

637341

REPORT NUMBER 110-GTL-04-004

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

**GENERAL MOTORS CORPORATION
2004 CHEVROLET MALIBU, PASSENGER CAR
NHTSA NO. C40102**

**GENERAL TESTING LABORATORIES, INC.
1623 LEEDSTOWN ROAD
COLONIAL BEACH, VIRGINIA 22443**



SEPTEMBER 1, 2004

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-220)
WASHINGTON, D.C. 20590**

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FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: [Signature]
Acceptance Date: 9/22/04

1. Report No. 110-GTL-04-004	2. Government Accession No. N/A	3. Recipient's Catalog No. N/A	
4. Title and Subtitle Final Report of FMVSS 110 Compliance Testing of 2004 CHEVROLET MALIBU PASSENGER CAR NHTSA No. C40102		5. Report Date September 1, 2004	
		6. Performing Organ. Code GTL	
7. Author(s) Grant Farrand, Project Engineer Debbie Messick, Project Manager		8. Performing Organ. Rep# GTL-DOT-04-110-004	
9. Performing Organization Name and Address General Testing Laboratories, Inc. 1623 Leedstown Road Colonial Beach, Va 22443		10. Work Unit No. (TRAIS) N/A	
		11. Contract or Grant No. DTNH22-01-C-11025	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Admin. Enforcement Office of Vehicle Safety Compliance (NVS-220) 400 7 th Street, S.W., Room 6115 Washington, DC 20590		13. Type of Report and Period Covered Final Test Report July 20-August 2, 2004	
		14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes			
16. Abstract Compliance tests were conducted on the subject 2004 Chevrolet Malibu passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110-02 for the determination of FMVSS 110 compliance. Test failures identified were as follows: NONE			
17. Key Words Compliance Testing Safety Engineering FMVSS 110		18. Distribution Statement Copies of this report are available from NHTSA Technical Information Services (TIS) Room 2336 (NPO-405) 400 7 th St., S.W. Washington, DC 20590 Telephone No. (202) 366-4947	
19. Security Classif. (of this report) UNCLASSIFIED	21. No. of Pages 54	22. Price	
20. Security Classif. (of this page) UNCLASSIFIED			

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SECTION 1

INTRODUCTION

1.0 PURPOSE OF COMPLIANCE TEST

A 2004 Chevrolet Malibu 4-door passenger car was subjected to FMVSS No. 110 testing to determine if the vehicle was in compliance with the requirements of the standard. All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure, TP-110-02 dated 14 December 1989 and General Testing Laboratories, Inc (GTL) Test Procedure, TP-110-02 dated 22 May 2002.

1.1 TEST VEHICLE

The test vehicle was a 2004 Chevrolet Malibu 4-door passenger car. Nomenclature applicable to the test vehicle are:

- A. Vehicle Identification Number: 1G1ZT52814F125082
- B. NHTSA No.: C40102
- C. Manufacturer: GENERAL MOTORS CORPORATION
- D. Manufacture Date: 10/03

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 110 testing during the time period July 20 through August 2, 2004.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 GENERAL

The 2004 Chevrolet Malibu 4-door passenger car, NHTSA No. C40102, was subjected to FMVSS No. 110 testing during the time period July 20 through August 2, 2004.

2.1 TEST PROCEDURE

Prior to test, the test vehicle was inspected for completeness, systems operability and appropriate fuel and liquid levels, i.e., oil and coolant. The vehicle was then photographically documented as required by the DOT/NHTSA and GTL test procedures. Subsequent events included weighing the vehicle to establish delivered curb weight and the distribution of weight on the front and rear axles and each wheel position. The vehicle normal load as well as the maximum load on each wheel were measured. Data from each tire furnished with the vehicle were recorded. The vehicle tire placard was surveyed and photographed. Required dimensional data and other identifying data for the left front and right rear rims were obtained. The contour of the aforementioned rims was documented photographically.

In preparation for the deflated tire retention test, test instrumentation was installed in the vehicle. With the driver aboard, the vehicle was ballasted to equal the "vehicle maximum load on the tire" on the front and rear axle, as previously established. The tire pressure of all tires was adjusted to placard specifications for cold tire inflation at maximum loaded vehicle weight. The deflated tire retention test was then conducted on the left front tire followed by the right rear tire. The tests were conducted with the vehicle traveling in a straight line at 96.6 kph (60 mph). The respective tire was blown by an explosive charge on the tire's sidewall. Test data collected during the test included vehicle speed, deceleration, stopping distance, distance of uncontrolled deviation from a straight line and tire pressure. After the vehicle was stopped, any tire bead separation from the rim flange was documented photographically.

2.2 SUMMARY OF RESULTS

The test vehicle appears to be in compliance with the requirements of FMVSS No. 110.

SECTION 3
TEST DATA

DATA SHEET 1
SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU PASSENGER CAR
VEHICLE NHTSA NO.: C40102 ; VIN: 1G1ZT52814F125082
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 07/20/04

REQUIREMENT

PASS/FAIL

TIRE LOAD LIMITS AND PLACARD

The vehicle is equipped with tires that meet the requirements of FMVSS 109. (FMVSS 110, S4.1)

PASS

The vehicle maximum load on the tire shall not be greater than the applicable maximum load rating as marked on the sidewall of the tire. (FMVSS 110, S4.2.1)

PASS

The vehicle normal load on the tire shall not be greater than the high speed performance test load specified in FMVSS 109 paragraph S5.5. (FMVSS 110, S4.2.2)

PASS

The placard must be permanently affixed to the glove compartment door or equally accessible location; and display the required information. (FMVSS 110, S4.3)

PASS

No inflation pressure other than the maximum permissible inflation pressure is specified unless as required. (FMVSS 110, S4.3.1)

PASS

RIM DIMENSIONS

Each rim shall be constructed to the dimensions of a rim or alternate specified for the tire size. (FMVSS No. 110, S4.4.1 (a))

PASS

DEFLATED TIRE RETENTION

Each rim shall retain the deflated tire until the vehicle can be stopped. (FMVSS 110, S4.4.1(b))

PASS

Statement of indication of compliance or noncompliance to FMVSS 110 and data reference:
THE CHEVROLET MALIBU APPEARS TO COMPLY WITH THE REQUIREMENTS OF FMVSS 110.

REMARKS:

RECORDED BY: *[Signature]*
APPROVED BY: *[Signature]*

DATE: 07/20/04

DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES DATE: 07/20/04

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU

MANUFACTURE DATE: 10/03 NHTSA NO.: C40102 BODY COLOR: TAN

VIN: 1G1ZT52814F125082 VEHICLE TYPE: PASSENGER CAR

GVWR 1914 kg (4221 lbs) GAWR(Fr) 1021 kg (2251 lbs) GAWR(Rr) 893 kg (1970 lbs)

BELTED SEATING POSITIONS: FRONT 2 MID N/A REAR 3 OTHER N/A

ENGINE DATA: 6 Cylinders 3.5 Liters _____ Cubic Inches

TRANSMISSION DATA: X Automatic _____ Manual 4 No. of Speeds

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

INSTALLED TIRE DATA: Size - P205/65R15 Mfr. - BRIDGESTONE

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

<input checked="" type="checkbox"/>	Air Conditioning	<input checked="" type="checkbox"/>	Traction Control	<input checked="" type="checkbox"/>	Clock
<input checked="" type="checkbox"/>	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
<input checked="" type="checkbox"/>	Antilock Brake System	<input checked="" type="checkbox"/>	AM/FM/CD		Other -

REMARKS:

RECORDED BY: *S. Ferrand*

DATE: 07/20/04

APPROVED BY: *D. Merrill*

DATA SHEET 3

CURB WEIGHT WITH OPTIONS, NORMAL LOAD, VEHICLE MAXIMUM LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU PASSENGER CAR

VEHICLE NHTSA NO.: C40102 ; VIN: 1G1ZT52814F125082

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 07/20/04

Full Fluid Levels:

Fuel Full ; Coolant Full ; Other Fluids Full

Tire Pressure: LF 210 KPA (30 psi) LR 210 KPA (30 psi)
RF 210 KPA (30 psi) RR 210 KPA (30 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF 449 KG (989 LB) LR 295 KG (650 LB)
RF 471 KG (1038 LB) RR 265 KG (584 LB)
Front Axle 919 KG (2027 LB) Rear Axle 560 KG (1234 LB)
Total Vehicle 1479 KG (3261 LB)

B. VEHICLE NORMAL LOAD ON THE TIRE

(1) Seating Capacity (from Tire Information Placard) = 5

(2) Normal Load # of Occupants from FMVSS 110, Table I 3

Occupant Distribution: Front Seat- 2 Second Seat- 1
Third Seat - N/A Fourth Seat- N/A

(3) Total Normal Occupant Load 204 KG (450 LB)
(# of occupants x 68 KG per occupant)

(4) Measured Normal Load on Axles

LF 496 KG (1093 LB) LR 350 KG (771 LB)
RF 518 KG (1143 LB) RR 319 KG (704 LB)
Frt Axle 1014 KG (2236 LB) Rr Axle 669 KG (1475 LB)
Total Vehicle 1683 KG (3711 LB)

DATA SHEET 3 – CONTINUED

- (5) Calculated Vehicle Normal Load on the Tire
 Front Tires (measured front axle normal load/2) = 507 KG (1118 LB)
 Rear Tires (measured rear axle normal load/2) = 335 KG (739 LB)

- (6) High Speed Test Load from FMVSS 109 (S5.5)

	Front	Rear
Installed Tire Size	<u>P205/65R15</u>	<u>P205/65R15</u>
Max. Load Rating on Sidewall	<u>635 KG(1400 LBS)</u>	<u>635 KG(1400 LBS)</u>
High Speed Test Load (88% of sidewall max. load rating)	<u>559 KG(1232 LBS)</u>	<u>559 KG(1232 LBS)</u>
Optional Tire Size(s)	<u>N/A</u>	<u>N/A</u>
Max. Load Rating on Sidewall (Obtain from approved reference manual)	<u>N/A</u>	<u>N/A</u>
High Speed Test Load (88% of sidewall max. load rating)	<u>N/A</u>	<u>N/A</u>

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

Installed Tires; [(5) < (6)]	Front Tires Rear Tires	<u>PASS/FAIL</u> <u>PASS</u> <u>PASS</u>
Optional Tires; [(5) < (6)]	Front Tires Rear Tires	<u>N/A</u> <u>N/A</u>

C. MEASURED VEHICLE WITH FULL OCCUPANT LOAD

LF <u>506 KG (1116 LB)</u>	LR <u>399 KG (879 LB)</u>
RF <u>539 KG (1188 LB)</u>	RR <u>376 KG (828 LB)</u>
Front Axle <u>1045 KG (2304 LB)</u>	Rear Axle <u>774 KG (1707 LB)</u>
Total Vehicle <u>1819 KG (4011 LB)</u>	

DATA SHEET 3 – CONTINUED

D. VEHICLE MAXIMUM LOAD ON THE TIRE

(1) Vehicle Capacity Weight (from Placard) 416 KG (917 LB)

(2) Seating Capacity(from Placard) 5

(3) Total Occupant Load (seating capacity x 68 KG) 340 KG (750 LB)

(4) Luggage/Cargo Load (Subtract (3) from (1)) 76 KG (167 LB)

(5) Measured Maximum Load on Axles

LF	<u>507 KG (1118 LB)</u>	LR	<u>446 KG (984 LB)</u>
RF	<u>530 KG (1169 LB)</u>	RR	<u>411 KG (907 LB)</u>
Frt Axle <u>1037 KG (2287 LB)</u>		Rr Axle <u>858 KG (1891 LB)</u>	
Total Vehicle <u>1895 KG (4178 LB)</u>			

(6) Calculated Vehicle Maximum Load on the Tire

Front Tires (measured front axle max. load/2)= 519 KG (1144 LB)

Rear Tires (measured rear axle max. load/2)= 429 KG (946 LB)

(7) Maximum Load Rating on Tire Sidewall (obtain data from B.(6))

	Front	Rear
Installed Tire Size	<u>P205/65R15</u>	<u>P205/65R15</u>
Max. Load Rating on Sidewall	<u>635 KG (1400 LBS)</u>	<u>635 KG (1400 LBS)</u>
Optional Tire Size(s)	<u>N/A</u>	<u>N/A</u>
Max Load Rating on Sidewall (obtain from approved reference manual)	<u>N/A</u>	<u>N/A</u>

Vehicle Maximum Load on the Tire is not greater than the Maximum Load Rating Marked on the Tire Sidewall

Installed Tires; [(6) < (7)]	Front Tires	<u>PASS/FAIL</u>
	Rear Tires	<u>PASS</u>
Optional Tires; [(6) < (7)]	Front Tires	<u>N/A</u>
	Rear Tires	<u>N/A</u>

DATA SHEET 3 - CONTINUED

E. VEHICLE LOAD ON THE TIRE FOR OTHER DISPLAYED LOAD AND TIRE INFLATION PRESSURE CONDITIONS

(1) Condition Description (Load, Tire Size, Inflation Pressure)
Vehicle at maximum load of 416 kg (917 lbs) with P205/65R15 tire at 210 kPa (30 psi) on tire label.

(2) Condition Load on Tire/Axle

LF	<u>507</u>	KG (1118	LB)	LR	<u>446</u>	KG (984	LB)
RF	<u>530</u>	KG (1169	LB)	RR	<u>411</u>	KG (907	LB)
Frt Axle <u>1037KG (2287 LB)</u>				Rr Axle <u>858 KG (1891 LB)</u>			

Total Vehicle 1895 KG (4178 LB)

(3) Load Rating of Tire at Recommended Inflation Pressure

	Front	Rear
Displayed Tire Size	<u>P205/65R15</u>	<u>P205/65R15</u>
Recommended Inflation Pressure	<u>210 kPa (30 psi)</u>	<u>210kPa (30 psi)</u>
Tire Load Rating (obtained from 2004 Tire and Rim Association Yearbook)	<u>593 KG (1307 LBS)</u>	<u>593 KG (1307 LBS)</u>

Vehicle Load on the Tire is not greater than the Tire Load Rating at the Tire Recommended Inflation Pressure

	PASS/FAIL
Front Tires [(2) < (3)]	<u>PASS</u>
Rear Tires [(2) < (3)]	<u>PASS</u>

NOTE: Section E should be repeated for every different load/tire inflation pressure condition displayed.

