Report Number 301-75-DYS-78-002

FMVSS 301-75 STANDARDS ENFORCEMENT TESTING OF FUEL SYSTEM INTEGRITY

Ford Motor Company
1978 Ford Granada Four-door Sedan
NHTSA 780209

Dynamic Science, Inc.
A Subsidiary of Talley Industries
1850 West Pinnacle Peak Road
Phoenix, Arizona 85027

March 1978

FINAL REPORT

Prepared for:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
MOTOR VEHICLE PROGRAMS
Office of Vehicle Safety Compliance
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The contents of this final test report reflect the views of Dynamic Science, Inc. which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation.

FINAL REPORT ACCEPTED BY:

TOM GRUBBS

NHTSA Contract Technical Manager
FMVSS 219/301-75

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16. Abstract

FMVSS 301-75 Standards Enforcement Test of a 1978 Ford Granada Four-door Sedan, NHTSA 780209, VIN 8W82F137612, was conducted at the Dynamic Science, Inc. Deer Valley facility in Phoenix, Arizona, to determine compliance with the requirements of Standard 301-75.

The moving barrier impacted the rear of the vehicle at a speed of 29.04 mph.

The test date was February 6, 1978 and the ambient temperature was 62°F.

The subject vehicle appeared to comply with the requirements of FMVSS 301-75, as specified for the vehicle manufacture date.

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1.0 PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

The purpose of the test was to evaluate the integrity of the vehicle fuel system in accordance with the requirements of Federal Motor Vehicle Safety Standard (FMVSS) 301-75 entitled "Fuel System Integrity."

1.2 TEST PROCEDURE

The Dynamic Science, Inc. Test Procedure for FMVSS 301-75 submitted to and approved by the Contract Technical Monitor (CTM) contains the specific procedures used to conduct this test.

Section 6.0 of this report contains the Vehicle Preparation and Test Procedure Checklists.

2.0 SUMMARY OF VEHICLE PERFORMANCE

1978 Ford Granada Four-door Sedan, NHTSA 780209.

2.1 PRIMARY RESULTS

The impact velocity was 29.04 mph.

No fuel spillage occurred during and following barrier impact. Fuel spillage during the static rollover was within the amount allowed.

The vehicle therefore appeared to comply with the requirements of FMVSS 301-75 as specified for the vehicle manufacture date.

2.2 SECONDARY RESULTS

The vehicle maximum static crush was 13.3 inches.

The ambient temperature at the time of the test was 62°F and the vehicle had been in that environment for several hours prior to the test.

The door locks were set in the unlocked position prior to the test. The front doors remained unlocked during the test. The rear doors locked upon impact. All doors required tools to open.

3.0 TEST RESULTS AND IMPACT EFFECTS

The following data sheets report:

- Test conditions (pages 3-2 and 3-3)
- Post-impact data (page 3-4)
- Fuel system leakage data (page 3-5).

A description of the impact effects follows the data sheets (page 3-6).

SUMMARY OF TEST CONDITIONS
1978 Ford Granada Four-door Sedan, NHTSA 780209

TEST VEHICLE IDENTIFICATION

Manufacturer: Ford Motor Company
Make/Model: Ford Granada
Body Style: Four-door Sedan Model Year: 1978
VIN: 8W82F137612 ; Build Date: November 1977
NHTSA No.: 780209 ; Color: White
Engine Data: 8 cylinders; 302 c.i.d.
Transmission Data: speed
☐ Manual ☒ Automatic
Major Options: Power brakes, power steering, automatic speed control, air conditioning

TEST CONDITIONS

Date of Test: February 6, 1978 ; Time of Test: 14:46
Ambient Temperature 62 °F at impact area

TEST VEHICLE WEIGHT (data taken from tire pressure placard)

Vehicle Capacity Weight: 850 lb
Designated Seating Capacity: Front 2
Rear 3
Total 5

GVWR (taken from Certification Label): 4632 lb
GAWR Front: 2320 lb
GAWR Rear: 2331 lb

Vehicle Delivered Weight (fluids to capacity)
Front: 1989 lb
Rear: 1593 lb
Total: 3582 lb

Calculated Vehicle Test Weight: 4010 lb

Actual Vehicle Test Weight
Front: 2150 lb
Rear: 1865 lb
Total: 4015 lb

REMARKS:

SUMMARY OF TEST CONDITIONS (CONTD)
1978 Ford Granada Four-door Sedan, NHTSA 780209

VEHICLE ATTITUDE: (all dimensions in inches)

Delivered Attitude: RF 30.0 LF 30.0 RR 30.0 LR 30.0

Test Attitude: RF 29.5 LF 29.9 RR 29.1 LR 29.4

VEHICLE TIRE DATA

Recommended Cold Tire Pressure: Front 24 psi

Rear 24 psi

Recommended Tire Size: DR78x14

Load Range: B

Tires on Vehicle: FR78x14

Is Spare Tire a "Space Saver": No (yes/no)

TEST FLUID DATA

Test Fluid Type: Stoddard Solvent No. 2 ; Spec. Grav.: 0.764

Spill Point Volume: 20.1 gallons

Test Volume: 18.7 gallons

Fuel System Capacity (data from Owner's Manual): 18 gallons

Details of fuel system:

POST-IMPACT DATA SHEET
1978 Ford Granada Four-door Sedan, NHTSA 780209

TYPE OF TEST: Rear IMPACT

DATE OF TEST: February 6, 1978

REQUIRED VELOCITY RANGE (mph): 28.9 to 29.9

IMPACT VELOCITY (mph):

Primary 29.04, Secondary 29.04

VEHICLE STATIC CRUSH (in.):

1.* Driver Side: 12.9 Passenger Side: 12.7

Average: 12.8

Detail: _____

_____

2.** Amount of Crush: NA on _____ side

Detail: _____

_____

VEHICLE REBOUND*** (in.):

Driver Side: NA, Passenger Side: NA

Average: _____

REMARKS: _____

_____

_____

_____

*For frontal and rear impacts only.
**For side impacts only.
***For rigid barrier only.

