

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 216a ROOF CRUSH RESISTANCE

MAZDA MOTOR CORPORATION
2015 MAZDA 3 | 4-DOOR SV, PASSENGER CAR
NHTSA NO. C20155401

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



October 12, 2015

FINAL REPORT

PREPARED FOR

**U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVE., SE
WASHINGTON, D.C. 20590**

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By: _____

Approved By: _____

Approval Date 10/12/15

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: James A. Jones

Acceptance Date: 10-16-2015

1. Report No. 216-GTL-15-005	2. Government Accession No. N/A	3. Recipient's Catalog No. N/A
4. Title and Subtitle Final Report of FMVSS 216a Compliance Testing of a 2015 MAZDA 3 PASSENGER CAR NHTSA No. C20155401		5. Report Date October 12, 2015
		6. Performing Organ. Code GTL
7. Author(s) Grant Farrand, Project Engineer Debbie Messick, Project Manager		8. Performing Organ. Rep# GTL-DOT-15-216-005
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. DTNH22-11-D-00244L
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Admin. Enforcement Office of Vehicle Safety Compliance (NVS-220) 1200 New Jersey Ave., S.E., Washington, DC 20590		13. Type of Report and Period Covered Final Test Report September 15, 2015
		14. Sponsoring Agency Code NVS-220
15. Supplementary Notes		
16. Abstract Compliance tests were conducted on the subject 2015 Mazda 3 Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-216a-00 for the determination of FMVSS 216 compliance. Test failures identified were as follows: None		
17. Key Words Compliance Testing Safety Engineering FMVSS 216		18. Distribution Statement Copies of this report are available from NHTSA Technical Information Services (TIS) Room W45-212 (NPO-411) 1200 New Jersey Ave., S.E. Washington, DC 20590 Telephone No. (202) 366-4947
19. Security Classif. (of this report) UNCLASSIFIED	21. No. of Pages 69	22. Price
20. Security Classif. (of this page) UNCLASSIFIED		

TABLE OF CONTENTS

SECTION	PAGE
1 Purpose of Compliance Test	1
2 Summary of Compliance Test Data	2
3 Test Data and Results	3
4 Test Equipment List and Calibration Information	10
5 Photographs	11
6 Test Data Plots	65

SECTION 1 PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

This roof crush compliance test is part of a program conducted for the National Highway Traffic Safety Administration by General Testing Laboratories under contract number DTNH22-11-D-00244L. The purpose of the test was to determine whether the subject vehicle, 2015 Mazda 3 Passenger Car meets certain performance requirements of FMVSS 216a, "Roof Crush Resistance". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP-216a-00 dated May 6, 2009.

1.1 The test vehicle was a 2015 Mazda 3 Passenger Car. The vehicle was identified as follows:

- A. Vehicle Identification Number: JM1BM1T75F1262658
- B. NHTSA No.: C20155401
- C. Manufacturer: MAZDA MOTOR CORPORATION
- D. Manufacture Date: 03/15
- E. Color: Liquid Silver Metallic

1.2 TEST DATE

The test vehicle was tested on the driver and passenger side on September 15, 2015.

SECTION 2 SUMMARY OF COMPLIANCE TEST DATA

2.0 SUMMARY OF COMPLIANCE TEST DATA

The roof of a 2015 Mazda 3 Passenger Car was required to sustain a maximum load of 38,264 N (UVW x 9.8 x 3.0) on both the right and left sides of the vehicle with platen displacement of 127 mm or less. The left side sustained a maximum load of 38,264 N at 35 mm of platen travel. The right side sustained a load of 38,264 N at 31.6 mm of platen travel. No head contact was observed.

The test vehicle's unloaded weight was 1301.5 kg. The test was conducted at General Testing Laboratories in Leedstown, Virginia on September 15, 2015.

SECTION 3 TEST DATA AND RESULTS

3.0 TEST DATA AND RESULTS

The following data sheets document the results of testing on the 2015 Mazda 3 Passenger Car.

DATA SHEET 1 **General Test and Vehicle Parameter Data**

NHTSA NO. C20155401 Test Date: 09/15/15 Side Tested: Driver/Psgr
 Laboratory: General Testing Laboratories, Inc.
 Test Technicians(s): G. Farrand, J. Latane

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2015 Mazda 3 Passenger Car
 Body Color: Liquid Silver Metallic VIN: JM1BM1T75F1262658
 Build Date: 03/15 Odometer Reading: 21 miles
 Engine Data: 4 cylinders CID 2.0 Liter cc All Electric Vehicle
 Engine Placement: longitudinal; or X lateral
 Transmission: 6 speed manual X automatic overdrive
 Final Drive: RWD X FWD 4WD AWD
 Safety Restraints: Lap/Shoulder and SRS

DATA FROM TIRE SIDEWALL:

Size of tires on test vehicle: P205/60R16 Front & Rear Manufacturer: BRIDGESTONE
 Tire Pressure for Max. Load Carrying Capacity: 300 kPa Front 300 kPa Rear
 Treadwear: 600 Traction: 4 Temperature: A

DATA RECORDED FROM VEHICLE PLACARD OR TIRE LABEL:

Recommended Tire Size: P205/60R16 Front and Rear
 Recommended Cold Tire Pressure: 250 kPa Front 250 kPa Rear

VEHICLE CAPACITY DATA:

Number of Occupants: 2 front 3 rear 5 Total
 Type of Front Seat(s): X buckets bench split bench
 Type of Front Seat Back: fixed X adjustable with X lever or knob

List of Components Removed: Rocker Panel Trim, Wheels and Tires, Seats(Front)

UNLOADED VEHICLE WEIGHT (UVW):

Right Front	<u>389</u>	kg	Right Rear	<u>247</u>	kg
Left Front	<u>402.5</u>	kg	Left Rear	<u>263</u>	kg
Total Front	<u>791.5</u>	kg	Total Rear	<u>510</u>	kg

Total Weight 1301.5 kg % of Total weight in Front= 61 % % Total weight in Rear= 39 %
 Vehicle GVWR 1815 kg (4001 lbs)

TEST VEHICLE ATTITUDE:

Pitch Attitude (Nose Down (ND), Nose Up (NU))

INITIAL:	Right Door Sill Angle <u>0.0</u>	Left Door Sill Angle <u>0.0</u>
FINAL:	Right Door Sill Angle <u>0.0</u>	Left Door Sill Angle <u>0.0</u>

Roll Attitude:

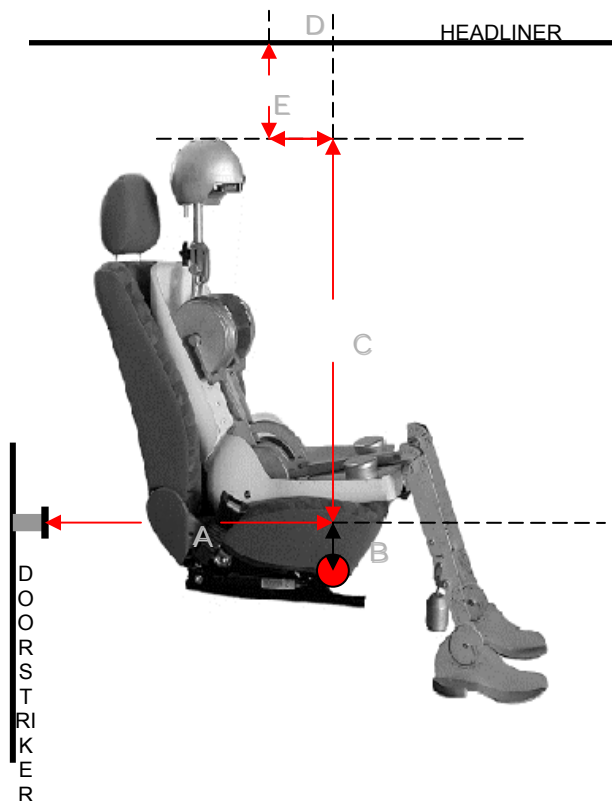
INITIAL:	Left Side <u>143</u> mm	Right Side <u>144</u> mm
FINAL:	Left Side <u>143</u> mm	Right Side <u>144</u> mm

