

REPORT NUMBER 110(IND)-GTL-03-009

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

**DAIMLERCHRYSLER CORPORATION  
2003 DODGE DURANGO, MPV  
NHTSA NO. C30311**

**GENERAL TESTING LABORATORIES, INC.  
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COLONIAL BEACH, VIRGINIA 22443**



SEPTEMBER 9, 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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WASHINGTON, D.C. 20590**

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|                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                             |                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
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| 7. Author(s)<br>Grant Farrand, Project Engineer<br>Debbie Messick, Project Manager                                                                                                                                                                                                                                                                                                                                | 10. Work Unit No. (TRAIS)                                                                                                                                                                                                   |                                  |
| 9. Performing Organization Name and Address<br>General Testing Laboratories, Inc.<br>1623 Leedstown Road<br>Colonial Beach, Va 22443                                                                                                                                                                                                                                                                              | 11. Contract or Grant No.<br>DTNH22-01-C-11025                                                                                                                                                                              |                                  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                   | 15. Supplementary Notes                                                                                                                                                                                                     |                                  |
| 16. Abstract<br>This test was conducted on the subject, 2003 Dodge Durango 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 Durango 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 Durango MPV. Nomenclature applicable to the test vehicle are:

- A. Vehicle Identification Number: 1D4HS58Z73F532413
- B. NHTSA No.: C30311
- C. Manufacturer: DAIMLERCHRYSLER CORPORATION
- D. Manufacture Date: 10/02

#### 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 Durango 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 SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE DURANGO MPV  
 VEHICLE NHTSA NO.: C30311 VIN: 1D4HS58Z73F532413  
 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>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. Aja

DATE: 06/03/03

APPROVED BY: D. Messick



## 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 DURANGO MPV

MANUFACTURE DATE: 10/02    NHTSA NO.: C30311    BODY COLOR: BLUE

VIN: 1D4HS58Z73F532413      VEHICLE TYPE: MPV

GVWR 2903 kg (6400 lbs)    GAWR(Fr) 1633 kg (3600 lbs)    GAWR(Rr) 1727 kg (3806 lbs)

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

ENGINE DATA:      8 Cylinders 5.9 Liters             Cubic Inches

TRANSMISSION DATA:      X Automatic        Manual      4 No. of Speeds

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

INSTALLED TIRE DATA: Size - P265/70R16      Mfr. - GOODYEAR

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

|   |                       |   |                       |   |                   |
|---|-----------------------|---|-----------------------|---|-------------------|
| X | Air Conditioning      |   | Traction Control      | X | Clock             |
|   | Tinted Glass          | X | All Wheel Drive       |   | Roof Rack         |
| X | Power Steering        | X | Cruise Control        | X | Console           |
| X | Power Windows         | X | Rear Window De'roster | X | Driver Air Bag    |
| X | Power Door Locks      |   | Sun Roof or T-Top     | X | Passenger Air Bag |
| X | Power Seat(s)         | X | Tachometer            | X | Front Disc Brakes |
| X | Power Brakes          | X | Tilt Steering Wheel   | X | Rear Disc Brakes  |
| X | Antilock Brake System | X | AM/FM/CD              |   | Other -           |

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

REMARKS:

RECORDED BY: M. A. Abo

DATE: 06/03/03

APPROVED BY: R. Messer

DATA SHEET 3  
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE DURANGO MPV  
 VEHICLE NHTSA NO.: C30311; VIN: 1D4HS58Z73F532413  
 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>621</u> | KG (1368 LB) | LR                               | <u>502</u> | KG (1107LB) |
| RF                                     | <u>618</u> | KG (1362 LB) | RR                               | <u>494</u> | KG (1089LB) |
| Front Axle <u>1238</u> KG (2730 LB)    |            |              | Rear Axle <u>996</u> KG (2196LB) |            |             |
| Total Vehicle <u>2234</u> KG (4926 LB) |            |              |                                  |            |             |

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

(1) Seating Capacity (from Tire Information Placard) = N/A  
 Seating Capacity (# of belted seating positions) = 5

