

REPORT NUMBER 110(IND)-GTL-03-003

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

**GENERAL MOTORS CORP.  
2003 PONTIAC MONTANA, MPV  
NHTSA NO. C30122**

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SEPTEMBER 03, 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 Pontiac Montana 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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## 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 ¾ Frontal View of Vehicle	
	5.2 Vehicle's Certification and Tire Information Label	
	5.3 Tire Showing Brand	
	5.4 Tire Showing Model	
	5.5 Tire Showing Size	
	5.6 Tire Showing Max Load Rating and Max Inflation Pressure	
	5.7 Vehicle Ballasted to Simulate Normal Load Condition	

## APPENDIX – Normal Load Occupation Distribution

## SECTION 1

### INTRODUCTION

#### 1.0 PURPOSE OF INDICANT TEST

A 2003 Pontiac Montana 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 Pontiac Montana MPV. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1GMDX03EX3D111197

B. NHTSA No.: C30122

C. Manufacturer: GENERAL MOTORS CORP.

D. Manufacture Date: 07/02

#### 1.2 TEST DATE

The test vehicle was subjected to testing on May 22, 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 Pontiac Montana 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 PONTIAC MONTANA MPV  
 VEHICLE NHTSA NO.: C30122 ; VIN: 1GMDX03EX3D111197  
 LABORATORY: GENERAL TESTING LABORATORIES  
 TEST DATE: 05/22/03

<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>NO*</u>

REMARKS: \* The label did not appear to be permanently affixed.

RECORDED BY: 

DATE: 05/22/03

APPROVED BY: 



## DATA SHEET 2 TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES      DATE: 05/22/03

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 PONTIAC MONTANA MPV

MANUFACTURE DATE: 07/02 NHTSA NO.: C30122 BODY COLOR: GALAXY SILVER METALLIC

VIN: 1GMDX03EX3D111197      VEHICLE TYPE: MPV

GVWR 2430 kg (5357 lbs)    GAWR(Fr) 1250 kg (2755 lbs)    GAWR(Rr) 1250 kg (2755 lbs)

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

ENGINE DATA:      6 Cylinders 3.4 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 - P215/70R15      Mfr. - GENERAL

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

<input checked="" type="checkbox"/>	Air Conditioning	<input type="checkbox"/>	Traction Control	<input checked="" type="checkbox"/>	Clock
<input checked="" type="checkbox"/>	Tinted Glass	<input type="checkbox"/>	All Wheel Drive	<input checked="" type="checkbox"/>	Roof Rack
<input checked="" type="checkbox"/>	Power Steering	<input checked="" type="checkbox"/>	Cruise Control	<input 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	<input type="checkbox"/>	Sun Roof or T-Top	<input checked="" type="checkbox"/>	Passenger Air Bag
<input checked="" type="checkbox"/>	Power Seat Driver Side	<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 type="checkbox"/>	Rear Disc Brakes
<input checked="" type="checkbox"/>	Antilock Brake System	<input checked="" type="checkbox"/>	AM/FM/CD	<input type="checkbox"/>	Other -

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

REMARKS:

RECORDED BY: *M. D. B.*

DATE: 05/22/03

APPROVED BY: *N. M.*

**DATA SHEET 3**  
**CURB WEIGHT WITH OPTIONS AND NORMAL LOAD**

VEHICLE MAKE/MODEL/BODY STYLE: 2003 PONTIAC MONTANA MPV  
 VEHICLE NHTSA NO.: C30122 ; VIN: 1GMDX03EX3D111197  
 LABORATORY: GENERAL TESTING LABORATORIES  
 TEST DATE: 05/22/03

**Full Fluid Levels:**

Fuel Full ; Coolant Full ; Other Fluids Full

Tire Pressure: LF 240 KPA (35 psi) LR 240 KPA (35 psi)  
 RF 240 KPA (35 psi) RR 240 KPA (35 psi)

**A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES**

LF <u>554 KG (1222 LB)</u>	LR <u>370 KG (816 LB)</u>
RF <u>494 KG (1089 LB)</u>	RR <u>393 KG (866 LB)</u>
Front Axle <u>1048 KG (2311 LB)</u>	Rear Axle <u>763 KG (1682 LB)</u>
Total Vehicle <u>1811 KG (3993 LB)</u>	

