No. V-UE-243ISSUED DATE April 25th, 2002Vehicle Model : UER25F, UES25F, UER30F
UER25E, UES25E, UER30EModel Year : 2003Subject : FMVSS No. 301 Fuel System Integrity

FMVSS Section	Item	Method of Validation	Conclusion
S5.5	Fuel Spillage: Barrier Crash	Test	Comply (cf. Attachment A to D)
S5.6	Fuel Spillage: Rollover	Test	Comply (cf. Attachment A to D)

This certifies that UER25F, UES25F, UER30F, UER25E, UES25E, and UER30E meet the applicable requirements of FMVSS No. 301.

Authorized by 

M. Yoshino

General Manager

Vehicle Safety Engineering Dept.

SELECTION OF TEST VEHICLE

○: Test

-: Substitute by other vehicle

Vehicle model	Test items					
	Perpendicular to Frontal	Left 30° Oblique Frontal	Right 30° Oblique Frontal	Left side Moving Barrier	Right side Moving Barrier	Rear Moving Barrier
UES25F (LWB 4WD)	○ Attachment B	○ Attachment C	○ Attachment D	-*3 (‘01 Model)	-*3 (‘01 Model)	-*3 (‘01 Model)
UER25F (LWB 2WD)	-*1 (UES25F)	-*1 (UES25F)	-*1 (UES25F)	-*3 (‘01 Model)	-*3 (‘01 Model)	-*3 (‘01 Model)
UER30F (LWB 2WD)	-*2 (‘01 Model)	-*2 (‘01 Model)	-*2 (‘01 Model)	-*2 (‘01 Model)	-*2 (‘01 Model)	-*2 (‘01 Model)
UES25E (SWB 4WD)	-*1 (UES25F)	-*1 (UES25F)	-*1 (UES25F)	-*3 (‘02 Model)	-*3 (‘02 Model)	-*3 (‘02 Model)
UER25E (SWB 2WD)	-*1 (UES25F)	-*1 (UES25F)	-*1 (UES25F)	-*3 (‘02 Model)	-*3 (‘02 Model)	-*3 (‘02 Model)
UER30E (SWB 2WD)	-*2 (‘02 Model)	-*2 (‘02 Model)	-*2 (‘02 Model)	-*2 (‘02 Model)	-*2 (‘02 Model)	-*2 (‘02 Model)

We substitute the result of these items as the following reasons.

*1 : The vehicles of these models (UES25F, UER25F, UES25E and UER25E) have same front part body structure and fuel systems.

The vehicle weight of UES25F is the heaviest in these models.

*2: The modification at the part of the fuel tank of these models (UER30F and UER30E) has no influence for the performance of these items.

*3: The modification at the fuel line in part of the power train and the part of fuel tank of these models (UES25F, UER25F, UES25E and UER25E) have no influence for the performance of these items

Applied Design Validation Report Numbers:

<u>Vehicle Model Year</u>	<u>Design Validation Report</u>
'01 Model	V-UE-184
'02 Model	V-UE-206

Attachment B (1 of 2)

Vehicle Model: UER25F, UES25F, UER30F
UER25E, UES25E, UER30E

Model Year: 2003

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Perpendicular to frontal barrier crash test & static rollover test)

Introduction: To determine if the fuel system integrity of UER25F, UES25F, UER30E, UER25E,
UES25E and UER30E meet the requirements of S5.5 & S5.6 of
FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W234300006 (UES25F)

Explanation of reason why the test was conducted on the vehicles stated above;
Refer to Attachment A

Test Date: March 19th, 2002

Test Conditions:

Frontal Barrier Crash Test	
Barrier Face Angle	Perpendicular to the line of travel of the vehicle
Vehicle Impact Speed	56.7 km/h
Vehicle Weight with Dummies	2180 kg
Dummies	
Driver	Hybrid III
Right Front Passenger	Hybrid III
Percent of Fuel Tank Capacity	
Used	94 % (63 L)

Continued

Attachment B (2 of 3)

Test Results

1. Perpendicular to frontal barrier crash test results.

	Results (weight by gram)	Requirements (weight by gram)
During impact	0	Not exceed 28
During first 5 minutes after impact	0	Not exceed 140
Next 25 minutes subsequent to first 5 minutes after impact.	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation angle	Rotation time	During first 5 minutes (weight by gram)	During any 1 minute interval (weight by gram)	During any 1 minute interval (weight by gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minutes	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment B (3 of 3)

