

REPORT NUMBER 110(IND)-GTL-03-027

**SAFETY COMPLIANCE TESTING FOR
FMVSS NO. 110(INDICANT)
TIRE SELECTION AND RIMS**

**FORD MOTOR CO. IN U.S.A.
2003 FORD MUSTANG PASSENGER CAR
NHTSA NO. C30211**

**GENERAL TESTING LABORATORIES, INC.
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SEPTEMBER 22, 2003

FINAL REPORT

PREPARED FOR

**U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
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16. Abstract This test was conducted on the subject, 2003 Ford Mustang passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110-02 (partial), to gather data relating to the normal load requirements specified in FMVSS 110. NHTSA's Office of Safety Performance Standards requested this data to support the agency's TREAD tire rulemaking efforts.			
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SECTION 1

INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Ford Mustang passenger car was subjected to a FMVSS No. 110 (Indicant) test intended to gather data relating to the normal load requirements specified in FMVSS 110. NHTSA's Office of Safety Performance Standards requested this data to support the agency's TREAD tire rulemaking efforts.

1.1 TEST VEHICLE

The test vehicle was a 2003 Ford Mustang. Nomenclature applicable to the test vehicle are:

- A. Vehicle Identification Number: 1FAPP40493F313166
- B. NHTSA No.: C30211
- C. Manufacturer: FORD MOTOR CO. IN U.S.A.
- D. Manufacture Date: 08/02

1.2 TEST DATE

The test vehicle was subjected to testing on June 03, 2003.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

The vehicle was inspected, photographed and filled with fuel. It was then weighed to establish total curb weight and the weights of all wheels were measured and recorded. The vehicle was then ballasted to its normal load condition (refer to appendix) and the weights of all wheels were measured and recorded. Tire information labeling data and tire sidewall data were recorded.

This indicant test did not include any other requirements in FMVSS 110.

2.1 SUMMARY OF RESULTS

Test results are provided in Section 3.

SECTION 3
TEST DATA

DATA SHEET 1
SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
 VEHICLE NHTSA NO.: C30211 ; VIN: 1FAPP40493F313166
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 06/03/03

<u>REQUIREMENT</u>	<u>YES/NO</u>
The vehicle is equipped with tires that meet the requirements of FMVSS 109 or FMVSS 119.	<u>YES</u>
The vehicle normal load on the tire is not greater than the high speed performance test load specified in FMVSS 109 paragraph S5.5 or FMVSS 119 paragraph S7.4.	<u>YES</u>
For passenger cars, the tire information placard is permanently affixed to the glove compartment door or equally accessible location; and displays the required information (FMVSS 110, S4.3).	<u>YES</u>
For vehicles other than passenger cars, a combined certification/ tire information label or separate tire information label is permanently affixed to either the hinge pillar, door-latch post or to the inward-facing surface of the door next to the driver's seating position (FMVSS 120, S5.3).	<u>N/A</u>

REMARKS:

RECORDED BY: M. A. Goh

DATE: 06/03/03

APPROVED BY: D. Menick

DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES DATE: 06/03/03

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG

MANUFACTURE DATE: 08/02 NHTSA NO.: C30211 BODY COLOR: RED

VIN: 1FAPP40493F313166 VEHICLE TYPE: PASSENGER CAR

GVWR 1979 kg (4365 lbs) GAWR(Fr) 1045 kg (2306 lbs) GAWR(Rr) 960 kg (2117 lbs)

BELTED SEATING POSITIONS: FRONT 2 MID N/A REAR 2 OTHER N/A

ENGINE DATA: 6 Cylinders 3.8 Liters Cubic Inches

TRANSMISSION DATA: X Automatic Manual 4 No. of Speeds

FINAL DRIVE DATA: X Rear Drive Front Drive 4 Wheel Drive

INSTALLED TIRE DATA: Size - P225/55R16 Mfr. - GOODYEAR

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT/MAKE SURE ALL OPTIONS ON WINDOW STICKER ARE LISTED:

