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FINAL REPORT NUMBER 401-NSA-04-001

SAFETY COMPLIANCE TESTING FOR FMVSS 401 Interior Trunk Release

2004 Toyota Solara 2-Door
NHTSA No. C45110

Prepared by:
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March 19, 2004

FINAL REPORT

PREPARED FOR:

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Date: 3/19/04

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. 401-NSA-04-001	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 401 Compliance Testing of a 2004 Toyota Solara 2-Door, NHTSA No. C45110		5. Report Date March 19, 2004 6. Performing Organization Code OVSC	
7. Author(s) Stuart Seigel, Safety Compliance Engineer		8. Performing Organization Report No. 401-NSA-04-001	
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 2004 Toyota Solara 2-Door, NHTSA No. C45110, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-401-01 for the determination of FMVSS 401 compliance. The test was conducted at a Toyota Dealership in Northern Virginia, by NHTSA personnel on March 10, 2004. Test failures identified were as follows: NONE			
17. Key Words Compliance Testing Safety Engineering FMVSS 401 2004 Toyota Solara 2-Door		18. Distribution Statement Copies of this report are available from: NHTSA Technical Reference Division, Mail Code: NAD-52 400 Seventh Street, SW, Room 5108 Washington, D.C. 20590 Telephone No. (202) 366-4946	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

Form DOT F 1700.7 (8-69)

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1.0 PURPOSE OF COMPLIANCE TEST

The purpose of this compliance test was to determine whether the subject vehicle, a 2004 Toyota Solara 2-Door, 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 at a Toyota Dealership in Northern Virginia on March 10, 2004 by NHTSA Office of Vehicle Safety Compliance test engineers.

2.0 TEST PROCEDURE AND DISCUSSION OF RESULTS

Based on the test performed, the 2004 Toyota Solara 2-Door, NHTSA No. C45110 appeared to meet the requirements of FMVSS 401.

The vehicle was tested by entering the trunk and closing the lid. The release handle 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 9 newtons (2 lbs.) or less.

3.0 COMPLIANCE TEST DATA

DATA SHEET 1

FMVSS 401 - VEHICLE DESCRIPTION

VEHICLE MY/MAKE/MODEL 2004/TOYOTA / SOLARA

BODY STYLE: 2-DOOR

VEH. NHTSA NO.: C45110 ; VIN: 4T1CA30P14U019384

DATE OF TEST: 03/10/04 TEST LAB: BY OVSC @ DEALER

GVWR: 2019 KG MANUFACTURED DATE: 12/03

TRUNK LOCATION: REAR X FRONT

If Front, Front Opening? na

NUMBER OF TRUNK LID LATCHING POSITIONS: 1

INTERIOR TRUNK RELEASE: MANUAL X ; AUTOMATIC ;

BOTH

POWER OPERATED CLOSURE: na

OWNER'S MANUAL DESCRIPTION OF TRUNK RELEASE: YES X

NO

REMOVABLE EQUIPMENT DELIVERED IN TRUNK:

SPARE TIRE: X (SIZE)

TIRE JACK: X

LUG WRENCH: X

TOOL BOX: - (SIZE) -

PARTITIONS: -

OTHER: First aid kit -

REMARKS:

RECORDED BY: SSe DATE: 03/10/04

APPROVED BY: S. Selgel

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: 2004/TOYOTA /SOLARA/2-DR

VEH. NHTSA NO.: C45110_____ ; VIN: 4T1CA30P14U019384

DATE OF TEST: 3/10/04

Method used to actuate interior trunk release: Rotating Lever (Grab handle, Rotating lever, etc.)