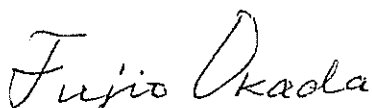
3. Static rollover test results (Clockwise from rear view)

Rotation angle	Rotation time	During first 5 minutes (weight by gram)	During any 1 minute interval (weight by gram)	During any 1 minute interval (weight by gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minutes	Not exceed 140	Not exceed 28	Not exceed 28

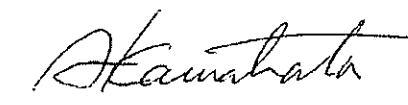
Do the above test results satisfy the requirements ?

YES NO

Reference: Isuzu Research Engineering Report No. 2002-1458


F. Okada

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A. Kawabata
Manager

Crashworthiness &
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Vehicle Safety Engineering Dept.

Attachment C (1 of 3)

Vehicle Model: UER25F, UES25F, UER30F,
UER25E, UES25E, UER30E

Model Year: 2003

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Left side 30° oblique frontal barrier crash test & static rollover test)

Introduction: To determine if the fuel system integrity of UER25F, UES25F, UER30F, UER25E,
UES25E and UER30E meet the requirements of S5.5 & S5.6 of
FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W134300014 (UES25F)

Explanation of reason why the test was conducted on the vehicles stated above;
Refer to Attachment A

Test Date: March 13th, 2002

Test Conditions:

Frontal Barrier Crash Test	
Barrier Face Angle	30 degrees in the left direction from the perpendicular to the line of travel of the vehicle
Vehicle Impact Speed	48.6 km/h
Vehicle Weight with Dummies	2180 kg
Dummies	
Driver	Hybrid III
Right Front Passenger	Hybrid III
Percent of Fuel Tank Capacity Used	94 % (63 L)

Continued

Attachment C (2 of 3)

Test Results

1. Left side 30° oblique frontal barrier crash test results.

	Results (weight by gram)	Requirements (weight by gram)
During impact	0	Not exceed 28
During first 5 minutes after impact	0	Not exceed 140
Next 25 minutes subsequent to first 5 minutes after impact.	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation angle	Rotation time	During first 5 minutes (weight by gram)	During any 1 minute interval (weight by gram)	During any 1 minute interval (weight by gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minutes	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment C (3 of 3)


3. Static rollover test results (Clockwise from rear view)

Rotation angle	Rotation time	During first 5 minutes (weight by gram)	During any 1 minute interval (weight by gram)	During any 1 minute interval (weight by gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minutes	Not exceed 140	Not exceed 28	Not exceed 28

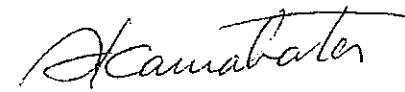
Do the above test results satisfy the requirements ?

YES NO

Reference: Isuzu Research Engineering Report No. 2002-1456


F. Okada

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A. Kawabata

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Vehicle Safety Engineering Dept.

Attachment D (1 of 3)

Vehicle Model: UER25F, UES25F, UER30F
UER25E, UES25E, UER30E

Model Year: 2003

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Right side 30° oblique frontal barrier crash test & static rollover test)

Introduction: To determine if the fuel system integrity of UER25F, UES25F, UER30F, UER25E,
UES25E and UER30E meet the requirements of S5.5 & S5.6 of
FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W834300012 (UES25F)

Explanation of reason why the test was conducted on the vehicles stated above;
Refer to Attachment A

Test Date: March 8th, 2002

Test Conditions:

Frontal Barrier Crash Test	
Barrier Face Angle	30 degrees in the right direction from the perpendicular to the line of travel of the vehicle
Vehicle Impact Speed	48.8 km/h
Vehicle Weight with Dummies	2180 kg
Dummies	
Driver	Hybrid III
Right Front Passenger	Hybrid III
Percent of Fuel Tank Capacity Used	94 % (63 L)

Continued

Attachment D (2 of 3)

Test Results

1. Right side 30° oblique frontal barrier crash test results.

	Results (weight by gram)	Requirements (weight by gram)
During impact	0	Not exceed 28
During first 5 minutes after impact	0	Not exceed 140
Next 25 minutes subsequent to first 5 minutes after impact.	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation angle	Rotation time	During first 5 minutes (weight by gram)	During any 1 minute interval (weight by gram)	During any 1 minute interval (weight by gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minutes	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment D (3 of 3)

3. Static rollover test results (Clockwise from rear view)

Rotation angle	Rotation time	During first 5 minutes (weight by gram)	During any 1 minute interval (weight by gram)	During any 1 minute interval (weight by gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minutes	Not exceed 140	Not exceed 28	Not exceed 28

Do the above test results satisfy the requirements ?