(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                                     | <u>667</u> | KG (1471 LB) | LR                               | <u>556</u> | KG (1226 LB) |
| RF                                     | <u>669</u> | KG (1475 LB) | RR                               | <u>548</u> | KG (1209 LB) |
| Frt Axle <u>1336</u> KG (2946 LB)      |            |              | Rr Axle <u>1104</u> KG (2435 LB) |            |              |
| Total Vehicle <u>2441</u> KG (5381 LB) |            |              |                                  |            |              |

## DATA SHEET 3 – CONTINUED

- (5) Calculated Vehicle Normal Load on the Tire  
 Front Tires (measured front axle normal load/2) = 668 KG (1473 LB)  
 Rear Tires (measured front axle normal load/2) = 552 KG (1218 LB)

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

|                                                                               | Front                    | Rear                    |
|-------------------------------------------------------------------------------|--------------------------|-------------------------|
| (a) Installed Tire Size                                                       | <u>P265/70R16</u>        | <u>P265/70R16</u>       |
| Max. Load Rating on Sidewall                                                  | <u>1090 KG(2403 LBS)</u> | <u>1090 KG(2403LBS)</u> |
| Reduced Sidewall Load Rating<br>(if applicable)*                              | <u>991 KG(2185 LBS)</u>  | <u>991 KG(2185 LBS)</u> |
| High Speed Test Load<br>(88% of sidewall max. load rating)                    | <u>872 KG(1922 LBS)</u>  | <u>872 KG(1922 LBS)</u> |
| (b) Optional Tire Size(s)                                                     | <u>P245/70R16</u>        | <u>P245/70R16</u>       |
| Max. Load Rating on Sidewall<br>(from 2003 Tire and Rim Association Yearbook) | <u>950 KG(2094 LBS)</u>  | <u>950 KG(2094LBS)</u>  |
| Reduced Sidewall Load Rating<br>(if applicable)*                              | <u>864 KG(1904 LBS)</u>  | <u>864 KG(1904 LBS)</u> |
| High Speed Test Load<br>(88% of sidewall max. load rating)                    | <u>760 KG(1676 LBS)</u>  | <u>760 KG(1676 LBS)</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. Aguirre

DATE: 06/03/03

APPROVED BY: D. Messia

DATA SHEET 4  
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE DURANGO MPV  
 VEHICLE NHTSA NO.: C30311; VIN: 1D4HS58Z73F532413  
 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's Door  
 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 - 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:

P245/70R16

FRONT - 241 kPa (35 psi)

REAR - 241 kPa (35 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: [Signature]

DATE: 06/03/03

APPROVED BY: [Signature]

DATA SHEET 5  
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE DURANGO MPV  
 VEHICLE NHTSA NO.: C30311 ; VIN: 1D4HS58Z73F532413  
 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           | <u>P265/70R16</u>                            |
| Tire Load Index/Speed Symbol    | <u>111S</u>                                  |
| Maximum Inflation Pressure      | <u>300 kPa (44 psi)</u>                      |
| Maximum Load Rating             | <u>1090 KG (2403 LBS.)</u>                   |
| Mfr. Name or Brand & Code       | <u>GOODYEAR WRANGLER</u>                     |
| Tube or Tubeless                | <u>TUBELESS</u>                              |
| Treadwear/Traction/Temp. Grades | <u>340/A/B</u>                               |
| Sidewall (Plies & Composition)  | <u>2 PLY POLYESTER</u>                       |
| Tread (Plies & Composition)     | <u>2 PLY POLYESTER</u><br><u>2 PLY STEEL</u> |
| Serial Number: Right Front -    | <u>DOT-4B72 WDWR 3302</u>                    |

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

REMARKS:

RECORDED BY: M. A. Abon

DATE: 06/03/03

APPROVED BY: D. Messick

SECTION 4  
INSTRUMENTATION AND EQUIPMENT LIST

TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

| EQUIPMENT     | DESCRIPTION | MODEL/<br>SERIAL NO. | CAL. DATE     | NEXT CAL.<br>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 | 199744RR             | 06/02         | 06/03             |
| PRESSURE GAGE | WESKLER     | 0-100                | 05/03         | 05/04             |
| SURFACE LEVEL | GTL         | N/A                  | BEFORE<br>USE | BEFORE<br>USE     |

