

REPORT NUMBER 110(IND)-GTL-03-020

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

**DAIMLERCHRYSLER CORPORATION
2003 DODGE GRAND CARAVAN, MPV
NHTSA NO. C30310**

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SEPTEMBER 15, 2003

FINAL REPORT

PREPARED FOR

**U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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16. Abstract This test was conducted on the subject 2003 Dodge Caravan MPV 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 Dodge Caravan MPV 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 Dodge Caravan MPV. Nomenclature applicable to the test vehicle are:

- A. Vehicle Identification Number: 2D4GP34393R164425
- B. NHTSA No.: C30310
- C. Manufacturer: DAIMLERCHRYSLER CORPORATION
- D. Manufacture Date: 11/02

1.2 TEST DATE

The test vehicle was subjected to testing on June 3, 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 Dodge Caravan is a multipurpose passenger vehicle (MPV) 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
SUMMARYVEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE GRAND CARAVAN MPVVEHICLE NHTSA NO.: C30310 VIN: 2D4GP34393R164425LABORATORY: GENERAL TESTING LABORATORIESTEST 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>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. AlkaDATE: 06/03/03APPROVED BY: R. M. [Signature]

DATA SHEET 2

TEST VEHICLE INFORMATION/RECEIVING INSPECTION

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

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 DODGE GRAND CARAVAN MPV

MANUFACTURE DATE: 11/02 NHTSA NO.: C30310 BODY COLOR: BLUE

VIN: 2D4GP34393R164425 VEHICLE TYPE: MPV

GVWR 2518 kg (5500 lbs) GAWR(Fr) 1293 kg (2850 lbs) GAWR(Rr) 1293 kg (2850 lbs)

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

ENGINE DATA: 6 Cylinders 3.3 Liters Cubic Inches

TRANSMISSION DATA: X Automatic Manual 4 No. of Speeds

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

INSTALLED TIRE DATA: Size - P215/70R15 Mfr. - GOODYEAR

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

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

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

REMARKS:

RECORDED BY: 

DATE: 06/03/03

APPROVED BY: 

DATA SHEET 3
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE GRAND CARAVAN MPV

VEHICLE NHTSA NO.: C30310; VIN: 2D4GP34393R164425

LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 06/03/03

Full Fluid Levels:

Fuel Full; Coolant Full; Other Fluids Full

Tire Pressure: LF 248 KPA (36 psi) LR 248 KPA (36 psi)
 RF 248 KPA (36 psi) RR 248 KPA (36 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF 542 KG (1195 LB) LR 406 KG (895 LB)
 RF 528 KG (1164 LB) RR 404 KG (890 LB)

Front Axle 1070 KG (2359 LB) Rear Axle 810 KG (1785 LB)

Total Vehicle 1880 KG (4144 LB)

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

(1) Seating Capacity (from Tire Information Placard) = N/A
 Seating Capacity (# of belted seating positions) = 7

(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 609 KG (1342 LB) LR 456 KG (1006 LB)
 RF 571 KG (1259 LB) RR 446 KG (984 LB)

Frt Axle 1180 KG (2601 LB) Rr Axle 903 KG (1990 LB)

Total Vehicle 2082 KG (4591 LB)

DATA SHEET 3 – CONTINUED

- (5) Calculated Vehicle Normal Load on the Tire
 Front Tires (measured front axle normal load/2) = 590 KG (1301 LB)
 Rear Tires (measured front axle normal load/2) = 451 KG (995 LB)

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

	Front	Rear
(a) Installed Tire Size	<u>P215/70R15</u>	<u>P215/70R15</u>
Max. Load Rating on Sidewall	<u>750 KG (1653 LBS)</u>	<u>750 KG (1653 LBS)</u>
Reduced Sidewall Load Rating (if applicable)*	<u>682 KG (1503 LBS)</u>	<u>682 KG (1503 LBS)</u>
High Speed Test Load (88% of sidewall max. load rating)	<u>600 KG (1323 LBS)</u>	<u>600 KG (1323 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. P. Gha

DATE: 06/03/03

APPROVED BY: R. M. Gha

DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE GRAND CARAVAN MPV
 VEHICLE NHTSA NO.: C30310 ; VIN: 2D4GP34393R164425
 LABORATORY: GENERAL TESTING LABORATORIES
 TEST DATE: 06/03/03

A. Vehicle Type from Certification Label: MPV

B. Identify Vehicle Labeling:

Vehicle has a combined Certification Tire Information Label ☒ Yes ☐ No
 Is Label Permanently Affixed: ☒ Yes ☐ No
 Label Location: Driver Door
 Description of Label: Vinyl 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:

P215/70R15 FRONT - 248 kPa (36 psi)
 REAR - 248 kPa (36 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 an MPV do not include
 Vehicle Capacity Weight (VCW) or Designated Seating Capacity (DSP) as required by FMVSS
 110 passenger car labeling.

