

**FINAL REPORT NUMBER**

**401-NVS-05-003**

**SAFETY COMPLIANCE TESTING FOR  
FMVSS 401  
Interior Trunk Release**

**2005 Hyundai Sonata**

**NHTSA No. C50514**

**Prepared by:**

**NHTSA**

**OFFICE OF VEHICLE SAFETY COMPLIANCE**

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**1/27/2005**

**FINAL REPORT**

**PREPARED FOR:**

**U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
ENFORCEMENT  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
400 SEVENTH STREET, SW  
ROOM 6111 (NVS-221)  
WASHINGTON, D.C. 20590**

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Report Date: 1/27/2005

# **TECHNICAL REPORT STANDARD TITLE PAGE**

1. Report No. 401-NVS-05-003		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 401 Compliance Testing of a 2005 Hyundai Sonata, NHTSA No. C50514		5. Report Date 1/27/2005			
		6. Performing Organization Code OVSC			
7. Author(s) Eduardo Maximo Aviles, Safety Compliance Engineer		8. Performing Organization Report No. 401-NVS-05-003			
9. Performing Organization Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance (NVS-221) 400 Seventh Street, SW Room 6111 Washington, DC 20590		10. Work Unit No.			
		11. Contract or Grant No.			
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance (NVS-221) 400 Seventh Street, SW Room 6111 Washington, DC 20590		13. Type of Report and Period Covered Final Test Report			
		14. Sponsoring Agency Code NVS-220			
15. Supplementary Notes					
16. Abstract  A compliance test was conducted on the subject 2005 Hyundai Sonata, NHTSA No. C50514 in accordance with the U. S. Department of Transportation, National Highway Traffic Safety Administration's Laboratory Test Procedure TP-401-01. The test was conducted by NHTSA Office of Vehicle Safety Compliance test engineers on 1/27/2005.  Test Location: Fitzgerald Hyundai in Rockville, MD Test failures were as follows: NONE					
17. Key Words Compliance Testing Safety Engineering FMVSS 401 2005 Hyundai Sonata			18. Distribution Statement Copies of this report are available from: NHTSA Technical Reference Division, Mail Code: NAD-62 400 Seventh Street, SW, Room 5108 Washington, D.C. 20590 Telephone No. (202) 368-4846		
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages		22. Price	

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## **1.0 PURPOSE OF COMPLIANCE TEST**

The purpose of this compliance test was to determine whether the subject vehicle, a 2005 Hyundai Sonata, meets the performance requirements of FMVSS 401, Interior Trunk Release.

The test was conducted in accordance with the U. S. Department of Transportation, National Highway Traffic Safety Administration's Laboratory Test Procedure TP-401-01.

The test was conducted by NHTSA Office of Vehicle Safety Compliance test engineers on 1/27/2005.

Test Location:

Fitzgerald Hyundai in Rockville, MD

## **2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS**

Based on the test performed, the Vehicle: 2005 Hyundai Sonata, NHTSA No. C50514 appeared to meet the requirements of FMVSS 401.

The vehicle was tested by entering the trunk and closing the lid. The release slide lever was easily observed in the darkened, enclosed trunk. A force gauge was attached to the release handle and 3 separate attempts were made to exit the trunk by applying a load to the instrument. For each attempt, the trunk released from the single latching position at a force level of approximately 27.4 newtons (6.2 lbs.) or less.

3.0 COMPLIANCE TEST DATA

DATA SHEET 1  
FMVSS 401 - VEHICLE DESCRIPTION

VEHICLE MY/MAKE/MODEL/BODY STYLE: 2005 Hyundai Sonata  
VEH. NHTSA NO.: C50514 ; VIN: KMHWF35H65A141550

DATE OF TEST: 1/27/2005 TEST LAB: BY OVSC @ DEALER

GVWR: 1922 KG MANUFACTURED DATE: AUG/25/04

TRUNK LOCATION: ☒ REAR ☐ FRONT  
If Front, Front Opening?