G. Farrand
 Technician Signature

09/15/15
 Date

DATA SHEET 2
Driver Seat HRMD Location Data

NHTSA No: C20155401; Test Date: 09/15/15; Side Tested: Driver
 Laboratory: General Testing Laboratories, Inc.
 Test Technician(s): G. Farrand, J. Latane



H-Point Data (mm)

HRMD

	J826 Only	After HRMD Installed
Torso Angle	25.5°	25.5°
X(=A) – fore of striker	183 mm	183 mm
Z(=B) – below striker below	-179 mm	-179 mm

Positioning Data (mm)

C	755 mm
D	162 mm
E	118 mm

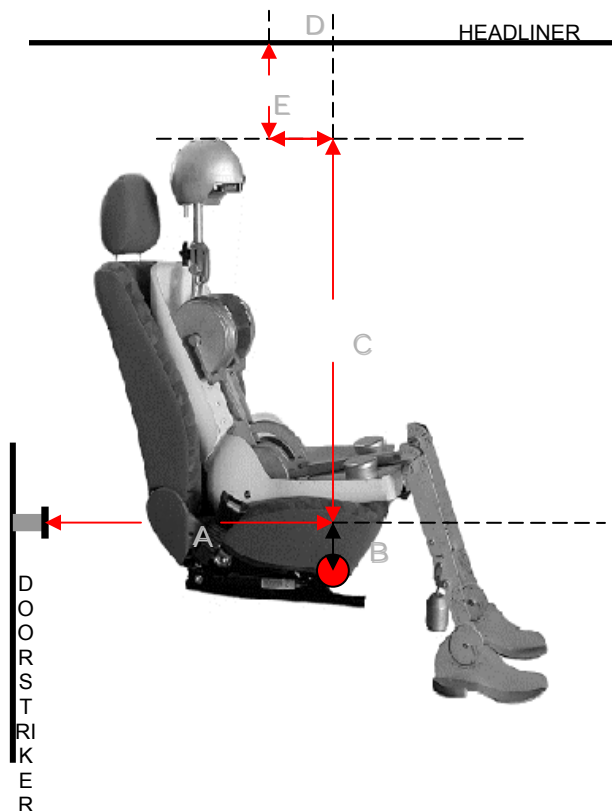
- A – Horizontally from the door striker to the H-point
 B – Vertically from the H-point to the door striker
 C – Vertically from the door striker to the top of the head
 D – Horizontally from the center of the head to the H point
 E – Vertically from the center of the head to the roofline

G. Farrand
 Technician Signature

09/15/15
 Date

DATA SHEET 3
Front Passenger Seat HRMD Location Data

NHTSA No: C20155401; Test Date: 09/15/15; Side Tested: Passenger
 Laboratory: General Testing Laboratories, Inc.
 Test Technician(s): G. Farrand, J. Latane



H-Point Data (mm)

HRMD		J826 Only	After HRMD Installed
	Torso Angle	26.0°	26.0°
	X(=A) – fore of striker	189 mm	189 mm
	Z(=B) – below striker below	-190 mm	-190 mm

Positioning Data (mm)

C	752 mm
D	178 mm
E	131 mm

- A – Horizontally from the door striker to the H-point
 B – Vertically from the H-point to the door striker
 C – Vertically from the door striker to the top of the head
 D – Horizontally from the center of the head to the H point
 E – Vertically from the center of the head to the roofline

G. Farrand
 Technician Signature

09/15/15
 Date

DATA SHEET 4
Test Information – First Tested Side

NHTSA No: C20155401; Test Date: 09/15/15; Side Tested: Psgr.
 Laboratory: General Testing Laboratories, Inc.
 Test Technician(s): G. Farrand, J. Latane
 Test Number: 7320

A. Front Outboard Passenger Side Pre-Test Data

Levelness of the Tie-Down Surface/Platform($0 \pm 0.5^\circ$) 0.0
 Platen Angles: Pitch Angle 5.0° Roll Angle 25.0°
 Platen Alignment at Vehicle Longitudinal Centerline: 676 mm
 Max. Applied Force for Vehicles w/GVWR $\leq 2722\text{kg}$ = UVW 1301.5 x 9.8 x 3.0 =
38,264 N

1. Any convertible top, movable or removable roof structure in their closed positions:
 Yes X No N/A
2. Close all windows, close and lock all doors: Yes X No
3. The test device will initially contact the roof at 430 mm aft of windshield
4. HRMD Top Center of Head Position (Psgr): X 189 Y 0 Z 131
5. HPF 201 Head Form Top Center of Head Position (Psgr): X 189 Y 0 Z 131
6. HPF device properly aligned: Yes X No

B. Post Test Data

Maximum load achieved = 38,264 N at 31.6 mm of displacement.

Did the maximum load achieved reach the maximum applied force (0,-250N)?
 No Fail Yes X Pass

Did head contact occur? No X Yes at mm of displacement.

Was a 222 N head resultant force attained? No X Pass Yes Fail at mm of displacement.

Did the platen travel exceed 127 mm? No X Pass Yes Fail

Did the windshield break? No X Yes at mm of displacement.

Did the sun roof panel(s) break? No Yes N/A X

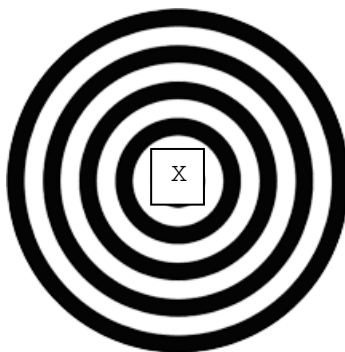
Description of damage and deformation that occurred during the test:

Flattened area above passenger's door 70 mm wide x 640 mm long. No other damage noted.

DATA SHEET 4 continued
Test Information – First Tested Side

Did the second HPF shift from its original position? No X Yes ____ Distance ____ mm

Indicate in the picture below where the second HPF center is located versus the original position (center). **NOTE:** The distance between each concentric circle is 2 mm.



G. Farrand
Technician Signature

09/15/15
Date

DATA SHEET 5
Test Information – Second Tested Side

NHTSA No: C20155401; Test Date: 09/15/15; Side Tested: Driver
 Laboratory: General Testing Laboratories, Inc.
 Test Technician(s): G. Farrand, J. Latane
 Test Number: 7321

A. Driver Side Pre-Test Data

Levelness of the Tie-Down Surface/Platform($0 \pm 0.5^\circ$) 0.0
 Platen Angles: Pitch Angle 5° Roll Angle 25.0°
 Platen Alignment at Vehicle Longitudinal Centerline: 676 mm
 Max. Applied Force for Vehicles w/GVWR $\leq 2722\text{kg}$ = UVW 1301.5 x 9.8 x 3.0 =
38,264 N

1. Any convertible top, movable or removable roof structure in their closed positions:
 Yes X No N/A
2. Close all windows, close and lock all doors: Yes X No
3. The test device will initially contact the roof at 430 mm aft of windshield
4. HRMD Top Center of Head Position (Drvr.): X 183 Y 0 Z 118
5. HPF 201 Head Form Top Center of Head Position (Drvr.): X 183 Y 0 Z 118
6. HPF device properly aligned: Yes X No

B. Post Test Data

Maximum load achieved = 38,264 N at 35 mm of displacement.

Did the force reach the required load?
 No Fail Yes X Pass

Did head contact occur? No X Yes at mm of displacement.

Was a 222 N head resultant force attained? No X Pass Yes Fail at mm of displacement.

Did the platen travel exceed 127 mm? No X Pass Yes Fail

Did the windshield break? No X Yes at mm of displacement.

Did the sun roof panel(s) break? No Yes N/A X

Description of damage and deformation that occurred during the test:

Flattened area above driver's door approximately 75 mm wide x 600 mm long.