<input checked="" type="checkbox"/>	Air Conditioning		Traction Control	<input checked="" type="checkbox"/>	Clock
	Tinted Glass		All Wheel Drive		Roof Rack
<input checked="" type="checkbox"/>	Power Steering	<input checked="" type="checkbox"/>	Cruise Control	<input checked="" type="checkbox"/>	Console
<input checked="" type="checkbox"/>	Power Windows	<input checked="" type="checkbox"/>	Rear Window Defroster	<input checked="" type="checkbox"/>	Driver Air Bag
<input checked="" type="checkbox"/>	Power Door Locks		Sun Roof or T-Top	<input checked="" type="checkbox"/>	Passenger Air Bag
<input checked="" type="checkbox"/>	Power Seat(s)	<input checked="" type="checkbox"/>	Tachometer	<input checked="" type="checkbox"/>	Front Disc Brakes
<input checked="" type="checkbox"/>	Power Brakes	<input checked="" type="checkbox"/>	Tilt Steering Wheel	<input checked="" type="checkbox"/>	Rear Disc Brakes
	Antilock Brake System	<input checked="" type="checkbox"/>	AM/FM/CD		Other -

ARE ALL OPTIONS LISTED ON "WINDOW STICKER" PRESENT ON THE TEST VEHICLE:
(YES/NO) Yes

REMARKS:

RECORDED BY: *[Signature]*

DATE: 06/03/03

APPROVED BY: *[Signature]*

DATA SHEET 3
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR

VEHICLE NHTSA NO.: C30211 ; VIN: 1FAPP40493F313166

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 06/03/03

Full Fluid Levels:

Fuel Full ; Coolant Full ; Other Fluids Full

Tire Pressure: LF 241 KPA (35 psi) LR 241 KPA (35 psi)
 RF 241 KPA (35 psi) RR 241 KPA (35 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF <u>415 KG (916 LB)</u>	LR <u>310 KG (684 LB)</u>
RF <u>416 KG (917 LB)</u>	RR <u>320 KG (705 LB)</u>
Front Axle <u>831 KG (1833 LB)</u>	Rear Axle <u>630 KG (1389 LB)</u>
Total Vehicle <u>1461 KG (3222 LB)</u>	

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

(1) Seating Capacity (from Tire Information Placard) = 4
Seating Capacity (# of belted seating positions) = 4

(2) Normal Load # of Occupants from Appendix
Occupant Distribution: Front Seat- 2 Second Seat-
Third Seat- N/A Fourth Seat- N/A

(3) Total Normal Occupant Load 136 KG (300 LB)
(# of occupants x 68 KG per occupant)

(4) Measured Normal Load on Each Wheel and Axles (Sum)

LF <u>450 KG (991 LB)</u>	LR <u>341 KG (752 LB)</u>
RF <u>456 KG (1005 LB)</u>	RR <u>351 KG (774 LB)</u>
Frt Axle <u>905 KG (1996 LB)</u>	Rr Axle <u>692 KG (1526 LB)</u>
Total Vehicle <u>1598 KG (3522 LB)</u>	

DATA SHEET 3 - CONTINUED

- (5) Calculated Vehicle Normal Load on the Tire
 Front Tires (measured front axle normal load/2) = 453 KG (998 LB)
 Rear Tires (measured front axle normal load/2) = 346 KG (763 LB)
- (6) High Speed Test Load from (X) FMVSS 109 (S5.5), or () FMVSS 119 (S7.4)

	Front	Rear
(a) Installed Tire Size	<u>P225/55R16</u>	<u>P225/55R16</u>
Max. Load Rating on Sidewall	<u>670 KG(1477 LBS)</u>	<u>670 KG(1477 LBS)</u>
Reduced Sidewall Load Rating (if applicable)*	<u>N/A</u>	<u>N/A</u>
High Speed Test Load (88% of sidewall max. load rating)	<u>590 KG(1300 LBS)</u>	<u>590 KG(1300 LBS)</u>
(b) Optional Tire Size(s)	<u>NONE</u>	<u>NONE</u>

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

REMARKS: The Vehicle Normal Load on the Tire is not greater than the High Speed Test Load

RECORDED BY: 

DATE: 06/03/03

APPROVED BY: 

DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
 VEHICLE NHTSA NO.: C30211 ; VIN: 1FAPP40493F313166
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 06/03/03

A. Vehicle Type from Certification Label: Passenger Car

B. Identify Vehicle Labeling:

Vehicle has a combined Certification Tire Information Label Yes No
 Is Label Permanently Affixed: Yes No
 Label Location: Driver's Side "B" Pillar
 Description of Label: Vinyl

Vehicle has a separate Tire Information Label or Placard Yes No
 Is Label Permanently Affixed: Yes No
 Label Location: _____
 Description of Label: _____

C. Enter Information from Combined or Separate Tire Information Label/Placard

Vehicle Capacity Weight - "MAXIMUM LOAD" 317 KG (700 LBS)

Designated Seating Capacity (DSC) - 4

Expressed In—

(1) Total No. of Occupants Yes No


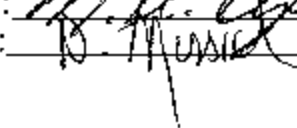
(2) Terms of Occupants for Each Seat Location Yes No

Manufacturer's Recommended Tire Size and Cold Tire Inflation Pressure For Maximum Load Vehicle Weight:

P225/55R16 FRONT - 241 kPa (35 psi)
 REAR - 241 kPa (35 psi)

Manufacturer's Recommended Tire Size and Cold Tire Inflation Pressure For Other Load Conditions: NONE

REMARKS:.

RECORDED BY: 
 APPROVED BY: 

DATE: 06/03/03

DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
 VEHICLE NHTSA NO.: C30211 ; VIN: 1FAPP40493F313166
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 06/03/03

All tires on the vehicle are the same size: (Yes/No) Yes

INFORMATION FROM TIRE SIDEWALL:

Left Front Tire

Tire Size Designation P225/55R16

Tire Load Index/Speed Symbol 94T

Maximum Inflation Pressure 300 kPa (44 psi)

Maximum Load Rating 670 KG (1477 LBS.)

Mfr. Name or Brand & Code GOODYEAR EAGLE

Tube or Tubeless TUBELESS

Treadwear/Traction/Temp. Grades 360/A/B

Sidewall (Plies & Composition) 1 PLY POLYESTER

Tread (Plies & Composition) 1 PLY POLYESTER
2 PLY STEEL

Serial Number: Right Front - DOT M614 HMER 3202

Tire has "DOT" markings: (X) YES () NO () UNDETERMINED

REMARKS:

RECORDED BY: 