Can test personnel enter trunk and be closed within: Yes X No____

If Yes, size of occupant: At least 50th percentile male

Is there access to the trunk compartment by folding down rear seat or partition: Yes X No_

Does Release Mechanism require electric power: Yes ___ No X

Can release mechanism be easily seen inside the closed trunk: Yes X 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) **NO KEY IN IGNITION**	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from All latching positions	Pass/Fail
Attempt 1	4.5 N - 1.0 pounds	Yes	pass
Attempt 2	4.5 N - 1.0 pounds	Yes	pass
Attempt 3	9.0 N - 2.0 pounds	Yes	pass
Average -	6N - 1.3 pounds		

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) **ENGINE IDLING**	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from All latching positions	Pass/Fail
Attempt 1			
Attempt 2			
Attempt 3			
Average -			

Vehicle Speed (km/h)	Force Required to Release Trunk Lid (Newtons) [no requirement]	Trunk Released from **All** latching positions	Pass/Fail
10			
20			
30			

Describe method used to propel vehicle:_____

PASS ___X___ FAIL_____ REMARKS:

RECORDED BY: SSe DATE: 3/10/04

APPROVED BY: S. Seigel

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	X		**Manual release lever handle**
If manual release, lighting feature is included. S4.2(a)	X		**Self Lighting**
If automatic release, unlatches trunk lid within 5 minutes. S4.2(b)	na		
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. S 4.3(a)	X		**Single Latch Position Only**
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)	na		