FUEL SYSTEM LEAKAGE DATA SHEET

1978 Ford Granada Four-door Sedan, NHTSA 780209

A. AT IMPACT SITE

Fuel Spillage Measurement	Actual	Allowed	Spillage Location
From impact until vehicle motion ceases	0	1 oz	
For 5-minute period after vehicle motion ceases	0	5 oz	
For next 25 minutes	0	1 oz/min	

B. AT STATIC ROLLOVER FIXTURE

Roll		Actual	Allowed	Spillage Location
0° to 90°	Roll Time	99 sec	1-3 min	
	Spillage for 5-minute period from onset of rotation	0	5 oz	
	Spillage for remainder of hold (equals roll time)	0	1 oz/min (1.65 oz)	
90° to 180°	Roll Time	98 sec	1-3 min	
	Spillage for 5-minute period from onset of rotation	0	5 oz	
	Spillage for remainder of hold (equals roll time)	0	1 oz/min (1.63 oz)	
180° to 270°	Roll Time	97 sec	1-3 min	
	Spillage for 5-minute period from onset of rotation	0.2 oz	5 oz	Carburetor
	Spillage for remainder of hold (equals roll time)	0	1 oz/min (1.62 oz)	
270° to 360°	Roll Time	99 sec	1-3 min	
	Spillage for 5-minute period from onset of rotation	0	5 oz	
	Spillage for remainder of hold (equals roll time)	0	1 oz/min (1.65 oz)	

IMPACT EFFECTS
1978 Ford Granada Four-door Sedan, NHTSA 780209

VISIBLE DUMMY CONTACT POINTS

	Driver	Passenger
Head	None	None
Chest	None	None
Abdomen	None	None
Left Knee	None	None
Right Knee	None	None

	Front		Rear	
	Left	Right	Left	Right
DOOR OPENING				
Easy				
Difficult				
Tools Required	X	X	X	X
SEAT BACK				
Failure	Yes	Yes		
GLAZING DAMAGE				
Windshield	Cracked			
Backlight			None	
Others	None	None	None	None

OTHER NOTABLE IMPACT EFFECTS:

Severe buckling of frame over rear axle.
Doors pushed forward.
Buckle in left sill under front door.
Both rear shocks pulled apart.
Roof buckled up at C pillars and down at B pillars.
Rear frame crossmember hit rear of fuel tank.
Front of fuel tank hit differential housing.
Vent tube torn loose where it passes under front tank mounting bracket.
Left rear brake line severed.

4.0 PHOTOGRAPHIC COVERAGE

This section consists of pre-test and post-test photographs of the vehicle and fuel system.

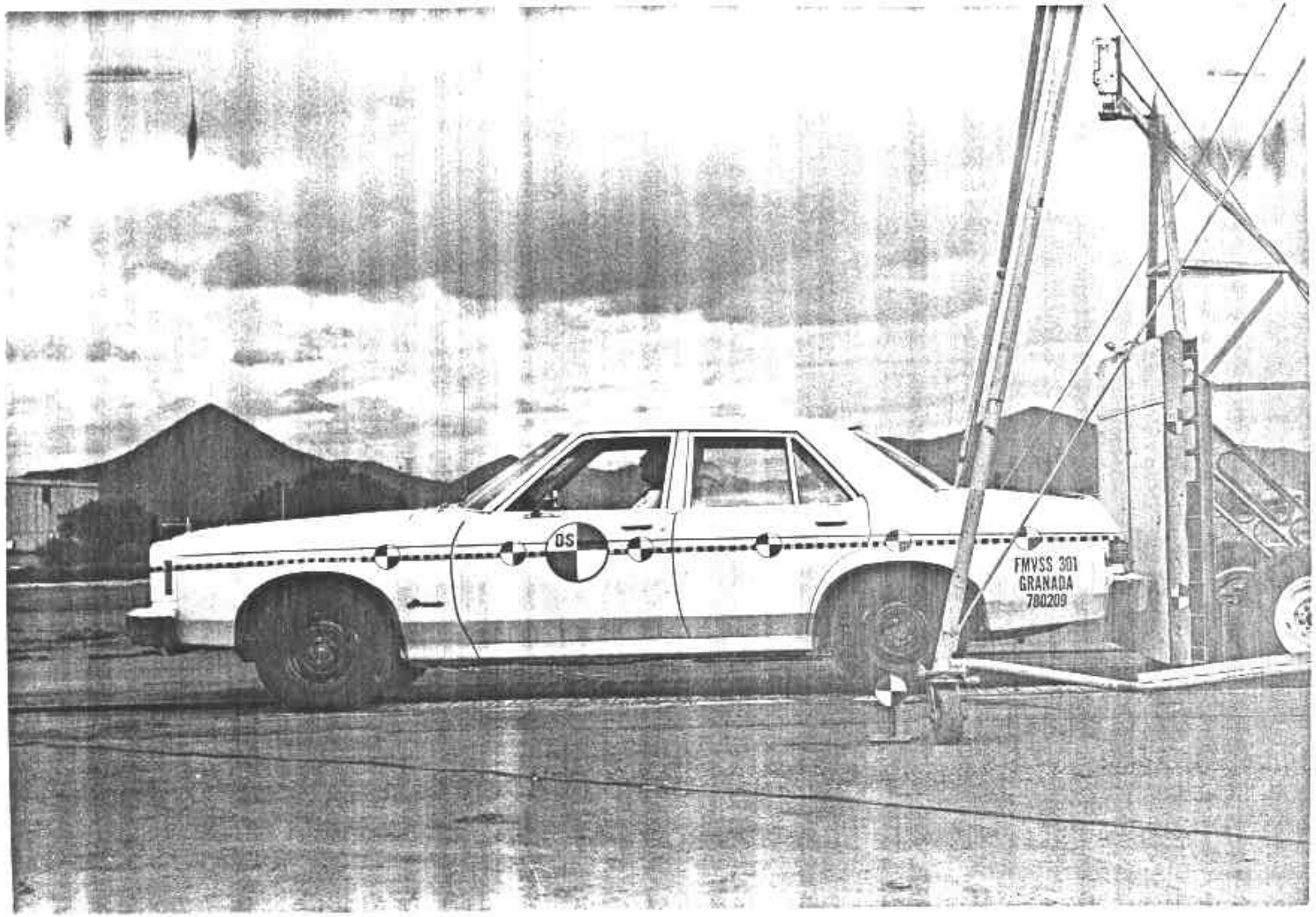

Figure 4-1. Pre-test Side View - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