RECORDED BY: M. P. [Signature]

DATE: 06/03/03

APPROVED BY: [Signature]

DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE GRAND CARAVAN MPV
VEHICLE NHTSA NO.: C30310 ; VIN: 2D4GP34393R164425
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

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

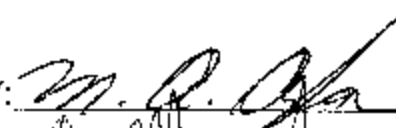
INFORMATION FROM TIRE SIDEWALL:

Right Front Tire

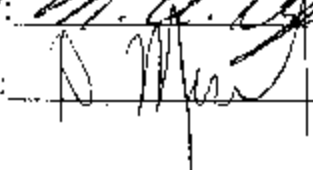
Tire Size Designation P215/70R15
Tire Load Index/Speed Symbol 98S
Maximum Inflation Pressure 300 kPa (44 psi)
Maximum Load Rating 750 KG (1653 LBS)
Mfr. Name or Brand & Code GOODYEAR INTEGRITY
Tube or Tubeless TUBELESS
Treadwear/Traction/Temp. Grades 460/A/B
Sidewall (Plies & Composition) 1 PLY POLYESTER
Tread (Plies & Composition) 1 PLY POLYESTER
2 PLY STEEL
Serial Number: Right Front - DOT-MD34 C9WR

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	11/02	05/04
SURFACE LEVEL	GTL	N/A	BEFORE USE	BEFORE USE