PASS __X____ FAIL_____

REMARKS: RECORDED BY: ___SSe_____

APPROVED BY: S.Seigel____

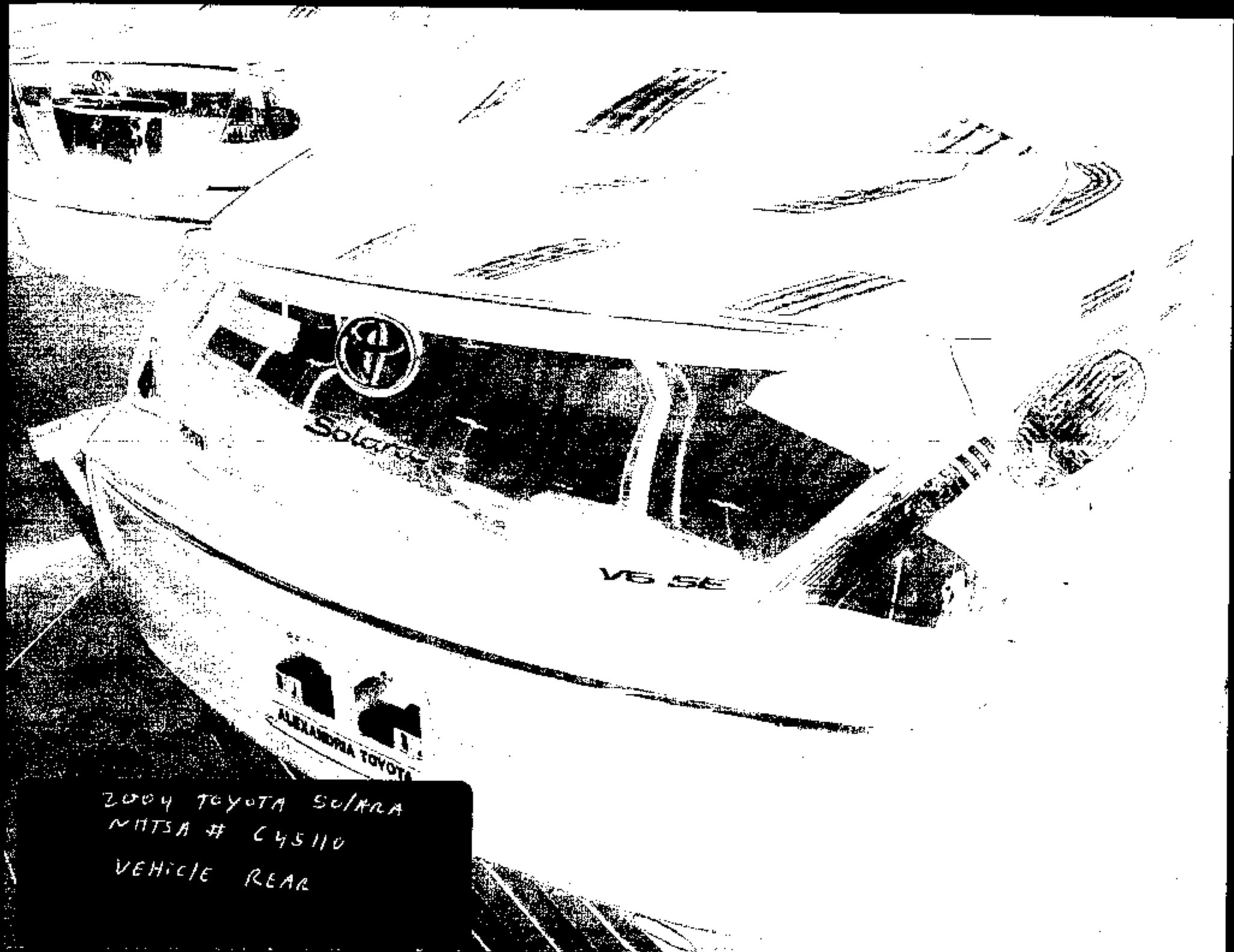
DATE: ___3/10/04___

4.0 - Test Equipment List and Calibration Information