## SECTION 5 PHOTOGRAPHS

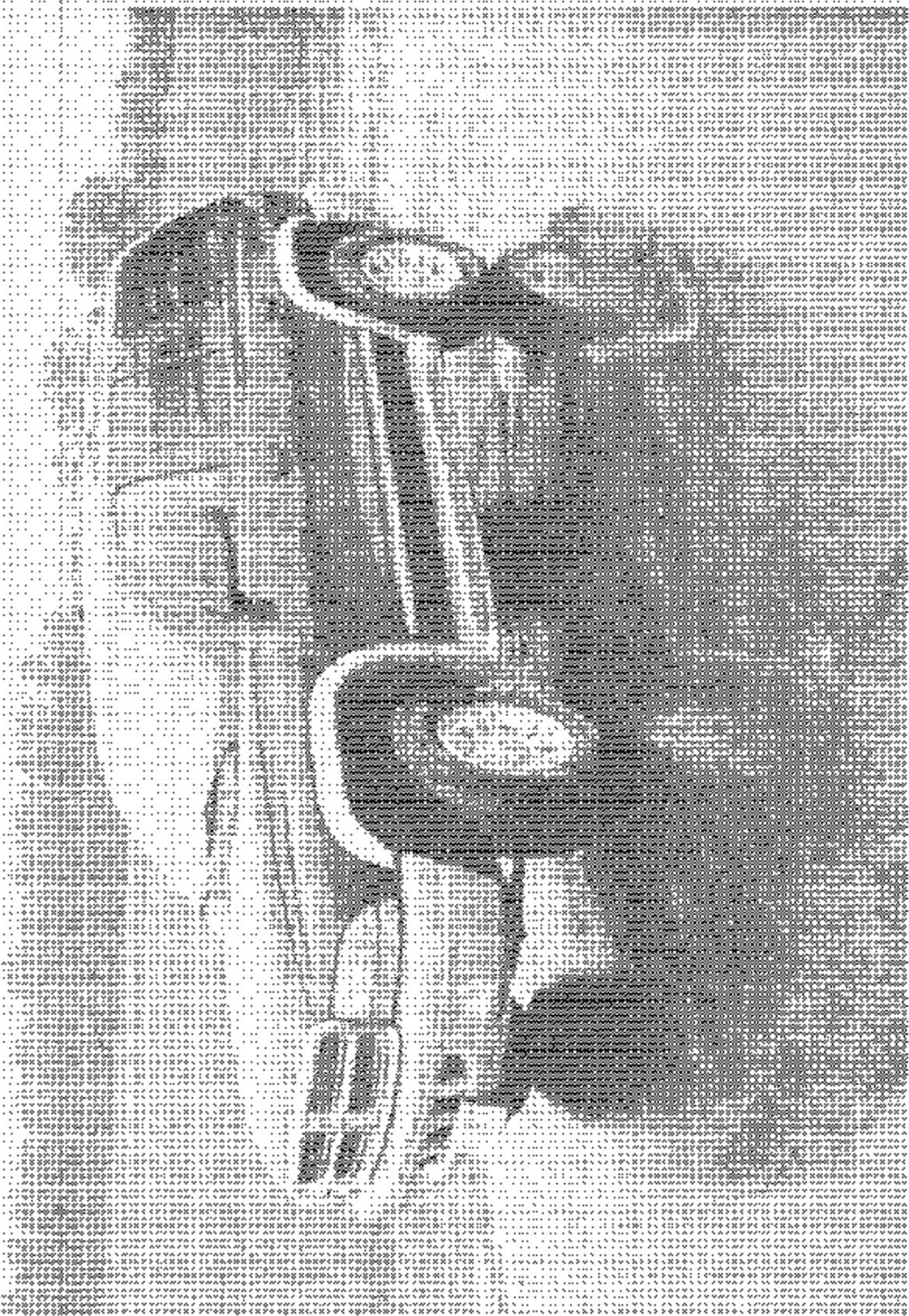


FIGURE 5-1  
A. FRONTAL VIEW OF VEHICLE

2001 DODGE DURANGO SUT  
NHTSA NO. 000511  
FMVSS NO. 210 (INDICANT)



[illegible]