G. Farrand
 Technician Signature

09/15/15
 Date

SECTION 4 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEH. MOD YR/MAKE/MODEL/BODY: 2015 MAZDA 3 PASSENGER CAR

BODY COLOR LIQUID SILVER METALLIC VEH. NHTSA NO: C20155401;

VEH. MANUF. DATE: 03/15; VIN: JM1BM1T75F1262658 VEH. TYPE (CERT.LABEL): Psg. Car

TEST DATE: 09/15/15; LABORATORY: GENERAL TESTING LABORATORIES

OBSERVERS: G. FARRAND, J. LATANE

ITEM	MFR	MODEL	S/N	CAL. PERIOD	DATE OF LAST CALIB	ACC.	REMARKS
LOAD CELL	TRANSDUCER	25,000 LB	18550	12 MO.	02/15	0.1%	
DISPLACEMENT TRANSDUCER	WALDALE	30 INCH	123456	12 MO.	03/15	.1 IN.	
HEAD LOAD CELL	INTERFACE	1F-954 3 AXIS	156	BEFORE USE	06/15	.01%	
HEAD LOAD CELL	INTERFACE	1F-954 3 AXIS	159	BEFORE USE	06/15	.01%	

REMARKS:

RECORDED BY: G. FARRAND

DATE: 09/15/15

APPROVED BY: D. MESSICK

SECTION 5 PHOTOGRAPHS

- 5.1 $\frac{3}{4}$ Left Front View of Vehicle on Tested Side Before Testing
- 5.2 $\frac{3}{4}$ Right Front View of Vehicle on Tested Side Before Testing
- 5.3 Left Side View of Vehicle Before Testing
- 5.4 Right Side View of Vehicle Before Testing
- 5.5 Close-up View of Vehicle Certification Label
- 5.6 Close-up View of Tire Information Label
- 5.7 Driver Side Interior Seating
- 5.8 Passenger Side Interior Seating
- 5.9 Pre-Test Head Positioning Fixture Installed in Vehicle
- 5.10 Pre-Test Head Positioning Fixture Installed in Vehicle
- 5.11 Pre-Test Head Positioning Fixtures Installed in Vehicle
- 5.12 Front View of Vehicle in Test Fixture – Side 1 Test
- 5.13 Left Side View of Vehicle in Test Fixture – Side 1 Test
- 5.14 Rear View of Vehicle in Test Fixture – Side 1 Test
- 5.15 Vehicle Mounting/Tie-Down Driver Side – Side 1 Test
- 5.16 Vehicle Mounting/Tie-Down Passenger Side – Side 1 Test
- 5.17 $\frac{3}{4}$ Front View of Platen Contact – Side 1 Test
- 5.18 $\frac{3}{4}$ Rear View of Platen Contact – Side 1 Test
- 5.19 Front View of Platen at Full Load – Side 1 Test
- 5.20 $\frac{3}{4}$ Rear View of Platen at Full Load – Side 1 Test
- 5.21 $\frac{3}{4}$ Front View of Roof Post Test – Side 1 Test
- 5.22 $\frac{3}{4}$ Rear View of Roof Post Test – Side 1 Test
- 5.23 Front View of Vehicle Post Test – Side 1 Test
- 5.24 $\frac{3}{4}$ Left Front View of Vehicle Post Test – Side 1 Test
- 5.25 $\frac{3}{4}$ Right Front View of Vehicle Post Test – Side 1 Test
- 5.26 Left Side View of Vehicle Post Test – Side 1 Test
- 5.27 Rear View of Vehicle Post Test – Side 1 Test
- 5.28 Front View of Vehicle in Test Fixture – Side 2 Test
- 5.29 Rear View of Vehicle in Test Fixture – Side 2 Test
- 5.30 Side View of Vehicle in Test Fixture – Side 2 Test
- 5.31 Second Side Head Movement Indicator Pre-Test – Side 2 Test
- 5.32 Vehicle Mounting/Tie-Down Driver Side – Side 2 Test
- 5.33 Vehicle Mounting/Tie-Down Passenger Side – Side 2 Test
- 5.34 $\frac{3}{4}$ Front View of Platen Contact – Side 2 Test
- 5.35 $\frac{3}{4}$ Rear View of Platen Contact – Side 2 Test
- 5.36 $\frac{3}{4}$ Front View of Platen Contact at Full Load – Side 2 Test
- 5.37 $\frac{3}{4}$ Rear View of Platen Contact at Full Load – Side 2 Test
- 5.38 $\frac{3}{4}$ Front View of Roof Post Test – Side 2 Test
- 5.39 $\frac{3}{4}$ Rear View of Roof Post Test – Side 2 Test
- 5.40 Front View of Vehicle Post Test – Side 2 Test
- 5.41 Right Side View of Vehicle Post Test – Side 2 Test
- 5.42 $\frac{3}{4}$ Left Front View of Vehicle Post Test – Side 2 Test
- 5.43 $\frac{3}{4}$ Right Front View of Vehicle Post Test – Side 2 Test

Section 5 Continued

5.44 Rear View of Vehicle Post Test – Side 2 Test

5.45 Left Side View of Interior Post Test – Side 2 Test

5.46 Right Side View of Interior Post Test – Side 2 Test



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.1
3/4 LEFT FRONT VIEW OF VEHICLE ON TESTED SIDE
BEFORE TESTING



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.2
¾ RIGHT FRONT VIEW OF VEHICLE ON TESTED SIDE
BEFORE TESTING



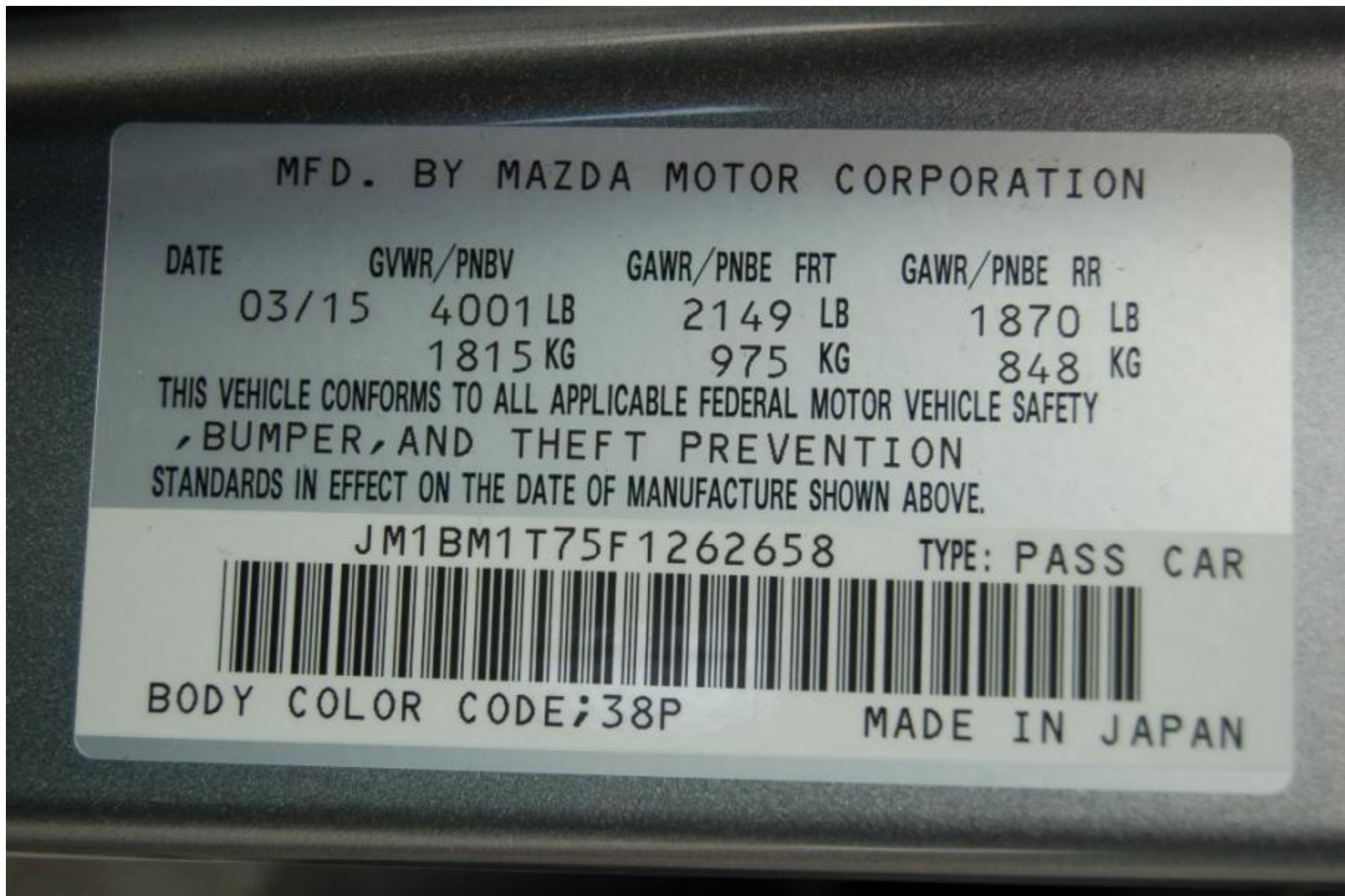
2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.3
LEFT SIDE VIEW OF VEHICLE BEFORE TESTING