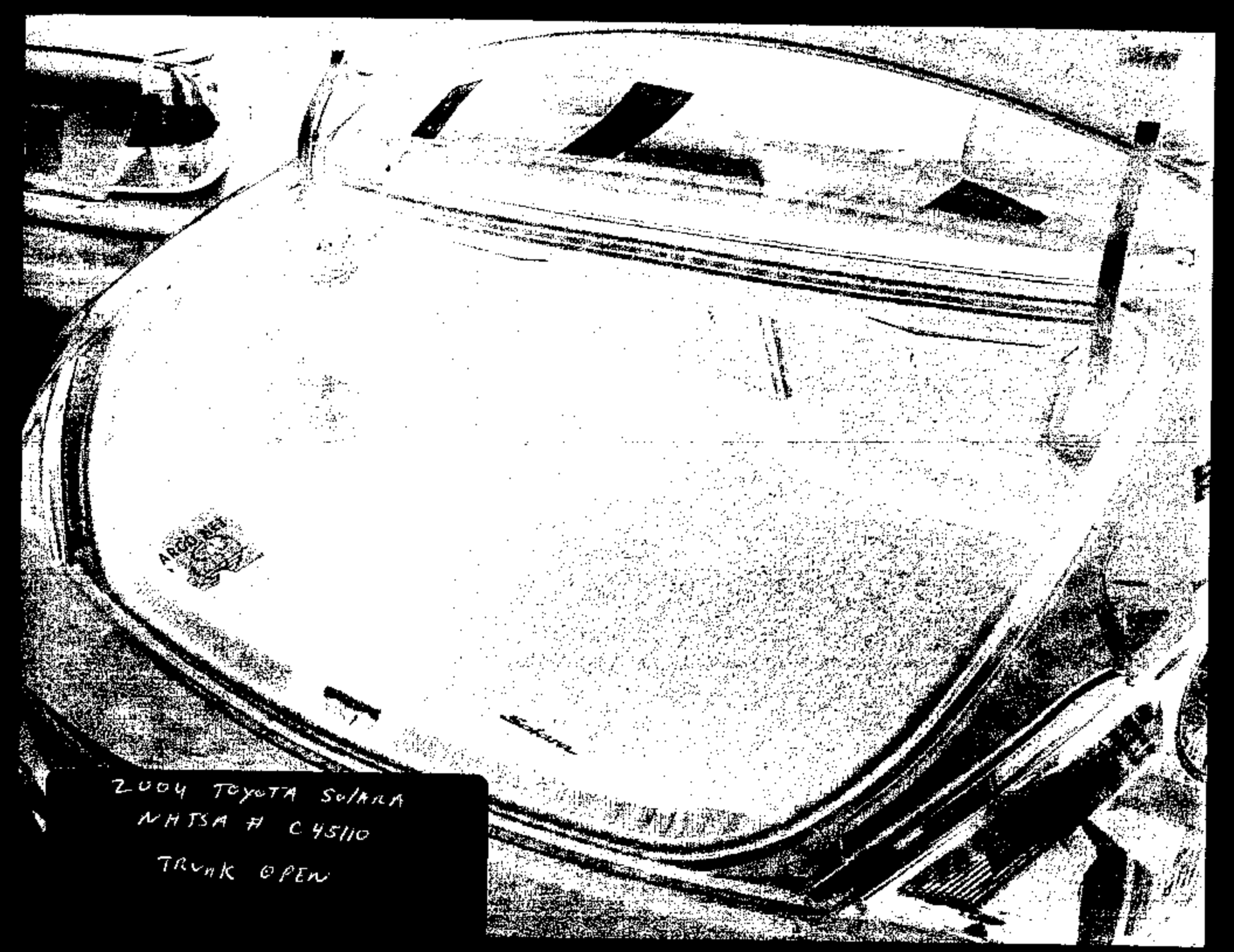
EQUIPMENT	DESCRIPTION	MODEL/SERIAL NO.	CALIBRATION DATE	NEXT CAL. DATE
Force Transducer	Viking Jr. Hanson Instrument	Model 890	Manufacturer	Manufacturer