2003 DOBCE DUMARGO ST  
 ARLING NO 2003  
 515-95 NO 10000000

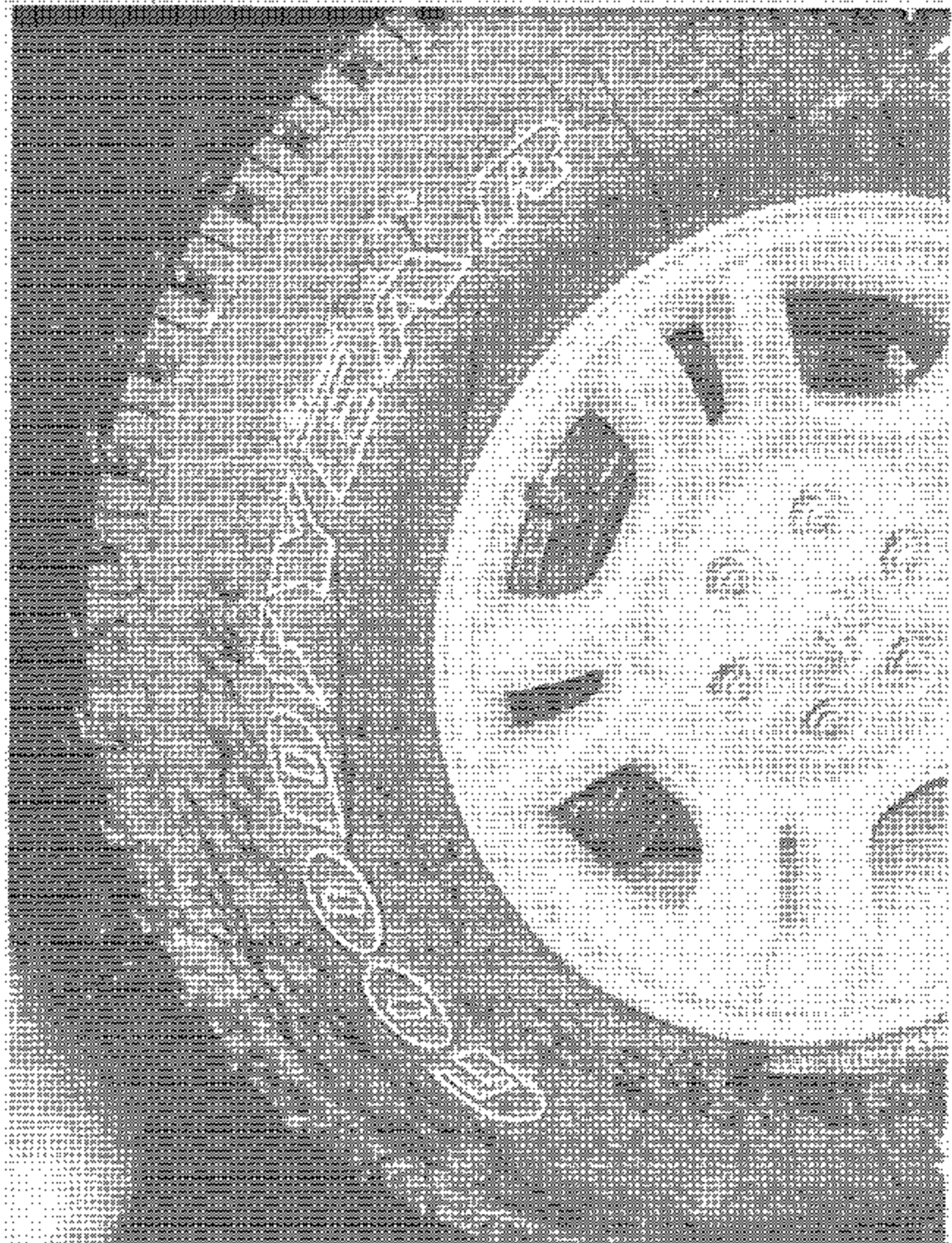