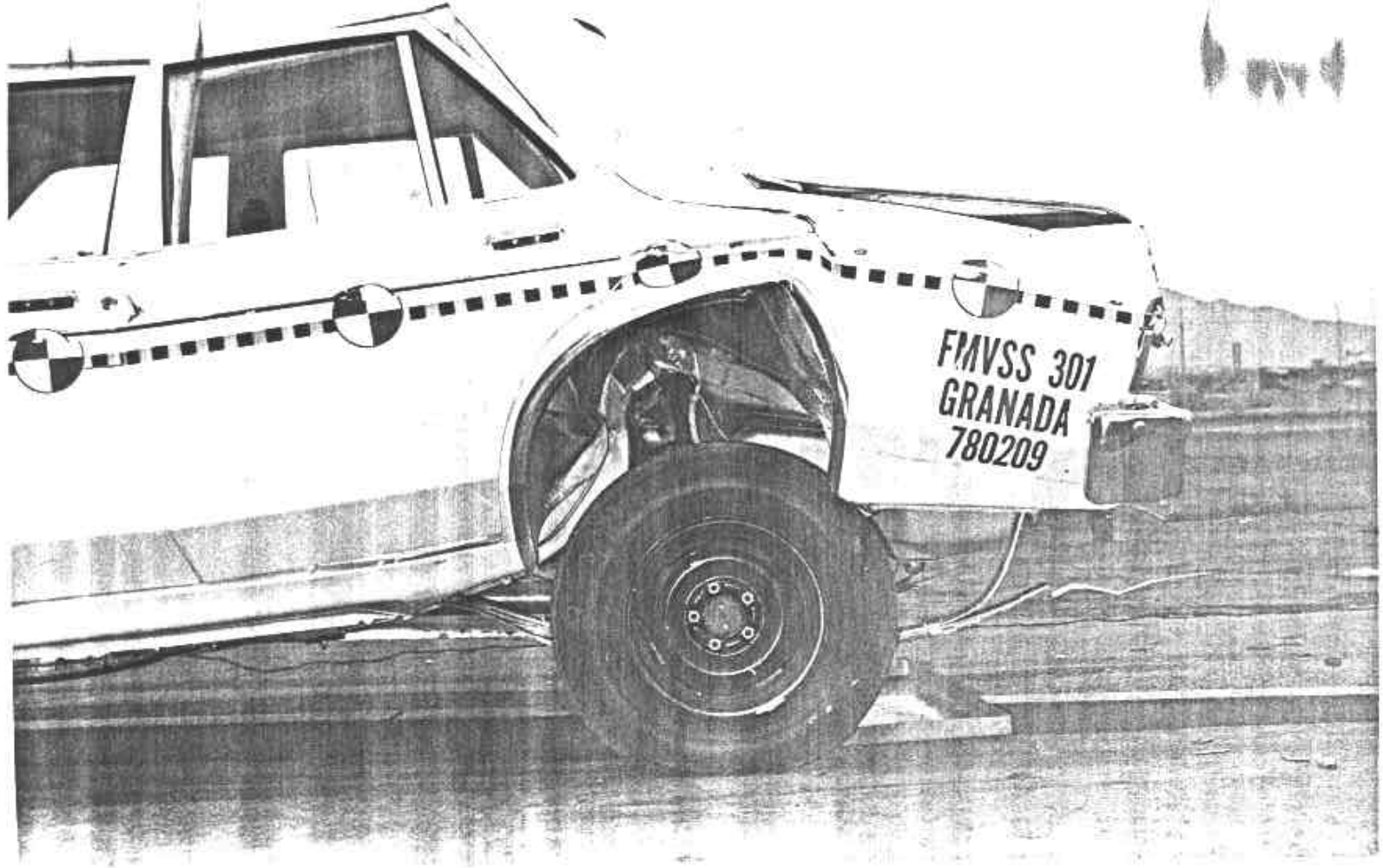

Figure 4-2. Post-test Side View - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

Figure 4-3. Pre-test Rear View - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

Figure 4-4. Post-test Rear View - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