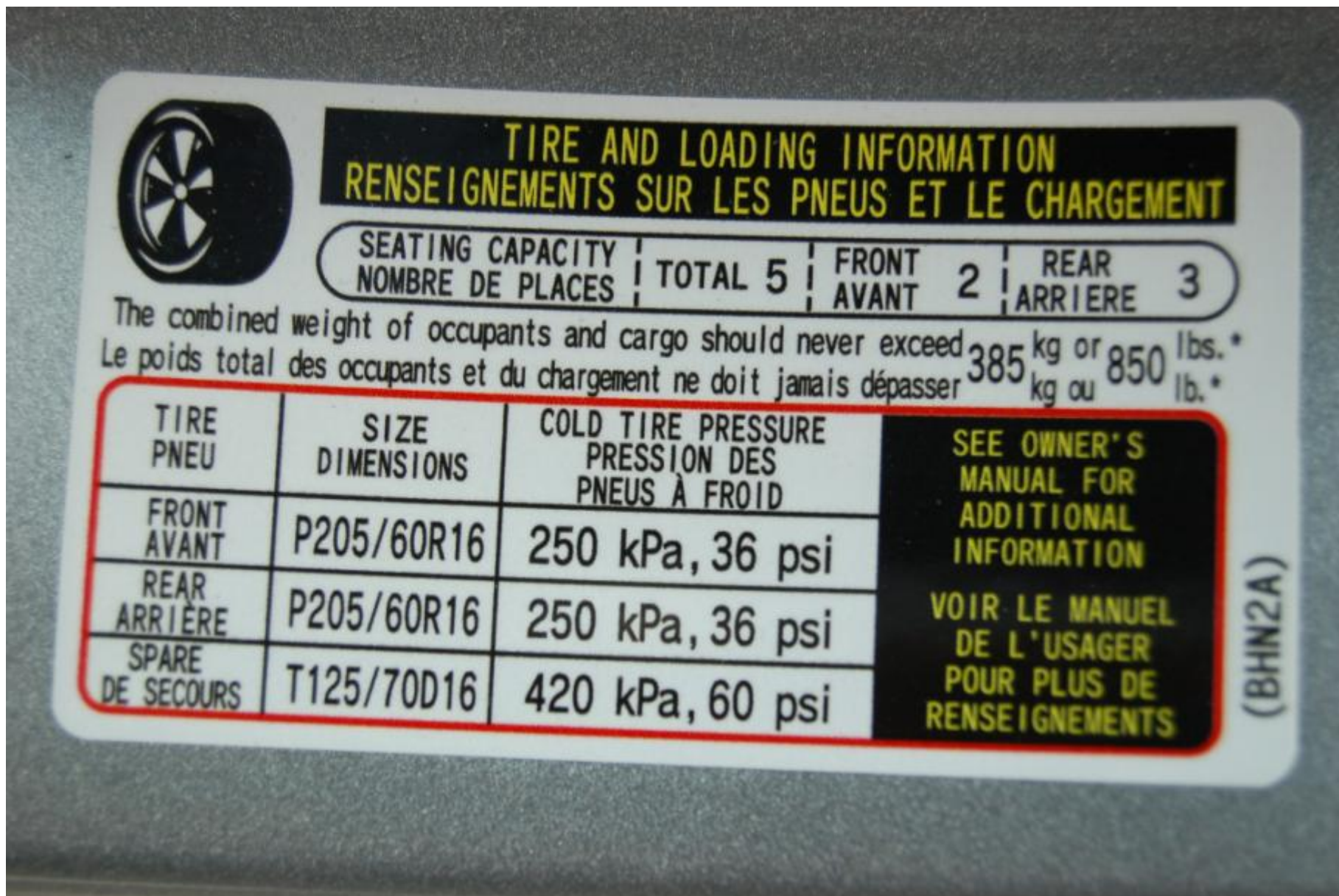
2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.4
RIGHT SIDE VIEW OF VEHICLE BEFORE TESTING



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.5
CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL



2015 MAZDA 3
 NHTSA NO. C20155401
 FMVSS NO. 216

FIGURE 5.6
 CLOSE-UP VIEW OF VEHICLE TIRE INFORMATION LABEL



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.7
DRIVER SIDE INTERIOR SEATING AREA



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.8
PASSENGER SIDE INTERIOR SEATING AREA



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.9
PRE-TEST- HEAD POSITIONING FIXTURE INSTALLED IN VEHICLE



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.10
PRE-TEST- HEAD POSITIONING FIXTURE INSTALLED IN VEHICLE



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.11
PRE-TEST – HEAD POSITIONING FIXTURES INSTALLED IN VEHICLE



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.12
FRONT VIEW OF VEHICLE IN TEST FIXTURE - SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.13
SIDE VIEW OF VEHICLE IN TEST FIXTURE - SIDE 1 TEST