SECTION 5 PHOTOGRAPHS

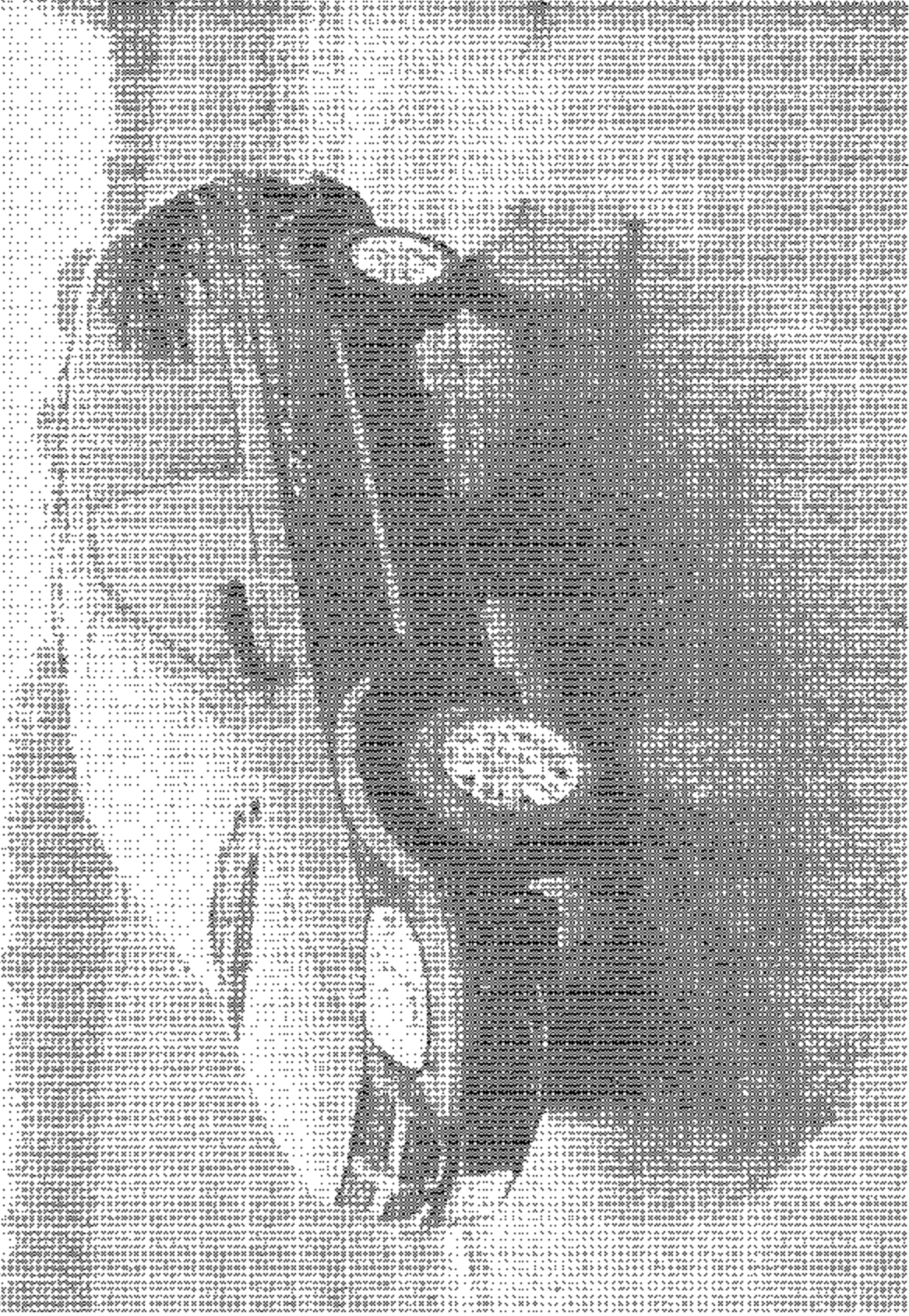
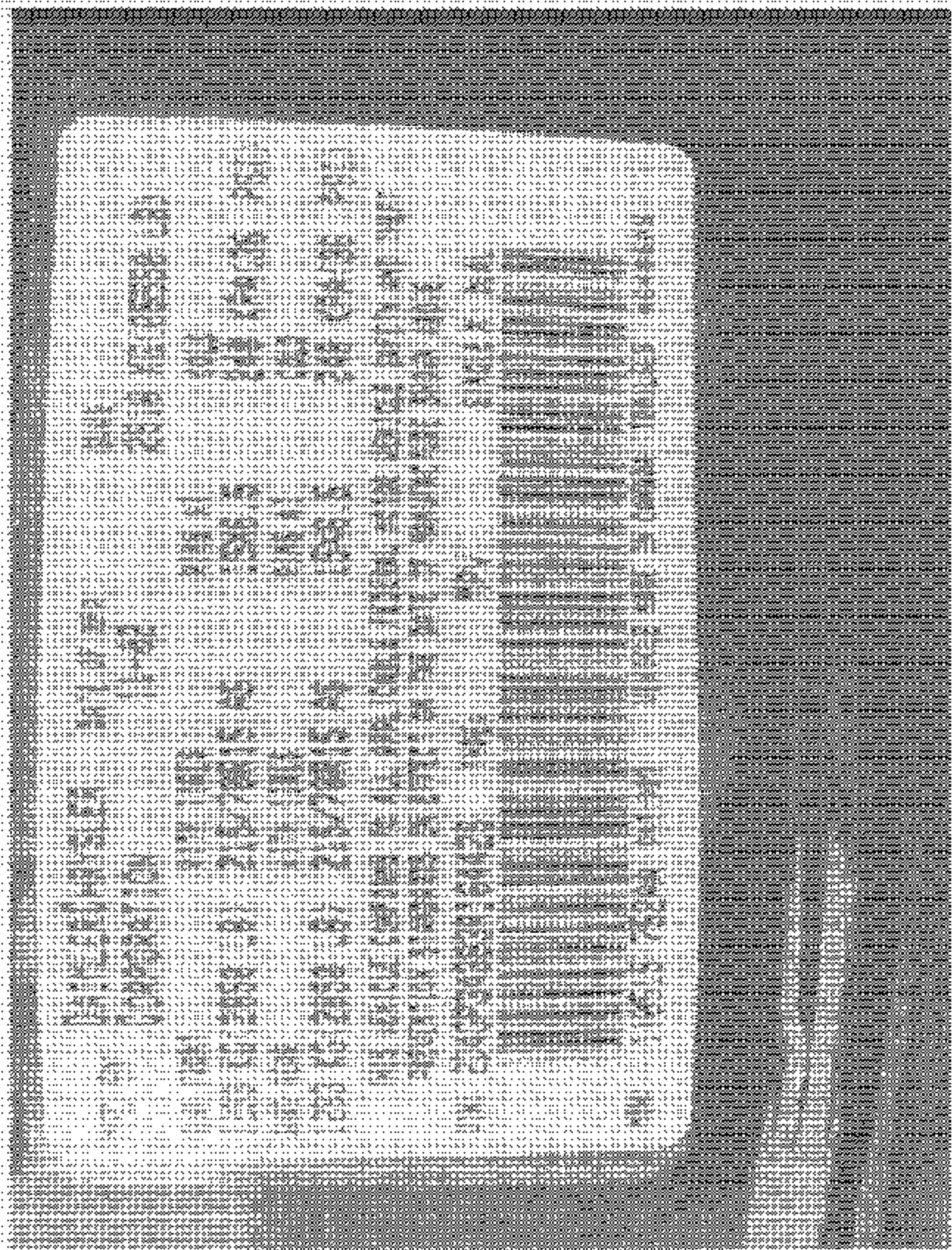