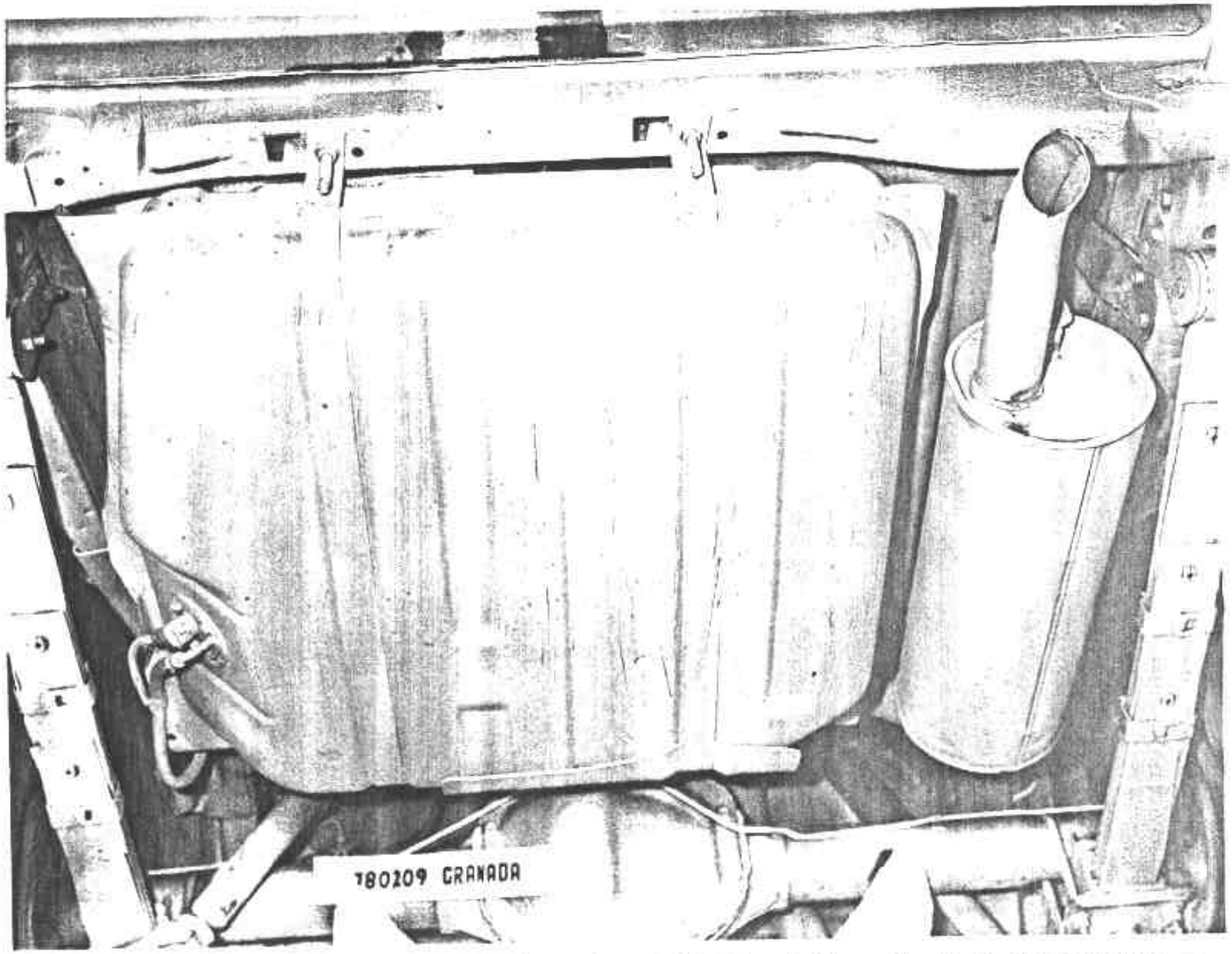

Figure 4-5. Pre-test View of Fuel Tank - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

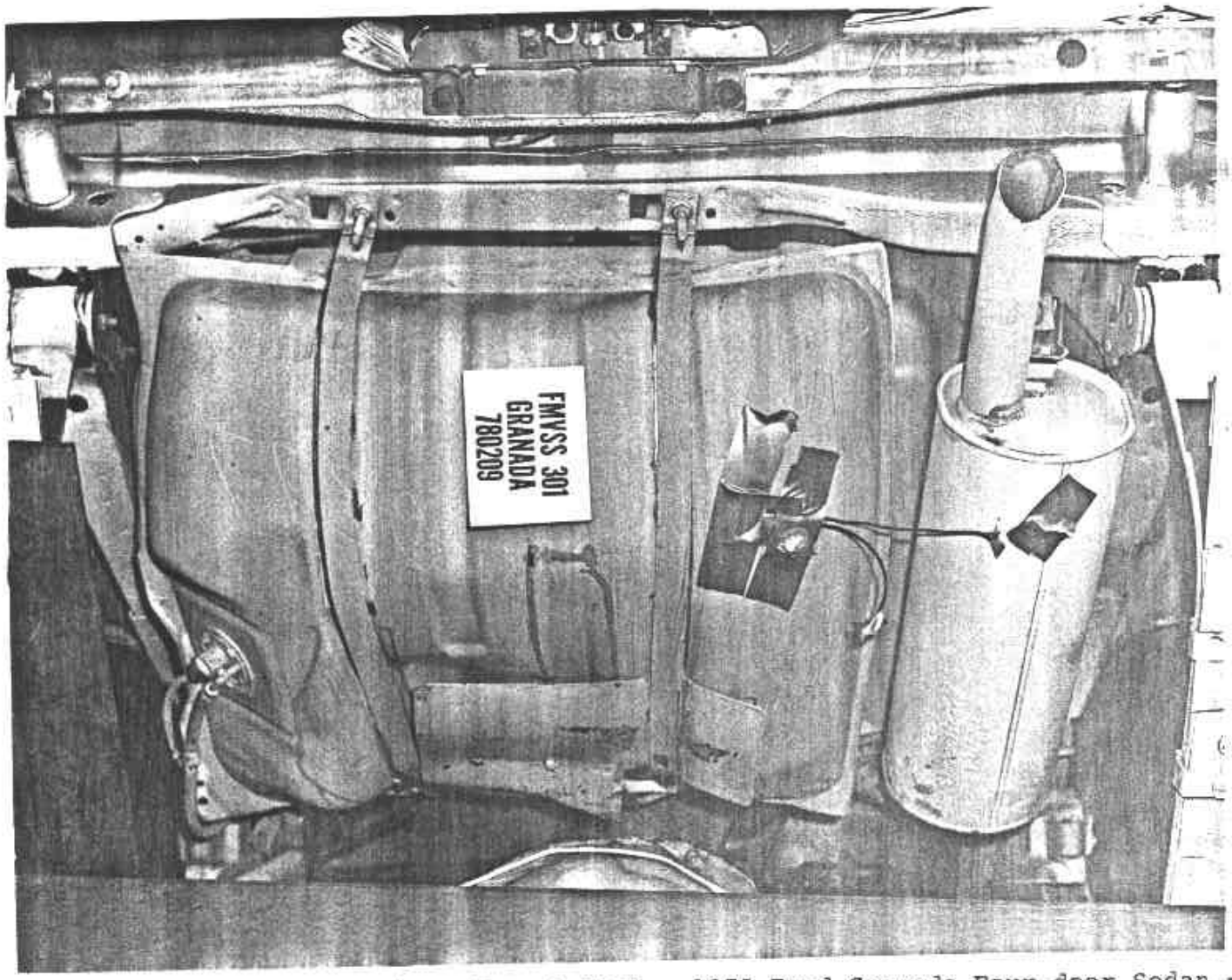

Figure 4-6. Post-test View of Fuel Tank - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

Figure 4-7. Post-test View of Dummies - 1978 Ford Granada Four-door Sedan - NHTSA 780209.

5.0 TEST FACILITY AND EQUIPMENT FOR FMVSS 301-75 (REAR) IMPACT TESTS

General Test Facility Description

FMVSS 301-75 impact tests are conducted at the Dynamic Science, Inc. Deer Valley Facility in Phoenix, Arizona. Figure 5-1 is an overall aerial view of that facility.