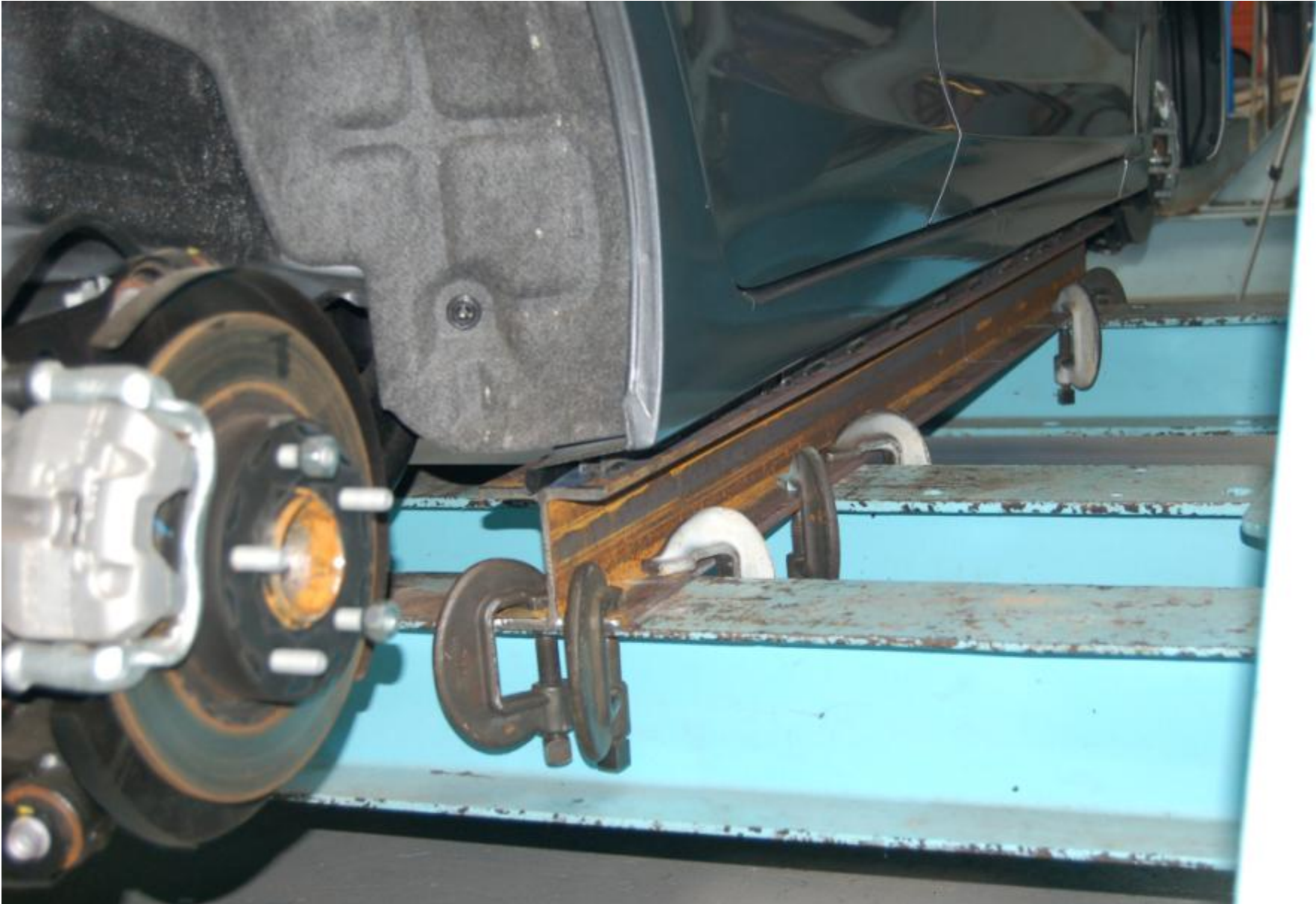
2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.14
REAR VIEW OF VEHICLE IN TEST FIXTURE – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.15
VEHICLE MOUNTING/TIE DOWN ON DRIVER SIDE - SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.16
VEHICLE MOUNTING/TIE DOWN ON PASSENGER SIDE - SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.17
¾ FRONT VIEW OF PLATEN CONTACT – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.18
¾ REAR VIEW OF PLATEN CONTACT – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.19
FRONT VIEW OF PLATEN CONTACT AT FULL LOAD – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.20
 $\frac{3}{4}$ REAR VIEW OF PLATEN CONTACT AT FULL LOAD – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.21
 $\frac{3}{4}$ FRONT VIEW OF ROOF POST TEST - SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.22
¾ REAR VIEW OF ROOF POST TEST - SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.23
FRONT VIEW OF VEHICLE POST TEST - SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.24
3/4 LEFT FRONT VIEW OF VEHICLE POST TEST – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.25
¾ RIGHT FRONT VIEW OF VEHICLE POST TEST – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.26
LEFT SIDE VIEW OF VEHICLE POST TEST – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.27
REAR VIEW OF VEHICLE POST TEST – SIDE 1 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.28
FRONT VIEW OF VEHICLE IN TEST FIXTURE – SIDE 2 TEST



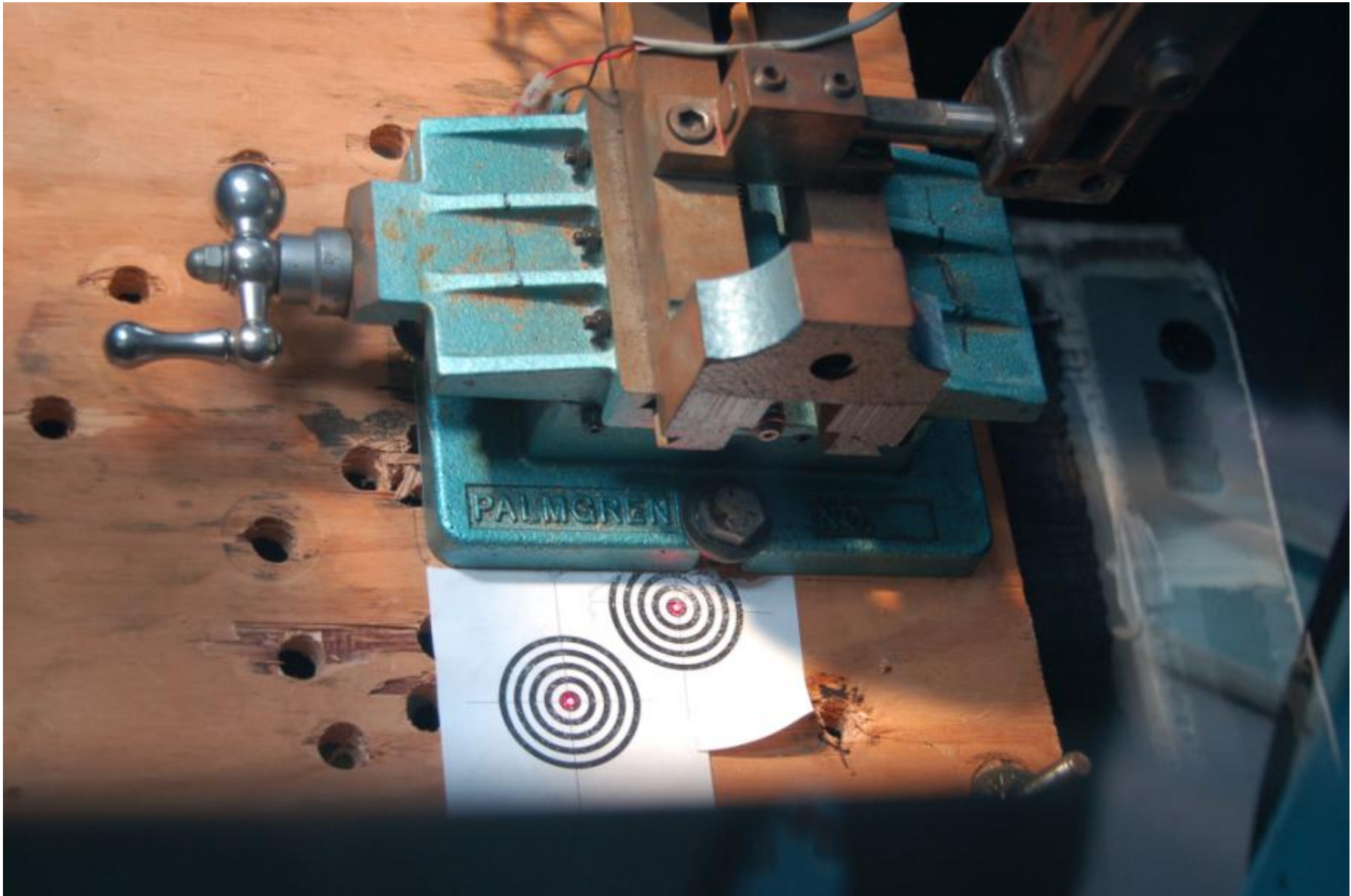
2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.29
REAR VIEW OF VEHICLE IN TEST FIXTURE - SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.30
SIDE VIEW OF VEHICLE IN TEST FIXTURE - SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.31
2nd SIDE HEAD POSITION INDICATOR PRE-TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.32
VEHICLE MOUNTING/TIE DOWN ON DRIVER SIDE - SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.33
VEHICLE MOUNTING/TIE DOWN ON PASSENGER SIDE - SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.34
¾ FRONT VIEW OF PLATEN CONTACT – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.35
¾ REAR VIEW OF PLATEN CONTACT - SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.36
 $\frac{3}{4}$ FRONT VIEW OF PLATEN CONTACT AT FULL LOAD - SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.37
 $\frac{3}{4}$ REAR VIEW OF PLATEN CONTACT AT FULL LOAD – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.38
¾ FRONT VIEW OF ROOF POST TEST – SIDE 2 TEST