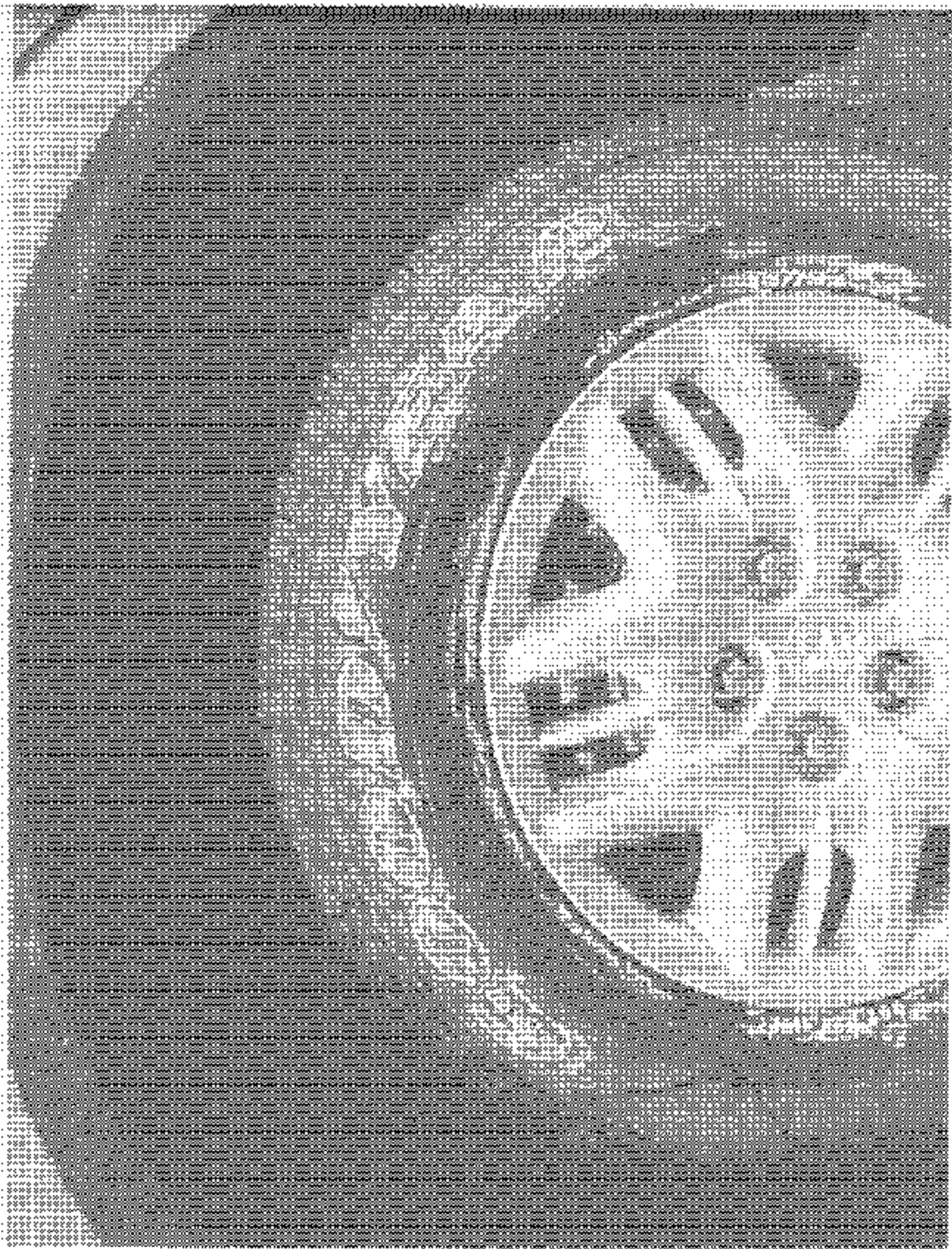
FIGURE 4-1
FRONTAL VIEW OF VEHICLE

2003 DODGE GRAND CARAVAN
NHTSA NO. C300-10
SWISS NO. 110 (INFRAN)



2008 DOUGIE BRAND CARAVAN
 NHTSA NO. C3C310
 (MAYSS NR) 110 (INDICANT)

