

REPORT NUMBER 110(IND)-GTL-03-036

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

**GENERAL MOTORS CORP.
2003 CHEVROLET SILVERADO 2500 PICKUP TRUCK
NHTSA NO. C30119**

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



SEPTEMBER 26, 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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WASHINGTON, D.C. 20590**

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16. Abstract This test was conducted on the subject 2003 Chevrolet Silverado 2500 Pickup Truck 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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TABLE OF CONTENTS

SECTION		PAGE
1	Introduction	1
2	Test Procedure and Summary of Results	2
3	Test Data	3
4	Test Equipment List	10
5	Photographs	11
	5.1 ¼ Frontal View of Vehicle	
	5.2 Vehicle's Certification and Tire Information Label	
	5.3 Vehicle's Monroney Label (Partial)	
	5.4 Tire Showing Brand	
	5.5 Tire Showing Size, Load Index and Speed Symbol	
	5.6 Tire Showing Max Load Rating	
	5.7 Tire Showing Max Inflation Pressure	
	5.8 Vehicle Ballasted to Simulate Normal Load Condition	

APPENDIX – Normal Load Occupation Distribution

SECTION 1
INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Chevrolet Silverado 2500 Pickup Truck 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 Chevrolet Silverado 2500 Pickup Truck. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1GCHK29U83E322746

B. NHTSA No.: C30119

C. Manufacturer: GENERAL MOTORS CORP.

D. Manufacture Date: 04/03

1.2 TEST DATE

The test vehicle was subjected to testing on May 21, 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

Currently FMVSS 110 applies only to passenger cars. The subject Chevrolet Silverado 2500 Pickup is a truck and therefore it is not required to meet FMVSS 110 requirements. It was subjected to the normal load testing as executed for FMVSS 110 compliance verification for information only.

SECTION 3
TEST DATA

DATA SHEET 1
SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2003 CHEVROLET SILVERADO PICKUP
 VEHICLE NHTSA NO.: C30119 ; VIN: 1GCHK29U83E322746
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 05/21/03

<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>N/A</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>YES</u>

REMARKS:

RECORDED BY: M. A. C. [Signature]

DATE: 05/21/03

APPROVED BY: D. Messer [Signature]

DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES DATE: 05/21/03

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 CHEVROLET SILVERADO PICKUP

MANUFACTURE DATE: 04/03 NHTSA NO.: C30119 BODY COLOR: LT PEWTER METALLIC

VIN: 1GCHK29U83E322746 VEHICLE TYPE: TRUCK

GVWR 4173 kg (9200 lbs) GAWR(Fr) 2118 kg (4670 lbs) GAWR(Rr) 2760 kg (6084 lbs)

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

ENGINE DATA: 8 Cylinders 6.0 Liters Cubic Inches

TRANSMISSION DATA: X Automatic Manual No. of Speeds

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

INSTALLED TIRE DATA: Size - LT245/75R16 Mfr. - FIRESTONE

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
<input checked="" type="checkbox"/>	Tinted Glass		All Wheel Drive		Roof Rack
<input checked="" type="checkbox"/>	Power Steering	<input checked="" type="checkbox"/>	Cruise Control		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
	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 -

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

REMARKS:

RECORDED BY: M. A. Gley

DATE: 05/21/03

APPROVED BY: D. Messel

DATA SHEET 3
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 CHEVROLET SILVERADO PICKUP
 VEHICLE NHTSA NO.: C30119 ; VIN: 1GCHK29U83E322746
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 05/21/03

Full Fluid Levels:

Fuel Full ; Coolant Full ; Other Fluids Full

Tire Pressure: LF 380 KPA (55 psi) LR 550 KPA (80 psi)
 RF 380 KPA (55 psi) RR 550 KPA (80 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF 773 KG (1705 LB) LR 549 KG (1211 LB)
 RF 715 KG (1577 LB) RR 536 KG (1181 LB)
 Front Axle 1489 KG (3282 LB) Rear Axle 1085 KG (2392 LB)
 Total Vehicle 2574 KG (5674 LB)

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

(1) Seating Capacity (from Tire Information Placard) = N/A
 Seating Capacity (# of belted seating positions) = 6

(2) Normal Load # of Occupants from Appendix
 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 each Wheel and Axles (Sum)