YES NO

Reference: Isuzu Research Engineering Report No. 2002-1446



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A. Kawabata

Manager
Crashworthiness &
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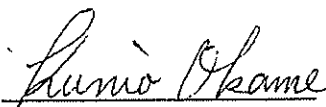
D E S I G N V A L I D A T I O N R E P O R TREPORT No. V-UE-282 ISSUED DATE June 20, 2003

Vehicle Model : UER25F, UES25F, UER26F, UES26F
Model Year : 2004
Subject : FMVSS No. 301 Fuel System Integrity

<u>Section</u>	<u>Item</u>	<u>Method of Validation</u>	<u>Conclusion</u>
S5.5	Fuel Spillage: Barrier Crash	Test	Comply (cf. Attachment A to G)
S5.6	Fuel Spillage: Rollover	Test	Comply (cf. Attachment A to G)

This certifies that UER25F, UES25F, UER26F and UES26F meet the applicable requirements of FMVSS No. 301.

Authorized by



K. Okame

General Manager

Vehicle Research & Experiment Dept.

SELECTION OF TEST VEHICLE

○: Test

-: Substitute by other vehicle

vehicle model	Test items					
	Perpendicular to Frontal	Left 30° Oblique Frontal	Right 30° Oblique Frontal	Left side Moving Barrier	Right side Moving Barrier	Rear Moving Barrier
UES26F (LWB 4WD)	○ Attachment B	○ Attachment C	○ Attachment D	- (UES25F)	- (UES25F)	- (UES25F)
UER26F (LWB 2WD)	- (UES26F)	- (UES26F)	- (UES26F)	- (UES25F)	- (UES25F)	- (UES25F)
UES25F (LWB 4WD)	- *1 (03 Model)	- *1 (03 Model)	- *1 (03 Model)	○ Attachment F	- *1 (03 Model)	- *1 (03 Model)
UER25F (LWB 2WD)	- (UES25F)	- (UES25F)	- (UES25F)	- (UES25F)	- (UES25F)	- (UES25F)

*1 : The result of the 2003 model is substituted this model.

- Perpendicular to Frontal → Refer to Attachment E
- Left 30° Oblique Frontal → Refer to Attachment E
- Right 30° Oblique Frontal → Refer to Attachment E
- Right side Moving Barrier → Refer to Attachment G
- Rear Moving Barrier → Refer to Attachment H

Attachment B (1 of 3)

Vehicle Model: UER26F, UES26F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Perpendicular to frontal barrier crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER26F and UES26F meet the requirements of S5.5 & S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58W034300070 (UES26F)

Explanation of reason why the test was conducted on the vehicles stated above;
We conducted all of compliance barrier tests by UES26F, since the vehicles of these models(UER26F, UES26F) have same body structure and fuel systems.

Test Date: October 11, 2002

Test Conditions:

Frontal Barrier Crash Test	
Barrier Face Angle	Perpendicular to the line of travel of the vehicle
Vehicle Impact Speed	56.4 km/h
Vehicle Weight with Dummies	2180 kg
Dummies	
Driver	Hybrid III
Right Front Passenger	Hybrid III
Percent of Fuel Tank Capacity	
Used	94 %

Continued

Attachment B (2 of 3)

Test Results

1. Perpendicular to frontal barrier crash test results.

	Results (gram)	Requirements (gram)
During impact	0	Not exceed 28
During first 5 Minutes after impact	0	Not exceed 140
Per minutes for Subsequent 25 minutes Period	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation Angle	Rotation time	During first 5 minutes (gram)	During any 1 Minutes interval (gram)	During any 1 Minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment B (3 of 3)

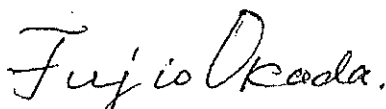
3. Static rollover test results (Clockwise from rear view)

Rotation Angle	Rotation time	During first 5 Minutes (gram)	During any 1 Minutes interval (gram)	During any 1 Minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28


Do the above test results satisfy the requirements ?