FIGURE 5.2
 IDENTIFICATION AND
 RECOGNITION LABEL



2003 DODGE GRAND CARAVAN
NHTSA NO. C80410
FMVSS NO. 113 (SAFECAN)

FRUIT & VEG
THE SLOWING DOWN

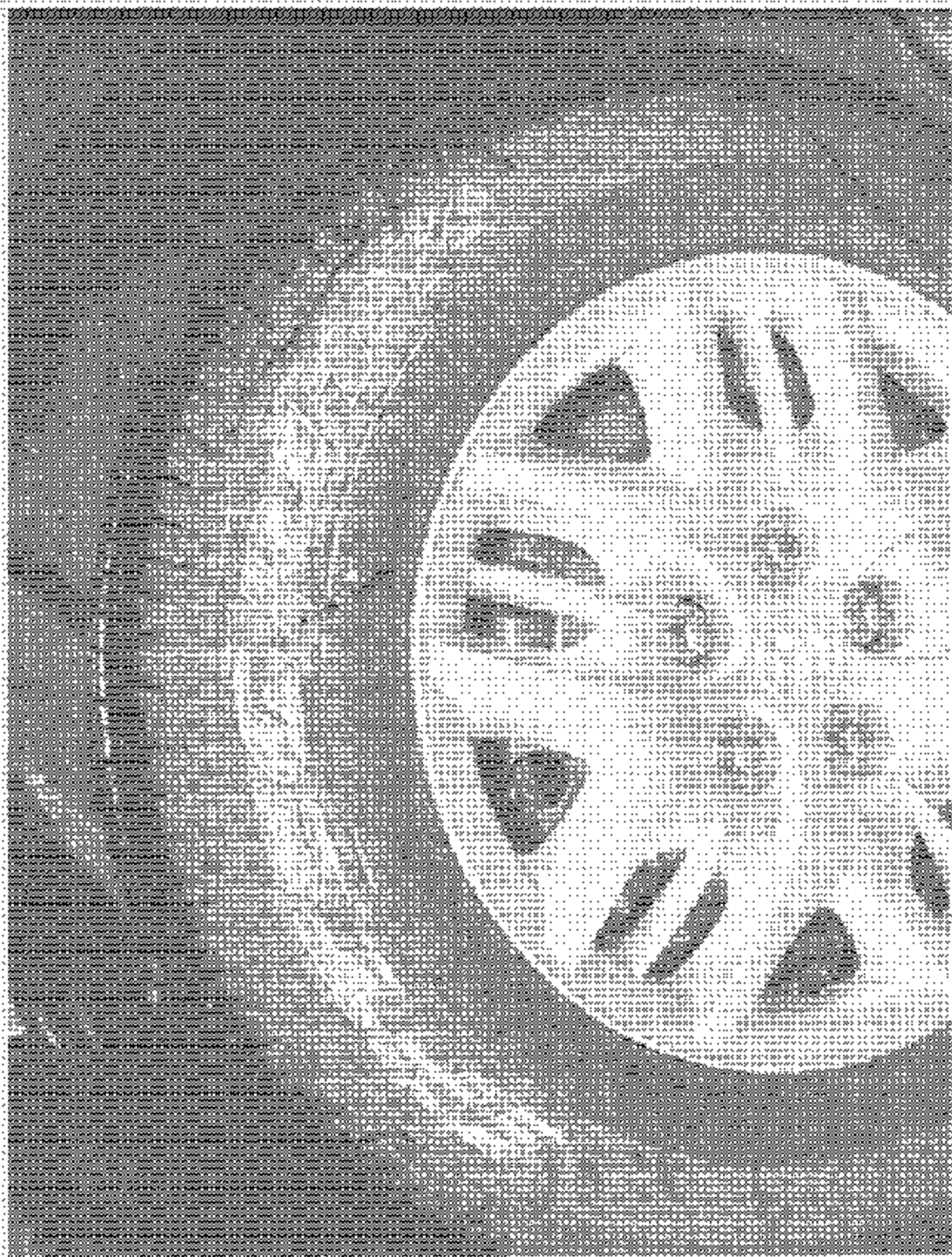


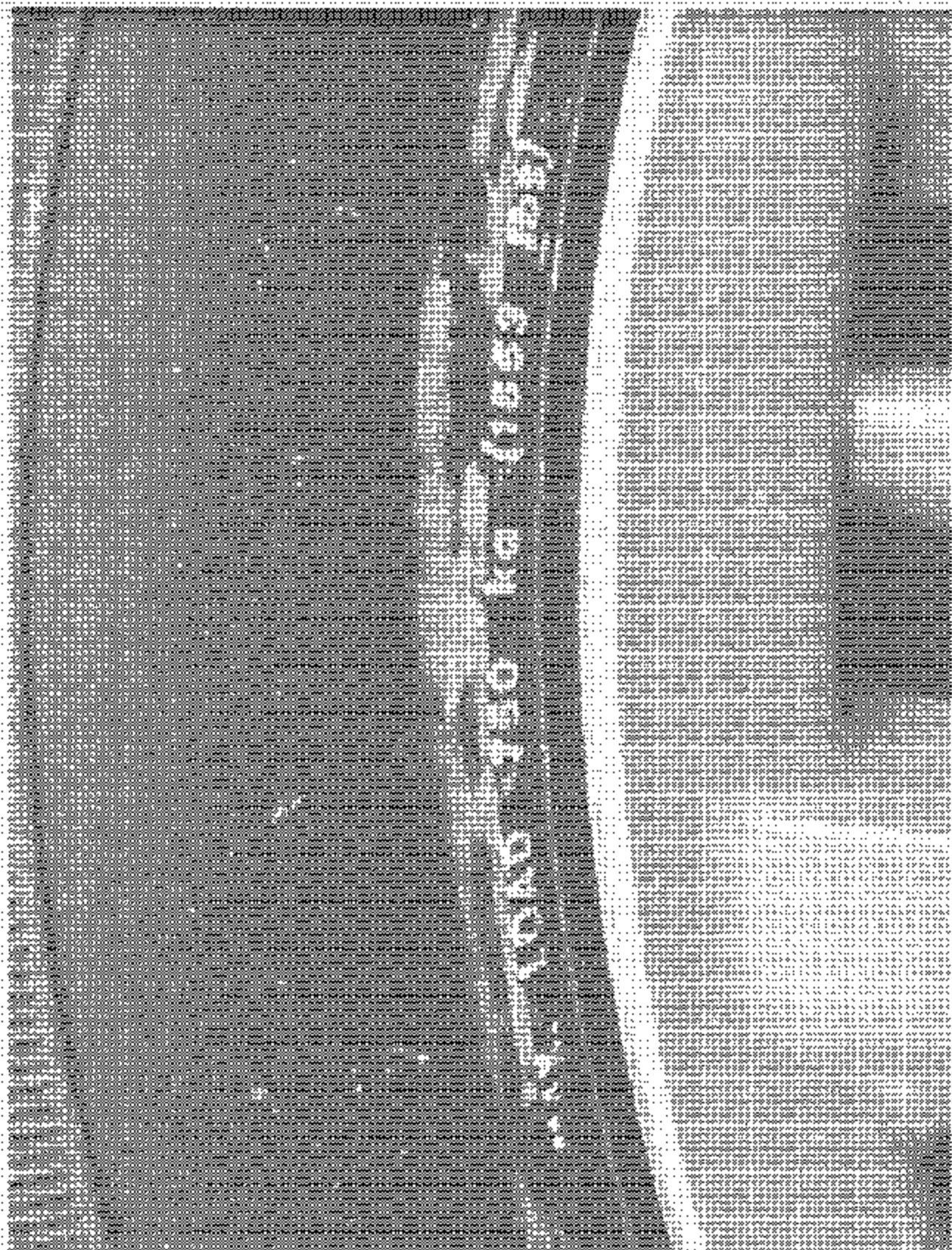