NUMBER OF TRUNK LID LATCHING POSITIONS: 1

INTERIOR TRUNK RELEASE: ☐ MANUAL ☒ AUTOMATIC ☐ BOTH

POWER OPERATED CLOSURE: No

OWNER'S MANUAL DESCRIPTION OF TRUNK RELEASE: ☒ YES ☐ NO

REMOVABLE EQUIPMENT DELIVERED IN TRUNK:

SPARE TIRE: ☒ (SIZE) T125/70D15

TIRE JACK: ☒

LUG WRENCH: ☒

TOOL BOX: ☐ (SIZE) \_\_\_\_\_

PARTITIONS: \_\_\_\_\_

OTHER: \_\_\_\_\_

REMARKS:

RECORDED BY: Eduardo Maximo Aviles DATE: 1/27/2005

APPROVED BY: Eduardo Maximo Aviles

### 3.0 DATA SHEETS....Continued

#### DATA SHEET 2 (1 of 2)

FMVSS 401 - All trunks except for front trunk compartments with front opening hoods  
**MANUAL TRUNK RELEASE OPERATION**

VEHICLE MY/MAKE/MODEL/BODY STYLE: 2005 Hyundai Sonata

VEH. NHTSA NO.: C50514 ; VIN: KMHWF35H65A141550

DATE OF TEST: 1/27/2005

Method used to actuate interior trunk release: Other

Other: Pull Handle

Can test personnel enter trunk and be closed within: ☒ Yes ☐ No

If Yes, size of occupant: At least 50<sup>th</sup> percentile male

Is there access to the trunk compartment by folding down rear seat or partition: ☒ Yes  
☐ No

Does Release Mechanism require electric power: ☐ Yes ☒ No

Can release mechanism be easily seen inside the closed trunk: ☒ Yes ☐ No

Describe method used by vehicle manufacturer to ensure that release mechanism is visible  
 in a closed trunk compartment: Phosphorescence (Phosphorescence, auxiliary  
 lighting, etc)

Describe laboratory test method used to determine visibility of release mechanism:

Trunk entry (Trunk entry, darkened room, etc.)

Vehicle Stationary (0 km/h)	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from All latching positions	Pass/Fail
<b>NO KEY IN IGNITION</b>			
Attempt 1	27.4	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Pass <input type="radio"/> Fail
Attempt 2	27.4	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Pass <input type="radio"/> Fail
Attempt 3	27.4	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Pass <input type="radio"/> Fail
Average -	27.4		



### 3.0 DATA SHEETS....Continued

#### DATA SHEET 2 (2 of 2)

#### FMVSS 401 - MANUAL TRUNK RELEASE OPERATION (continued)

**NOTE: Interior Trunk Release is a totally mechanical system with its operation and functioning not dependant upon engine operation or vehicle speed. The release mechanism will function identical to that of the stationary vehicle with the no key in the ignition (as previously tested) and thus the following tests were not required to be conducted.**

Vehicle Stationary (0 km/h)	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from All latching positions	Pass/Fail
ENGINE IDLING <input checked="" type="checkbox"/> Not Applicable			
Attempt 1		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Attempt 2		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Attempt 3		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Average -			

Vehicle Speed (km/h)	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from All latching positions	Pass/Fail
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
20		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
30		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Describe method used to propel vehicle:

☐ Pass ☐ Fail

REMARKS:

RECORDED BY: Eduardo Maximo Ayiles

DATE: 1/27/2005

APPROVED BY: Eduardo Maximo Ayiles

**3.0 DATA SHEETS....Continued****DATA SHEET 3  
FMVSS 401 -TEST SUMMARY**

	PASS	FAIL	COMMENTS
Automatic or Manual release mechanism inside the trunk compartment. S4.1	Ⓐ	Ⓒ	Manual release lever
If manual release, lighting feature is included. S4.2(a)	Ⓐ	Ⓒ	Self Lighting
If automatic release, unlatches trunk lid within 5 minutes. S4.2(b)	Ⓒ	Ⓒ	N/A
Except as provided by S4.3(b), actuation of release mechanism required by S4.1 completely releases trunk lid from all latching positions of the trunk lid latch. S4.3(a)	Ⓐ	Ⓒ	Single Latch Position
For front trunk compartments, front opening hoods, when vehicle is stationary latch releases trunk lid from all locking positions. When moving forward at a speed less than 5km/h, must release the primary latch and may release all latches. At speeds greater than 5km/h must release the primary latch only. S4.3(b)	Ⓒ	Ⓒ	N/A