REMARKS:

RECORDED BY: [Signature]

DATE: 07/20/04

APPROVED BY: [Signature]

DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU PASSENGER CAR
 VEHICLE NHTSA NO.: C40102 ; VIN: 1G1ZT52814F125082
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 07/20/04

	PASS/FAIL
A. Description of Placard: <u>Self Adhesive decal</u>	<u>Pass</u>
B. Description of Placard Location: <u>Bottom of Driver's Door "B" pillar</u>	<u>Pass</u>
Permanently Affixed <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
C. Enter Information from Placard:	
Vehicle Capacity Weight - <u>416 KG (917 LBS)</u>	
Designated Seating Capacity (DSC) - <u>5</u>	<u>Pass</u>
Expressed In—	
(1) Total No. of Occupants <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
(2) Terms of Occupants for Each Seat Location <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<u>Pass</u>
Manufacturer's Recommended Cold Tire Inflation Pressure for Maximum Load Vehicle Weight:	
FRONT - <u>210 kPa (30 psi)</u>	REAR - <u>210 kPa (30 psi)</u>
All Other Recommended Inflation Pressures: <u>None</u>	
All Other Recommended Loading Conditions: <u>None</u>	
Manufacturer's Recommended Size Designation: <u>P205/65R15</u>	
All Other Manufacturer's Recommended Size Designation: <u>None</u>	
DATA CORRECTLY DISPLAYED	<u>Pass</u>

DATA SHEET 4 continued

PASS/FAIL

D. For Every Inflation Pressure Listed Above Indicate:

(1)	Less than Maximum?	(YES/NO)	<u>Yes</u>	<u>Pass</u>
(2)	Loading Condition Stated?	(YES/NO)	<u>Yes</u>	<u>Pass</u>

DATA INDICATES COMPLIANCE (X) YES () NO

REMARKS:

RECORDED BY: *[Signature]*

DATE: 07/20/04

APPROVED BY: *[Signature]*

DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU PASSENGER CAR
 VEHICLE NHTSA NO.: C40102 ; VIN: 1G1ZT52814F125082
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 07/20/04

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

INFORMATION FROM TIRE SIDEWALL:

	Front Axle (R.F. Tire)	Rear Axle (L.R. Tire)	Spare
Tire Size Designation	<u>P205/65R15</u>	<u>P205/65R15</u>	<u>T125/70D15</u>
Tire Load Index/Speed Symbol	<u>92-S</u>	<u>92-S</u>	<u>92-M</u>
Maximum Inflation Pressure	<u>300 kPa (44 psi)</u>	<u>300 kPa (44 psi)</u>	<u>420 kPa(60psi)</u>
Maximum Load Rating	<u>635 KG (1400 LBS)</u>	<u>635 KG(1400 LBS)</u>	<u>690KG(1521LB)</u>
Mfr. Name or Brand & Code	<u>BRIDGESTONE</u>	<u>BRIDGESTONE</u>	<u>GOODYEAR</u>
Tube or Tubeless	<u>Tubeless</u>	<u>Tubeless</u>	<u>Tubeless</u>
Treadwear/Traction/Temp. Grades	<u>360-B-B</u>	<u>360-B-B</u>	<u>N/A</u>
Sidewall (Plies & Composition)	<u>1 polyester</u>	<u>1 polyester</u>	<u>1 polyester</u>
Tread (Plies & Composition)	<u>1 polyester</u> <u>2 steel</u>	<u>1 polyester</u> <u>2 steel</u>	<u>2 nylon</u>
Serial Number:	Left Front - <u>DOT OBUR-B41-3803</u>	Right Front - <u>DOT OBUR-B41-3803</u>	
	Left Rear - <u>DOT OBUR-B41-3803</u>	Right Rear - <u>DOT OBUR-B41-3803</u>	
	Spare - <u>DOT PCPY-H9EP-3303</u>		

Tires have "DOT" markings: (X) YES () NO

REMARKS:

RECORDED BY:  DATE: 07/20/04

APPROVED BY: 

DATA SHEET 6
RIM DIMENSIONS

VEHICLE MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU PASSENGER CAR

VEHICLE NHTSA NO.: C40102 ;VIN: 1G1ZT52814F125082

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 07/20/04

A. Rim Size & Flange

	Tire Size	Specfd. Rims	Measured Width of Rims	Measured Height of Rims	PASS/ FAIL
Right Front:	<u>P205/65R15</u>	<u>5.5 to 7.5 J x 15</u>	<u>6.5"</u>	<u>15"</u>	<u>Pass</u>
Left Rear:	<u>P205/65R15</u>	<u>5.5 to 7.5 J x 15</u>	<u>6.5"</u>	<u>15"</u>	<u>Pass</u>

REFERENCE USED: 2004 Tire and Rim Association Yearbook

B. Trade Stamps, Marks, Symbols: #9594223, HUNGARY, C#0708031

Rim Manufacturer's Name or Label: GM

Other Rim/Wheel Marking: 15 x 6.5 JX 41.0, SF1M, DOT-T,

Rim Inspection Comments: None

Tire Inspection Comments: None

Wheel/Rim Construction (i.e., welded, one piece, cast, deep dish, etc.)

One piece cast aluminum

DATA INDICATES COMPLIANCE: YES NO

REMARKS:

RECORDED BY: *S. Fernandez*

DATE: 07/20/04

APPROVED BY: *D. Messel*

DATA SHEET 7
DEFLATED TIRE RETENTION

VEHICLE MAKE/MODEL/BODY STYLE: 2004 CHEVROLET MALIBU PASSENGER CAR

VEHICLE NHTSA NO.: C40102 ;VIN: 1G1ZT52814F125082

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 07/30/04

Tire Pressures: (cold)	LF	<u>210</u>	kPa (30 psi)	LR	<u>210</u>	kPa (30 psi)
	RF	<u>210</u>	kPa (30 psi)	RR	<u>210</u>	kPa (30 psi)

Test Weight (should be the same weight and distribution recorded on Data Sheet 3 Section D.5.

LF	<u>525</u>	kg (1158 lb)	LR	<u>413</u>	kg (911 lb)
RF	<u>528</u>	kg (1165 lb)	RR	<u>425</u>	kg (937 lb)
Front Axle	<u>1054</u>	kg (2323 lb)	Rear Axle	<u>838</u>	kg (1848 lb)

TOTAL VEHICLE 1892 kg (4171 lb)

Description of Weight Distribution: Sand bags in front passenger seat, rear seat and trunk.

A. Retention Test Left Front:

Odometer (START): 1893 km (1176 miles) Fuel Level: Full

Tire Pressure: 210 kPa (30 psi)

Ambient Temperature: 26.8 degrees C (84 F)

Wind Speed: 6.4 kmph (4.0 mph)

Size of Deflation Opening: 2.5 cm (1.0 in.) in diameter

Speed: 95.9 kmph (59.6 mph)

Deceleration Rate: 2.13 mpsps avg. (7 fpsps)

Distance Traveled After Initial Release of Air: 169 m (554 ft)

Distance of Deviation: < .3 m (<1 ft)

Description of Bead Separation, Outboard: None

Description of Bead Separation, Inboard: Inboard bead came loose and moved in on rim but tire did not rotate on rim.

DATA SHEET 7 continued
DEFLATED TIRE RETENTION

B. Retention Test Right Rear:

Odometer (START): 1897 km (1179 miles) Fuel Level: Full

Tire Pressure: 210 kPa (30 psi)

Ambient Temperature: 29.4 degrees C (85 F)

Wind Speed: 6.4 kmph (4 mph)

Size of Deflation Opening: 2.5 cm (1.0 in.) in diameter

Speed: 95.8 kmph (59.5 mph)

Deceleration Rate: 1.83 mpsps avg. (6 fpsps)

Distance Traveled After Initial Release of Air: 232 m (761 ft)

Distance of Deviation: <.3 m (<1 ft)

Description of Bead Separation, Outboard: None

Description of Bead Separation, Inboard: None

NOTE: No rotation of tire on rim

C. REMARKS: (Stability, Control, Suspension, etc.)

Good control, normal stopping

PASS/FAIL

Left Front

Pass

Right Rear

Pass

DATA INDICATES COMPLIANCE: (X) YES () NO

REMARKS:

RECORDED BY: [Signature]

DATE: 07/30/04

APPROVED BY: [Signature]

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 #2 199744RF #3 199744LR #4 199744RR	199744LF 199744RF 199744LR 19974RR	07/04 07/04 07/04 07/04	07//05 07//05 07//05 07//05
PRESSURE TRANSDUCER	BLH	D-HF #65409	BEFORE USE	BEFORE USE
SURFACE LEVEL	STANLEY	641186	02/04	02/05
DATA ACQUISITION COMPUTER	GEO1	N/A	BEFORE USE	BEFORE USE
ANEMOMETER	HASTINGS	RM-1	05/04	05/05
SLIP RING ASSEMBLY	GTL	N/A	BEFORE USE	BEFORE USE
DECELEROMETER	GTL	N/A	BEFORE USE	BEFORE USE
INCLINOMETER	STARRETT	002	02/04	02/05
VBOX	RACELOGIC	VB2 #004337		

SECTION 5
PHOTOGRAPHS

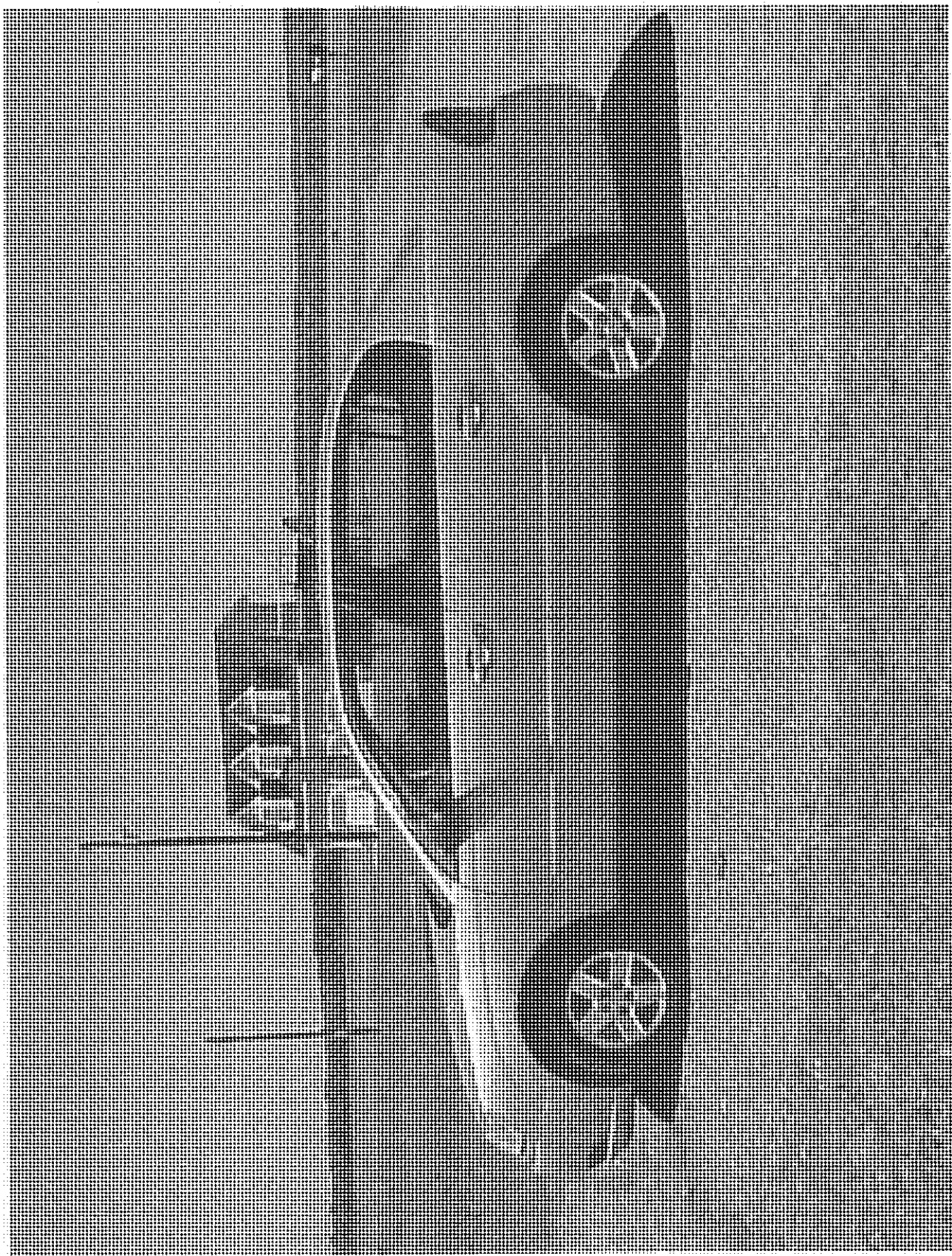


FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

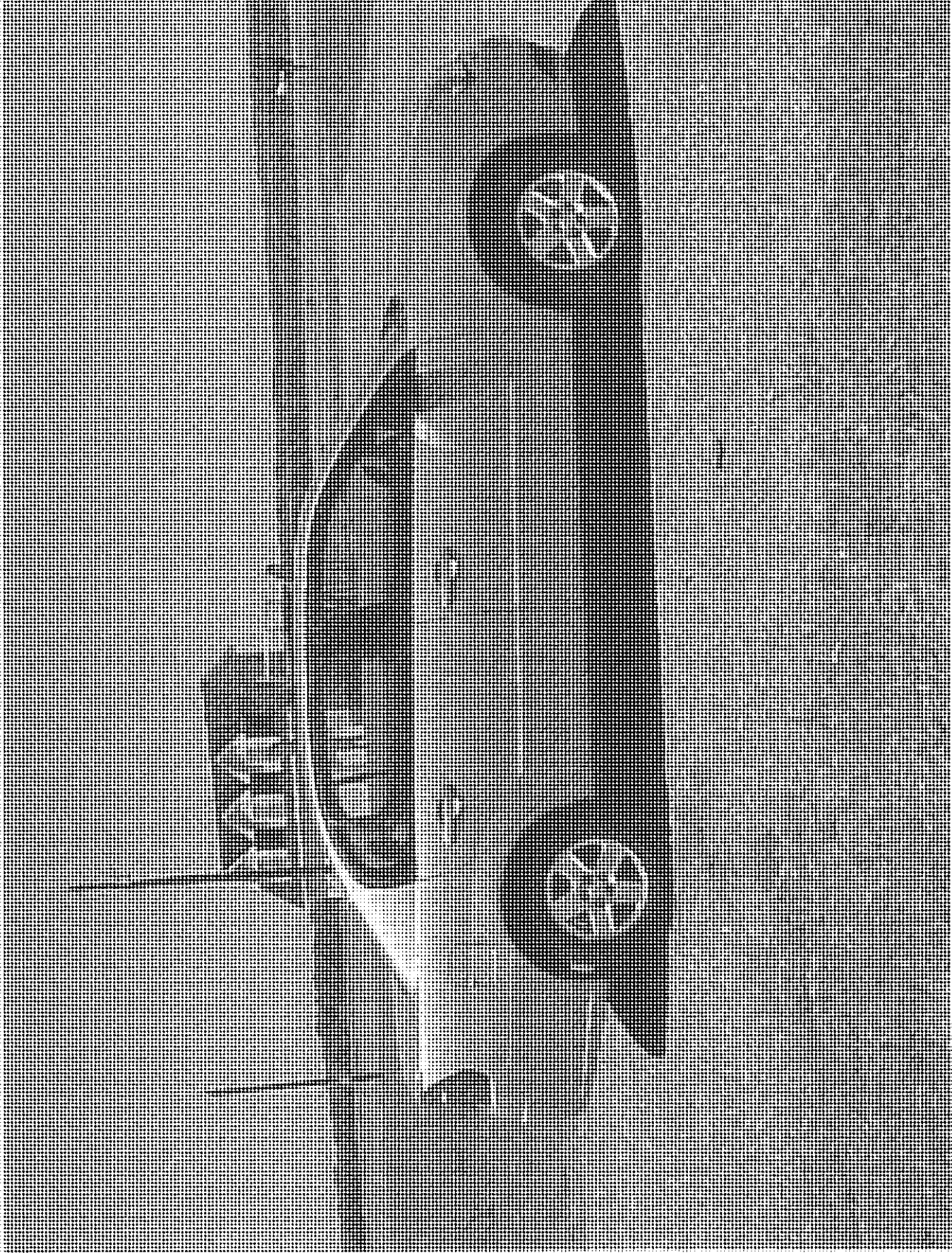
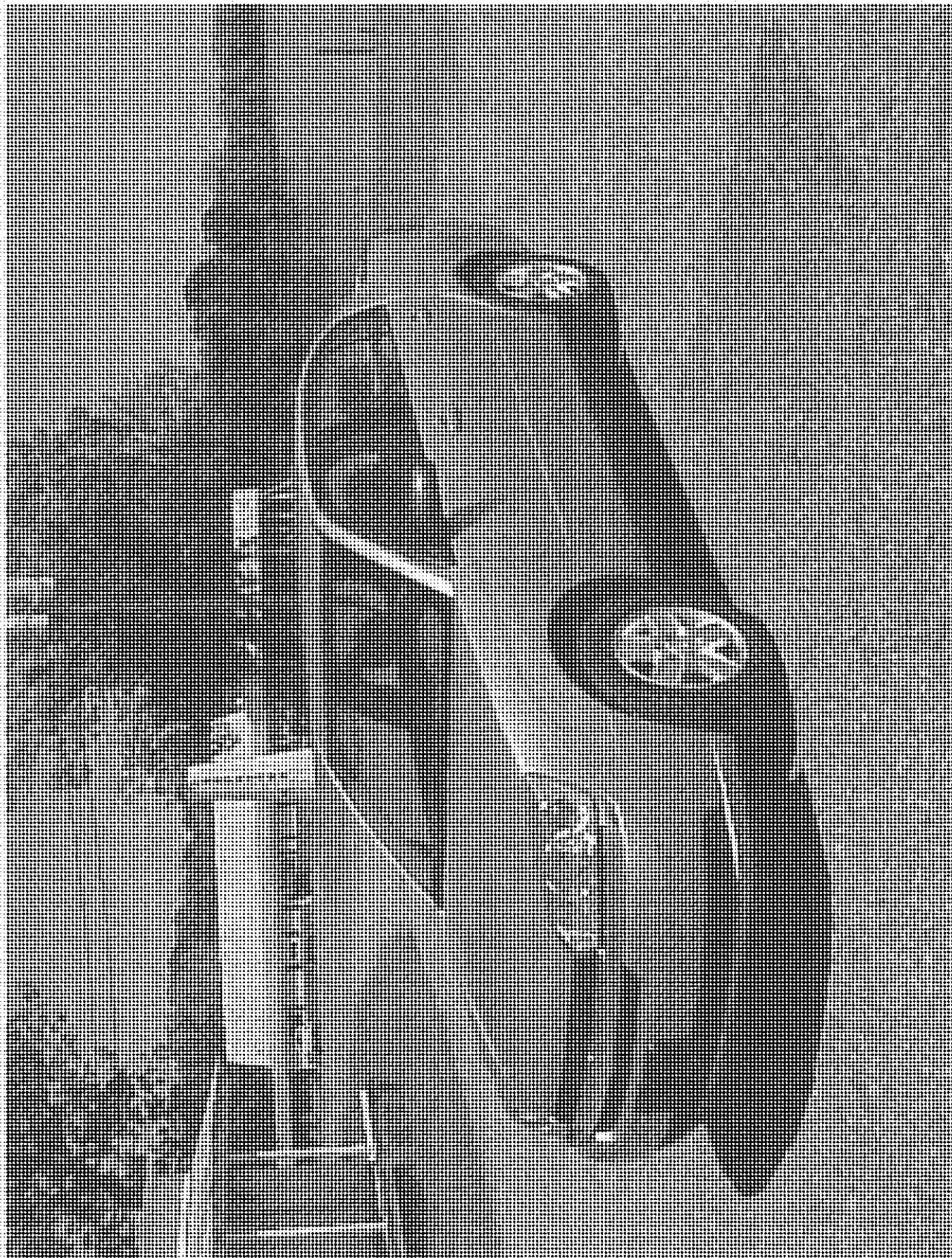