DATE: 06/03/03

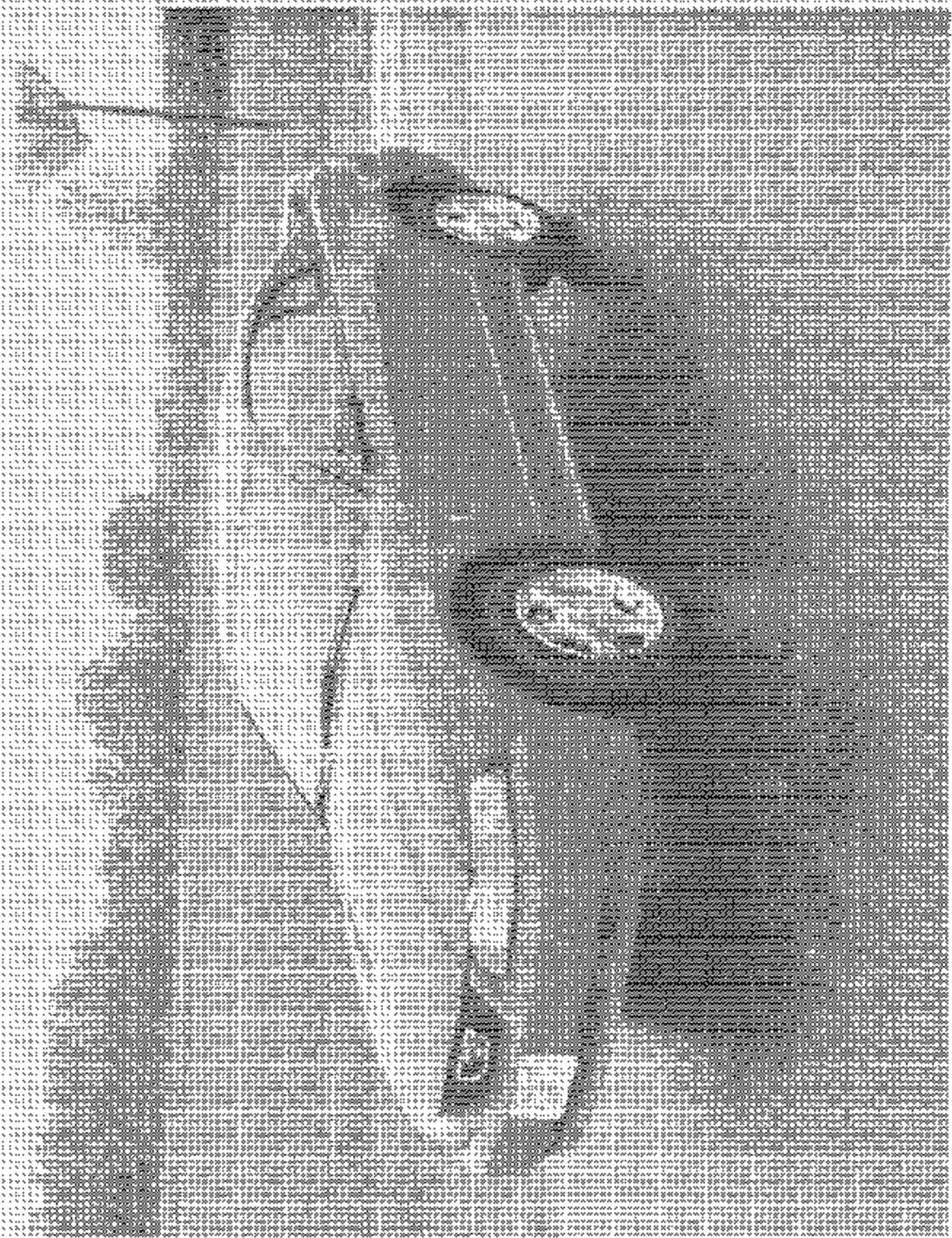
APPROVED BY: 

SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO.	CAL. DATE	NEXT CAL. DATE
PAD SCALES	#1 199744LF	199744LF	06/02	06/20/03
	#2 199744RF	199744RF	06/02	06/20/03
	#3 199744LR	199744LR	06/02	06/20/03
	#4 199744RR	19974RR	06/02	06/20/03
PRESSURE GAGE	WESKLER	0-100	05/03	05/04
SURFACE LEVEL	GTL	N/A	BEFORE USE	BEFORE USE

SECTION 5
PHOTOGRAPHS



2003 FORD MUSTANG

INTESA NO. C39211

EMISS NO. 470 (INDICANT)