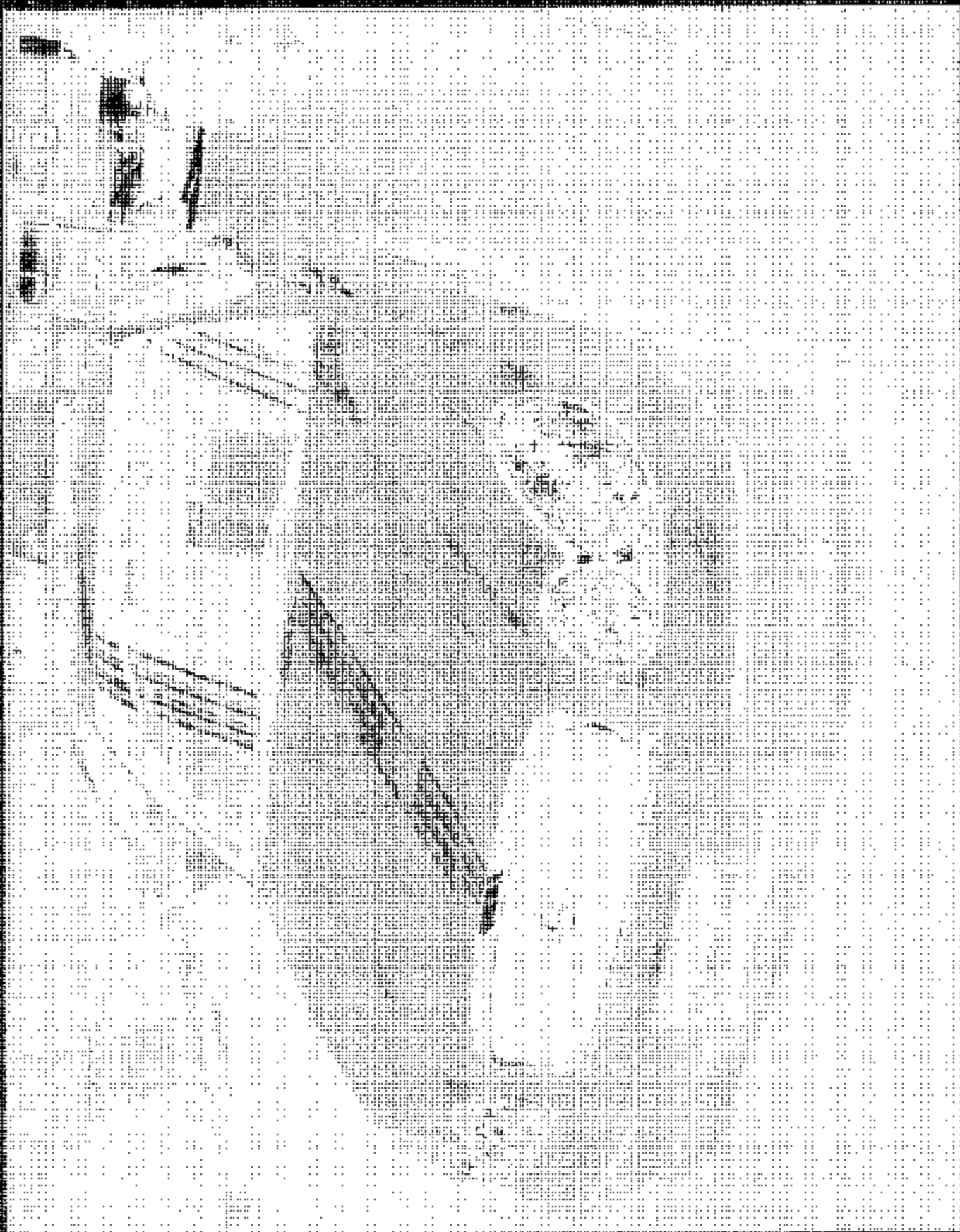
Ⓐ Pass      Ⓒ Fail

RECORDED BY: Eduardo Maximo AvilesDATE: 1/27/2005APPROVED BY: Eduardo Maximo Aviles