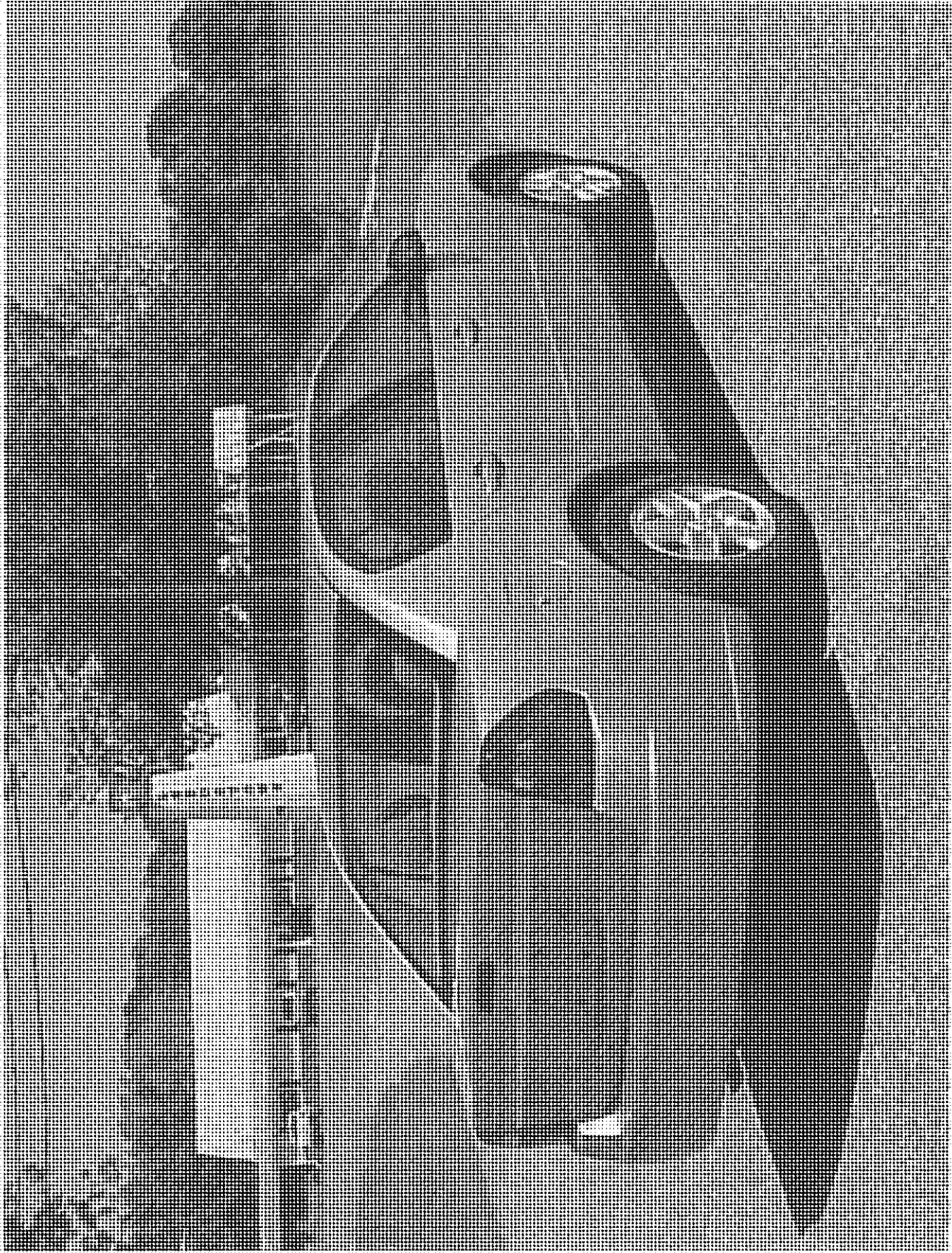
FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



2004 CHEVROLET MALIBU
NHFTA NO. C40102
FMVSS NO. 110

FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF
VEHICLE



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF
VEHICLE

2004 CHEVROLET MALIBU

RECOMMENDED TIRE SIZE AND TIRE INFORMATION

TIRE SIZE	INFLATION PRESSURE	
	FRONT	REAR
FRONT	35 PSI	35 PSI
REAR	35 PSI	35 PSI
SPARE	35 PSI	35 PSI

2004 CHEVROLET MALIBU
 NHTSA NO. C40102
 FMVSS NO. 110

FIGURE 5-8
 VEHICLE TIRE INFORMATION LABEL

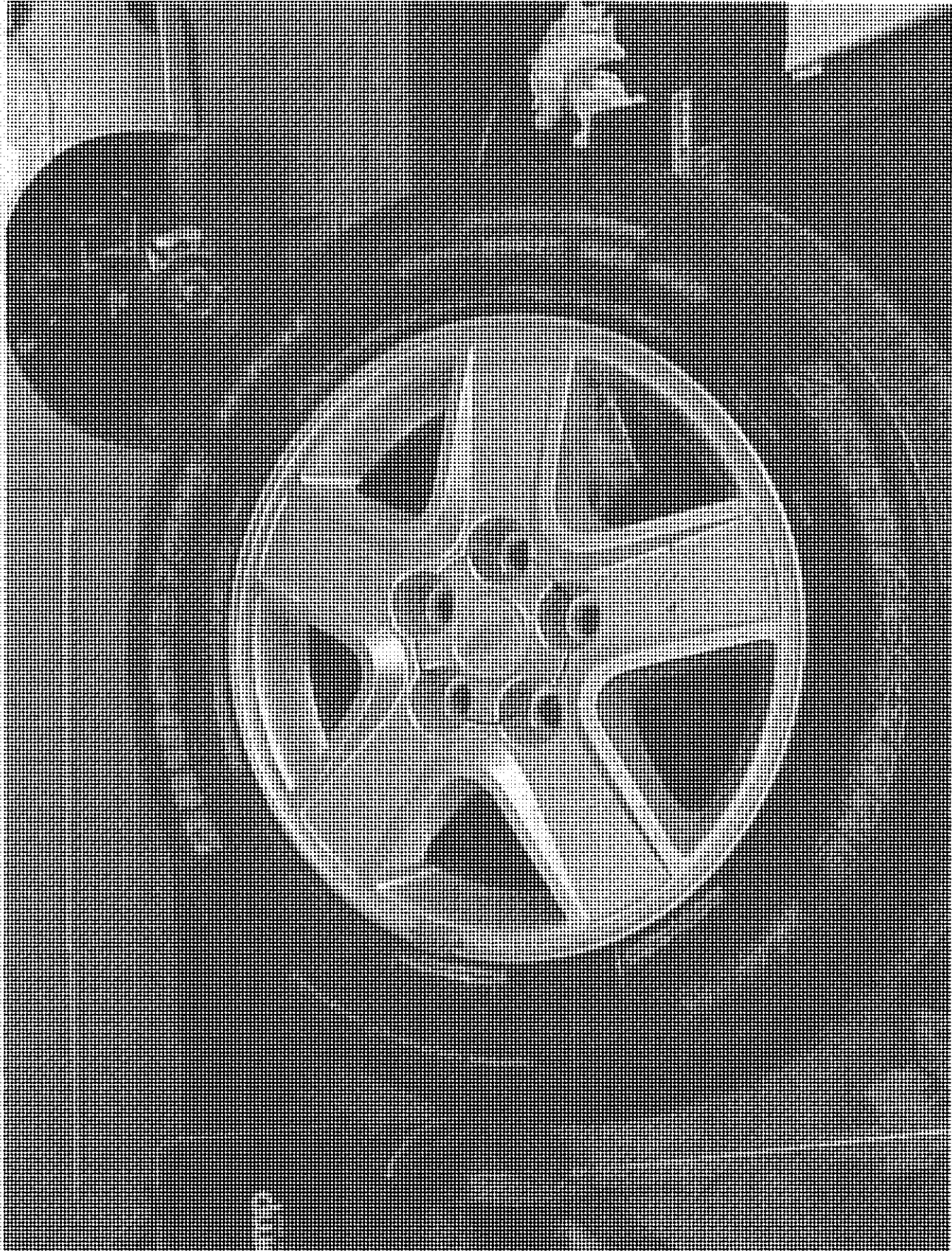
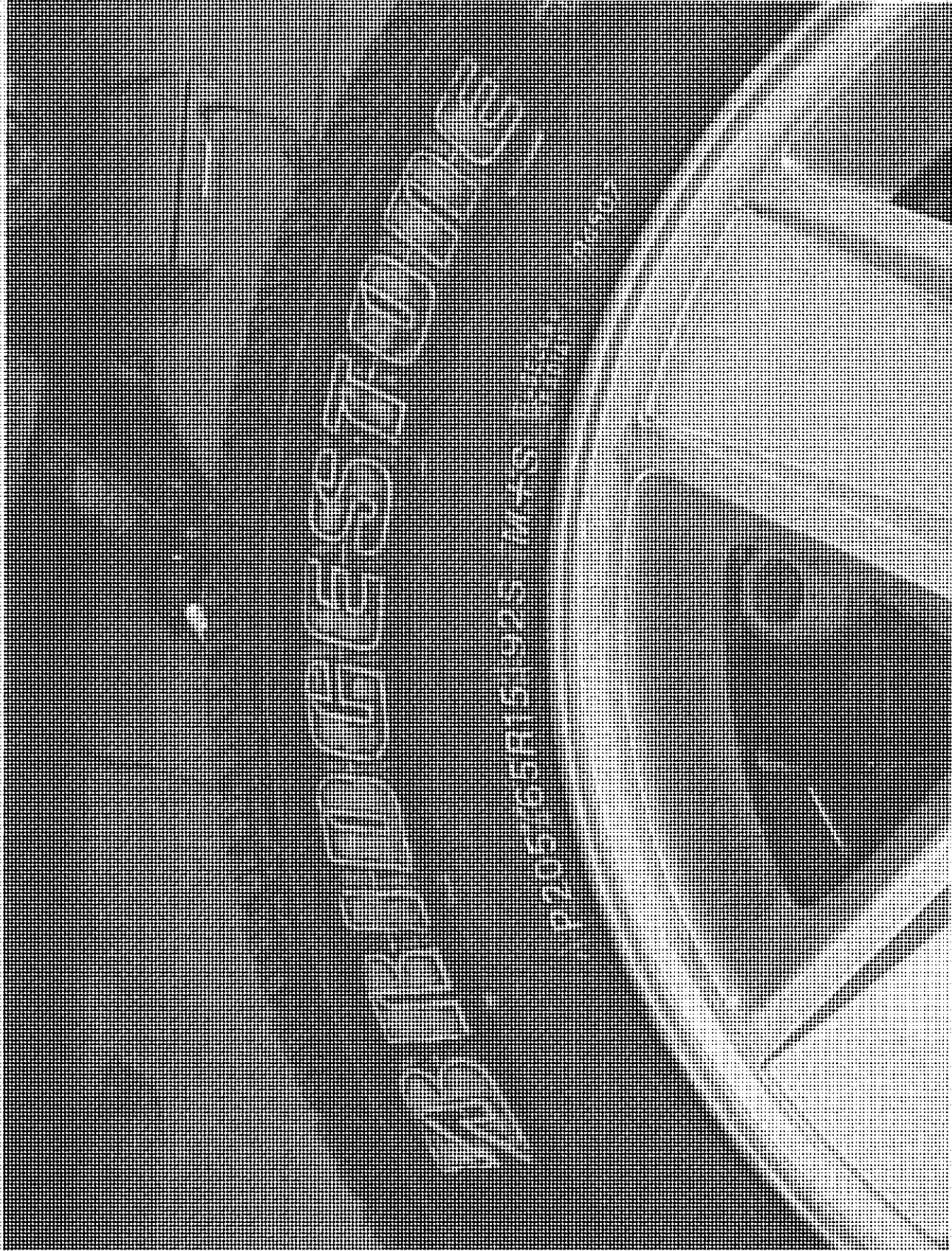