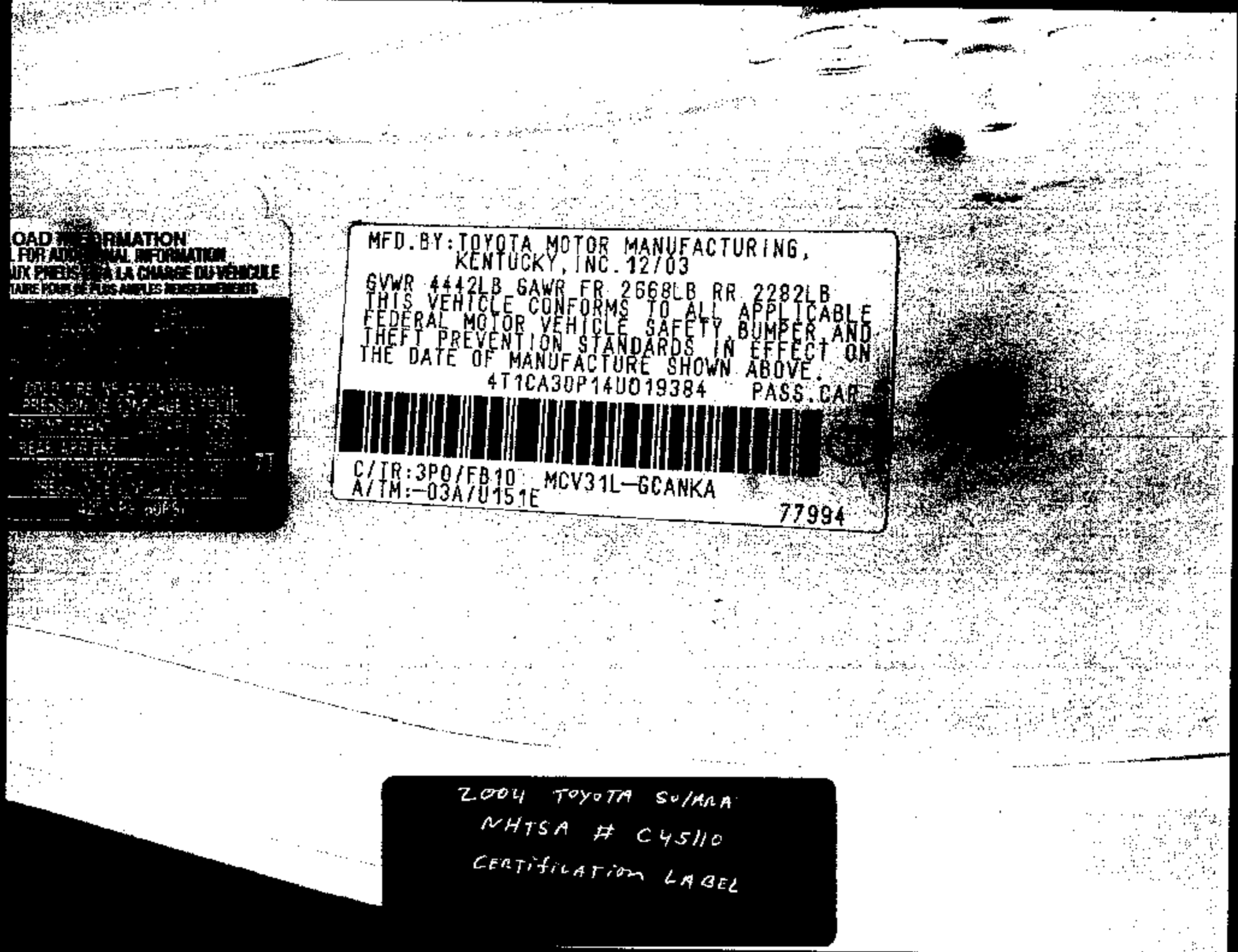
5.0 - Photographs


2004 TOYOTA SOLARA
NHTSA # C45110
VEHICLE Front