FIGURE 5-4
THE SHOWING MODEL

2003 DODGE GRAND CARAVAN
NH-15A NO. 020510
PLATE NO. 110 INDICATED



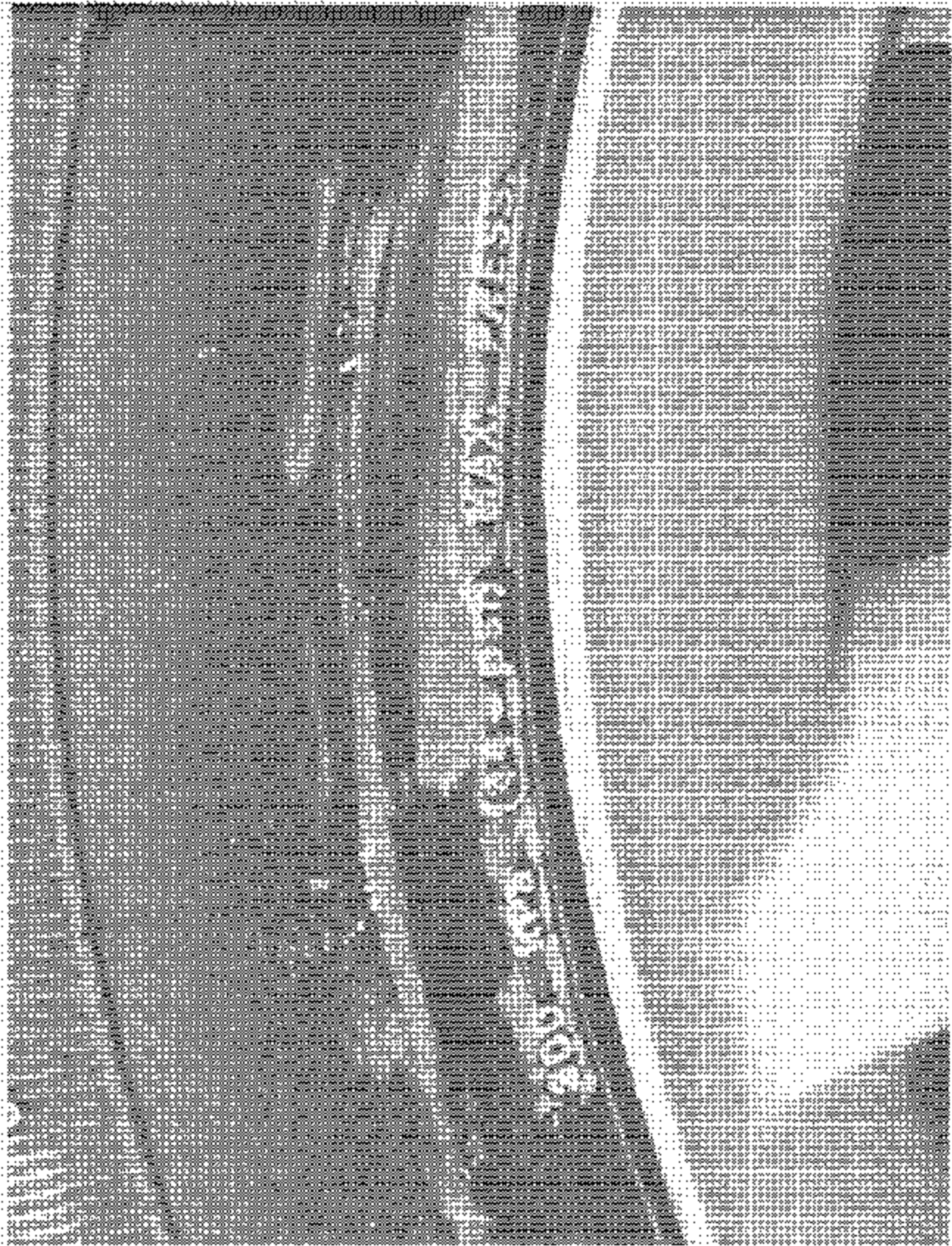
2003 DODGE GRAND CARAVAN
NHTSA NO. C303K1
CLASS NO. T10 (INDICANT)