LF 832 KG (1835 LB) LR 592 KG (1305 LB)
 RF 774 KG (1707 LB) RR 579 KG (1277 LB)
 Frt Axle 1606 KG (3542 LB) Rr Axle 1171 KG (2582 LB)
 Total Vehicle 2778 KG (6124 LB)

DATA SHEET 3 - CONTINUED

- (5) Calculated Vehicle Normal Load on the Tire
 Front Tires (measured front axle normal load/2) = 803 KG (1771 LB)
 Rear Tires (measured front axle normal load/2) = 586 KG (1291 LB)

- (6) High Speed Test Load from () FMVSS 109 (S5.5), or (X) FMVSS 119 (S7.4)

	Front	Rear
(a) Installed Tire Size	<u>LT245/75R16</u>	<u>LT245/75R16</u>
Max. Load Rating on Sidewall	<u>1380KG(3042 LBS)</u>	<u>1380KG(3042 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>1214KG(2677 LBS)</u>	<u>1214KG(2677 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: M. A. Byler

DATE: 05/21/03

APPROVED BY: D. Merovic

DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 CHEVROLET SILVERADO PICKUP

VEHICLE NHTSA NO.: C30119 ; VIN: 1GCHK29U83E322746

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 05/21/03

A. Vehicle Type from Certification Label: TRUCK

B. Identify Vehicle Labeling:

Vehicle has a combined Certification Tire Information Label Yes No

Is Label Permanently Affixed: Yes No

Label Location: Inside Door Jam

Description of Label: Black/White Sticker

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 - N/A(see remarks)

Designated Seating Capacity (DSC) - N/A(see remarks)

Expressed In—

(1) Total No. of Occupants Yes No

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

Manufacturer's Recommended Tire Size(s) and Cold Tire Inflation Pressure(s) for Maximum Load Vehicle Weight:

LT245/75R16

FRONT - 380 kPa (55 psi)

REAR - 550 kPa (80 psi)

Manufacturer's Recommended Tire Size(s) and Cold Tire Inflation Pressure(s) for Other Load Conditions: NONE

REMARKS: The vehicle labeling requirements of FMVSS 120 for a truck do not include Vehicle Capacity Weight (VCW) or Designated Seating Capacity (DSP) as required by FMVSS 110 passenger car labeling.

RECORDED BY: M. A. [Signature]

DATE: 05/21/03

APPROVED BY: D. Messel [Signature]

DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 CHEVROLET SILVERADO PICKUP
 VEHICLE NHTSA NO.: C30119 ; VIN: 1GCHK29U83E322748
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 05/21/03

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

INFORMATION FROM TIRE SIDEWALL:

Right Front Tire

Tire Size Designation	<u>LT245/75R16</u>
Tire Load Index/Speed Symbol	<u>120/116R</u>
Maximum Inflation Pressure	<u>550 kPa (80 psi)</u>
Maximum Load Rating	<u>1380 KG (3042 LBS)</u>
Mfr. Name or Brand & Code	<u>FIRESTONE STEELTEX</u>
Tube or Tubeless	<u>TUBELESS</u>
Treadwear/Traction/Temp. Grades	<u>N/A</u>
Sidewall (Plies & Composition)	<u>2 PLY POLYESTER</u>
Tread (Plies & Composition)	<u>2 PLY POLYESTER</u> <u>2 PLY STEEL</u>
Serial Number: Right Front -	<u>DOT E400 8009</u>
Tire has "DOT" markings:	(X) YES () NO () UNDETERMINED

REMARKS:

RECORDED BY: *M. P. [Signature]*

DATE: 05/21/03

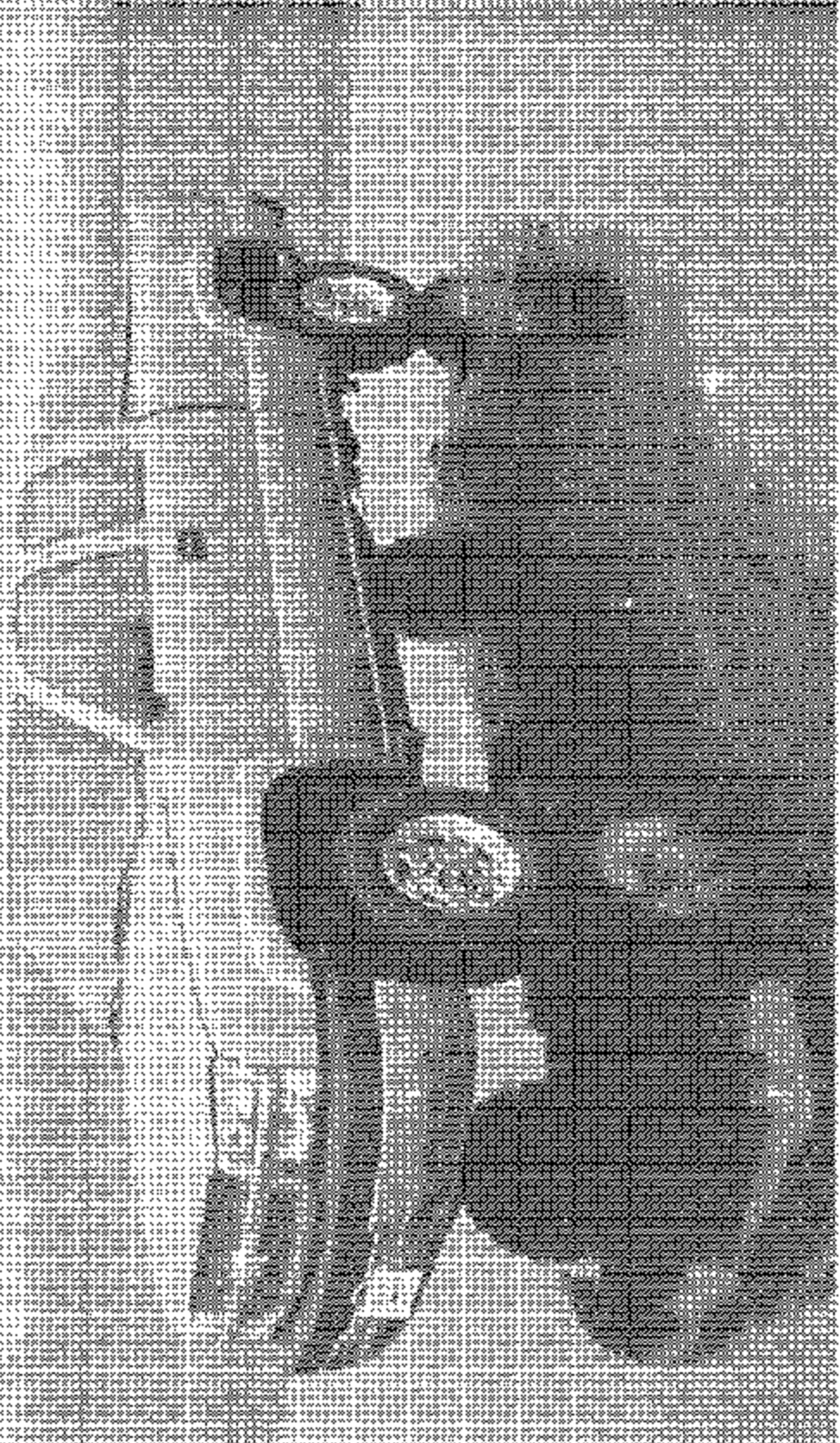
APPROVED BY: *D. [Signature]*

SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

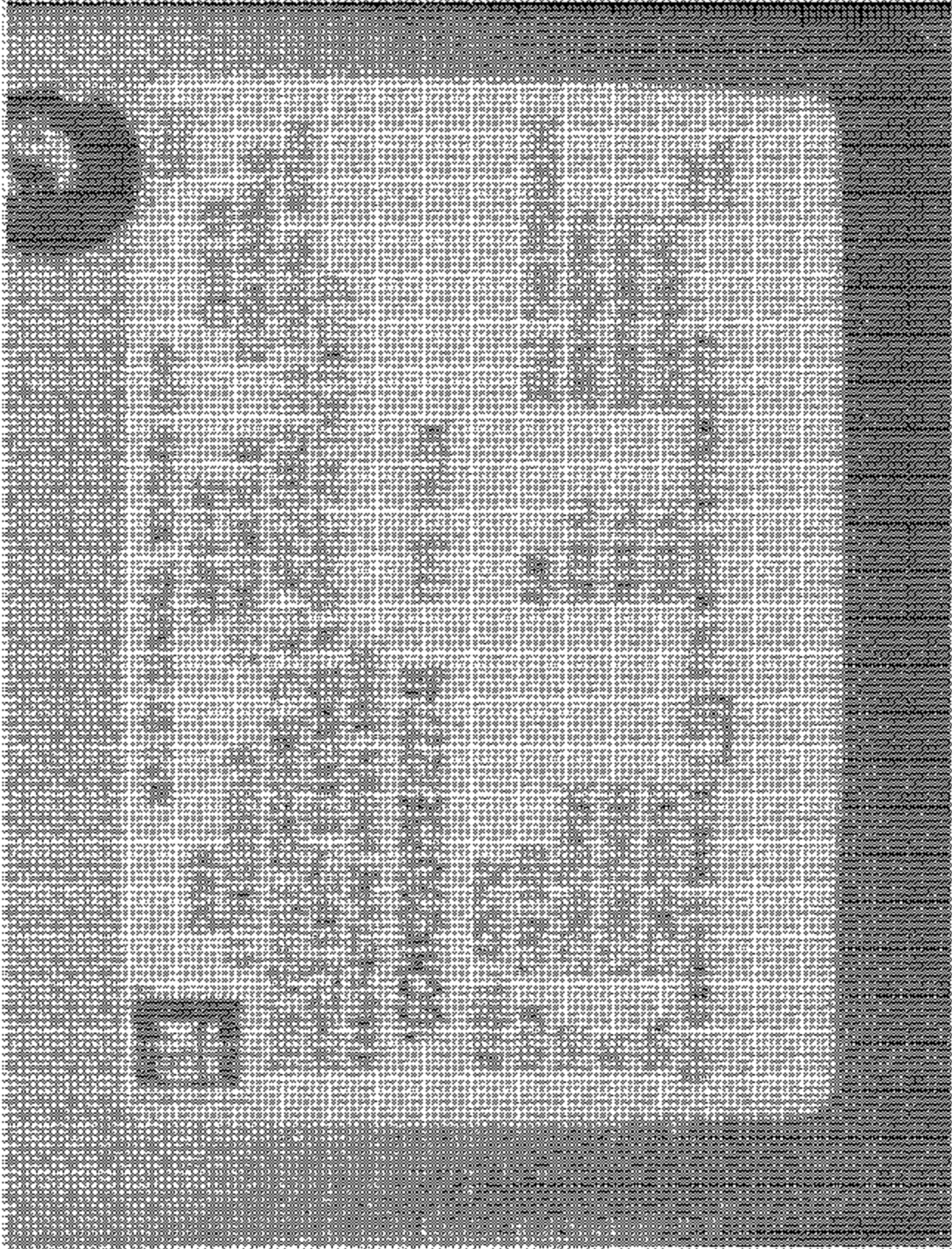
EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO.	CAL. DATE	NEXT CAL. DATE
PAD SCALES	#1 199744LF	199744LF	06/02	06/03
	#2 199744RF	199744RF	06/02	06/03
	#3 199744LR	199744LR	06/02	06/03
	#4 199744RR	19974RR	06/02	06/03
PRESSURE GAGE	WESKLER	0-100	04/03	05/04
SURFACE LEVEL	GTL	N/A	BEFORE USE	BEFORE USE

**SECTION 5
PHOTOGRAPHS**



2013 CHEVROLET SILVERADO 2500 PICK-UP
NHTSA NO. C37519
FMVSS NO. 110 (INDICATED)

FIGURE 31
3. FRONTAL VIEW OF VEHICLE



2003 CHEVROLET SILVERADO 2500 PICKUP
NHTSA NO. C30719
FMVSS NO. TIGUIDANTY

FIGURE 52
VEHICLE'S CERTIFICATION AND FIRE
INFORMATION LABEL

VEHICLES MONSIEUR ET MADAME

Les véhicules Monsieur et Madame sont conçus pour offrir un confort et une sécurité exceptionnels. Ils sont équipés de toutes les dernières technologies pour garantir une conduite agréable et sûre. Les matériaux de haute qualité utilisés dans leur construction assurent une longue durée de vie et une maintenance simplifiée. Les options disponibles permettent de personnaliser votre véhicule selon vos besoins et vos goûts. Les services après-vente sont également de haute qualité, avec des techniciens expérimentés et des pièces de rechange d'origine disponibles à tout moment.