FIGURE 5-3  
TIRE SHOWING BRAND

2005 DODGE DURANGO 4x4  
TIRE NO. 02031  
TIRE NO. 110 (INDICANT)

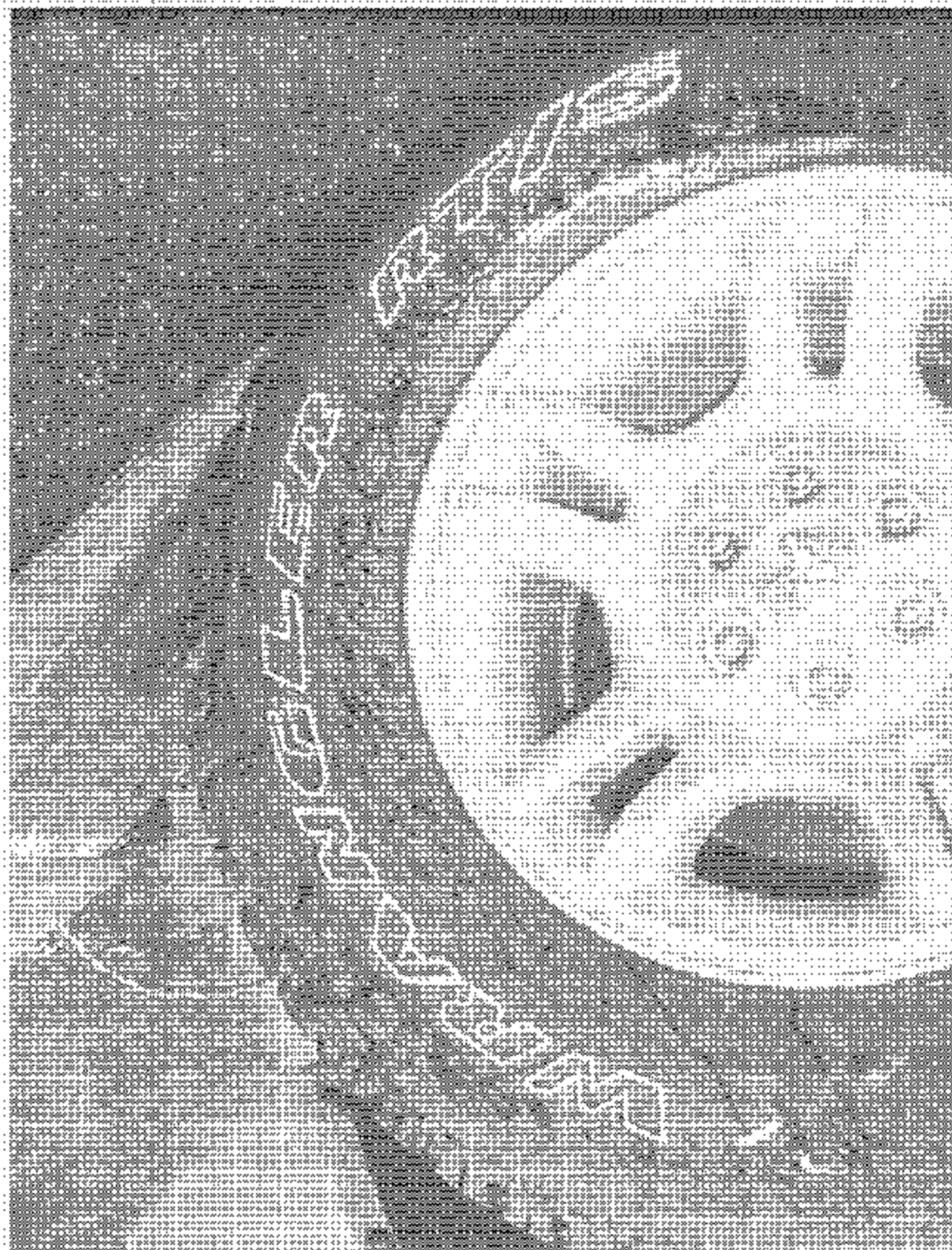
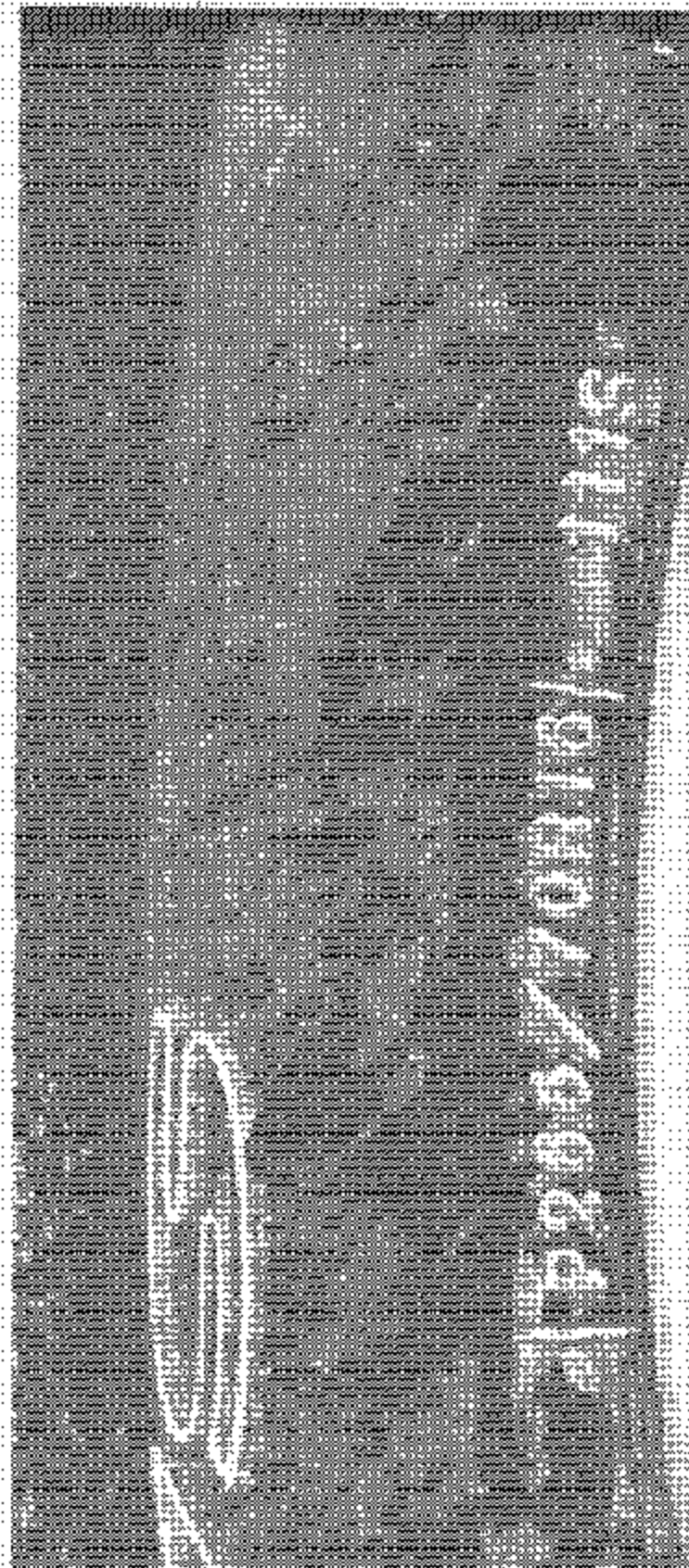