FIGURE 3

3% FRONTAL VIEW OF JEMH03

2003 FORD MUSTANG
ELECTRIC VEHICLE

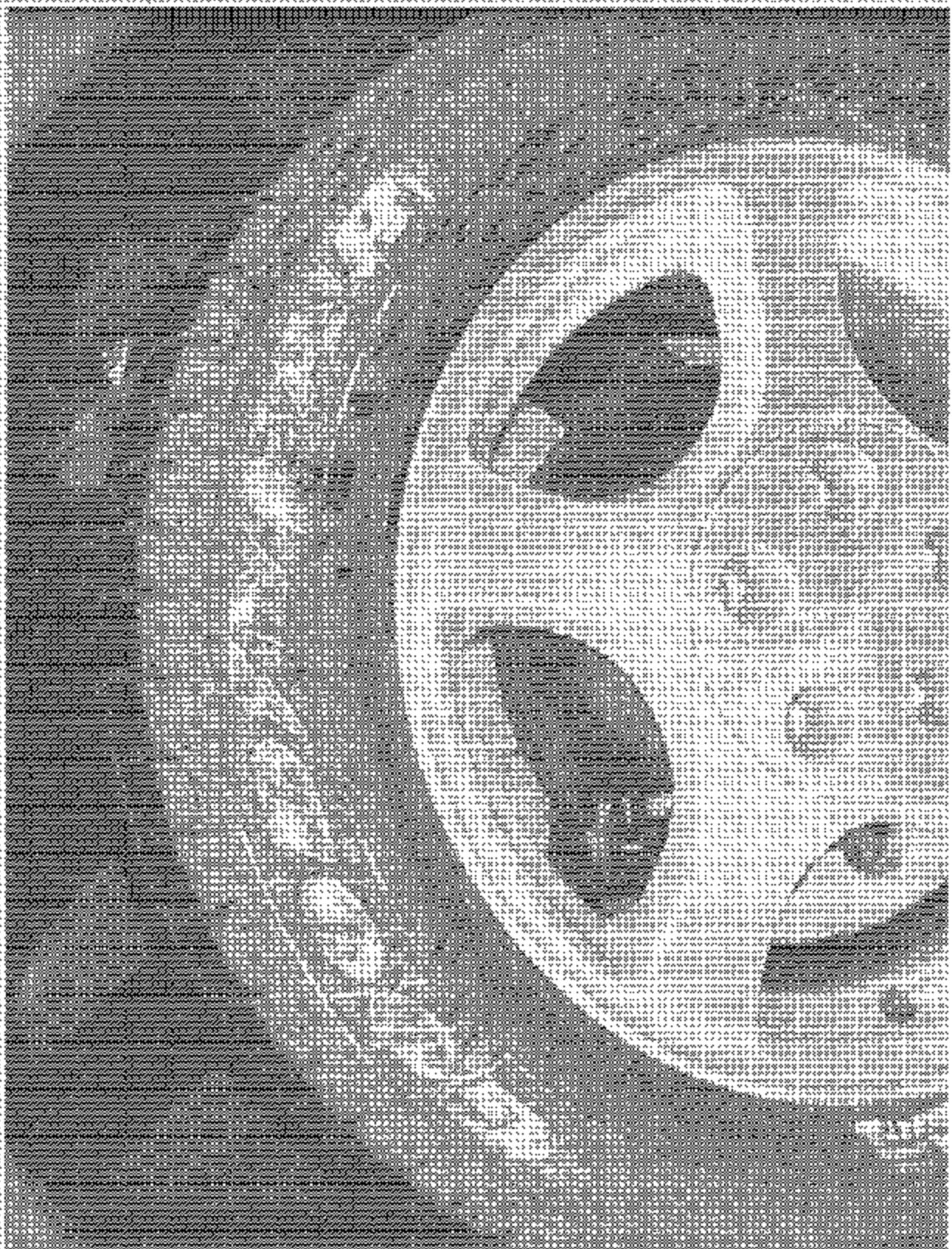
SALES TAX
REGISTRATION FEE
TITLE FEE

SALES TAX
REGISTRATION FEE
TITLE FEE

SALES TAX
REGISTRATION FEE
TITLE FEE