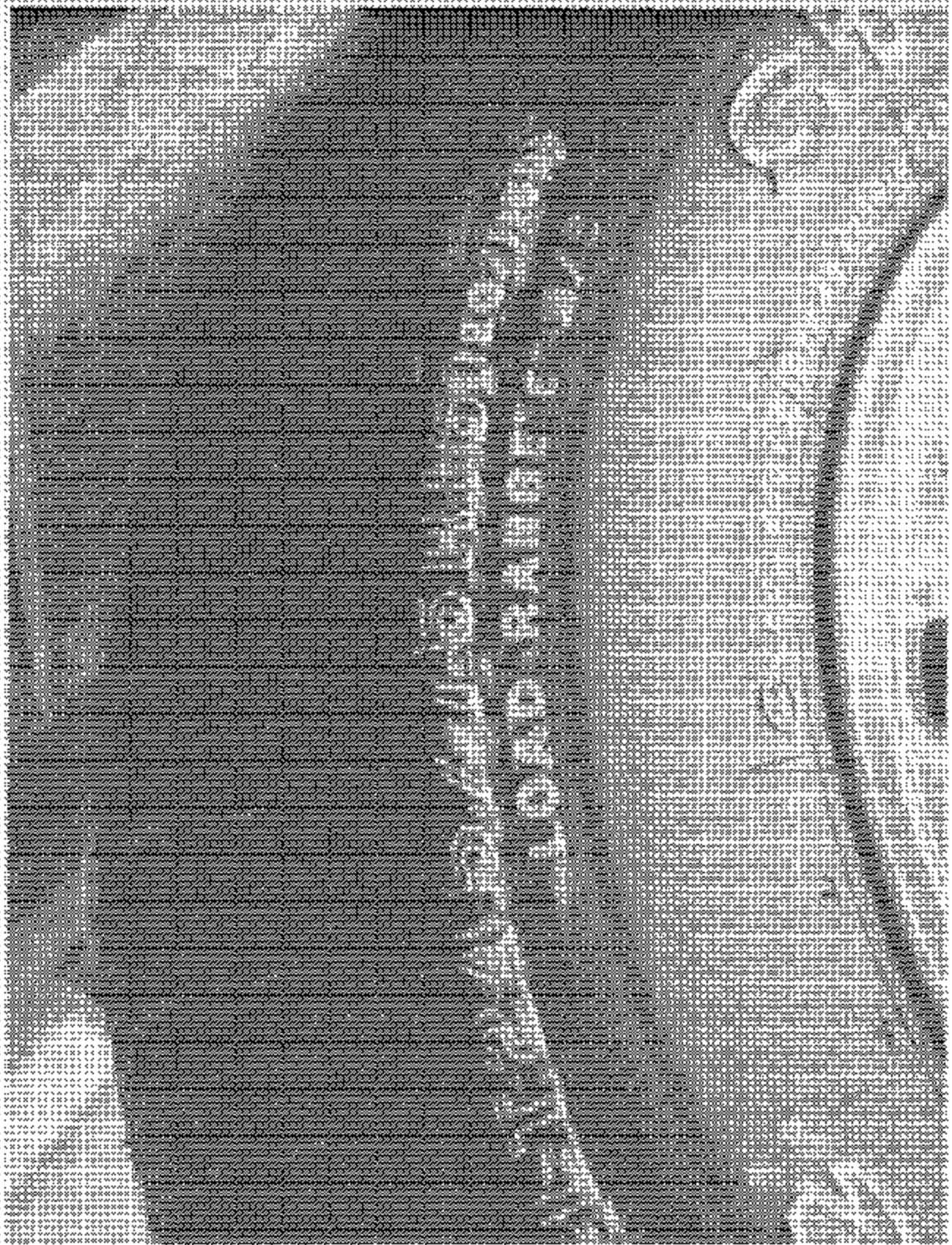
2601 RUE VERMOREL, SUITE 1000, MONTRÉAL, QUÉBEC H3T 1Y4
MONTREAL 551-5555
WWW.MONSIEUR-ET-MADAME.COM