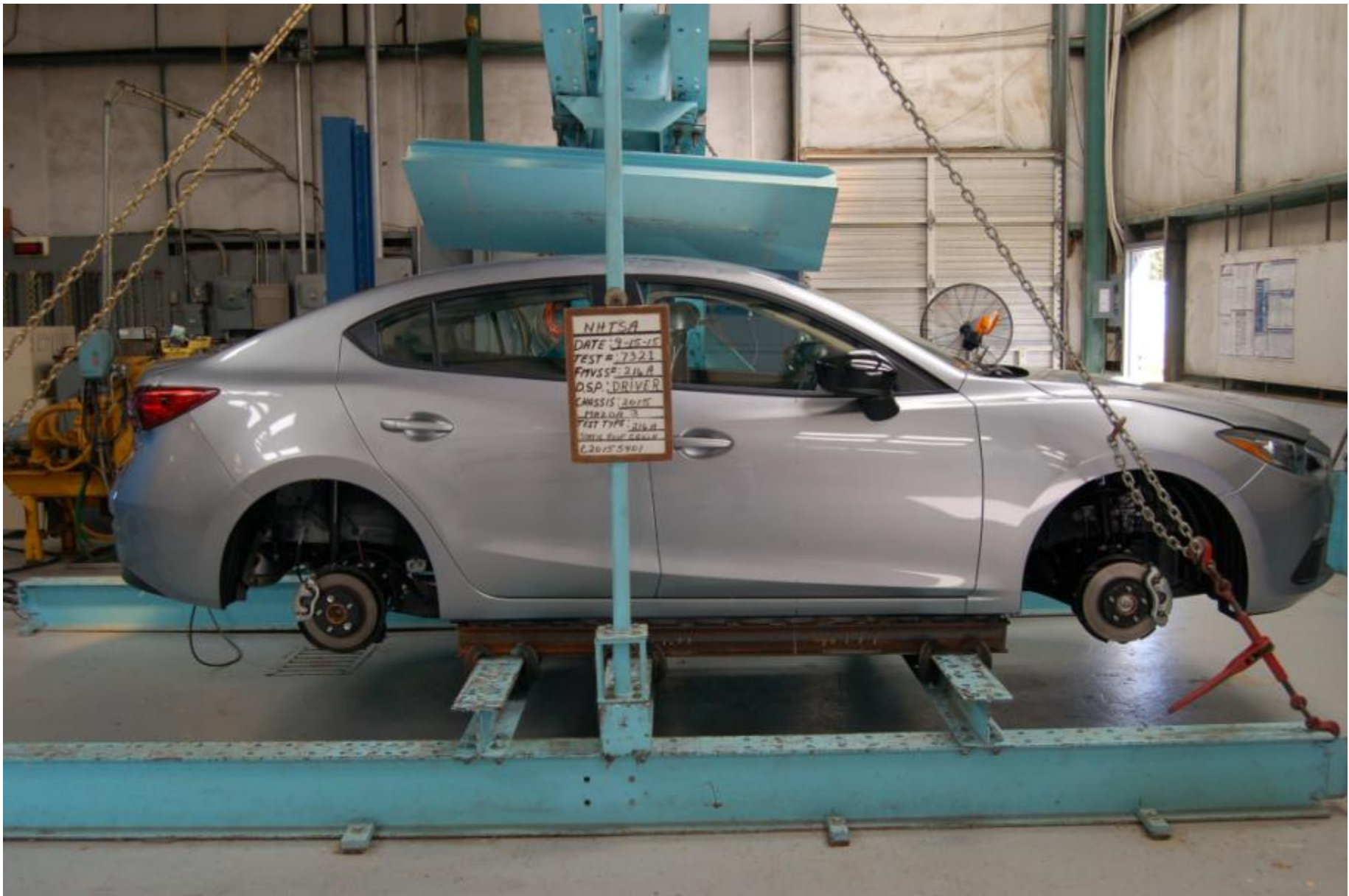
2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.39
¾ REAR VIEW OF ROOF POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.40
FRONT VIEW OF VEHICLE POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.41
SIDE VIEW OF VEHICLE POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.42
¾ LEFT FRONT VIEW OF VEHICLE POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.43
¾ RIGHT FRONT VIEW OF VEHICLE POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.44
REAR VIEW OF VEHICLE POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

FIGURE 5.45
LEFT SIDE VIEW OF INTERIOR POST TEST – SIDE 2 TEST



2015 MAZDA 3
NHTSA NO. C20155401
FMVSS NO. 216

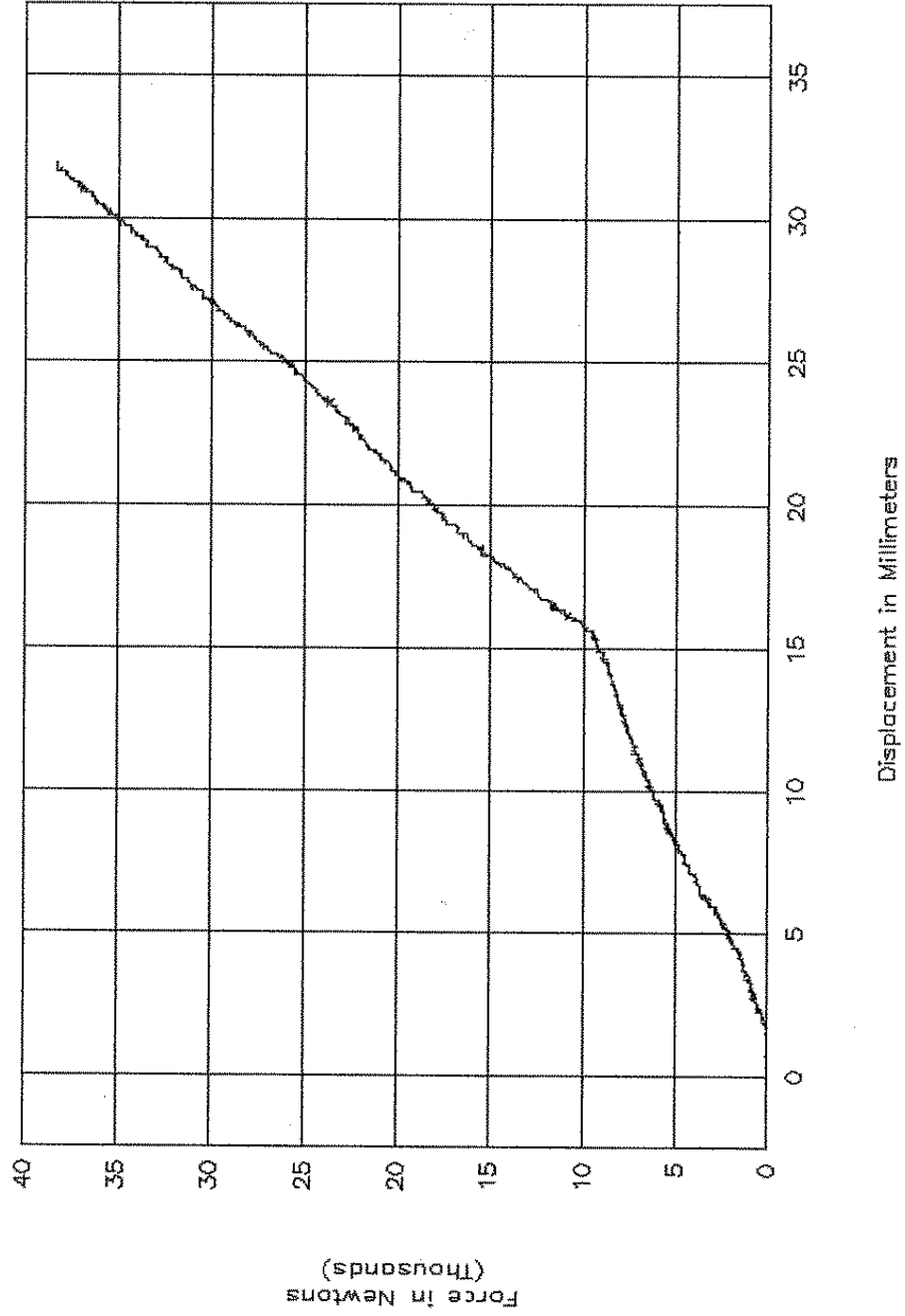
FIGURE 5.46
RIGHT SIDE VIEW OF INTERIOR POST TEST – SIDE 2 TEST