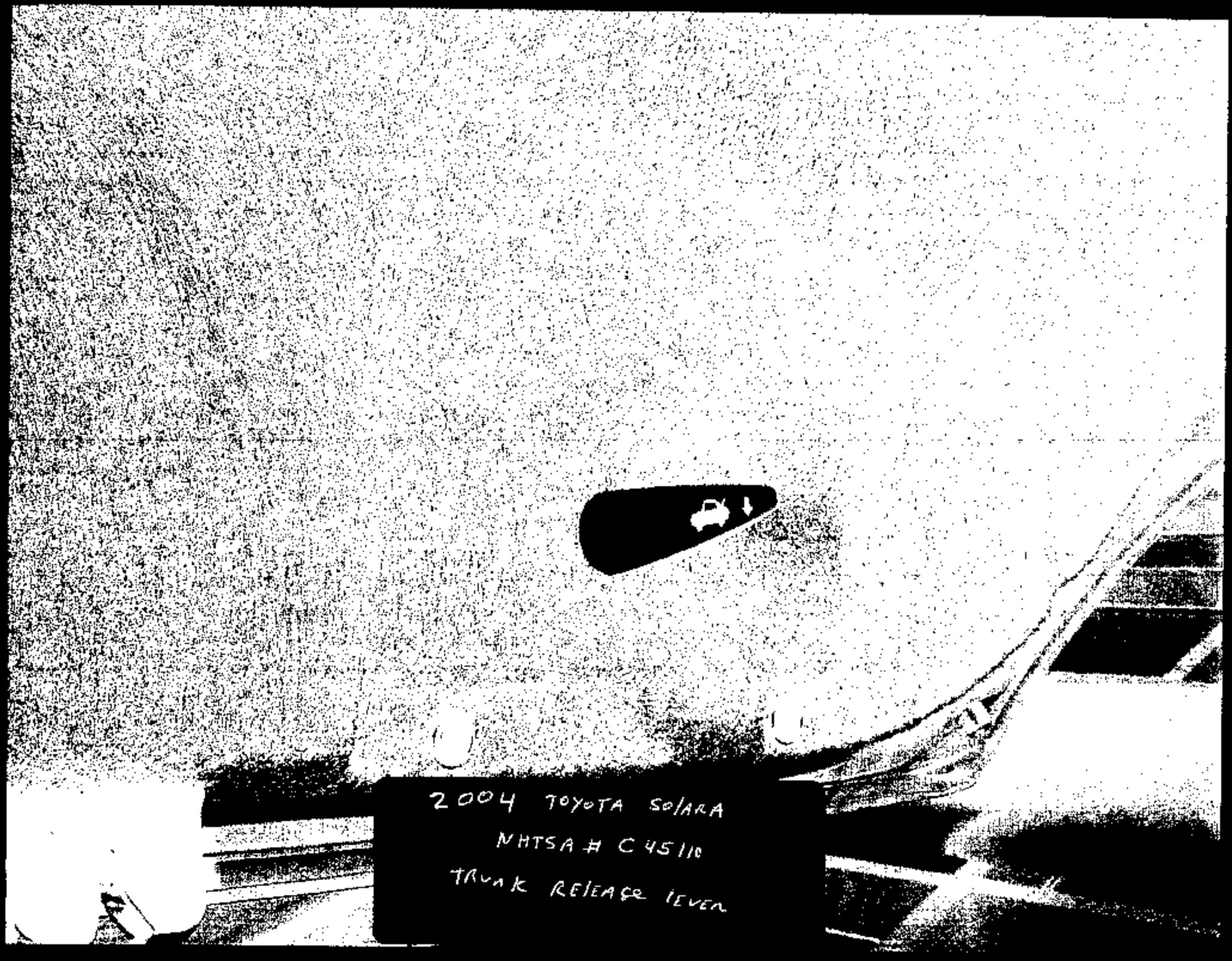


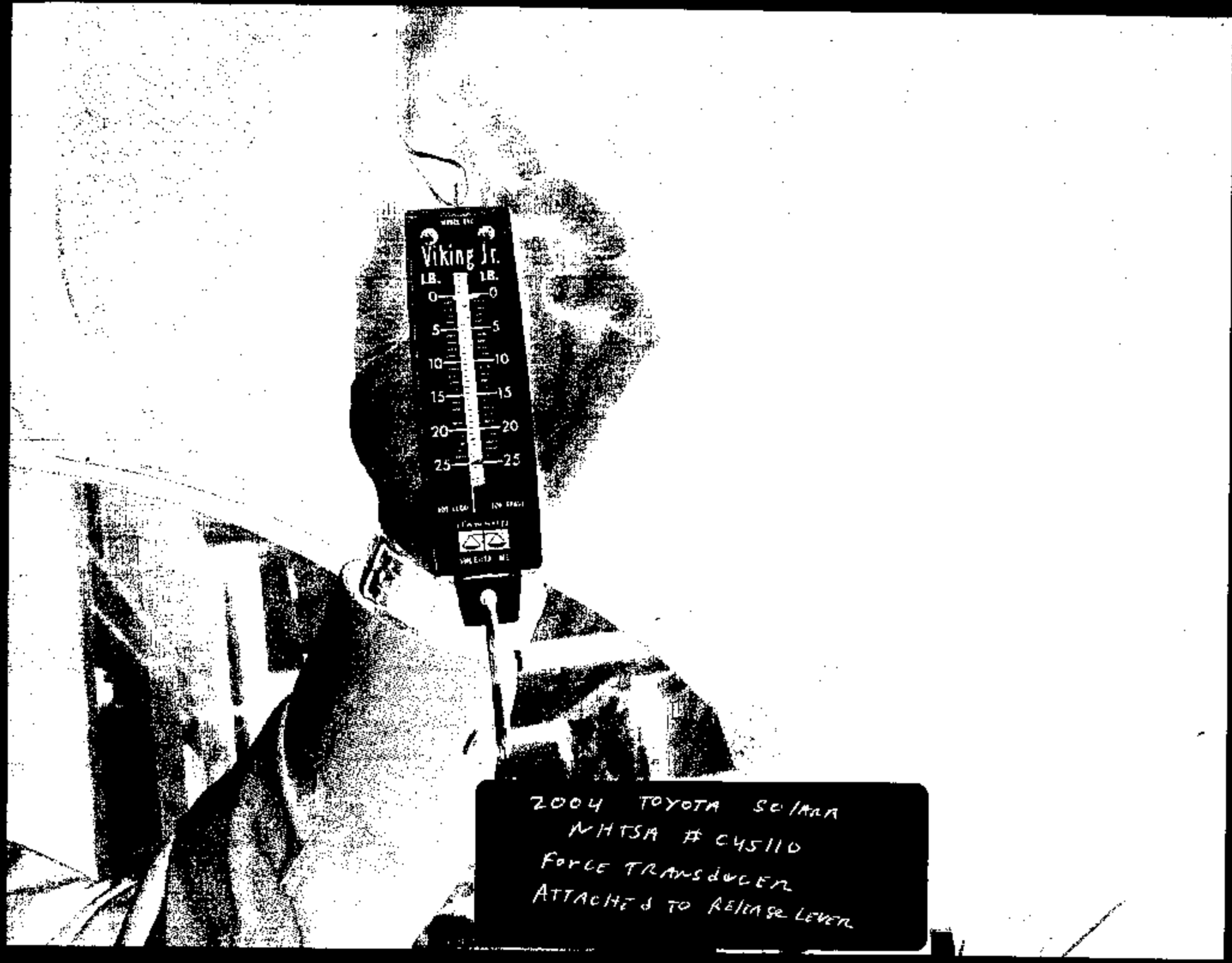
2004 TOYOTA SOLARA
NHTSA # C45110
VEHICLE REAR