FIGURE 6.7
TIRE AND RIM

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



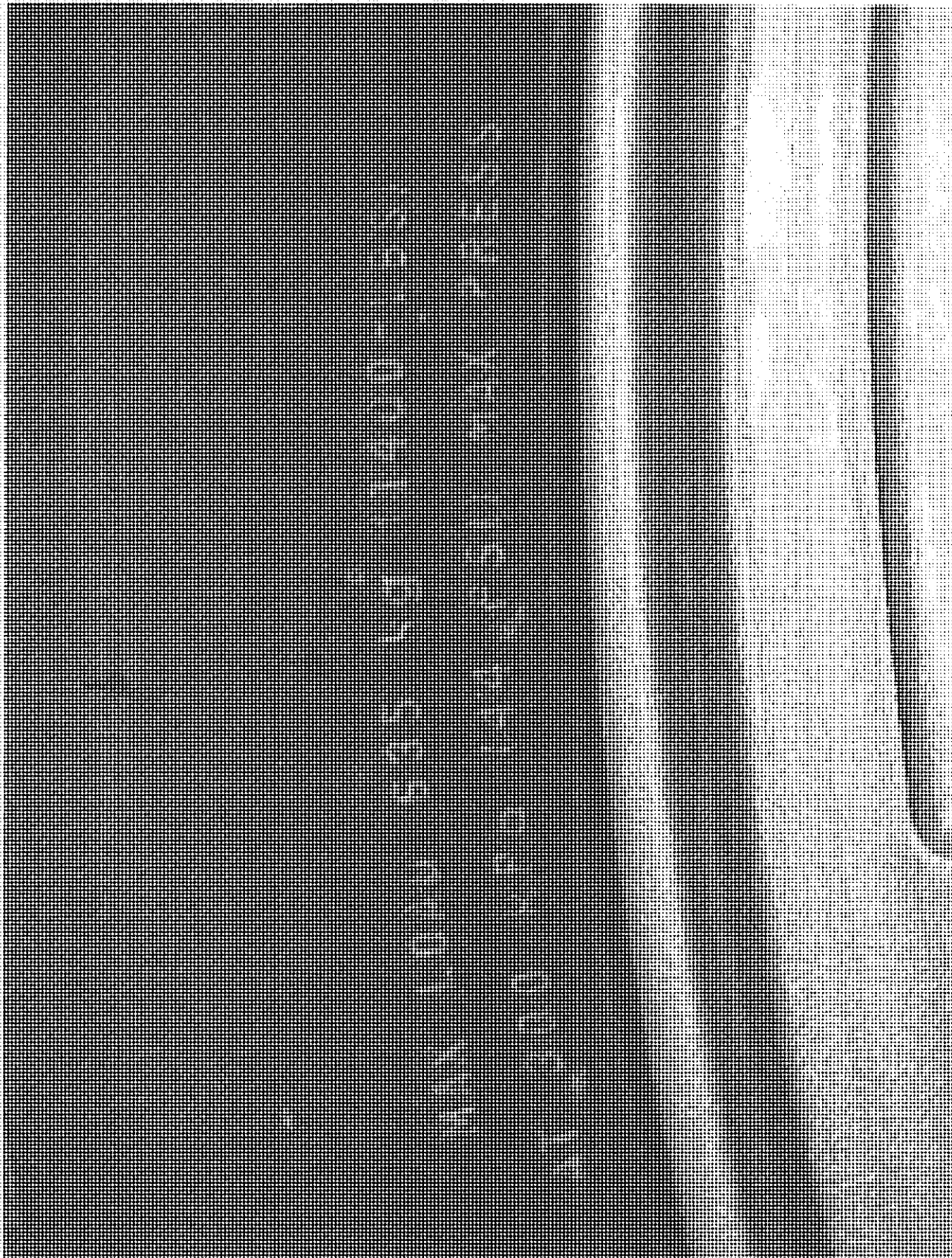
2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.8
TIRE SHOWING MANUFACTURER, SIZE,
SPEED RATING AND LOAD INDEX



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.9
TIRE SHOWING MODEL



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.10
TIRE SHOWING MAX LOAD RATING AND
MAX INFLATION PRESSURE

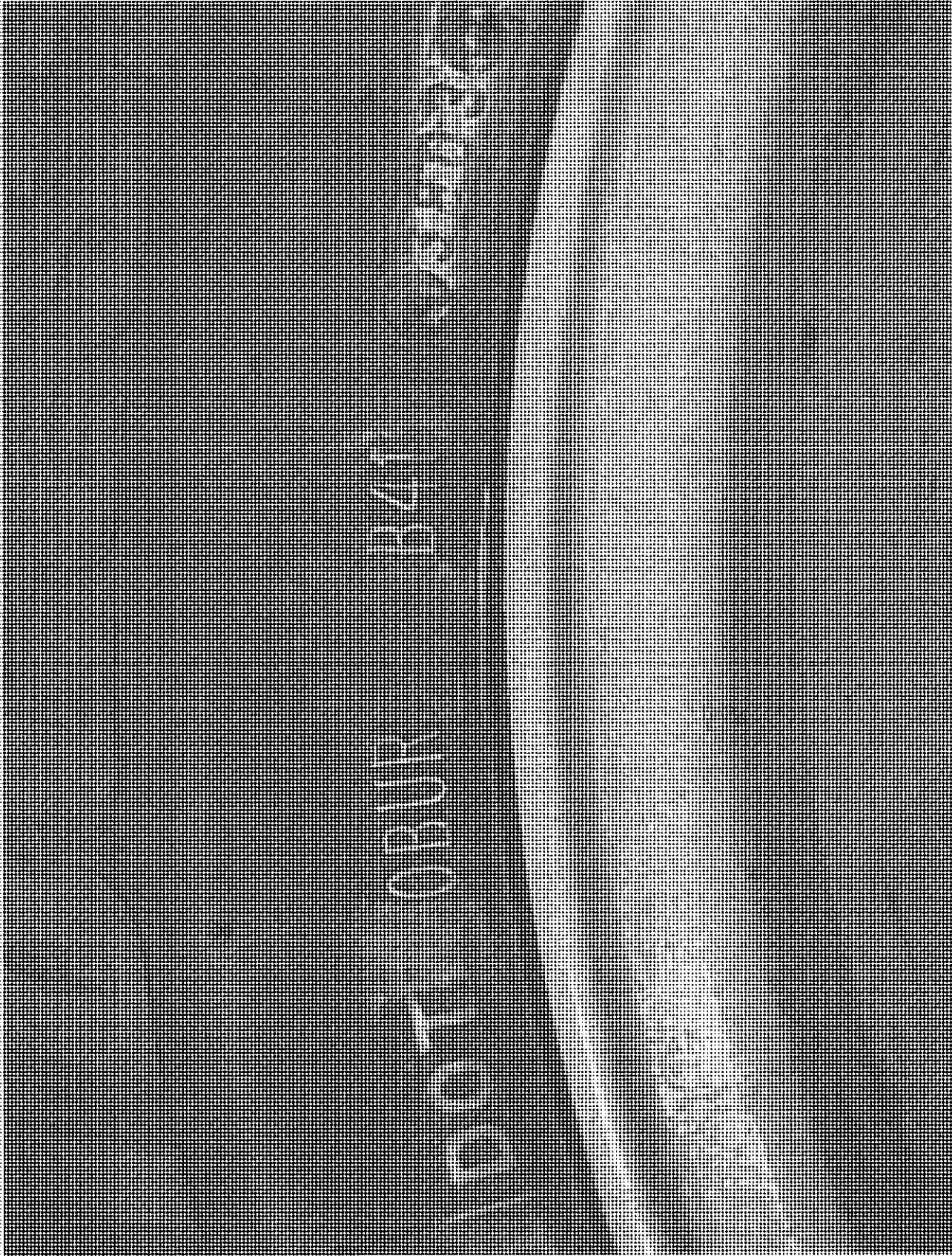
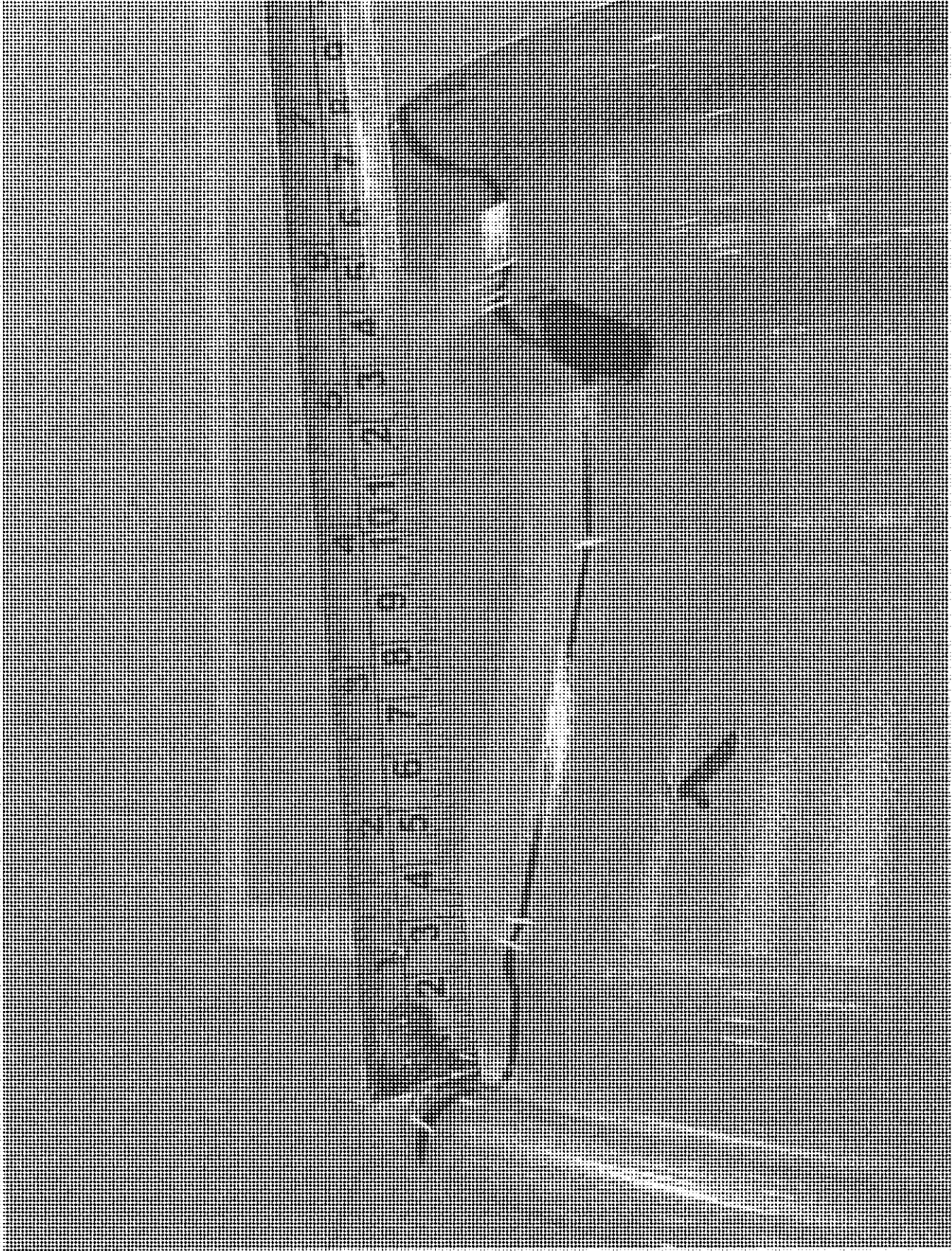