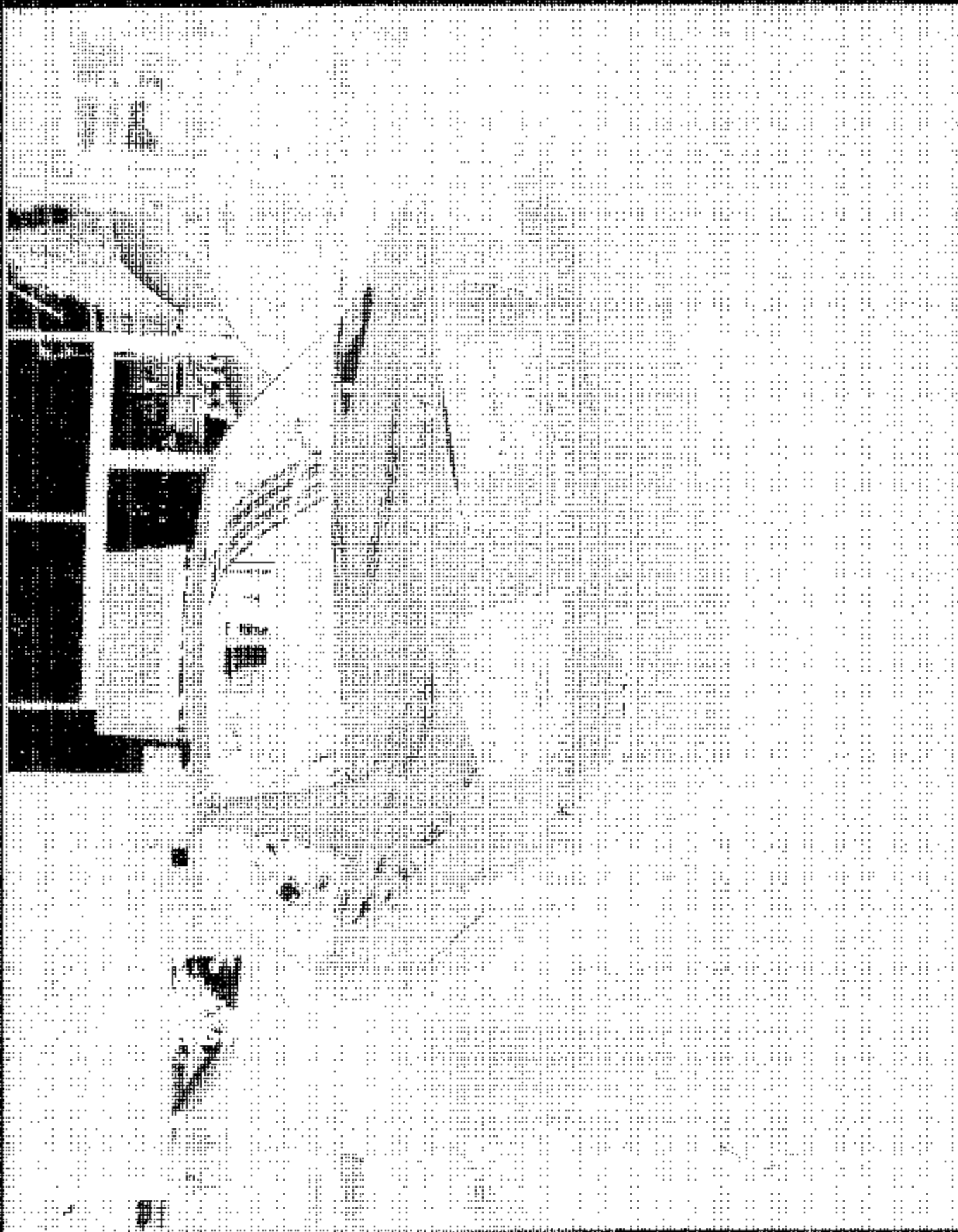
#### 4.0 - Test Equipment List and Calibration Information