2003 FORD MUSTANG
NHTSA NO. C20211
EPA NO. 110 UNDECANT

FIGURE 32
VEHICLE CERTIFICATION AND TITLE
INFORMATION LABEL



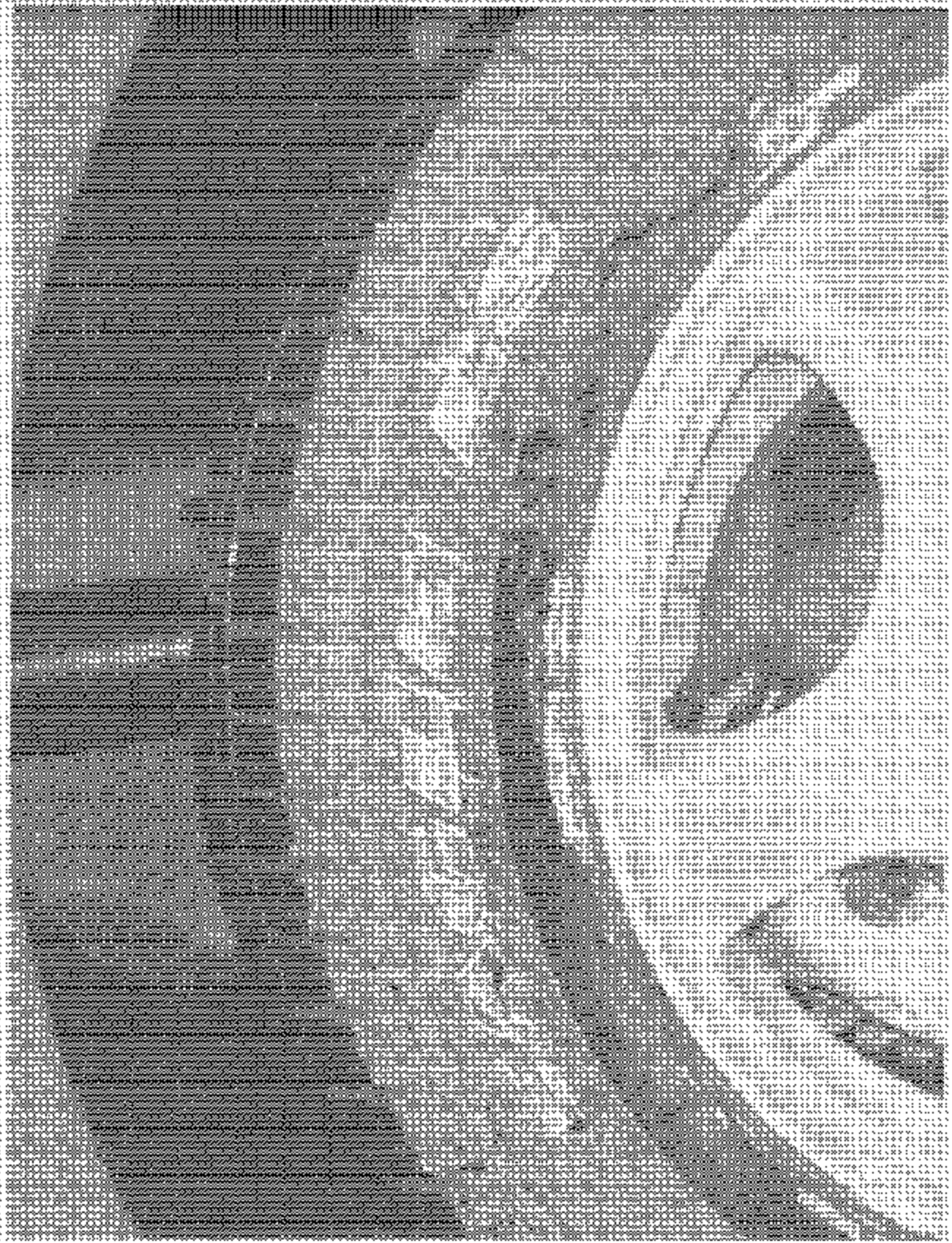
2003 FORBES MUSTANG

FHSA NO. 030271

FMS NO. 770 (INDICANT)