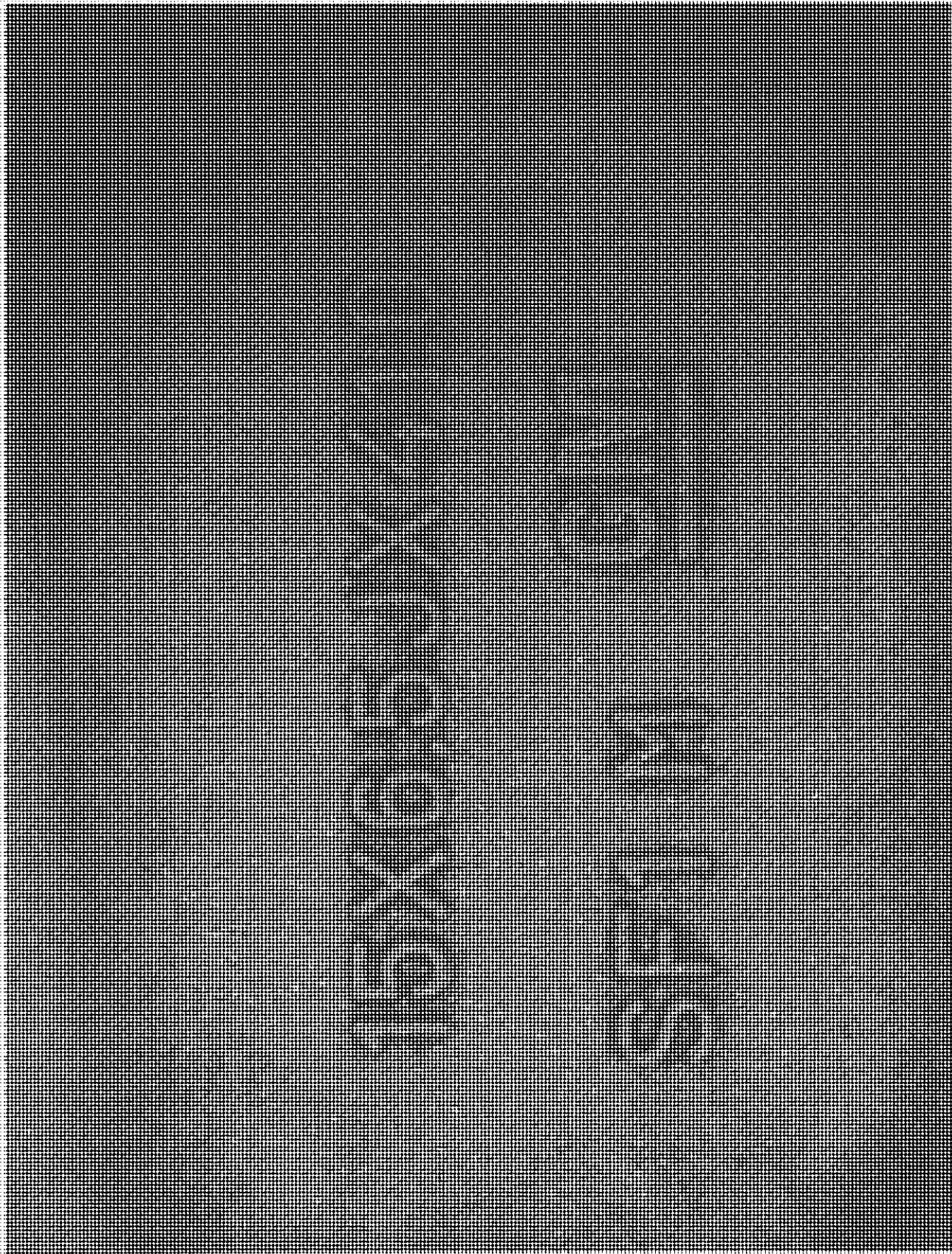
FIGURE 5.11
TIRE SHOWING SERIAL NUMBER

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



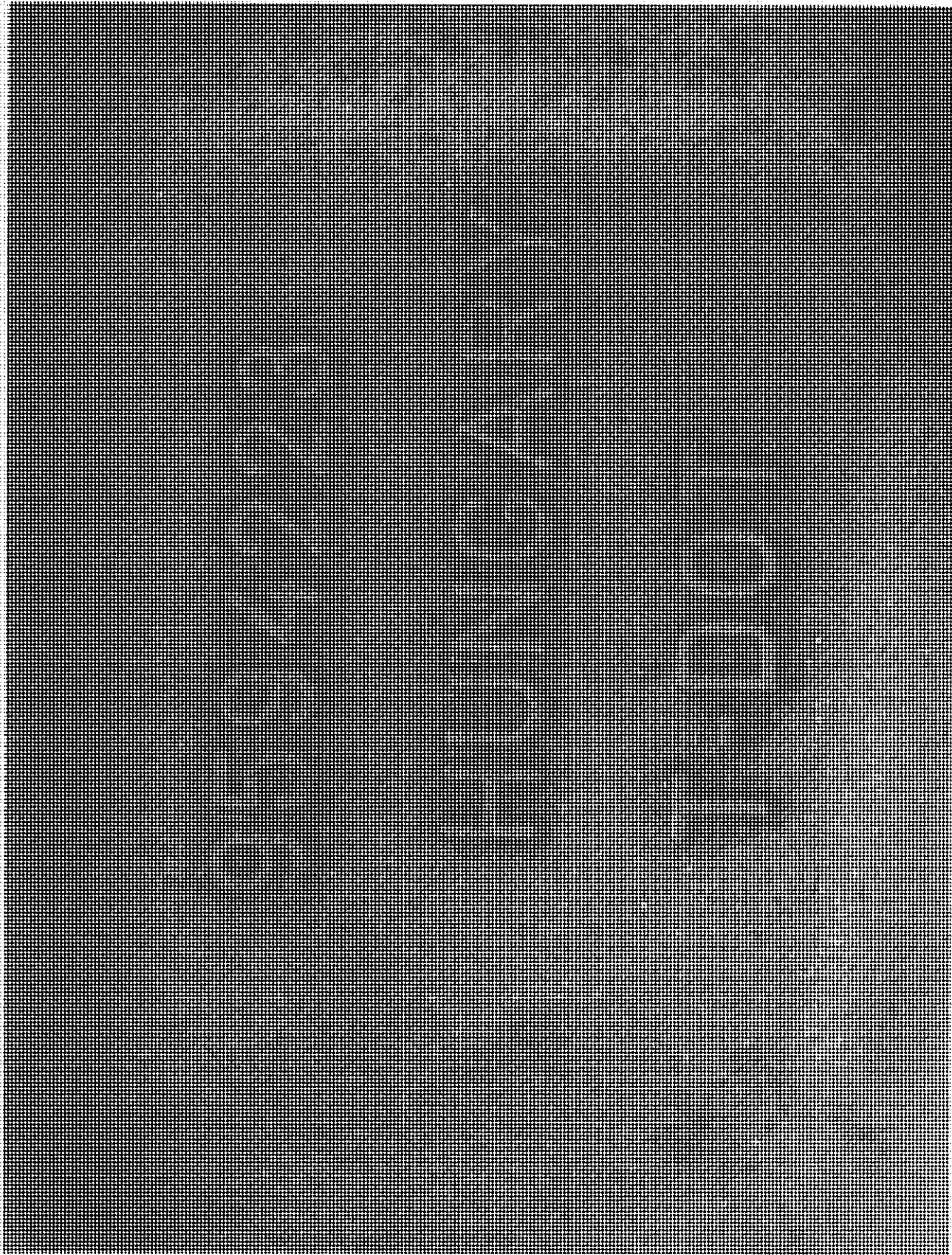
2006 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.12
VIEW OF RIM CONTOUR



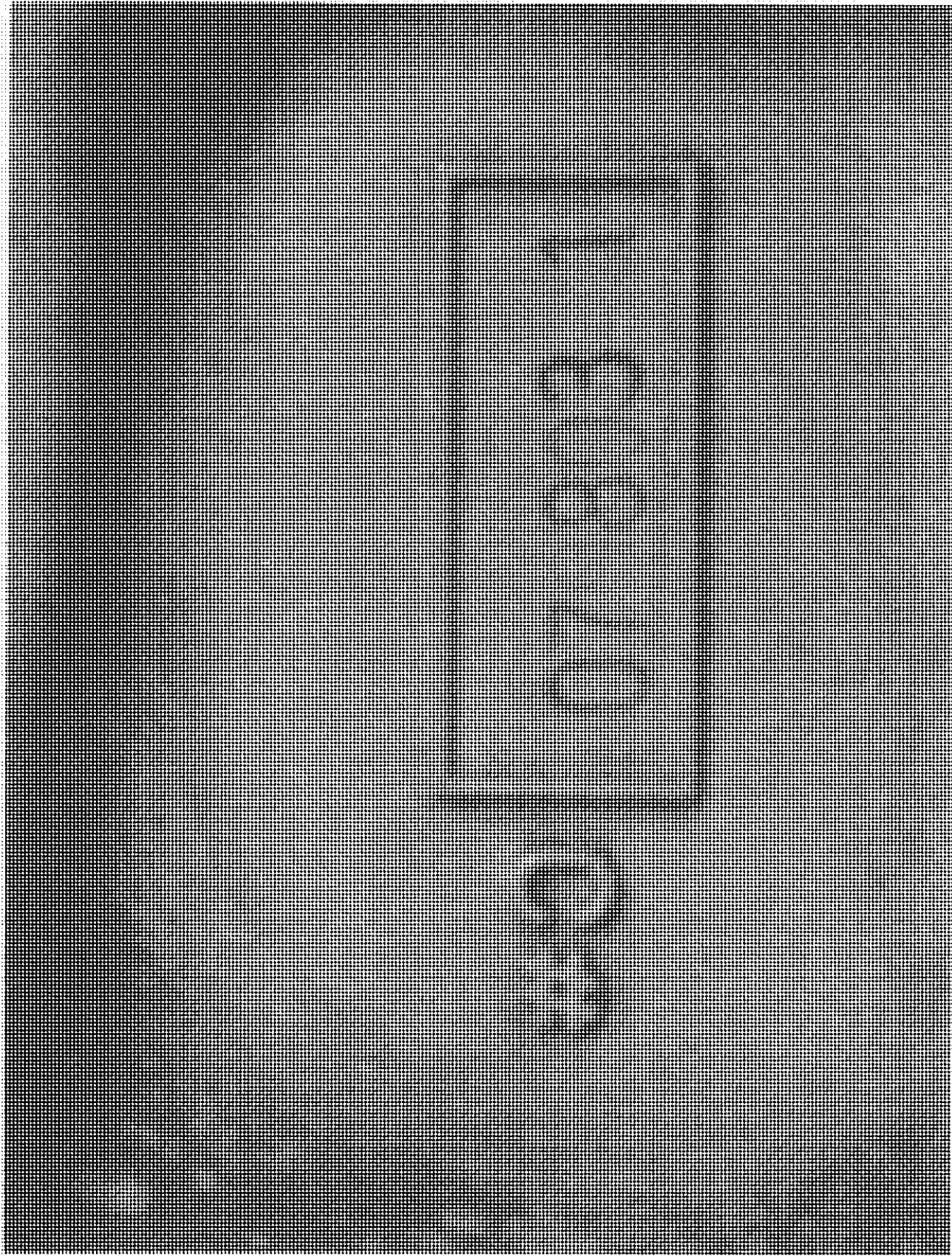
2004 CHEVROLET MALIBU
NHFTA NO. C40102
FMVSS NO. 110

FIGURE 5.13
RIM MARKING (SIZE & MANUFACTURER)



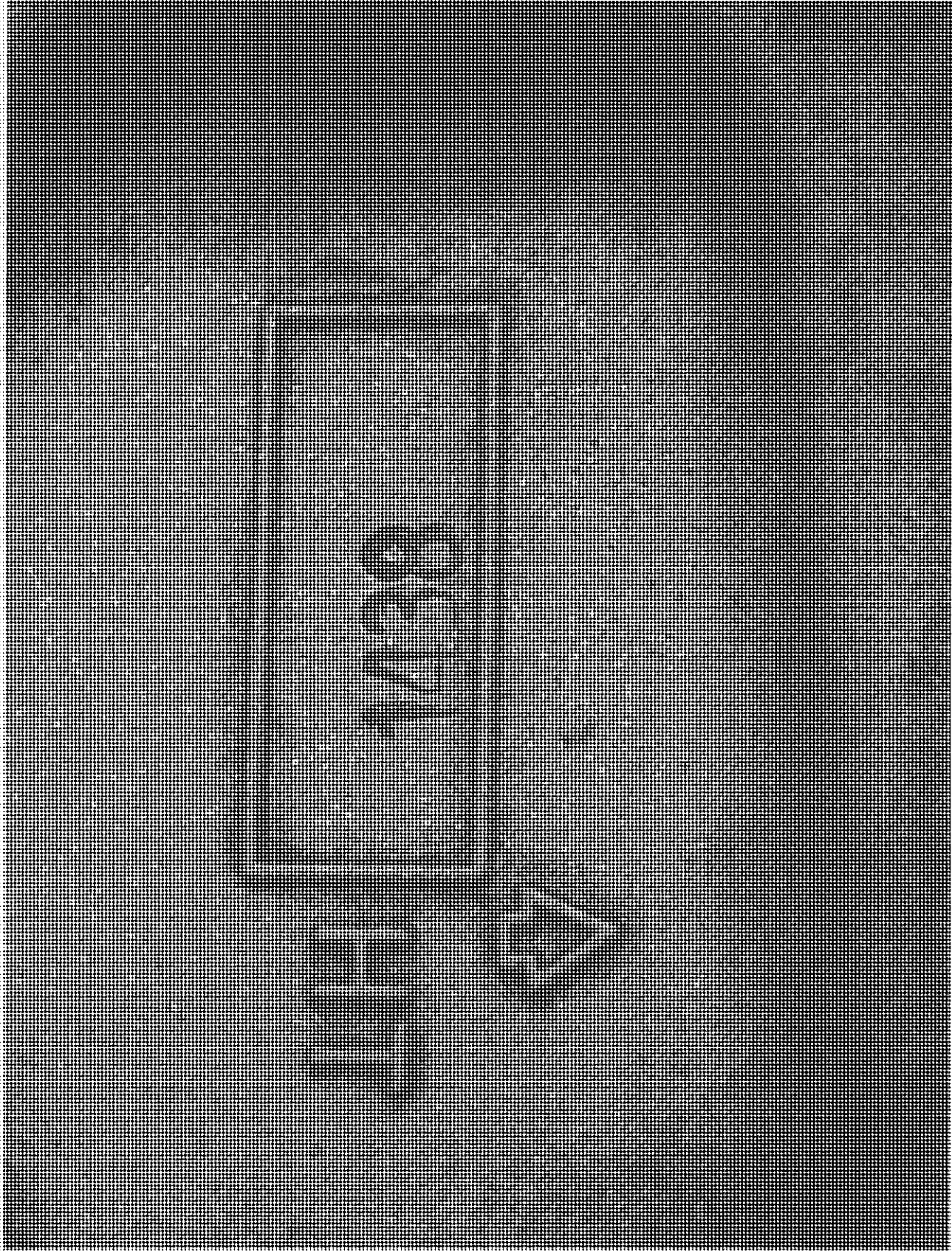
2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.14
RIM SHOWING DOT AND PART NUMBER



2004 CHEVROLET MALIBU
NHTSA NO. C410102
FMVSS NO. 110

FIGURE 5.15
RIM SHOWING DATE CODE



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5-18
RIM SHOWING SERIAL NUMBER