FIGURE 3.4  
FIRE SHOWING MODEL

2003 DODGE DURANGO SLT  
NHTSA NO. 050311  
FRVSS NO. 110 (INDICANT)



2003 DODGE DURANGO SLT  
NHISA NO. 120311  
FMSVSS NO. 110 (INDICANT)

FIGURE 3.5  
TIRE SHOWING SUE LOAD INDEX AND  
SPEED SYMBOL

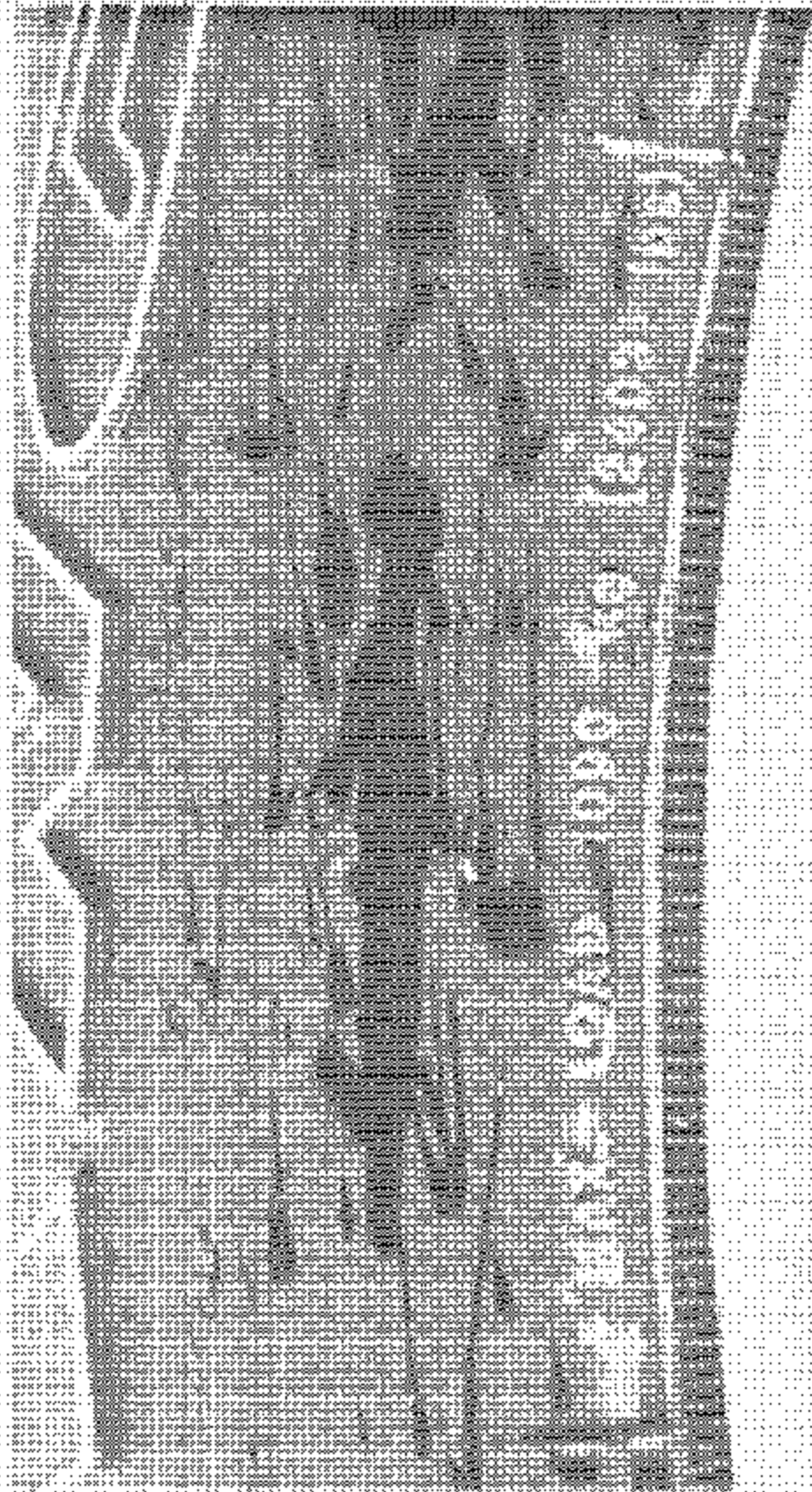
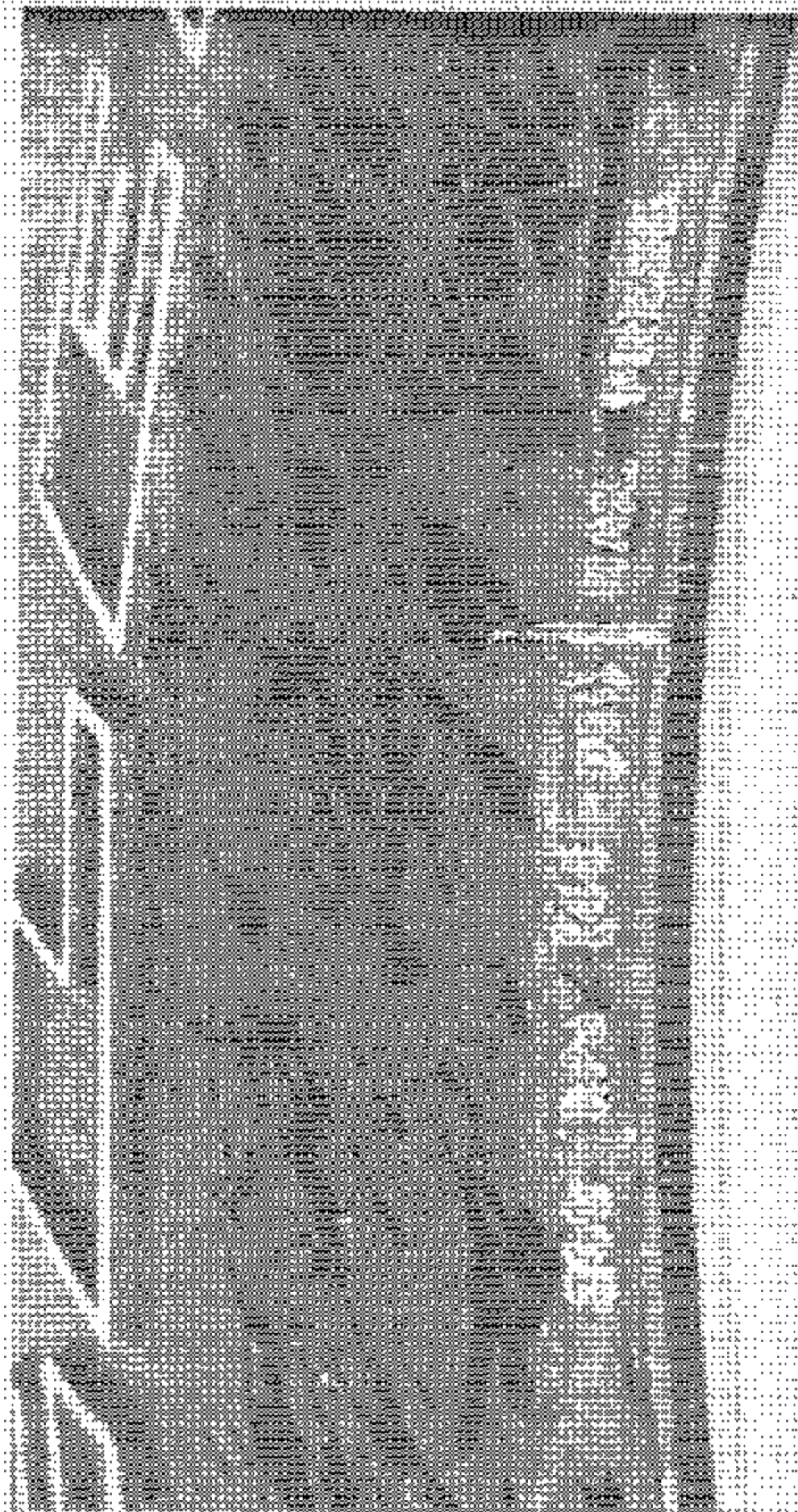


FIGURE 5.6  
TIFF SHOWING MAX LOADING

2013 DODGE DURANGO SLT  
NR15A NC 52031  
PRVSS NO. 110 (INDICANT)



2000 DODGE DURANGO SLT  
MHEA NO. 030311  
PAVSS NO. 115 (INDICANT)

FIGURE 5.7  
TIRE SHOWING MAX INFLATION  
PRESSURE



FIGURE 8  
VEHICLE BALLASTED TO SIMULATE  
NORMAL LOAD CONDITION

2003 DODGE DURANGO SLT  
NHTSA NO. C30317  
FMVSS NO. 150 (INDICANT)

## 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.