SECTION 6

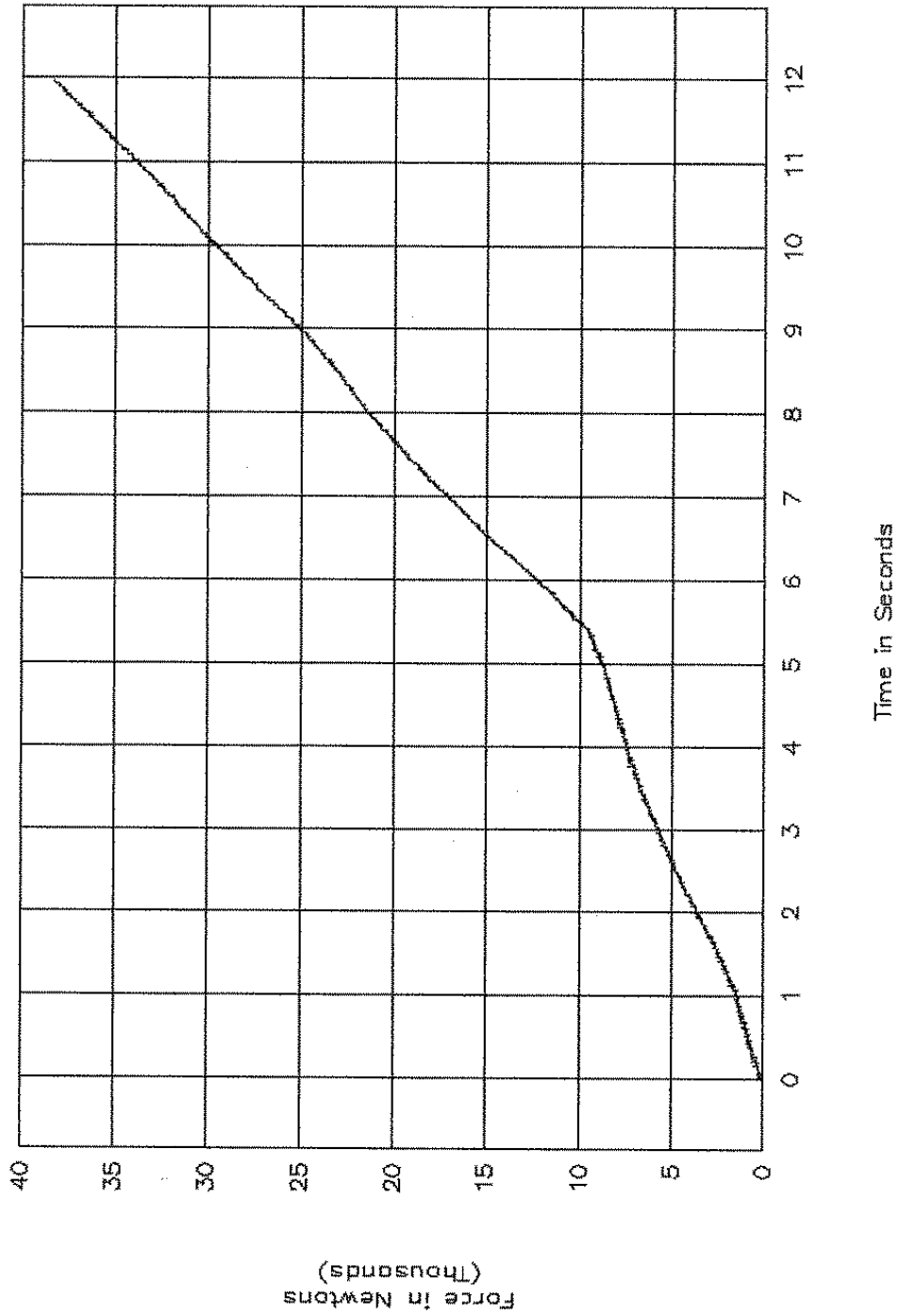
TEST DATA PLOTS

GTL 7320, NHTSA C20155401

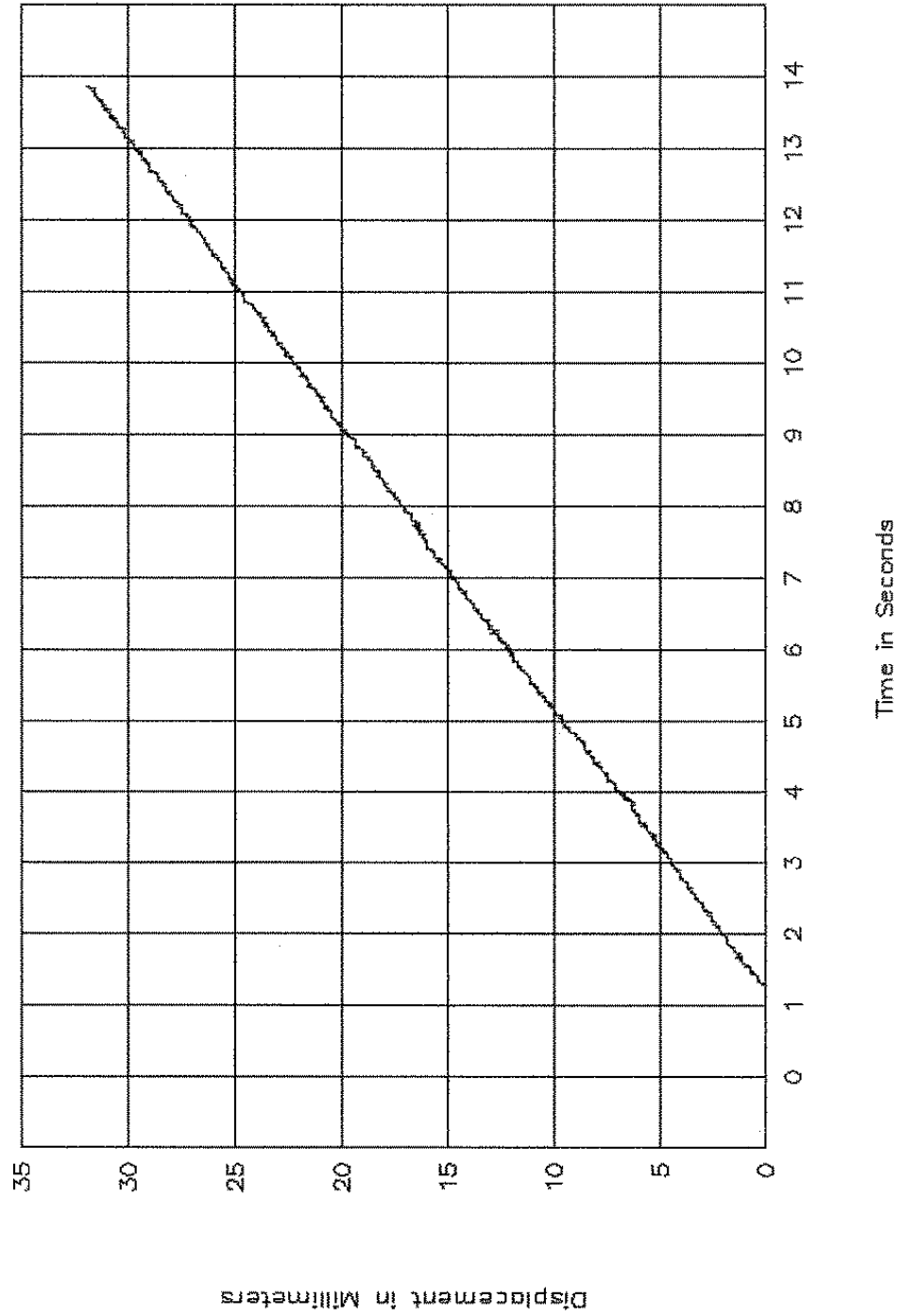
216, Roof Crush, Side 1 Passenger Side.