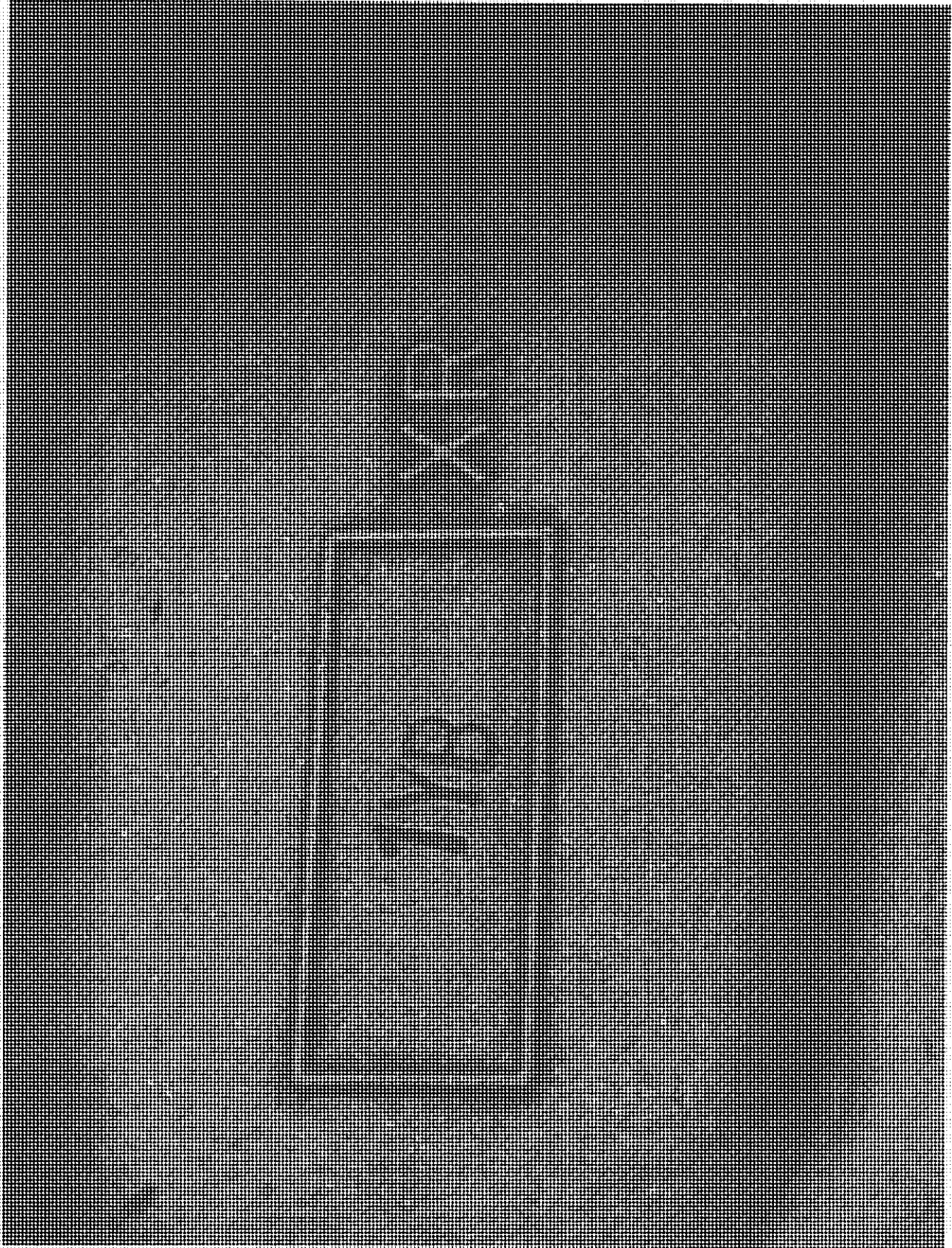


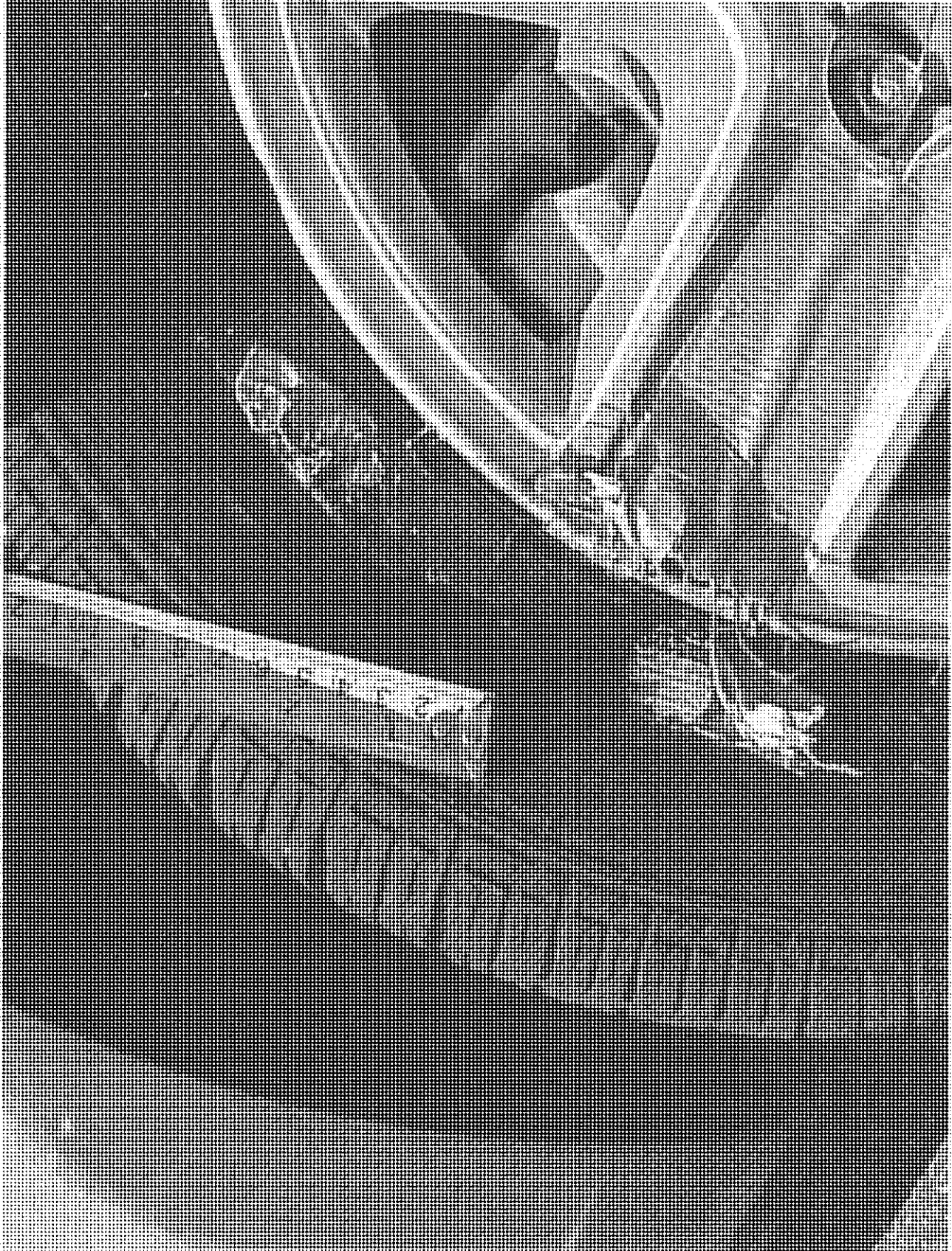
FIGURE 5.17
RIM MARKINGS

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



FIGURE 5.18
SPARE TIRE AND MARKINGS

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



2004 CHEVROLET MALIBU
NHTSA NO. C-40102
FMVSS NO. 119

FIGURE 5.19
LEFT FRONT TIRE AFTER BLOW-OUT
WITH RULER NEXT TO HOLE

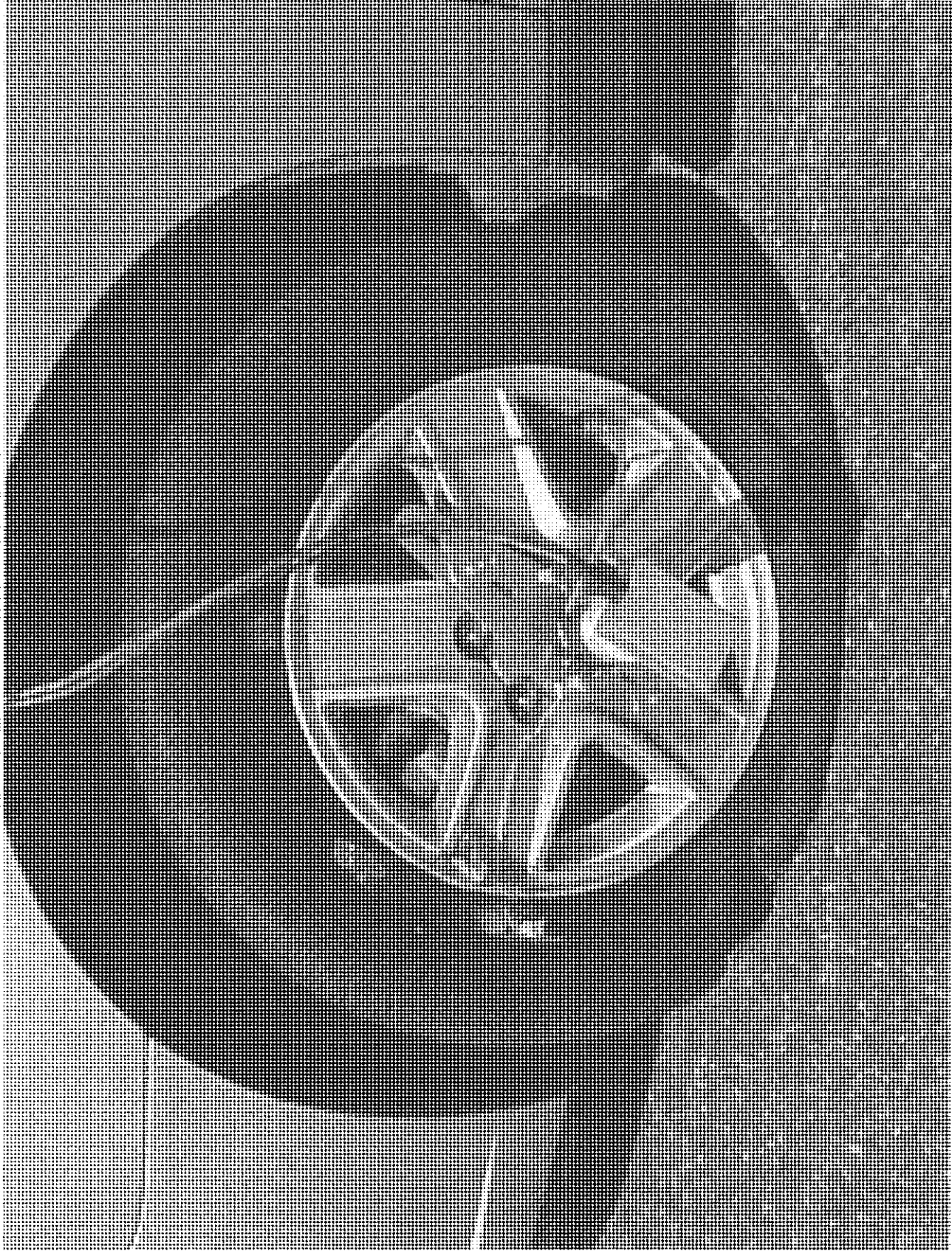
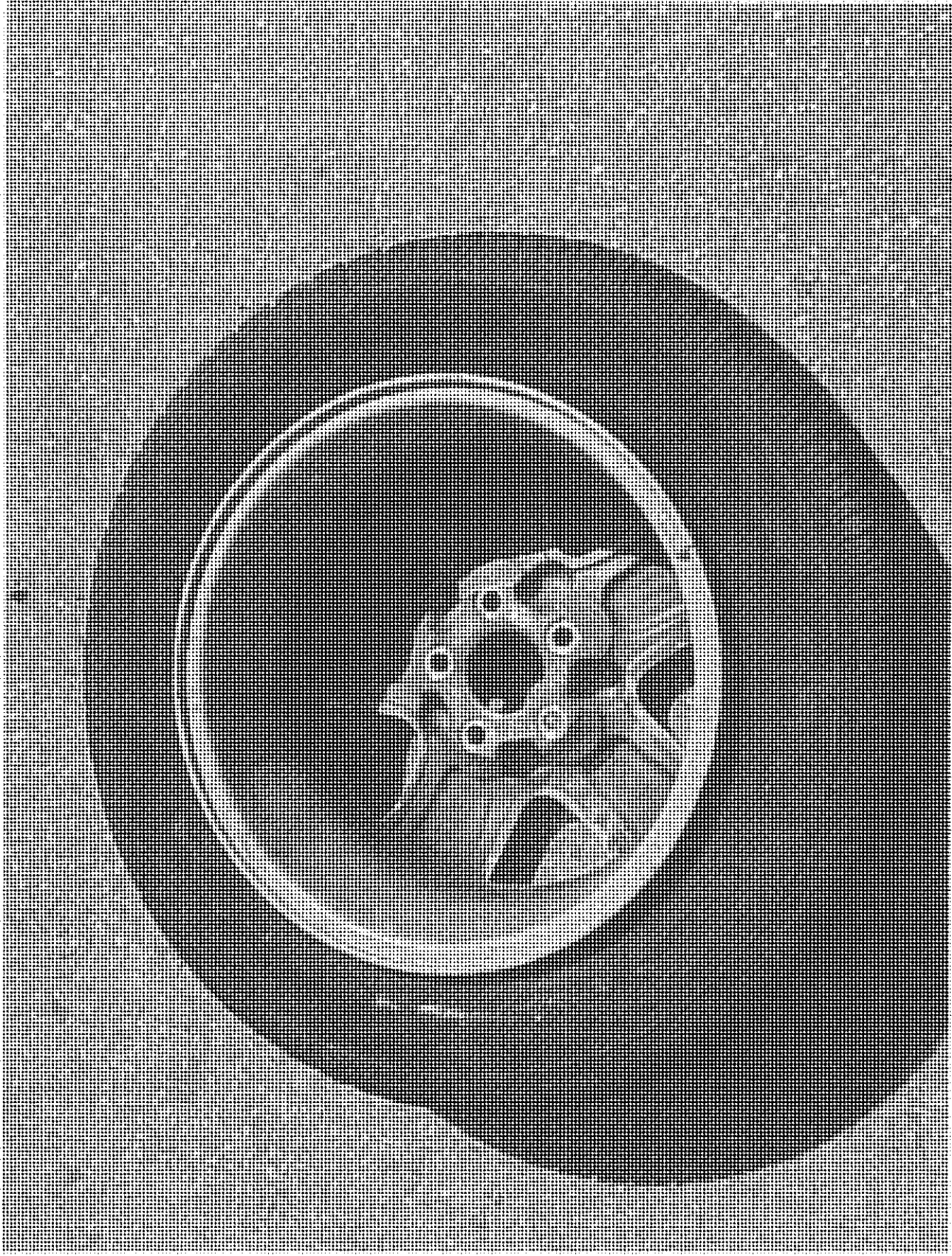


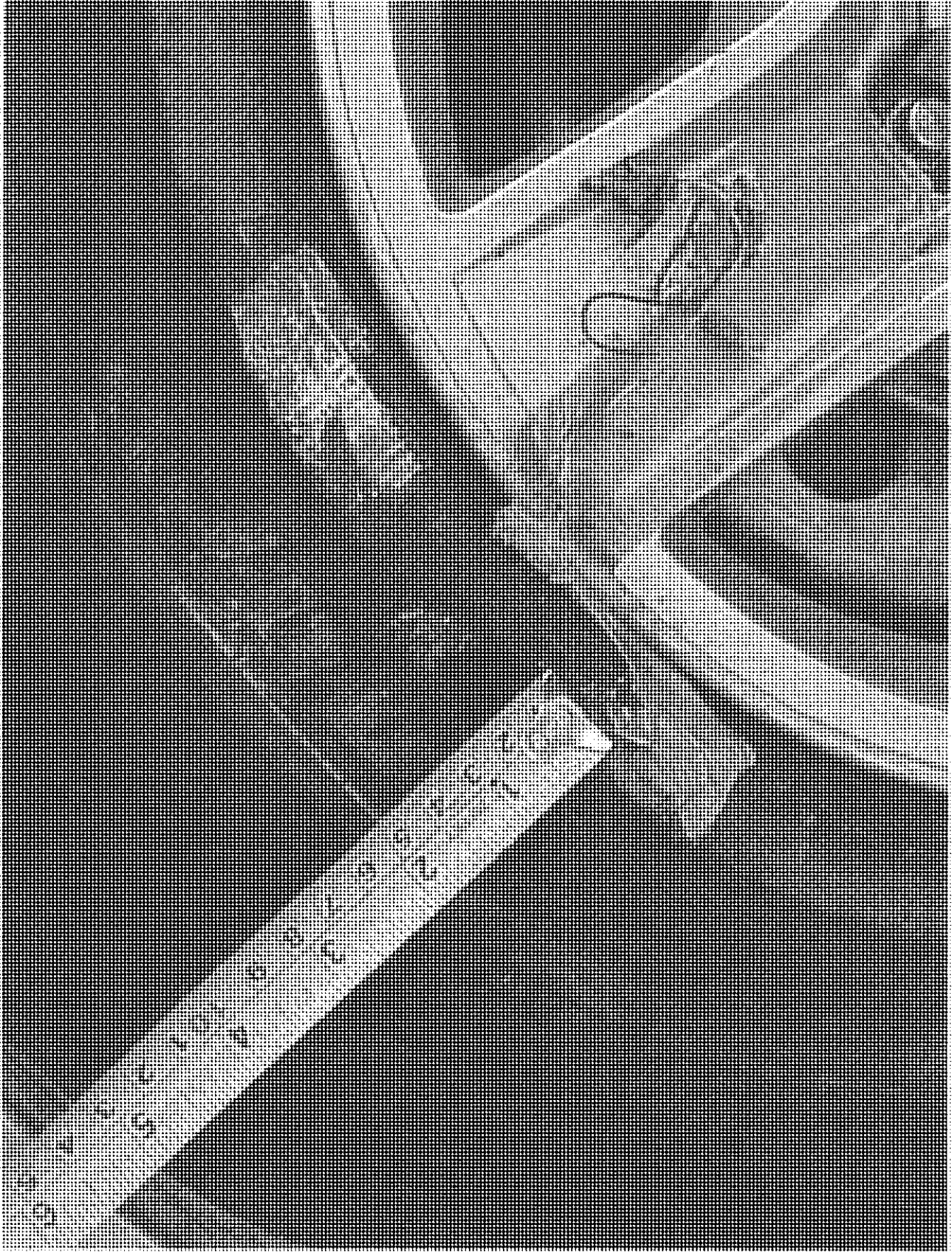
FIGURE 5.20
OUTSIDE VIEW OF LEFT FRONT TIRE
AFTER BLOW-OUT