EQUIPMENT	DESCRIPTION	MODEL/SERIAL NO.	CALIBRATION DATE	NEXT CAL. DATE
Force Transducer	Shimpo Force Gauge	Model MF-50 KG	12/09/03	Manufacturer

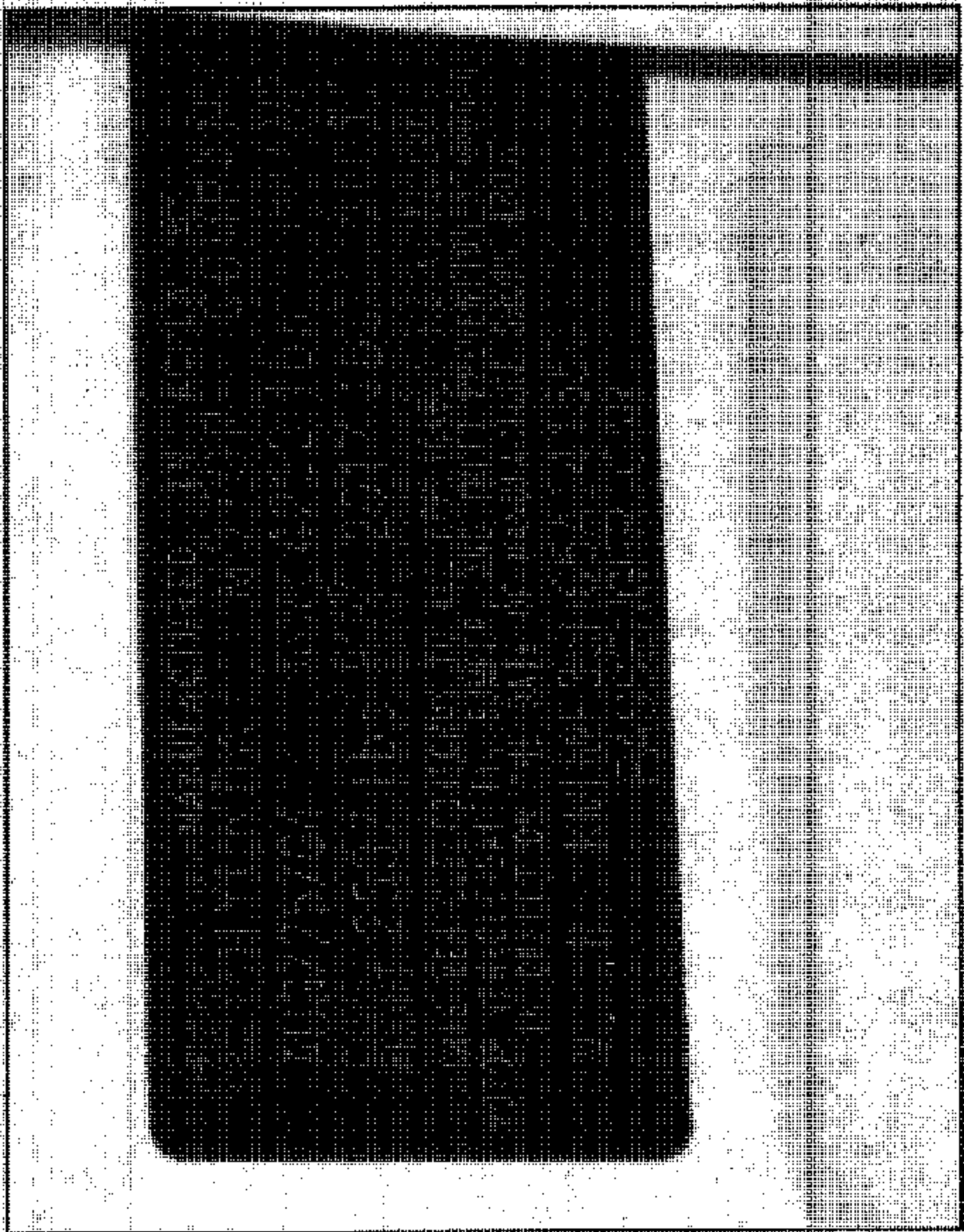