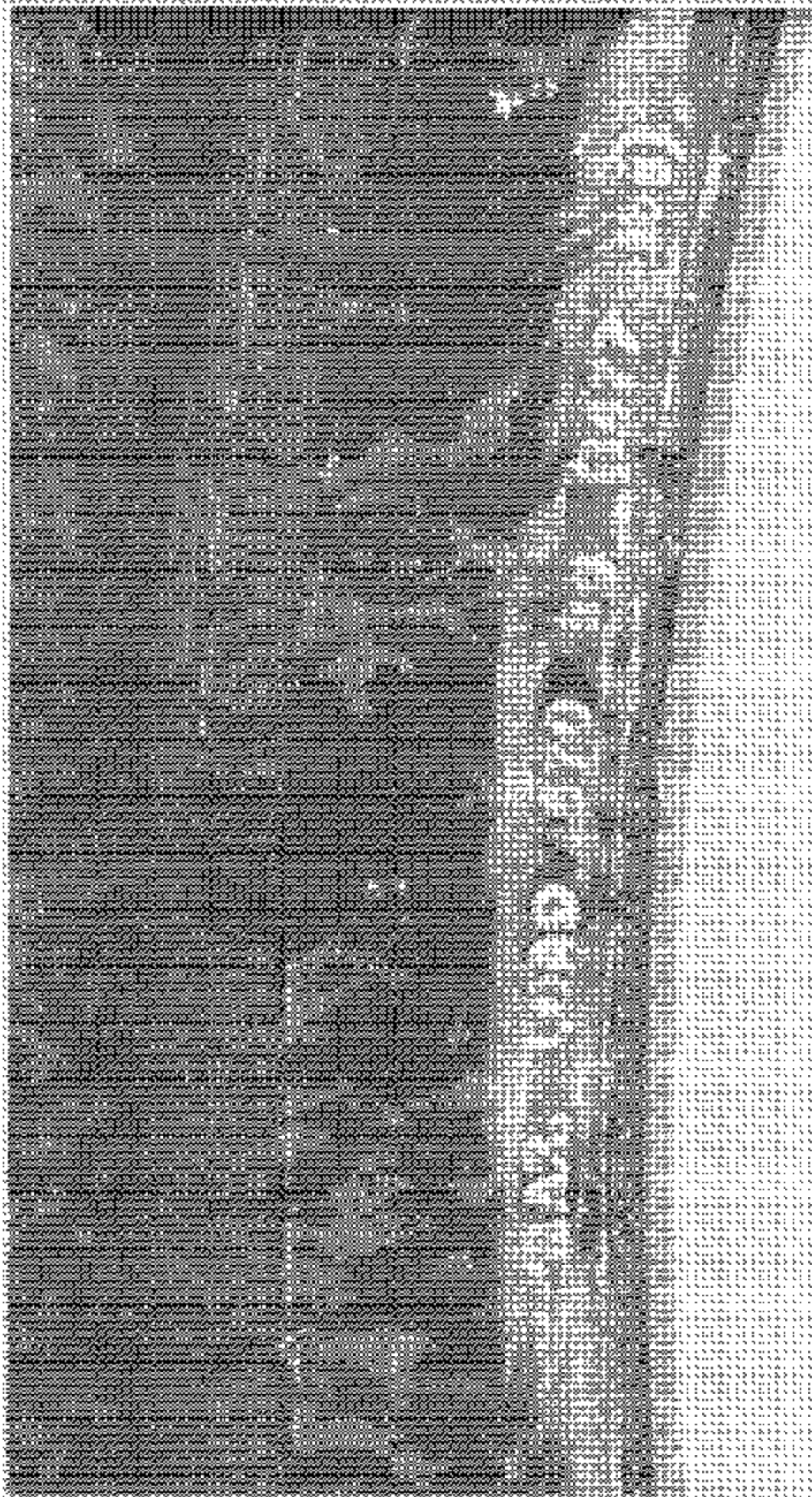
FIGURE 3

THE SHOWING STAND



2003 FORD MUSTANG
XHTSA NO. 340211
SAVOR NO. 3116404411

FIGURE 5-4
TIRE-BLOWING MODE



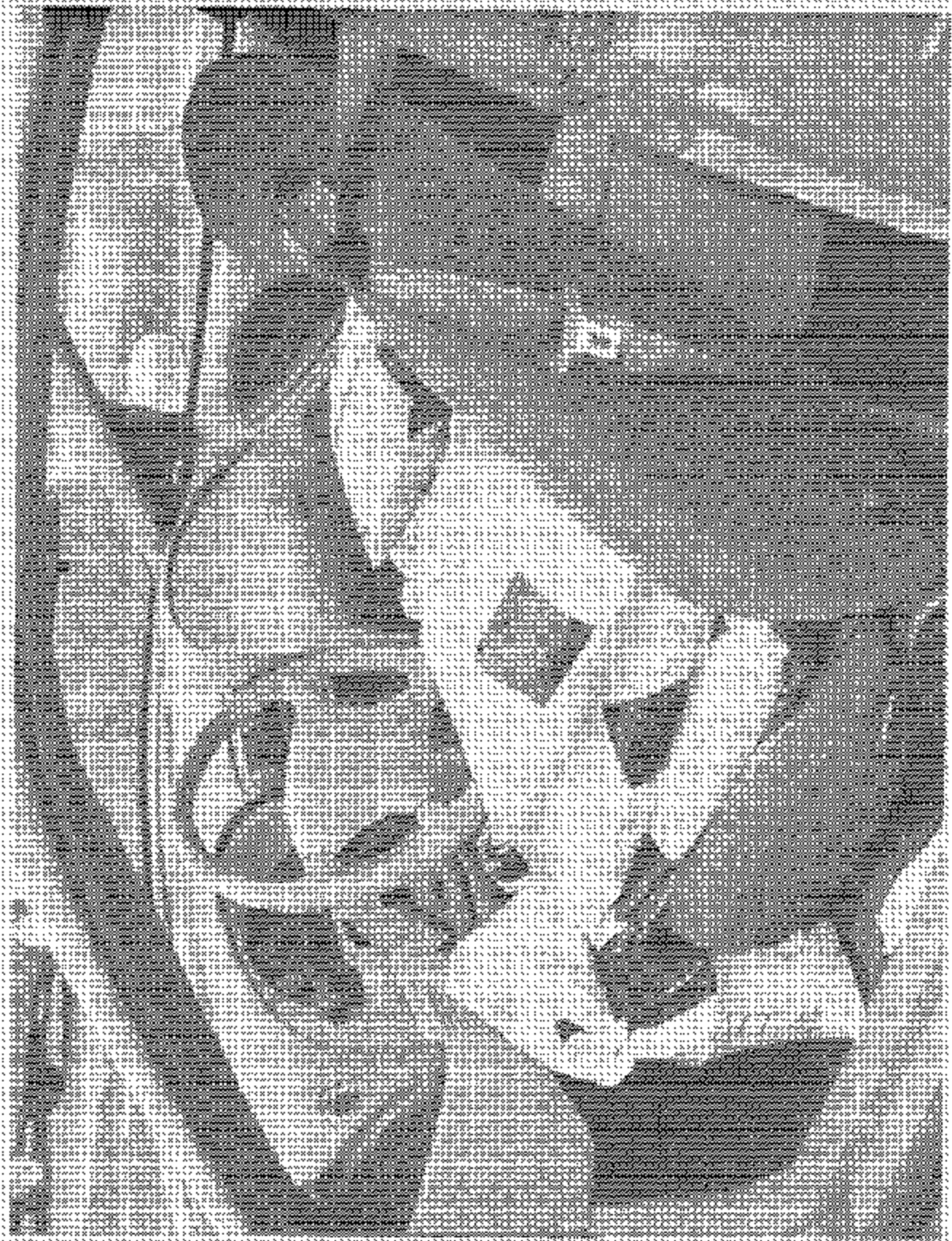
2003 FORD MUSTANG
NHTSA NO. 20021
EPA/SAFETY NO. 110 (MIDCANT)

FORD
FIRE SHOWING MAXIMUM RATING



SCGS PHOTO MISTAKE
NH/SA NO. 01021
PLUSS NO. 110 (DISCANT)

FIGURE 37
THIS SHOWING MAXIMUM INFLATION PRESSURE



2003 FORD MUSTANG
NHTSA NO. 040211
FMVSS NO. 201 (INDICANT)

FIGURE 5B
VEHICLE BALLASTED TO SIMULATE NORMAL
LOAD CONDITION

APPENDIX

Table 1 – Occupant Loading and Distribution for Vehicle Normal Load for Various Designated Seating Capacities

Designated Seating Capacities, numbers of Occupants	Vehicle normal load, number of occupants	Occupant distribution In a normally loaded vehicle
2 through 4	2	2 in front
5 through 10	3	2 in front, 1 in second seat
11 through 15	5	2 in front, 1 in second seat, 1 in third seat, 1 in fourth seat
16 through 22	7	2 in front, 2 in second seat, 2 in third seat, 1 in fourth seat

NOTE: For the indicant test each seat was adjusted to its full down and mid forward to aft position with the seat back adjusted to a 25° reclined angle. Each designated seat position was ballasted with 54 KG (120 LBS) in the seat and 14 KG (30 LBS) on the floor directly in front of the respective seat position.