2006 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



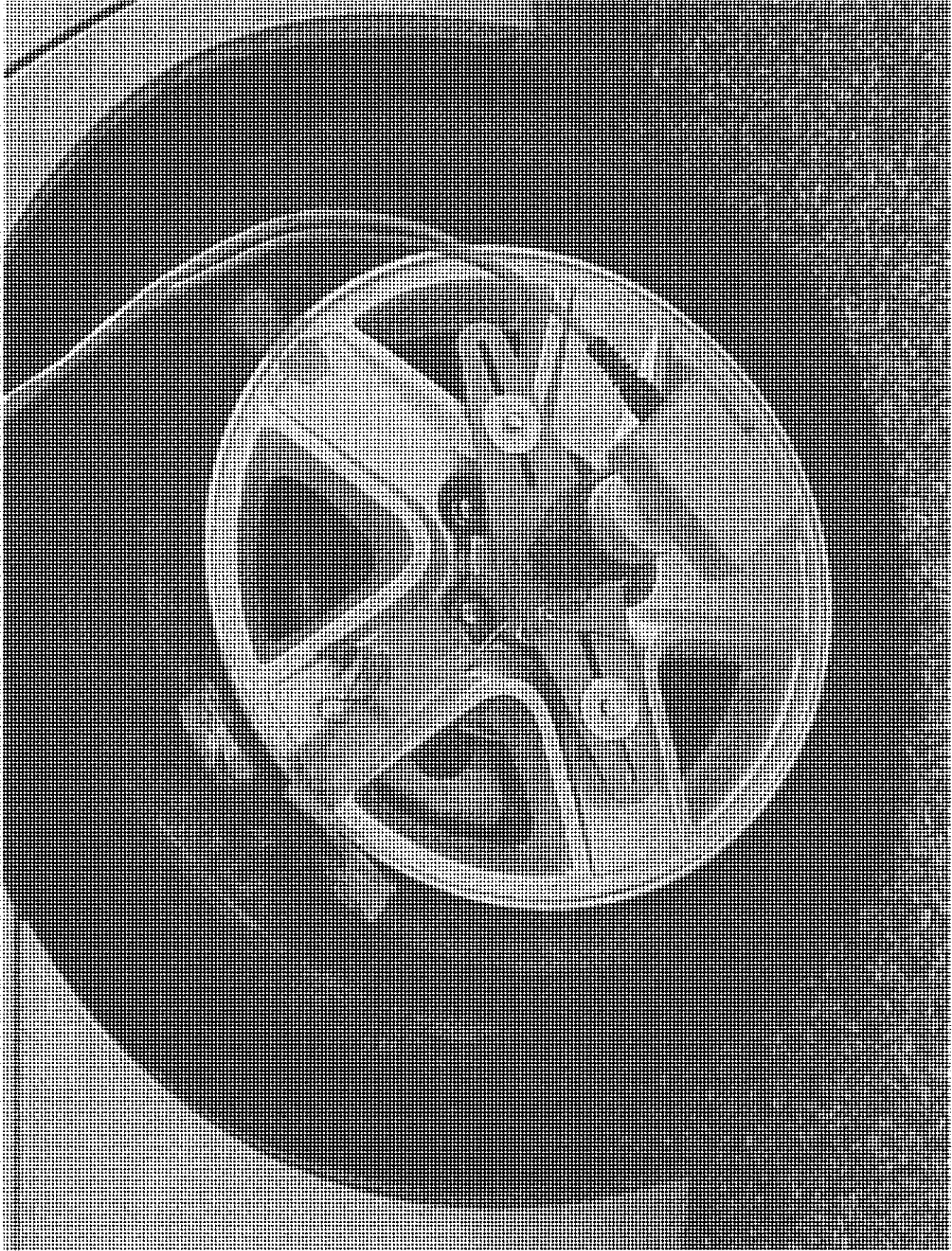
2004 CHEVROLET MALIBU
NETSA NO. C40102
FMVSS NO. 110

FIGURE 5 21
INSIDE VIEW OF LEFT FRONT TIRE
AFTER BLOW-OUT



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.22
RIGHT REAR TIRE AFTER BLOW-OUT
WITH RULER NEXT TO HOLE



2014 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.23
OUTSIDE VIEW OF RIGHT REAR TIRE
AFTER BLOW-OUT

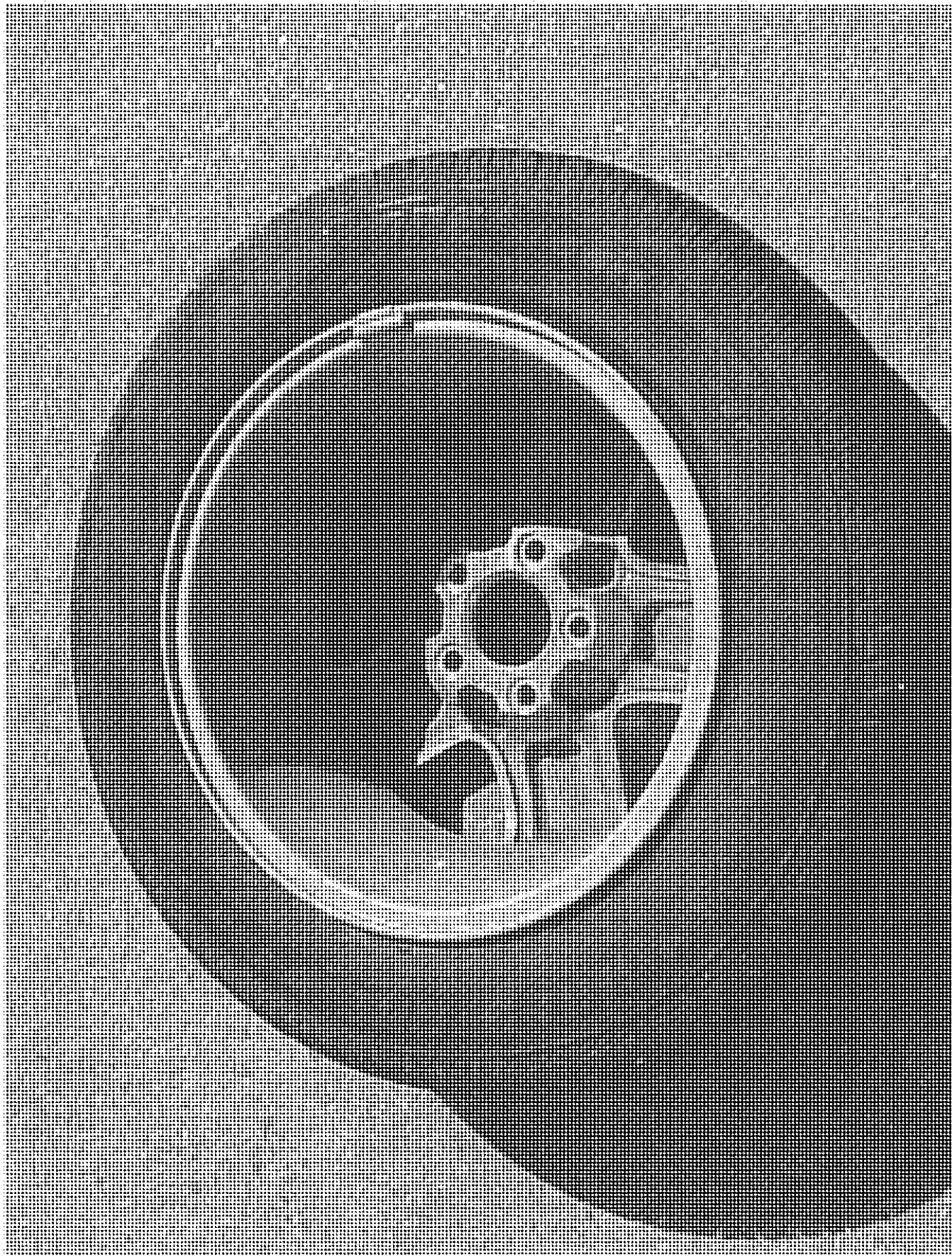
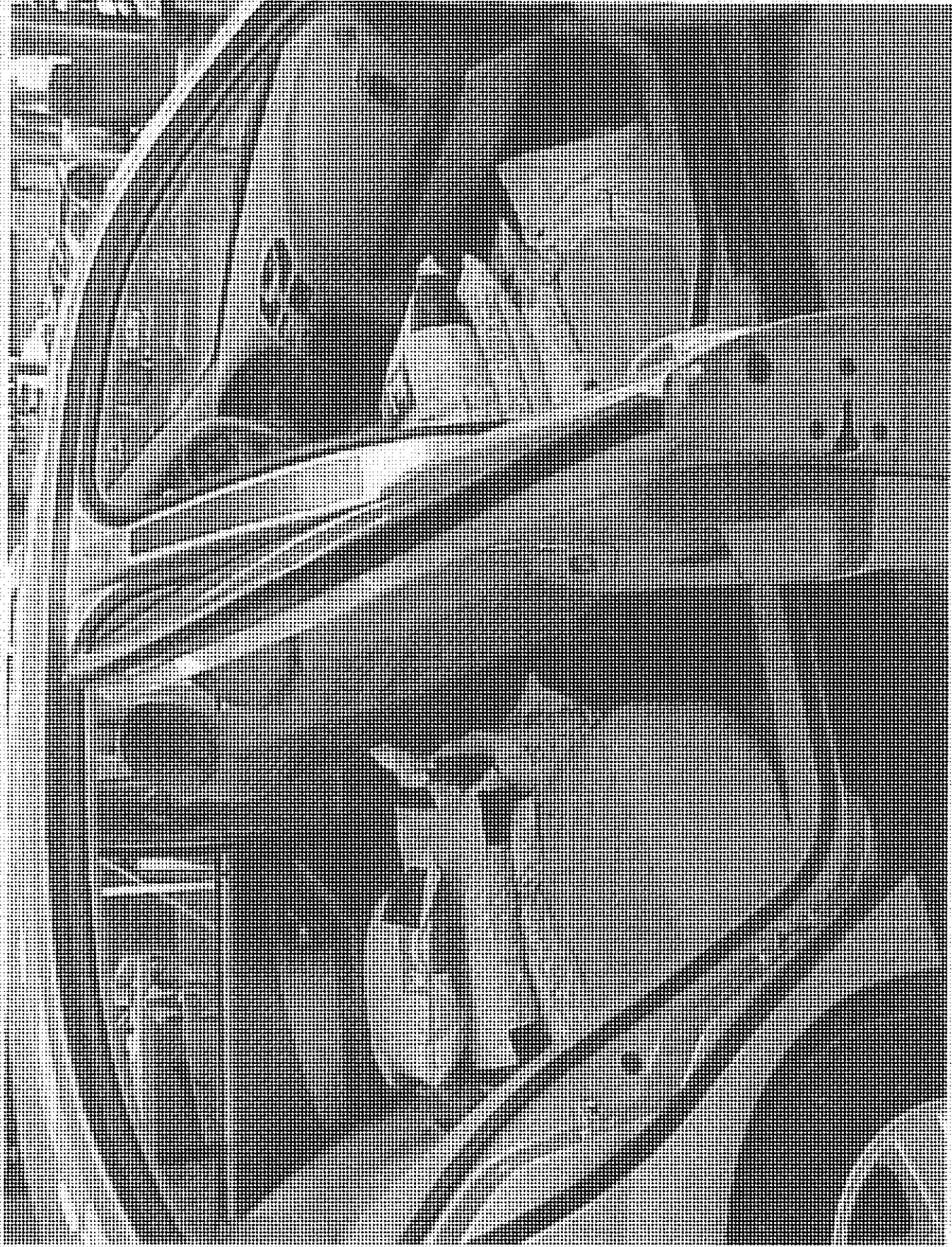


FIGURE 5.24
INSIDE VIEW OF RIGHT REAR TIRE
AFTER BLOW-OUT

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 6.25
VEHICLE BALLASTED FOR NORMAL LOAD



2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

FIGURE 5.26
VEHICLE BALLASTED FOR MAXIMUM
LOAD



FIGURE 5.27
VEHICLE BALLASTED FOR CARGO LOAD

2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

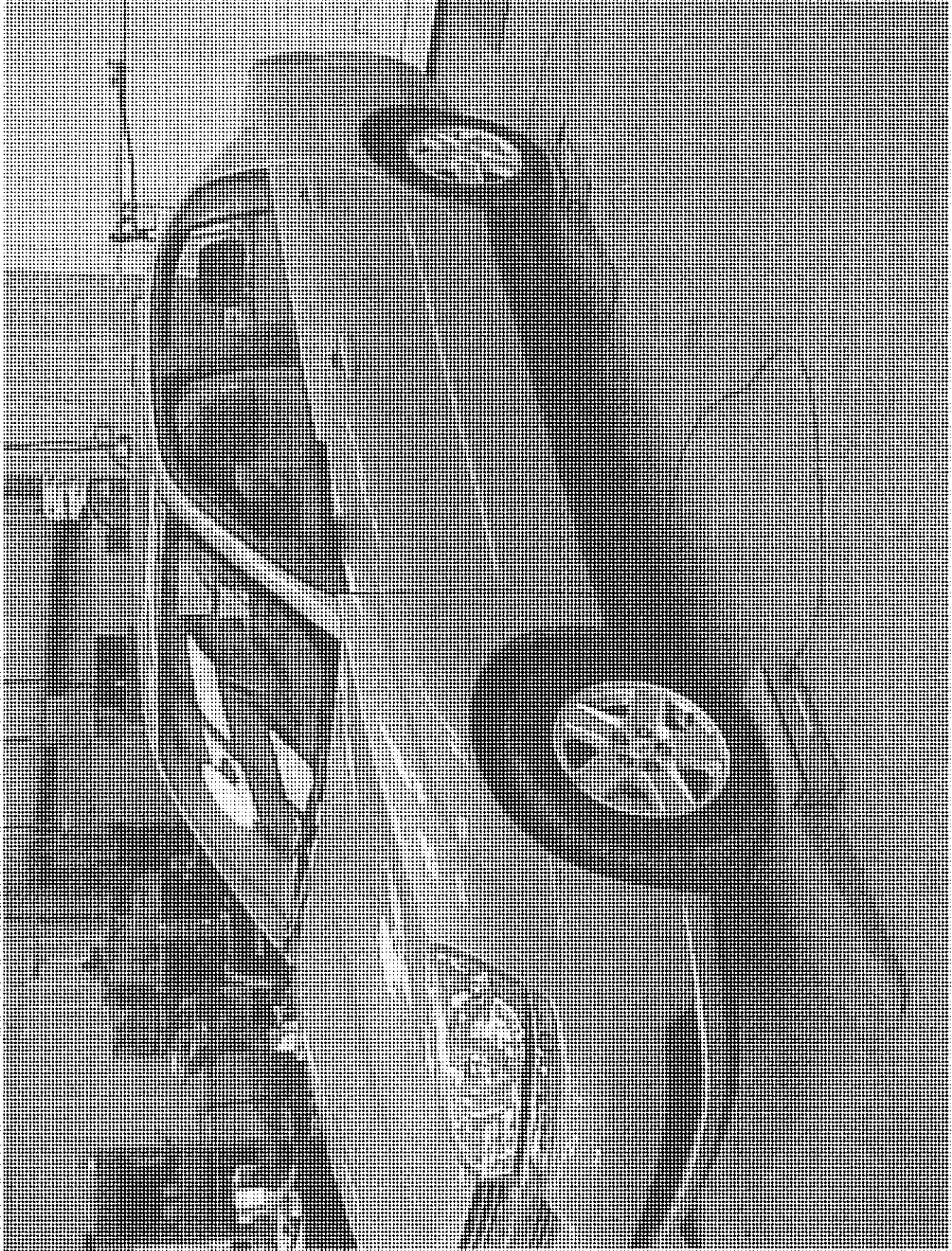
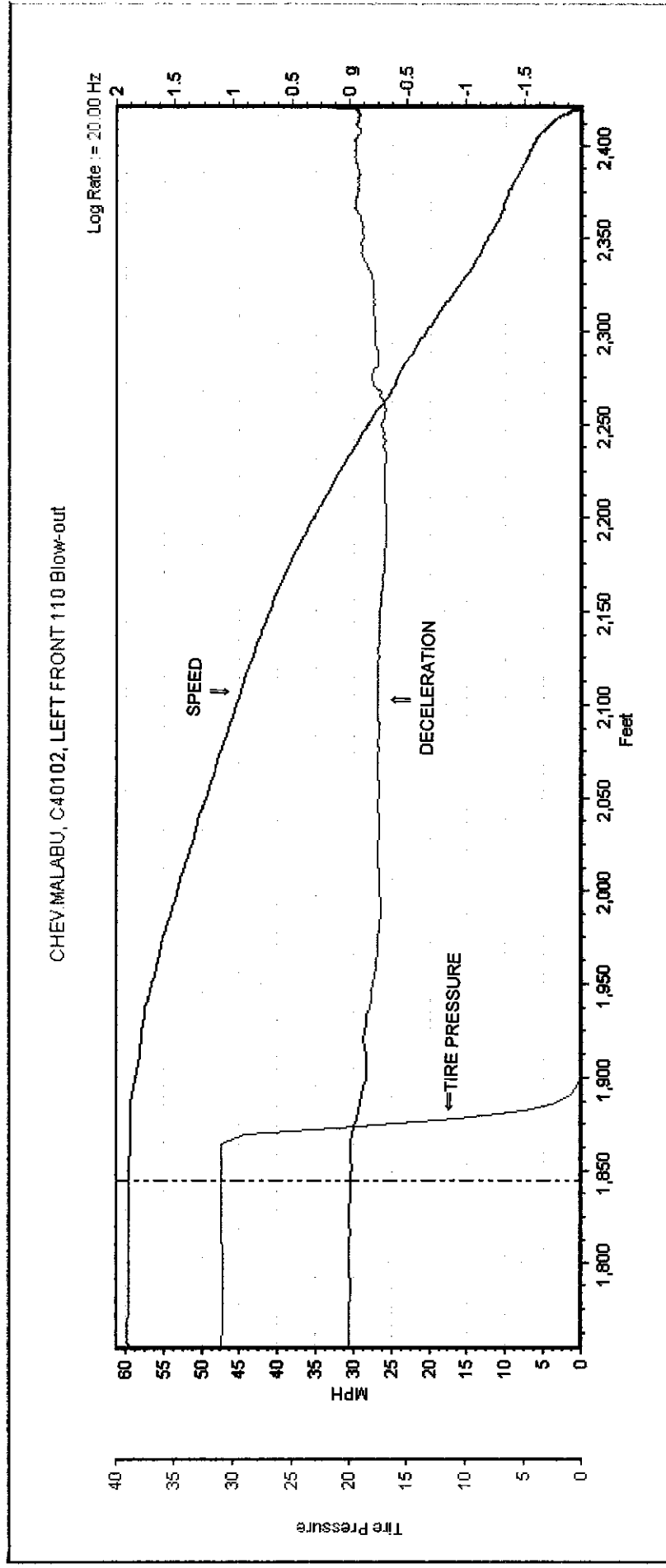