FIGURE 5.5
TIRE SHOWING SIZE, LOAD INDEX AND SPEED
SYMBOL



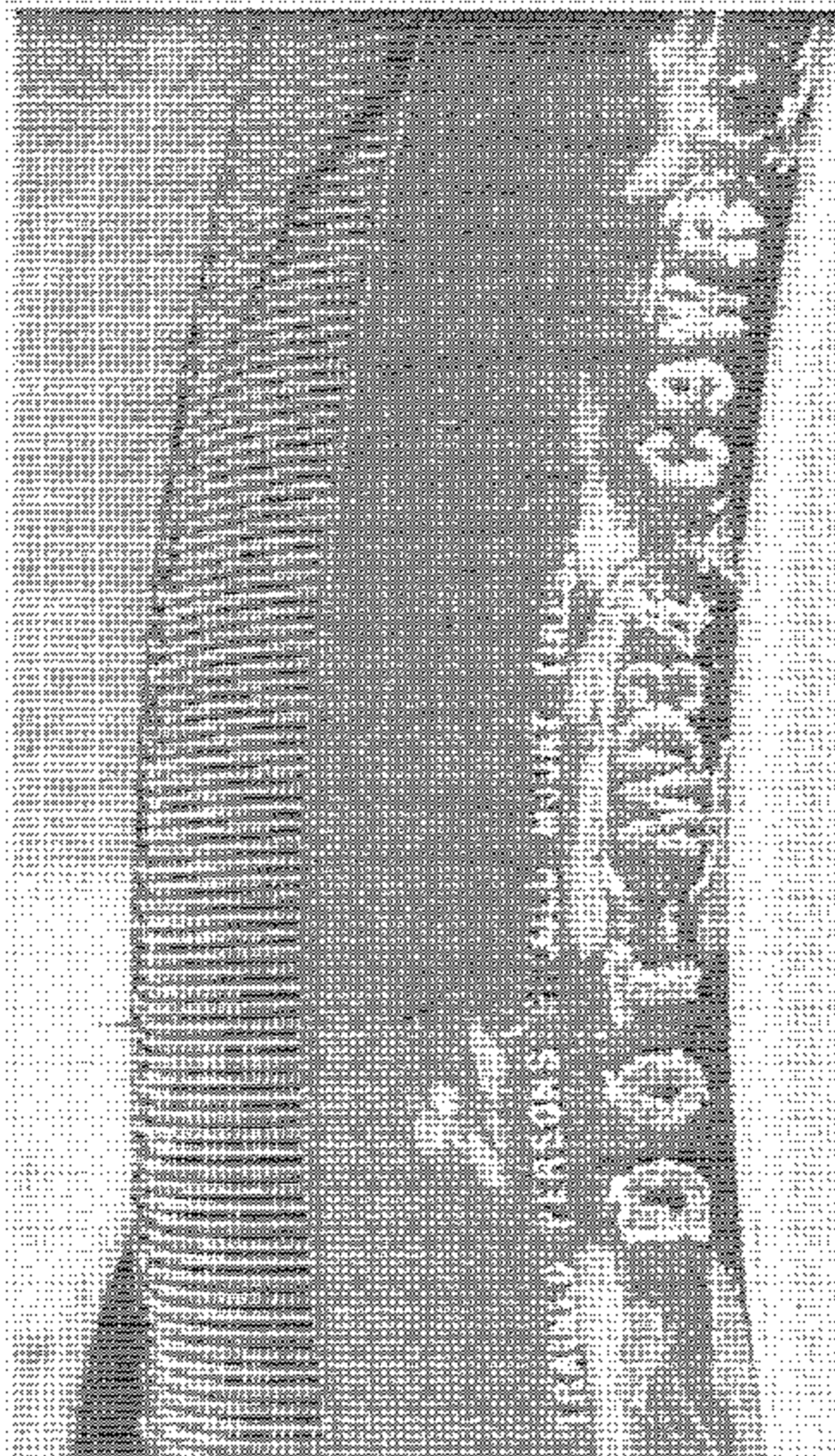
2003 DODGE GRAND CARAVAN
NHTSA NO. 258317
EWCSS NO. 110 INDICATE