**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 <u>606 KG (1336 LB)</u>	LR <u>415 KG (916 LB)</u>
RF <u>551 KG (1215 LB)</u>	RR <u>442 KG (975 LB)</u>
Frt Axle <u>1157 KG (2551 LB)</u>	Rr Axle <u>858 KG (1891 LB)</u>
Total Vehicle <u>2015 KG (4442 LB)</u>	

## DATA SHEET 3 – CONTINUED

- (5) Calculated Vehicle Normal Load on the Tire  
 Front Tires (measured front axle normal load/2) = 579 KG (1276 LB)  
 Rear Tires (measured front axle normal load/2) = 429 KG (945 LB)
- (6) High Speed Test Load from ( ) FMVSS 109 (\$5.5), or (X) FMVSS 119 (\$7.4)

	Front	Rear
(a) Installed Tire Size	<u>P215/70R15</u>	<u>P215/70R15</u>
Max. Load Rating on Sidewall	<u>735 KG(1620 LBS)</u>	<u>735 KG(1620 LBS)</u>
Reduced Sidewall Load Rating (if applicable)*	<u>668 KG(1473 LBS)</u>	<u>668 KG(1473 LBS)</u>
High Speed Test Load (88% of sidewall max. load rating)	<u>588 KG(1296 LBS)</u>	<u>588 KG(1296 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. D. Blay

DATE: 05/22/03

APPROVED BY: R. Menich

DATA SHEET 4  
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 PONTIAC MONTANA MPV  
 VEHICLE NHTSA NO.: C30122 ; VIN: 1GMDX03EX3D111197  
 LABORATORY: GENERAL TESTING LABORATORIES  
 TEST DATE: 05/22/03

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 is Loose)  
 Label Location: Inside Driver's Side Door Jam  
 Description of Label: White/Black 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:

<u>P215/70R15</u>	FRONT - <u>240 kPa (35 psi)</u>
	REAR - <u>240 kPa (35 psi)</u>

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: 

DATE: 05/22/03

APPROVED BY: 

# DATA SHEET 5 VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 PONTIAC MONTANA MPV  
 VEHICLE NHTSA NO.: C30122 ; VIN: 1GMDX03EX3D111197  
 LABORATORY: GENERAL TESTING LABORATORIES  
 TEST DATE: 05/22/03

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 97S  
 Maximum Inflation Pressure 300 kPa (44 psi)  
 Maximum Load Rating 735 KG (1620 LB.)  
 Mfr. Name or Brand & Code GENERAL XP 2000 GT  
 Tube or Tubeless TUBELESS  
 Treadwear/Traction/Temp. Grades 400/A/B  
 Sidewall (Plies & Composition) 2 PLY POLYESTER  
 Tread (Plies & Composition) 2 PLY POLYESTER  
2 PLY STEEL  
 Serial Number: Right Front - LOCATED ON INSIDE OF TIRE

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

## REMARKS:

RECORDED BY: M. D. [Signature]

DATE: 05/22/03

APPROVED BY: A. [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	199744RR	06/02	06/03
PRESSURE GAGE	WESKLER	0-100	05/03	05/04
SURFACE LEVEL	GTL	N/A	BEFORE USE	BEFORE USE

## SECTION 5 PHOTOGRAPHS



2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (INDICANT)

FIGURE 5.1  
¾ FRONTAL VIEW OF VEHICLE





MADE BY GENERAL MOTORS CORP

GVNH

2430XG(357LB)

GVNH FRY

1250XG(2155LB)

GVNH RB

1250XG(2755LB)

07/02

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR  
VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON  
THE DATE OF MANUFACTURE SHOWN ABOVE.

1GMDXG3EX3D111197

TYPE: M.P.V.

MODEL: UM16

UPAM TIRE SIZE SPEED RTG RIM

FRT P215/70R16 S 15X6J

RR P215/70R16 S 15X6J

SPA P215/70R16 M 15X4T

SEE OWNER'S MANUAL

FOR MORE INFORMATION.