2004 TOYOTA SOLARA
NHTSA # C45110
TRUNK OPEN



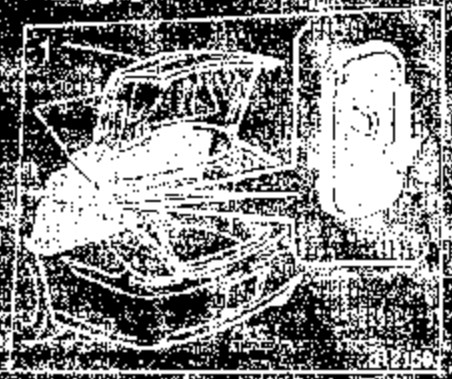
2004 TOYOTA SOLARA
NHTSA # C45110
CERTIFICATION LABEL


2004 TOYOTA SOLARA
NHTSA # C 45110
TRUNK RELEASE LEVER


Viking Jr.
LB.
LB.
0
5
10
15
20
25
2004 TOYOTA SCION
NHTSA # C45110
FORCE TRANSDUCER
ATTACHED TO RELEASE LEVER

6.0 Vehicle Owner's Manual (applicable pages)

—Luggage security system

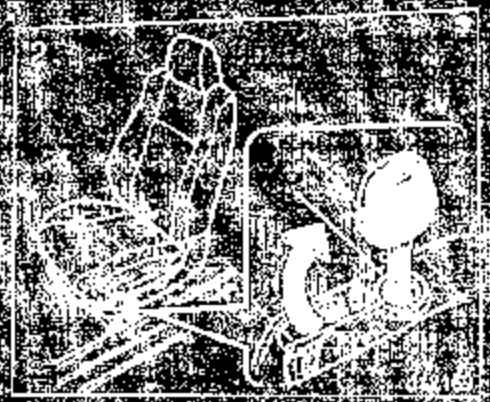


This system prevents someone with the sub key from gaining access to the trunk by folding down a rear seat or using the trunk lid lock release lever.

To protect valuables stored in the trunk, do the following procedure.

1. Open the trunk lid and push down the security lock levers to lock the rear seatbacks.

After locking the rear seatbacks, try folding them down to make sure they are securely locked. Otherwise someone could get into the trunk by folding down a rear seat.



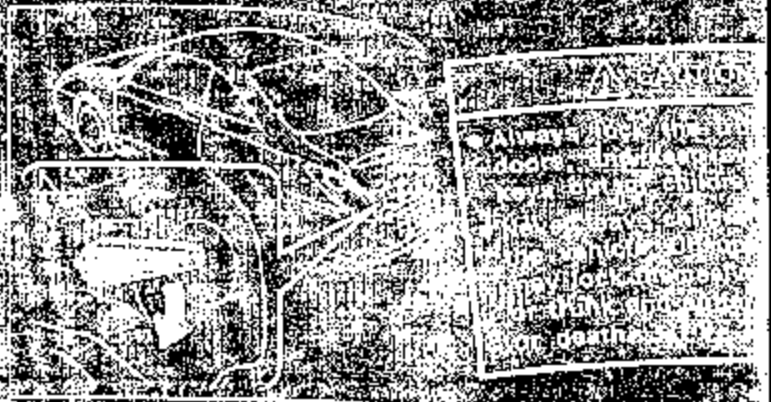
2. Close the trunk lid, insert the master key into the keyhole and turn it to the "LOCK" direction to deactivate the trunk lid lock release lever.

After the operation, try pulling on the trunk lid lock release lever to make sure it is locked.

NOTICE

Unless you implement the above procedure, you cannot make sure security of the luggage in the trunk whatever the vehicle is unattended.

—Internal trunk release handle



If a person is locked in the trunk, he/she can pull down the phosphorescent handle on the inside of the trunk to open the trunk lid.

The phosphorescent coating on the handle will continue to glow for a while after the trunk is closed. Exposure to sunlight or fluorescent lamp will cause the glow to last longer.