## 5.0 - Photographs



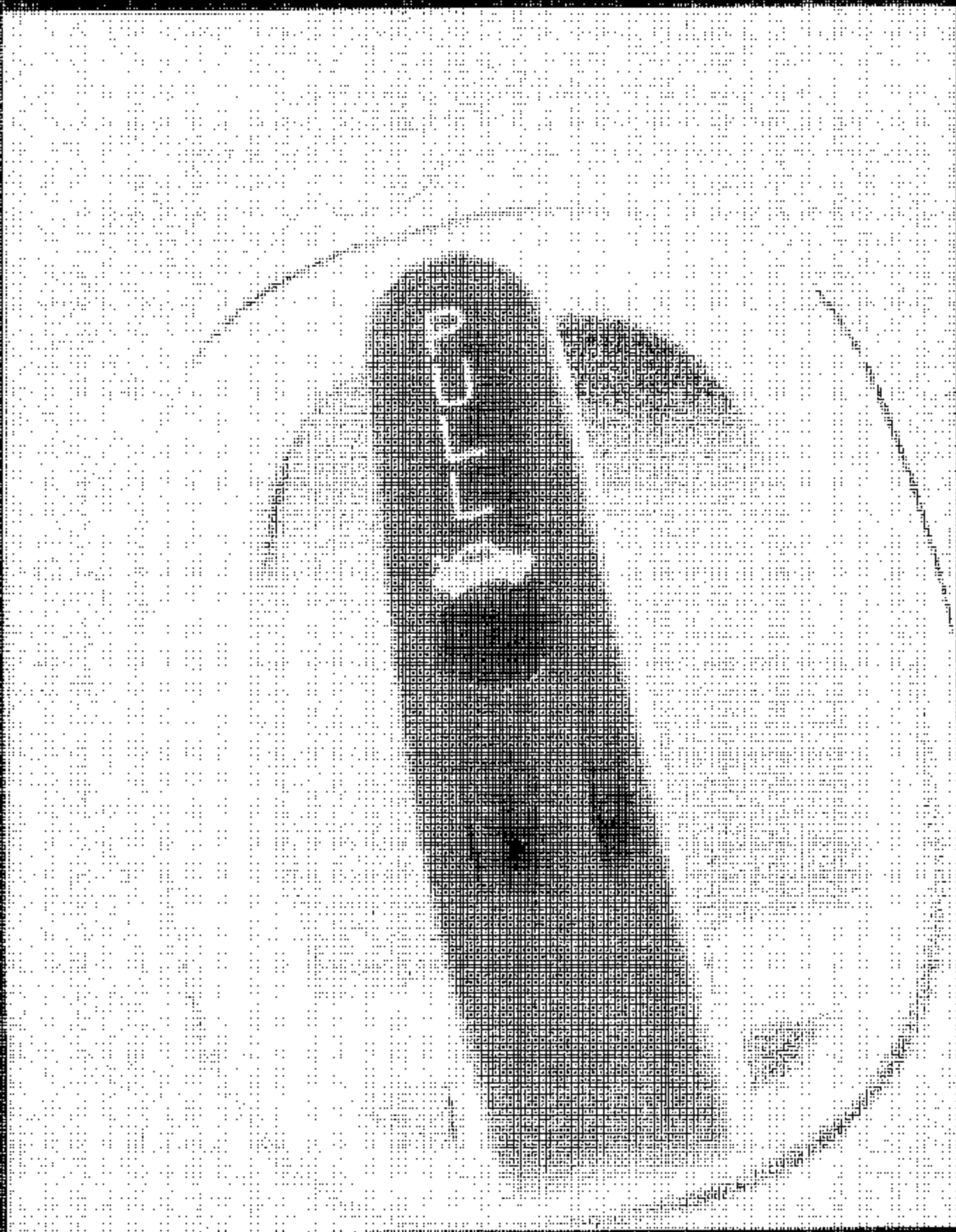
Vehicle Front



Vehicle Rear



**Certification Label**



Trunk Release Handle/Lever