COLD TIRE PRESSURE

240KPA(35PSI)

240KPA(35PSI)

230KPA(33PSI)

2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (INDICANT)

FIGURE 5.2  
VEHICLE'S CERTIFICATION AND TIRE  
INFORMATION LABEL



FIGURE 5.3  
TIRE SHOWING BRAND

2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (INDICANT)



FIGURE 5.4  
TIRE SHOWING MODEL

2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (INDICANT)

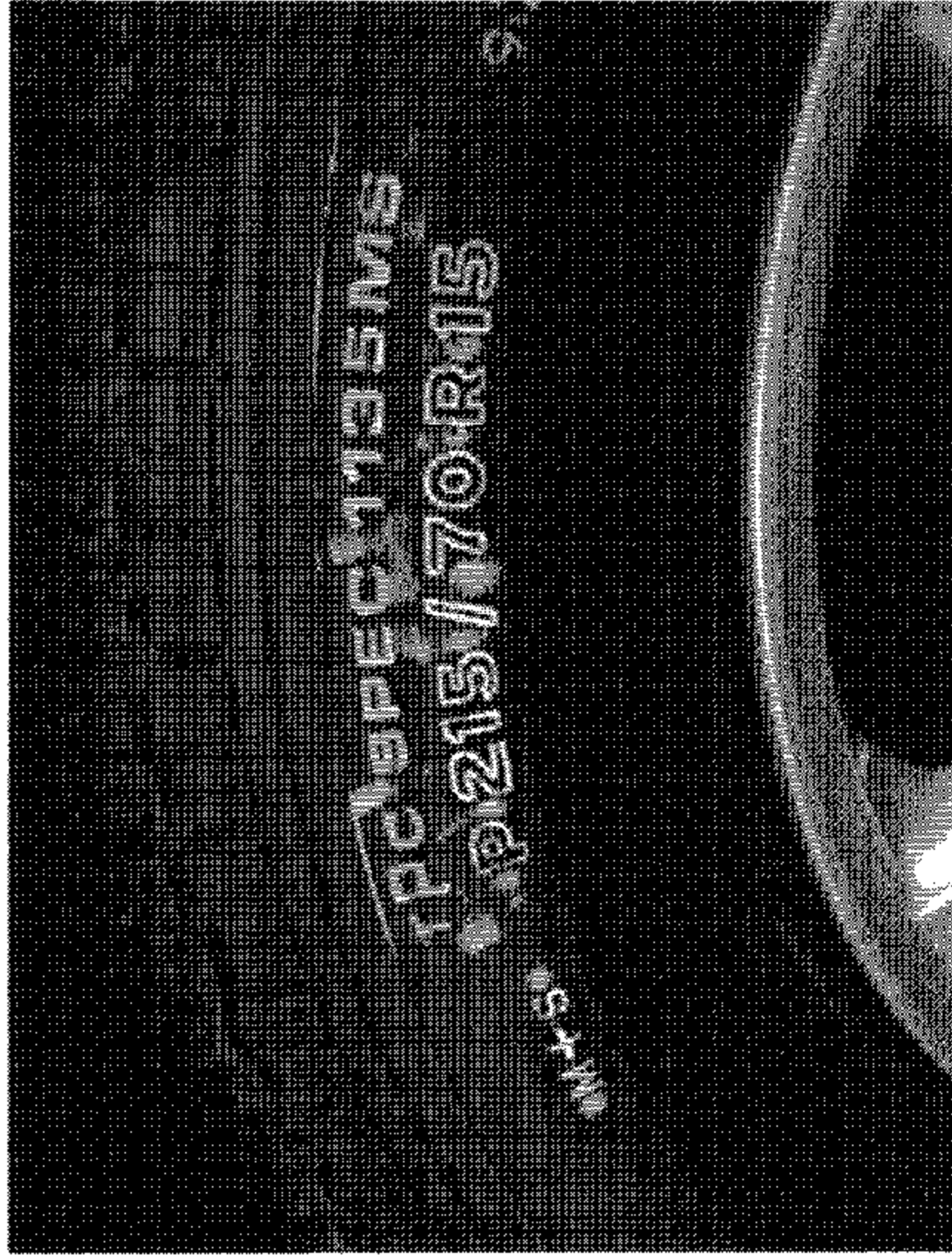


FIGURE 5.5  
TIRE SHOWING SIZE

2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (INDICANT)



2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (INDICANT)

FIGURE 5.6  
TIRE SHOWING MAX LOAD RATING AND MAX  
INFLATION PRESSURE



FIGURE 5.7  
VEHICLE BALLASTED TO SIMULATE  
NORMAL LOAD CONDITION

2003 PONTIAC MONTANA  
NHTSA NO. C30122  
FMVSS NO. 110 (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.