YES NO

Reference: Isuzu Research Engineering Report No. 2003-1545


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A. Kawabata
Manager

Crashworthiness &
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Attachment C (1 of 3)

Vehicle Model: UER26F, UES26F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Left side 30° oblique frontal barrier crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER26F and UES26F meet the requirements of S5.5 & S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DF58Y544300018 (UES26F)

Explanation of reason why the test was conducted on the vehicles stated above;
We conducted all of compliance barrier tests by UES26F, since the vehicles of these models(UER26F, UES26F) have same body structure and fuel systems.

Test Date: May 22, 2003

Test Conditions:

Frontal Barrier Crash Test	
Barrier Face Angle	30 degrees in the left direction from the perpendicular to the line of travel of the vehicle
Vehicle Impact Speed	49.3 km/h
Vehicle Weight with Dummies	2179 kg
Dummies	
Driver	Hybrid III
Right Front Passenger	Hybrid III
Percent of Fuel Tank Capacity	
Used	94 %

Continued

Attachment C (2 of 3)

Test Results

1. Left side 30° oblique frontal barrier crash test results.

	Results (gram)	Requirements (gram)
During impact	0	Not exceed 28
During first 5 Minutes after impact	0	Not exceed 140
Per minutes for Subsequent 25 minutes Period	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation Angle	Rotation time	During first 5 minutes (gram)	During any 1 minutes interval (gram)	During any 1 minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment C (3 of 3)

3. Static rollover test results (Clockwise from rear view)

Rotation Angle	Rotation time	During first 5 Minutes (gram)	During any 1 Minutes interval (gram)	During any 1 Minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Do the above test results satisfy the requirements ?

 x YES NO

Reference: Isuzu Research Engineering Report No. 2003-1960

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Attachment D (1 of 3)

Vehicle Model: UER26F, UES26F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Right side 30° oblique frontal barrier crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER26F and UES26F meet the requirements of S5.5 & S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No.: 4S2DM58Y144300016 (UES26F)

Explanation of reason why the test was conducted on the vehicles stated above;
We conducted all of compliance barrier tests by UES26F, since the vehicles of these models(UER26F, UES26F) have same body structure and fuel systems.

Test Date: May 15, 2003

Test Conditions:

Frontal Barrier Crash Test	
Barrier Face Angle	30 degrees in the right direction from the perpendicular to the line of travel of the vehicle
Vehicle Impact Speed	49.3 km/h
Vehicle Weight with Dummies	2179 kg
Dummies	
Driver	Hybrid III
Right Front Passenger	Hybrid III
Percent of Fuel Tank Capacity	
Used	94 %

Continued

Attachment D (2 of 3)

Test Results

1. Right side 30° oblique frontal barrier crash test results.

	Results (gram)	Requirements (gram)
During impact	0	Not exceed 28
During first 5 Minutes after impact	0	Not exceed 140
Per minutes for Subsequent 25 minutes Period	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation Angle	Rotation time	During first 5 minutes (gram)	During any 1 Minutes interval (gram)	During any 1 Minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment D (3 of 3)

3. Static rollover test results (Clockwise from rear view)

Rotation Angle	Rotation time	During first 5 Minutes (gram)	During any 1 Minutes interval (gram)	During any 1 Minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Do the above test results satisfy the requirements ?

YES NO

Reference: Isuzu Research Engineering Report No. 2003-1863

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A. Kawabata

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Manager

Crashworthiness &
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Vehicle Research & Experiment Dept

Attachment E

Vehicle Model: UER25F, UES25F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Frontal barrier crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER25F, UES25F meet the requirements
of S5.5 & S5.6 of FMVSS No. 301.

Method of validation: Basis of validation

Basis of validation

These vehicle models concerning the body structure are the same as that of 2003 year
model (UER25F, UES25F) except fuel system .

The modification at the fuel line in fuel tank part of vehicle of these models have no influence
for the performance in the Frontal barrier crash test.

Then the following Design Validation Report is applicable.