More specifically, the Monorail Impact Facility shown schematically in Figure 5-2 is used. As indicated in Figure 5-2, the Monorail Impact Facility accommodates a variety of test modes and configurations.

Test Track and Guidance System

The test track consists of 1,200 feet of asphalt pavement (SN = 75 ±5), 14 feet in width. The length allows sufficient acceleration distance to accommodate impact speeds in excess of 60 mph with sufficient distance remaining to abort the test if necessary. Guidance for the test vehicle is provided by a sliding shoe attached to the vehicle. The sliding shoe rides on the monorail embedded in the test track. Prior to impact, the shoe is mechanically released from the test vehicle.

Tow System and Velocity Control

The tow system consists of a drum-driven endless cable powered by a pair of 390-cubic-inch engines driven in tandem driving a modified three-speed C-6 automatic truck transmission. The tow system can propel a 6,000-pound vehicle into the fixed barrier at 75 mph. Velocity control is achieved through a manually controlled throttle system. A visual readout of speed versus distance is provided and compared with the "ideal curve." Velocity control under ±0.5 mph is realizable down to 20 mph and ±2.0 percent down to zero mph.

Figure 5-1. The Dynamic Science, Inc. Deer Valley Facility.

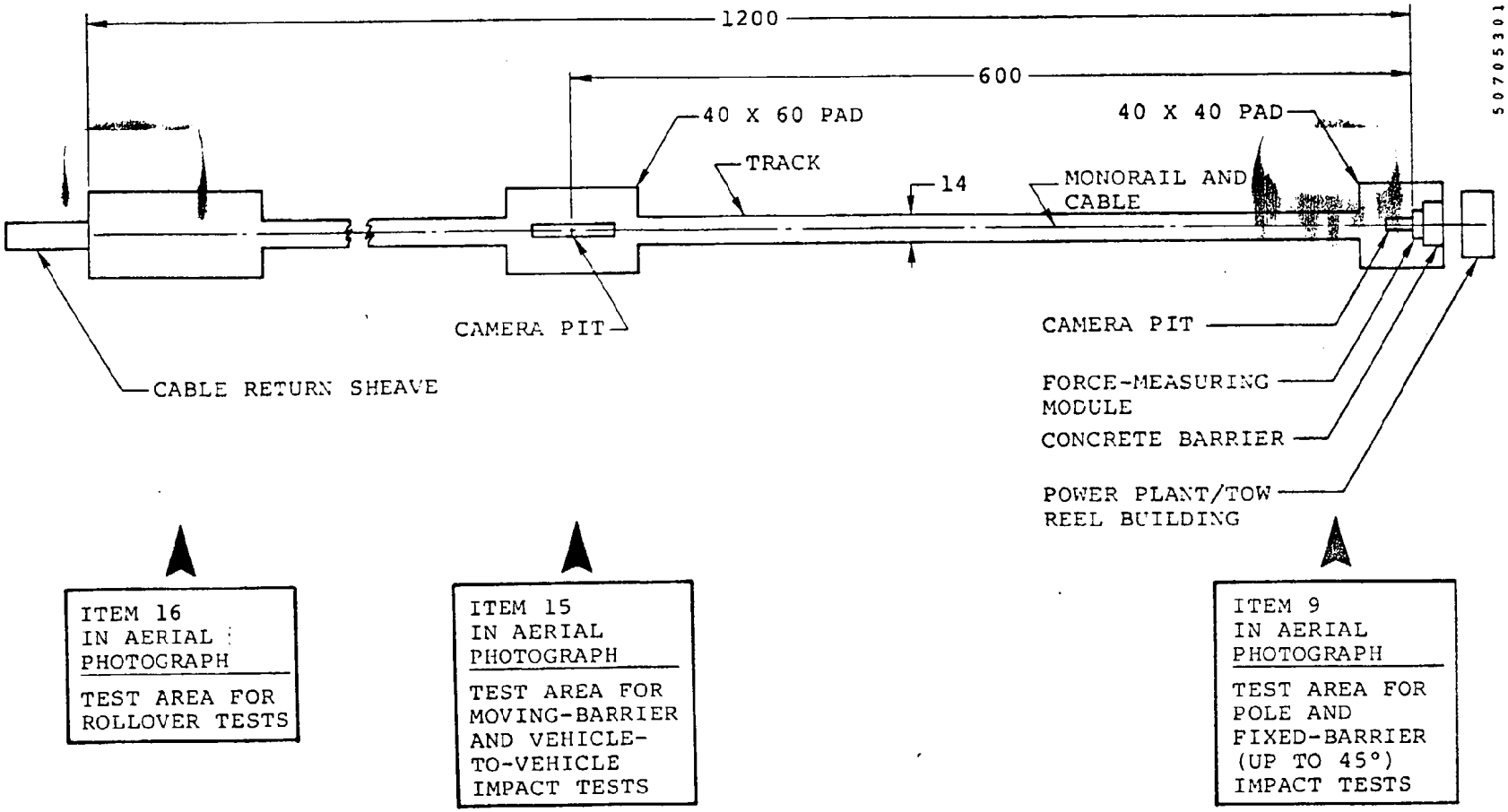

Figure 5-2. Monorail Impact Facility.

Automatic abort capability is provided through the vehicle service brakes which are actuated by releasing high-pressure air into the hydraulic system. Abort criteria consist of vehicle speed, data acquisition and instrumentation system readiness, and stability of the vehicle on the test track. The first two criteria are automatically monitored by the test control system while the third criterion is visually monitored by the test conductor. Manual abort provisions are available to the test conductor. Upon verifying vehicle speed, the test control system automatically deactivates the abort system to preclude inadvertent test abort immediately prior to impact.

Control System

The master control system used for impact tests controls and monitors all primary system functions that must operate throughout a predetermined interval during a test. This includes the starting and stopping of the tape recorder, high-speed cameras, and oscillograph, and the control of the power winch which propels the test vehicle. The operation of the various devices is confirmed, including vehicle velocity and tape recorder speed synchronization, before it passes through a "commit" window. When the vehicle is committed, the abort system is disarmed, preventing an accidental abort after the point of no return is reached.