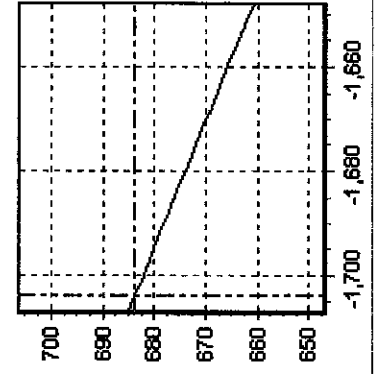
FIGURE 5.28
VIEW OF VEHICLE ON SCALES

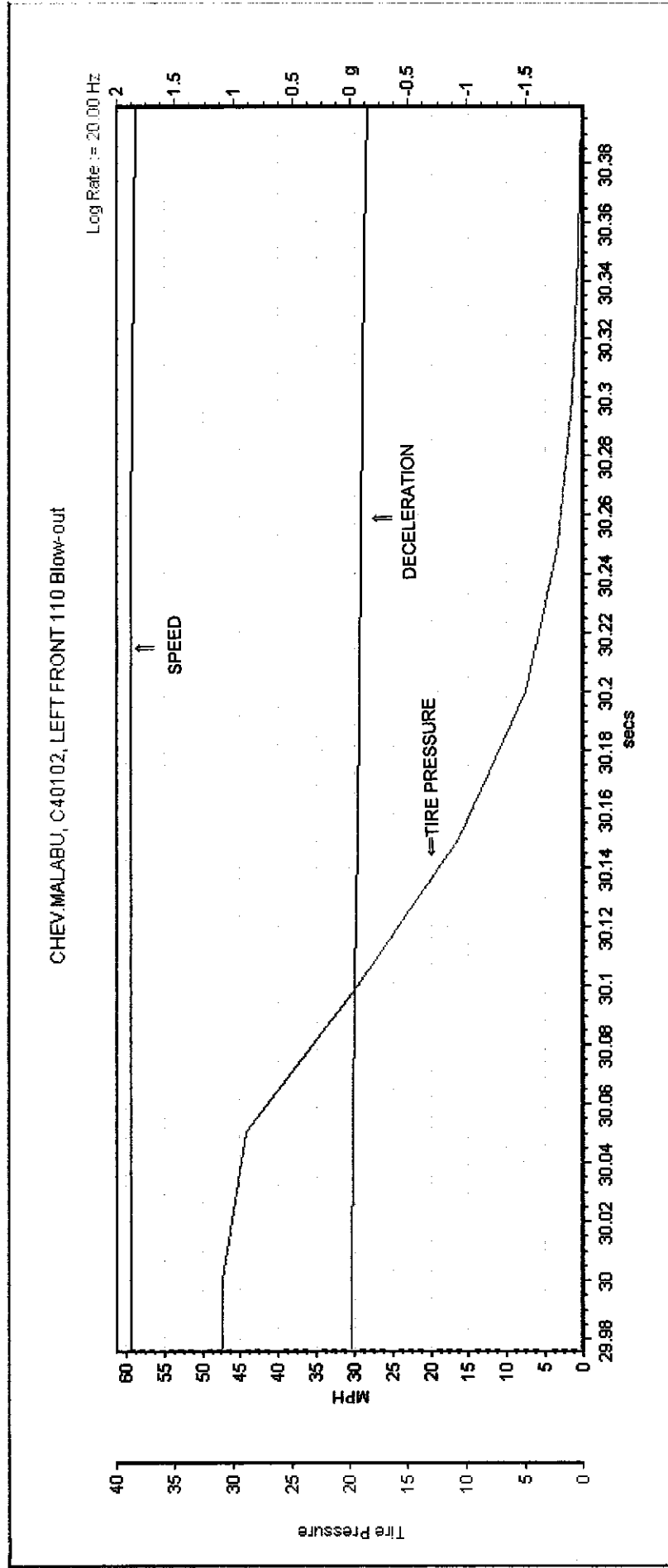
2004 CHEVROLET MALIBU
NHTSA NO. C40102
FMVSS NO. 110

SECTION 6
TEST PLOTS

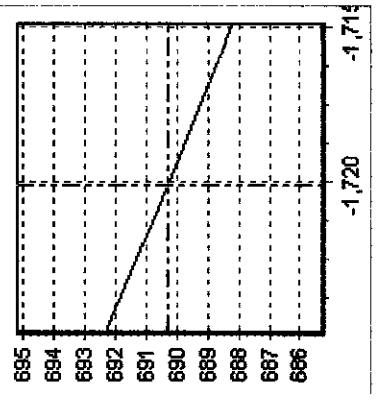


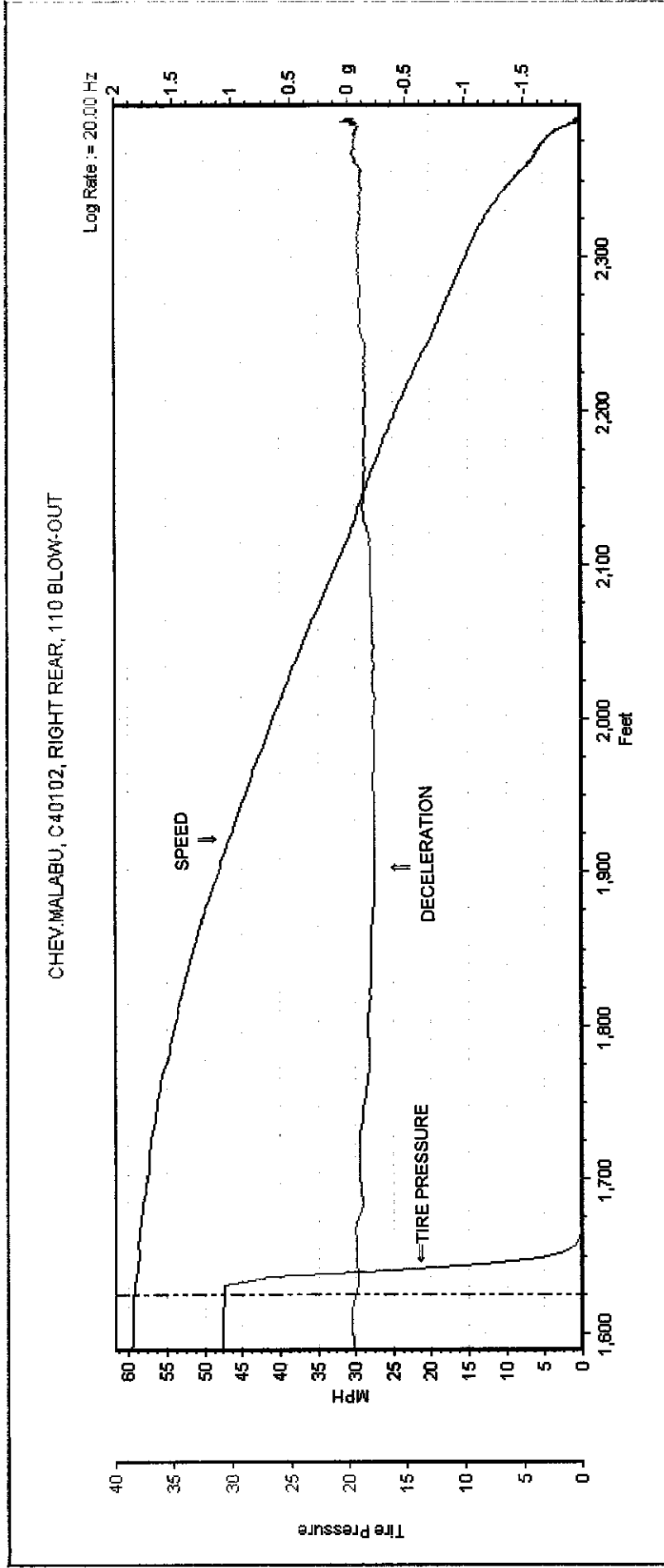
MALABU, WBO (run 1)	
Run Time	2 minute 31.20 secs
Cursor (Feet)	1844.51
Speed (MPH)	59.56
Tire_Press (PSI)	30.945
Longitudinal Acceleration (g)	-0.015
Lateral Acceleration (g)	-0.013
Height (Feet)	-114.586
Vertical Velocity (MPH)	0.000
Satellites (Number of)	7



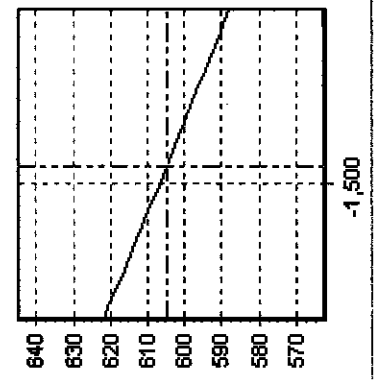


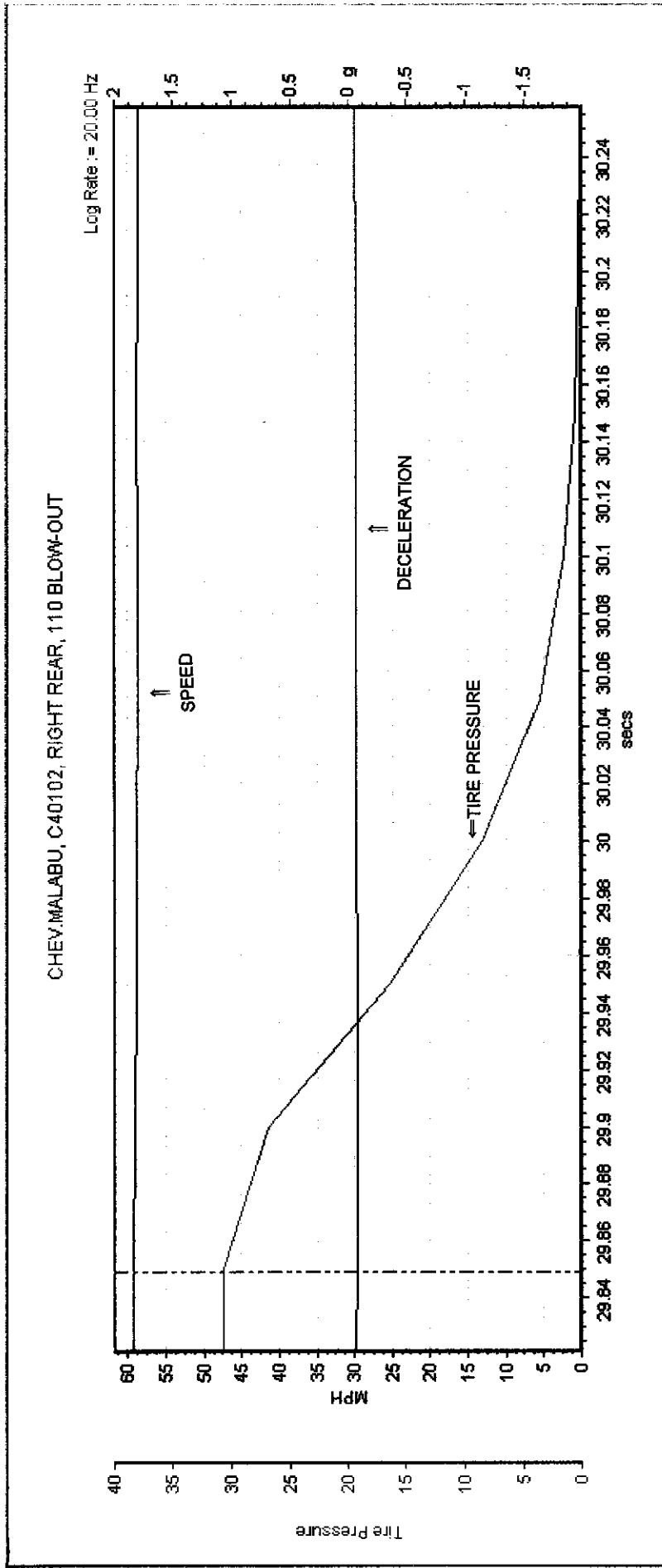
MALABU, VBO :run 1	
Run Time	2 minute 31.20 secs
Cursor (secs)	29.97
Speed (MPH)	59.43
Tire_Press (PSI)	30.924
Longitudinal Acceleration (g)	-0.014
Lateral Acceleration (g)	0.026
Height (Feet)	-114.484
Vertical Velocity (MPH)	0.000
Satellites (Number of)	7





MALABURR.VBO (run 1)	
Run Time	0 minute 58.10 secs
Cursor (Feet)	1624.68
Speed (MPH)	59.35
Tire_Press (PSI)	30.709
Longitudinal Acceleration (g)	-0.060
Lateral Acceleration (g)	-0.010
Height (Feet)	-125.620
Vertical Velocity (MPH)	0.000
Satellites (Number of)	9





MALABURR.VBO :run 1	
Run Time	0 minute 58.10 secs
Cursor (secs)	29.84
Speed (MPH)	59.18
Tire_Press (PSI)	30.701
Longitudinal Acceleration (g)	-0.076
Lateral Acceleration (g)	-0.026
Height (Feet)	-125.820
Vertical Velocity (MPH)	0.000
Subframes (Number of)	9