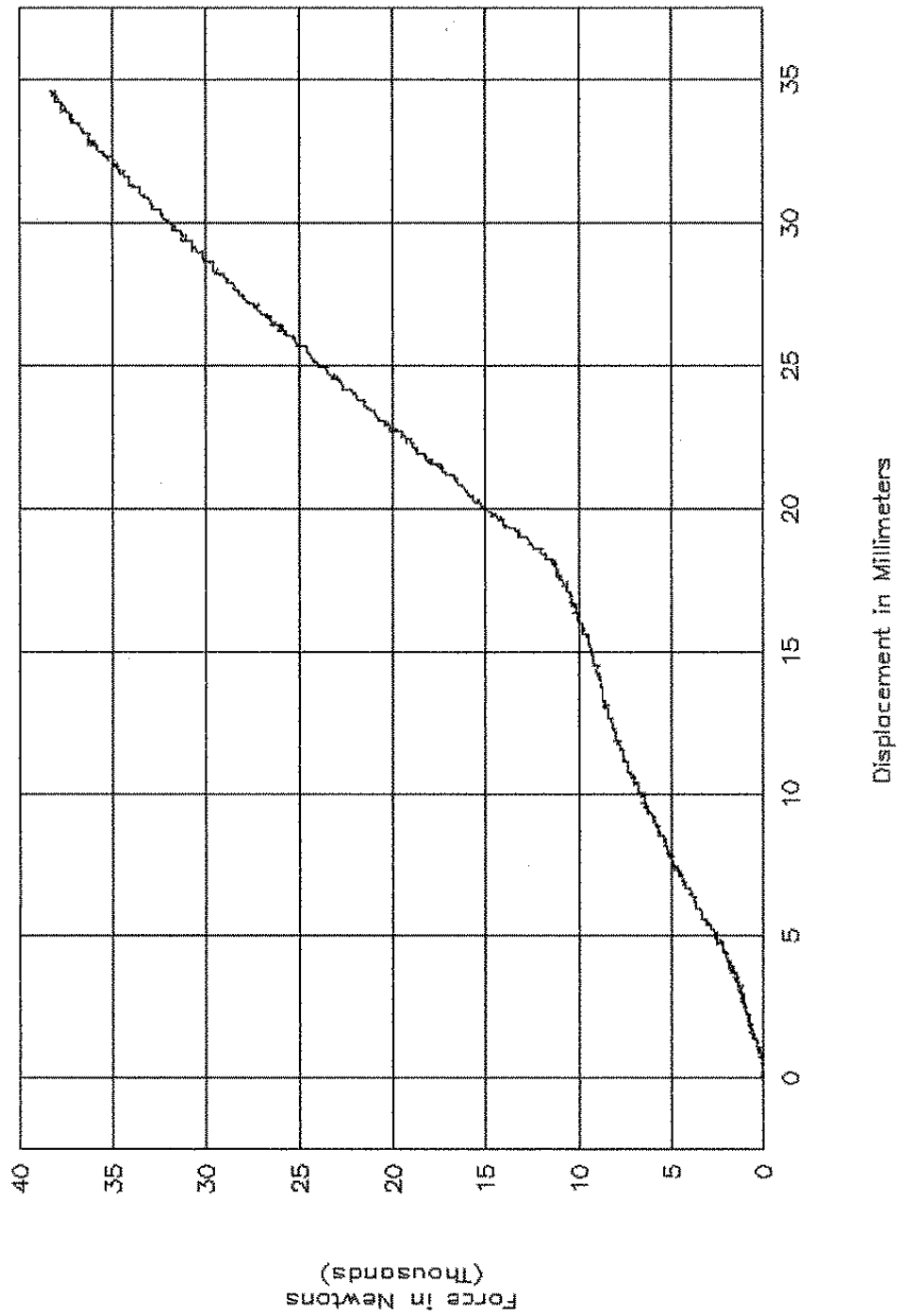
GTL 7320, NHTSA C20155401
216, Roof Crush, Side 1 Passenger Side.



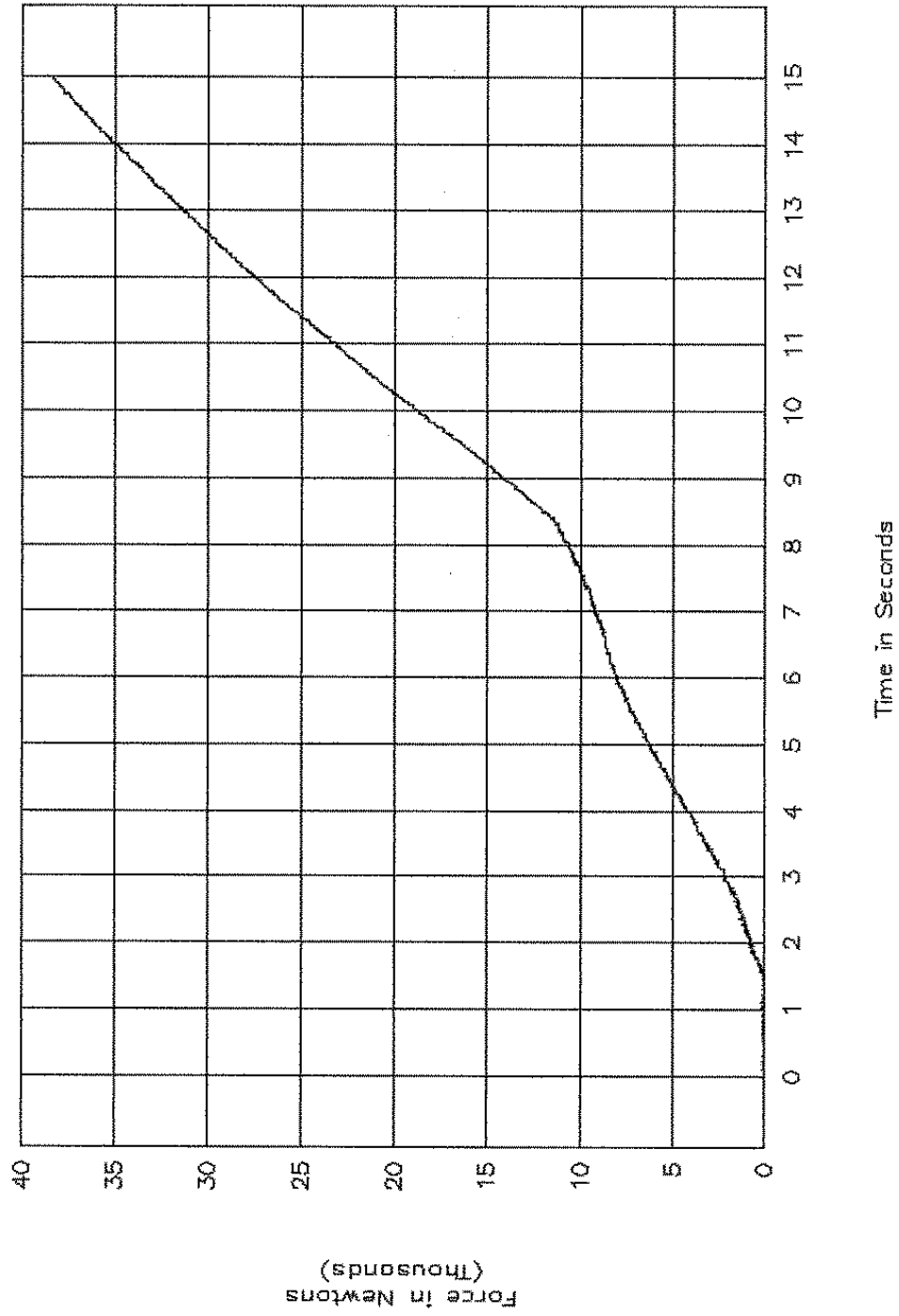
GTL 7320, NHTSA C20155401
216, Roof Crush, Side 1 Passenger Side.



GTL 7321, NHTSA C20155401
216, Roof Crush, Side 2 Driver Side.



GTL 7321, NHTSA C20155401
216, Roof Crush, Side 2 Driver Side.



GTL 7321, NHTSA C20155401
216, Roof Crush, Side 2 Driver Side.