Any system malfunction, including improper vehicle velocity up to the commit window, generates an abort. The control system uses the pulse output from the IRIG time base generator as a clock with a manual push button defining time zero. The logic circuits compare pulse counts from time zero to preset values dialed in at the control panel. As each control circuit gets an equal comparison, that circuit is turned on. If the self-test circuit does not verify, the abort system is automatically activated. After successful vehicle test, the last control circuit shuts the entire system down. The manual backup control system provides the test conductor the option for manually aborting the test if the need arises.

Moving Barrier

The moving barrier used by Dynamic Science conforms to all the requirements of paragraph S8.2 of FMVSS 208, "Occupant Crash Protection". It is rigid and has a solid suspension so it undergoes no significant amount of dynamic or static deformation and absorbs no significant portion of the energy dissipated in the impact.

The impact surface is a vertical, rigid, flat rectangle, 78 inches wide and 60 inches high, perpendicular to the barrier's direction of travel. The lower edge of the barrier face is horizontal and 5 inches above the ground surface.

The nominal weight of the moving barrier is 4,000 pounds. The actual measured weight of the barrier is 3,996 pounds distributed as follows:

LF	1536 lb	RF	1415 lb
LR	427 lb	RR	618 lb

The tires are size J60-15, inflated to 24 psi in the front and 10 psi in the rear.

A guide at the back of the moving barrier which rides along the monorail ensures that the barrier travels in a straight line with no significant lateral, vertical, or rotational movement.

Fuel Simulation

As prescribed in the FMVSS 301-75 Laboratory Procedure, the vehicle fuel system is filled to 90 to 95 percent of capacity with Stoddard Solvent.

The fuel is pumped out of the fuel tank, and the residual fuel in the fuel lines and the carburetor is burned by operating the vehicle engine. The fuel system is filled with Stoddard Solvent No. 2. Stoddard Solvent is then pumped into the fuel lines, up to the carburetor. The weight of the Stoddard Solvent added and removed is determined with two Western Beam Scales (Model No. WP 2000).

The solvent used, Stoddard Solvent No. 2, has a specific gravity of 0.764 at 72°F and a viscosity of 0.99 centistokes.

High-Speed Motion Photography

Five high-speed (1,000 frames per second) motion cameras with 100 Hz timing marks are used for photographic test documentation. The general location of the cameras is diagrammed in Figure 5-3. Precise positioning is accomplished through bore sighting with the vehicle at the impact point prior to the test.

Test Equipment List and Function

Item	Manufacturer	Model	Purpose
Timing Trap	Dynamic Science	None	Determine impact speed by furnishing a start and stop signal to recording oscillograph.
Oscillograph	Bell and Howell	5-134	Records timing start and stop signals from timing traps, cable drum drive rpm, and impact switch.
Speed Control	Dynamic Science	None	Precision control of cable drive drum rpm.
Beam Scales	Western	WP 2000	Used to determine vehicle test weights.
High-speed Motion Picture Cameras	Photosonics	16-1B	Used for side, overhead, and underside film coverage.

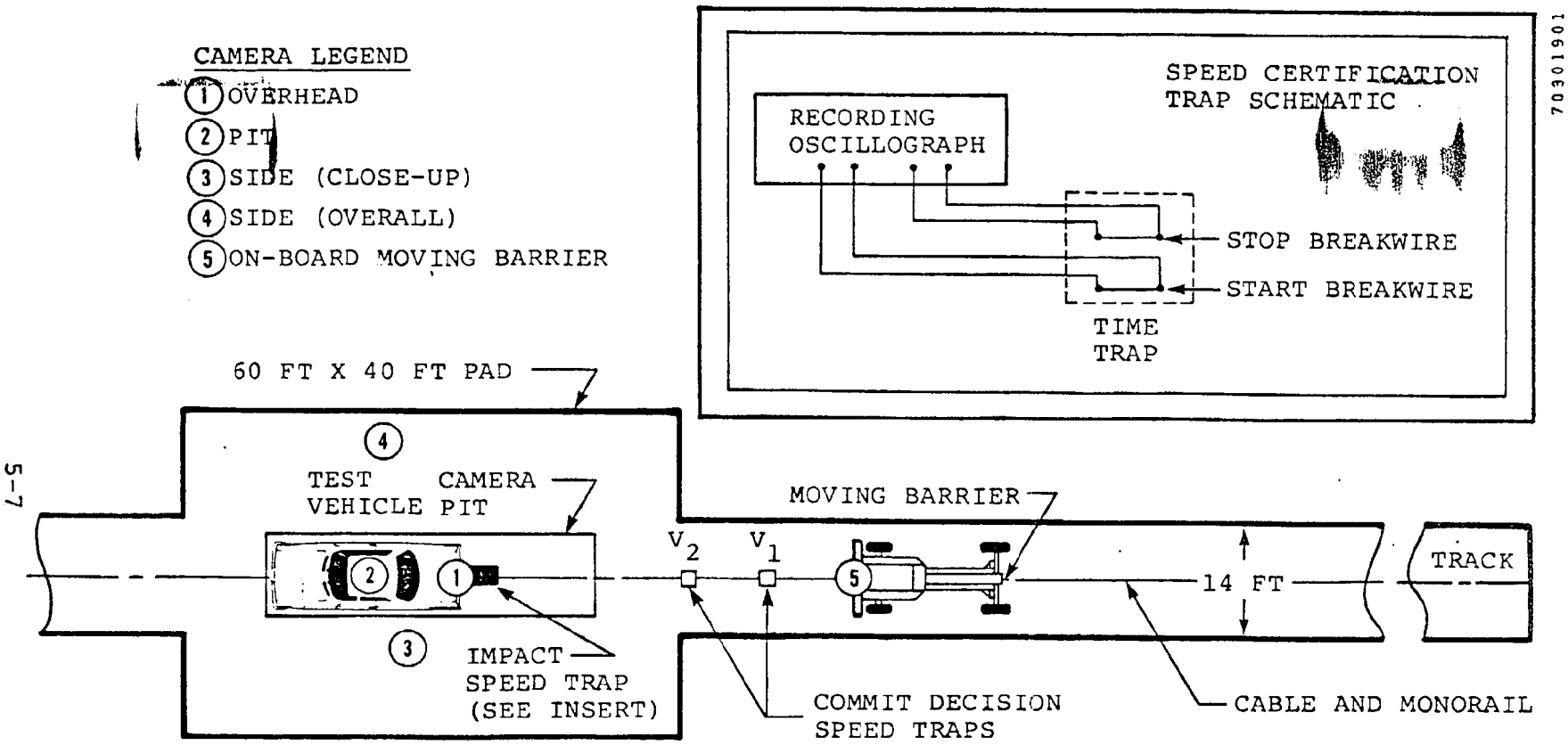

Figure 5-3. FMVSS 301-75 (Rear Impact Test) Moving Barrier Test Site Layout.