Applicable Design Validation Report No. V-UE-243


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Manager
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Attachment F (1 of 3)

Vehicle Model: UER25F, UES25F, UER26F, UES26F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Left side impact crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER25F, UES25F, UER26F
and UES26F meet the requirements of S5.5 & S5.6 of FMVSS No. 301.

Method of validation: Test

Vehicle Identification No. : 4S2DM58D744300017 (UES25F)

Explanation of reason why the test was conducted on the vehicles stated above;

The vehicle of these models (UER25F, UES25F, UER26F, UES26F) have same body structure.

UER/S25F and UER/S26F have their own fuel system.

However the deference of their fuel systems in the deformation area during this test is
the number of fuel pipe only.

UER25F, UES25F : Delivery + Return

UER26F, UES26F : Delivery

Therefore we selected UES25F.

Test Date : May 29, 2003

*Test Conditions :

Side Impact Test

Moving deformable barrier traversing Angle of 63 degrees with
the longitudinal centerline
of the test vehicle (left side)

Vehicle Impact Speed 60.1 km/h

Vehicle Weight with Dummies 2179 kg

Dummies

Driver SID

Rear left passenger SID

Percent of Fuel Tank Capacity

Used 94 %

*: The body deformation in side impact crash test of FMVSS 214 is larger than that
of FMVSS 301. Therefore we conducted left side impact test by FMVSS 214.

Continued

Attachment F (2 of 3)

Test Results

1. Left side impact crash test results.

	Results (gram)	Requirements (gram)
During impact	0	Not exceed 28
During first 5 Minutes after impact	0	Not exceed 140
Per minutes for Subsequent 25 minutes Period	0	Not exceed 28 / 1 minute

2. Static rollover test results (Counterclockwise from rear view);

Rotation Angle	Rotation Time	During first 5 Minutes (gram)	During any 1 Minutes interval (gram)	During any 1 Minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Continued

Attachment F (3 of 3)

3. Static rollover test results (Clockwise from rear view)

Rotation Angle	Rotation Time	During first 5 Minutes (gram)	During any 1 Minutes interval (gram)	During any 1 minutes interval (gram)
0° ~ 90°	1 minute	0	0	—
90° ~ 180°	1 minute	0	0	—
180° ~ 270°	1 minute	0	0	—
270° ~ 360°	1 minute	0	0	—
Requirements	1-3 minute	Not exceed 140	Not exceed 28	Not exceed 28

Do the above test results satisfy the requirements ?

YES NO

Reference: Isuzu Research Engineering Report No. 2003-2102



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Attachment G

Vehicle Model: UER25F, UES25F, UER26F, UES26F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Right side impact crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER25F, UES25F, UER26F
and UES26F meet the requirements of S5.5 & S5.6 of FMVSS No. 301.

Method of validation : Basis of Validation

Basis of Validation

These vehicle models concerning the body structure are the same as those of 2003 year model UER25F and UES25F except fuel system.

The modification at the fuel line in left side part of vehicle of these models have no influence to the performance in the Right side crash test.

The new models UER26F and UES26F are added in 2004 .

But all vehicle models of UER25F, UES25F, UER26F and UES26F are identical in design concerning the body structure and fuel line in right side part of vehicle.


Therefore we substitute the result of 2003 model year UES25F.

Then the following Design Validation Report is applicable.

Applicable Design Validation Report No. V-UE-243


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Manager

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Attachment H

Vehicle Model: UER25F, UES25F, UER26F, UES26F

Model Year: 2004

Subject: Compliance for S5.5 & S5.6 of FMVSS No. 301 Fuel System Integrity
(Rear impact crash test & static rollover test)

Introduction: To determine if fuel system integrity of UER25F, UES25F, UER26F
and UES26F meet the requirements of S5.5 & S5.6 of FMVSS No. 301.

Method of validation: Basis of Validation

Basis of Validation

These vehicle models concerning the body structure are the same as those of 2003 year model UER25F, UES25F except fuel system.

The modification at the fuel line in front part of vehicle of these models have no influence to the performance in the Rear crash test..

The new models UER26F and UES26F are added in 2004 .

But all vehicle models of UER25F, UES25F, UER26F and UES26F are identical in design concerning the body structure and fuel line in rear part of vehicle.


Therefore we substitute the result of 2003 model year UES25F.

Then the following Design Validation Report is applicable.

Applicable Design Validation Report No. V-UE-243


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