VEHICULES MONSIEUR ET MADAME



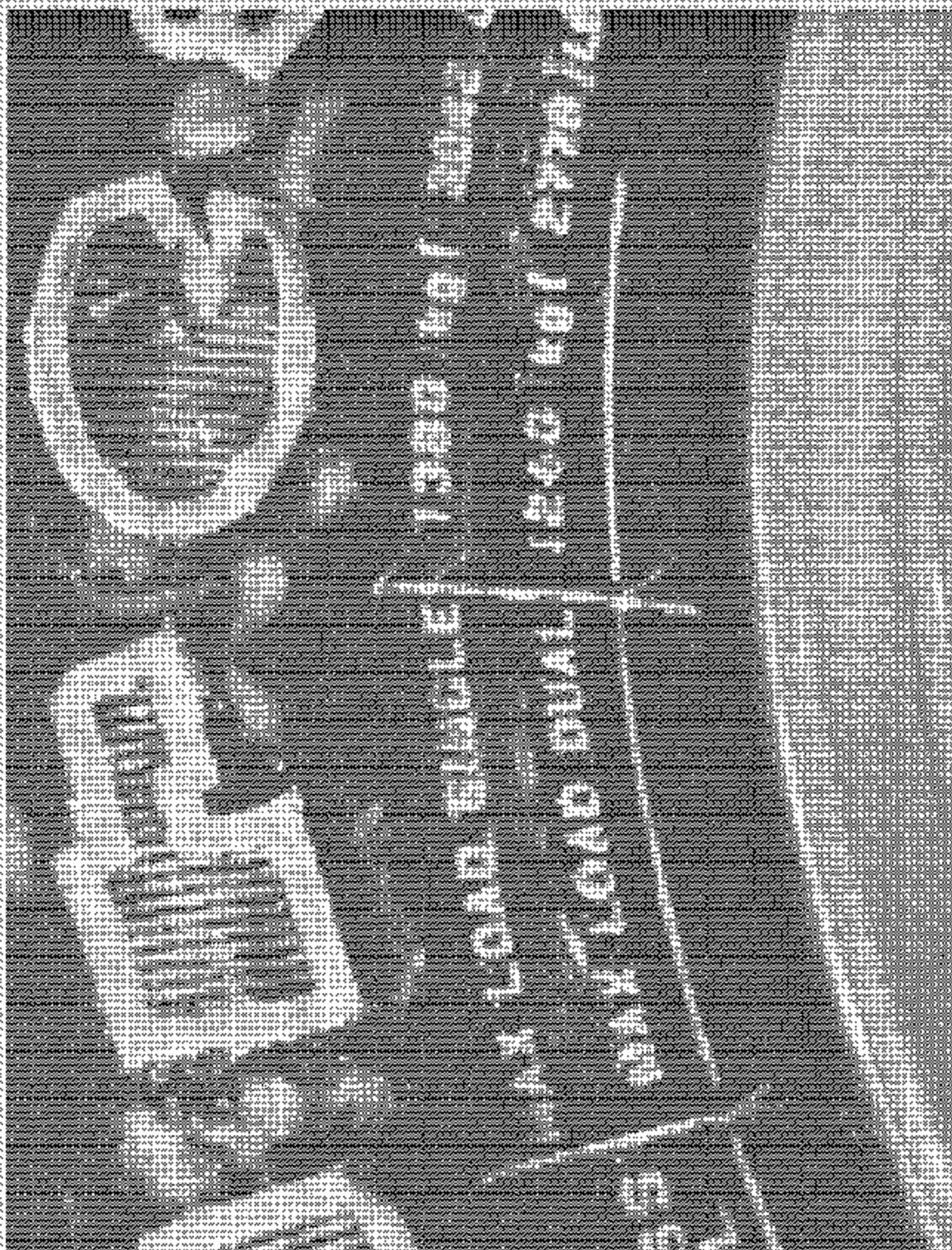
ALOX CHEVROLET & SILVERADO CROSS COUNTRY
MICHIGAN GODDIE
FIRESTORM TIRE BRAND

FIRESTORM
TIRE BRAND



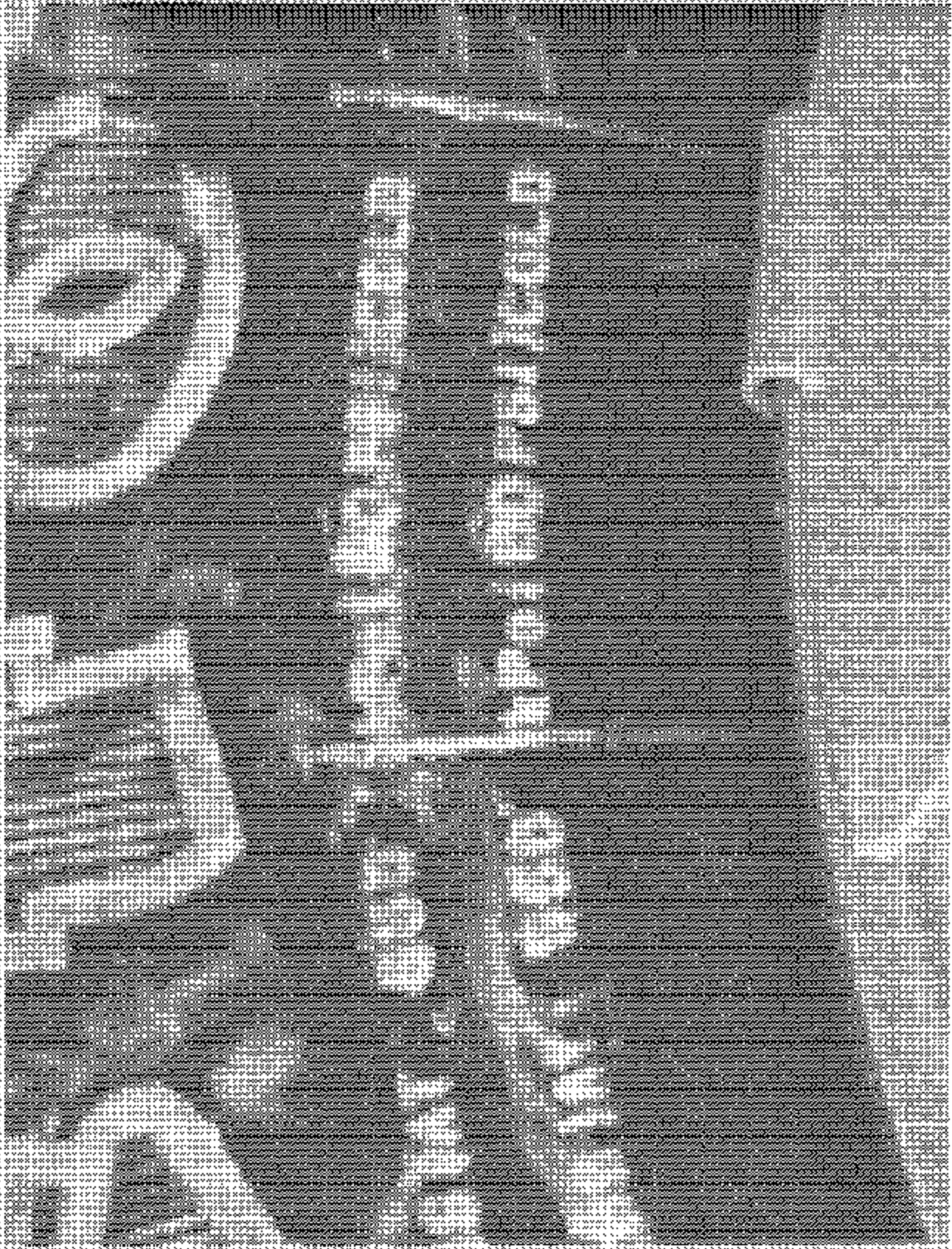
2004 CHEVROLET SILVERADO 2500 PICK UP
MILWAUKEE, WI 53019
PMS58NO-T10FINDOANF

FIGURE 35
TIRE SHOWING SIZE, LOAD INDEX AND SPEED
SYMBOL



2005 CHEVROLET SILVERADO 3500 PICKUP
NHTSA NO. 0301M
EMISS NO. TUNINDIANBY

FIGURE 5.8
FIRE EXTINGUISHER MAX LOAD



2007 CHEVROLET SILVERADO 2500 PICKUP
 NHTSA NO. 030119
 FMVSS NO. 101 INDIANTY

FIGURE 51
 FIRE SHOWING MAX INFLATION PRESSURE



2003 CHEVROLET SILVERADO 2500 PICKUP
NHTSA NO. C30719
FMVSS NO. 110 INDICANT

FIGURE 18
VEHICLE BALANCING 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.