Item	Manufacturer	Model	Purpose
Motion Picture Camera	Bolex	H-16	Panning and documentation.
Still Camera	Kowa	6	Documentary photo coverage.
100 and 1000 Hz Time Code Generators	Dynamic Science	None	Furnish timing signal for high-speed cameras and a 1 second timing for velocity determination.
Stop Watch	Brietling	None	Time for collection of fuel leak samples.
Containers	-	-	Collection for fuel leak samples.
Graduated Cylinder	Pyrex	3022	Fuel volume measurement.
Graduated Cylinder	Kimax	-	Fuel volume measurement.
Calibrated Steel Rule	Starret	48 in.	Precision measurement of velocity trap spacing.
Anthropo-morphic Dummies	Sierra Engineering Company	292-1050	To ballast the vehicle and to gather occupant response data.

6.0 TEST PROCEDURE

The following pages are the FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS which Dynamic Science followed during the performance of the test effort described in this report.

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 1

Item No.	Description	Done By	Date	Comments/Notes
	SHOP VEHICLE PREPARATION PROCEDURE			
1	Inspect vehicle and record any damage.			
2	Pump fuel from tank and run engine until fuel lines are empty.			
3	Fill fuel tank with dyed Stoddard Solvent to spill point. Record weight of solvent added.			Stoddard Solvent added: _____lb
4	Determine delivered unloaded vehicle weight with full fuel, oil, and coolant.			LF_____lb RF_____lb LR_____lb RR_____lb
5	Wash vehicle if necessary.			
6	Paint underside of vehicle white. Paint fuel system (tank, lines, etc.) pink.			
7	Photograph underside of vehicle while still on hoist for color coding. Double check NHTSA identification number before photographing.			
8	Inflate tires to manufacturer's recommended values.			Front_____ Rear_____ Spare_____
9	Scribe a level line on each side of the vehicle. Record the height of the line near each wheel.			LF_____in. RF_____in. LR_____in. RR_____in.

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 2

Item No.	Description	Done By	Date	Comments/Notes
	SHOP VEHICLE PREPARATION PROCEDURE (CONTINUED)			
10	Apply inch tape along lines in Step 9 and on top of car on longitudinal centerline.			
11	Apply 5-inch tape targets along inch tape at 2-foot intervals beginning at the ___* of the vehicle except at target location on front doors. Apply 12-inch targets on doors.			*Front for frontal test, rear for rear test
12	Siphon 7 percent of fluid from fuel tank. Record amount removed.			Solvent removed:_____lb
13	Remove the following fluids from the vehicle and check off (or write N/A/ if not applicable). _____a. coolant _____b. engine oil _____c. transmission fluid _____d. windshield washer fluid _____e. battery acid (drain and flush battery) _____f. power steering fluid			
14	Measure and record overall length of vehicle. Measure and record distance from ___* bumper to 12-inch target.			Vehicle length:_____in. 12-inch target:_____in.

Item No.	Description	Done By	Date	Comments/Notes
	SHOP VEHICLE PREPARATION PROCEDURE (CONTINUED)			
15	Remove the following items from the vehicle. Weigh all items and record the total weight of items removed. a. carpeting b. rear seat c. wheel covers d. rear bumper (frontal impacts only)			Weight of items removed: _____ lb
16	Install tow eyes on forward understructure (frontal impacts only).			
17	Install on-board brake abort system. Check system for leaks.			
18	Install brackets for umbilical tow bar (frontal impacts only).			
19	Install mounting plates for accelerometers as shown on attached sheet.			
20	Place seats in mid-position and mark location on seat and sill. Also mark forwardmost and rearmost positions of the seat.			
21	If the vehicle has an electric fuel pump which is activated when the ignition switch is in the ON position, install an auxiliary 12-volt battery in a location away from the impact area and connect to the fuel pump.			

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 4

Item No.	Description	Done By	Date	Comments/Notes
	SHOP VEHICLE PREPARATION PROCEDURE (CONTINUED)			
22	Install mounting plate for instrumentation in rear floor area (frontal impacts only).			
23	Install accelerometers, telemetry antennas, RSCMs, etc.			
24	Install seat belt load cells on lap and torso portions of belt systems.			(Frontal impacts only)
25	Determine lower boundary of windshield protected zone (frontal impacts only).			Test Engineer will do this
26	Install styrofoam template on windshield (frontal impacts only).			
27	Install correlation bulb in field of view of each on-board camera and impact switch on * bumper.			*Front for frontal test, rear for rear test
28	Place dummies in left front and right front seating positions. Place seat(s) in mid-position.			
29	Route and secure all electrical cables.			
30	Vacuum loose items from vehicle interior. Clean exterior and all windows. Remove all window stickers.			

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 5

Item No.	Description	Done By	Date	Comments/Notes
	SHOP VEHICLE PREPARATION PROCEDURE (CONTINUED)			
31	Verify that tire pressures are set at manufacturer's recommended values.			LF_____psi RF_____psi LR_____psi RR_____psi
32	Weigh vehicle and record weight before ballasting.			LF_____lb RF_____lb LR_____lb RR_____lb
33	Target Weight: Total_____lb Front_____lb Rear_____lb			Supplied by Test Engineer
34	Ballast vehicle per Test Engineer's instructions. Record amount of ballast added.			Ballast added:_____lb Location:_____
35	Record vehicle test weight.			LF_____lb RF_____lb LR_____lb RR_____lb
36	Record vehicle test attitude.			LF_____in. RF_____in. LR_____in. RR_____in.
37	Verify that there is Stoddard Solvent in the carburetor.			
38	Verify that all items in prep checklist are completed and signed off.			
39	Deliver vehicle to Crash Test Facility.			