FIGURE 9.1
TIRE SHOWING MAX LOAD RATING



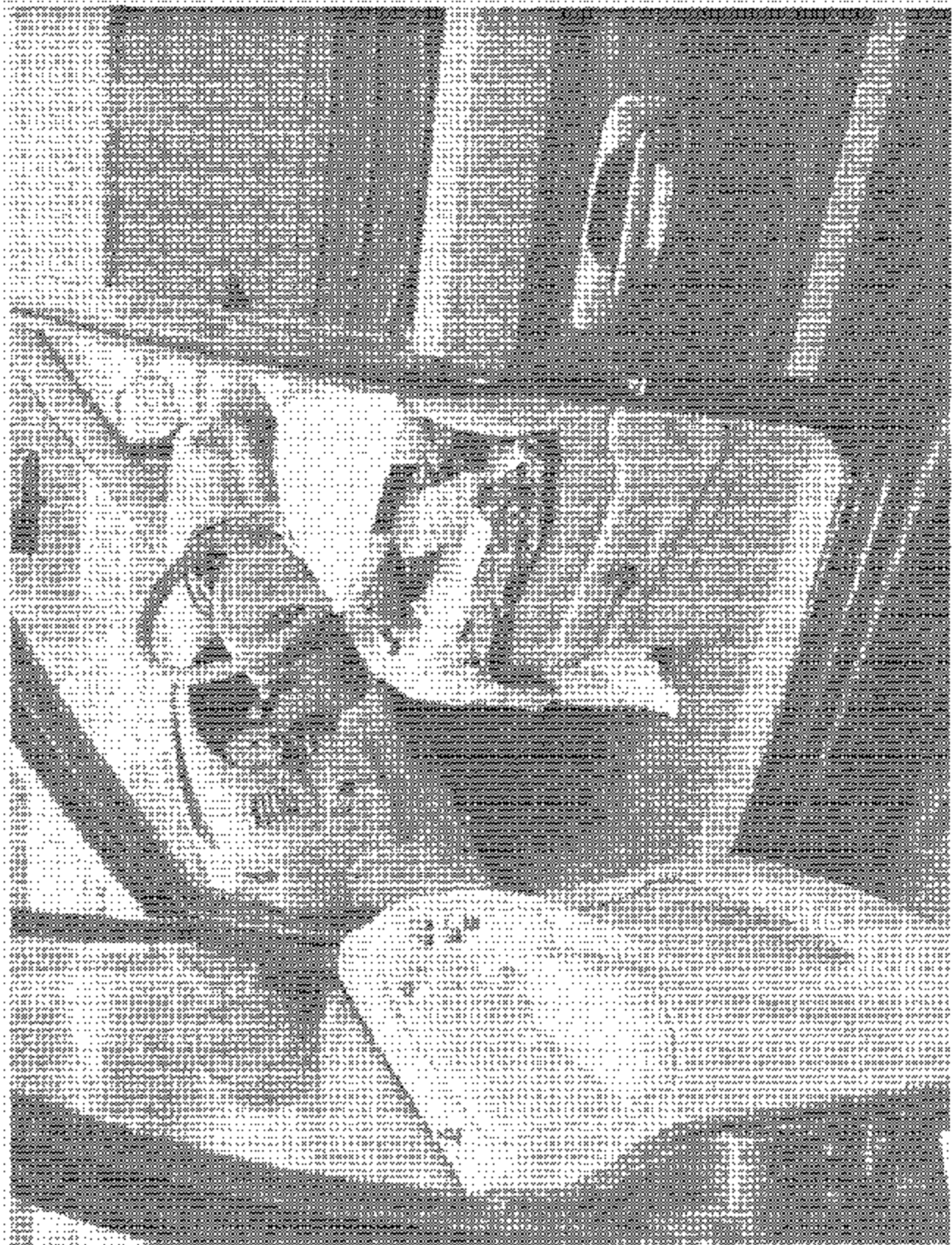
2003 DODGE GRAND CARAVAN
NETSA NO. 030310
FMVSS NO. 110 (INDICANT)

FIGURE 5.1
THE SHOWING MAX INFLATION PRESSURE



2003 DODGE GRAND CARAVAN
NHTSA NO. 030310
FVSS NO. 410 (INDICANT)

FIGURE 5B
TRF SHOWING SERIAL NUMBER



2003 DODGE GRAND CARAVAN
NHISA NO. C60316
FMSVSS NO. 110 (INDICANT)

FIGURE 50
VEHICLE PALLASSED 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.