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 6

Item No.	Description	Done By	Date	Comments/Notes
	PRE-TEST IMPACT POINT POSITION PROCEDURE			
40	Conduct a speed calibration of the propulsion system.			
41	Check clearance of guide shoe along track.			
42	Position vehicle at the: impact point (rear), barrier (frontal)			
43	Install umbilical bar and umbilical (frontal impacts only).			
44	Align stationary high-speed cameras.			
45	Focus stationary high-speed cameras.			
46	Test operation of all high-speed cameras. Check camera timing.			
47	Verify that all pre-test measurements were taken.			
48	Record accelerometer locations.			
49	Attach placards in view of high-speed cameras.			
50	Take pre-test photographs as required.			
51	Ensure fuel leakage sample containers, drip pan, graduated cylinders, and stop watch are on board.			

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 7

Item No.	Description	Done By	Date	Comments/Notes
	PRE-TEST IMPACT POINT POSITION PROCEDURE (CONTINUED)			
52	Check timing operation (speed trap).			
53	Load all cameras. Check lens condition.			
54	Move test vehicle to starting point at the end of monorail.			

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 8

Item No.	Description	Done By	Date	Comments/Notes
	VEHICLE STARTING POINT PROCEDURE			
55	Adjust dummy positions (see Project Engineer). Record.			
56	Photograph dummies in their installed position. Photograph front of vehicle.			
57	Check that glove box is latched but unlocked.			
58	Check operation of camera correlation flash bulbs.			
59	Check operation of abort braking system.			
60	Latch trunk, and leave key in lock.			
61	Verify that fuel cap is on tightly.			
62	Place transmission in neutral and disengage parking brake.			
63	Verify that trunk and hood are latched.			
64	Close all windows (except front windows) and vents.			
65	Close doors, leave unlocked.			

Item No.	Description	Done By	Date	Comments/Notes
	DATA ACQUISITION AND CONTROL CENTER PROCEDURE			
66	Verify operation of all systems.			
67	Record ambient temperature and time.			Temperature: _____ °F Time: _____
68	Set and record commit window speed tolerance.			± _____ percent
69	Alert all concerned persons.			
70	Complete countdown procedures and proceed with the test.			

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 10

Item No.	Description	Done By	Date	Comments/Notes
	POST-TEST PROCEDURE			
71	Start stop watch at moment of impact. Collect samples of leaking test fluid. Take movies of leakage.			
72	Record amount of fuel spillage in first 5 minutes.			Amount: _____ Location: _____
73	Collect samples of fuel spillage for next 25 minutes. Record amount(s) and location(s).			
74	If loss of windshield retention occurs, immediately mark opening. Measure windshield retention. Record. (Frontal impacts only.)			_____ in.

6th: _____ 13th: _____ 19th: _____ 25th: _____
7th: _____ 14th: _____ 20th: _____ 26th: _____
8th: _____ 15th: _____ 21st: _____ 27th: _____
9th: _____ 16th: _____ 22nd: _____ 28th: _____
10th: _____ 17th: _____ 23rd: _____ 29th: _____
11th: _____ 18th: _____ 24th: _____ 30th: _____
12th: _____

FMVSS 301-75 TEST PROCEDURE CHECKLIST FOR COMPLIANCE TESTS
Page 11

Item No.	Description	Done By	Date	Comments/Notes
	POST-TEST PROCEDURE (CONTINUED)			
75	Photograph with hand-held camera: a. Overall scene b. Closeup of pertinent damage to windshield or fuel system c. Dummies, failed restraints, and failed seat anchorages.			
76	Measure and record vehicle rebound distance (frontal impacts only).			Left_____in. Right_____in.
77	Measure distance from barrier to undisturbed point on vehicle (frontal impacts only).			Left_____in. Right_____in.
78	Open doors. Photograph with hand-held movie camera. Describe difficulty.			(For frontal impacts only)
79	Photograph dummies.			
80	Inspect occupant compartment for evidence of dummy contact points and seat movement. Record.			
81	Move vehicle from final resting position if necessary to photograph front of vehicle.			(For frontal impacts only)

Item No.	Description	Done By	Date	Comments/Notes
	POST-TEST PROCEDURE (CONTINUED)			
82	Take post-test vehicle static measurements.			
83	Remove umbilical tow bar (frontal impacts only).			
84	Remove dummies from vehicle.			
85	Turn off ignition switch.			
86	Remove vehicle hood at impact site.			
87	Move car to rollover fixture. Record time after impact when installation is complete.			Time: T + _____ minutes
88	Roll vehicle from 0° to 90°. Record roll time. Hold for 5 minutes.			Roll time: _____
89	Measure and record fuel spillage for first 5 minutes after start of roll.			Spillage: _____ Location: _____
90	Measure and record fuel spillage for remainder of hold period.			Spillage: _____ Location: _____
91	Photograph any spillage which might occur.			

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Item No.	Description	Done By	Date	Comments/Notes
	POST-TEST PROCEDURE (CONTINUED)			
92	Roll vehicle from 90° to 180°. Record roll time. Hold for 5 minutes.			Roll time:_____
93	Measure and record fuel spillage for first 5 minutes after start of roll.			Spillage:_____ Location:_____
94	Measure and record fuel spillage for remainder of hold period.			Spillage:_____ Location:_____
95	Photograph any spillage which might occur.			
96	Roll vehicle from 180° to 270°. Record roll time. Hold for 5 minutes.			Roll time:_____
97	Measure and record fuel spillage for first 5 minutes after start of roll.			Spillage:_____ Location:_____
98	Measure and record fuel spillage for remainder of hold period.			Spillage:_____ Location:_____
99	Photograph any spillage which might occur.			
100	Roll vehicle from 270° to 360°. Record roll time. Hold for 5 minutes.			Roll time:_____

Item No.	Description	Done By	Date	Comments/Notes
	POST-TEST PROCEDURE (CONTINUED)			
101	Measure and record fuel spillage for first 5 minutes after start of roll.			Spillage: _____ Location: _____
102	Measure and record fuel spillage for remainder of hold period.			Spillage: _____ Location: _____
103	Photograph any spillage which might occur.			
104	Remove vehicle from rollover fixture.			